Analytical Resources, LLC
Analytical Chemists and Consultants

14 July 2023

Ali Judkins
Anchor QEA, LLC
1201 3rd Ave, Suite 2600
Seattle, WA 98101

RE: AOC5 MR Phase 1

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
23C0108	N/A

Susan Dunnihoo

Digitally signed by Susan Dunnihoo
Date: 2023.07.14 15:21:20 -07'00'

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclosed Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, LLC

Susan Dunnihoo, Director, Client Services

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Accredited in accordance with nelac
Cert# 100006-012

1 of 1 23C0108

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 3984

Project/Client Name: AOC5 NR Phase 1
Project Number: 210075.01.02
Contact Name: Amara Vandervort
Sampled By: Windward

Ship to: ARL
Attn: Sue Dunihoo
Shipper: Courier
Form filled out by: AV/CC

Shipping Date: 3/3/23
Airbill Number: —
Turnaround requested: std

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	Test(s) Requested (check test(s) required) PCBs	SMS SVOCs	SMS metals	TOC/Total Solids	DIF	Archive		Comments / Instructions [Jar tag number(s)]
3/2/23	1329	LDW23-SC1037	3	Sediment	X	—	—	X	—	X		
3/2/23	1506	LDW23-SC1044	4		X	X	X	X	NA	X		
3/3/23	0858	LDW23-SC1107	3		X	—	—	X	—	X		
	0932	LDW23-SC1106	3		X	~~X~~	~~X~~	X	—	X		PCB, TOC/TS Archive only
	1148	LDW23-SC1118	3		X	~~X~~	~~X~~	X	—	X		
	1000	LDW23-SS1106	4		X	X	X	X	NA	X		
	1021	LDW23-SS1107	4		X	X	X	X	NA	X		
	1036	LDW23-SS1111	4		X	X	X	X	NA	X		
	1125	LDW23-SS1118	4		X	X	X	X	NA	X		
3/3/23	1435	LDW23-SC1111	3	Sediment	X	—	—	X	—	X		
		Total Number of Containers	35	Purchase Order / Statement of Work # APT-110222-AOC5-ARL								

AV 3/3/23.

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Amara Vandervort	Print name: Phillippa	Print name:	
Signature:	Company: AR	Signature:	Company:
Company: Windward		Company:	
Date/Time: 3/3/23 1635	Date/Time: 3/3/23 16:35	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

Wind Ward environmental LLC
200 1st Ave W, Suite 500
Seattle, WA 98119
206.378.1364

Analytical Resources, LLC
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Anchor/Windward

Project Name: AOCS MR Phase I

COC No(s): 3984 (NA)

Delivered by: Fed-Ex UPS (Courier) Hand Delivered Other:______

Assigned ARI Job No: 23C0108 JB 03/03/23

Tracking No: ______ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES (NO)

Were custody papers included with the cooler? .... (YES) NO

Were custody papers properly filled out (ink, signed, etc.) .... (YES) NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1650 (1.8) 2.4 ____ ____ ____ ____

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: 3009708

Cooler Accepted by: JB for PIB Date: 03/03/23 Time: 1635

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? .... YES (NO)

What kind of packing material was used? ... Bubble Wrap (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other: ______

Was sufficient ice used (if appropriate)? .... NA (YES) NO

How were bottles sealed in plastic bags? .... (Individually) Grouped Not

Did all bottles arrive in good condition (unbroken)? .... (YES) NO

Were all bottle labels complete and legible? .... (YES) NO

Did the number of containers listed on COC match with the number of containers received? .... (YES) NO

Did all bottle labels and tags agree with custody papers? .... (YES) NO

Were all bottles used correct for the requested analyses? .... (YES) NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ... (NA) YES NO

Were all VOC vials free of air bubbles? .... (NA) YES NO

Was sufficient amount of sample sent in each bottle? .... (YES) NO

Date VOC Trip Blank was made at ARI........ (NA) ______

Were the sample(s) split by ARI? (NA) YES Date/Time: ______ Equipment: ______ Split by: ______

Samples Logged by: JB Date: 03/04/23 Time: 1006 Labels checked by: JB

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Anchor QEA, LLC	Project: AOC5 MR Phase 1	
1201 3rd Ave, Suite 2600	Project Number: 210075-01.02	**Reported:**
Seattle, WA 98101	Project Manager: Ali Judkins	05/14/2023 09:44

ANALYTICAL REPORT FOR SAMPLES

Laboratory ID	Sample ID	Matrix	Date Sampled	Date Received
23C0108-01	LDW23-SC1037	Solid	03/02/23 13:29	03/03/23 16:35
23C0108-02	LDW23-SC1044	Solid	03/02/23 15:06	03/03/23 16:35
23C0108-03	LDW23-SC1107	Solid	03/03/23 08:58	03/03/23 16:35
23C0108-04	LDW23-SC1106	Solid	03/03/23 09:32	03/03/23 16:35
23C0108-05	LDW23-SC1118	Solid	03/03/23 11:48	03/03/23 16:35
23C0108-06	LDW23-SS1106	Solid	03/03/23 10:00	03/03/23 16:35
23C0108-07	LDW23-SS1107	Solid	03/03/23 10:21	03/03/23 16:35
23C0108-08	LDW23-SS1111	Solid	03/03/23 10:36	03/03/23 16:35
23C0108-09	LDW23-SS1118	Solid	03/03/23 11:25	03/03/23 16:35
23C0108-10	LDW23-SC1111	Solid	03/03/23 14:35	03/03/23 16:35

Anchor QEA, LLC	Project: AOC5 MR Phase 1	
1201 3rd Ave, Suite 2600	Project Number: 210075-01.02	**Reported:**
Seattle WA, 98101	Project Manager: Ali Judkins	14-Jul-2023 15:07

Case Narrative

Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Work Order: 23C0108

Sample receipt

Samples as listed on the preceding page were received 03-Mar-2023 16:35 under ARI work order 23C0108. For details regarding sample receipt, please refer to the Cooler Receipt Form. Samples were frozen on receipt to preserve holding times.

Semivolatiles - EPA Method SW8270E

The sample(s) were extracted and analyzed within the recommended holding times for samples stored frozen.

Initial and continuing calibrations were within method requirements, with accepted excursions outside the 20% window. Associated positive results have been "Q"-flagged.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits. The blank was rerun to initiate a second sequence for analysis.

The blank spike and blank spike duplicate (BS/LCS and BSD/LCSD) spike recoveries and relative percent differences (RPD) were within control limits.

The matrix spike/matrix spike duplicate (MS/MSD) percent recoveries outside advisory control limits have been flagged on the summary sheet. Relative percent differences (RPD) were within advisory control limits.

The reference material (SRM) percent recoveries were within control limits.

Semivolatiles - EPA Method SW8270E-SIM

The sample(s) were extracted and analyzed within the recommended holding times for samples stored frozen.

Initial and continuing calibrations were within method requirements, with accepted excursions outside the 20% window. Associated positive results have been "Q"-flagged.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits, with low level response of 1,4-dichlorobenzene. The blank was rerun to initiate a second analytical sequence.

The blank spike and blank spike duplicate (BS/LCS and BSD/LCSD) spike recoveries and relative percent differences (RPD) were within control limits.

The matrix spike/matrix spike duplicate (MS/MSD) percent recoveries and relative percent differences (RPD) were within advisory control limits.

The reference material (SRM) percent recoveries were within control limits.

Anchor QEA, LLC	Project: AOC5 MR Phase 1	
1201 3rd Ave, Suite 2600	Project Number: 210075-01.02	**Reported:**
Seattle WA, 98101	Project Manager: Ali Judkins	14-Jul-2023 15:07

Case Narrative

Pesticides - EPA Method SW8081B (Hexachlorobenzene)

The sample(s) were extracted and analyzed within the recommended holding times for samples stored frozen.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike and blank spike duplicate (BS/LCS and BSD/LCSD) spike recoveries and relative percent difference (RPD) were within control limits.

The matrix spike/matrix spike duplicate (MS/MSD) percent recoveries were within advisory control limits. The relative percent difference (RPD) was outside advisory control limits and flagged on the summary sheet.

Results that have been "P1"-flagged, indicate a greater than 40% difference between the results on the two analytical columns, attributed to interference from the matrix.

PCB Aroclors - EPA Method SW8082A

The sample(s) were extracted and analyzed within the recommended holding times for samples stored frozen.

Initial and continuing calibrations were within method requirements, with accepted excursions outside the 20% window on the first column for decachlorobiphenyl. Associated positive results have been "Q"-flagged. EXCURSIONS FOR 1260!

There were internal standard failures of hexabromobiphenyl high of limits on the ZB5 column, along with failures of decachlorobiphenyl and aroclor 1260 in calibration standards on the ZB5 column, attributed to continued effect of the matrix on instrument performance. All associated results have been reported from the ZB35 column as primary.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike and blank spike duplicate (BS/LCS and BSD/LCSD) spike recoveries and relative percent differences (RPD) were within control limits.

The matrix spike/matrix spike duplicate (MS/MSD) percent recoveries and relative percent differences (RPD) were within advisory control limits.

The reference material (SRM) percent recoveries were within control limits.

Total Metals - EPA Method 6020B

The sample(s) were digested and analyzed within the recommended holding times for samples stored frozen.

Sequence SLE0204 showed scandium high in SLE0204-CAL3, attributed to instrument maintenance. The sequence calibration was reanalyzed. Lead was high in several calibrations and not reported in affected samples. SLE0204-IFA showed chromium-53 high. The high-level calibration SLE0204-HCV1 showed indium to be noisy. As all detected cadmium was below the high point, no further corrective action was taken.

Anchor QEA, LLC	Project: AOC5 MR Phase 1	
1201 3rd Ave, Suite 2600	Project Number: 210075-01.02	**Reported:**
Seattle WA, 98101	Project Manager: Ali Judkins	14-Jul-2023 15:07

Case Narrative

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

The batch BLD0578 duplicate (DUP) relative percent differences (RPD) were within advisory control limits, reported under work order 23A0467.

The batch BLD0578 matrix spike (MS) percent recovery for silver was low of control limits. The MS/MSD relative percent differences (RPD) were within advisory control limits. The post spike for silver had an acceptable recovery, reported under work order 23A0467.

Total Mercury - EPA Method 7471B

The sample(s) were digested and analyzed within the recommended holding times for samples stored frozen.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recovery was within control limits.

The duplicate (DUP) relative percent difference (RPD) were within advisory control limits, reported under work order 23A0467.

The matrix spike/matrix spike duplicate (MS/MSD) percent recoveries and relative percent differences (RPD) were within advisory control limits, reported under work order 23A0467.

Wet Chemistry (Total Organic Carbon and Total Solids)

The sample(s) were prepared and analyzed within the recommended holding times for samples stored frozen.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

The reference material (SRM) percent recoveries were within control limits.

The batch BLD0117 matrix spike (MS) percent recovery for TOC was high of advisory control limits, attributed to the high concentration in the parent sample and "HC" flagged to note the deviation. The duplicate (DUP) relative percent difference (RPD) was within advisory control limits, reported under work order 23C0071.

The batch BLD0118 matrix spike (MS) percent recovery for TOC was high of advisory control limits, attributed to the high concentration in the parent sample and "HC" flagged to note the deviation. The duplicate (DUP) relative percent difference (RPD) was within advisory control limits.

Revised 07/14/2023 to include tune for GD00001

QUALIFIERS AND NOTES

Qualifier	Definition
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
Q	Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% drift or minimum RRF)
P1	The reported value is greater than 40% difference between the concentrations determined on two GC columns where applicable.
J	Estimated concentration value detected below the reporting limit.
HC	The natural concentration of the spiked analyte is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
H	Hold time violation - Hold time was exceeded.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
D	The reported value is from a dilution
*	Flagged value is not within established control limits.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Analytical Resources, LLC
Analytical Chemists and Consultants
Tukwila, WA

ICP-MS Metals

Analyzed with Secondary Isotopes

ICPMS metals are quantitated with the primary Ion and major wavelength unless interference is noted. When secondary ions are used for quantitation, both ions will be reported for laboratory and matrix QC.

These results were reported from a secondary ion:

Labnumber	SampleName	Analyte
23C0108-07	LDW23-SS1107	Copper-65

LDW23-SC1044

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270E

Semivolatiles (20ug/kg - 0.2ug/L SepF)

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-02 A	SDG:	23C0108
Sampled:	03/02/23 15:06	Prepared:	03/09/23 13:26	File ID:	NT1803222311.D
% Solids:	52.74	Preparation:	EPA 3546 (Microwave)	Analyzed:	03/23/23 00:03
Batch:	BLC0185	Sequence:	SLD0051	Initial/Final:	18.96 g Wet / 1 mL
Instrument:	NT18	Column:	ZB-5MS	Calibration:	GC00085
Cleanups:	GPC				

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg dry)	Q	DL	RL
108-95-2	Phenol	1	126		4.4	20.0
106-44-5	4-Methylphenol	1	7.9	J	7.4	20.0
91-20-3	Naphthalene	1	12.4	J	4.2	20.0
91-57-6	2-Methylnaphthalene	1	9.9	J	4.5	20.0
208-96-8	Acenaphthylene	1	8.6	J	6.2	20.0
131-11-3	Dimethylphthalate	1	20.0	U	4.4	20.0
83-32-9	Acenaphthene	1	8.2	J	5.2	20.0
132-64-9	Dibenzofuran	1	20.0	U	14.1	20.0
86-73-7	Fluorene	1	20.0	U	14.6	20.0
85-01-8	Phenanthrene	1	64.0		8.7	20.0
120-12-7	Anthracene	1	30.9		7.2	20.0
206-44-0	Fluoranthene	1	171		6.1	20.0
129-00-0	Pyrene	1	184		5.7	20.0
85-68-7	Butylbenzylphthalate	1	25.0		9.4	20.0
56-55-3	Benzo(a)anthracene	1	101		6.0	20.0
218-01-9	Chrysene	1	153		6.1	20.0
117-81-7	bis(2-Ethylhexyl)phthalate	1	140		5.5	50.0
	Benzofluoranthenes, Total	1	336		10.0	40.0
50-32-8	Benzo(a)pyrene	1	109		4.2	20.0
193-39-5	Indeno(1,2,3-cd)pyrene	1	22.2		14.7	20.0
53-70-3	Dibenzo(a,h)anthracene	1	20.0	U	17.2	20.0
191-24-2	Benzo(g,h,i)perylene	1	20.8		13.6	20.0

SURROGATES	ADDED: (ug/kg dry)	FOUND: (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorophenol	750.04	609	81.2	27 - 120	
Phenol-d5	750.04	631	84.1	29 - 120	
2-Chlorophenol-d4	750.04	630	84.0	31 - 120	
1,2-Dichlorobenzene-d4	500.02	381	76.2	32 - 120	
Nitrobenzene-d5	500.02	450	90.0	30 - 120	
2-Fluorobiphenyl	500.02	423	84.6	35 - 120	

LDW23-SC1044

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270E

Semivolatiles (20ug/kg - 0.2ug/L SepF)

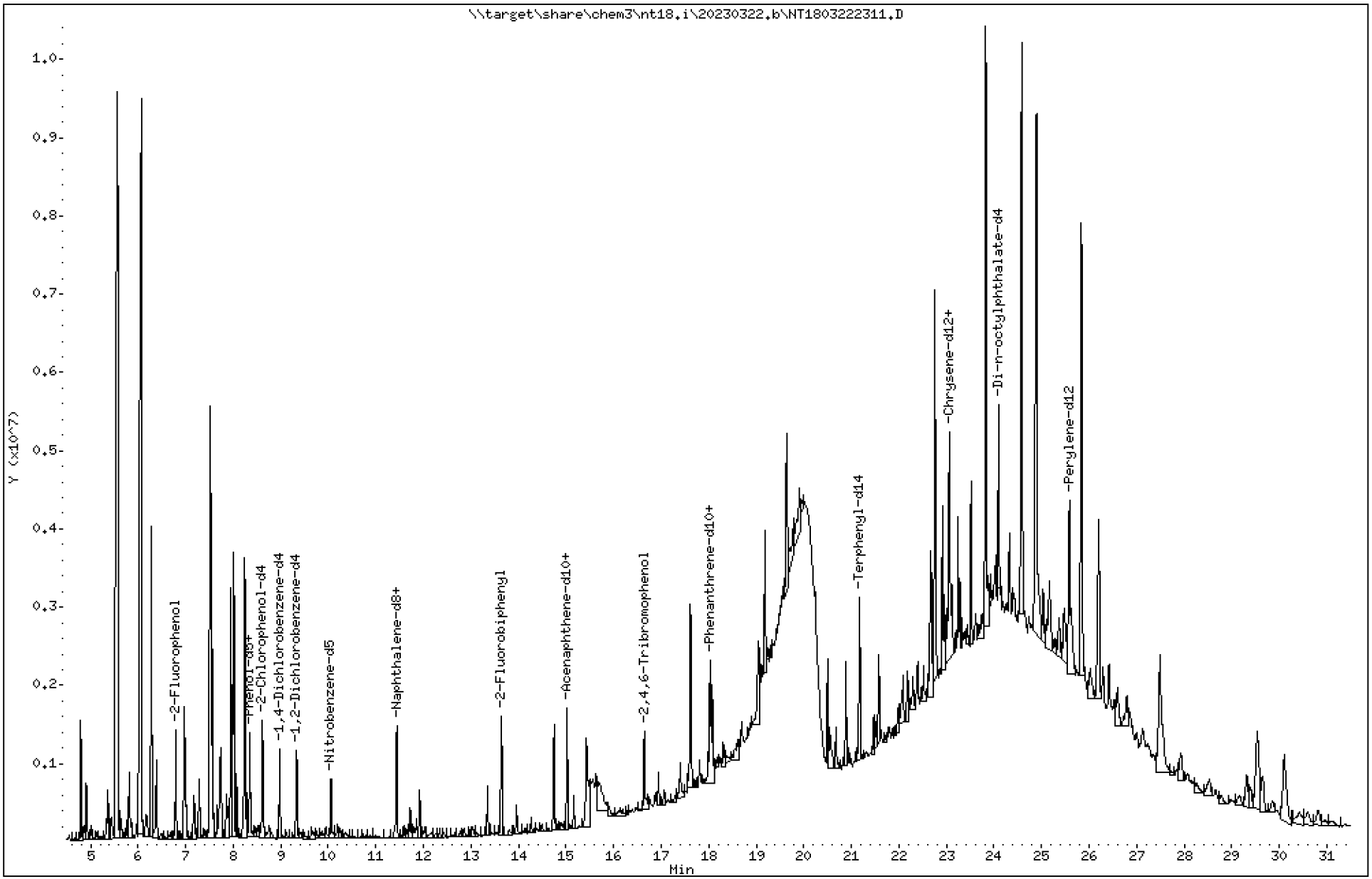
Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-02 A	SDG:	23C0108
Sampled:	03/02/23 15:06	Prepared:	03/09/23 13:26	File ID:	NT1803222311.D
% Solids:	52.74	Preparation:	EPA 3546 (Microwave)	Analyzed:	03/23/23 00:03
Batch:	BLC0185	Sequence:	SLD0051	Initial/Final:	18.96 g Wet / 1 mL
Instrument:	NT18	Column:	ZB-5MS	Calibration:	GC00085
Cleanups:	GPC				

SURROGATES	ADDED: (ug/kg dry)	FOUND: (ug/kg dry)	% REC	QC LIMITS	Q
2,4,6-Tribromophenol	750.04	714	95.3	24 - 134	
p-Terphenyl-d14	500.02	383	76.7	37 - 120	

Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222311.D
Date : 23-MAR-2023 00:03
Client ID:
Sample Info: 23C0108-02

Instrument: nt18.i
Operator: VTS
Column diameter: 0.25

Column phase: ZB-5msi



Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222311.D

Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

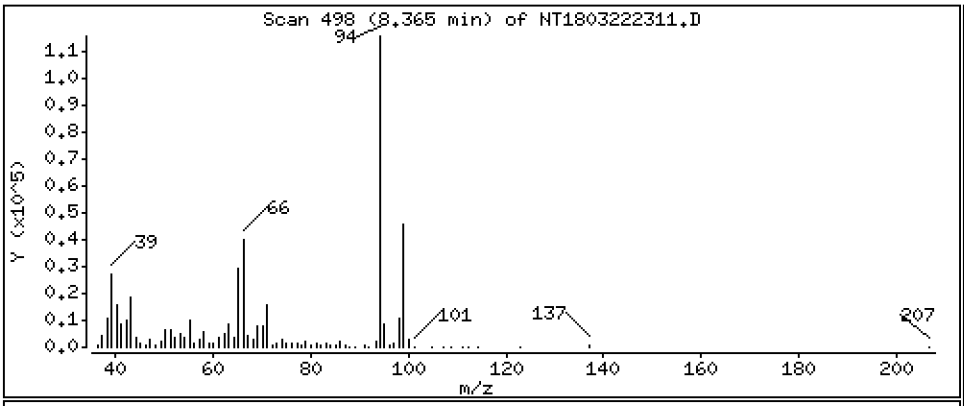
Operator: VTS

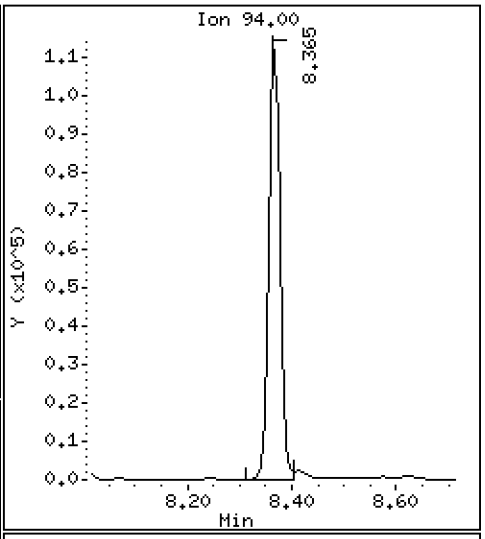
Column phase: ZB-5msi

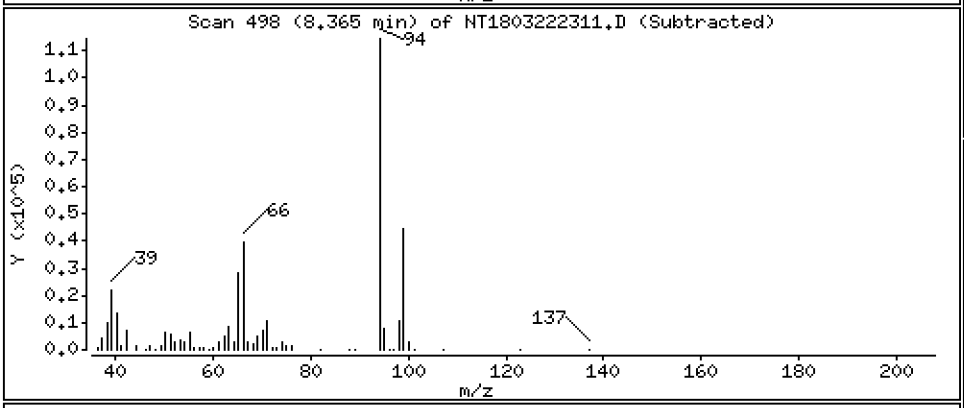
Column diameter: 0.25

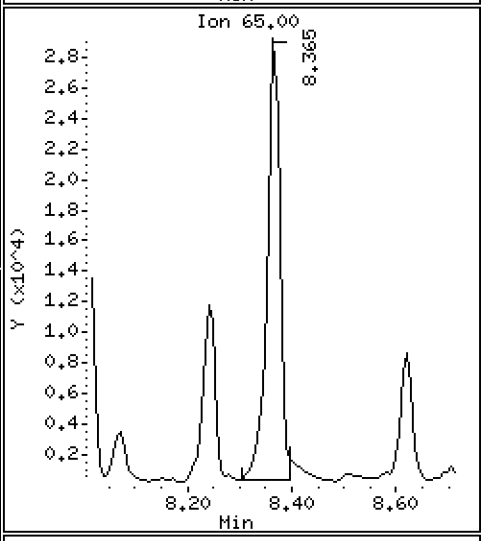
3 Phenol

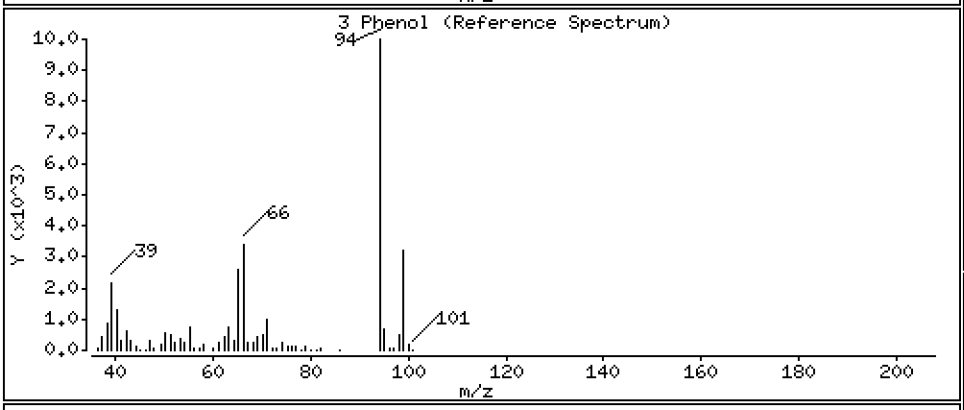
Concentration: 1.261 ug/mL

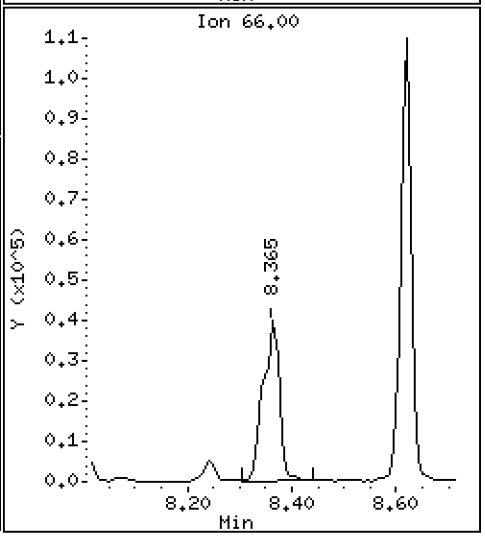


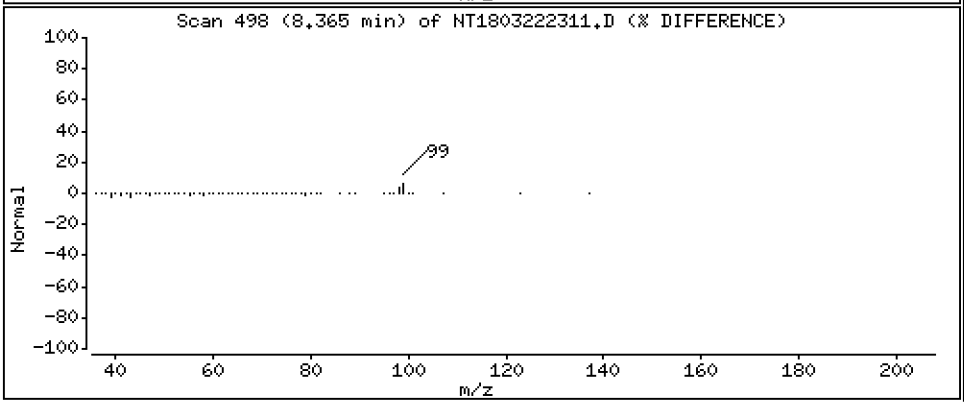












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222311.D

Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

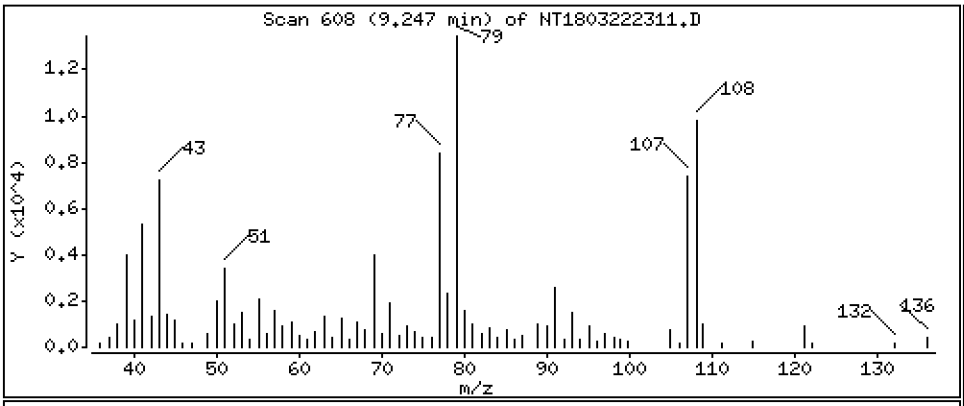
Operator: VTS

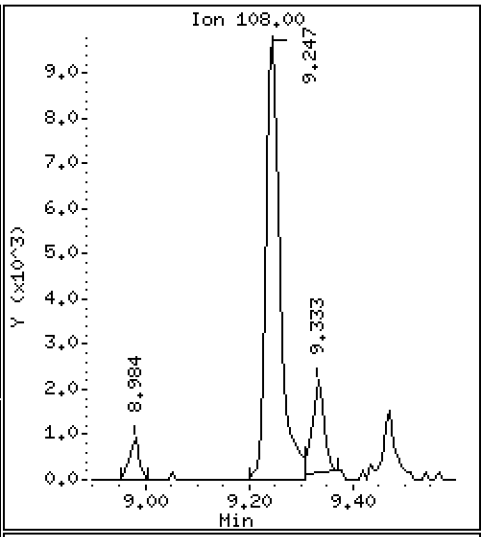
Column phase: ZB-5msi

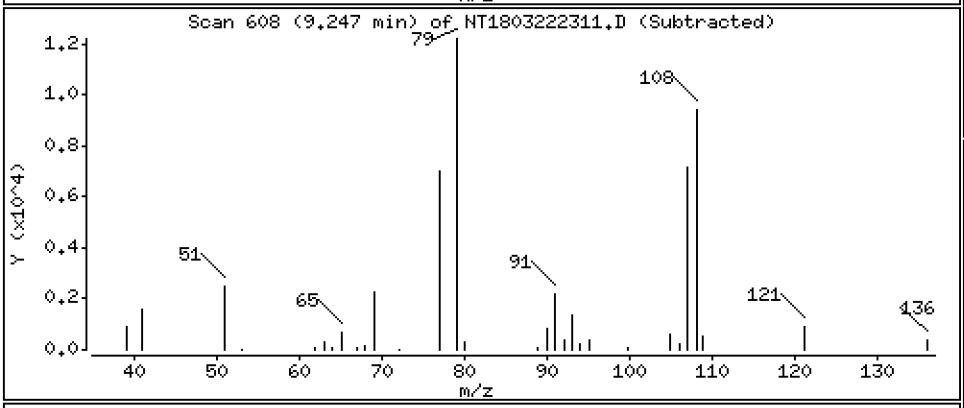
Column diameter: 0.25

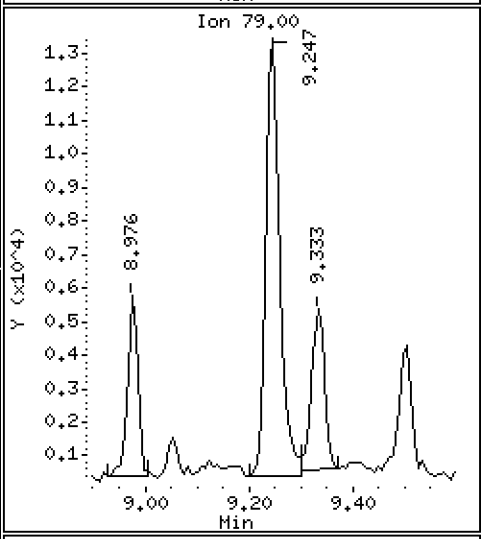
11 Benzyl alcohol

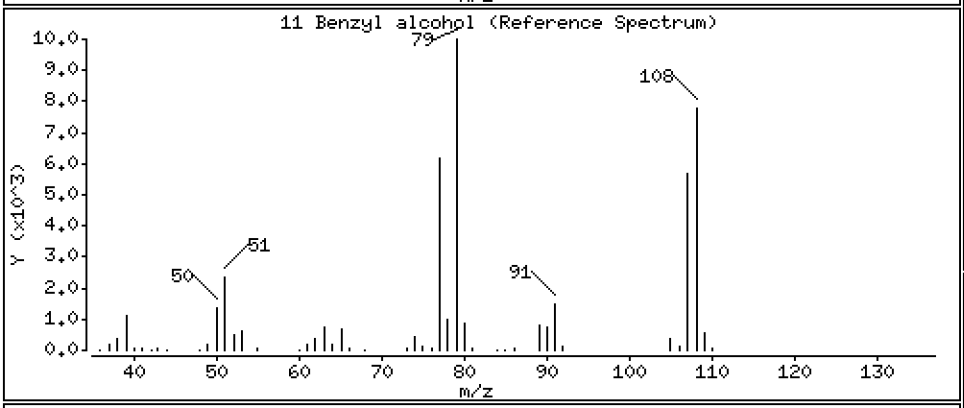
Concentration: 0.3057 ug/mL

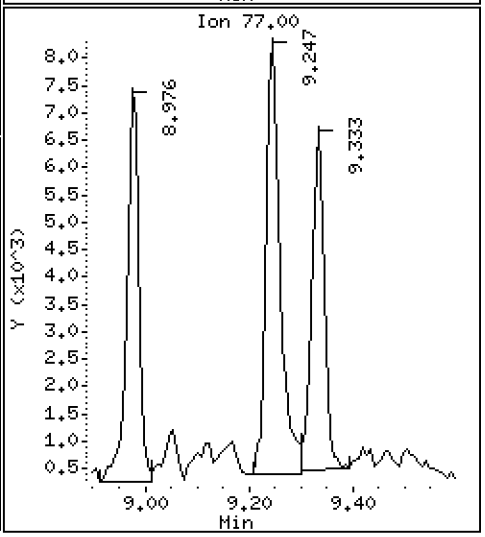


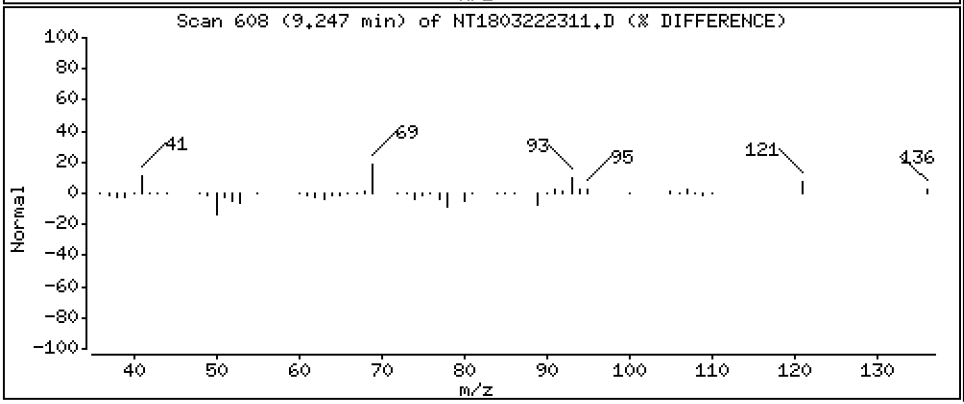












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222311.D

Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

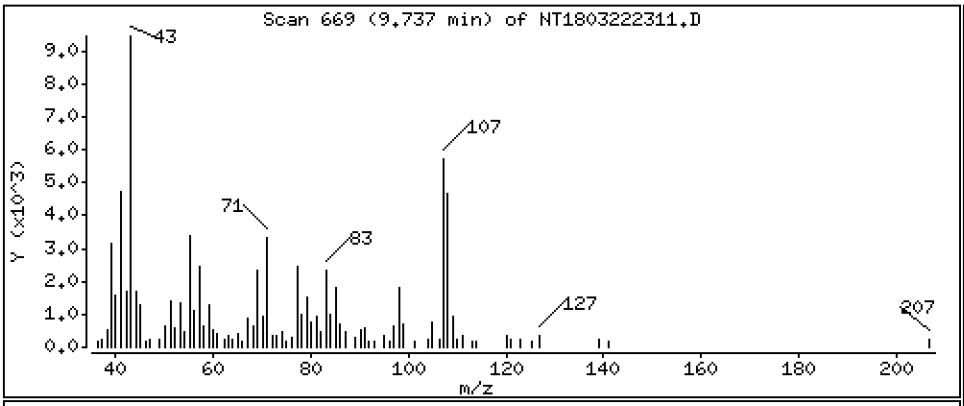
Operator: VTS

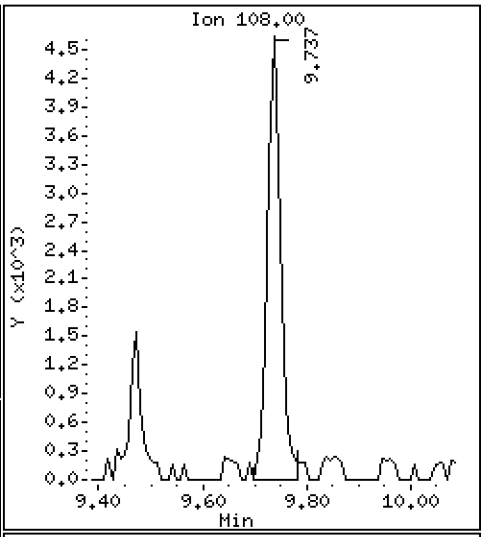
Column phase: ZB-5msi

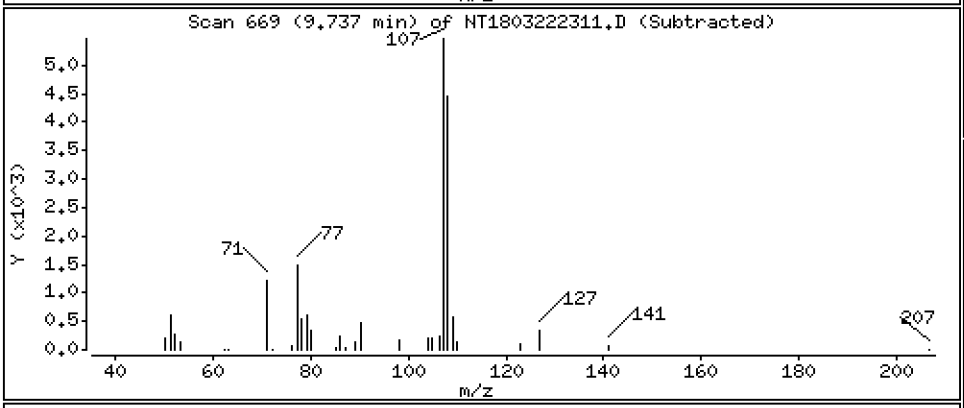
Column diameter: 0.25

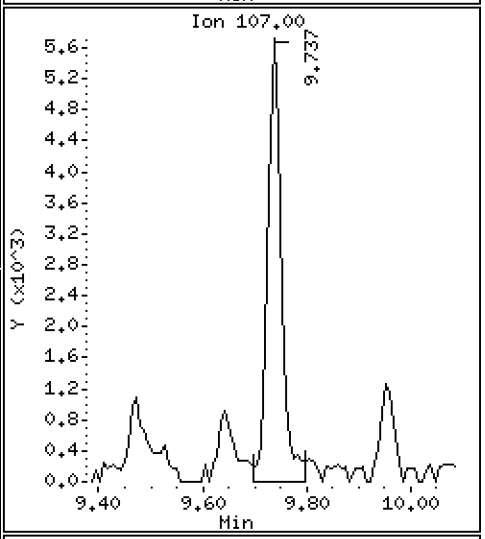
15 4-Methylphenol

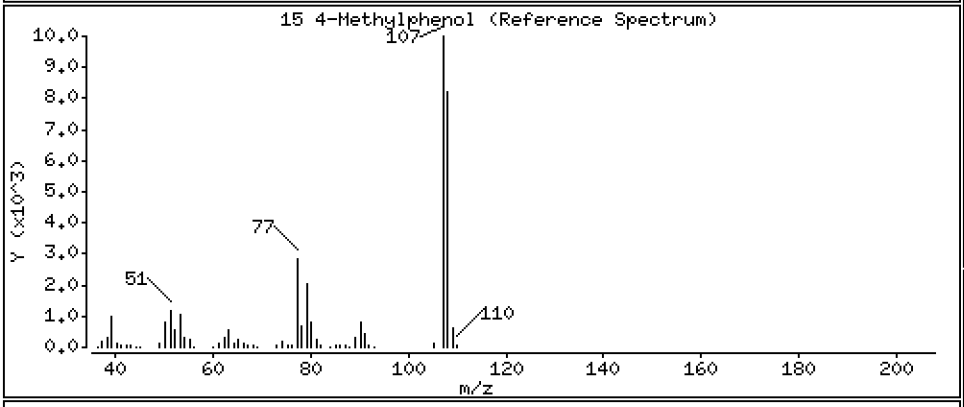
Concentration: 0.07943 ug/mL

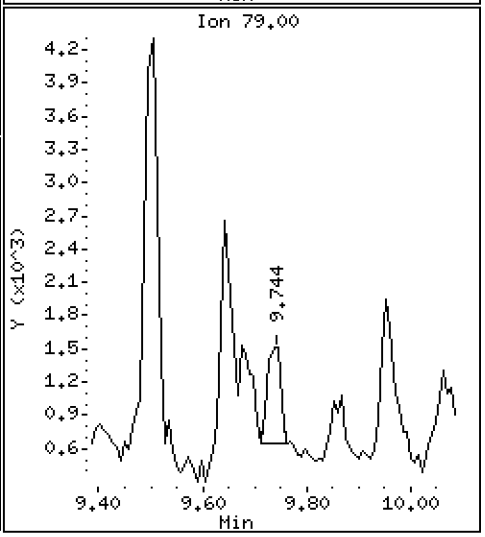


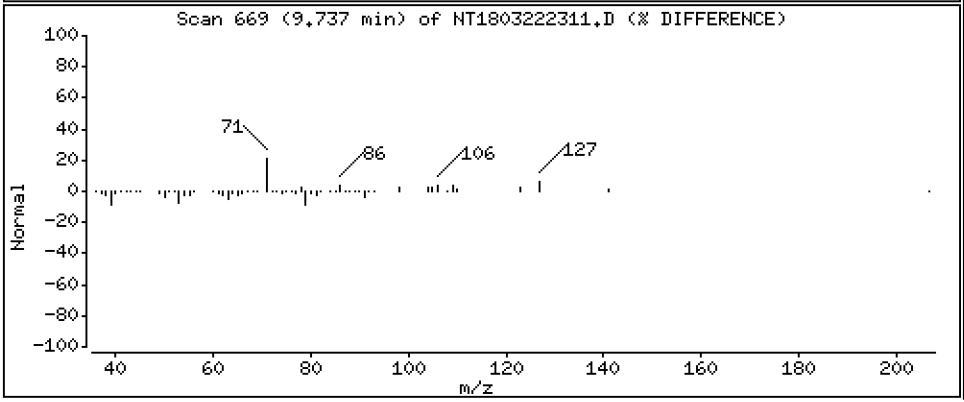












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Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

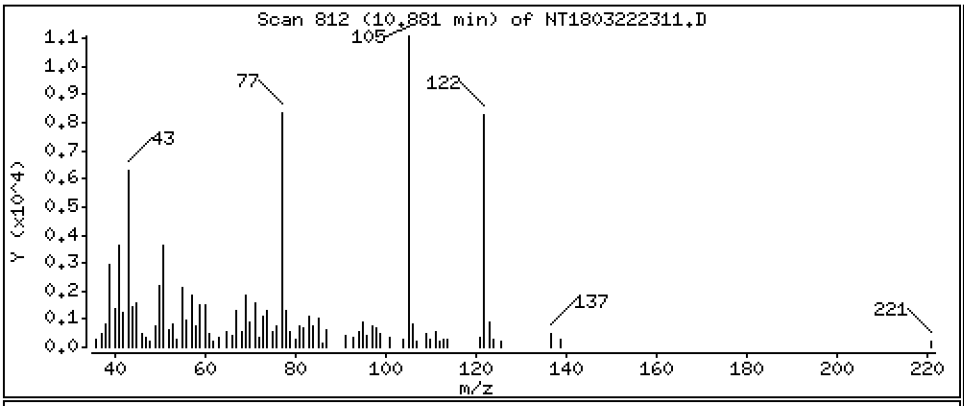
Operator: VTS

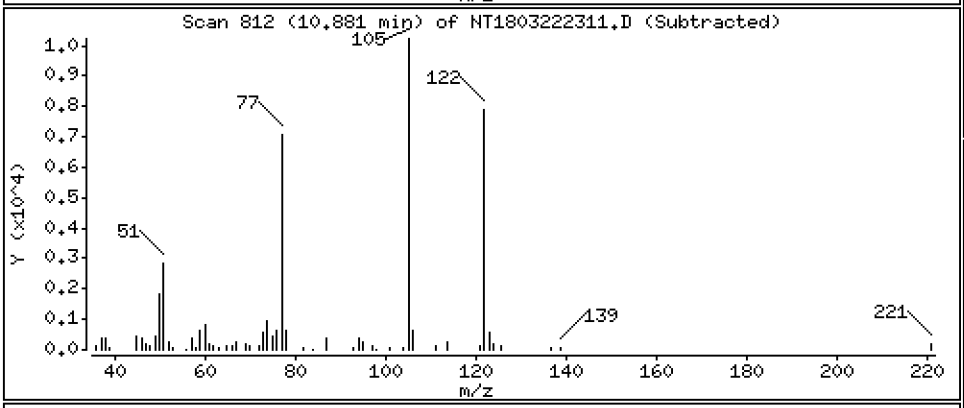
Column phase: ZB-5msi

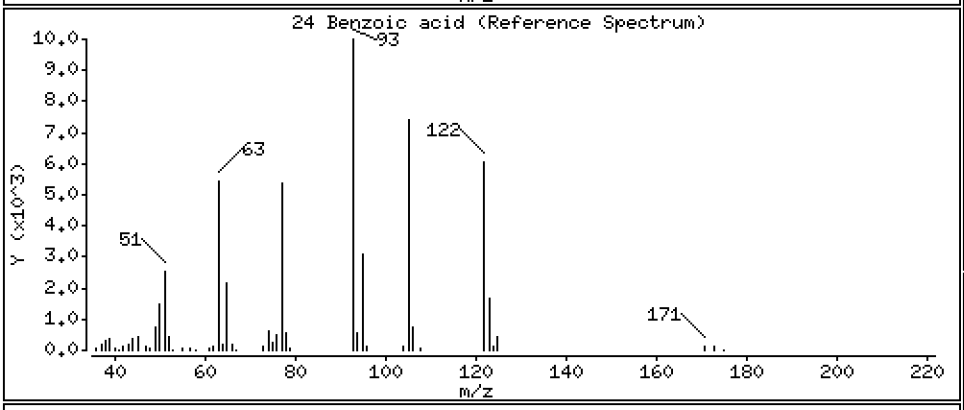
Column diameter: 0.25

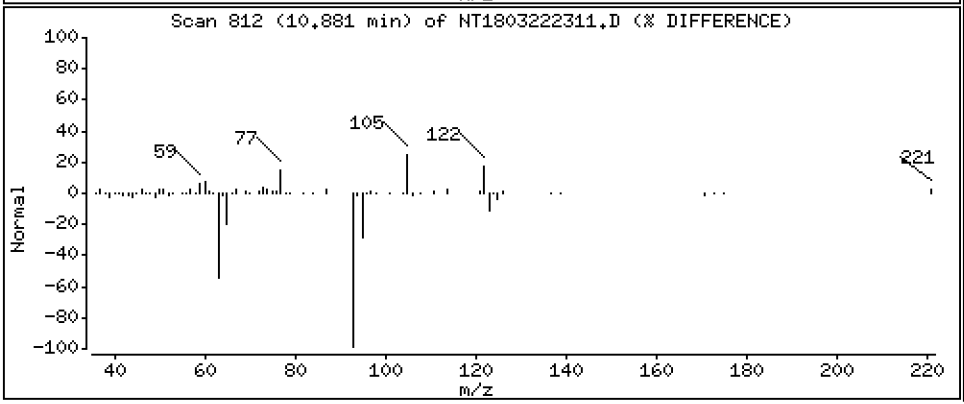
24 Benzoic acid

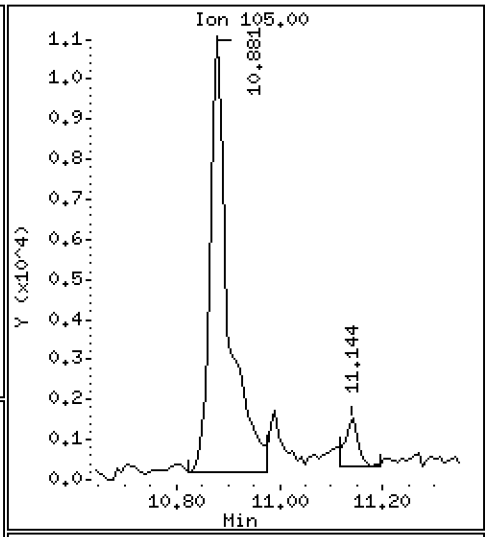
Concentration: 0.4254 ug/mL

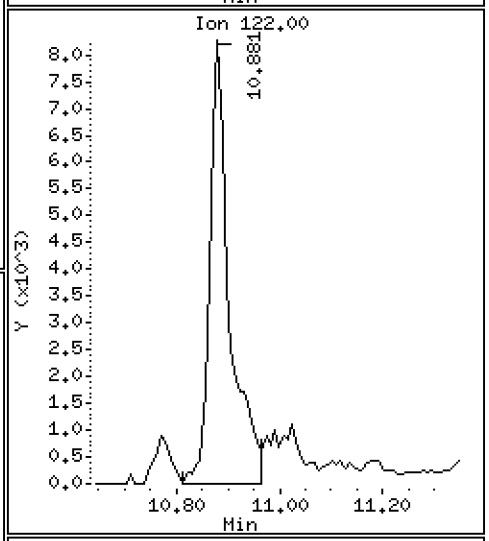


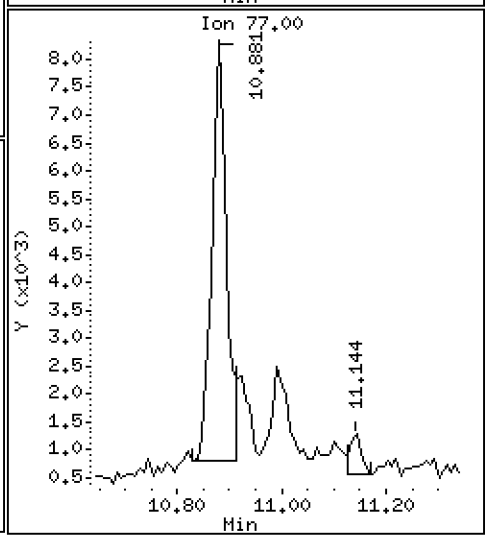












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Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

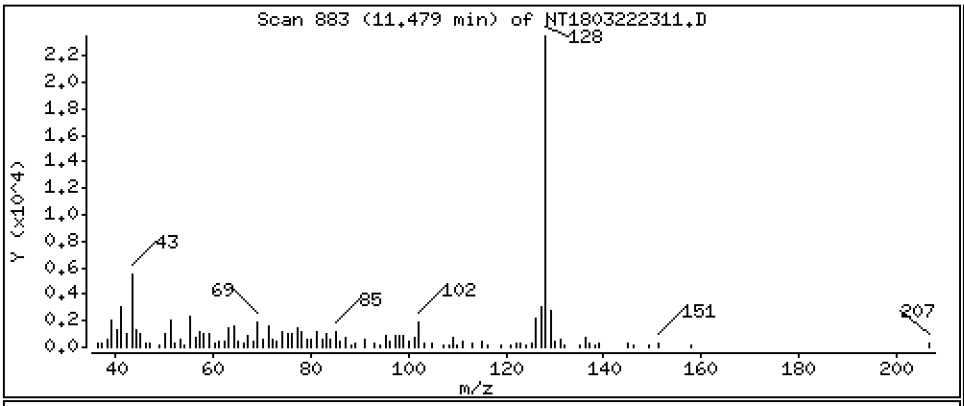
Operator: VTS

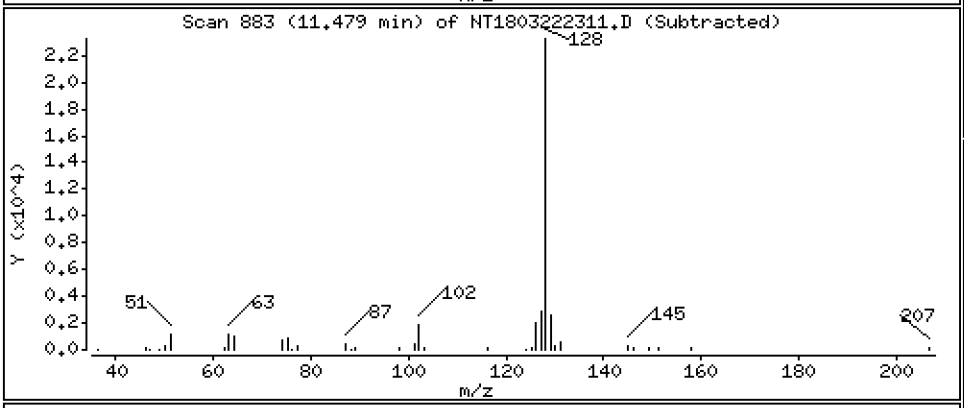
Column phase: ZB-5msi

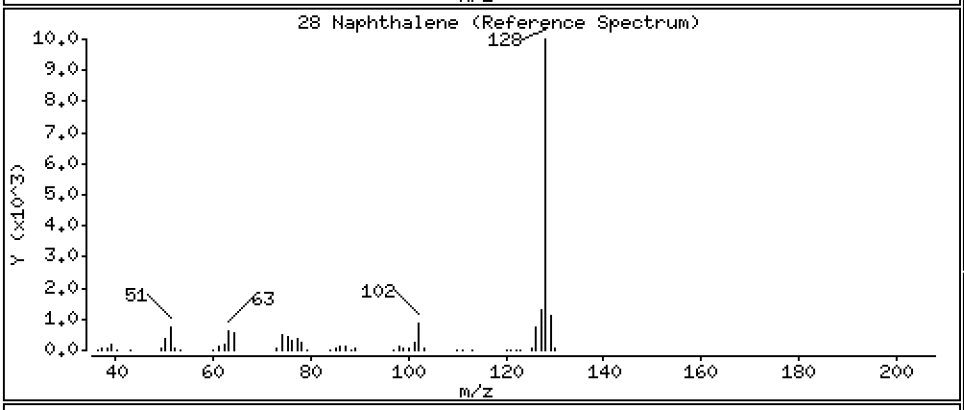
Column diameter: 0.25

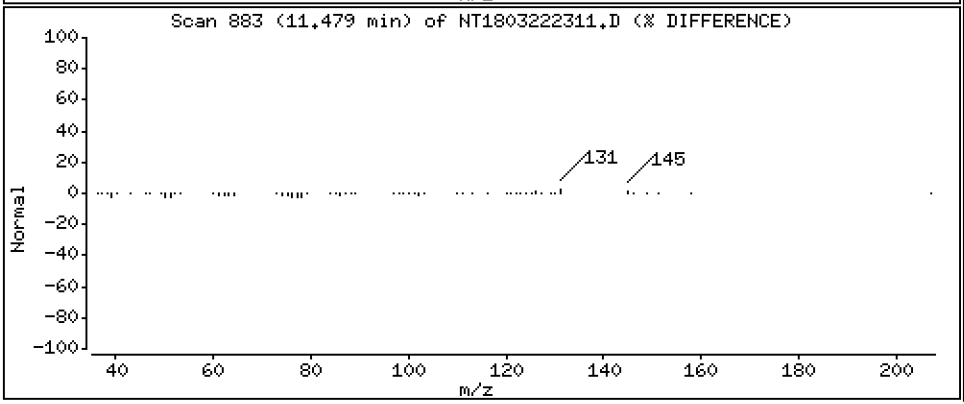
28 Naphthalene

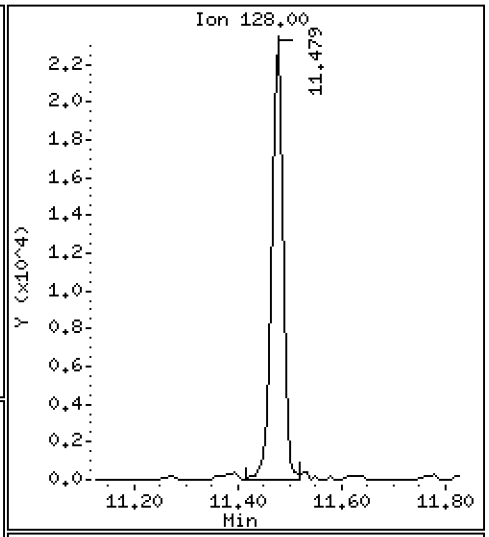
Concentration: 0.1241 ug/mL

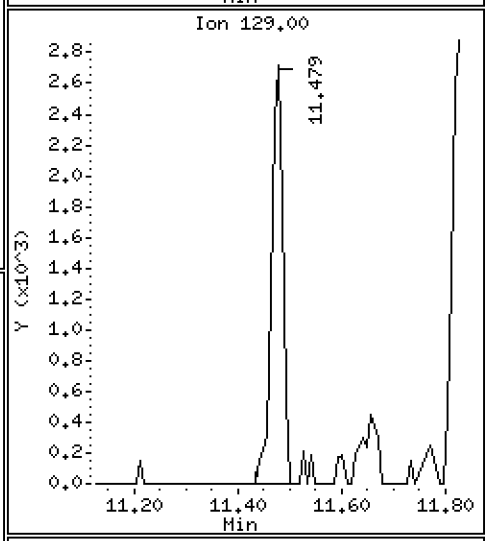


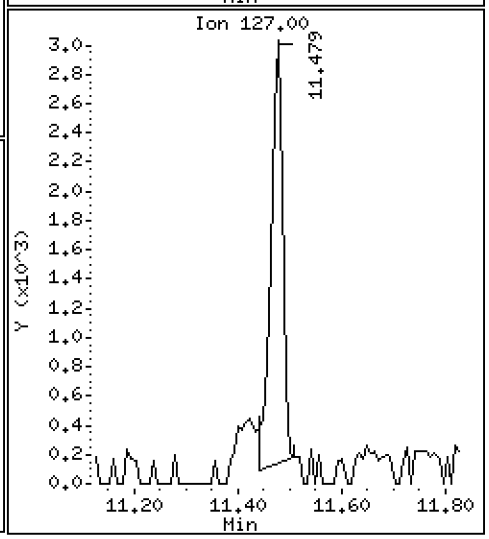












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Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

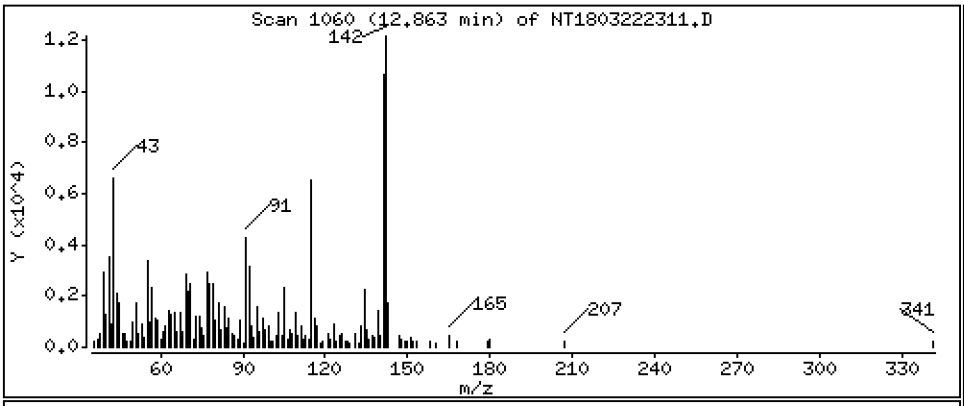
Operator: VTS

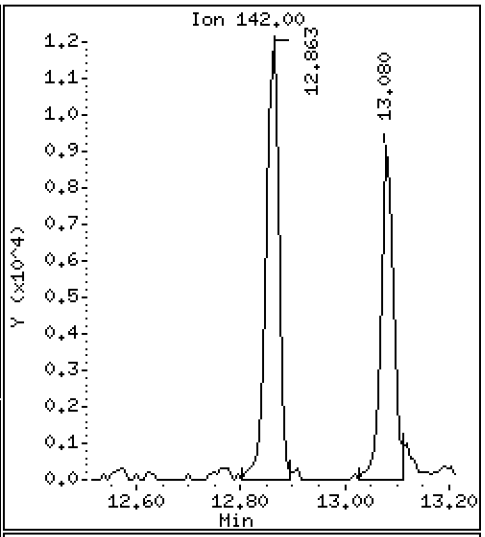
Column phase: ZB-5msi

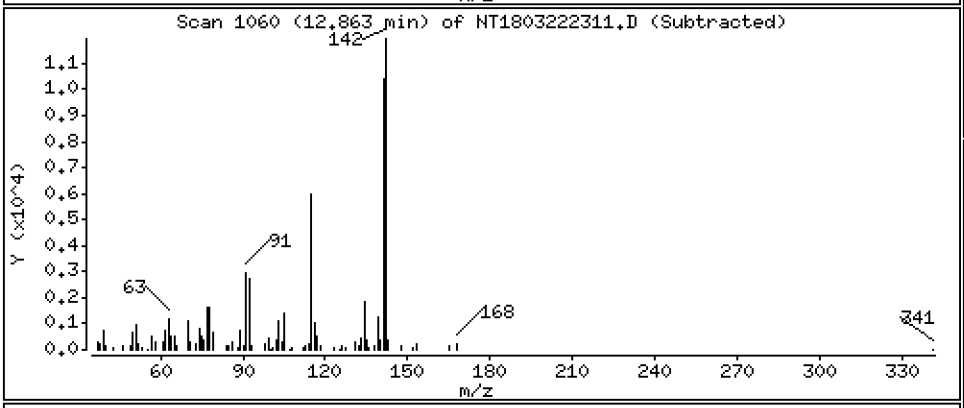
Column diameter: 0.25

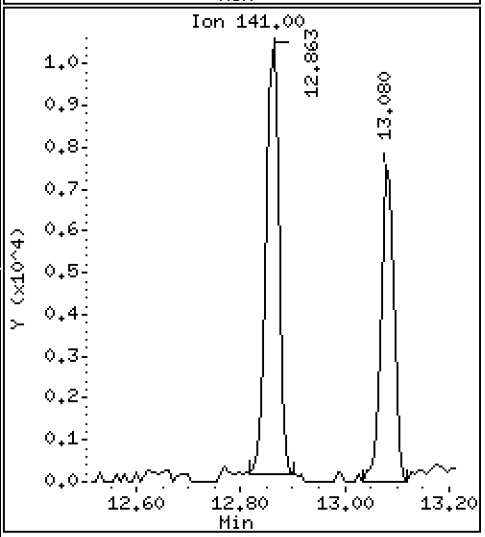
32 2-Methylnaphthalene

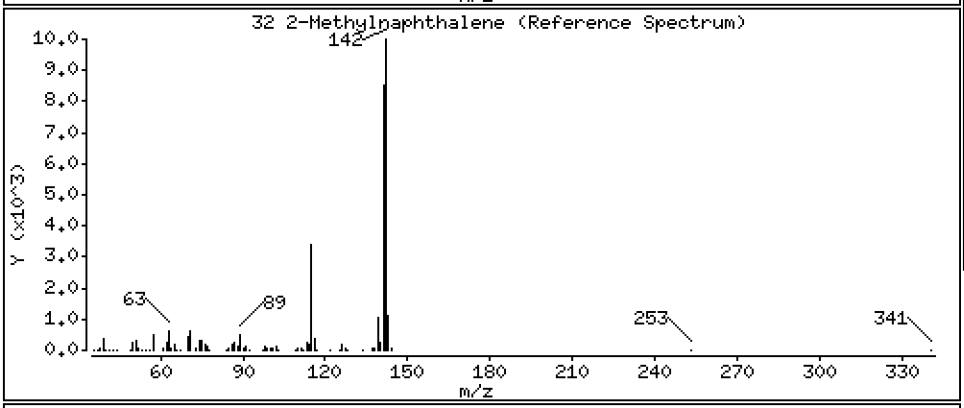
Concentration: 0.09891 ug/mL

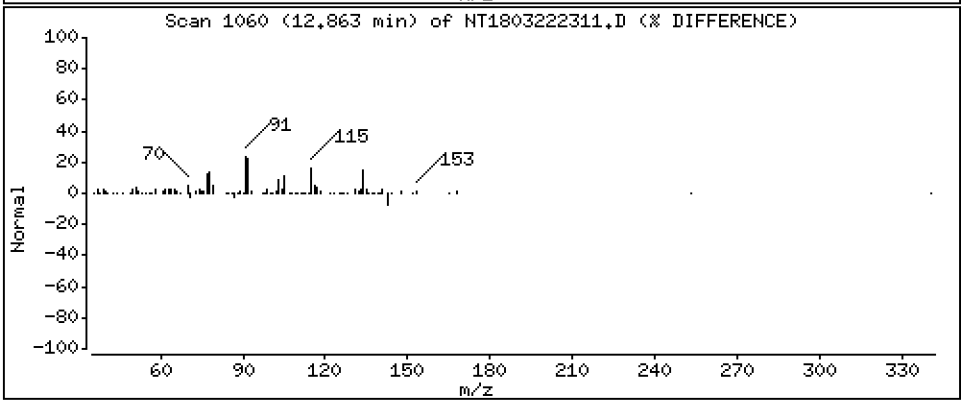












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Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

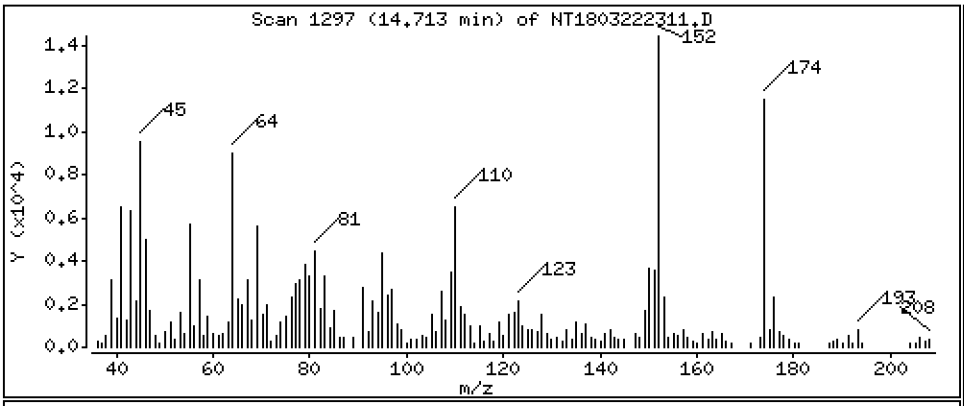
Operator: VTS

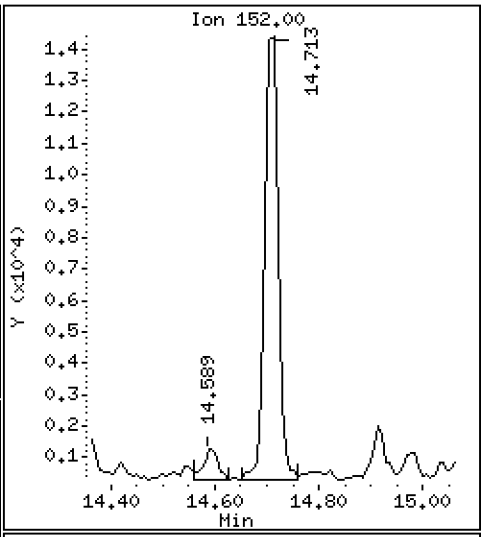
Column phase: ZB-5msi

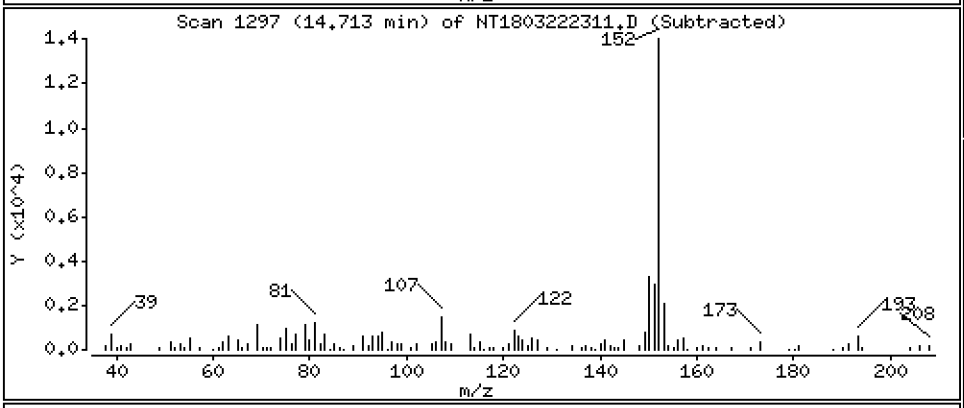
Column diameter: 0.25

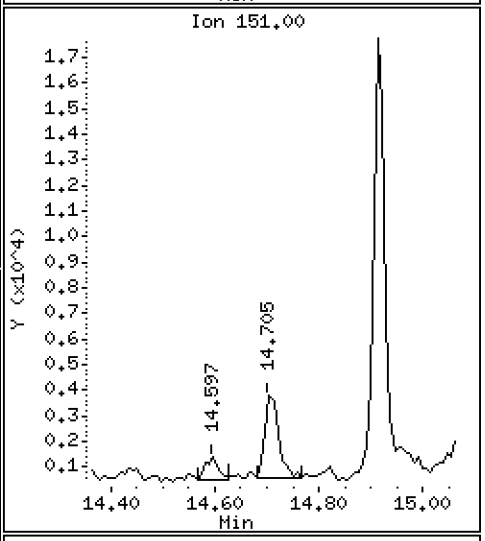
40 Acenaphthylene

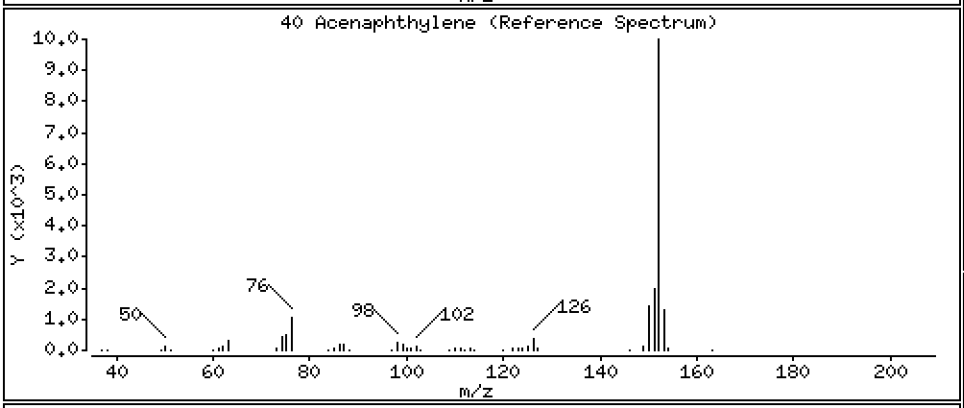
Concentration: 0.08609 ug/mL

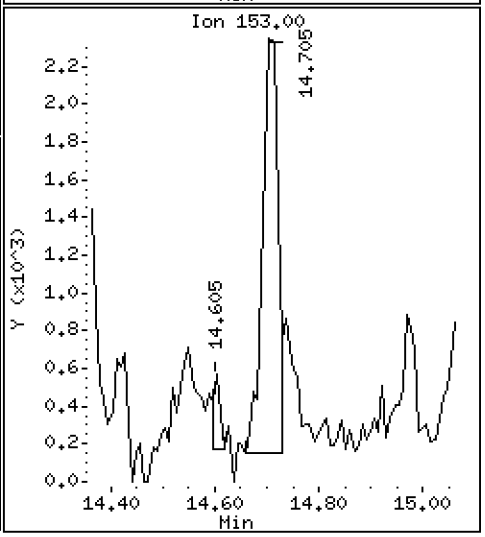


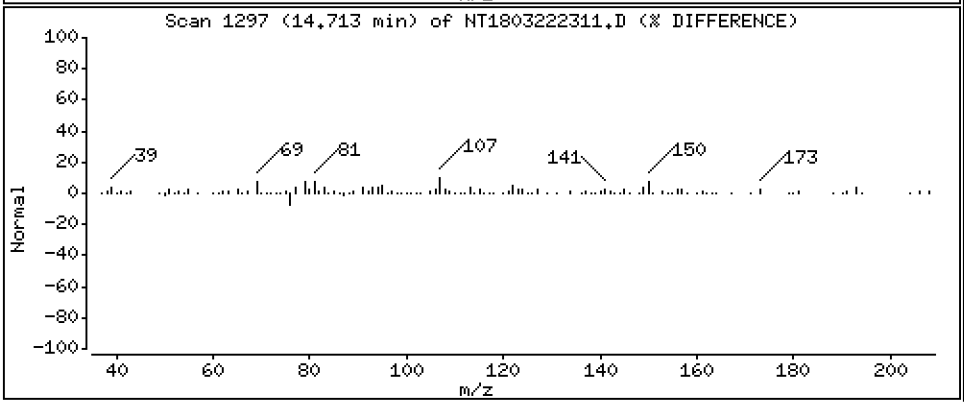












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Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

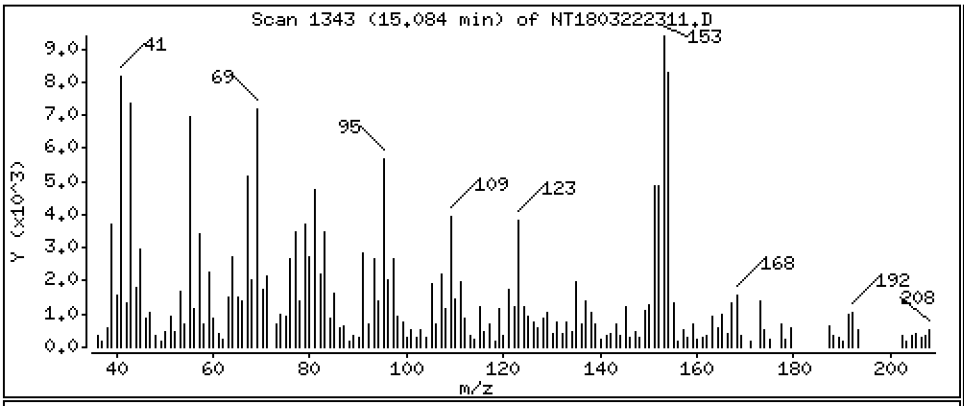
Operator: VTS

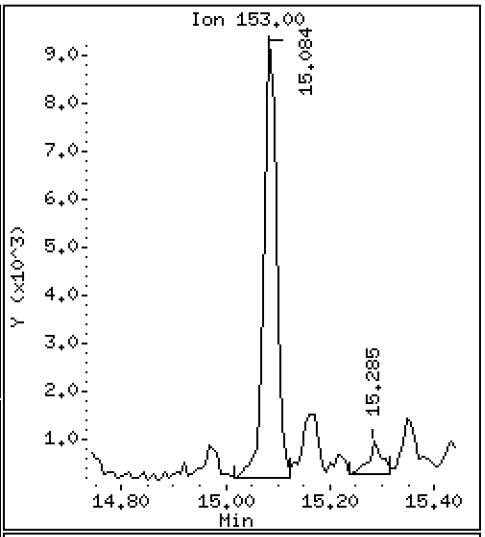
Column phase: ZB-5msi

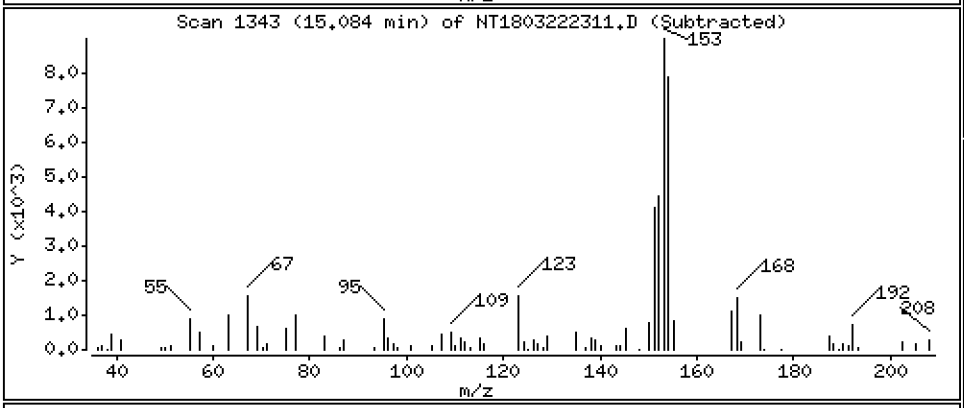
Column diameter: 0.25

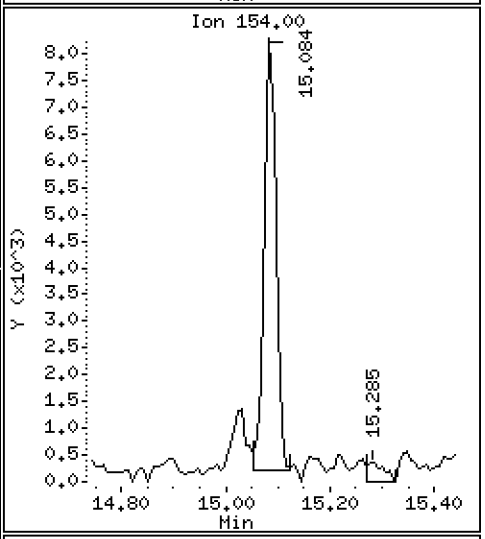
44 Acenaphthene

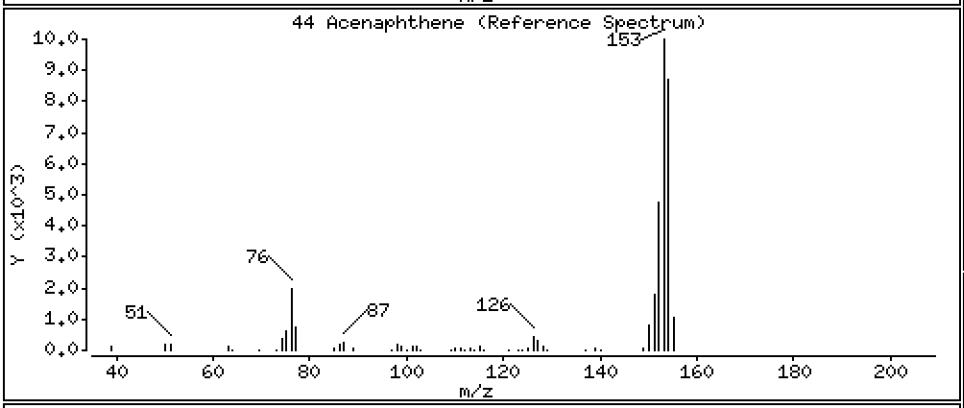
Concentration: 0.08183 ug/mL

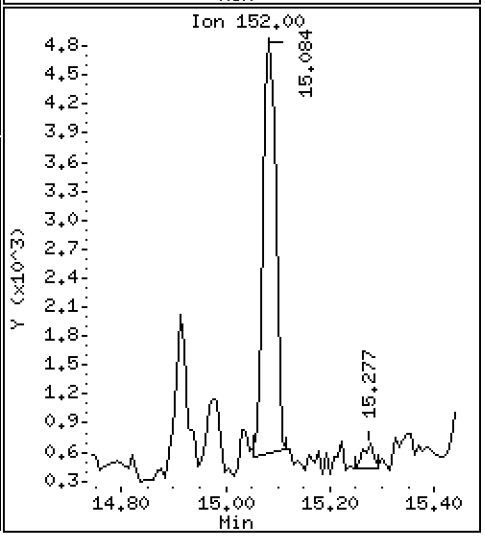


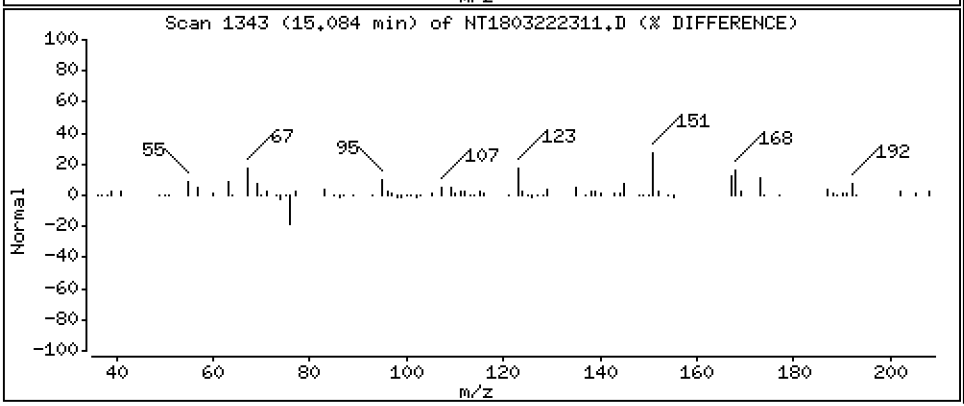












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Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

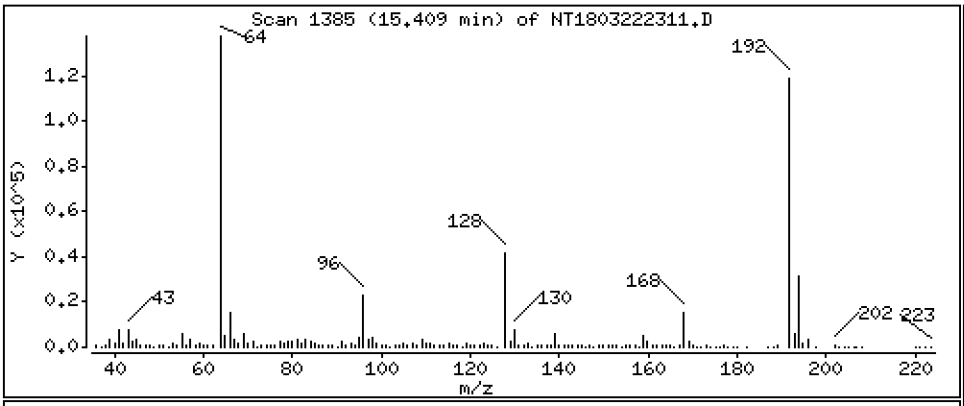
Operator: VTS

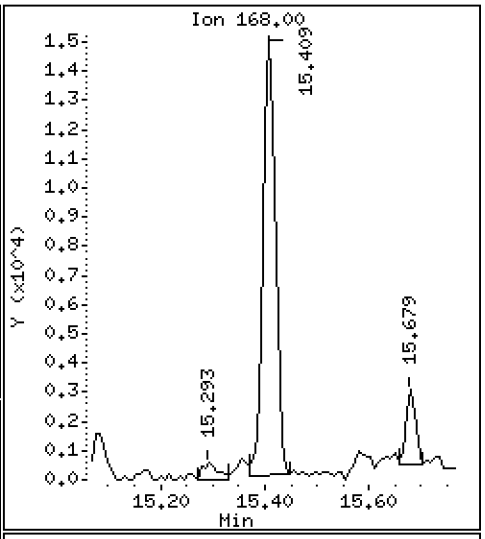
Column phase: ZB-5msi

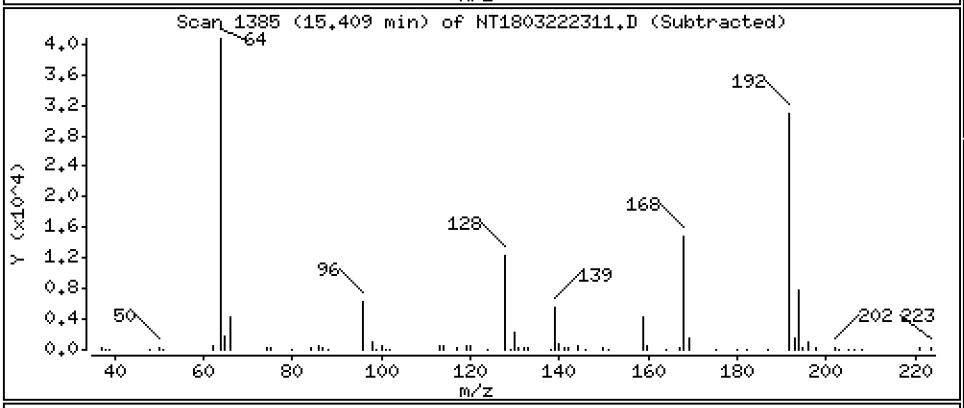
Column diameter: 0.25

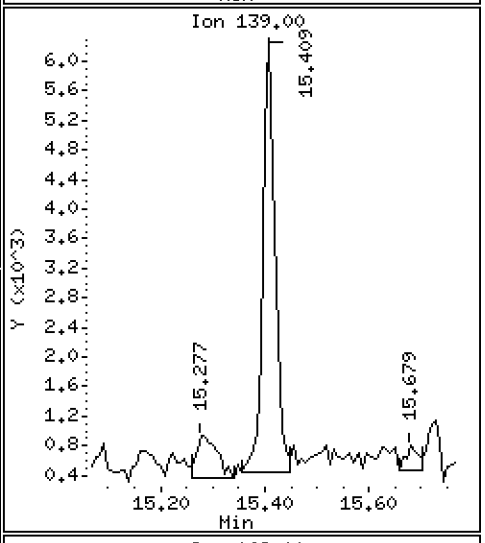
46 Dibenzofuran

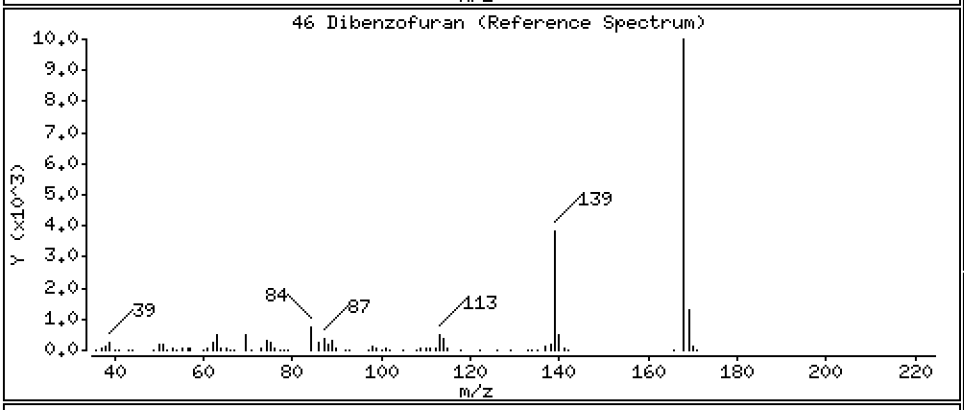
Concentration: 0.1004 ug/mL

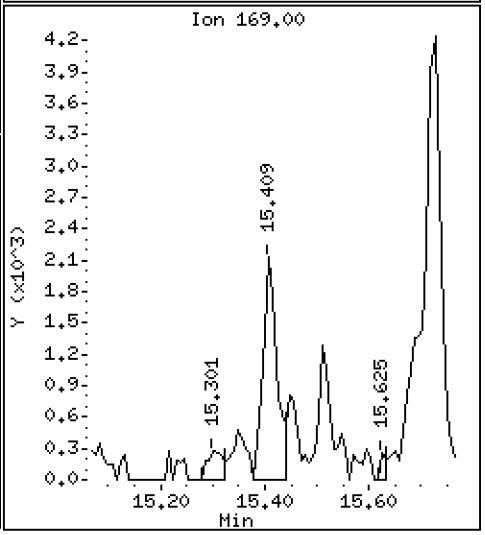


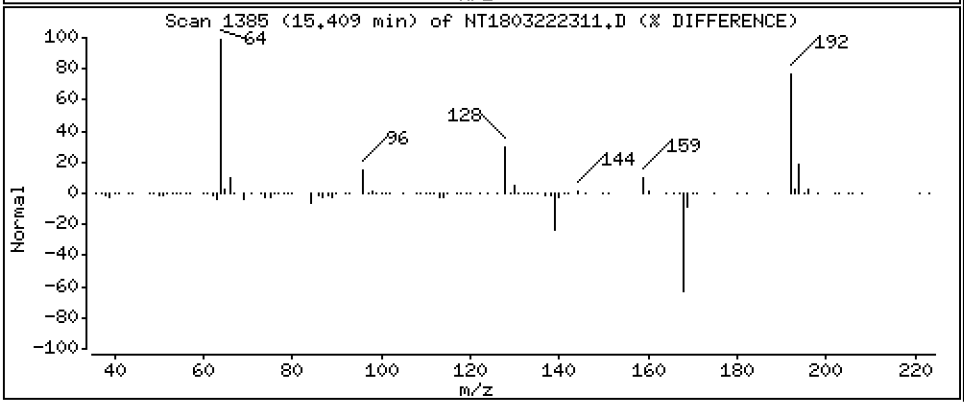












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222311.D

Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

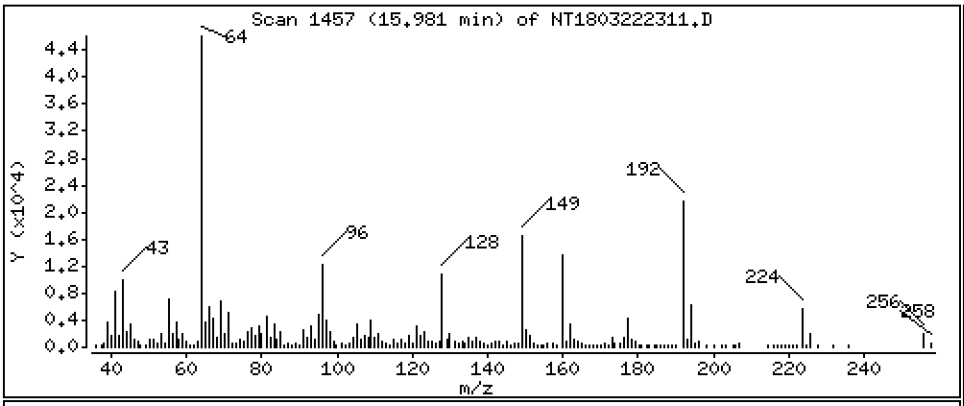
Operator: VTS

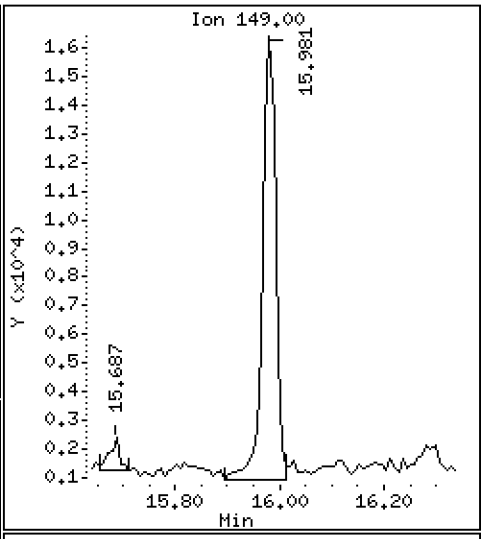
Column phase: ZB-5msi

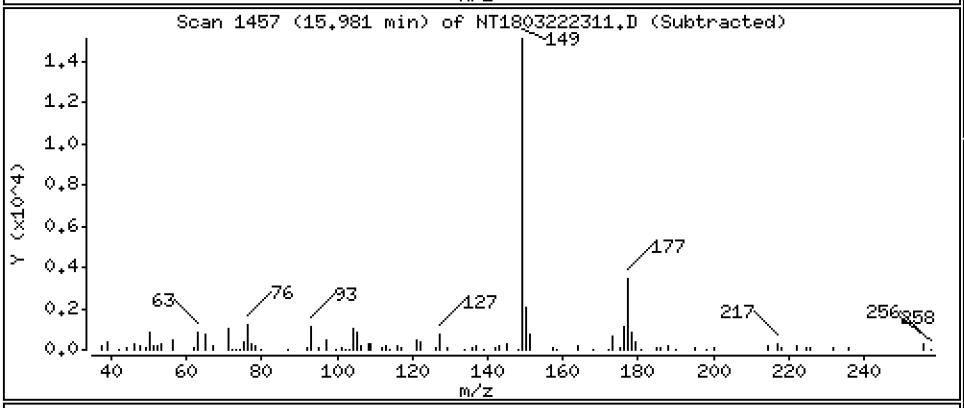
Column diameter: 0.25

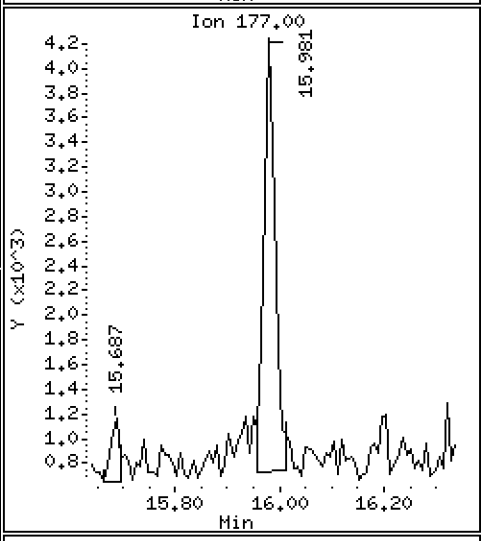
50 Diethylphthalate

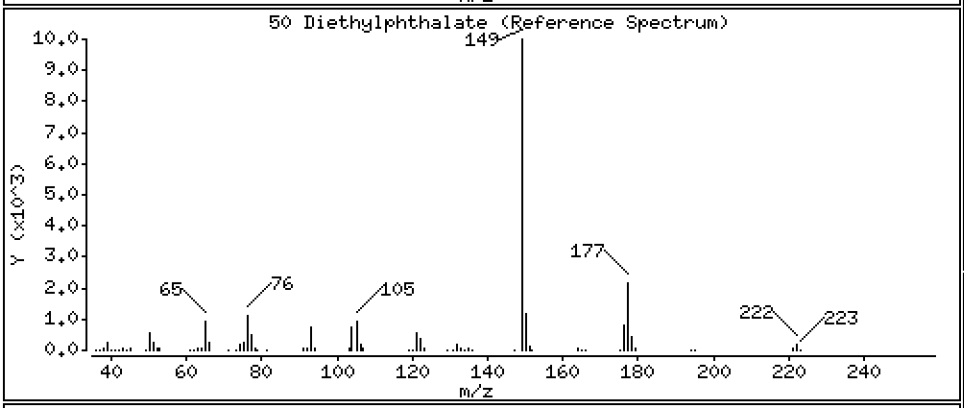
Concentration: 0.1504 ug/mL

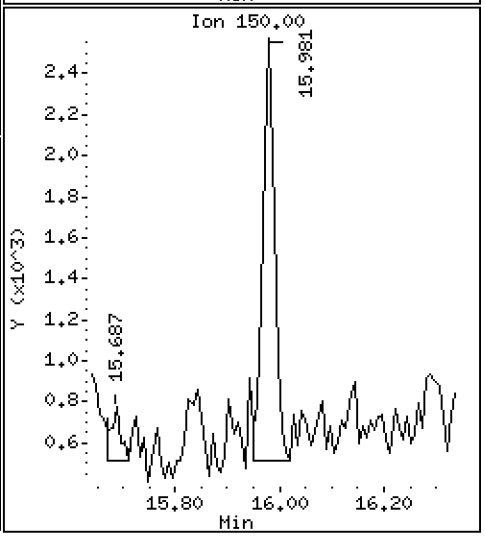


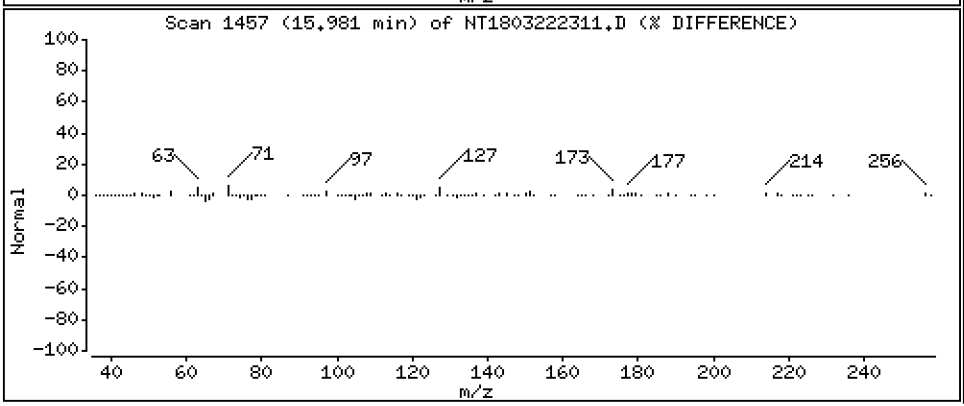












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Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

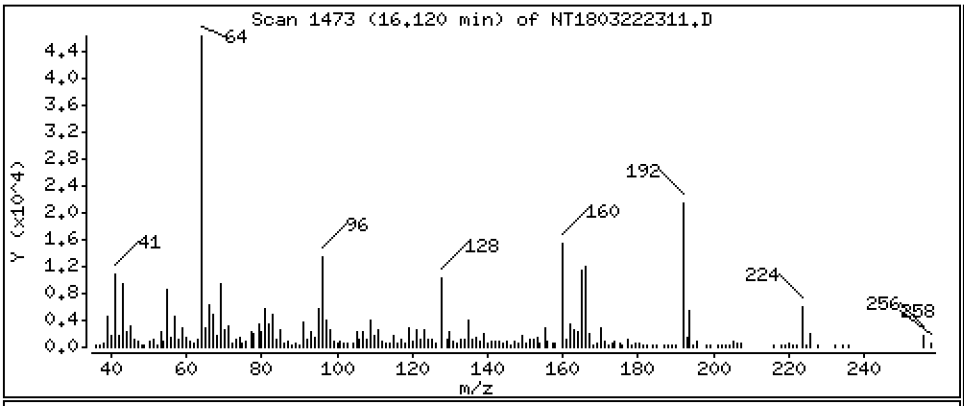
Operator: VTS

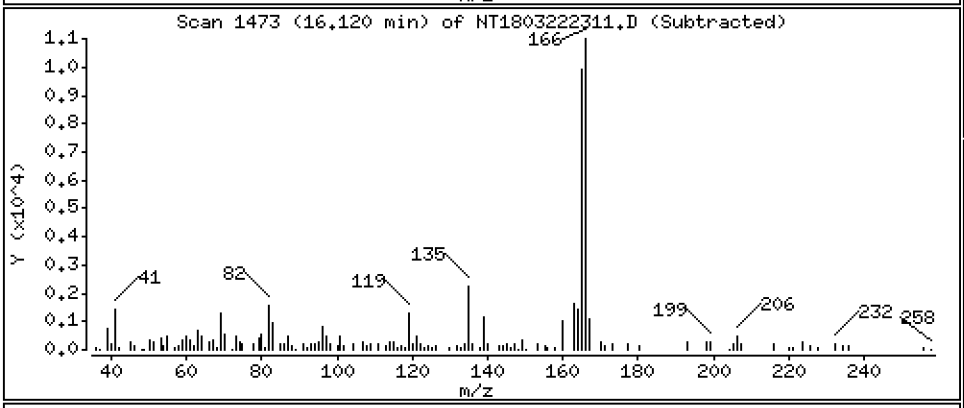
Column phase: ZB-5msi

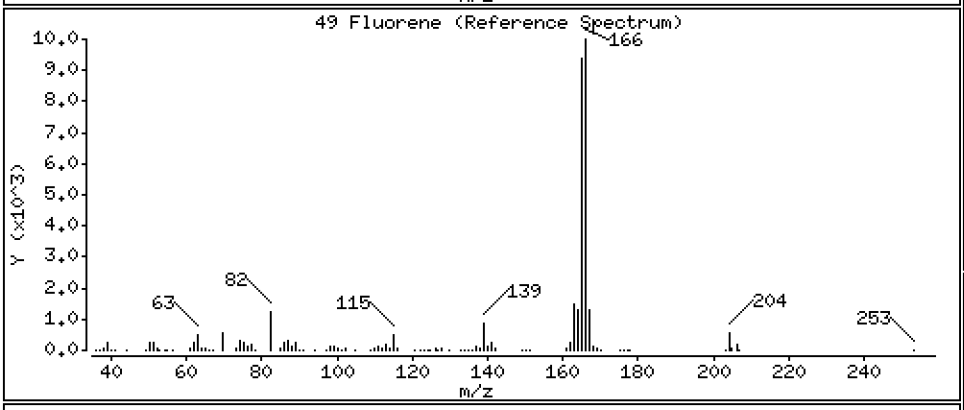
Column diameter: 0.25

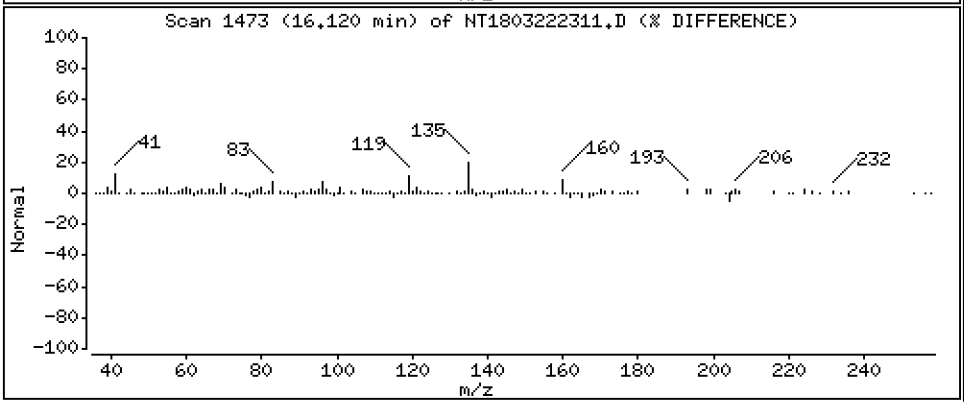
49 Fluorene

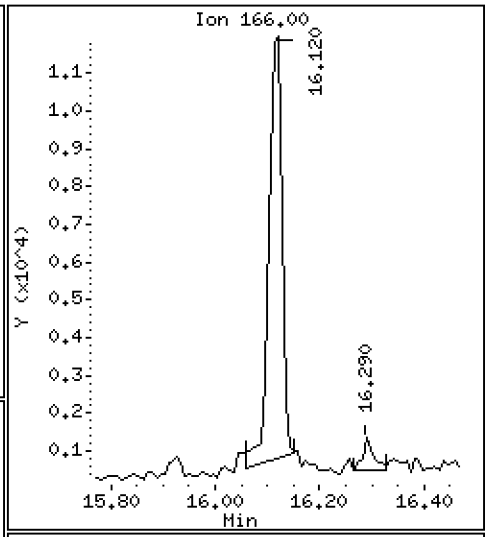
Concentration: 0.1009 ug/mL

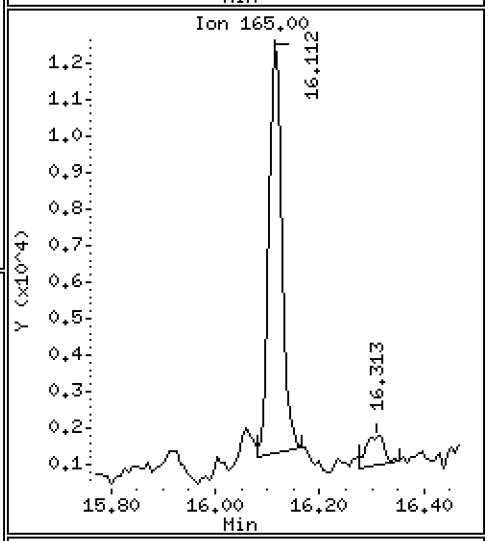


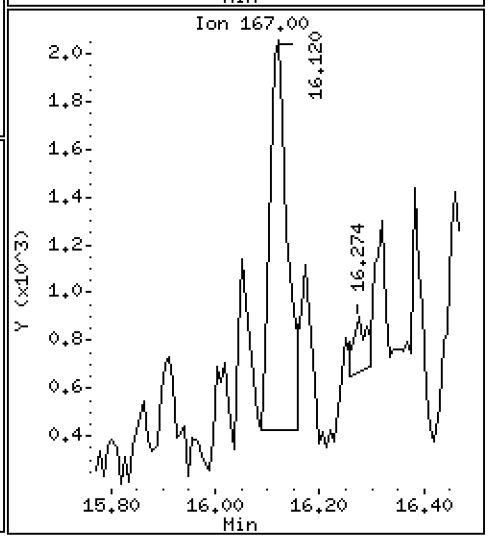












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Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

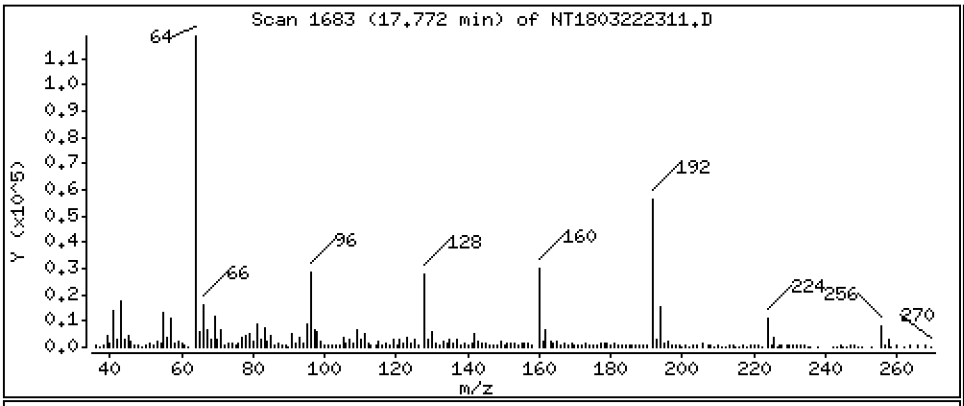
Operator: VTS

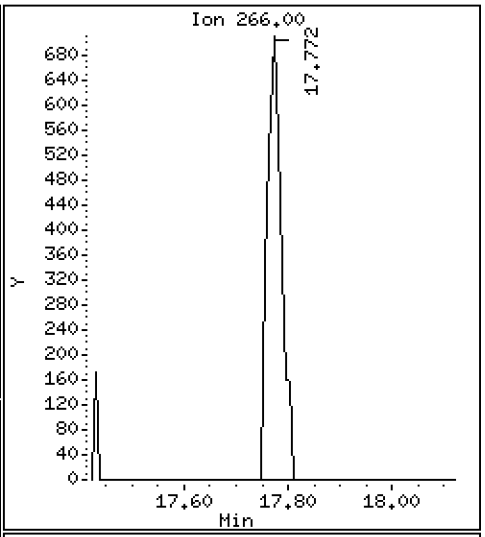
Column phase: ZB-5msi

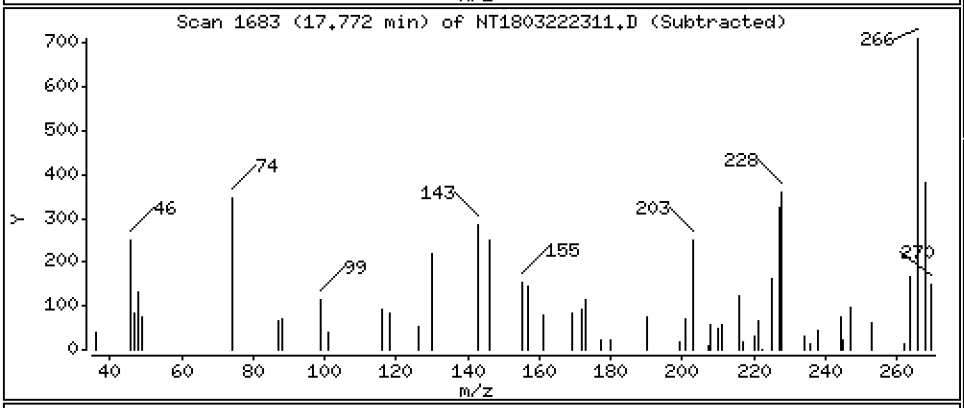
Column diameter: 0.25

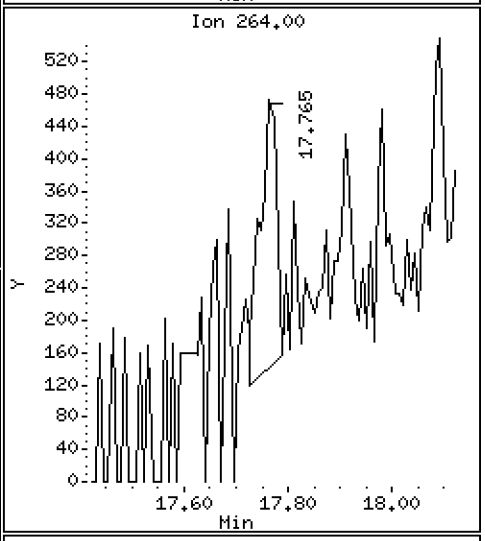
58 Pentachlorophenol

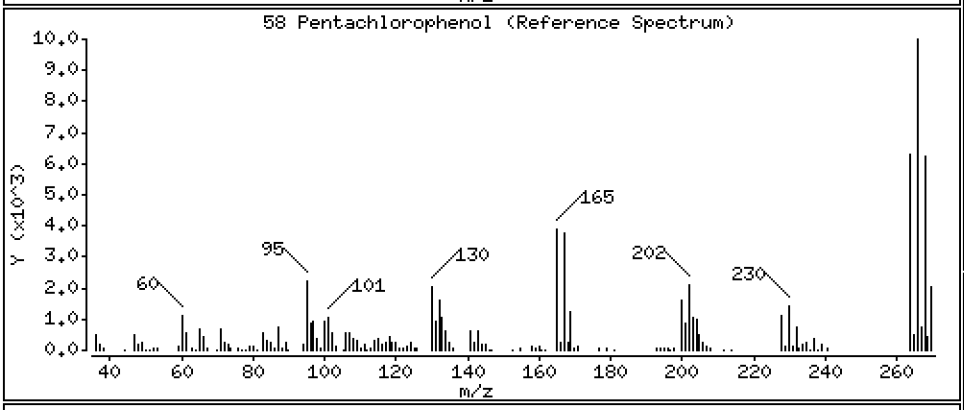
Concentration: 0.03751 ug/mL

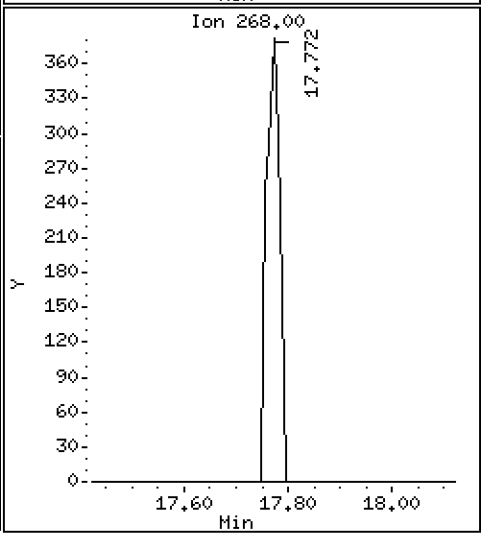


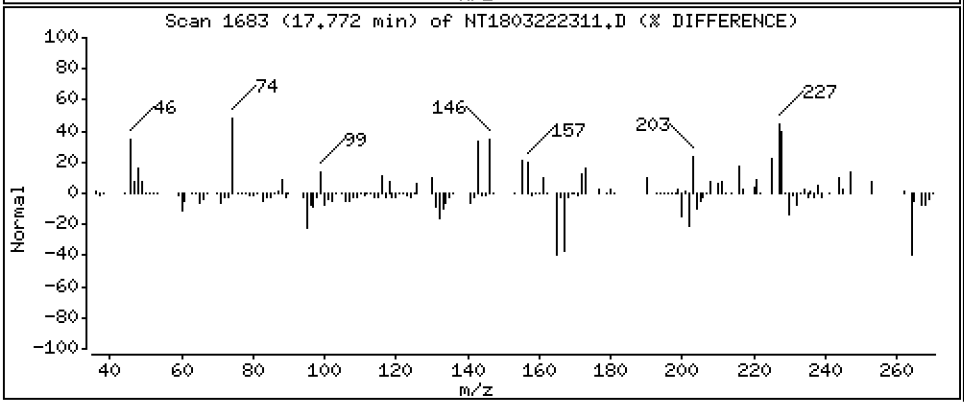












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Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

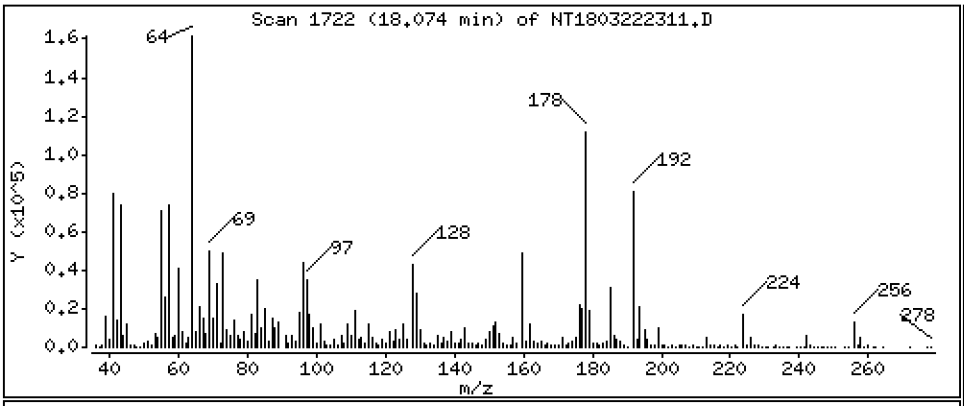
Operator: VTS

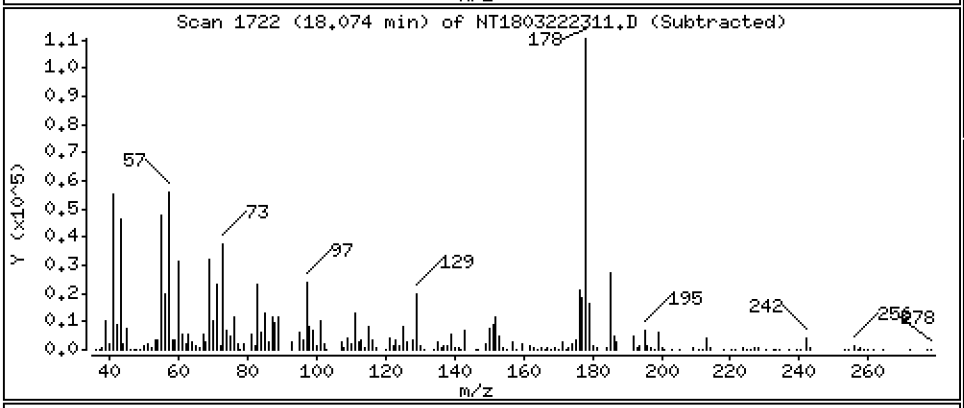
Column phase: ZB-5msi

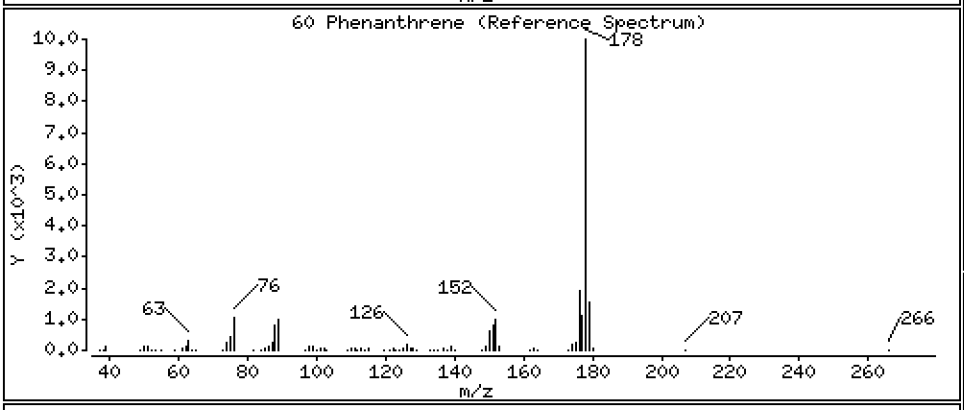
Column diameter: 0.25

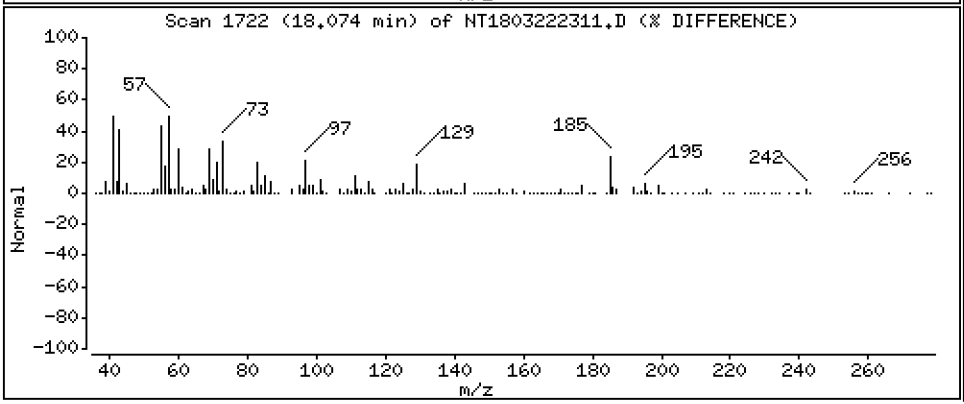
60 Phenanthrene

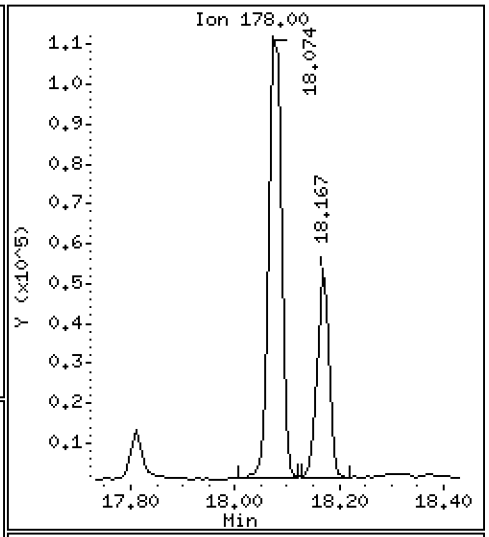
Concentration: 0.6404 ug/mL

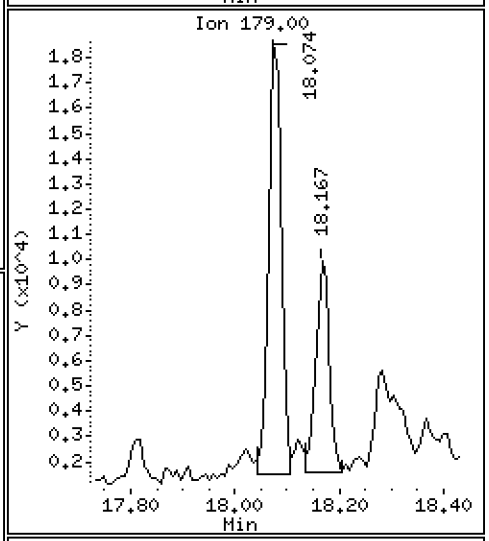


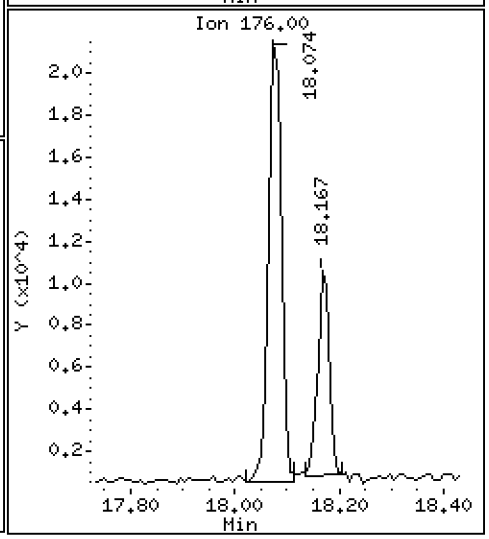












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Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

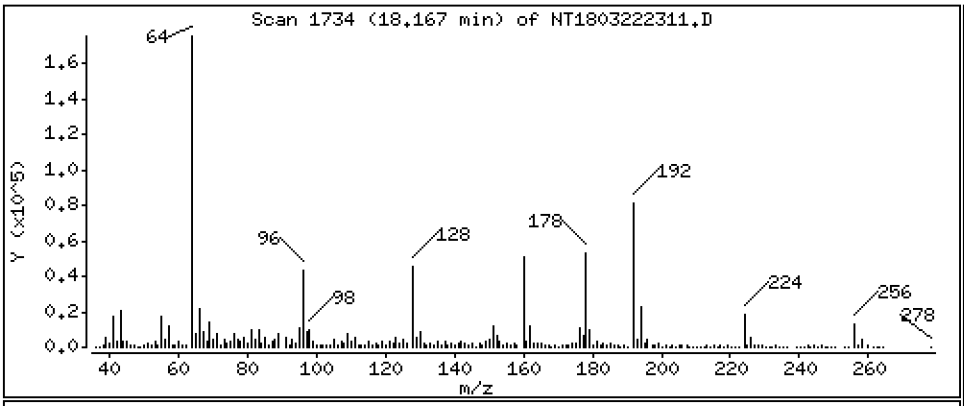
Operator: VTS

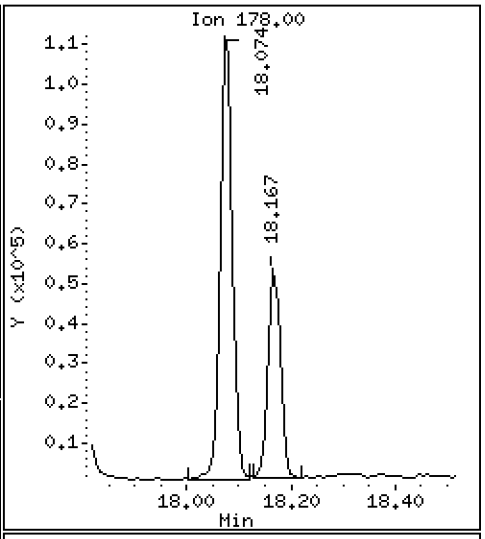
Column phase: ZB-5msi

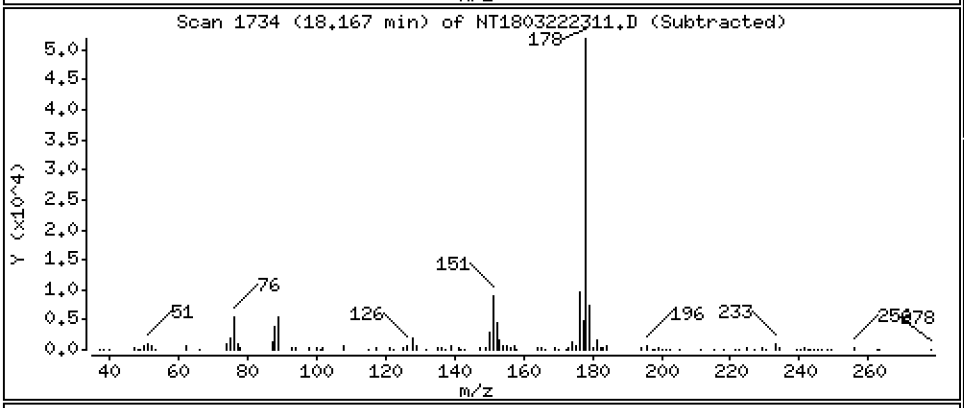
Column diameter: 0.25

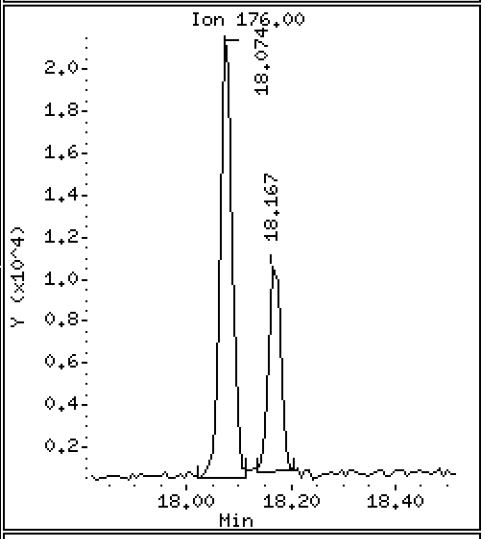
61 Anthracene

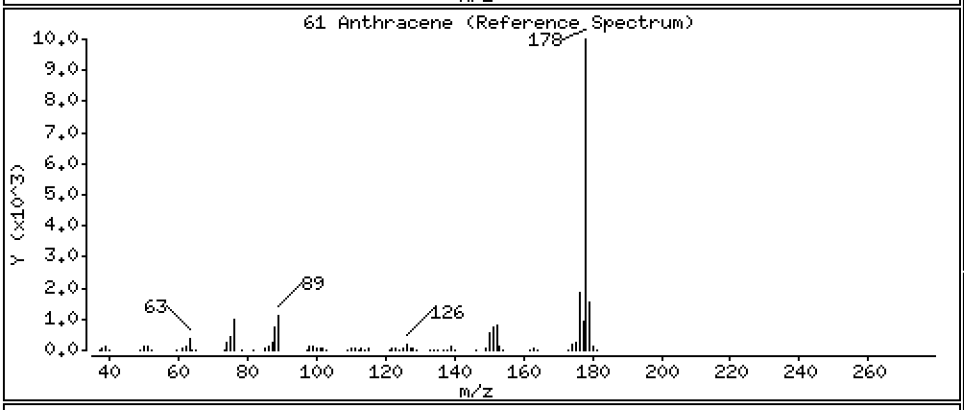
Concentration: 0.3089 ug/mL

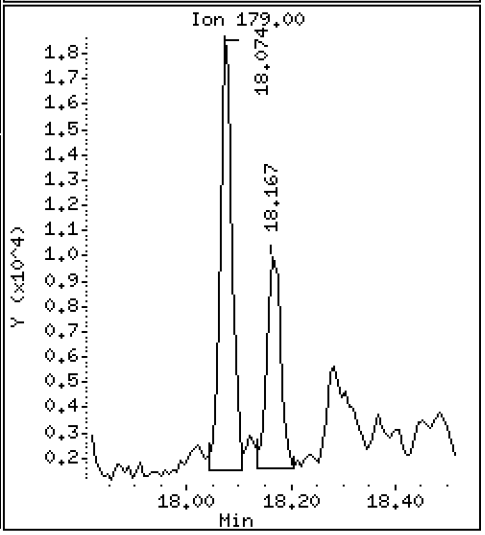


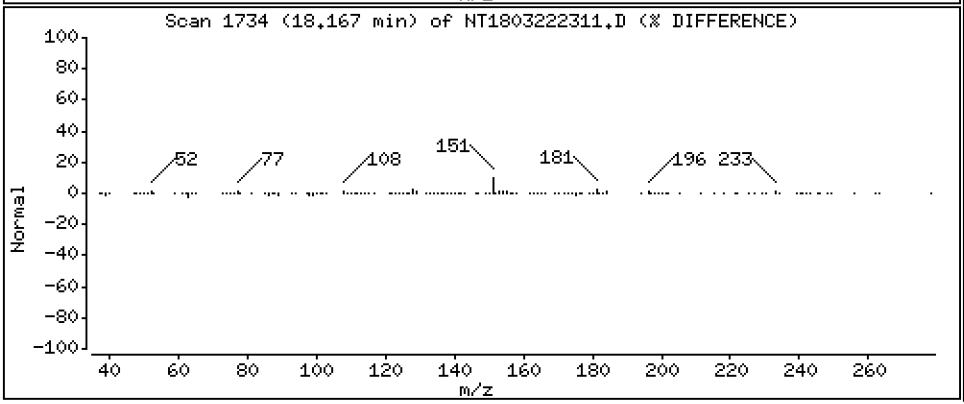












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Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

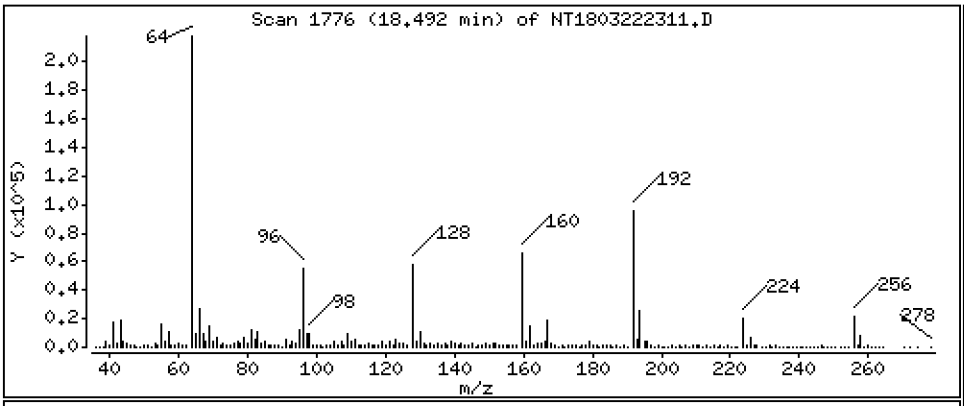
Operator: VTS

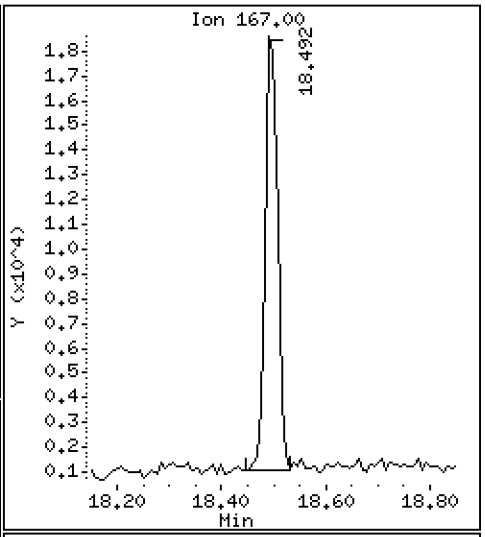
Column phase: ZB-5msi

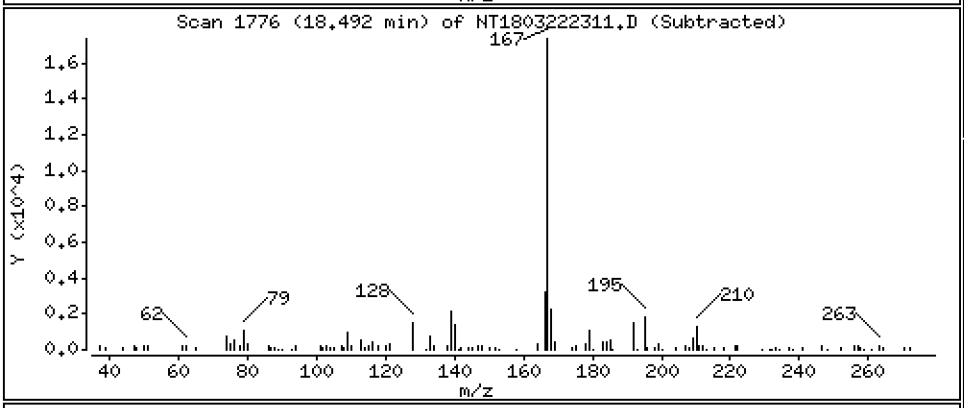
Column diameter: 0.25

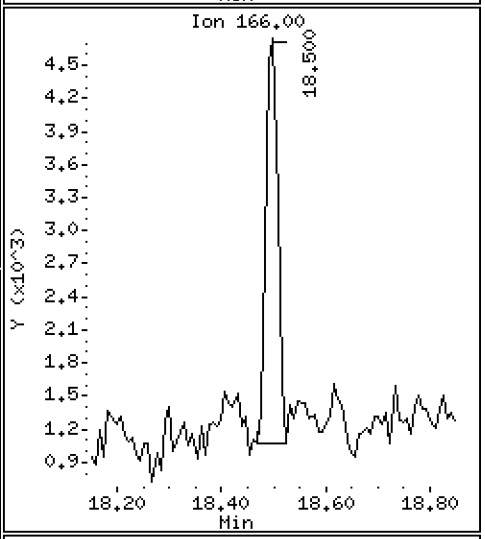
62 Carbazole

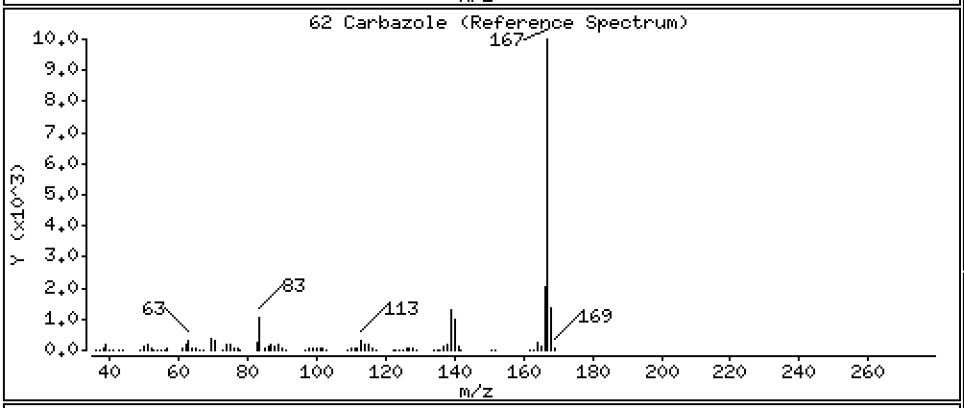
Concentration: 0.1177 ug/mL

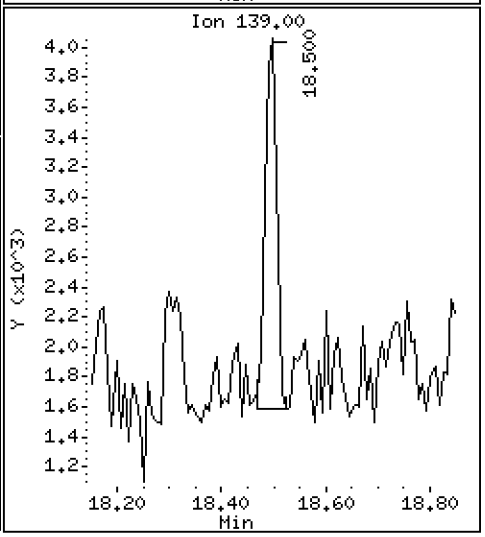


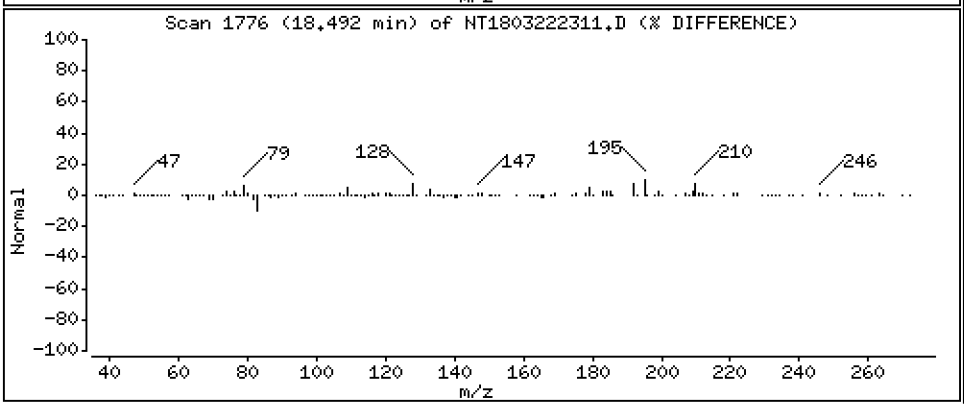












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Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

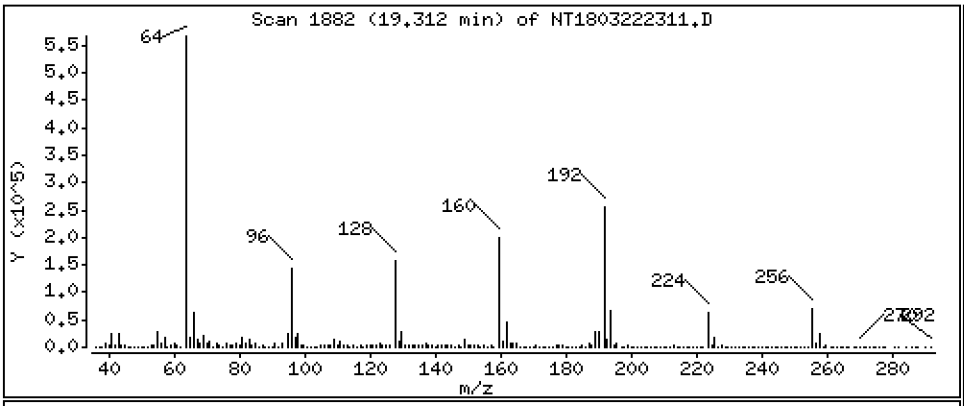
Operator: VTS

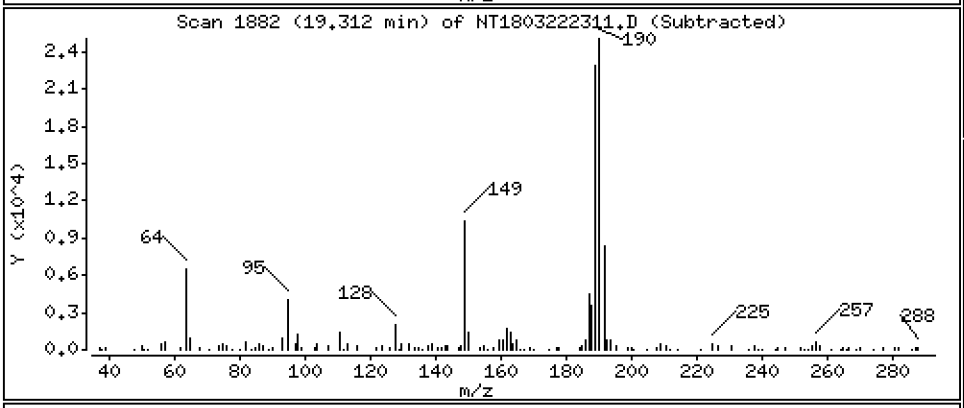
Column phase: ZB-5msi

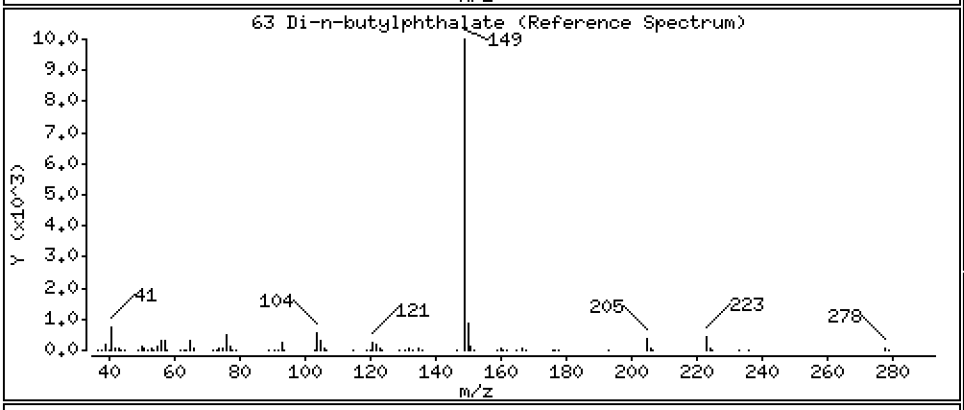
Column diameter: 0.25

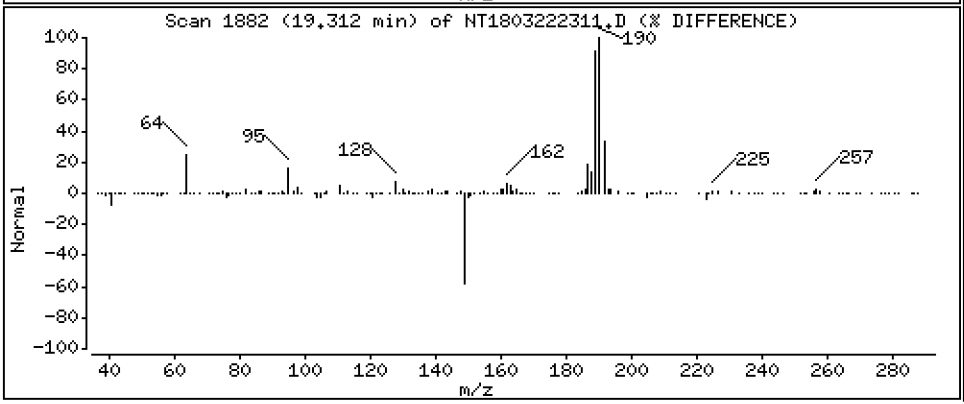
63 Di-n-butylphthalate

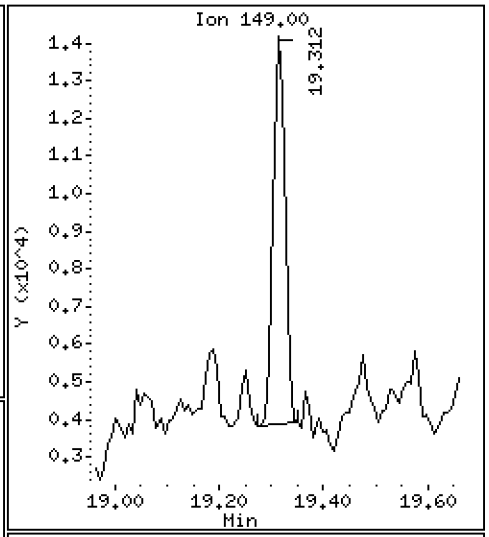
Concentration: 0.04976 ug/mL

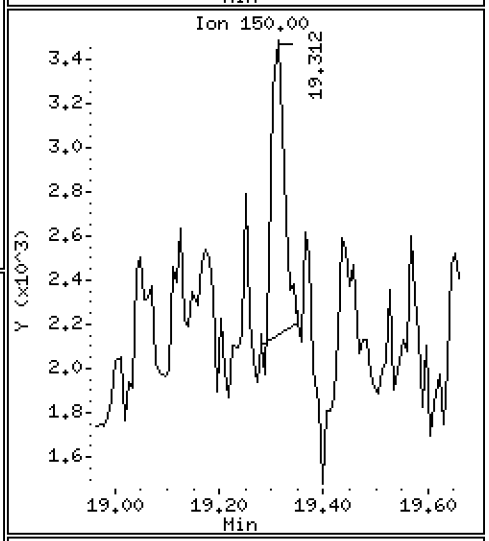


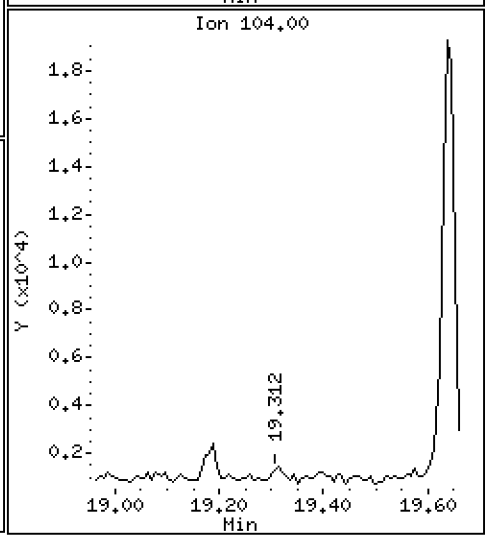












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222311.D

Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

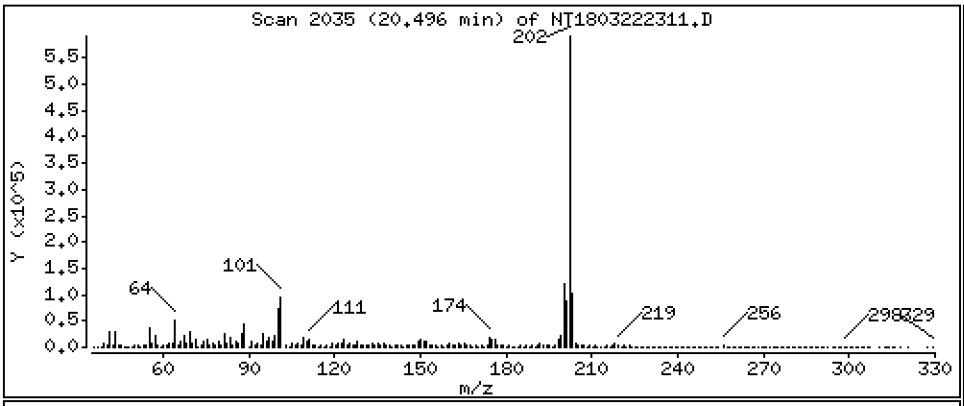
Operator: VTS

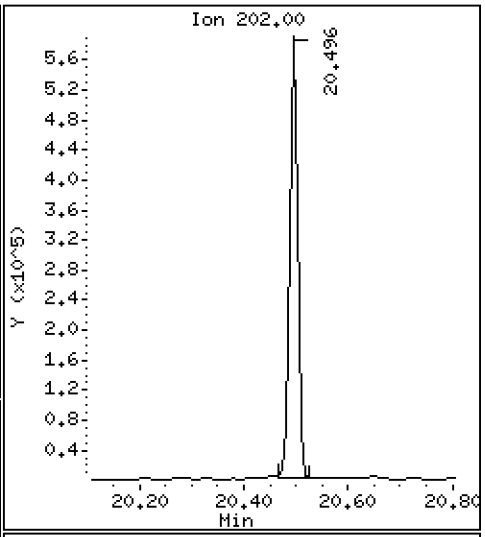
Column phase: ZB-5msi

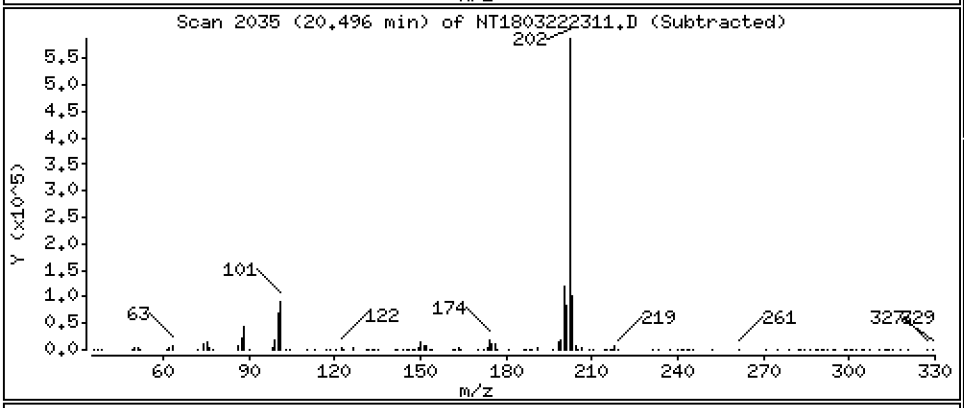
Column diameter: 0.25

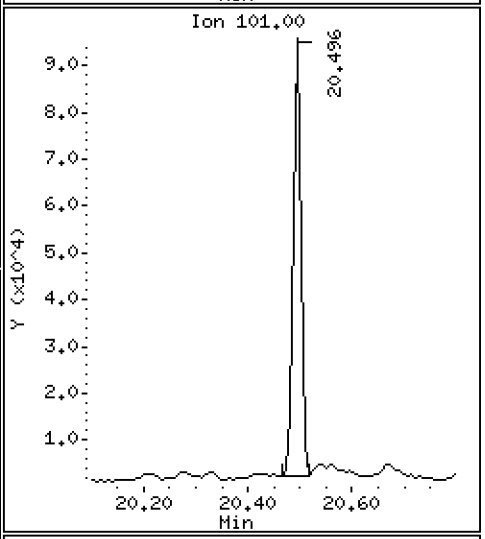
64 Fluoranthene

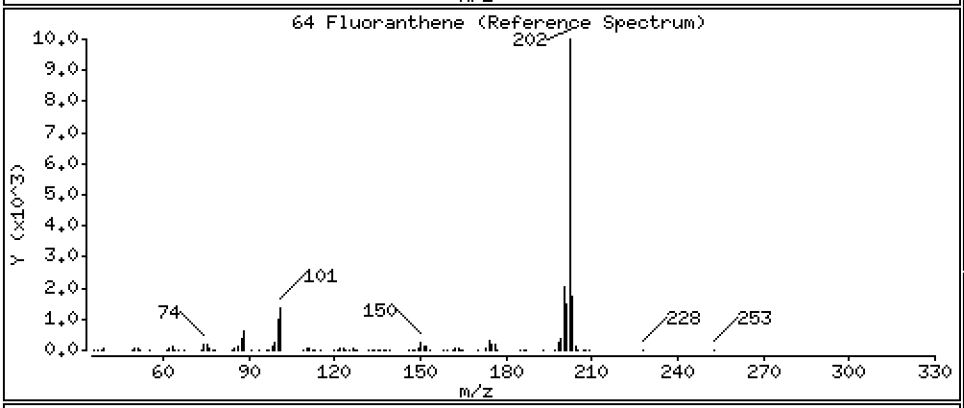
Concentration: 1.705 ug/mL

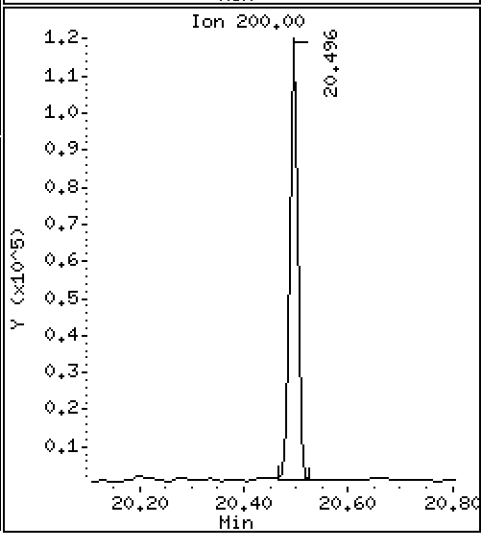


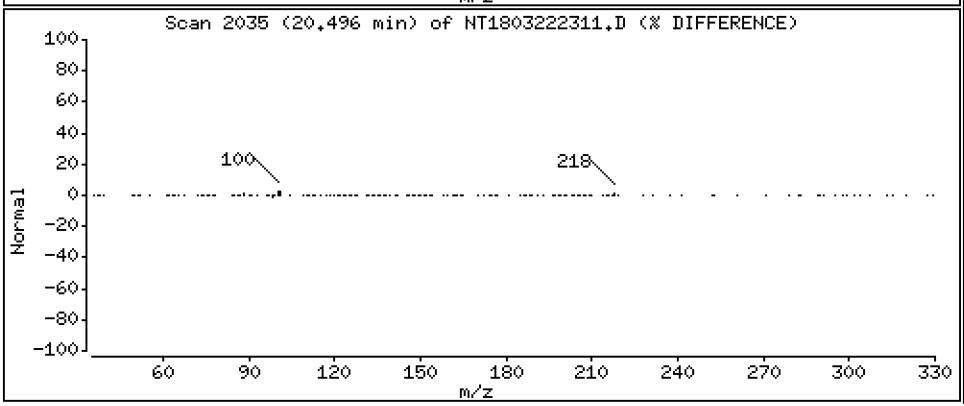












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Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

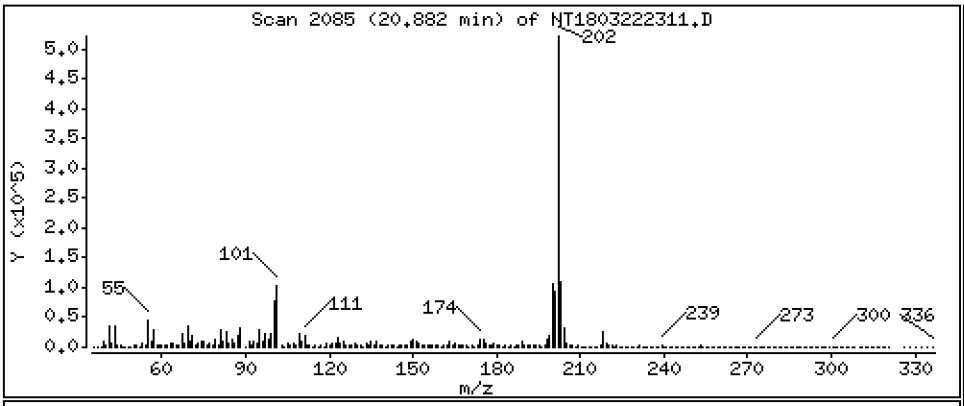
Operator: VTS

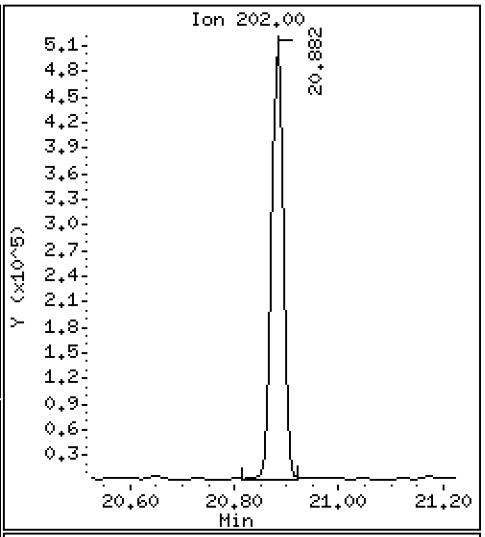
Column phase: ZB-5msi

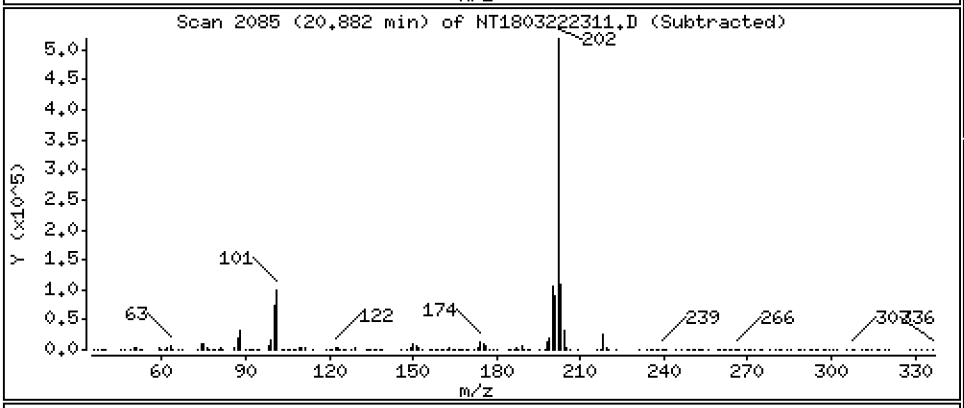
Column diameter: 0.25

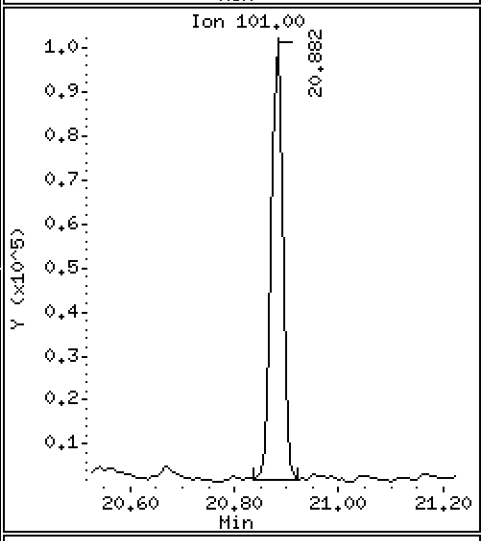
65 Pyrene

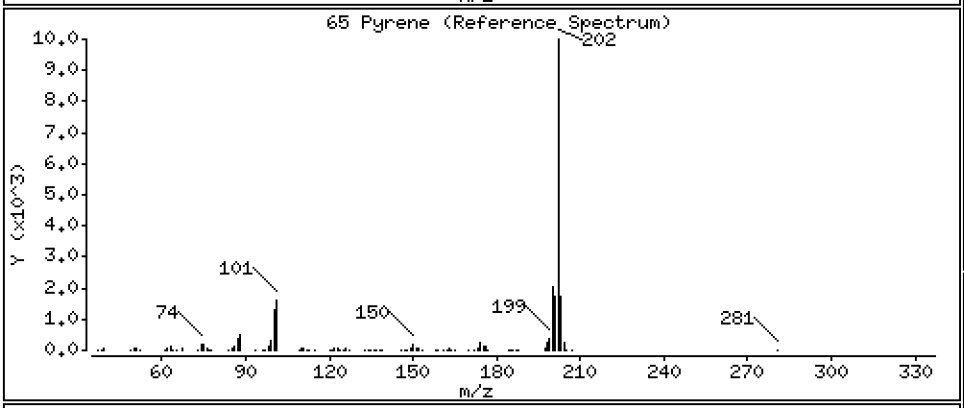
Concentration: 1.836 ug/mL

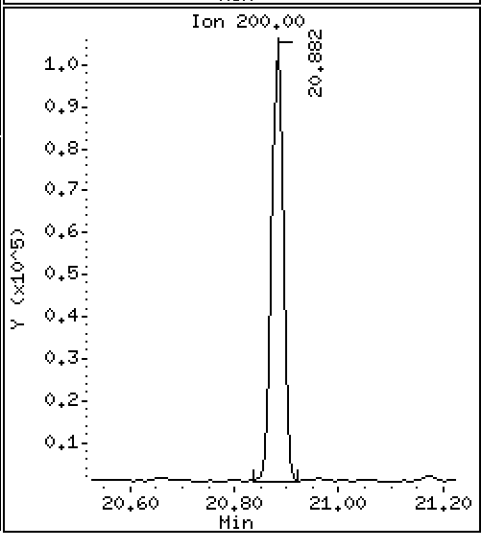


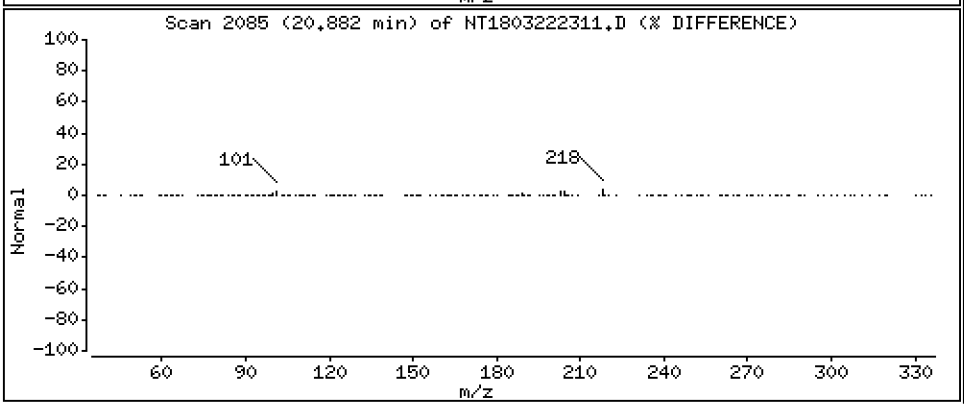












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222311.D

Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

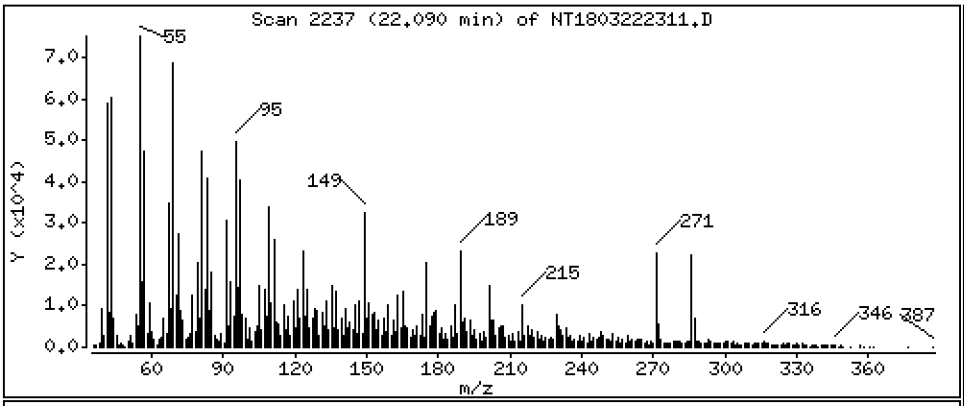
Operator: VTS

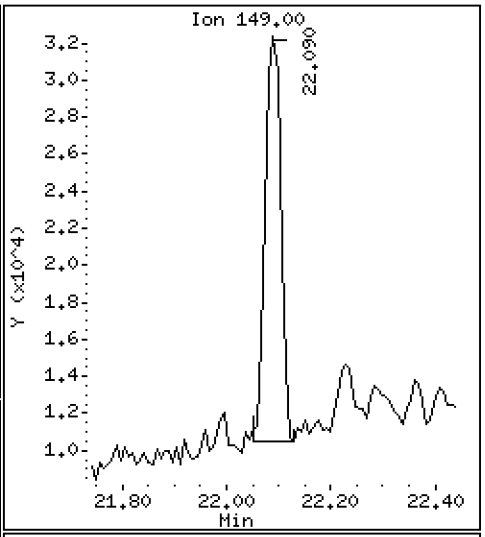
Column phase: ZB-5msi

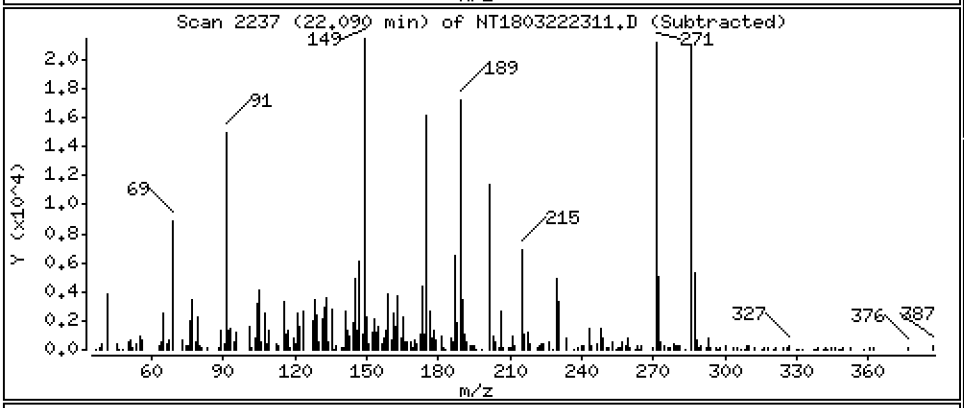
Column diameter: 0.25

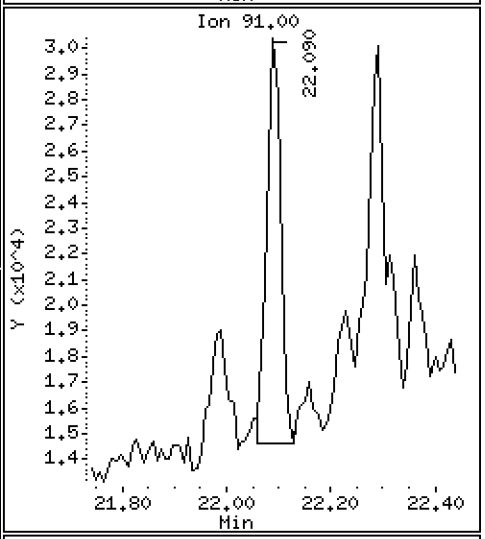
67 Butylbenzylphthalate

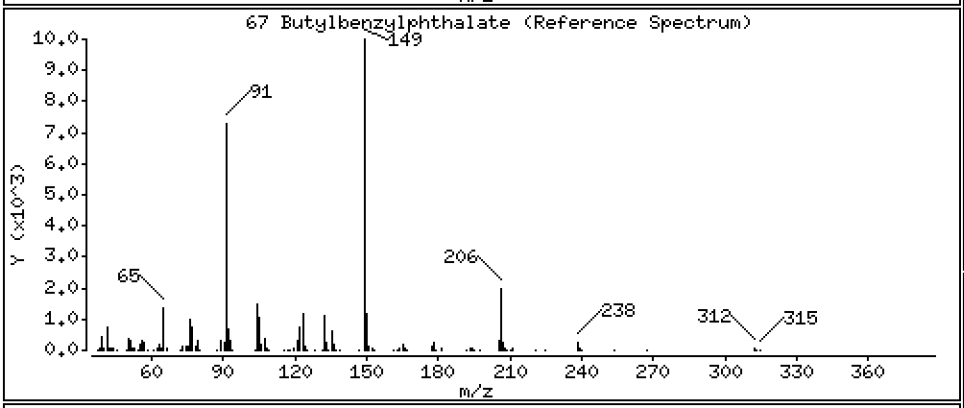
Concentration: 0.2501 ug/mL

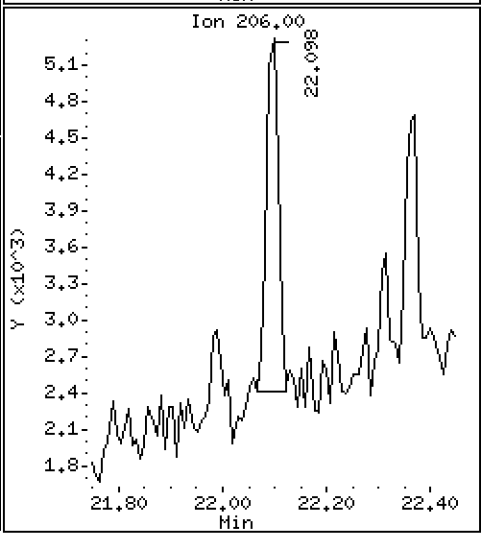


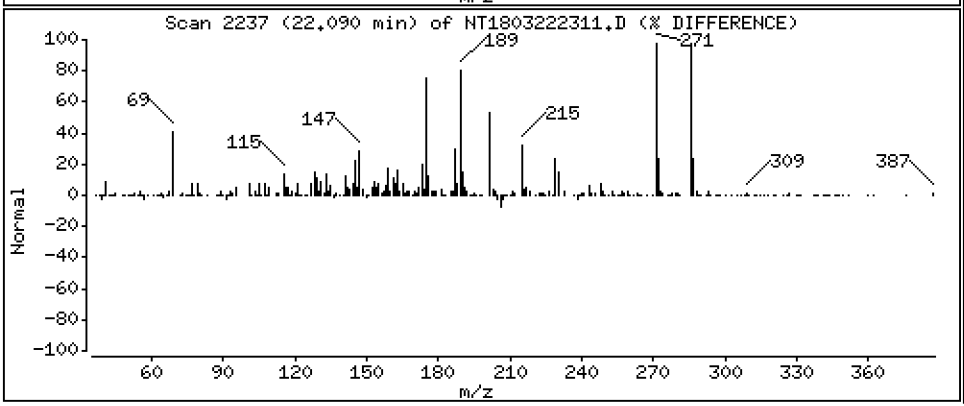












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222311.D

Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

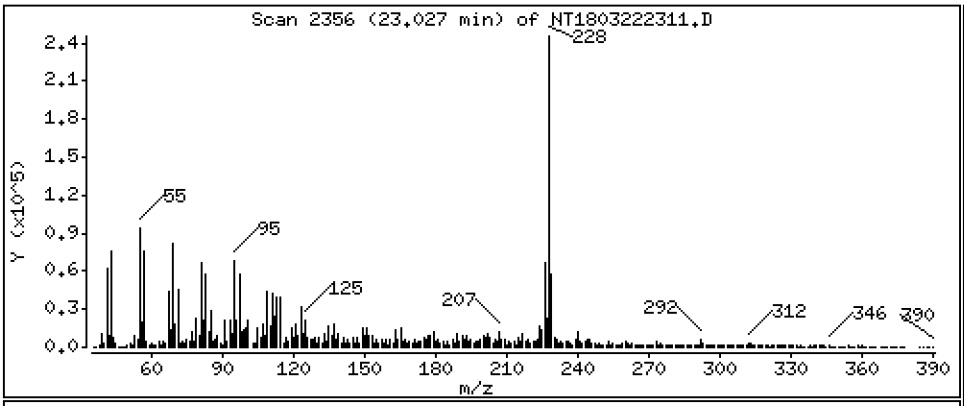
Operator: VTS

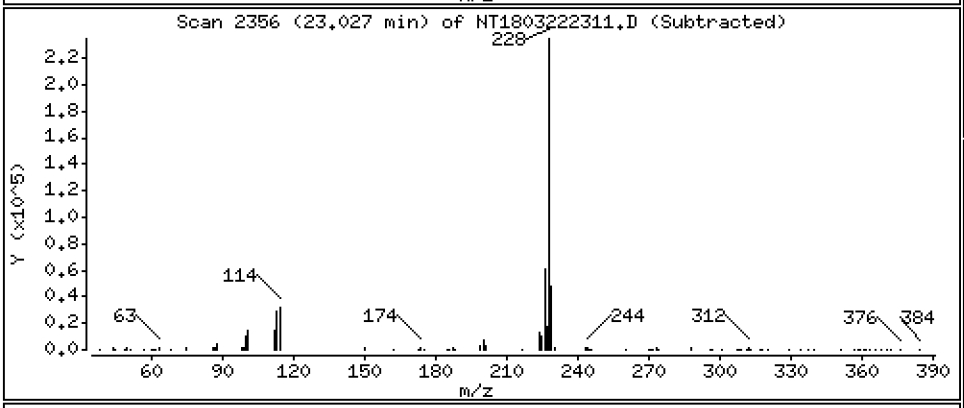
Column phase: ZB-5msi

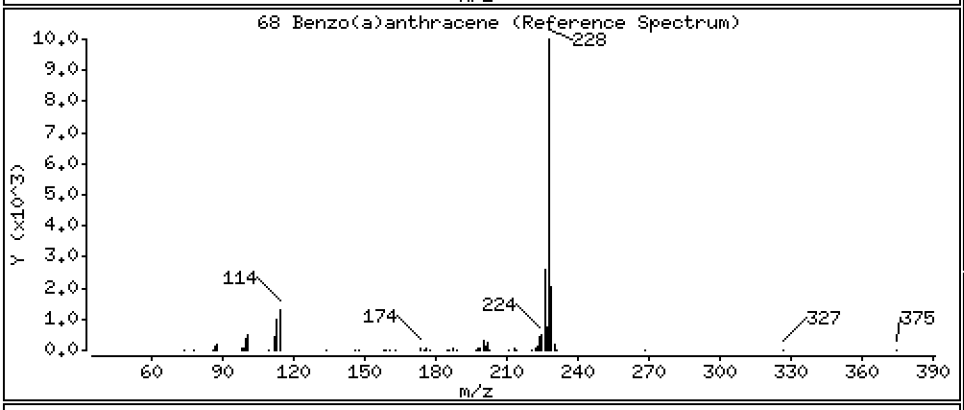
Column diameter: 0.25

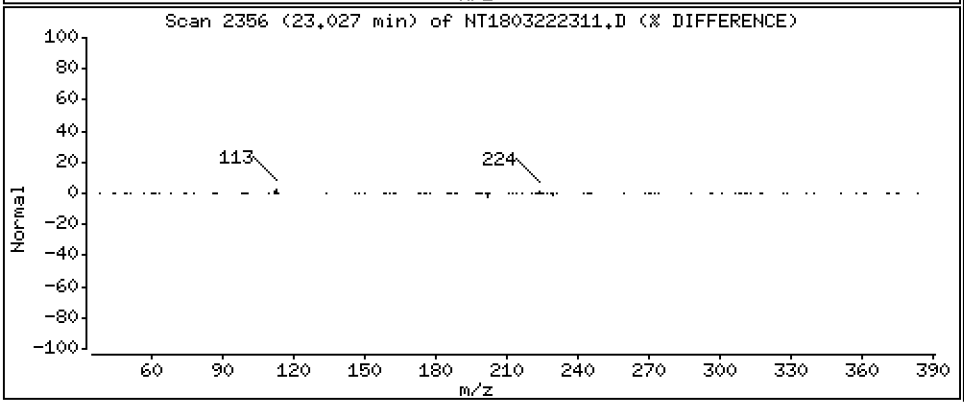
68 Benzo(a)anthracene

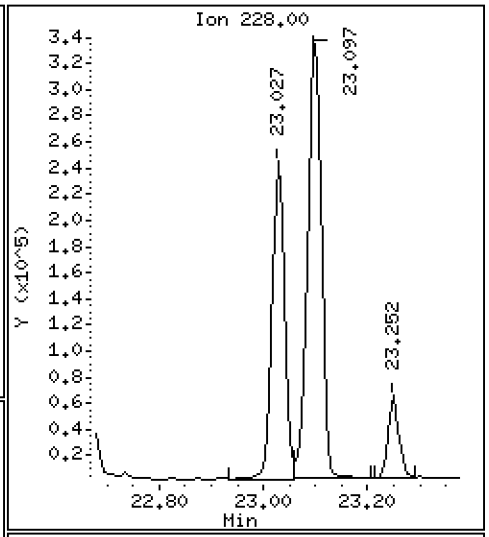
Concentration: 1.012 ug/mL

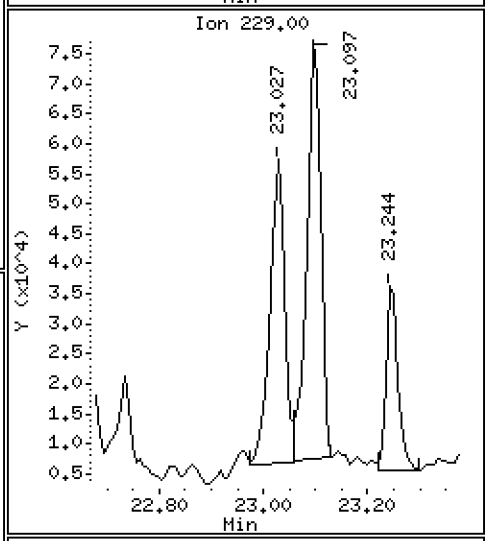


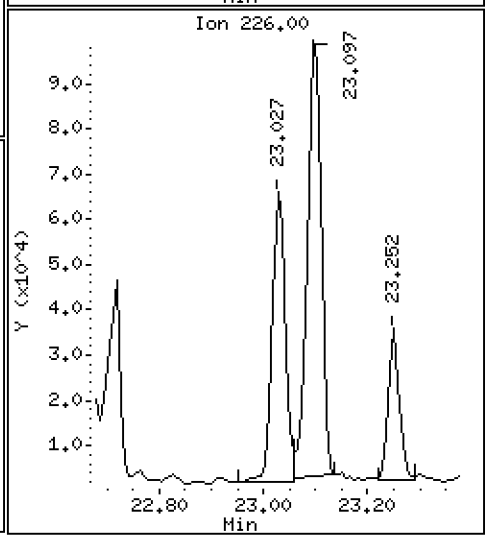












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Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

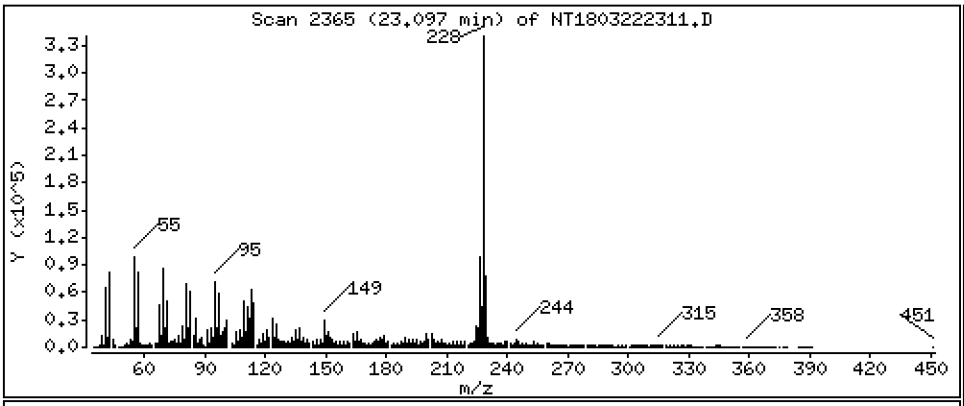
Operator: VTS

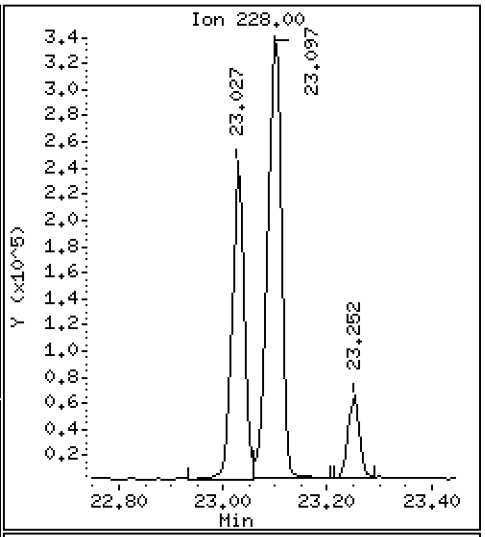
Column phase: ZB-5msi

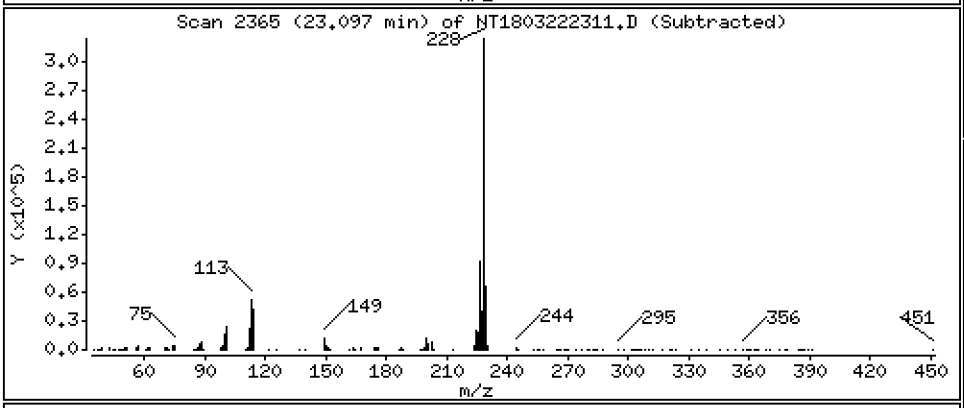
Column diameter: 0.25

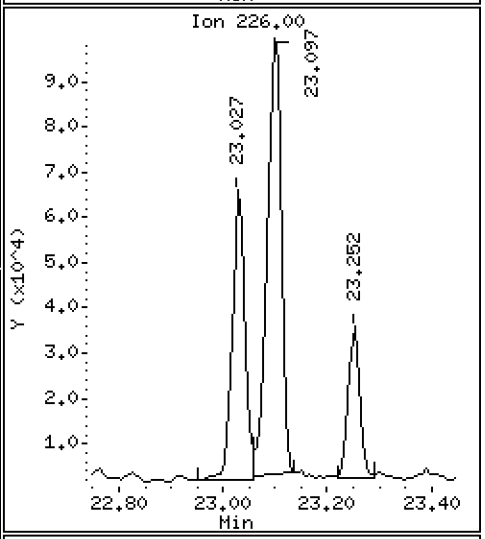
71 Chrysene

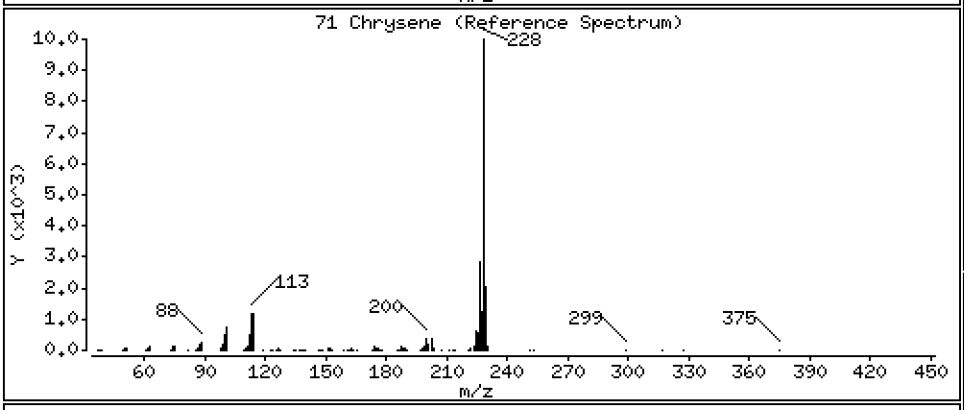
Concentration: 1.528 ug/mL

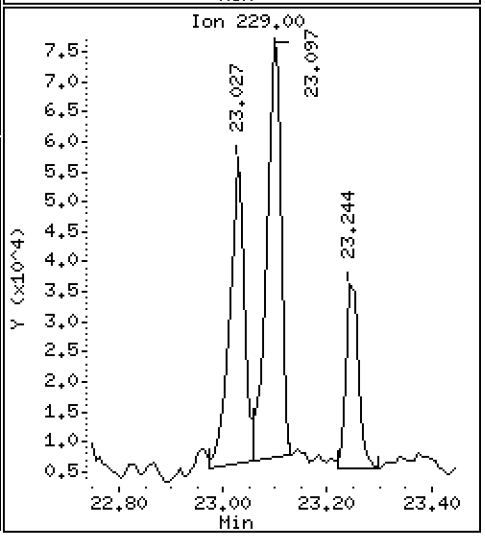


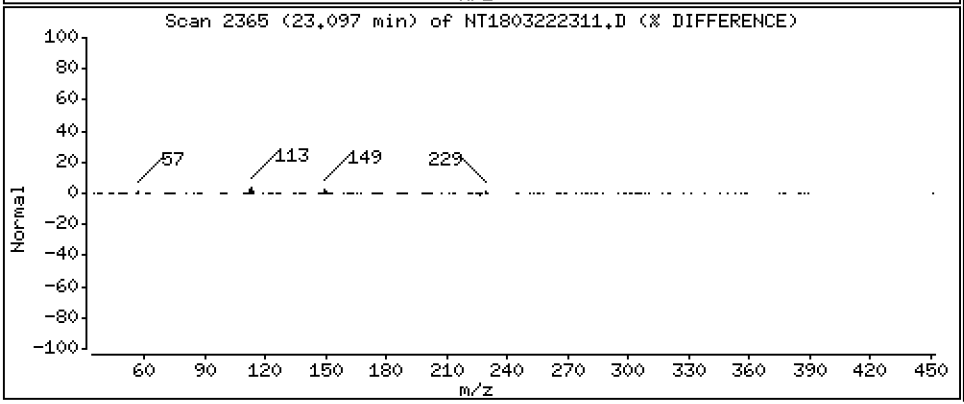












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Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

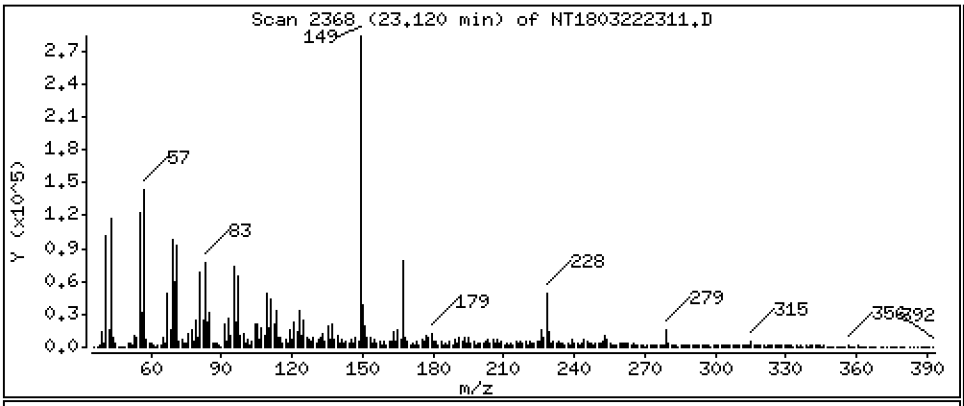
Operator: VTS

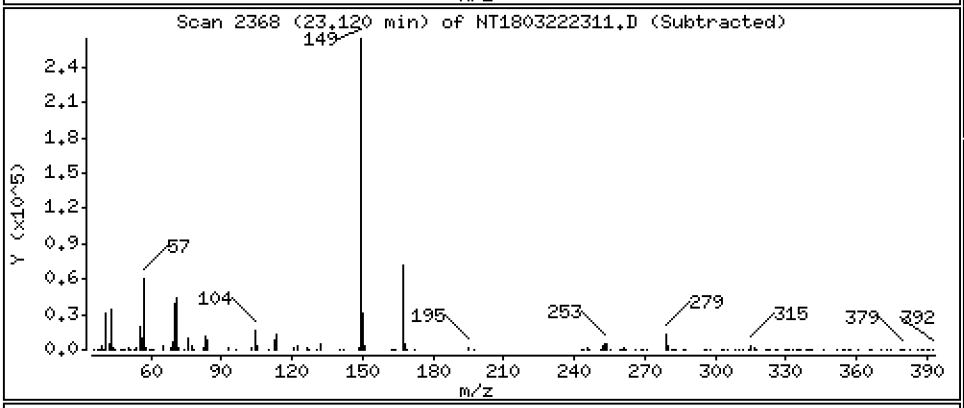
Column phase: ZB-5msi

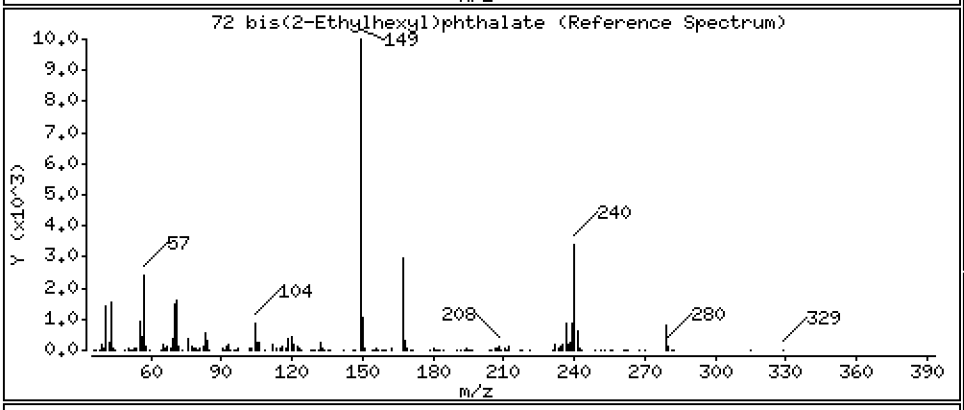
Column diameter: 0.25

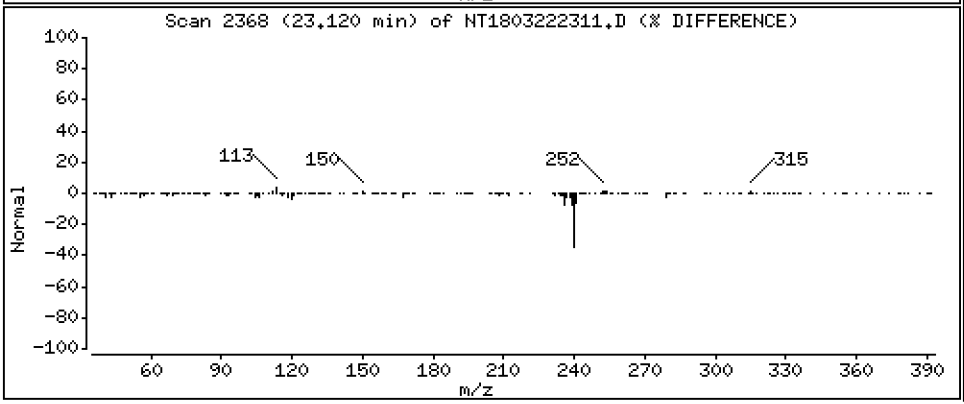
72 bis(2-Ethylhexyl)phthalate

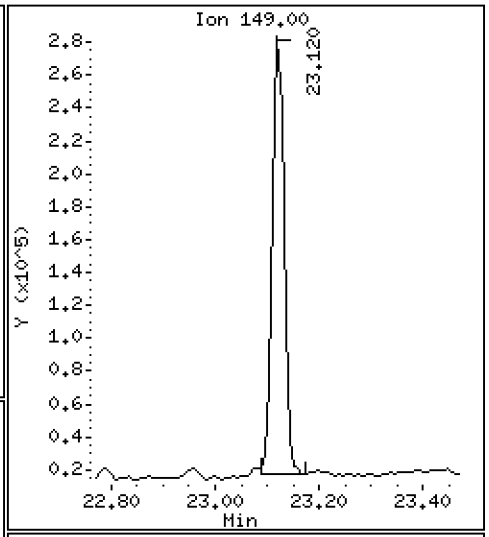
Concentration: 1.404 ug/mL

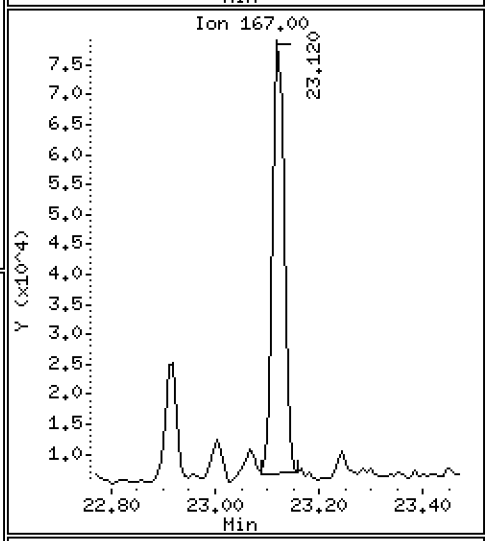


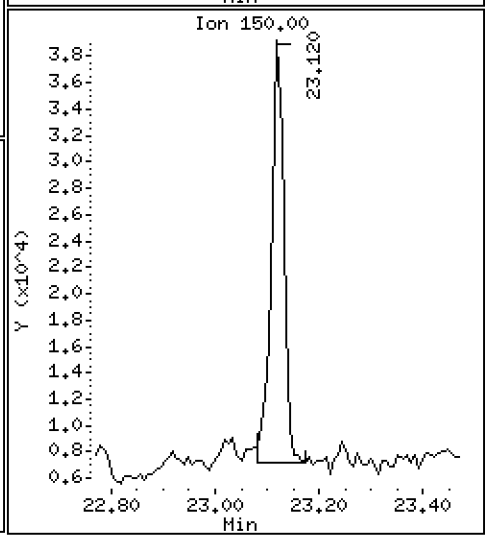












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Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

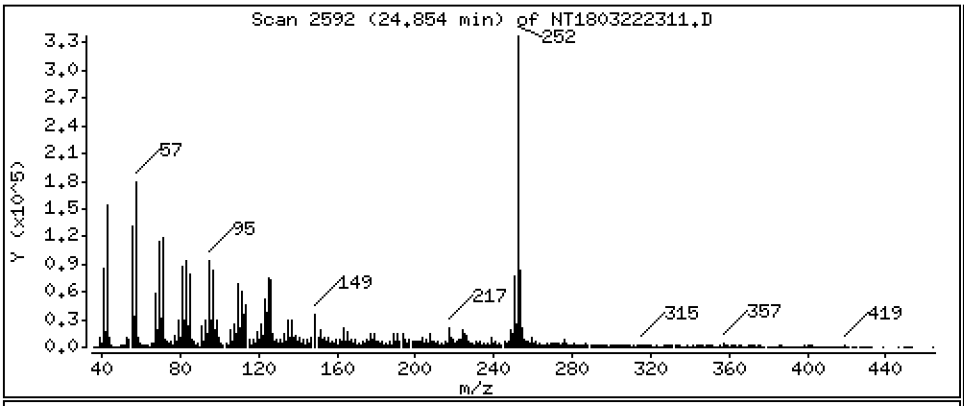
Operator: VTS

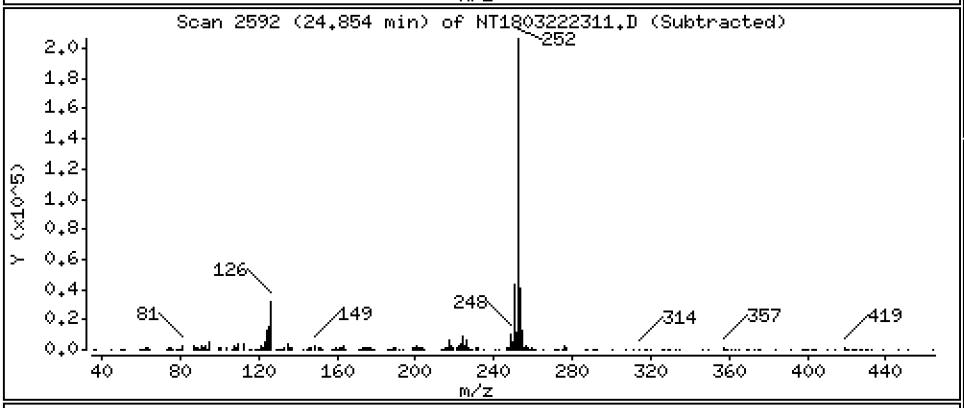
Column phase: ZB-5msi

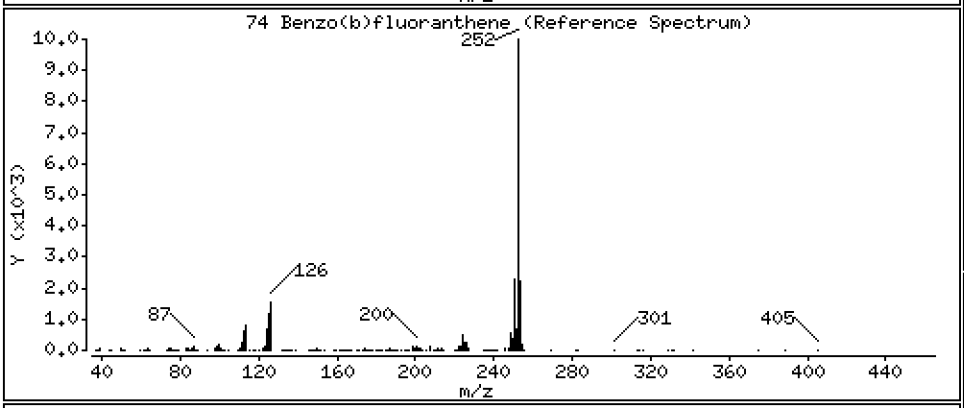
Column diameter: 0.25

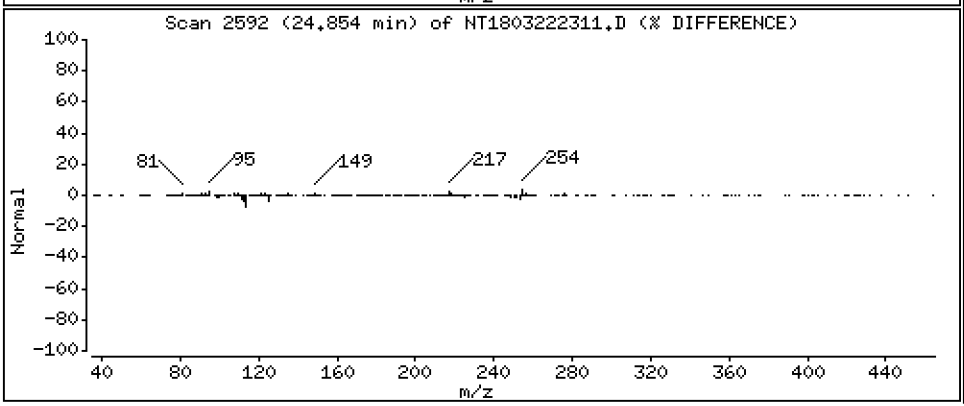
74 Benzo(b)fluoranthene

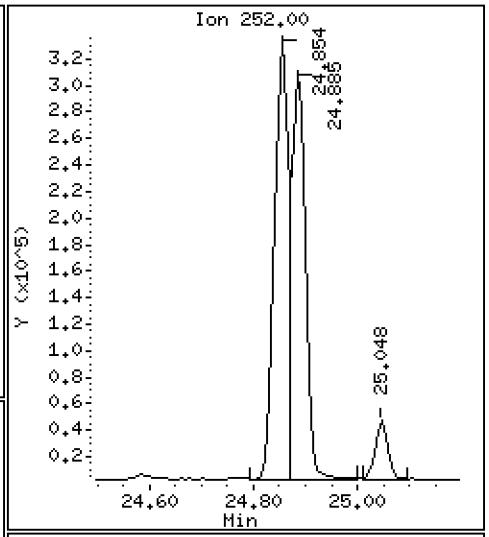
Concentration: 1.819 ug/mL

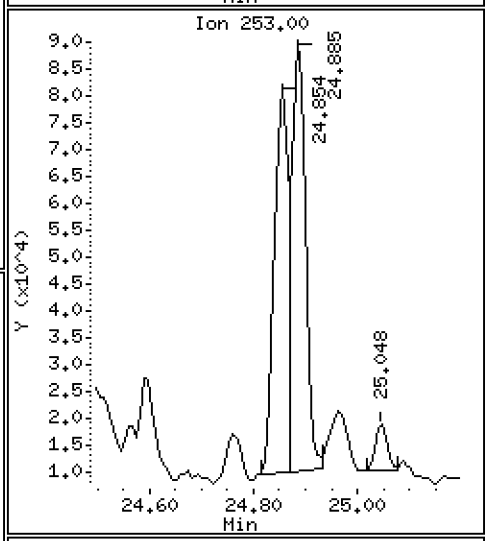


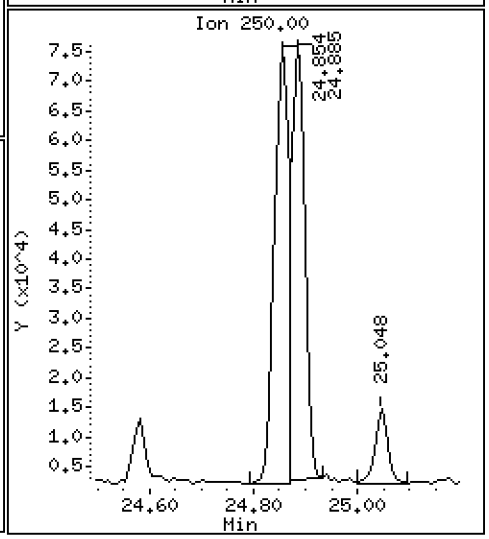












Date : 23-MAR-2023 00:03

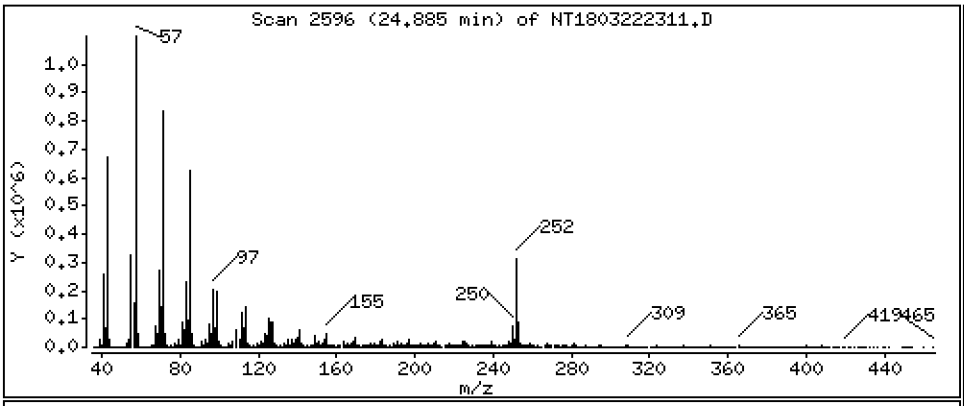
Client ID: Instrument: nt18.i

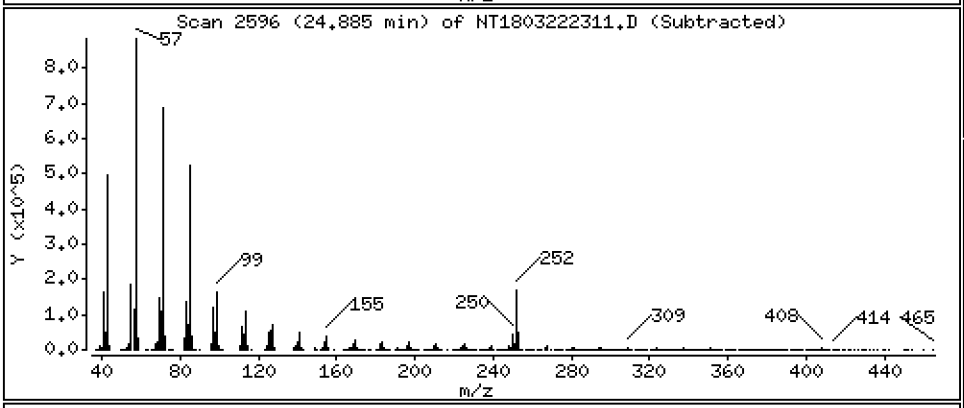
Sample Info: 23C0108-02

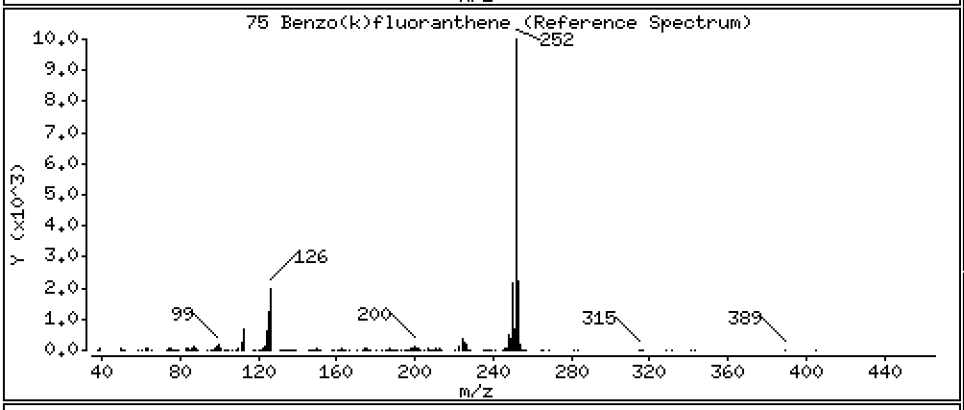
Operator: VTS

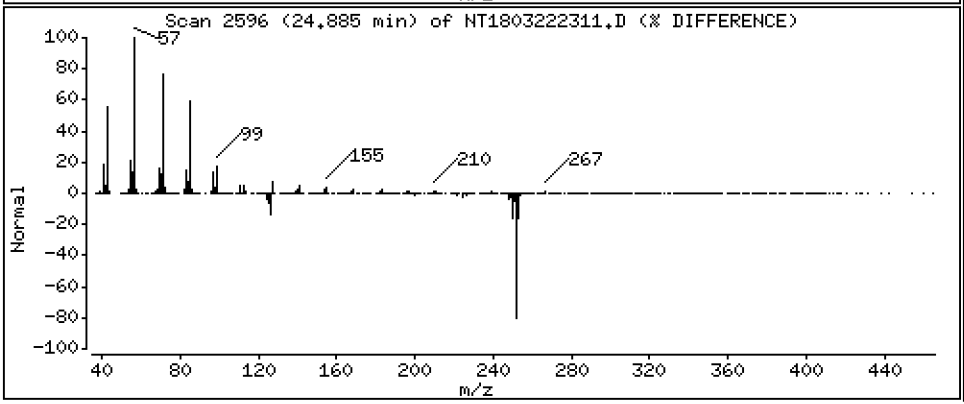
Column phase: ZB-5msi Column diameter: 0.25

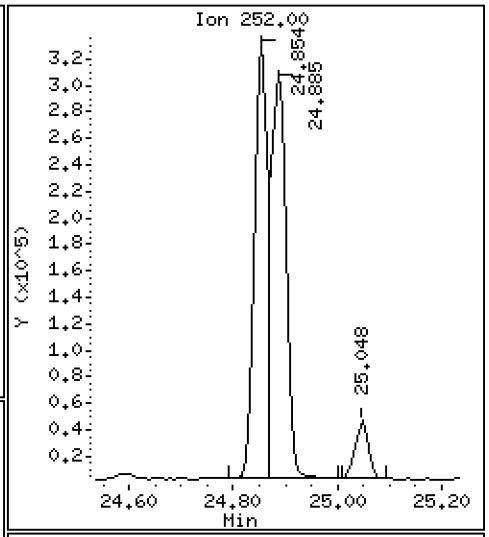
75 Benzo(k)fluoranthene Concentration: 1.682 ug/mL

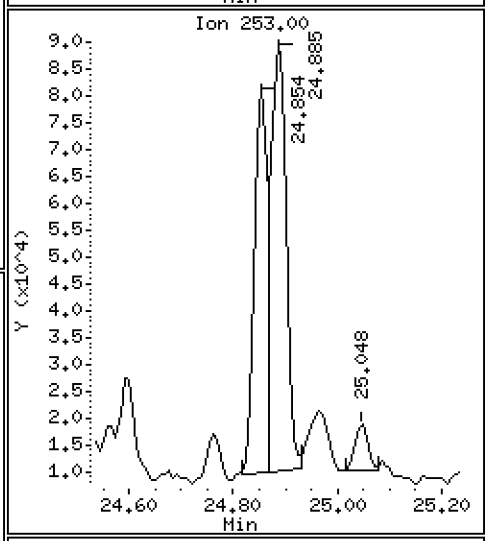


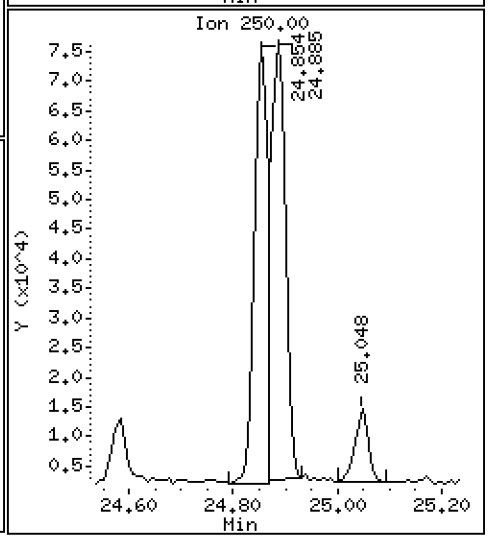












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222311.D

Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

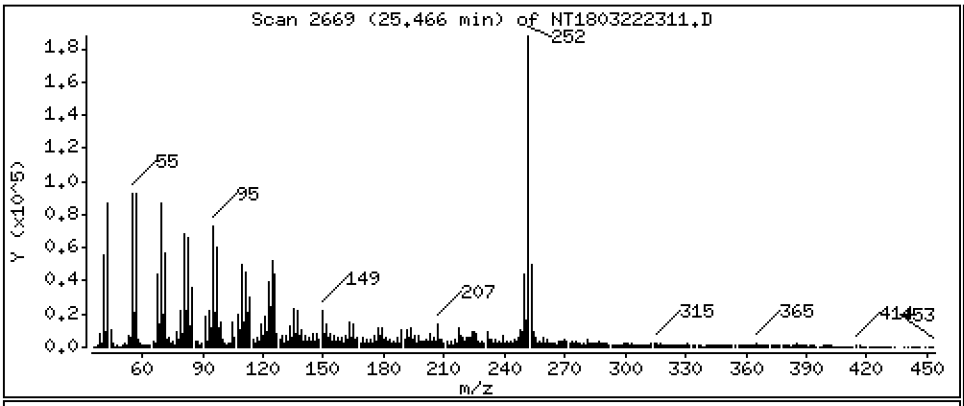
Operator: VTS

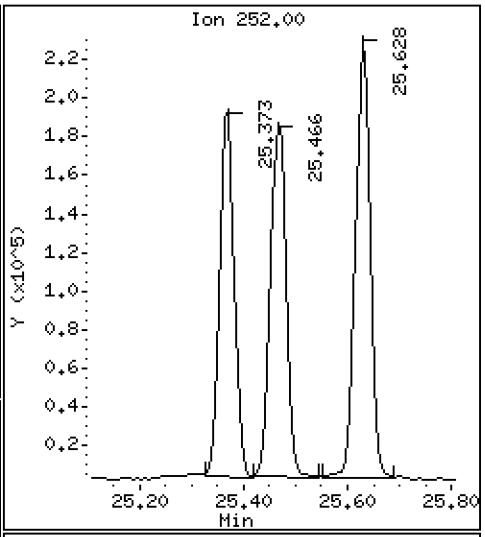
Column phase: ZB-5msi

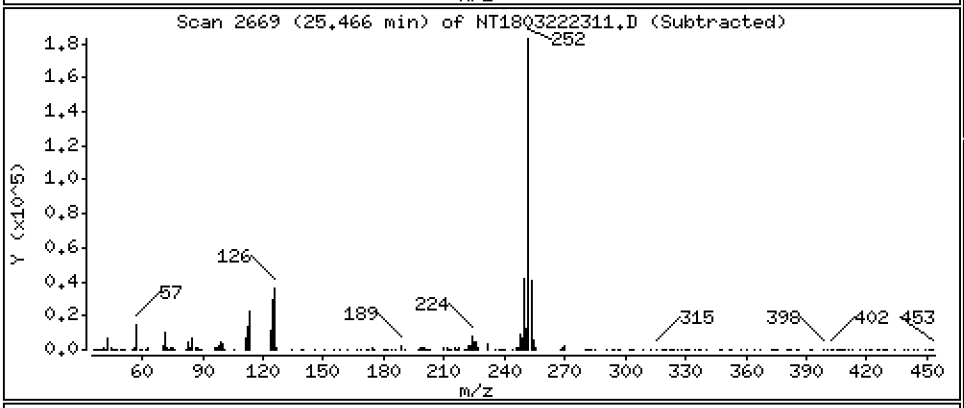
Column diameter: 0.25

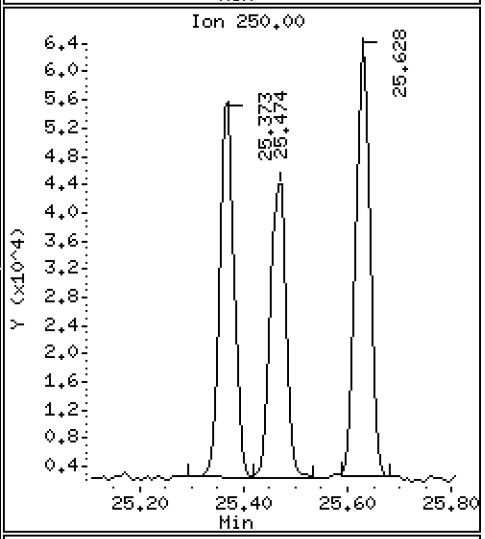
76 Benzo(a)pyrene

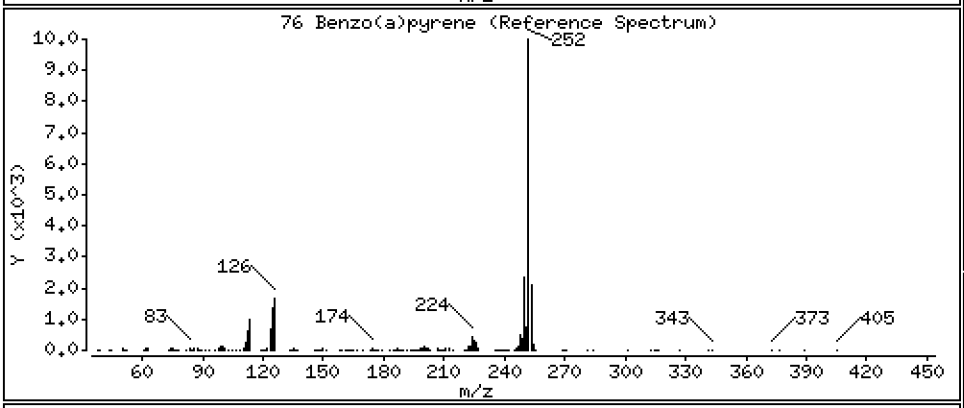
Concentration: 1.086 ug/mL

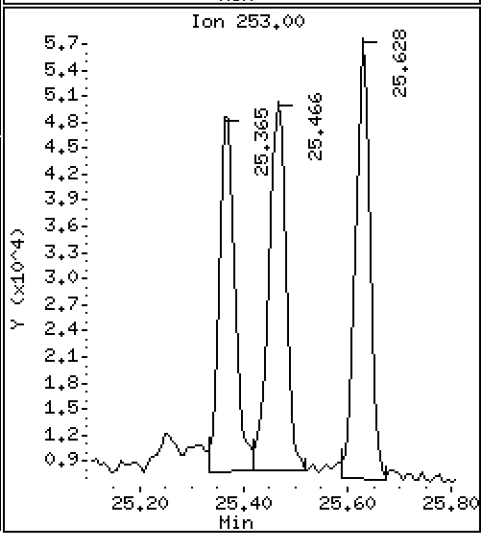


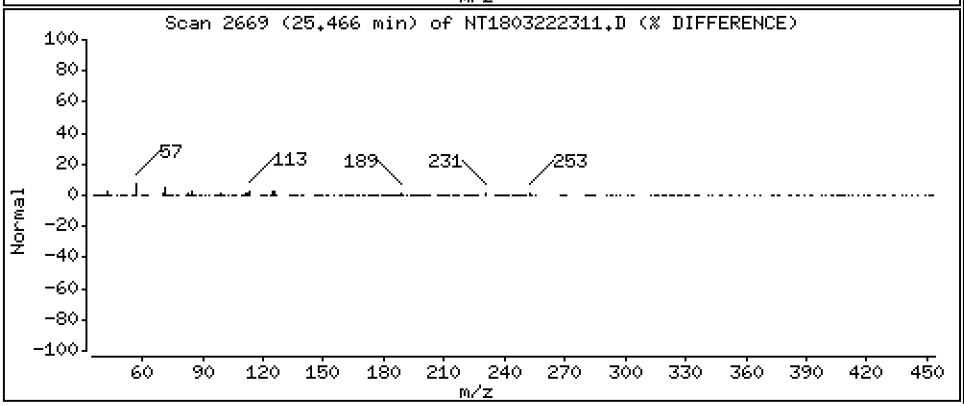












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222311.D

Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

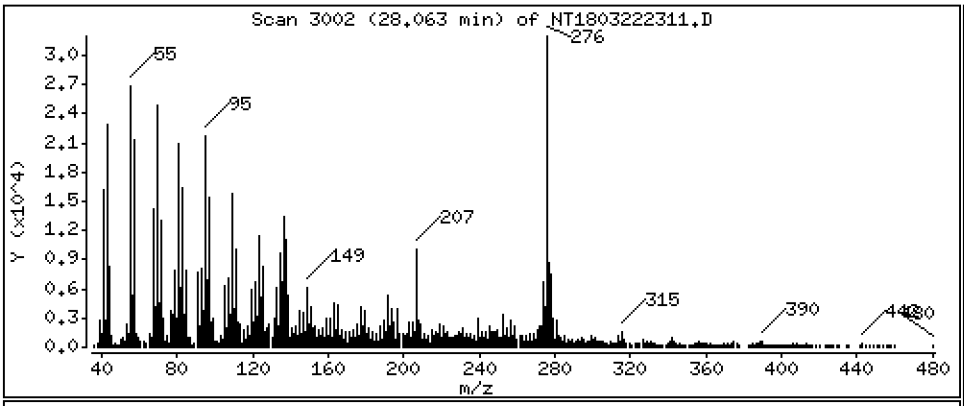
Operator: VTS

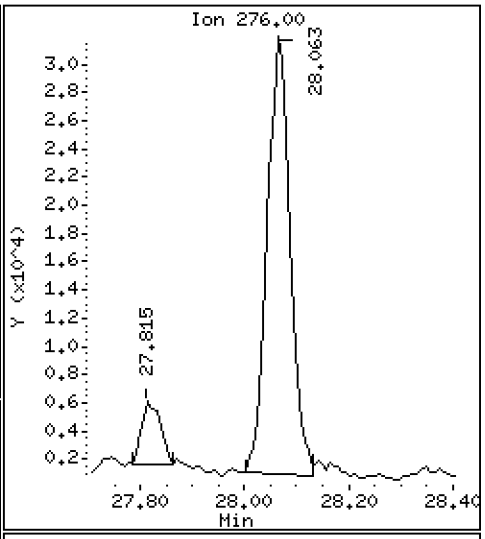
Column phase: ZB-5msi

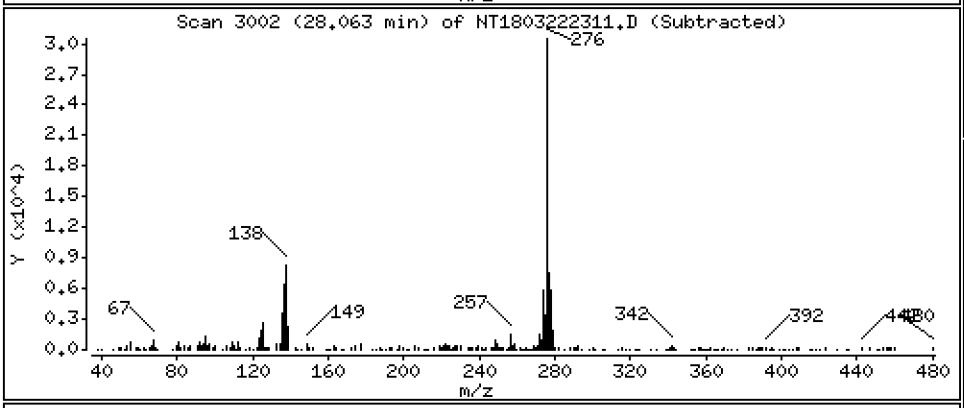
Column diameter: 0.25

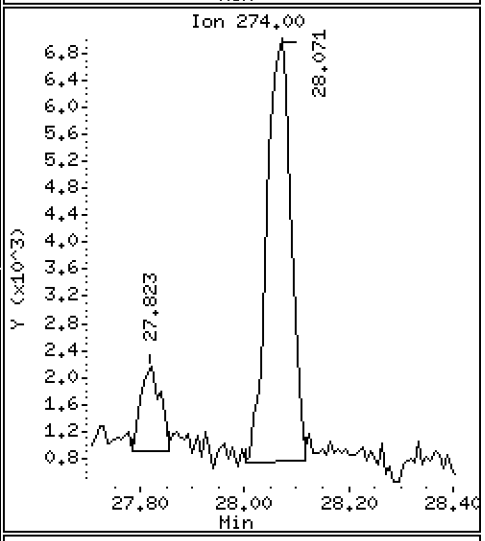
78 Indeno(1,2,3-cd)pyrene

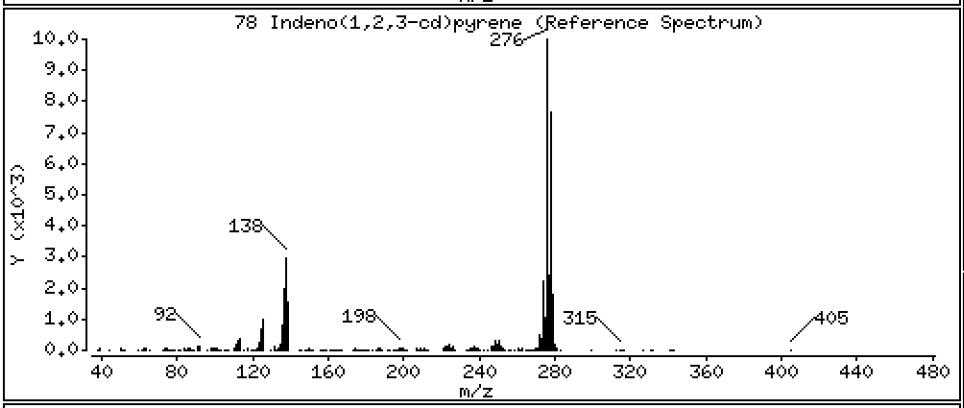
Concentration: 0.2221 ug/mL

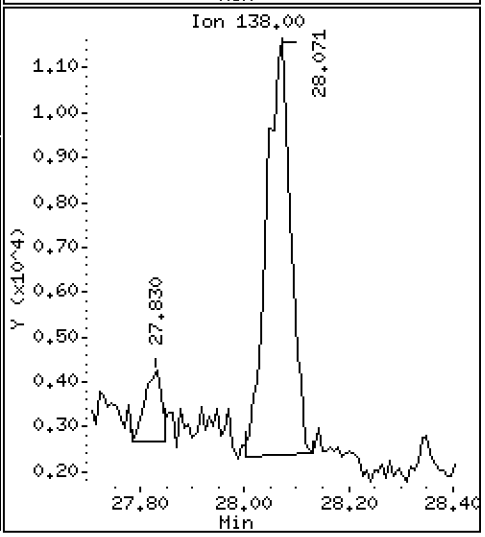


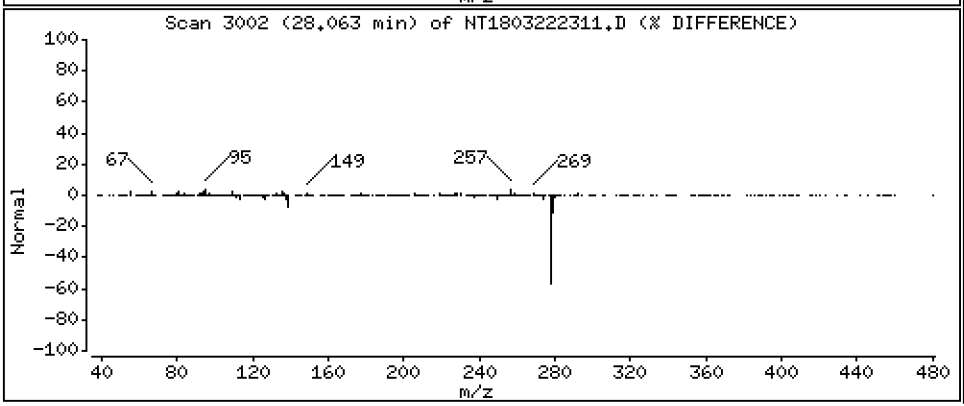












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Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

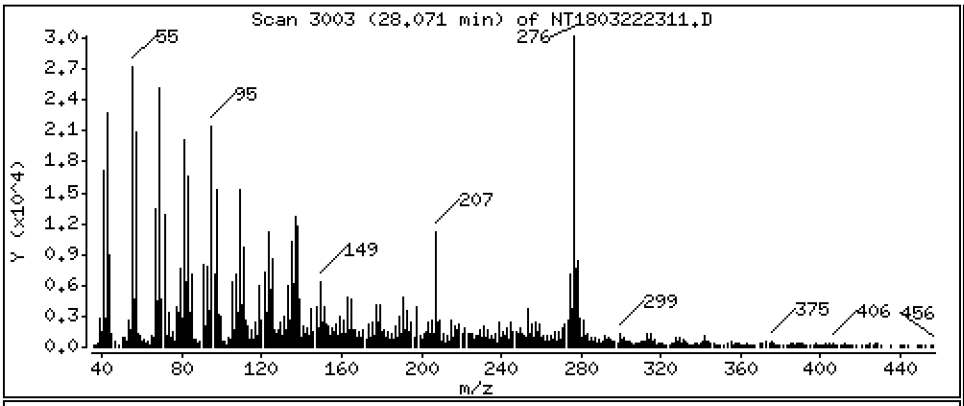
Operator: VTS

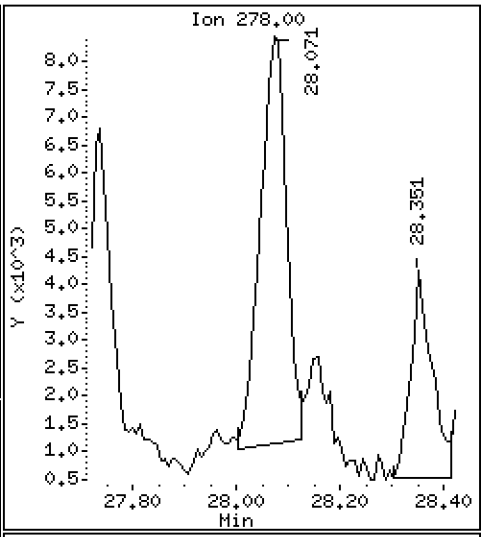
Column phase: ZB-5msi

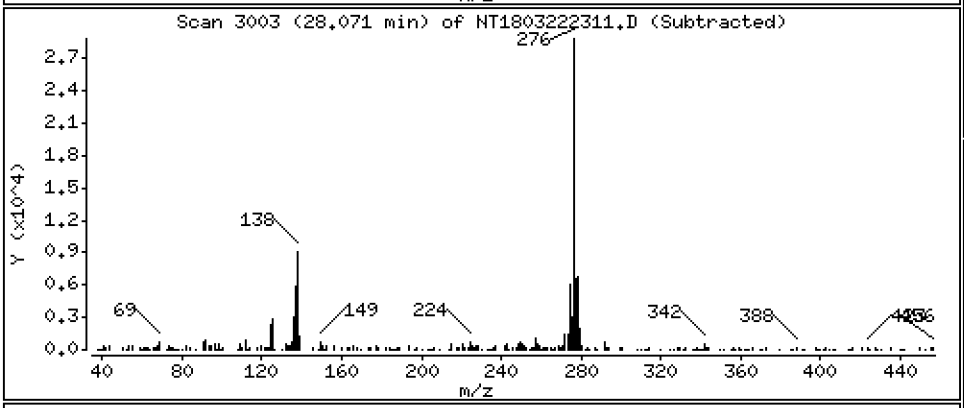
Column diameter: 0.25

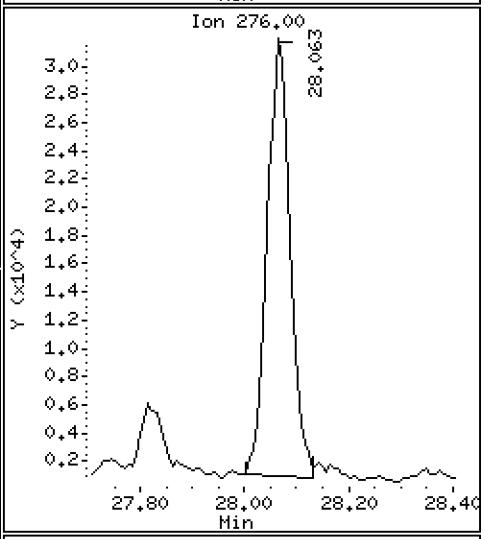
79 Dibenzo(a,h)anthracene

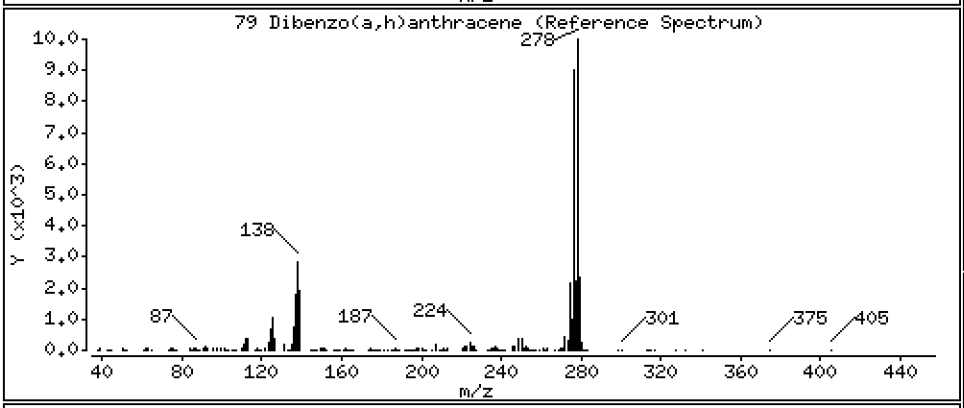
Concentration: 0.07284 ug/mL

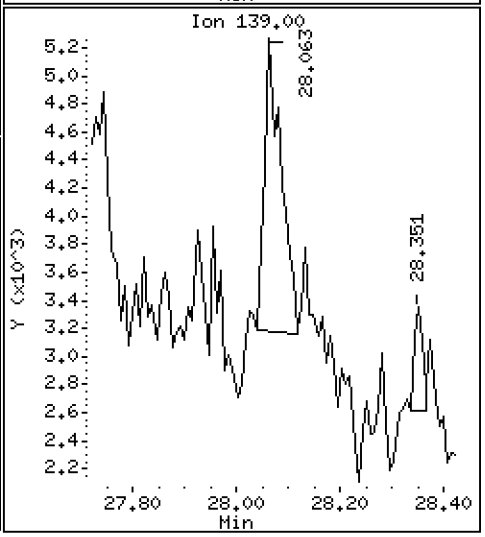


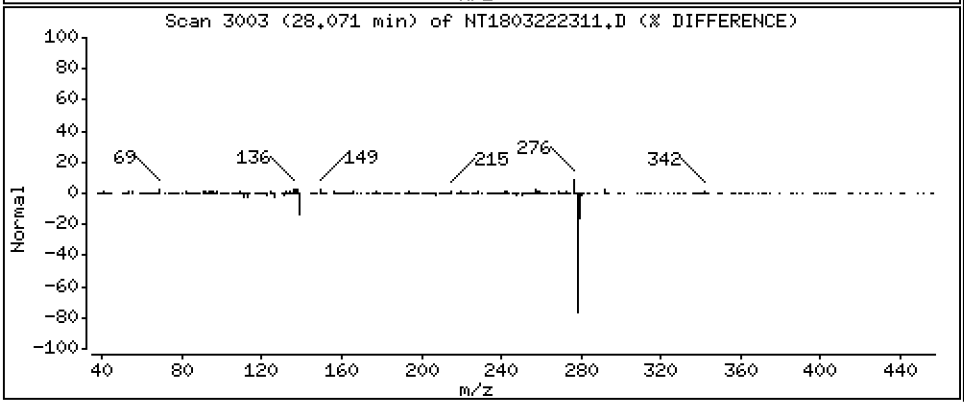












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Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

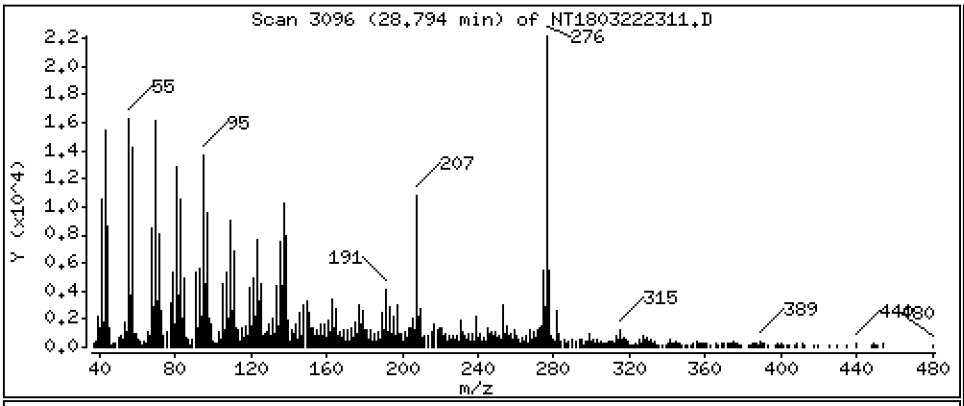
Operator: VTS

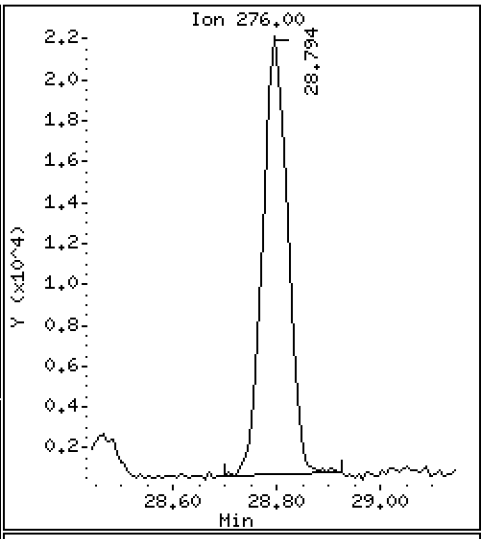
Column phase: ZB-5msi

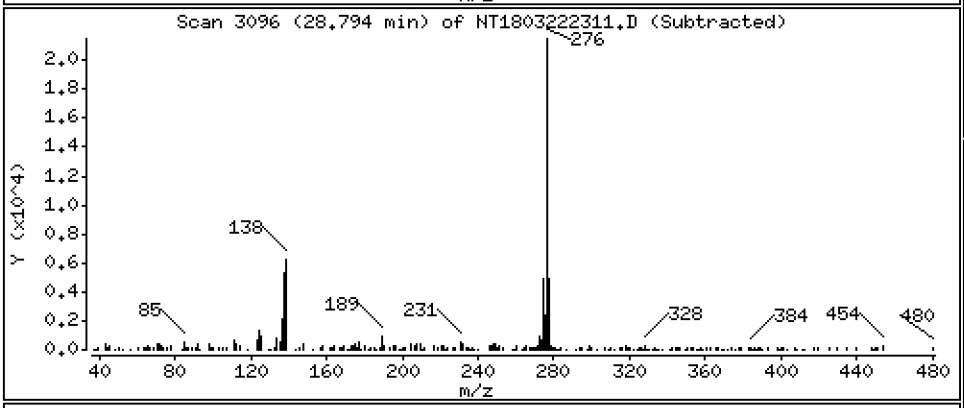
Column diameter: 0.25

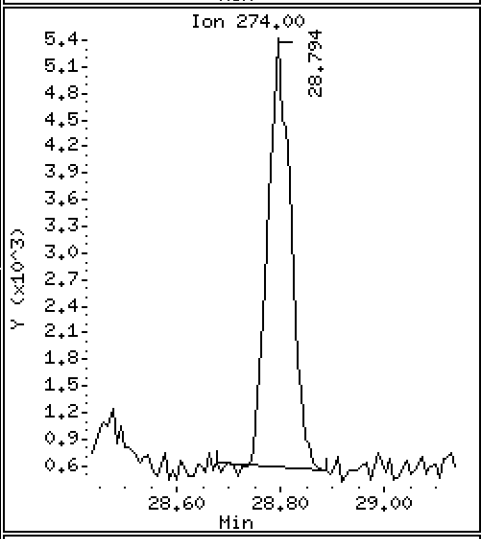
80 Benzo(g,h,i)perylene

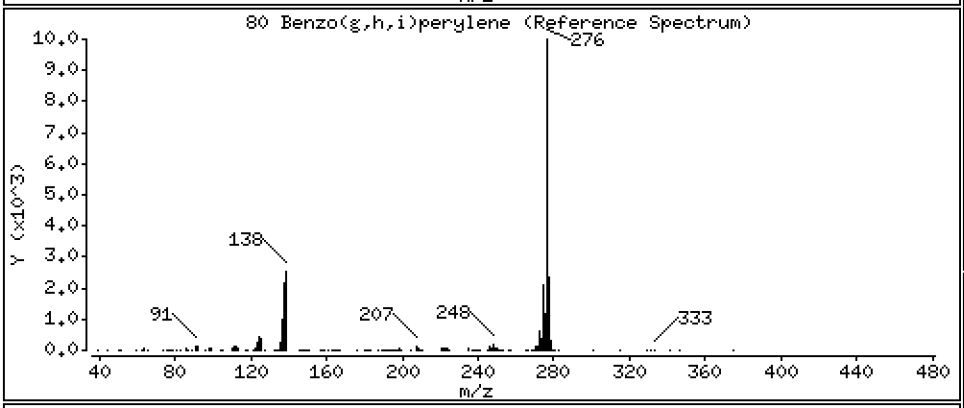
Concentration: 0.2084 ug/mL

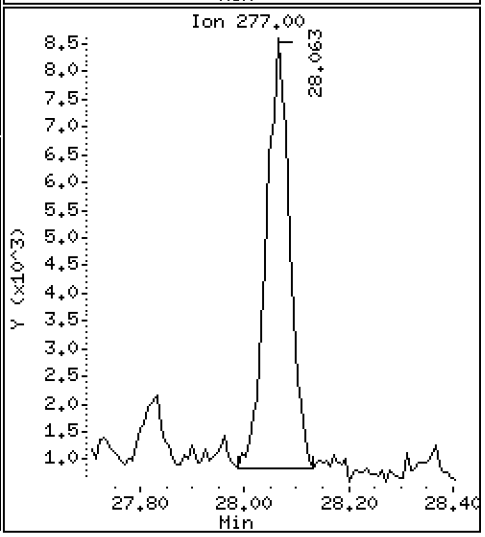


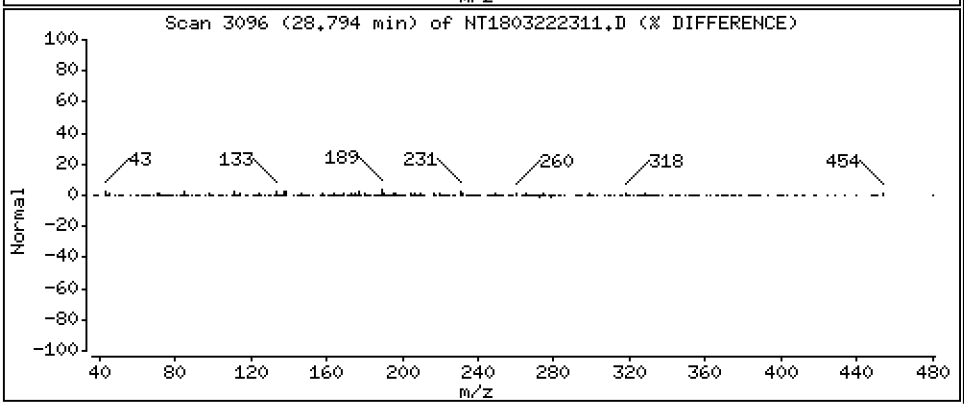












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Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

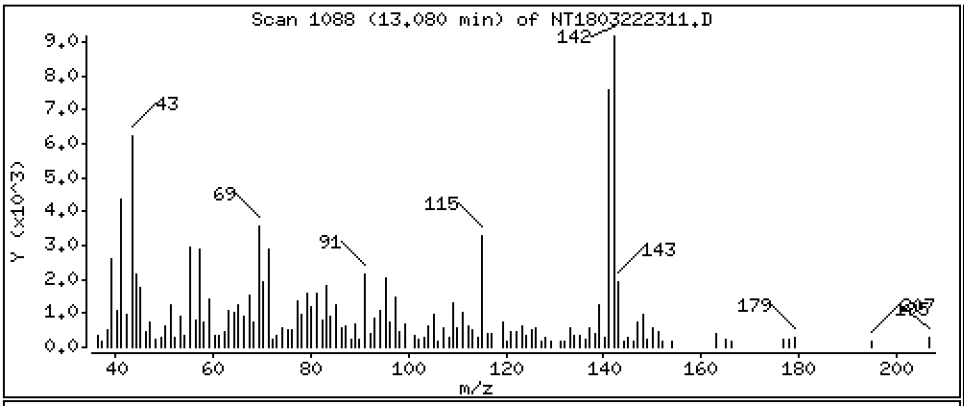
Operator: VTS

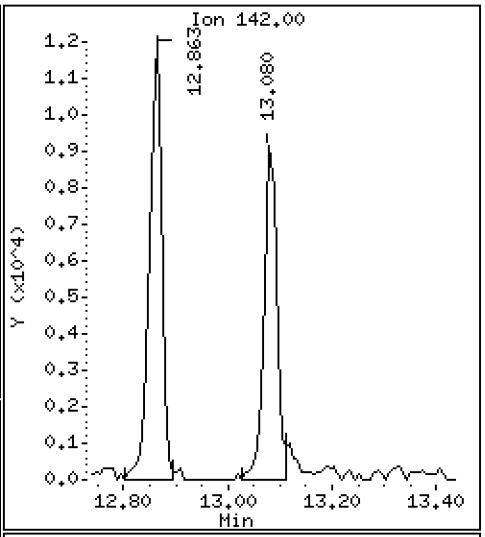
Column phase: ZB-5msi

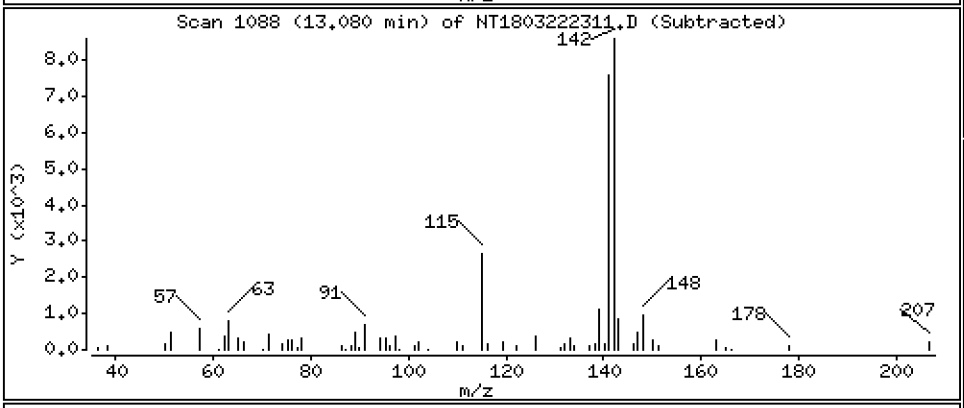
Column diameter: 0.25

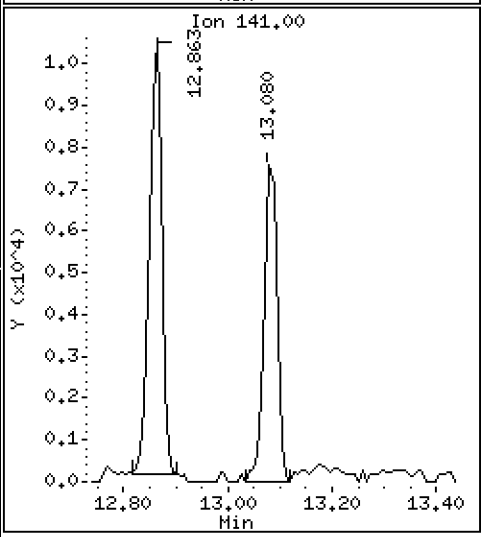
105 1-methylnaphthalene

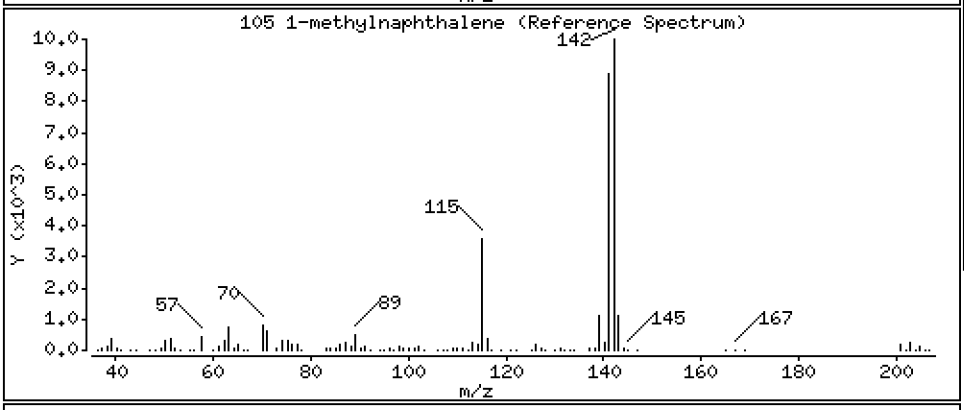
Concentration: 0.08277 ug/mL

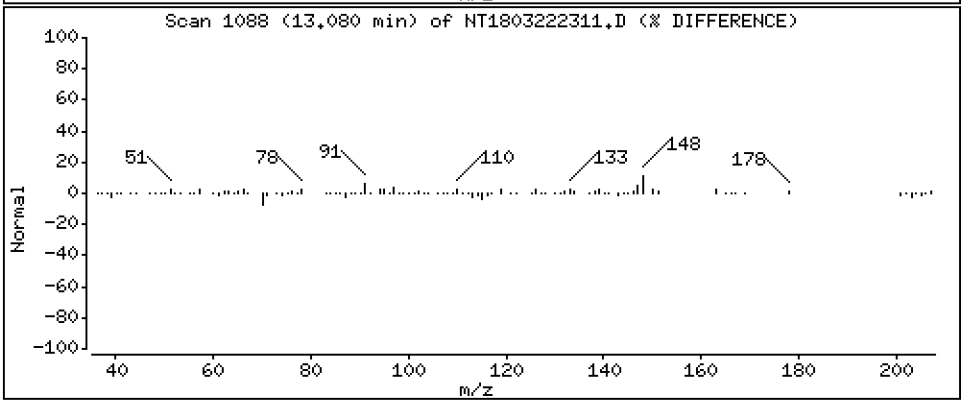












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222311.D

Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

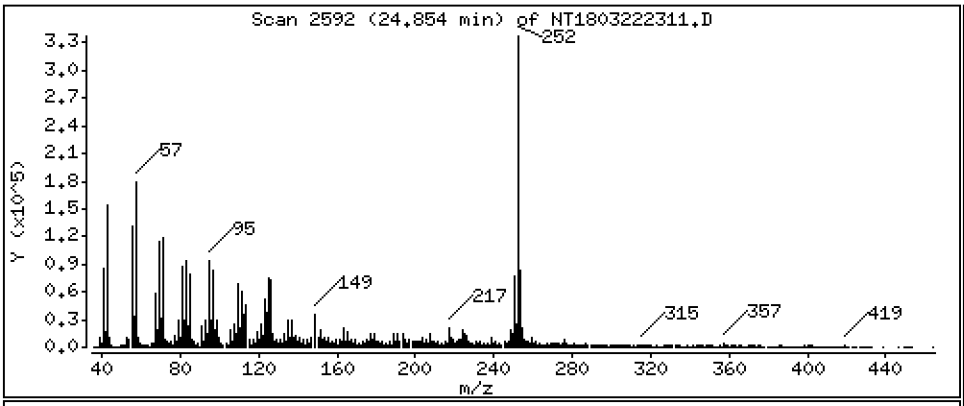
Operator: VTS

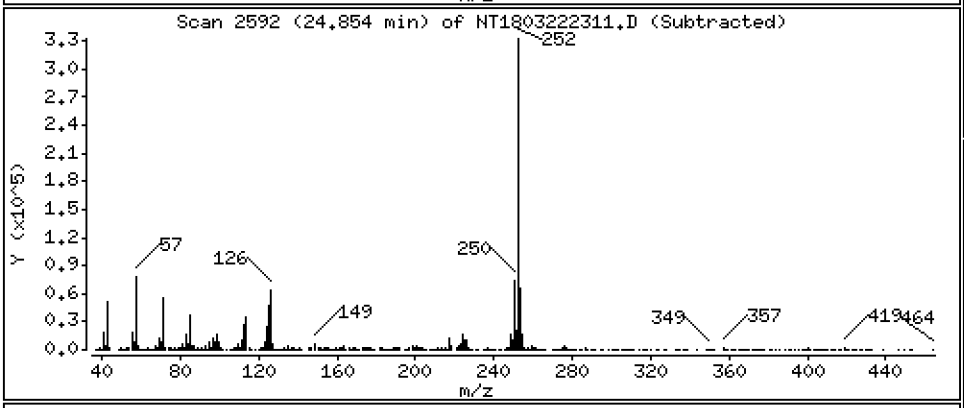
Column phase: ZB-5msi

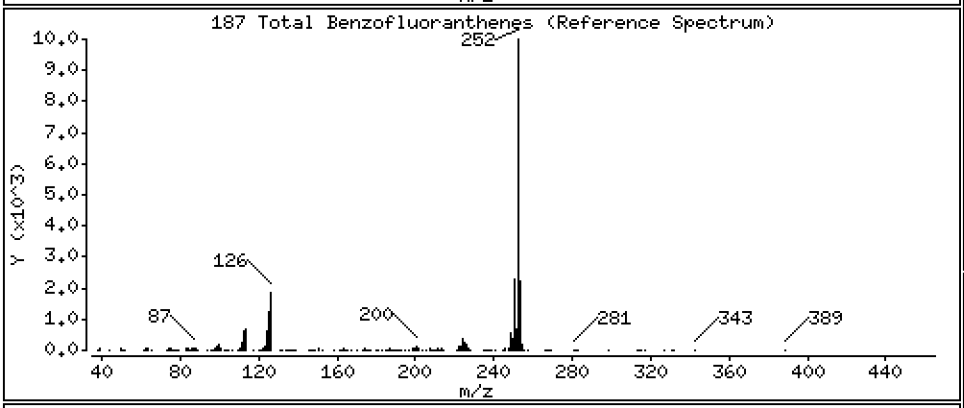
Column diameter: 0.25

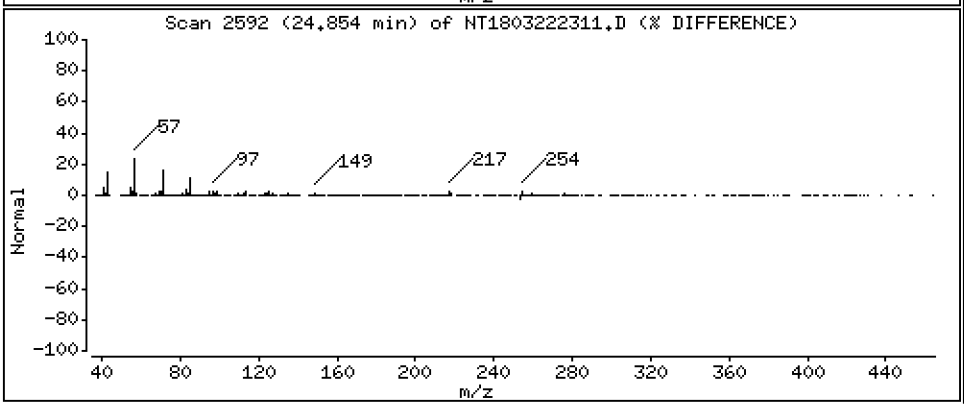
187 Total Benzofluoranthenes

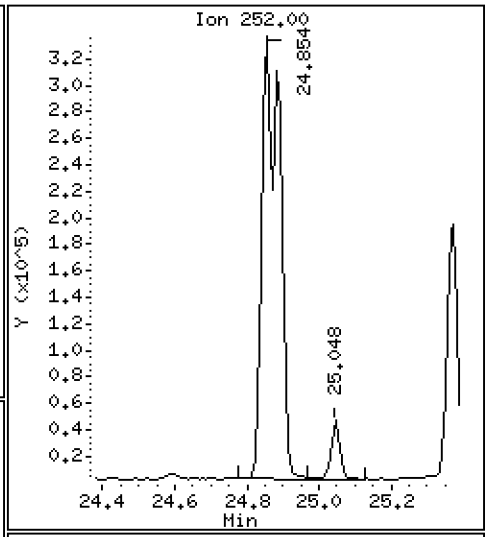
Concentration: 3.358 ug/mL

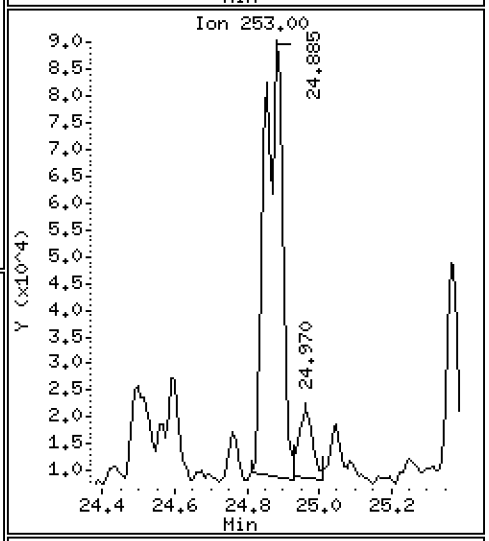


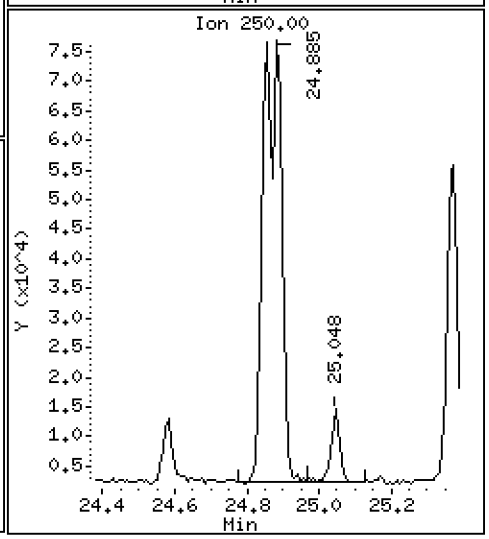












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230322.b\NT1803222311.D
Lab Smp Id: 23C0108-02
Inj Date : 23-MAR-2023 00:03
Operator : VTS Inst ID: nt18.i
Smp Info : 23C0108-02
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230322.b\ABN.m
Meth Date : 04-Apr-2023 14:27 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 15:18 Cal File: NT1803192302.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: DEENAY-201905

			QUANT SIG					CONCENTRATIONS ON-COLUMN	FINAL
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/mL)	(ug/mL)
$	1	2-Fluorophenol	112	6.788	6.773	(0.756)	578801	6.09317	6.093
$	2	Phenol-d5	99	8.349	8.341	(0.930)	740615	6.31112	6.311
	3	Phenol	94	8.364	8.364	(0.932)	158234	1.26101	1.261
$	5	2-Chlorophenol-d4	132	8.619	8.619	(0.960)	640479	6.29639	6.296
	4	Bis(2-Chloroethyl)ether	93	Compound Not Detected.					
	6	2-Chlorophenol	128	Compound Not Detected.					
	7	1,3-Dichlorobenzene	146	Compound Not Detected.					
*	8	1,4-Dichlorobenzene-d4	152	8.975	8.983	(1.000)	308130	4.00000	
	9	1,4-Dichlorobenzene	146	Compound Not Detected.					
$	10	1,2-Dichlorobenzene-d4	152	9.332	9.332	(1.040)	284261	3.80849	3.808
	12	1,2-Dichlorobenzene	146	Compound Not Detected.					
	11	Benzyl alcohol	108	9.247	9.247	(1.030)	17900	0.30571	0.3057
	14	2,2'-oxybis(1-Chloropropane)	121	Compound Not Detected.					
	13	2-Methylphenol	108	Compound Not Detected.					
	17	Hexachloroethane	117	Compound Not Detected.					
	16	N-Nitroso-di-n-propylamine	70	Compound Not Detected.					
	15	4-Methylphenol	108	9.736	9.736	(1.085)	7856	0.07943	0.07943
$	18	Nitrobenzene-d5	82	10.054	10.062	(0.879)	412377	4.49816	4.498
	19	Nitrobenzene	77	Compound Not Detected.					
	20	Isophorone	82	Compound Not Detected.					
	21	2-Nitrophenol	139	Compound Not Detected.					
	22	2,4-Dimethylphenol	107	Compound Not Detected.					
	23	Bis(2-Chloroethoxy)methane	93	Compound Not Detected.					
	24	Benzoic acid	105	10.880	10.999	(0.951)	27194	0.42543	0.4254
	25	2,4-Dichlorophenol	162	Compound Not Detected.					
	26	1,2,4-Trichlorobenzene	180	Compound Not Detected.					
*	27	Naphthalene-d8	136	11.440	11.439	(1.000)	1112183	4.00000	
	28	Naphthalene	128	11.478	11.478	(1.003)	37454	0.12410	0.1241
	29	4-Chloroaniline	127	Compound Not Detected.					
	30	Hexachlorobutadiene	225	Compound Not Detected.					
	31	4-Chloro-3-methylphenol	107	Compound Not Detected.					
	32	2-Methylnaphthalene	142	12.863	12.863	(1.124)	19440	0.09891	0.09891(H)
	33	Hexachlorocyclopentadiene	237	Compound Not Detected.					

			QUANT SIG					CONCENTRATIONS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
	34	2,4,6-Trichlorophenol	196	Compound Not Detected.					
	35	2,4,5-Trichlorophenol	196	Compound Not Detected.					
$	36	2-Fluorobiphenyl	172	13.644	13.644	(0.908)	871598	4.23015	4.230
	37	2-Chloronaphthalene	162	Compound Not Detected.					
	38	2-Nitroaniline	65	Compound Not Detected.					
	39	Dimethylphthalate	163	Compound Not Detected.					
	40	Acenaphthylene	152	14.713	14.712	(0.979)	24096	0.08609	0.08609
	41	2,6-Dinitrotoluene	165	Compound Not Detected.					
*	42	Acenaphthene-d10	164	15.022	15.022	(1.000)	575384	4.00000	
	43	3-Nitroaniline	138	Compound Not Detected.					
	44	Acenaphthene	153	15.084	15.091	(1.004)	14498	0.08183	0.08183
	45	2,4-Dinitrophenol	184	Compound Not Detected.					
	46	Dibenzofuran	168	15.408	15.416	(1.026)	24449	0.10045	0.1004
	47	4-Nitrophenol	109	Compound Not Detected.					
	48	2,4-Dinitrotoluene	165	Compound Not Detected.					
	50	Diethylphthalate	149	15.981	15.988	(1.064)	26123	0.15038	0.1504
	49	Fluorene	166	16.120	16.120	(1.073)	22300	0.10093	0.1009
	51	4-Chlorophenyl-phenylether	204	Compound Not Detected.					
	52	4-Nitroaniline	138	Compound Not Detected.					
	53	4,6-Dinitro-2-methylphenol	198	Compound Not Detected.					
	54	N-Nitrosodiphenylamine	169	Compound Not Detected.					
$	55	2,4,6-Tribromophenol	330	16.644	16.644	(1.108)	185935	7.14375	7.144
	56	4-Bromophenyl-phenylether	248	Compound Not Detected.					
	57	Hexachlorobenzene	284	Compound Not Detected.					
	58	Pentachlorophenol	266	17.772	17.772	(0.985)	1285	0.03751	0.03751
*	59	Phenanthrene-d10	188	18.035	18.035	(1.000)	1025705	4.00000	
	60	Phenanthrene	178	18.073	18.081	(1.002)	179313	0.64042	0.6404
	61	Anthracene	178	18.166	18.166	(1.007)	82457	0.30888	0.3089
	62	Carbazole	167	18.491	18.499	(1.025)	27676	0.11773	0.1177
	63	Di-n-butylphthalate	149	19.311	19.311	(1.071)	15520	0.04976	0.04976(M)
	64	Fluoranthene	202	20.495	20.456	(0.889)	661942	1.70547	1.705
	65	Pyrene	202	20.882	20.874	(0.906)	751043	1.83593	1.836
$	66	Terphenyl-d14	244	21.168	21.168	(0.918)	1166382	3.83372	3.834
	67	Butylbenzylphthalate	149	22.090	22.090	(0.958)	44242	0.25008	0.2501
	68	Benzo(a)anthracene	228	23.027	23.027	(0.999)	385855	1.01236	1.012
*	69	Chrysene-d12	240	23.058	23.050	(1.000)	1217989	4.00000	
	70	3,3'-Dichlorobenzidine	252	Compound Not Detected.					
	71	Chrysene	228	23.096	23.096	(1.002)	602093	1.52819	1.528
	72	bis(2-Ethylhexyl)phthalate	149	23.120	23.119	(0.960)	395852	1.40429	1.404
*	134	Di-n-octylphthalate-d4	153	24.095	24.087	(1.000)	1926684	4.00000	
	73	Di-n-octylphthalate	149	Compound Not Detected.					
	74	Benzo(b)fluoranthene	252	24.854	24.846	(0.972)	621664	1.81857	1.819(H)
	75	Benzo(k)fluoranthene	252	24.885	24.885	(0.973)	632407	1.68198	1.682
	76	Benzo(a)pyrene	252	25.465	25.458	(0.995)	371002	1.08569	1.086
*	77	Perylene-d12	264	25.582	25.566	(1.000)	1227944	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	28.063	28.055	(1.097)	94684	0.22207	0.2221
	79	Dibenzo(a,h)anthracene	278	28.071	28.071	(1.097)	25588	0.07284	0.07284
	80	Benzo(g,h,i)perylene	276	28.793	28.793	(1.126)	70879	0.20836	0.2084(M)
	90	N-Nitrosodimethylamine	74	Compound Not Detected.					
	91	Aniline	93	Compound Not Detected.					
	93	Benzidine	184	Compound Not Detected.					
	103	Pyridine	79	Compound Not Detected.					
	105	1-methylnaphthalene	142	13.079	13.087	(1.143)	14934	0.08277	0.08277
	111	Azobenzene (1,2-DP-Hydrazine)	77	Compound Not Detected.					

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187 Total Benzofluoranthenes	252	24.854	24.885	(0.972)	1150554	3.35847	3.358
120 2,3,4,6-Tetrachlorophenol	232	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222311.D
Lab Smp Id: 23C0108-02
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322.b\ABN.m
Misc Info:

Calibration Date: 22-MAR-2023
Calibration Time: 17:55
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	259918	129959	519836	308130	18.55
27 Naphthalene-d8	969410	484705	1938820	1112183	14.73
42 Acenaphthene-d10	510287	255144	1020574	575384	12.76
59 Phenanthrene-d10	882628	441314	1765256	1025705	16.21
69 Chrysene-d12	800073	400037	1600146	1217989	52.23
134 Di-n-octylphthala	1258607	629304	2517214	1926684	53.08
77 Perylene-d12	911909	455955	1823818	1227944	34.66

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	-0.09
27 Naphthalene-d8	11.44	10.94	11.94	11.44	0.00
42 Acenaphthene-d10	15.02	14.52	15.52	15.02	0.00
59 Phenanthrene-d10	18.04	17.54	18.54	18.04	0.00
69 Chrysene-d12	23.05	22.55	23.55	23.06	0.03
134 Di-n-octylphthala	24.09	23.59	24.59	24.10	0.03
77 Perylene-d12	25.57	25.07	26.07	25.58	0.06

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222311.D

Lab ID: 23C0108-02
nt18.i, ABN.m, 23-MAR-2023 00:03

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.951	0.961	-0.0104	Benzoic acid

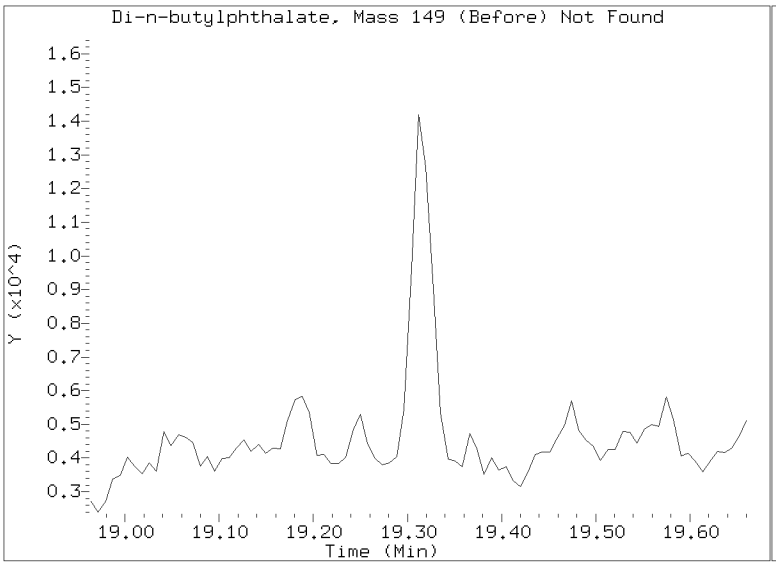
RRT check based on Ccal File: NT1803222302.D

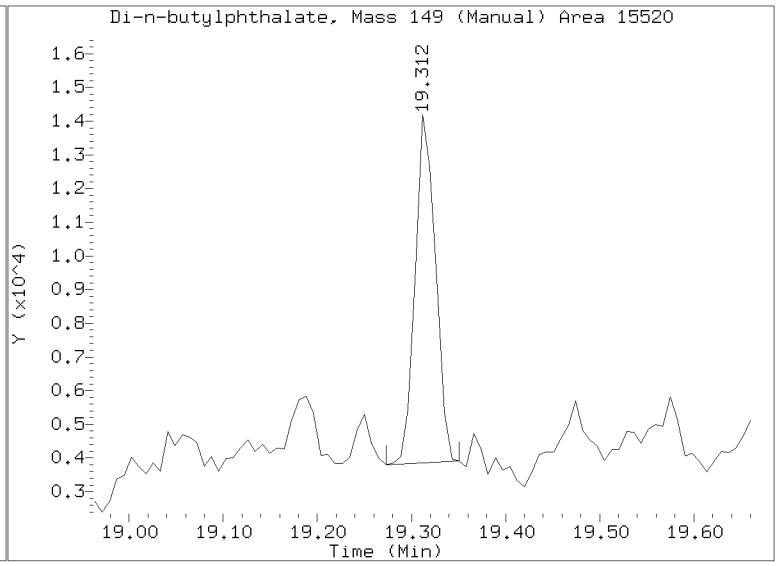
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

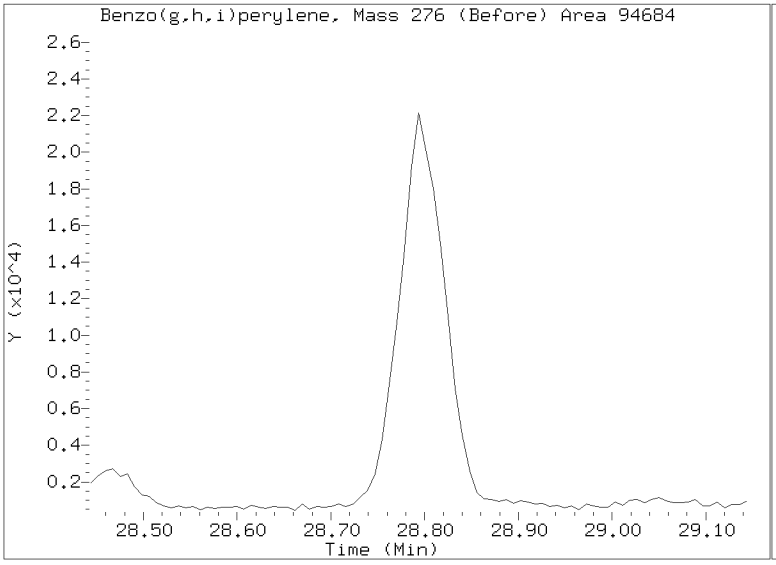
* Only compounds listed in the work order have been verified by the analyst *

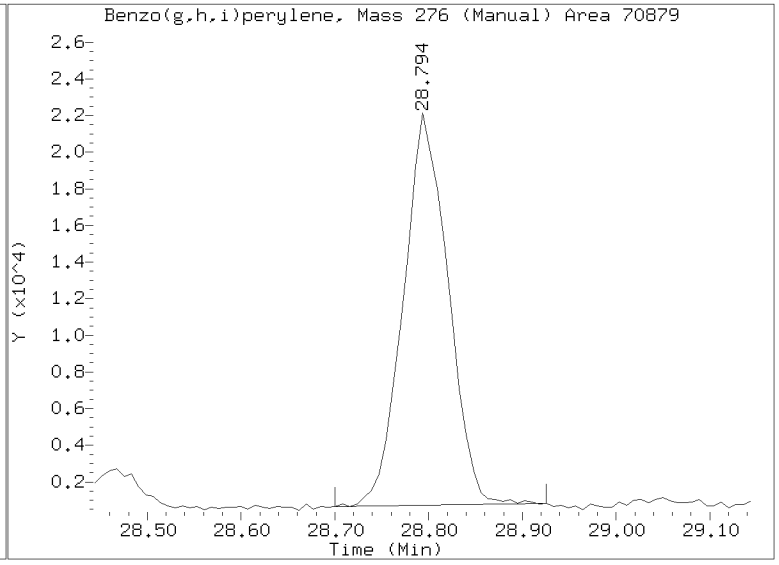
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230322.b/NT1803222311.D
Injection Date: 23-MAR-2023 00:03
Lab ID:23C0108-02 Client ID:
Report Date: 04/04/2023 14:28









APPROVED

By Deenay Dunmore at 2:45 pm, Apr 04, 2023

Analytical Resources, LLC
Analytical Chemists and Consultants

LDW23-SS1106

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270E

Semivolatiles (20ug/kg - 0.2ug/L SepF)

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-06 A	SDG:	23C0108
Sampled:	03/03/23 10:00	Prepared:	03/09/23 13:26	File ID:	NT1803222312.D
% Solids:	43.33	Preparation:	EPA 3546 (Microwave)	Analyzed:	03/23/23 00:44
Batch:	BLC0185	Sequence:	SLD0051	Initial/Final:	23.1 g Wet / 1 mL
Instrument:	NT18	Column:	ZB-5MS	Calibration:	GC00085
Cleanups:	GPC				

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg dry)	Q	DL	RL
108-95-2	Phenol	1	553		4.4	20.0
106-44-5	4-Methylphenol	1	10.6	J	7.4	20.0
91-20-3	Naphthalene	1	13.8	J	4.2	20.0
91-57-6	2-Methylnaphthalene	1	10.2	J	4.5	20.0
208-96-8	Acenaphthylene	1	8.2	J	6.2	20.0
131-11-3	Dimethylphthalate	1	20.0	U	4.4	20.0
83-32-9	Acenaphthene	1	11.1	J	5.2	20.0
132-64-9	Dibenzofuran	1	20.0	U	14.1	20.0
86-73-7	Fluorene	1	20.0	U	14.6	20.0
85-01-8	Phenanthrene	1	93.0		8.7	20.0
120-12-7	Anthracene	1	44.0		7.2	20.0
206-44-0	Fluoranthene	1	185		6.1	20.0
129-00-0	Pyrene	1	184		5.7	20.0
85-68-7	Butylbenzylphthalate	1	17.7	J	9.4	20.0
56-55-3	Benzo(a)anthracene	1	133		6.0	20.0
218-01-9	Chrysene	1	199		6.1	20.0
117-81-7	bis(2-Ethylhexyl)phthalate	1	152		5.5	50.0
	Benzofluoranthenes, Total	1	373		10.0	40.0
50-32-8	Benzo(a)pyrene	1	131		4.2	20.0
193-39-5	Indeno(1,2,3-cd)pyrene	1	31.2		14.6	20.0
53-70-3	Dibenzo(a,h)anthracene	1	20.0	U	17.2	20.0
191-24-2	Benzo(g,h,i)perylene	1	26.5		13.6	20.0

SURROGATES	ADDED: (ug/kg dry)	FOUND: (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorophenol	749.31	621	82.9	27 - 120	
Phenol-d5	749.31	651	86.8	29 - 120	
2-Chlorophenol-d4	749.31	654	87.3	31 - 120	
1,2-Dichlorobenzene-d4	499.54	384	76.8	32 - 120	
Nitrobenzene-d5	499.54	470	94.1	30 - 120	
2-Fluorobiphenyl	499.54	437	87.4	35 - 120	

Analytical Resources, LLC
Analytical Chemists and Consultants

LDW23-SS1106

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270E

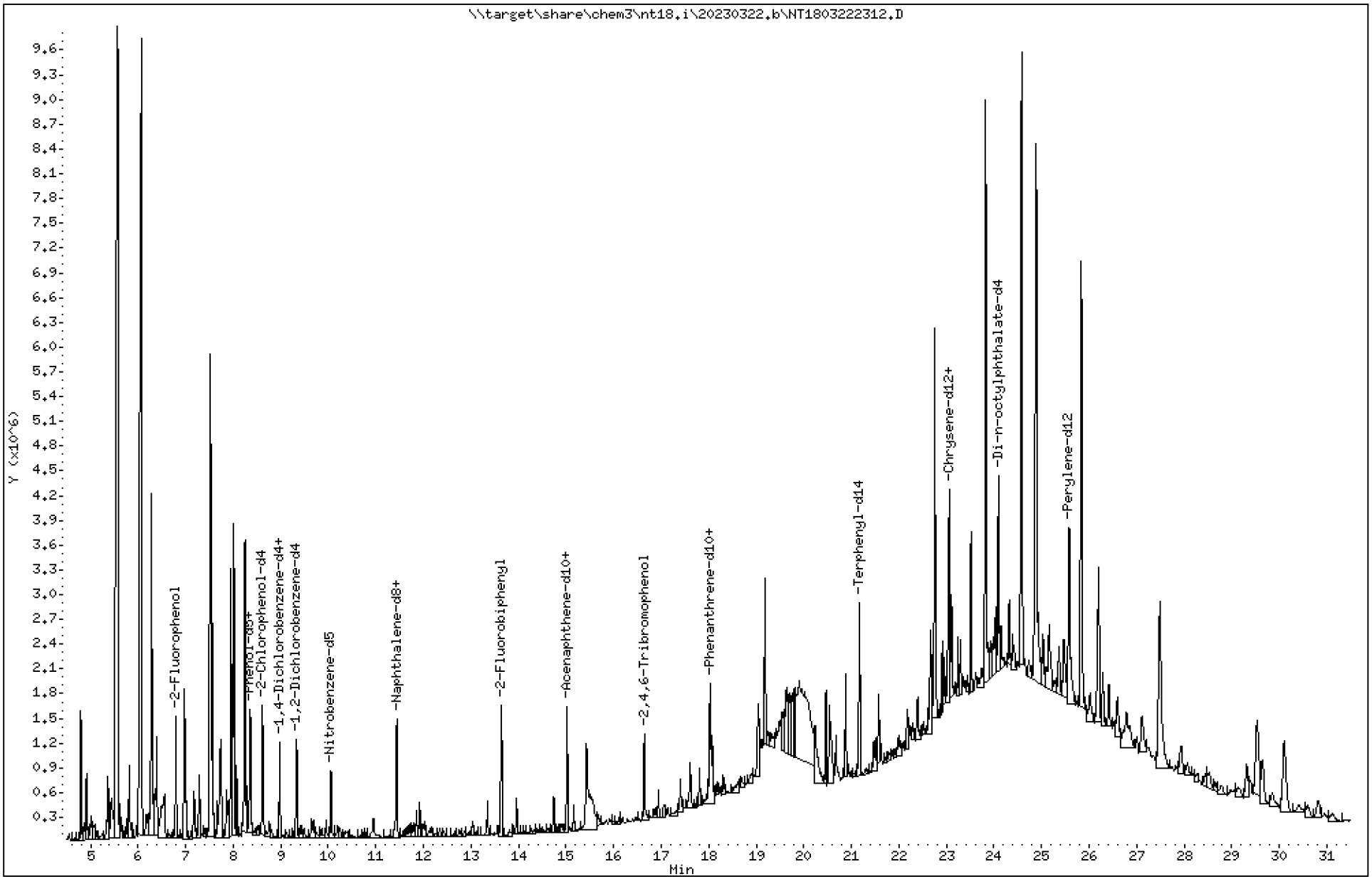
Semivolatiles (20ug/kg - 0.2ug/L SepF)

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-06 A	SDG:	23C0108
Sampled:	03/03/23 10:00	Prepared:	03/09/23 13:26	File ID:	NT1803222312.D
% Solids:	43.33	Preparation:	EPA 3546 (Microwave)	Analyzed:	03/23/23 00:44
Batch:	BLC0185	Sequence:	SLD0051	Initial/Final:	23.1 g Wet / 1 mL
Instrument:	NT18	Column:	ZB-5MS	Calibration:	GC00085
Cleanups:	GPC				

SURROGATES	ADDED: (ug/kg dry)	FOUND: (ug/kg dry)	% REC	QC LIMITS	Q
2,4,6-Tribromophenol	749.31	707	94.4	24 - 134	
p-Terphenyl-d14	499.54	394	79.0	37 - 120	

Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222312.D
Date : 23-MAR-2023 00:44
Client ID:
Sample Info: 23C0108-06

Instrument: nt18.i
Operator: VTS
Column phase: ZB-5msi
Column diameter: 0.25



Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222312.D

Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

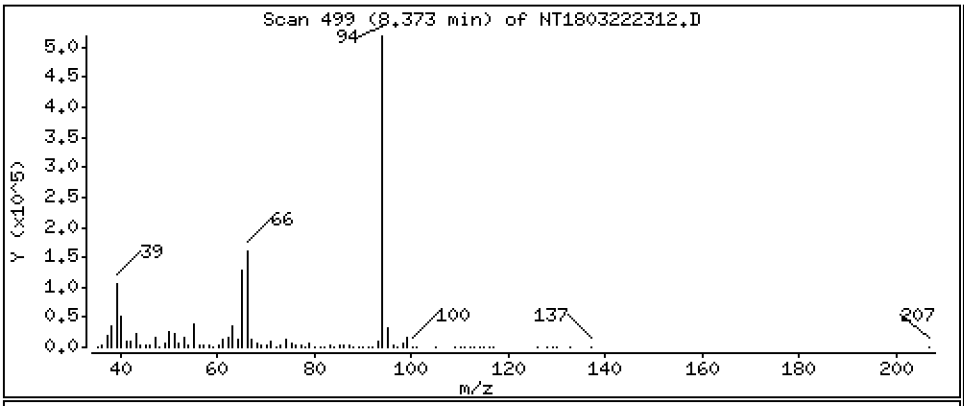
Operator: VTS

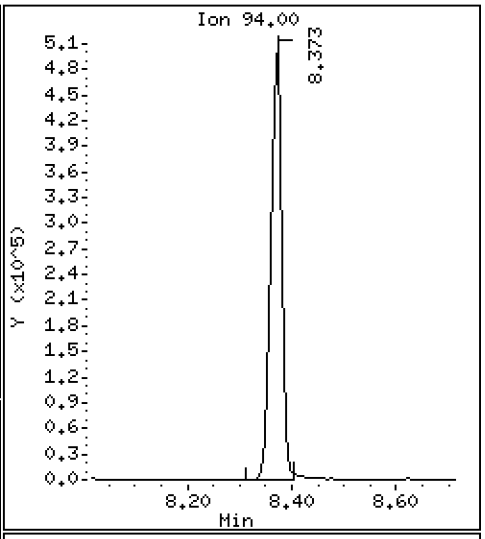
Column phase: ZB-5msi

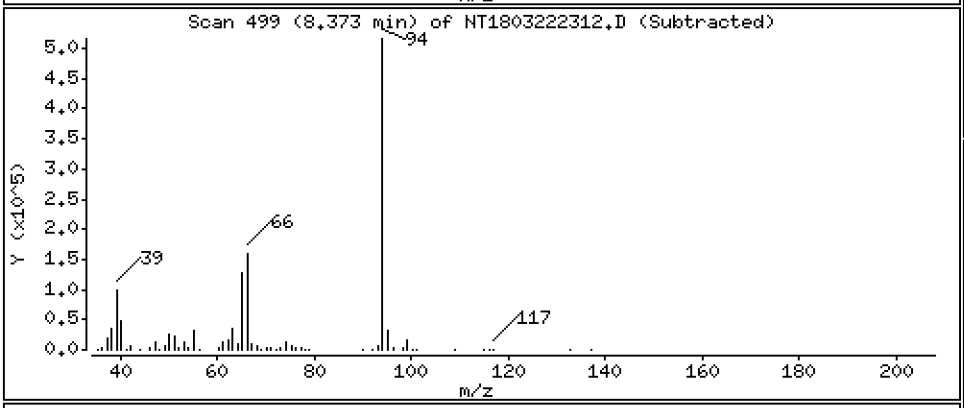
Column diameter: 0.25

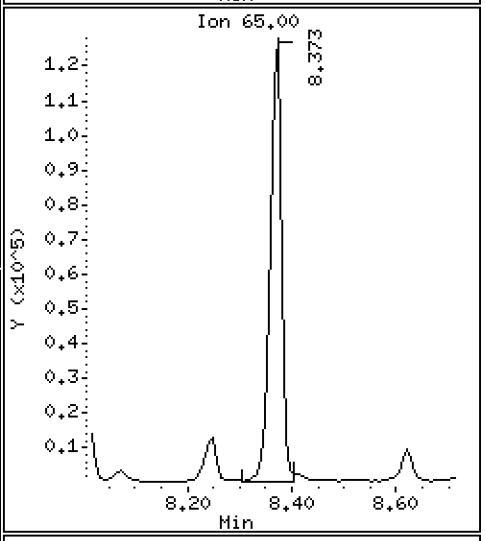
3 Phenol

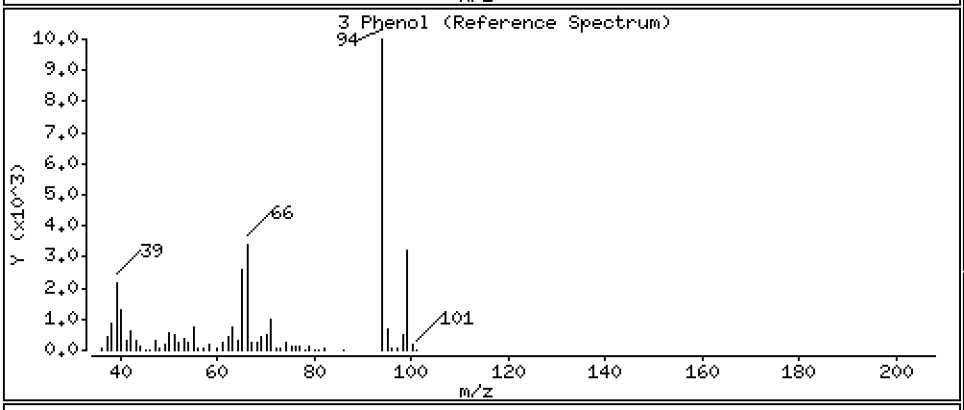
Concentration: 5.539 ug/mL

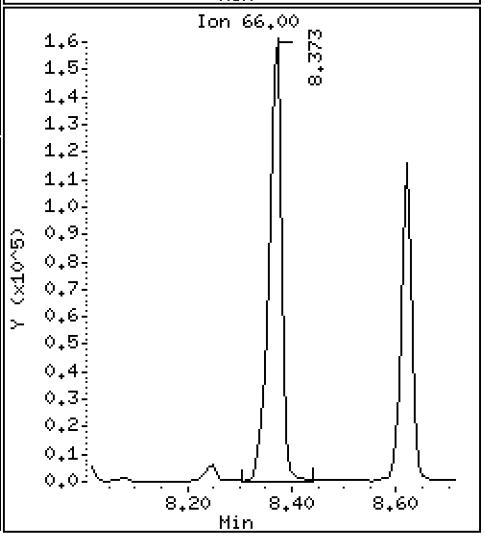


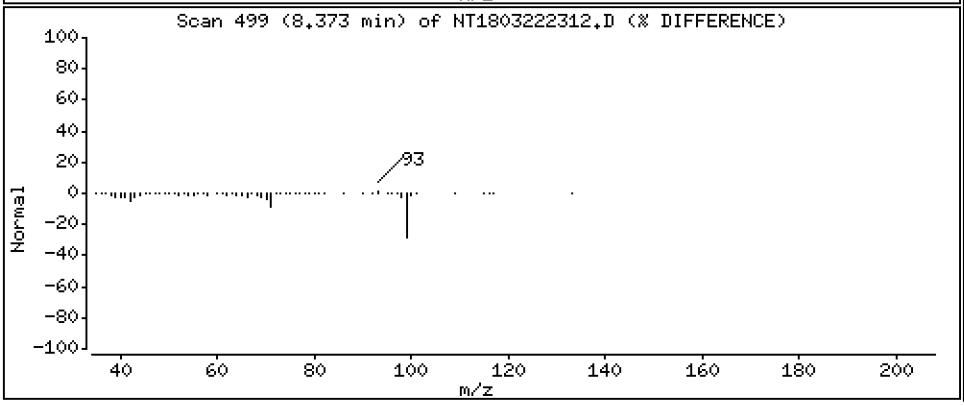












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222312.D

Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

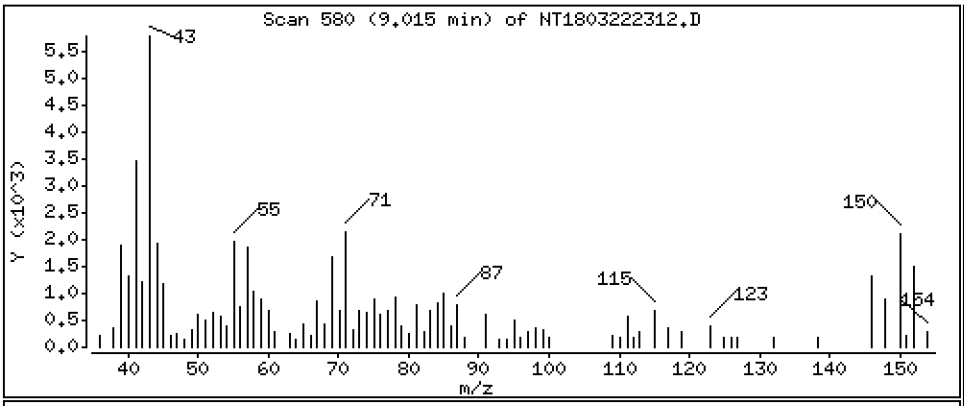
Operator: VTS

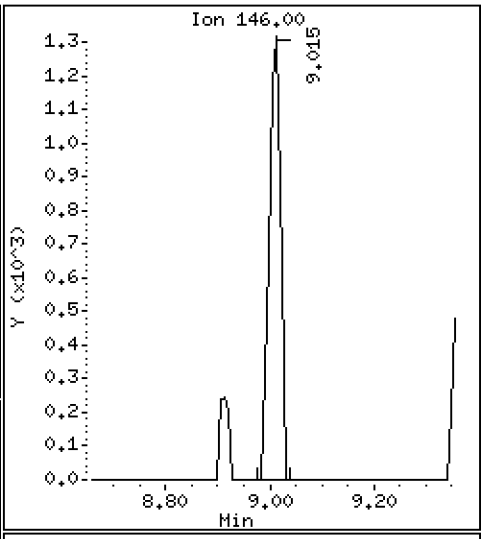
Column phase: ZB-5msi

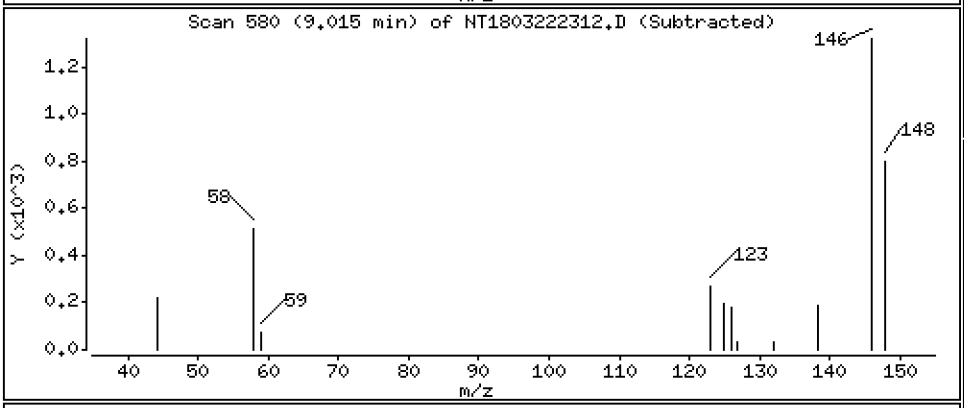
Column diameter: 0.25

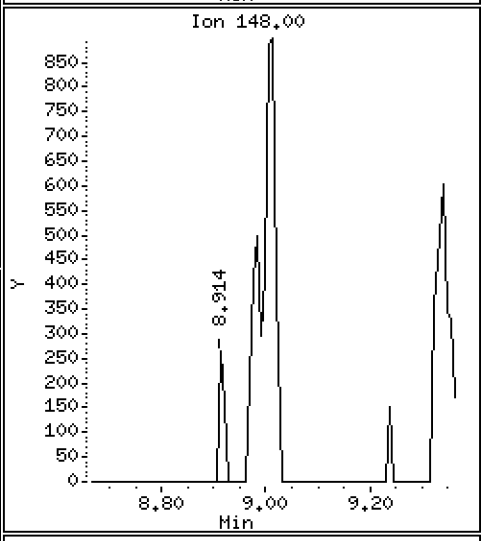
9 1,4-Dichlorobenzene

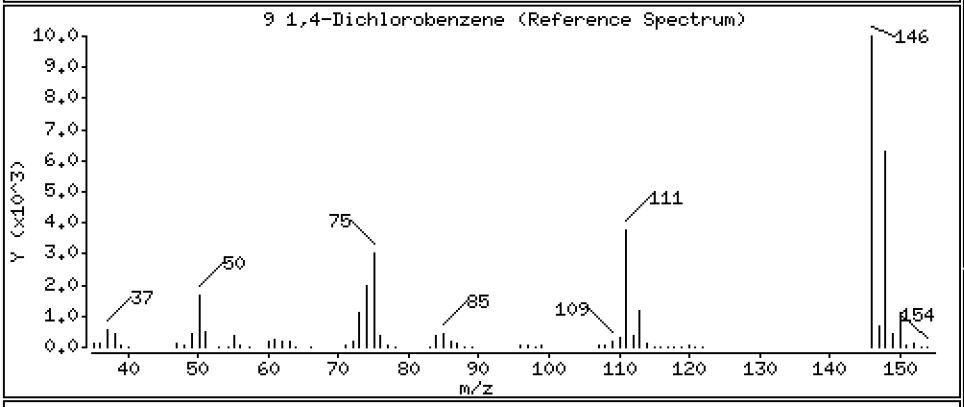
Concentration: 0.01649 ug/mL

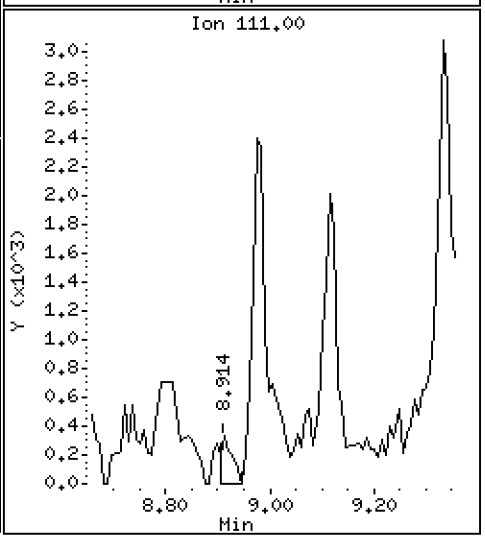


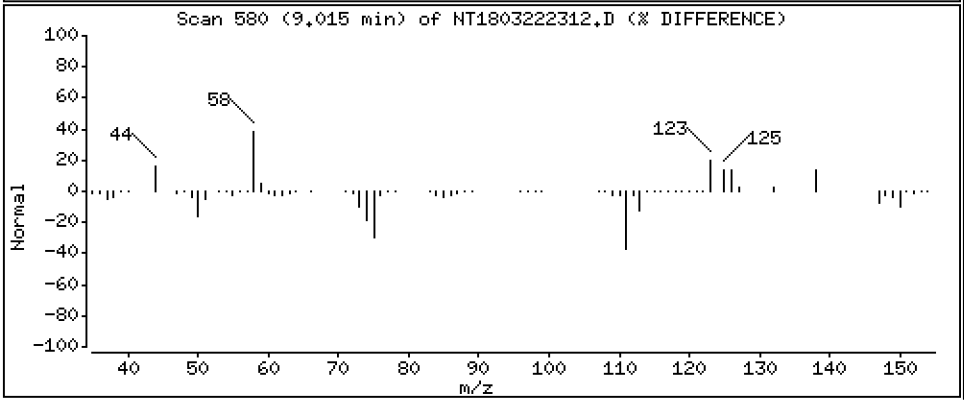












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Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

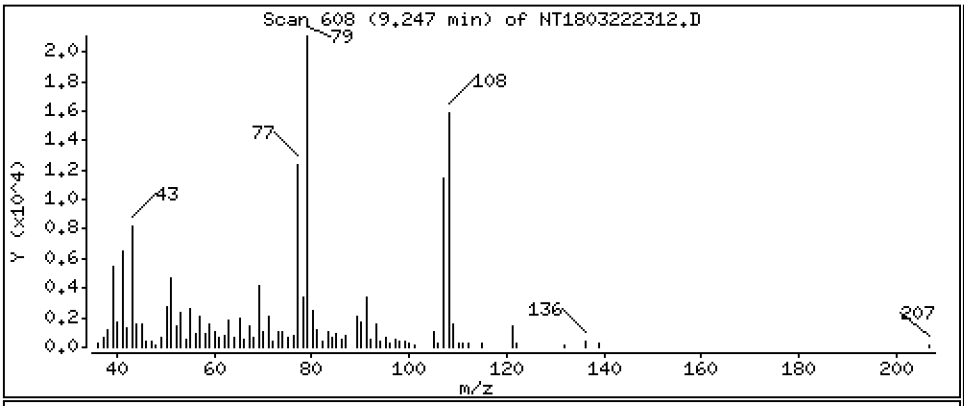
Operator: VTS

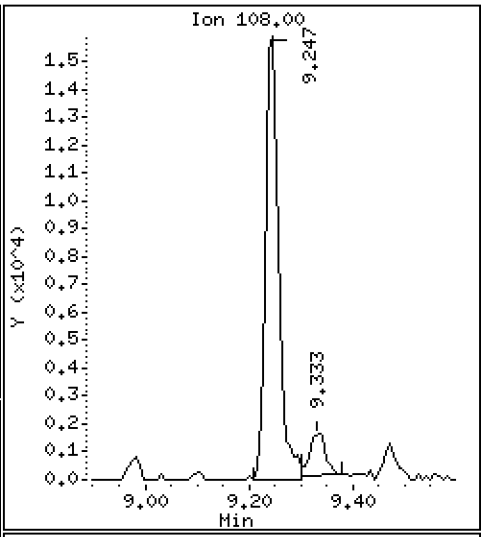
Column phase: ZB-5msi

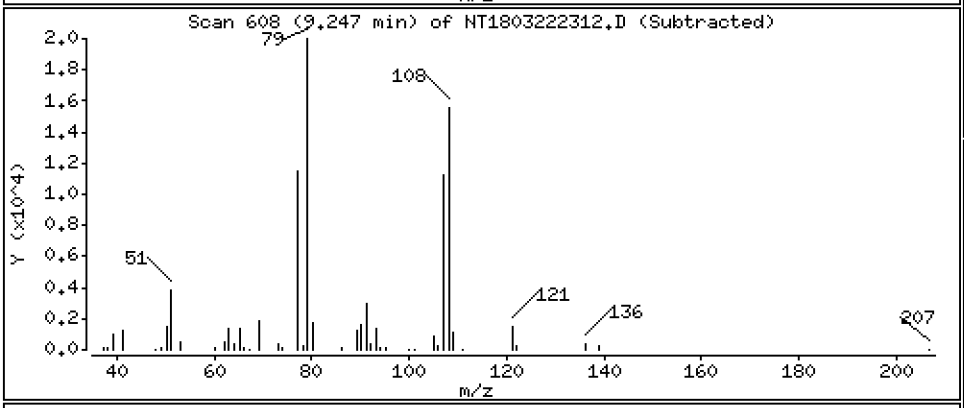
Column diameter: 0.25

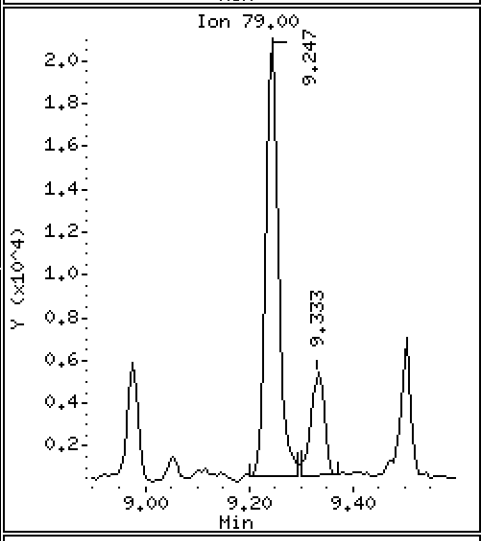
11 Benzyl alcohol

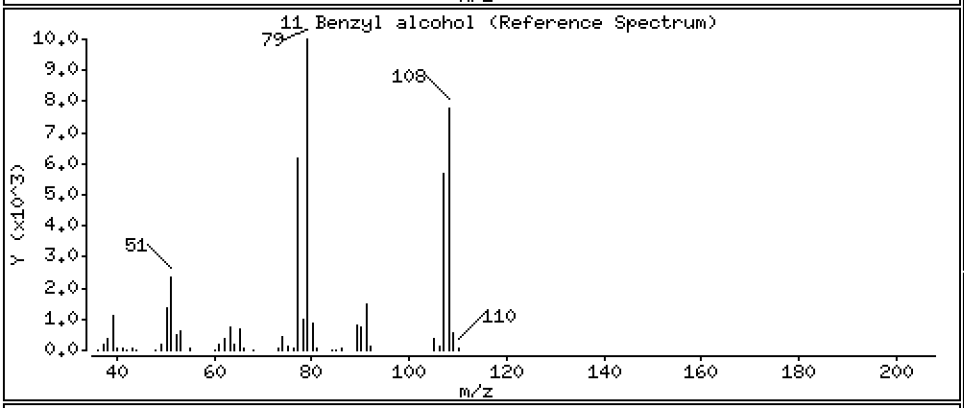
Concentration: 0.4524 ug/mL

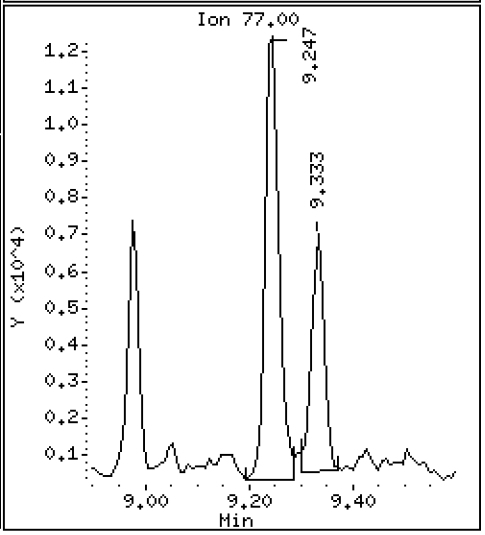


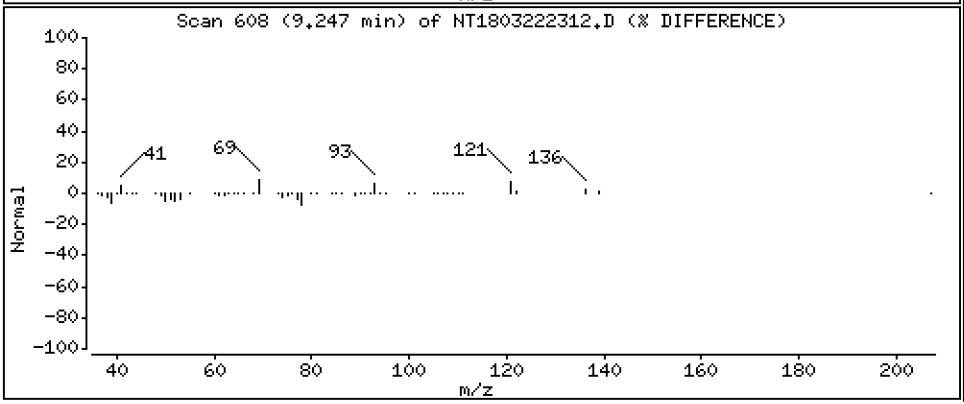












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Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

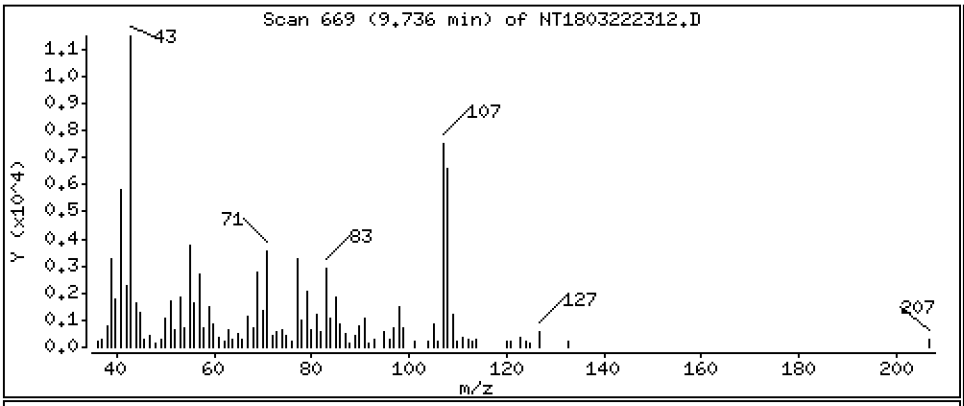
Operator: VTS

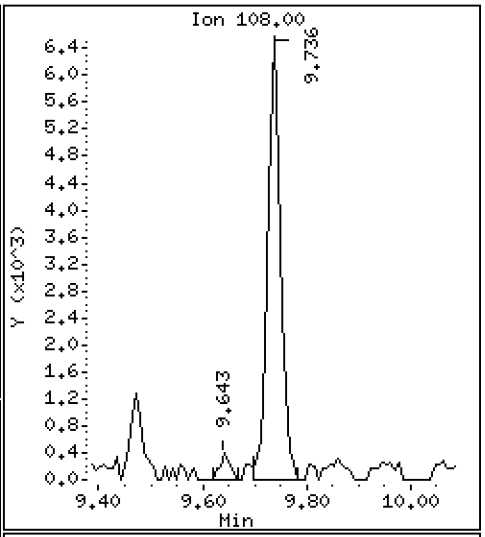
Column phase: ZB-5msi

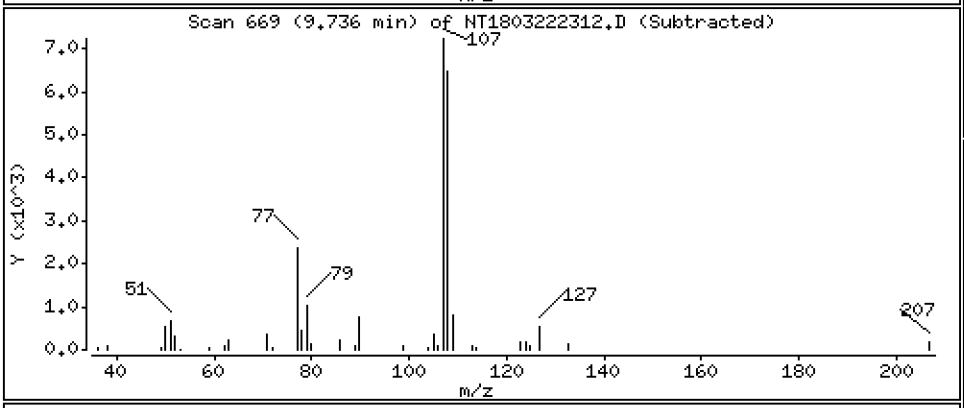
Column diameter: 0.25

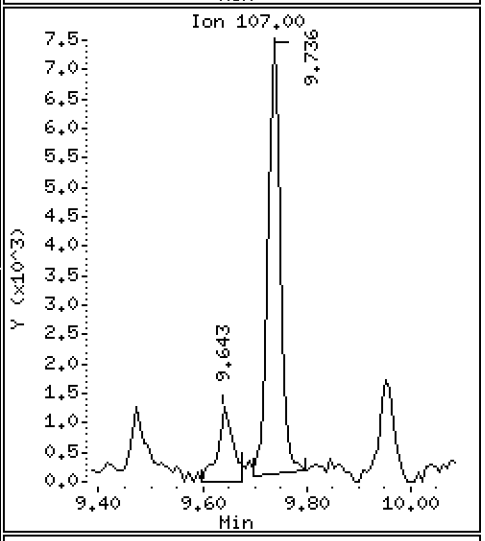
15 4-Methylphenol

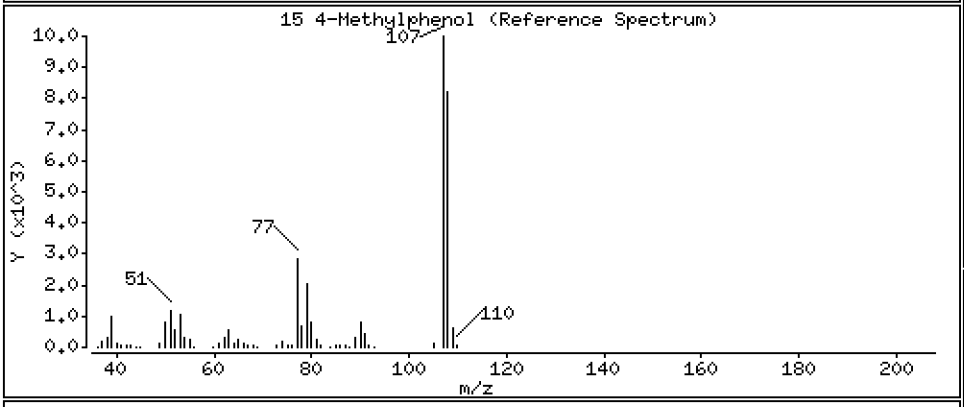
Concentration: 0.1065 ug/mL

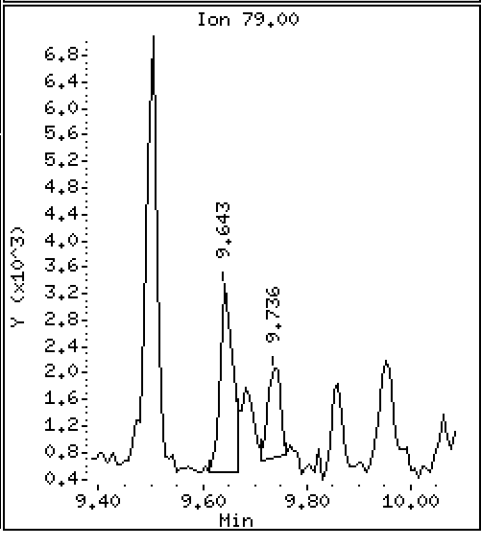


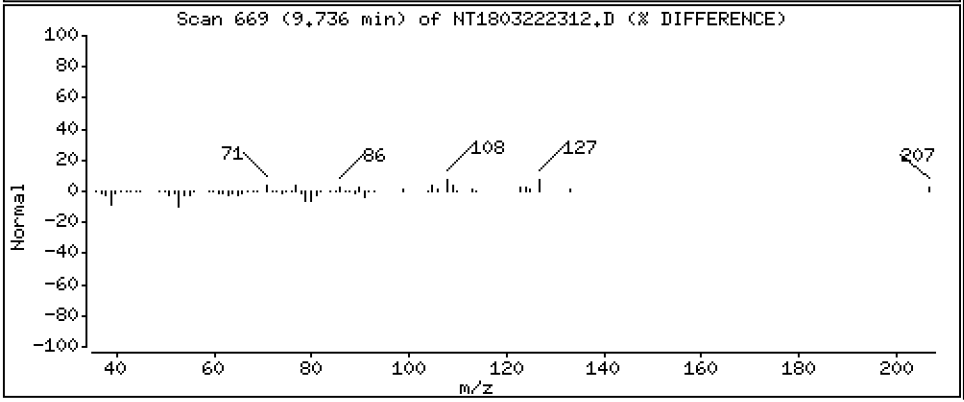












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Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

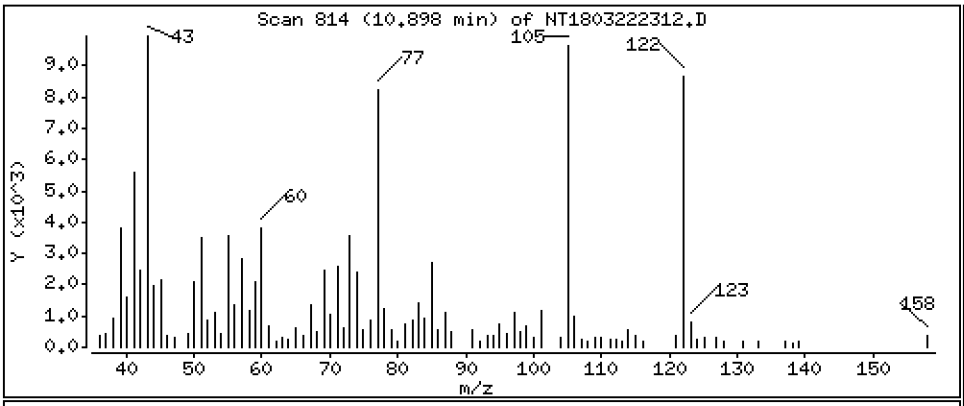
Operator: VTS

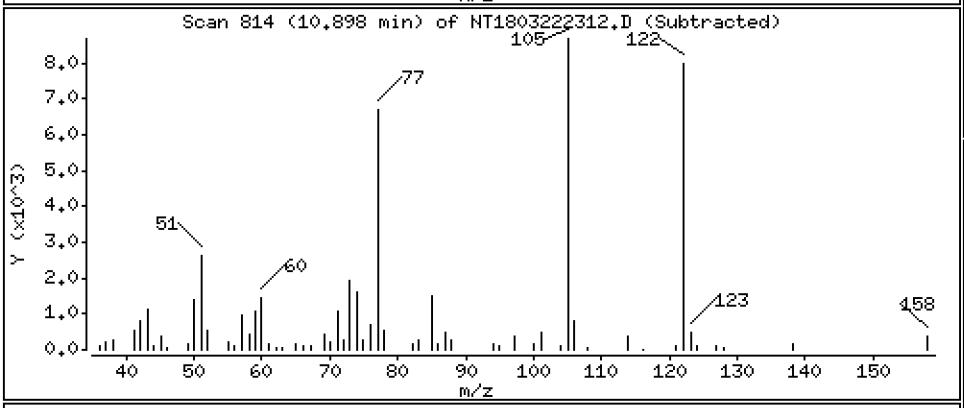
Column phase: ZB-5msi

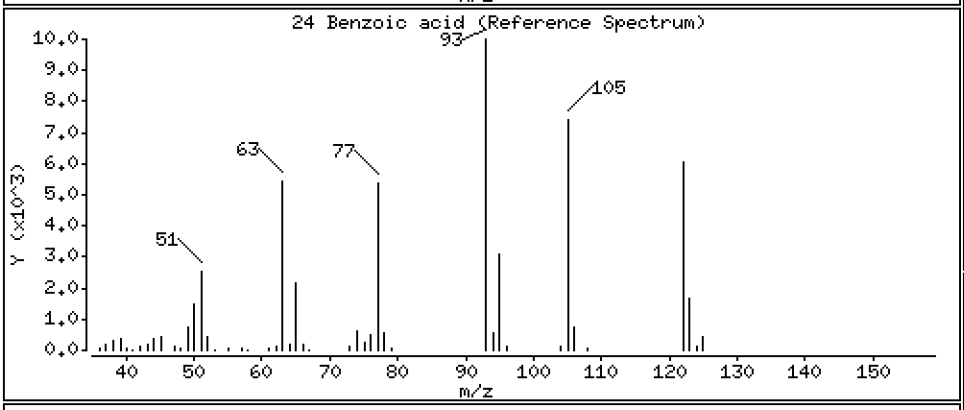
Column diameter: 0.25

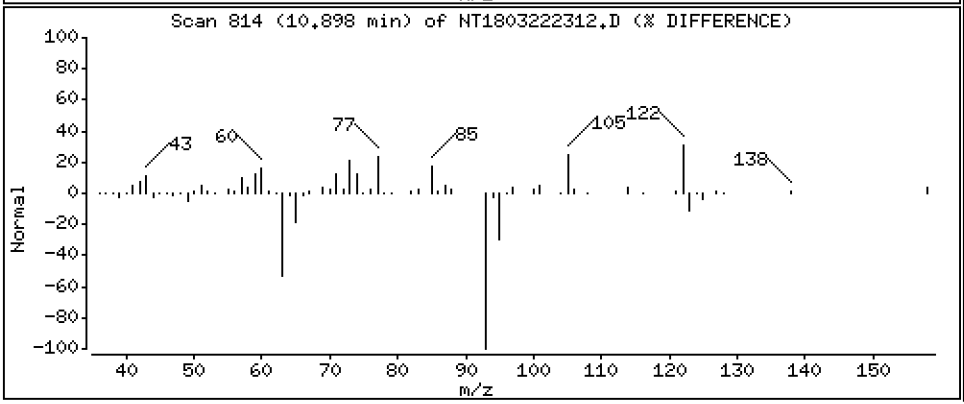
24 Benzoic acid

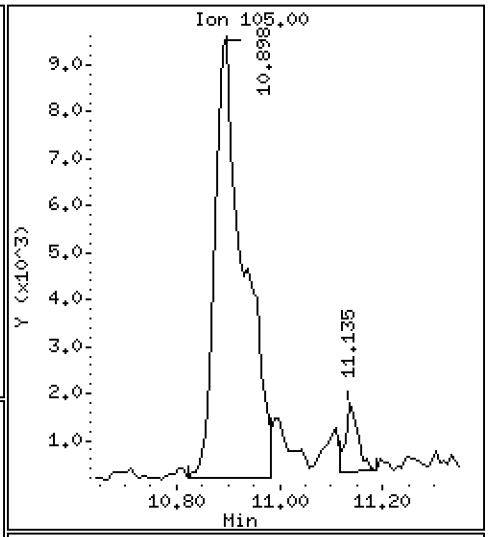
Concentration: 0.5586 ug/mL

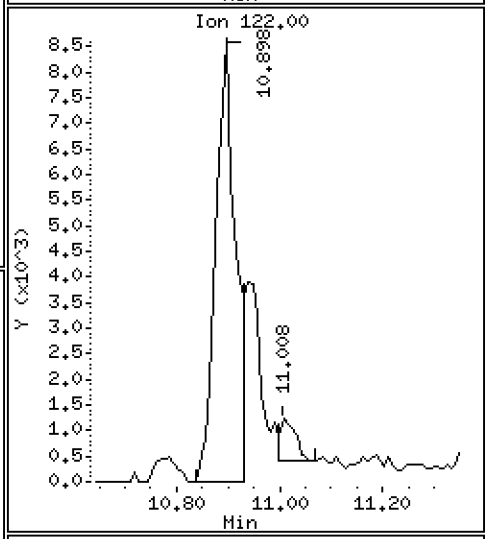


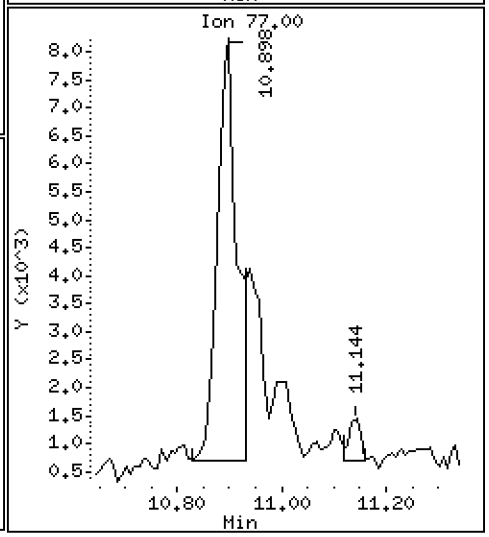












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Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

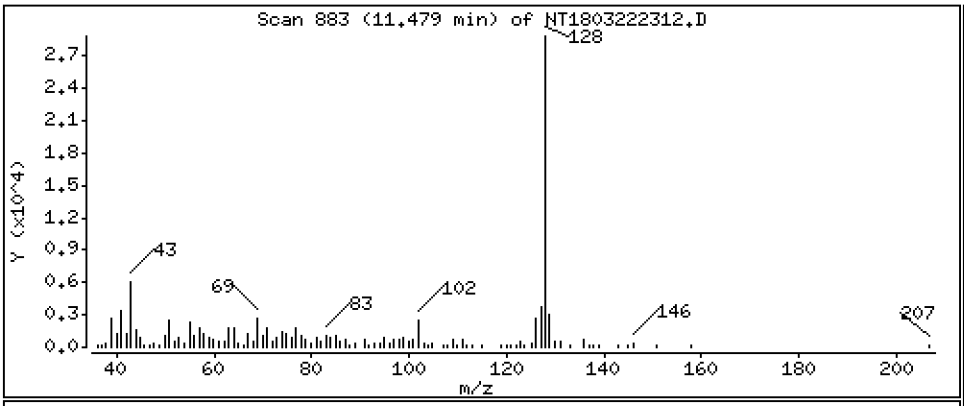
Operator: VTS

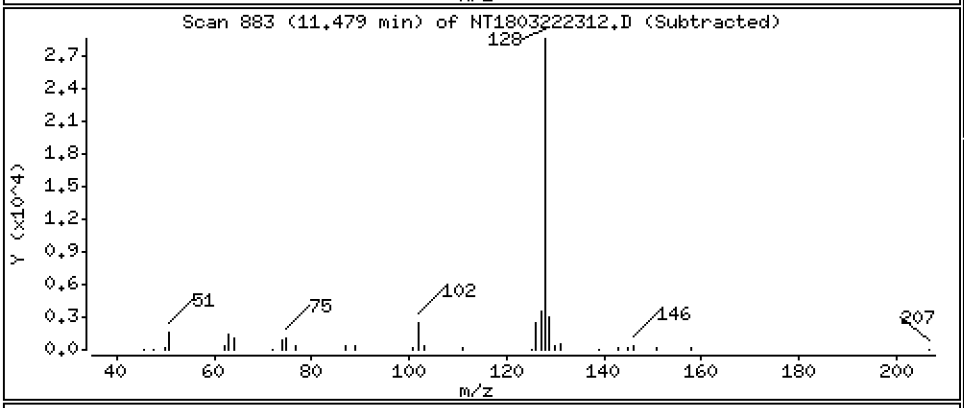
Column phase: ZB-5msi

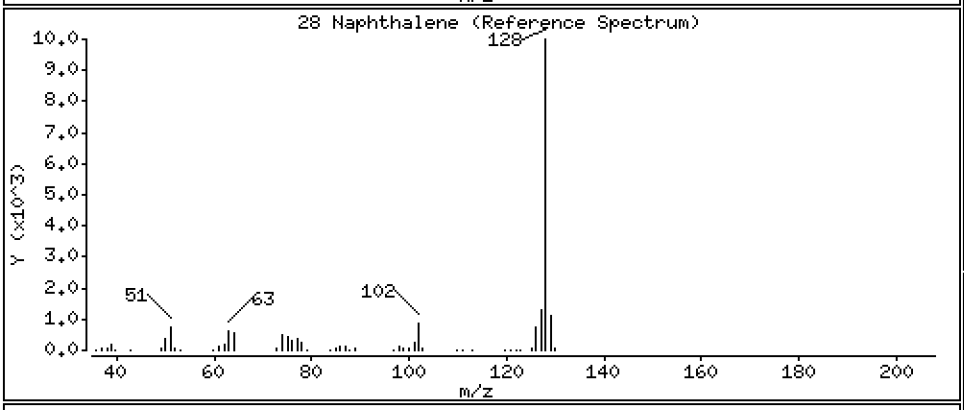
Column diameter: 0.25

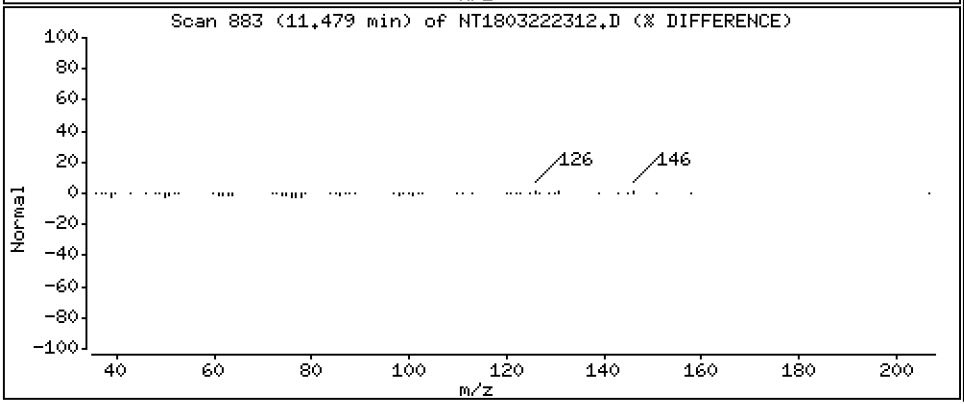
28 Naphthalene

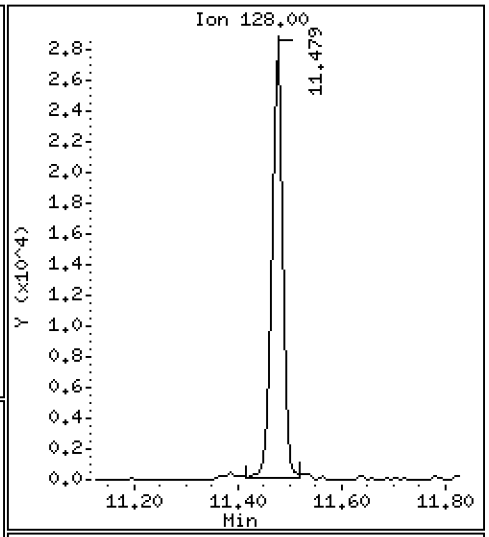
Concentration: 0.1384 ug/mL

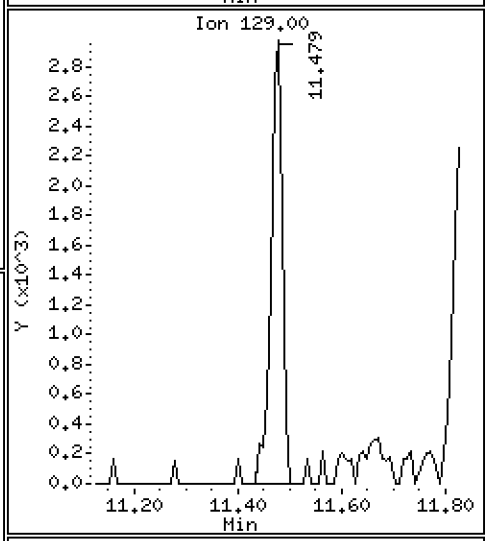


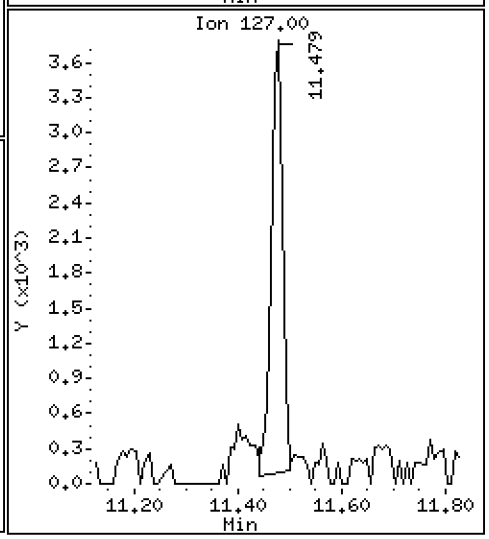












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Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

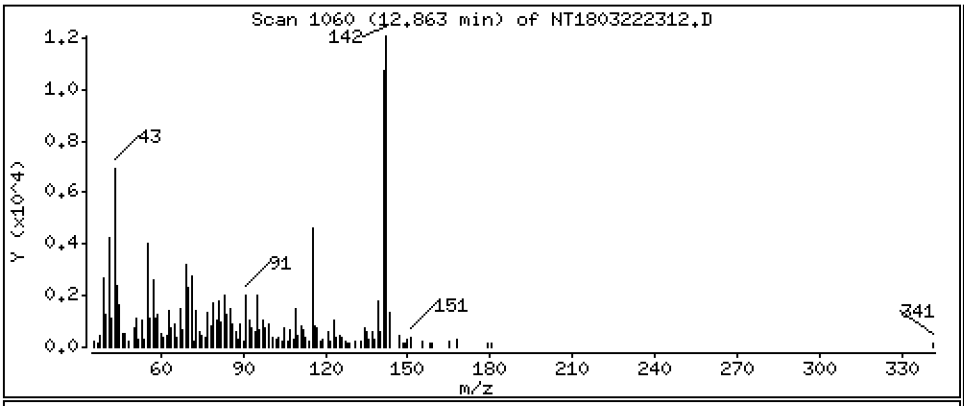
Operator: VTS

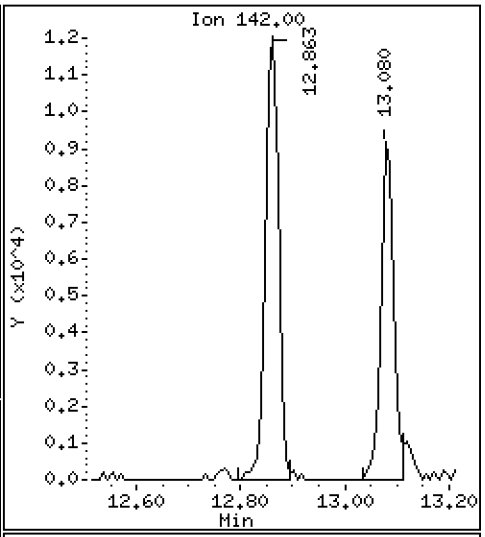
Column phase: ZB-5msi

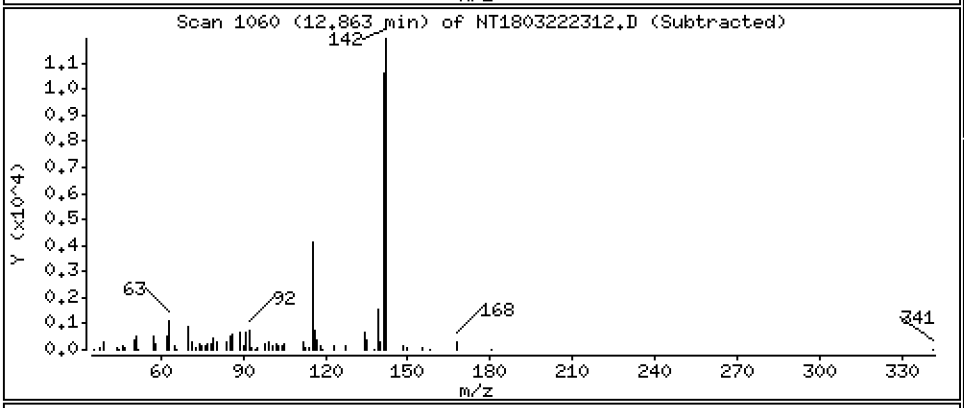
Column diameter: 0.25

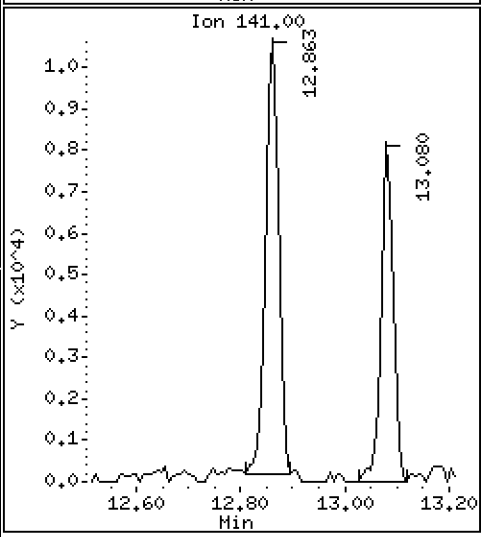
32 2-Methylnaphthalene

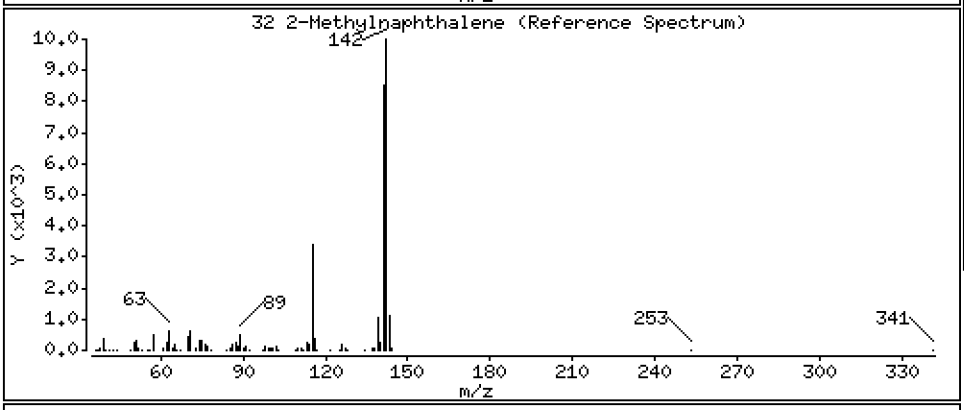
Concentration: 0.1016 ug/mL

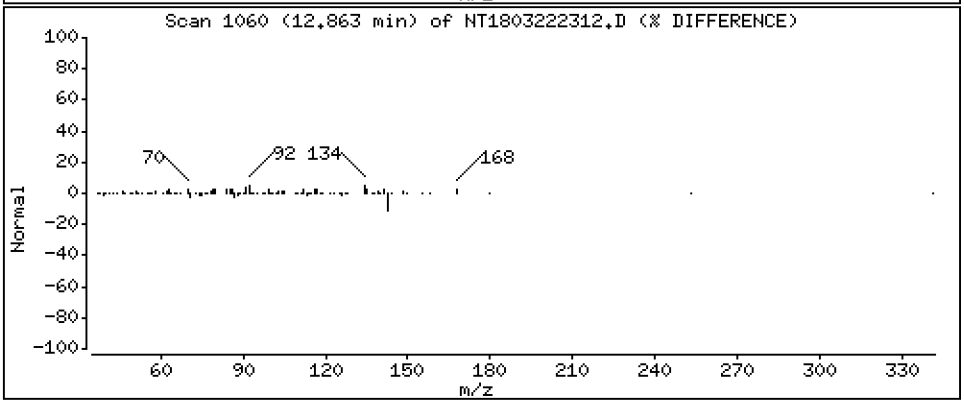












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Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

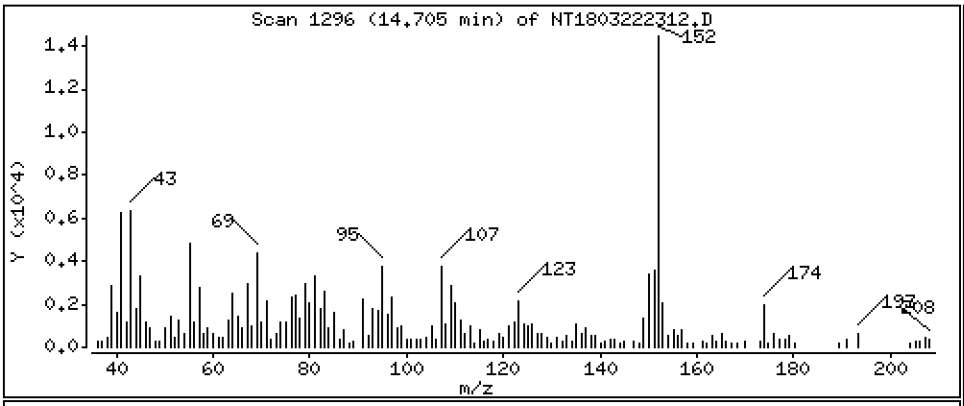
Operator: VTS

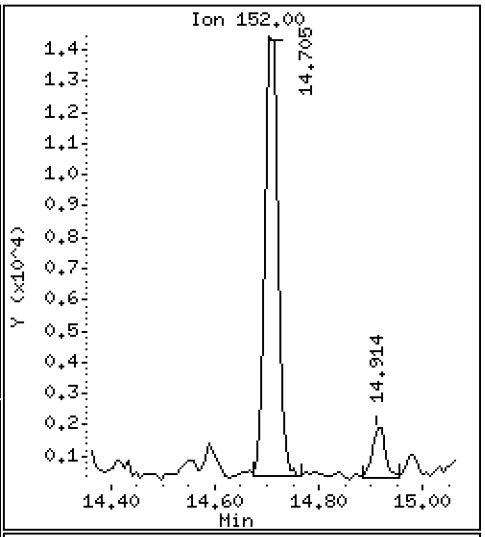
Column phase: ZB-5msi

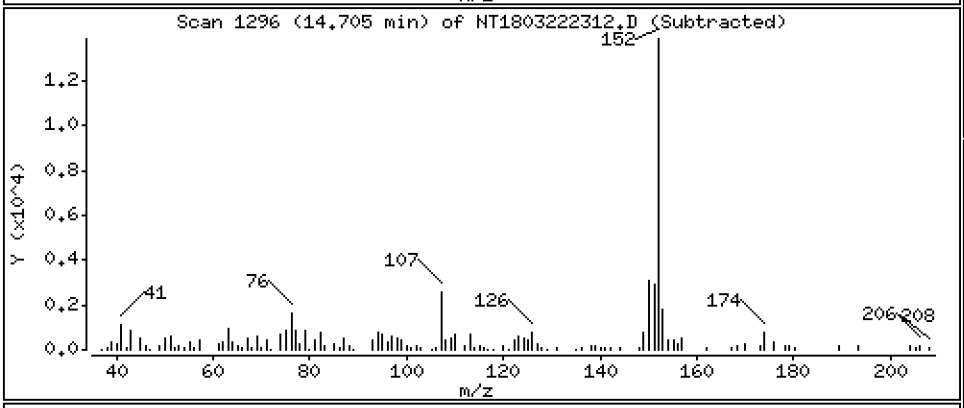
Column diameter: 0.25

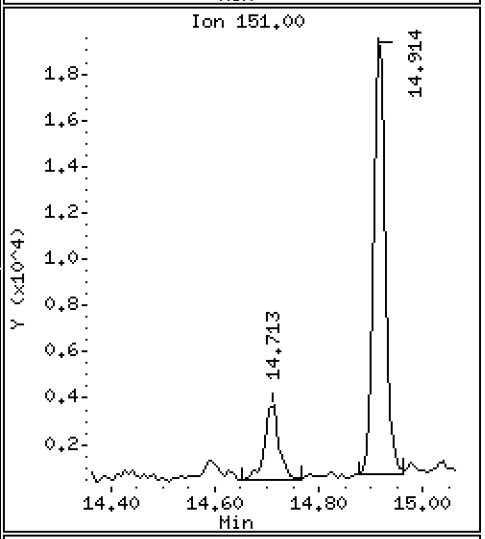
40 Acenaphthylene

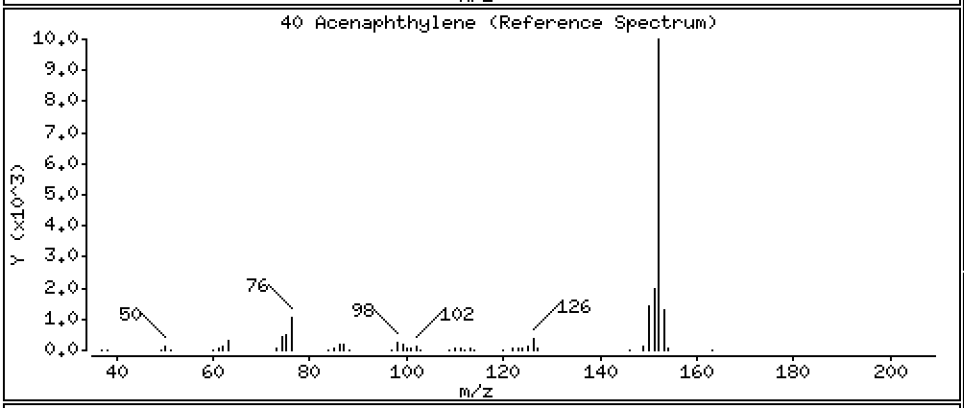
Concentration: 0.08247 ug/mL

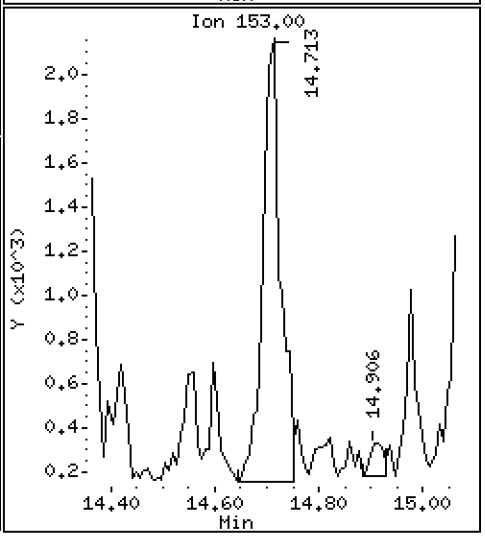


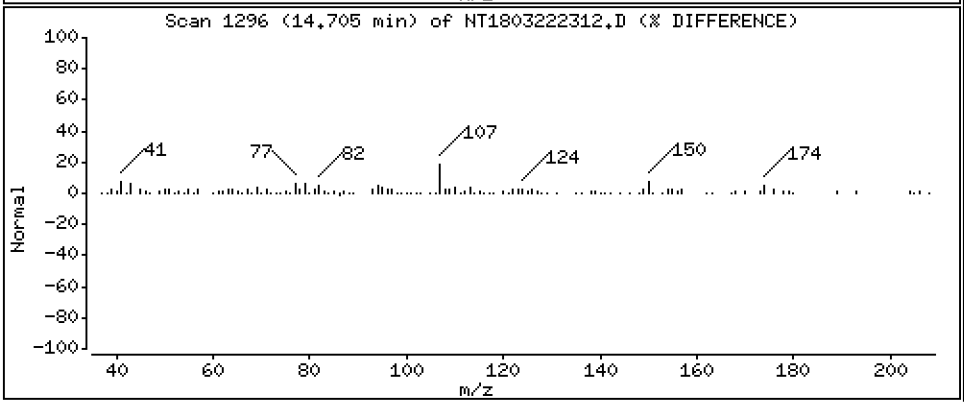












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222312.D

Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

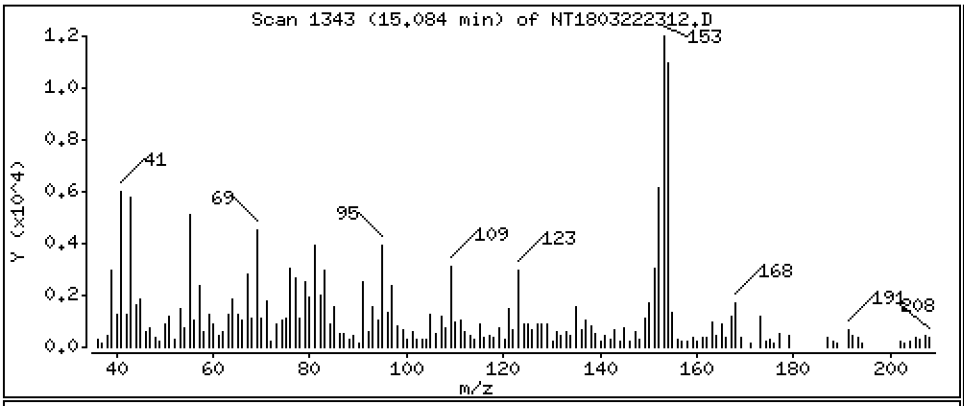
Operator: VTS

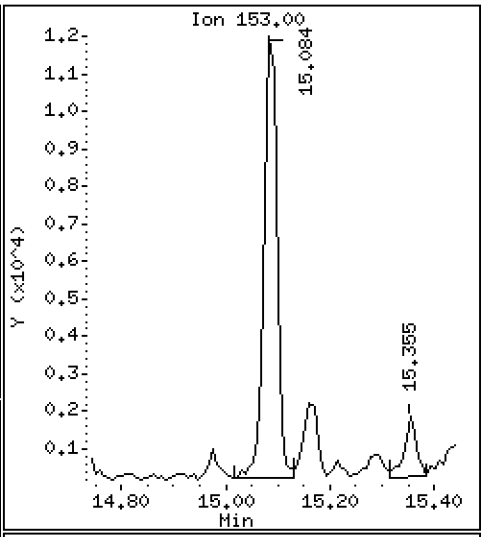
Column phase: ZB-5msi

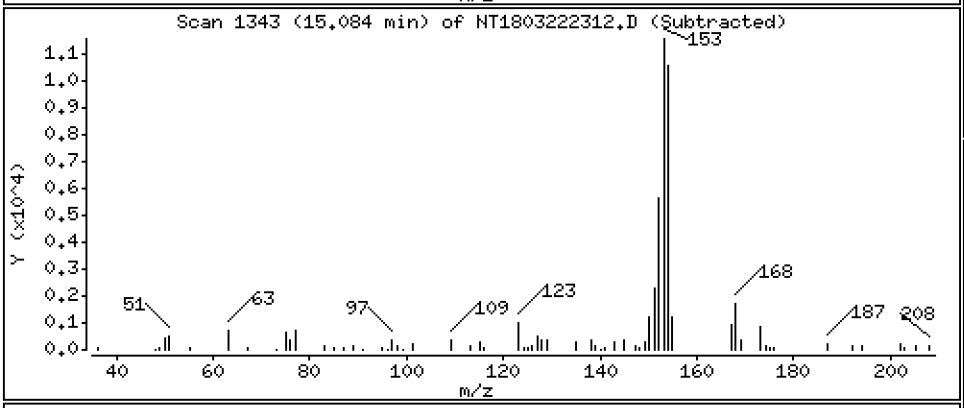
Column diameter: 0.25

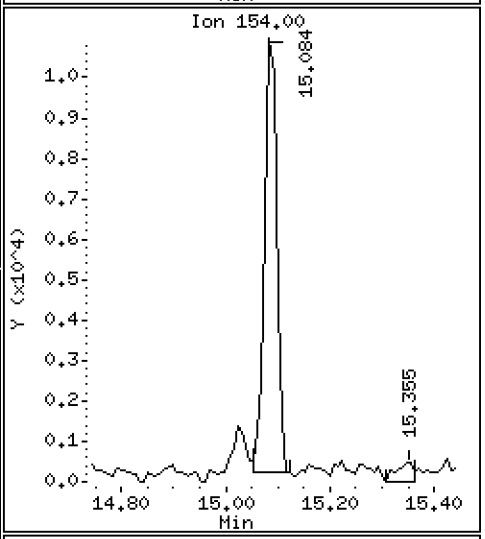
44 Acenaphthene

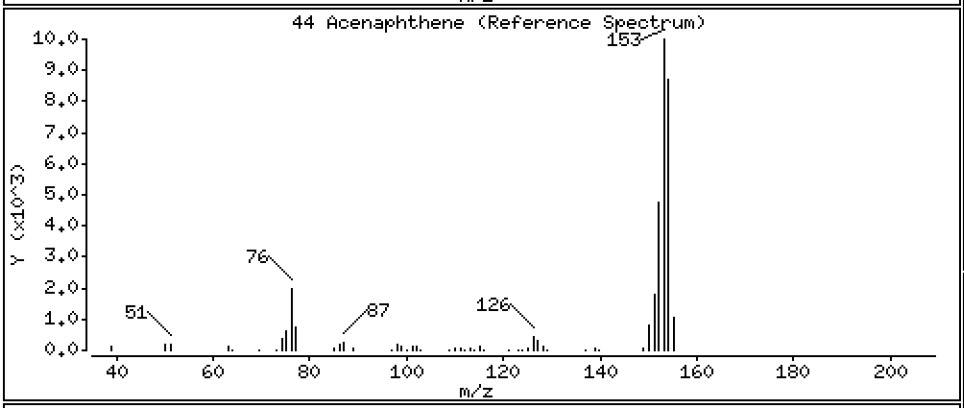
Concentration: 0.1107 ug/mL

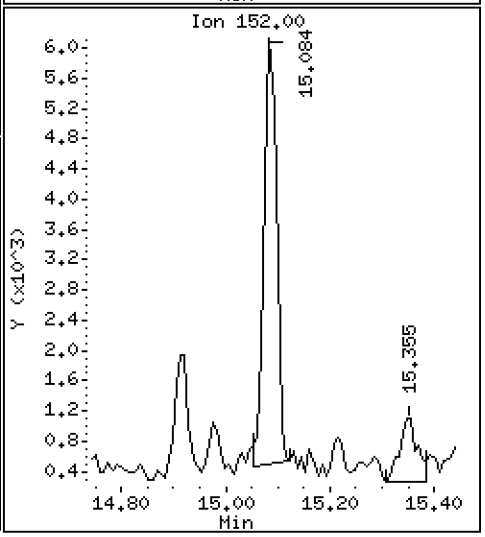


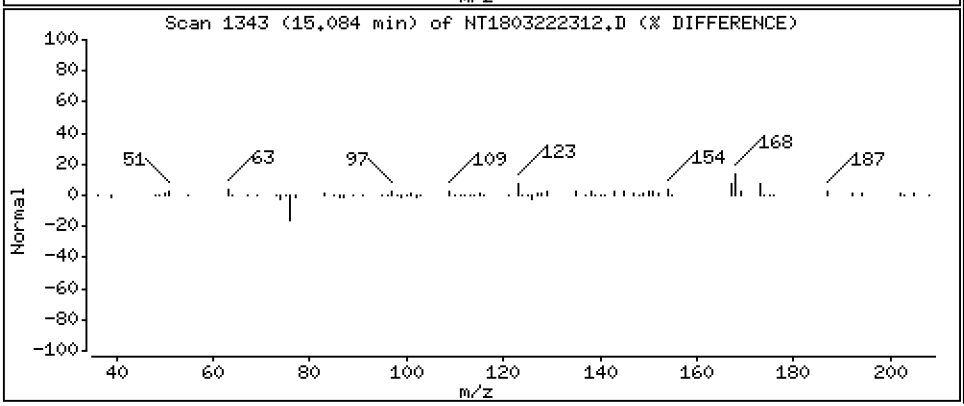












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Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

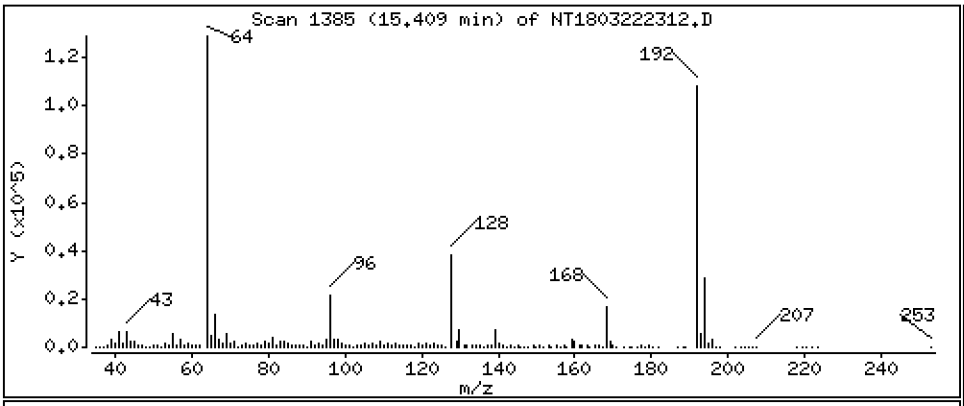
Operator: VTS

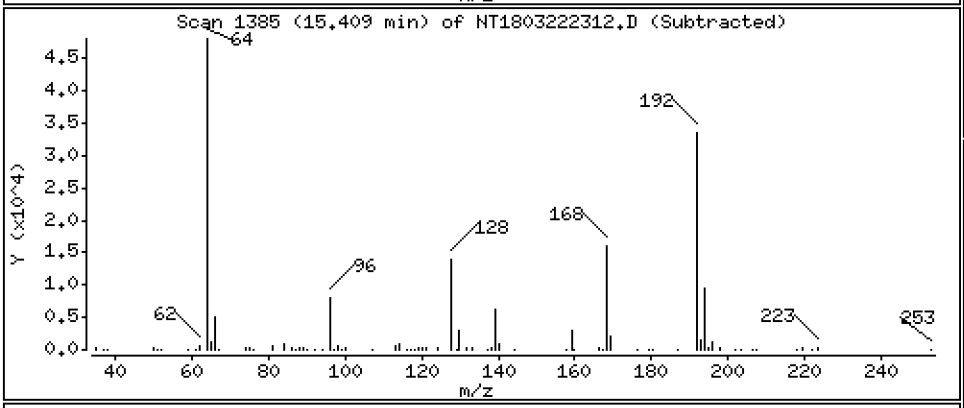
Column phase: ZB-5msi

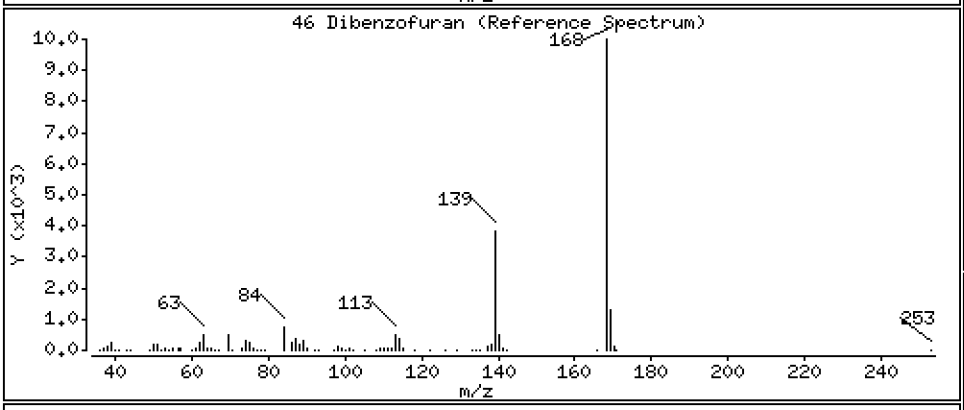
Column diameter: 0.25

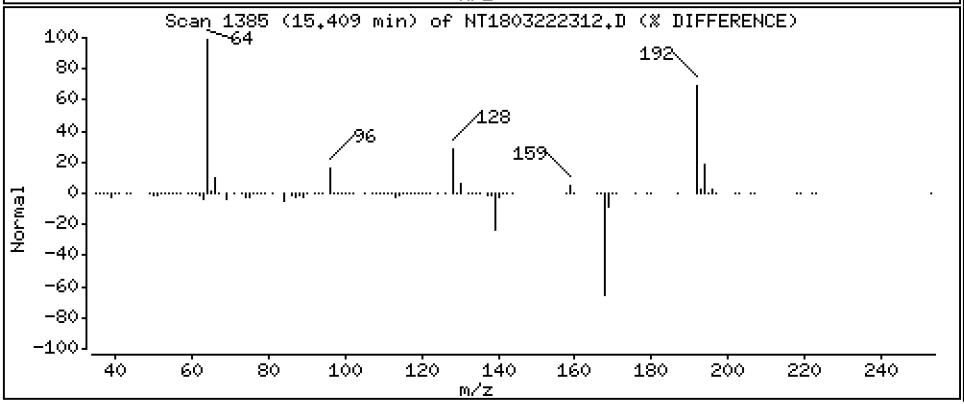
46 Dibenzofuran

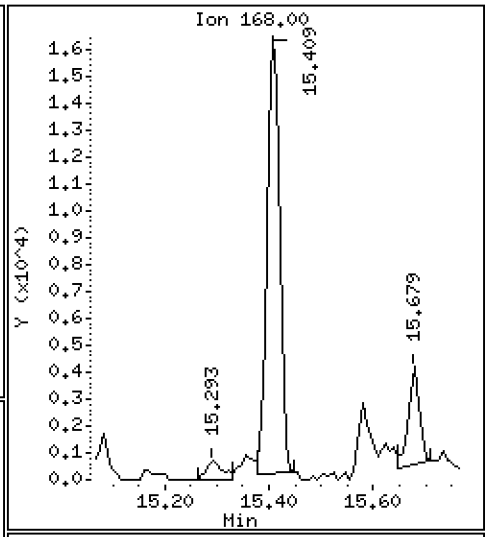
Concentration: 0.1095 ug/mL

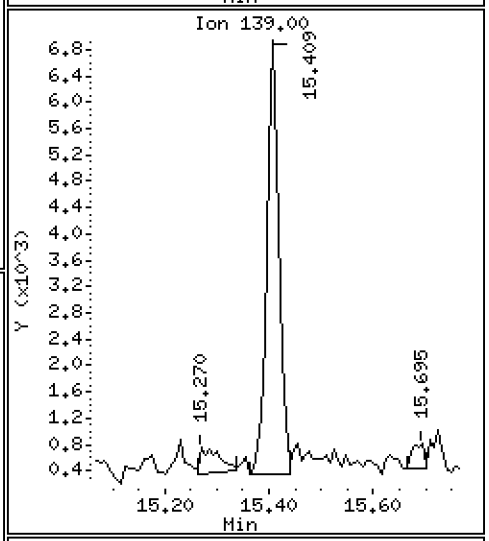


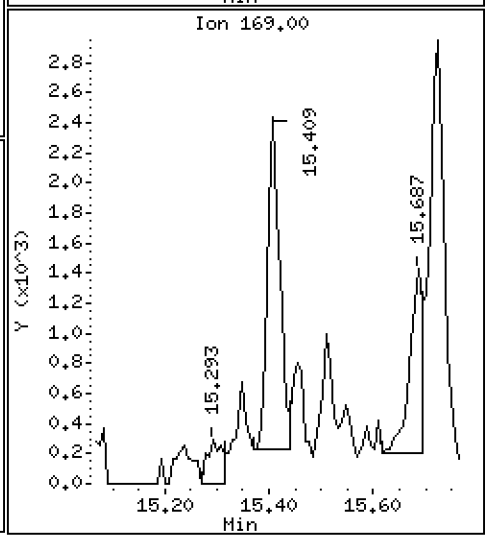












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Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

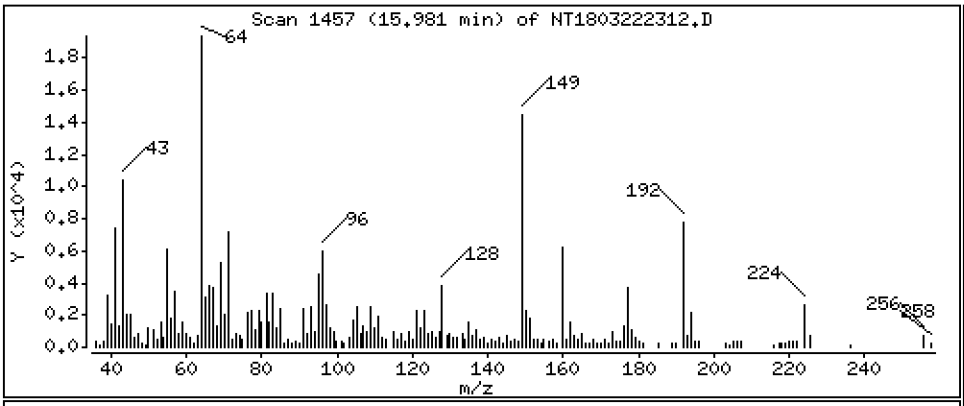
Operator: VTS

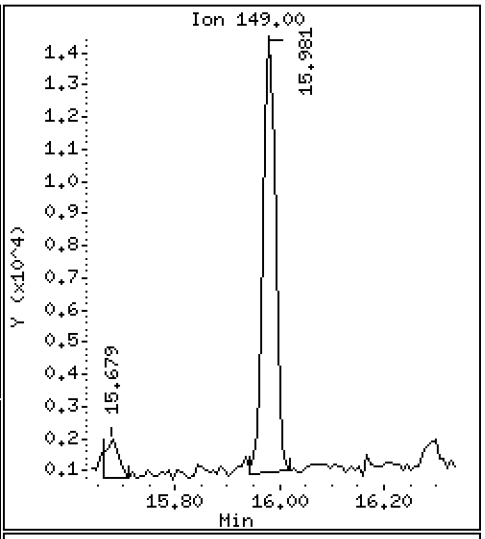
Column phase: ZB-5msi

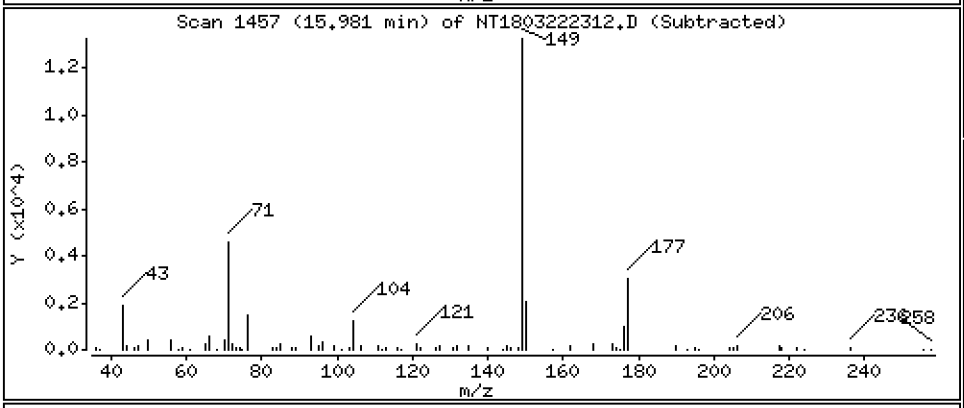
Column diameter: 0.25

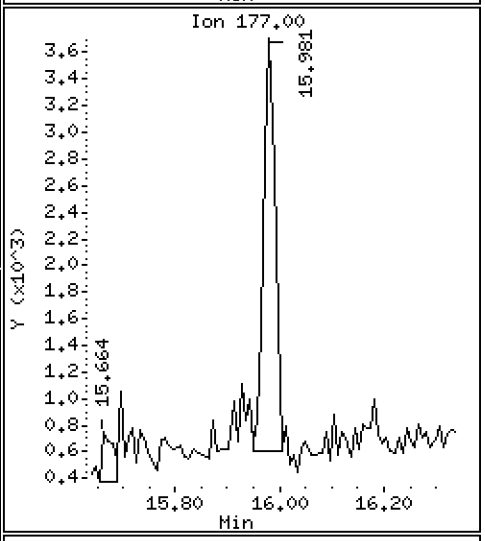
50 Diethylphthalate

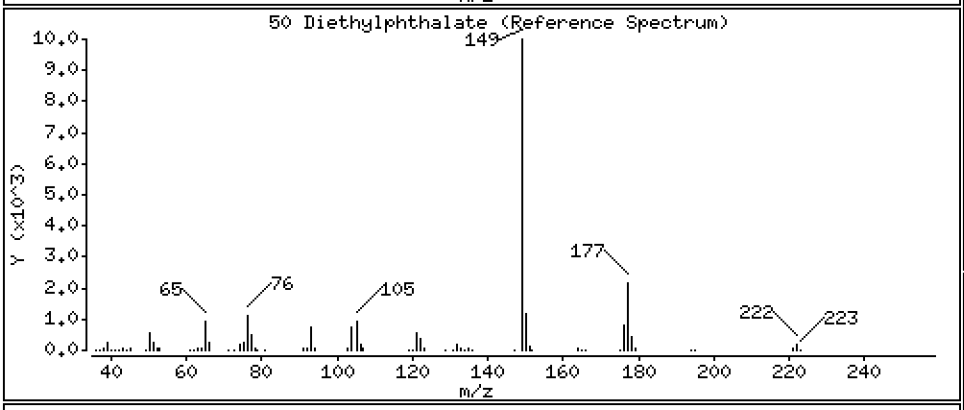
Concentration: 0.1226 ug/mL

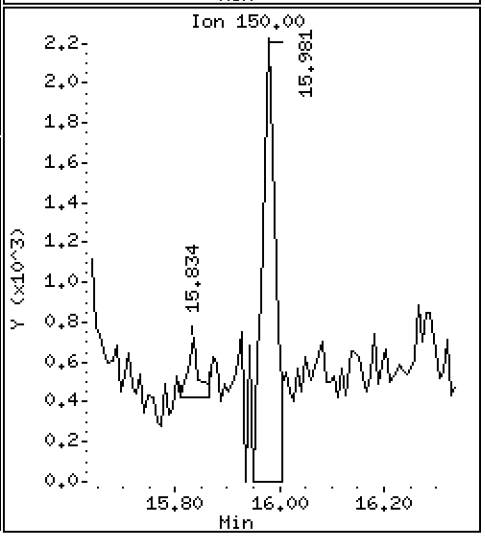


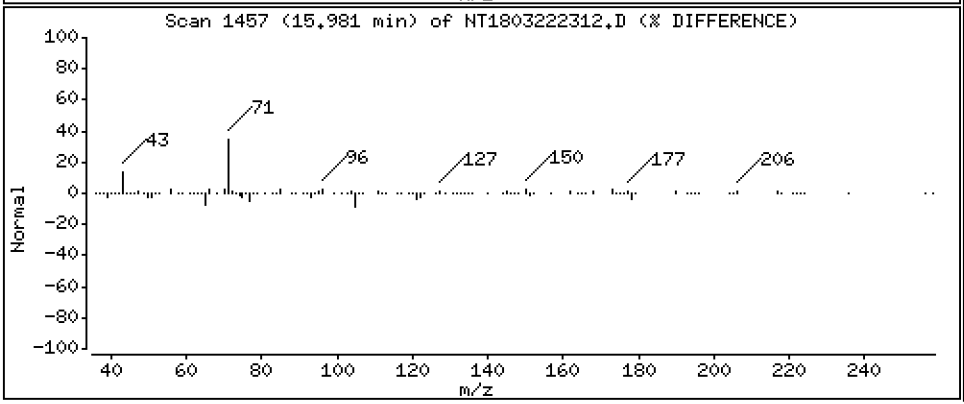












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Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

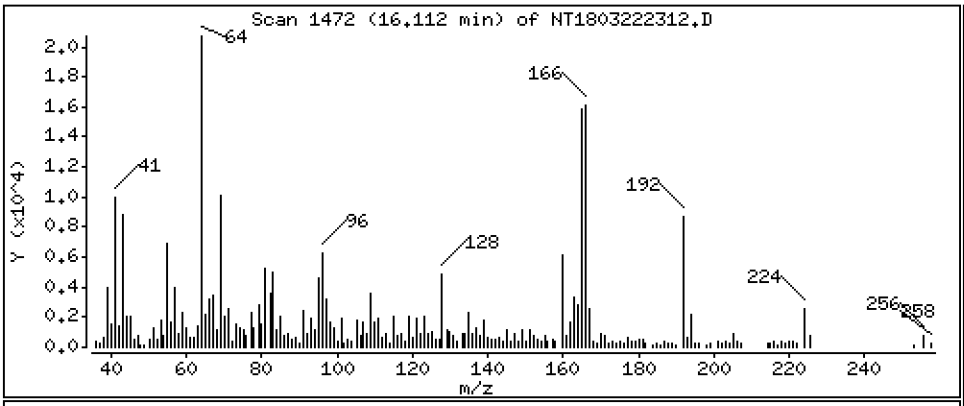
Operator: VTS

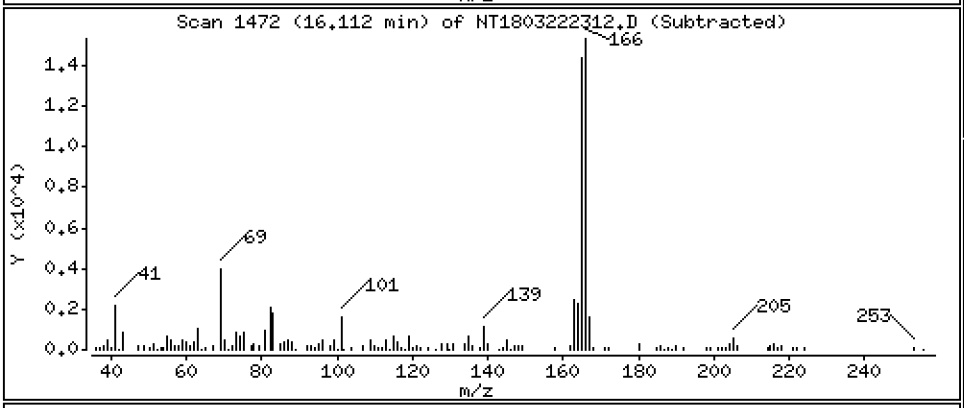
Column phase: ZB-5msi

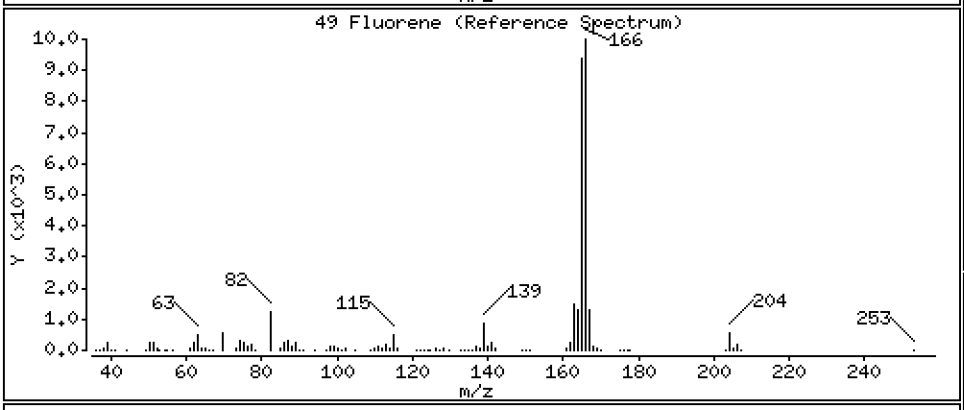
Column diameter: 0.25

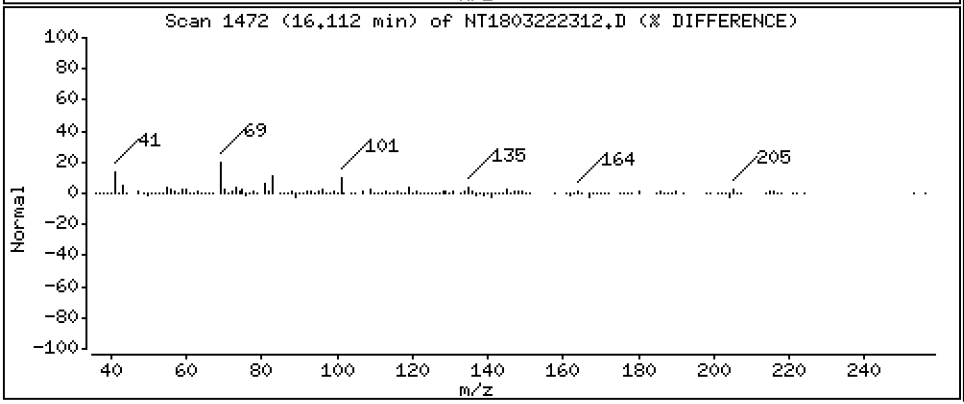
49 Fluorene

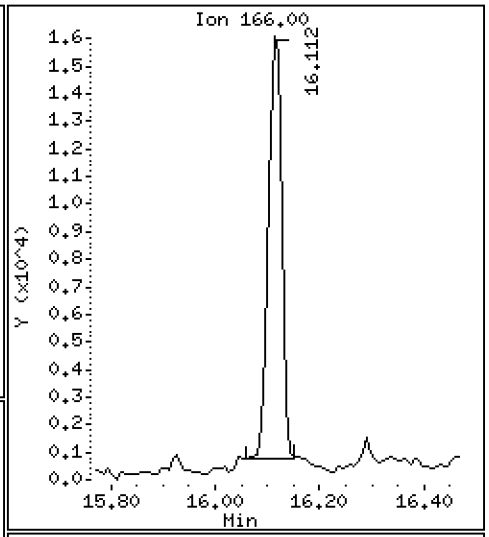
Concentration: 0.1405 ug/mL

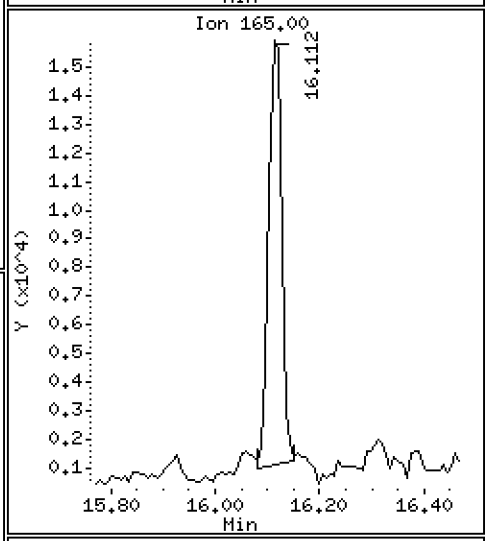


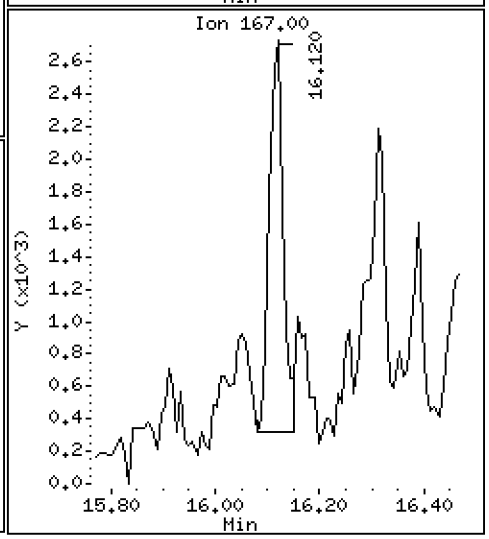












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Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

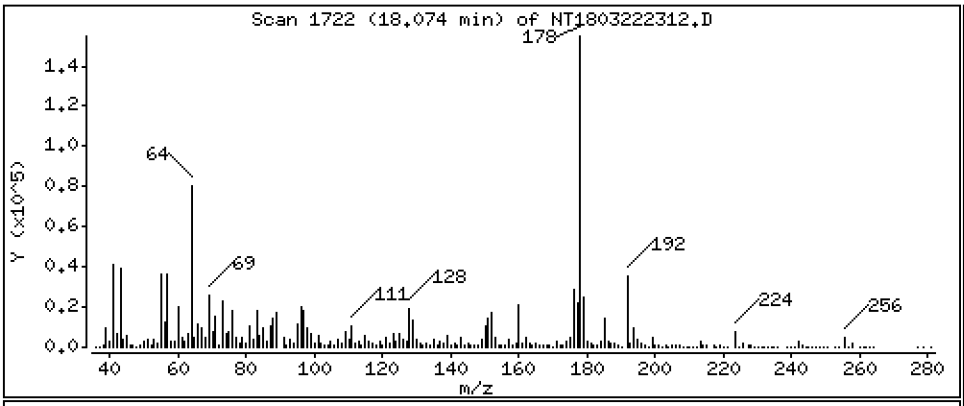
Operator: VTS

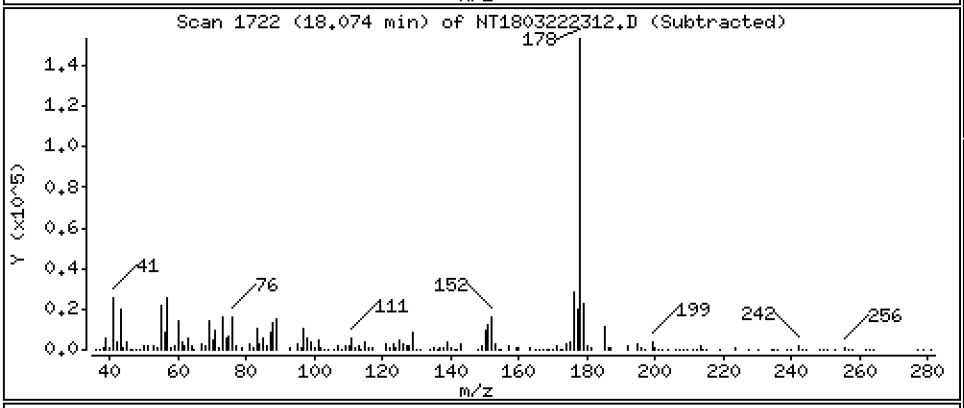
Column phase: ZB-5msi

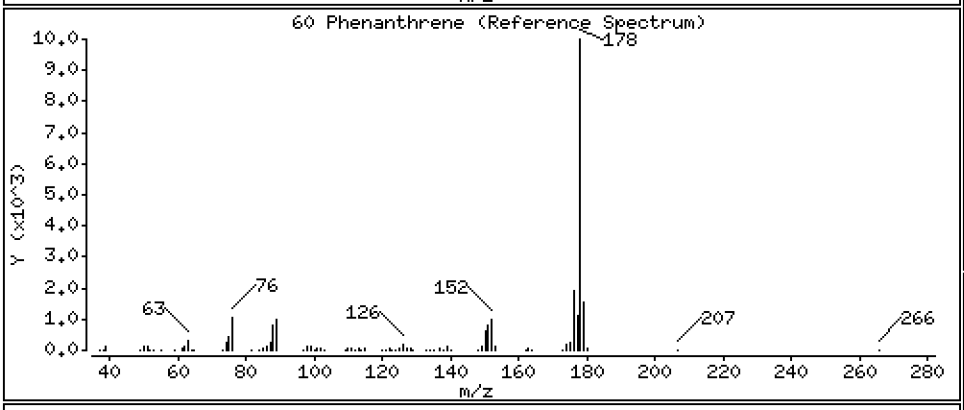
Column diameter: 0.25

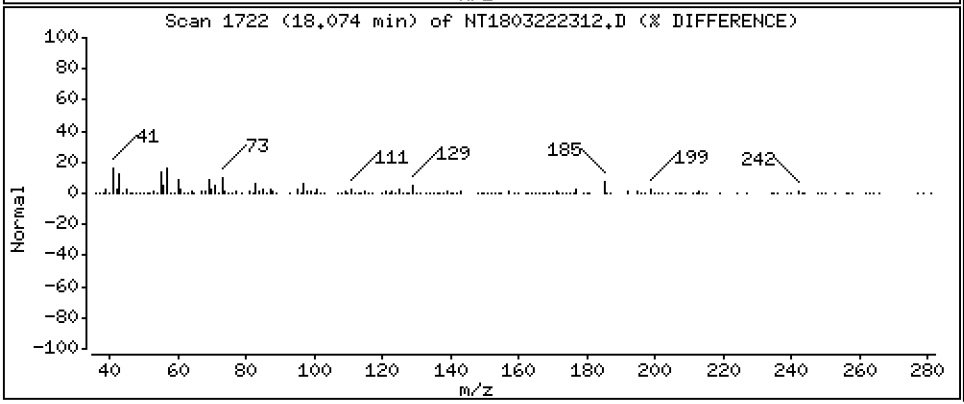
60 Phenanthrene

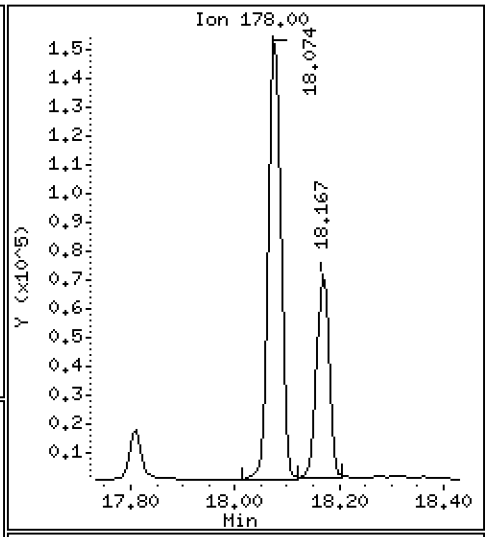
Concentration: 0.9307 ug/mL

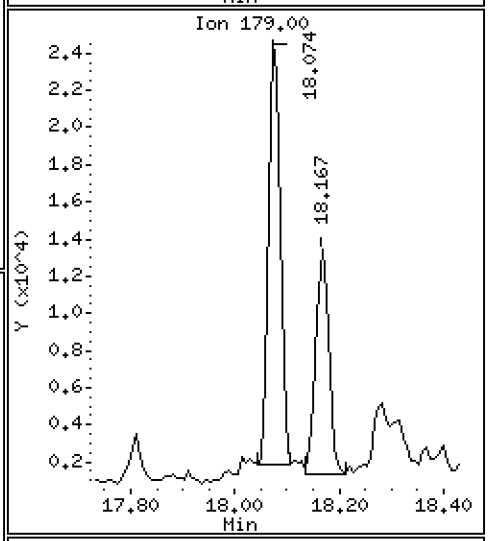


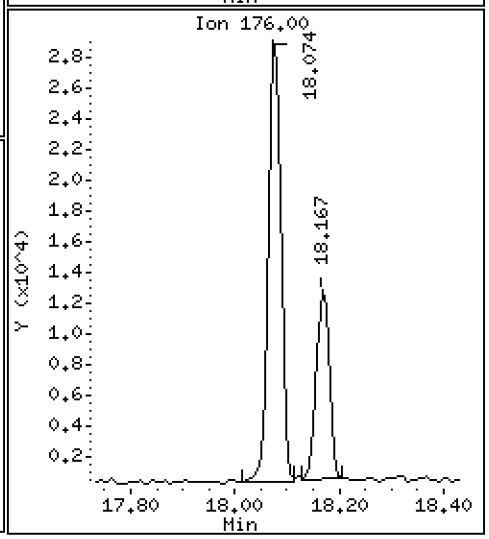












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Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

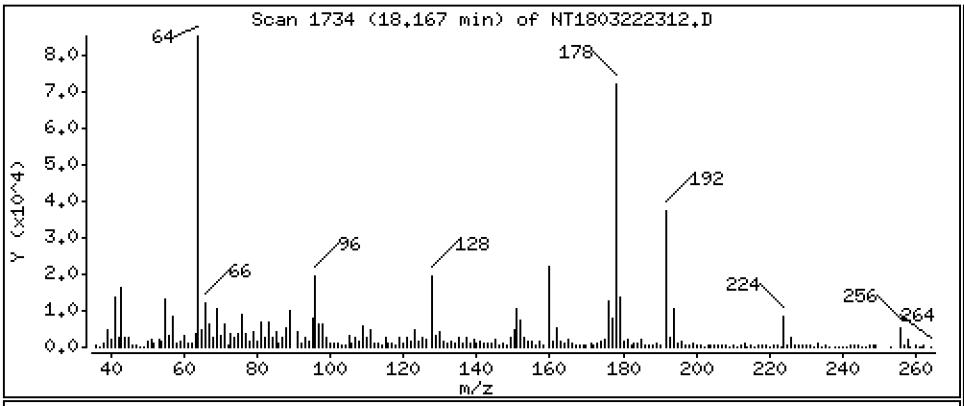
Operator: VTS

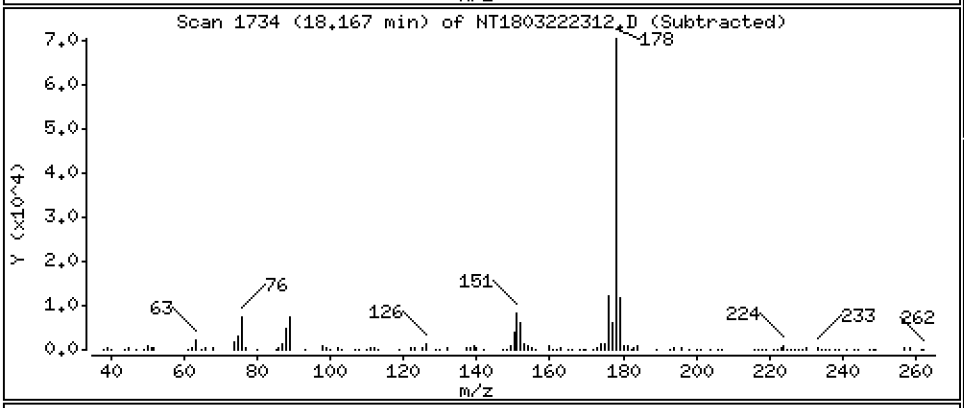
Column phase: ZB-5msi

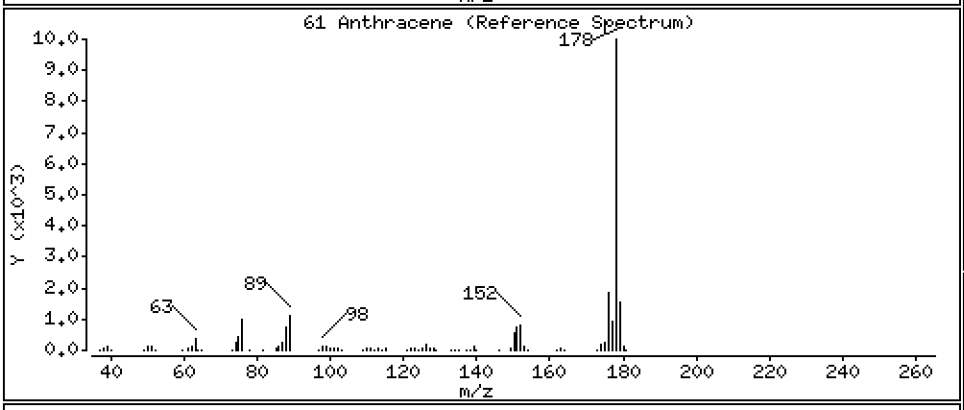
Column diameter: 0.25

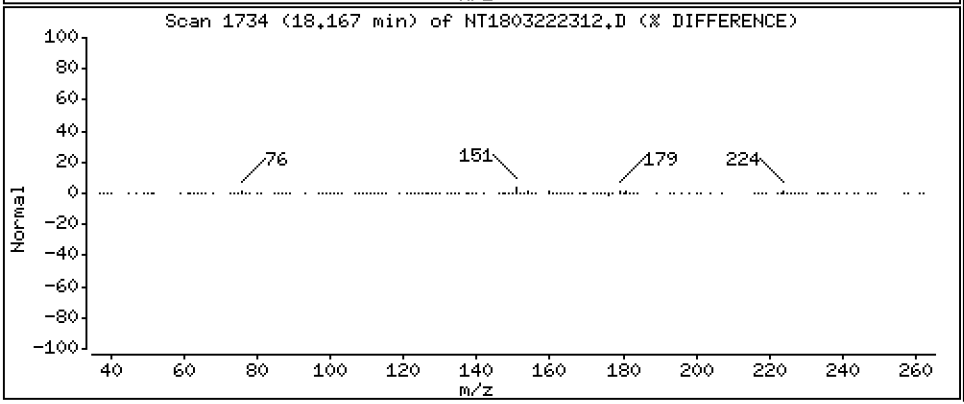
61 Anthracene

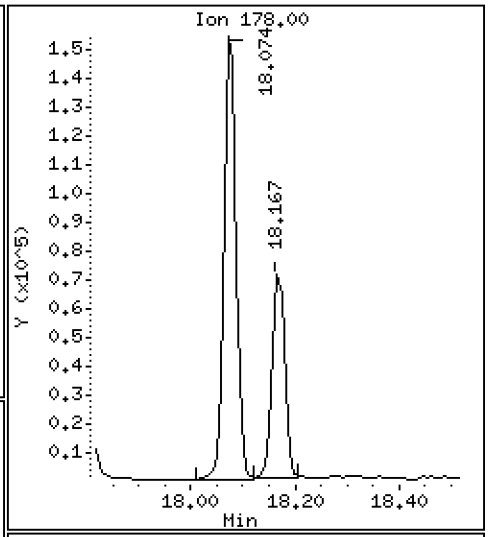
Concentration: 0.4408 ug/mL

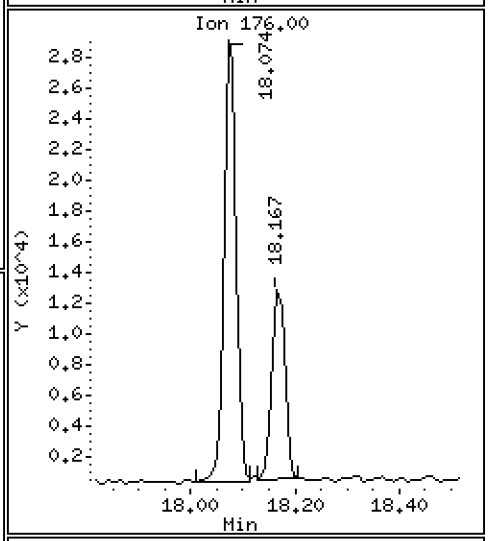


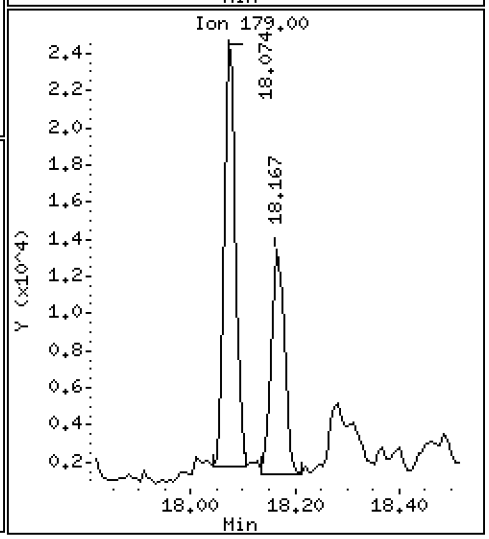












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Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

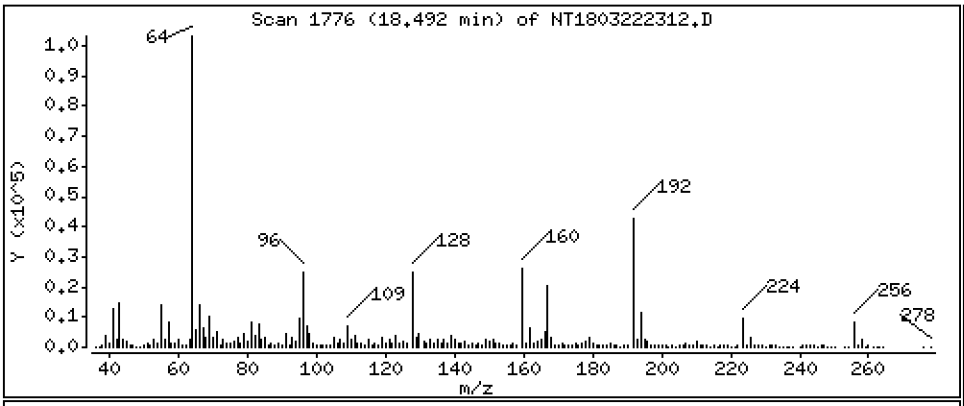
Operator: VTS

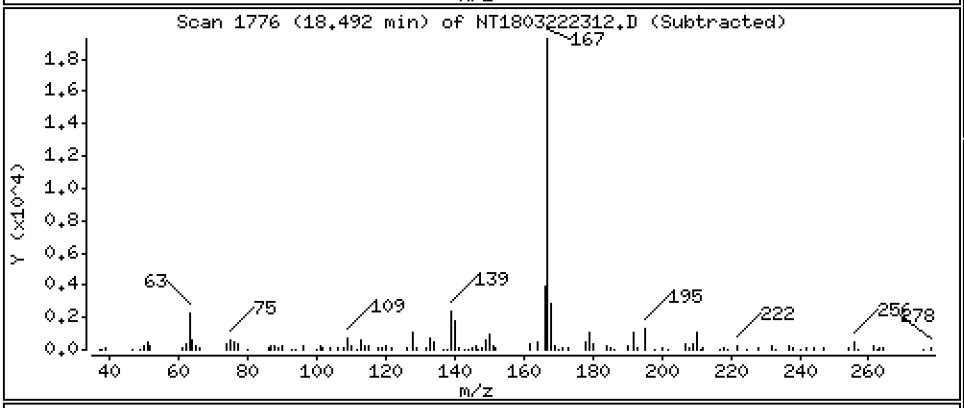
Column phase: ZB-5msi

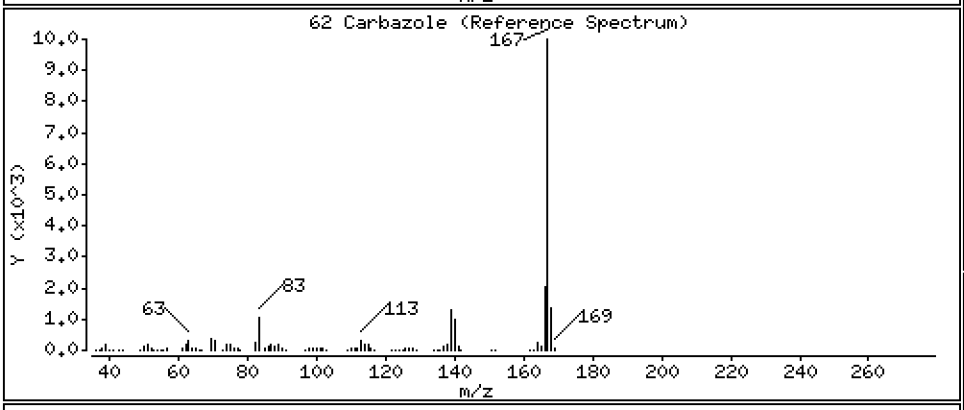
Column diameter: 0.25

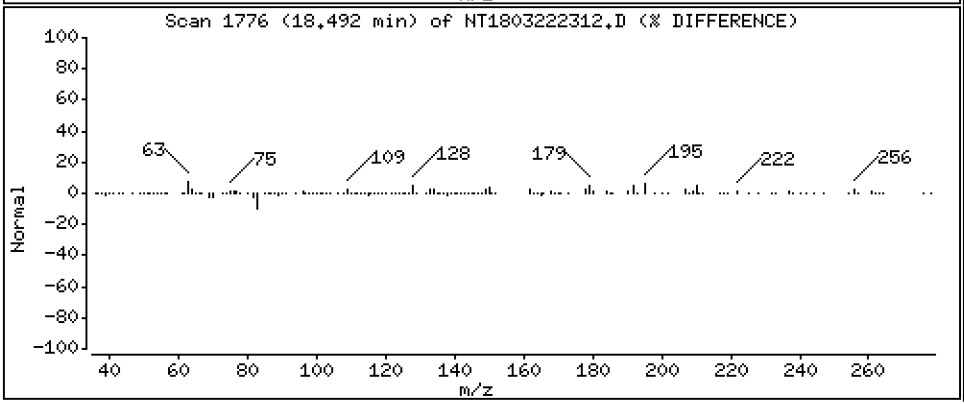
62 Carbazole

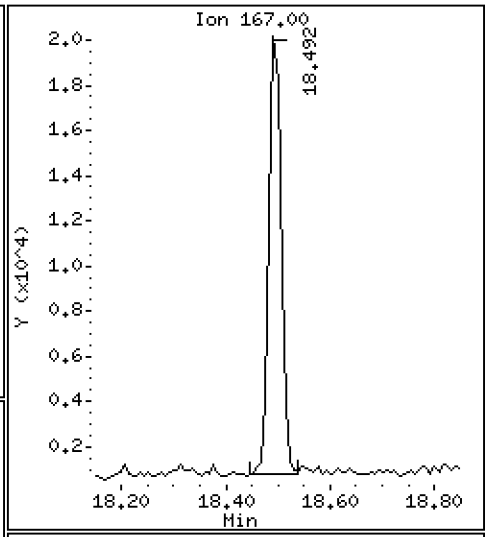
Concentration: 0.1341 ug/mL

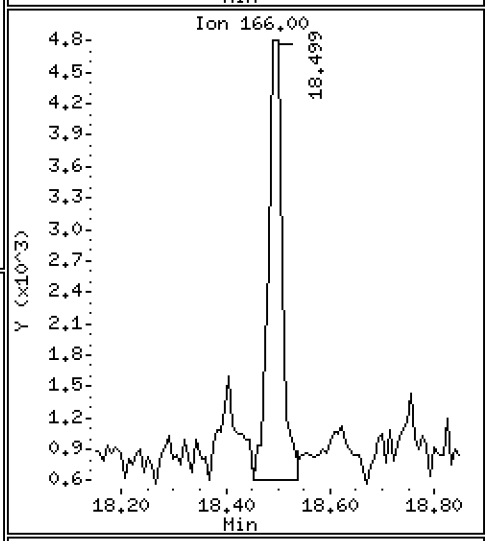


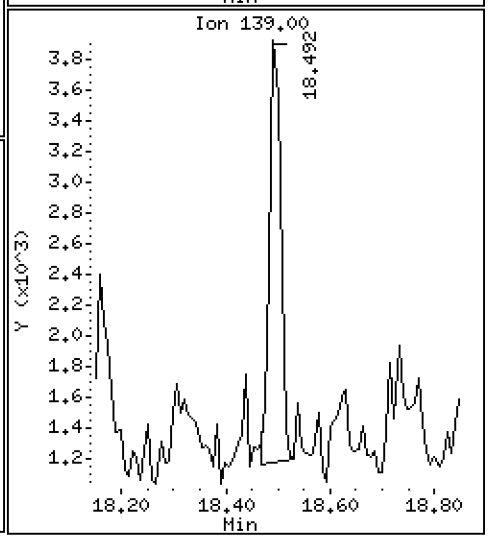












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222312.D

Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

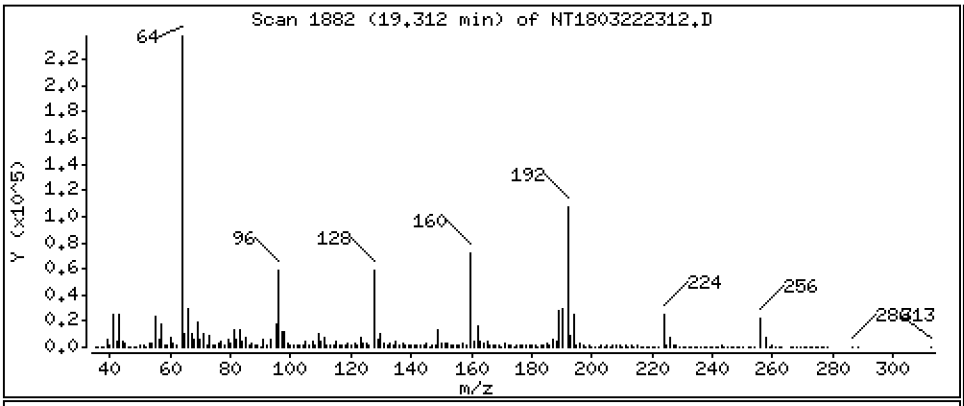
Operator: VTS

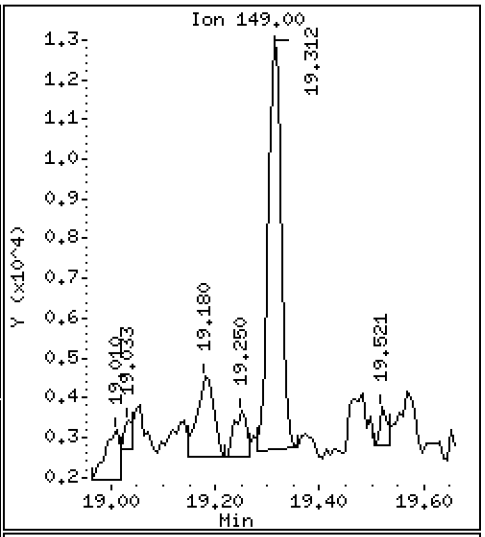
Column phase: ZB-5msi

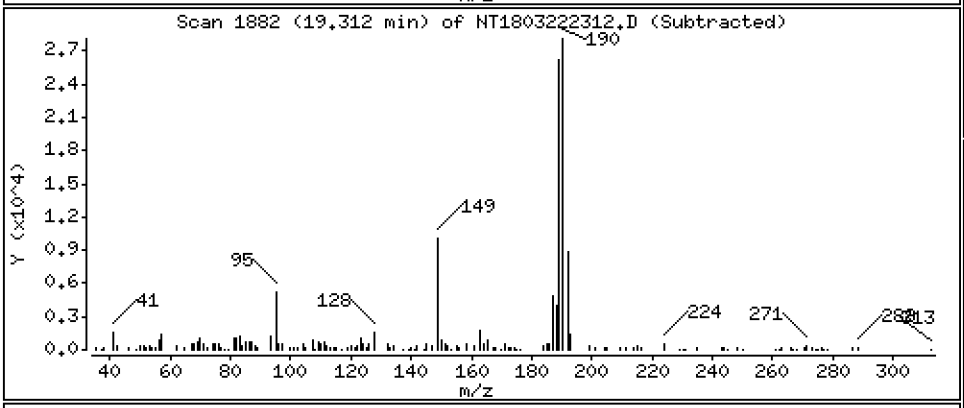
Column diameter: 0.25

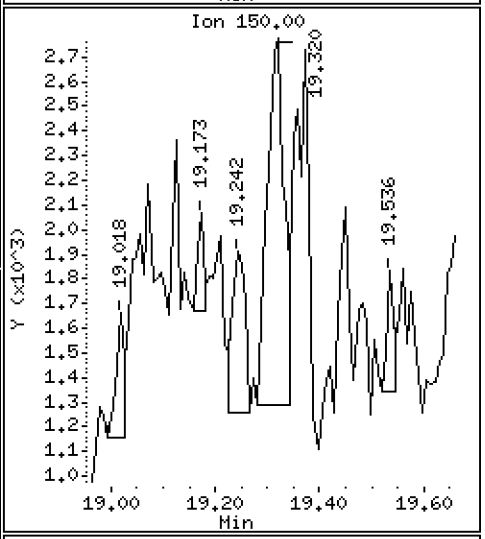
63 Di-n-butylphthalate

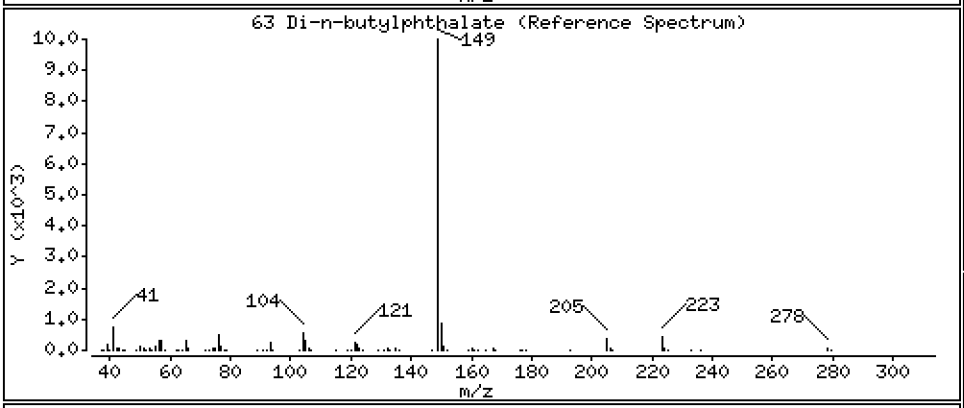
Concentration: 0.05664 ug/mL

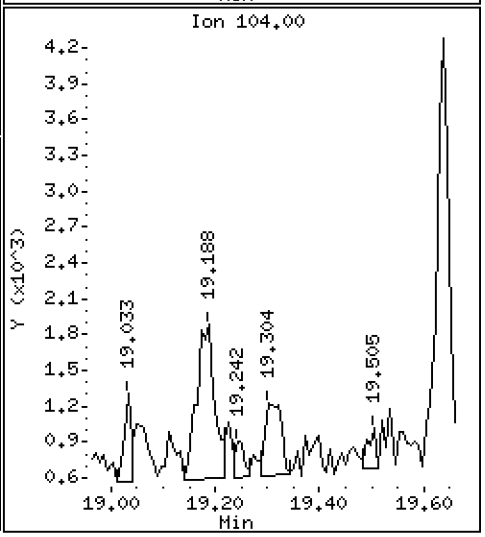


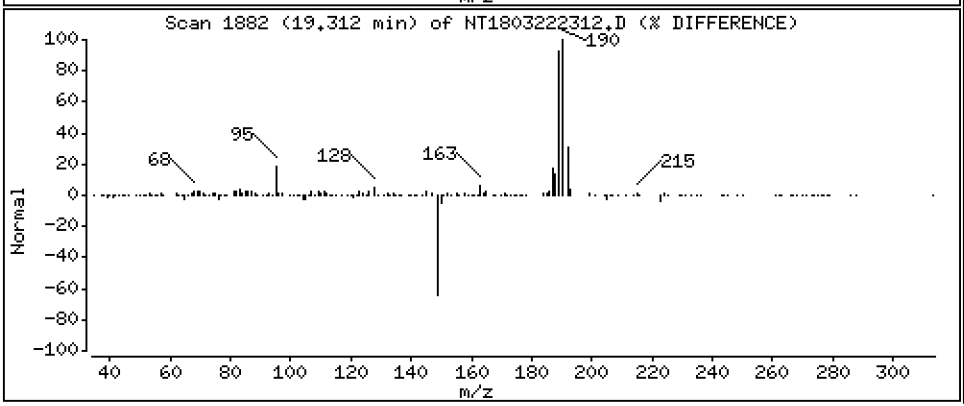












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Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

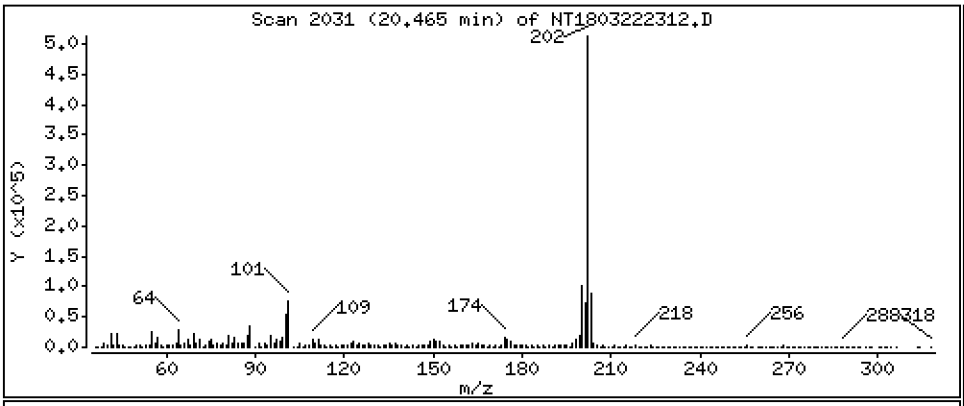
Operator: VTS

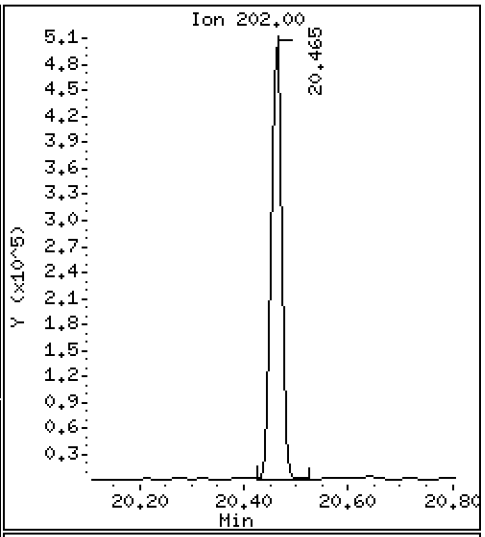
Column phase: ZB-5msi

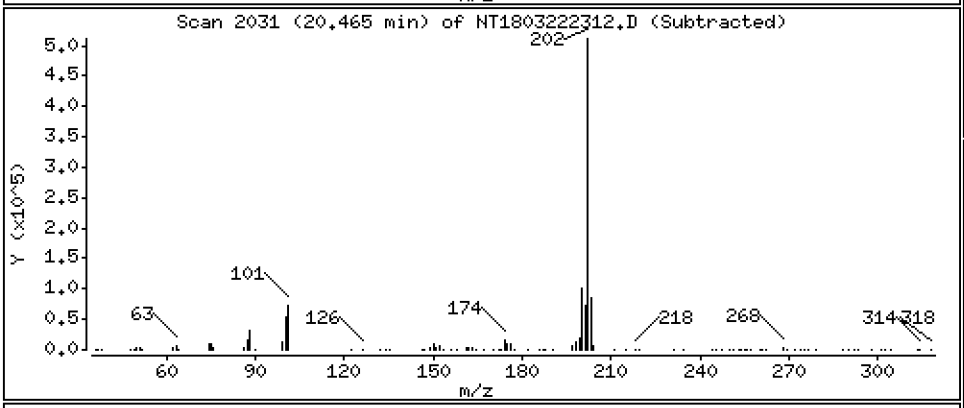
Column diameter: 0.25

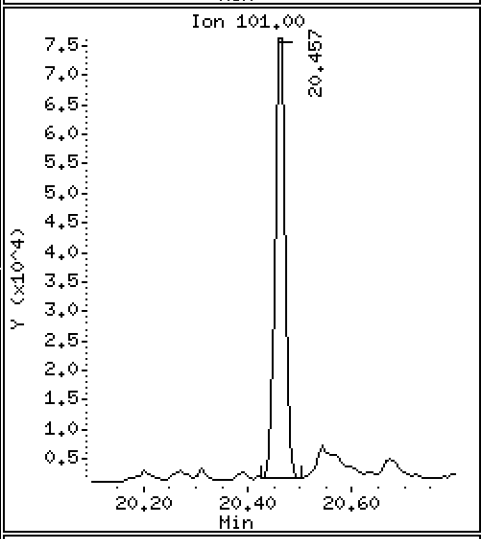
64 Fluoranthene

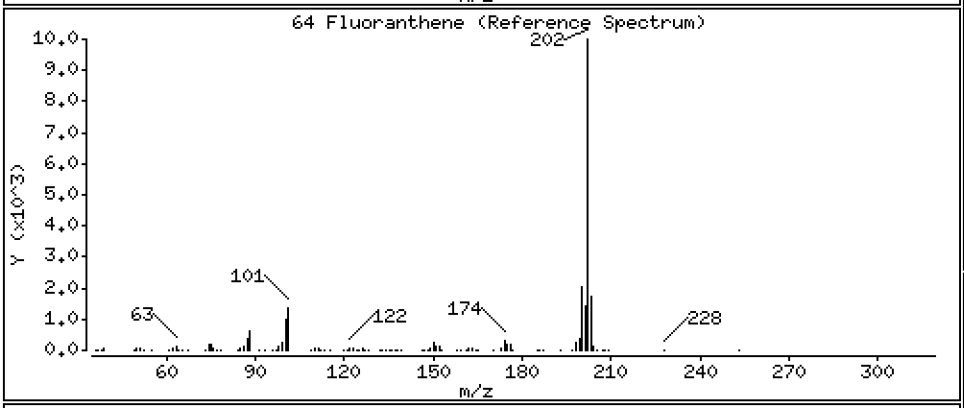
Concentration: 1.852 ug/mL

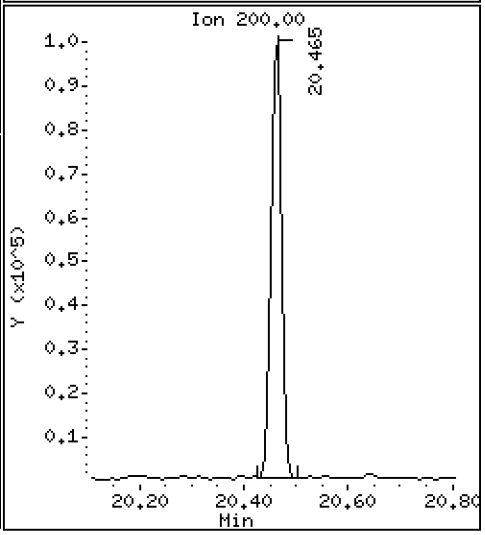


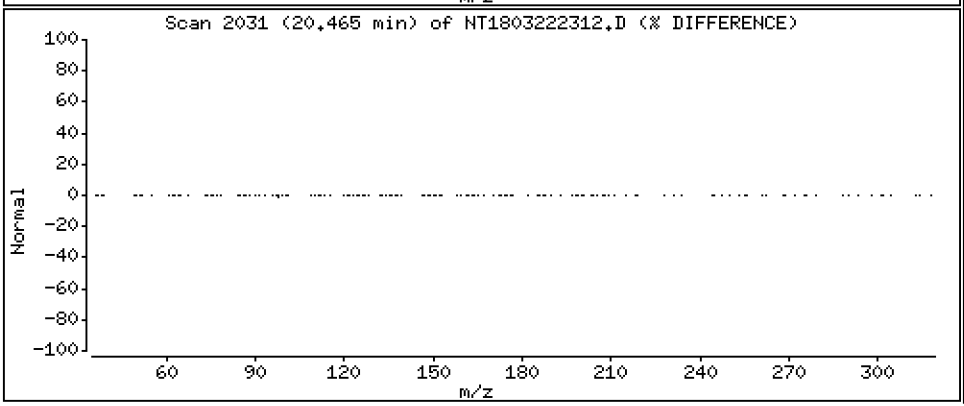












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Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

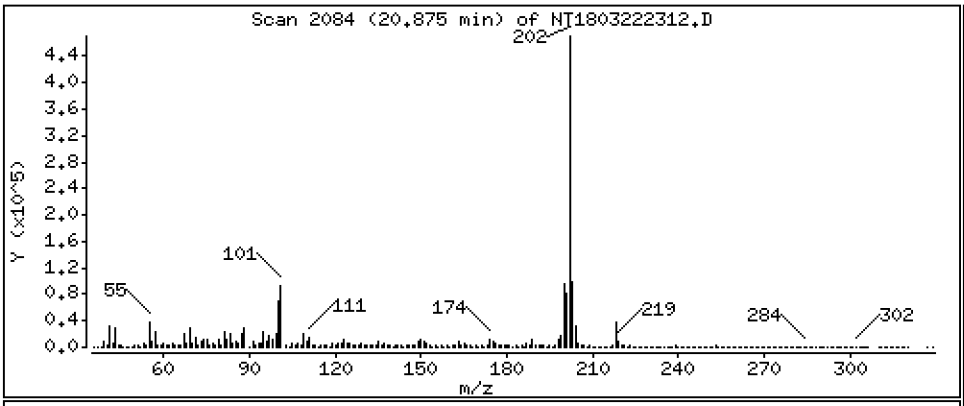
Operator: VTS

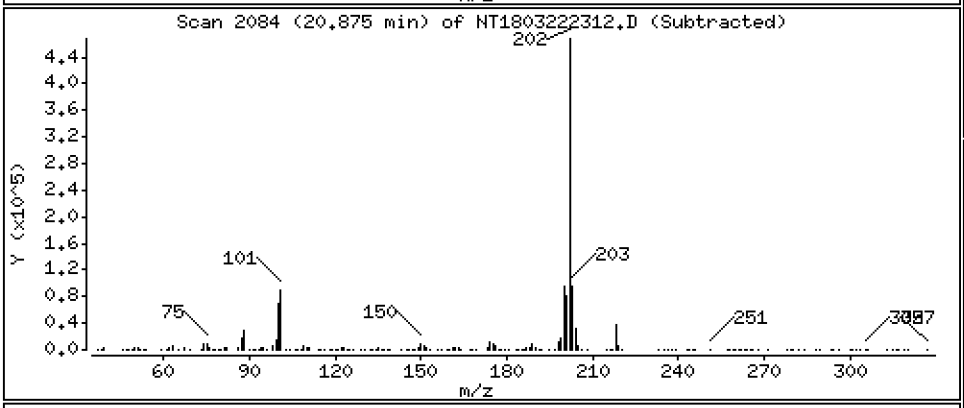
Column phase: ZB-5msi

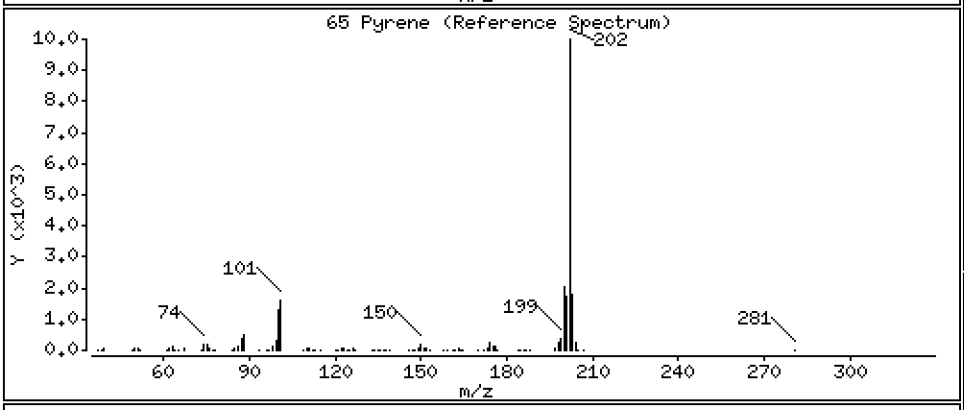
Column diameter: 0.25

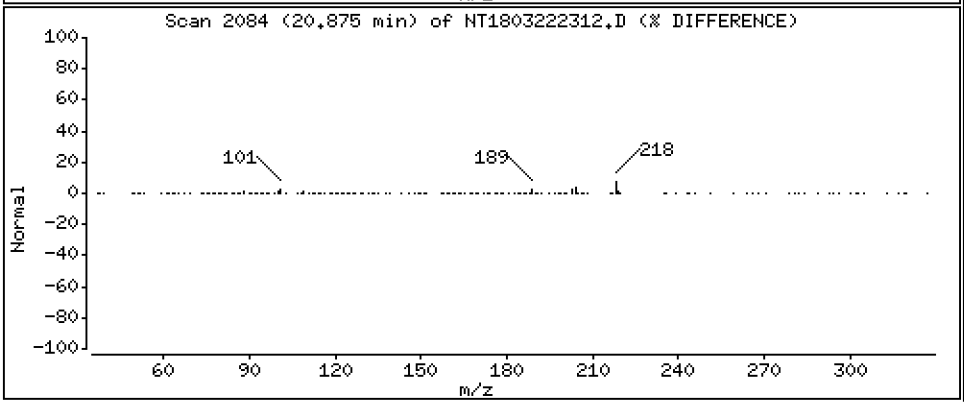
65 Pyrene

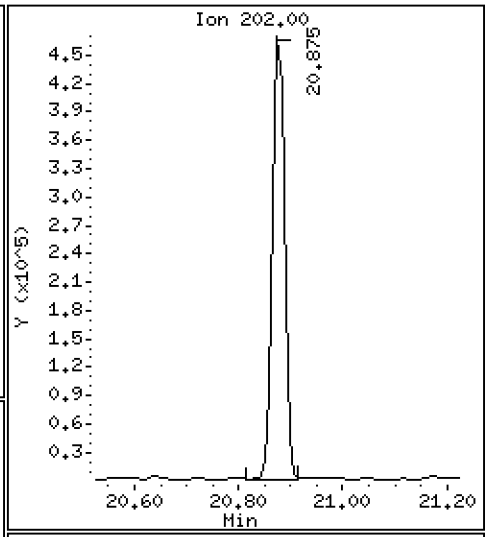
Concentration: 1.837 ug/mL

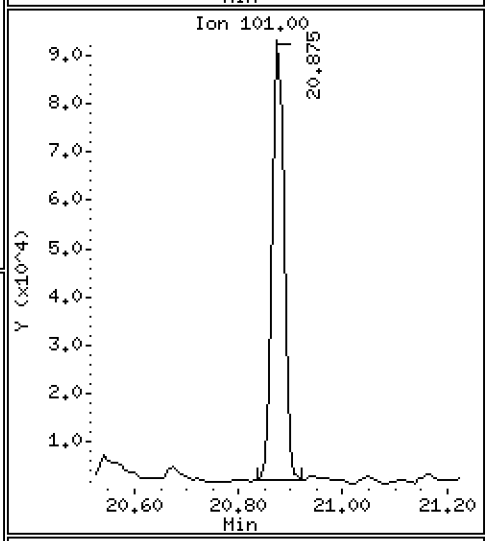


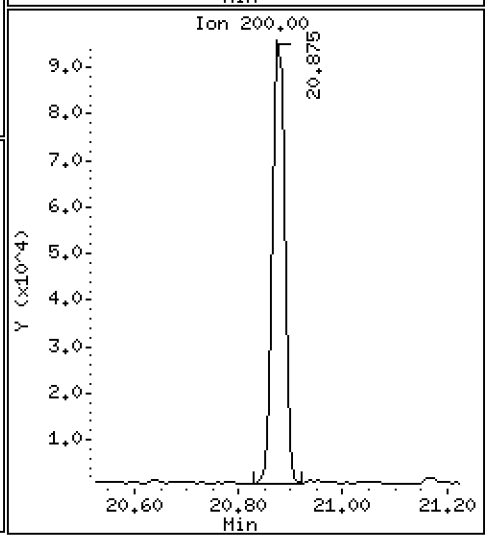












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Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

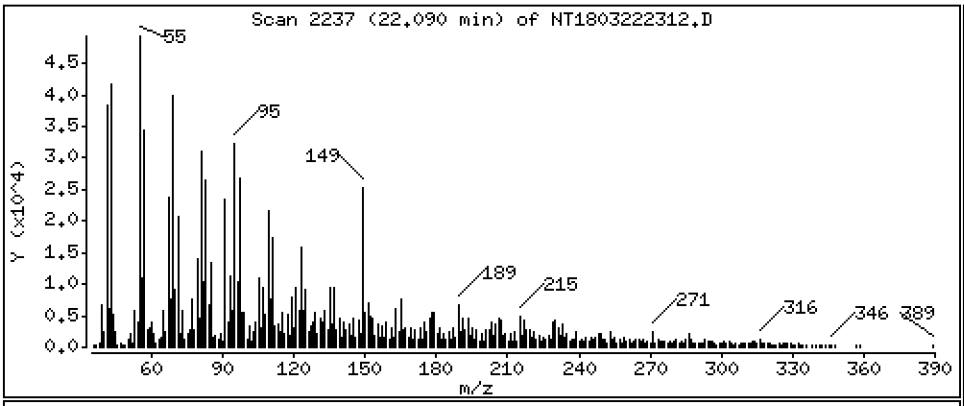
Operator: VTS

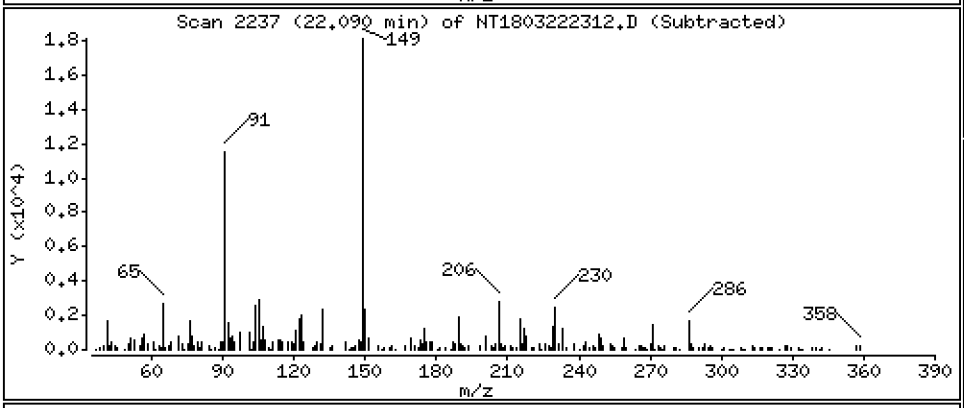
Column phase: ZB-5msi

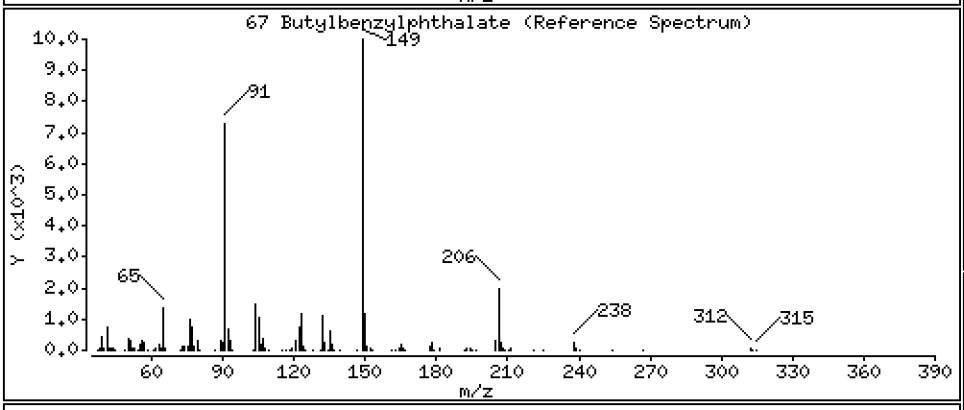
Column diameter: 0.25

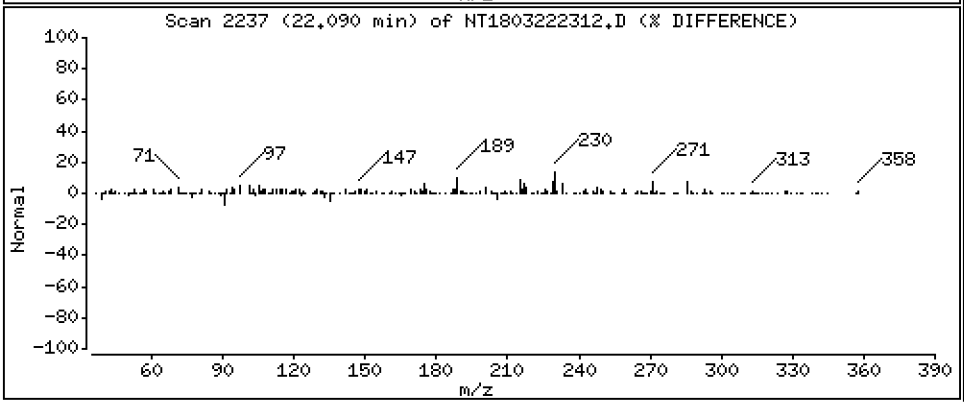
67 Butylbenzylphthalate

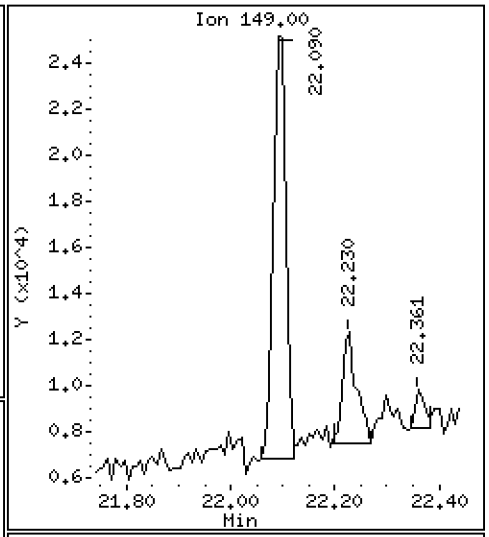
Concentration: 0.1774 ug/mL

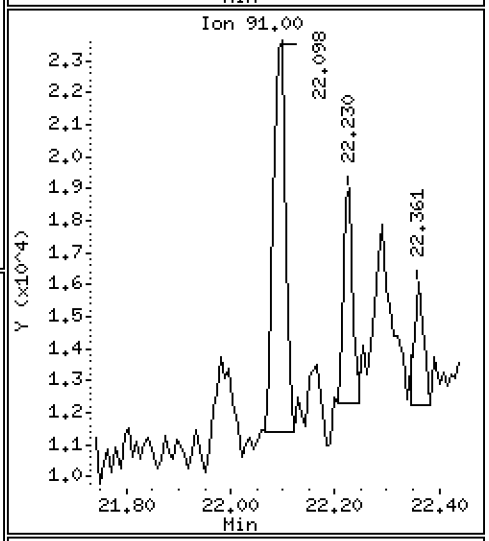


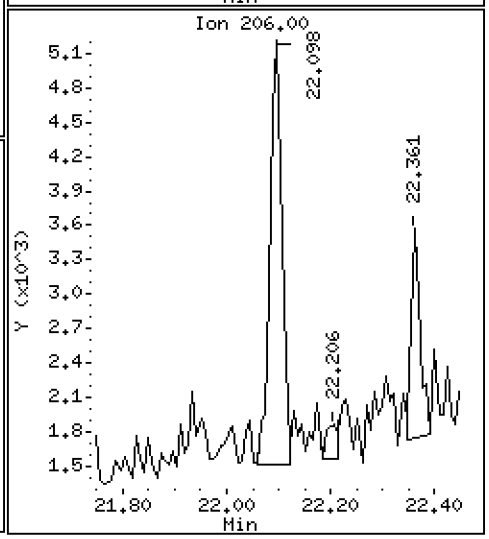












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Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

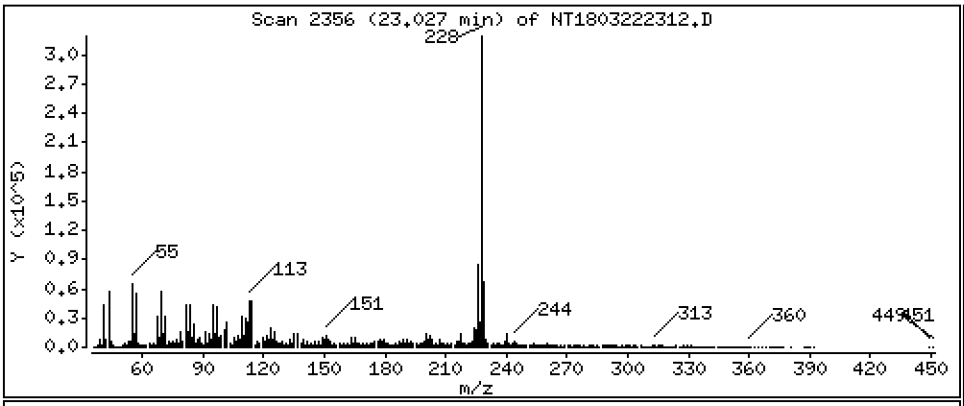
Operator: VTS

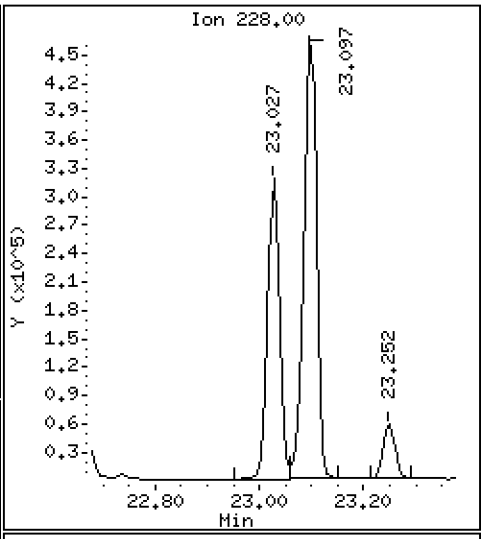
Column phase: ZB-5msi

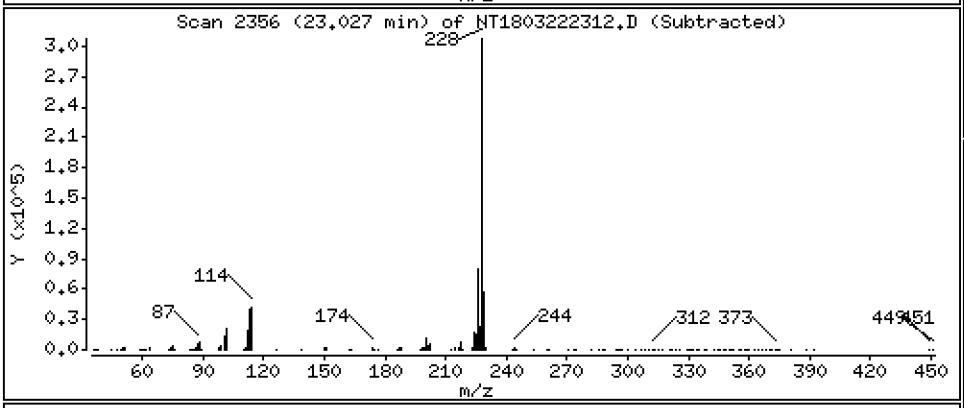
Column diameter: 0.25

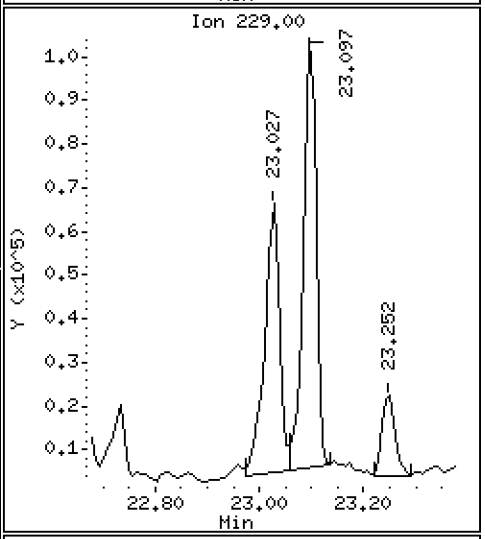
68 Benzo(a)anthracene

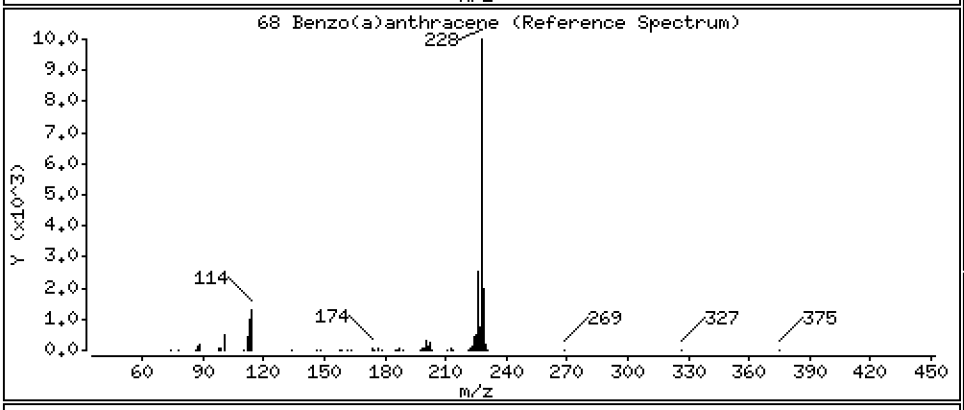
Concentration: 1.332 ug/mL

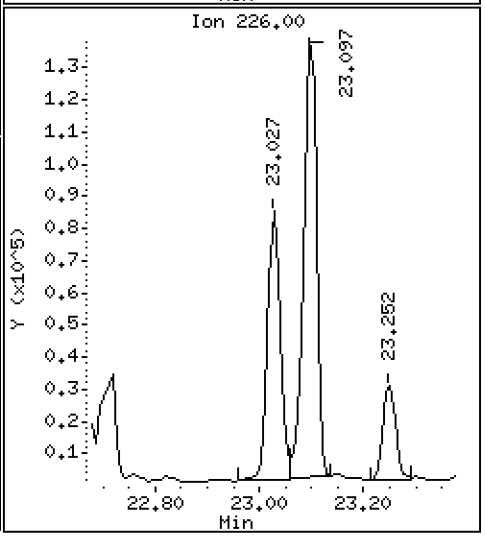


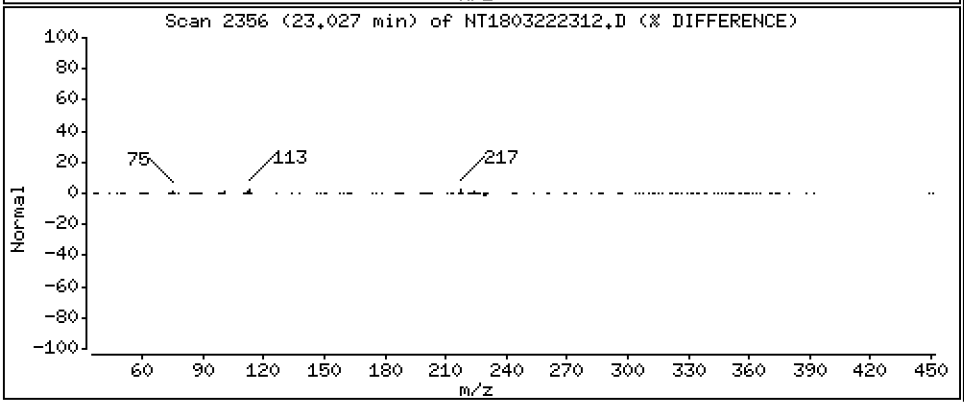












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Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

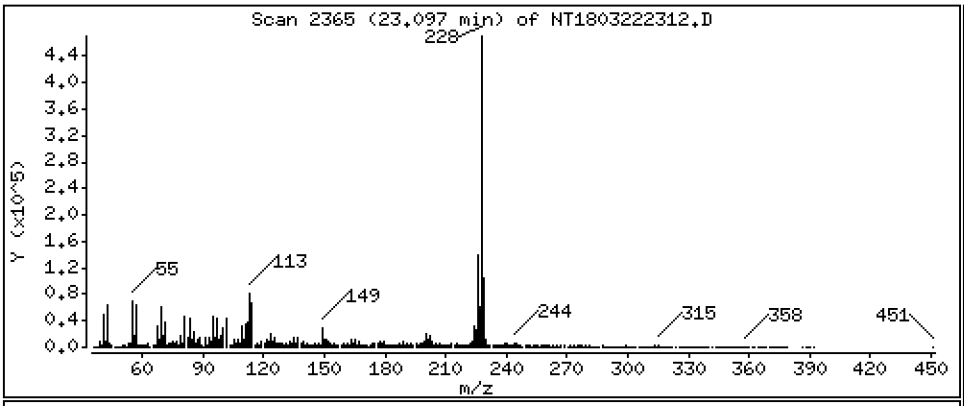
Operator: VTS

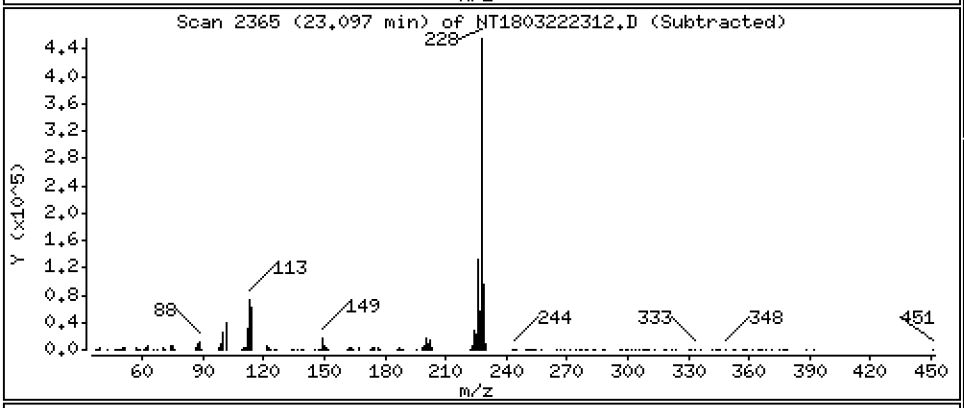
Column phase: ZB-5msi

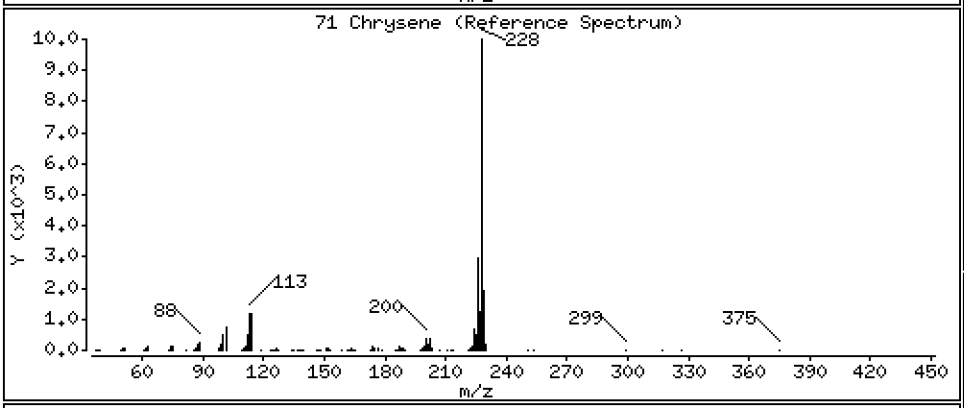
Column diameter: 0.25

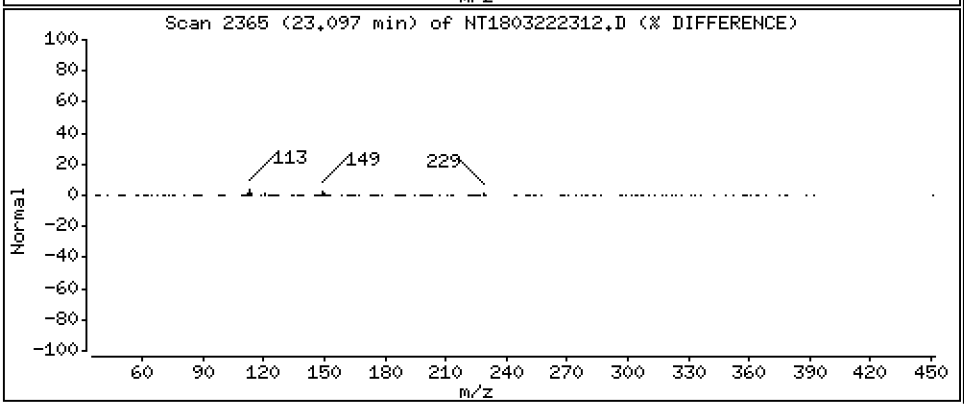
71 Chrysene

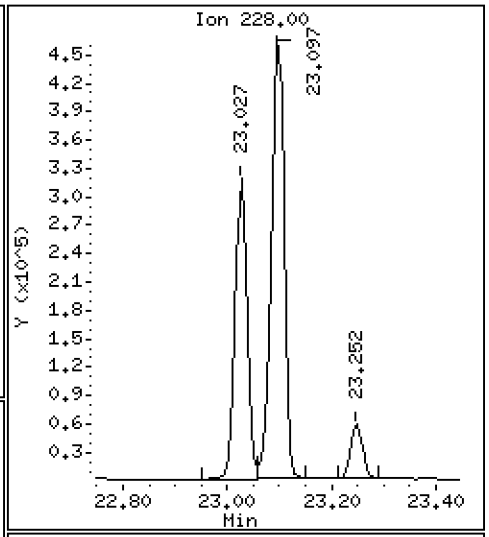
Concentration: 1.988 ug/mL

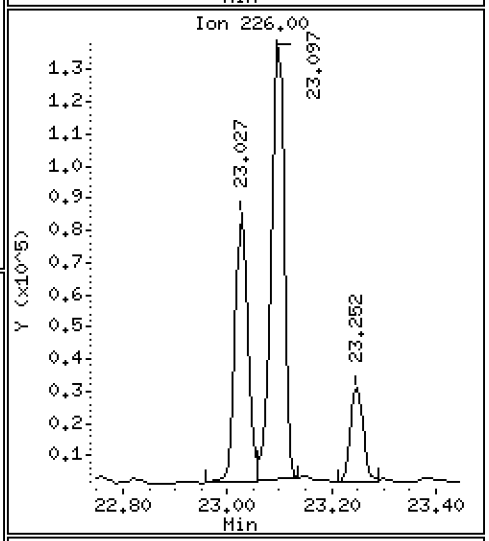


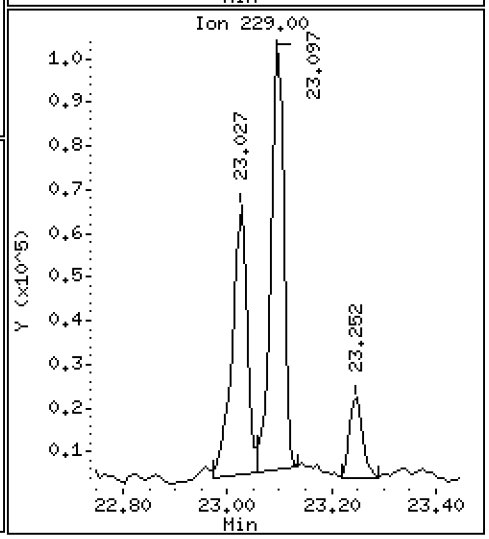












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Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

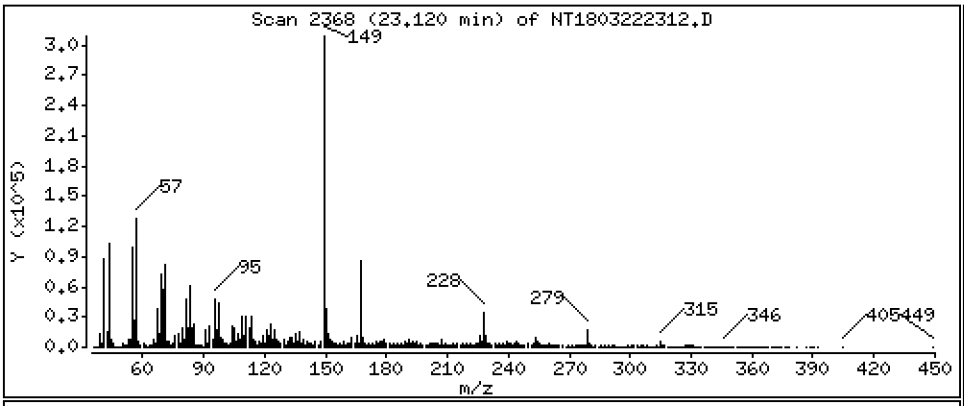
Operator: VTS

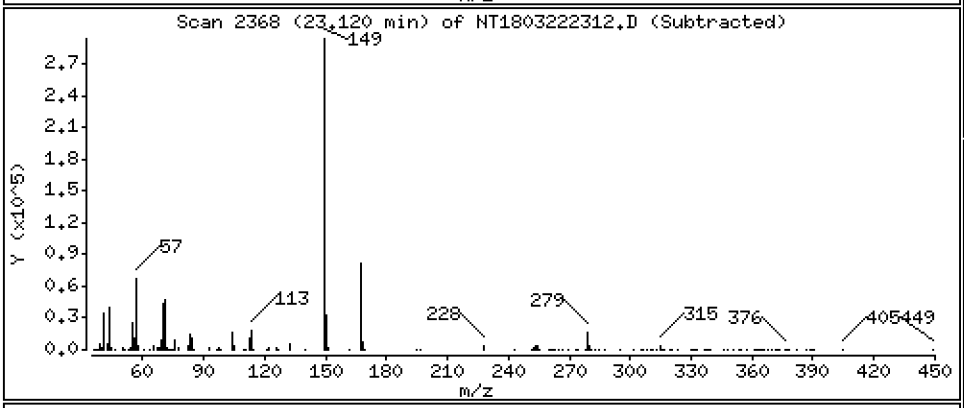
Column phase: ZB-5msi

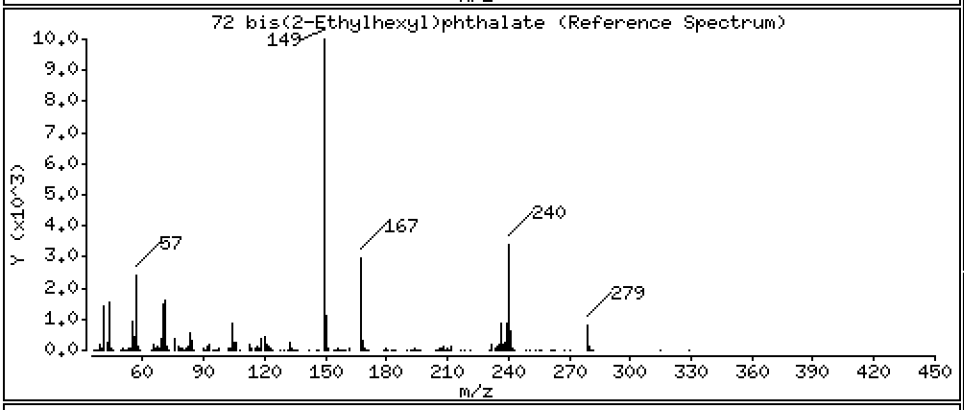
Column diameter: 0.25

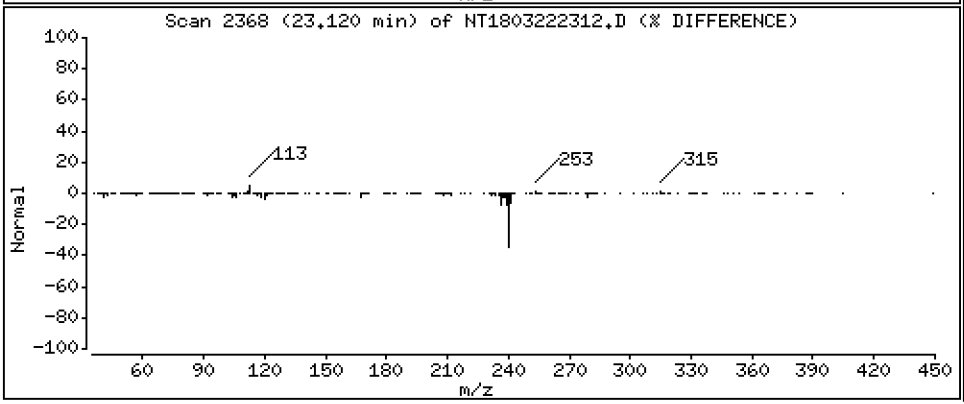
72 bis(2-Ethylhexyl)phthalate

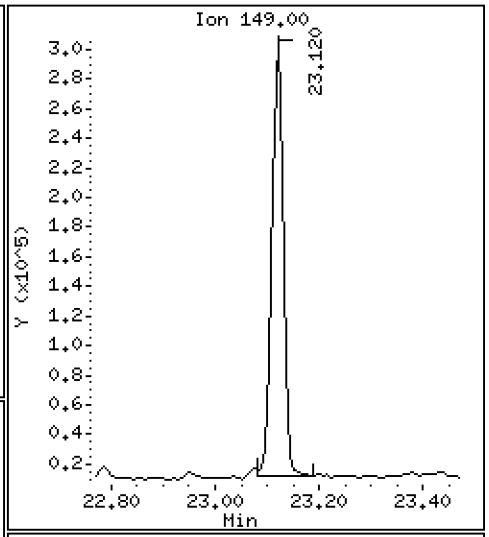
Concentration: 1.526 ug/mL

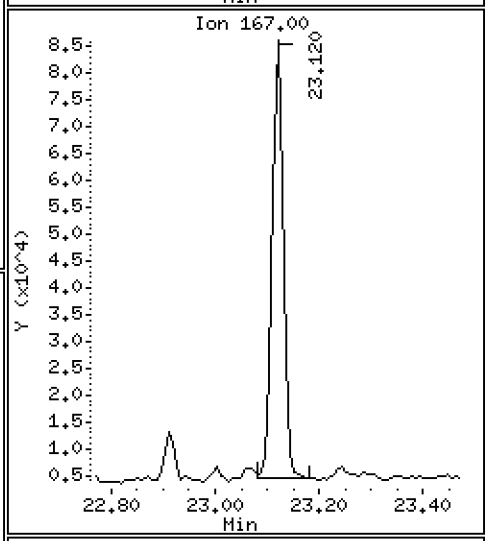


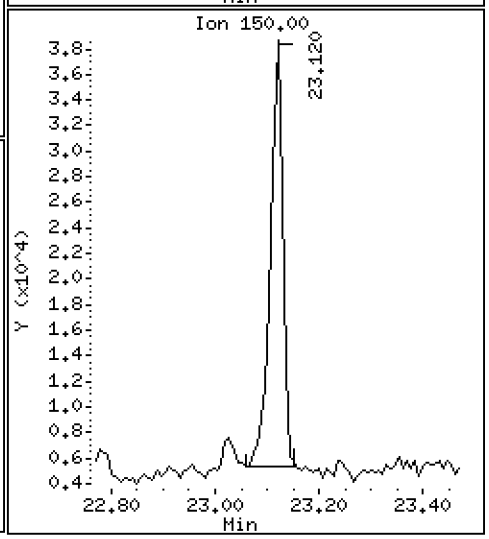












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222312.D

Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

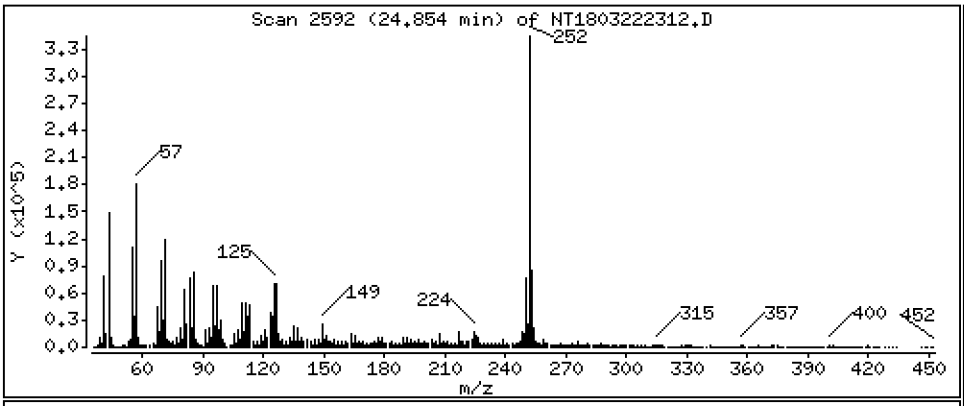
Operator: VTS

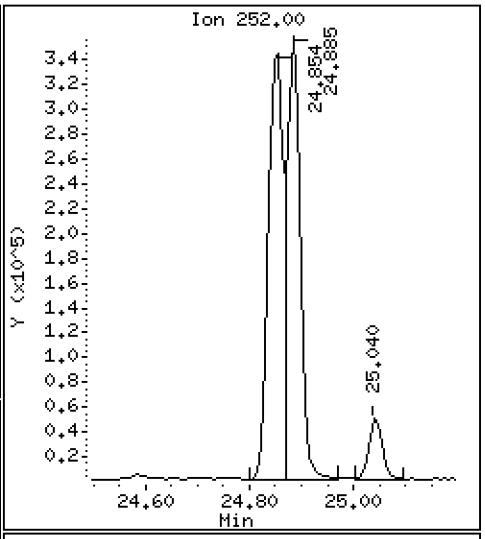
Column phase: ZB-5msi

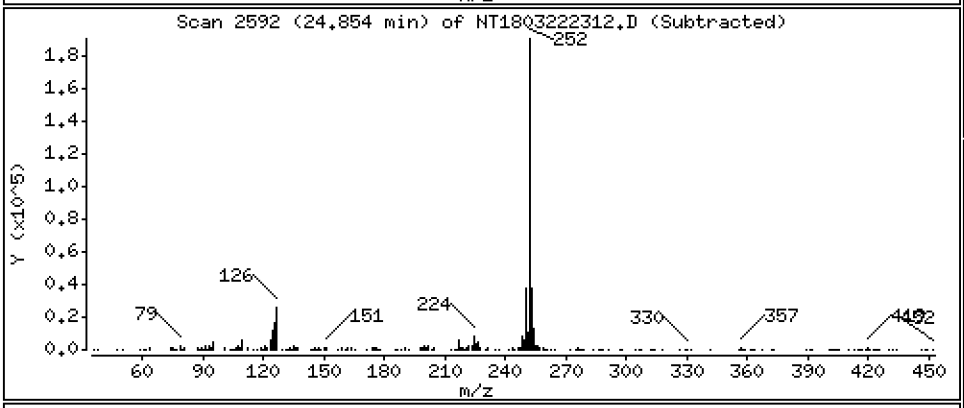
Column diameter: 0.25

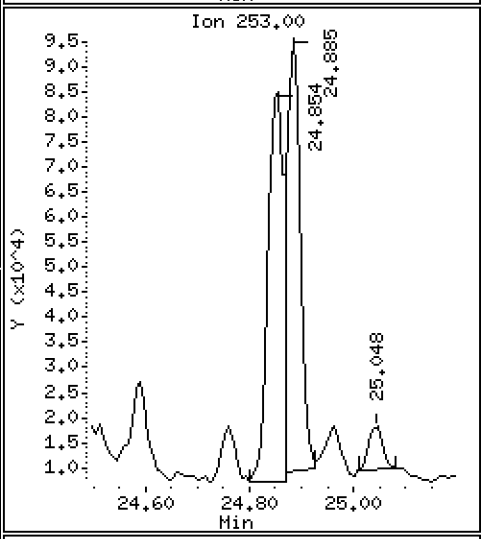
74 Benzo(b)fluoranthene

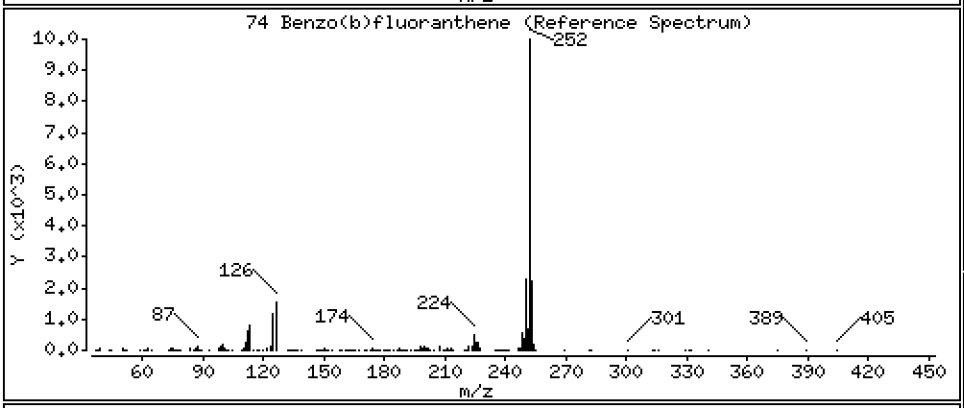
Concentration: 2.098 ug/mL

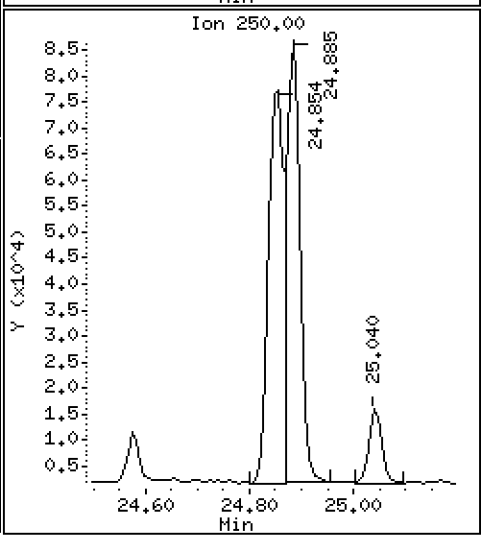


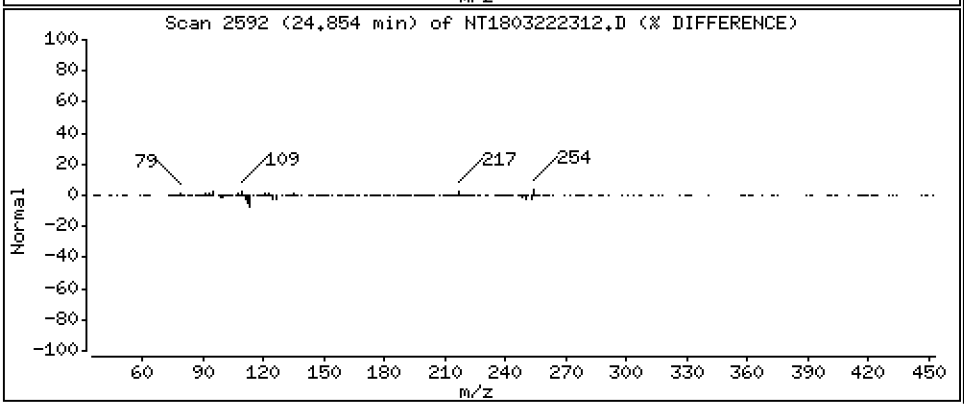












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Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

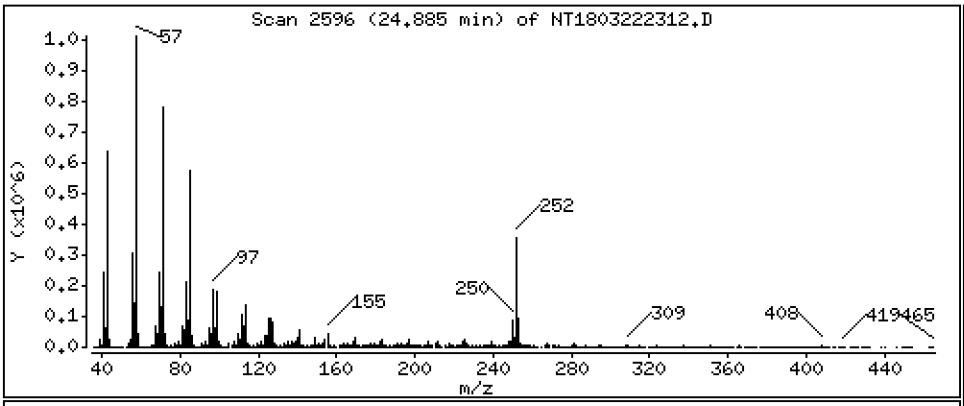
Operator: VTS

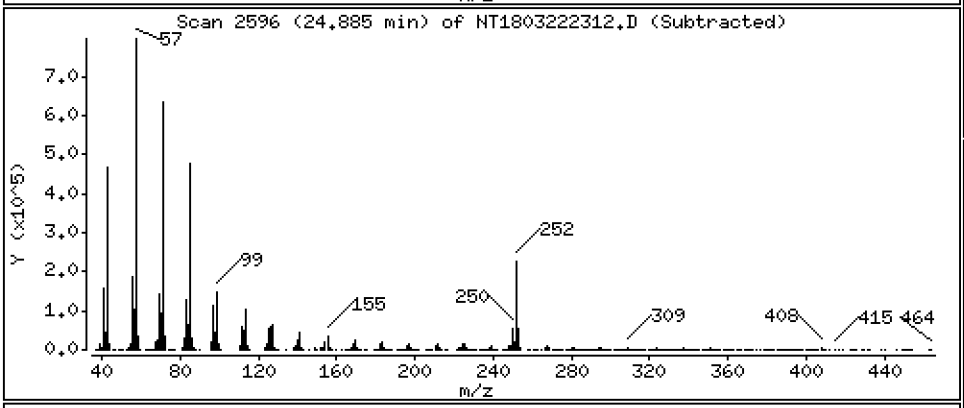
Column phase: ZB-5msi

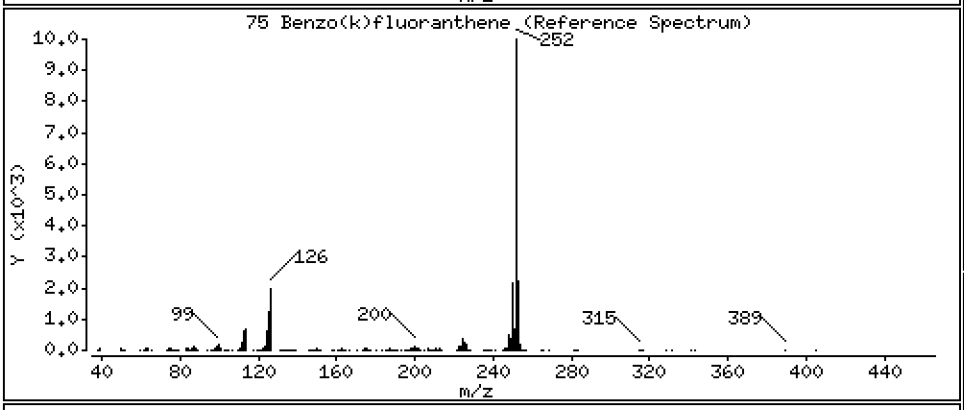
Column diameter: 0.25

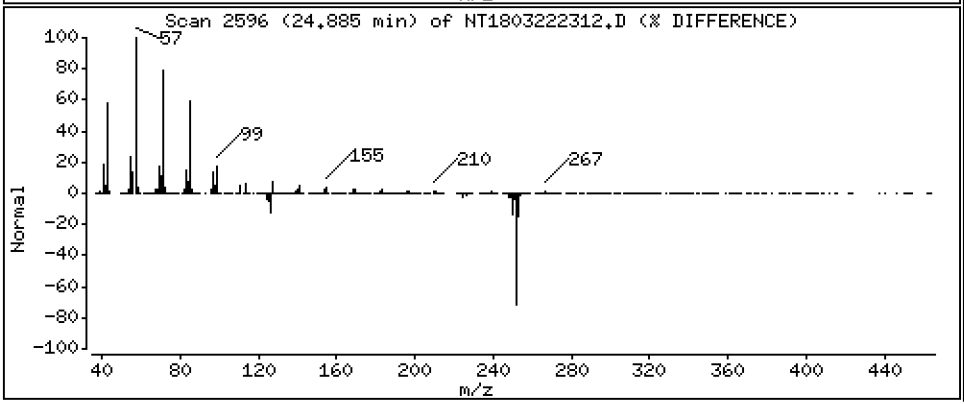
75 Benzo(k)fluoranthene

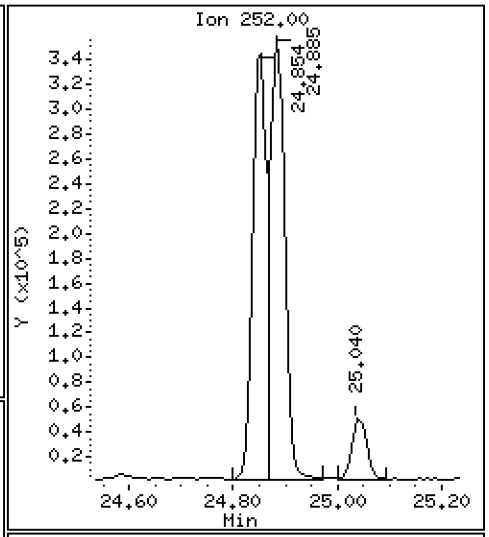
Concentration: 1.799 ug/mL

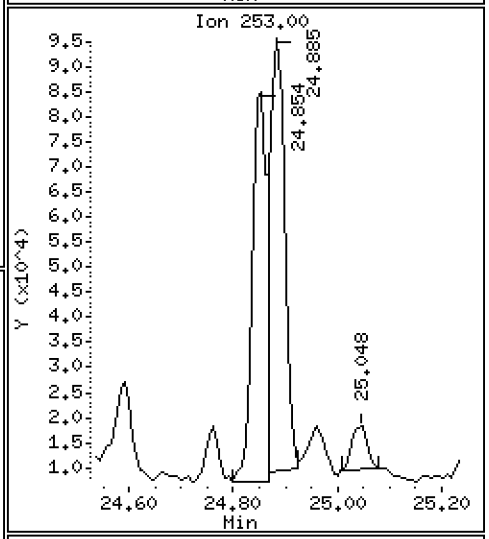


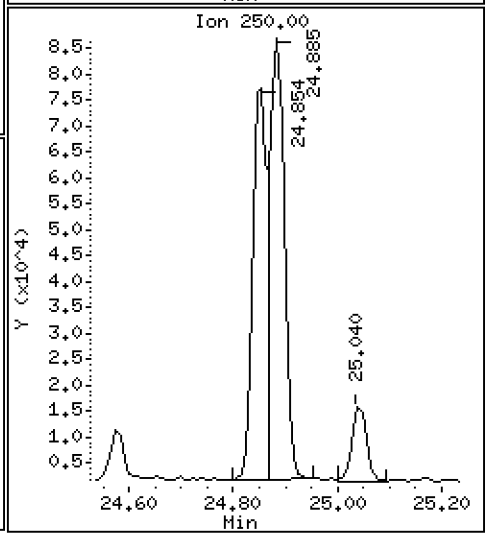












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Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

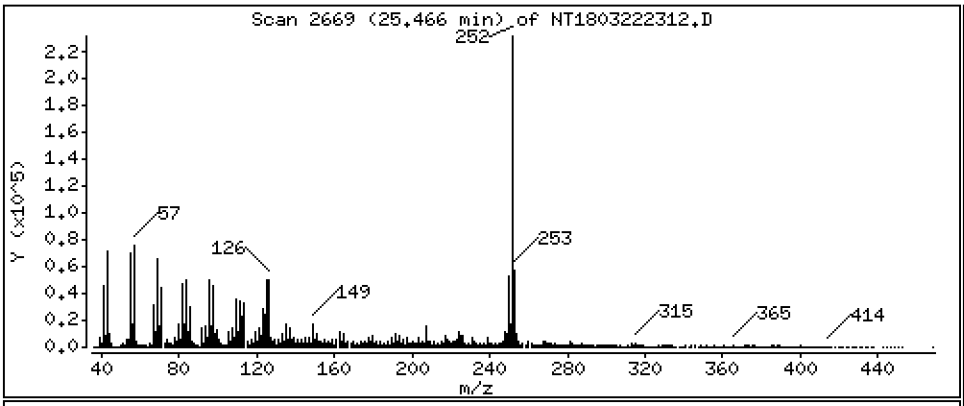
Operator: VTS

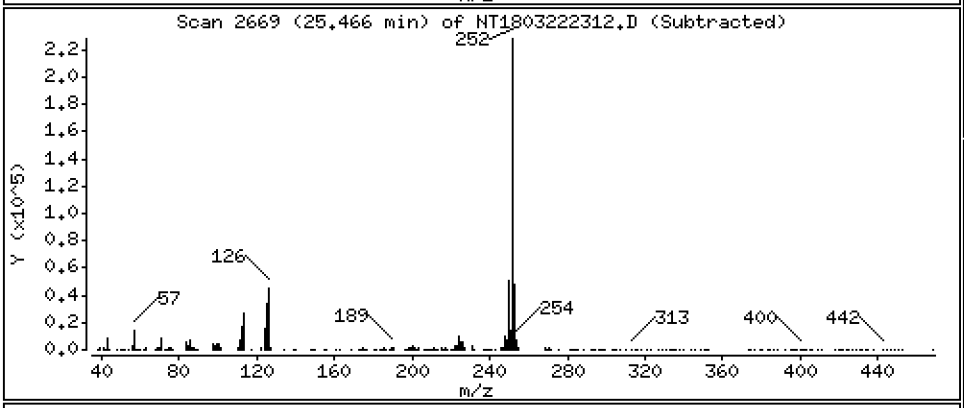
Column phase: ZB-5msi

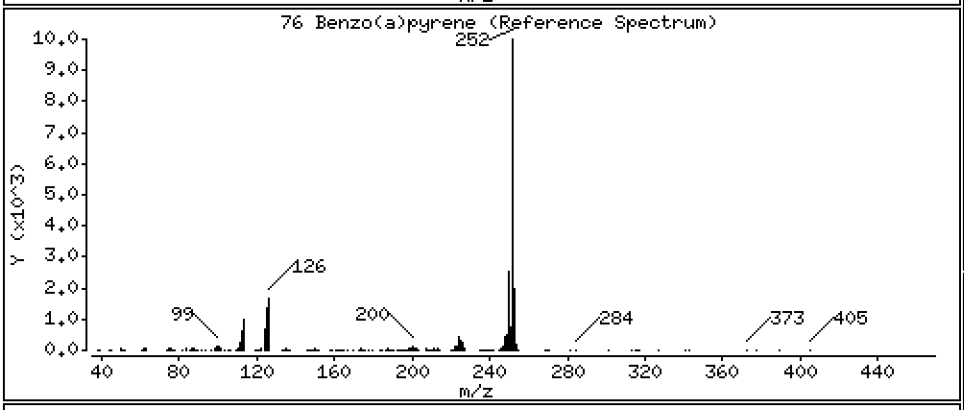
Column diameter: 0.25

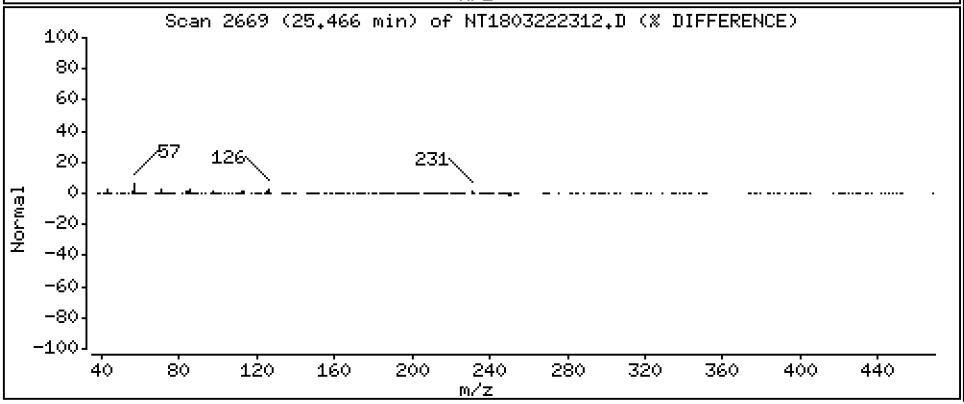
76 Benzo(a)pyrene

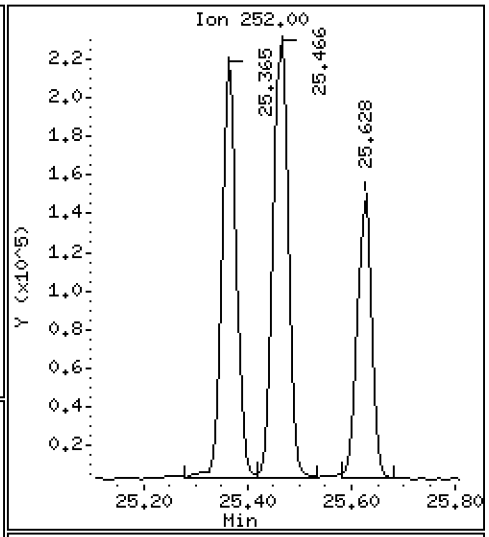
Concentration: 1.308 ug/mL

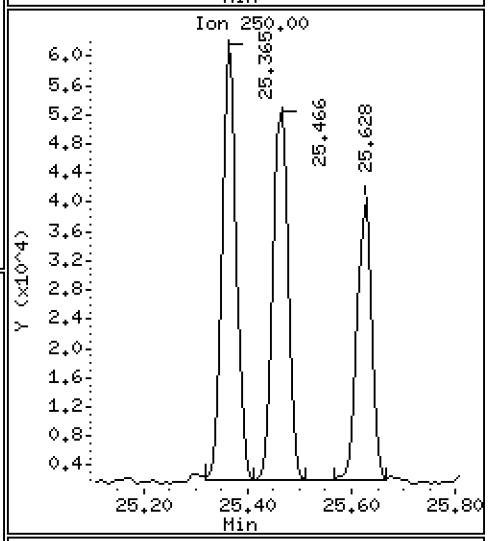


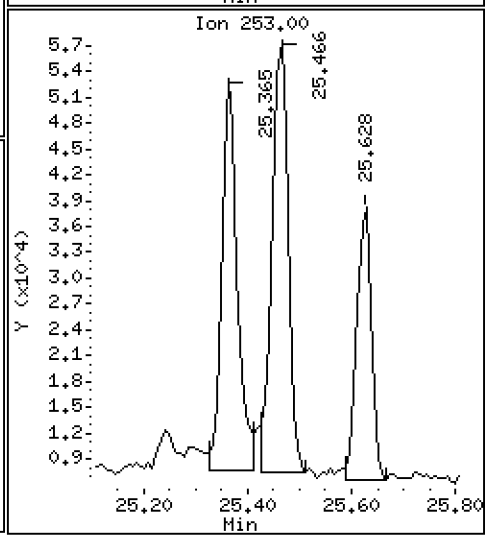












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Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

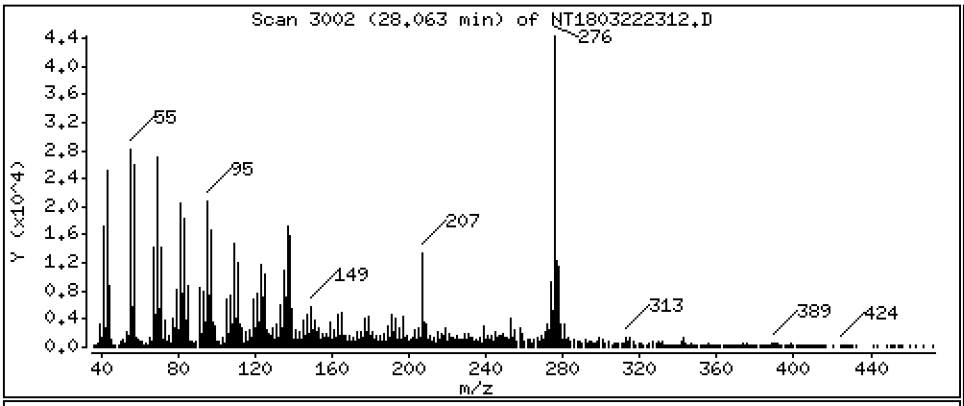
Operator: VTS

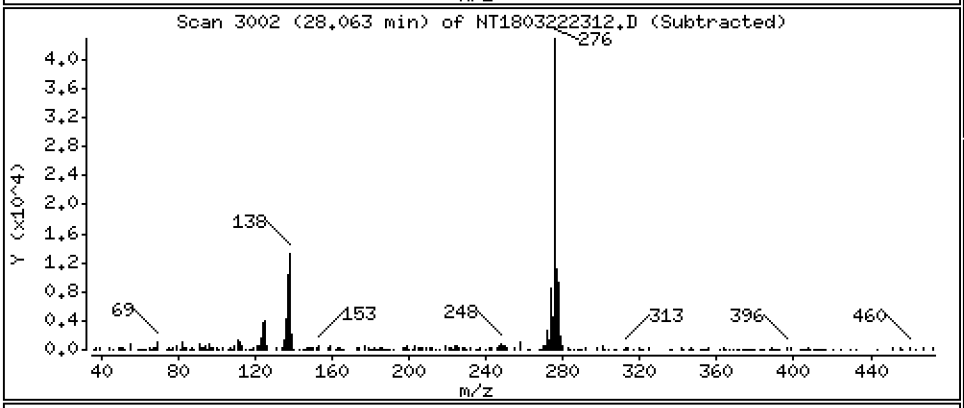
Column phase: ZB-5msi

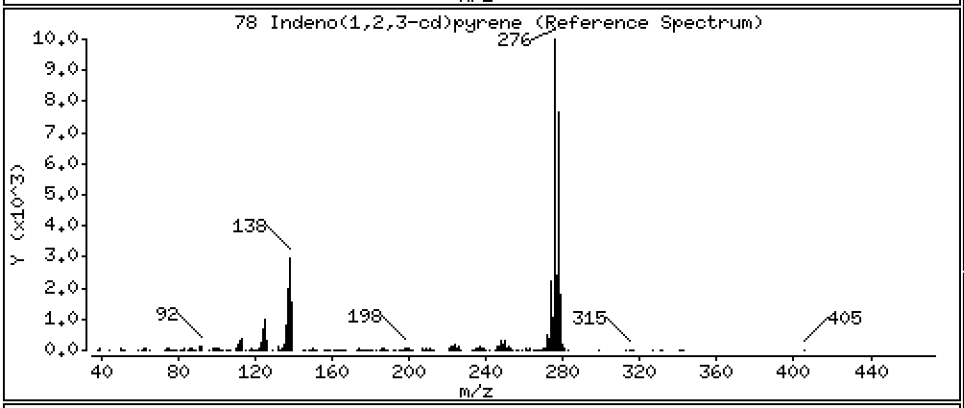
Column diameter: 0.25

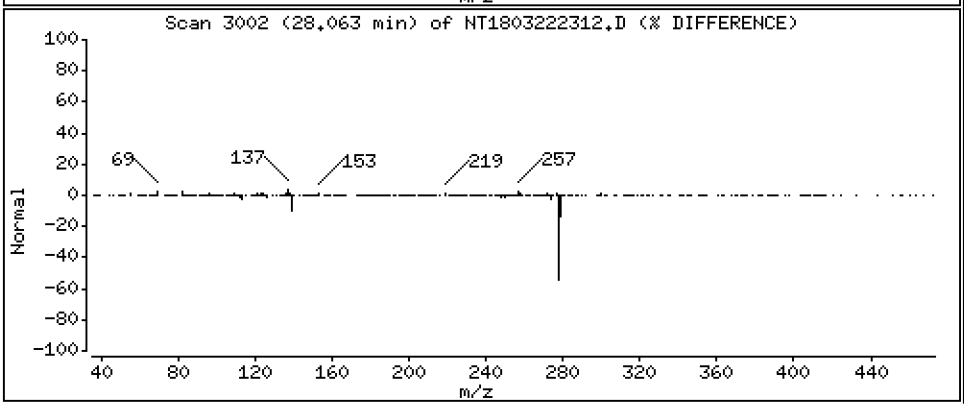
78 Indeno(1,2,3-cd)pyrene

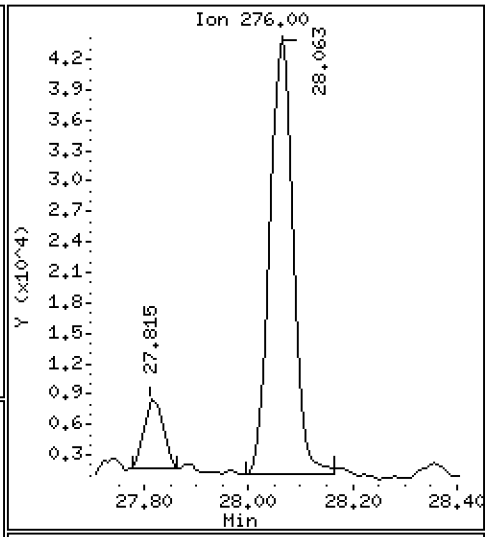
Concentration: 0.3123 ug/mL

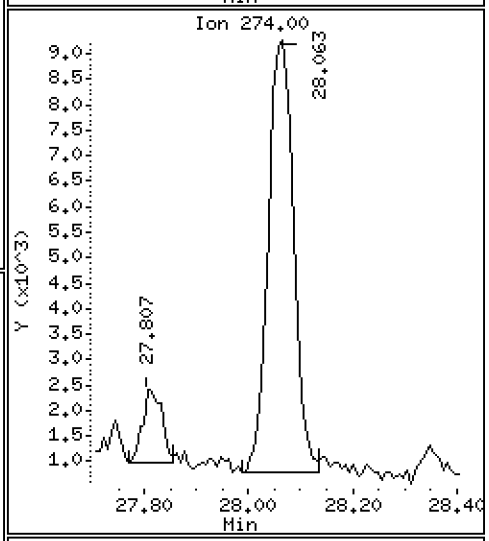


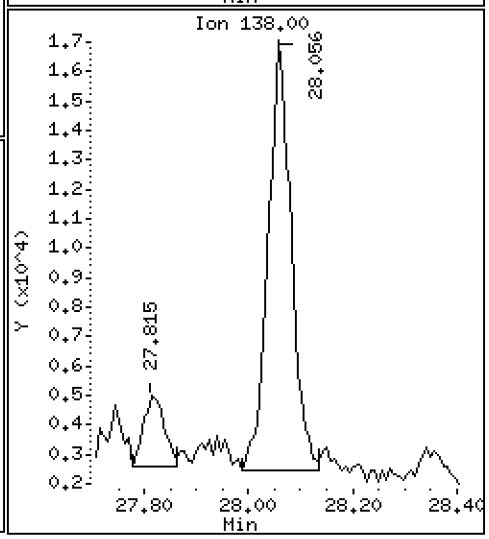












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Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

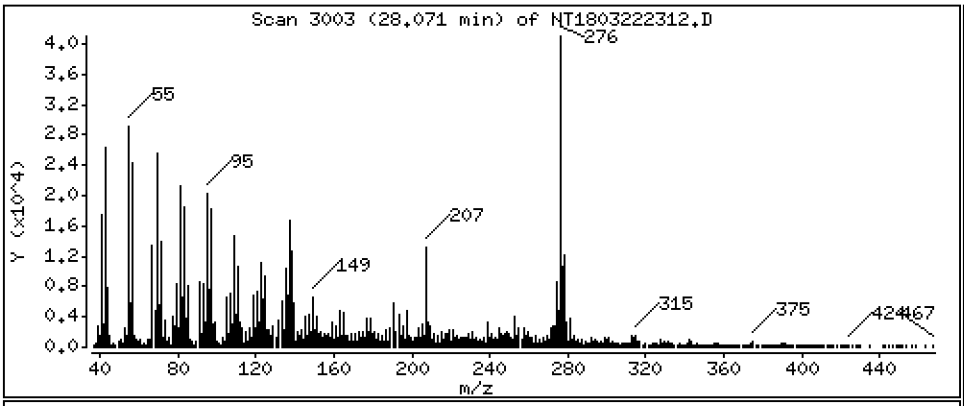
Operator: VTS

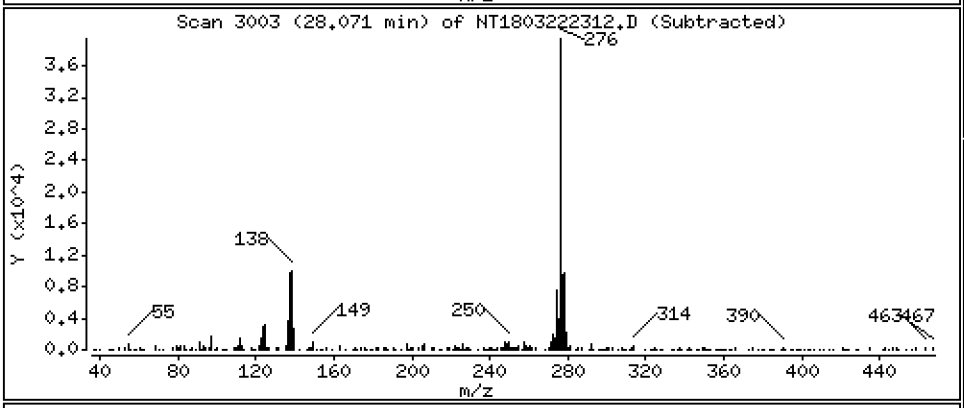
Column phase: ZB-5msi

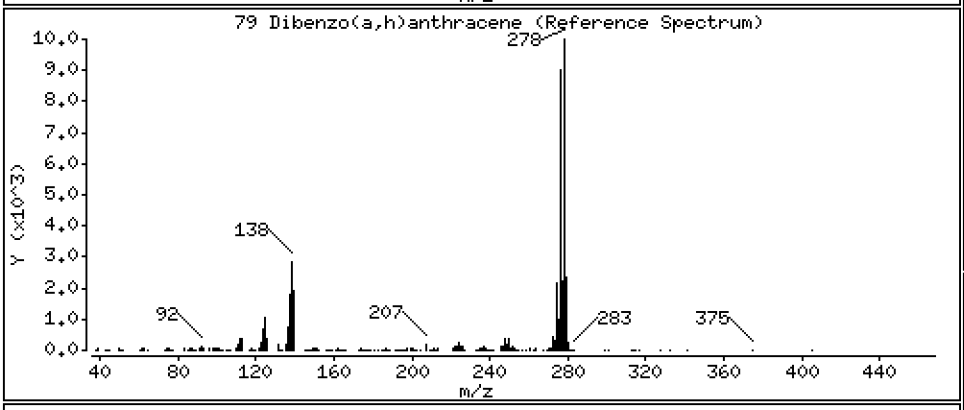
Column diameter: 0.25

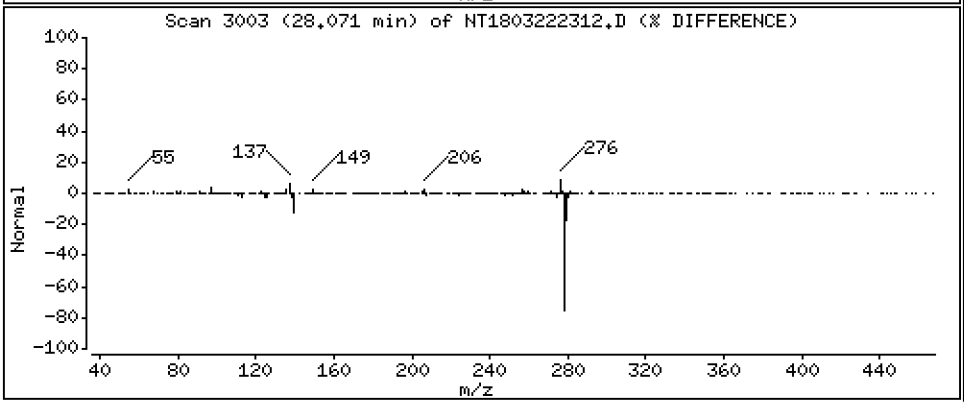
79 Dibenzo(a,h)anthracene

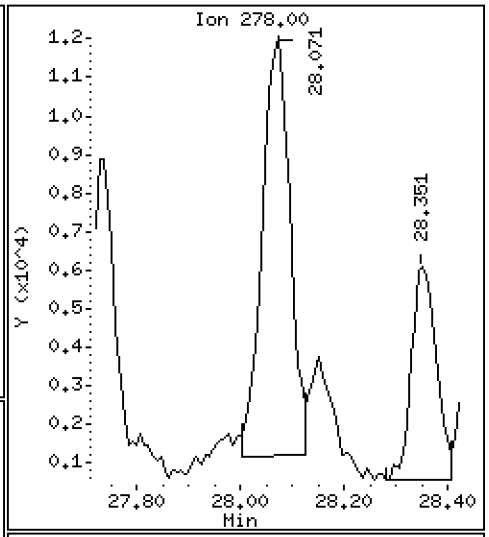
Concentration: 0.1144 ug/mL

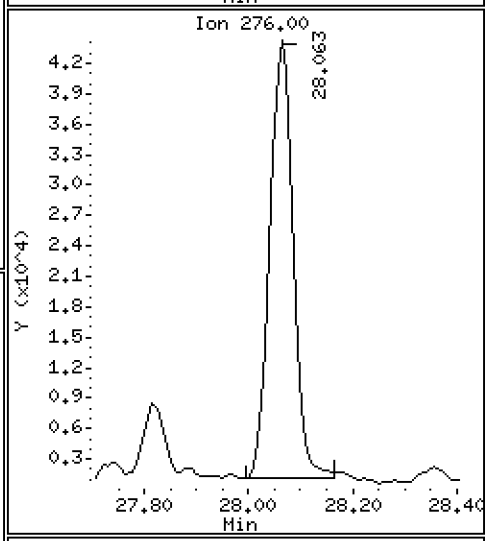


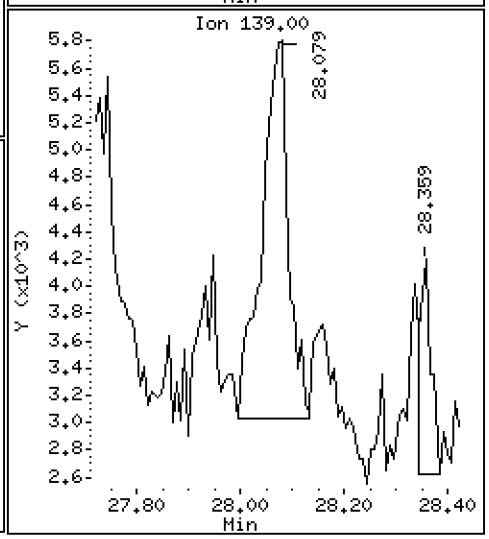












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Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

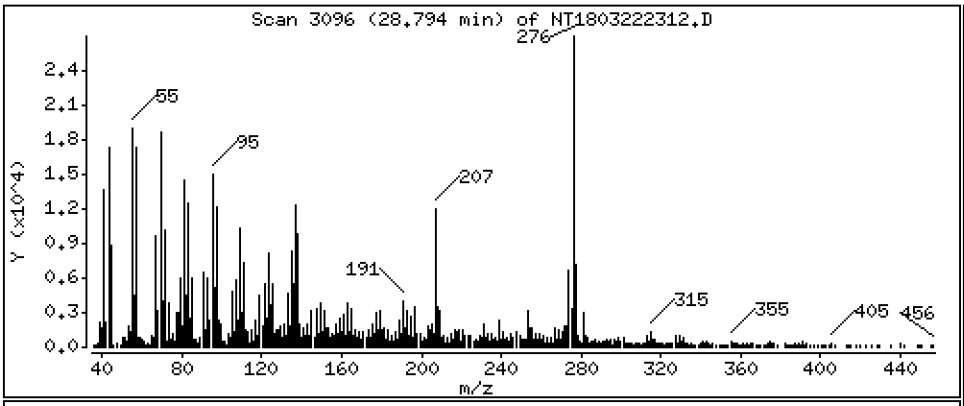
Operator: VTS

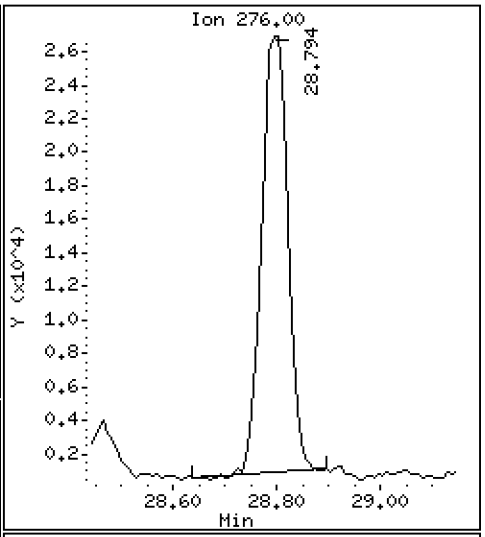
Column phase: ZB-5msi

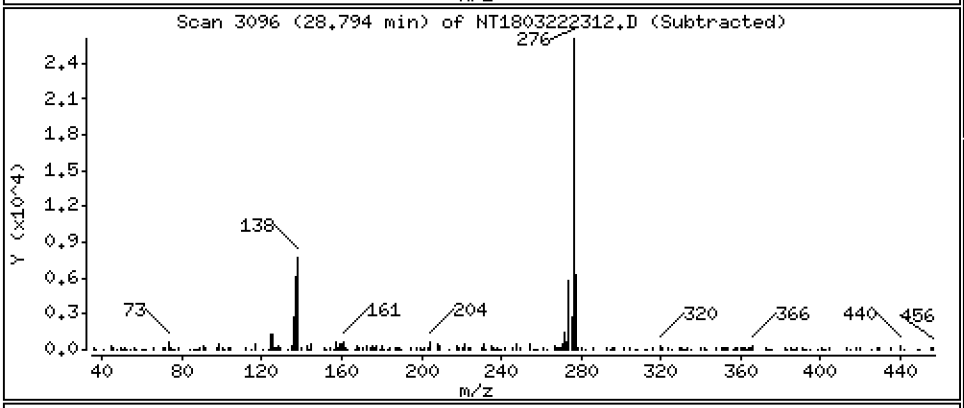
Column diameter: 0.25

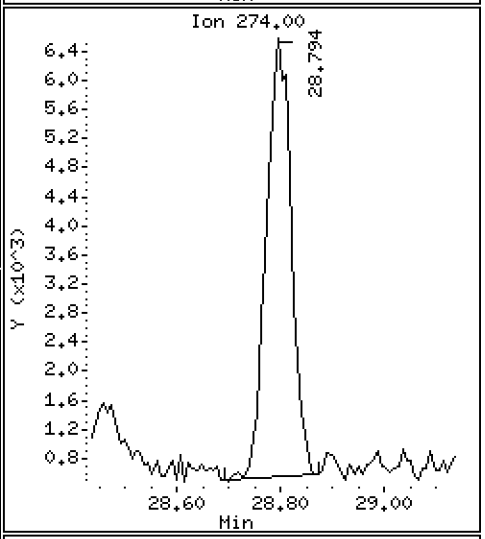
80 Benzo(g,h,i)perylene

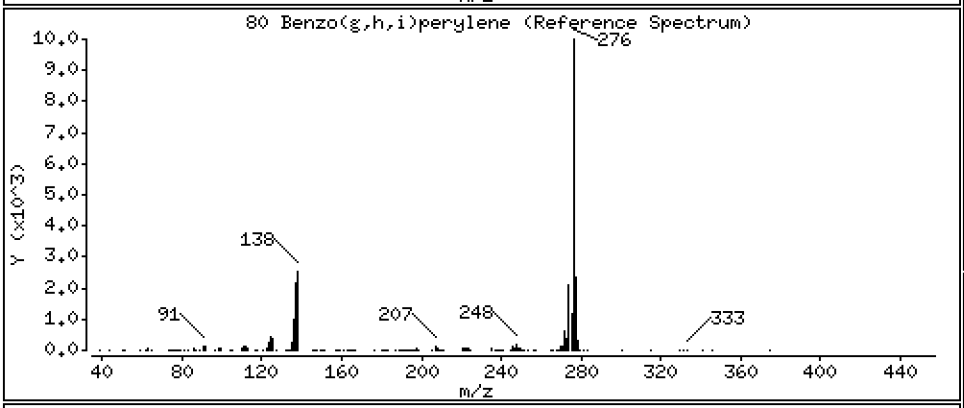
Concentration: 0.2654 ug/mL

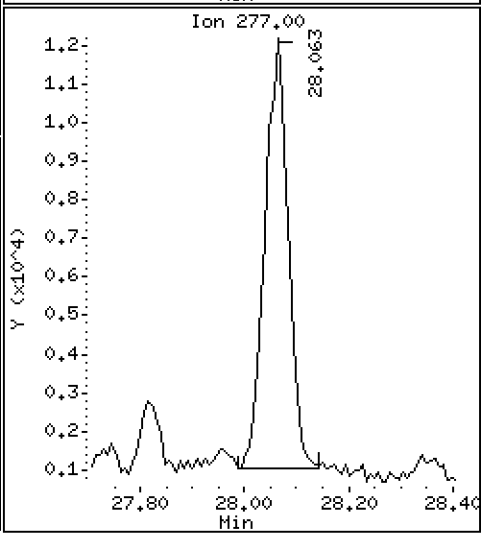


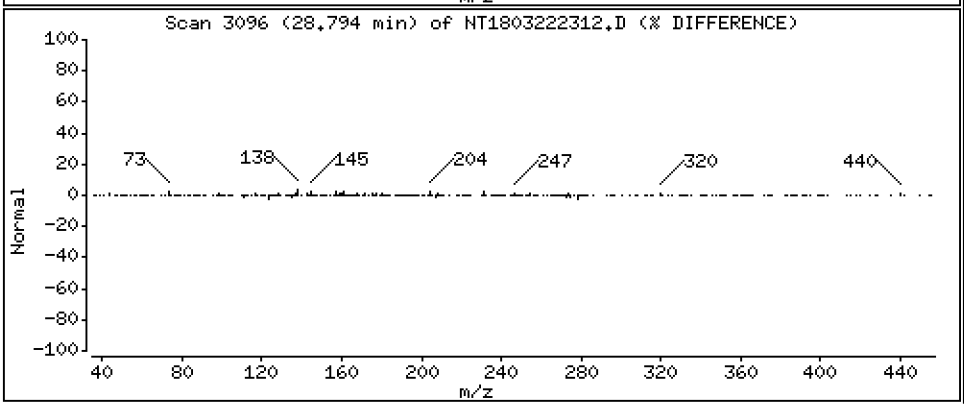












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Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

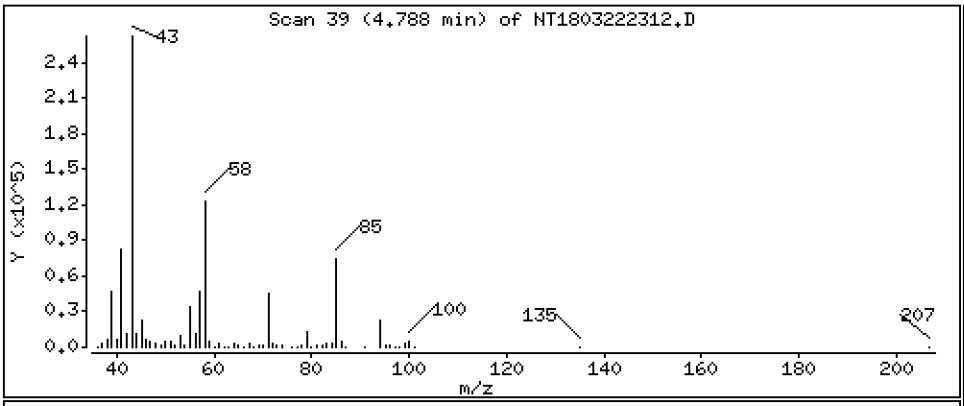
Operator: VTS

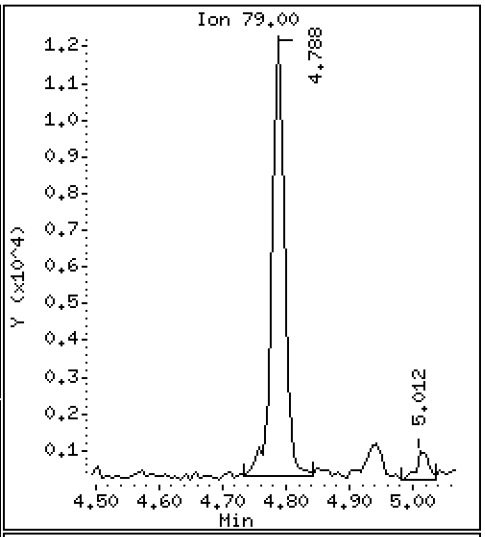
Column phase: ZB-5msi

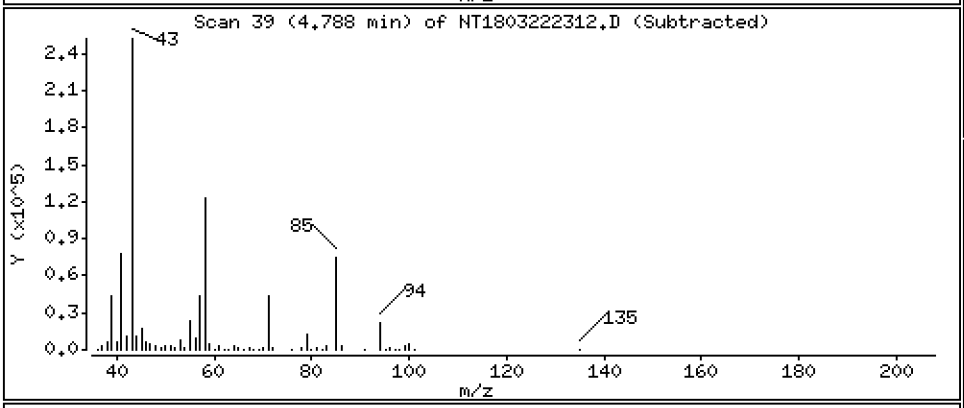
Column diameter: 0.25

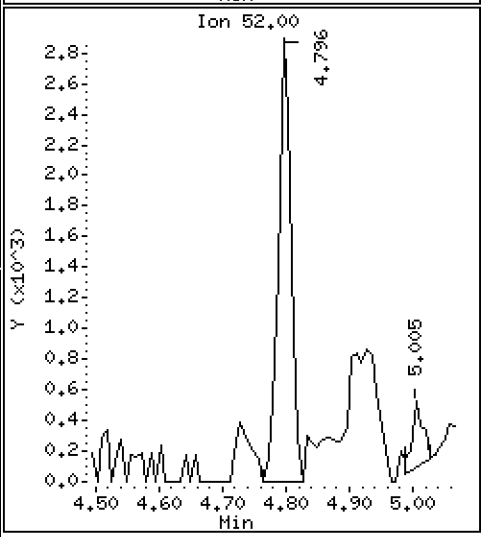
103 Pyridine

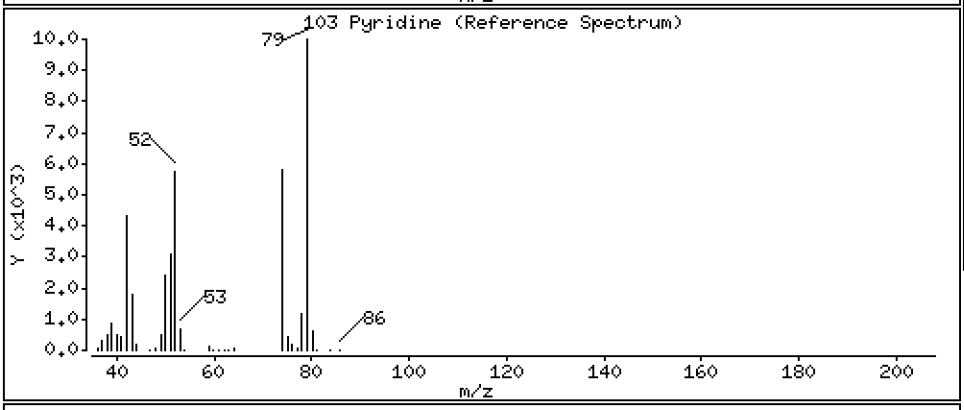
Concentration: 0.1641 ug/mL

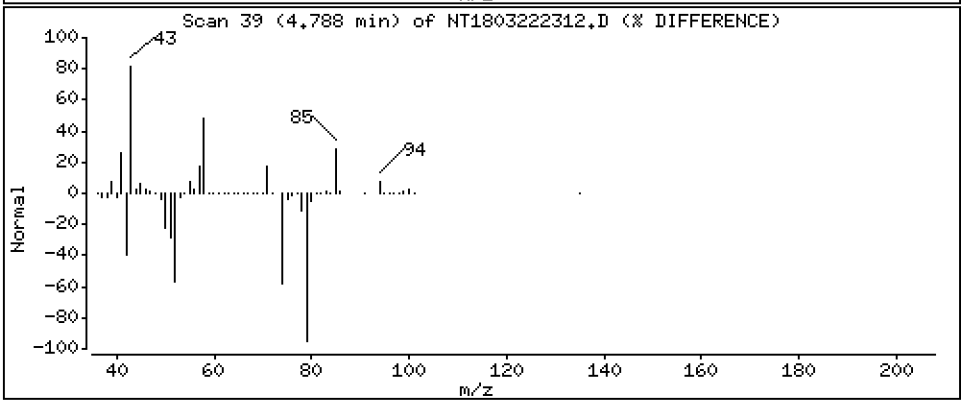












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222312.D

Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

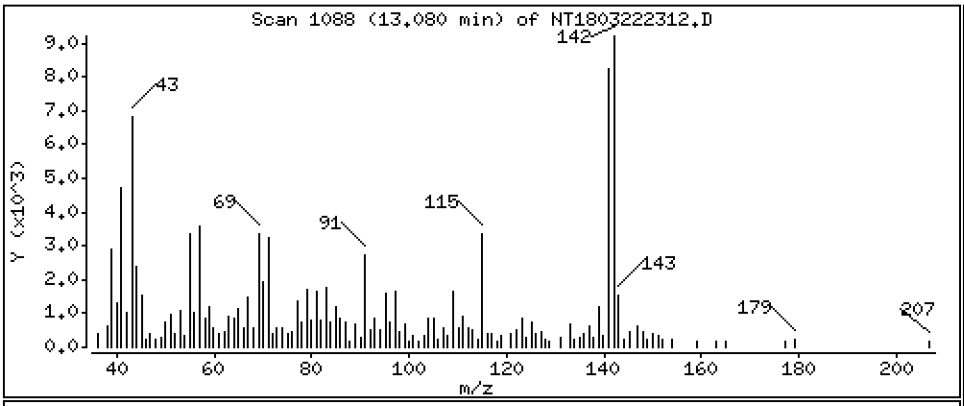
Operator: VTS

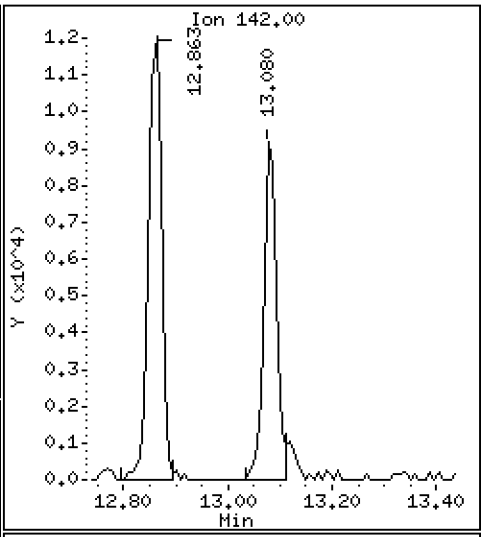
Column phase: ZB-5msi

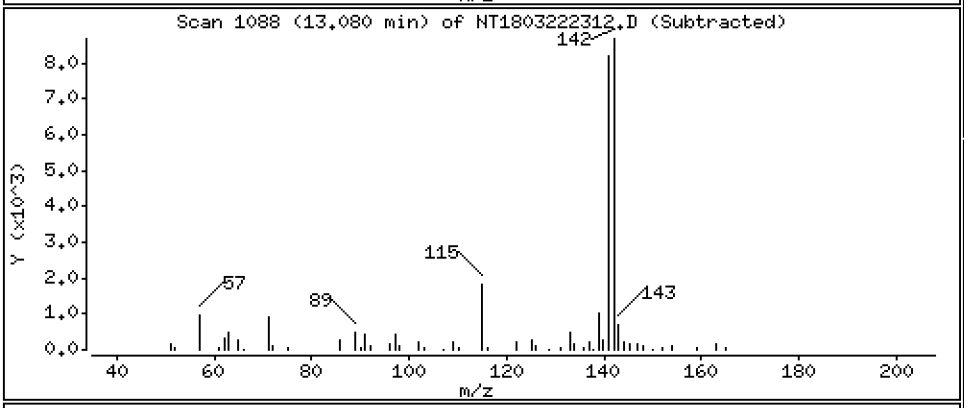
Column diameter: 0.25

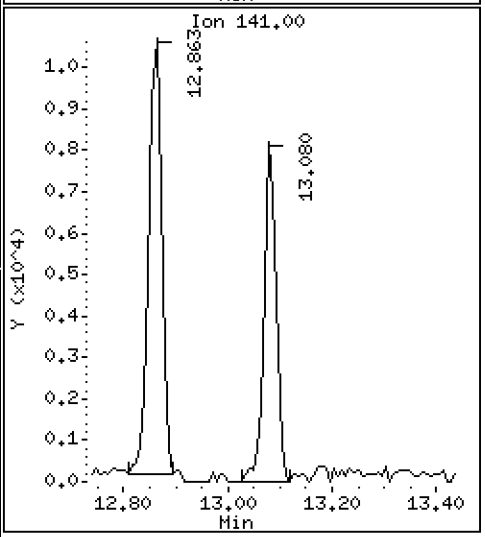
105 1-methylnaphthalene

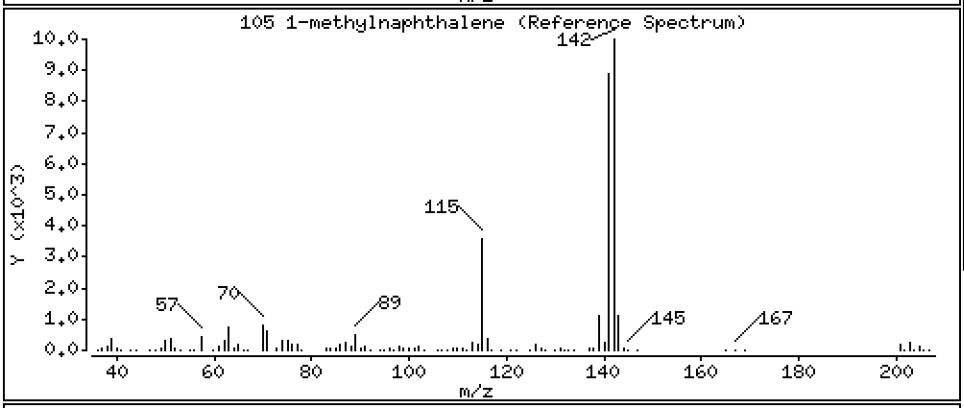
Concentration: 0.08322 ug/mL

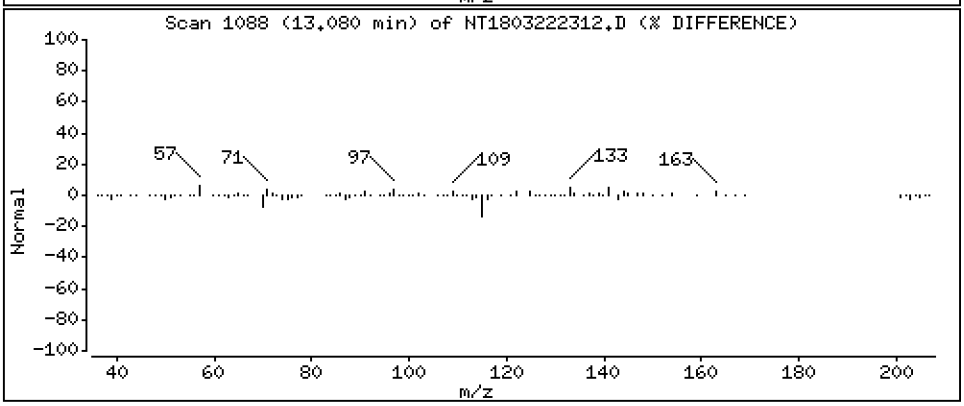












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222312.D

Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

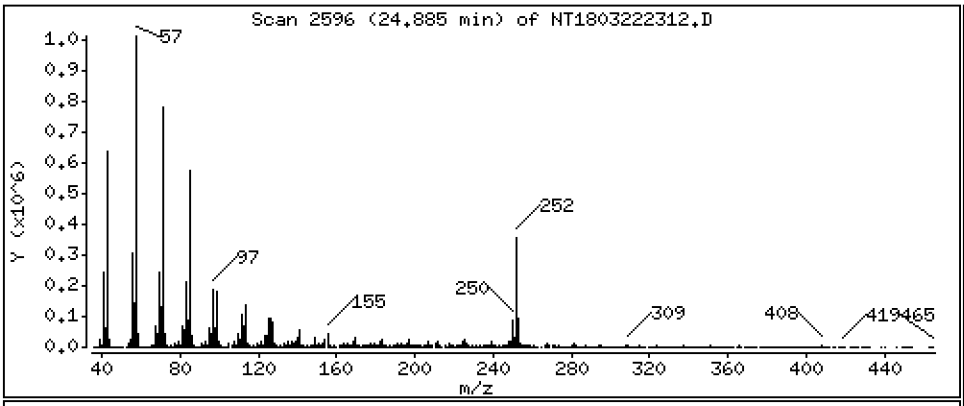
Operator: VTS

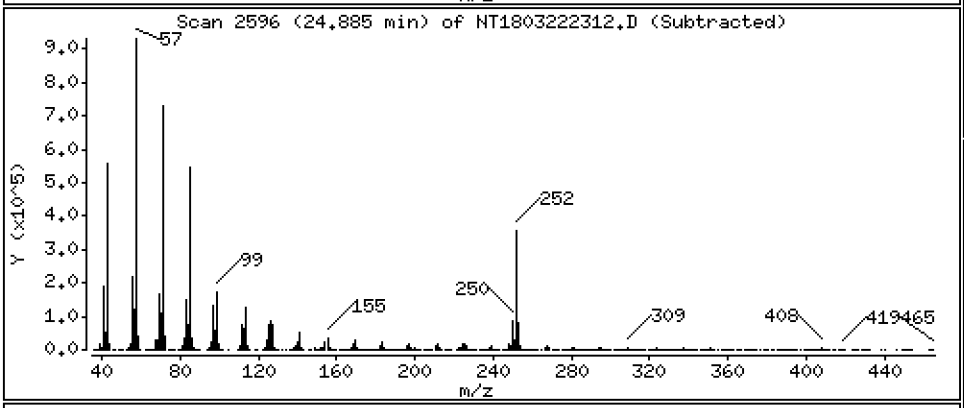
Column phase: ZB-5msi

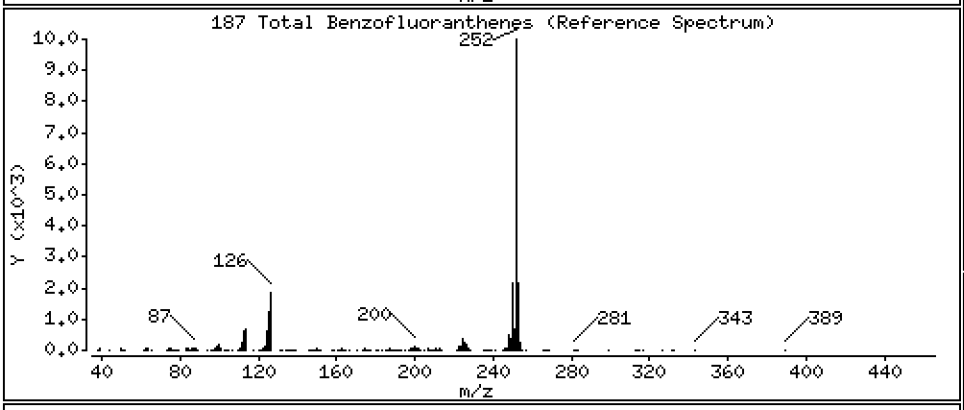
Column diameter: 0.25

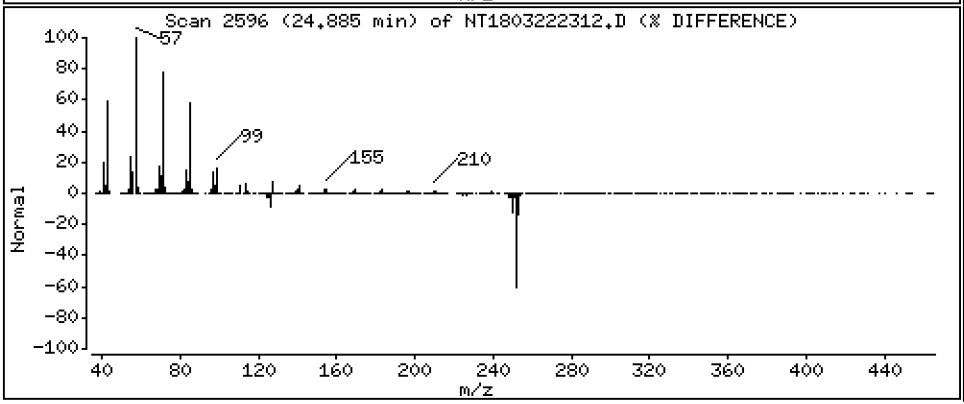
187 Total Benzofluoranthenes

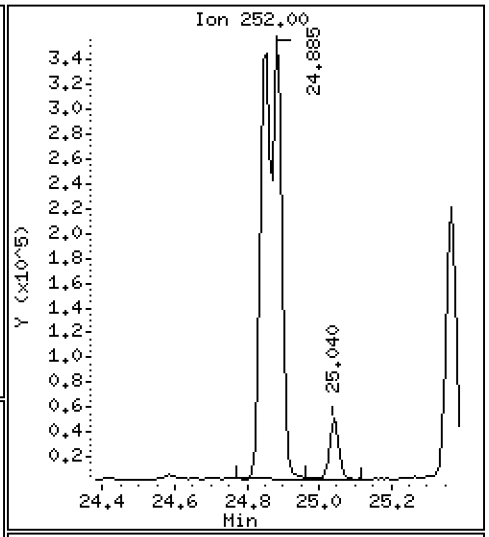
Concentration: 3.735 ug/mL

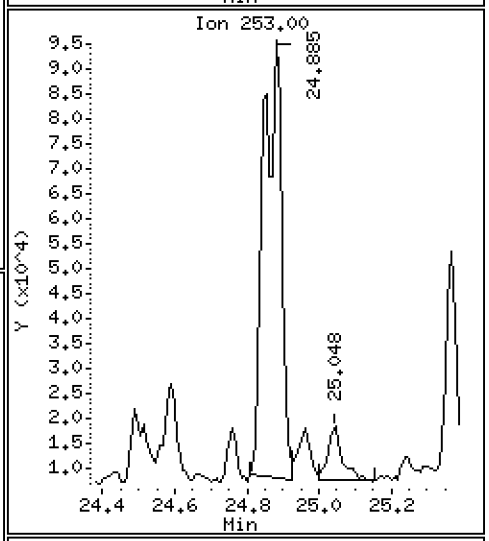


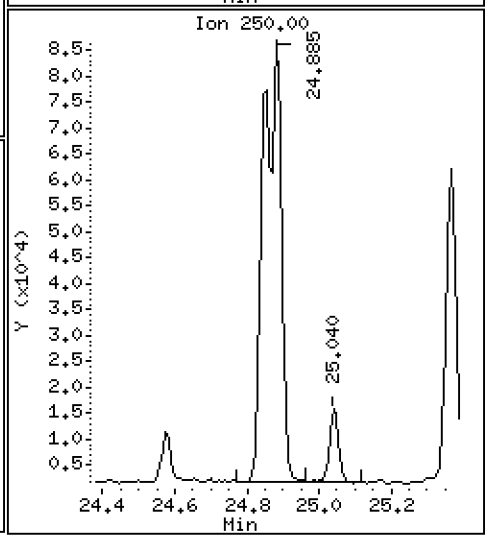












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230322.b\NT1803222312.D
Lab Smp Id: 23C0108-06
Inj Date : 23-MAR-2023 00:44
Operator : VTS Inst ID: nt18.i
Smp Info : 23C0108-06
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230322.b\ABN.m
Meth Date : 04-Apr-2023 14:27 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 15:18 Cal File: NT1803192302.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: DEENAY-201905

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.796	6.773	(0.757)	599520	6.21537	6.215
$	2 Phenol-d5	99	8.349	8.341	(0.930)	776016	6.51229	6.512
	3 Phenol	94	8.372	8.364	(0.933)	705736	5.53871	5.539
$	5 2-Chlorophenol-d4	132	8.619	8.619	(0.960)	675945	6.54406	6.544
	4 Bis(2-Chloroethyl)ether	93	Compound Not Detected.					
	6 2-Chlorophenol	128	Compound Not Detected.					
	7 1,3-Dichlorobenzene	146	Compound Not Detected.					
*	8 1,4-Dichlorobenzene-d4	152	8.975	8.983	(1.000)	312885	4.00000	
	9 1,4-Dichlorobenzene	146	9.014	9.006	(1.004)	1909	0.01649	0.01649(M)
$	10 1,2-Dichlorobenzene-d4	152	9.332	9.332	(1.040)	290994	3.83945	3.839
	12 1,2-Dichlorobenzene	146	Compound Not Detected.					
	11 Benzyl alcohol	108	9.247	9.247	(1.030)	26899	0.45242	0.4524
	14 2,2'-oxybis(1-Chloropropane)	121	Compound Not Detected.					
	13 2-Methylphenol	108	Compound Not Detected.					
	17 Hexachloroethane	117	Compound Not Detected.					
	16 N-Nitroso-di-n-propylamine	70	Compound Not Detected.					
	15 4-Methylphenol	108	9.736	9.736	(1.085)	10698	0.10653	0.1065
$	18 Nitrobenzene-d5	82	10.054	10.062	(0.879)	437671	4.70327	4.703
	19 Nitrobenzene	77	Compound Not Detected.					
	20 Isophorone	82	Compound Not Detected.					
	21 2-Nitrophenol	139	Compound Not Detected.					
	22 2,4-Dimethylphenol	107	Compound Not Detected.					
	23 Bis(2-Chloroethoxy)methane	93	Compound Not Detected.					
	24 Benzoic acid	105	10.897	10.999	(0.953)	36252	0.55862	0.5586
	25 2,4-Dichlorophenol	162	Compound Not Detected.					
	26 1,2,4-Trichlorobenzene	180	Compound Not Detected.					
*	27 Naphthalene-d8	136	11.440	11.439	(1.000)	1128923	4.00000	
	28 Naphthalene	128	11.478	11.478	(1.003)	42411	0.13844	0.1384
	29 4-Chloroaniline	127	Compound Not Detected.					
	30 Hexachlorobutadiene	225	Compound Not Detected.					
	31 4-Chloro-3-methylphenol	107	Compound Not Detected.					
	32 2-Methylnaphthalene	142	12.863	12.863	(1.124)	20277	0.10164	0.1016(H)
	33 Hexachlorocyclopentadiene	237	Compound Not Detected.					

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	Compound Not Detected.					
	35 2,4,5-Trichlorophenol	196	Compound Not Detected.					
$	36 2-Fluorobiphenyl	172	13.644	13.644	(0.908)	899355	4.37240	4.372
	37 2-Chloronaphthalene	162	Compound Not Detected.					
	38 2-Nitroaniline	65	Compound Not Detected.					
	39 Dimethylphthalate	163	Compound Not Detected.					
	40 Acenaphthylene	152	14.705	14.712	(0.979)	23043	0.08247	0.08247
	41 2,6-Dinitrotoluene	165	Compound Not Detected.					
*	42 Acenaphthene-d10	164	15.022	15.022	(1.000)	574393	4.00000	
	43 3-Nitroaniline	138	Compound Not Detected.					
	44 Acenaphthene	153	15.084	15.091	(1.004)	19583	0.11072	0.1107
	45 2,4-Dinitrophenol	184	Compound Not Detected.					
	46 Dibenzofuran	168	15.408	15.416	(1.026)	26610	0.10951	0.1095
	47 4-Nitrophenol	109	Compound Not Detected.					
	48 2,4-Dinitrotoluene	165	Compound Not Detected.					
	50 Diethylphthalate	149	15.980	15.988	(1.064)	21258	0.12258	0.1226
	49 Fluorene	166	16.112	16.120	(1.073)	30991	0.14051	0.1405
	51 4-Chlorophenyl-phenylether	204	Compound Not Detected.					
	52 4-Nitroaniline	138	Compound Not Detected.					
	53 4,6-Dinitro-2-methylphenol	198	Compound Not Detected.					
	54 N-Nitrosodiphenylamine	169	Compound Not Detected.					
$	55 2,4,6-Tribromophenol	330	16.644	16.644	(1.108)	183826	7.07765	7.078
	56 4-Bromophenyl-phenylether	248	Compound Not Detected.					
	57 Hexachlorobenzene	284	Compound Not Detected.					
	58 Pentachlorophenol	266	Compound Not Detected.					
*	59 Phenanthrene-d10	188	18.027	18.035	(1.000)	982774	4.00000	
	60 Phenanthrene	178	18.073	18.081	(1.003)	249685	0.93072	0.9307
	61 Anthracene	178	18.166	18.166	(1.008)	112736	0.44075	0.4408
	62 Carbazole	167	18.491	18.499	(1.026)	30204	0.13410	0.1341
	63 Di-n-butylphthalate	149	19.311	19.311	(1.071)	16928	0.05664	0.05664
	64 Fluoranthene	202	20.464	20.456	(0.888)	683127	1.85248	1.852
	65 Pyrene	202	20.874	20.874	(0.905)	714157	1.83744	1.837
$	66 Terphenyl-d14	244	21.168	21.168	(0.918)	1141282	3.94821	3.948
	67 Butylbenzylphthalate	149	22.090	22.090	(0.958)	29823	0.17740	0.1774
	68 Benzo(a)anthracene	228	23.027	23.027	(0.999)	482395	1.33212	1.332
*	69 Chrysene-d12	240	23.058	23.050	(1.000)	1157218	4.00000	
	70 3,3'-Dichlorobenzidine	252	Compound Not Detected.					
	71 Chrysene	228	23.096	23.096	(1.002)	744164	1.98797	1.988
	72 bis(2-Ethylhexyl)phthalate	149	23.119	23.119	(0.960)	417028	1.52599	1.526
*	134 Di-n-octylphthalate-d4	153	24.087	24.087	(1.000)	1868833	4.00000	
	73 Di-n-octylphthalate	149	Compound Not Detected.					
	74 Benzo(b)fluoranthene	252	24.854	24.846	(0.972)	715135	2.09839	2.098
	75 Benzo(k)fluoranthene	252	24.885	24.885	(0.973)	674238	1.79871	1.799
	76 Benzo(a)pyrene	252	25.465	25.458	(0.996)	445492	1.30762	1.308
*	77 Perylene-d12	264	25.574	25.566	(1.000)	1224205	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	28.063	28.055	(1.097)	132818	0.31234	0.3123
	79 Dibenzo(a,h)anthracene	278	28.071	28.071	(1.098)	40083	0.11443	0.1144
	80 Benzo(g,h,i)perylene	276	28.793	28.793	(1.126)	90009	0.26535	0.2654(M)
	90 N-Nitrosodimethylamine	74	Compound Not Detected.					
	91 Aniline	93	Compound Not Detected.					
	93 Benzidine	184	Compound Not Detected.					
	103 Pyridine	79	4.788	4.718	(0.533)	16160	0.16410	0.1641
	105 1-methylnaphthalene	142	13.079	13.087	(1.143)	15242	0.08322	0.08322
	111 Azobenzene (1,2-DP-Hydrazine)	77	Compound Not Detected.					

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187 Total Benzofluoranthenes	252	24.885	24.885	(0.973)	1275560	3.73474	3.735
120 2,3,4,6-Tetrachlorophenol	232	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222312.D
Lab Smp Id: 23C0108-06
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322.b\ABN.m
Misc Info:

Calibration Date: 22-MAR-2023
Calibration Time: 17:55
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	259918	129959	519836	312885	20.38
27 Naphthalene-d8	969410	484705	1938820	1128923	16.45
42 Acenaphthene-d10	510287	255144	1020574	574393	12.56
59 Phenanthrene-d10	882628	441314	1765256	982774	11.35
69 Chrysene-d12	800073	400037	1600146	1157218	44.64
134 Di-n-octylphthala	1258607	629304	2517214	1868833	48.48
77 Perylene-d12	911909	455955	1823818	1224205	34.25

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	-0.09
27 Naphthalene-d8	11.44	10.94	11.94	11.44	0.00
42 Acenaphthene-d10	15.02	14.52	15.52	15.02	0.00
59 Phenanthrene-d10	18.04	17.54	18.54	18.03	-0.04
69 Chrysene-d12	23.05	22.55	23.55	23.06	0.03
134 Di-n-octylphthala	24.09	23.59	24.59	24.09	0.00
77 Perylene-d12	25.57	25.07	26.07	25.57	0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222312.D

Lab ID: 23C0108-06
nt18.i, ABN.m, 23-MAR-2023 00:44

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.953	0.961	-0.0089	Benzoic acid
0.533	0.525	0.0082	Pyridine

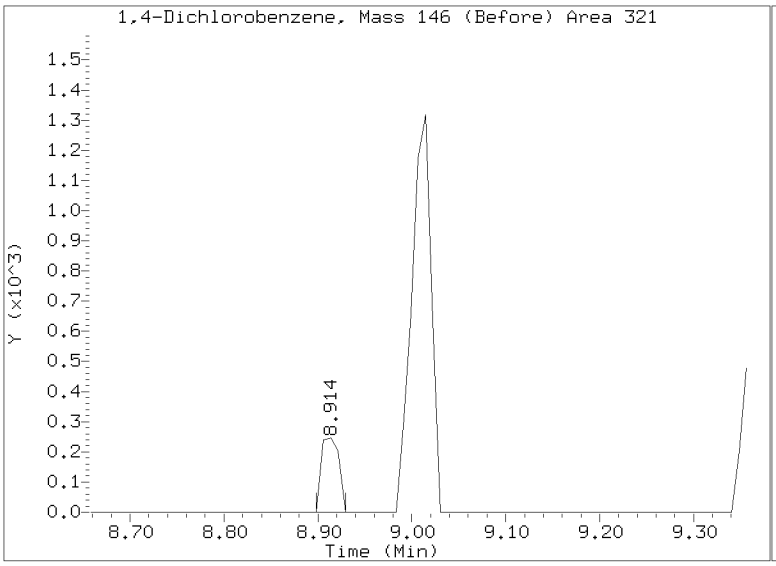
RRT check based on Ccal File: NT1803222302.D

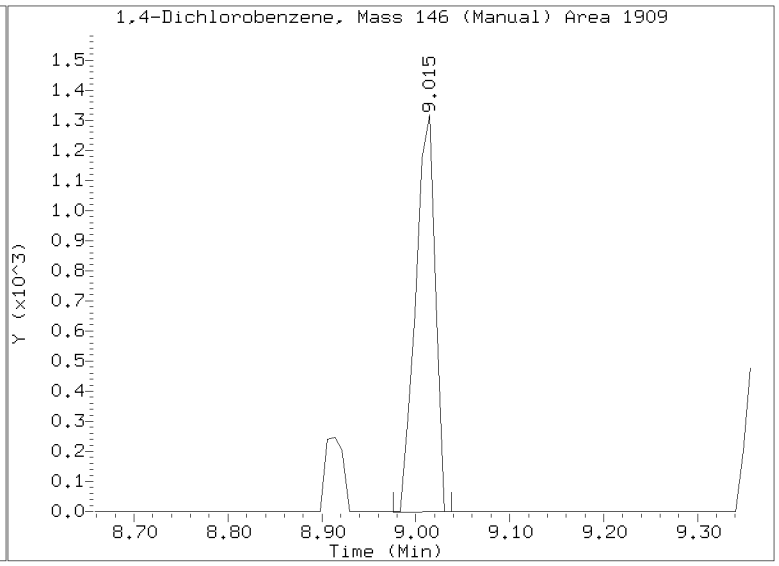
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

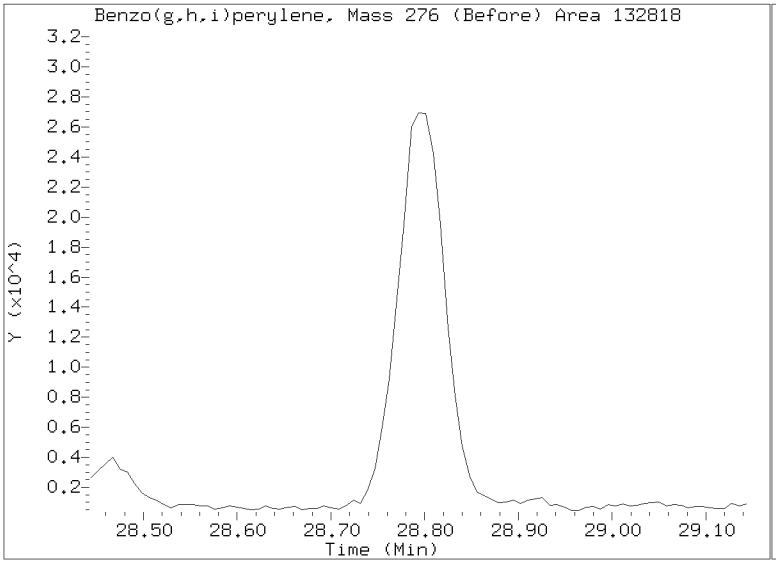
* Only compounds listed in the work order have been verified by the analyst *

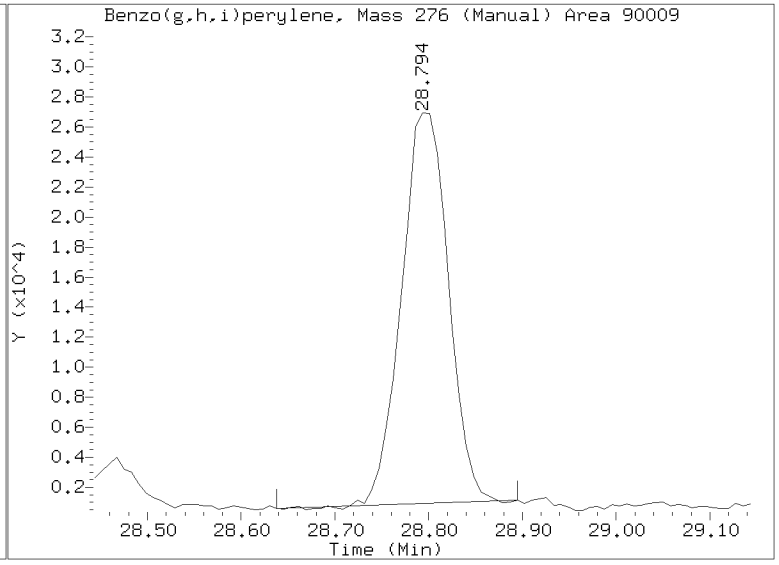
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230322.b/NT1803222312.D
Injection Date: 23-MAR-2023 00:44
Lab ID:23C0108-06 Client ID:
Report Date: 04/04/2023 14:29









APPROVED

By Deenay Dunmore at 2:44 pm, Apr 04, 2023

Analytical Resources, LLC
Analytical Chemists and Consultants

LDW23-SS1107

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270E

Semivolatiles (20ug/kg - 0.2ug/L SepF)

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-07 A	SDG:	23C0108
Sampled:	03/03/23 10:21	Prepared:	03/09/23 13:26	File ID:	NT1803222313.D
% Solids:	40.20	Preparation:	EPA 3546 (Microwave)	Analyzed:	03/23/23 01:24
Batch:	BLC0185	Sequence:	SLD0051	Initial/Final:	24.92 g Wet / 1 mL
Instrument:	NT18	Column:	ZB-5MS	Calibration:	GC00085
Cleanups:	GPC				

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg dry)	Q	DL	RL
108-95-2	Phenol	1	1480		4.4	20.0
106-44-5	4-Methylphenol	1	8.2	J	7.4	20.0
91-20-3	Naphthalene	1	9.1	J	4.2	20.0
91-57-6	2-Methylnaphthalene	1	7.2	J	4.5	20.0
208-96-8	Acenaphthylene	1	8.0	J	6.2	20.0
131-11-3	Dimethylphthalate	1	7.9	J	4.4	20.0
83-32-9	Acenaphthene	1	7.5	J	5.2	20.0
132-64-9	Dibenzofuran	1	20.0	U	14.1	20.0
86-73-7	Fluorene	1	20.0	U	14.5	20.0
85-01-8	Phenanthrene	1	67.8		8.7	20.0
120-12-7	Anthracene	1	38.3		7.2	20.0
206-44-0	Fluoranthene	1	160		6.1	20.0
129-00-0	Pyrene	1	158		5.7	20.0
85-68-7	Butylbenzylphthalate	1	11.8	J	9.4	20.0
56-55-3	Benzo(a)anthracene	1	117		5.9	20.0
218-01-9	Chrysene	1	177		6.0	20.0
117-81-7	bis(2-Ethylhexyl)phthalate	1	108		5.5	49.9
	Benzofluoranthenes, Total	1	360		10.0	39.9
50-32-8	Benzo(a)pyrene	1	122		4.2	20.0
193-39-5	Indeno(1,2,3-cd)pyrene	1	30.6		14.6	20.0
53-70-3	Dibenzo(a,h)anthracene	1	20.0	U	17.2	20.0
191-24-2	Benzo(g,h,i)perylene	1	26.0		13.6	20.0

SURROGATES	ADDED: (ug/kg dry)	FOUND: (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorophenol	748.66	593	79.2	27 - 120	
Phenol-d5	748.66	614	82.0	29 - 120	
2-Chlorophenol-d4	748.66	642	85.7	31 - 120	
1,2-Dichlorobenzene-d4	499.11	377	75.5	32 - 120	
Nitrobenzene-d5	499.11	454	91.0	30 - 120	
2-Fluorobiphenyl	499.11	432	86.6	35 - 120	

Analytical Resources, LLC
Analytical Chemists and Consultants

LDW23-SS1107

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270E

Semivolatiles (20ug/kg - 0.2ug/L SepF)

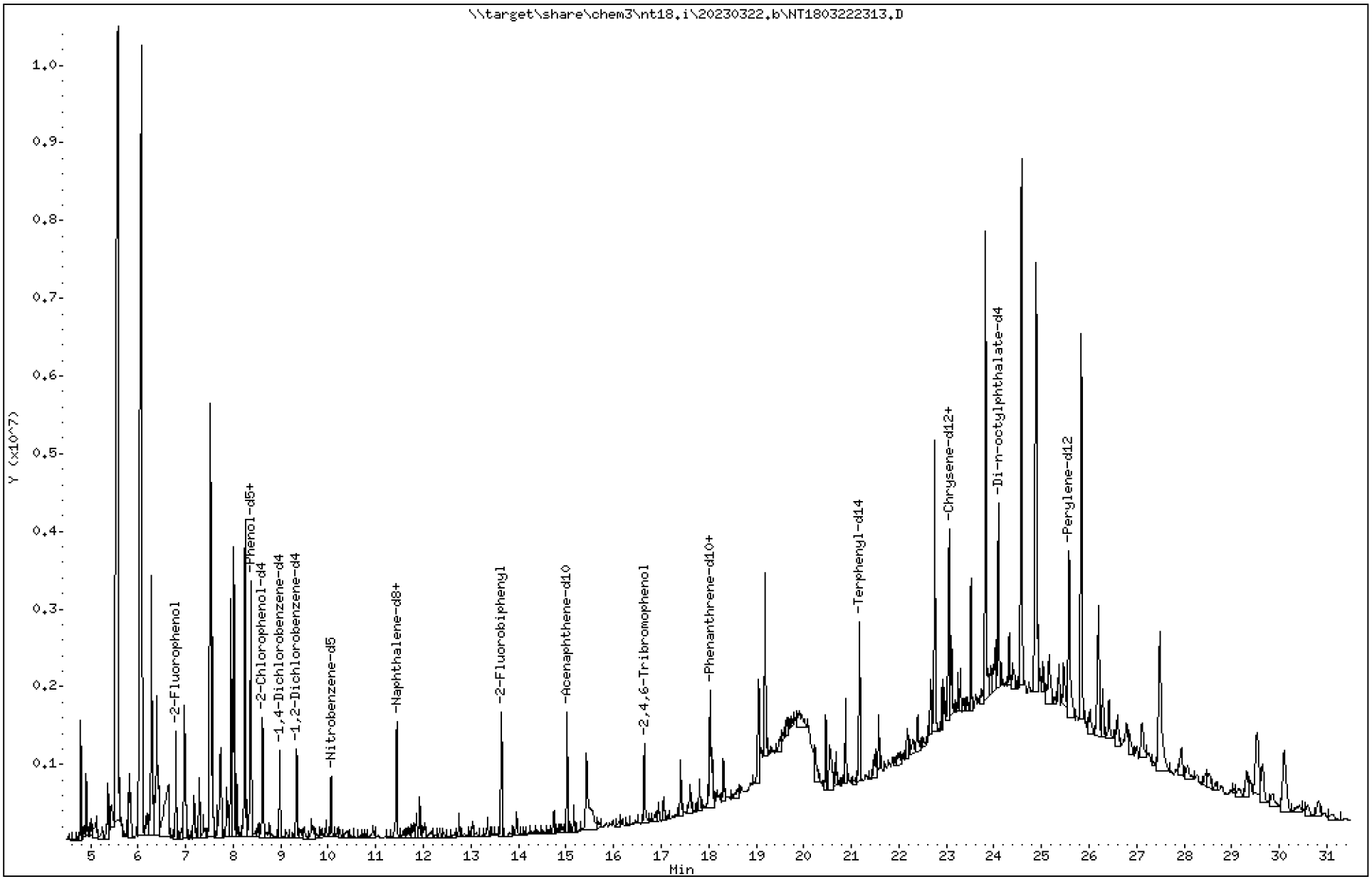
Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-07 A	SDG:	23C0108
Sampled:	03/03/23 10:21	Prepared:	03/09/23 13:26	File ID:	NT1803222313.D
% Solids:	40.20	Preparation:	EPA 3546 (Microwave)	Analyzed:	03/23/23 01:24
Batch:	BLC0185	Sequence:	SLD0051	Initial/Final:	24.92 g Wet / 1 mL
Instrument:	NT18	Column:	ZB-5MS	Calibration:	GC00085
Cleanups:	GPC				

SURROGATES	ADDED: (ug/kg dry)	FOUND: (ug/kg dry)	% REC	QC LIMITS	Q
2,4,6-Tribromophenol	748.66	678	90.6	24 - 134	
p-Terphenyl-d14	499.11	406	81.4	37 - 120	

Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222313.D
Date : 23-MAR-2023 01:24
Client ID:
Sample Info: 23C0108-07

Instrument: nt18.i
Operator: VTS
Column diameter: 0.25

Column phase: ZB-5msi



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Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

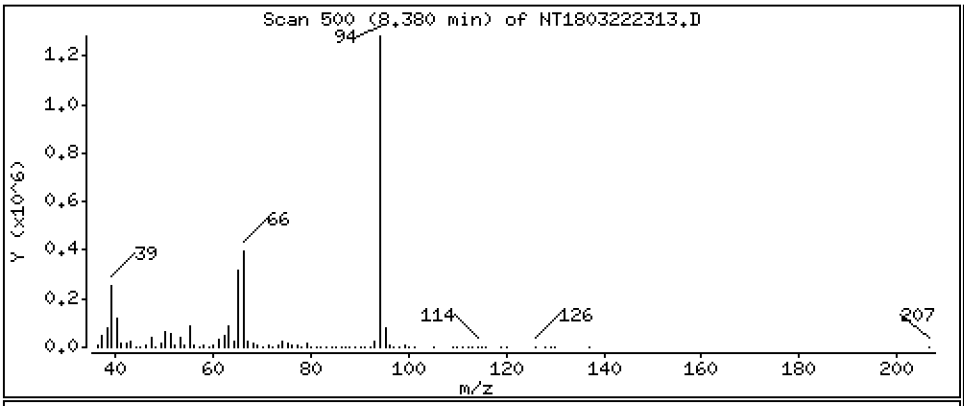
Operator: VTS

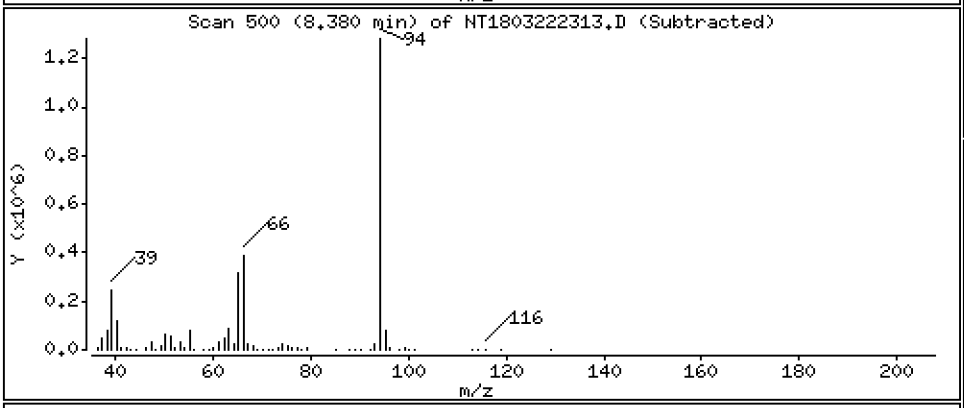
Column phase: ZB-5msi

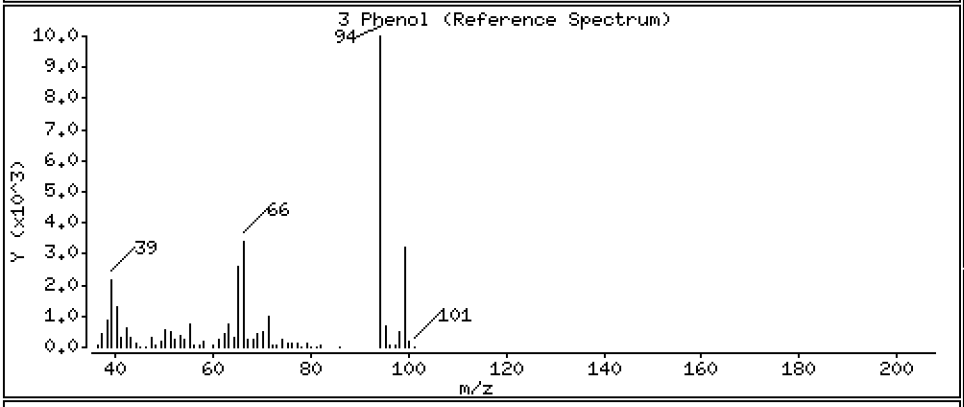
Column diameter: 0.25

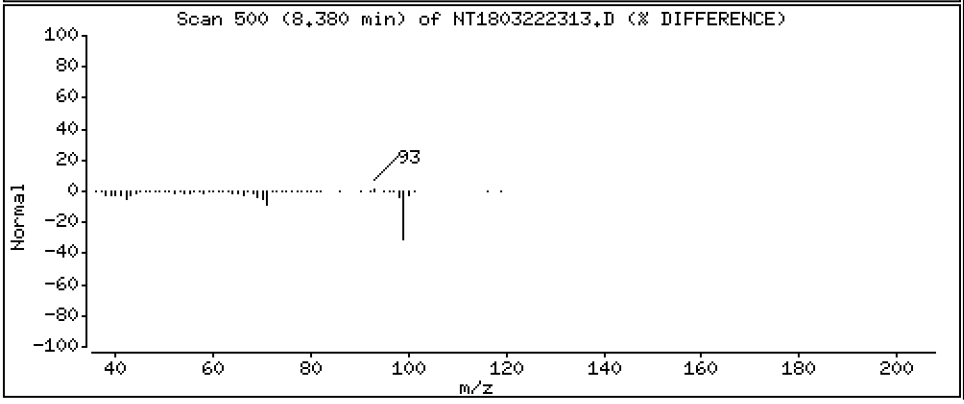
3 Phenol

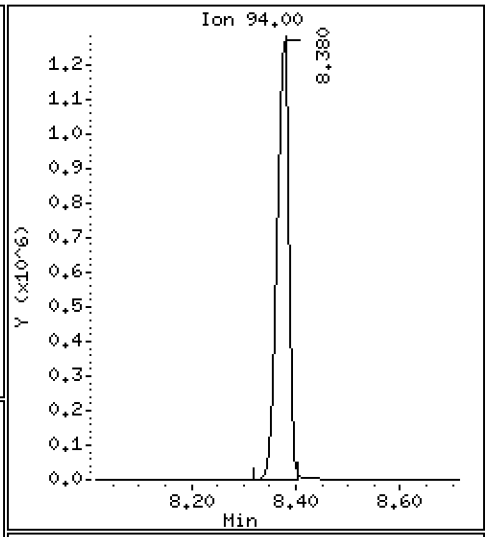
Concentration: 14.87 ug/mL

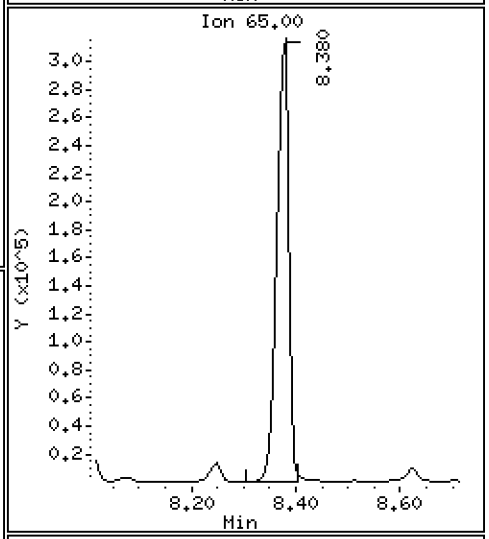


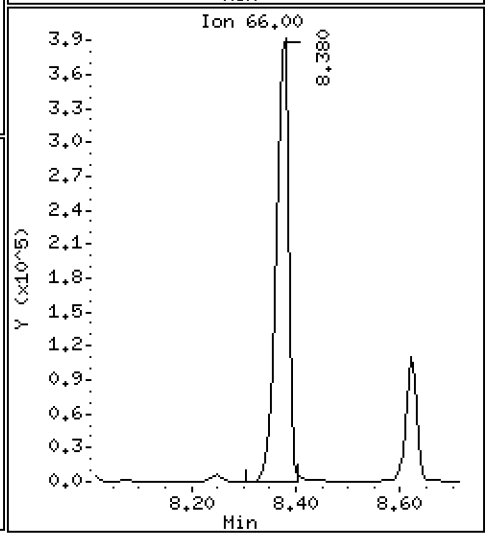












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Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

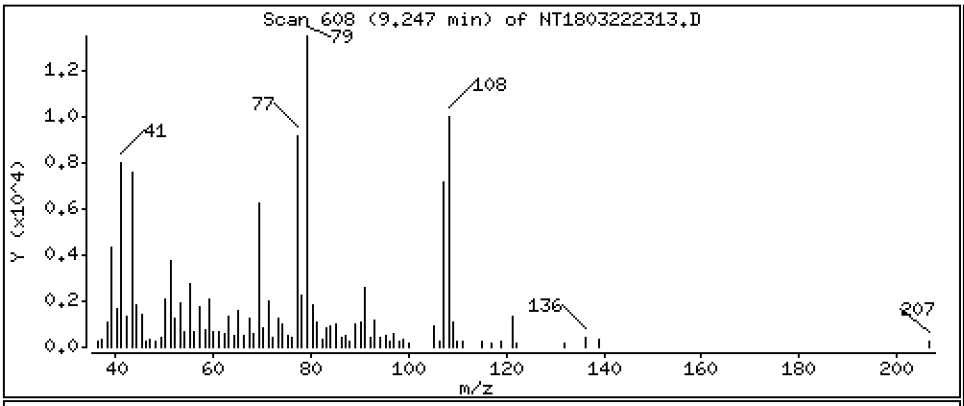
Operator: VTS

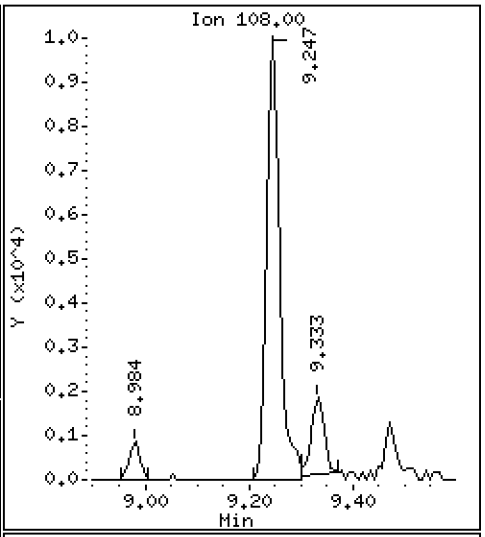
Column phase: ZB-5msi

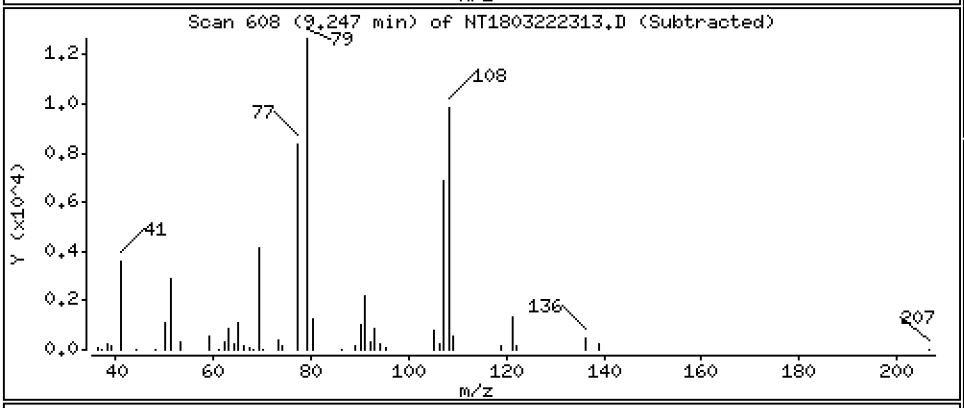
Column diameter: 0.25

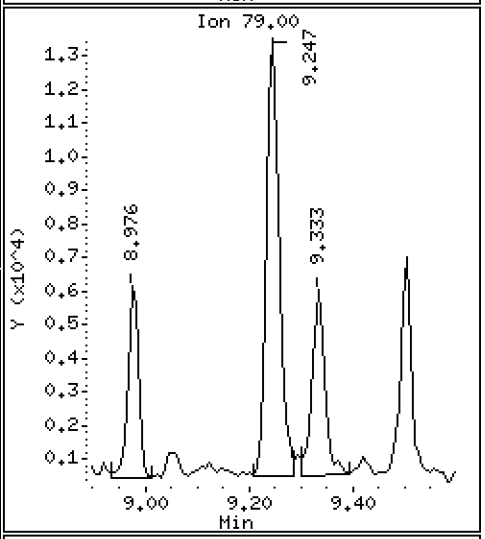
11 Benzyl alcohol

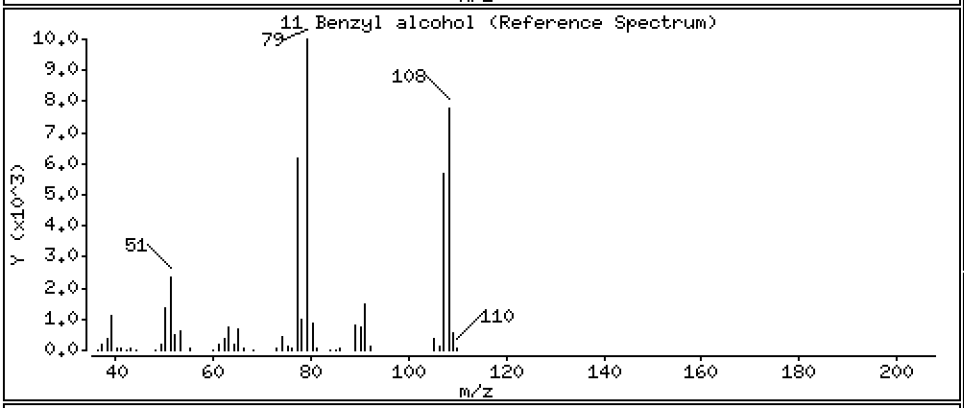
Concentration: 0.2820 ug/mL

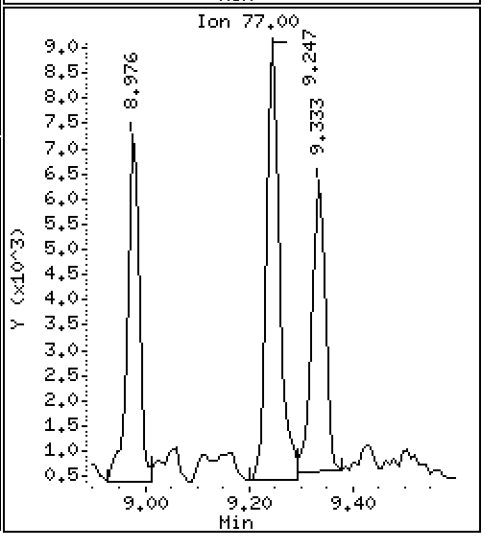


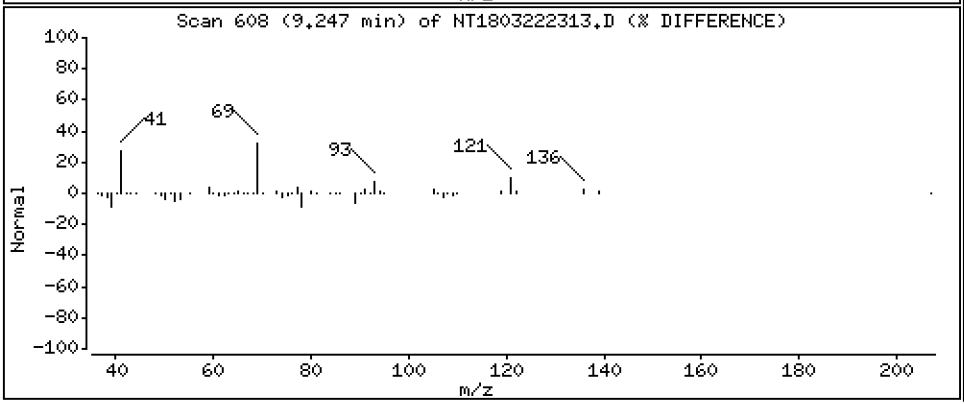












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Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

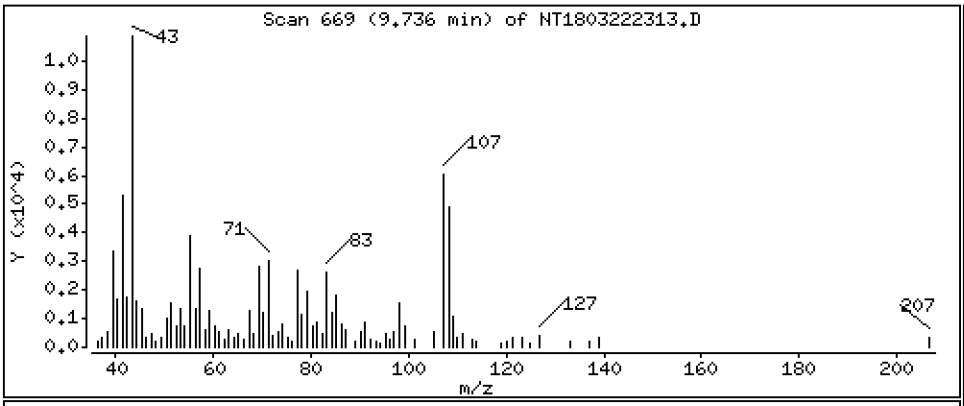
Operator: VTS

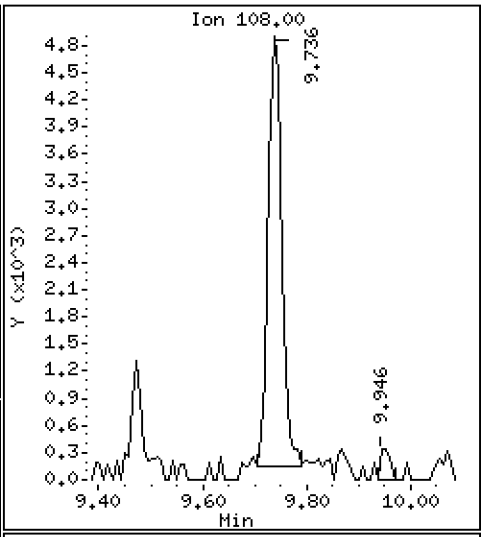
Column phase: ZB-5msi

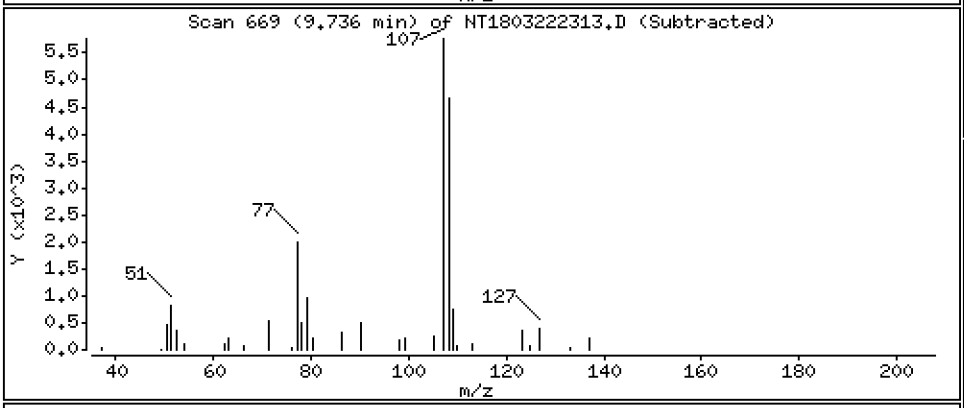
Column diameter: 0.25

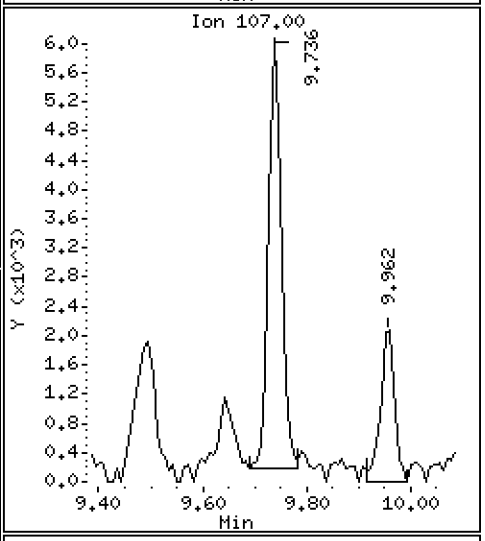
15 4-Methylphenol

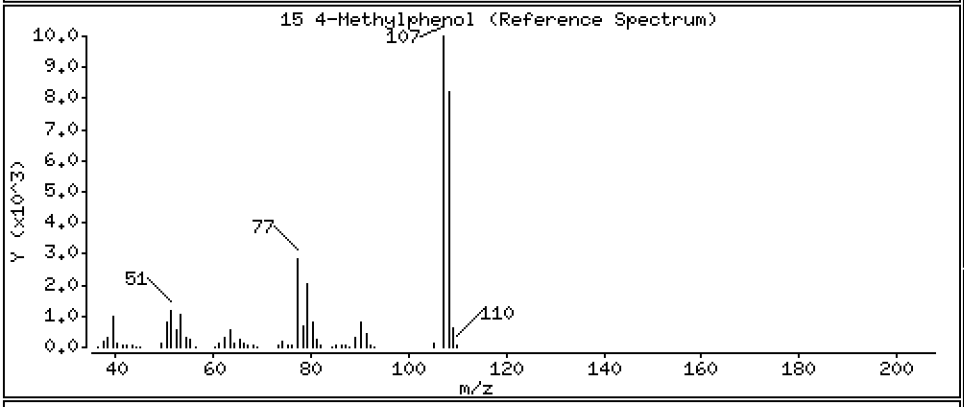
Concentration: 0.08201 ug/mL

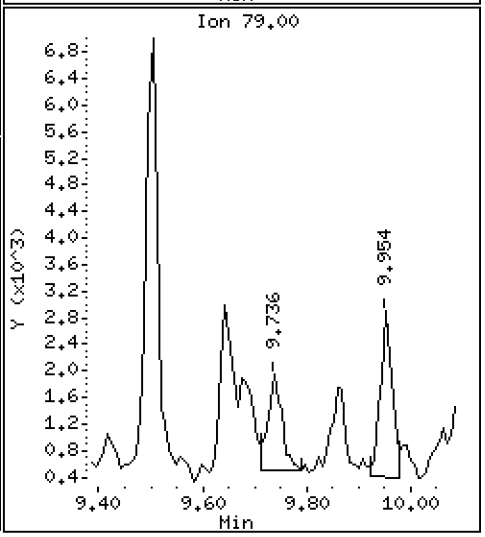


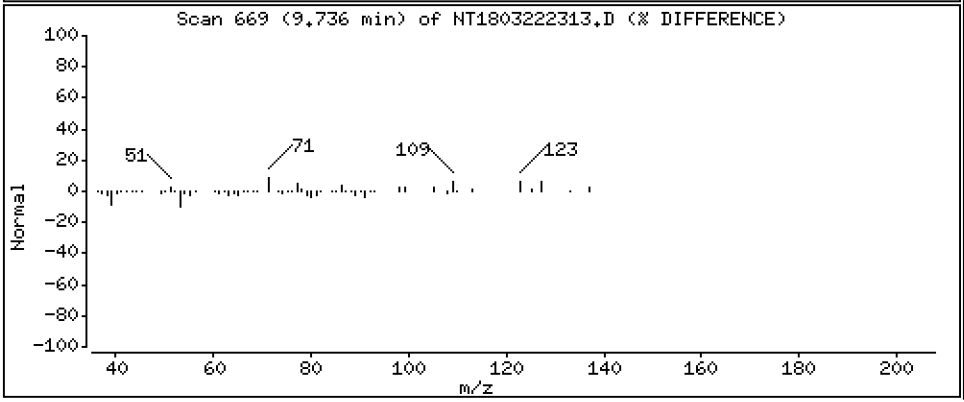












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Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

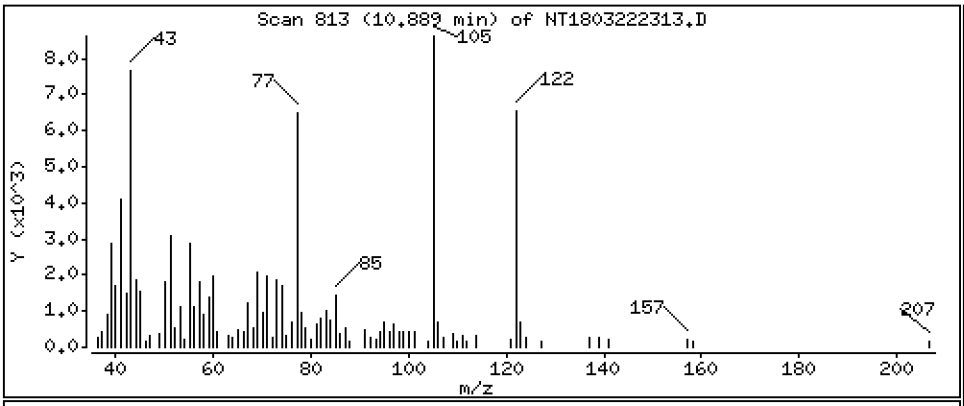
Operator: VTS

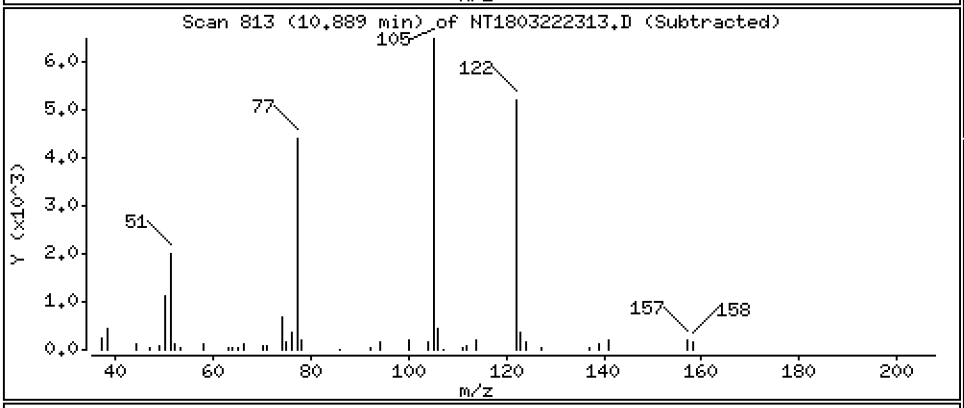
Column phase: ZB-5msi

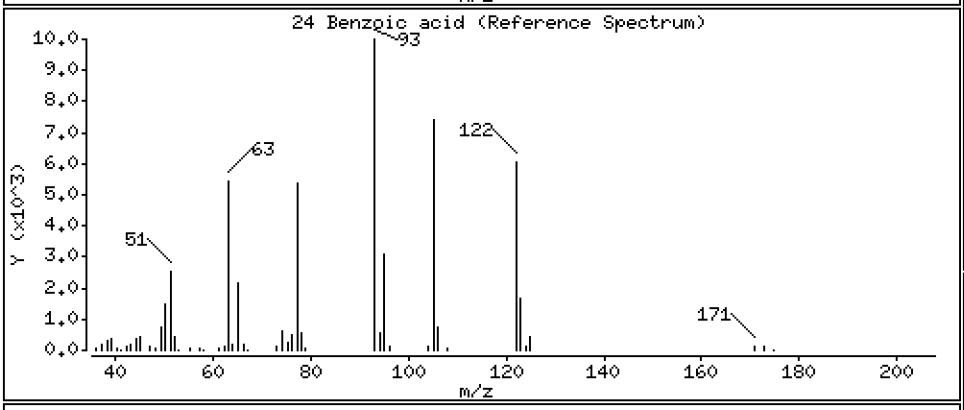
Column diameter: 0.25

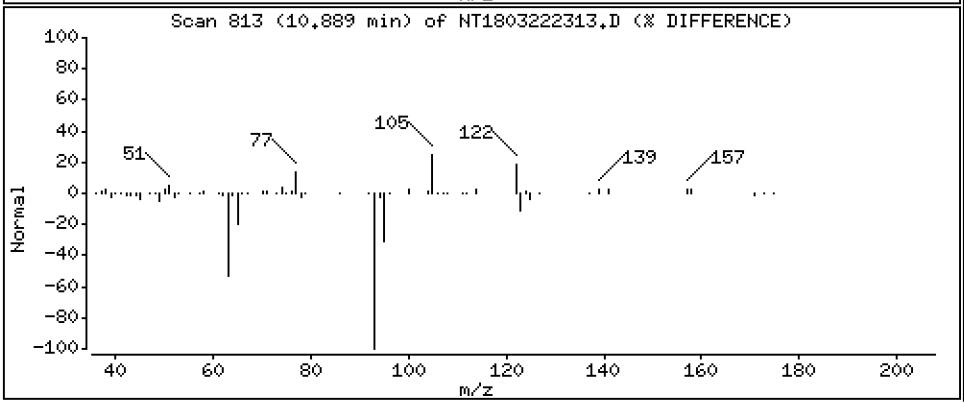
24 Benzoic acid

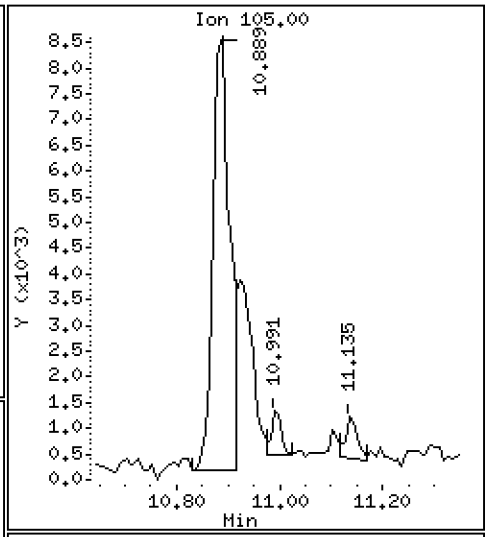
Concentration: 0.2882 ug/mL

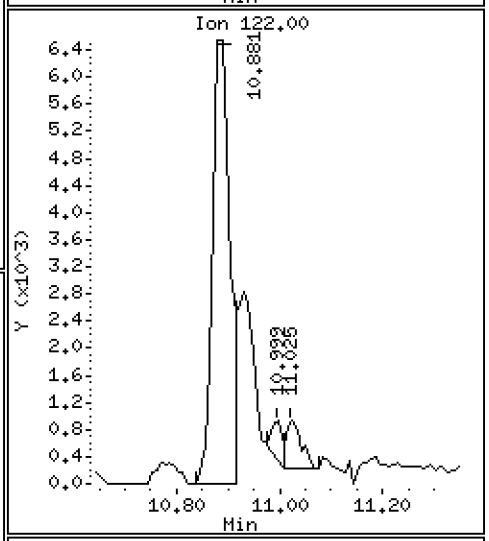


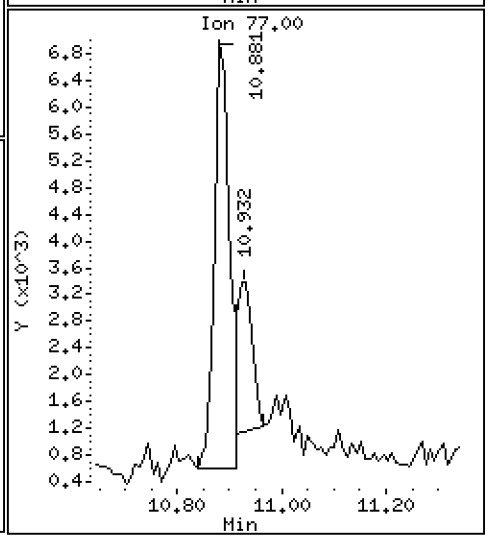












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Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

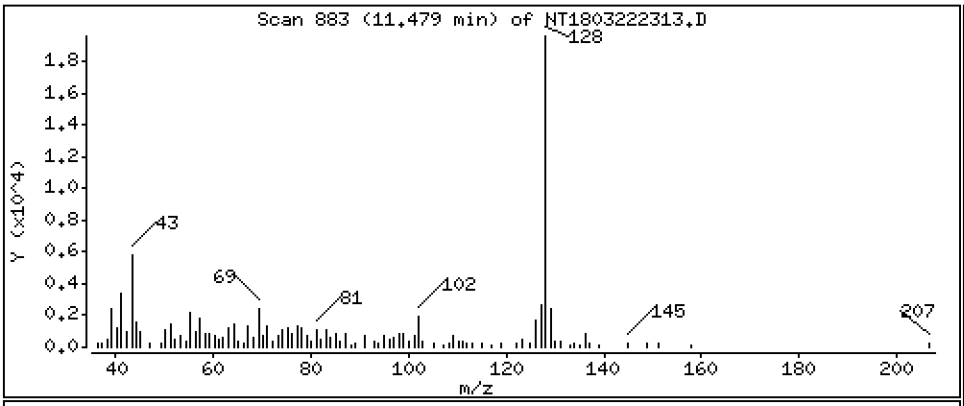
Operator: VTS

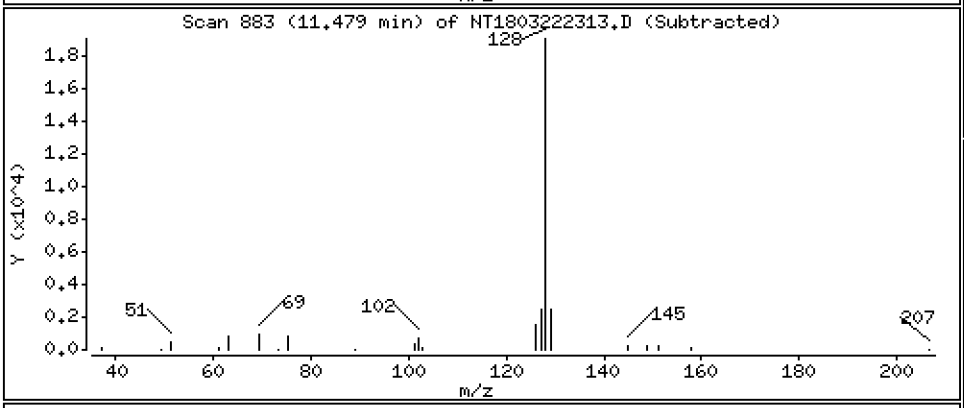
Column phase: ZB-5msi

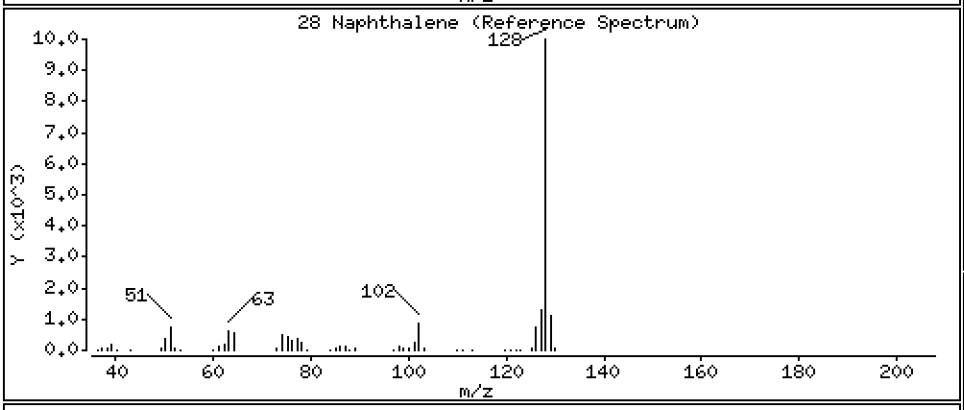
Column diameter: 0.25

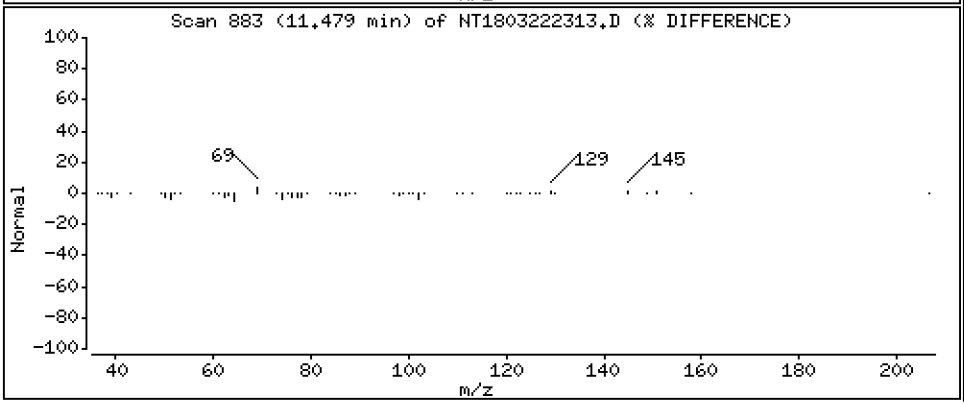
28 Naphthalene

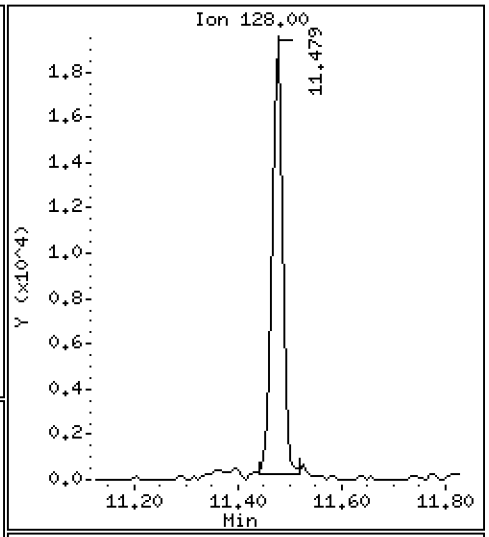
Concentration: 0.09124 ug/mL

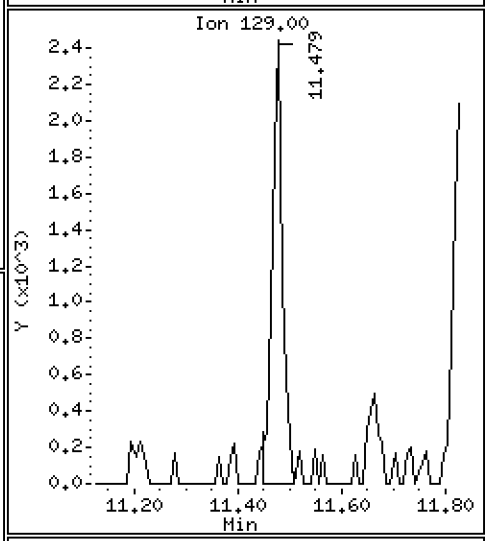


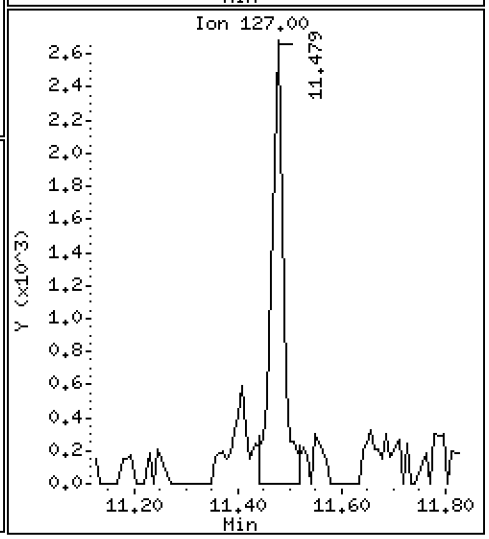












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Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

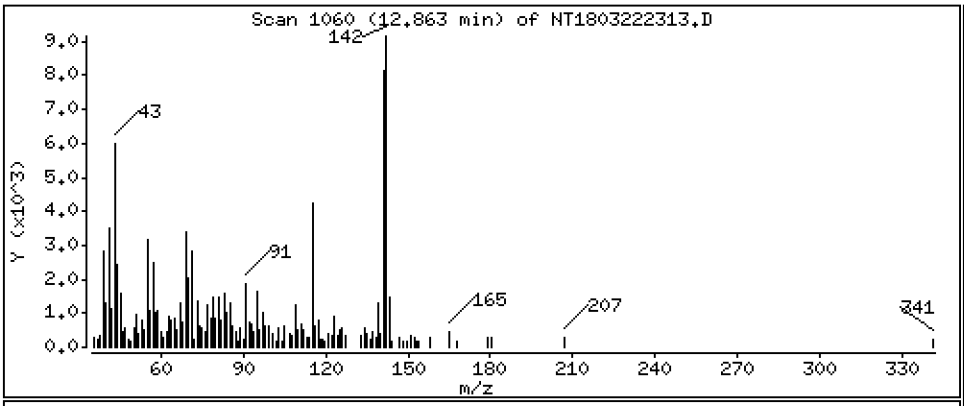
Operator: VTS

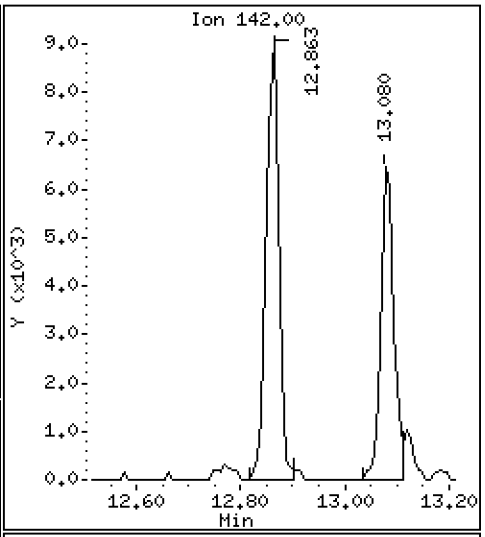
Column phase: ZB-5msi

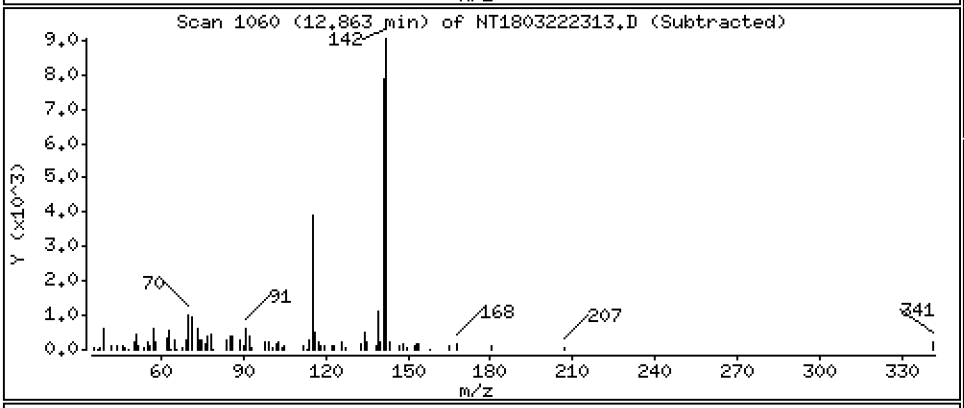
Column diameter: 0.25

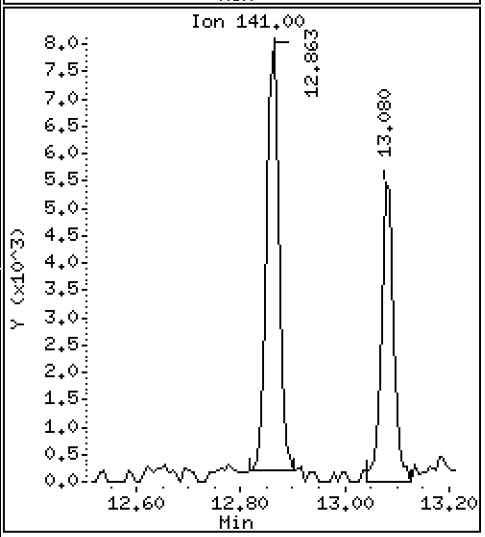
32 2-Methylnaphthalene

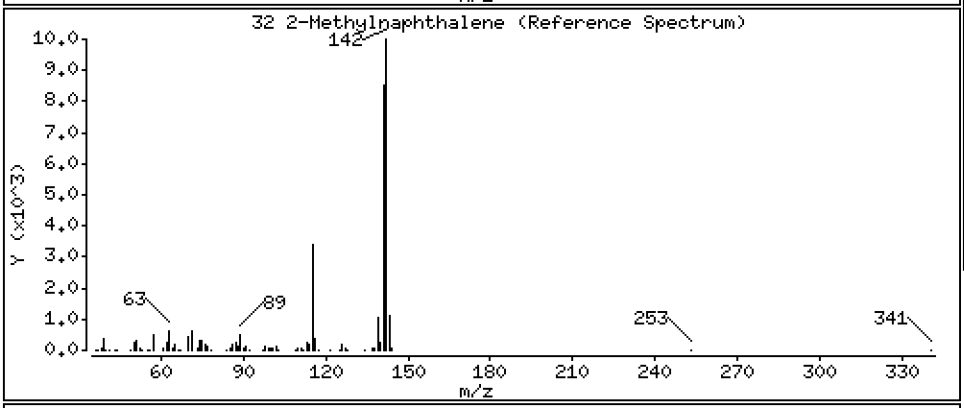
Concentration: 0.07205 ug/mL

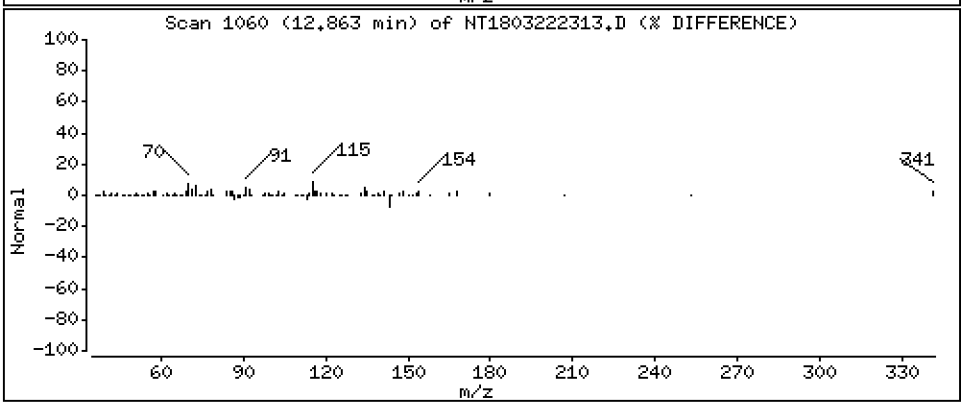












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222313.D

Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

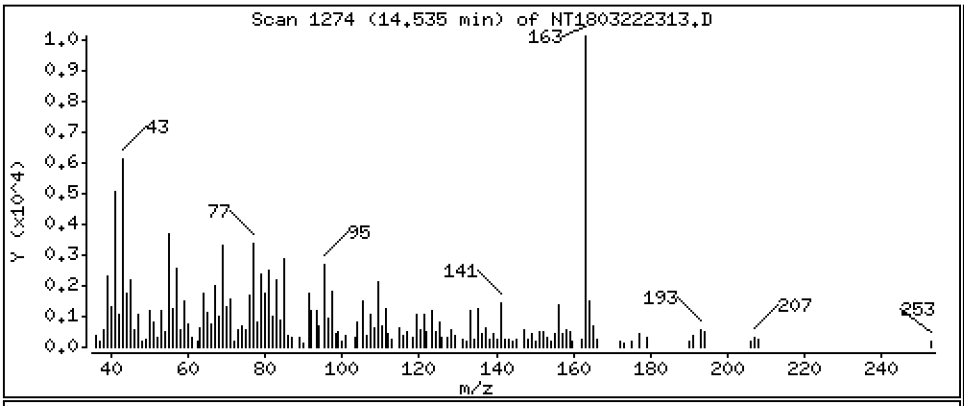
Operator: VTS

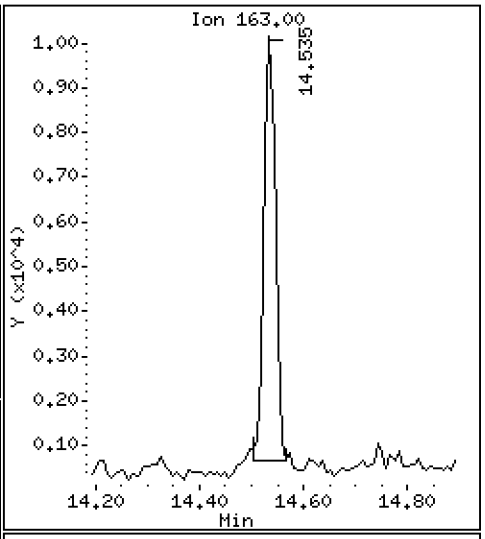
Column phase: ZB-5msi

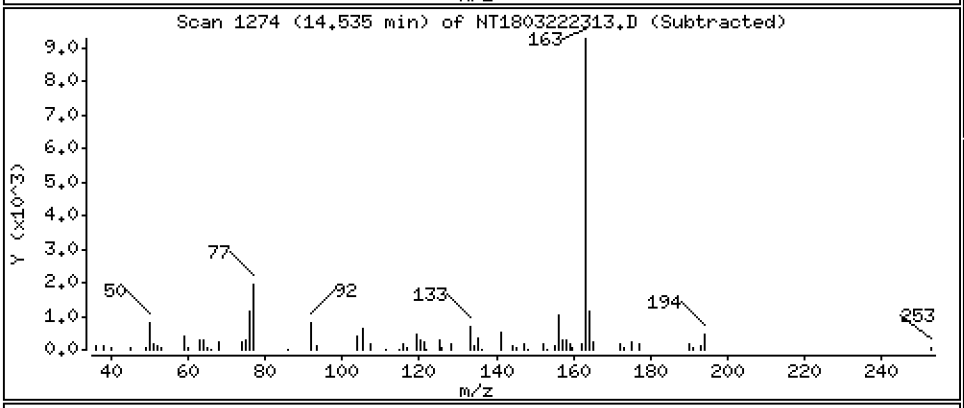
Column diameter: 0.25

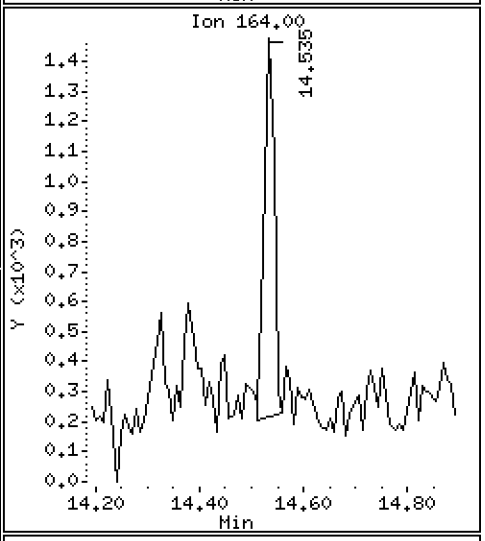
39 Dimethylphthalate

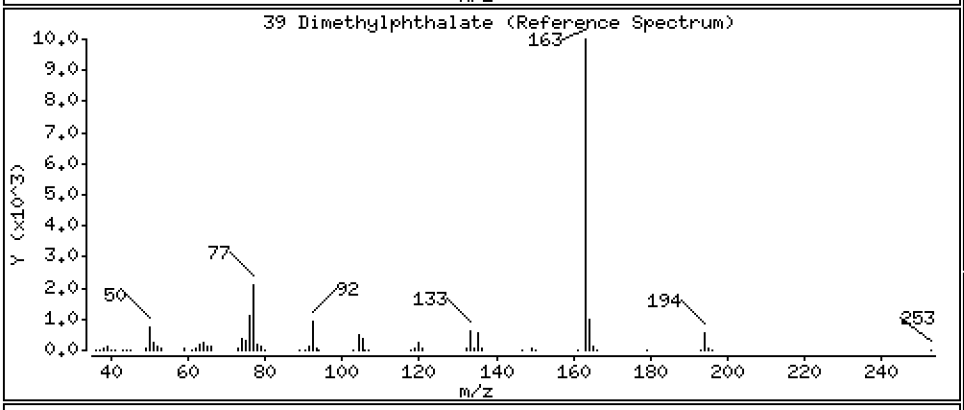
Concentration: 0.07875 ug/mL

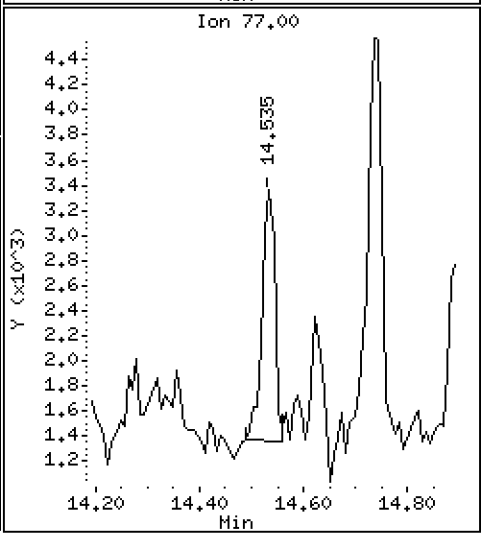


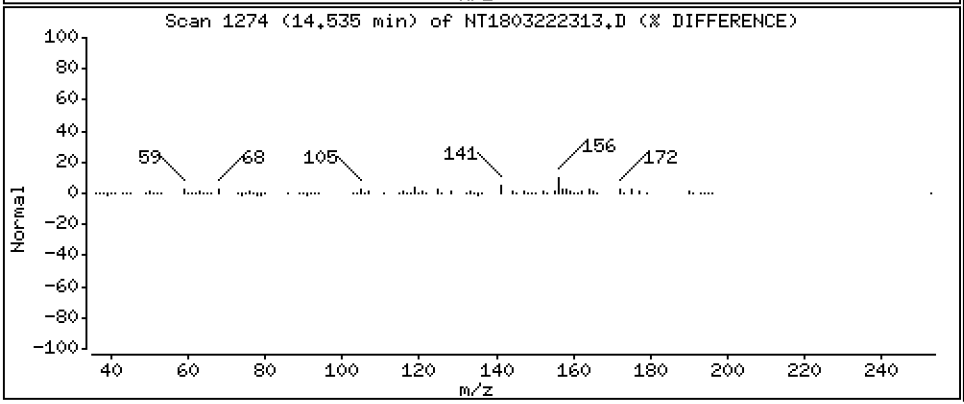












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222313.D

Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

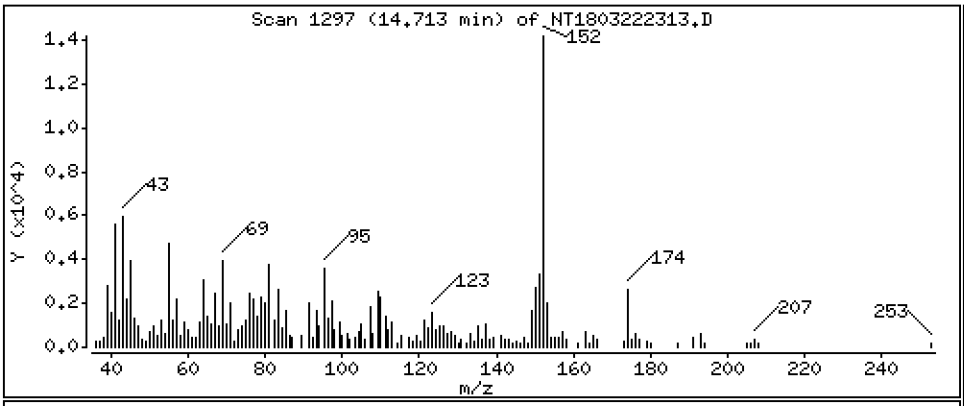
Operator: VTS

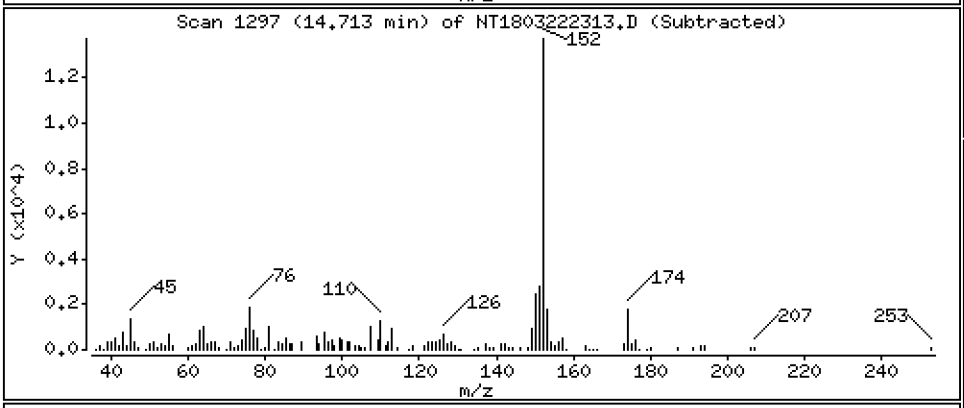
Column phase: ZB-5msi

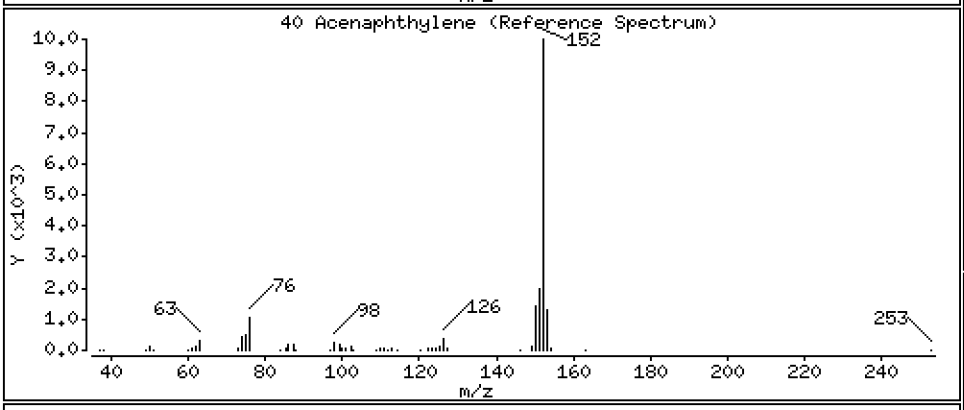
Column diameter: 0.25

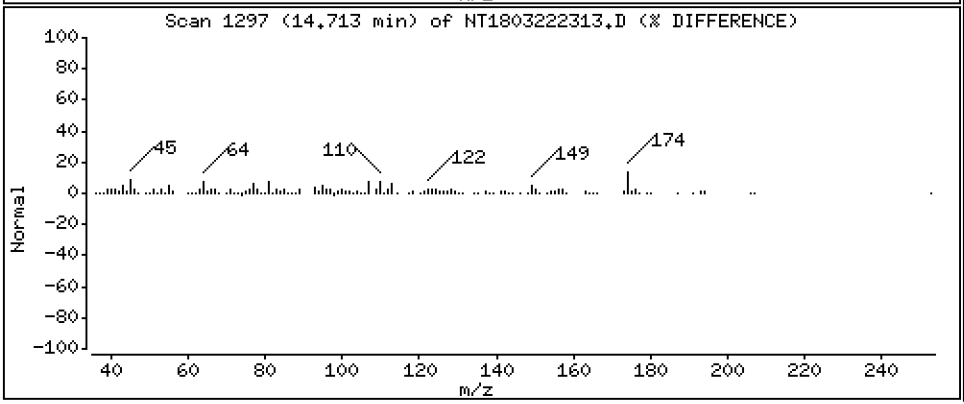
40 Acenaphthylene

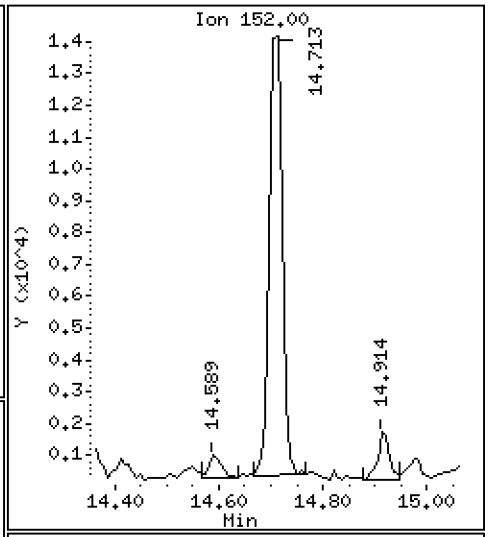
Concentration: 0.08006 ug/mL

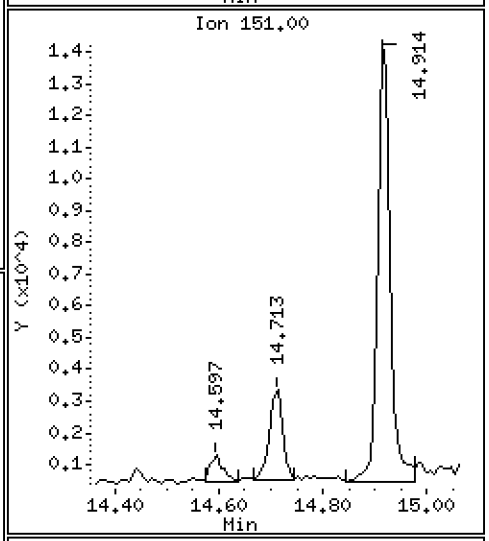


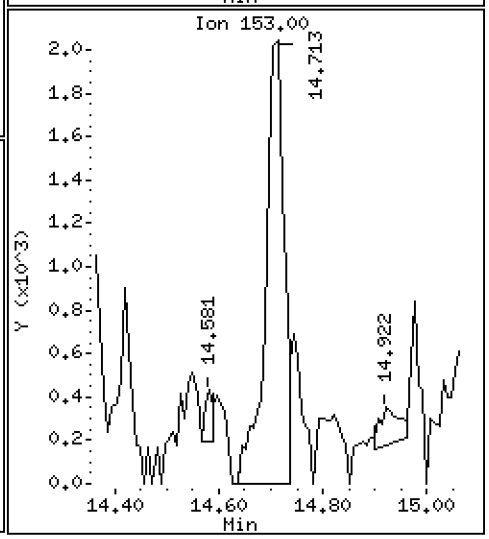












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Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

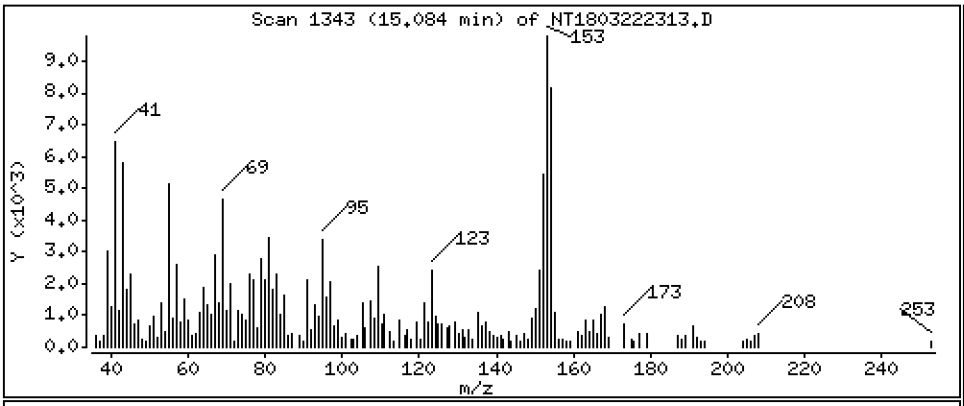
Operator: VTS

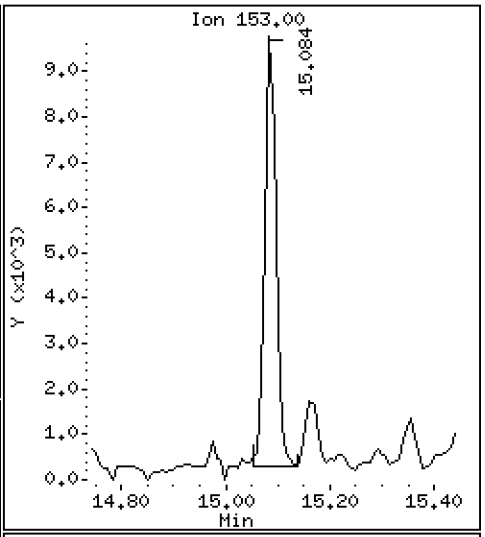
Column phase: ZB-5msi

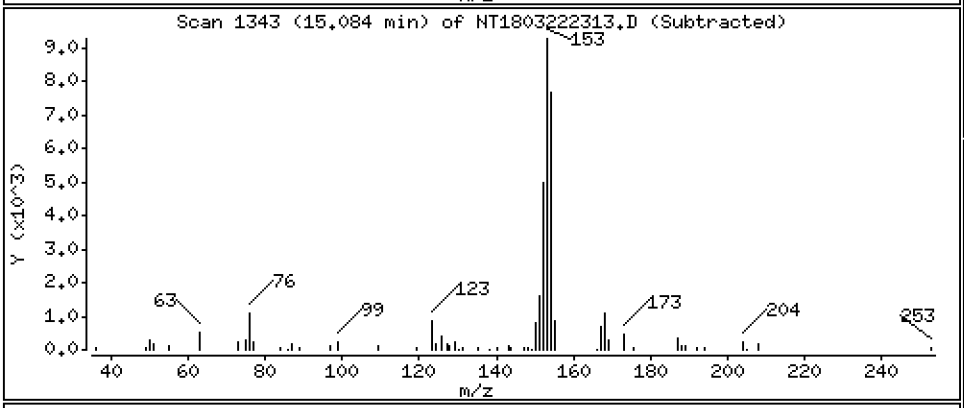
Column diameter: 0.25

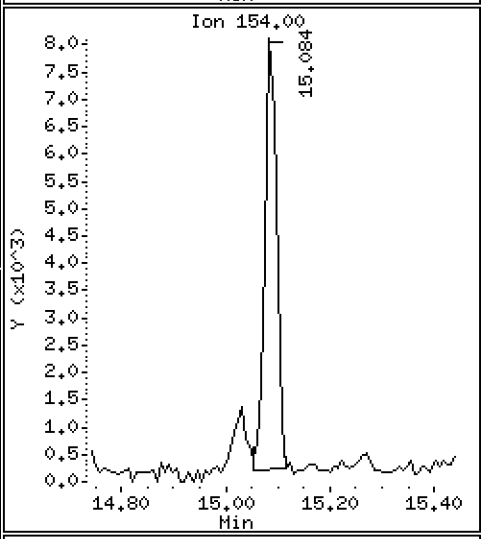
44 Acenaphthene

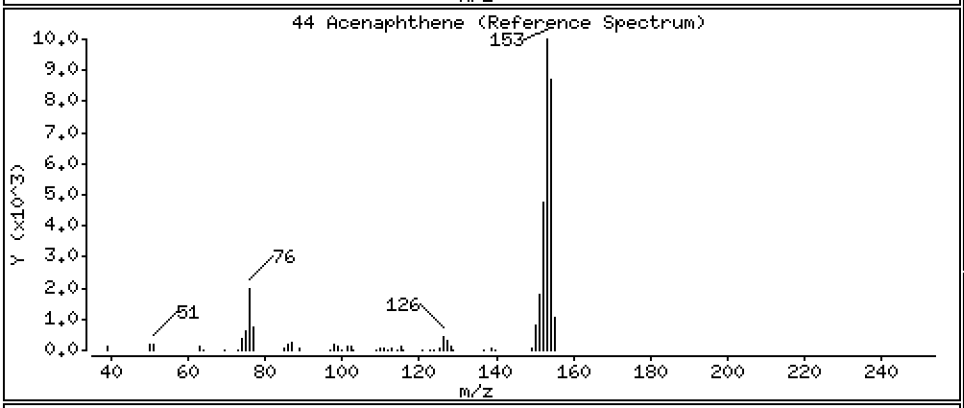
Concentration: 0.07481 ug/mL

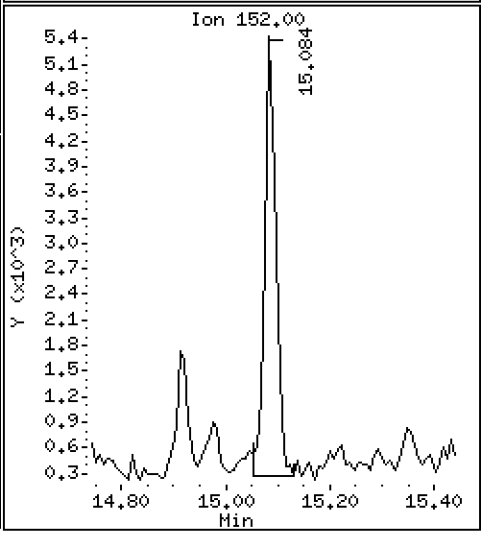


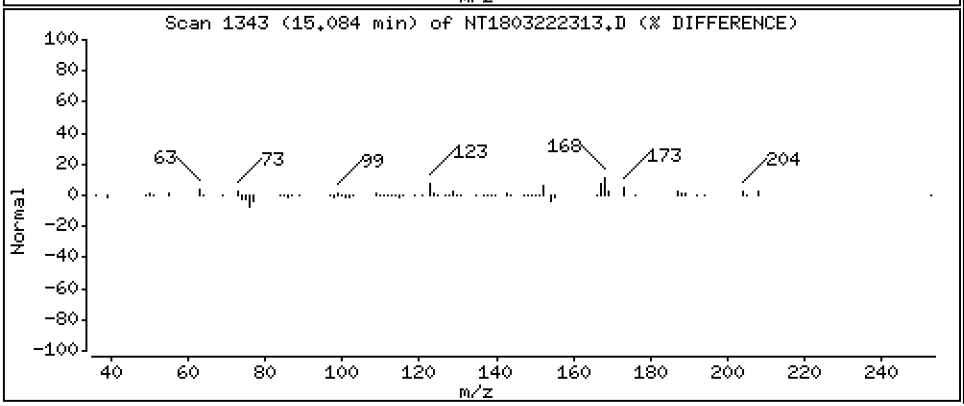












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Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

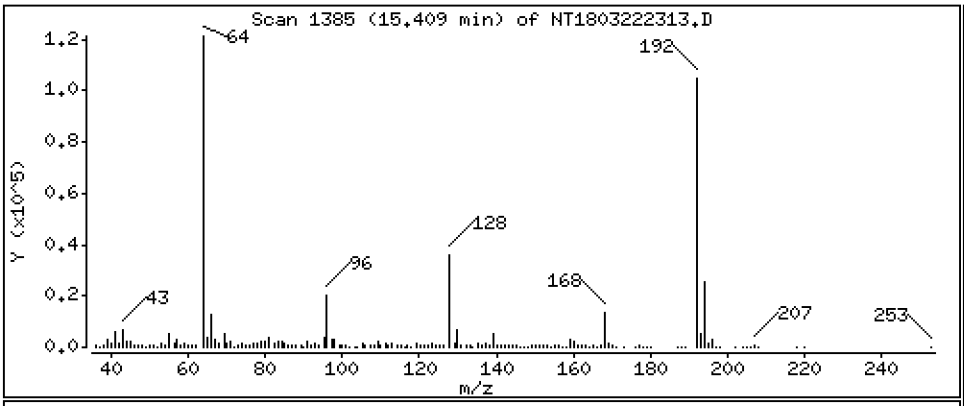
Operator: VTS

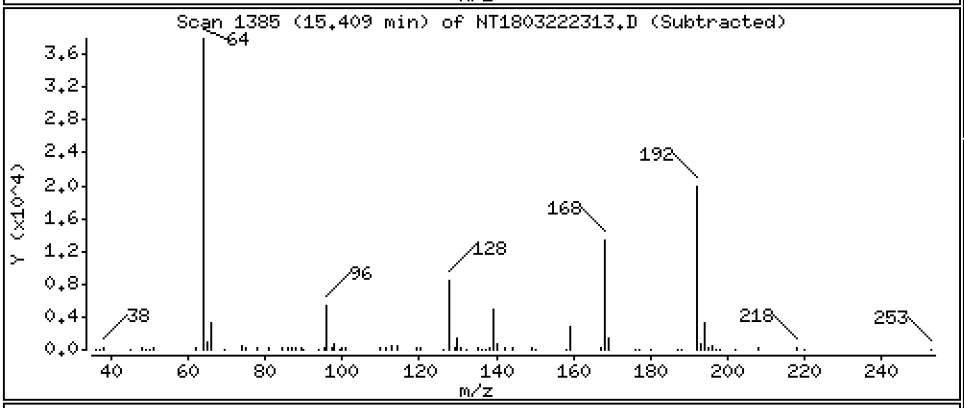
Column phase: ZB-5msi

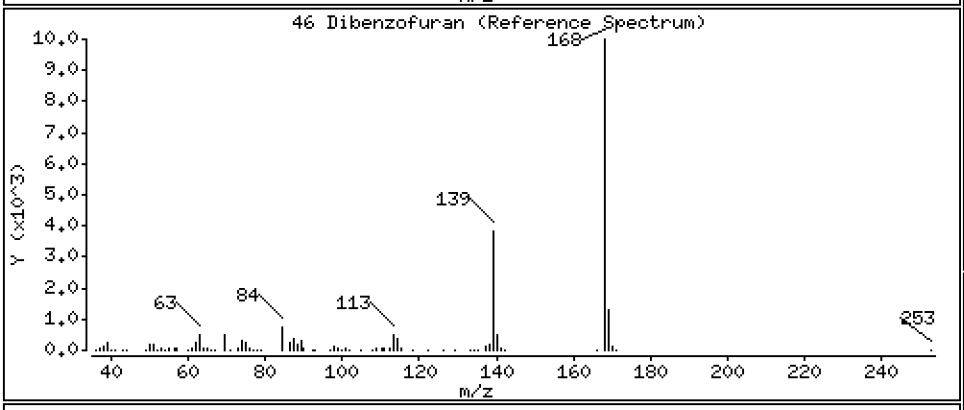
Column diameter: 0.25

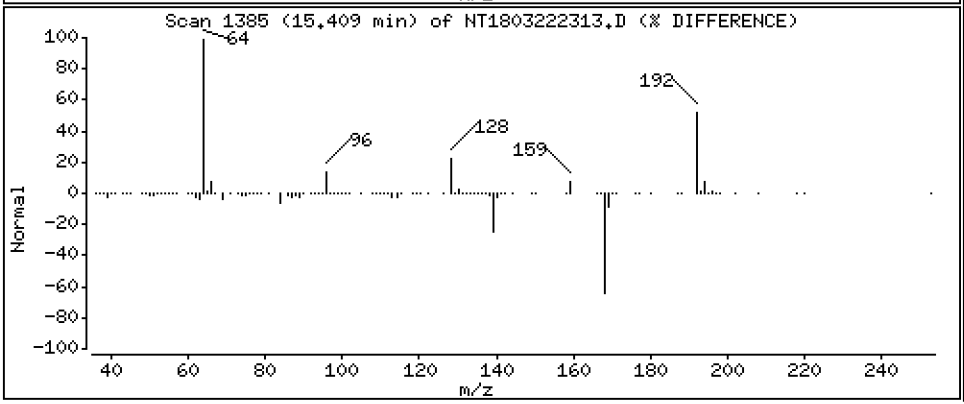
46 Dibenzofuran

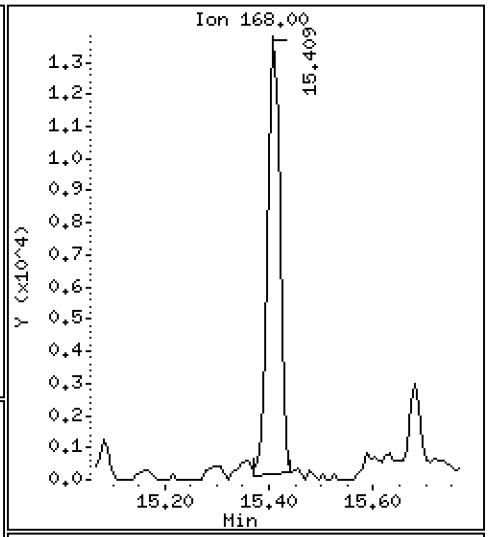
Concentration: 0.08502 ug/mL

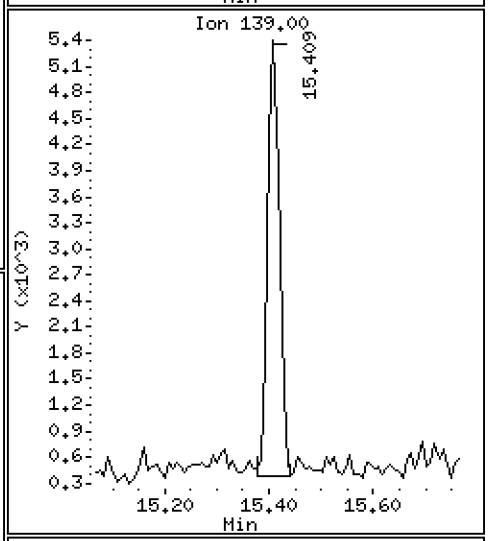


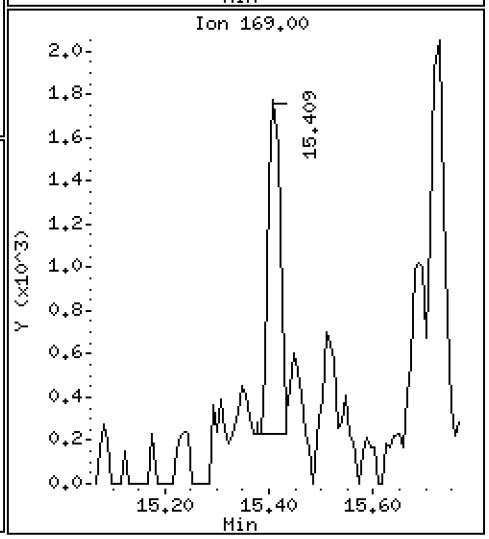












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Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

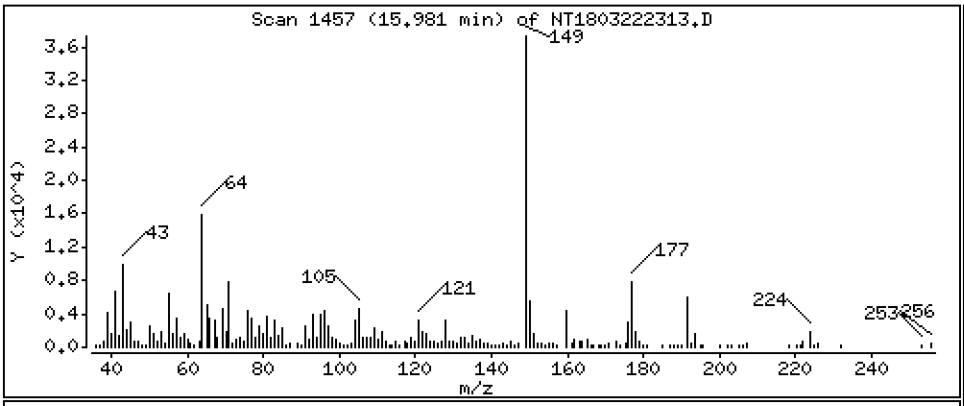
Operator: VTS

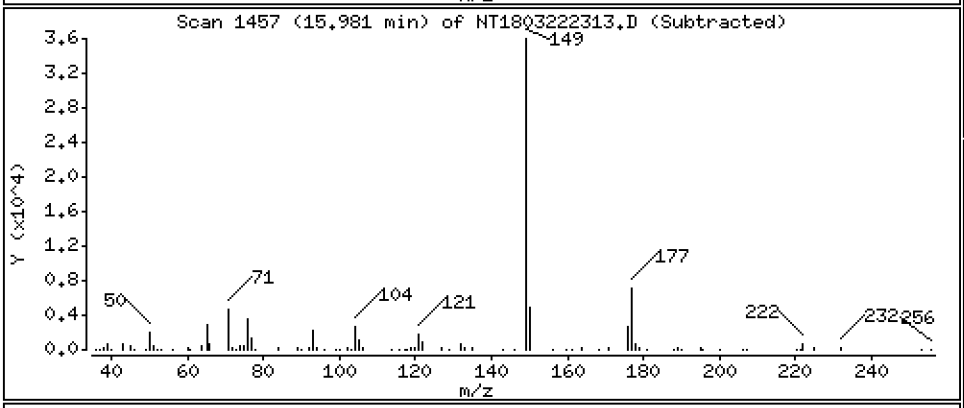
Column phase: ZB-5msi

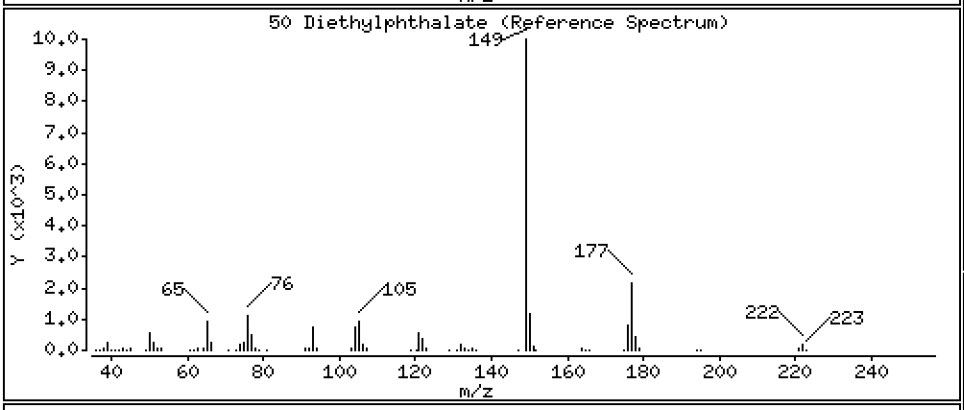
Column diameter: 0.25

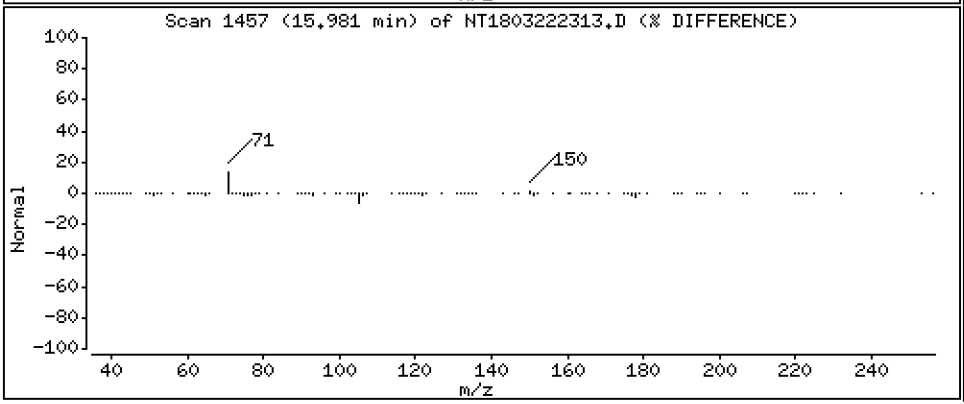
50 Diethylphthalate

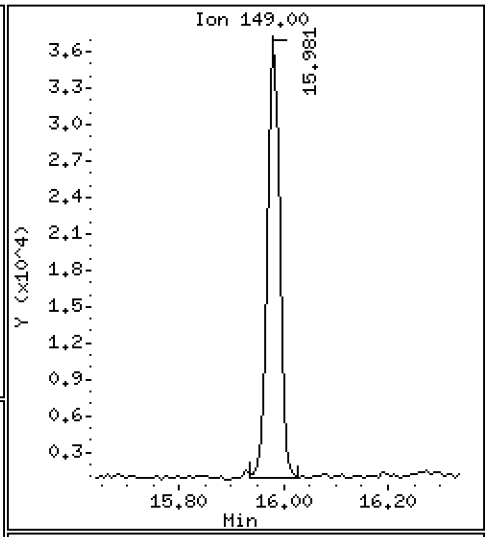
Concentration: 0.3167 ug/mL

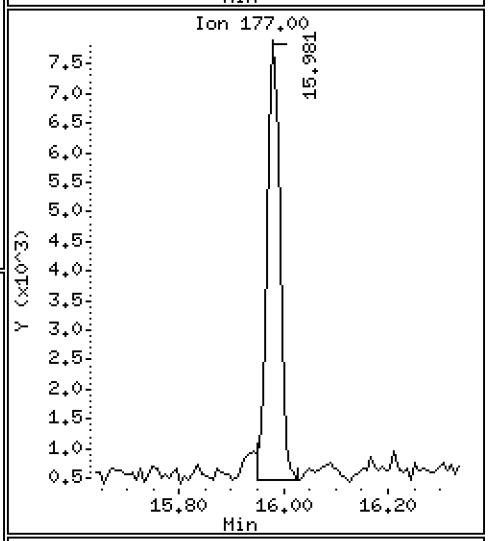


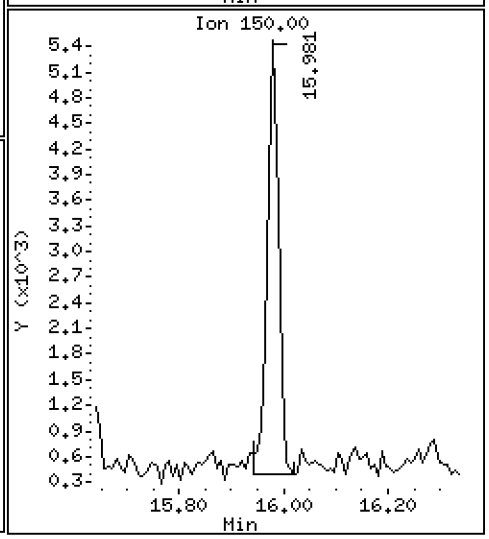












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Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

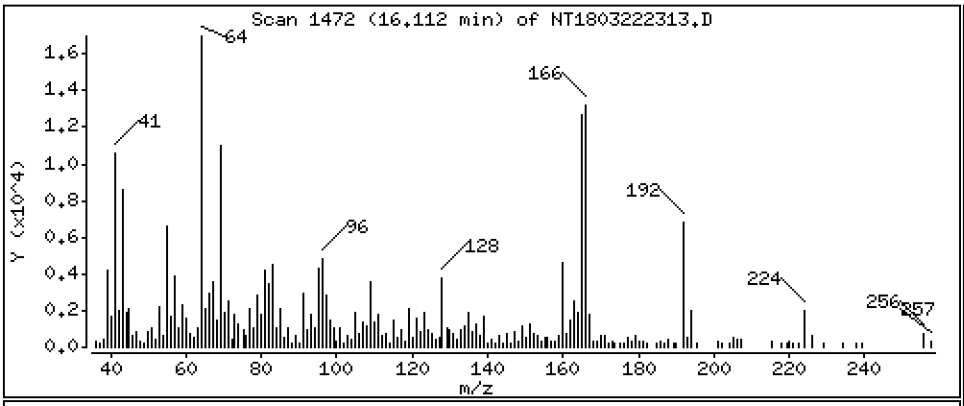
Operator: VTS

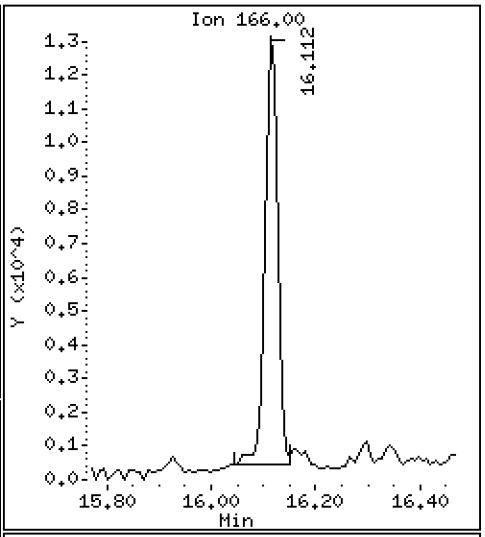
Column phase: ZB-5msi

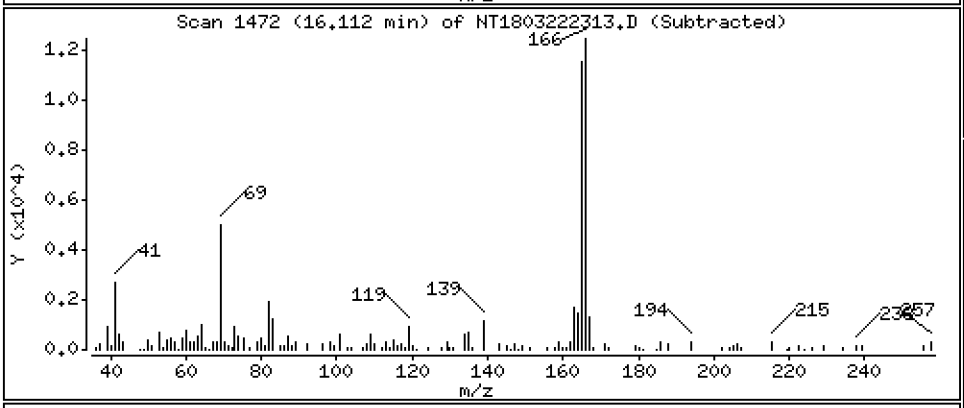
Column diameter: 0.25

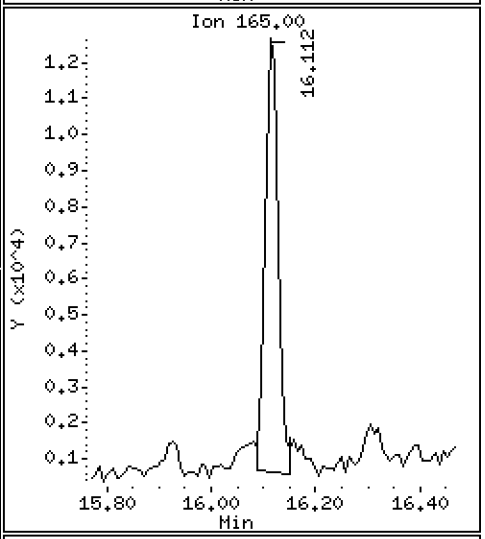
49 Fluorene

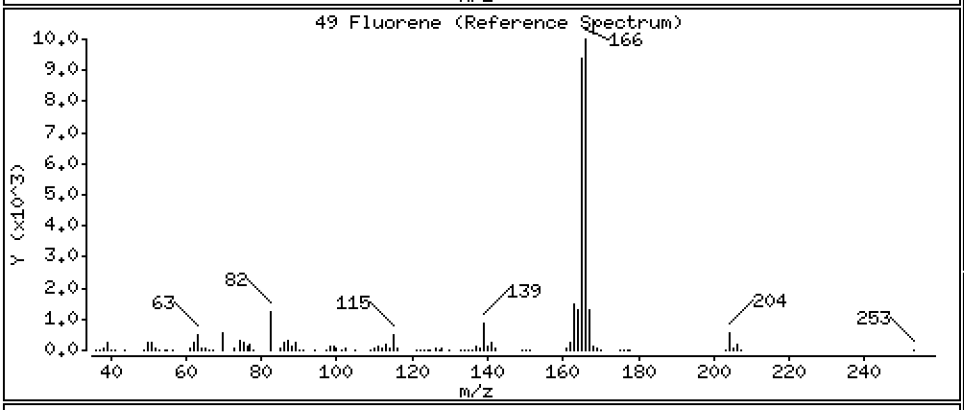
Concentration: 0.1063 ug/mL

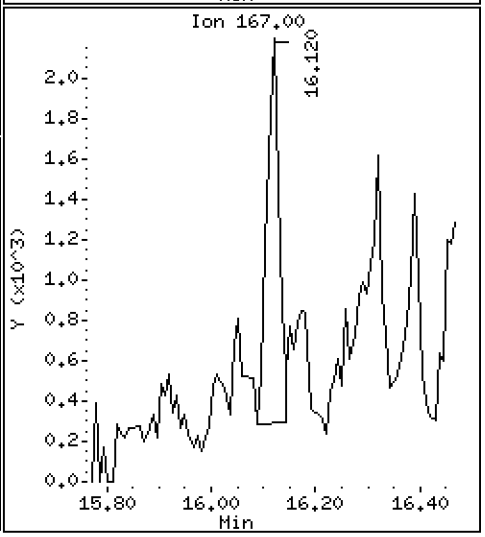


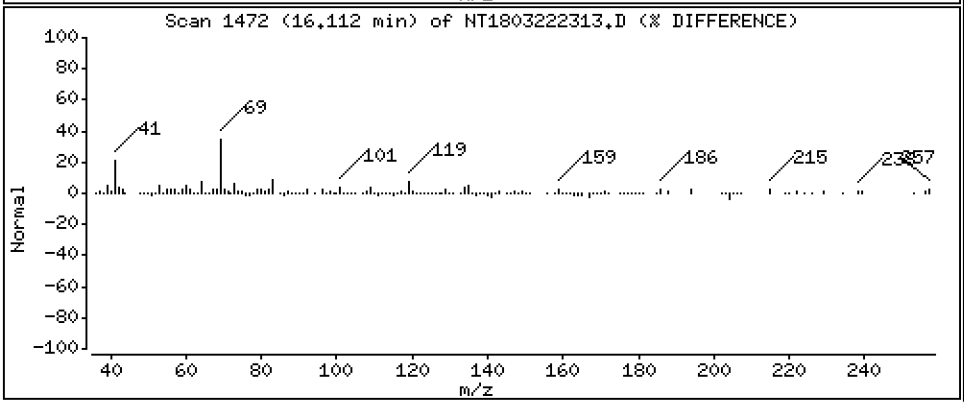












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Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

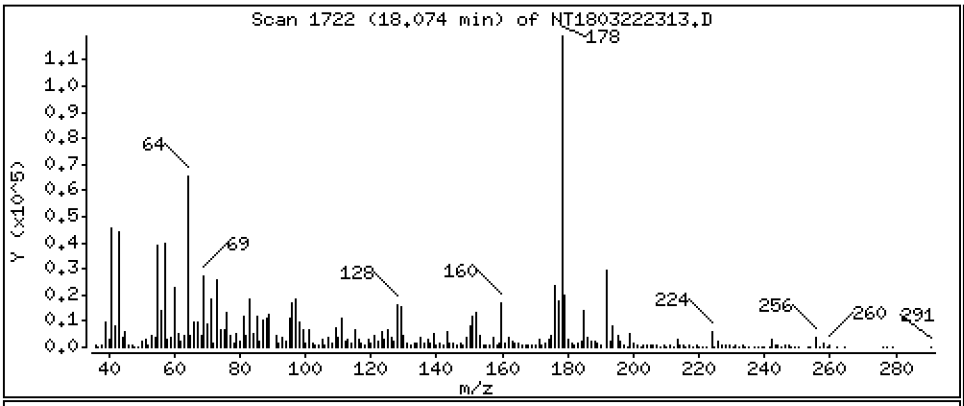
Operator: VTS

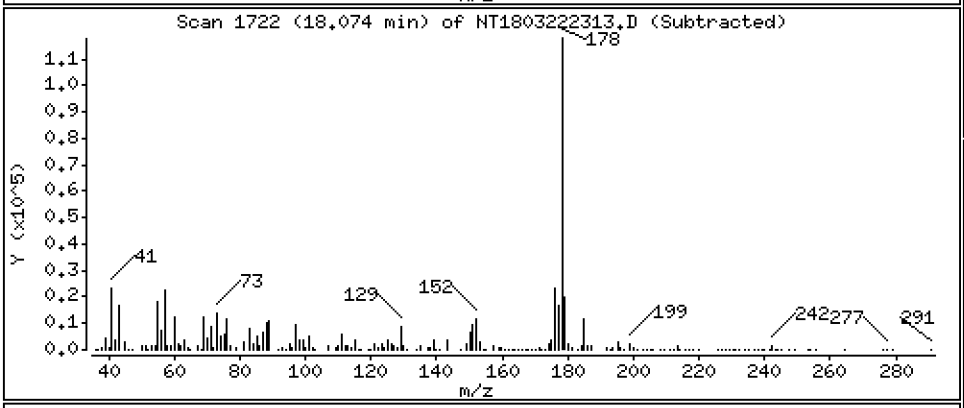
Column phase: ZB-5msi

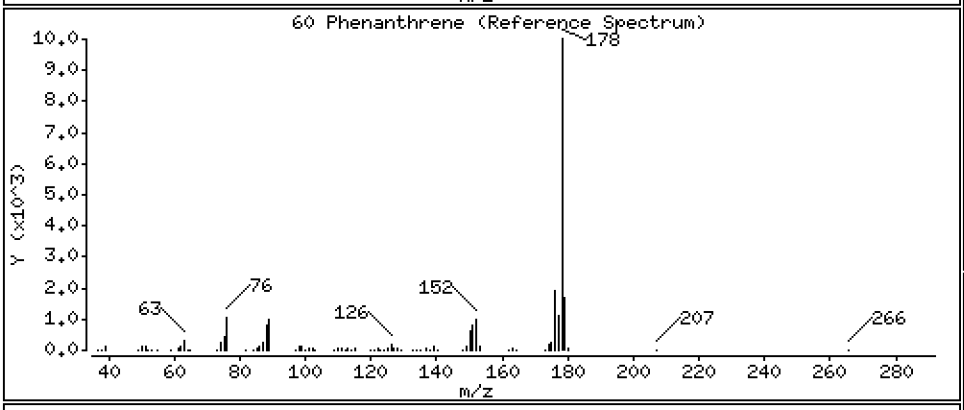
Column diameter: 0.25

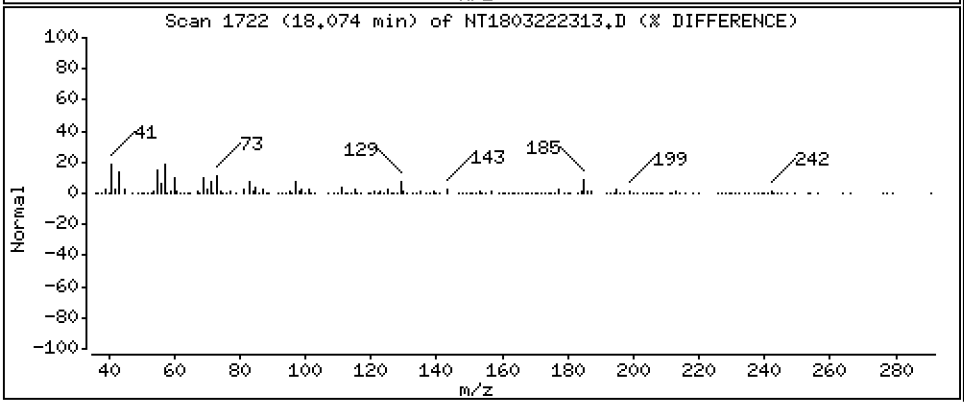
60 Phenanthrene

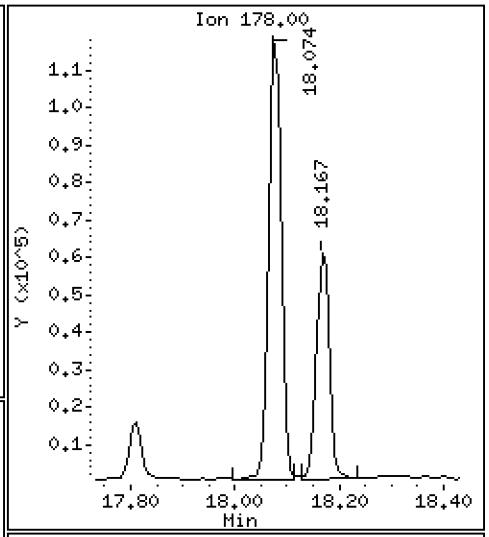
Concentration: 0.6795 ug/mL

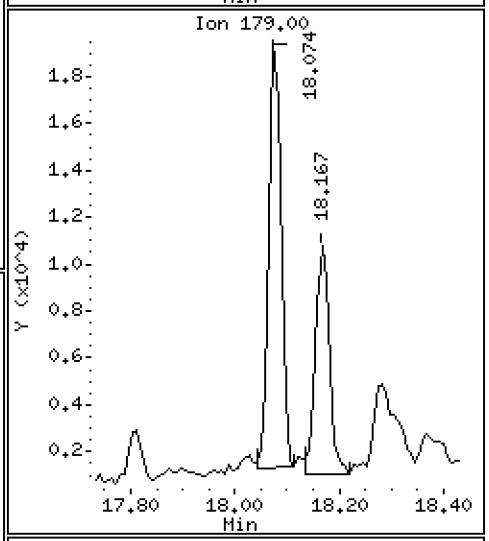


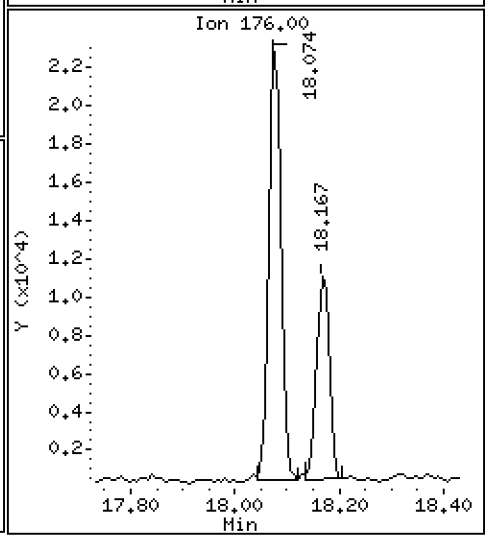












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Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

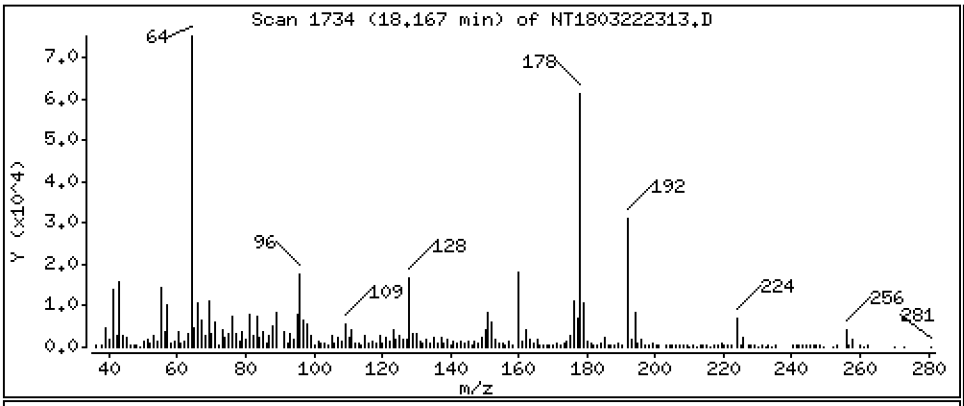
Operator: VTS

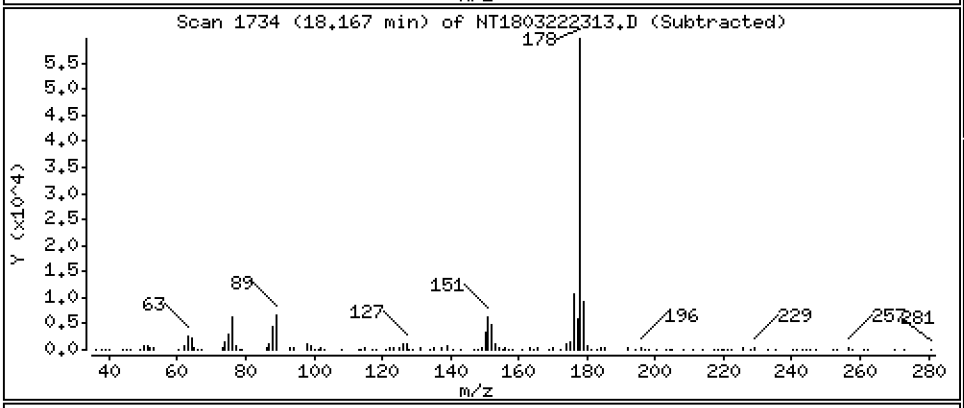
Column phase: ZB-5msi

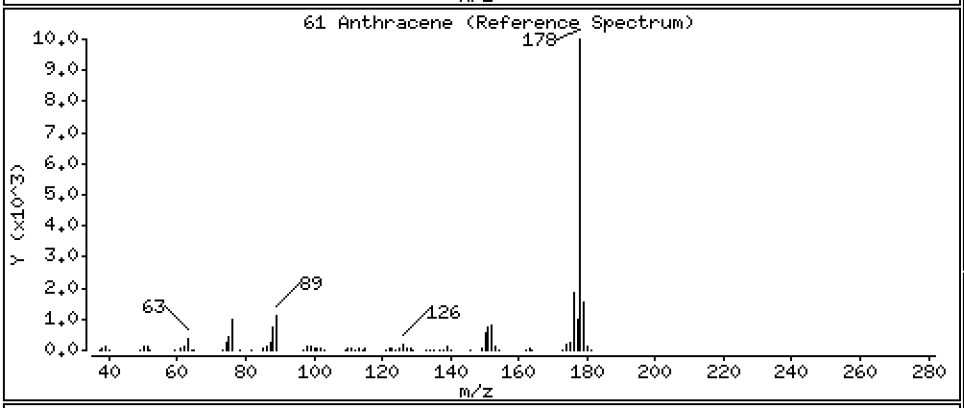
Column diameter: 0.25

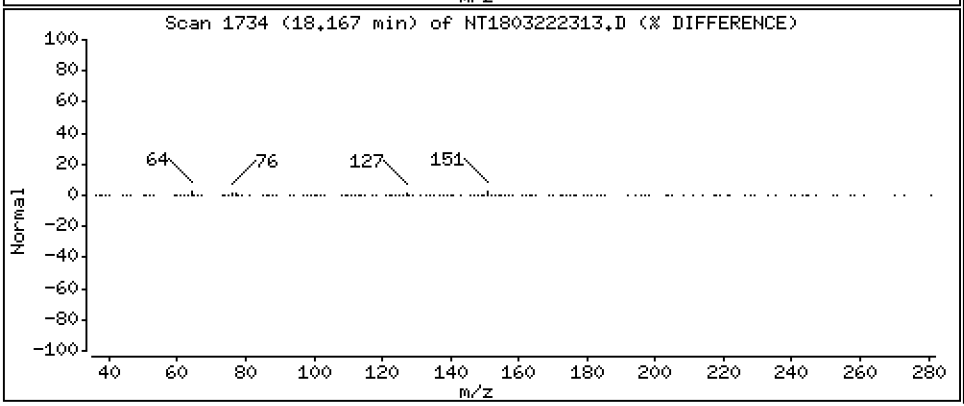
61 Anthracene

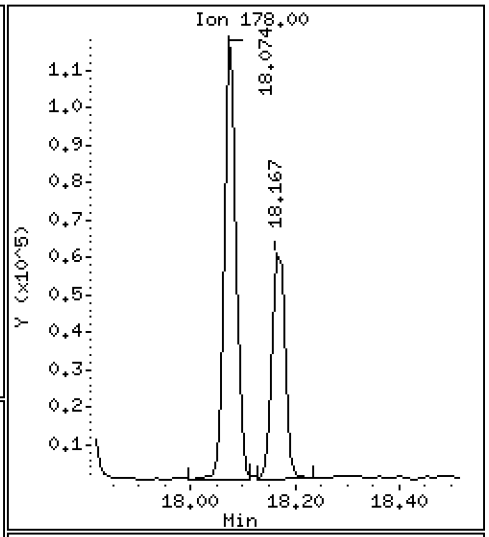
Concentration: 0.3838 ug/mL

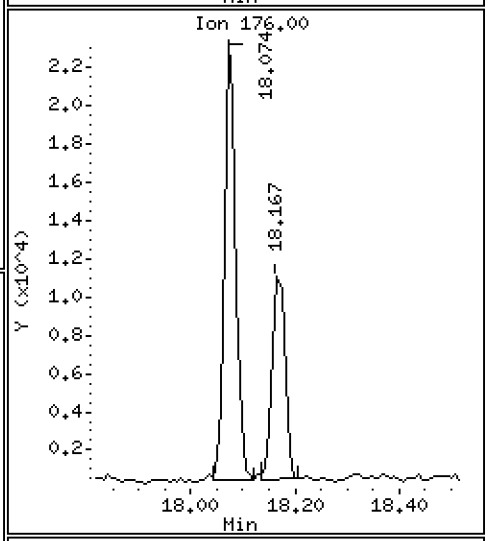


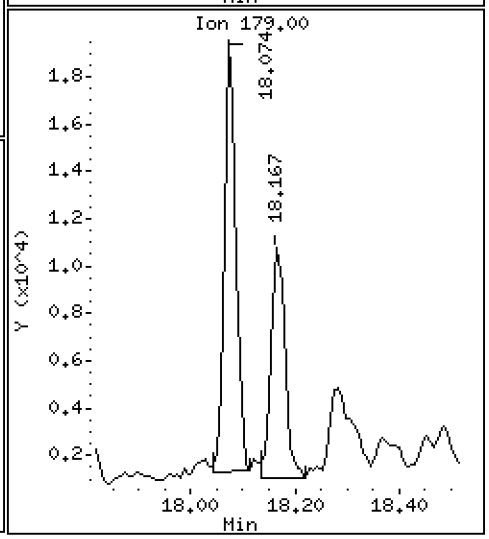












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222313.D

Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

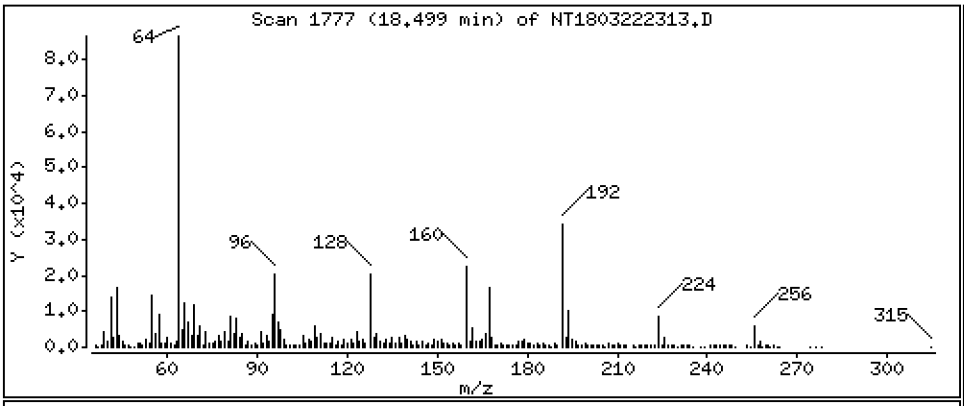
Operator: VTS

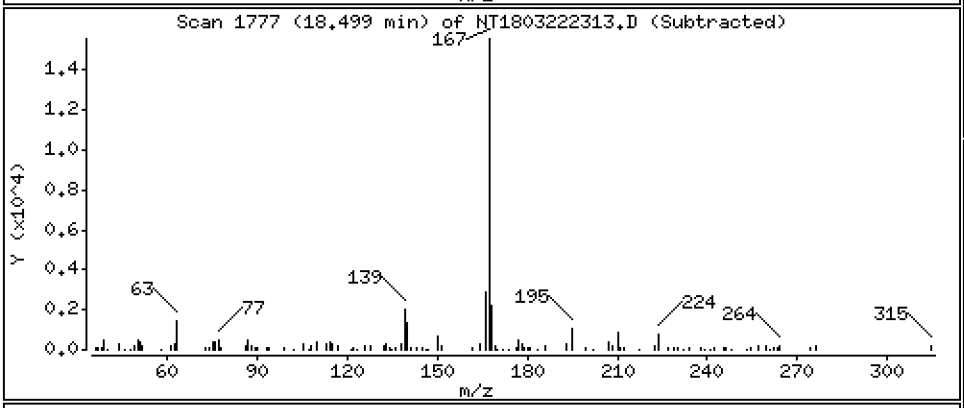
Column phase: ZB-5msi

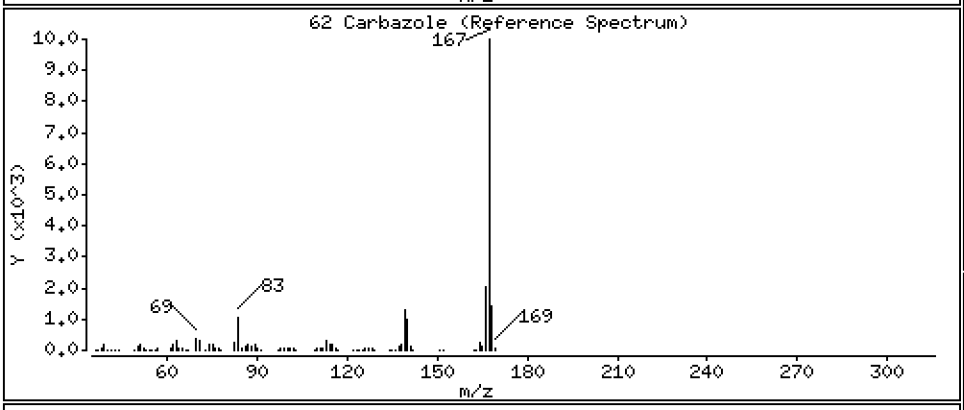
Column diameter: 0.25

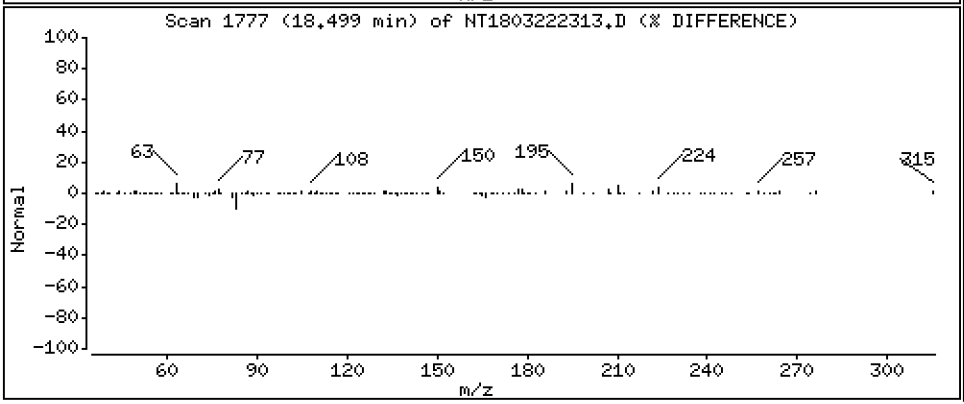
62 Carbazole

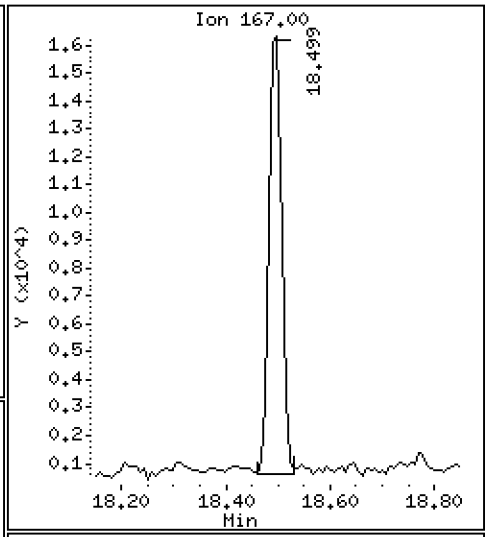
Concentration: 0.1116 ug/mL

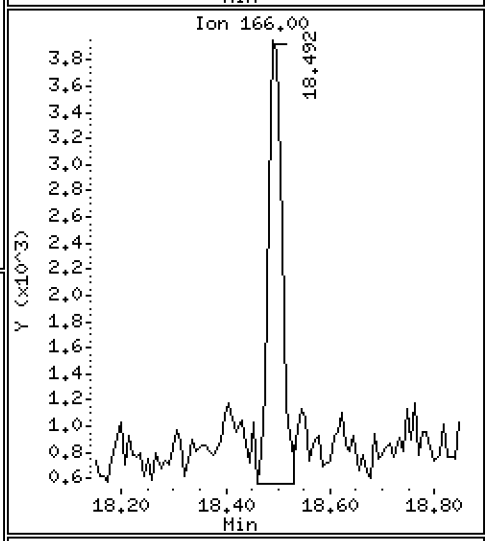


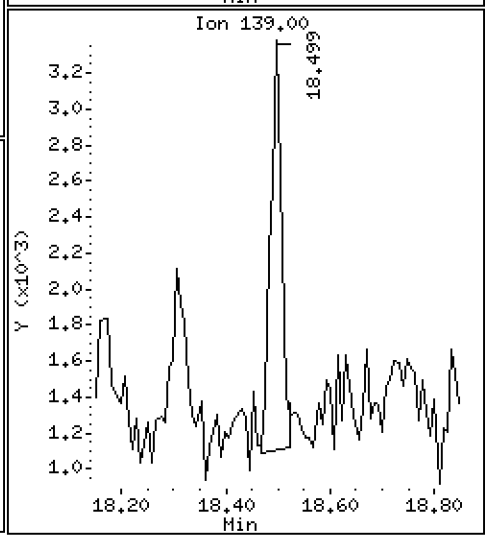












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222313.D

Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

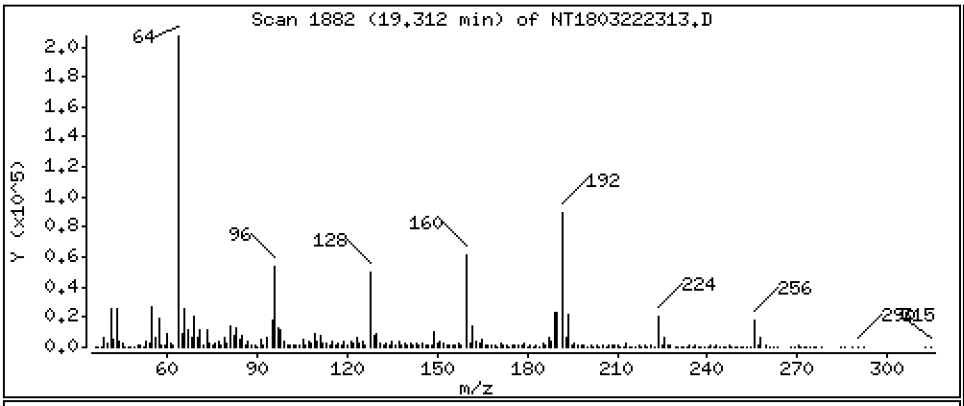
Operator: VTS

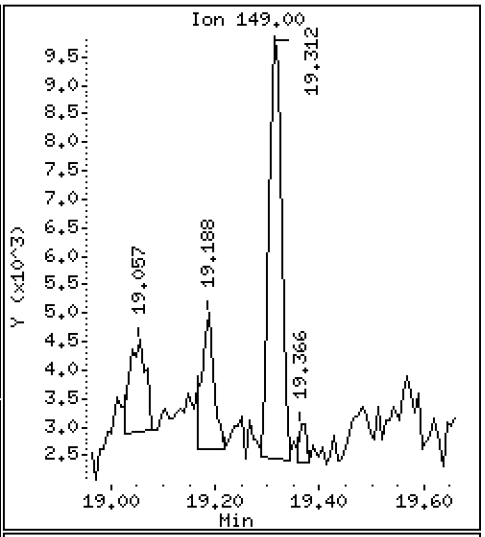
Column phase: ZB-5msi

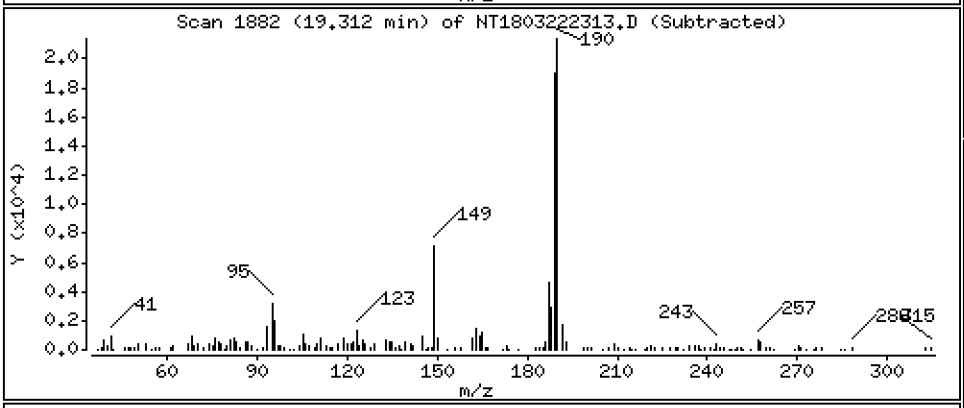
Column diameter: 0.25

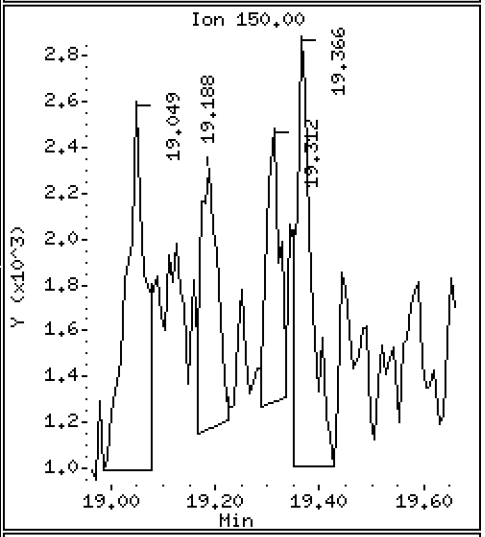
63 Di-n-butylphthalate

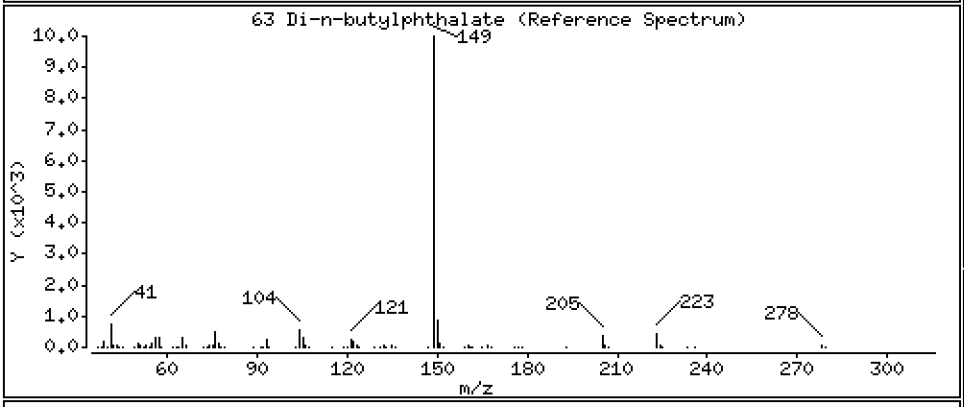
Concentration: 0.03846 ug/mL

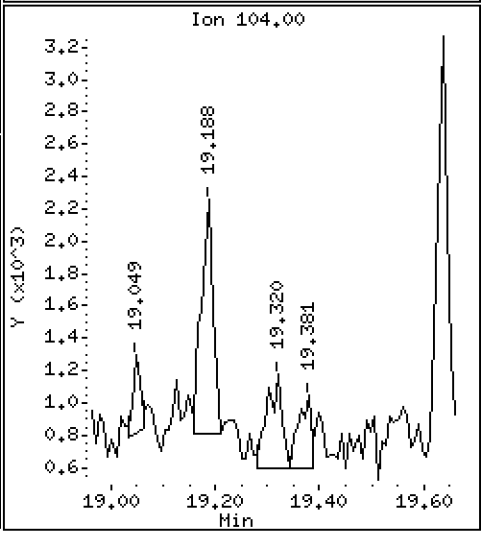


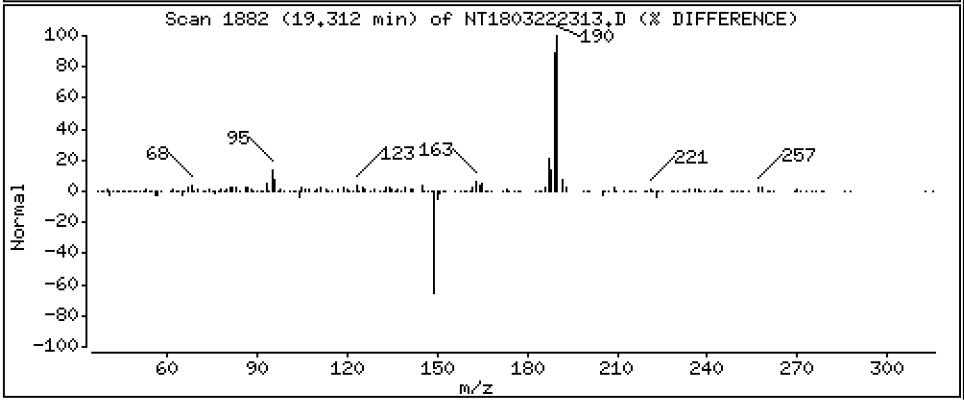












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222313.D

Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

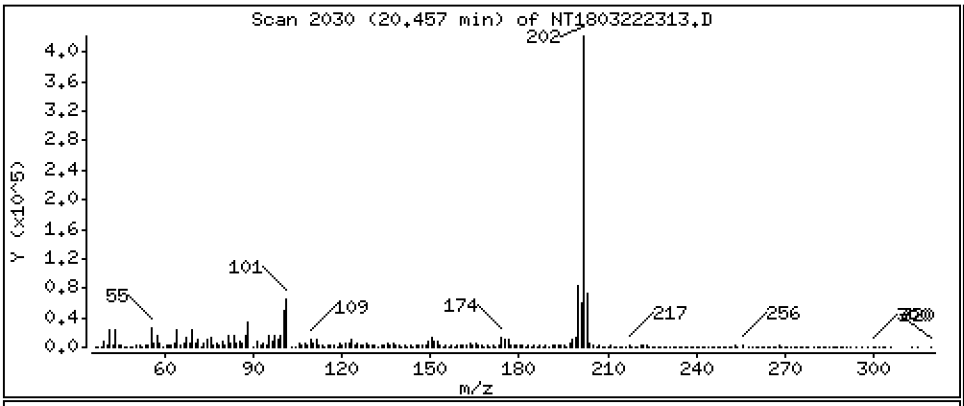
Operator: VTS

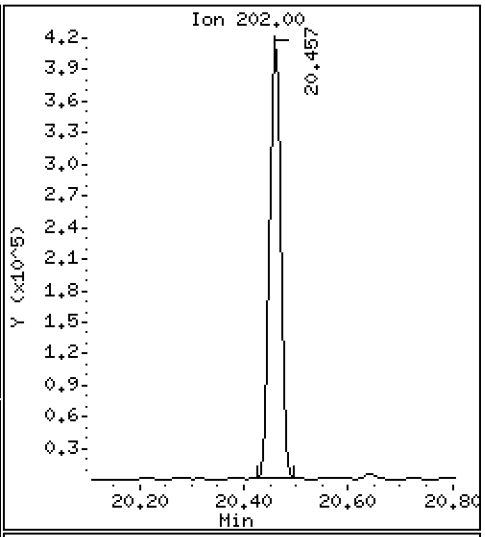
Column phase: ZB-5msi

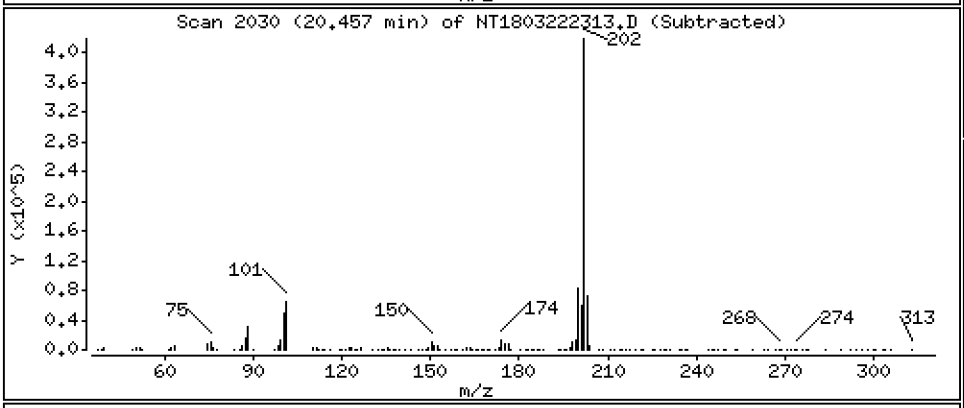
Column diameter: 0.25

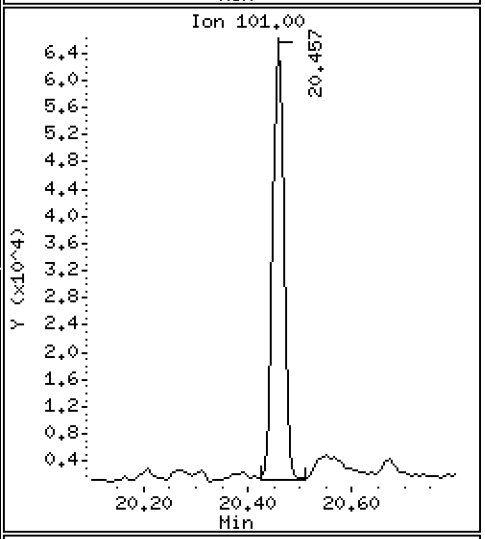
64 Fluoranthene

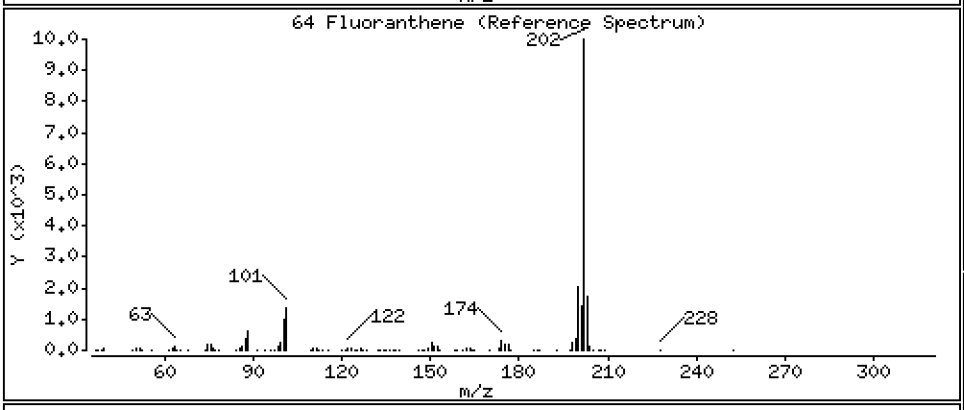
Concentration: 1.605 ug/mL

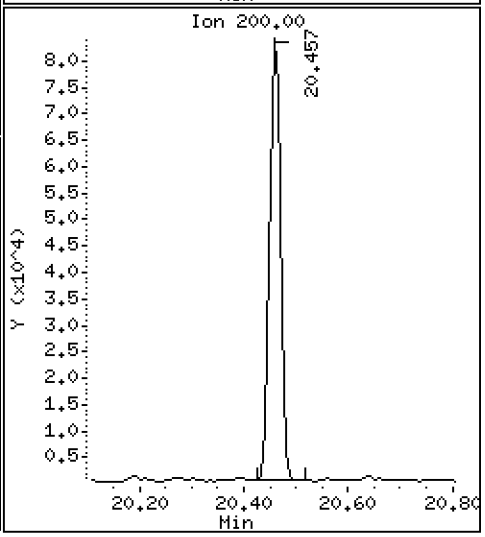


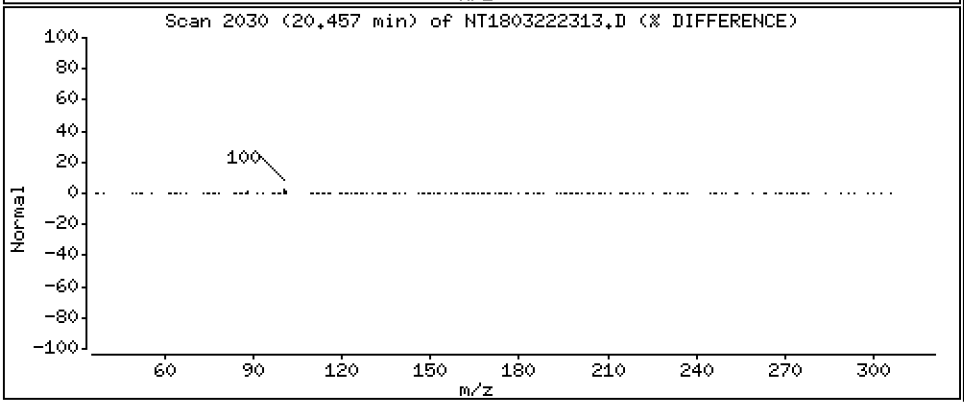












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222313.D

Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

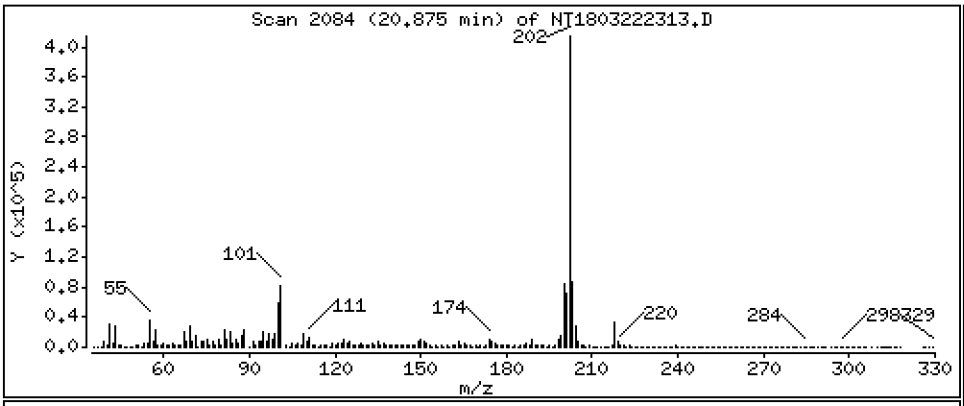
Operator: VTS

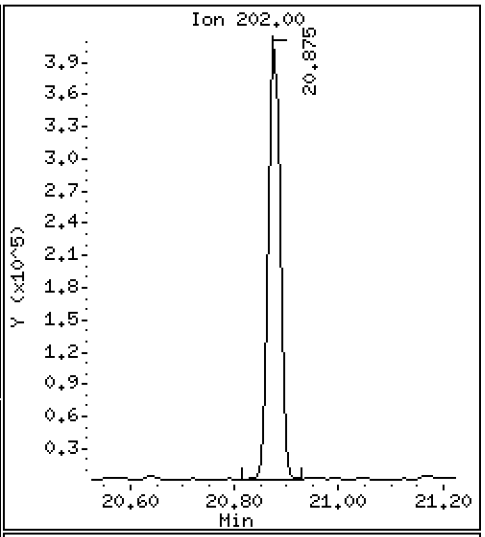
Column phase: ZB-5msi

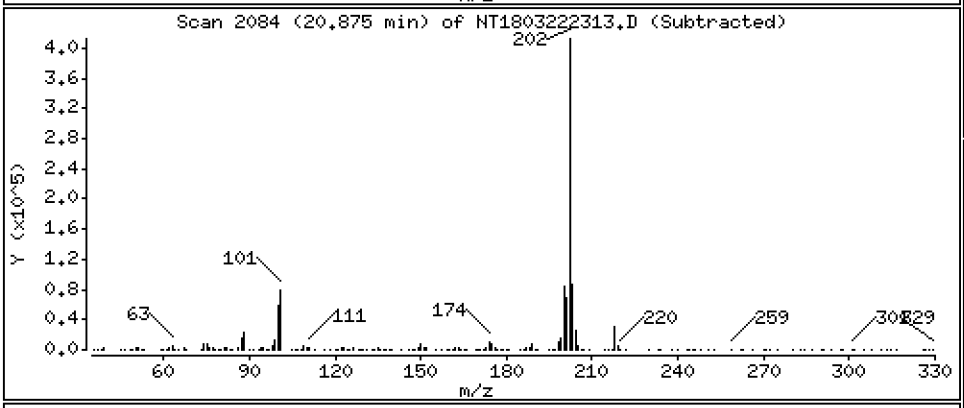
Column diameter: 0.25

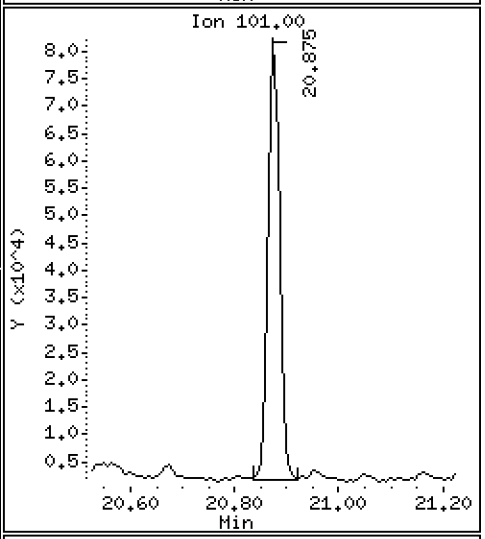
65 Pyrene

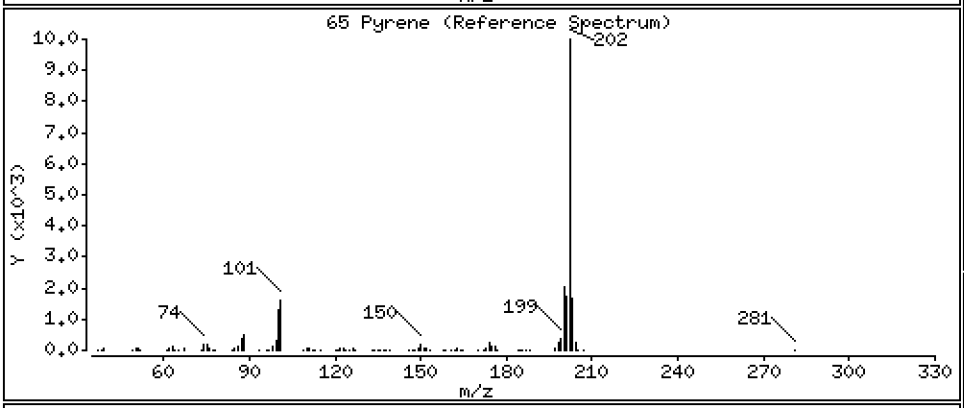
Concentration: 1.585 ug/mL

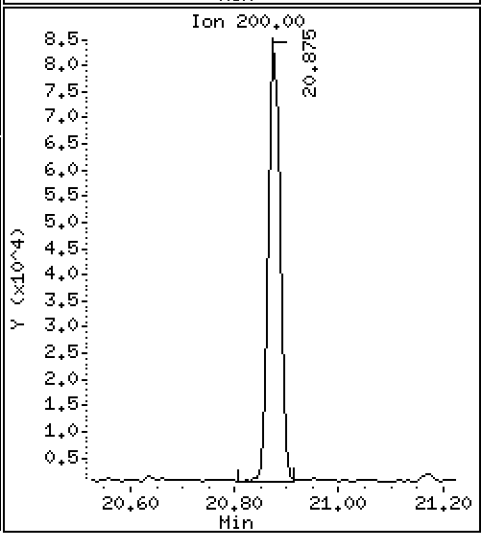


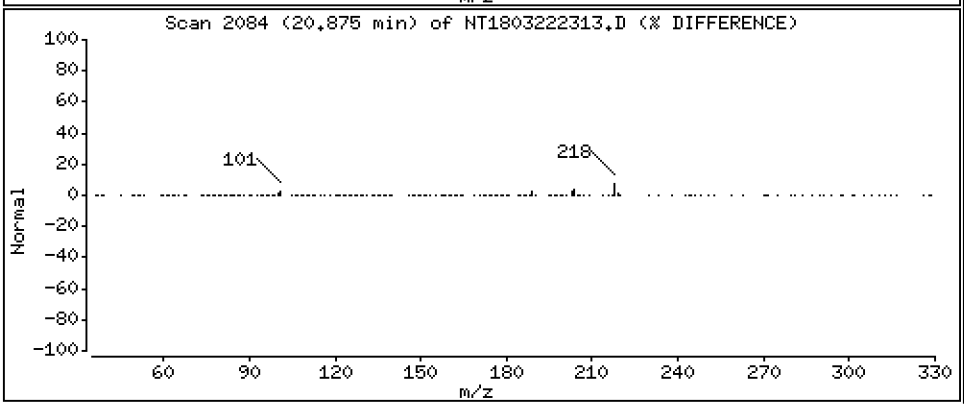












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222313.D

Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

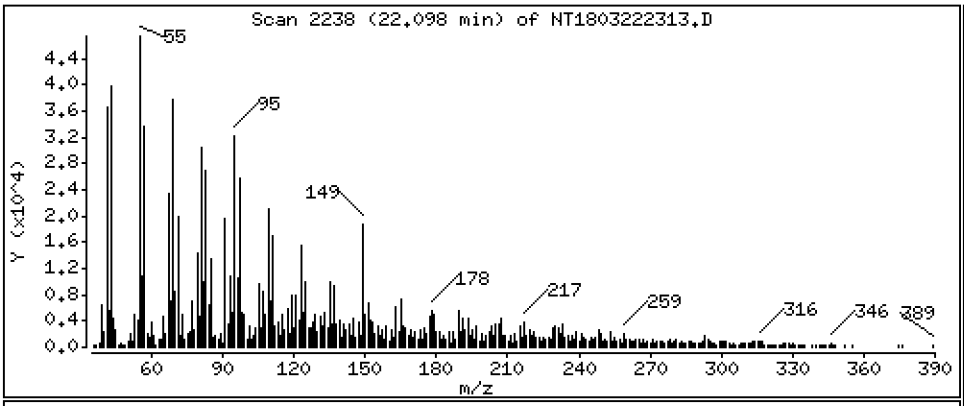
Operator: VTS

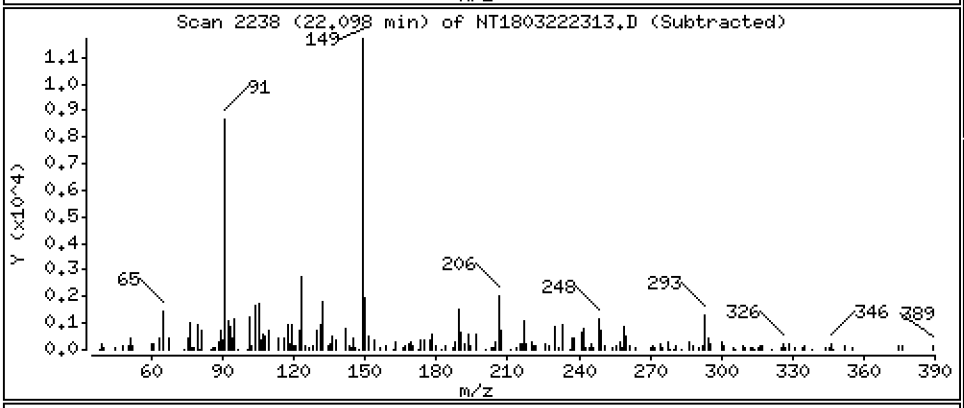
Column phase: ZB-5msi

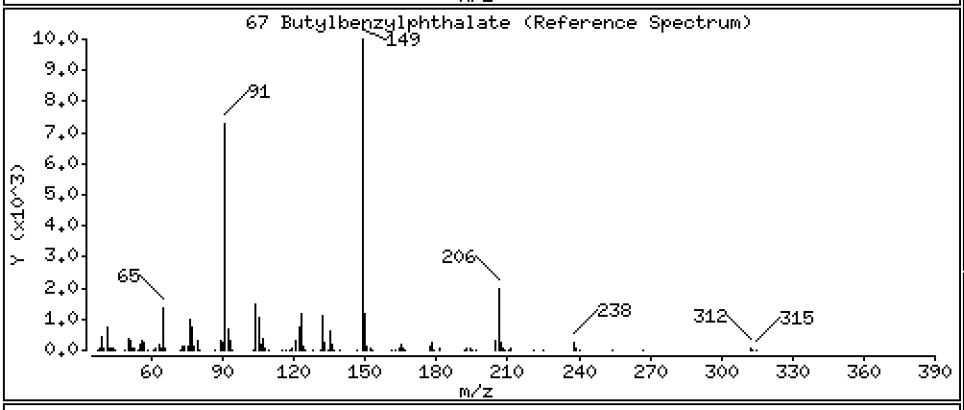
Column diameter: 0.25

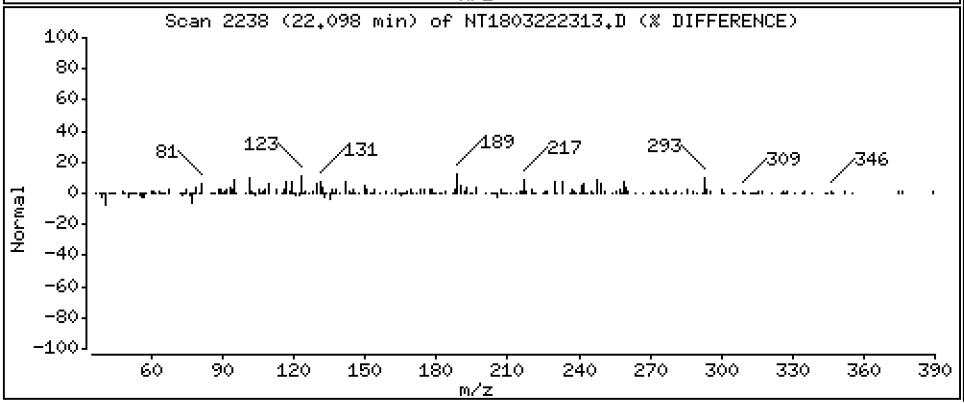
67 Butylbenzylphthalate

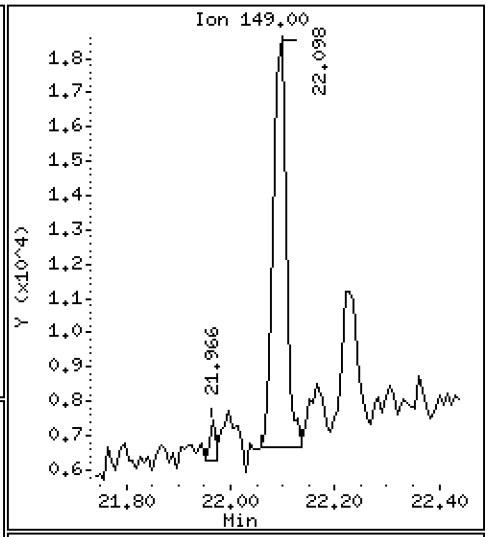
Concentration: 0.1185 ug/mL

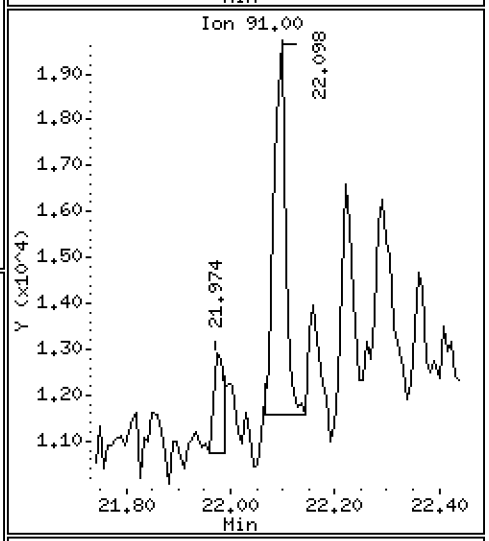


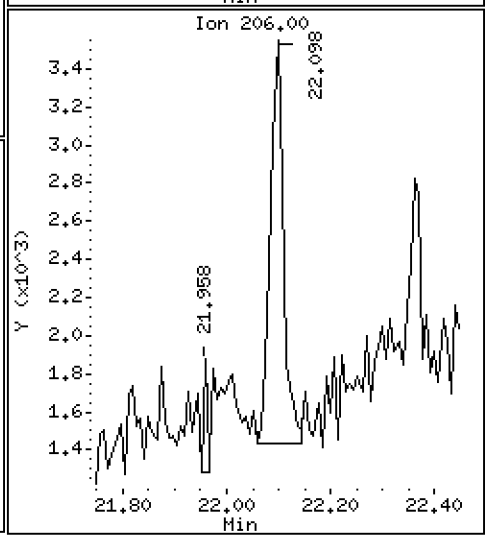












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Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

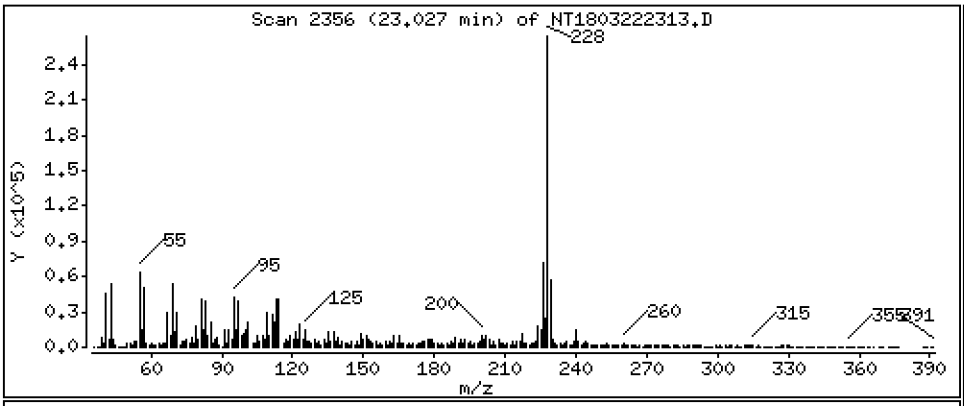
Operator: VTS

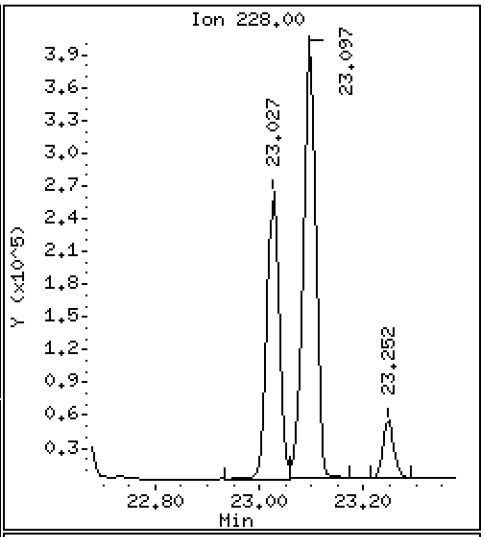
Column phase: ZB-5msi

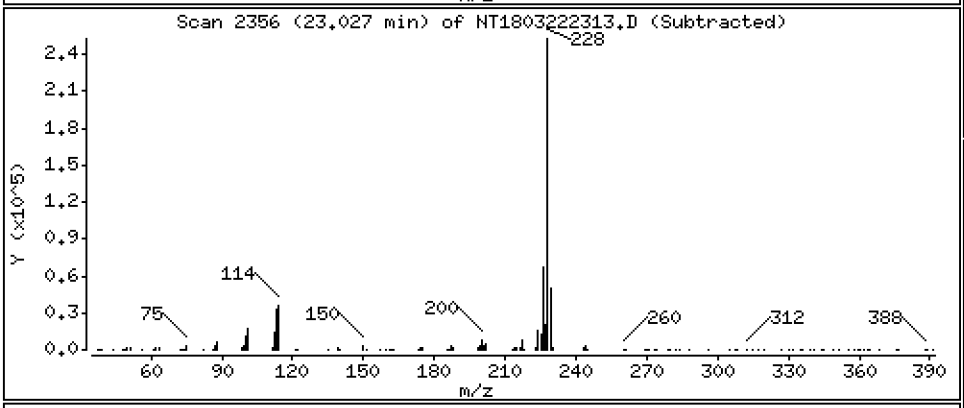
Column diameter: 0.25

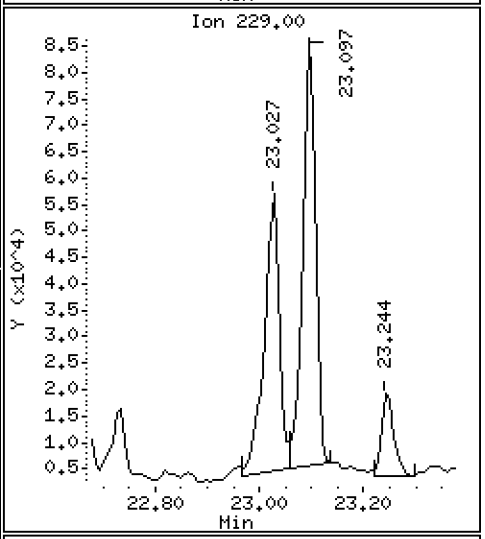
68 Benzo(a)anthracene

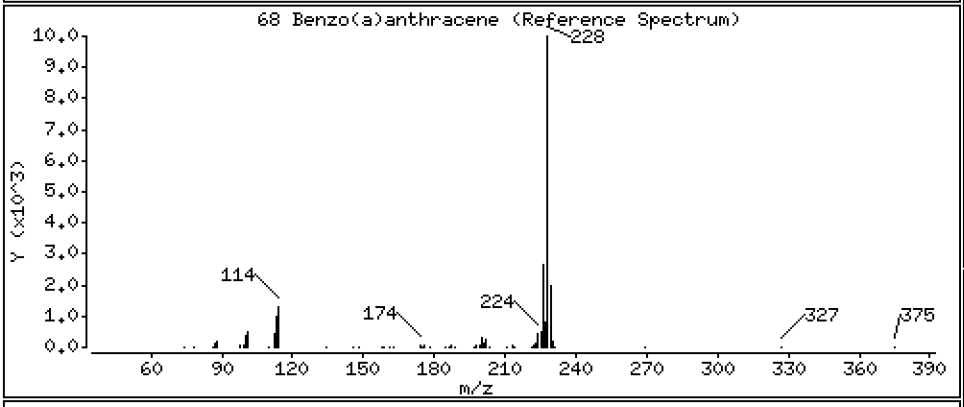
Concentration: 1.169 ug/mL

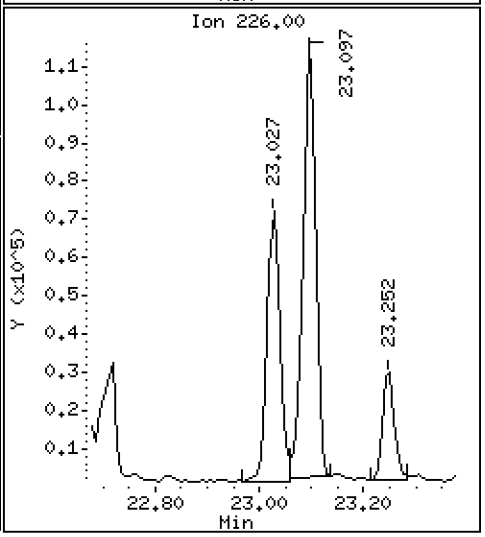


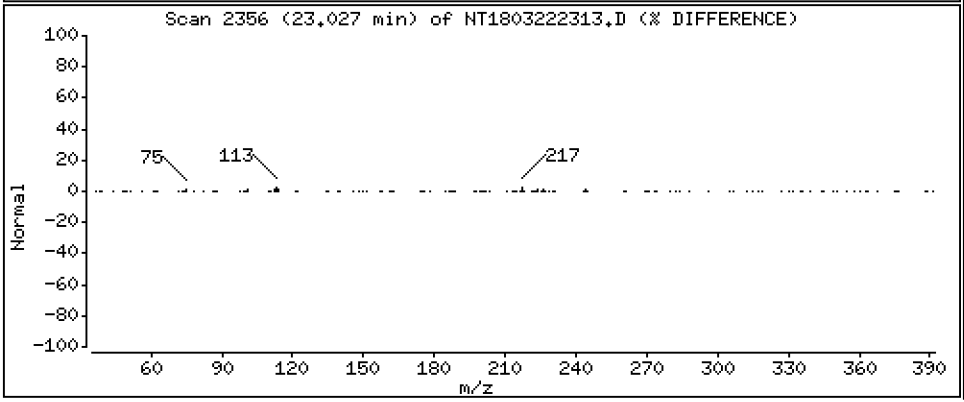












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222313.D

Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

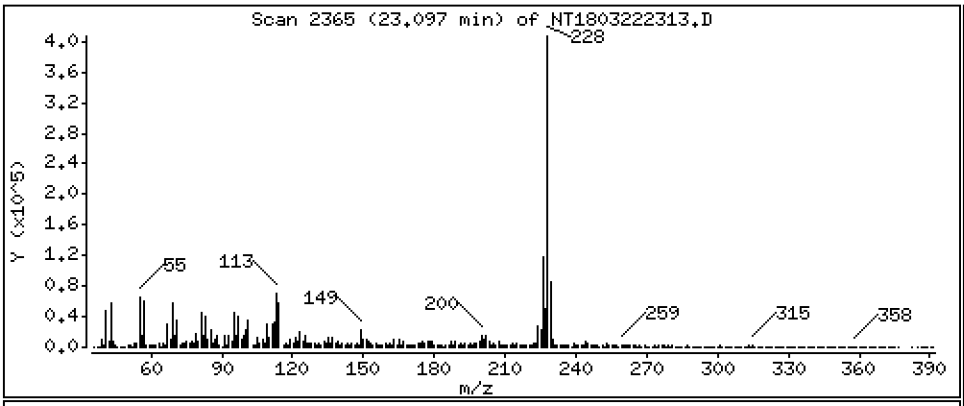
Operator: VTS

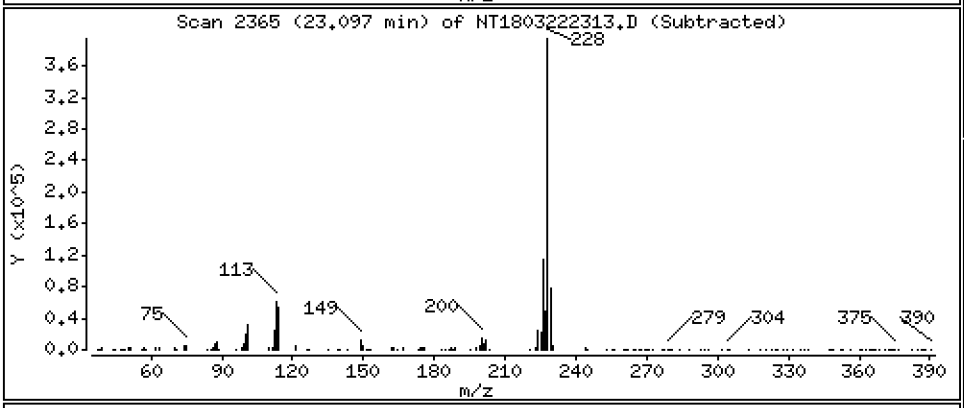
Column phase: ZB-5msi

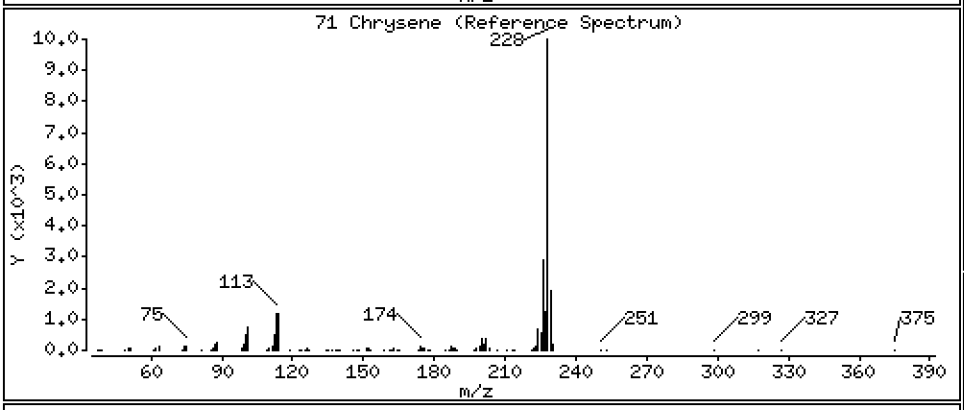
Column diameter: 0.25

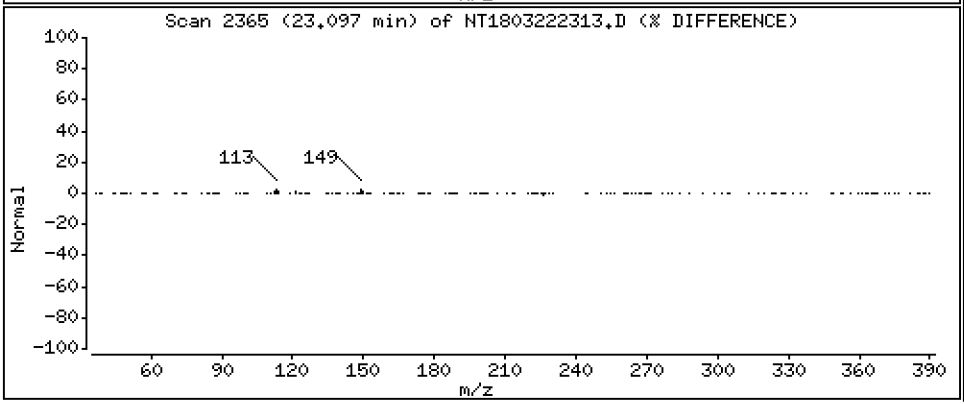
71 Chrysene

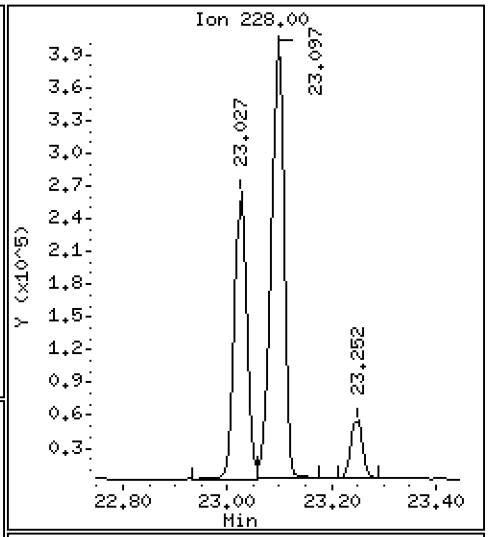
Concentration: 1.774 ug/mL

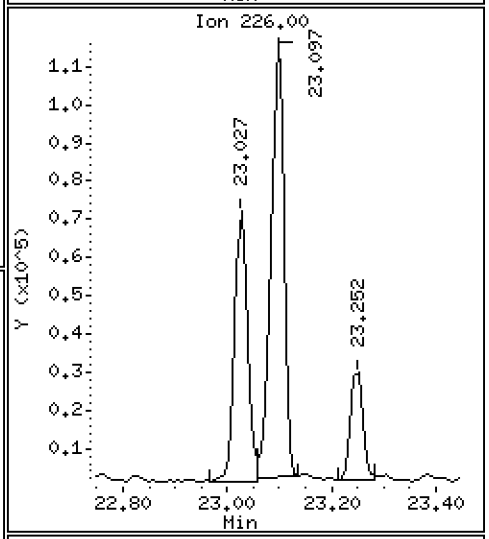


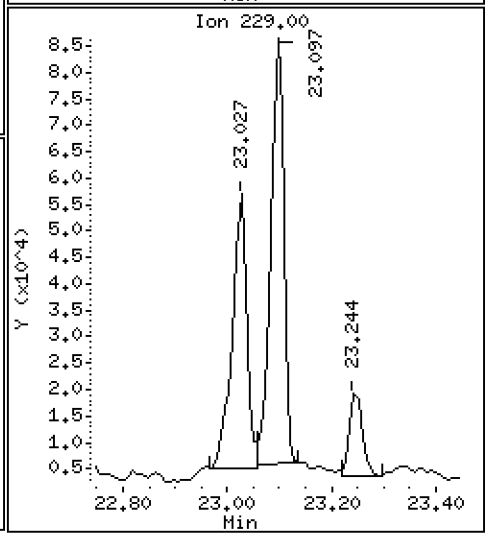












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222313.D

Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

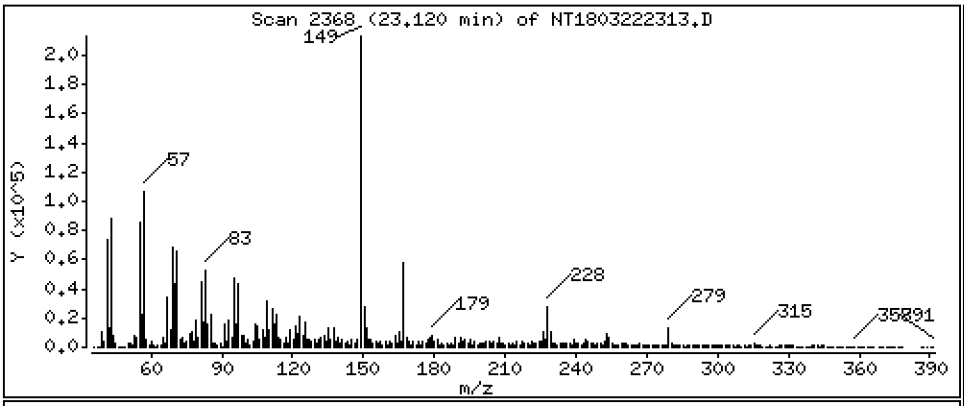
Operator: VTS

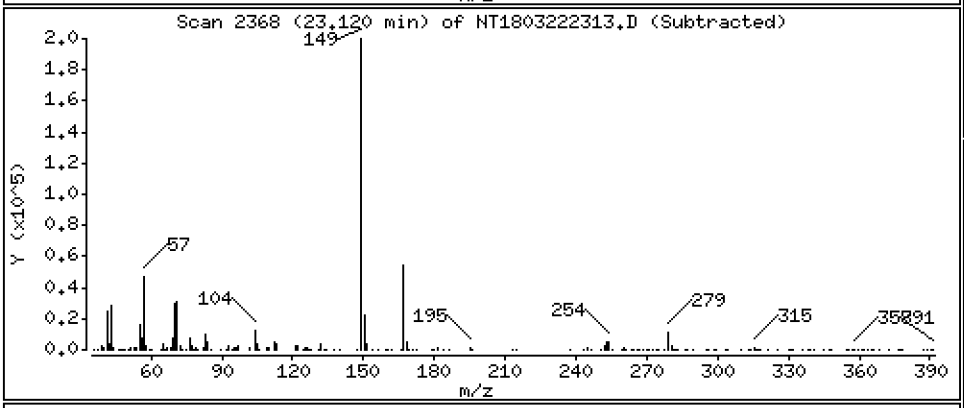
Column phase: ZB-5msi

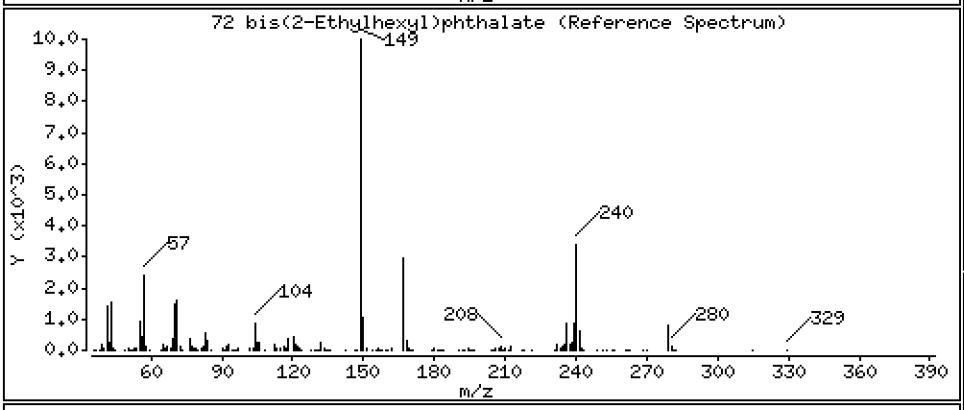
Column diameter: 0.25

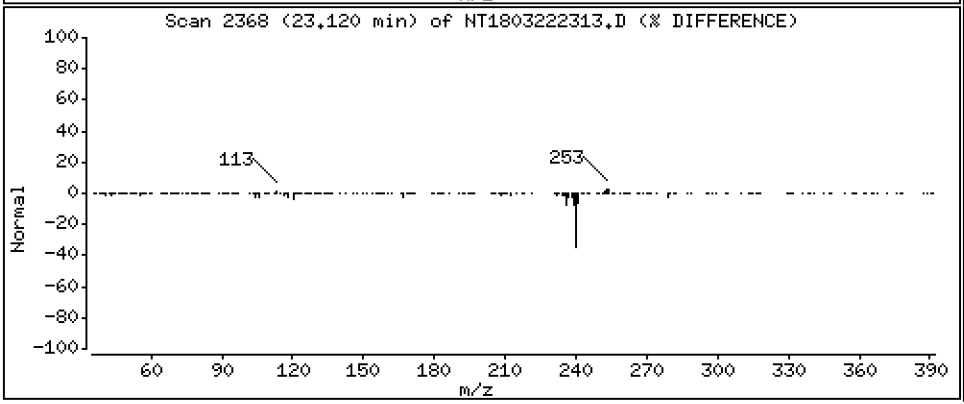
72 bis(2-Ethylhexyl)phthalate

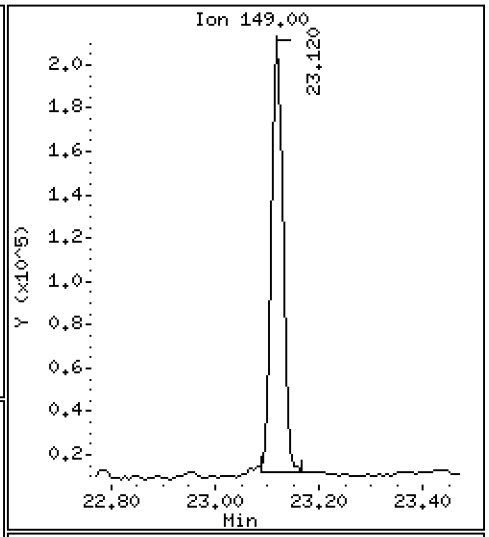
Concentration: 1.077 ug/mL

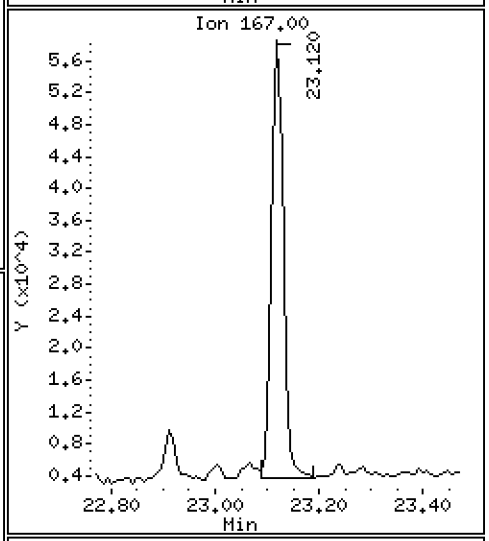


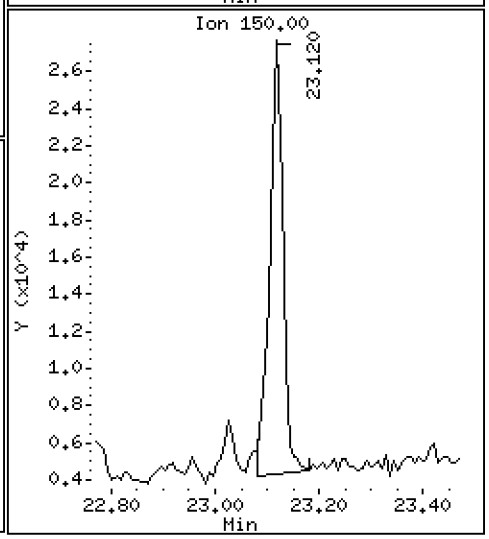












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Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

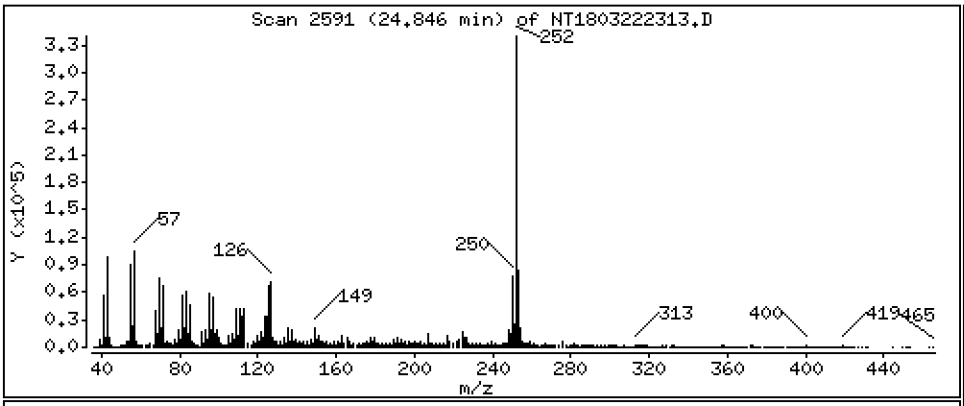
Operator: VTS

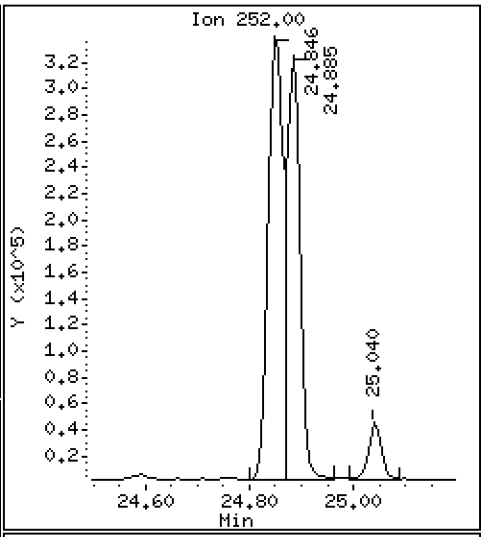
Column phase: ZB-5msi

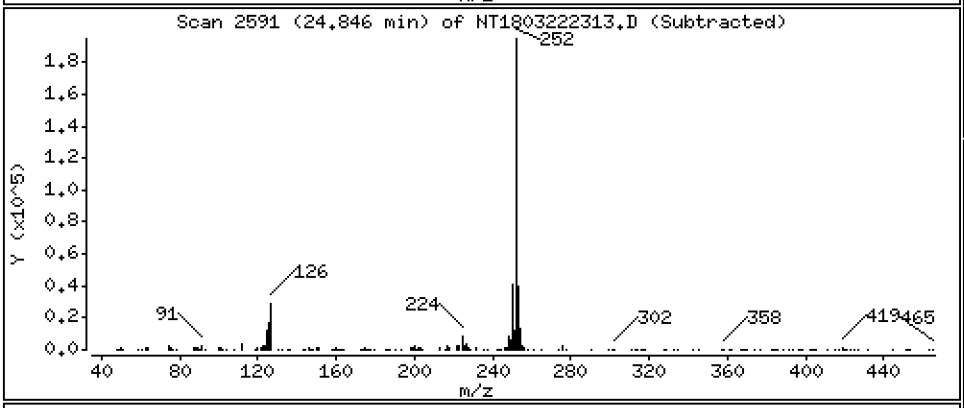
Column diameter: 0.25

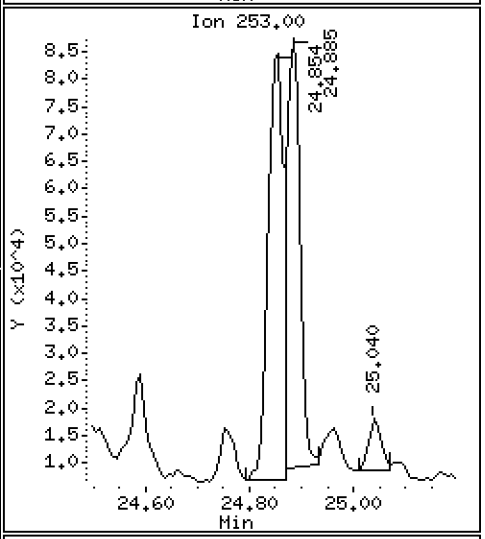
74 Benzo(b)fluoranthene

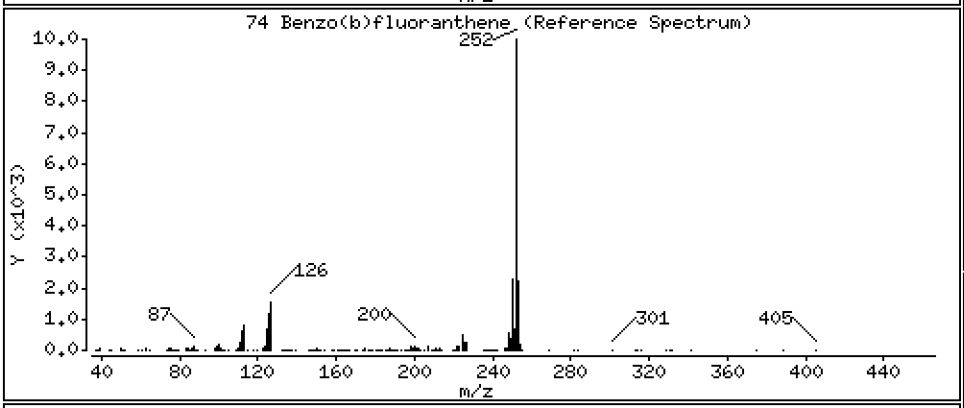
Concentration: 2.096 ug/mL

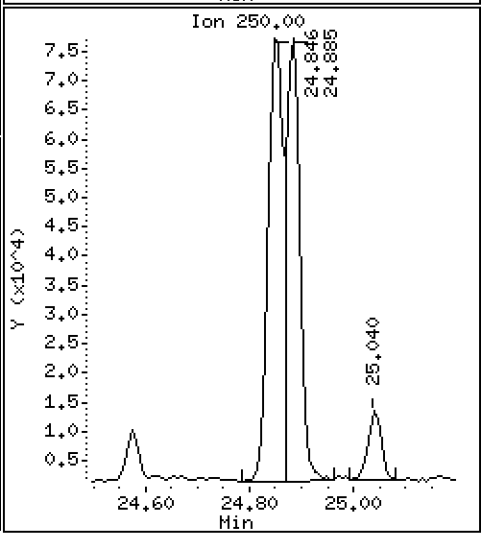


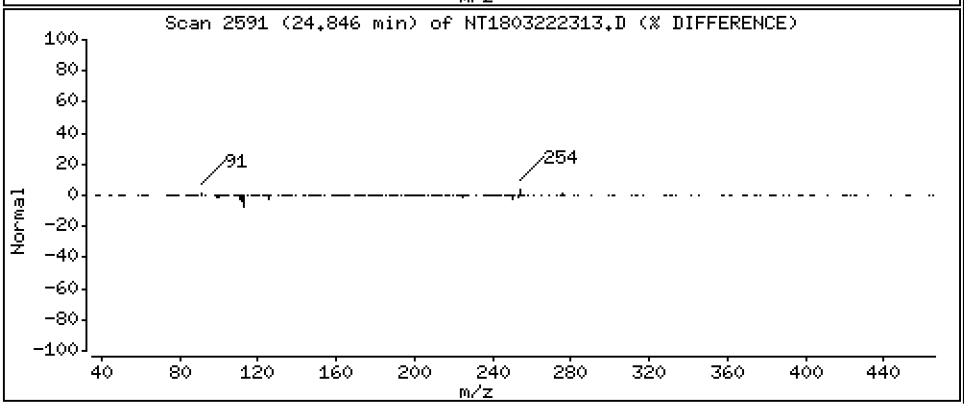












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Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

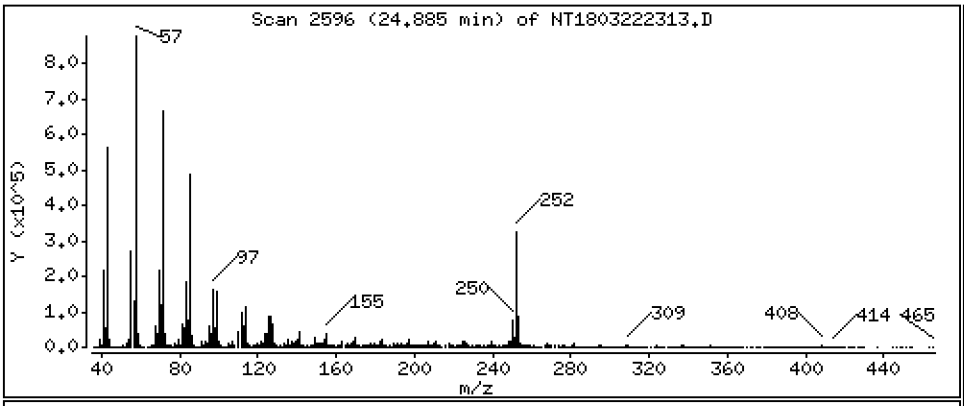
Operator: VTS

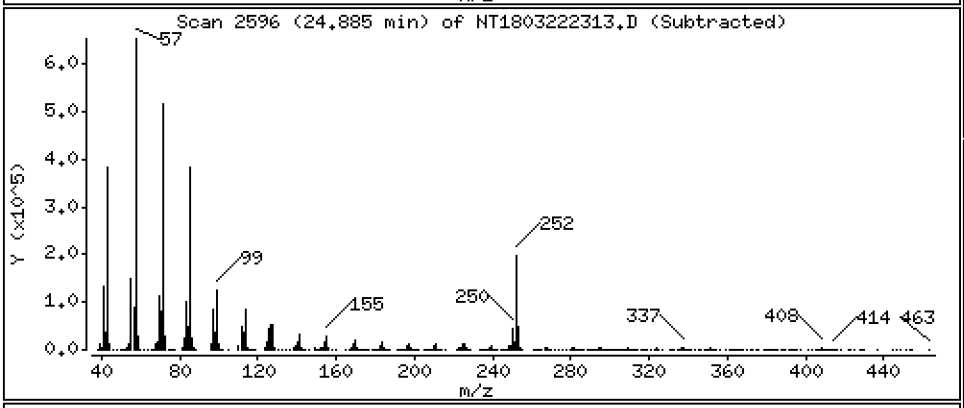
Column phase: ZB-5msi

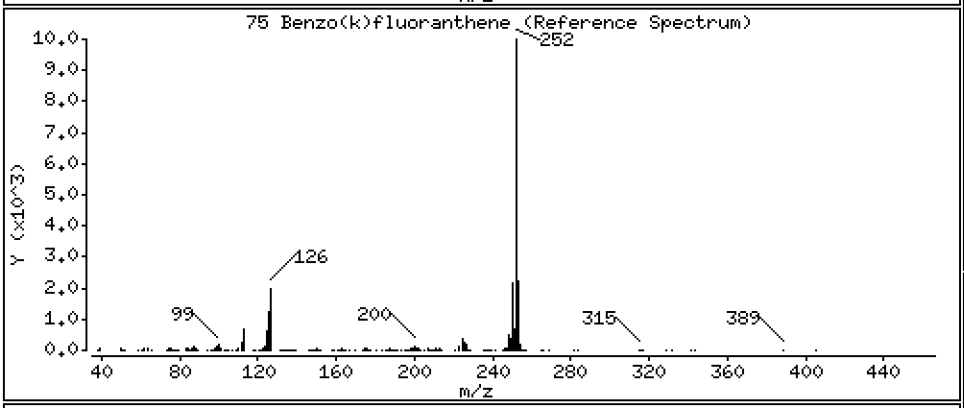
Column diameter: 0.25

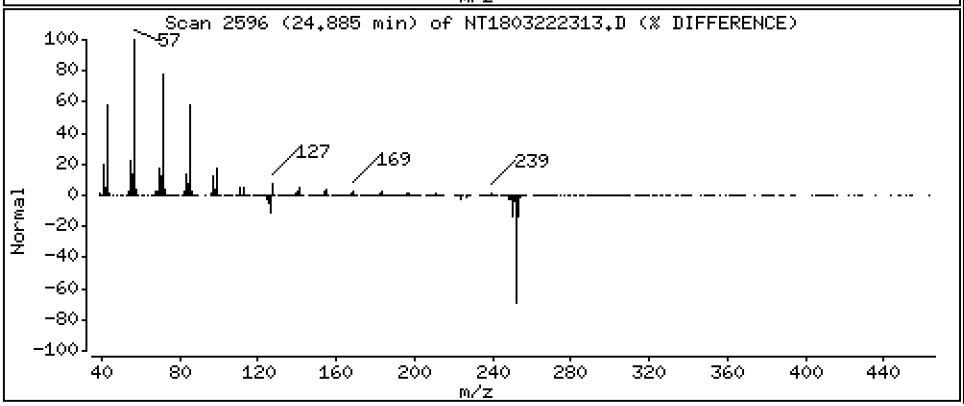
75 Benzo(k)fluoranthene

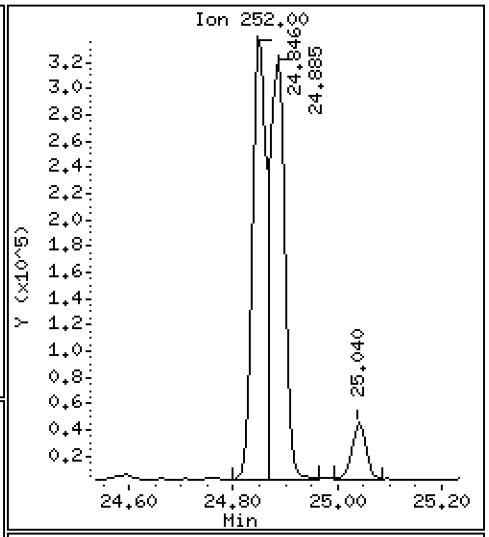
Concentration: 1.674 ug/mL

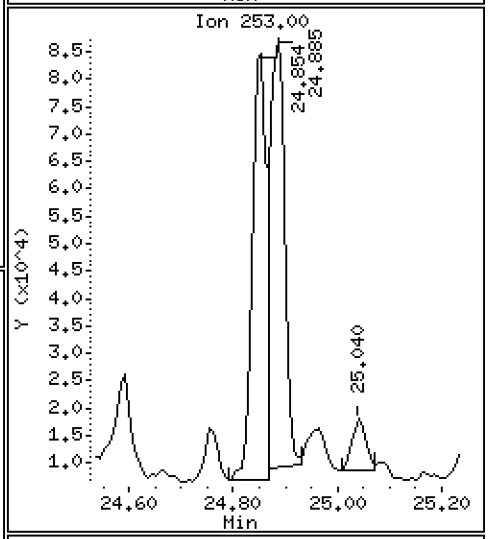


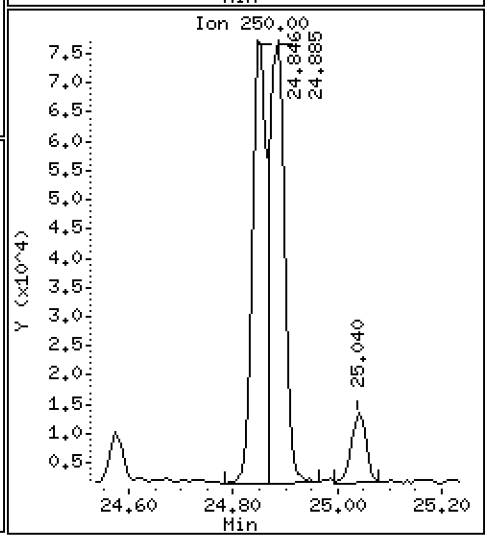












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Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

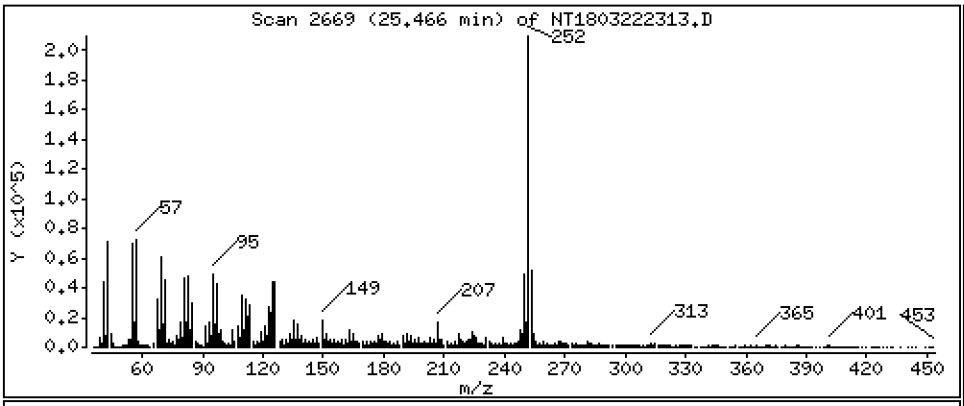
Operator: VTS

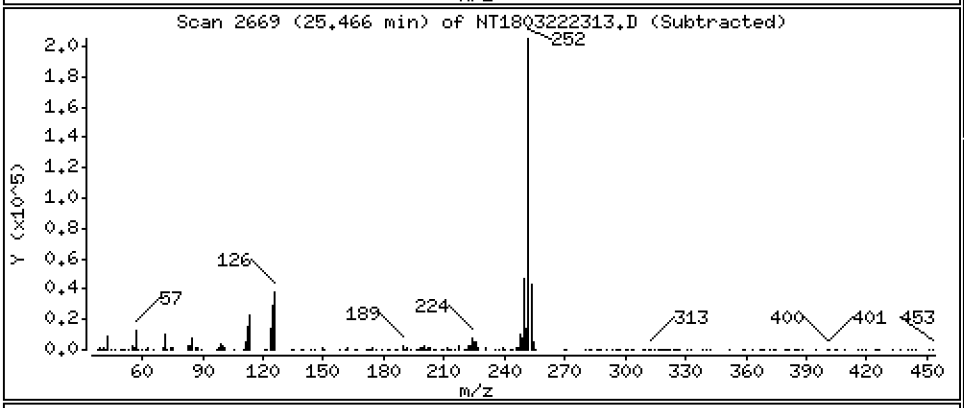
Column phase: ZB-5msi

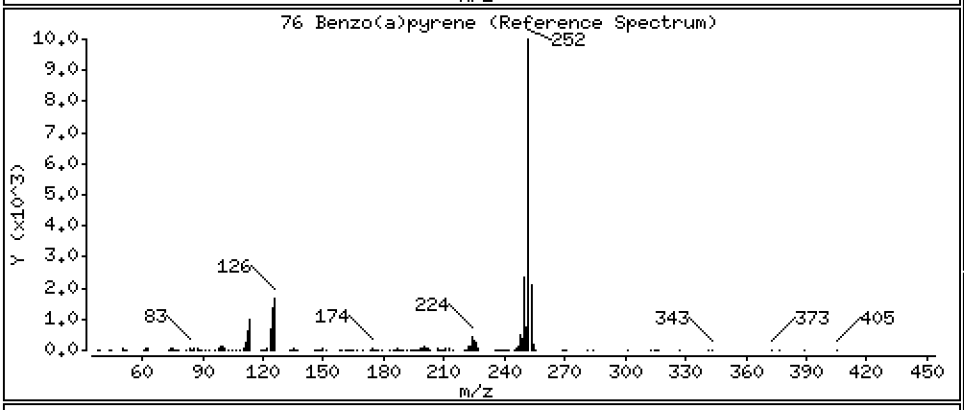
Column diameter: 0.25

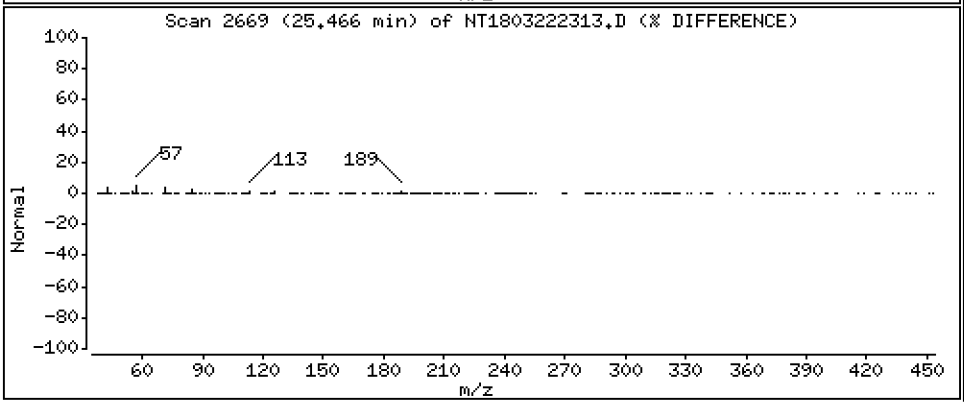
76 Benzo(a)pyrene

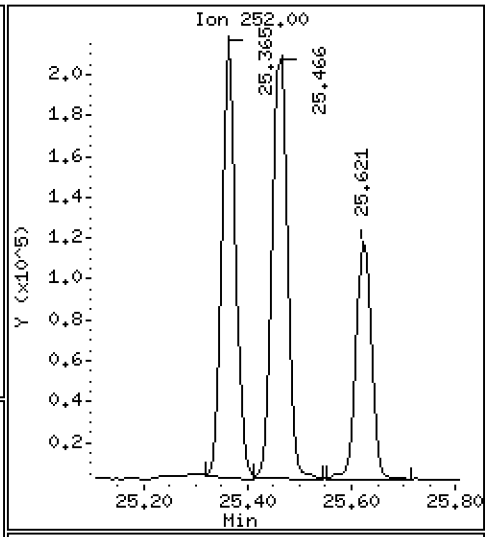
Concentration: 1.225 ug/mL

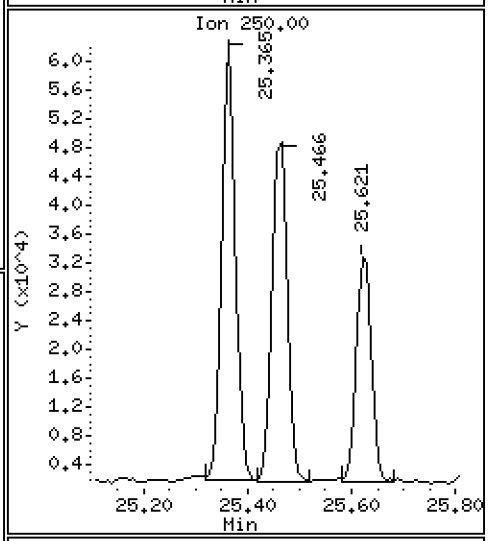


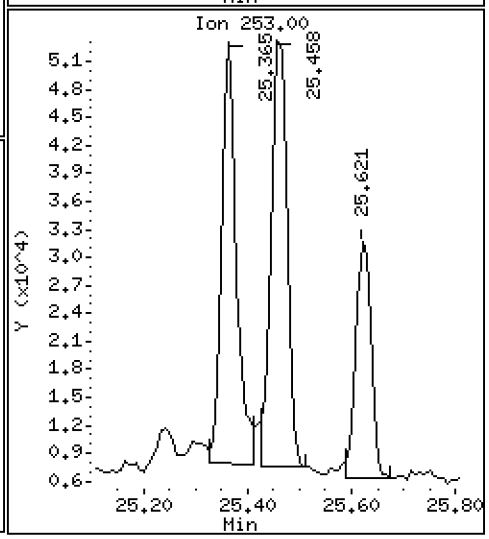












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Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

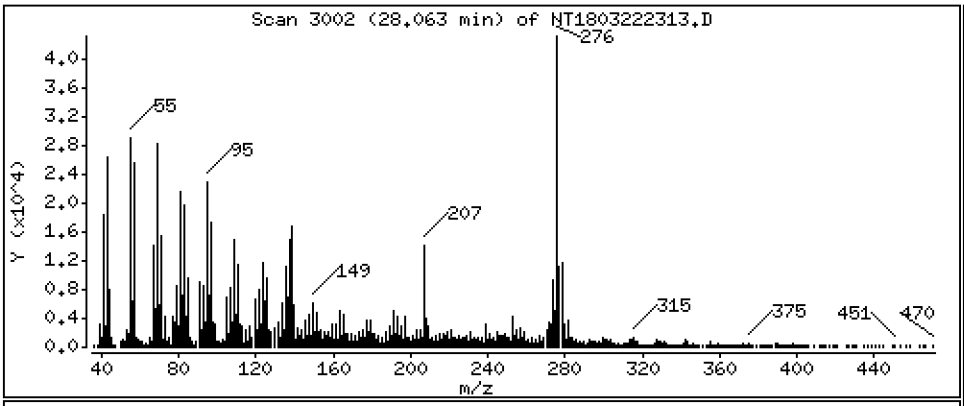
Operator: VTS

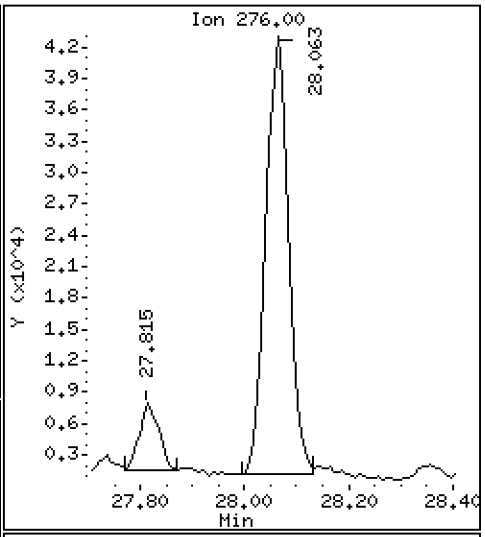
Column phase: ZB-5msi

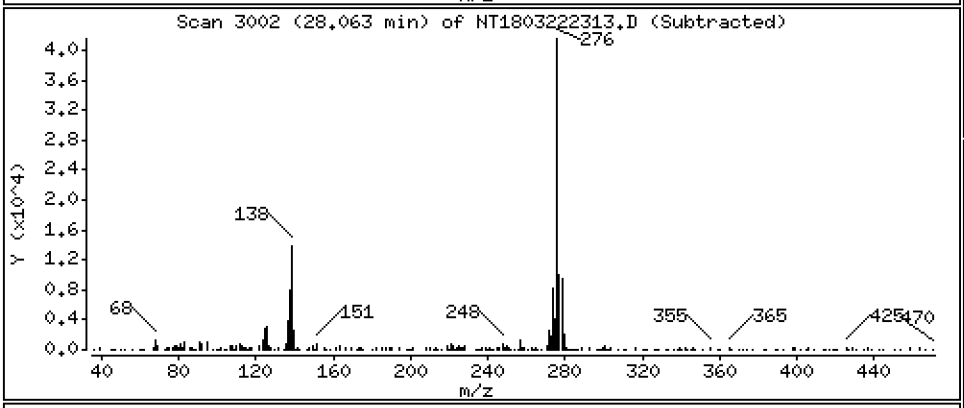
Column diameter: 0.25

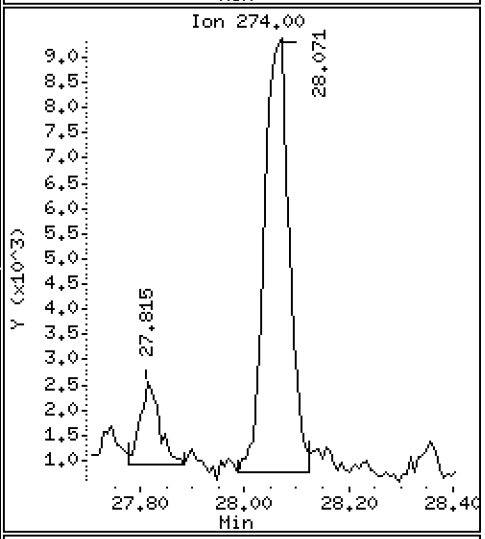
78 Indeno(1,2,3-cd)pyrene

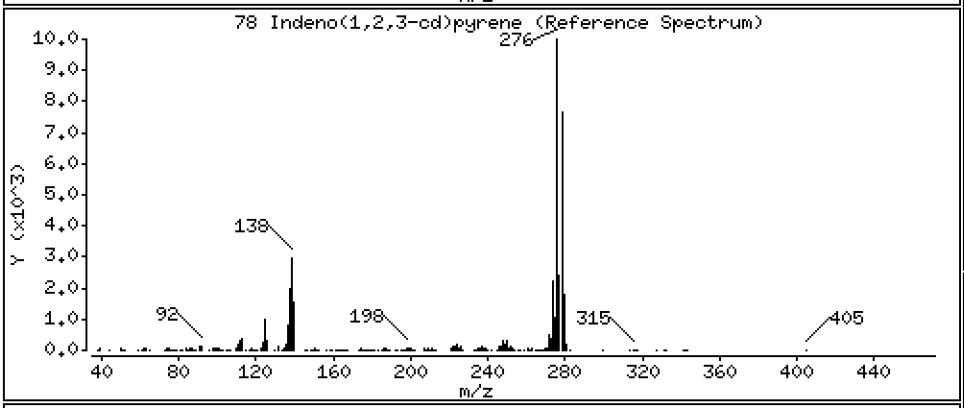
Concentration: 0.3062 ug/mL

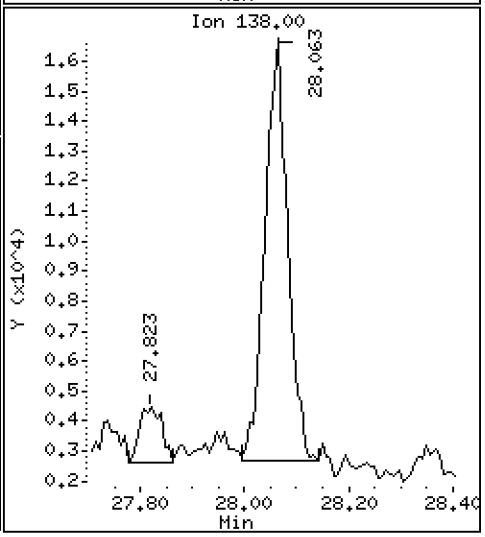


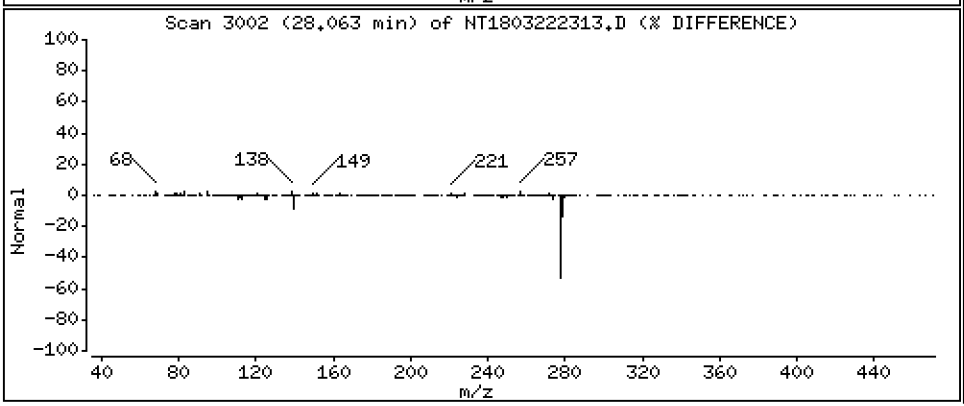












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Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

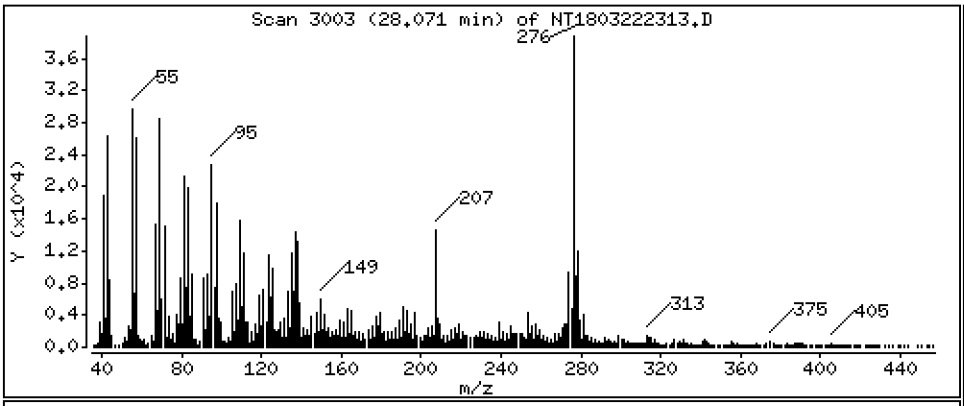
Operator: VTS

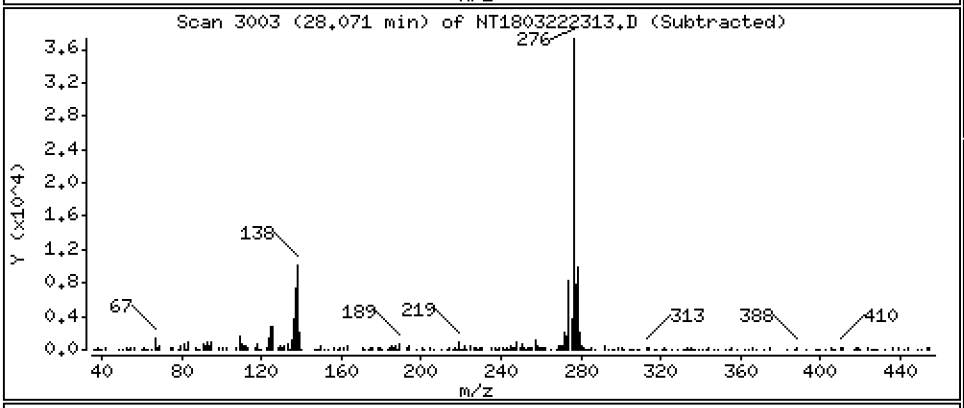
Column phase: ZB-5msi

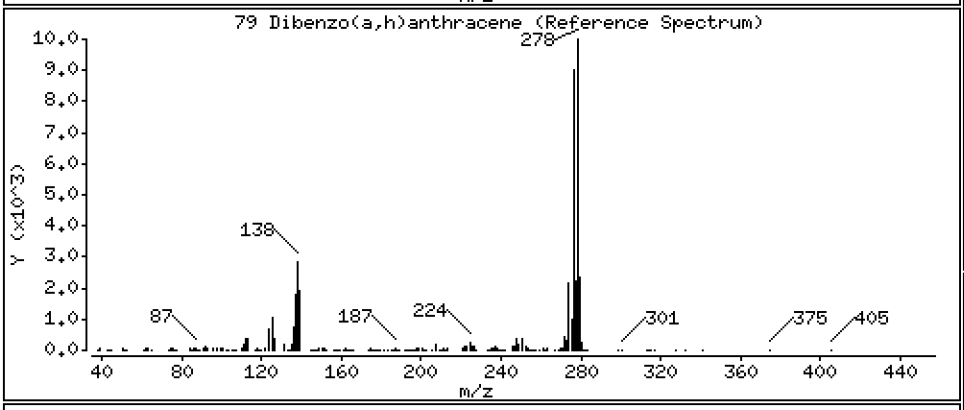
Column diameter: 0.25

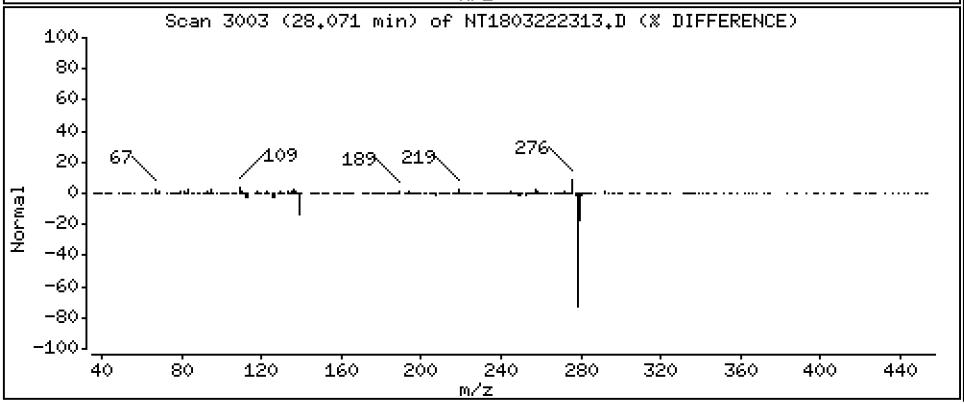
79 Dibenzo(a,h)anthracene

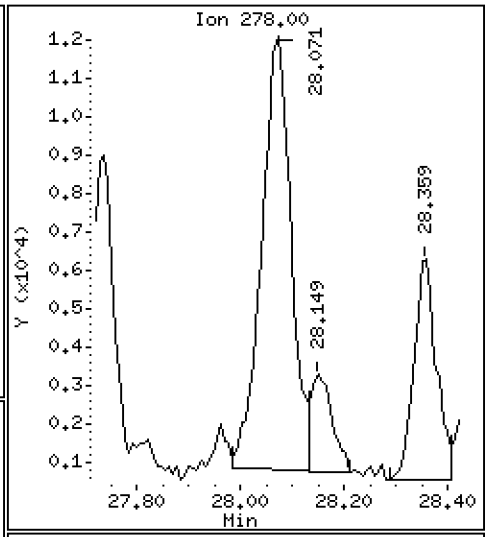
Concentration: 0.1291 ug/mL

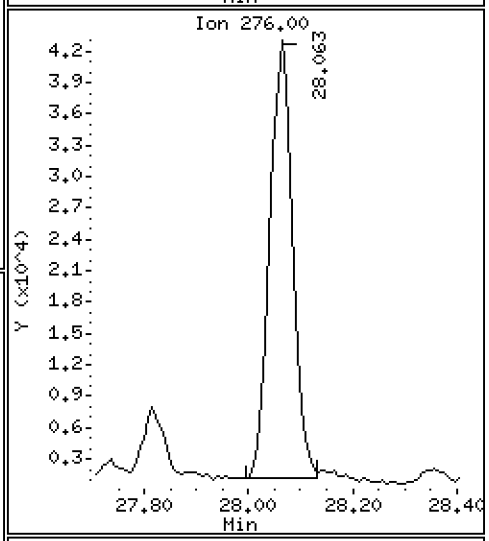


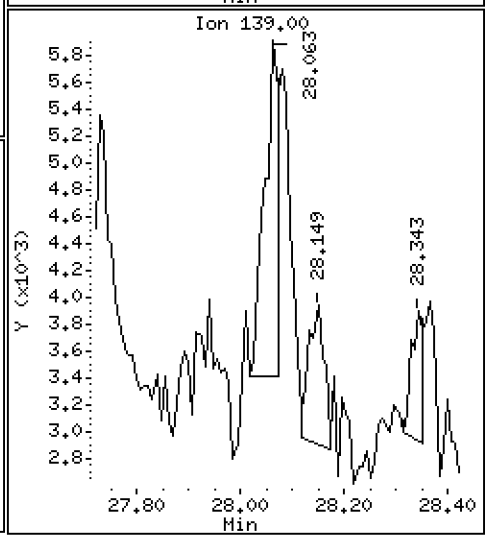












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Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

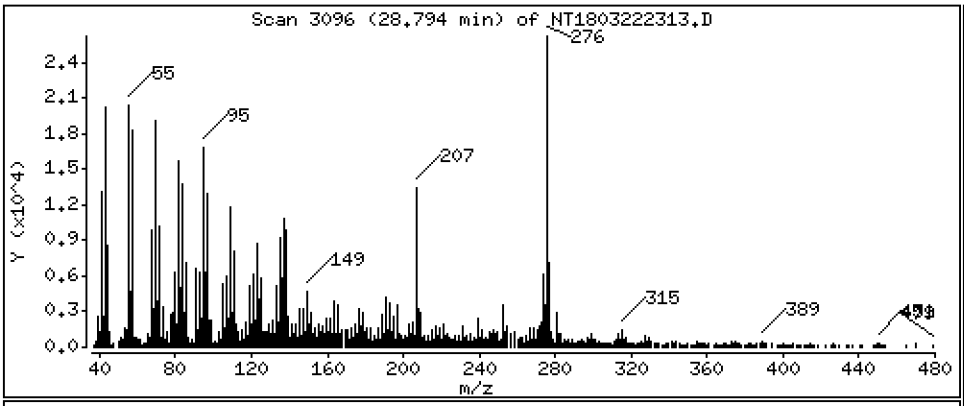
Operator: VTS

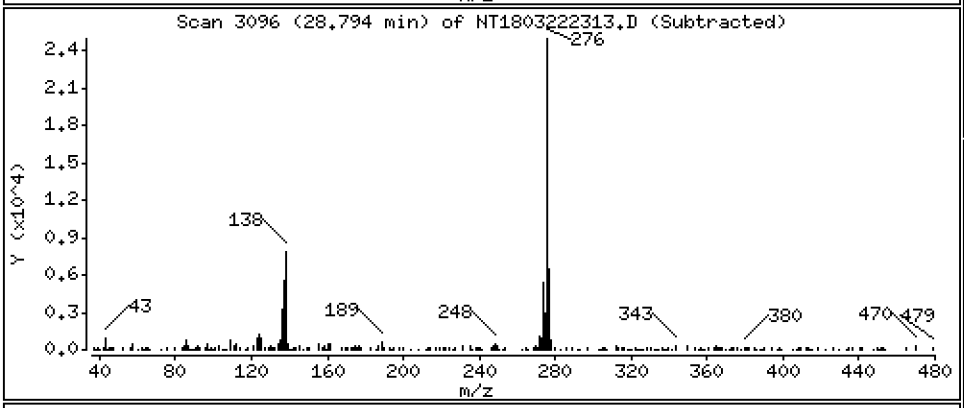
Column phase: ZB-5msi

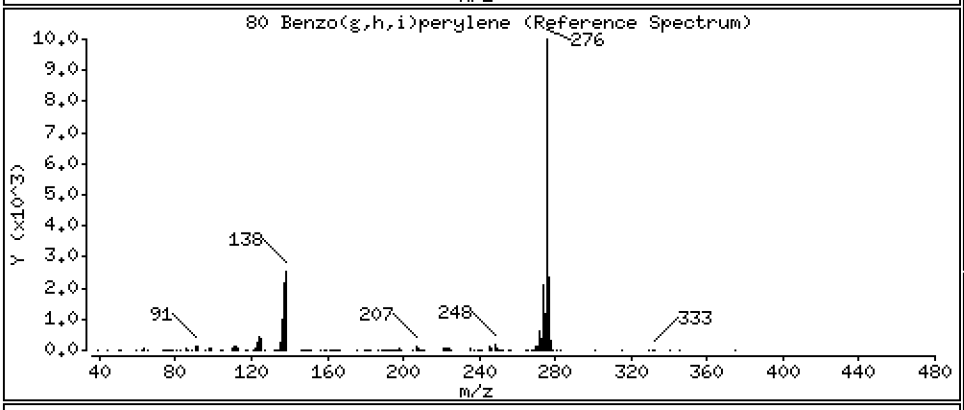
Column diameter: 0.25

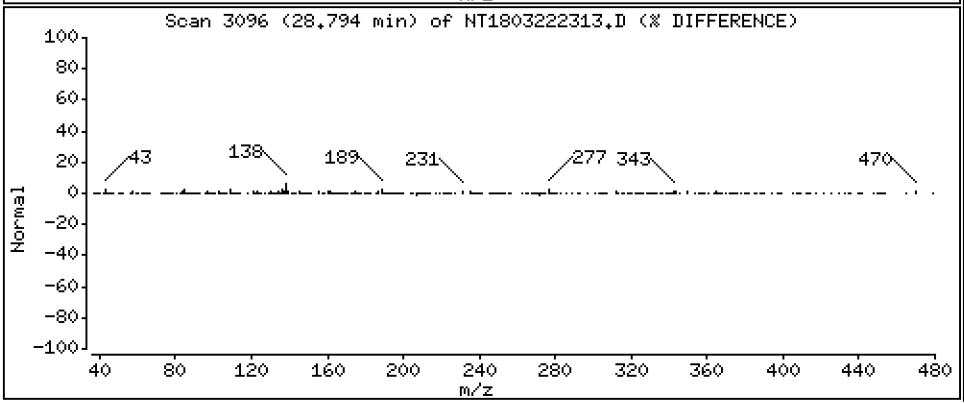
80 Benzo(g,h,i)perylene

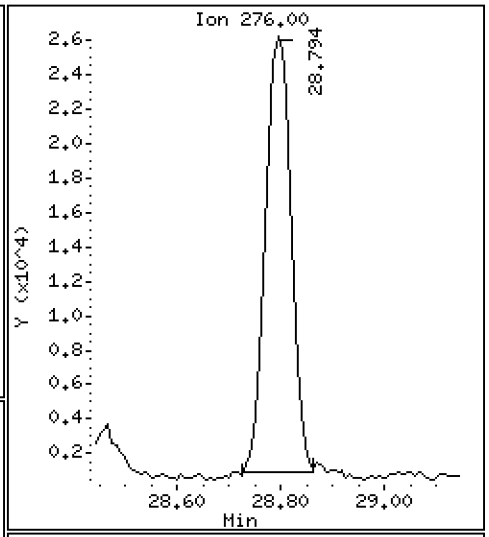
Concentration: 0.2601 ug/mL

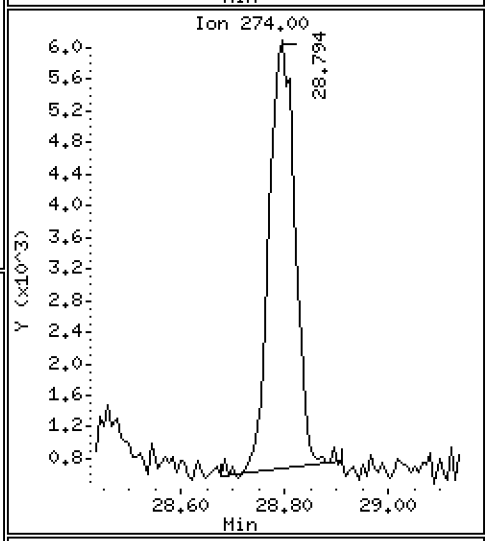


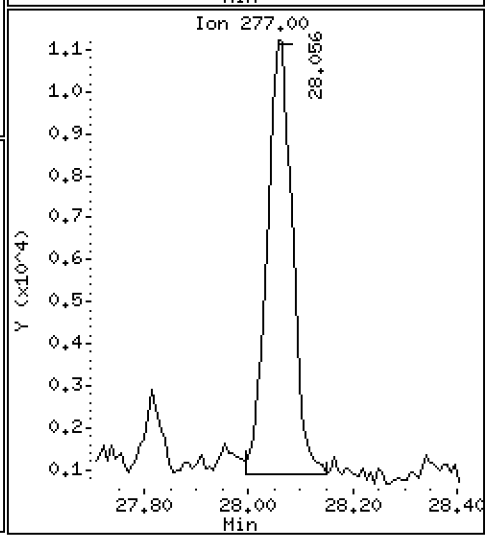












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222313.D

Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

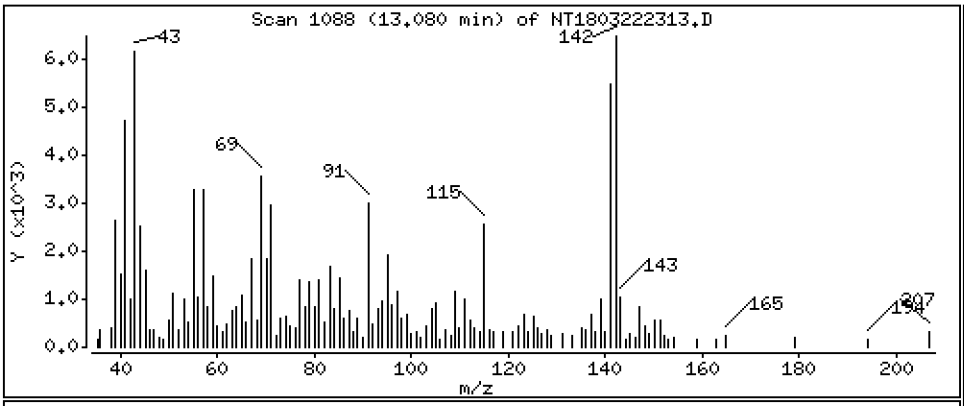
Operator: VTS

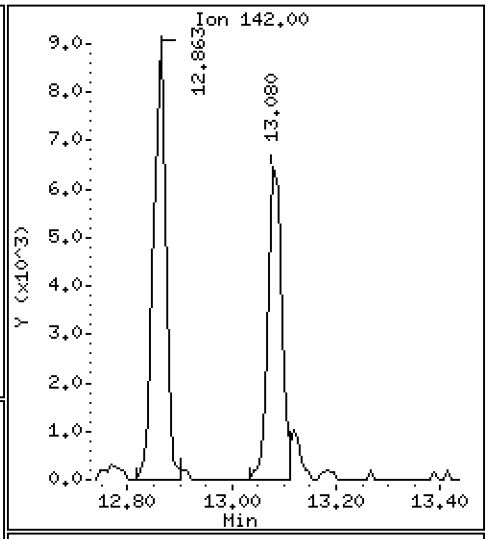
Column phase: ZB-5msi

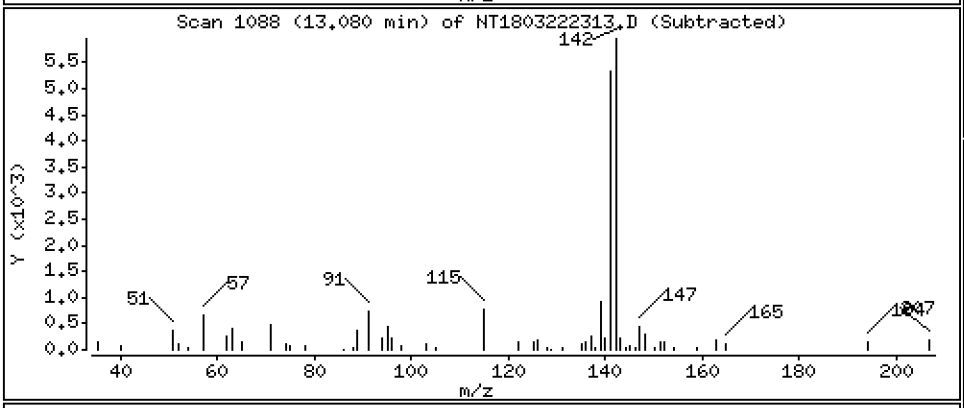
Column diameter: 0.25

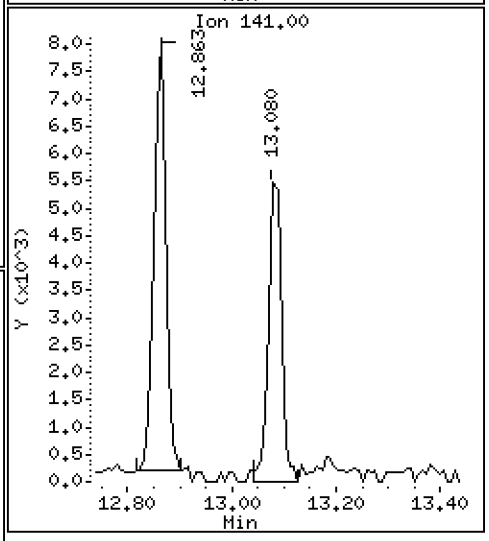
105 1-methylnaphthalene

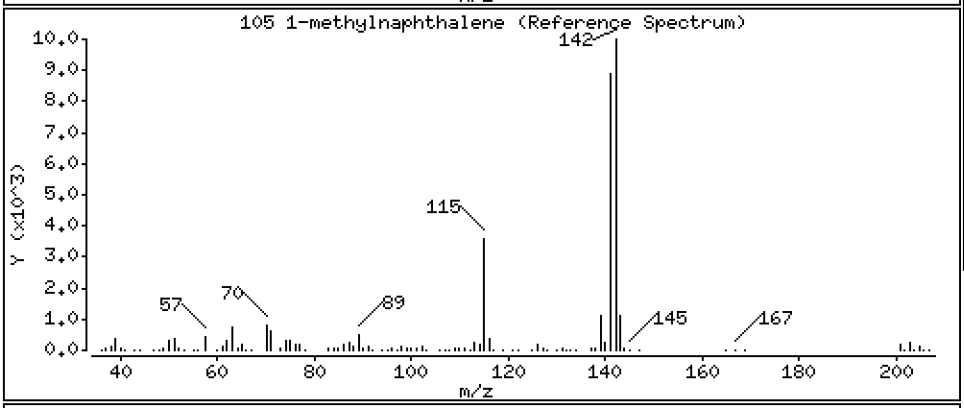
Concentration: 0.06080 ug/mL

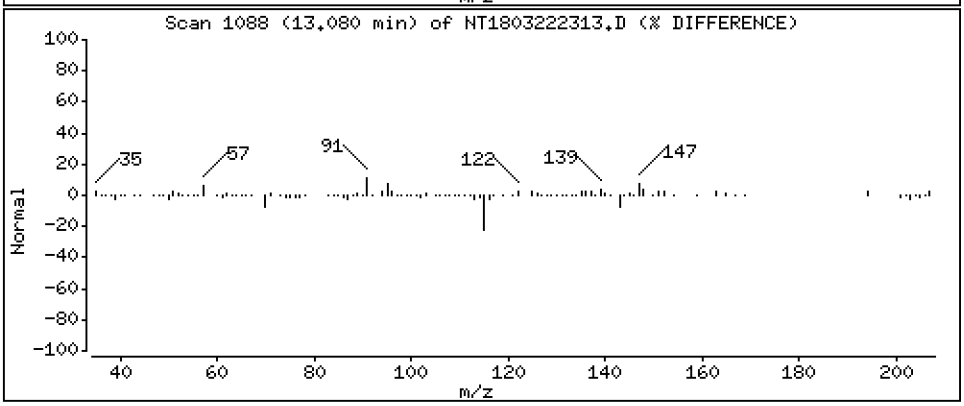












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222313.D

Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

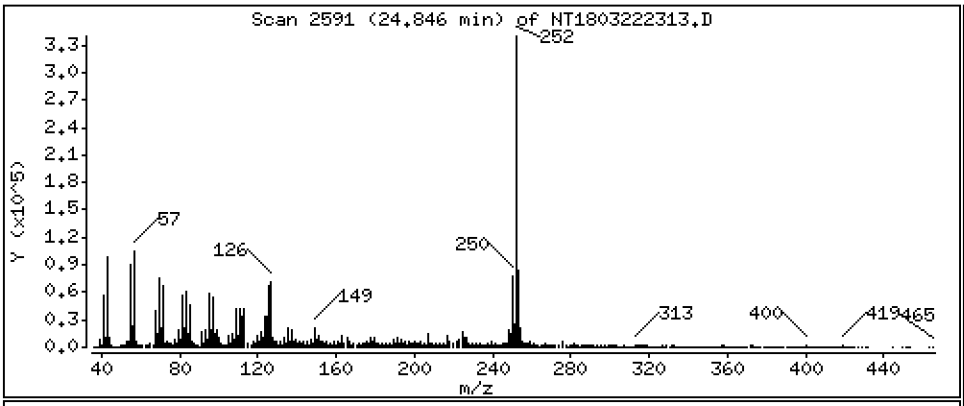
Operator: VTS

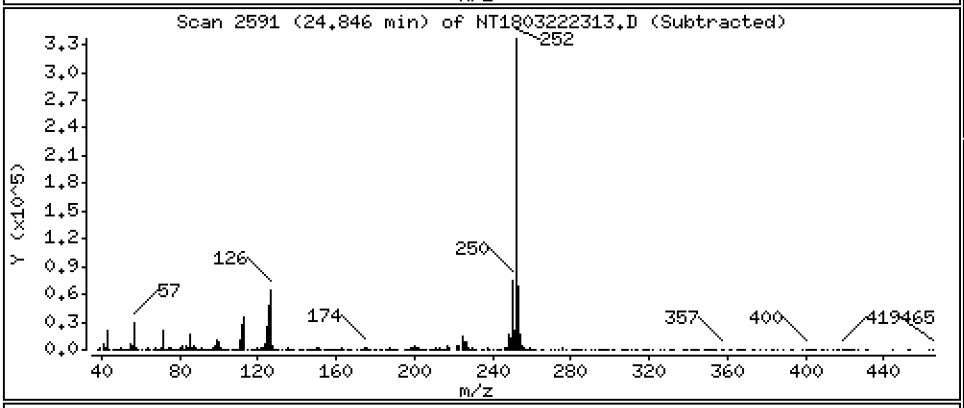
Column phase: ZB-5msi

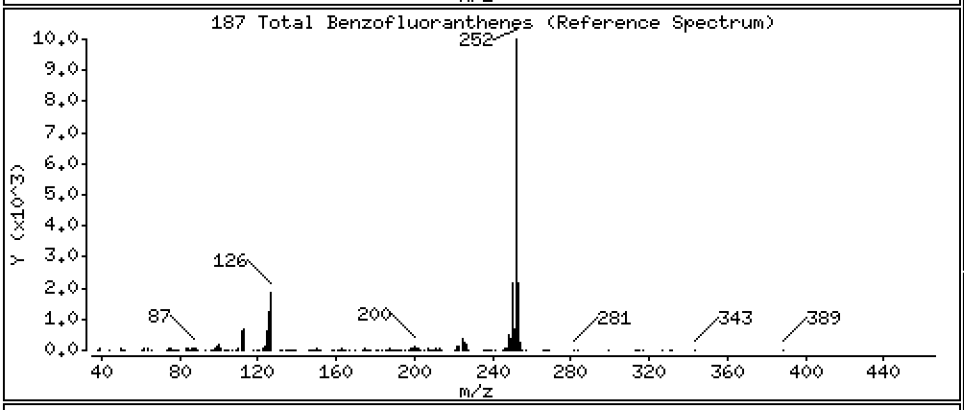
Column diameter: 0.25

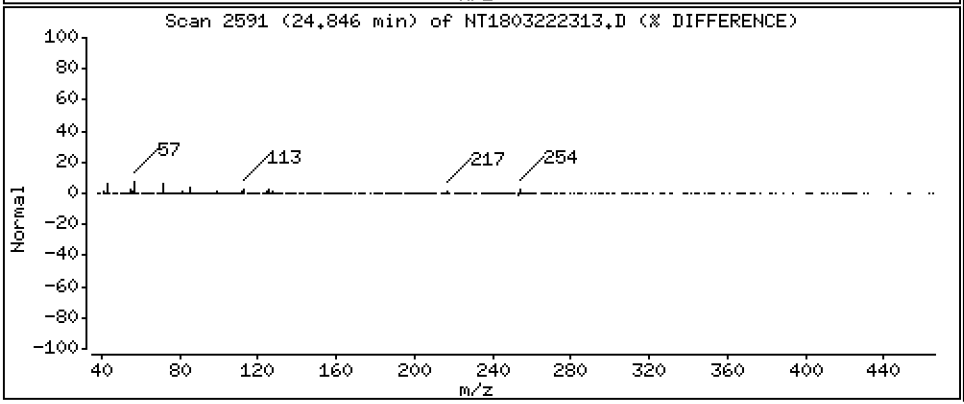
187 Total Benzofluoranthenes

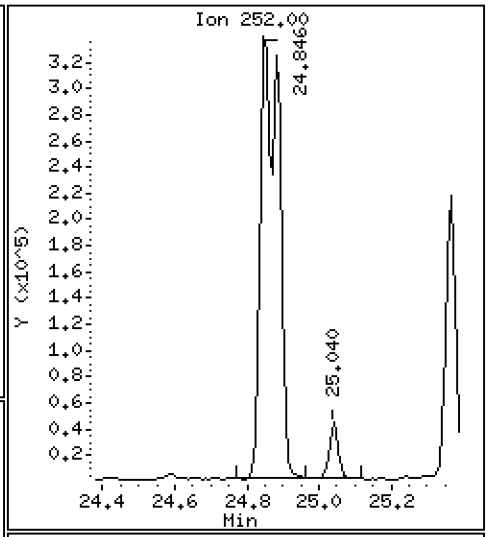
Concentration: 3.605 ug/mL

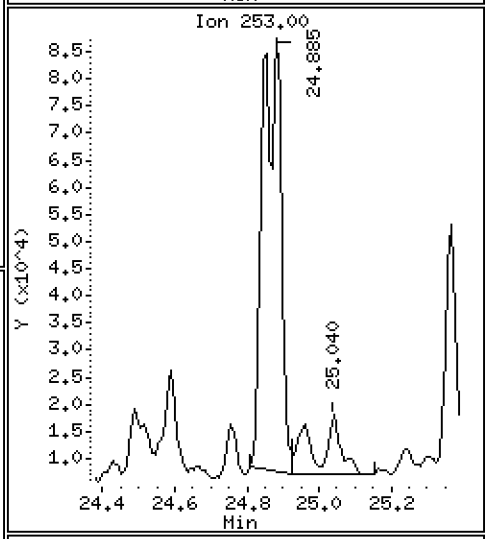


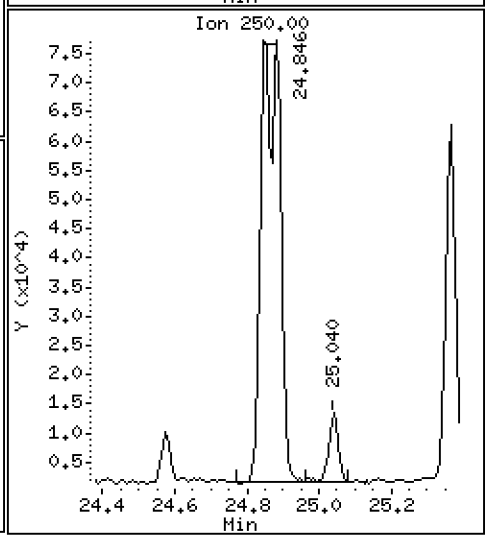












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230322.b\NT1803222313.D
Lab Smp Id: 23C0108-07
Inj Date : 23-MAR-2023 01:24
Operator : VTS Inst ID: nt18.i
Smp Info : 23C0108-07
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230322.b\ABN.m
Meth Date : 04-Apr-2023 14:27 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 15:18 Cal File: NT1803192302.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: DEENAY-201905

			QUANT SIG					CONCENTRATIONS ON-COLUMN	FINAL
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/mL)	(ug/mL)
$	1	2-Fluorophenol	112	6.796	6.773	(0.757)	572113	5.94317	5.943
$	2	Phenol-d5	99	8.349	8.341	(0.929)	731399	6.15021	6.150
	3	Phenol	94	8.380	8.364	(0.933)	1891415	14.8739	14.87
$	5	2-Chlorophenol-d4	132	8.619	8.619	(0.960)	662809	6.42979	6.430
	4	Bis(2-Chloroethyl)ether	93	Compound Not Detected.					
	6	2-Chlorophenol	128	Compound Not Detected.					
	7	1,3-Dichlorobenzene	146	Compound Not Detected.					
*	8	1,4-Dichlorobenzene-d4	152	8.983	8.983	(1.000)	312257	4.00000	
	9	1,4-Dichlorobenzene	146	Compound Not Detected.					
$	10	1,2-Dichlorobenzene-d4	152	9.332	9.332	(1.039)	285496	3.77448	3.774
	12	1,2-Dichlorobenzene	146	Compound Not Detected.					
	11	Benzyl alcohol	108	9.247	9.247	(1.029)	16733	0.28200	0.2820
	14	2,2'-oxybis(1-Chloropropane)	121	Compound Not Detected.					
	13	2-Methylphenol	108	Compound Not Detected.					
	17	Hexachloroethane	117	Compound Not Detected.					
	16	N-Nitroso-di-n-propylamine	70	Compound Not Detected.					
	15	4-Methylphenol	108	9.736	9.736	(1.084)	8219	0.08201	0.08201
$	18	Nitrobenzene-d5	82	10.062	10.062	(0.880)	429387	4.55107	4.551
	19	Nitrobenzene	77	Compound Not Detected.					
	20	Isophorone	82	Compound Not Detected.					
	21	2-Nitrophenol	139	Compound Not Detected.					
	22	2,4-Dimethylphenol	107	Compound Not Detected.					
	23	Bis(2-Chloroethoxy)methane	93	Compound Not Detected.					
	24	Benzoic acid	105	10.889	10.999	(0.952)	18955	0.28820	0.2882
	25	2,4-Dichlorophenol	162	Compound Not Detected.					
	26	1,2,4-Trichlorobenzene	180	Compound Not Detected.					
*	27	Naphthalene-d8	136	11.440	11.439	(1.000)	1144594	4.00000	
	28	Naphthalene	128	11.478	11.478	(1.003)	28340	0.09124	0.09124
	29	4-Chloroaniline	127	Compound Not Detected.					
	30	Hexachlorobutadiene	225	Compound Not Detected.					
	31	4-Chloro-3-methylphenol	107	Compound Not Detected.					
	32	2-Methylnaphthalene	142	12.863	12.863	(1.124)	14574	0.07205	0.07205(H)
	33	Hexachlorocyclopentadiene	237	Compound Not Detected.					

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	Compound Not Detected.					
	35 2,4,5-Trichlorophenol	196	Compound Not Detected.					
$	36 2-Fluorobiphenyl	172	13.644	13.644	(0.908)	903404	4.32948	4.329
	37 2-Chloronaphthalene	162	Compound Not Detected.					
	38 2-Nitroaniline	65	Compound Not Detected.					
	39 Dimethylphthalate	163	14.534	14.542	(0.968)	13674	0.07875	0.07875
	40 Acenaphthylene	152	14.712	14.712	(0.979)	22693	0.08006	0.08006
	41 2,6-Dinitrotoluene	165	Compound Not Detected.					
*	42 Acenaphthene-d10	164	15.022	15.022	(1.000)	582698	4.00000	
	43 3-Nitroaniline	138	Compound Not Detected.					
	44 Acenaphthene	153	15.084	15.091	(1.004)	13422	0.07481	0.07481
	45 2,4-Dinitrophenol	184	Compound Not Detected.					
	46 Dibenzofuran	168	15.408	15.416	(1.026)	20958	0.08502	0.08502
	47 4-Nitrophenol	109	Compound Not Detected.					
	48 2,4-Dinitrotoluene	165	Compound Not Detected.					
	50 Diethylphthalate	149	15.980	15.988	(1.064)	55717	0.31671	0.3167
	49 Fluorene	166	16.112	16.120	(1.073)	23796	0.10635	0.1063
	51 4-Chlorophenyl-phenylether	204	Compound Not Detected.					
	52 4-Nitroaniline	138	Compound Not Detected.					
	53 4,6-Dinitro-2-methylphenol	198	Compound Not Detected.					
	54 N-Nitrosodiphenylamine	169	Compound Not Detected.					
$	55 2,4,6-Tribromophenol	330	16.644	16.644	(1.108)	178681	6.79280	6.793
	56 4-Bromophenyl-phenylether	248	Compound Not Detected.					
	57 Hexachlorobenzene	284	Compound Not Detected.					
	58 Pentachlorophenol	266	Compound Not Detected.					
*	59 Phenanthrene-d10	188	18.035	18.035	(1.000)	1001494	4.00000	
	60 Phenanthrene	178	18.073	18.081	(1.002)	185751	0.67946	0.6795
	61 Anthracene	178	18.166	18.166	(1.007)	100044	0.38382	0.3838
	62 Carbazole	167	18.499	18.499	(1.026)	25607	0.11157	0.1116
	63 Di-n-butylphthalate	149	19.311	19.311	(1.071)	11712	0.03846	0.03846(H)
	64 Fluoranthene	202	20.456	20.456	(0.887)	581868	1.60548	1.605
	65 Pyrene	202	20.874	20.874	(0.905)	605306	1.58461	1.585
$	66 Terphenyl-d14	244	21.168	21.168	(0.918)	1156137	4.06953	4.070
	67 Butylbenzylphthalate	149	22.097	22.090	(0.958)	19580	0.11849	0.1185
	68 Benzo(a)anthracene	228	23.027	23.027	(0.999)	416123	1.16920	1.169
*	69 Chrysene-d12	240	23.058	23.050	(1.000)	1137332	4.00000	
	70 3,3'-Dichlorobenzidine	252	Compound Not Detected.					
	71 Chrysene	228	23.096	23.096	(1.002)	652839	1.77450	1.774
	72 bis(2-Ethylhexyl)phthalate	149	23.119	23.119	(0.960)	290214	1.07700	1.077
*	134 Di-n-octylphthalate-d4	153	24.087	24.087	(1.000)	1839241	4.00000	
	73 Di-n-octylphthalate	149	Compound Not Detected.					
	74 Benzo(b)fluoranthene	252	24.846	24.846	(0.972)	698924	2.09588	2.096
	75 Benzo(k)fluoranthene	252	24.885	24.885	(0.973)	614169	1.67446	1.674
	76 Benzo(a)pyrene	252	25.465	25.458	(0.996)	408438	1.22521	1.225
*	77 Perylene-d12	264	25.574	25.566	(1.000)	1197887	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	28.063	28.055	(1.097)	127391	0.30617	0.3062
	79 Dibenzo(a,h)anthracene	278	28.071	28.071	(1.098)	44240	0.12906	0.1291
	80 Benzo(g,h,i)perylene	276	28.793	28.793	(1.126)	86332	0.26011	0.2601(M)
	90 N-Nitrosodimethylamine	74	Compound Not Detected.					
	91 Aniline	93	Compound Not Detected.					
	93 Benzidine	184	Compound Not Detected.					
	103 Pyridine	79	Compound Not Detected.					
	105 1-methylnaphthalene	142	13.079	13.087	(1.143)	11290	0.06080	0.06080
	111 Azobenzene (1,2-DP-Hydrazine)	77	Compound Not Detected.					

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187 Total Benzofluoranthenes	252	24.846	24.885	(0.972)	1204686	3.60472	3.605
120 2,3,4,6-Tetrachlorophenol	232	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222313.D
Lab Smp Id: 23C0108-07
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322.b\ABN.m
Misc Info:

Calibration Date: 22-MAR-2023
Calibration Time: 17:55
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	259918	129959	519836	312257	20.14
27 Naphthalene-d8	969410	484705	1938820	1144594	18.07
42 Acenaphthene-d10	510287	255144	1020574	582698	14.19
59 Phenanthrene-d10	882628	441314	1765256	1001494	13.47
69 Chrysene-d12	800073	400037	1600146	1137332	42.15
134 Di-n-octylphthala	1258607	629304	2517214	1839241	46.13
77 Perylene-d12	911909	455955	1823818	1197887	31.36

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	0.00
42 Acenaphthene-d10	15.02	14.52	15.52	15.02	0.00
59 Phenanthrene-d10	18.04	17.54	18.54	18.04	0.00
69 Chrysene-d12	23.05	22.55	23.55	23.06	0.03
134 Di-n-octylphthala	24.09	23.59	24.59	24.09	0.00
77 Perylene-d12	25.57	25.07	26.07	25.57	0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222313.D

Lab ID: 23C0108-07
nt18.i, ABN.m, 23-MAR-2023 01:24

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.952	0.961	-0.0096	Benzoic acid

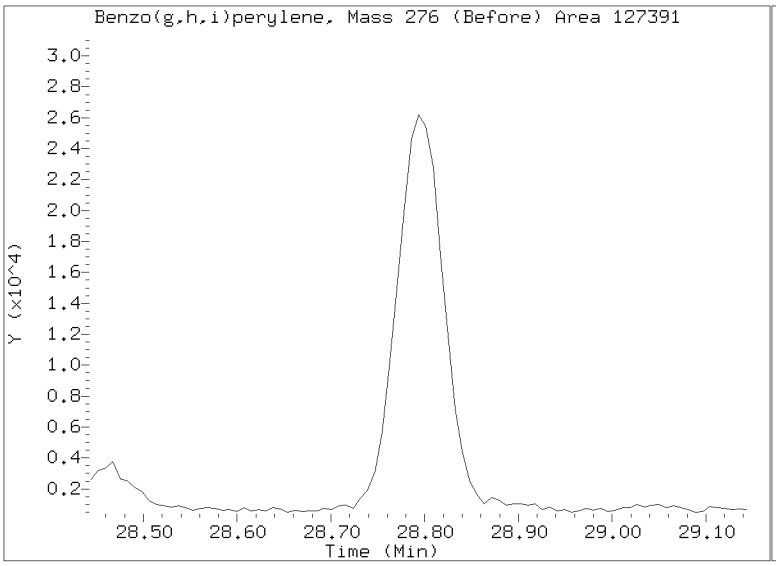
RRT check based on Ccal File: NT1803222302.D

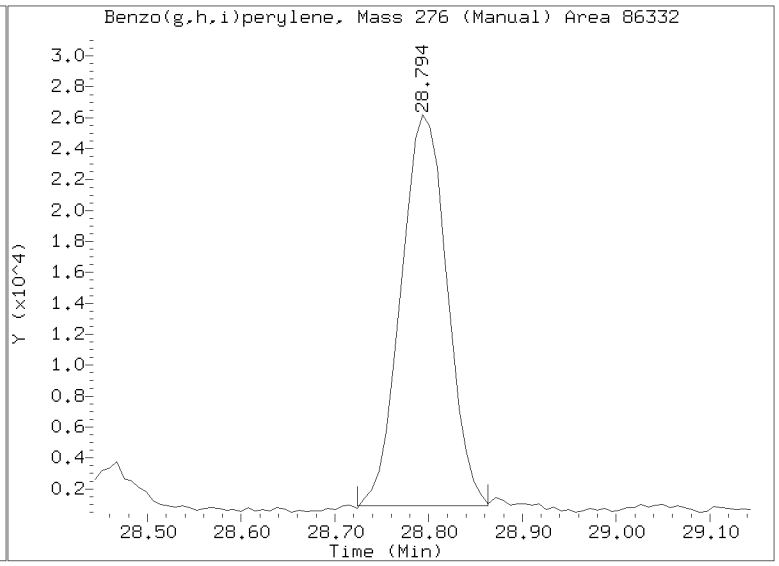
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230322.b/NT1803222313.D
Injection Date: 23-MAR-2023 01:24
Lab ID:23C0108-07 Client ID:
Report Date: 04/04/2023 14:29





APPROVED

By Deenay Dunmore at 2:44 pm, Apr 04, 2023

Analytical Resources, LLC
Analytical Chemists and Consultants

LDW23-SS1111

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270E

Semivolatiles (20ug/kg - 0.2ug/L SepF)

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-08 A	SDG:	23C0108
Sampled:	03/03/23 10:36	Prepared:	03/09/23 13:26	File ID:	NT1803222314.D
% Solids:	46.38	Preparation:	EPA 3546 (Microwave)	Analyzed:	03/23/23 02:04
Batch:	BLC0185	Sequence:	SLD0051	Initial/Final:	21.59 g Wet / 1 mL
Instrument:	NT18	Column:	ZB-5MS	Calibration:	GC00085
Cleanups:	GPC				

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg dry)	Q	DL	RL
108-95-2	Phenol	1	991		4.4	20.0
106-44-5	4-Methylphenol	1	8.2	J	7.4	20.0
91-20-3	Naphthalene	1	7.8	J	4.2	20.0
91-57-6	2-Methylnaphthalene	1	8.9	J	4.5	20.0
208-96-8	Acenaphthylene	1	20.0	U	6.2	20.0
131-11-3	Dimethylphthalate	1	5.7	J	4.4	20.0
83-32-9	Acenaphthene	1	6.2	J	5.2	20.0
132-64-9	Dibenzofuran	1	20.0	U	14.1	20.0
86-73-7	Fluorene	1	20.0	U	14.6	20.0
85-01-8	Phenanthrene	1	40.4		8.7	20.0
120-12-7	Anthracene	1	18.4	J	7.2	20.0
206-44-0	Fluoranthene	1	94.7		6.1	20.0
129-00-0	Pyrene	1	93.1		5.7	20.0
85-68-7	Butylbenzylphthalate	1	20.0	U	9.4	20.0
56-55-3	Benzo(a)anthracene	1	57.2		6.0	20.0
218-01-9	Chrysene	1	85.9		6.1	20.0
117-81-7	bis(2-Ethylhexyl)phthalate	1	107		5.5	49.9
	Benzofluoranthenes, Total	1	170		10.0	39.9
50-32-8	Benzo(a)pyrene	1	56.1		4.2	20.0
193-39-5	Indeno(1,2,3-cd)pyrene	1	14.7	J	14.6	20.0
53-70-3	Dibenzo(a,h)anthracene	1	20.0	U	17.2	20.0
191-24-2	Benzo(g,h,i)perylene	1	20.0	U	13.6	20.0

SURROGATES	ADDED: (ug/kg dry)	FOUND: (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorophenol	748.99	578	77.2	27 - 120	
Phenol-d5	748.99	603	80.5	29 - 120	
2-Chlorophenol-d4	748.99	616	82.3	31 - 120	
1,2-Dichlorobenzene-d4	499.33	366	73.2	32 - 120	
Nitrobenzene-d5	499.33	449	89.9	30 - 120	
2-Fluorobiphenyl	499.33	419	83.9	35 - 120	

LDW23-SS1111

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270E

Semivolatiles (20ug/kg - 0.2ug/L SepF)

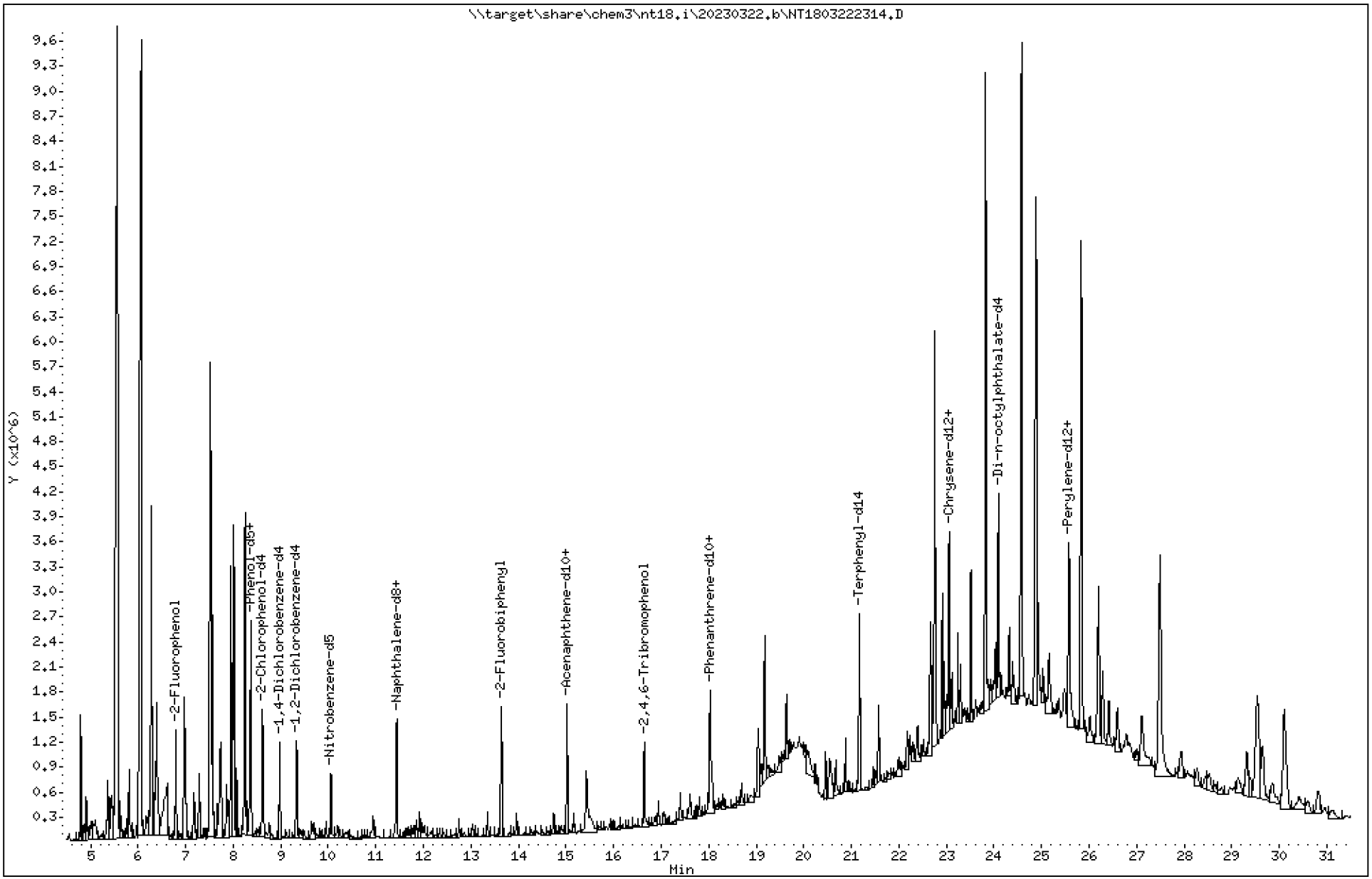
Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-08 A	SDG:	23C0108
Sampled:	03/03/23 10:36	Prepared:	03/09/23 13:26	File ID:	NT1803222314.D
% Solids:	46.38	Preparation:	EPA 3546 (Microwave)	Analyzed:	03/23/23 02:04
Batch:	BLC0185	Sequence:	SLD0051	Initial/Final:	21.59 g Wet / 1 mL
Instrument:	NT18	Column:	ZB-5MS	Calibration:	GC00085
Cleanups:	GPC				

SURROGATES	ADDED: (ug/kg dry)	FOUND: (ug/kg dry)	% REC	QC LIMITS	Q
2,4,6-Tribromophenol	748.99	664	88.6	24 - 134	
p-Terphenyl-d14	499.33	382	76.5	37 - 120	

Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222314.D
Date : 23-MAR-2023 02:04
Client ID:
Sample Info: 23C0108-08

Instrument: nt18.i
Operator: VTS
Column diameter: 0.25

Column phase: ZB-5msi



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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

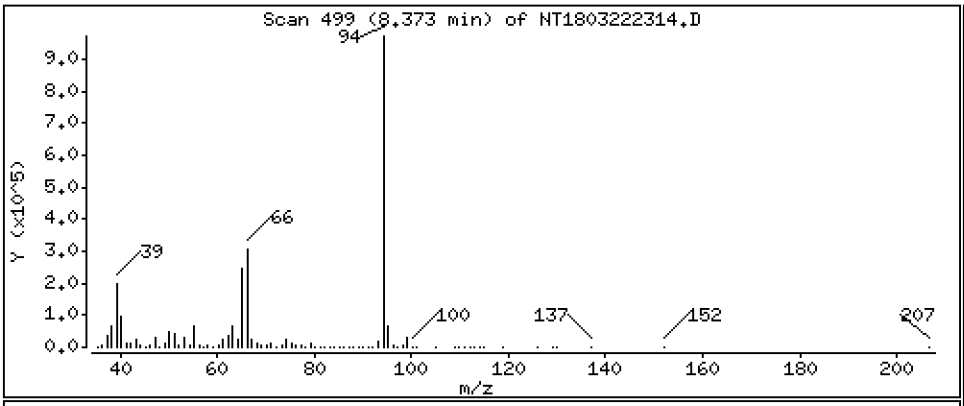
Operator: VTS

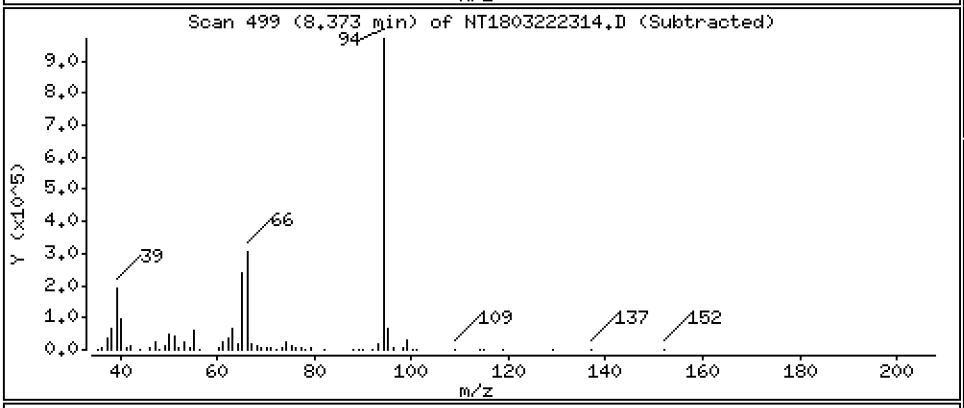
Column phase: ZB-5msi

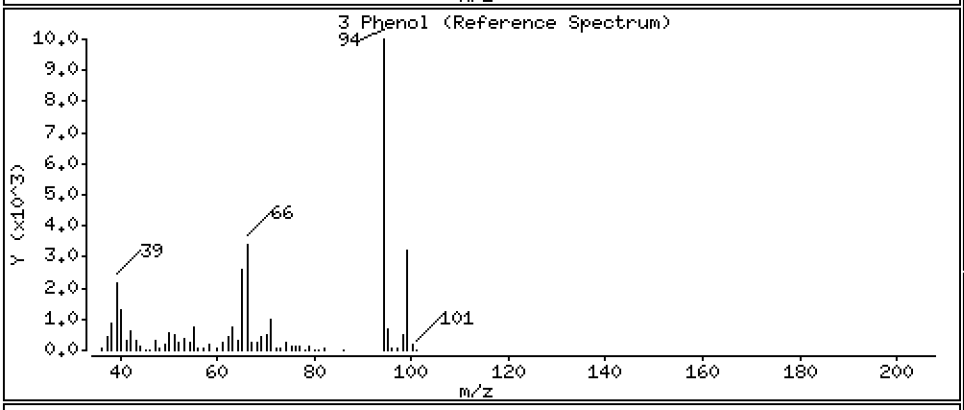
Column diameter: 0.25

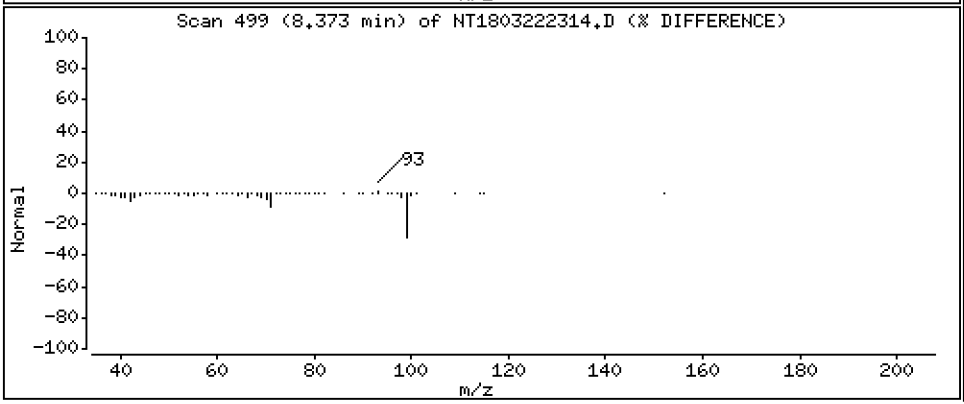
3 Phenol

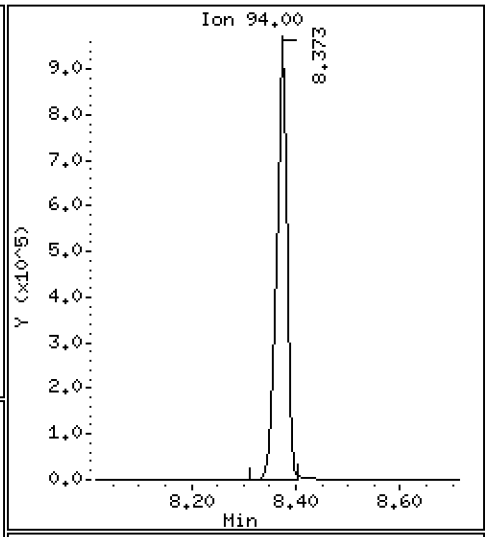
Concentration: 9.928 ug/mL

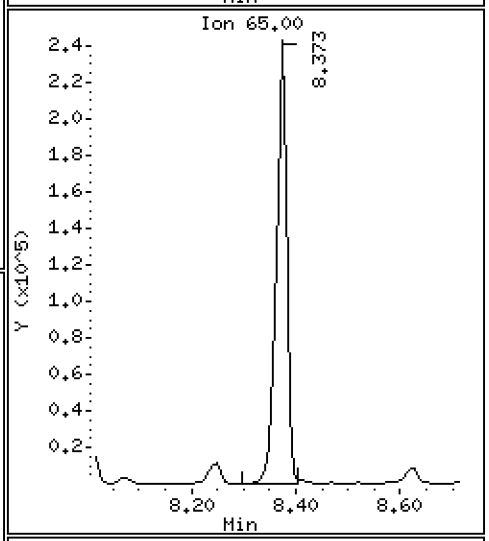


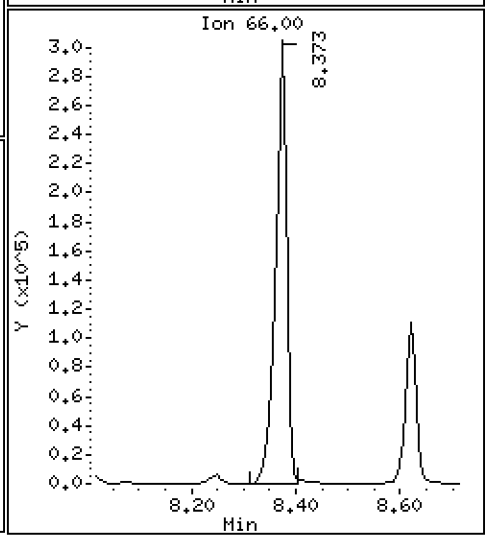












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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

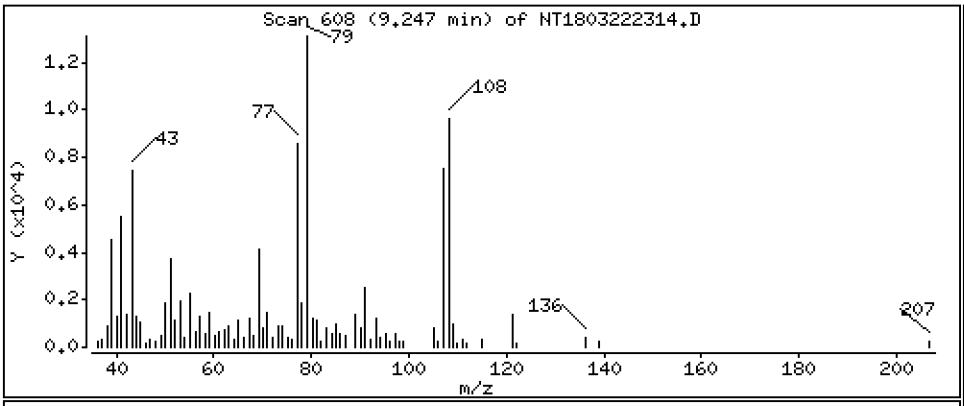
Operator: VTS

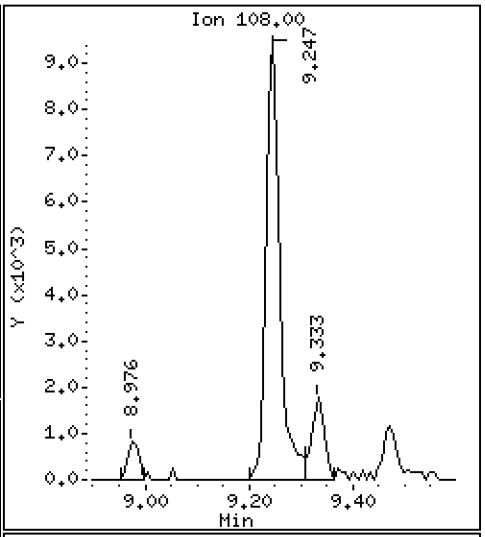
Column phase: ZB-5msi

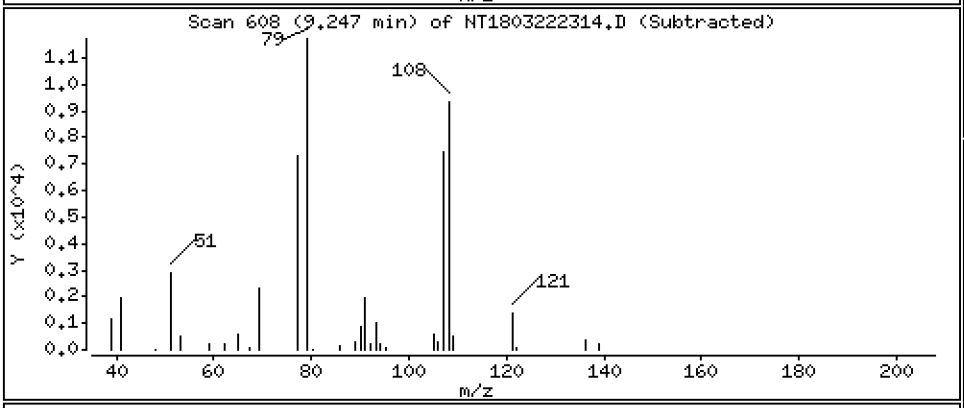
Column diameter: 0.25

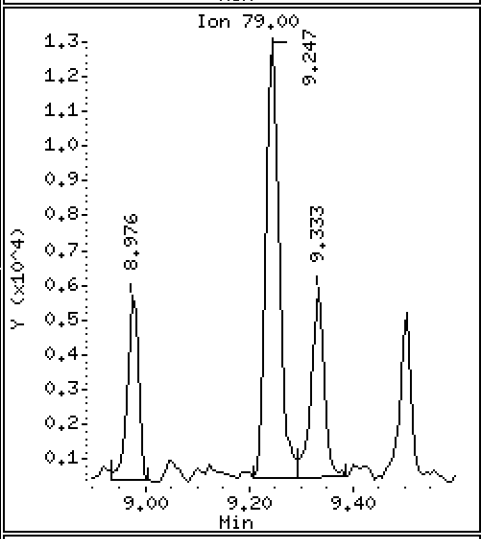
11 Benzyl alcohol

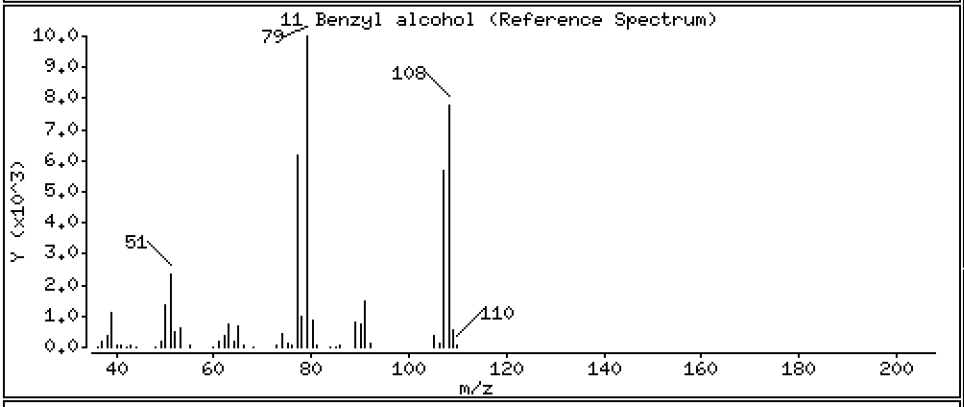
Concentration: 0.2763 ug/mL

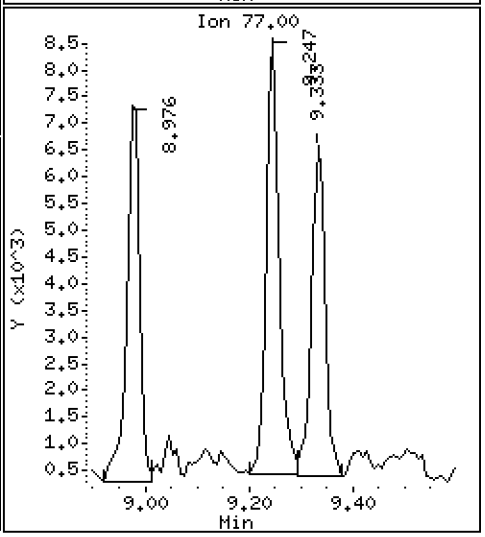


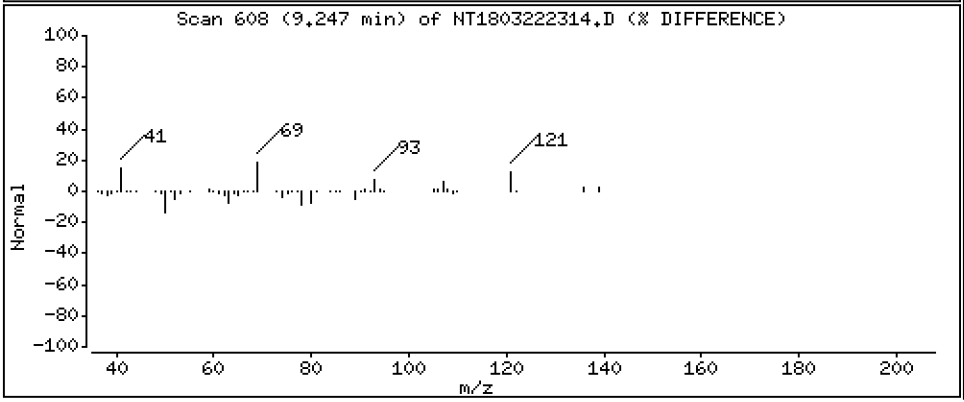












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222314.D

Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

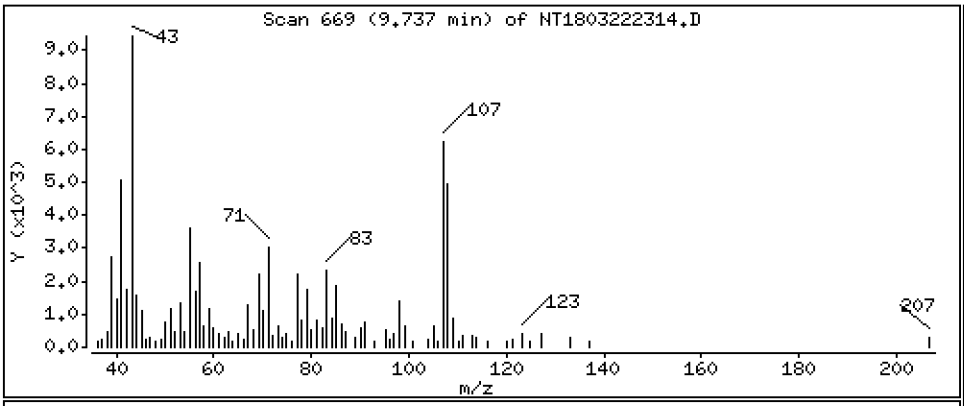
Operator: VTS

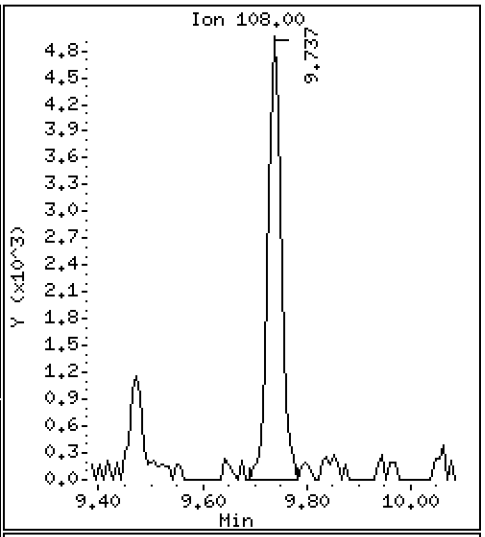
Column phase: ZB-5msi

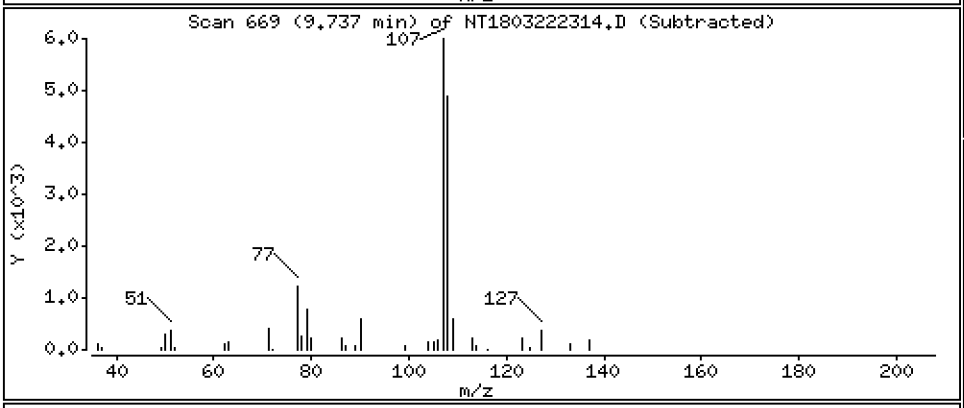
Column diameter: 0.25

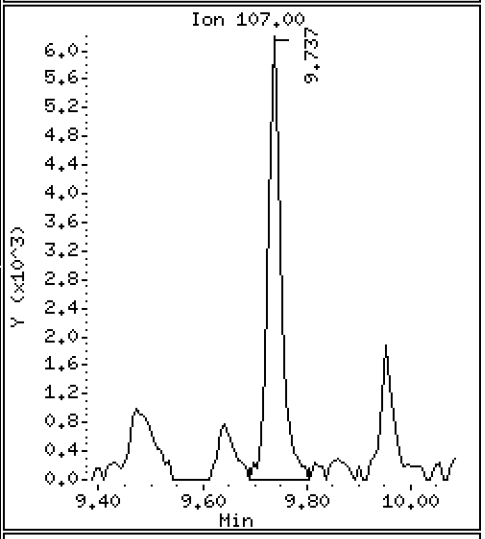
15 4-Methylphenol

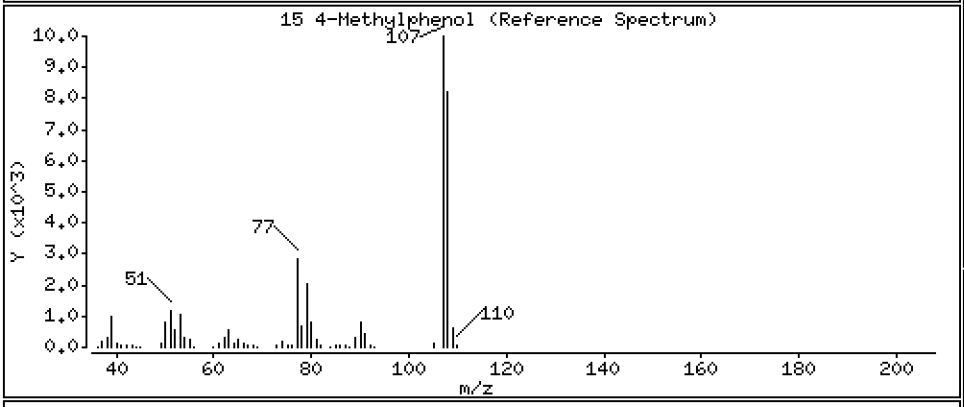
Concentration: 0.08220 ug/mL

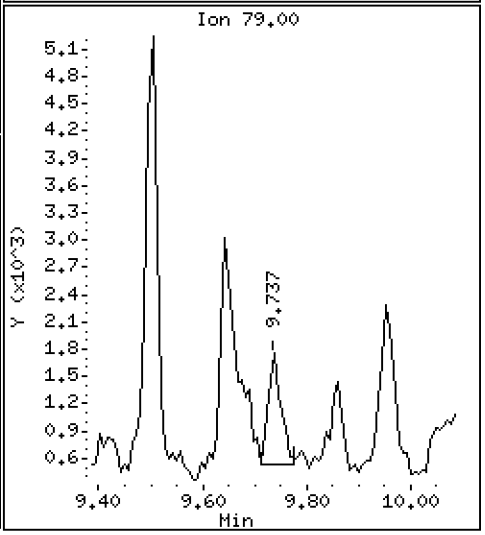


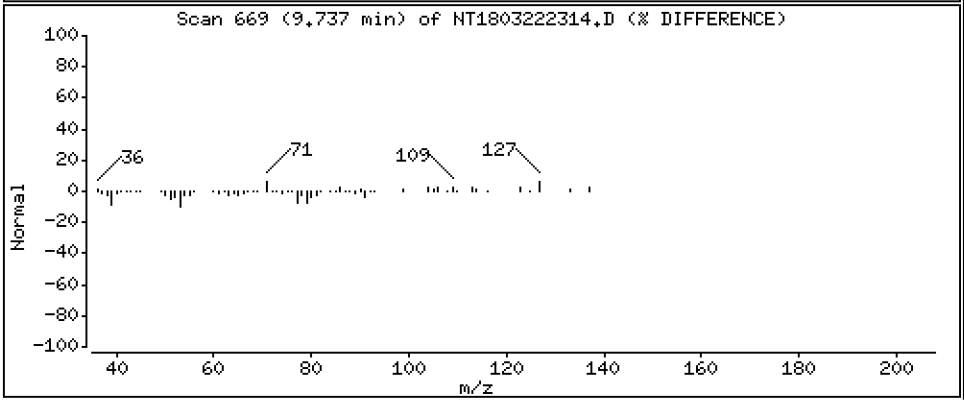












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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

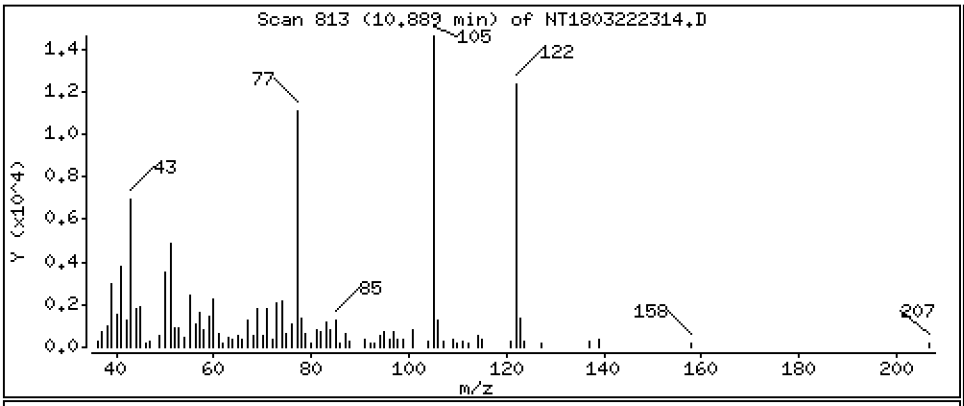
Operator: VTS

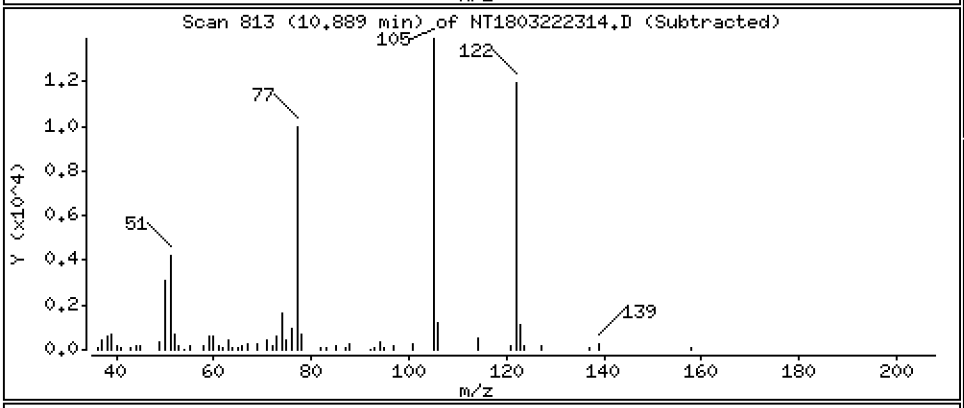
Column phase: ZB-5msi

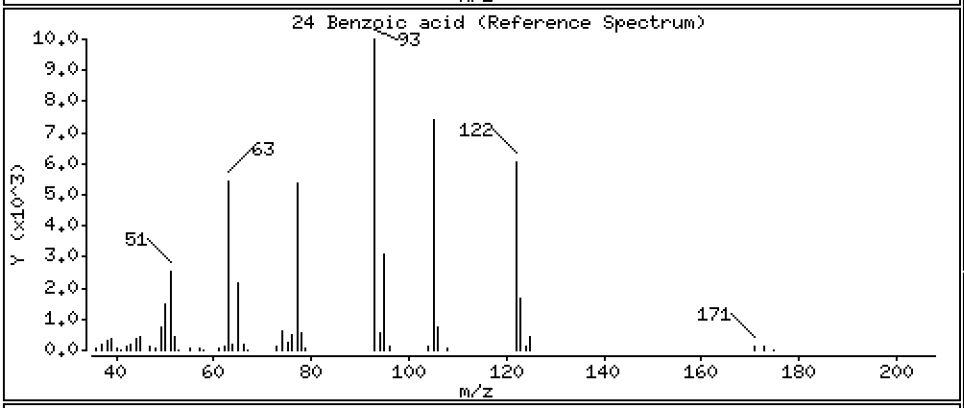
Column diameter: 0.25

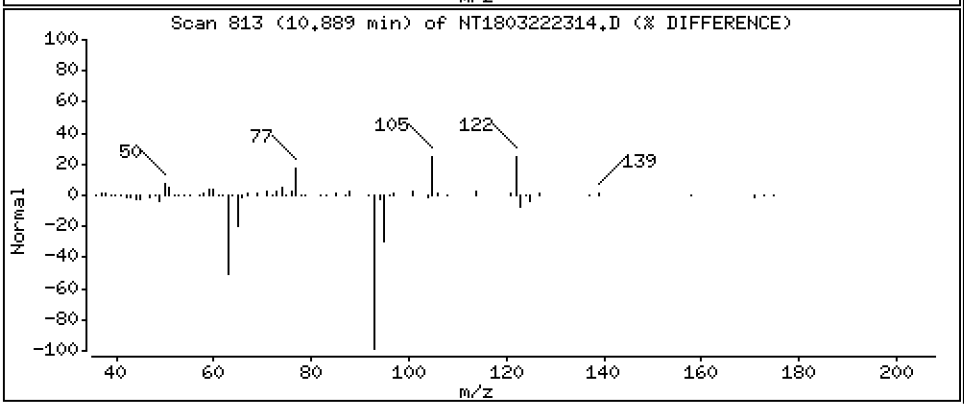
24 Benzoic acid

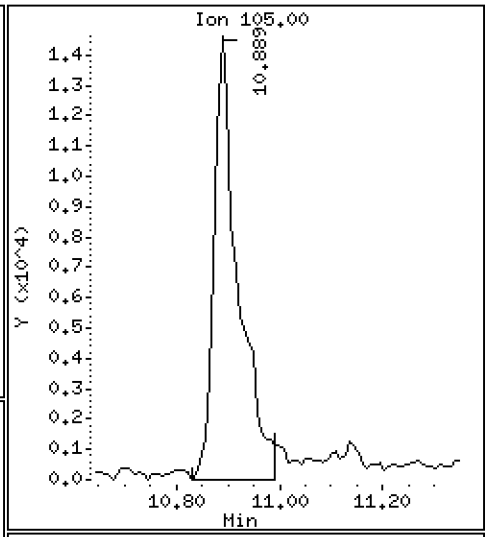
Concentration: 0.7188 ug/mL

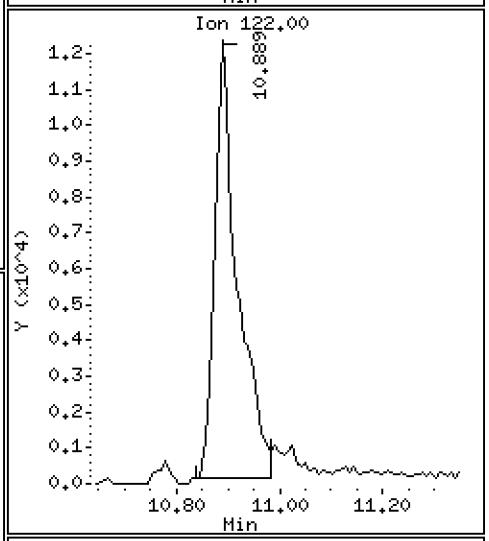


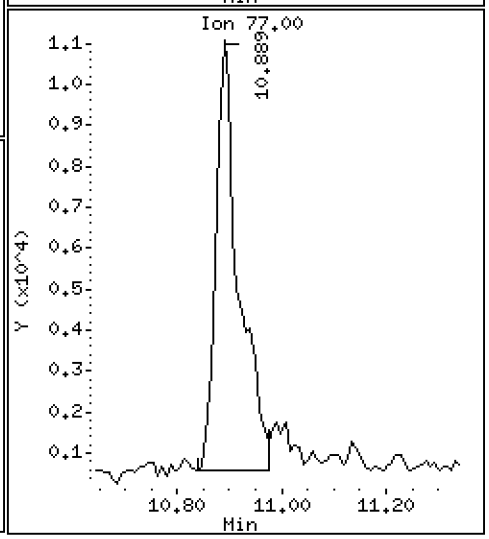












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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

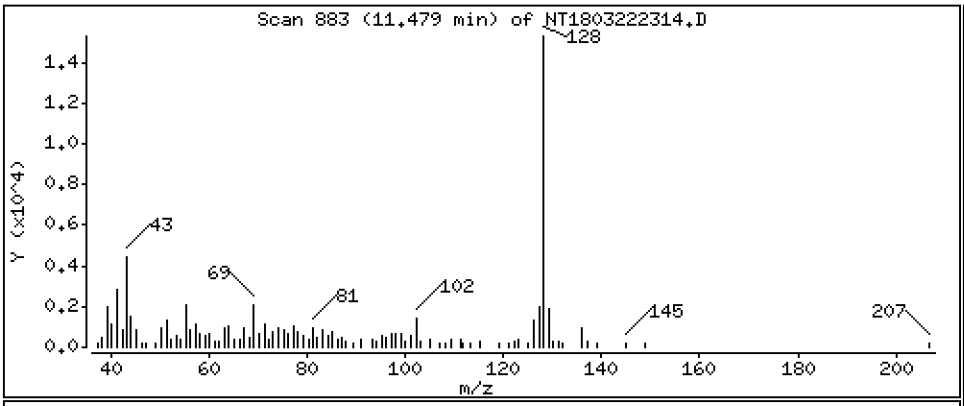
Operator: VTS

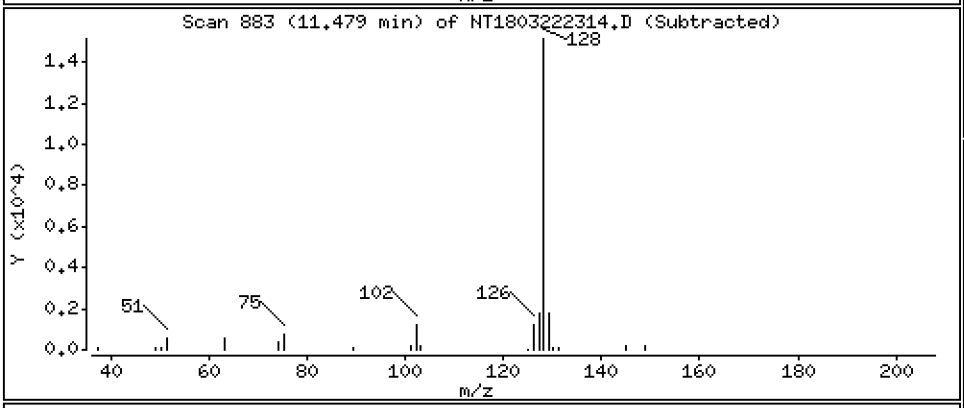
Column phase: ZB-5msi

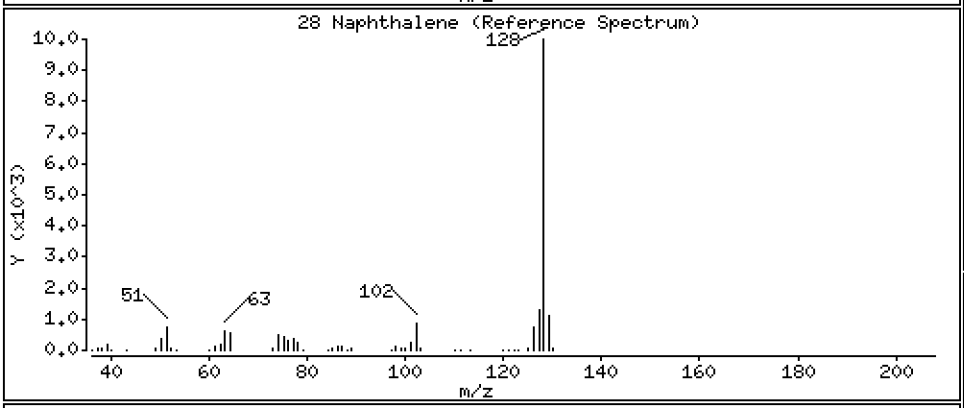
Column diameter: 0.25

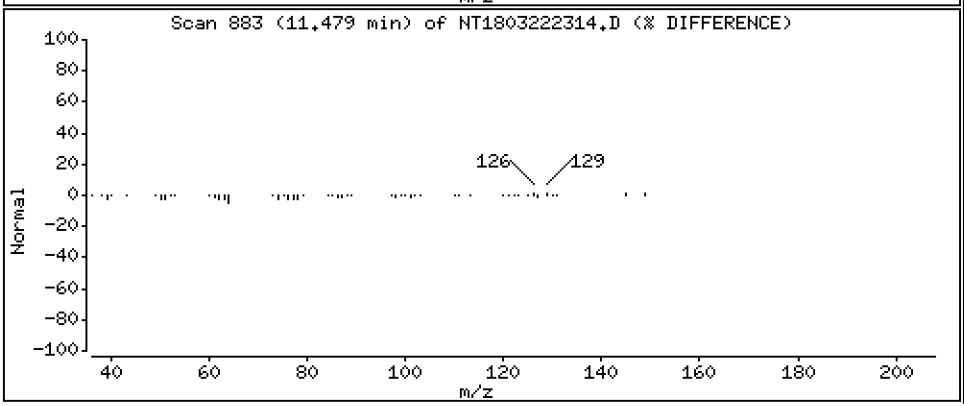
28 Naphthalene

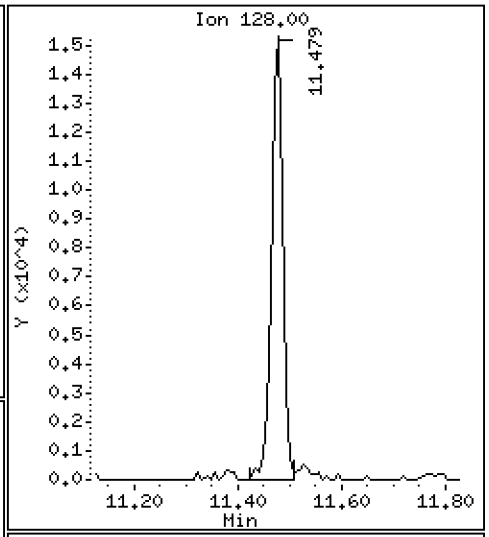
Concentration: 0.07836 ug/mL

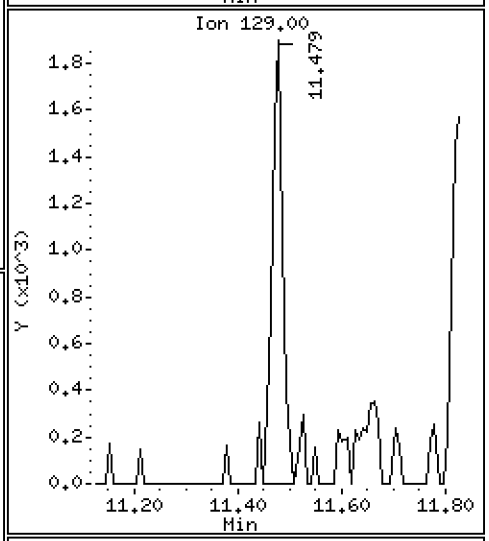


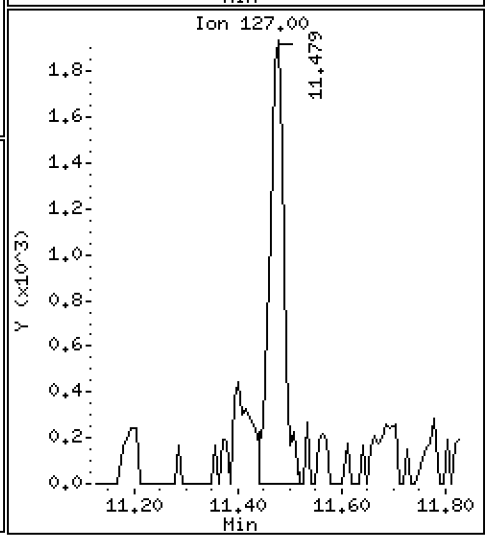












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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

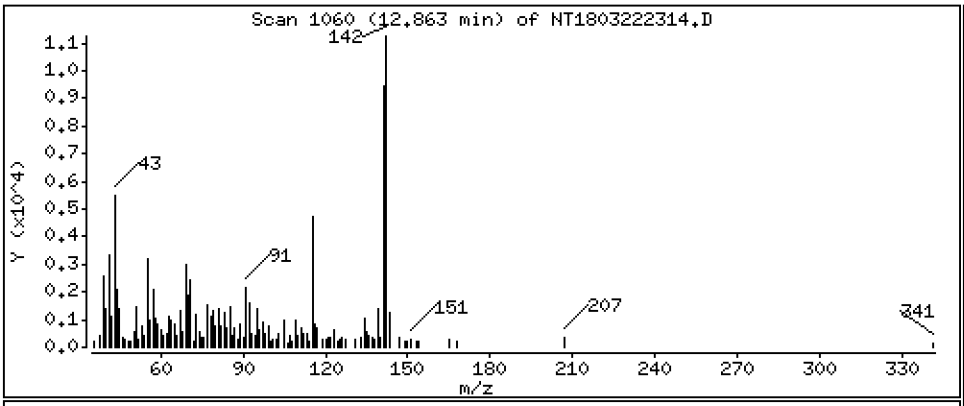
Operator: VTS

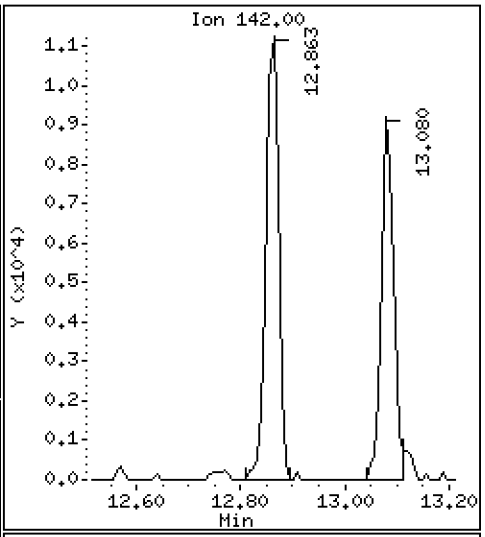
Column phase: ZB-5msi

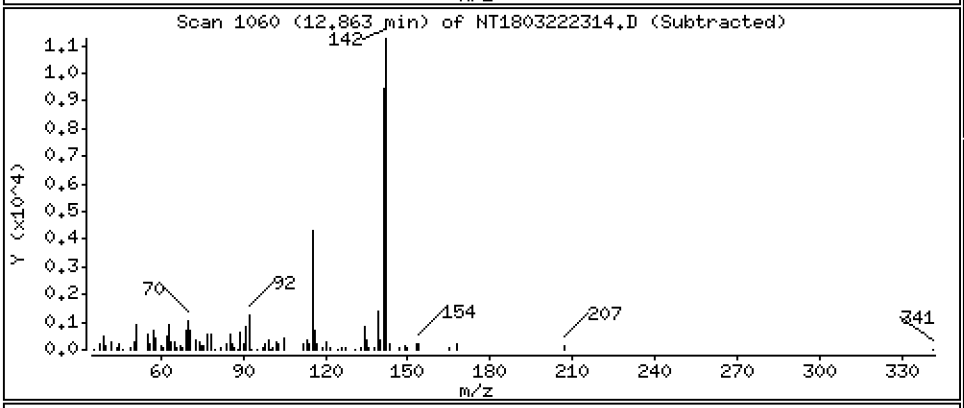
Column diameter: 0.25

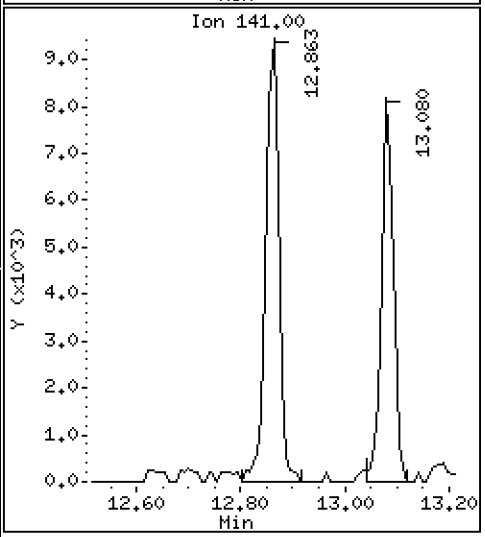
32 2-Methylnaphthalene

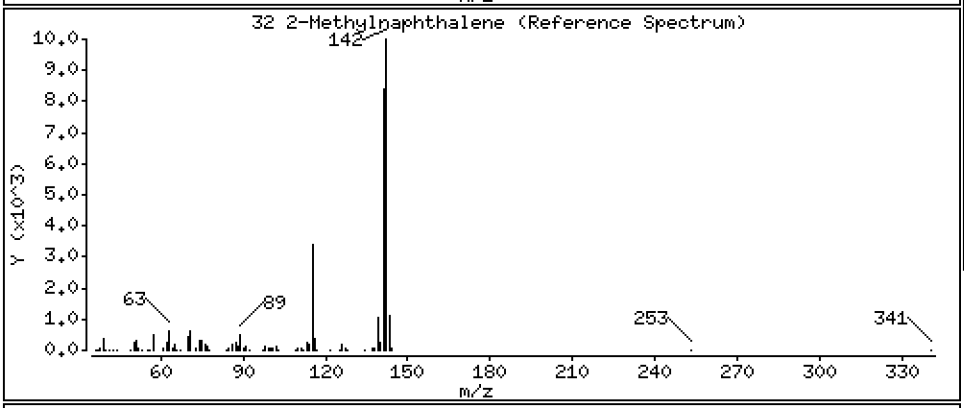
Concentration: 0.08943 ug/mL

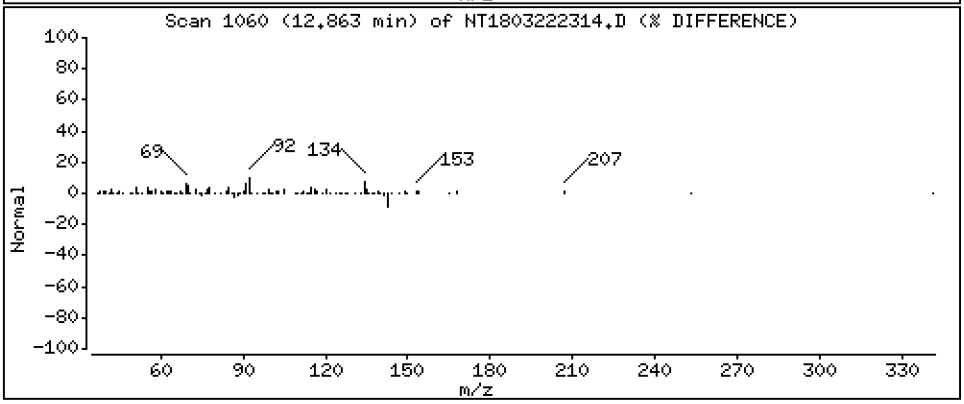












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222314.D

Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

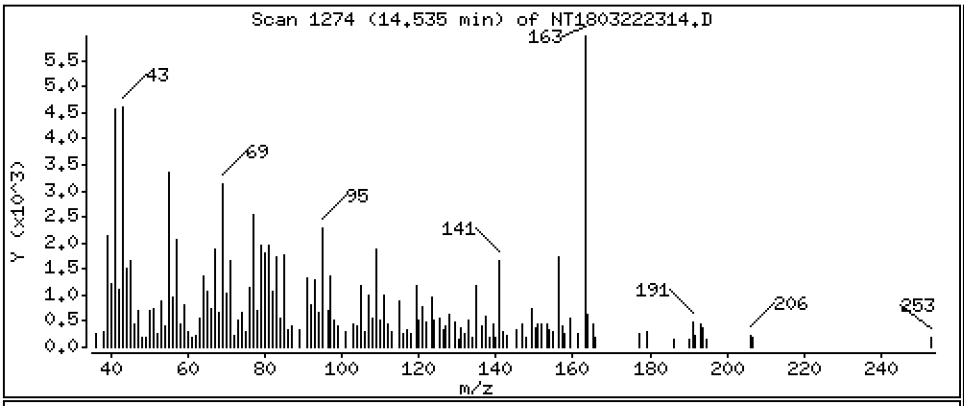
Operator: VTS

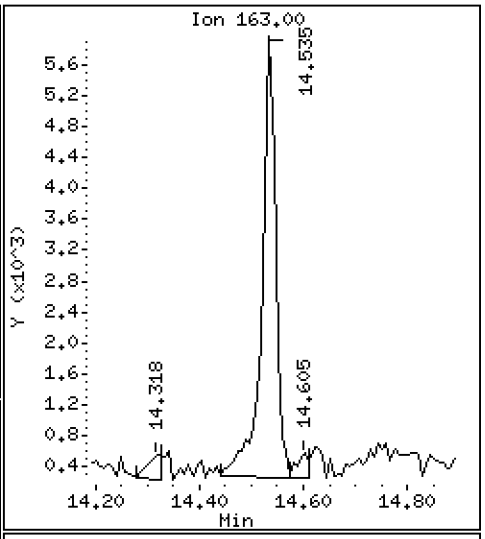
Column phase: ZB-5msi

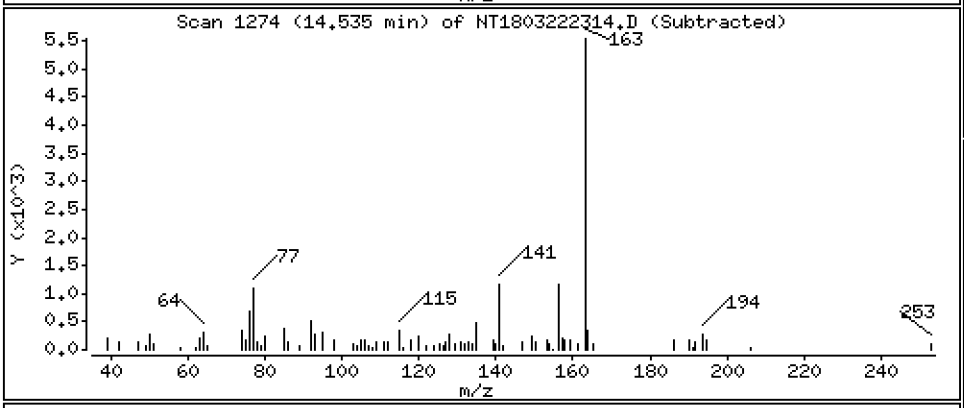
Column diameter: 0.25

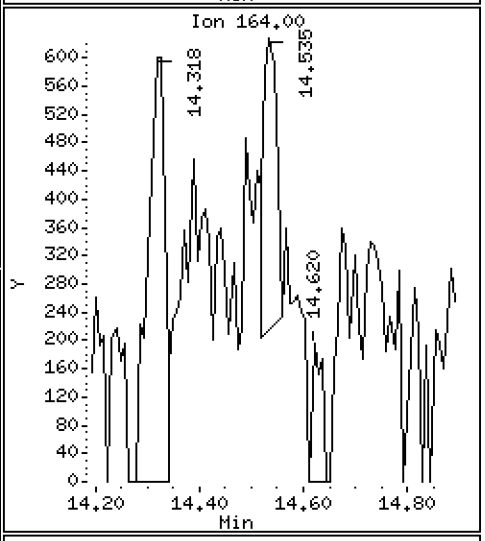
39 Dimethylphthalate

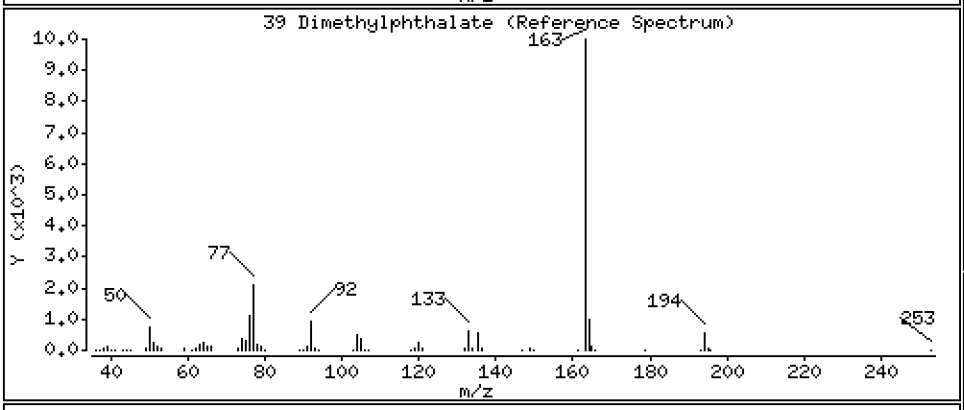
Concentration: 0.05673 ug/mL

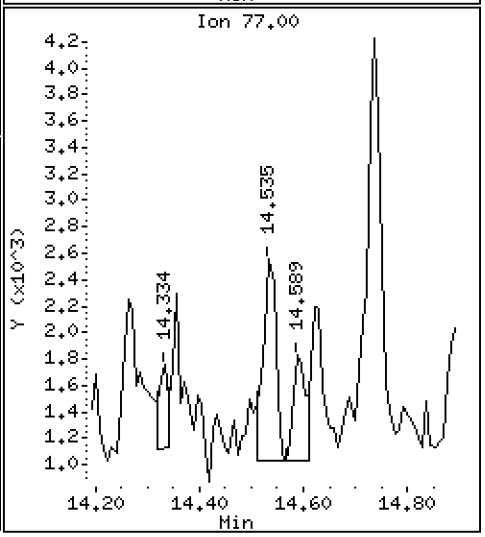


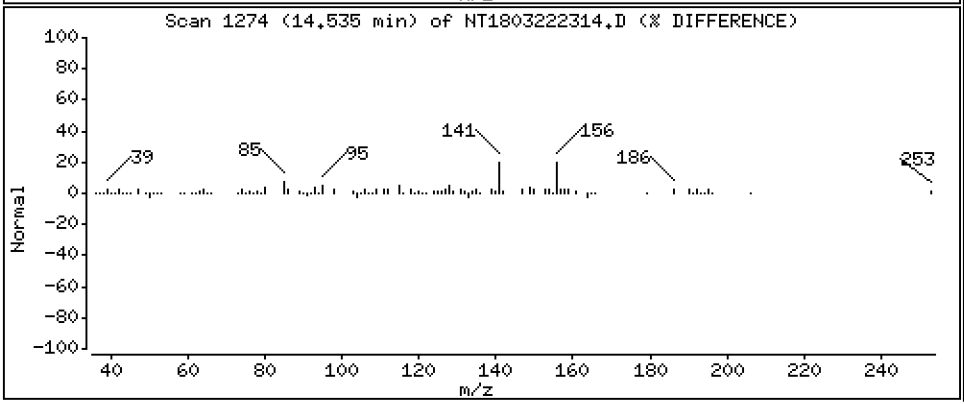












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222314.D

Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

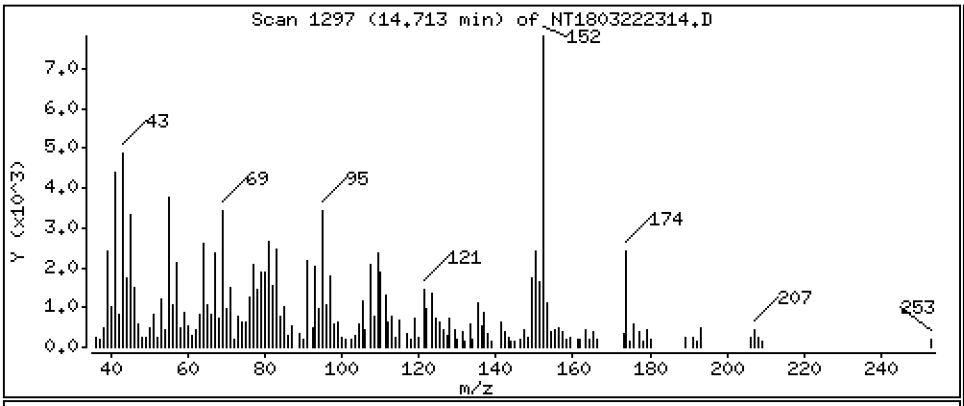
Operator: VTS

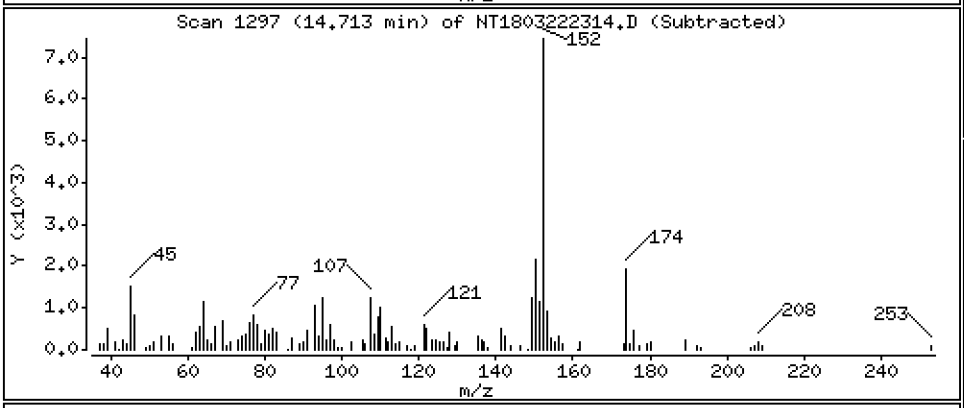
Column phase: ZB-5msi

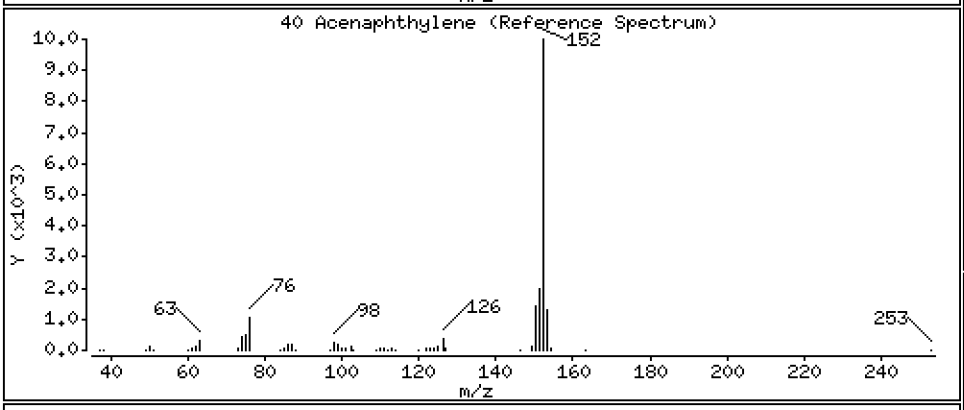
Column diameter: 0.25

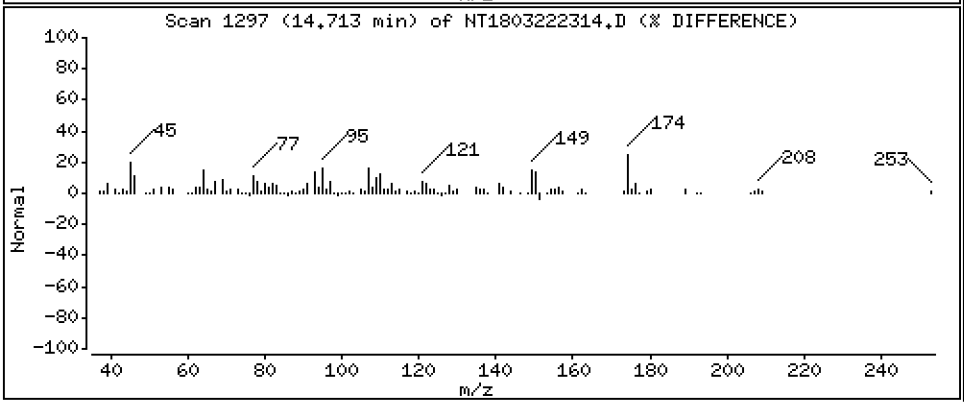
40 Acenaphthylene

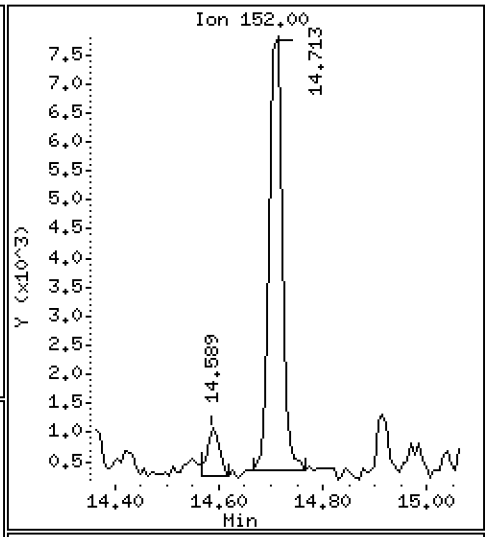
Concentration: 0.04278 ug/mL

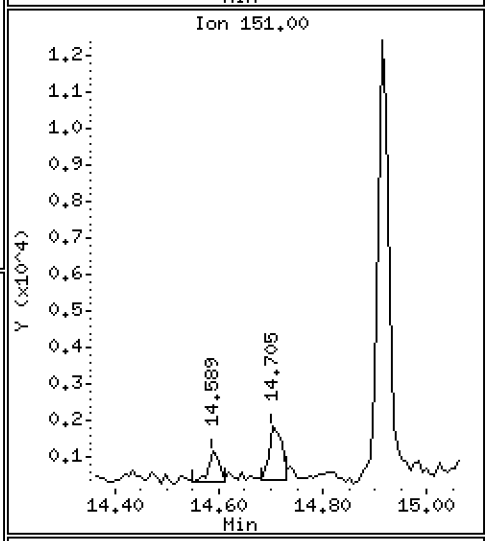


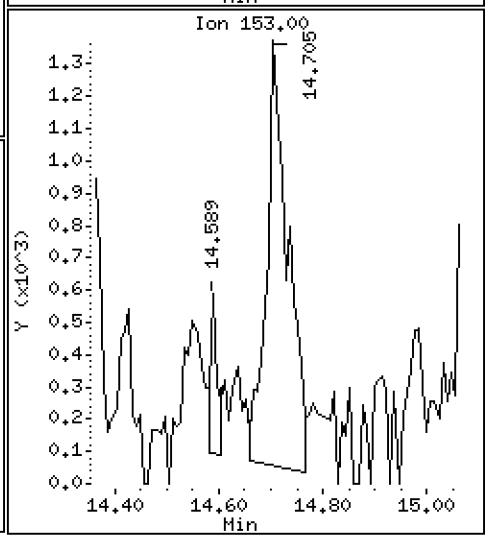












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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

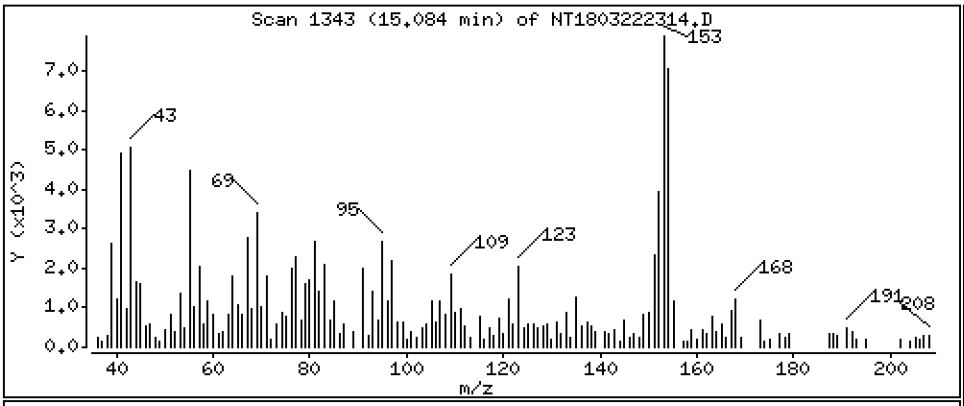
Operator: VTS

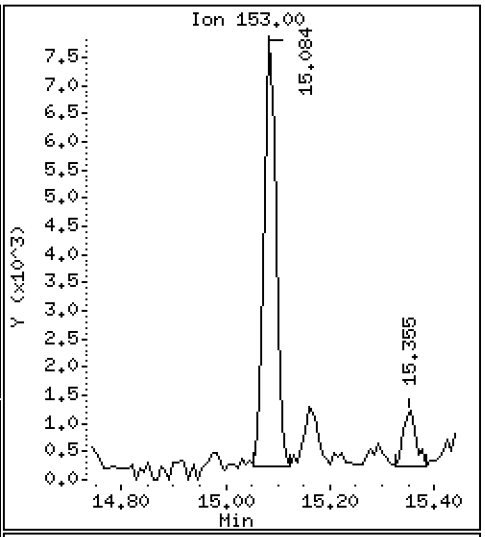
Column phase: ZB-5msi

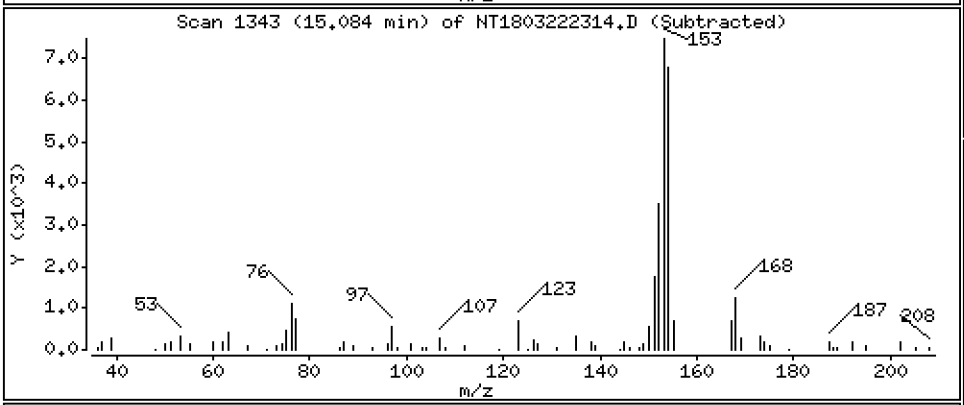
Column diameter: 0.25

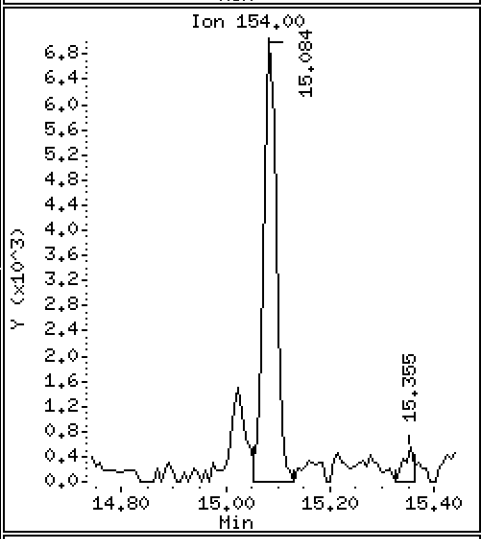
44 Acenaphthene

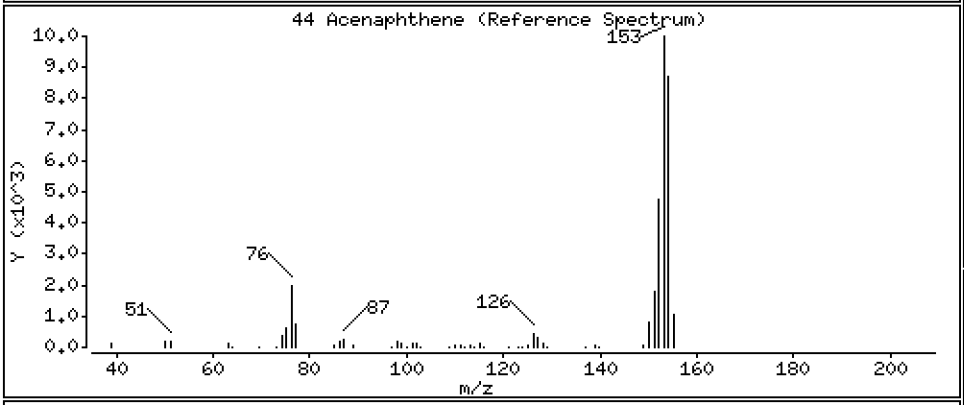
Concentration: 0.06225 ug/mL

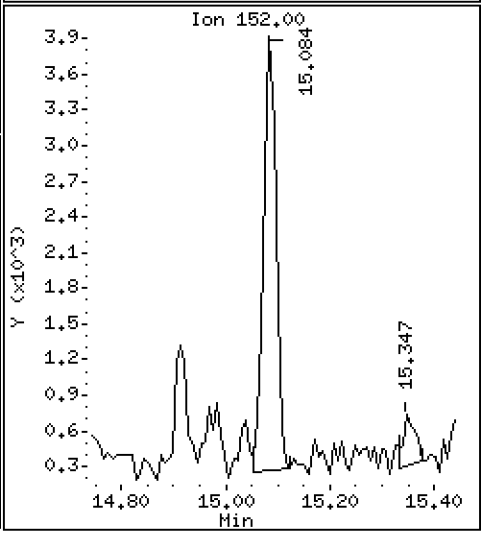


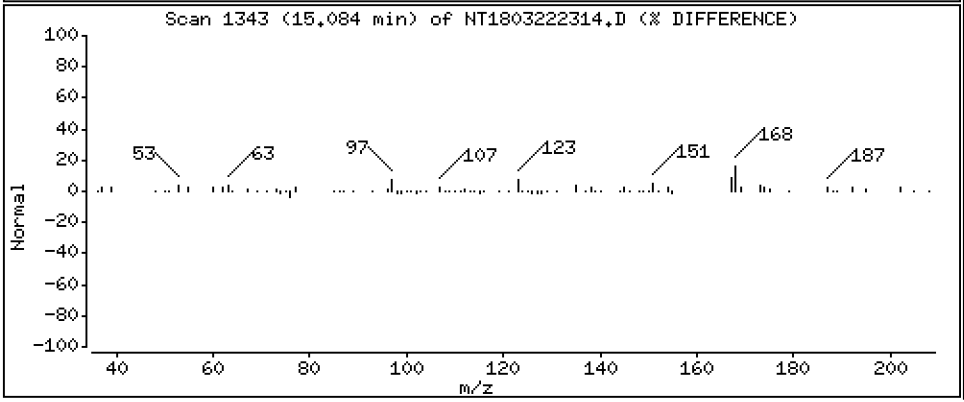












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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

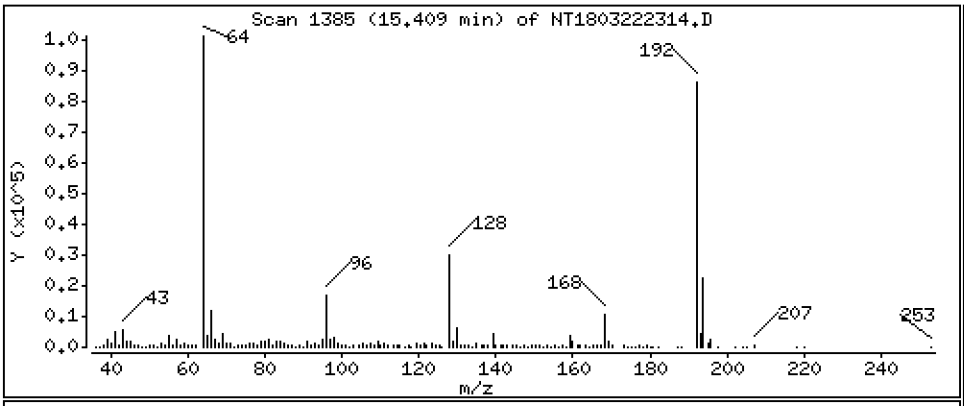
Operator: VTS

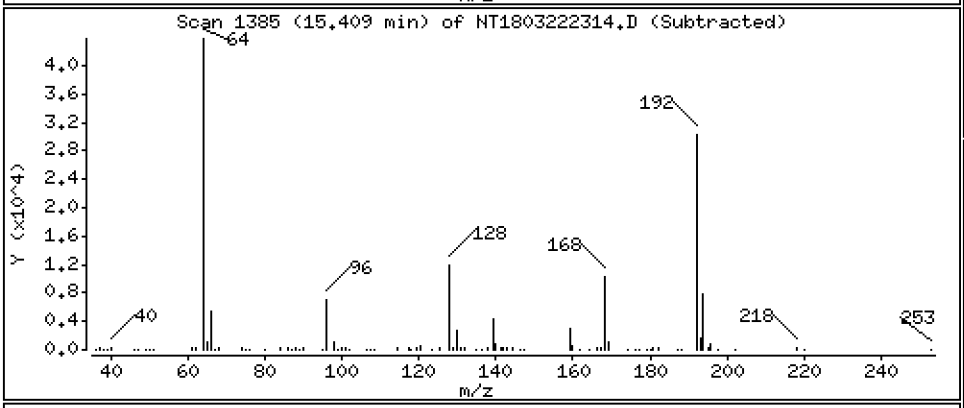
Column phase: ZB-5msi

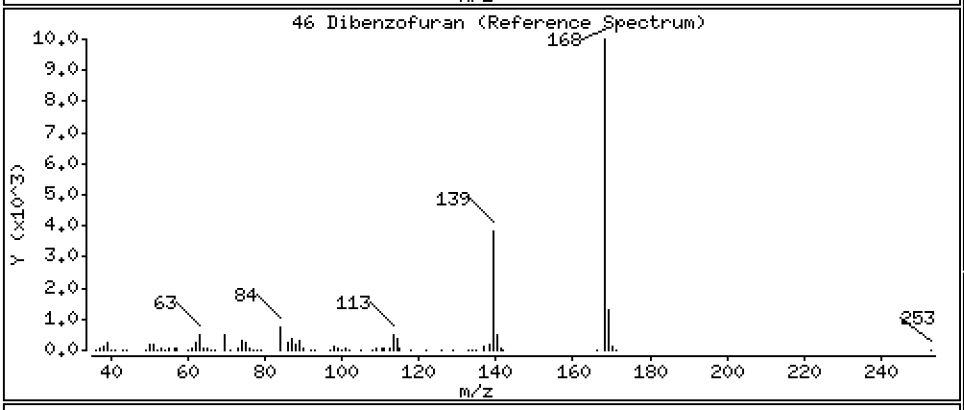
Column diameter: 0.25

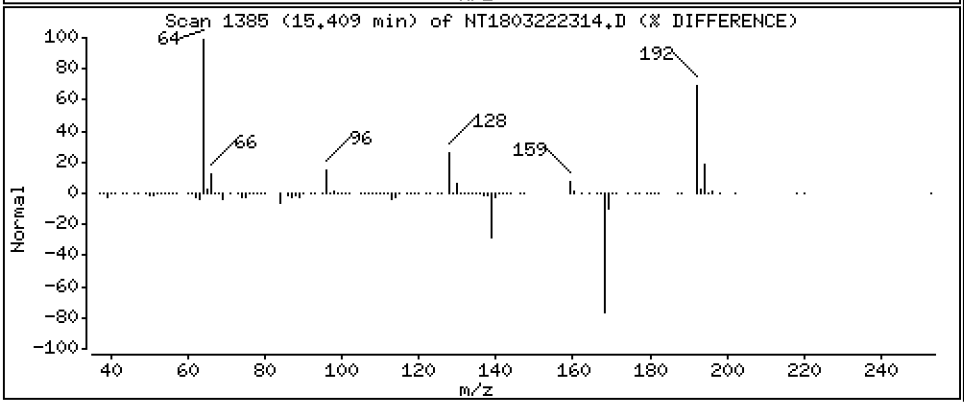
46 Dibenzofuran

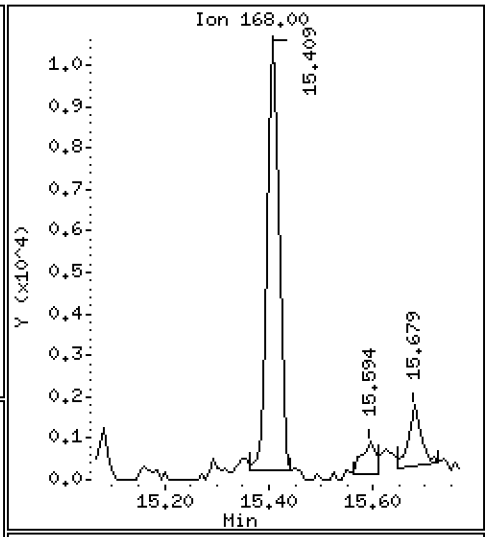
Concentration: 0.06456 ug/mL

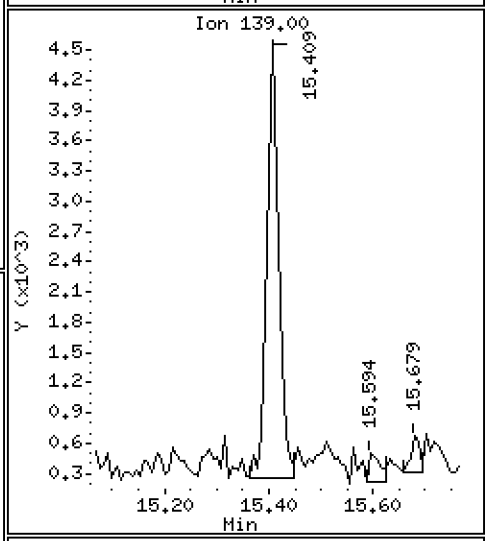


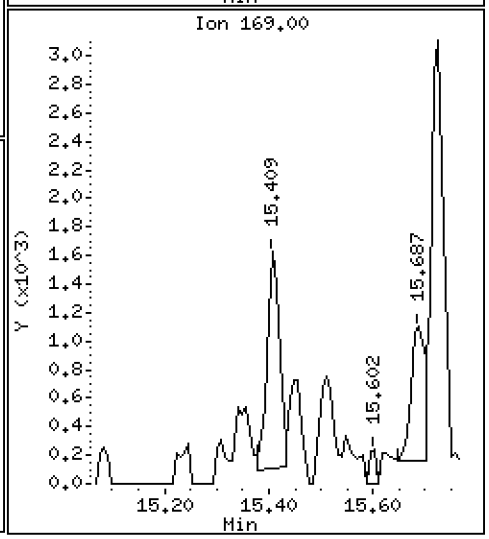












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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

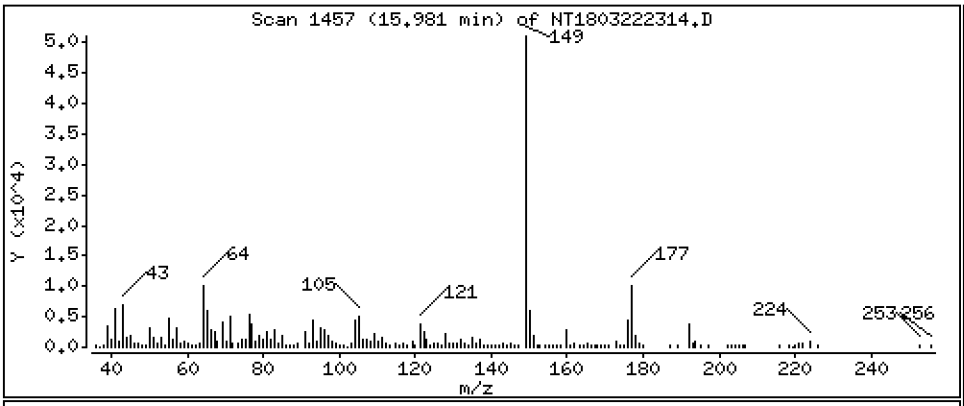
Operator: VTS

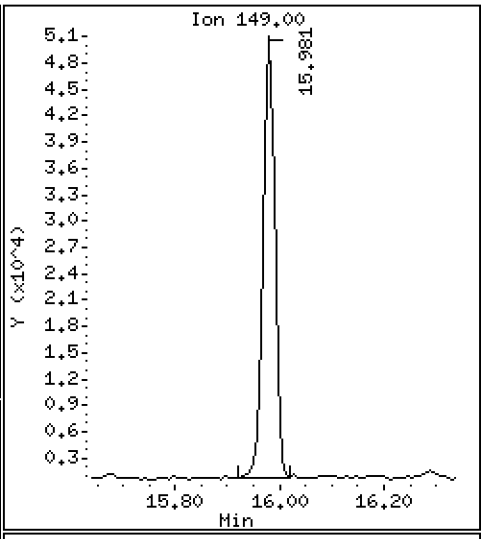
Column phase: ZB-5msi

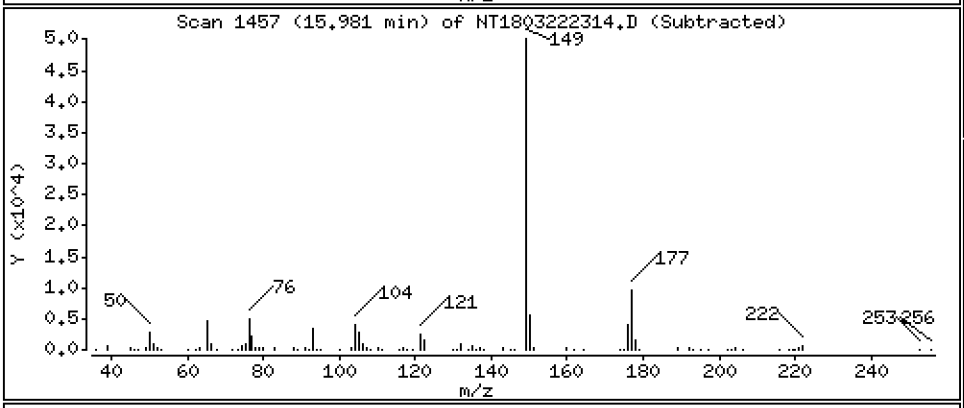
Column diameter: 0.25

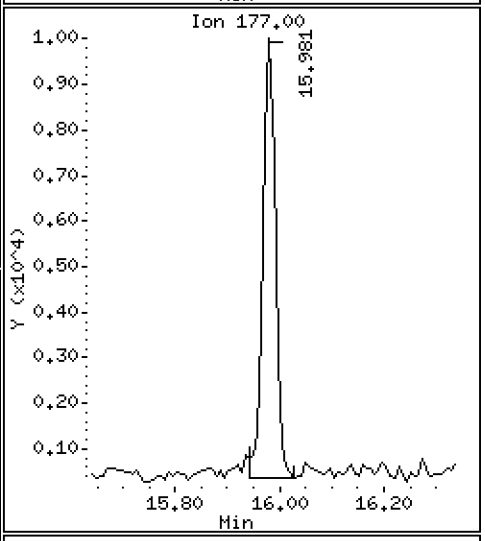
50 Diethylphthalate

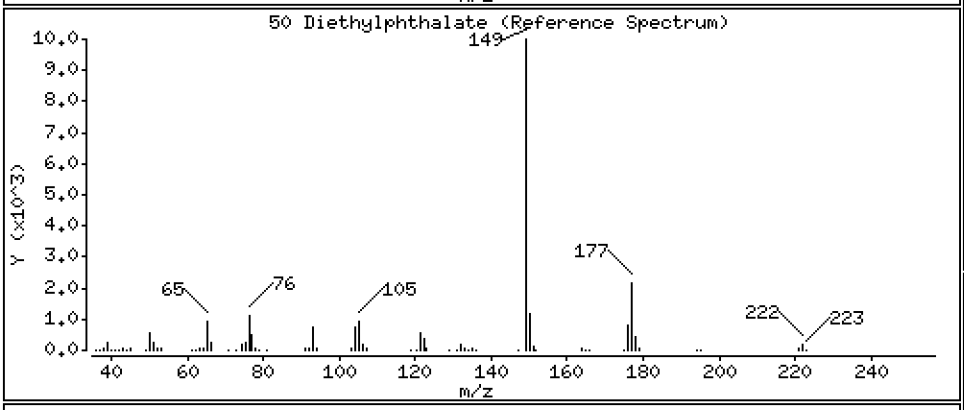
Concentration: 0.4169 ug/mL

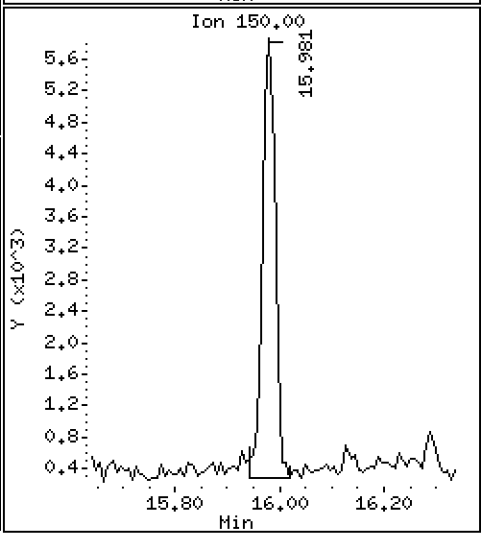


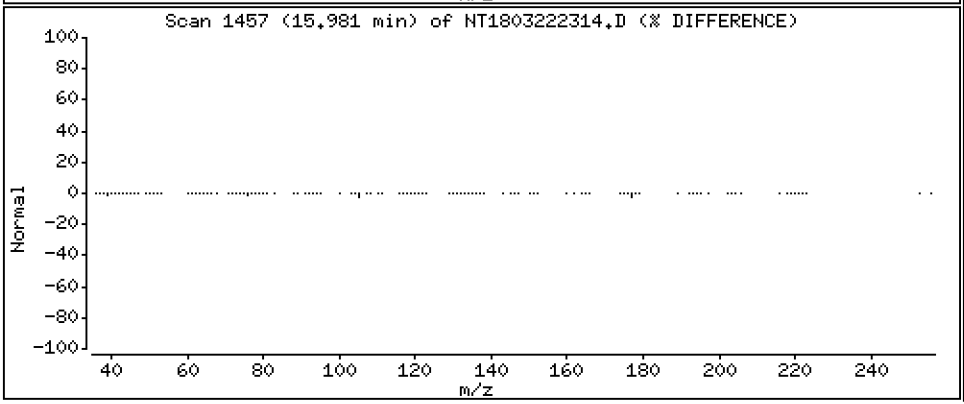












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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

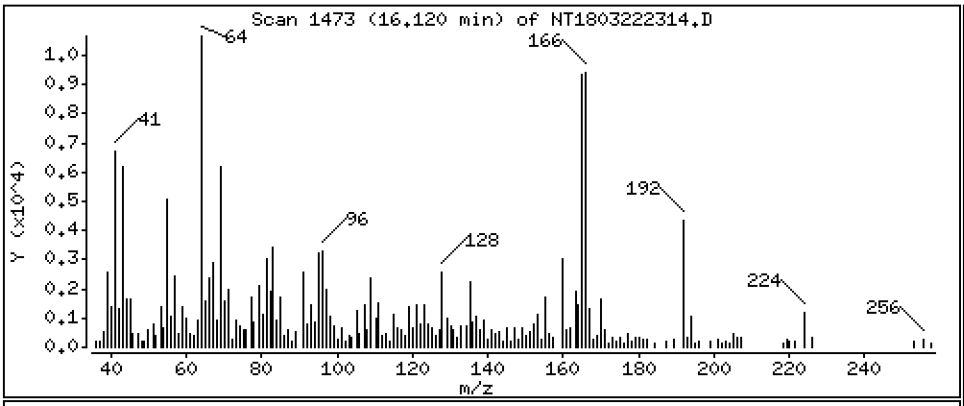
Operator: VTS

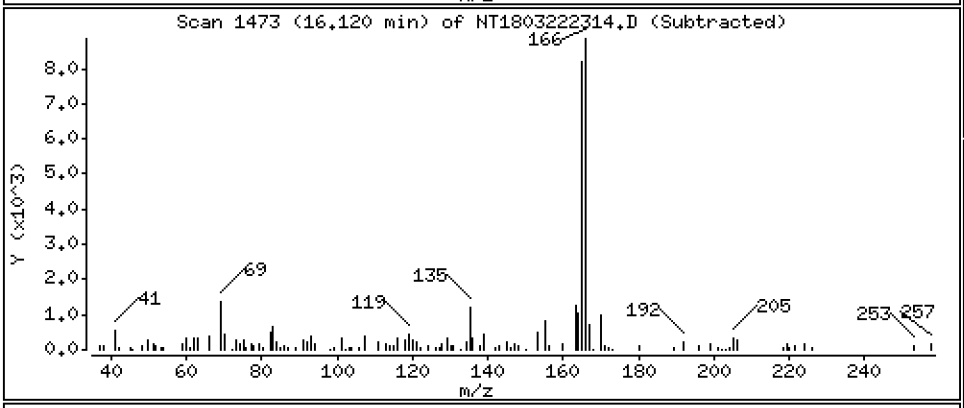
Column phase: ZB-5msi

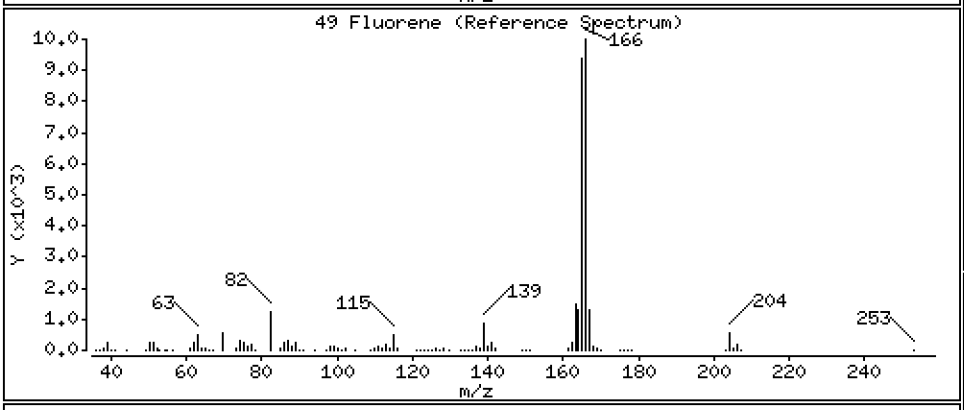
Column diameter: 0.25

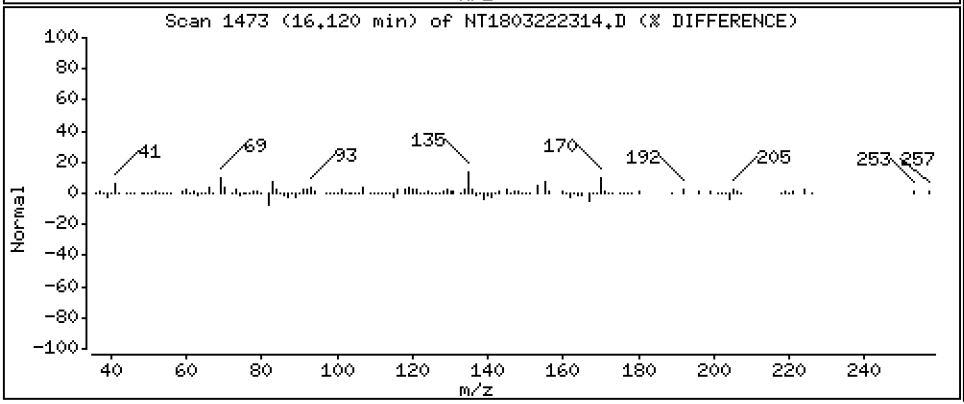
49 Fluorene

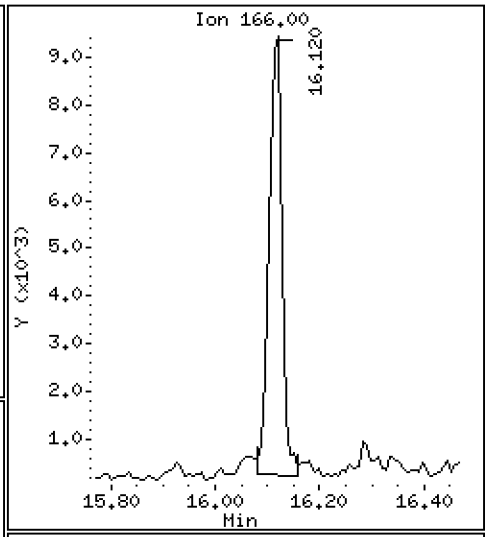
Concentration: 0.06733 ug/mL

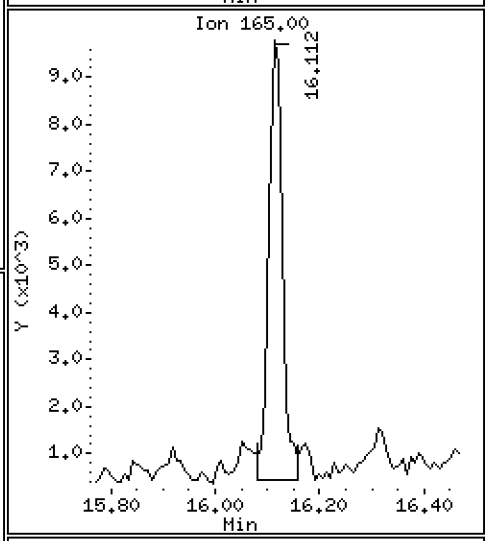


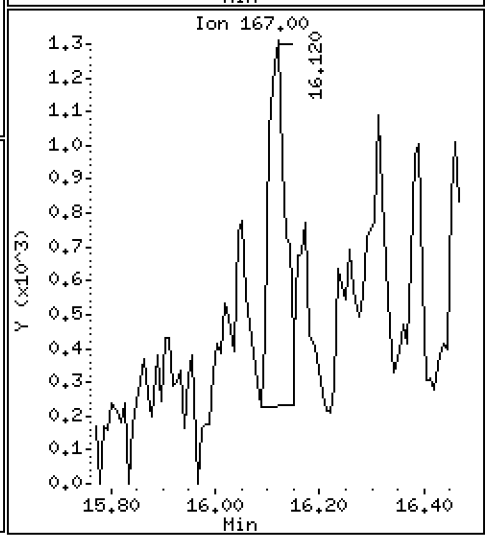












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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

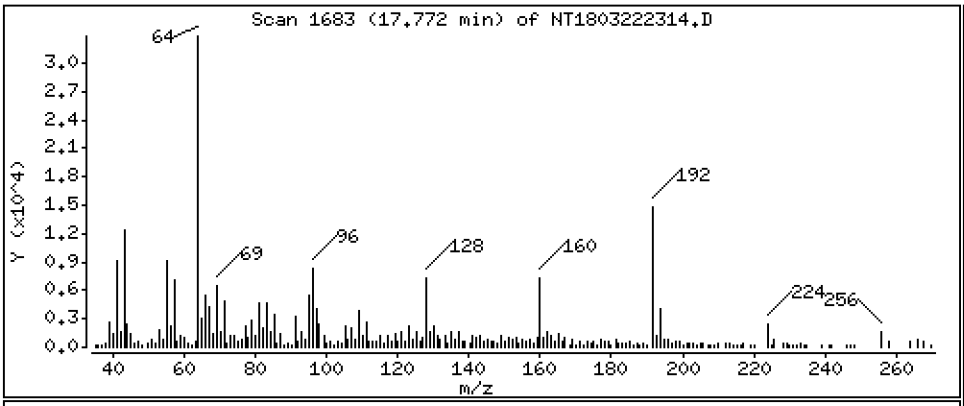
Operator: VTS

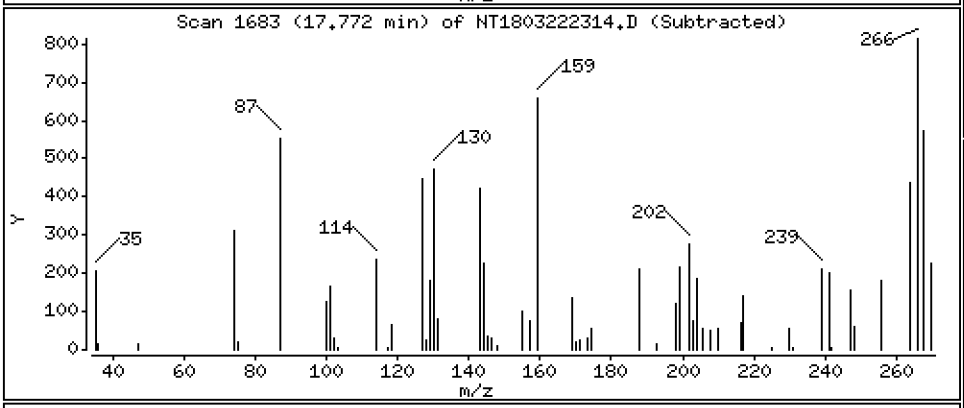
Column phase: ZB-5msi

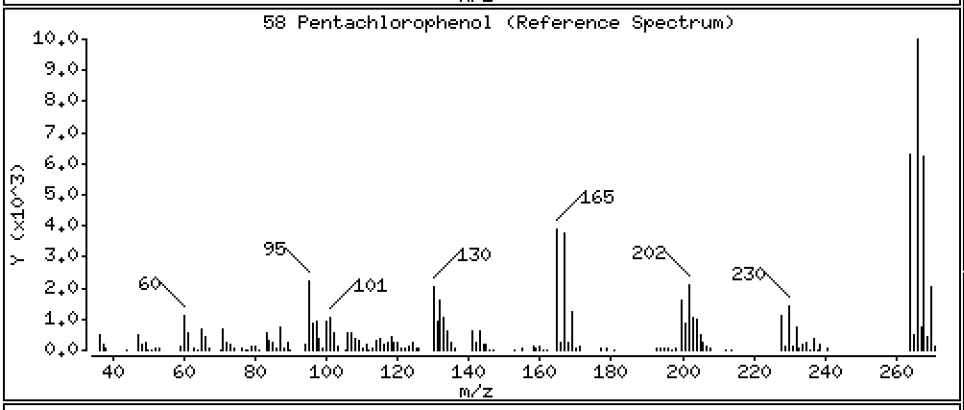
Column diameter: 0.25

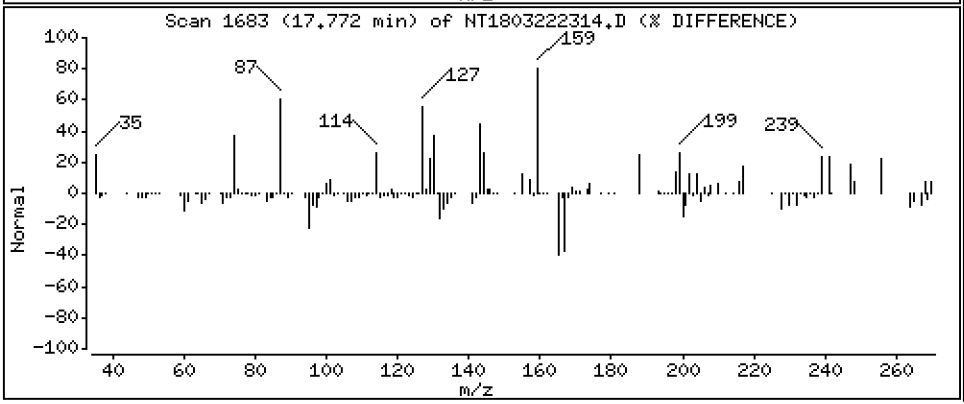
58 Pentachlorophenol

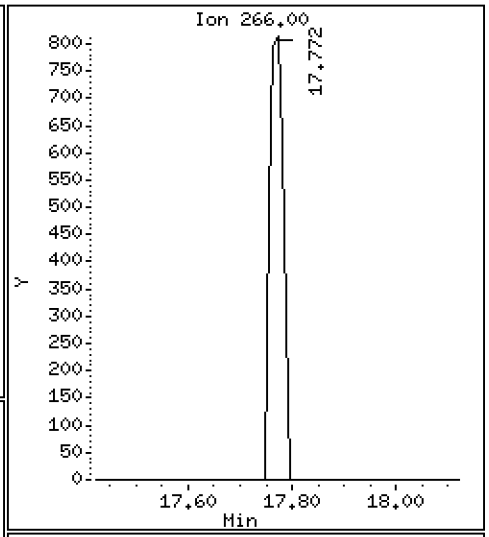
Concentration: 0.04174 ug/mL

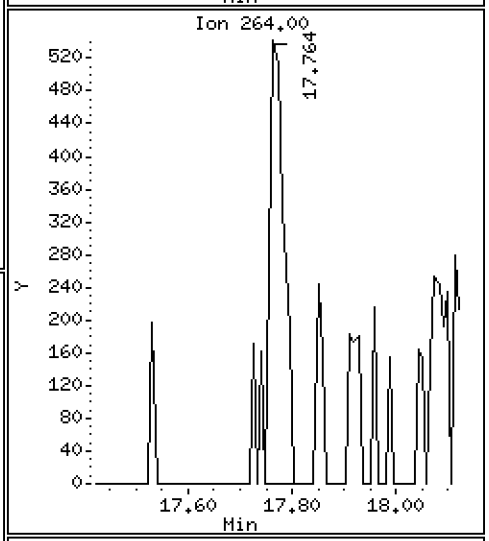


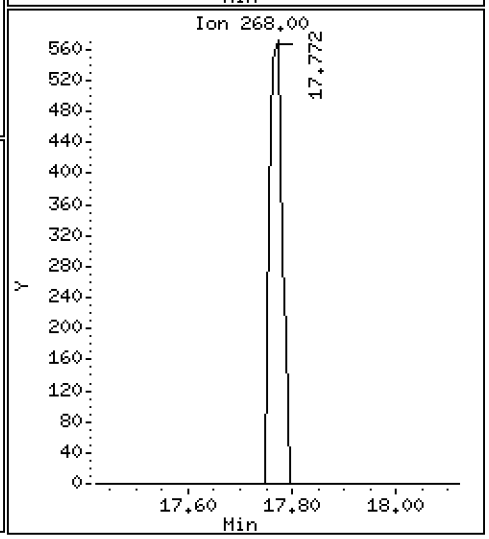












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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

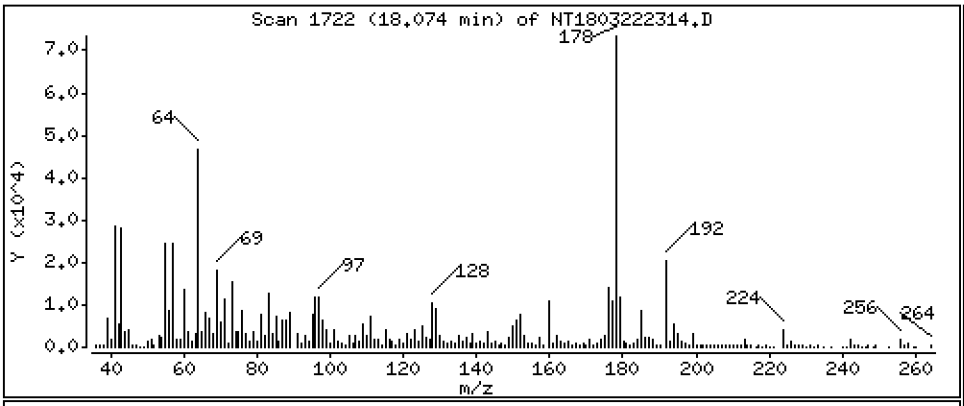
Operator: VTS

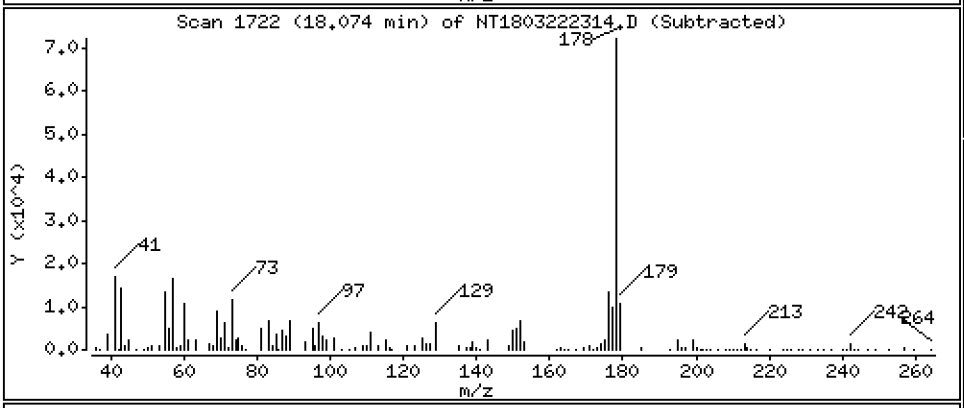
Column phase: ZB-5msi

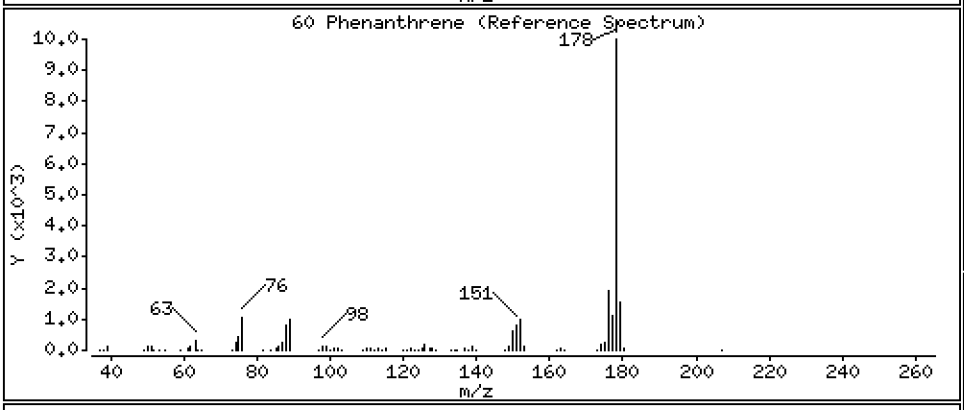
Column diameter: 0.25

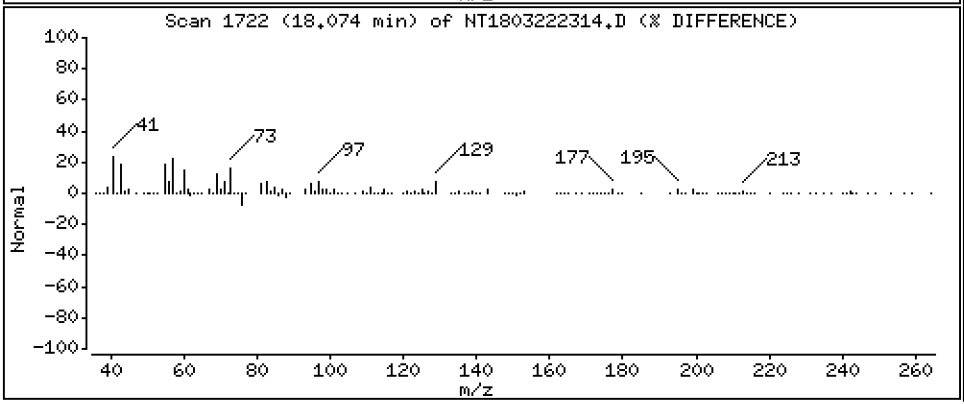
60 Phenanthrene

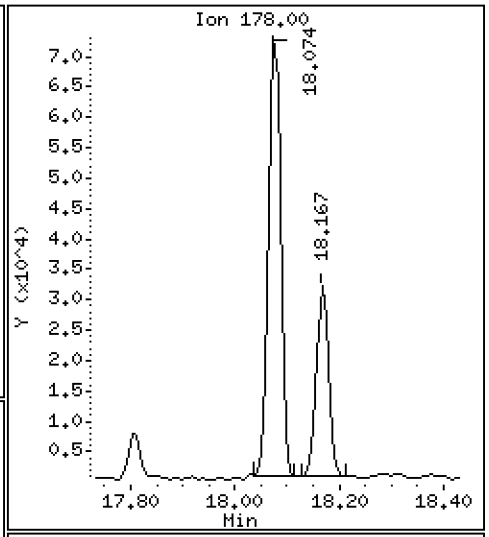
Concentration: 0.4045 ug/mL

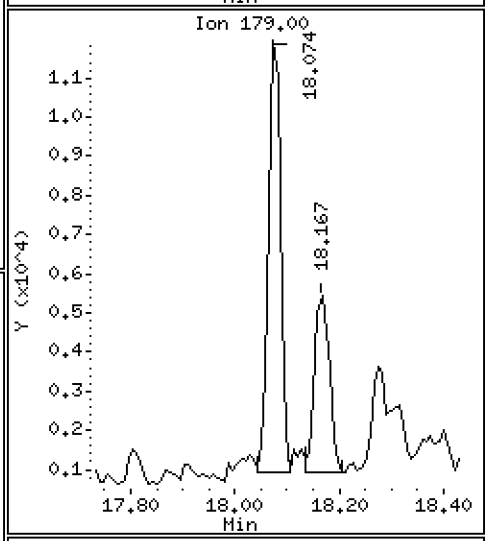


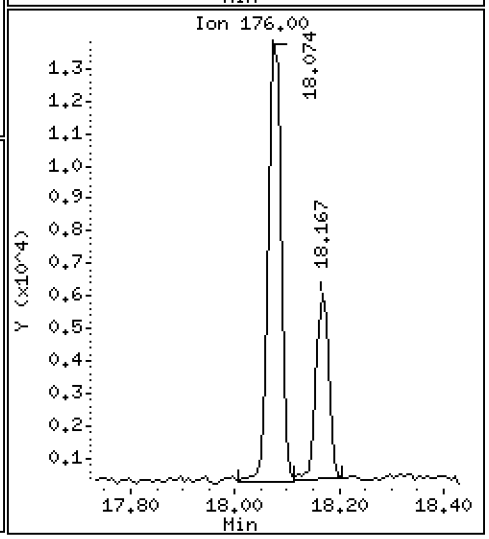












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222314.D

Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

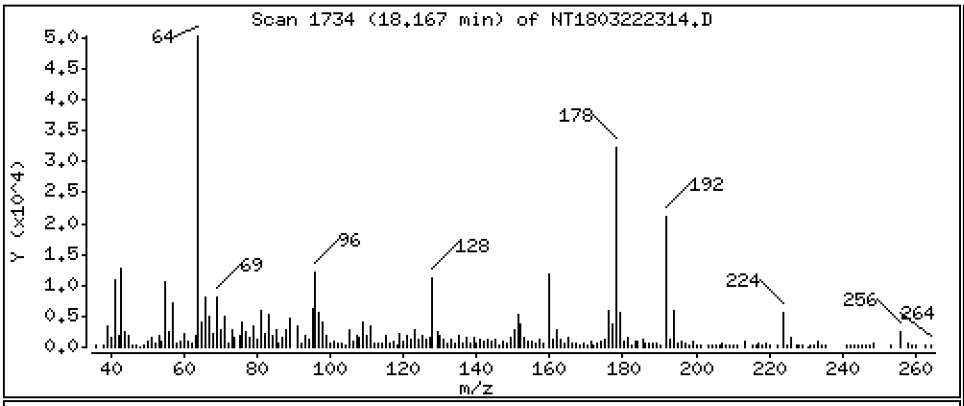
Operator: VTS

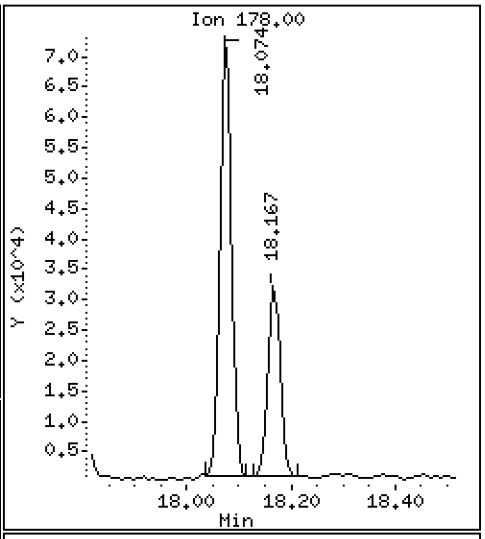
Column phase: ZB-5msi

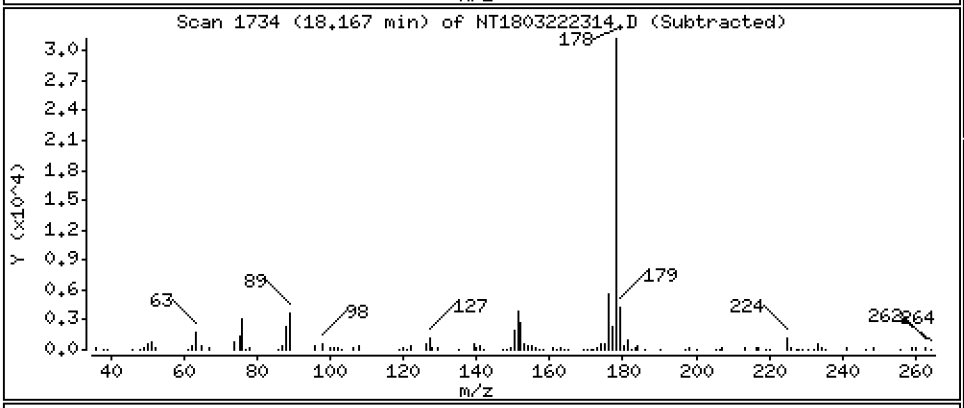
Column diameter: 0.25

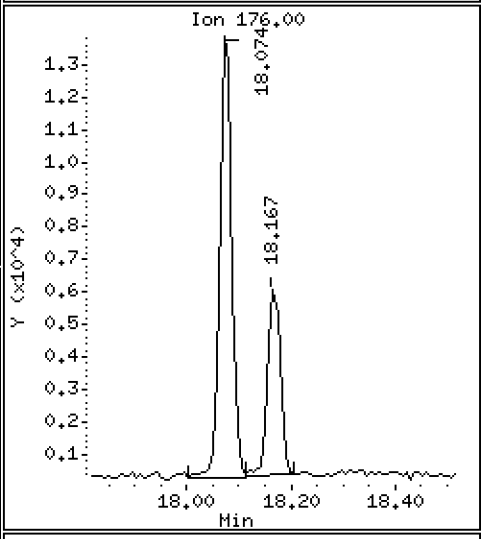
61 Anthracene

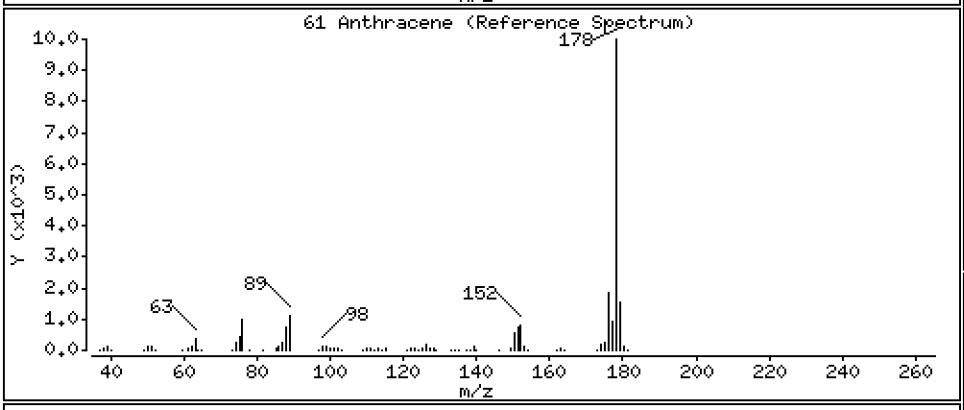
Concentration: 0.1845 ug/mL

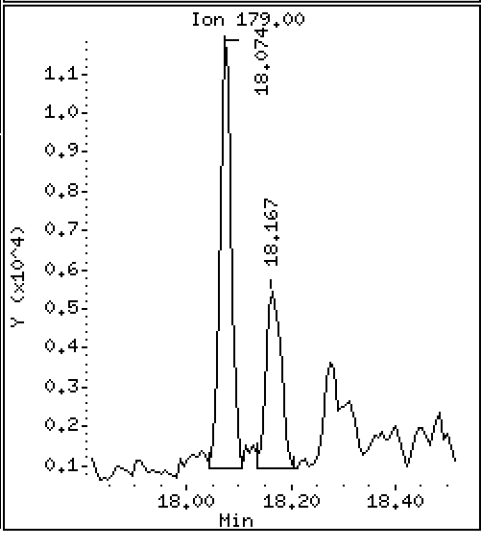


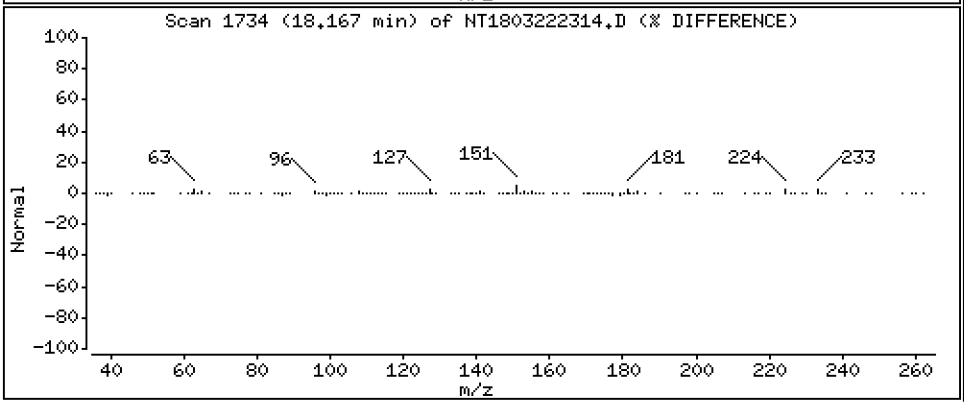












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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

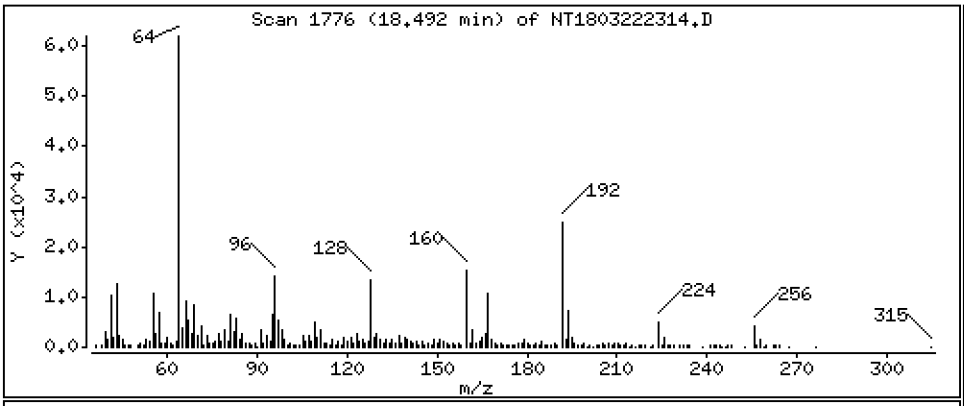
Operator: VTS

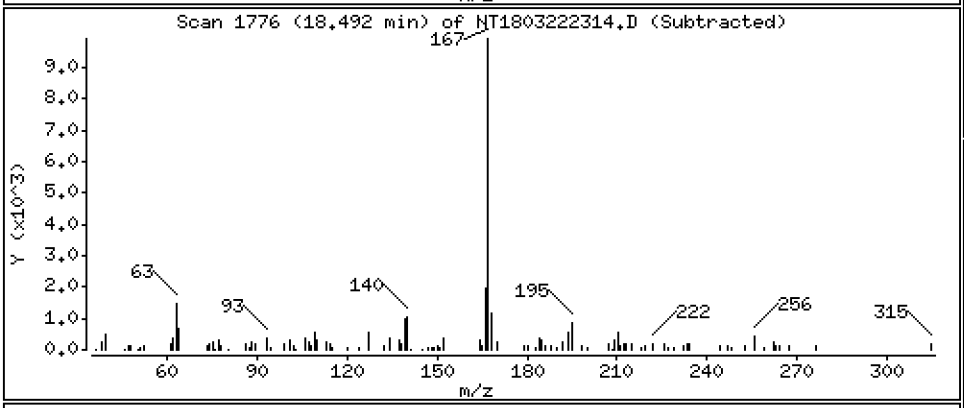
Column phase: ZB-5msi

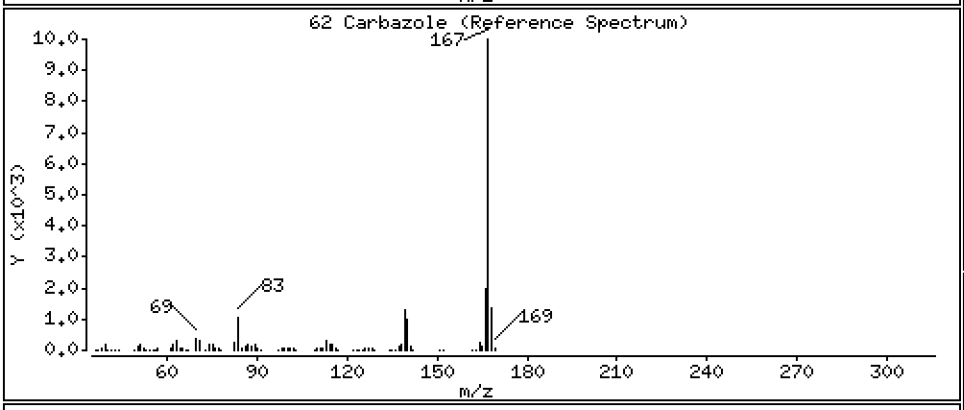
Column diameter: 0.25

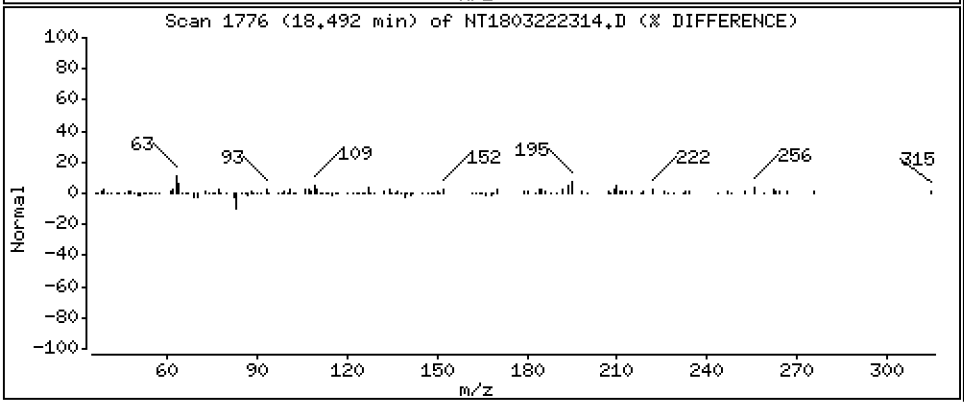
62 Carbazole

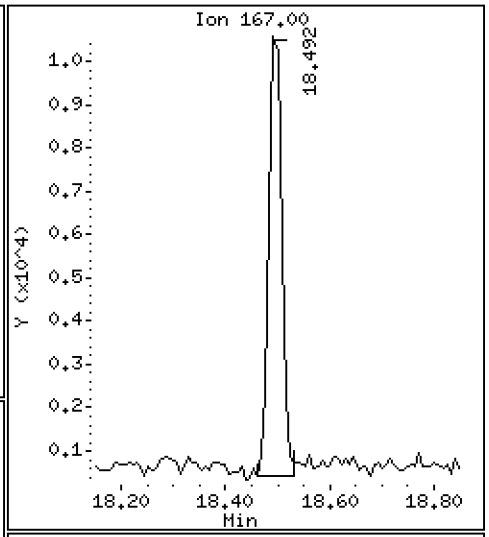
Concentration: 0.07250 ug/mL

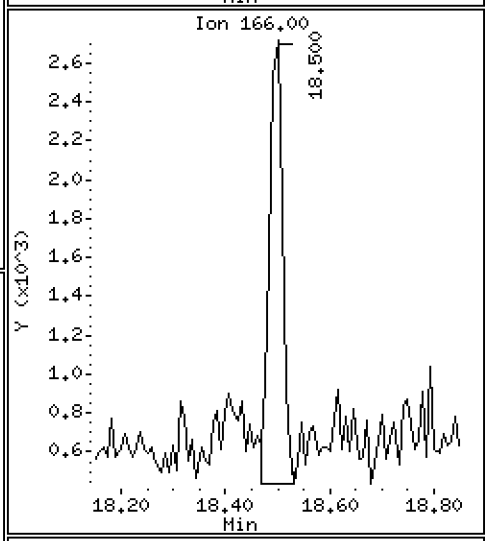


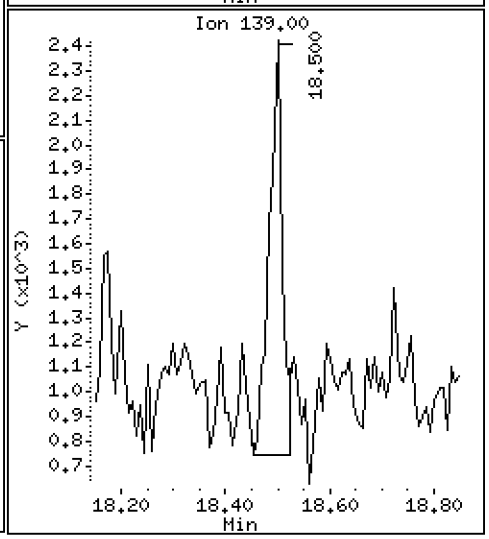












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222314.D

Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

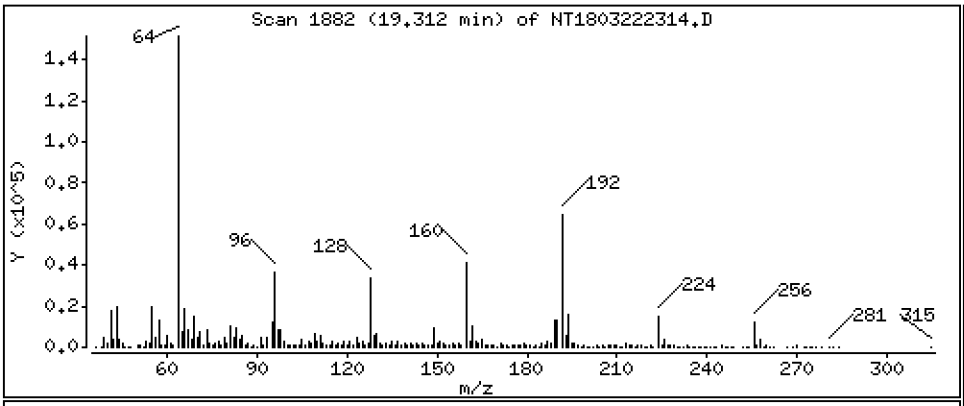
Operator: VTS

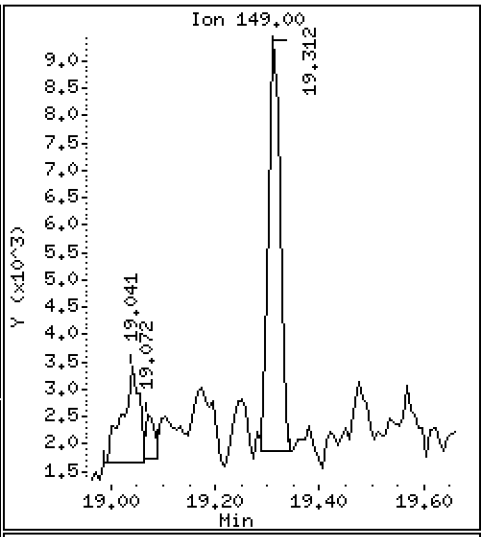
Column phase: ZB-5msi

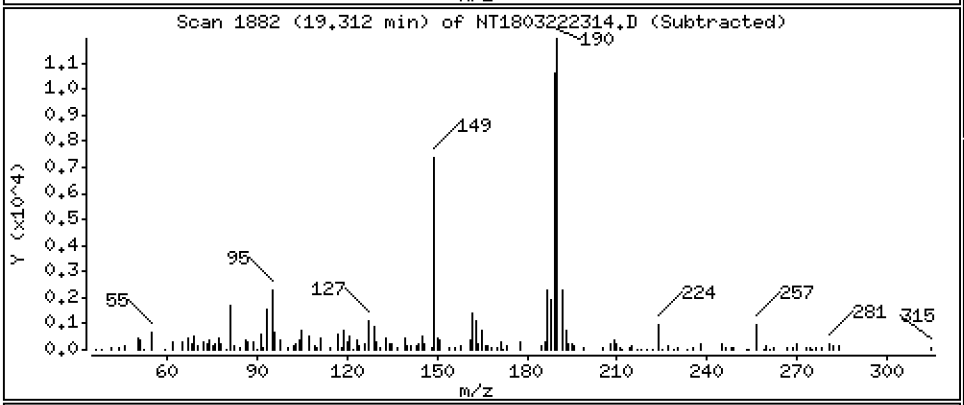
Column diameter: 0.25

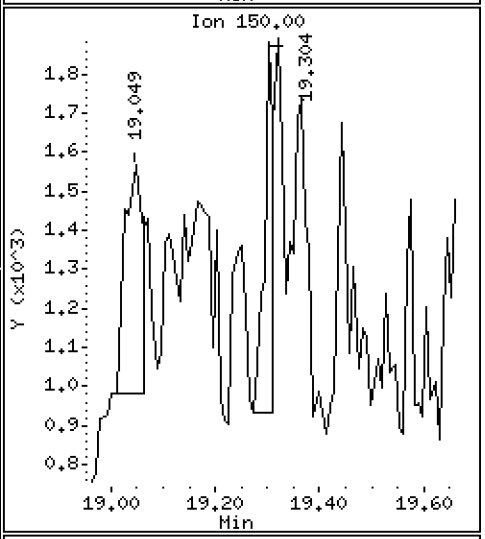
63 Di-n-butylphthalate

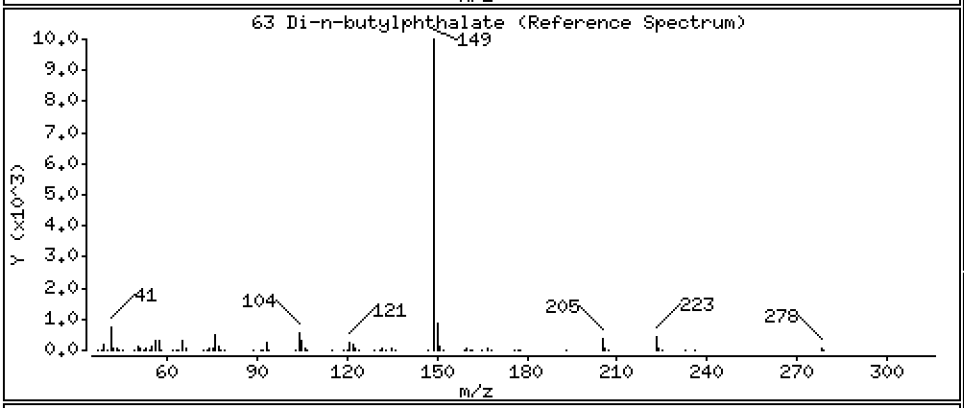
Concentration: 0.03590 ug/mL

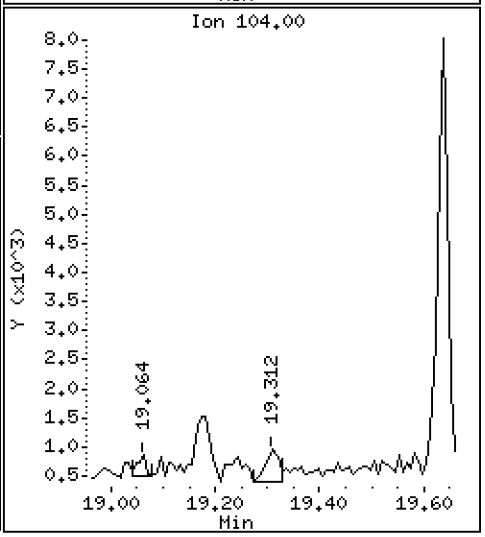


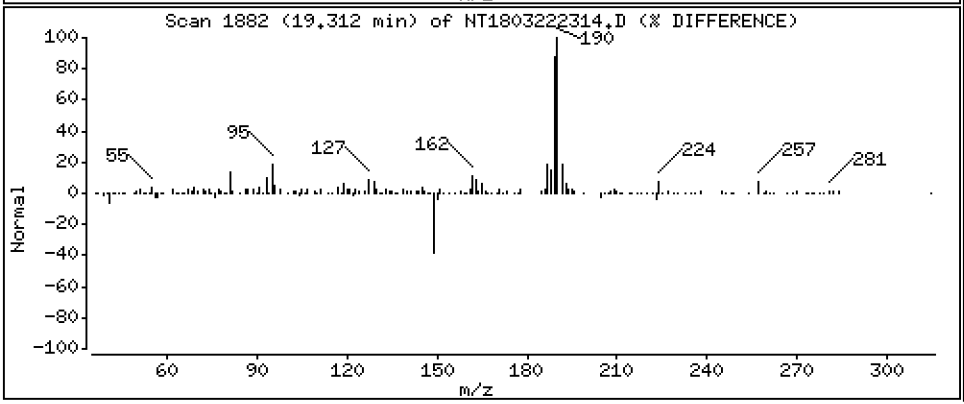












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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

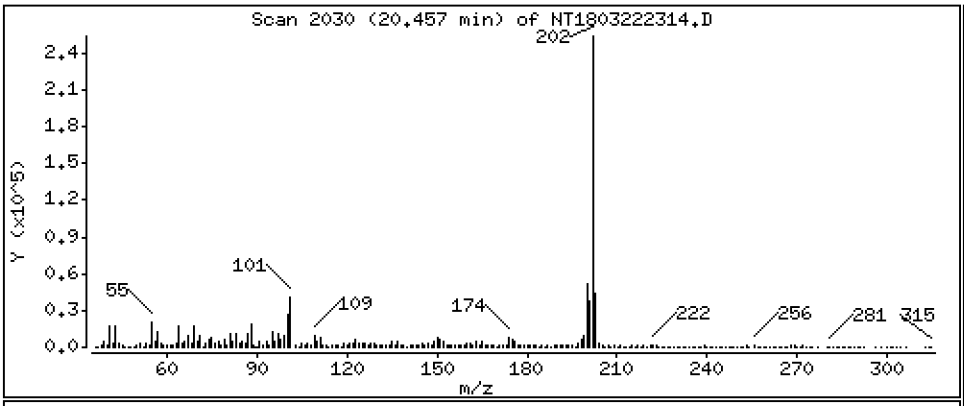
Operator: VTS

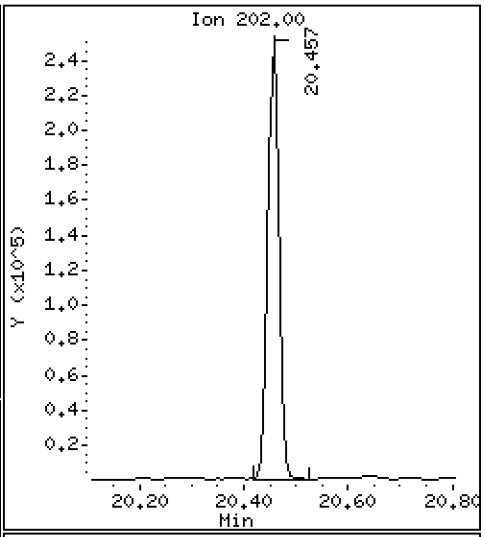
Column phase: ZB-5msi

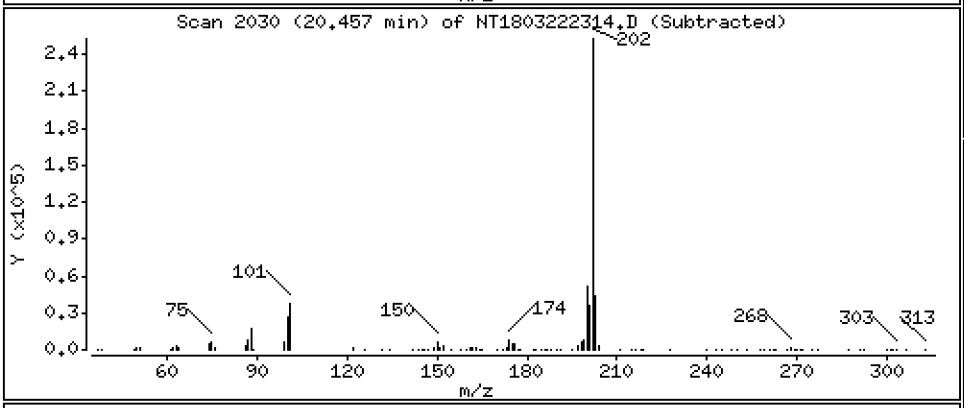
Column diameter: 0.25

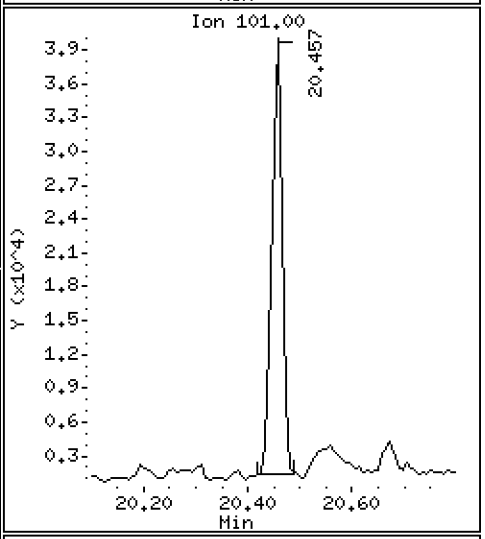
64 Fluoranthene

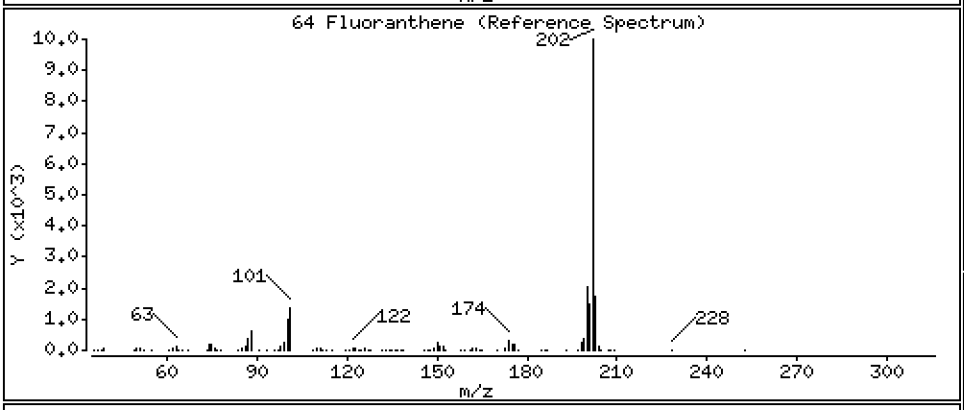
Concentration: 0.9485 ug/mL

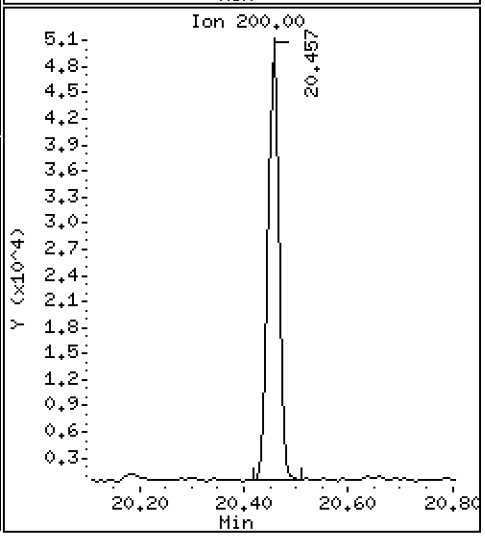


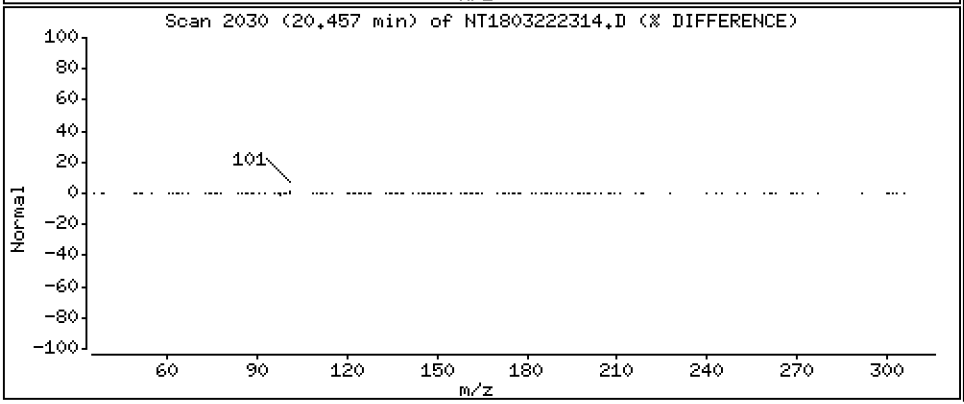












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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

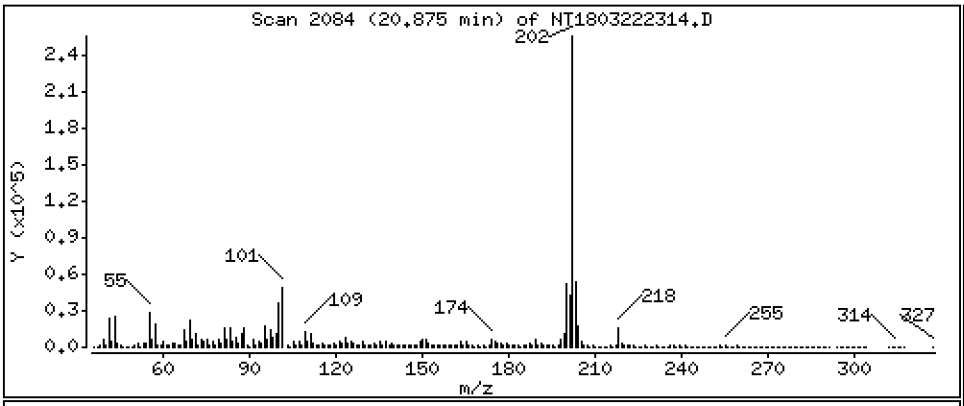
Operator: VTS

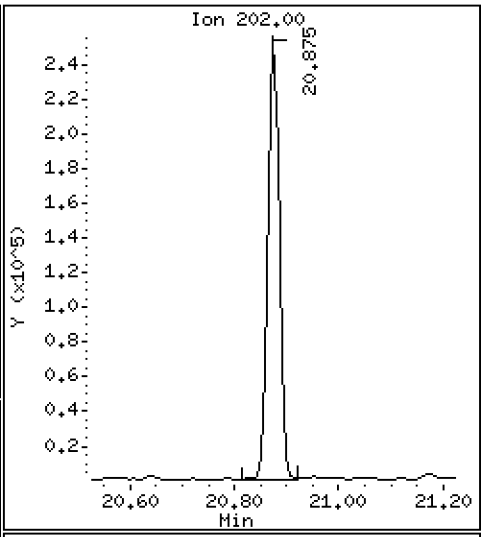
Column phase: ZB-5msi

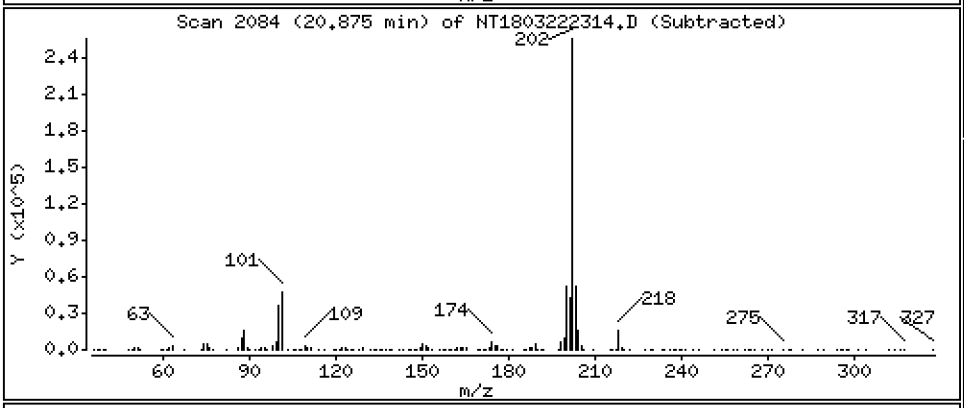
Column diameter: 0.25

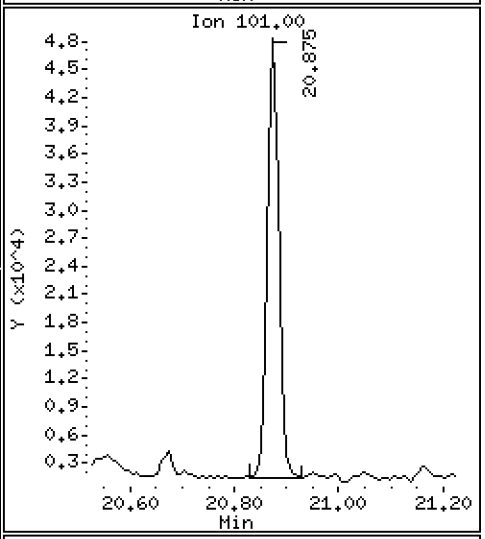
65 Pyrene

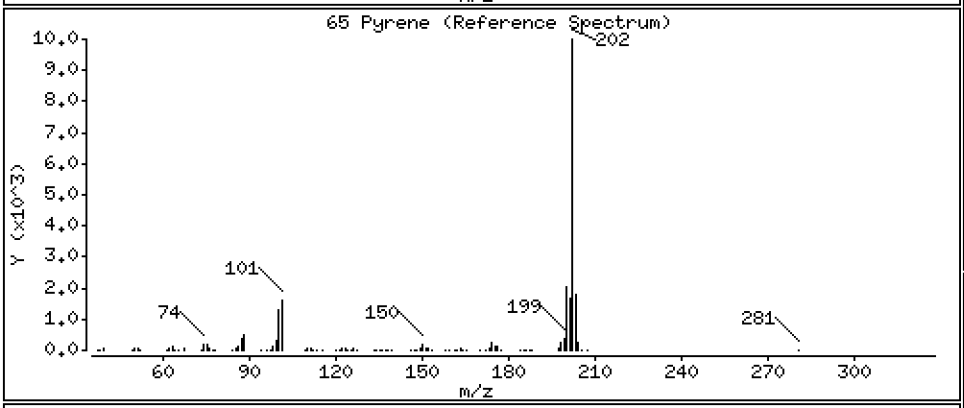
Concentration: 0.9320 ug/mL

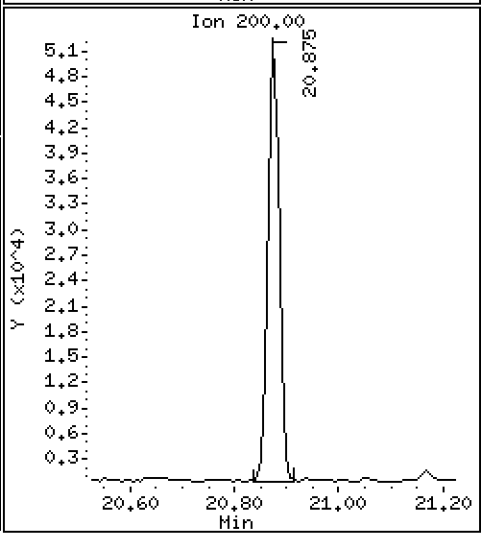


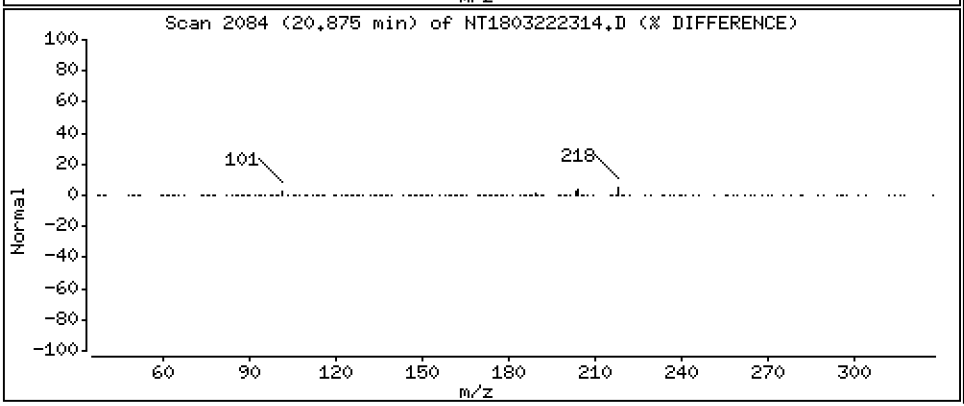












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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

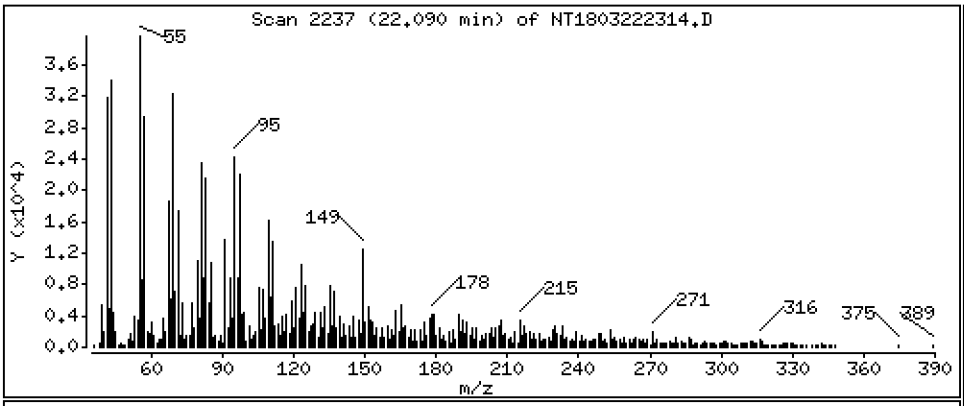
Operator: VTS

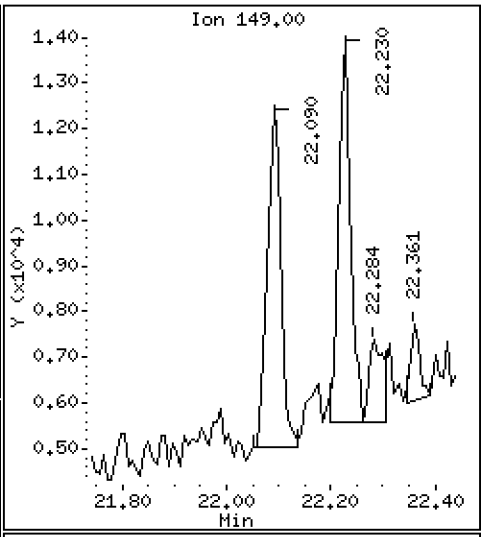
Column phase: ZB-5msi

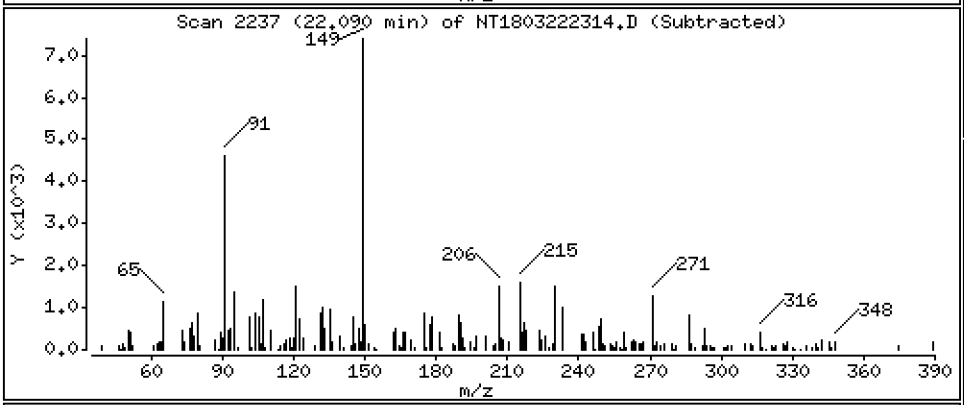
Column diameter: 0.25

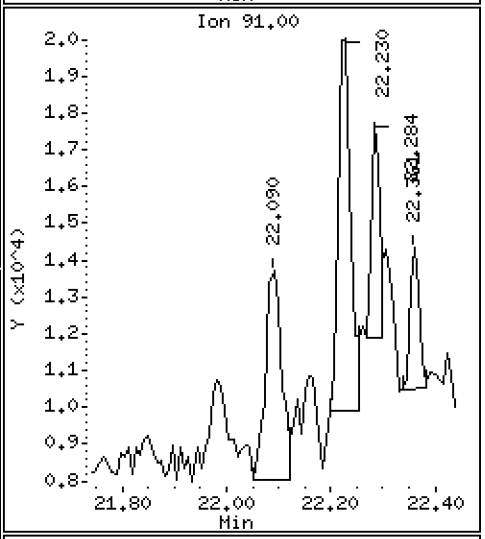
67 Butylbenzylphthalate

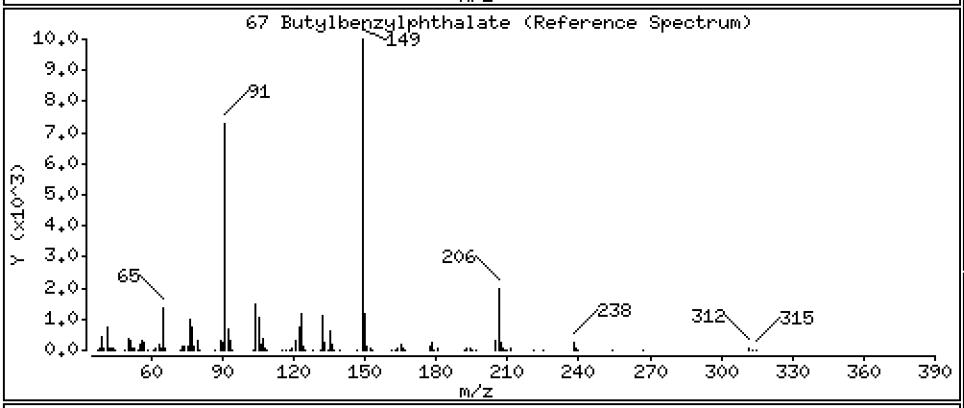
Concentration: 0.07657 ug/mL

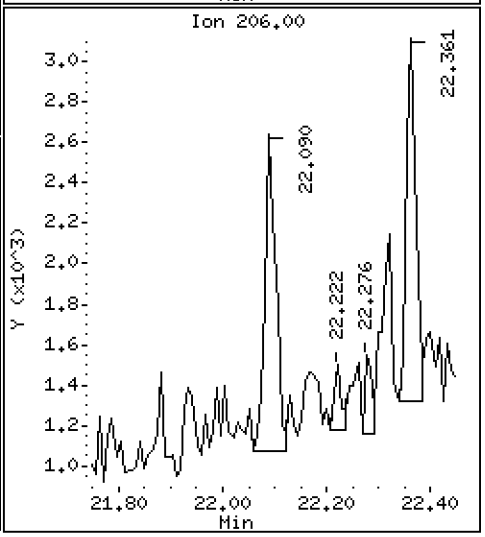


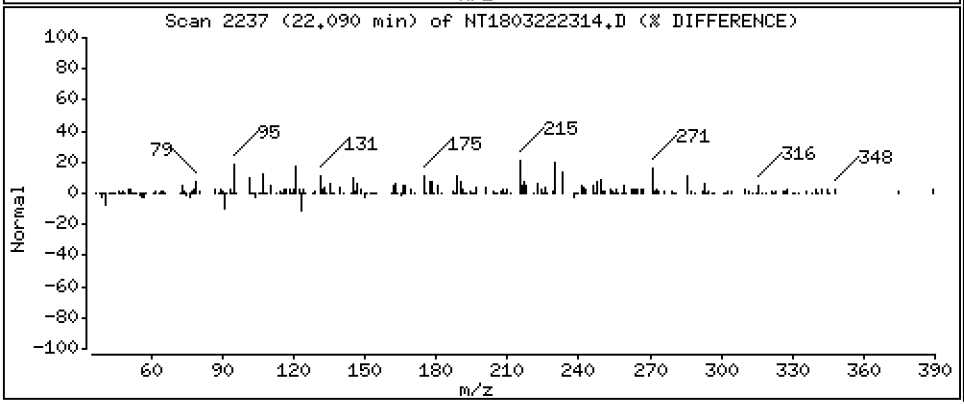












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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

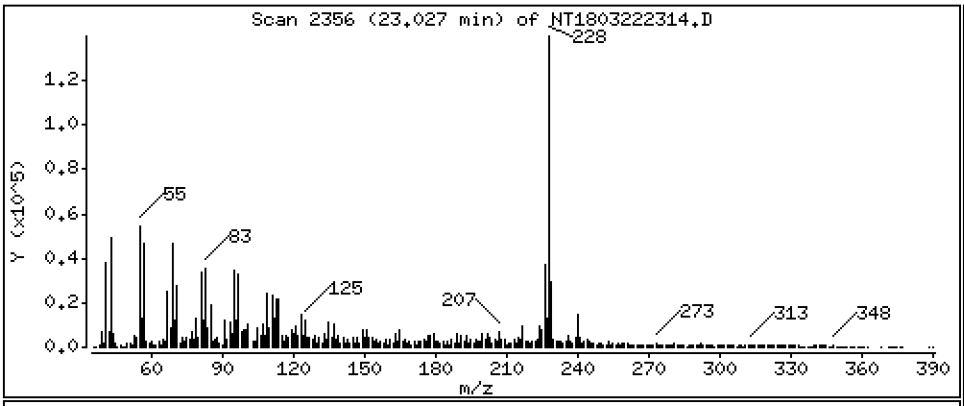
Operator: VTS

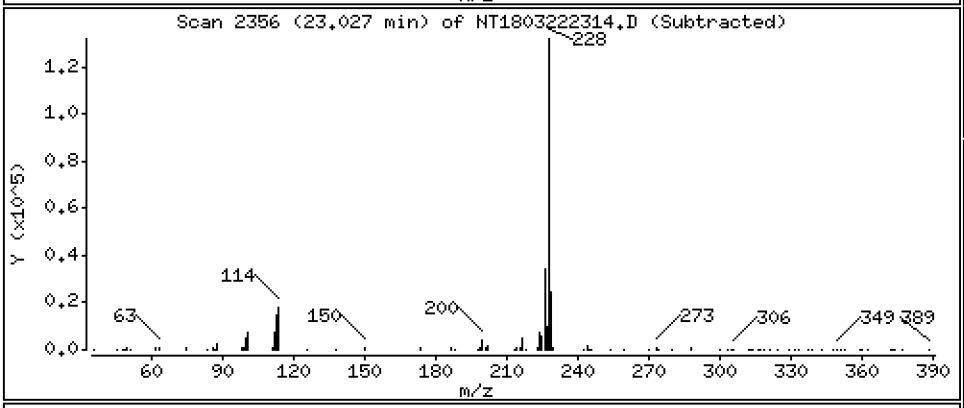
Column phase: ZB-5msi

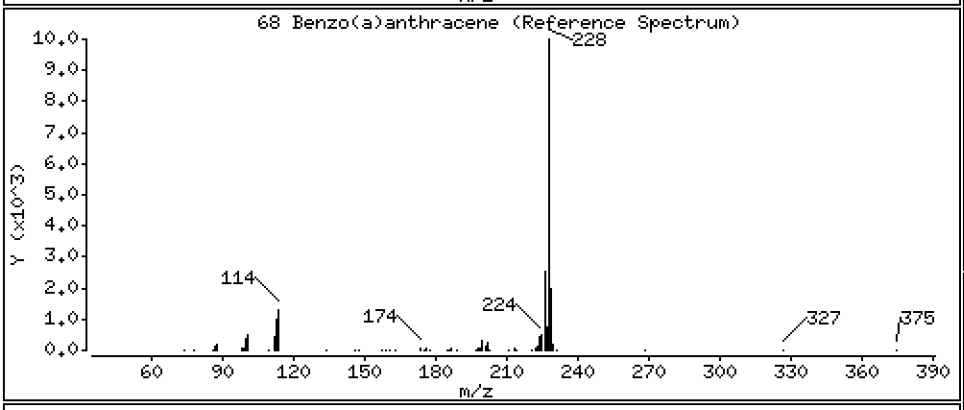
Column diameter: 0.25

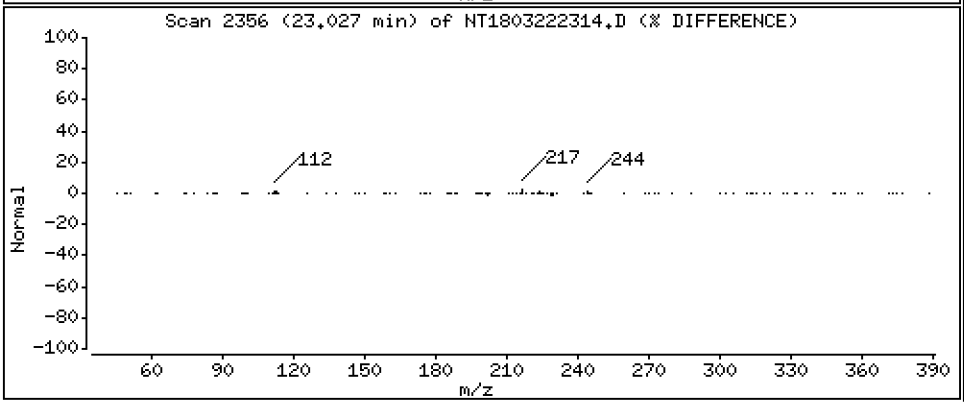
68 Benzo(a)anthracene

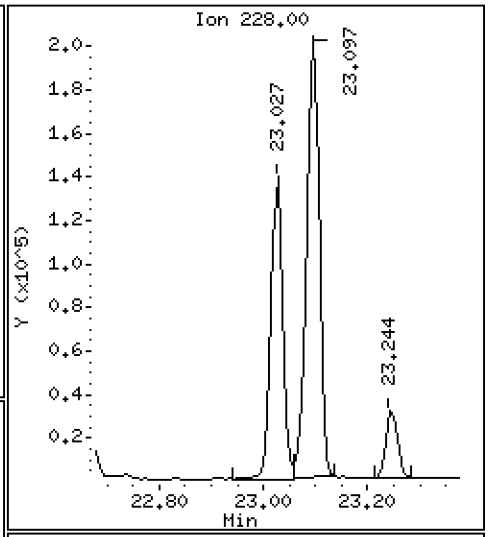
Concentration: 0.5726 ug/mL

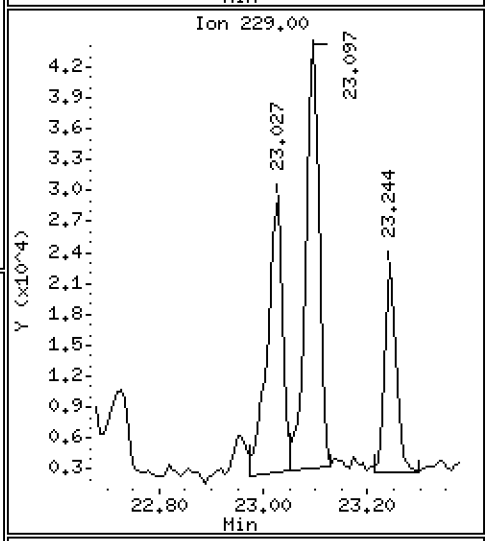


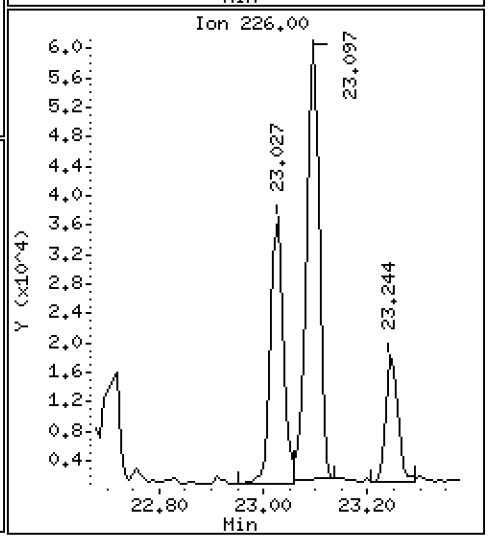












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222314.D

Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

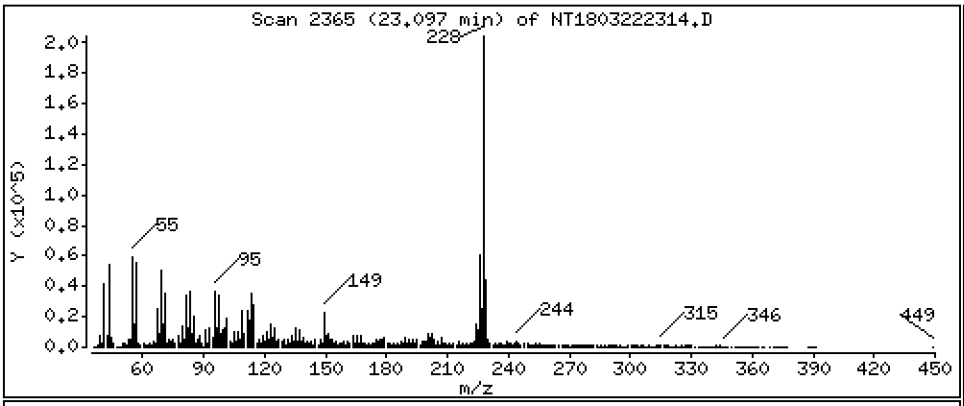
Operator: VTS

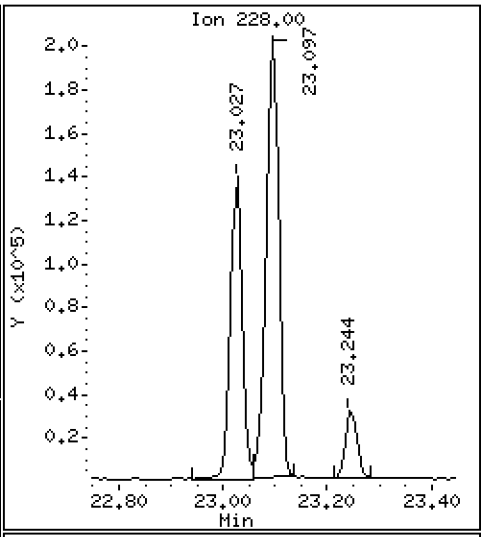
Column phase: ZB-5msi

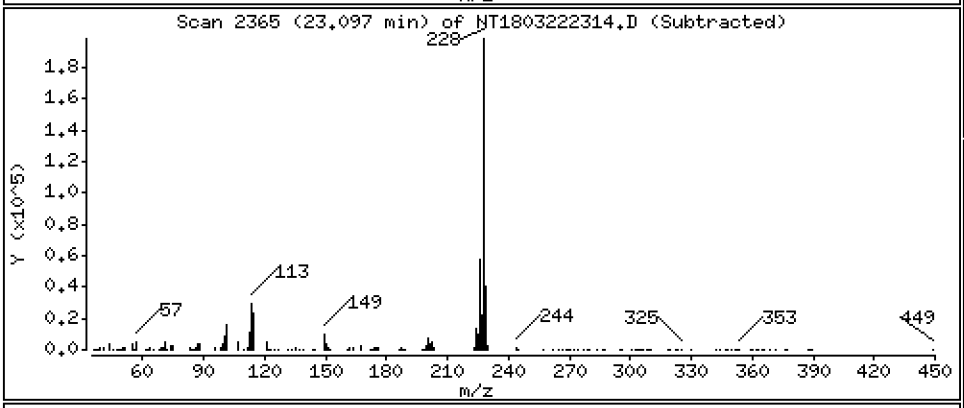
Column diameter: 0.25

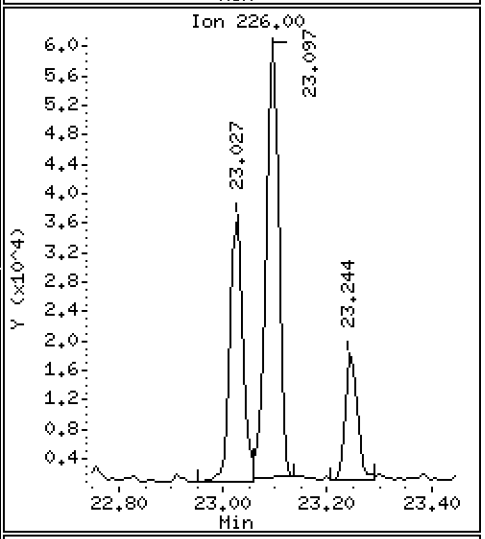
71 Chrysene

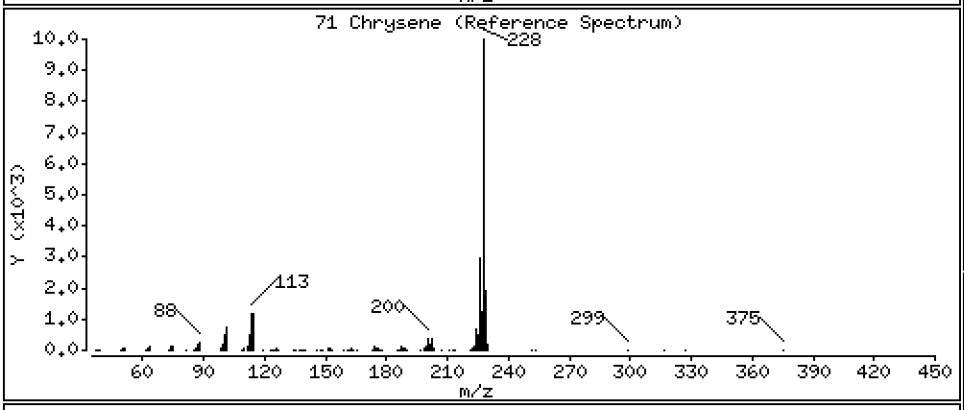
Concentration: 0.8603 ug/mL

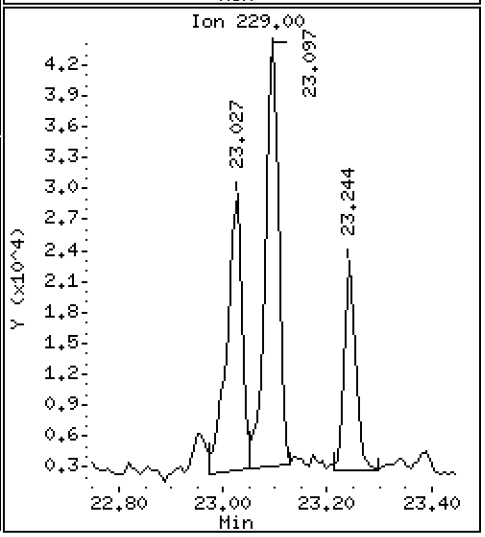


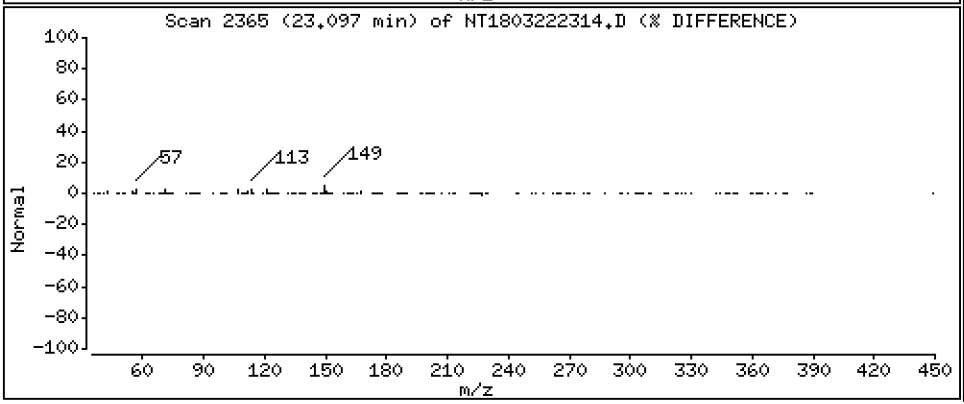












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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

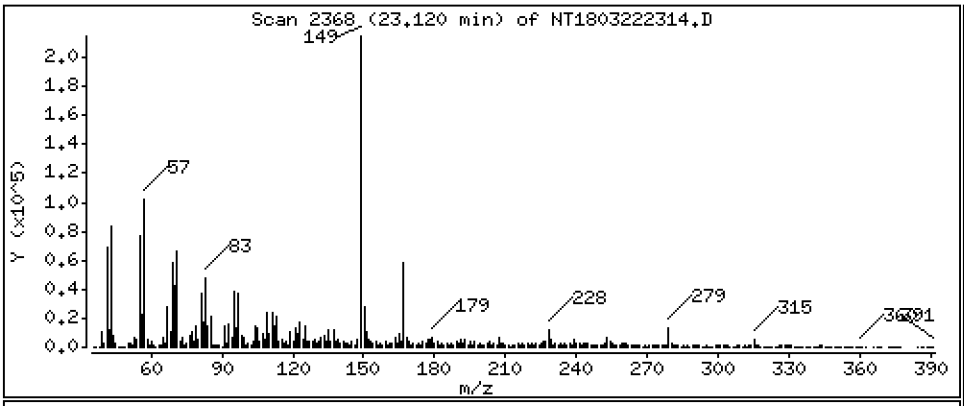
Operator: VTS

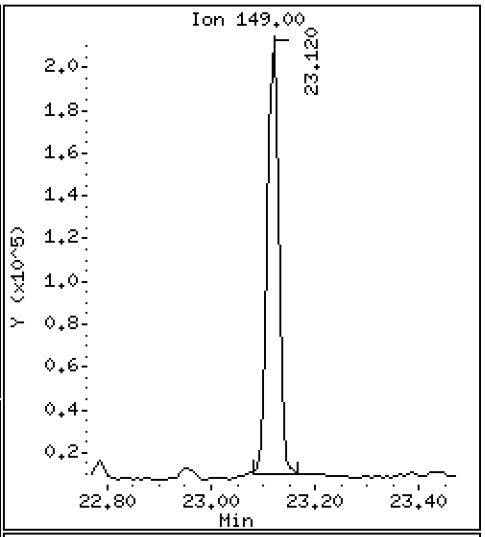
Column phase: ZB-5msi

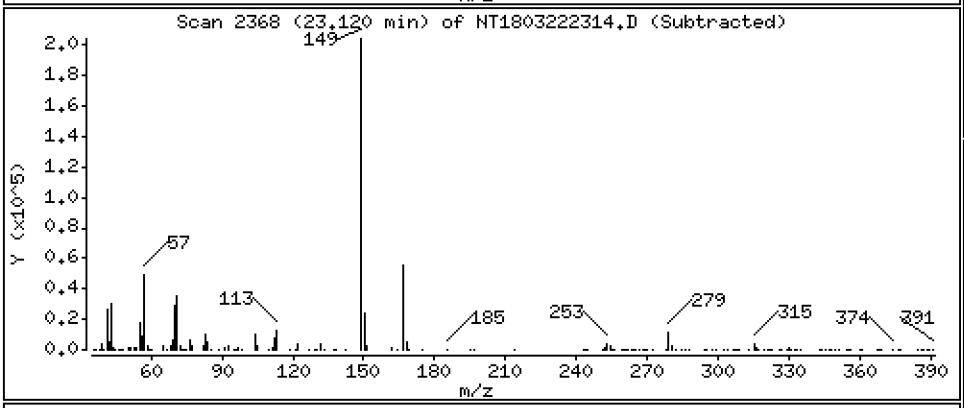
Column diameter: 0.25

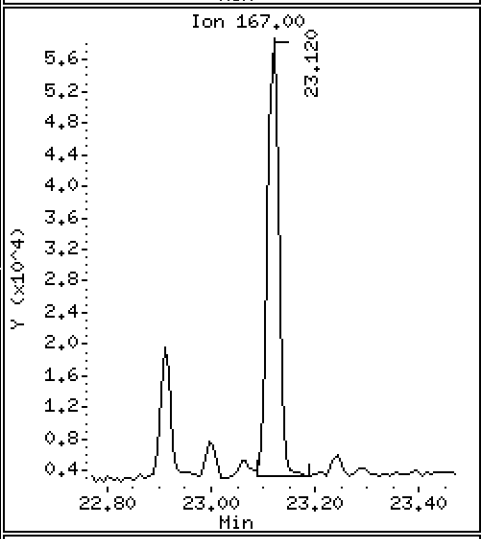
72 bis(2-Ethylhexyl)phthalate

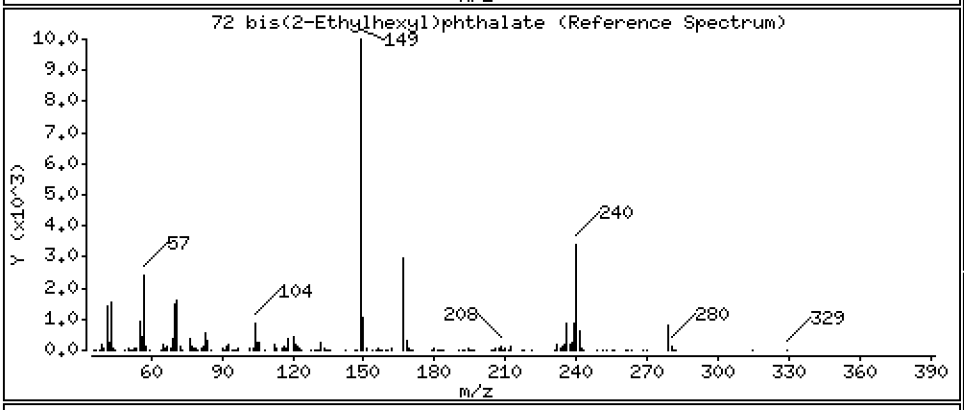
Concentration: 1.074 ug/mL

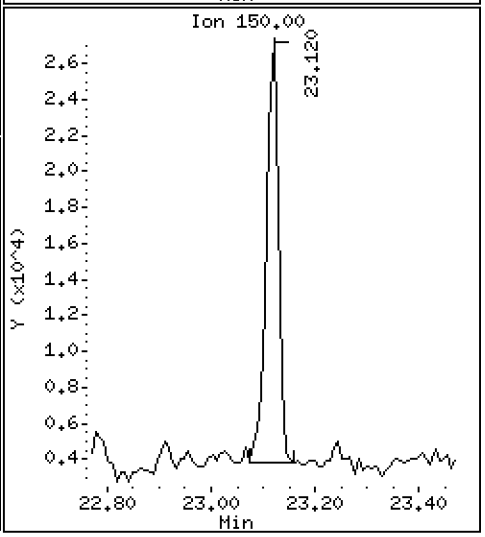


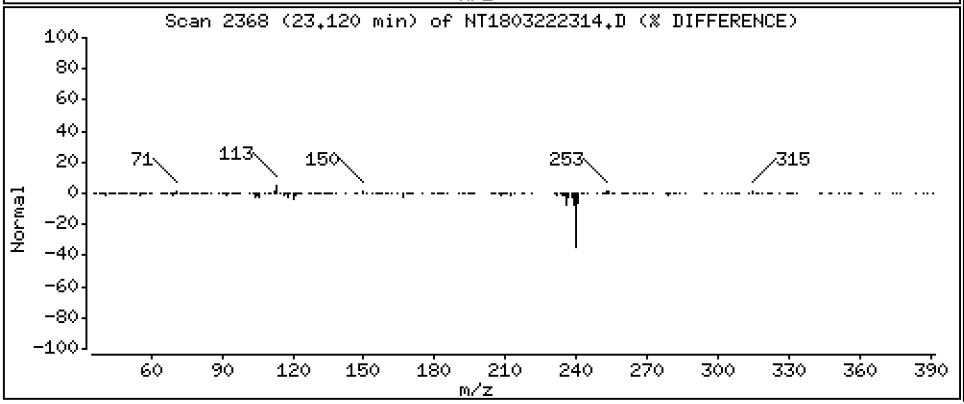












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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

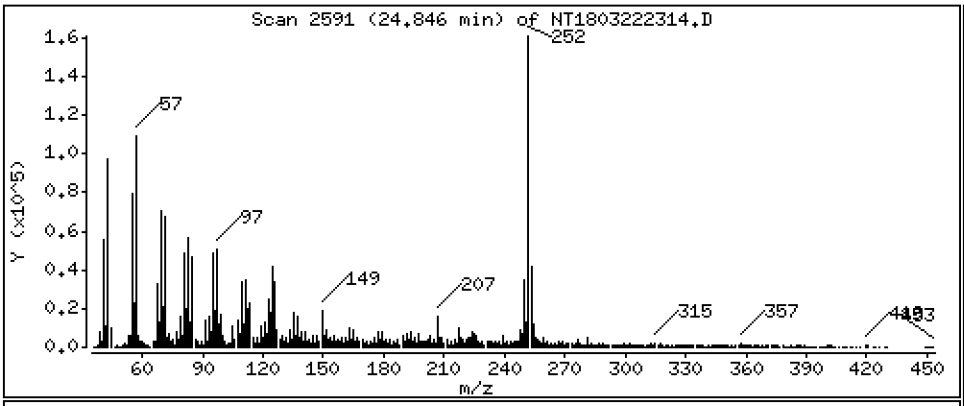
Operator: VTS

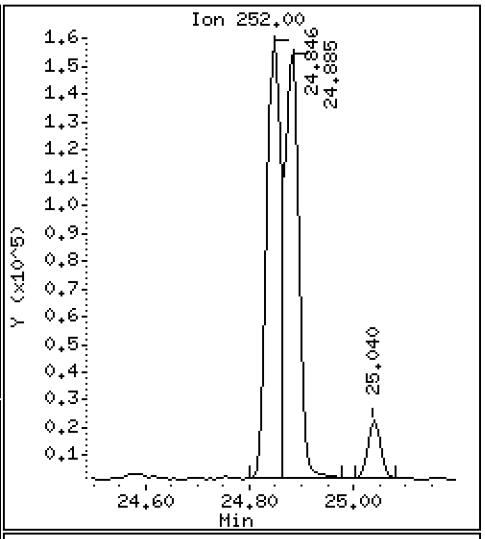
Column phase: ZB-5msi

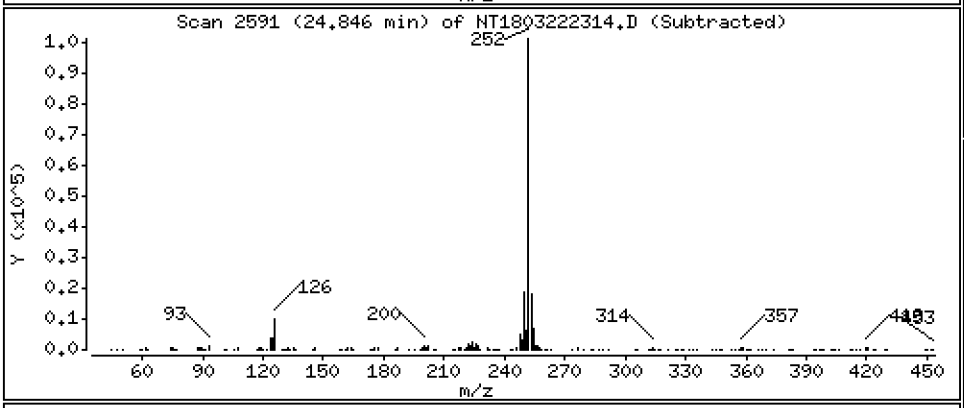
Column diameter: 0.25

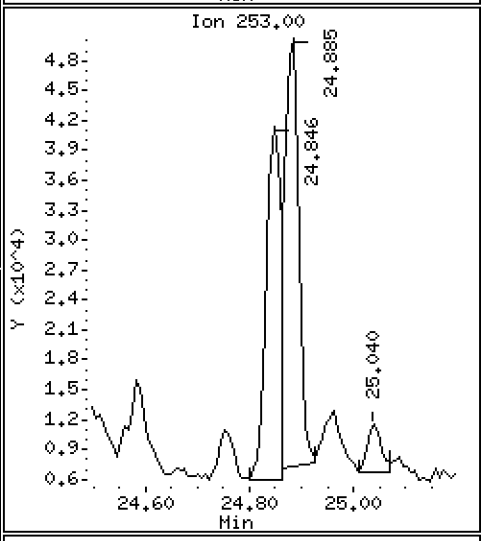
74 Benzo(b)fluoranthene

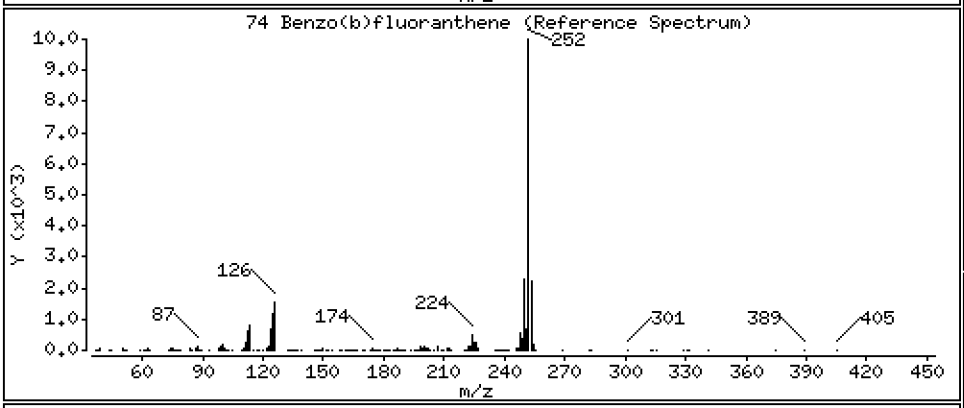
Concentration: 0.8620 ug/mL

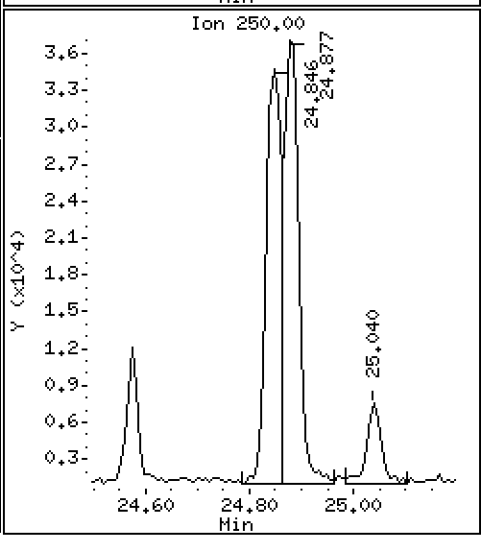


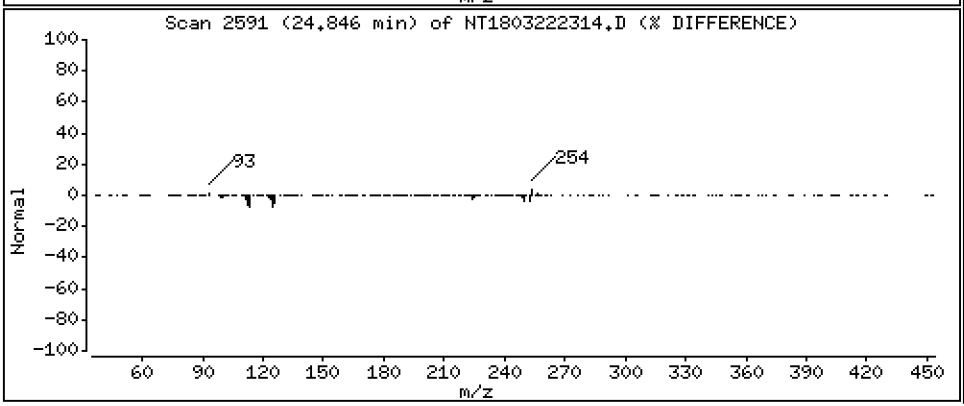












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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

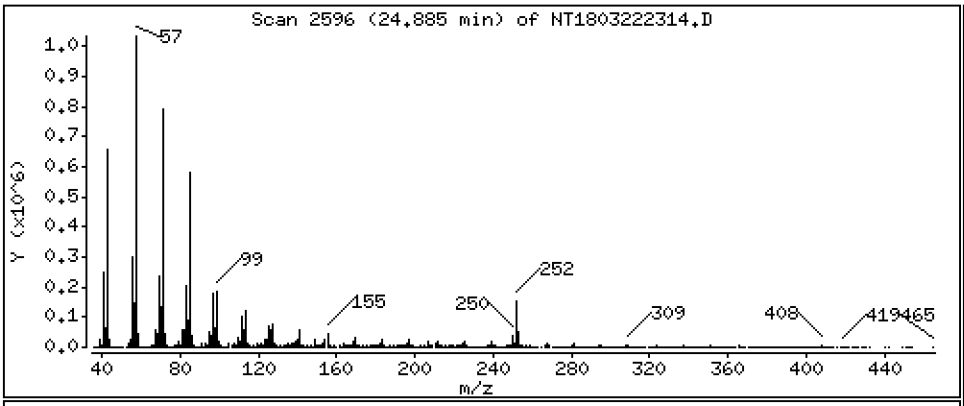
Operator: VTS

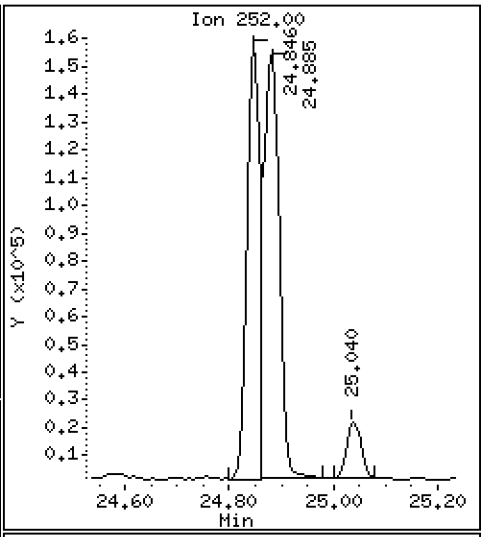
Column phase: ZB-5msi

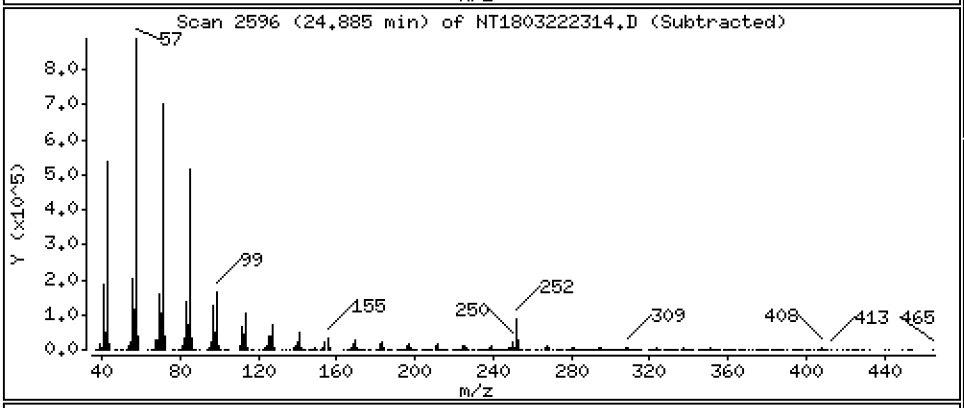
Column diameter: 0.25

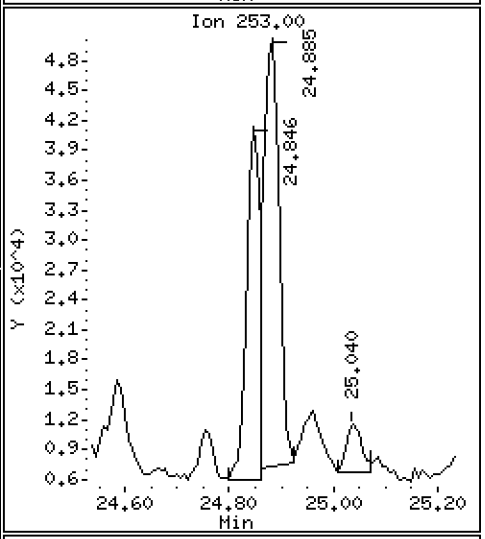
75 Benzo(k)fluoranthene

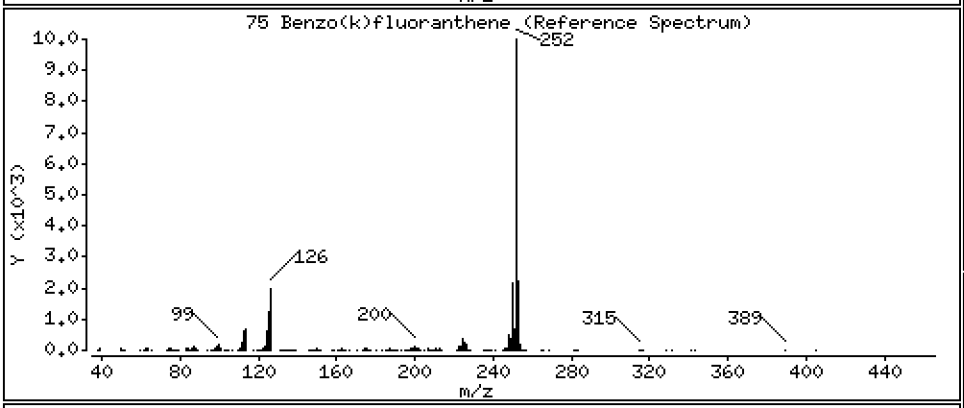
Concentration: 0.8919 ug/mL

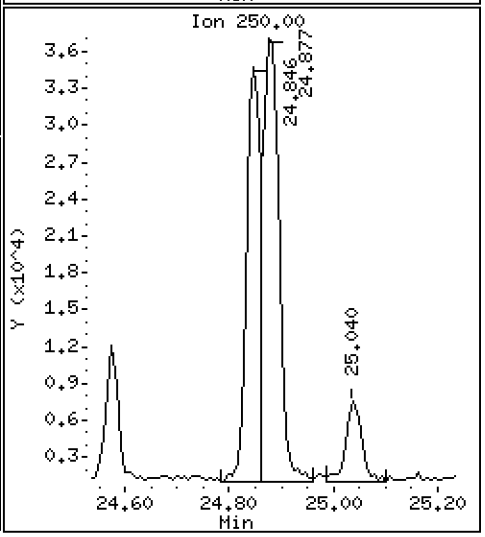


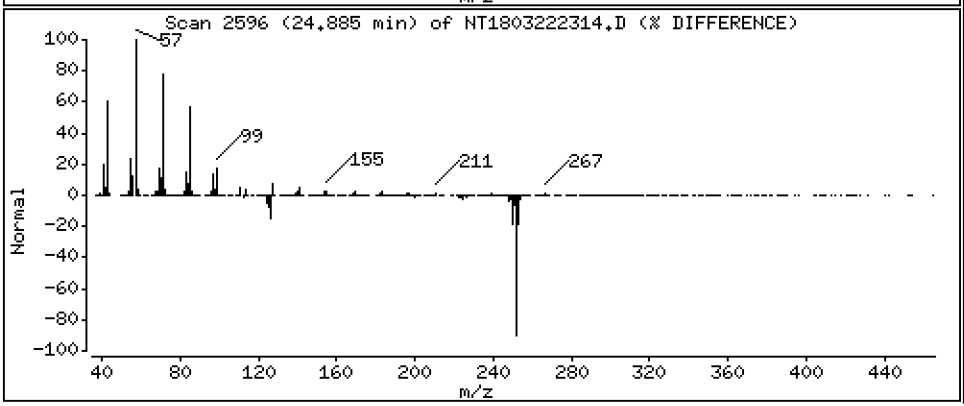












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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

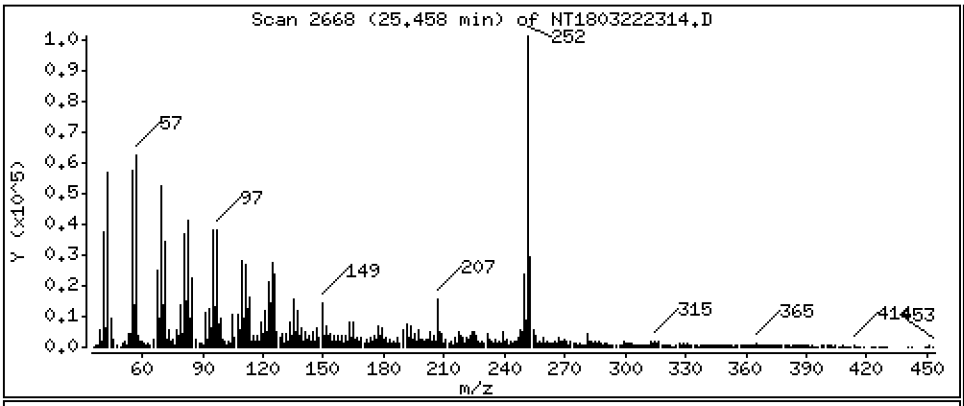
Operator: VTS

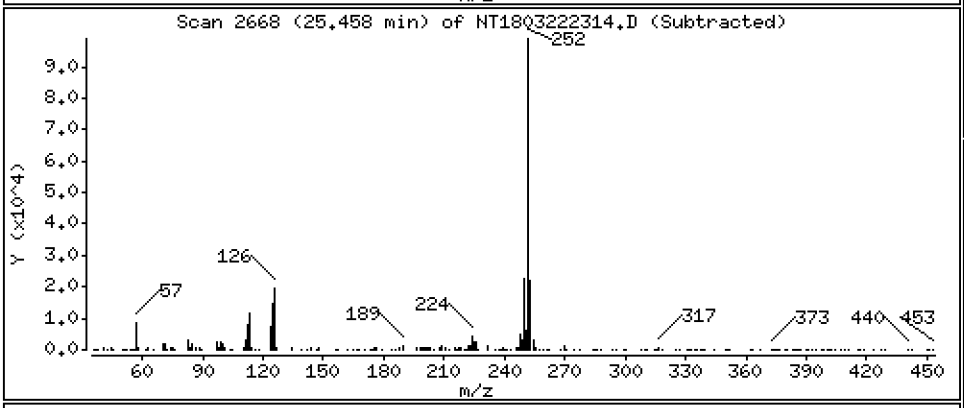
Column phase: ZB-5msi

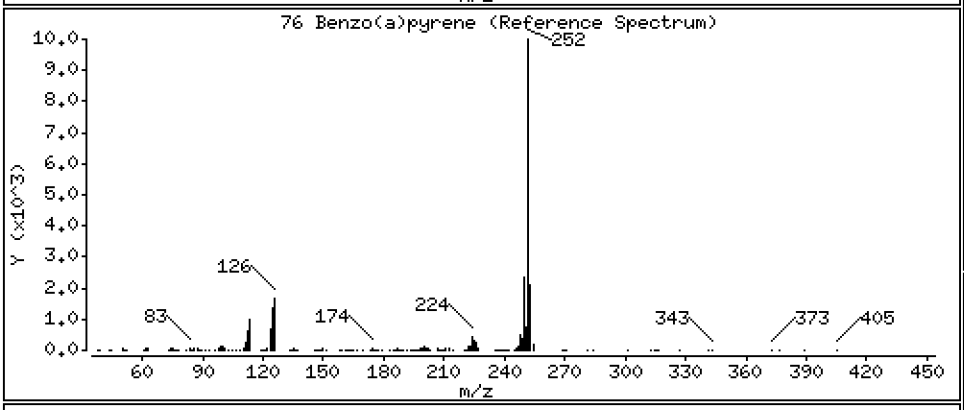
Column diameter: 0.25

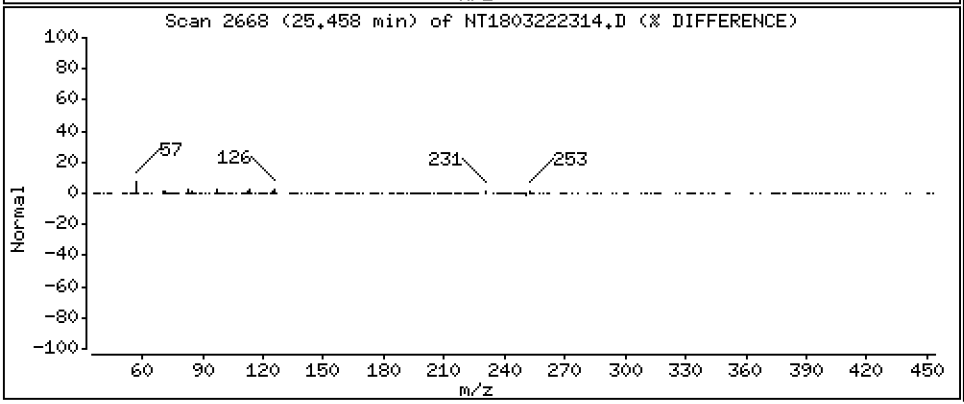
76 Benzo(a)pyrene

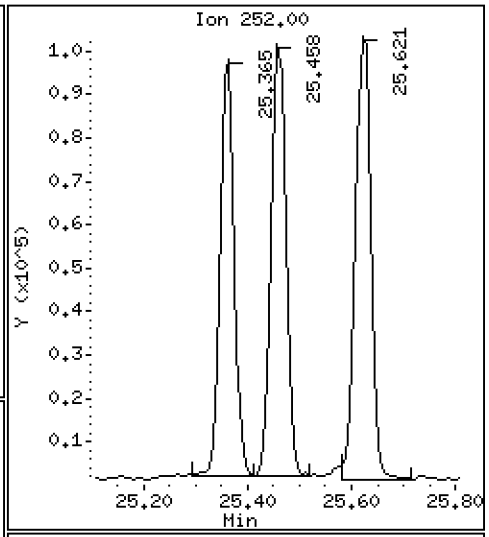
Concentration: 0.5619 ug/mL

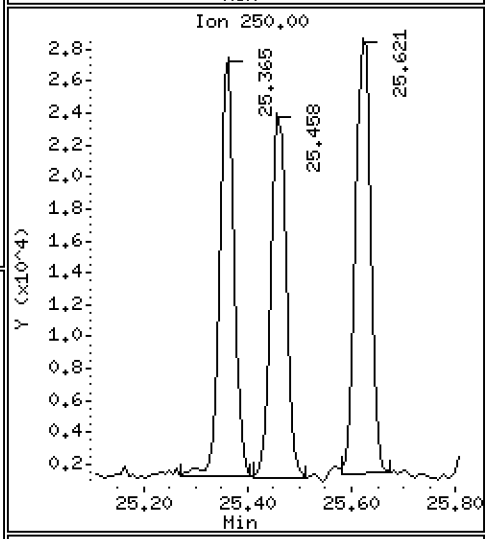


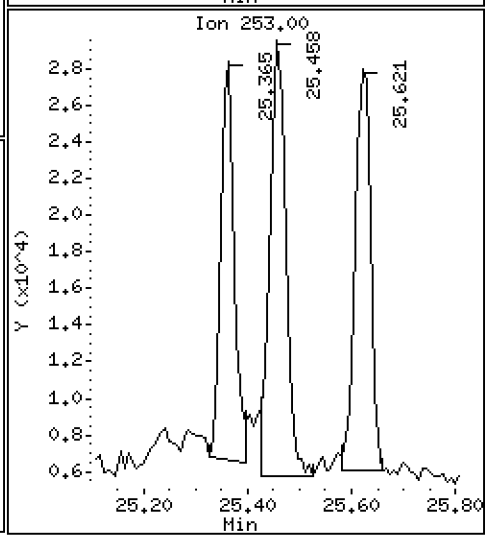












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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

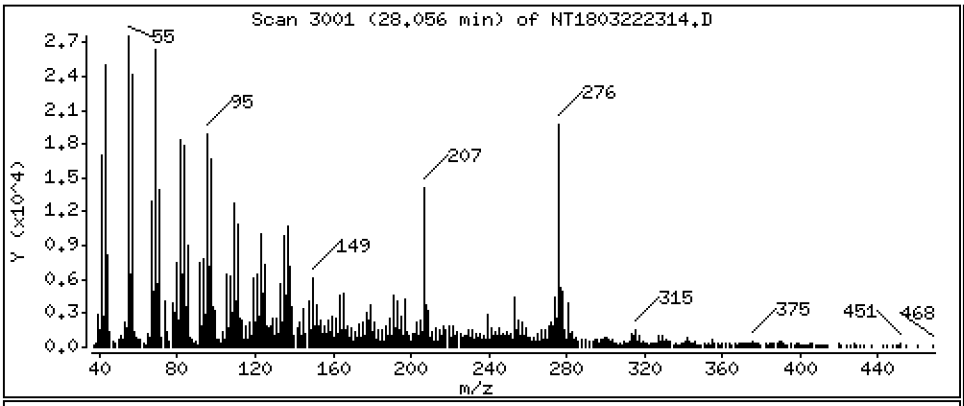
Operator: VTS

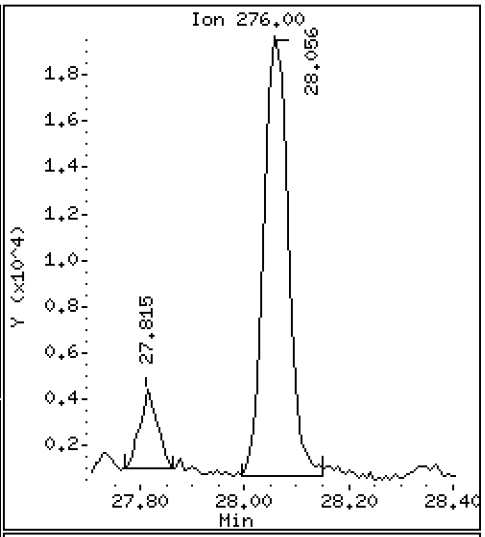
Column phase: ZB-5msi

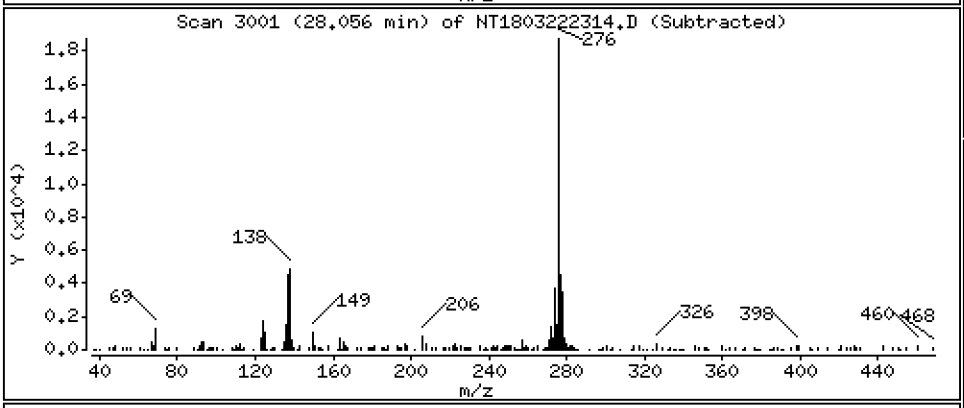
Column diameter: 0.25

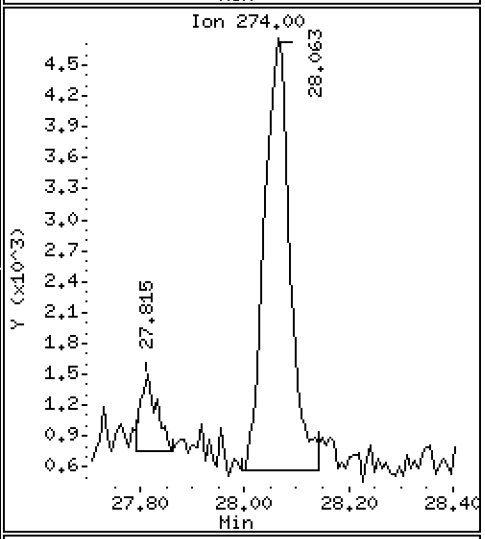
78 Indeno(1,2,3-cd)pyrene

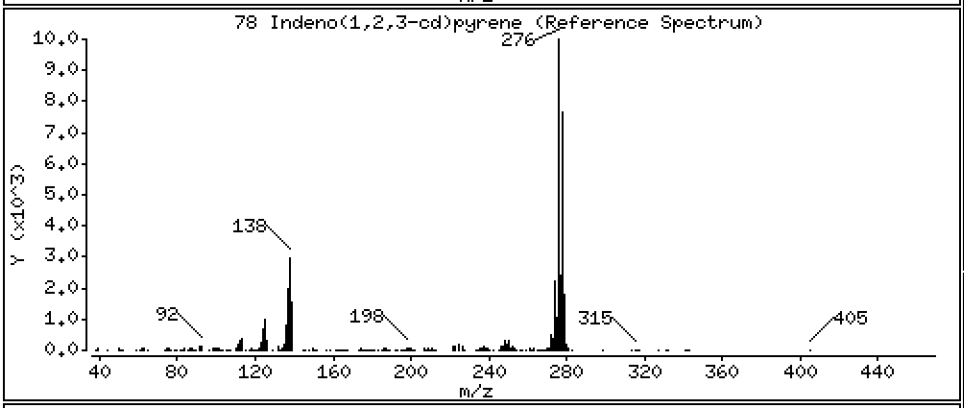
Concentration: 0.1471 ug/mL

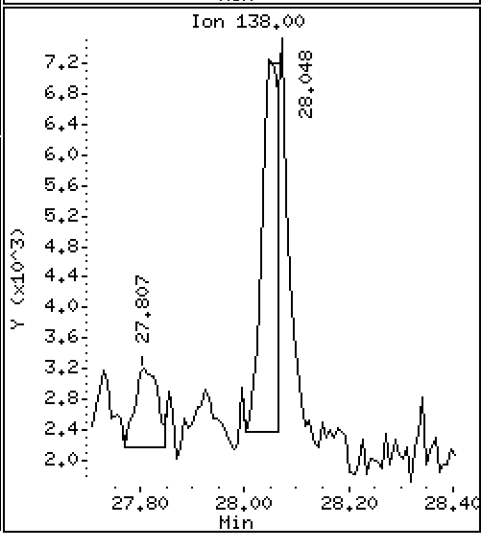


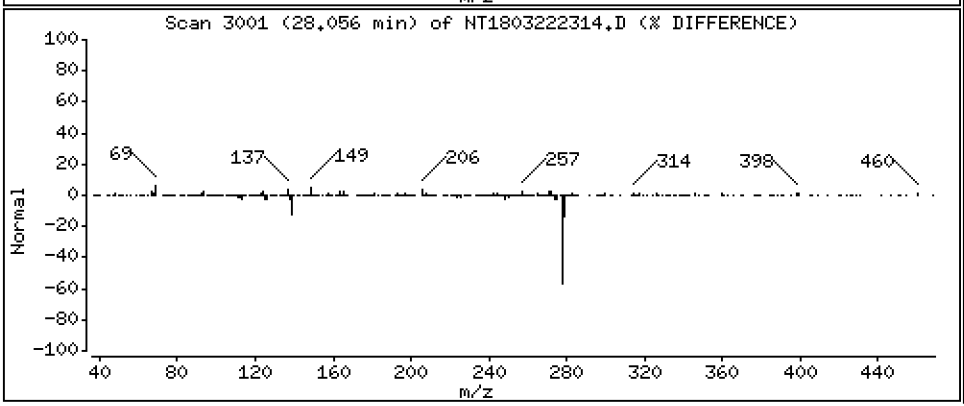












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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

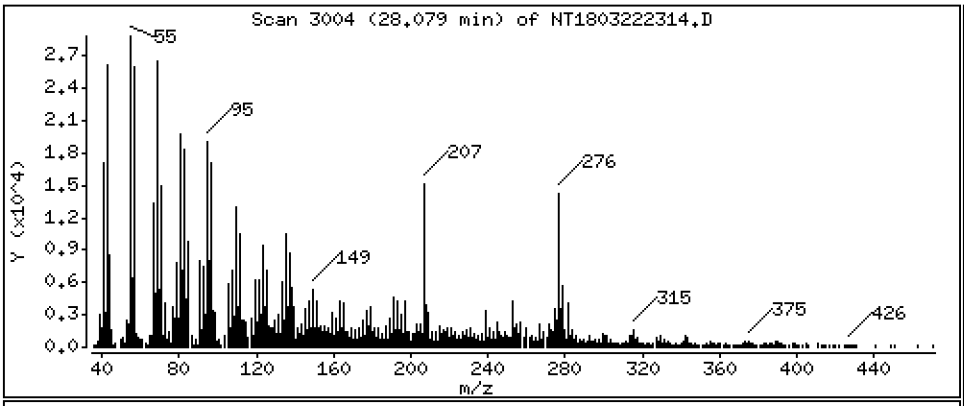
Operator: VTS

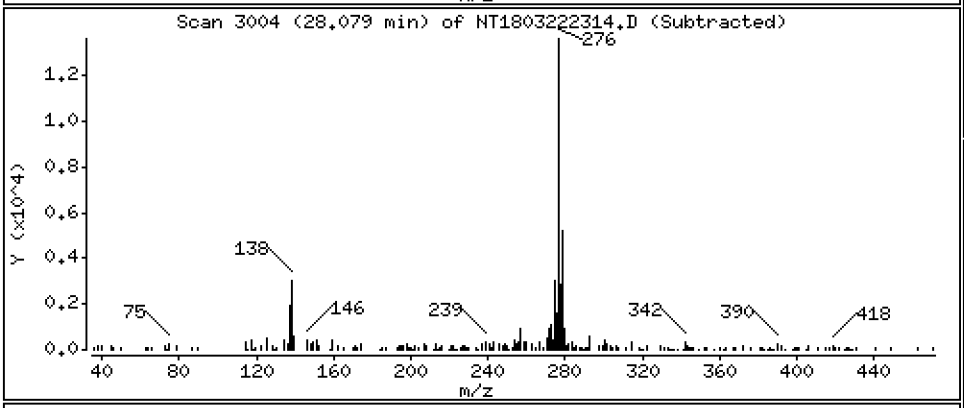
Column phase: ZB-5msi

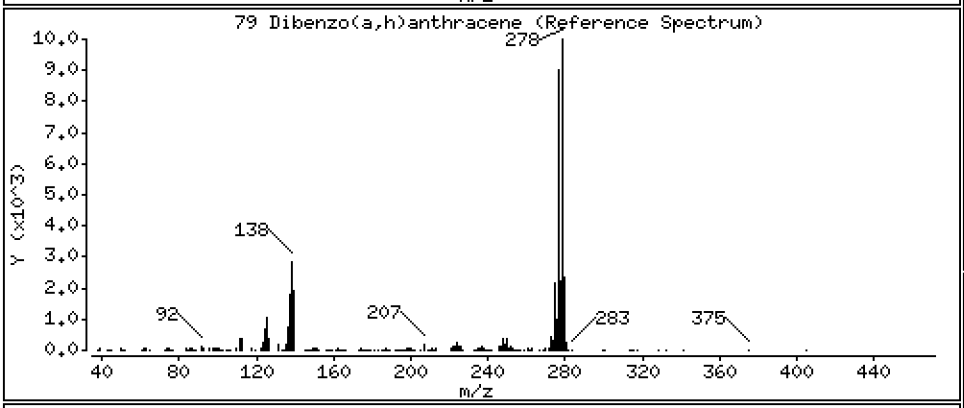
Column diameter: 0.25

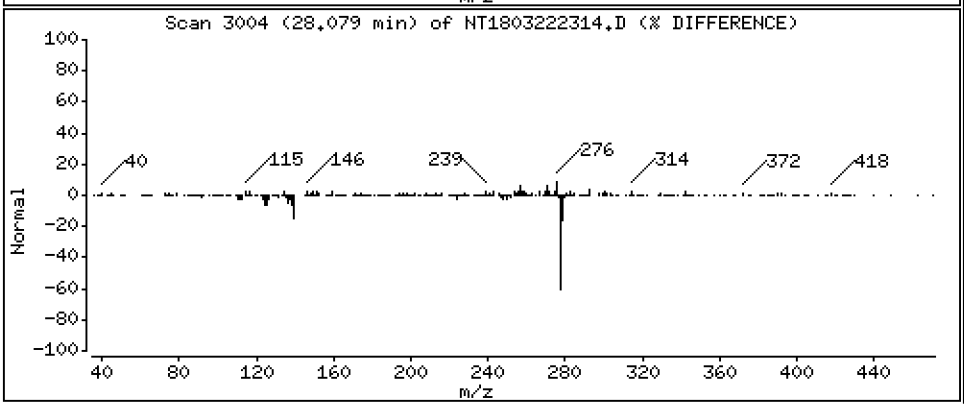
79 Dibenzo(a,h)anthracene

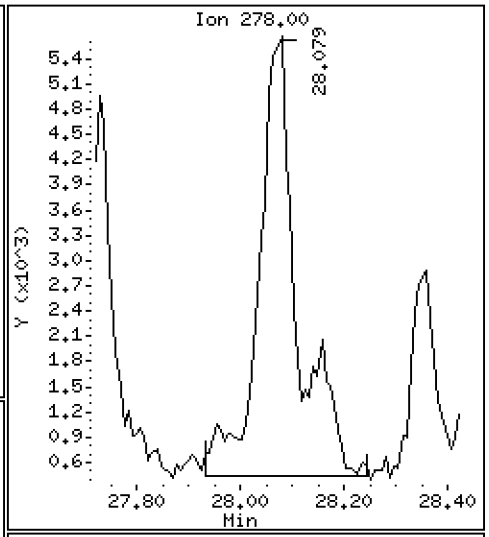
Concentration: 0.07674 ug/mL

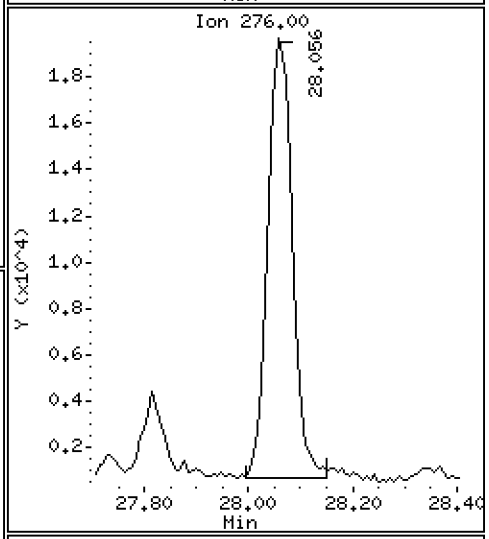


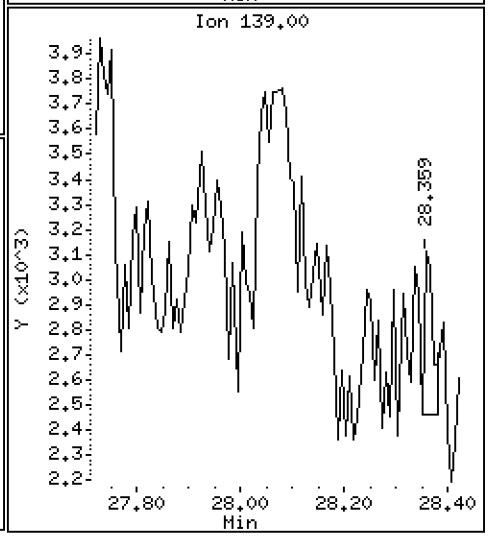












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222314.D

Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

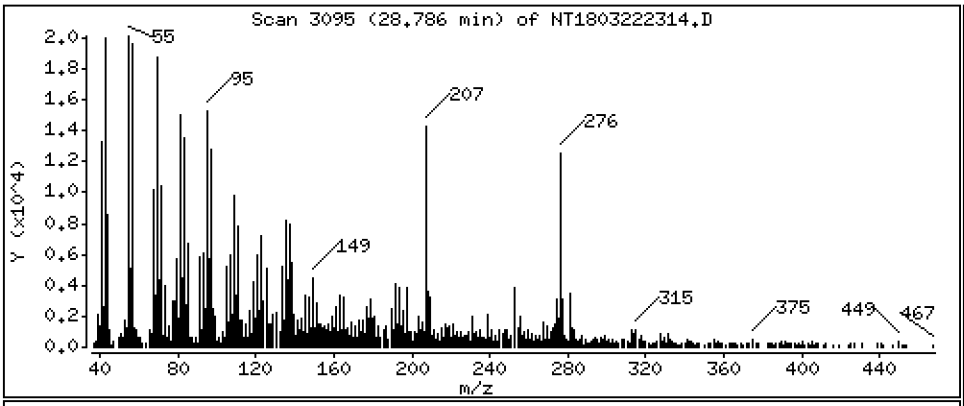
Operator: VTS

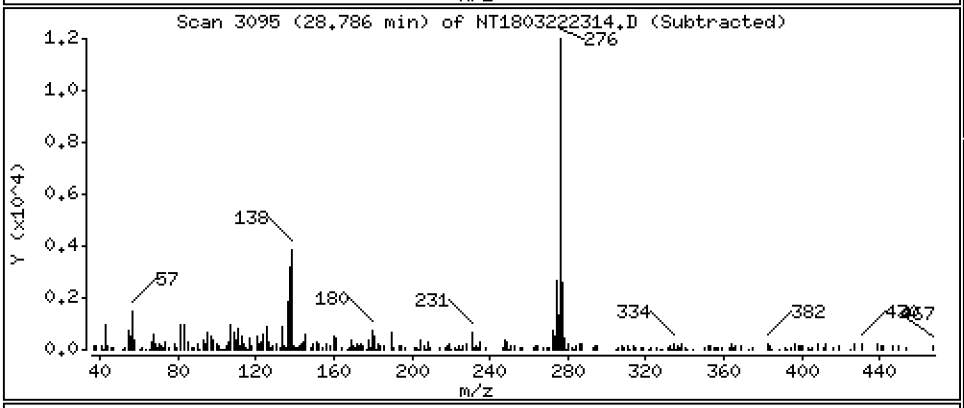
Column phase: ZB-5msi

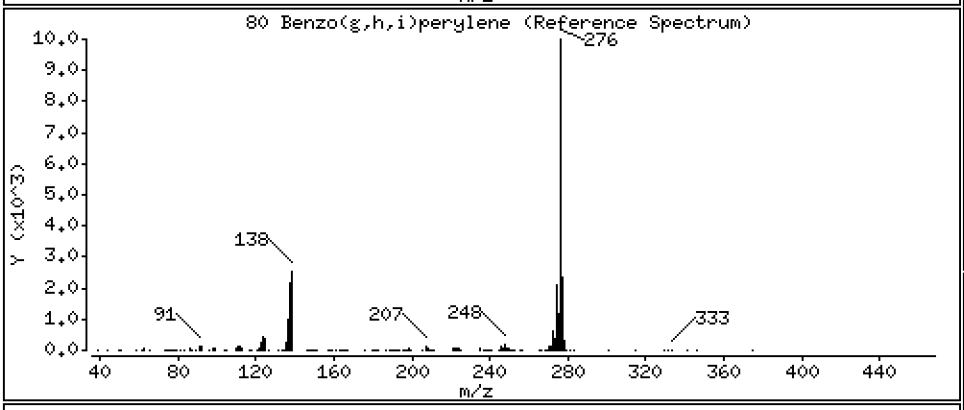
Column diameter: 0.25

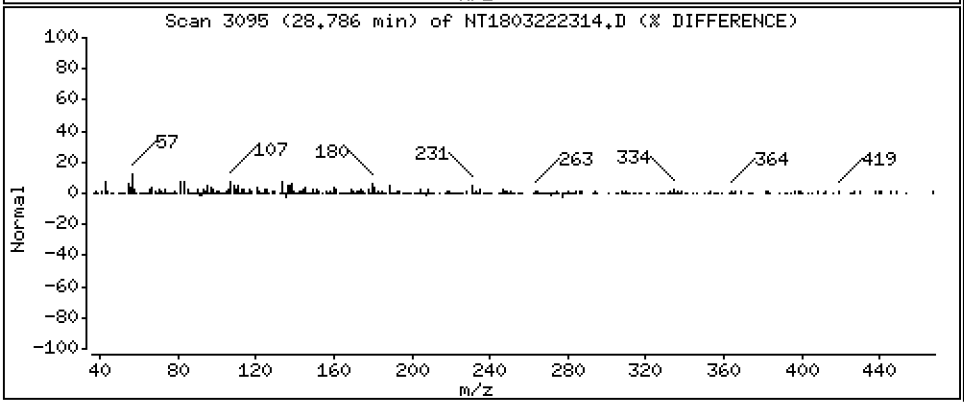
80 Benzo(g,h,i)perylene

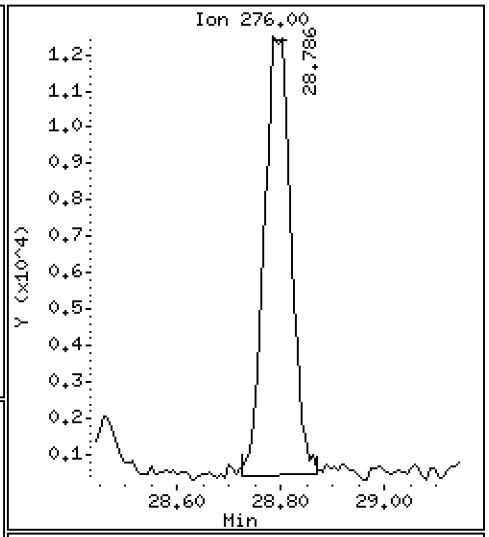
Concentration: 0.1275 ug/mL

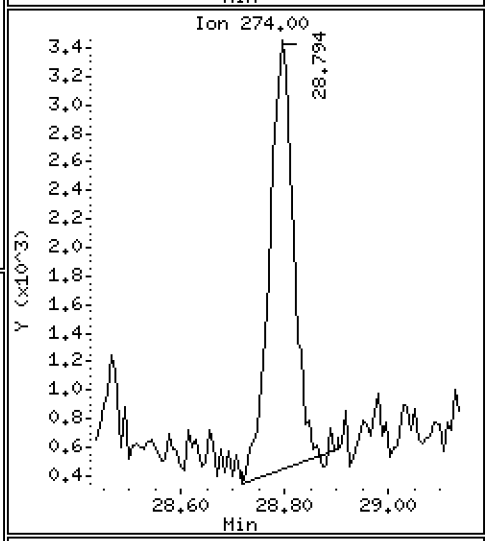


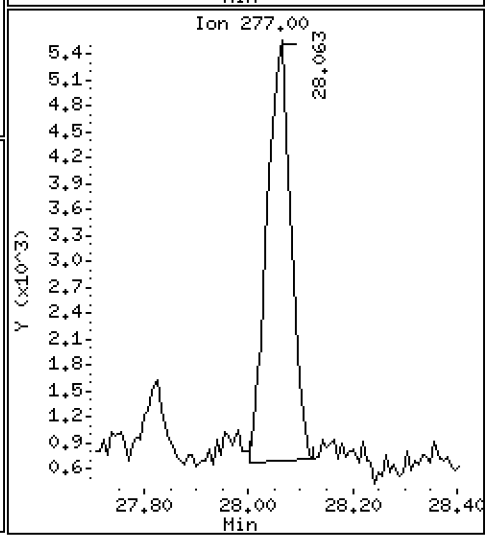












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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

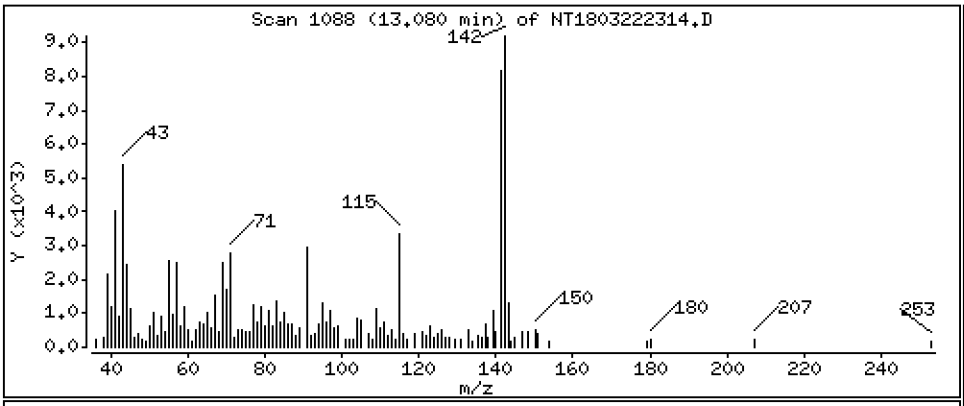
Operator: VTS

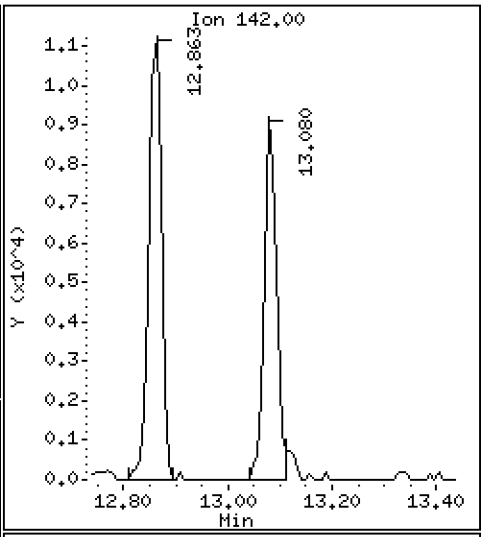
Column phase: ZB-5msi

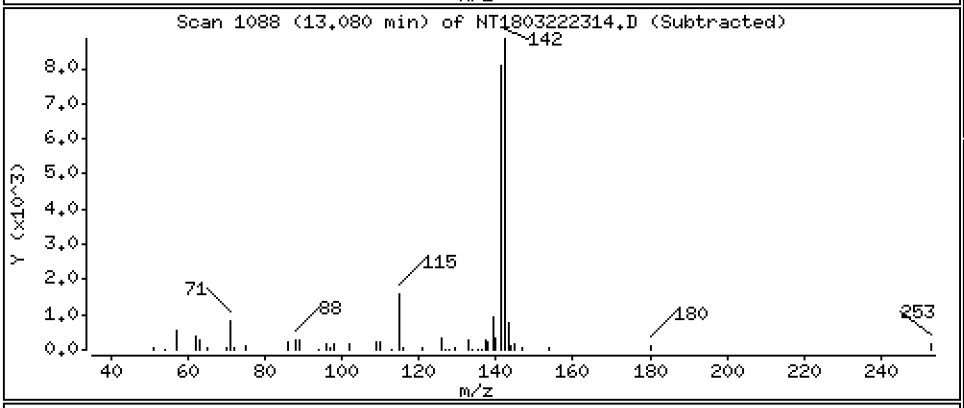
Column diameter: 0.25

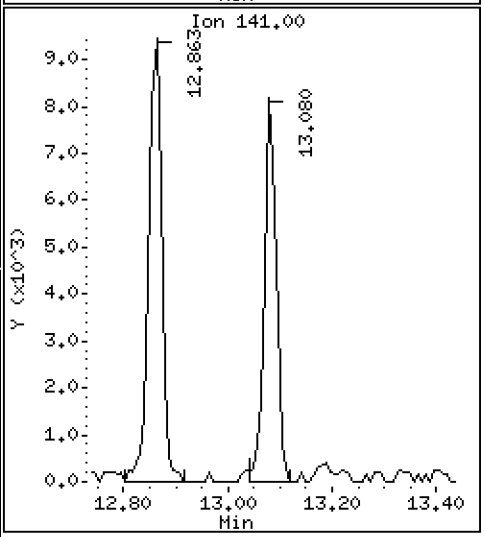
105 1-methylnaphthalene

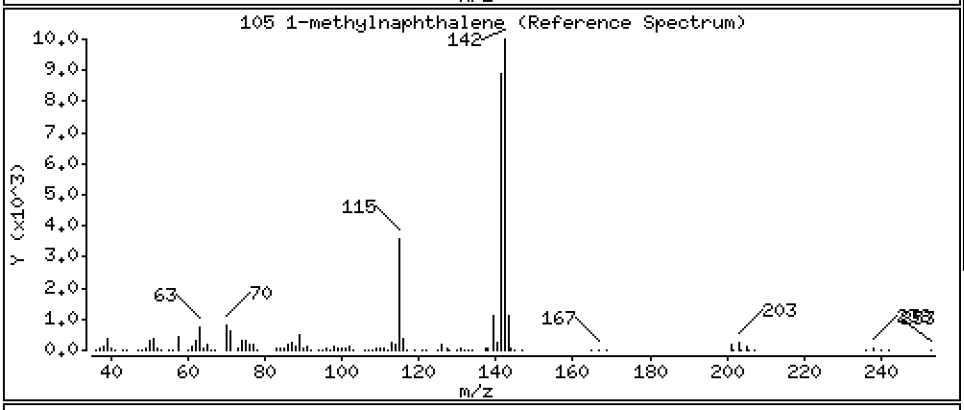
Concentration: 0.07855 ug/mL

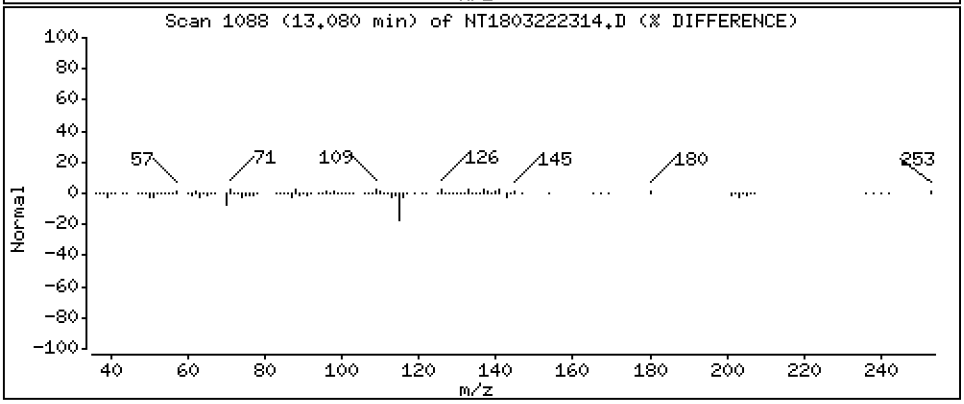












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222314.D

Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

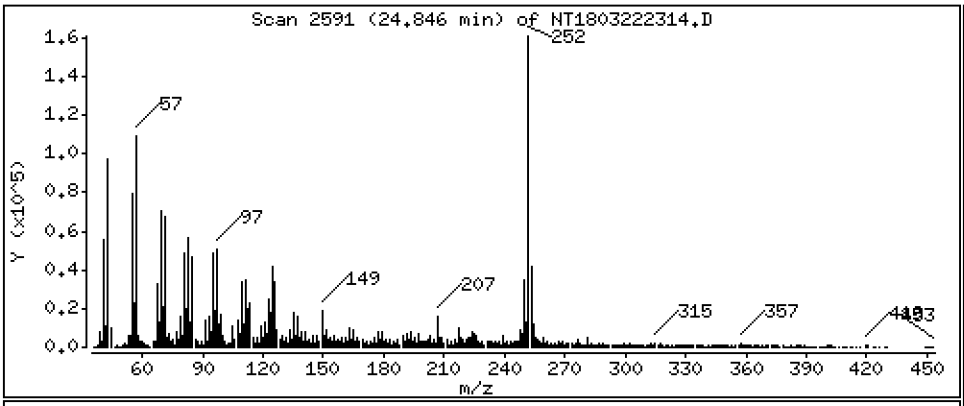
Operator: VTS

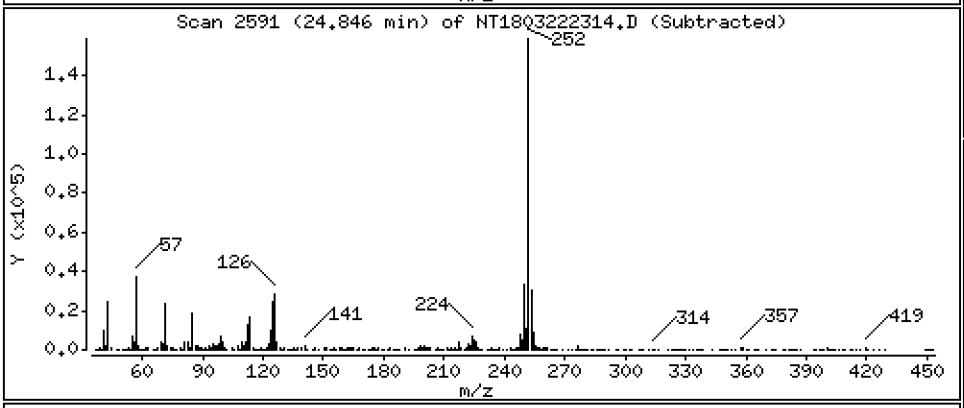
Column phase: ZB-5msi

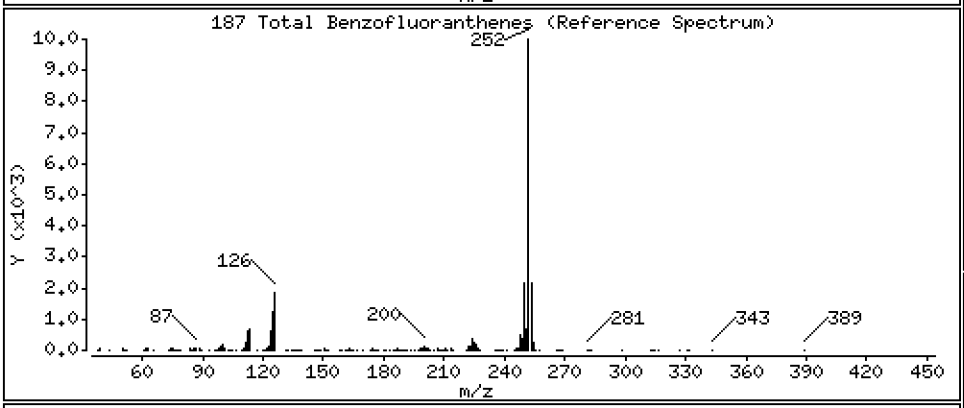
Column diameter: 0.25

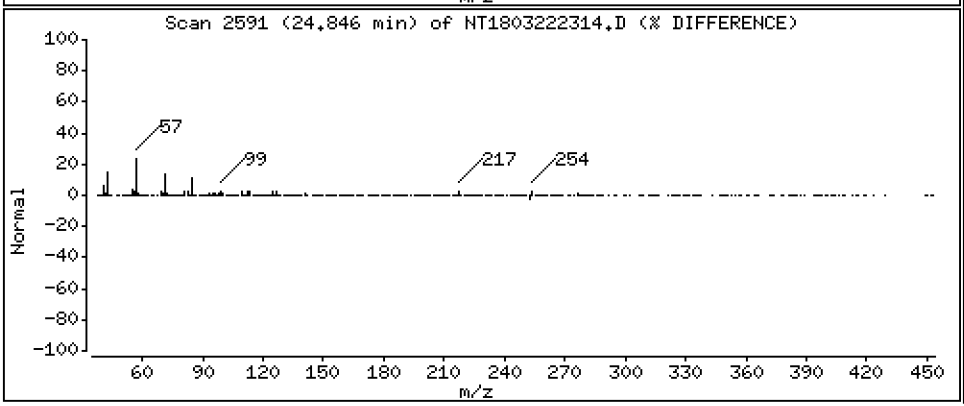
187 Total Benzofluoranthenes

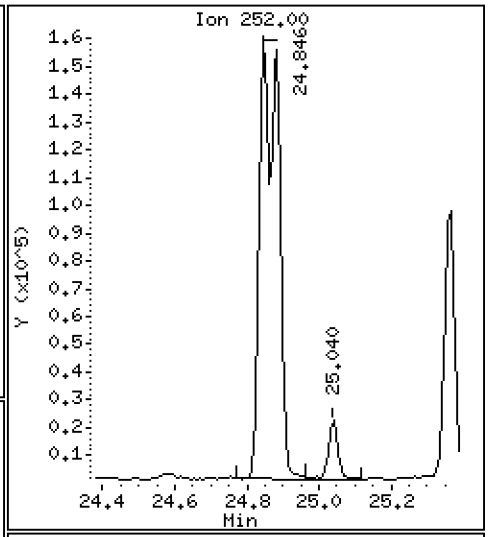
Concentration: 1.698 ug/mL

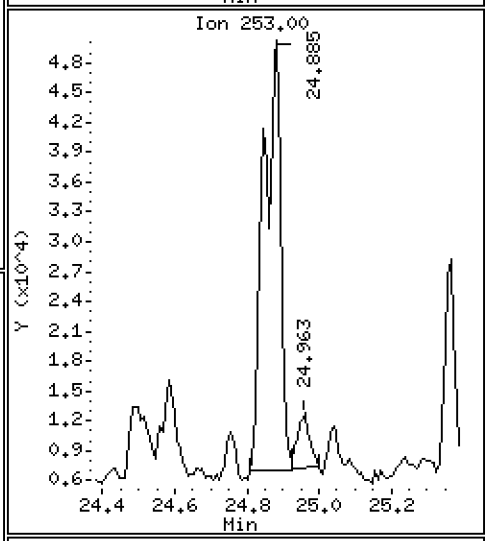


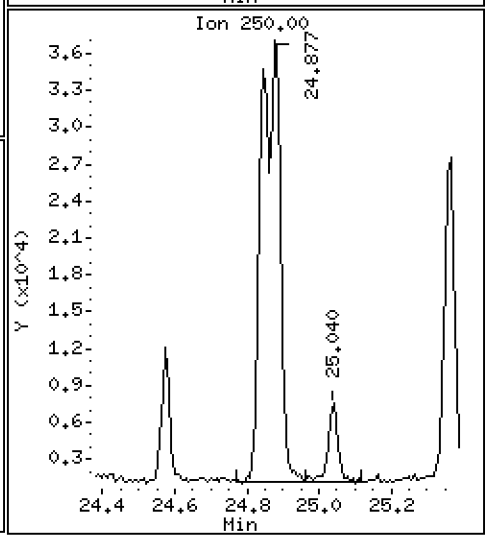












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230322.b\NT1803222314.D
Lab Smp Id: 23C0108-08
Inj Date : 23-MAR-2023 02:04
Operator : VTS Inst ID: nt18.i
Smp Info : 23C0108-08
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230322.b\ABN.m
Meth Date : 04-Apr-2023 14:27 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 15:18 Cal File: NT1803192302.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: DEENAY-201905

							CONCENTRATIONS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.796	6.773	(0.757)	571616	5.78989	5.790
$	2 Phenol-d5	99	8.349	8.341	(0.929)	736191	6.03609	6.036
	3 Phenol	94	8.372	8.364	(0.932)	1294757	9.92789	9.928
$	5 2-Chlorophenol-d4	132	8.619	8.619	(0.960)	652458	6.17150	6.172
	4 Bis(2-Chloroethyl)ether	93	Compound Not Detected.					
	6 2-Chlorophenol	128	Compound Not Detected.					
	7 1,3-Dichlorobenzene	146	Compound Not Detected.					
*	8 1,4-Dichlorobenzene-d4	152	8.983	8.983	(1.000)	320245	4.00000	
	9 1,4-Dichlorobenzene	146	Compound Not Detected.					
$	10 1,2-Dichlorobenzene-d4	152	9.332	9.332	(1.039)	284098	3.66231	3.662
	12 1,2-Dichlorobenzene	146	Compound Not Detected.					
	11 Benzyl alcohol	108	9.247	9.247	(1.029)	16814	0.27630	0.2763
	14 2,2'-oxybis(1-Chloropropane)	121	Compound Not Detected.					
	13 2-Methylphenol	108	Compound Not Detected.					
	17 Hexachloroethane	117	Compound Not Detected.					
	16 N-Nitroso-di-n-propylamine	70	Compound Not Detected.					
	15 4-Methylphenol	108	9.736	9.736	(1.084)	8449	0.08220	0.08220
$	18 Nitrobenzene-d5	82	10.054	10.062	(0.879)	425698	4.49602	4.496
	19 Nitrobenzene	77	Compound Not Detected.					
	20 Isophorone	82	Compound Not Detected.					
	21 2-Nitrophenol	139	Compound Not Detected.					
	22 2,4-Dimethylphenol	107	Compound Not Detected.					
	23 Bis(2-Chloroethoxy)methane	93	Compound Not Detected.					
	24 Benzoic acid	105	10.889	10.999	(0.952)	47475	0.71883	0.7188
	25 2,4-Dichlorophenol	162	Compound Not Detected.					
	26 1,2,4-Trichlorobenzene	180	Compound Not Detected.					
*	27 Naphthalene-d8	136	11.440	11.439	(1.000)	1148656	4.00000	
	28 Naphthalene	128	11.478	11.478	(1.003)	24426	0.07836	0.07836
	29 4-Chloroaniline	127	Compound Not Detected.					
	30 Hexachlorobutadiene	225	Compound Not Detected.					
	31 4-Chloro-3-methylphenol	107	Compound Not Detected.					
	32 2-Methylnaphthalene	142	12.863	12.863	(1.124)	18153	0.08943	0.08943(H)
	33 Hexachlorocyclopentadiene	237	Compound Not Detected.					

		QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	Compound Not Detected.					
	35 2,4,5-Trichlorophenol	196	Compound Not Detected.					
$	36 2-Fluorobiphenyl	172	13.644	13.644	(0.908)	888881	4.19481	4.195
	37 2-Chloronaphthalene	162	Compound Not Detected.					
	38 2-Nitroaniline	65	Compound Not Detected.					
	39 Dimethylphthalate	163	14.534	14.542	(0.968)	10002	0.05673	0.05673(H)
	40 Acenaphthylene	152	14.713	14.712	(0.979)	12316	0.04278	0.04278
	41 2,6-Dinitrotoluene	165	Compound Not Detected.					
*	42 Acenaphthene-d10	164	15.022	15.022	(1.000)	591737	4.00000	
	43 3-Nitroaniline	138	Compound Not Detected.					
	44 Acenaphthene	153	15.084	15.091	(1.004)	11342	0.06225	0.06225
	45 2,4-Dinitrophenol	184	Compound Not Detected.					
	46 Dibenzofuran	168	15.408	15.416	(1.026)	16160	0.06456	0.06456(H)
	47 4-Nitrophenol	109	Compound Not Detected.					
	48 2,4-Dinitrotoluene	165	Compound Not Detected.					
	50 Diethylphthalate	149	15.981	15.988	(1.064)	74482	0.41691	0.4169
	49 Fluorene	166	16.120	16.120	(1.073)	15300	0.06733	0.06733(H)
	51 4-Chlorophenyl-phenylether	204	Compound Not Detected.					
	52 4-Nitroaniline	138	Compound Not Detected.					
	53 4,6-Dinitro-2-methylphenol	198	Compound Not Detected.					
	54 N-Nitrosodiphenylamine	169	Compound Not Detected.					
$	55 2,4,6-Tribromophenol	330	16.644	16.644	(1.108)	177378	6.64594	6.646
	56 4-Bromophenyl-phenylether	248	Compound Not Detected.					
	57 Hexachlorobenzene	284	Compound Not Detected.					
	58 Pentachlorophenol	266	17.772	17.772	(0.986)	1405	0.04174	0.04174
*	59 Phenanthrene-d10	188	18.027	18.035	(1.000)	1007750	4.00000	
	60 Phenanthrene	178	18.073	18.081	(1.003)	111262	0.40446	0.4045
	61 Anthracene	178	18.166	18.166	(1.008)	48400	0.18454	0.1845
	62 Carbazole	167	18.491	18.499	(1.026)	16745	0.07250	0.07250
	63 Di-n-butylphthalate	149	19.311	19.311	(1.071)	11002	0.03590	0.03590
	64 Fluoranthene	202	20.456	20.456	(0.887)	348450	0.94847	0.9485
	65 Pyrene	202	20.874	20.874	(0.905)	360882	0.93199	0.9320
$	66 Terphenyl-d14	244	21.168	21.168	(0.918)	1101093	3.82349	3.823
	67 Butylbenzylphthalate	149	22.090	22.090	(0.958)	12827	0.07657	0.07657
	68 Benzo(a)anthracene	228	23.027	23.027	(0.999)	206592	0.57264	0.5726
*	69 Chrysene-d12	240	23.058	23.050	(1.000)	1152887	4.00000	
	70 3,3'-Dichlorobenzidine	252	Compound Not Detected.					
	71 Chrysene	228	23.096	23.096	(1.002)	320831	0.86029	0.8603
	72 bis(2-Ethylhexyl)phthalate	149	23.120	23.119	(0.960)	291030	1.07388	1.074
*	134 Di-n-octylphthalate-d4	153	24.087	24.087	(1.000)	1849744	4.00000	
	73 Di-n-octylphthalate	149	Compound Not Detected.					
	74 Benzo(b)fluoranthene	252	24.846	24.846	(0.972)	290223	0.86205	0.8620
	75 Benzo(k)fluoranthene	252	24.885	24.885	(0.973)	330267	0.89189	0.8919
	76 Benzo(a)pyrene	252	25.458	25.458	(0.995)	189083	0.56187	0.5619
*	77 Perylene-d12	264	25.574	25.566	(1.000)	1209357	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	28.055	28.055	(1.097)	61761	0.14712	0.1471
	79 Dibenzo(a,h)anthracene	278	28.079	28.071	(1.098)	26550	0.07674	0.07674(M)
	80 Benzo(g,h,i)perylene	276	28.785	28.793	(1.126)	42716	0.12753	0.1275(M)
	90 N-Nitrosodimethylamine	74	Compound Not Detected.					
	91 Aniline	93	Compound Not Detected.					
	93 Benzidine	184	Compound Not Detected.					
	103 Pyridine	79	Compound Not Detected.					
	105 1-methylnaphthalene	142	13.079	13.087	(1.143)	14637	0.07855	0.07855
	111 Azobenzene (1,2-DP-Hydrazine)	77	Compound Not Detected.					

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187 Total Benzofluoranthenes	252	24.846	24.885	(0.972)	573028	1.69838	1.698
120 2,3,4,6-Tetrachlorophenol	232	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222314.D
Lab Smp Id: 23C0108-08
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322.b\ABN.m
Misc Info:

Calibration Date: 22-MAR-2023
Calibration Time: 17:55
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	259918	129959	519836	320245	23.21
27 Naphthalene-d8	969410	484705	1938820	1148656	18.49
42 Acenaphthene-d10	510287	255144	1020574	591737	15.96
59 Phenanthrene-d10	882628	441314	1765256	1007750	14.18
69 Chrysene-d12	800073	400037	1600146	1152887	44.10
134 Di-n-octylphthala	1258607	629304	2517214	1849744	46.97
77 Perylene-d12	911909	455955	1823818	1209357	32.62

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	0.00
42 Acenaphthene-d10	15.02	14.52	15.52	15.02	0.00
59 Phenanthrene-d10	18.04	17.54	18.54	18.03	-0.04
69 Chrysene-d12	23.05	22.55	23.55	23.06	0.03
134 Di-n-octylphthala	24.09	23.59	24.59	24.09	0.00
77 Perylene-d12	25.57	25.07	26.07	25.57	0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222314.D

Lab ID: 23C0108-08
nt18.i, ABN.m, 23-MAR-2023 02:04

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.952	0.961	-0.0096	Benzoic acid

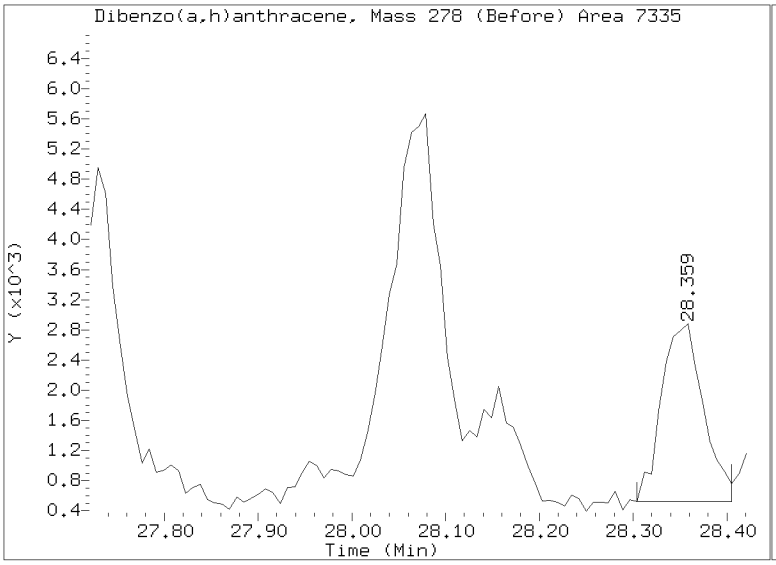
RRT check based on Ccal File: NT1803222302.D

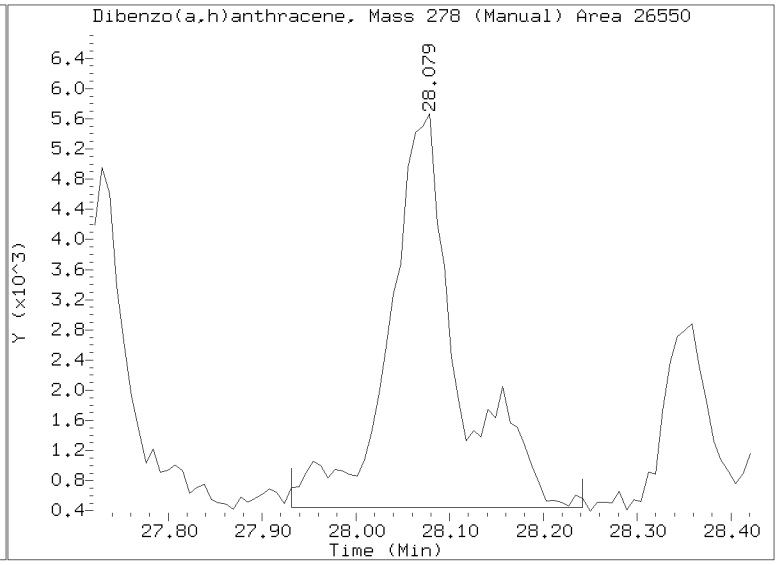
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

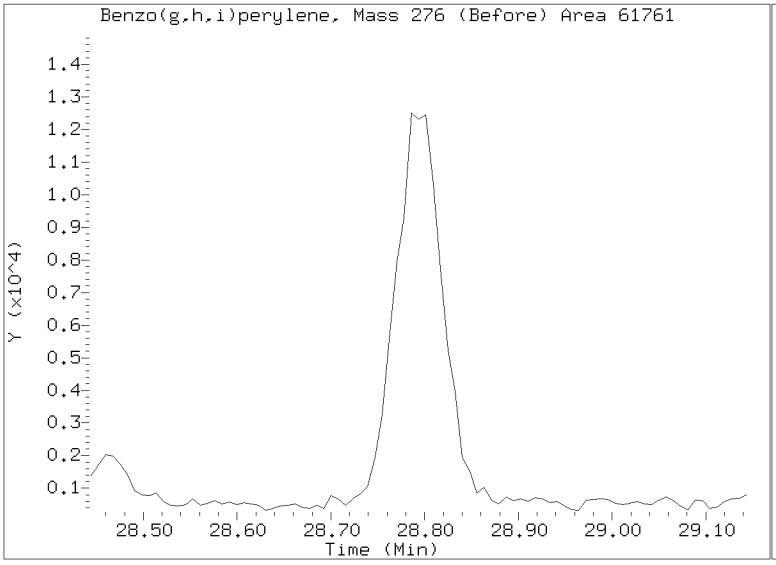
* Only compounds listed in the work order have been verified by the analyst *

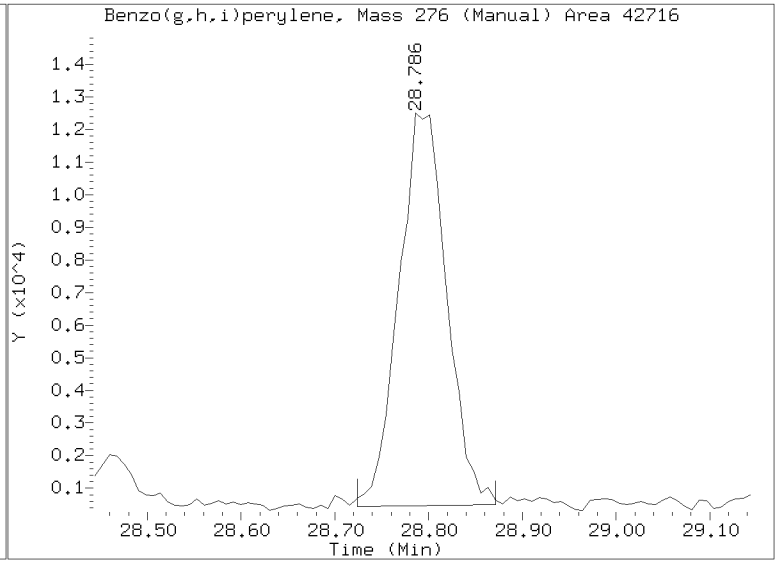
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230322.b/NT1803222314.D
Injection Date: 23-MAR-2023 02:04
Lab ID:23C0108-08 Client ID:
Report Date: 04/04/2023 14:29









APPROVED

By Deenay Dunmore at 2:45 pm, Apr 04, 2023

Analytical Resources, LLC
Analytical Chemists and Consultants

LDW23-SS1118

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270E

Semivolatiles (20ug/kg - 0.2ug/L SepF)

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-09 A	SDG:	23C0108
Sampled:	03/03/23 11:25	Prepared:	03/09/23 13:26	File ID:	NT1803222322.D
% Solids:	42.62	Preparation:	EPA 3546 (Microwave)	Analyzed:	03/23/23 07:26
Batch:	BLC0185	Sequence:	SLD0056	Initial/Final:	23.52 g Wet / 1 mL
Instrument:	NT18	Column:	ZB-5MS	Calibration:	GC00085
Cleanups:	GPC				

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg dry)	Q	DL	RL
108-95-2	Phenol	1	162		4.4	20.0
106-44-5	4-Methylphenol	1	13.9	J	7.4	20.0
91-20-3	Naphthalene	1	15.1	J	4.2	20.0
91-57-6	2-Methylnaphthalene	1	10.5	J	4.5	20.0
208-96-8	Acenaphthylene	1	20.0	U	6.2	20.0
131-11-3	Dimethylphthalate	1	20.0	U	4.4	20.0
83-32-9	Acenaphthene	1	14.2	J	5.2	20.0
132-64-9	Dibenzofuran	1	14.1	J	14.1	20.0
86-73-7	Fluorene	1	20.0	U	14.5	20.0
85-01-8	Phenanthrene	1	91.0		8.7	20.0
120-12-7	Anthracene	1	53.1		7.2	20.0
206-44-0	Fluoranthene	1	231		6.1	20.0
129-00-0	Pyrene	1	217		5.7	20.0
85-68-7	Butylbenzylphthalate	1	13.0	J	9.4	20.0
56-55-3	Benzo(a)anthracene	1	143		5.9	20.0
218-01-9	Chrysene	1	241		6.0	20.0
117-81-7	bis(2-Ethylhexyl)phthalate	1	119		5.4	49.9
	Benzofluoranthenes, Total	1	432		10.0	39.9
50-32-8	Benzo(a)pyrene	1	133		4.2	20.0
193-39-5	Indeno(1,2,3-cd)pyrene	1	21.6	Q	14.6	20.0
53-70-3	Dibenzo(a,h)anthracene	1	20.0	U	17.2	20.0
191-24-2	Benzo(g,h,i)perylene	1	17.4	J	13.6	20.0

SURROGATES	ADDED: (ug/kg dry)	FOUND: (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorophenol	748.19	608	81.2	27 - 120	
Phenol-d5	748.19	625	83.6	29 - 120	
2-Chlorophenol-d4	748.19	634	84.8	31 - 120	
1,2-Dichlorobenzene-d4	498.79	381	76.3	32 - 120	
Nitrobenzene-d5	498.79	458	91.8	30 - 120	
2-Fluorobiphenyl	498.79	423	84.9	35 - 120	

Analytical Resources, LLC
Analytical Chemists and Consultants

LDW23-SS1118

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270E

Semivolatiles (20ug/kg - 0.2ug/L SepF)

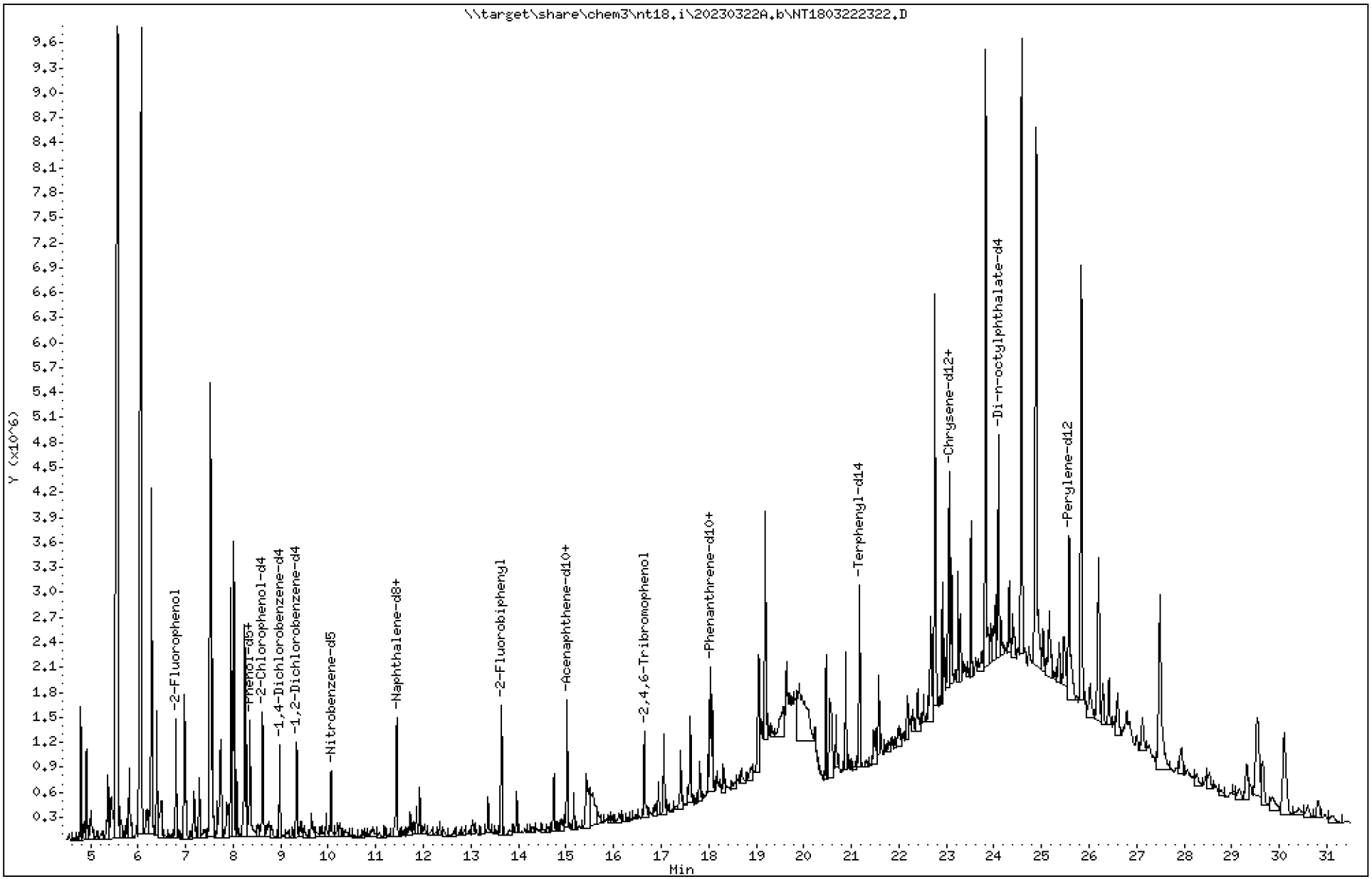
Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-09 A	SDG:	23C0108
Sampled:	03/03/23 11:25	Prepared:	03/09/23 13:26	File ID:	NT1803222322.D
% Solids:	42.62	Preparation:	EPA 3546 (Microwave)	Analyzed:	03/23/23 07:26
Batch:	BLC0185	Sequence:	SLD0056	Initial/Final:	23.52 g Wet / 1 mL
Instrument:	NT18	Column:	ZB-5MS	Calibration:	GC00085
Cleanups:	GPC				

SURROGATES	ADDED: (ug/kg dry)	FOUND: (ug/kg dry)	% REC	QC LIMITS	Q
2,4,6-Tribromophenol	748.19	694	92.7	24 - 134	
p-Terphenyl-d14	498.79	406	81.4	37 - 120	

Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222322.D
Date : 23-MAR-2023 07:26
Client ID:
Sample Info: 23C0108-09

Instrument: nt18.i
Operator: VTS
Column diameter: 0.25

Column phase: ZB-5msi



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Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

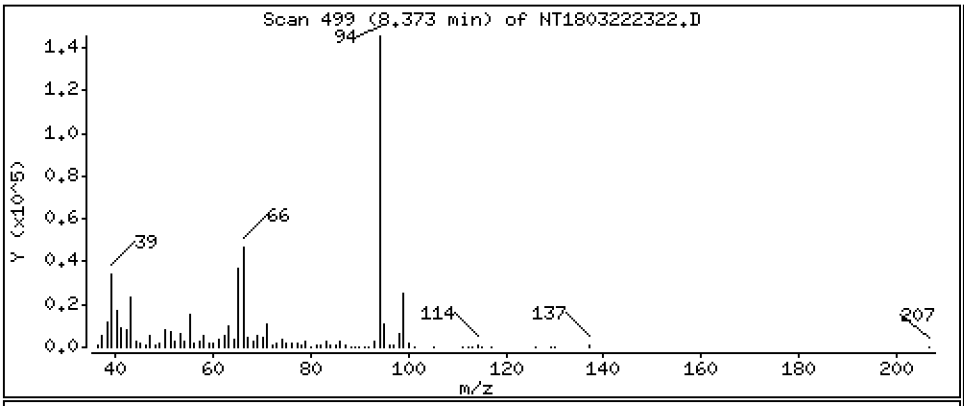
Operator: VTS

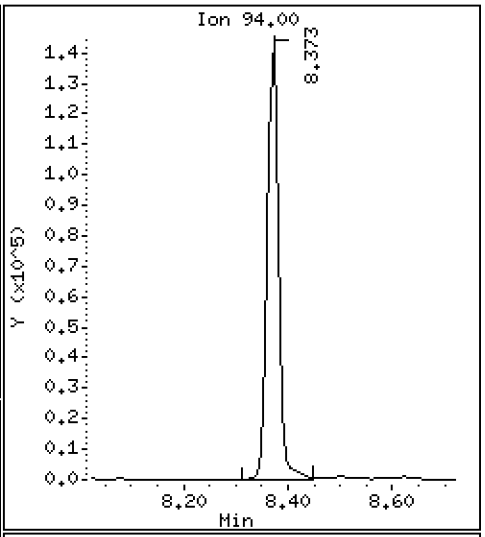
Column phase: ZB-5msi

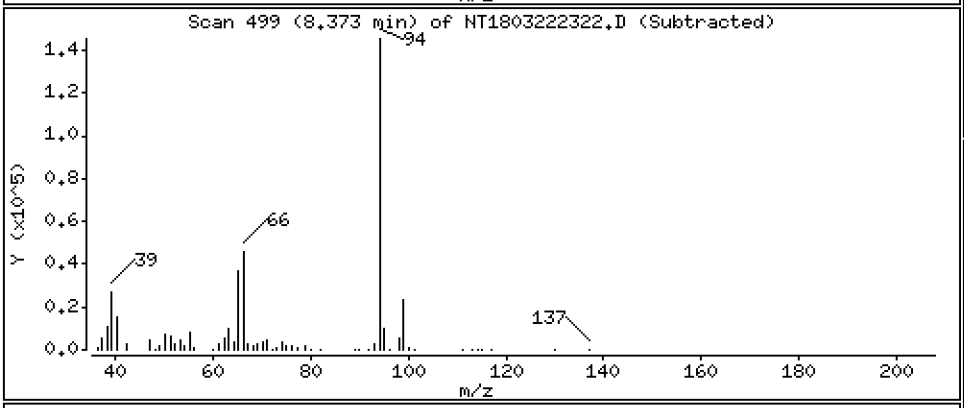
Column diameter: 0.25

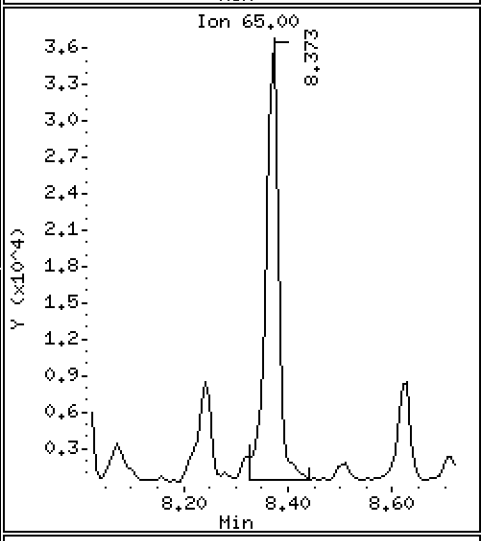
3 Phenol

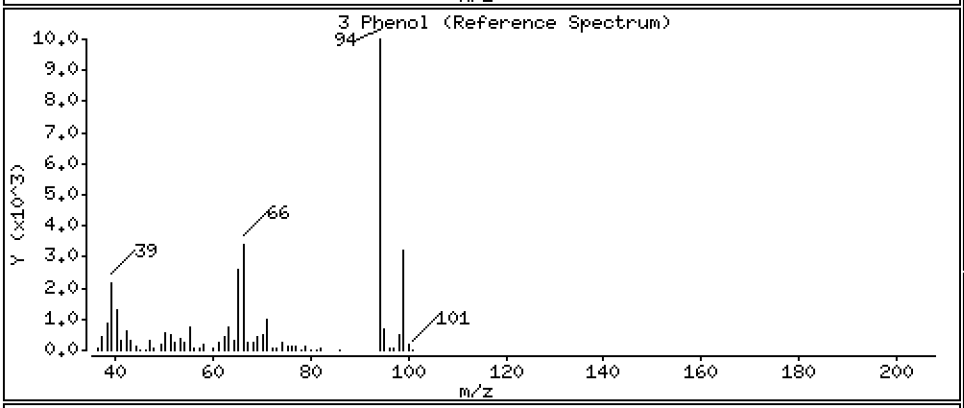
Concentration: 1.623 ug/mL

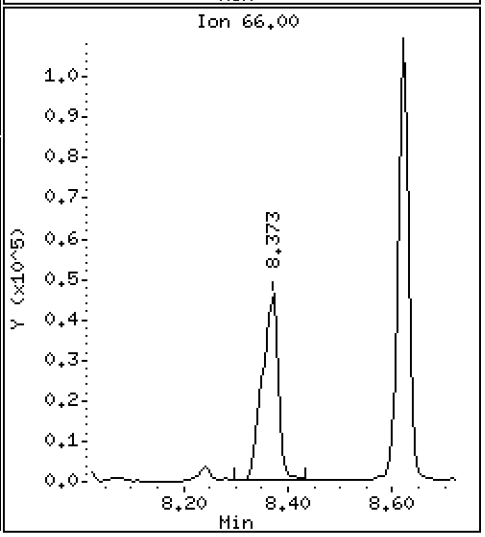


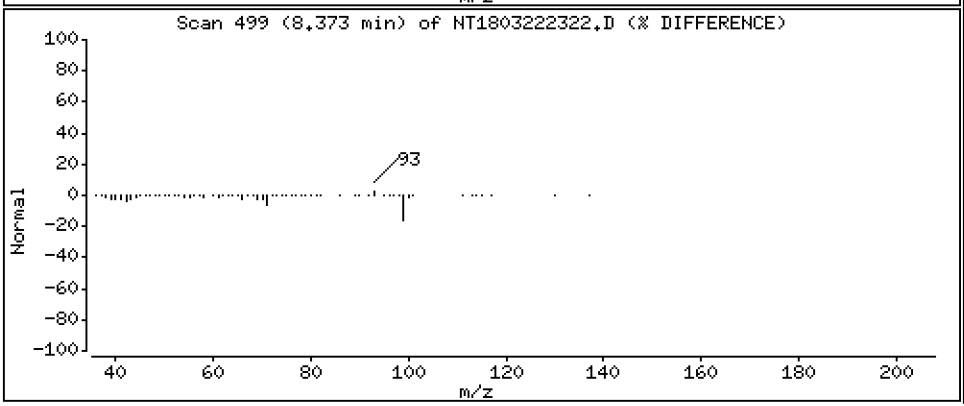












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Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

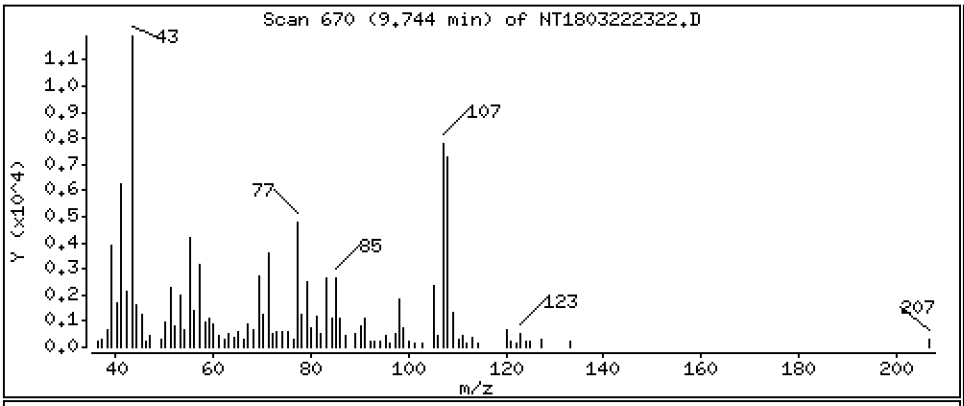
Operator: VTS

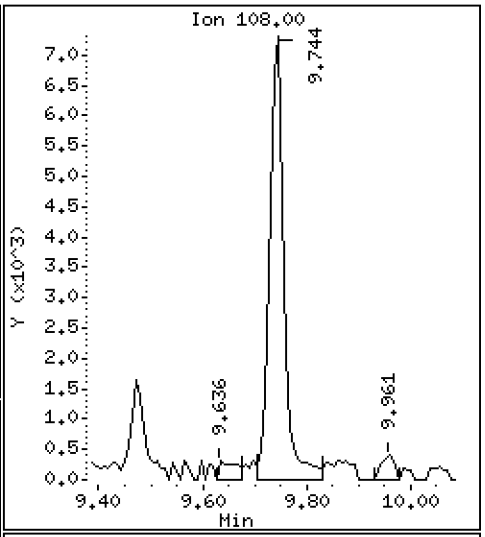
Column phase: ZB-5msi

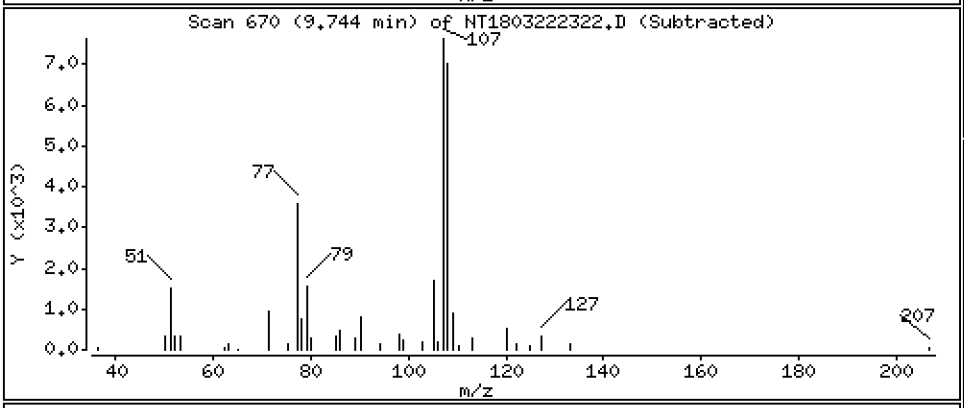
Column diameter: 0.25

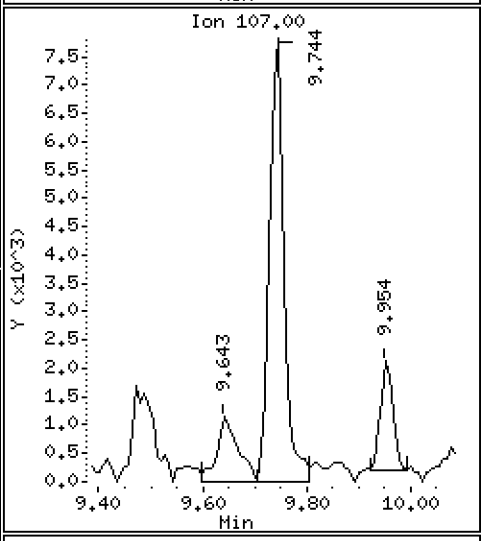
15 4-Methylphenol

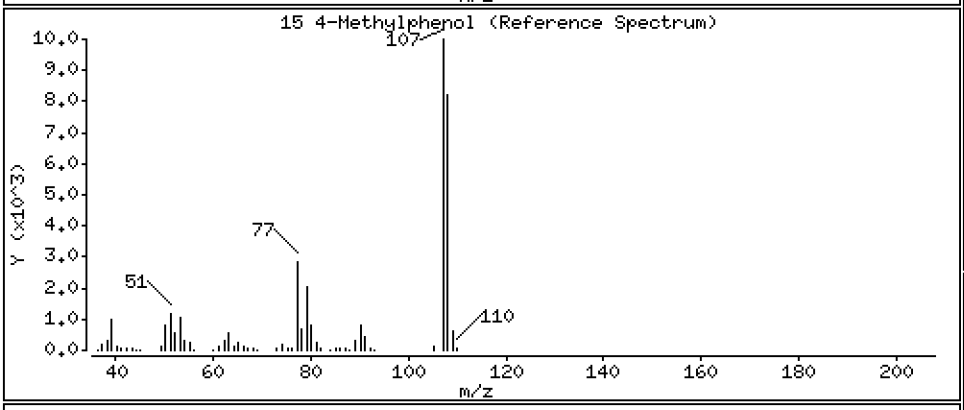
Concentration: 0.1397 ug/mL

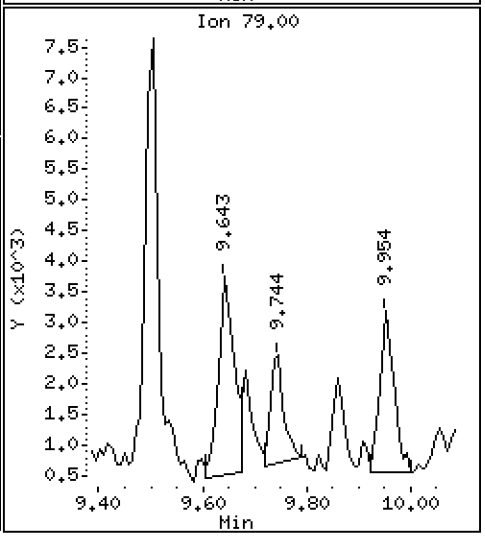


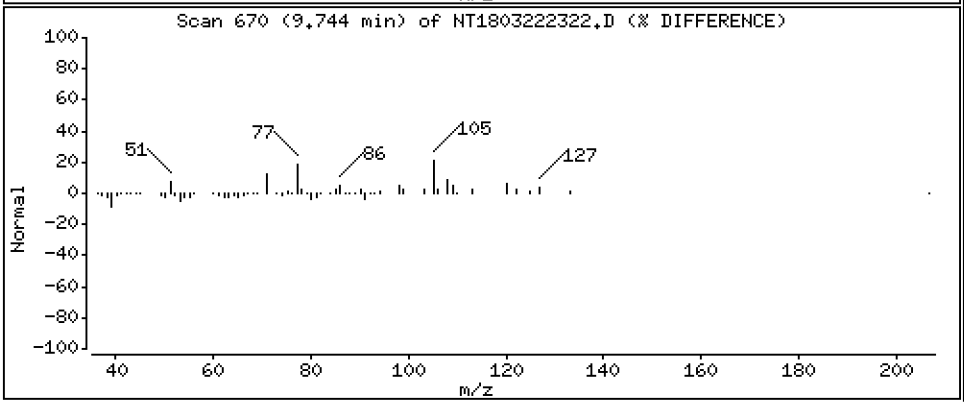












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Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

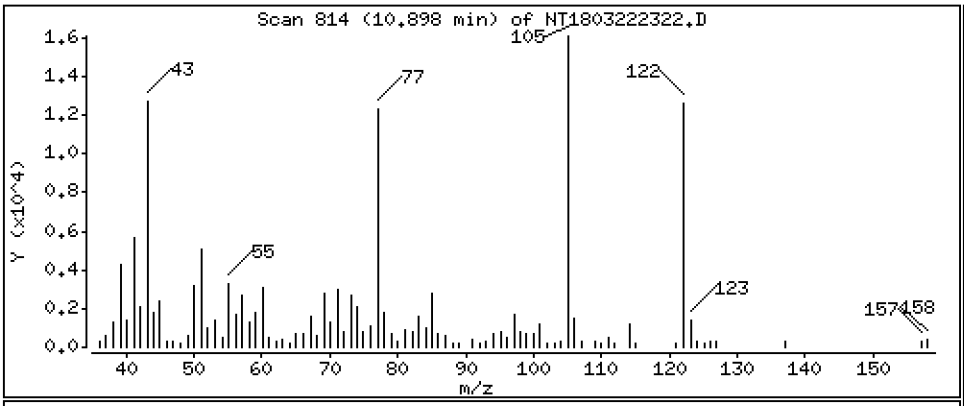
Operator: VTS

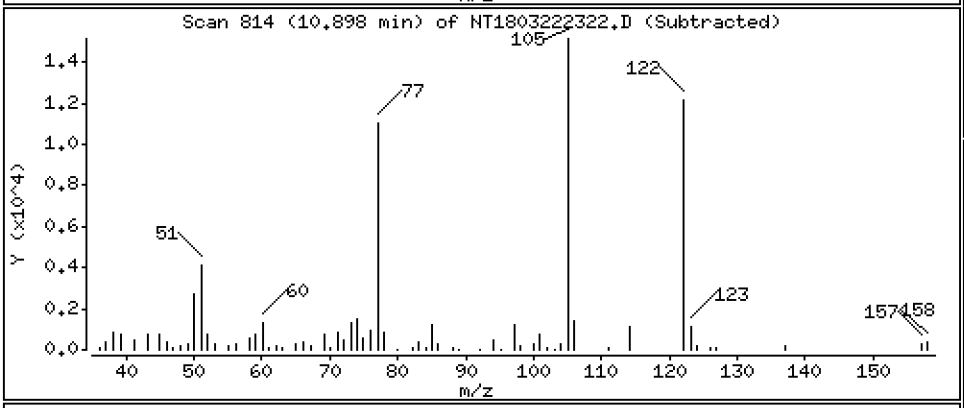
Column phase: ZB-5msi

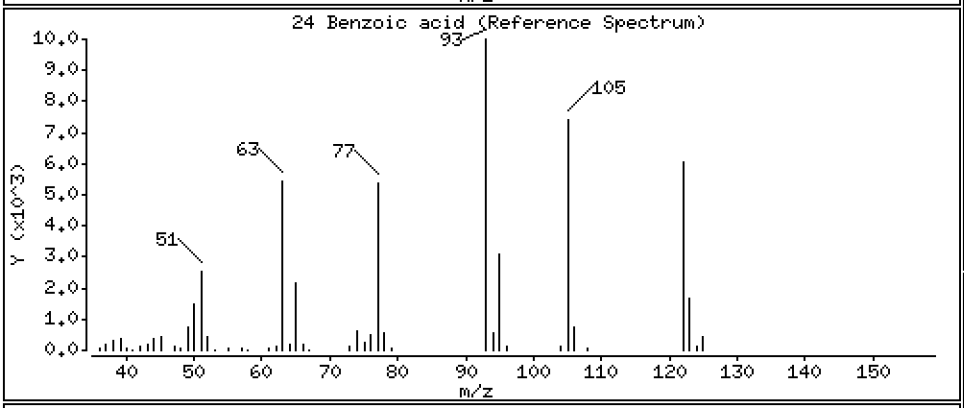
Column diameter: 0.25

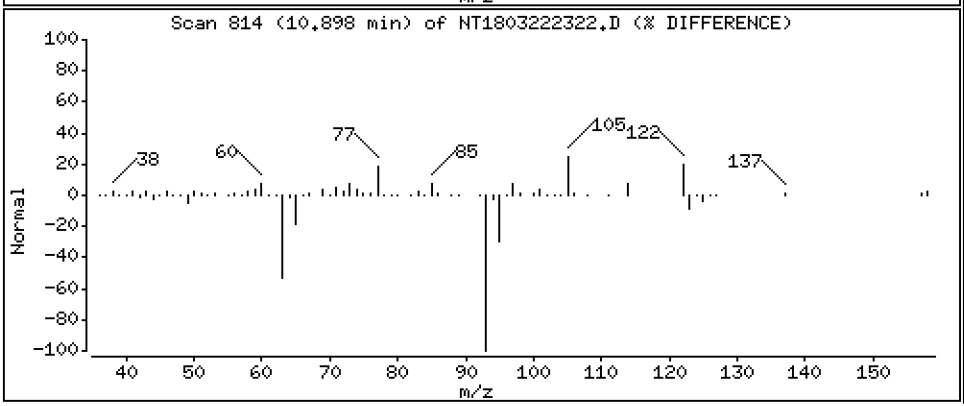
24 Benzoic acid

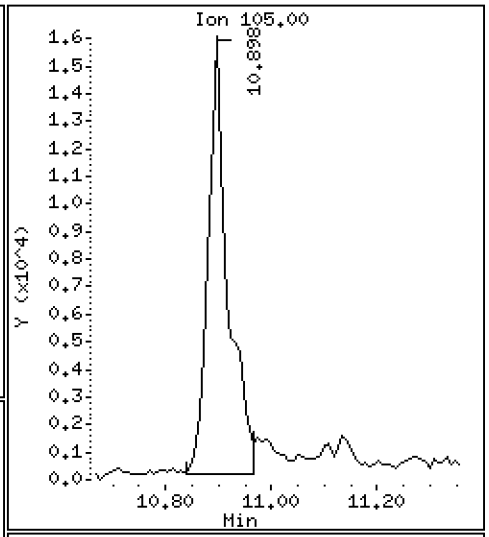
Concentration: 0.6481 ug/mL

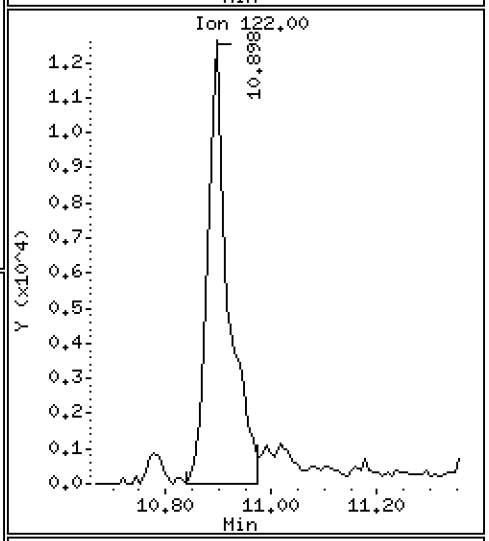


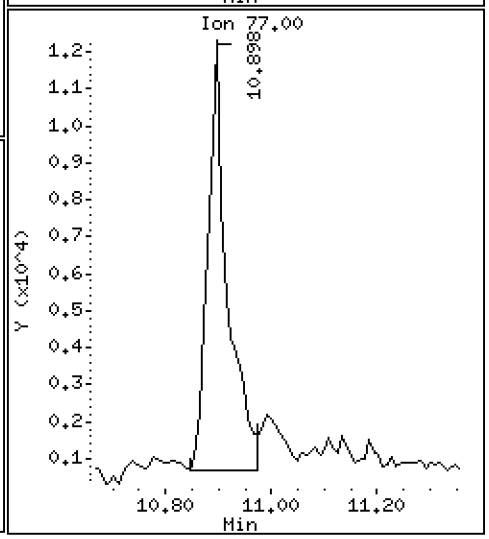












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Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

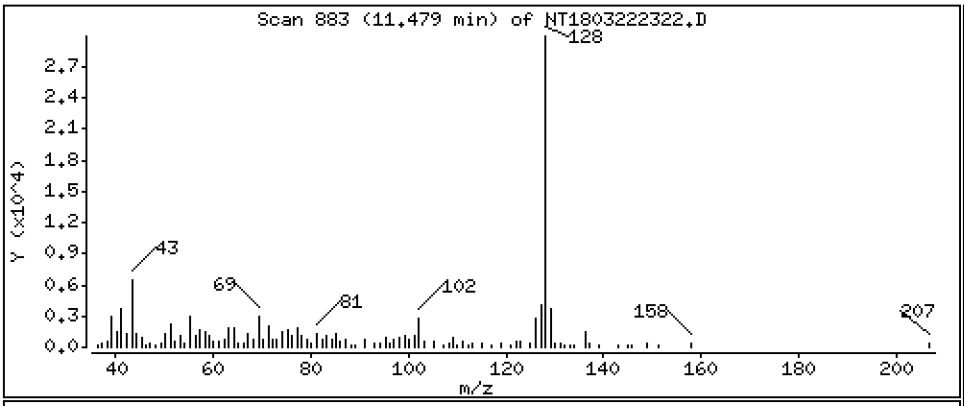
Operator: VTS

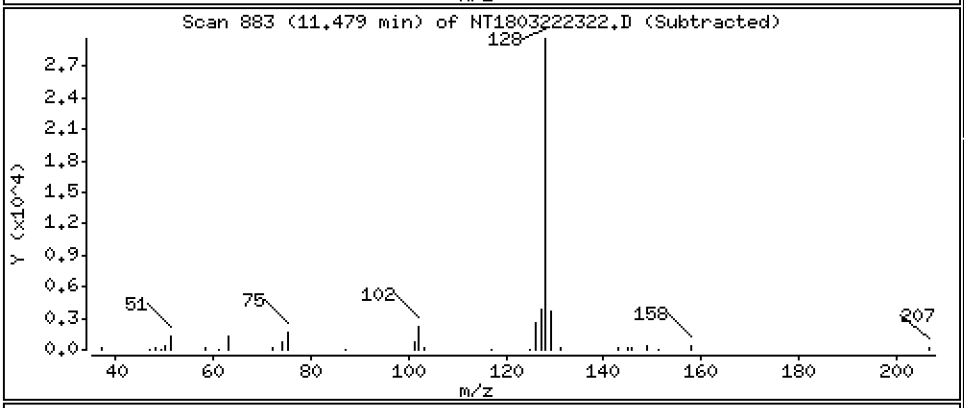
Column phase: ZB-5msi

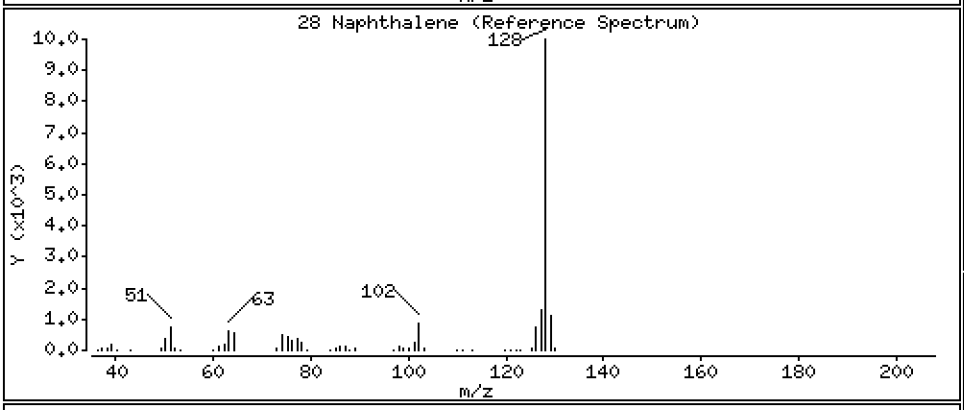
Column diameter: 0.25

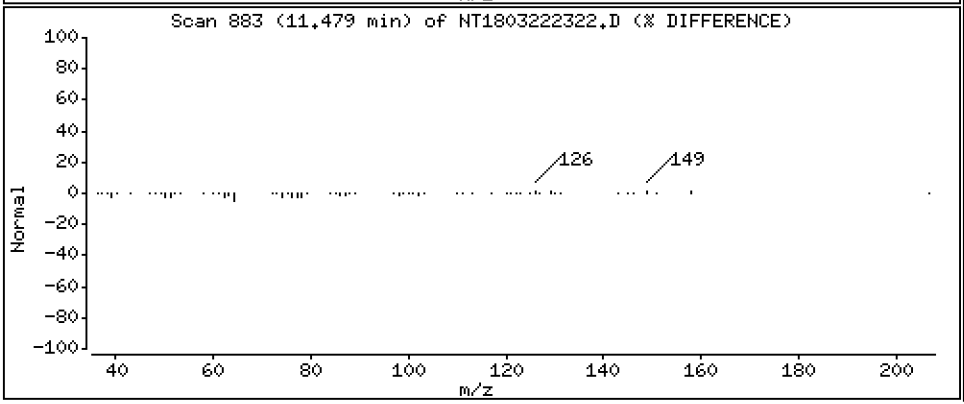
28 Naphthalene

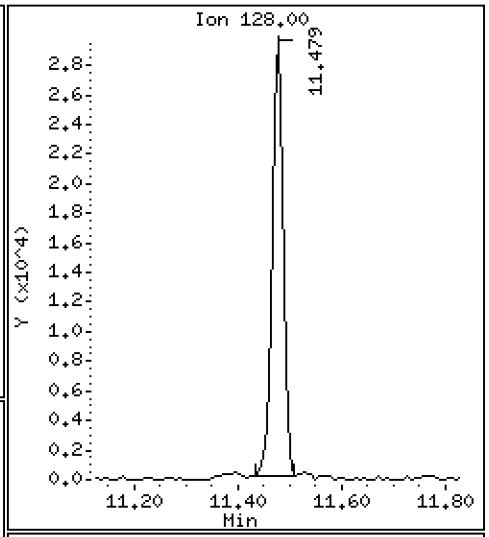
Concentration: 0.1512 ug/mL

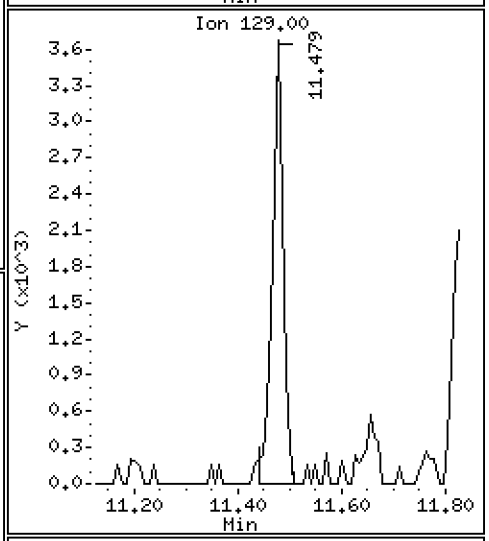


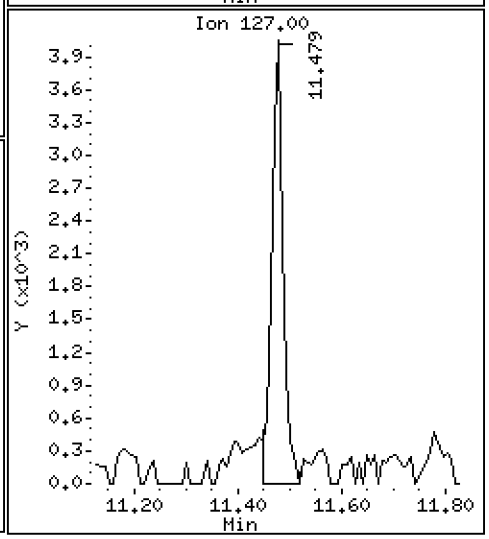












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222322.D

Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

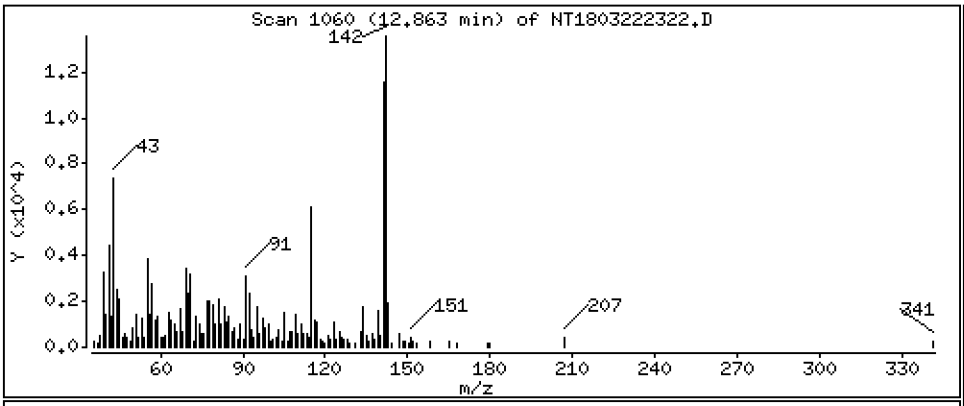
Operator: VTS

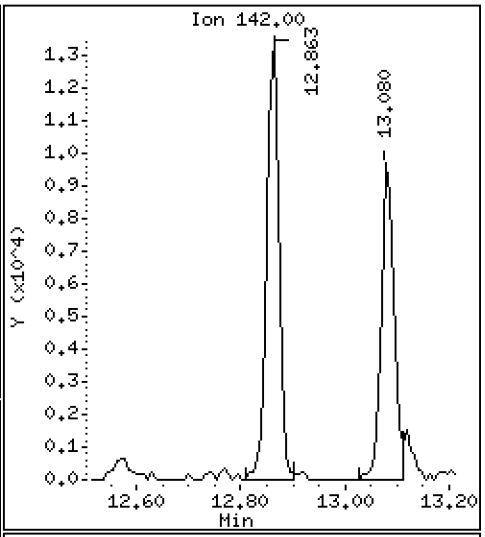
Column phase: ZB-5msi

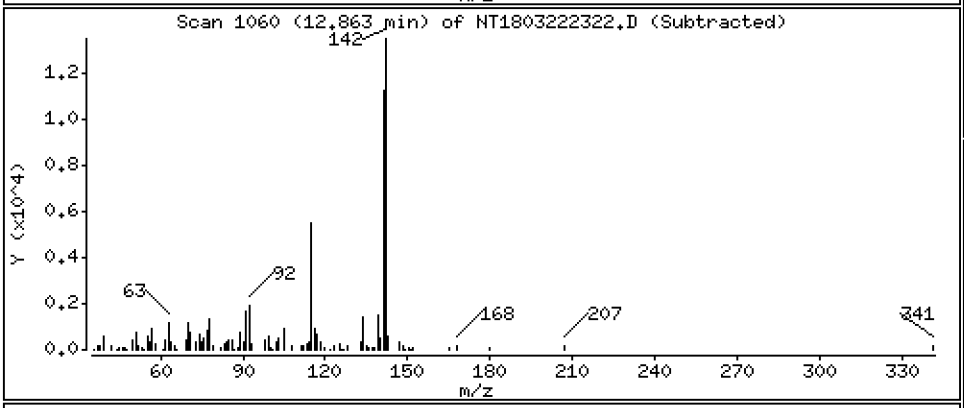
Column diameter: 0.25

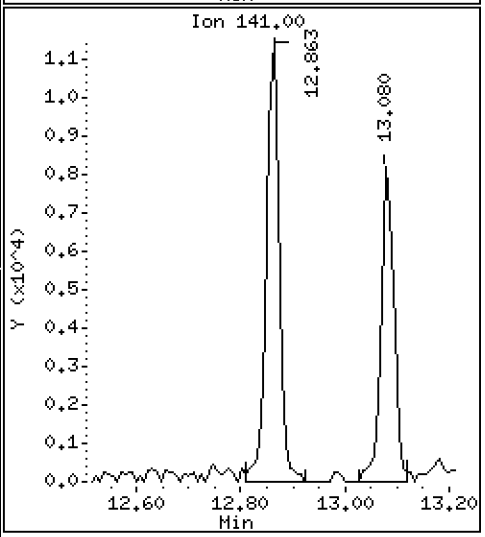
32 2-Methylnaphthalene

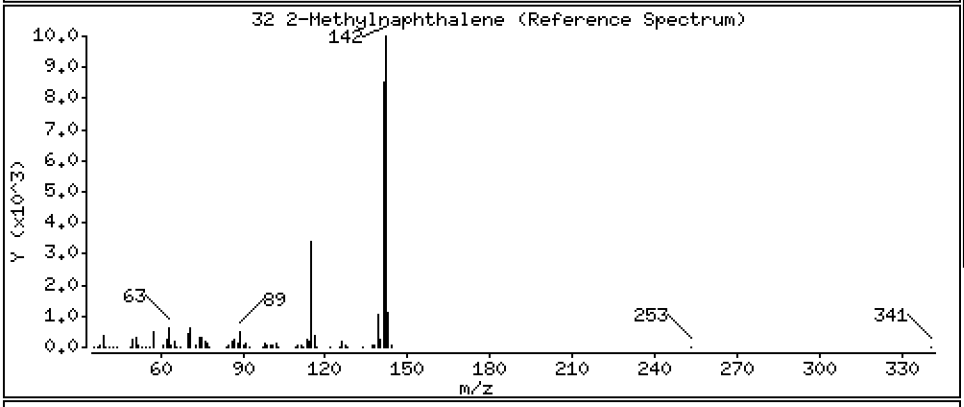
Concentration: 0.1050 ug/mL

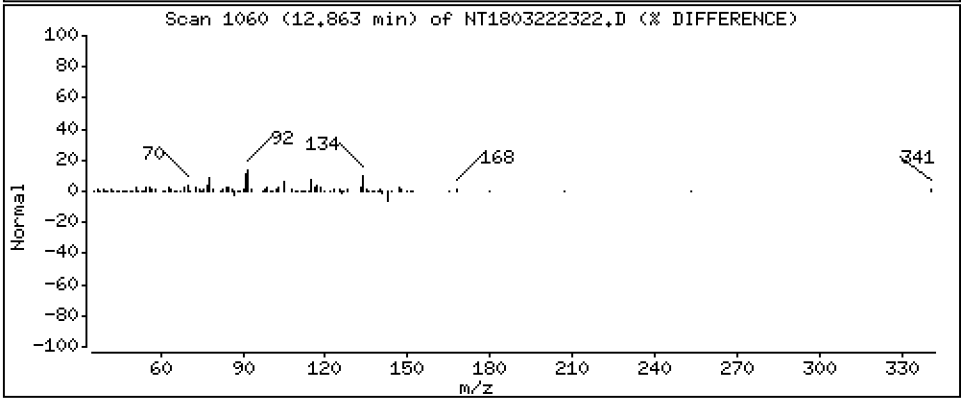












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222322.D

Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

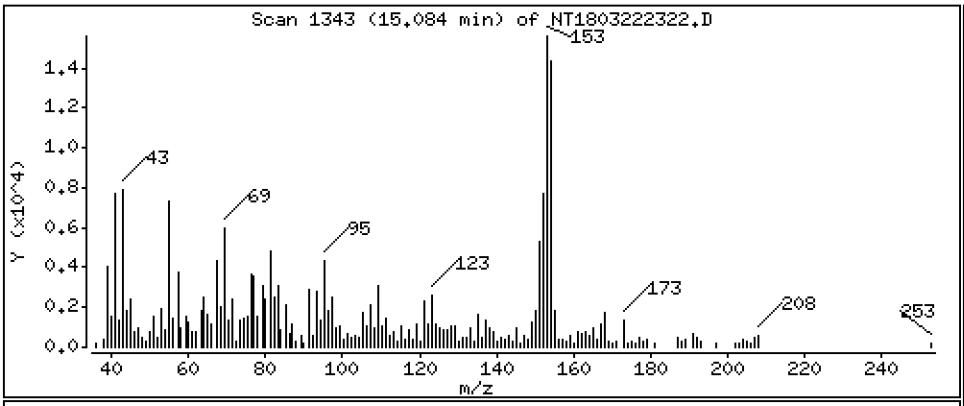
Operator: VTS

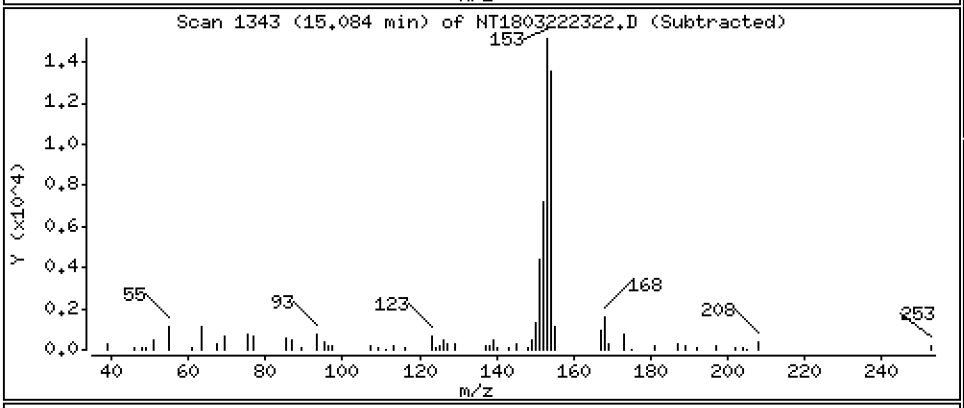
Column phase: ZB-5msi

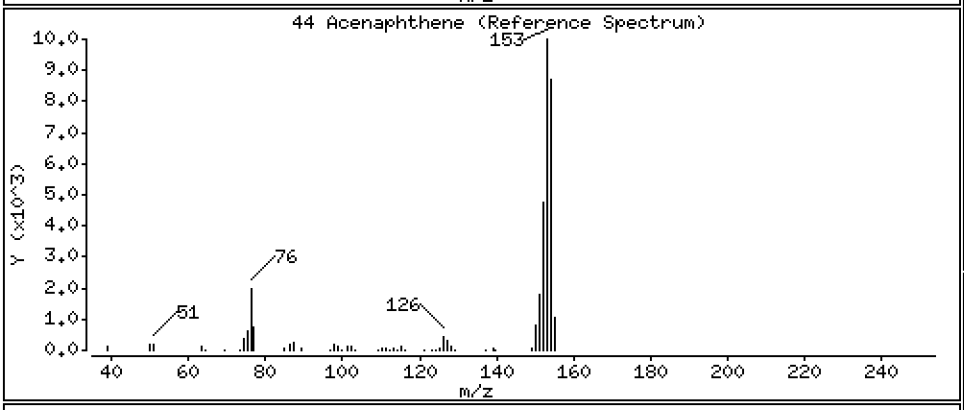
Column diameter: 0.25

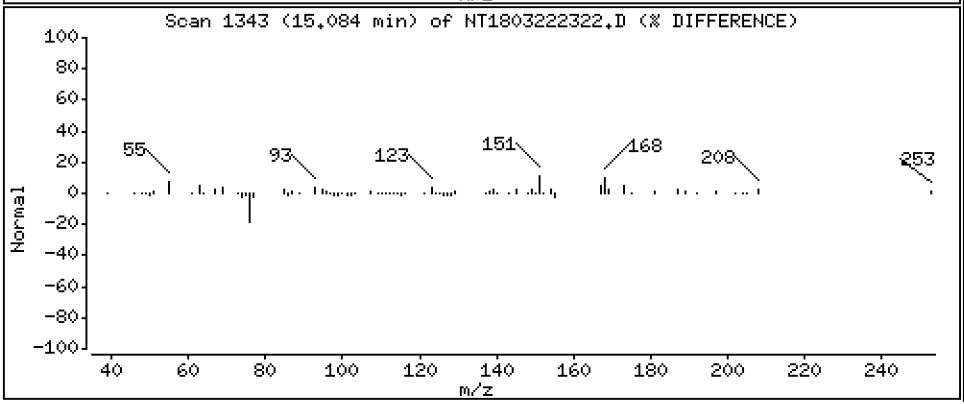
44 Acenaphthene

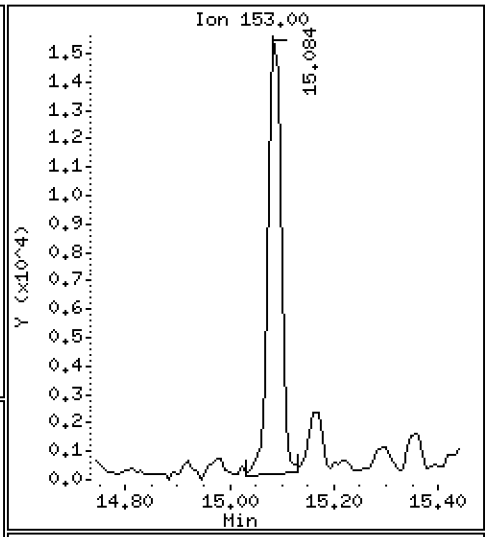
Concentration: 0.1420 ug/mL

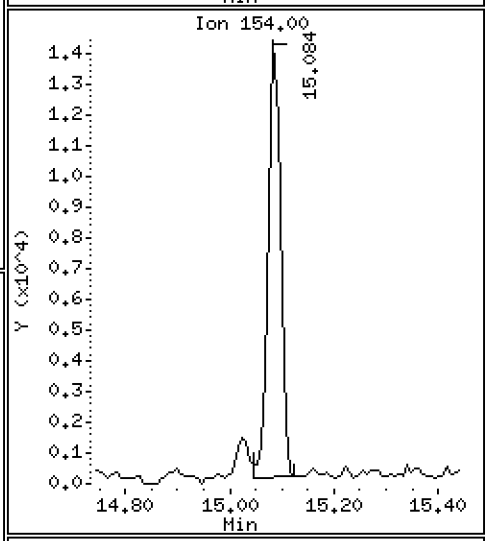


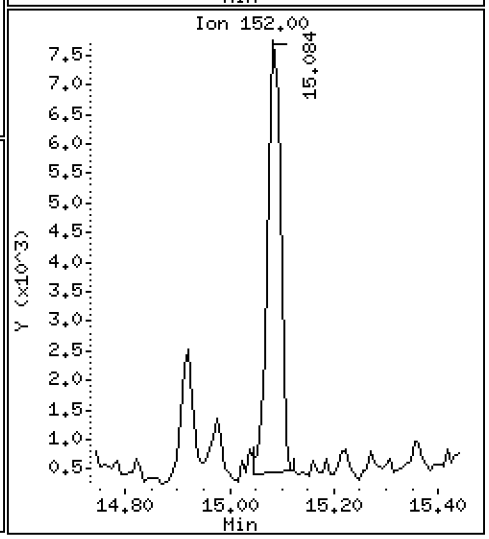












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Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

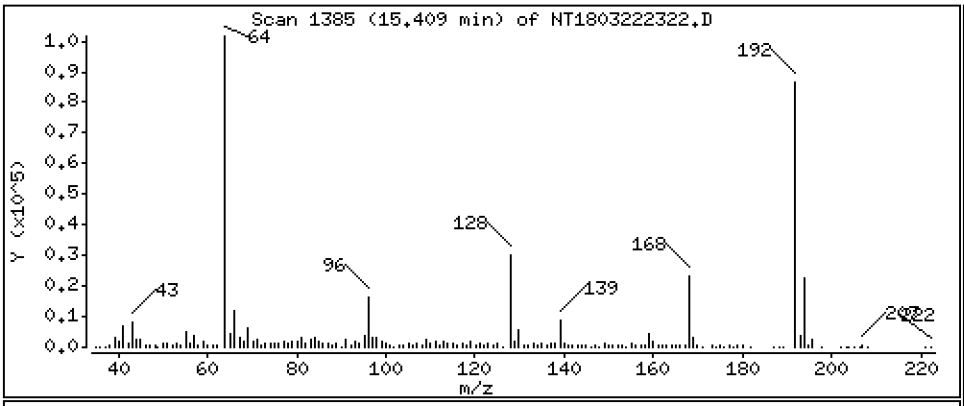
Operator: VTS

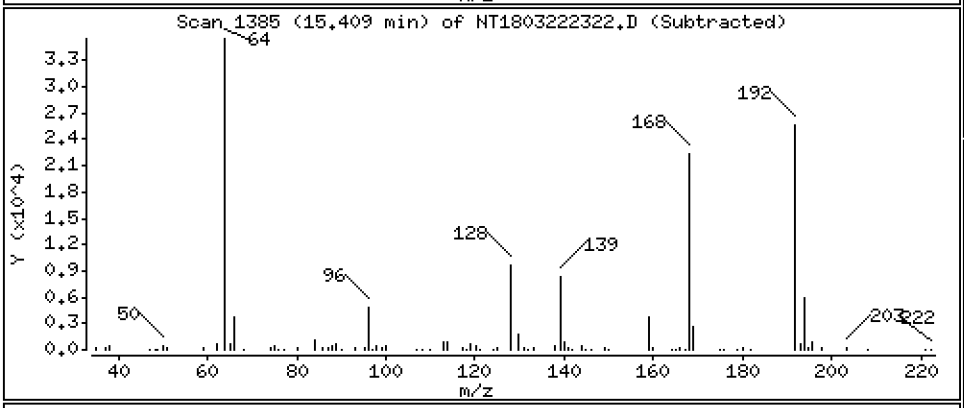
Column phase: ZB-5msi

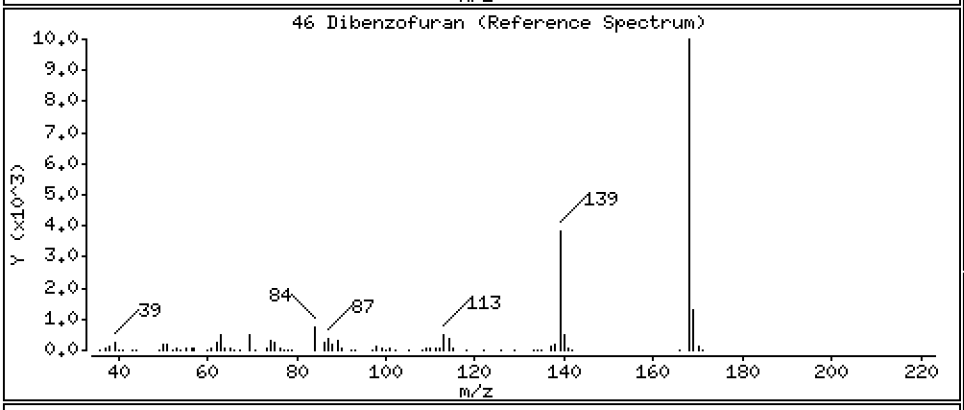
Column diameter: 0.25

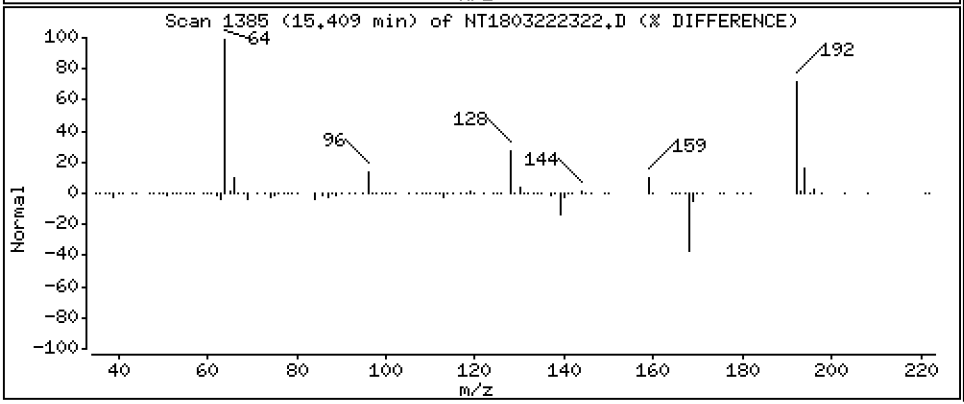
46 Dibenzofuran

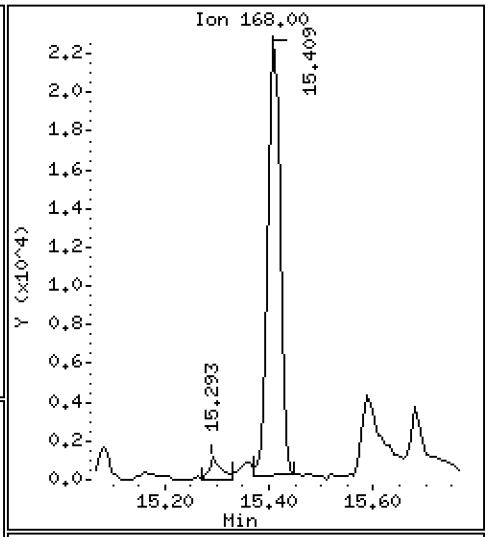
Concentration: 0.1413 ug/mL

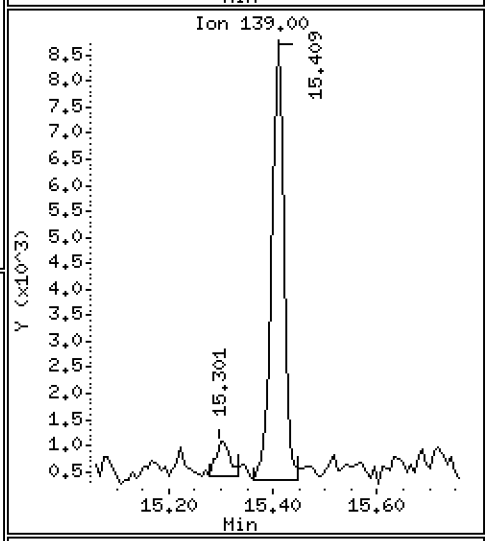


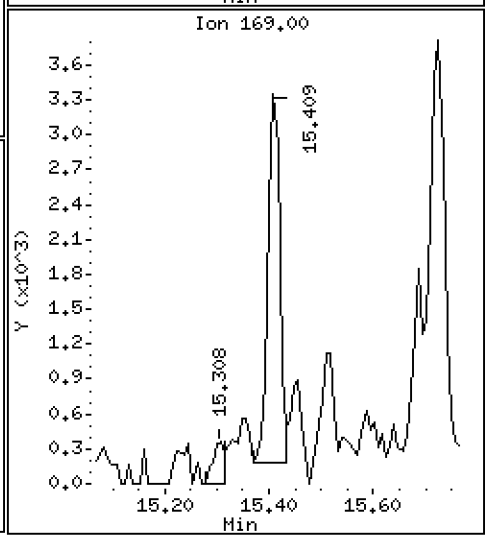












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222322.D

Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

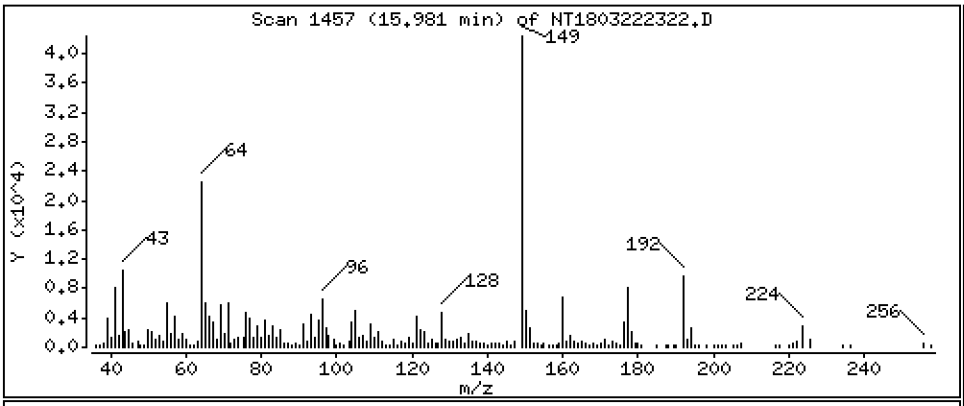
Operator: VTS

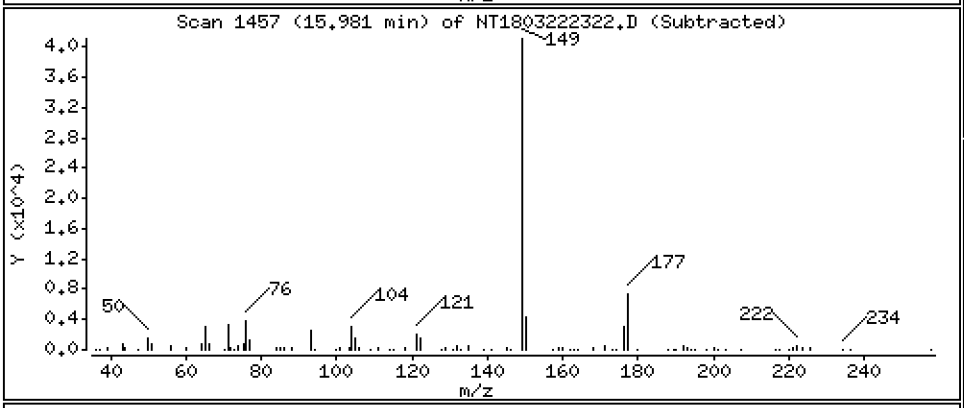
Column phase: ZB-5msi

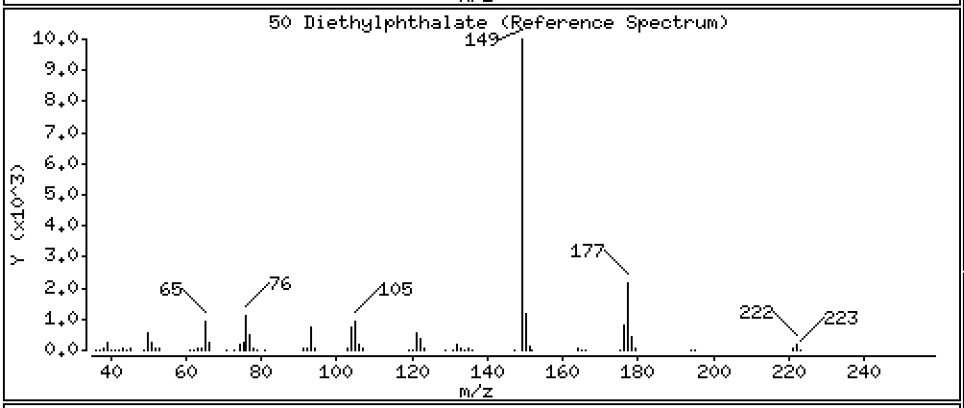
Column diameter: 0.25

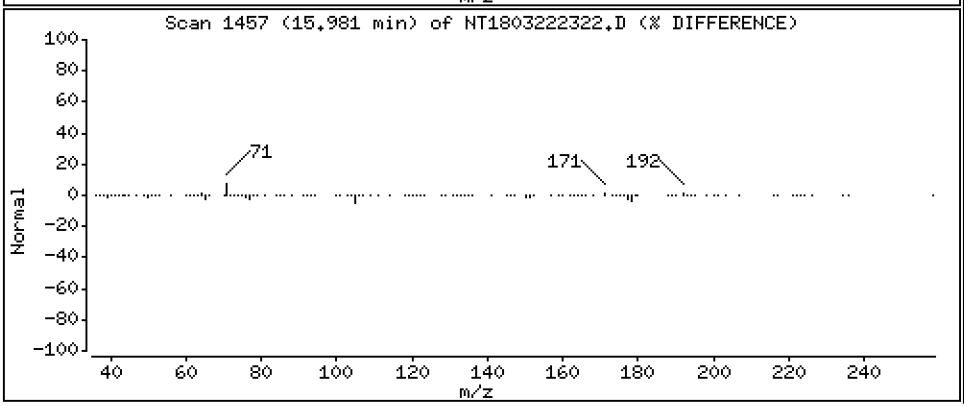
50 Diethylphthalate

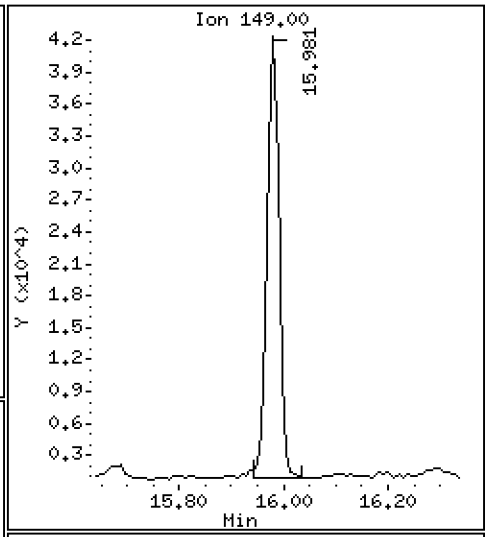
Concentration: 0.3574 ug/mL

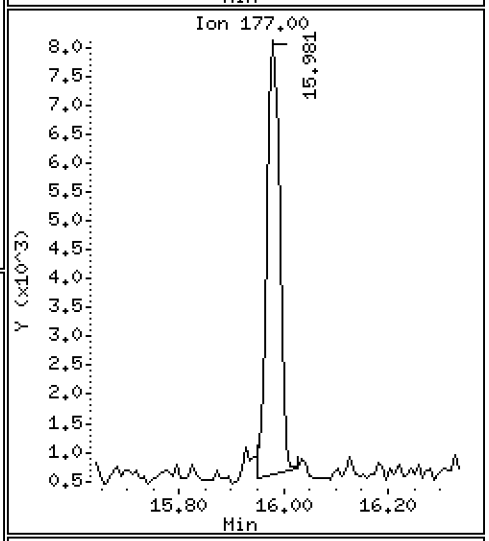


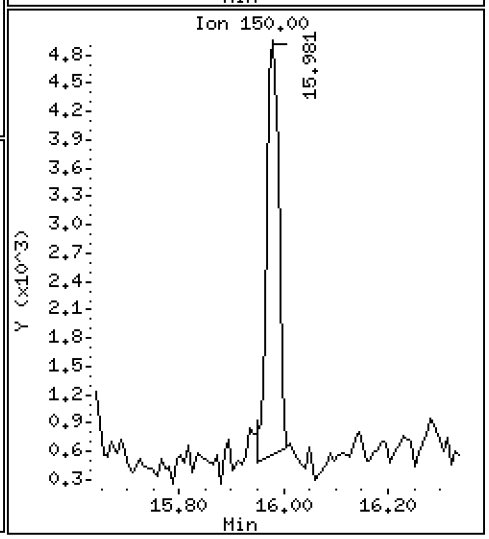












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Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

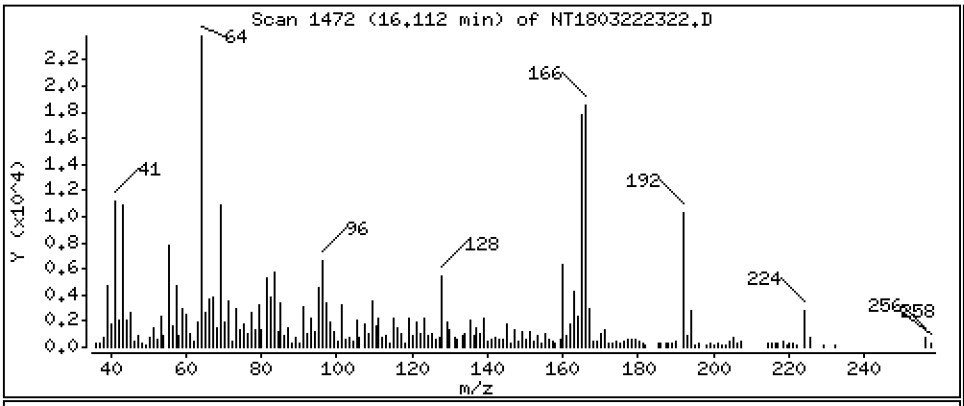
Operator: VTS

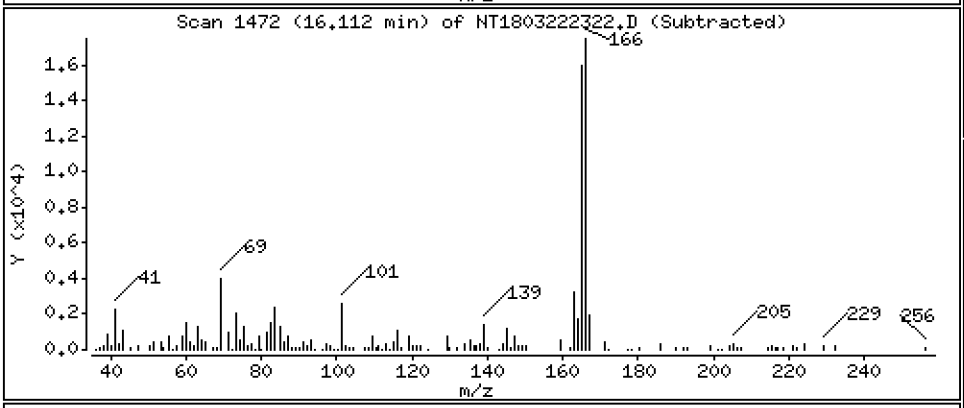
Column phase: ZB-5msi

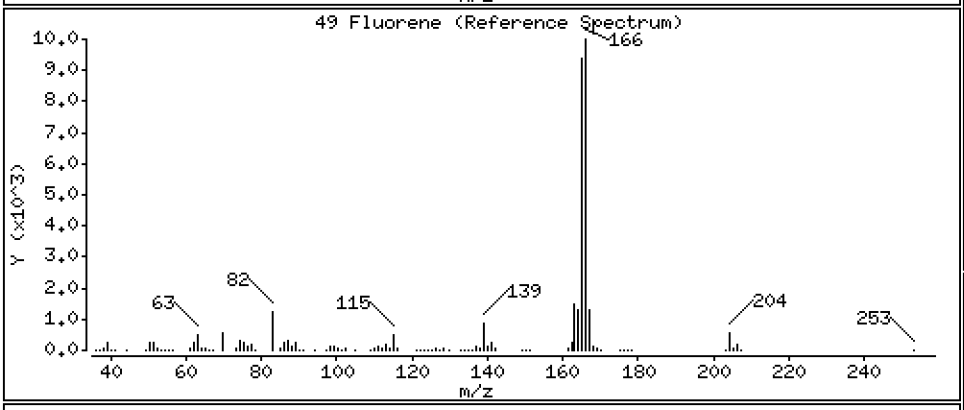
Column diameter: 0.25

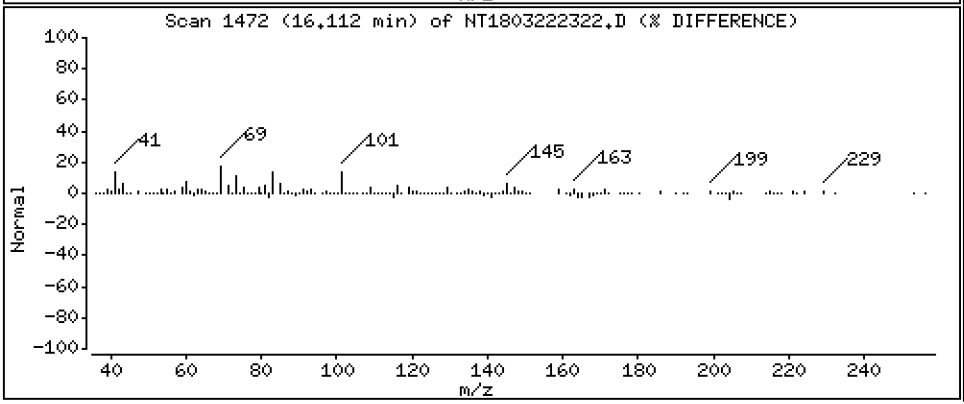
49 Fluorene

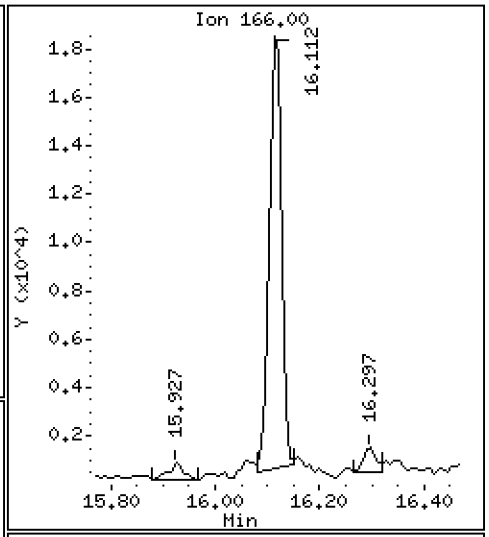
Concentration: 0.1246 ug/mL

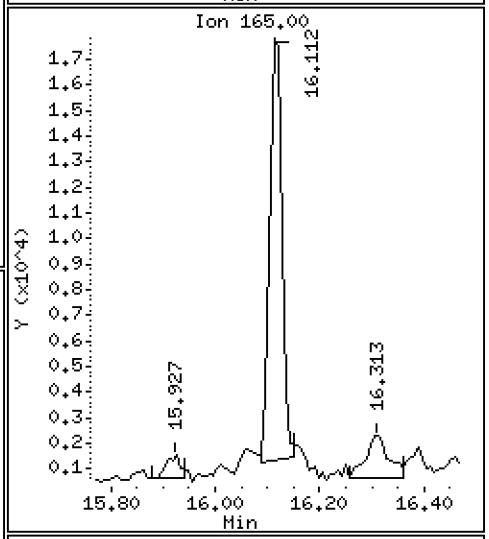


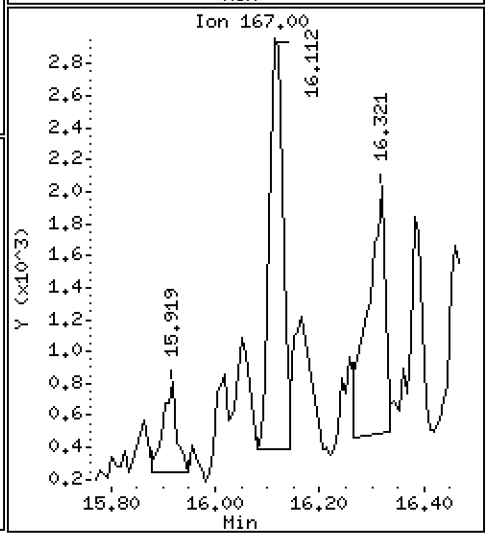












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Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

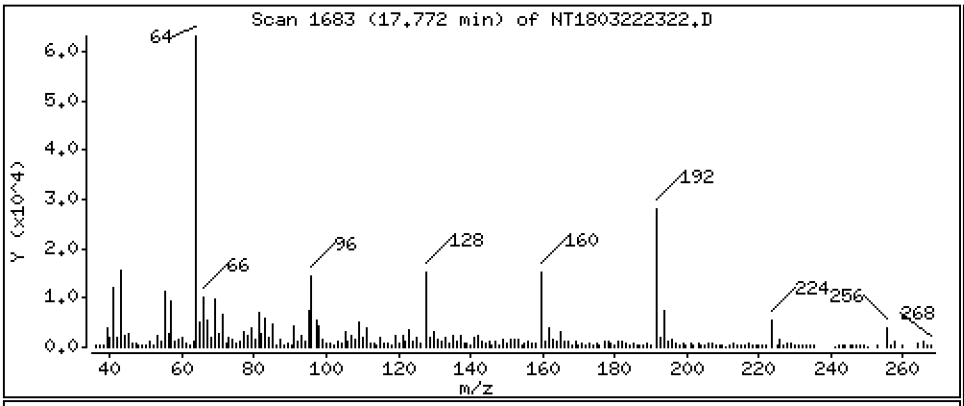
Operator: VTS

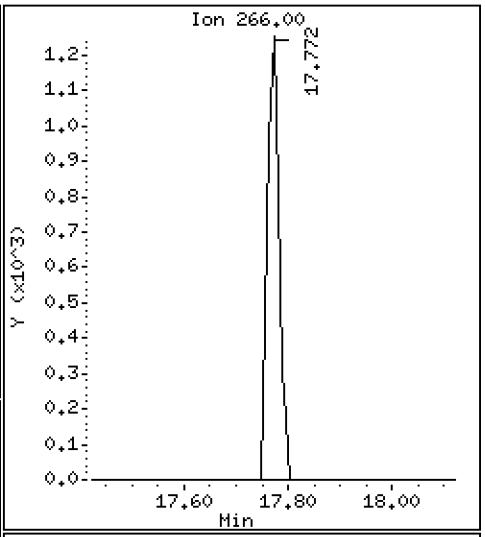
Column phase: ZB-5msi

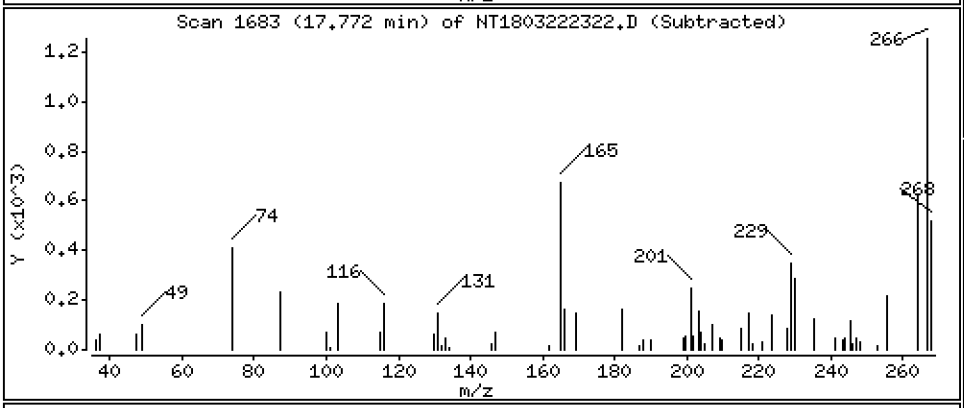
Column diameter: 0.25

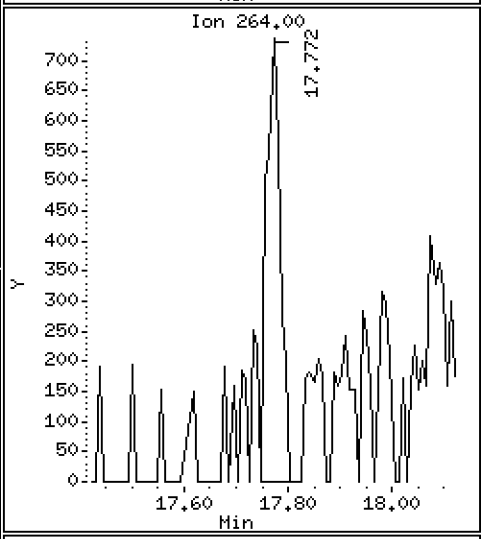
58 Pentachlorophenol

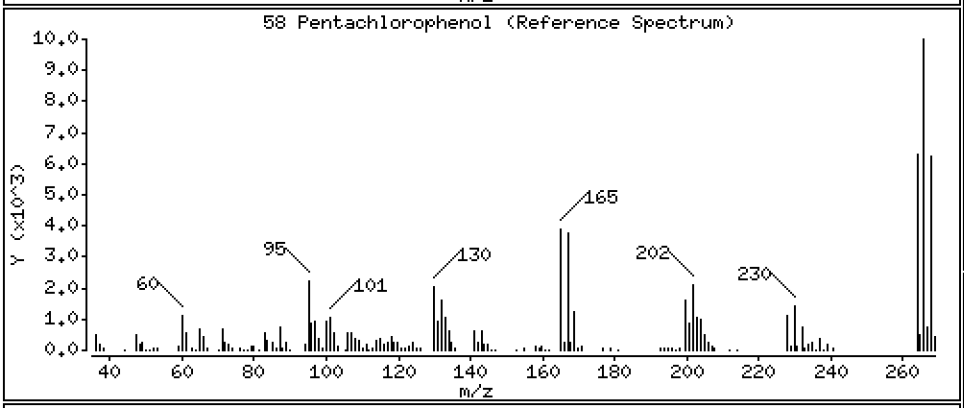
Concentration: 0.05406 ug/mL

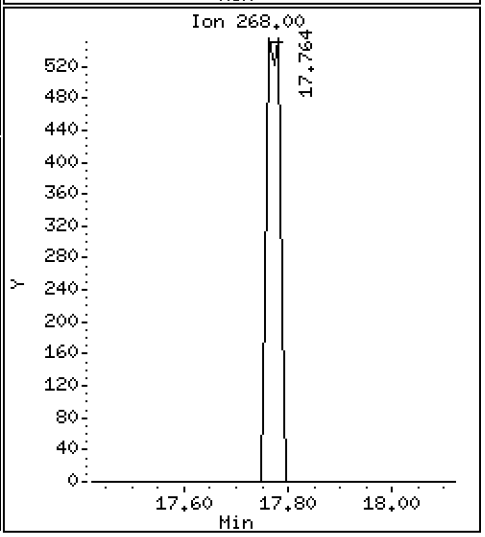


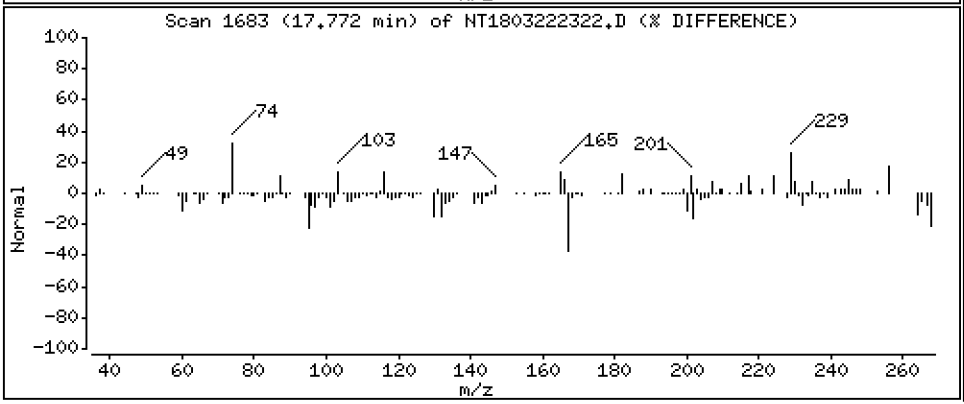












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Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

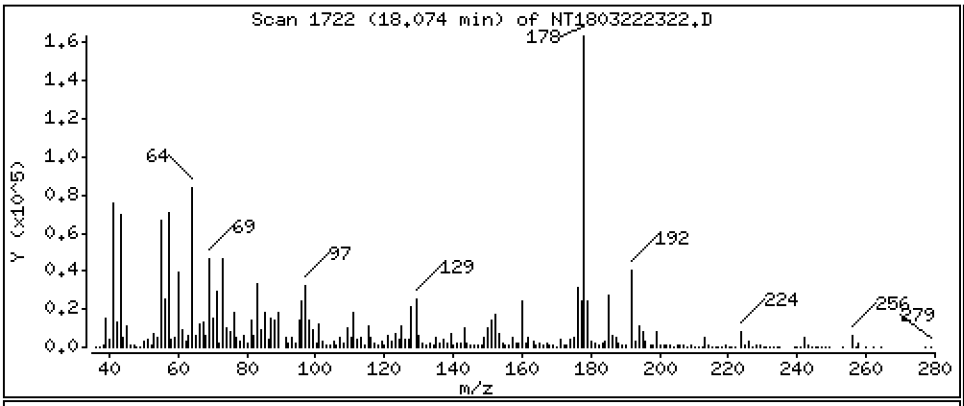
Operator: VTS

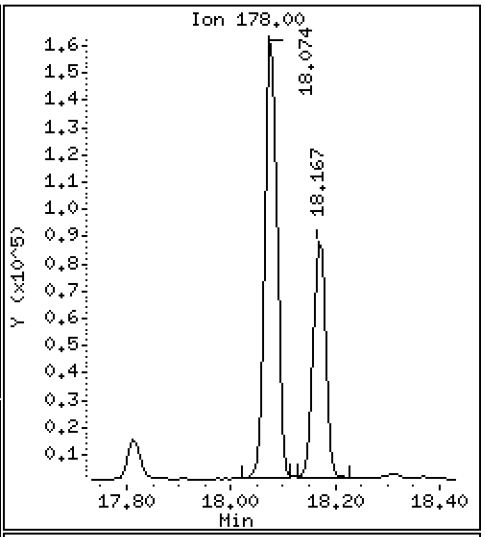
Column phase: ZB-5msi

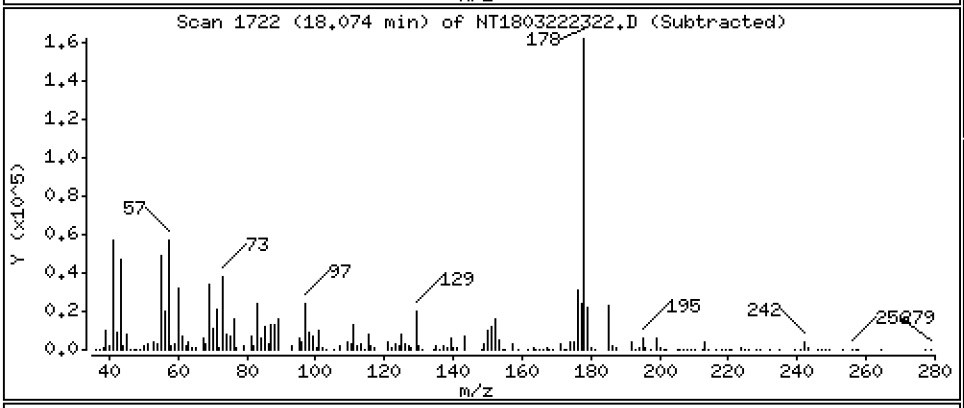
Column diameter: 0.25

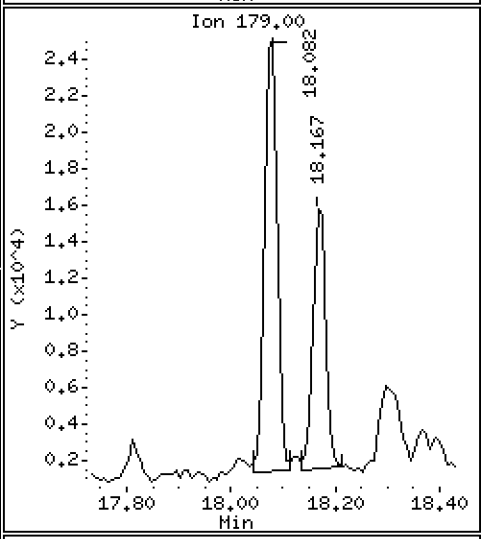
60 Phenanthrene

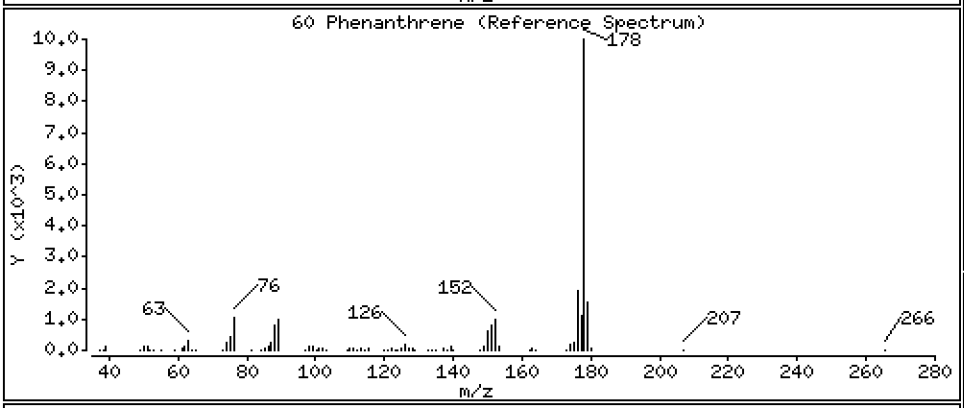
Concentration: 0.9125 ug/mL

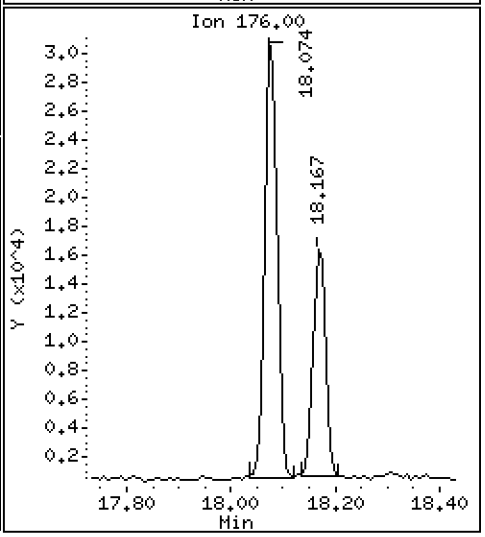


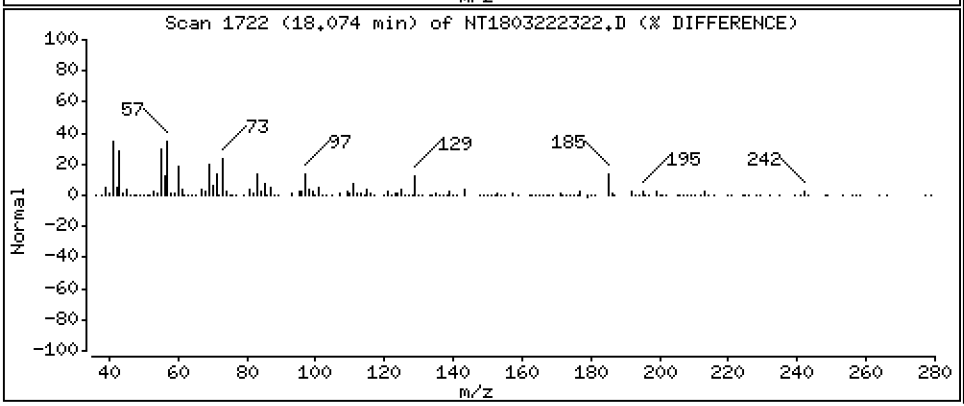












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222322.D

Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

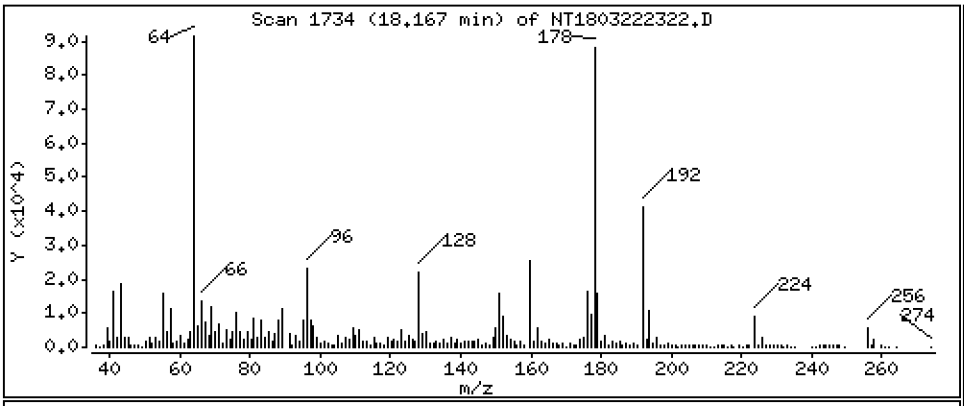
Operator: VTS

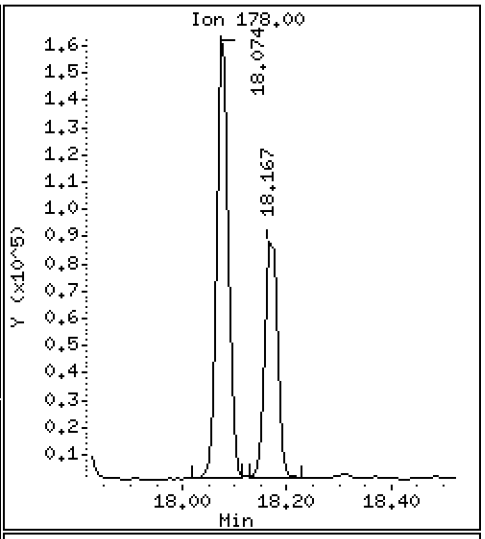
Column phase: ZB-5msi

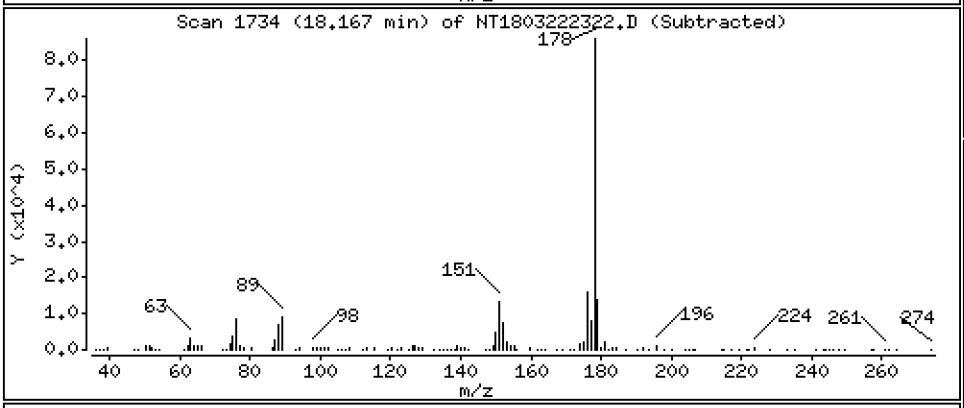
Column diameter: 0.25

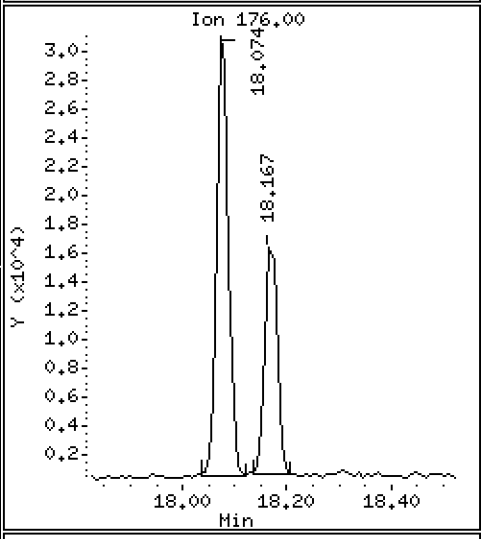
61 Anthracene

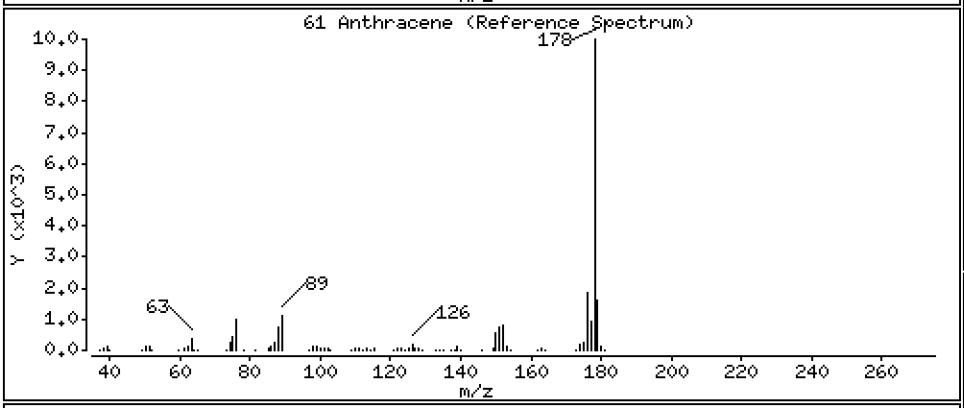
Concentration: 0.5324 ug/mL

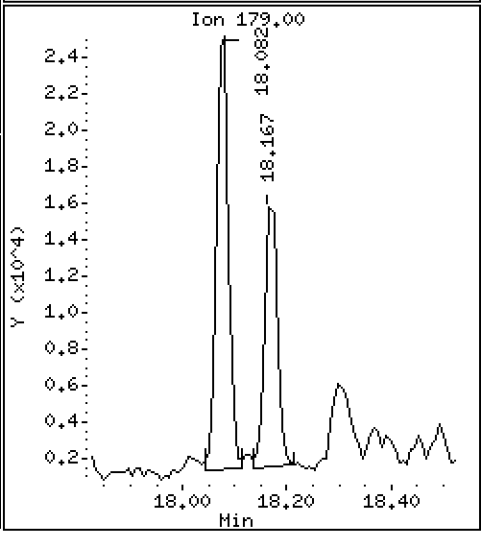


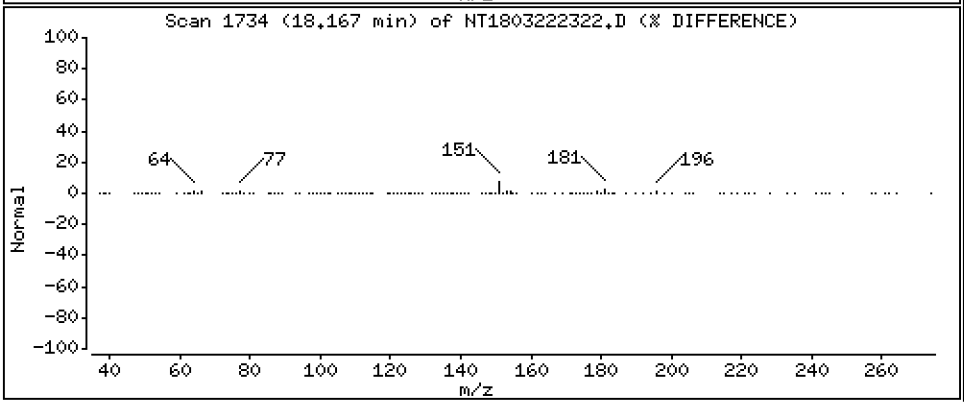












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222322.D

Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

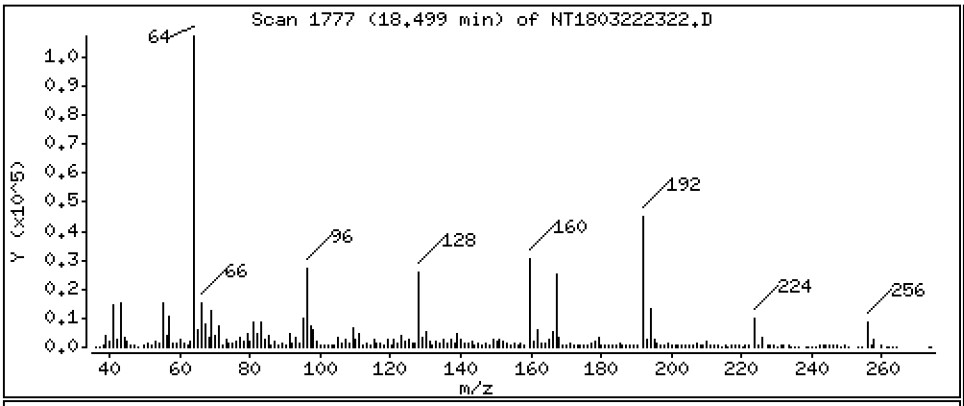
Operator: VTS

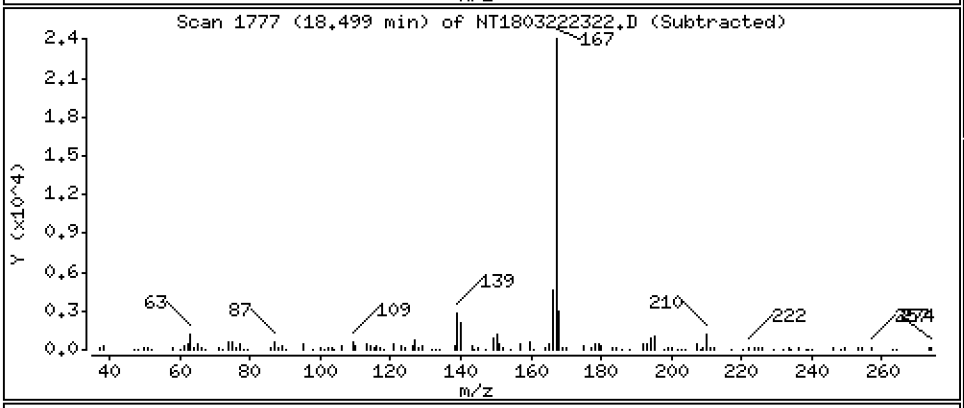
Column phase: ZB-5msi

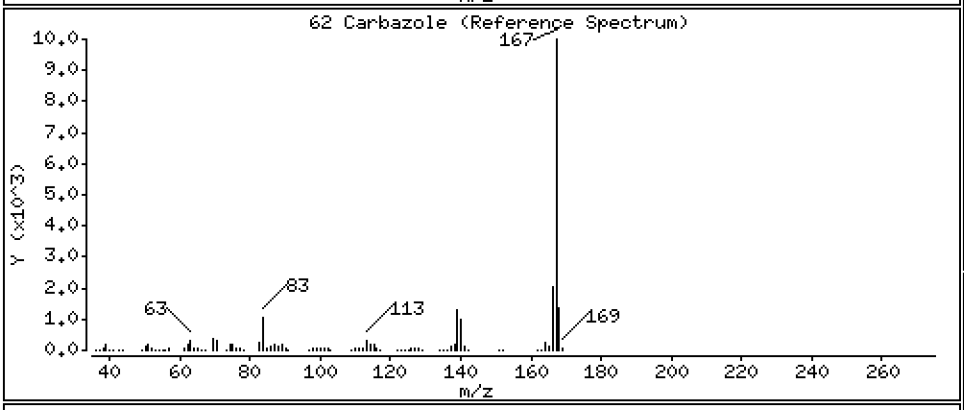
Column diameter: 0.25

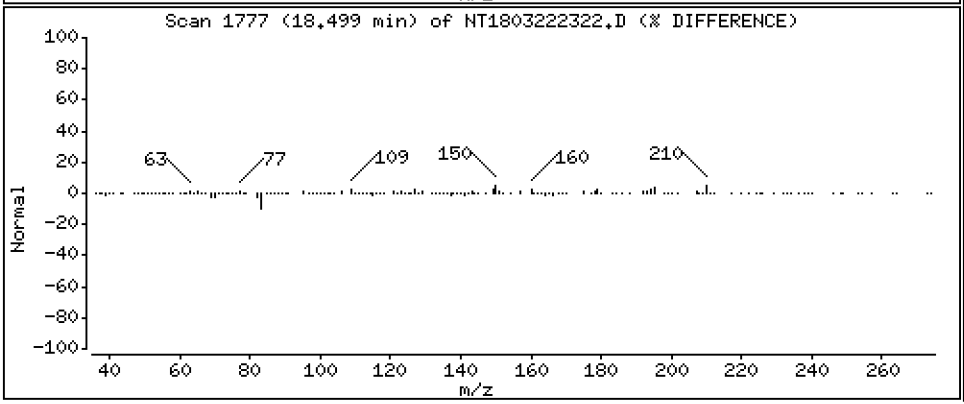
62 Carbazole

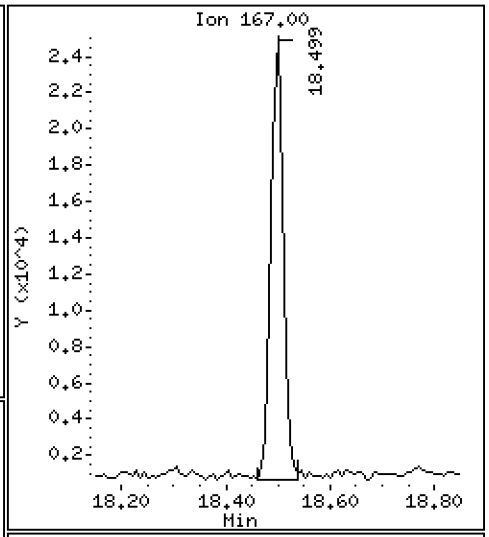
Concentration: 0.1630 ug/mL

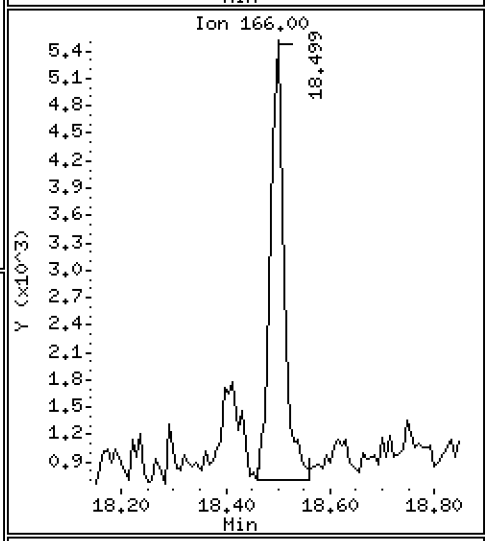


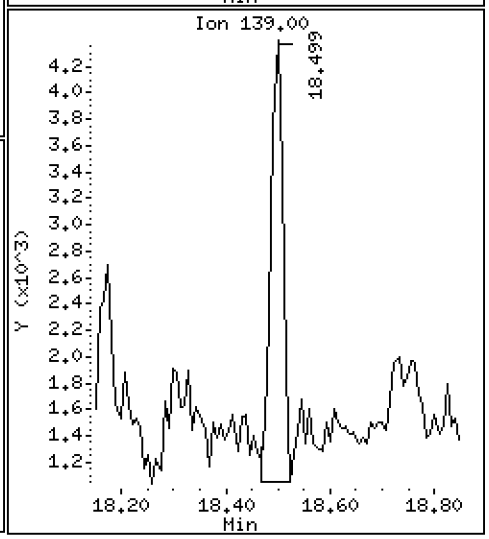












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222322.D

Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

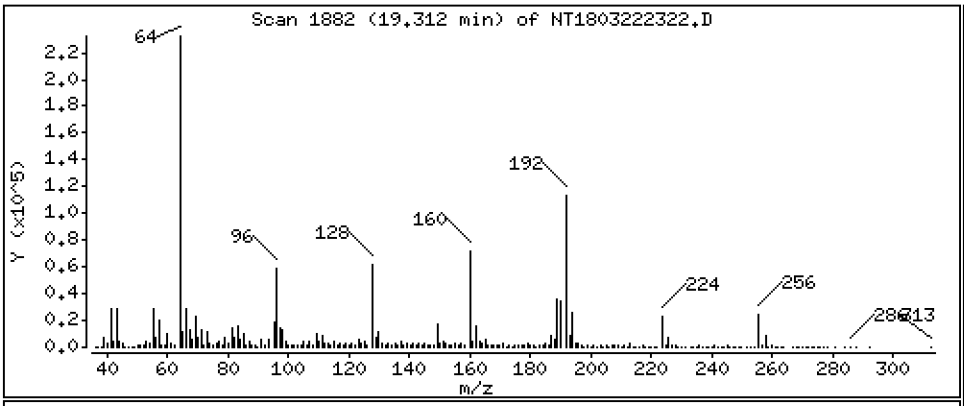
Operator: VTS

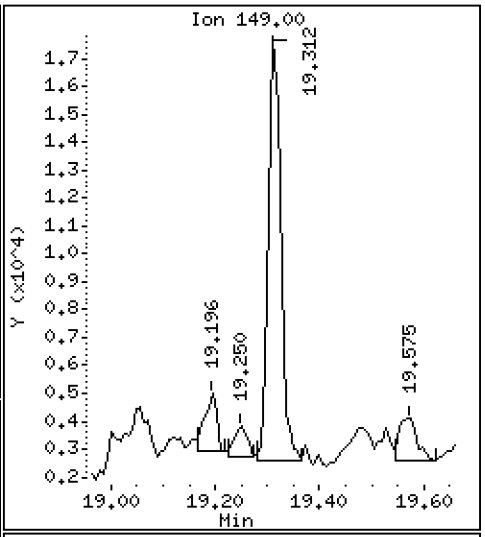
Column phase: ZB-5msi

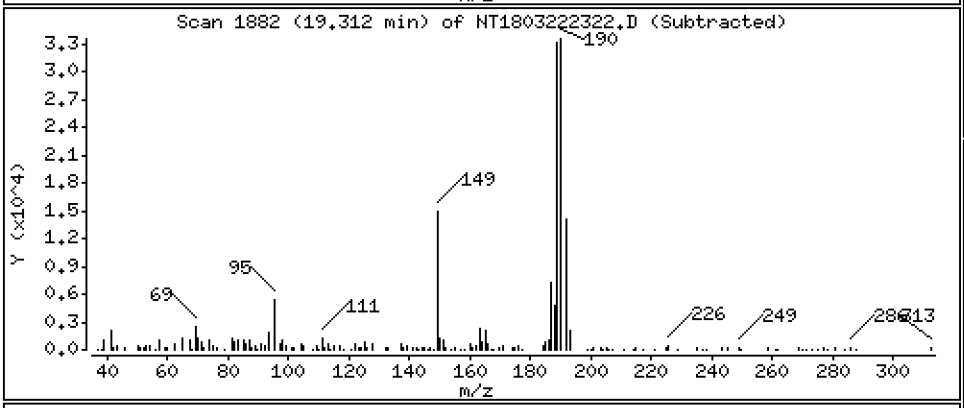
Column diameter: 0.25

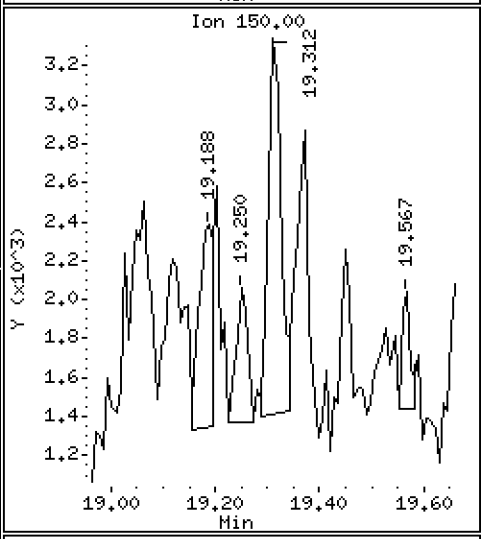
63 Di-n-butylphthalate

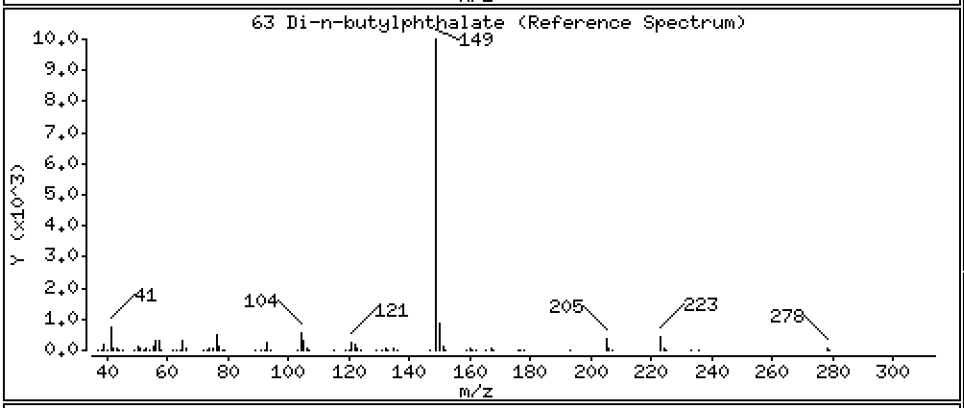
Concentration: 0.07670 ug/mL

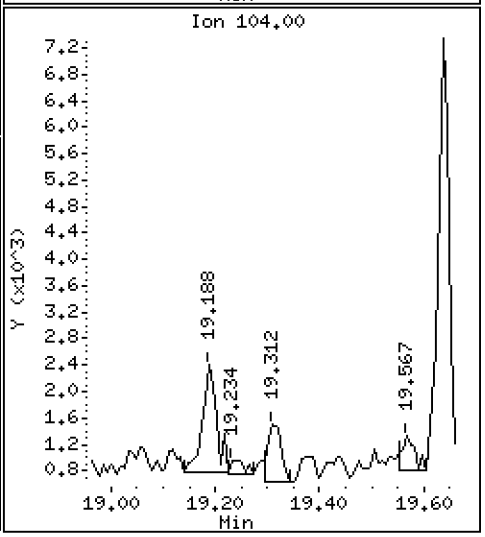


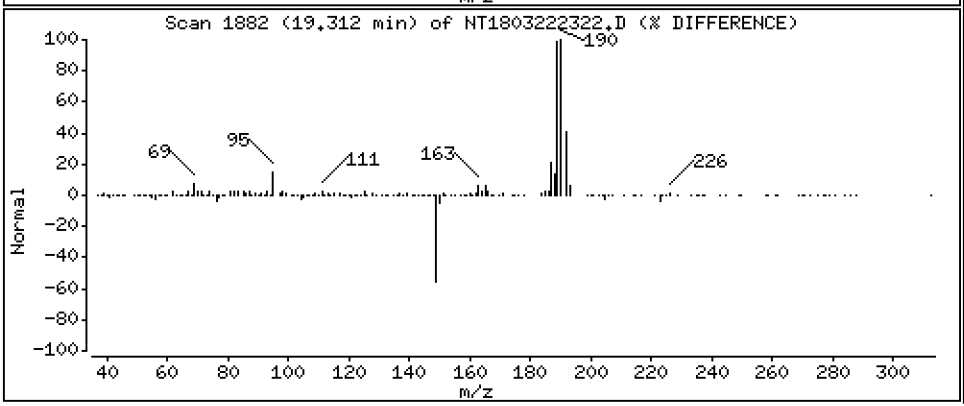












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222322.D

Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

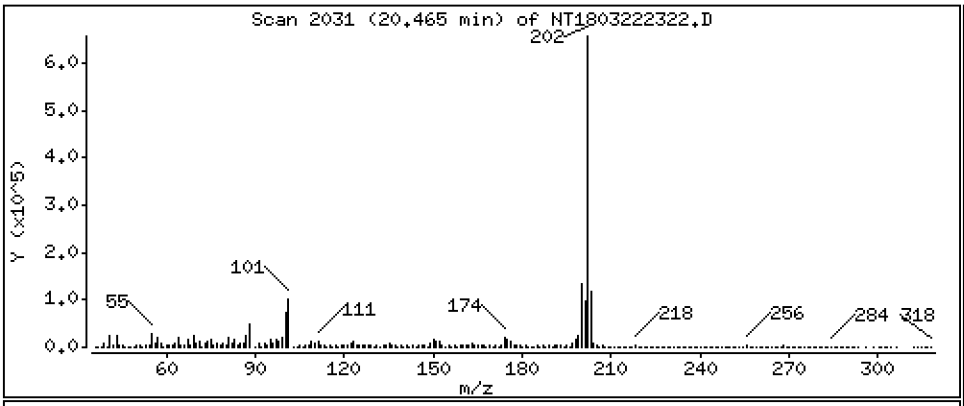
Operator: VTS

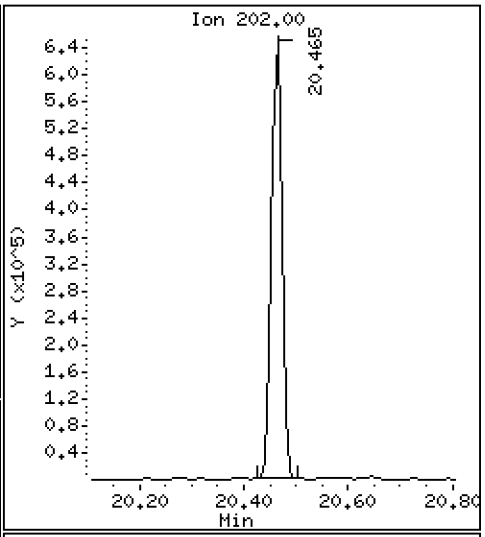
Column phase: ZB-5msi

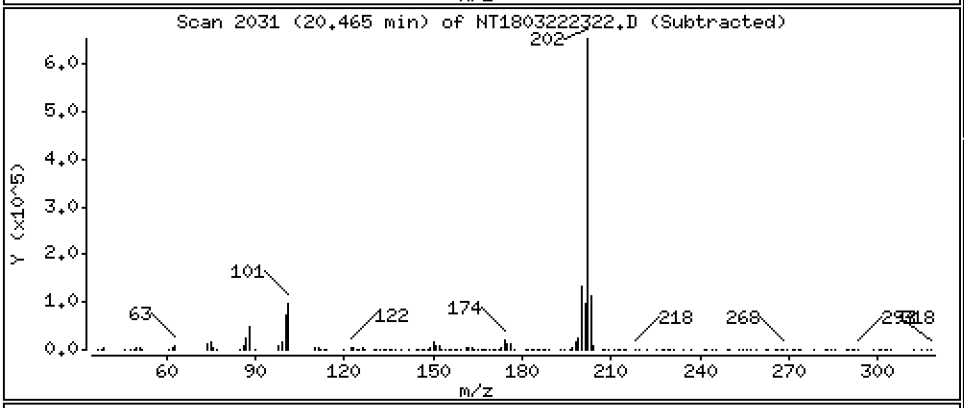
Column diameter: 0.25

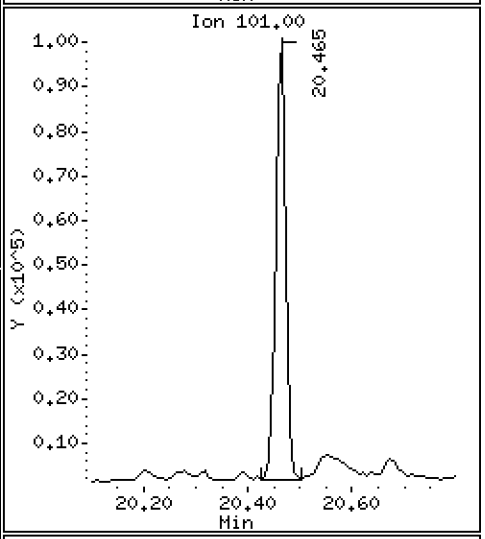
64 Fluoranthene

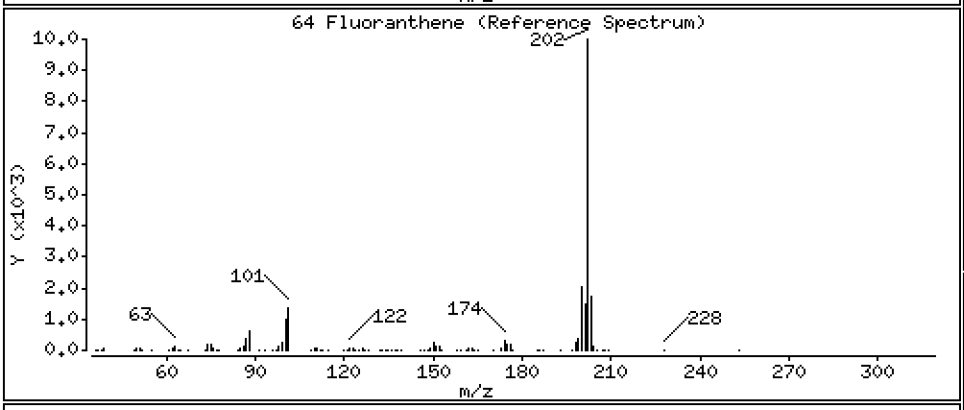
Concentration: 2.317 ug/mL

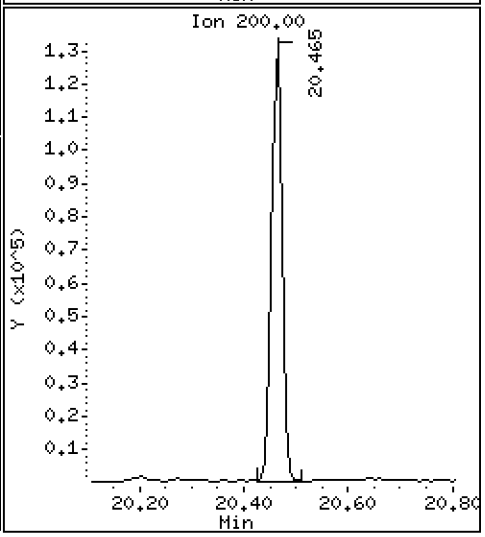


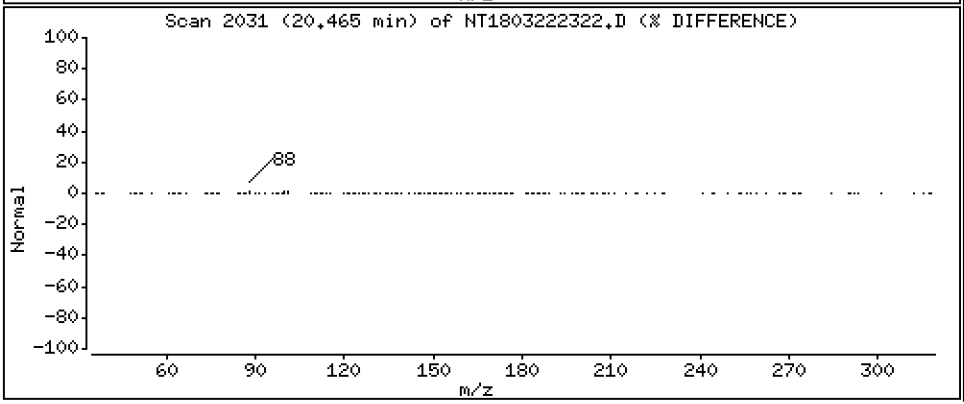












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222322.D

Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

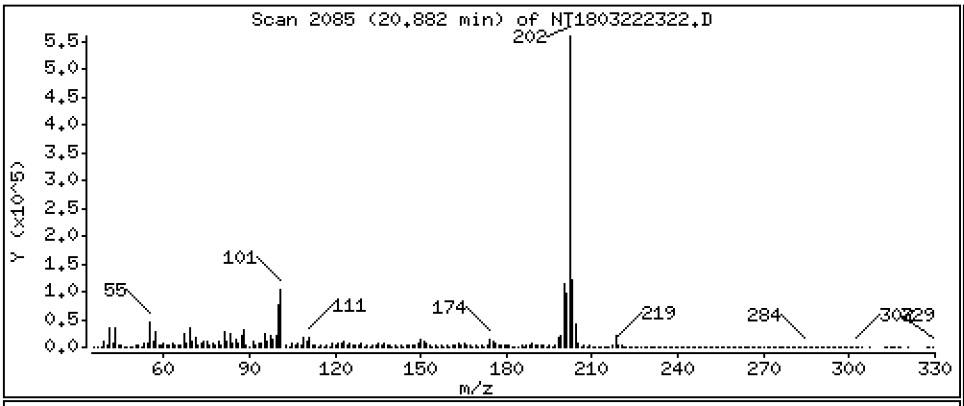
Operator: VTS

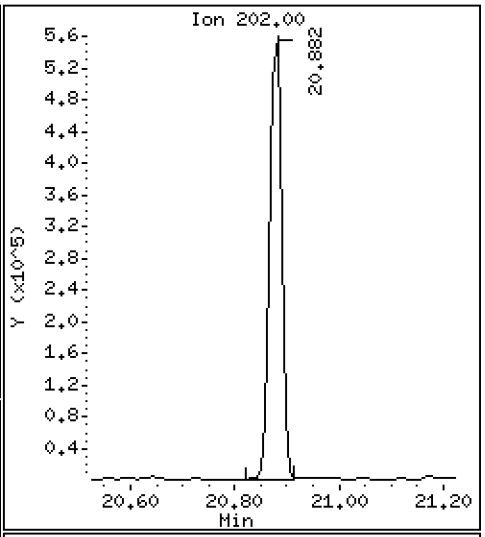
Column phase: ZB-5msi

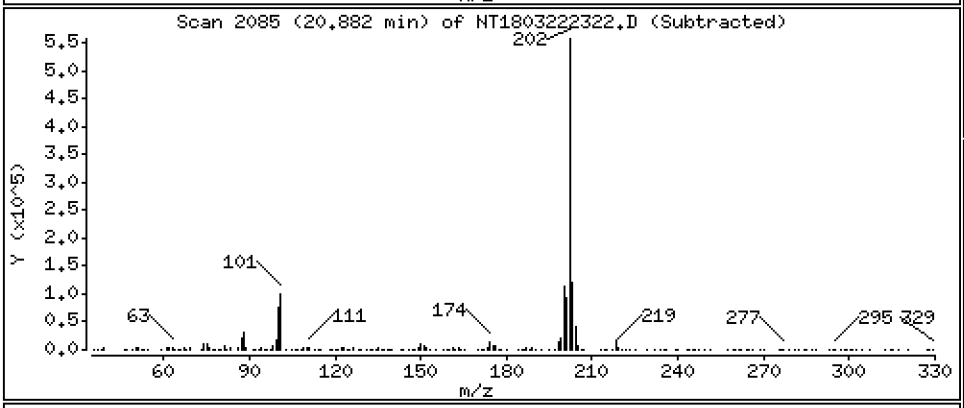
Column diameter: 0.25

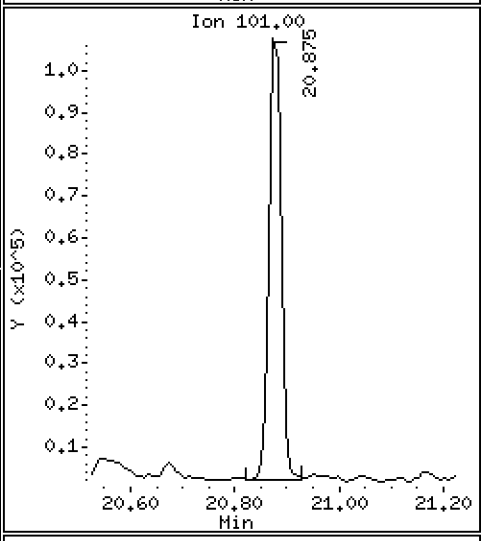
65 Pyrene

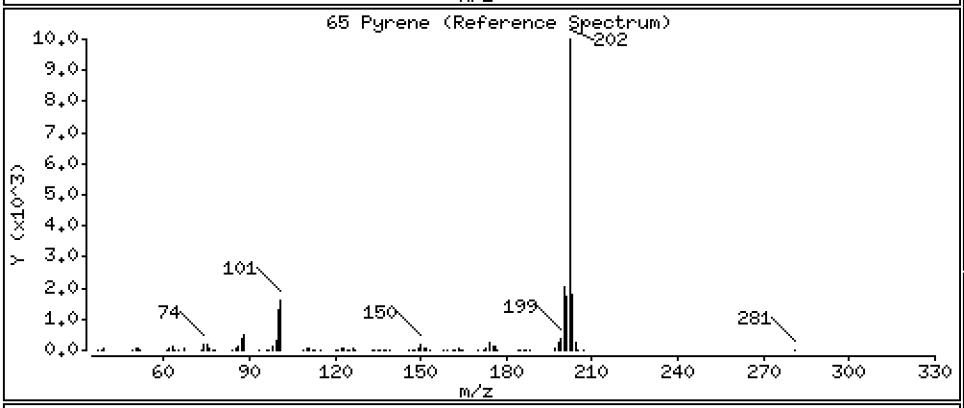
Concentration: 2.171 ug/mL

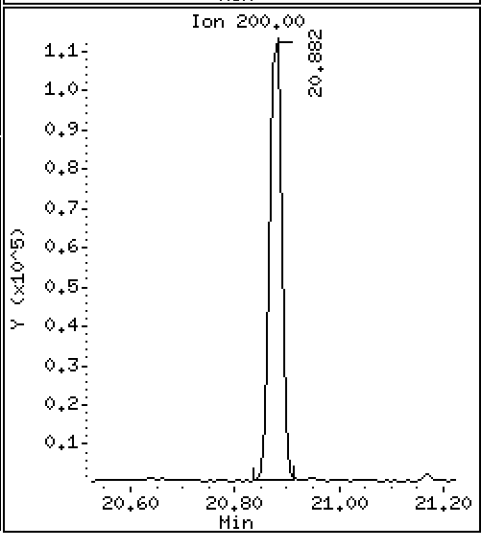


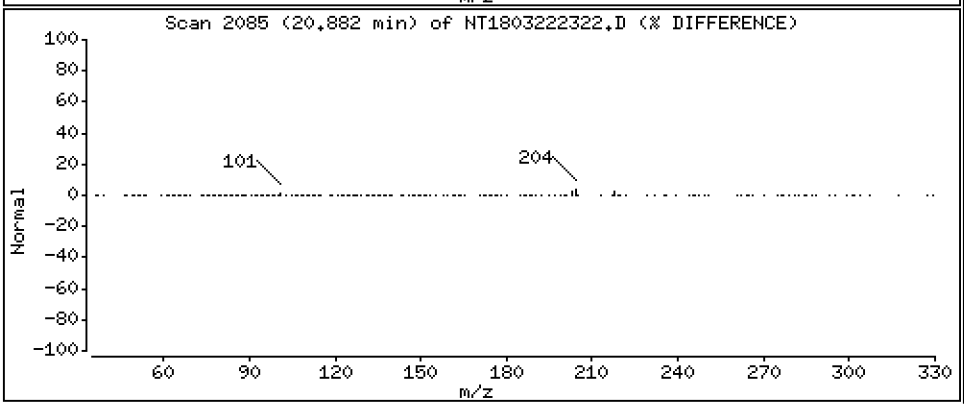












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Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

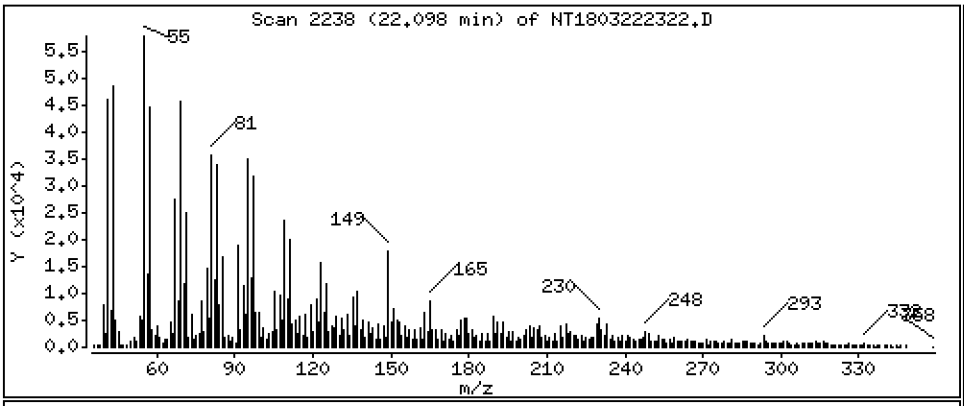
Operator: VTS

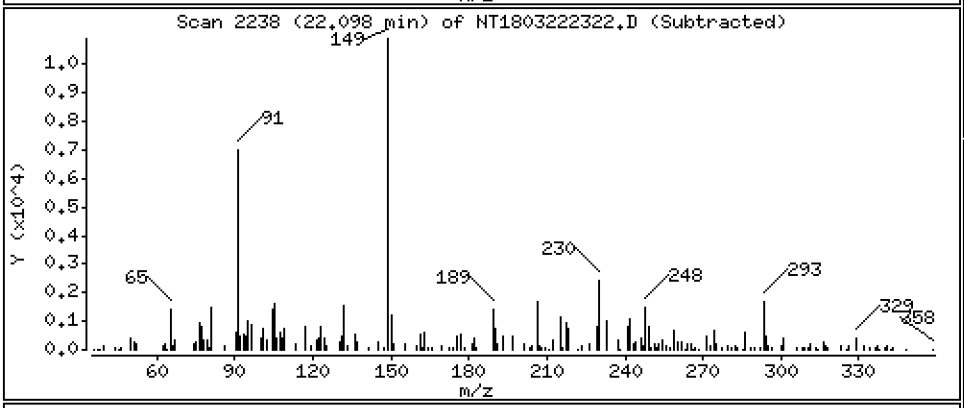
Column phase: ZB-5msi

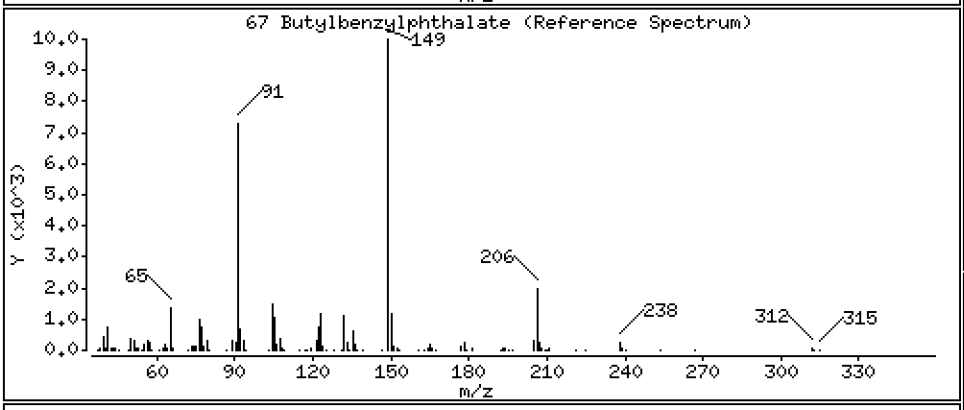
Column diameter: 0.25

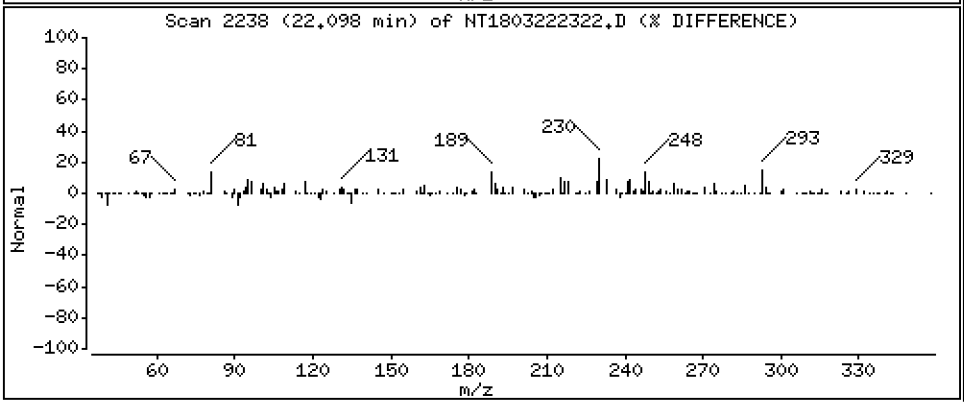
67 Butylbenzylphthalate

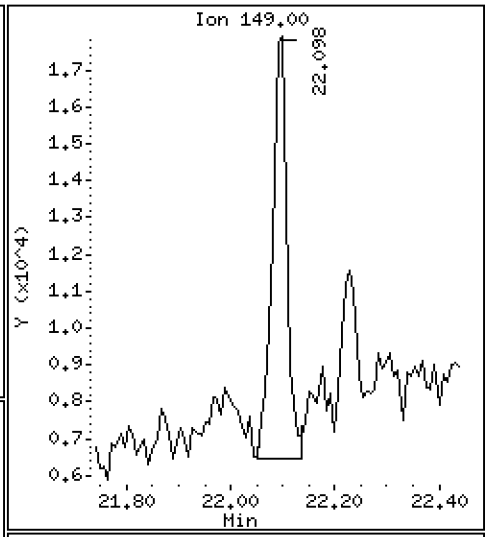
Concentration: 0.1303 ug/mL

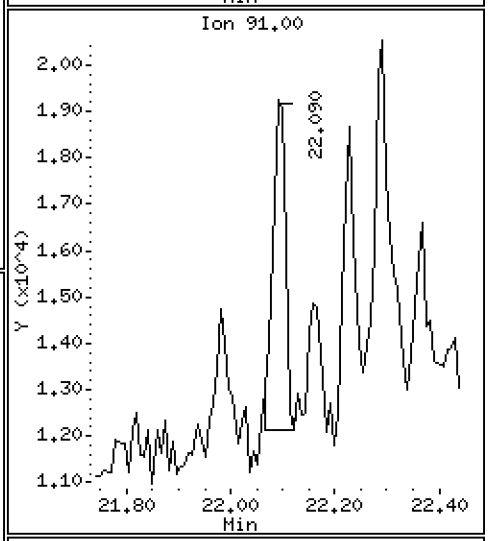


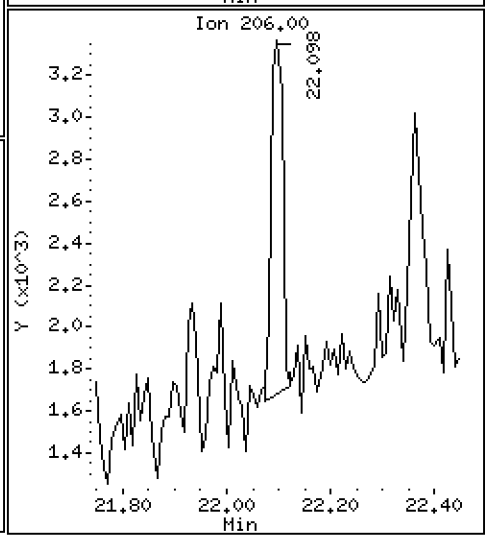












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Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

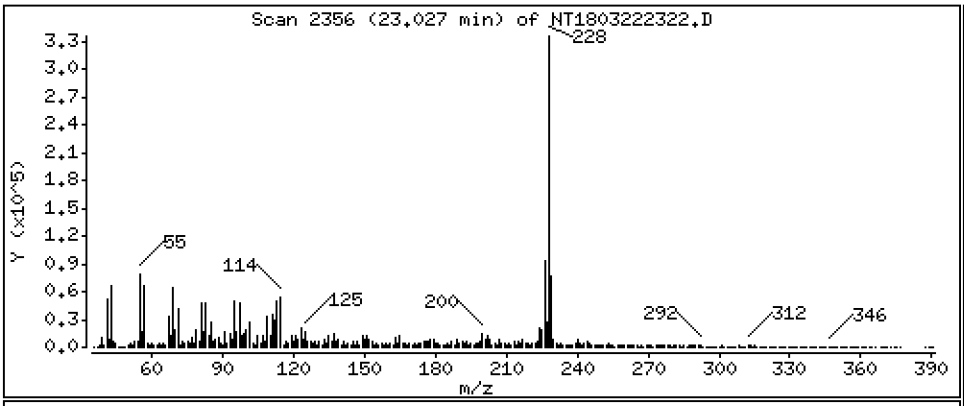
Operator: VTS

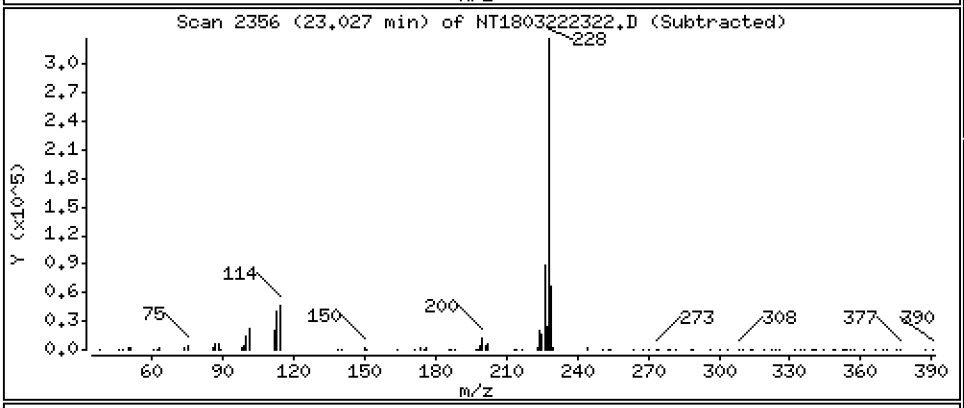
Column phase: ZB-5msi

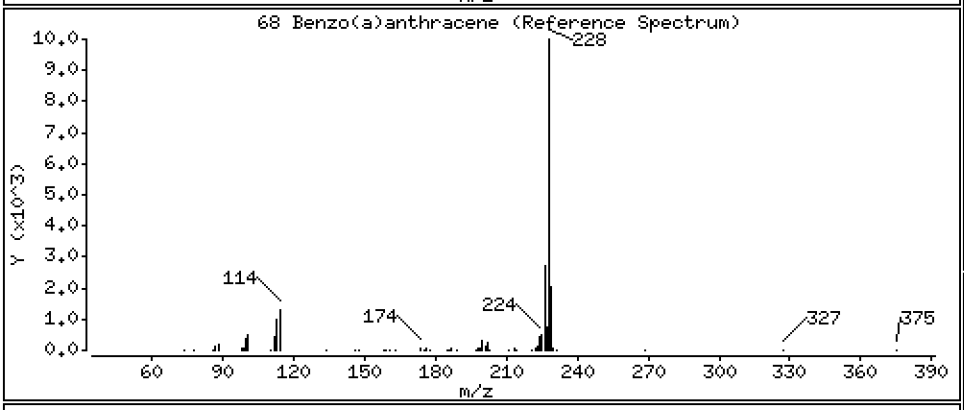
Column diameter: 0.25

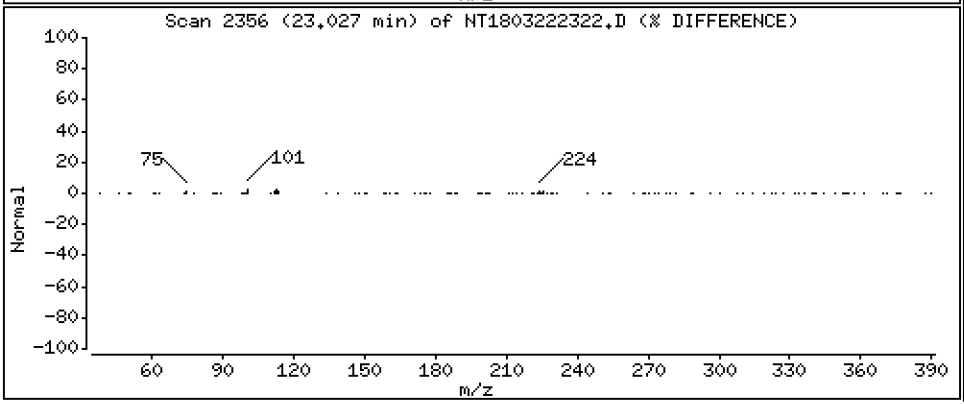
68 Benzo(a)anthracene

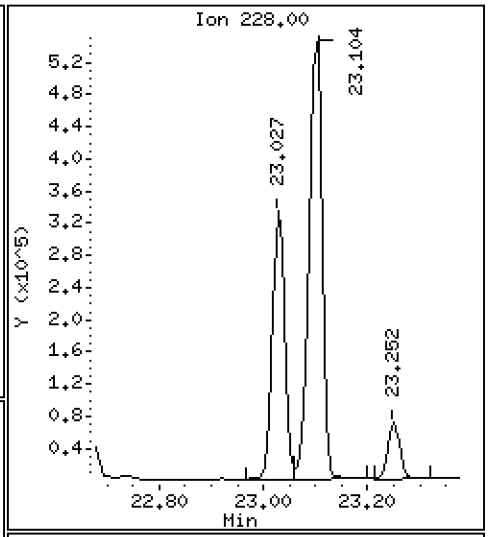
Concentration: 1.429 ug/mL

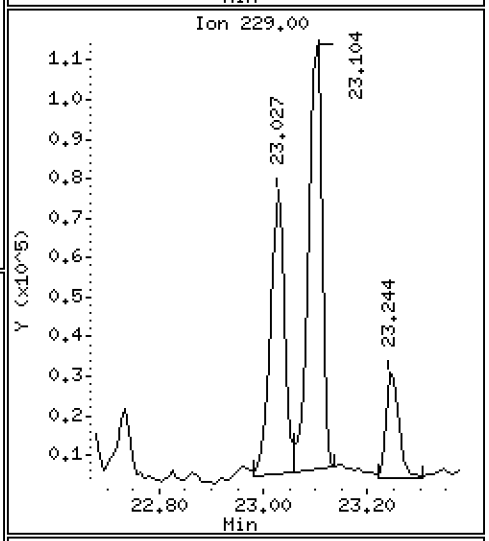


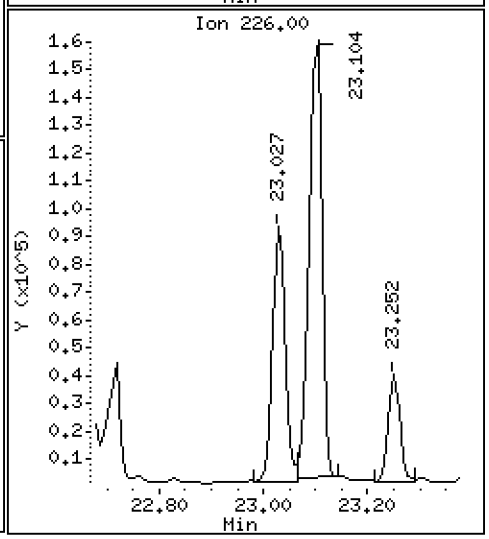












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222322.D

Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

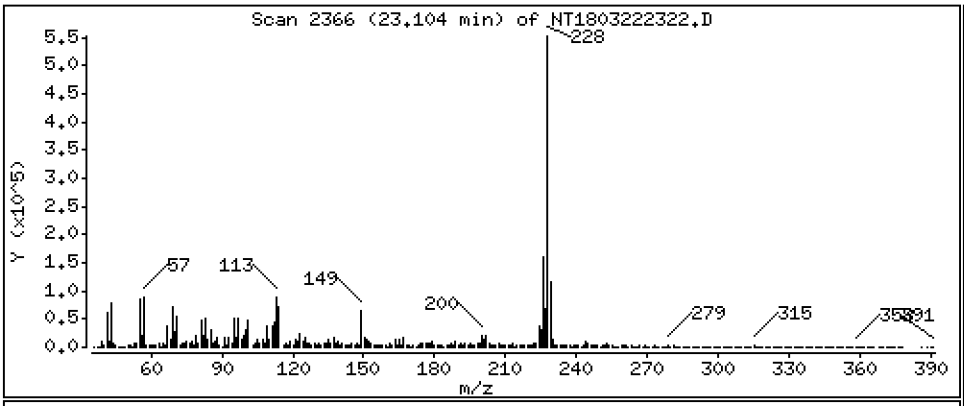
Operator: VTS

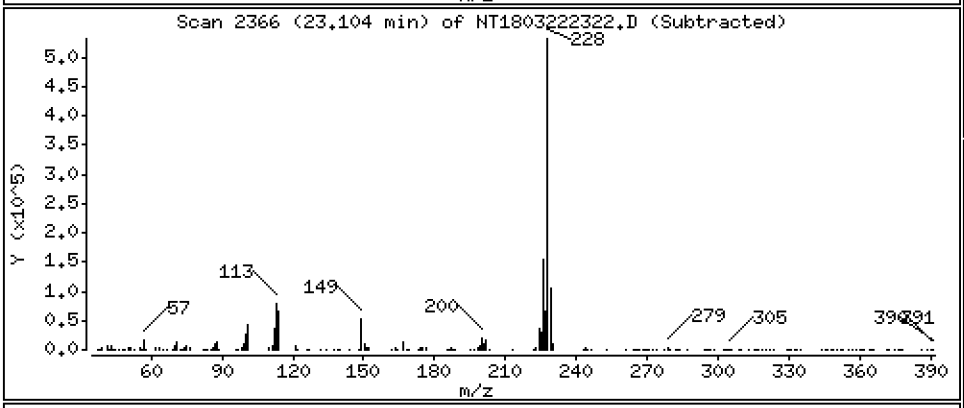
Column phase: ZB-5msi

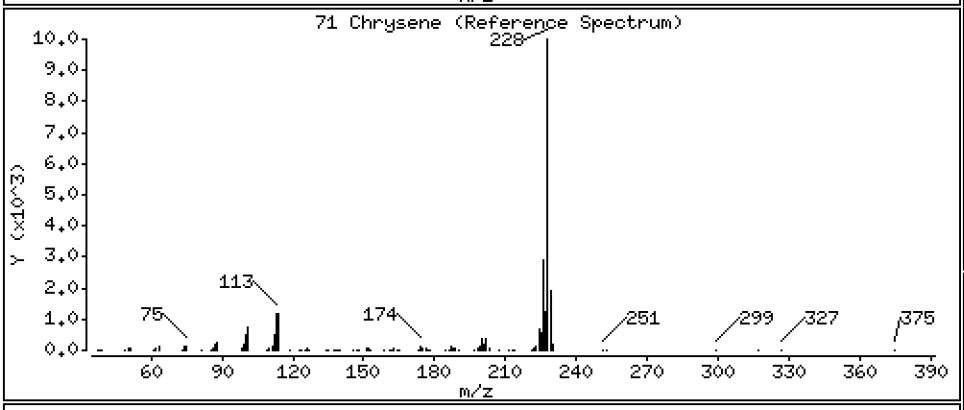
Column diameter: 0.25

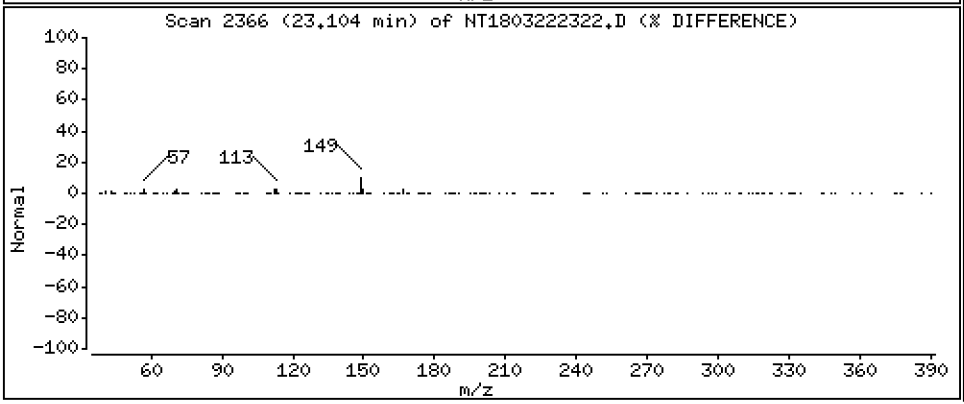
71 Chrysene

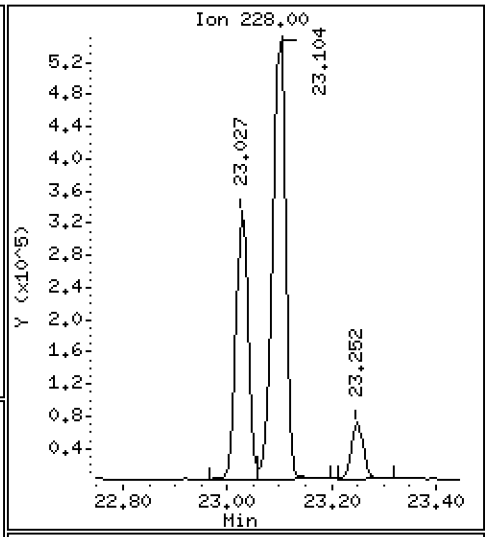
Concentration: 2.419 ug/mL

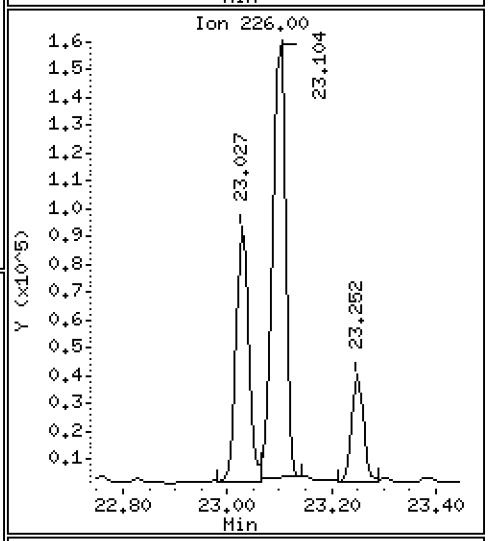


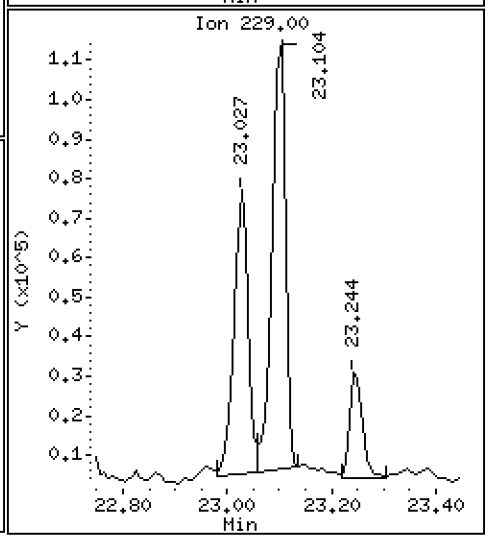












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222322.D

Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

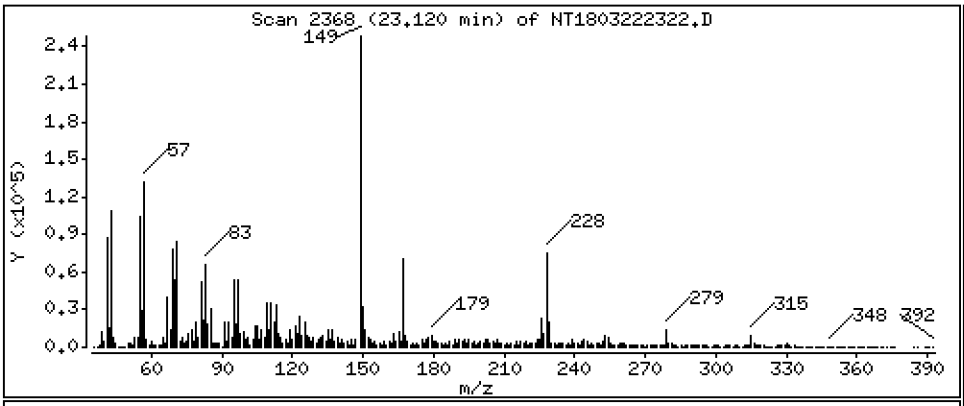
Operator: VTS

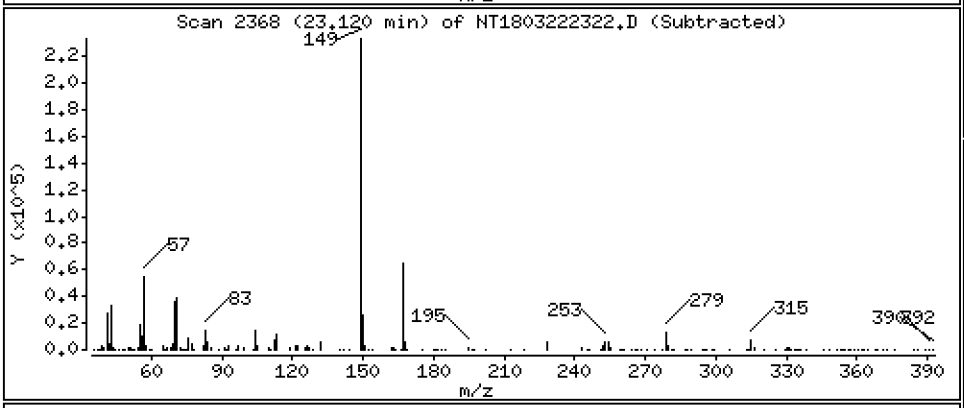
Column phase: ZB-5msi

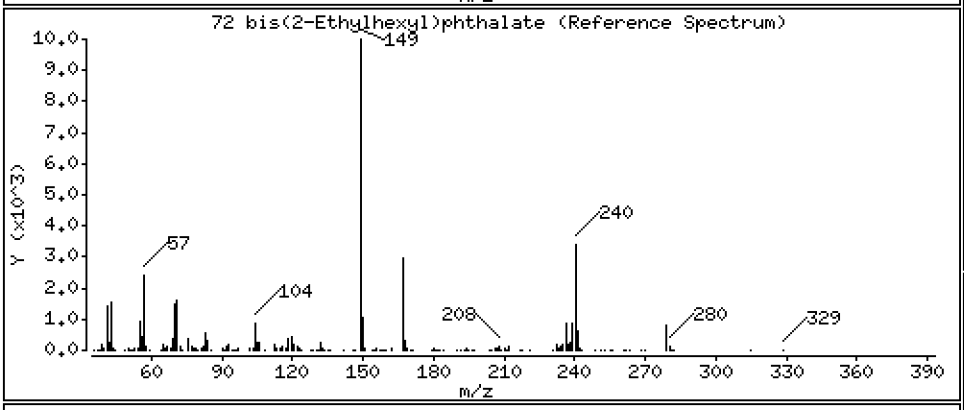
Column diameter: 0.25

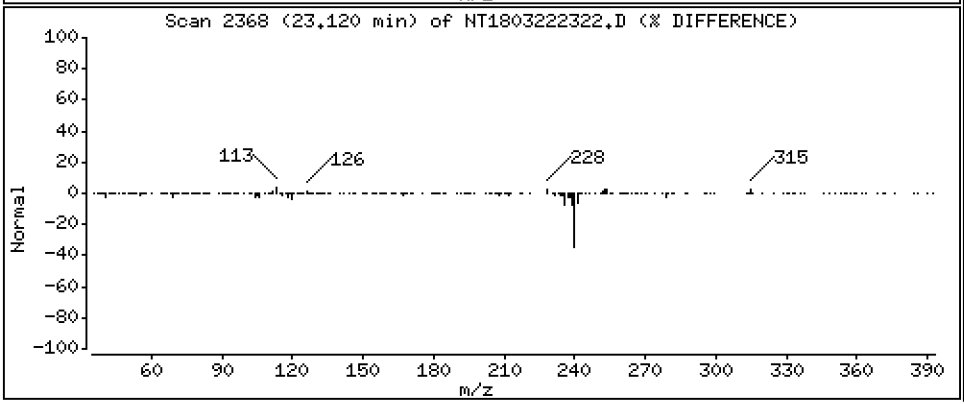
72 bis(2-Ethylhexyl)phthalate

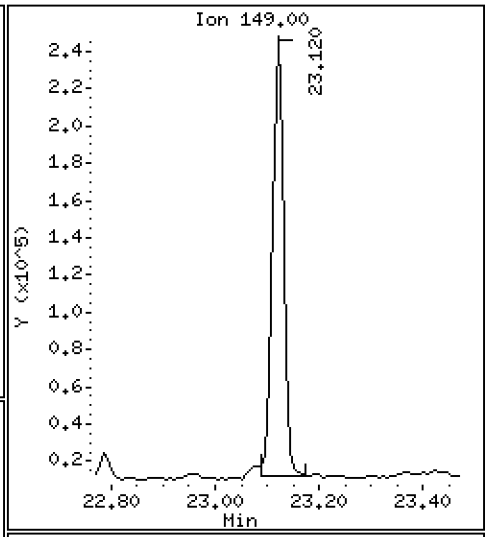
Concentration: 1.194 ug/mL

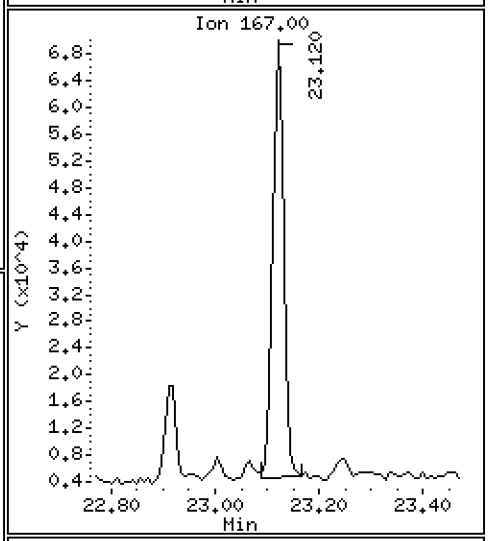


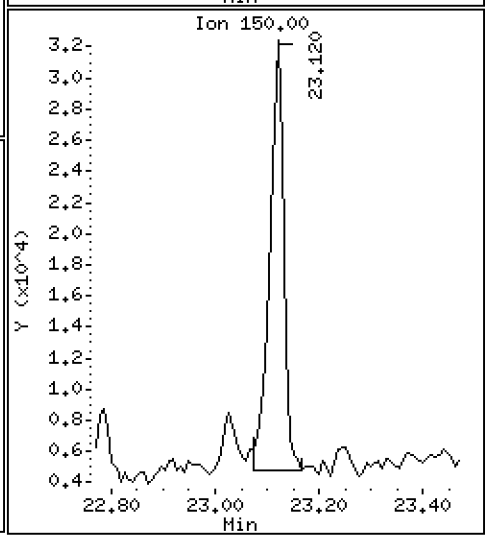












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Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

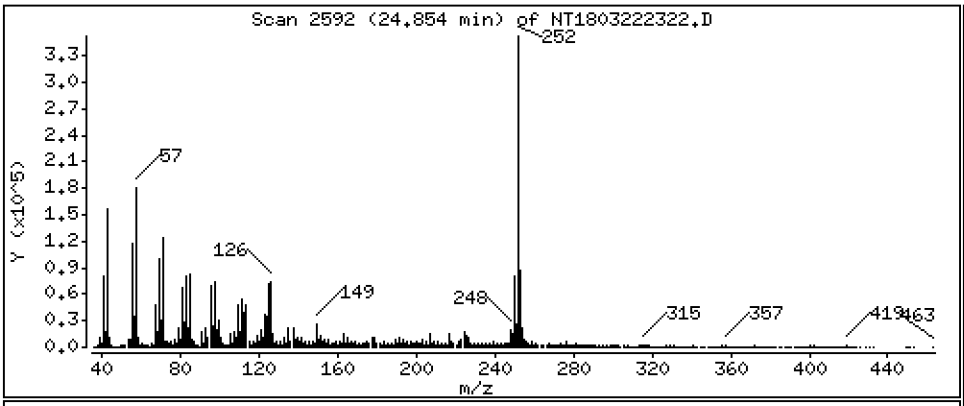
Operator: VTS

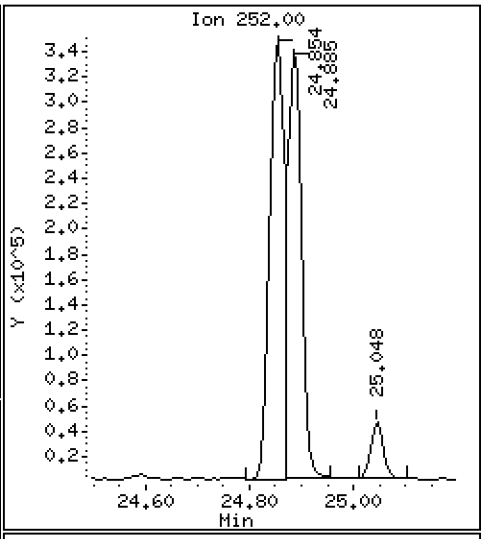
Column phase: ZB-5msi

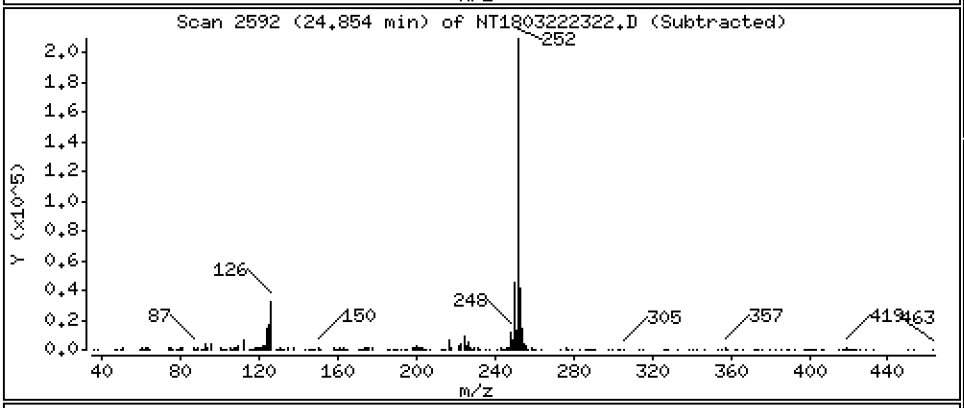
Column diameter: 0.25

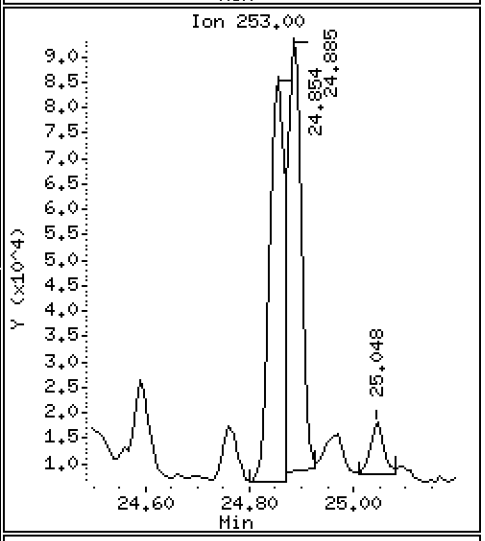
74 Benzo(b)fluoranthene

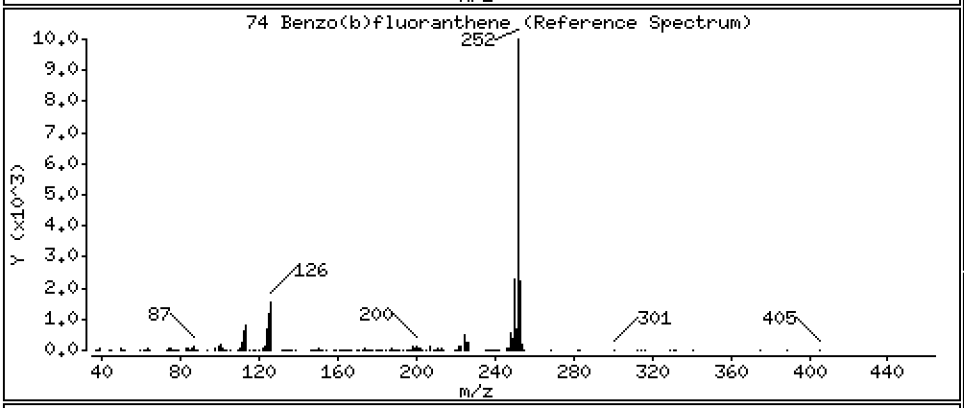
Concentration: 2.340 ug/mL

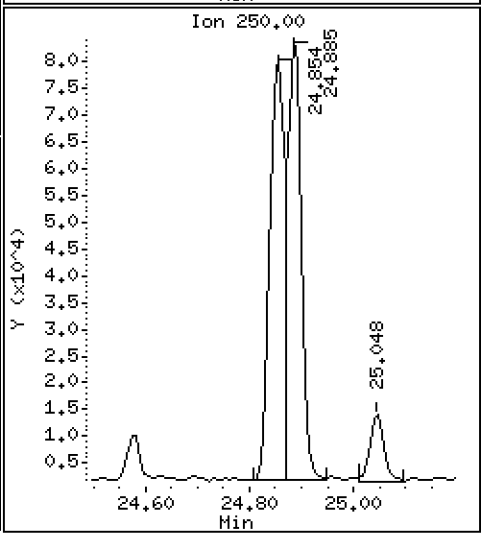


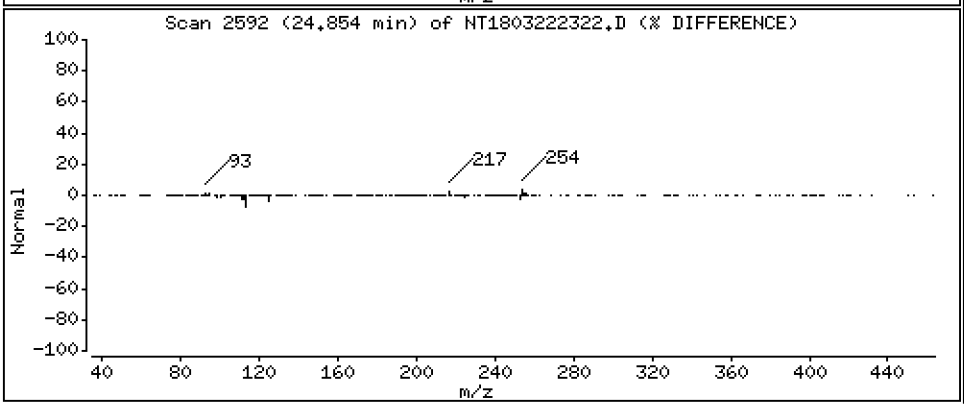












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Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

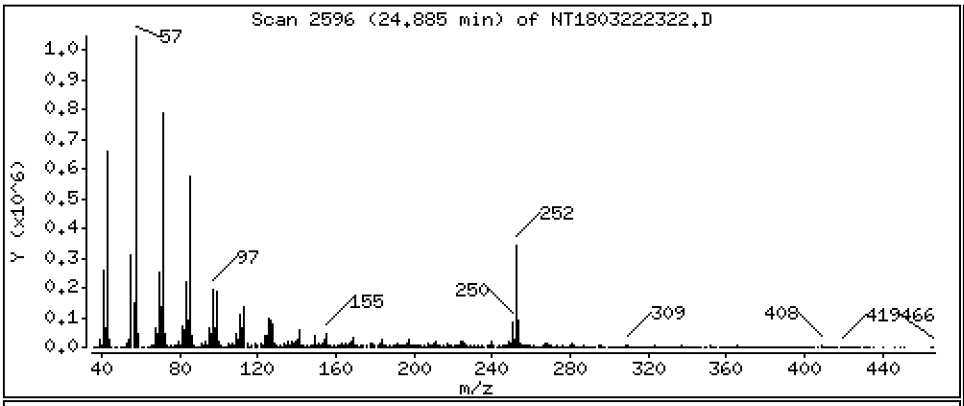
Operator: VTS

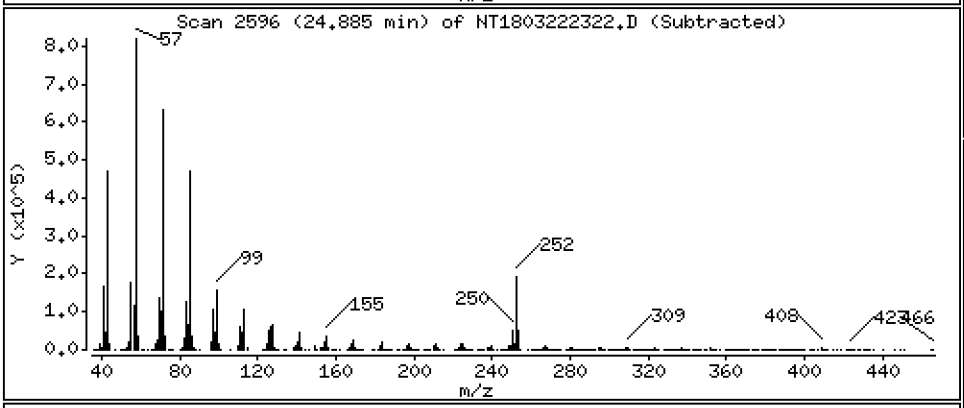
Column phase: ZB-5msi

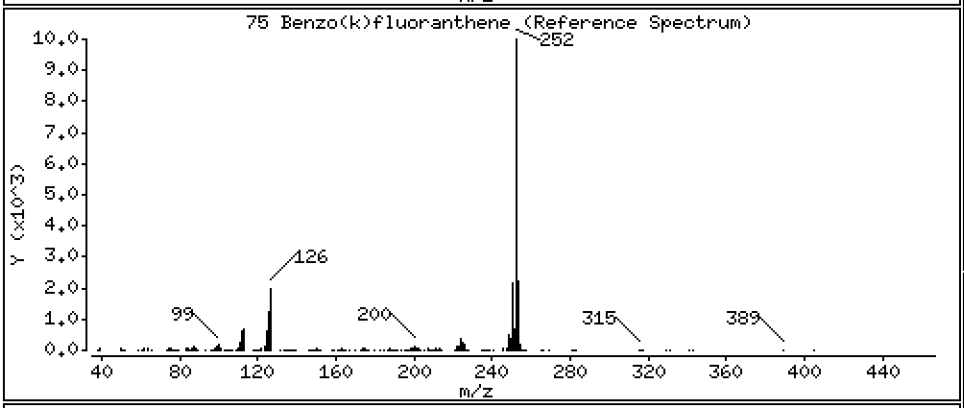
Column diameter: 0.25

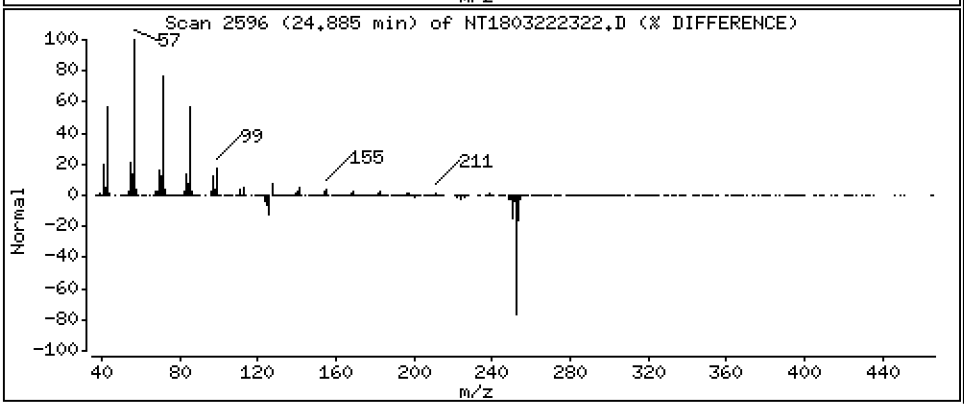
75 Benzo(k)fluoranthene

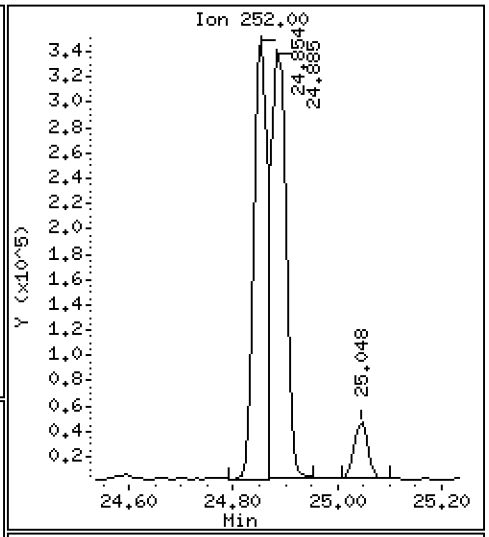
Concentration: 2.157 ug/mL

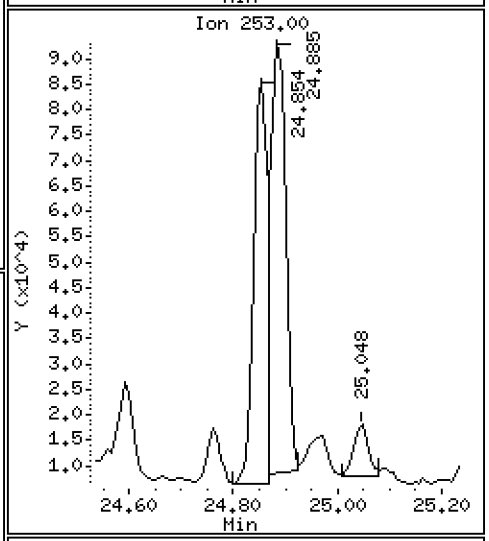


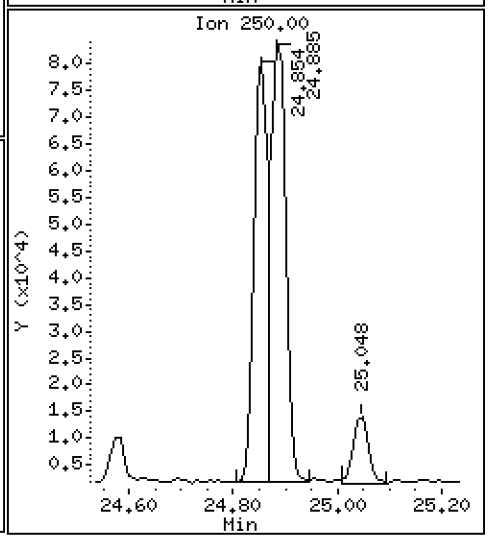












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Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

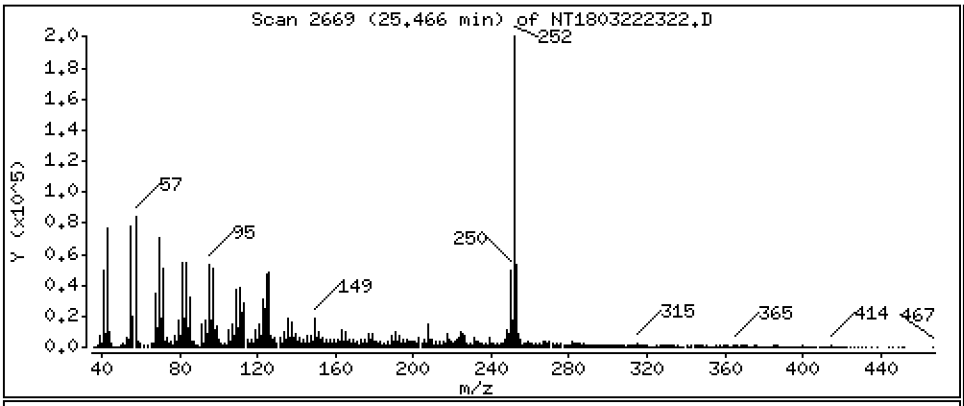
Operator: VTS

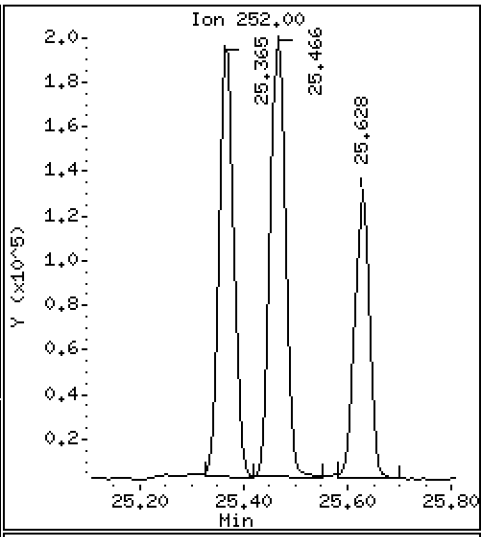
Column phase: ZB-5msi

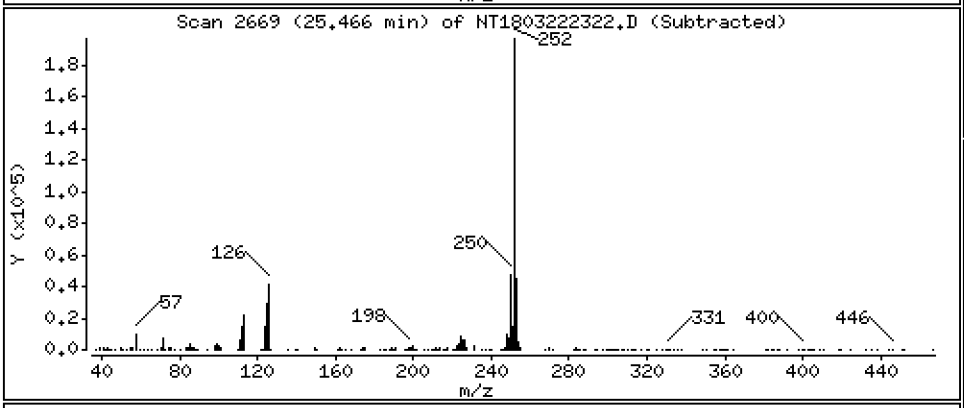
Column diameter: 0.25

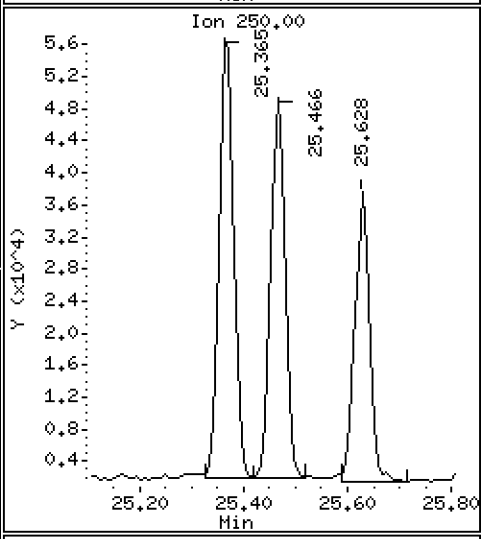
76 Benzo(a)pyrene

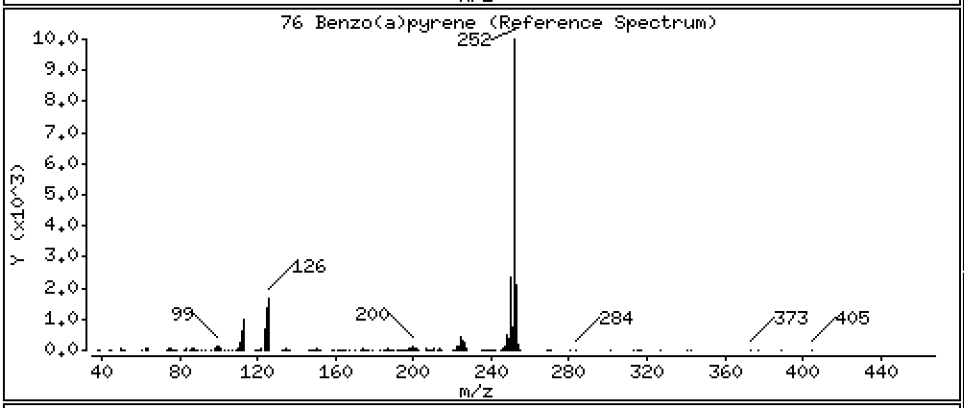
Concentration: 1.332 ug/mL

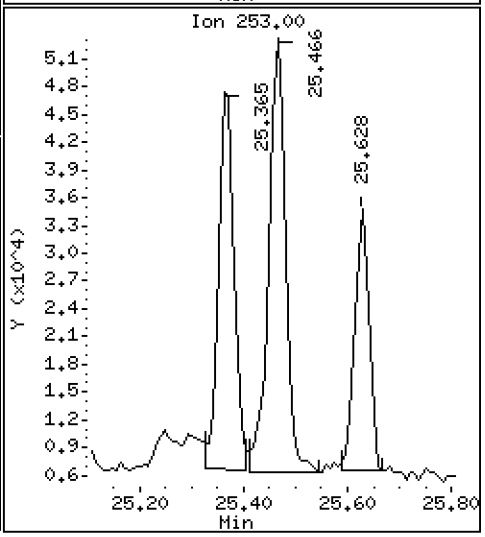


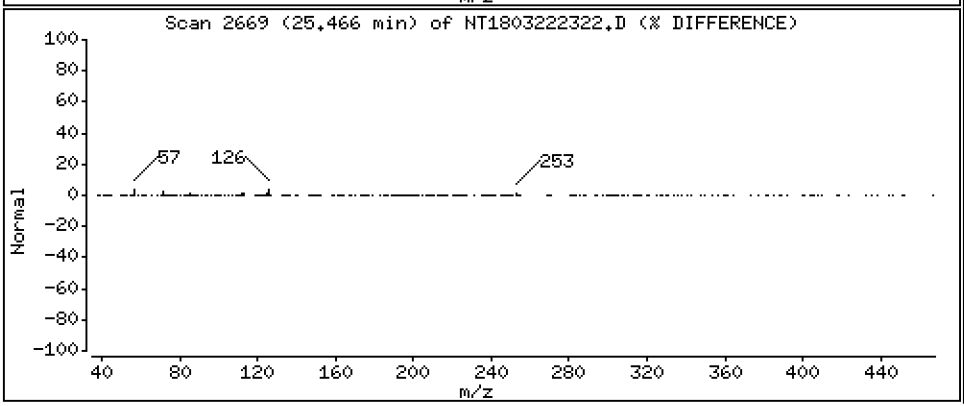












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Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

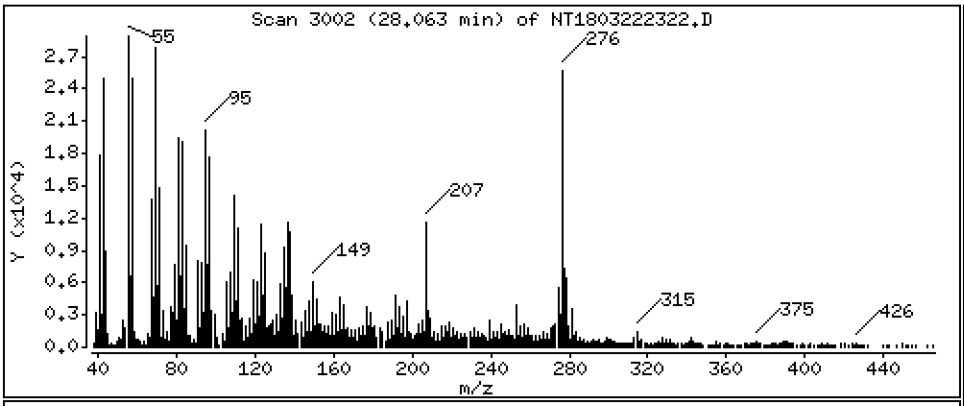
Operator: VTS

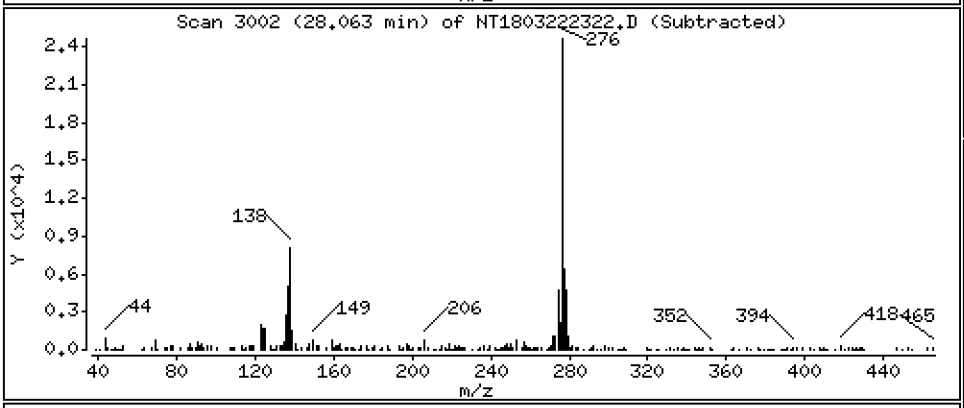
Column phase: ZB-5msi

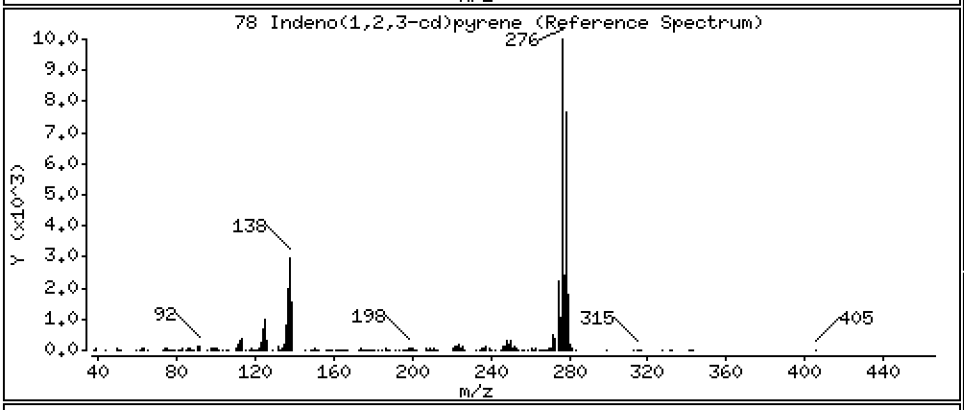
Column diameter: 0.25

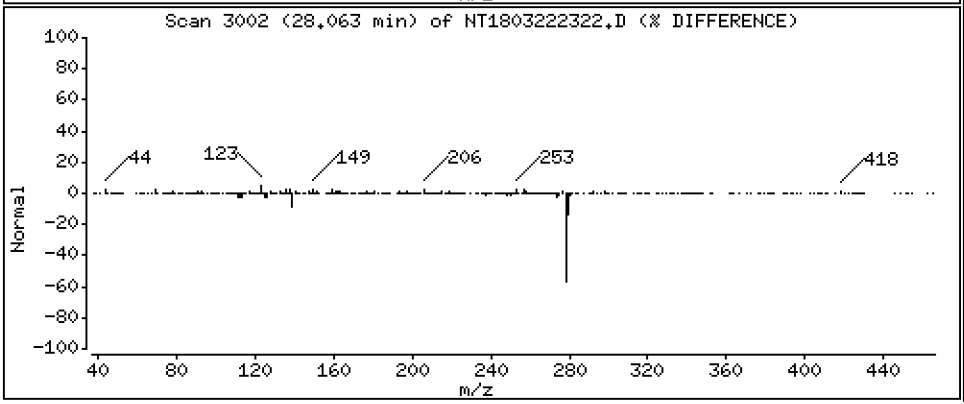
78 Indeno(1,2,3-cd)pyrene

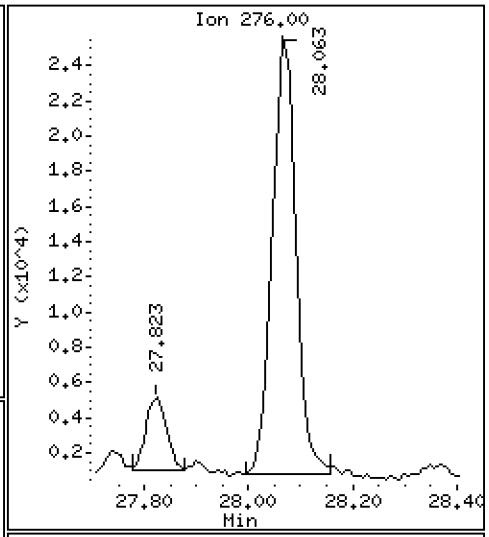
Concentration: 0.2165 ug/mL

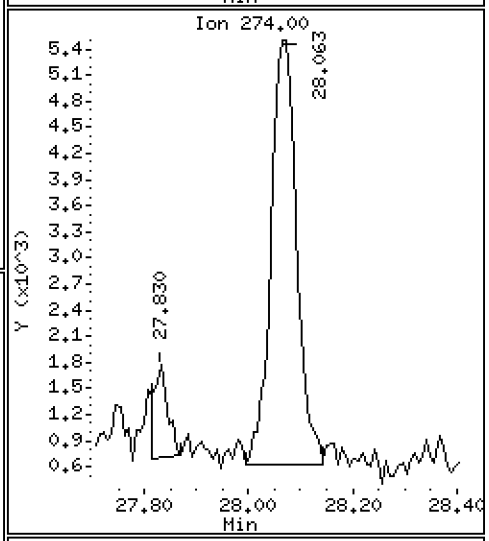


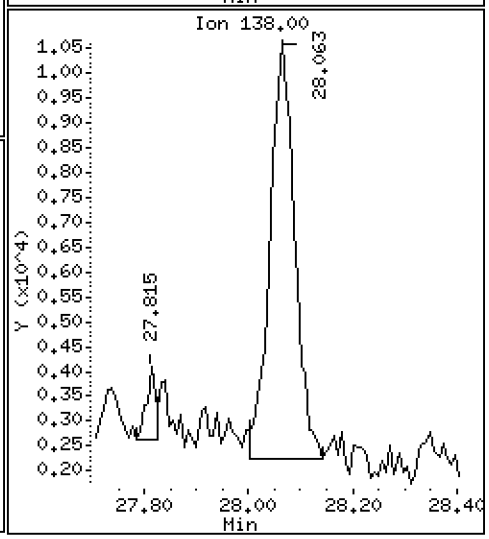












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Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

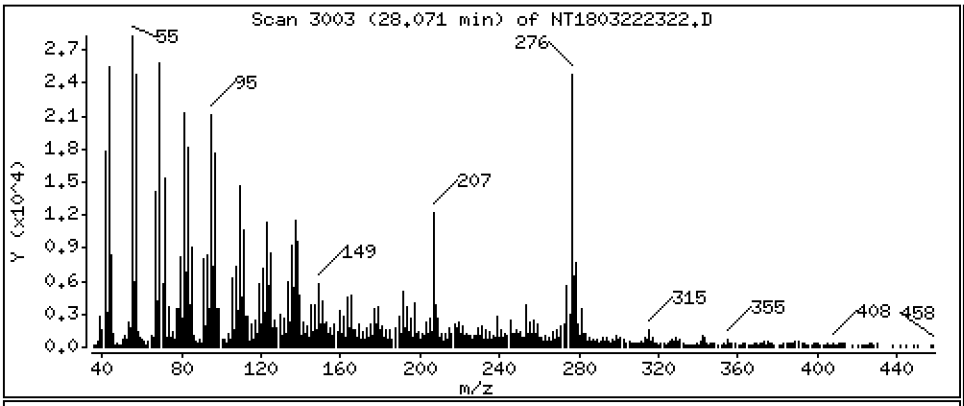
Operator: VTS

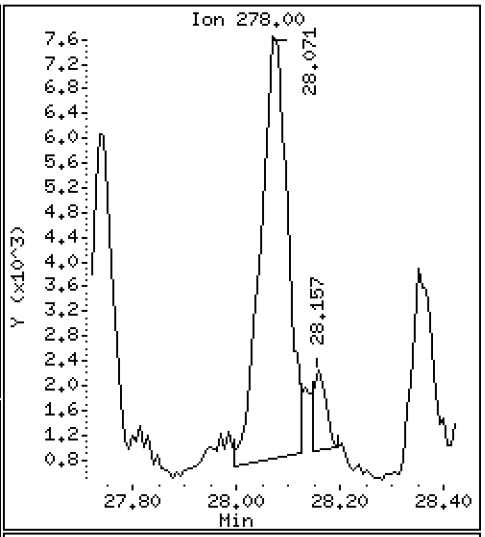
Column phase: ZB-5msi

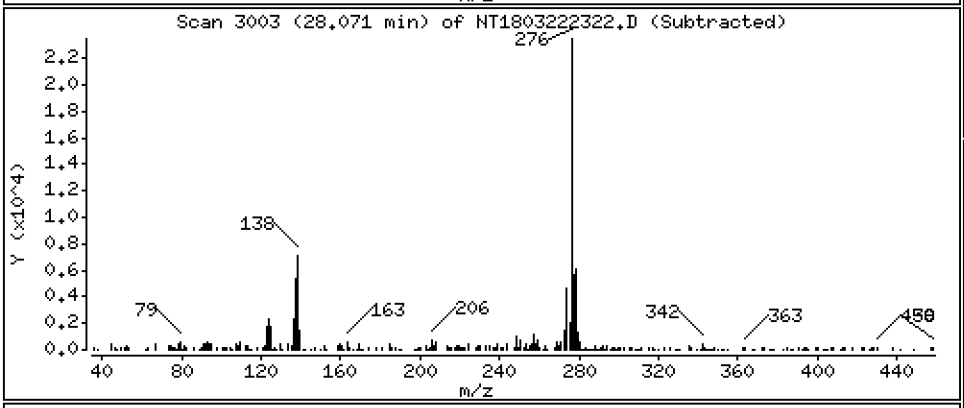
Column diameter: 0.25

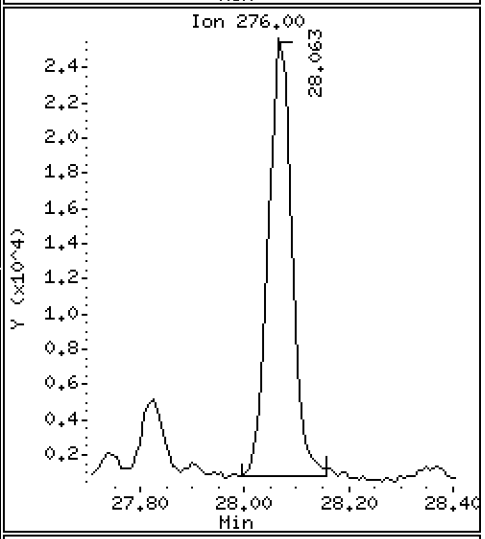
79 Dibenzo(a,h)anthracene

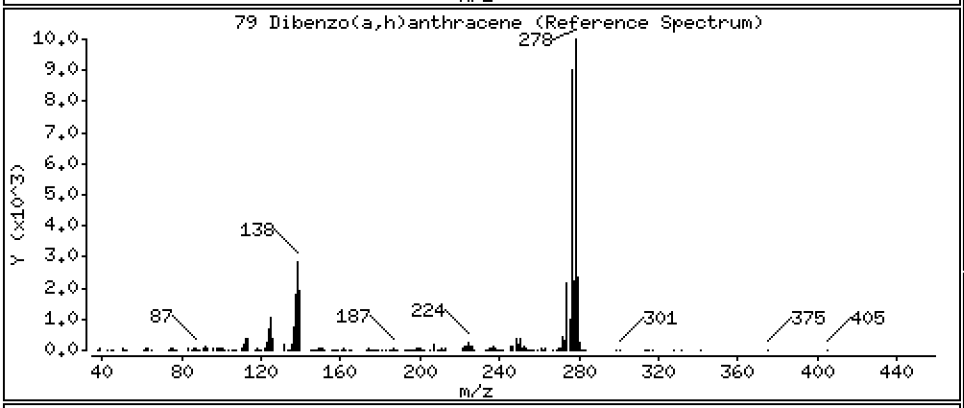
Concentration: 0.08173 ug/mL

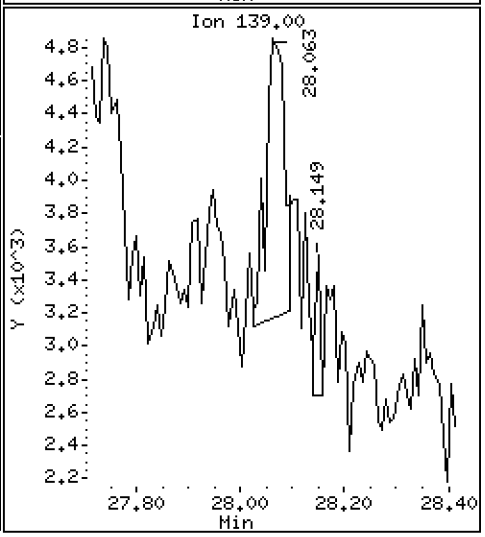


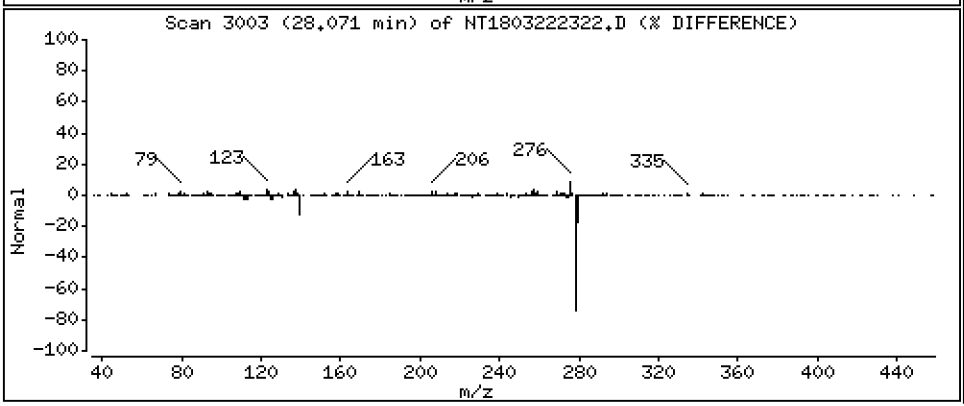












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Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

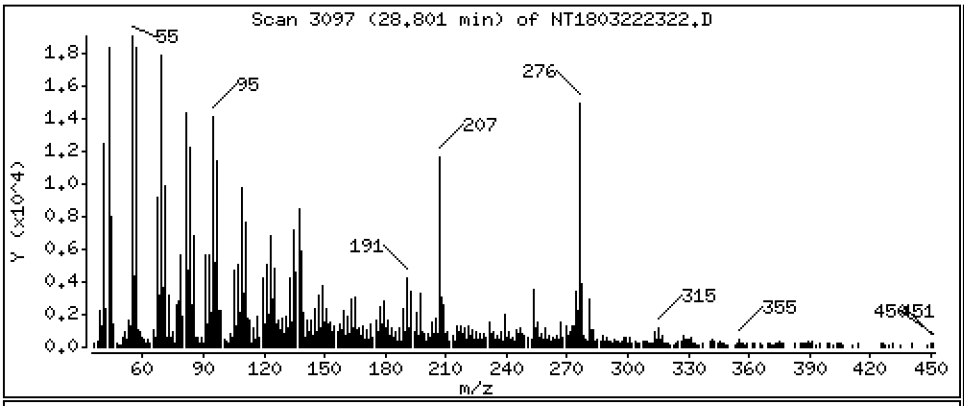
Operator: VTS

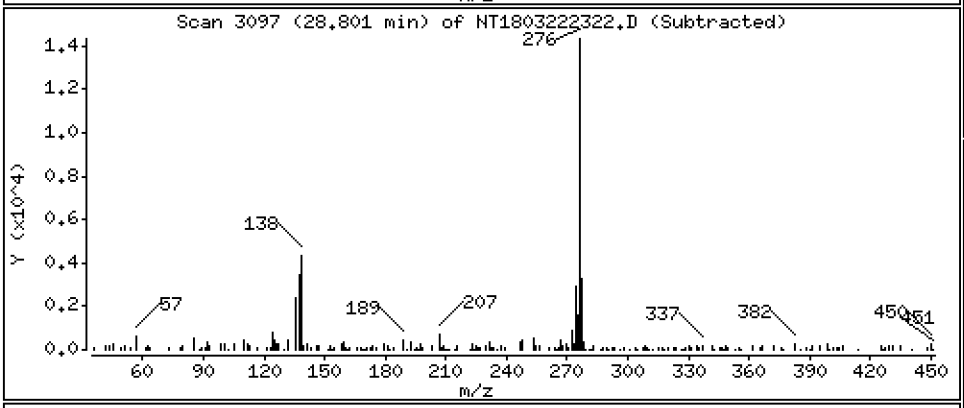
Column phase: ZB-5msi

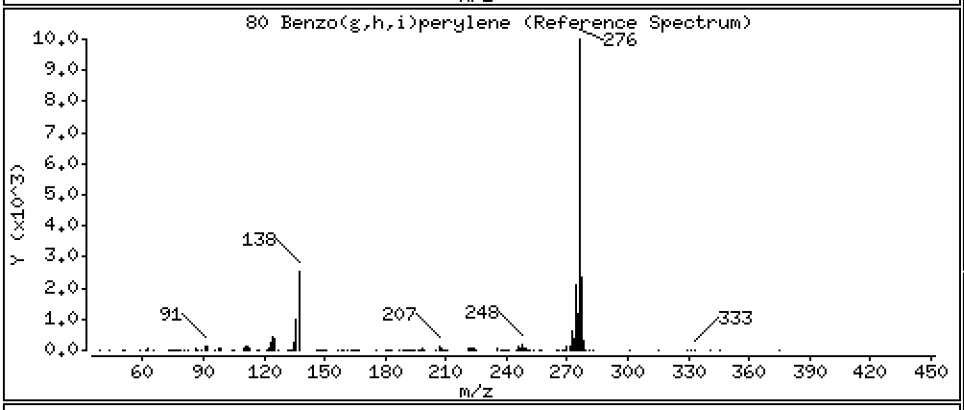
Column diameter: 0.25

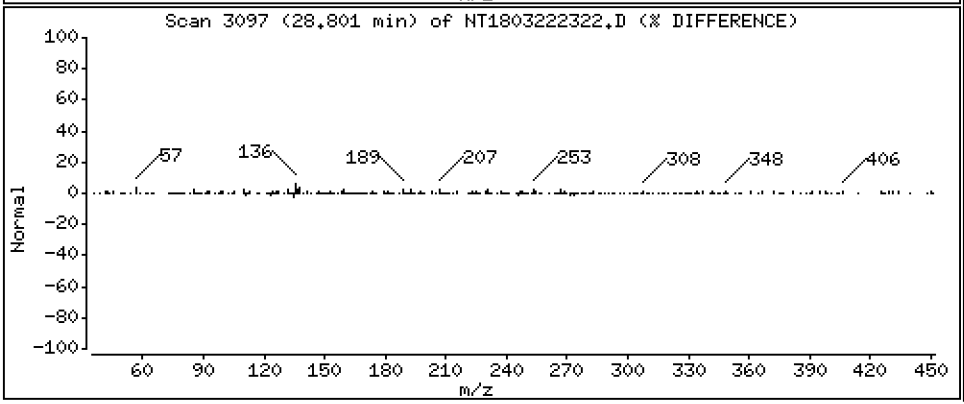
80 Benzo(g,h,i)perylene

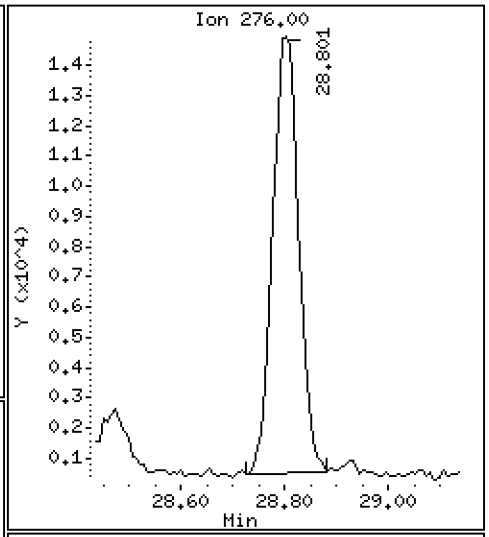
Concentration: 0.1740 ug/mL

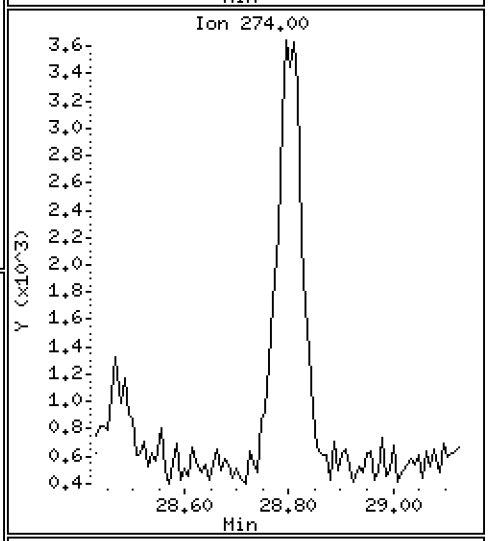


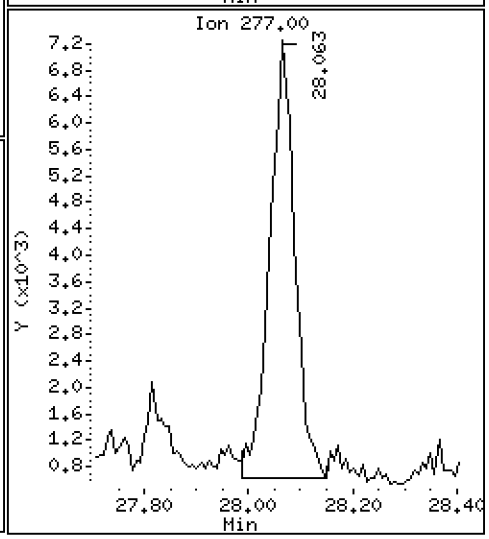












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222322.D

Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

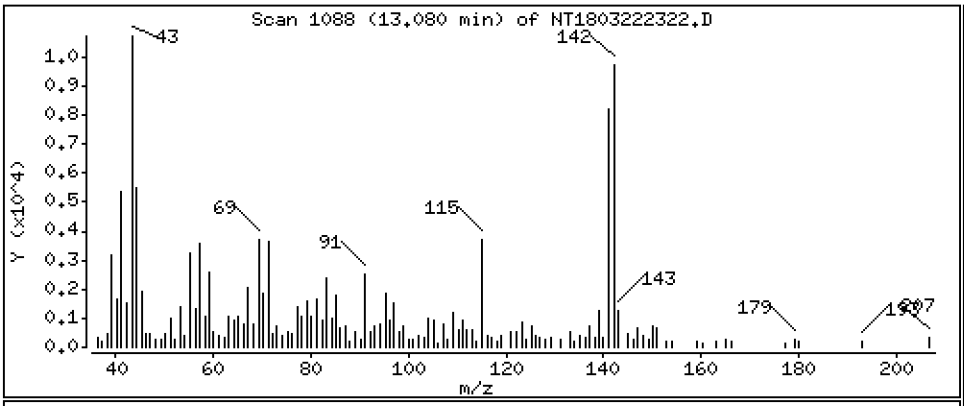
Operator: VTS

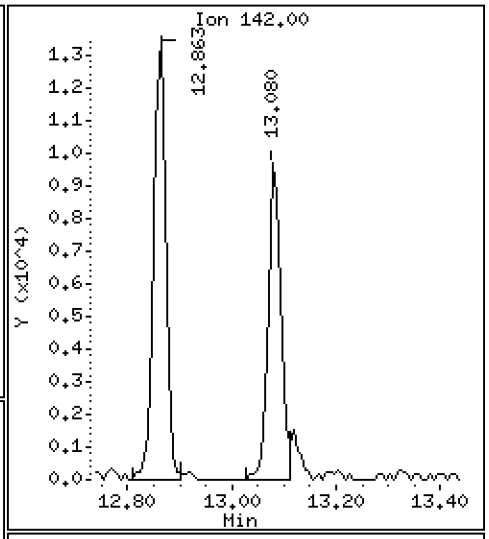
Column phase: ZB-5msi

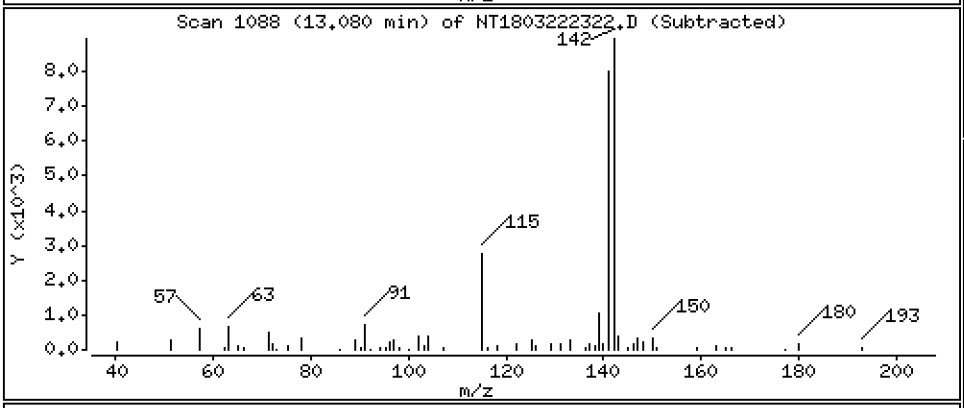
Column diameter: 0.25

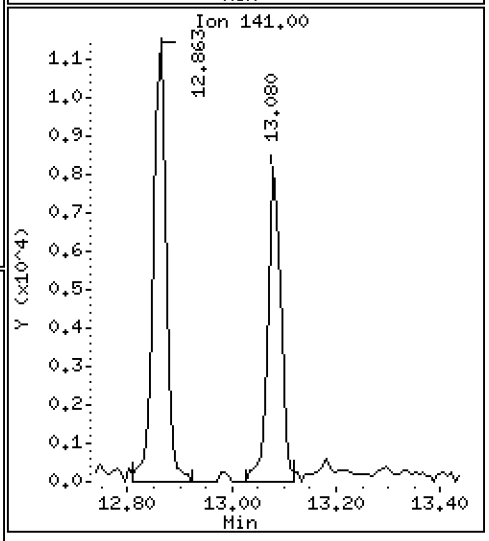
105 1-methylnaphthalene

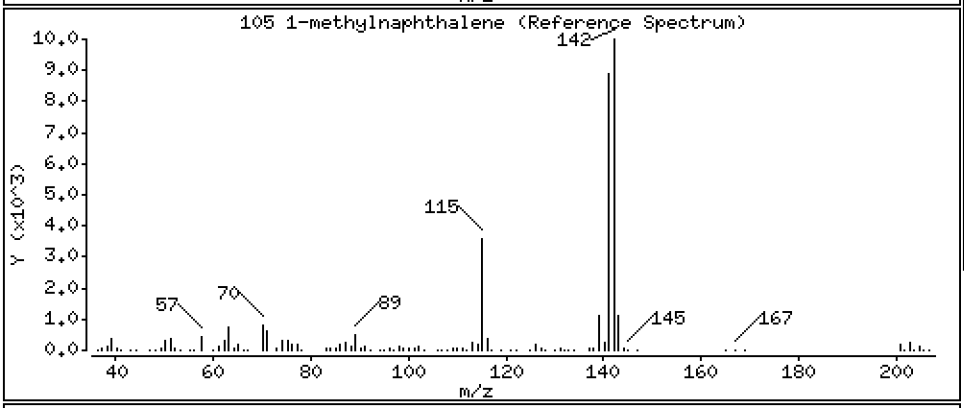
Concentration: 0.08913 ug/mL

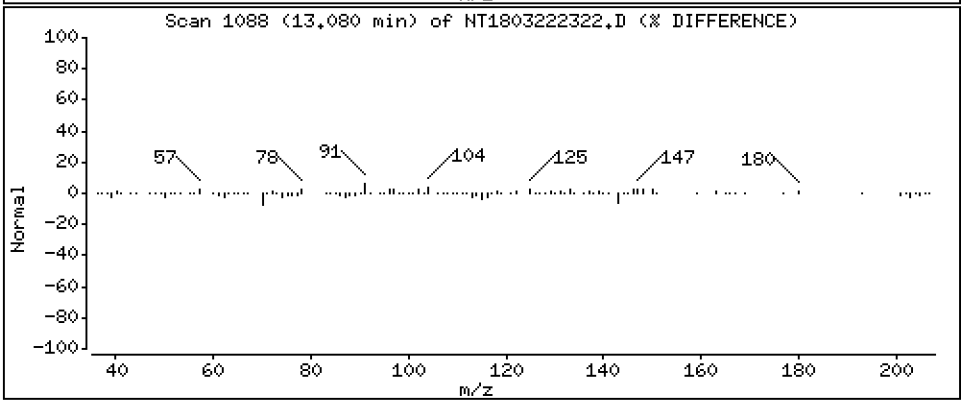












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Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

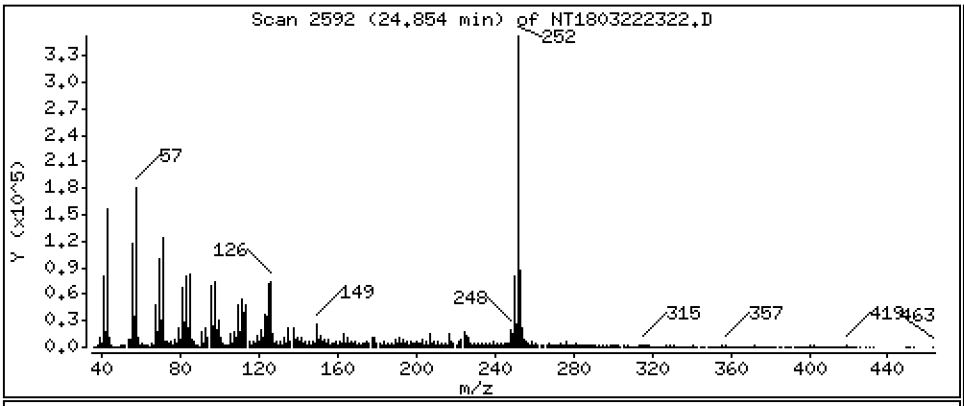
Operator: VTS

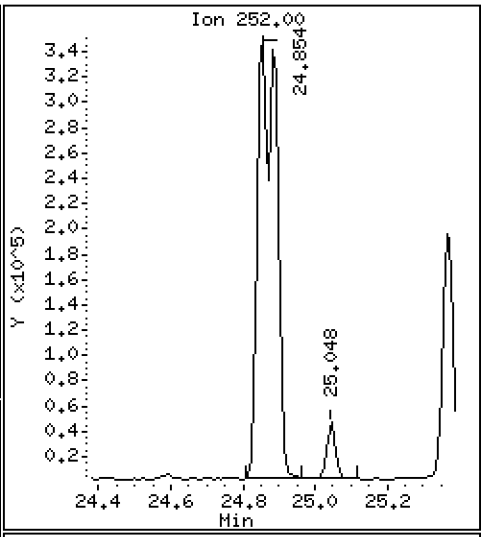
Column phase: ZB-5msi

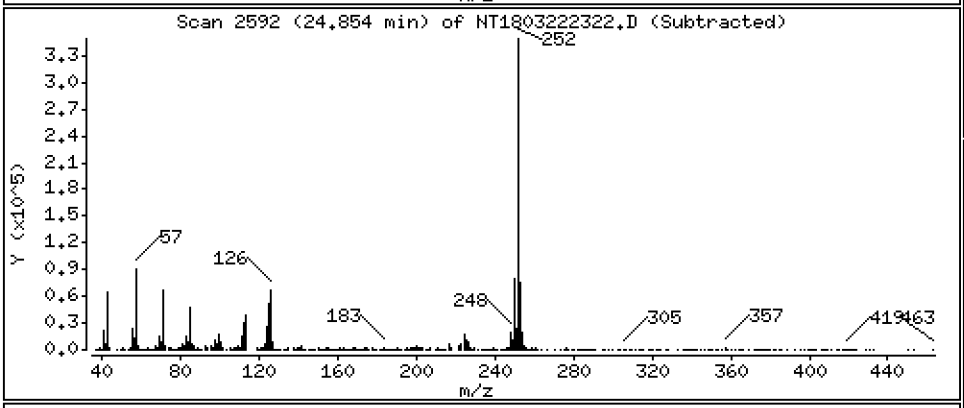
Column diameter: 0.25

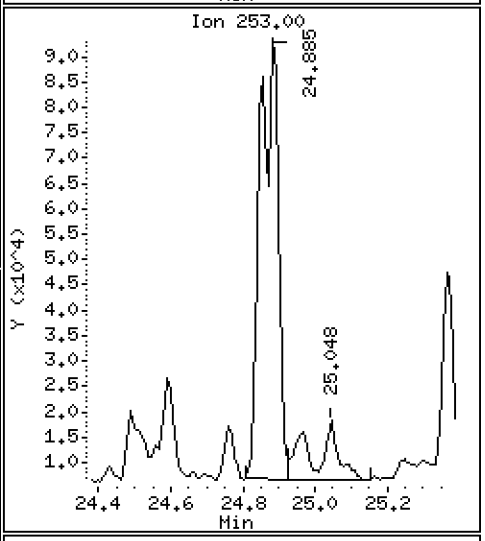
187 Total Benzofluoranthenes

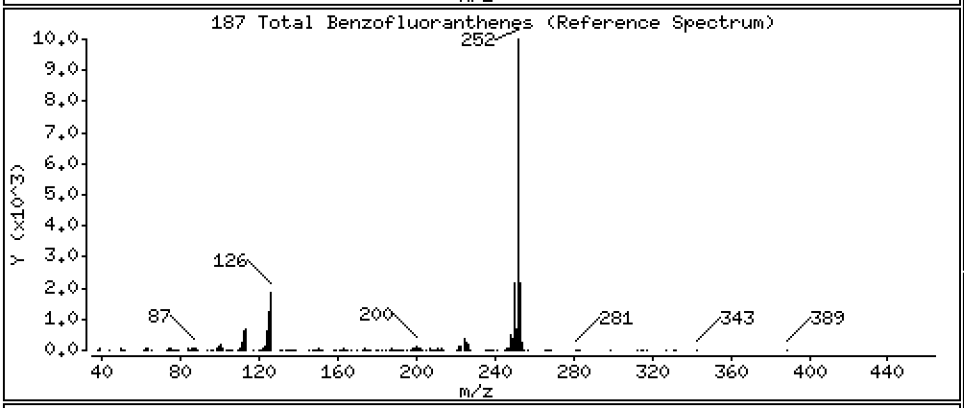
Concentration: 4.335 ug/mL

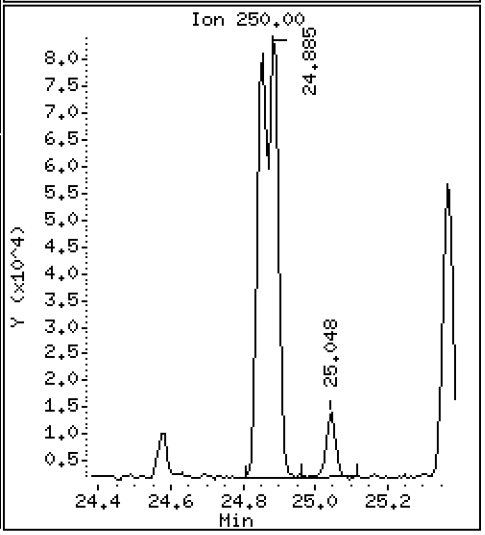


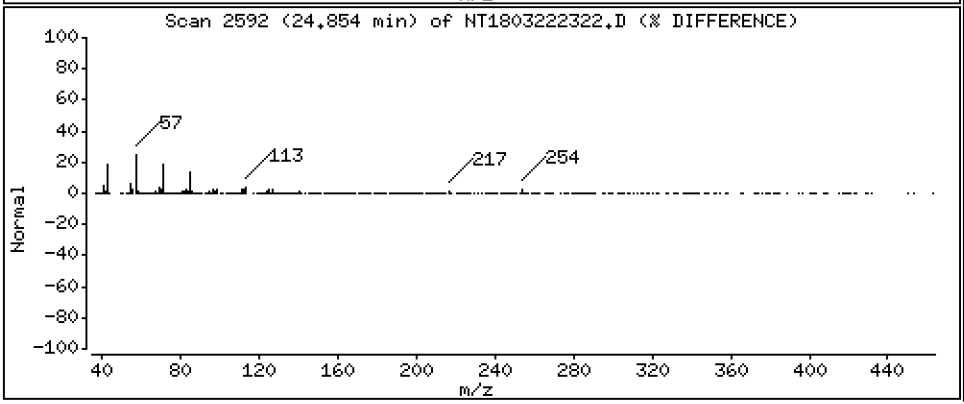












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230322A.b\NT1803222322.D
Lab Smp Id: 23C0108-09
Inj Date : 23-MAR-2023 07:26
Operator : VTS Inst ID: nt18.i
Smp Info : 23C0108-09
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230322A.b\ABN.m
Meth Date : 04-Apr-2023 16:12 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 15:18 Cal File: NT1803192302.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: DEENAY-201905

							CONCENTRATIONS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.796	6.781	(0.757)	571702	6.09261	6.093
$	2 Phenol-d5	99	8.349	8.349	(0.930)	726427	6.26650	6.267
	3 Phenol	94	8.372	8.372	(0.933)	201120	1.62253	1.623
$	5 2-Chlorophenol-d4	132	8.619	8.619	(0.960)	638820	6.35747	6.357
	4 Bis(2-Chloroethyl)ether	93	Compound Not Detected.					
	6 2-Chlorophenol	128	Compound Not Detected.					
	7 1,3-Dichlorobenzene	146	Compound Not Detected.					
*	8 1,4-Dichlorobenzene-d4	152	8.975	8.983	(1.000)	304379	4.00000	
	9 1,4-Dichlorobenzene	146	Compound Not Detected.					
$	10 1,2-Dichlorobenzene-d4	152	9.332	9.332	(1.040)	281304	3.81532	3.815
	12 1,2-Dichlorobenzene	146	Compound Not Detected.					
	11 Benzyl alcohol	108	Compound Not Detected.					
	14 2,2'-oxybis(1-Chloropropane)	121	Compound Not Detected.					
	13 2-Methylphenol	108	Compound Not Detected.					
	17 Hexachloroethane	117	Compound Not Detected.					
	16 N-Nitroso-di-n-propylamine	70	Compound Not Detected.					
	15 4-Methylphenol	108	9.744	9.736	(1.086)	13652	0.13974	0.1397
$	18 Nitrobenzene-d5	82	10.062	10.062	(0.880)	421387	4.59106	4.591
	19 Nitrobenzene	77	Compound Not Detected.					
	20 Isophorone	82	Compound Not Detected.					
	21 2-Nitrophenol	139	Compound Not Detected.					
	22 2,4-Dimethylphenol	107	Compound Not Detected.					
	23 Bis(2-Chloroethoxy)methane	93	Compound Not Detected.					
	24 Benzoic acid	105	10.897	11.007	(0.953)	41486	0.64805	0.6481
	25 2,4-Dichlorophenol	162	Compound Not Detected.					
	26 1,2,4-Trichlorobenzene	180	Compound Not Detected.					
*	27 Naphthalene-d8	136	11.439	11.439	(1.000)	1113487	4.00000	
	28 Naphthalene	128	11.478	11.478	(1.003)	45675	0.15116	0.1512
	29 4-Chloroaniline	127	Compound Not Detected.					
	30 Hexachlorobutadiene	225	Compound Not Detected.					
	31 4-Chloro-3-methylphenol	107	Compound Not Detected.					
	32 2-Methylnaphthalene	142	12.863	12.863	(1.124)	20669	0.10504	0.1050(H)
	33 Hexachlorocyclopentadiene	237	Compound Not Detected.					

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	Compound Not Detected.					
	35 2,4,5-Trichlorophenol	196	Compound Not Detected.					
$	36 2-Fluorobiphenyl	172	13.644	13.644	(0.908)	884571	4.24261	4.243
	37 2-Chloronaphthalene	162	Compound Not Detected.					
	38 2-Nitroaniline	65	Compound Not Detected.					
	39 Dimethylphthalate	163	Compound Not Detected.					
	40 Acenaphthylene	152	Compound Not Detected.					
	41 2,6-Dinitrotoluene	165	Compound Not Detected.					
*	42 Acenaphthene-d10	164	15.022	15.022	(1.000)	582233	4.00000	
	43 3-Nitroaniline	138	Compound Not Detected.					
	44 Acenaphthene	153	15.084	15.091	(1.004)	25460	0.14201	0.1420
	45 2,4-Dinitrophenol	184	Compound Not Detected.					
	46 Dibenzofuran	168	15.408	15.416	(1.026)	34804	0.14131	0.1413
	47 4-Nitrophenol	109	Compound Not Detected.					
	48 2,4-Dinitrotoluene	165	Compound Not Detected.					
	50 Diethylphthalate	149	15.980	15.988	(1.064)	62823	0.35739	0.3574
	49 Fluorene	166	16.112	16.120	(1.073)	27868	0.12465	0.1246
	51 4-Chlorophenyl-phenylether	204	Compound Not Detected.					
	52 4-Nitroaniline	138	Compound Not Detected.					
	53 4,6-Dinitro-2-methylphenol	198	Compound Not Detected.					
	54 N-Nitrosodiphenylamine	169	Compound Not Detected.					
$	55 2,4,6-Tribromophenol	330	16.644	16.644	(1.108)	183007	6.95618	6.956
	56 4-Bromophenyl-phenylether	248	Compound Not Detected.					
	57 Hexachlorobenzene	284	Compound Not Detected.					
	58 Pentachlorophenol	266	17.772	17.772	(0.985)	1837	0.05406	0.05406
*	59 Phenanthrene-d10	188	18.035	18.035	(1.000)	1017152	4.00000	
	60 Phenanthrene	178	18.073	18.081	(1.002)	253354	0.91247	0.9125
	61 Anthracene	178	18.166	18.174	(1.007)	140938	0.53239	0.5324
	62 Carbazole	167	18.499	18.499	(1.026)	37993	0.16298	0.1630
	63 Di-n-butylphthalate	149	19.311	19.311	(1.071)	23722	0.07670	0.07670
	64 Fluoranthene	202	20.464	20.456	(0.888)	852767	2.31726	2.317
	65 Pyrene	202	20.882	20.874	(0.906)	842166	2.17124	2.171
$	66 Terphenyl-d14	244	21.168	21.168	(0.918)	1174594	4.07180	4.072
	67 Butylbenzylphthalate	149	22.097	22.090	(0.958)	21868	0.13033	0.1303
	68 Benzo(a)anthracene	228	23.027	23.027	(0.999)	516515	1.42927	1.429
*	69 Chrysene-d12	240	23.058	23.058	(1.000)	1154845	4.00000	
	70 3,3'-Dichlorobenzidine	252	Compound Not Detected.					
	71 Chrysene	228	23.104	23.096	(1.002)	903648	2.41898	2.419
	72 bis(2-Ethylhexyl)phthalate	149	23.119	23.119	(0.960)	329543	1.19356	1.194
*	134 Di-n-octylphthalate-d4	153	24.095	24.087	(1.000)	1885460	4.00000	
	73 Di-n-octylphthalate	149	Compound Not Detected.					
	74 Benzo(b)fluoranthene	252	24.854	24.846	(0.972)	684239	2.34018	2.340
	75 Benzo(k)fluoranthene	252	24.885	24.885	(0.973)	693806	2.15739	2.157
	76 Benzo(a)pyrene	252	25.465	25.458	(0.996)	389384	1.33217	1.332
*	77 Perylene-d12	264	25.574	25.566	(1.000)	1050297	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	28.063	28.055	(1.097)	78936	0.21645	0.2165
	79 Dibenzo(a,h)anthracene	278	28.071	28.071	(1.098)	24558	0.08173	0.08173
	80 Benzo(g,h,i)perylene	276	28.801	28.785	(1.126)	50619	0.17399	0.1740(M)
	90 N-Nitrosodimethylamine	74	Compound Not Detected.					
	91 Aniline	93	Compound Not Detected.					
	93 Benzidine	184	Compound Not Detected.					
	103 Pyridine	79	Compound Not Detected.					
	105 1-methylnaphthalene	142	13.079	13.087	(1.143)	16101	0.08913	0.08913
	111 Azobenzene (1,2-DP-Hydrazine)	77	Compound Not Detected.					

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187 Total Benzofluoranthenes	252	24.854	24.885	(0.972)	1270208	4.33487	4.335
120 2,3,4,6-Tetrachlorophenol	232	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222322.D
Lab Smp Id: 23C0108-09
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322A.b\ABN.m
Misc Info:

Calibration Date: 23-MAR-2023
Calibration Time: 04:05
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	278642	139321	557284	304379	9.24
27 Naphthalene-d8	1051761	525881	2103522	1113487	5.87
42 Acenaphthene-d10	539174	269587	1078348	582233	7.99
59 Phenanthrene-d10	918099	459050	1836198	1017152	10.79
69 Chrysene-d12	992695	496348	1985390	1154845	16.33
134 Di-n-octylphthala	1524263	762132	3048526	1885460	23.70
77 Perylene-d12	955797	477899	1911594	1050297	9.89

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	-0.09
27 Naphthalene-d8	11.44	10.94	11.94	11.44	-0.00
42 Acenaphthene-d10	15.02	14.52	15.52	15.02	-0.00
59 Phenanthrene-d10	18.04	17.54	18.54	18.04	0.00
69 Chrysene-d12	23.06	22.56	23.56	23.06	0.00
134 Di-n-octylphthala	24.09	23.59	24.59	24.10	0.03
77 Perylene-d12	25.57	25.07	26.07	25.57	0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222322.D

Lab ID: 23C0108-09
nt18.i, ABN.m, 23-MAR-2023 07:26

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.953	0.962	-0.0097	Benzoic acid

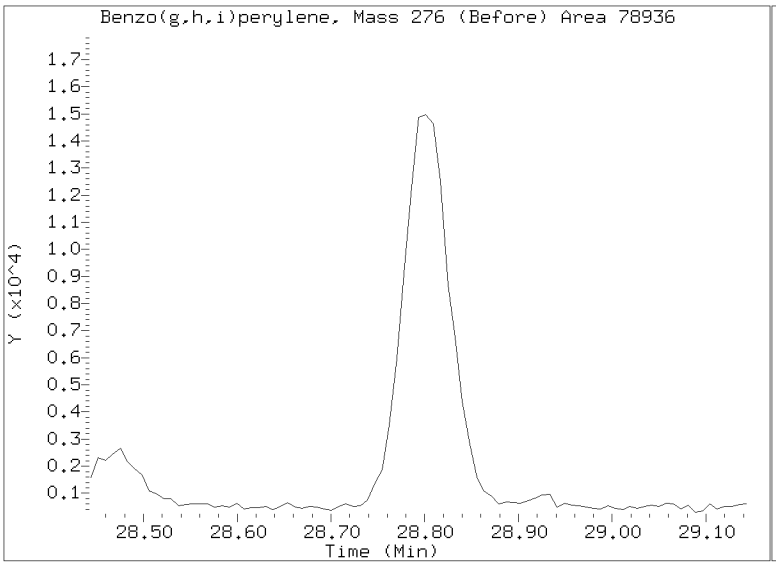
RRT check based on Ccal File: NT1803222317A.D

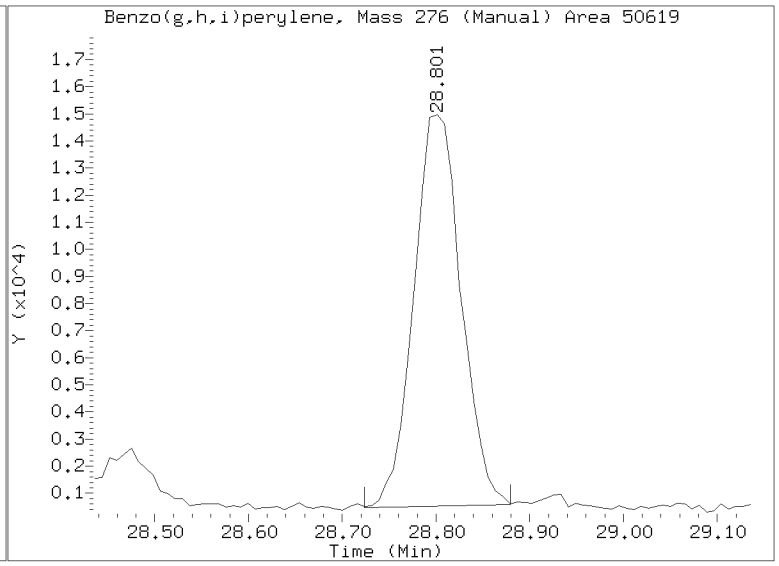
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230322A.b/NT1803222322.D
Injection Date: 23-MAR-2023 07:26
Lab ID:23C0108-09 Client ID:
Report Date: 04/05/2023 08:39





APPROVED

By Deenay Dunmore at 8:45 am, Apr 05, 2023

PREPARATION BATCH SUMMARY

EPA 8270E

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Batch: BLC0185 Batch Matrix: Solid
Preparation: EPA 3546 (Microwave)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-SC1044	23C0108-02	NT1803222311.D	03/09/23 13:26	
LDW23-SS1106	23C0108-06	NT1803222312.D	03/09/23 13:26	
LDW23-SS1107	23C0108-07	NT1803222313.D	03/09/23 13:26	
LDW23-SS1111	23C0108-08	NT1803222314.D	03/09/23 13:26	
LDW23-SS1118	23C0108-09	NT1803222322.D	03/09/23 13:26	
Blank	BLC0185-BLK1	NT1803222306.D	03/09/23 13:26	
Blank	BLC0185-BLK2	NT1803222321.D	03/09/23 13:26	
LCS	BLC0185-BS1	NT1803222307.D	03/09/23 13:26	
LCS Dup	BLC0185-BSD1	NT1803222308.D	03/09/23 13:26	
MRL Check	BLC0185-MRL1	NT1803222309.D	03/09/23 13:26	
LDW23-SS1111	BLC0185-MS1	NT1803222315.D	03/09/23 13:26	
LDW23-SS1111	BLC0185-MSD1	NT1803222316.D	03/09/23 13:26	
Reference	BLC0185-SRM1	NT1803222310.D	03/09/23 13:26	

Analytical Resources, LLC
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BLC0185

Prepared using: EPA 3546 (Microwave)

8270E SVOC (20ug/kg solid or 0.2ug/L low H2O Sepf) in Solid (Version:AOC4 List)

Matrix: Solid **Date Prepared:** 03/09/23 **Balance ID:** B146462614 **Set Up By:** CTO 3/8/23

WO Comments

23C0108: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)
23C0109: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

The following standards may be missing from this batch!

Designator	Description
39	Benzidine Spike

Analysis: 8270E SVOC (20ug/kg solid or 0.2ug/L low H2O Sepf)

Lab Number & Container	% Solids	Initial (g) Target Dry: 10 (Wet) Actual	(REQ) GPC C/U (1:1) 1 2 3	Water Wash 1mL	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
23C0108-02 A	52.7	(18.96) 18.96	(1:1)	1mL	1 ____	0.5 ____	
23C0108-06 A	43.3	(23.08) 23.10	(1:1)	1mL	1 ____	0.5 ____	
23C0108-07 A	40.2	(24.88) 24.92	(1:1)	1mL	1 ____	0.5 ____	
23C0108-08 A	46.4	(21.56) 21.59	(1:1)	1mL	1 ____	0.5 ____	
23C0108-09 A	42.6	(23.46) 23.52	(1:1)	1mL	1 ____	0.5 ____	
23C0109-02 A	35.9	(27.86) 27.89	(1:1)	1mL	1 ____	0.5 ____	
23C0109-03 A	36.1	(27.68) 27.68	(1:1)	1mL	1 ____	0.5 ____	

Batch QC

Lab Number	% Solids	Initial (g) Target Dry: 10 (Wet) Actual	(REQ) GPC C/U (1:1) 1 2 3	Water Wash 1mL	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
BLC0185-BLK1	100.0	(10.00) 10.00	(1:1)	1mL	1 ____	0.5 ____	Use 5g Neutral Sodium Sulfate for Blanks
BLC0185-BS1	100.0	(10.00) 10.00	(1:1)	1mL	1 ____	0.5 ____	Use 5g Neutral Sodium Sulfate for Blanks
BLC0185-BSD1	100.0	(10.00) 10.00	(1:1)	1mL	1 ____	0.5 ____	Use 5g Neutral Sodium Sulfate for Blanks
BLC0185-MRL1	100.0	(10.00) 10.00	(1:1)	1mL	1 ____	0.5 ____	Use 5g Neutral Sodium Sulfate for Blanks
BLC0185-MS1	46.4	(21.56) 21.59	(1:1)	1mL	1 ____	0.5 ____	Use 23C0108-08
BLC0185-MSD1	46.4	(21.56) 21.56	(1:1)	1mL	1 ____	0.5 ____	Use 23C0108-08
BLC0185-SRM1	100.0	~~(10.00)~~ (1.00) 1.00 +1g DI WATER	(1:1)	1mL	1 ____	0.5 ____	Use K003477

Client ID verified By 03/09/23 Date

NMS 3/14/23 Preparation Reviewed By Date

03/09/23 13:26 Extraction Date and Time

Printed: 3/8/2023 10:23:45AM

Analytical Resources, LLC
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BLC0185

Prepared using: EPA 3546 (Microwave)

8270E SVOC (20ug/kg solid or 0.2ug/L low H2O Sepf) in Solid (Version:AOC4 List)

WO Comments

23C0108: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)
23C0109: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

Prep Steps	Reagents Used	
Microwave 0 2 3 CT 03/09/23 Analyst/Date	**Station/Reagent**	**Standard ID**
	Microwave **Analyst:** CT **Date:** 03/09/23	
	Anhydrous Sodium Sulfate	LØØ2114
	1:1 Methylene Chloride/Acetone	LØØ1416
	Methylene Chloride	KØØ5941
	Pre-Deactivated Glass Wool	LØØ1923
Pre-GPC KD 100°C Exchange to Hexane (add 10 mL to KD) 0 2 4 5 6 LD 3-10-23 Analyst/Date	**Pre GPC KD** **Analyst:** LD **Date:** 3-10-23	
	Pre-Deactivated Glass Wool	
	Anhydrous Sodium Sulfate	
	Methylene Chloride	M005941
	Hexane	L000989
TurboVap **Pre GPC** 1 2 3 4 5 NKB 3/10/23 Analyst/Date	**GPC Filter Prep** **Analyst:** NKB **Date:** 3/10/23	
	Methylene Chloride	K005941
	GPC Filter	L001799
Post GPC KD 80-85°C 0 2 4 5 6 LD 3-16 Analyst/Date	**GPC** **Analyst:** TWC **Date:** 3/14/23	
	Methylene Chloride	K005941
	GPC Calibration File	CLCØØ922 GPC2
TurboVap 1 2 3 4 5 NKB 3/17/23 Analyst/Date	**Post GPC KD** **Analyst:** LD **Date:** 3-16-23	
	Methylene Chloride	M005941
Water Wash NKB 3/17/23 Analyst/Date	**Vialing** **Analyst:** NKB **Date:** 3/17/23	
	Methylene Chloride	K005941

Surrogates & Spike Standards Used

Type	Vial ID / Standard ID	Vol uL	Analyst	Witness
Surrogate 100/150µg/mL	**A** L001153 (V) Exp Date: 8/1/2023	50µL	CT	✓
Full List Spike (Freezer) 100µg/mL	**7** L001812 (V) Exp LØØ1781 Date: 8/4/2023	50µL	CT	✓
Base Spike 200µg/mL	**56** L001812 (V) Exp LØØ1778 Date: 8/24/2023	50µL	CT	✓
Acid Spike 100/200µg/mL	**38** L001812 (V) Exp LØØ1779 Date: 8/24/2023	50µL	CT	✓
QLS Spike (Freezer) 10-100µg/mL	**QLS** 14 K011585 (V) Exp Date: 5/31/2023	20µL	CT	✓

MANUALLY ENTER EXPIRATION DATES!

(V) indicates a virtual standard combining two or more physical standards. In these cases the Standard ID refers to the virtual standard, not the parent standards.

If a Standard ID is missing, but should be present, check the standard definition in Element LIMS to be sure Standard Info 6 has the correct letter or number designator matching the vial designator inthe Standard ID column. If it is correct, check the batch and bench sheet in Element LIMS to be sure the correct standards are selected for surrogate(s) and spike(s).

Analytical Resources, LLC
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BLC0185

Prepared using: EPA 3546 (Microwave)

8270E SVOC (20ug/kg solid or 0.2ug/L low H2O Sepf) in Solid (Version:AOC4 List)

WO Comments

23C0108: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

23C0109: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

Prep Instructions	
SPECIAL INSTRUCTIONS: 1. Weigh into beakers-lightly dry with Sodium Sulfate. 2. Transfer to microwave vessel. 3. Add DCM ONLY to the vessels (until solvent is 3 inches above soil layer after homogenization). 4. Add surr/spike. 5. Microwave on appropriate power setting determined by # of samples. 6. After microwave-re-homogenize while hot then let cool 10-15 min in Refridgerator 05. Re-homogenize while cool. 7. Decant DCM into Erlenmeyer flask with a funnel containing pre-deactivated glasswool. 8. Rinse with DCM 9. Microwave a 2nd time using 1:1 DCM/ACE. 10. Let cool and decant the solvent then empty the soil into the funnel and rinse with DCM. 11. KD: Add 10 mL Hexane directly to extract in the KD. 12. GPC REQUIRED 100°C water bath (CLP) KD to 5mL. 13. Vialers to take 1:5 Split Pre- GPC. 14. (After GPC): KD at 80°C. 15. TurboVap to 1mL in DCM. 16. WATER WASH REQUIRED: 16a. Vial 1mL of all extracts in 2mL amber vials in DCM. 16b. Add ~0.5mL DI water and vortex for ~5 seconds each. 16c. Centrifuge extracts for 5 minutes at 1500-2000rpm. 16d. Transfer and vial 0.5mL to new 2mL amber vials (Avoiding collecting water in syringe and cleaning syringe with Acetone and DCM between each vial). 17. Archive water wahed vials and deliever new vials to GC Department for analysis. A. Need Total Solids Y (N) B. Archive/Freeze (Y) N	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

Extraction Parameter: SVOA Extraction Batch: BL C0185

Total Solids Batch: ~~BLA~~ BLC0101 Work Order(s): 23C0102, 108, 109

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☒ No Anomalies (standard soil/wet sediment/sand/gravel)= 108, 109	CR 3/7/23
☒ Standing Water Decanted (Not shared)= 107:01	CR 3/7/23
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☐ Rocks (%+size)?	
☐ Organics (Leaves/sticks/grass)=	
☒ Oily, obvious fuel/sulfur odors= 107:01	CR 3/7/23
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☒ Previously Frozen = 107, 108, 109	CR 3/7/23
☐ Other (Details)=	
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☒ Other Notes/Comments= (Note problems, concerns, corrective actions).	
~10-15 minutes of PSI issues on GPC for 23C0109-02. PSI issue resolved mid run.	CR 3/15/23
☒ Share Samples Y / (N)	CR 3/7/23
☒ Multiple Jars Y / (N)	CR 3/7/23
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Cleanup Batch:	CLC0143	Cleanup Type:	GPC
Cleanup Method:	EPA 3640A GPC Cleanup 1:1	Analysis:	EPA 8270E

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LCS	BLC0185-BS1	NT1803222307.D	03/17/2023	
Reference	BLC0185-SRM1	NT1803222310.D	03/17/2023	
LCS Dup	BLC0185-BSD1	NT1803222308.D	03/17/2023	
LDW23-SC1044	23C0108-02	NT1803222311.D	03/17/2023	
LDW23-SS1106	23C0108-06	NT1803222312.D	03/17/2023	
LDW23-SS1107	23C0108-07	NT1803222313.D	03/17/2023	
LDW23-SS1111	23C0108-08	NT1803222314.D	03/17/2023	
LDW23-SS1118	23C0108-09	NT1803222322.D	03/17/2023	
Matrix Spike Dup	BLC0185-MSD1	NT1803222316.D	03/17/2023	
Matrix Spike	BLC0185-MS1	NT1803222315.D	03/17/2023	
Blank	BLC0185-BLK2	NT1803222321.D	03/17/2023	
MRL Check	BLC0185-MRL1	NT1803222309.D	03/17/2023	
Blank	BLC0185-BLK1	NT1803222306.D	03/17/2023	

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CLC0143

Matrix: Solid **Cleanup using: Organics - EPA 3640A GPC Cleanup 1:1** **Check Standard: CLC0092-GPC1** **Printed: 3/17/2023 10:35:49AM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
23C0108-02	A	LDW23-SC1044	A 02	1	1	SVOC (20ug/kg solid or 0.2ug/L low H2	3/17/2023	NRB	
23C0108-02	A	LDW23-SC1044	A 03	1	1	8270E-SIM Dual Scan SVOC	3/17/2023	NRB	
23C0108-06	A	LDW23-SS1106	A 02	1	1	SVOC (20ug/kg solid or 0.2ug/L low H2	3/17/2023	NRB	
23C0108-06	A	LDW23-SS1106	A 03	1	1	8270E-SIM Dual Scan SVOC	3/17/2023	NRB	
23C0108-07	A	LDW23-SS1107	A 02	1	1	SVOC (20ug/kg solid or 0.2ug/L low H2	3/17/2023	NRB	
23C0108-07	A	LDW23-SS1107	A 03	1	1	8270E-SIM Dual Scan SVOC	3/17/2023	NRB	
23C0108-08	A	LDW23-SS1111	A 02	1	1	SVOC (20ug/kg solid or 0.2ug/L low H2	3/17/2023	NRB	
23C0108-08	A	LDW23-SS1111	A 03	1	1	8270E-SIM Dual Scan SVOC	3/17/2023	NRB	
23C0108-09	A	LDW23-SS1118	A 03	1	1	8270E-SIM Dual Scan SVOC	3/17/2023	NRB	
23C0108-09	A	LDW23-SS1118	A 02	1	1	SVOC (20ug/kg solid or 0.2ug/L low H2	3/17/2023	NRB	
23C0109-02	A	LDW23-SS1104	A 02	1	1	SVOC (20ug/kg solid or 0.2ug/L low H2	3/17/2023	NRB	
23C0109-02	A	LDW23-SS1104	A 03	1	1	8270E-SIM Dual Scan SVOC	3/17/2023	NRB	
23C0109-03	A	LDW23-SS1105	A 02	1	1	SVOC (20ug/kg solid or 0.2ug/L low H2	3/17/2023	NRB	
23C0109-03	A	LDW23-SS1105	A 03	1	1	8270E-SIM Dual Scan SVOC	3/17/2023	NRB	
BLC0185-BLK1	-	Blank	-	1	1	-	3/17/2023	NRB	
BLC0185-BLK2	-	Blank	-	1	1	-	3/17/2023	NRB	
BLC0185-BS1	-	LCS	-	1	1	-	3/17/2023	NRB	
BLC0185-BS2	-	LCS	-	1	1	-	3/17/2023	NRB	
BLC0185-BSD1	-	LCS Dup	-	1	1	-	3/17/2023	NRB	
BLC0185-BSD2	-	LCS Dup	-	1	1	-	3/17/2023	NRB	
BLC0185-MRL1	-	MRL Check	-	1	1	-	3/17/2023	NRB	
BLC0185-MS1	-	Matrix Spike	-	1	1	-	3/17/2023	NRB	

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CLC0143

Matrix: Solid **Cleanup using: Organics - EPA 3640A GPC Cleanup 1:1** **Check Standard: CLC0092-GPC1** **Printed: 3/17/2023 10:35:49AM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
BLC0185-MS2	-	Matrix Spike	-	1	1	-	3/17/2023	NRB	
BLC0185-MSD1	-	Matrix Spike Dup	-	1	1	-	3/17/2023	NRB	
BLC0185-MSD2	-	Matrix Spike Dup	-	1	1	-	3/17/2023	NRB	
BLC0185-SRM1	-	Reference	-	1	1	-	3/17/2023	NRB	
BLC0185-SRM2	-	Reference	-	1	1	-	3/17/2023	NRB	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I

METHOD BLANK DATA SHEET

EPA 8270E

Blank

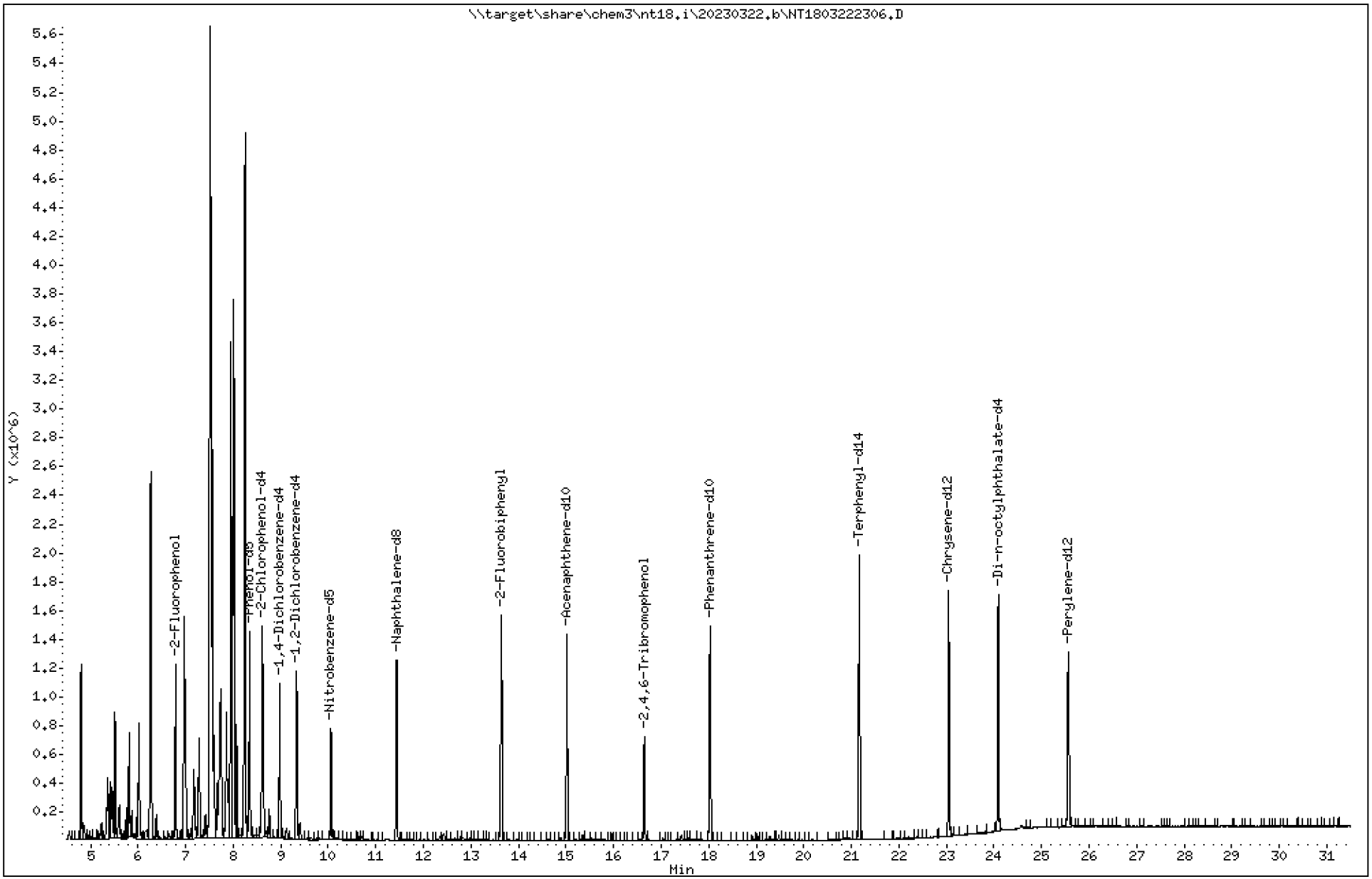
Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Solid	Laboratory ID:	BLC0185-BLK1	File ID:	NT1803222306.D
Sampled:	N/A	Prepared:	03/09/23 13:26	Analyzed:	03/22/23 20:39
Solids:		Preparation:	EPA 3546 (Microwave)	Initial/Final:	10 g / 1 mL
Batch:	BLC0185	Sequence:	SLD0051	Calibration:	GC00085
Instrument:	NT18	Column:	ZB-5MS	Cleanups:	GPC

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg wet)	Q	DL	RL
108-95-2	Phenol	1	20.0	U	4.4	20.0
106-44-5	4-Methylphenol	1	20.0	U	7.4	20.0
91-20-3	Naphthalene	1	20.0	U	4.2	20.0
91-57-6	2-Methylnaphthalene	1	20.0	U	4.5	20.0
208-96-8	Acenaphthylene	1	20.0	U	6.2	20.0
131-11-3	Dimethylphthalate	1	20.0	U	4.4	20.0
83-32-9	Acenaphthene	1	20.0	U	5.2	20.0
132-64-9	Dibenzofuran	1	20.0	U	14.1	20.0
86-73-7	Fluorene	1	20.0	U	14.6	20.0
85-01-8	Phenanthrene	1	20.0	U	8.7	20.0
120-12-7	Anthracene	1	20.0	U	7.2	20.0
206-44-0	Fluoranthene	1	20.0	U	6.1	20.0
129-00-0	Pyrene	1	20.0	U	5.7	20.0
85-68-7	Butylbenzylphthalate	1	20.0	U	9.4	20.0
56-55-3	Benzo(a)anthracene	1	20.0	U	6.0	20.0
218-01-9	Chrysene	1	20.0	U	6.1	20.0
117-81-7	bis(2-Ethylhexyl)phthalate	1	50.0	U	5.5	50.0
	Benzofluoranthenes, Total	1	40.0	U	10.0	40.0
50-32-8	Benzo(a)pyrene	1	20.0	U	4.2	20.0
193-39-5	Indeno(1,2,3-cd)pyrene	1	20.0	U	14.7	20.0
53-70-3	Dibenzo(a,h)anthracene	1	20.0	U	17.2	20.0
191-24-2	Benzo(g,h,i)perylene	1	20.0	U	13.6	20.0

SURROGATES	ADDED: (ug/kg wet)	FOUND: (ug/kg wet)	% REC	QC LIMITS	Q
2-Fluorophenol	750.00	571	76.2	27 - 120	
Phenol-d5	750.00	633	84.5	29 - 120	
2-Chlorophenol-d4	750.00	642	85.6	31 - 120	
1,2-Dichlorobenzene-d4	500.00	419	83.9	32 - 120	
Nitrobenzene-d5	500.00	477	95.3	30 - 120	
2-Fluorobiphenyl	500.00	456	91.2	35 - 120	
2,4,6-Tribromophenol	750.00	536	71.5	24 - 134	
p-Terphenyl-d14	500.00	501	100	37 - 120	

Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222306.D
Date : 22-MAR-2023 20:39
Client ID:
Sample Info: BLC0185-BLK1

Instrument: nt18.i
Operator: VTS
Column phase: ZB-5msi
Column diameter: 0.25



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Date : 22-MAR-2023 20:39

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK1

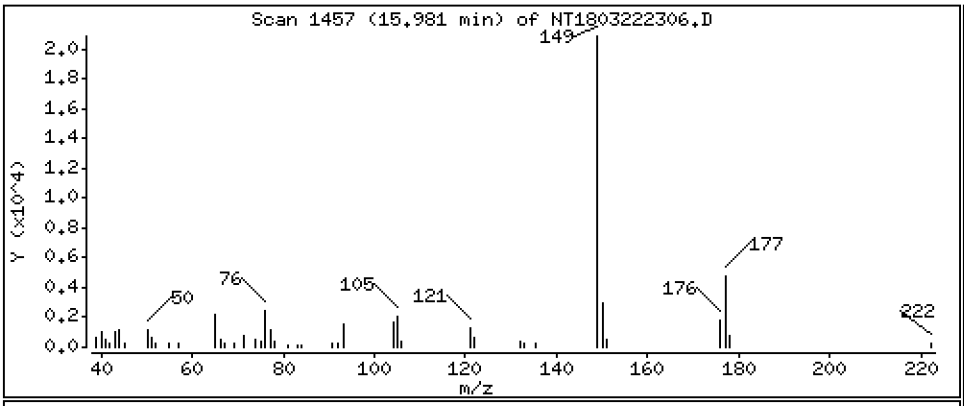
Operator: VTS

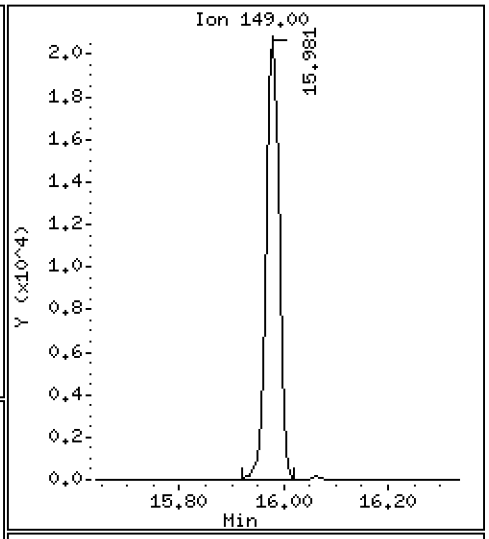
Column phase: ZB-5msi

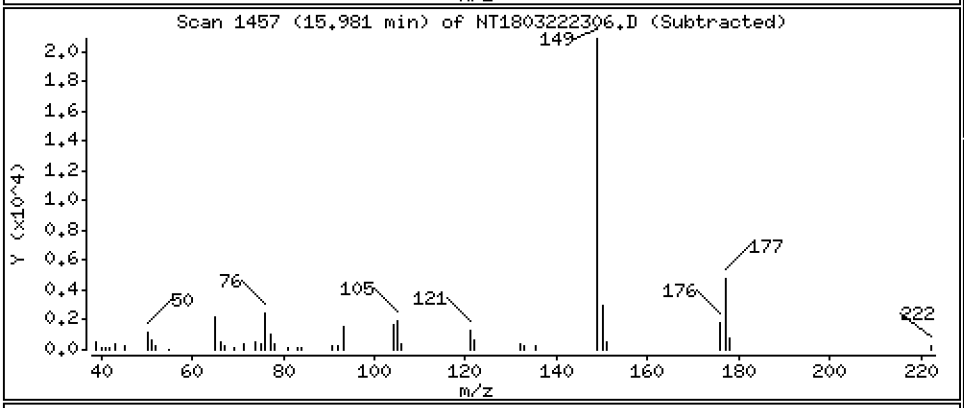
Column diameter: 0.25

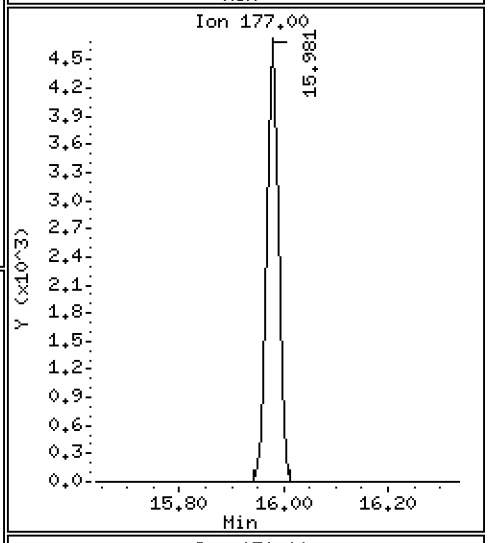
50 Diethylphthalate

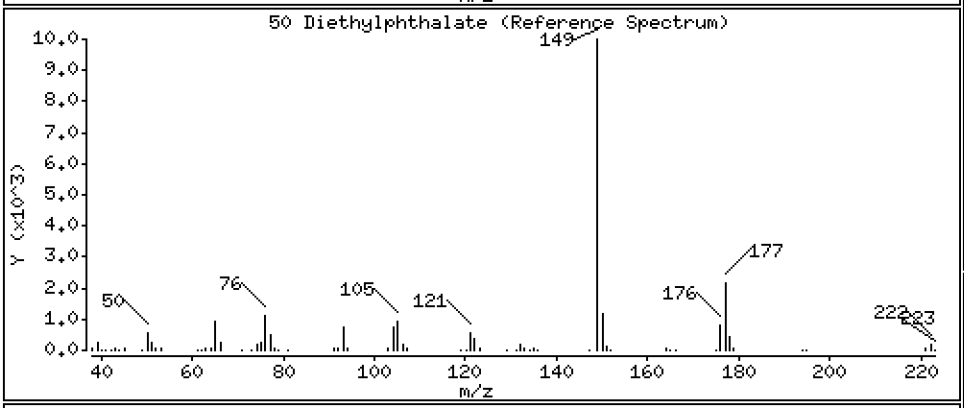
Concentration: 0.2051 ug/mL

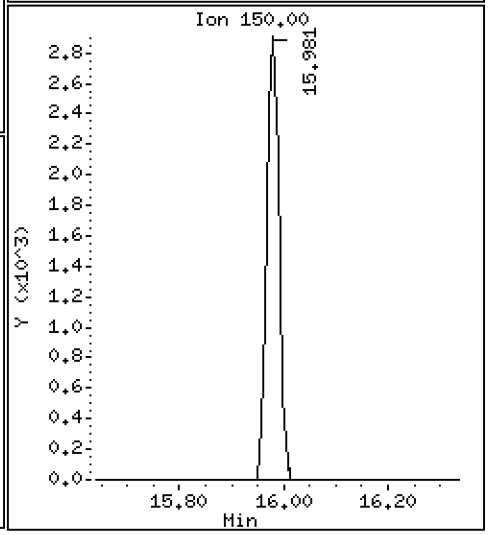


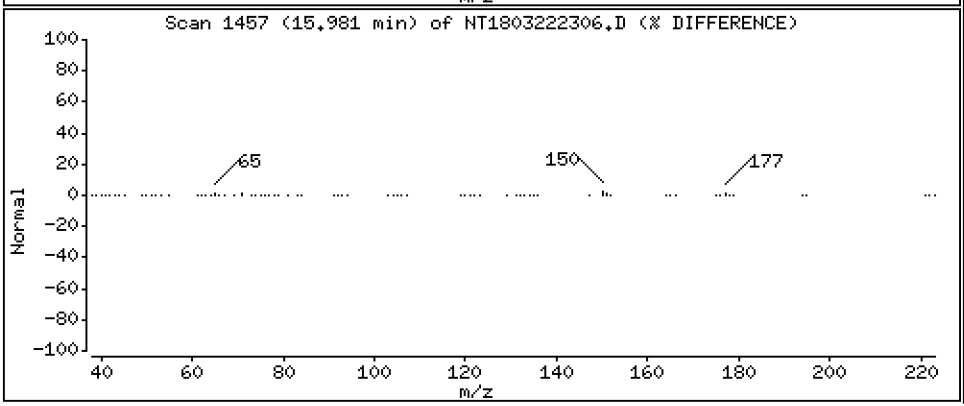












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Date : 22-MAR-2023 20:39

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK1

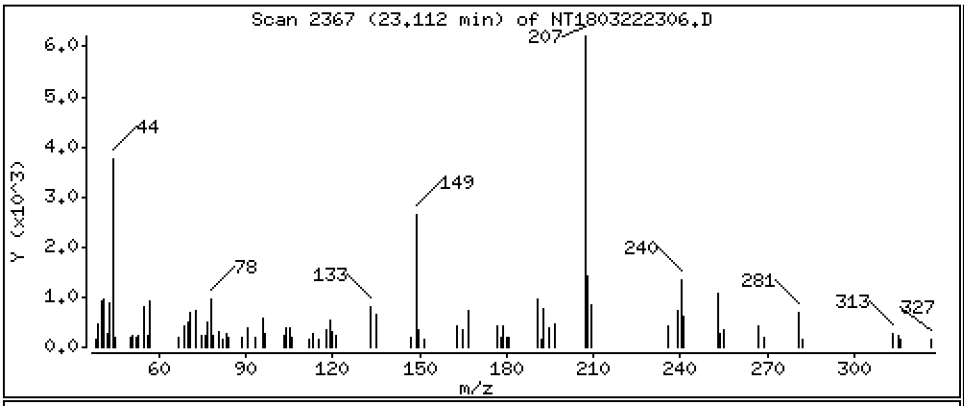
Operator: VTS

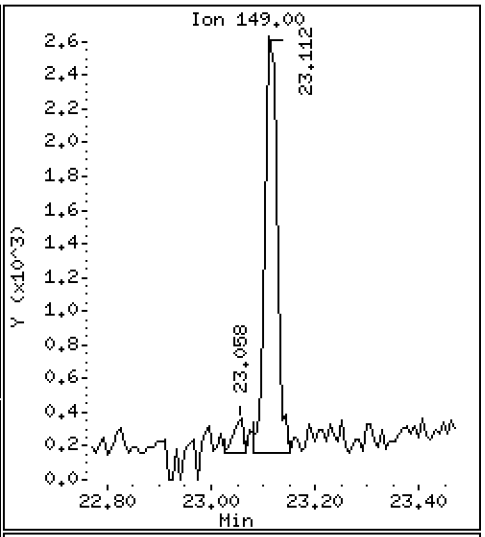
Column phase: ZB-5msi

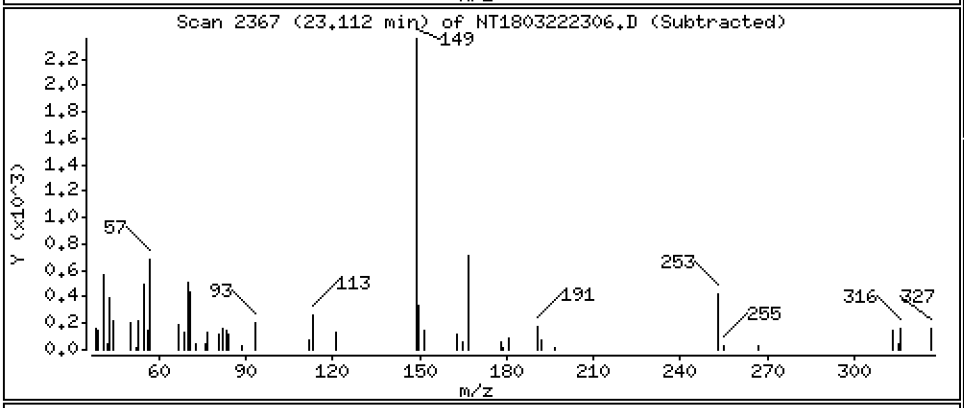
Column diameter: 0.25

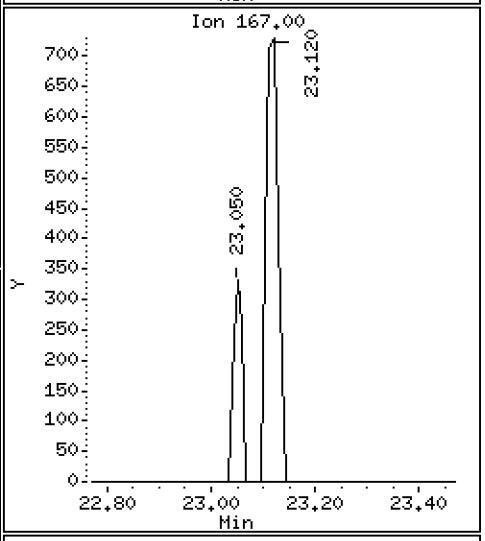
72 bis(2-Ethylhexyl)phthalate

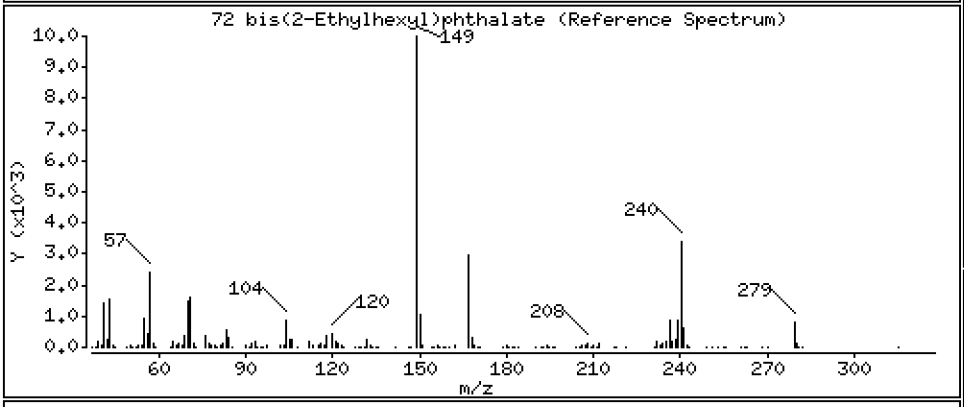
Concentration: 0.02096 ug/mL

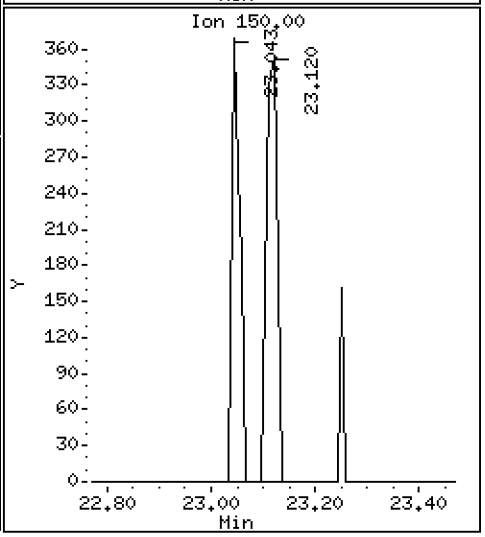


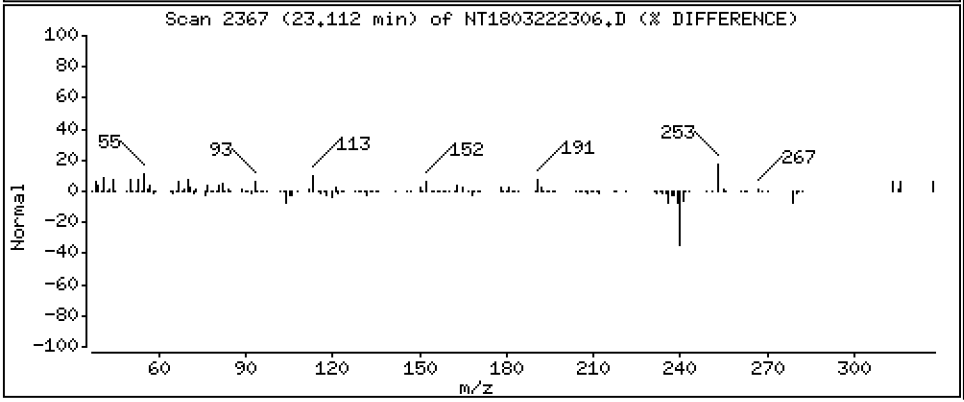












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230322.b\NT1803222306.D
Lab Smp Id: BLC0185-BLK1
Inj Date : 22-MAR-2023 20:39
Operator : VTS Inst ID: nt18.i
Smp Info : BLC0185-BLK1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230322.b\ABN.m
Meth Date : 04-Apr-2023 14:27 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 15:18 Cal File: NT1803192302.D
Als bottle: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: DEENAY-201905

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$ 1	2-Fluorophenol	112	6.788	6.773	(0.756)	509354	5.71307	5.713
$ 2	Phenol-d5	99	8.341	8.341	(0.929)	697658	6.33421	6.334
3	Phenol	94	Compound Not Detected.					
$ 5	2-Chlorophenol-d4	132	8.619	8.619	(0.960)	613190	6.42270	6.423
4	Bis(2-Chloroethyl)ether	93	Compound Not Detected.					
6	2-Chlorophenol	128	Compound Not Detected.					
7	1,3-Dichlorobenzene	146	Compound Not Detected.					
* 8	1,4-Dichlorobenzene-d4	152	8.975	8.983	(1.000)	289200	4.00000	
9	1,4-Dichlorobenzene	146	Compound Not Detected.					
$ 10	1,2-Dichlorobenzene-d4	152	9.332	9.332	(1.040)	293752	4.19327	4.193
12	1,2-Dichlorobenzene	146	Compound Not Detected.					
11	Benzyl alcohol	108	Compound Not Detected.					
14	2,2'-oxybis(1-Chloropropane)	121	Compound Not Detected.					
13	2-Methylphenol	108	Compound Not Detected.					
17	Hexachloroethane	117	Compound Not Detected.					
16	N-Nitroso-di-n-propylamine	70	Compound Not Detected.					
15	4-Methylphenol	108	Compound Not Detected.					
$ 18	Nitrobenzene-d5	82	10.054	10.062	(0.879)	416639	4.76540	4.765
19	Nitrobenzene	77	Compound Not Detected.					
20	Isophorone	82	Compound Not Detected.					
21	2-Nitrophenol	139	Compound Not Detected.					
22	2,4-Dimethylphenol	107	Compound Not Detected.					
23	Bis(2-Chloroethoxy)methane	93	Compound Not Detected.					
24	Benzoic acid	105	Compound Not Detected.					
25	2,4-Dichlorophenol	162	Compound Not Detected.					
26	1,2,4-Trichlorobenzene	180	Compound Not Detected.					
* 27	Naphthalene-d8	136	11.439	11.439	(1.000)	1060662	4.00000	
28	Naphthalene	128	Compound Not Detected.					
29	4-Chloroaniline	127	Compound Not Detected.					
30	Hexachlorobutadiene	225	Compound Not Detected.					
31	4-Chloro-3-methylphenol	107	Compound Not Detected.					
32	2-Methylnaphthalene	142	Compound Not Detected.					
33	Hexachlorocyclopentadiene	237	Compound Not Detected.					

			QUANT SIG					CONCENTRATIONS ON-COLUMN	FINAL
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/mL)	(ug/mL)
	34	2,4,6-Trichlorophenol	196	Compound Not Detected.					
	35	2,4,5-Trichlorophenol	196	Compound Not Detected.					
$	36	2-Fluorobiphenyl	172	13.637	13.644	(0.908)	903271	4.56028	4.560
	37	2-Chloronaphthalene	162	Compound Not Detected.					
	38	2-Nitroaniline	65	Compound Not Detected.					
	39	Dimethylphthalate	163	Compound Not Detected.					
	40	Acenaphthylene	152	Compound Not Detected.					
	41	2,6-Dinitrotoluene	165	Compound Not Detected.					
*	42	Acenaphthene-d10	164	15.022	15.022	(1.000)	553126	4.00000	
	43	3-Nitroaniline	138	Compound Not Detected.					
	44	Acenaphthene	153	Compound Not Detected.					
	45	2,4-Dinitrophenol	184	Compound Not Detected.					
	46	Dibenzofuran	168	Compound Not Detected.					
	47	4-Nitrophenol	109	Compound Not Detected.					
	48	2,4-Dinitrotoluene	165	Compound Not Detected.					
	50	Diethylphthalate	149	15.980	15.988	(1.064)	34254	0.20512	0.2051
	49	Fluorene	166	Compound Not Detected.					
	51	4-Chlorophenyl-phenylether	204	Compound Not Detected.					
	52	4-Nitroaniline	138	Compound Not Detected.					
	53	4,6-Dinitro-2-methylphenol	198	Compound Not Detected.					
	54	N-Nitrosodiphenylamine	169	Compound Not Detected.					
$	55	2,4,6-Tribromophenol	330	16.644	16.644	(1.108)	132711	5.35897	5.359
	56	4-Bromophenyl-phenylether	248	Compound Not Detected.					
	57	Hexachlorobenzene	284	Compound Not Detected.					
	58	Pentachlorophenol	266	Compound Not Detected.					
*	59	Phenanthrene-d10	188	18.027	18.035	(1.000)	969922	4.00000	
	60	Phenanthrene	178	Compound Not Detected.					
	61	Anthracene	178	Compound Not Detected.					
	62	Carbazole	167	Compound Not Detected.					
	63	Di-n-butylphthalate	149	Compound Not Detected.					
	64	Fluoranthene	202	Compound Not Detected.					
	65	Pyrene	202	Compound Not Detected.					
$	66	Terphenyl-d14	244	21.168	21.168	(0.918)	1067574	5.01431	5.014
	67	Butylbenzylphthalate	149	Compound Not Detected.					
	68	Benzo(a)anthracene	228	Compound Not Detected.					
*	69	Chrysene-d12	240	23.050	23.050	(1.000)	852333	4.00000	
	70	3,3'-Dichlorobenzidine	252	Compound Not Detected.					
	71	Chrysene	228	Compound Not Detected.					
	72	bis(2-Ethylhexyl)phthalate	149	23.112	23.119	(0.960)	3789	0.02096	0.02096(H)
*	134	Di-n-octylphthalate-d4	153	24.087	24.087	(1.000)	1228218	4.00000	
	73	Di-n-octylphthalate	149	Compound Not Detected.					
	74	Benzo(b)fluoranthene	252	Compound Not Detected.					
	75	Benzo(k)fluoranthene	252	Compound Not Detected.					
	76	Benzo(a)pyrene	252	Compound Not Detected.					
*	77	Perylene-d12	264	25.558	25.566	(1.000)	829594	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
	79	Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	80	Benzo(g,h,i)perylene	276	Compound Not Detected.					
	90	N-Nitrosodimethylamine	74	Compound Not Detected.					
	91	Aniline	93	Compound Not Detected.					
	93	Benzidine	184	Compound Not Detected.					
	103	Pyridine	79	Compound Not Detected.					
	105	1-methylnaphthalene	142	Compound Not Detected.					
	111	Azobenzene (1,2-DP-Hydrazine)	77	Compound Not Detected.					

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187 Total Benzofluoranthenes	252	Compound Not Detected.					
120 2,3,4,6-Tetrachlorophenol	232	Compound Not Detected.					

QC Flag Legend

H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222306.D
Lab Smp Id: BLC0185-BLK1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322.b\ABN.m
Misc Info:

Calibration Date: 22-MAR-2023
Calibration Time: 17:55
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	259918	129959	519836	289200	11.27
27 Naphthalene-d8	969410	484705	1938820	1060662	9.41
42 Acenaphthene-d10	510287	255144	1020574	553126	8.40
59 Phenanthrene-d10	882628	441314	1765256	969922	9.89
69 Chrysene-d12	800073	400037	1600146	852333	6.53
134 Di-n-octylphthala	1258607	629304	2517214	1228218	-2.41
77 Perylene-d12	911909	455955	1823818	829594	-9.03

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	-0.09
27 Naphthalene-d8	11.44	10.94	11.94	11.44	-0.00
42 Acenaphthene-d10	15.02	14.52	15.52	15.02	-0.00
59 Phenanthrene-d10	18.04	17.54	18.54	18.03	-0.04
69 Chrysene-d12	23.05	22.55	23.55	23.05	-0.00
134 Di-n-octylphthala	24.09	23.59	24.59	24.09	-0.00
77 Perylene-d12	25.57	25.07	26.07	25.56	-0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222306.D

Lab ID: BLC0185-BLK1
nt18.i, ABN.m, 22-MAR-2023 20:39

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

RRT check based on Ccal File: NT1803222302.D

On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I

METHOD BLANK DATA SHEET

EPA 8270E

Blank

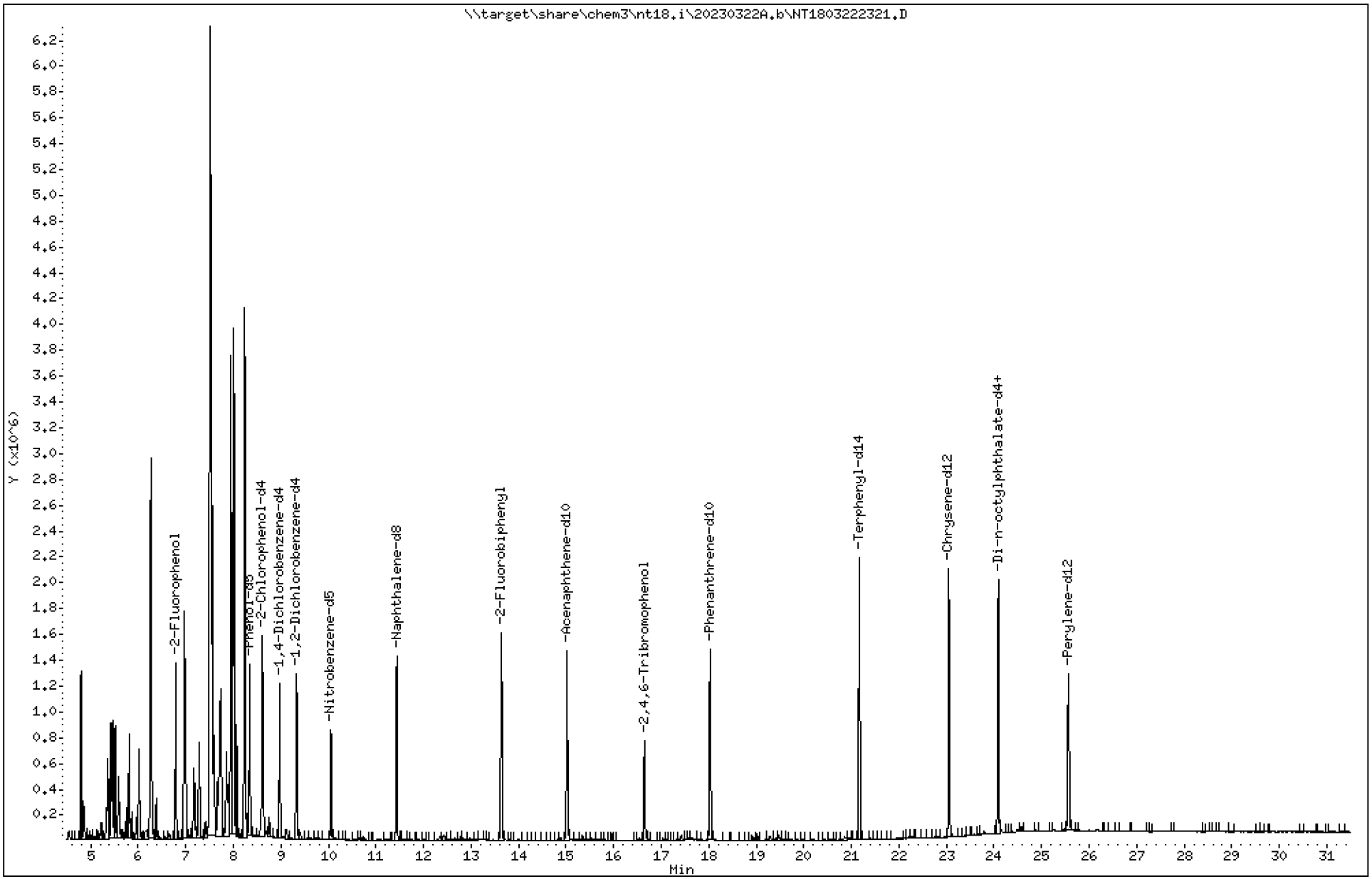
Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Solid	Laboratory ID:	BLC0185-BLK2	File ID:	NT1803222321.D
Sampled:	N/A	Prepared:	03/09/23 13:26	Analyzed:	03/23/23 06:46
Solids:		Preparation:	EPA 3546 (Microwave)	Initial/Final:	10 g / 1 mL
Batch:	BLC0185	Sequence:	SLD0056	Calibration:	GC00085
Instrument:	NT18	Column:	ZB-5MS	Cleanups:	GPC

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg wet)	Q	DL	RL
108-95-2	Phenol	1	20.0	U	4.4	20.0
106-44-5	4-Methylphenol	1	20.0	U	7.4	20.0
91-20-3	Naphthalene	1	20.0	U	4.2	20.0
91-57-6	2-Methylnaphthalene	1	20.0	U	4.5	20.0
208-96-8	Acenaphthylene	1	20.0	U	6.2	20.0
131-11-3	Dimethylphthalate	1	20.0	U	4.4	20.0
83-32-9	Acenaphthene	1	20.0	U	5.2	20.0
132-64-9	Dibenzofuran	1	20.0	U	14.1	20.0
86-73-7	Fluorene	1	20.0	U	14.6	20.0
85-01-8	Phenanthrene	1	20.0	U	8.7	20.0
120-12-7	Anthracene	1	20.0	U	7.2	20.0
206-44-0	Fluoranthene	1	20.0	U	6.1	20.0
129-00-0	Pyrene	1	20.0	U	5.7	20.0
85-68-7	Butylbenzylphthalate	1	20.0	U	9.4	20.0
56-55-3	Benzo(a)anthracene	1	20.0	U	6.0	20.0
218-01-9	Chrysene	1	20.0	U	6.1	20.0
117-81-7	bis(2-Ethylhexyl)phthalate	1	50.0	U	5.5	50.0
	Benzofluoranthenes, Total	1	40.0	U	10.0	40.0
50-32-8	Benzo(a)pyrene	1	20.0	U	4.2	20.0
193-39-5	Indeno(1,2,3-cd)pyrene	1	20.0	U	14.7	20.0
53-70-3	Dibenzo(a,h)anthracene	1	20.0	U	17.2	20.0
191-24-2	Benzo(g,h,i)perylene	1	20.0	U	13.6	20.0

SURROGATES	ADDED: (ug/kg wet)	FOUND: (ug/kg wet)	% REC	QC LIMITS	Q
2-Fluorophenol	750.00	575	76.6	27 - 120	
Phenol-d5	750.00	616	82.1	29 - 120	
2-Chlorophenol-d4	750.00	637	84.9	31 - 120	
1,2-Dichlorobenzene-d4	500.00	423	84.7	32 - 120	
Nitrobenzene-d5	500.00	494	98.8	30 - 120	
2-Fluorobiphenyl	500.00	458	91.6	35 - 120	
2,4,6-Tribromophenol	750.00	571	76.2	24 - 134	
p-Terphenyl-d14	500.00	453	90.7	37 - 120	

Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222321.D
Date : 23-MAR-2023 06:46
Client ID:
Sample Info: BLC0185-BLK2

Instrument: nt18.i
Operator: VTS
Column phase: ZB-5msi
Column diameter: 0.25



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Date : 23-MAR-2023 06:46

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK2

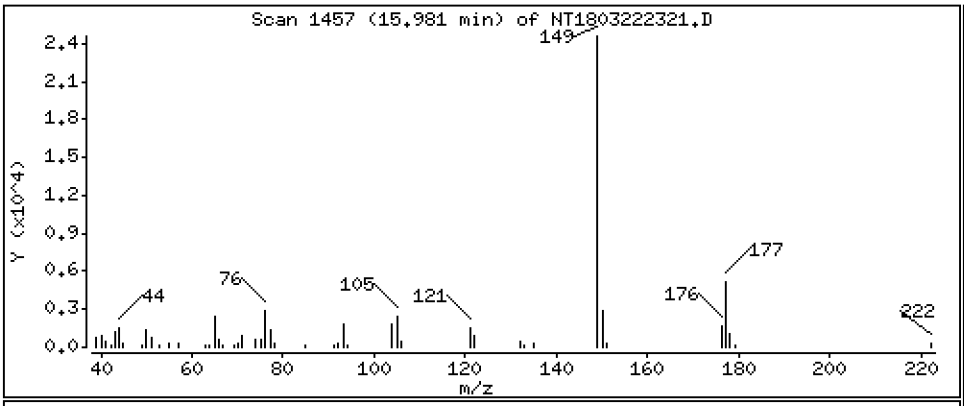
Operator: VTS

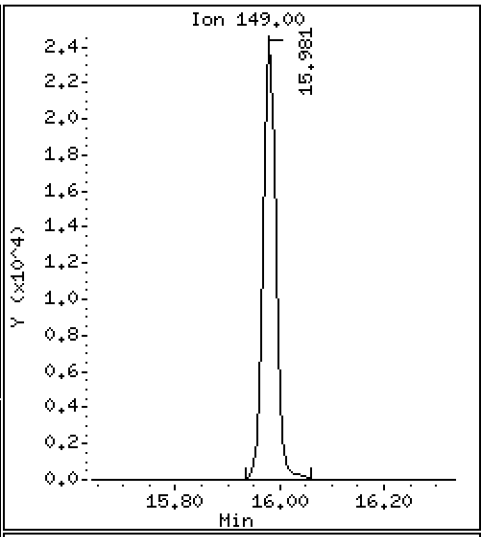
Column phase: ZB-5msi

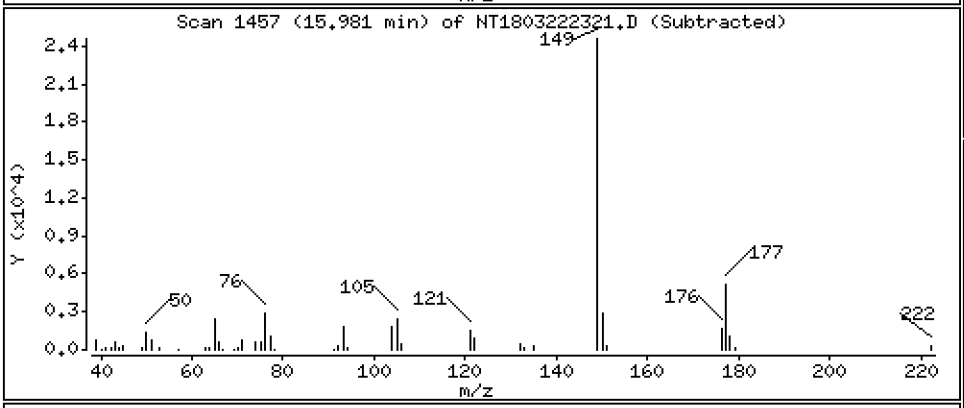
Column diameter: 0.25

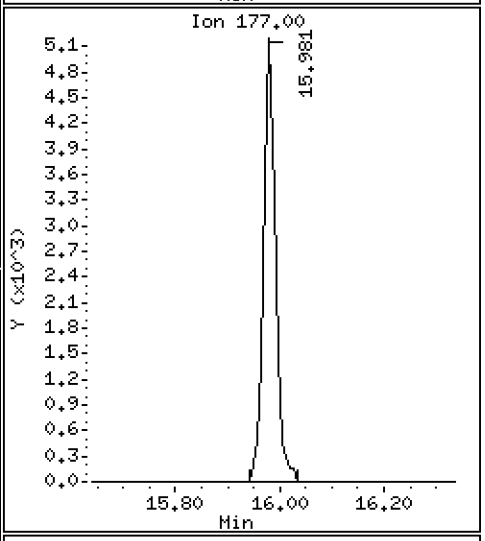
50 Diethylphthalate

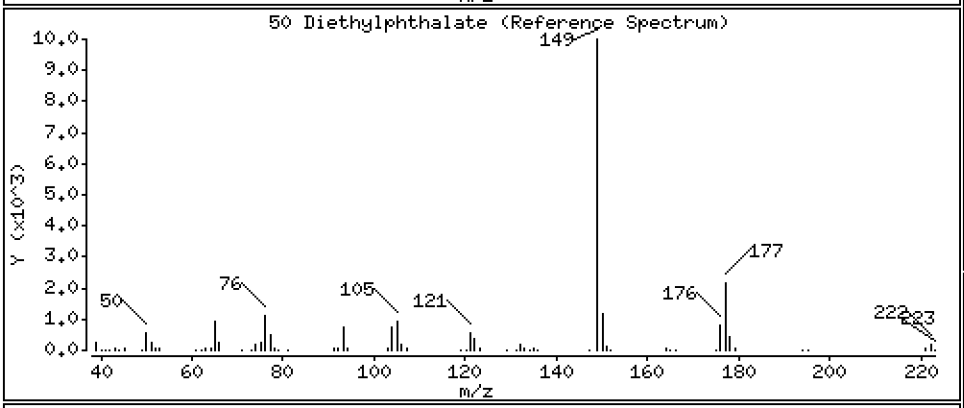
Concentration: 0.2245 ug/mL

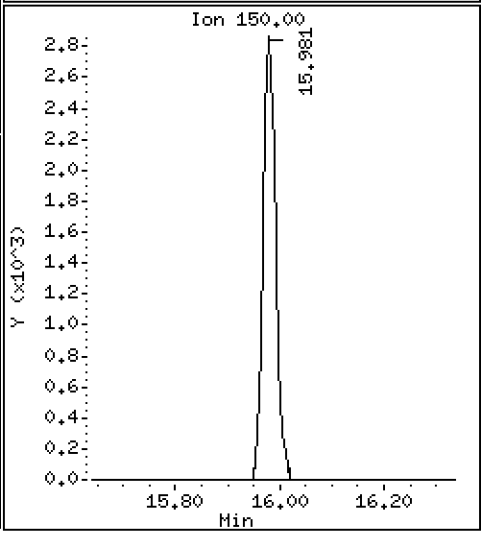


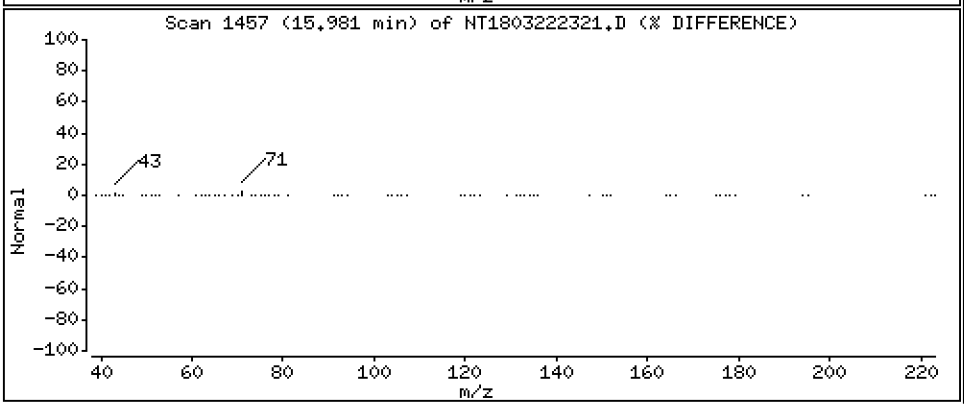












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222321.D

Date : 23-MAR-2023 06:46

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK2

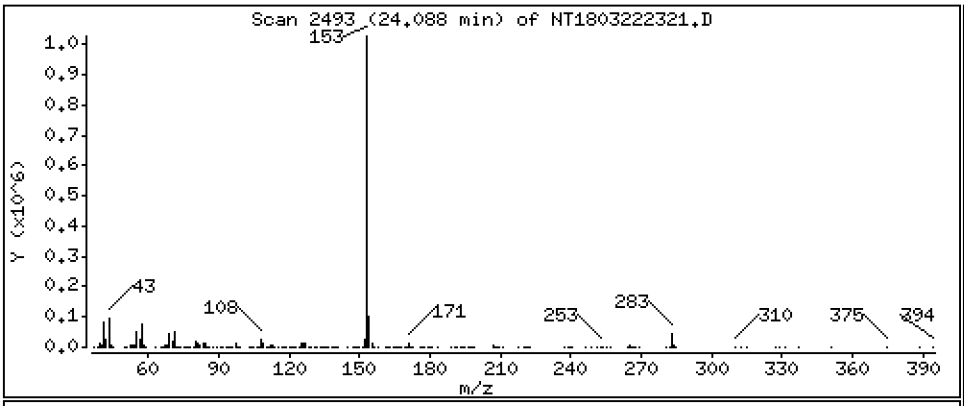
Operator: VTS

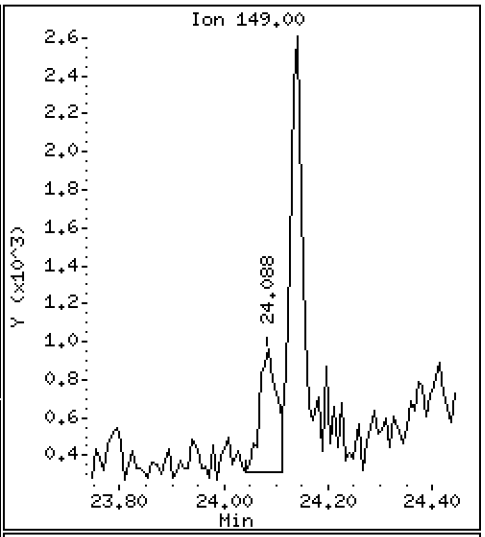
Column phase: ZB-5msi

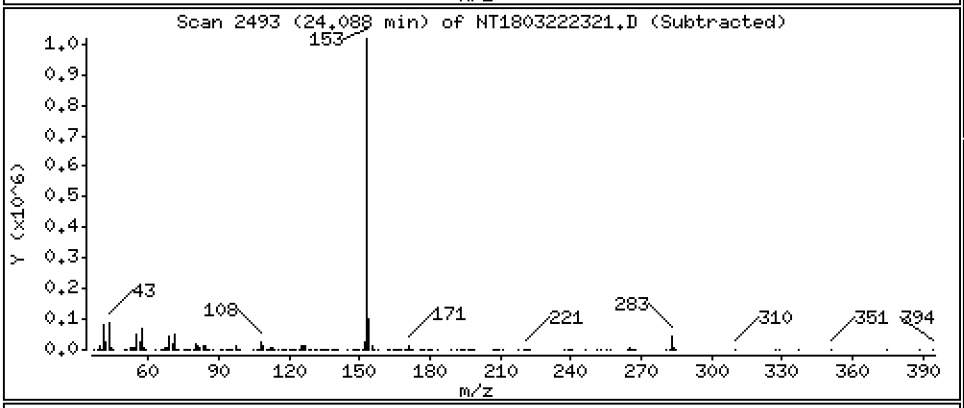
Column diameter: 0.25

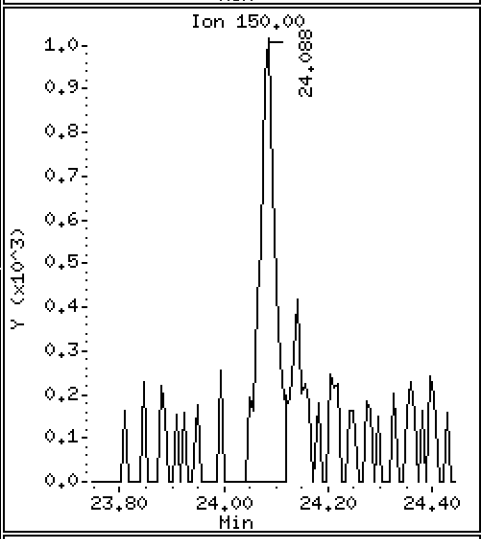
73 Di-n-octylphthalate

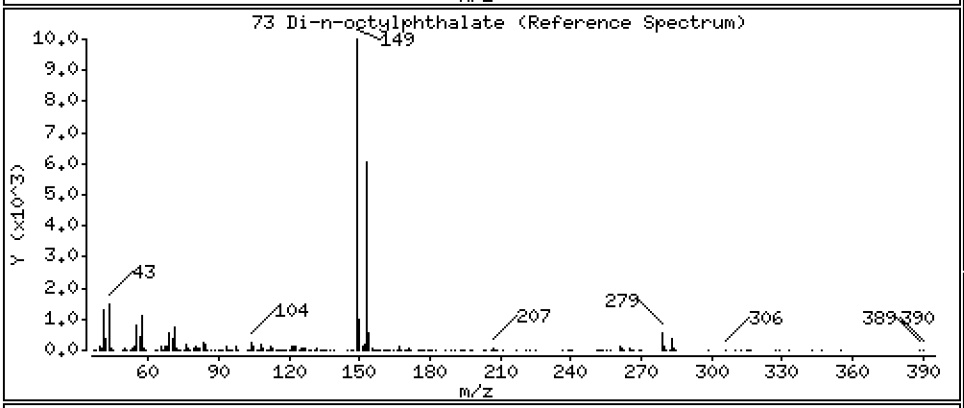
Concentration: 0.004024 ug/mL

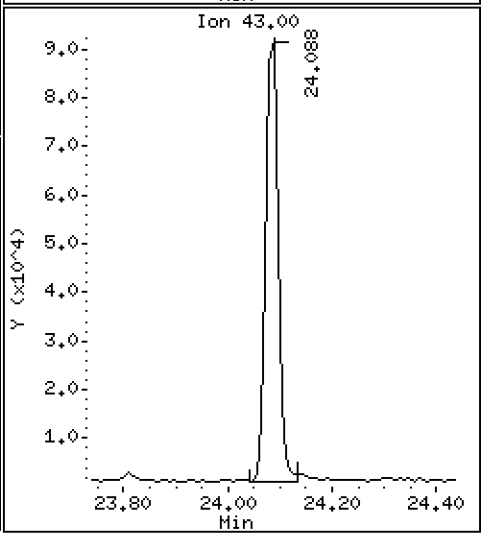


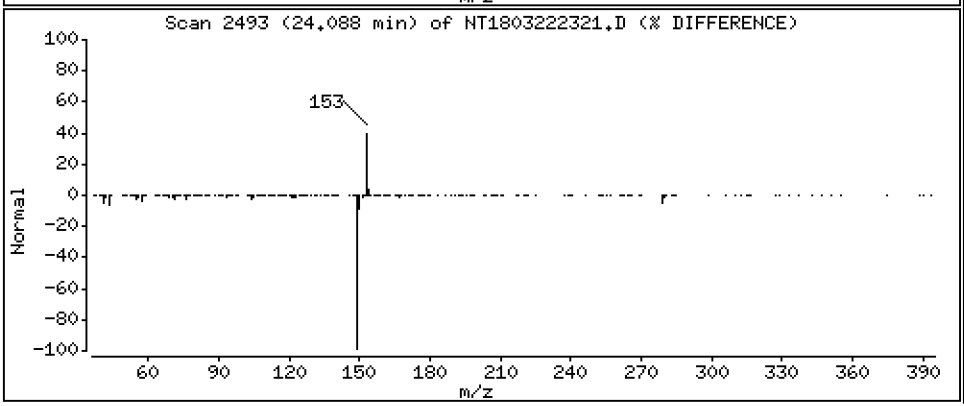












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230322A.b\NT1803222321.D
Lab Smp Id: BLC0185-BLK2
Inj Date : 23-MAR-2023 06:46
Operator : VTS Inst ID: nt18.i
Smp Info : BLC0185-BLK2
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230322A.b\ABN.m
Meth Date : 04-Apr-2023 16:12 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 15:18 Cal File: NT1803192302.D
Als bottle: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: DEENAY-201905

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$ 1	2-Fluorophenol	112	6.788	6.781	(0.756)	551495	5.74756	5.748
$ 2	Phenol-d5	99	8.341	8.349	(0.929)	730320	6.16105	6.161
3	Phenol	94	Compound Not Detected.					
$ 5	2-Chlorophenol-d4	132	8.619	8.619	(0.960)	654584	6.37059	6.371
4	Bis(2-Chloroethyl)ether	93	Compound Not Detected.					
6	2-Chlorophenol	128	Compound Not Detected.					
7	1,3-Dichlorobenzene	146	Compound Not Detected.					
* 8	1,4-Dichlorobenzene-d4	152	8.975	8.983	(1.000)	311248	4.00000	
9	1,4-Dichlorobenzene	146	Compound Not Detected.					
$ 10	1,2-Dichlorobenzene-d4	152	9.332	9.332	(1.040)	319145	4.23303	4.233
12	1,2-Dichlorobenzene	146	Compound Not Detected.					
11	Benzyl alcohol	108	Compound Not Detected.					
14	2,2'-oxybis(1-Chloropropane)	121	Compound Not Detected.					
13	2-Methylphenol	108	Compound Not Detected.					
17	Hexachloroethane	117	Compound Not Detected.					
16	N-Nitroso-di-n-propylamine	70	Compound Not Detected.					
15	4-Methylphenol	108	Compound Not Detected.					
$ 18	Nitrobenzene-d5	82	10.054	10.062	(0.879)	457354	4.93767	4.938
19	Nitrobenzene	77	Compound Not Detected.					
20	Isophorone	82	Compound Not Detected.					
21	2-Nitrophenol	139	Compound Not Detected.					
22	2,4-Dimethylphenol	107	Compound Not Detected.					
23	Bis(2-Chloroethoxy)methane	93	Compound Not Detected.					
24	Benzoic acid	105	Compound Not Detected.					
25	2,4-Dichlorophenol	162	Compound Not Detected.					
26	1,2,4-Trichlorobenzene	180	Compound Not Detected.					
* 27	Naphthalene-d8	136	11.439	11.439	(1.000)	1123692	4.00000	
28	Naphthalene	128	Compound Not Detected.					
29	4-Chloroaniline	127	Compound Not Detected.					
30	Hexachlorobutadiene	225	Compound Not Detected.					
31	4-Chloro-3-methylphenol	107	Compound Not Detected.					
32	2-Methylnaphthalene	142	Compound Not Detected.					
33	Hexachlorocyclopentadiene	237	Compound Not Detected.					

		QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	Compound Not Detected.					
	35 2,4,5-Trichlorophenol	196	Compound Not Detected.					
$	36 2-Fluorobiphenyl	172	13.644	13.644	(0.908)	951628	4.57925	4.579
	37 2-Chloronaphthalene	162	Compound Not Detected.					
	38 2-Nitroaniline	65	Compound Not Detected.					
	39 Dimethylphthalate	163	Compound Not Detected.					
	40 Acenaphthylene	152	Compound Not Detected.					
	41 2,6-Dinitrotoluene	165	Compound Not Detected.					
*	42 Acenaphthene-d10	164	15.022	15.022	(1.000)	580324	4.00000	
	43 3-Nitroaniline	138	Compound Not Detected.					
	44 Acenaphthene	153	Compound Not Detected.					
	45 2,4-Dinitrophenol	184	Compound Not Detected.					
	46 Dibenzofuran	168	Compound Not Detected.					
	47 4-Nitrophenol	109	Compound Not Detected.					
	48 2,4-Dinitrotoluene	165	Compound Not Detected.					
	50 Diethylphthalate	149	15.980	15.988	(1.064)	39334	0.22450	0.2245
	49 Fluorene	166	Compound Not Detected.					
	51 4-Chlorophenyl-phenylether	204	Compound Not Detected.					
	52 4-Nitroaniline	138	Compound Not Detected.					
	53 4,6-Dinitro-2-methylphenol	198	Compound Not Detected.					
	54 N-Nitrosodiphenylamine	169	Compound Not Detected.					
$	55 2,4,6-Tribromophenol	330	16.644	16.644	(1.108)	148787	5.71494	5.715
	56 4-Bromophenyl-phenylether	248	Compound Not Detected.					
	57 Hexachlorobenzene	284	Compound Not Detected.					
	58 Pentachlorophenol	266	Compound Not Detected.					
*	59 Phenanthrene-d10	188	18.027	18.035	(1.000)	983190	4.00000	
	60 Phenanthrene	178	Compound Not Detected.					
	61 Anthracene	178	Compound Not Detected.					
	62 Carbazole	167	Compound Not Detected.					
	63 Di-n-butylphthalate	149	Compound Not Detected.					
	64 Fluoranthene	202	Compound Not Detected.					
	65 Pyrene	202	Compound Not Detected.					
$	66 Terphenyl-d14	244	21.168	21.168	(0.918)	1154239	4.53442	4.534
	67 Butylbenzylphthalate	149	Compound Not Detected.					
	68 Benzo(a)anthracene	228	Compound Not Detected.					
*	69 Chrysene-d12	240	23.050	23.058	(1.000)	1019052	4.00000	
	70 3,3'-Dichlorobenzidine	252	Compound Not Detected.					
	71 Chrysene	228	Compound Not Detected.					
	72 bis(2-Ethylhexyl)phthalate	149	Compound Not Detected.					
*	134 Di-n-octylphthalate-d4	153	24.087	24.087	(1.000)	1511923	4.00000	
	73 Di-n-octylphthalate	149	24.087	24.095	(1.000)	1497	0.00402	0.004024
	74 Benzo(b)fluoranthene	252	Compound Not Detected.					
	75 Benzo(k)fluoranthene	252	Compound Not Detected.					
	76 Benzo(a)pyrene	252	Compound Not Detected.					
*	77 Perylene-d12	264	25.566	25.566	(1.000)	855418	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
	79 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	80 Benzo(g,h,i)perylene	276	Compound Not Detected.					
	90 N-Nitrosodimethylamine	74	Compound Not Detected.					
	91 Aniline	93	Compound Not Detected.					
	93 Benzidine	184	Compound Not Detected.					
	103 Pyridine	79	Compound Not Detected.					
	105 1-methylnaphthalene	142	Compound Not Detected.					
	111 Azobenzene (1,2-DP-Hydrazine)	77	Compound Not Detected.					

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187 Total Benzofluoranthenes	252	Compound Not Detected.					
120 2,3,4,6-Tetrachlorophenol	232	Compound Not Detected.					

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222321.D
Lab Smp Id: BLC0185-BLK2
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322A.b\ABN.m
Misc Info:

Calibration Date: 23-MAR-2023
Calibration Time: 04:05
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	278642	139321	557284	311248	11.70
27 Naphthalene-d8	1051761	525881	2103522	1123692	6.84
42 Acenaphthene-d10	539174	269587	1078348	580324	7.63
59 Phenanthrene-d10	918099	459050	1836198	983190	7.09
69 Chrysene-d12	992695	496348	1985390	1019052	2.66
134 Di-n-octylphthala	1524263	762132	3048526	1511923	-0.81
77 Perylene-d12	955797	477899	1911594	855418	-10.50

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	-0.09
27 Naphthalene-d8	11.44	10.94	11.94	11.44	-0.00
42 Acenaphthene-d10	15.02	14.52	15.52	15.02	-0.00
59 Phenanthrene-d10	18.04	17.54	18.54	18.03	-0.04
69 Chrysene-d12	23.06	22.56	23.56	23.05	-0.03
134 Di-n-octylphthala	24.09	23.59	24.59	24.09	-0.00
77 Perylene-d12	25.57	25.07	26.07	25.57	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222321.D

Lab ID: BLC0185-BLK2
nt18.i, ABN.m, 23-MAR-2023 06:46

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

RRT check based on Ccal File: NT1803222317A.D

On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

LCS / LCS DUPLICATE RECOVERY

EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	03/22/23 21:20
Batch:	BLC0185	Laboratory ID:	BLC0185-BS1
Preparation:	EPA 3546 (Microwave)	Sequence Name:	LCS
Initial/Final:	10 g / 1 mL		

COMPOUND	SPIKE ADDED (ug/kg wet)	LCS CONCENTRATION (ug/kg wet)	Q	LCS % REC. #	QC LIMITS REC.
Phenol	500	336		67.2	34 - 120
4-Methylphenol	500	331		66.2	29 - 120
Naphthalene	500	362		72.4	43 - 120
2-Methylnaphthalene	500	359		71.9	43 - 120
Acenaphthylene	500	361		72.2	42 - 120
Dimethylphthalate	500	395		79.0	43 - 120
Acenaphthene	500	369		73.8	45 - 120
Dibenzofuran	500	368		73.6	43 - 120
Fluorene	500	383		76.6	45 - 120
Phenanthrene	500	370		74.0	49 - 120
Anthracene	500	325		64.9	45 - 120
Fluoranthene	500	378		75.5	53 - 145
Pyrene	500	366		73.2	52 - 134
Butylbenzylphthalate	500	383		76.5	45 - 132
Benzo(a)anthracene	500	373		74.7	49 - 120
Chrysene	500	370		74.0	47 - 120
bis(2-Ethylhexyl)phthalate	500	370		74.0	34 - 130
Benzofluoranthenes, Total	1000	871		87.1	30 - 160
Benzo(a)pyrene	500	364		72.9	42 - 120
Indeno(1,2,3-cd)pyrene	500	369		73.7	42 - 163
Dibenzo(a,h)anthracene	500	379		75.8	30 - 133
Benzo(g,h,i)perylene	500	385		77.1	46 - 148

* Indicates values outside of QC limits

COMPOUND	SPIKE ADDED (ug/kg wet)	LCSD CONCENTRATION (ug/kg wet)	Q	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	500	382		76.4	12.8	30	34 - 120
4-Methylphenol	500	375		75.1	12.6	30	29 - 120
Naphthalene	500	407		81.3	11.6	30	43 - 120
2-Methylnaphthalene	500	399		79.9	10.5	30	43 - 120
Acenaphthylene	500	411		82.2	13.0	30	42 - 120
Dimethylphthalate	500	456		91.1	14.3	30	43 - 120
Acenaphthene	500	422		84.4	13.3	30	45 - 120

* Indicates values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

EPA 8270E

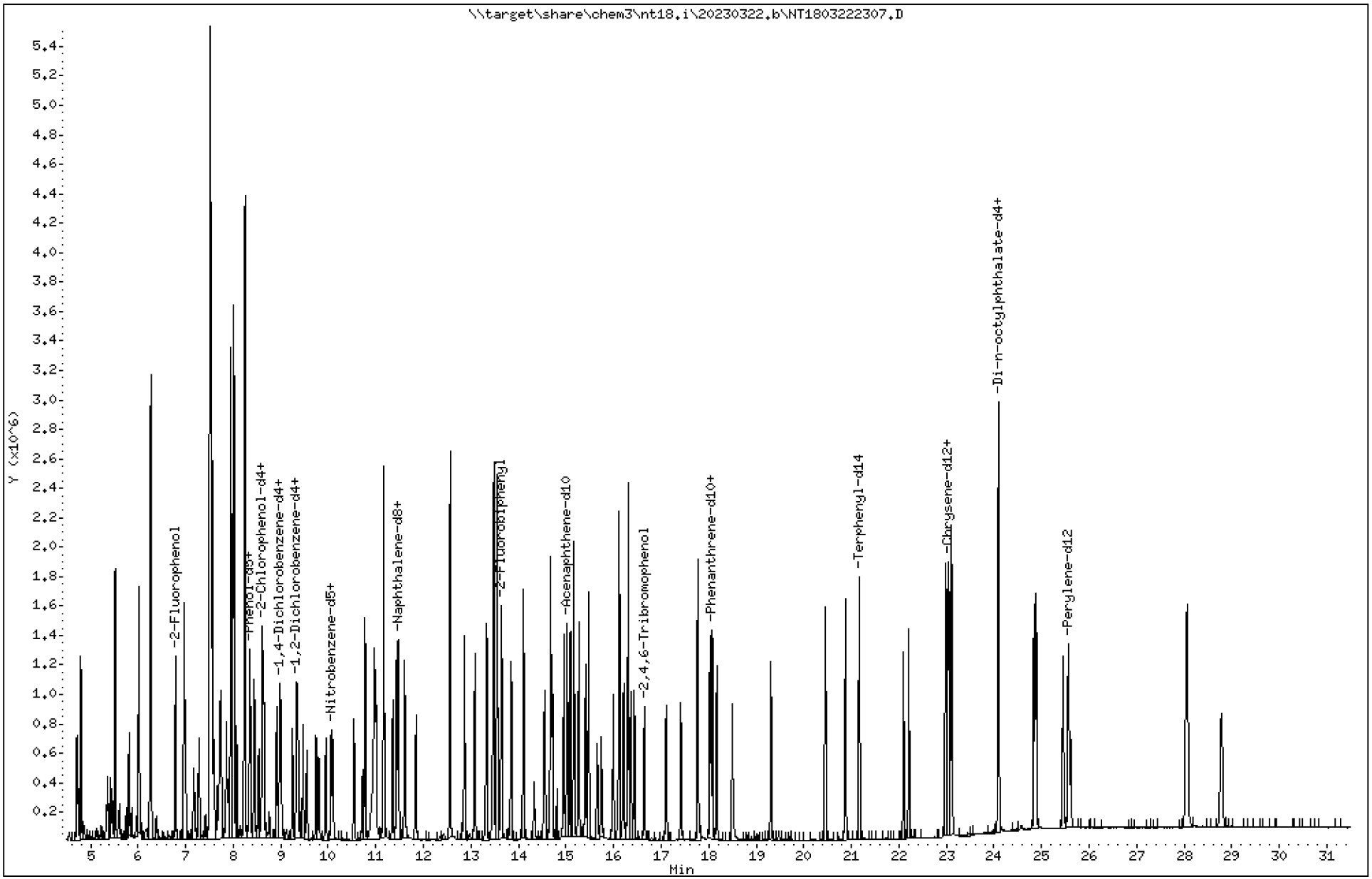
Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	03/22/23 22:01
Batch:	BLC0185	Laboratory ID:	BLC0185-BSD1
Preparation:	EPA 3546 (Microwave)	Sequence Name:	LCS Dup
Initial/Final:	10 g / 1 mL		

COMPOUND	SPIKE ADDED (ug/kg wet)	LCSD CONCENTRATION (ug/kg wet)	Q	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dibenzofuran	500	421		84.2	13.4	30	43 - 120
Fluorene	500	438		87.6	13.4	30	45 - 120
Phenanthrene	500	424		84.7	13.5	30	49 - 120
Anthracene	500	372		74.5	13.7	30	45 - 120
Fluoranthene	500	435		87.0	14.1	30	53 - 145
Pyrene	500	419		83.8	13.5	30	52 - 134
Butylbenzylphthalate	500	455		90.9	17.2	30	45 - 132
Benzo(a)anthracene	500	436		87.1	15.4	30	49 - 120
Chrysene	500	432		86.5	15.6	30	47 - 120
bis(2-Ethylhexyl)phthalate	500	427		85.4	14.4	30	34 - 130
Benzofluoranthenes, Total	1000	989		98.9	12.7	30	30 - 160
Benzo(a)pyrene	500	422		84.3	14.6	30	42 - 120
Indeno(1,2,3-cd)pyrene	500	430		85.9	15.2	30	42 - 163
Dibenzo(a,h)anthracene	500	444		88.9	15.9	30	30 - 133
Benzo(g,h,i)perylene	500	438		87.6	12.8	30	46 - 148

* Indicates values outside of QC limits

Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222307.D
Date : 22-MAR-2023 21:20
Client ID:
Sample Info: BLK0185-BS1

Instrument: nt18.i
Operator: VTS
Column phase: ZB-5msi
Column diameter: 0.25



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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

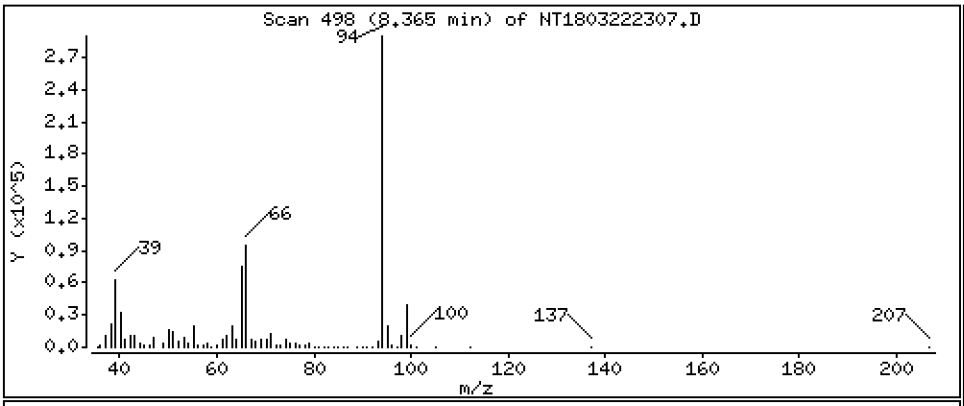
Operator: VTS

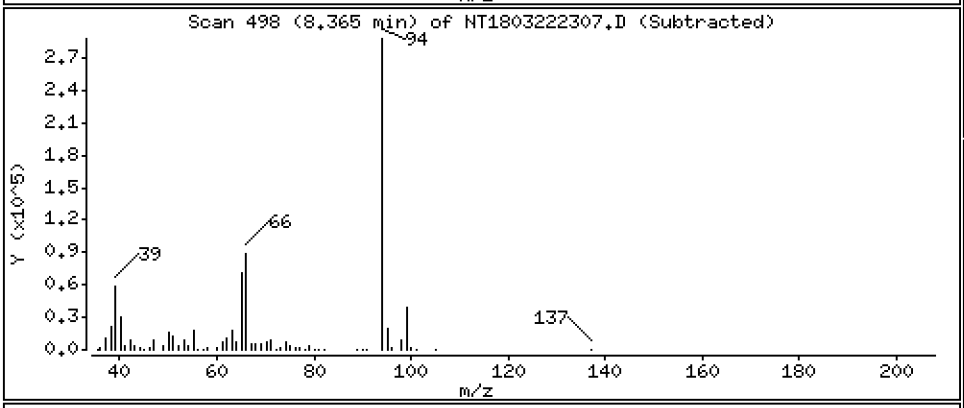
Column phase: ZB-5msi

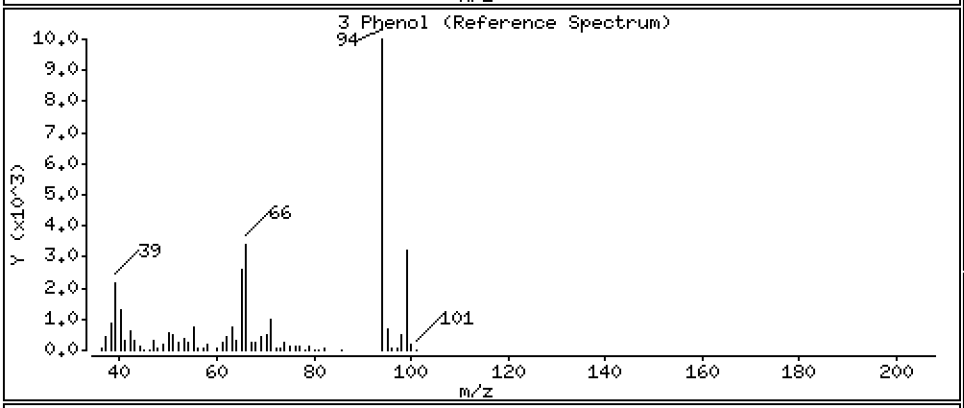
Column diameter: 0.25

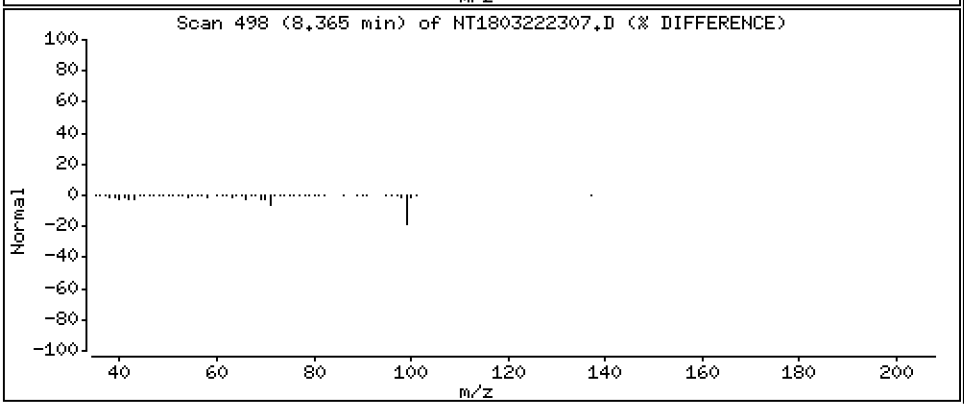
3 Phenol

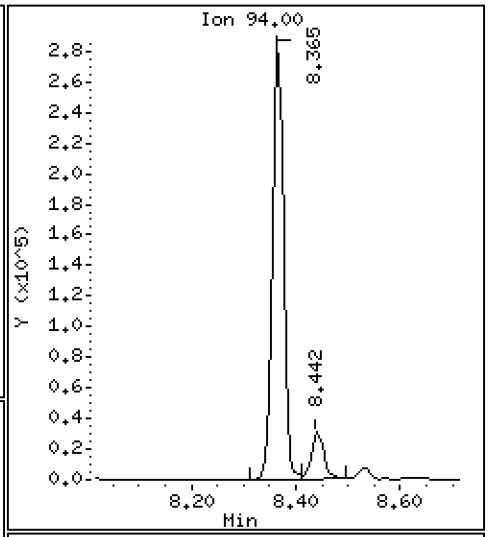
Concentration: 3.358 ug/mL

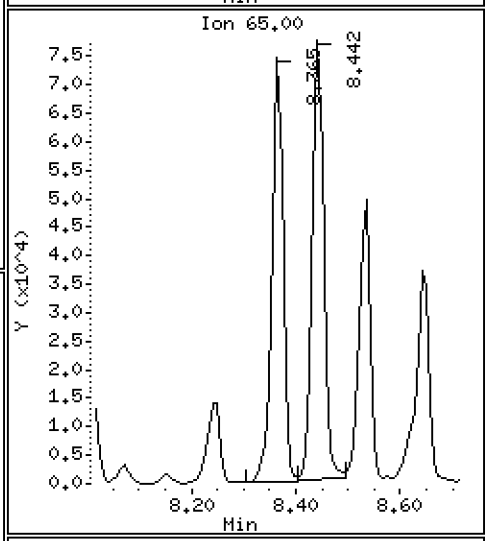


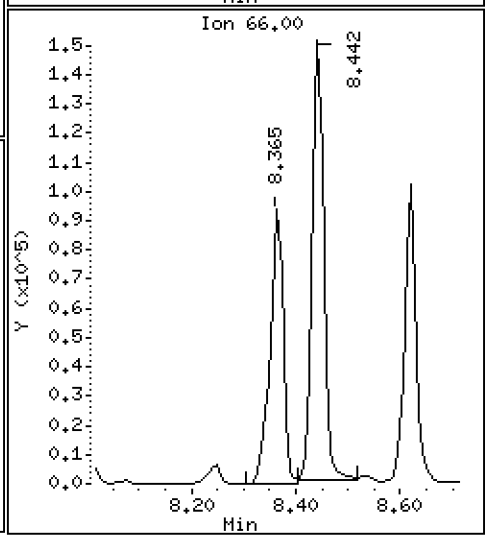












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

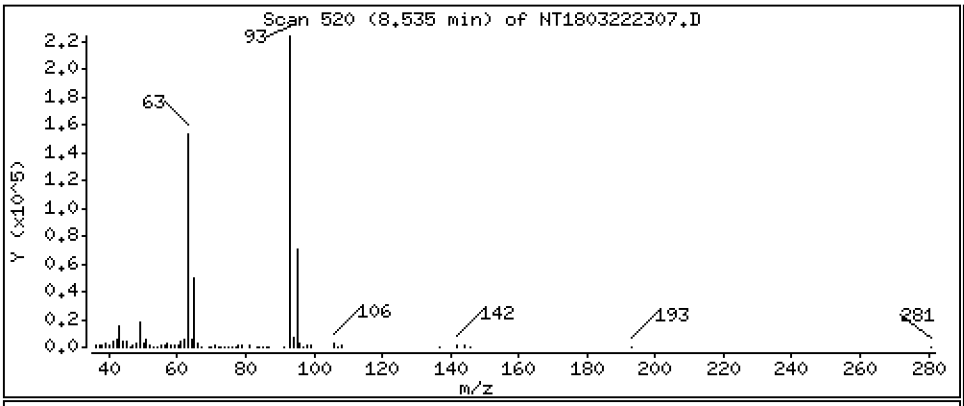
Operator: VTS

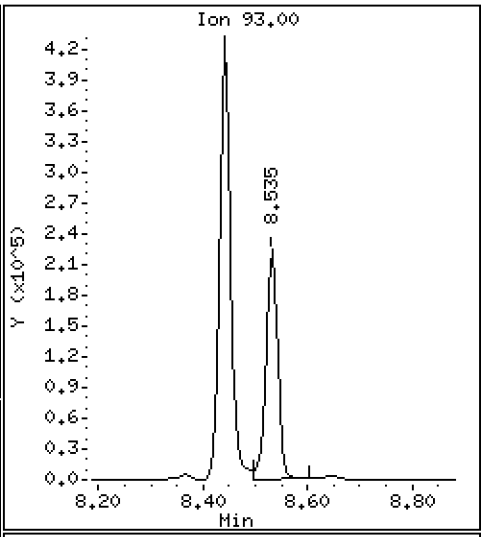
Column phase: ZB-5msi

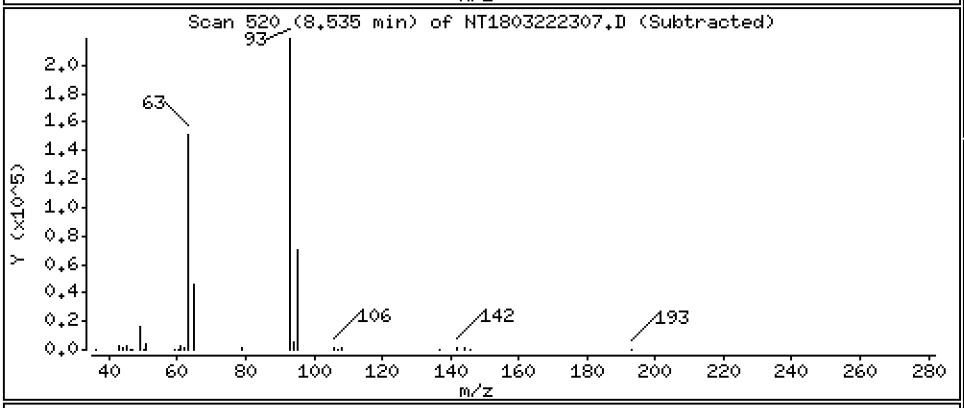
Column diameter: 0.25

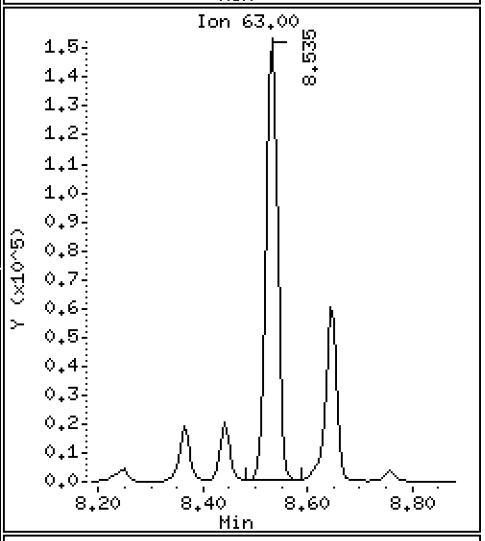
4 Bis(2-Chloroethyl)ether

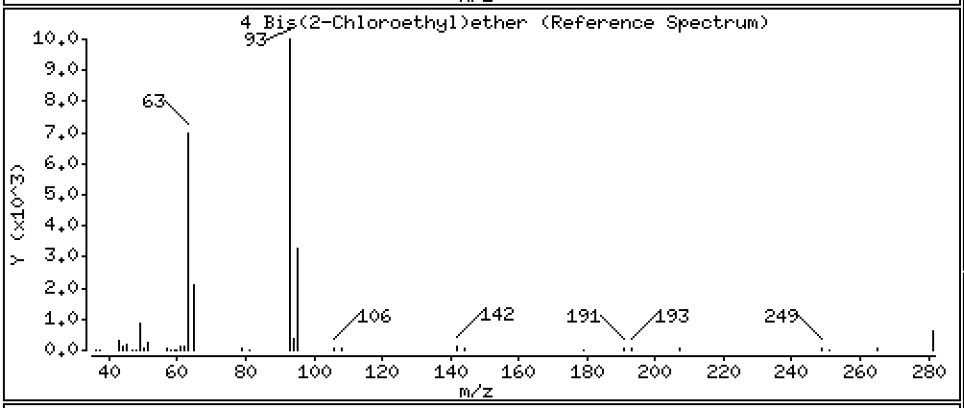
Concentration: 4.072 ug/mL

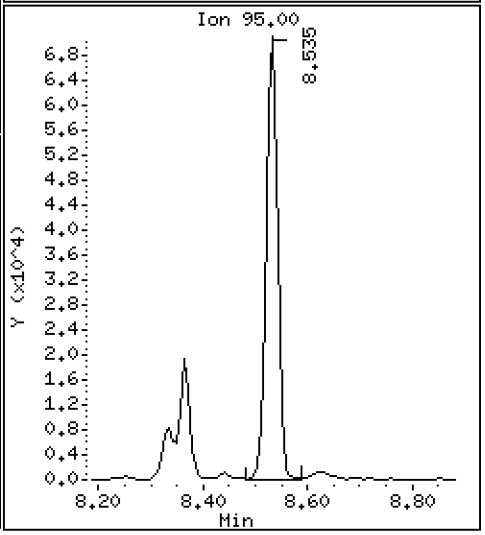


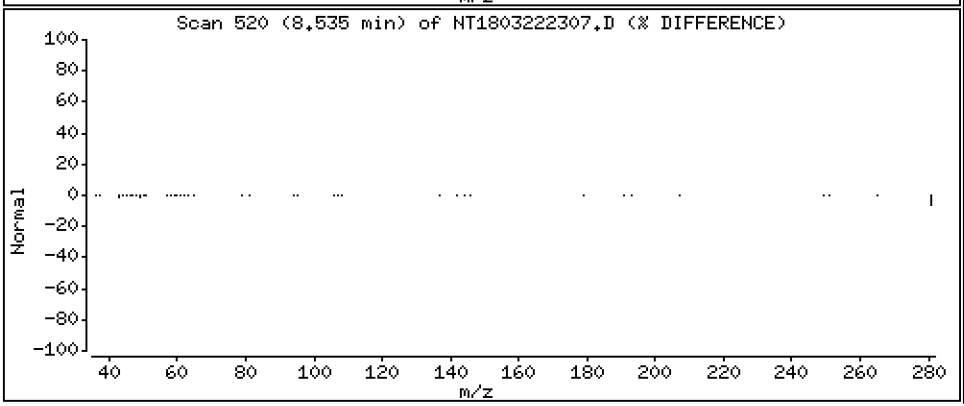












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222307.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

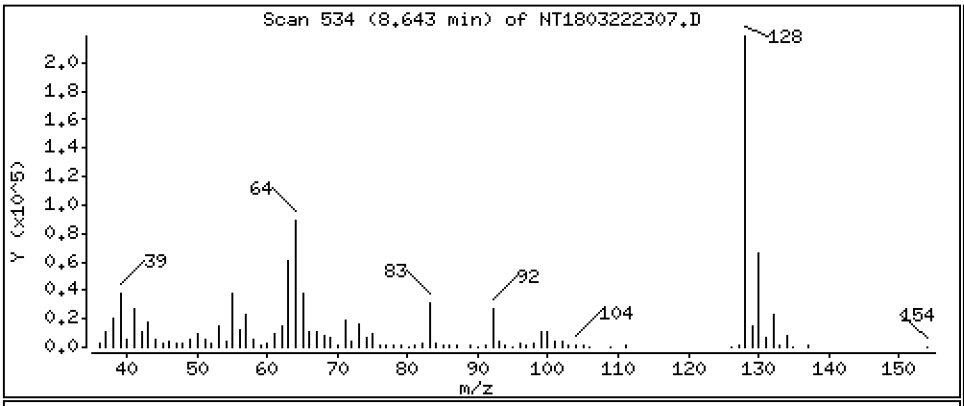
Operator: VTS

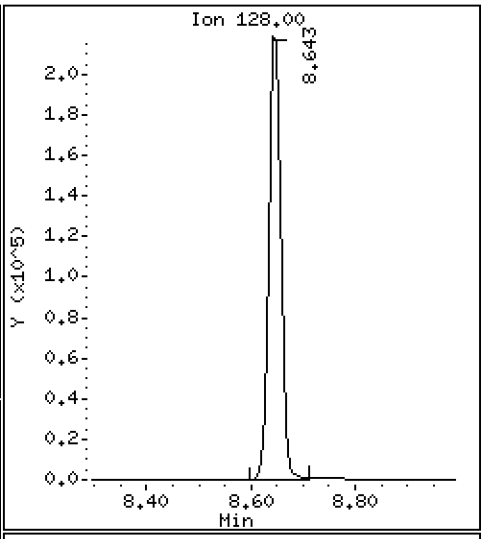
Column phase: ZB-5msi

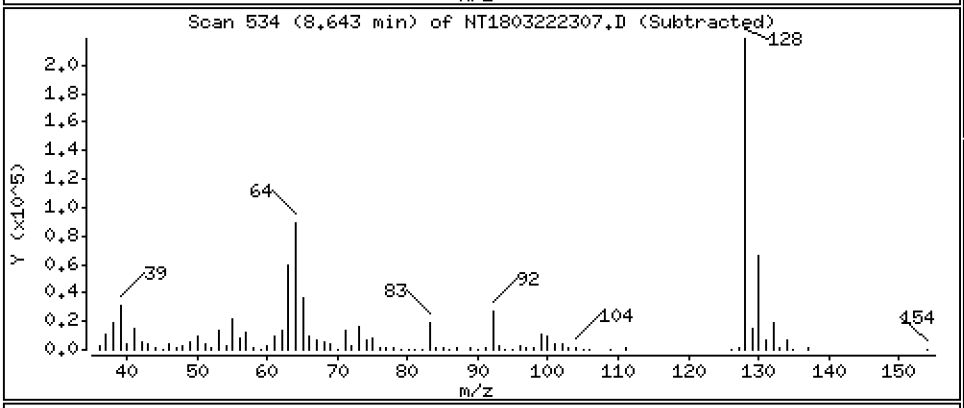
Column diameter: 0.25

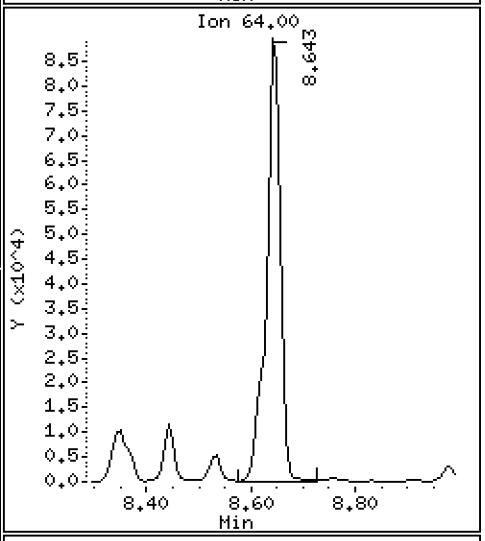
6 2-Chlorophenol

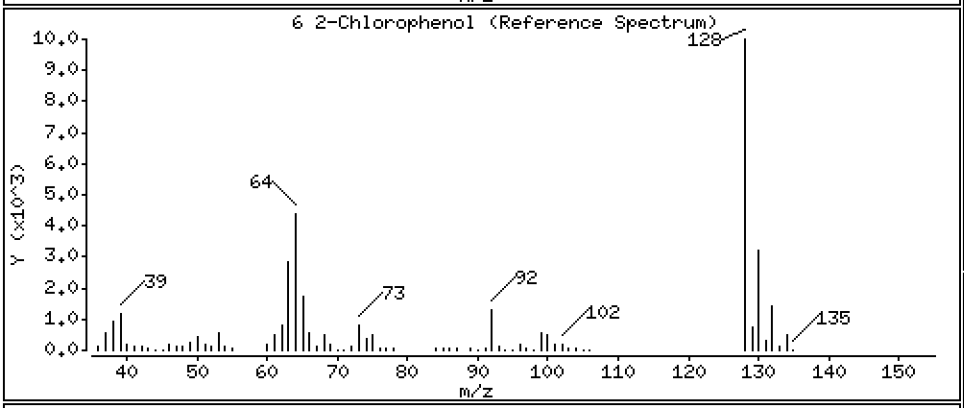
Concentration: 3.400 ug/mL

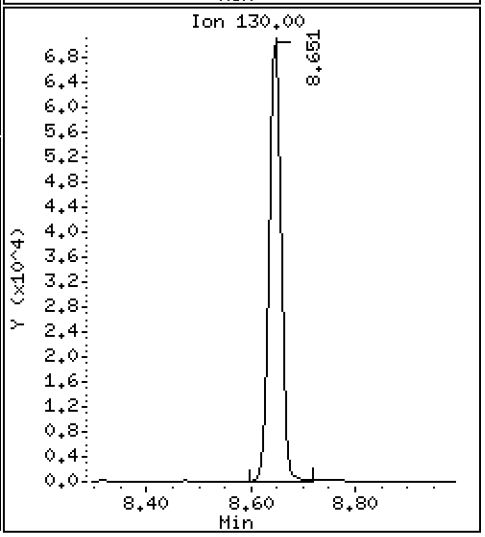


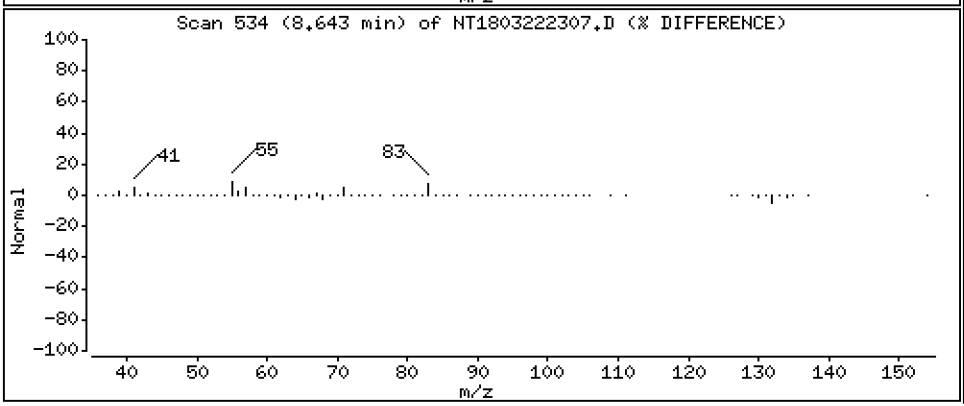












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

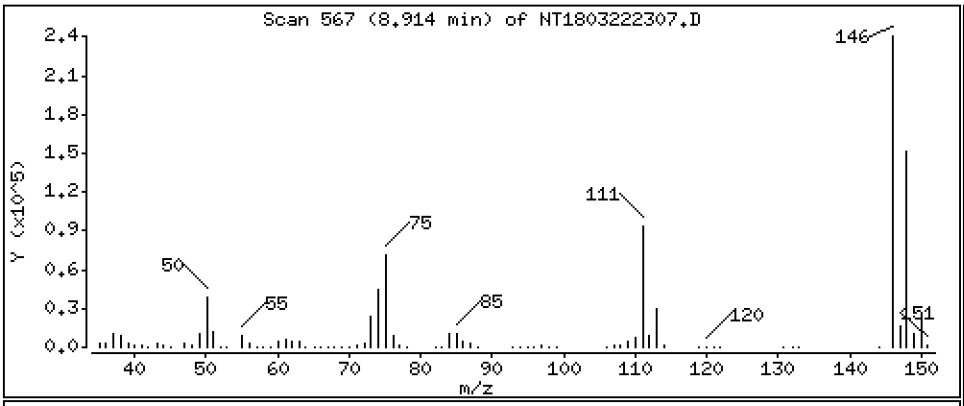
Operator: VTS

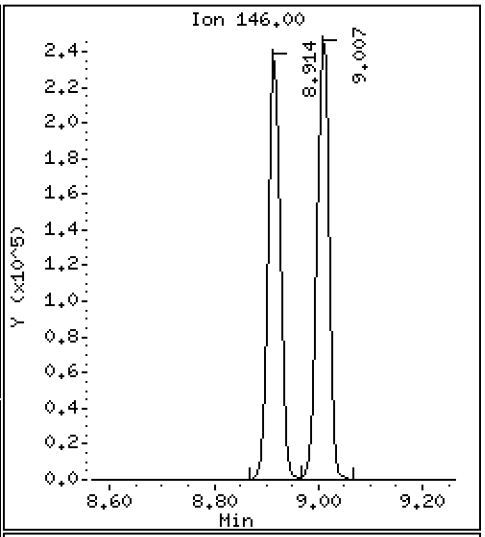
Column phase: ZB-5msi

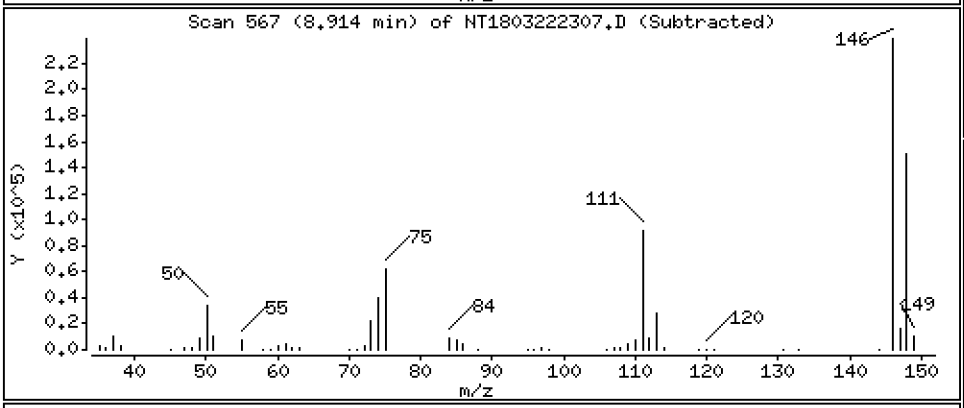
Column diameter: 0.25

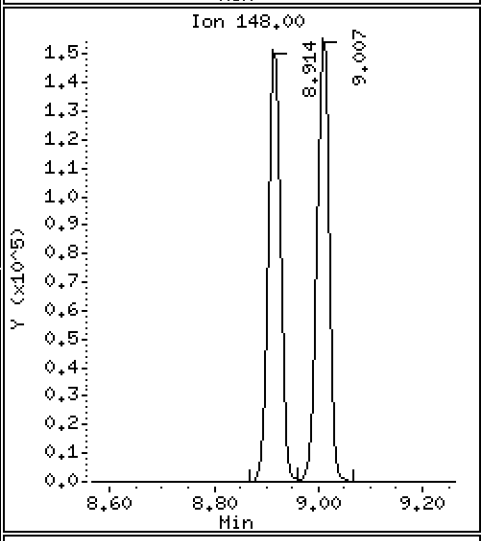
7 1,3-Dichlorobenzene

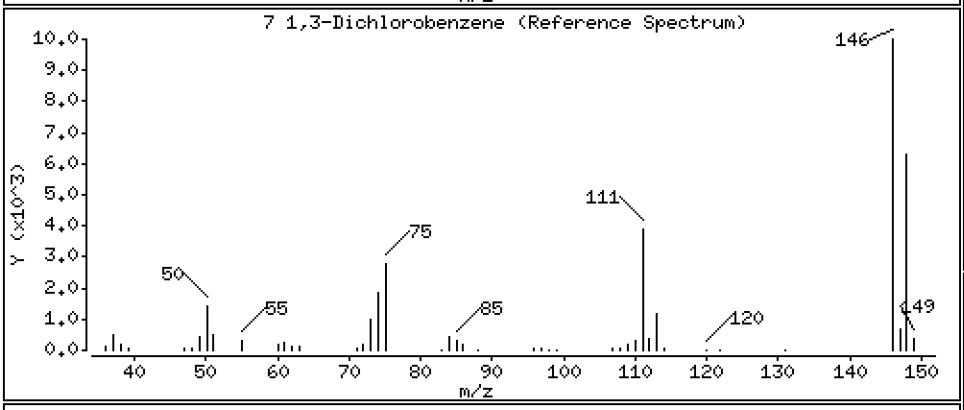
Concentration: 3.548 ug/mL

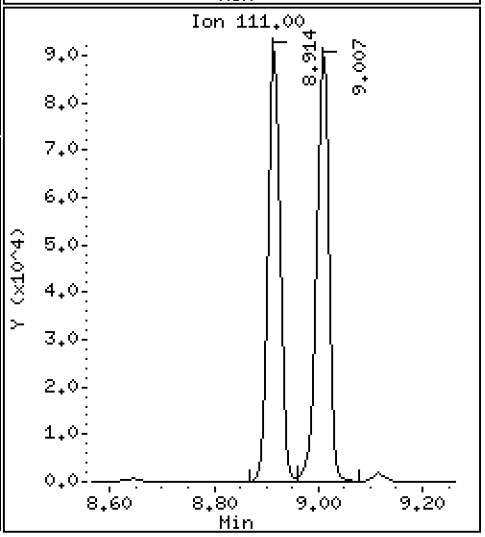


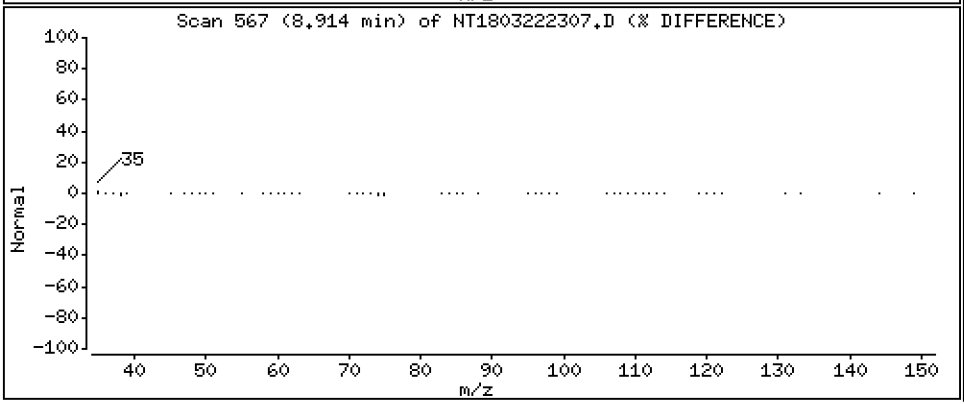












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

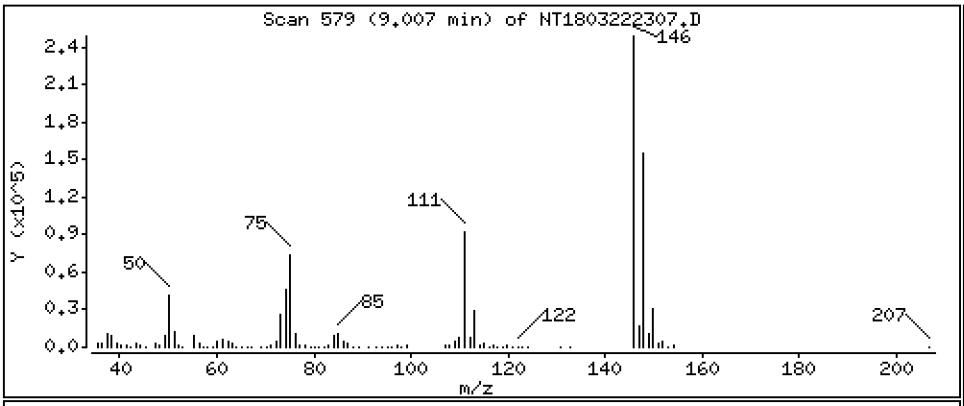
Operator: VTS

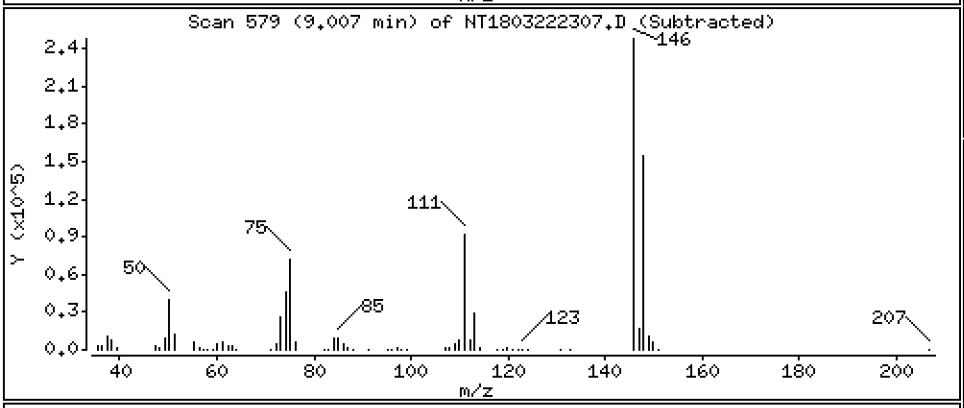
Column phase: ZB-5msi

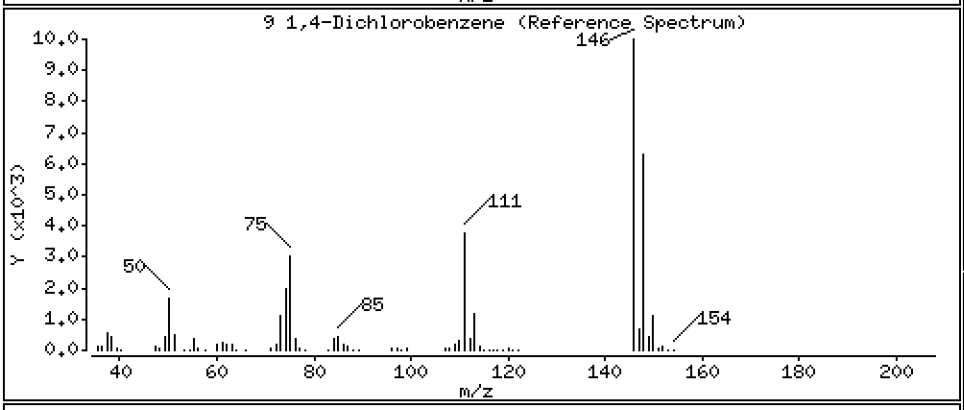
Column diameter: 0.25

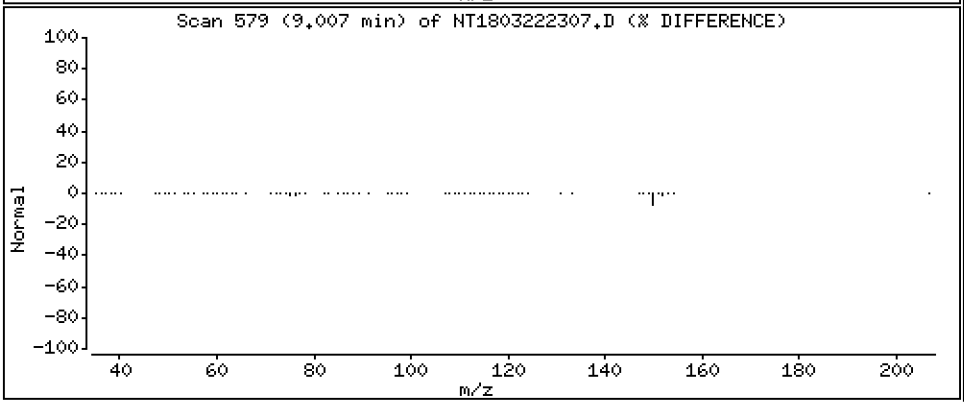
9 1,4-Dichlorobenzene

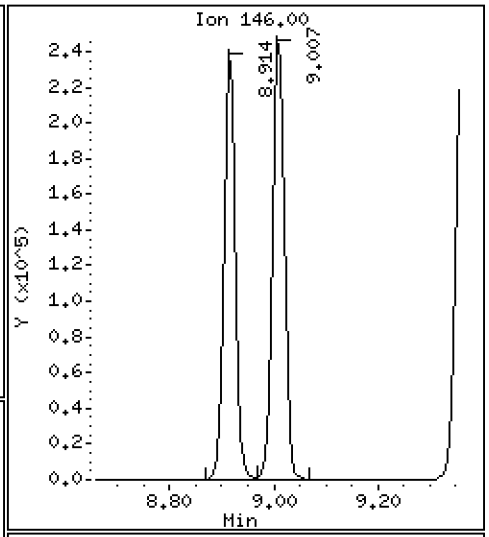
Concentration: 3.611 ug/mL

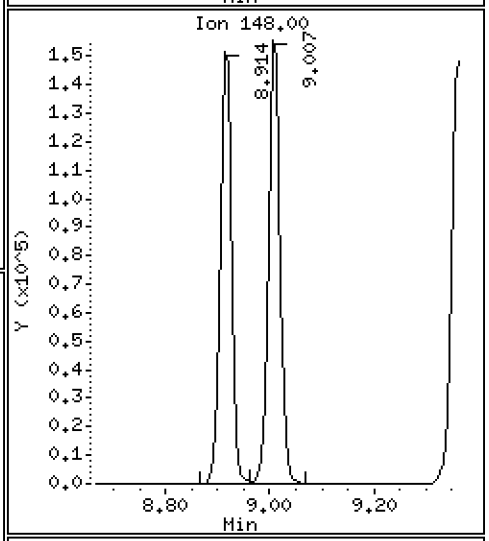


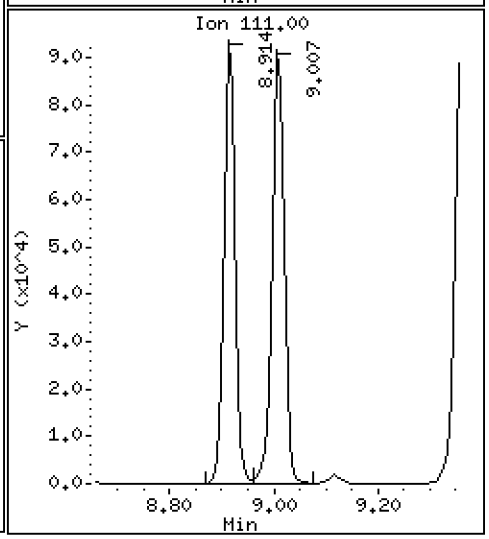












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

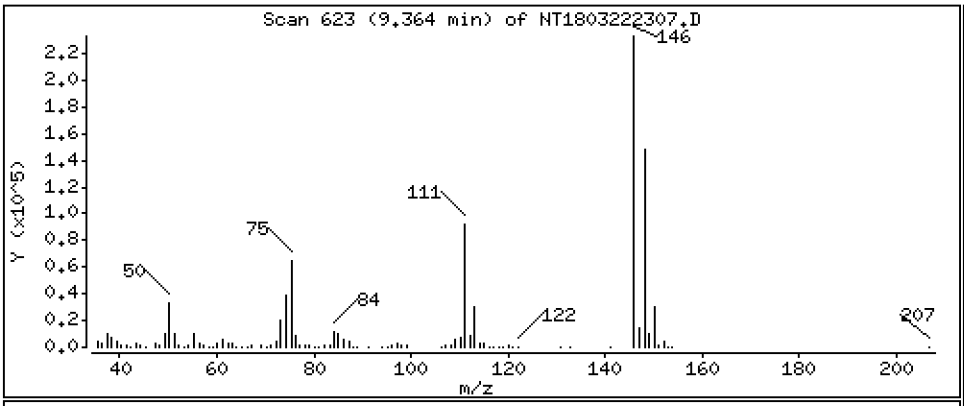
Operator: VTS

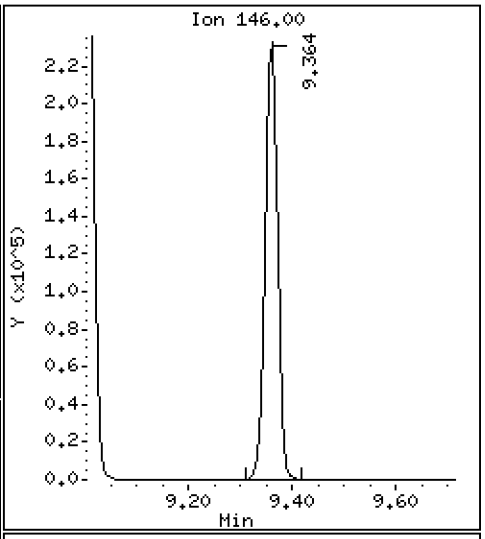
Column phase: ZB-5msi

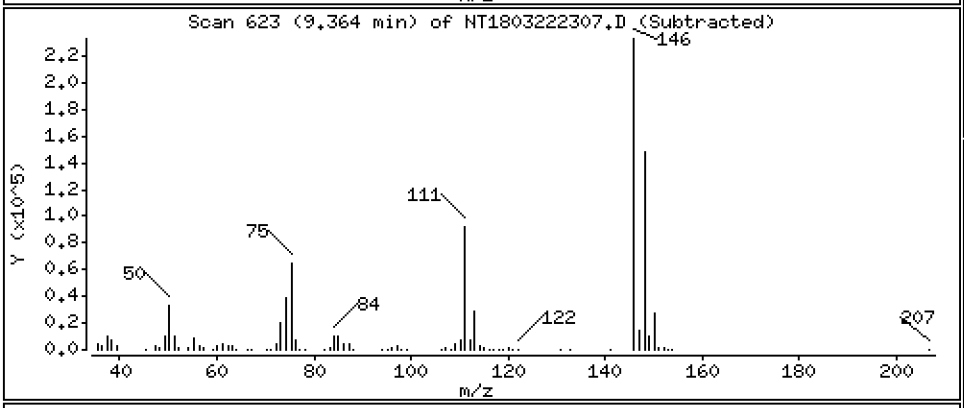
Column diameter: 0.25

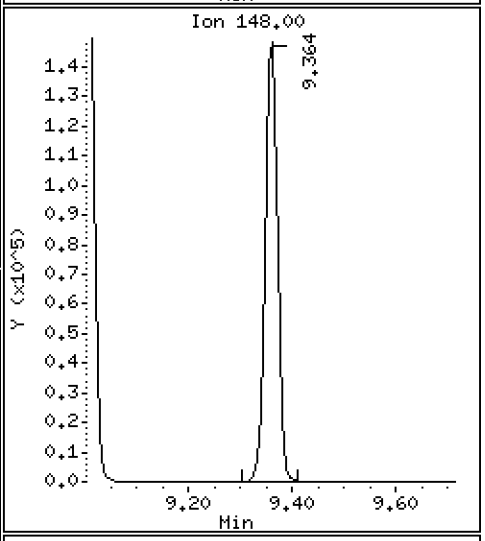
12 1,2-Dichlorobenzene

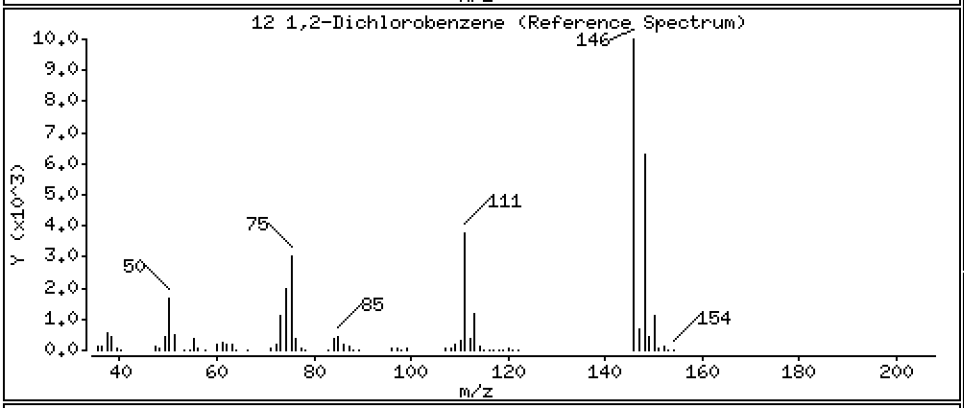
Concentration: 3.550 ug/mL

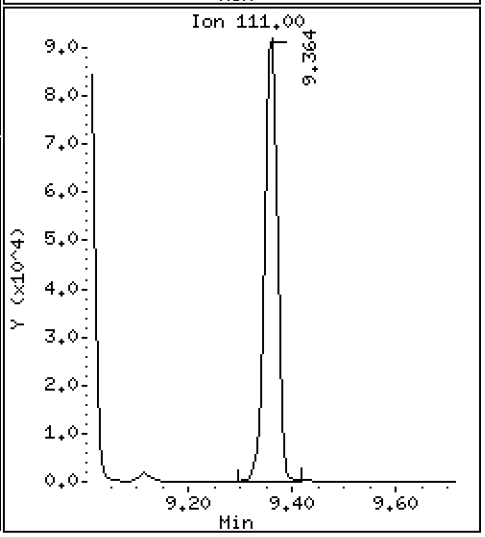


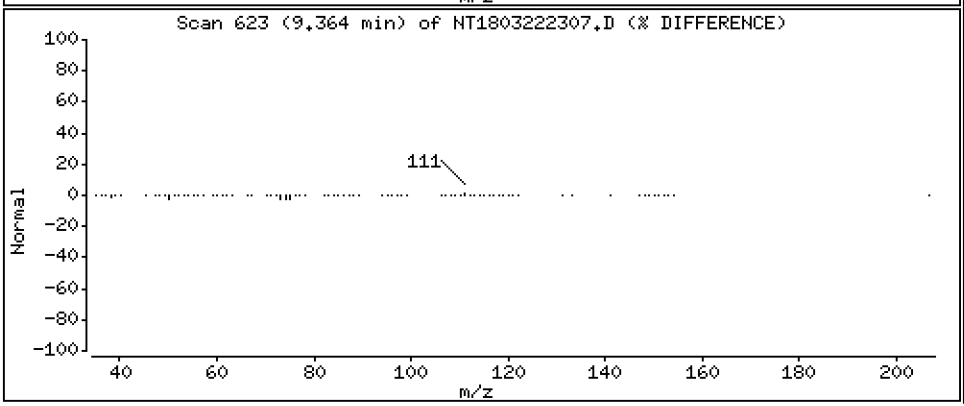












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

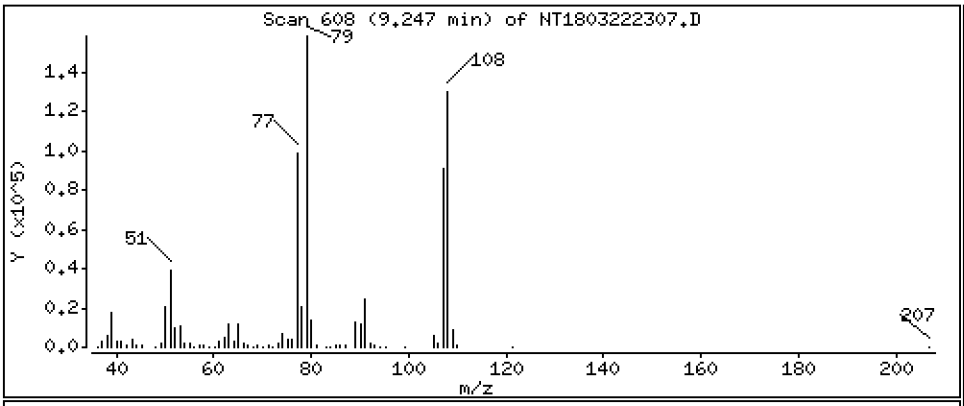
Operator: VTS

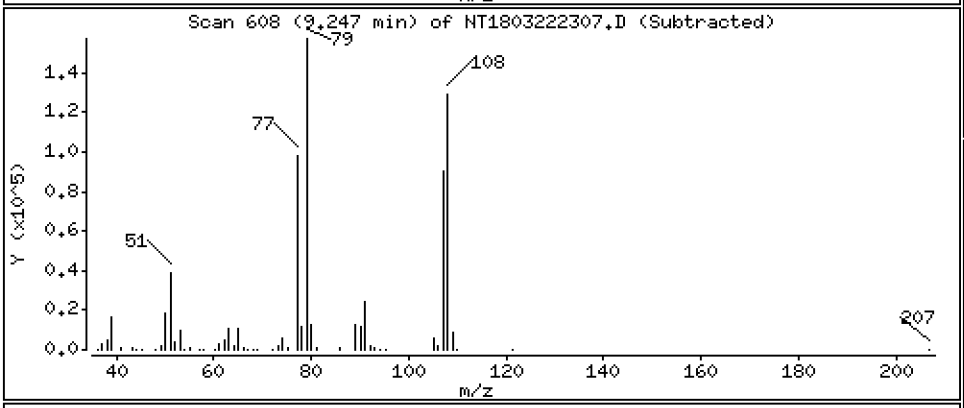
Column phase: ZB-5msi

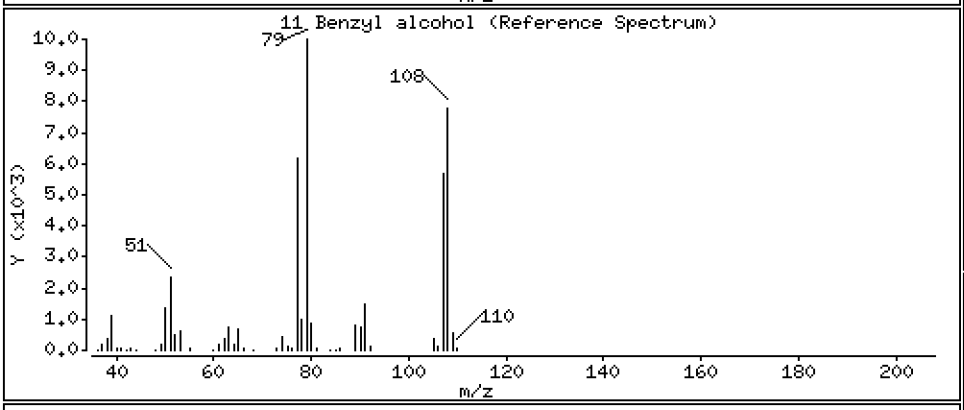
Column diameter: 0.25

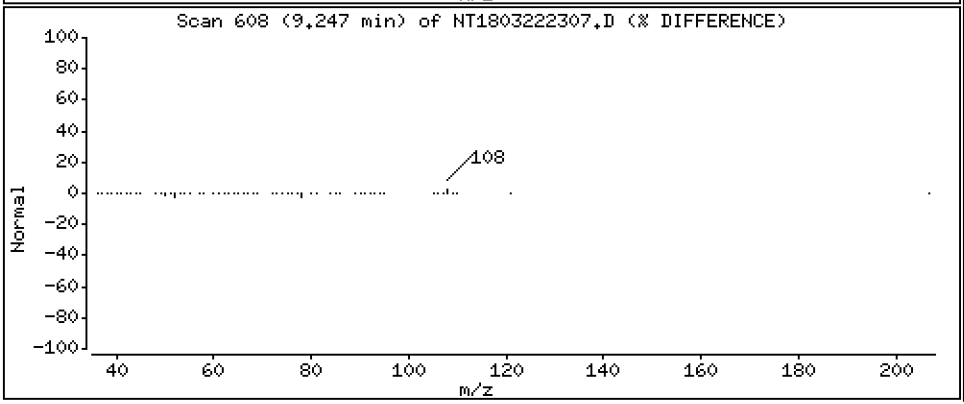
11 Benzyl alcohol

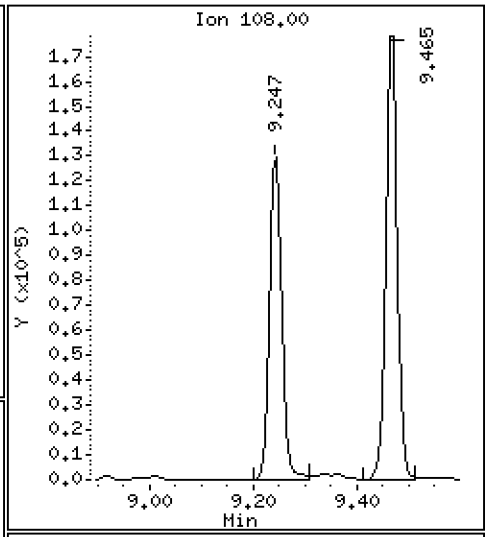
Concentration: 3.749 ug/mL

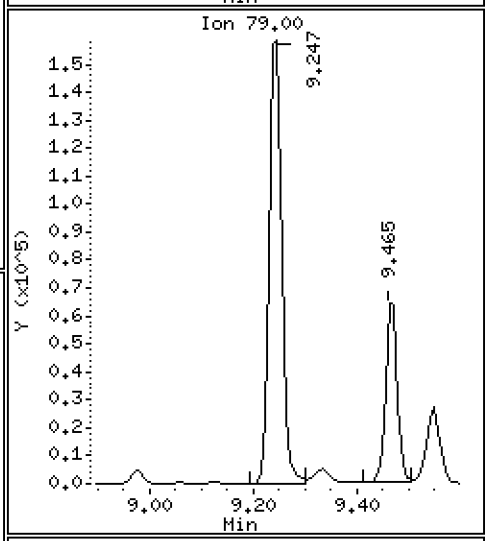


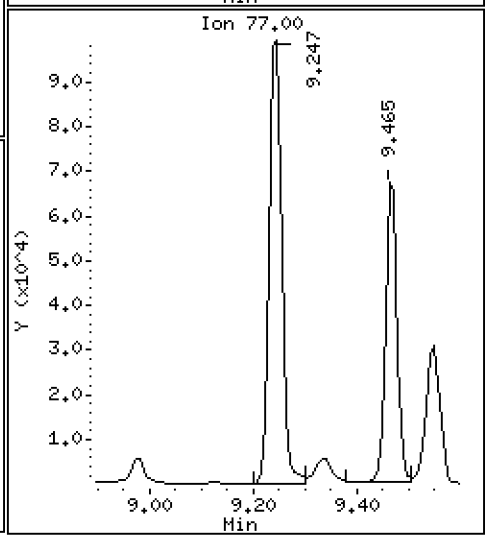












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

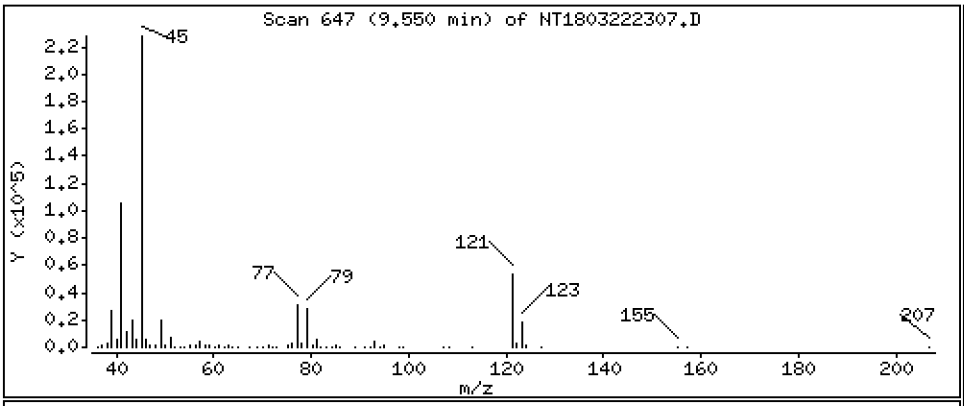
Operator: VTS

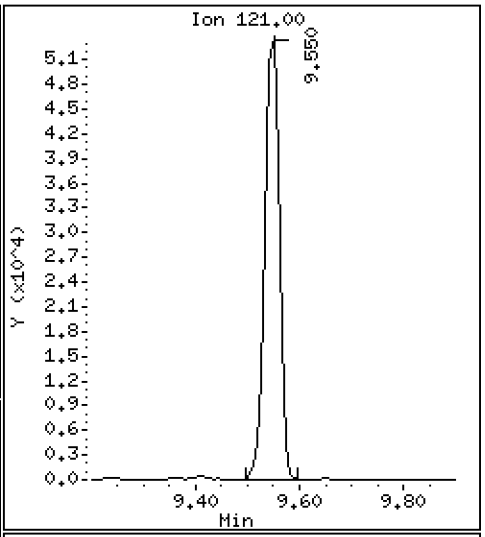
Column phase: ZB-5msi

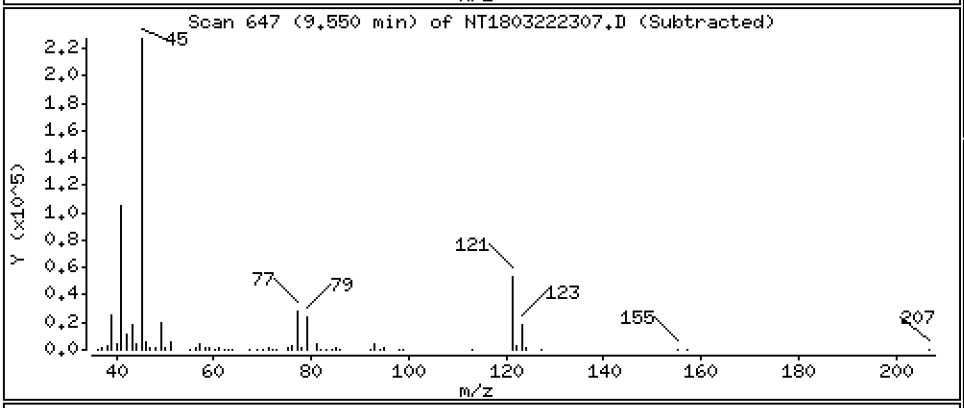
Column diameter: 0.25

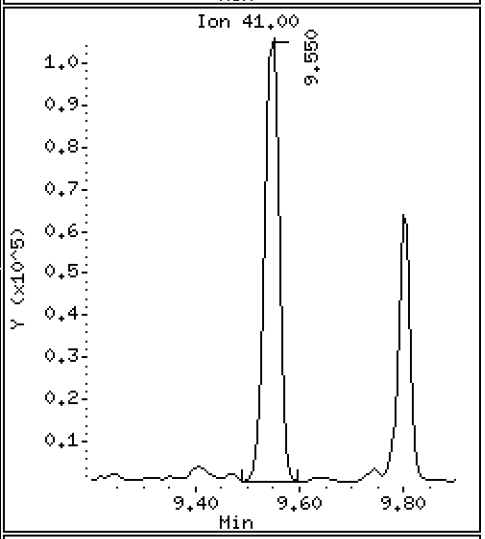
14 2,2'-oxybis(1-Chloropropane)

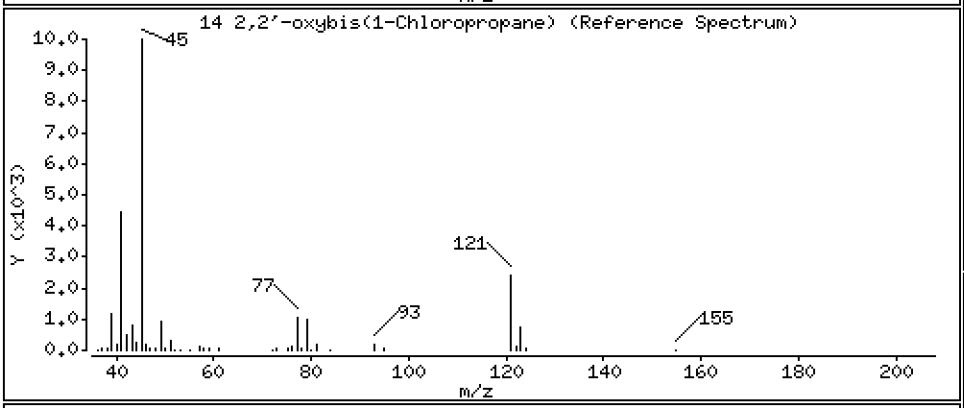
Concentration: 4.092 ug/mL

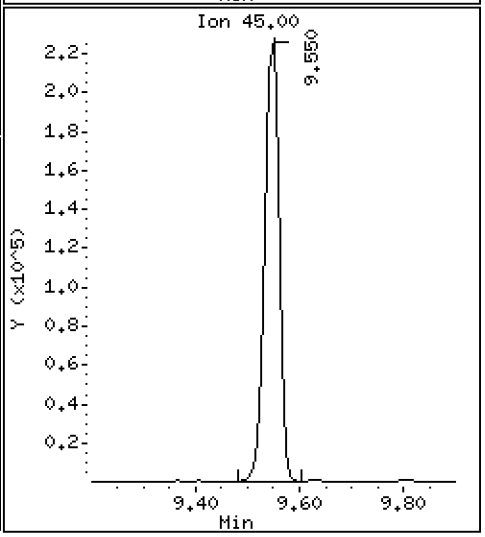


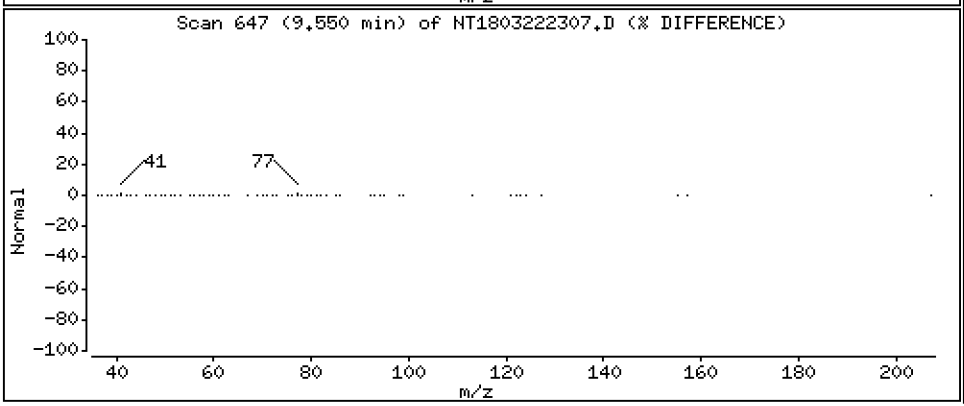












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

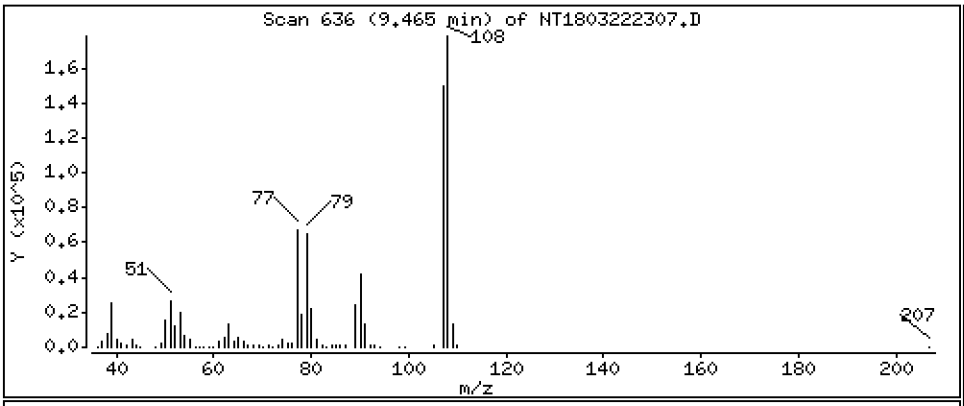
Operator: VTS

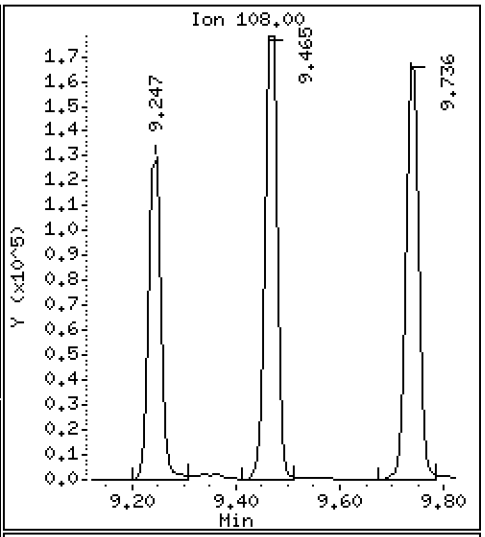
Column phase: ZB-5msi

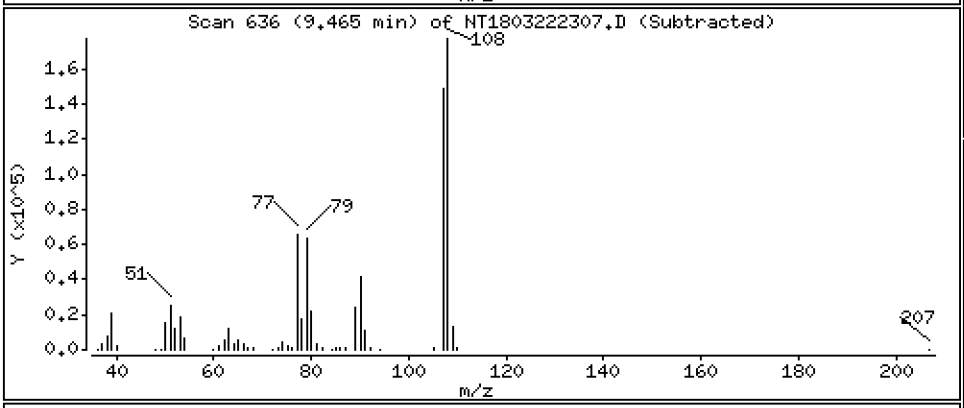
Column diameter: 0.25

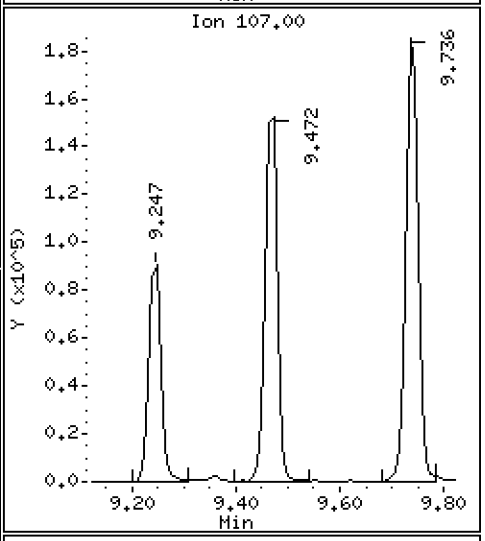
13 2-Methylphenol

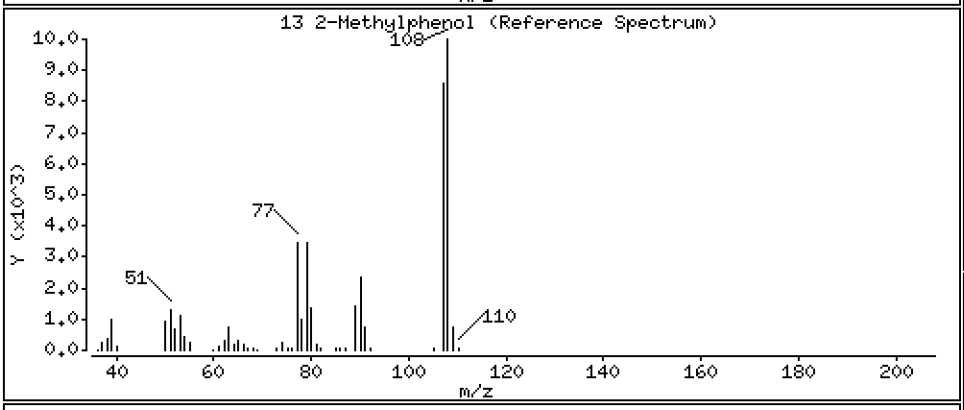
Concentration: 3.105 ug/mL

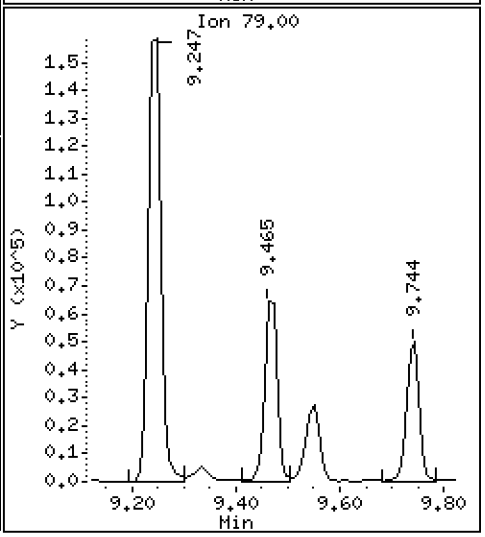


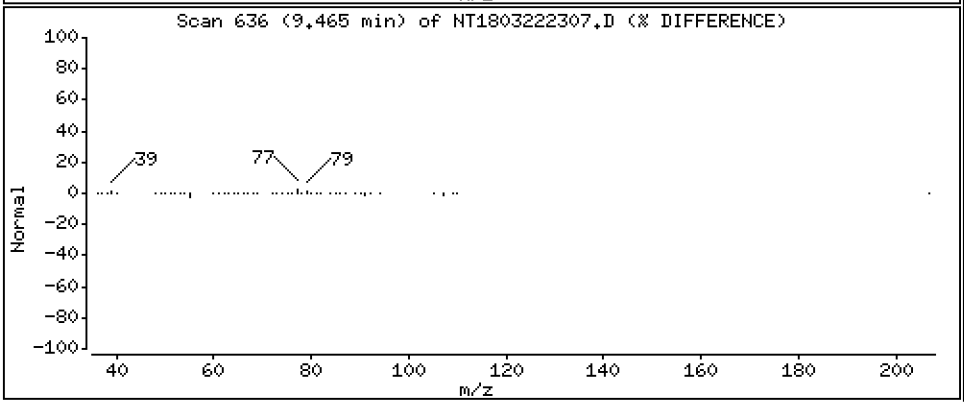












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

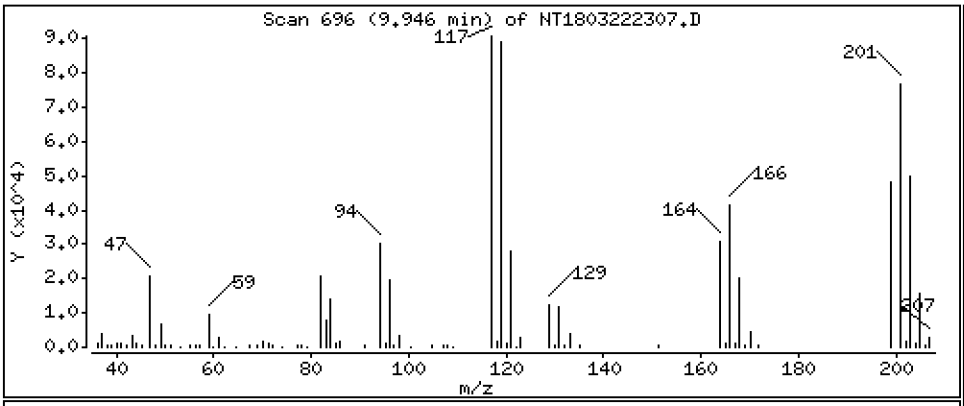
Operator: VTS

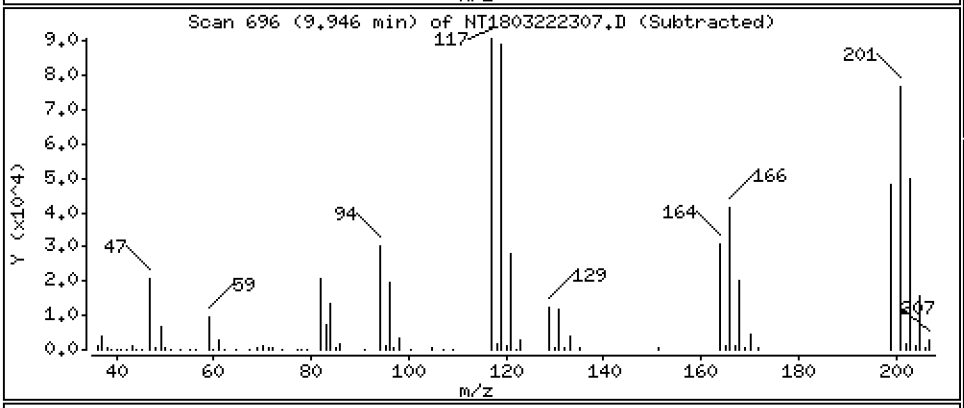
Column phase: ZB-5msi

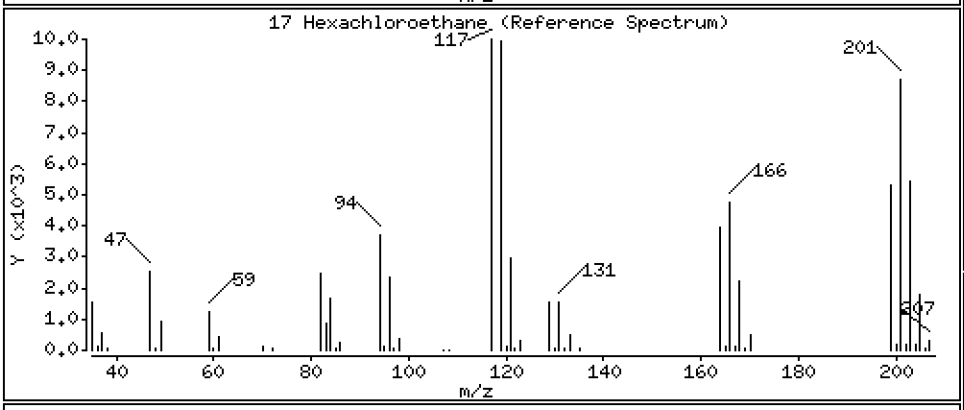
Column diameter: 0.25

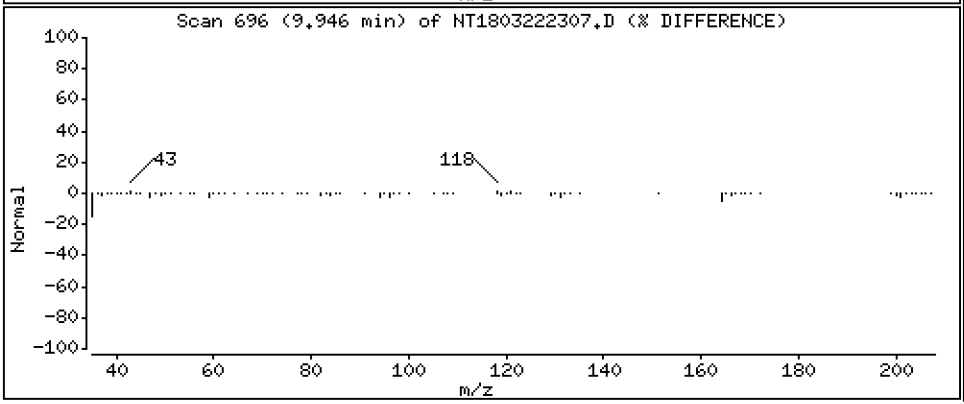
17 Hexachloroethane

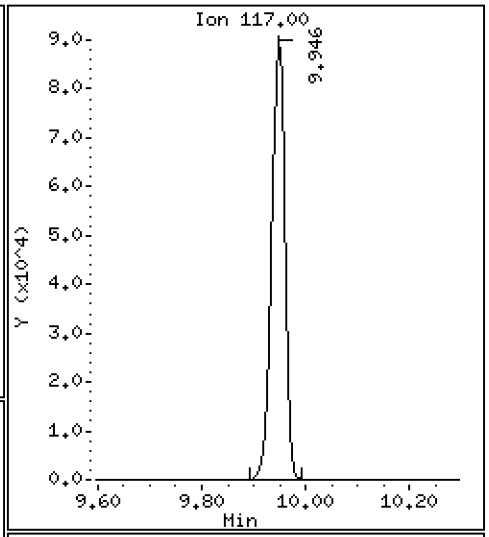
Concentration: 3.672 ug/mL

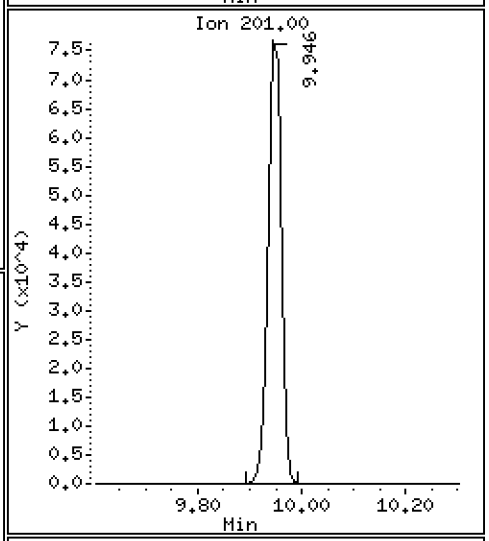


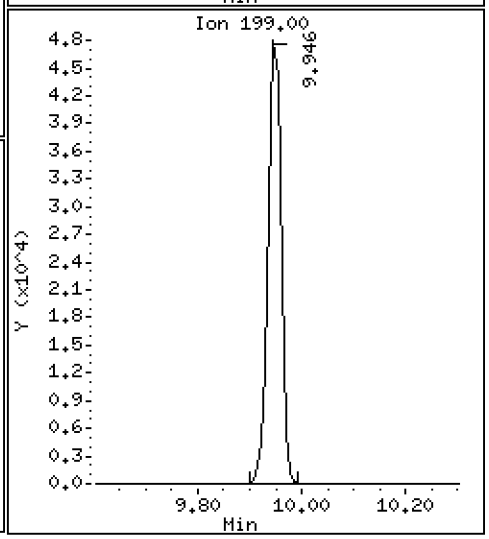












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222307.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

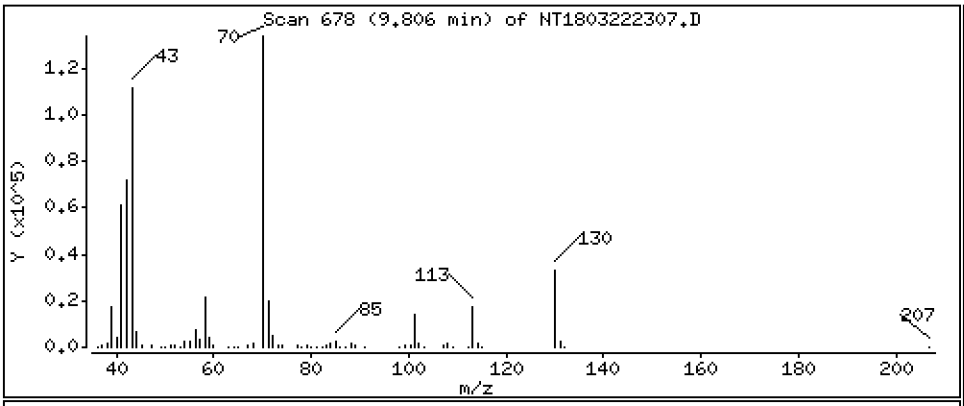
Operator: VTS

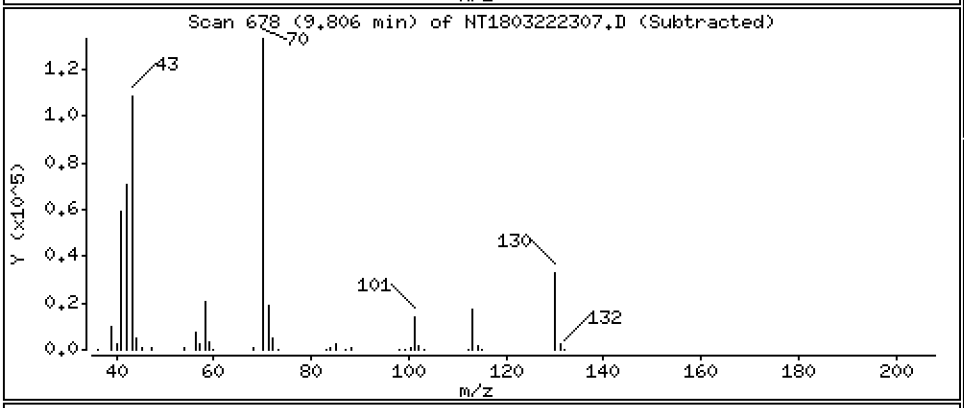
Column phase: ZB-5msi

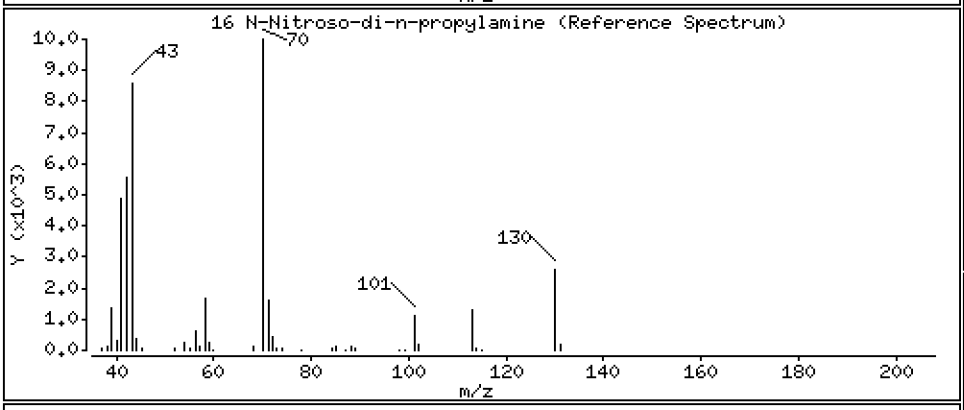
Column diameter: 0.25

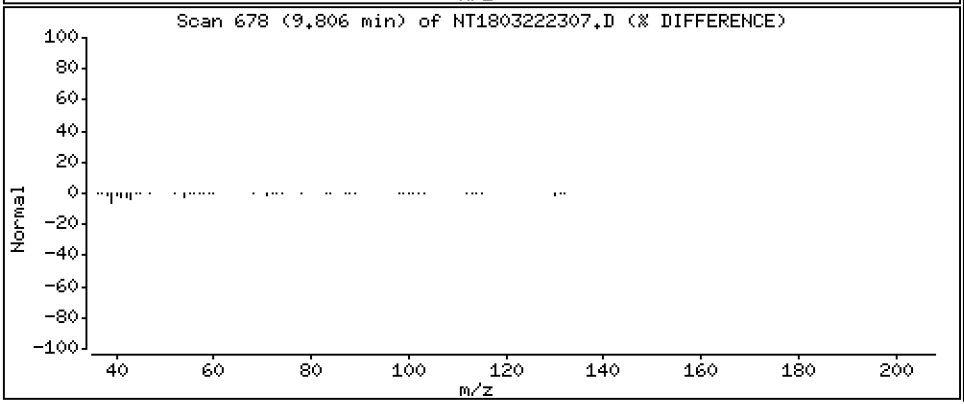
16 N-Nitroso-di-n-propylamine

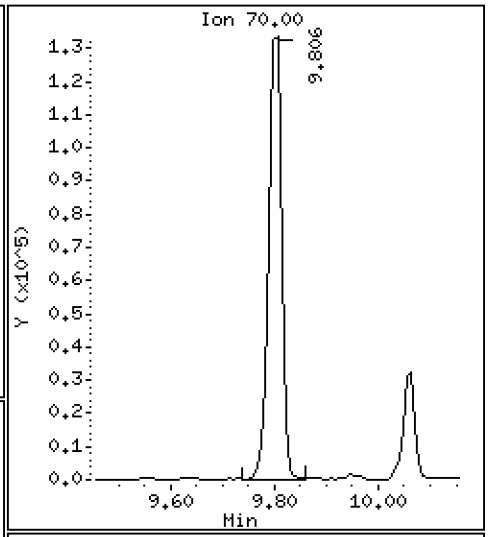
Concentration: 3.487 ug/mL

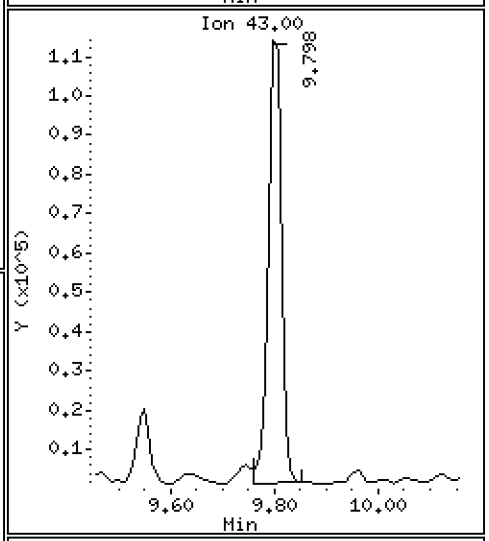


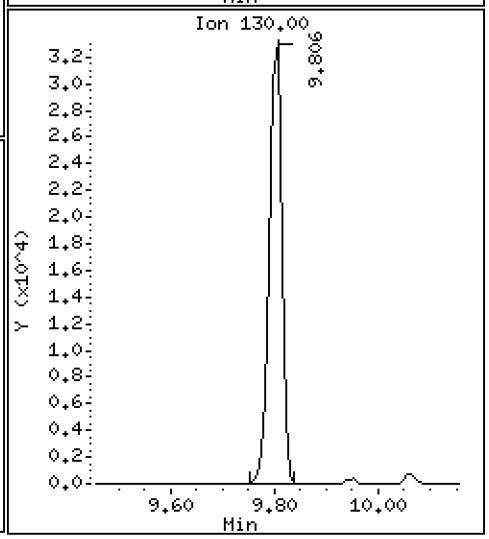












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

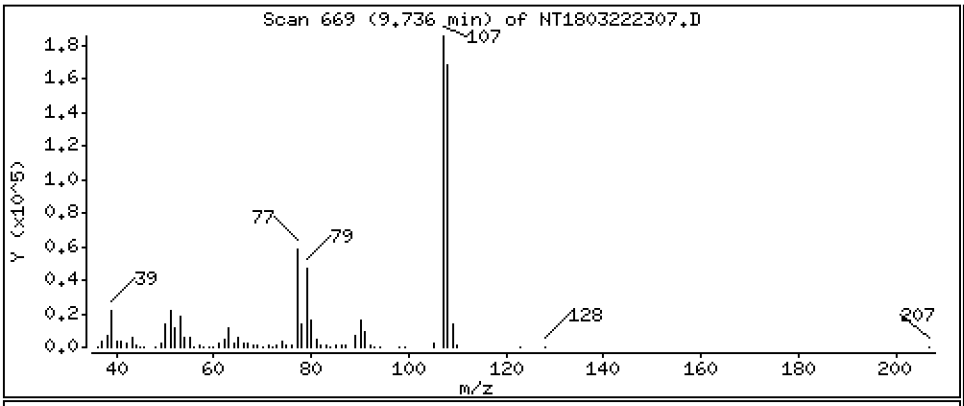
Operator: VTS

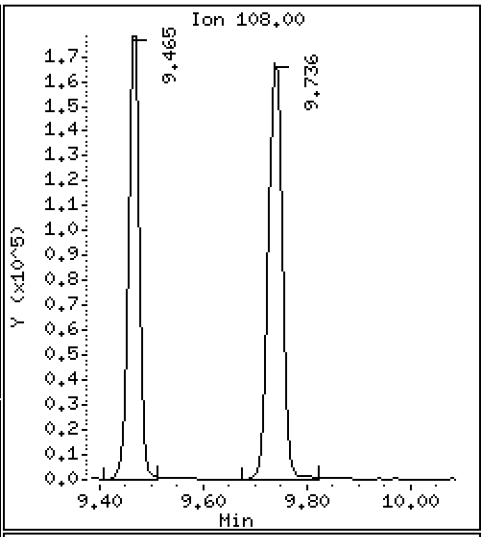
Column phase: ZB-5msi

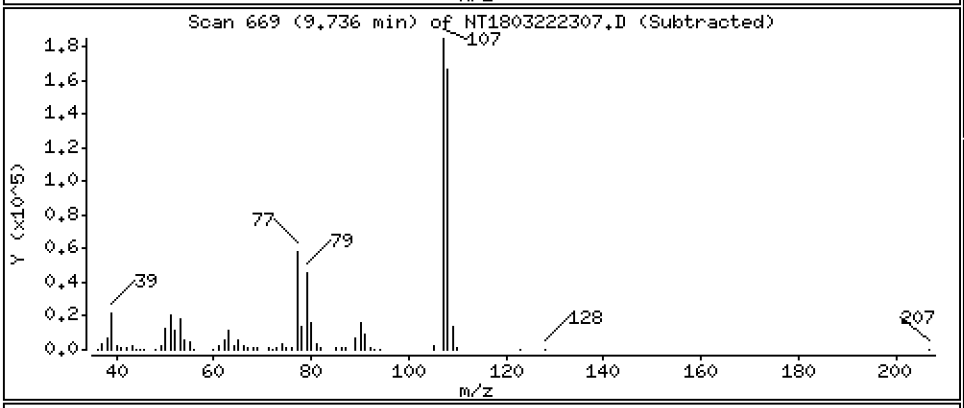
Column diameter: 0.25

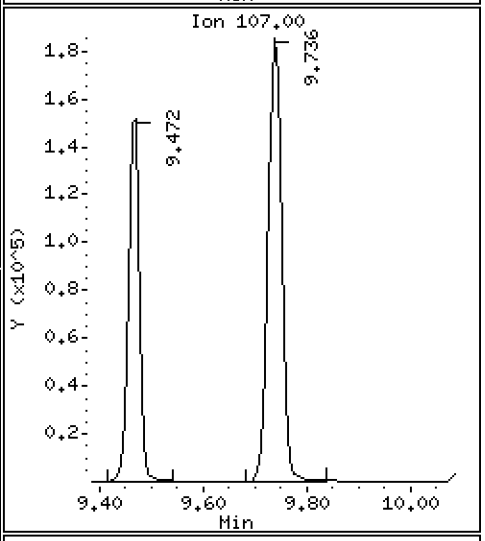
15 4-Methylphenol

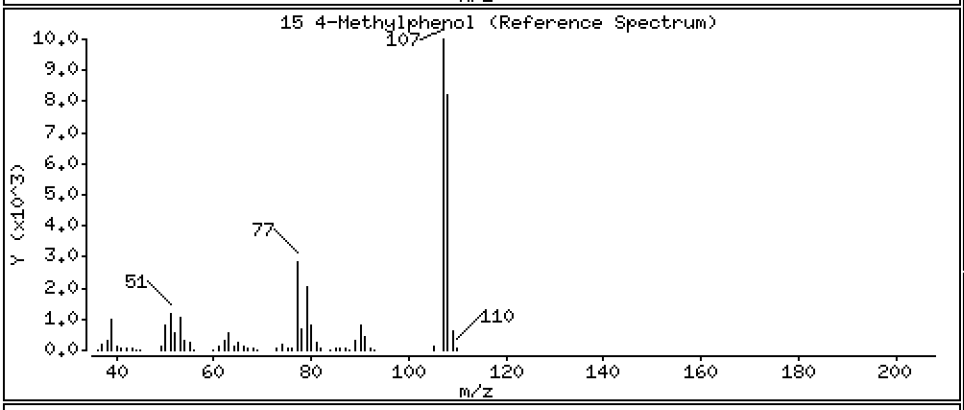
Concentration: 3.310 ug/mL

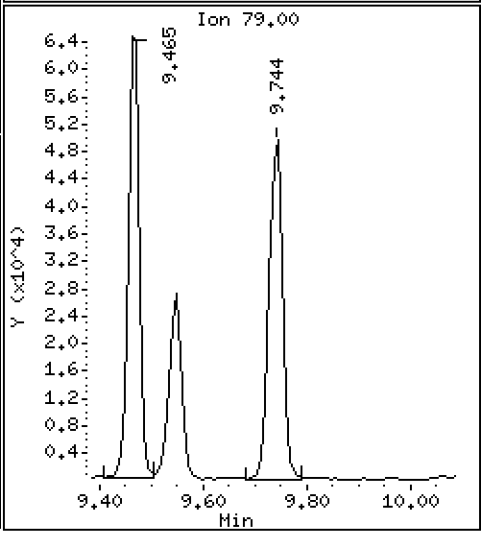


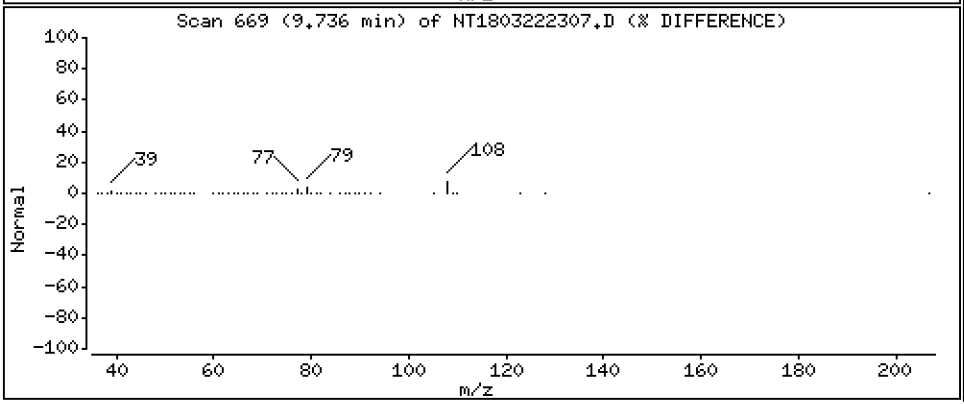












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

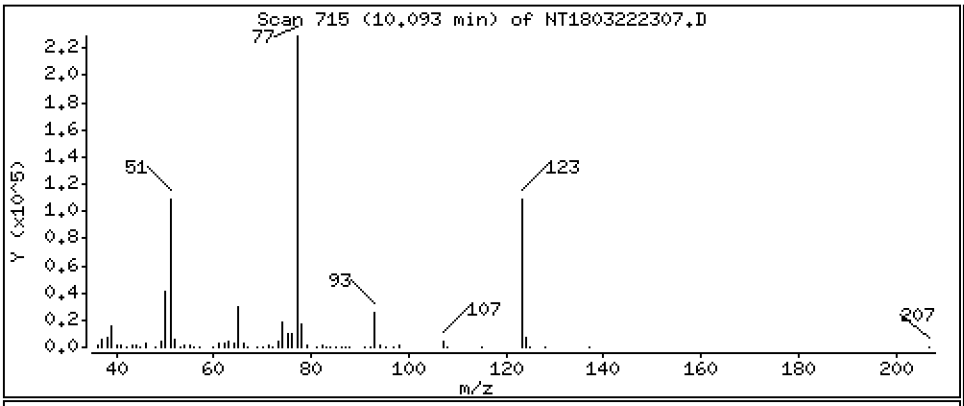
Operator: VTS

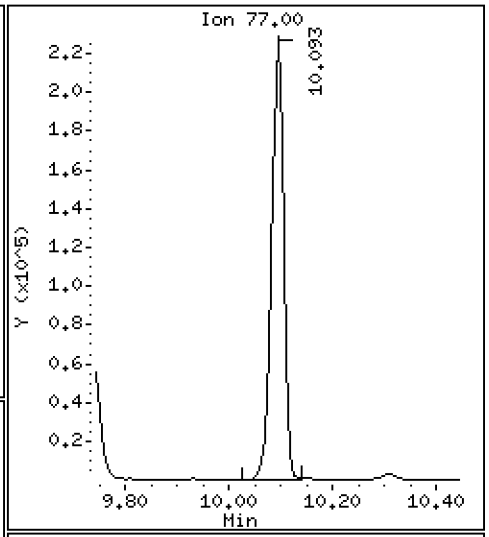
Column phase: ZB-5msi

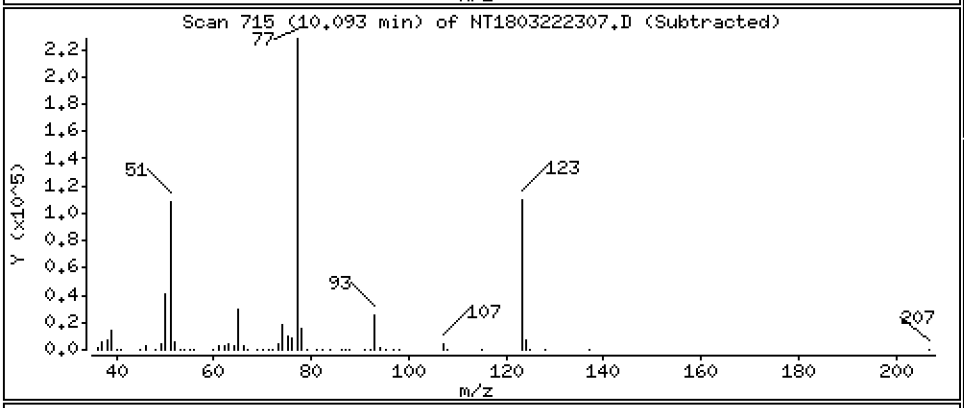
Column diameter: 0.25

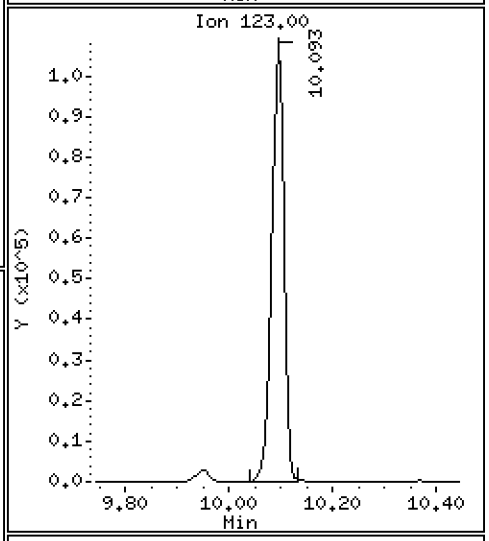
19 Nitrobenzene

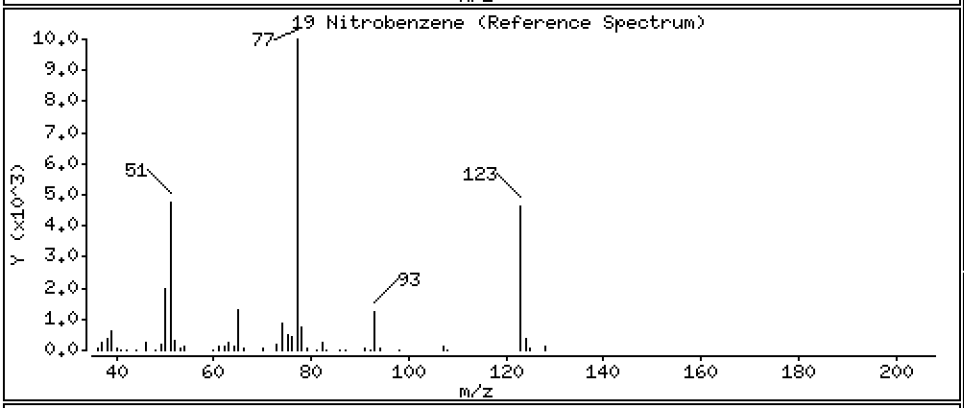
Concentration: 3.994 ug/mL

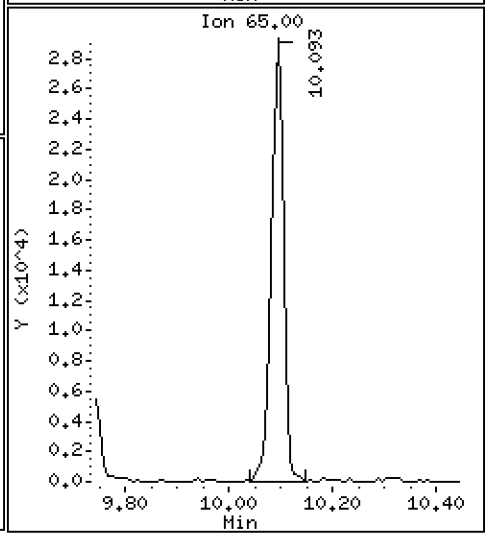


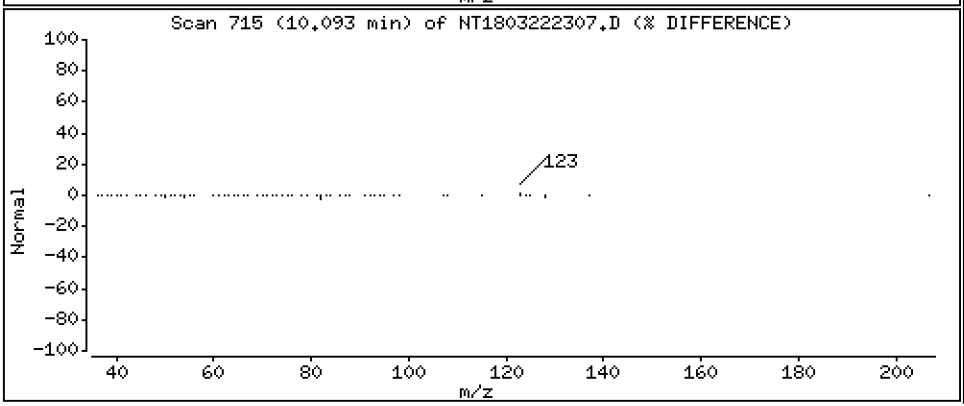












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

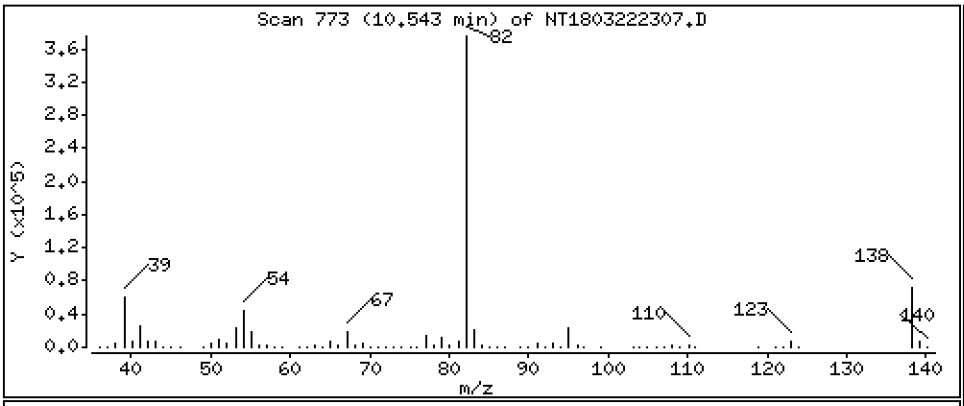
Operator: VTS

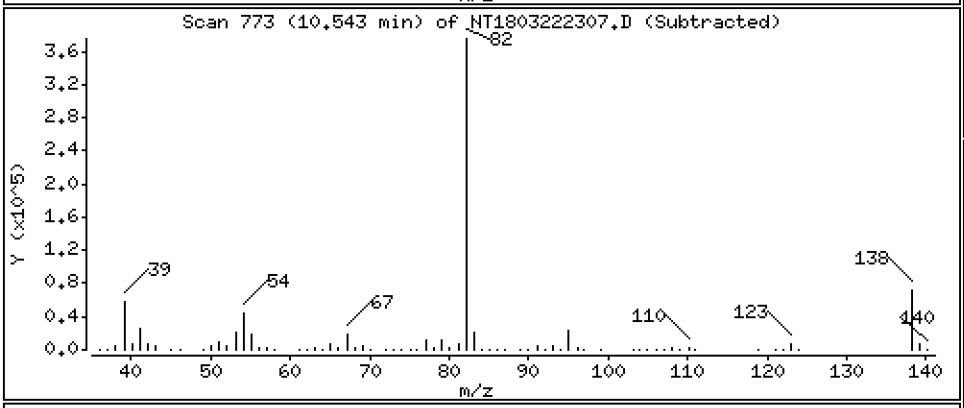
Column phase: ZB-5msi

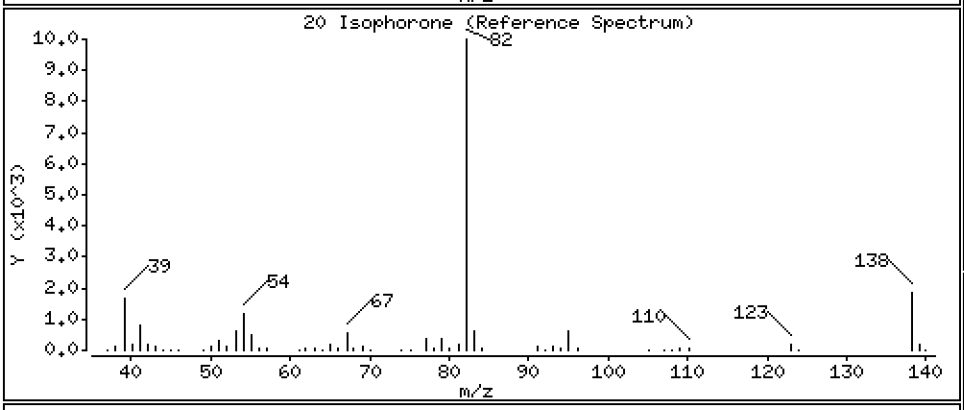
Column diameter: 0.25

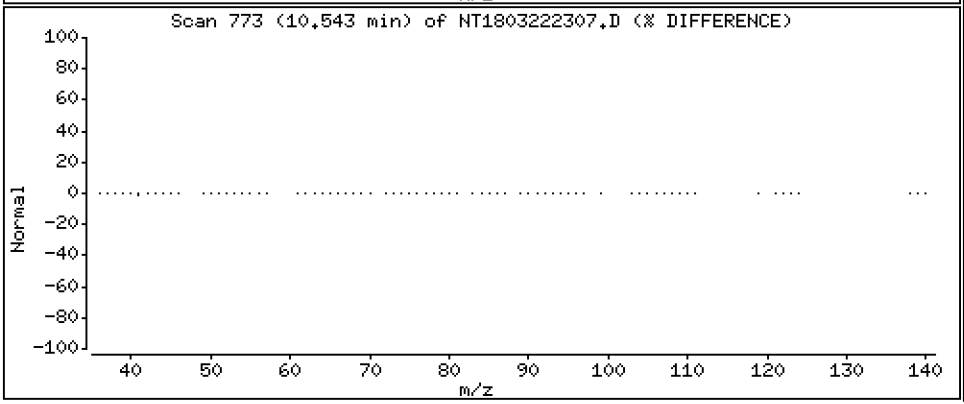
20 Isophorone

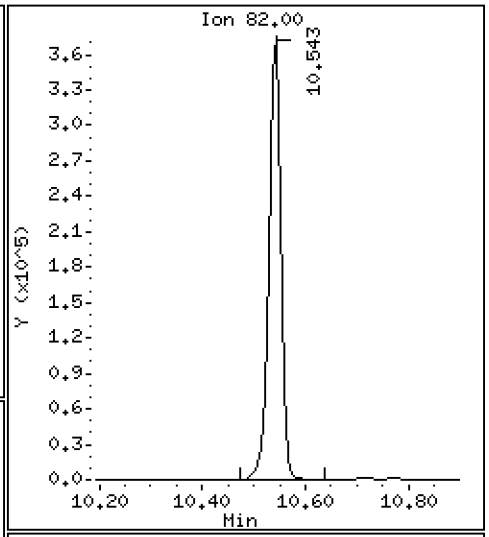
Concentration: 5.353 ug/mL

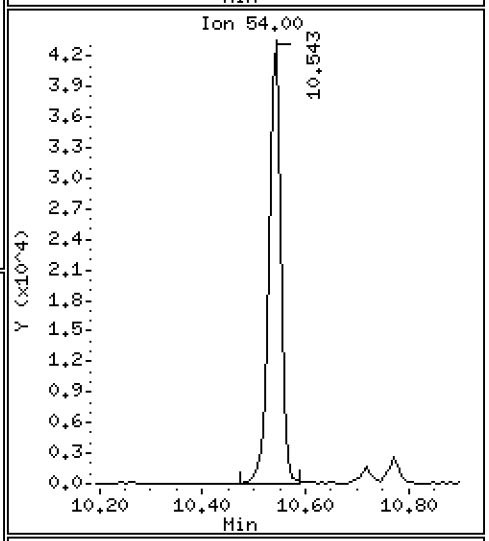


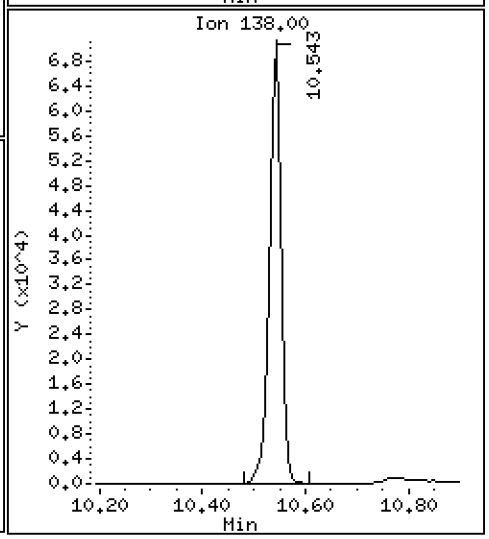












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

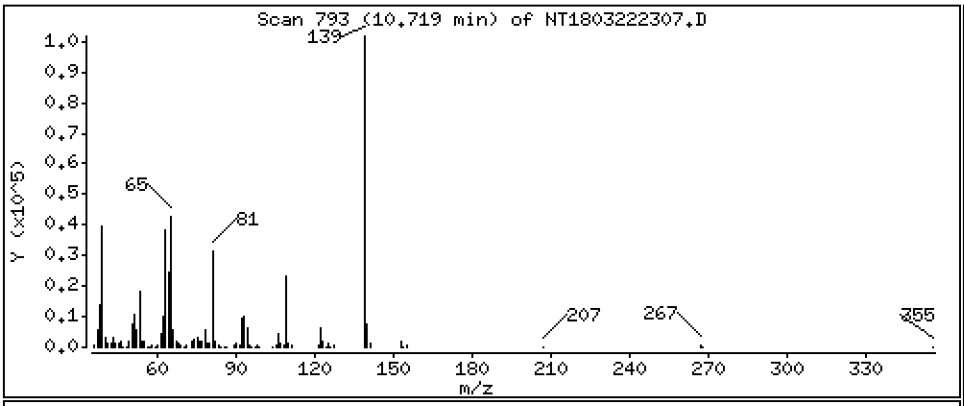
Operator: VTS

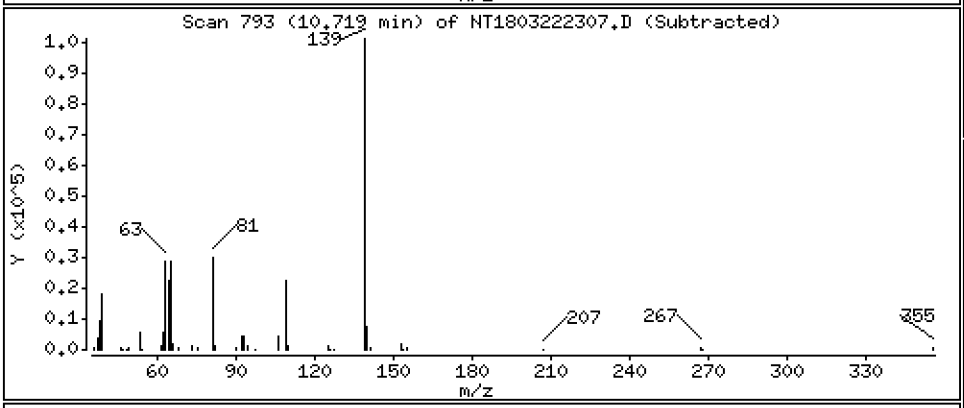
Column phase: ZB-5msi

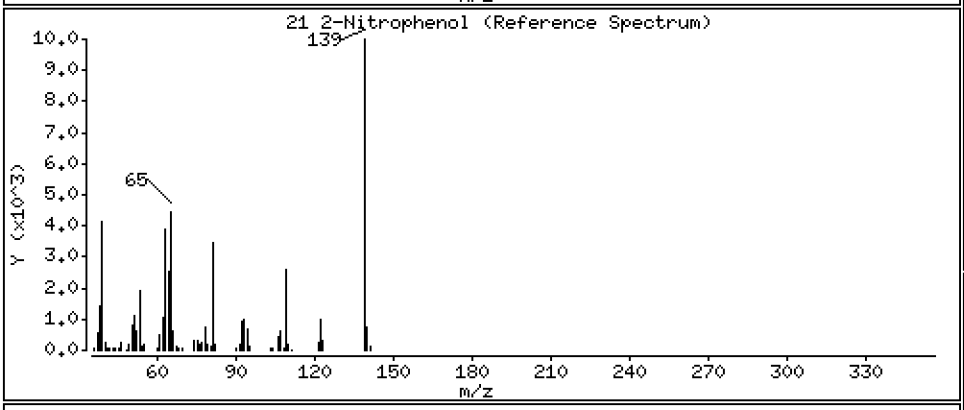
Column diameter: 0.25

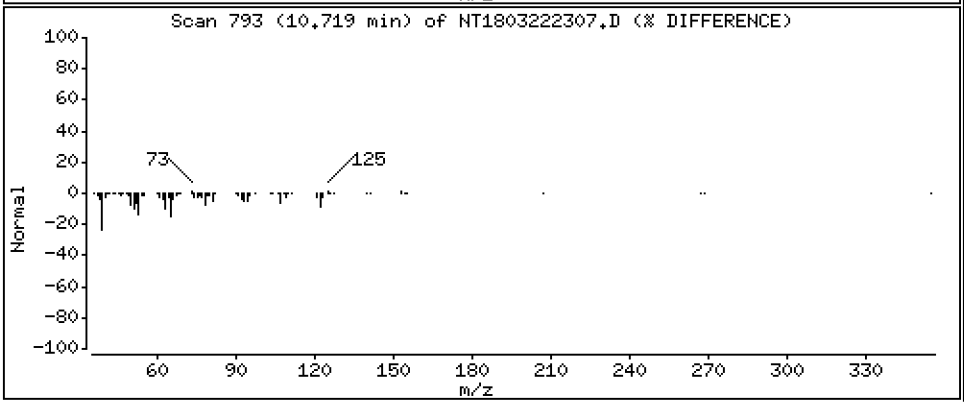
21 2-Nitrophenol

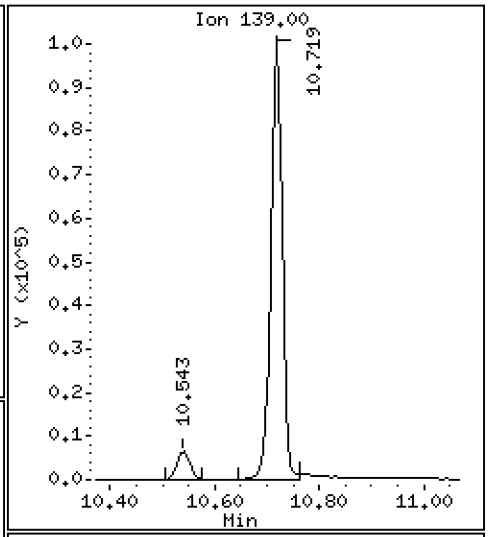
Concentration: 3.415 ug/mL

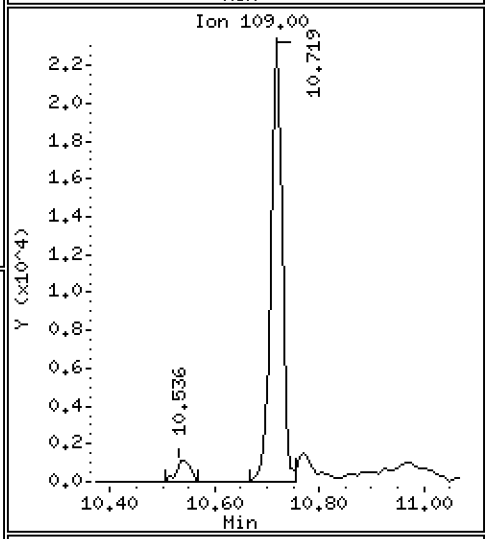


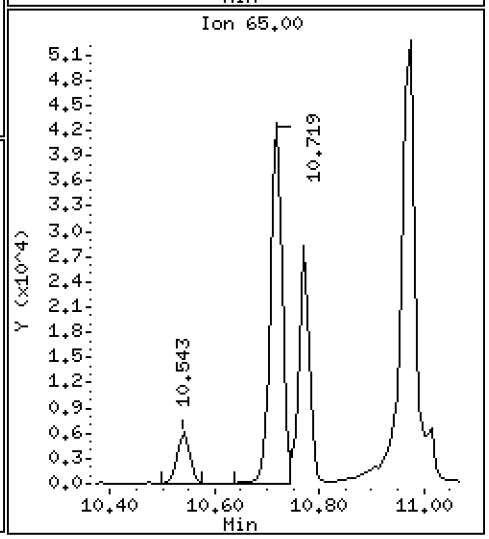












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

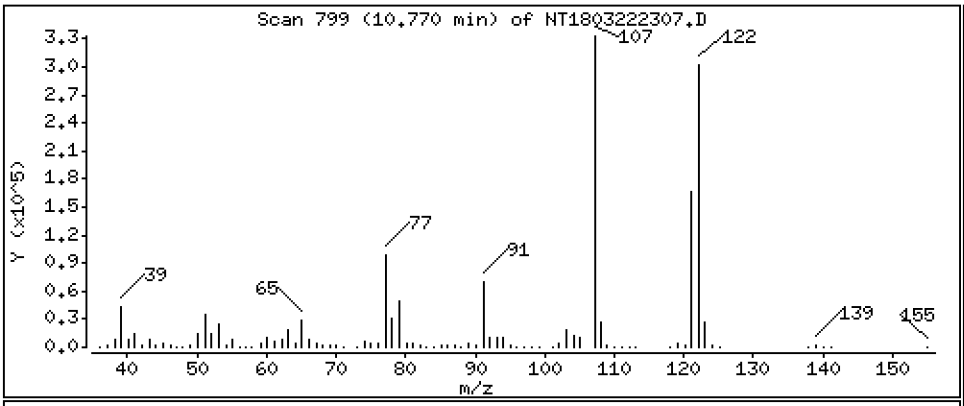
Operator: VTS

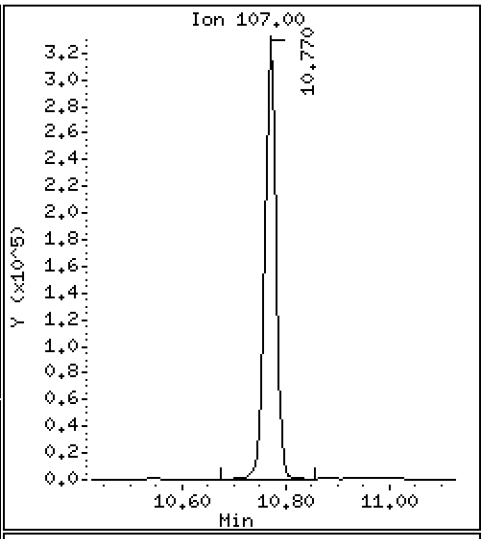
Column phase: ZB-5msi

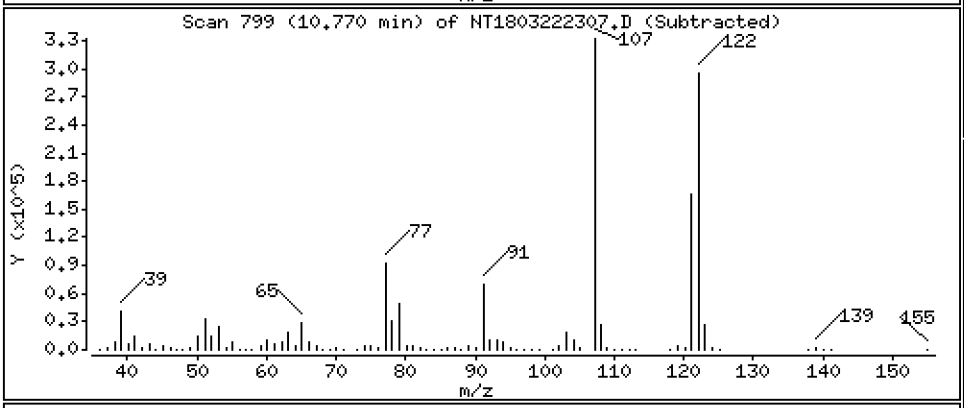
Column diameter: 0.25

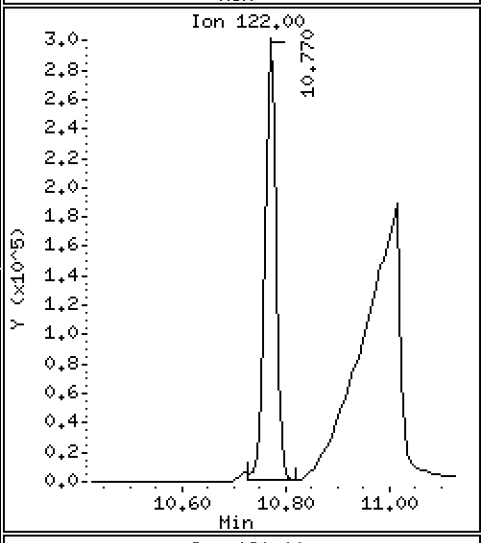
22 2,4-Dimethylphenol

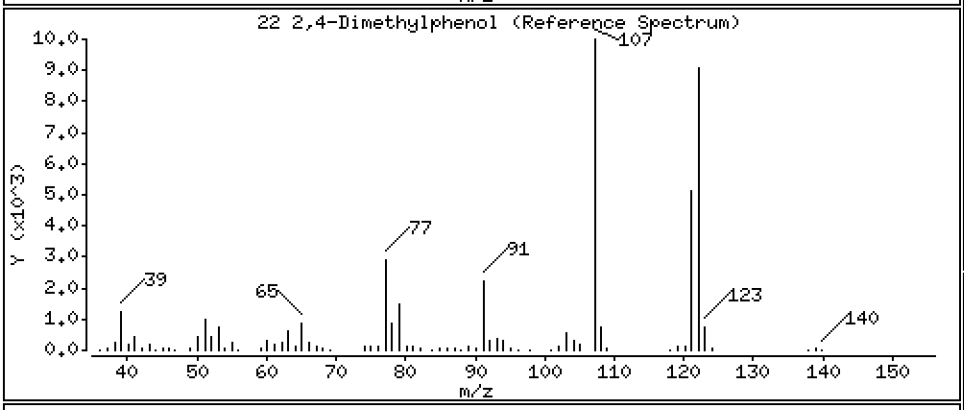
Concentration: 5.725 ug/mL

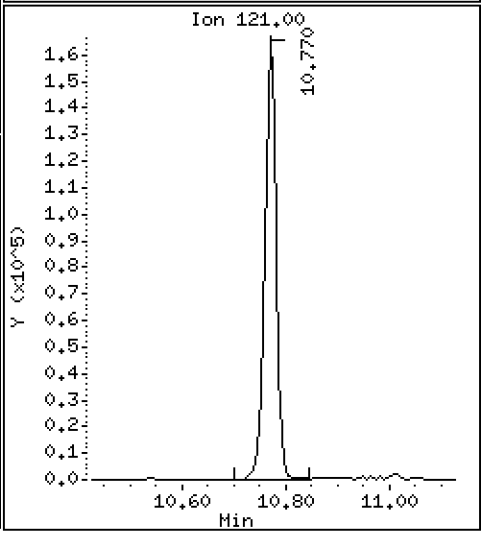


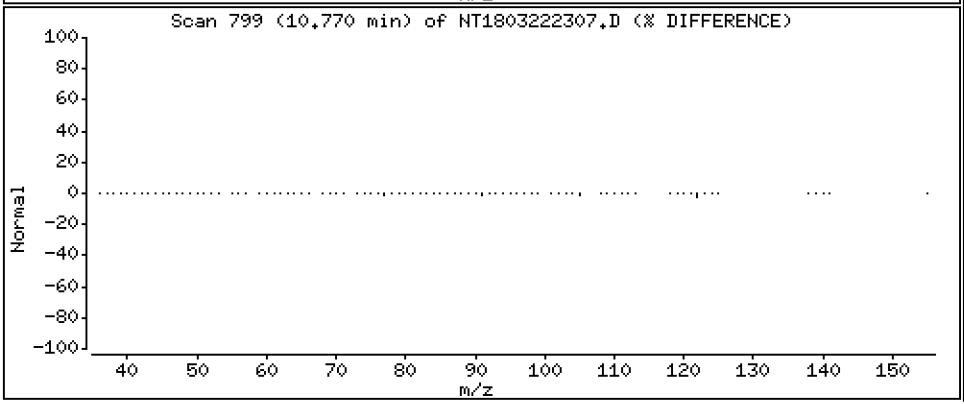












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

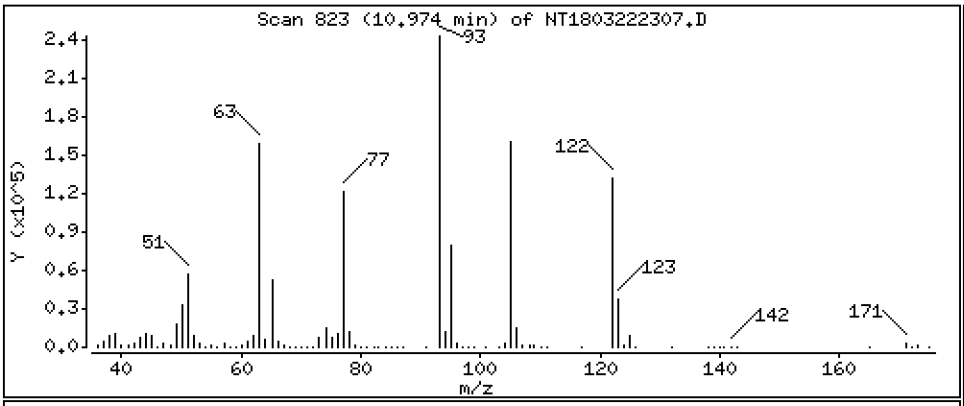
Operator: VTS

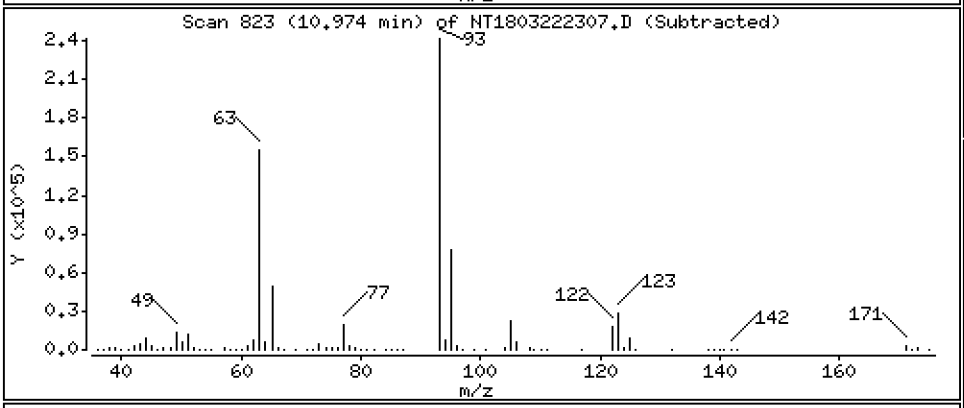
Column phase: ZB-5msi

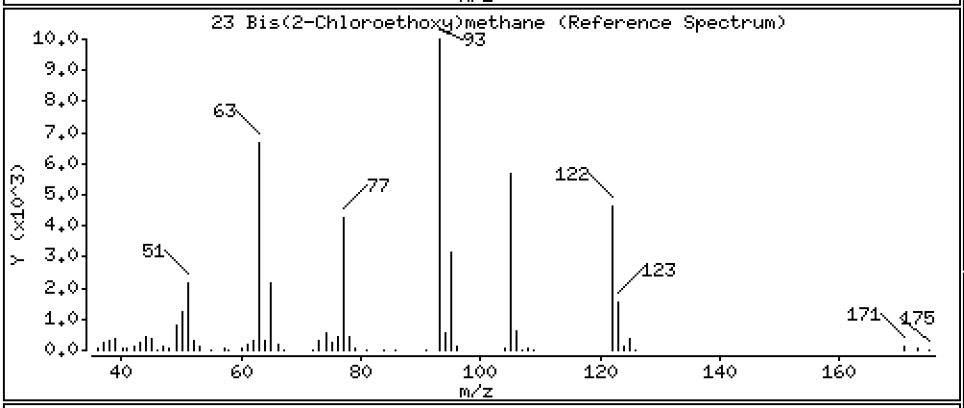
Column diameter: 0.25

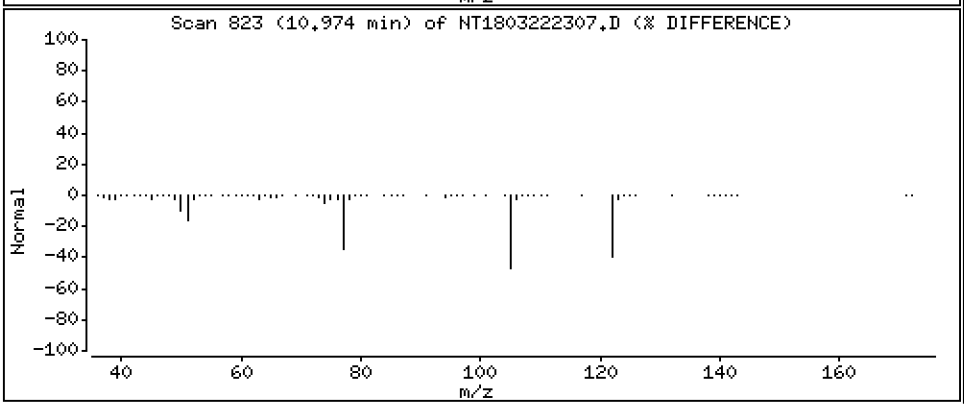
23 Bis(2-Chloroethoxy)methane

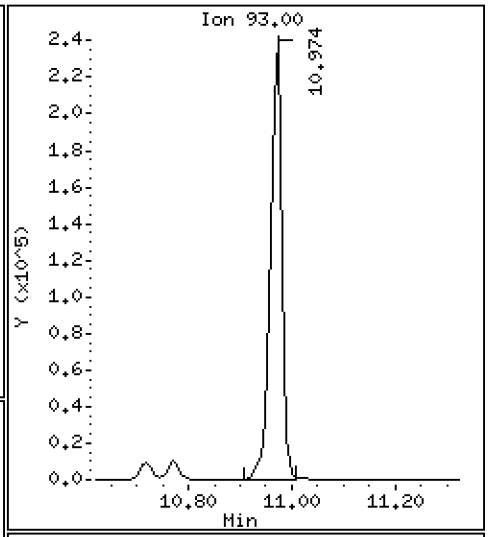
Concentration: 4.439 ug/mL

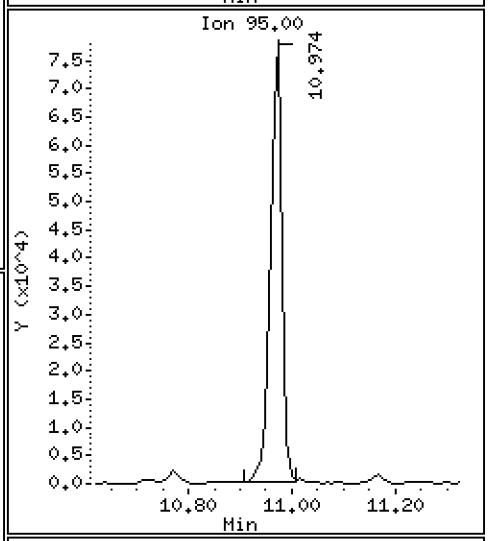


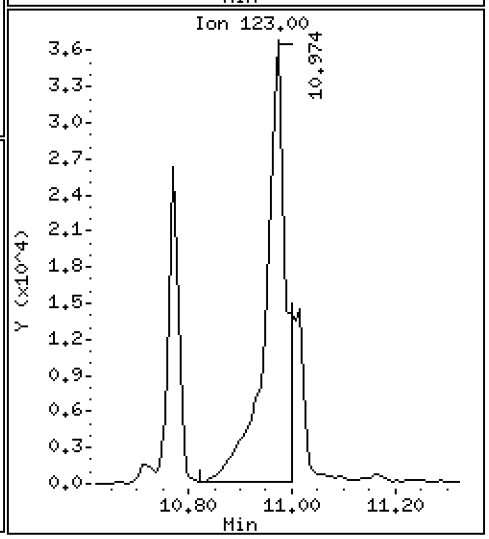












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222307.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

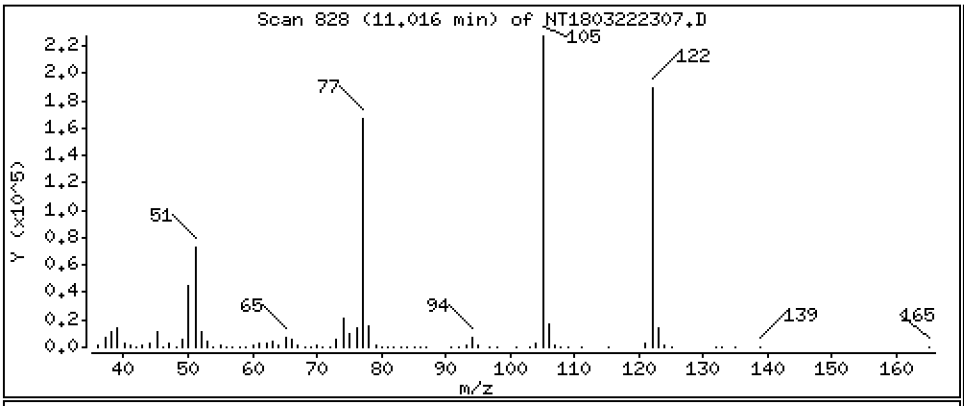
Operator: VTS

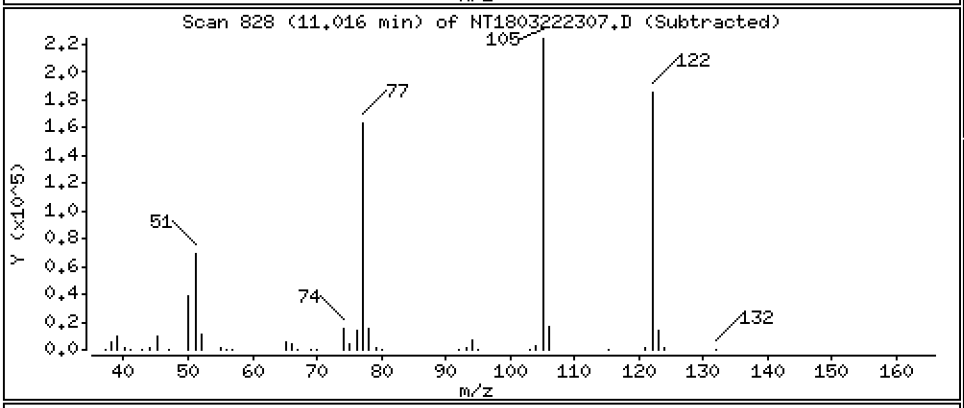
Column phase: ZB-5msi

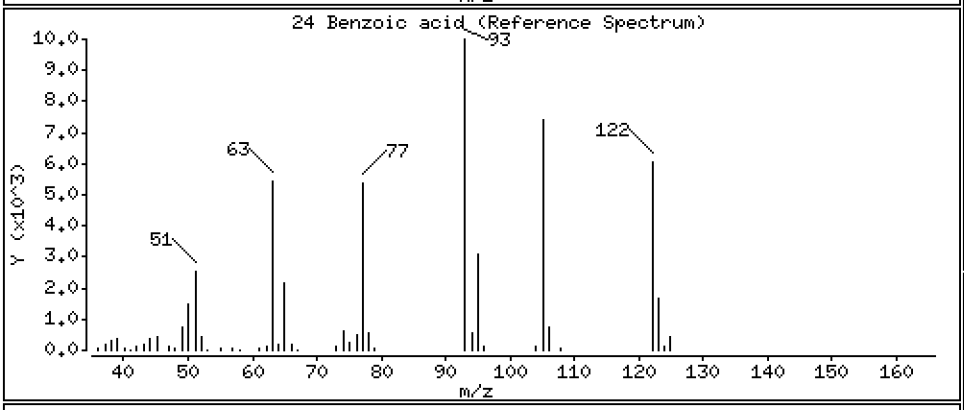
Column diameter: 0.25

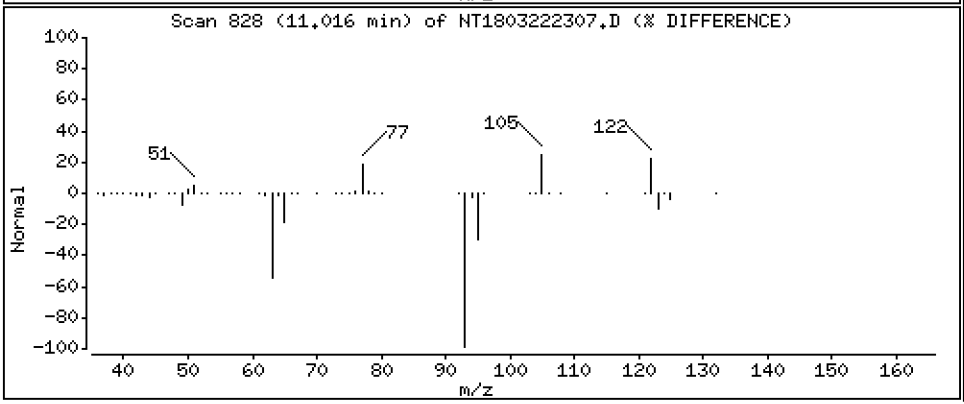
24 Benzoic acid

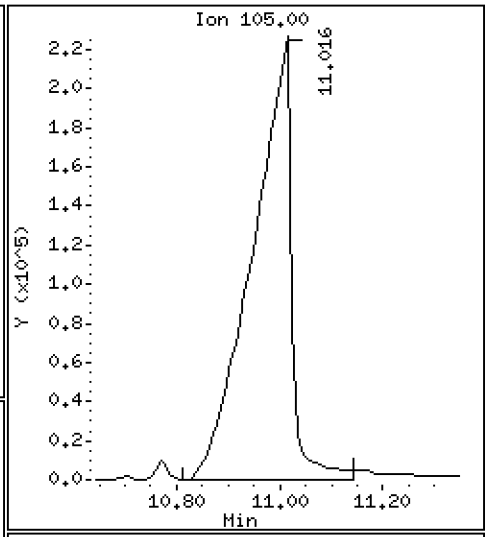
Concentration: 19.01 ug/mL

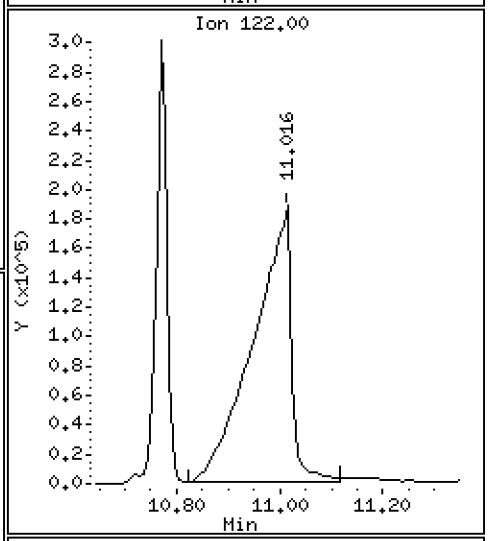


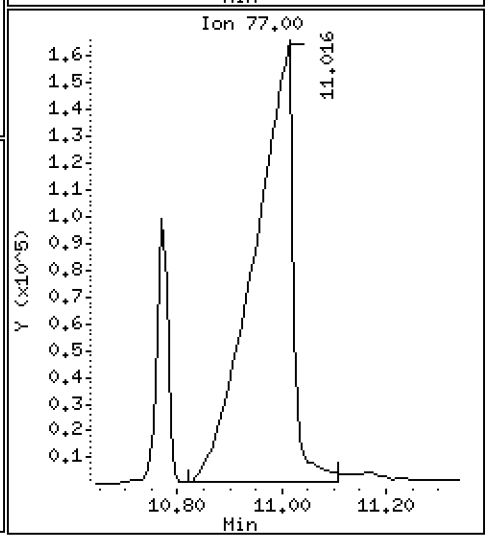












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

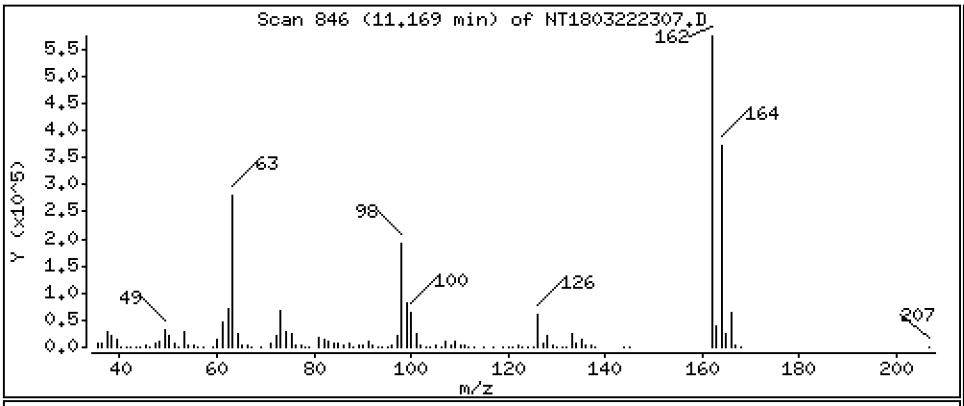
Operator: VTS

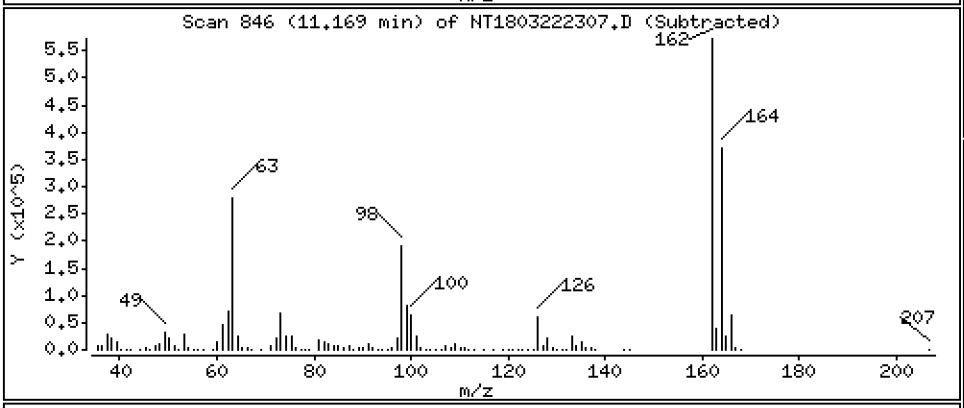
Column phase: ZB-5msi

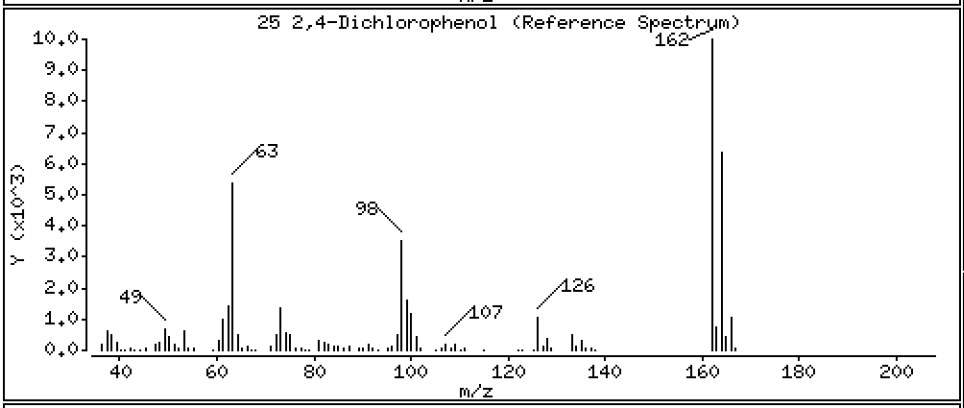
Column diameter: 0.25

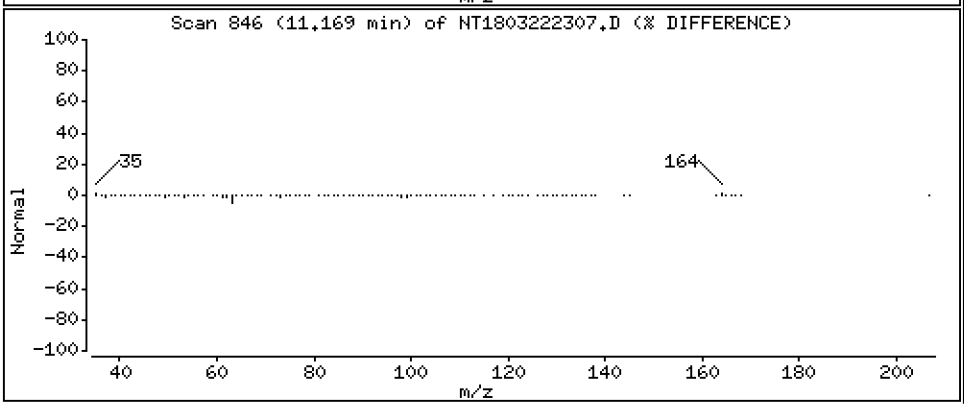
25 2,4-Dichlorophenol

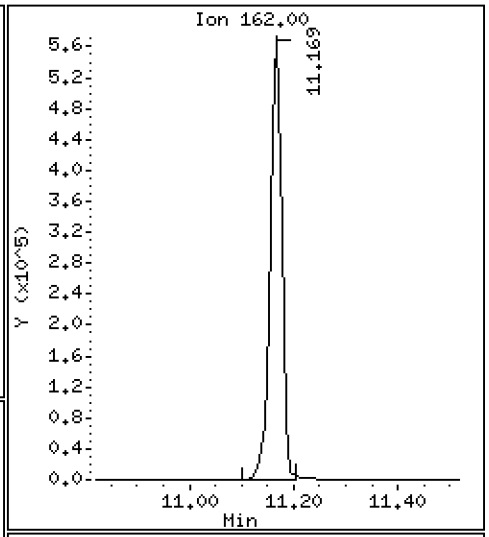
Concentration: 11.24 ug/mL

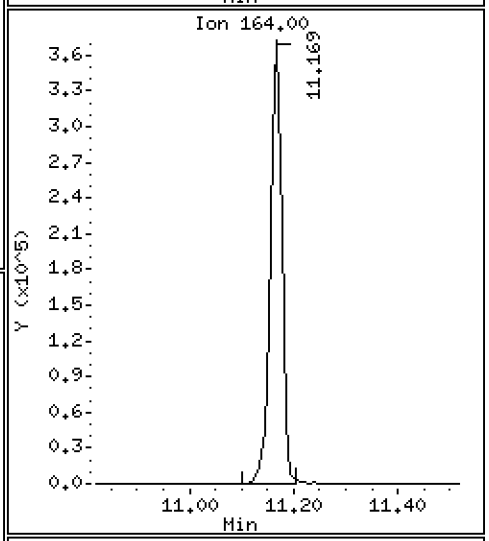


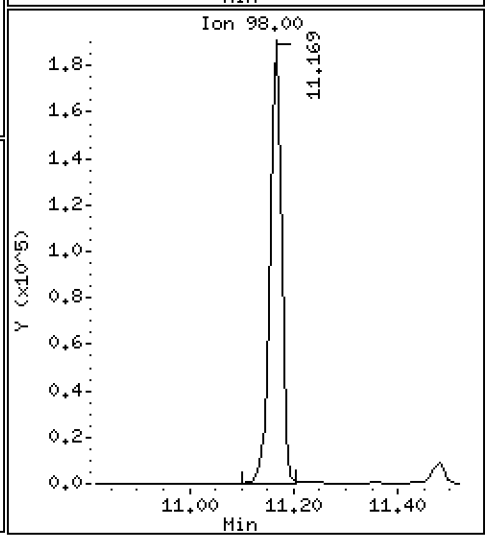












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

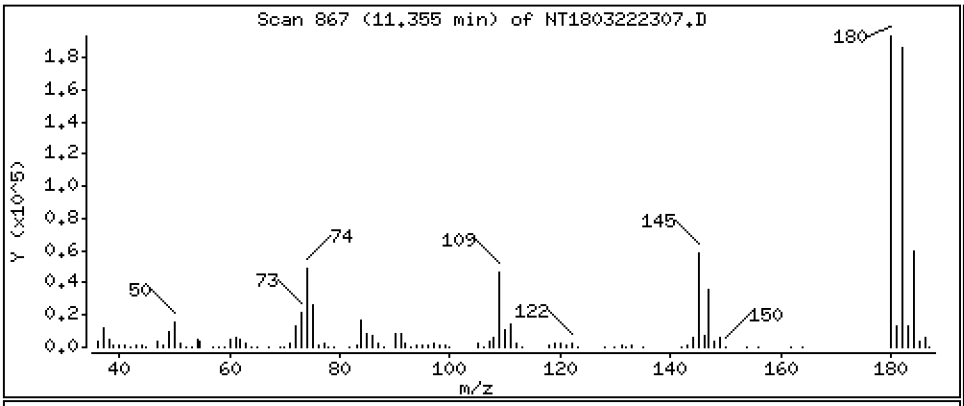
Operator: VTS

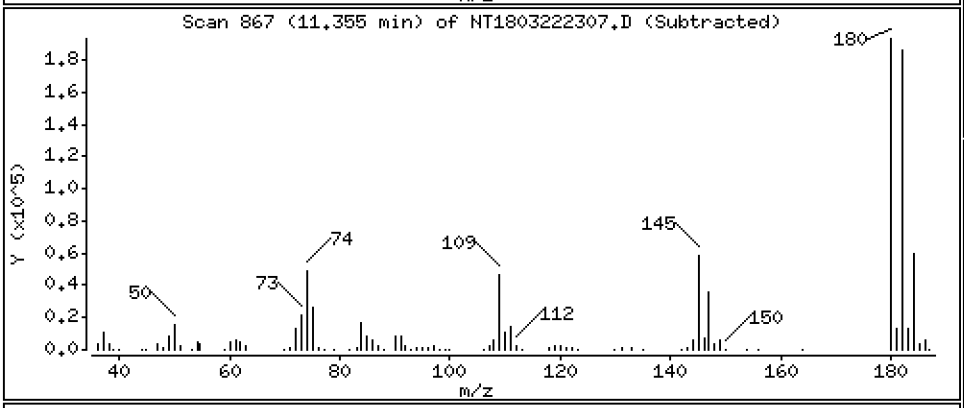
Column phase: ZB-5msi

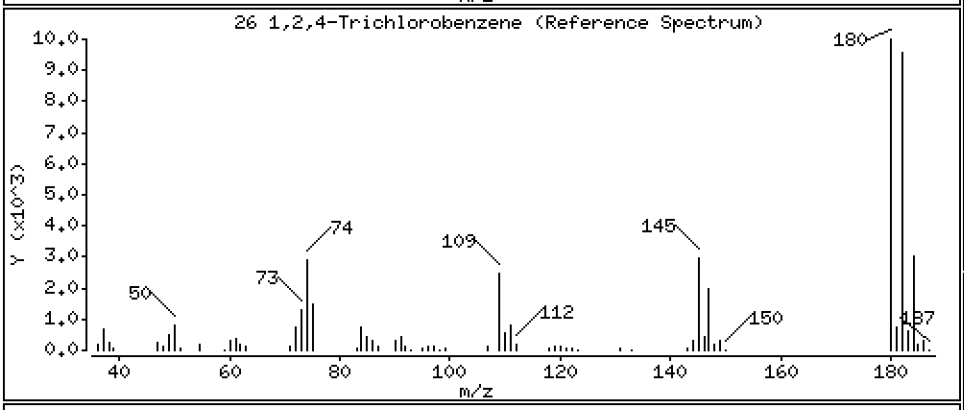
Column diameter: 0.25

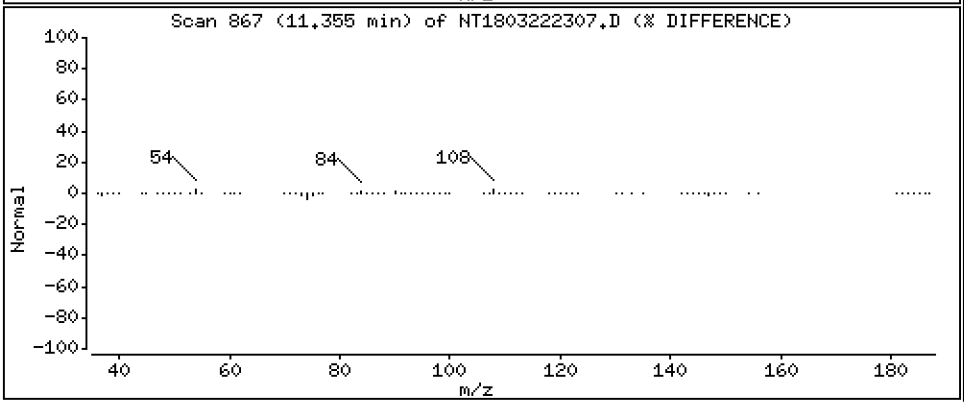
26 1,2,4-Trichlorobenzene

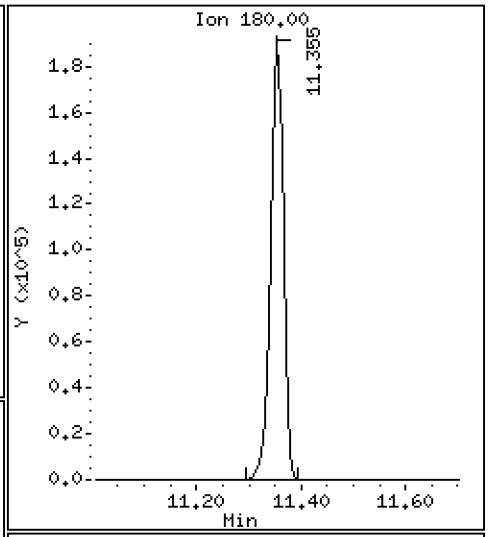
Concentration: 3.662 ug/mL

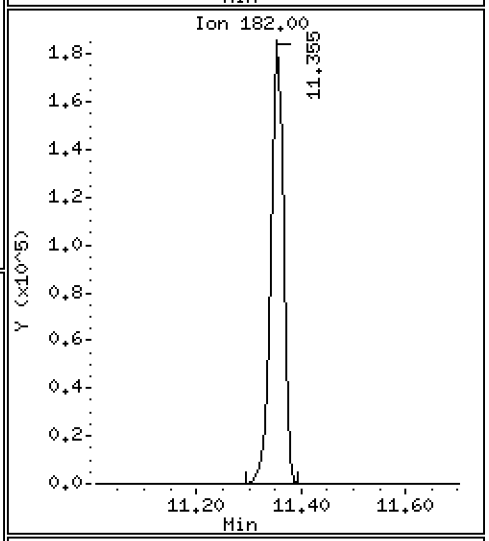


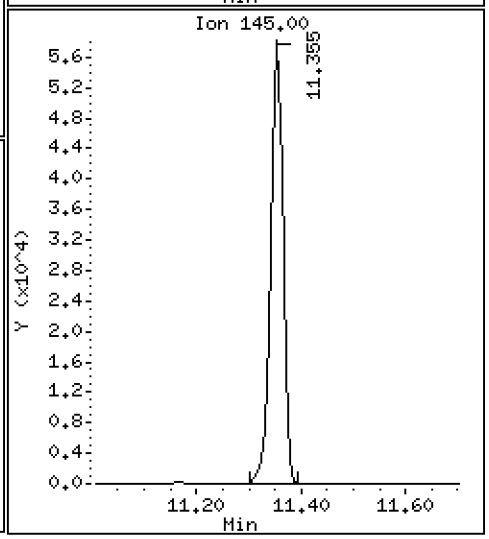












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

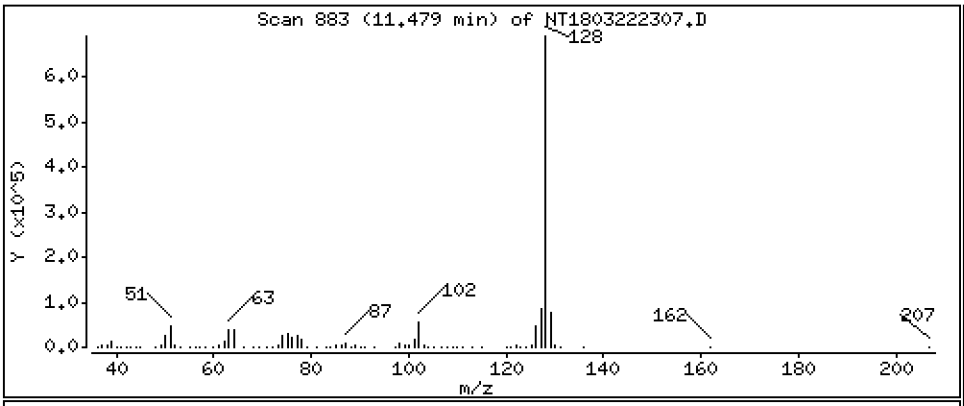
Operator: VTS

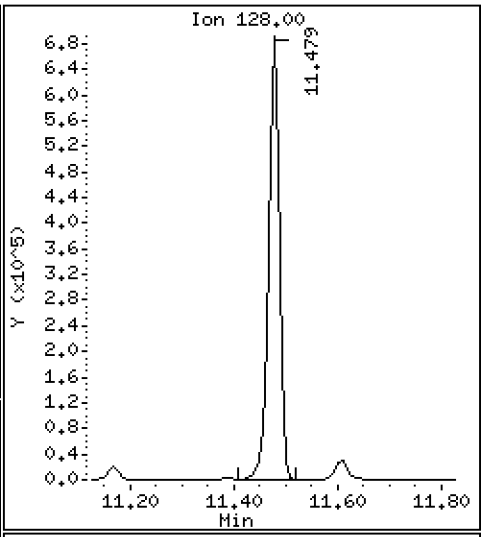
Column phase: ZB-5msi

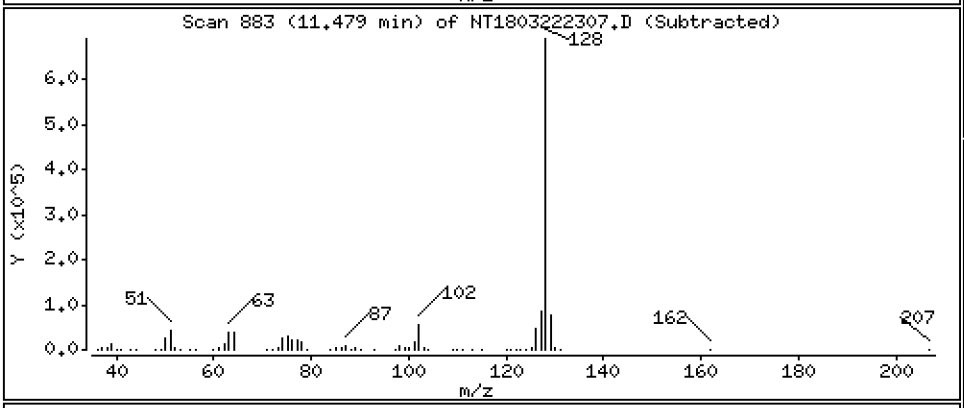
Column diameter: 0.25

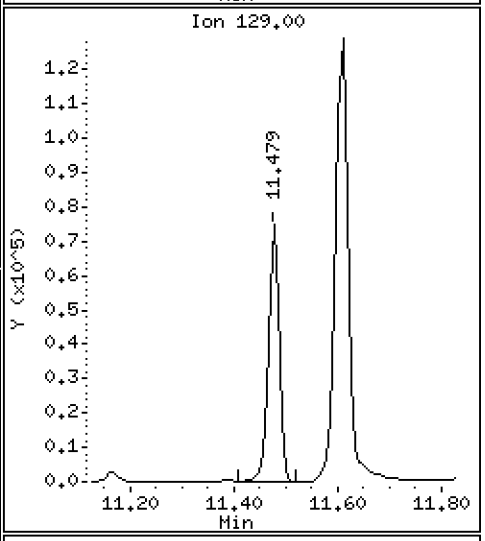
28 Naphthalene

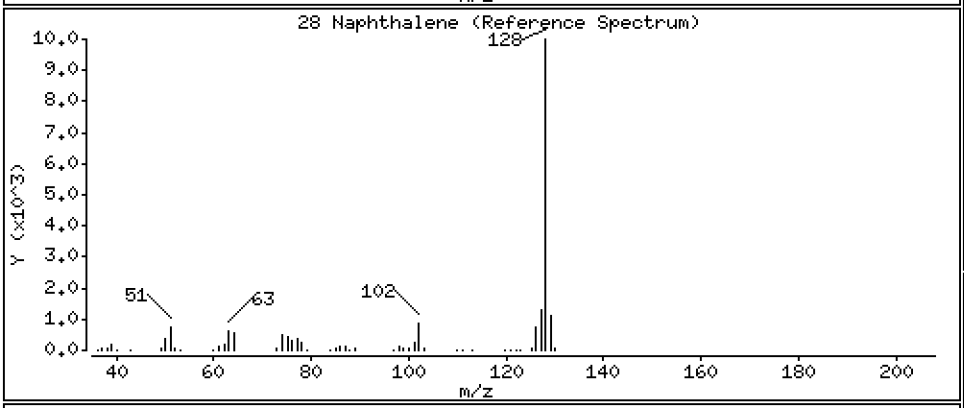
Concentration: 3.620 ug/mL

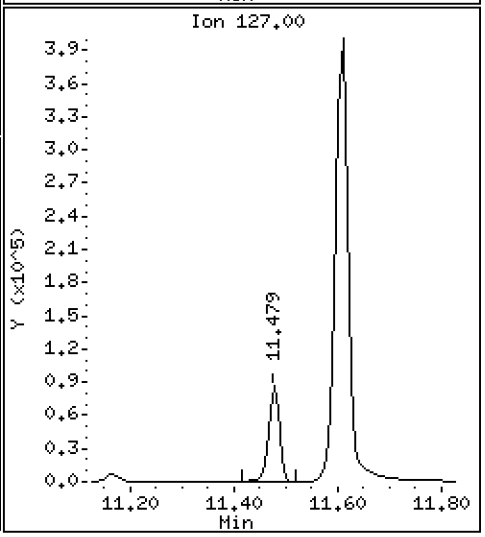


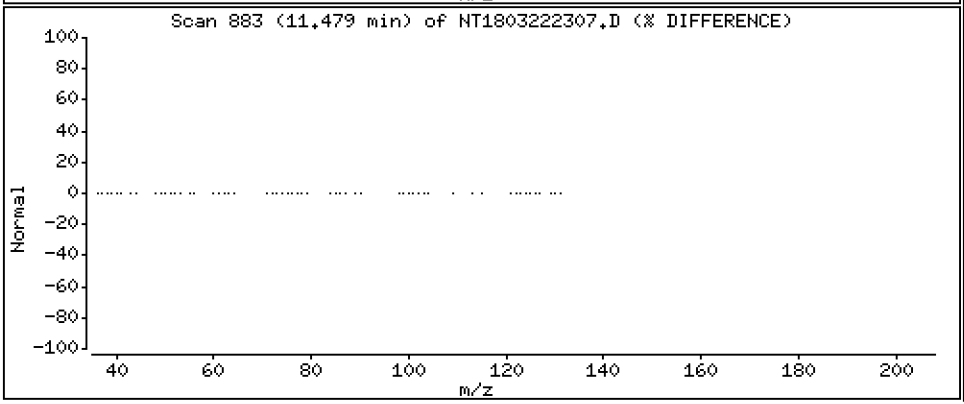












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

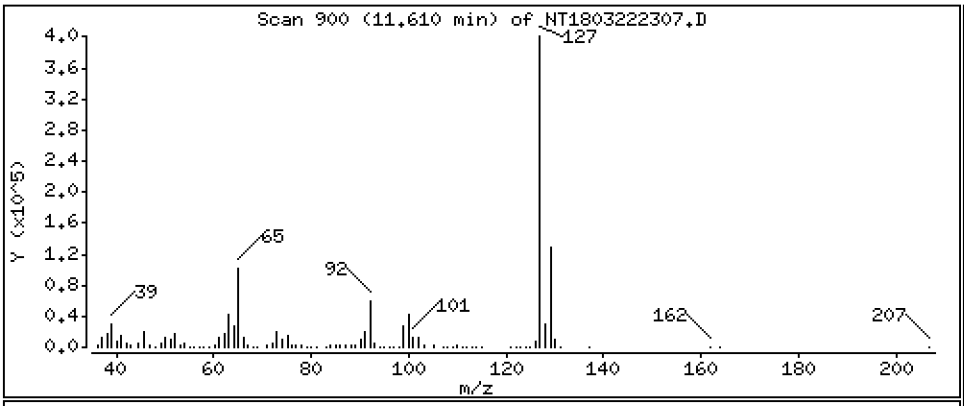
Operator: VTS

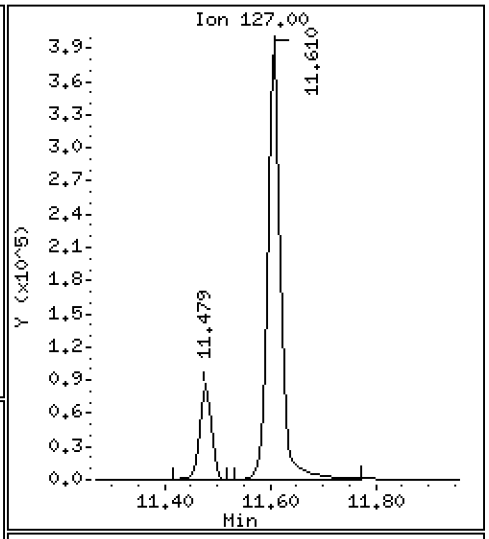
Column phase: ZB-5msi

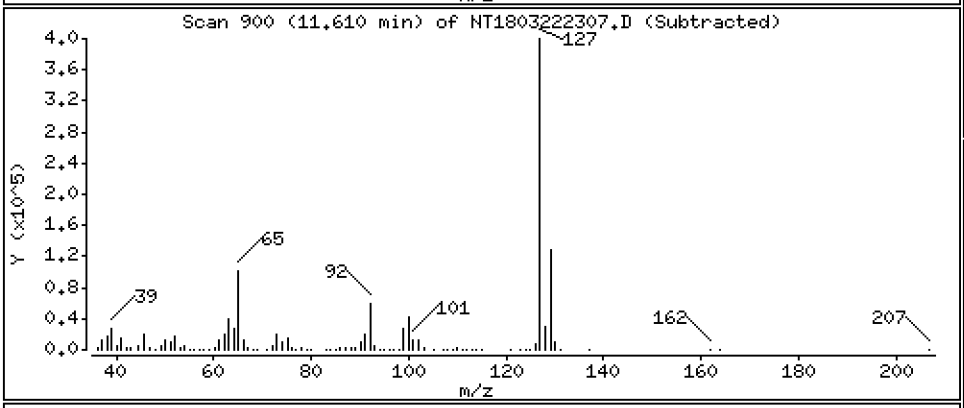
Column diameter: 0.25

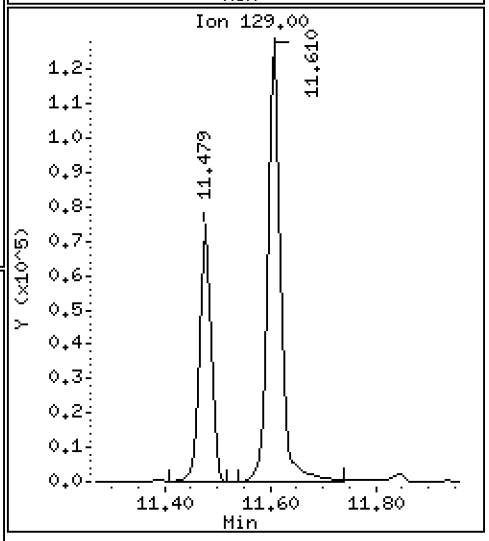
29 4-Chloroaniline

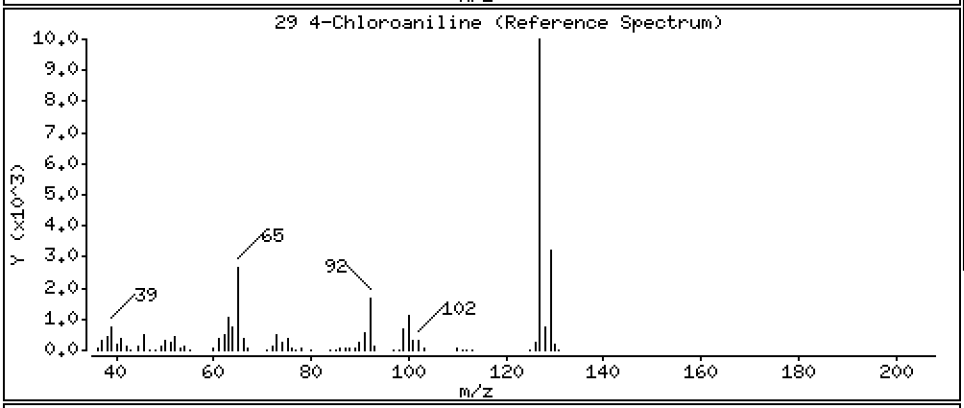
Concentration: 6.466 ug/mL

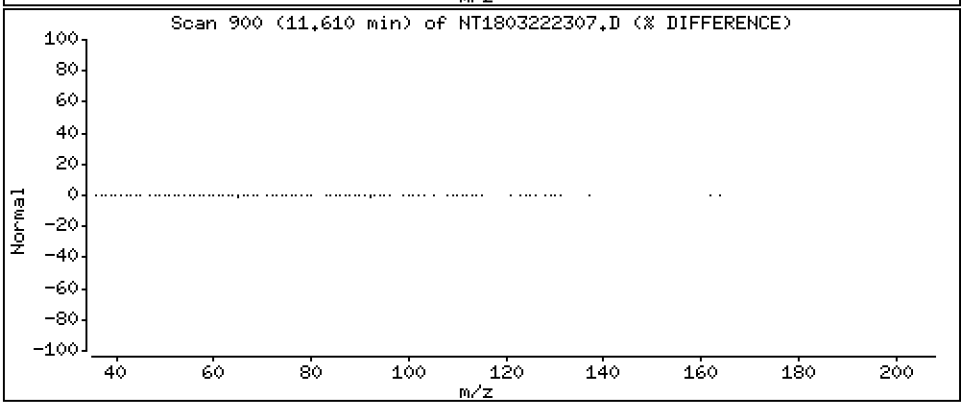












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

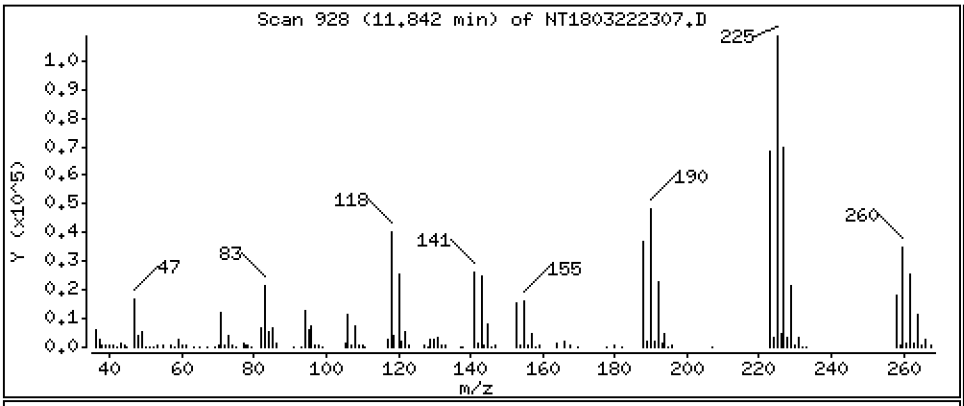
Operator: VTS

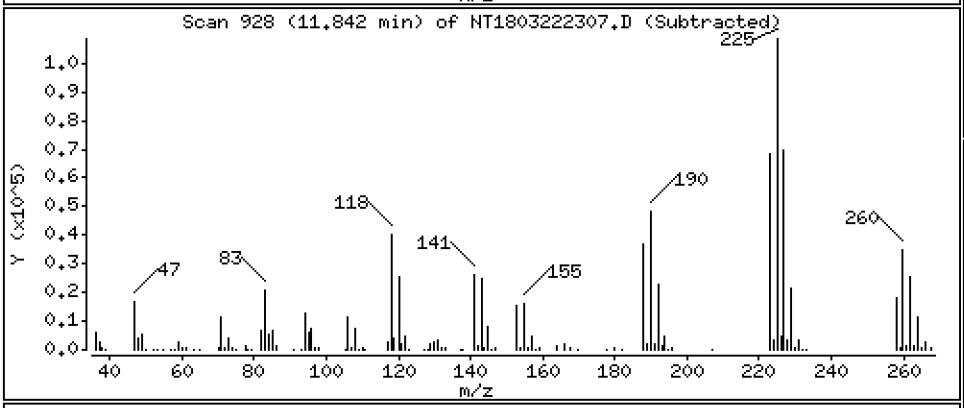
Column phase: ZB-5msi

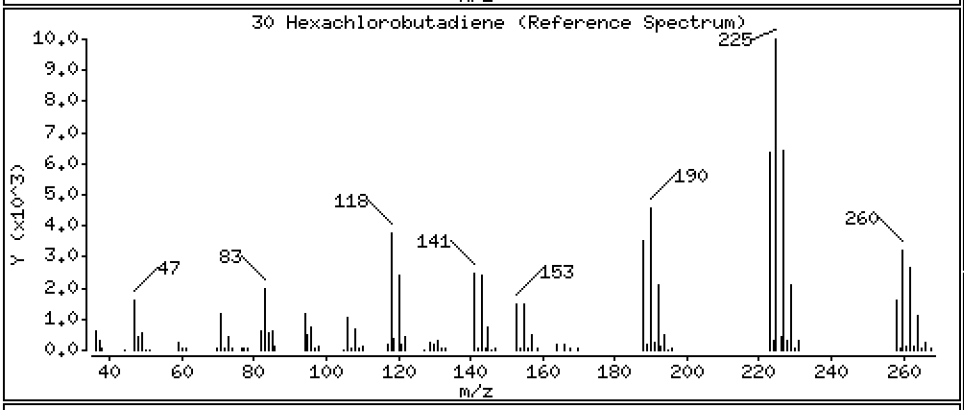
Column diameter: 0.25

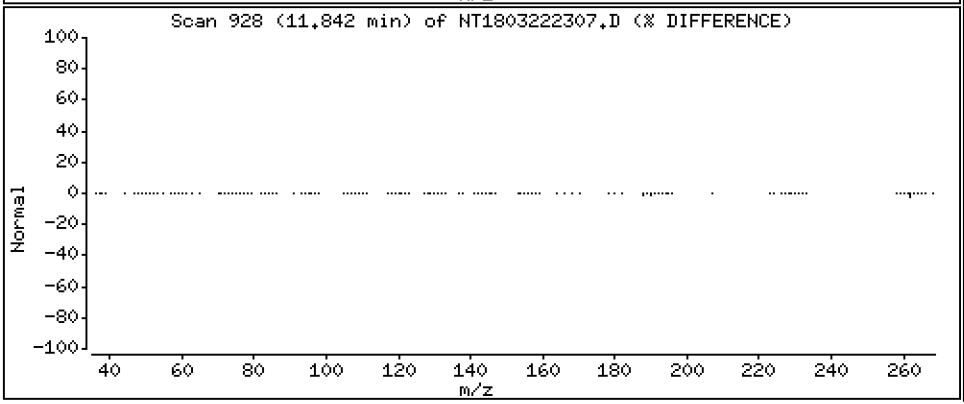
30 Hexachlorobutadiene

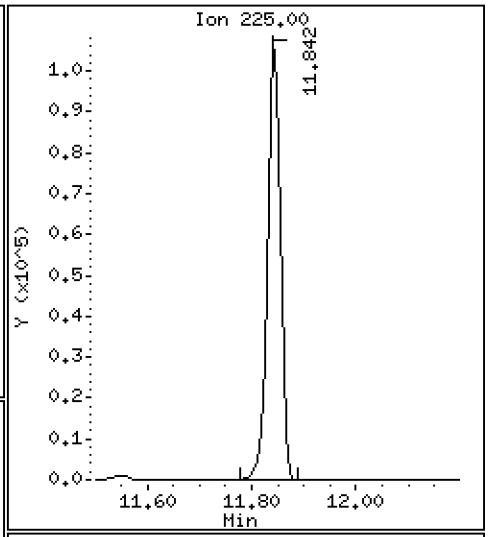
Concentration: 3.745 ug/mL

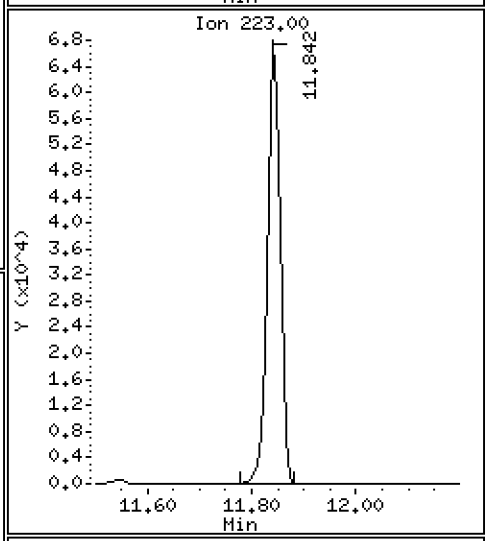


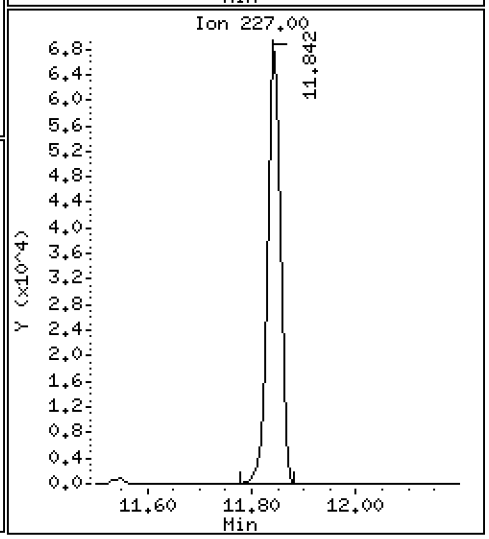












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

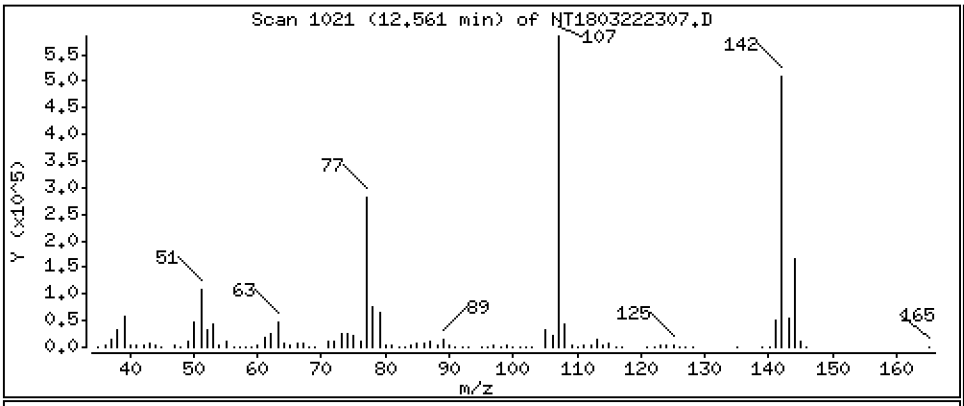
Operator: VTS

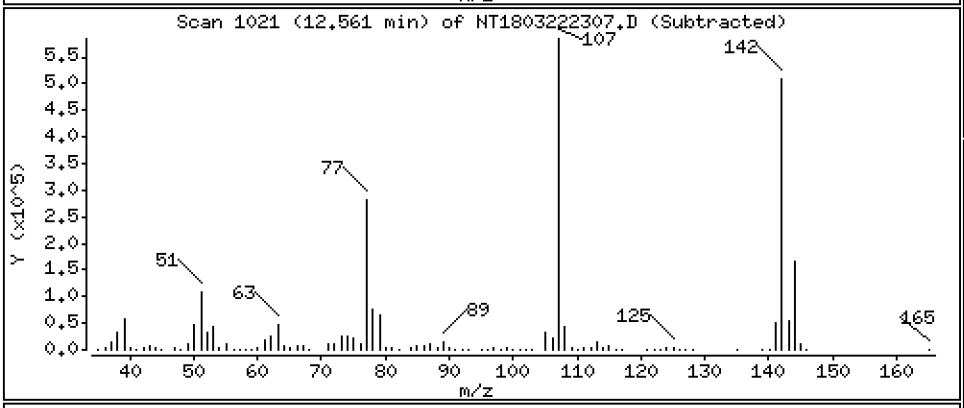
Column phase: ZB-5msi

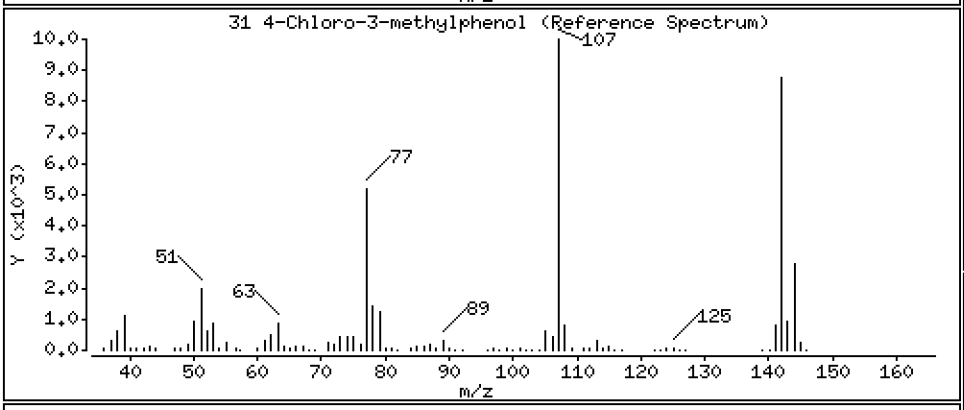
Column diameter: 0.25

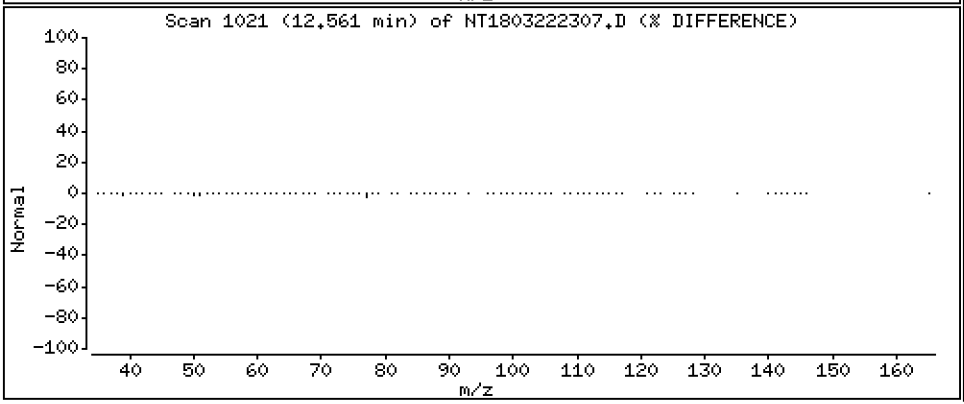
31 4-Chloro-3-methylphenol

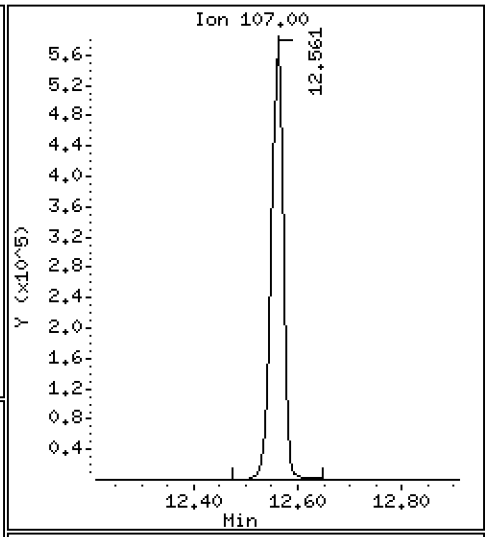
Concentration: 11.95 ug/mL

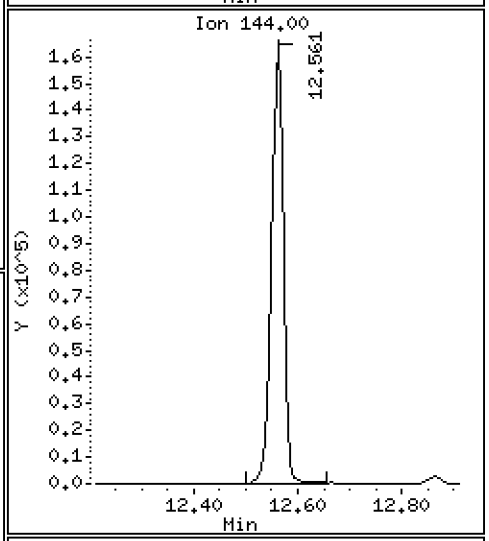


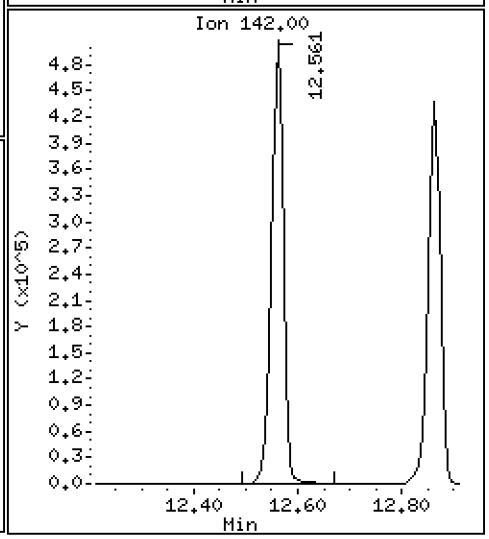












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222307.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

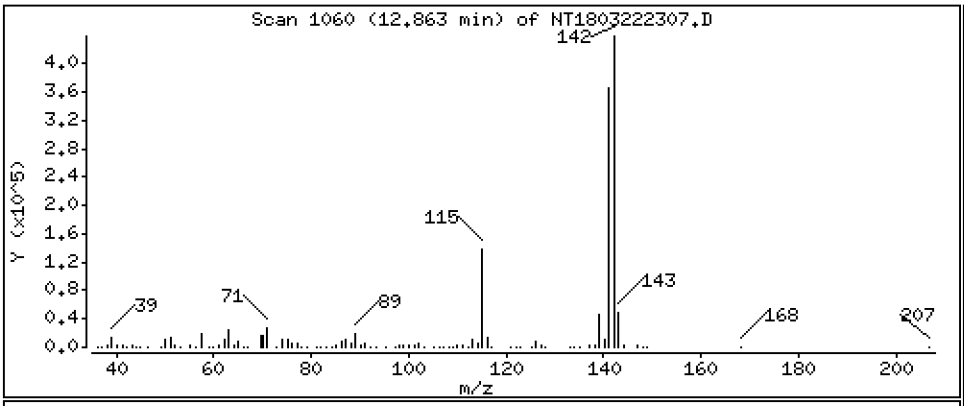
Operator: VTS

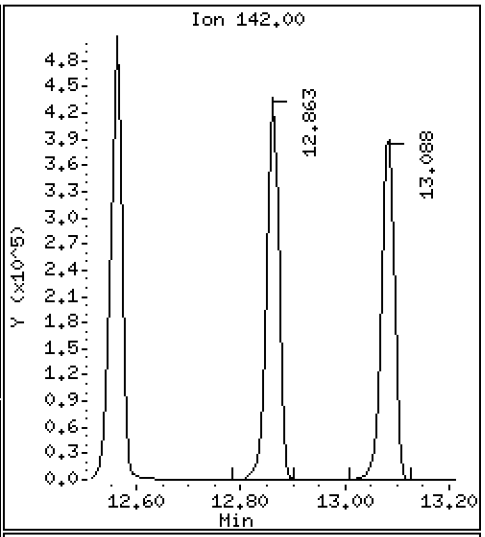
Column phase: ZB-5msi

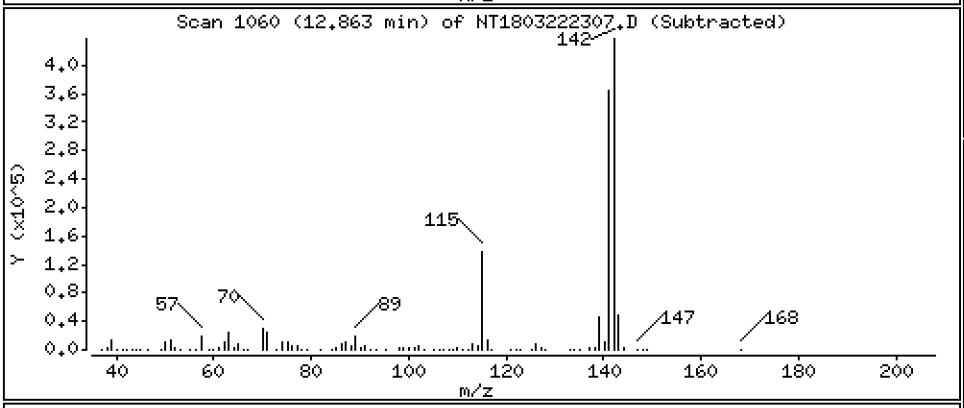
Column diameter: 0.25

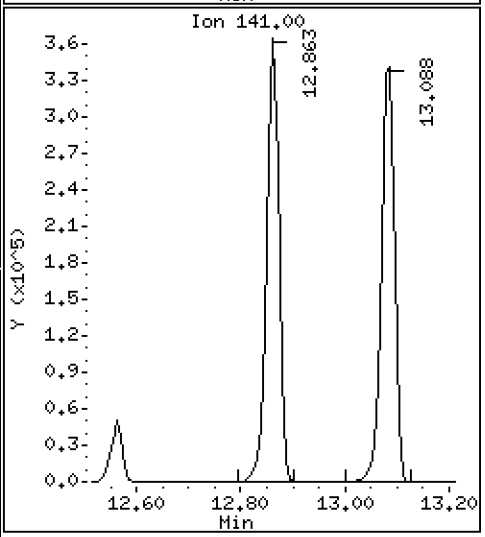
32 2-Methylnaphthalene

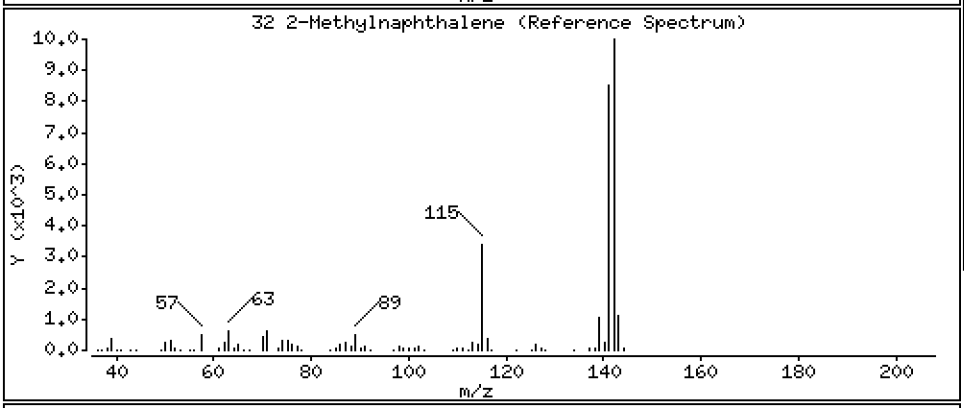
Concentration: 3.595 ug/mL

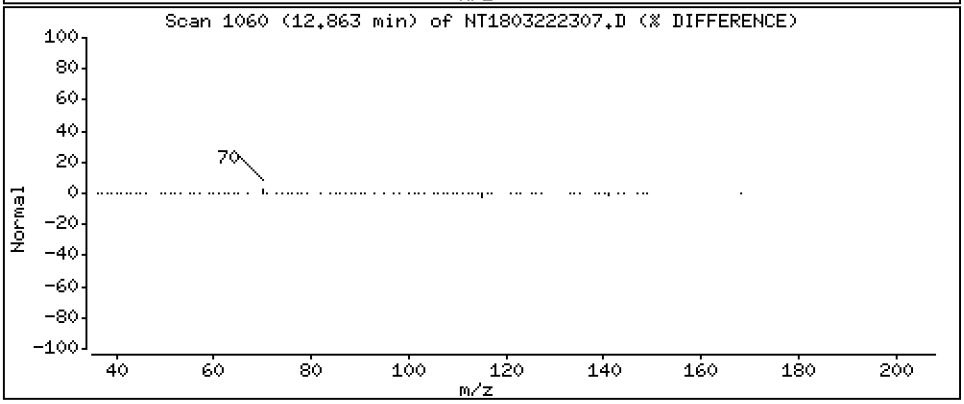












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

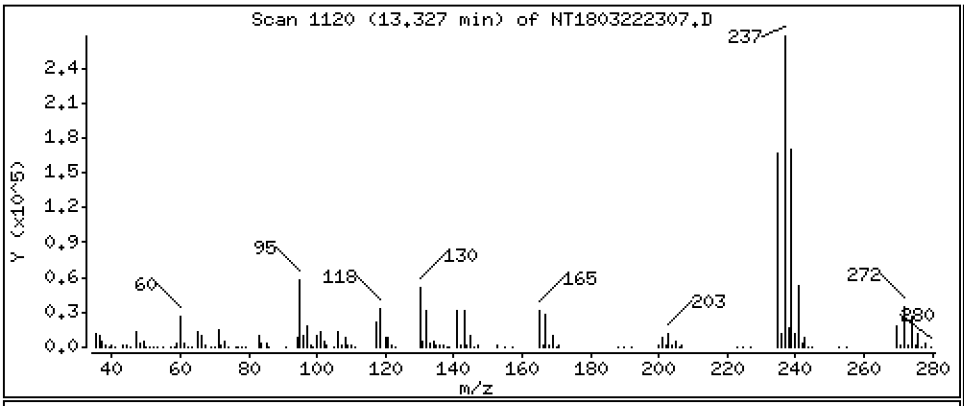
Operator: VTS

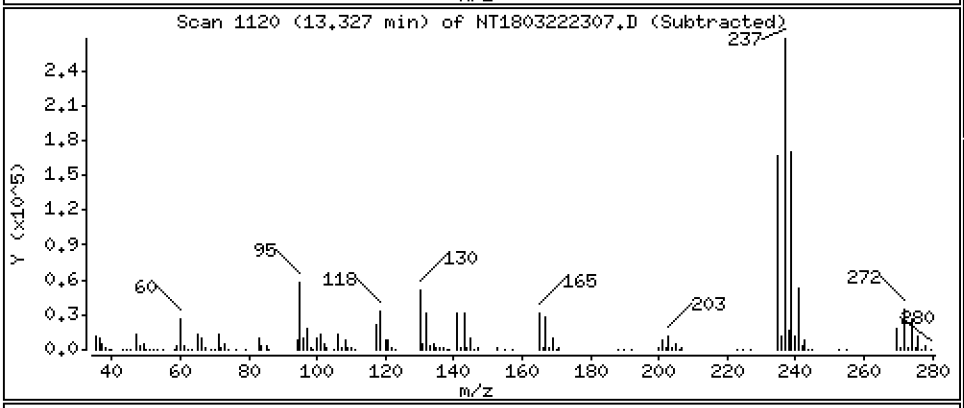
Column phase: ZB-5msi

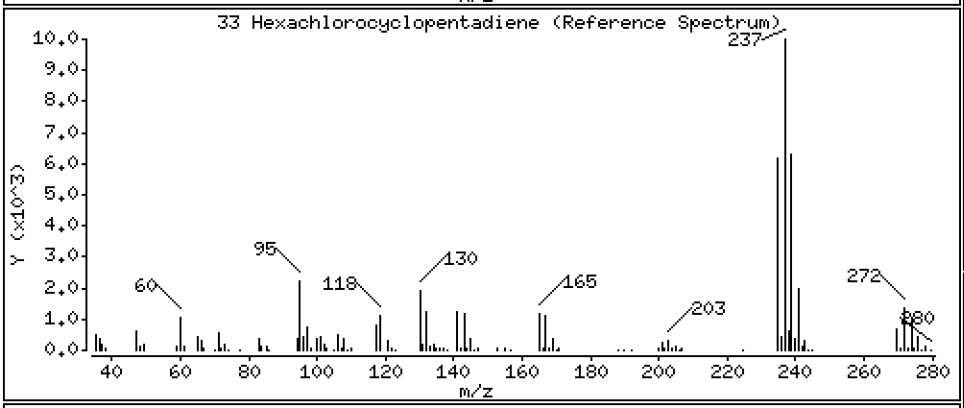
Column diameter: 0.25

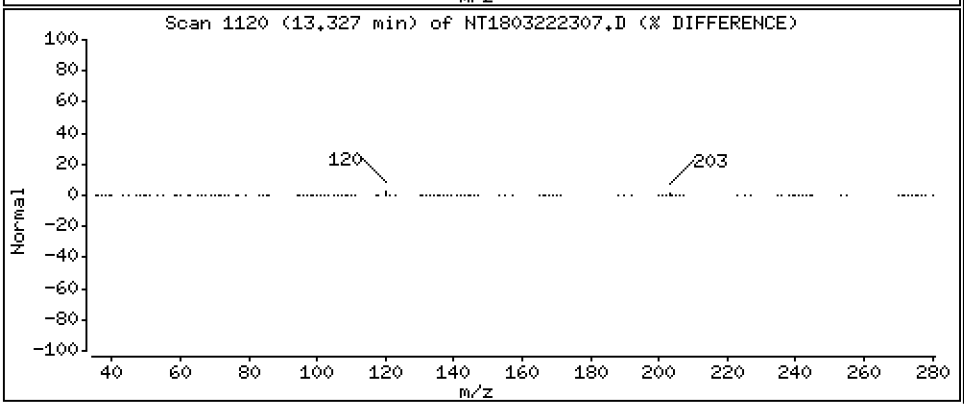
33 Hexachlorocyclopentadiene

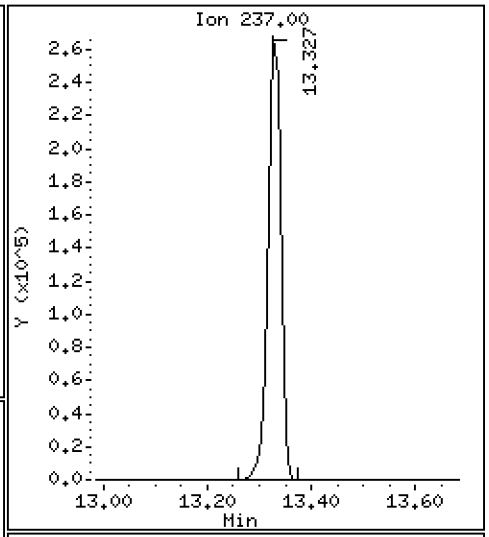
Concentration: 8.927 ug/mL

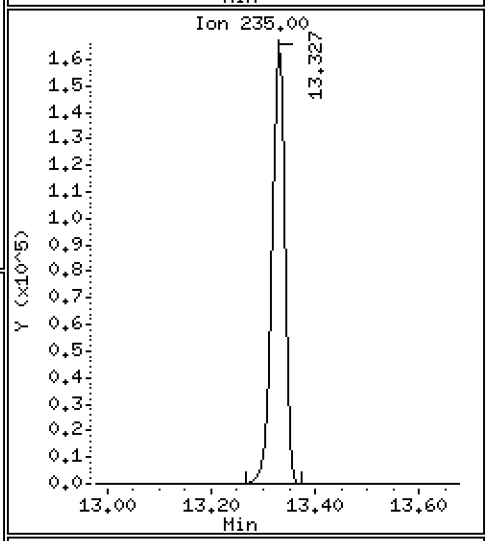


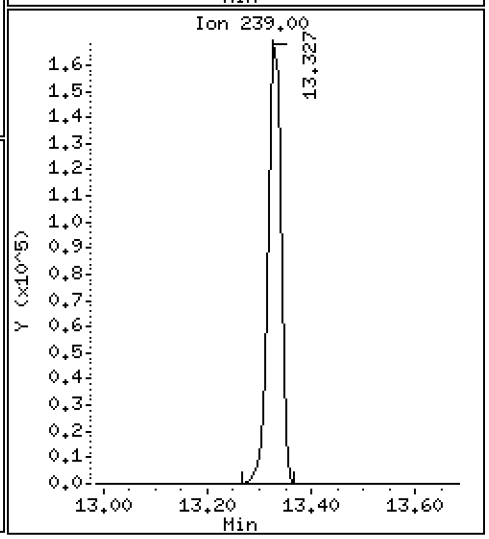












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222307.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

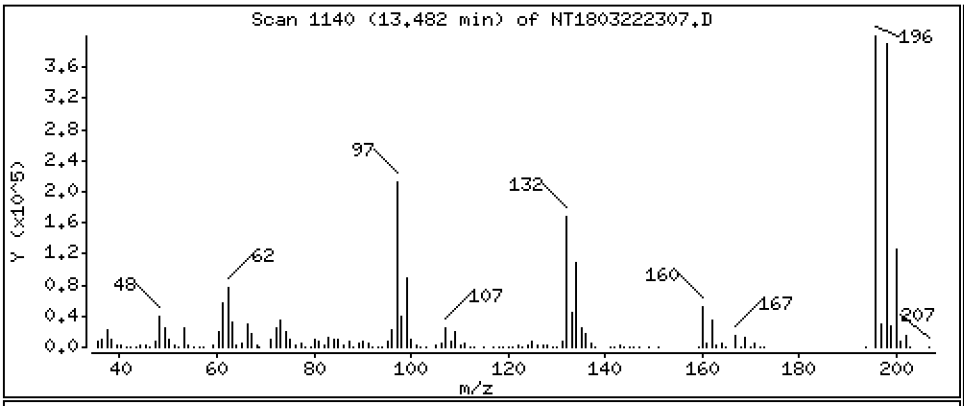
Operator: VTS

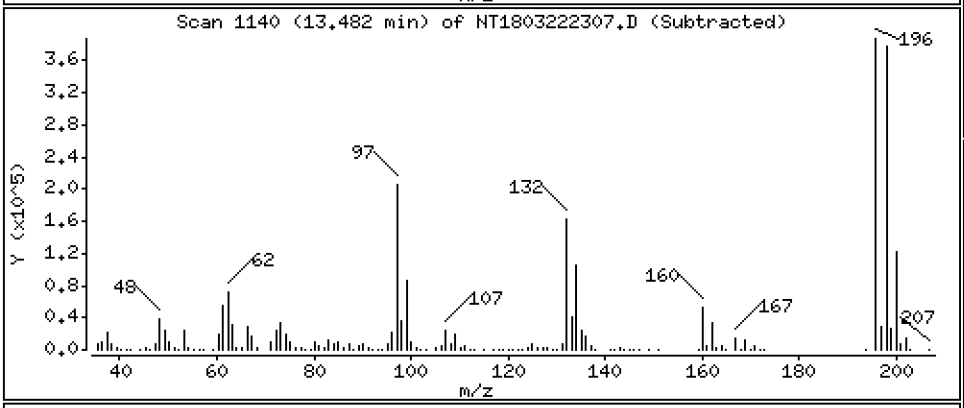
Column phase: ZB-5msi

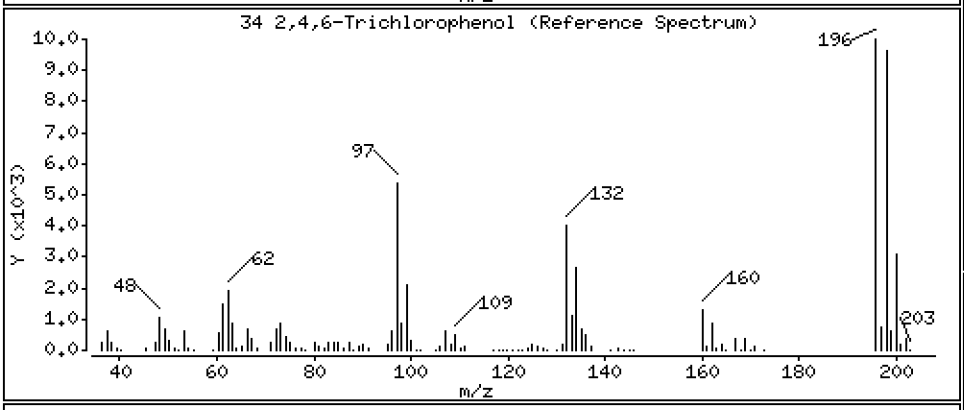
Column diameter: 0.25

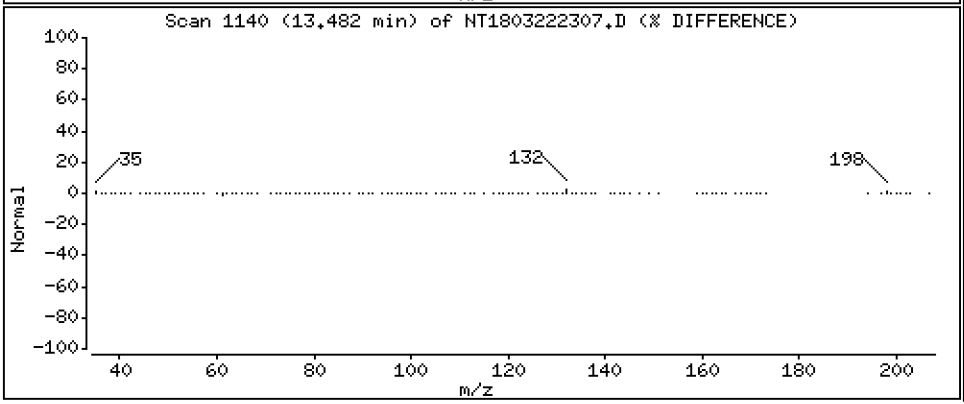
34 2,4,6-Trichlorophenol

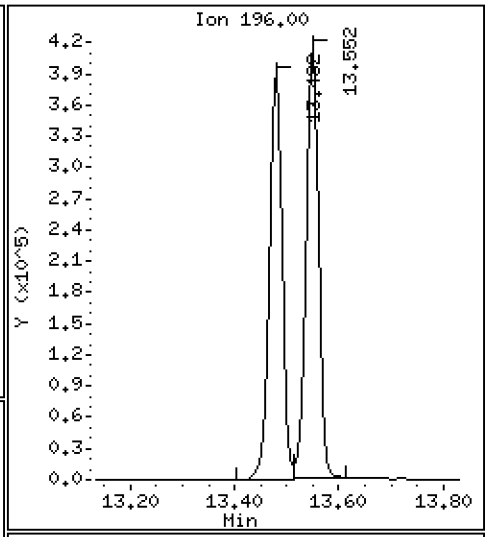
Concentration: 12.63 ug/mL

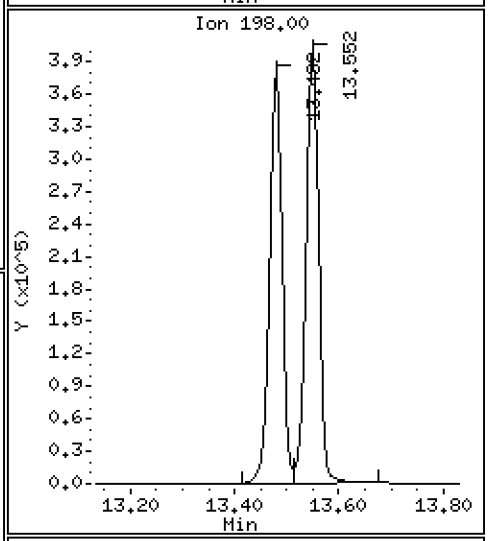


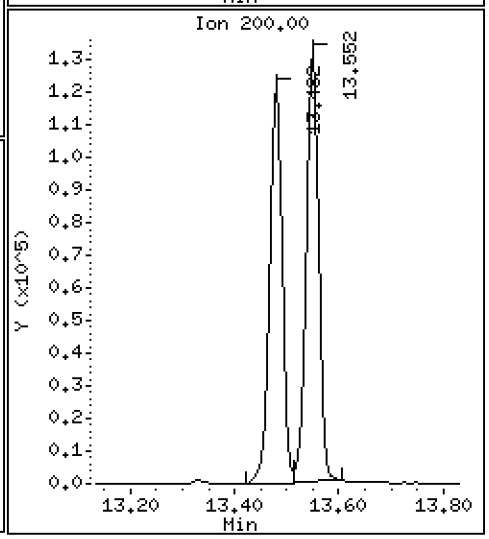












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222307.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

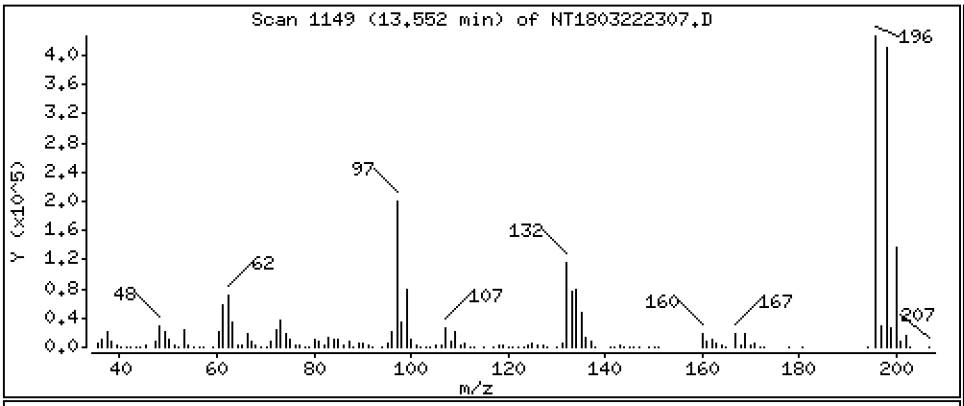
Operator: VTS

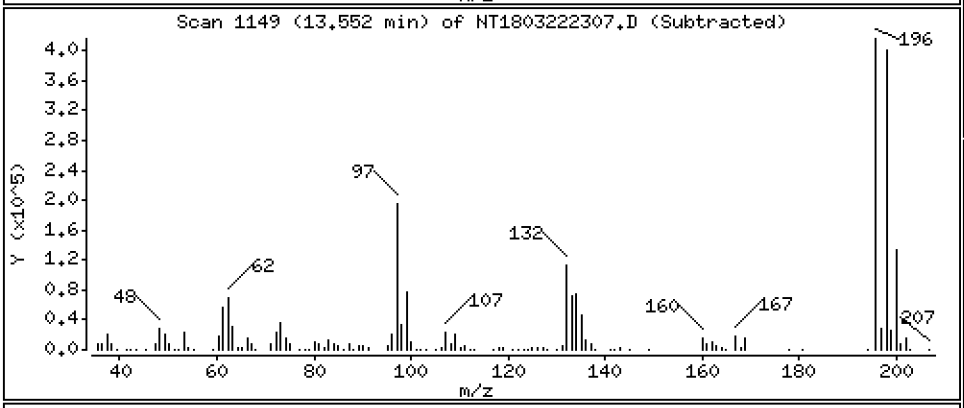
Column phase: ZB-5msi

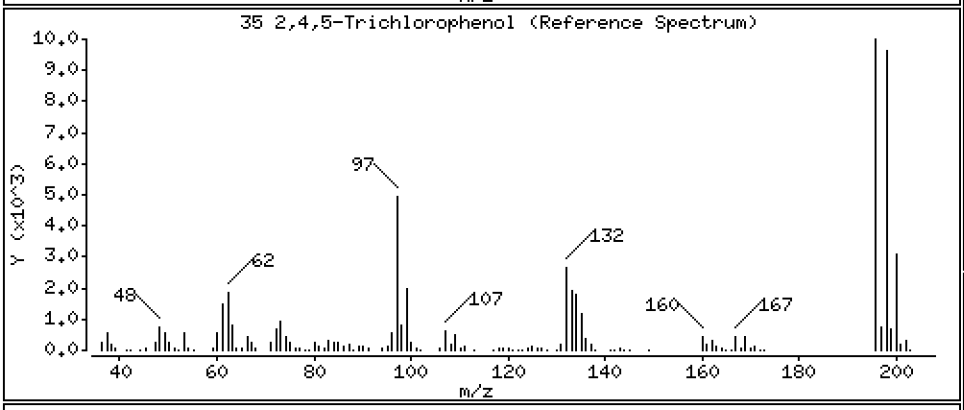
Column diameter: 0.25

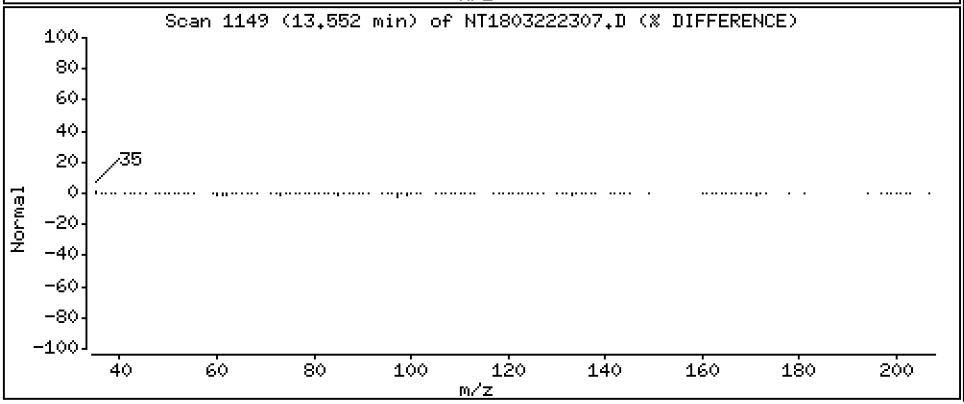
35 2,4,5-Trichlorophenol

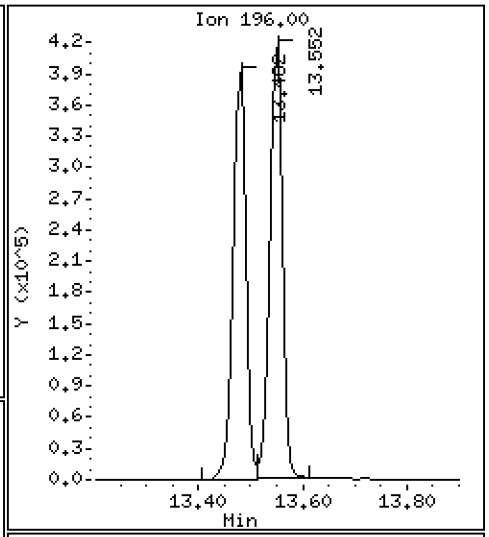
Concentration: 12.02 ug/mL

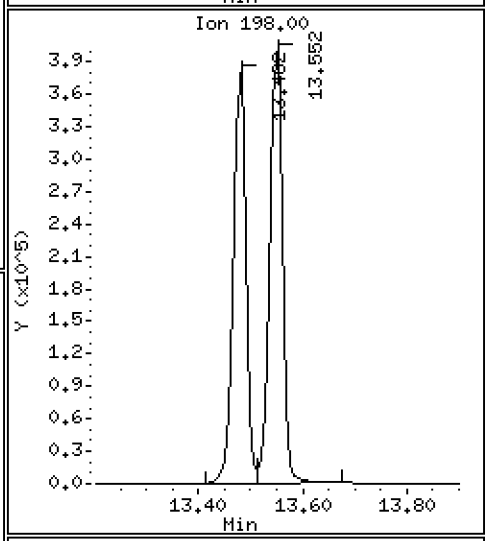


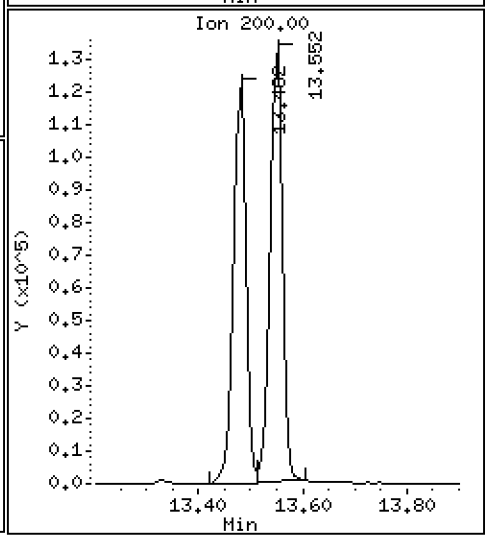












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

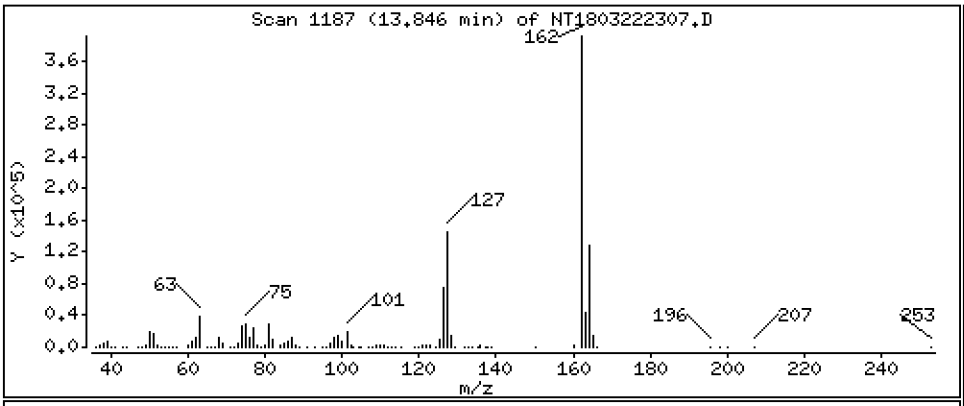
Operator: VTS

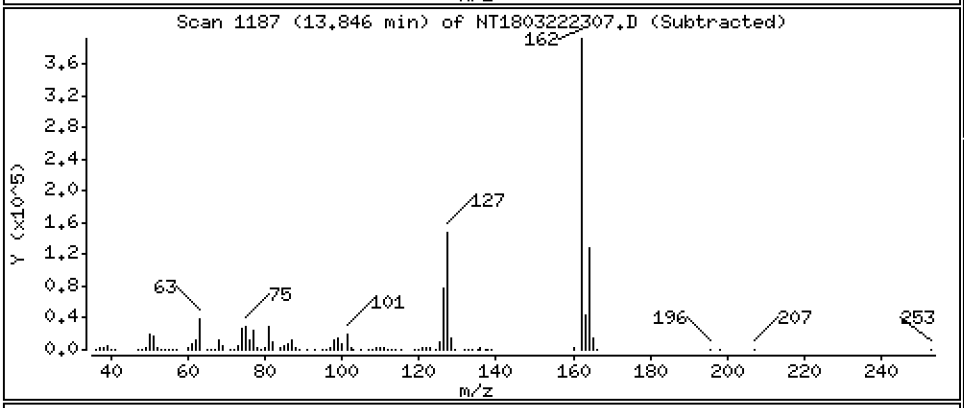
Column phase: ZB-5msi

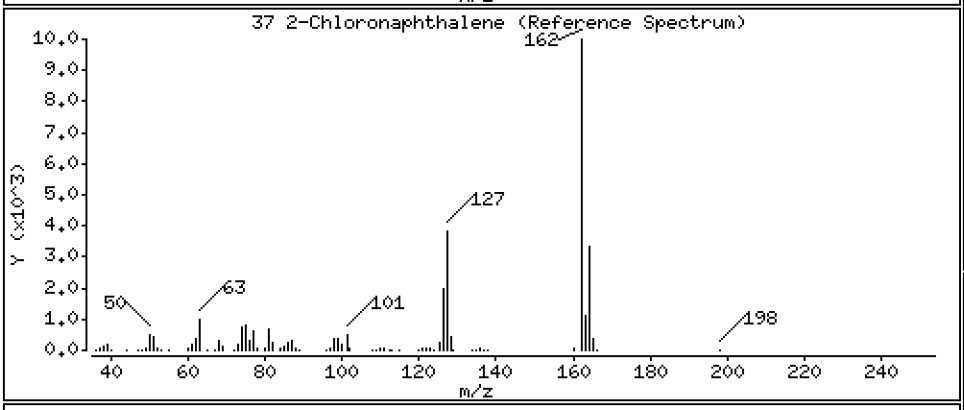
Column diameter: 0.25

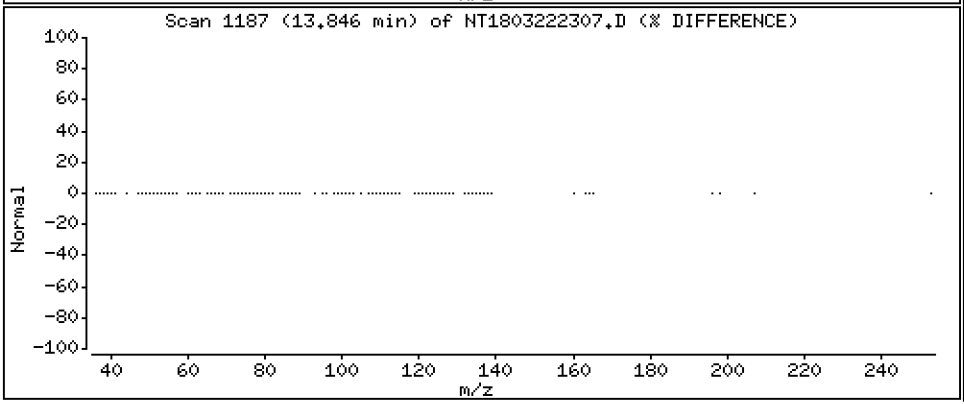
37 2-Chloronaphthalene

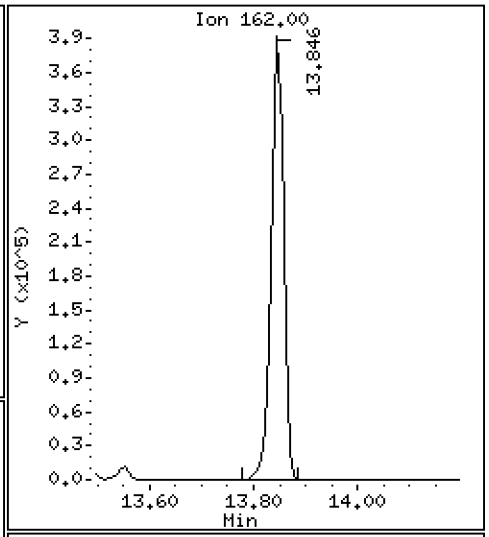
Concentration: 3.817 ug/mL

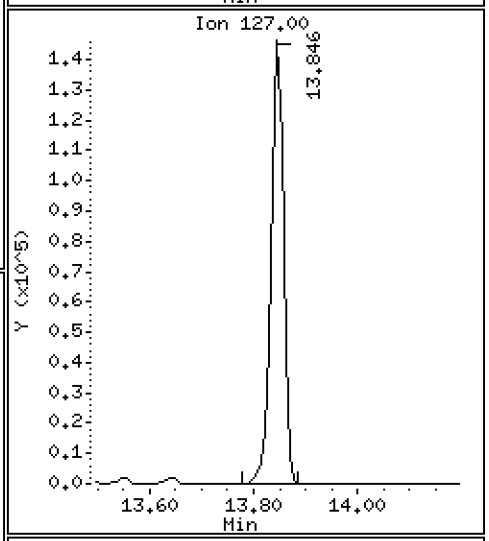


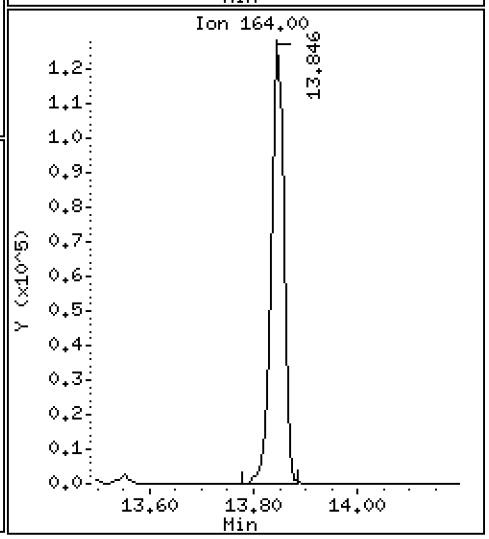












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

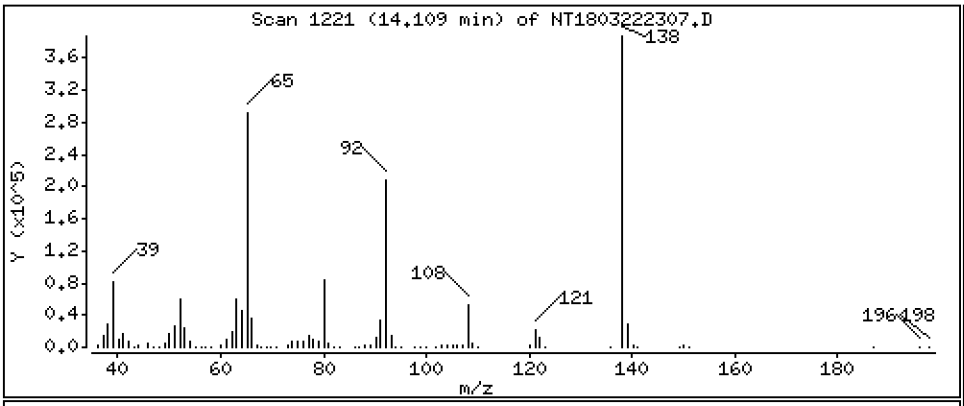
Operator: VTS

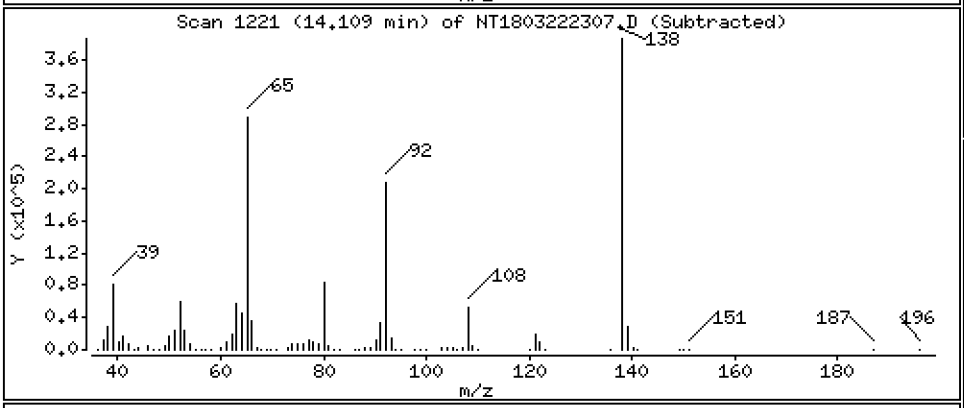
Column phase: ZB-5msi

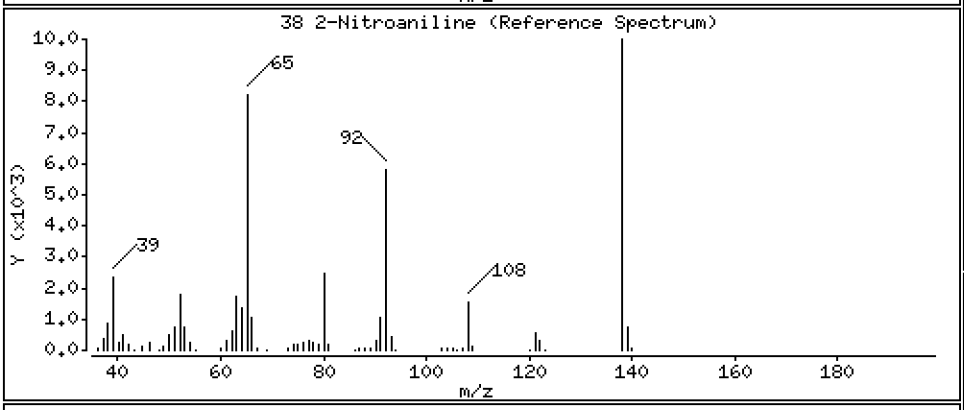
Column diameter: 0.25

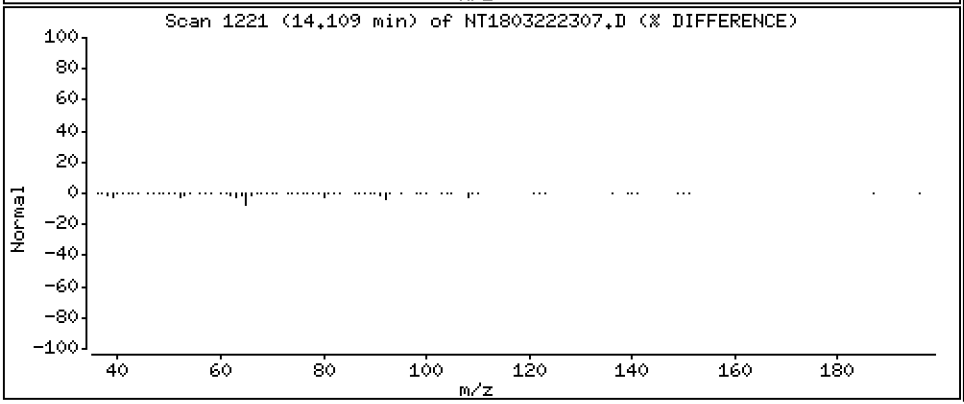
38 2-Nitroaniline

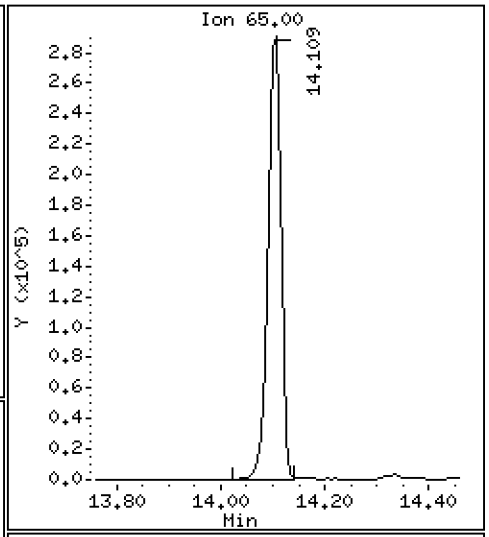
Concentration: 11.60 ug/mL

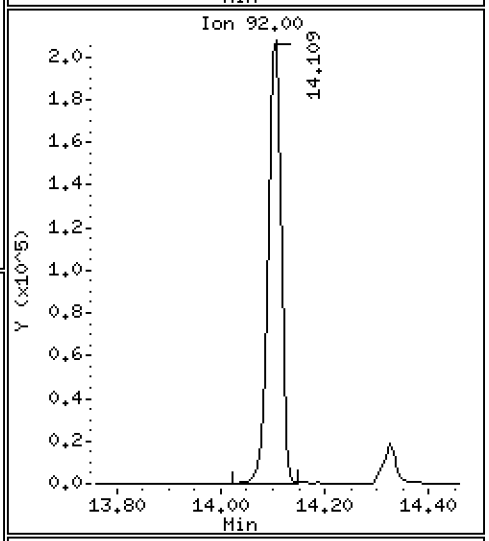


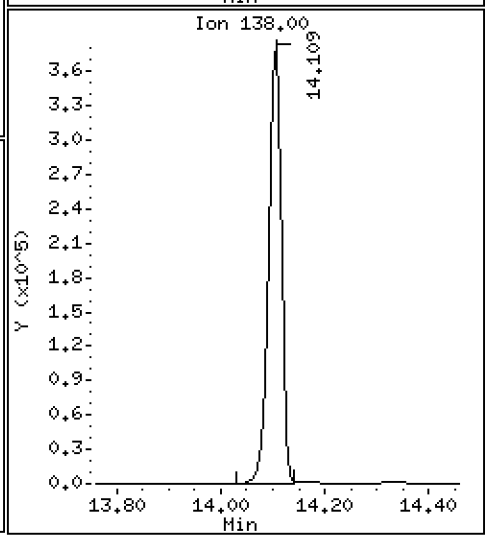












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222307.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

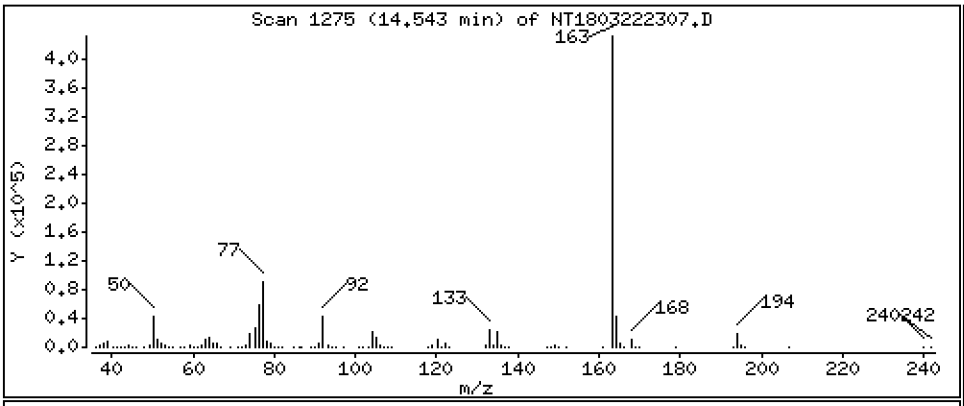
Operator: VTS

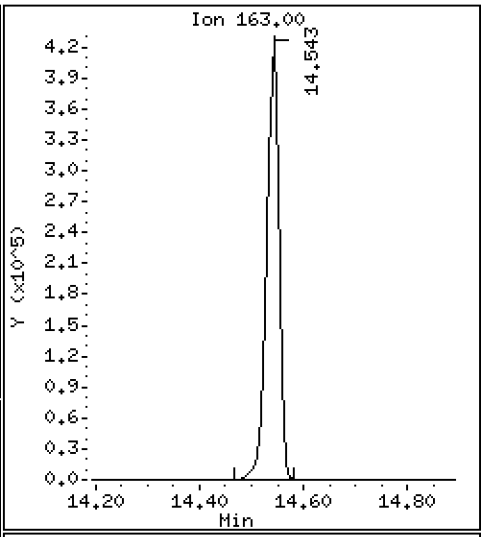
Column phase: ZB-5msi

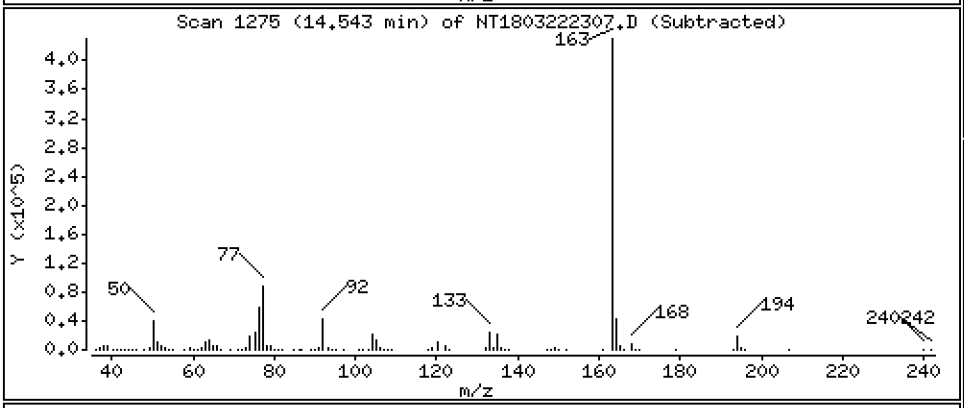
Column diameter: 0.25

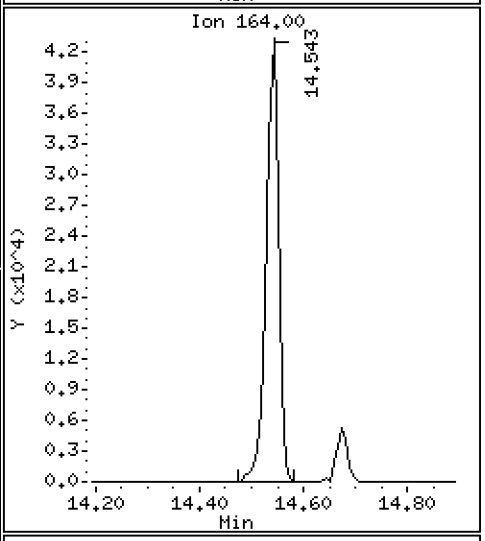
39 Dimethylphthalate

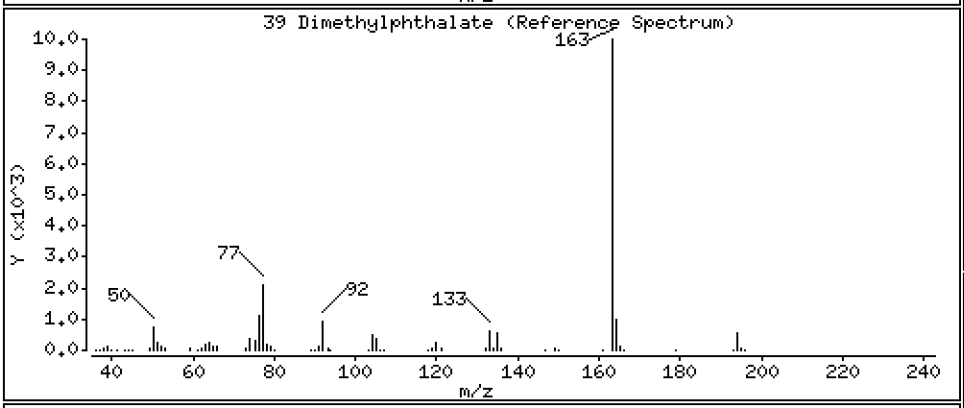
Concentration: 3.948 ug/mL

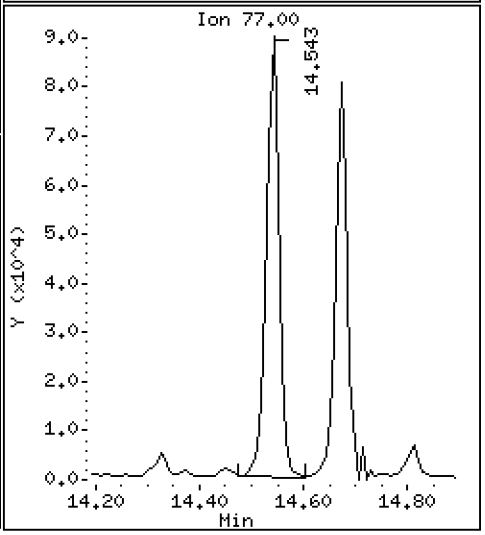


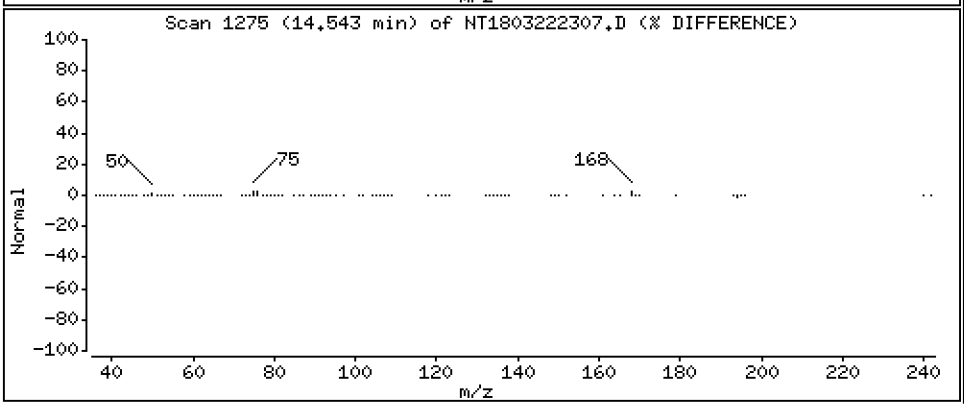












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222307.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

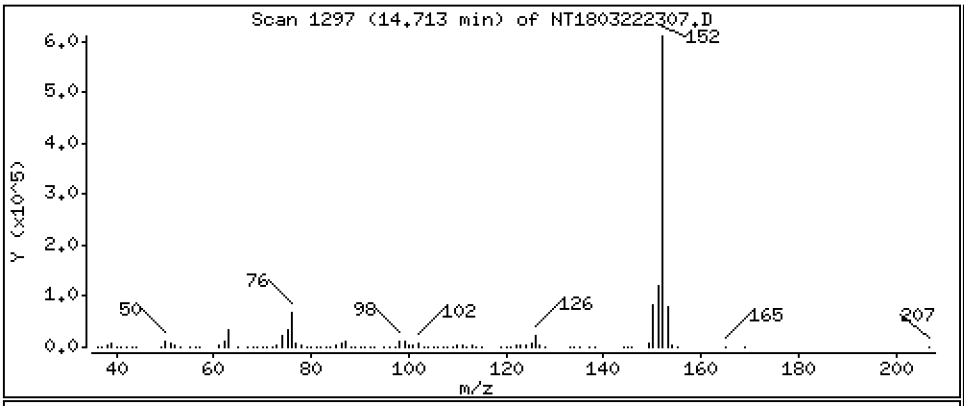
Operator: VTS

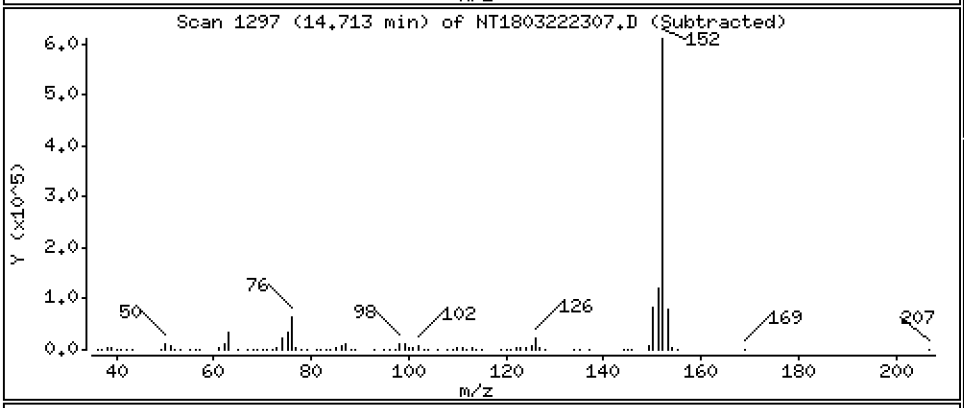
Column phase: ZB-5msi

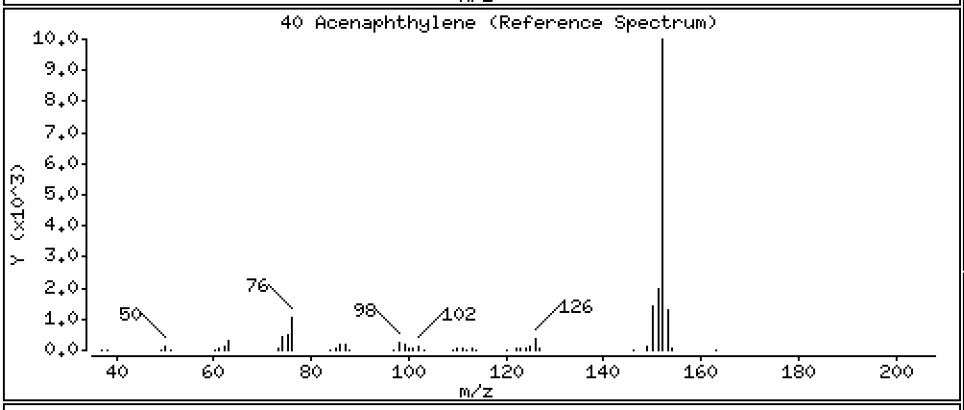
Column diameter: 0.25

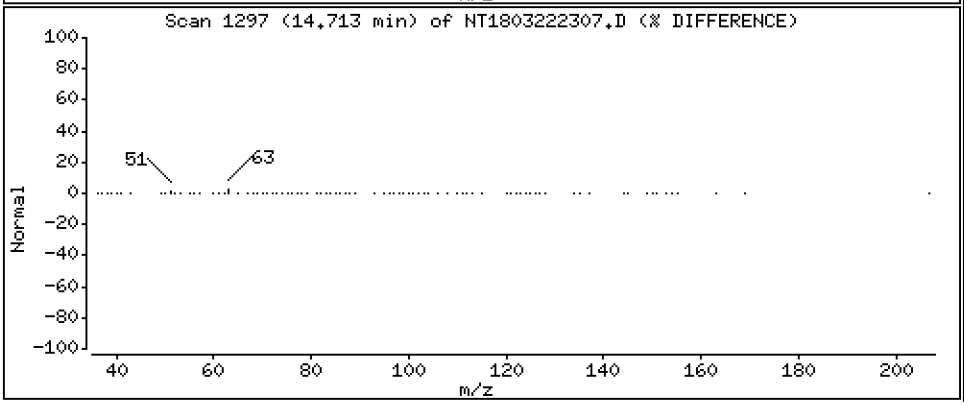
40 Acenaphthylene

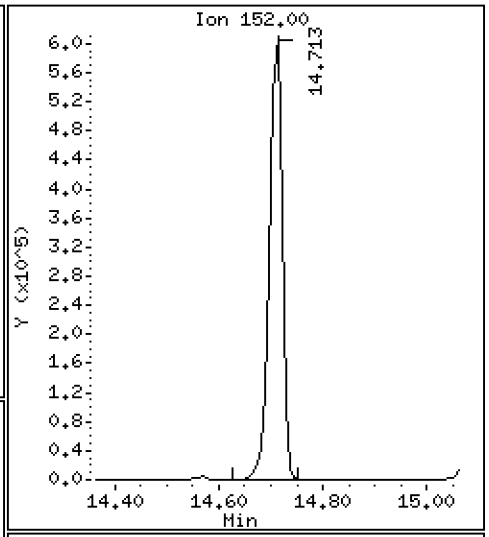
Concentration: 3.611 ug/mL

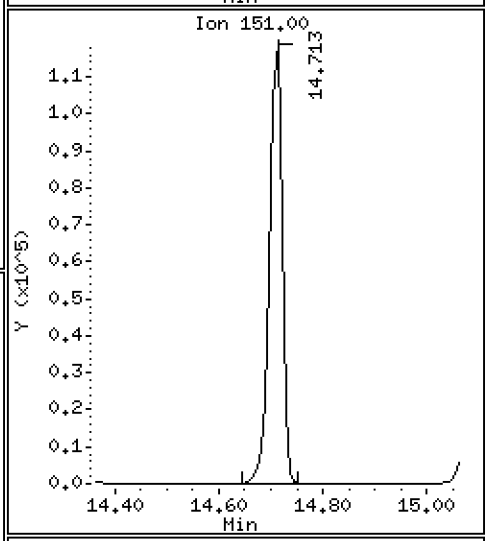


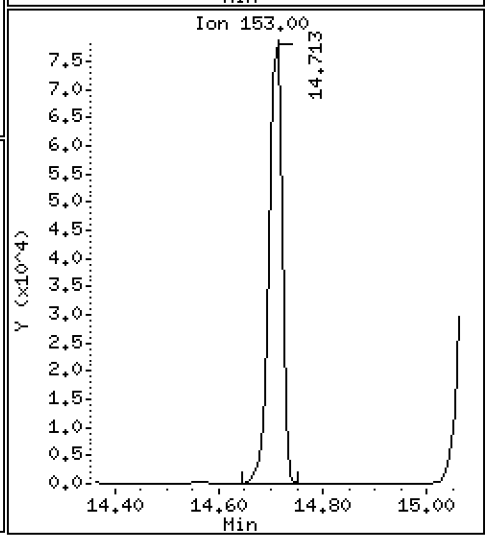












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

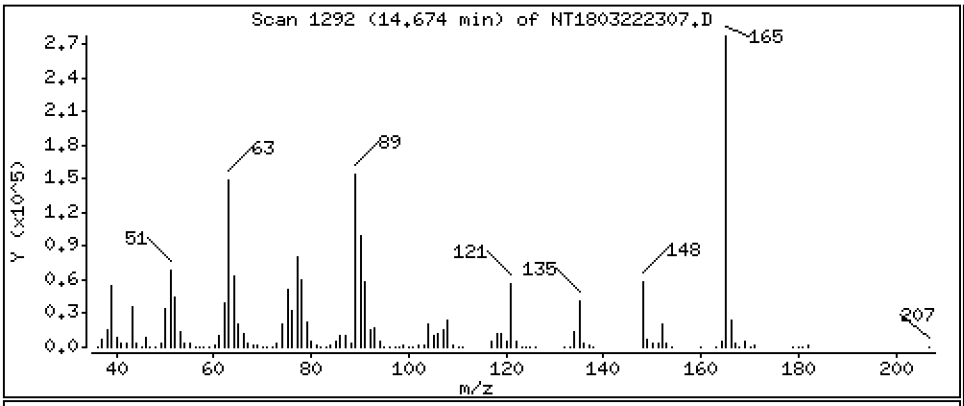
Operator: VTS

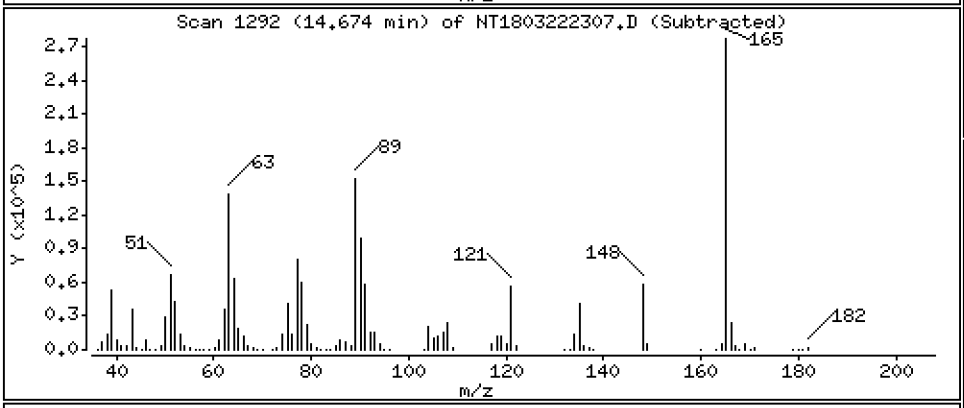
Column phase: ZB-5msi

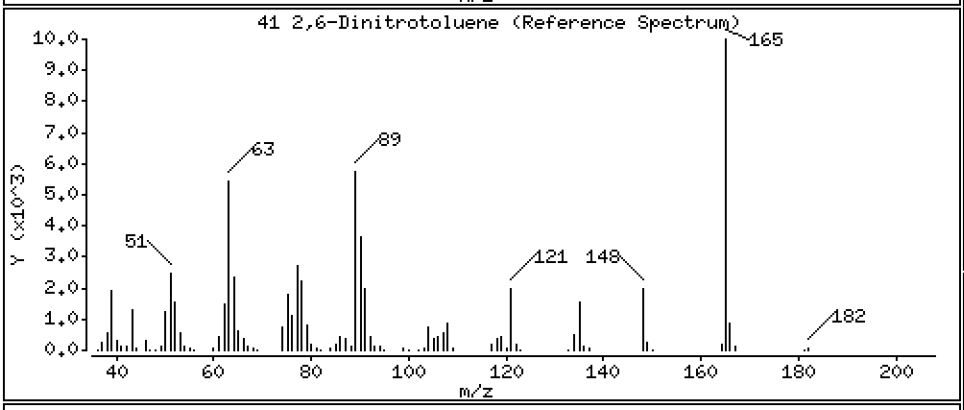
Column diameter: 0.25

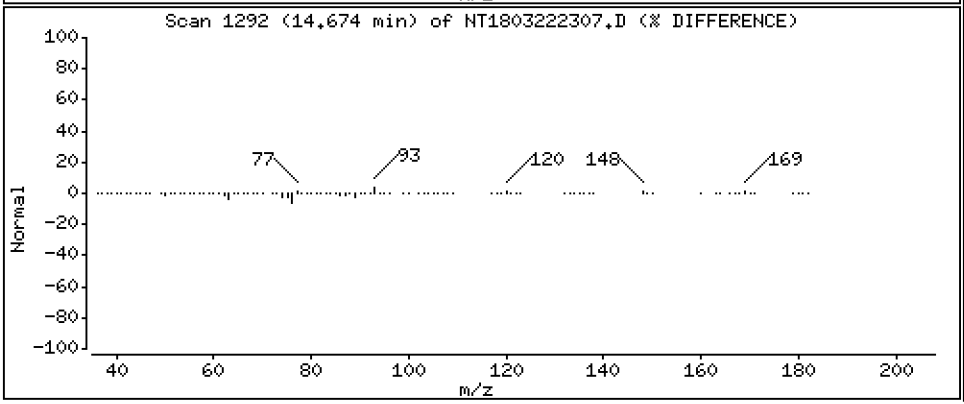
41 2,6-Dinitrotoluene

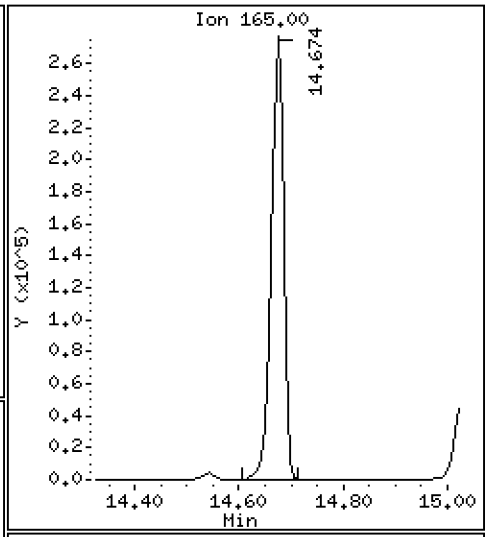
Concentration: 11.29 ug/mL

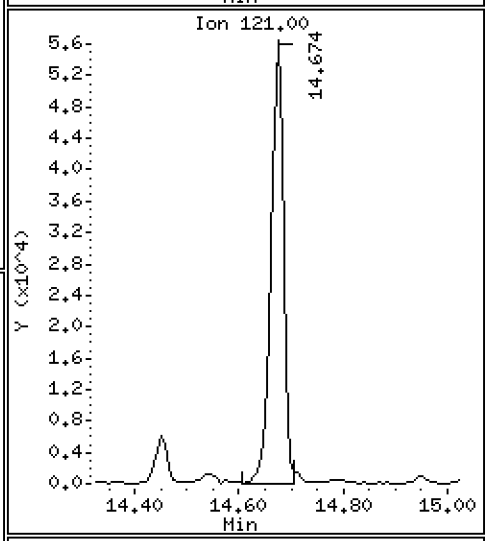


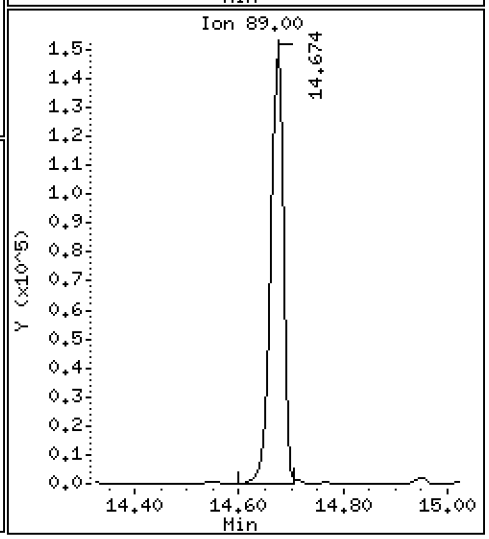












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

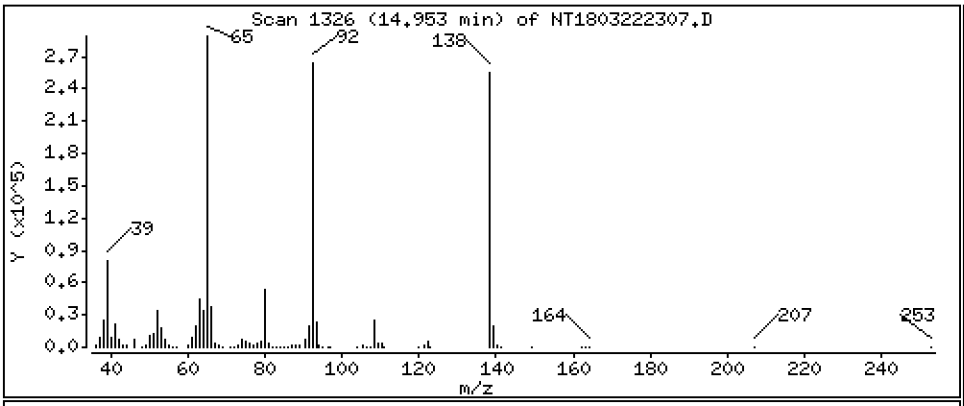
Operator: VTS

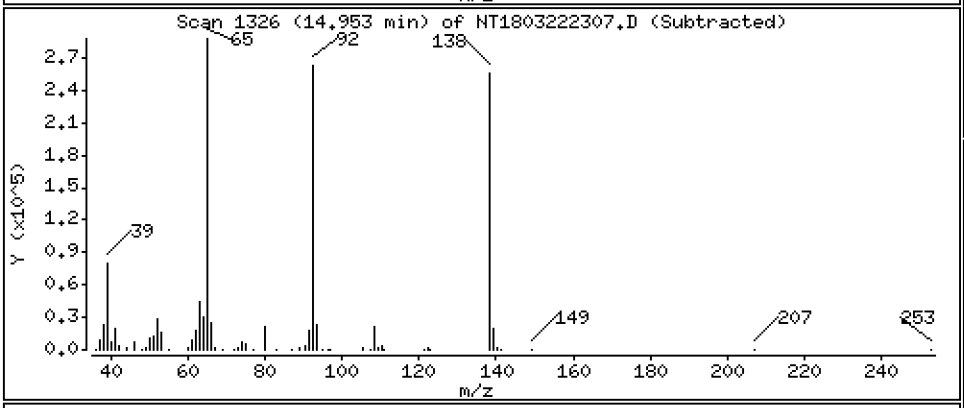
Column phase: ZB-5msi

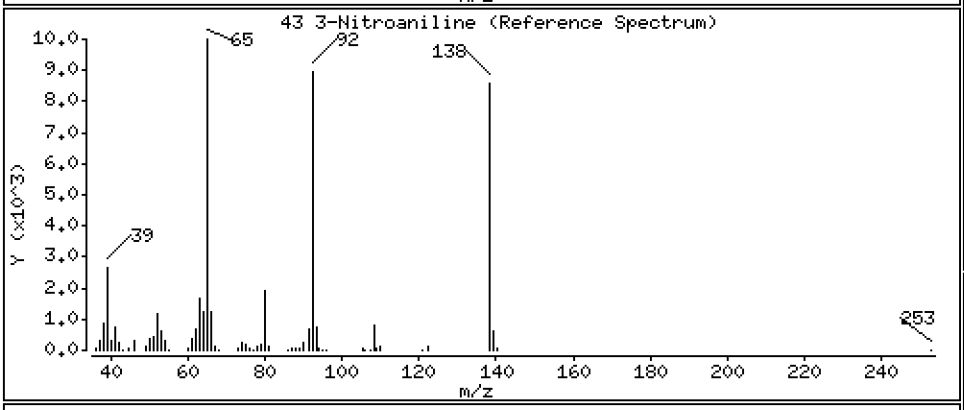
Column diameter: 0.25

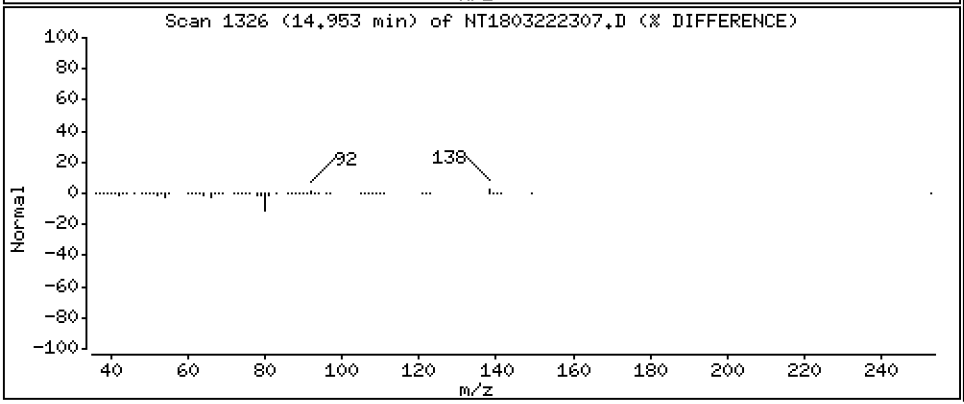
43 3-Nitroaniline

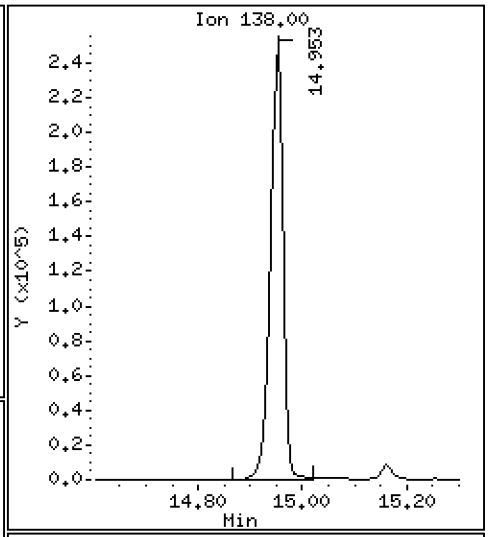
Concentration: 9.360 ug/mL

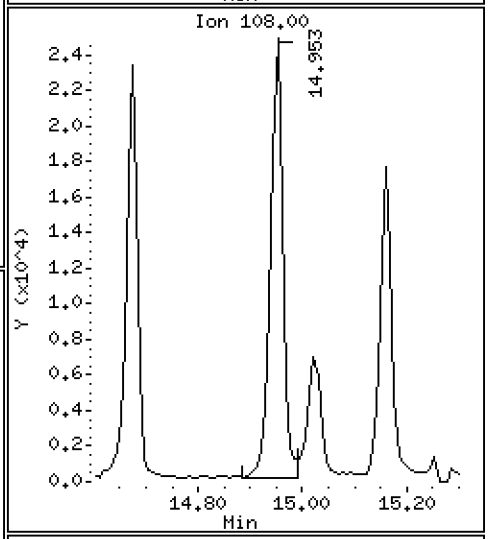


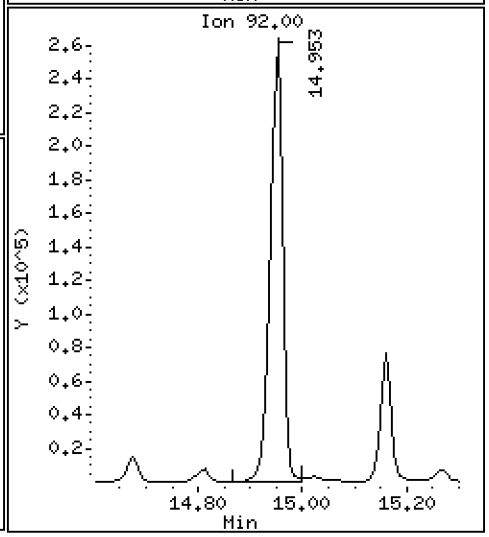












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

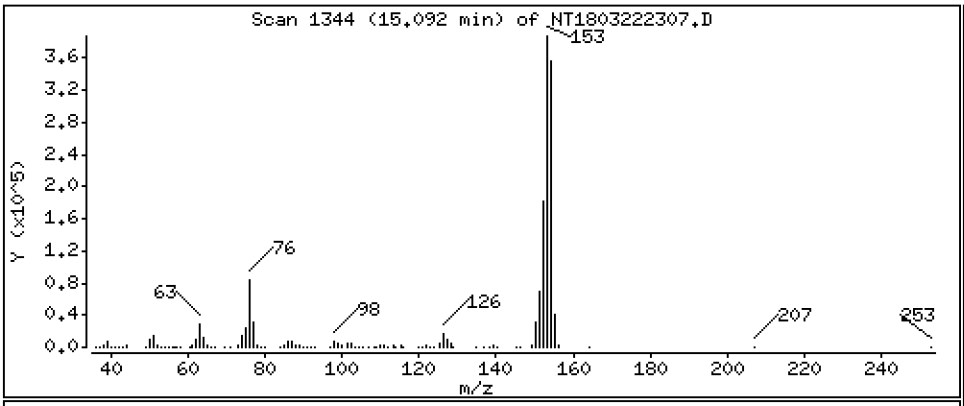
Operator: VTS

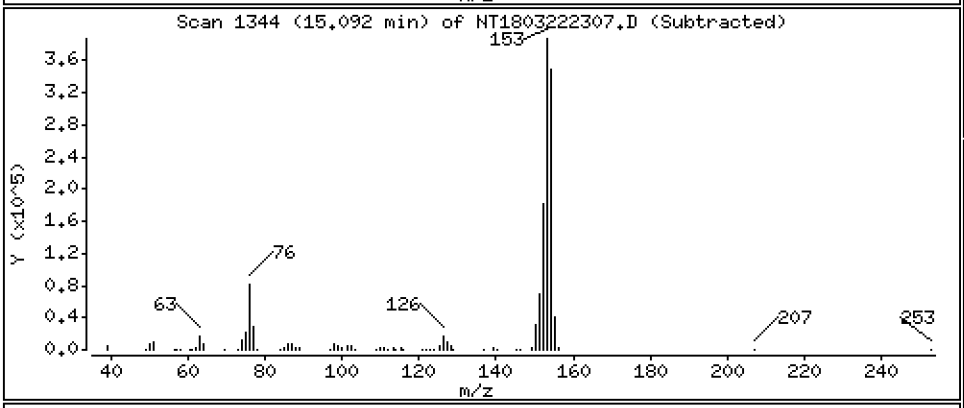
Column phase: ZB-5msi

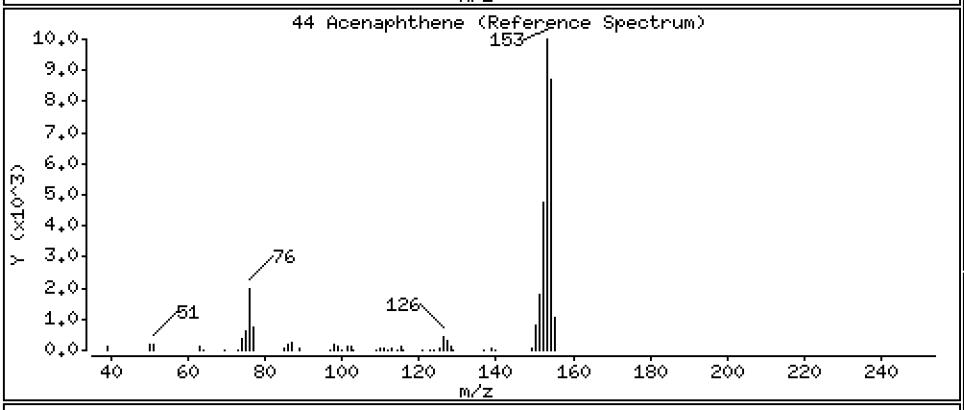
Column diameter: 0.25

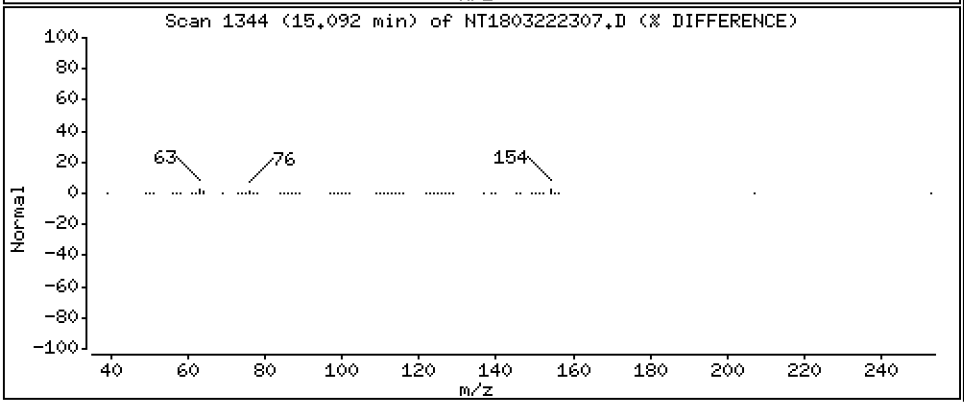
44 Acenaphthene

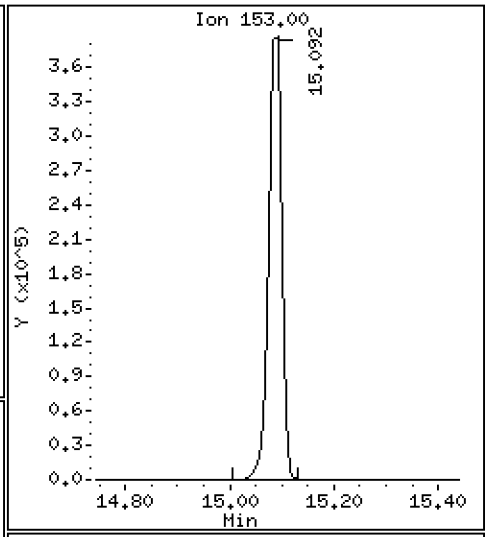
Concentration: 3.691 ug/mL

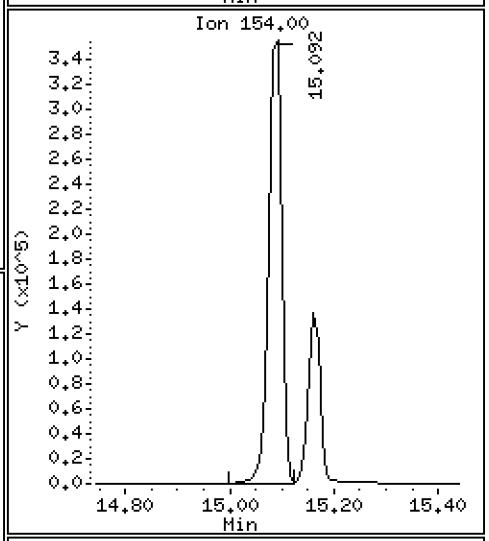


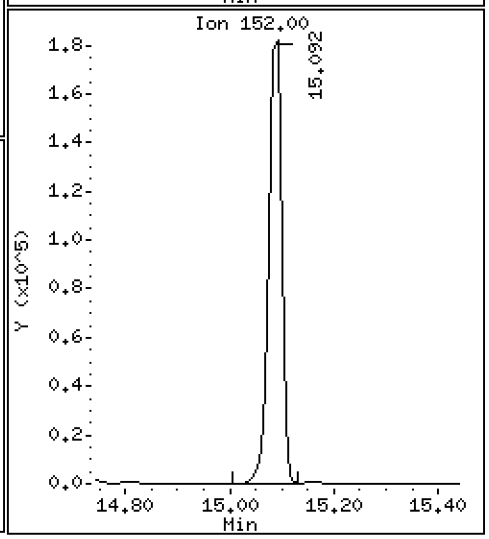












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

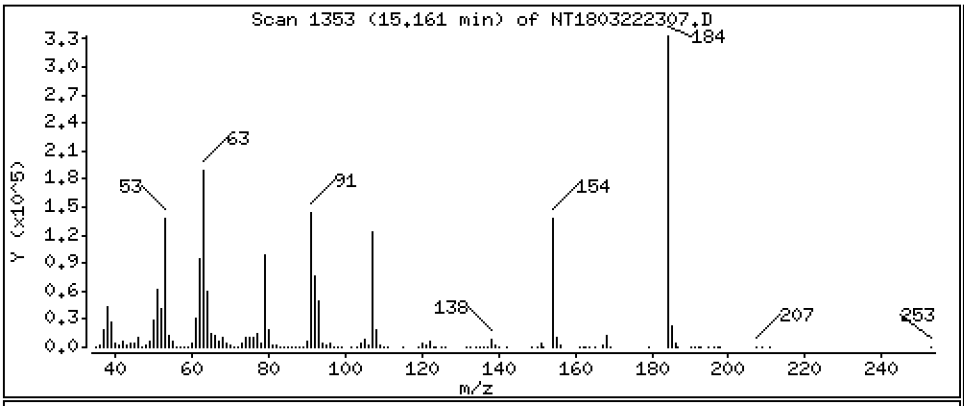
Operator: VTS

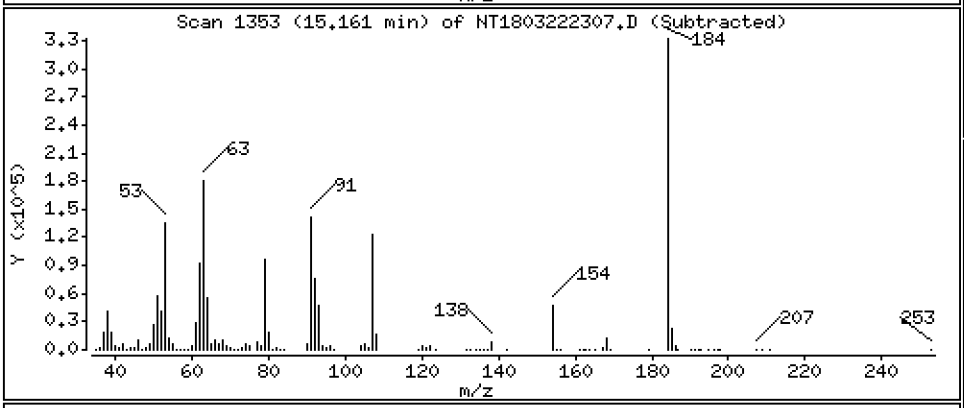
Column phase: ZB-5msi

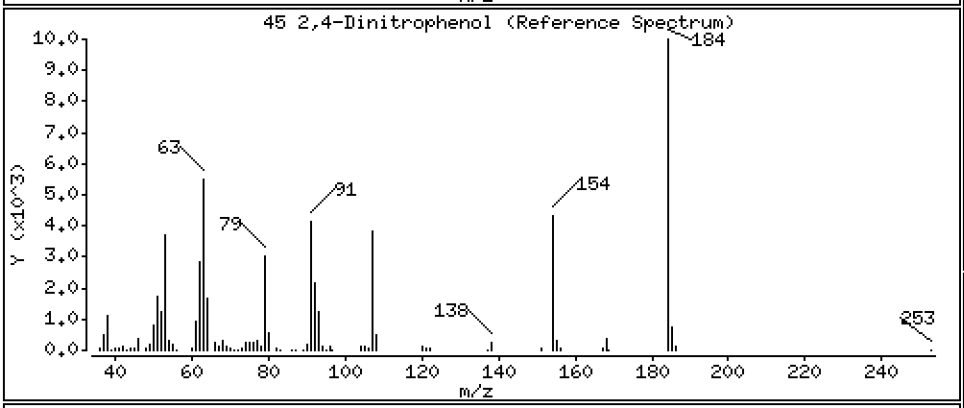
Column diameter: 0.25

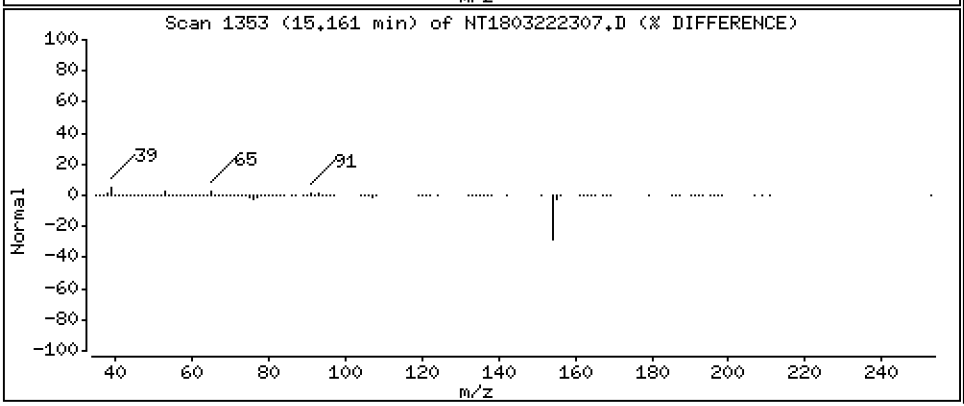
45 2,4-Dinitrophenol

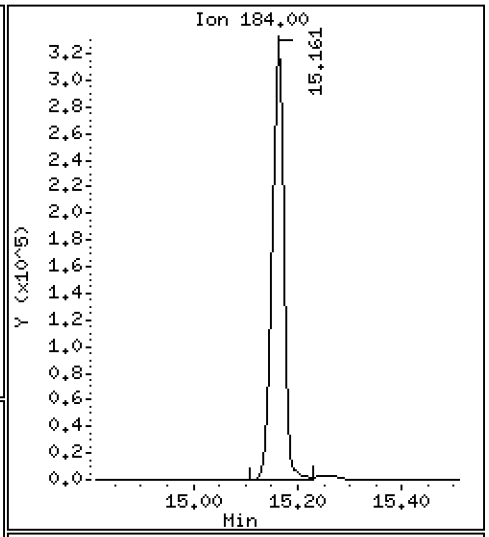
Concentration: 20.99 ug/mL

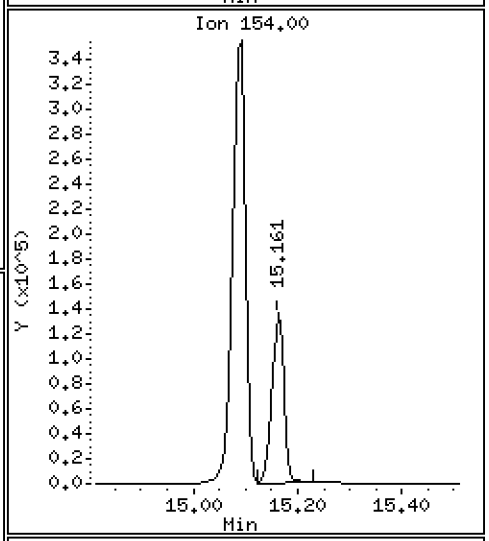


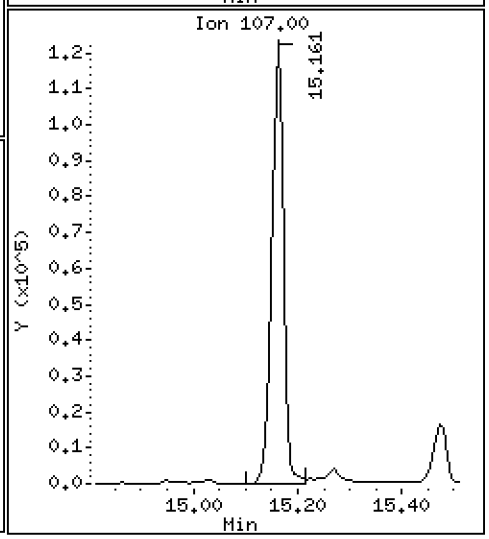












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

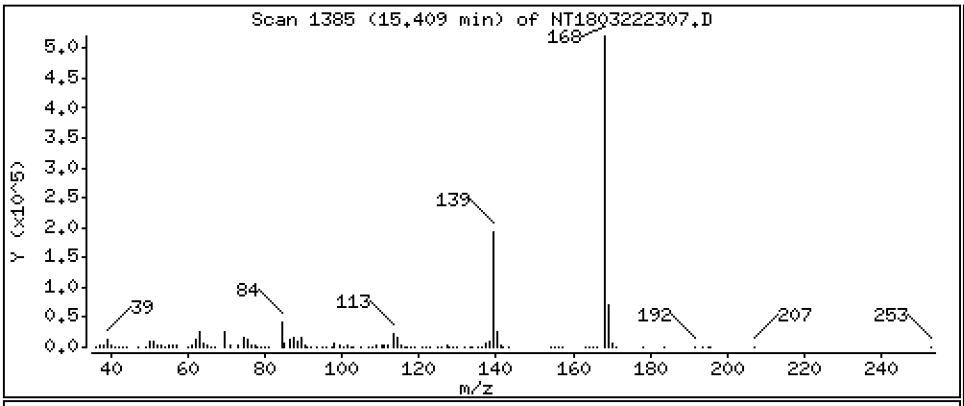
Operator: VTS

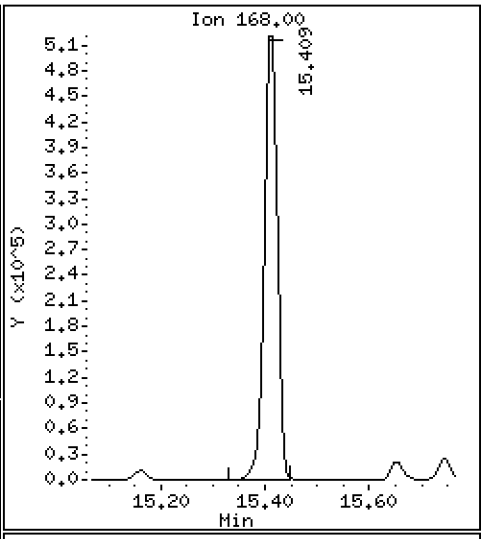
Column phase: ZB-5msi

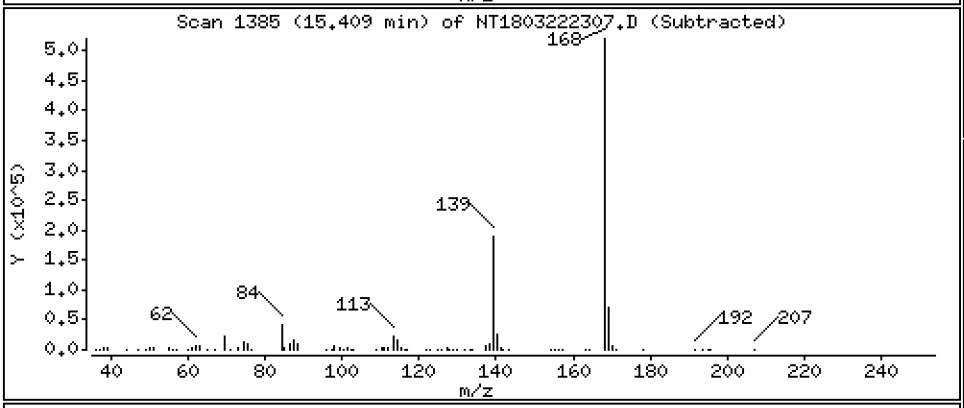
Column diameter: 0.25

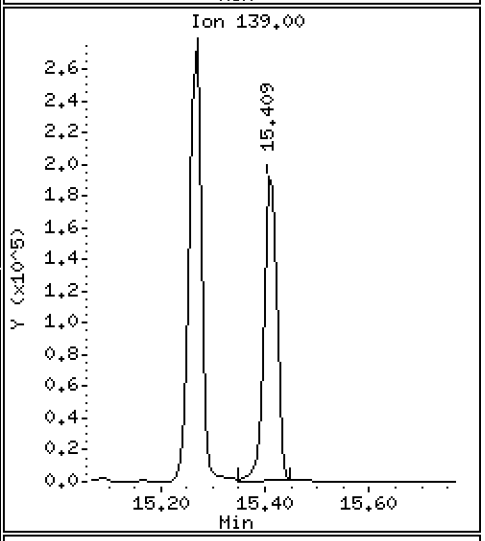
46 Dibenzofuran

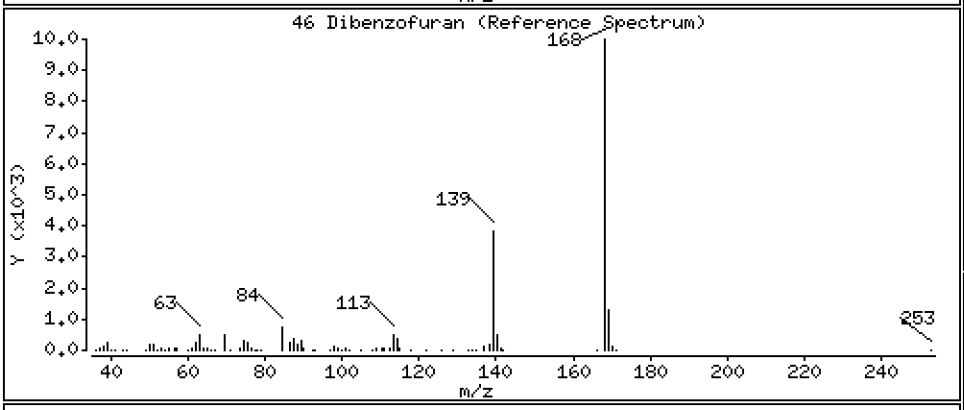
Concentration: 3.681 ug/mL

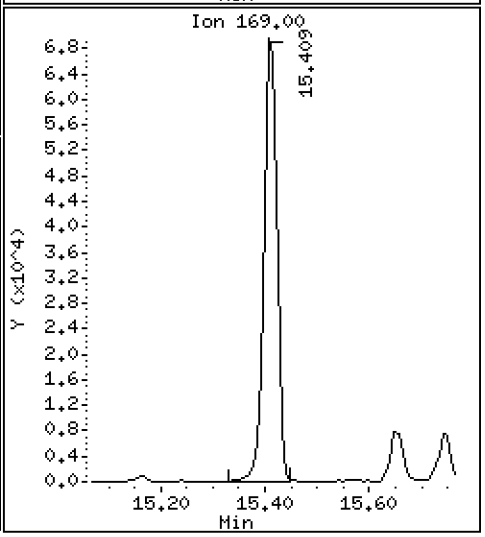


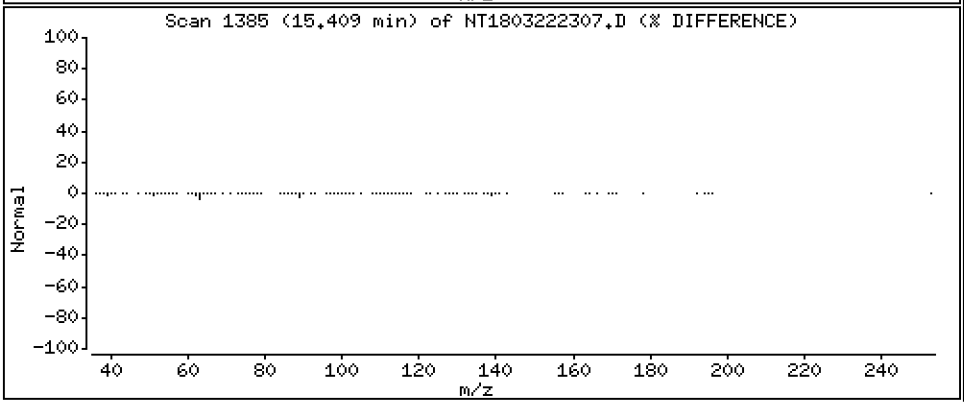












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

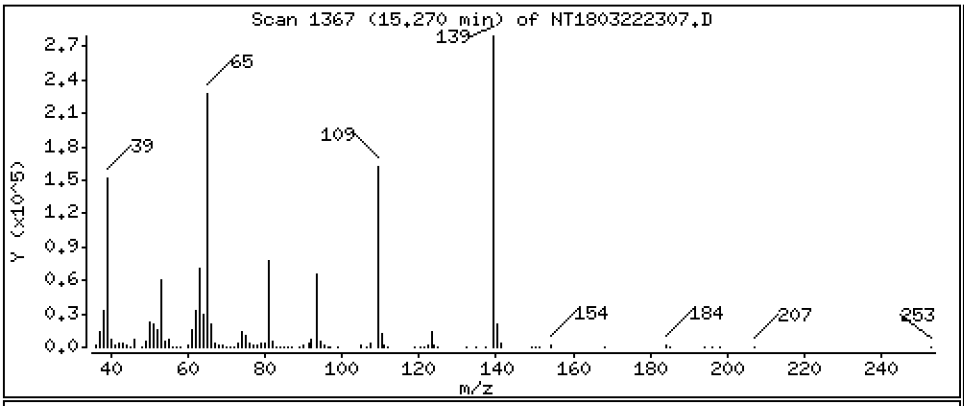
Operator: VTS

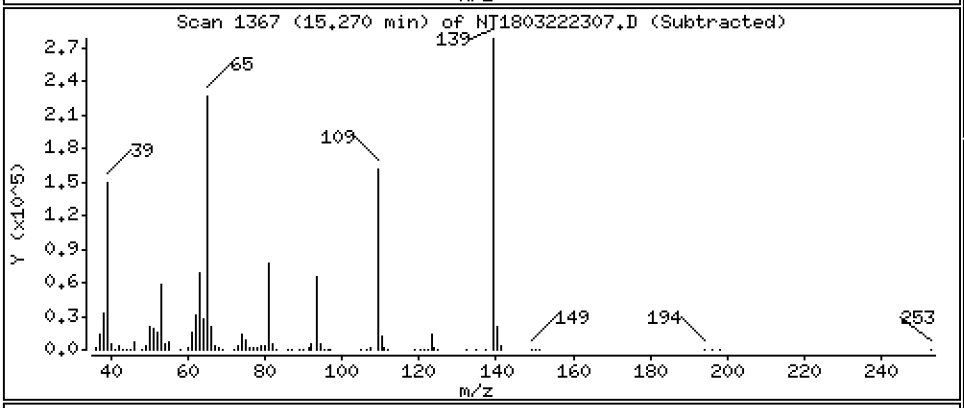
Column phase: ZB-5msi

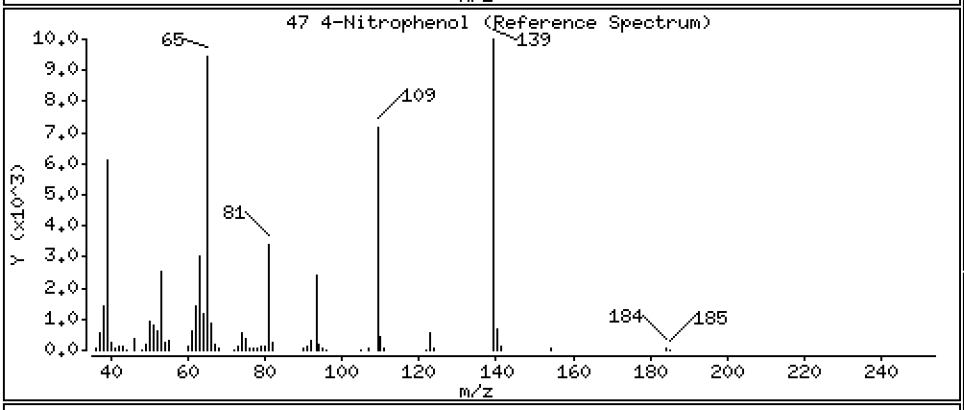
Column diameter: 0.25

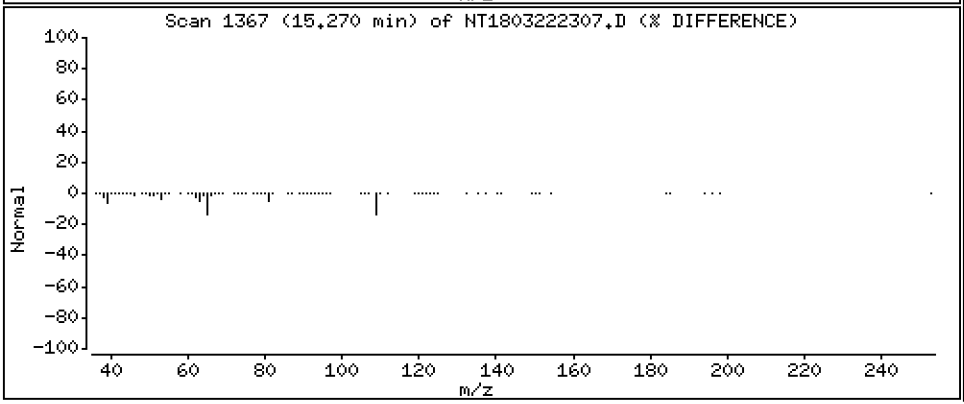
47 4-Nitrophenol

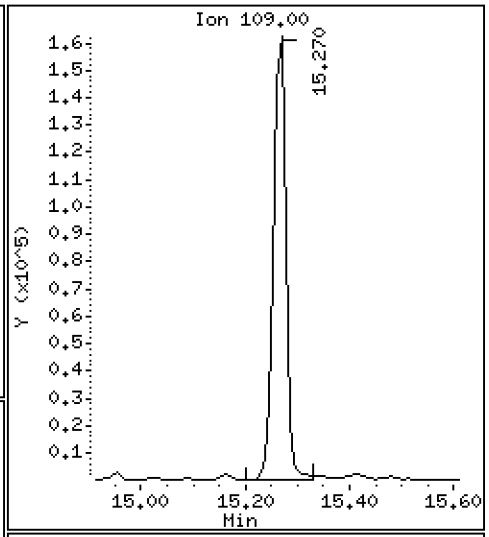
Concentration: 11.19 ug/mL

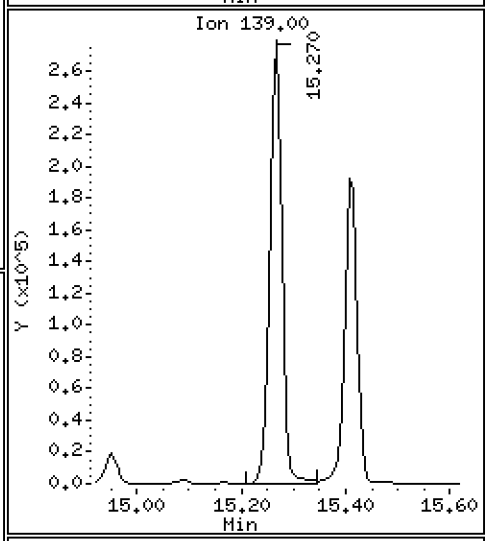


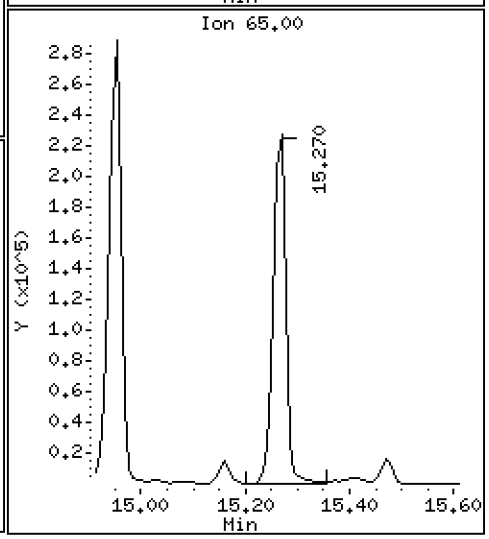












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222307.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

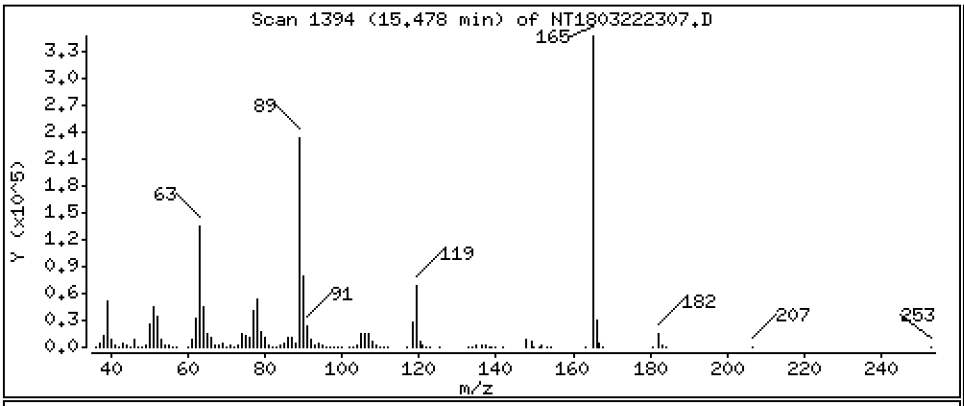
Operator: VTS

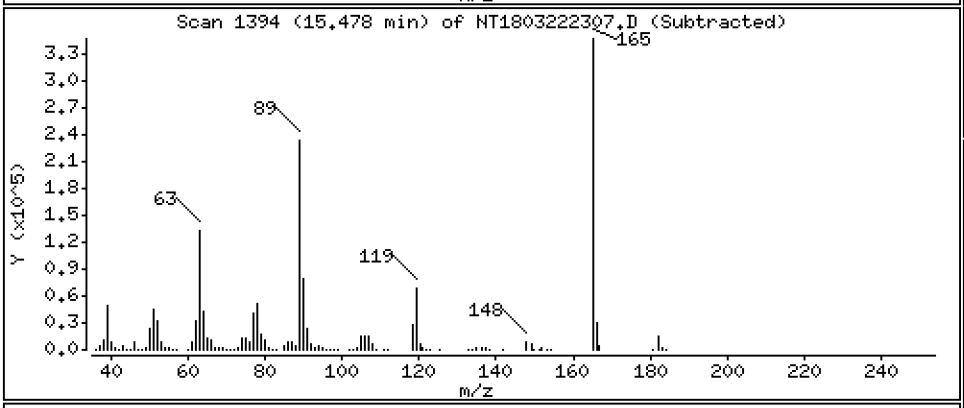
Column phase: ZB-5msi

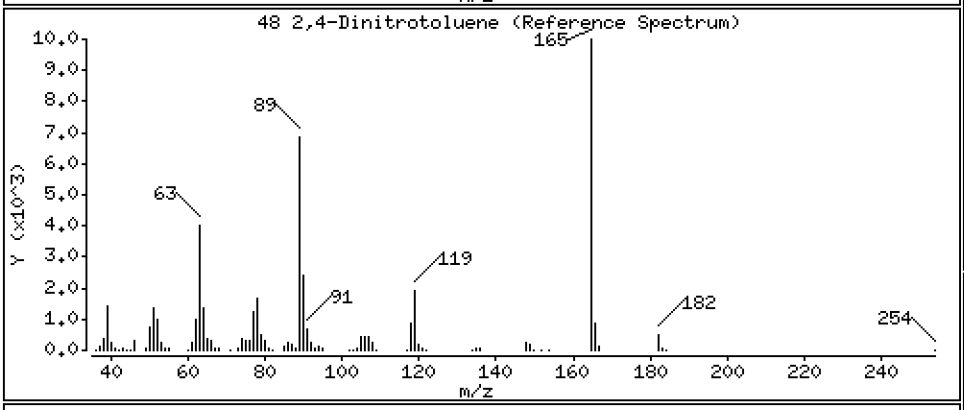
Column diameter: 0.25

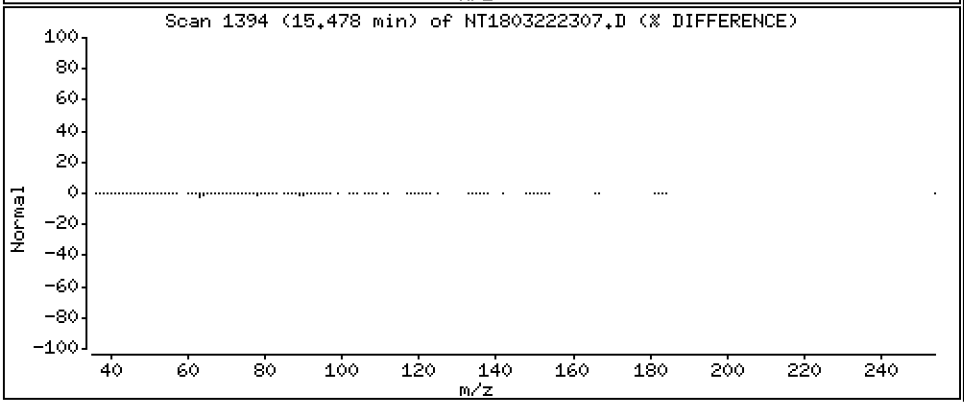
48 2,4-Dinitrotoluene

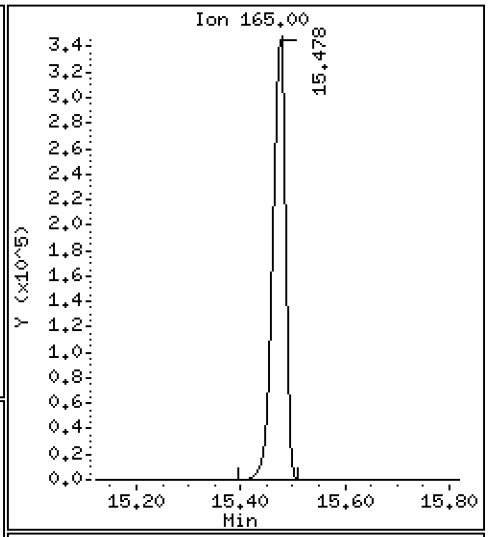
Concentration: 11.24 ug/mL

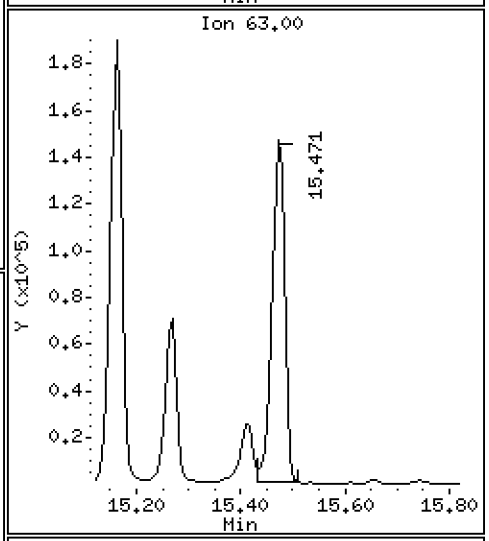


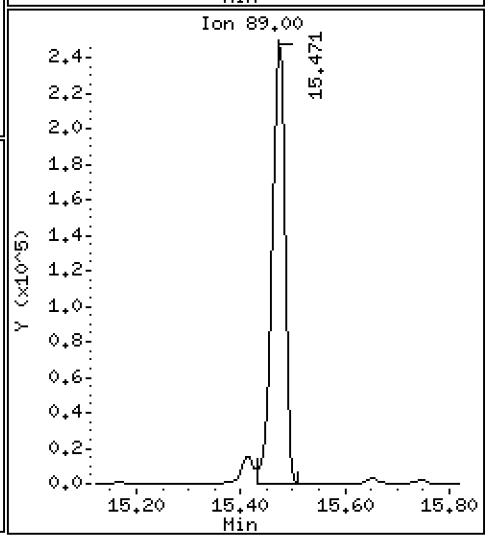












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

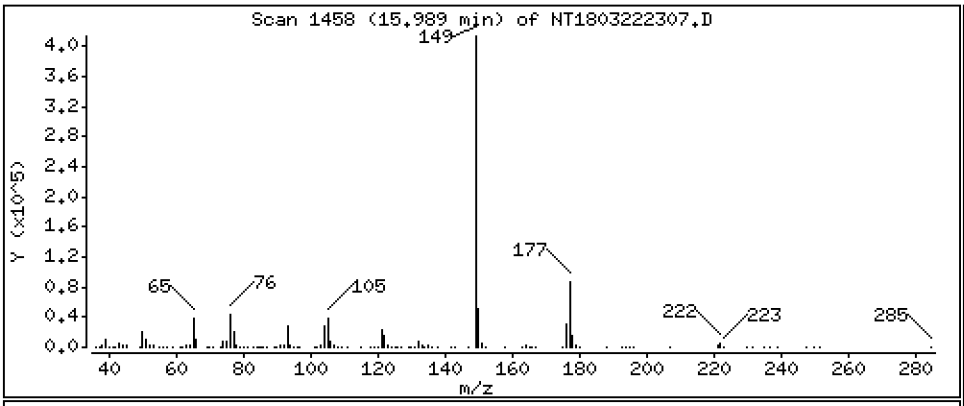
Operator: VTS

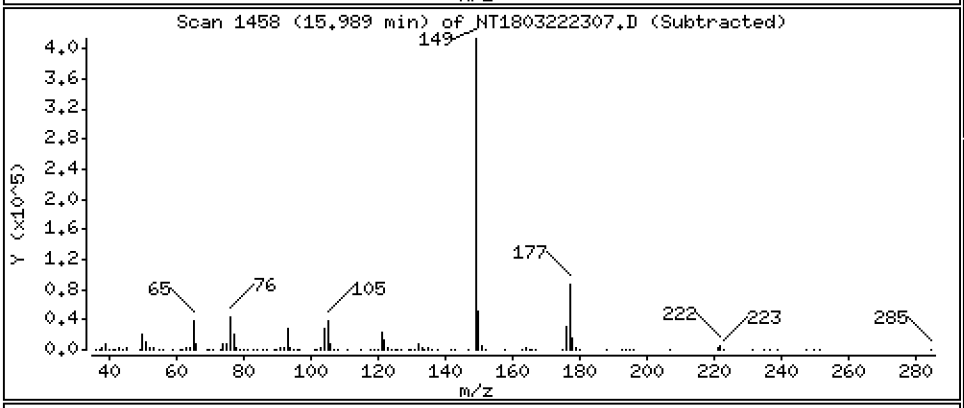
Column phase: ZB-5msi

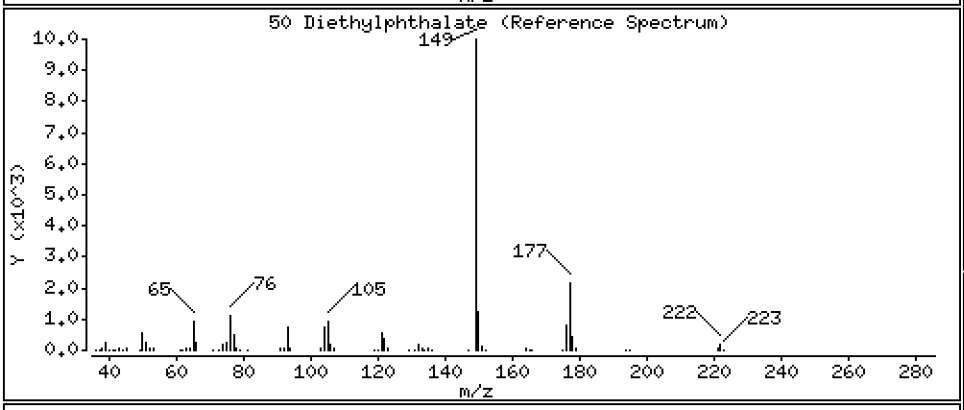
Column diameter: 0.25

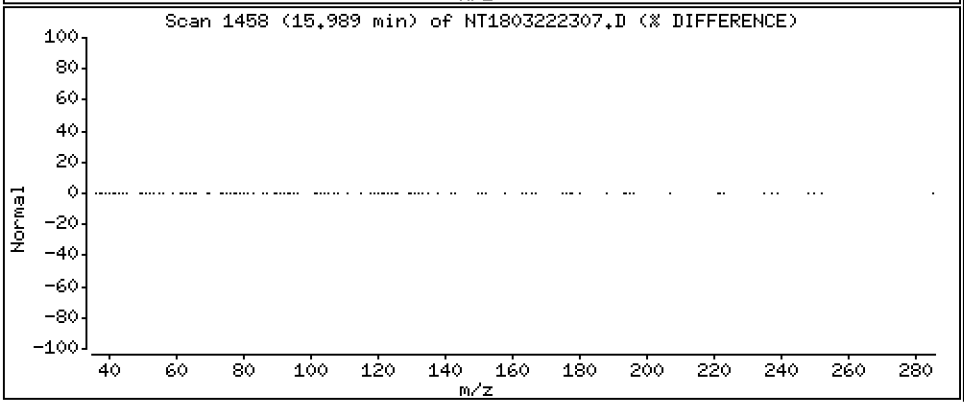
50 Diethylphthalate

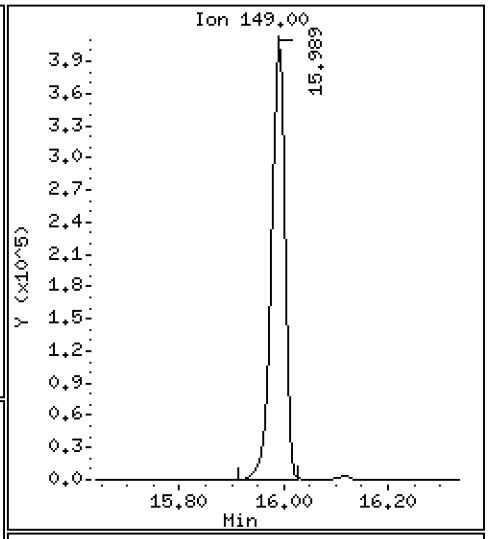
Concentration: 4.141 ug/mL

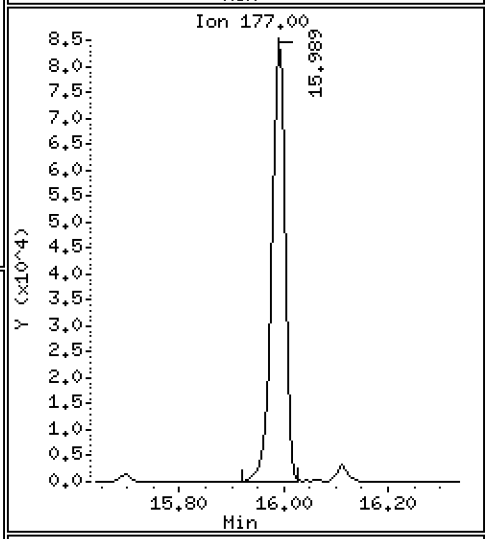


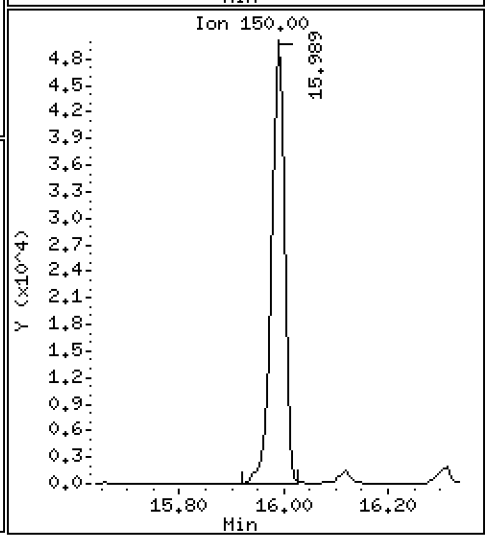












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

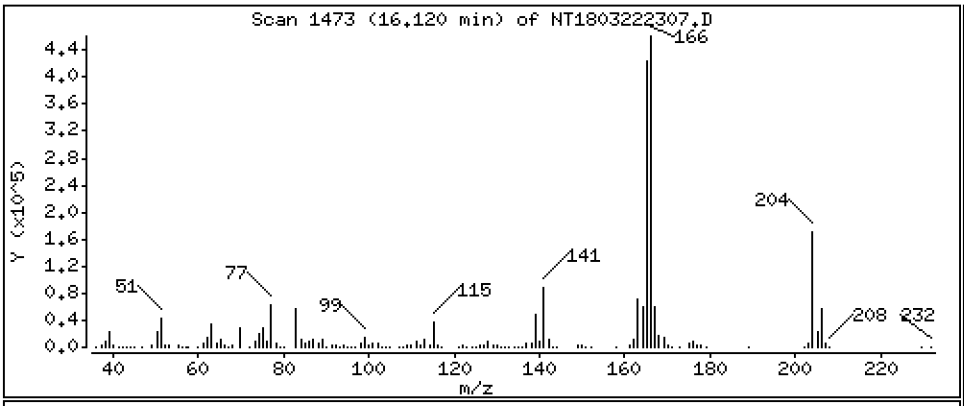
Operator: VTS

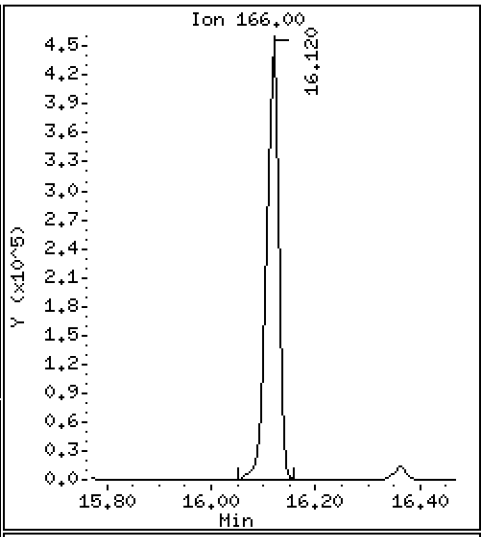
Column phase: ZB-5msi

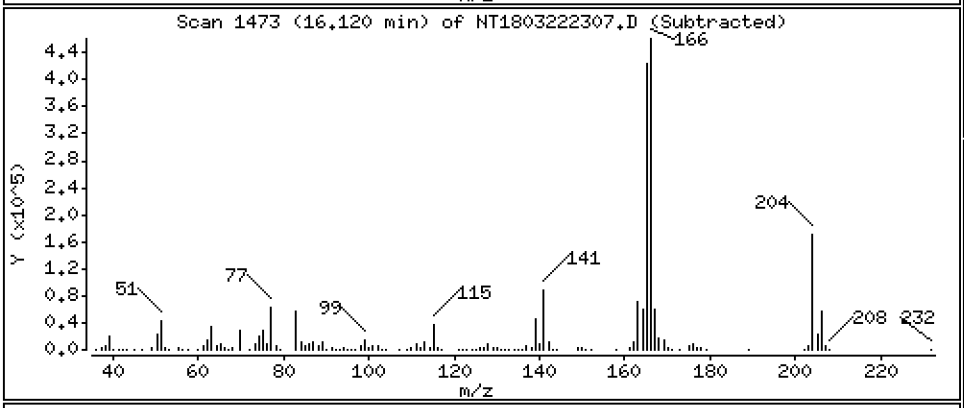
Column diameter: 0.25

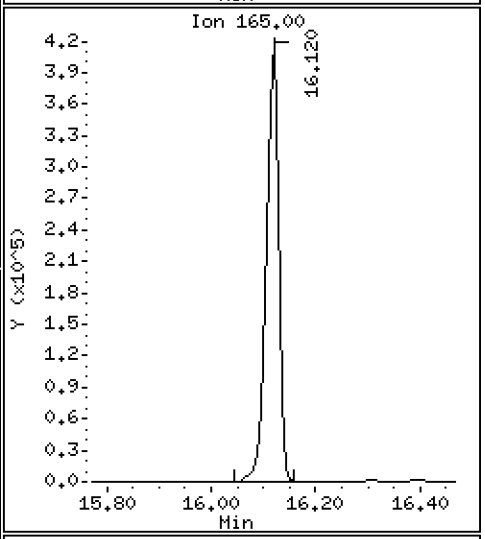
49 Fluorene

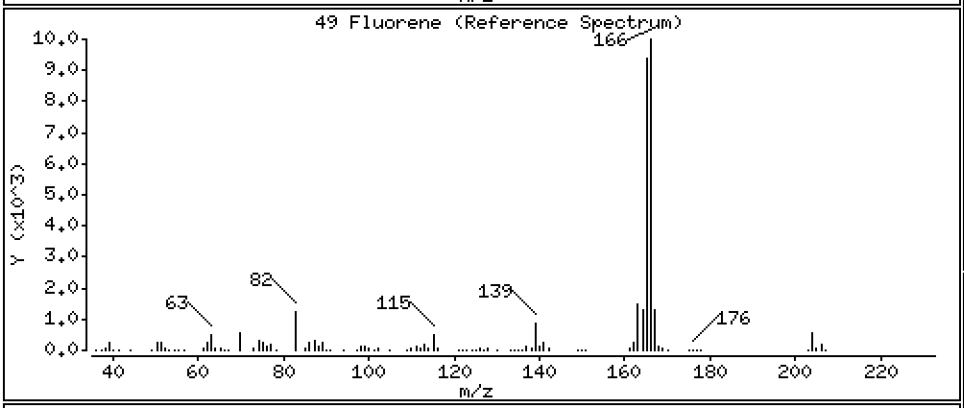
Concentration: 3.828 ug/mL

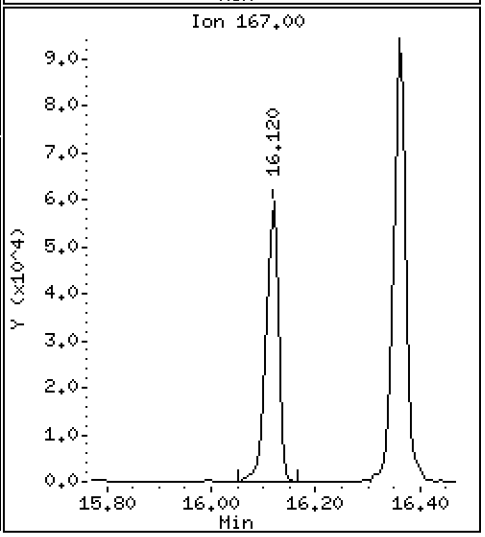


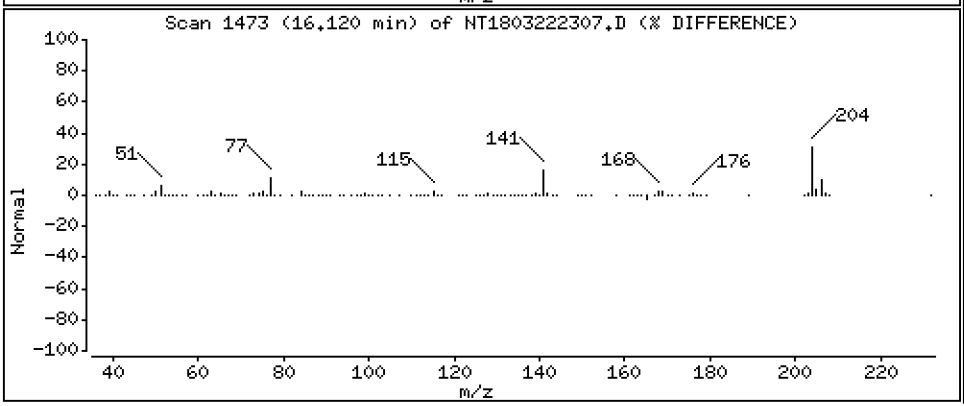












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

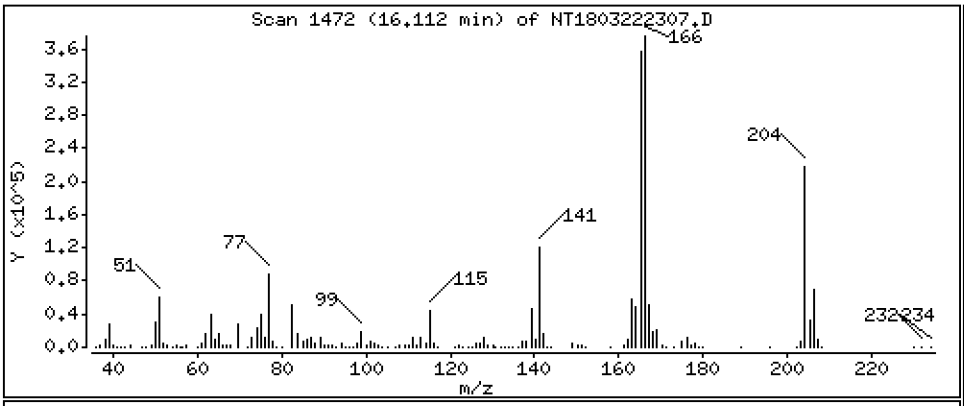
Operator: VTS

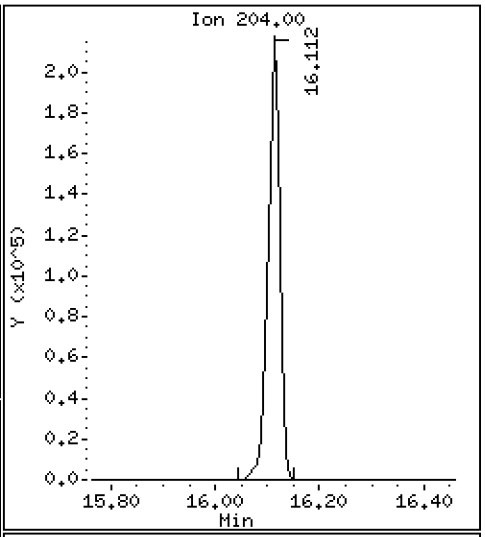
Column phase: ZB-5msi

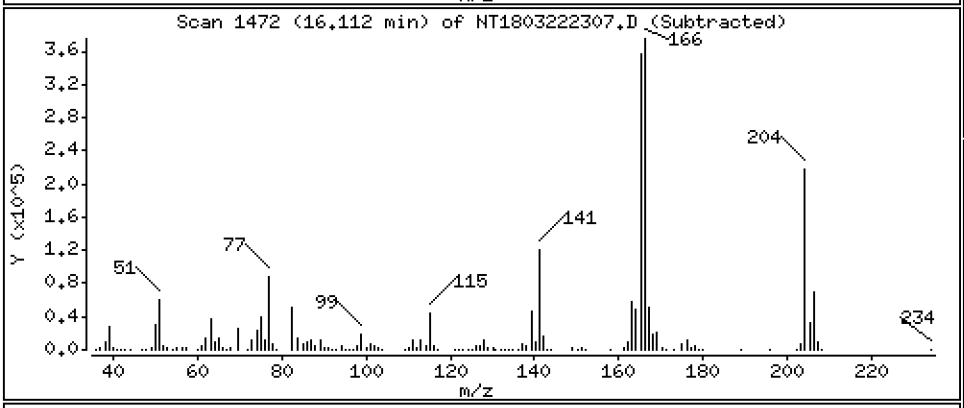
Column diameter: 0.25

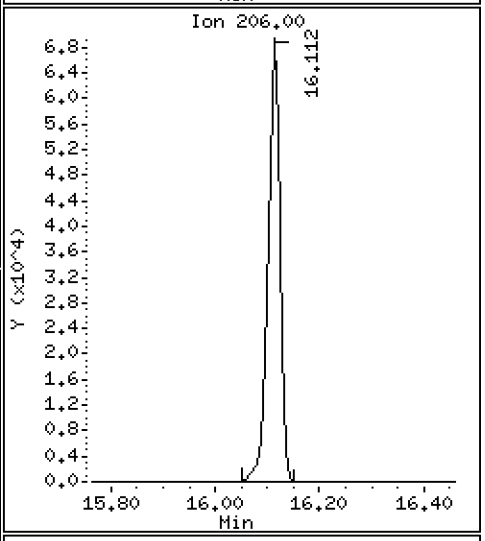
51 4-Chlorophenyl-phenylether

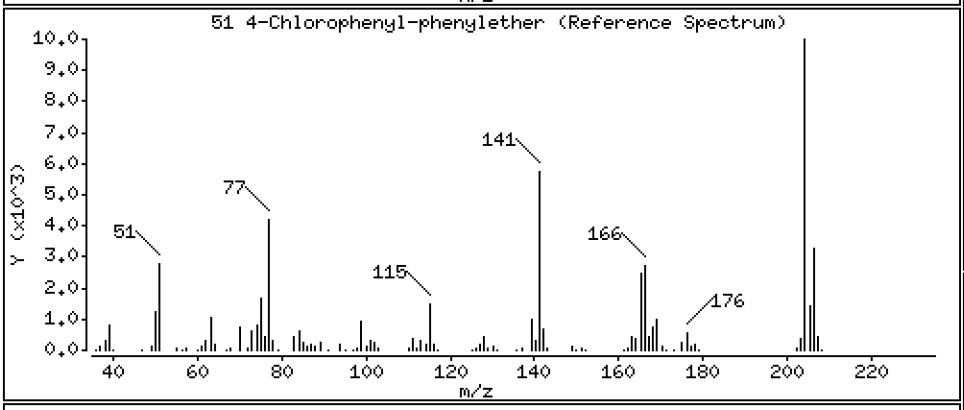
Concentration: 4.026 ug/mL

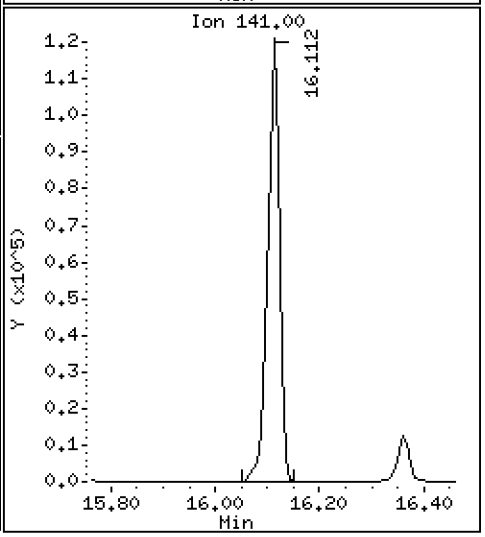


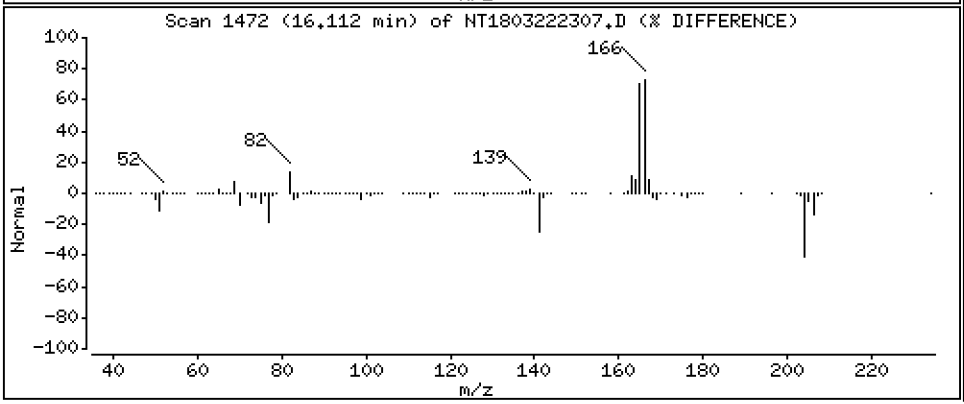












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

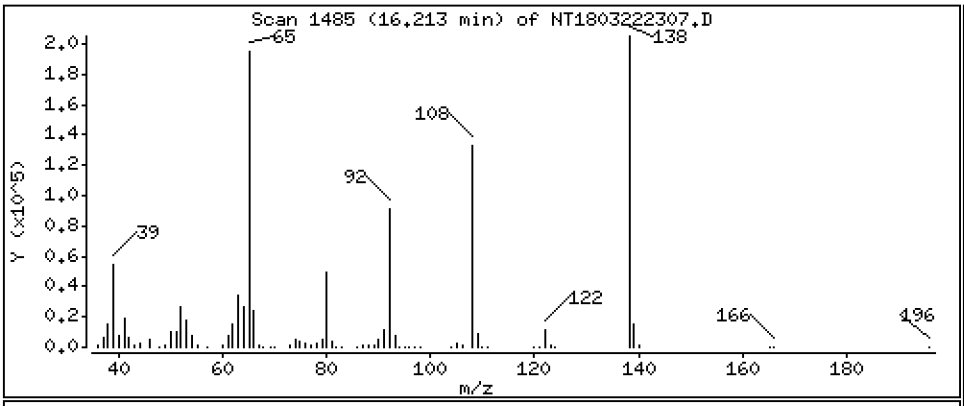
Operator: VTS

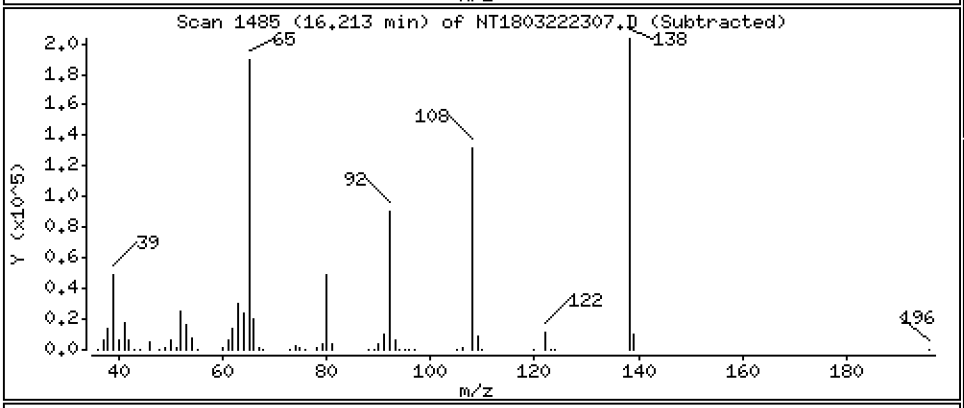
Column phase: ZB-5msi

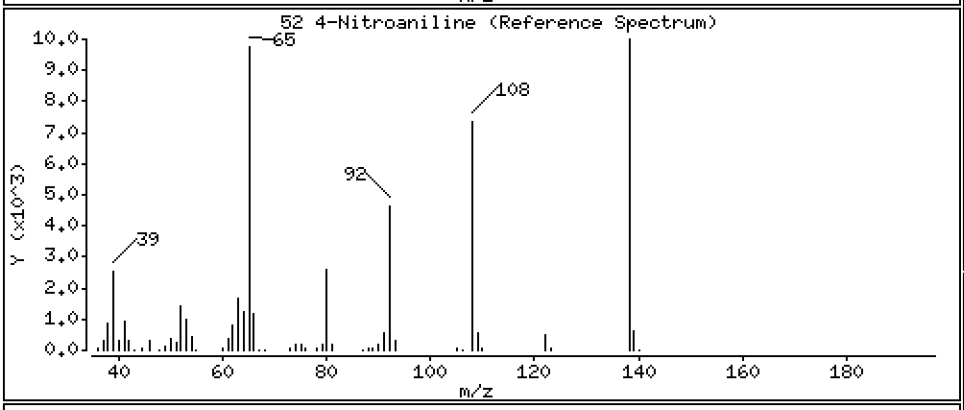
Column diameter: 0.25

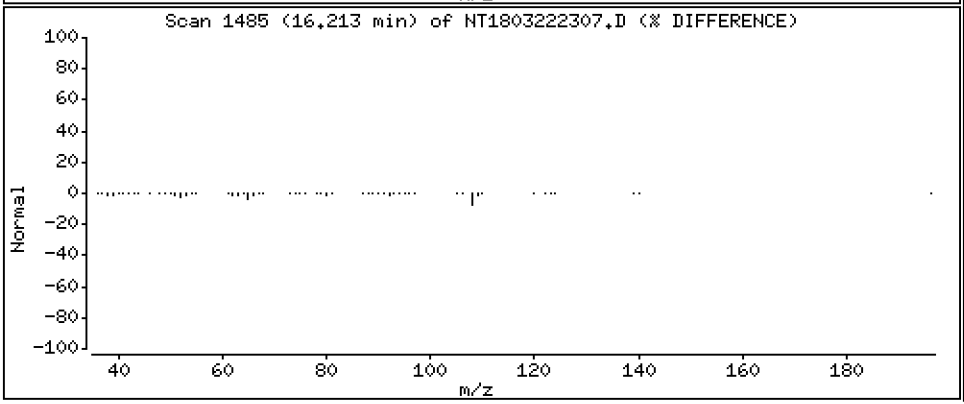
52 4-Nitroaniline

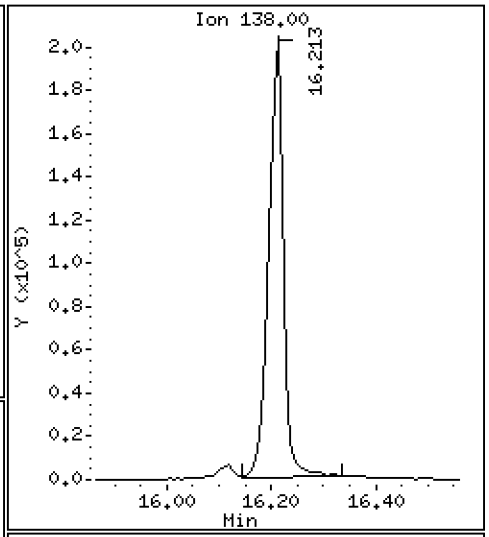
Concentration: 8.875 ug/mL

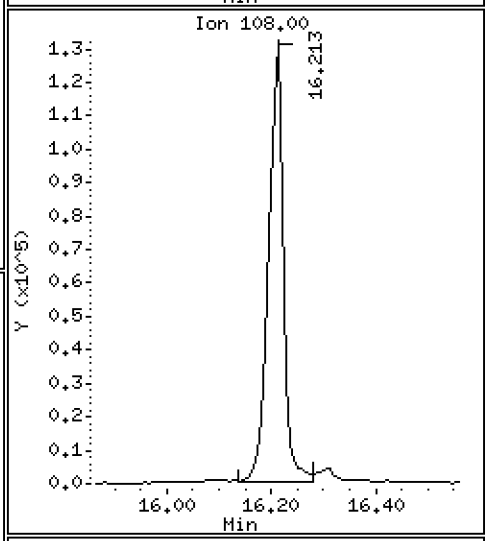


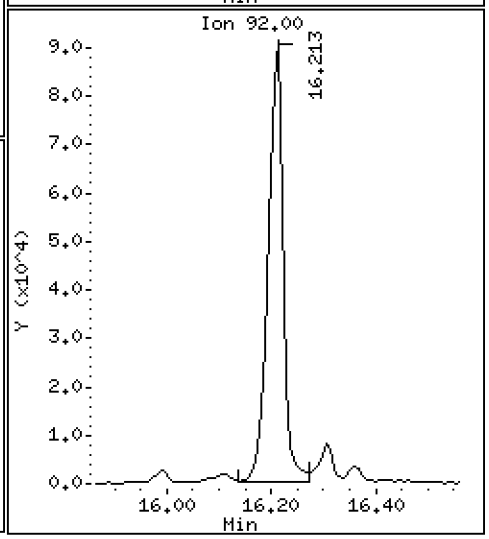












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

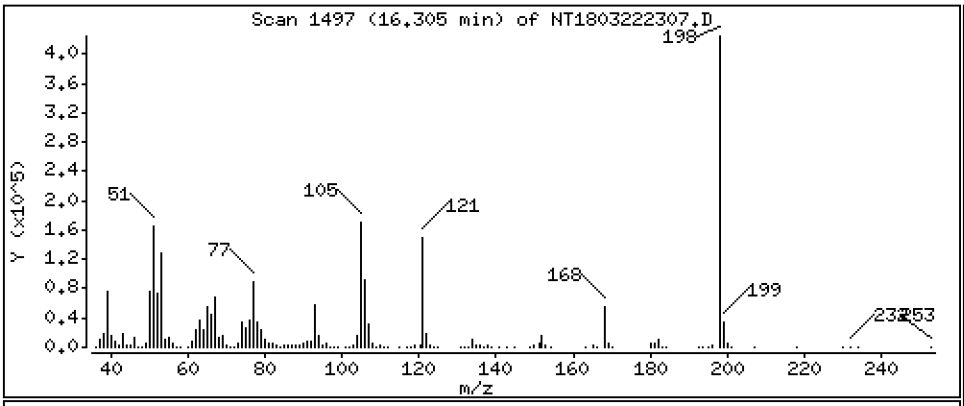
Operator: VTS

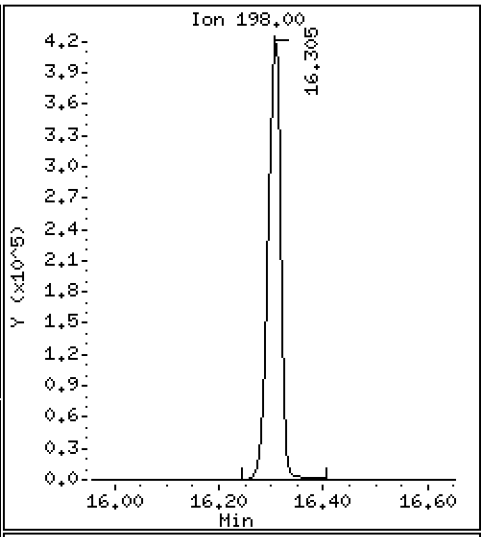
Column phase: ZB-5msi

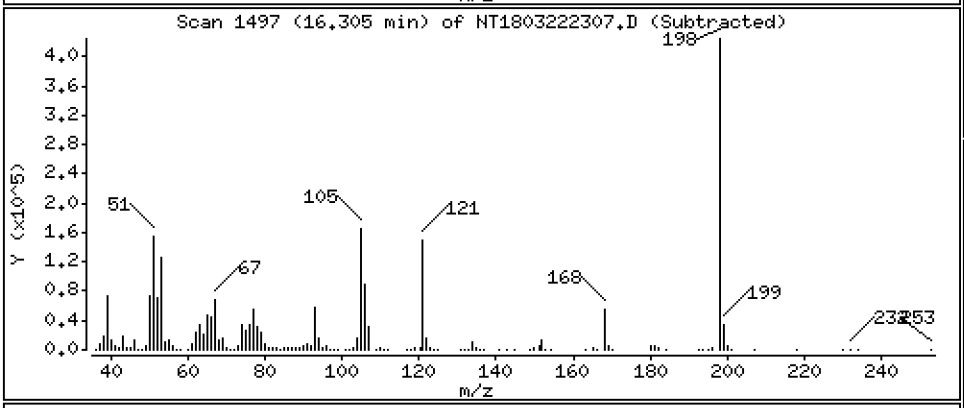
Column diameter: 0.25

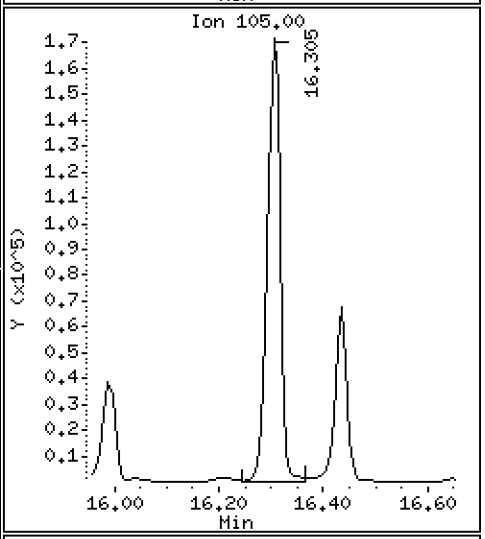
53 4,6-Dinitro-2-methylphenol

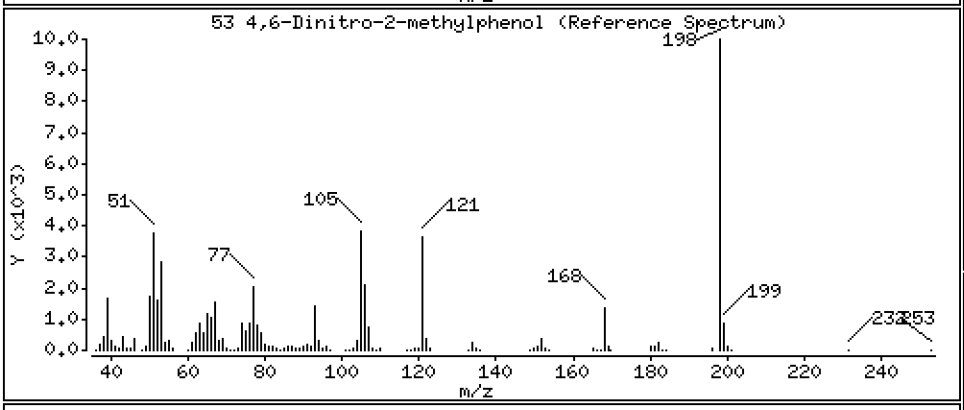
Concentration: 24.08 ug/mL

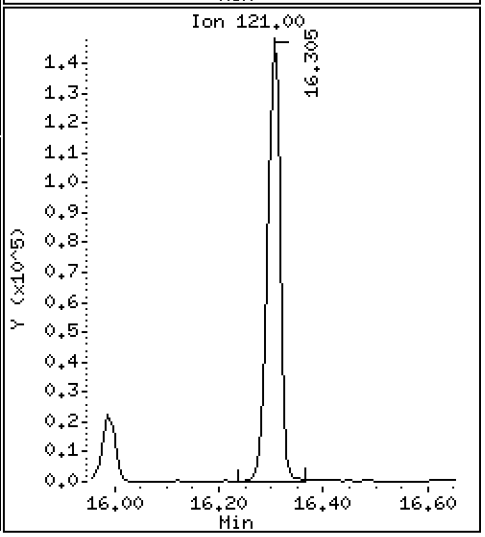


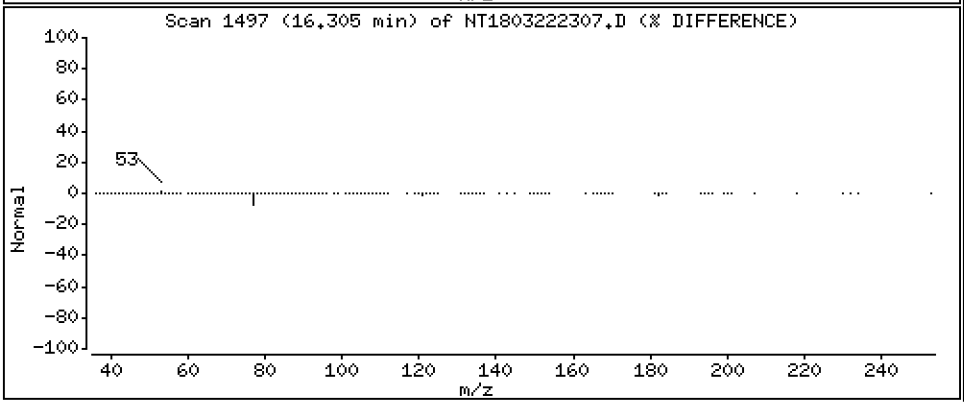












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

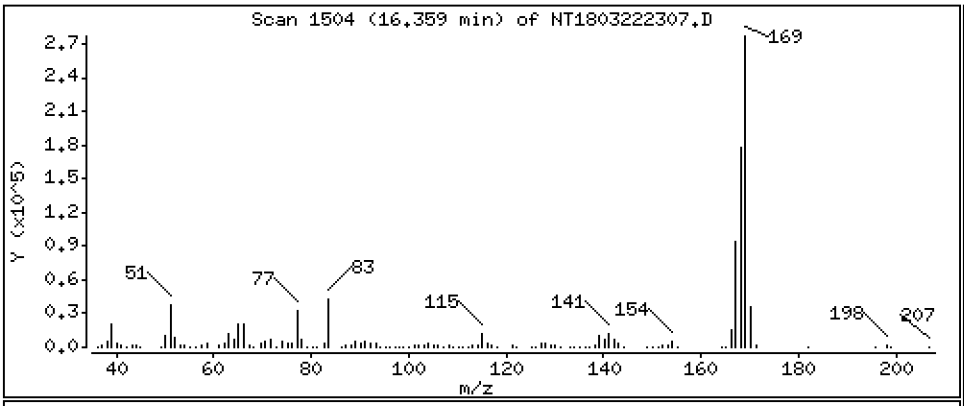
Operator: VTS

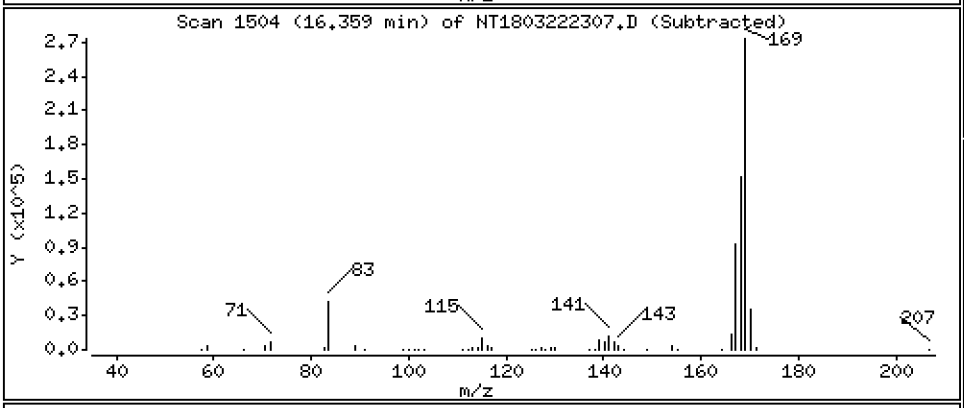
Column phase: ZB-5msi

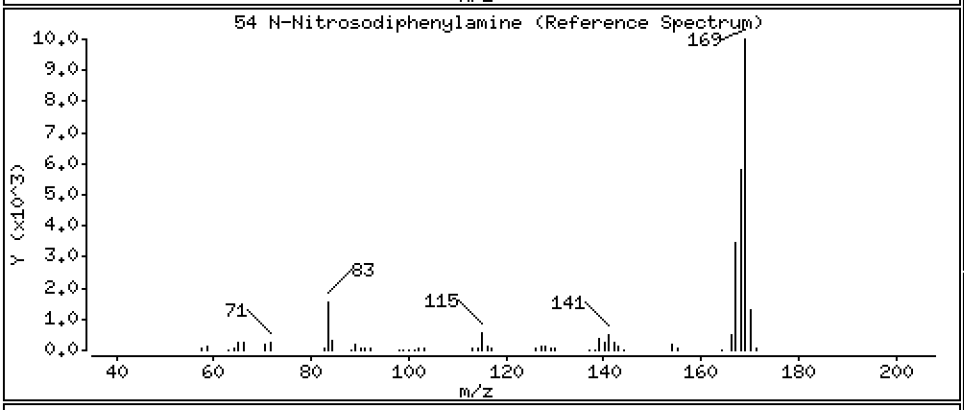
Column diameter: 0.25

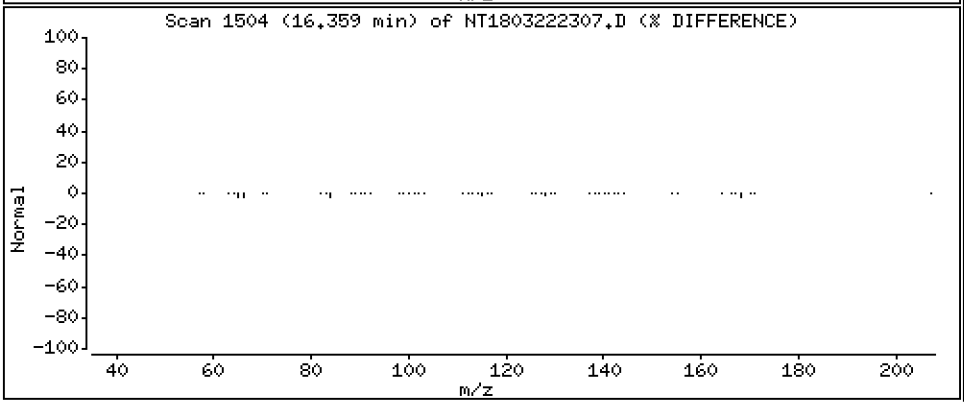
54 N-Nitrosodiphenylamine

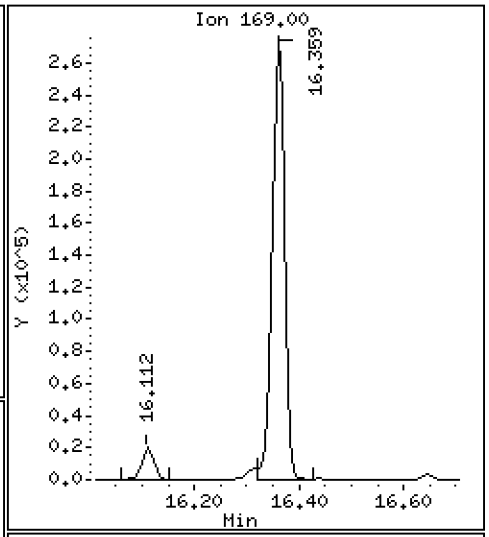
Concentration: 3.461 ug/mL

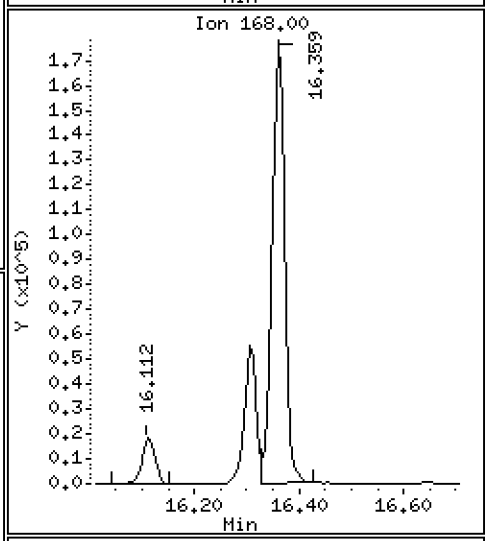


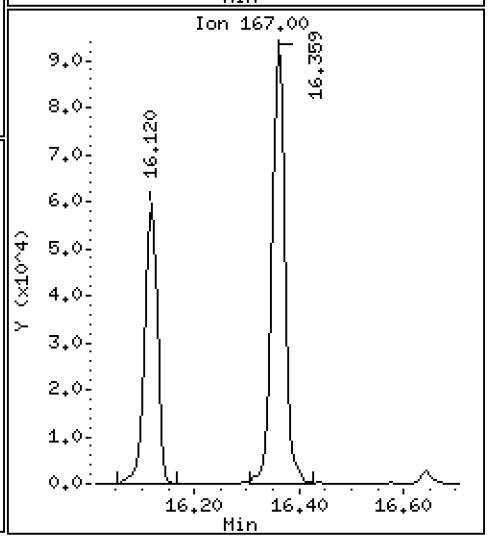












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222307.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

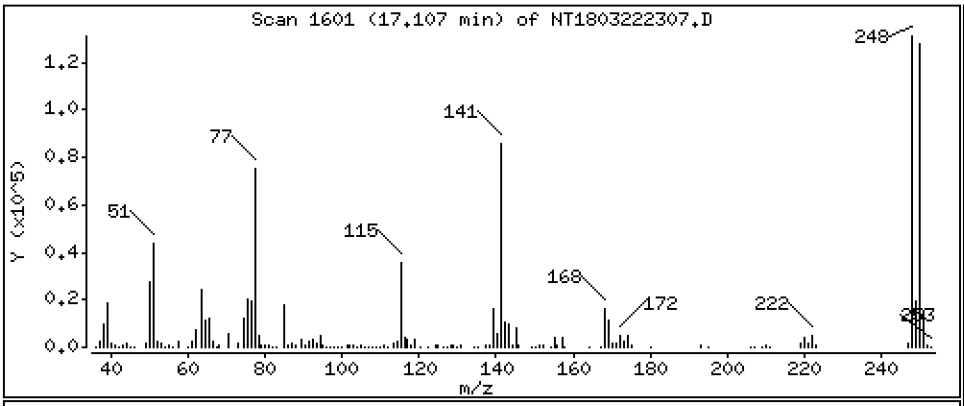
Operator: VTS

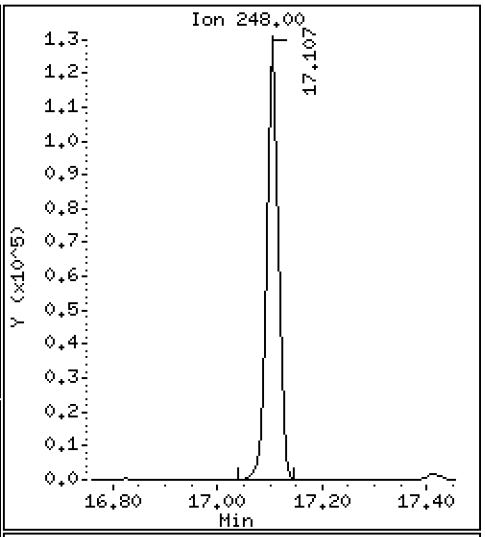
Column phase: ZB-5msi

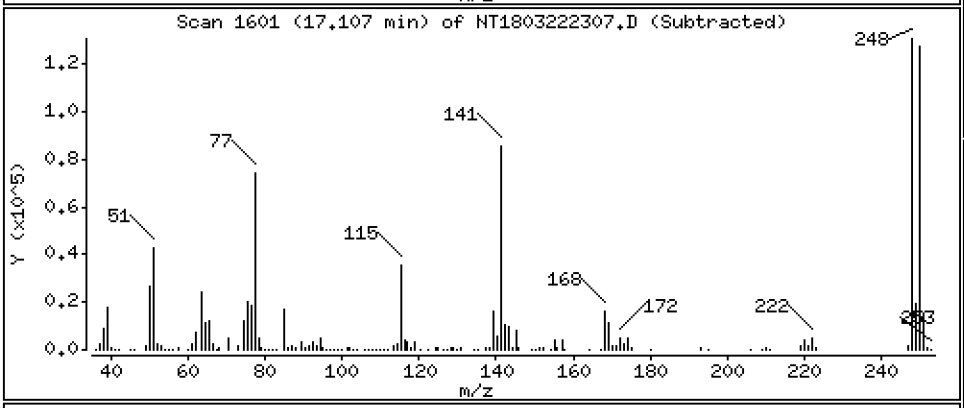
Column diameter: 0.25

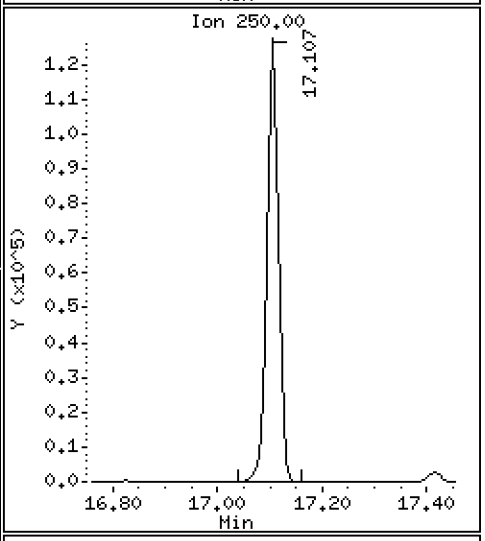
56 4-Bromophenyl-phenylether

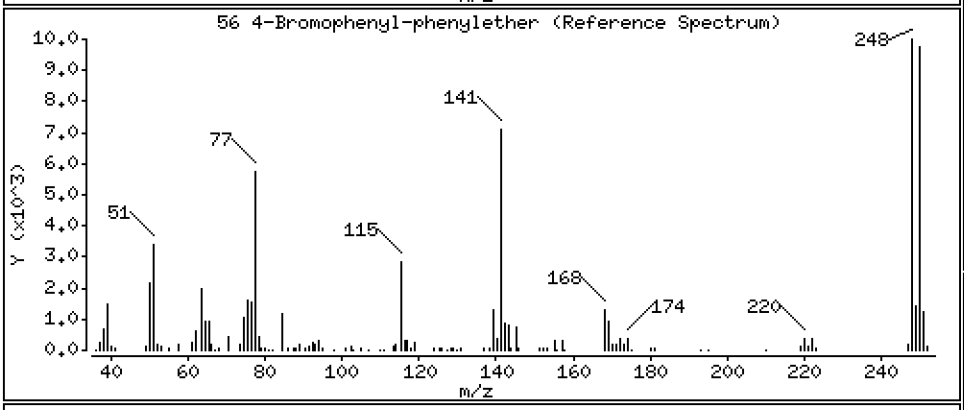
Concentration: 4.024 ug/mL

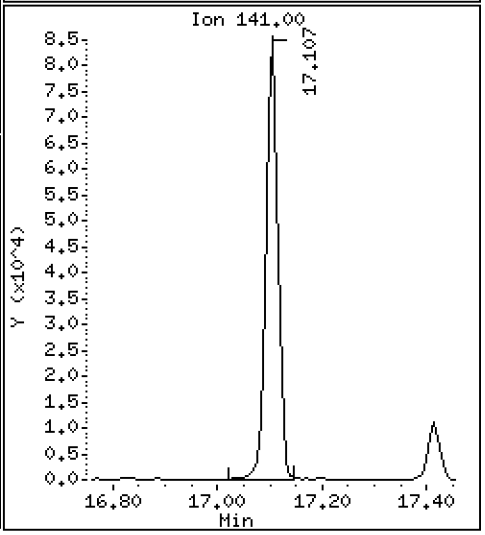


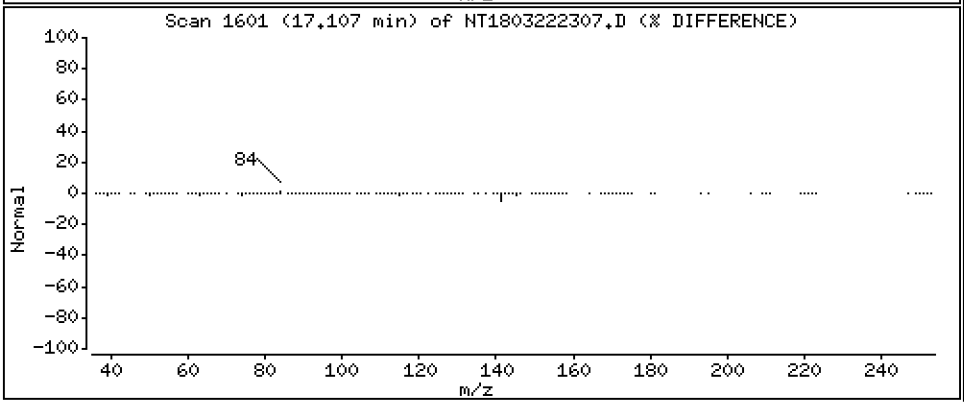












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

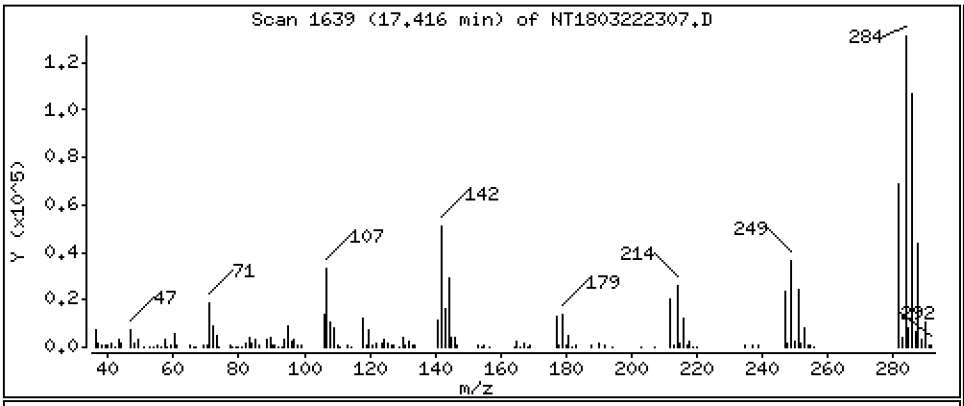
Operator: VTS

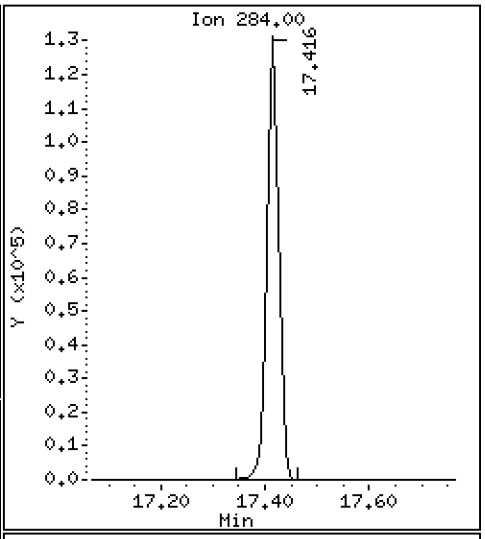
Column phase: ZB-5msi

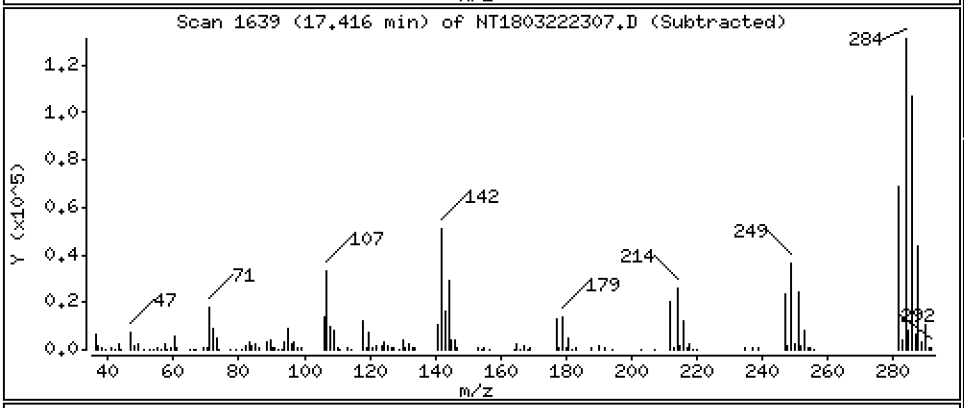
Column diameter: 0.25

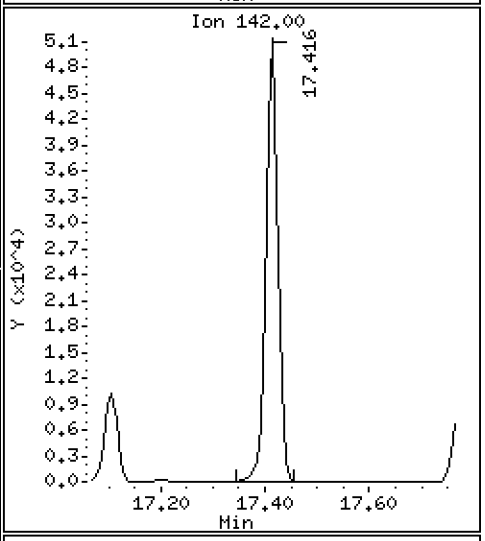
57 Hexachlorobenzene

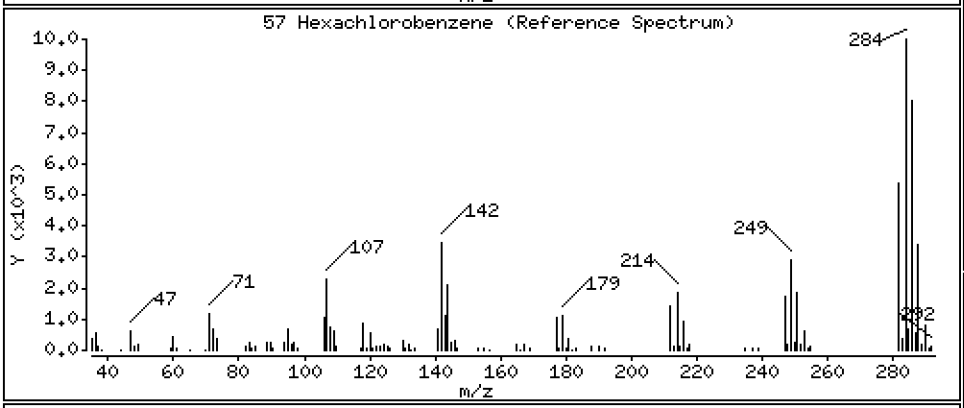
Concentration: 3.708 ug/mL

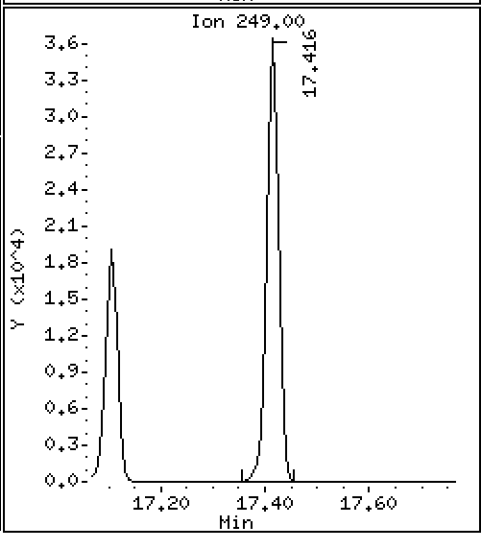


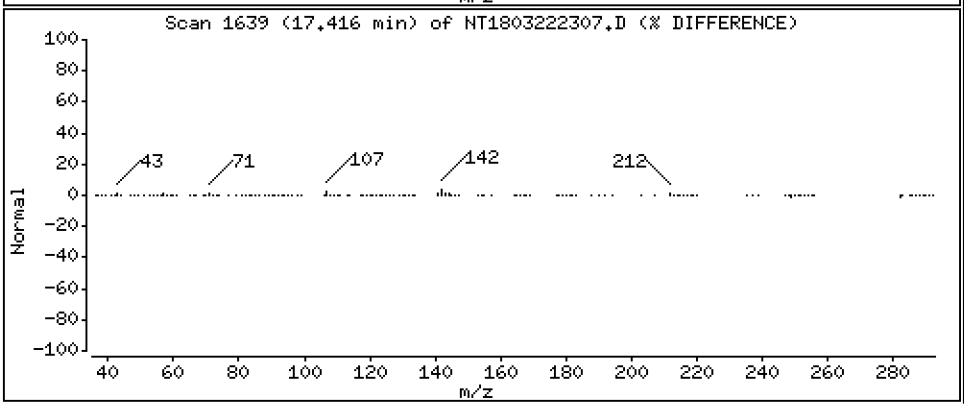












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

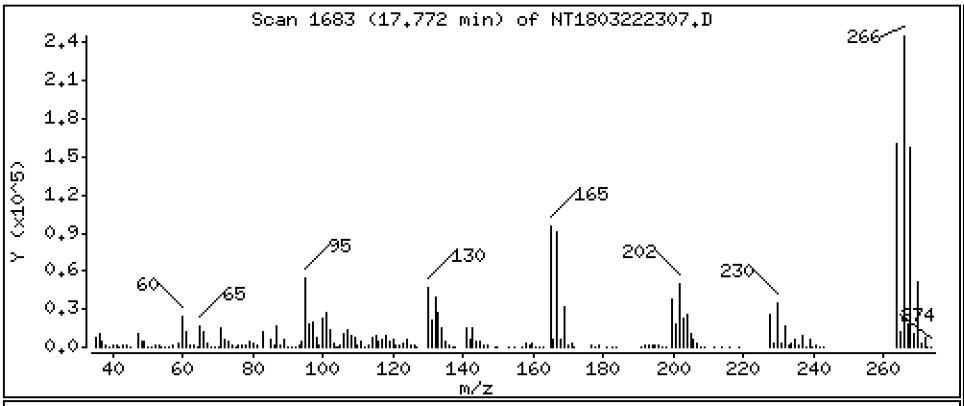
Operator: VTS

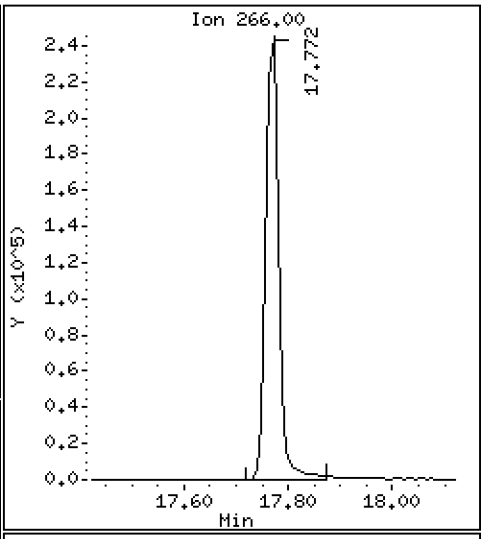
Column phase: ZB-5msi

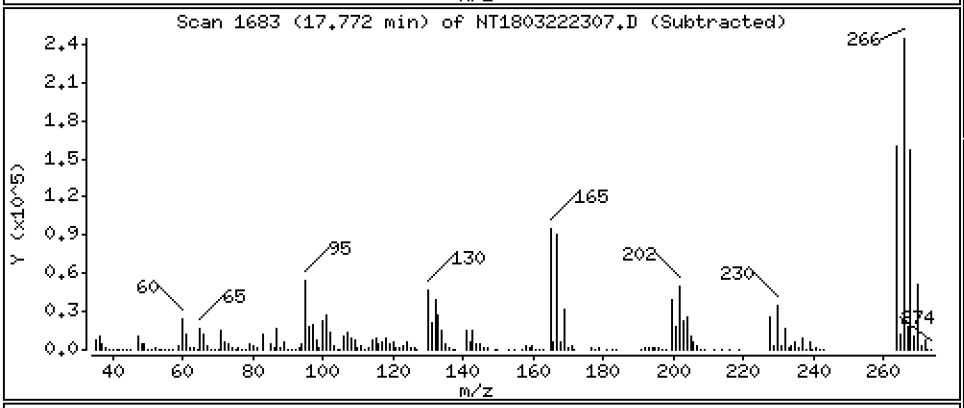
Column diameter: 0.25

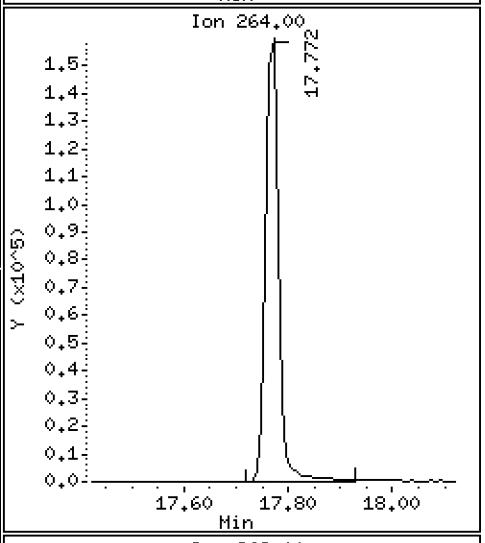
58 Pentachlorophenol

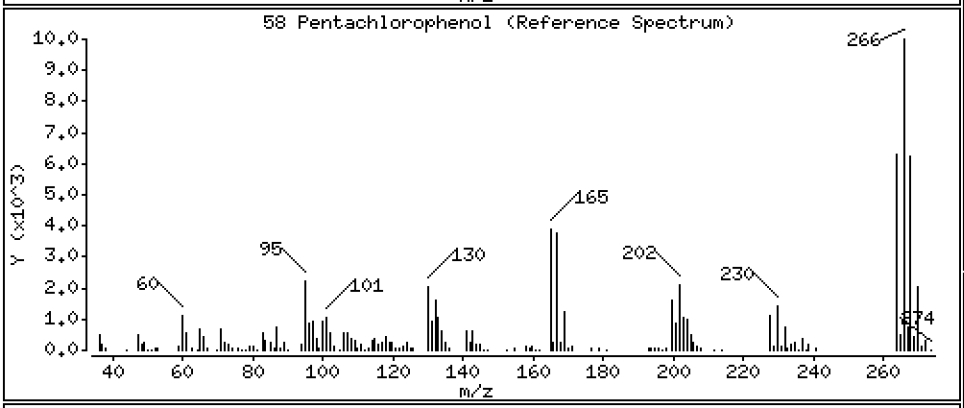
Concentration: 11.89 ug/mL

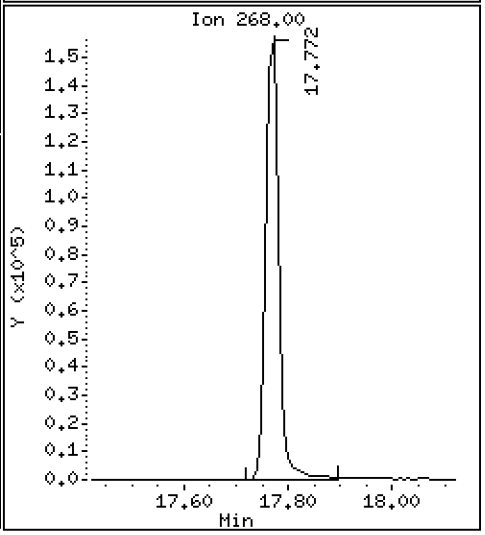


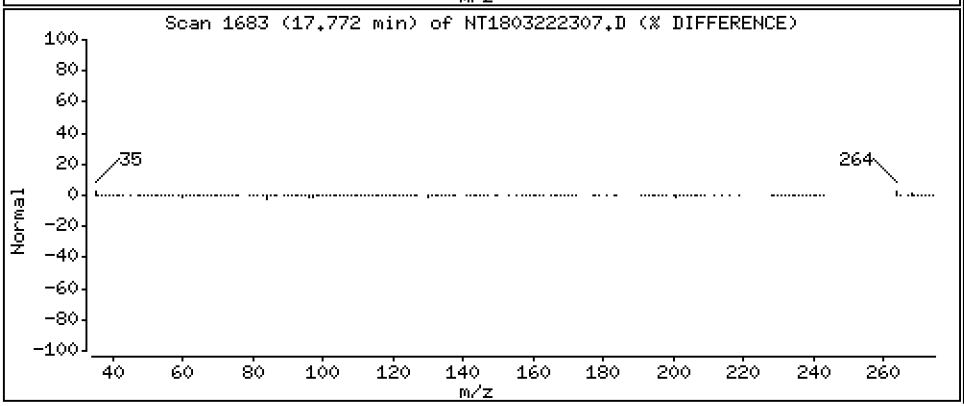












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

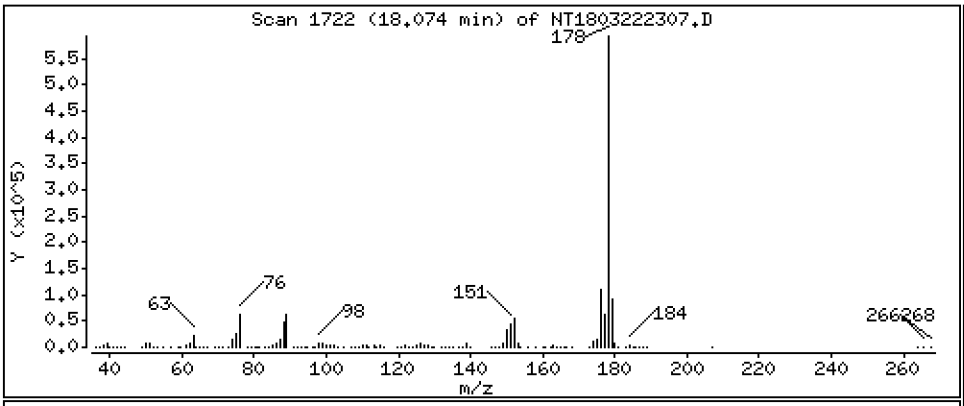
Operator: VTS

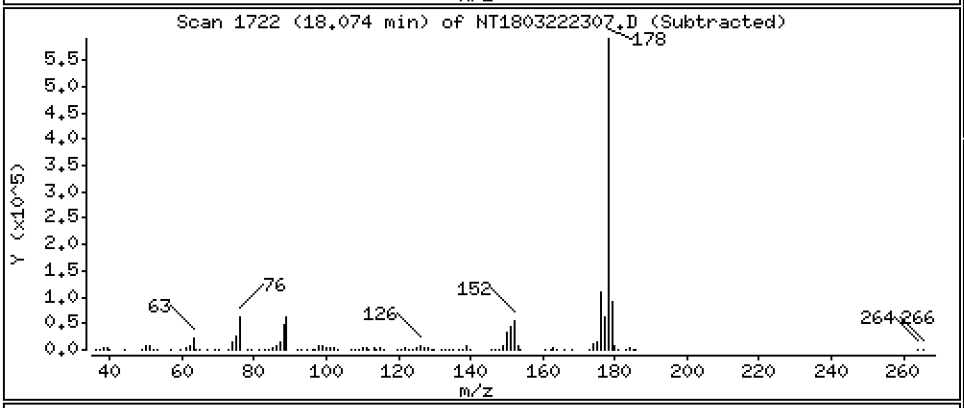
Column phase: ZB-5msi

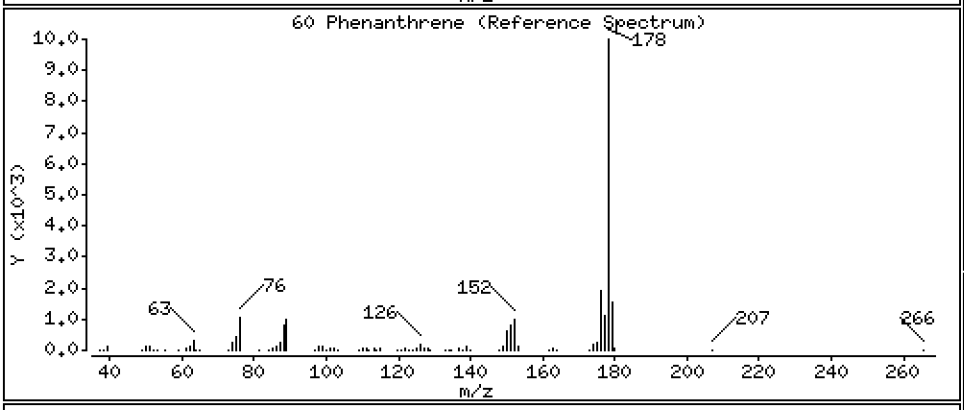
Column diameter: 0.25

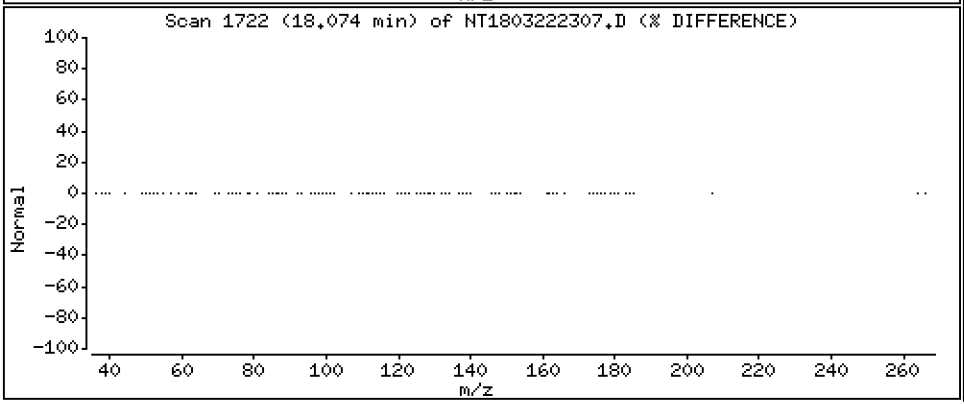
60 Phenanthrene

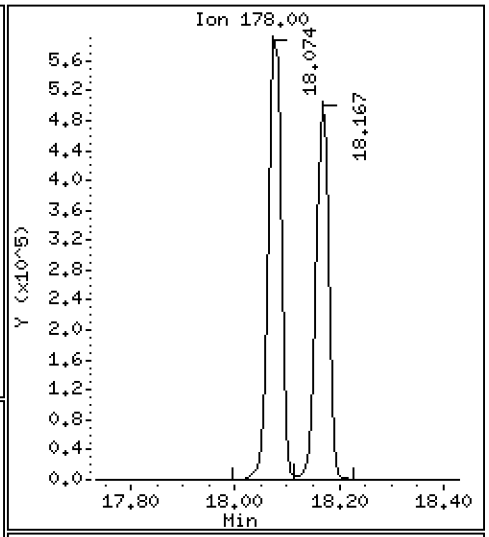
Concentration: 3.702 ug/mL

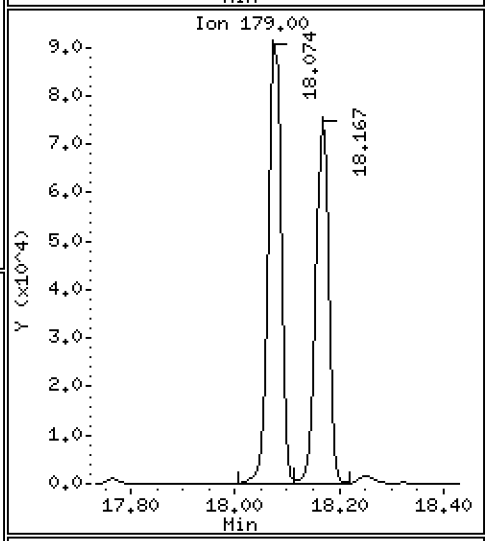


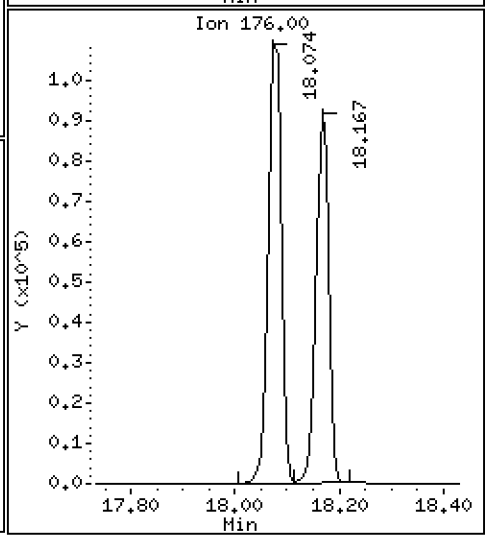












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

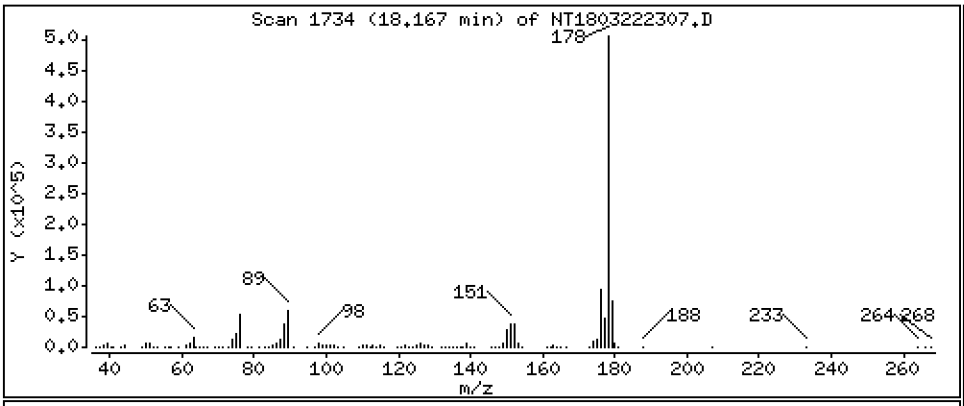
Operator: VTS

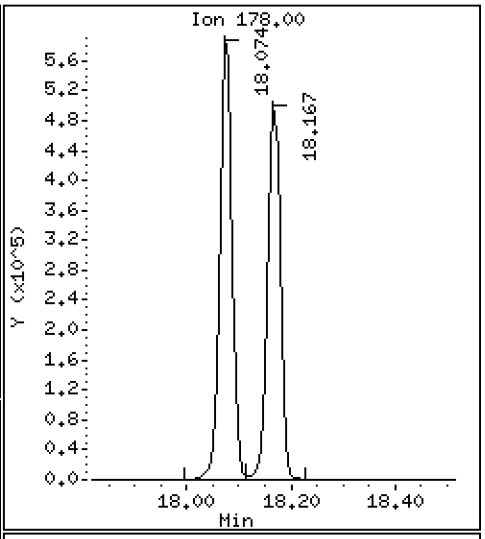
Column phase: ZB-5msi

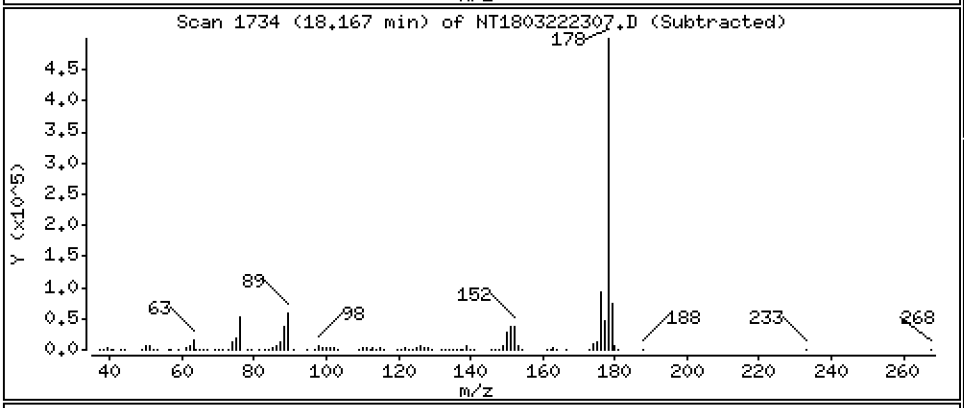
Column diameter: 0.25

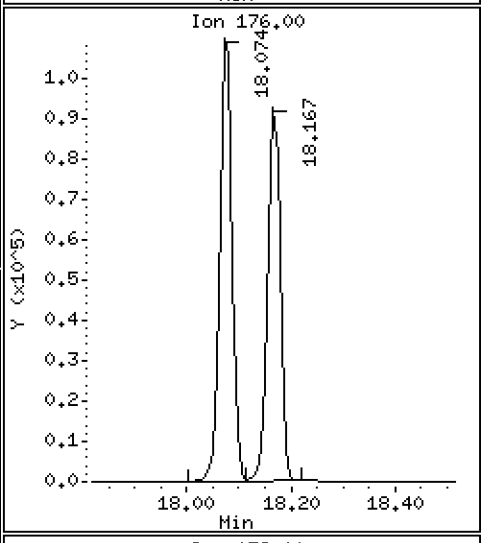
61 Anthracene

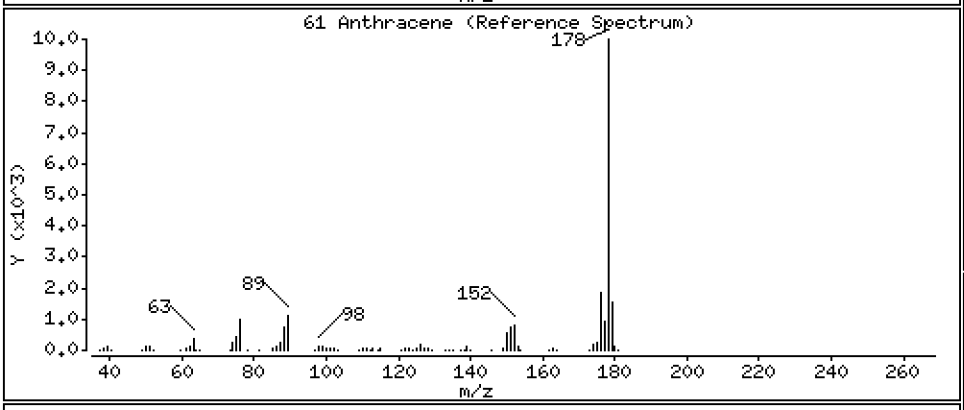
Concentration: 3.245 ug/mL

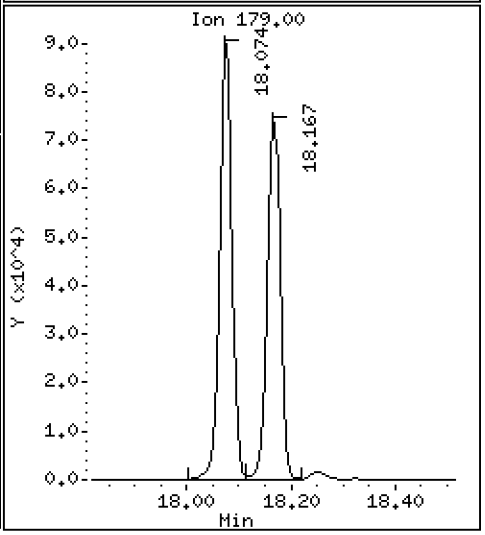


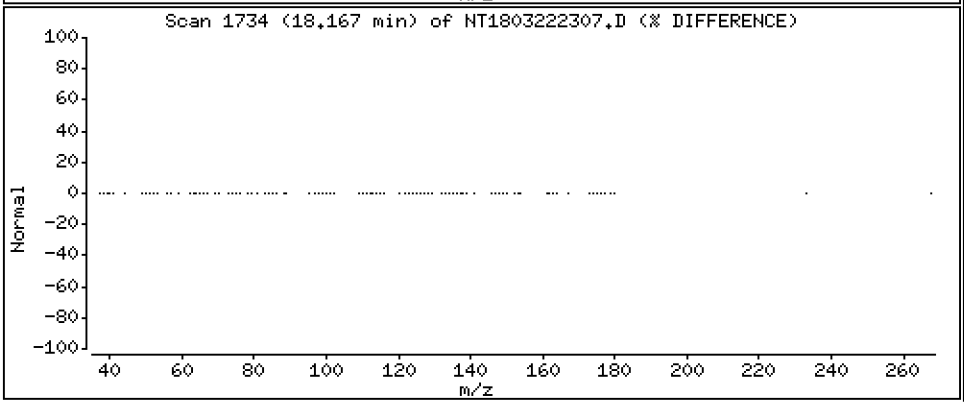












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

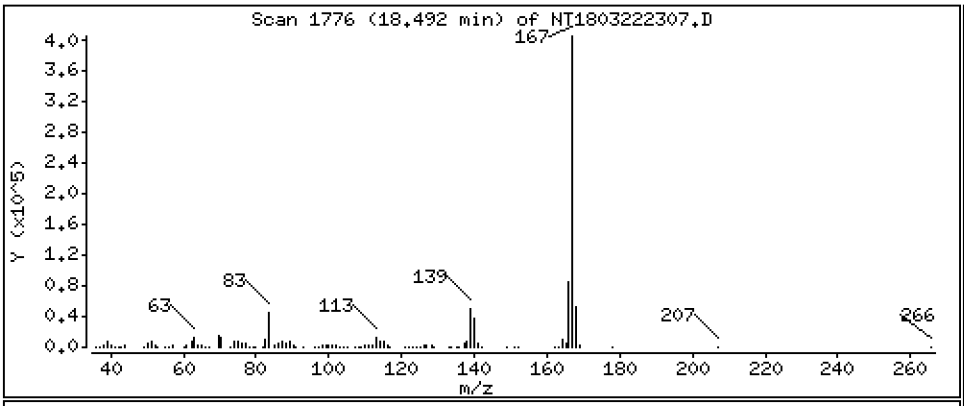
Operator: VTS

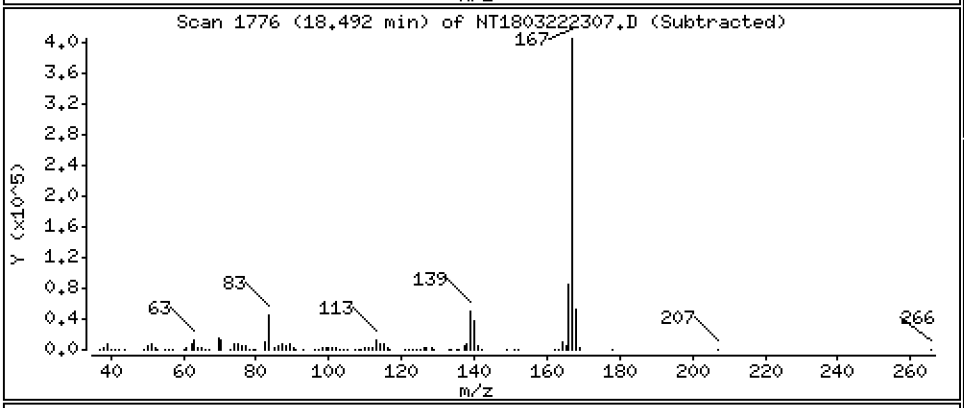
Column phase: ZB-5msi

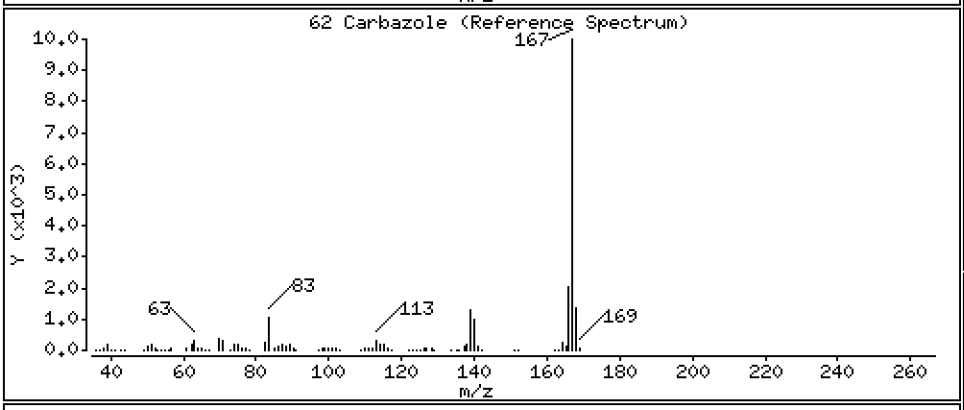
Column diameter: 0.25

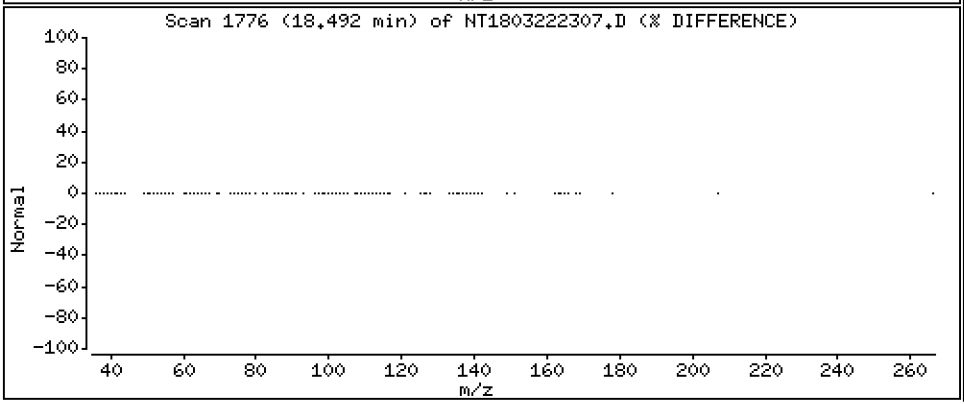
62 Carbazole

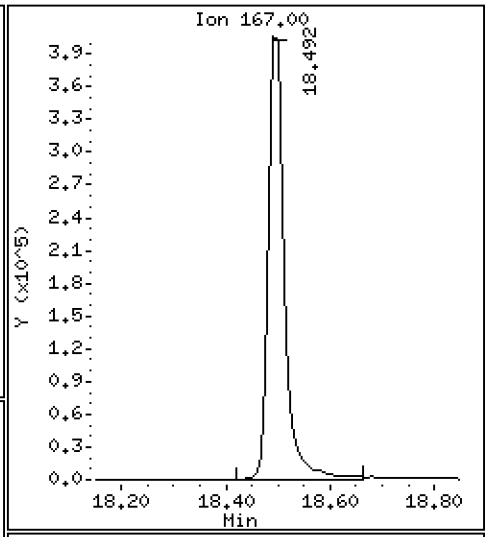
Concentration: 3.826 ug/mL

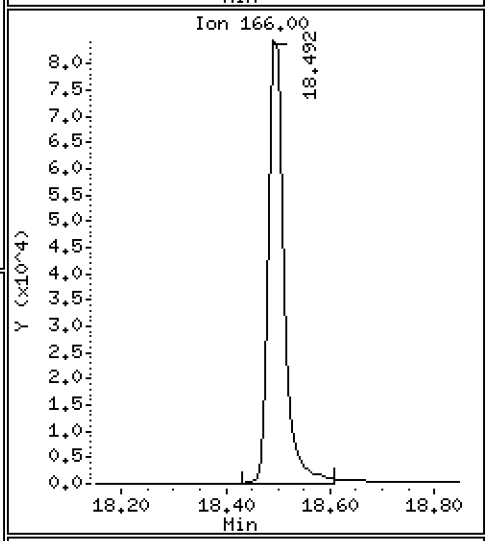


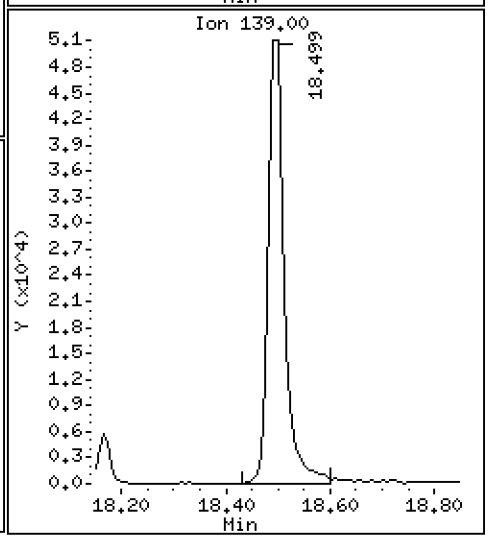












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

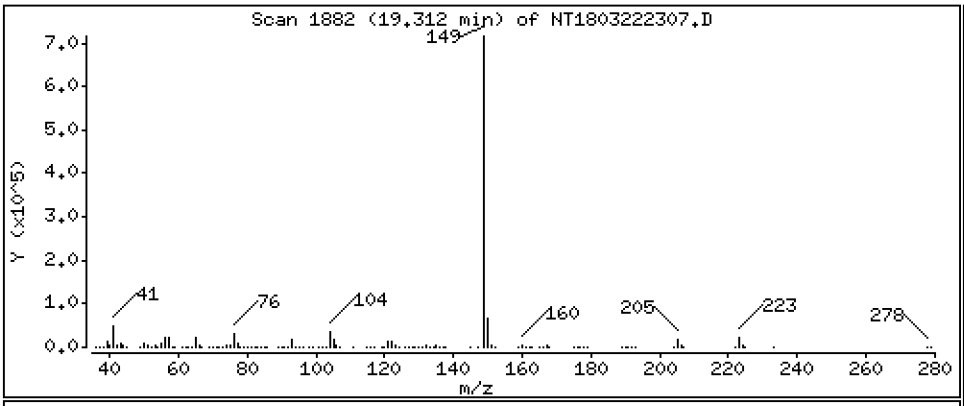
Operator: VTS

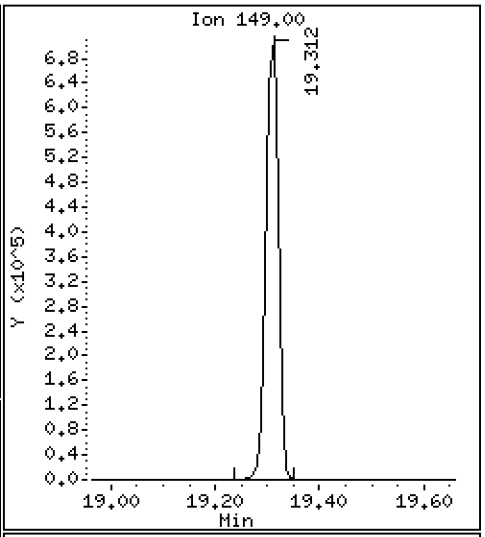
Column phase: ZB-5msi

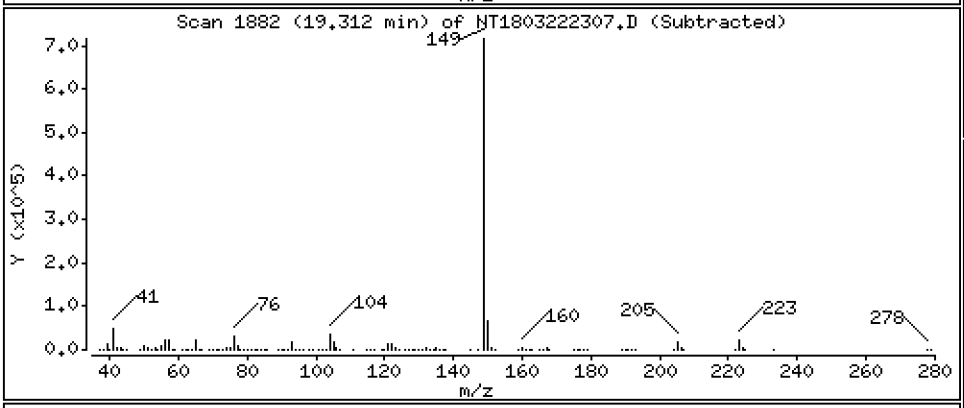
Column diameter: 0.25

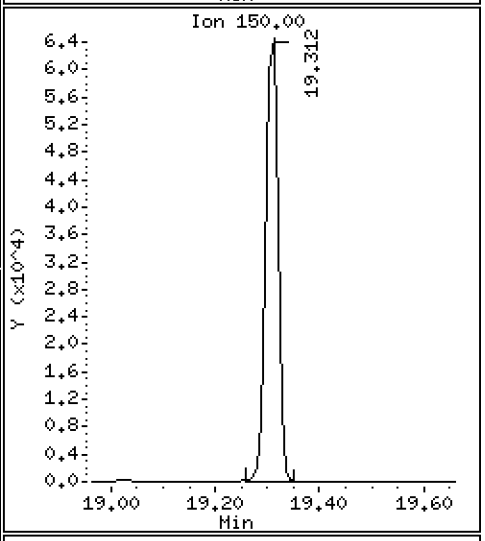
63 Di-n-butylphthalate

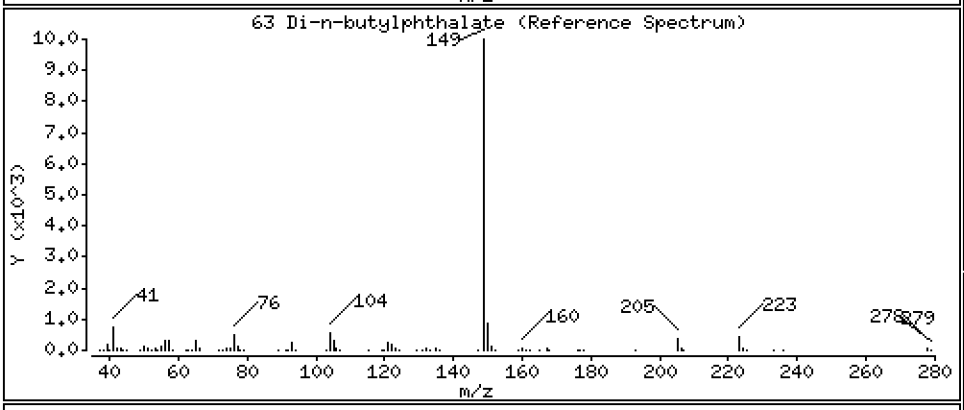
Concentration: 3.847 ug/mL

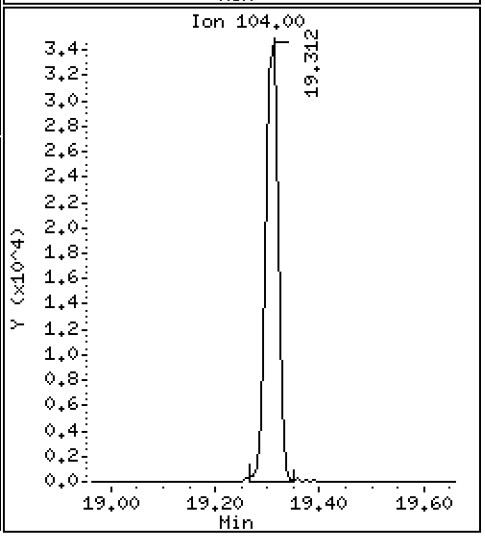


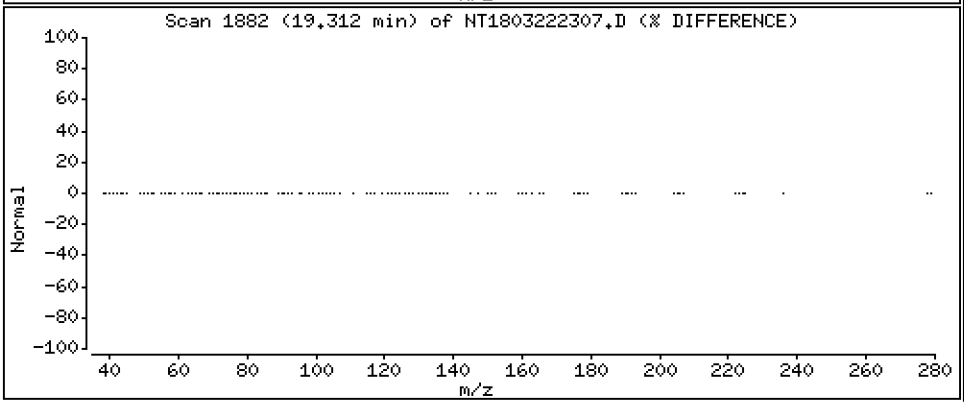












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222307.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

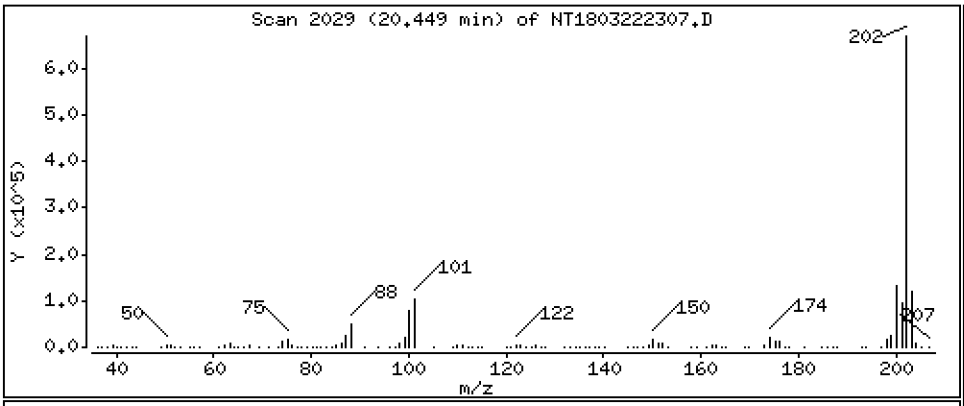
Operator: VTS

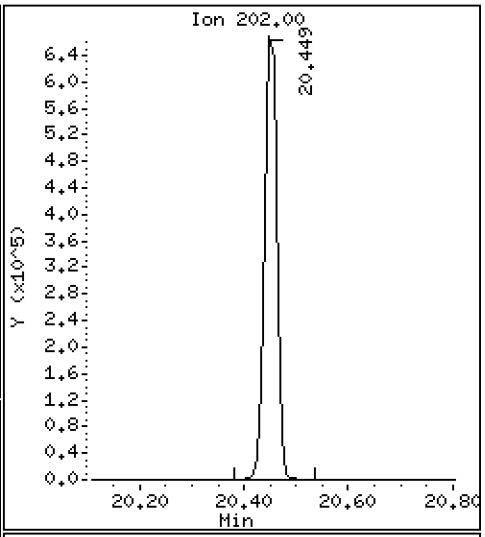
Column phase: ZB-5msi

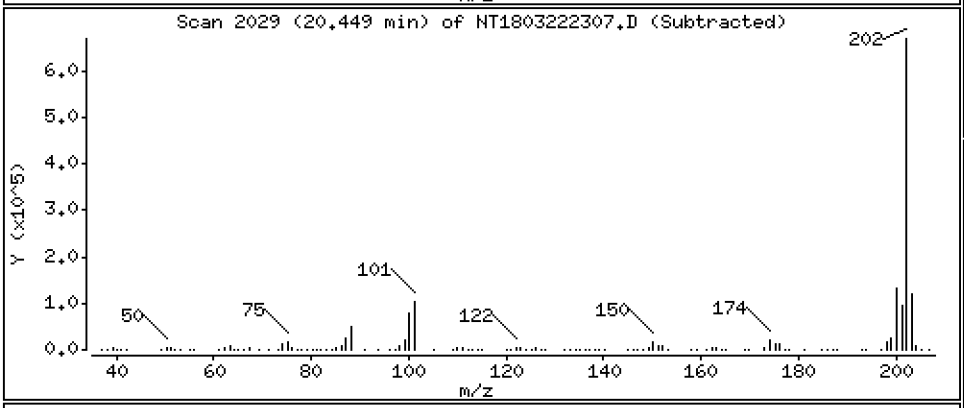
Column diameter: 0.25

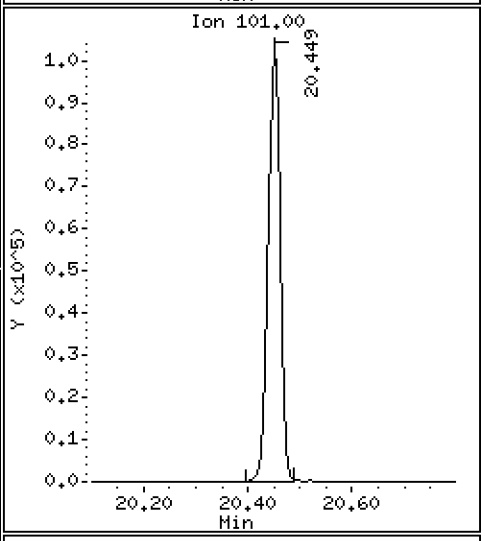
64 Fluoranthene

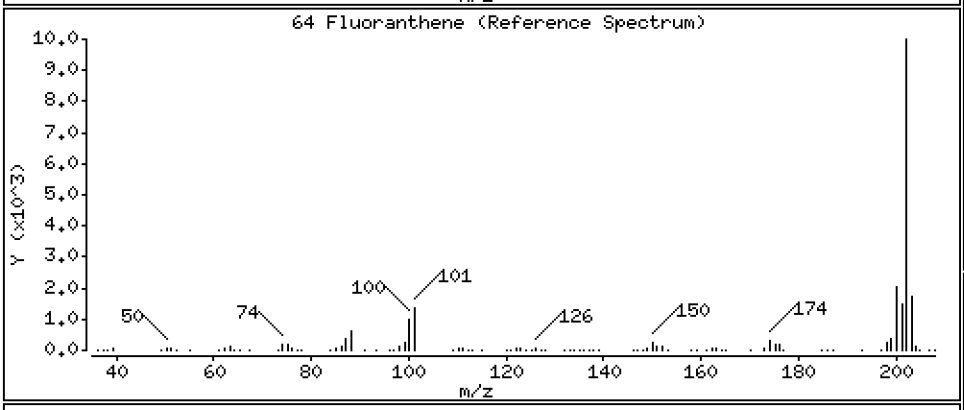
Concentration: 3.776 ug/mL

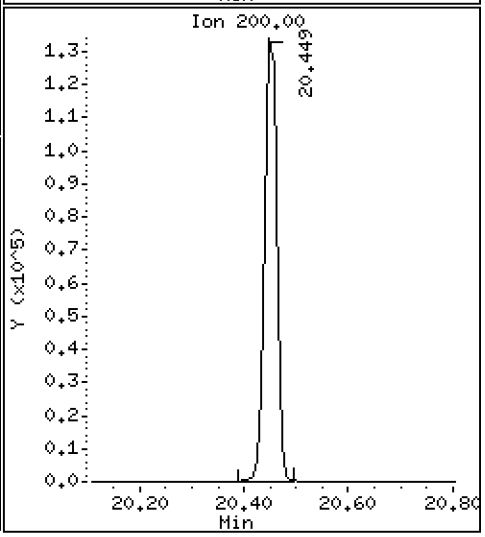


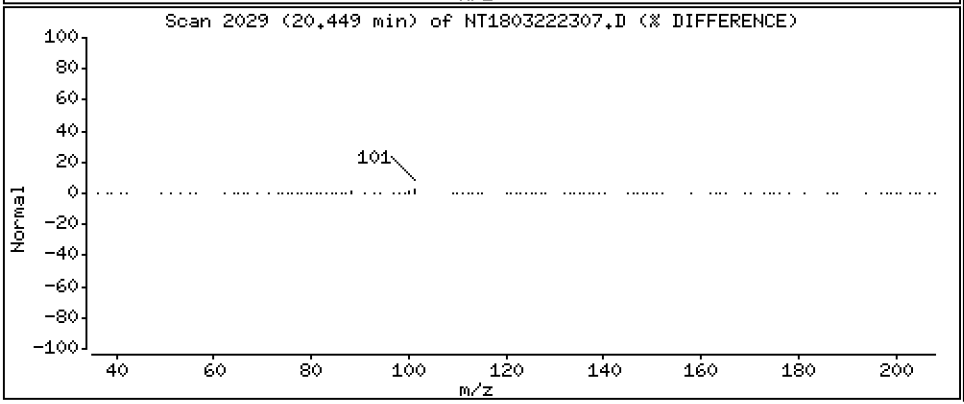












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222307.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

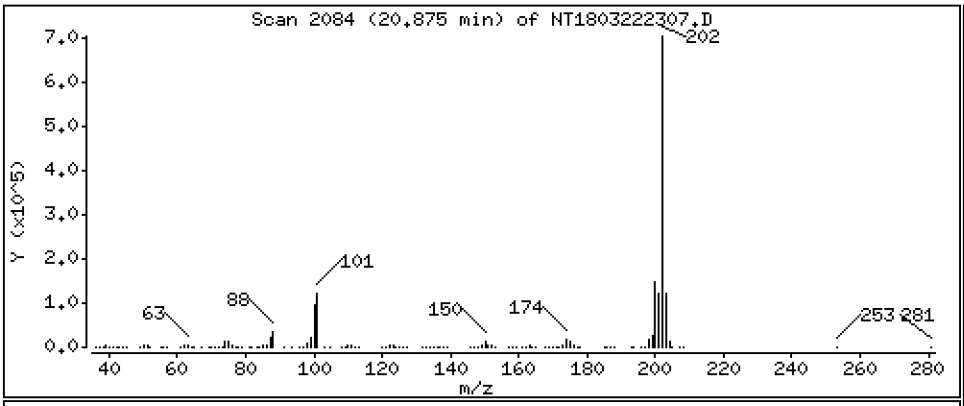
Operator: VTS

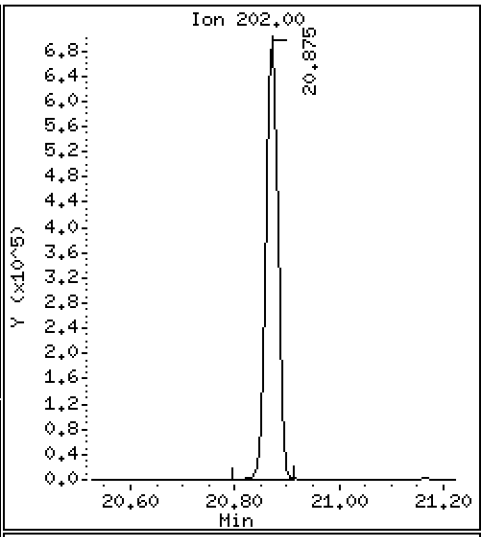
Column phase: ZB-5msi

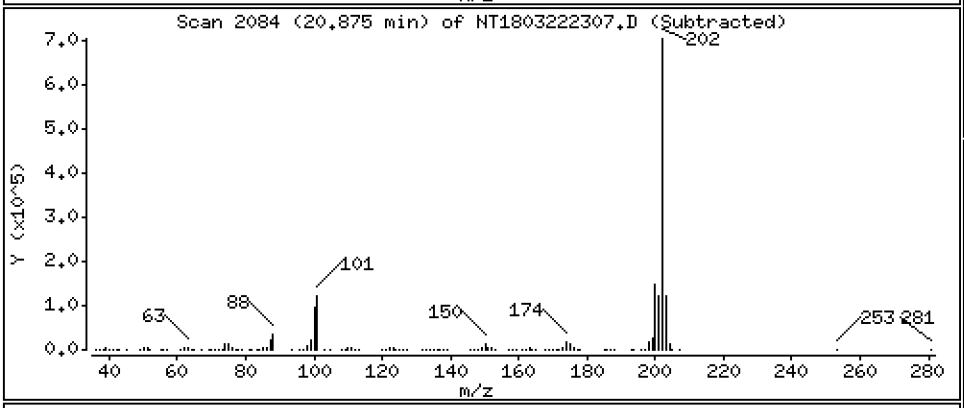
Column diameter: 0.25

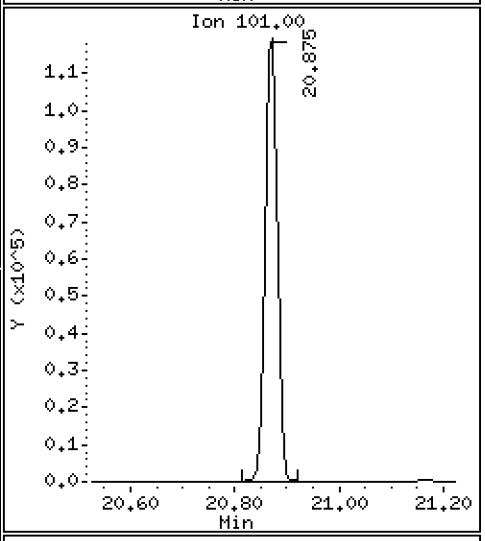
65 Pyrene

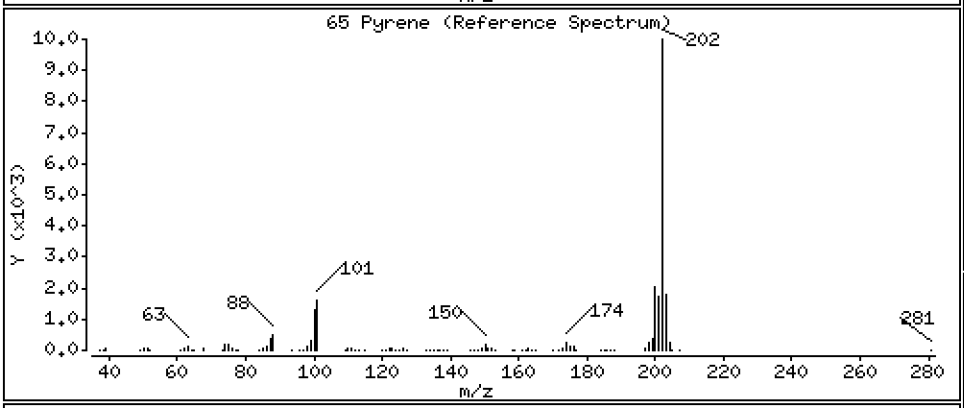
Concentration: 3.660 ug/mL

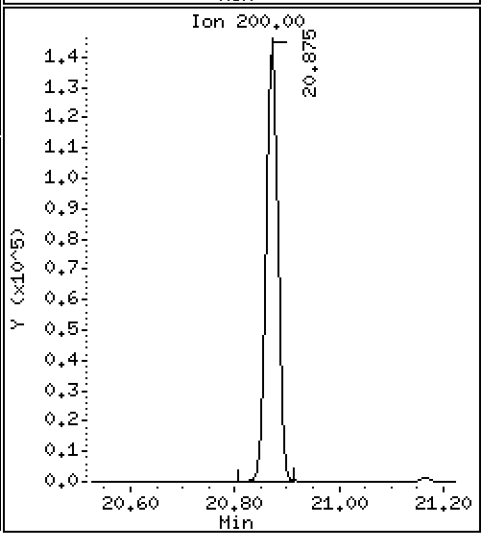


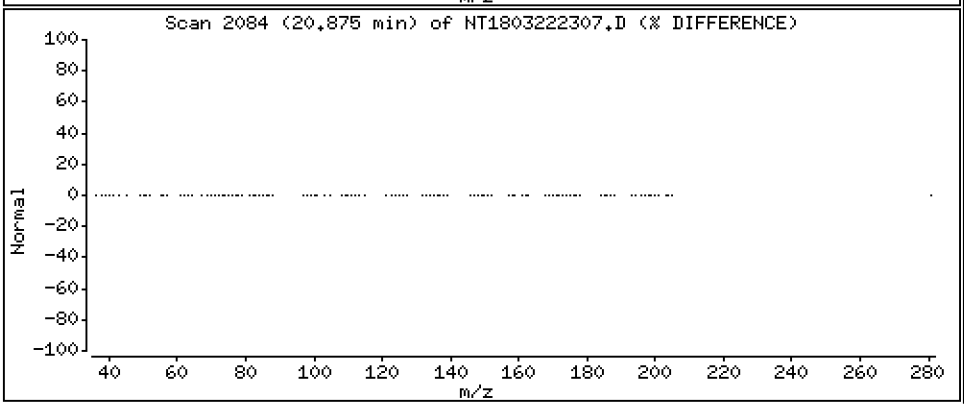












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222307.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

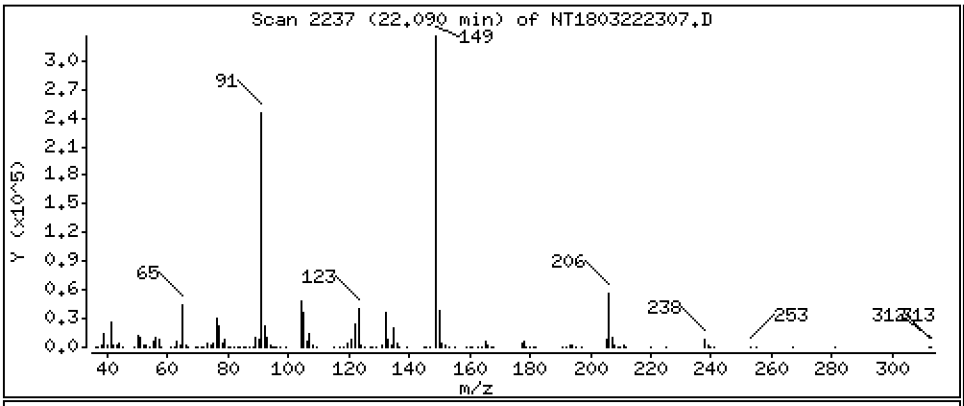
Operator: VTS

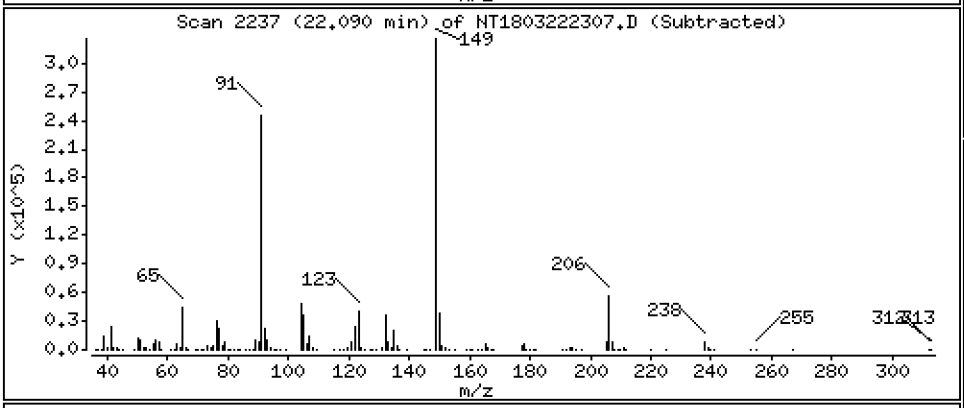
Column phase: ZB-5msi

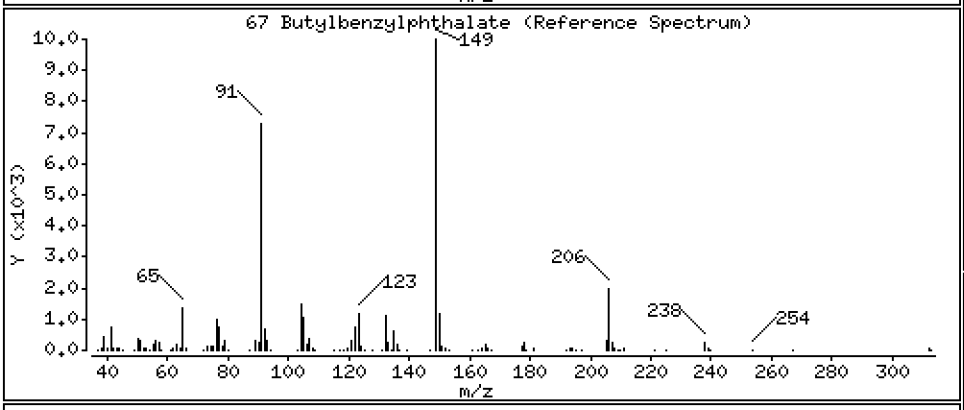
Column diameter: 0.25

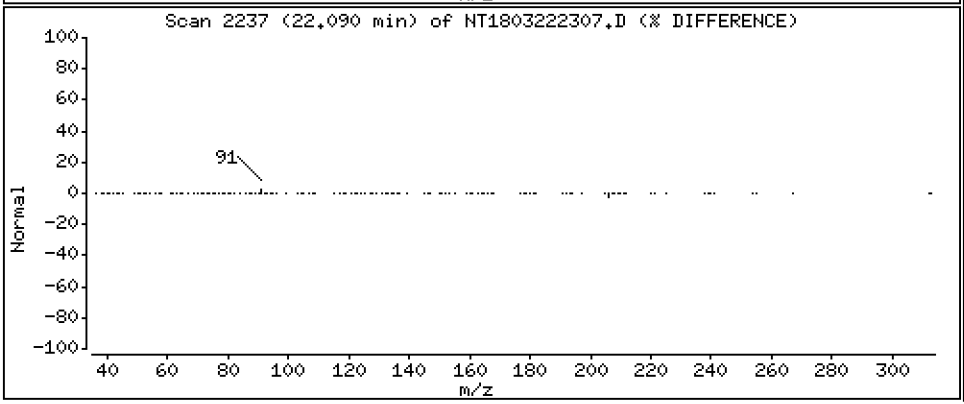
67 Butylbenzylphthalate

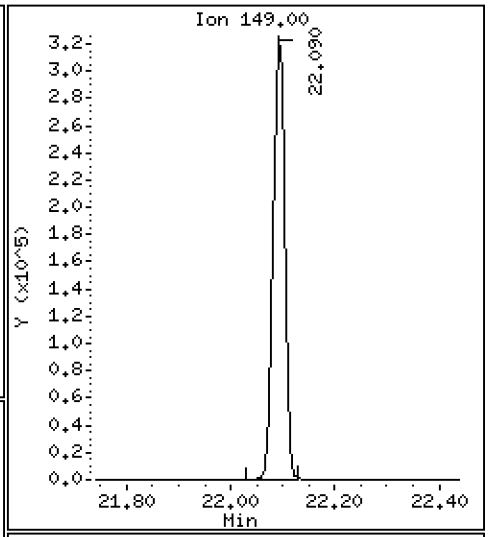
Concentration: 3.826 ug/mL

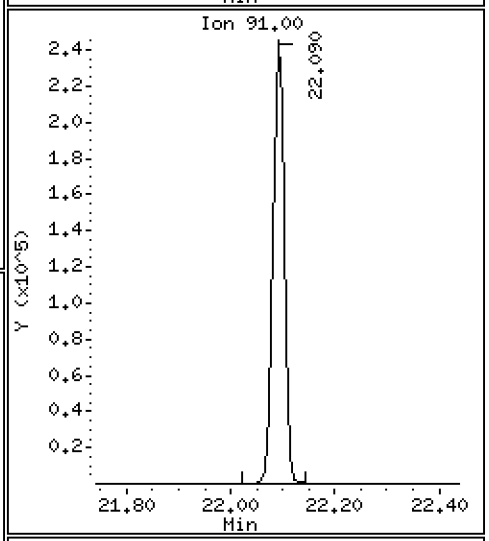


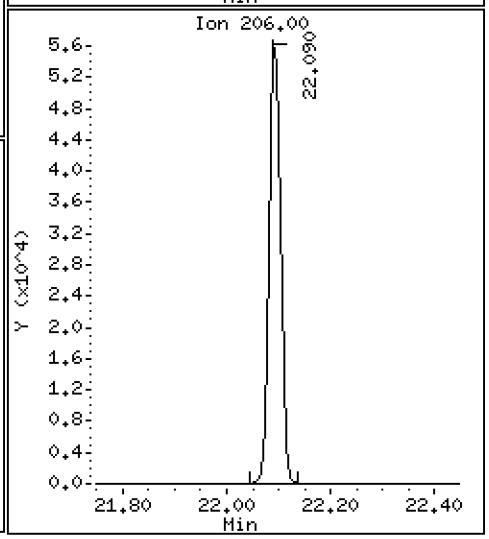












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

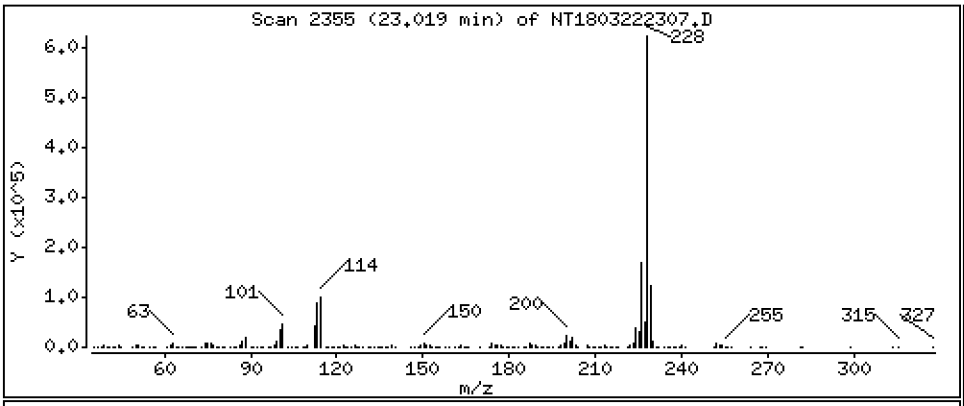
Operator: VTS

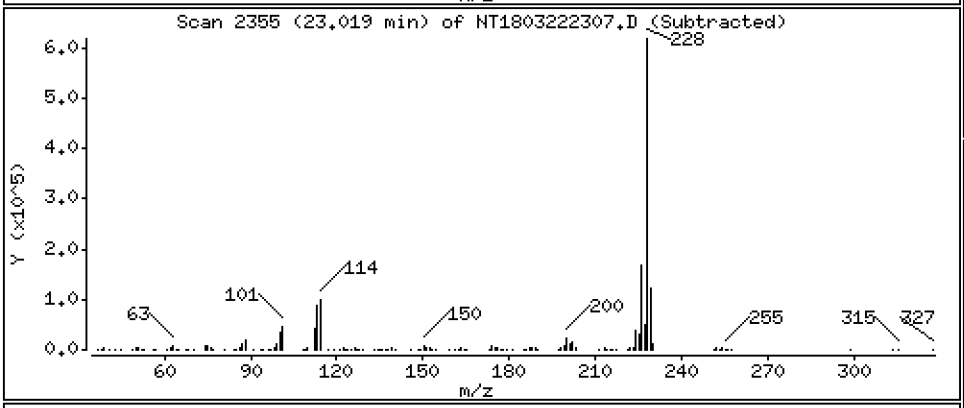
Column phase: ZB-5msi

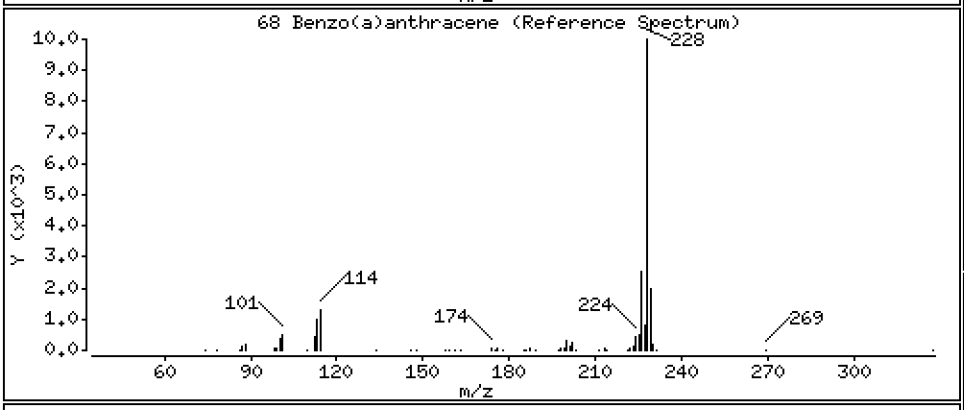
Column diameter: 0.25

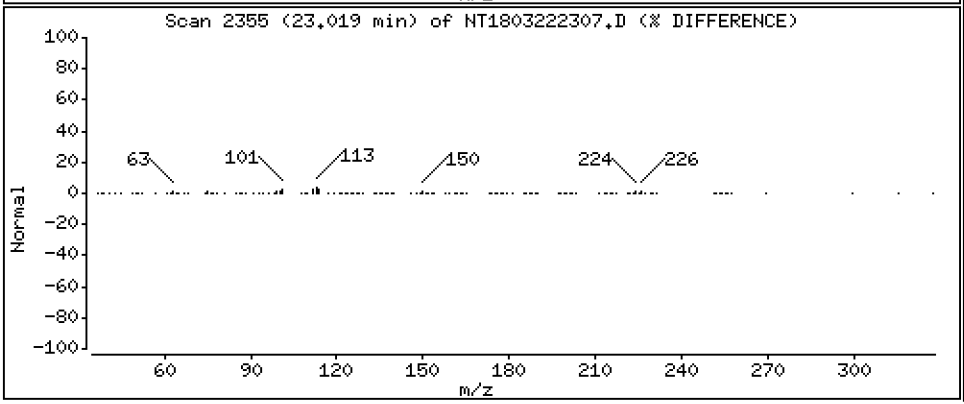
68 Benzo(a)anthracene

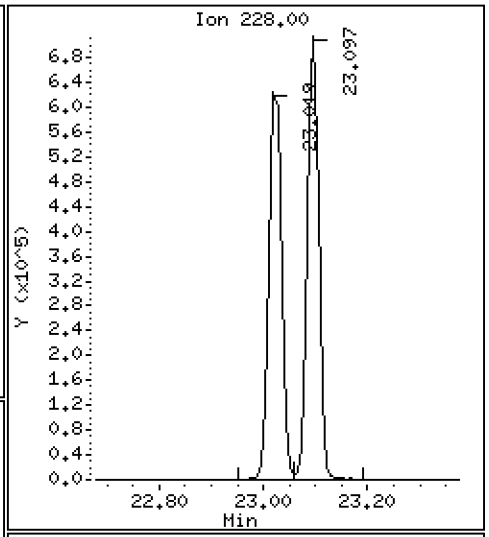
Concentration: 3.733 ug/mL

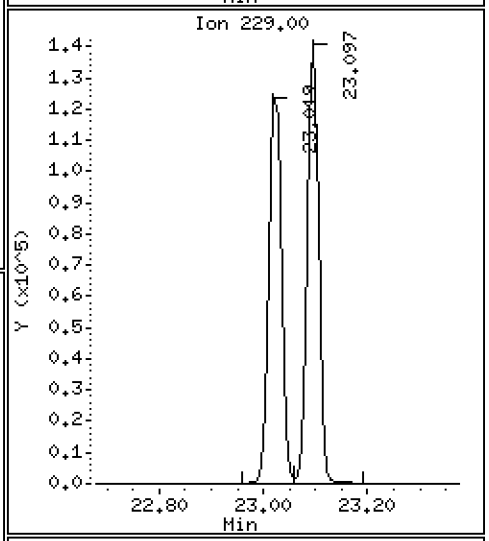


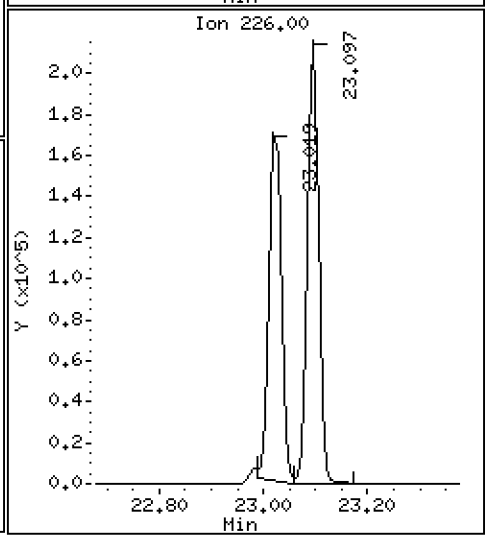












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

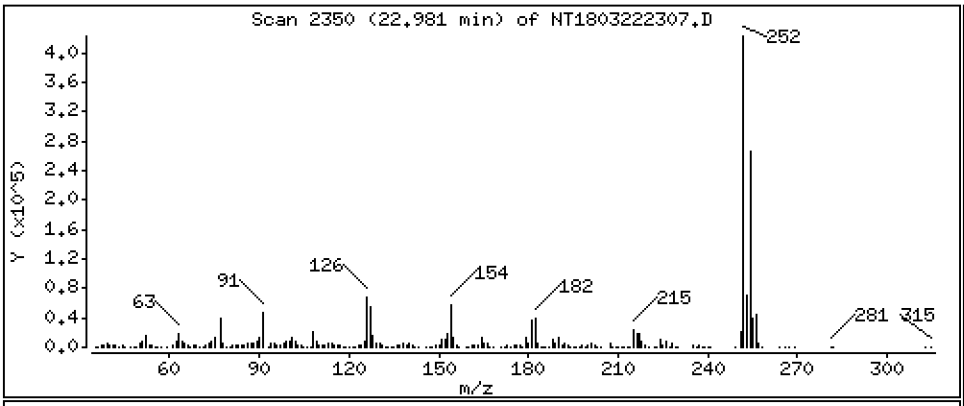
Operator: VTS

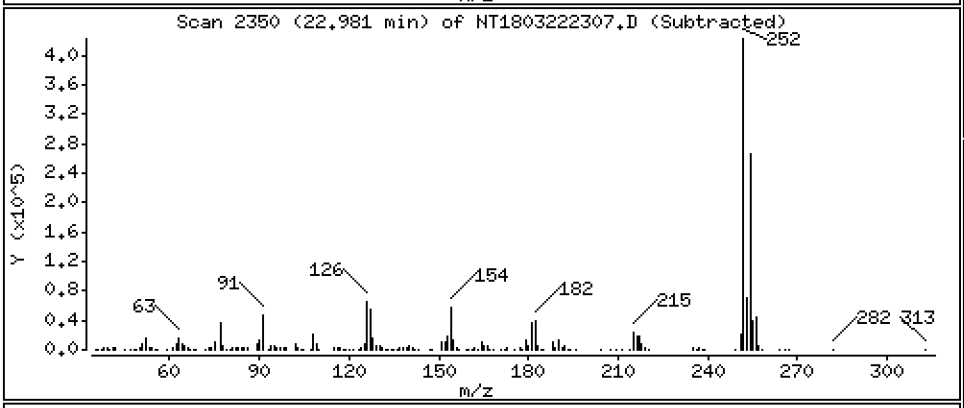
Column phase: ZB-5msi

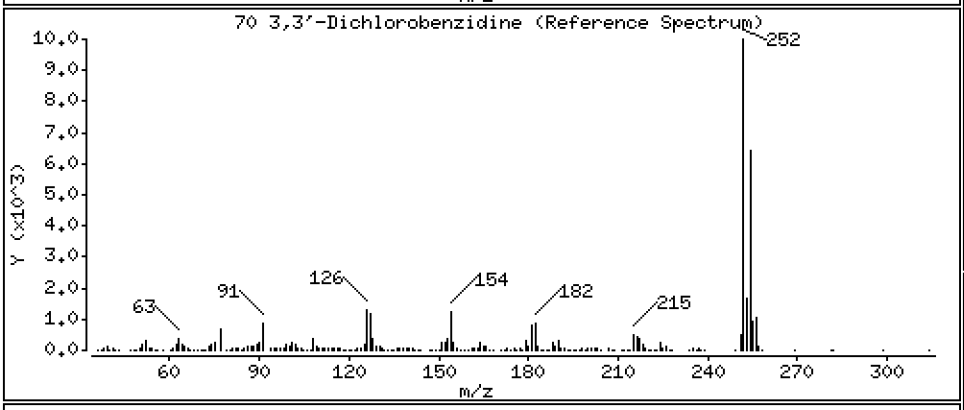
Column diameter: 0.25

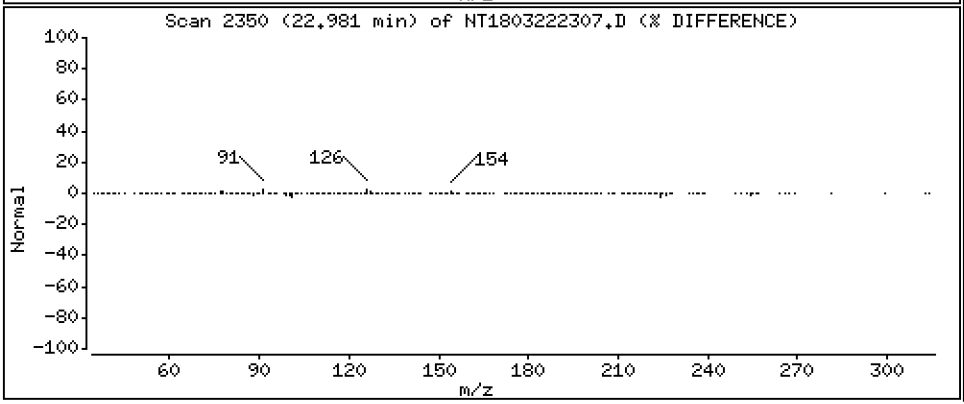
70 3,3'-Dichlorobenzidine

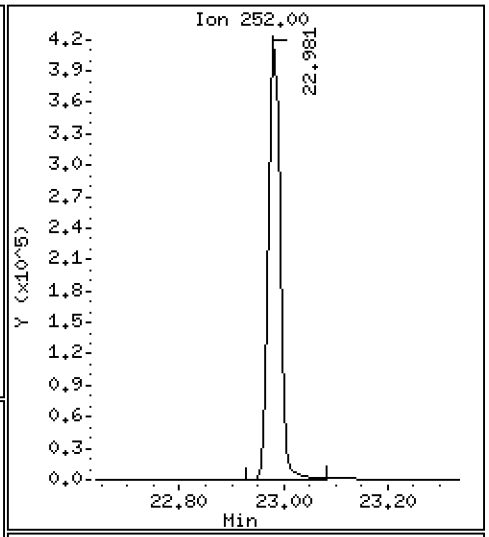
Concentration: 6.363 ug/mL

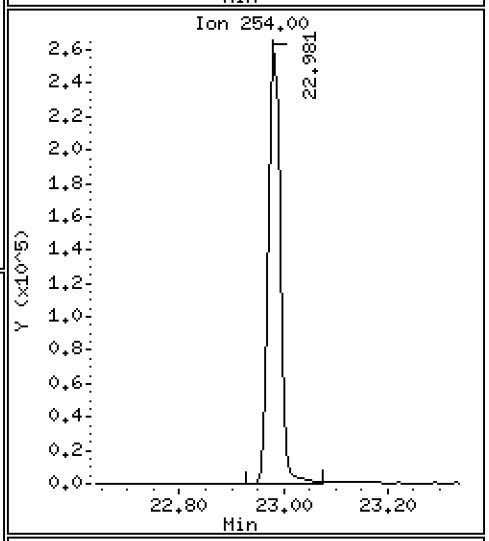


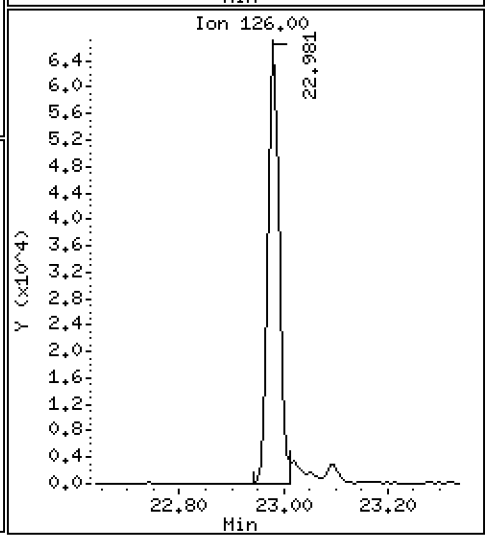












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

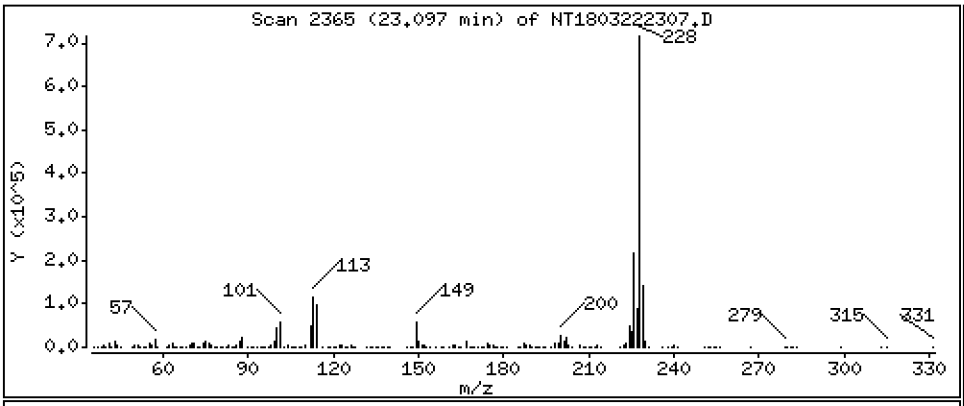
Operator: VTS

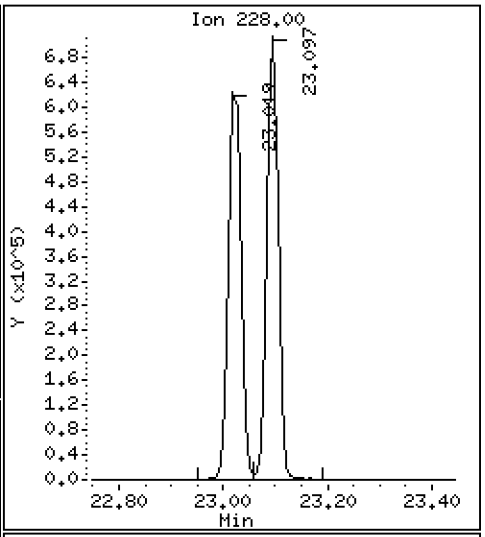
Column phase: ZB-5msi

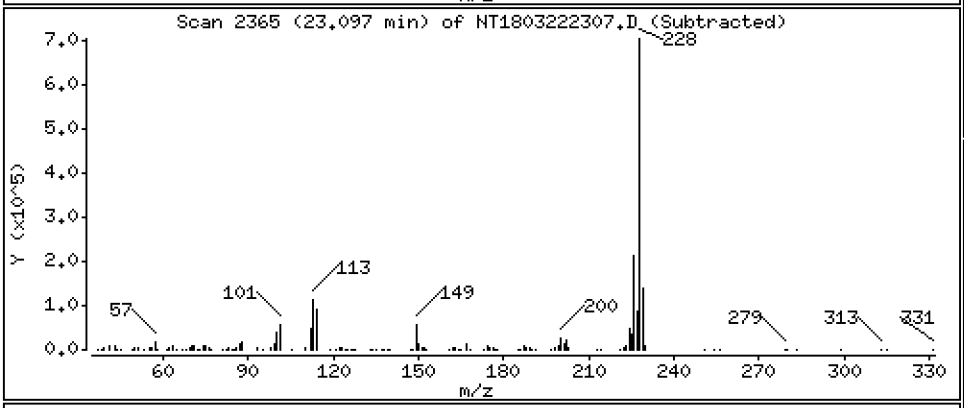
Column diameter: 0.25

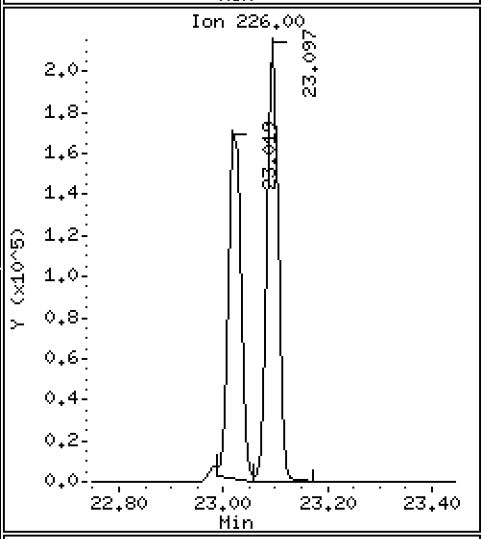
71 Chrysene

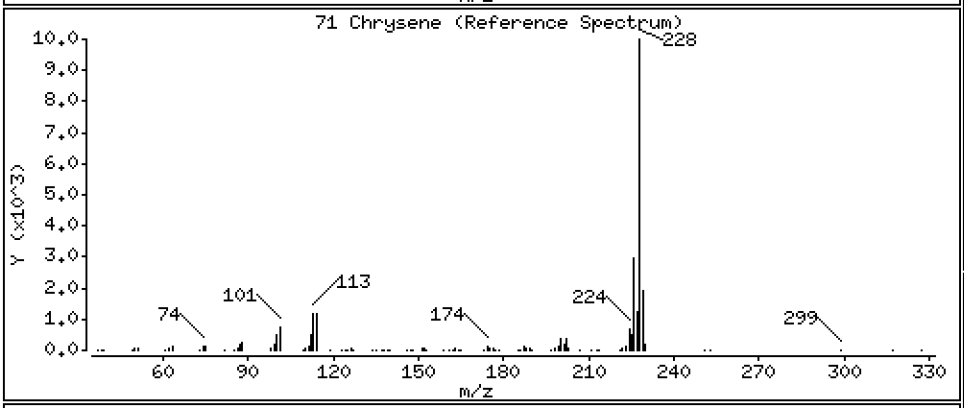
Concentration: 3.698 ug/mL

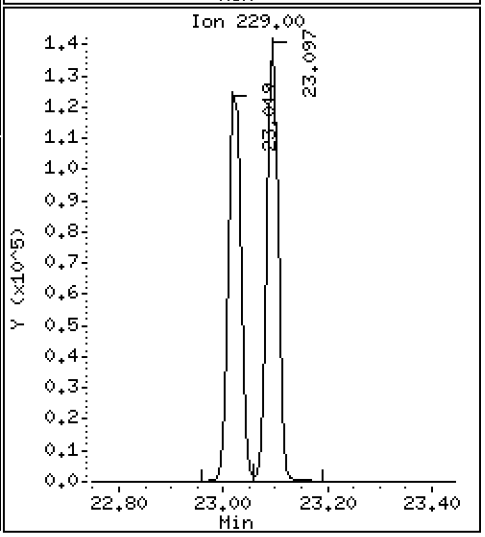


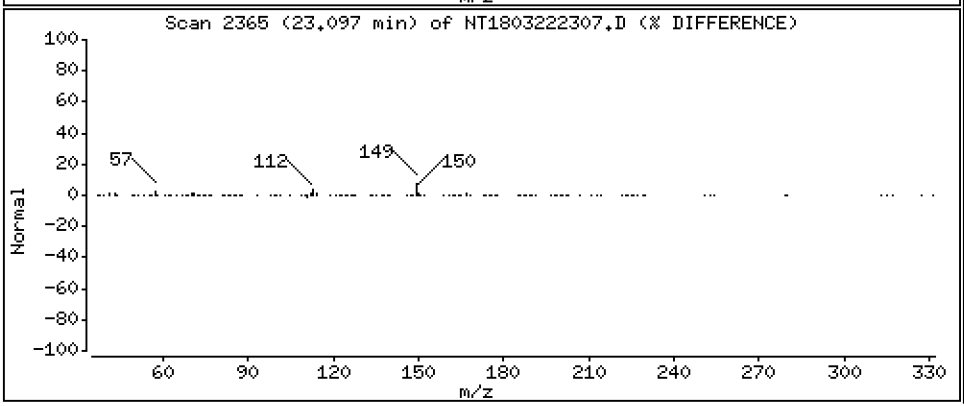












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

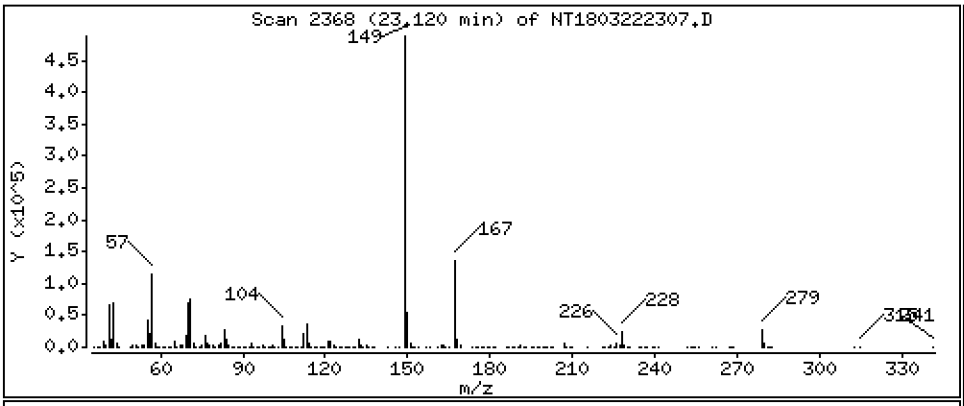
Operator: VTS

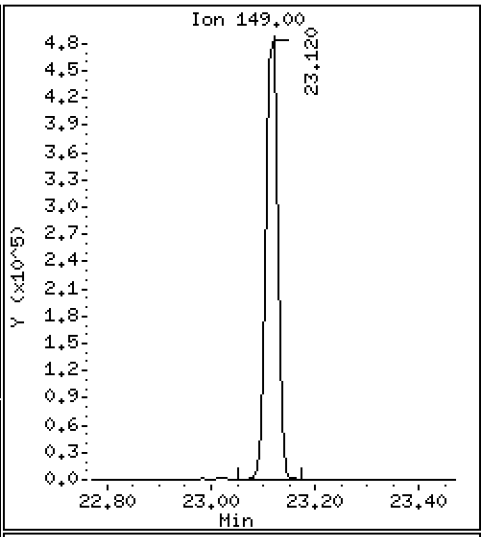
Column phase: ZB-5msi

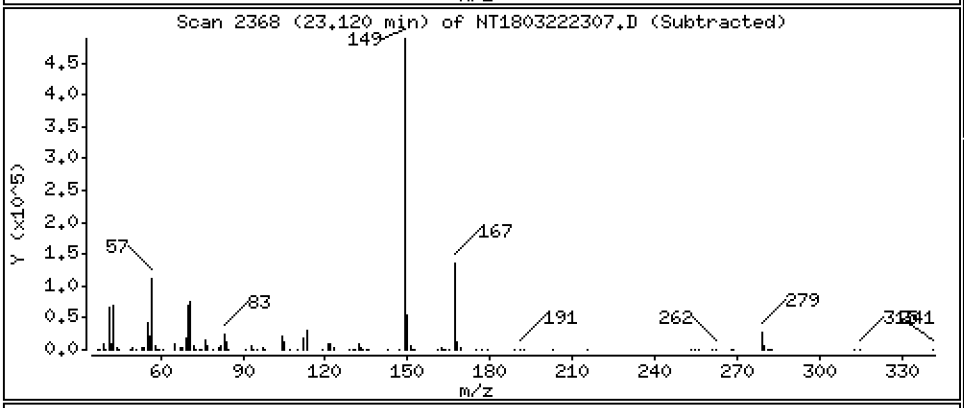
Column diameter: 0.25

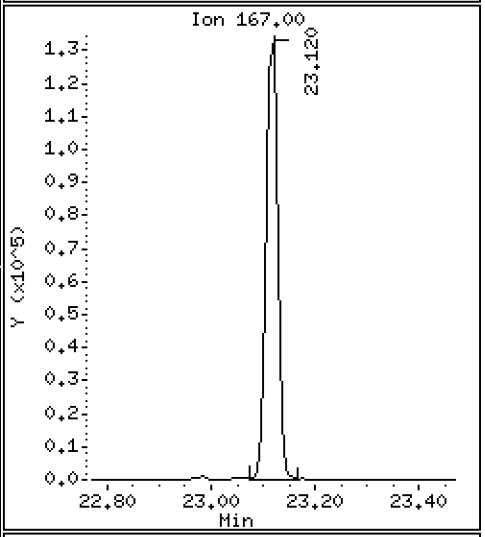
72 bis(2-Ethylhexyl)phthalate

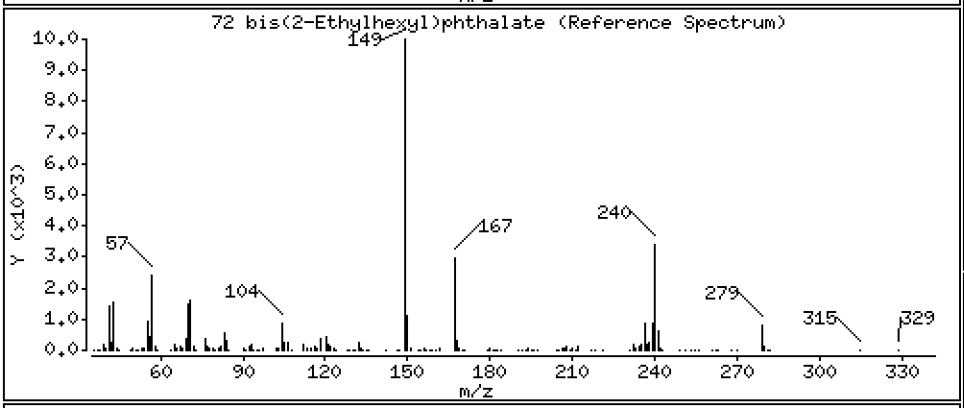
Concentration: 3.700 ug/mL

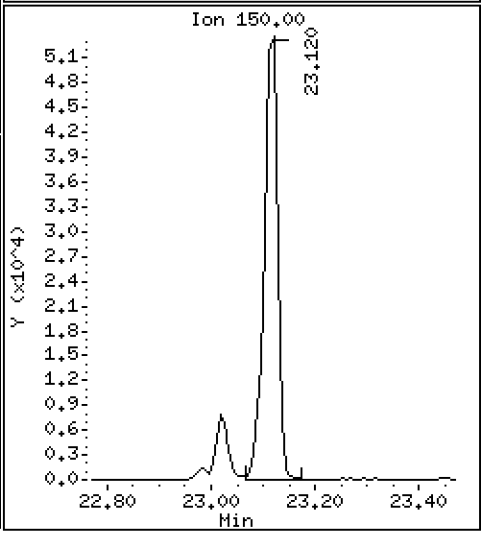


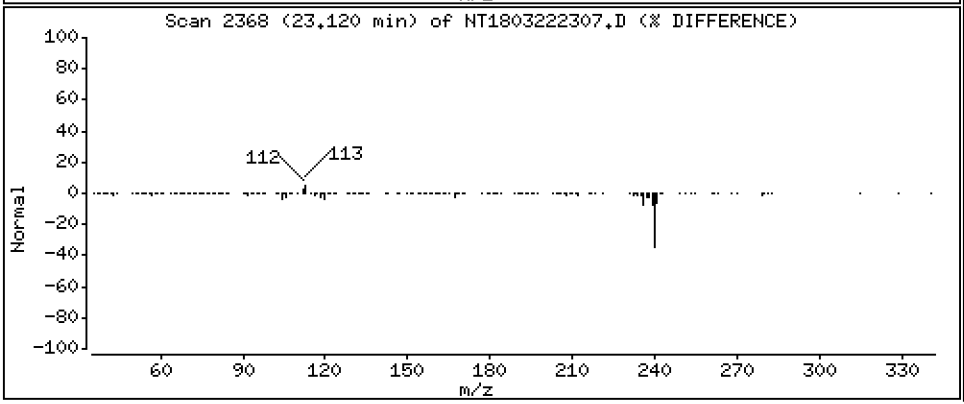












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

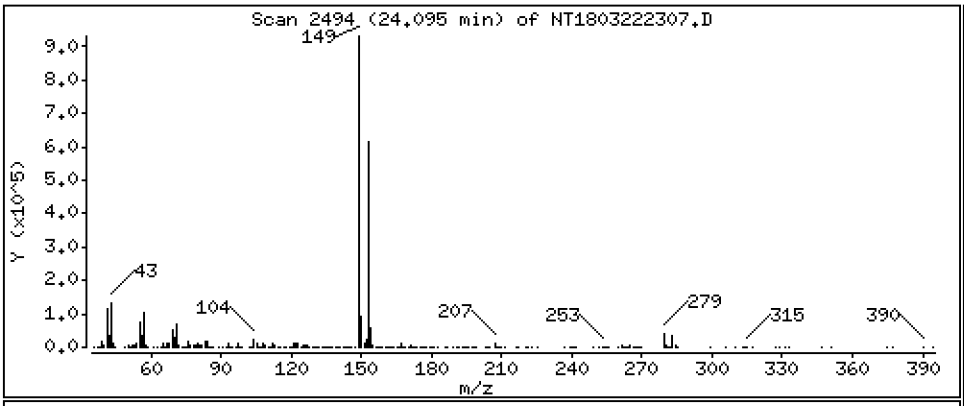
Operator: VTS

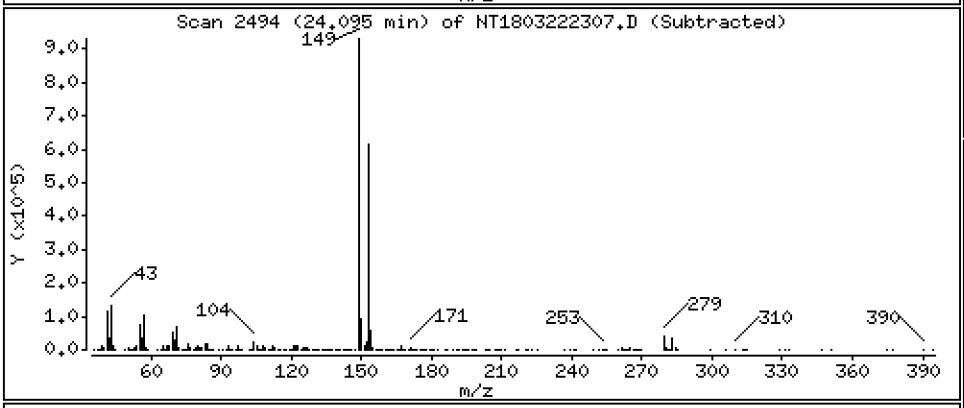
Column phase: ZB-5msi

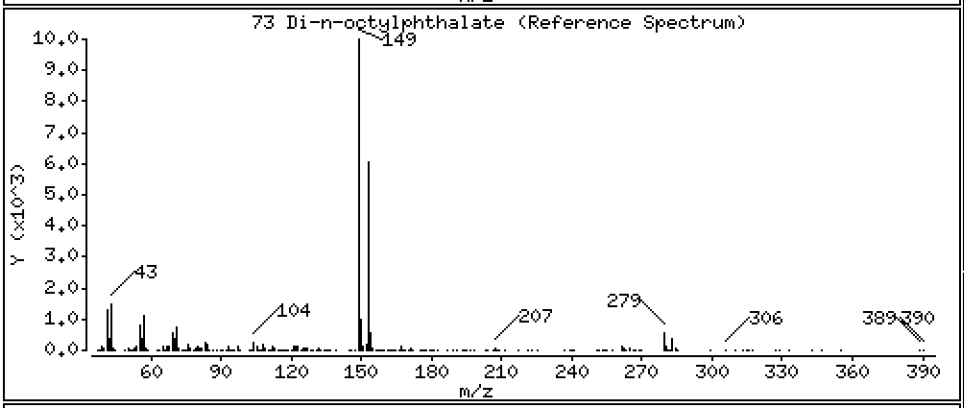
Column diameter: 0.25

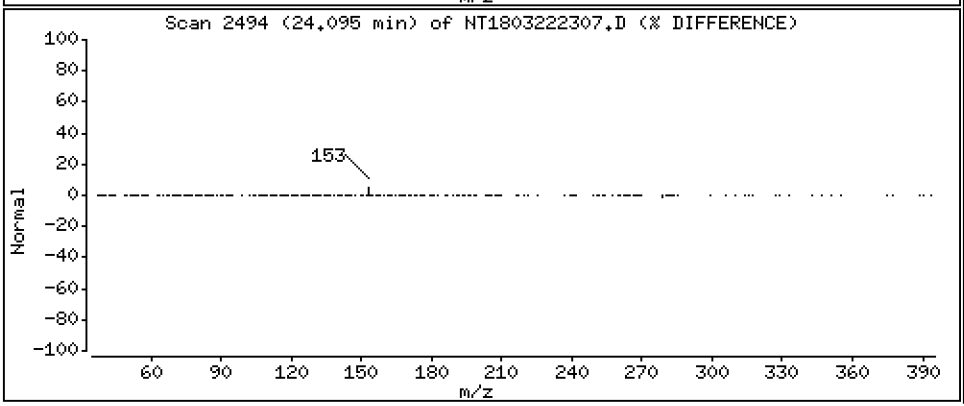
73 Di-n-octylphthalate

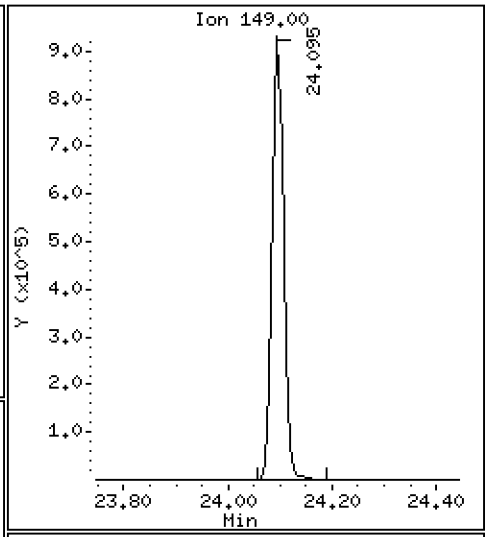
Concentration: 3.998 ug/mL

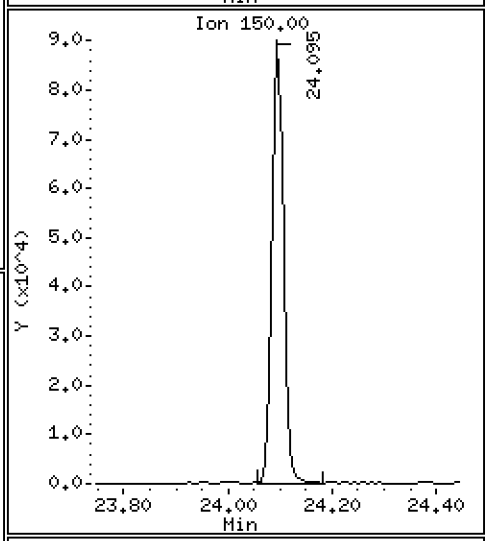


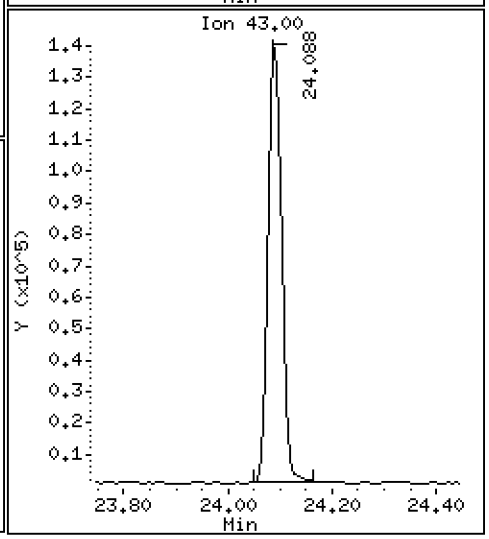












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

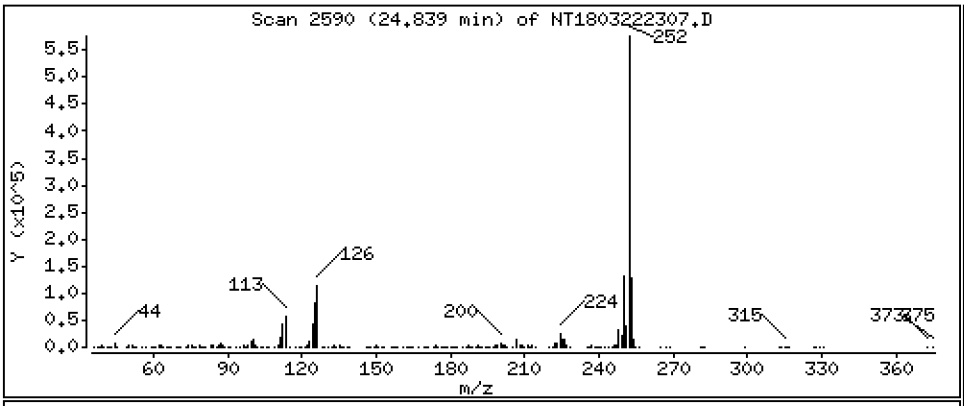
Operator: VTS

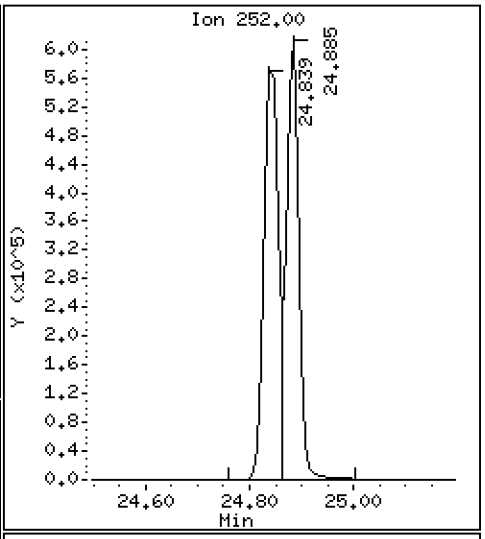
Column phase: ZB-5msi

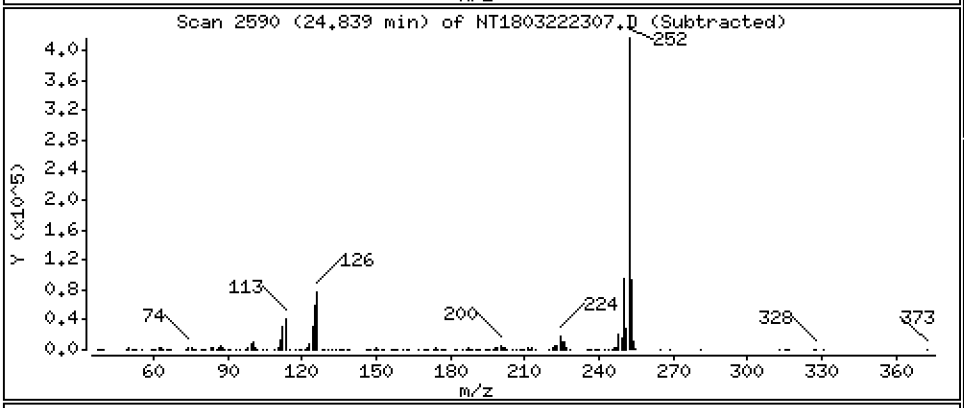
Column diameter: 0.25

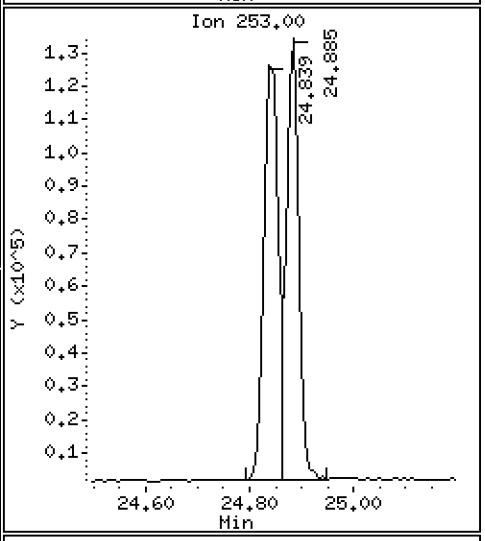
74 Benzo(b)fluoranthene

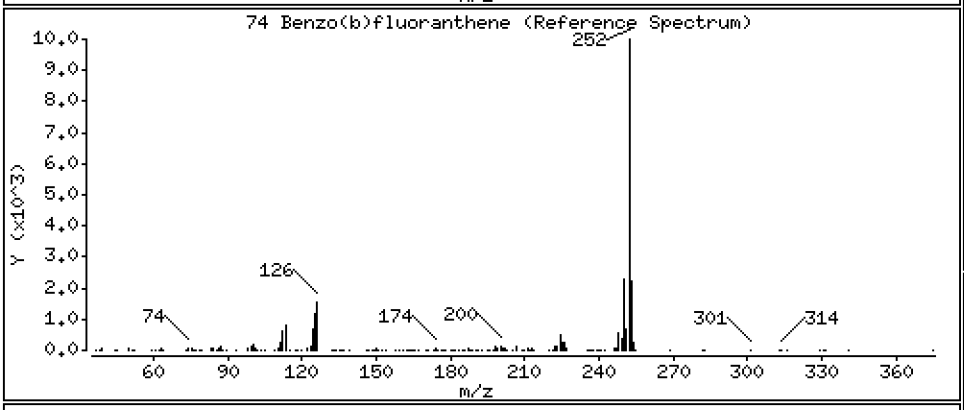
Concentration: 4.516 ug/mL

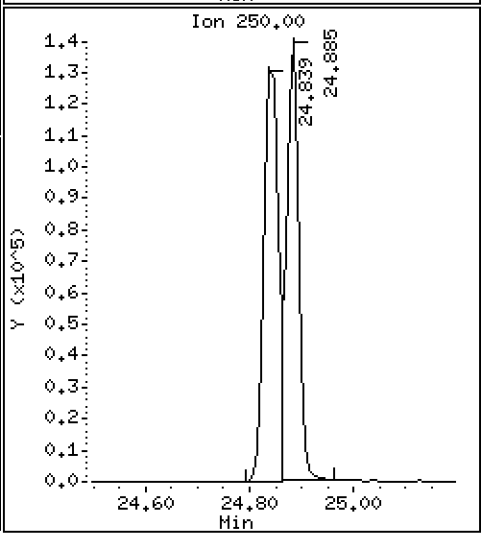


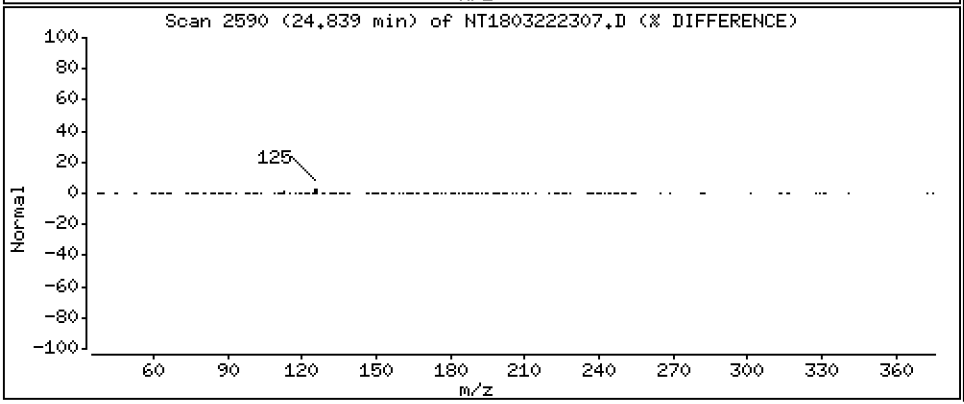












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

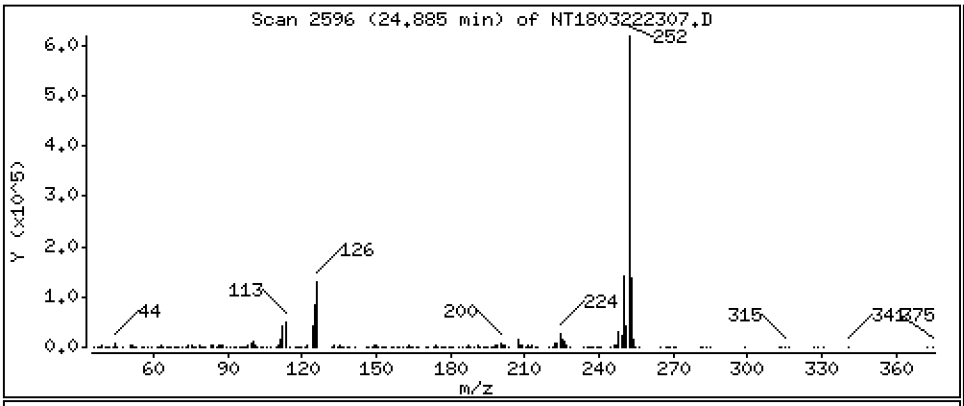
Operator: VTS

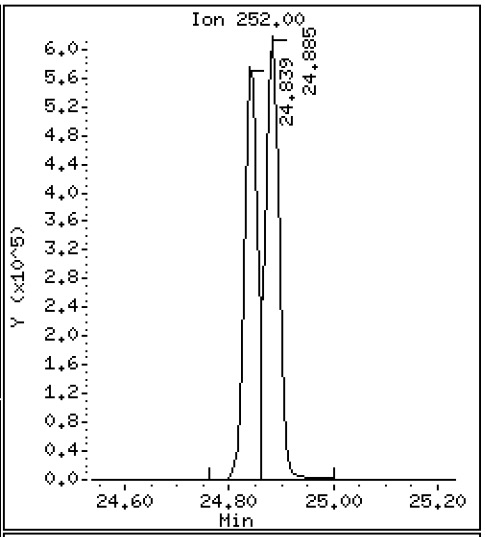
Column phase: ZB-5msi

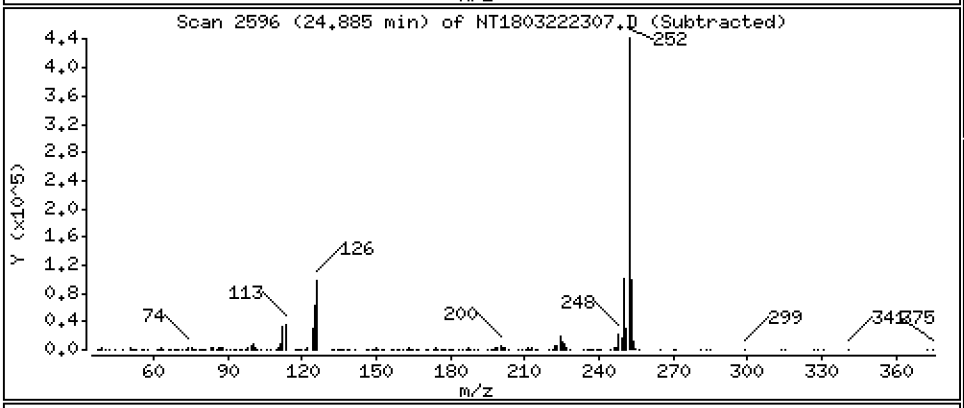
Column diameter: 0.25

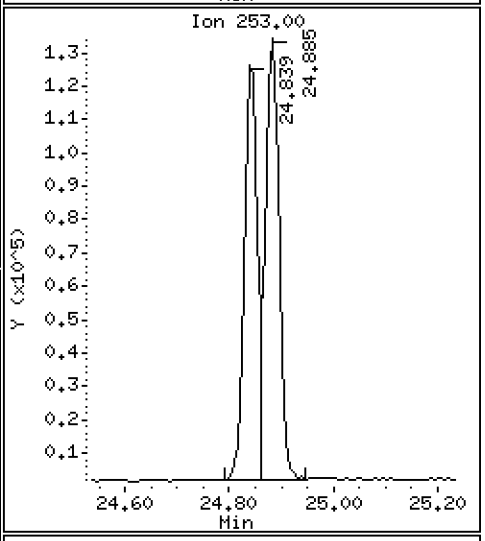
75 Benzo(k)fluoranthene

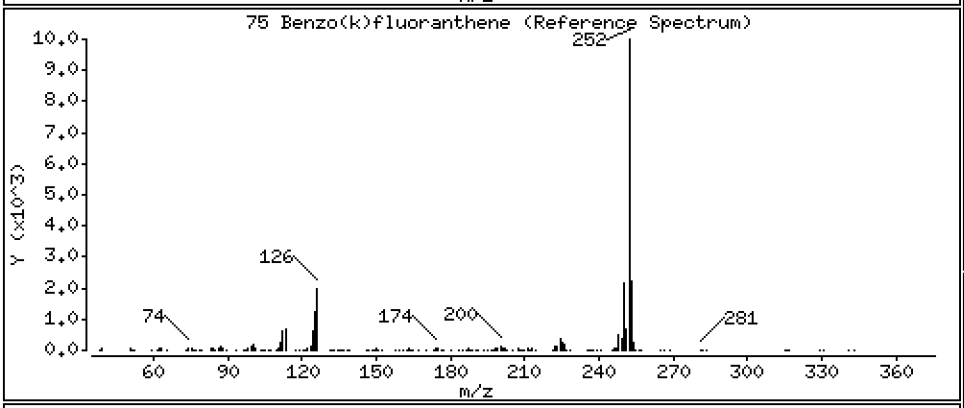
Concentration: 4.223 ug/mL

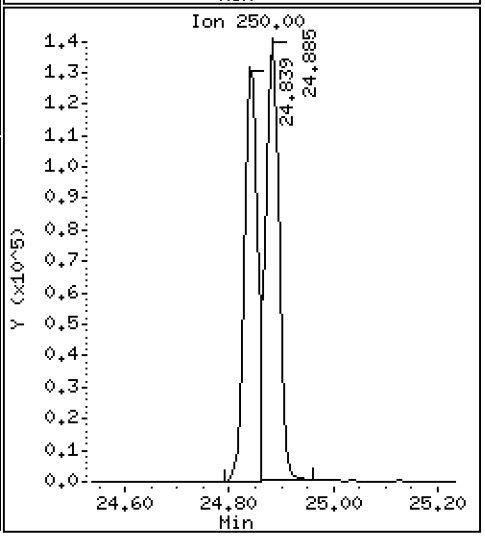


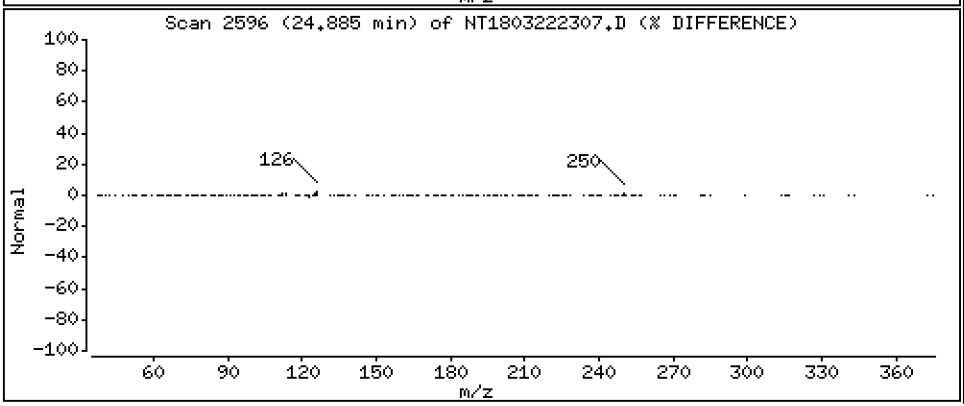












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

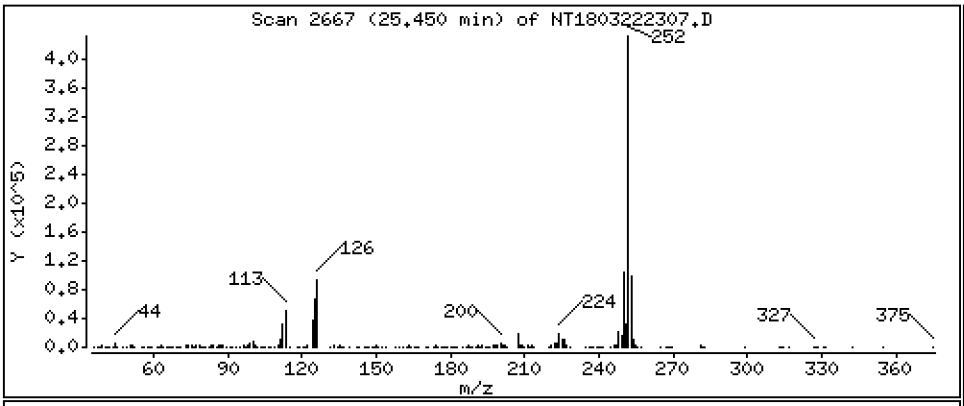
Operator: VTS

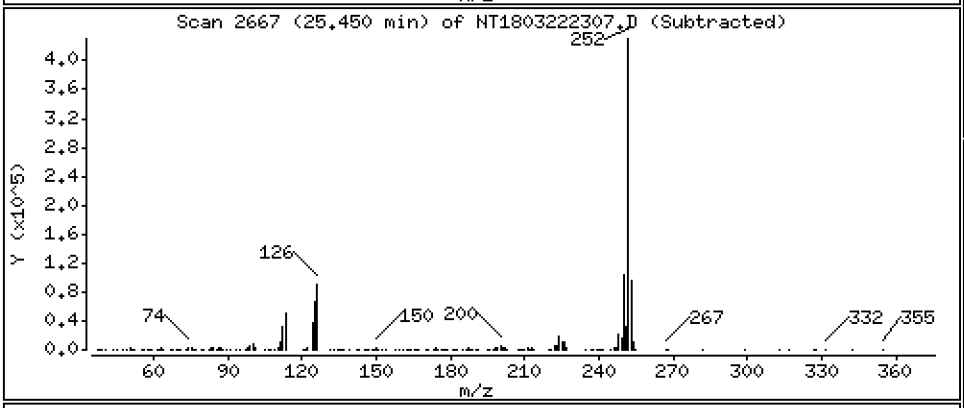
Column phase: ZB-5msi

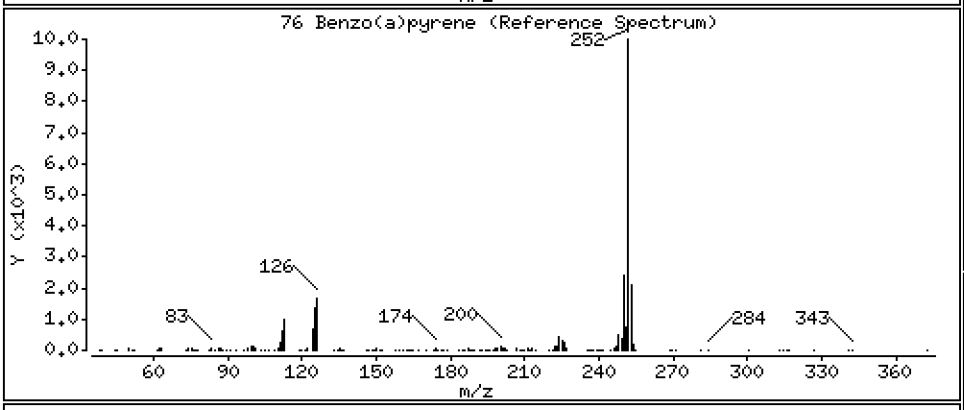
Column diameter: 0.25

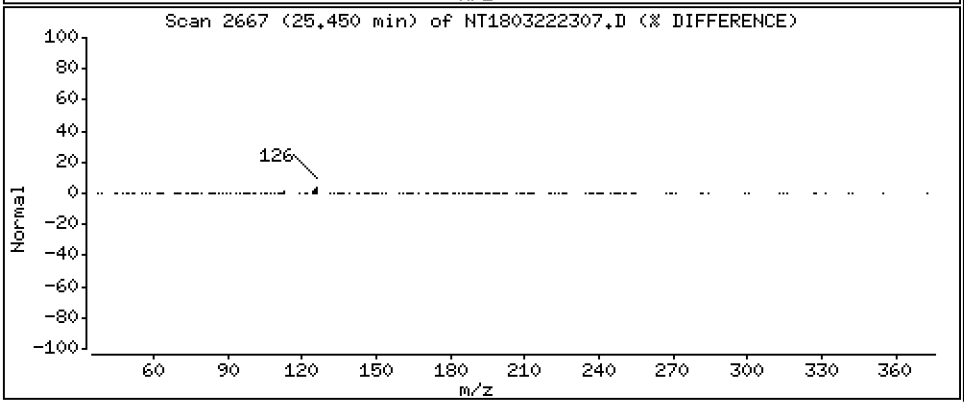
76 Benzo(a)pyrene

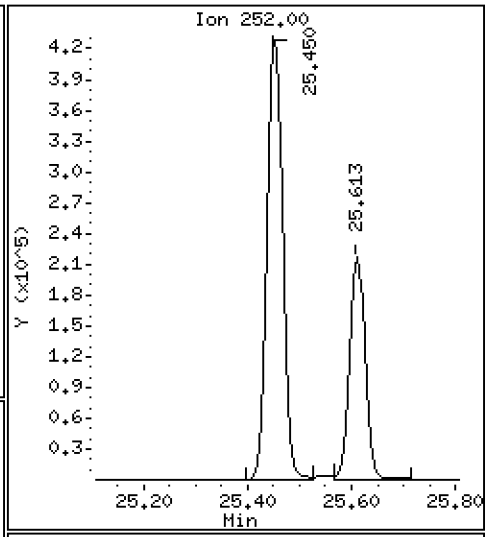
Concentration: 3.643 ug/mL

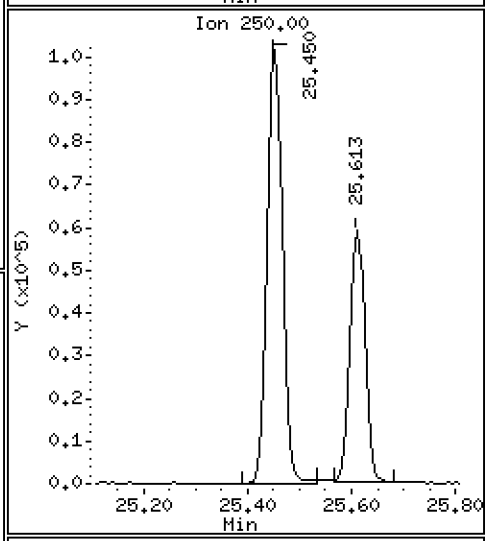


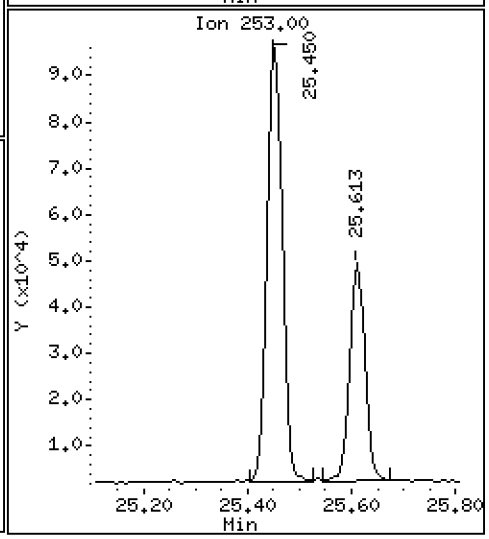












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

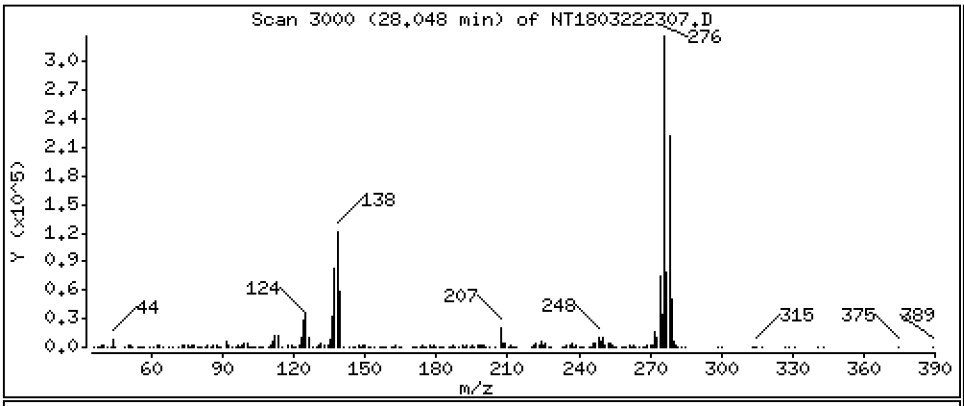
Operator: VTS

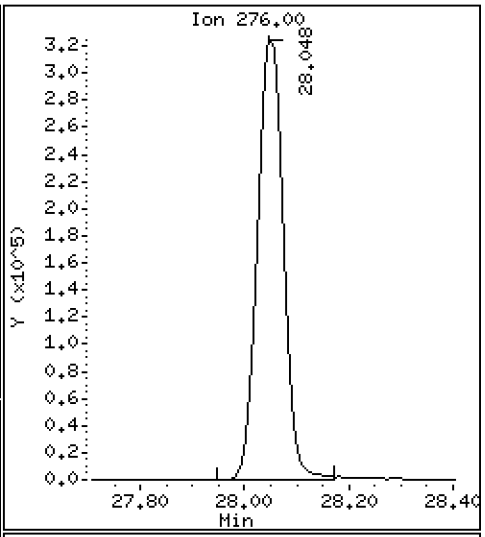
Column phase: ZB-5msi

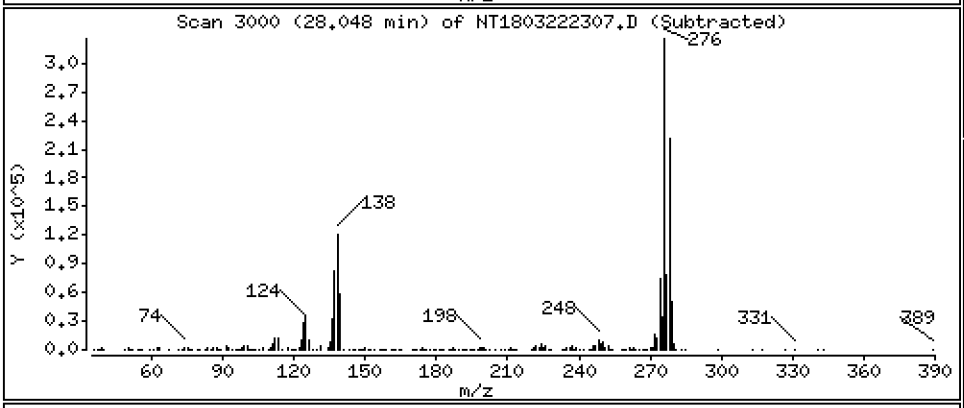
Column diameter: 0.25

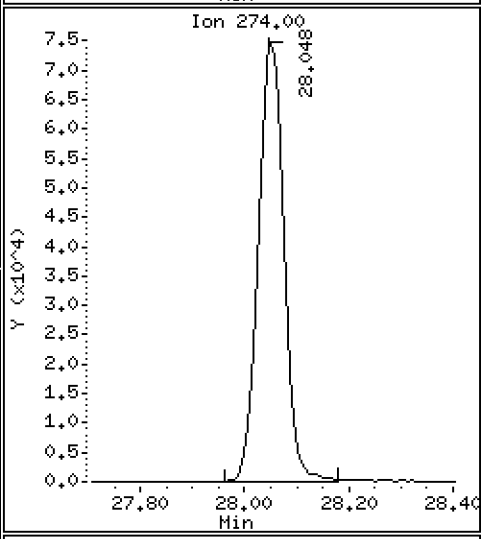
78 Indeno(1,2,3-cd)pyrene

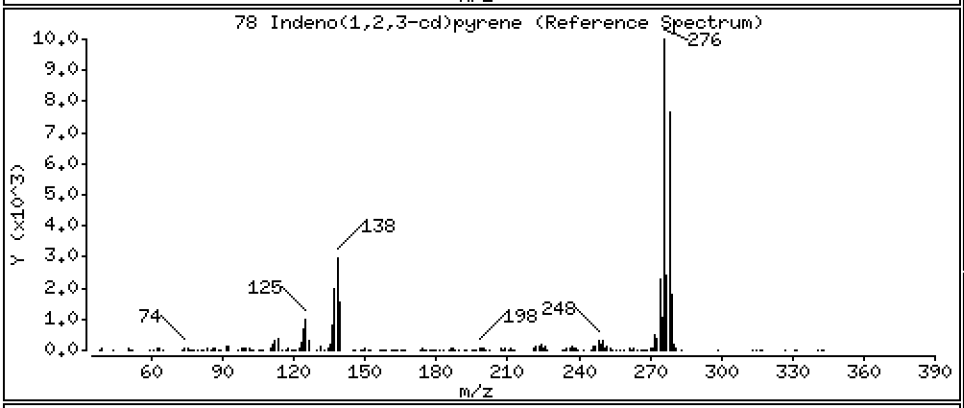
Concentration: 3.687 ug/mL

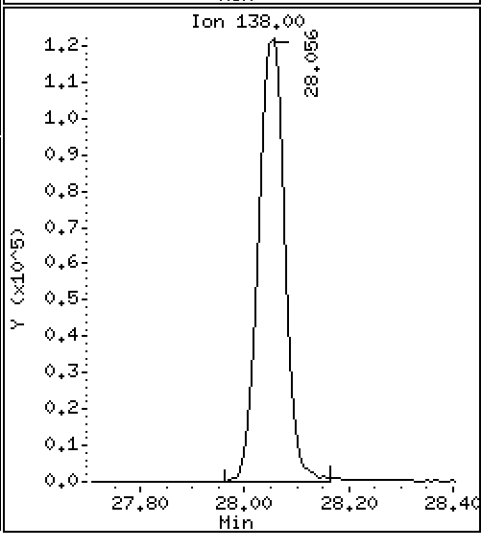


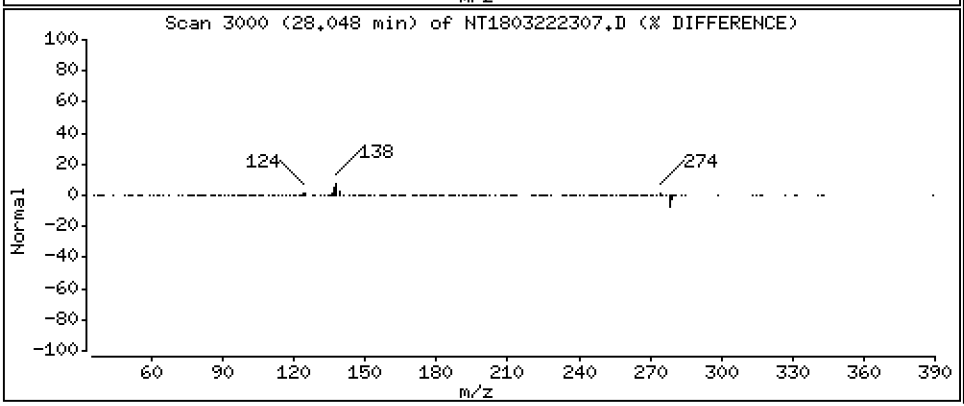












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

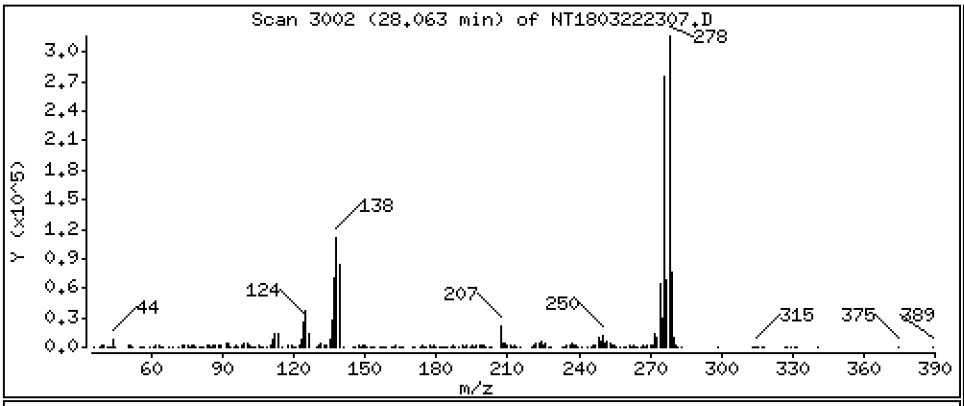
Operator: VTS

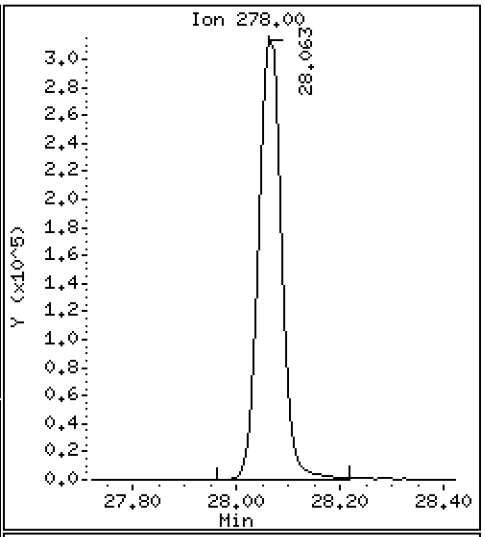
Column phase: ZB-5msi

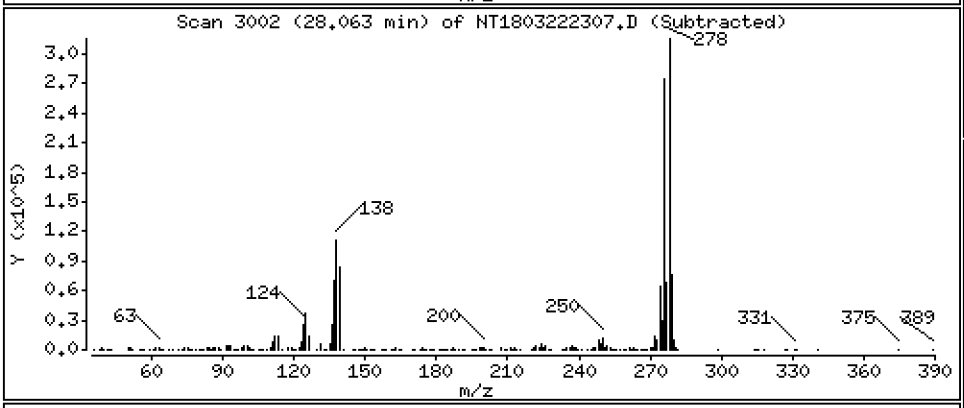
Column diameter: 0.25

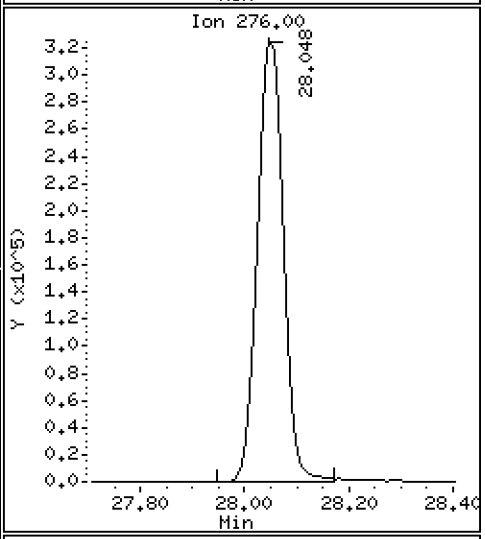
79 Dibenzo(a,h)anthracene

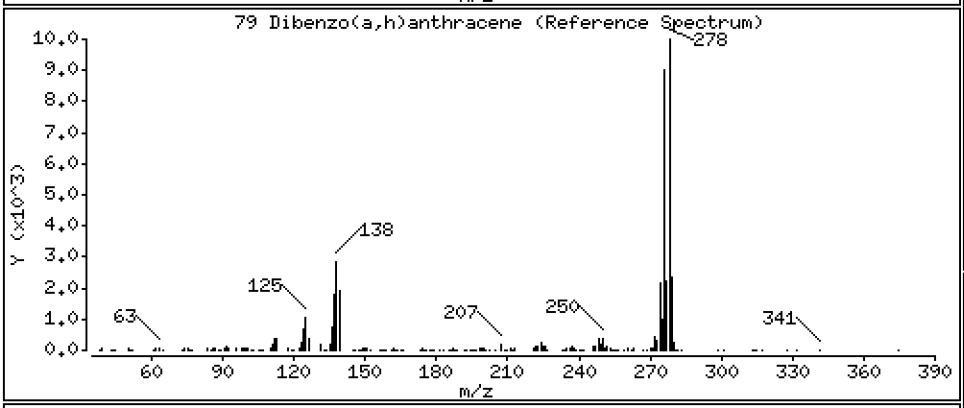
Concentration: 3.788 ug/mL

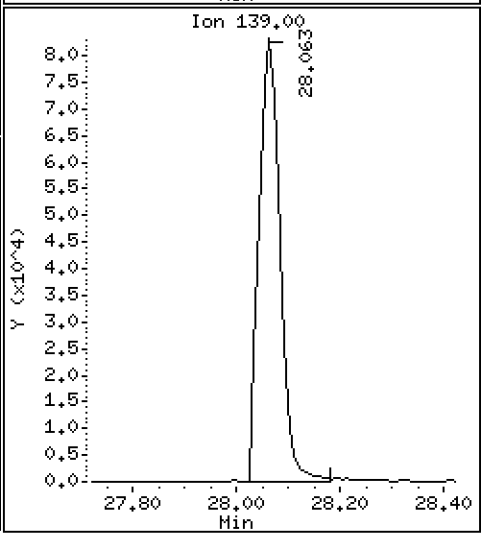


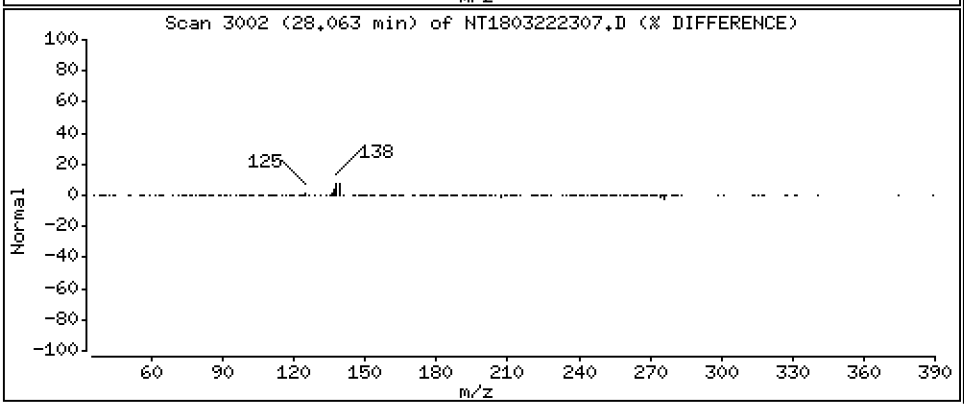












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

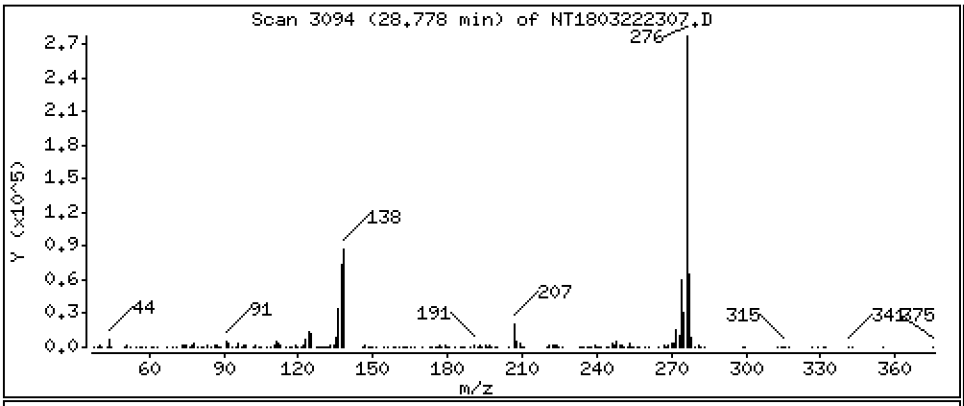
Operator: VTS

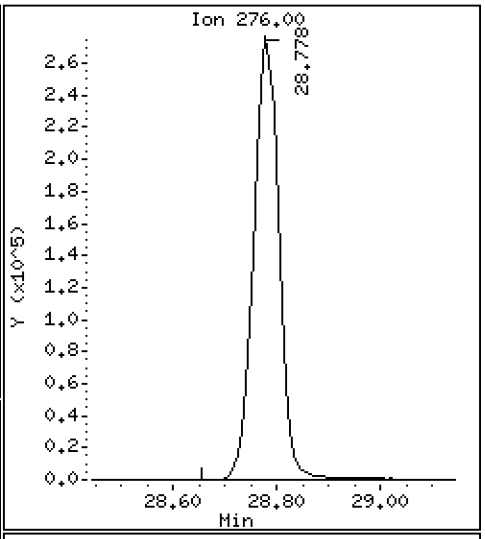
Column phase: ZB-5msi

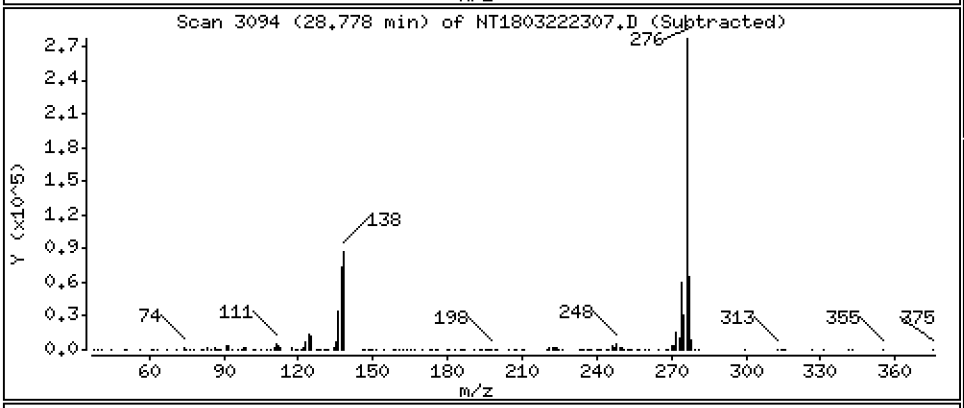
Column diameter: 0.25

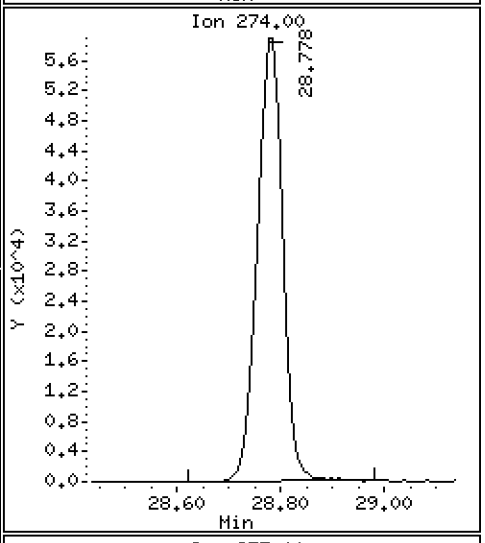
80 Benzo(g,h,i)perylene

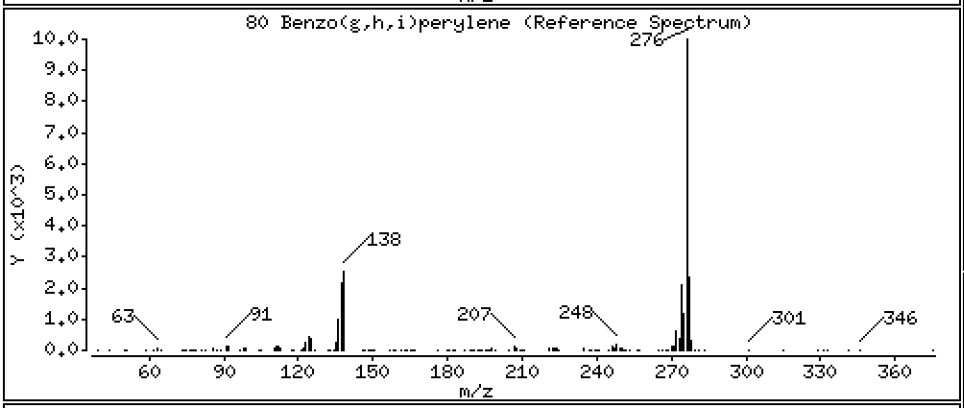
Concentration: 3.853 ug/mL

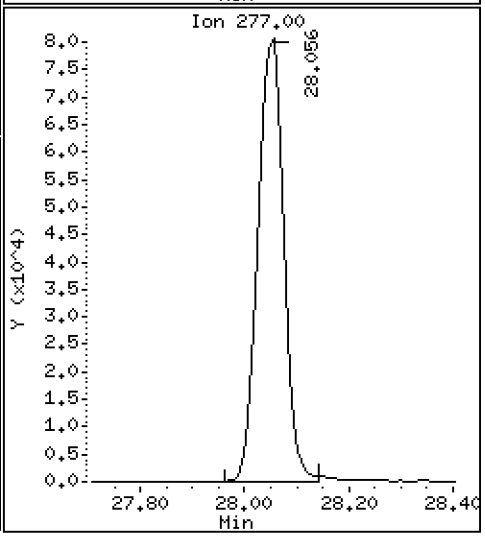


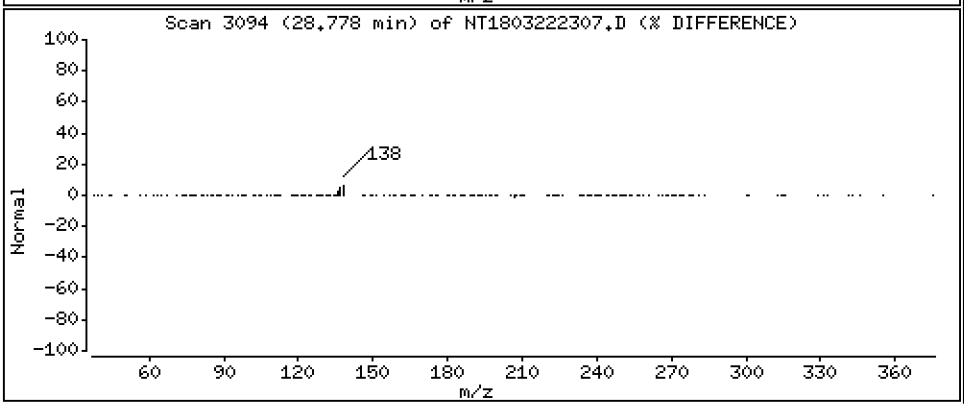












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222307.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

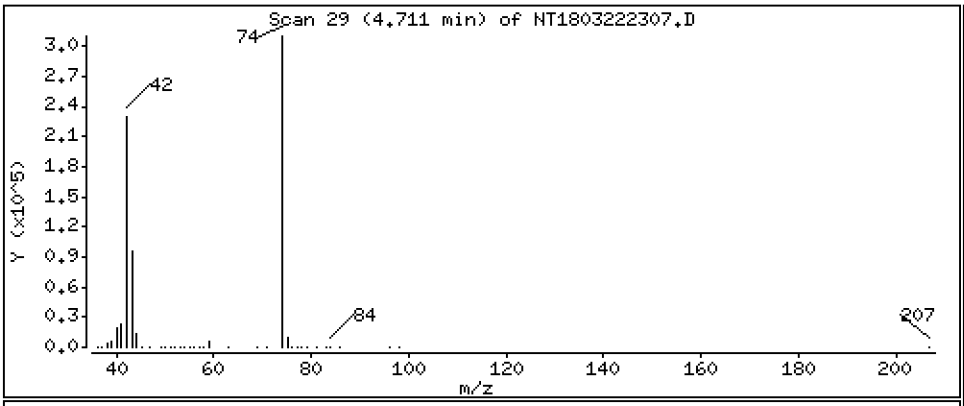
Operator: VTS

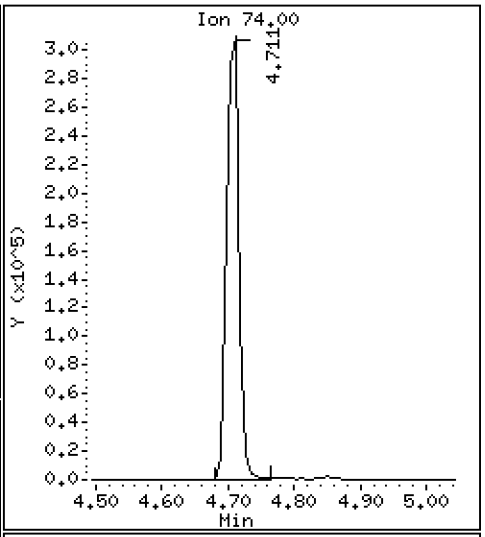
Column phase: ZB-5msi

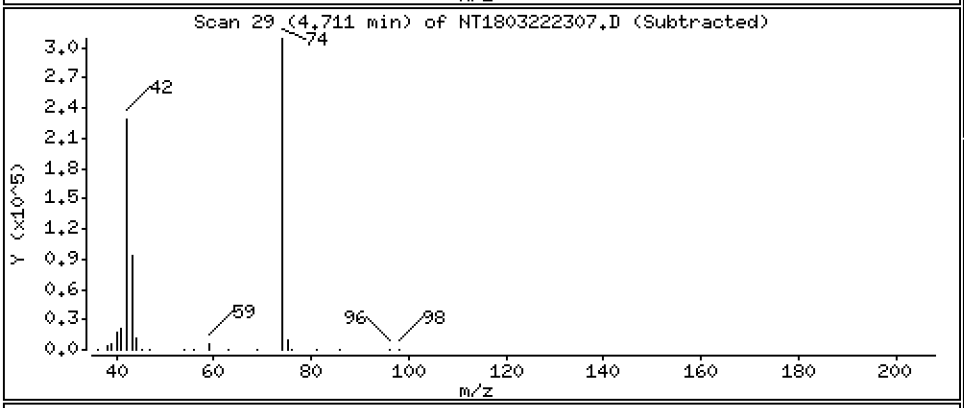
Column diameter: 0.25

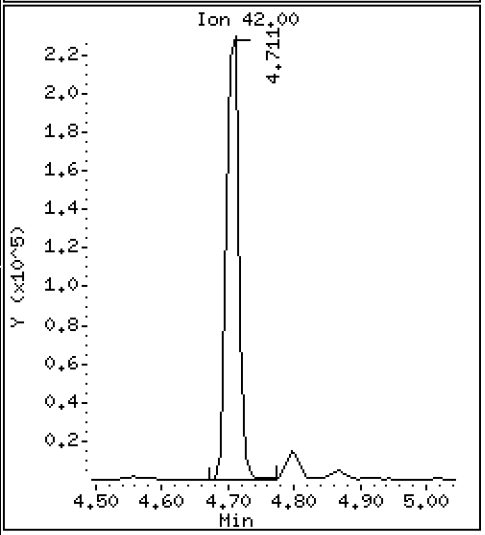
90 N-Nitrosodimethylamine

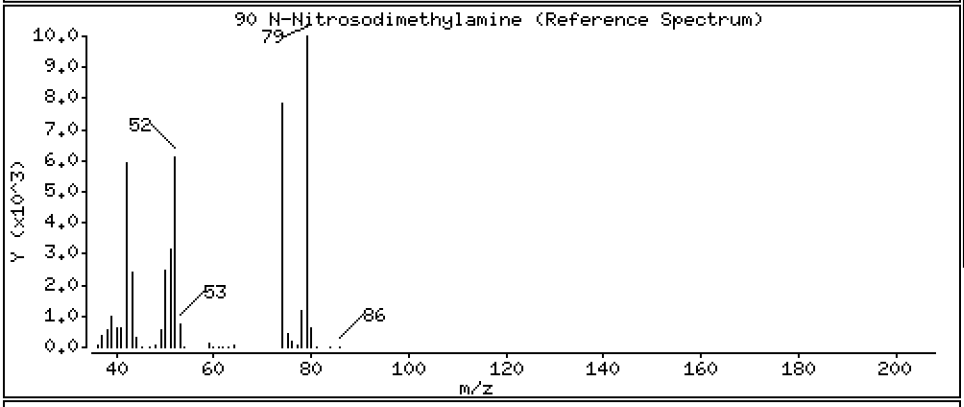
Concentration: 7.422 ug/mL

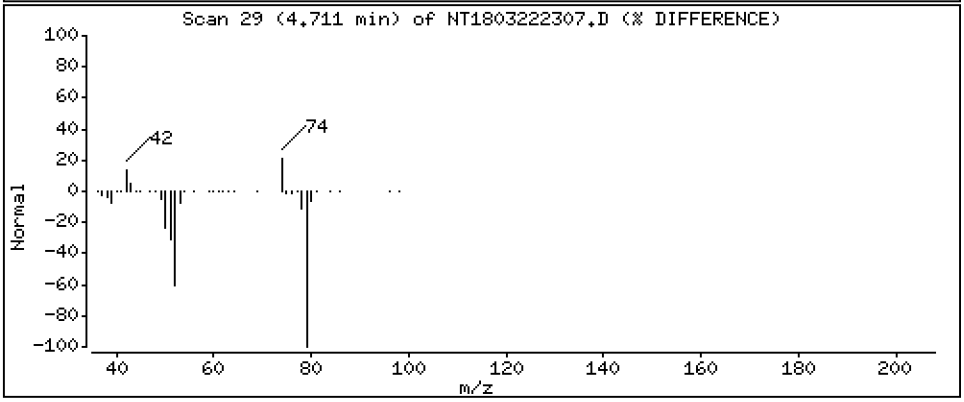












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

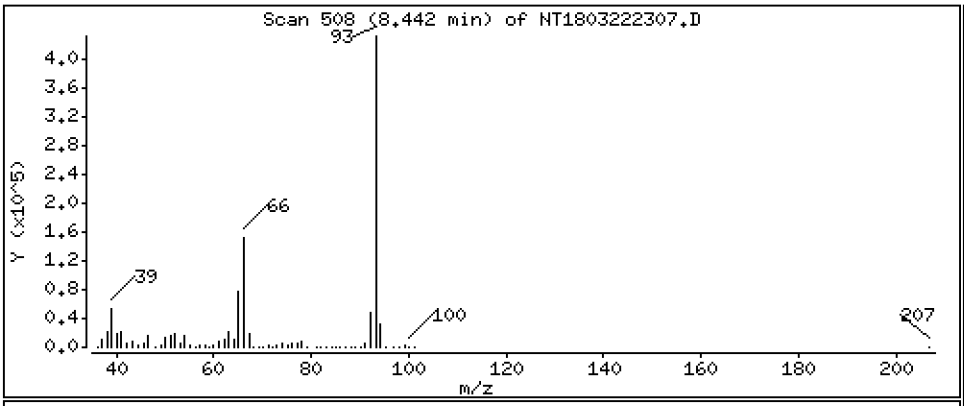
Operator: VTS

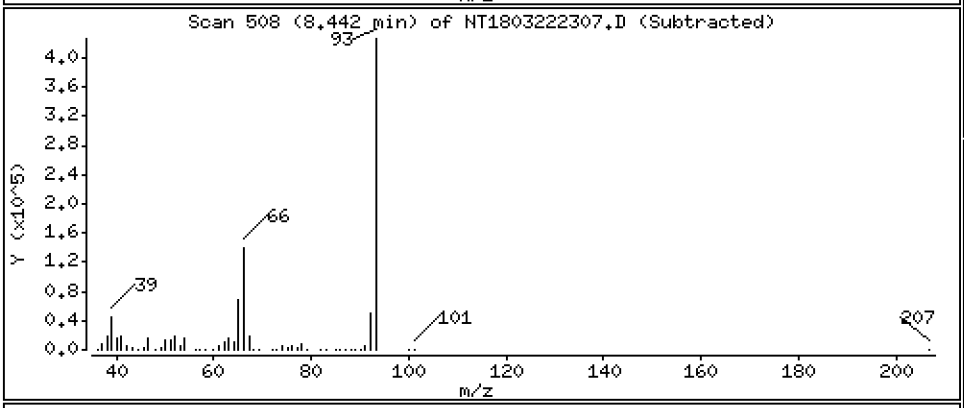
Column phase: ZB-5msi

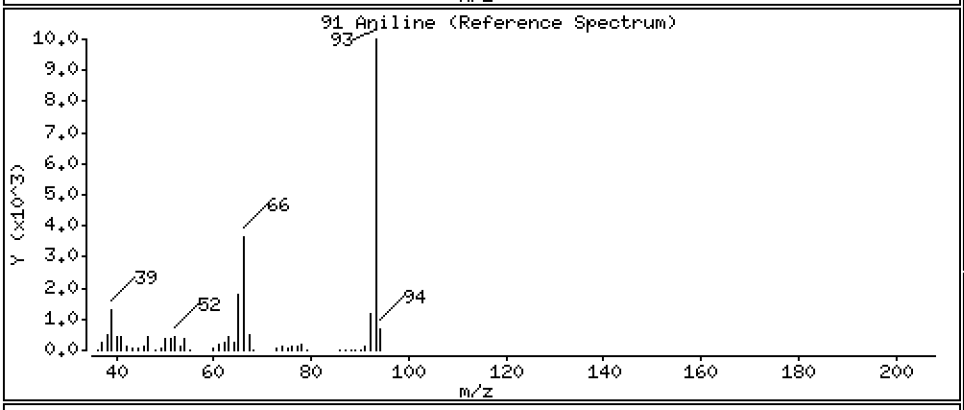
Column diameter: 0.25

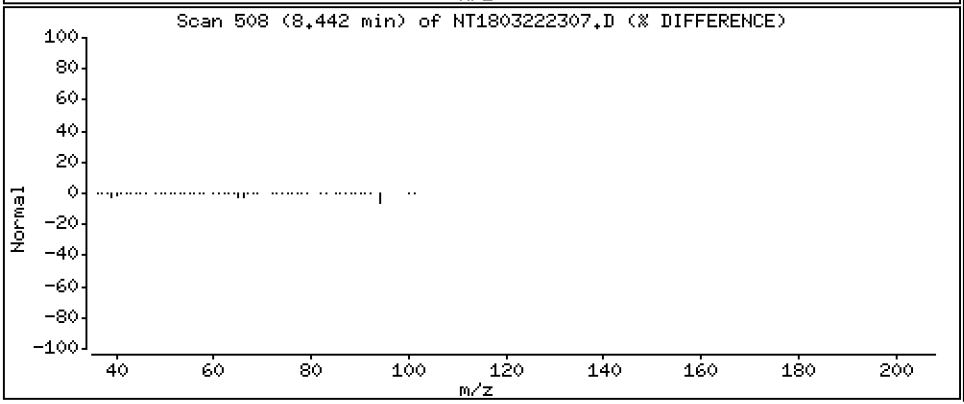
91 Aniline

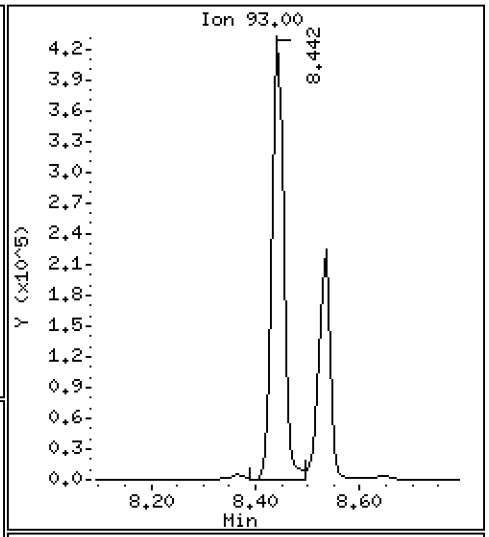
Concentration: 5.140 ug/mL

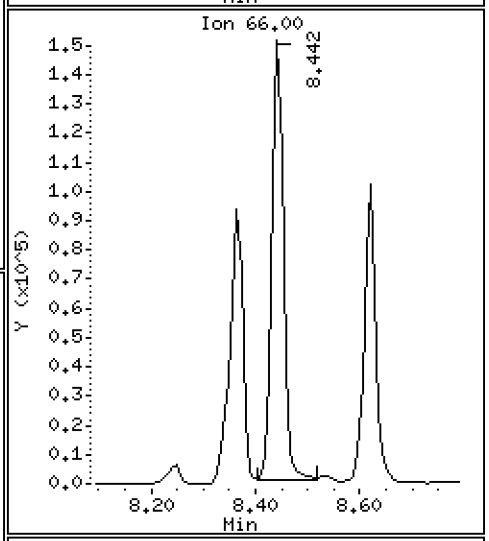


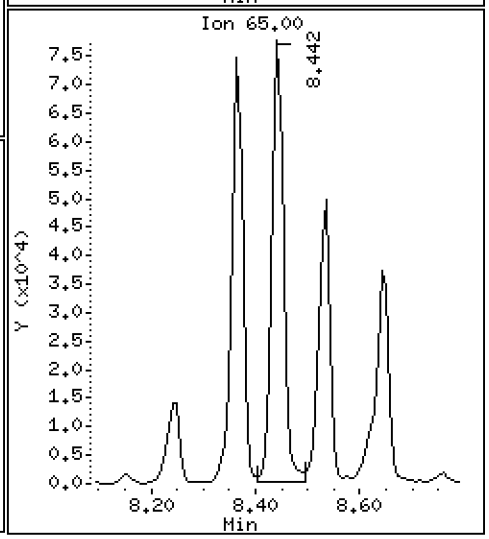












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222307.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

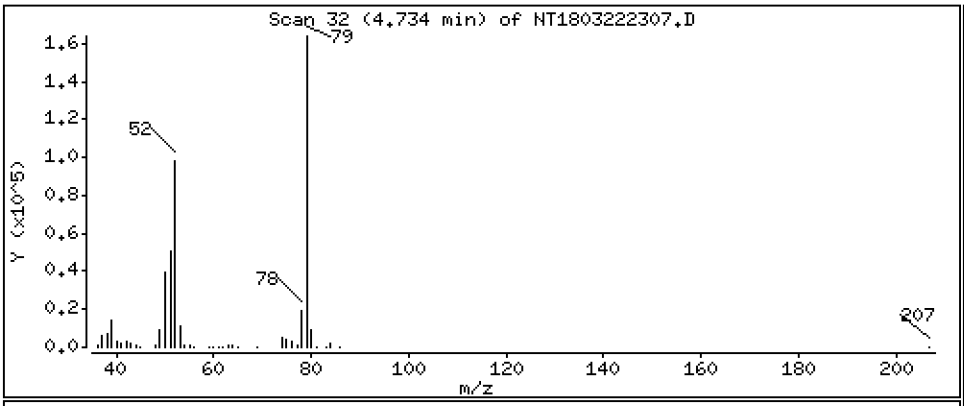
Operator: VTS

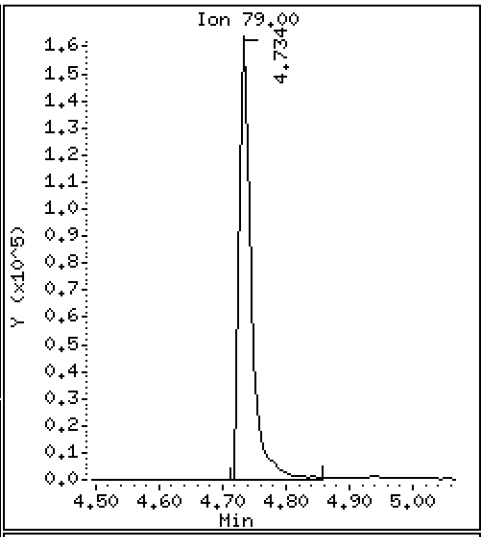
Column phase: ZB-5msi

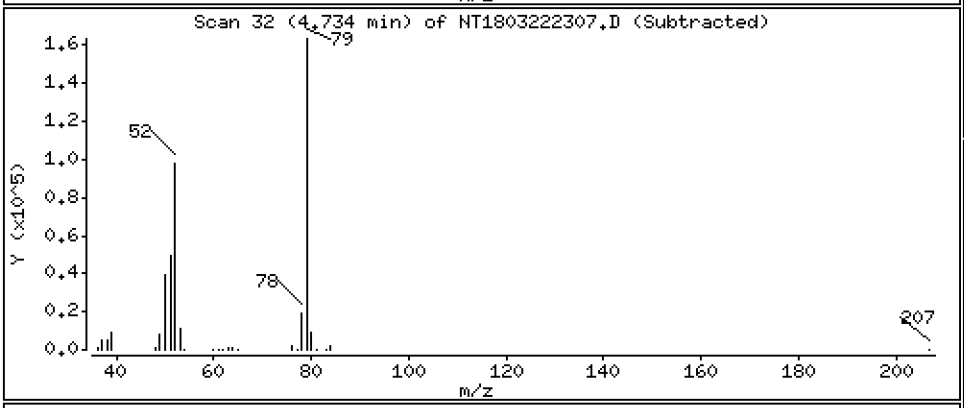
Column diameter: 0.25

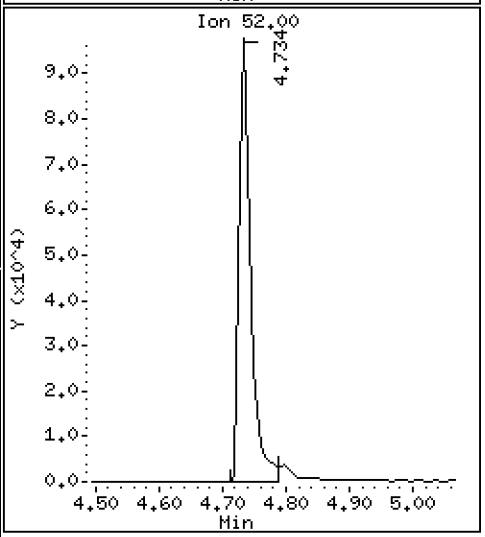
103 Pyridine

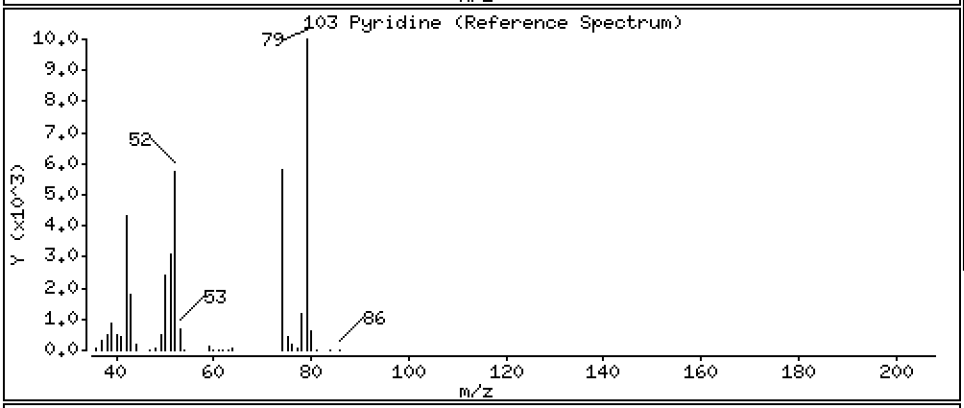
Concentration: 2.466 ug/mL

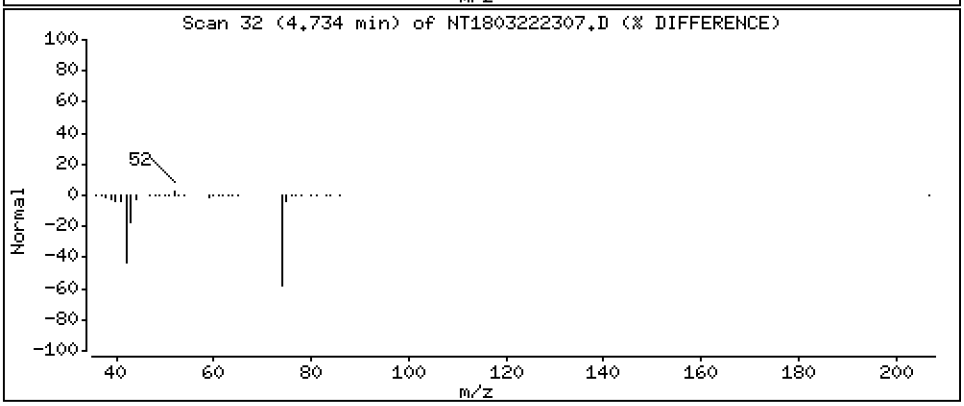












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222307.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

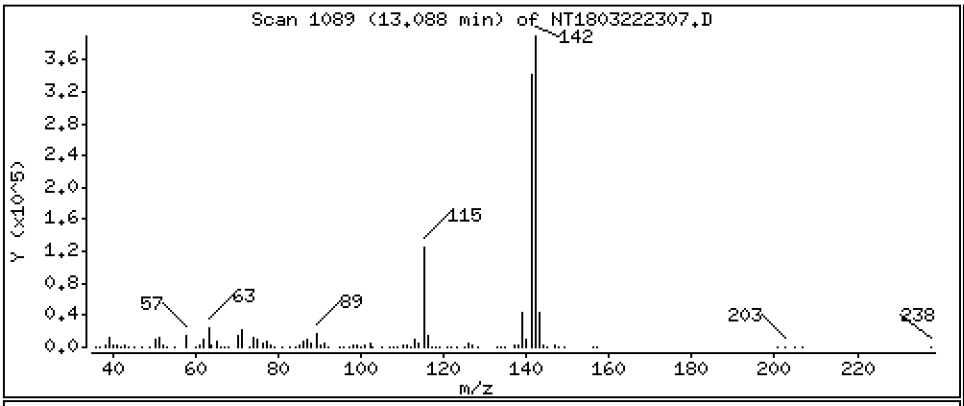
Operator: VTS

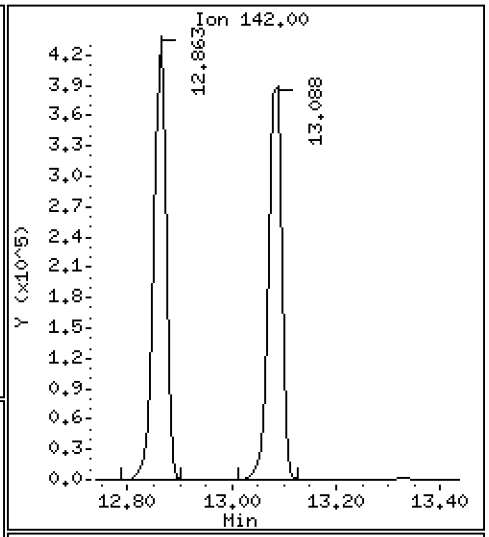
Column phase: ZB-5msi

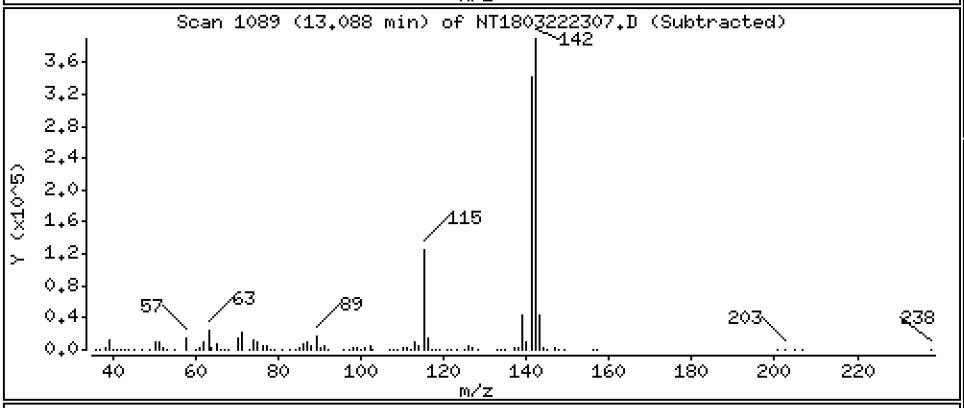
Column diameter: 0.25

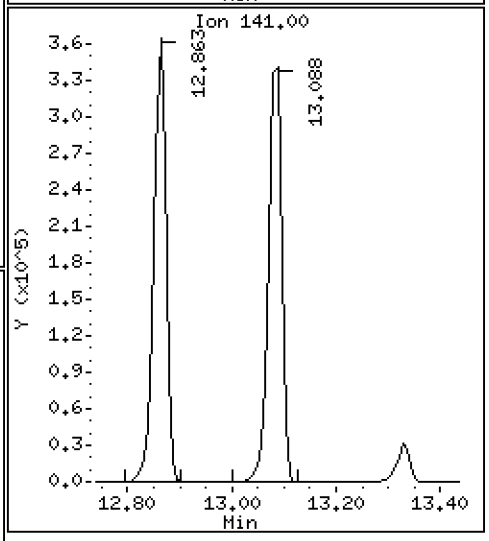
105 1-methylnaphthalene

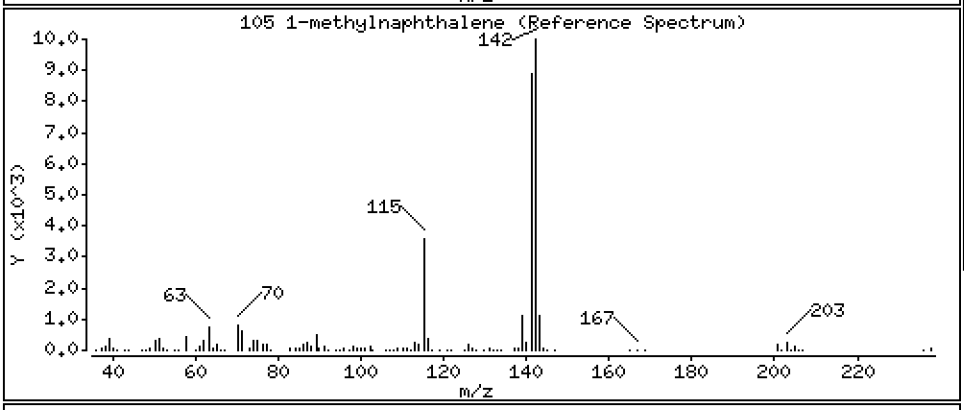
Concentration: 3.787 ug/mL

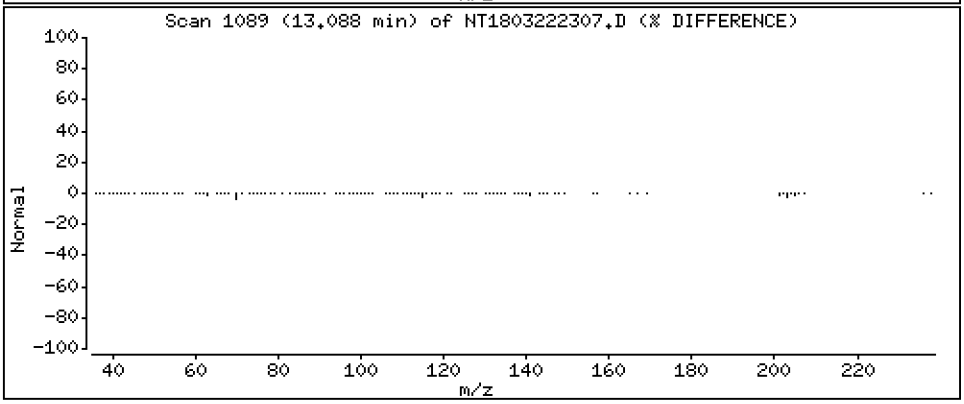












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

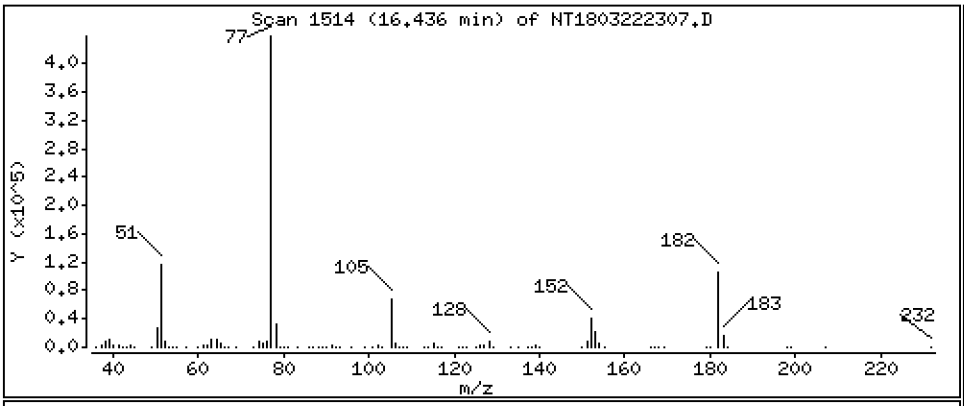
Operator: VTS

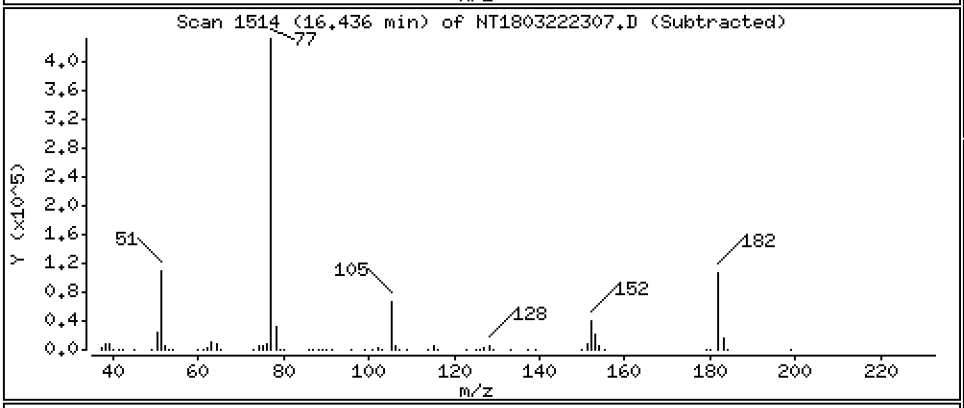
Column phase: ZB-5msi

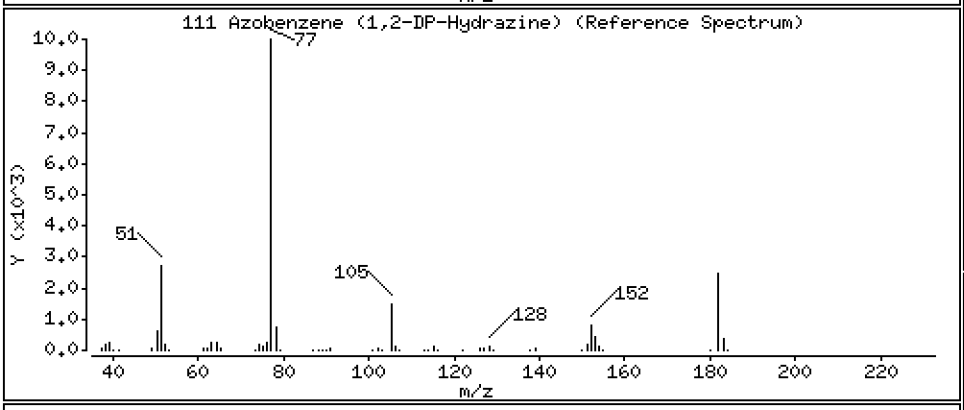
Column diameter: 0.25

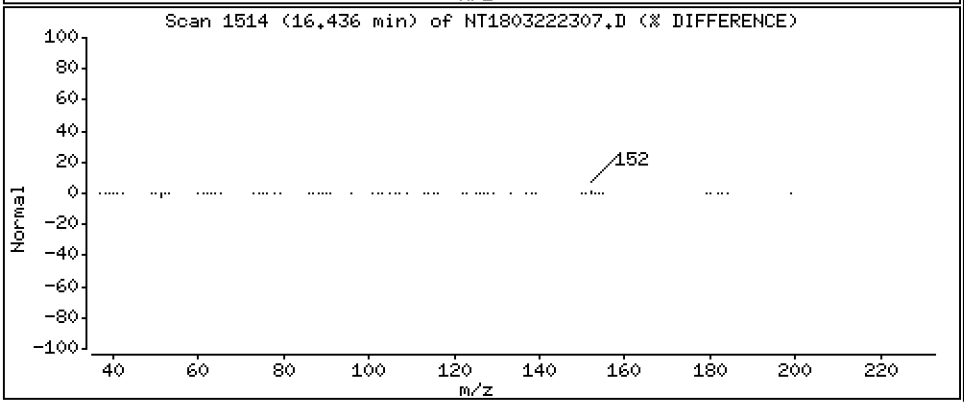
111 Azobenzene (1,2-DP-Hydrazine)

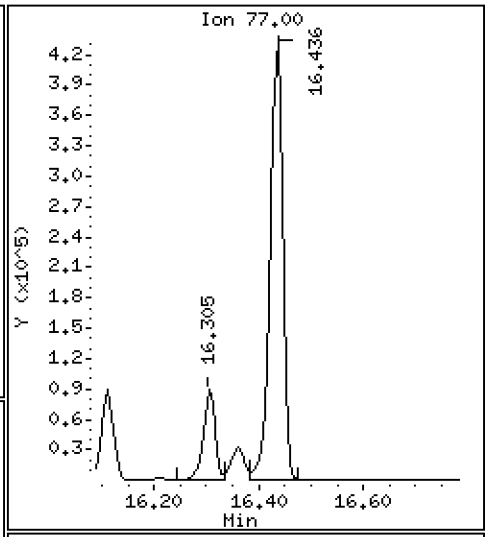
Concentration: 3.685 ug/mL

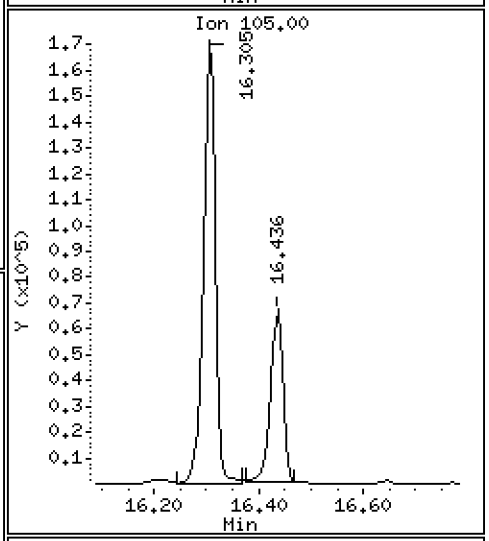


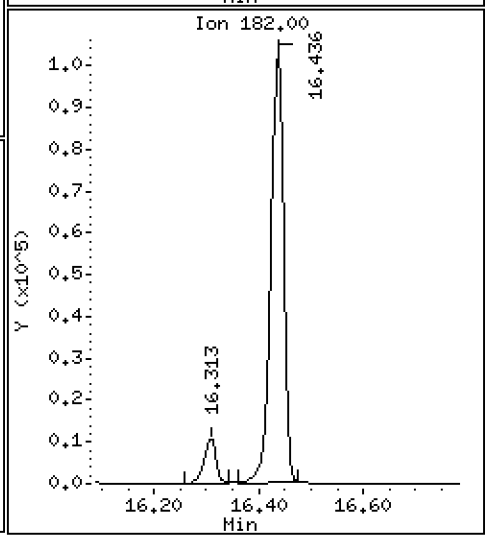












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

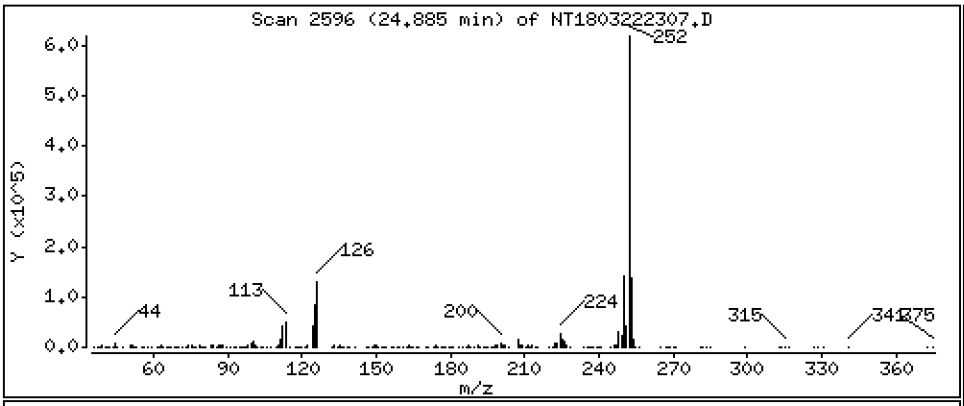
Operator: VTS

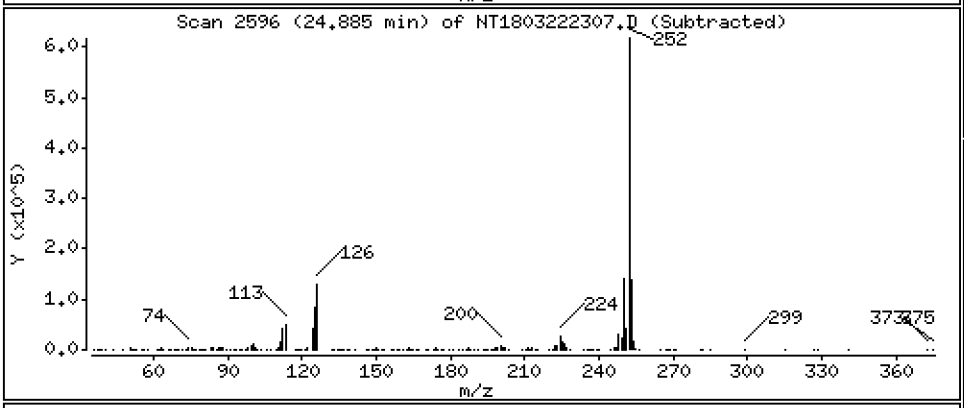
Column phase: ZB-5msi

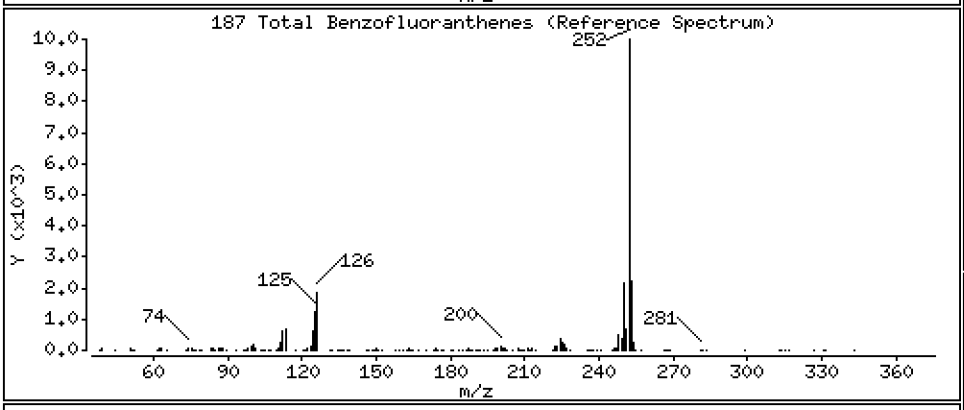
Column diameter: 0.25

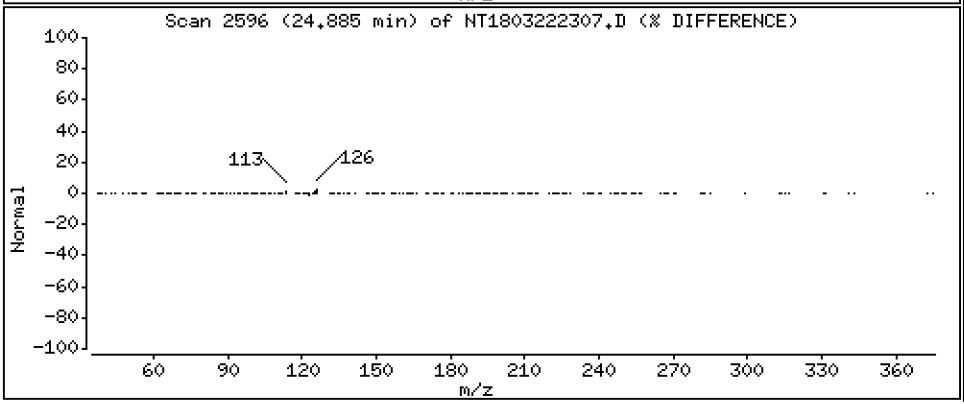
187 Total Benzofluoranthenes

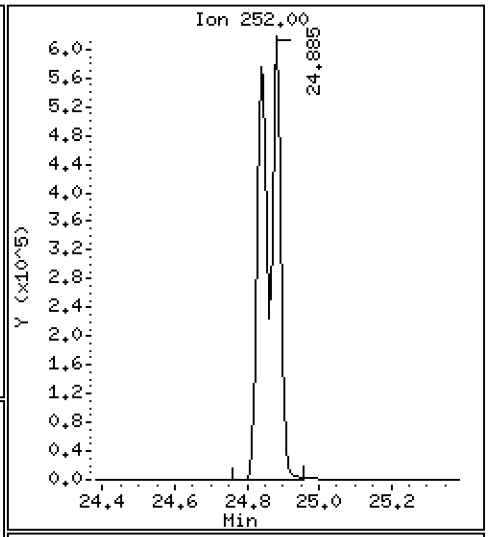
Concentration: 8.714 ug/mL

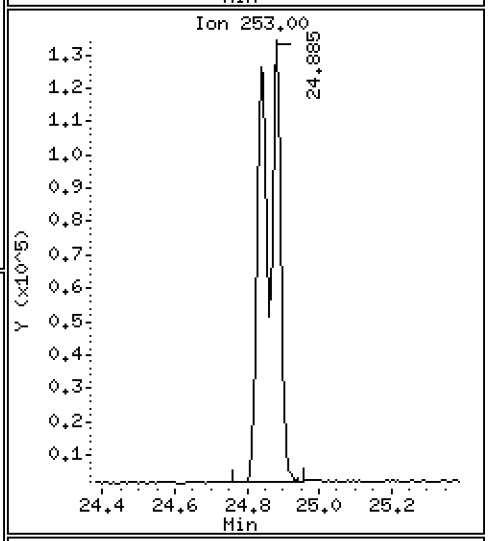


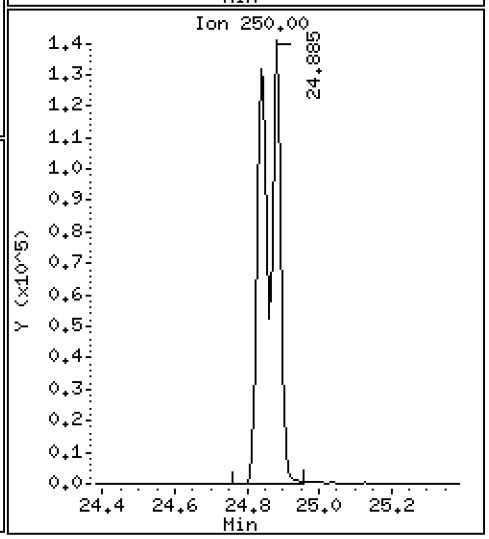












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222307.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLK0185-BS1

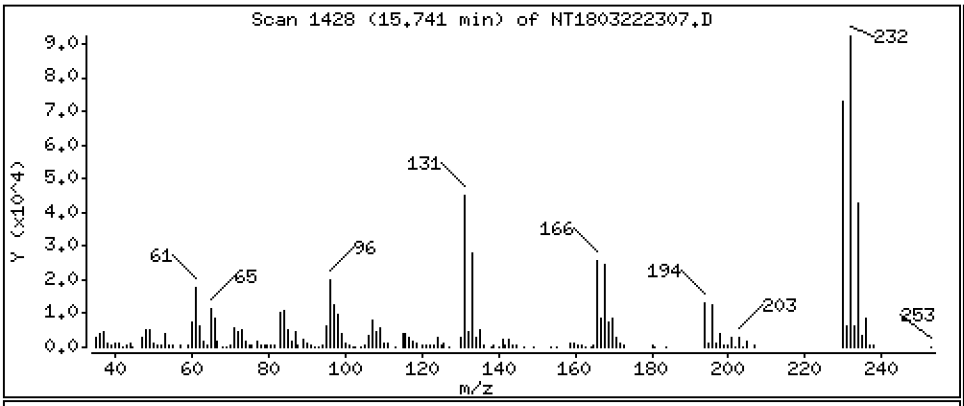
Operator: VTS

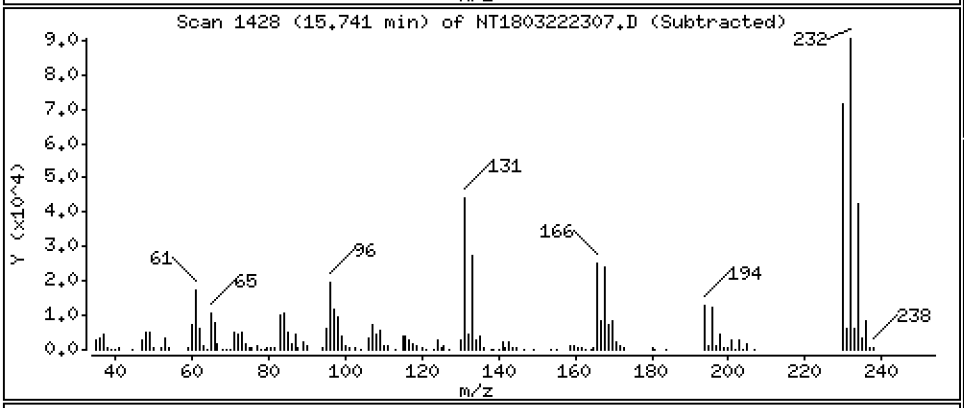
Column phase: ZB-5msi

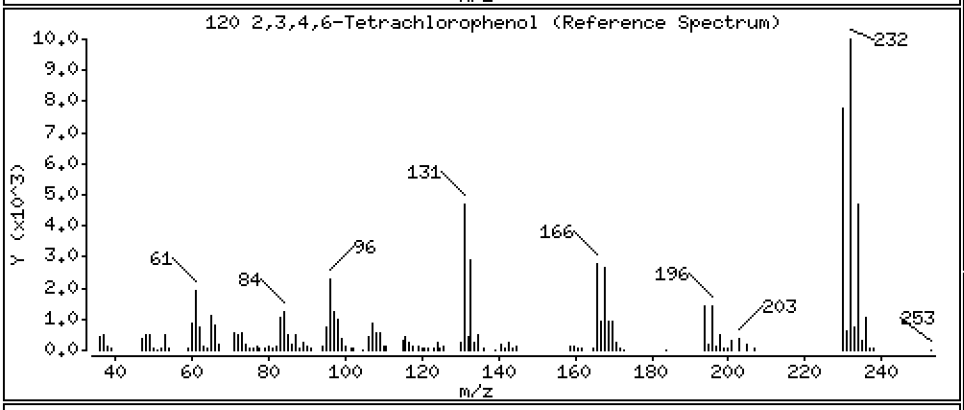
Column diameter: 0.25

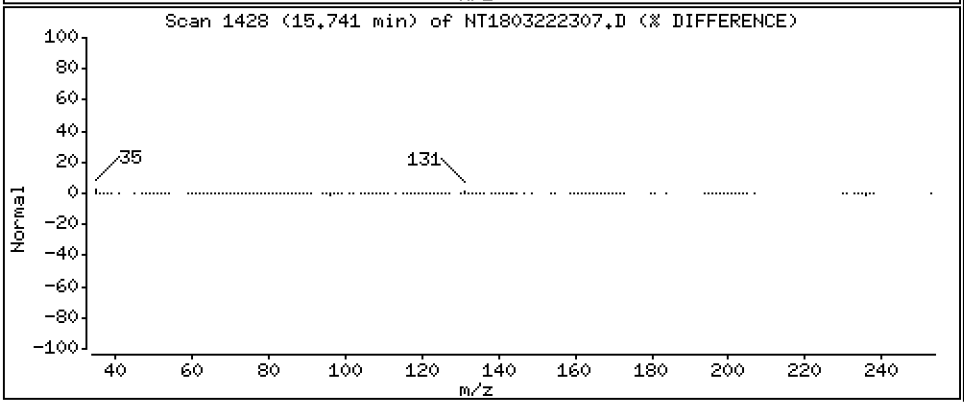
120 2,3,4,6-Tetrachlorophenol

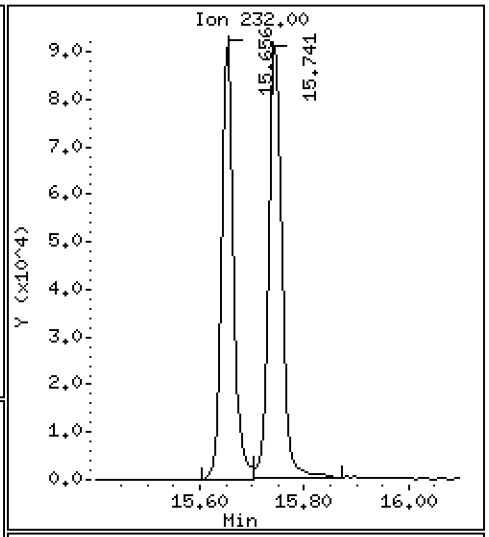
Concentration: 2.794 ug/mL

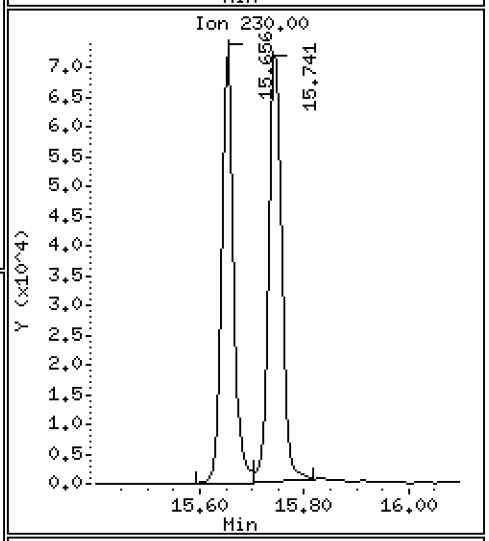


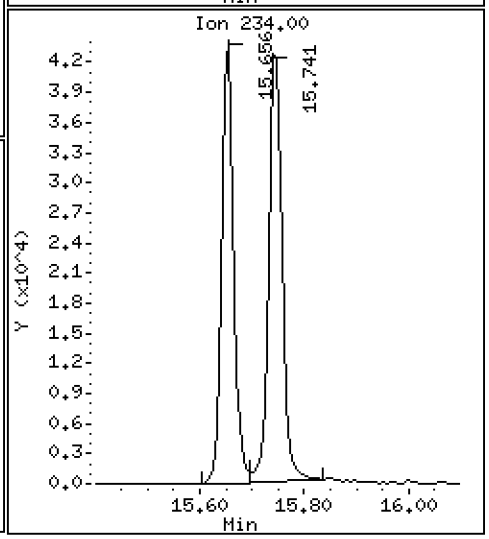












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230322.b\NT1803222307.D
Lab Smp Id: BLC0185-BS1
Inj Date : 22-MAR-2023 21:20
Operator : VTS Inst ID: nt18.i
Smp Info : BLK0185-BS1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230322.b\ABN.m
Meth Date : 04-Apr-2023 14:27 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 15:18 Cal File: NT1803192302.D
Als bottle: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: DEENAY-201905

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.781	6.773	(0.755)	519723	5.91723	5.917
$	2 Phenol-d5	99	8.341	8.341	(0.929)	685411	6.31680	6.317
	3 Phenol	94	8.364	8.364	(0.931)	389623	3.35810	3.358
$	5 2-Chlorophenol-d4	132	8.619	8.619	(0.960)	601441	6.39458	6.395
	4 Bis(2-Chloroethyl)ether	93	8.534	8.534	(0.950)	326989	4.07221	4.072
	6 2-Chlorophenol	128	8.642	8.642	(0.962)	337291	3.39990	3.400
	7 1,3-Dichlorobenzene	146	8.913	8.913	(0.992)	373693	3.54784	3.548
*	8 1,4-Dichlorobenzene-d4	152	8.983	8.983	(1.000)	284906	4.00000	
	9 1,4-Dichlorobenzene	146	9.006	9.006	(1.003)	380612	3.61071	3.611
$	10 1,2-Dichlorobenzene-d4	152	9.332	9.332	(1.039)	273853	3.96813	3.968
	12 1,2-Dichlorobenzene	146	9.363	9.363	(1.042)	368792	3.55028	3.550
	11 Benzyl alcohol	108	9.247	9.247	(1.029)	202958	3.74881	3.749
	14 2,2'-oxybis(1-Chloropropane)	121	9.550	9.550	(1.063)	100084	4.09205	4.092
	13 2-Methylphenol	108	9.464	9.472	(1.054)	273412	3.10473	3.105
	17 Hexachloroethane	117	9.945	9.945	(1.107)	151582	3.67232	3.672
	16 N-Nitroso-di-n-propylamine	70	9.806	9.806	(1.092)	218709	3.48746	3.487
	15 4-Methylphenol	108	9.736	9.736	(1.084)	302704	3.31021	3.310
$	18 Nitrobenzene-d5	82	10.062	10.062	(0.880)	391255	4.47195	4.472
	19 Nitrobenzene	77	10.093	10.093	(0.882)	343558	3.99430	3.994
	20 Isophorone	82	10.543	10.543	(0.922)	628765	5.35325	5.353
	21 2-Nitrophenol	139	10.719	10.719	(0.937)	174122	3.41544	3.415
	22 2,4-Dimethylphenol	107	10.770	10.778	(0.941)	495016	5.72472	5.725
	23 Bis(2-Chloroethoxy)methane	93	10.973	10.973	(0.959)	376869	4.43921	4.439
	24 Benzoic acid	105	11.016	10.999	(0.963)	1192405	19.0133	19.01
	25 2,4-Dichlorophenol	162	11.169	11.169	(0.976)	894851	11.2439	11.24
	26 1,2,4-Trichlorobenzene	180	11.355	11.355	(0.993)	305557	3.66222	3.662
*	27 Naphthalene-d8	136	11.439	11.439	(1.000)	1061400	4.00000	
	28 Naphthalene	128	11.478	11.478	(1.003)	1042714	3.62023	3.620
	29 4-Chloroaniline	127	11.609	11.609	(1.015)	716627	6.46645	6.466
	30 Hexachlorobutadiene	225	11.841	11.849	(1.035)	177679	3.74506	3.745
	31 4-Chloro-3-methylphenol	107	12.561	12.561	(1.098)	875801	11.9486	11.95
	32 2-Methylnaphthalene	142	12.863	12.863	(1.124)	674309	3.59490	3.595(H)
	33 Hexachlorocyclopentadiene	237	13.327	13.335	(0.887)	432944	8.92743	8.927

			QUANT SIG					CONCENTRATIONS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
	34	2,4,6-Trichlorophenol	196	13.482	13.482	(0.897)	633039	12.6281	12.63
	35	2,4,5-Trichlorophenol	196	13.551	13.551	(0.902)	658507	12.0177	12.02
$	36	2-Fluorobiphenyl	172	13.644	13.644	(0.908)	867521	4.32294	4.323
	37	2-Chloronaphthalene	162	13.845	13.846	(0.922)	611120	3.81731	3.817
	38	2-Nitroaniline	65	14.109	14.109	(0.939)	486498	11.5964	11.60
	39	Dimethylphthalate	163	14.542	14.542	(0.968)	659183	3.94753	3.948
	40	Acenaphthylene	152	14.712	14.712	(0.979)	984363	3.61077	3.611
	41	2,6-Dinitrotoluene	165	14.674	14.674	(0.977)	431599	11.2945	11.29
*	42	Acenaphthene-d10	164	15.022	15.022	(1.000)	560400	4.00000	
	43	3-Nitroaniline	138	14.952	14.952	(0.995)	399353	9.35953	9.360
	44	Acenaphthene	153	15.091	15.091	(1.005)	636993	3.69148	3.691
	45	2,4-Dinitrophenol	184	15.161	15.161	(1.009)	483322	20.9935	20.99
	46	Dibenzofuran	168	15.408	15.416	(1.026)	872625	3.68098	3.681
	47	4-Nitrophenol	109	15.269	15.261	(1.016)	254532	11.1853	11.19
	48	2,4-Dinitrotoluene	165	15.478	15.470	(1.030)	565520	11.2367	11.24
	50	Diethylphthalate	149	15.988	15.988	(1.064)	700572	4.14068	4.141
	49	Fluorene	166	16.120	16.120	(1.073)	823835	3.82835	3.828
	51	4-Chlorophenyl-phenylether	204	16.112	16.112	(1.073)	384506	4.02594	4.026
	52	4-Nitroaniline	138	16.212	16.212	(1.079)	386186	8.87466	8.875
	53	4,6-Dinitro-2-methylphenol	198	16.305	16.305	(0.904)	678419	24.0795	24.08
	54	N-Nitrosodiphenylamine	169	16.359	16.359	(0.907)	423366	3.46130	3.461
$	55	2,4,6-Tribromophenol	330	16.644	16.644	(1.108)	163963	6.49262	6.493
	56	4-Bromophenyl-phenylether	248	17.106	17.107	(0.949)	195238	4.02396	4.024
	57	Hexachlorobenzene	284	17.415	17.415	(0.966)	201813	3.70824	3.708
	58	Pentachlorophenol	266	17.772	17.772	(0.986)	402508	11.8864	11.89
*	59	Phenanthrene-d10	188	18.027	18.035	(1.000)	960210	4.00000	
	60	Phenanthrene	178	18.073	18.081	(1.003)	970405	3.70224	3.702
	61	Anthracene	178	18.166	18.166	(1.008)	810991	3.24517	3.245
	62	Carbazole	167	18.491	18.499	(1.026)	841933	3.82586	3.826
	63	Di-n-butylphthalate	149	19.311	19.311	(1.071)	1120470	3.84703	3.847
	64	Fluoranthene	202	20.449	20.456	(0.887)	1037560	3.77559	3.776
	65	Pyrene	202	20.874	20.874	(0.906)	1060204	3.66038	3.660
$	66	Terphenyl-d14	244	21.168	21.168	(0.918)	954475	4.43088	4.431
	67	Butylbenzylphthalate	149	22.090	22.090	(0.958)	475501	3.82600	3.826
	68	Benzo(a)anthracene	228	23.019	23.027	(0.999)	1007269	3.73253	3.733
*	69	Chrysene-d12	240	23.050	23.050	(1.000)	862376	4.00000	
	70	3,3'-Dichlorobenzidine	252	22.980	22.988	(0.997)	618264	6.36335	6.363
	71	Chrysene	228	23.096	23.096	(1.002)	1031469	3.69756	3.698
	72	bis(2-Ethylhexyl)phthalate	149	23.119	23.119	(0.960)	719231	3.69983	3.700
*	134	Di-n-octylphthalate-d4	153	24.087	24.087	(1.000)	1341381	4.00000	
	73	Di-n-octylphthalate	149	24.095	24.095	(1.000)	1319547	3.99830	3.998
	74	Benzo(b)fluoranthene	252	24.838	24.846	(0.972)	1081817	4.51560	4.516
	75	Benzo(k)fluoranthene	252	24.885	24.885	(0.973)	1112771	4.22295	4.223
	76	Benzo(a)pyrene	252	25.450	25.458	(0.995)	872831	3.64322	3.643
*	77	Perylene-d12	264	25.566	25.566	(1.000)	860580	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	28.047	28.055	(1.097)	1117789	3.68687	3.687
	79	Dibenzo(a,h)anthracene	278	28.063	28.071	(1.098)	953591	3.78795	3.788
	80	Benzo(g,h,i)perylene	276	28.777	28.793	(1.126)	930275	3.85259	3.853(M)
	90	N-Nitrosodimethylamine	74	4.711	4.695	(0.524)	403018	7.42209	7.422
	91	Aniline	93	8.442	8.442	(0.940)	641248	5.13966	5.140
	93	Benzidine	184	Compound Not Detected.					
	103	Pyridine	79	4.734	4.718	(0.527)	221130	2.46601	2.466
	105	1-methylnaphthalene	142	13.087	13.087	(1.144)	652016	3.78660	3.787
	111	Azobenzene (1,2-DP-Hydrazine)	77	16.436	16.436	(1.094)	683320	3.68540	3.685

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187 Total Benzofluoranthenes	252	24.885	24.885	(0.973)	2092094	8.71371	8.714
120 2,3,4,6-Tetrachlorophenol	232	15.741	15.748	(1.048)	171352	2.79409	2.794

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222307.D
Lab Smp Id: BLC0185-BS1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322.b\ABN.m
Misc Info:

Calibration Date: 22-MAR-2023
Calibration Time: 17:55
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	259918	129959	519836	284906	9.61
27 Naphthalene-d8	969410	484705	1938820	1061400	9.49
42 Acenaphthene-d10	510287	255144	1020574	560400	9.82
59 Phenanthrene-d10	882628	441314	1765256	960210	8.79
69 Chrysene-d12	800073	400037	1600146	862376	7.79
134 Di-n-octylphthala	1258607	629304	2517214	1341381	6.58
77 Perylene-d12	911909	455955	1823818	860580	-5.63

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	-0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	-0.00
42 Acenaphthene-d10	15.02	14.52	15.52	15.02	-0.00
59 Phenanthrene-d10	18.04	17.54	18.54	18.03	-0.04
69 Chrysene-d12	23.05	22.55	23.55	23.05	-0.00
134 Di-n-octylphthala	24.09	23.59	24.59	24.09	-0.00
77 Perylene-d12	25.57	25.07	26.07	25.57	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222307.D

Lab ID: BLC0185-BS1
nt18.i, ABN.m, 22-MAR-2023 21:20

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

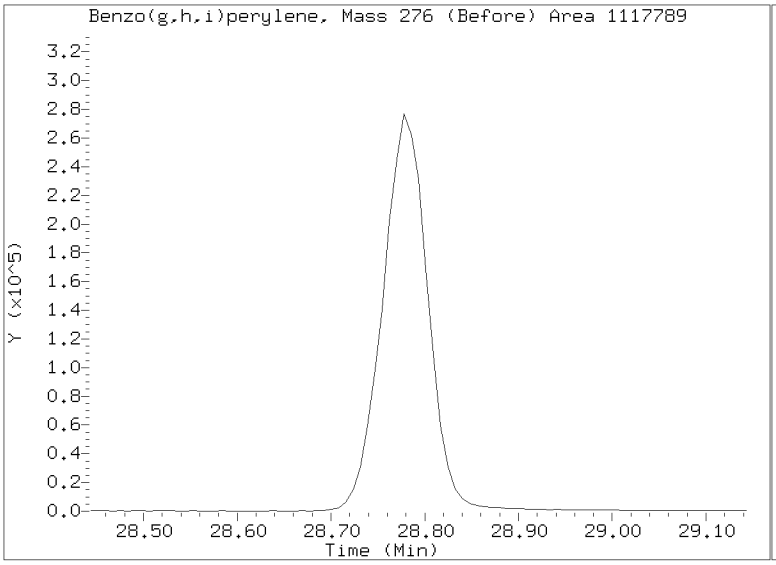
RRT check based on Ccal File: NT1803222302.D

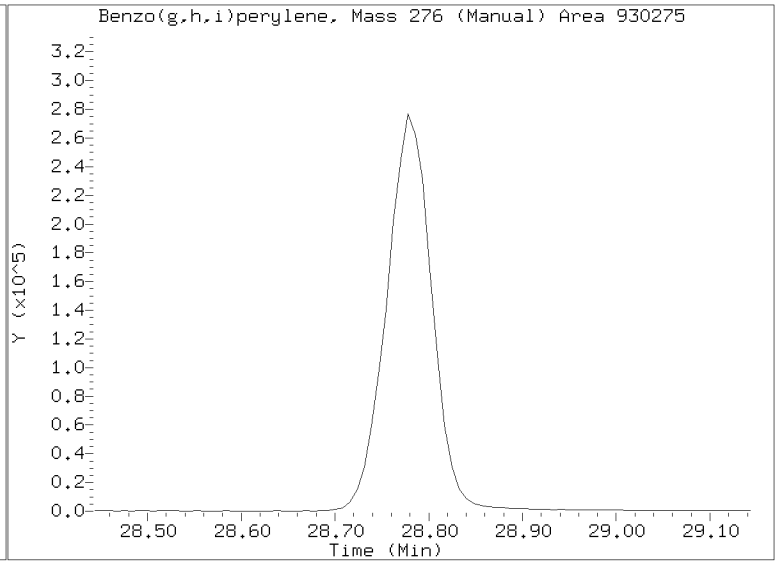
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230322.b/NT1803222307.D
Injection Date: 22-MAR-2023 21:20
Lab ID:BLC0185-BS1 Client ID:
Report Date: 04/04/2023 14:28



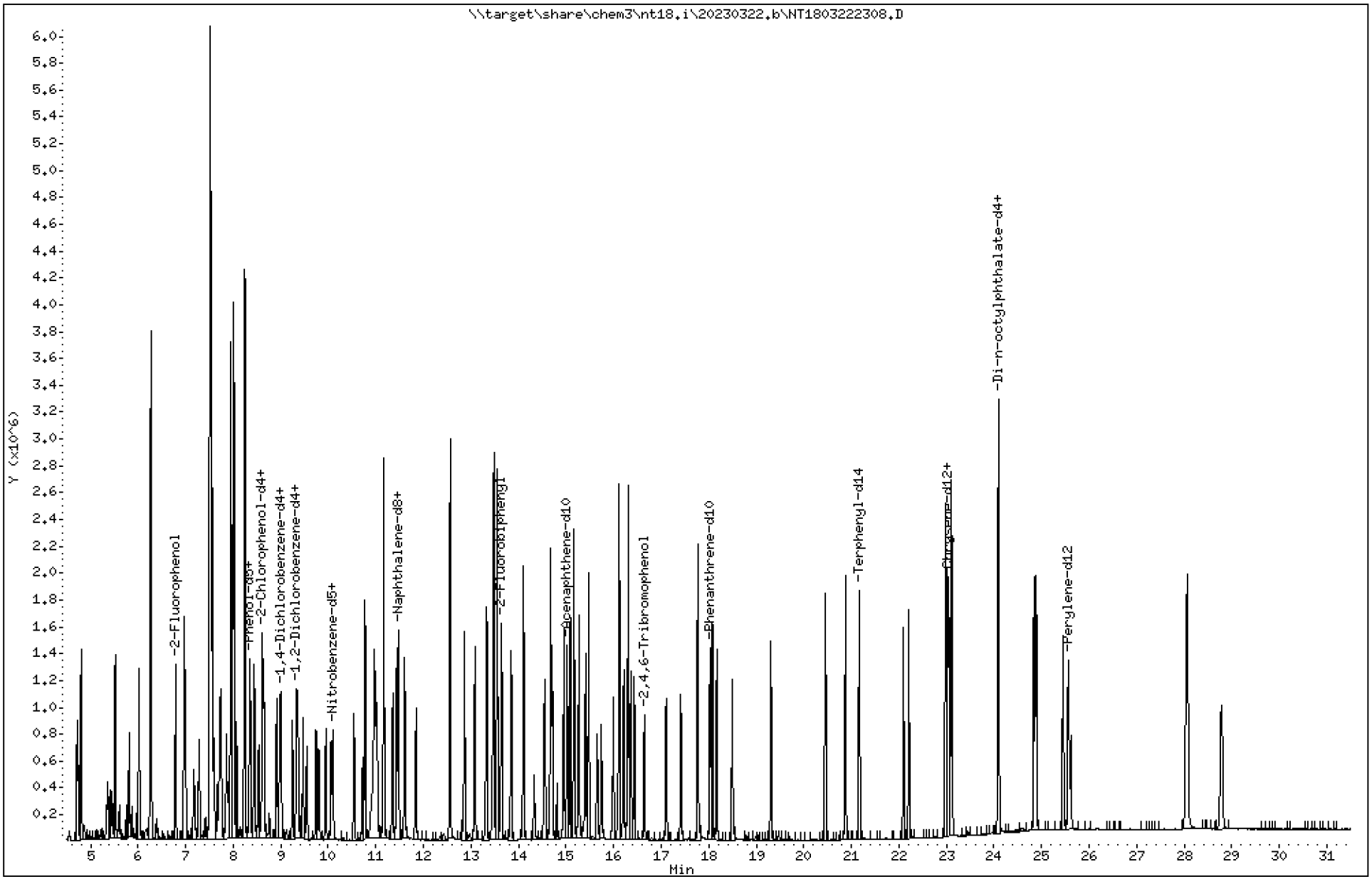


APPROVED

By Deenay Dunmore at 2:45 pm, Apr 04, 2023

Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222308.D
Date : 22-MAR-2023 22:01
Client ID:
Sample Info: BLC0185-BSD1

Instrument: nt18.i
Operator: VTS
Column phase: ZB-5msi
Column diameter: 0.25



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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

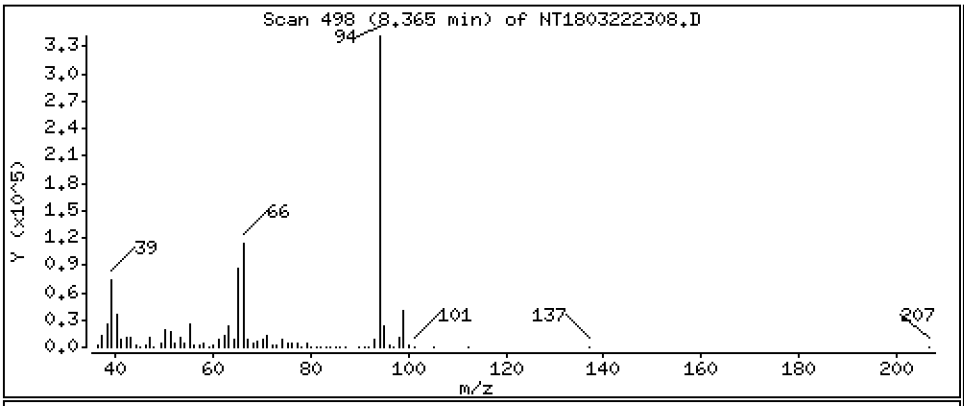
Operator: VTS

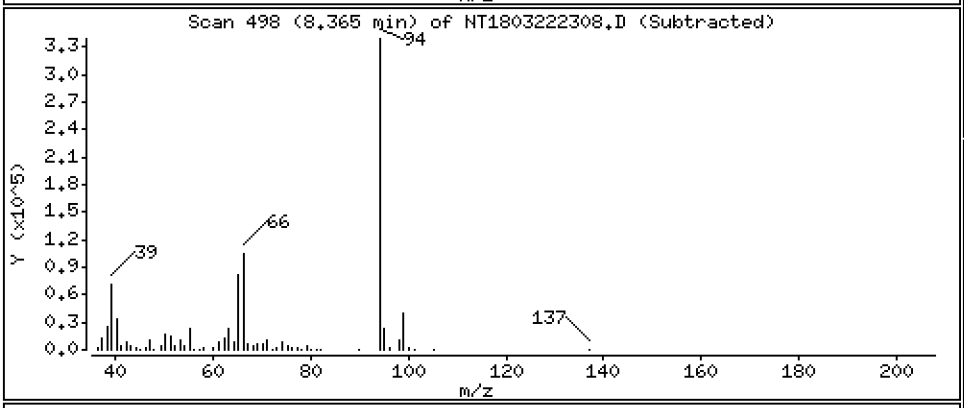
Column phase: ZB-5msi

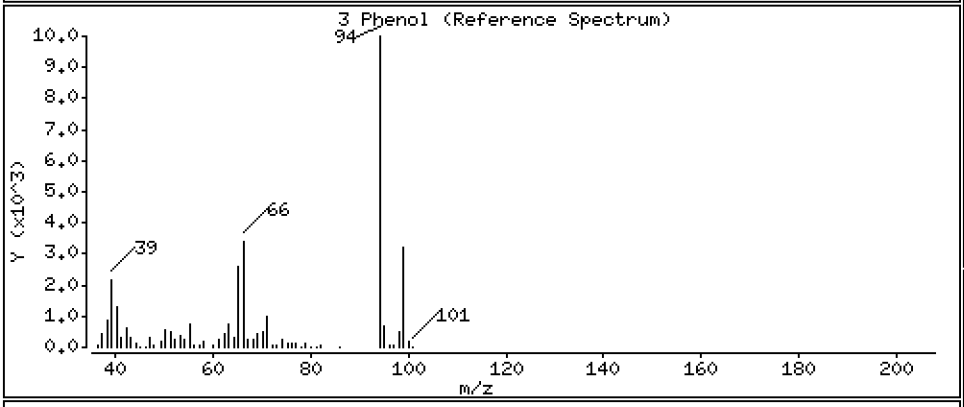
Column diameter: 0.25

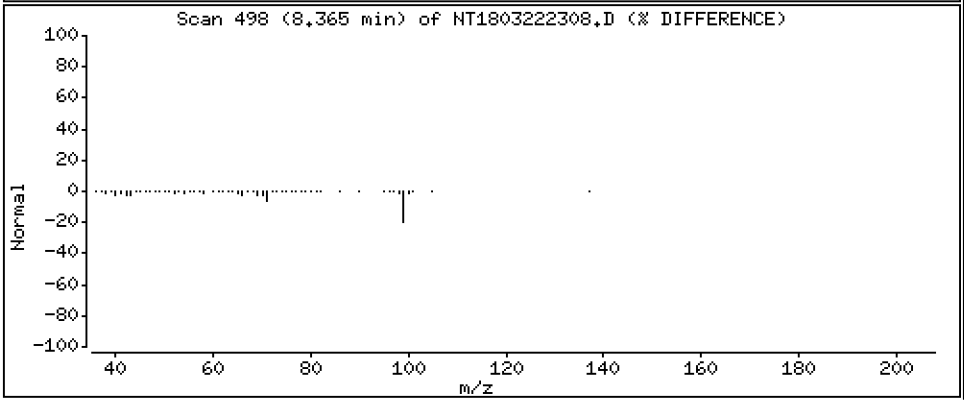
3 Phenol

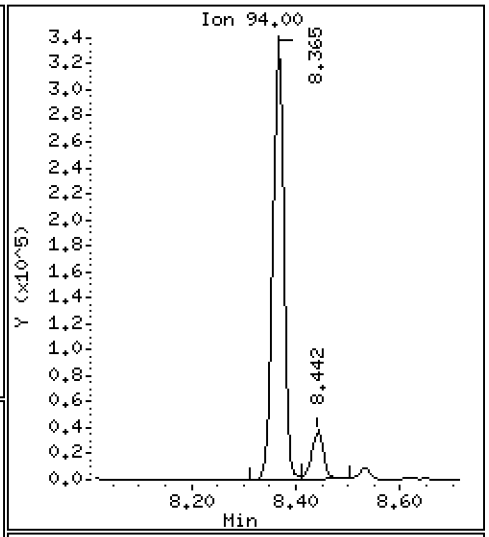
Concentration: 3.818 ug/mL

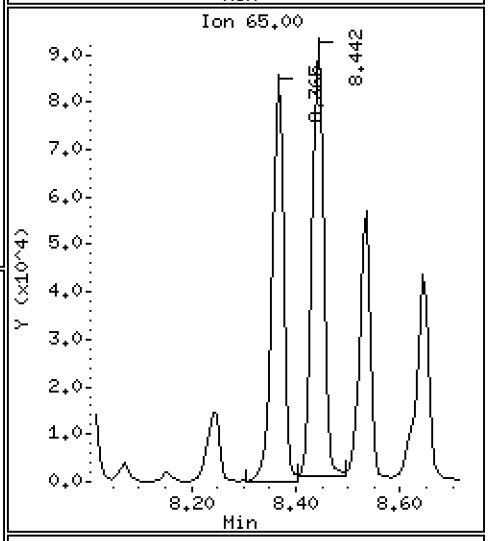


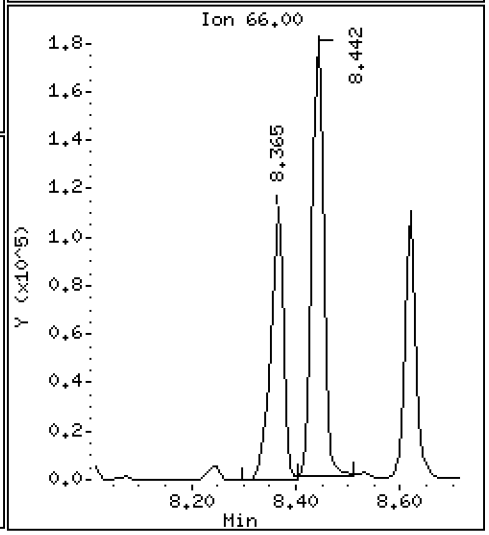












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222308.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

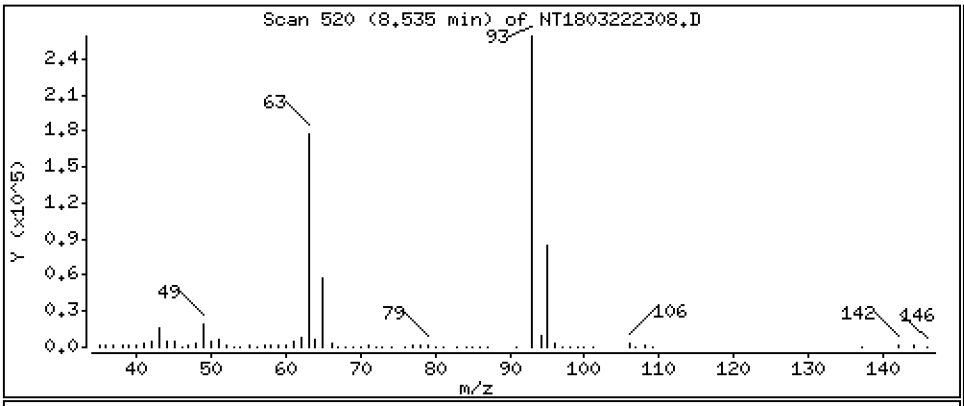
Operator: VTS

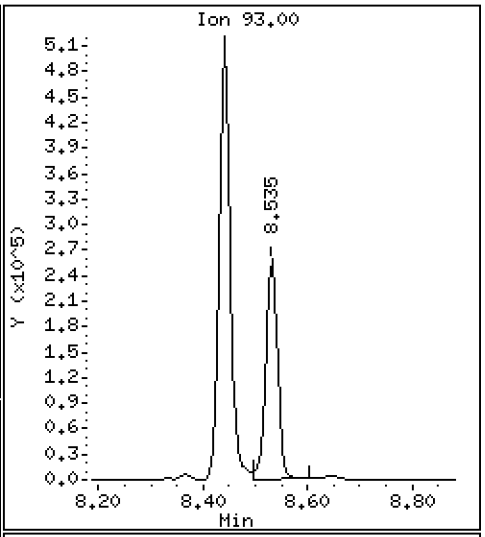
Column phase: ZB-5msi

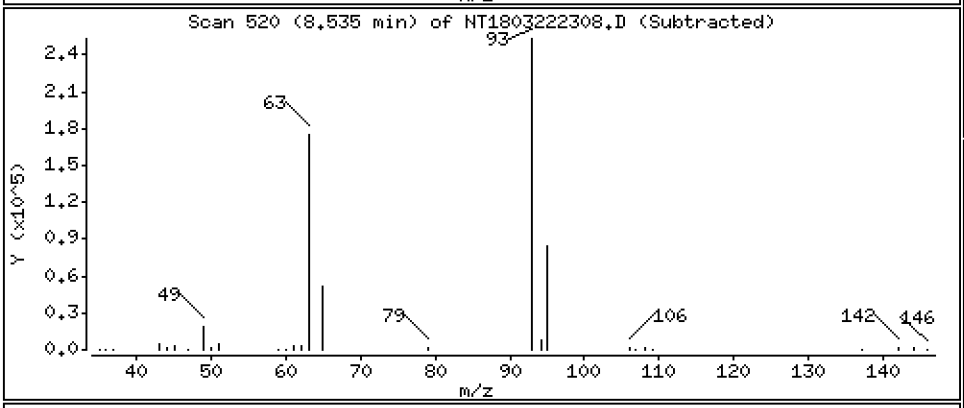
Column diameter: 0.25

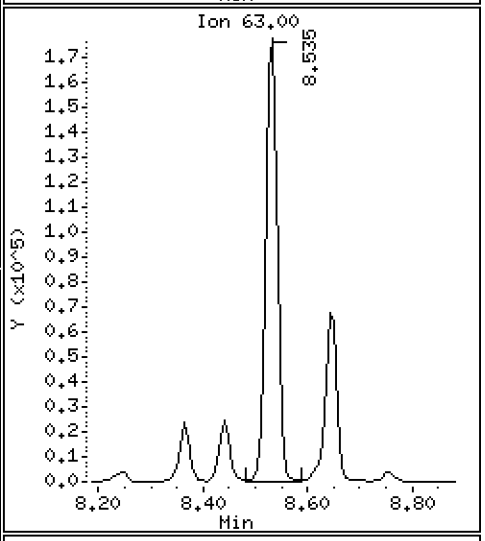
4 Bis(2-Chloroethyl)ether

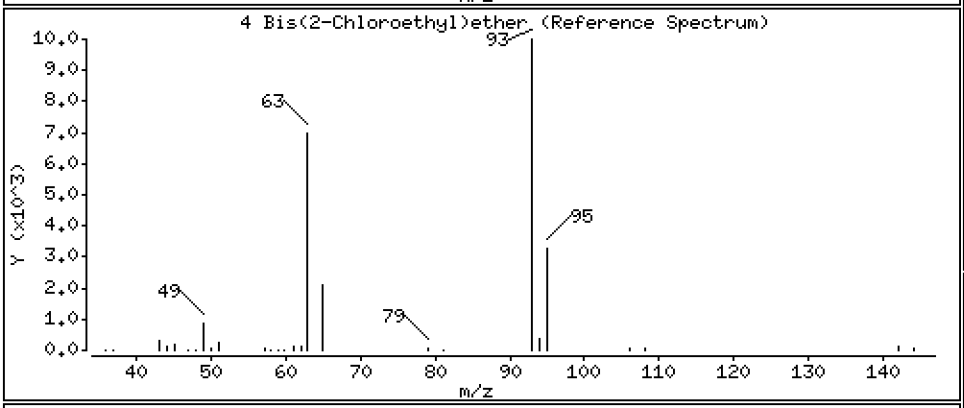
Concentration: 4.562 ug/mL

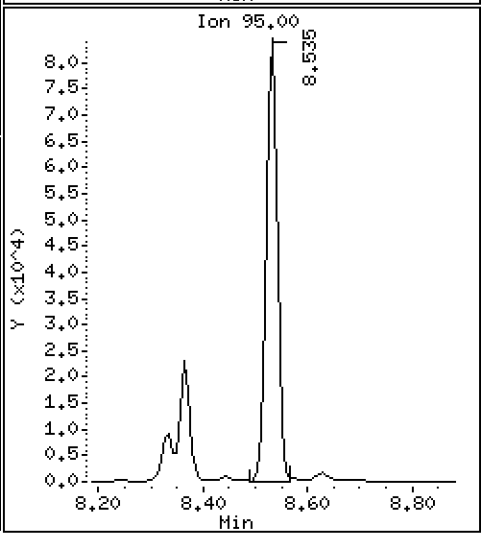


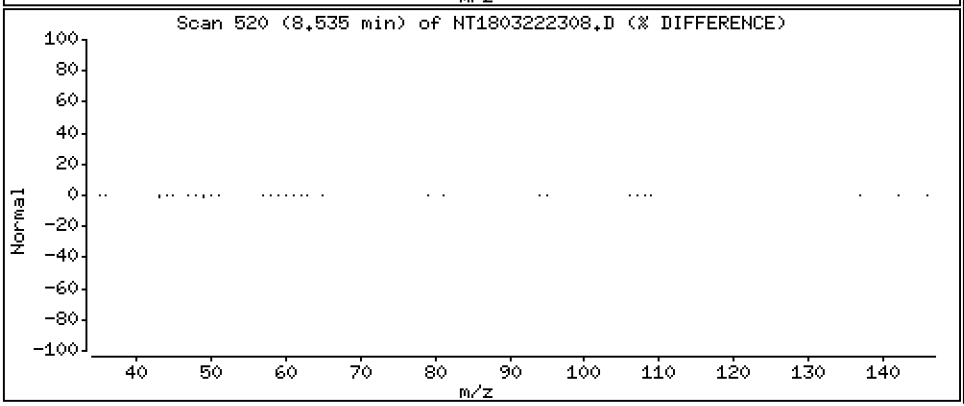












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222308.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

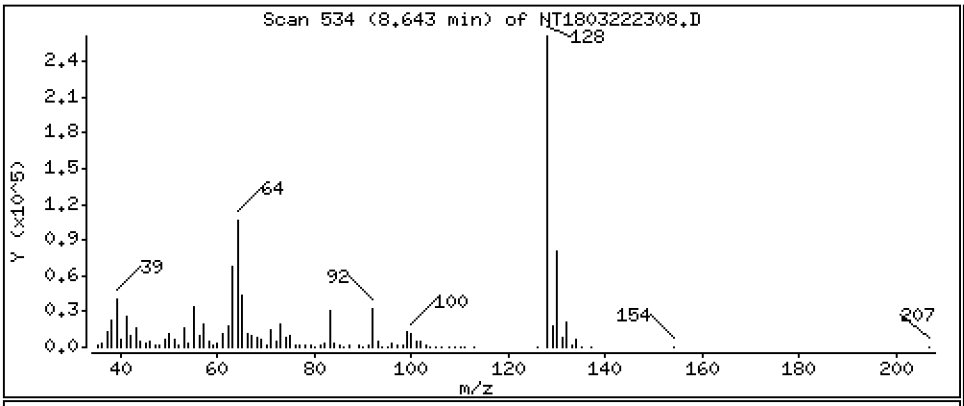
Operator: VTS

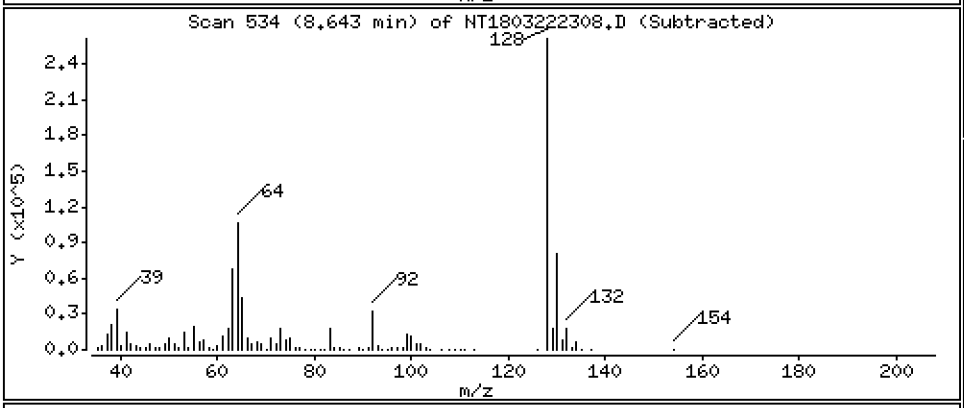
Column phase: ZB-5msi

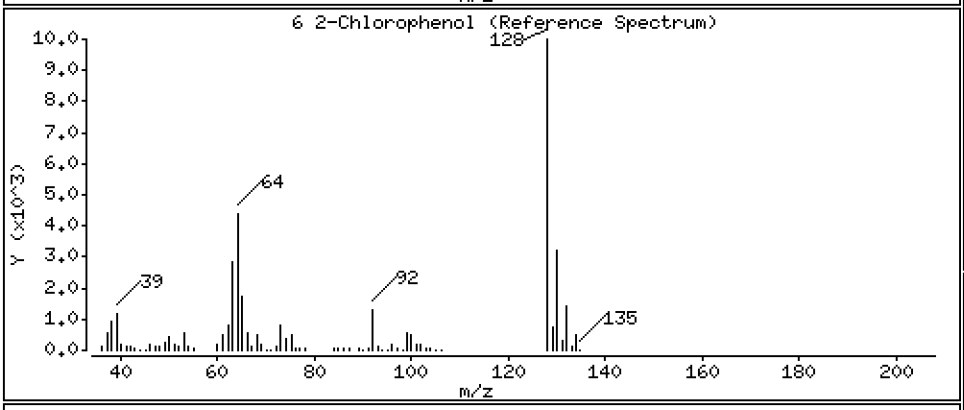
Column diameter: 0.25

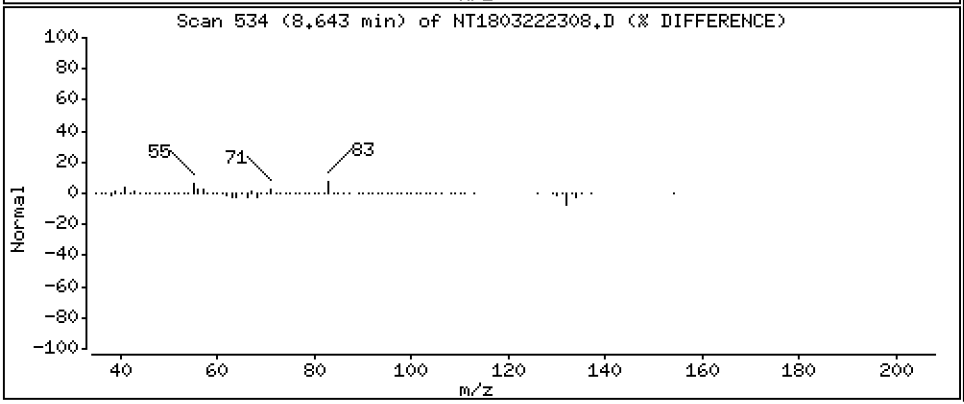
6 2-Chlorophenol

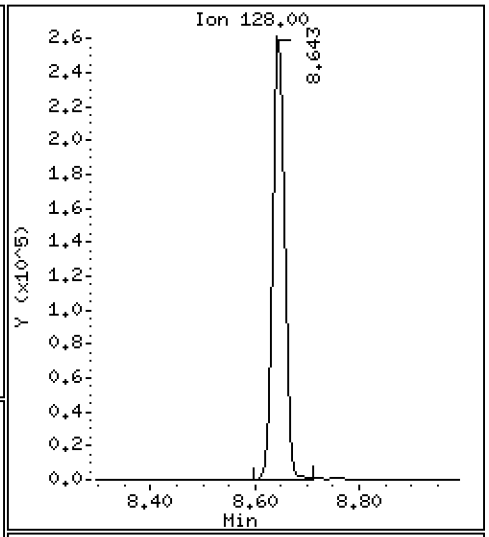
Concentration: 3.859 ug/mL

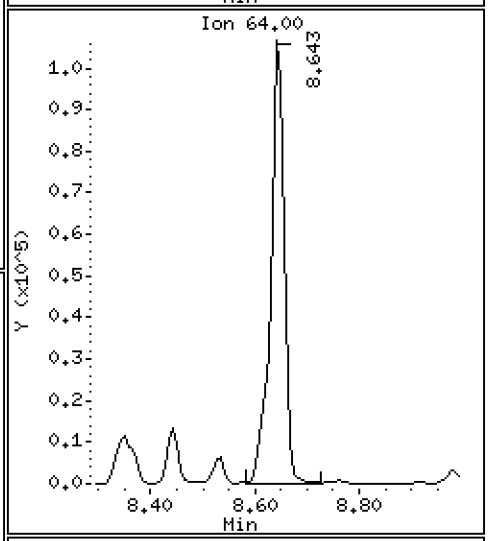


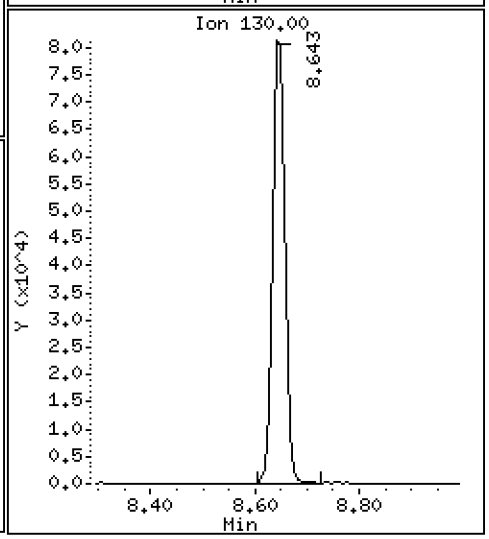












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

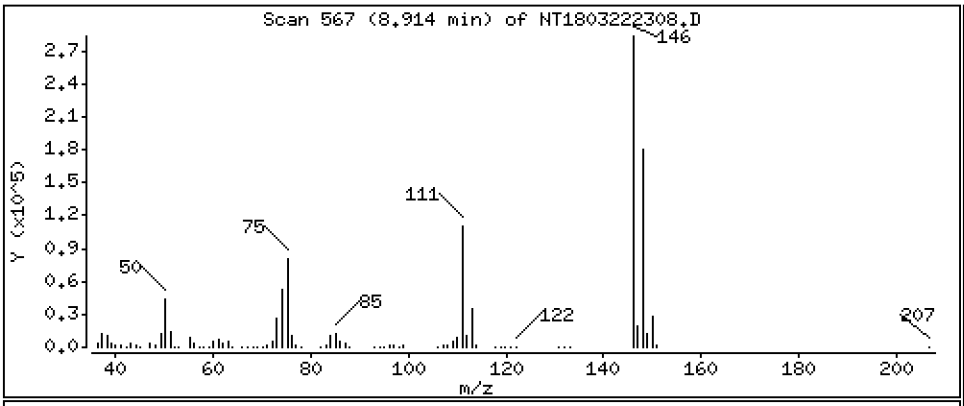
Operator: VTS

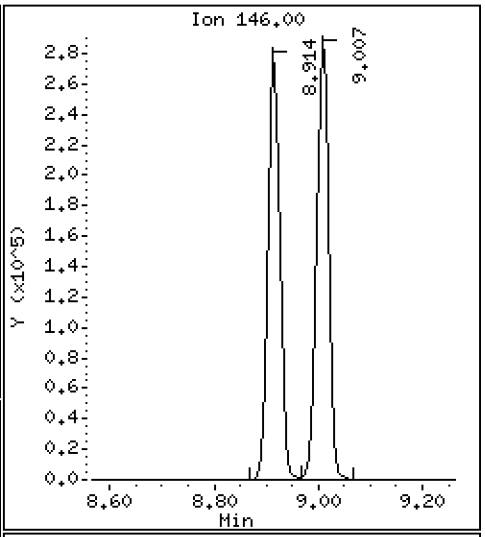
Column phase: ZB-5msi

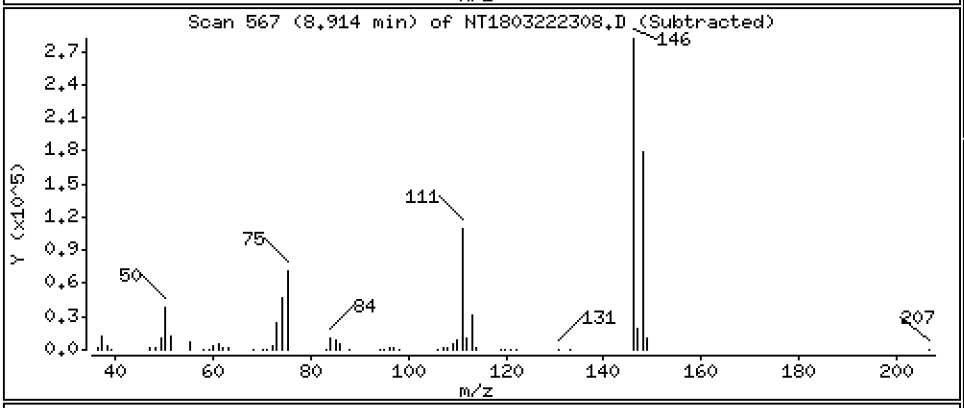
Column diameter: 0.25

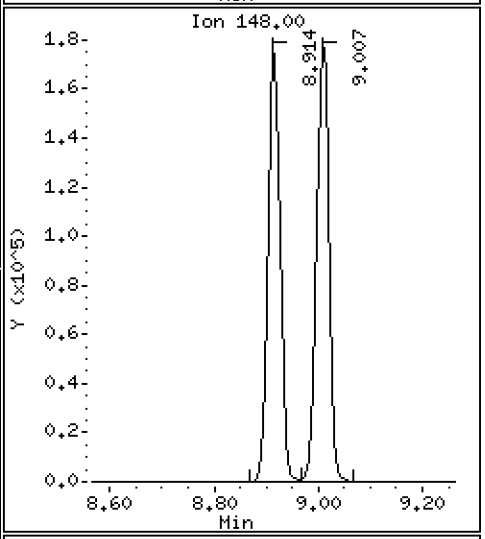
7 1,3-Dichlorobenzene

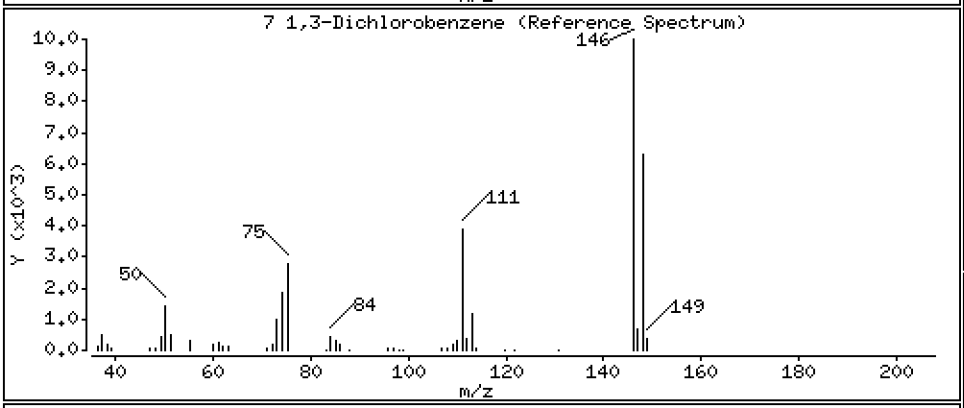
Concentration: 3.956 ug/mL

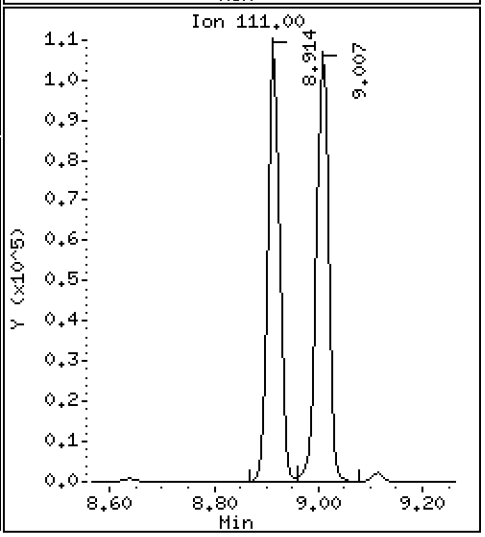


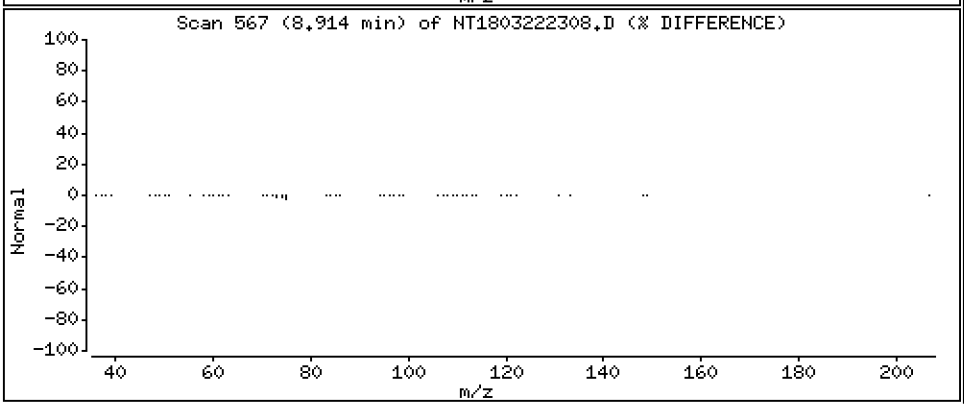












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

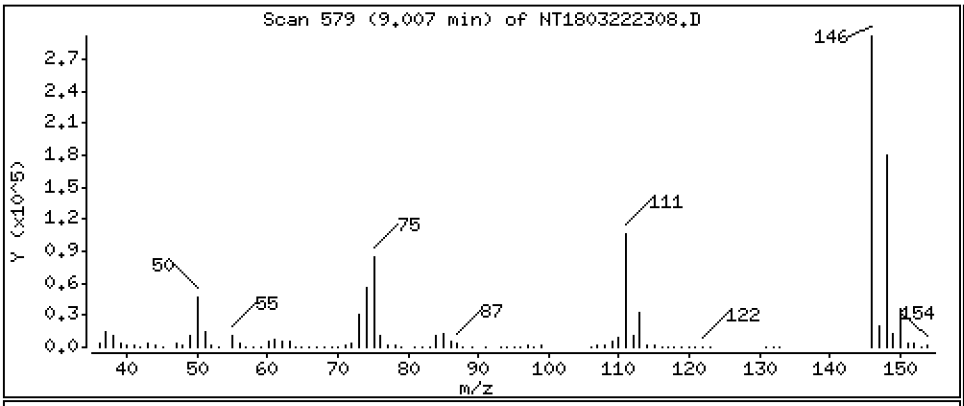
Operator: VTS

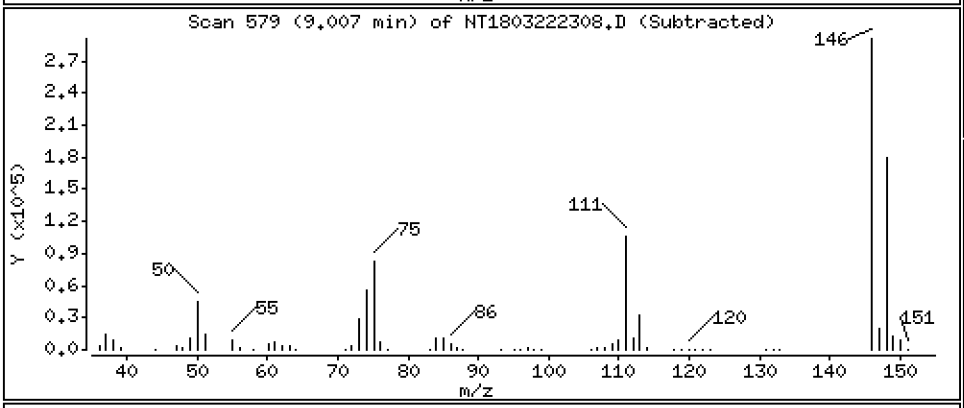
Column phase: ZB-5msi

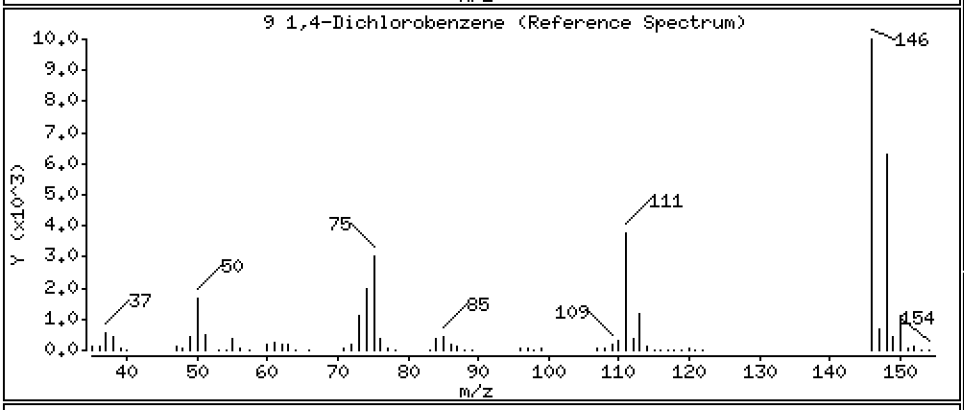
Column diameter: 0.25

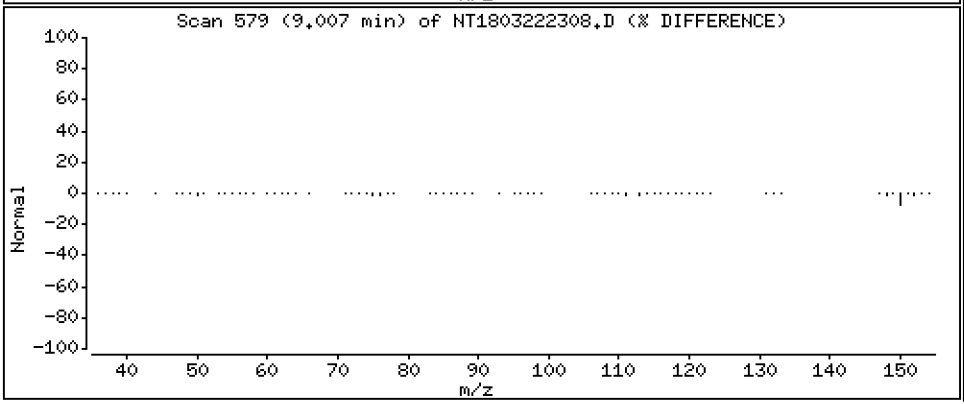
9 1,4-Dichlorobenzene

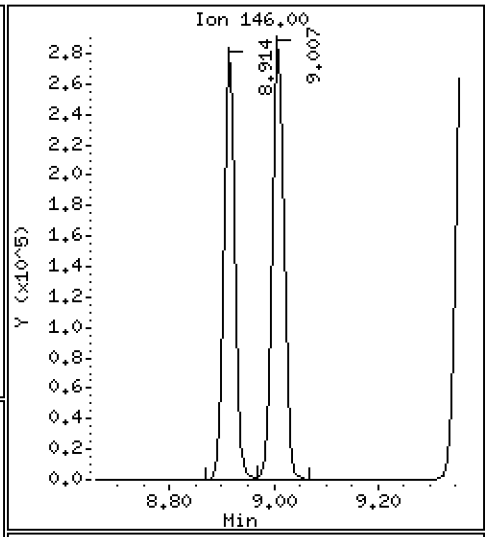
Concentration: 4.013 ug/mL

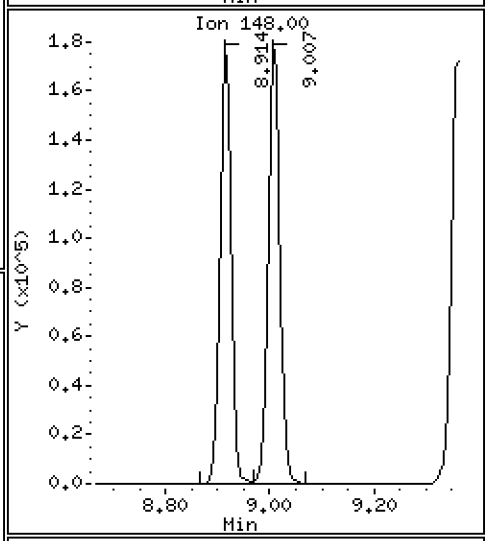


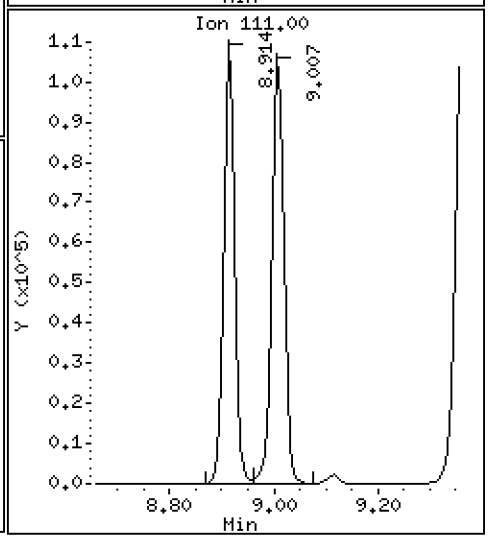












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

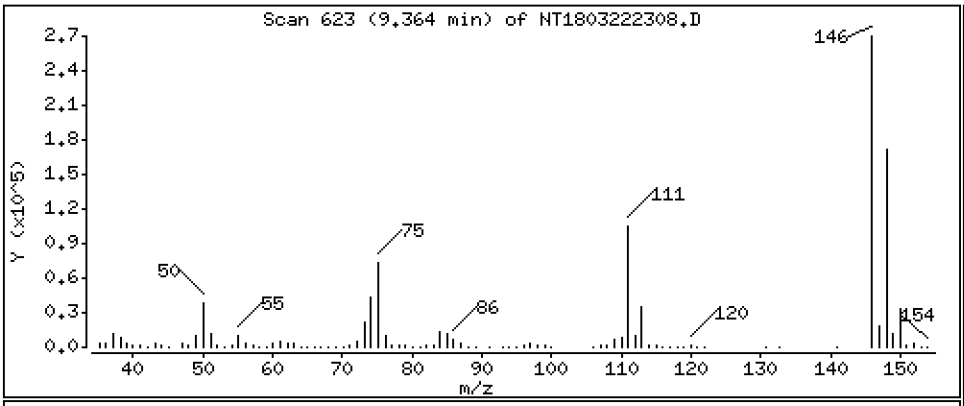
Operator: VTS

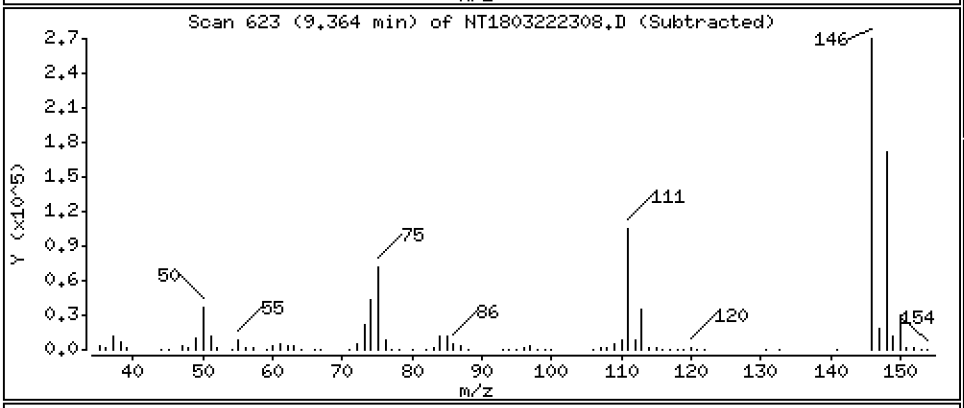
Column phase: ZB-5msi

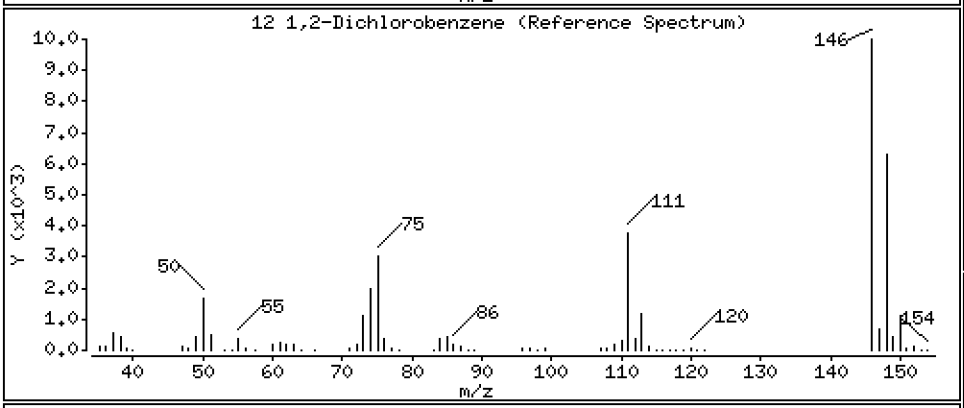
Column diameter: 0.25

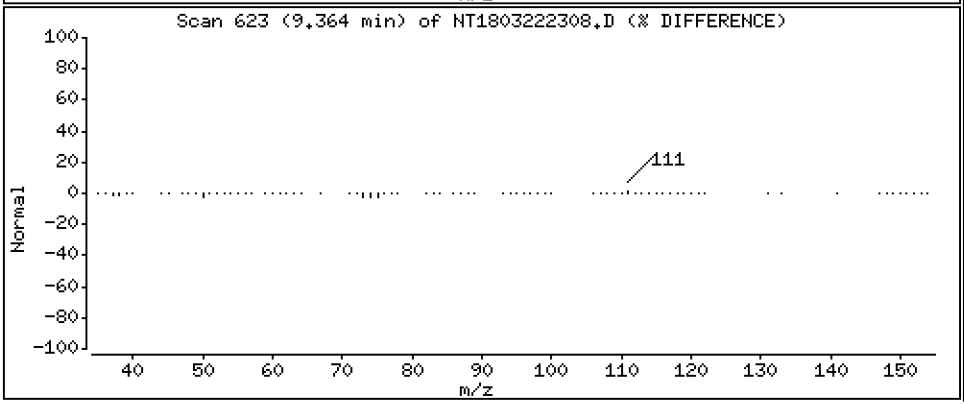
12 1,2-Dichlorobenzene

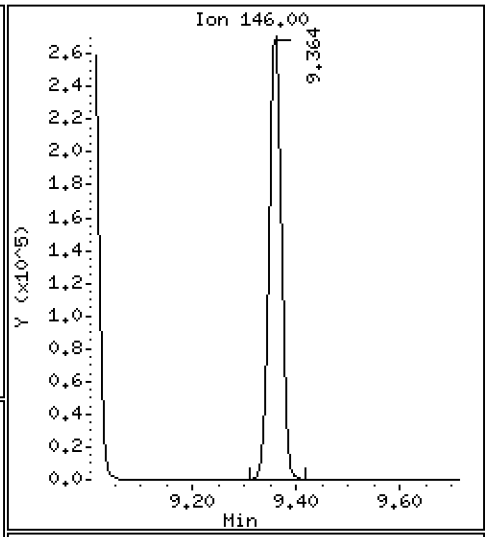
Concentration: 3.962 ug/mL

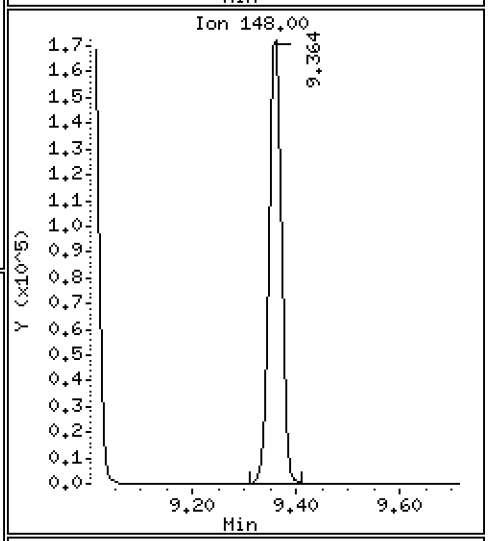


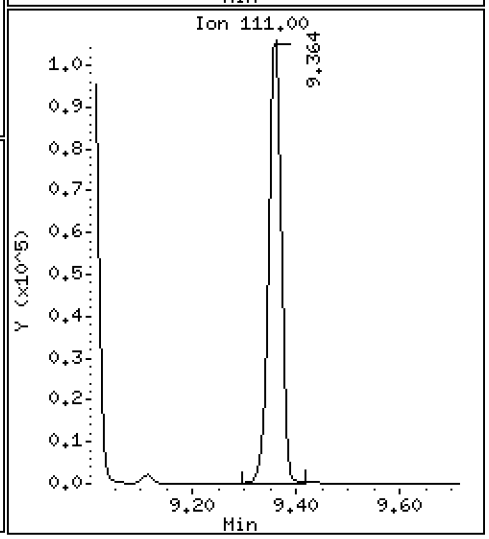












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

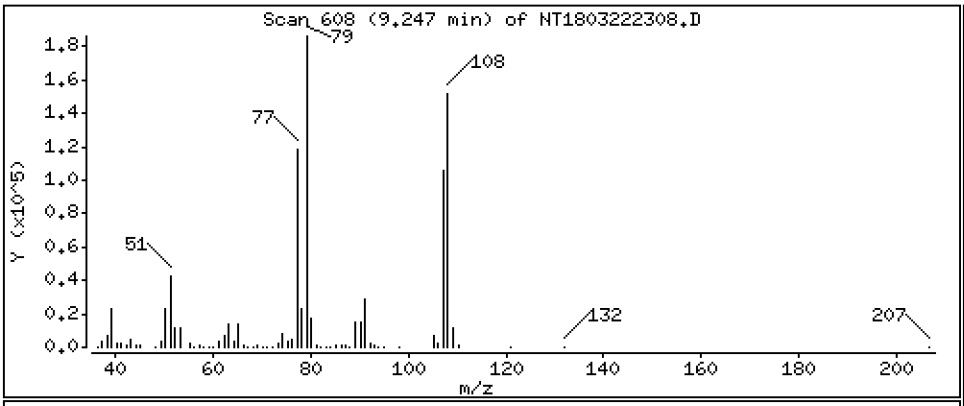
Operator: VTS

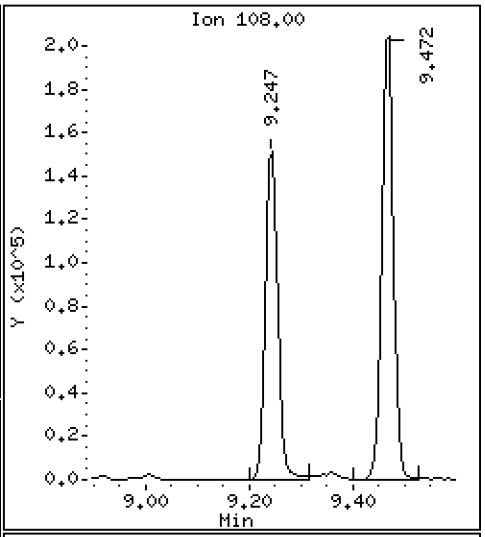
Column phase: ZB-5msi

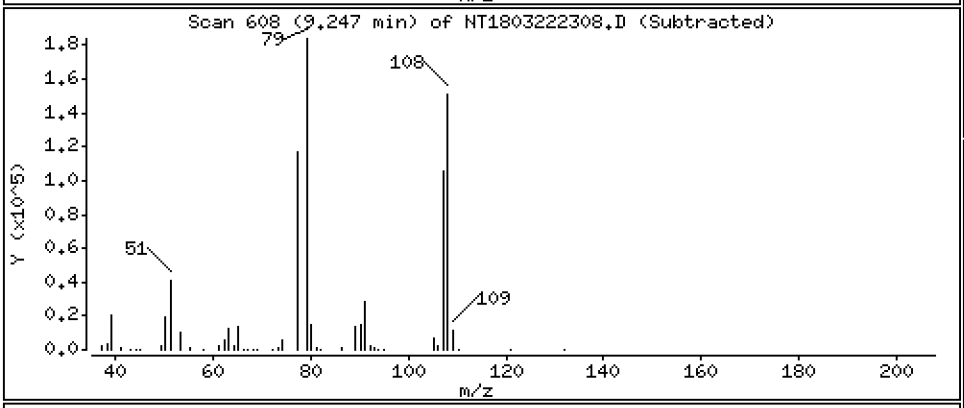
Column diameter: 0.25

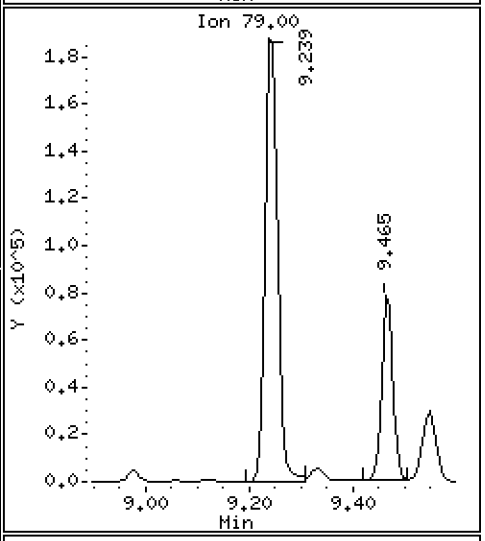
11 Benzyl alcohol

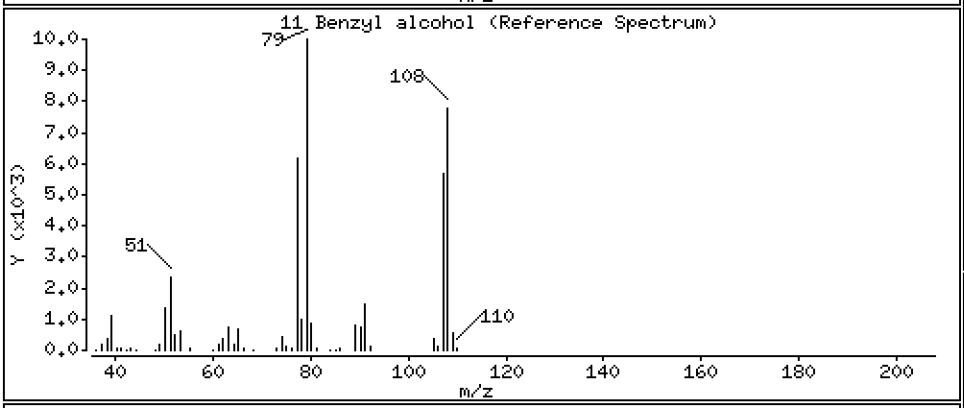
Concentration: 4.284 ug/mL

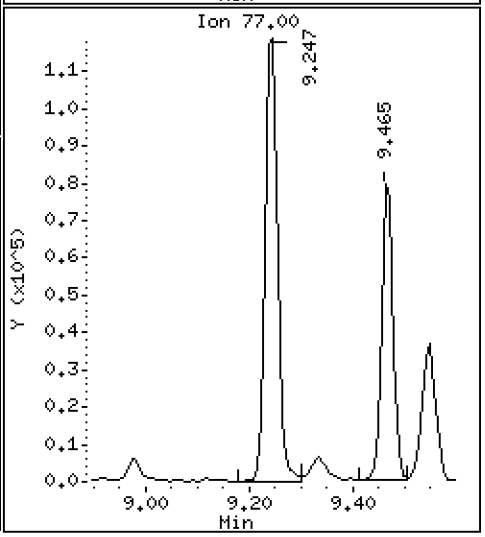


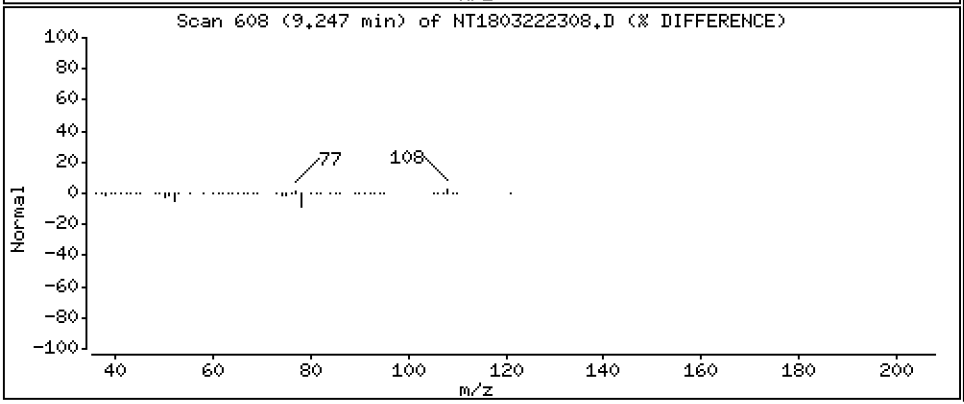












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

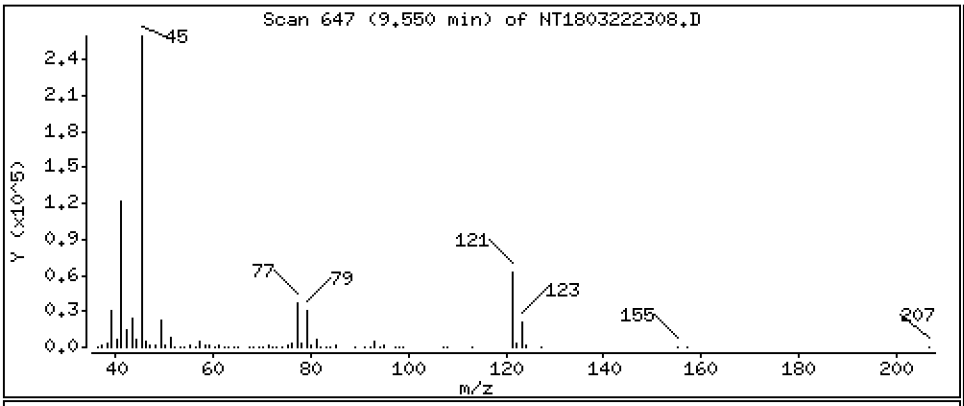
Operator: VTS

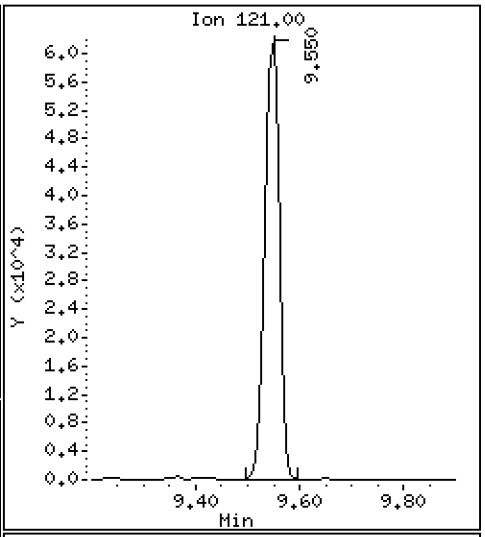
Column phase: ZB-5msi

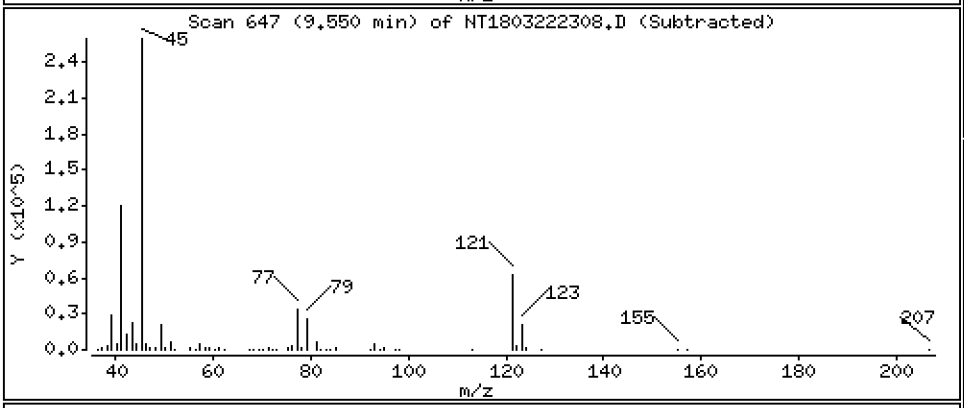
Column diameter: 0.25

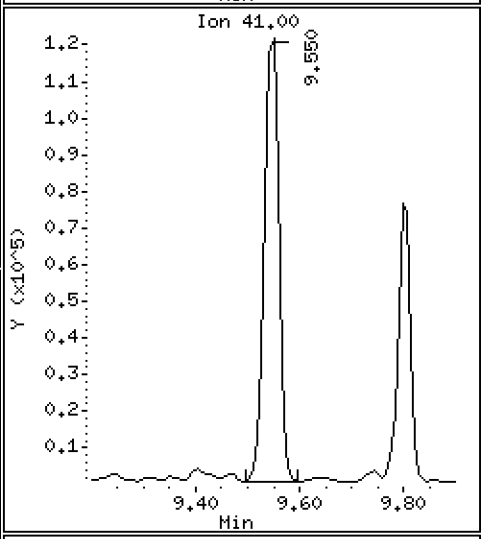
14 2,2'-oxybis(1-Chloropropane)

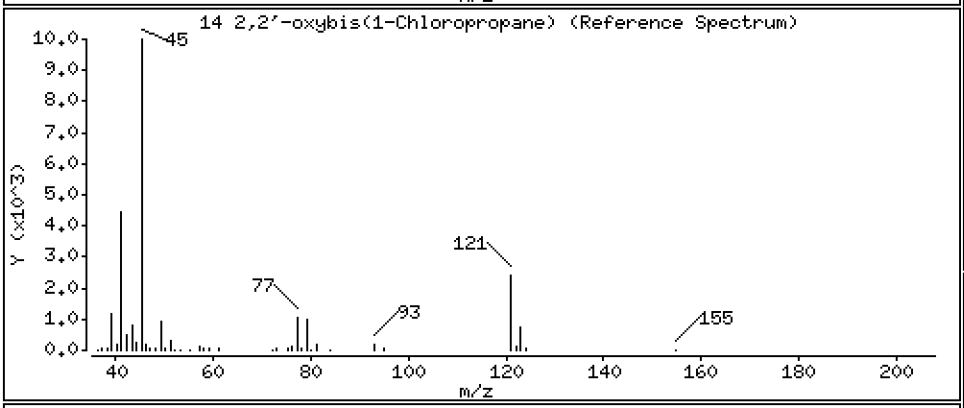
Concentration: 4.559 ug/mL

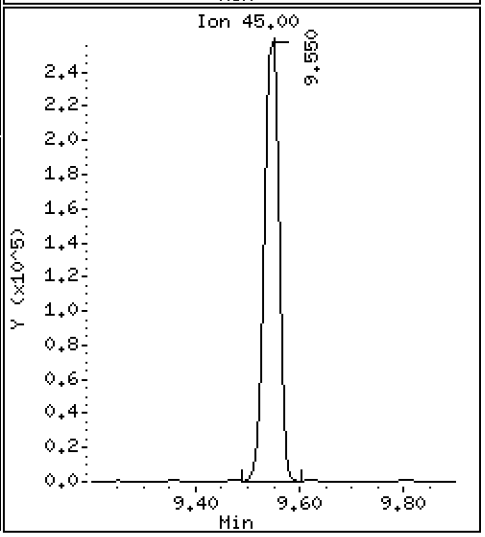


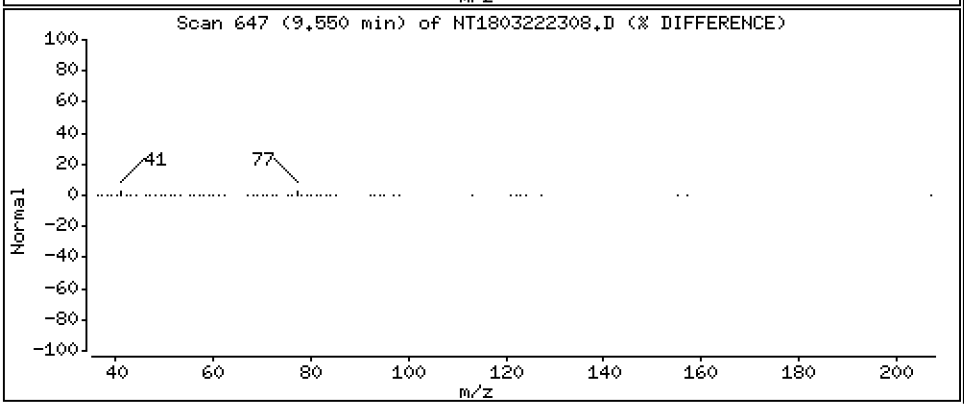












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

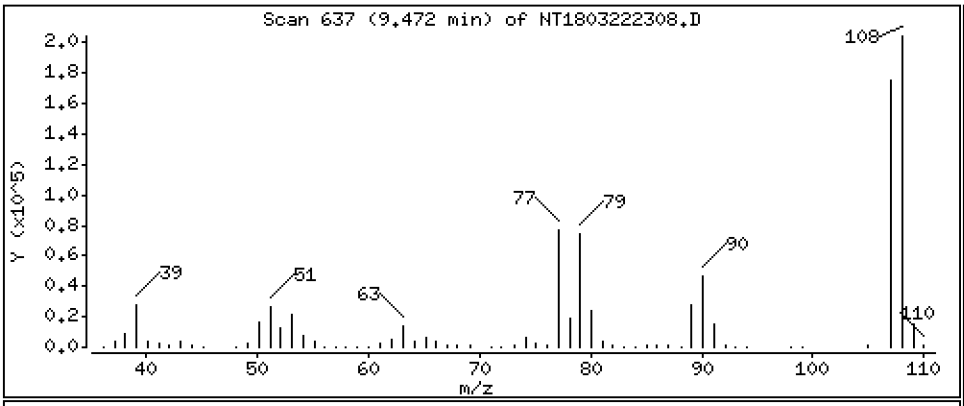
Operator: VTS

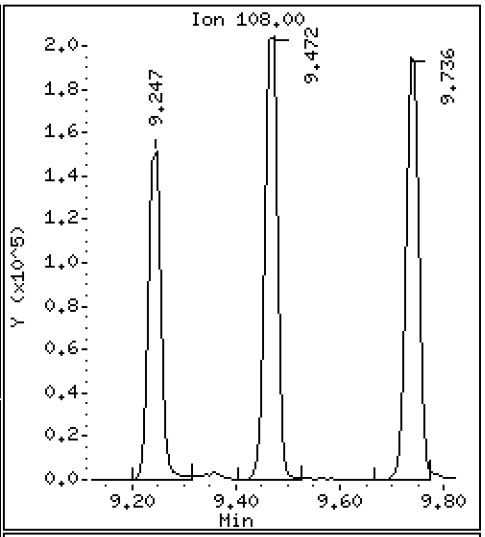
Column phase: ZB-5msi

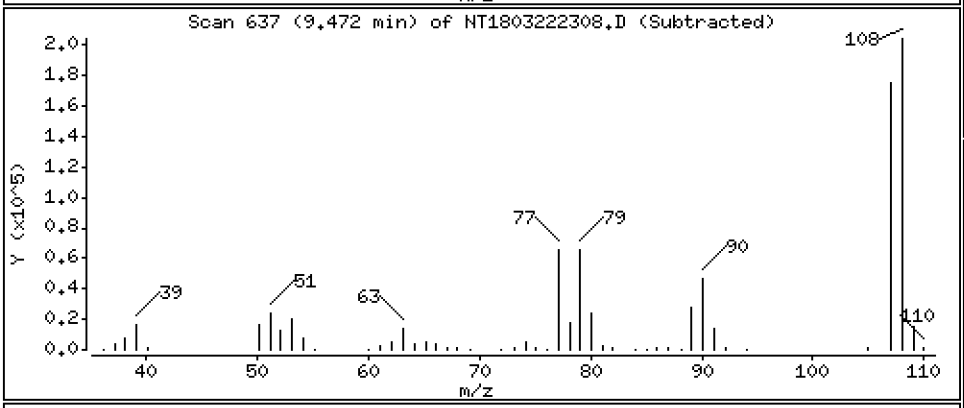
Column diameter: 0.25

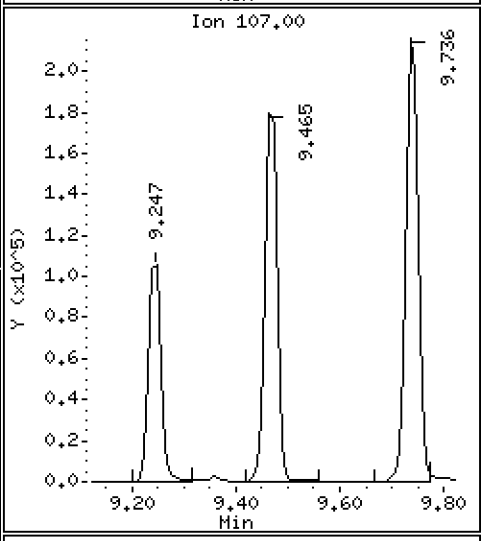
13 2-Methylphenol

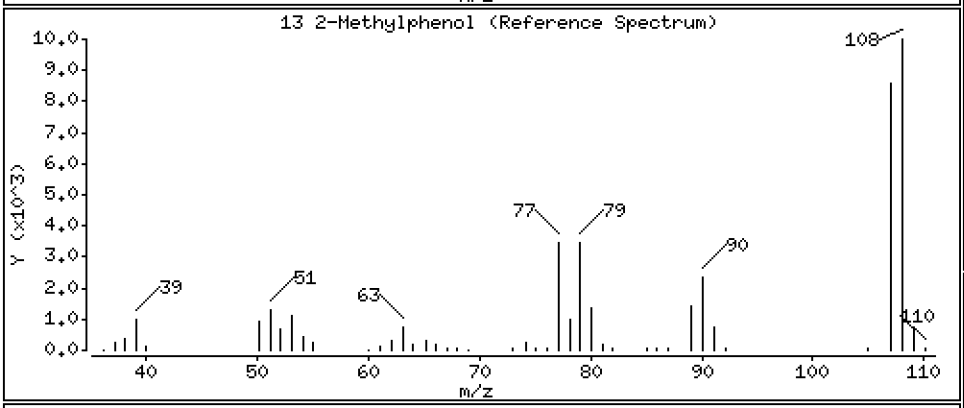
Concentration: 3.517 ug/mL

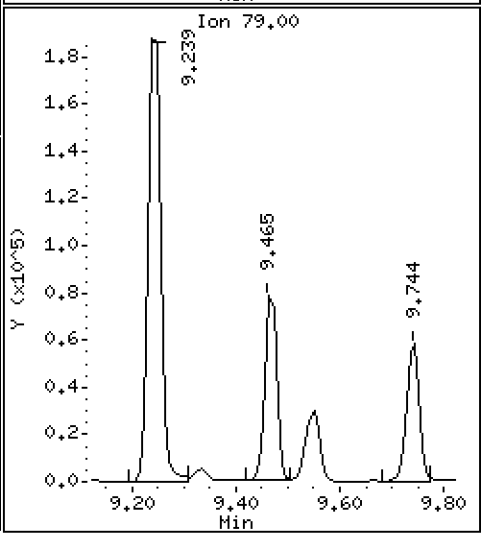


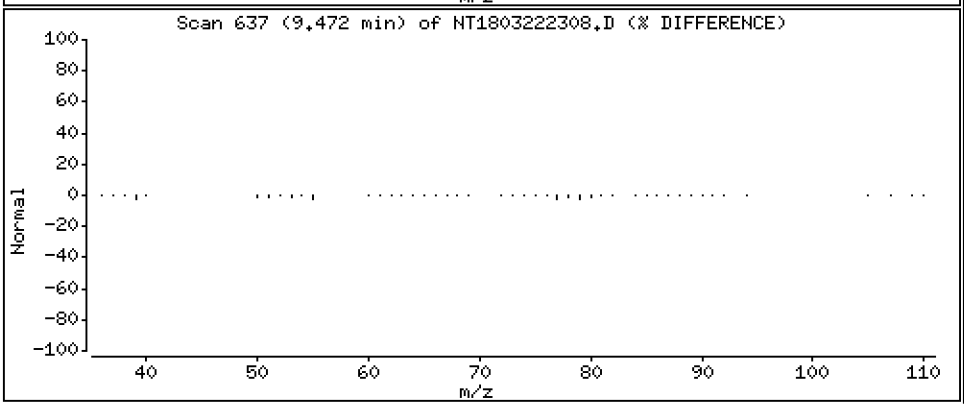












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

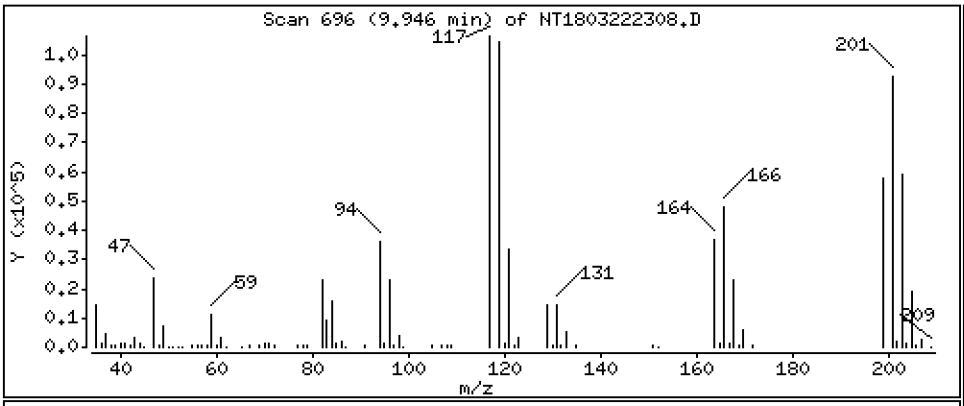
Operator: VTS

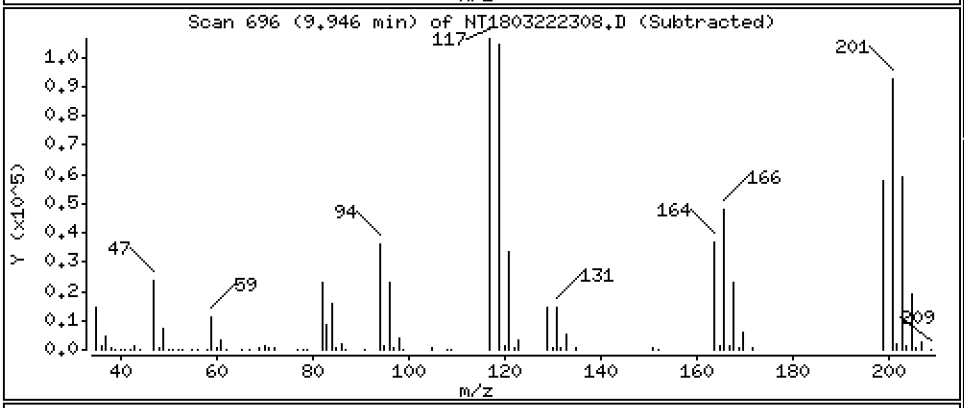
Column phase: ZB-5msi

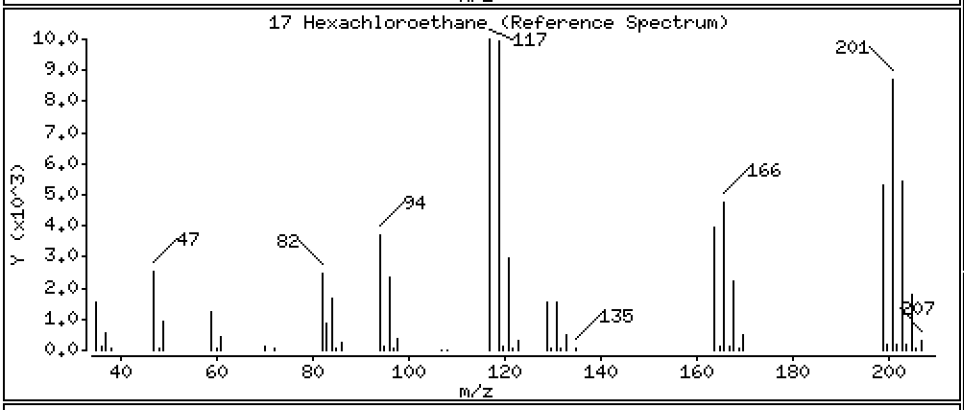
Column diameter: 0.25

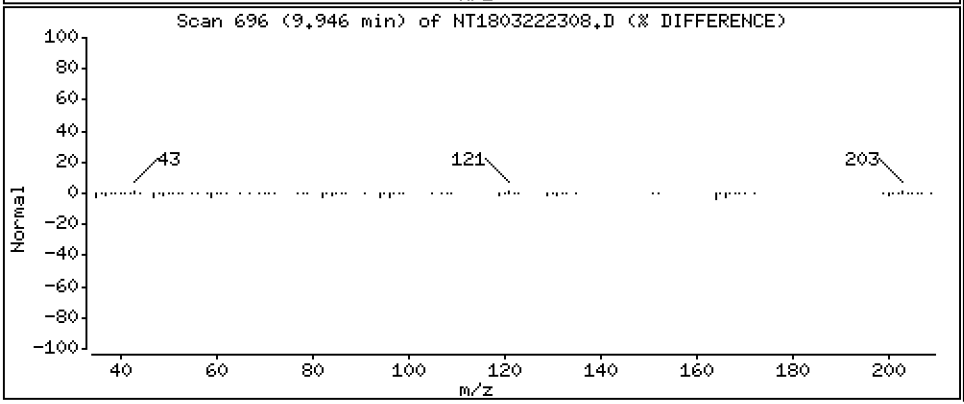
17 Hexachloroethane

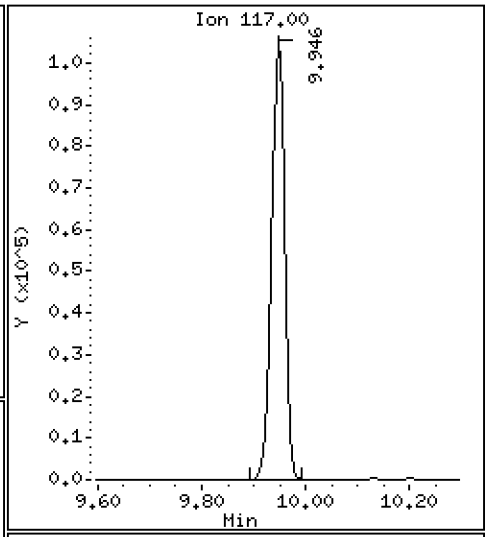
Concentration: 4.057 ug/mL

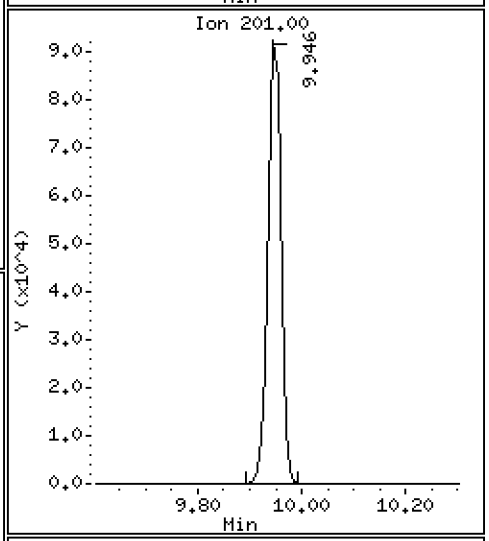


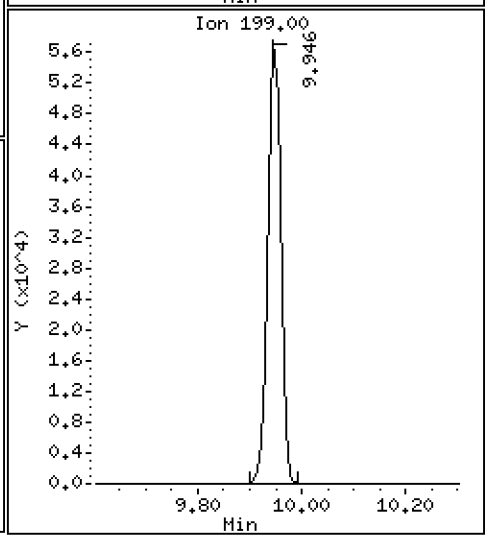












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

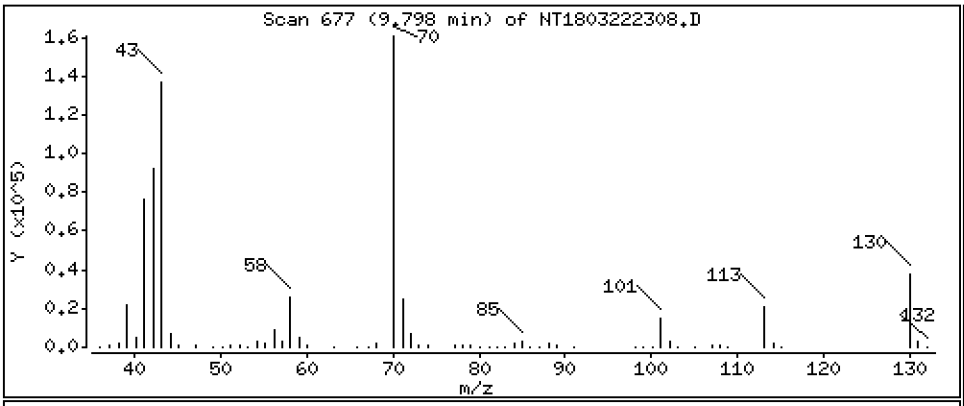
Operator: VTS

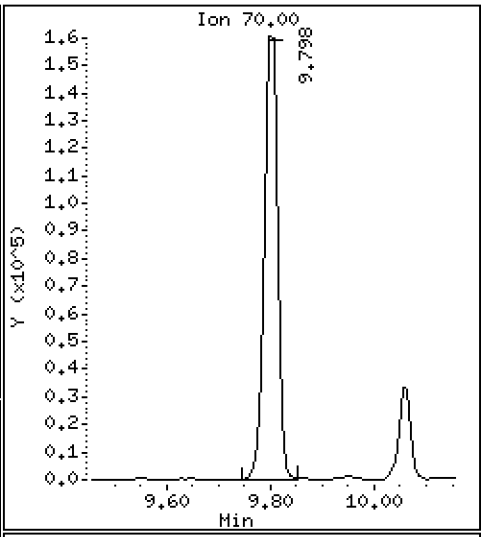
Column phase: ZB-5msi

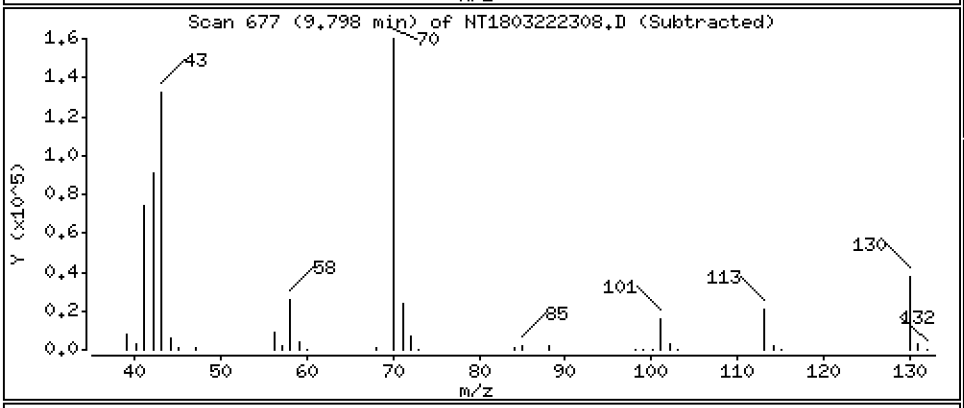
Column diameter: 0.25

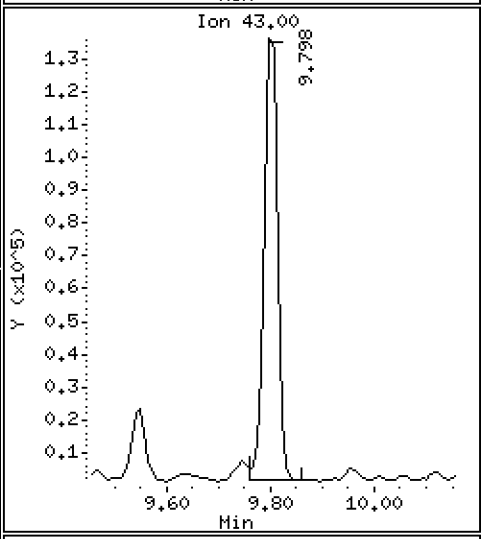
16 N-Nitroso-di-n-propylamine

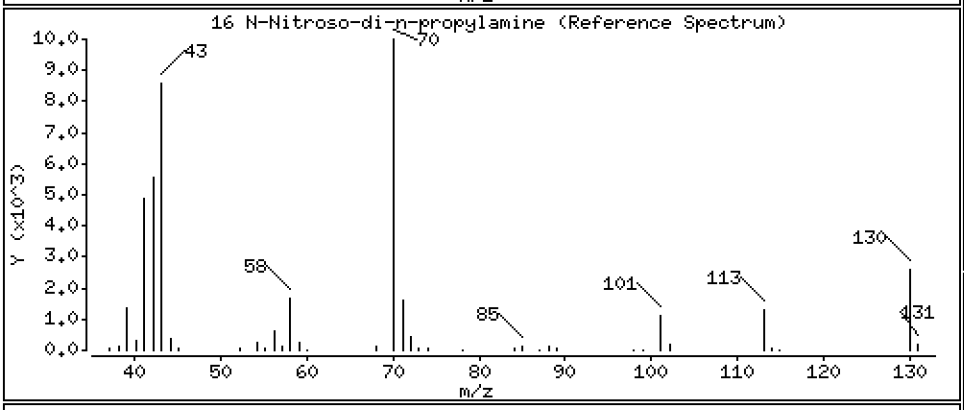
Concentration: 4.115 ug/mL

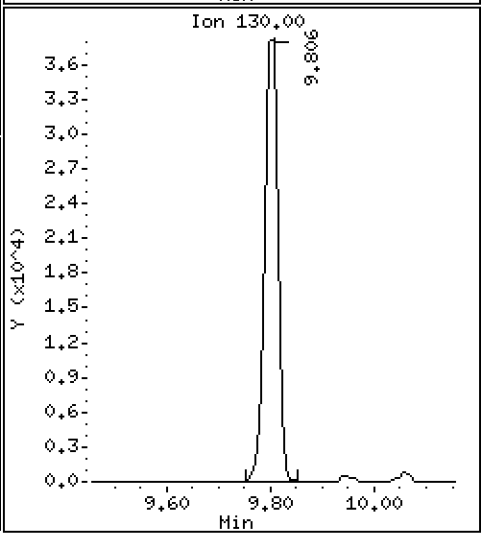


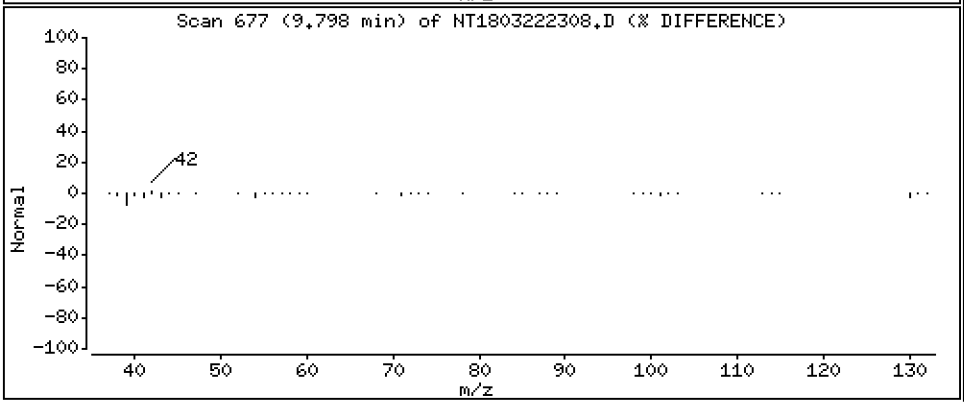












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

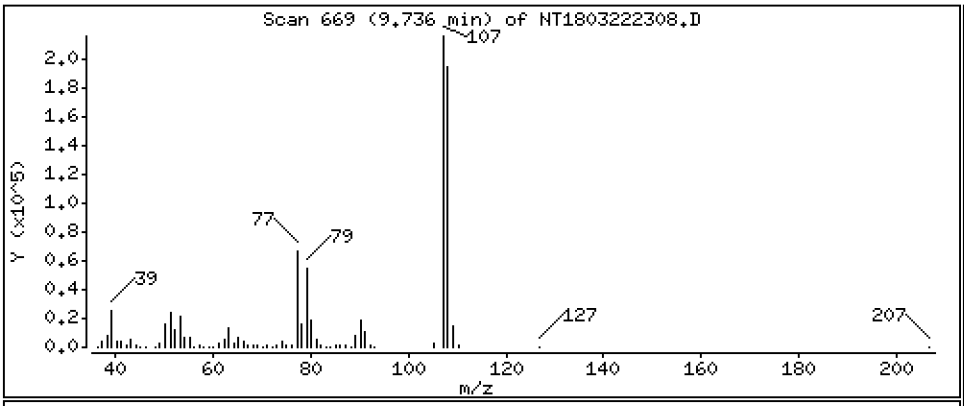
Operator: VTS

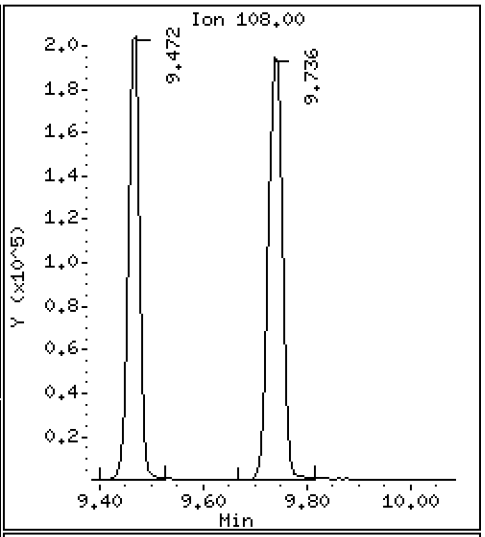
Column phase: ZB-5msi

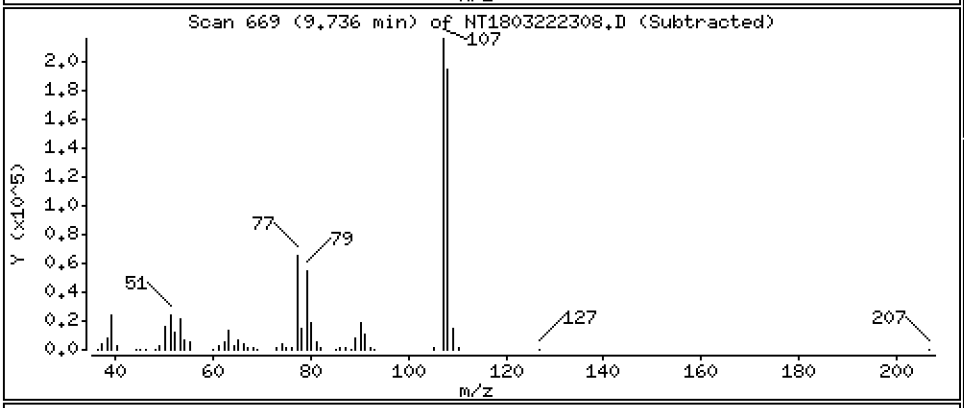
Column diameter: 0.25

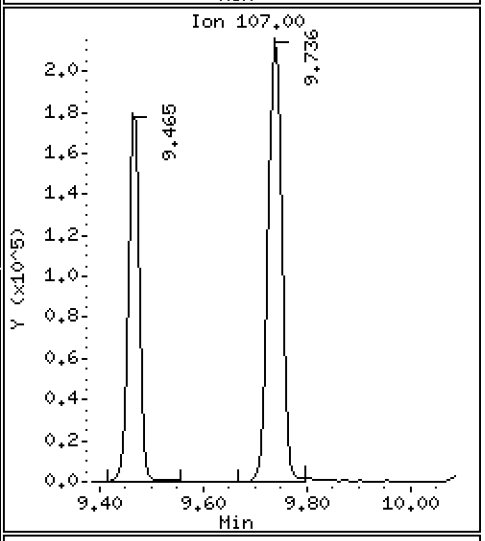
15 4-Methylphenol

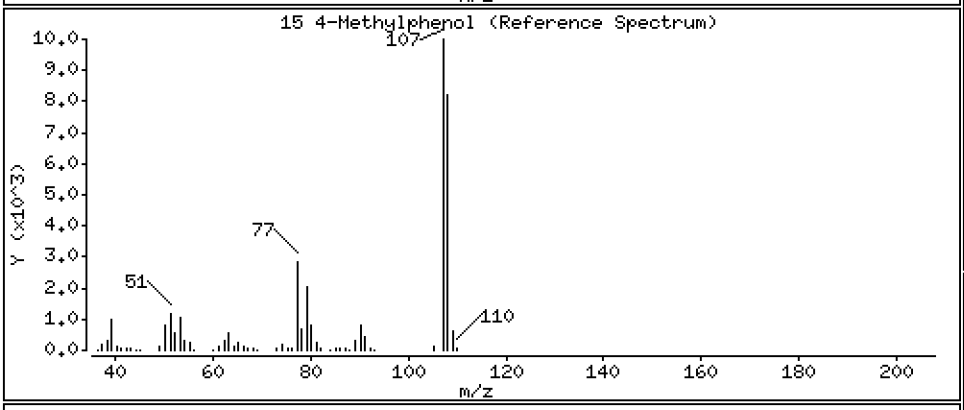
Concentration: 3.754 ug/mL

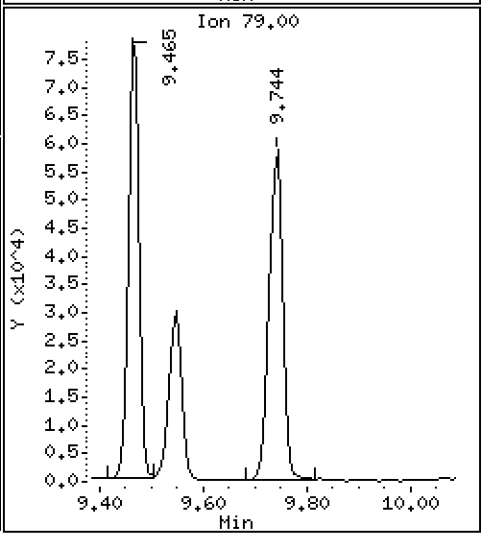


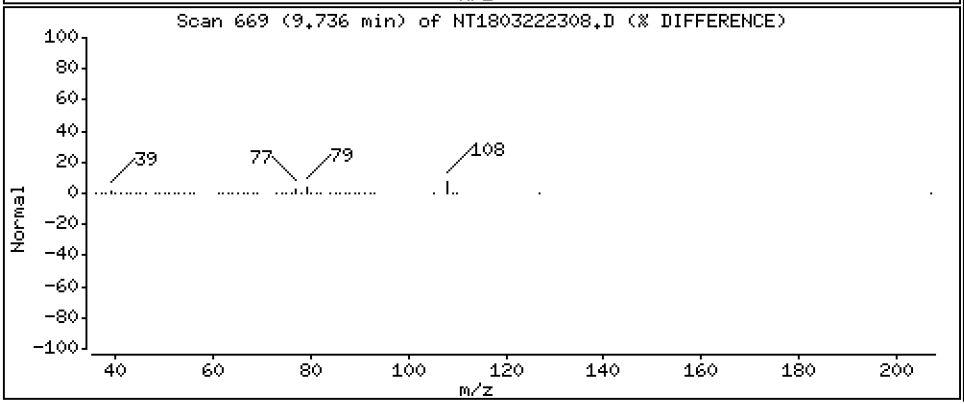












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

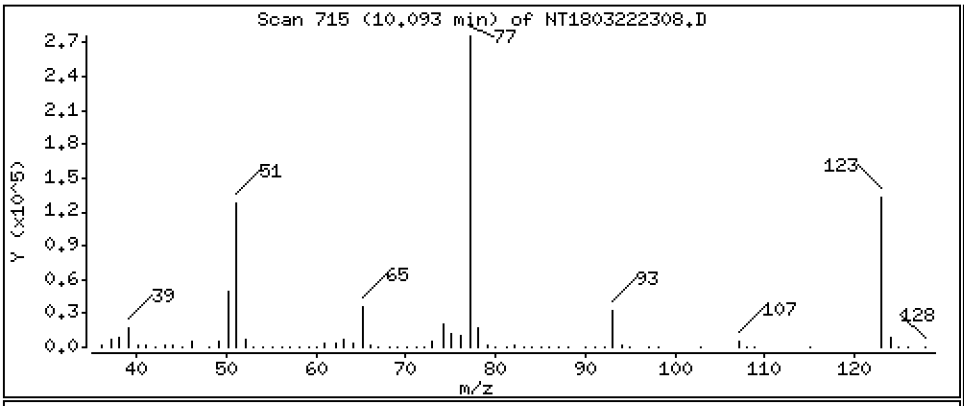
Operator: VTS

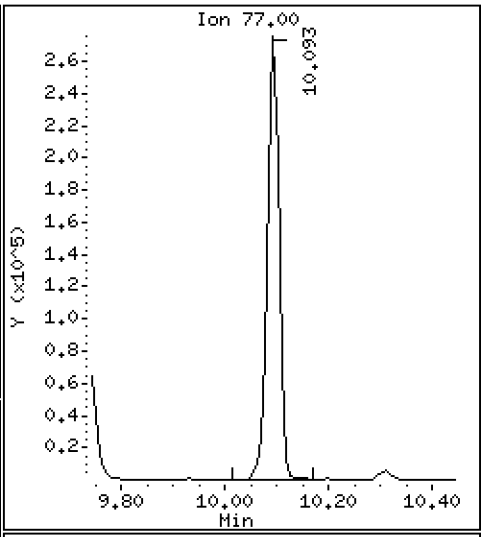
Column phase: ZB-5msi

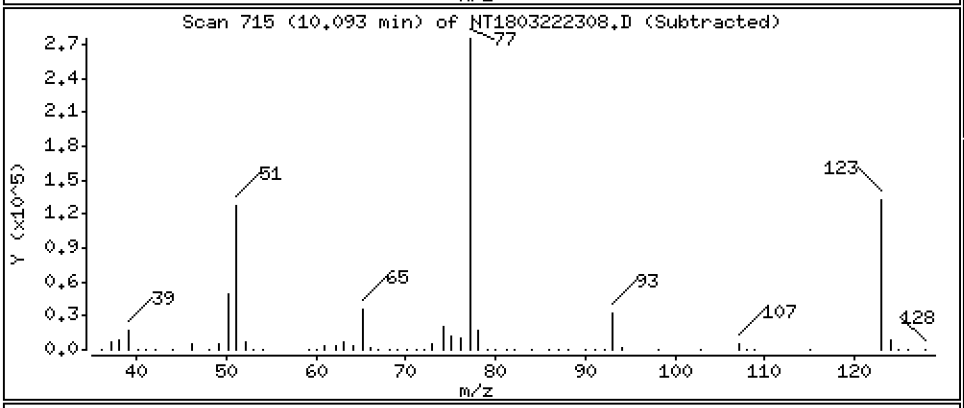
Column diameter: 0.25

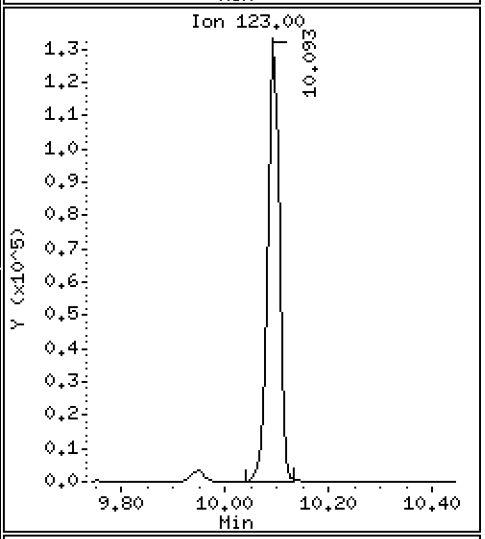
19 Nitrobenzene

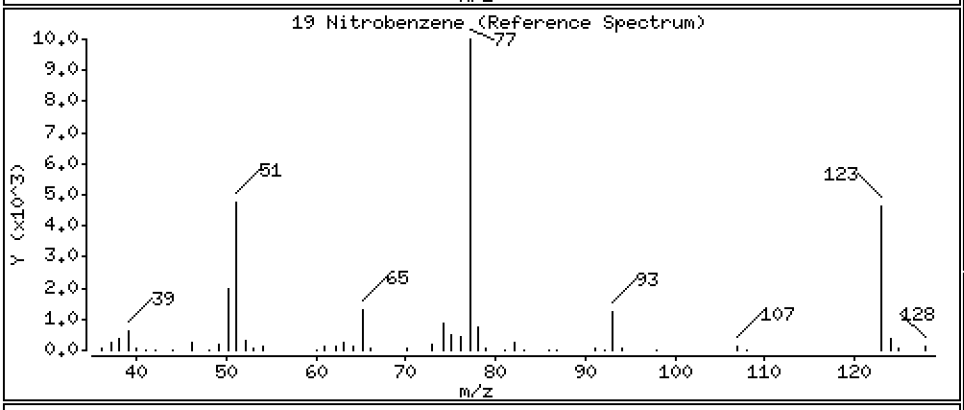
Concentration: 4.552 ug/mL

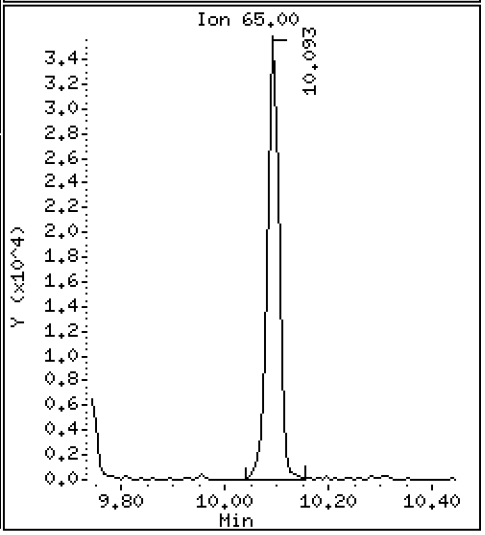


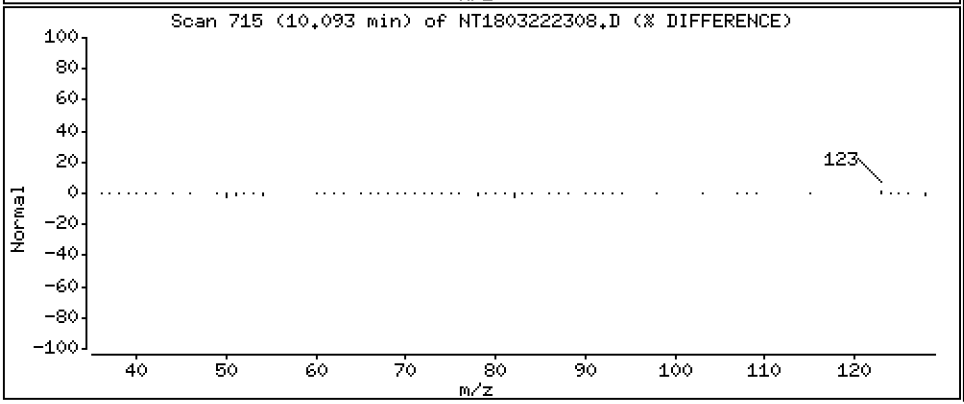












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

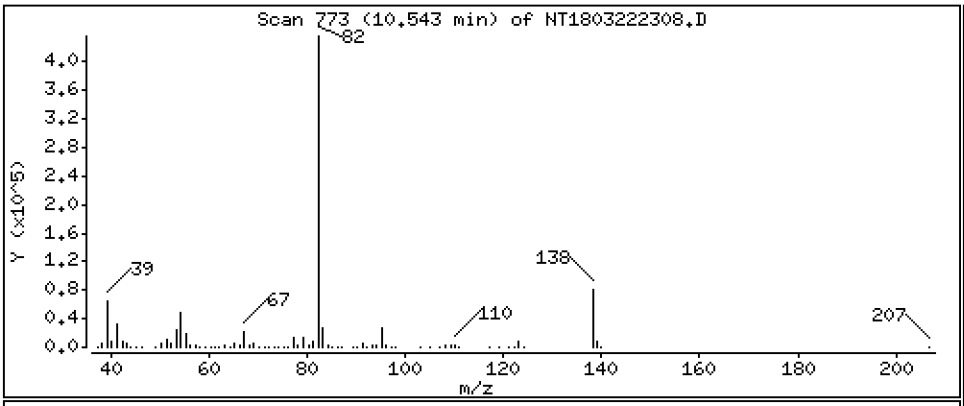
Operator: VTS

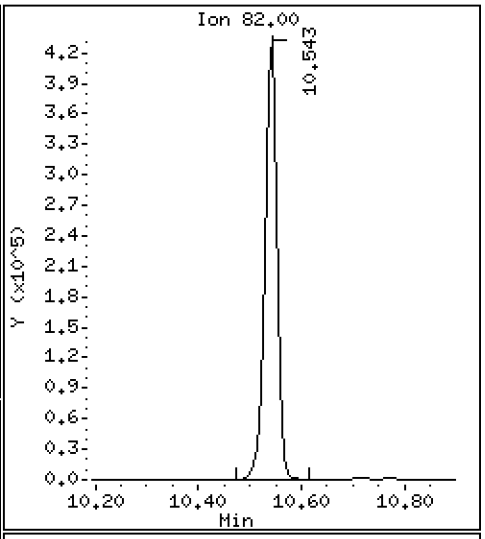
Column phase: ZB-5msi

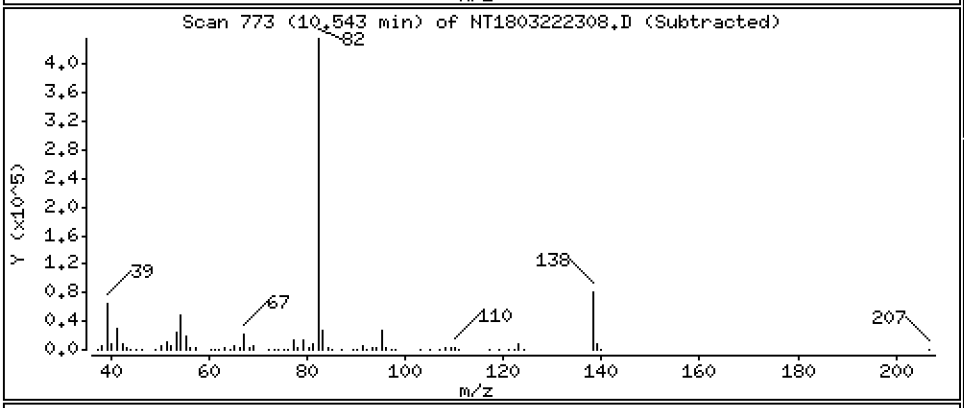
Column diameter: 0.25

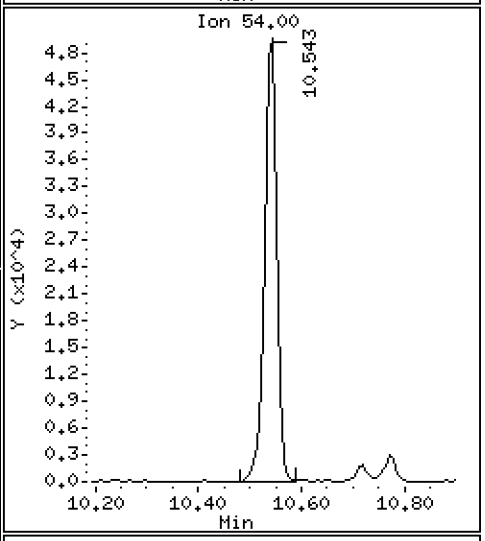
20 Isophorone

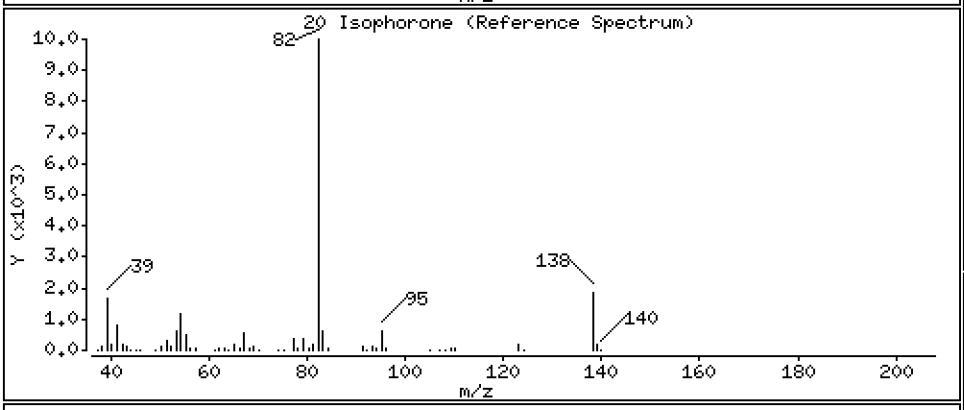
Concentration: 6.025 ug/mL

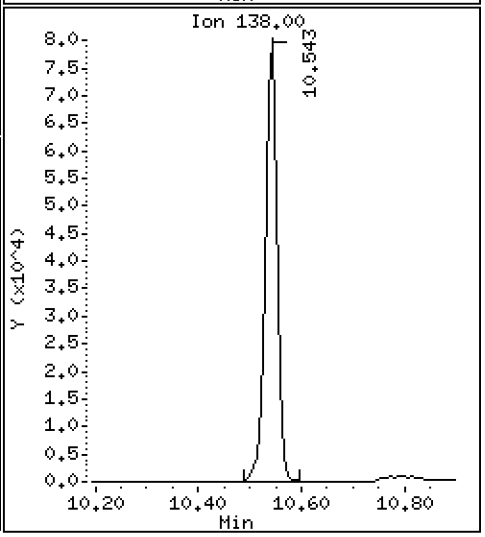


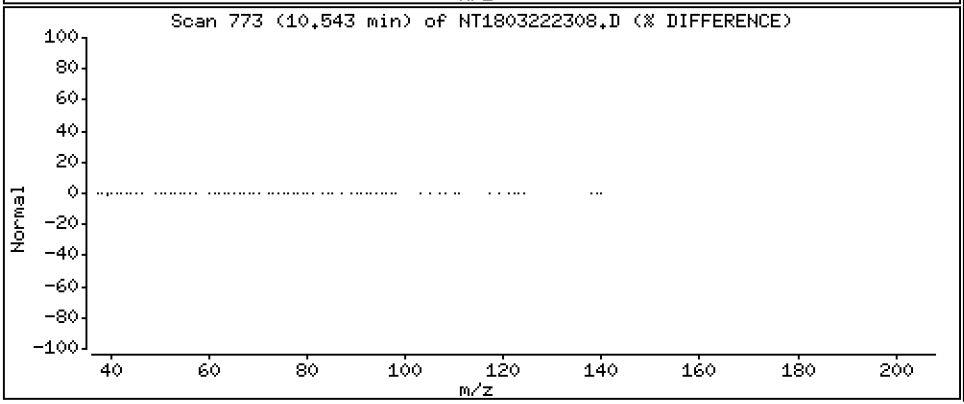












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

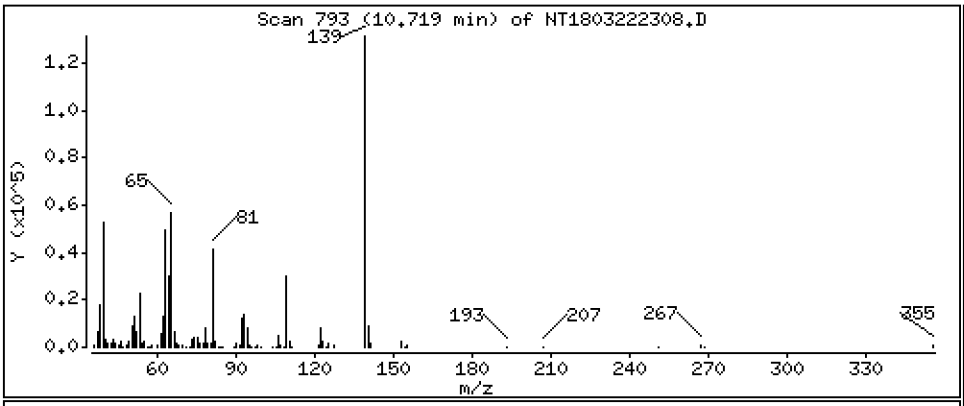
Operator: VTS

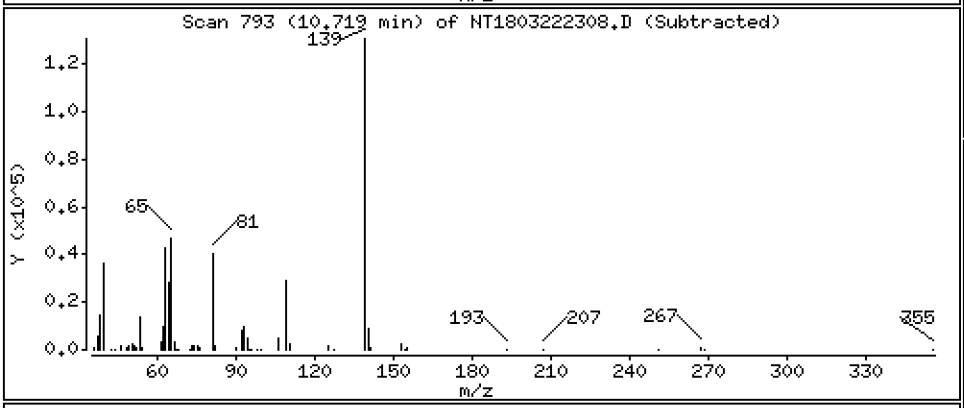
Column phase: ZB-5msi

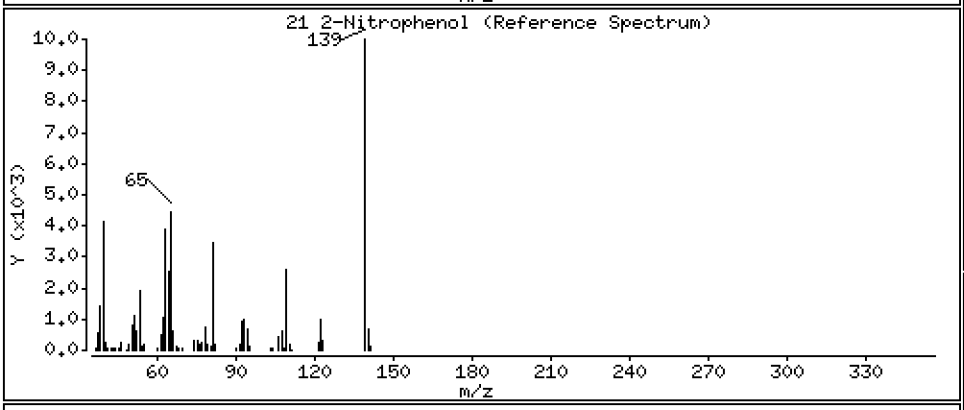
Column diameter: 0.25

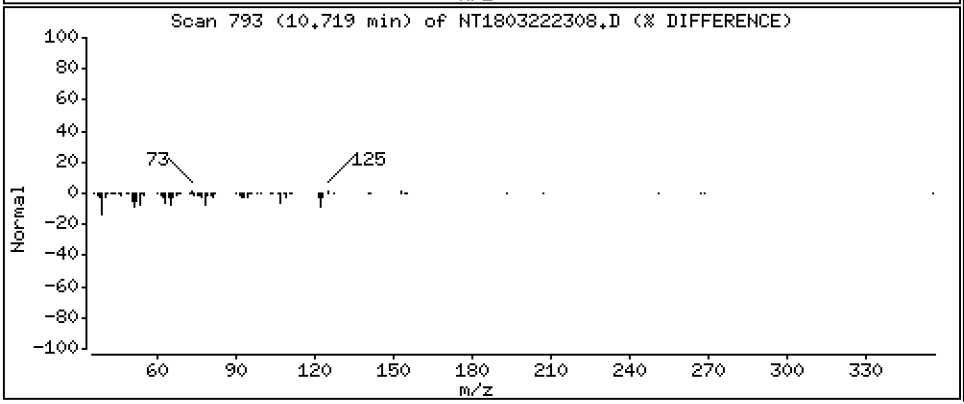
21 2-Nitrophenol

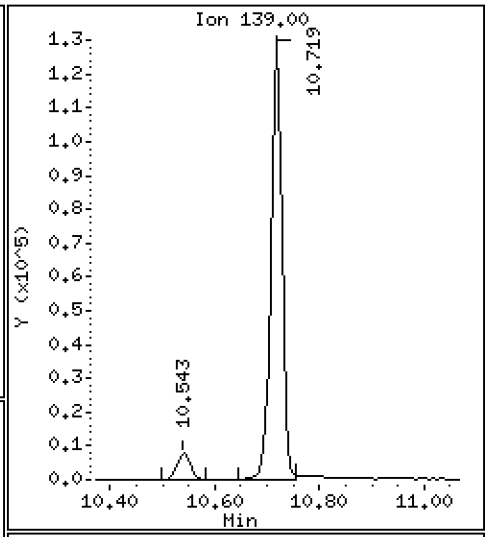
Concentration: 4.119 ug/mL

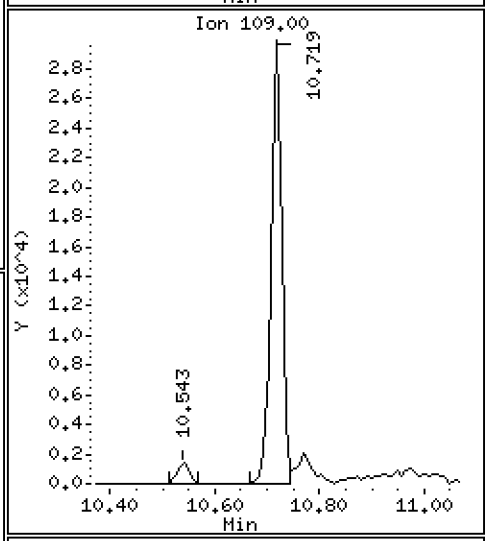


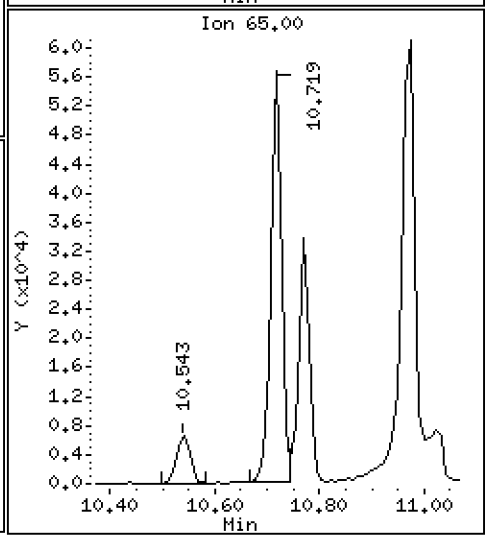












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

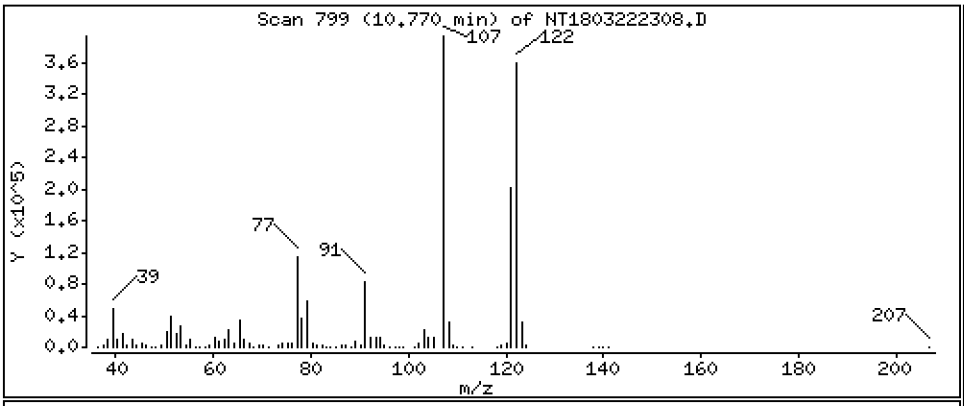
Operator: VTS

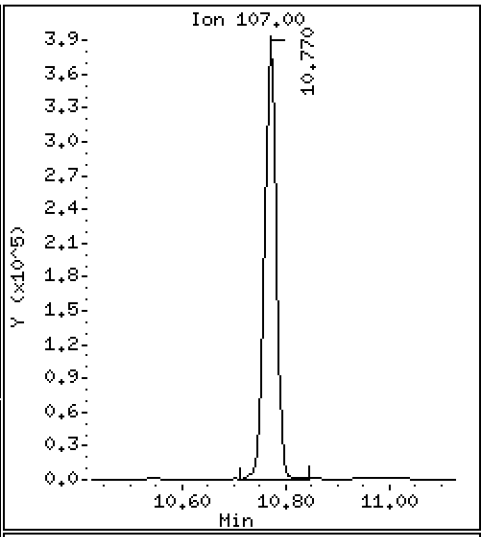
Column phase: ZB-5msi

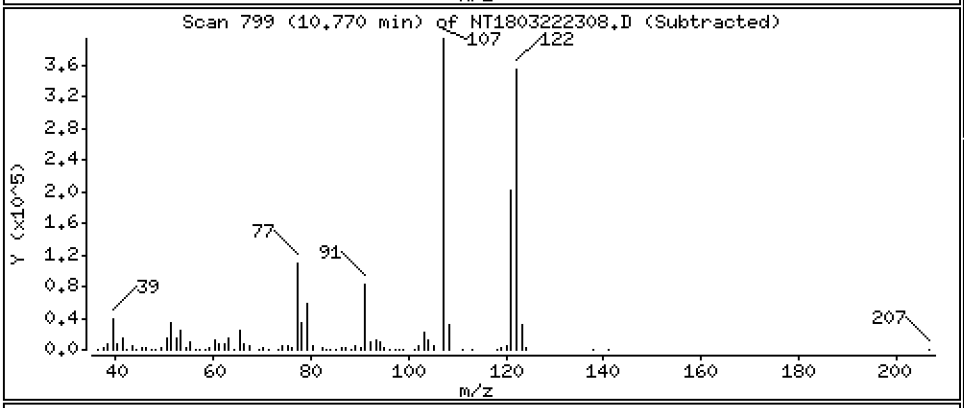
Column diameter: 0.25

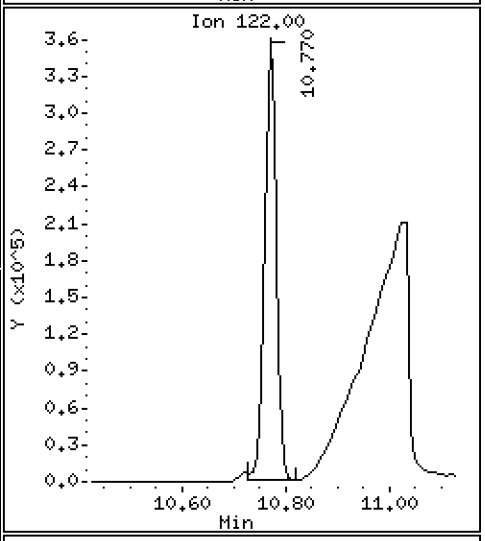
22 2,4-Dimethylphenol

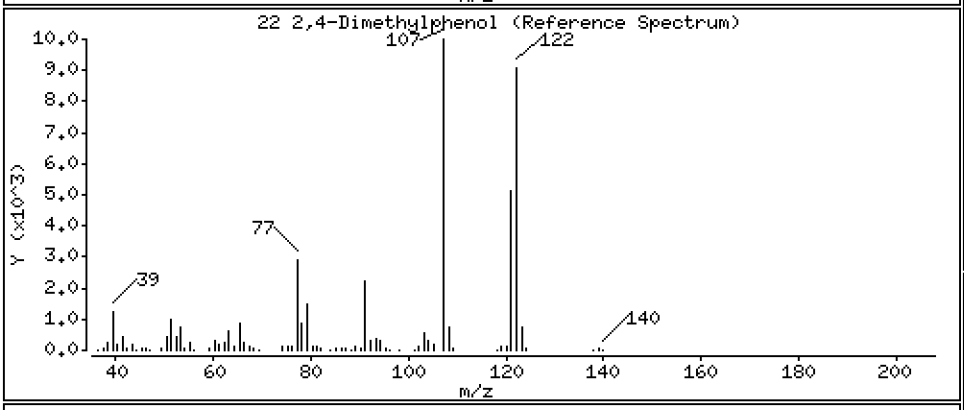
Concentration: 6.770 ug/mL

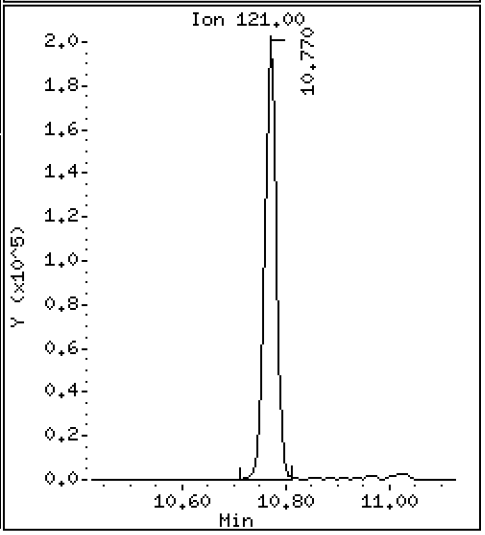


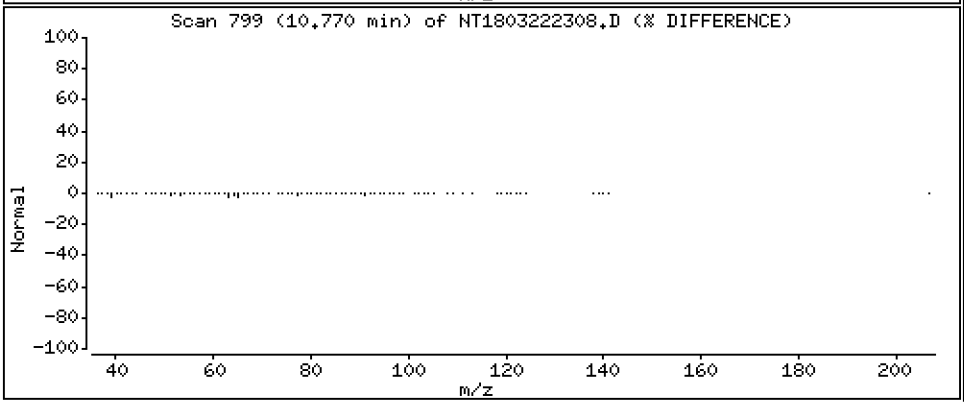












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222308.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

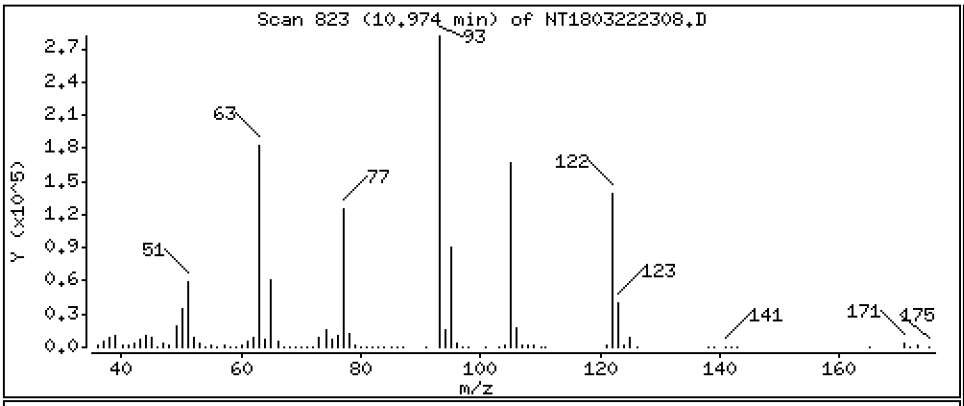
Operator: VTS

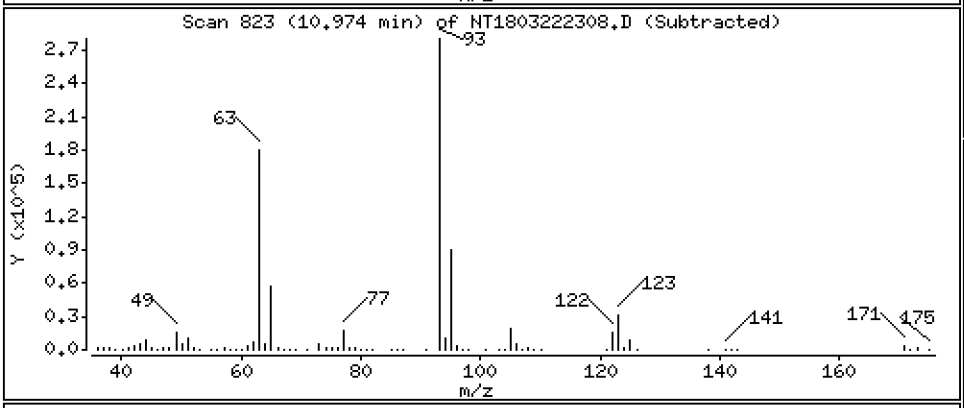
Column phase: ZB-5msi

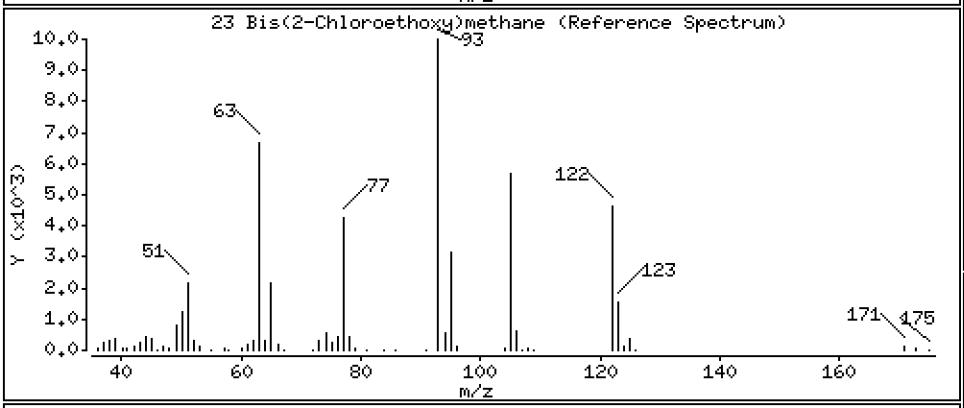
Column diameter: 0.25

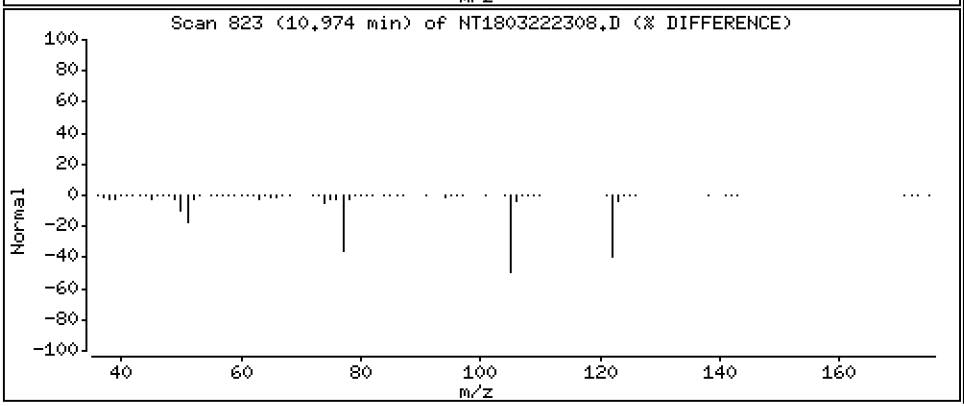
23 Bis(2-Chloroethoxy)methane

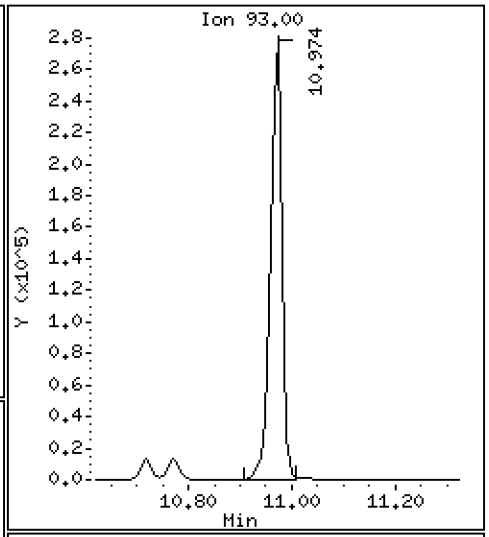
Concentration: 4.970 ug/mL

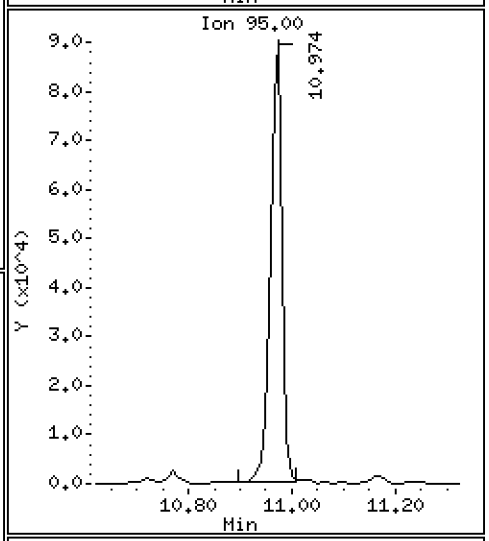


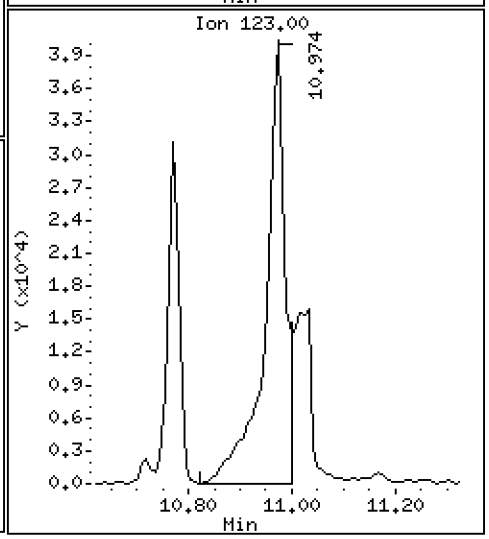












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

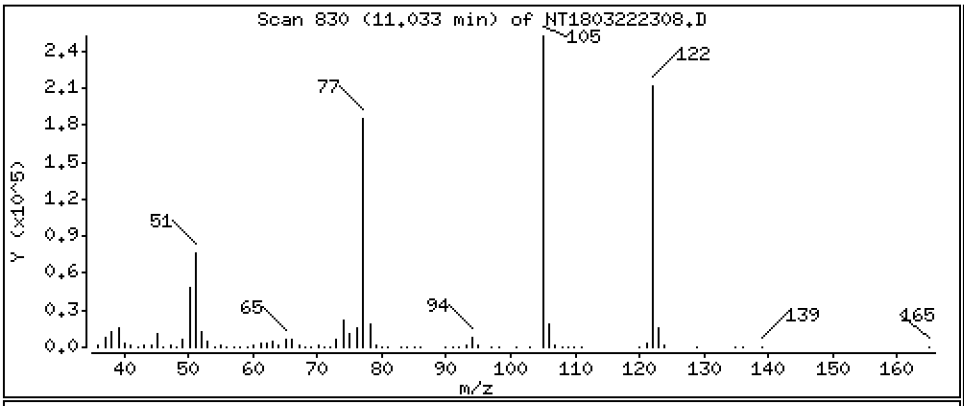
Operator: VTS

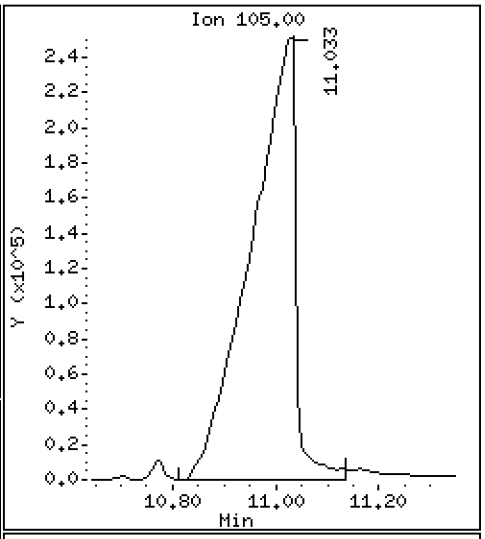
Column phase: ZB-5msi

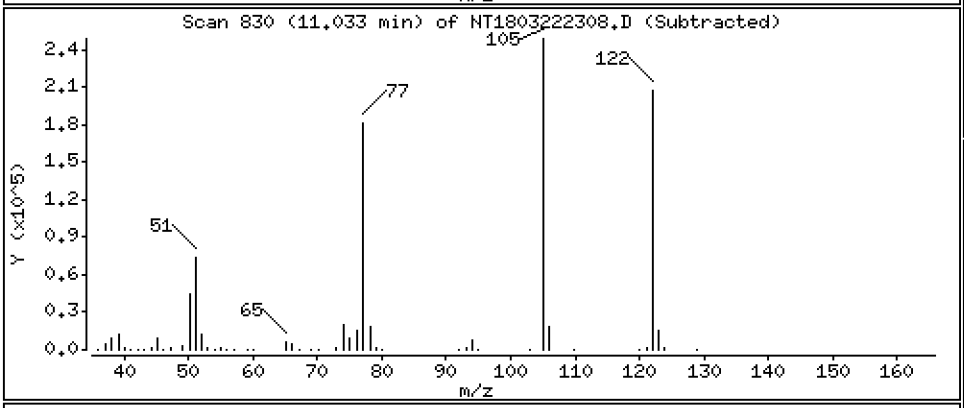
Column diameter: 0.25

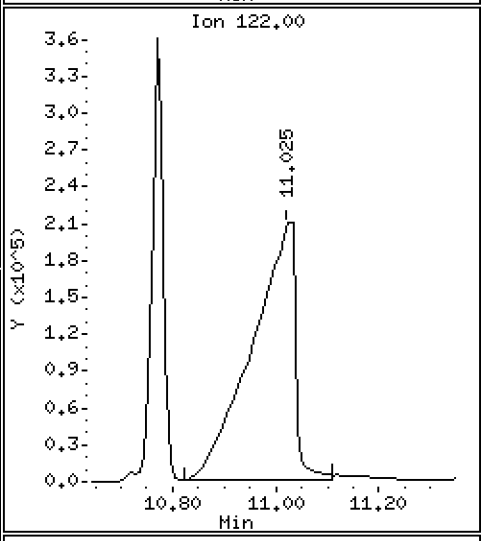
24 Benzoic acid

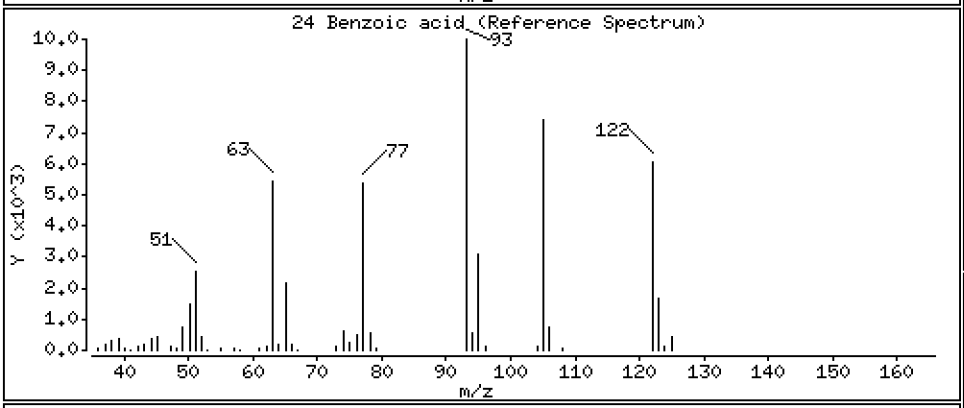
Concentration: 22.92 ug/mL

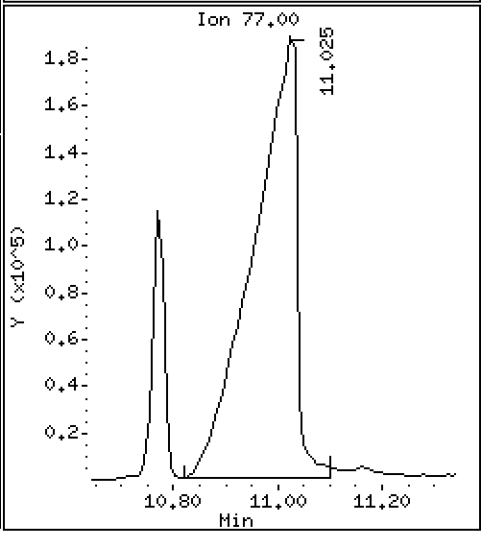


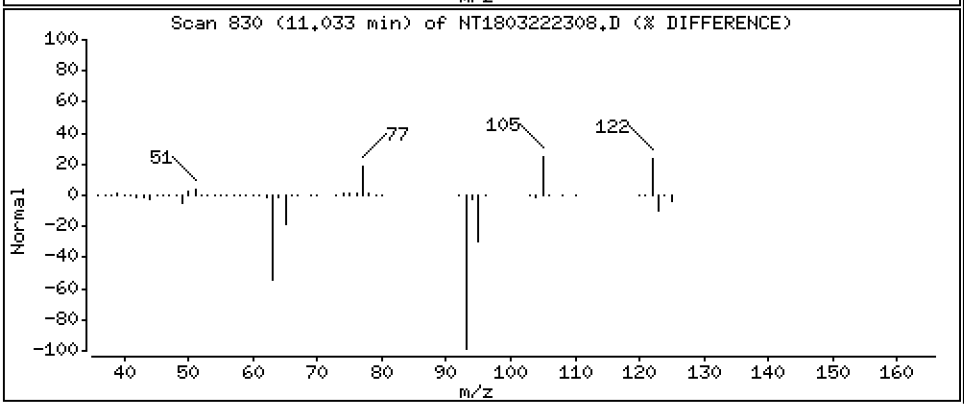












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

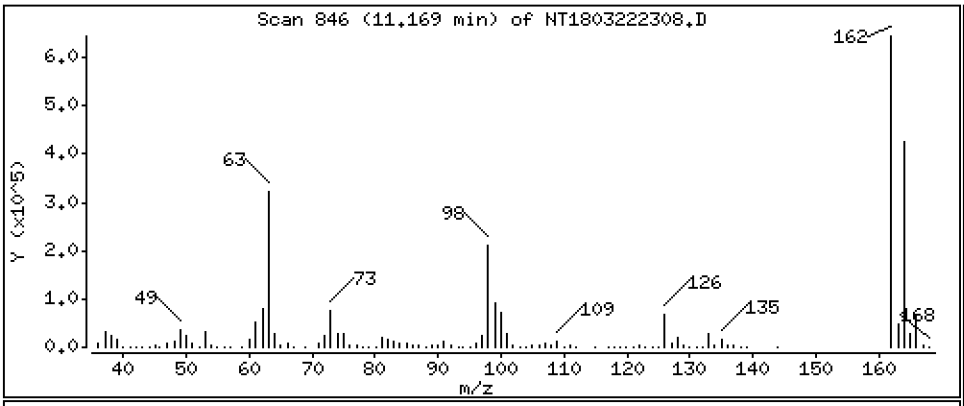
Operator: VTS

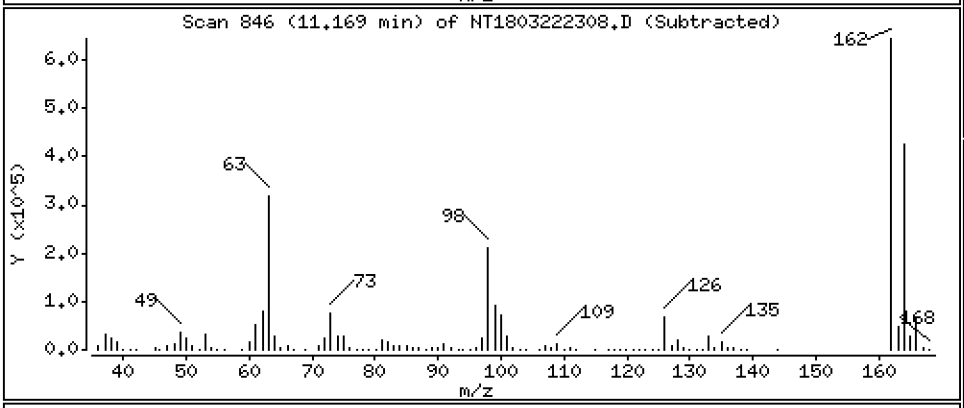
Column phase: ZB-5msi

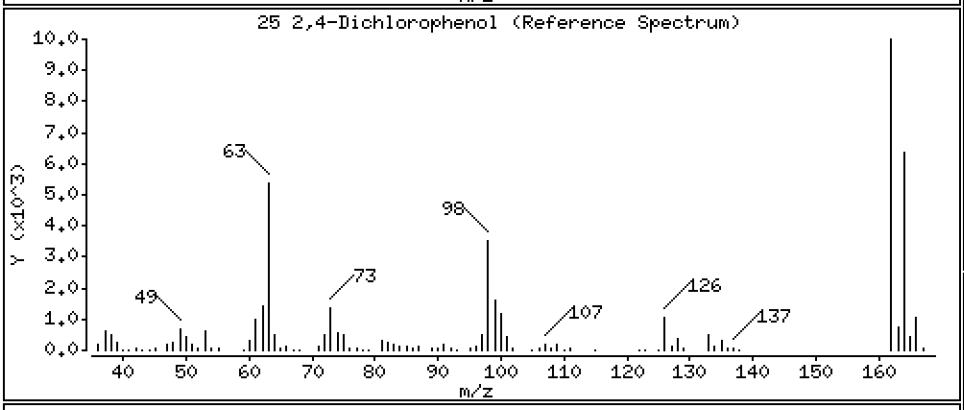
Column diameter: 0.25

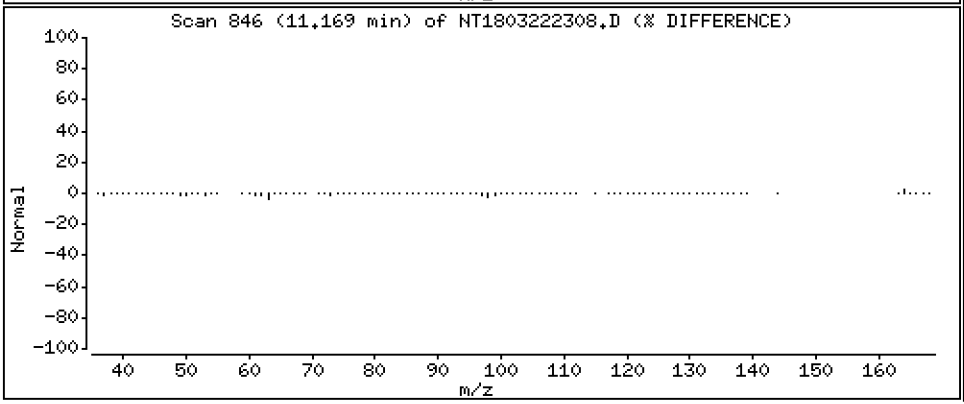
25 2,4-Dichlorophenol

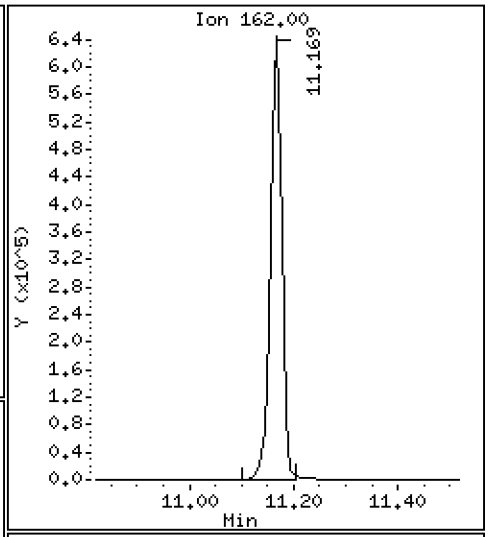
Concentration: 11.99 ug/mL

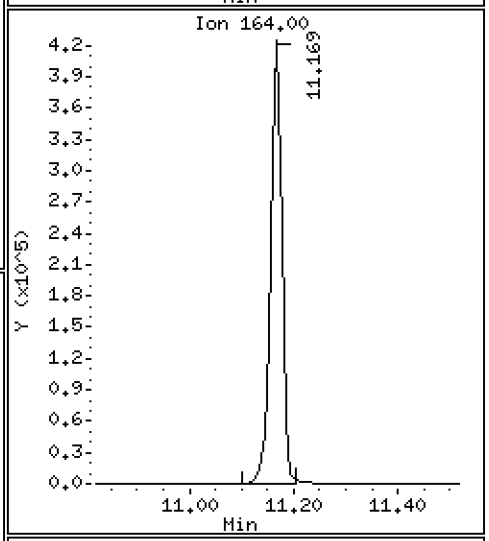


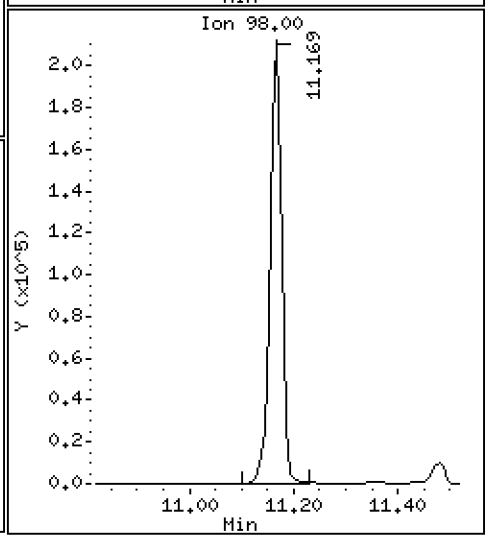












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

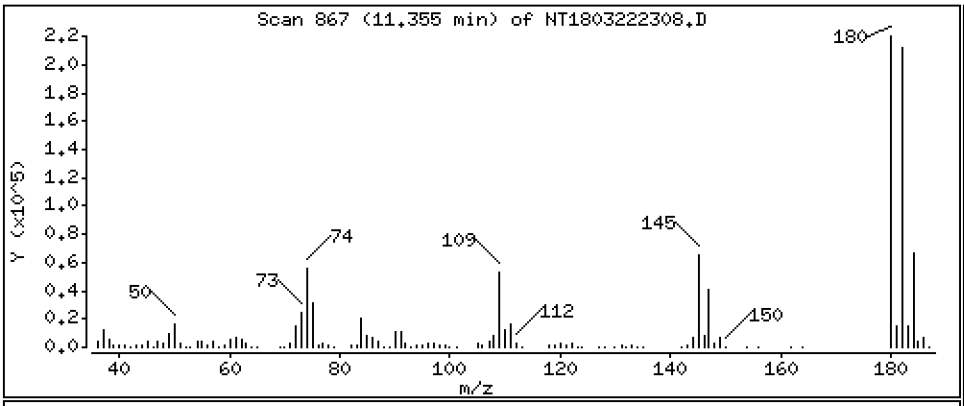
Operator: VTS

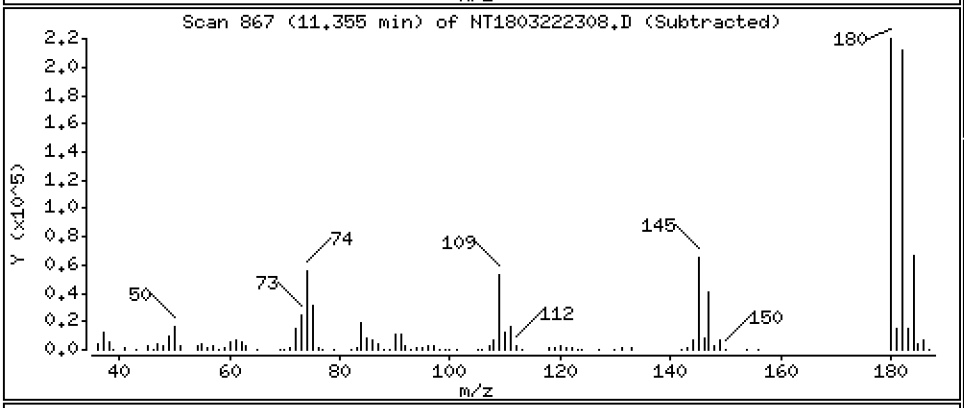
Column phase: ZB-5msi

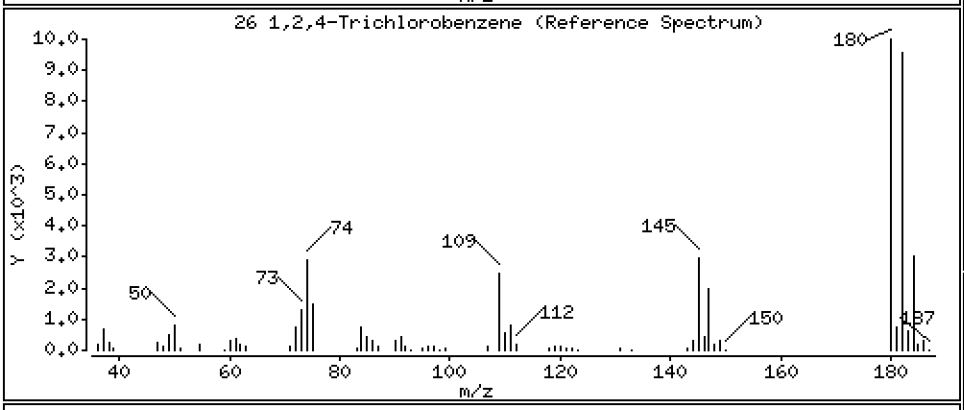
Column diameter: 0.25

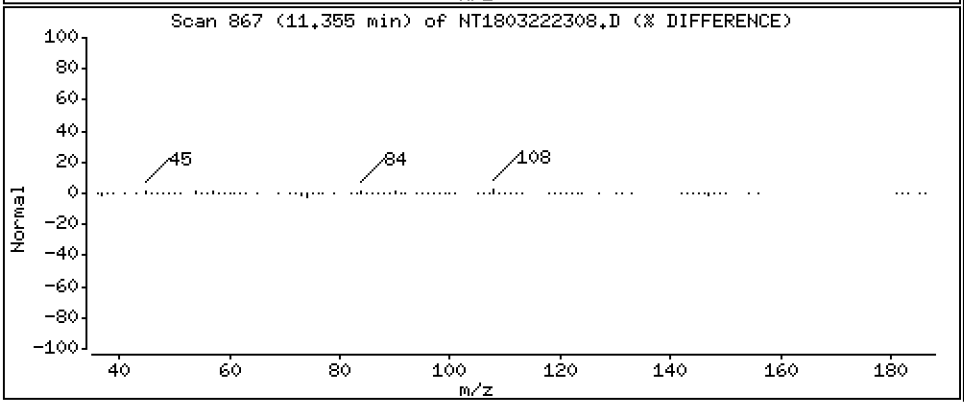
26 1,2,4-Trichlorobenzene

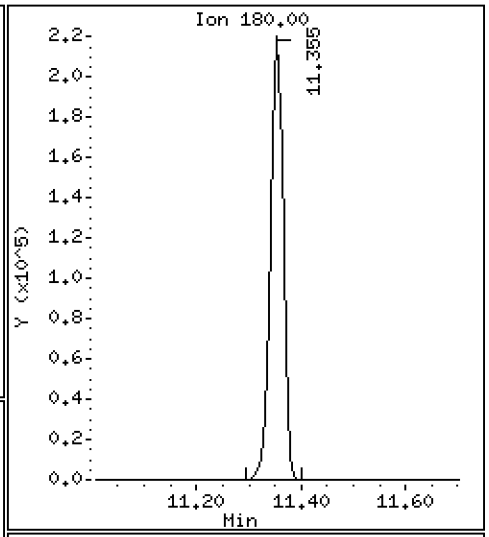
Concentration: 4.096 ug/mL

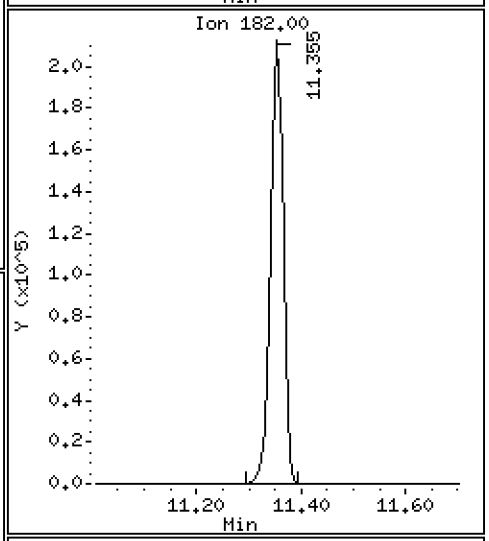


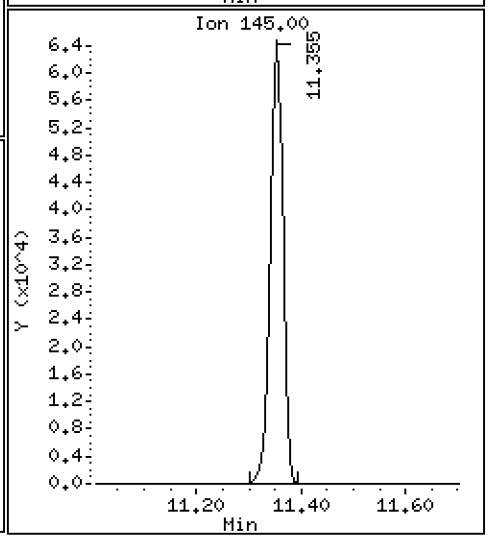












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

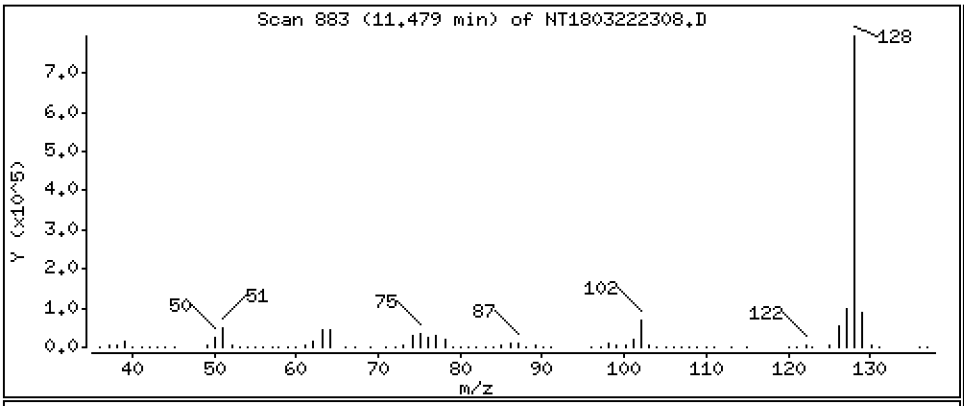
Operator: VTS

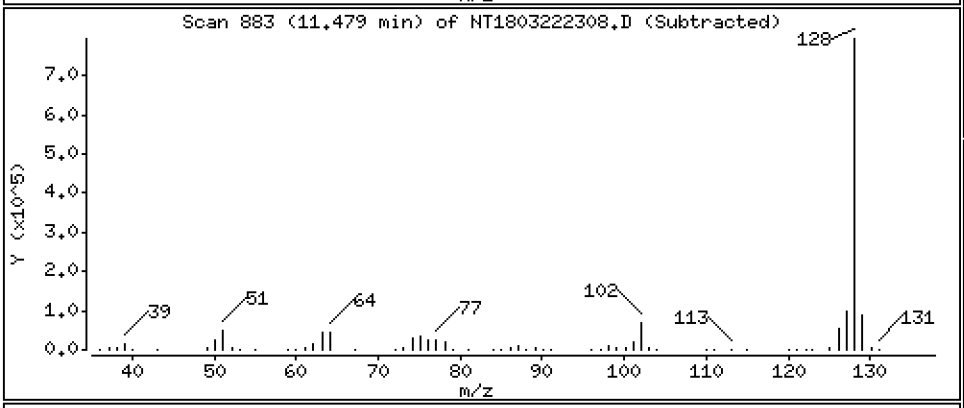
Column phase: ZB-5msi

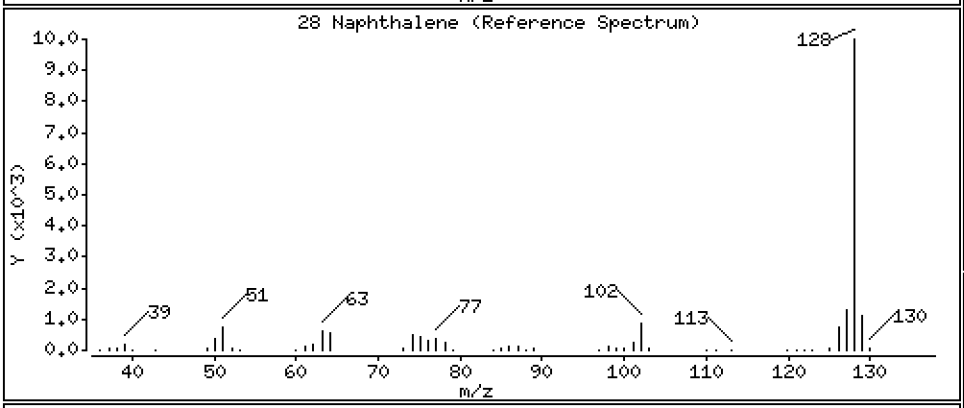
Column diameter: 0.25

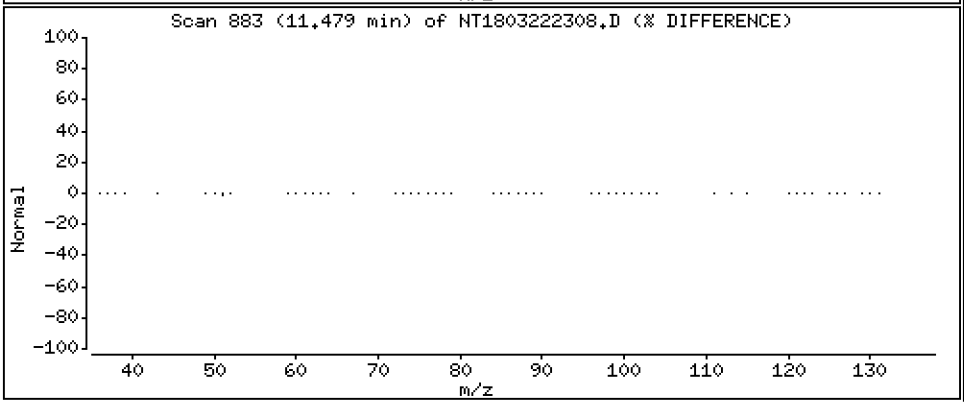
28 Naphthalene

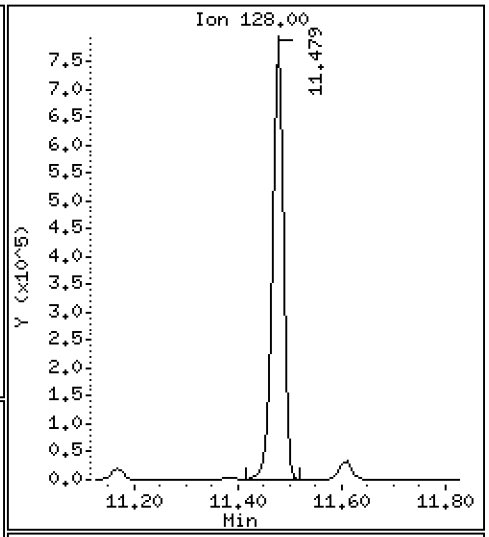
Concentration: 4.066 ug/mL

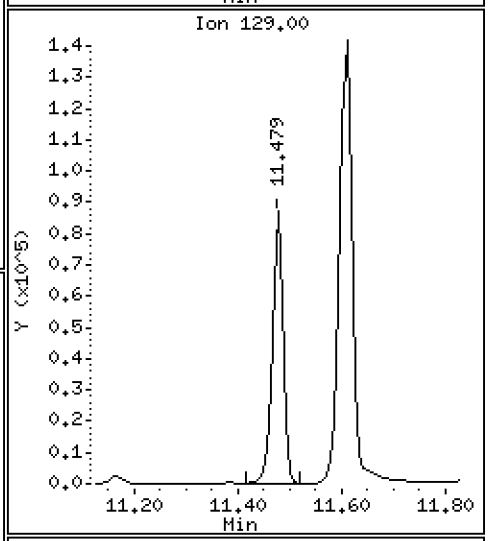


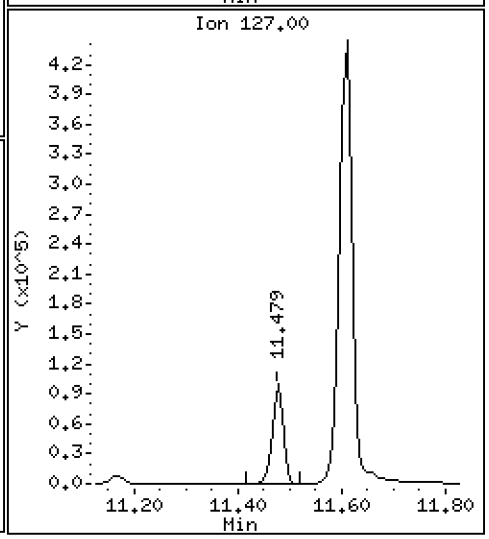












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

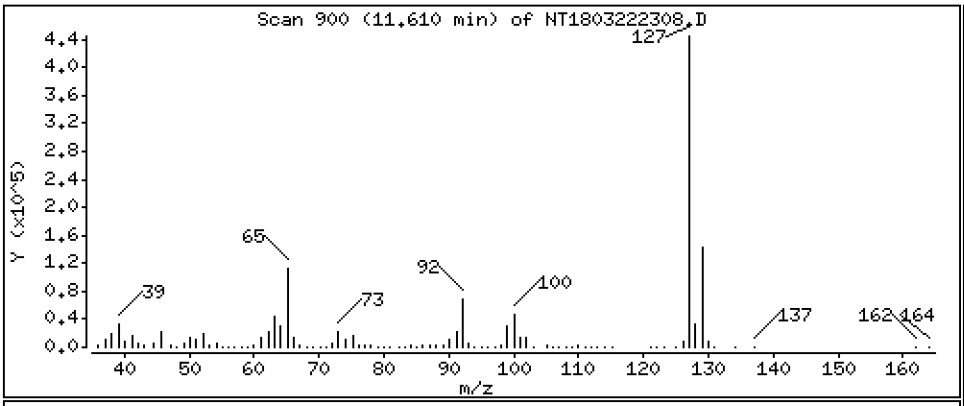
Operator: VTS

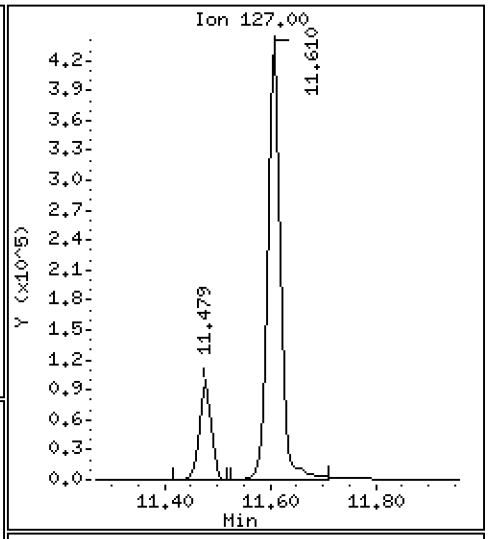
Column phase: ZB-5msi

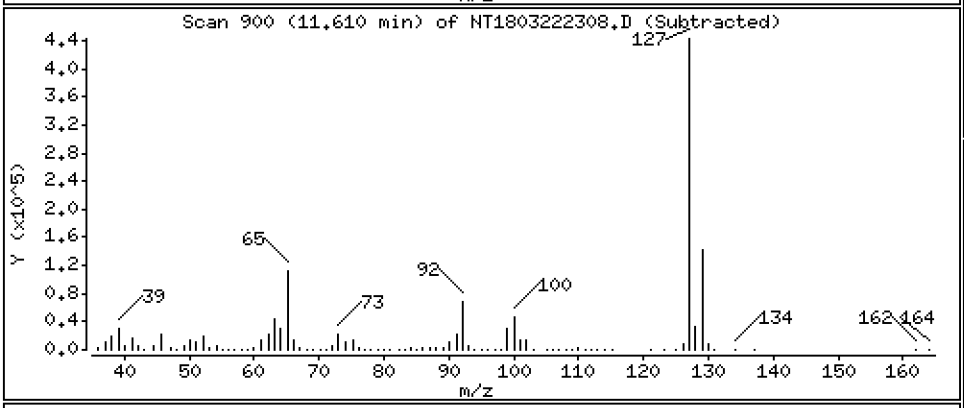
Column diameter: 0.25

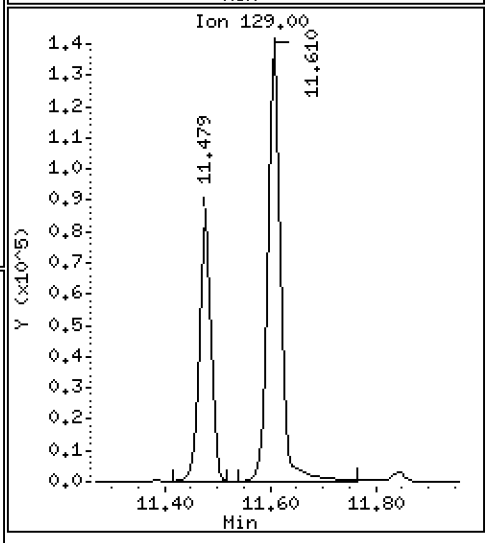
29 4-Chloroaniline

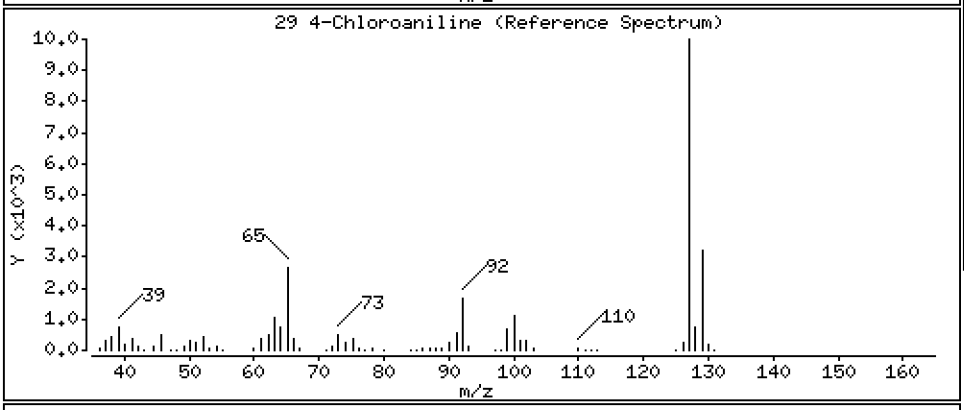
Concentration: 6.406 ug/mL

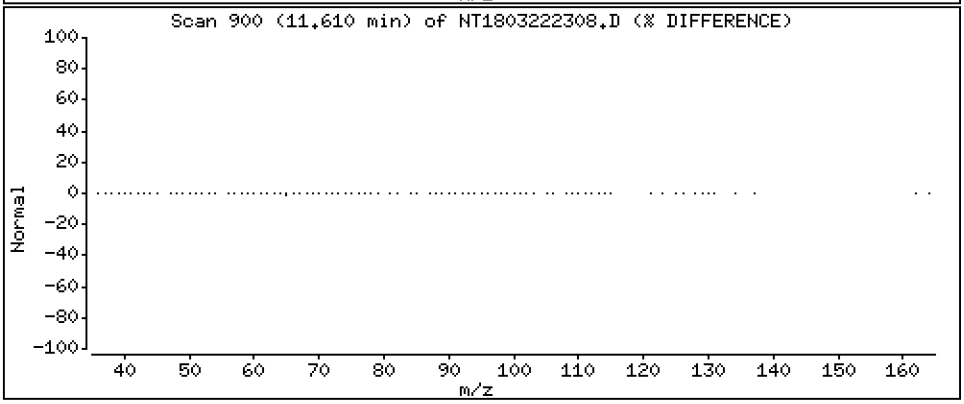












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

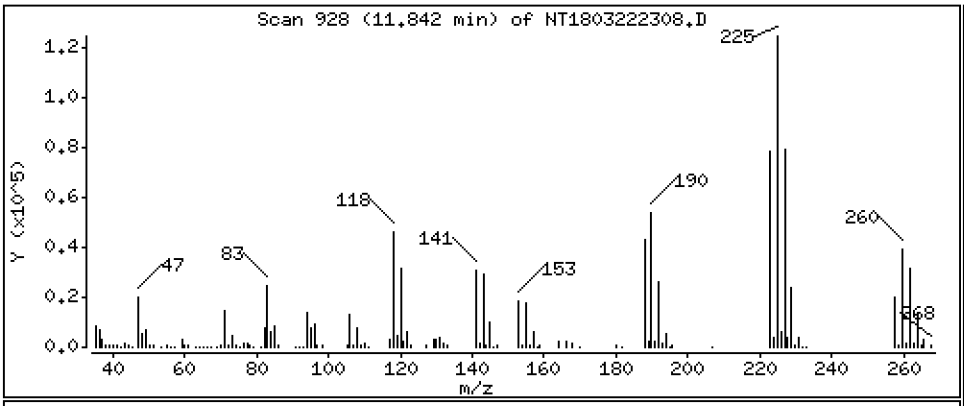
Operator: VTS

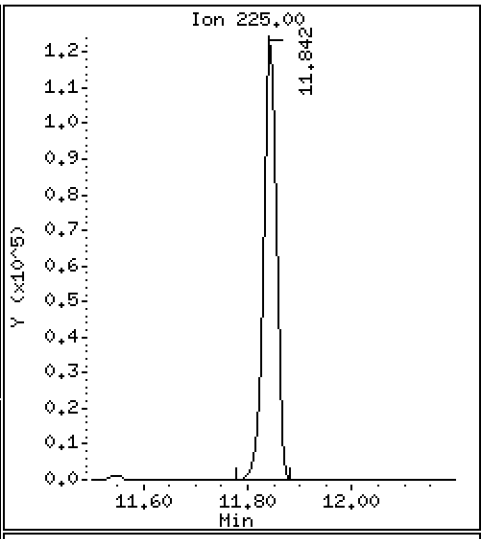
Column phase: ZB-5msi

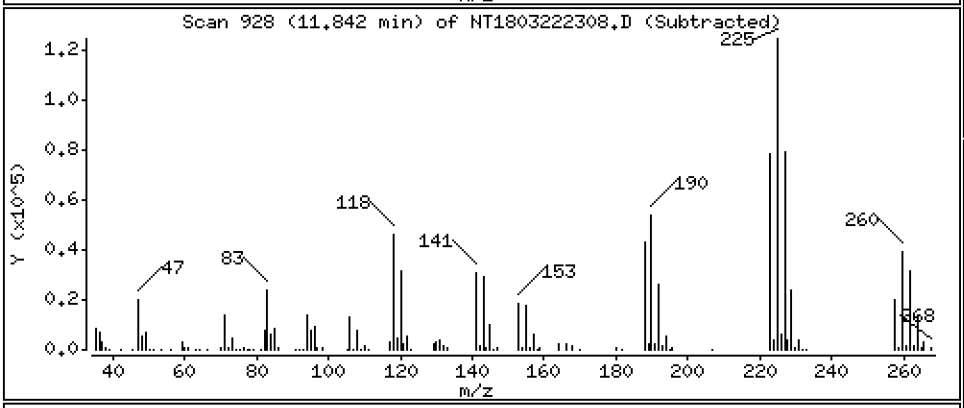
Column diameter: 0.25

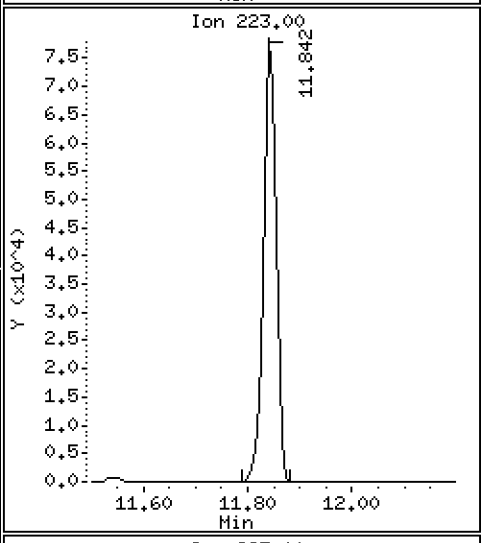
30 Hexachlorobutadiene

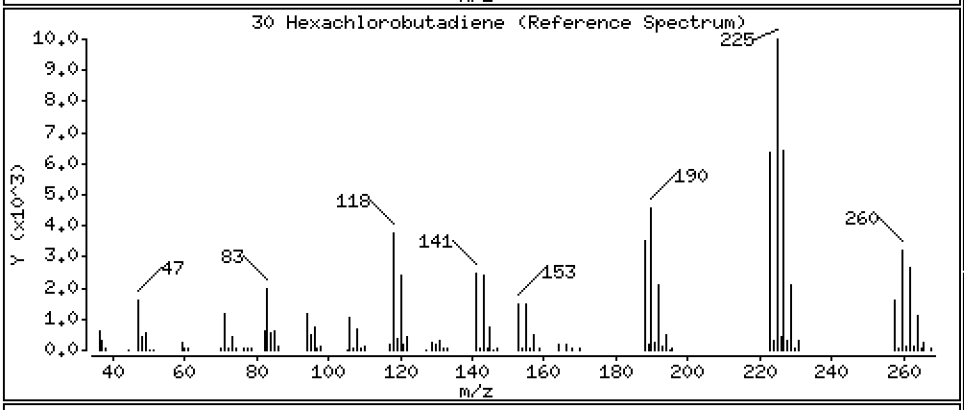
Concentration: 4.173 ug/mL

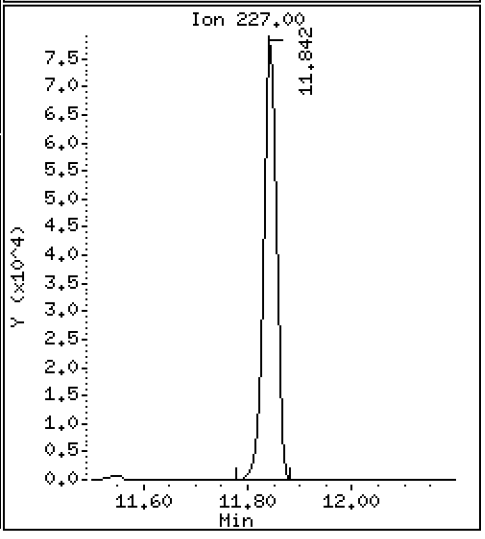


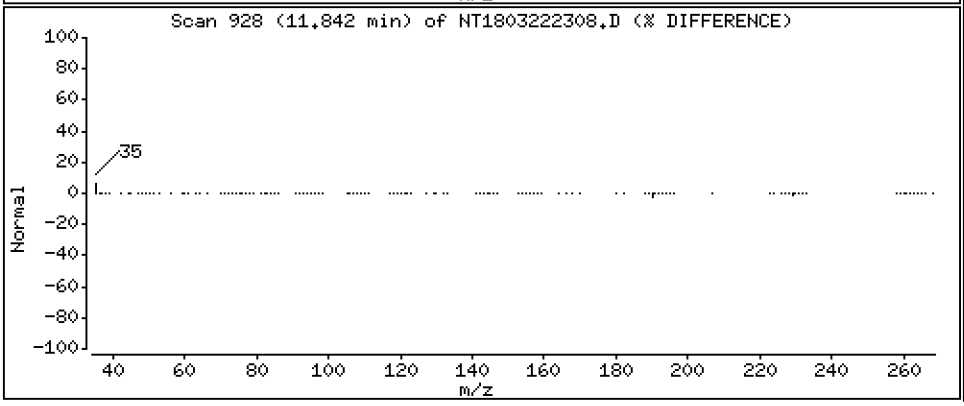












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222308.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

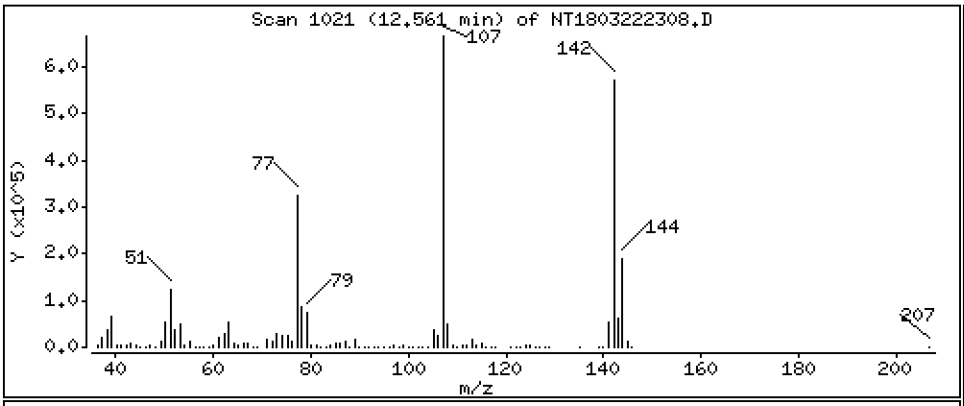
Operator: VTS

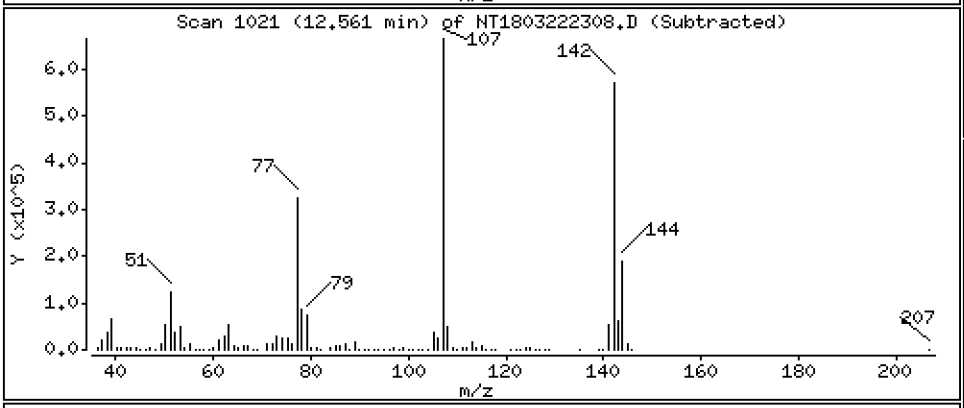
Column phase: ZB-5msi

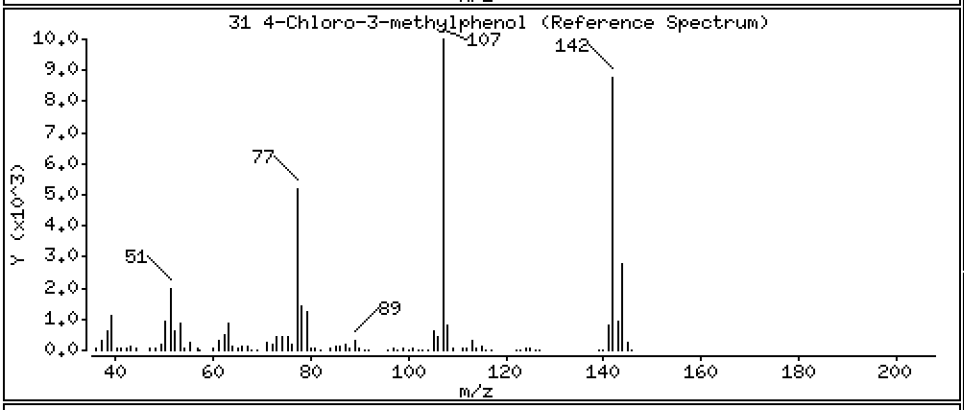
Column diameter: 0.25

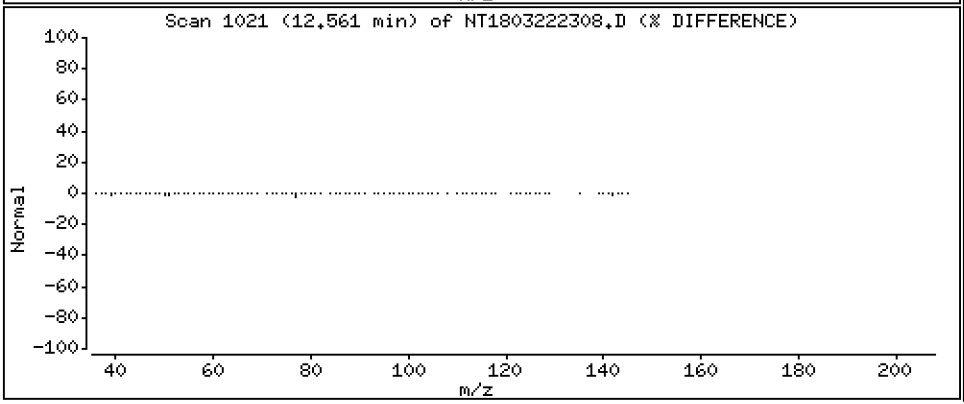
31 4-Chloro-3-methylphenol

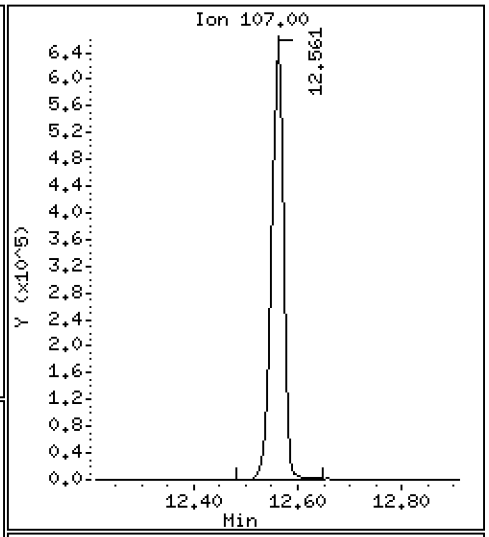
Concentration: 13.05 ug/mL

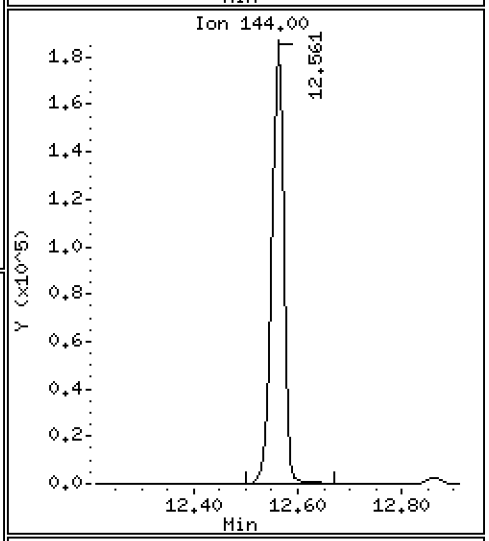


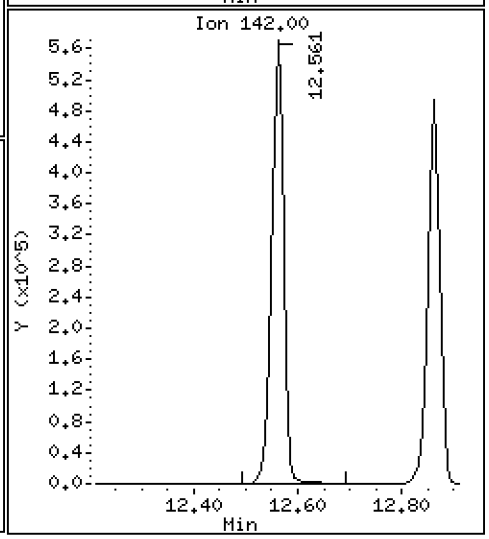












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

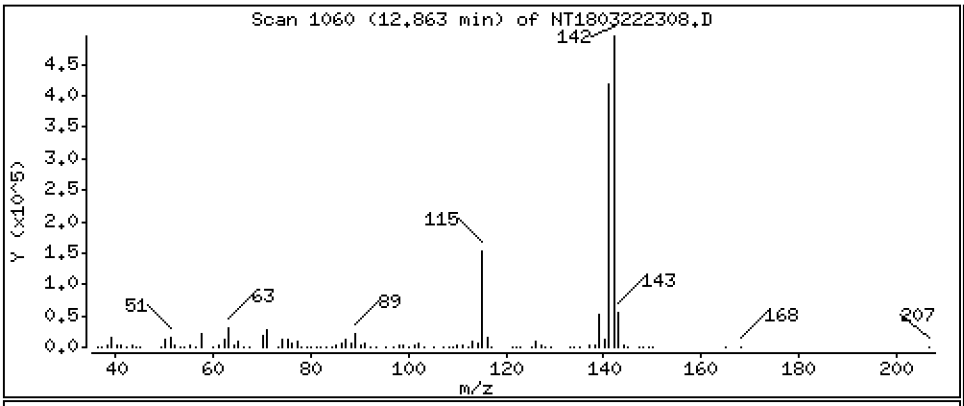
Operator: VTS

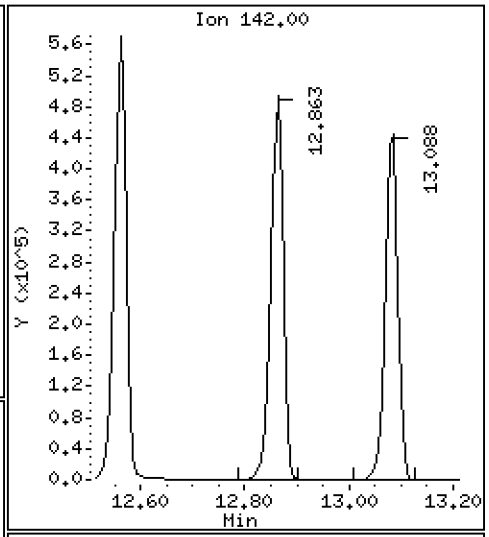
Column phase: ZB-5msi

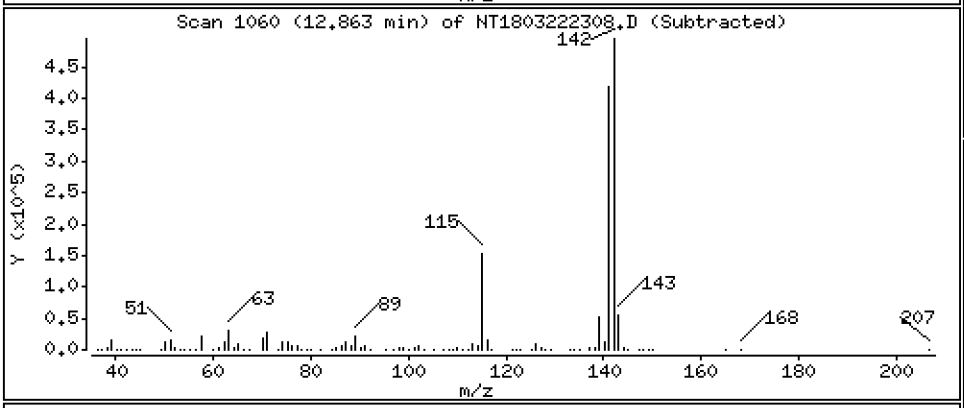
Column diameter: 0.25

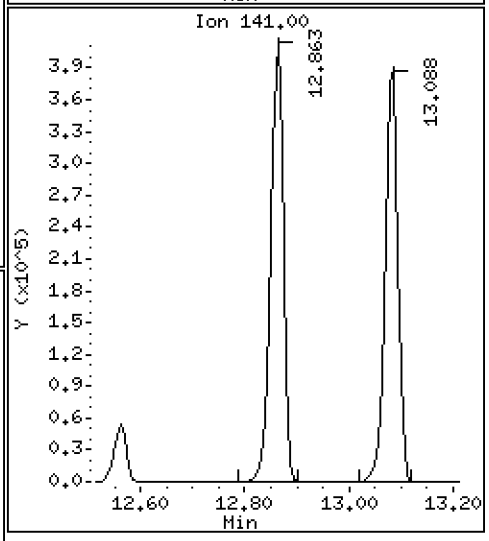
32 2-Methylnaphthalene

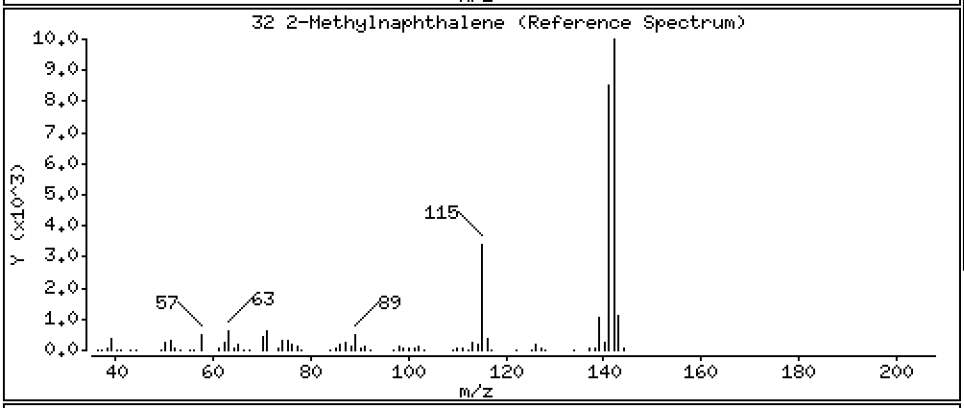
Concentration: 3.993 ug/mL

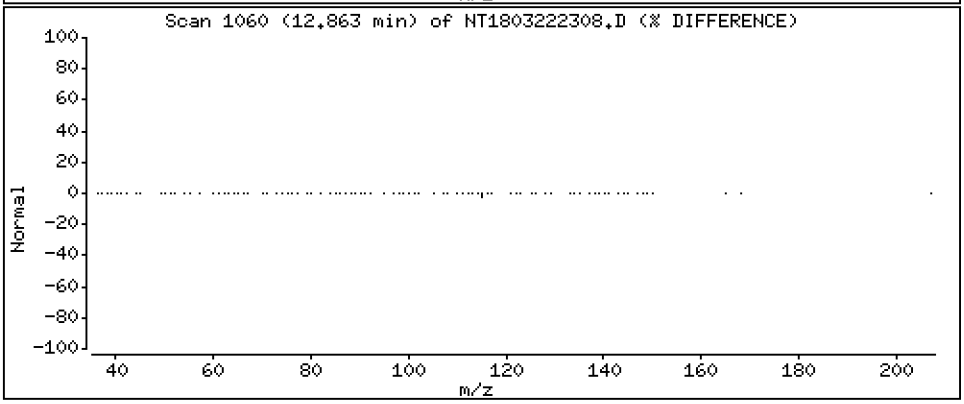












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222308.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

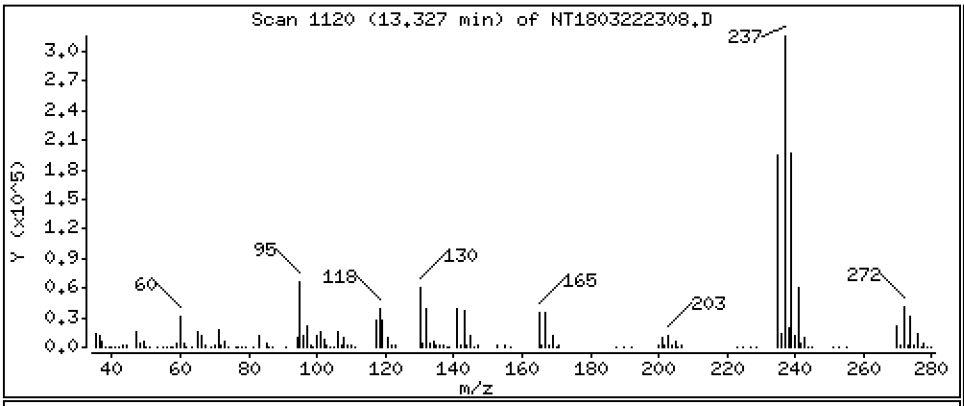
Operator: VTS

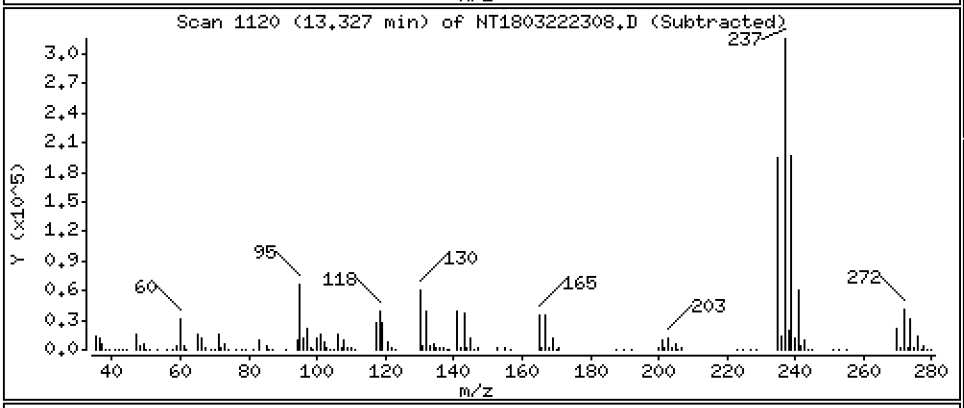
Column phase: ZB-5msi

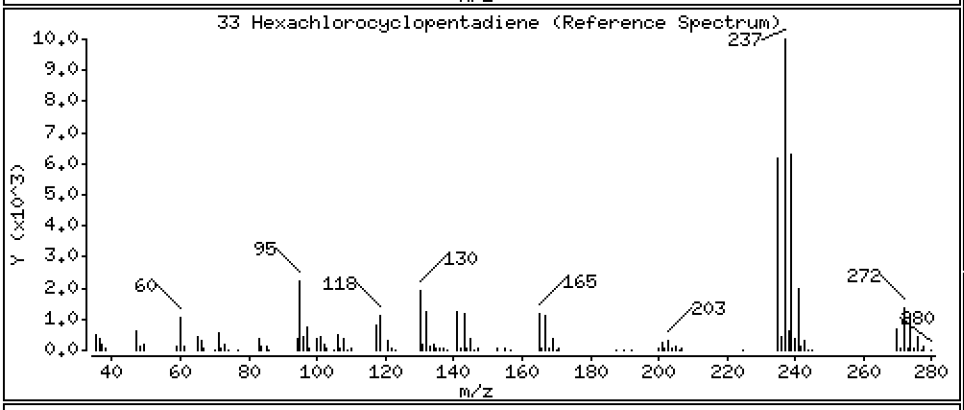
Column diameter: 0.25

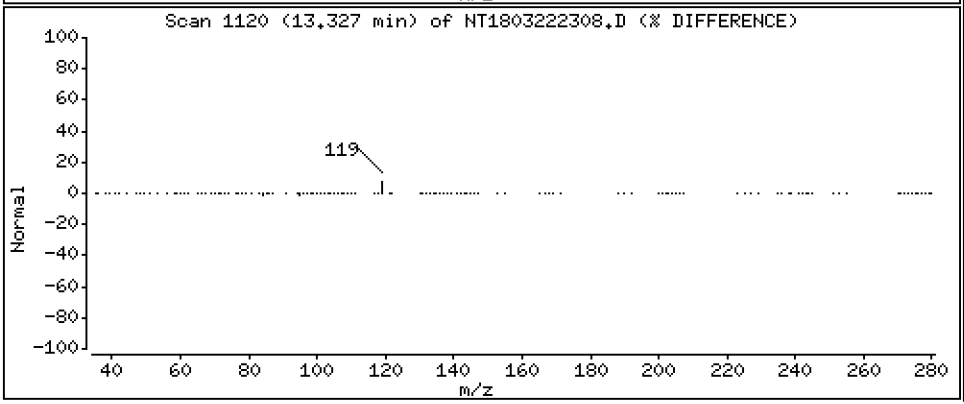
33 Hexachlorocyclopentadiene

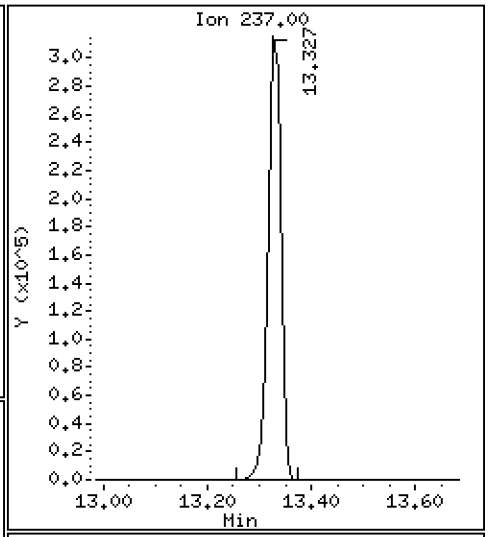
Concentration: 10.28 ug/mL

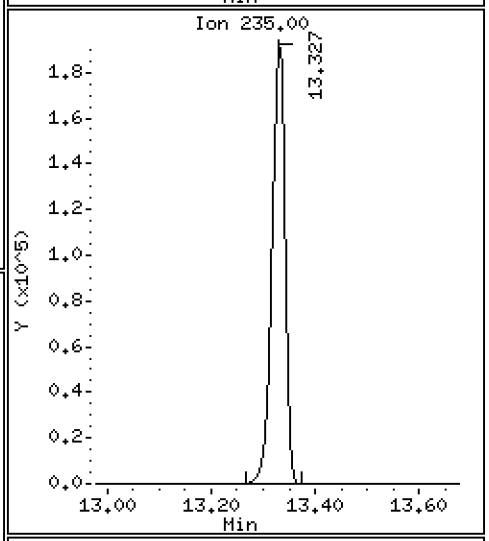


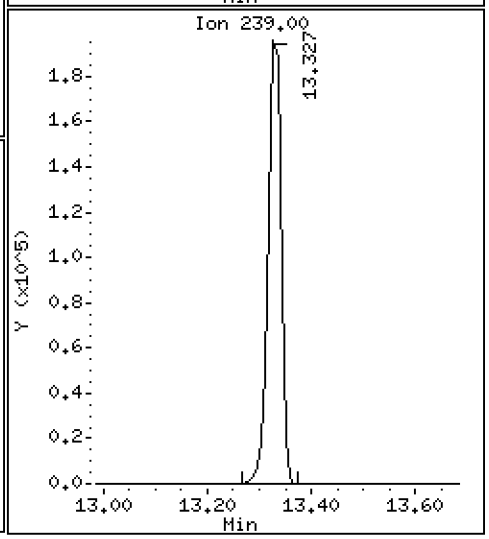












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222308.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

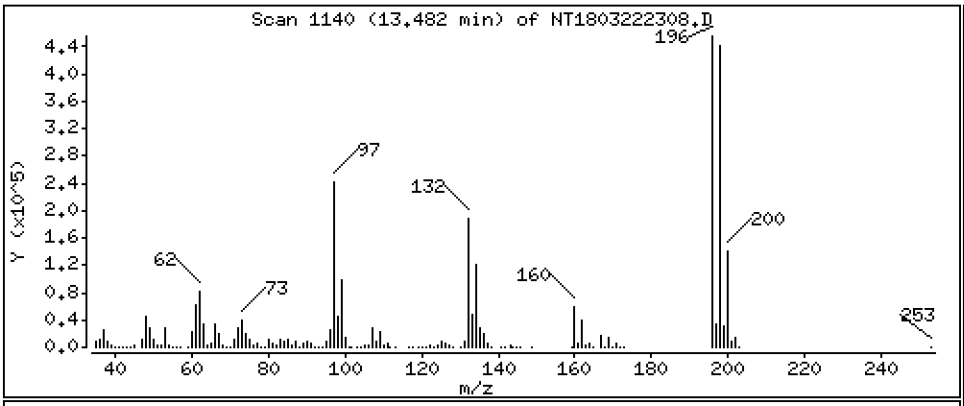
Operator: VTS

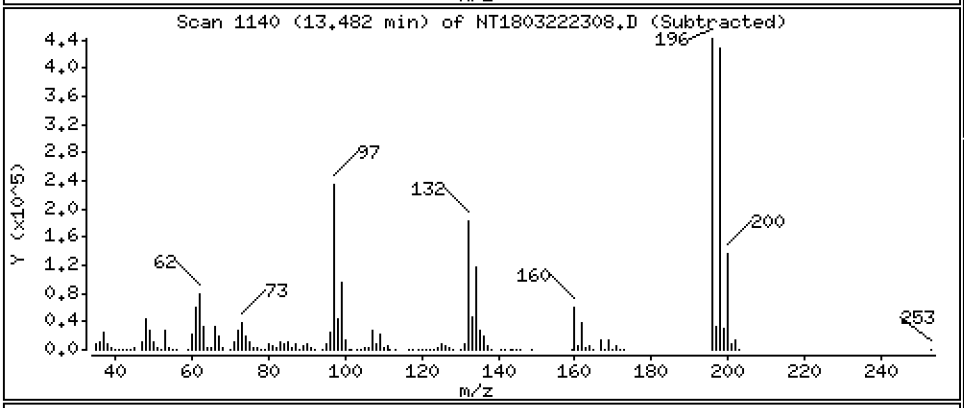
Column phase: ZB-5msi

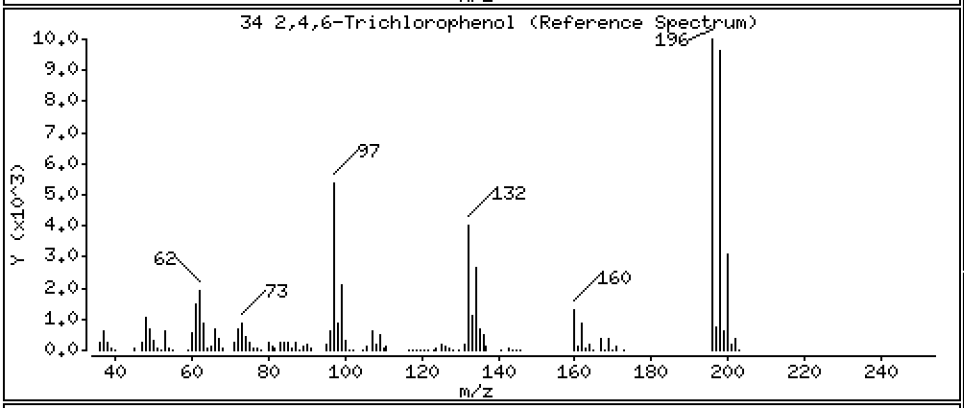
Column diameter: 0.25

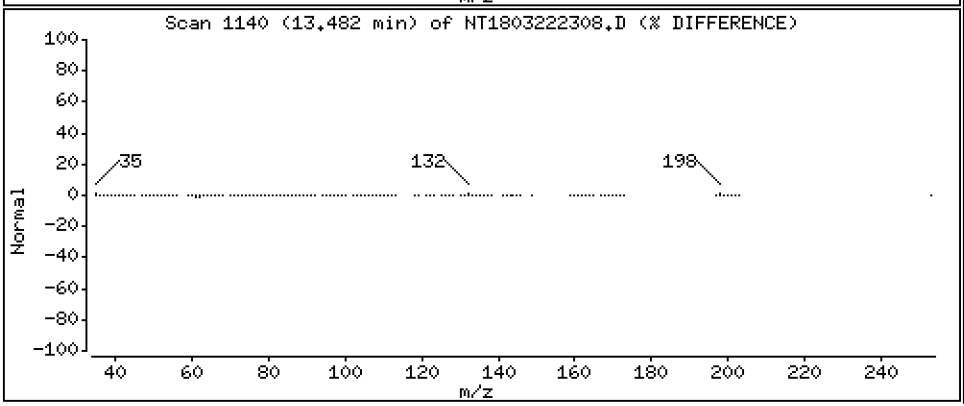
34 2,4,6-Trichlorophenol

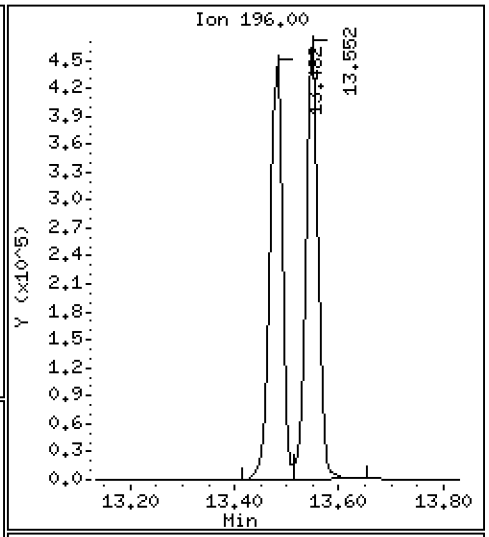
Concentration: 13.86 ug/mL

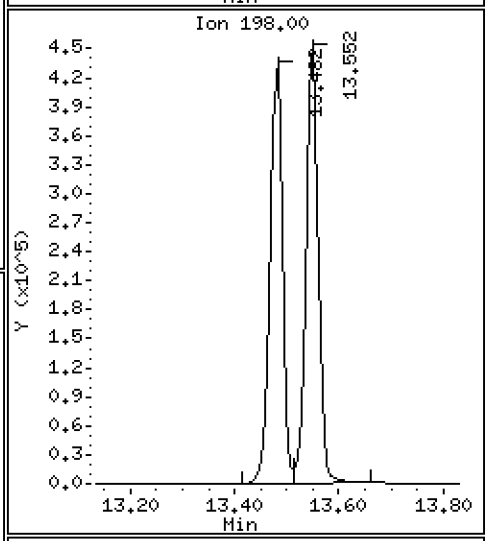


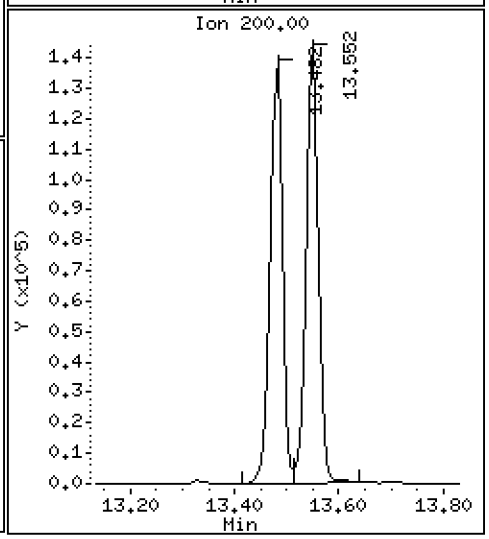












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

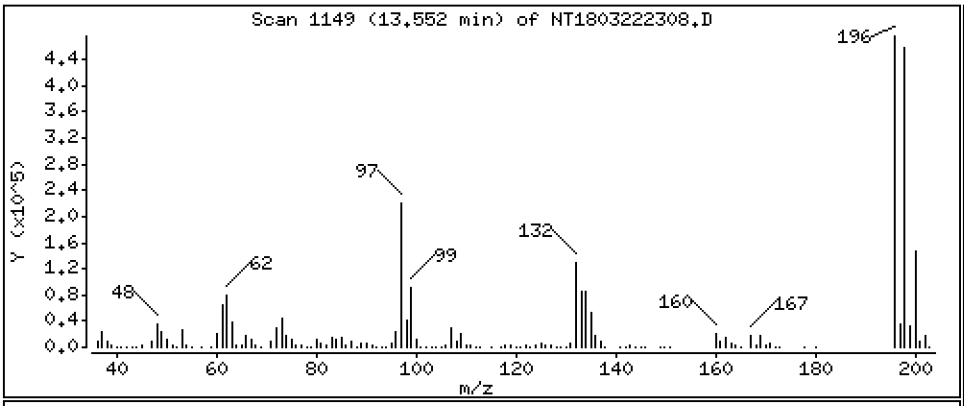
Operator: VTS

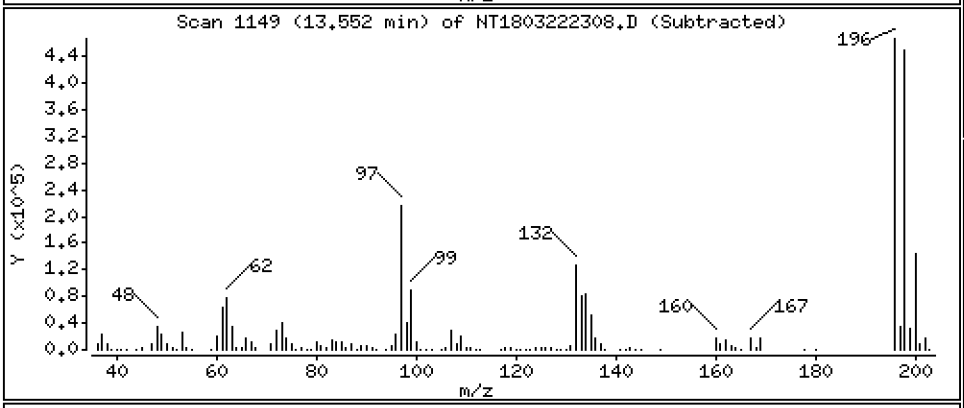
Column phase: ZB-5msi

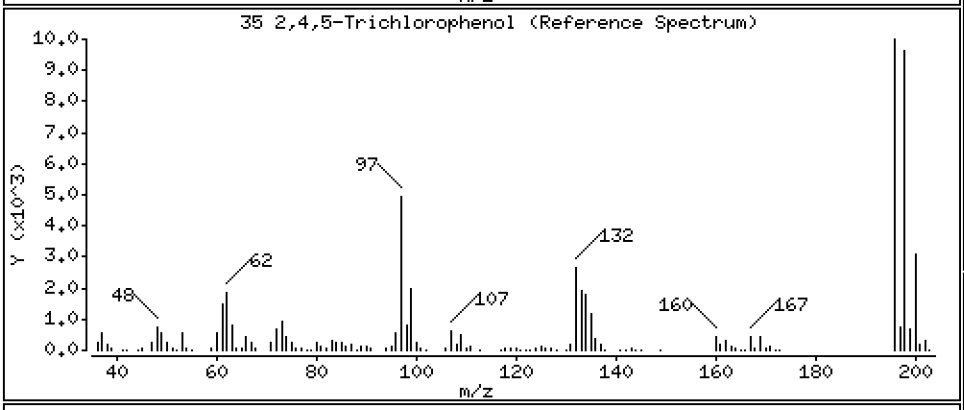
Column diameter: 0.25

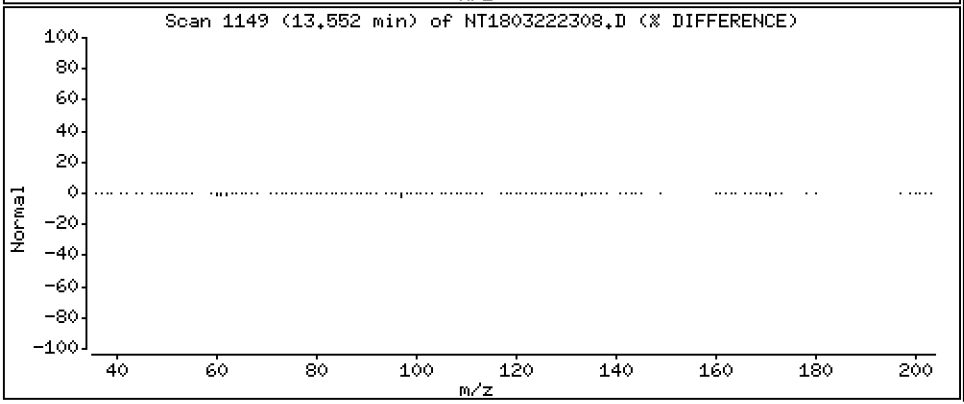
35 2,4,5-Trichlorophenol

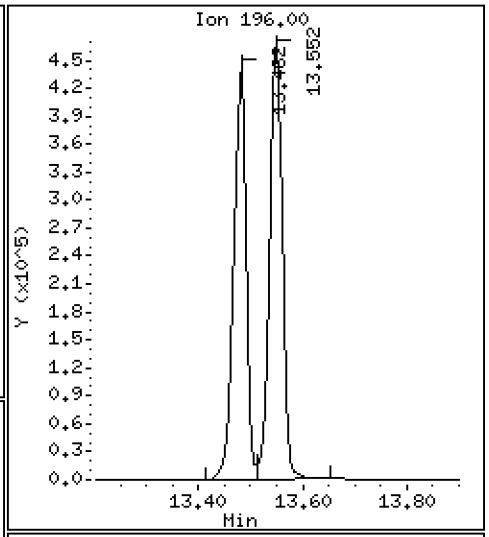
Concentration: 13.51 ug/mL

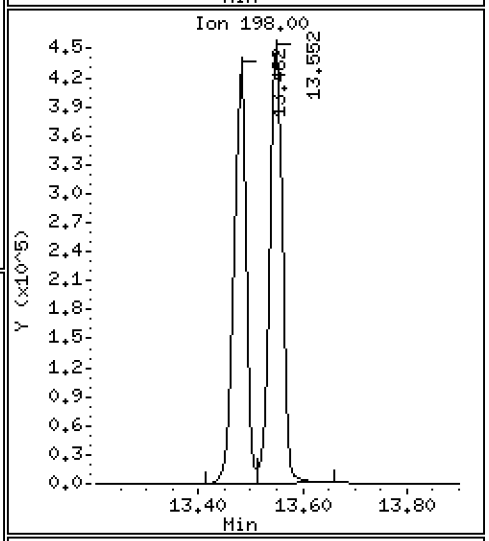


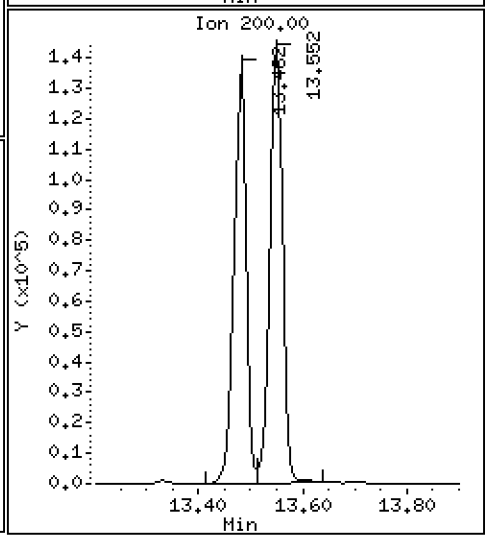












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

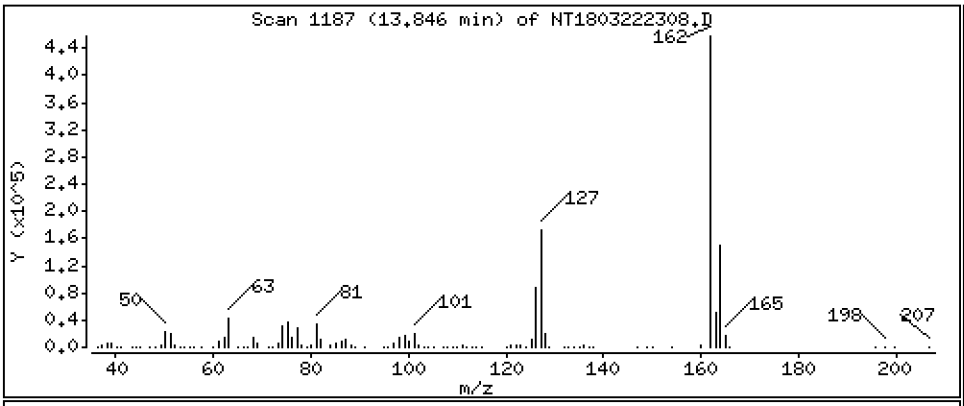
Operator: VTS

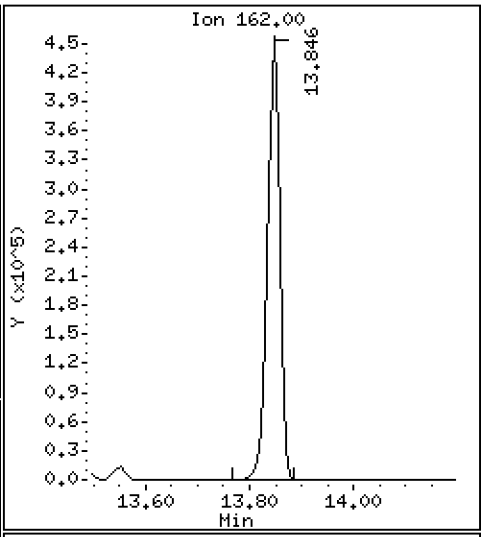
Column phase: ZB-5msi

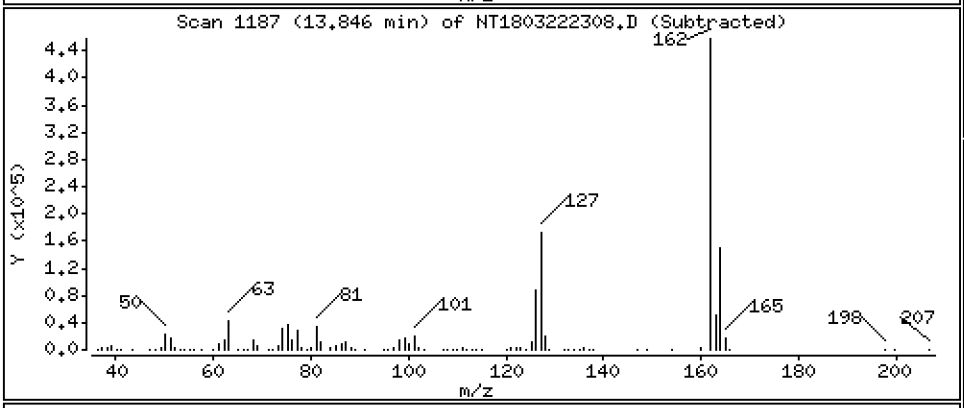
Column diameter: 0.25

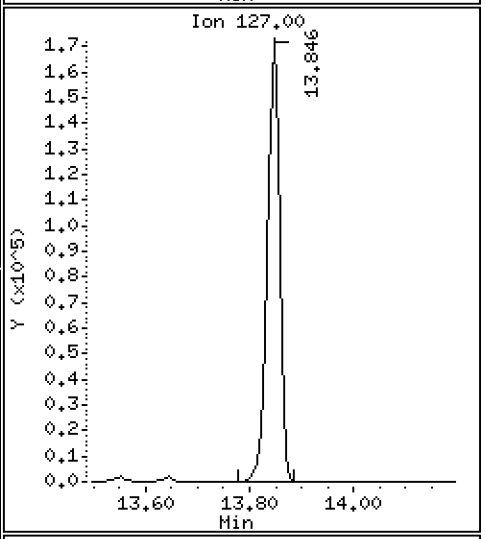
37 2-Chloronaphthalene

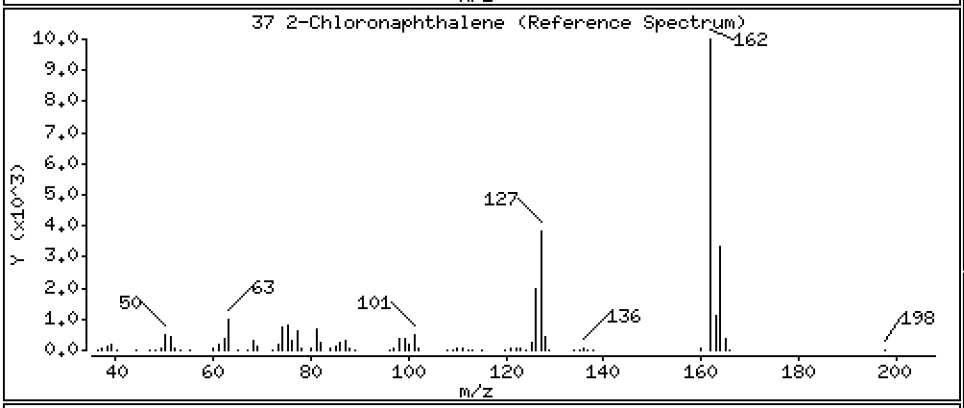
Concentration: 4.319 ug/mL

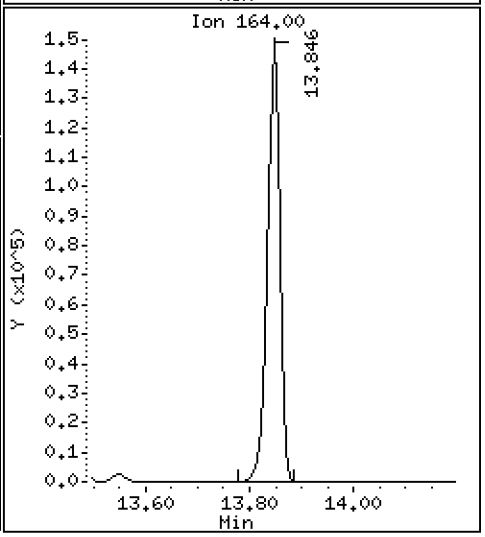


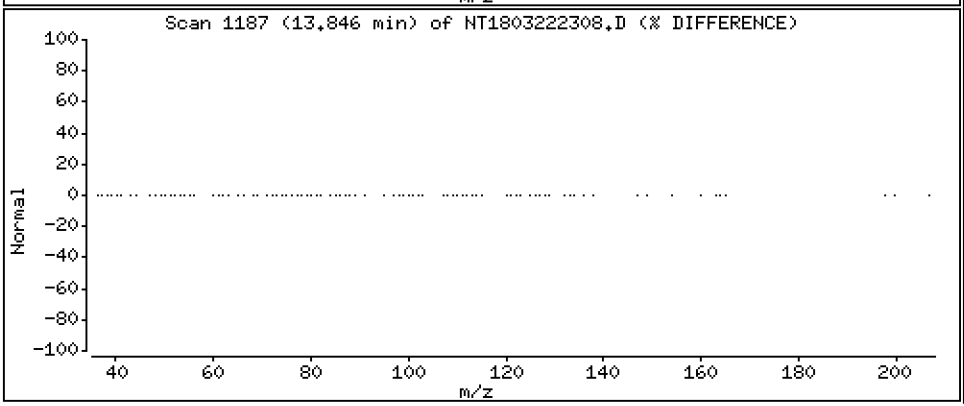












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222308.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

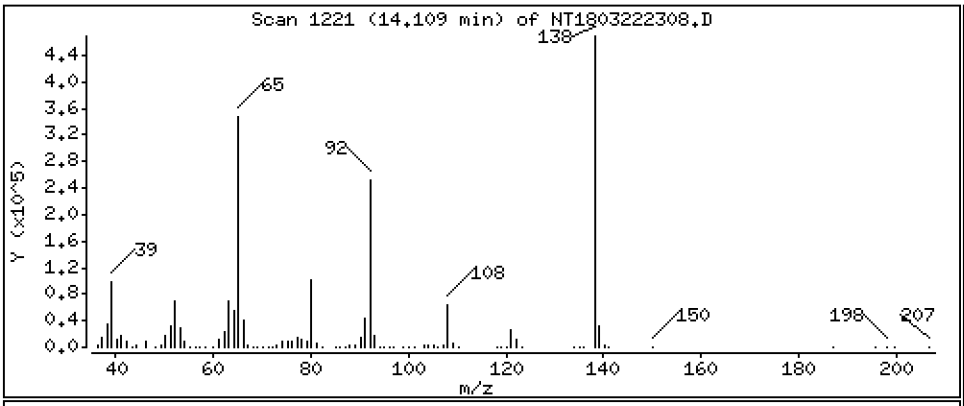
Operator: VTS

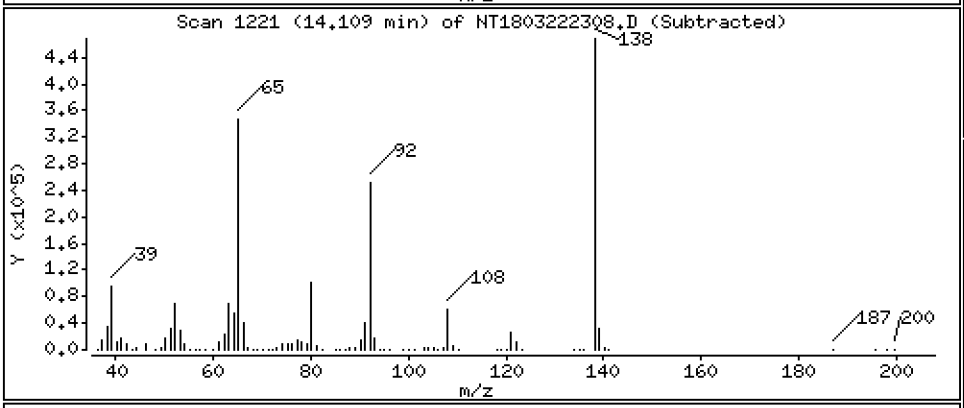
Column phase: ZB-5msi

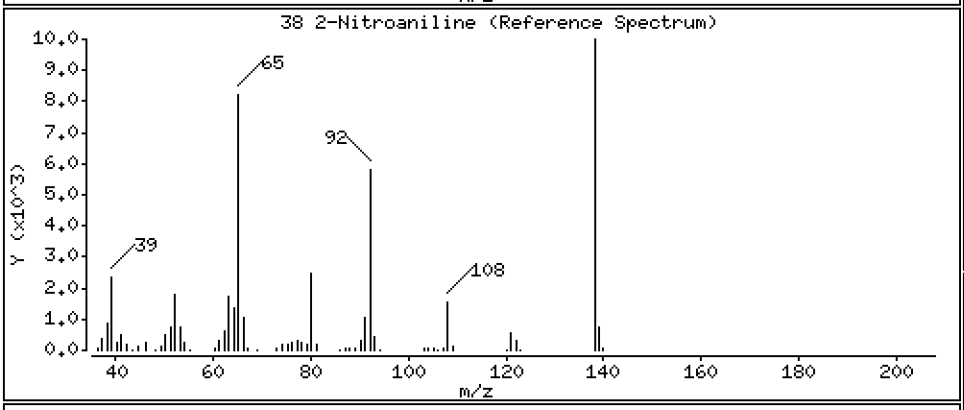
Column diameter: 0.25

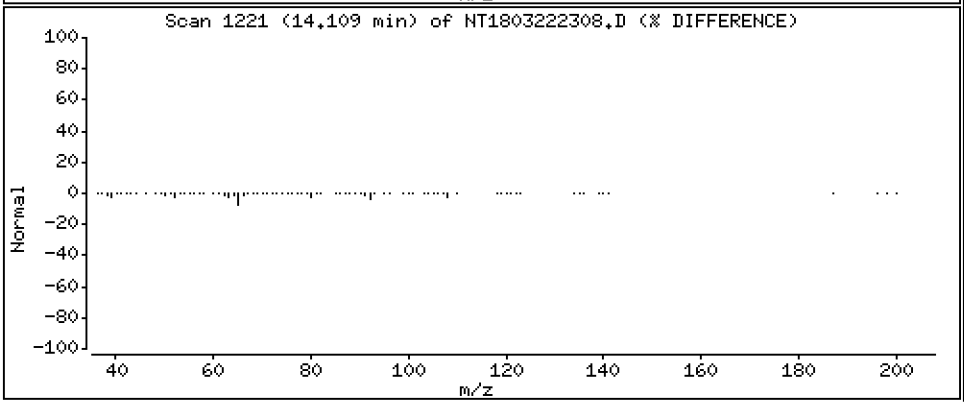
38 2-Nitroaniline

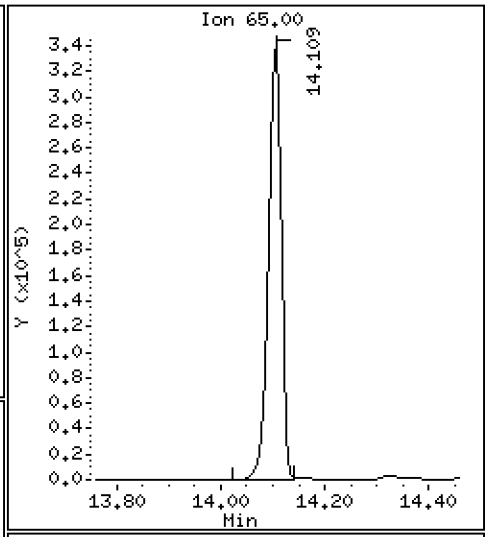
Concentration: 12.91 ug/mL

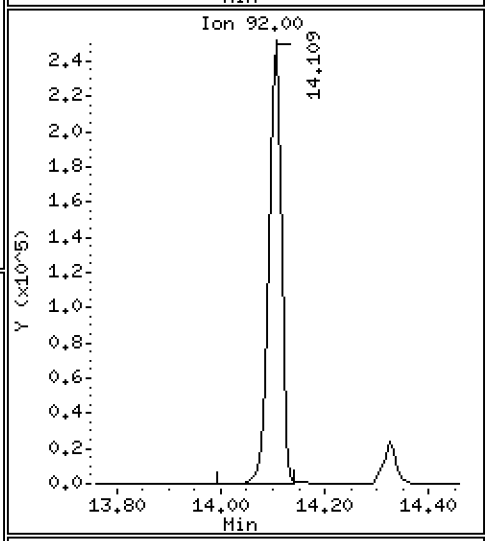


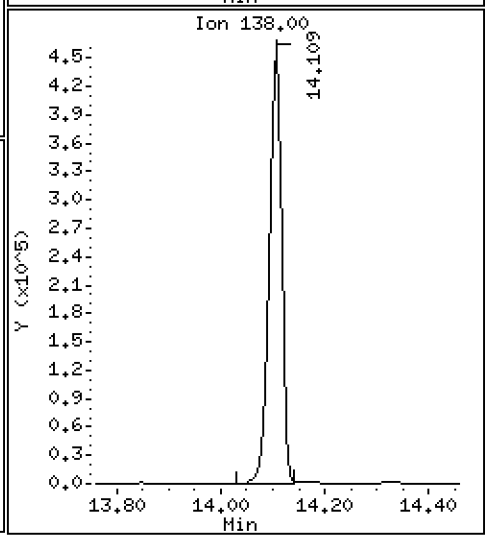












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222308.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

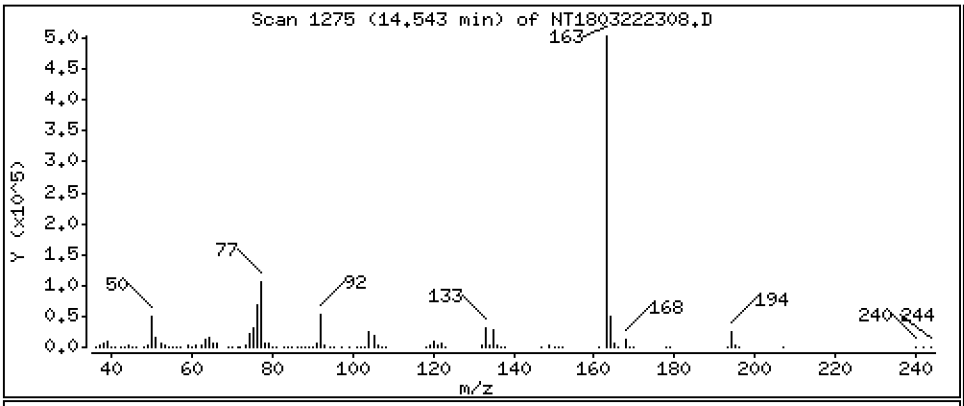
Operator: VTS

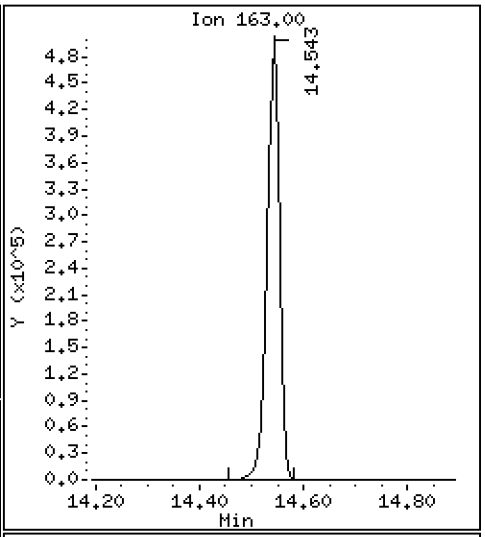
Column phase: ZB-5msi

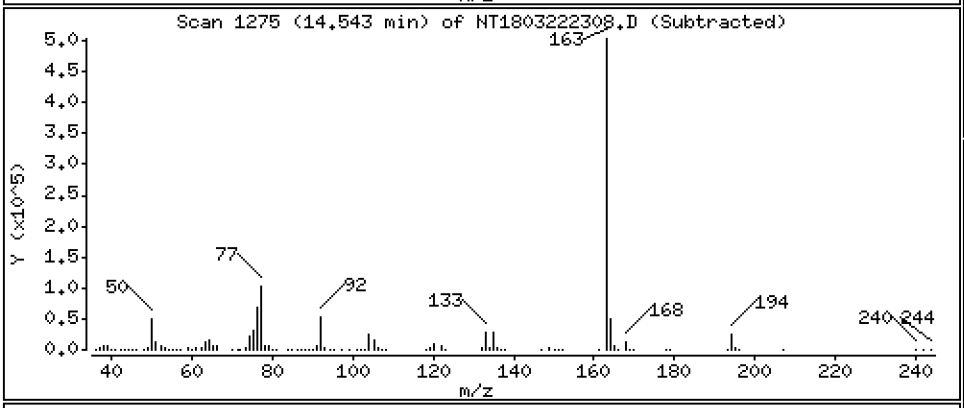
Column diameter: 0.25

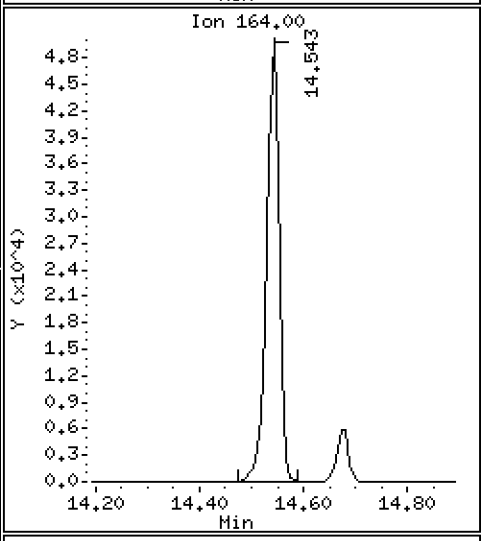
39 Dimethylphthalate

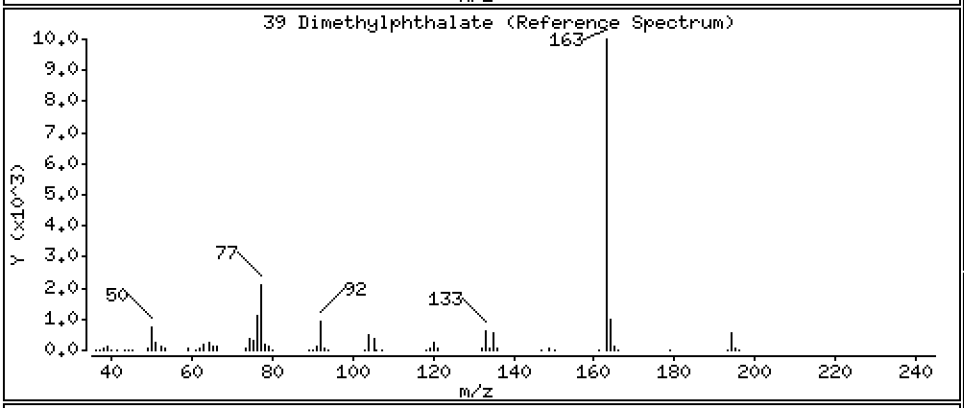
Concentration: 4.557 ug/mL

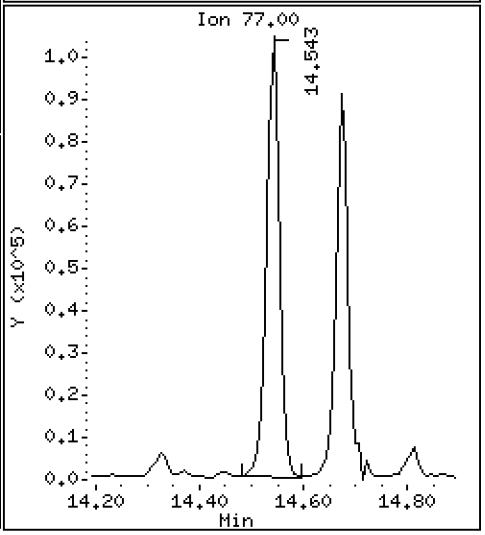


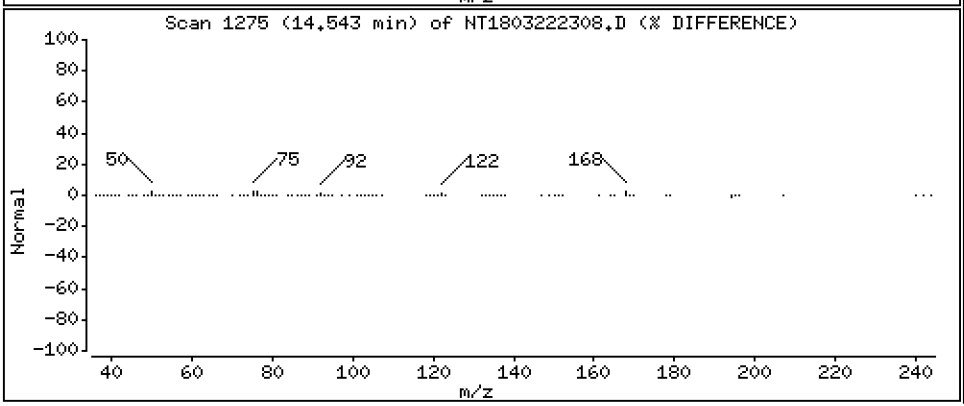












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

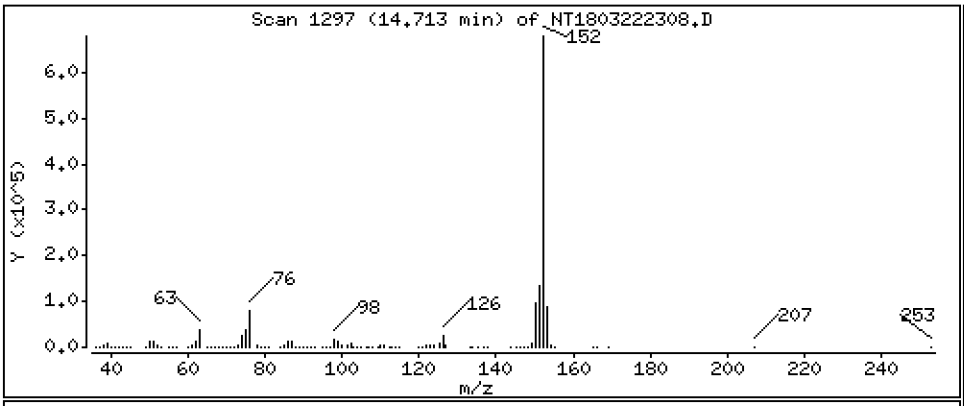
Operator: VTS

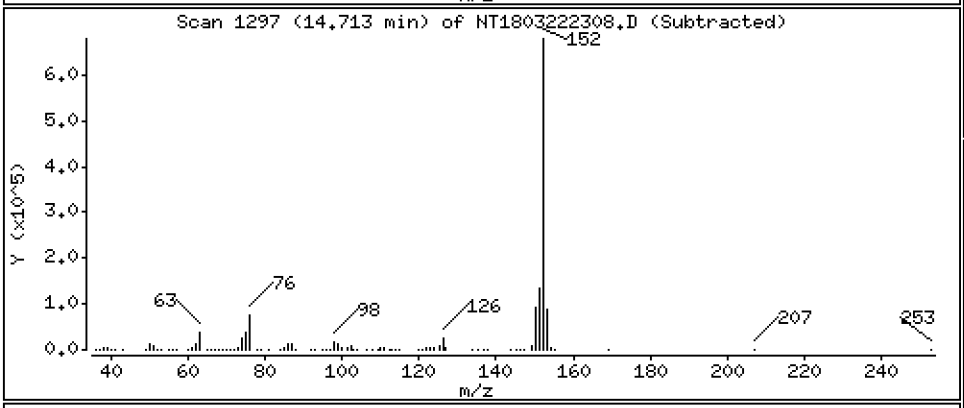
Column phase: ZB-5msi

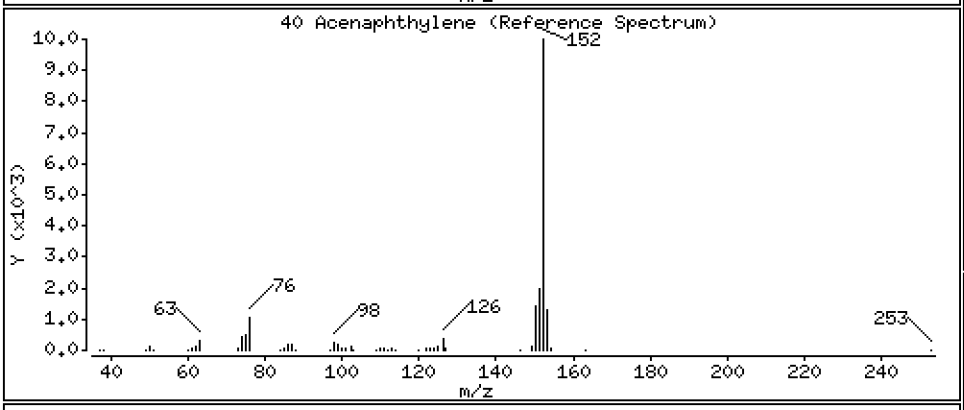
Column diameter: 0.25

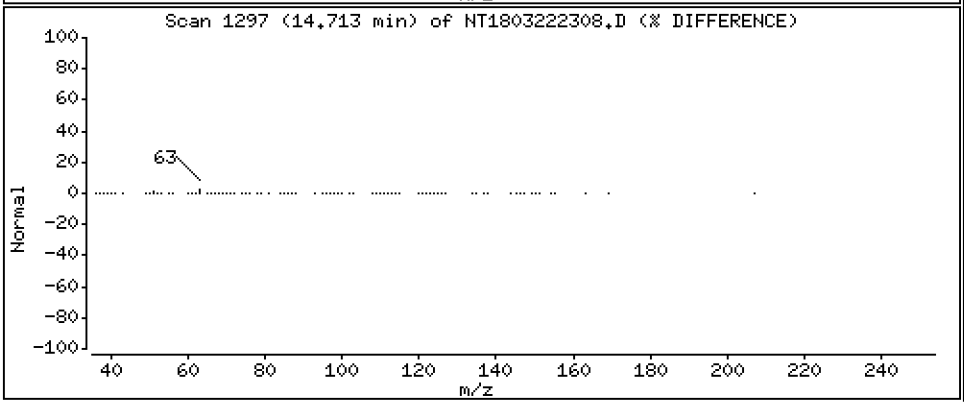
40 Acenaphthylene

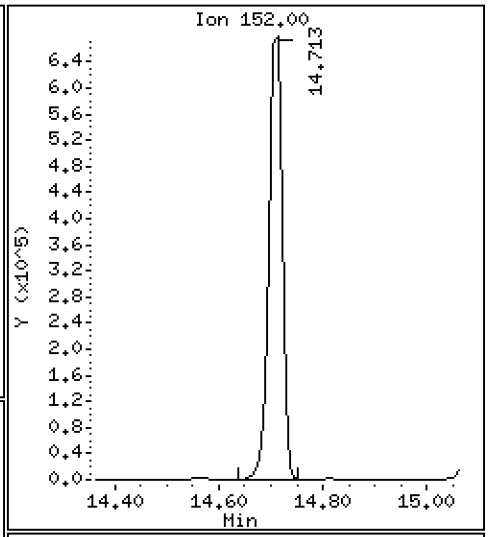
Concentration: 4.111 ug/mL

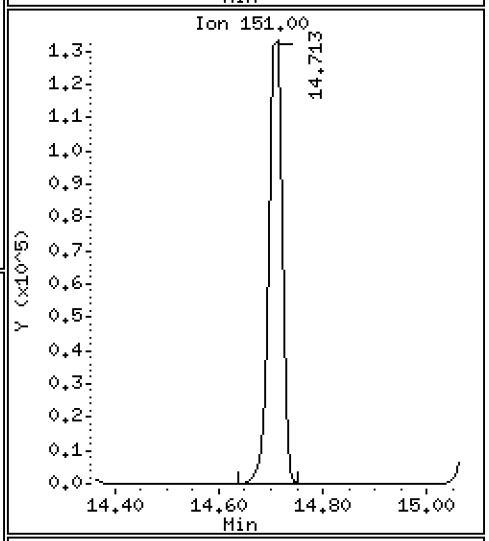


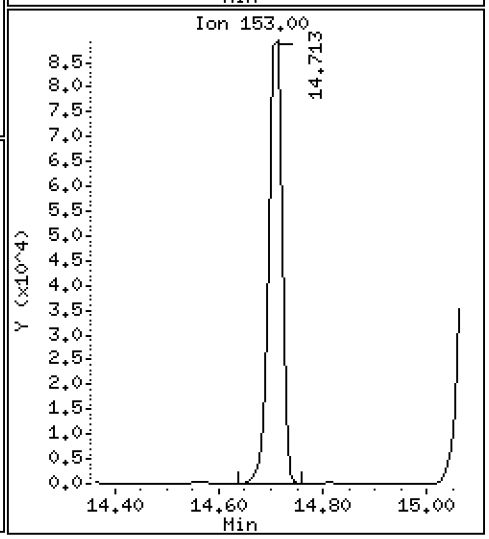












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

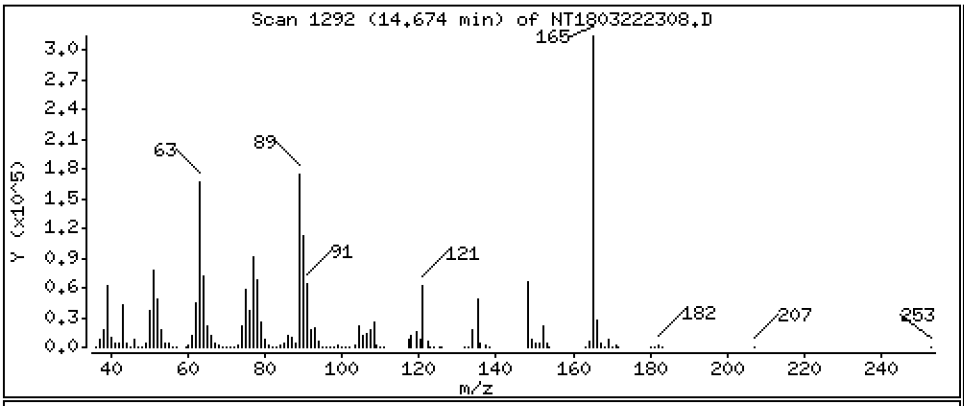
Operator: VTS

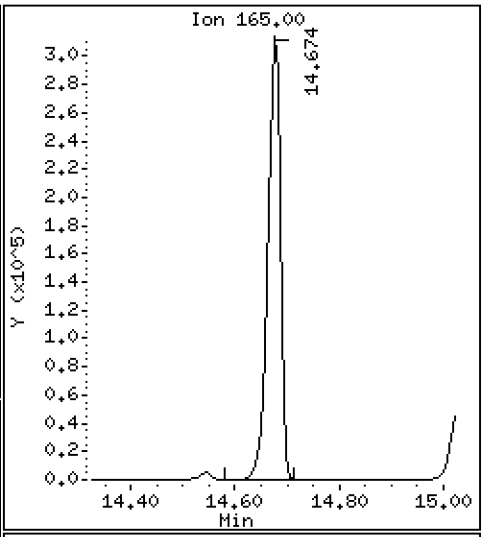
Column phase: ZB-5msi

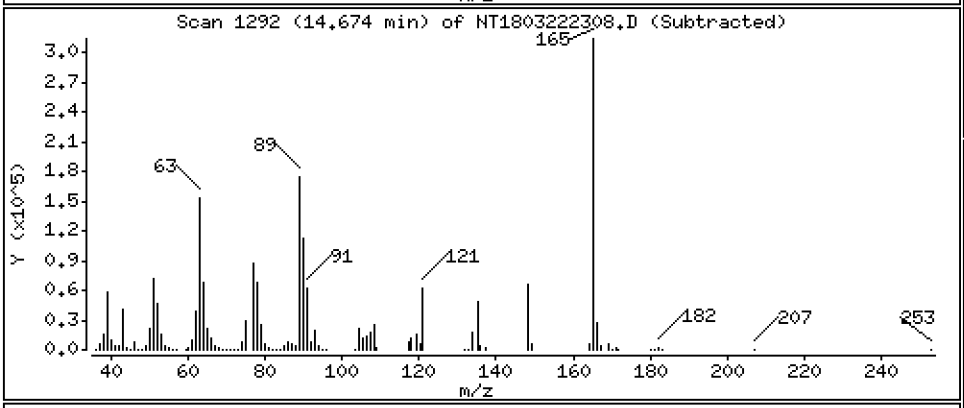
Column diameter: 0.25

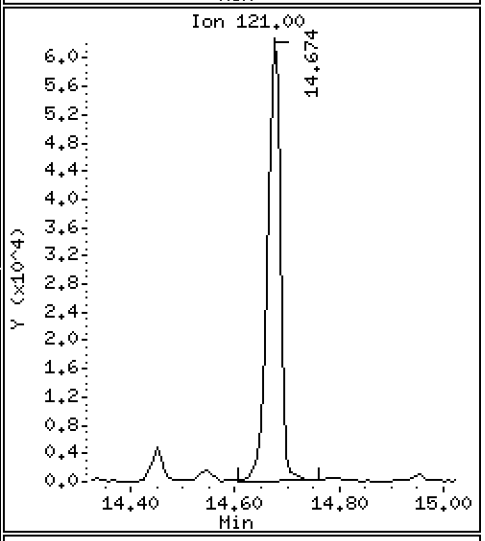
41 2,6-Dinitrotoluene

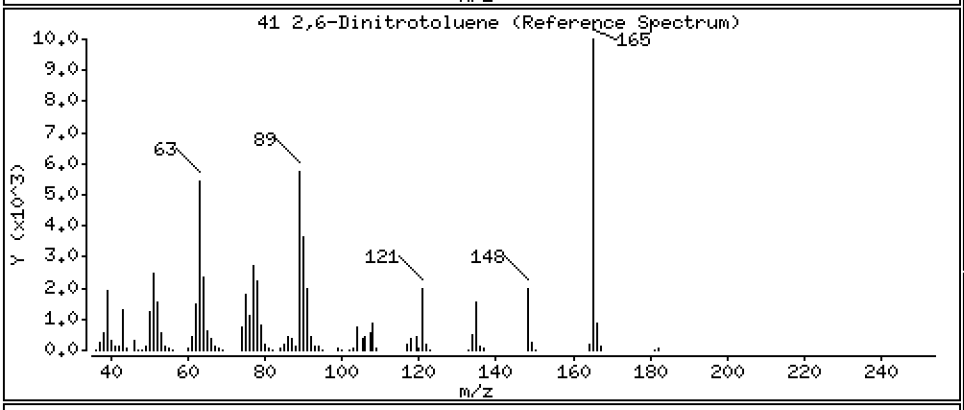
Concentration: 12.75 ug/mL

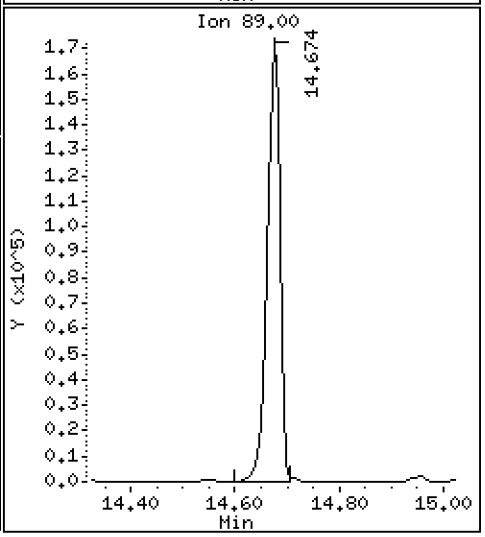


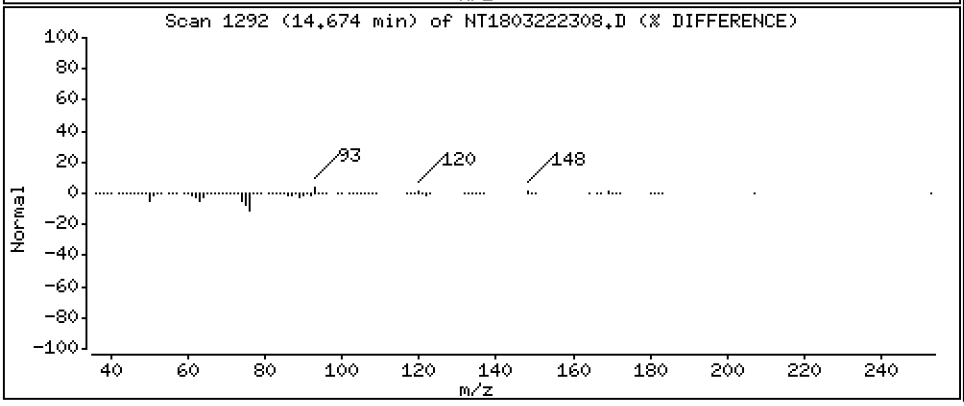












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

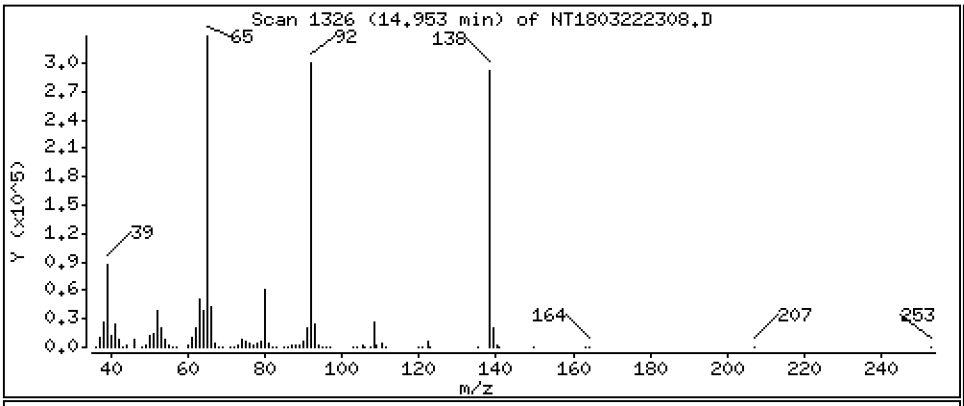
Operator: VTS

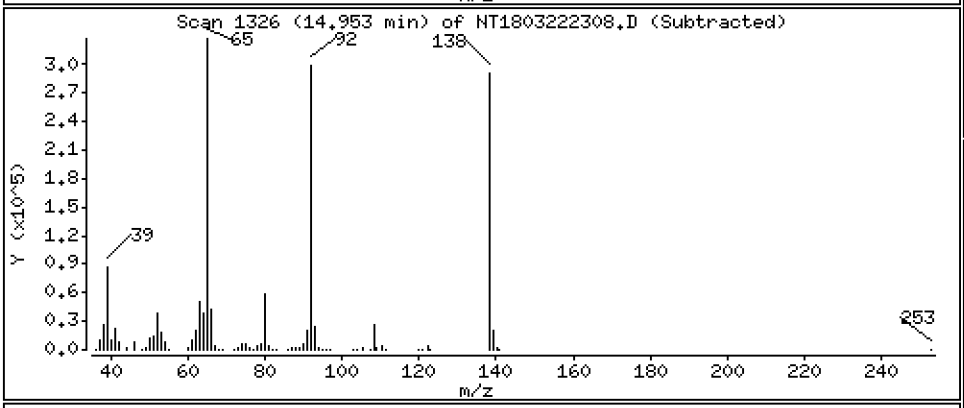
Column phase: ZB-5msi

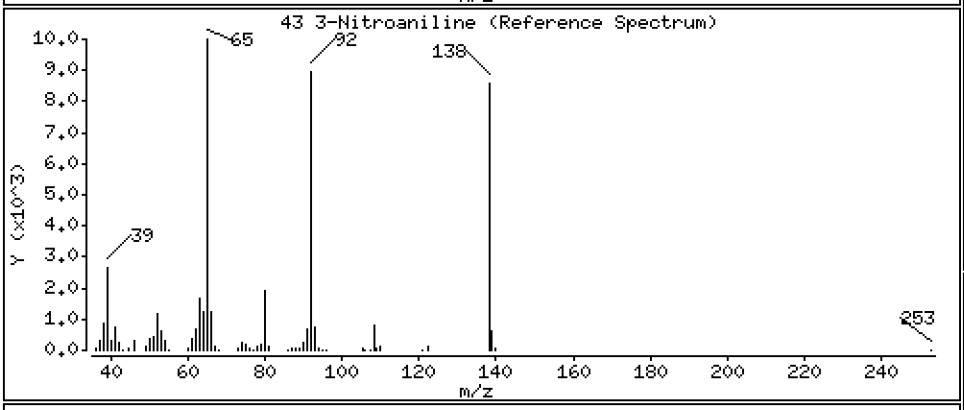
Column diameter: 0.25

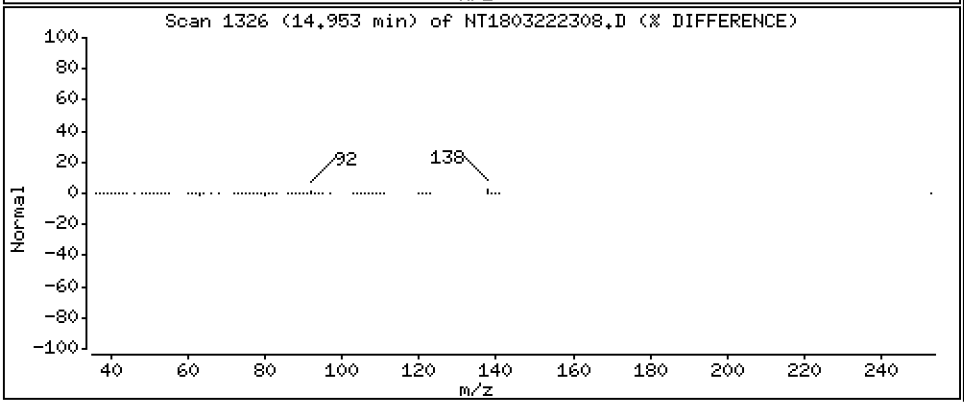
43 3-Nitroaniline

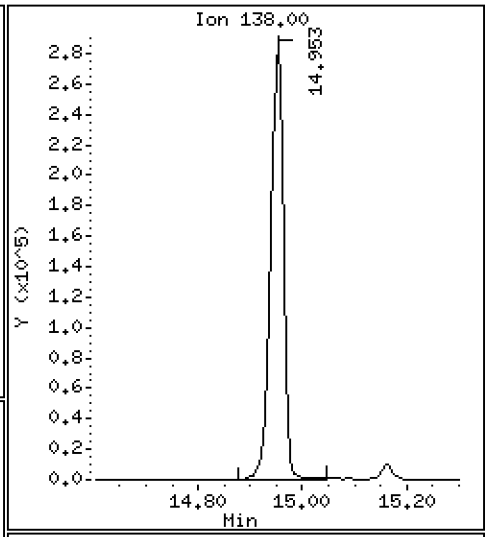
Concentration: 10.65 ug/mL

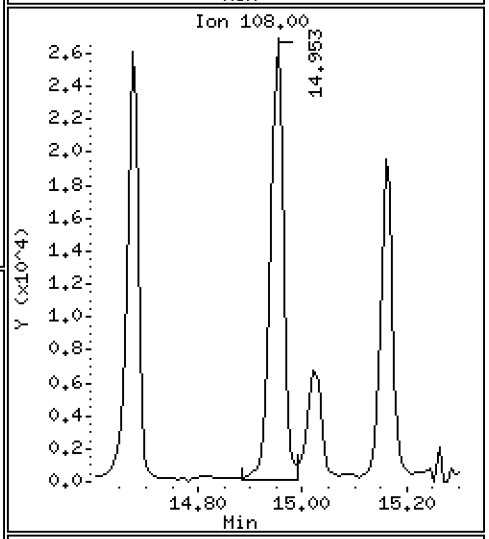


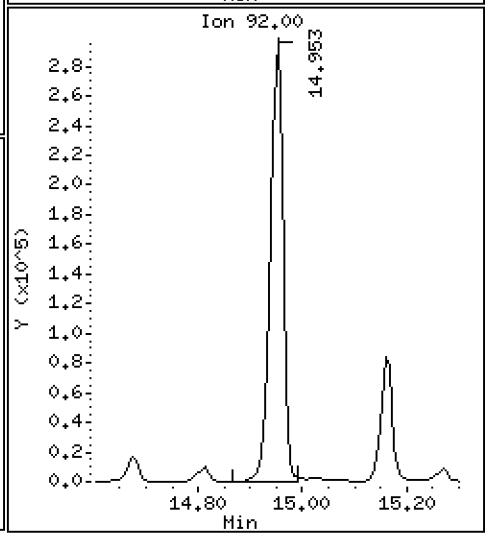












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

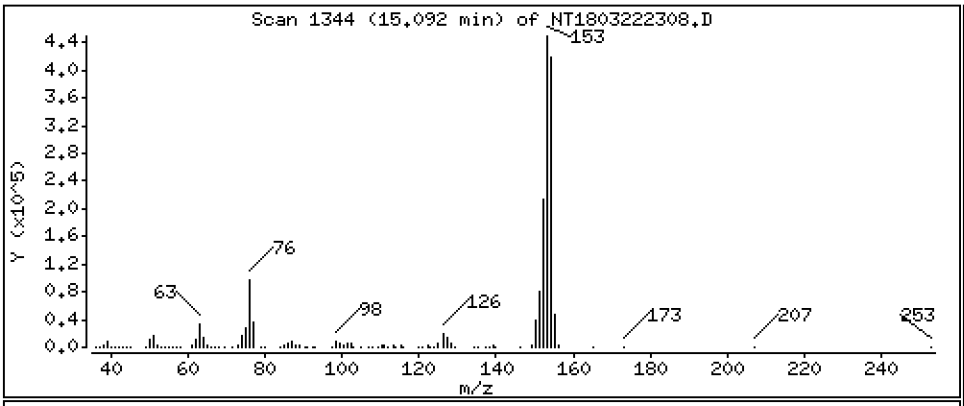
Operator: VTS

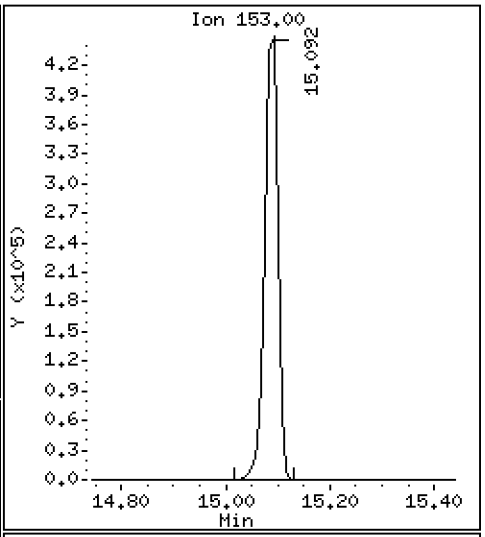
Column phase: ZB-5msi

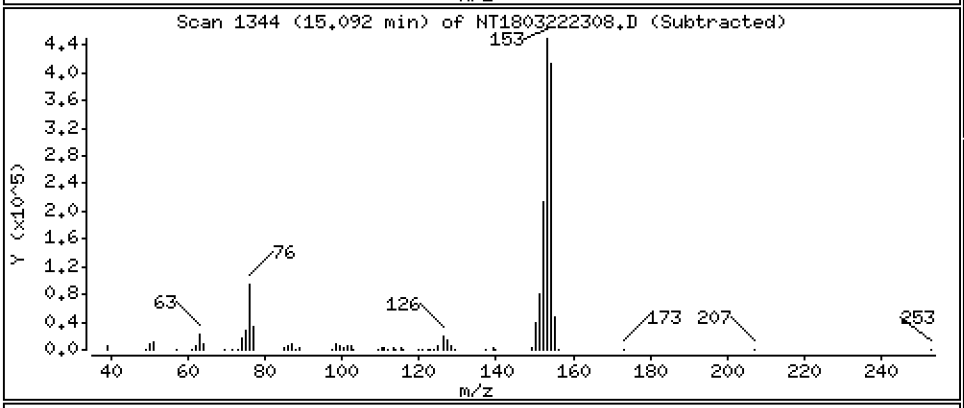
Column diameter: 0.25

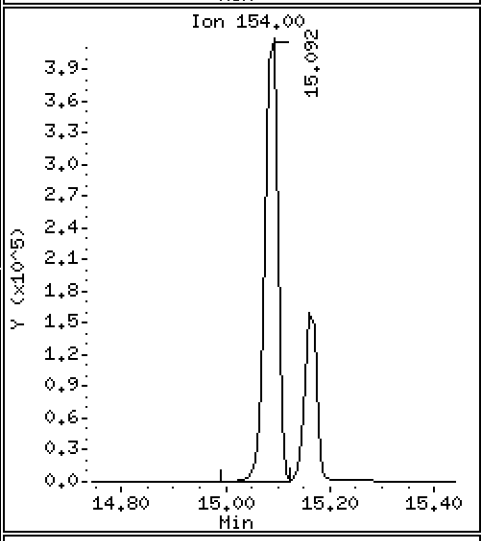
44 Acenaphthene

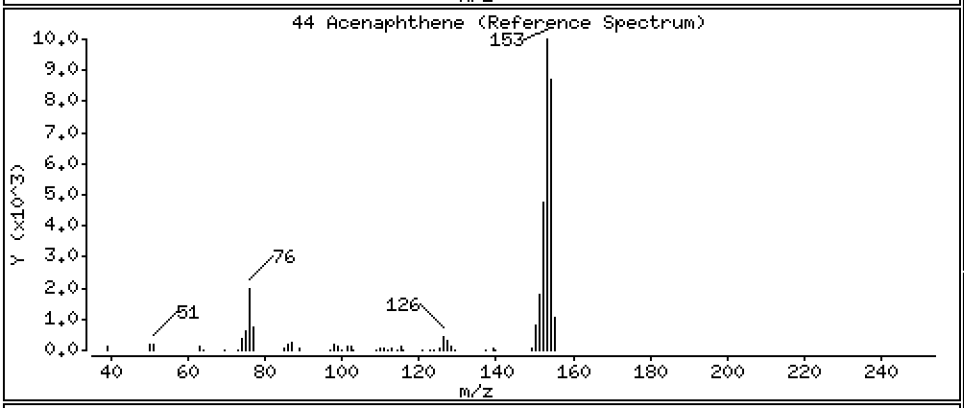
Concentration: 4.218 ug/mL

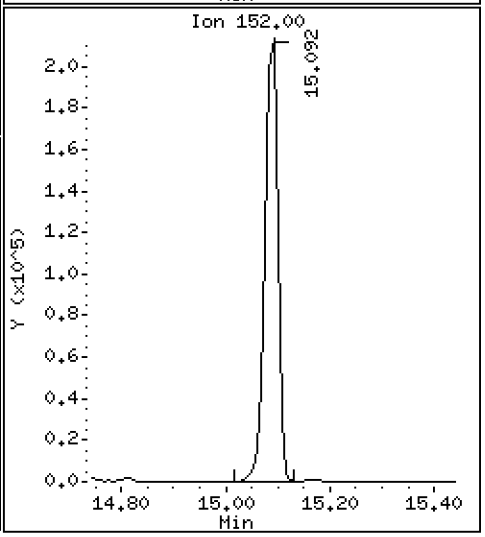


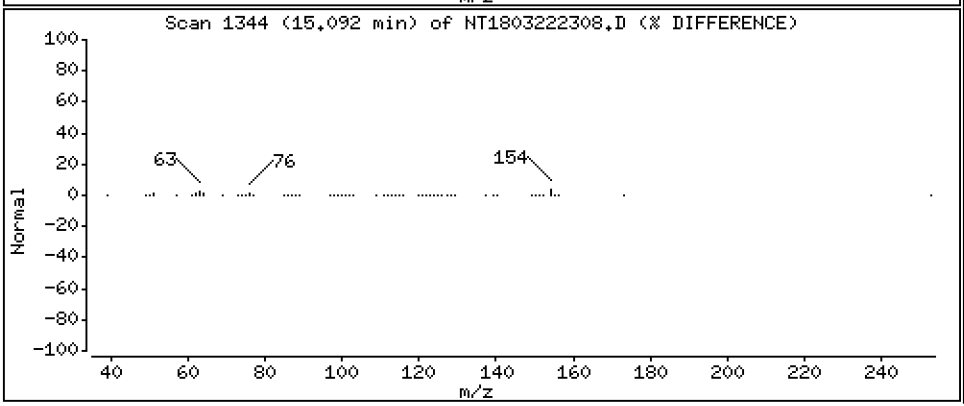












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

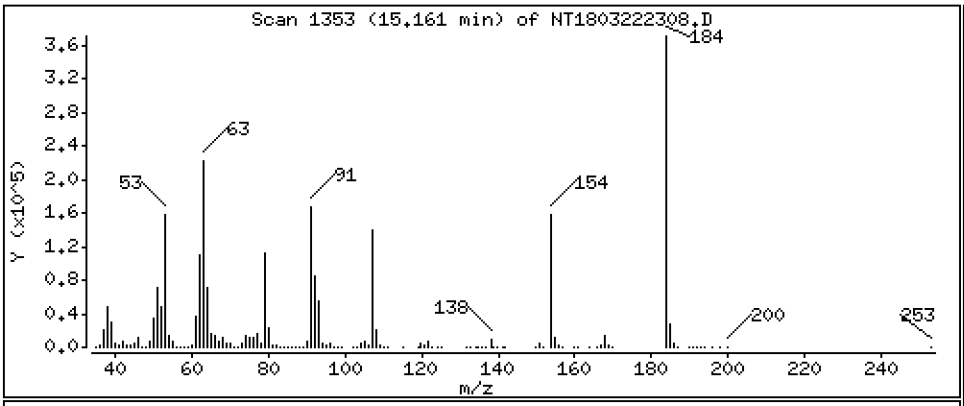
Operator: VTS

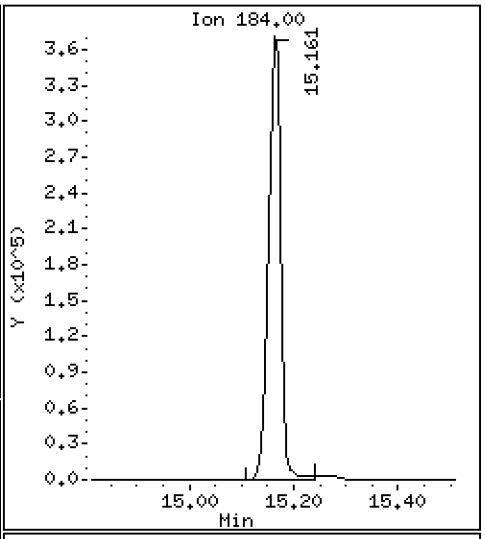
Column phase: ZB-5msi

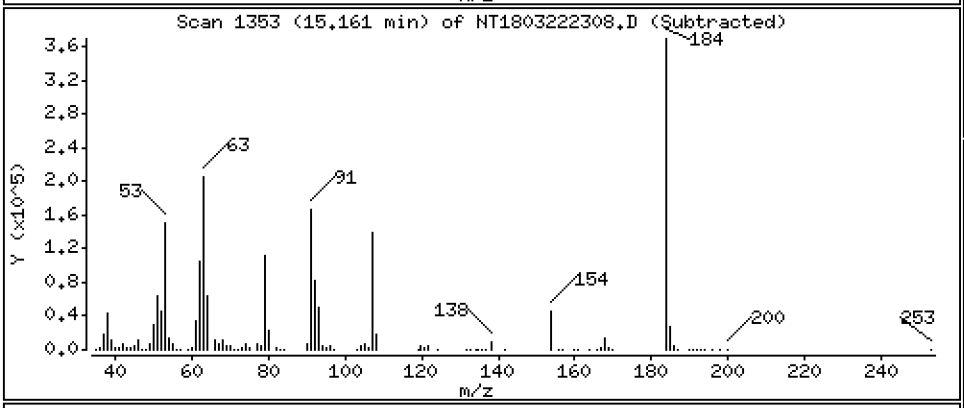
Column diameter: 0.25

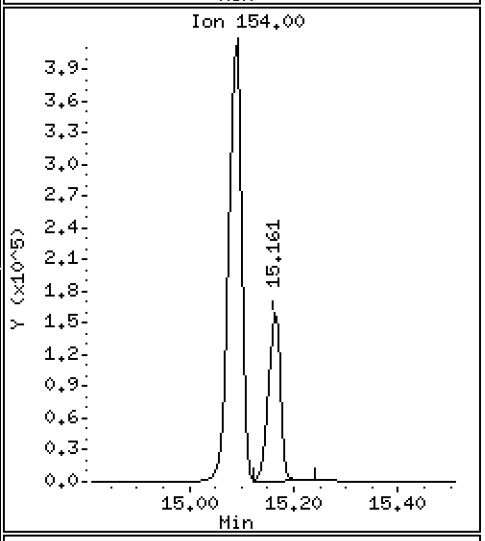
45 2,4-Dinitrophenol

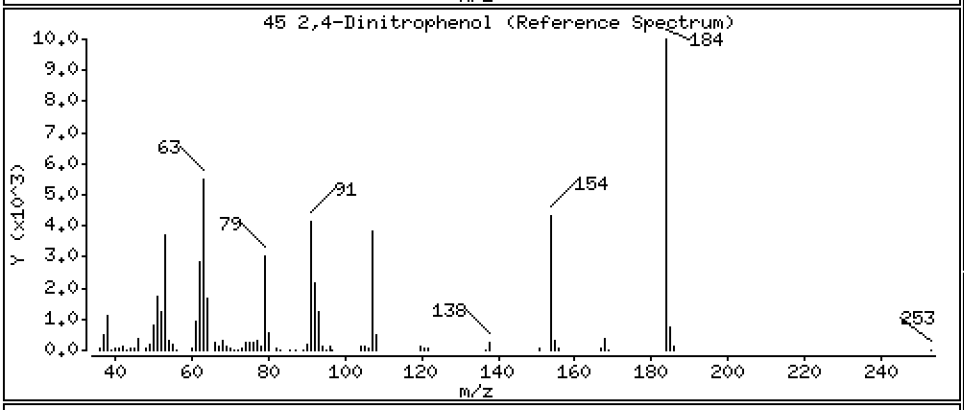
Concentration: 24.08 ug/mL

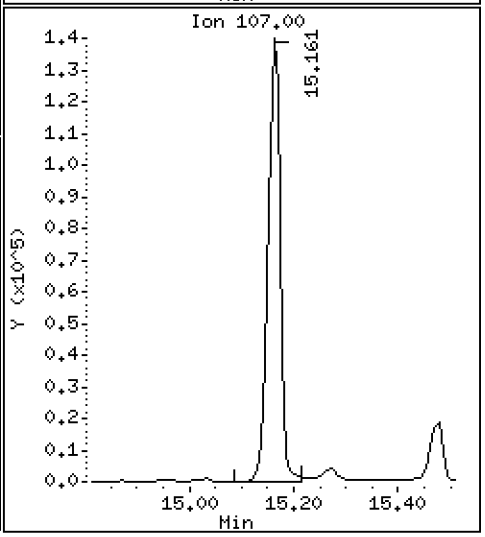


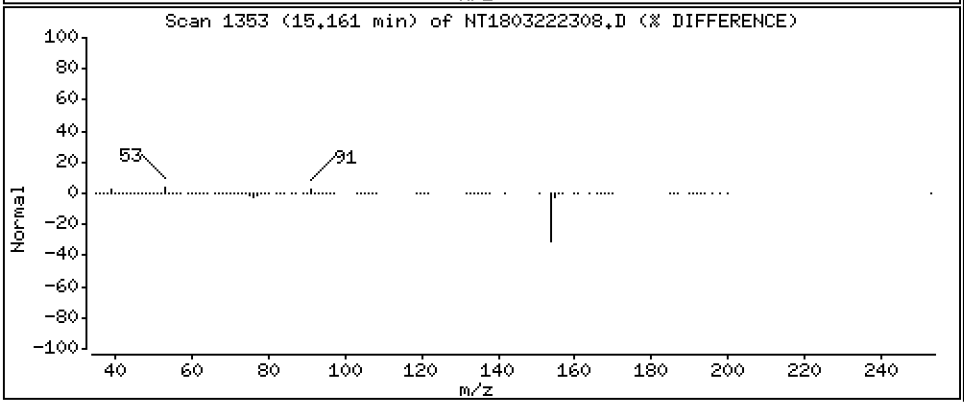












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

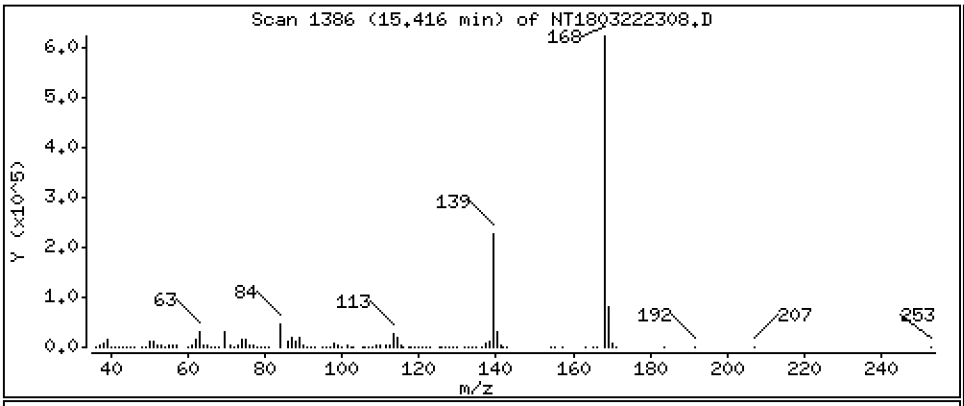
Operator: VTS

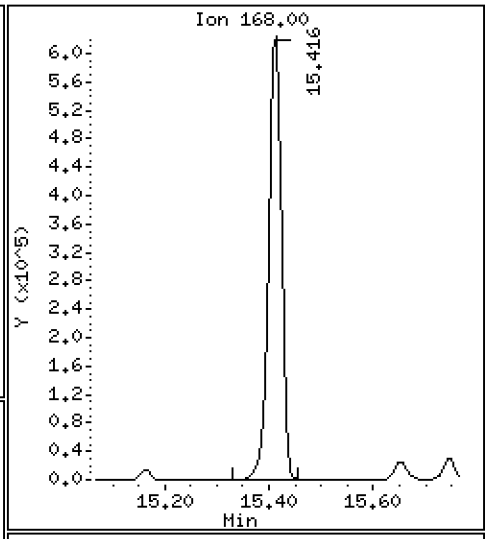
Column phase: ZB-5msi

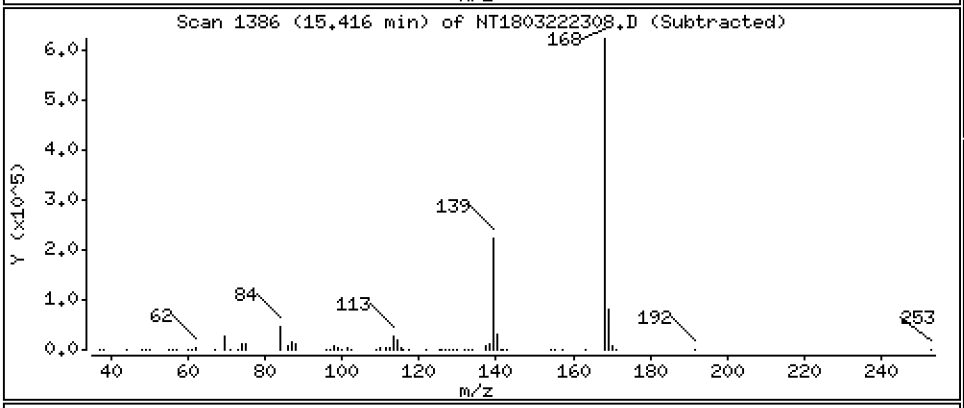
Column diameter: 0.25

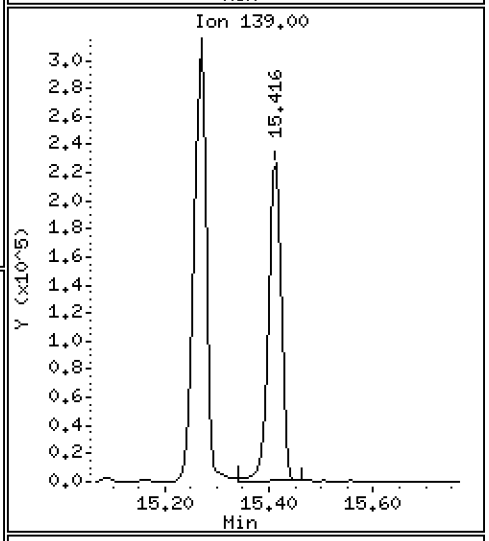
46 Dibenzofuran

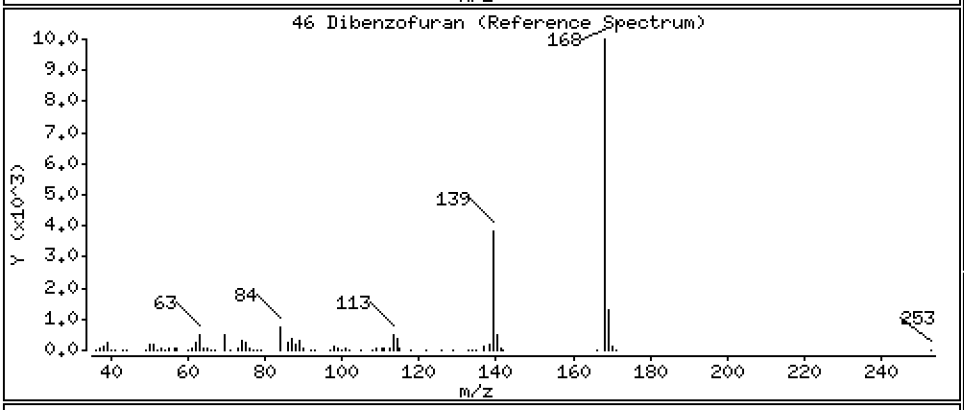
Concentration: 4.211 ug/mL

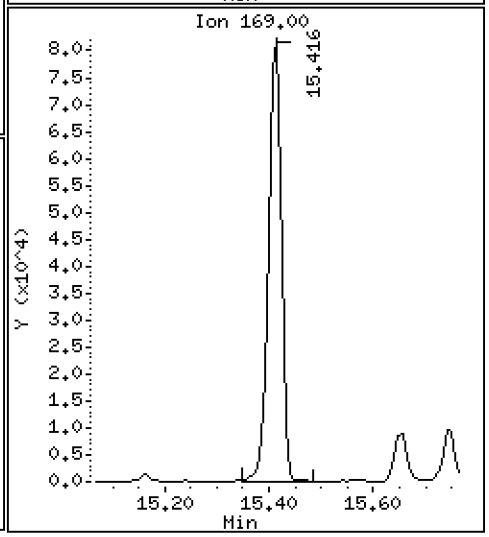


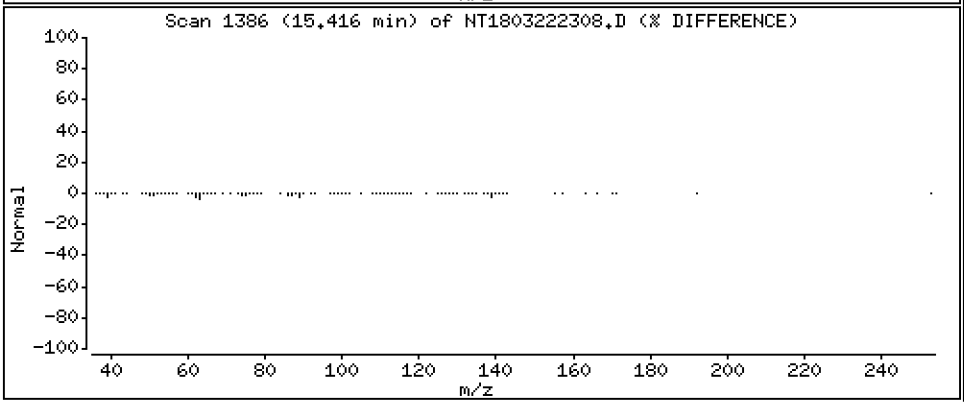












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222308.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

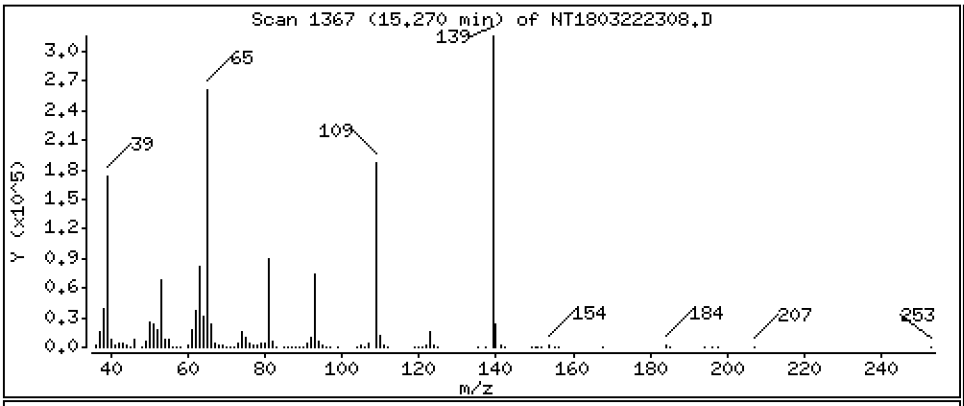
Operator: VTS

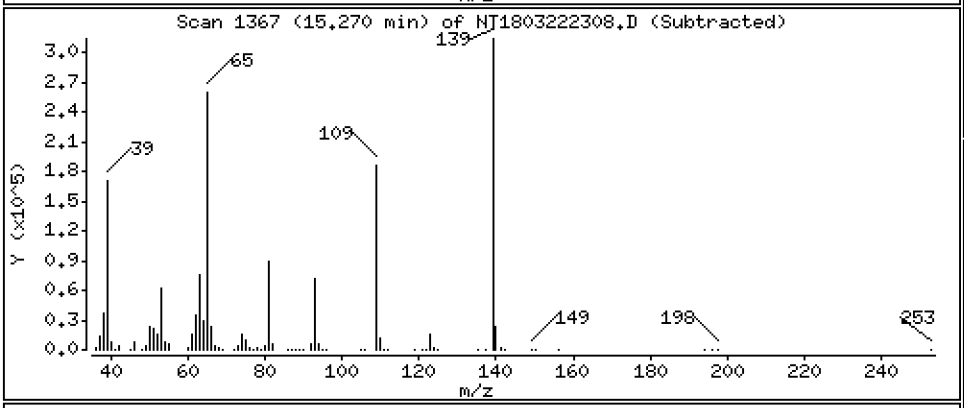
Column phase: ZB-5msi

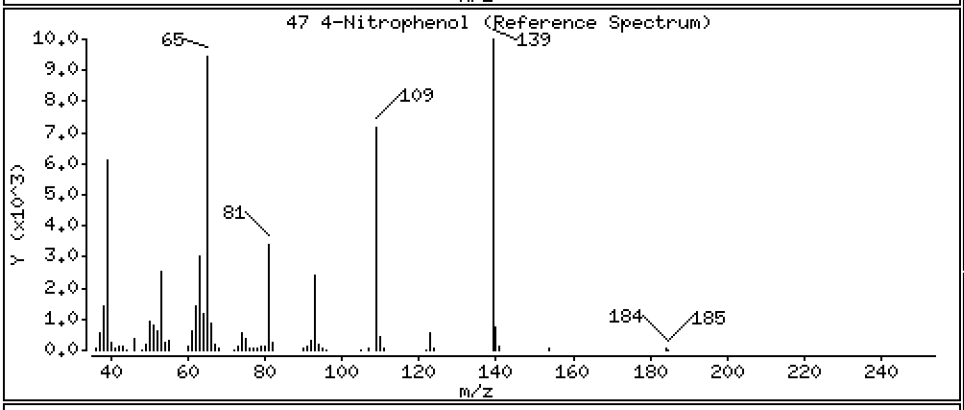
Column diameter: 0.25

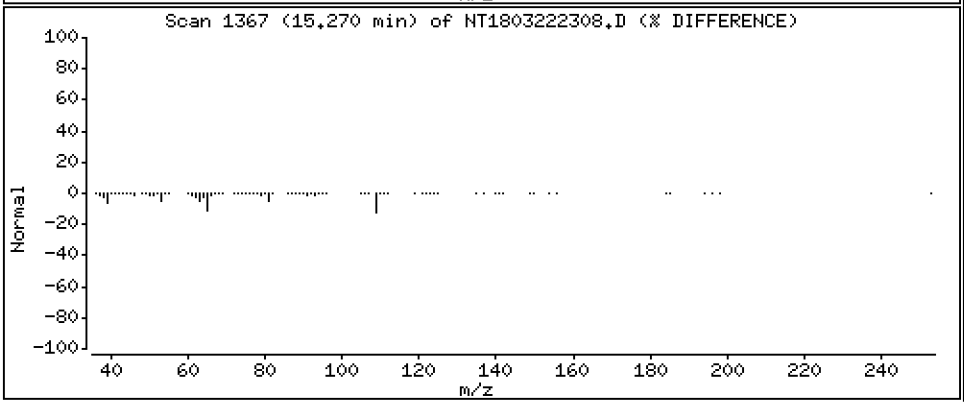
47 4-Nitrophenol

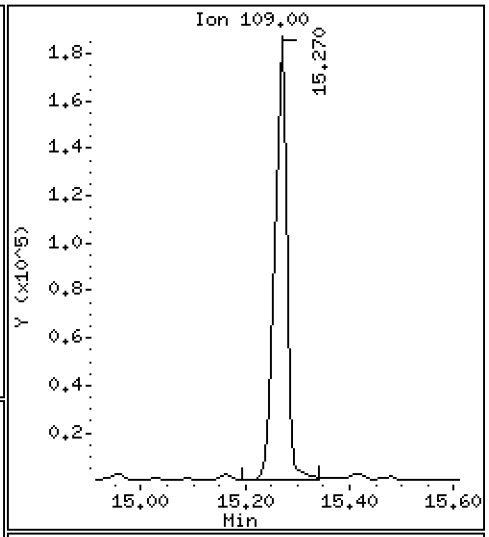
Concentration: 12.45 ug/mL

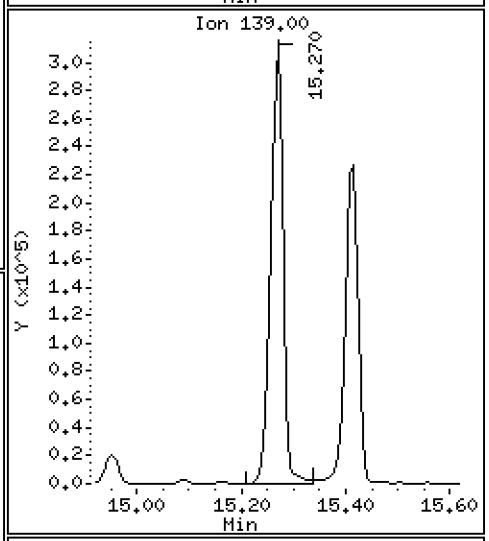


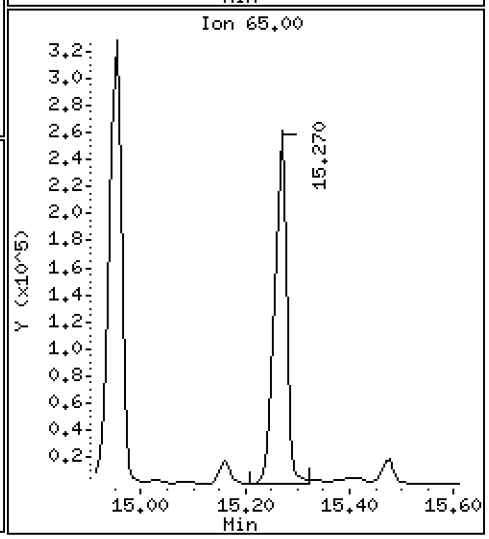












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

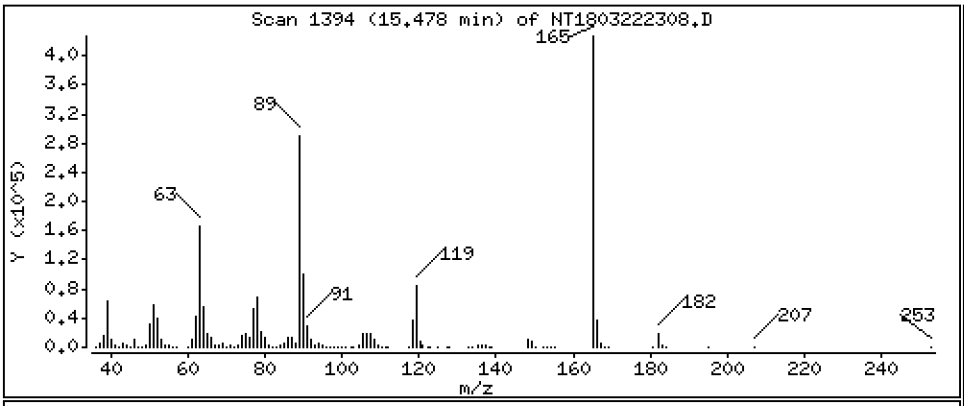
Operator: VTS

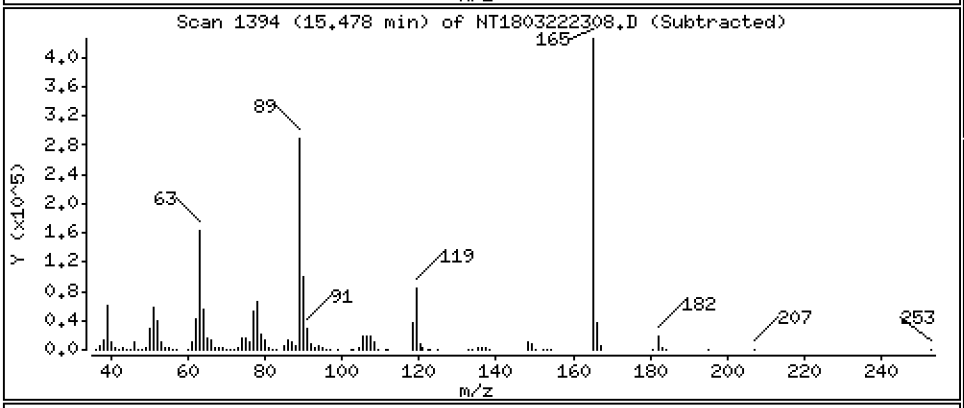
Column phase: ZB-5msi

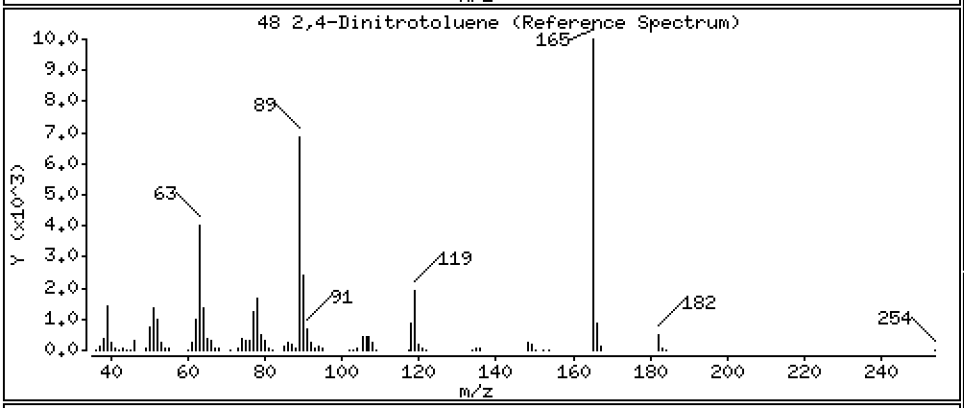
Column diameter: 0.25

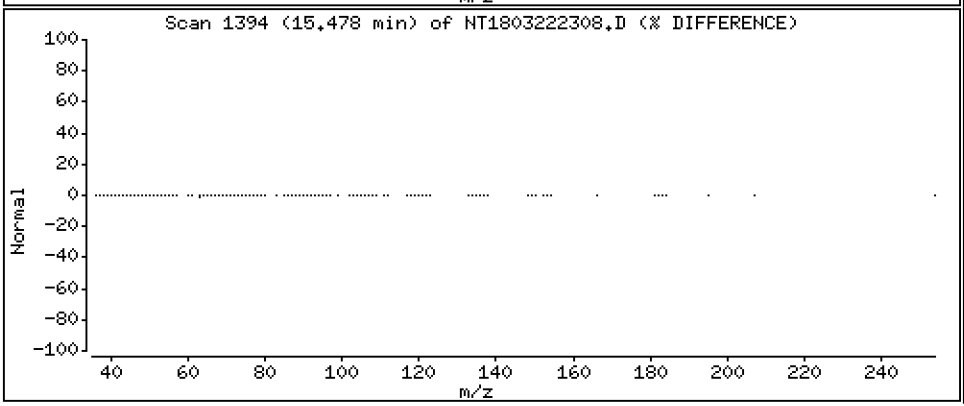
48 2,4-Dinitrotoluene

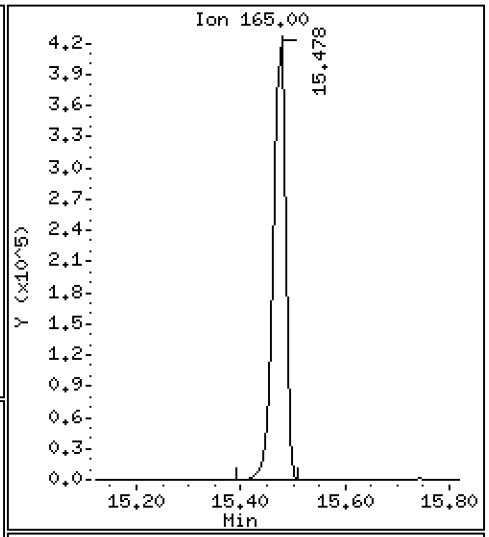
Concentration: 12.63 ug/mL

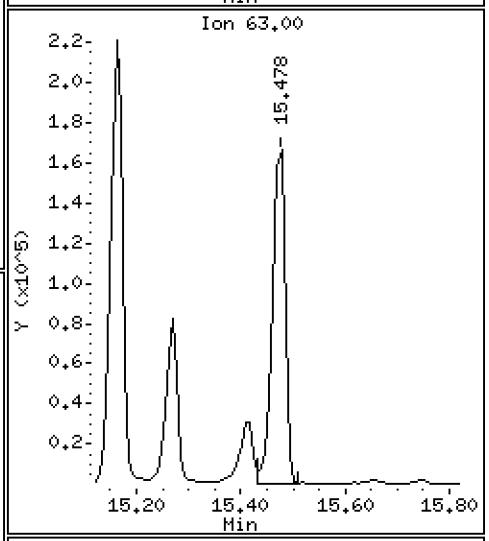


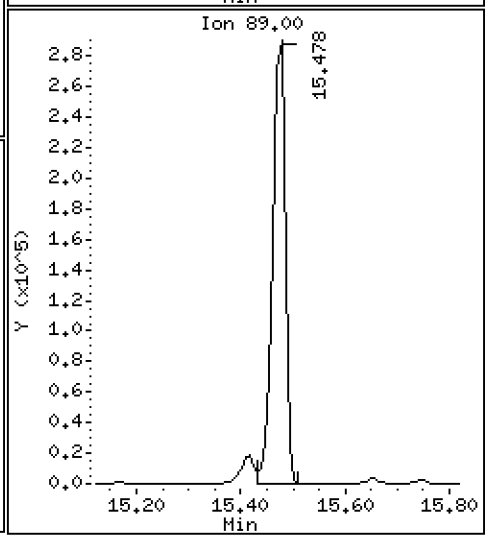












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

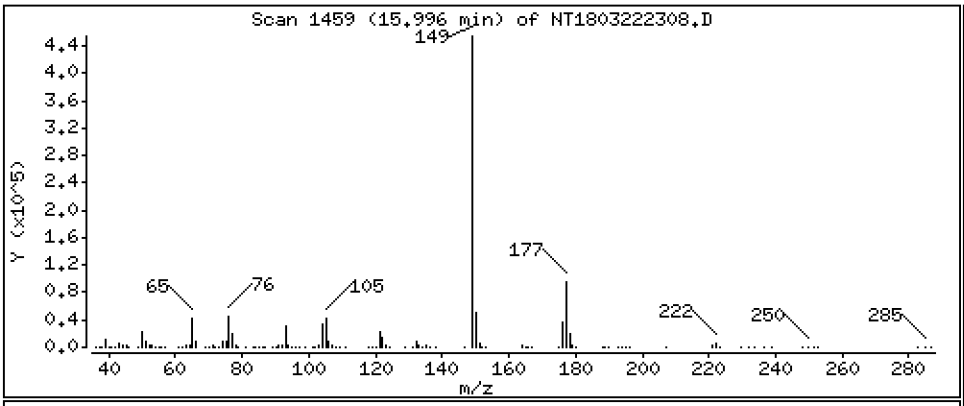
Operator: VTS

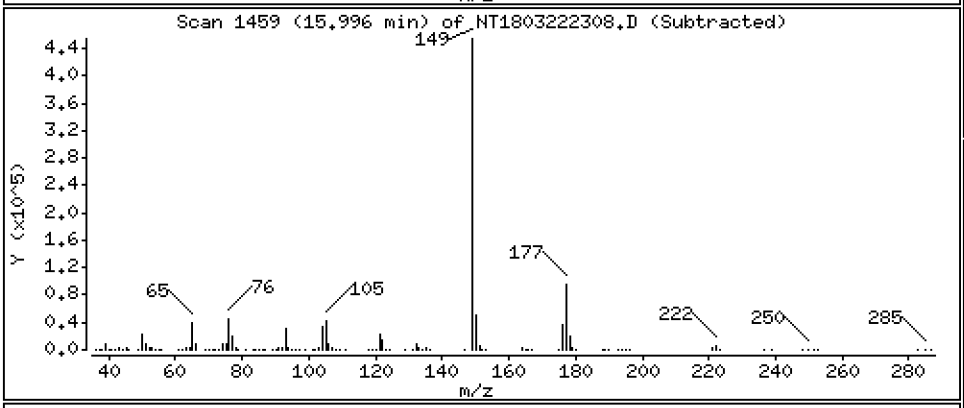
Column phase: ZB-5msi

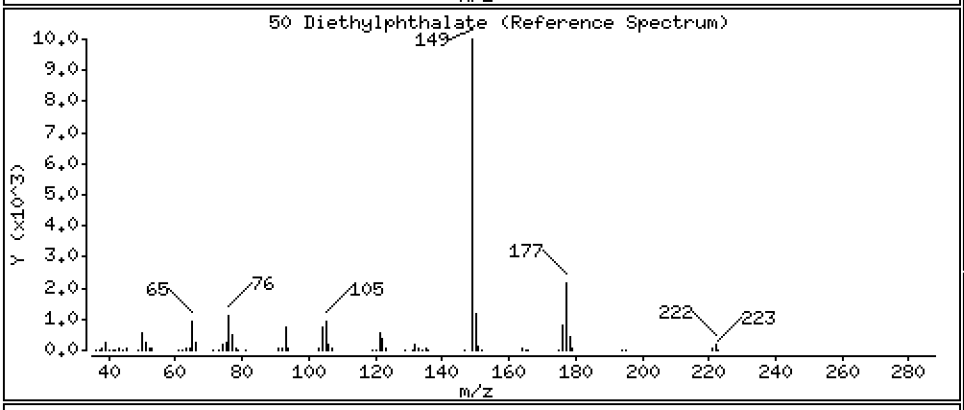
Column diameter: 0.25

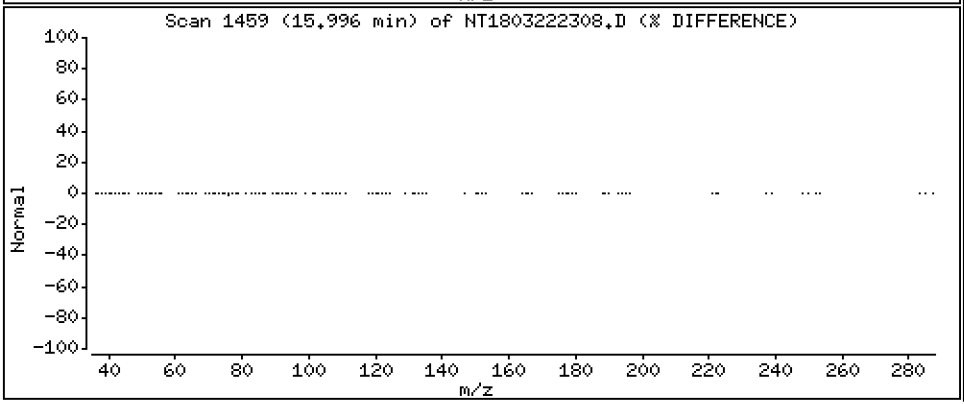
50 Diethylphthalate

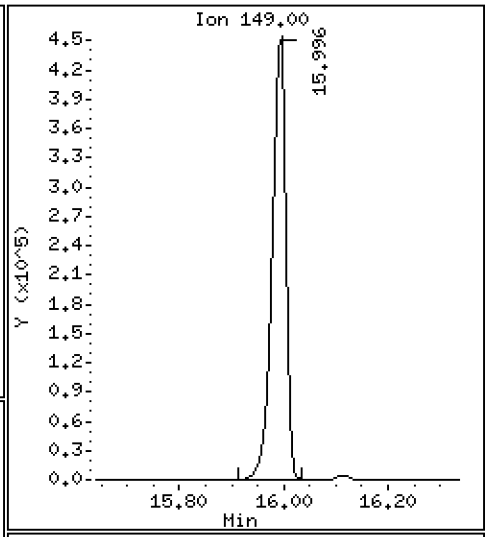
Concentration: 4.590 ug/mL

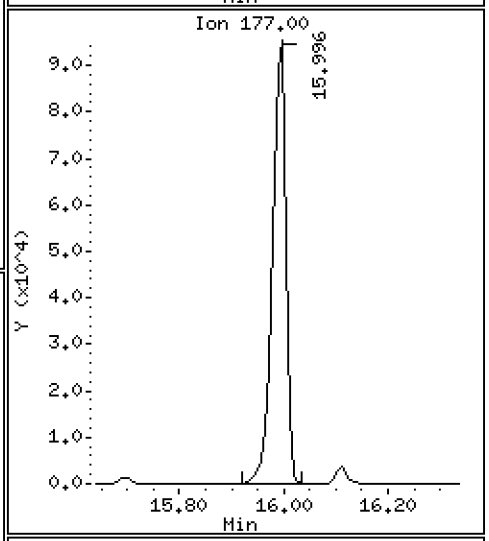


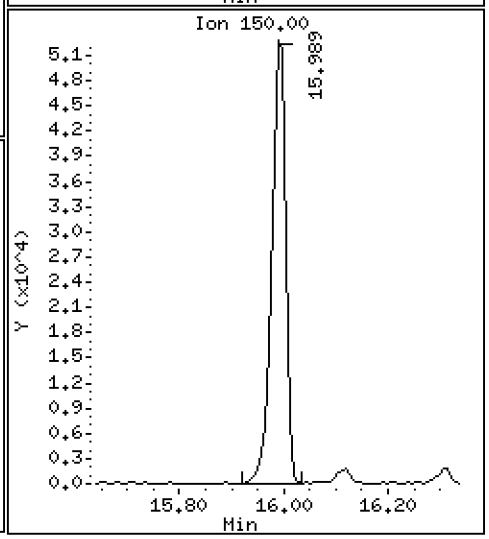












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

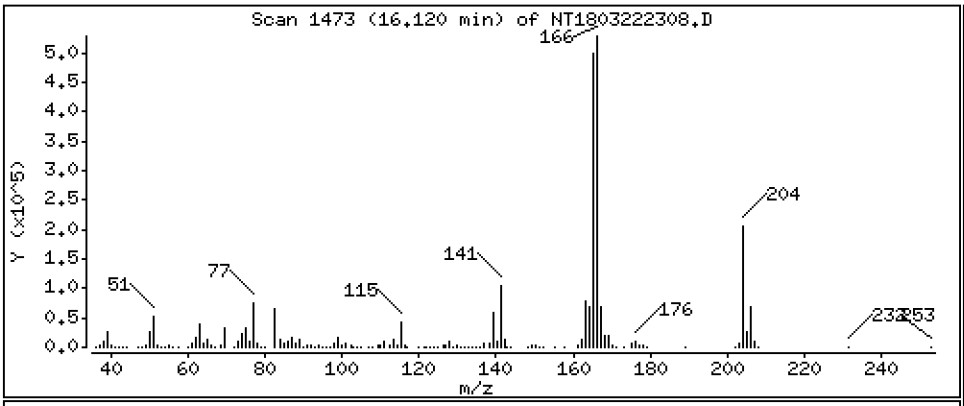
Operator: VTS

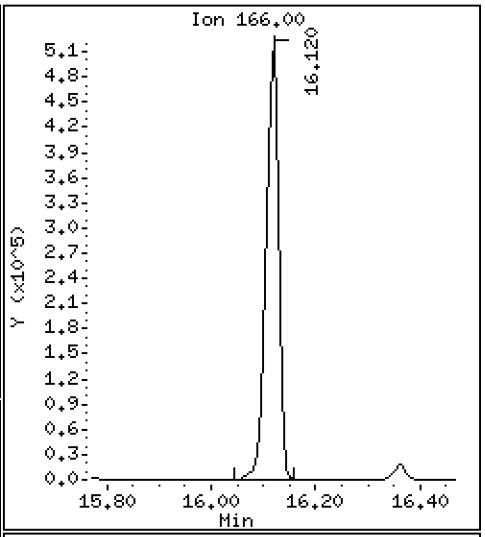
Column phase: ZB-5msi

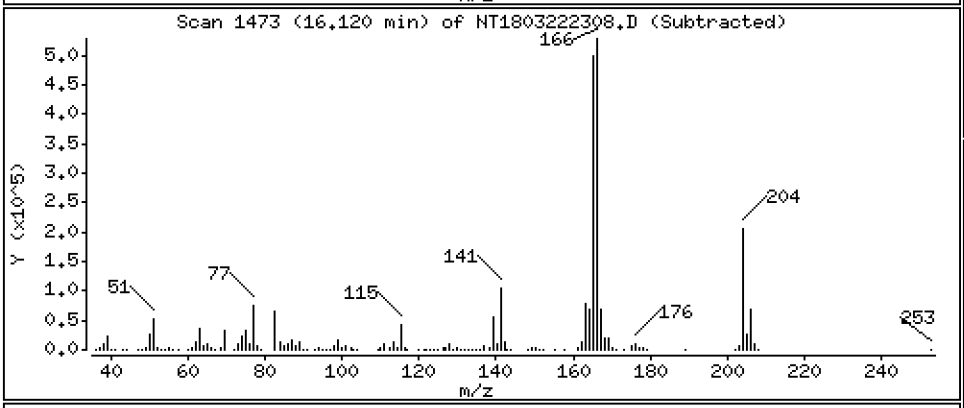
Column diameter: 0.25

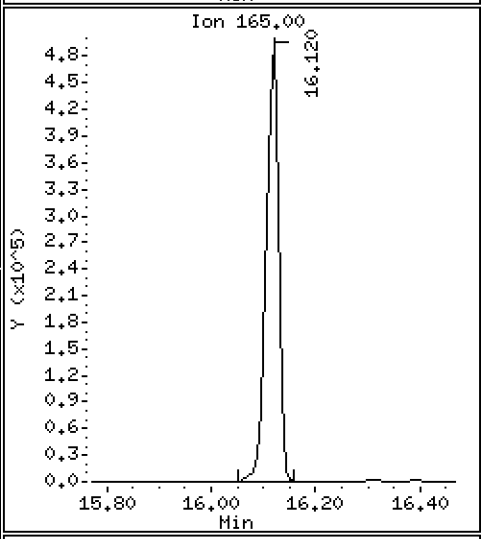
49 Fluorene

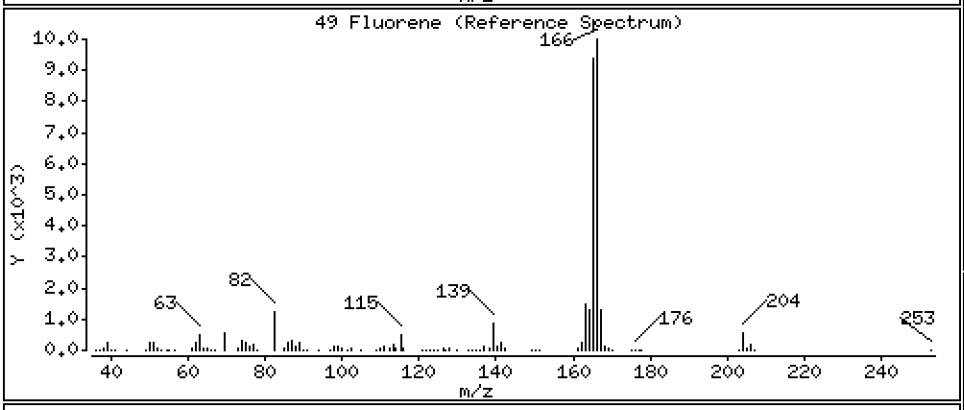
Concentration: 4.379 ug/mL

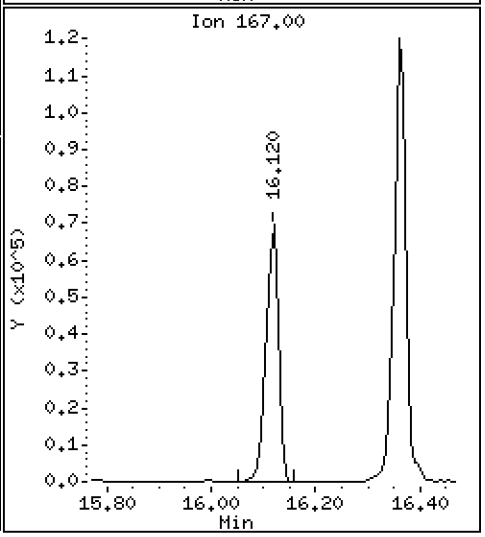


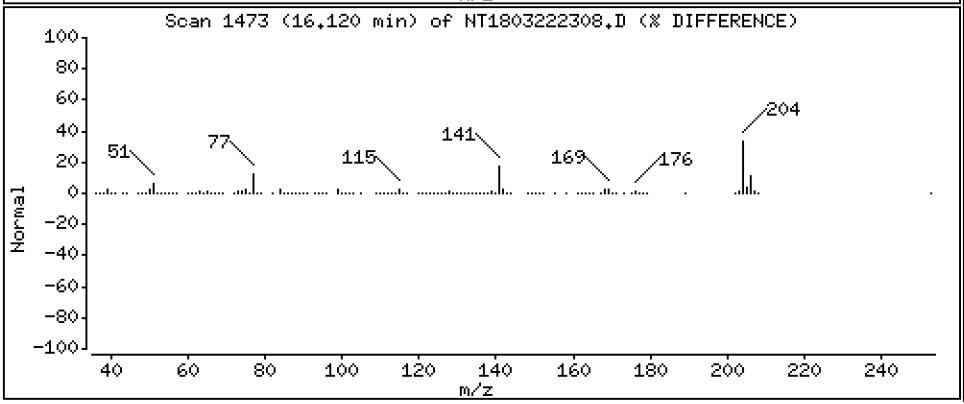












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

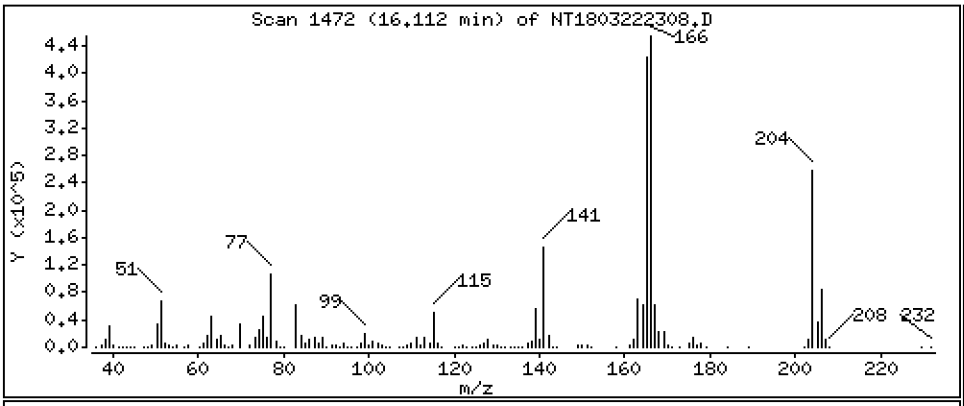
Operator: VTS

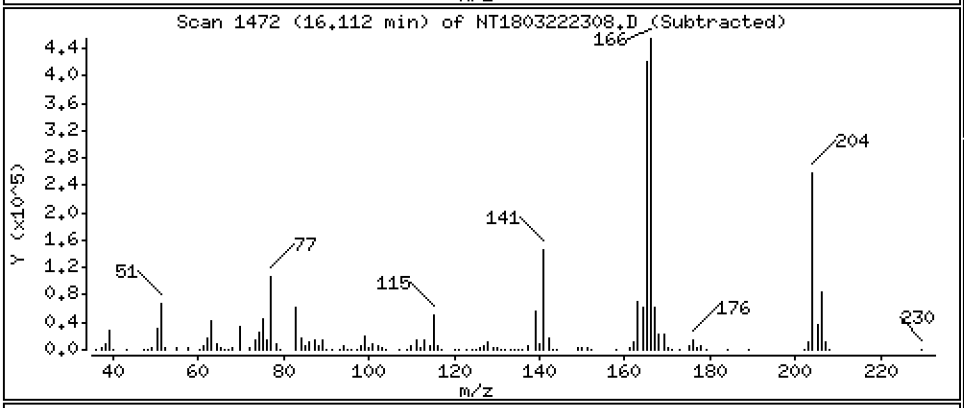
Column phase: ZB-5msi

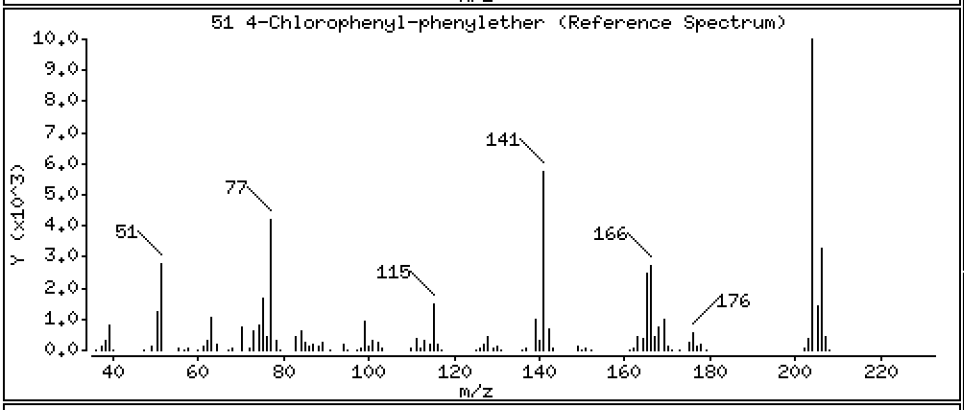
Column diameter: 0.25

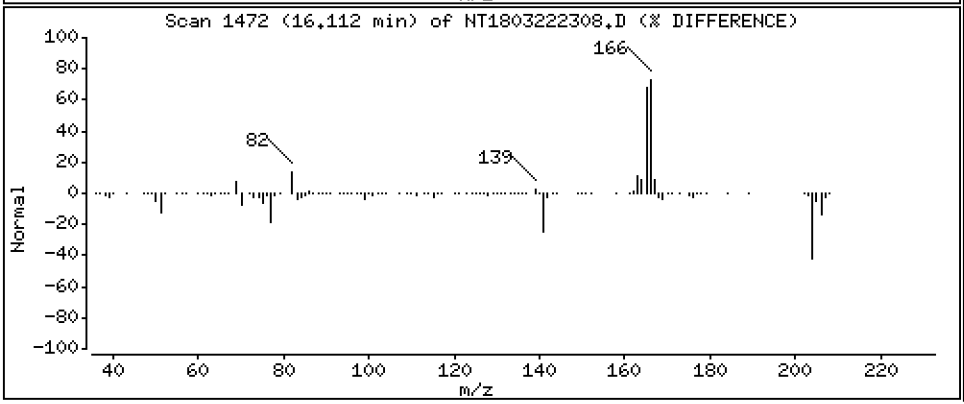
51 4-Chlorophenyl-phenylether

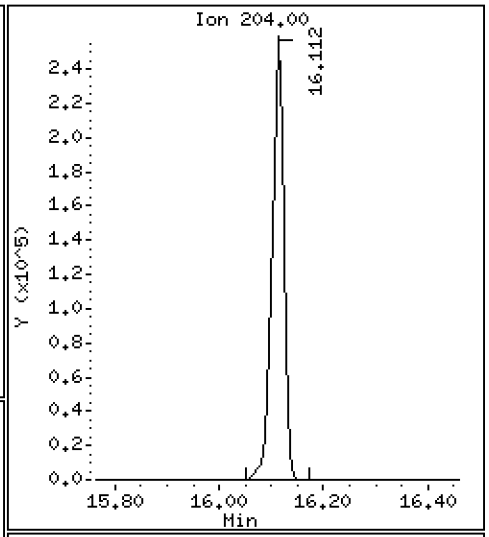
Concentration: 4.599 ug/mL

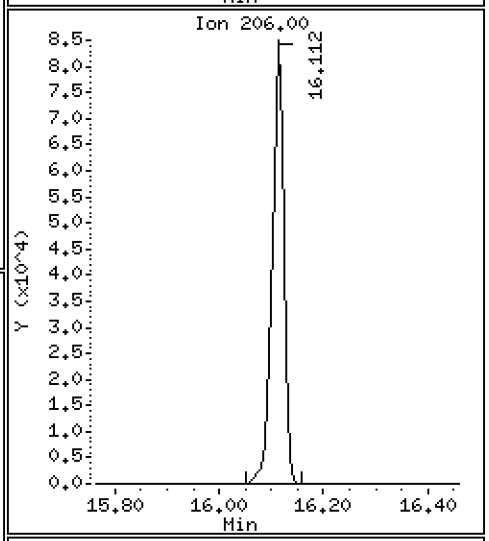


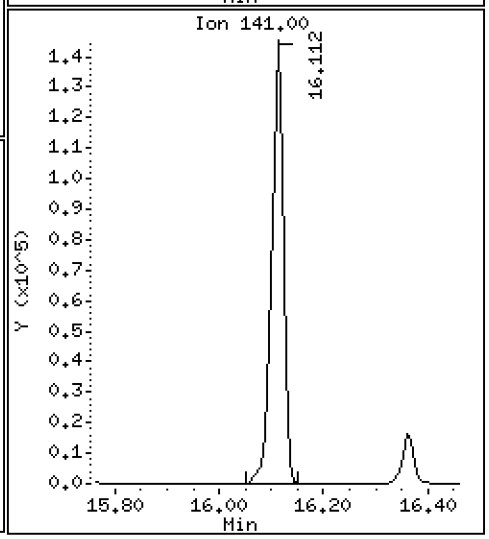












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

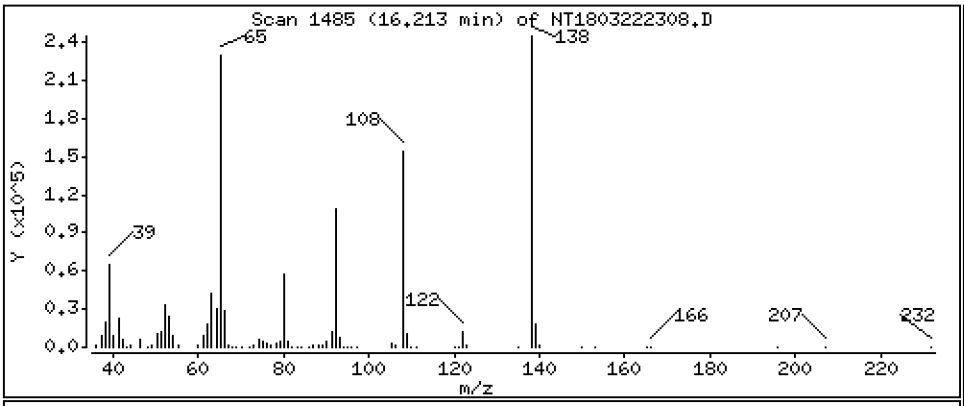
Operator: VTS

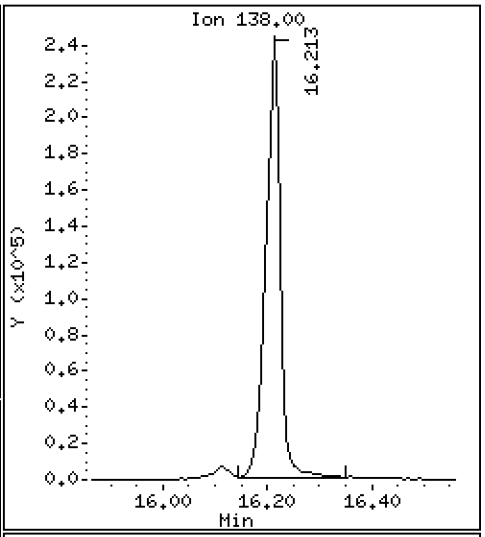
Column phase: ZB-5msi

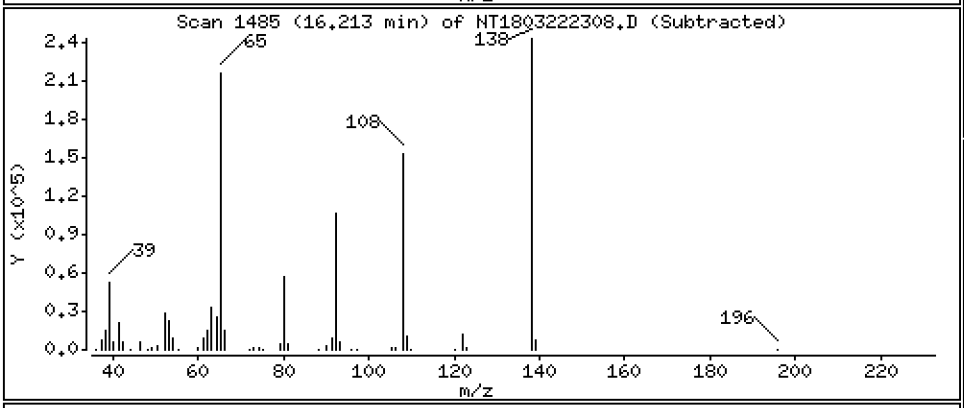
Column diameter: 0.25

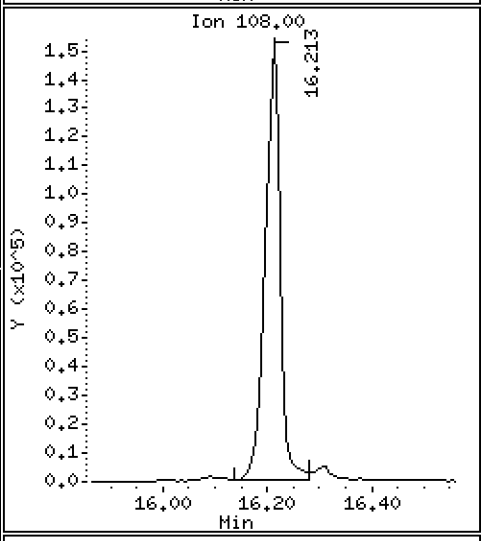
52 4-Nitroaniline

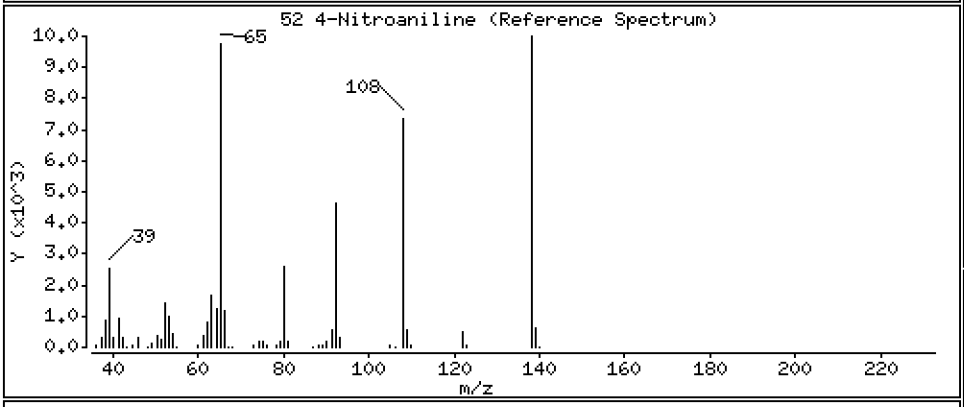
Concentration: 10.23 ug/mL

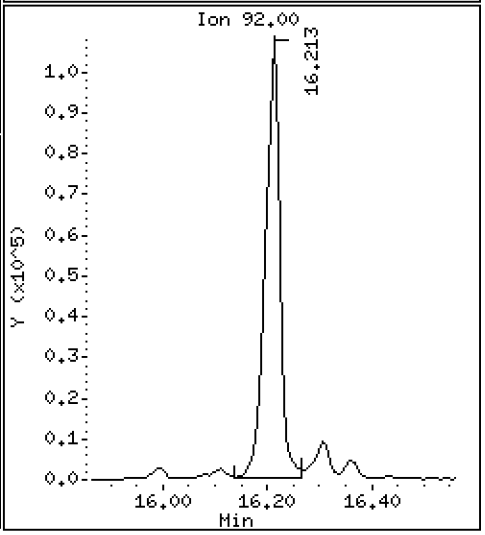


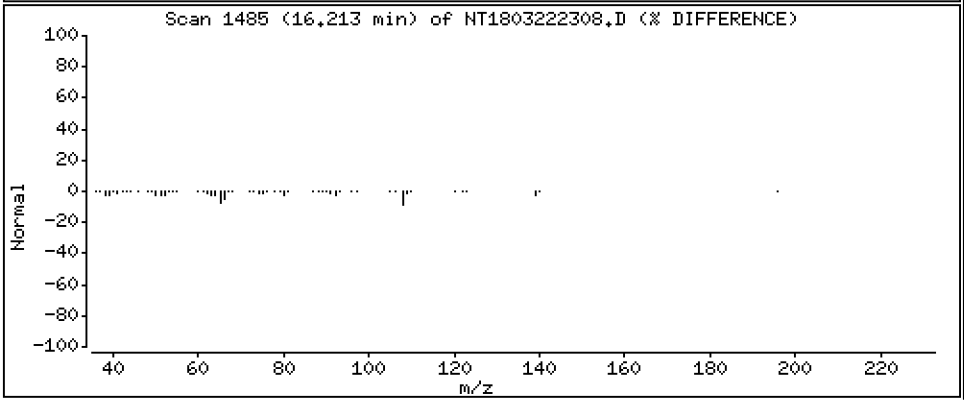












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

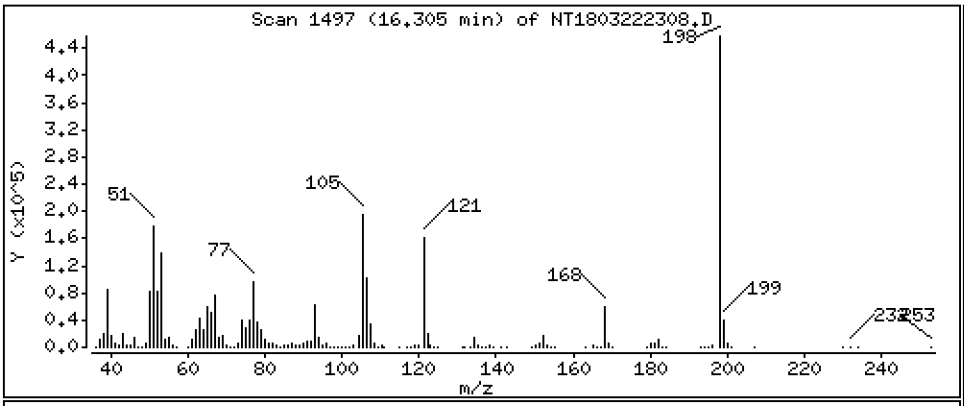
Operator: VTS

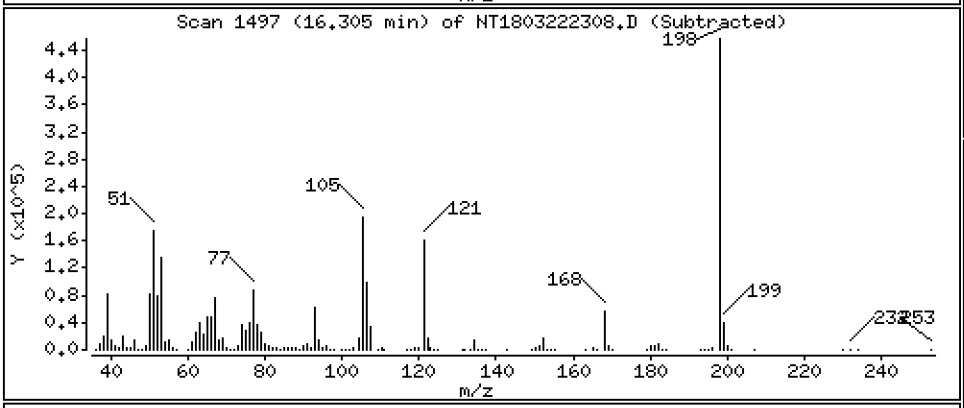
Column phase: ZB-5msi

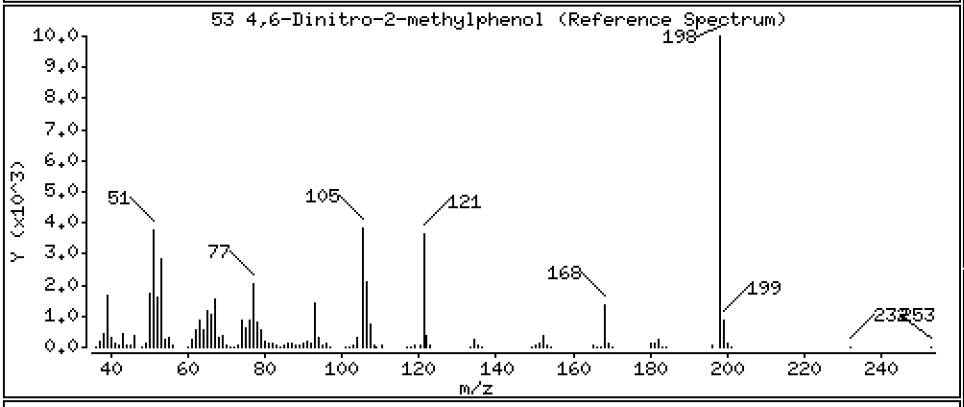
Column diameter: 0.25

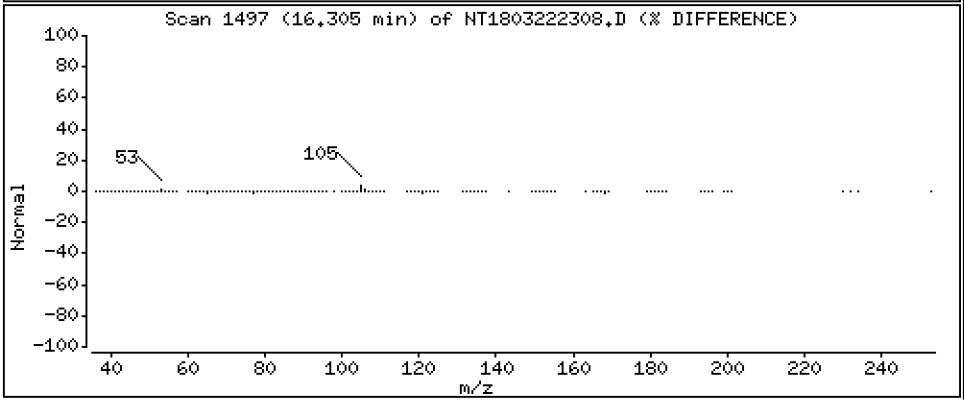
53 4,6-Dinitro-2-methylphenol

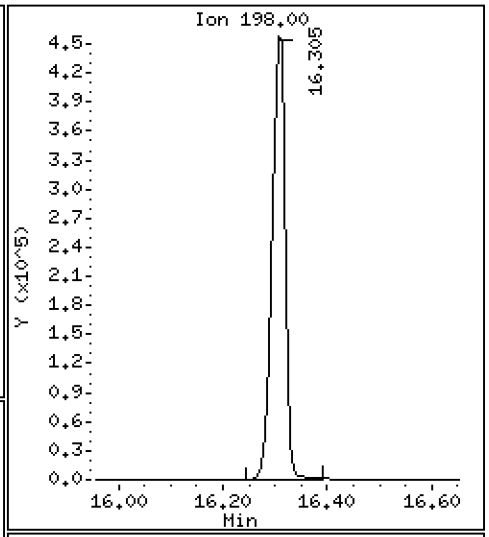
Concentration: 26.67 ug/mL

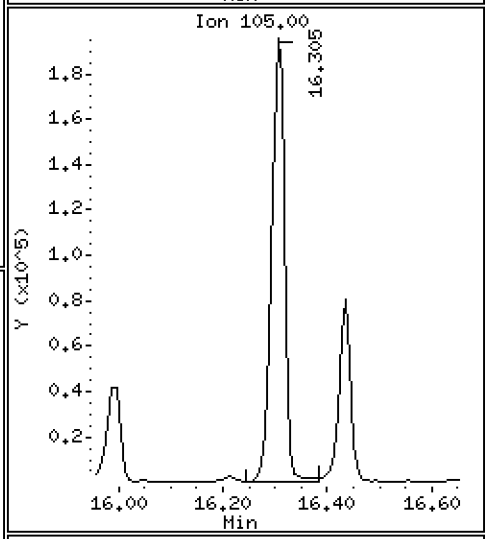


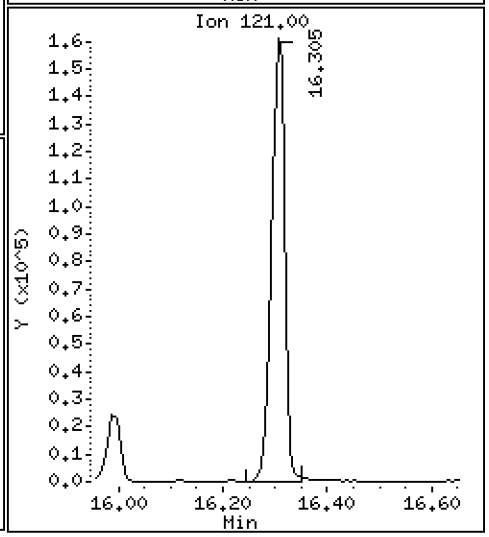












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222308.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

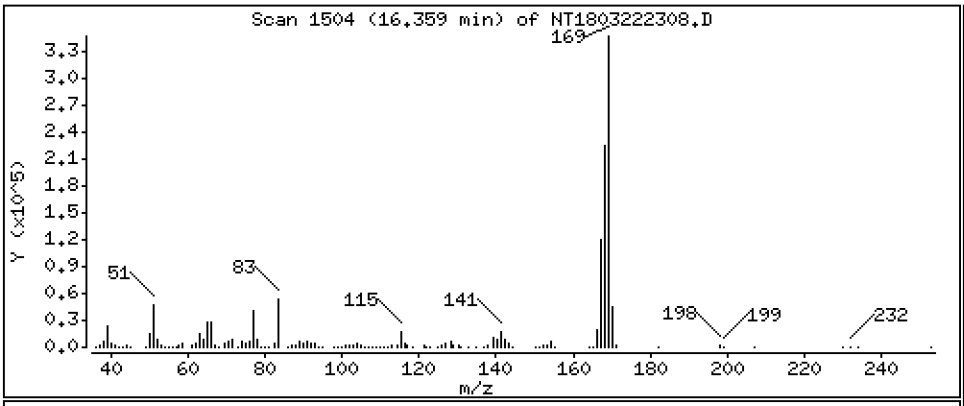
Operator: VTS

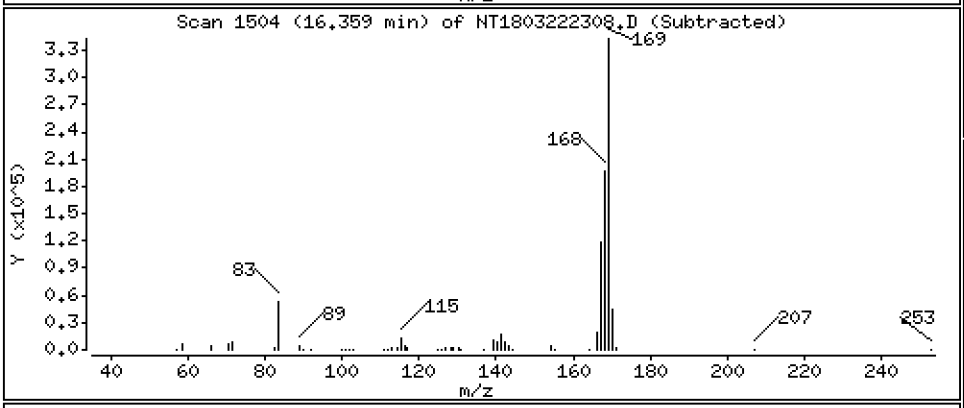
Column phase: ZB-5msi

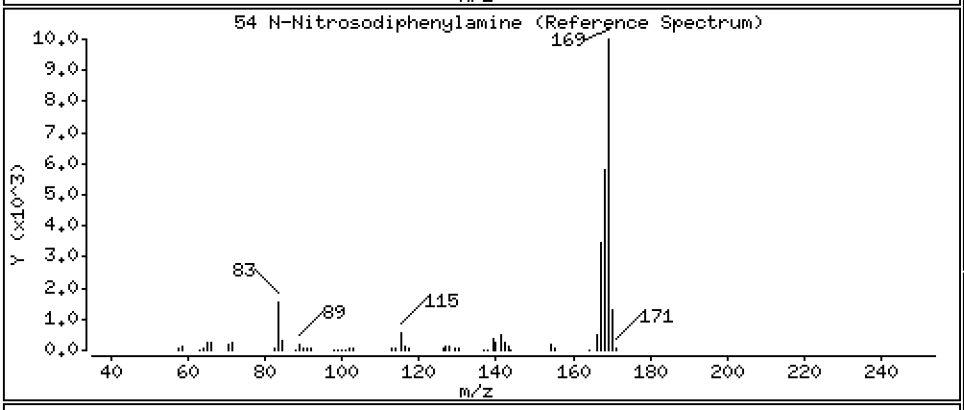
Column diameter: 0.25

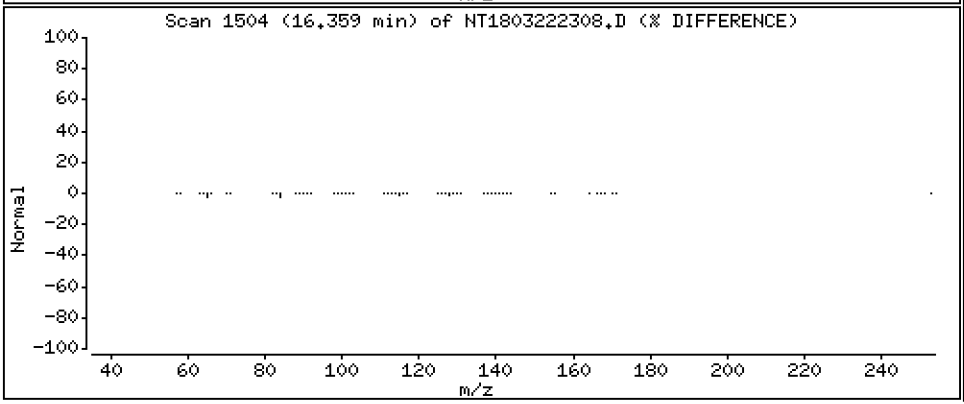
54 N-Nitrosodiphenylamine

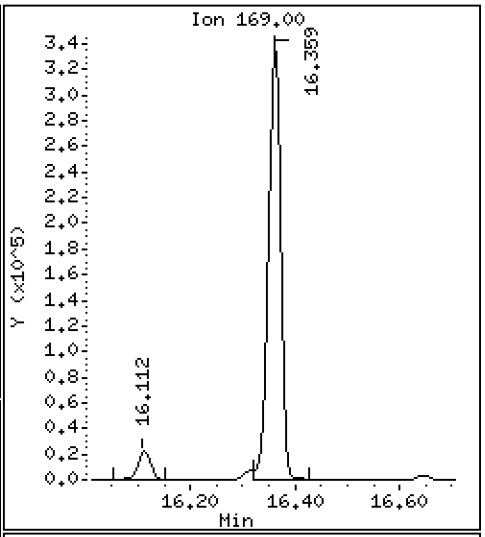
Concentration: 4.242 ug/mL

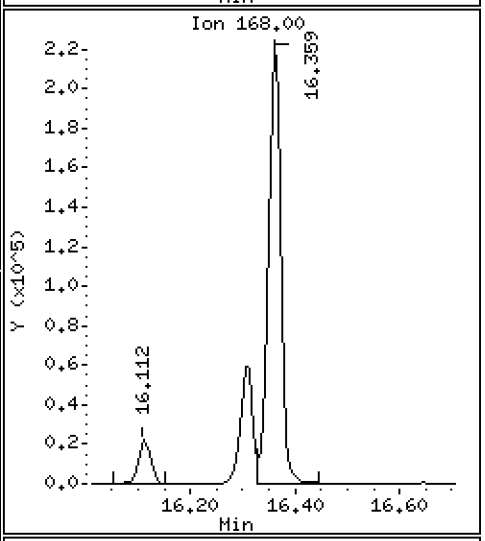


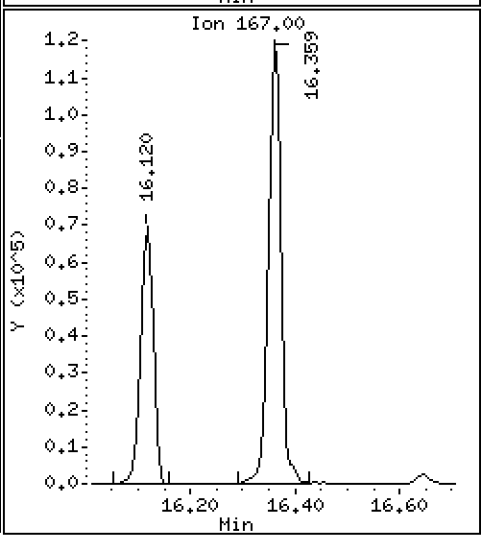












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

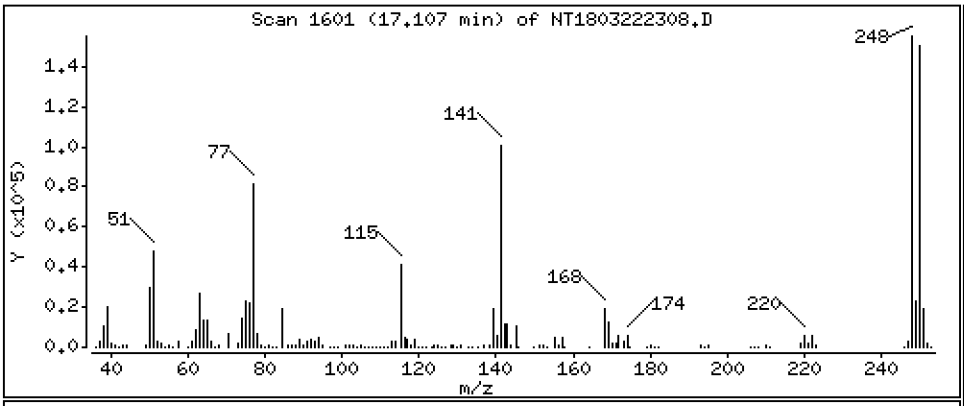
Operator: VTS

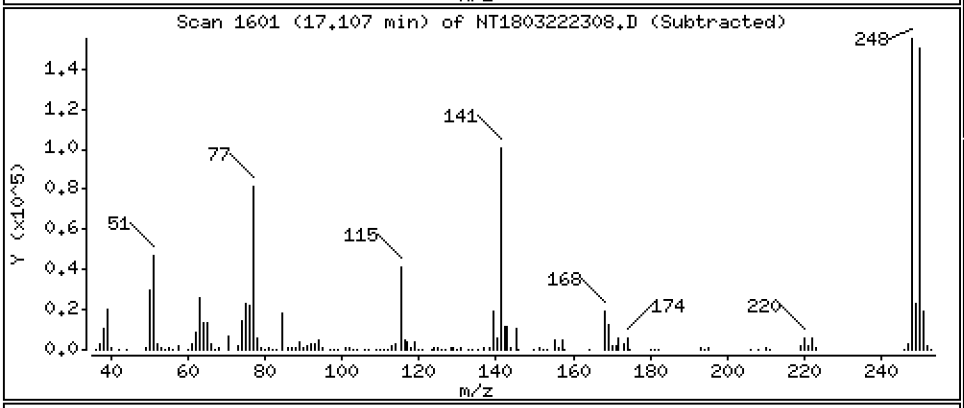
Column phase: ZB-5msi

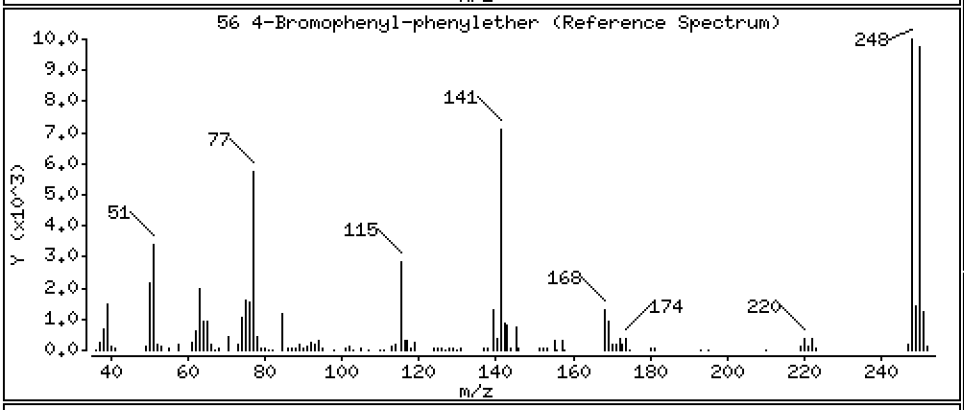
Column diameter: 0.25

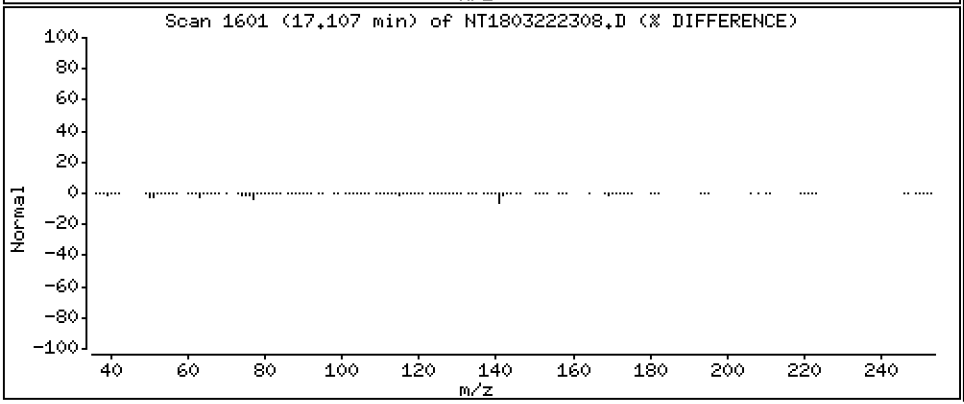
56 4-Bromophenyl-phenylether

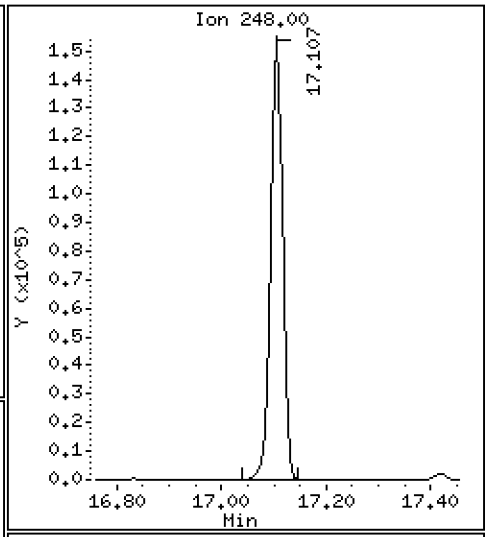
Concentration: 4.697 ug/mL

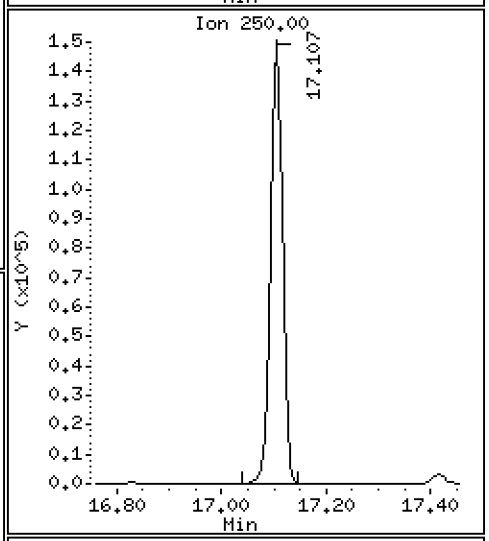


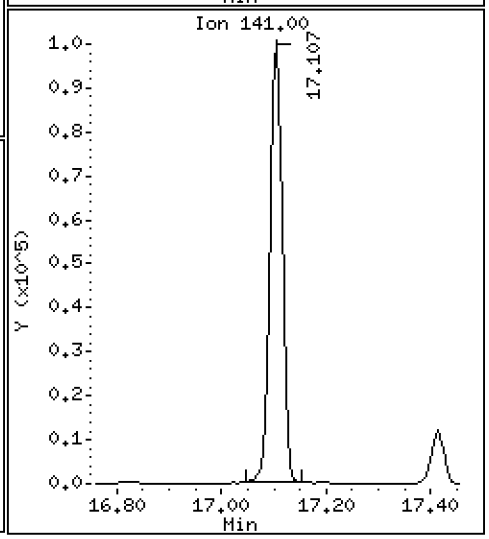












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222308.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

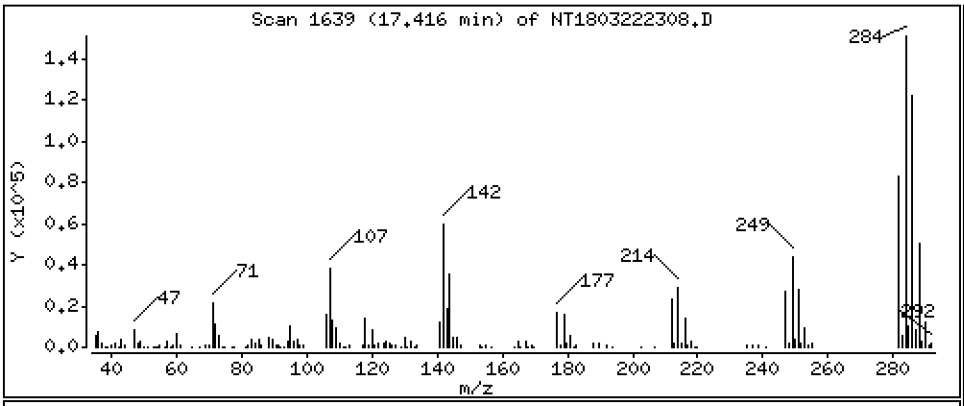
Operator: VTS

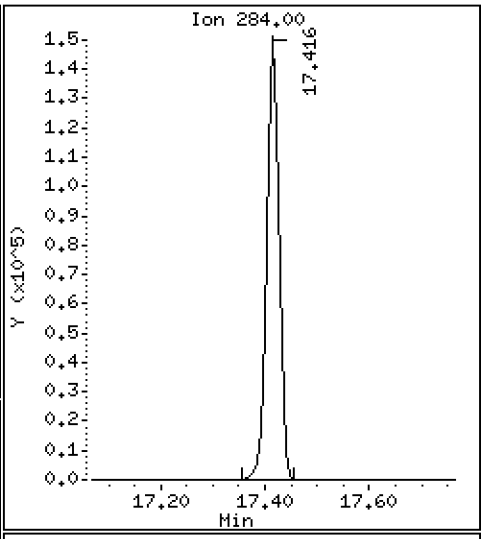
Column phase: ZB-5msi

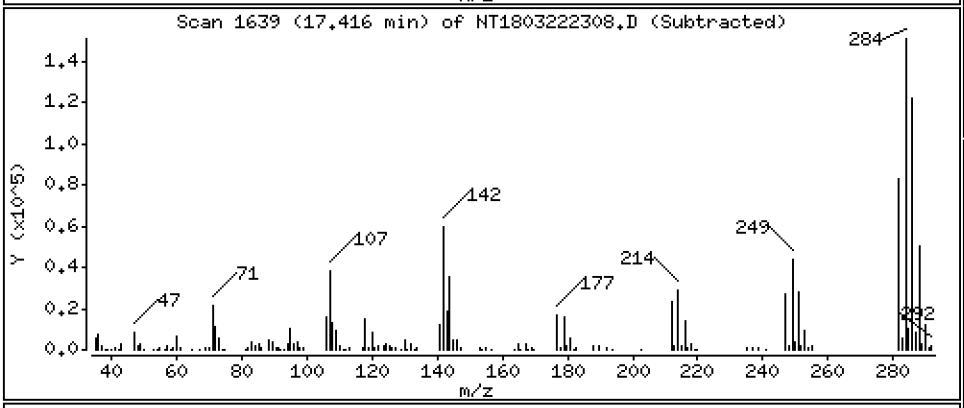
Column diameter: 0.25

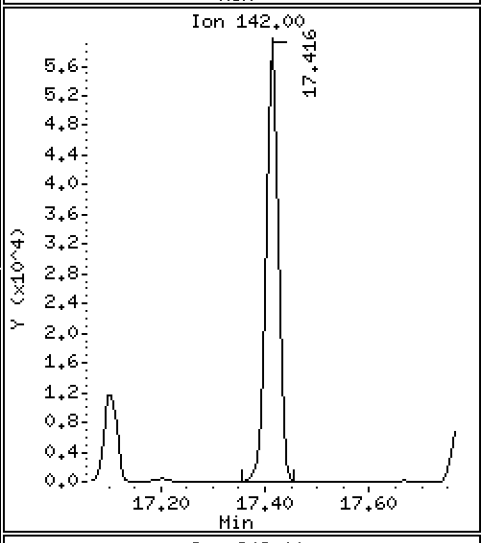
57 Hexachlorobenzene

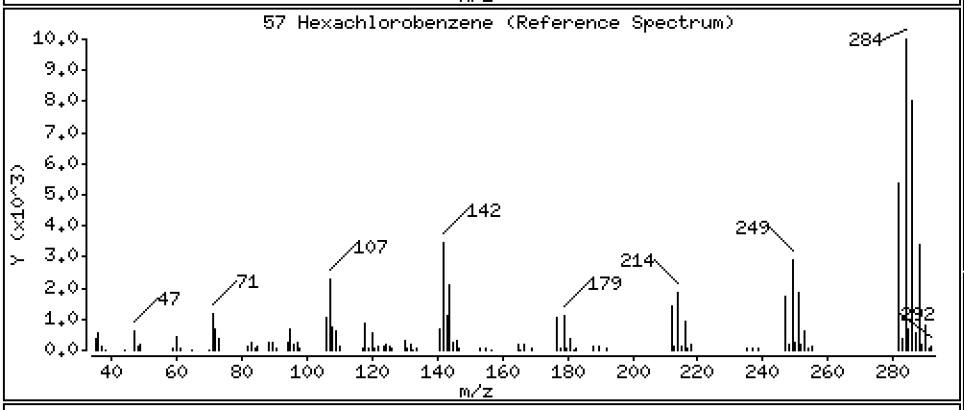
Concentration: 4.386 ug/mL

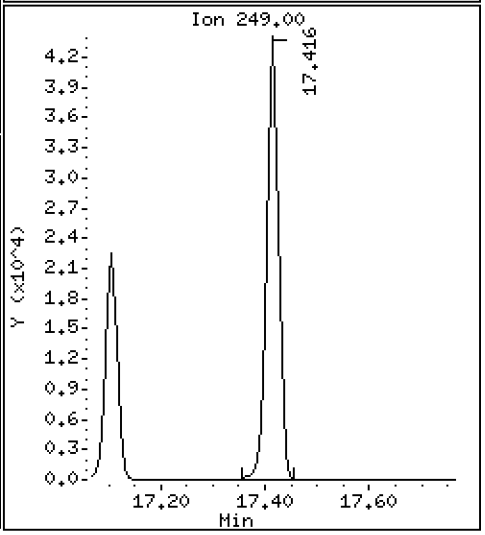


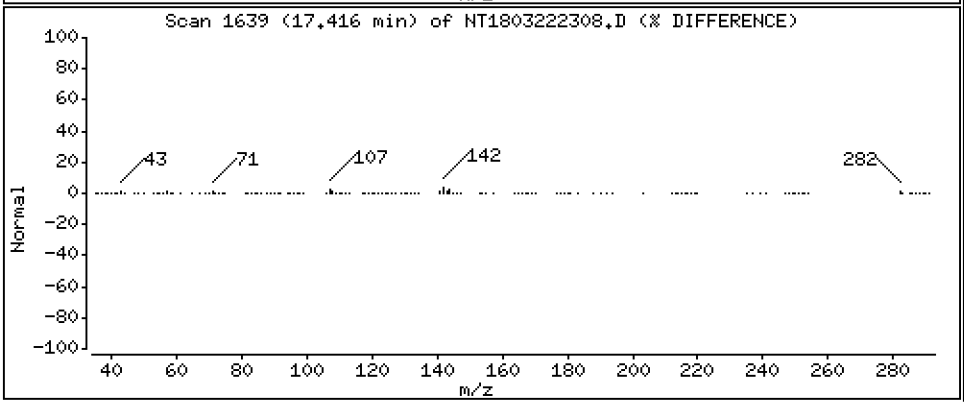












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

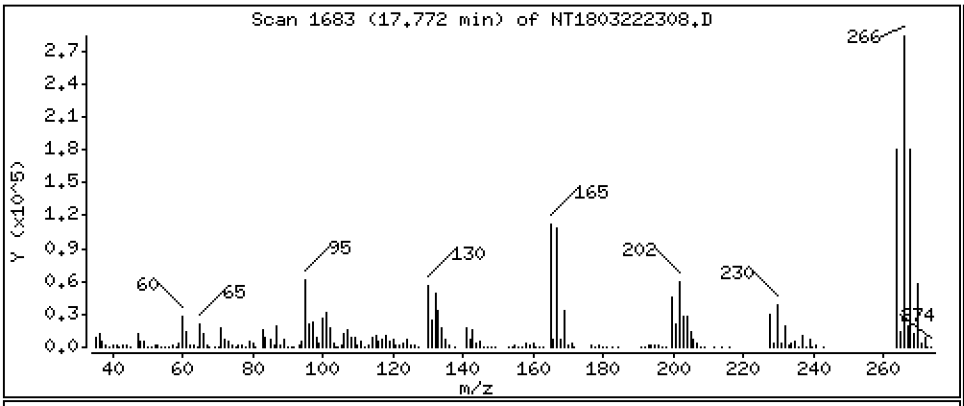
Operator: VTS

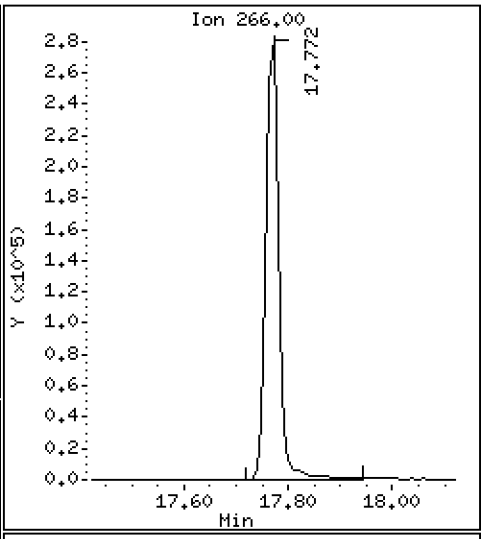
Column phase: ZB-5msi

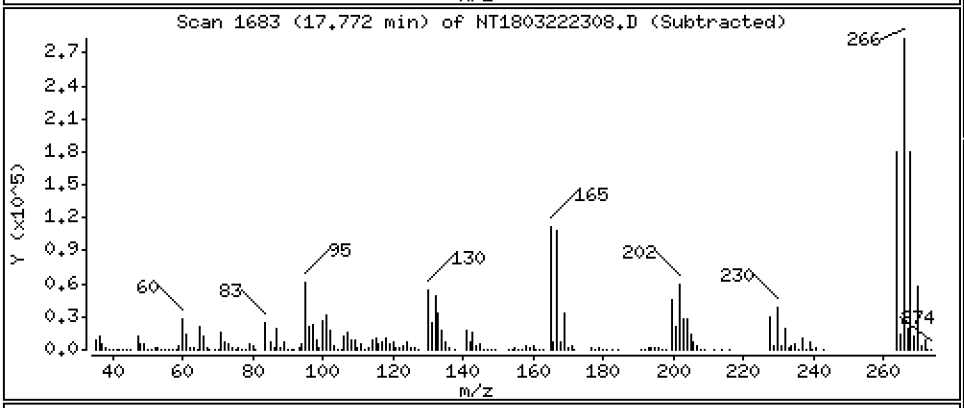
Column diameter: 0.25

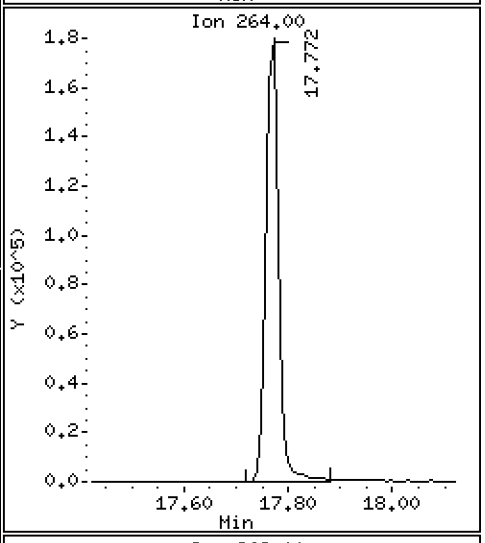
58 Pentachlorophenol

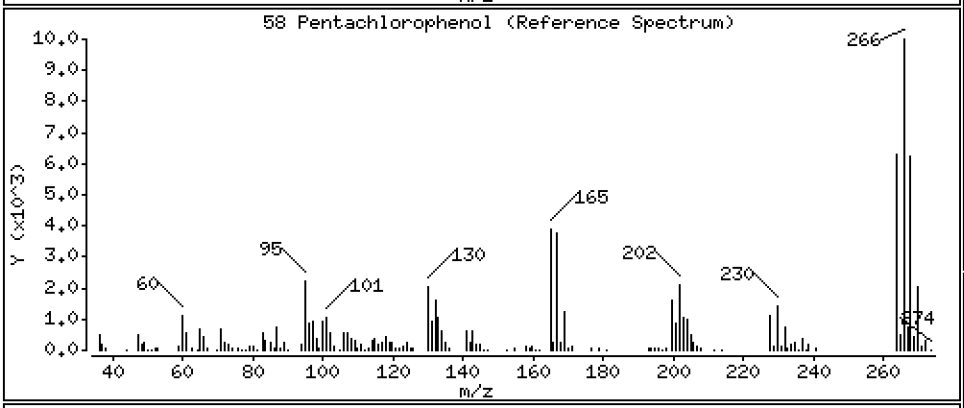
Concentration: 13.35 ug/mL

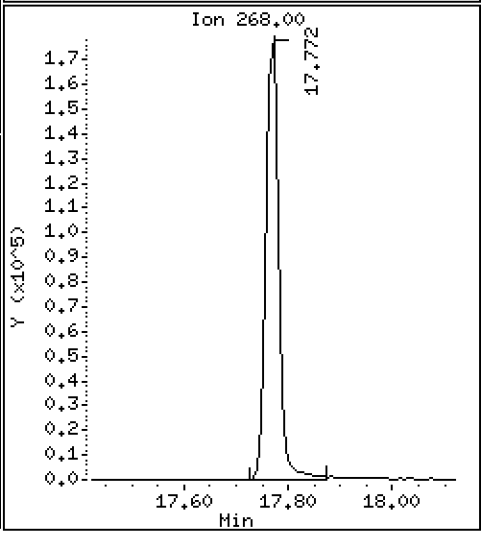


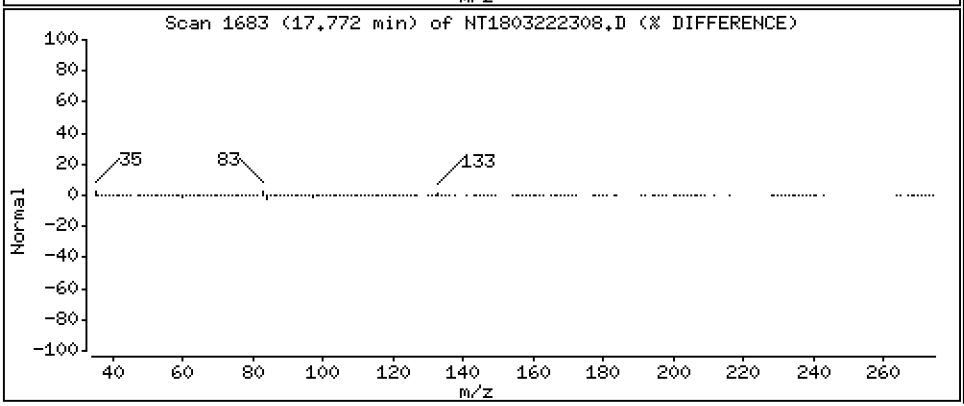












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

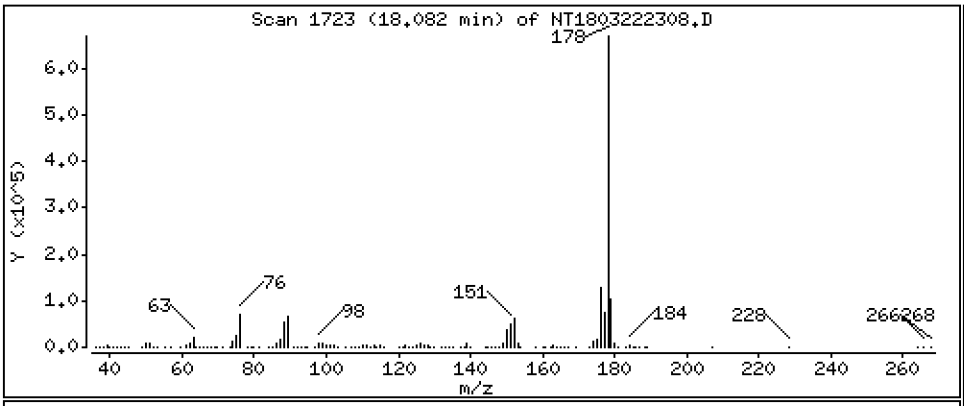
Operator: VTS

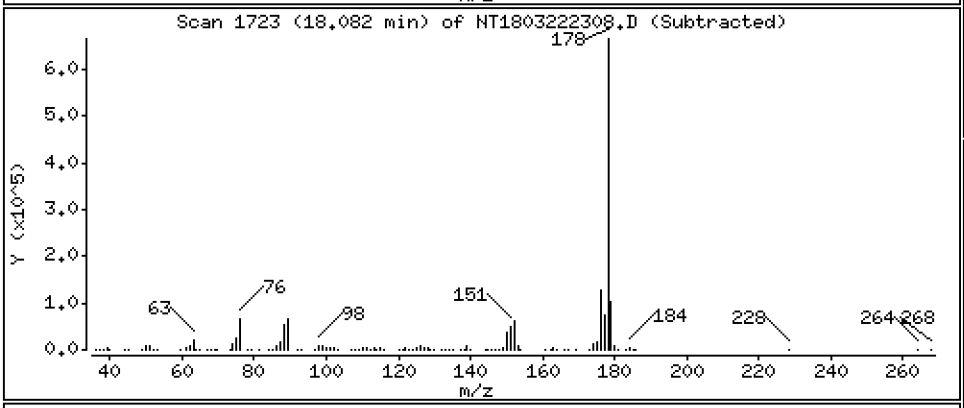
Column phase: ZB-5msi

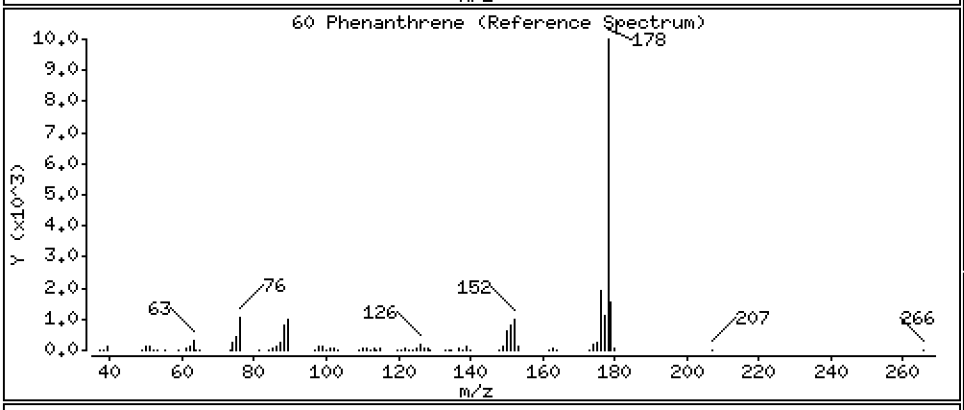
Column diameter: 0.25

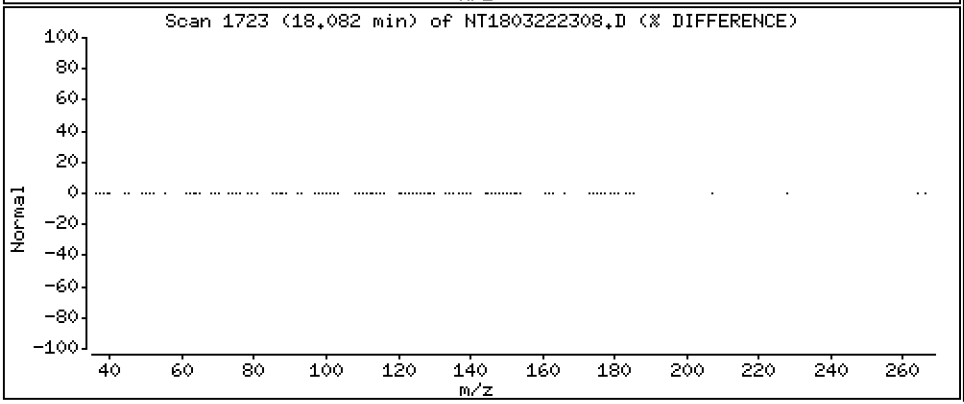
60 Phenanthrene

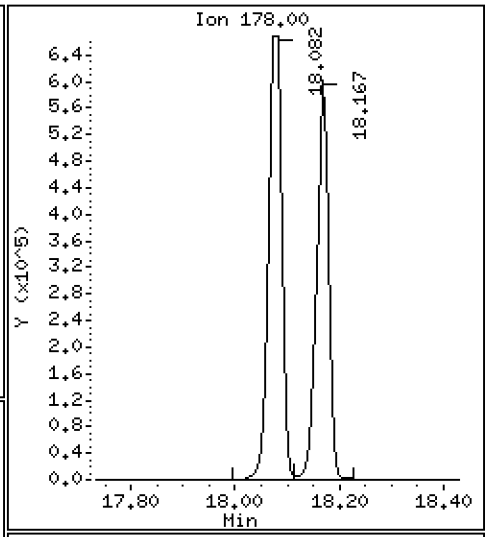
Concentration: 4.237 ug/mL

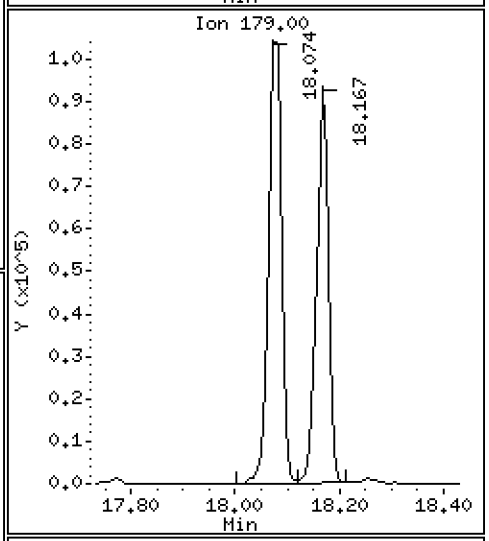


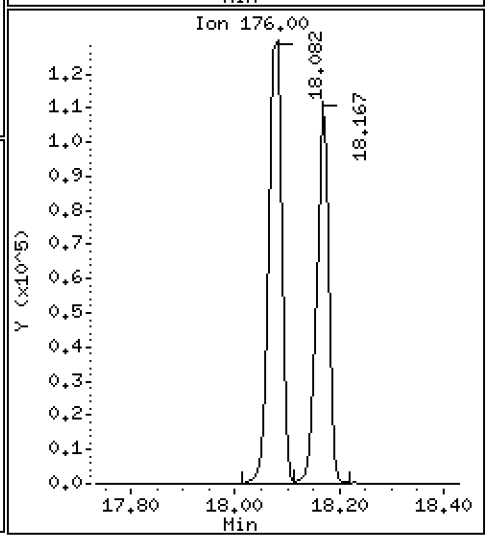












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

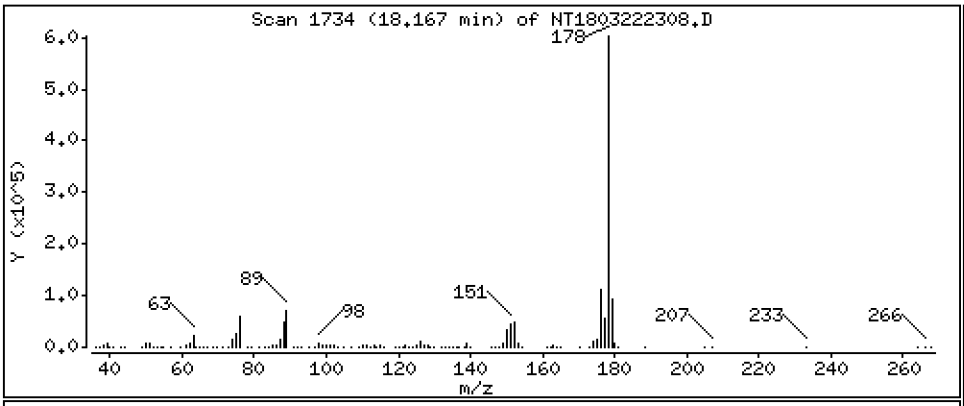
Operator: VTS

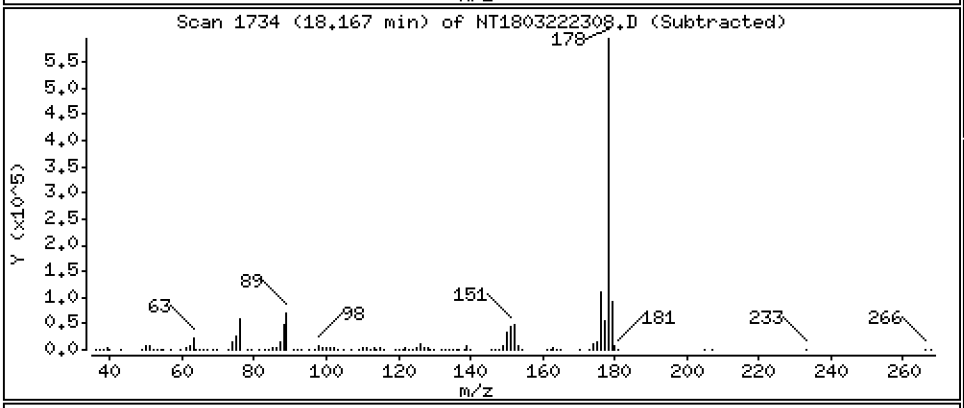
Column phase: ZB-5msi

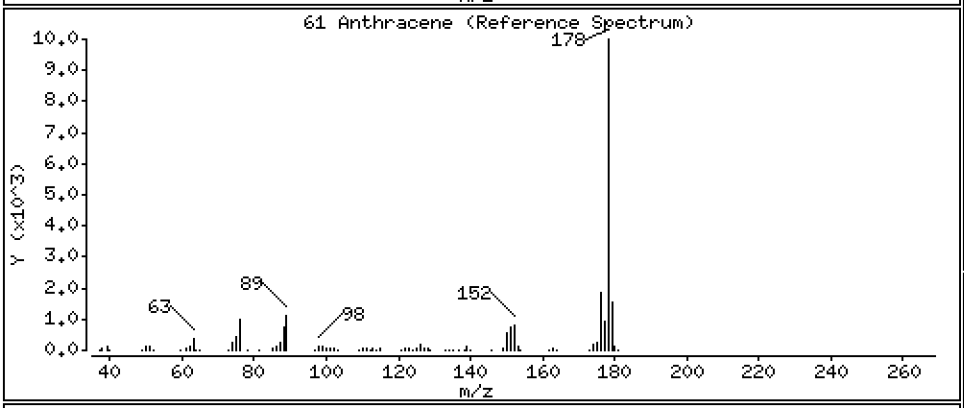
Column diameter: 0.25

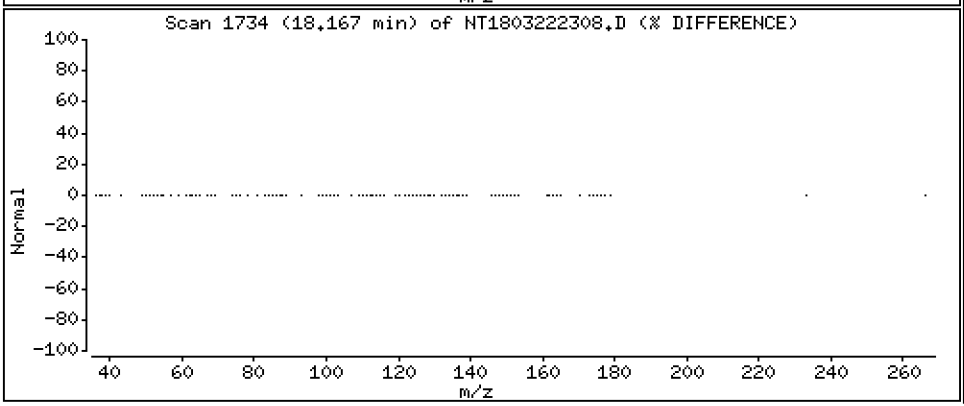
61 Anthracene

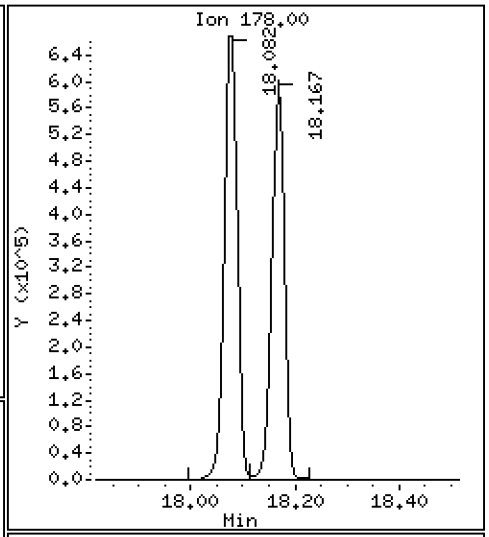
Concentration: 3.724 ug/mL

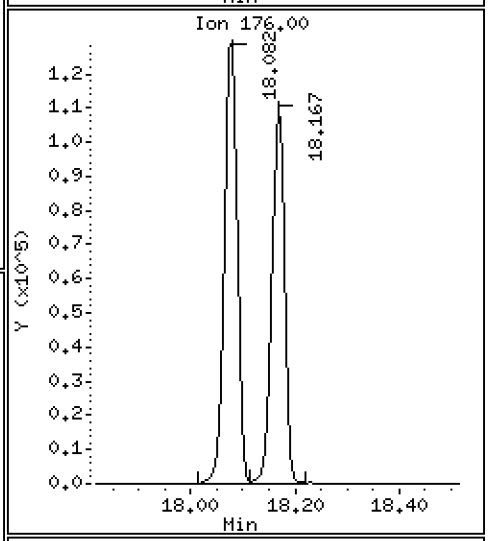


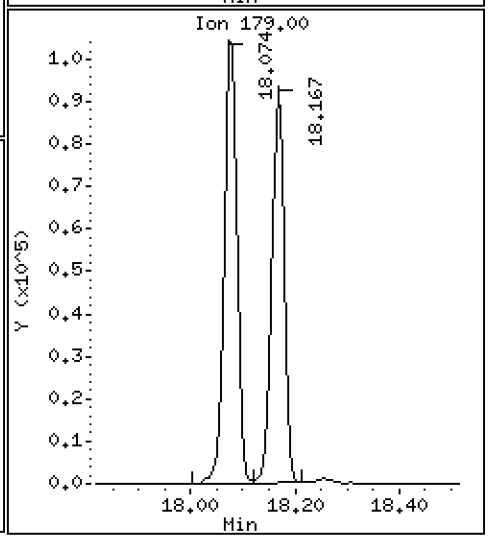












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

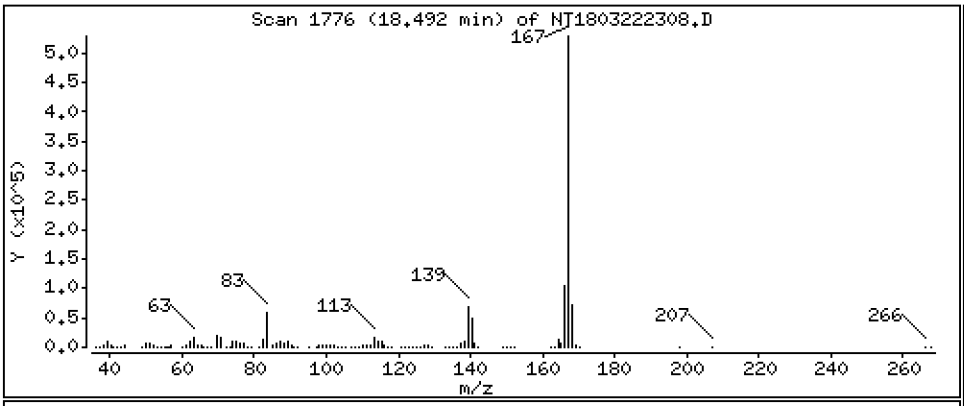
Operator: VTS

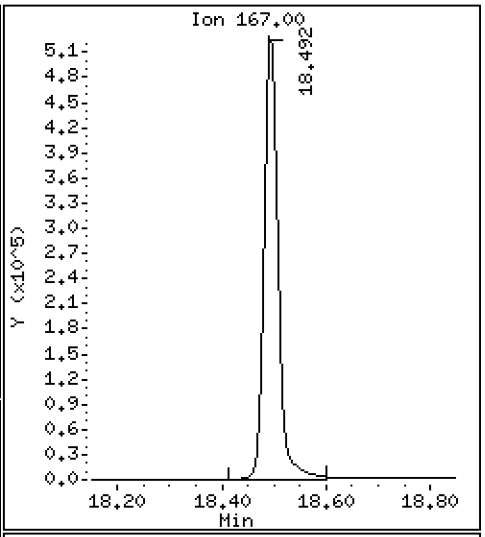
Column phase: ZB-5msi

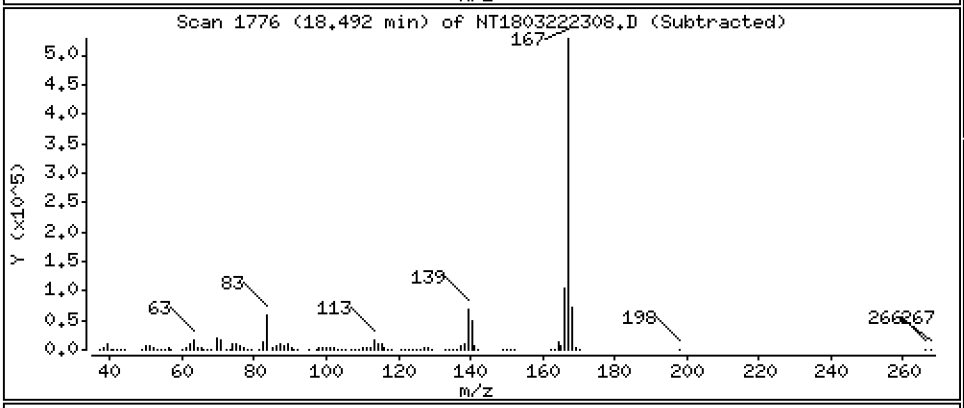
Column diameter: 0.25

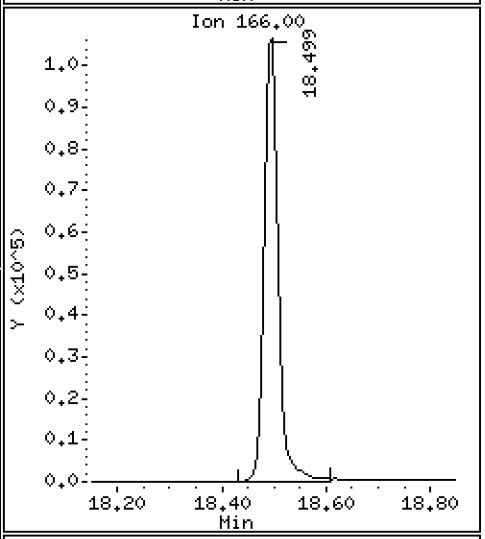
62 Carbazole

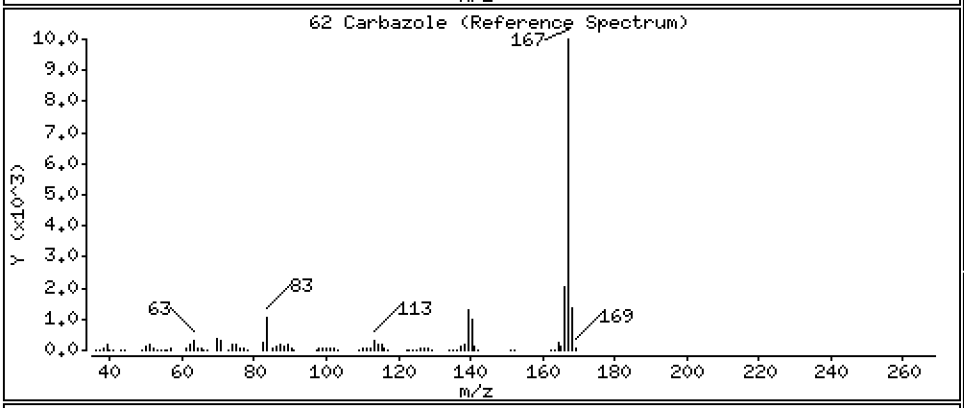
Concentration: 4.290 ug/mL

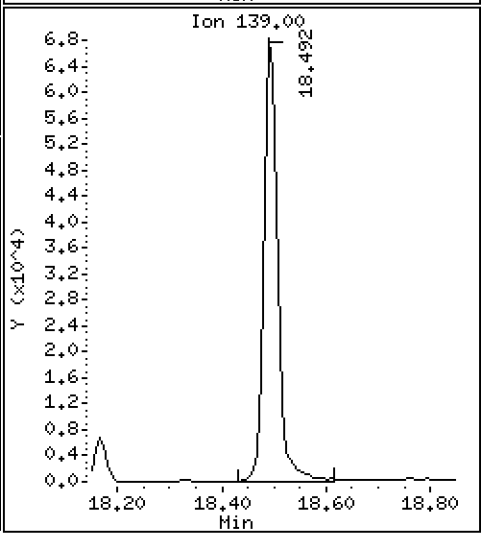


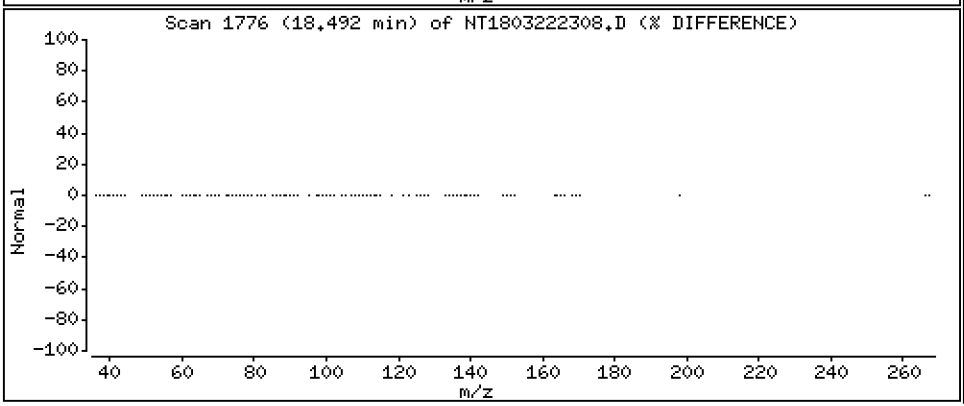












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222308.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

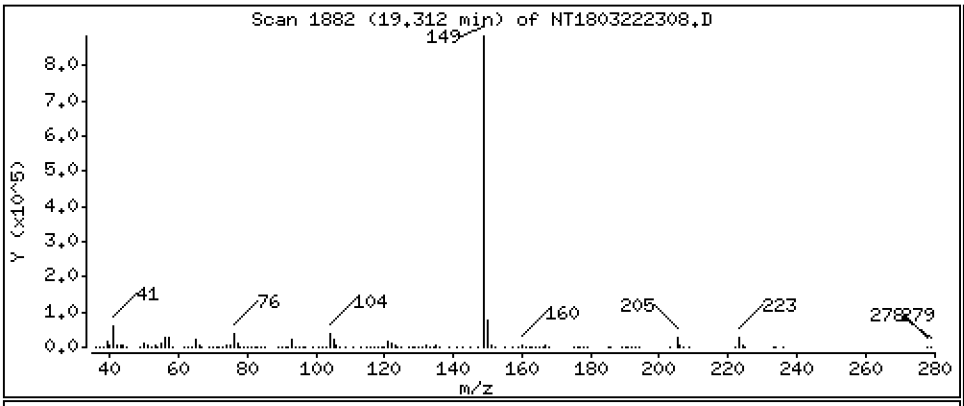
Operator: VTS

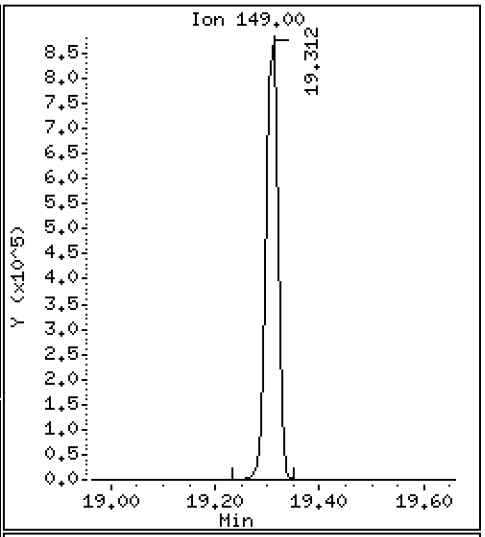
Column phase: ZB-5msi

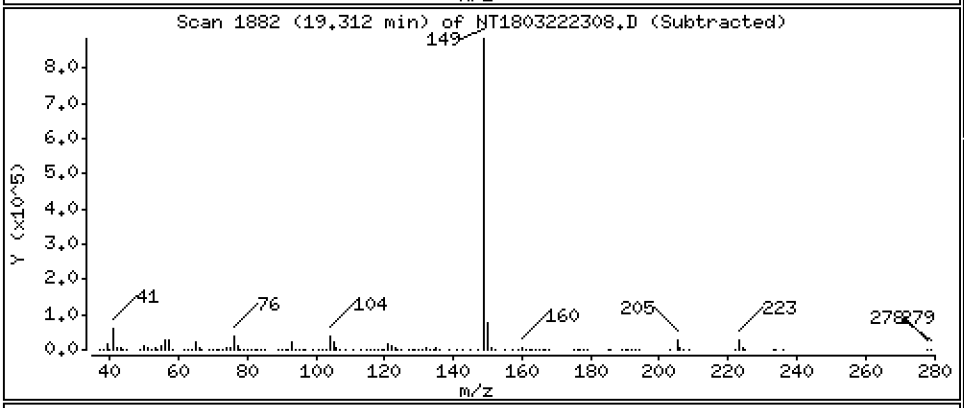
Column diameter: 0.25

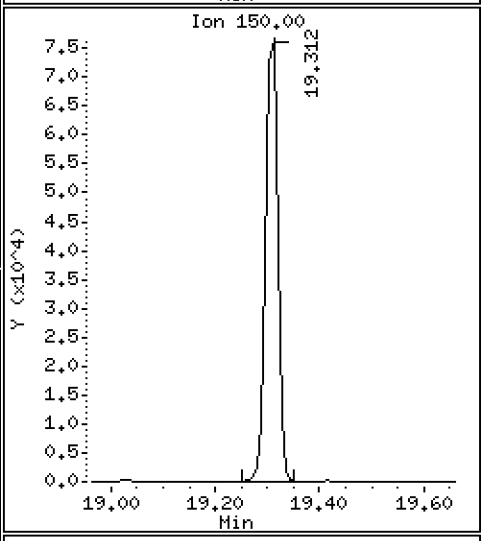
63 Di-n-butylphthalate

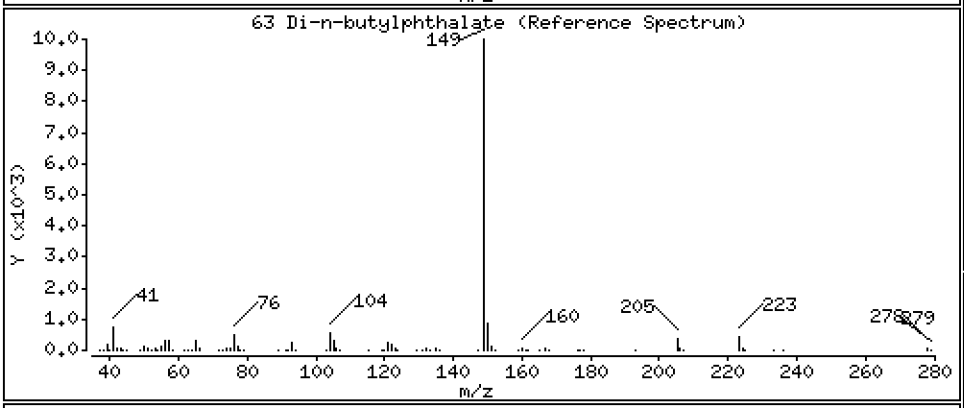
Concentration: 4.479 ug/mL

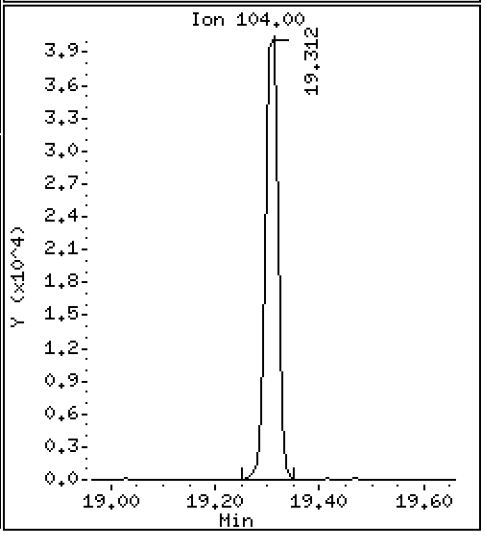


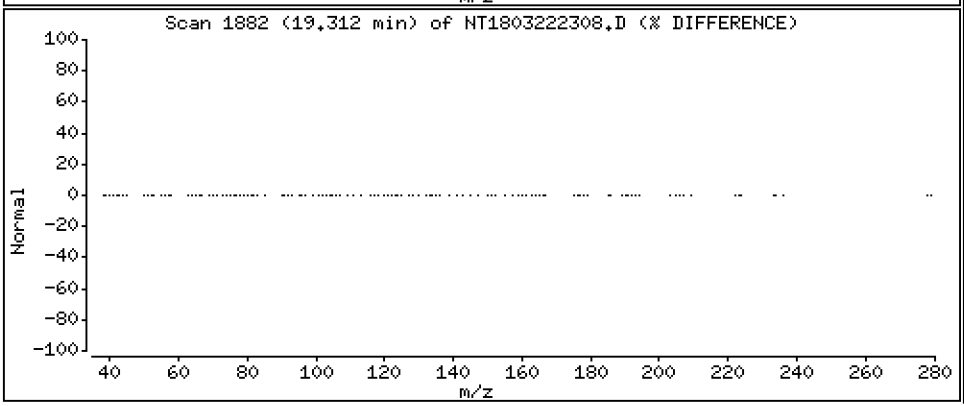












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

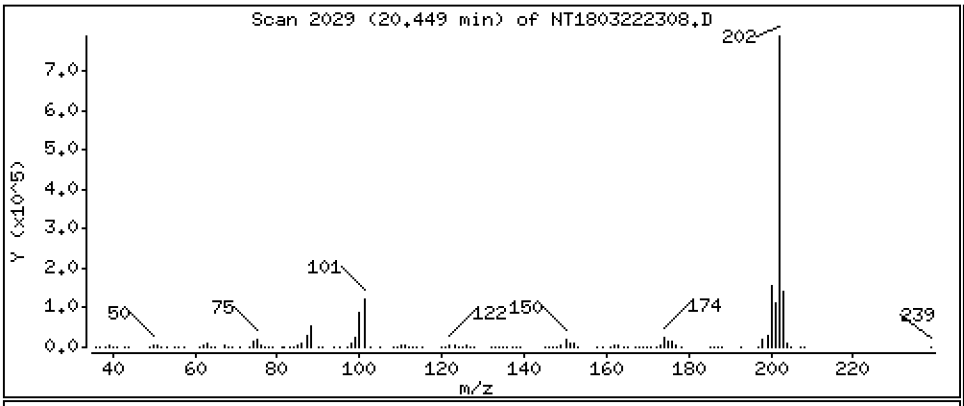
Operator: VTS

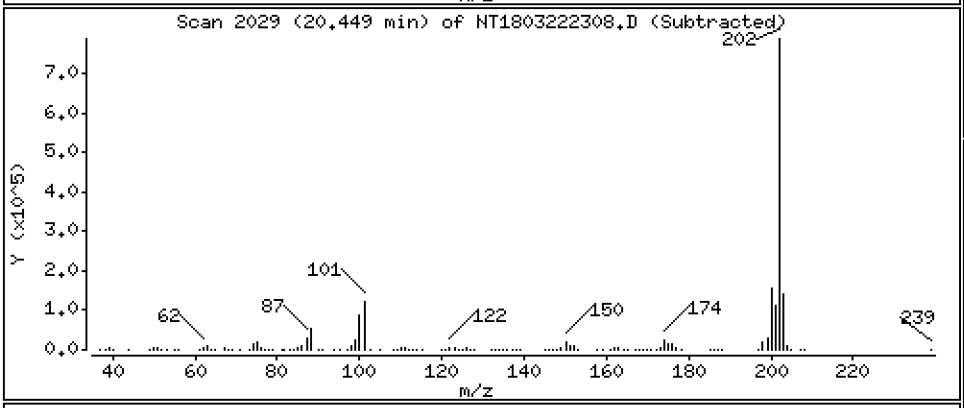
Column phase: ZB-5msi

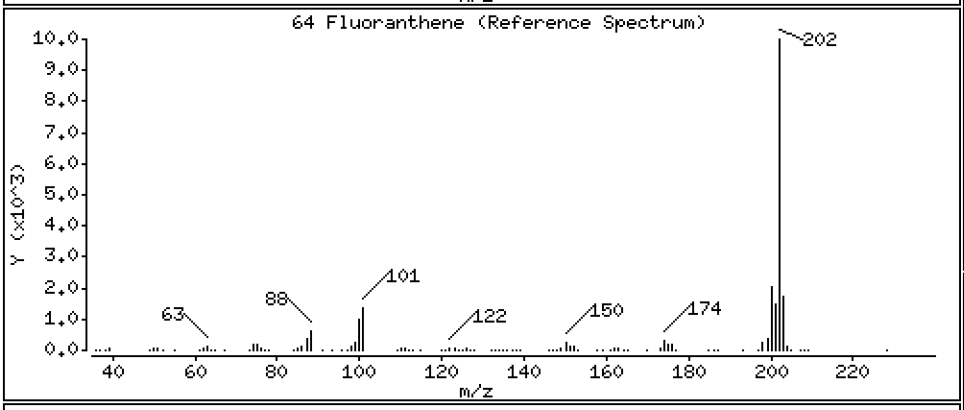
Column diameter: 0.25

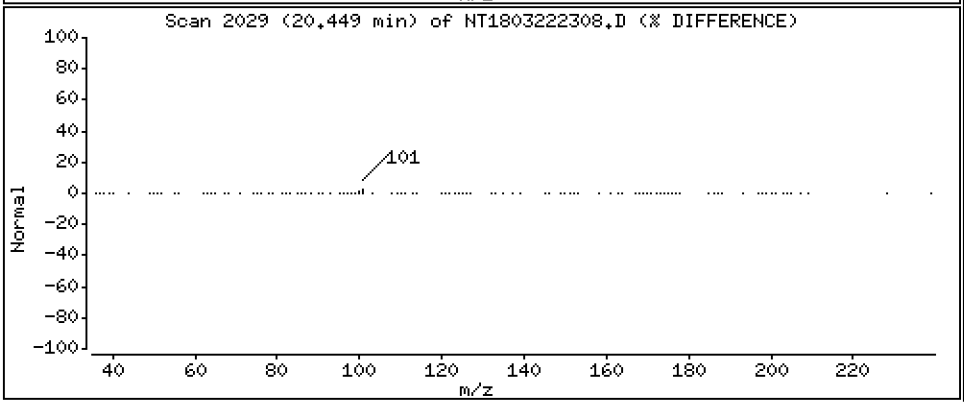
64 Fluoranthene

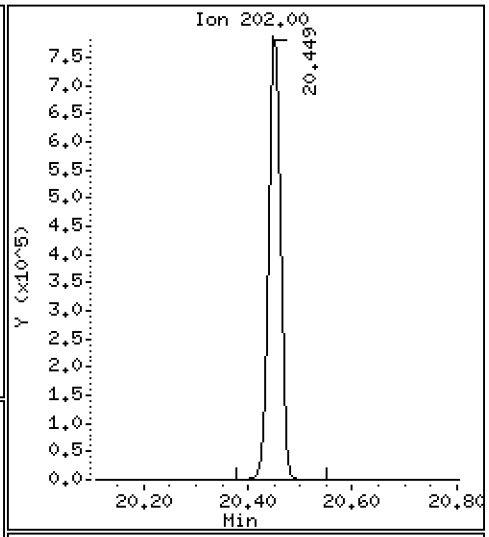
Concentration: 4.348 ug/mL

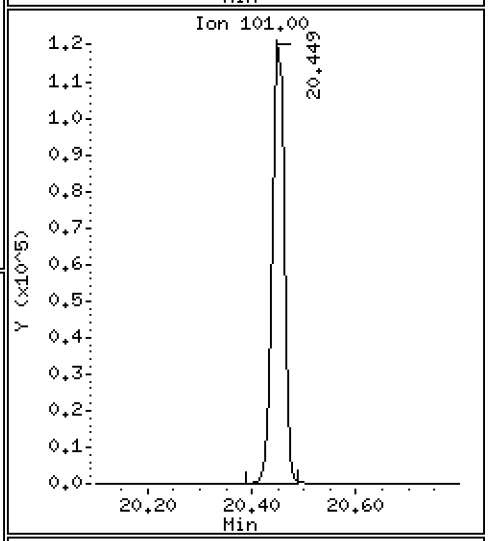


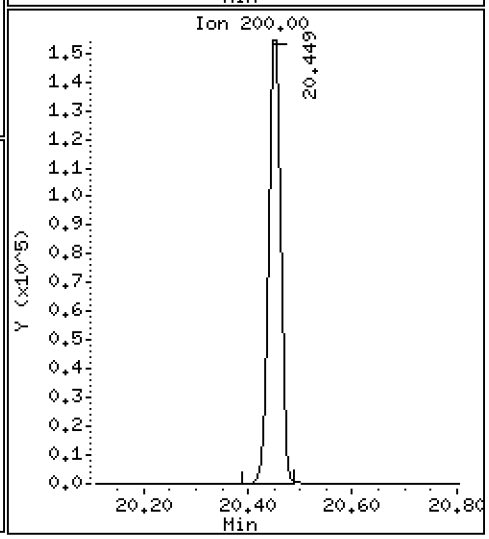












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

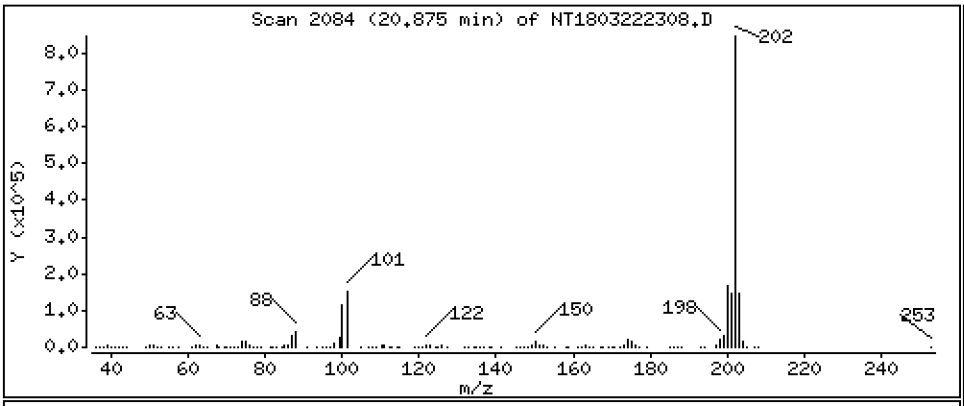
Operator: VTS

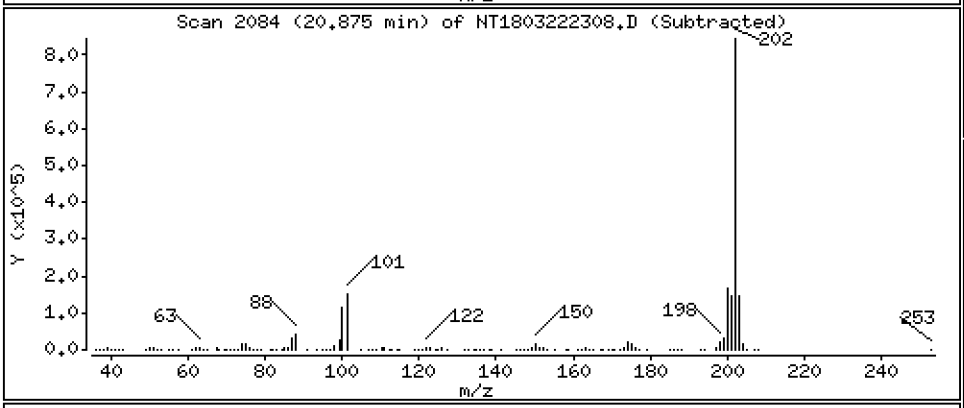
Column phase: ZB-5msi

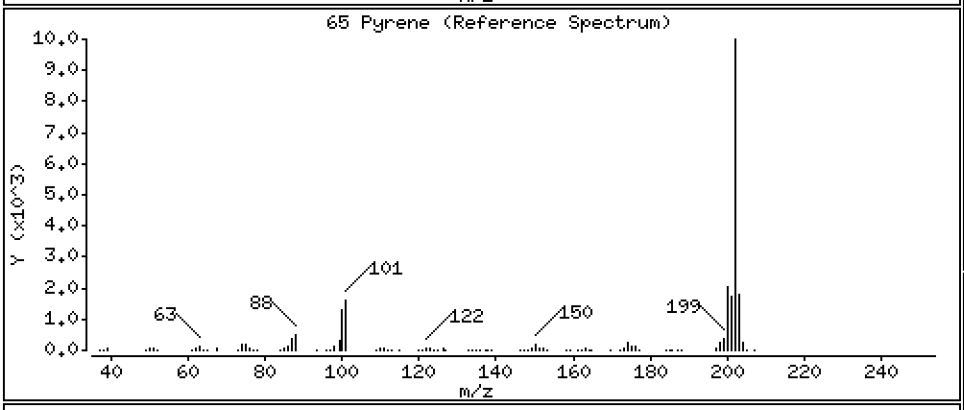
Column diameter: 0.25

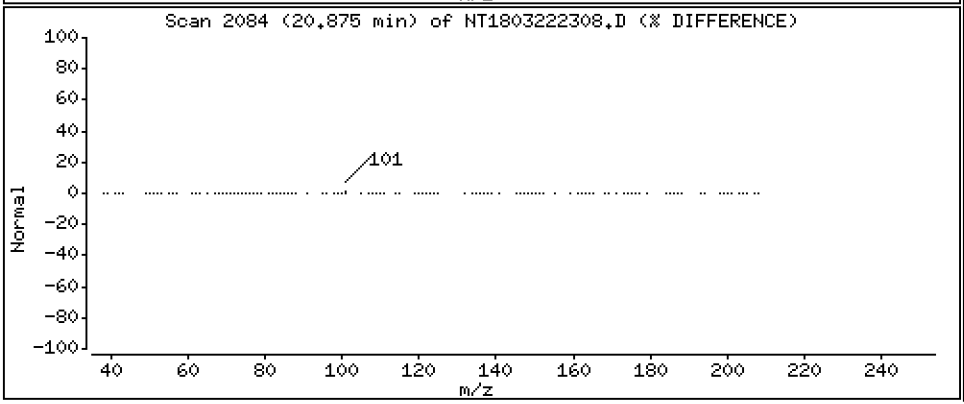
65 Pyrene

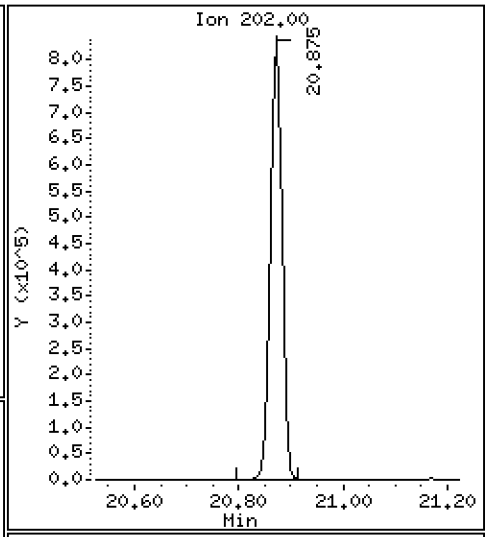
Concentration: 4.189 ug/mL

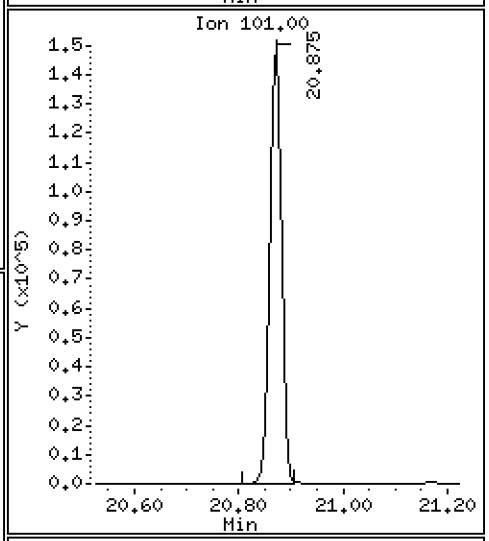


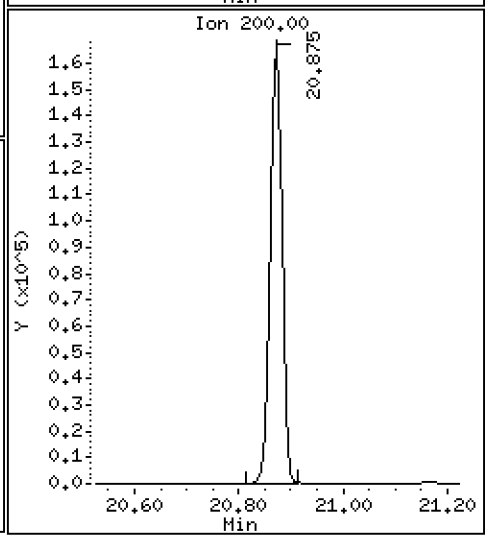












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

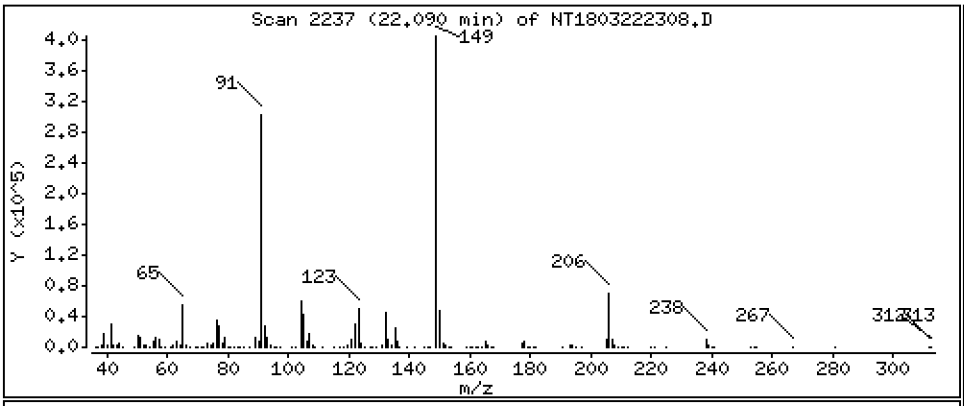
Operator: VTS

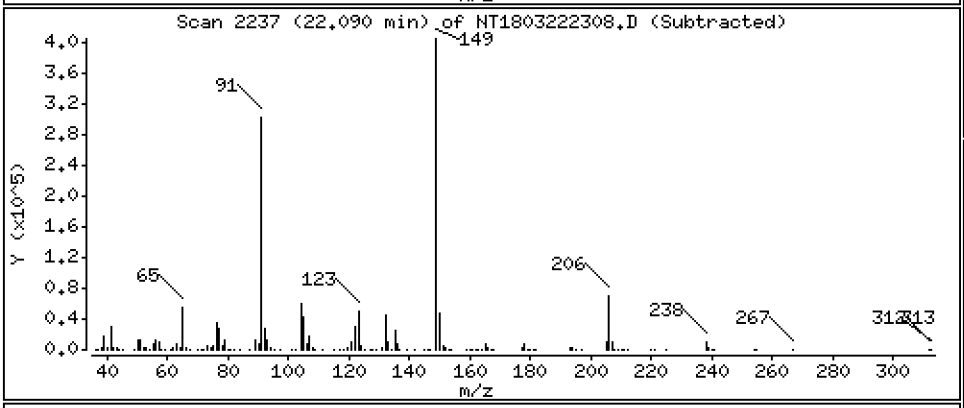
Column phase: ZB-5msi

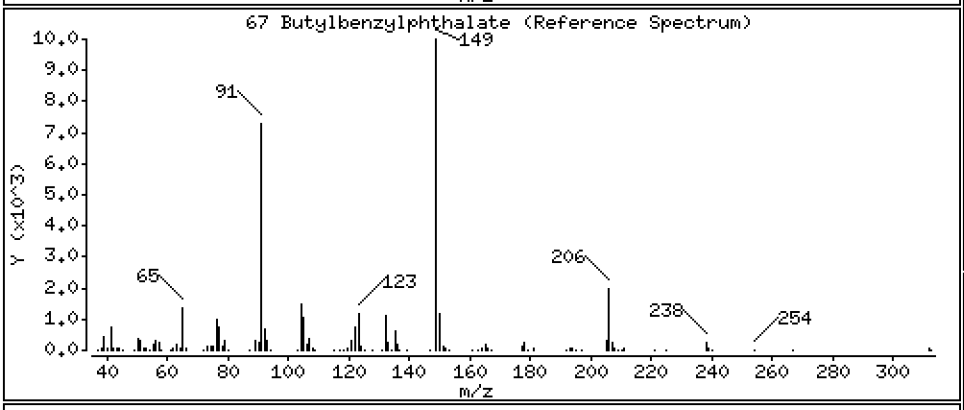
Column diameter: 0.25

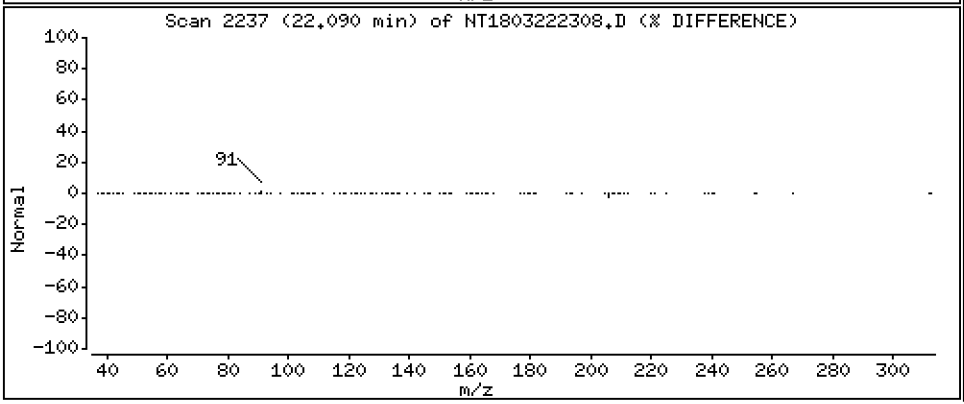
67 Butylbenzylphthalate

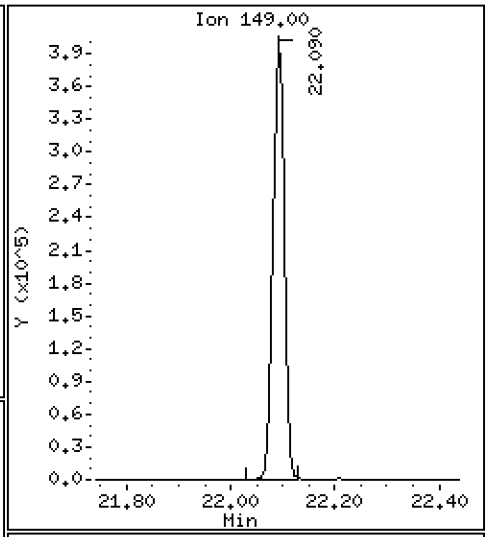
Concentration: 4.547 ug/mL

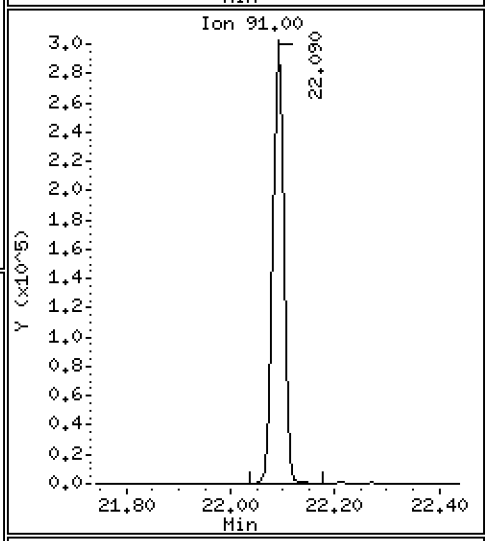


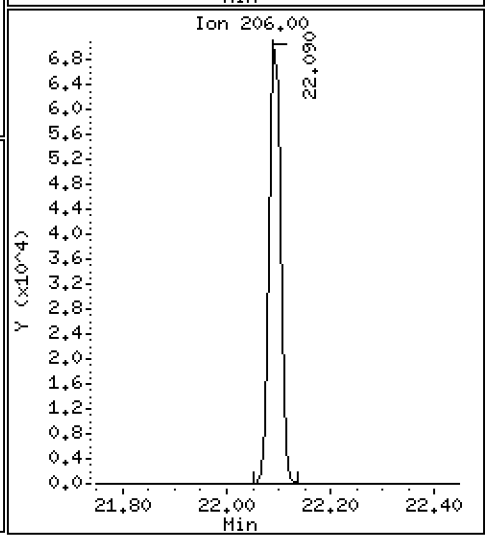












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

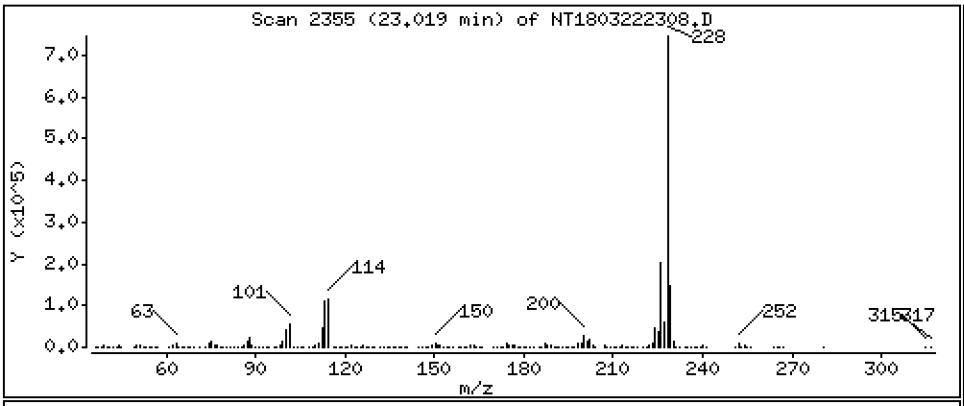
Operator: VTS

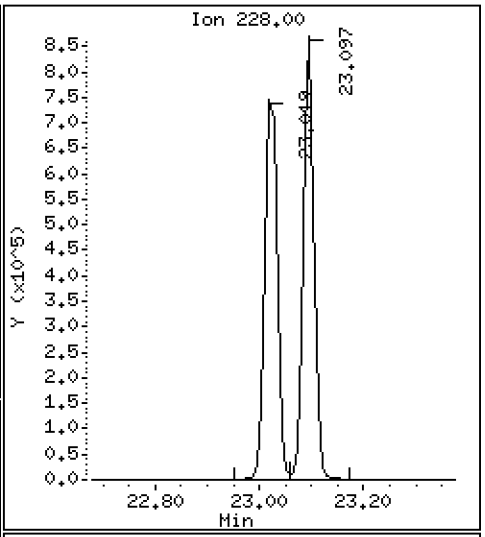
Column phase: ZB-5msi

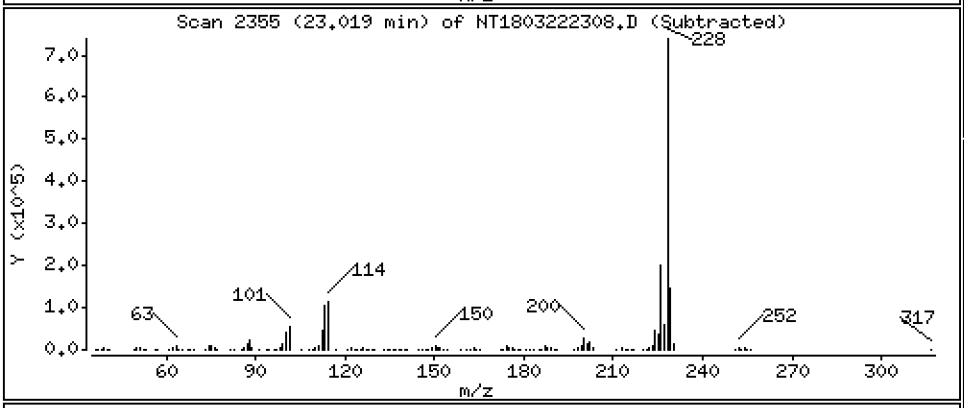
Column diameter: 0.25

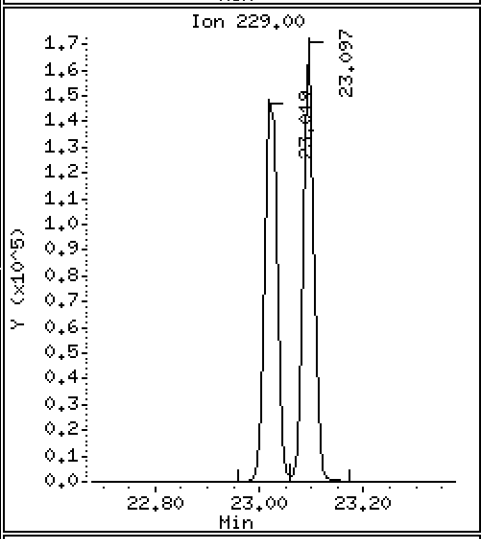
68 Benzo(a)anthracene

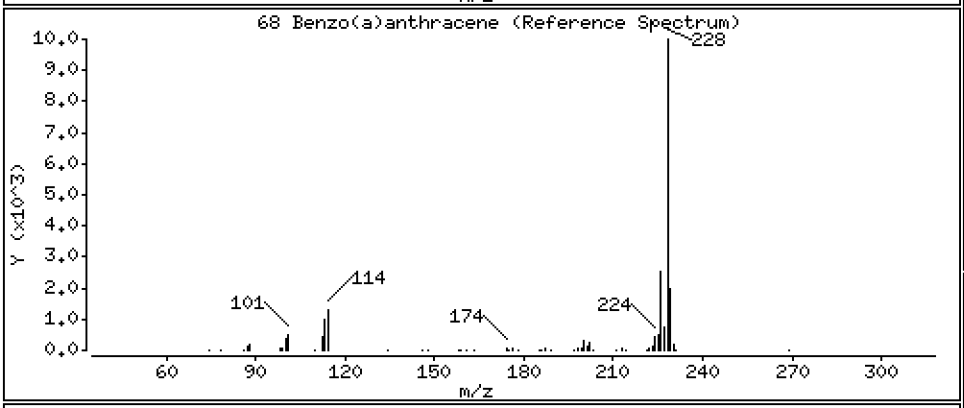
Concentration: 4.355 ug/mL

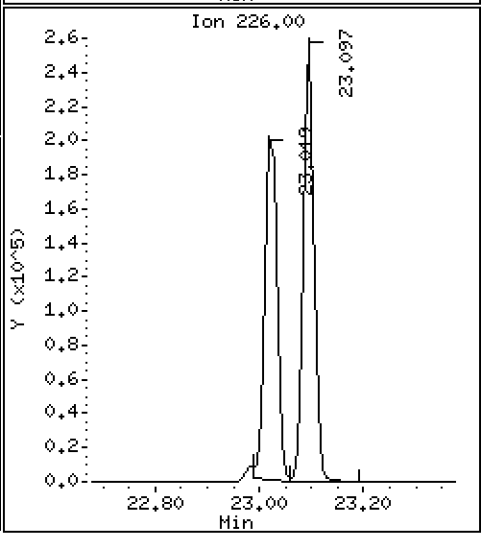


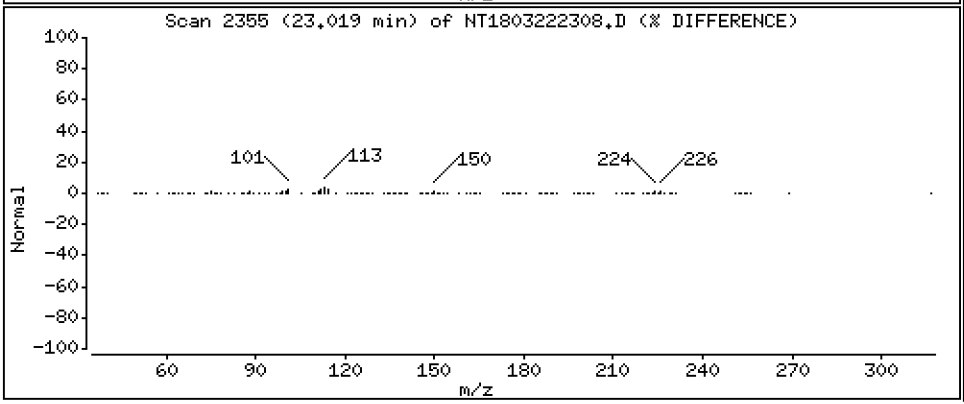












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

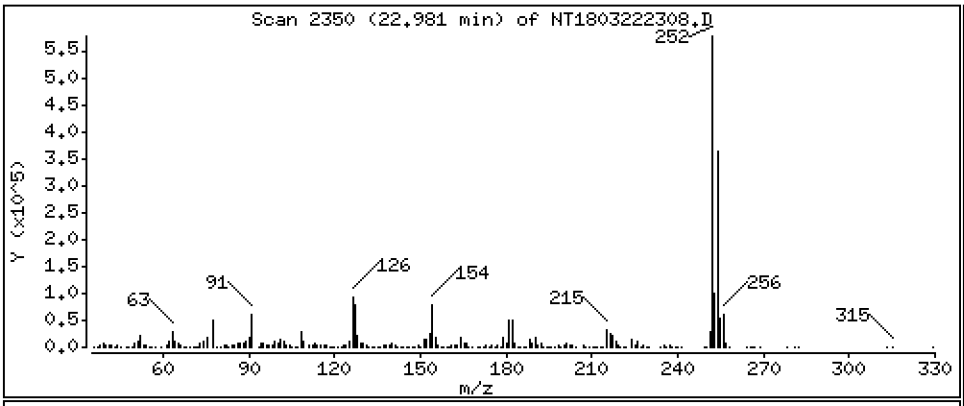
Operator: VTS

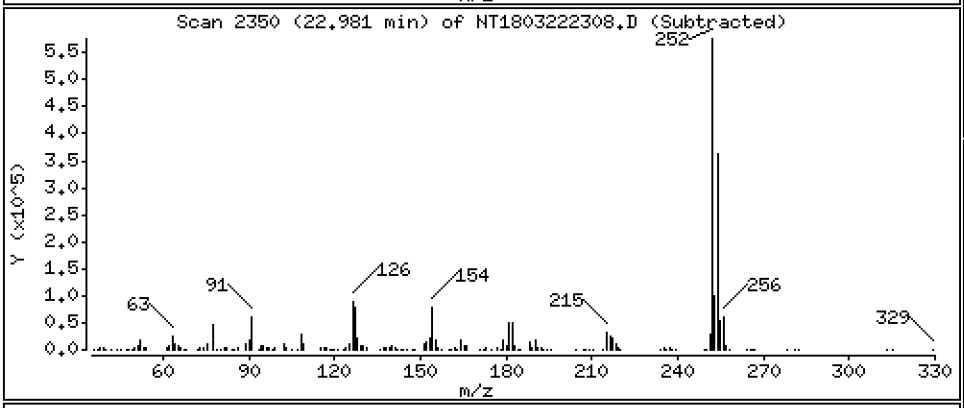
Column phase: ZB-5msi

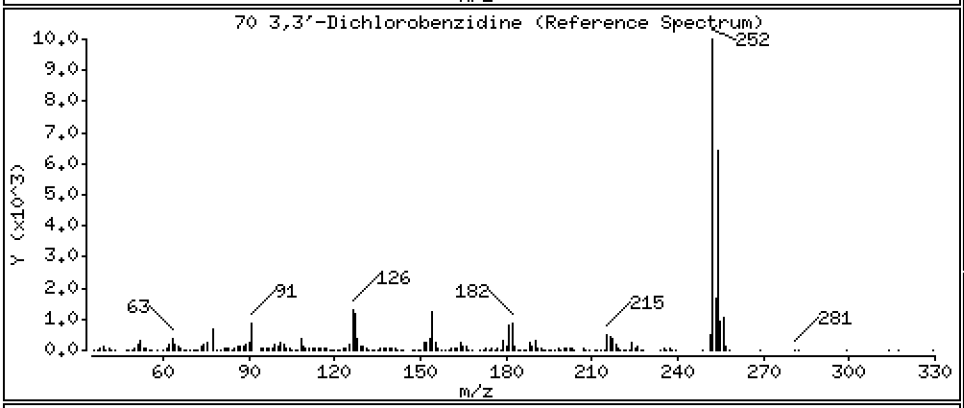
Column diameter: 0.25

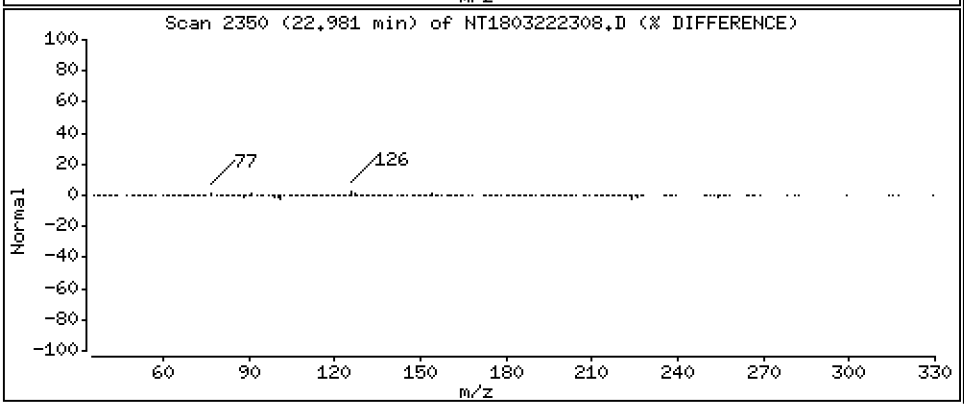
70 3,3'-Dichlorobenzidine

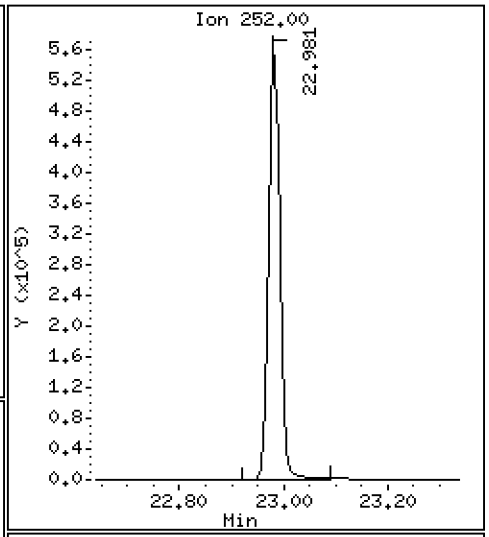
Concentration: 8.032 ug/mL

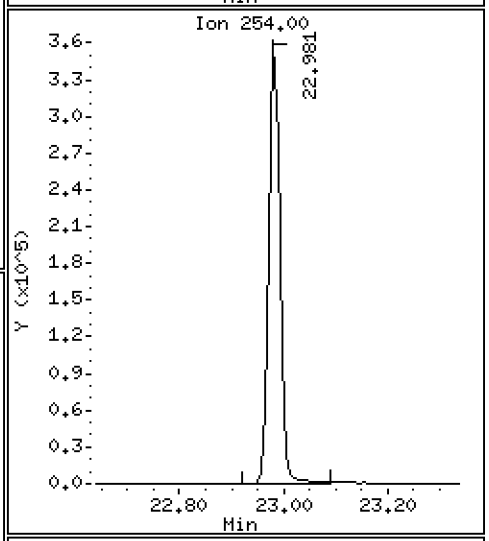


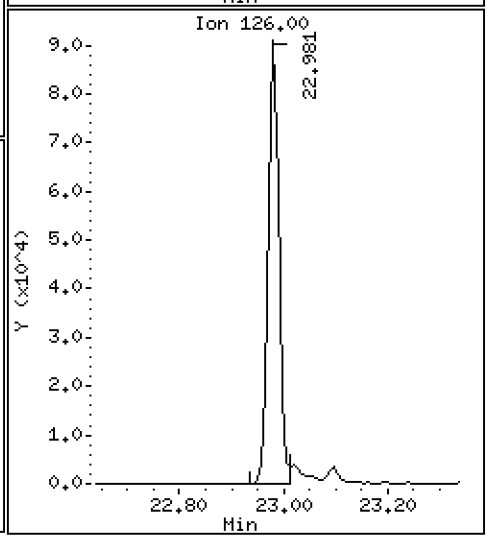












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

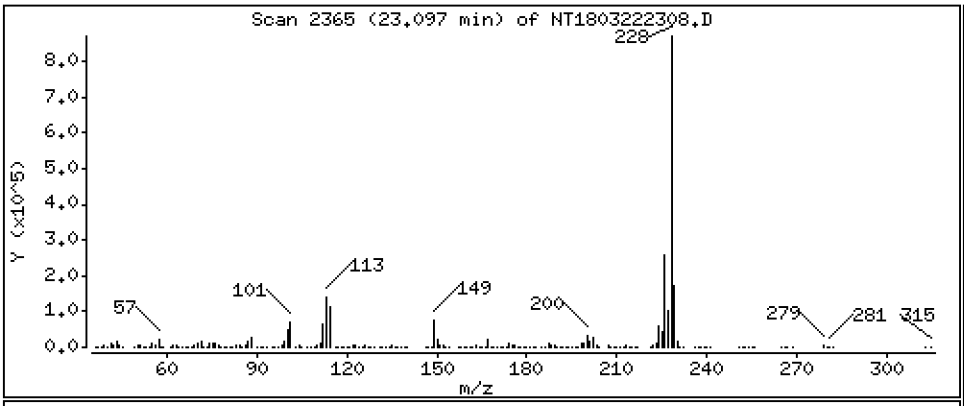
Operator: VTS

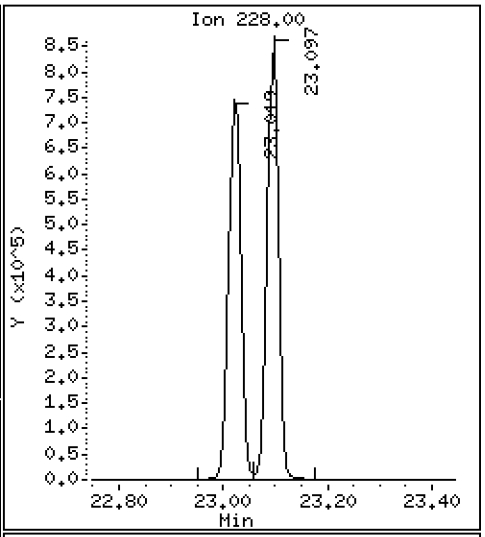
Column phase: ZB-5msi

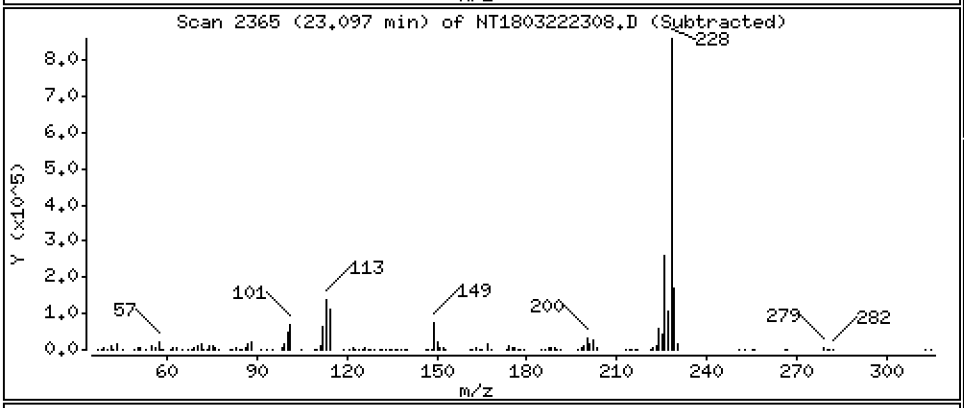
Column diameter: 0.25

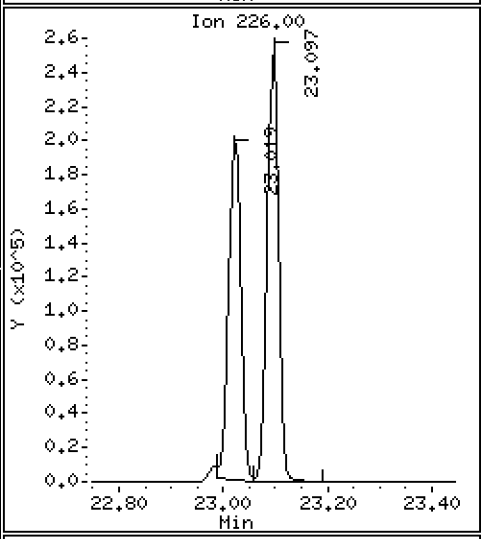
71 Chrysene

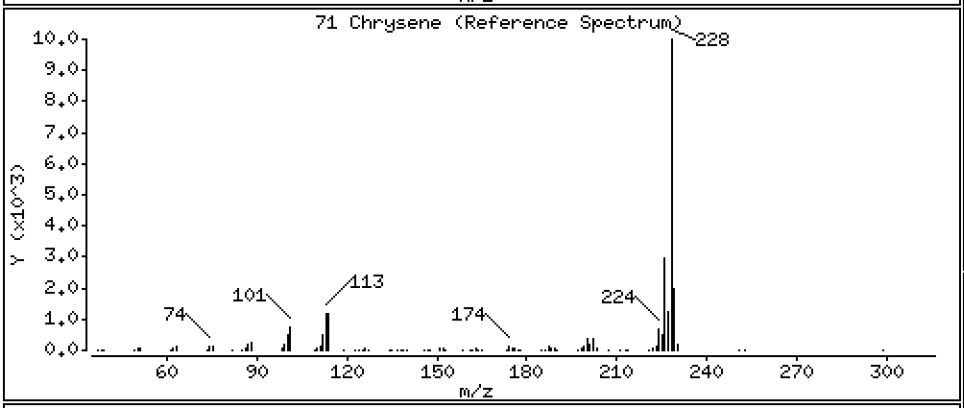
Concentration: 4.324 ug/mL

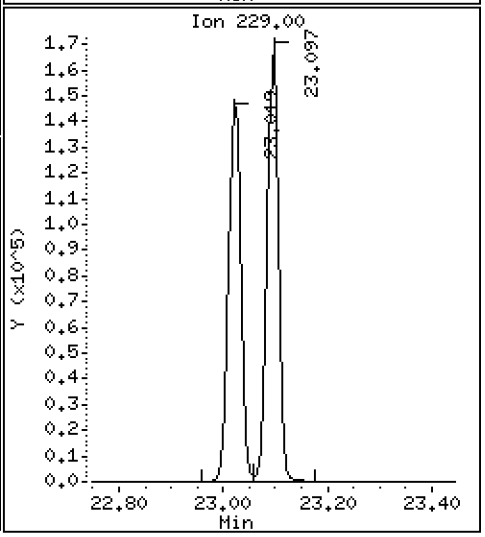


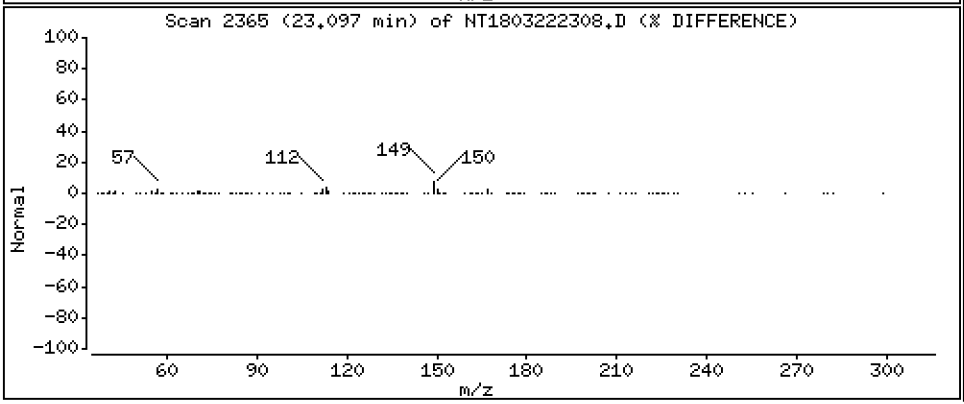












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222308.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

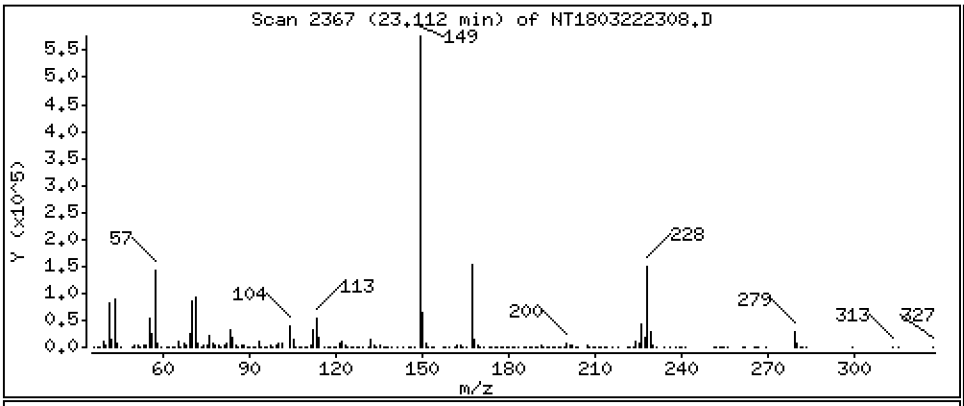
Operator: VTS

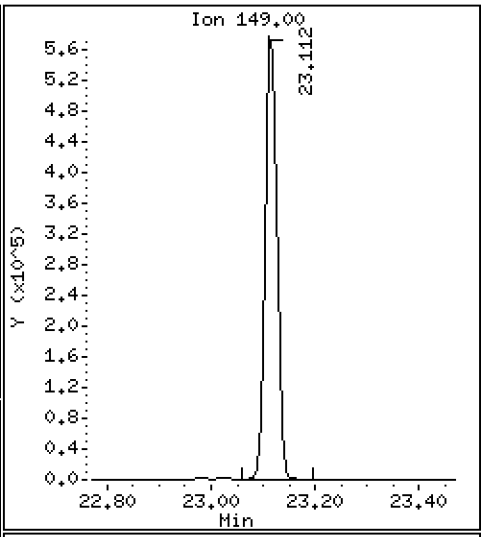
Column phase: ZB-5msi

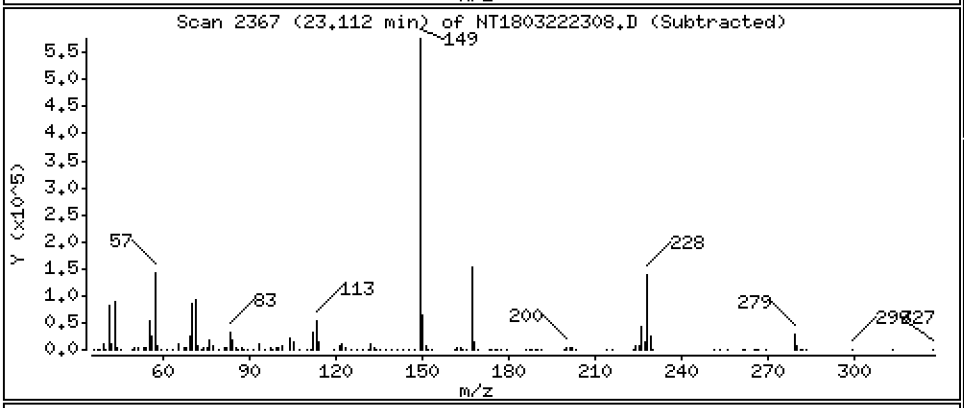
Column diameter: 0.25

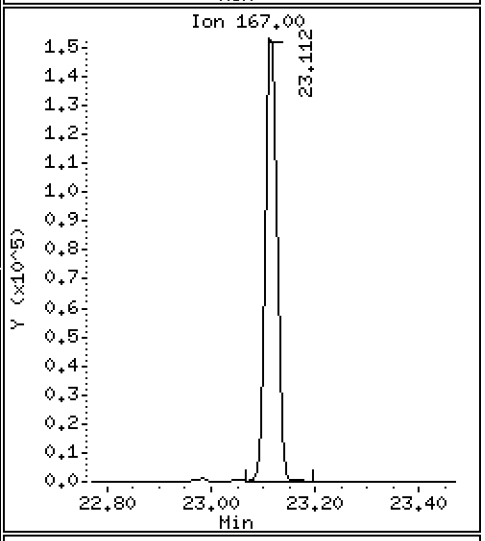
72 bis(2-Ethylhexyl)phthalate

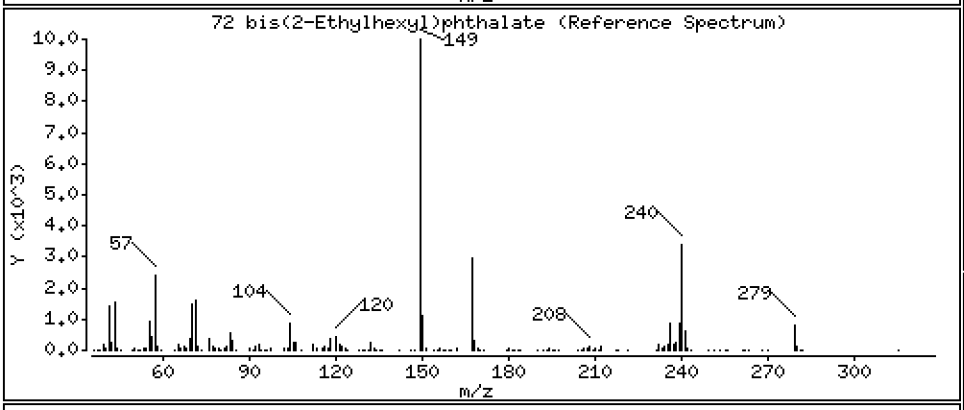
Concentration: 4.272 ug/mL

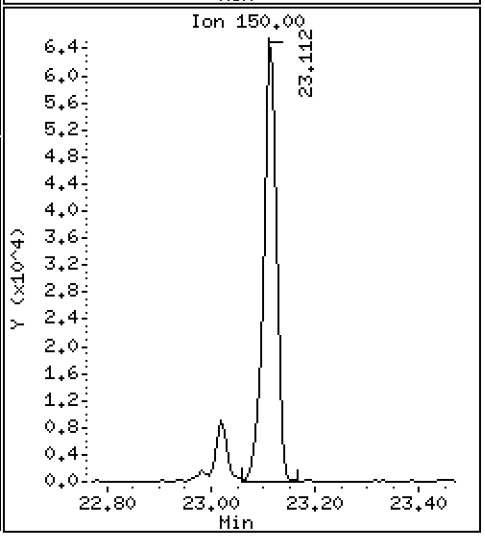


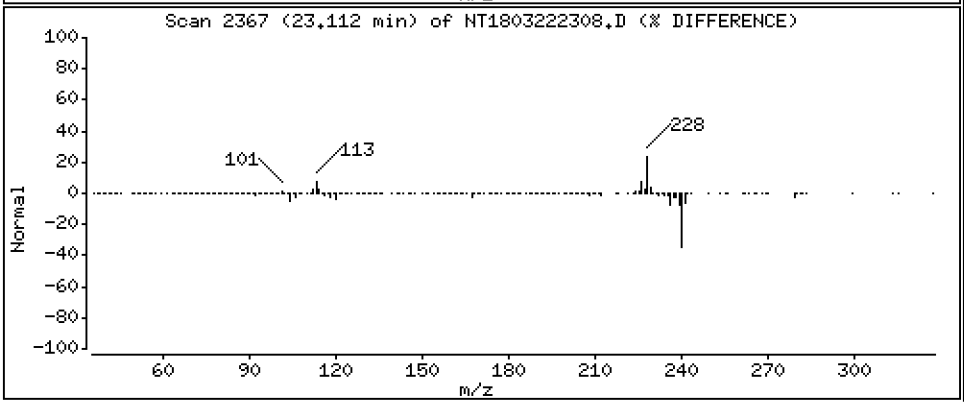












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

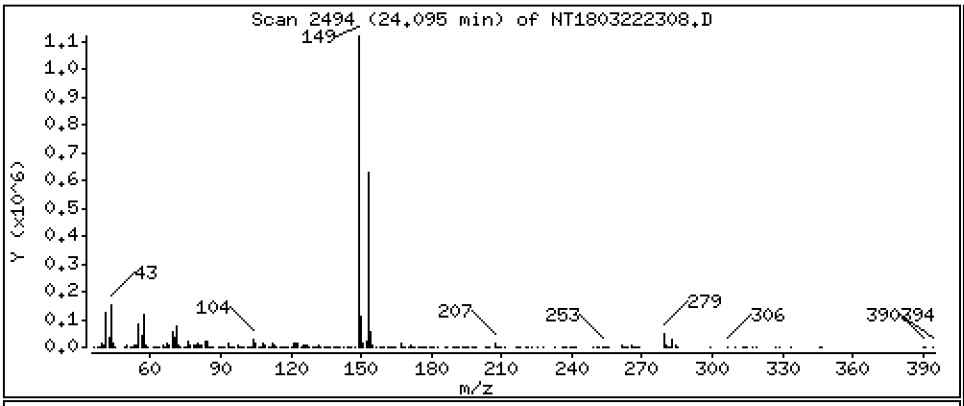
Operator: VTS

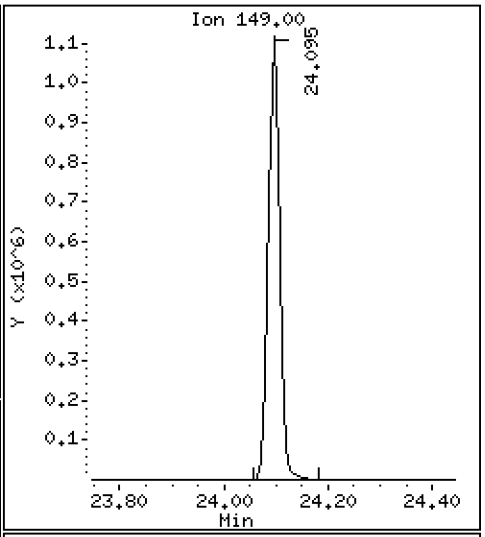
Column phase: ZB-5msi

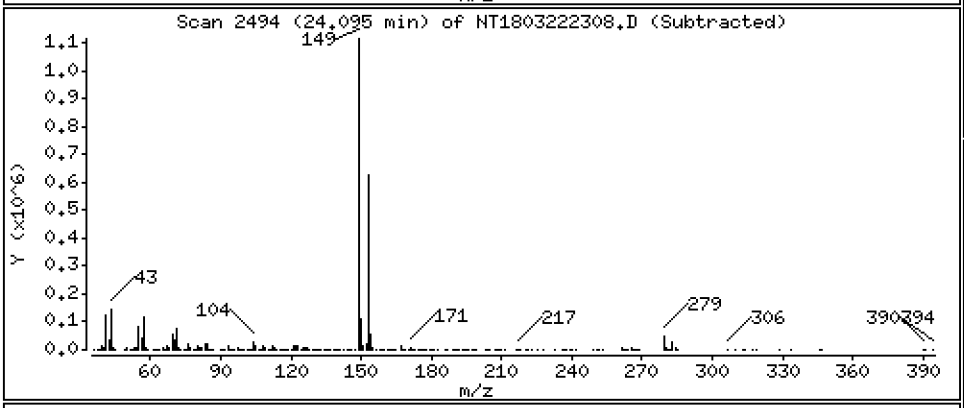
Column diameter: 0.25

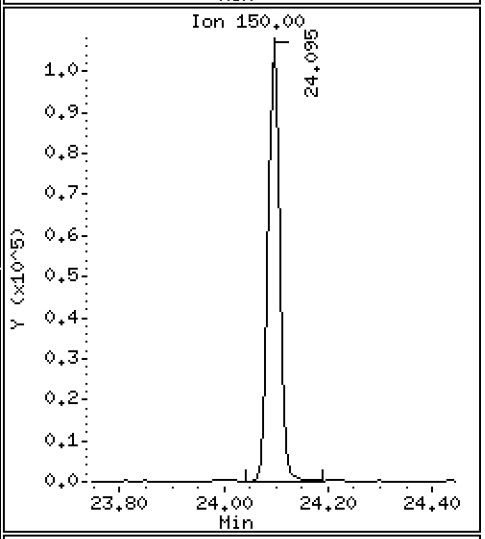
73 Di-n-octylphthalate

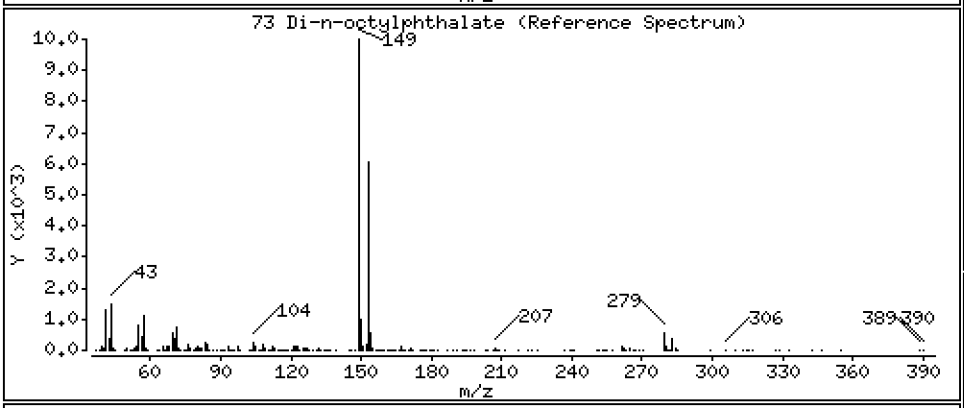
Concentration: 4.565 ug/mL

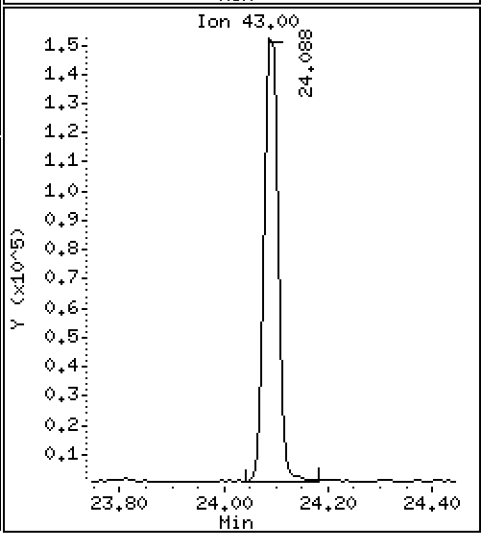


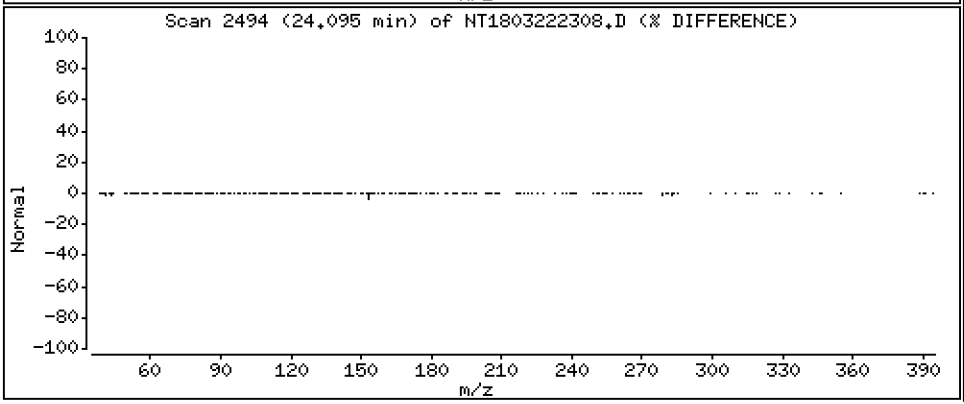












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

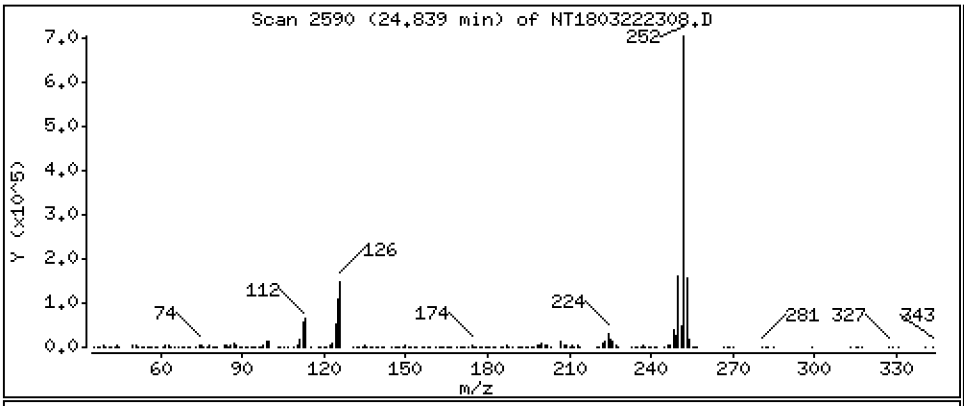
Operator: VTS

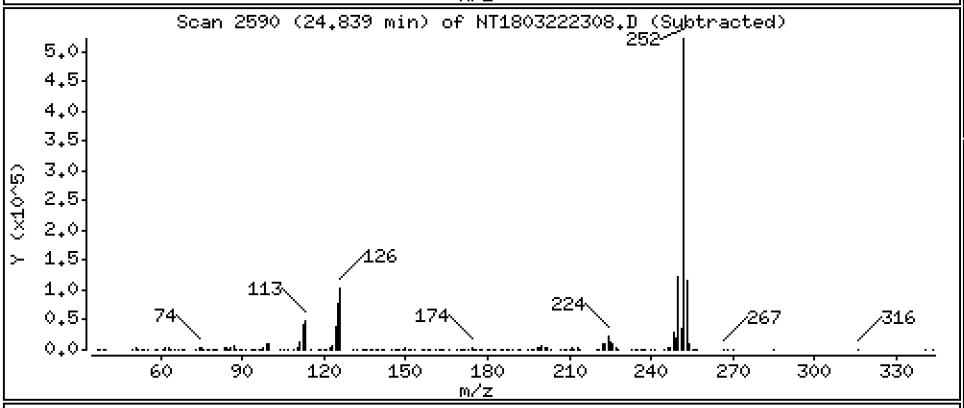
Column phase: ZB-5msi

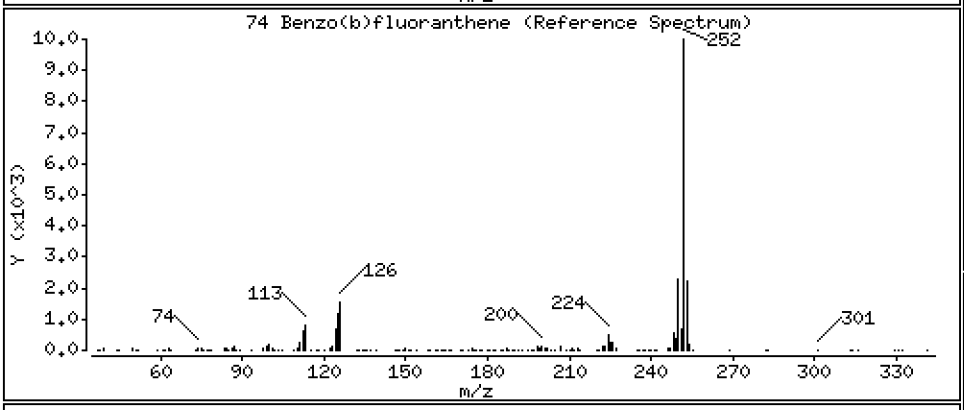
Column diameter: 0.25

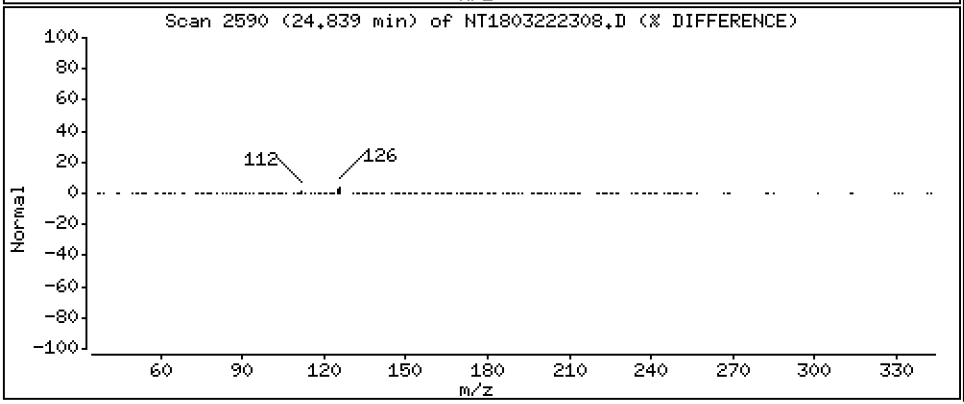
74 Benzo(b)fluoranthene

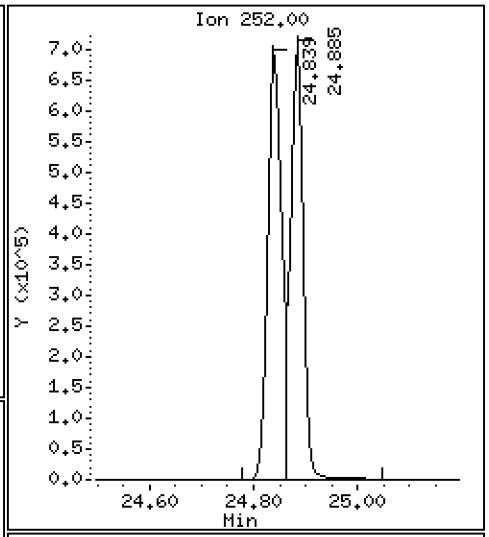
Concentration: 5.136 ug/mL

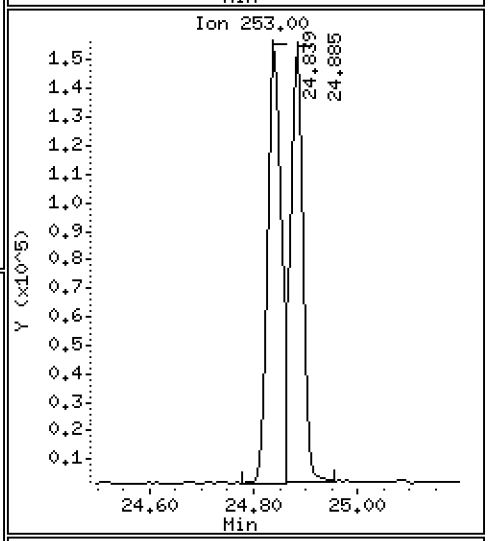


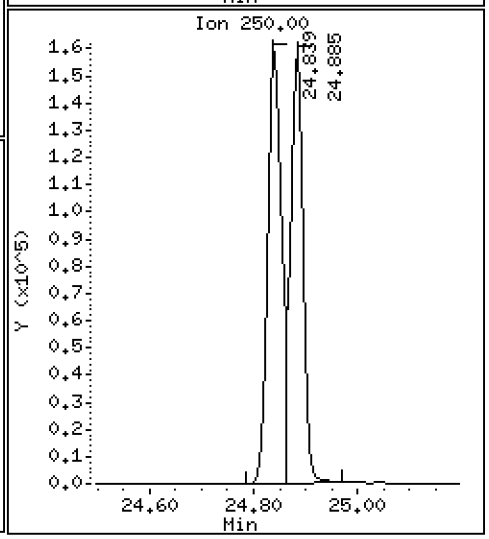












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

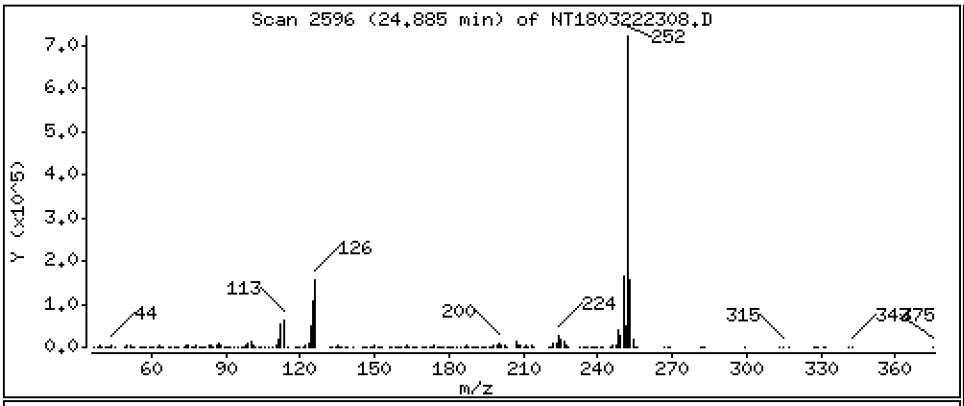
Operator: VTS

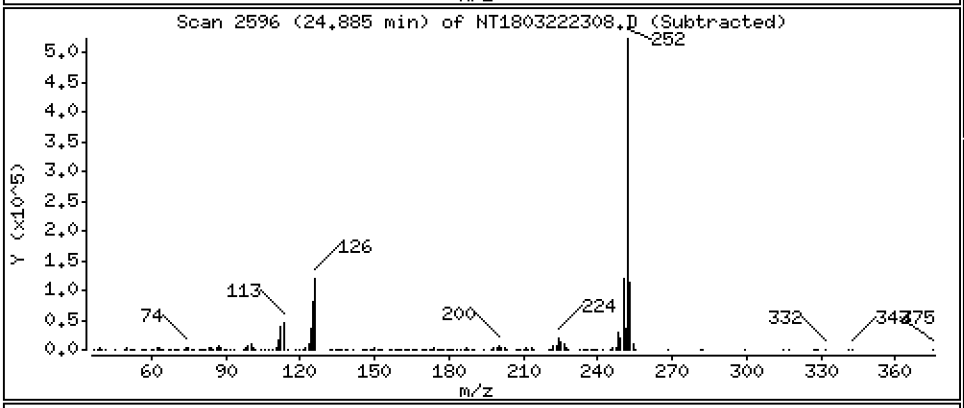
Column phase: ZB-5msi

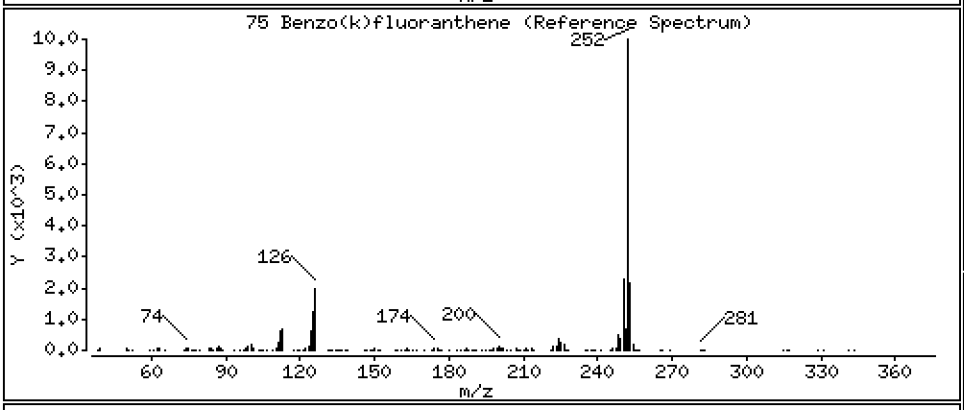
Column diameter: 0.25

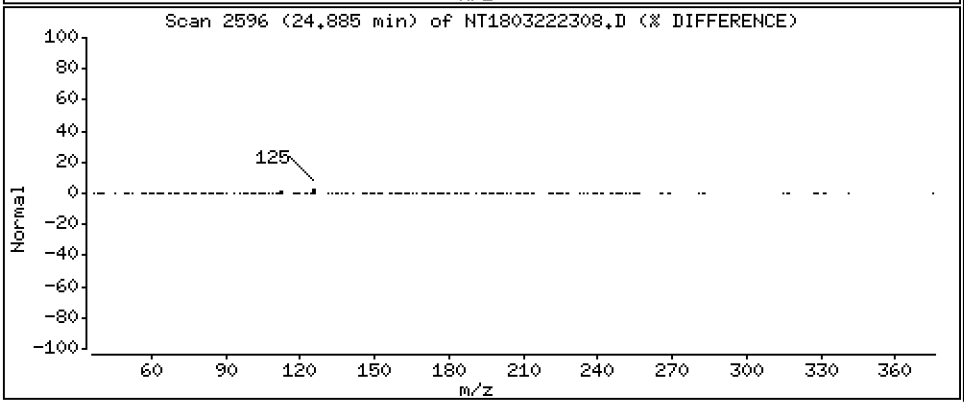
75 Benzo(k)fluoranthene

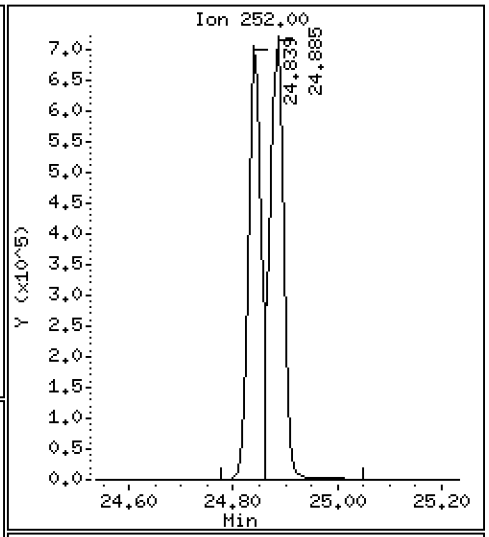
Concentration: 4.789 ug/mL

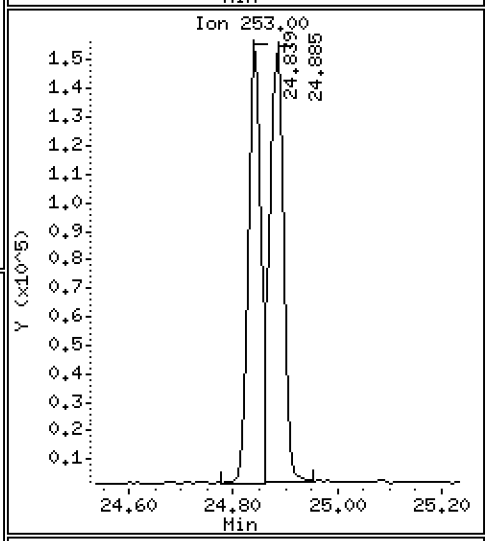


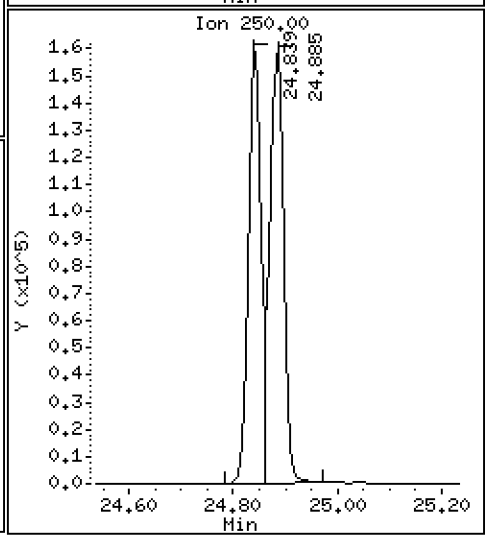












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

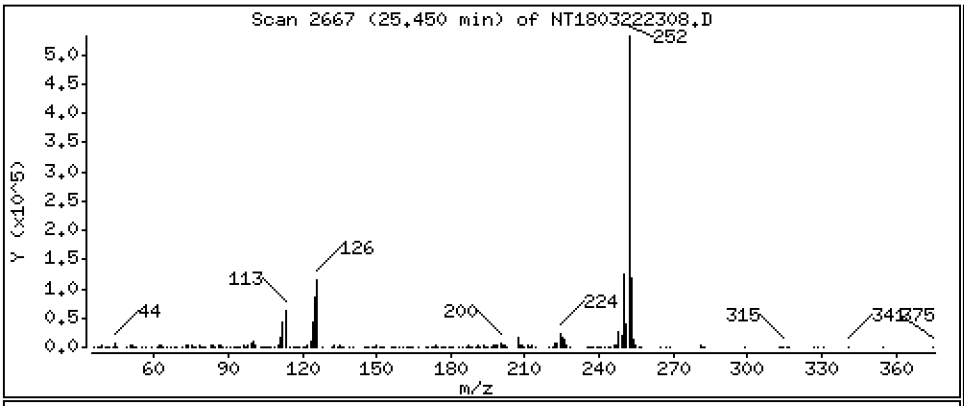
Operator: VTS

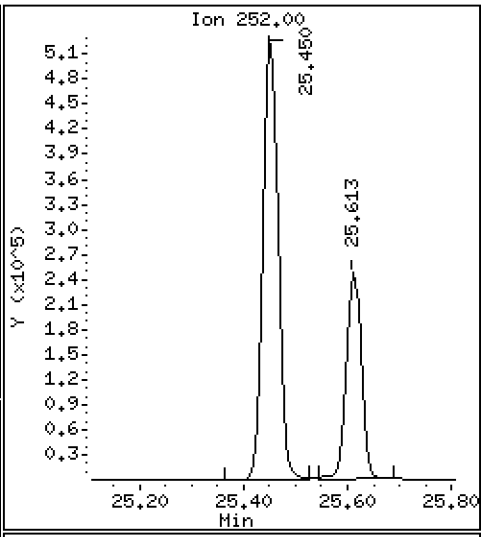
Column phase: ZB-5msi

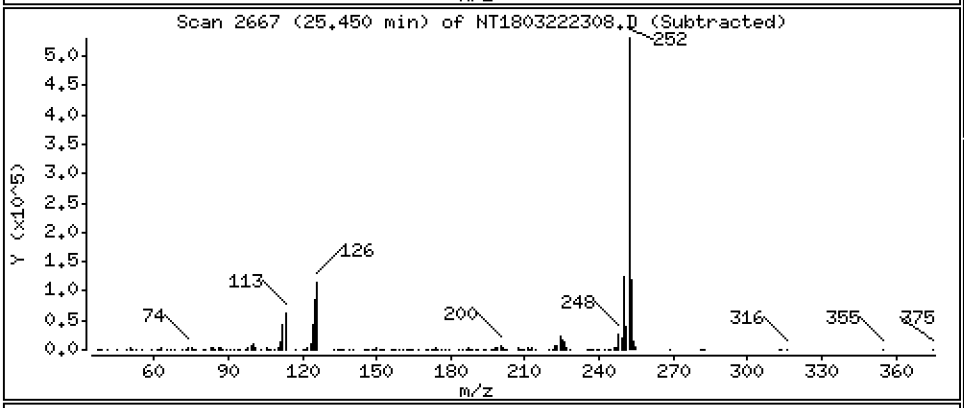
Column diameter: 0.25

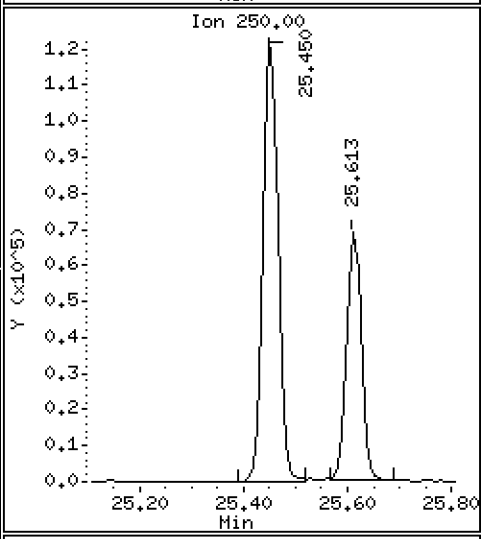
76 Benzo(a)pyrene

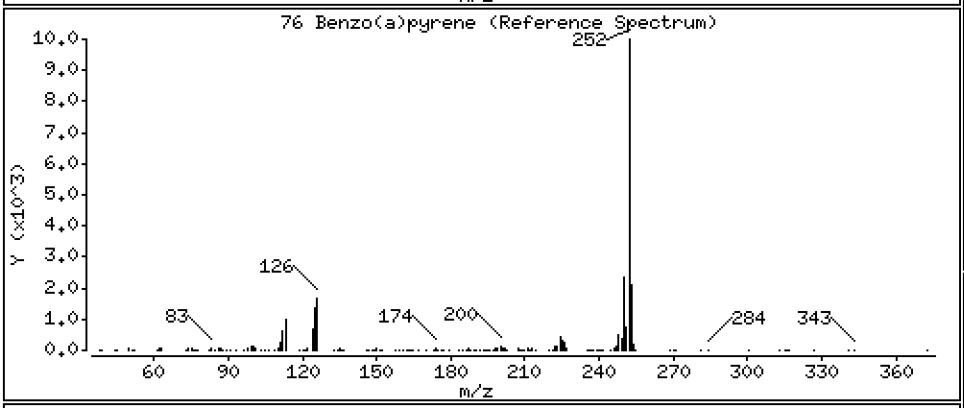
Concentration: 4.216 ug/mL

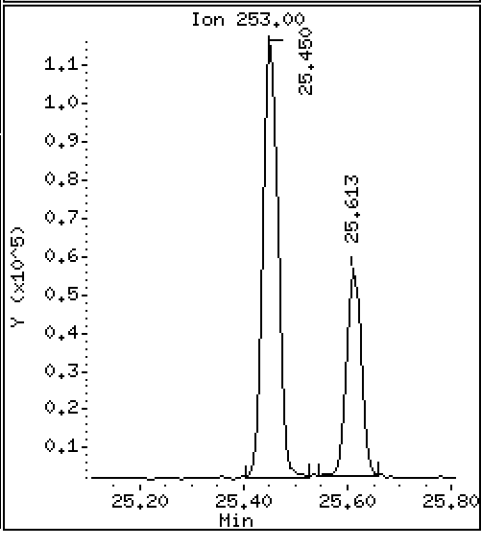


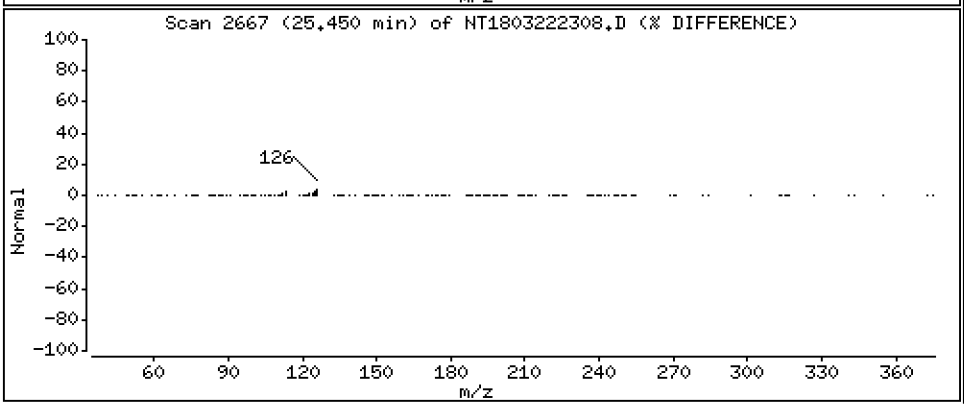












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

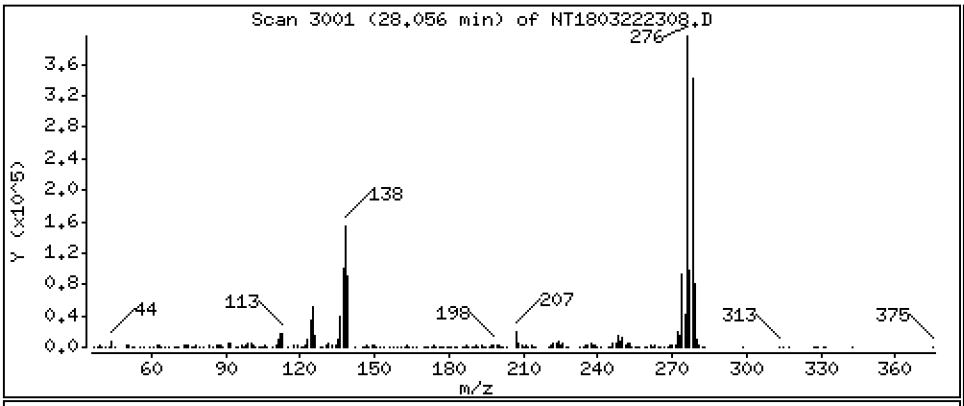
Operator: VTS

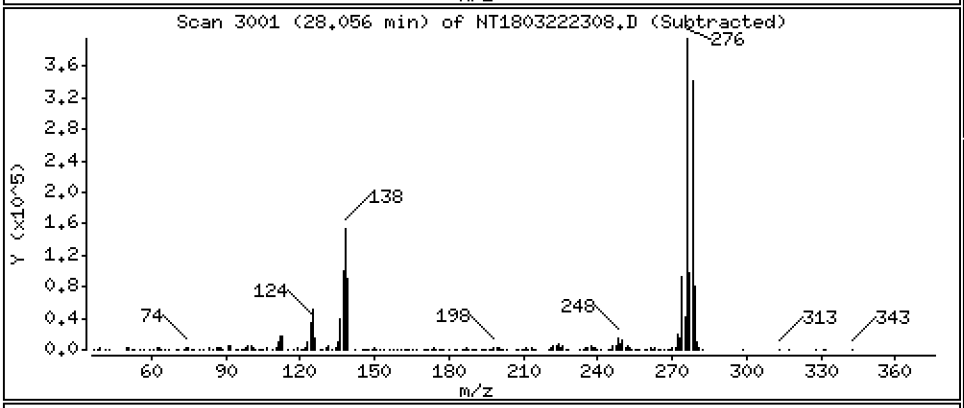
Column phase: ZB-5msi

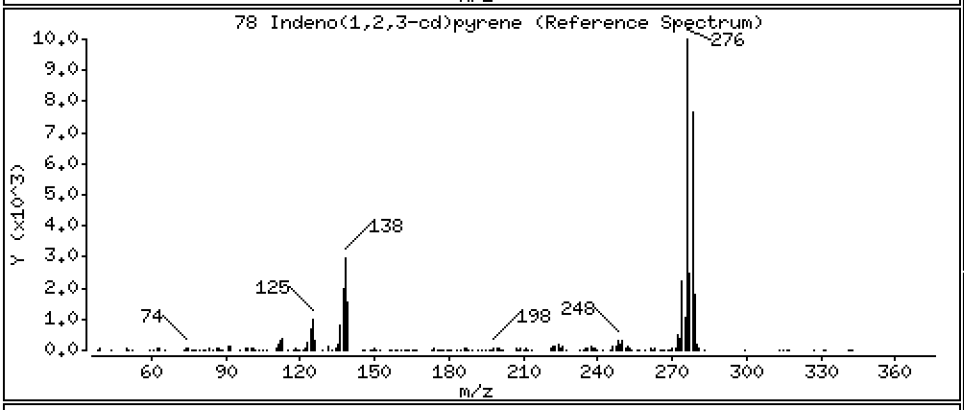
Column diameter: 0.25

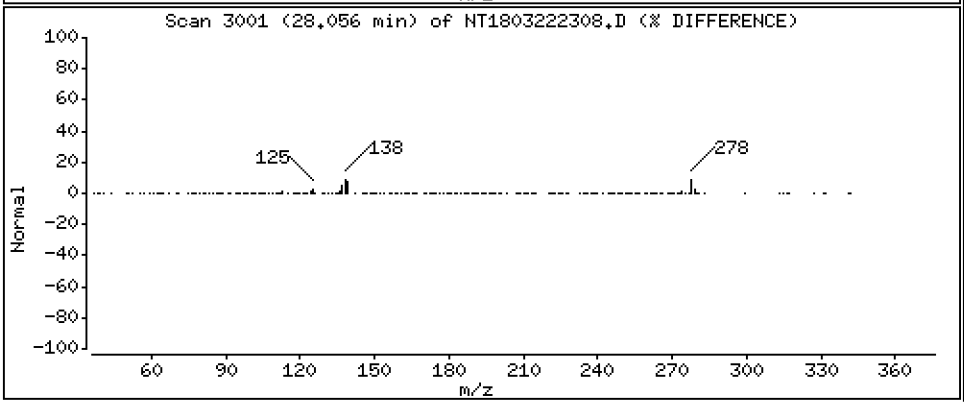
78 Indeno(1,2,3-cd)pyrene

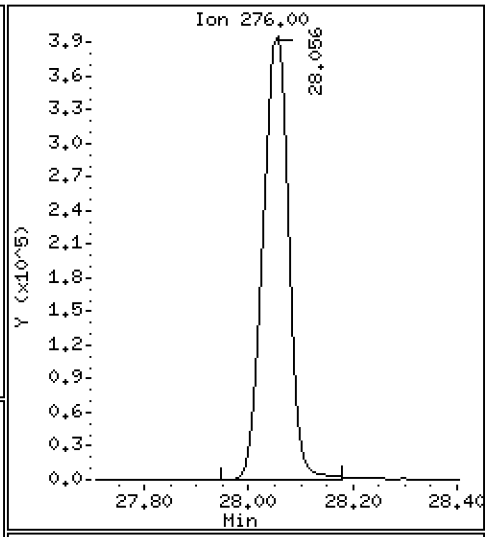
Concentration: 4.295 ug/mL

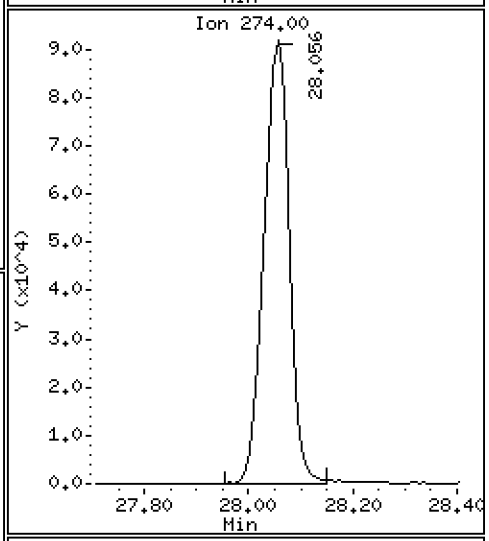


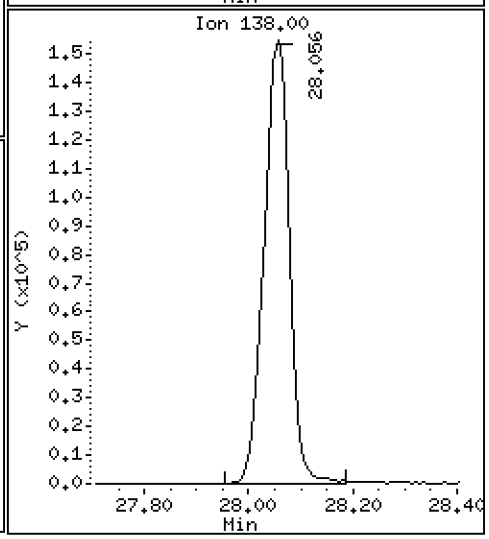












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

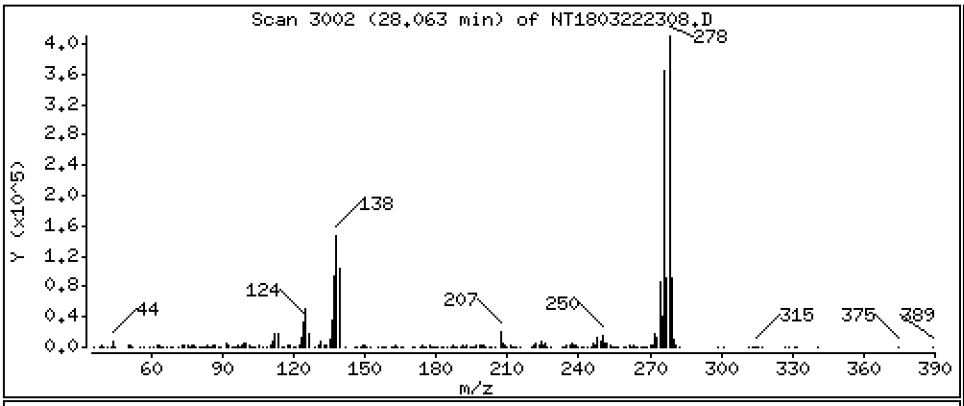
Operator: VTS

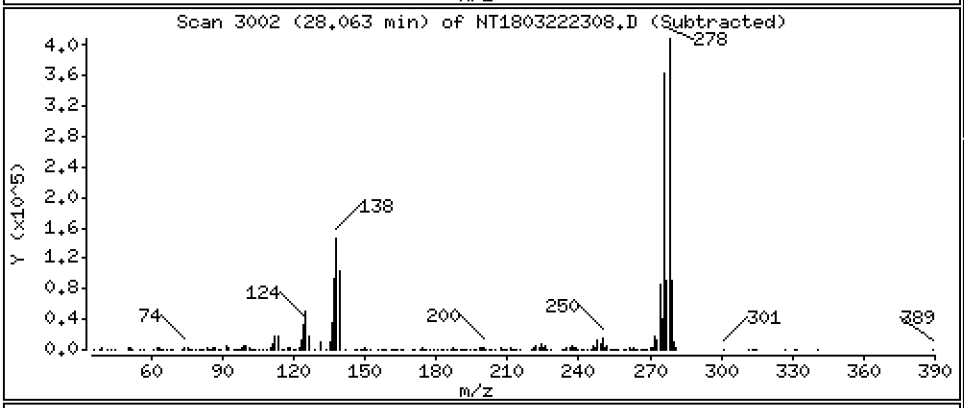
Column phase: ZB-5msi

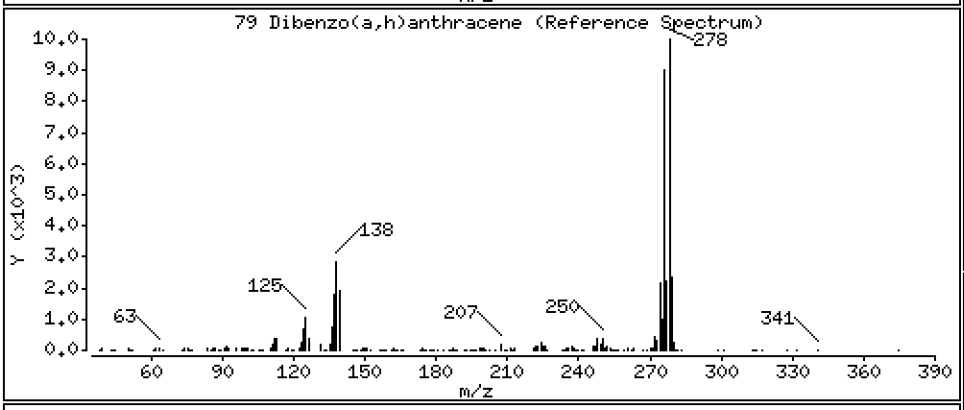
Column diameter: 0.25

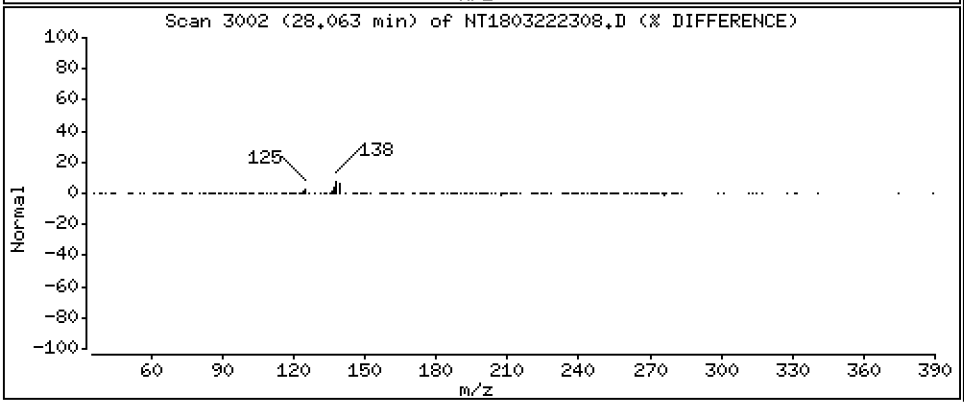
79 Dibenzo(a,h)anthracene

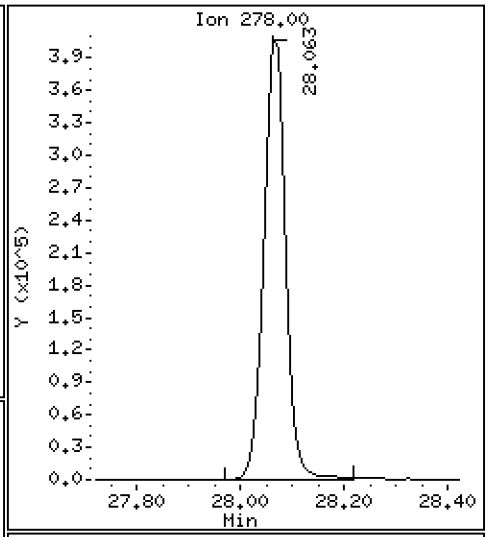
Concentration: 4.444 ug/mL

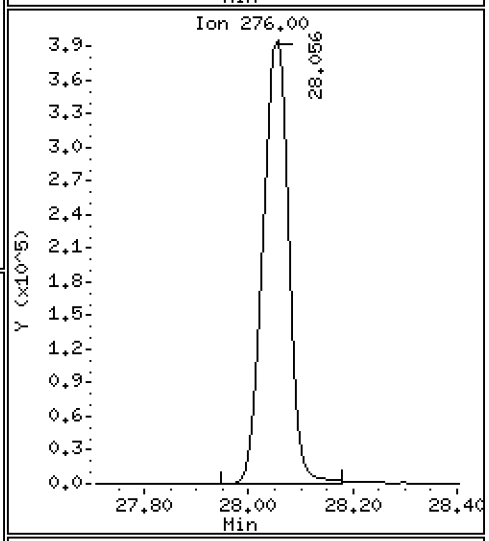


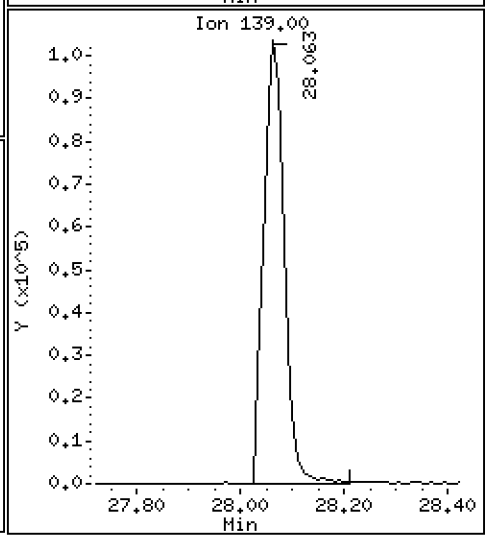












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222308.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

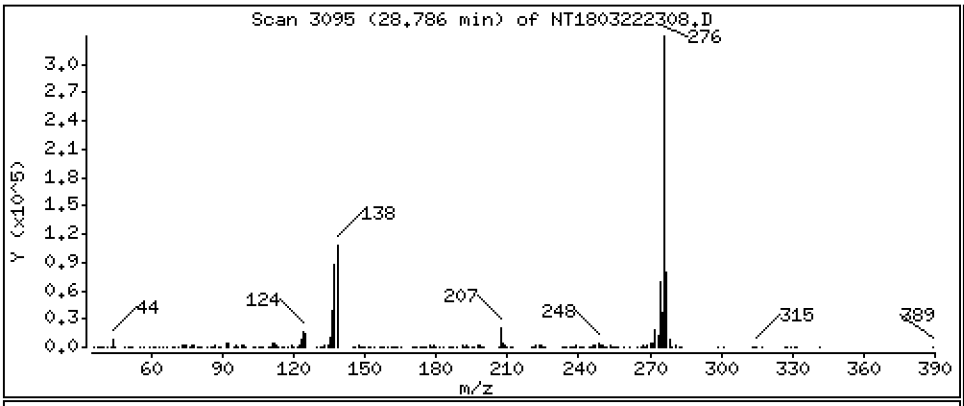
Operator: VTS

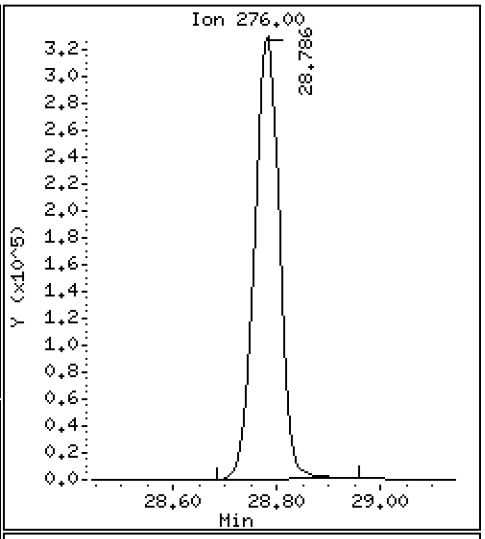
Column phase: ZB-5msi

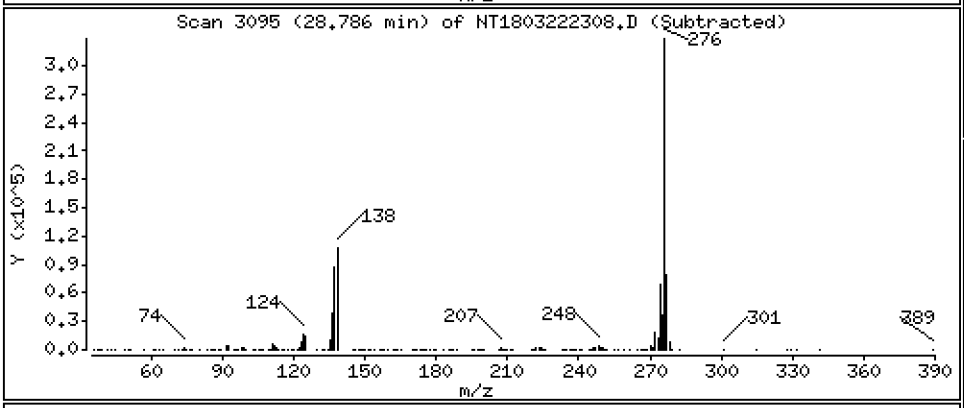
Column diameter: 0.25

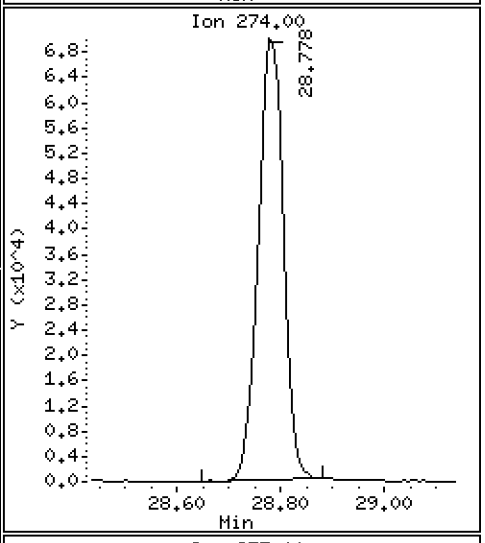
80 Benzo(g,h,i)perylene

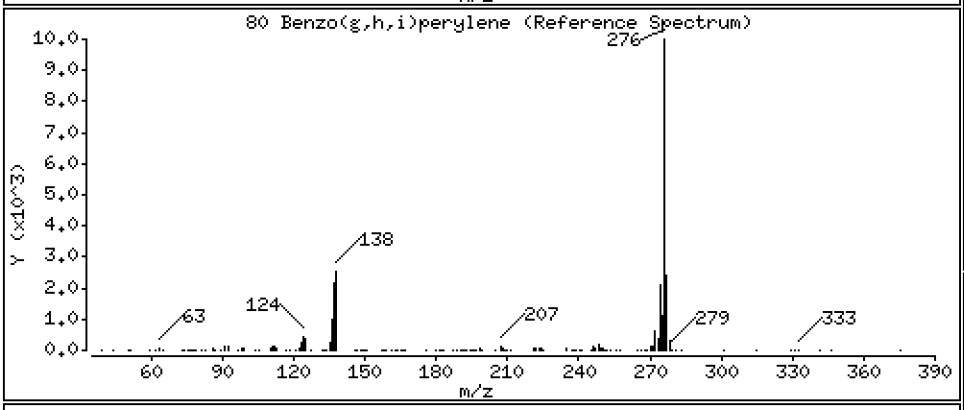
Concentration: 4.379 ug/mL

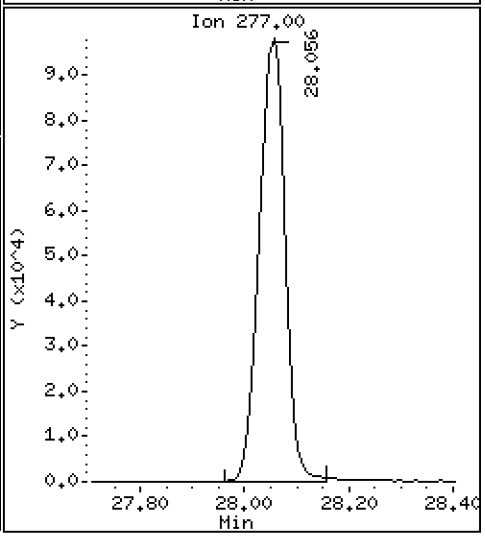


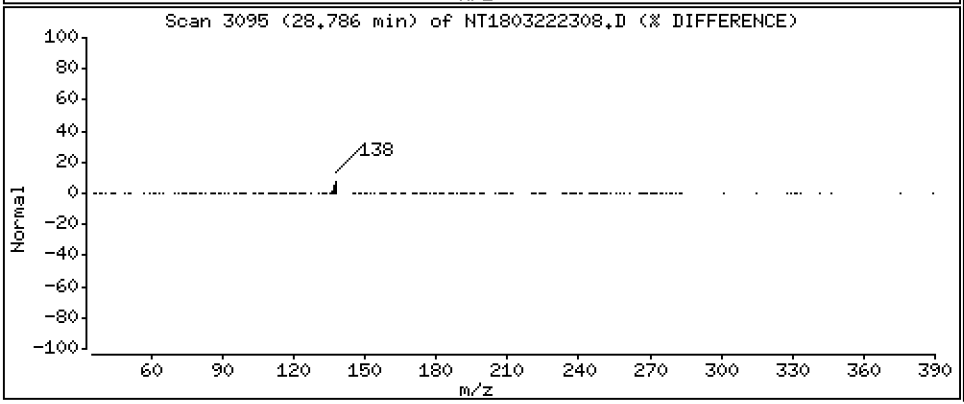












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222308.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

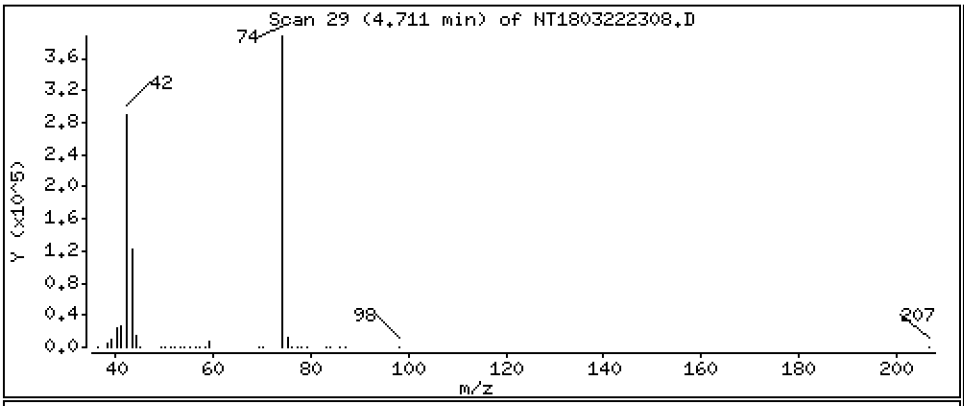
Operator: VTS

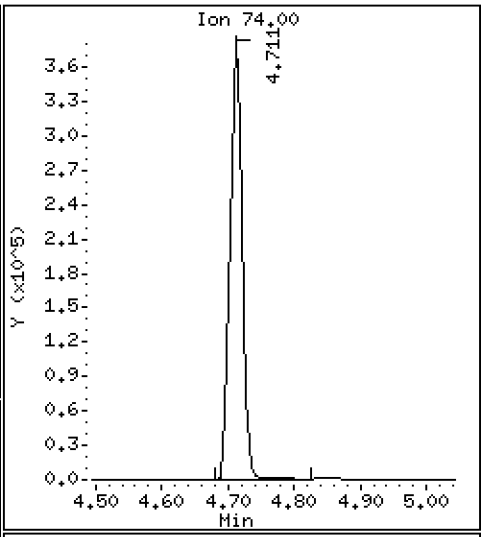
Column phase: ZB-5msi

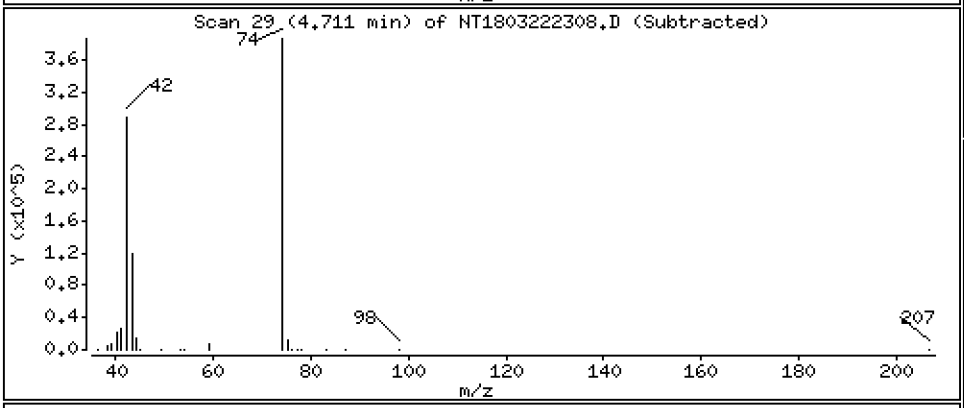
Column diameter: 0.25

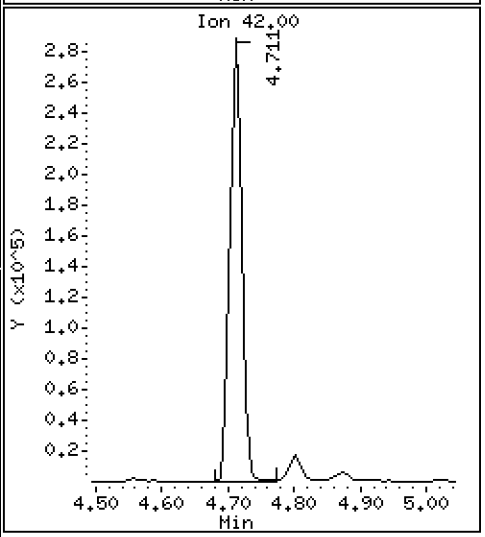
90 N-Nitrosodimethylamine

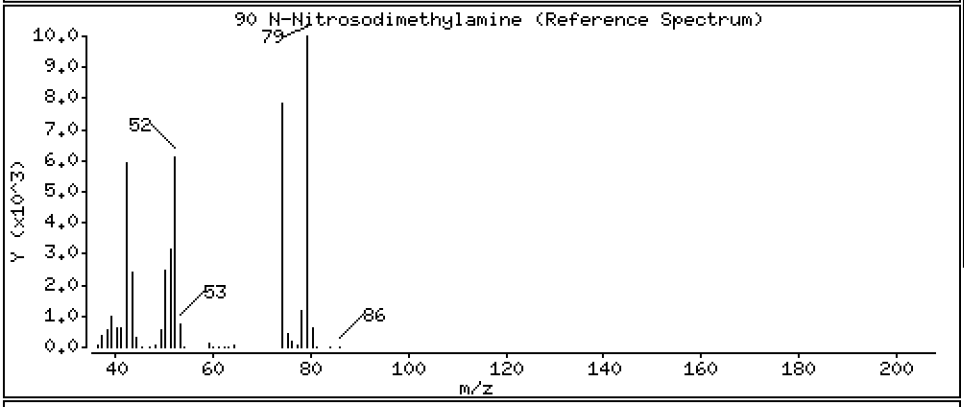
Concentration: 8.788 ug/mL

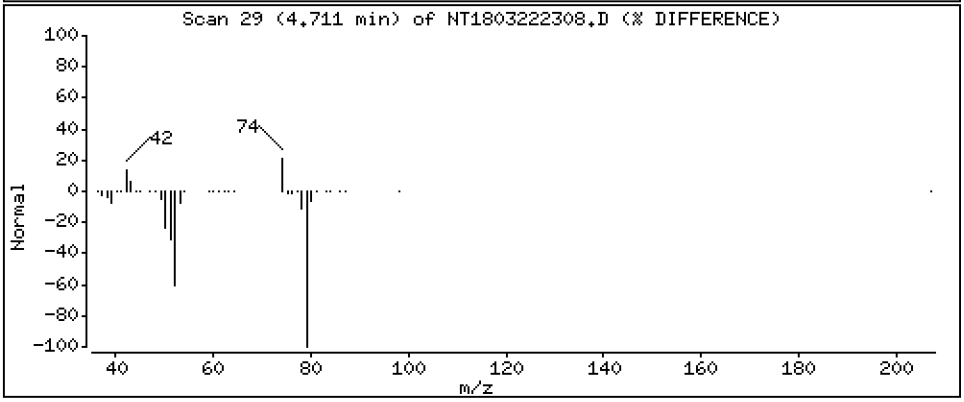












Date : 22-MAR-2023 22:01

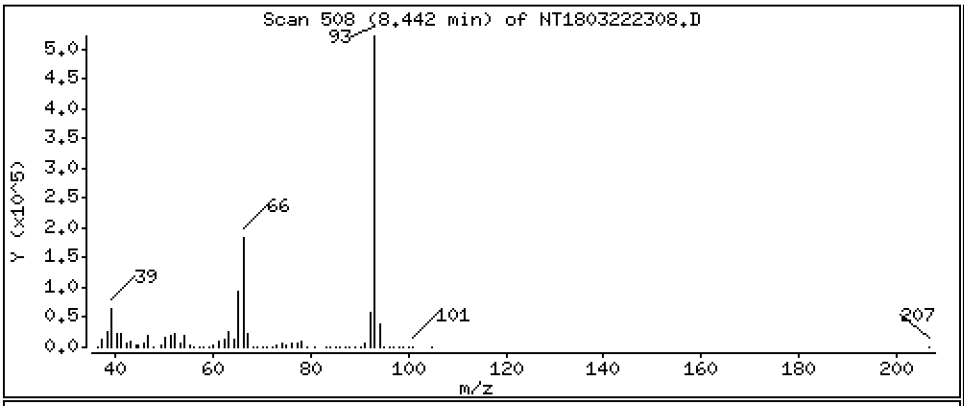
Client ID: Instrument: nt18.i

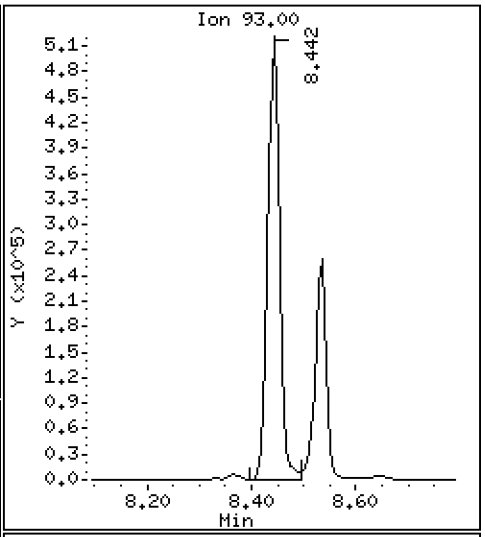
Sample Info: BLC0185-BSD1

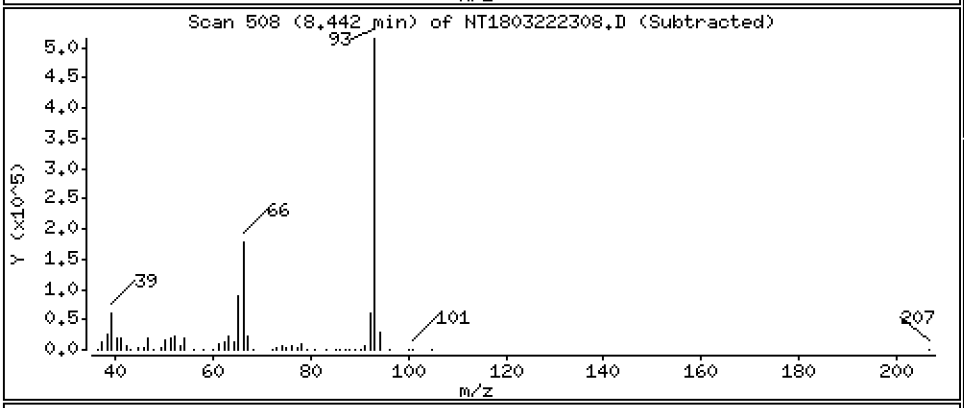
Operator: VTS

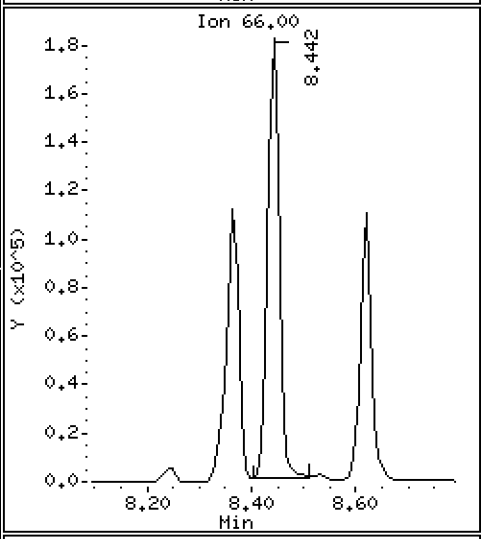
Column phase: ZB-5msi Column diameter: 0.25

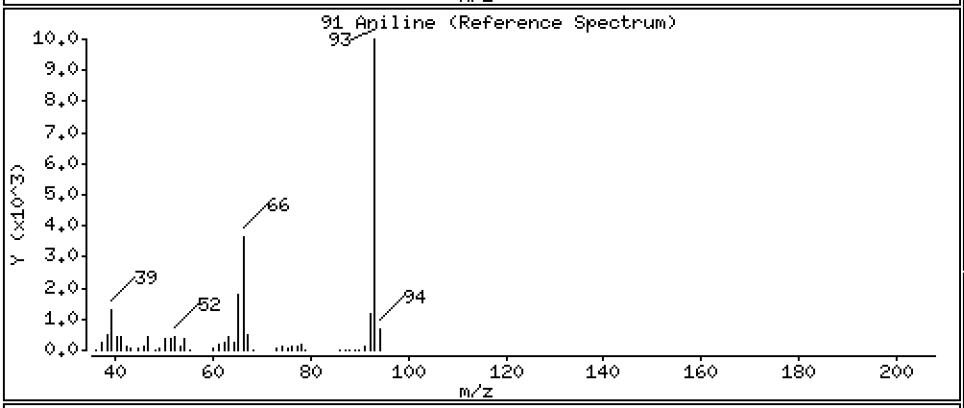
91 Aniline Concentration: 5.991 ug/mL

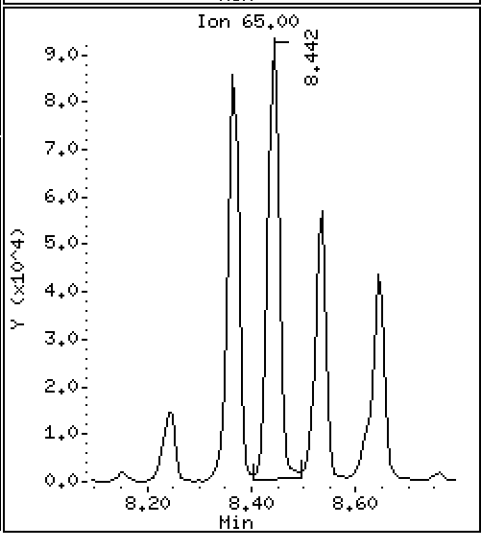


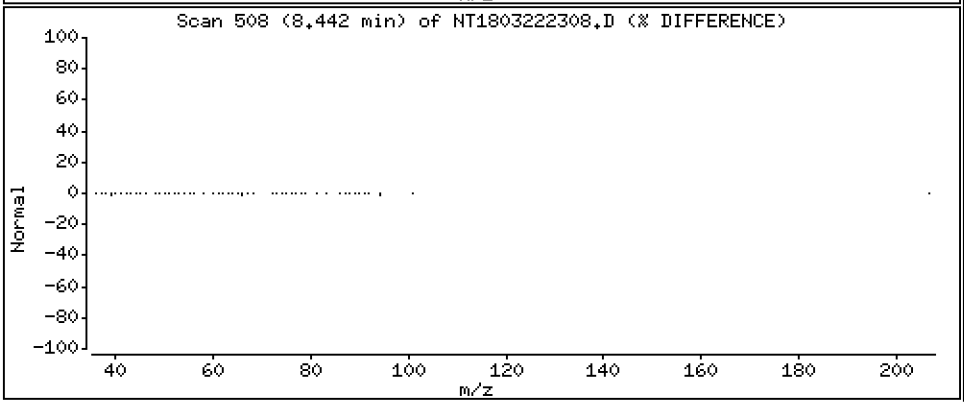












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222308.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

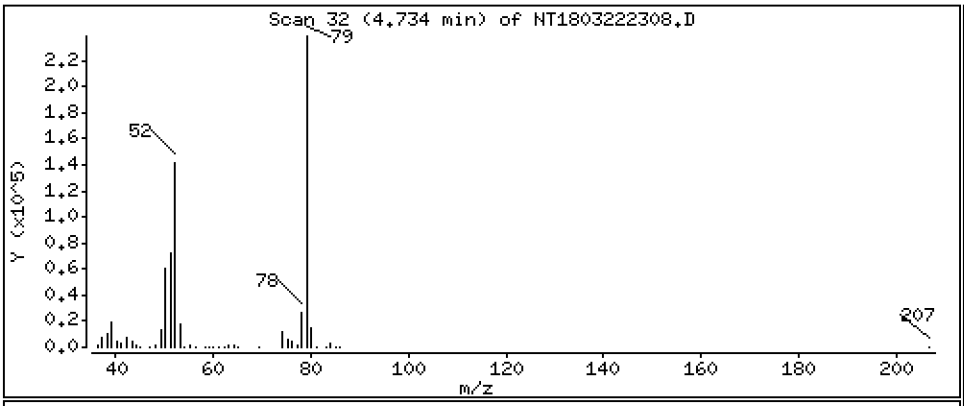
Operator: VTS

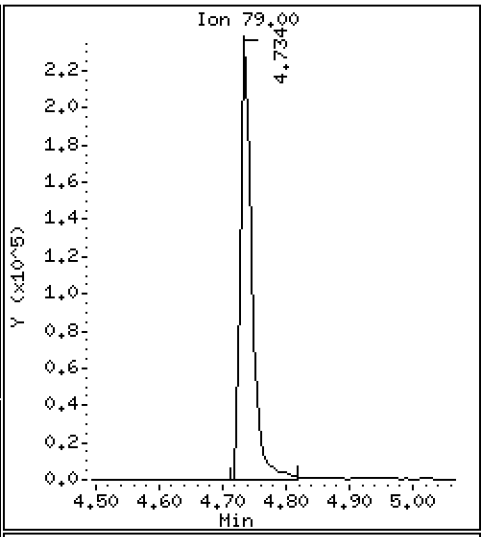
Column phase: ZB-5msi

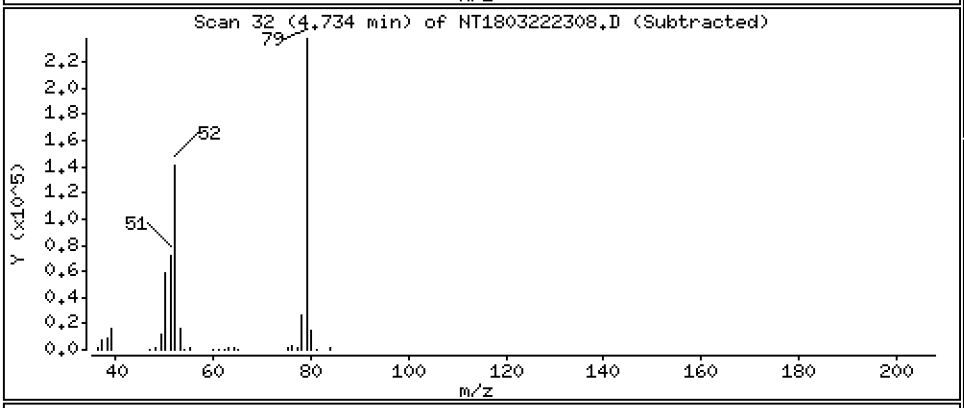
Column diameter: 0.25

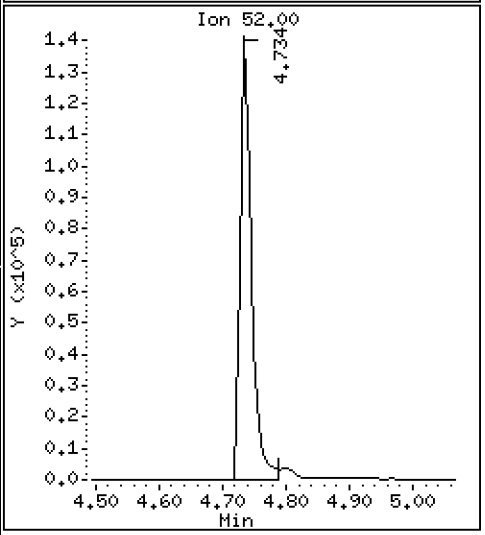
103 Pyridine

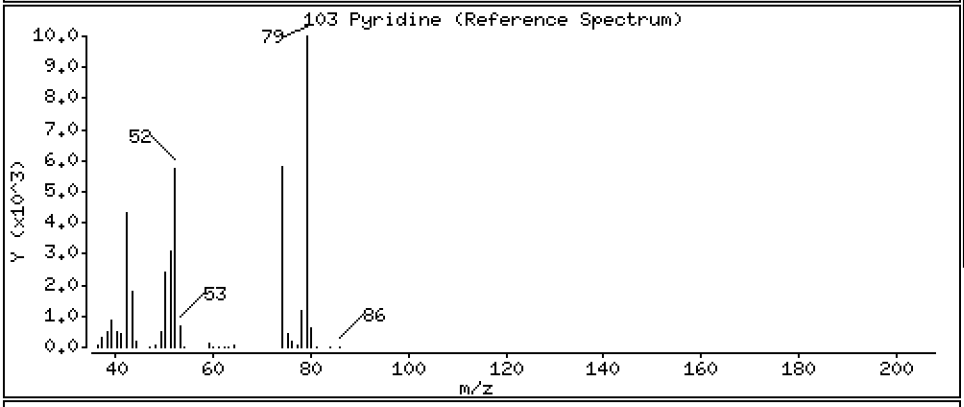
Concentration: 3.274 ug/mL

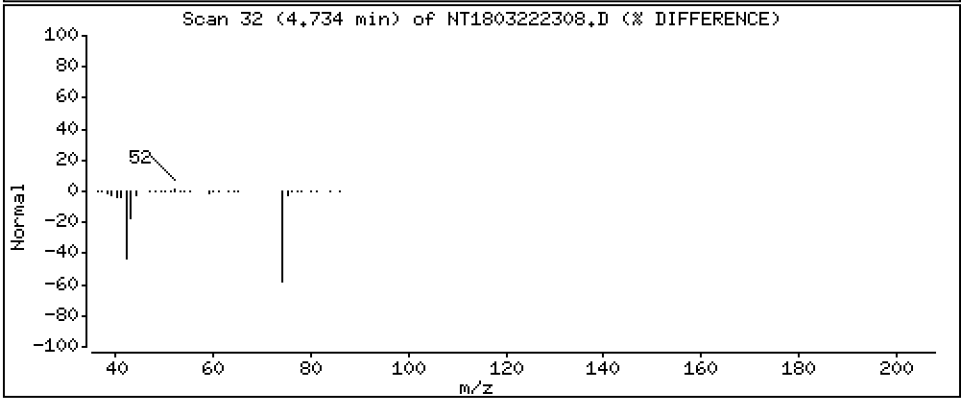












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222308.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

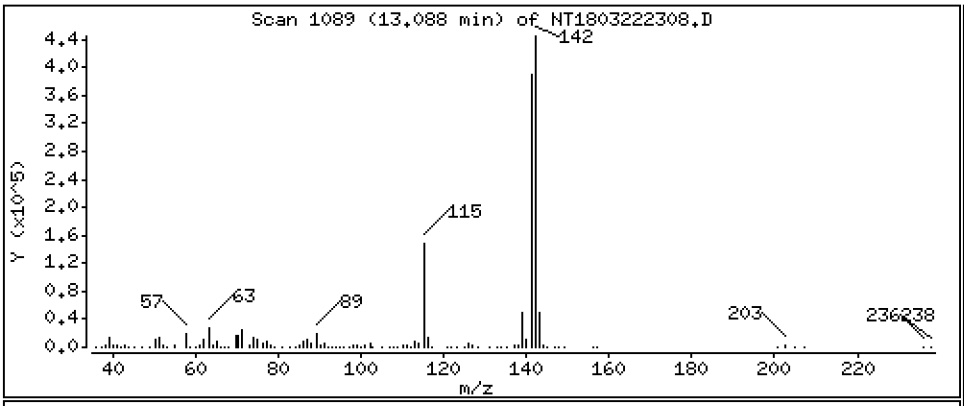
Operator: VTS

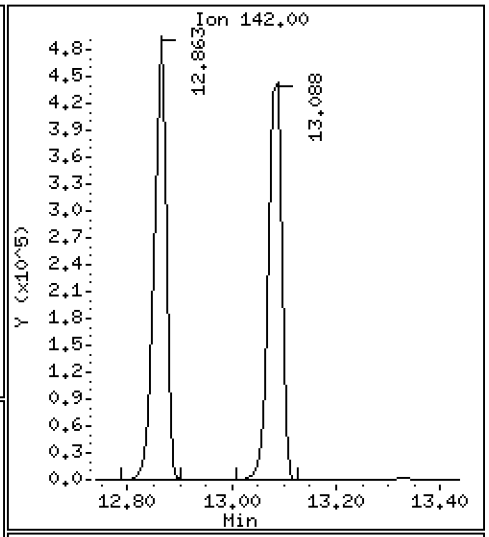
Column phase: ZB-5msi

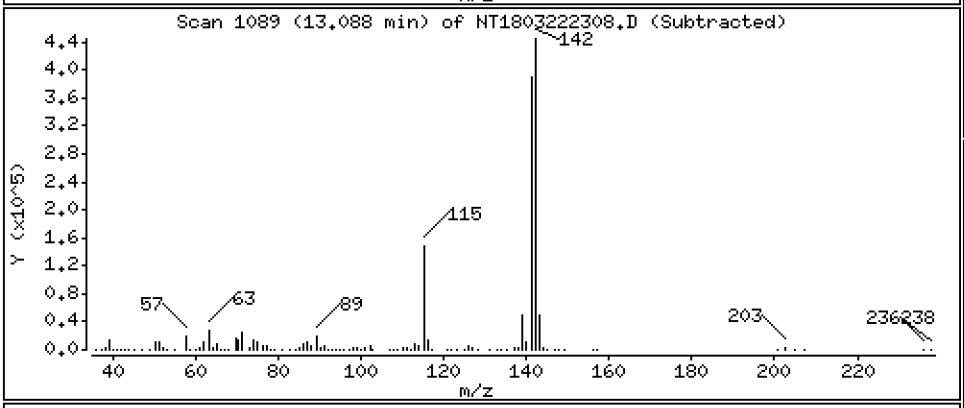
Column diameter: 0.25

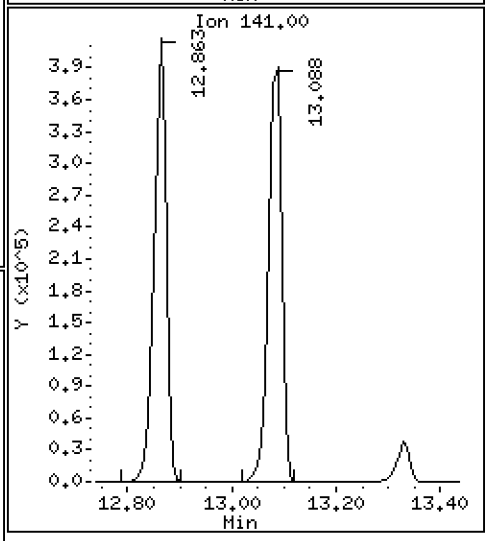
105 1-methylnaphthalene

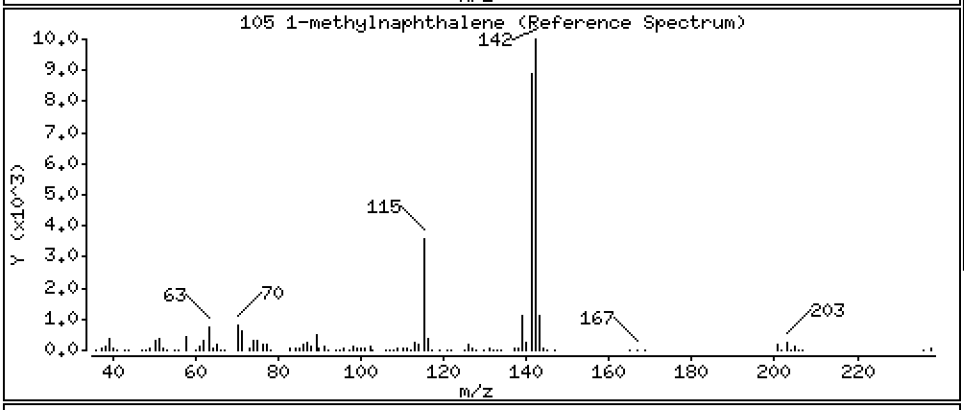
Concentration: 4.217 ug/mL

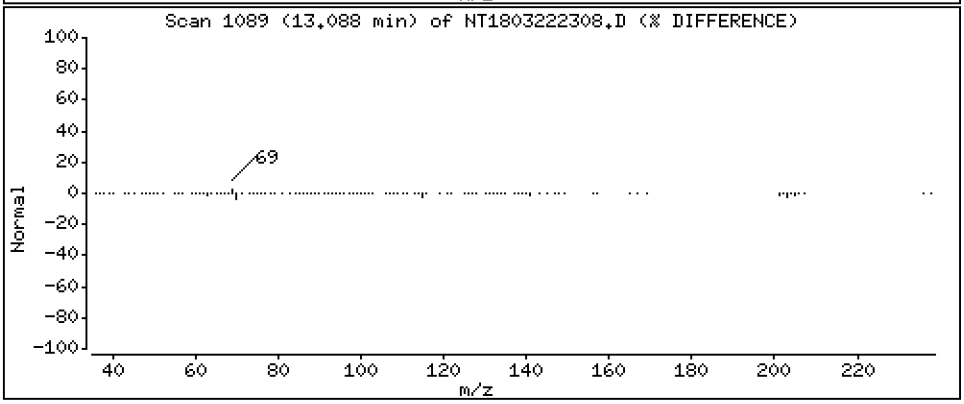












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222308.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

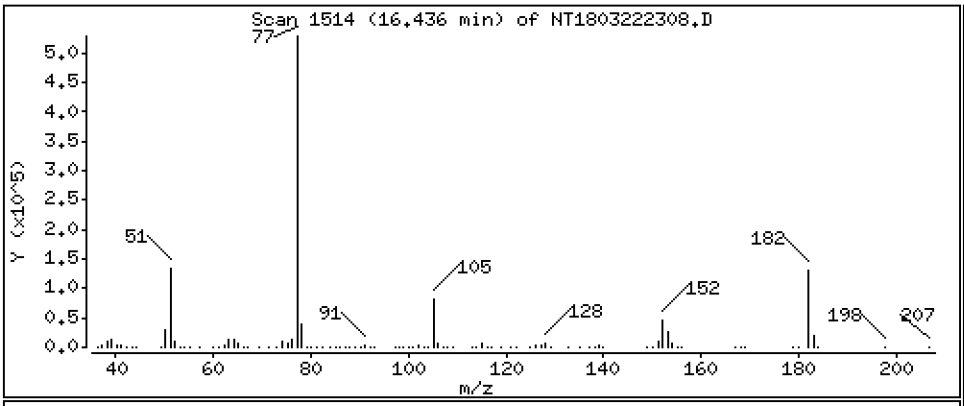
Operator: VTS

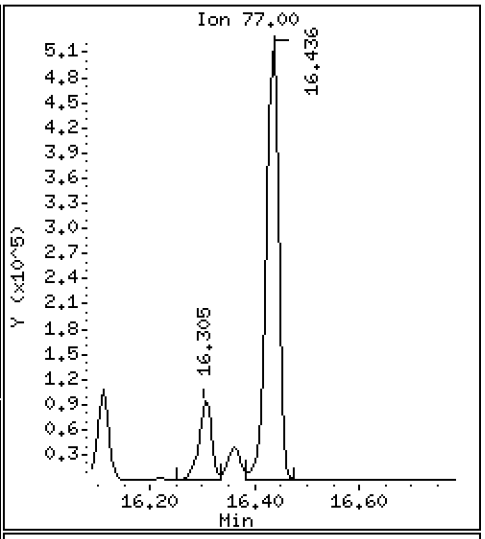
Column phase: ZB-5msi

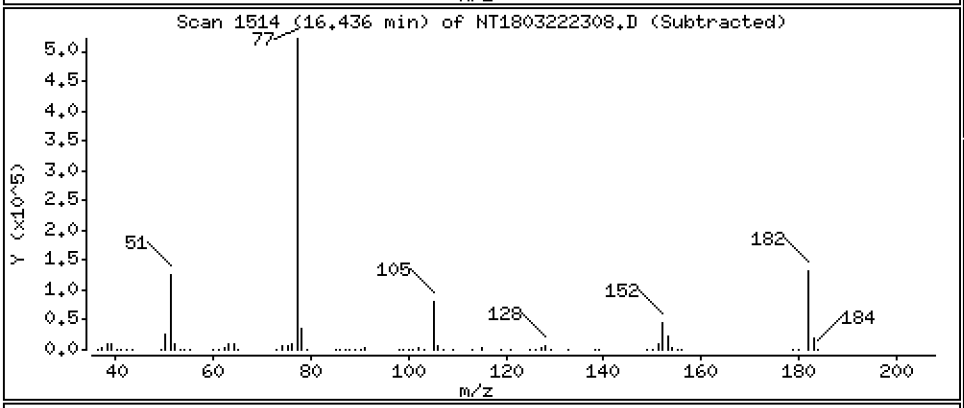
Column diameter: 0.25

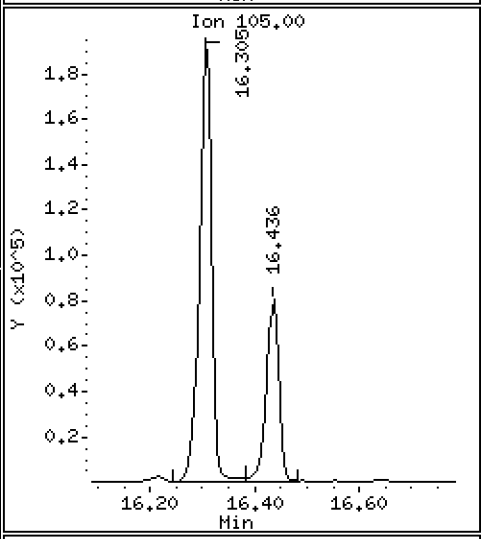
111 Azobenzene (1,2-DP-Hydrazine)

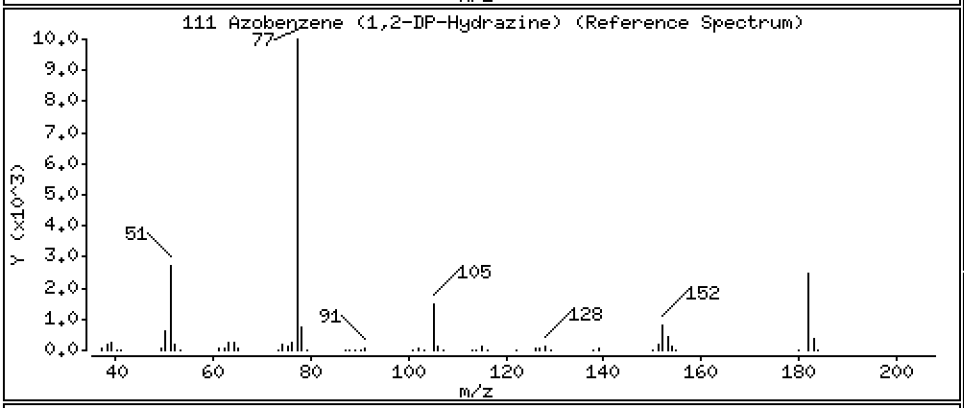
Concentration: 4.268 ug/mL

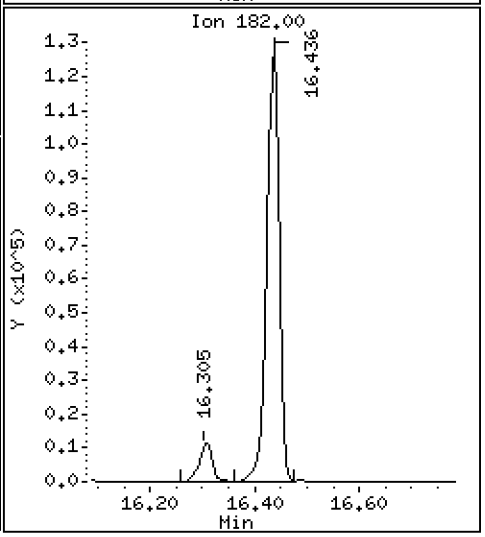


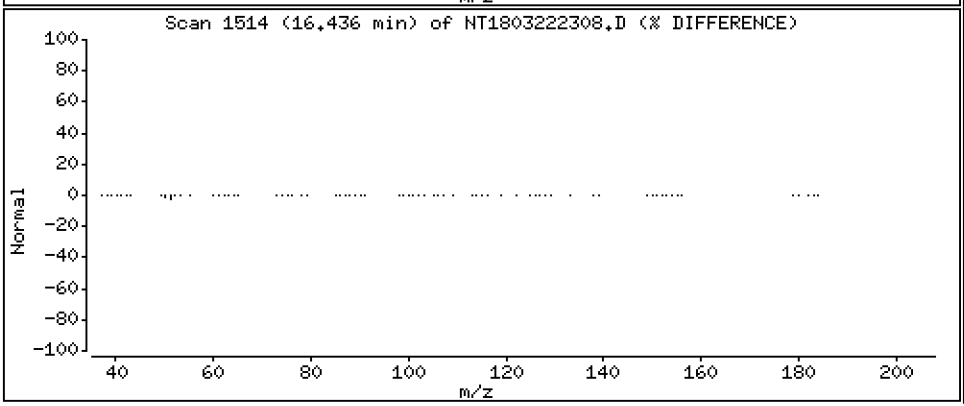












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222308.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

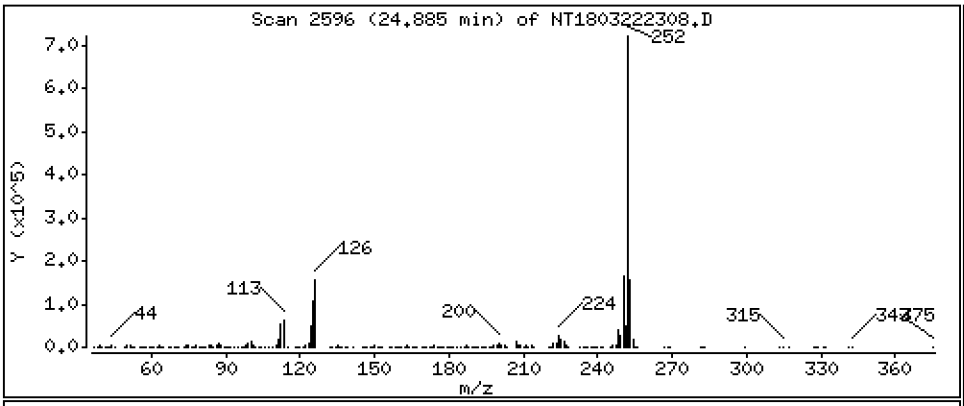
Operator: VTS

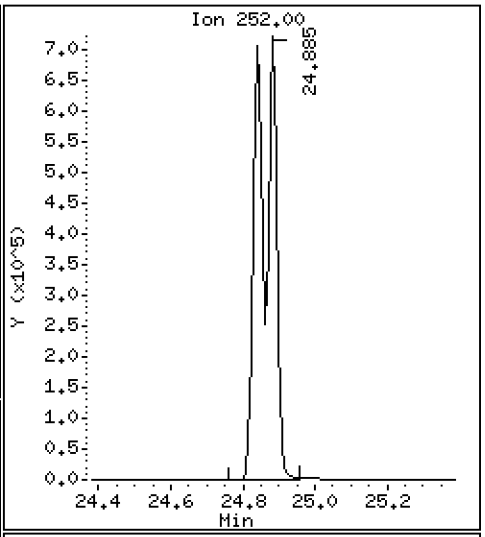
Column phase: ZB-5msi

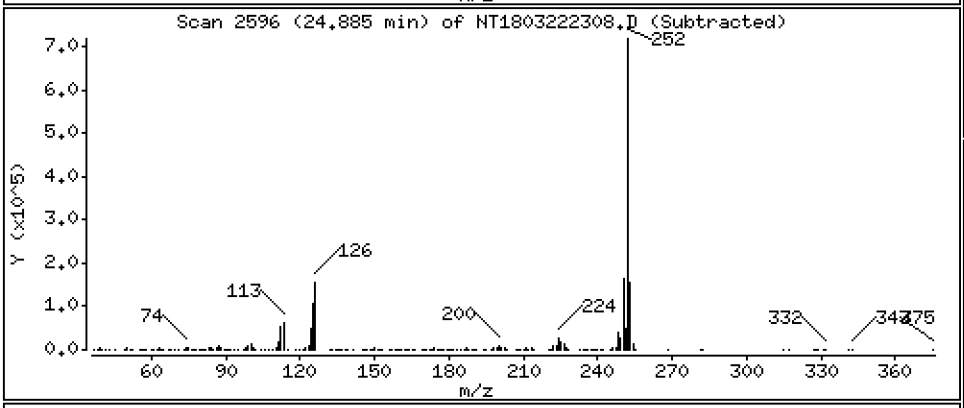
Column diameter: 0.25

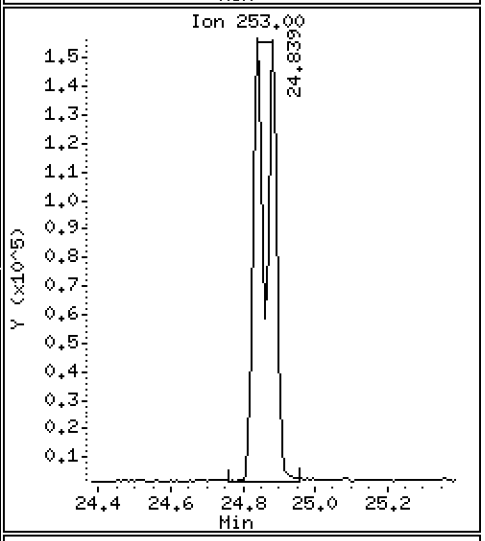
187 Total Benzofluoranthenes

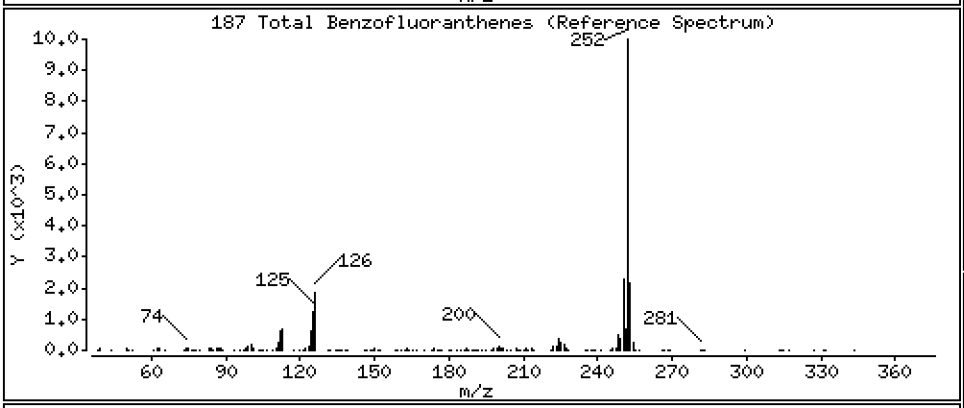
Concentration: 9.893 ug/mL

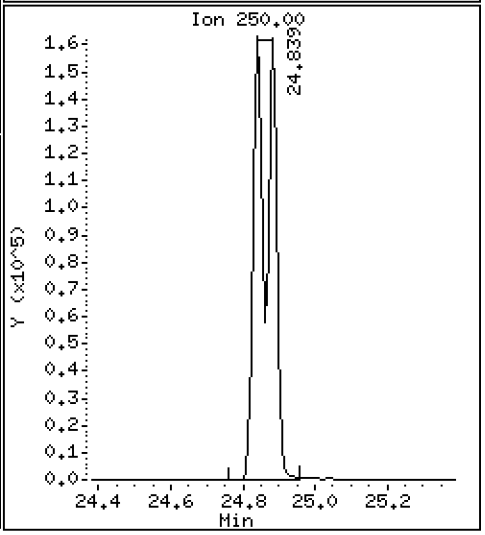


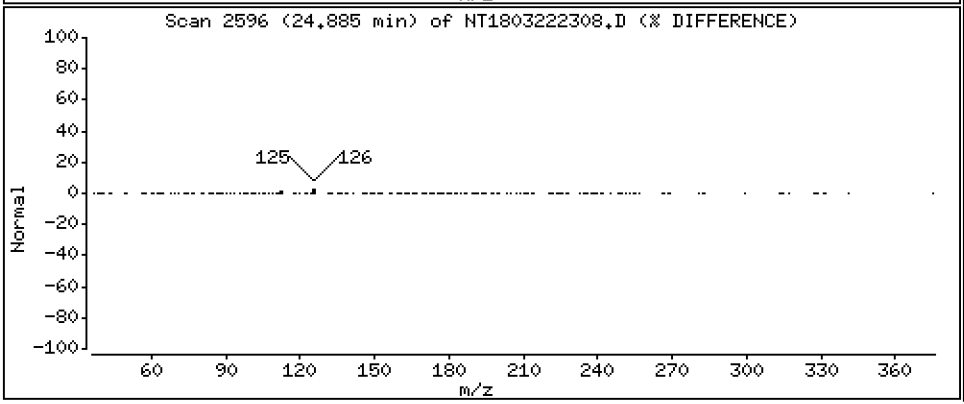












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222308.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD1

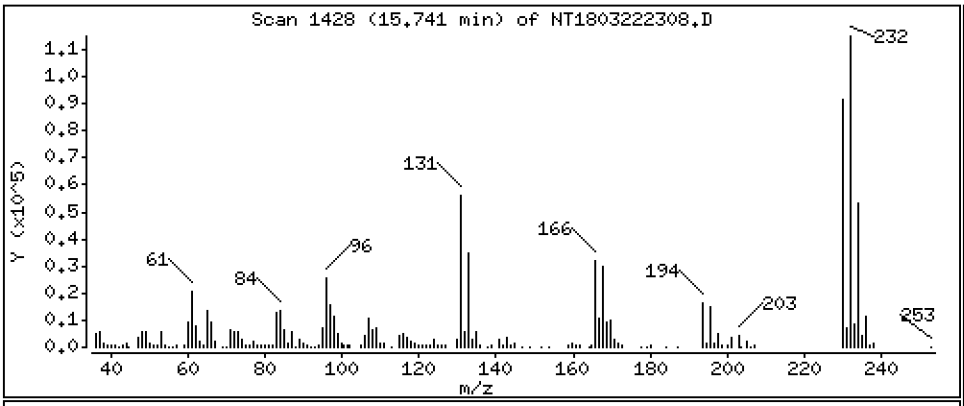
Operator: VTS

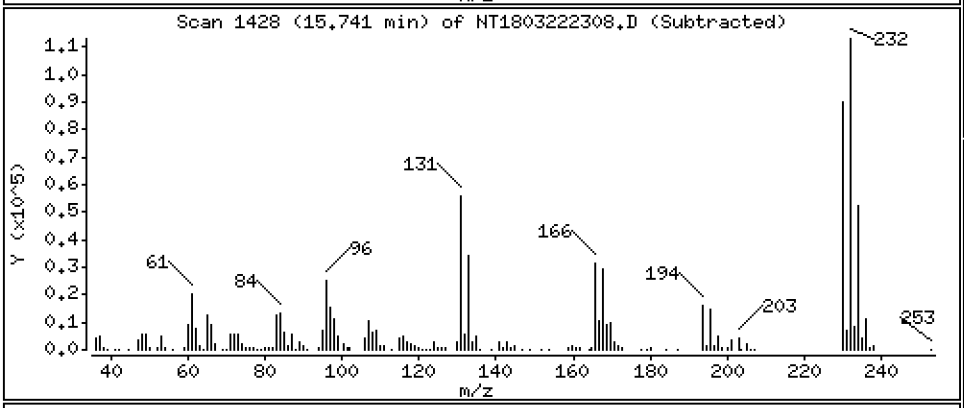
Column phase: ZB-5msi

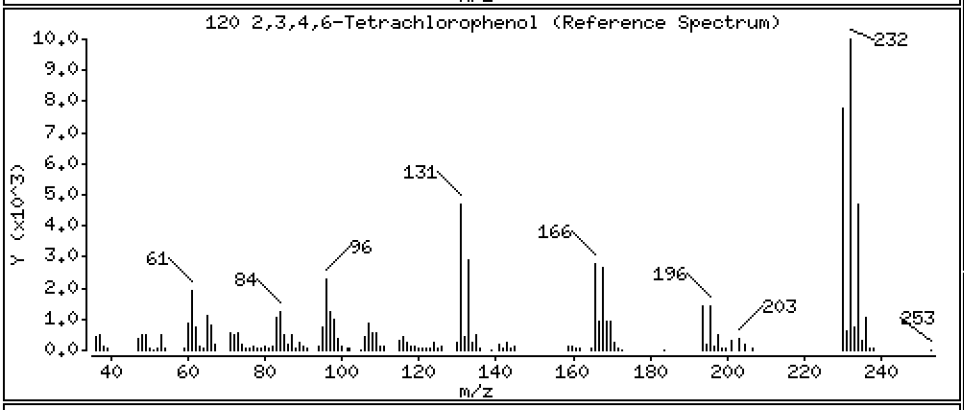
Column diameter: 0.25

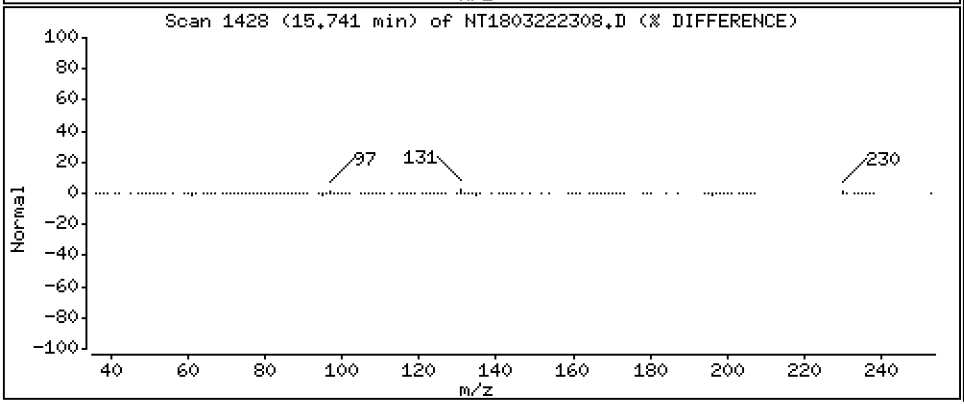
120 2,3,4,6-Tetrachlorophenol

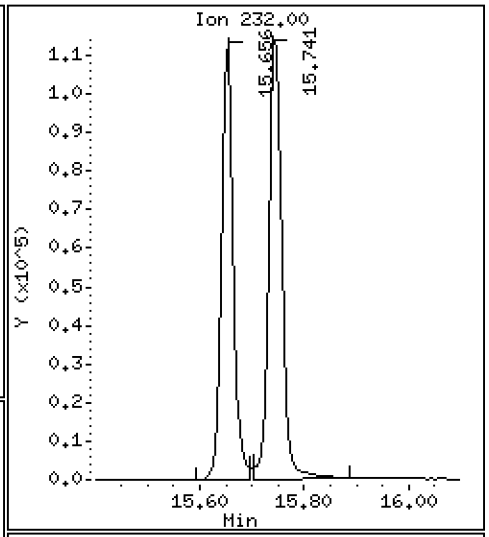
Concentration: 3.320 ug/mL

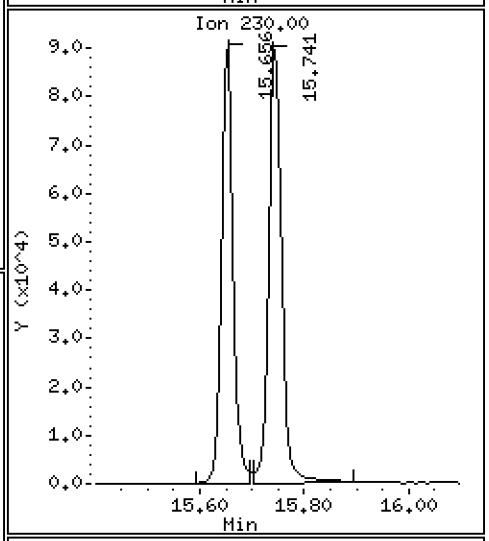


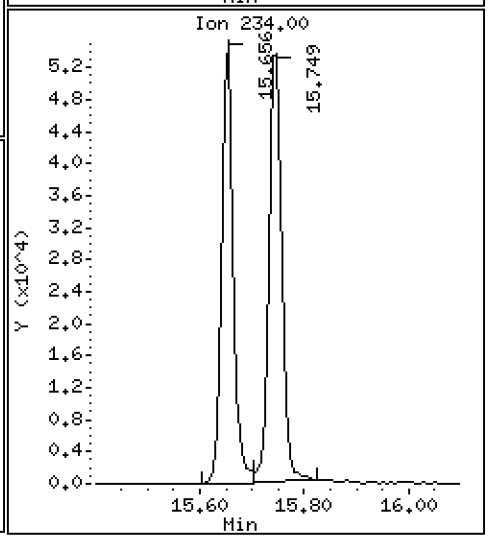












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230322.b\NT1803222308.D
Lab Smp Id: BLC0185-BSD1
Inj Date : 22-MAR-2023 22:01
Operator : VTS Inst ID: nt18.i
Smp Info : BLC0185-BSD1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230322.b\ABN.m
Meth Date : 04-Apr-2023 14:27 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 15:18 Cal File: NT1803192302.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: DEENAY-201905

							CONCENTRATIONS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.788	6.773	(0.756)	548436	6.01102	6.011
$	2 Phenol-d5	99	8.341	8.341	(0.929)	713869	6.33346	6.333
	3 Phenol	94	8.364	8.364	(0.932)	460125	3.81769	3.818
$	5 2-Chlorophenol-d4	132	8.619	8.619	(0.960)	626246	6.40973	6.410
	4 Bis(2-Chloroethyl)ether	93	8.534	8.534	(0.951)	380525	4.56201	4.562
	6 2-Chlorophenol	128	8.642	8.642	(0.963)	397689	3.85906	3.859
	7 1,3-Dichlorobenzene	146	8.913	8.913	(0.993)	432889	3.95641	3.956
*	8 1,4-Dichlorobenzene-d4	152	8.975	8.983	(1.000)	295955	4.00000	
	9 1,4-Dichlorobenzene	146	9.006	9.006	(1.003)	439453	4.01327	4.013
$	10 1,2-Dichlorobenzene-d4	152	9.332	9.332	(1.040)	278201	3.88063	3.881
	12 1,2-Dichlorobenzene	146	9.363	9.363	(1.043)	427569	3.96245	3.962
	11 Benzyl alcohol	108	9.247	9.247	(1.030)	240929	4.28403	4.284
	14 2,2'-oxybis(1-Chloropropane)	121	9.550	9.550	(1.064)	115838	4.55936	4.559
	13 2-Methylphenol	108	9.472	9.472	(1.055)	321707	3.51676	3.517
	17 Hexachloroethane	117	9.945	9.945	(1.108)	173972	4.05740	4.057
	16 N-Nitroso-di-n-propylamine	70	9.798	9.806	(1.092)	268088	4.11525	4.115
	15 4-Methylphenol	108	9.736	9.736	(1.085)	356623	3.75424	3.754
$	18 Nitrobenzene-d5	82	10.062	10.062	(0.880)	408431	4.50485	4.505
	19 Nitrobenzene	77	10.093	10.093	(0.882)	405719	4.55187	4.552
	20 Isophorone	82	10.543	10.543	(0.922)	733309	6.02476	6.025
	21 2-Nitrophenol	139	10.719	10.719	(0.937)	217959	4.11931	4.119
	22 2,4-Dimethylphenol	107	10.770	10.778	(0.941)	606631	6.76992	6.770
	23 Bis(2-Chloroethoxy)methane	93	10.973	10.973	(0.959)	437266	4.97033	4.970
	24 Benzoic acid	105	11.033	10.999	(0.964)	1498614	22.9186	22.92
	25 2,4-Dichlorophenol	162	11.169	11.169	(0.976)	988846	11.9899	11.99
	26 1,2,4-Trichlorobenzene	180	11.354	11.355	(0.993)	354114	4.09561	4.096
*	27 Naphthalene-d8	136	11.439	11.439	(1.000)	1099905	4.00000	
	28 Naphthalene	128	11.478	11.478	(1.003)	1213728	4.06646	4.066
	29 4-Chloroaniline	127	11.609	11.609	(1.015)	735652	6.40574	6.406
	30 Hexachlorobutadiene	225	11.841	11.849	(1.035)	205177	4.17325	4.173
	31 4-Chloro-3-methylphenol	107	12.561	12.561	(1.098)	991031	13.0474	13.05
	32 2-Methylnaphthalene	142	12.863	12.863	(1.124)	776085	3.99265	3.993(H)
	33 Hexachlorocyclopentadiene	237	13.327	13.335	(0.887)	511577	10.2828	10.28

			QUANT SIG					CONCENTRATIONS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
	34	2,4,6-Trichlorophenol	196	13.482	13.482	(0.897)	712710	13.8587	13.86
	35	2,4,5-Trichlorophenol	196	13.551	13.551	(0.902)	759418	13.5097	13.51
$	36	2-Fluorobiphenyl	172	13.644	13.644	(0.908)	882506	4.28668	4.287
	37	2-Chloronaphthalene	162	13.845	13.846	(0.922)	709290	4.31875	4.319
	38	2-Nitroaniline	65	14.109	14.109	(0.939)	555550	12.9082	12.91
	39	Dimethylphthalate	163	14.542	14.542	(0.968)	780608	4.55675	4.557
	40	Acenaphthylene	152	14.712	14.712	(0.979)	1149716	4.11092	4.111
	41	2,6-Dinitrotoluene	165	14.674	14.674	(0.977)	501132	12.7513	12.75
*	42	Acenaphthene-d10	164	15.022	15.022	(1.000)	574903	4.00000	
	43	3-Nitroaniline	138	14.952	14.952	(0.995)	466361	10.6542	10.65
	44	Acenaphthene	153	15.091	15.091	(1.005)	746734	4.21827	4.218
	45	2,4-Dinitrophenol	184	15.161	15.161	(1.009)	573199	24.0764	24.08
	46	Dibenzofuran	168	15.416	15.416	(1.026)	1024162	4.21122	4.211
	47	4-Nitrophenol	109	15.269	15.261	(1.016)	290834	12.4494	12.45
	48	2,4-Dinitrotoluene	165	15.478	15.470	(1.030)	653755	12.6259	12.63
	50	Diethylphthalate	149	15.996	15.988	(1.065)	796724	4.59018	4.590
	49	Fluorene	166	16.119	16.120	(1.073)	966786	4.37931	4.379
	51	4-Chlorophenyl-phenylether	204	16.112	16.112	(1.073)	450567	4.59861	4.599
	52	4-Nitroaniline	138	16.212	16.212	(1.079)	458704	10.2350	10.23
	53	4,6-Dinitro-2-methylphenol	198	16.305	16.305	(0.904)	764466	26.6676	26.67
	54	N-Nitrosodiphenylamine	169	16.359	16.359	(0.907)	525075	4.24156	4.242
$	55	2,4,6-Tribromophenol	330	16.644	16.644	(1.108)	172630	6.65701	6.657
	56	4-Bromophenyl-phenylether	248	17.106	17.107	(0.949)	230671	4.69746	4.697
	57	Hexachlorobenzene	284	17.415	17.415	(0.966)	241598	4.38625	4.386
	58	Pentachlorophenol	266	17.772	17.772	(0.986)	460867	13.3484	13.35
*	59	Phenanthrene-d10	188	18.027	18.035	(1.000)	971818	4.00000	
	60	Phenanthrene	178	18.081	18.081	(1.003)	1124091	4.23736	4.237
	61	Anthracene	178	18.166	18.166	(1.008)	941925	3.72409	3.724
	62	Carbazole	167	18.491	18.499	(1.026)	955596	4.29050	4.290
	63	Di-n-butylphthalate	149	19.311	19.311	(1.071)	1319736	4.47894	4.479
	64	Fluoranthene	202	20.449	20.456	(0.887)	1207225	4.34762	4.348
	65	Pyrene	202	20.874	20.874	(0.906)	1226105	4.18945	4.189
$	66	Terphenyl-d14	244	21.168	21.168	(0.918)	969466	4.45400	4.454
	67	Butylbenzylphthalate	149	22.090	22.090	(0.958)	570144	4.54724	4.547
	68	Benzo(a)anthracene	228	23.019	23.027	(0.999)	1187640	4.35547	4.355
*	69	Chrysene-d12	240	23.050	23.050	(1.000)	871374	4.00000	
	70	3,3'-Dichlorobenzidine	252	22.980	22.988	(0.997)	788318	8.03239	8.032
	71	Chrysene	228	23.096	23.096	(1.002)	1218738	4.32376	4.324
	72	bis(2-Ethylhexyl)phthalate	149	23.112	23.119	(0.960)	864062	4.27182	4.272
*	134	Di-n-octylphthalate-d4	153	24.087	24.087	(1.000)	1398974	4.00000	
	73	Di-n-octylphthalate	149	24.095	24.095	(1.000)	1571311	4.56516	4.565
	74	Benzo(b)fluoranthene	252	24.838	24.846	(0.972)	1271183	5.13608	5.136
	75	Benzo(k)fluoranthene	252	24.884	24.885	(0.973)	1303800	4.78943	4.789
	76	Benzo(a)pyrene	252	25.450	25.458	(0.995)	1043507	4.21577	4.216
*	77	Perylene-d12	264	25.566	25.566	(1.000)	889056	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	28.055	28.055	(1.097)	1348804	4.29512	4.295
	79	Dibenzo(a,h)anthracene	278	28.063	28.071	(1.098)	1160608	4.44434	4.444
	80	Benzo(g,h,i)perylene	276	28.785	28.793	(1.126)	1094311	4.37852	4.379(M)
	90	N-Nitrosodimethylamine	74	4.711	4.695	(0.525)	495693	8.78801	8.788
	91	Aniline	93	8.442	8.442	(0.941)	776498	5.99135	5.991
	93	Benzidine	184	Compound Not Detected.					
	103	Pyridine	79	4.734	4.718	(0.527)	304953	3.27382	3.274
	105	1-methylnaphthalene	142	13.087	13.087	(1.144)	752552	4.21747	4.217
	111	Azobenzene (1,2-DP-Hydrazine)	77	16.436	16.436	(1.094)	811744	4.26759	4.268

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187 Total Benzofluoranthenes	252	24.884	24.885	(0.973)	2453818	9.89296	9.893
120 2,3,4,6-Tetrachlorophenol	232	15.741	15.748	(1.048)	208891	3.32028	3.320

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222308.D
Lab Smp Id: BLC0185-BSD1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322.b\ABN.m
Misc Info:

Calibration Date: 22-MAR-2023
Calibration Time: 17:55
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	259918	129959	519836	295955	13.86
27 Naphthalene-d8	969410	484705	1938820	1099905	13.46
42 Acenaphthene-d10	510287	255144	1020574	574903	12.66
59 Phenanthrene-d10	882628	441314	1765256	971818	10.11
69 Chrysene-d12	800073	400037	1600146	871374	8.91
134 Di-n-octylphthala	1258607	629304	2517214	1398974	11.15
77 Perylene-d12	911909	455955	1823818	889056	-2.51

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	-0.09
27 Naphthalene-d8	11.44	10.94	11.94	11.44	-0.00
42 Acenaphthene-d10	15.02	14.52	15.52	15.02	-0.00
59 Phenanthrene-d10	18.04	17.54	18.54	18.03	-0.04
69 Chrysene-d12	23.05	22.55	23.55	23.05	-0.00
134 Di-n-octylphthala	24.09	23.59	24.59	24.09	-0.00
77 Perylene-d12	25.57	25.07	26.07	25.57	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222308.D

Lab ID: BLC0185-BSD1
nt18.i, ABN.m, 22-MAR-2023 22:01

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

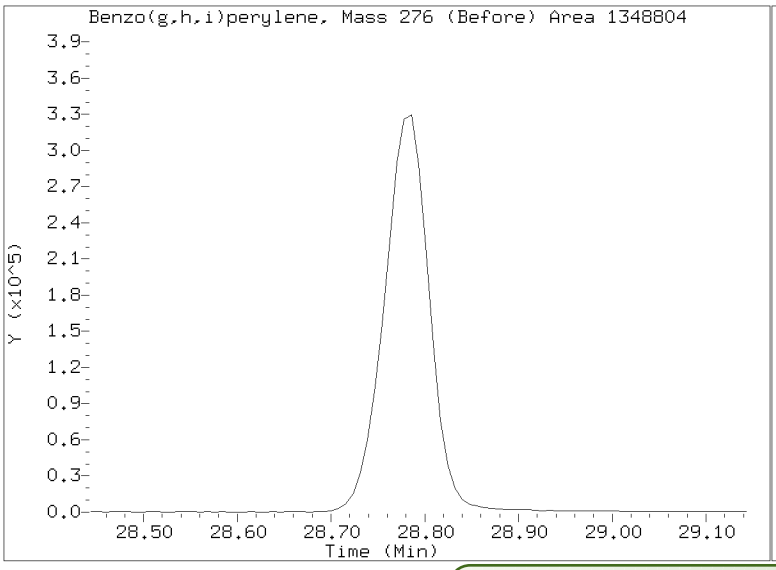
RRT check based on Ccal File: NT1803222302.D

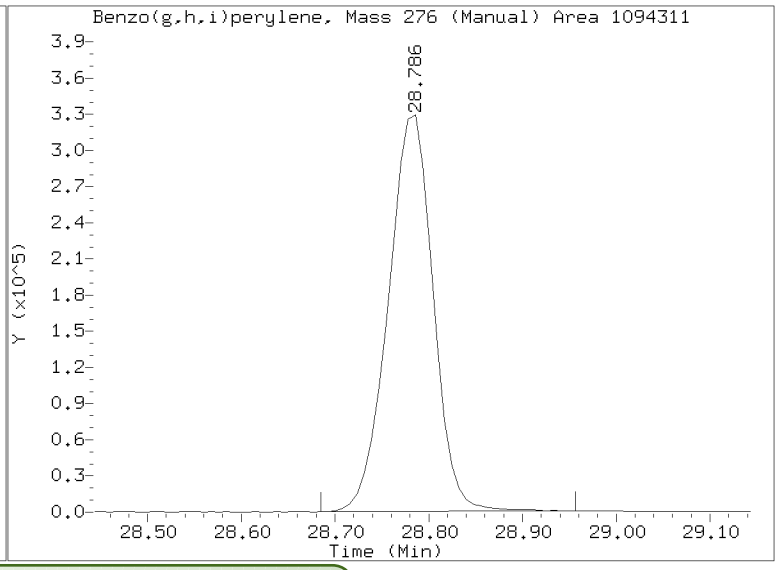
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230322.b/NT1803222308.D
Injection Date: 22-MAR-2023 22:01
Lab ID:BLC0185-BSD1 Client ID:
Report Date: 04/04/2023 14:28





APPROVED

By Deenay Dunmore at 2:45 pm, Apr 04, 2023

Analytical Resources, LLC
Analytical Chemists and Consultants

LDW23-SS1111

MS / MS DUPLICATE RECOVERY
EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	03/23/23 02:45
Batch:	BLC0185	Laboratory ID:	BLC0185-MS1
Preparation:	EPA 3546 (Microwave)	Sequence Name:	Matrix Spike
Initial/Final:	21.59 g / 1 mL	Source Sample:	LDW23-SS1111

COMPOUND	SPIKE ADDED (ug/kg dry)	SAMPLE CONCENTRATION (ug/kg dry)	Q	MS CONCENTRATION (ug/kg dry)	Q	MS % REC. #	QC LIMITS REC.
Phenol	499	991		1380		78.3	34 - 120
4-Methylphenol	499	8.2	J	377		73.9	29 - 120
Naphthalene	499	7.8	J	396		77.7	43 - 120
2-Methylnaphthalene	499	8.9	J	390		76.4	43 - 120
Acenaphthylene	499	ND	U	411		82.3	42 - 120
Dimethylphthalate	499	5.7	J	460		91.1	43 - 120
Acenaphthene	499	6.2	J	422		83.2	45 - 120
Dibenzofuran	499	ND	U	422		84.5	43 - 120
Fluorene	499	ND	U	454		90.9	45 - 120
Phenanthrene	499	40.4		494		90.8	49 - 120
Anthracene	499	18.4	J	393		75.0	45 - 120
Fluoranthene	499	94.7		543		89.8	53 - 145
Pyrene	499	93.1		523		86.2	52 - 134
Butylbenzylphthalate	499	ND	U	440		88.2	45 - 132
Benzo(a)anthracene	499	57.2		535		95.7	49 - 120
Chrysene	499	85.9		579		98.8	47 - 120
bis(2-Ethylhexyl)phthalate	499	107		541		86.9	34 - 130
Benzofluoranthenes, Total	999	170		1310		114	30 - 160
Benzo(a)pyrene	499	56.1		492		87.2	42 - 120
Indeno(1,2,3-cd)pyrene	499	14.7	J	156	*	28.3 *	42 - 163
Dibenzo(a,h)anthracene	499	ND	U	156		31.2	30 - 133
Benzo(g,h,i)perylene	499	ND	U	117	*	23.5 *	46 - 148

* Values outside of QC limits

MS / MS DUPLICATE RECOVERY
EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	03/23/23 03:25
Batch:	BLC0185	Laboratory ID:	BLC0185-MSD1
Preparation:	EPA 3546 (Microwave)	Sequence Name:	Matrix Spike Dup
Initial/Final:	21.59 g / 1 mL	Source Sample:	LDW23-SS1111

COMPOUND	SPIKE ADDED (ug/kg dry)	MSD CONCENTRATION (ug/kg dry)	Q	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	499	1340		70.7	2.77	30	34 - 120
4-Methylphenol	499	385		75.4	1.90	30	29 - 120
Naphthalene	499	404		79.4	2.20	30	43 - 120
2-Methylnaphthalene	499	401		78.5	2.64	30	43 - 120
Acenaphthylene	499	418		83.7	1.68	30	42 - 120
Dimethylphthalate	499	462		91.4	0.372	30	43 - 120
Acenaphthene	499	430		84.9	1.95	30	45 - 120
Dibenzofuran	499	433		86.8	2.67	30	43 - 120
Fluorene	499	456		91.2	0.331	30	45 - 120
Phenanthrene	499	492		90.5	0.314	30	49 - 120
Anthracene	499	407		77.9	3.57	30	45 - 120
Fluoranthene	499	519		84.9	4.58	30	53 - 145
Pyrene	499	516		84.6	1.48	30	52 - 134
Butylbenzylphthalate	499	449		89.8	1.82	30	45 - 132
Benzo(a)anthracene	499	534		95.4	0.235	30	49 - 120
Chrysene	499	559		94.7	3.60	30	47 - 120
bis(2-Ethylhexyl)phthalate	499	539		86.5	0.427	30	34 - 130
Benzofluoranthenes, Total	999	1420		125	7.92	30	30 - 160
Benzo(a)pyrene	499	527		94.3	6.89	30	42 - 120
Indeno(1,2,3-cd)pyrene	499	148	*	26.6 *	5.68	30	42 - 163
Dibenzo(a,h)anthracene	499	146	*	29.2 *	6.74	30	30 - 133
Benzo(g,h,i)perylene	499	108	*	21.7 *	7.81	30	46 - 148

* Values outside of QC limits

Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222315.D

Date : 23-MAR-2023 02:45

Client ID:

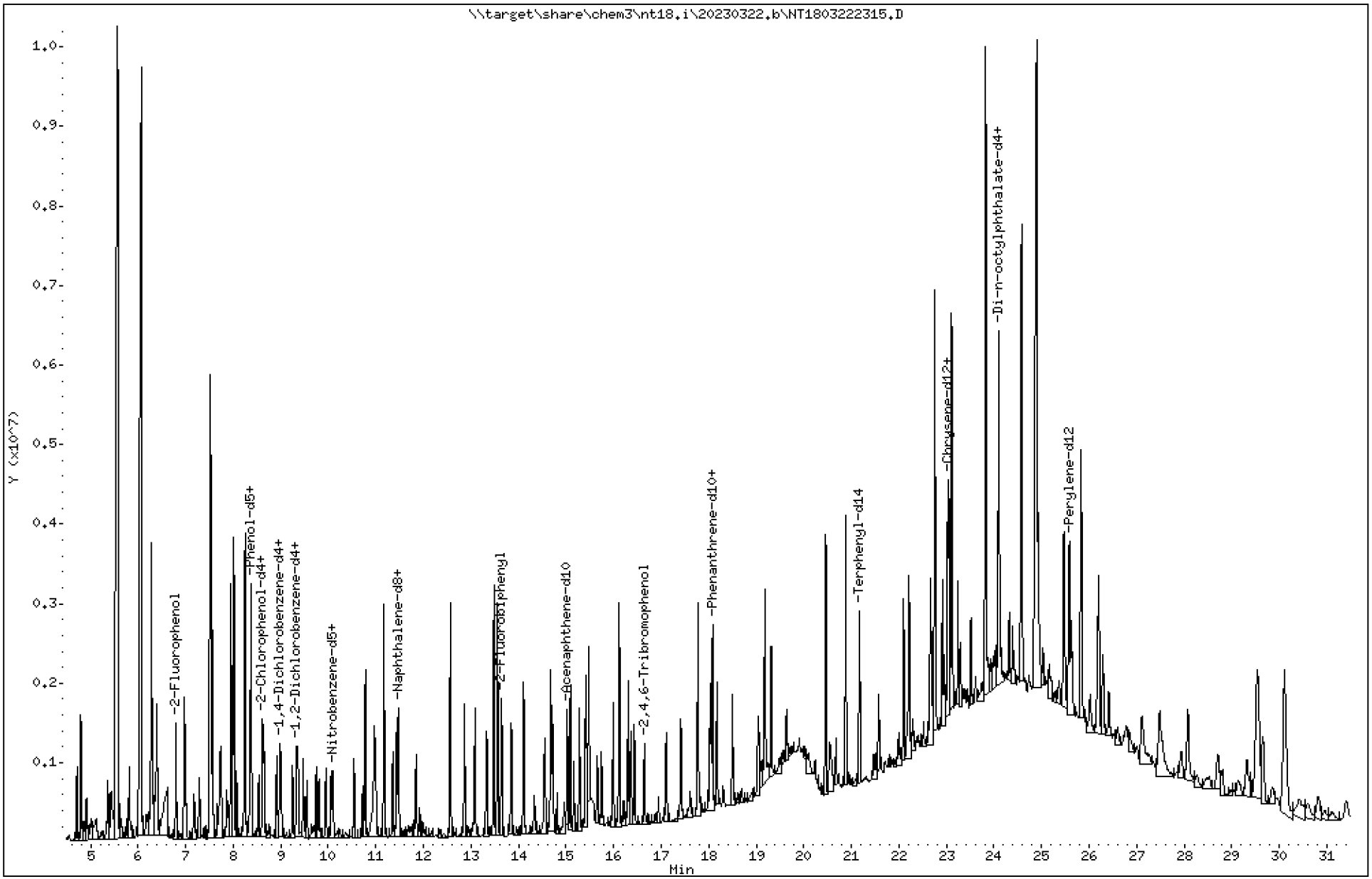
Sample Info: BLC0185-MS1

Column phase: ZB-5msi

Instrument: nt18.i

Operator: VTS

Column diameter: 0.25



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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

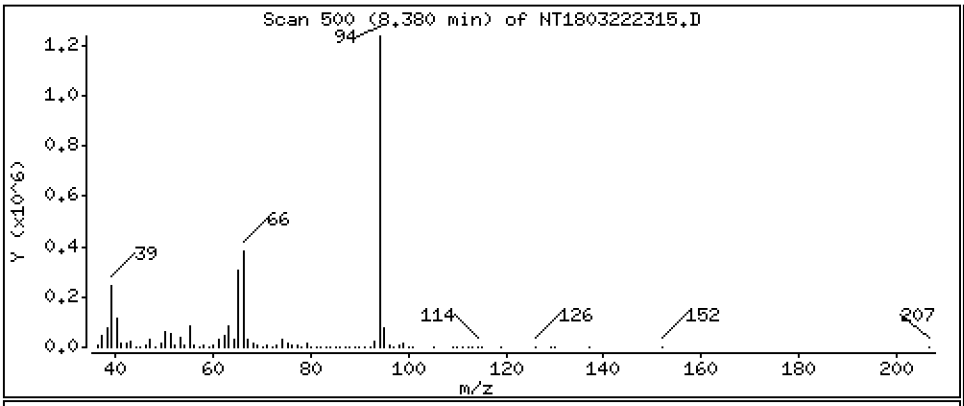
Operator: VTS

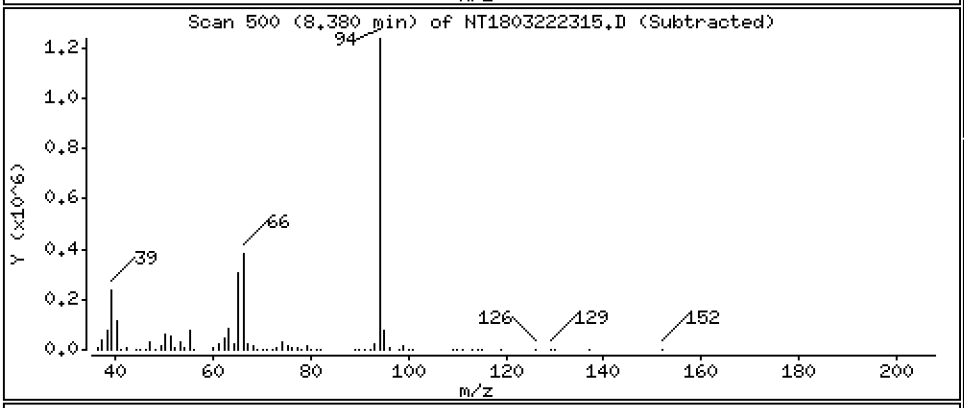
Column phase: ZB-5msi

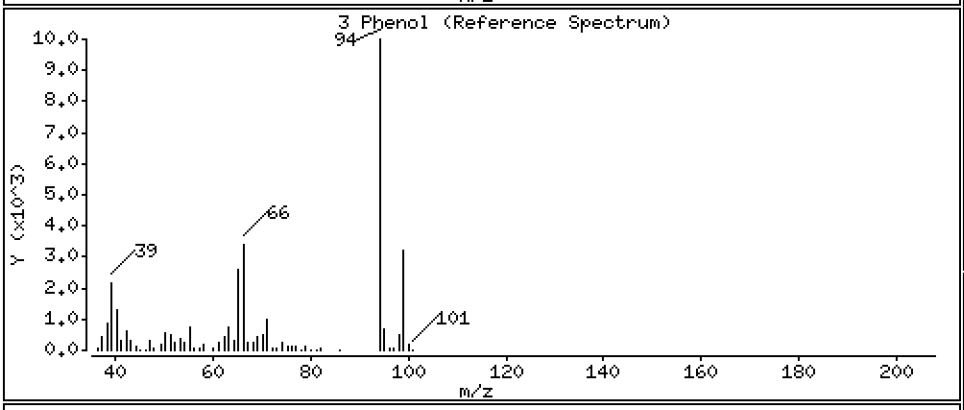
Column diameter: 0.25

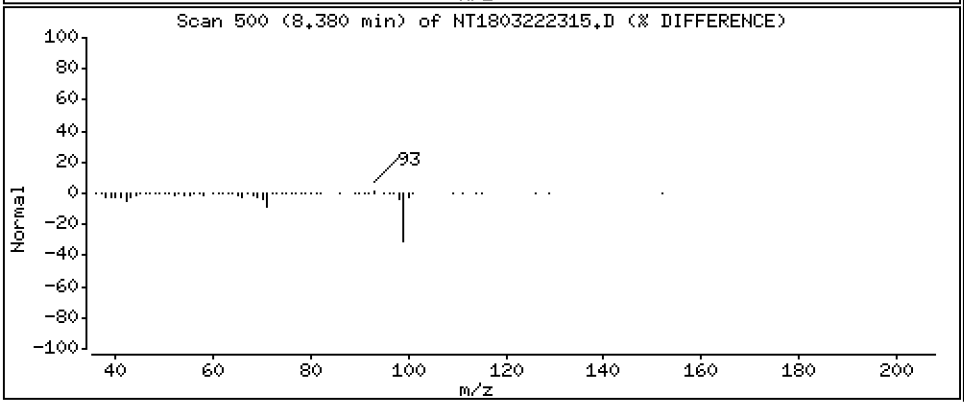
3 Phenol

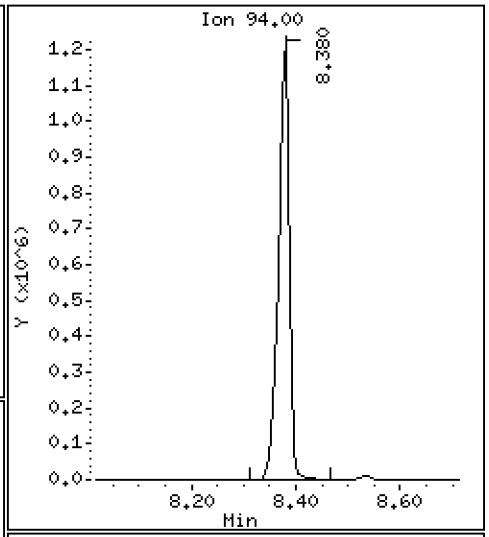
Concentration: 13.84 ug/mL

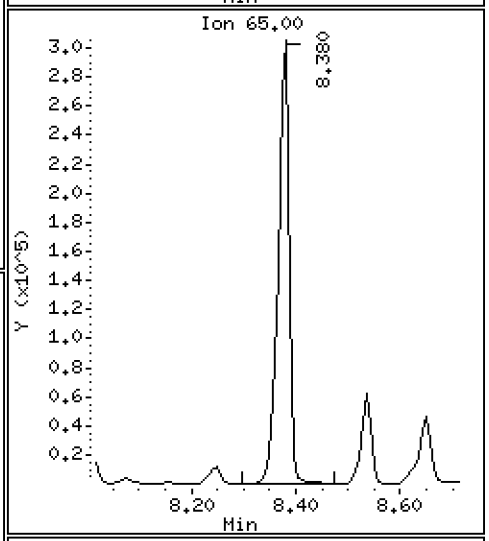


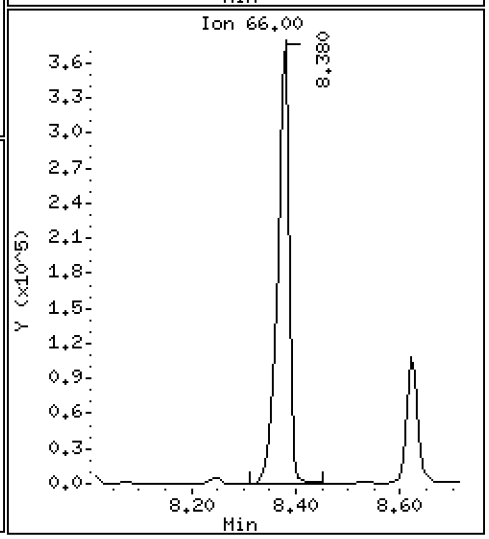












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

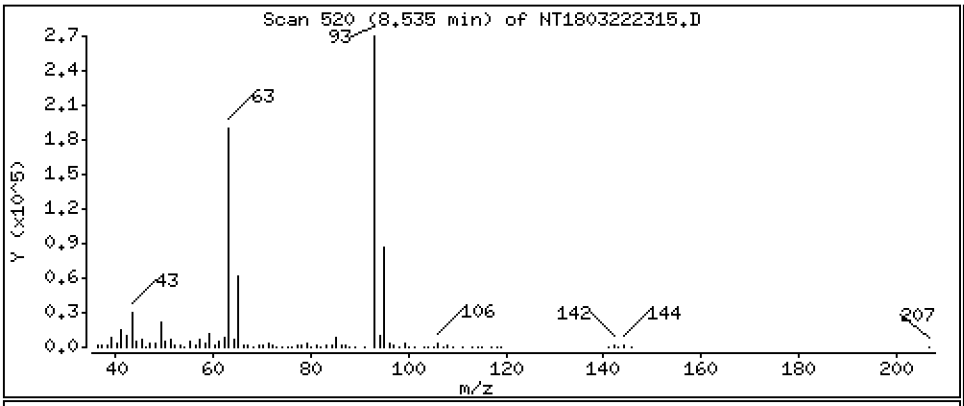
Operator: VTS

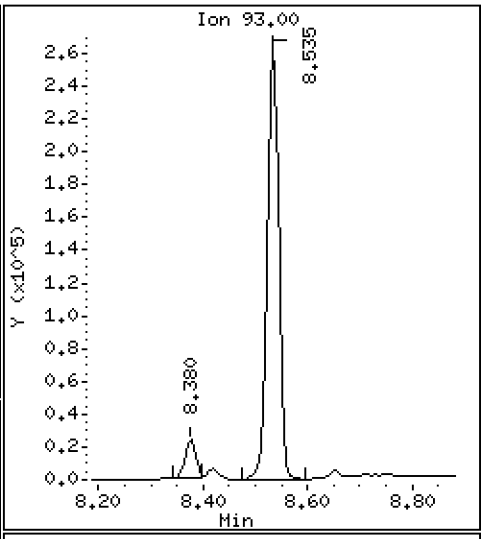
Column phase: ZB-5msi

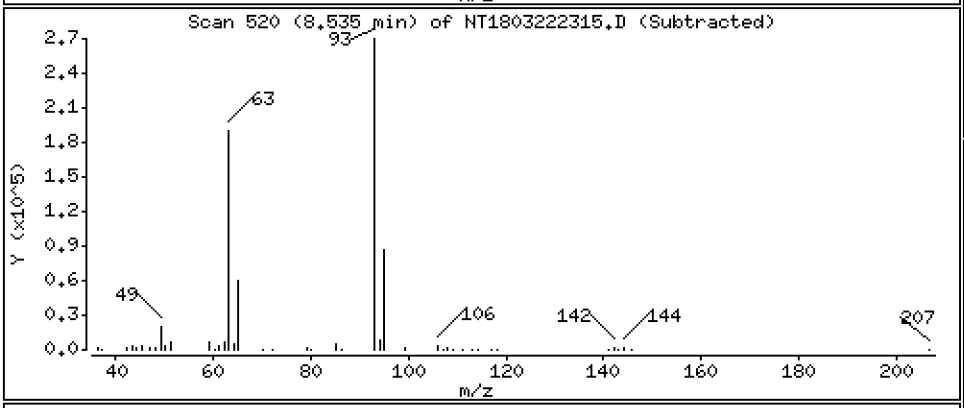
Column diameter: 0.25

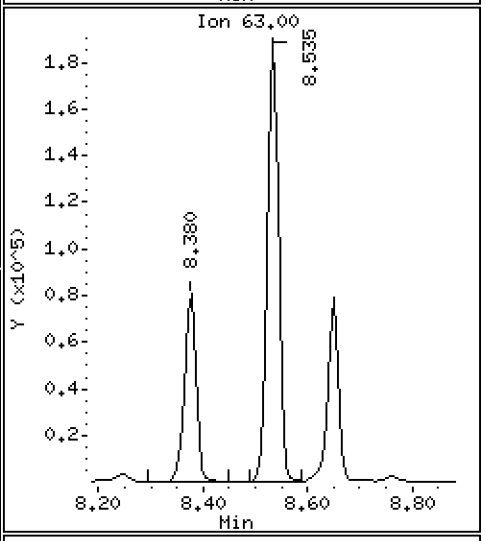
4 Bis(2-Chloroethyl)ether

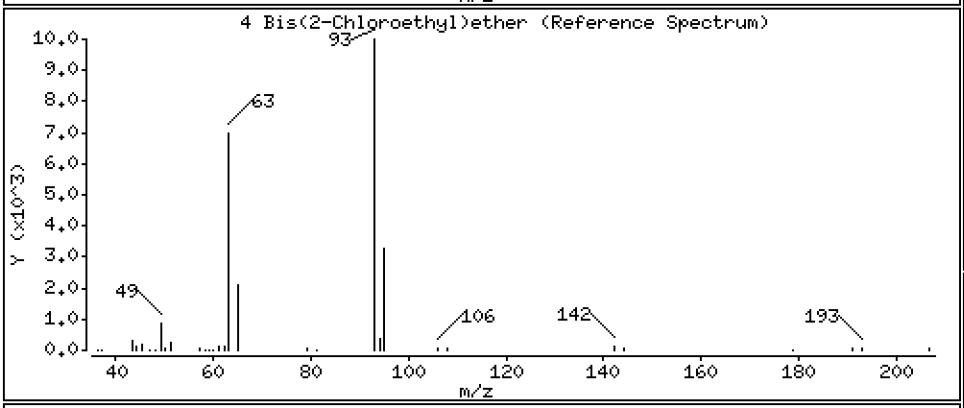
Concentration: 4.290 ug/mL

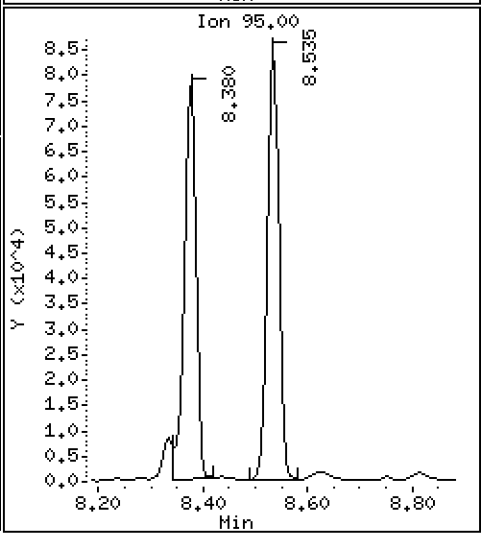


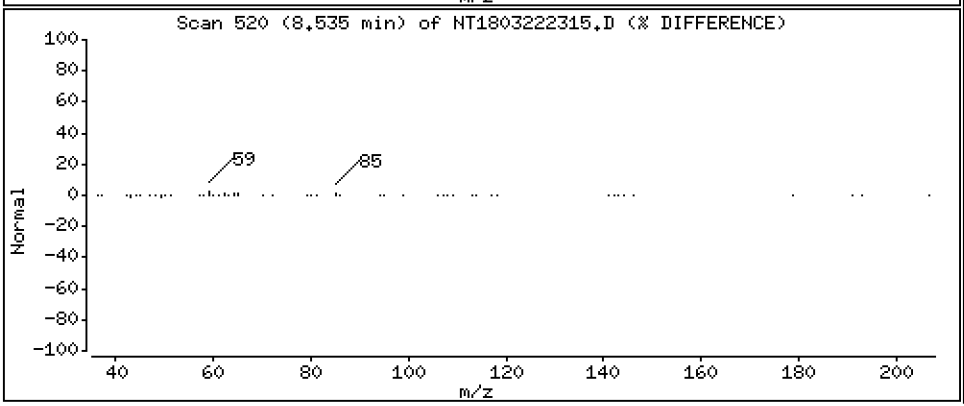












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

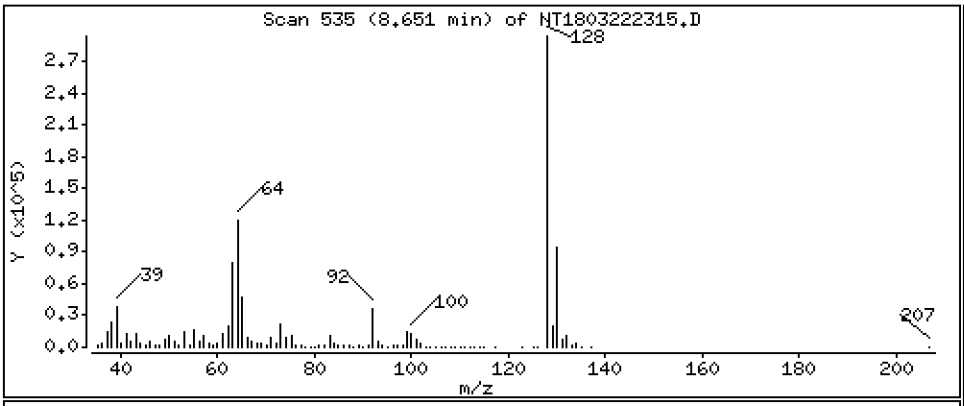
Operator: VTS

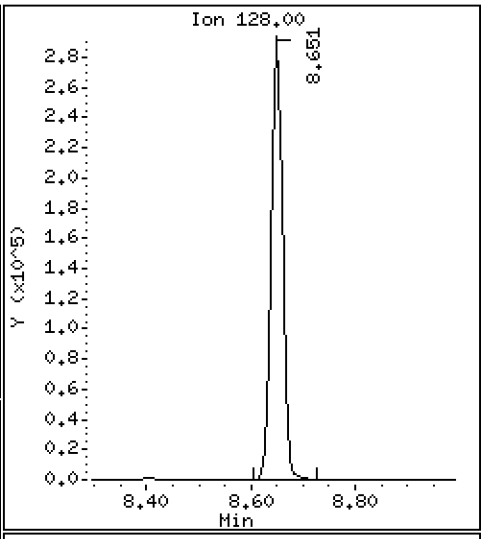
Column phase: ZB-5msi

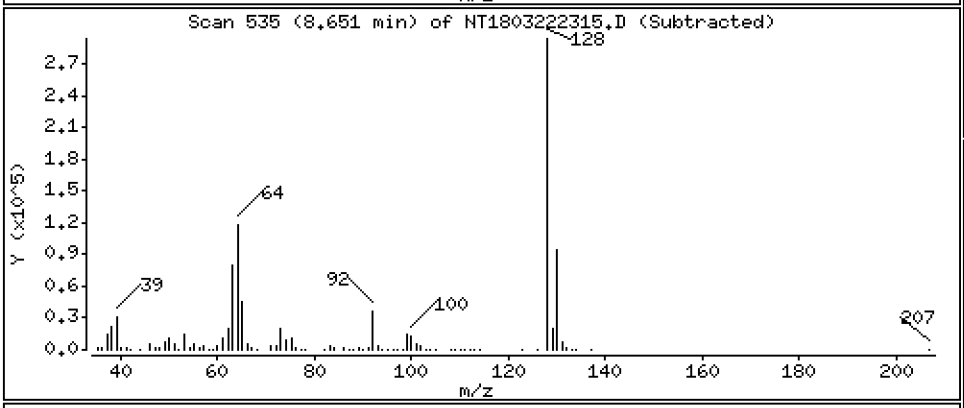
Column diameter: 0.25

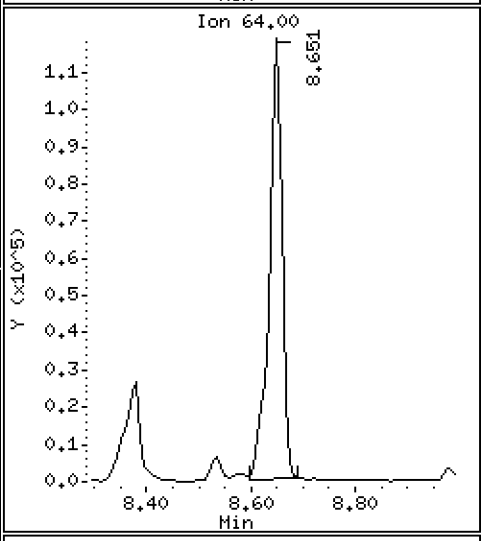
6 2-Chlorophenol

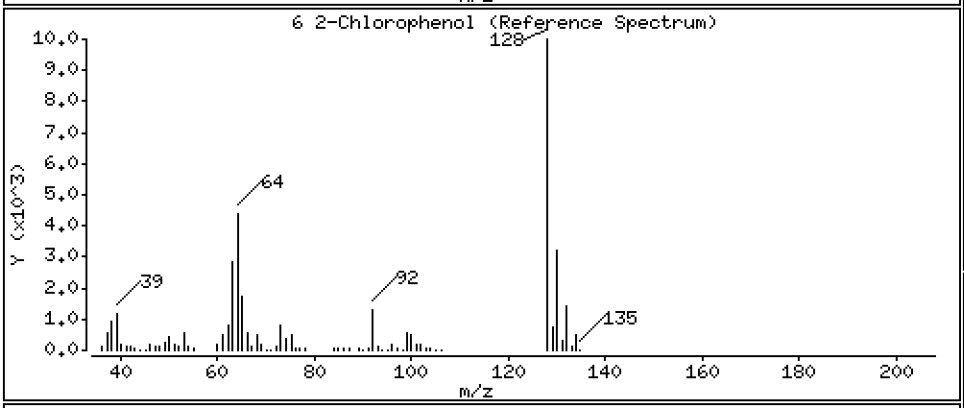
Concentration: 3.788 ug/mL

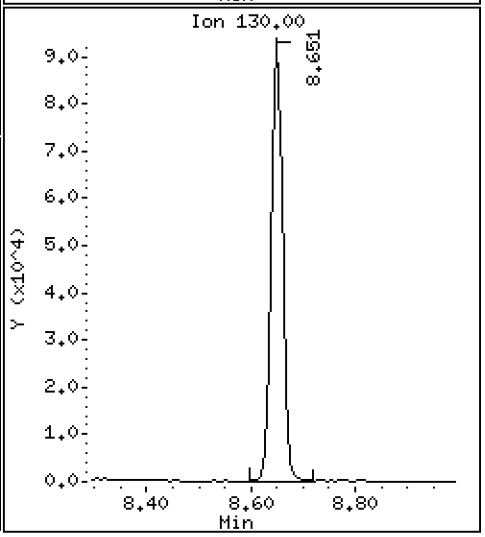


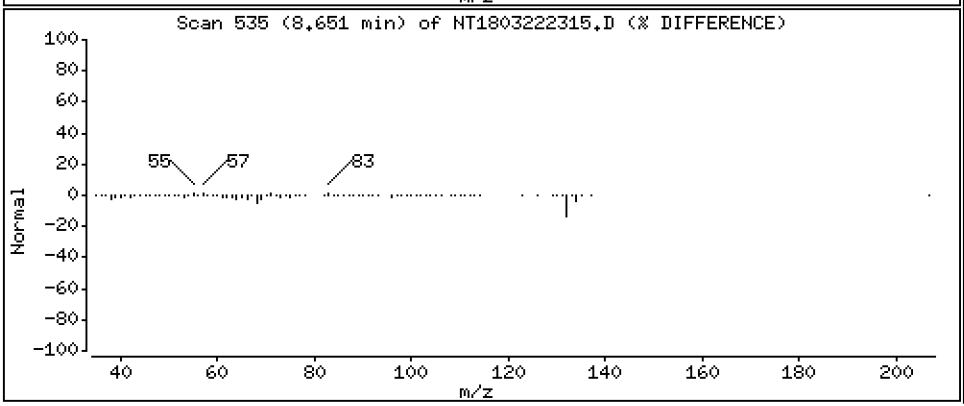












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

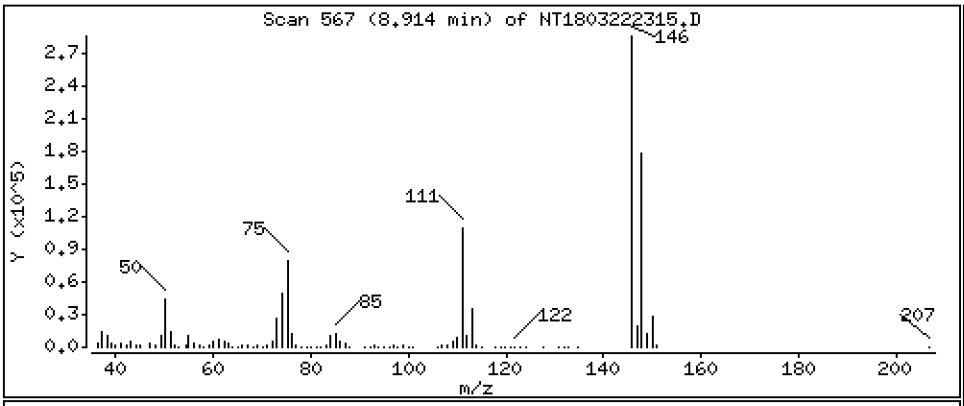
Operator: VTS

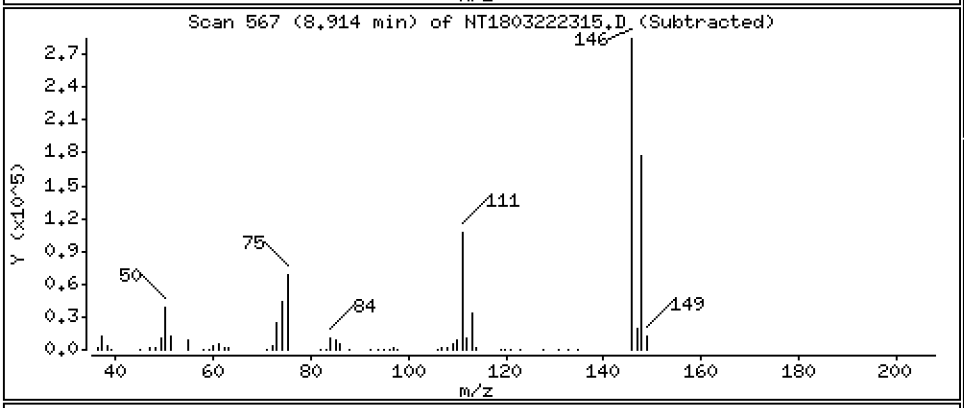
Column phase: ZB-5msi

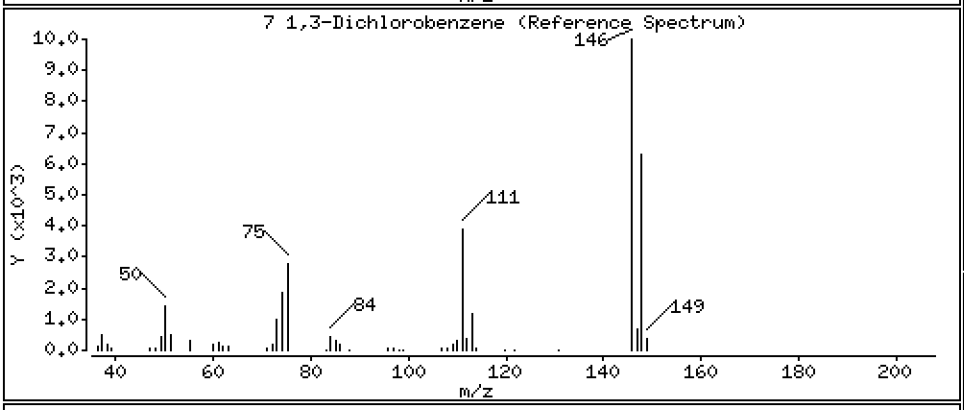
Column diameter: 0.25

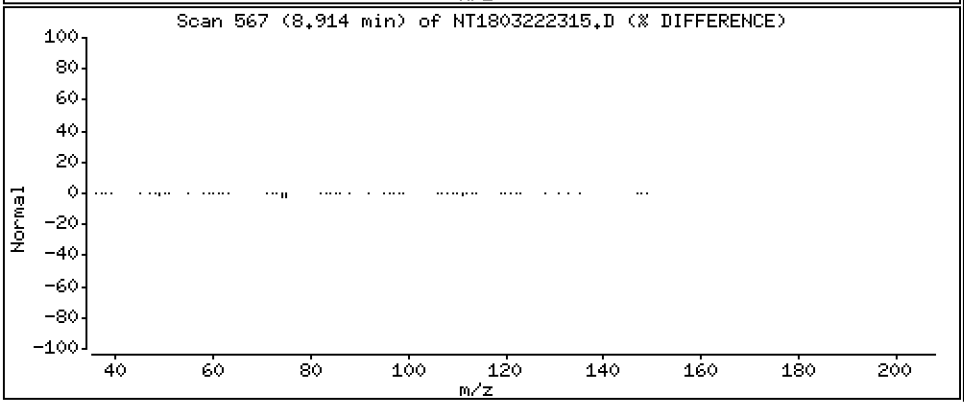
7 1,3-Dichlorobenzene

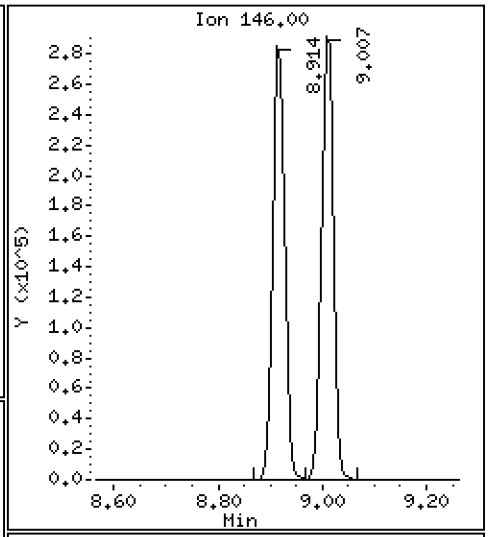
Concentration: 3.792 ug/mL

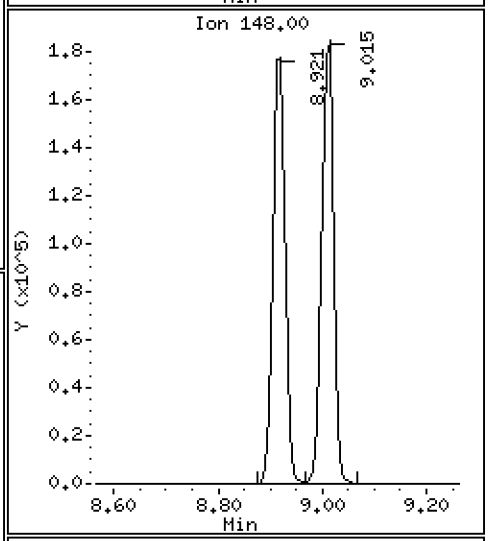


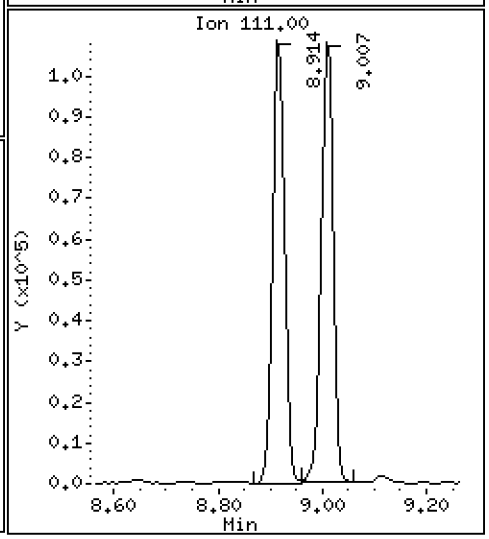












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

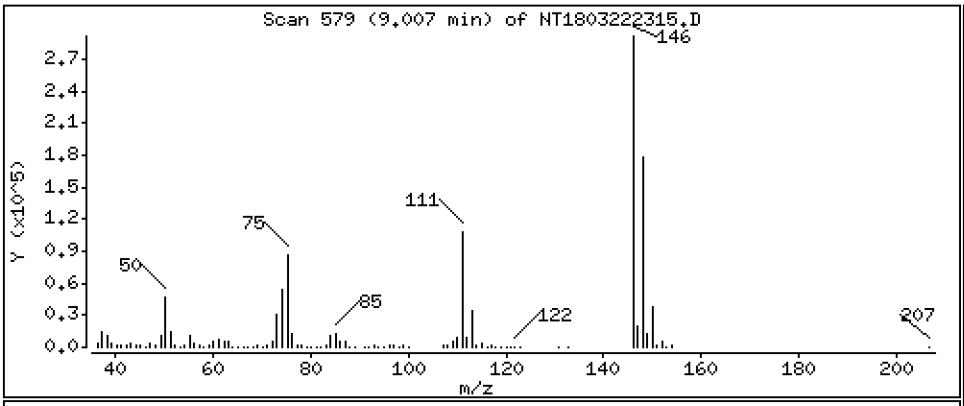
Operator: VTS

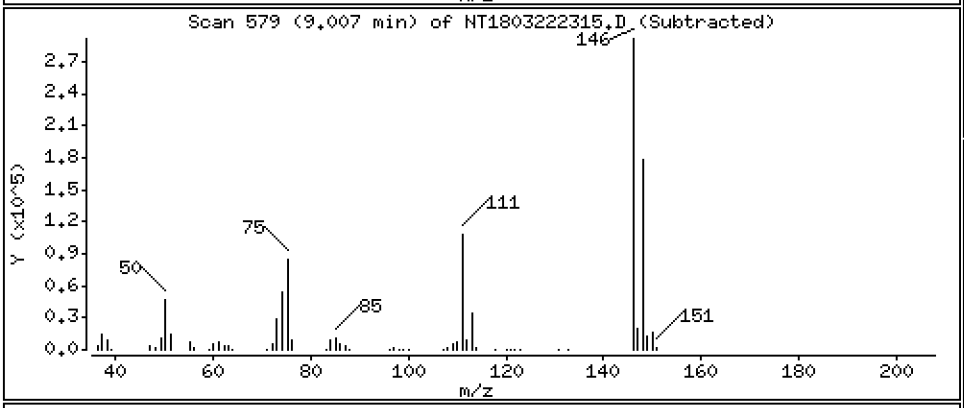
Column phase: ZB-5msi

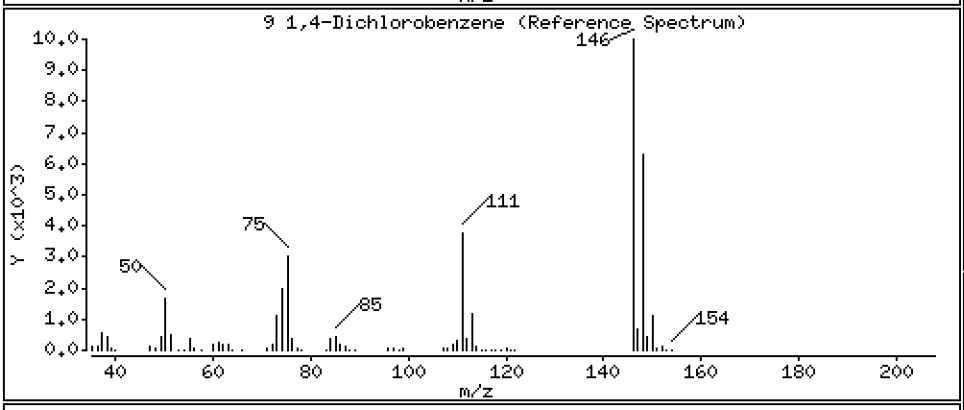
Column diameter: 0.25

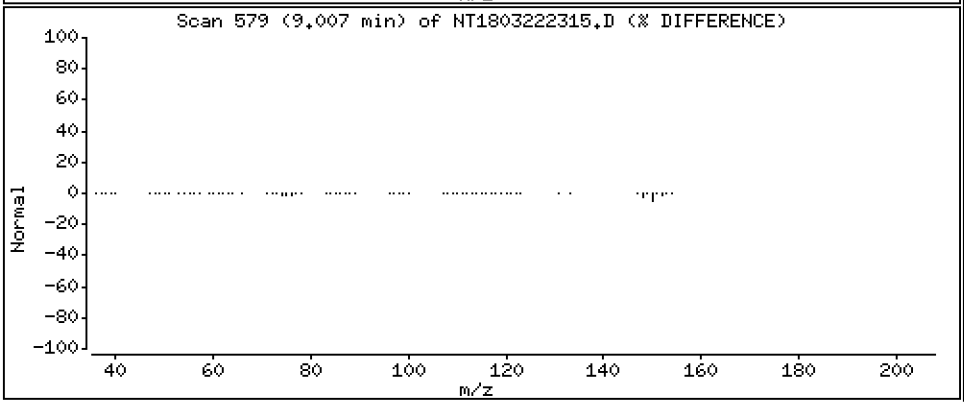
9 1,4-Dichlorobenzene

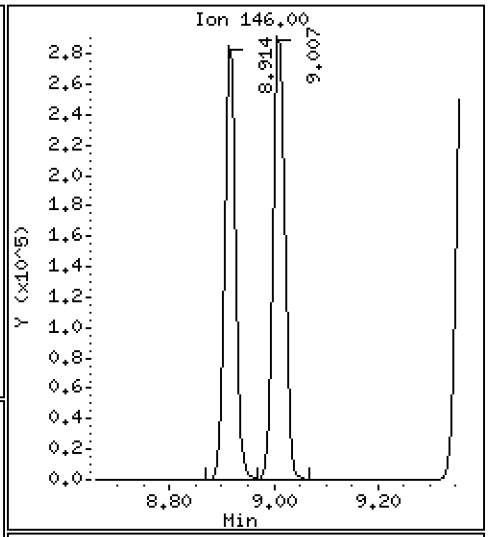
Concentration: 3.820 ug/mL

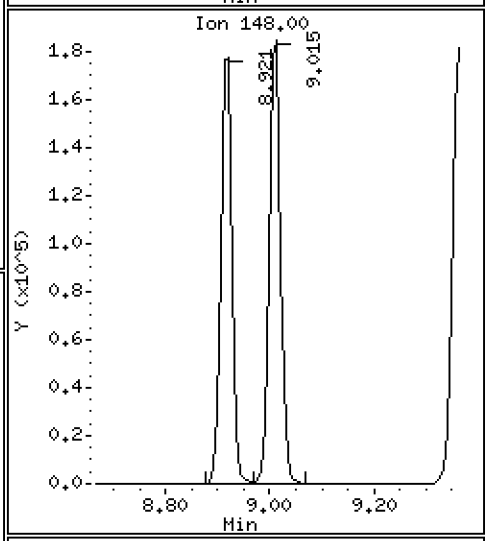


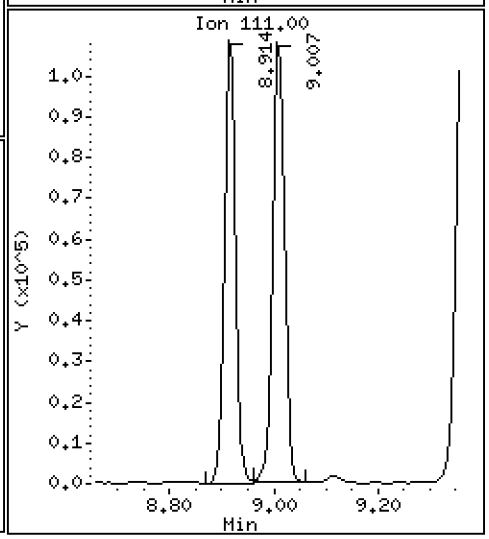












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

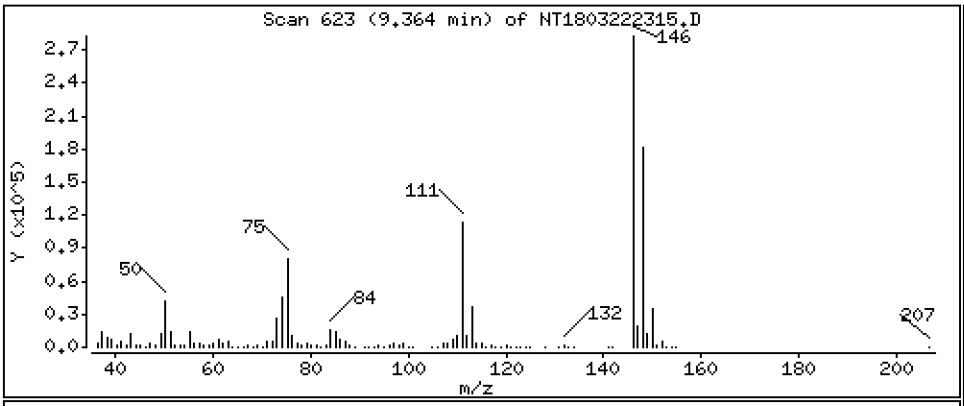
Operator: VTS

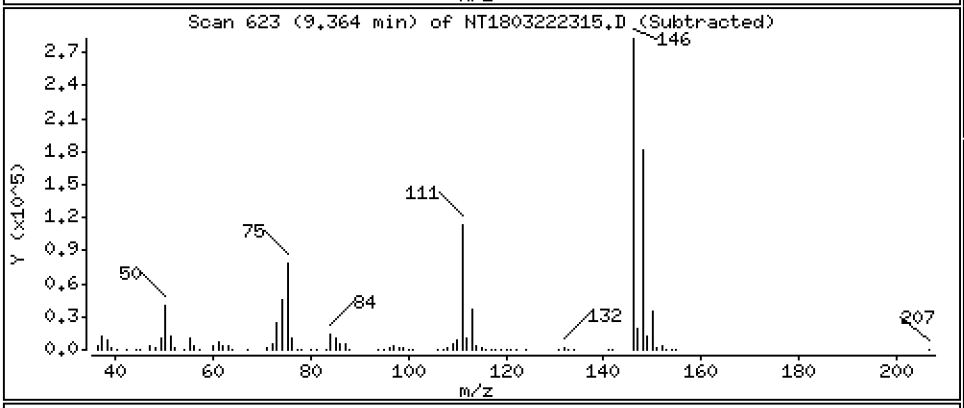
Column phase: ZB-5msi

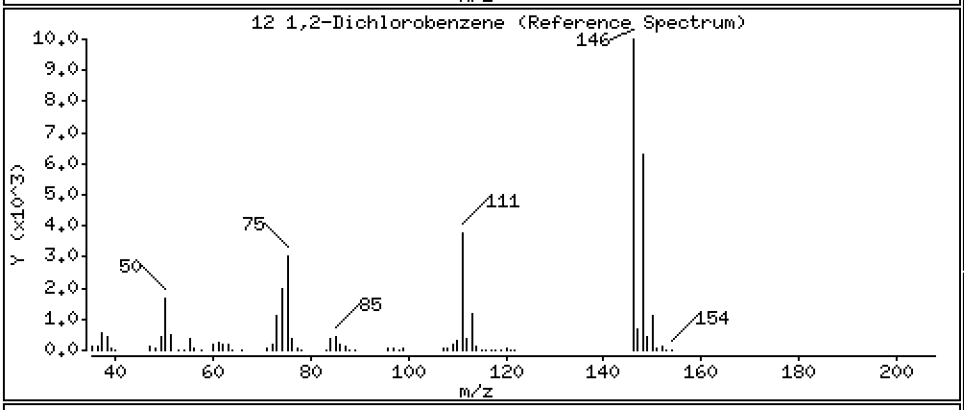
Column diameter: 0.25

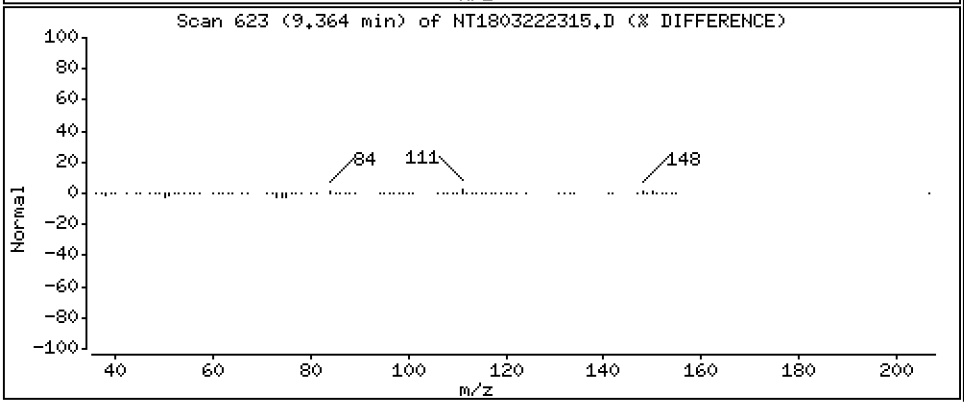
12 1,2-Dichlorobenzene

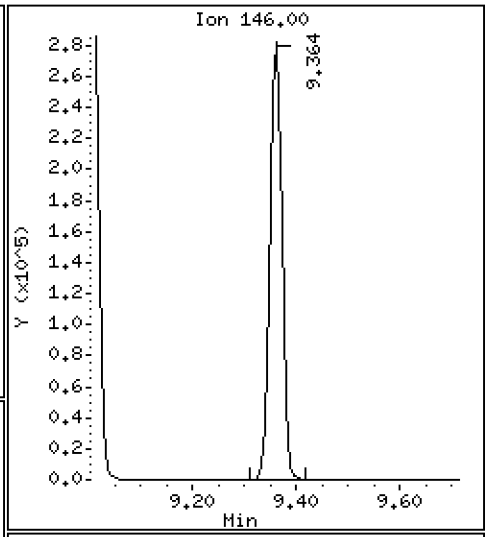
Concentration: 3.782 ug/mL

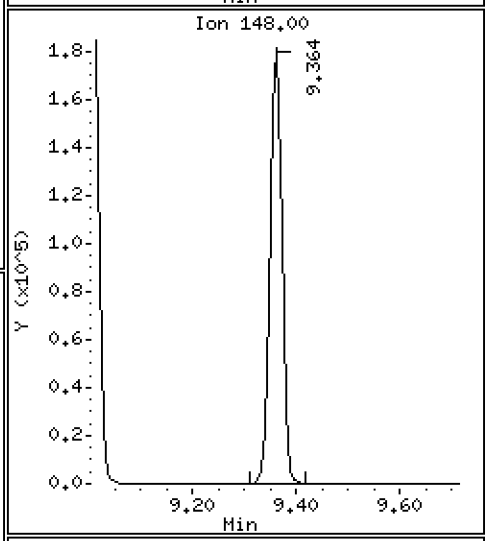


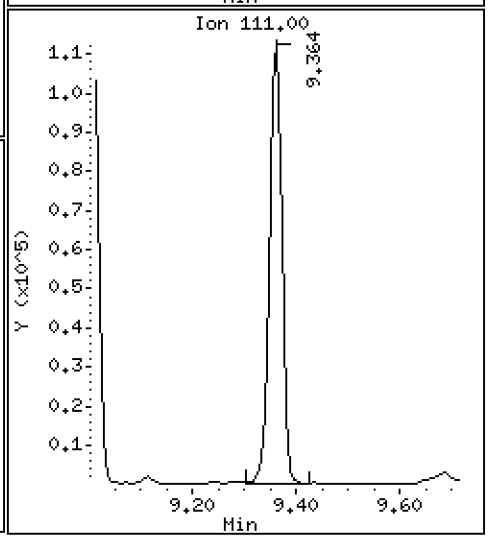












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

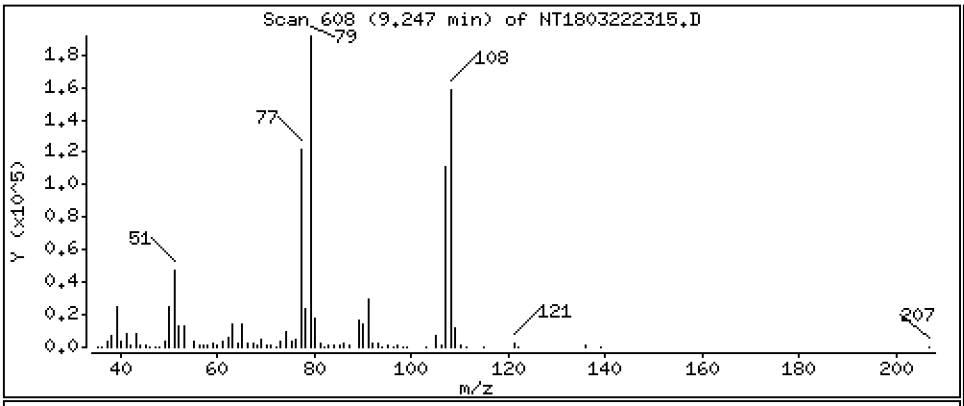
Operator: VTS

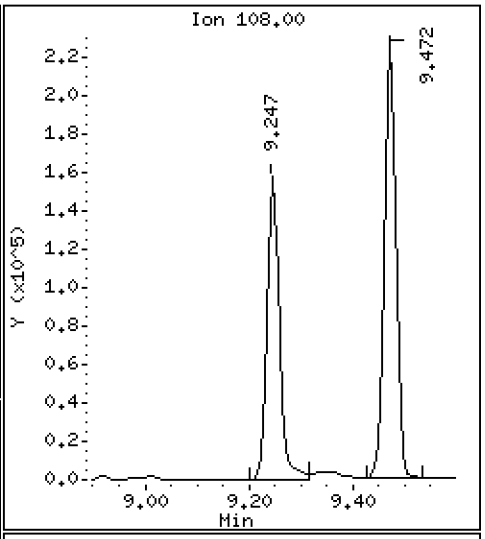
Column phase: ZB-5msi

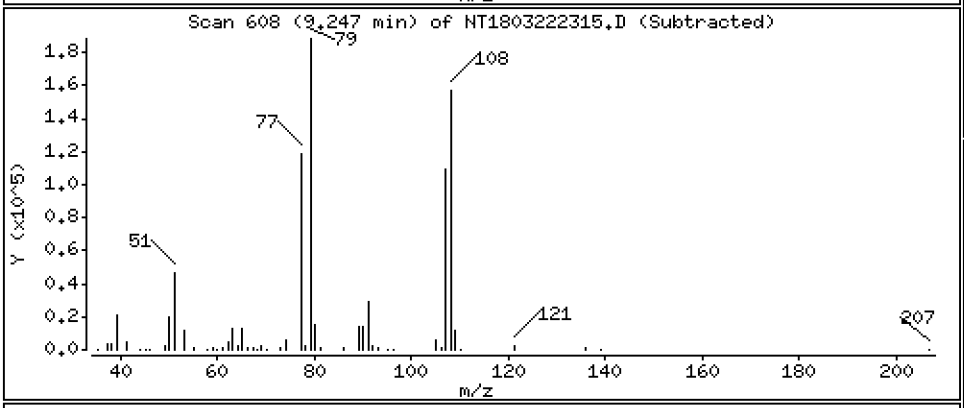
Column diameter: 0.25

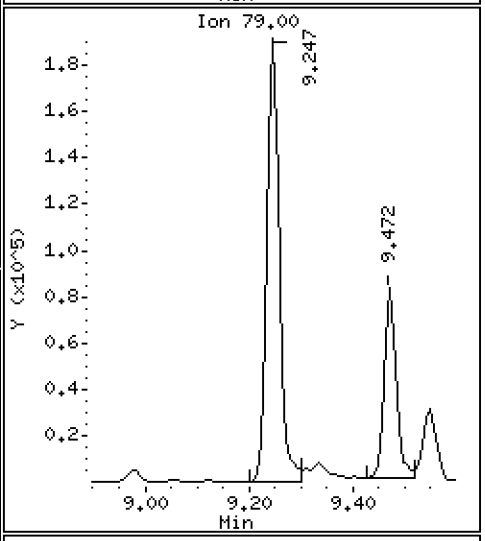
11 Benzyl alcohol

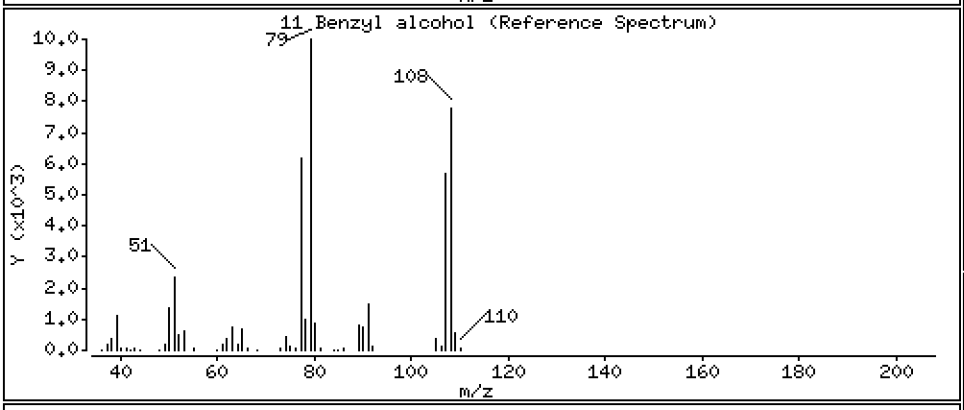
Concentration: 4.172 ug/mL

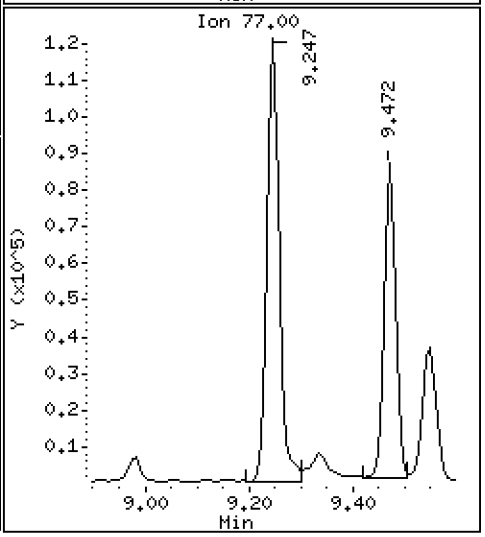


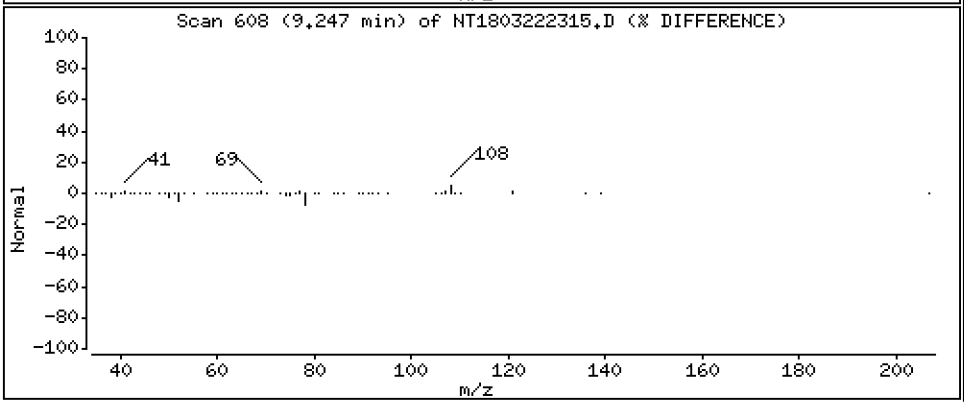












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222315.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

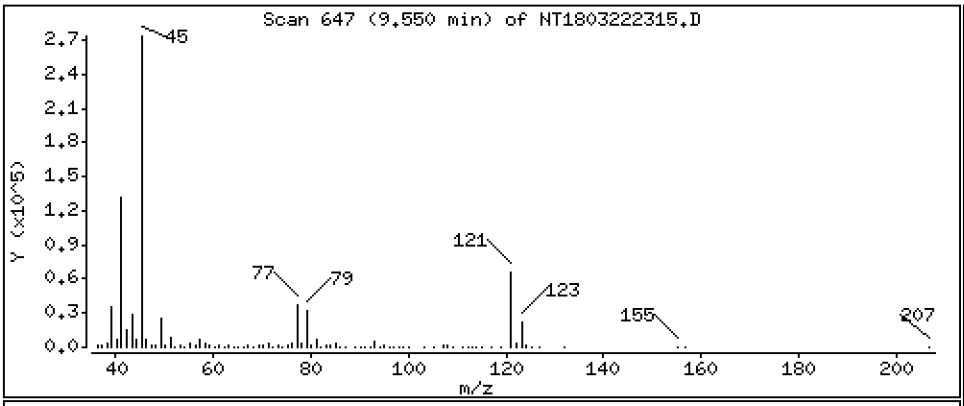
Operator: VTS

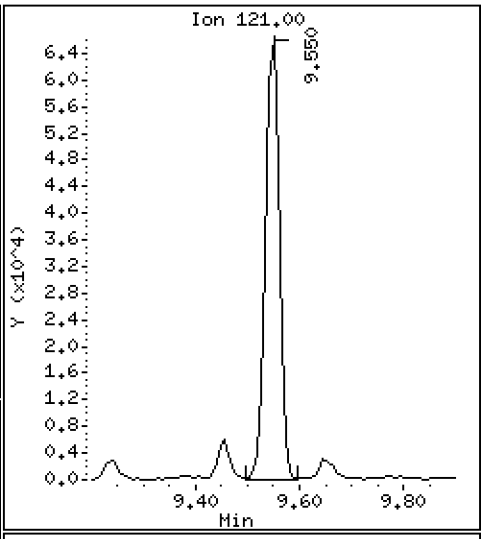
Column phase: ZB-5msi

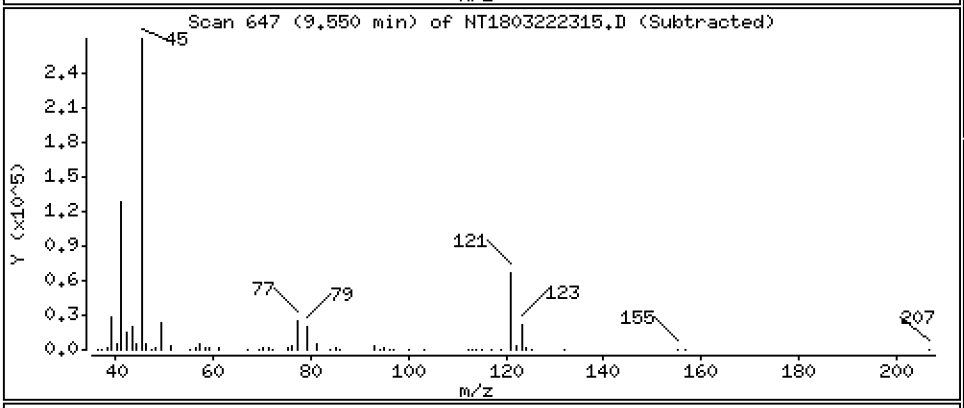
Column diameter: 0.25

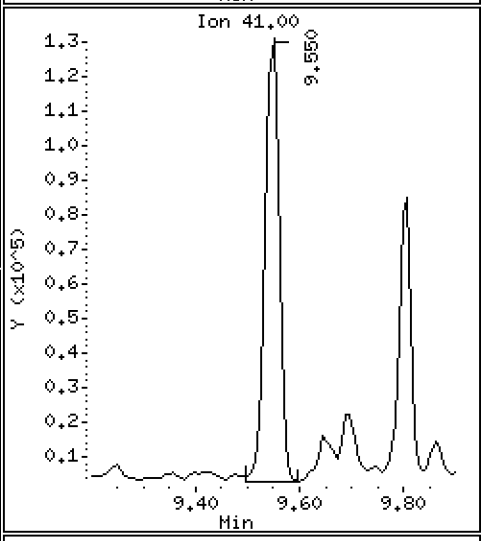
14 2,2'-oxybis(1-Chloropropane)

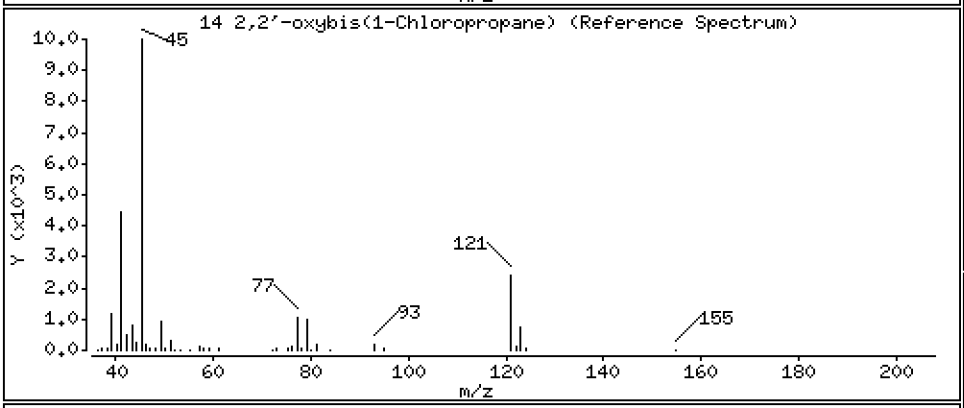
Concentration: 4.394 ug/mL

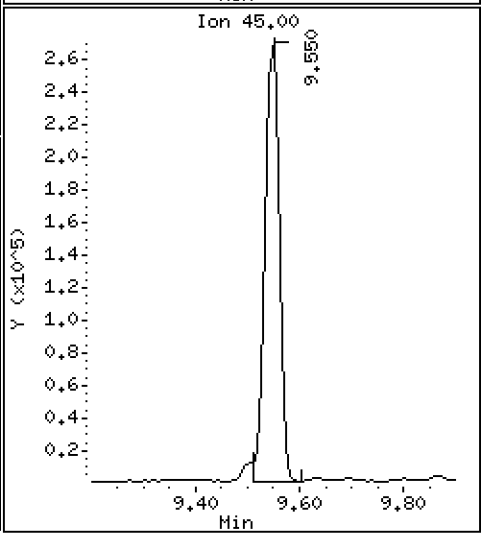


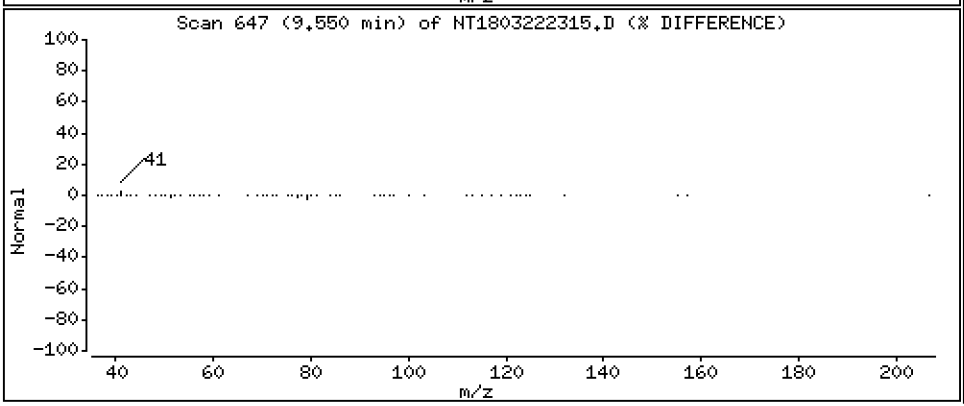












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

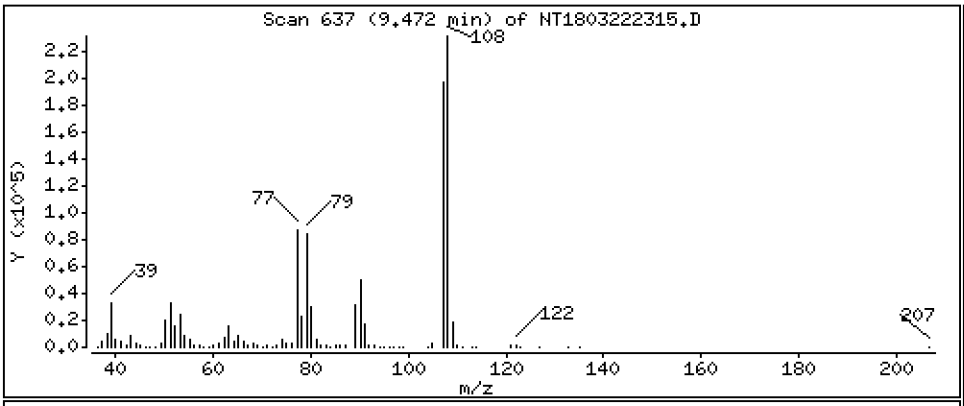
Operator: VTS

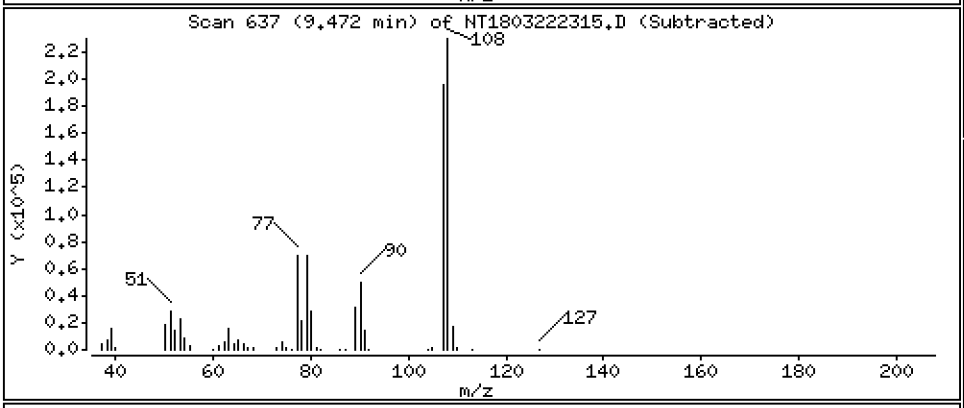
Column phase: ZB-5msi

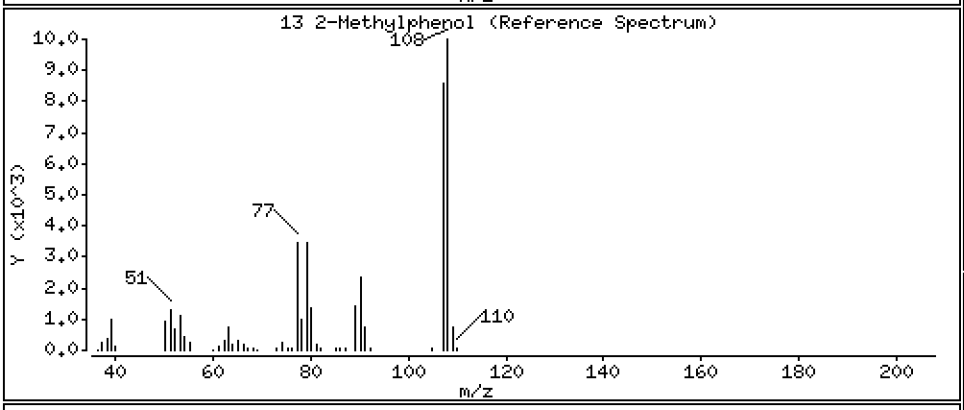
Column diameter: 0.25

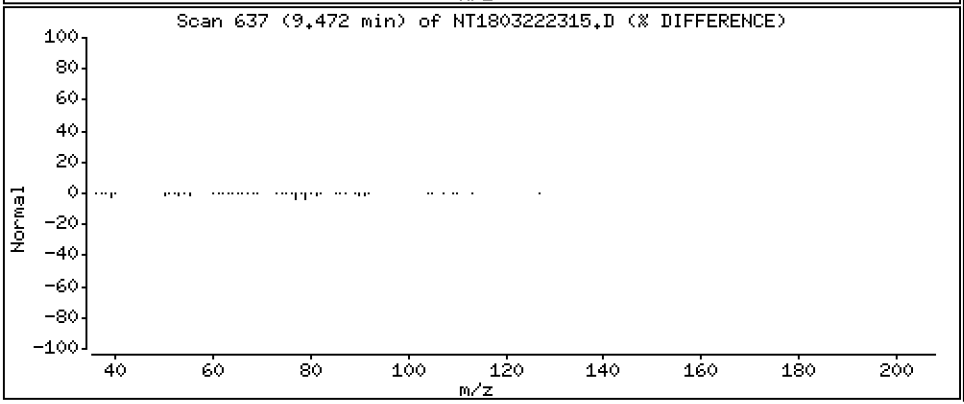
13 2-Methylphenol

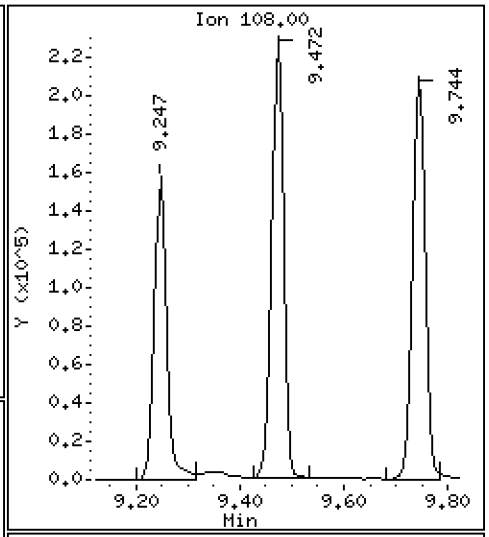
Concentration: 3.529 ug/mL

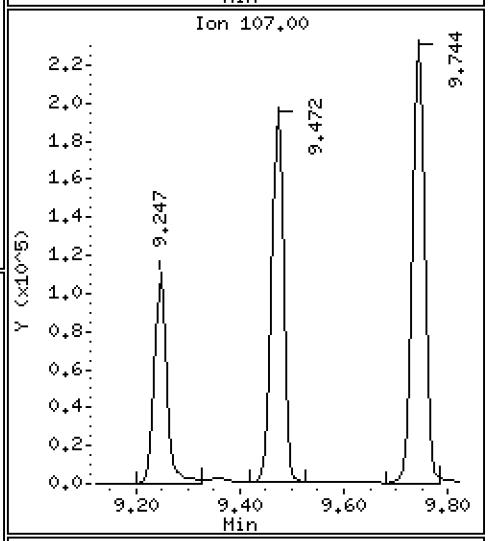


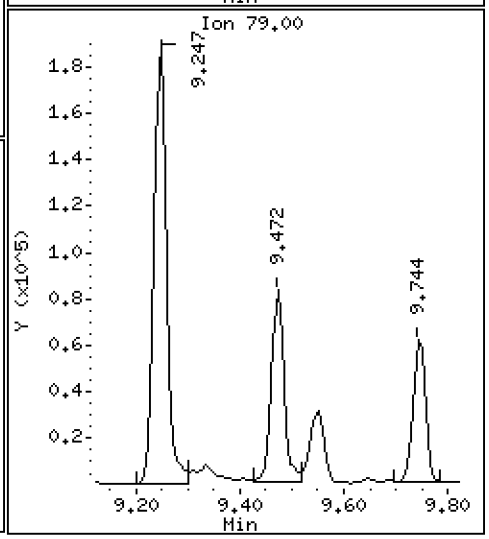












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

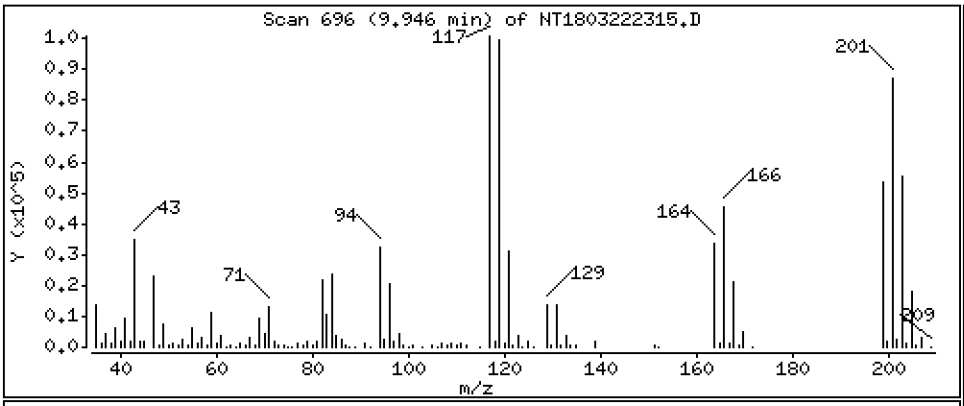
Operator: VTS

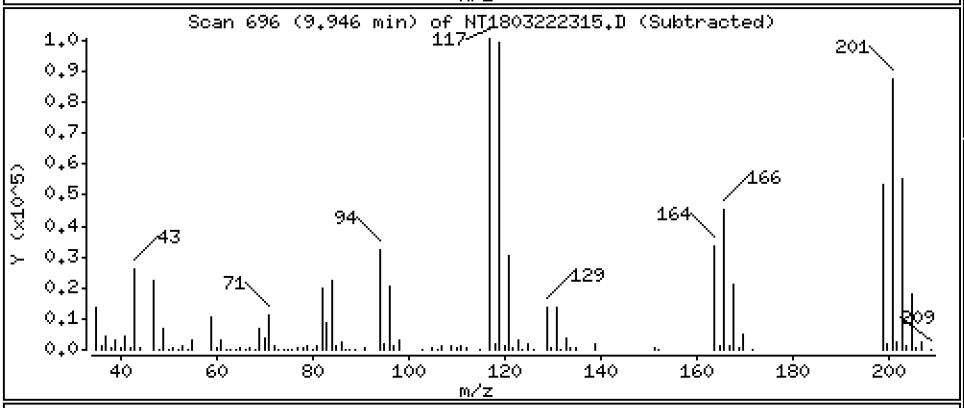
Column phase: ZB-5msi

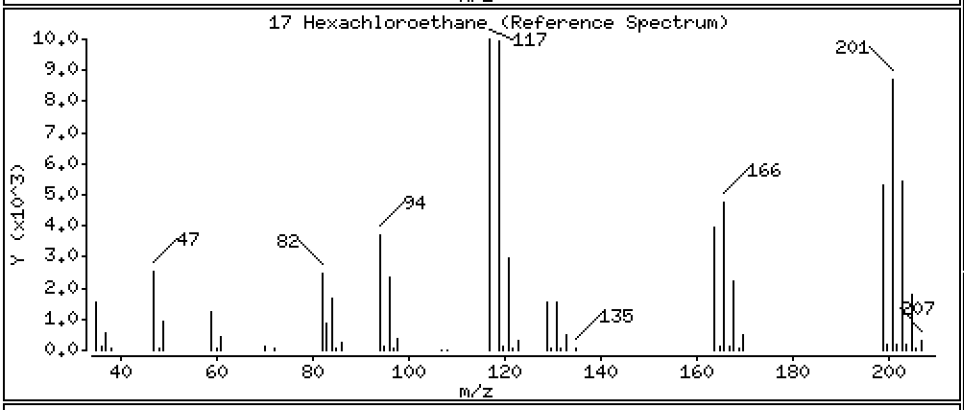
Column diameter: 0.25

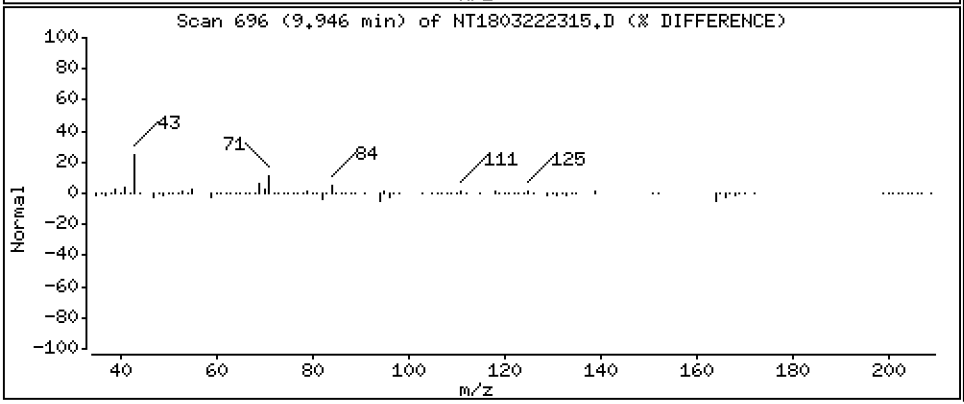
17 Hexachloroethane

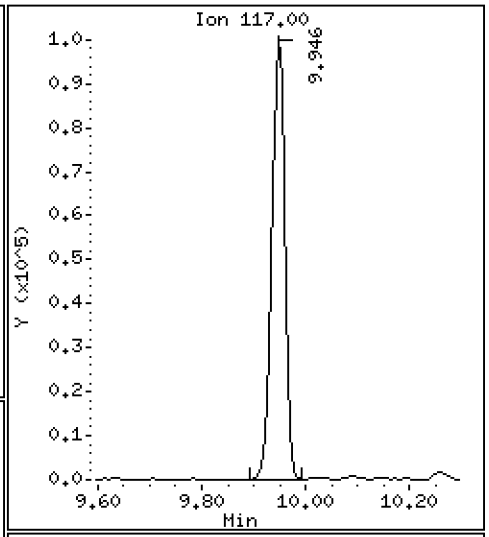
Concentration: 3.654 ug/mL

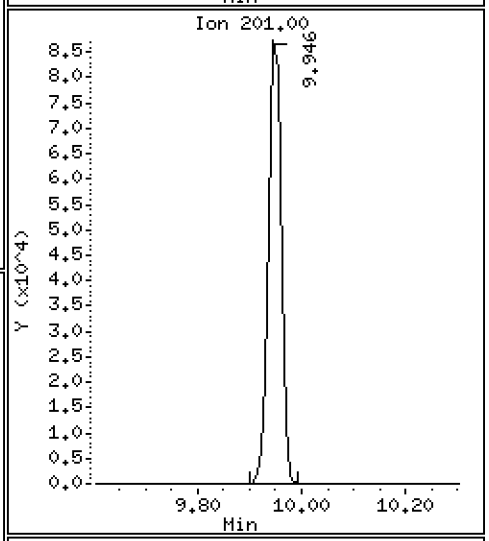


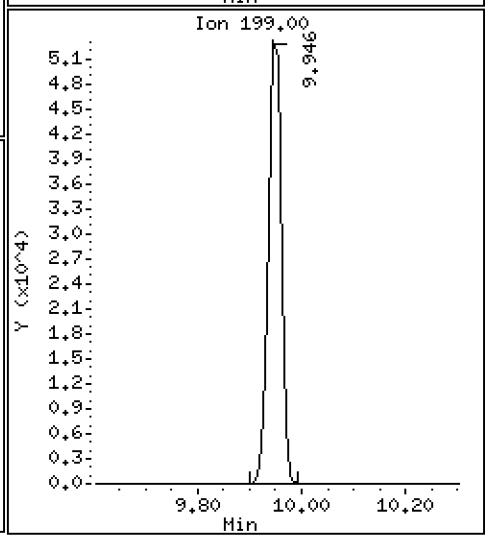












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

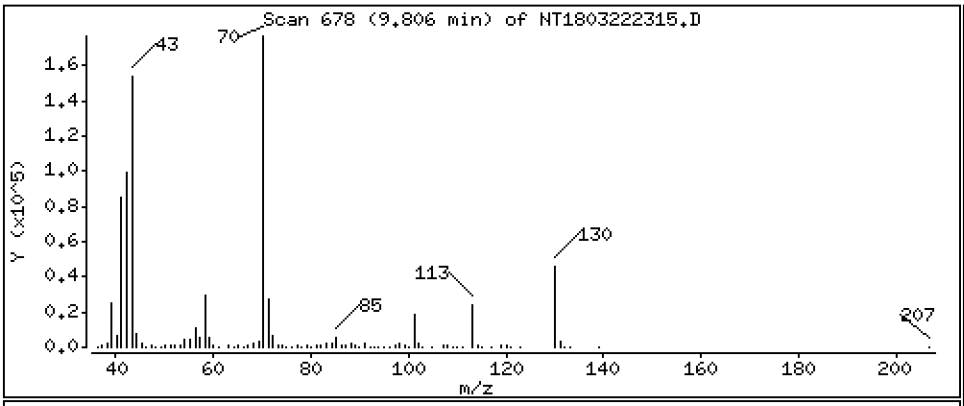
Operator: VTS

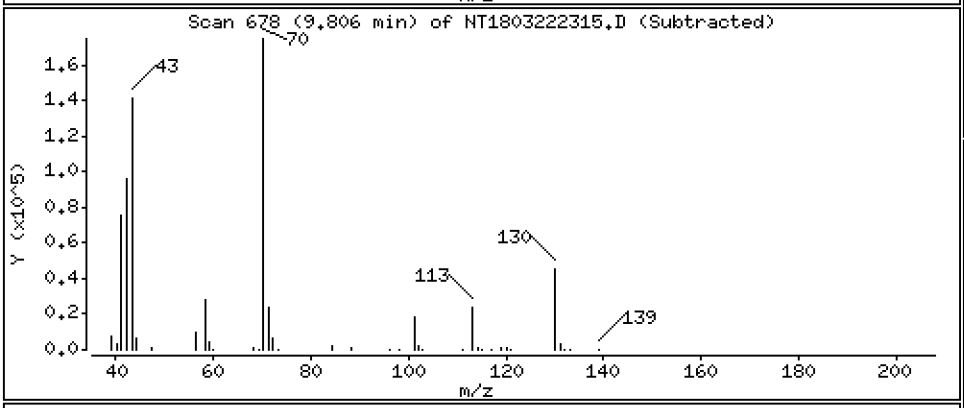
Column phase: ZB-5msi

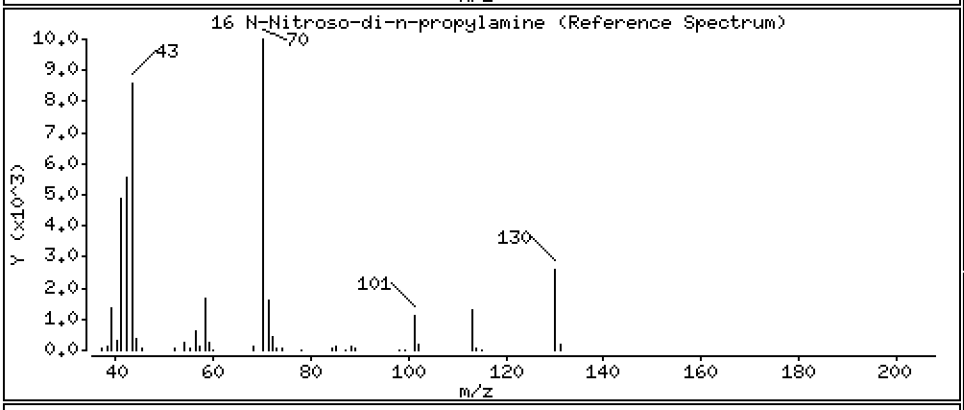
Column diameter: 0.25

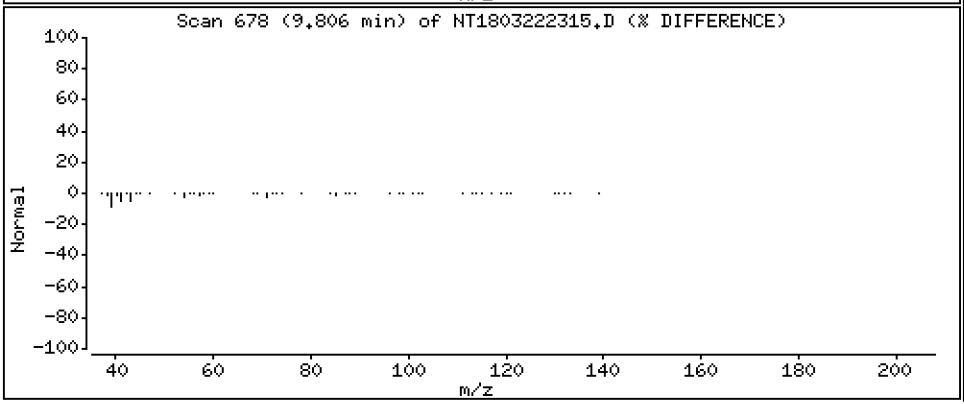
16 N-Nitroso-di-n-propylamine

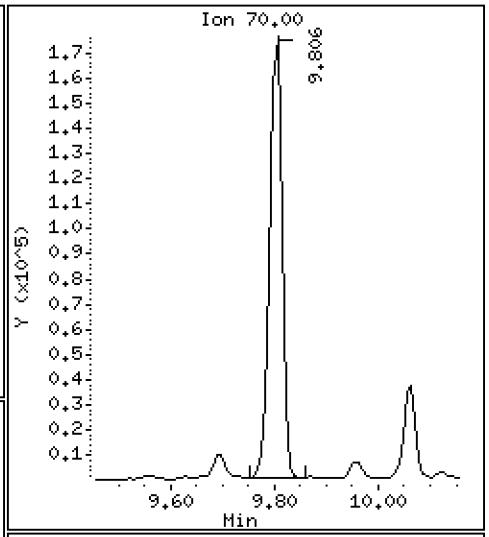
Concentration: 3.989 ug/mL

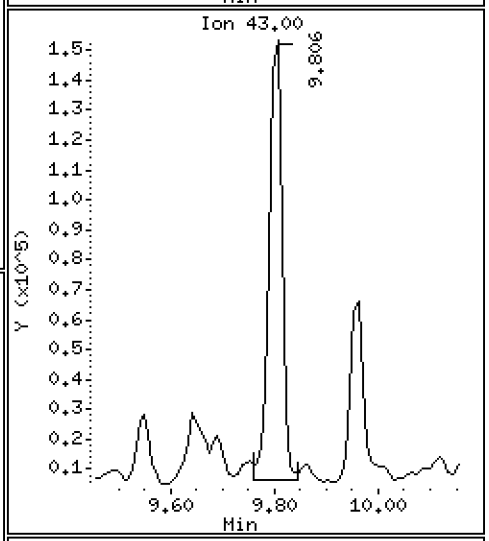


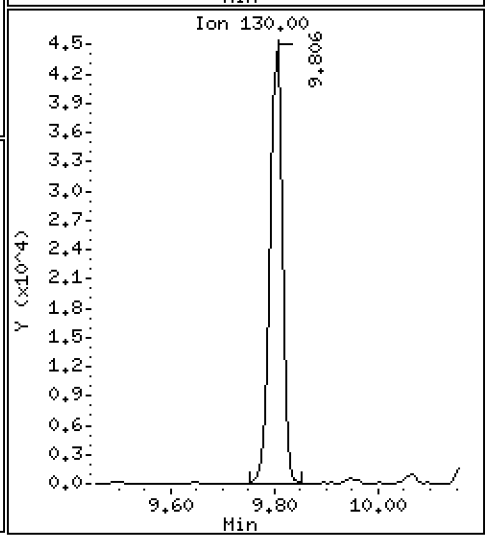












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

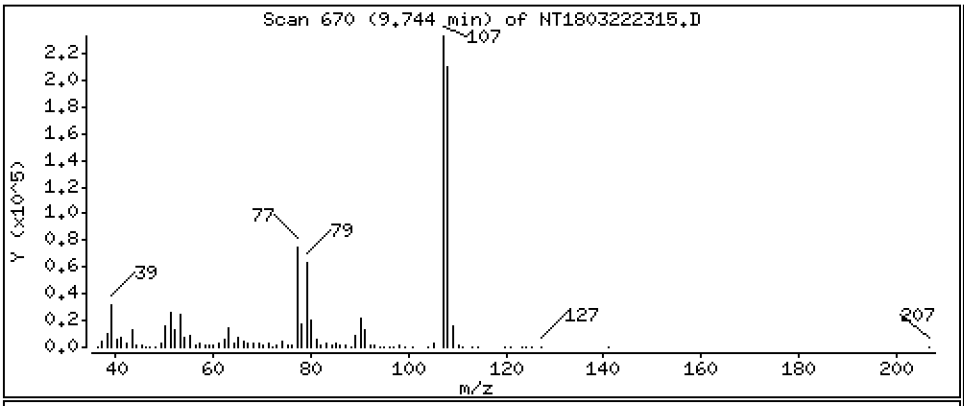
Operator: VTS

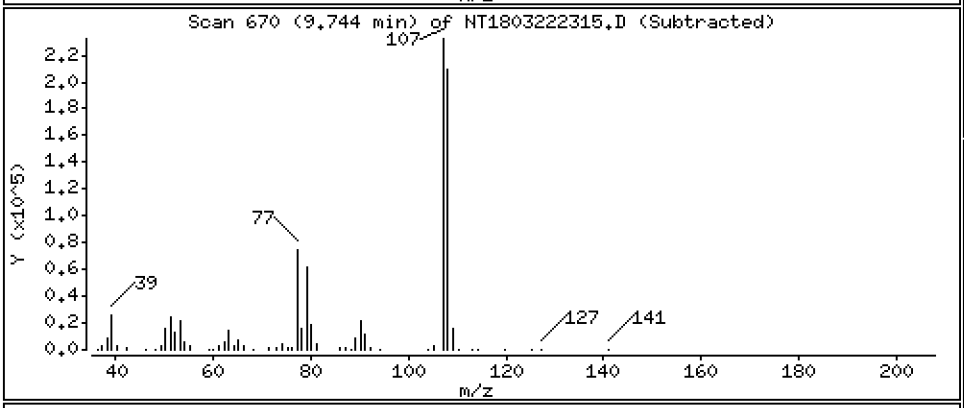
Column phase: ZB-5msi

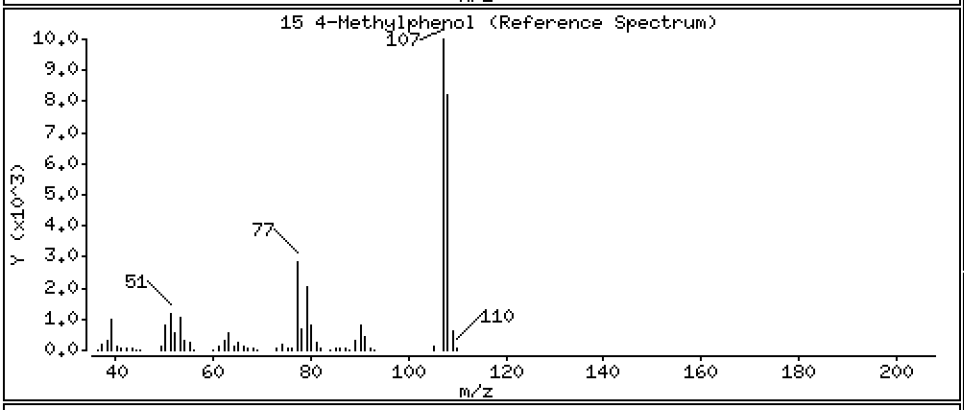
Column diameter: 0.25

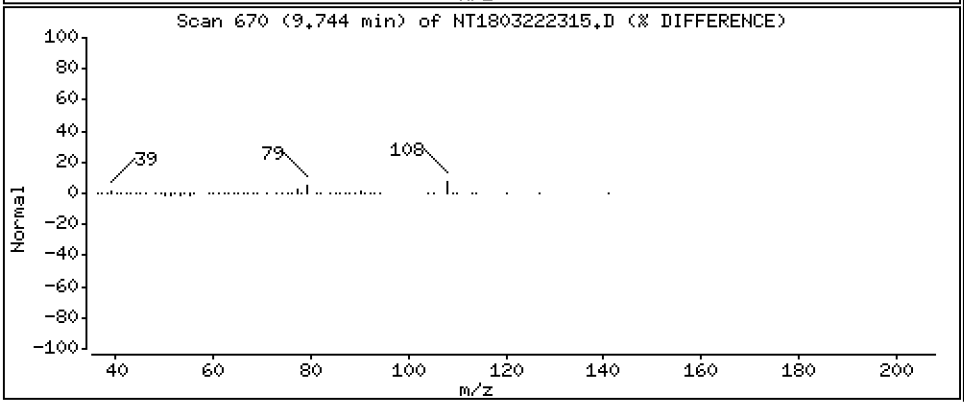
15 4-Methylphenol

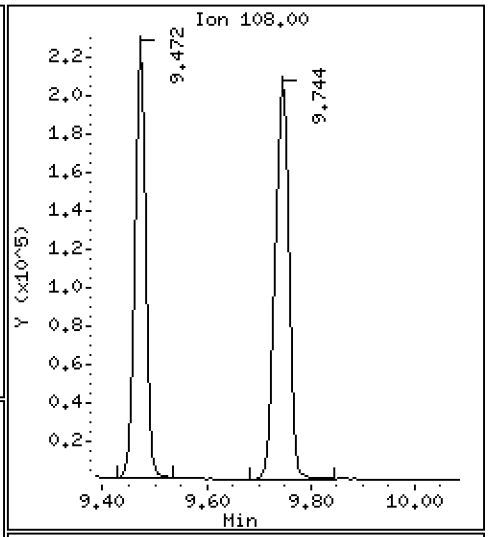
Concentration: 3.779 ug/mL

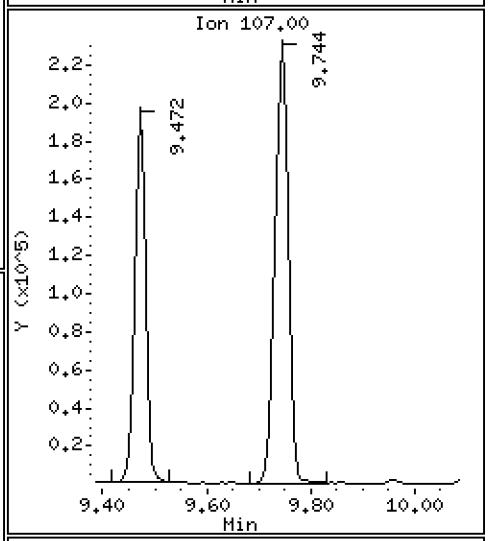


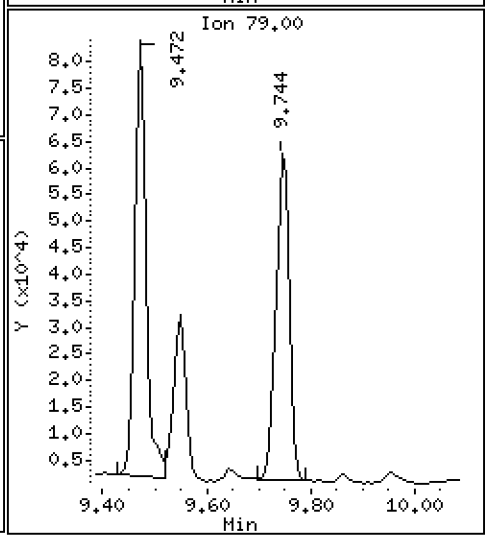












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

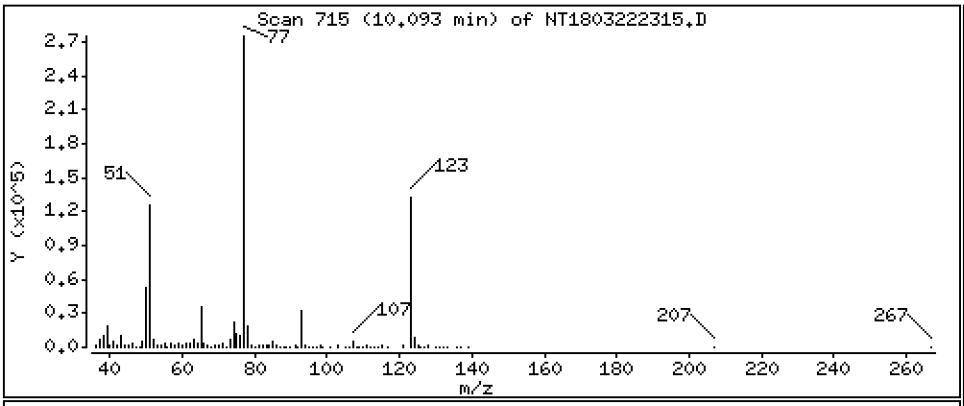
Operator: VTS

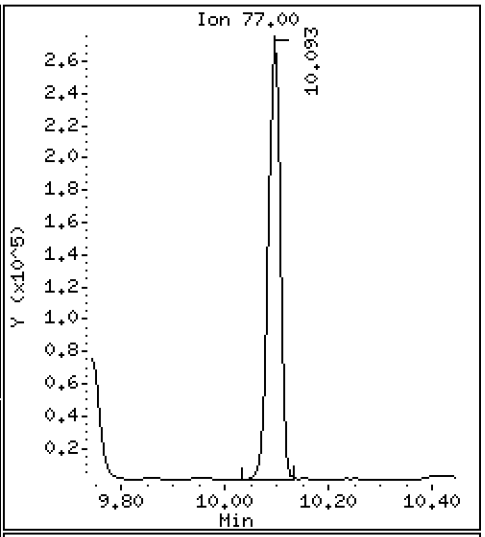
Column phase: ZB-5msi

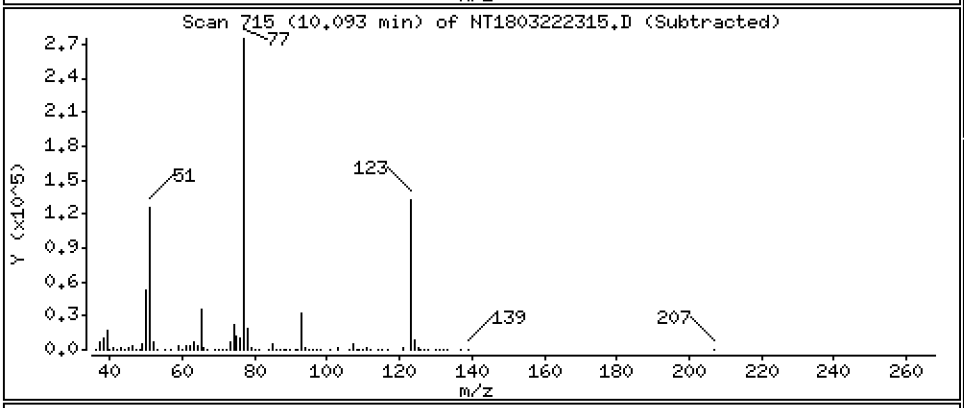
Column diameter: 0.25

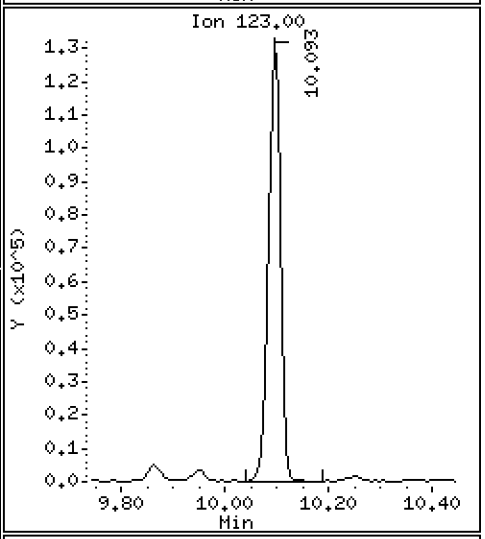
19 Nitrobenzene

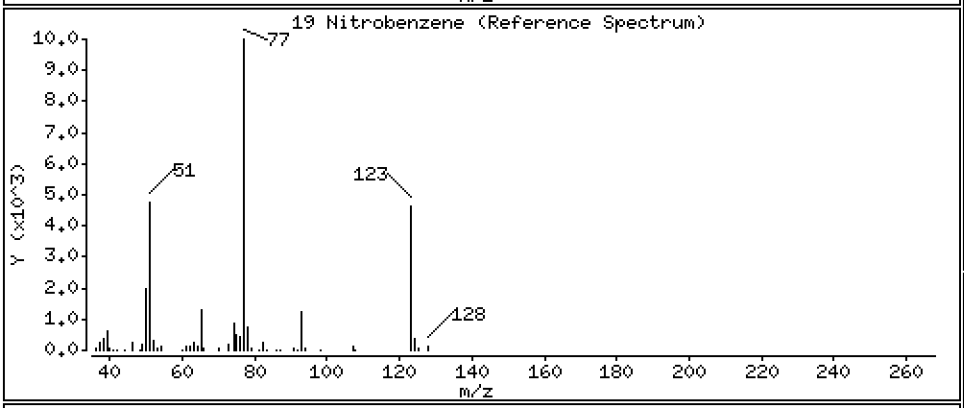
Concentration: 4.320 ug/mL

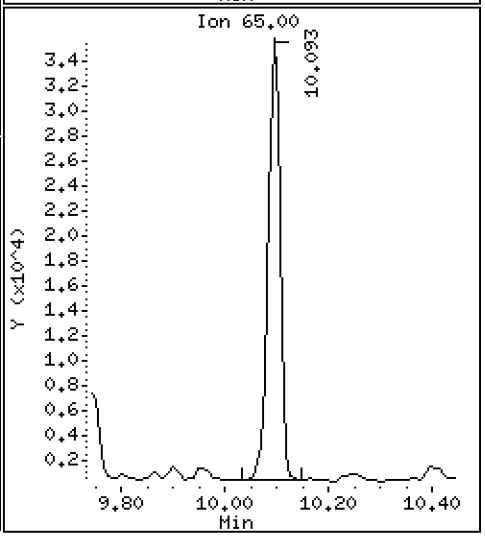


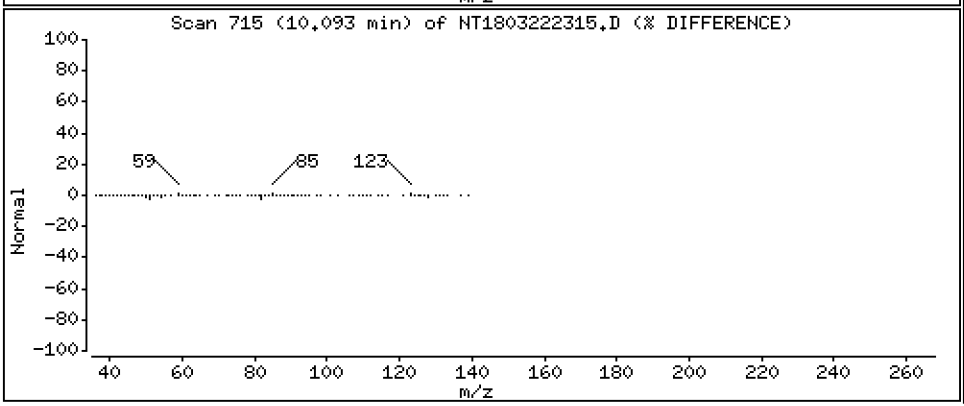












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

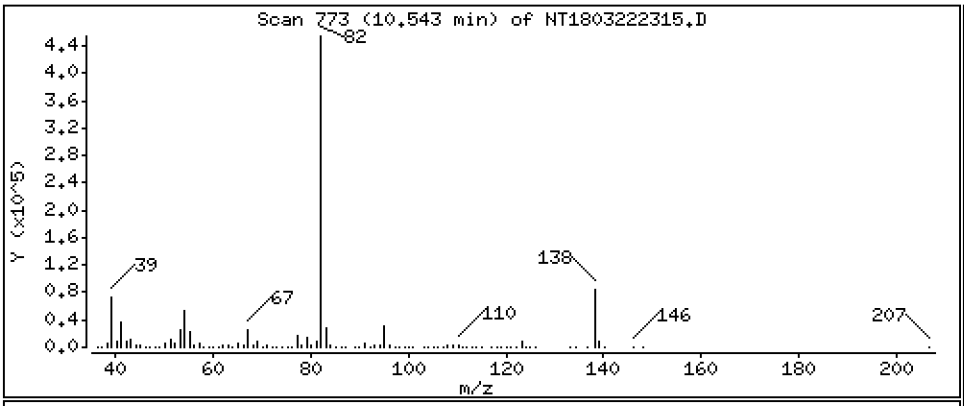
Operator: VTS

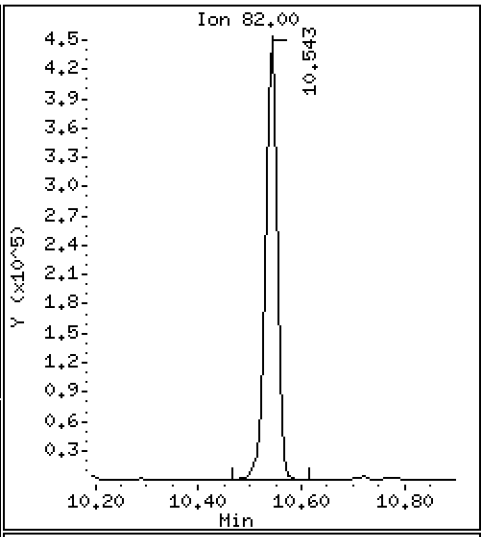
Column phase: ZB-5msi

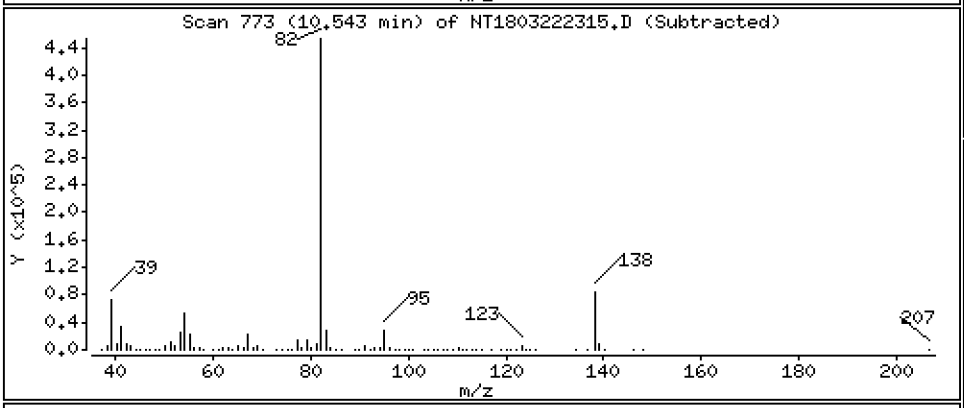
Column diameter: 0.25

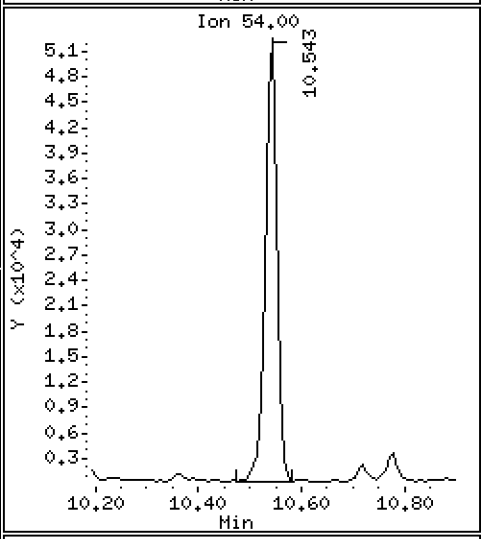
20 Isophorone

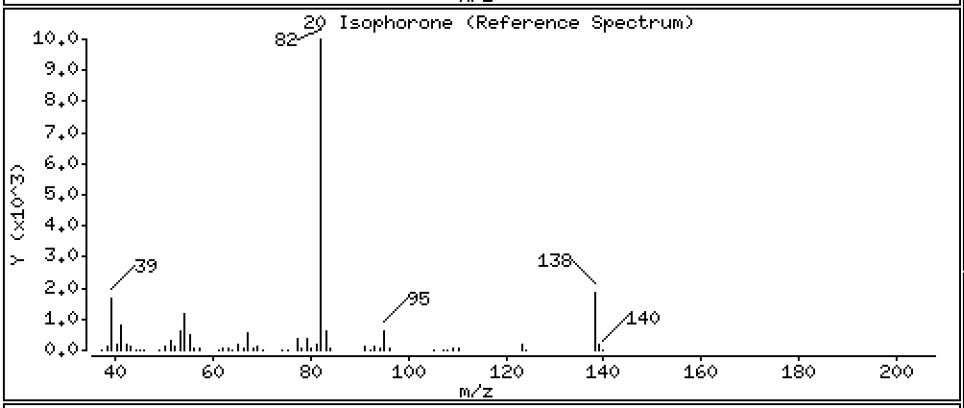
Concentration: 5.734 ug/mL

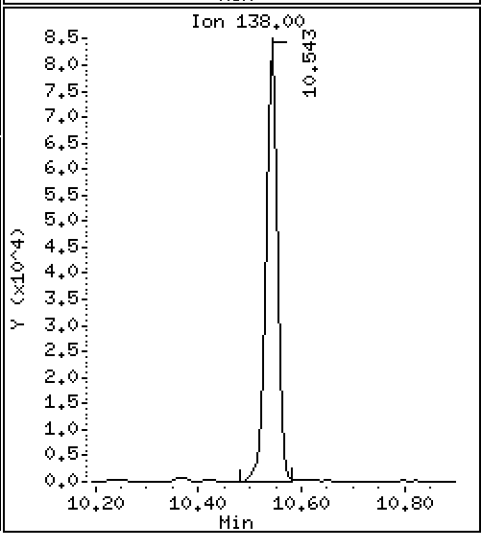


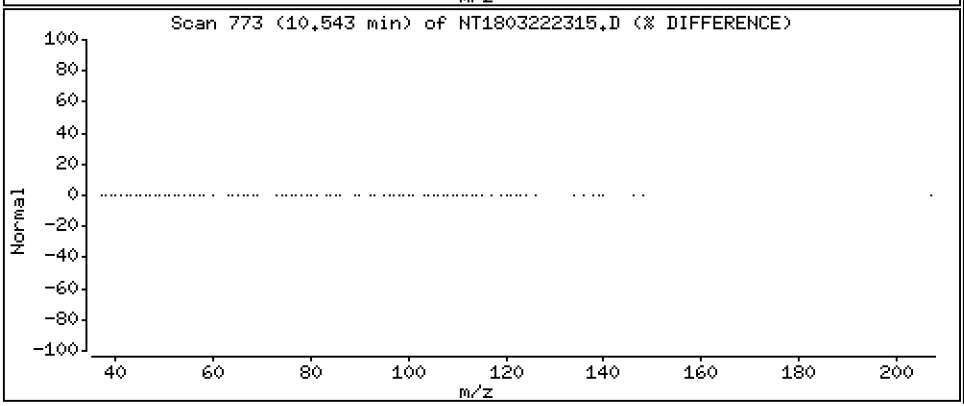












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222315.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

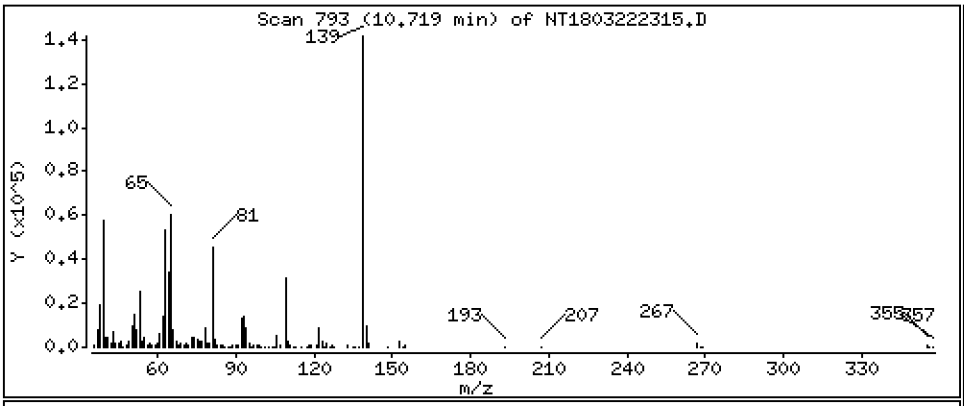
Operator: VTS

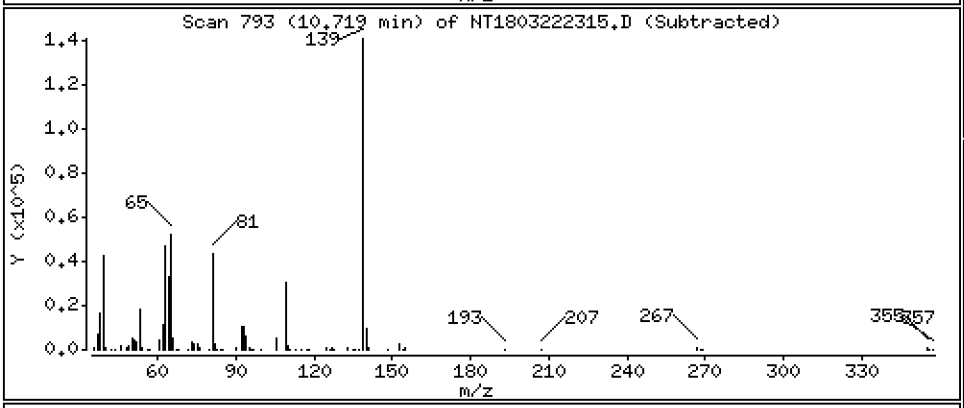
Column phase: ZB-5msi

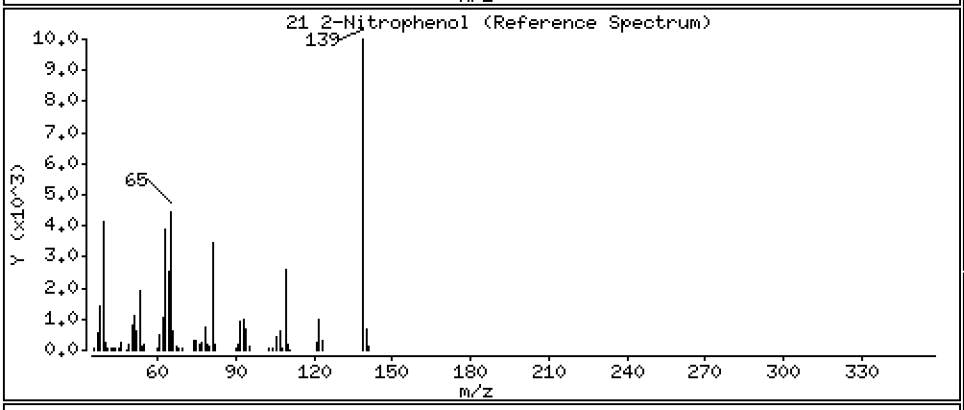
Column diameter: 0.25

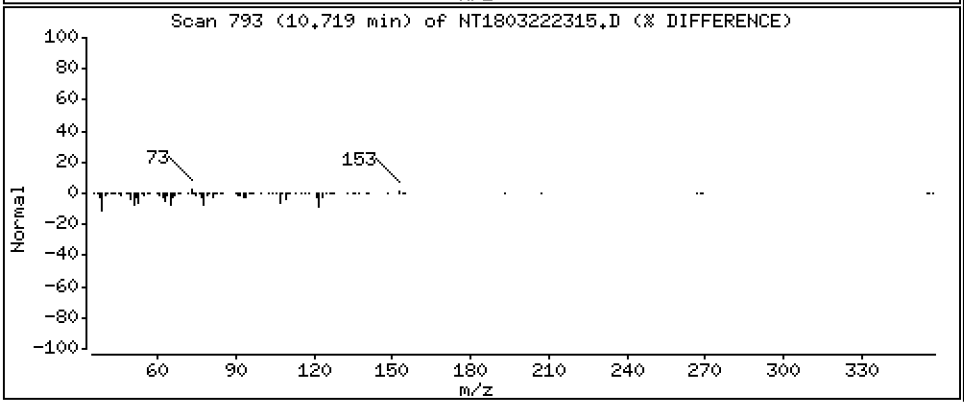
21 2-Nitrophenol

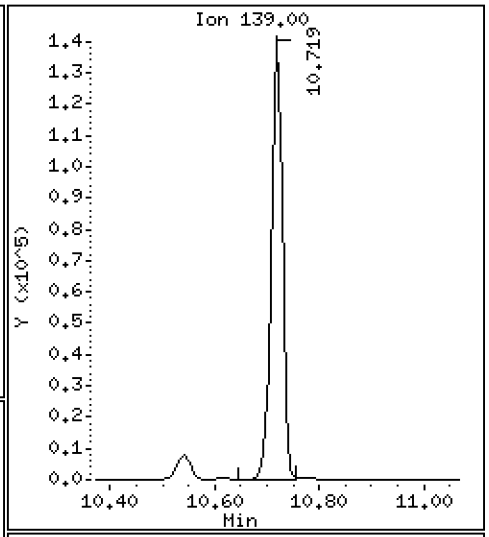
Concentration: 4.243 ug/mL

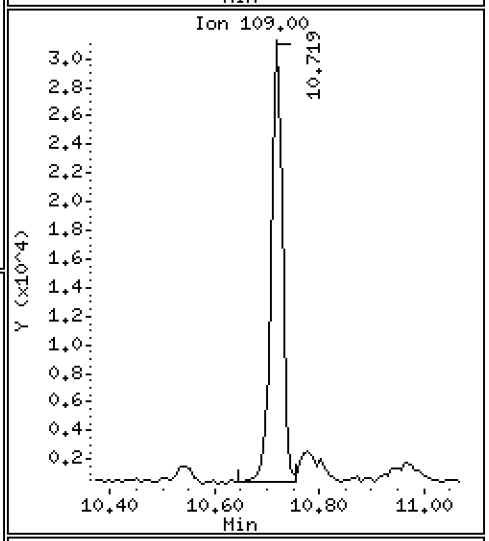


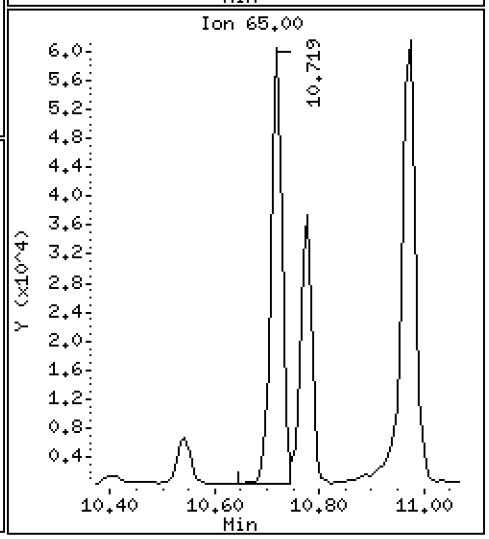












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

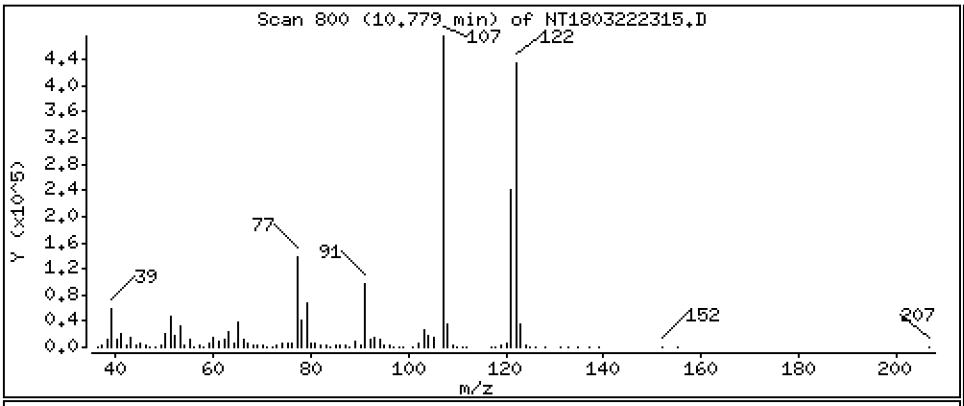
Operator: VTS

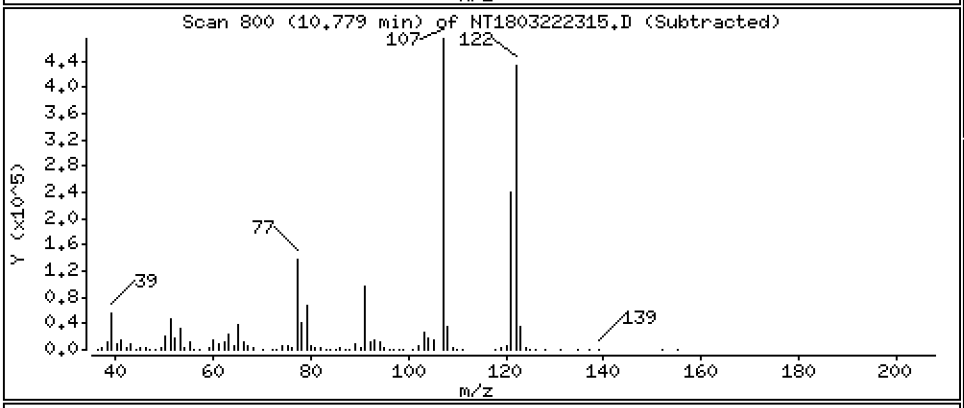
Column phase: ZB-5msi

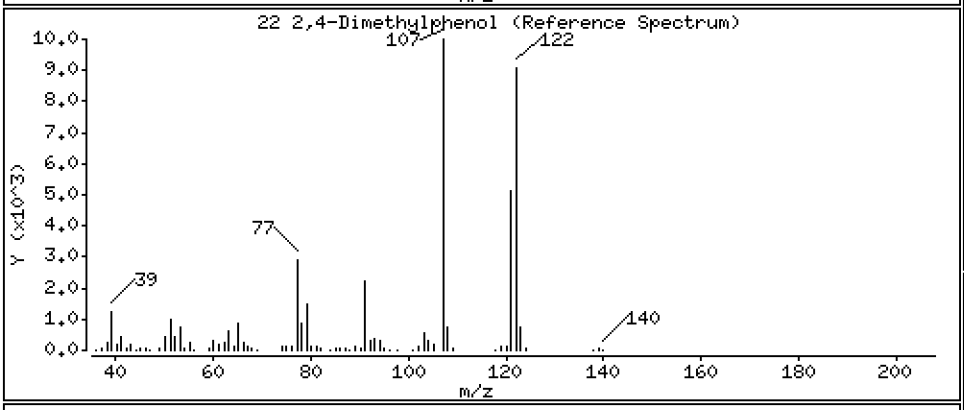
Column diameter: 0.25

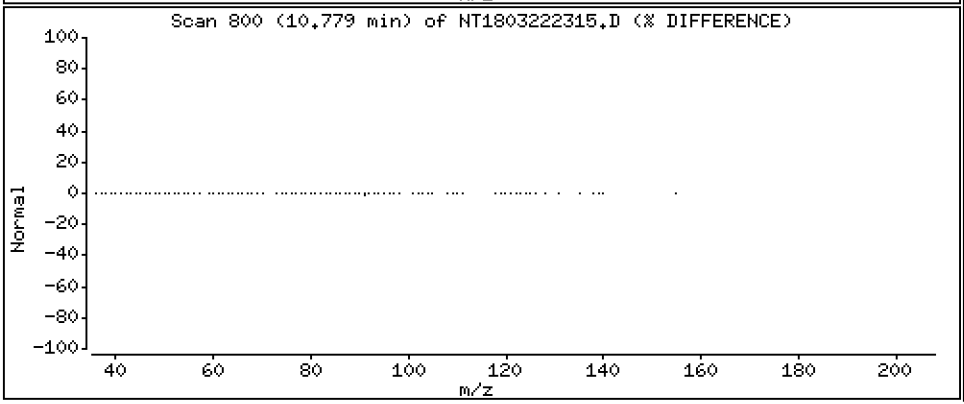
22 2,4-Dimethylphenol

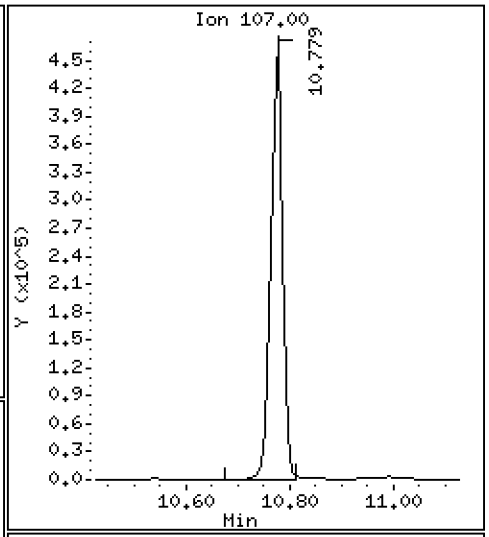
Concentration: 7.561 ug/mL

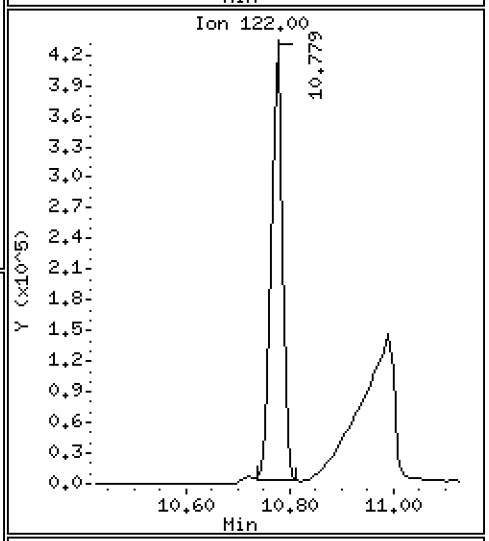


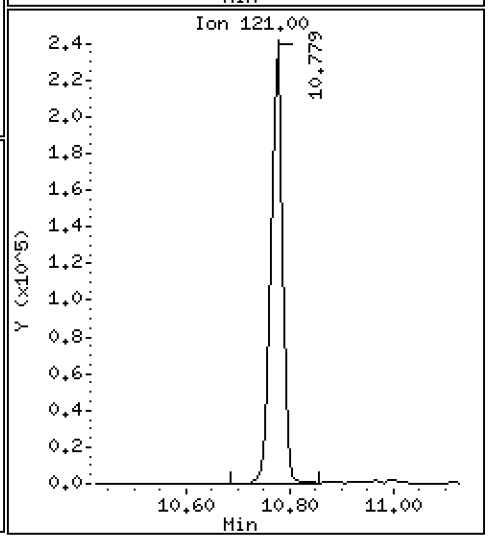












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

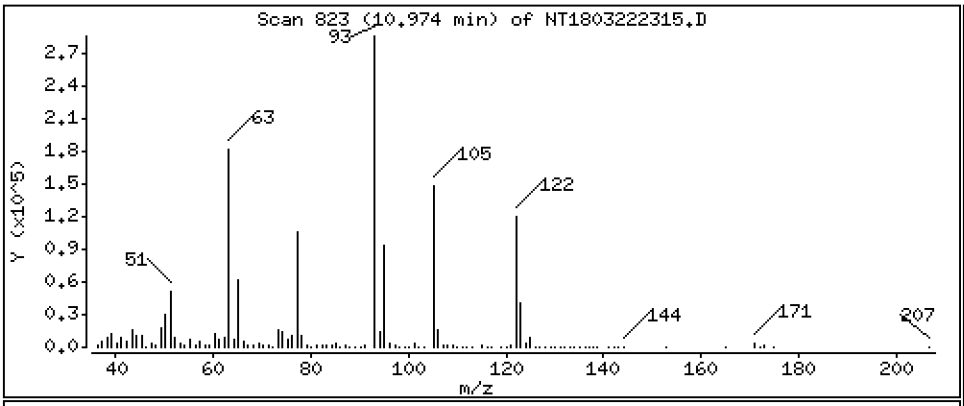
Operator: VTS

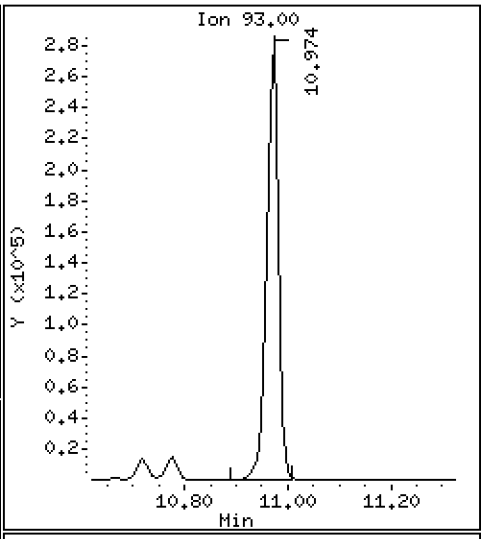
Column phase: ZB-5msi

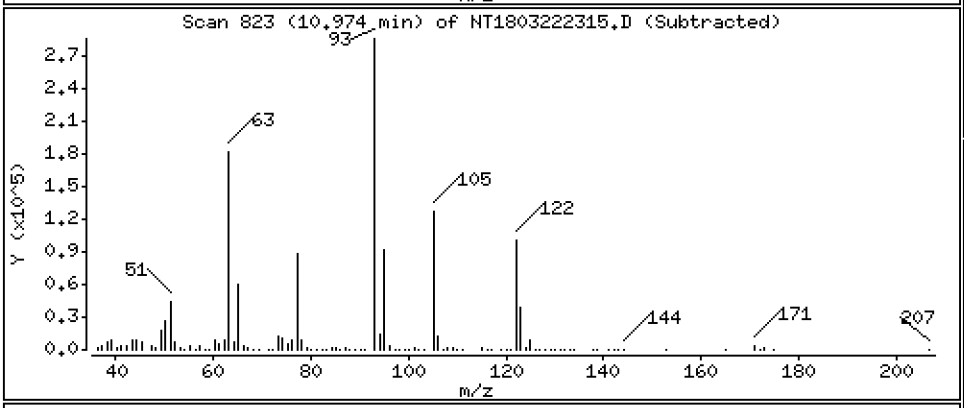
Column diameter: 0.25

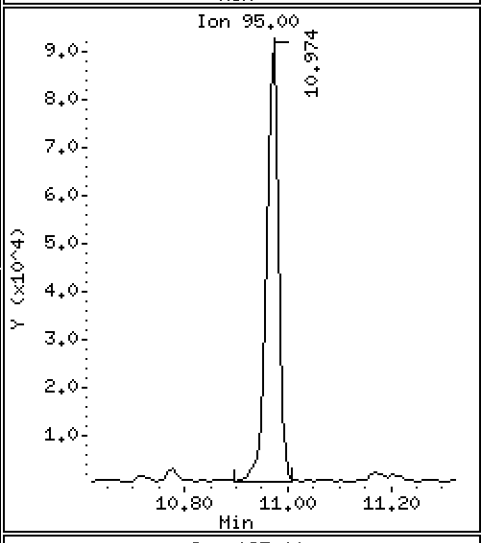
23 Bis(2-Chloroethoxy)methane

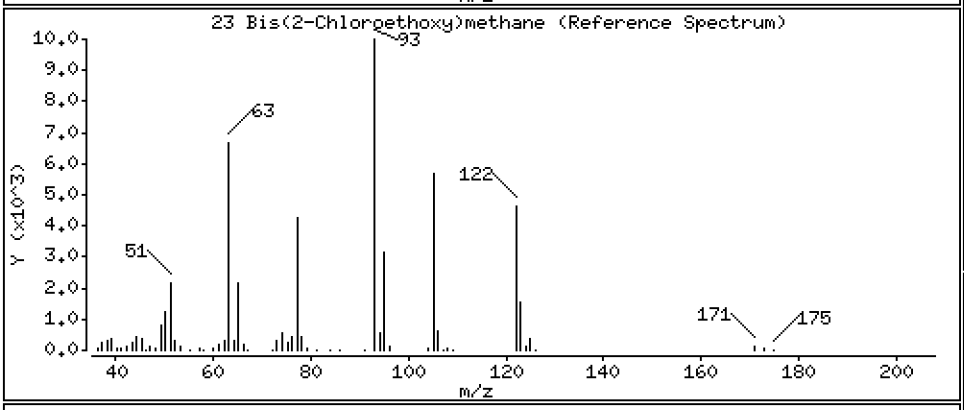
Concentration: 4.849 ug/mL

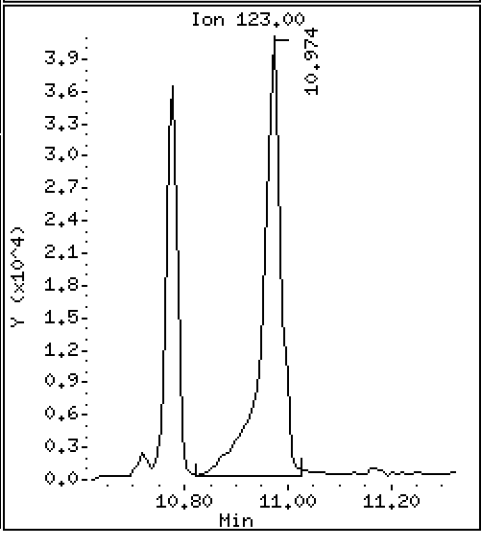


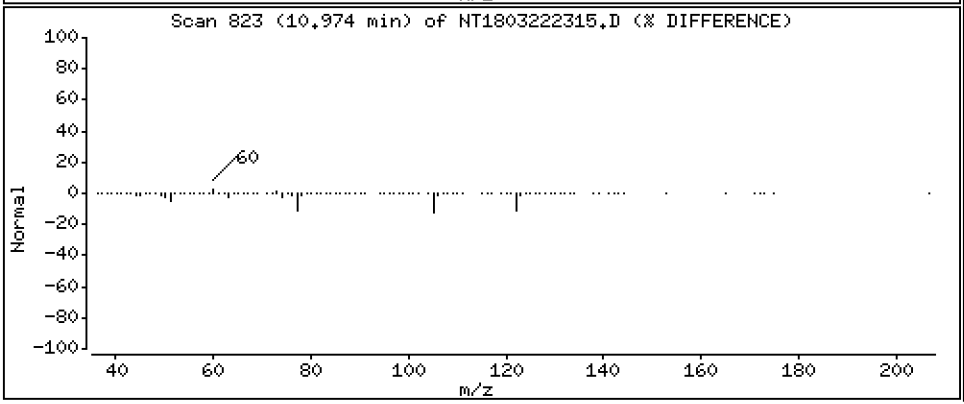












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

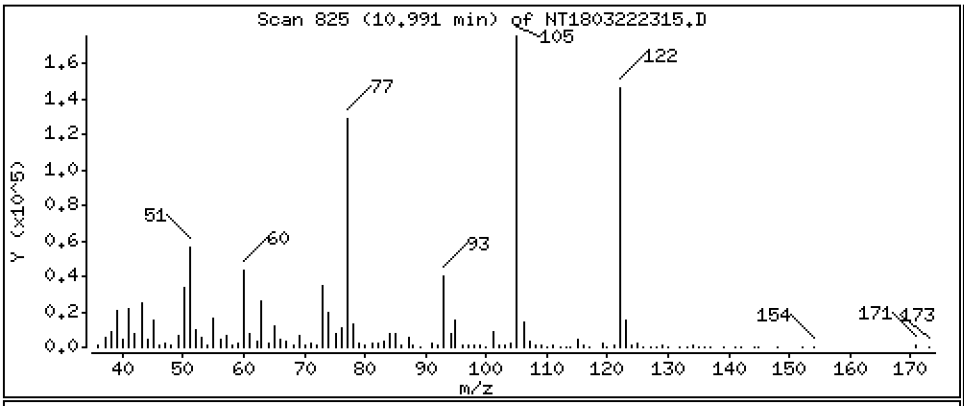
Operator: VTS

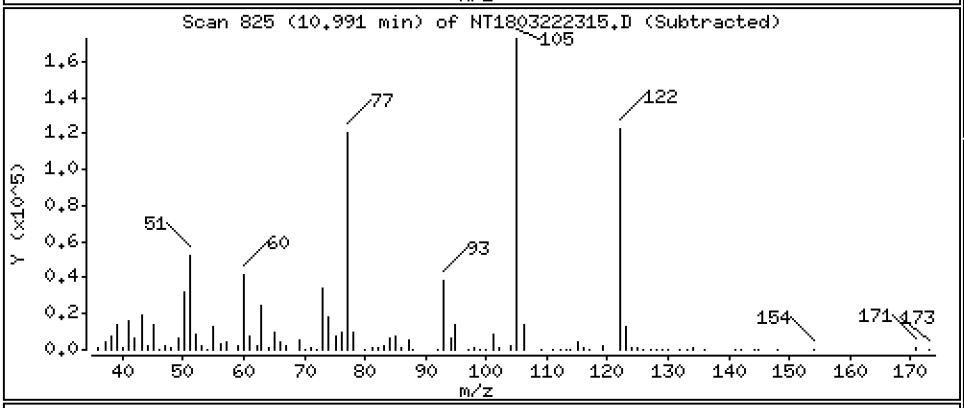
Column phase: ZB-5msi

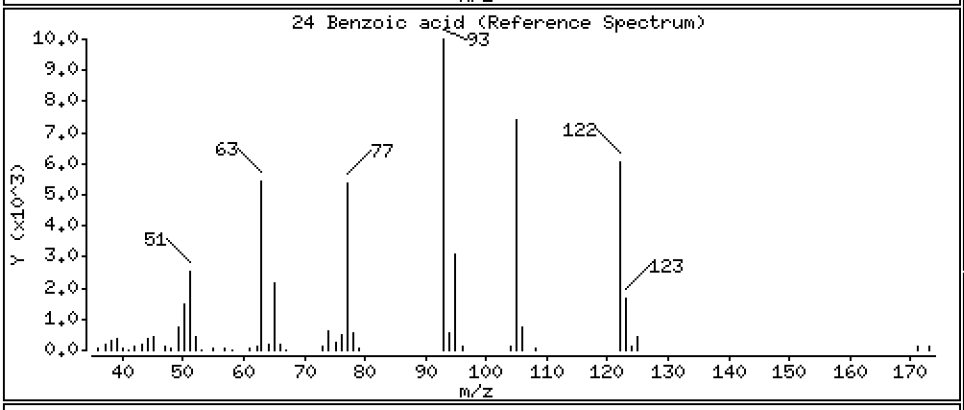
Column diameter: 0.25

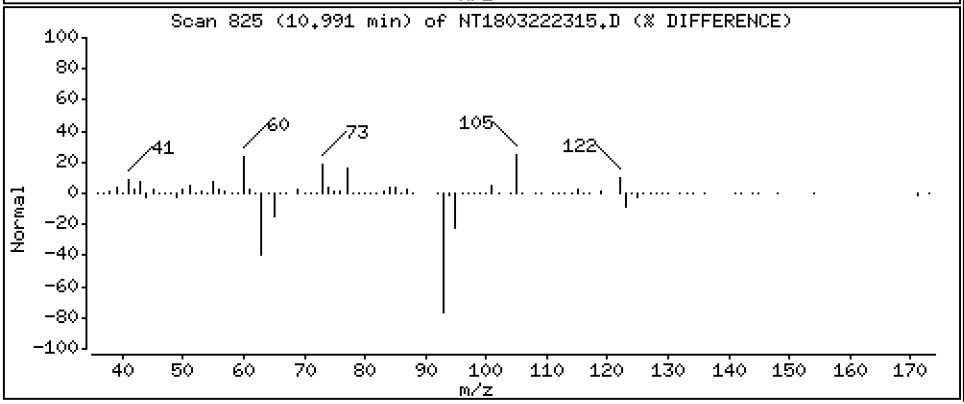
24 Benzoic acid

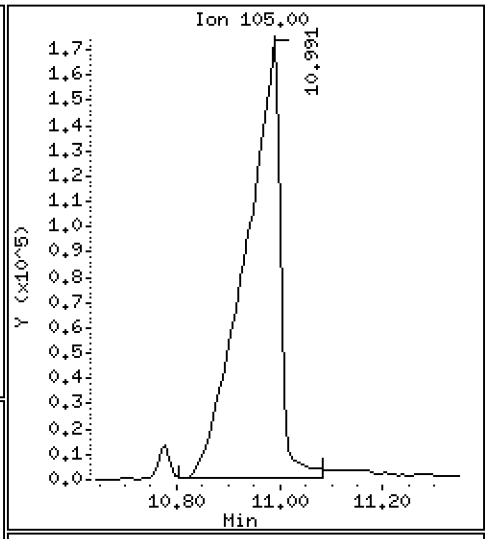
Concentration: 12.10 ug/mL

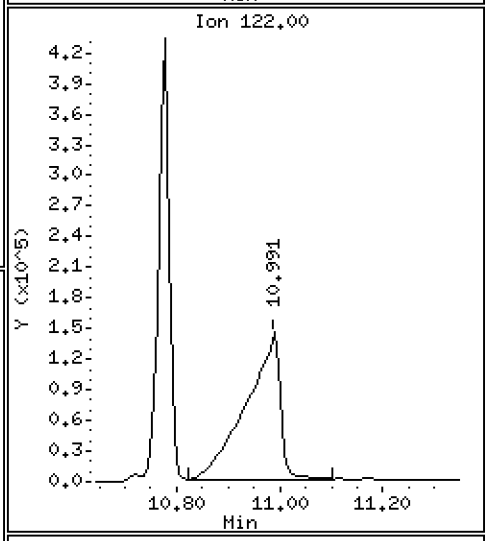


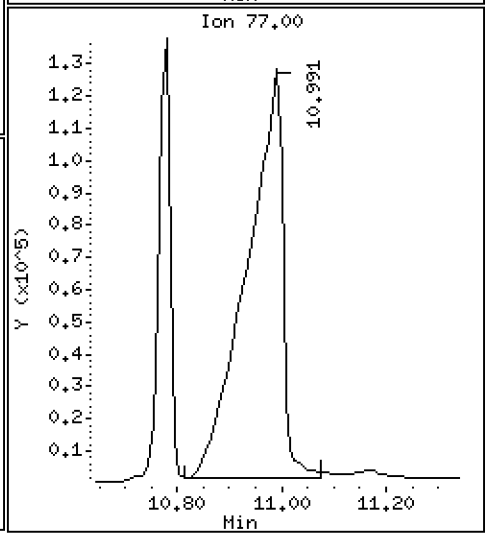












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

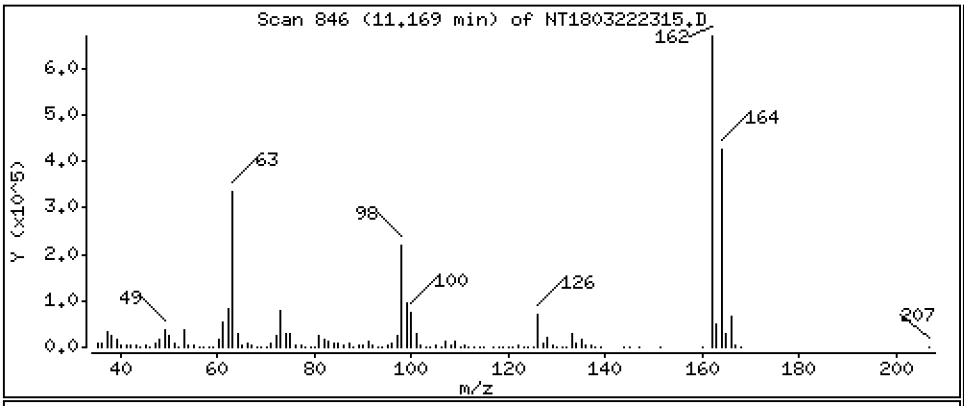
Operator: VTS

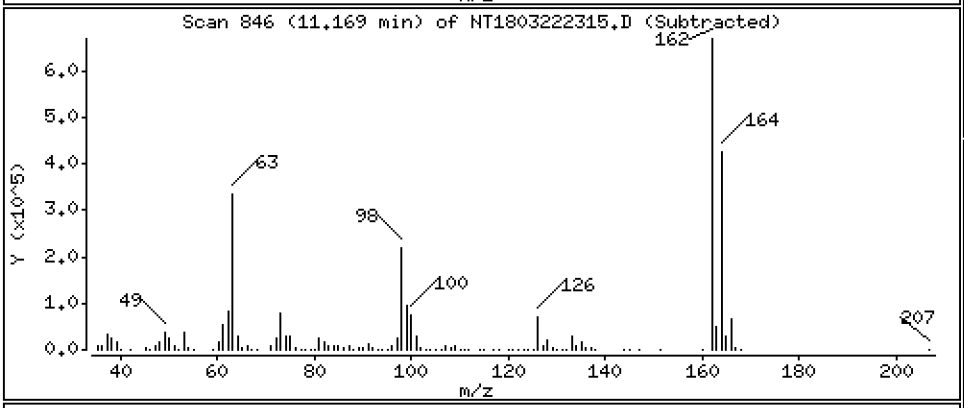
Column phase: ZB-5msi

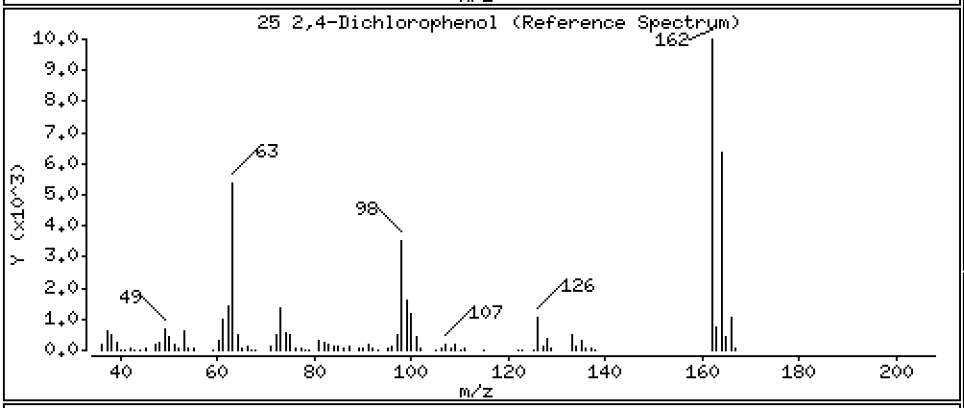
Column diameter: 0.25

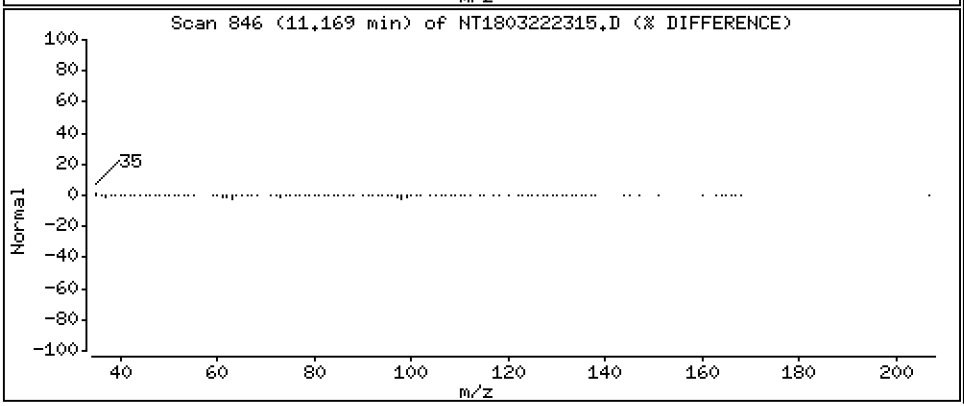
25 2,4-Dichlorophenol

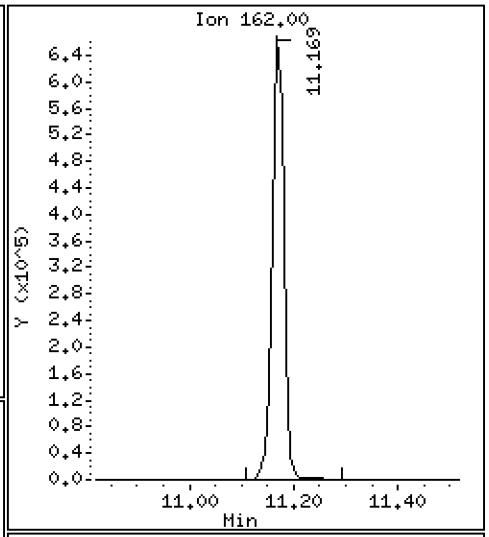
Concentration: 12.96 ug/mL

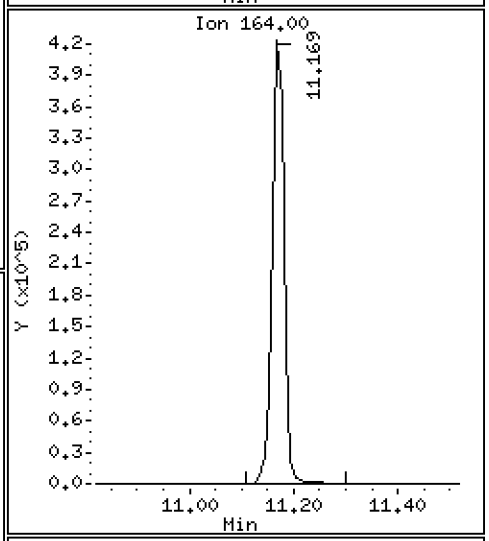


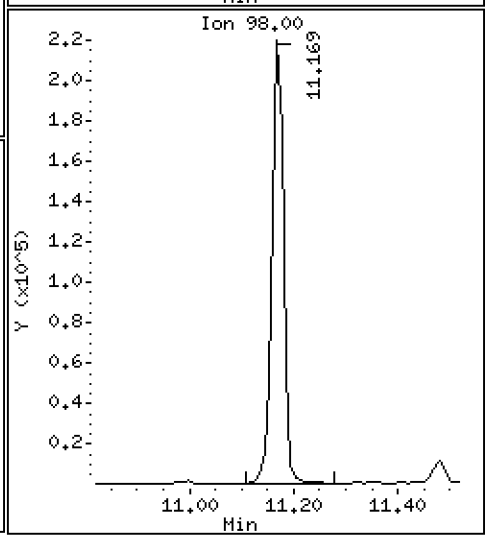












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

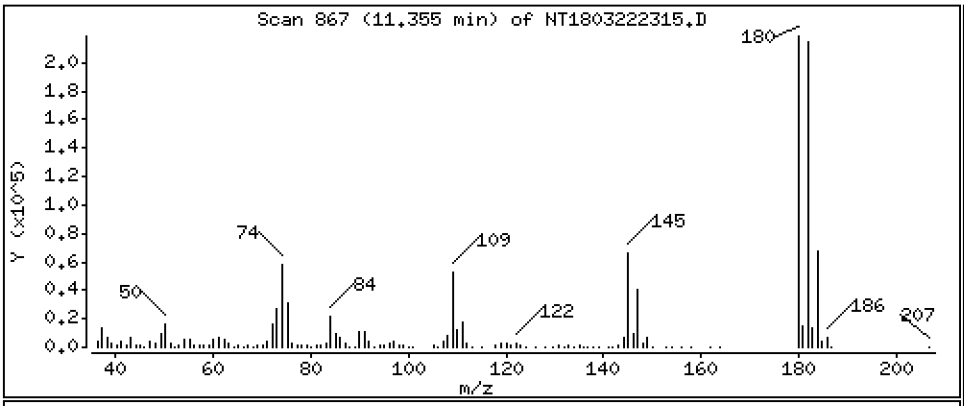
Operator: VTS

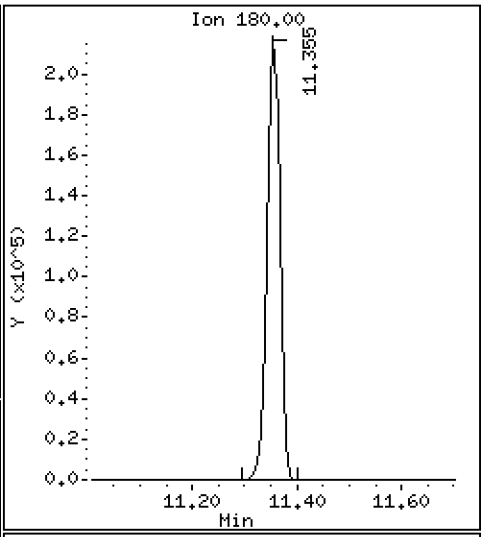
Column phase: ZB-5msi

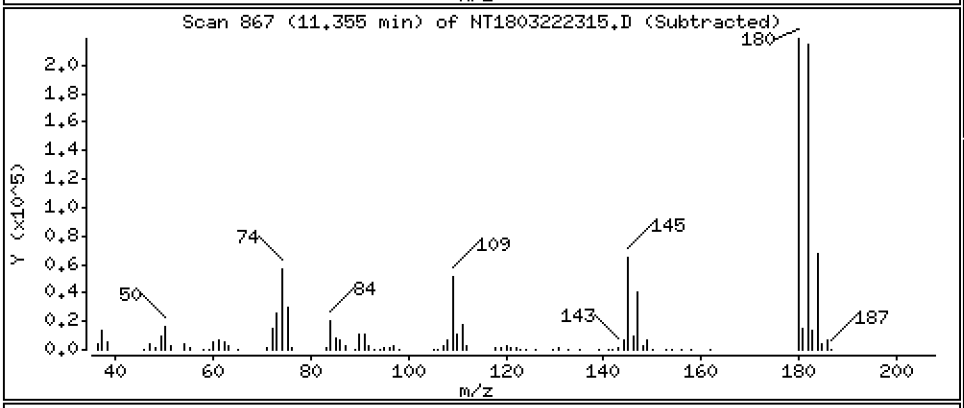
Column diameter: 0.25

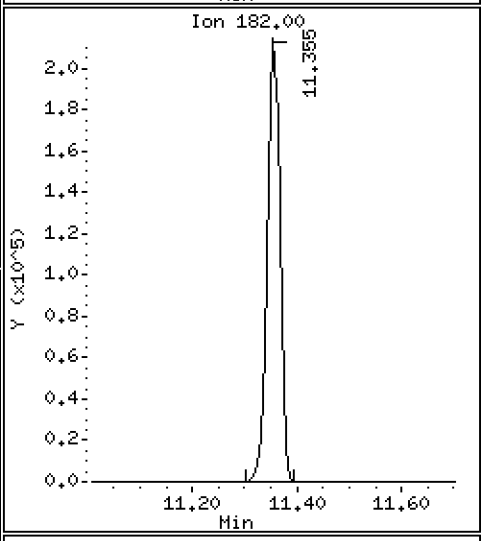
26 1,2,4-Trichlorobenzene

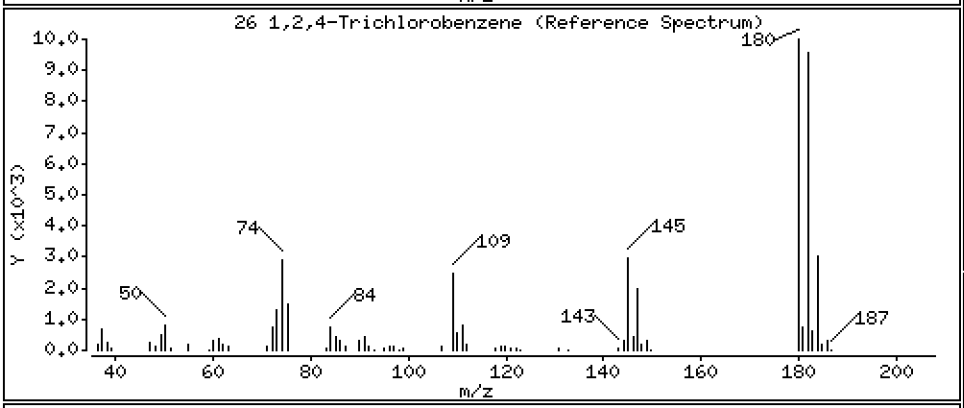
Concentration: 3.833 ug/mL

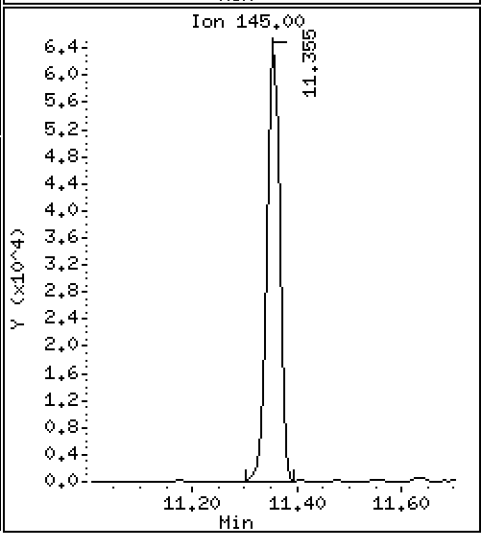


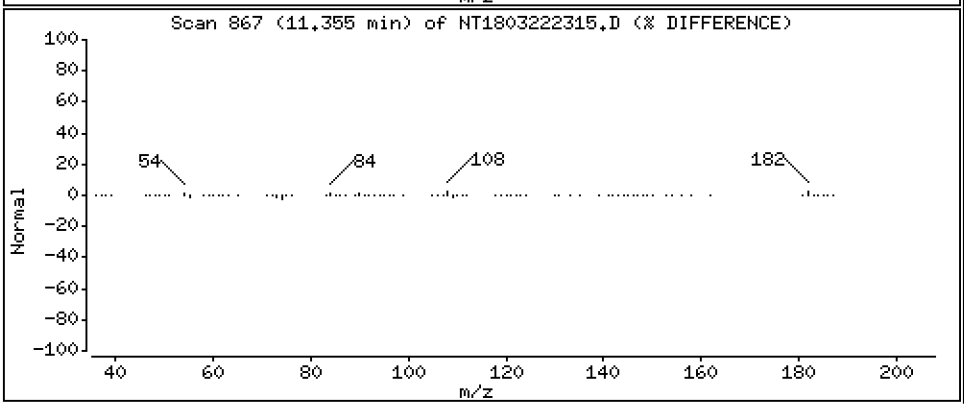












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

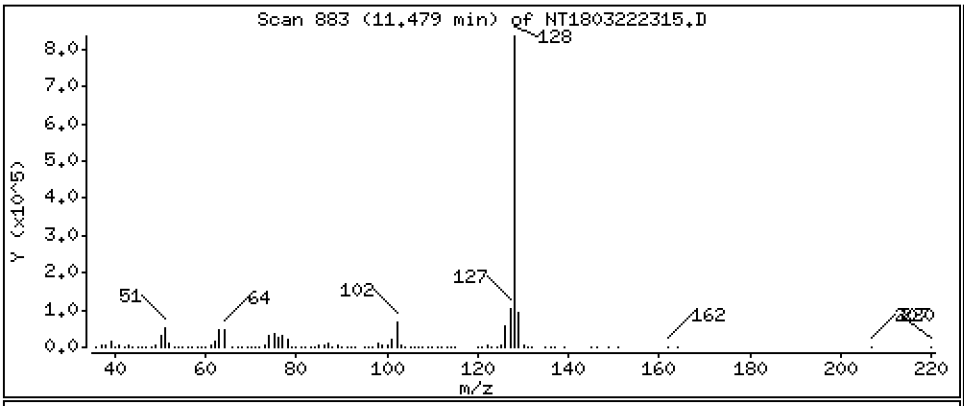
Operator: VTS

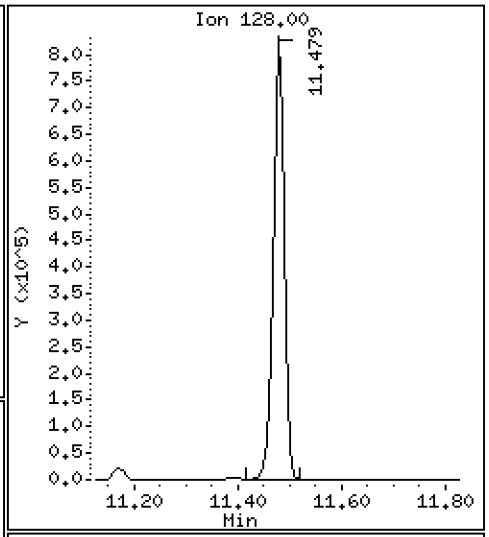
Column phase: ZB-5msi

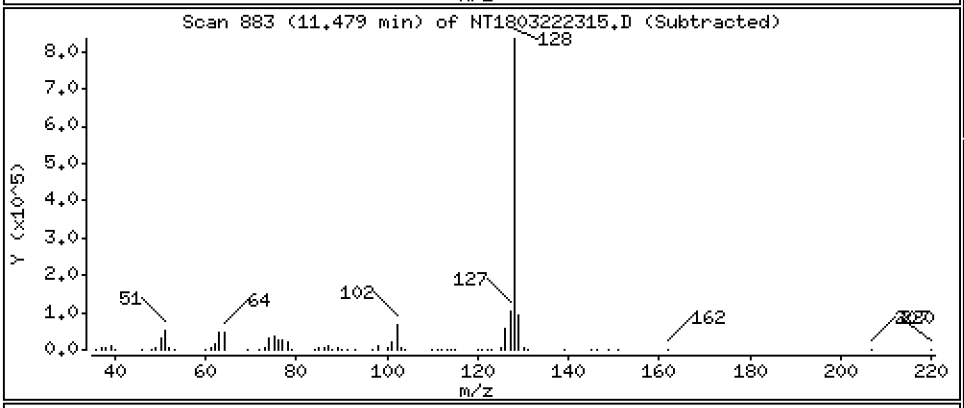
Column diameter: 0.25

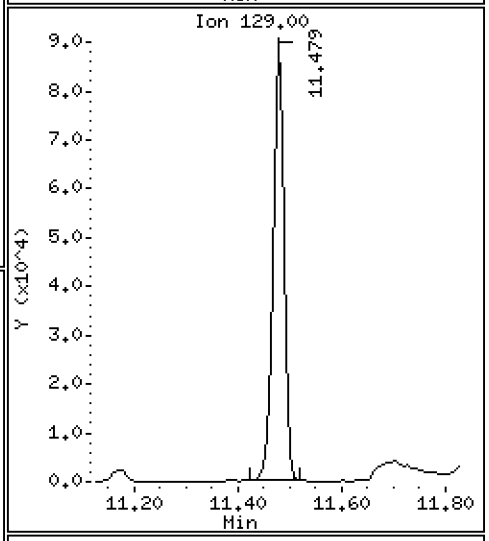
28 Naphthalene

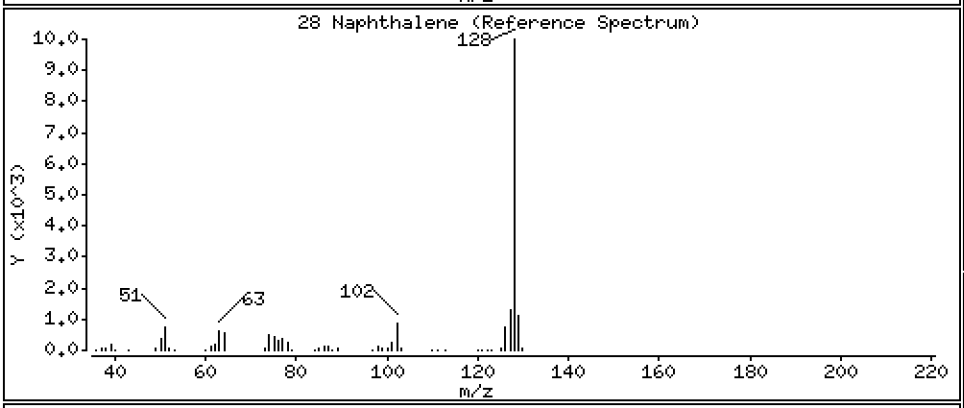
Concentration: 3.961 ug/mL

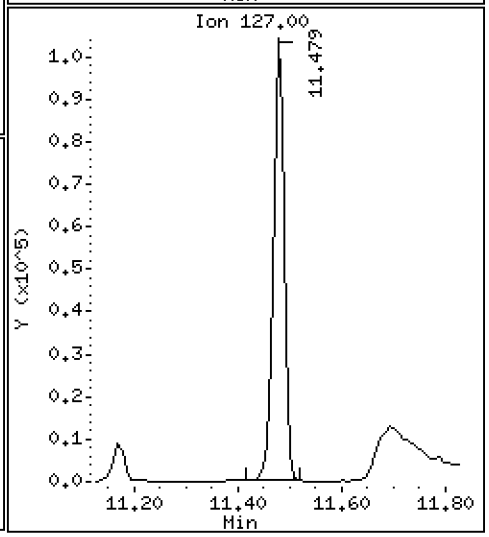


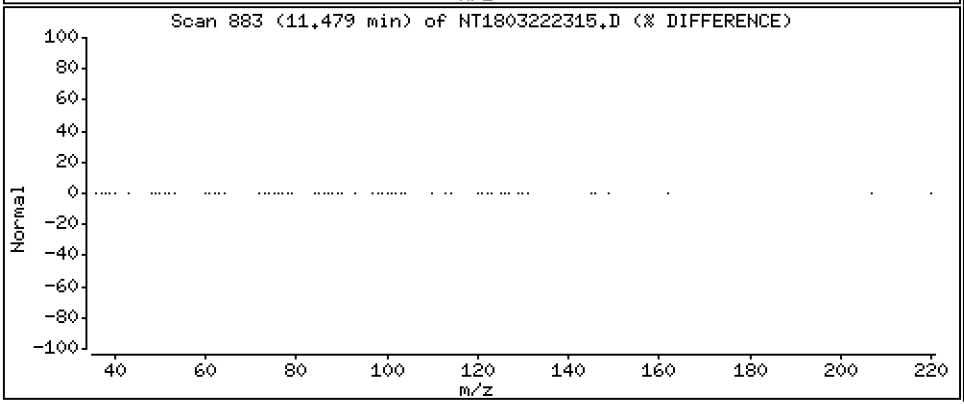












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222315.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

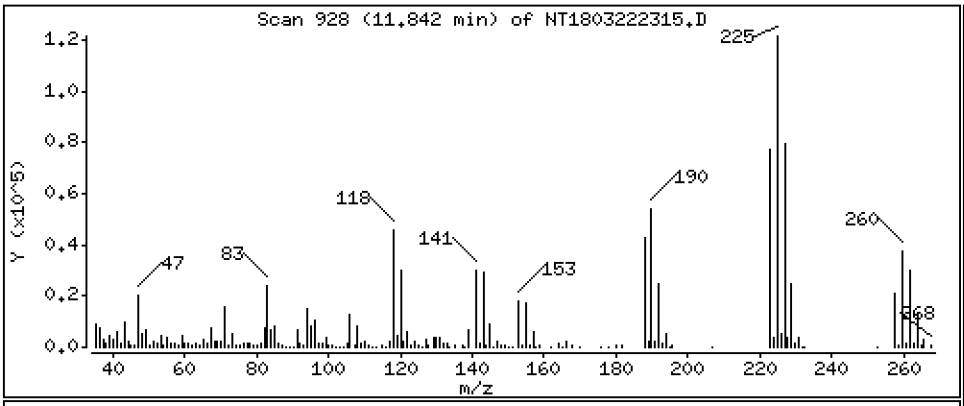
Operator: VTS

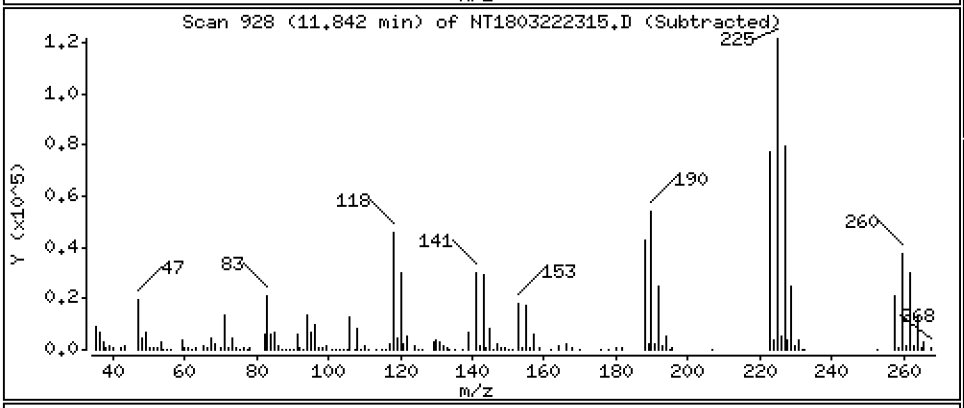
Column phase: ZB-5msi

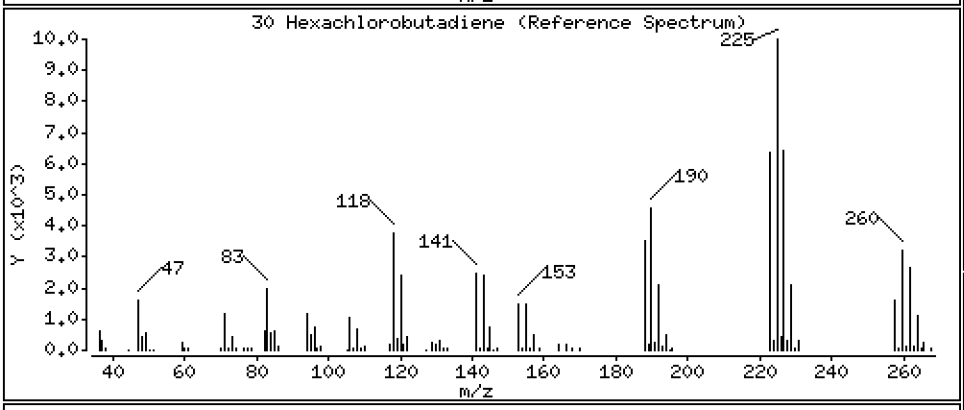
Column diameter: 0.25

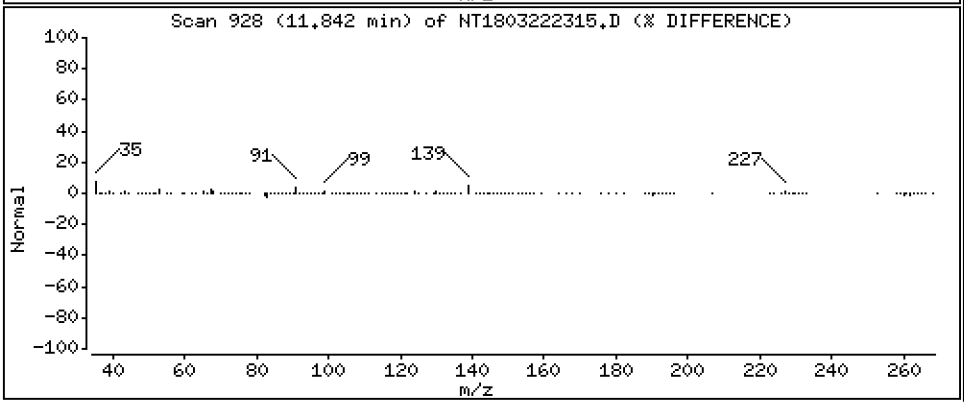
30 Hexachlorobutadiene

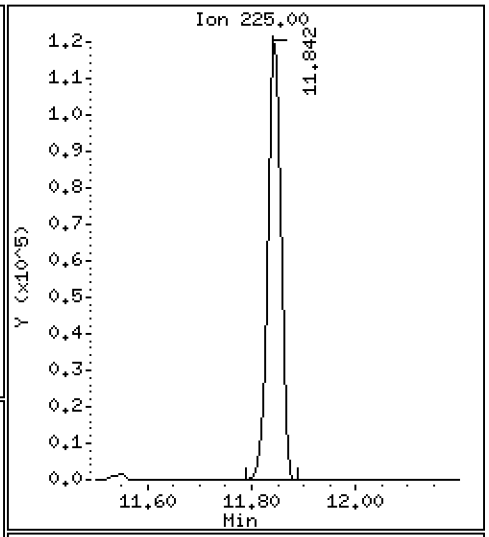
Concentration: 3.875 ug/mL

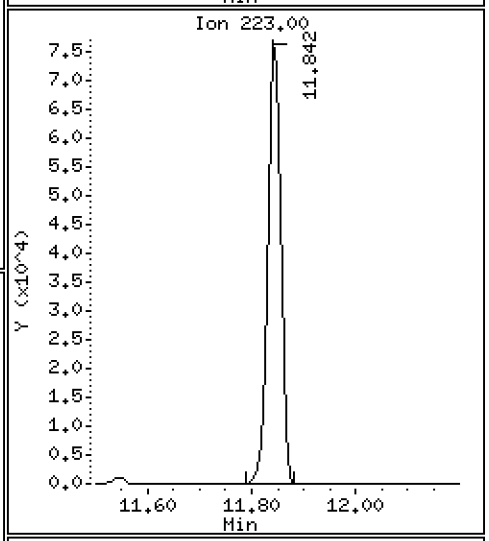


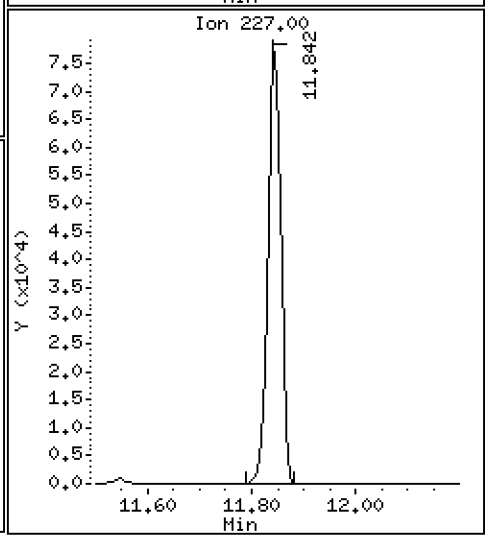












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

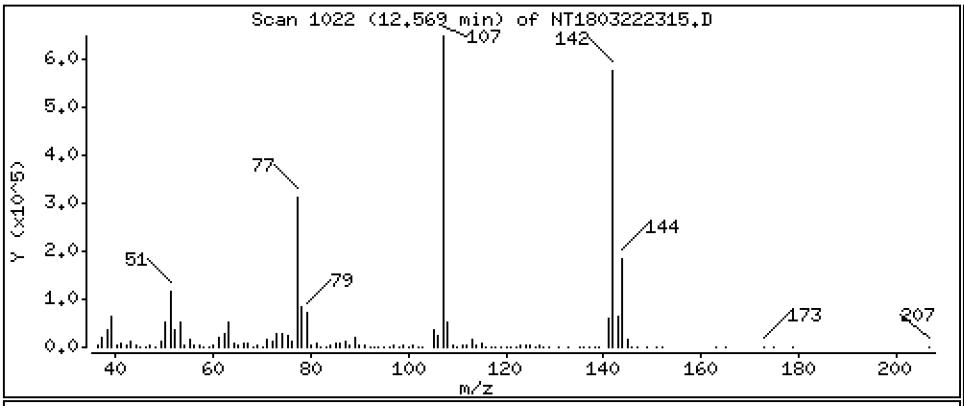
Operator: VTS

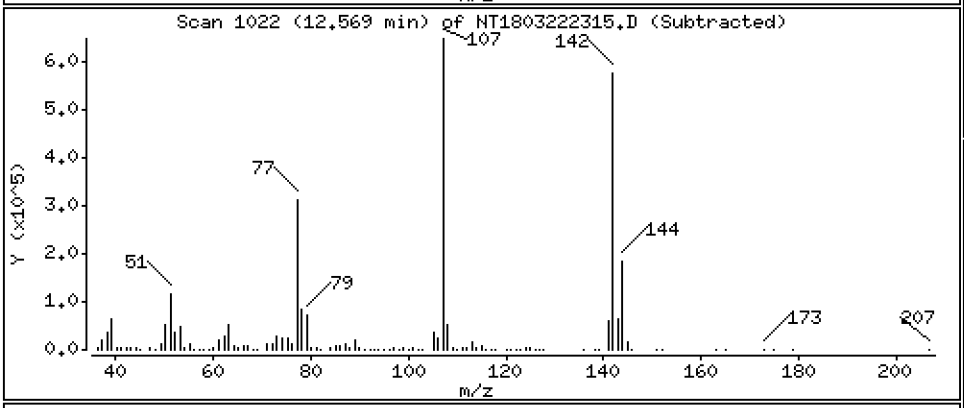
Column phase: ZB-5msi

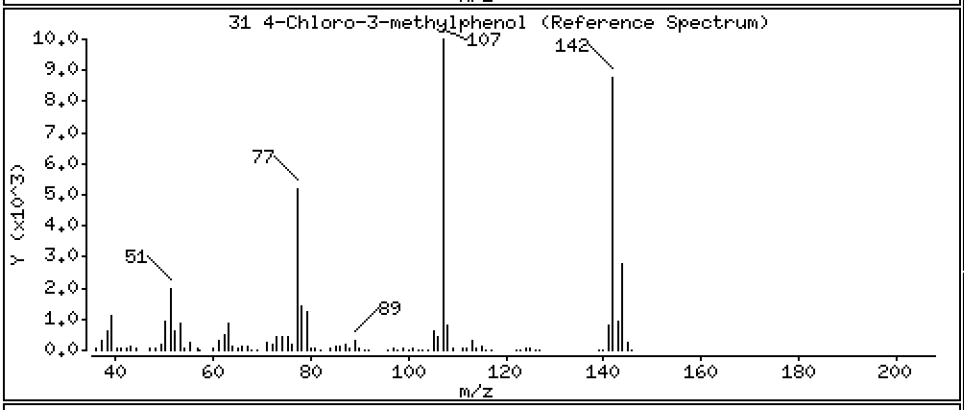
Column diameter: 0.25

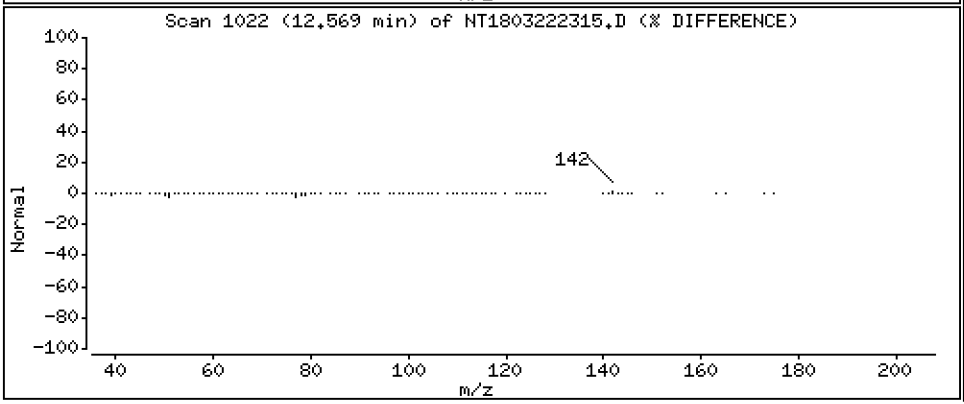
31 4-Chloro-3-methylphenol

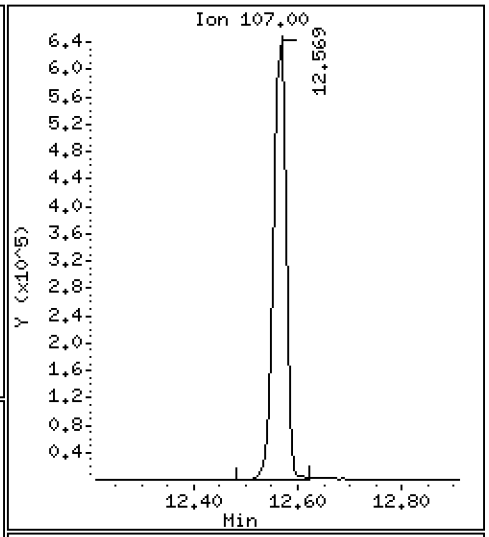
Concentration: 12.65 ug/mL

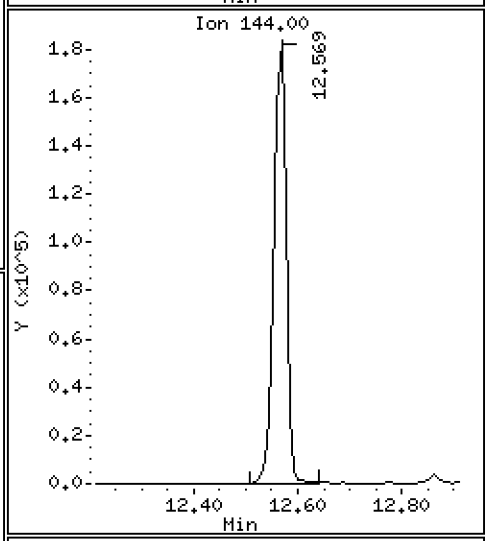


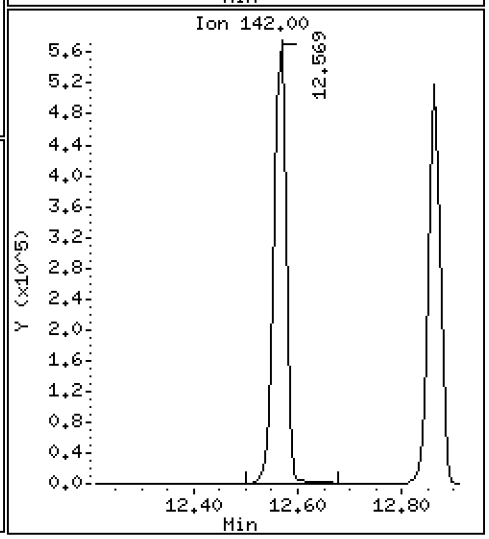












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222315.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

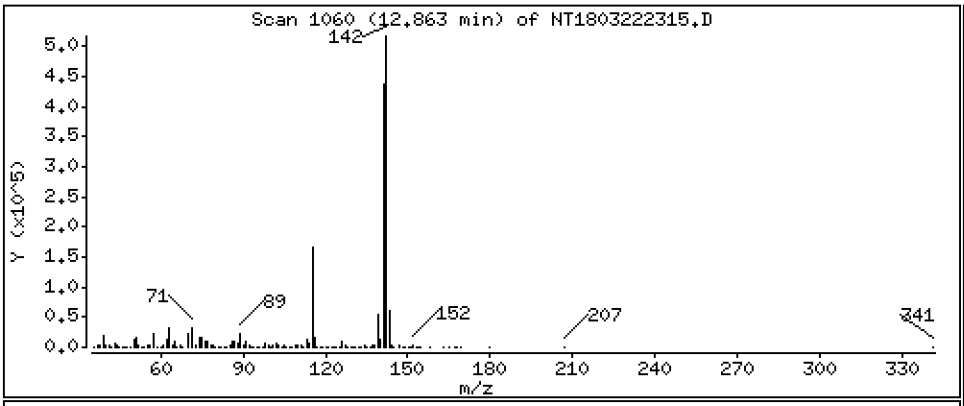
Operator: VTS

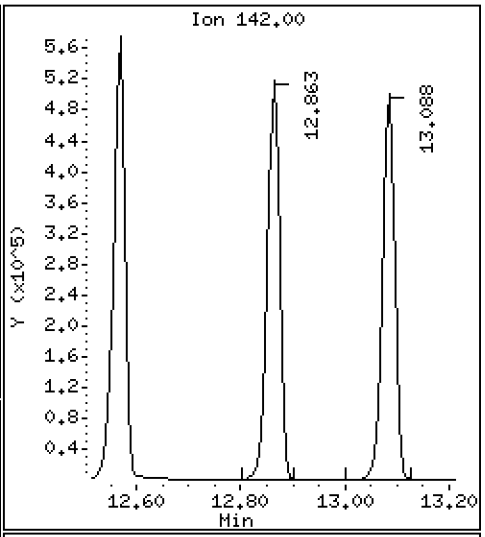
Column phase: ZB-5msi

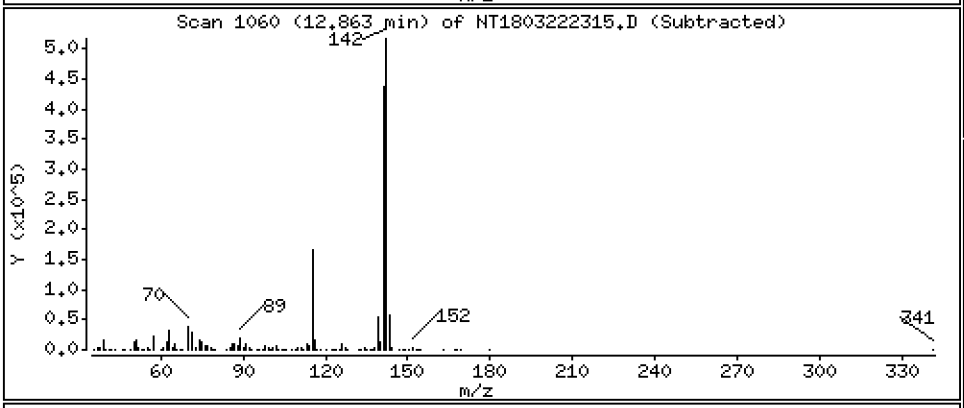
Column diameter: 0.25

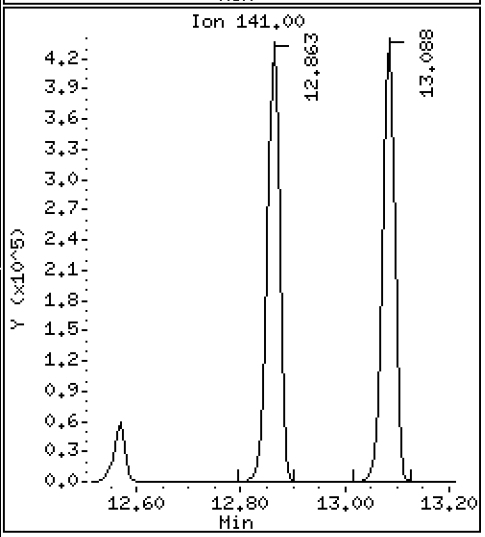
32 2-Methylnaphthalene

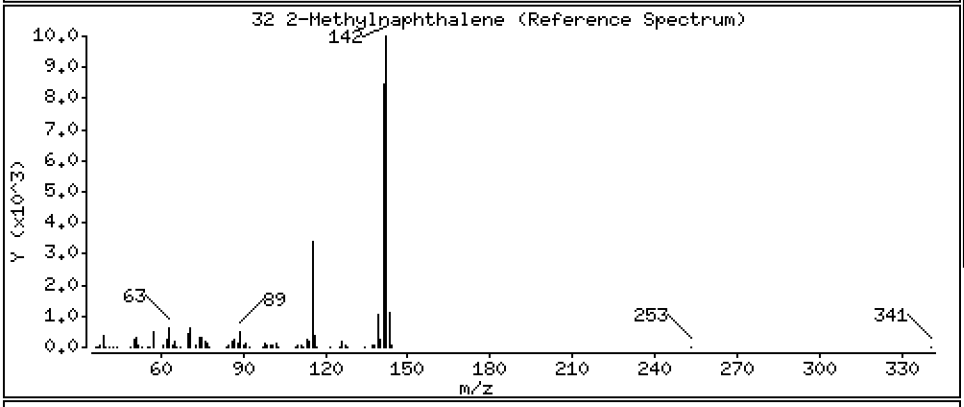
Concentration: 3.908 ug/mL

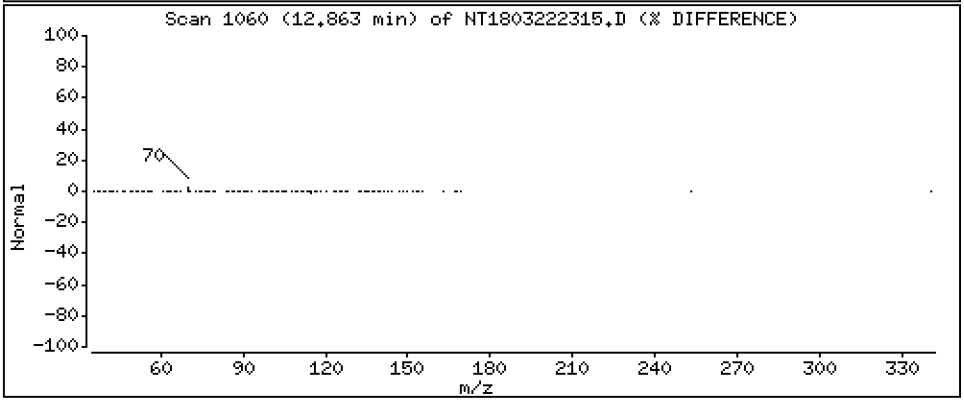












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222315.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

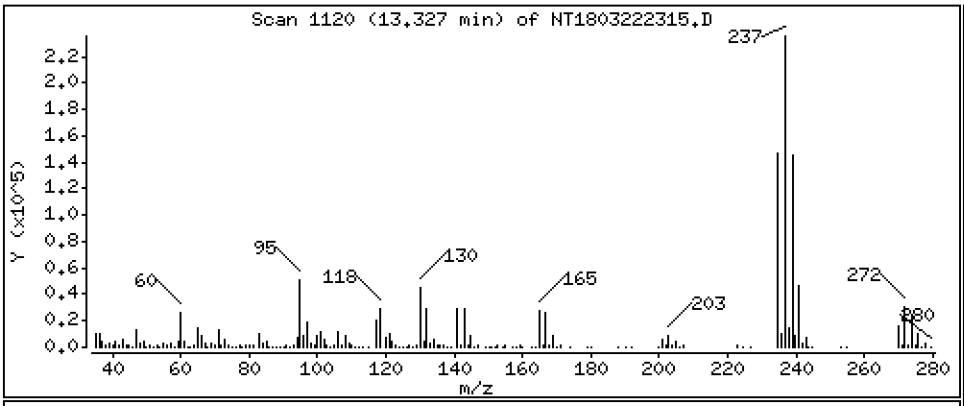
Operator: VTS

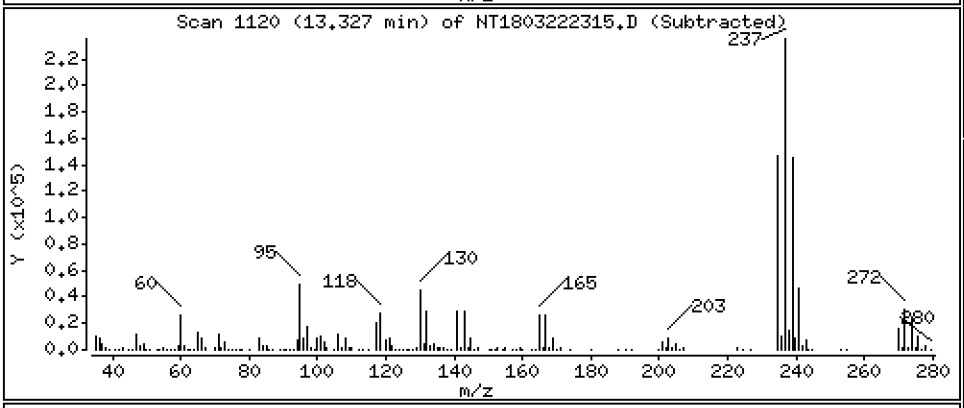
Column phase: ZB-5msi

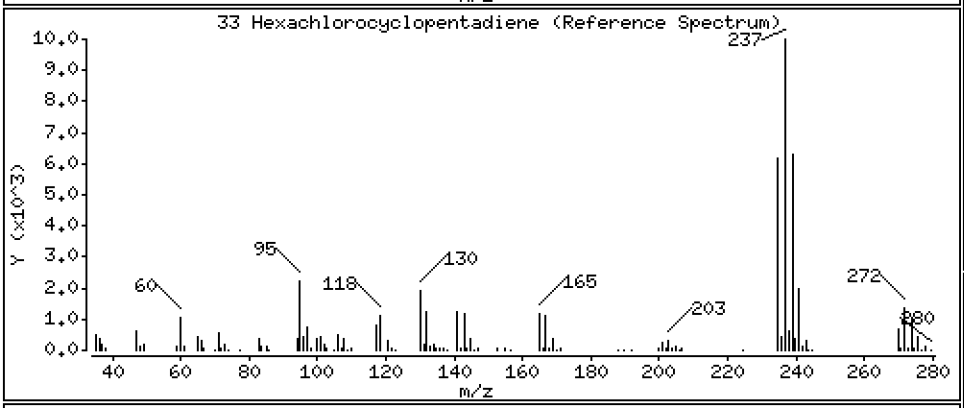
Column diameter: 0.25

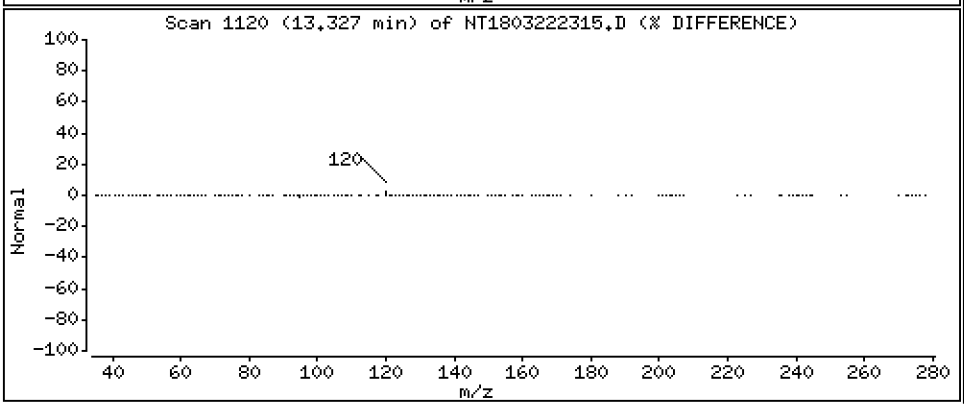
33 Hexachlorocyclopentadiene

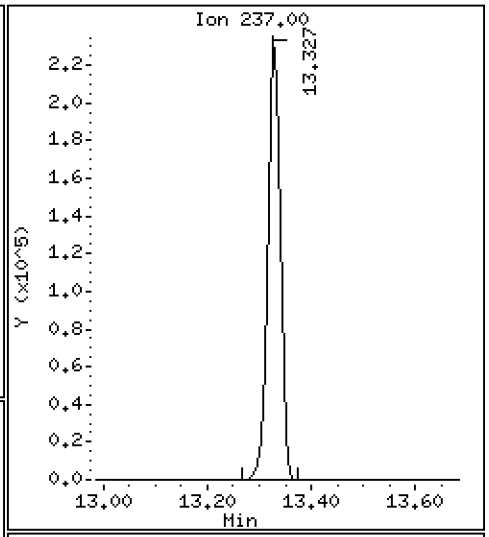
Concentration: 7.366 ug/mL

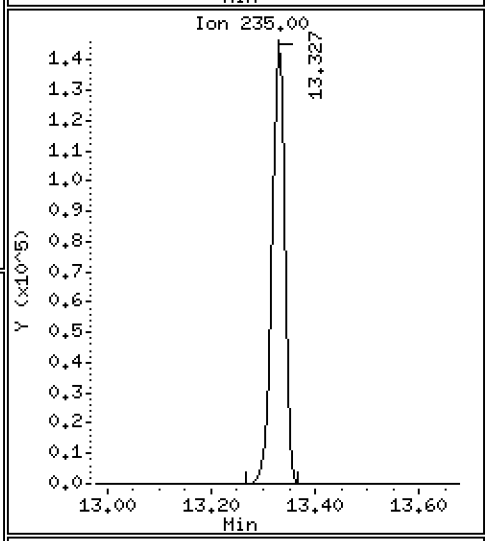


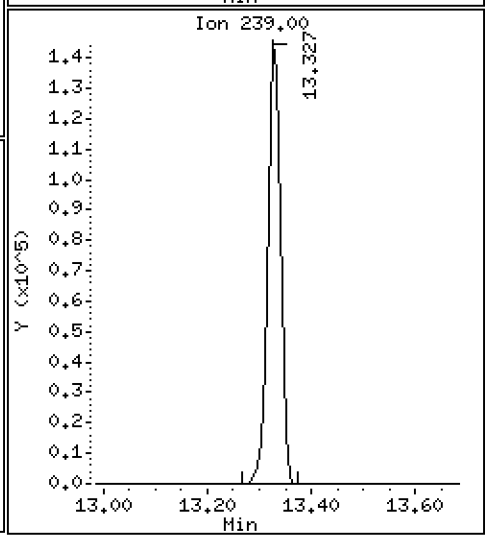












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

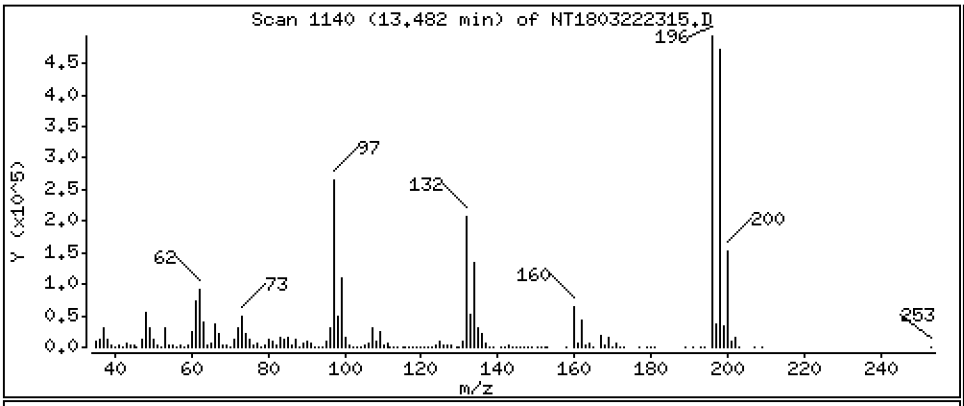
Operator: VTS

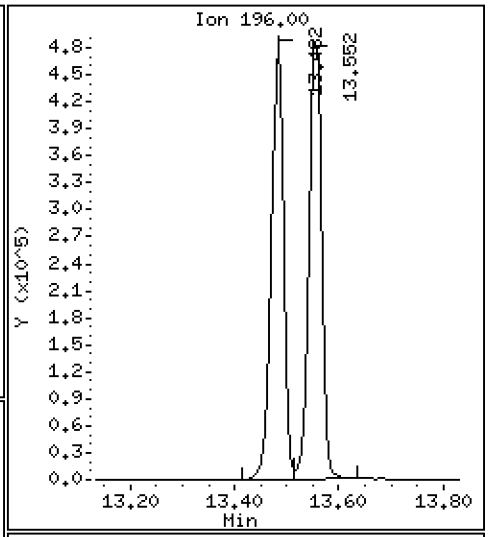
Column phase: ZB-5msi

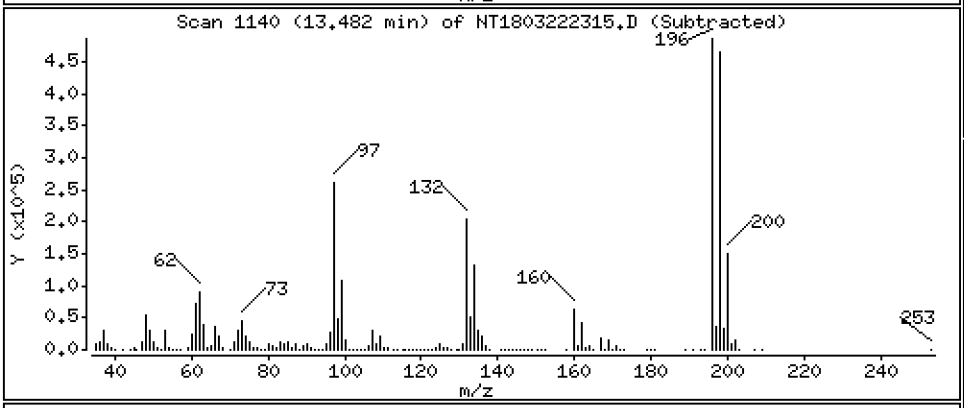
Column diameter: 0.25

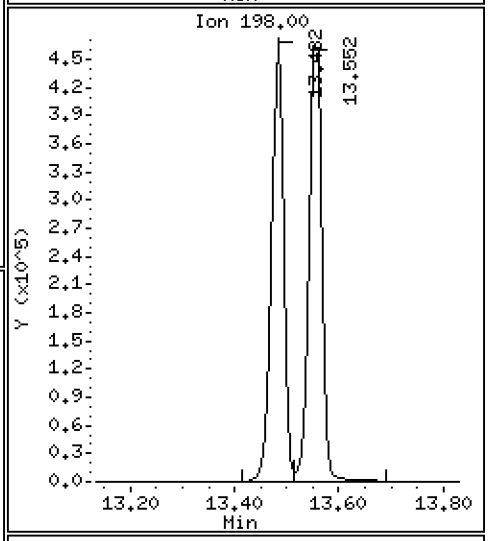
34 2,4,6-Trichlorophenol

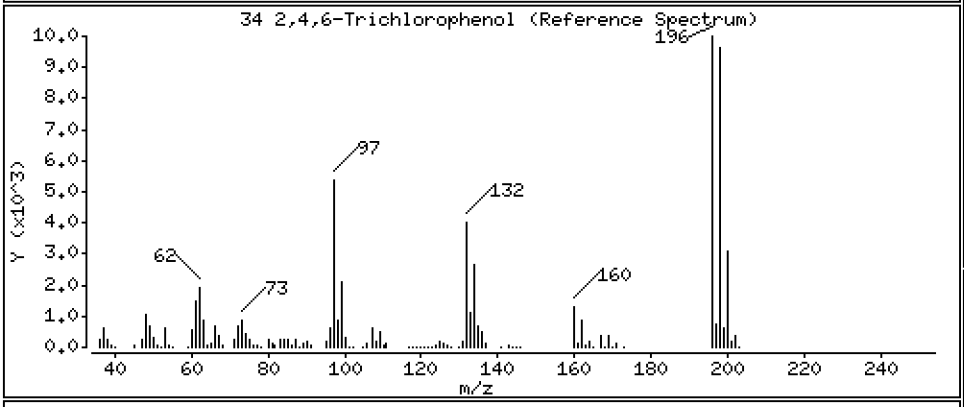
Concentration: 14.09 ug/mL

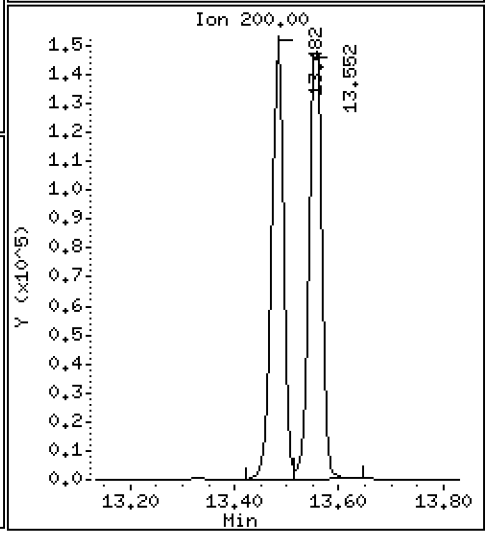


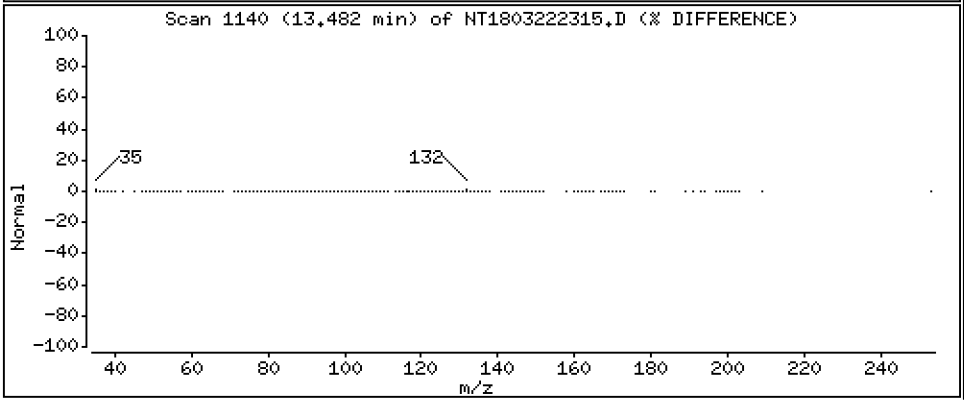












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

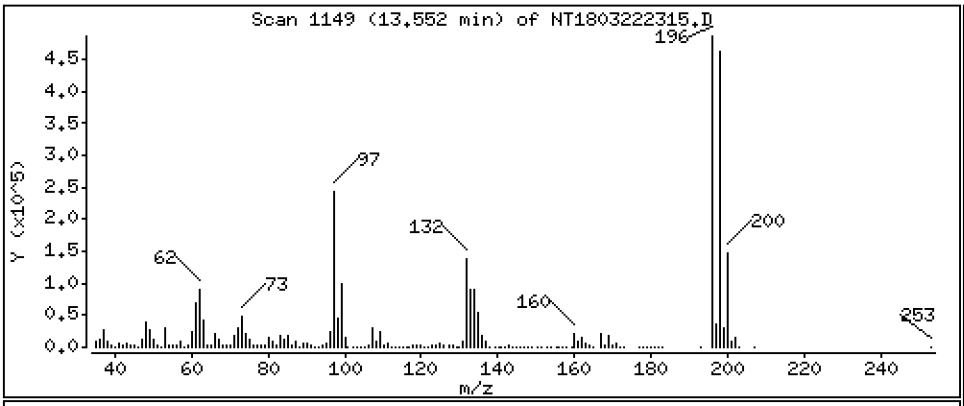
Operator: VTS

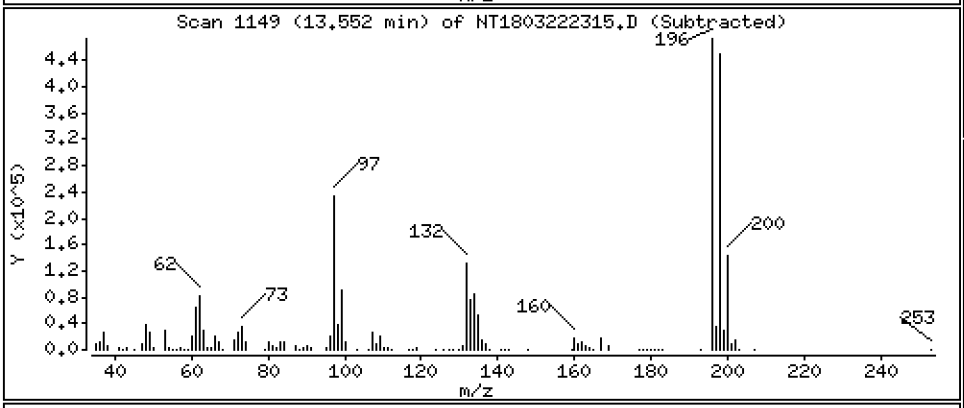
Column phase: ZB-5msi

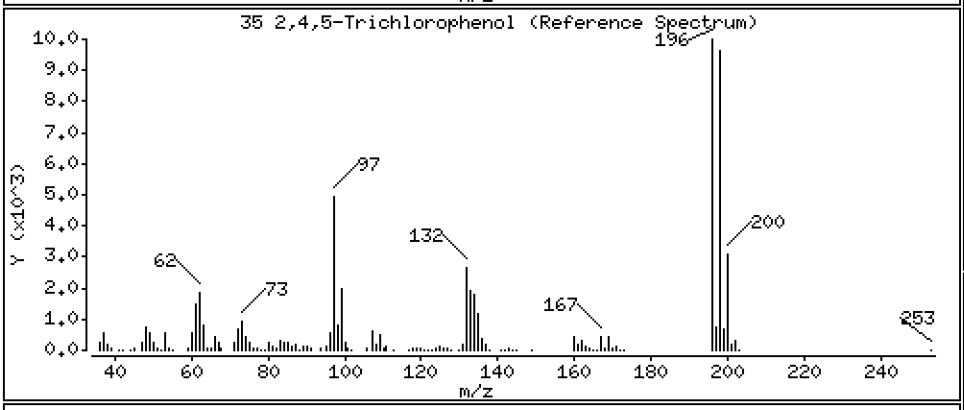
Column diameter: 0.25

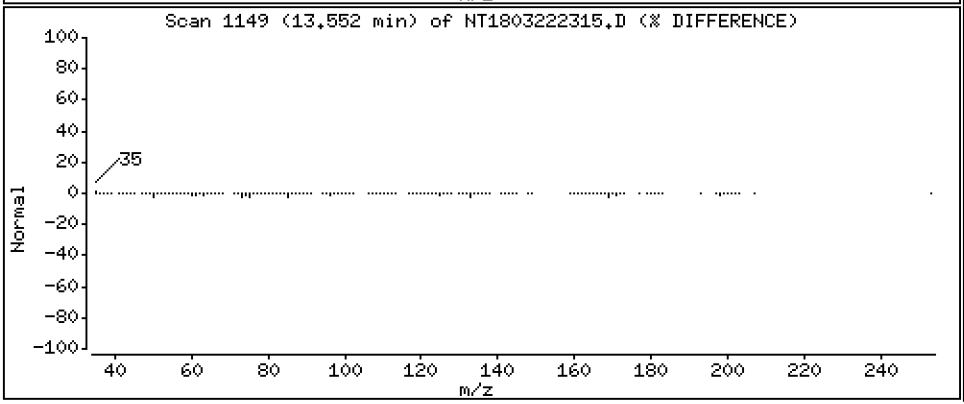
35 2,4,5-Trichlorophenol

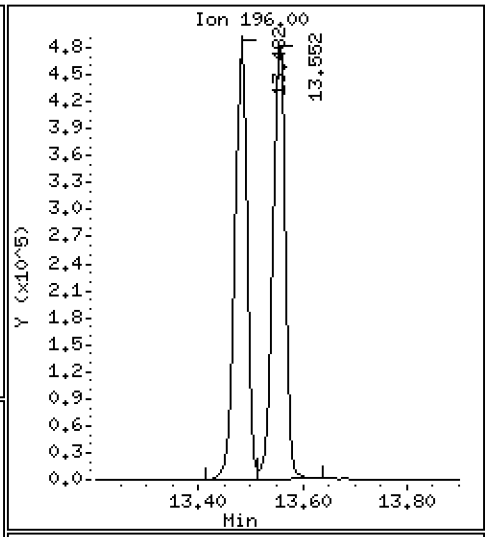
Concentration: 13.32 ug/mL

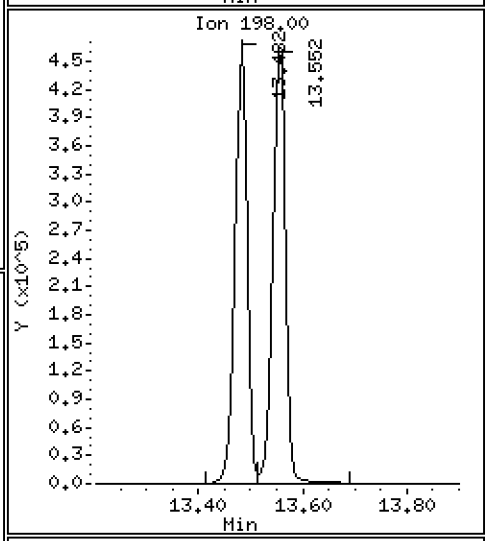


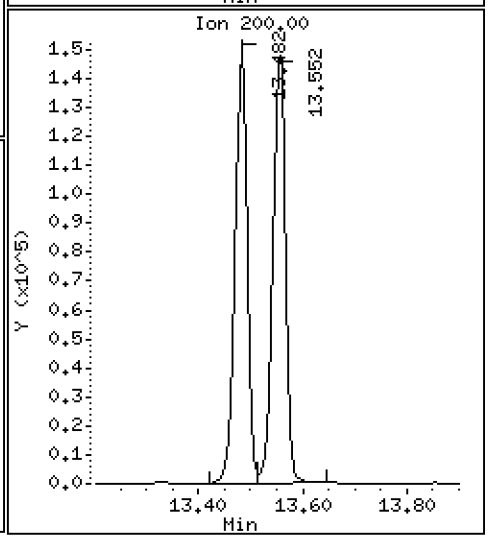












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222315.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

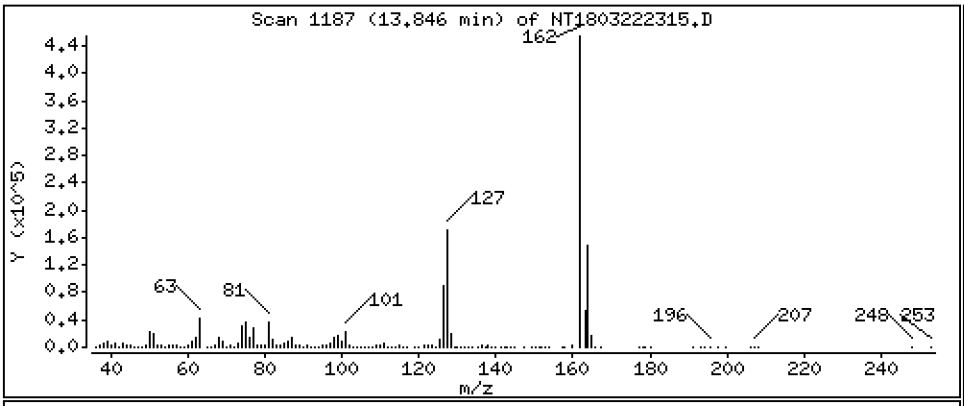
Operator: VTS

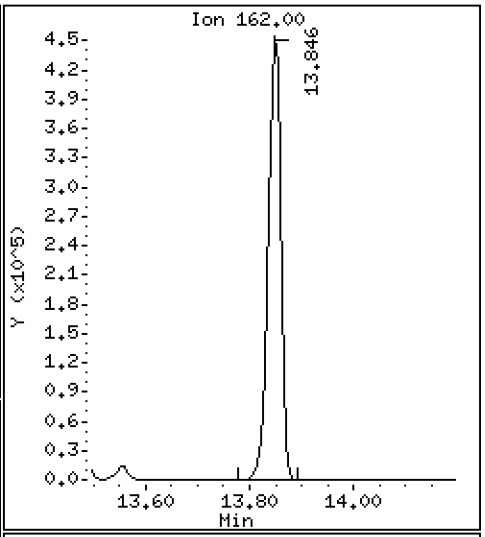
Column phase: ZB-5msi

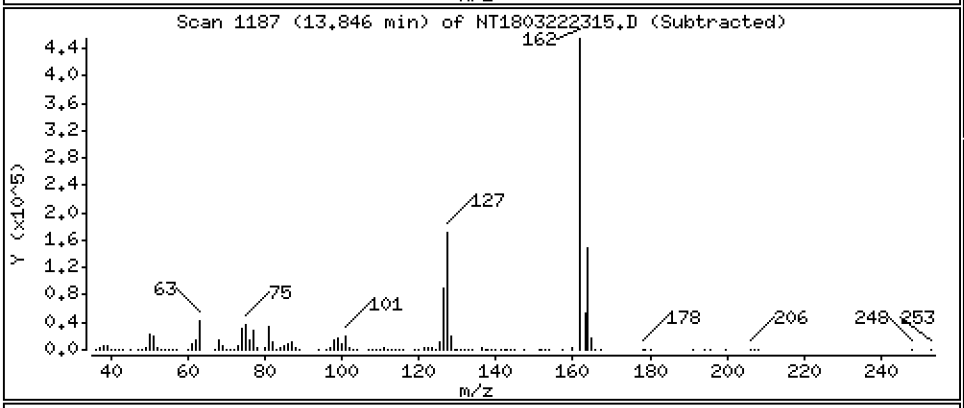
Column diameter: 0.25

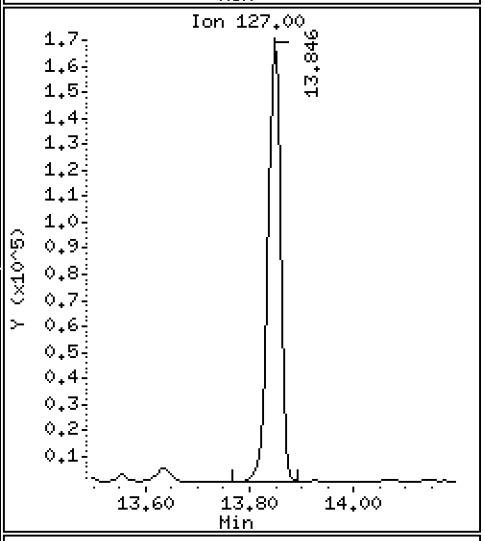
37 2-Chloronaphthalene

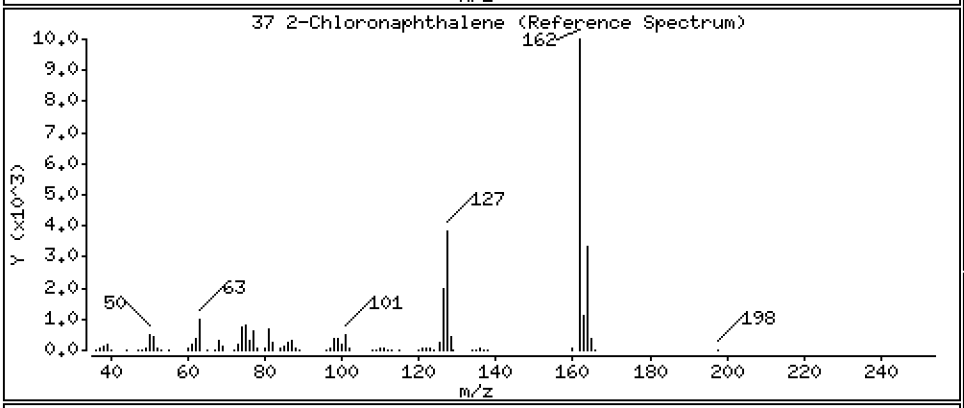
Concentration: 4.292 ug/mL

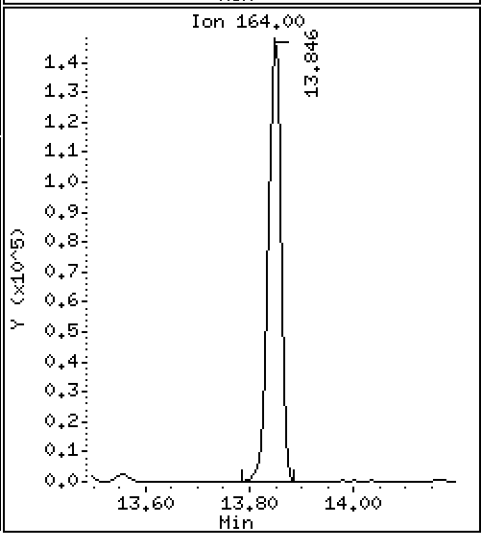


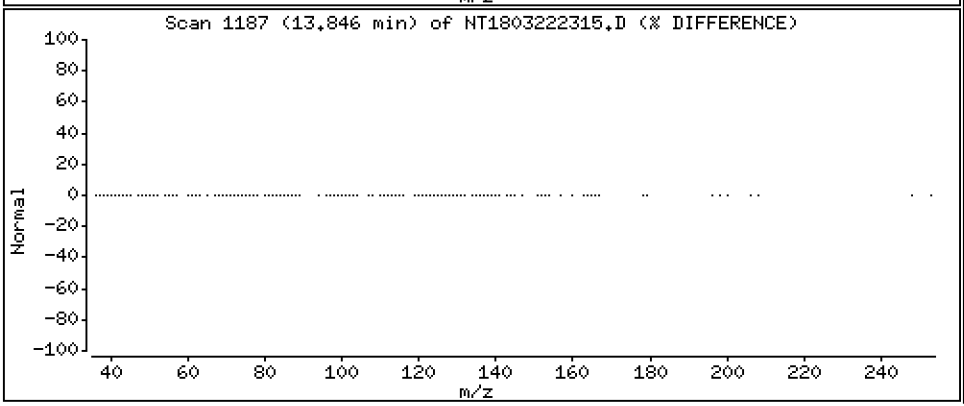












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

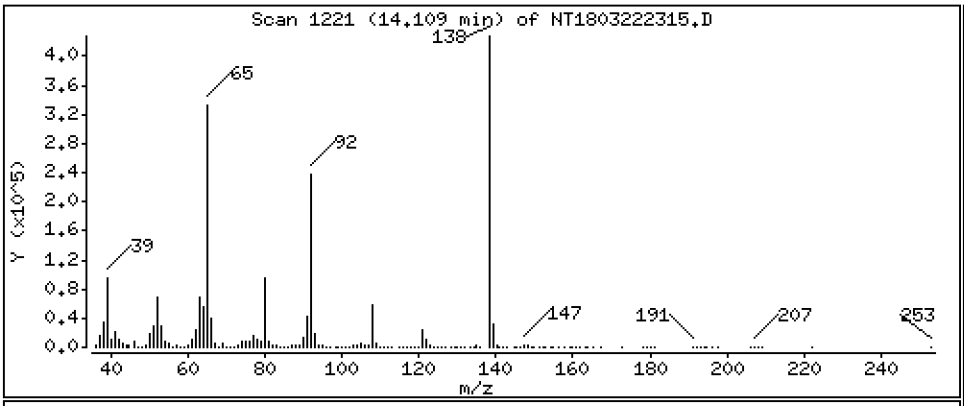
Operator: VTS

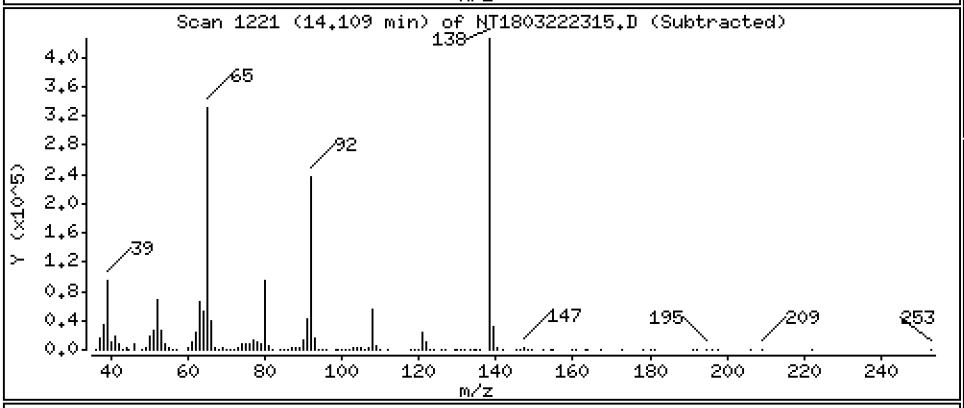
Column phase: ZB-5msi

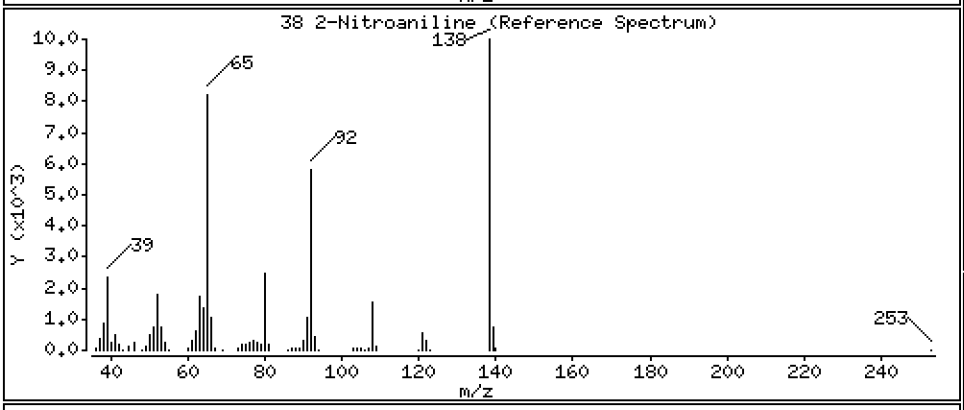
Column diameter: 0.25

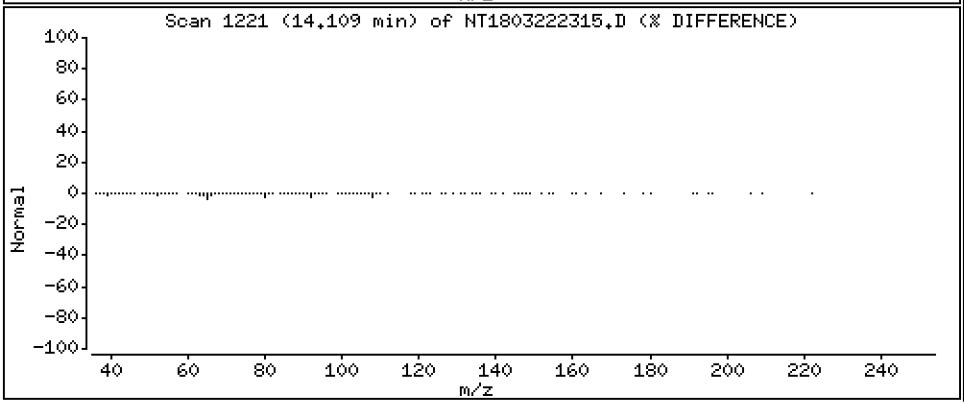
38 2-Nitroaniline

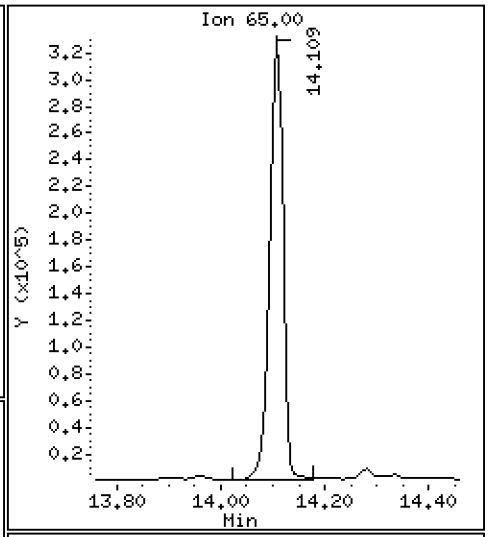
Concentration: 12.55 ug/mL

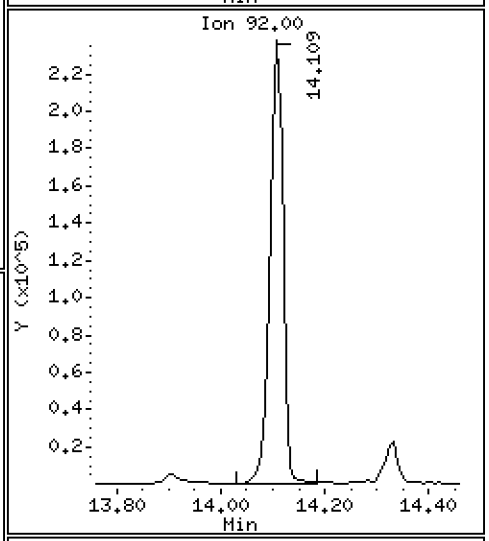


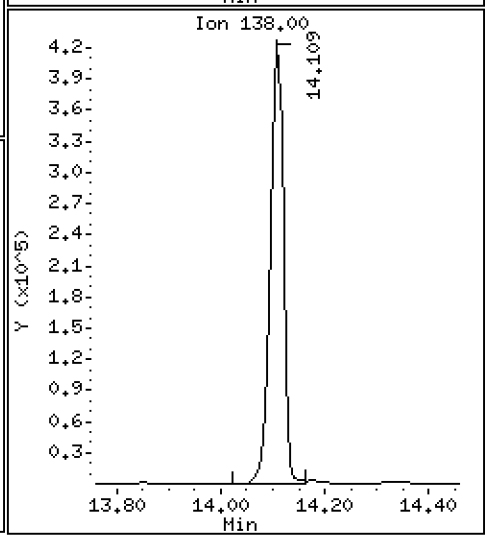












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

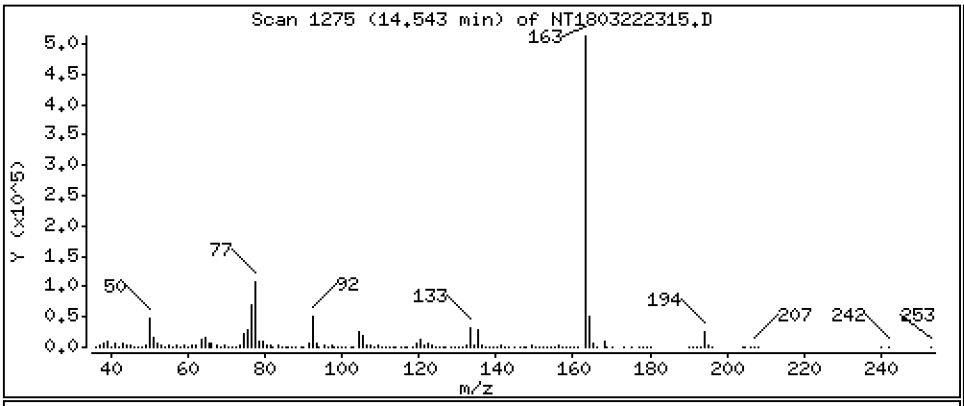
Operator: VTS

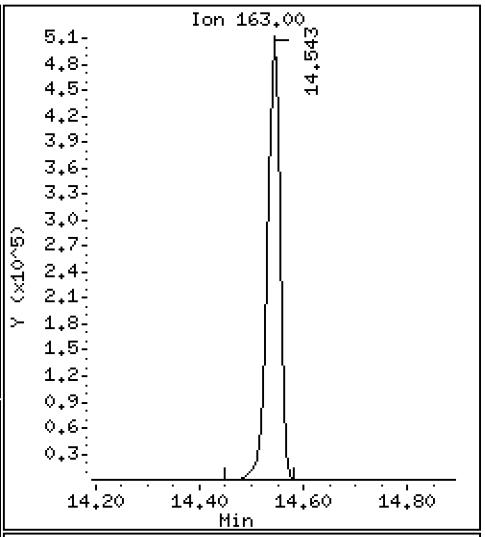
Column phase: ZB-5msi

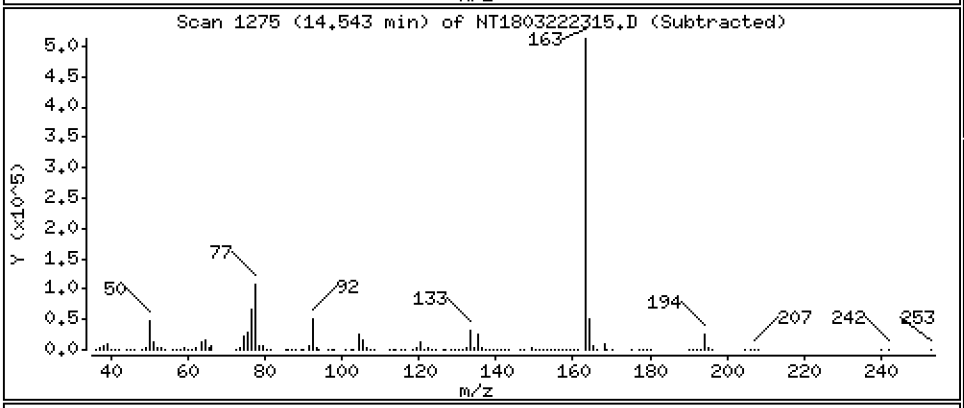
Column diameter: 0.25

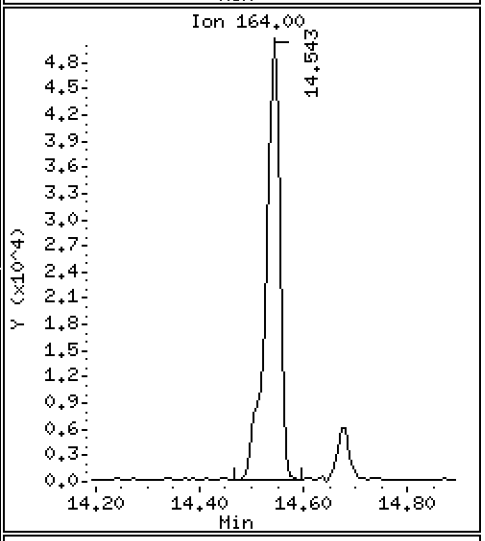
39 Dimethylphthalate

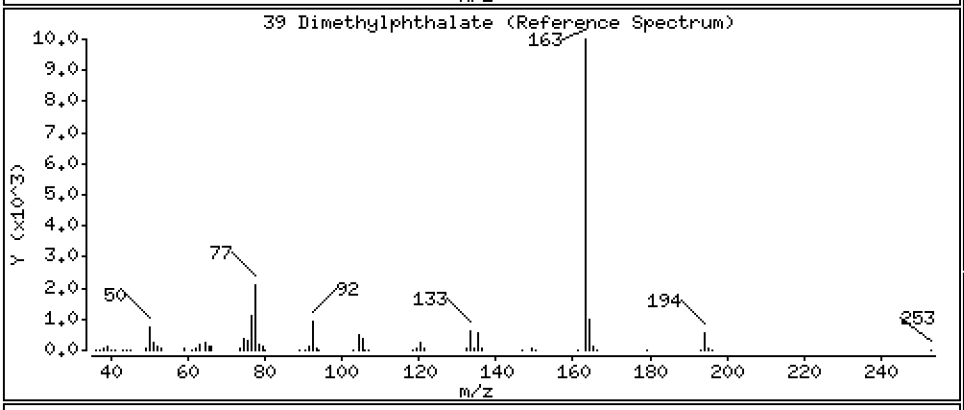
Concentration: 4.610 ug/mL

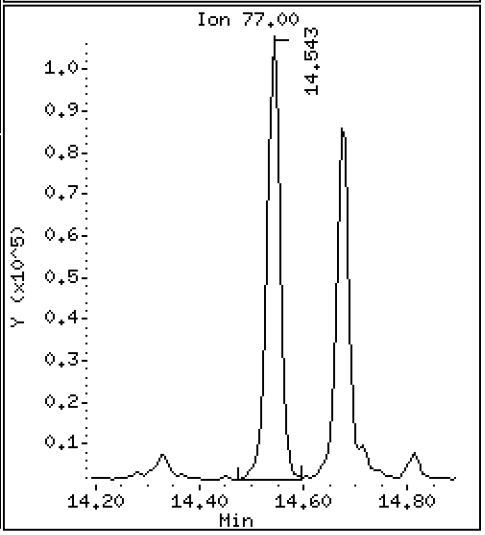


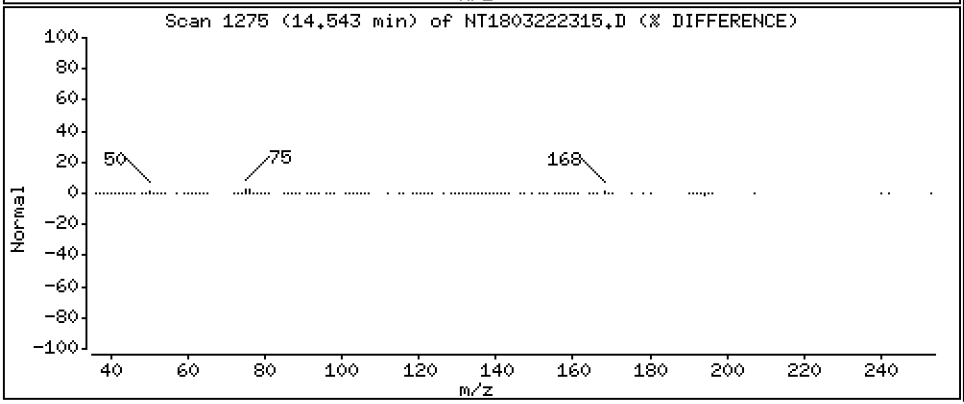












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

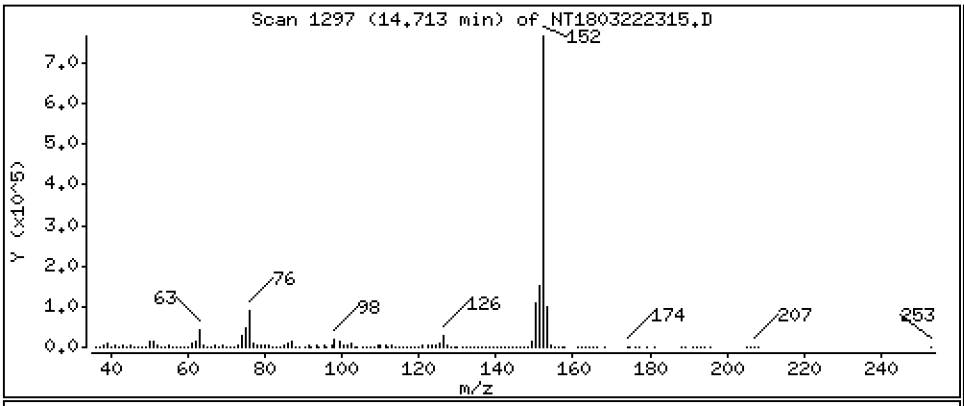
Operator: VTS

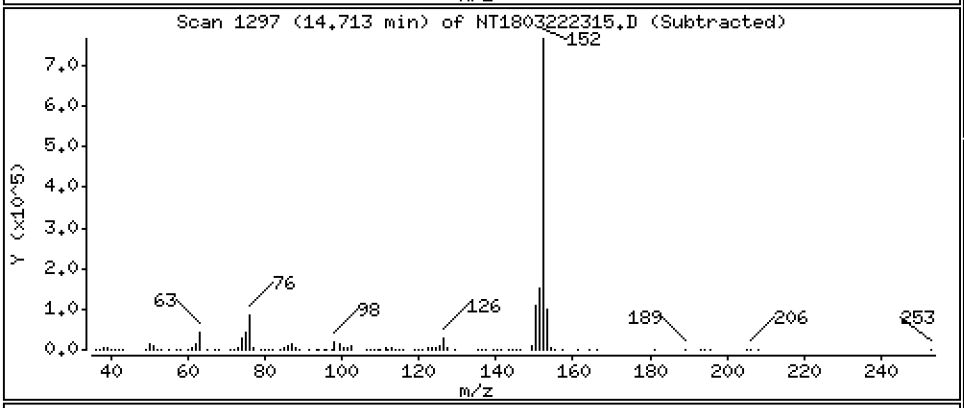
Column phase: ZB-5msi

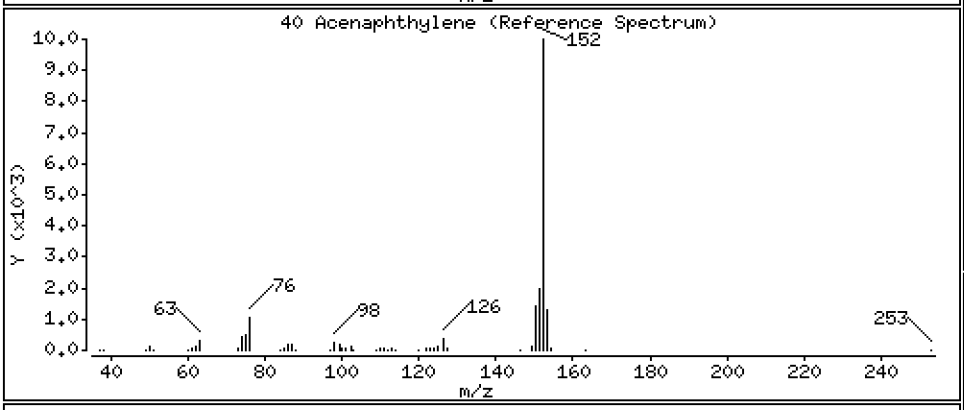
Column diameter: 0.25

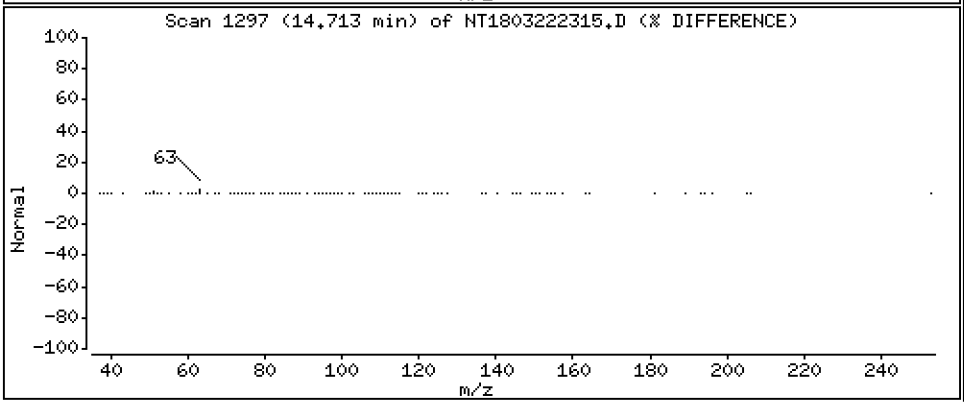
40 Acenaphthylene

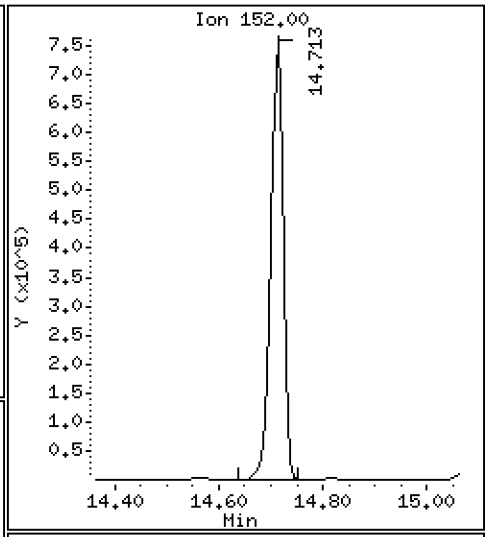
Concentration: 4.117 ug/mL

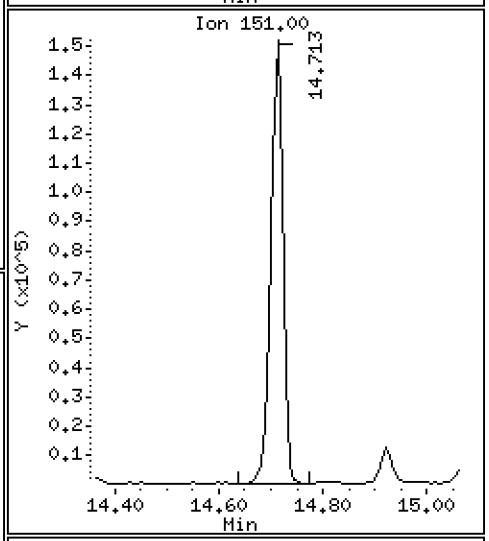


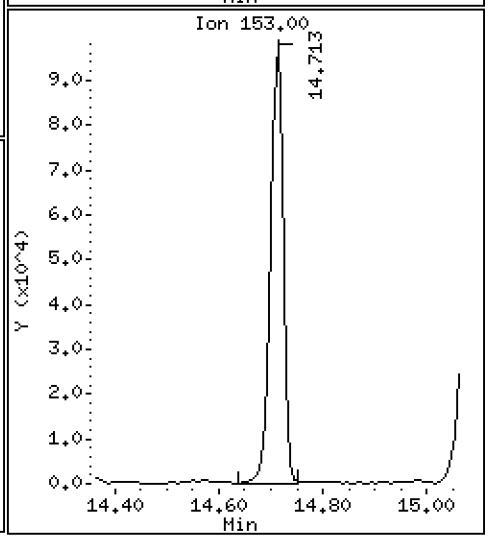












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

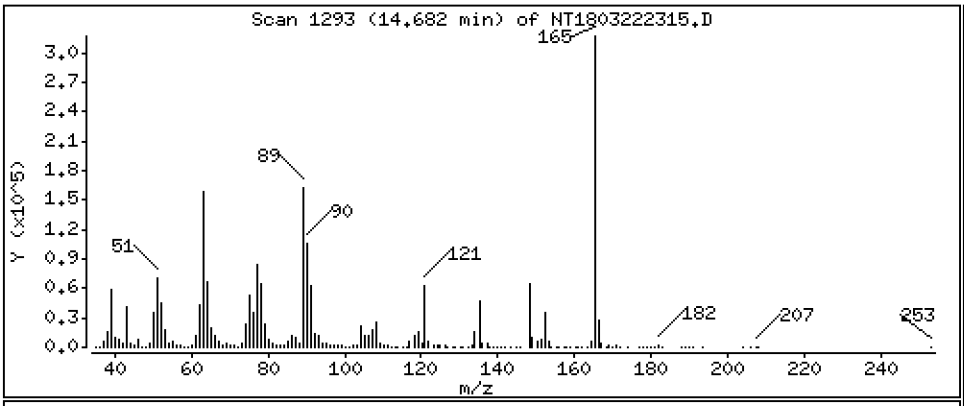
Operator: VTS

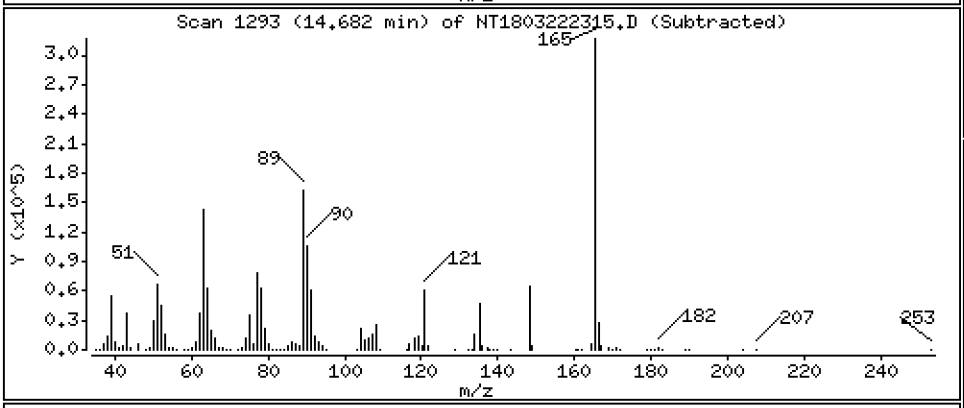
Column phase: ZB-5msi

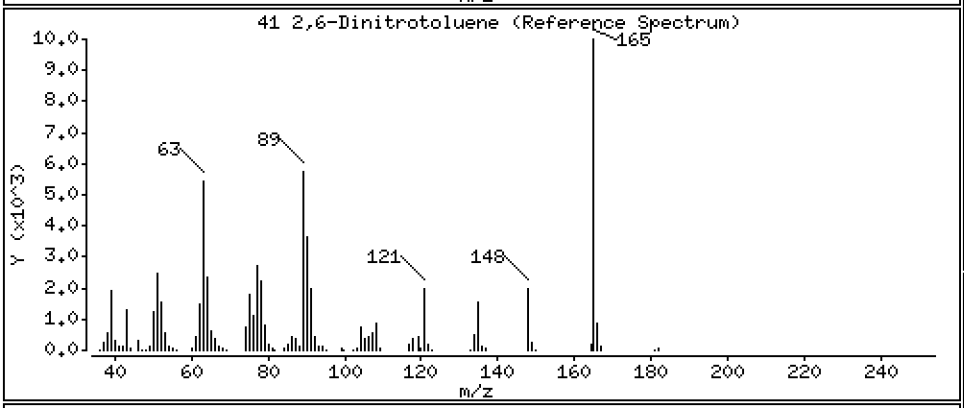
Column diameter: 0.25

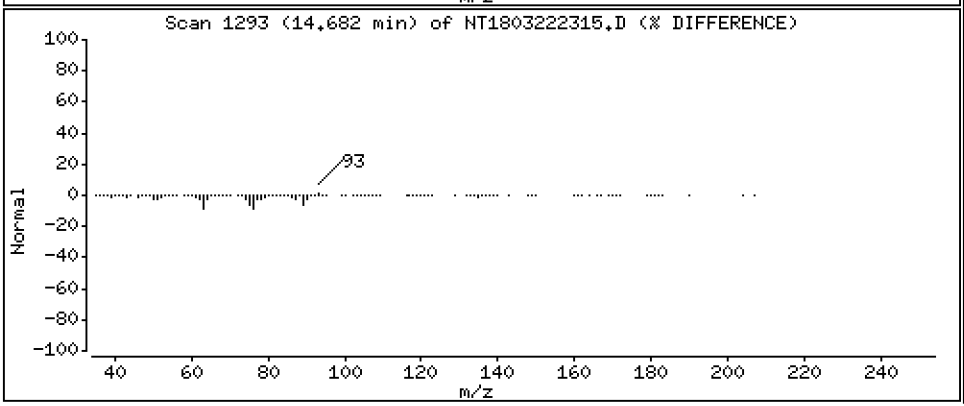
41 2,6-Dinitrotoluene

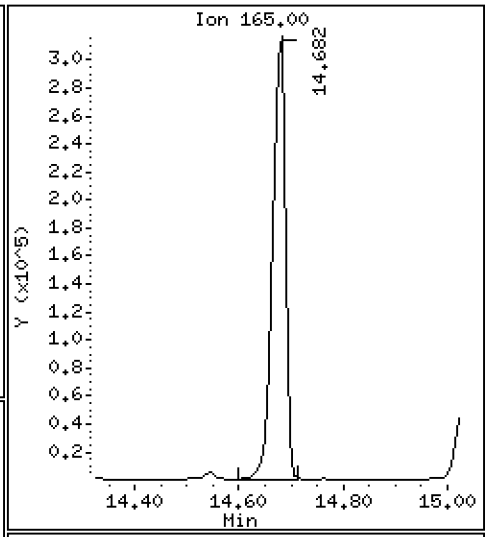
Concentration: 12.80 ug/mL

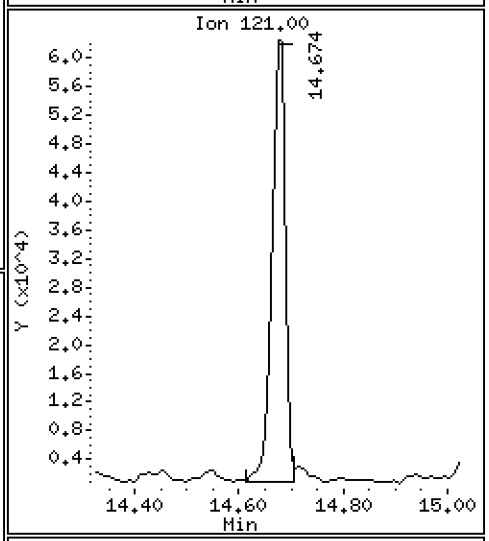


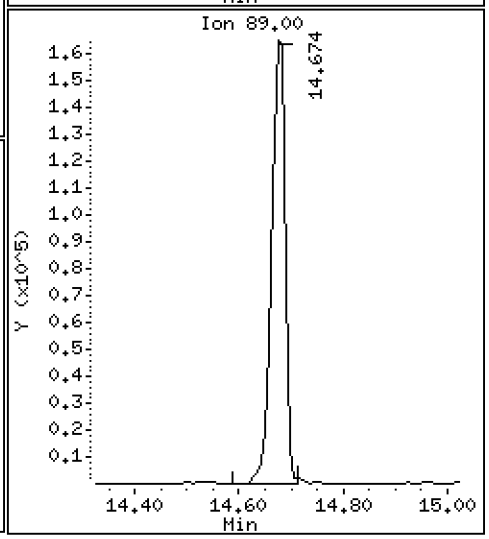












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

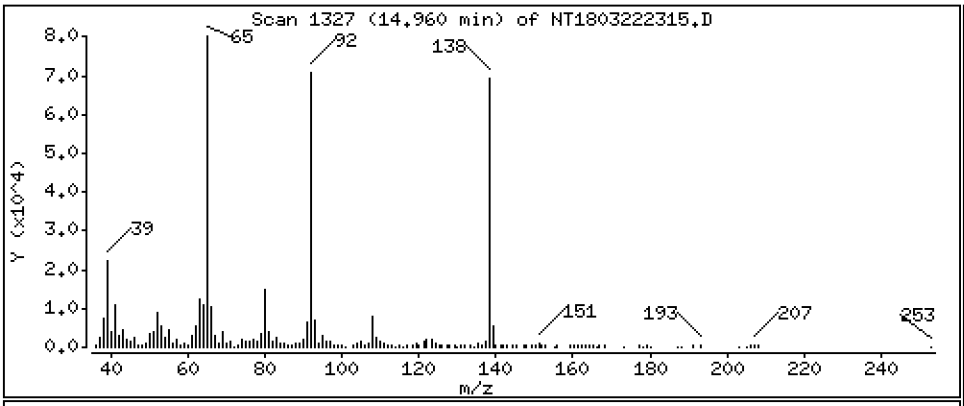
Operator: VTS

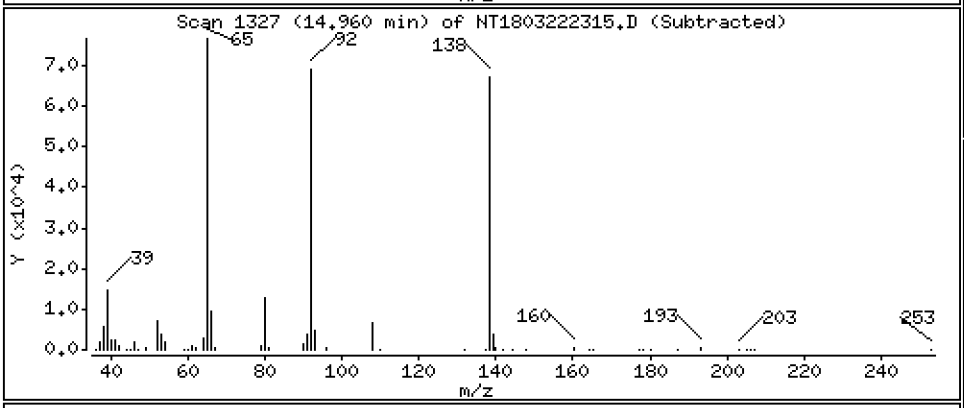
Column phase: ZB-5msi

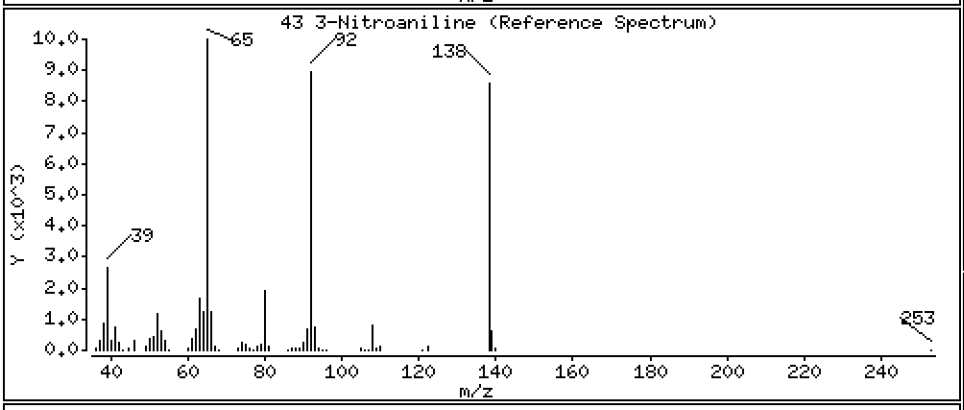
Column diameter: 0.25

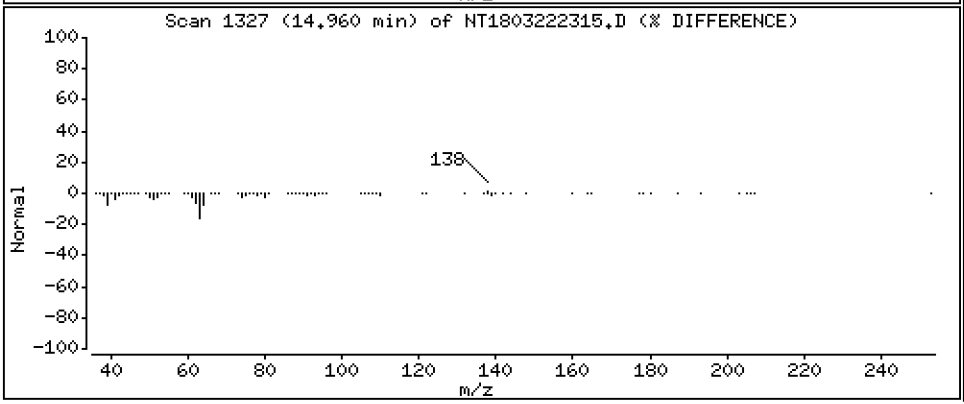
43 3-Nitroaniline

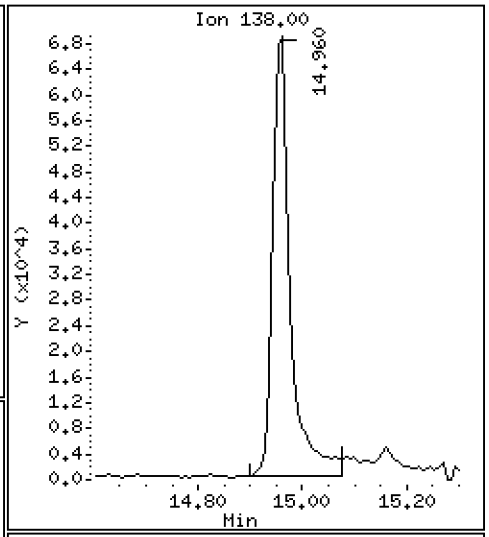
Concentration: 3.521 ug/mL

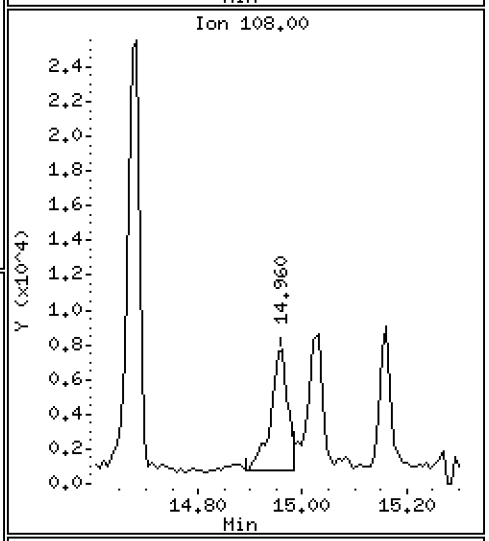


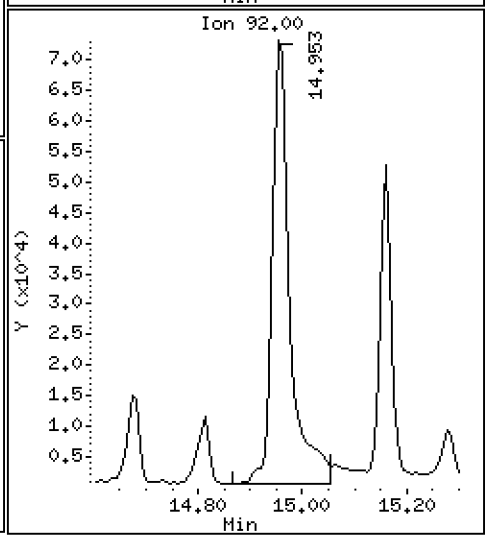












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

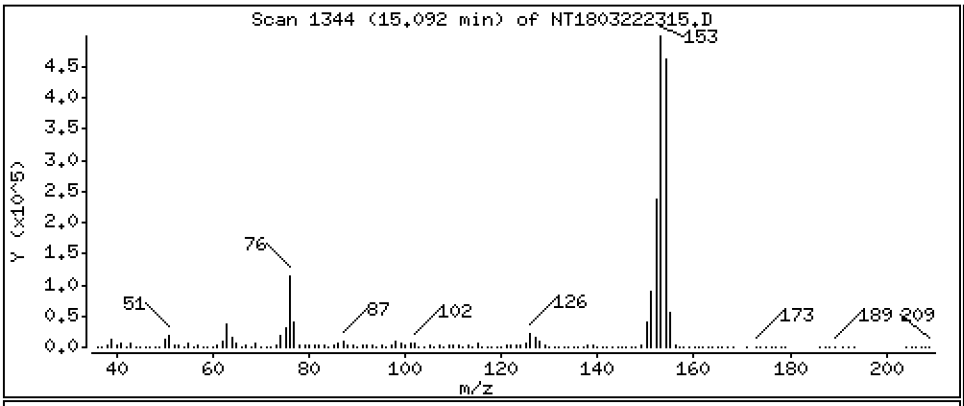
Operator: VTS

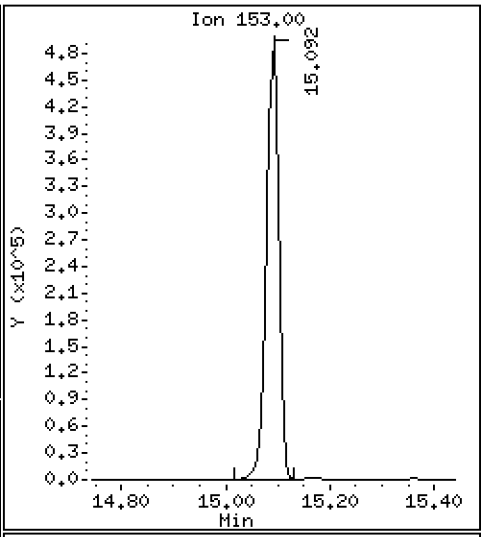
Column phase: ZB-5msi

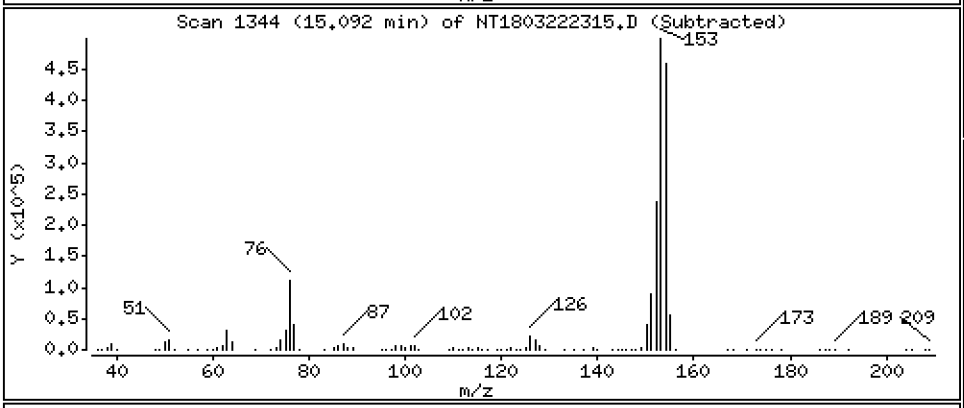
Column diameter: 0.25

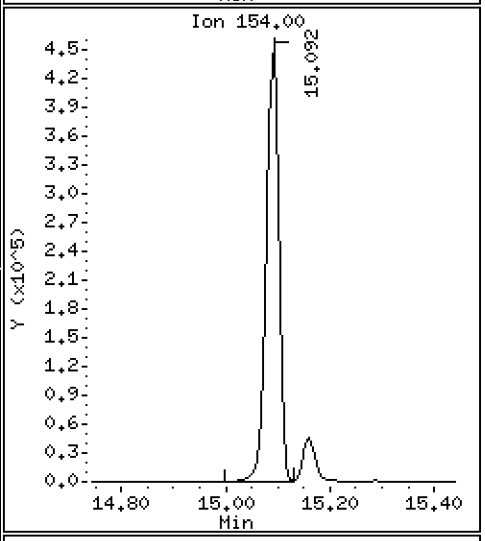
44 Acenaphthene

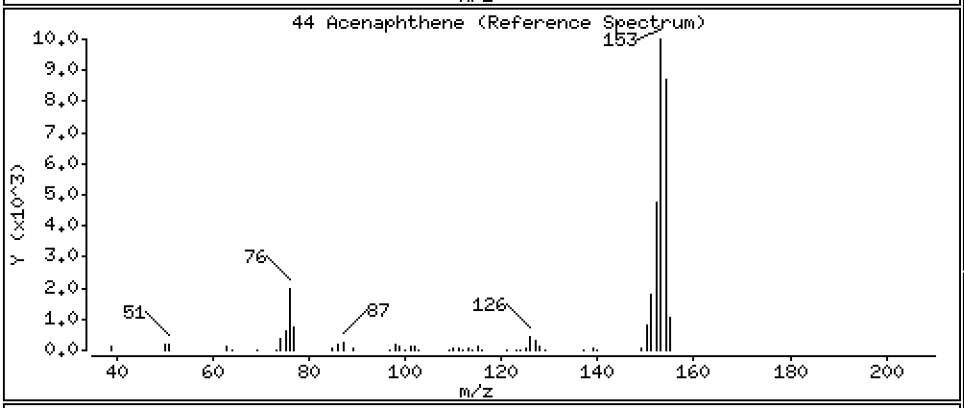
Concentration: 4.222 ug/mL

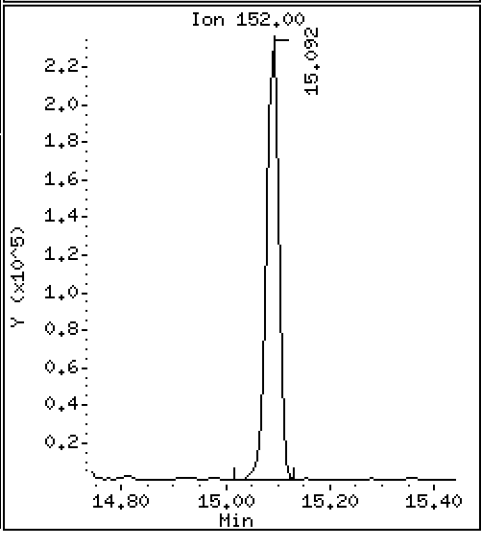


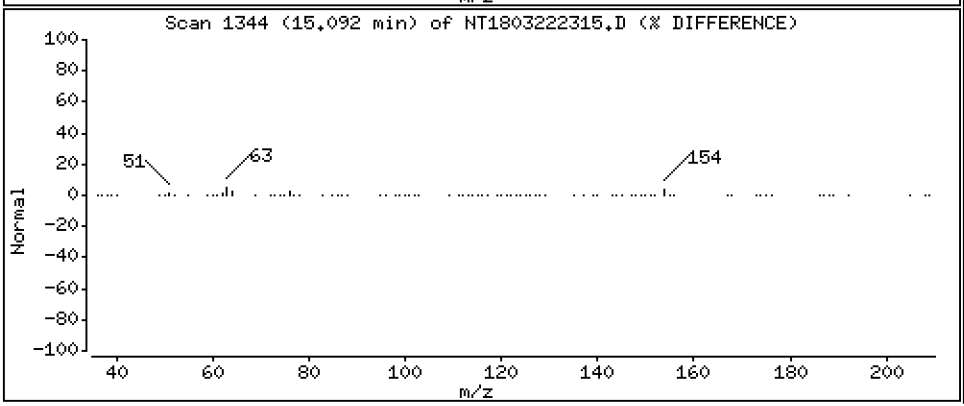












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

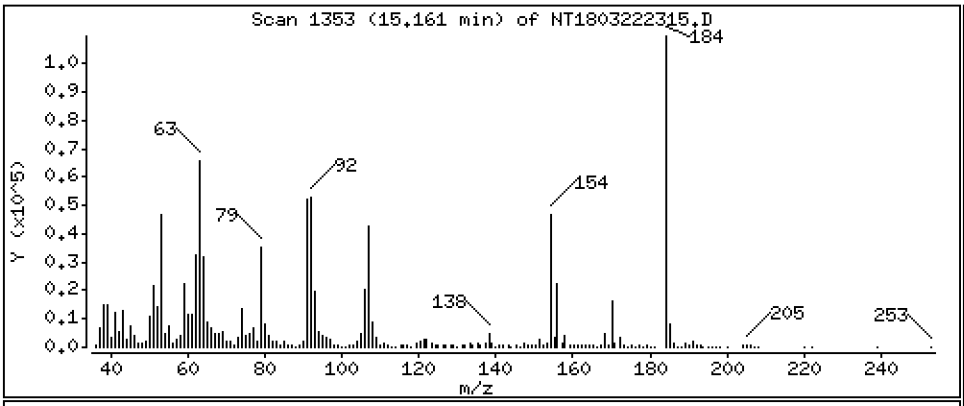
Operator: VTS

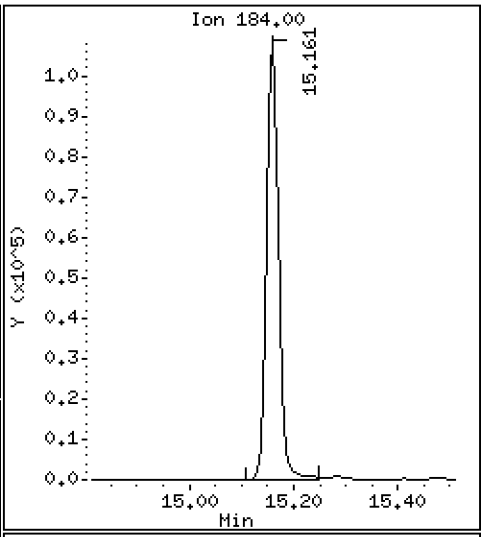
Column phase: ZB-5msi

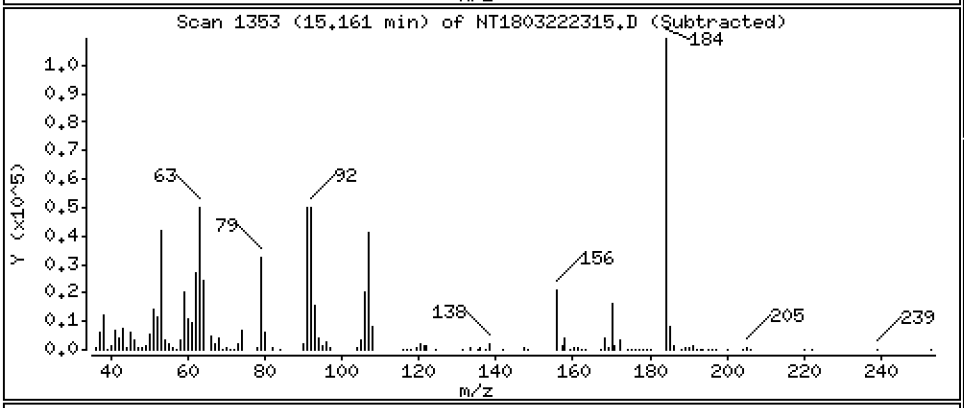
Column diameter: 0.25

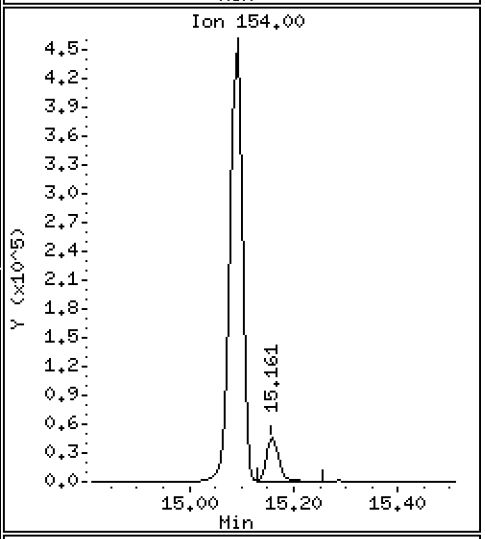
45 2,4-Dinitrophenol

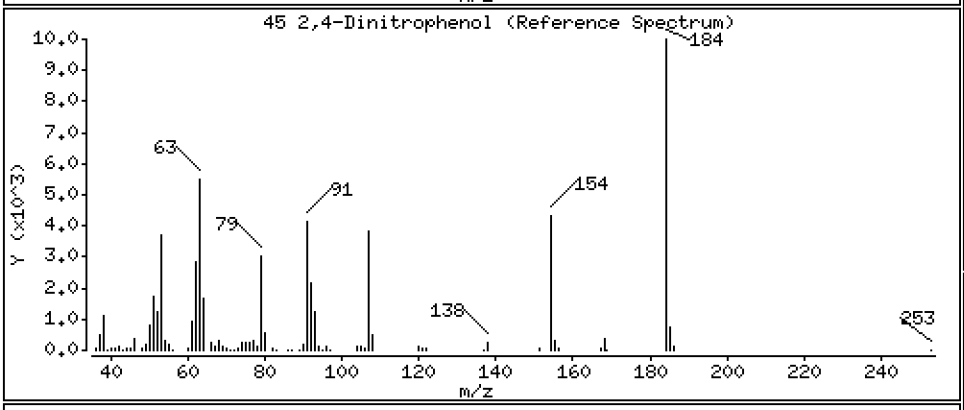
Concentration: 6.979 ug/mL

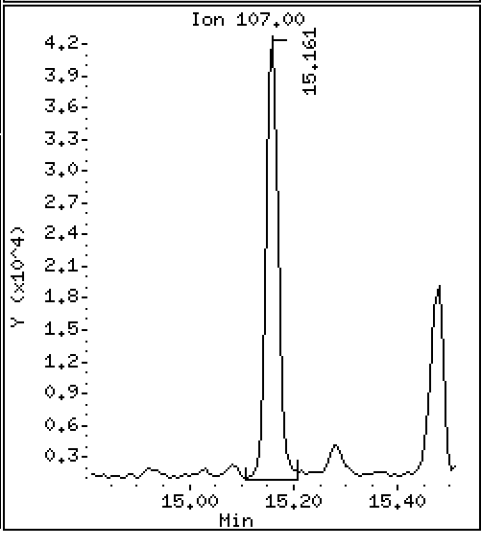


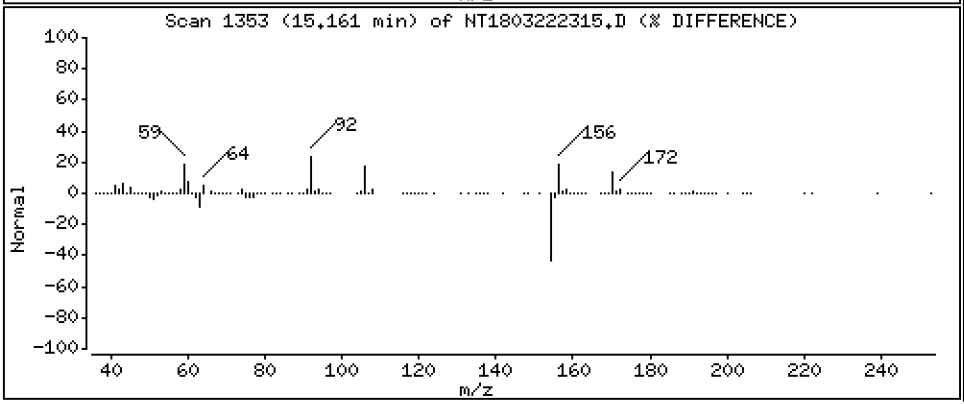












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222315.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

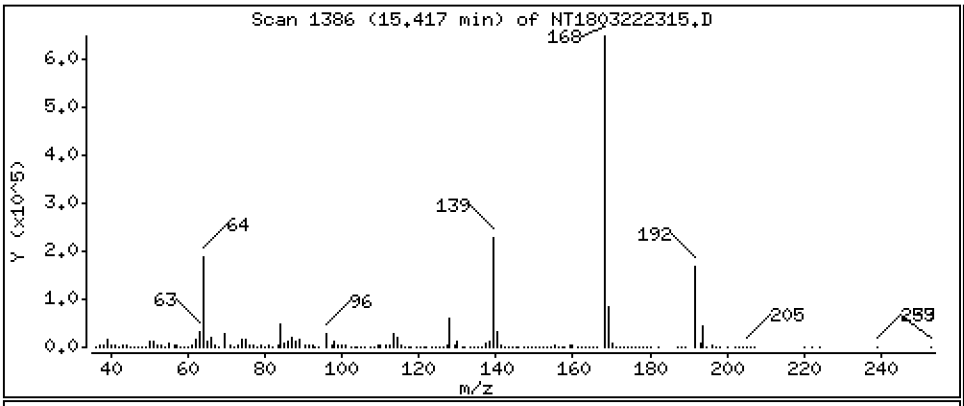
Operator: VTS

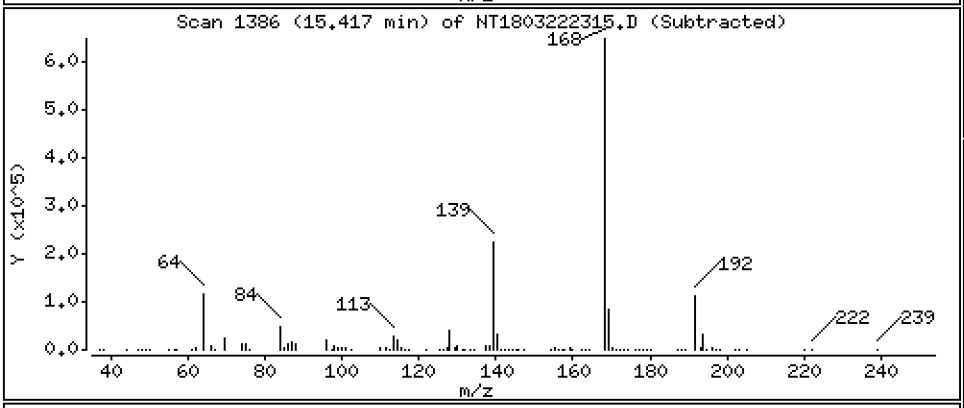
Column phase: ZB-5msi

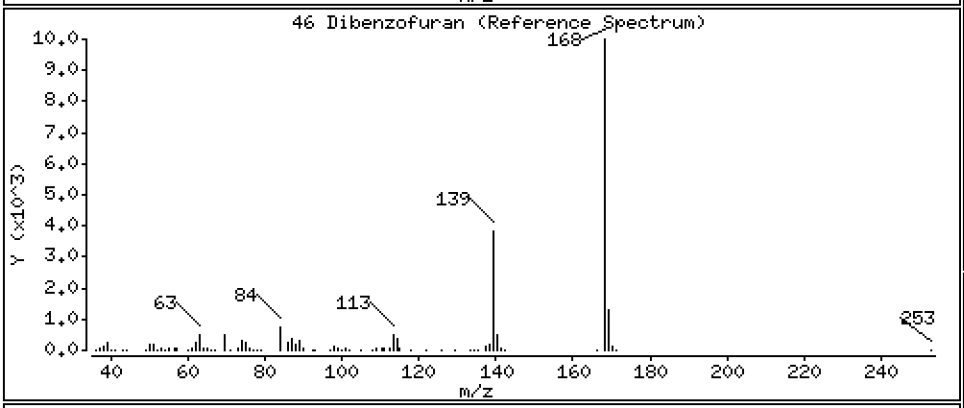
Column diameter: 0.25

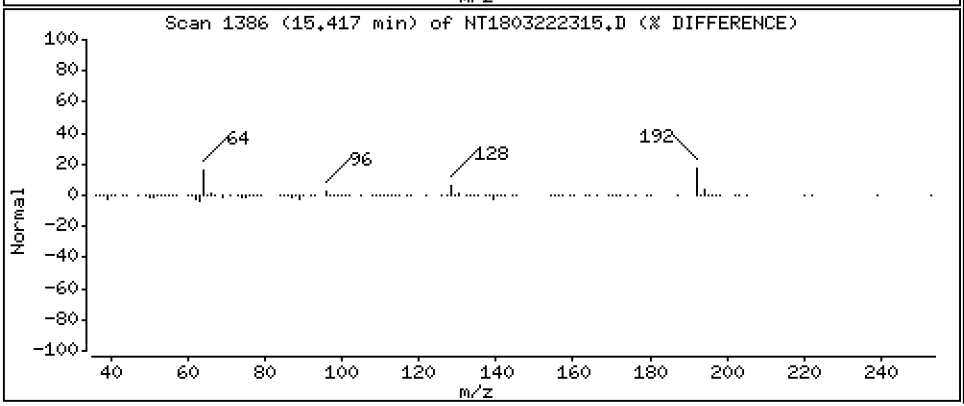
46 Dibenzofuran

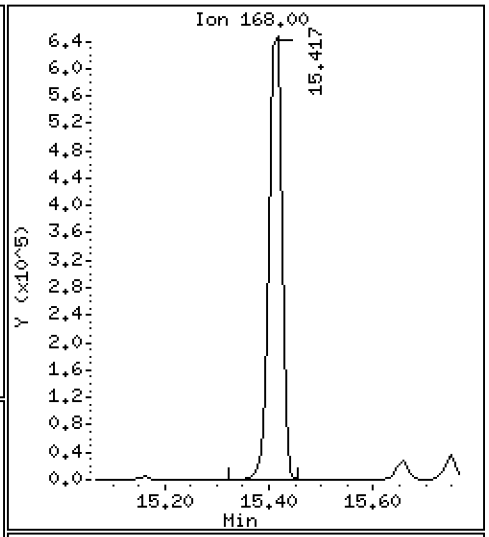
Concentration: 4.224 ug/mL

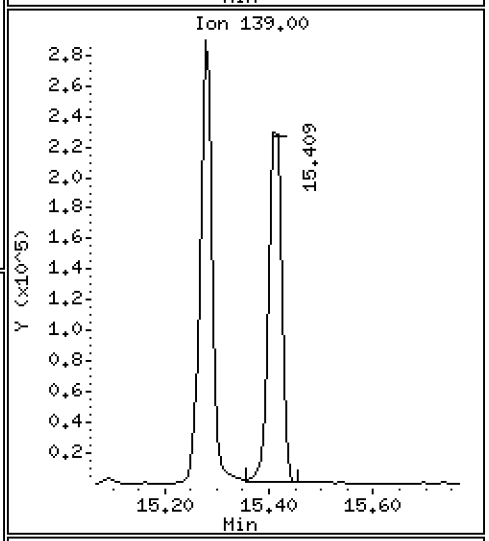


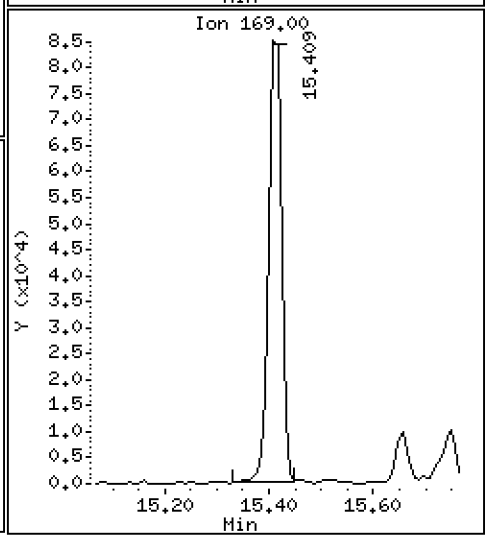












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

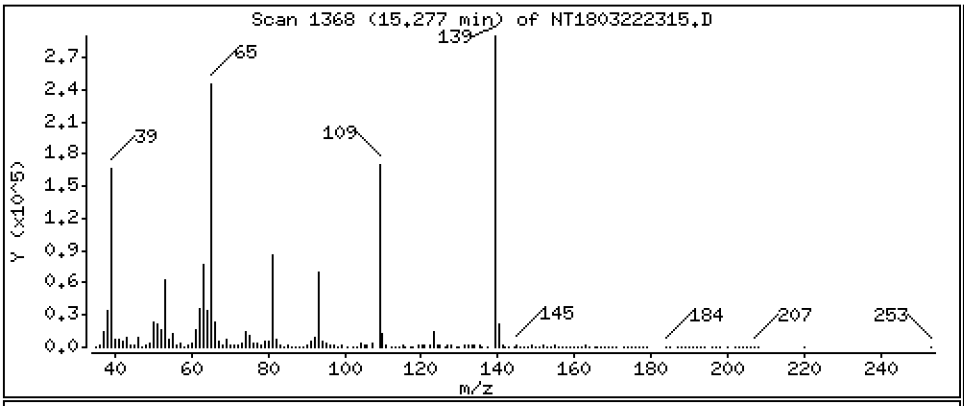
Operator: VTS

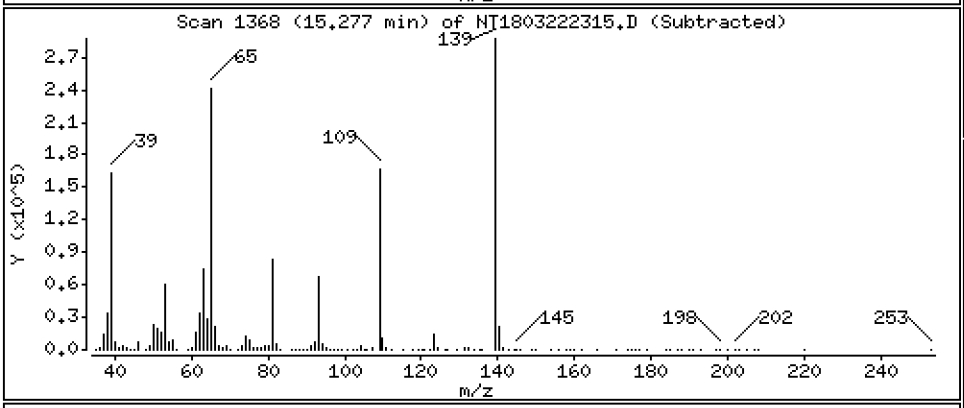
Column phase: ZB-5msi

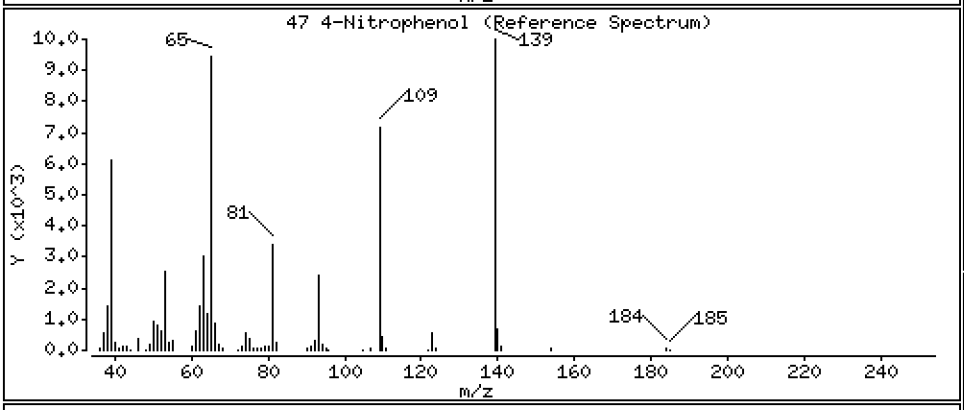
Column diameter: 0.25

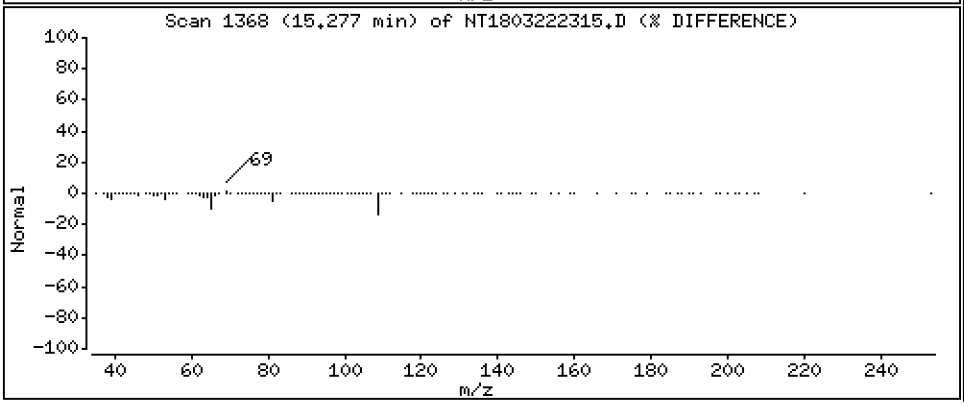
47 4-Nitrophenol

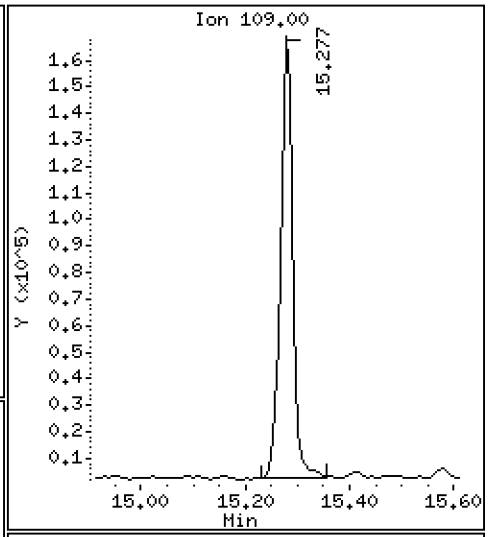
Concentration: 11.37 ug/mL

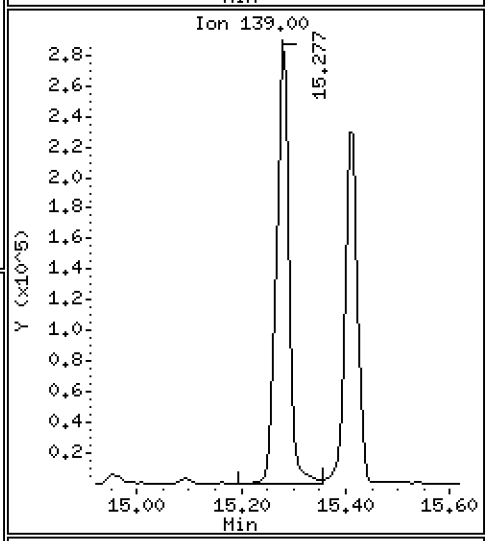


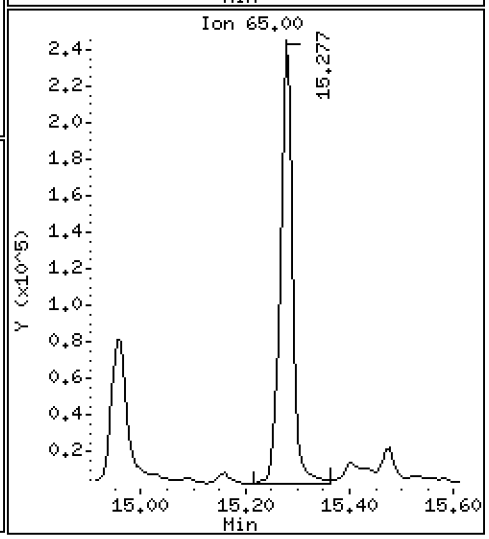












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

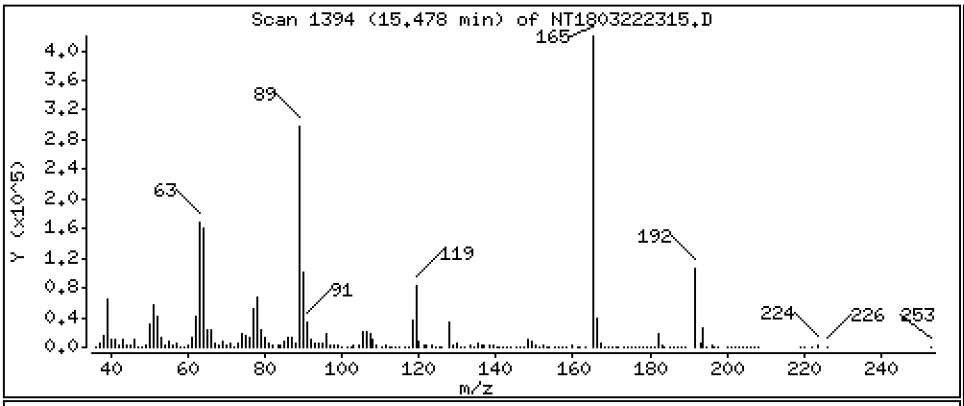
Operator: VTS

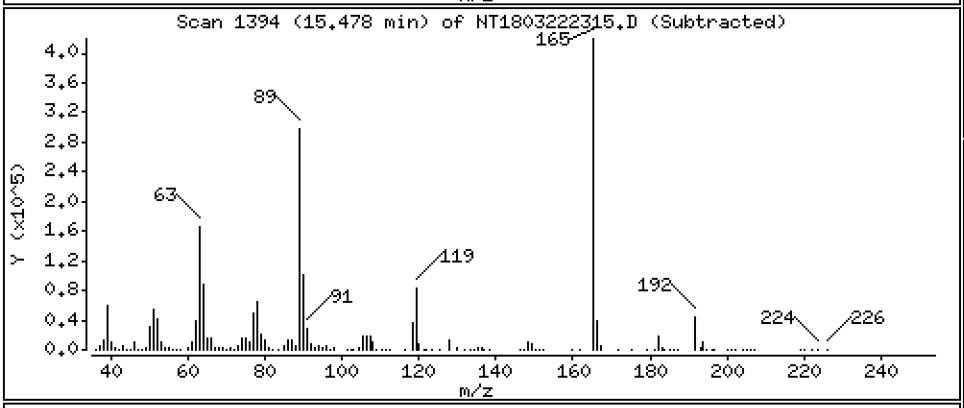
Column phase: ZB-5msi

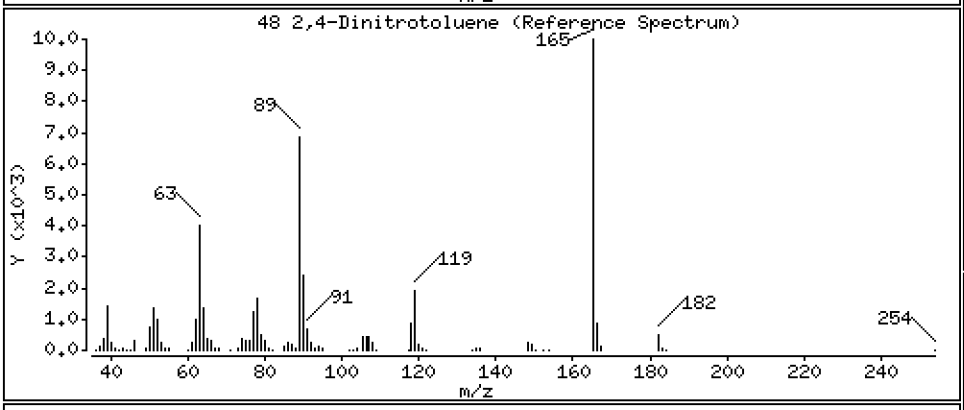
Column diameter: 0.25

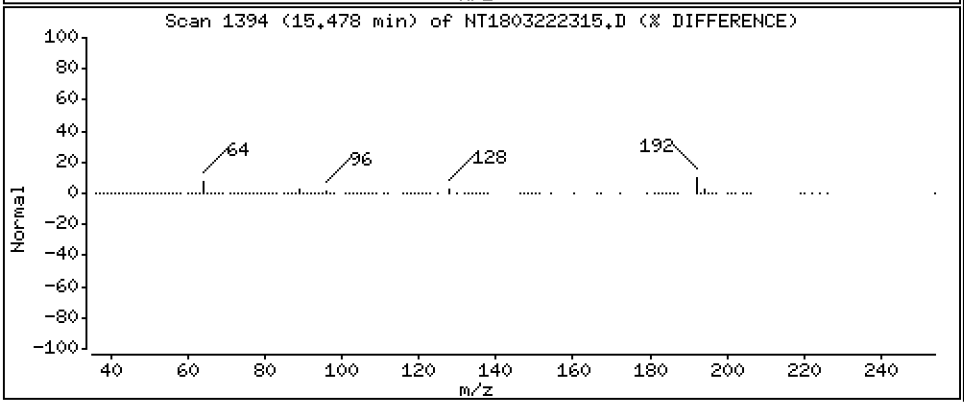
48 2,4-Dinitrotoluene

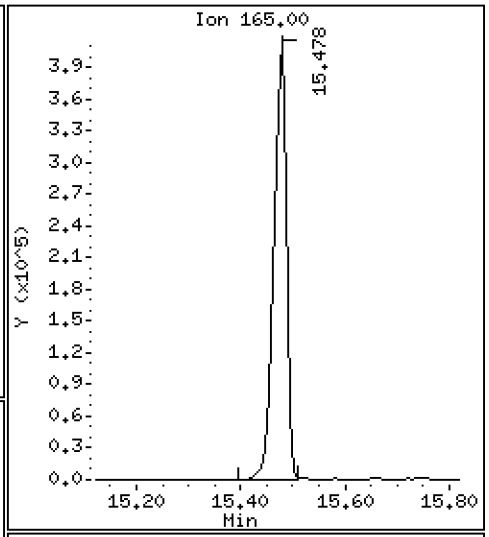
Concentration: 12.55 ug/mL

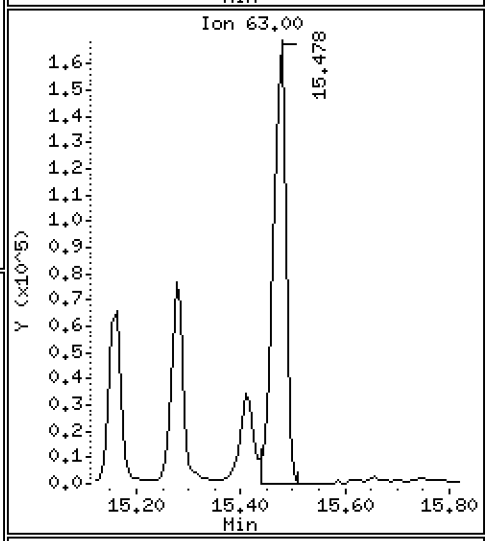


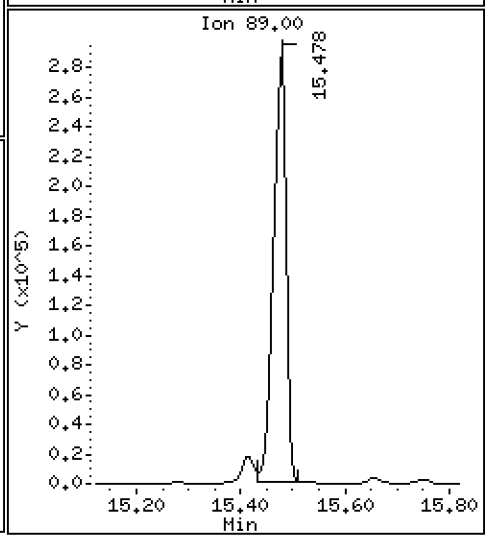












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

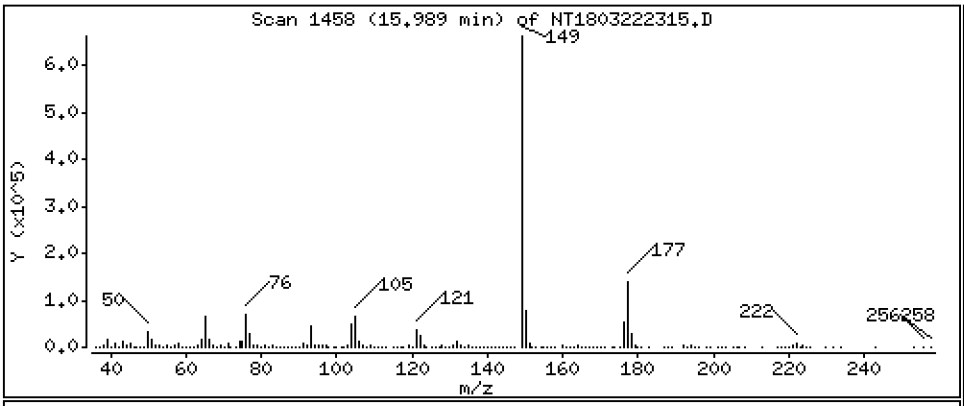
Operator: VTS

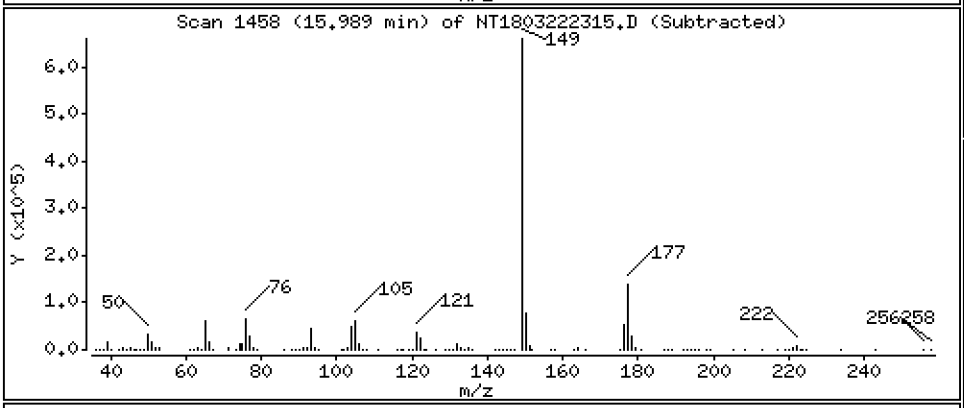
Column phase: ZB-5msi

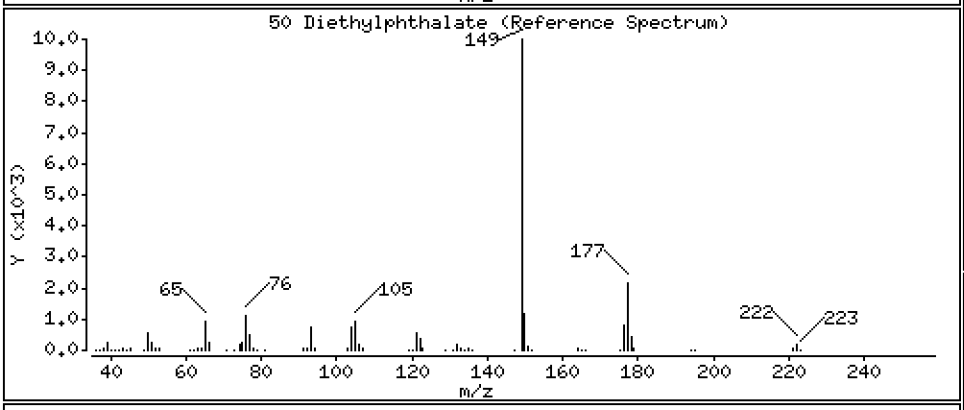
Column diameter: 0.25

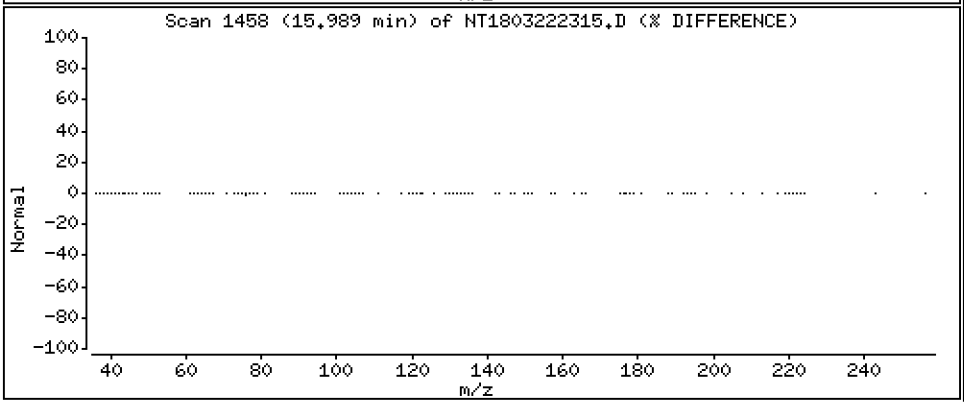
50 Diethylphthalate

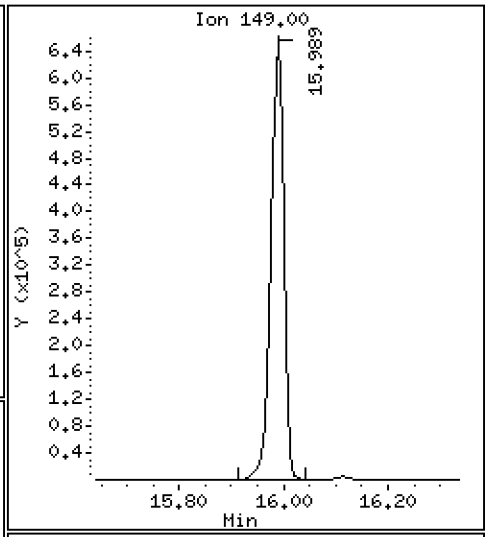
Concentration: 5.961 ug/mL

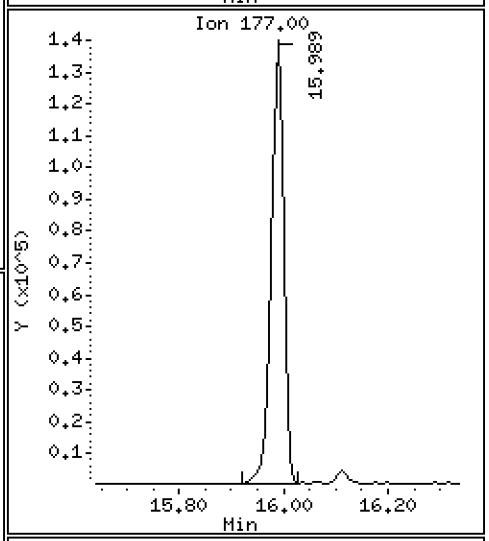


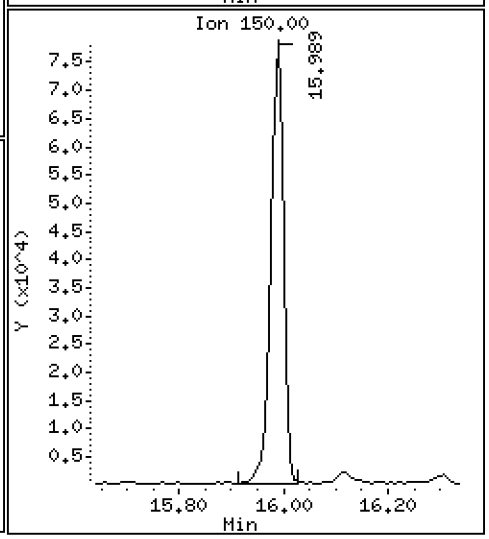












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

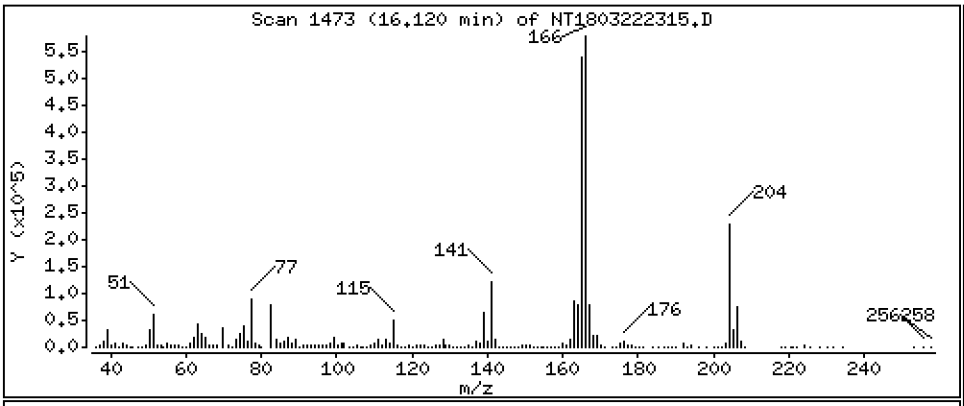
Operator: VTS

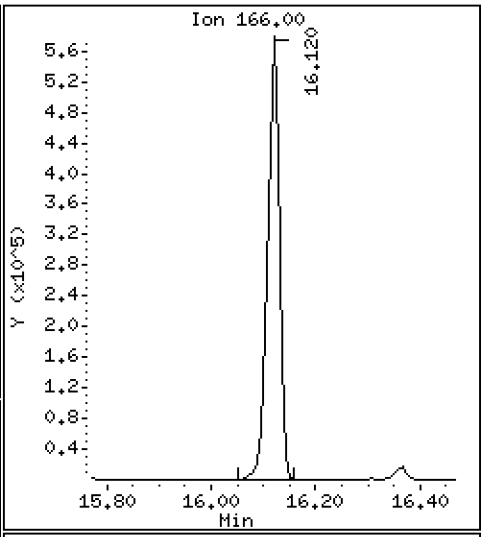
Column phase: ZB-5msi

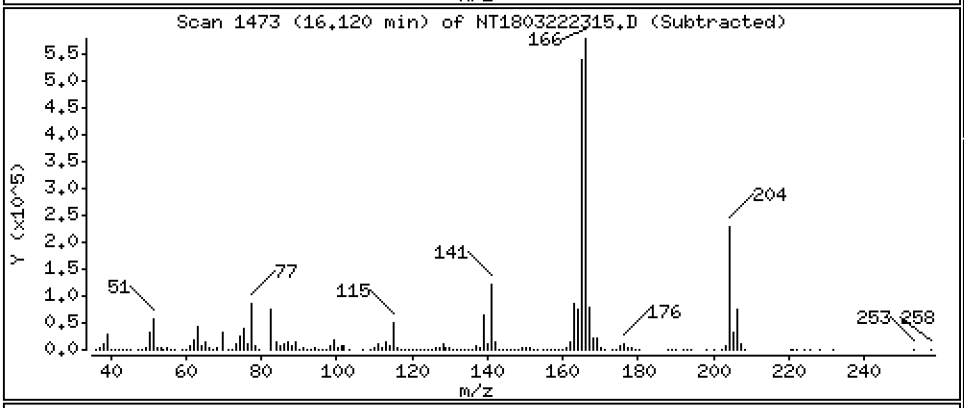
Column diameter: 0.25

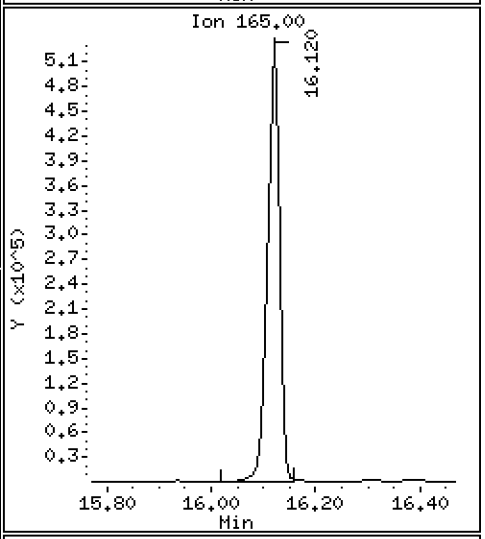
49 Fluorene

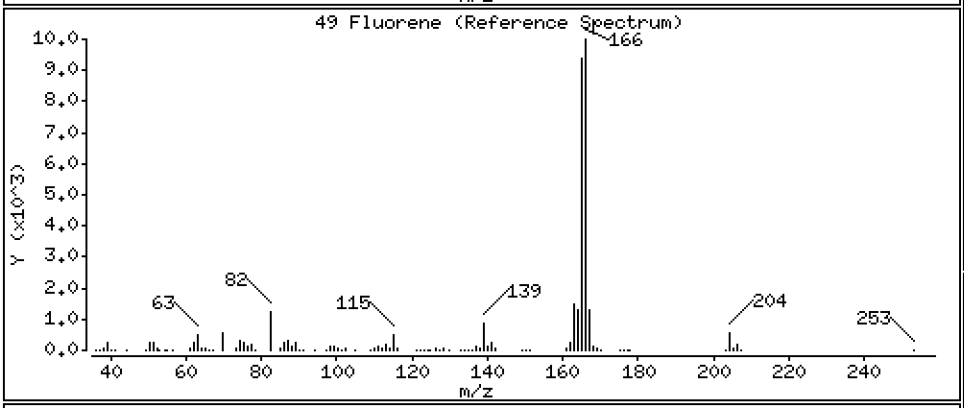
Concentration: 4.547 ug/mL

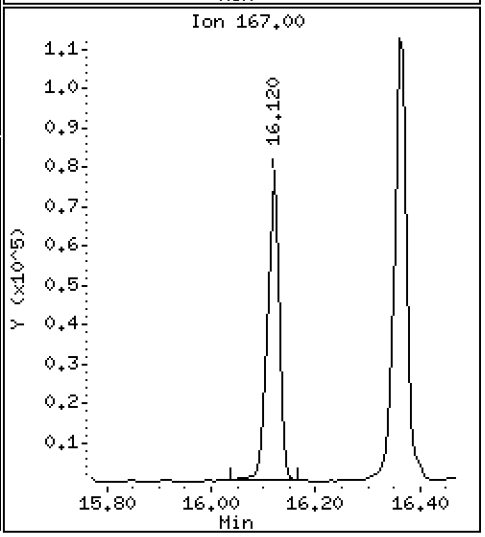


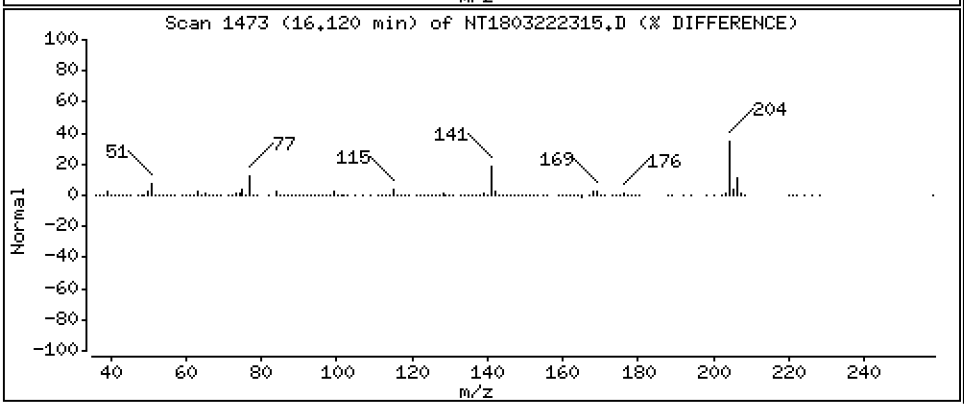












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

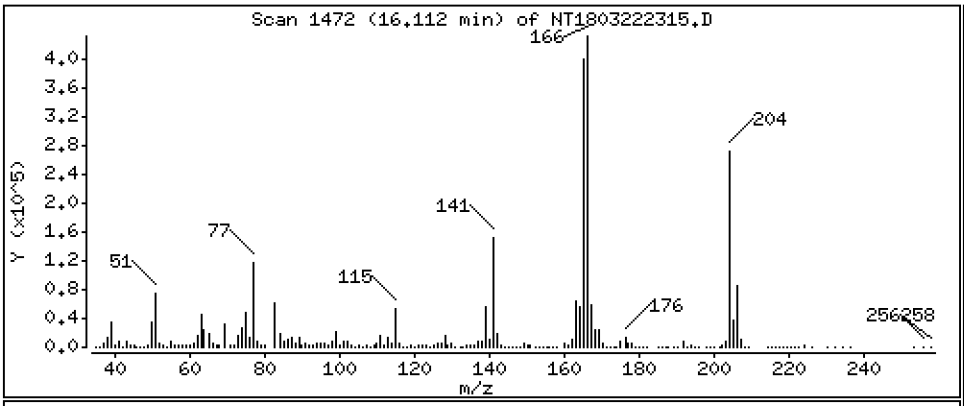
Operator: VTS

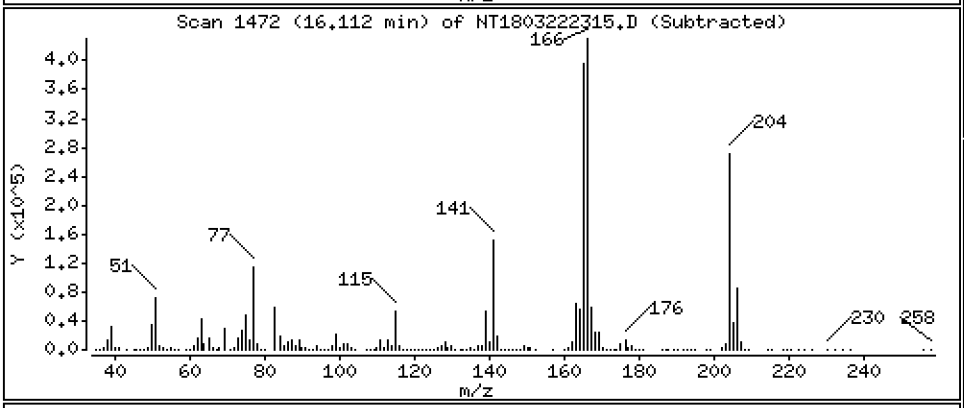
Column phase: ZB-5msi

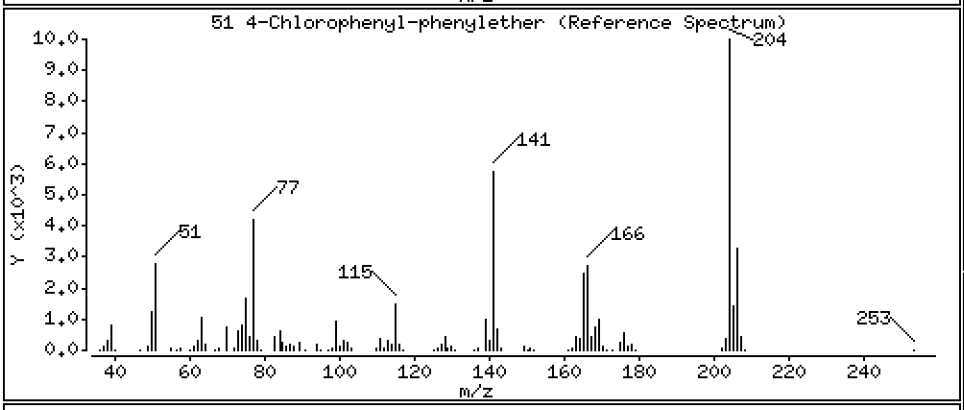
Column diameter: 0.25

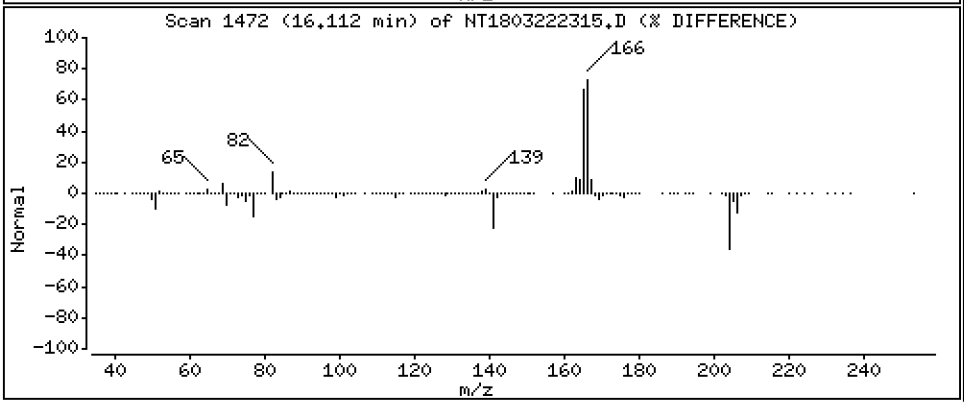
51 4-Chlorophenyl-phenylether

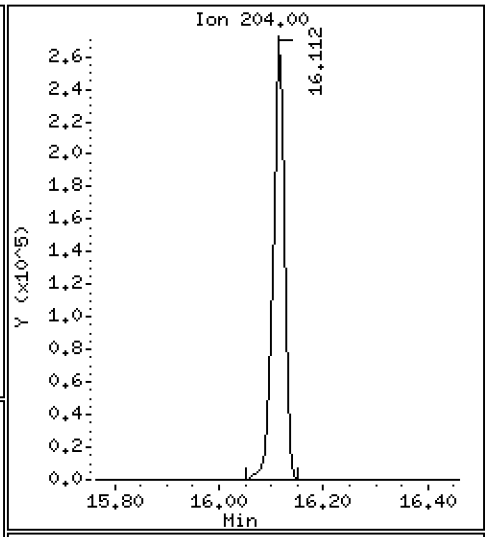
Concentration: 4.712 ug/mL

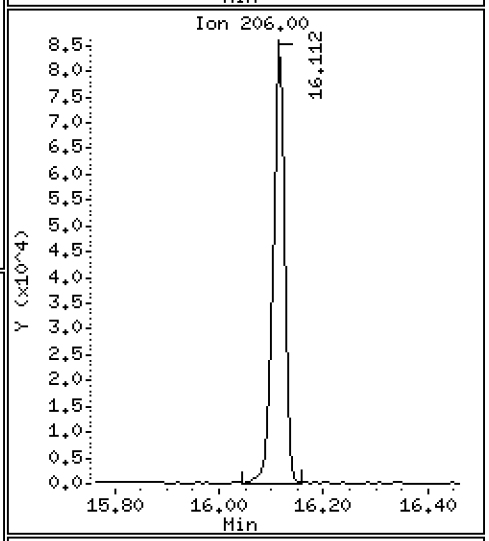


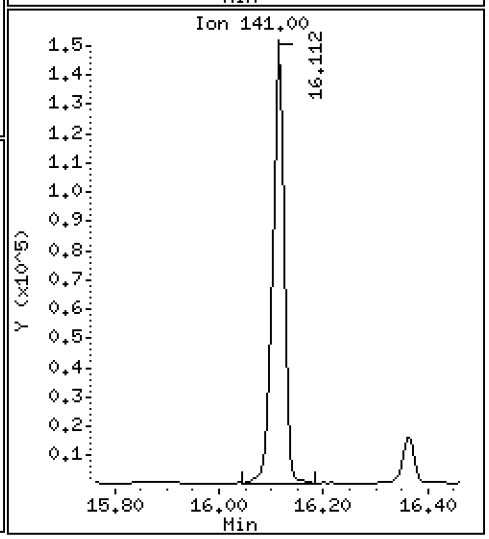












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

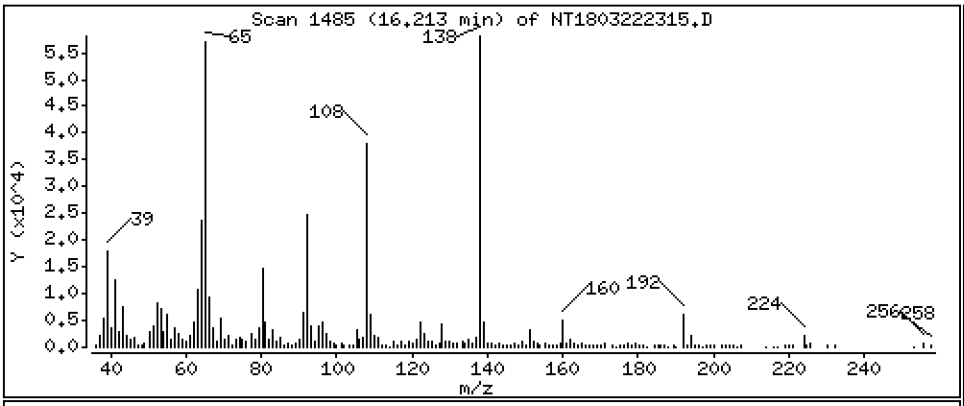
Operator: VTS

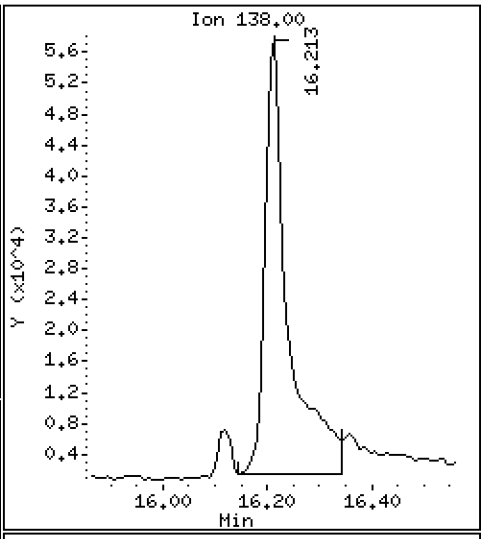
Column phase: ZB-5msi

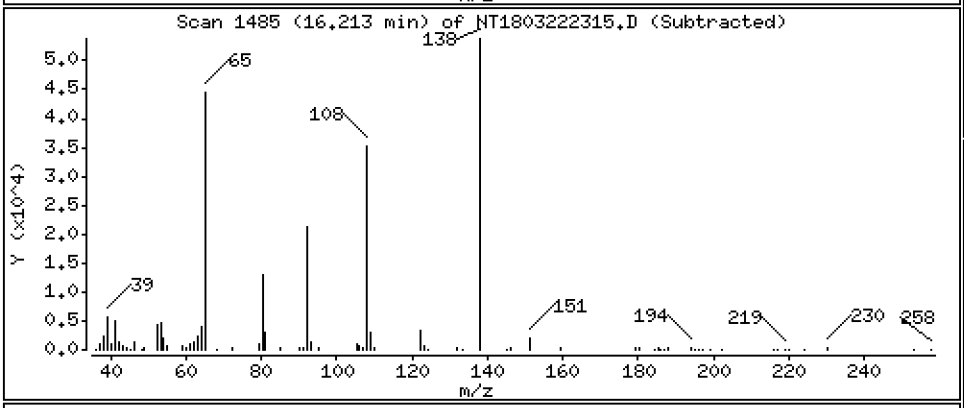
Column diameter: 0.25

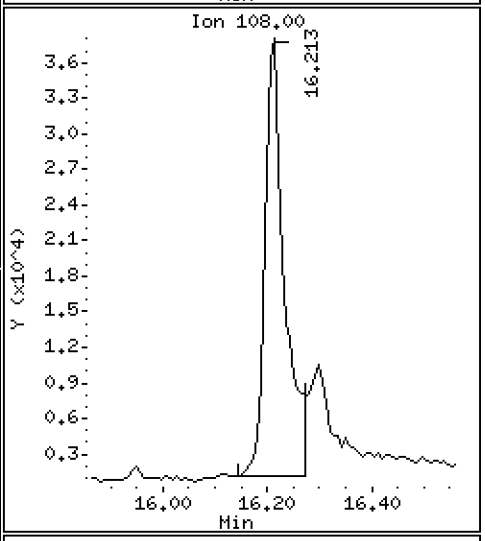
52 4-Nitroaniline

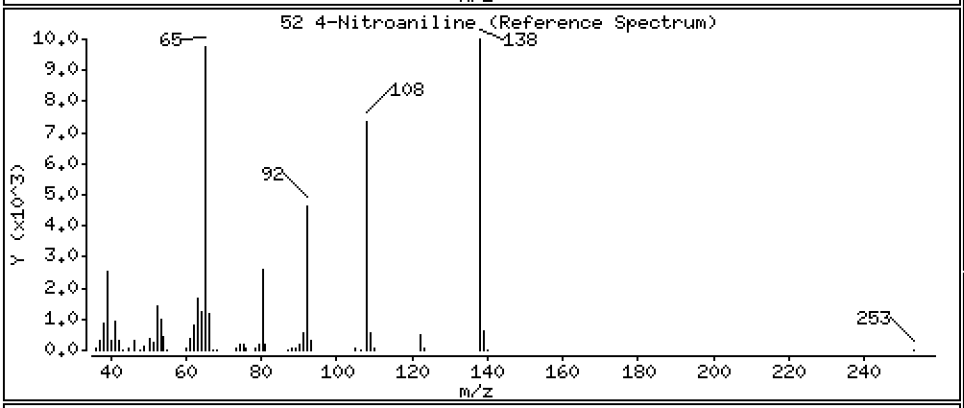
Concentration: 3.843 ug/mL

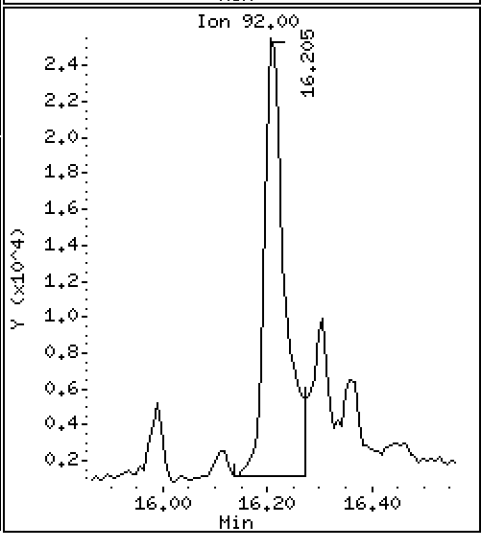


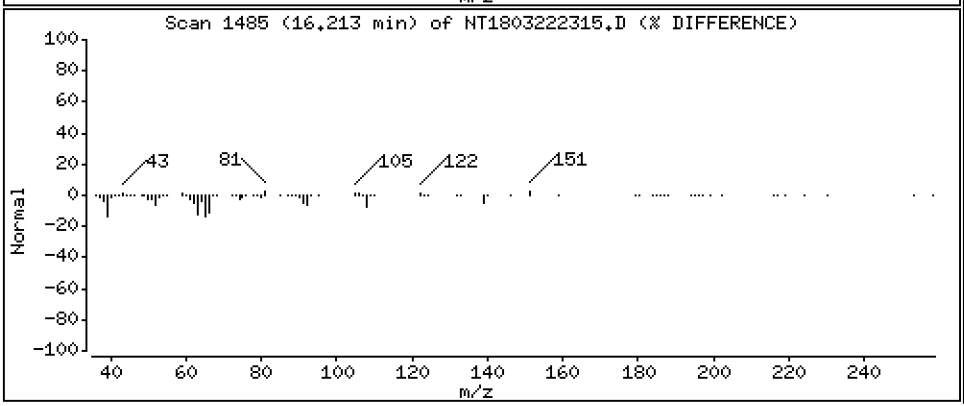












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222315.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

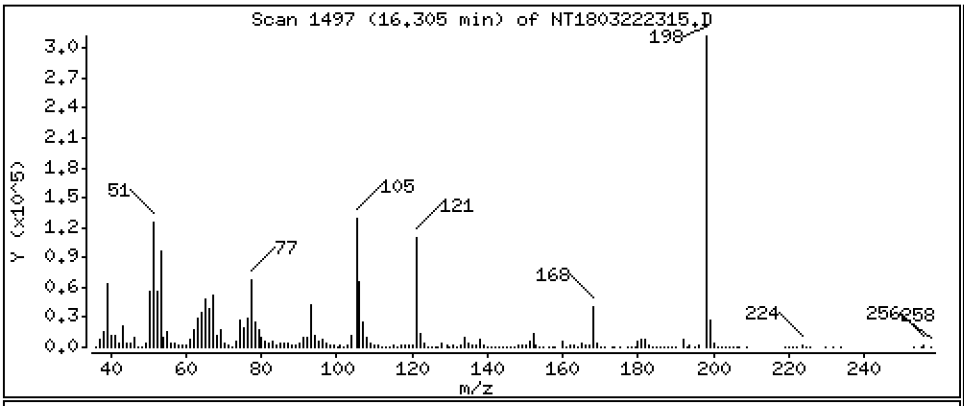
Operator: VTS

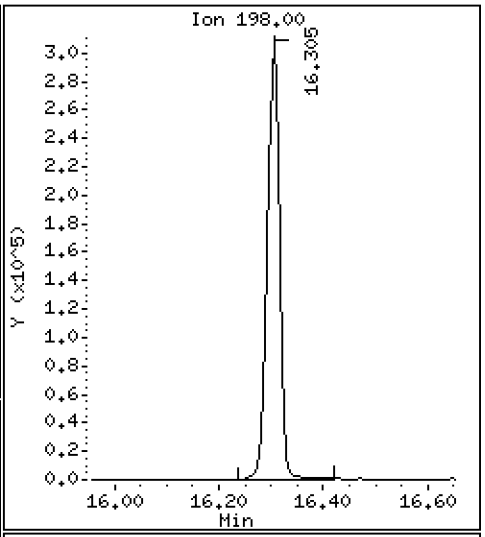
Column phase: ZB-5msi

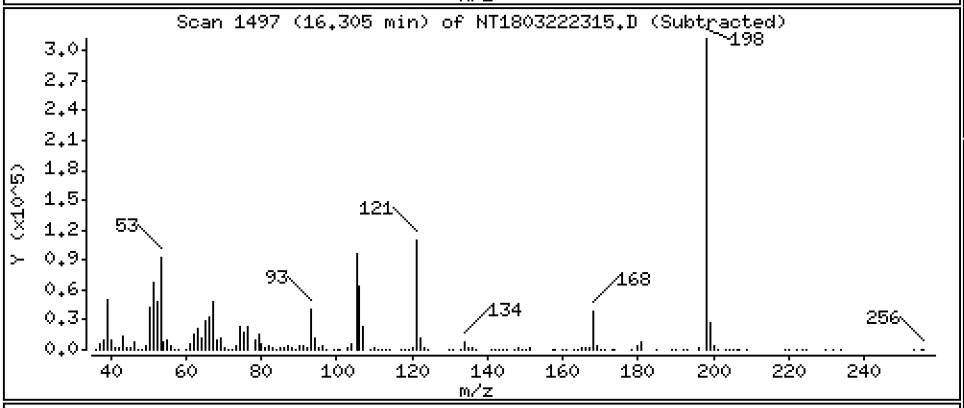
Column diameter: 0.25

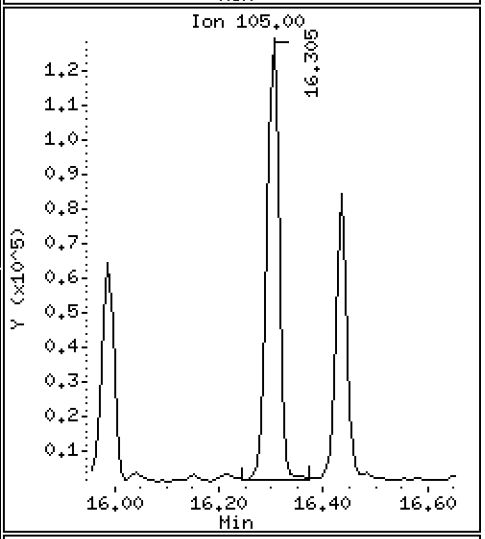
53 4,6-Dinitro-2-methylphenol

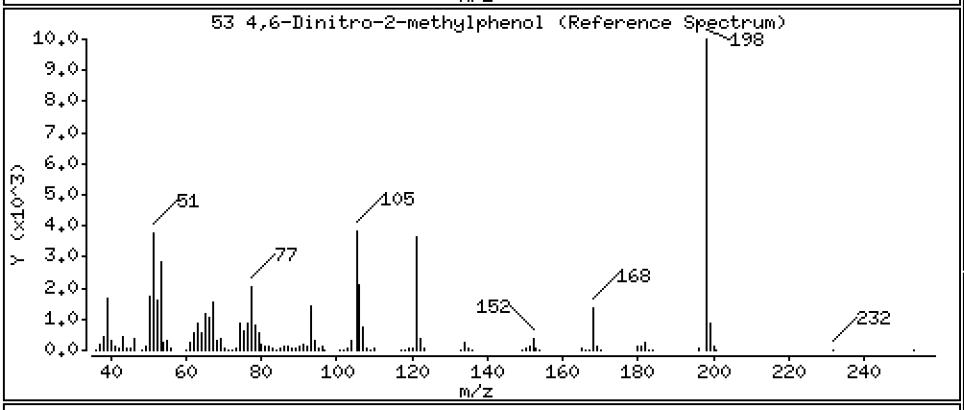
Concentration: 16.13 ug/mL

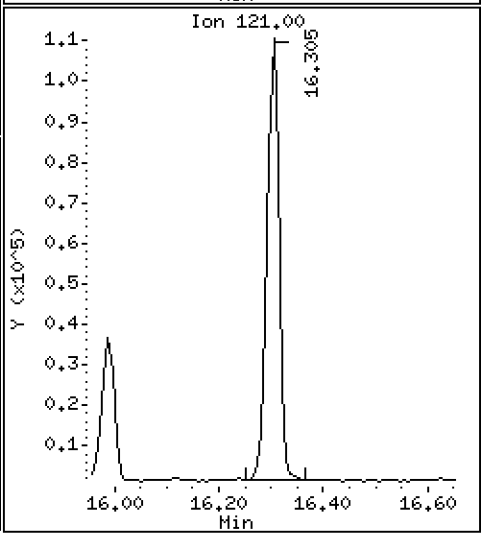


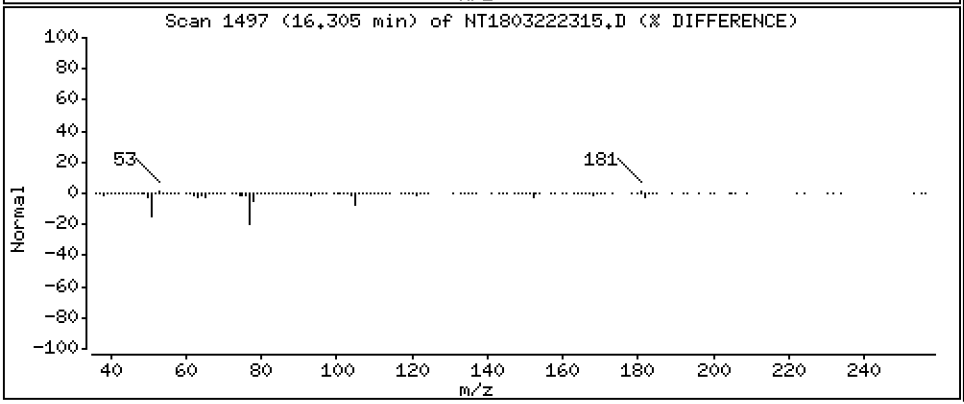












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

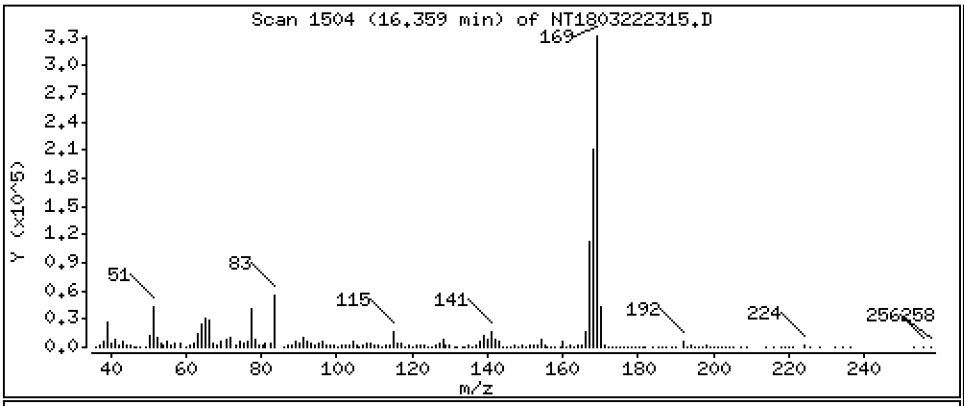
Operator: VTS

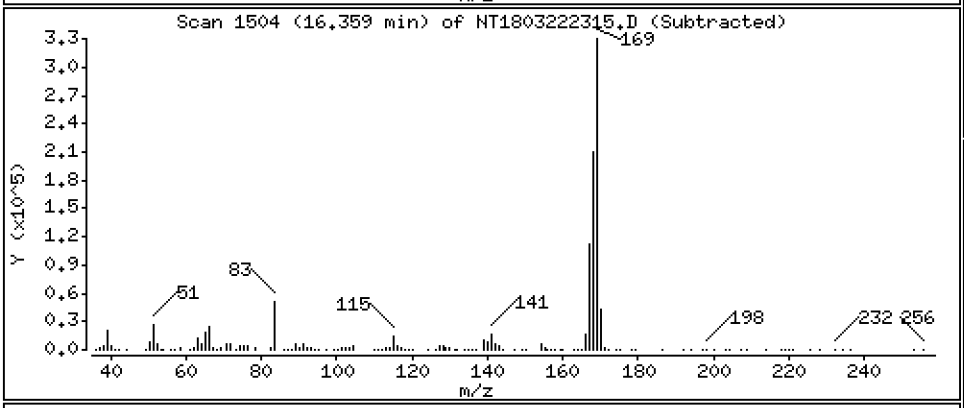
Column phase: ZB-5msi

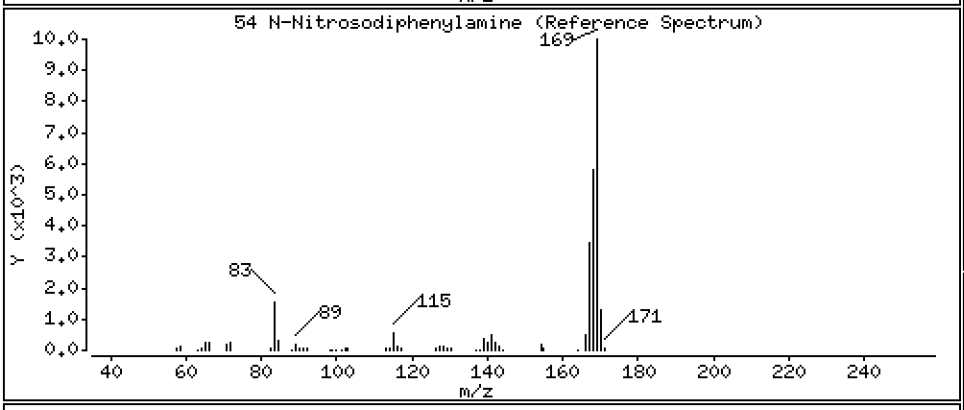
Column diameter: 0.25

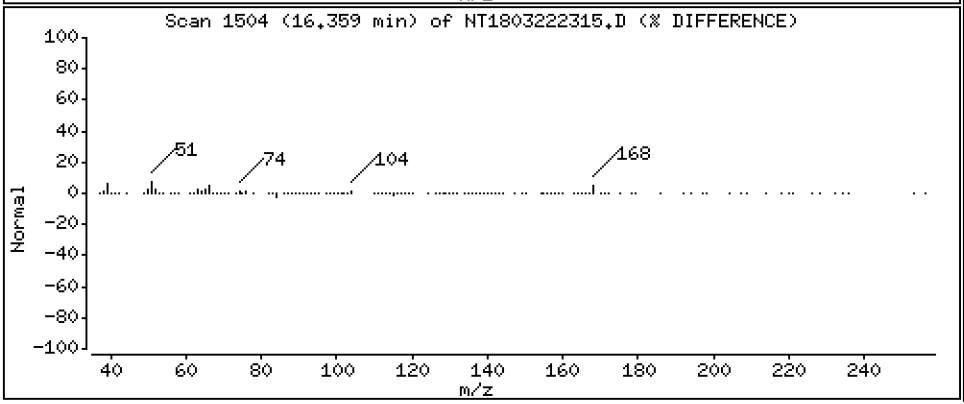
54 N-Nitrosodiphenylamine

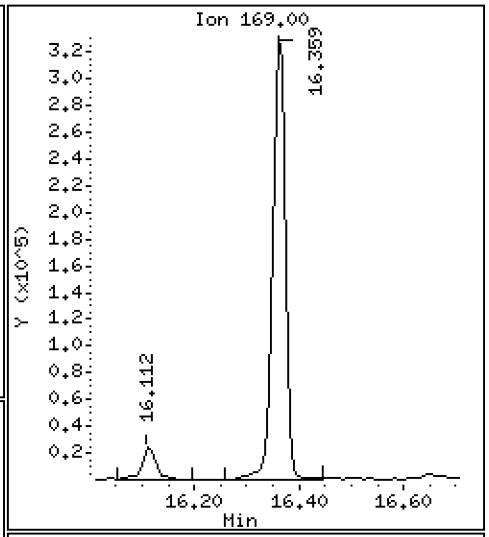
Concentration: 4.096 ug/mL

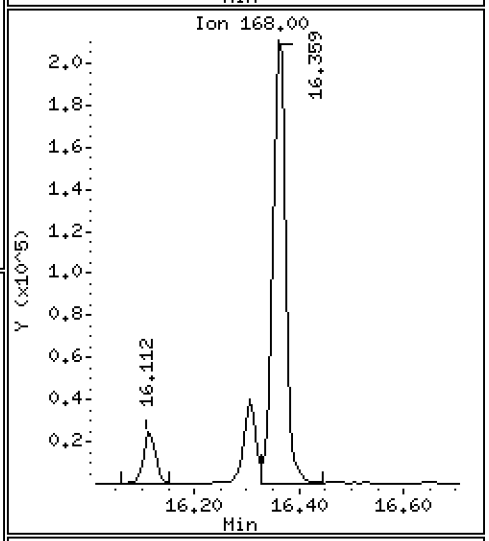


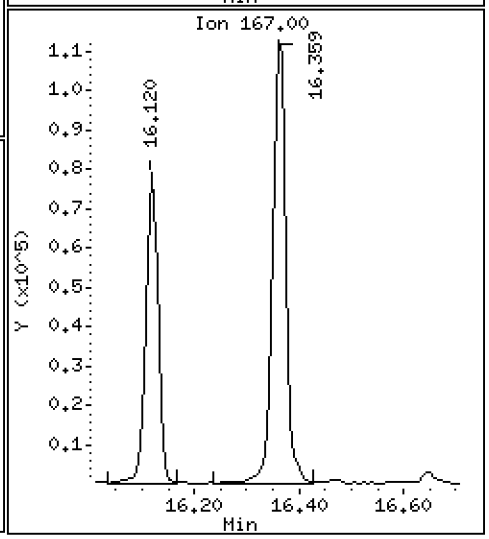












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

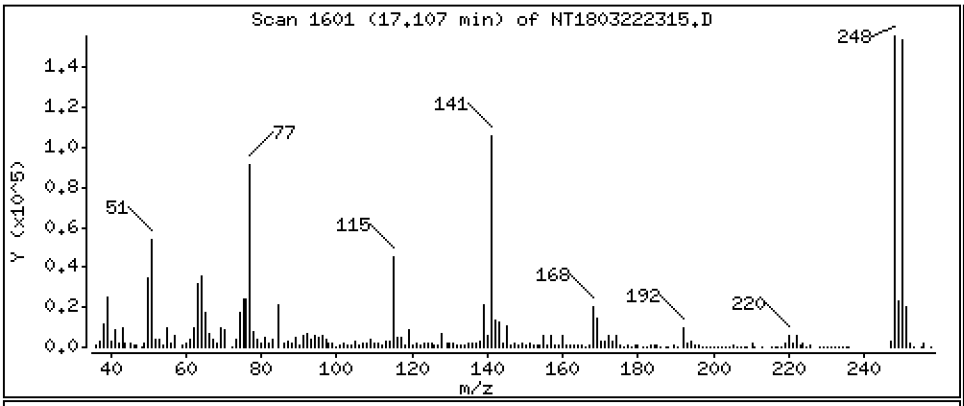
Operator: VTS

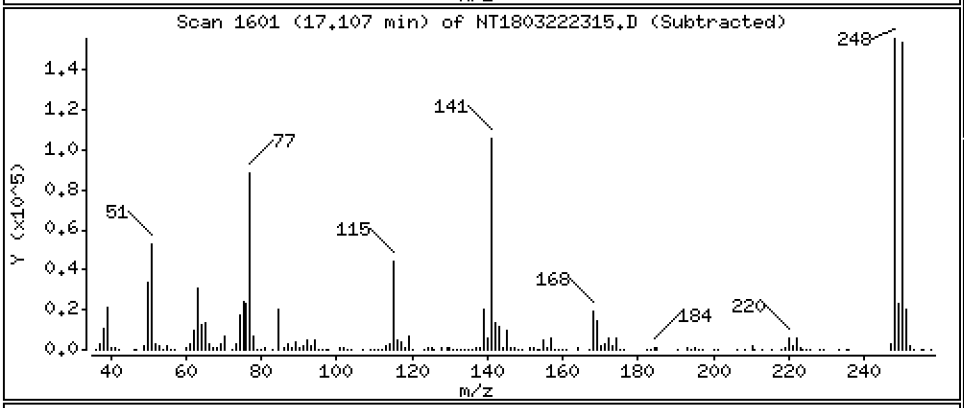
Column phase: ZB-5msi

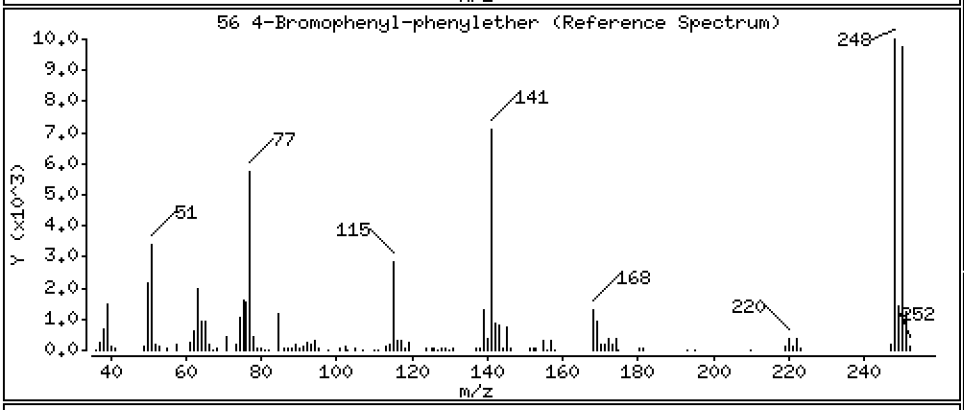
Column diameter: 0.25

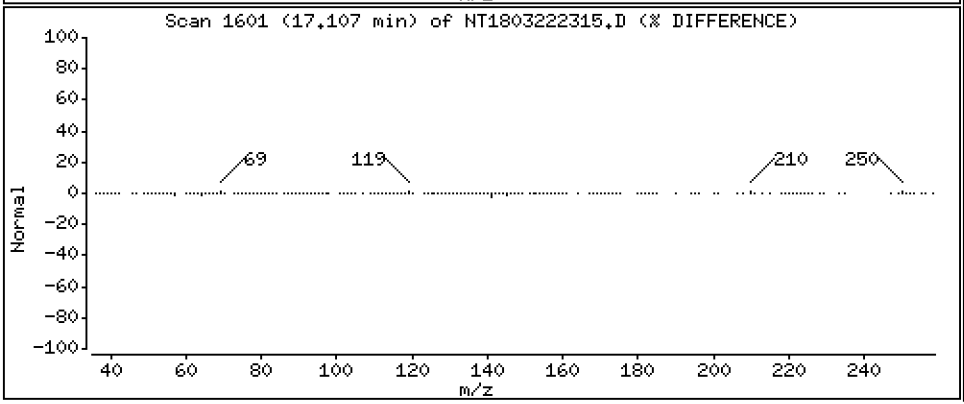
56 4-Bromophenyl-phenylether

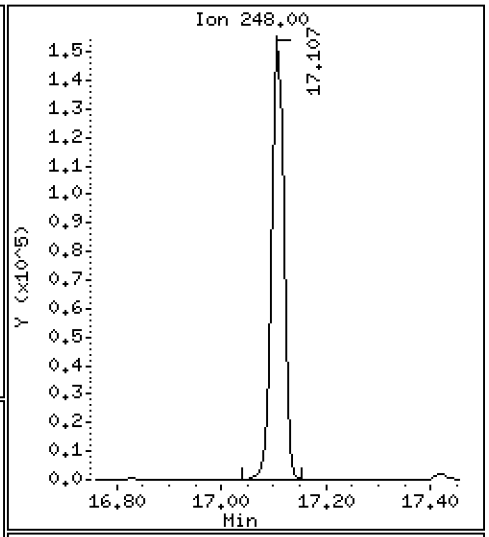
Concentration: 4.589 ug/mL

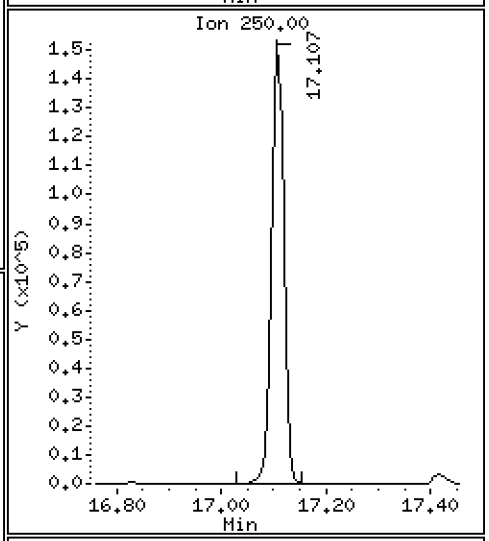


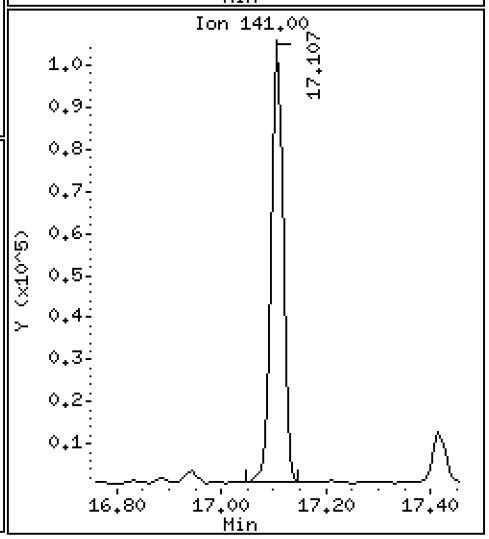












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

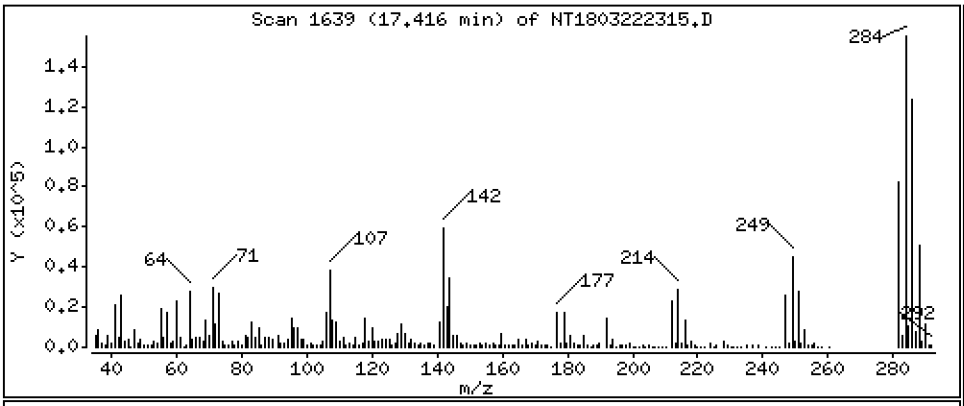
Operator: VTS

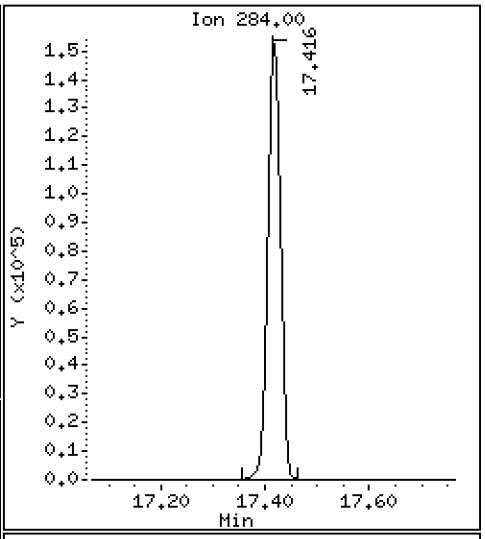
Column phase: ZB-5msi

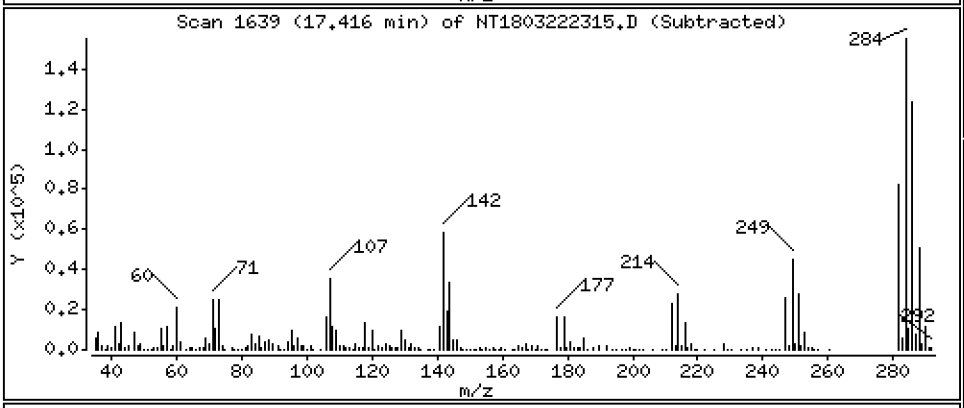
Column diameter: 0.25

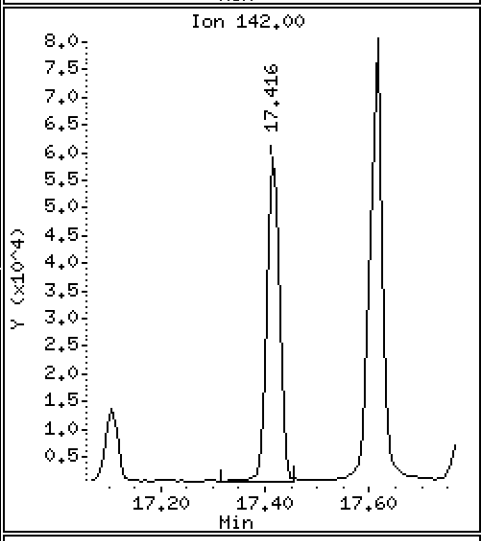
57 Hexachlorobenzene

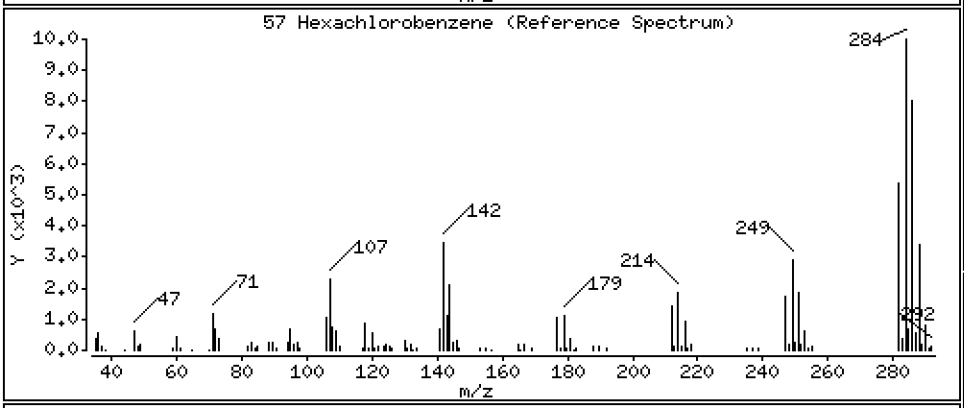
Concentration: 4.383 ug/mL

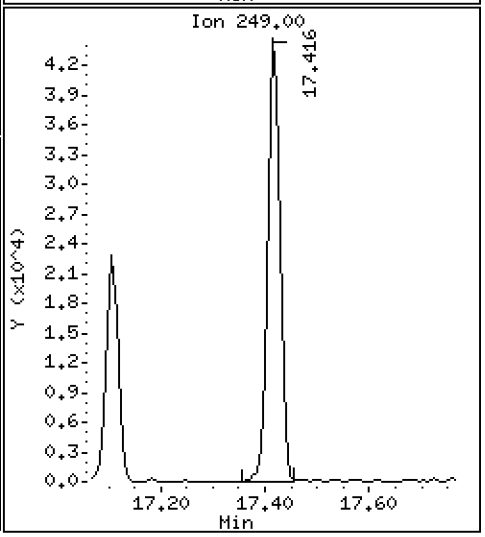


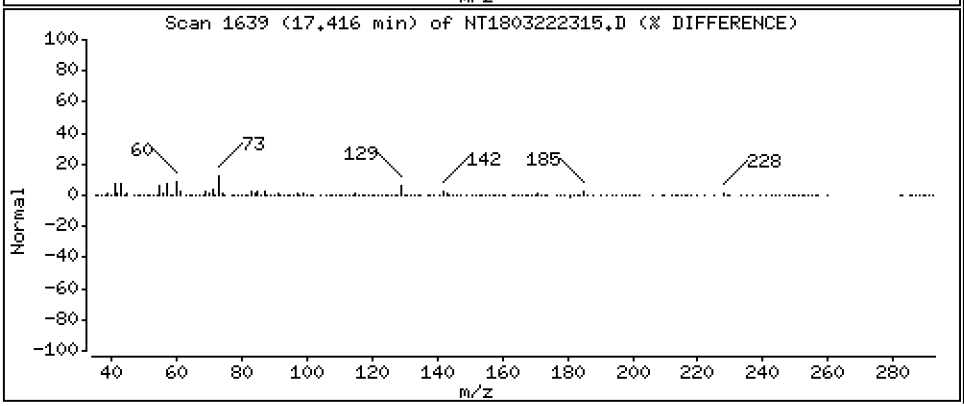












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

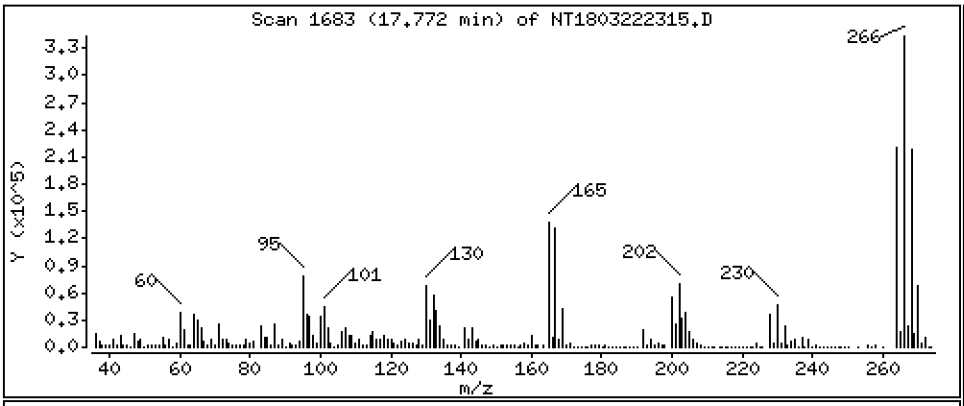
Operator: VTS

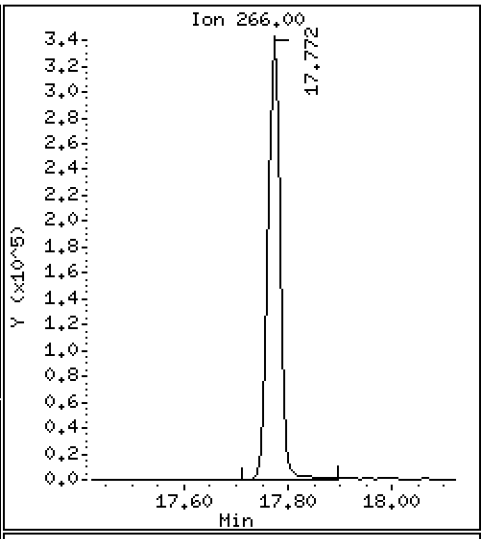
Column phase: ZB-5msi

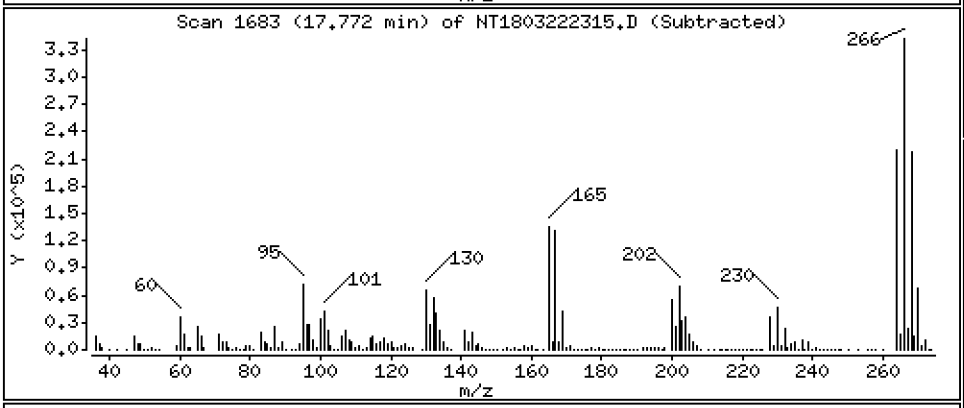
Column diameter: 0.25

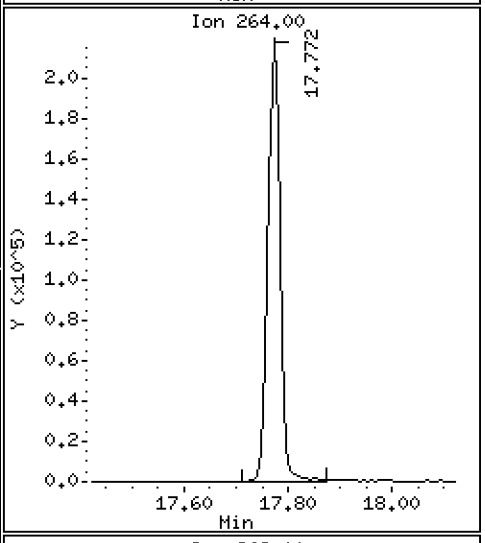
58 Pentachlorophenol

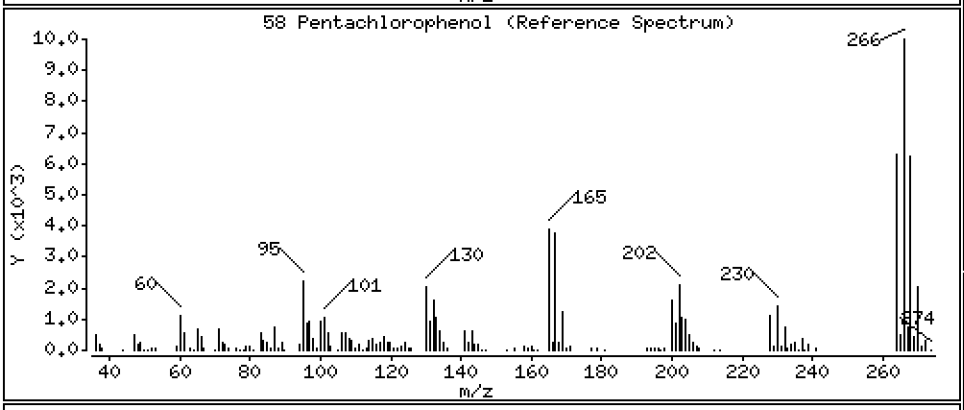
Concentration: 14.55 ug/mL

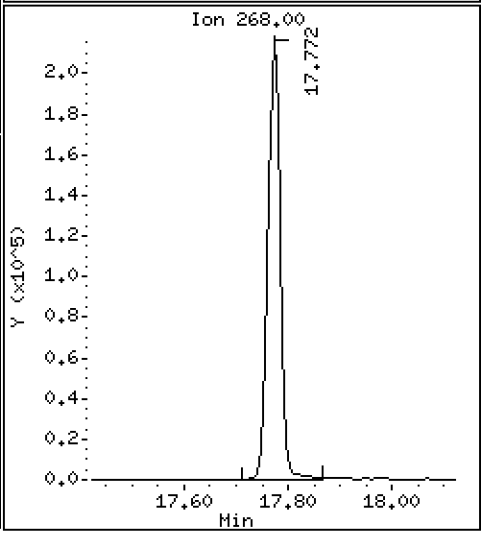


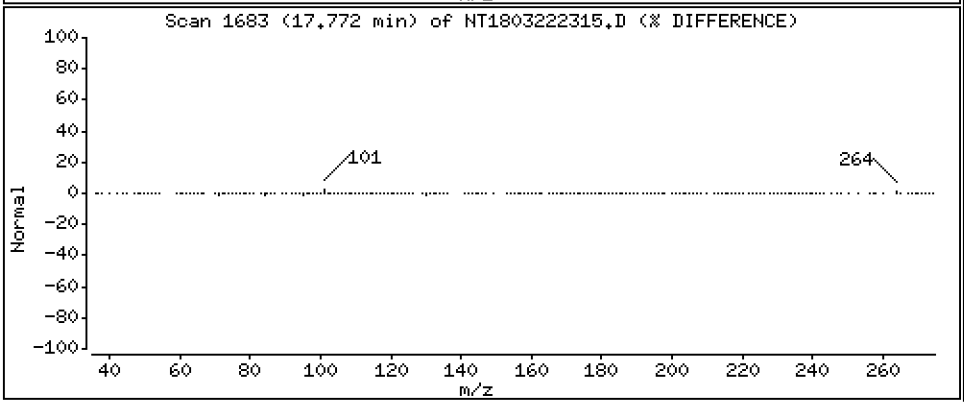












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

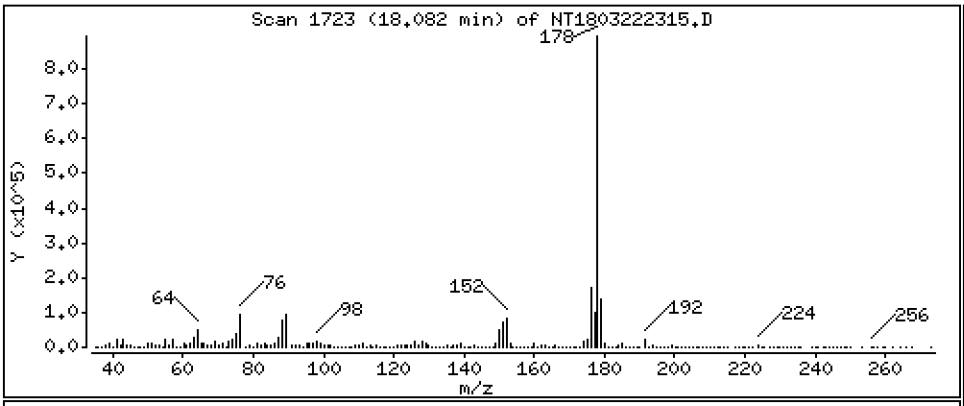
Operator: VTS

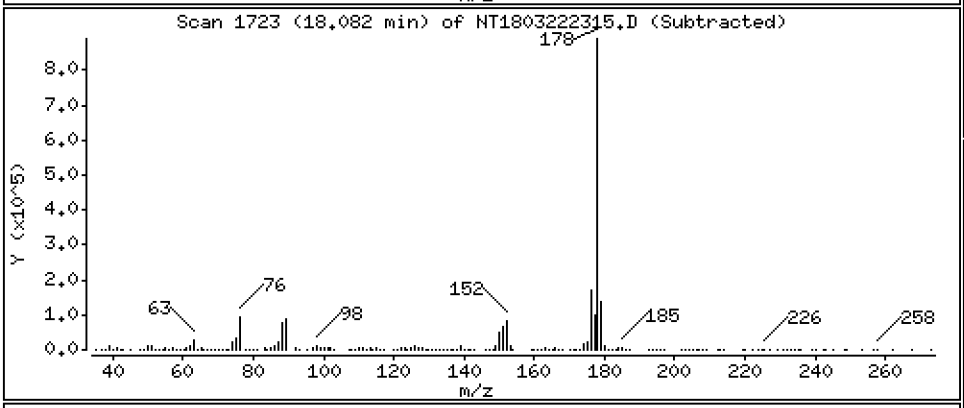
Column phase: ZB-5msi

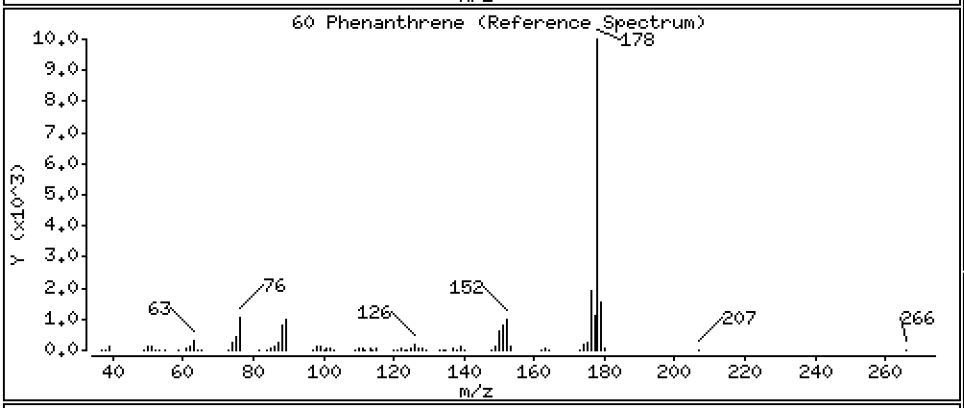
Column diameter: 0.25

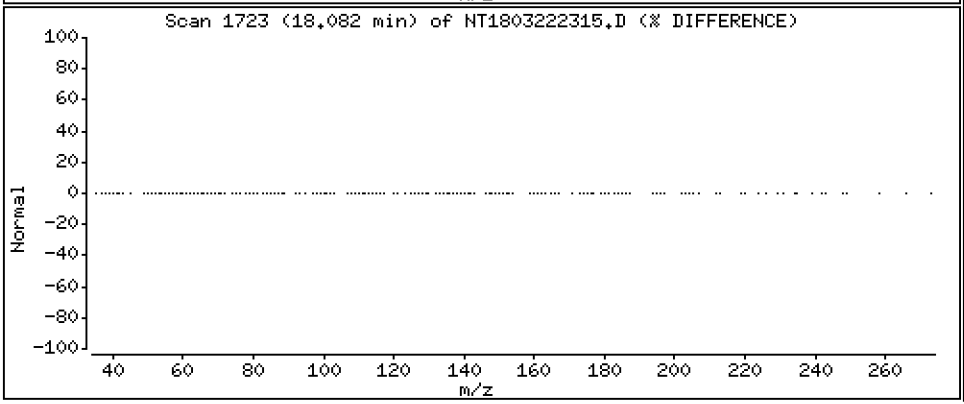
60 Phenanthrene

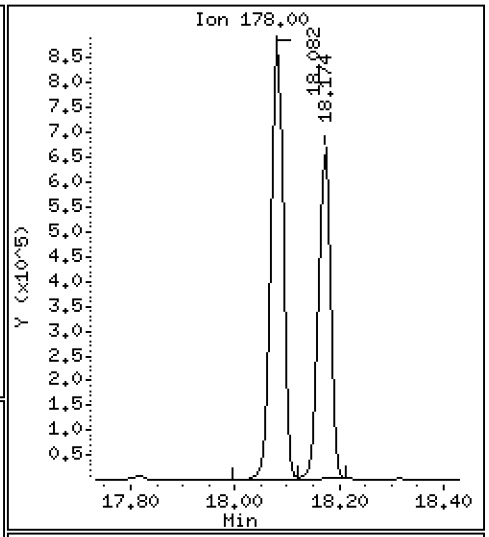
Concentration: 4.944 ug/mL

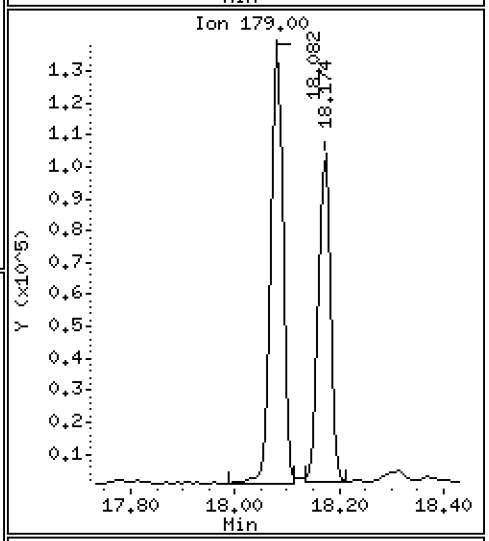


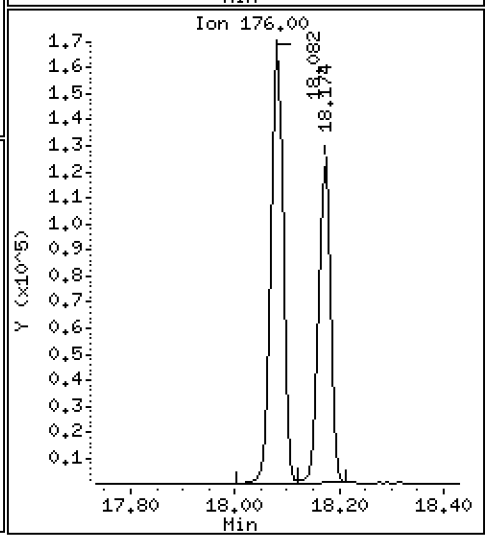












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

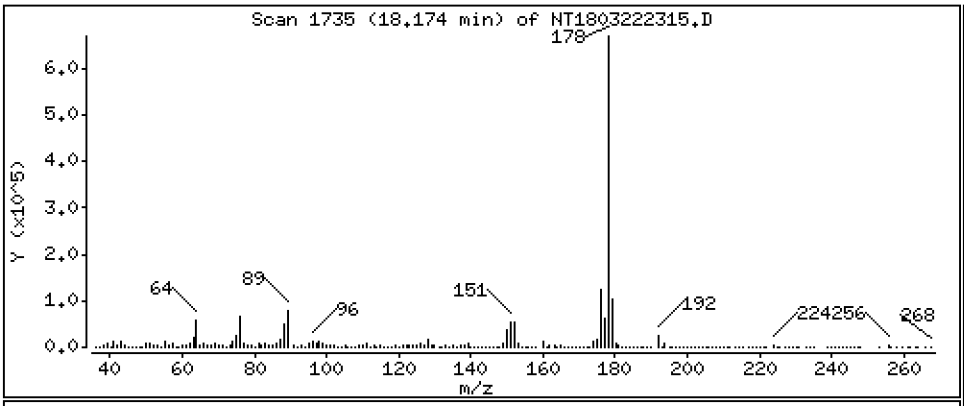
Operator: VTS

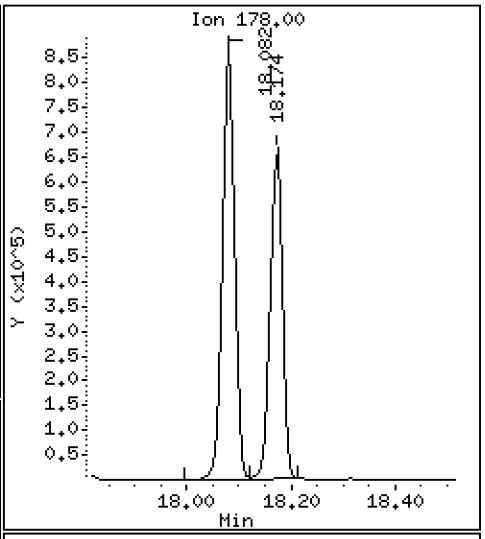
Column phase: ZB-5msi

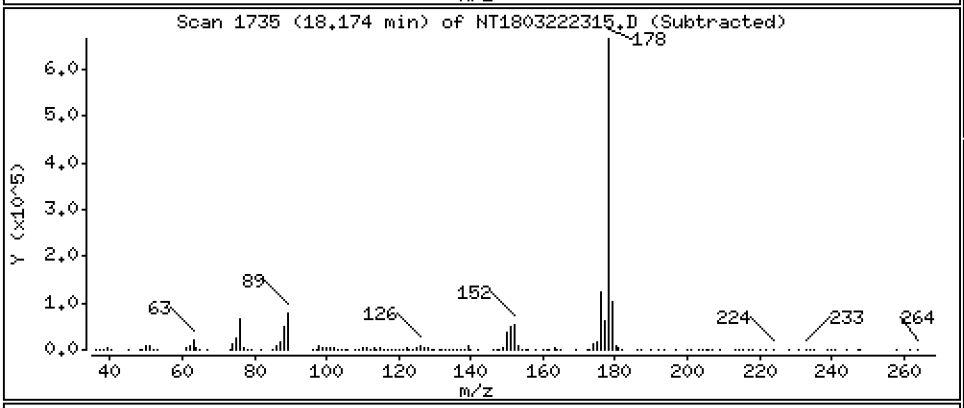
Column diameter: 0.25

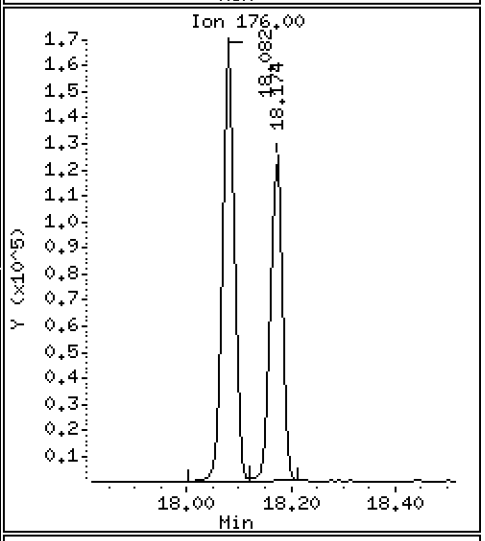
61 Anthracene

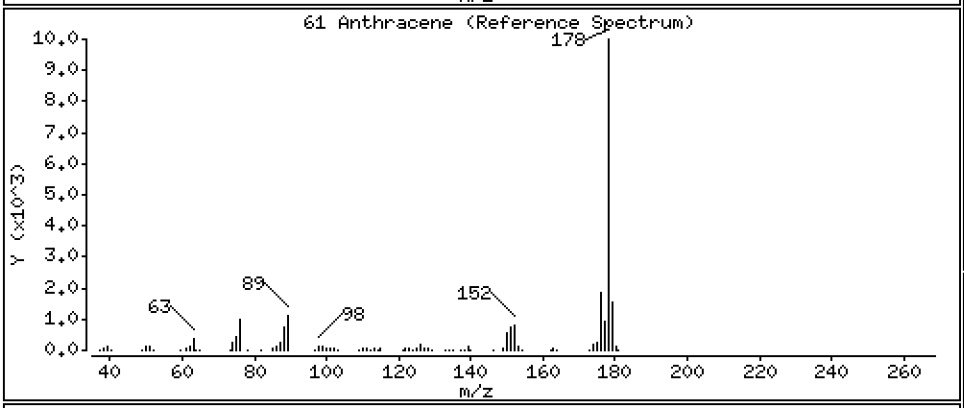
Concentration: 3.934 ug/mL

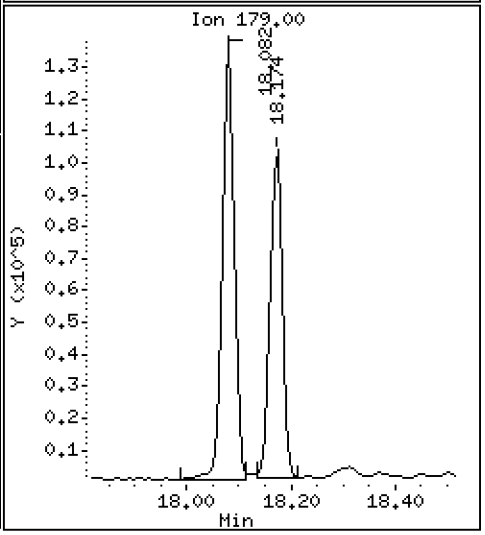


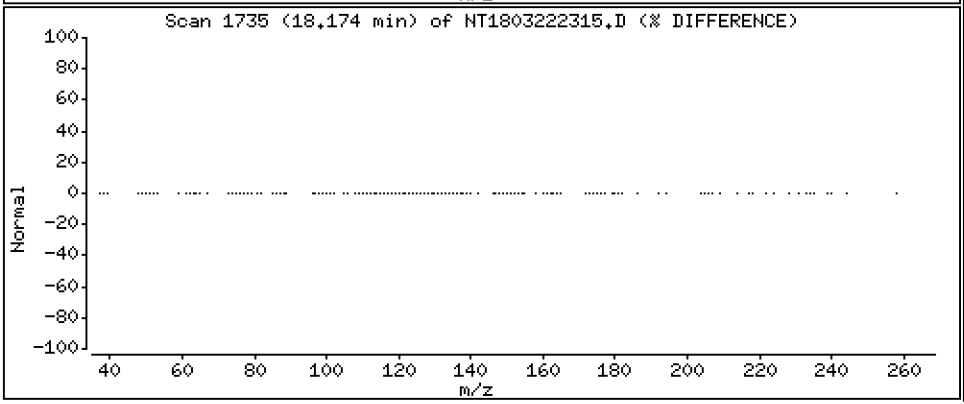












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222315.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

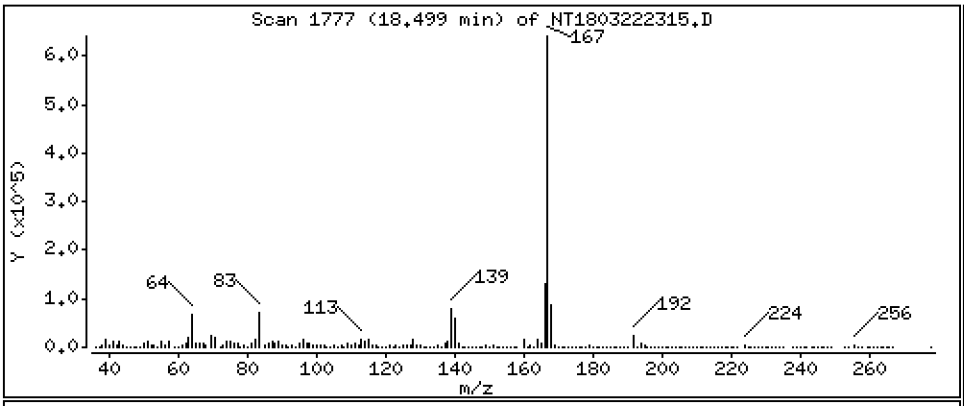
Operator: VTS

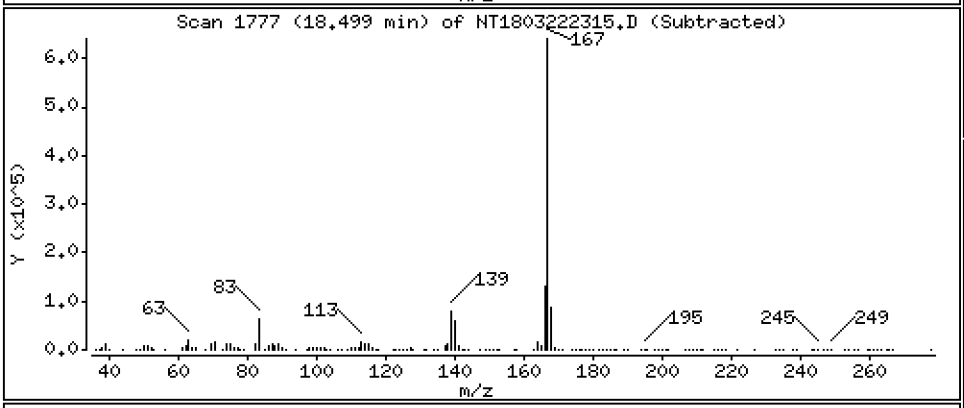
Column phase: ZB-5msi

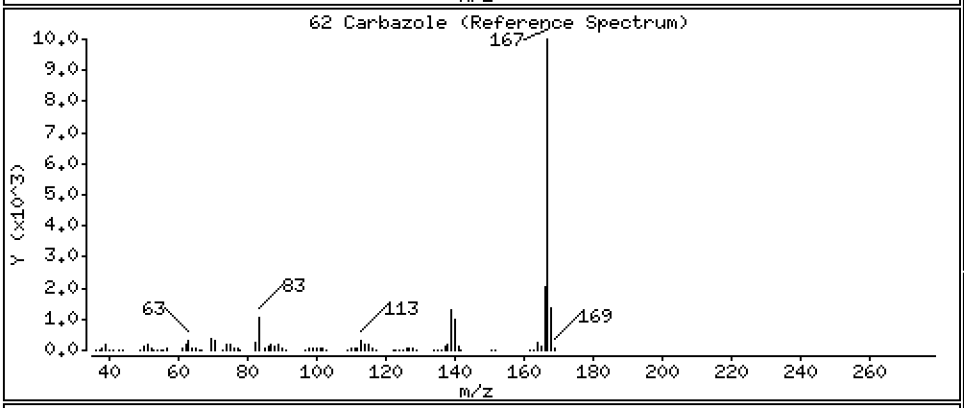
Column diameter: 0.25

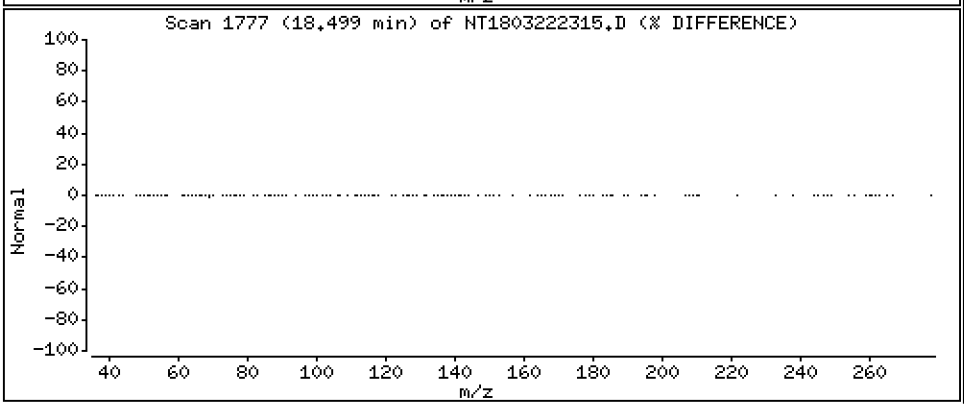
62 Carbazole

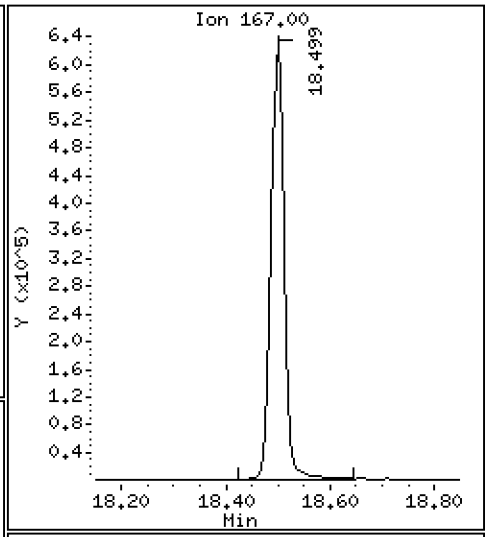
Concentration: 4.539 ug/mL

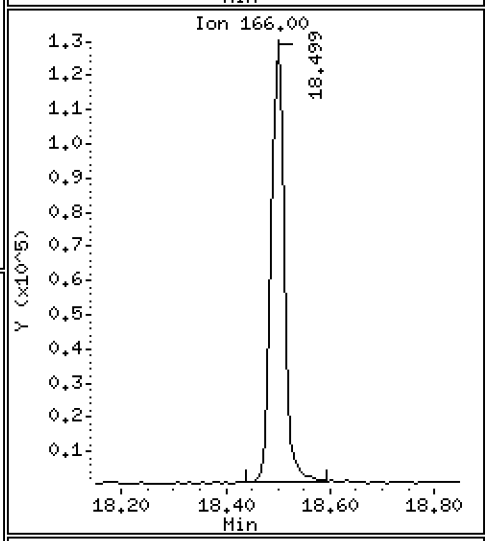


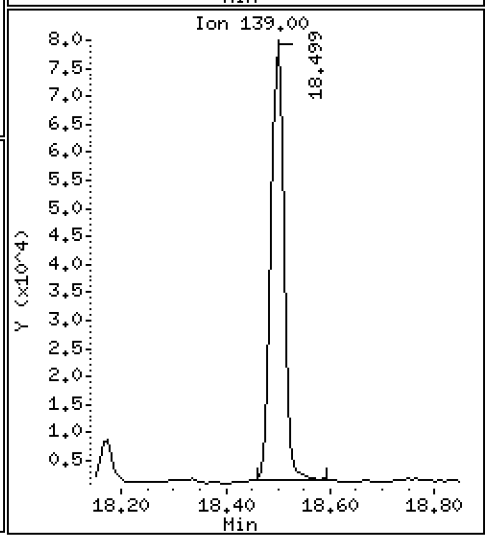












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

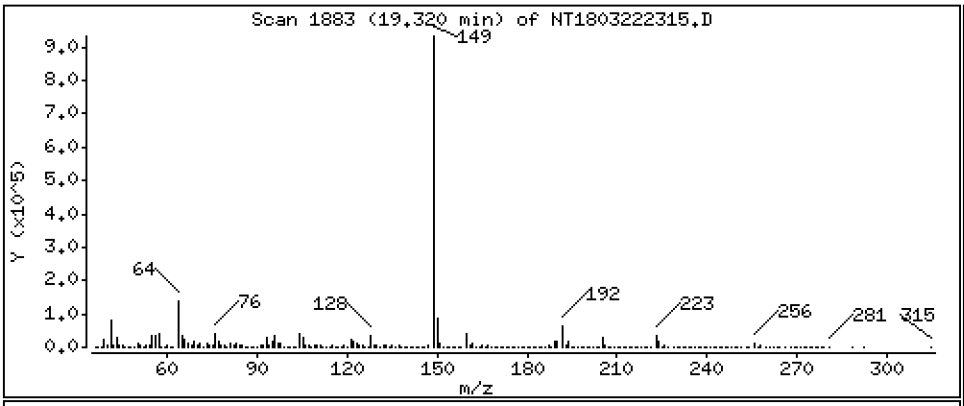
Operator: VTS

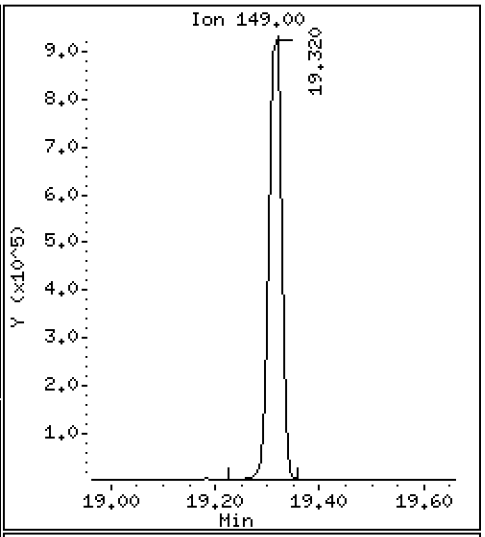
Column phase: ZB-5msi

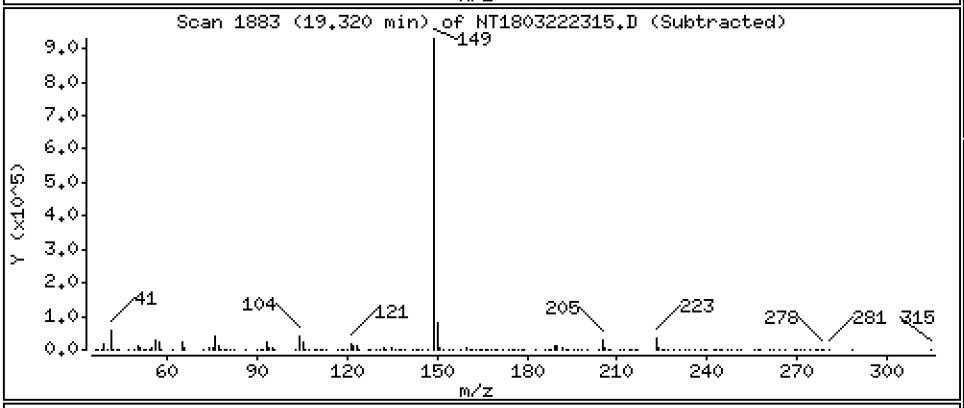
Column diameter: 0.25

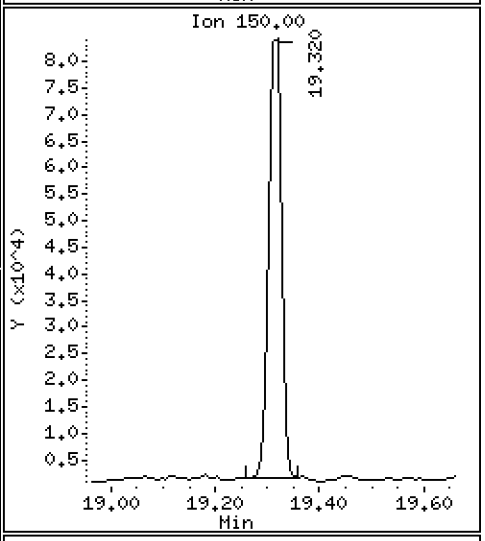
63 Di-n-butylphthalate

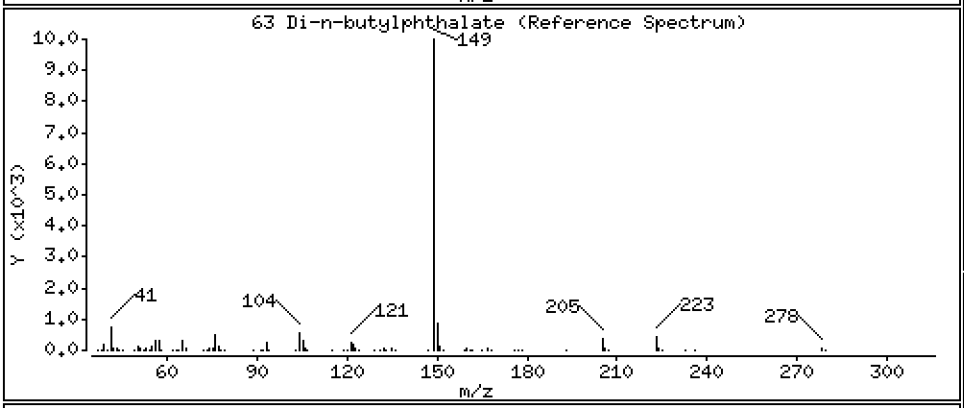
Concentration: 4.793 ug/mL

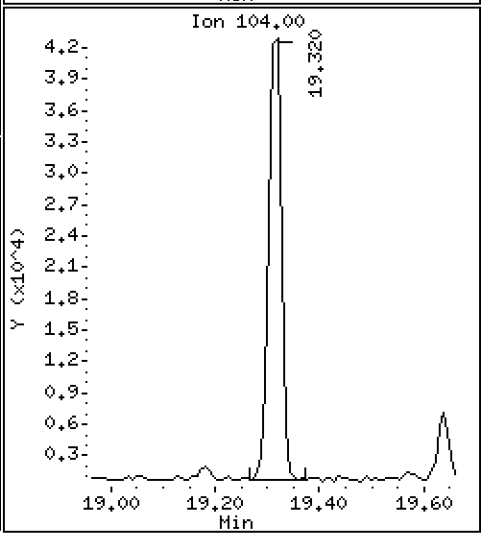


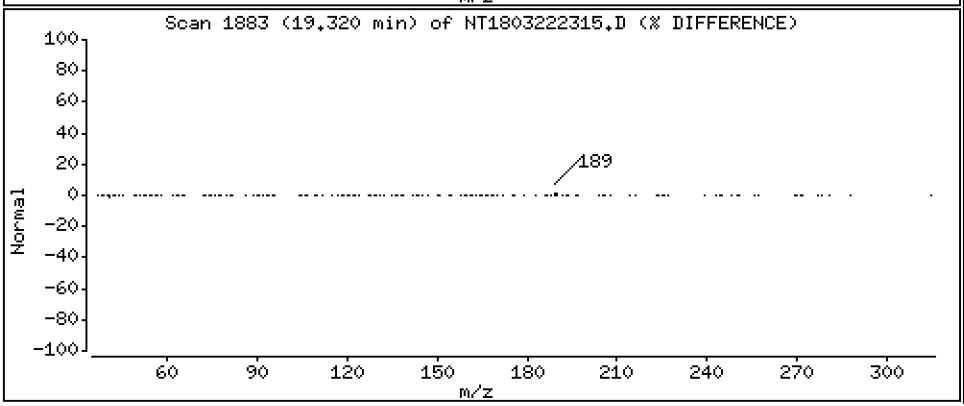












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

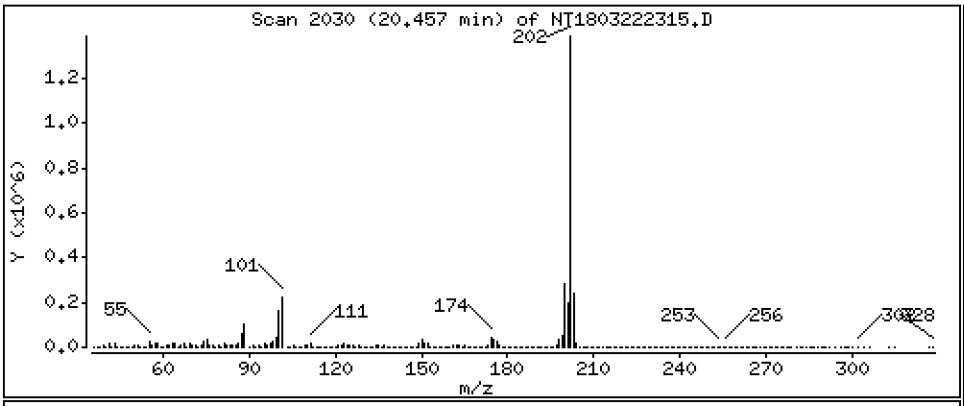
Operator: VTS

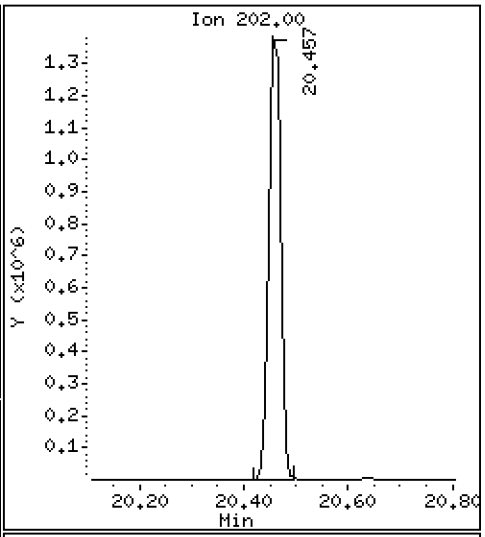
Column phase: ZB-5msi

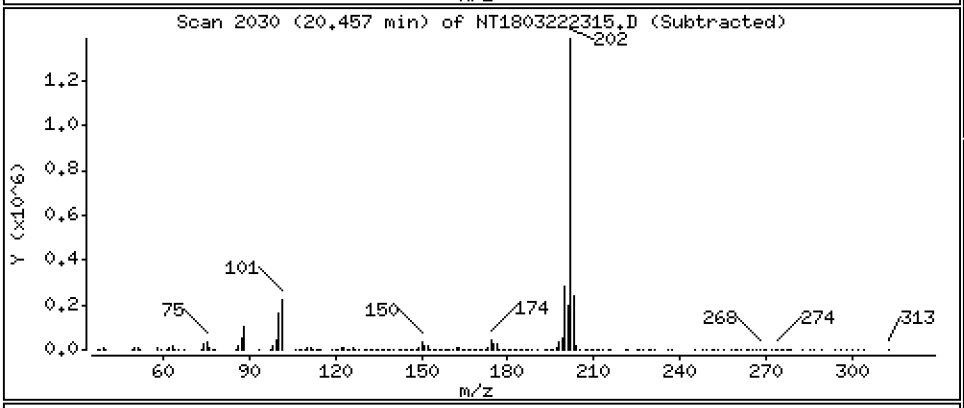
Column diameter: 0.25

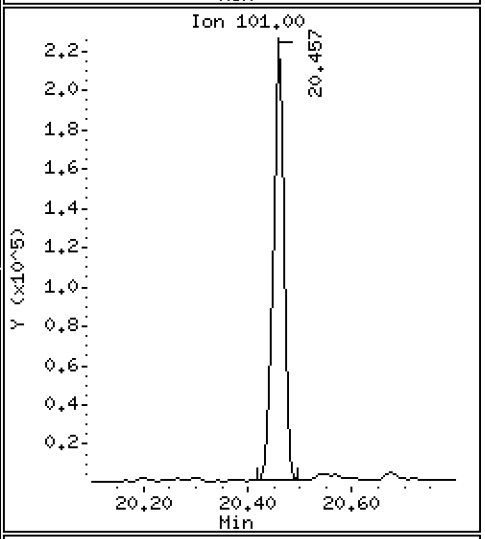
64 Fluoranthene

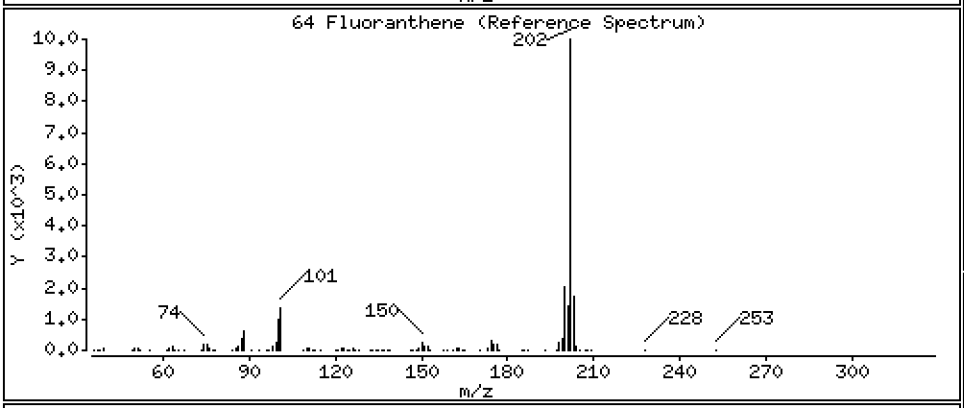
Concentration: 5.437 ug/mL

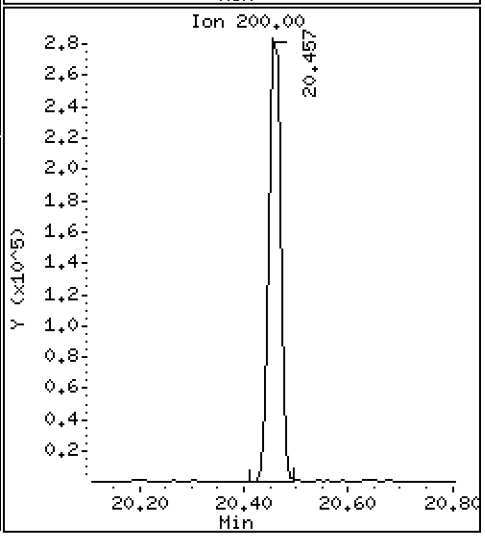


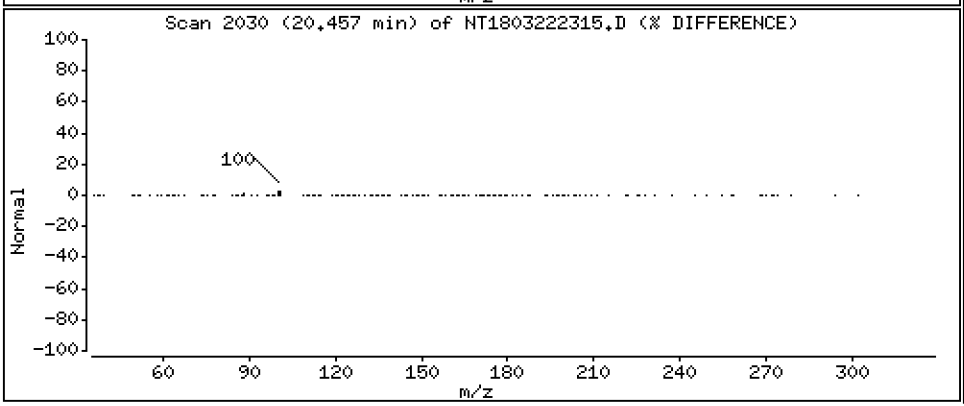












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

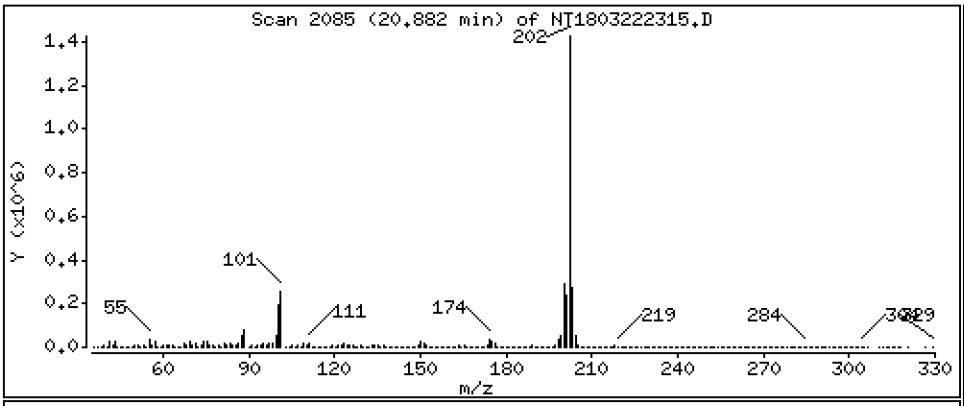
Operator: VTS

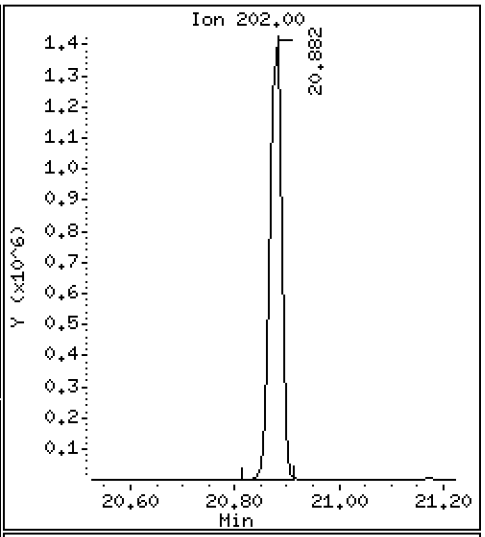
Column phase: ZB-5msi

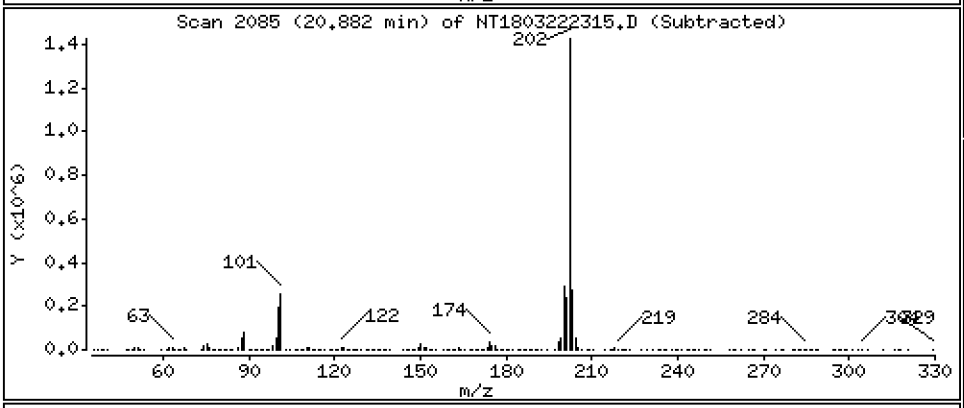
Column diameter: 0.25

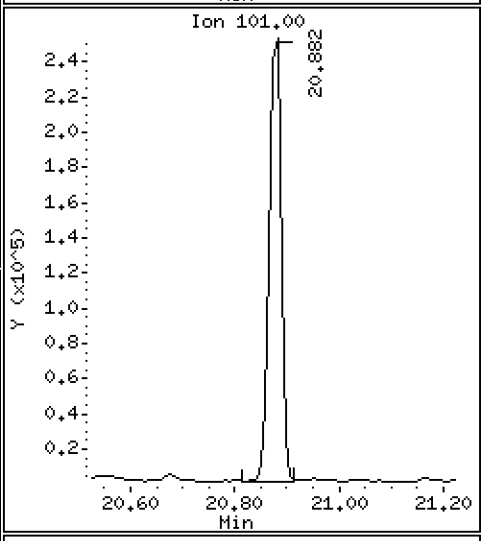
65 Pyrene

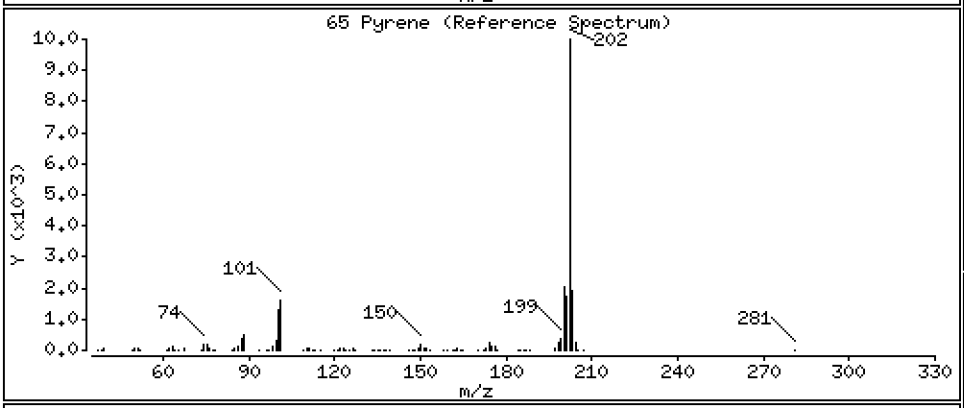
Concentration: 5.240 ug/mL

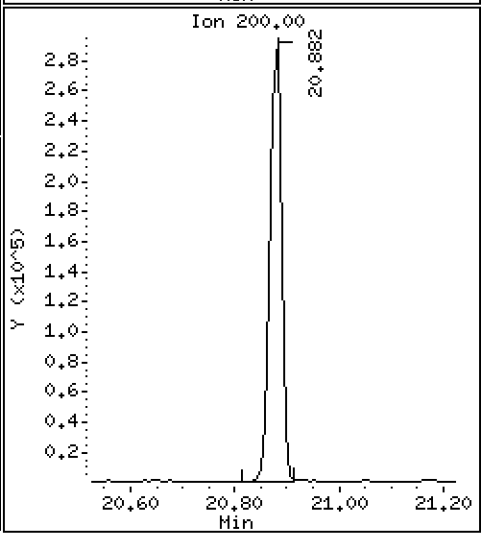


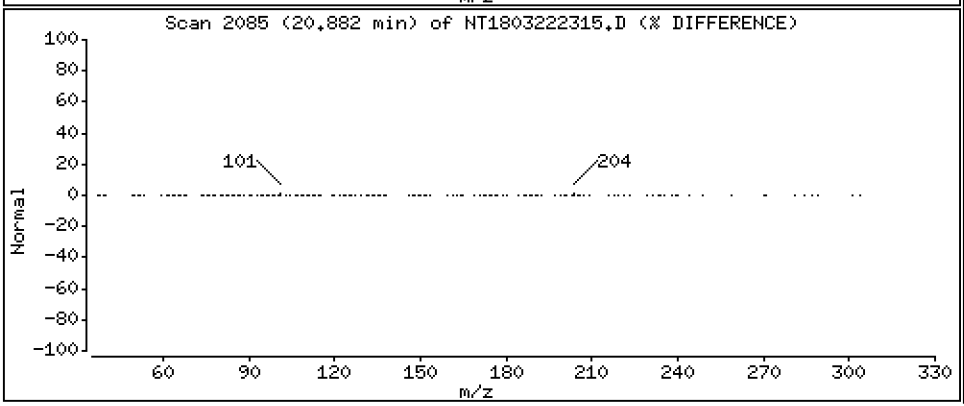












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

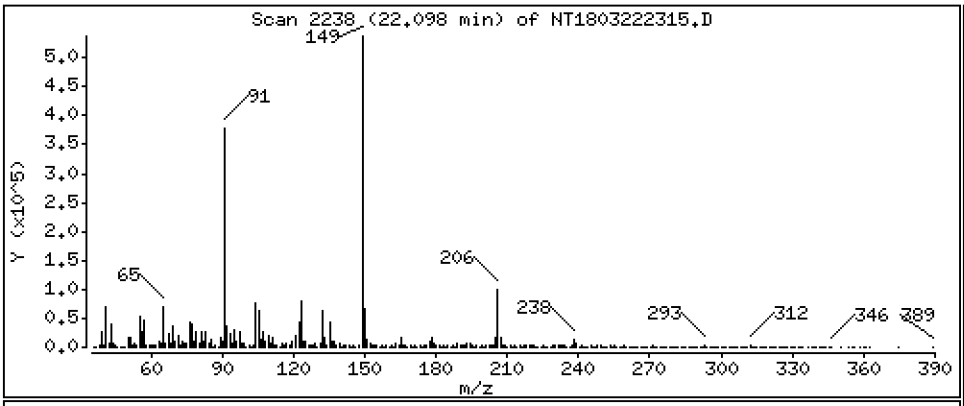
Operator: VTS

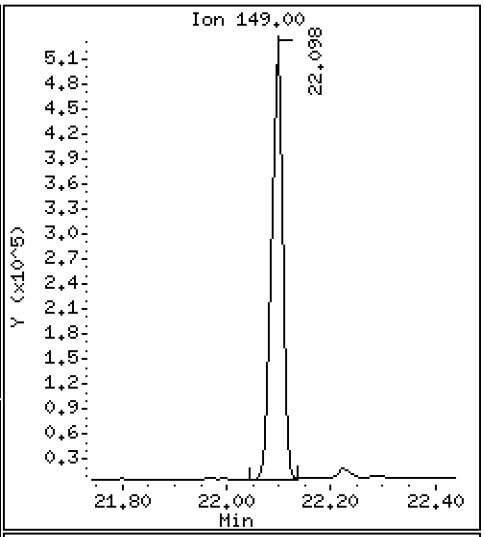
Column phase: ZB-5msi

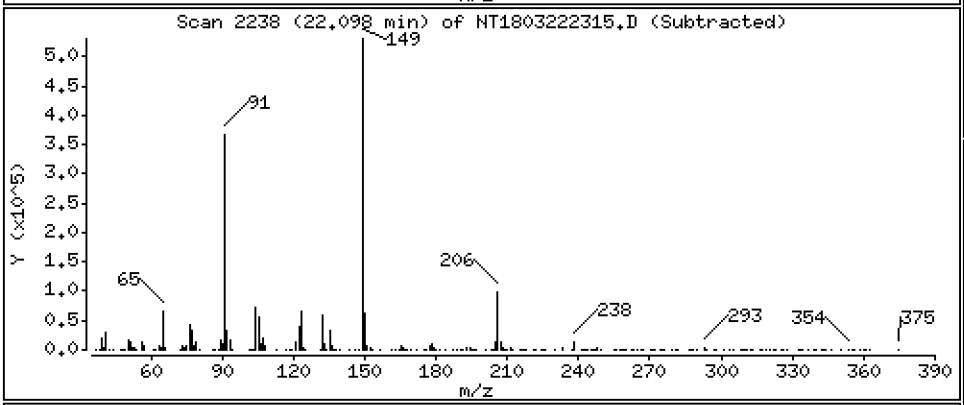
Column diameter: 0.25

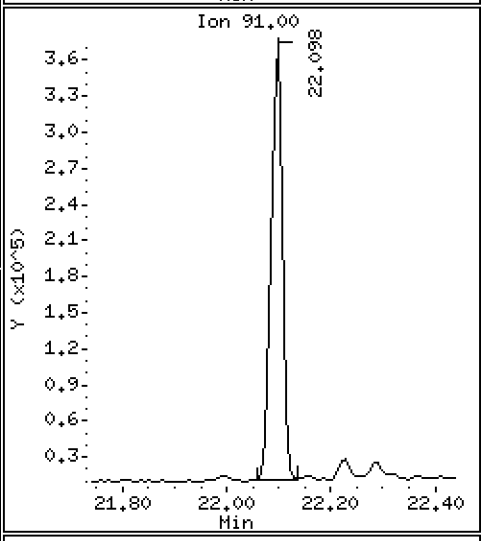
67 Butylbenzylphthalate

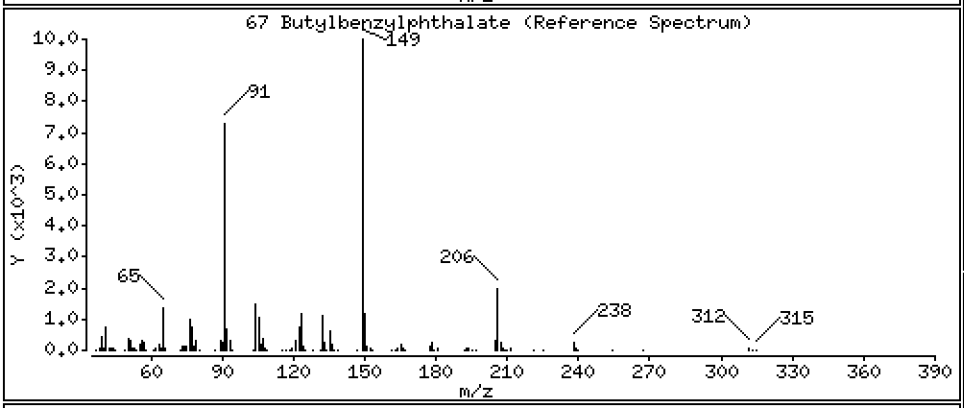
Concentration: 4.411 ug/mL

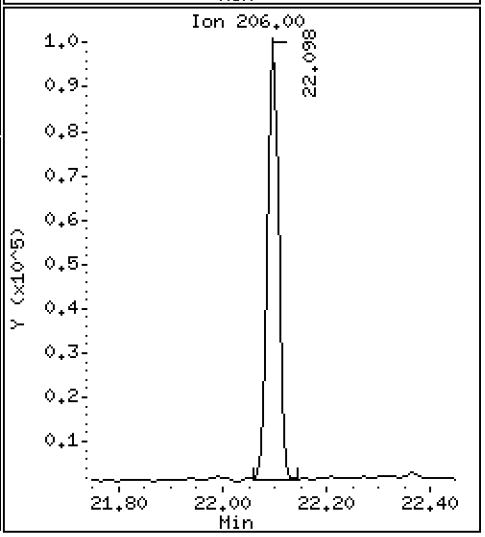


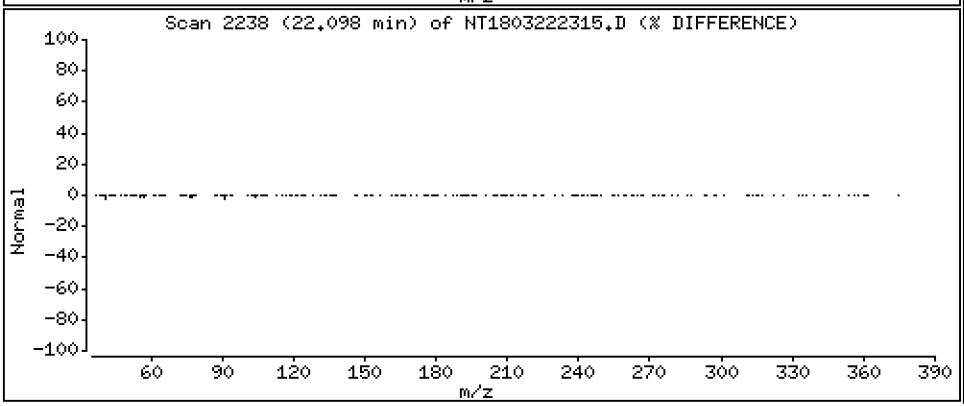












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

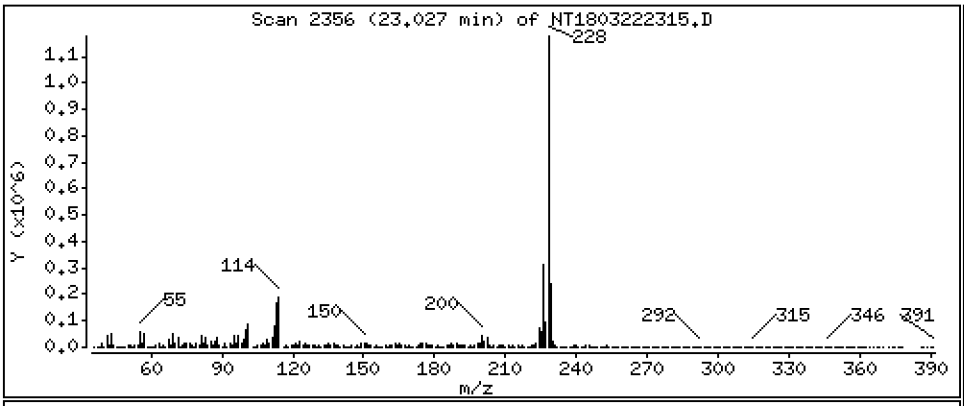
Operator: VTS

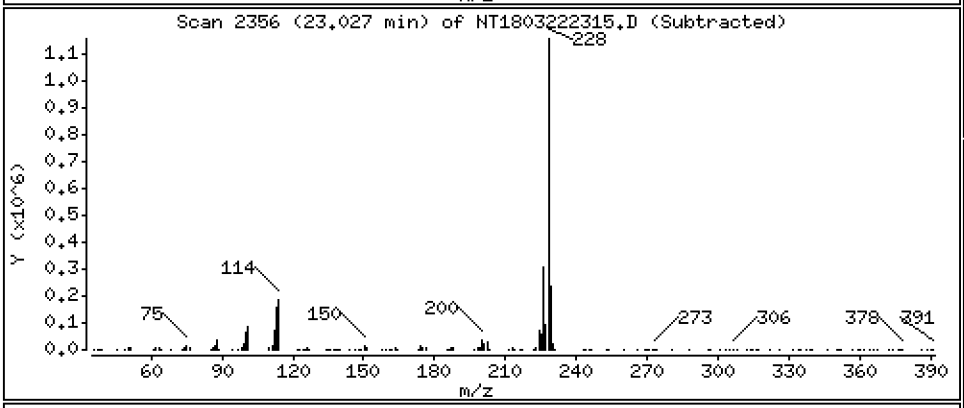
Column phase: ZB-5msi

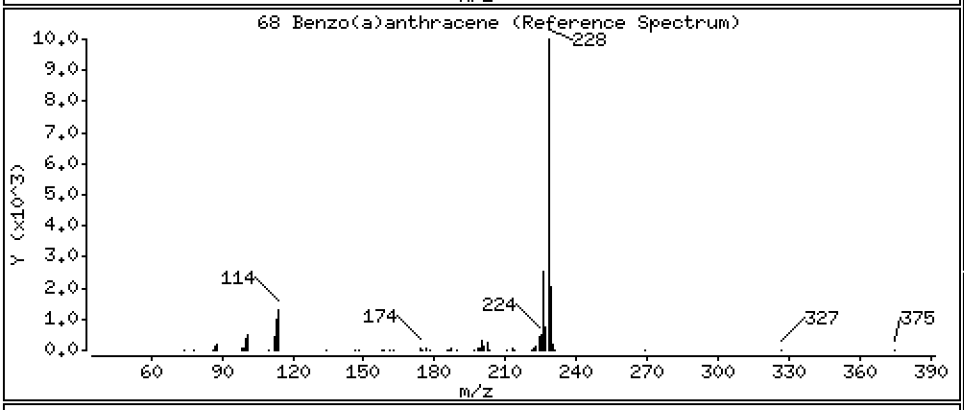
Column diameter: 0.25

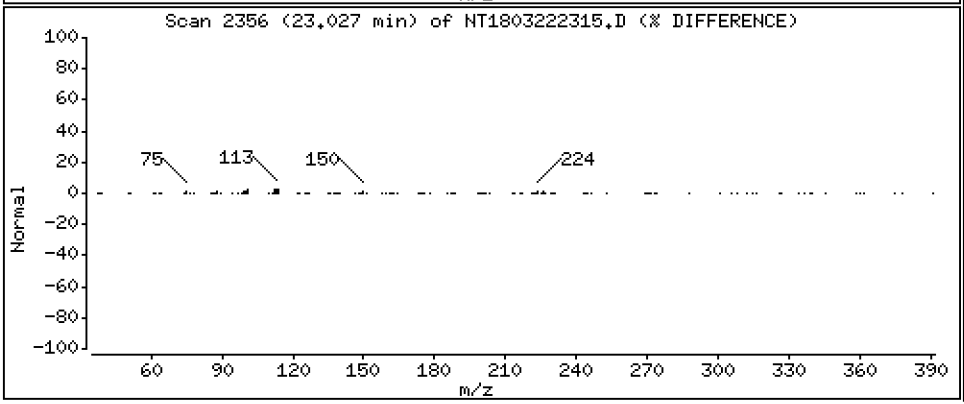
68 Benzo(a)anthracene

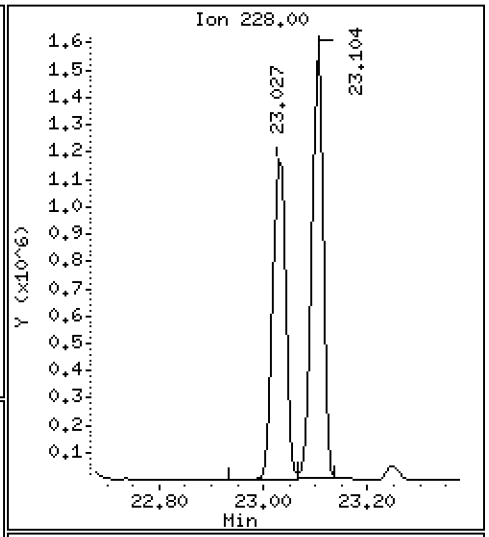
Concentration: 5.356 ug/mL

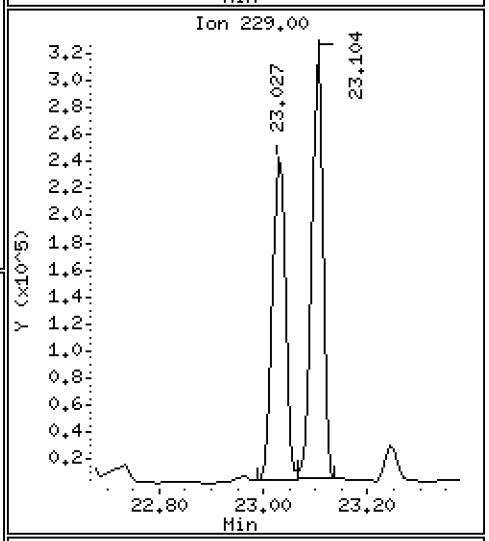


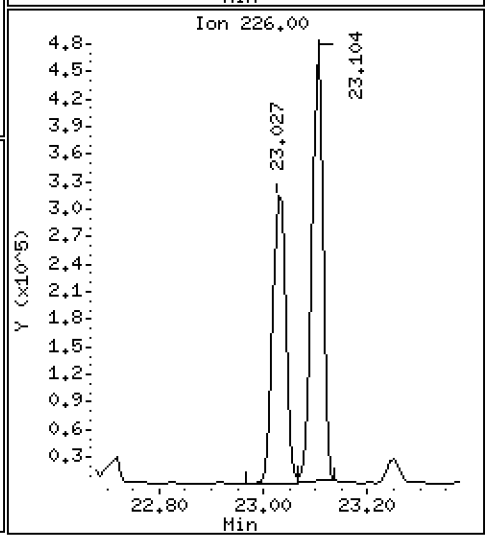












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

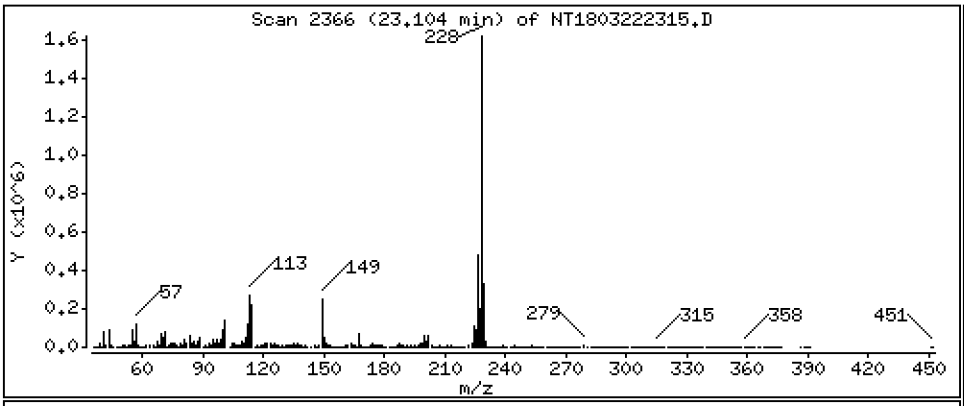
Operator: VTS

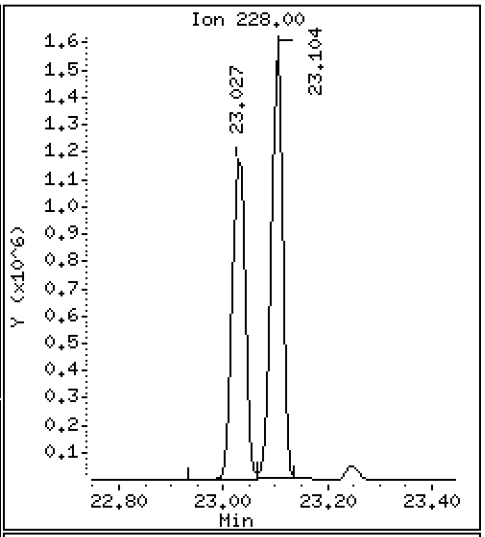
Column phase: ZB-5msi

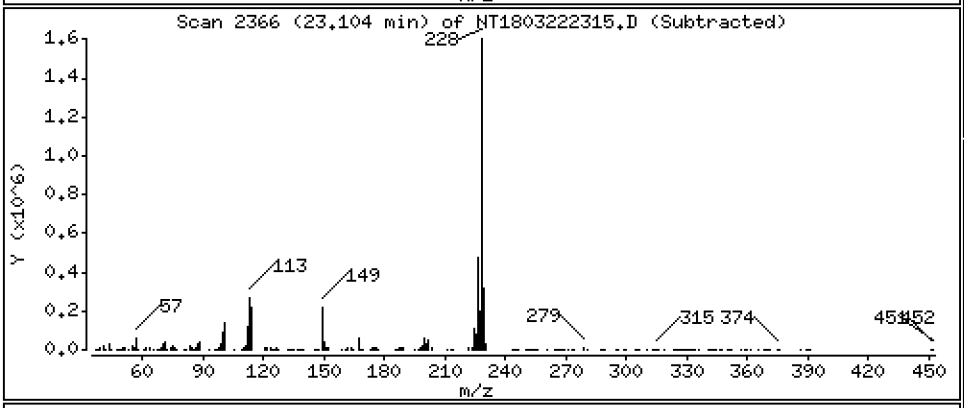
Column diameter: 0.25

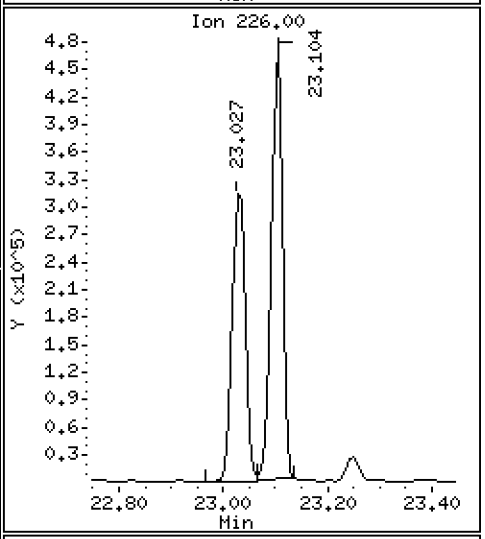
71 Chrysene

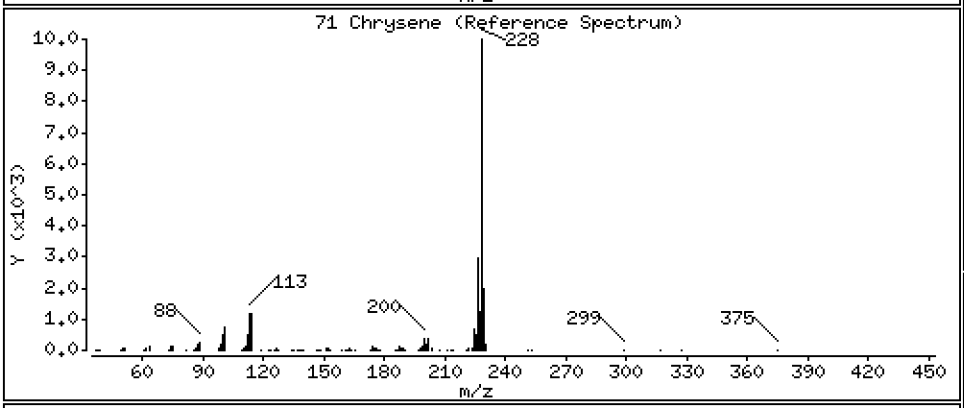
Concentration: 5.800 ug/mL

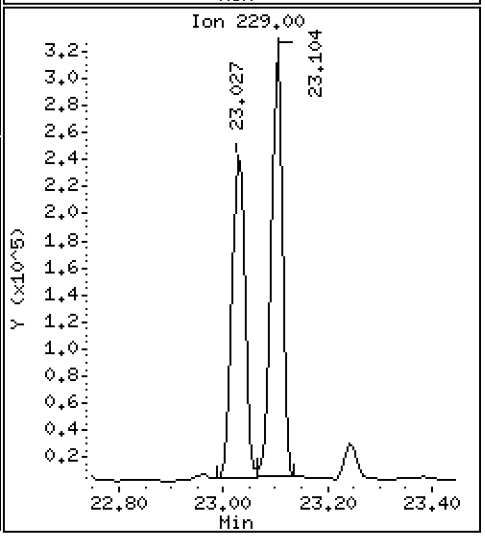


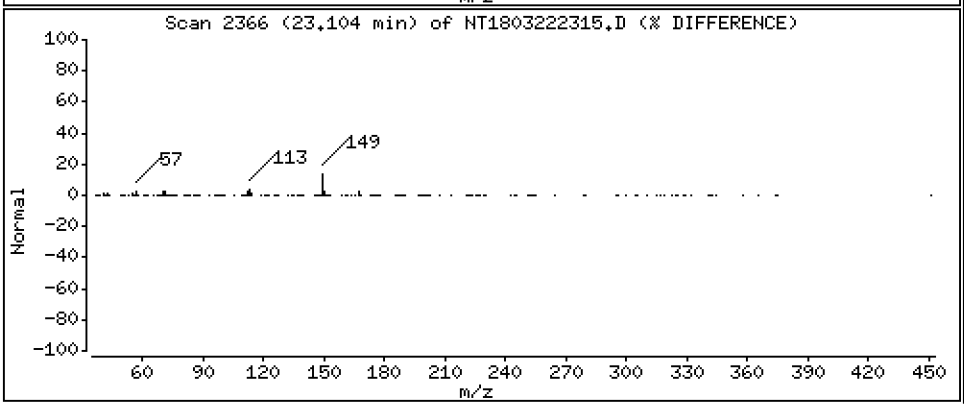












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222315.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

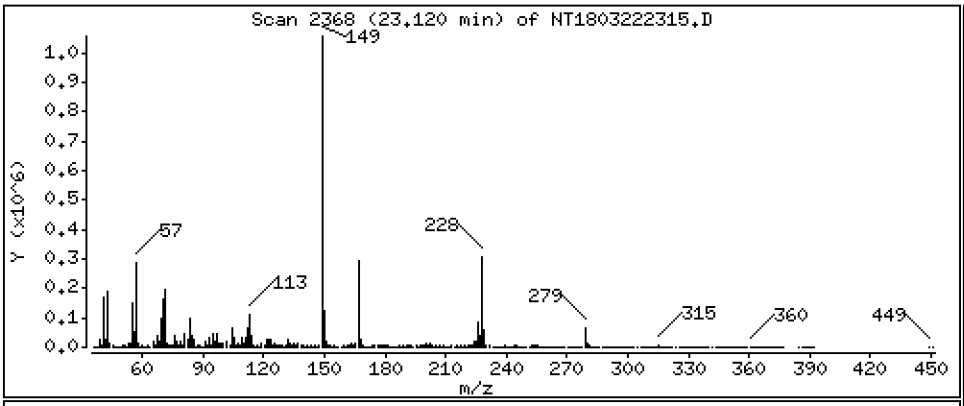
Operator: VTS

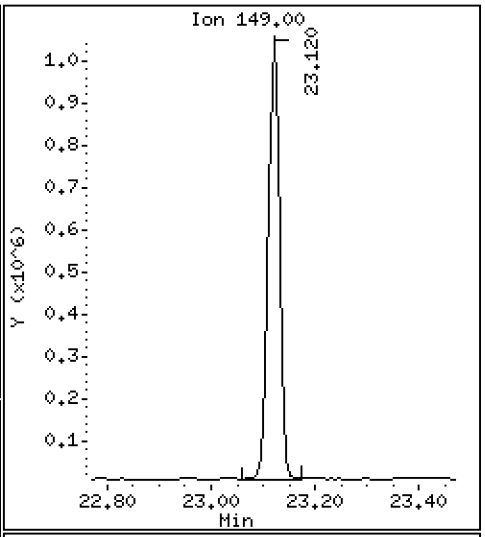
Column phase: ZB-5msi

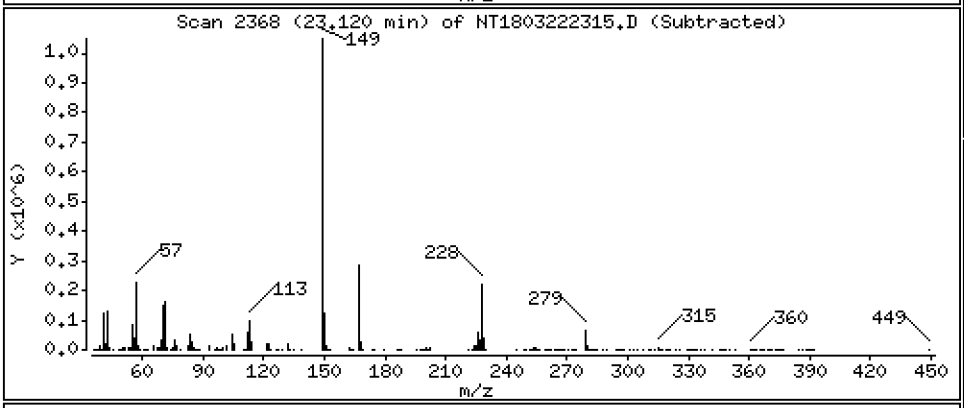
Column diameter: 0.25

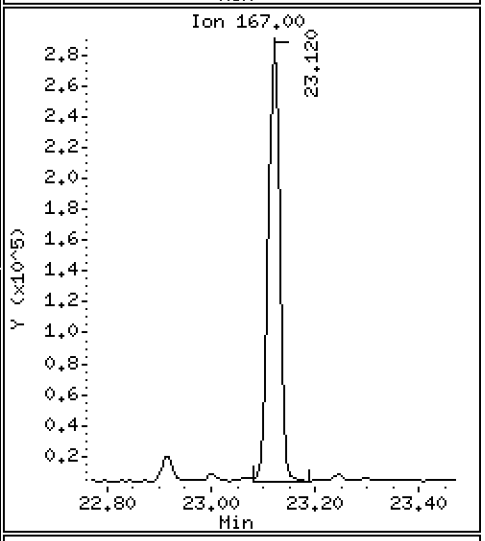
72 bis(2-Ethylhexyl)phthalate

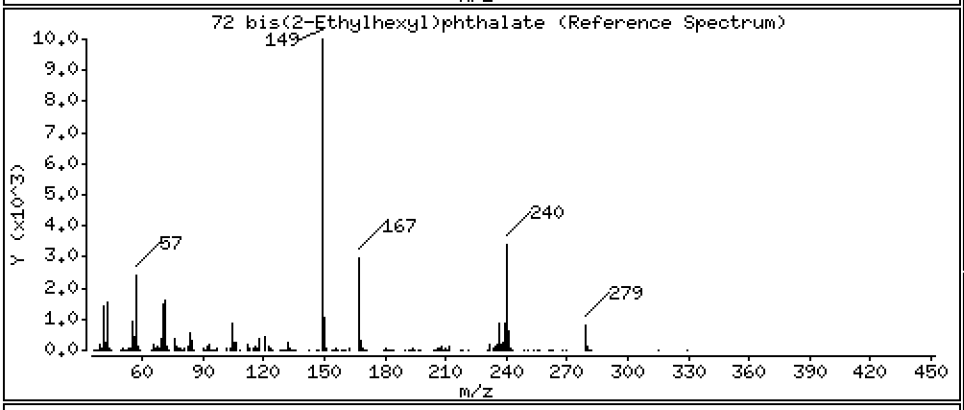
Concentration: 5.421 ug/mL

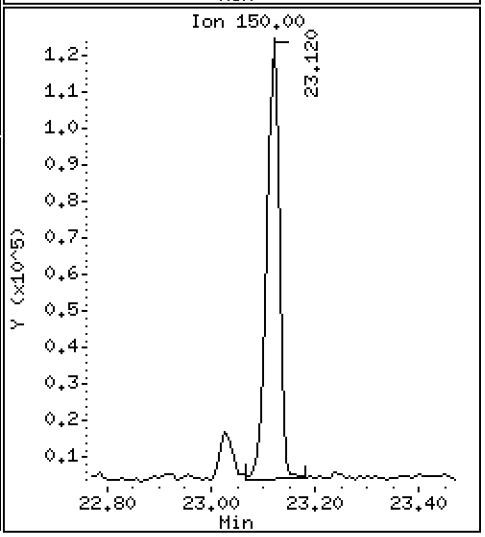


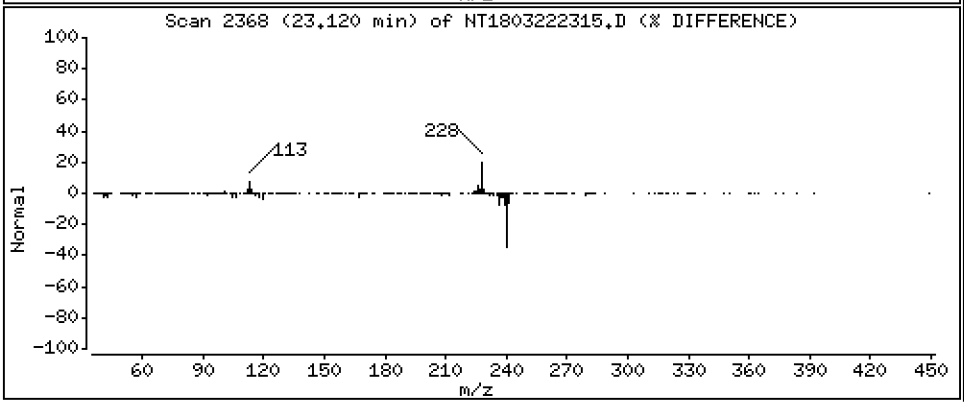












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

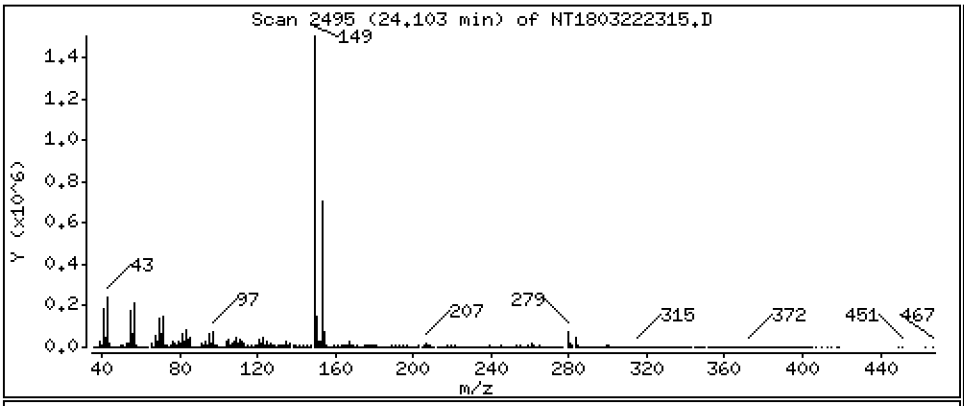
Operator: VTS

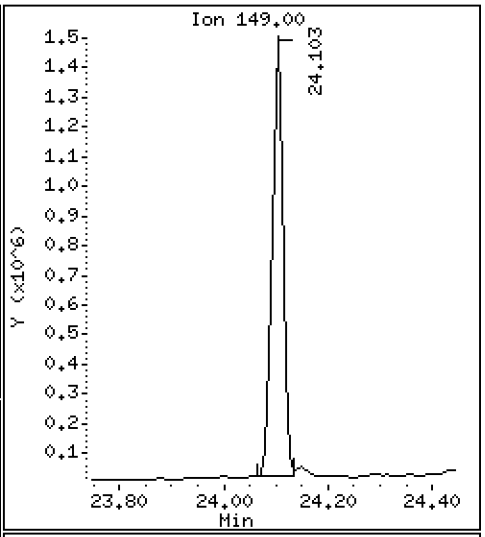
Column phase: ZB-5msi

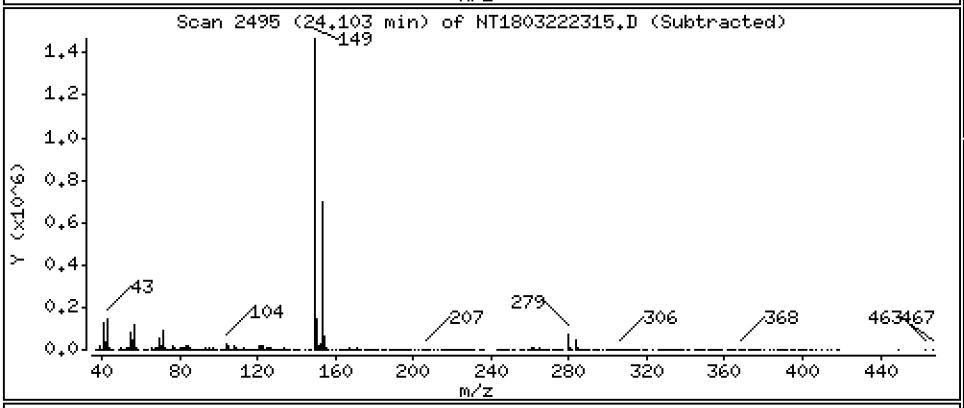
Column diameter: 0.25

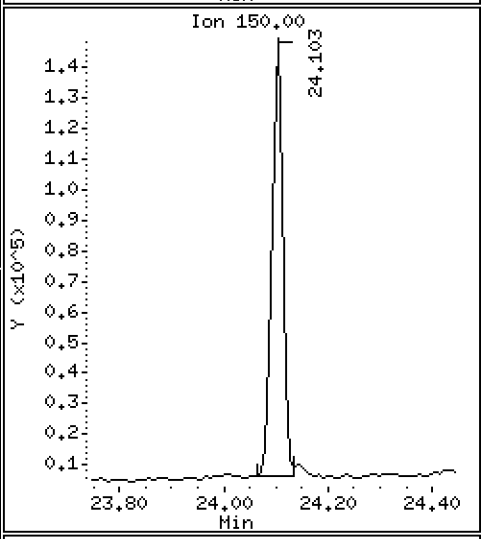
73 Di-n-octylphthalate

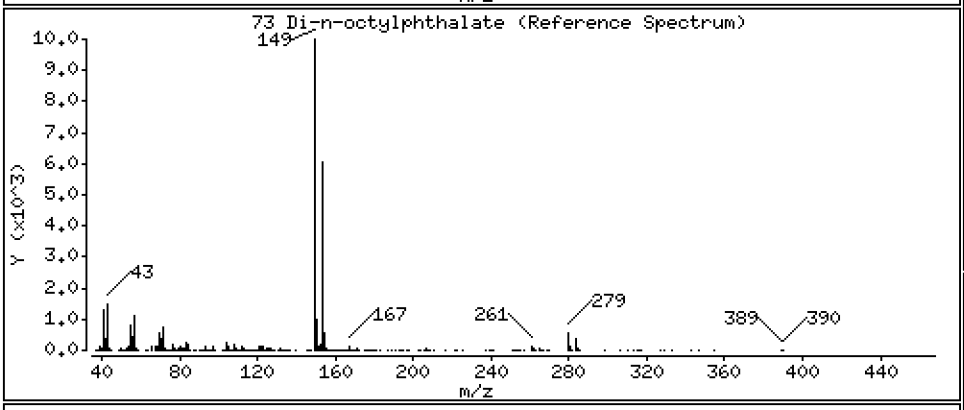
Concentration: 4.476 ug/mL

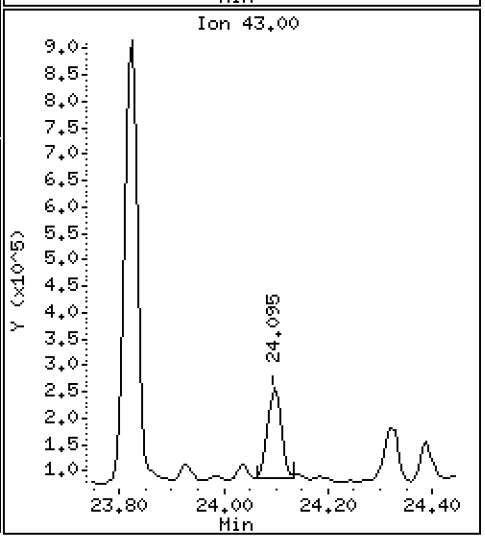


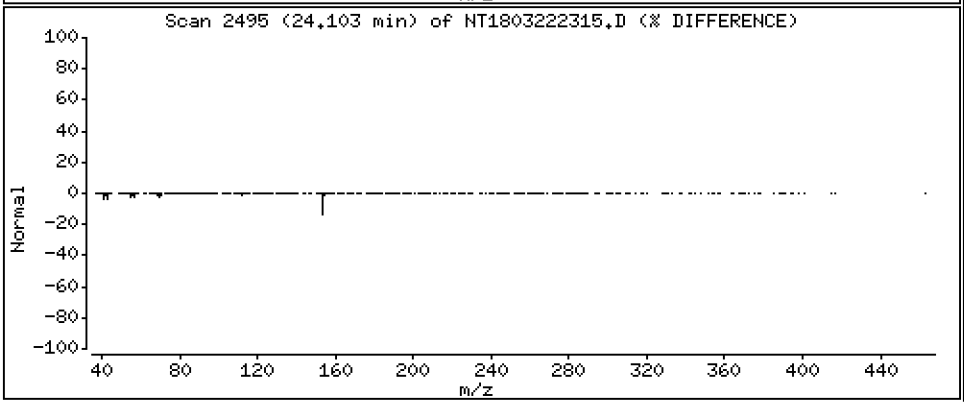












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

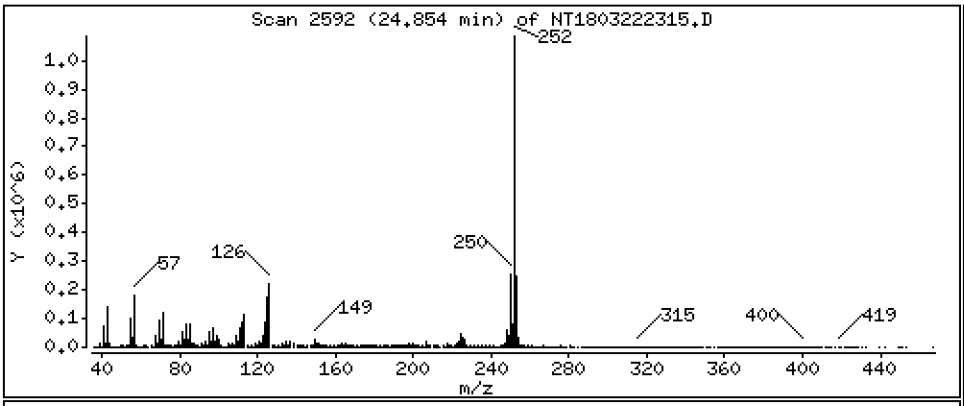
Operator: VTS

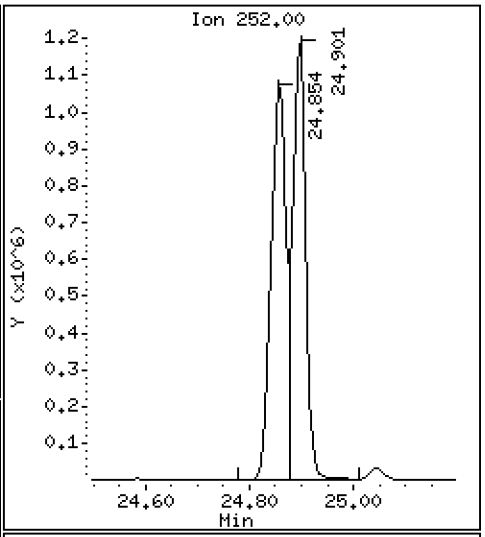
Column phase: ZB-5msi

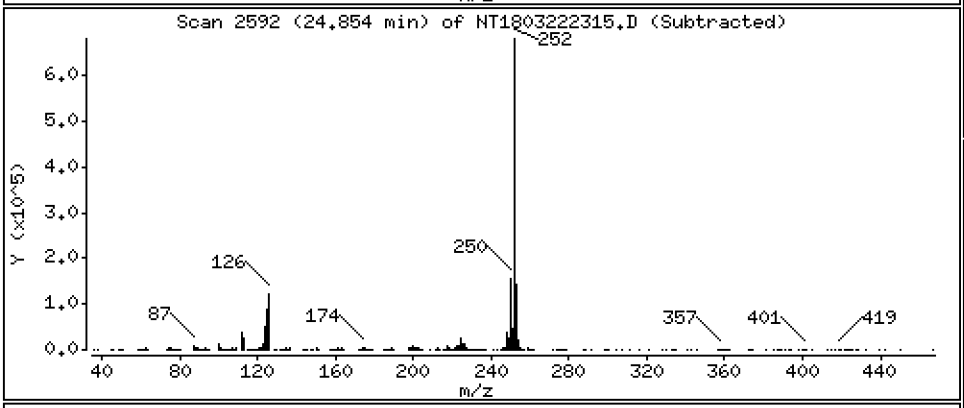
Column diameter: 0.25

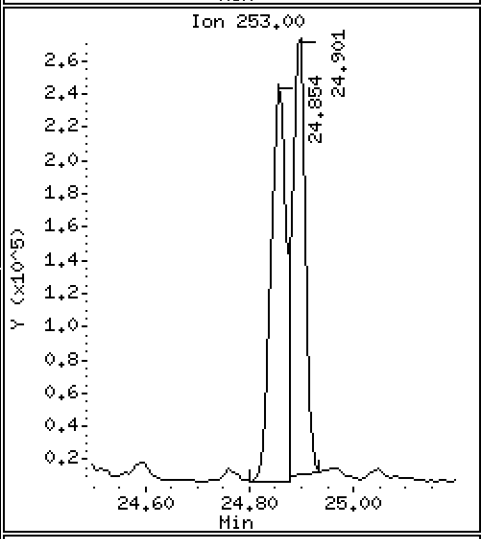
74 Benzo(b)fluoranthene

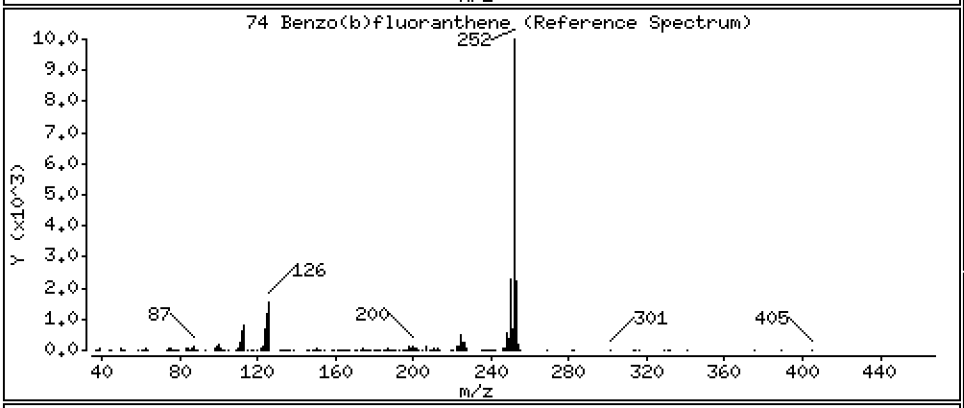
Concentration: 7.075 ug/mL

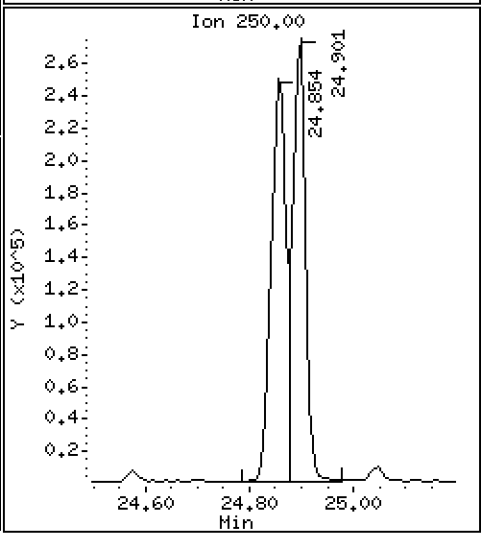


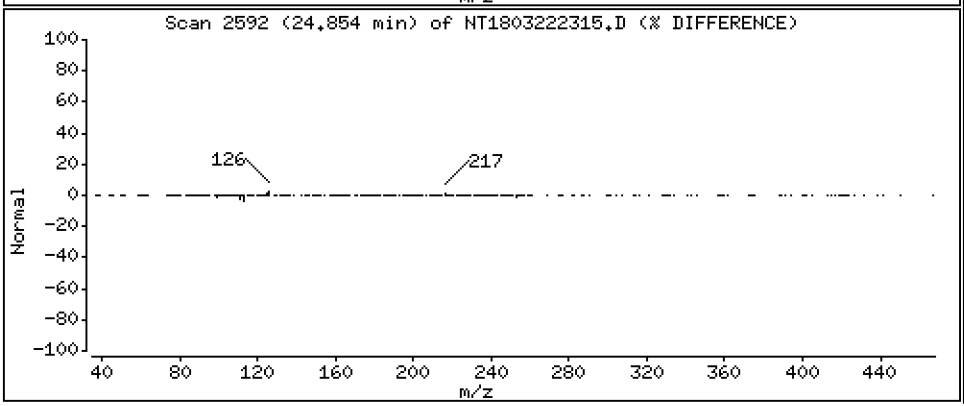












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

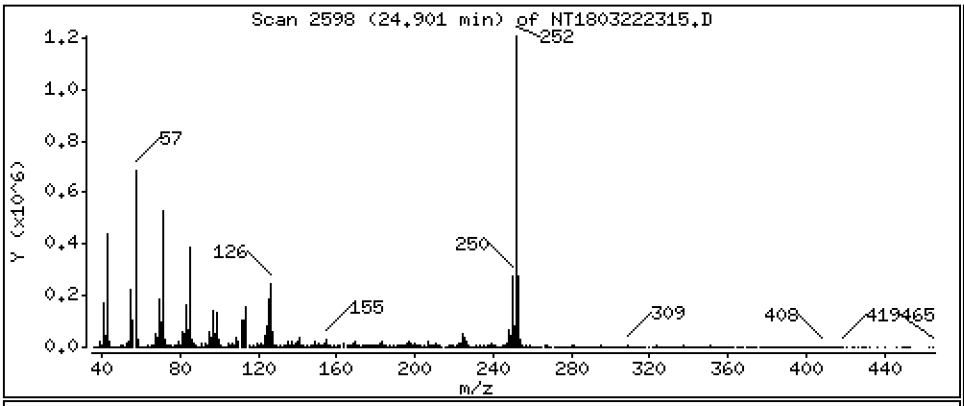
Operator: VTS

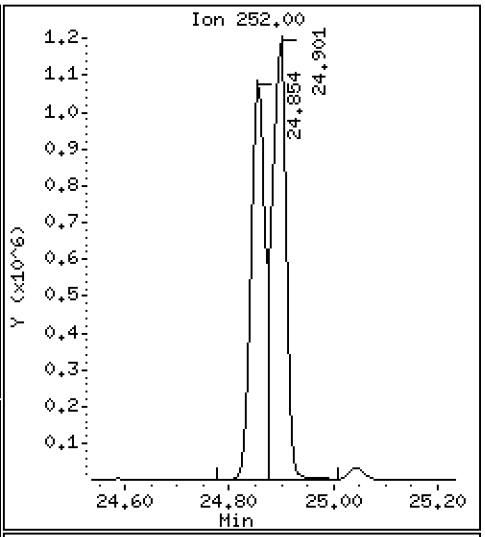
Column phase: ZB-5msi

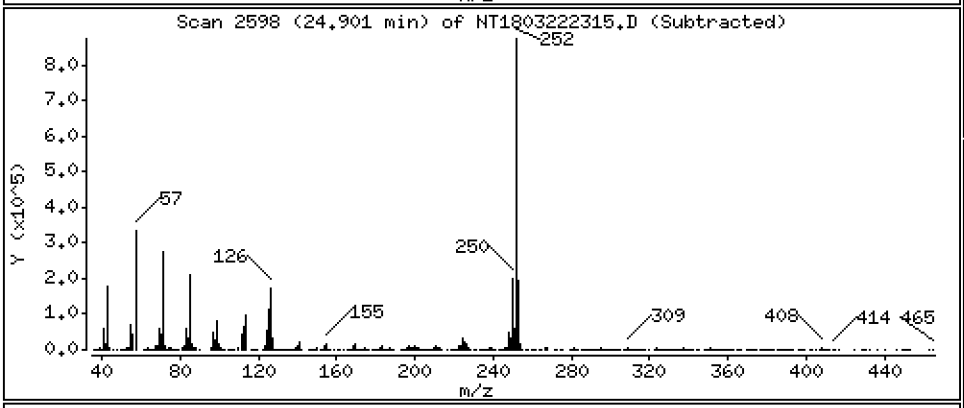
Column diameter: 0.25

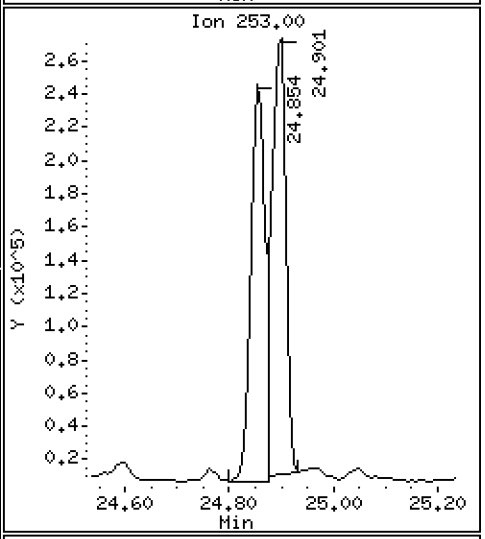
75 Benzo(k)fluoranthene

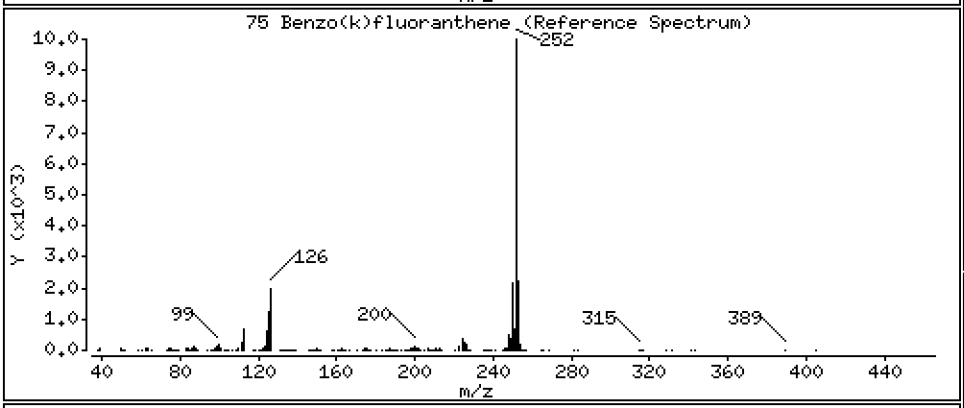
Concentration: 6.268 ug/mL

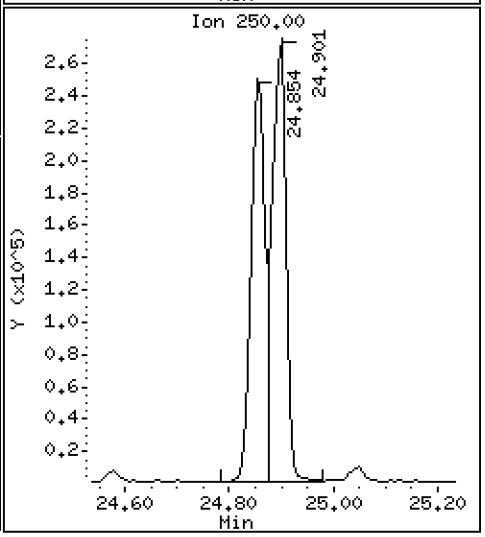


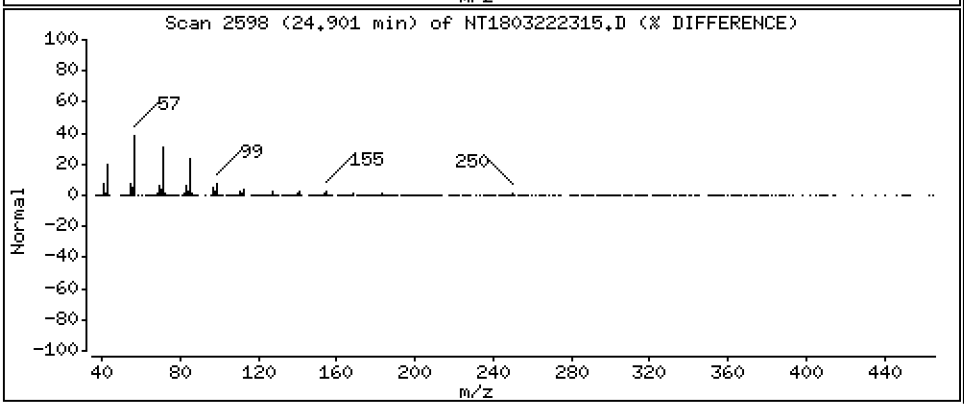












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

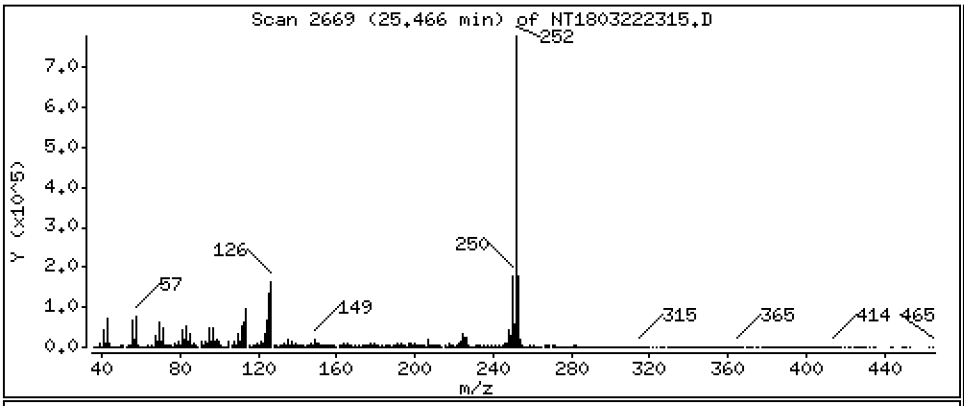
Operator: VTS

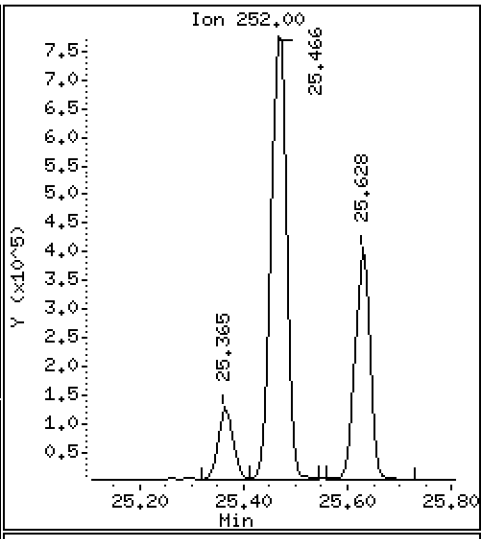
Column phase: ZB-5msi

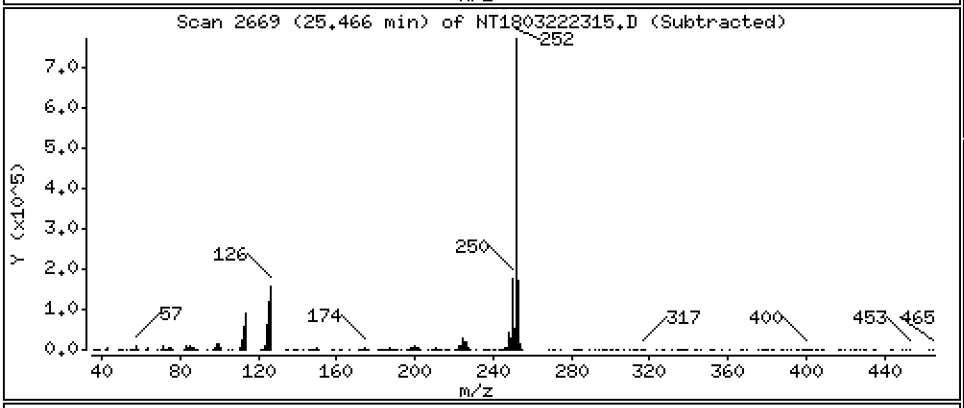
Column diameter: 0.25

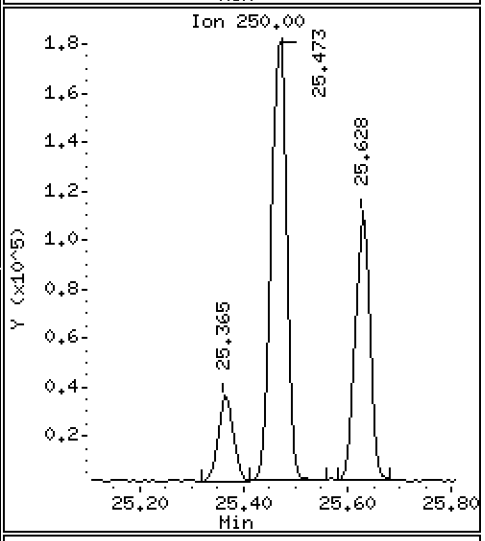
76 Benzo(a)pyrene

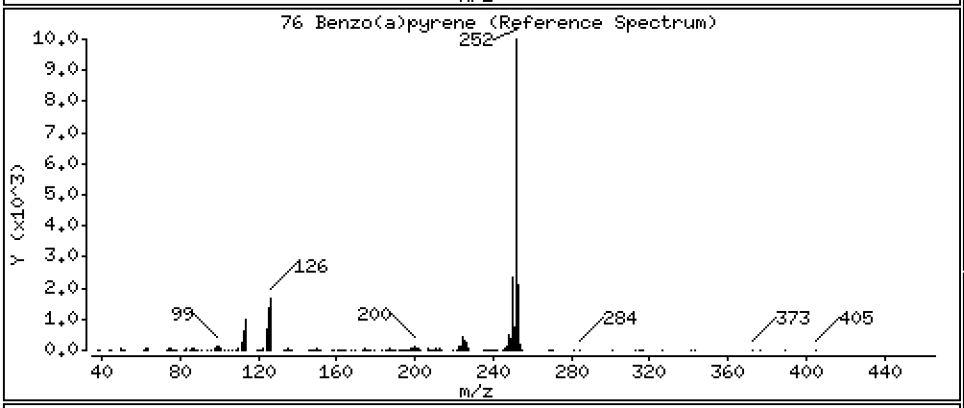
Concentration: 4.924 ug/mL

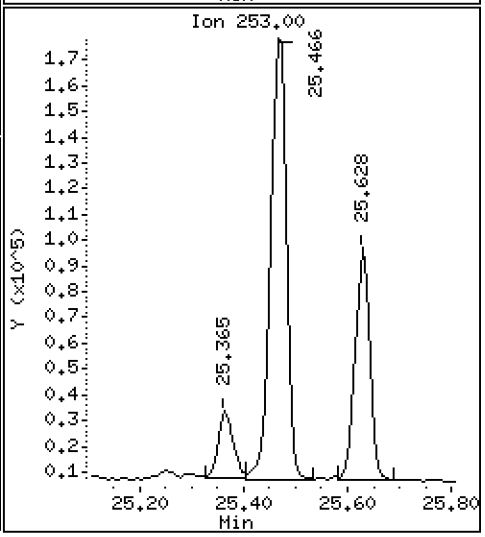


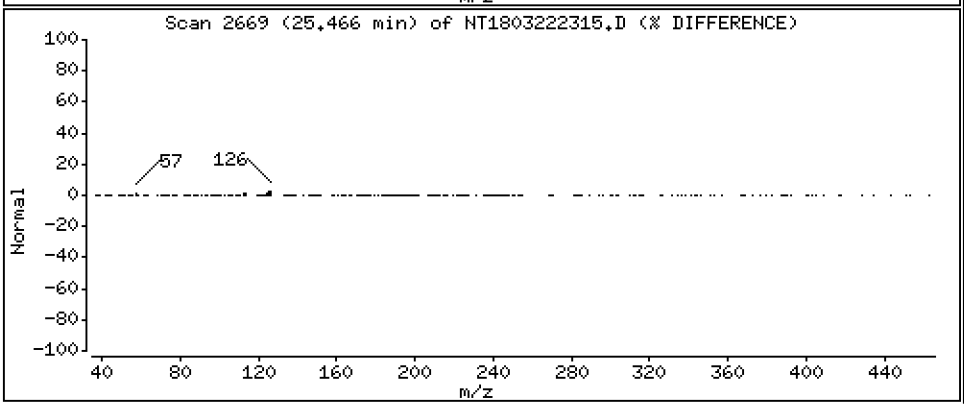












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

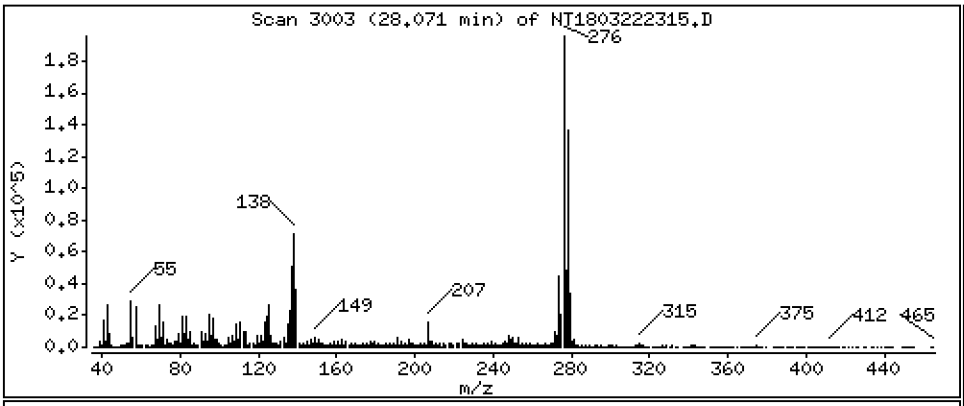
Operator: VTS

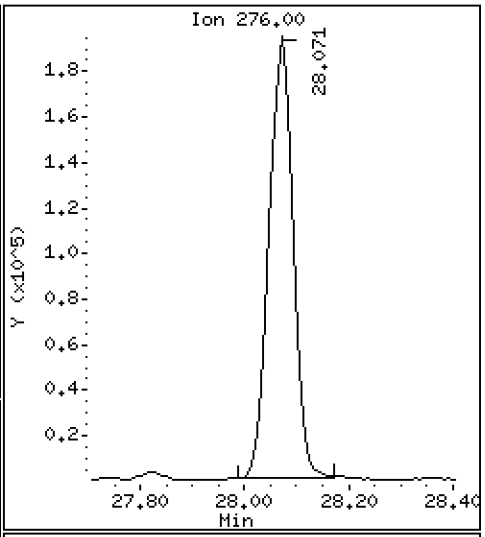
Column phase: ZB-5msi

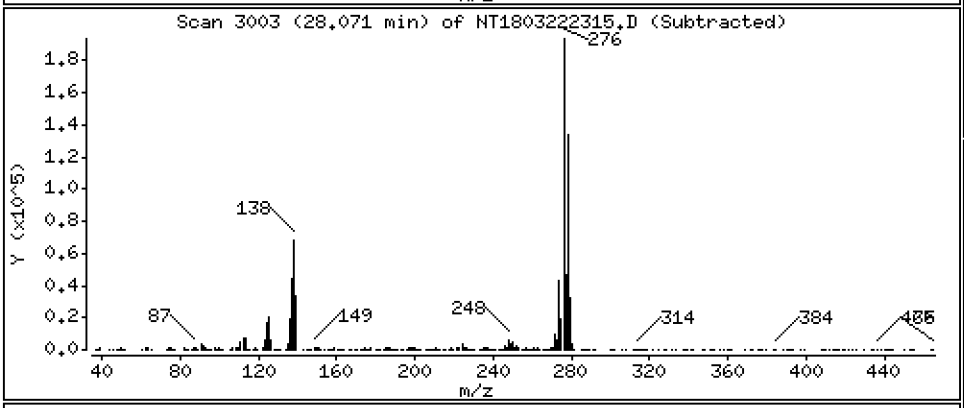
Column diameter: 0.25

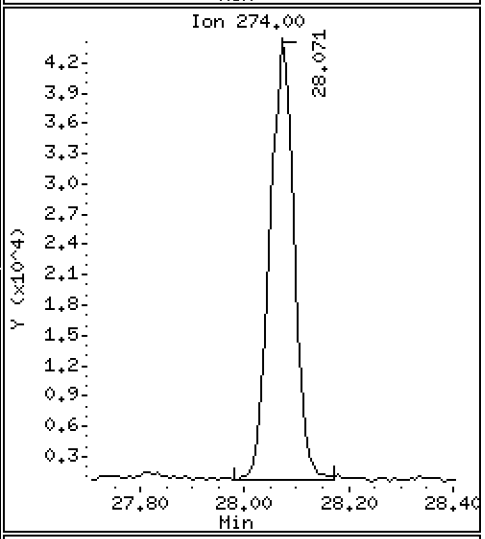
78 Indeno(1,2,3-cd)pyrene

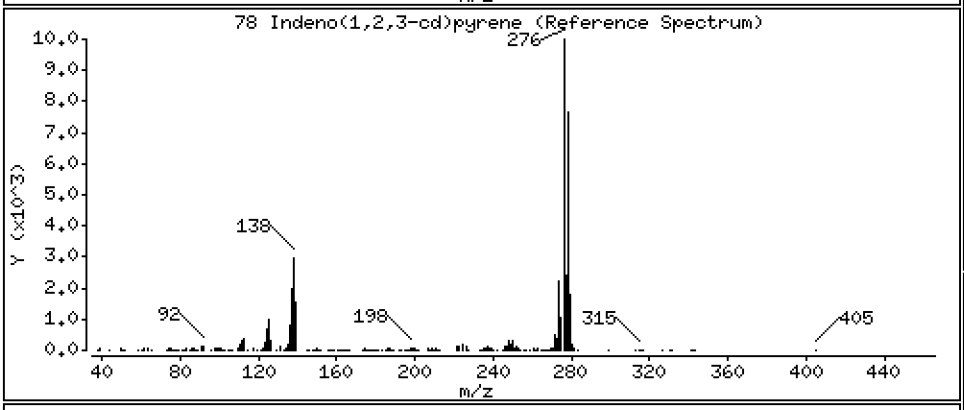
Concentration: 1.564 ug/mL

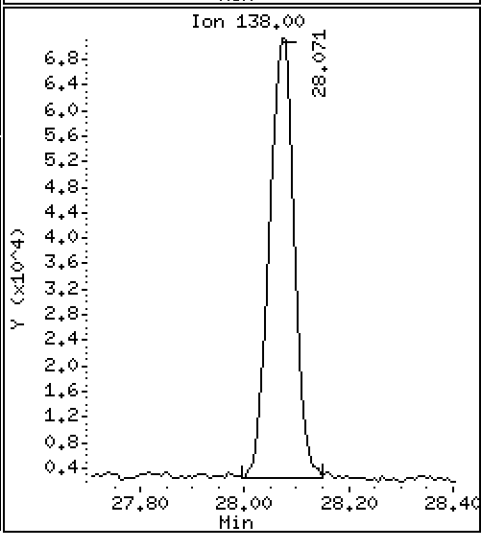


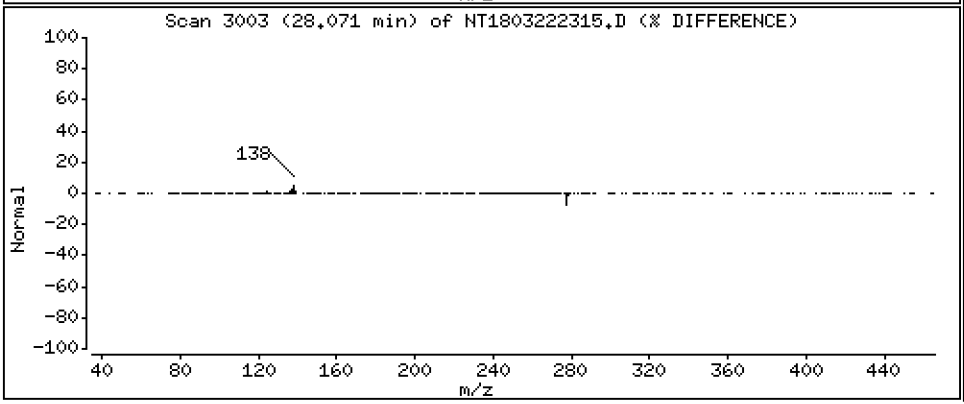












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

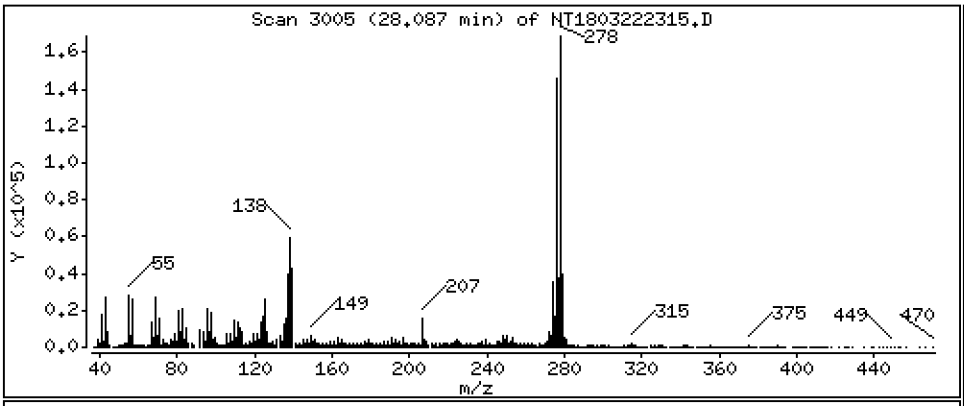
Operator: VTS

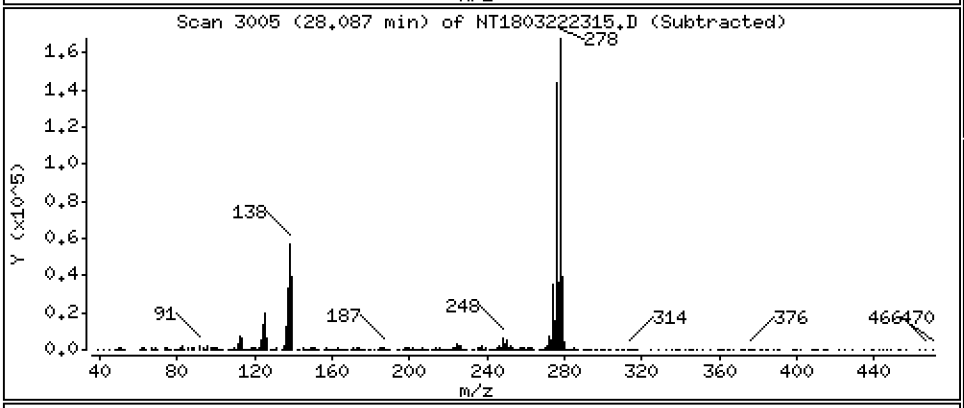
Column phase: ZB-5msi

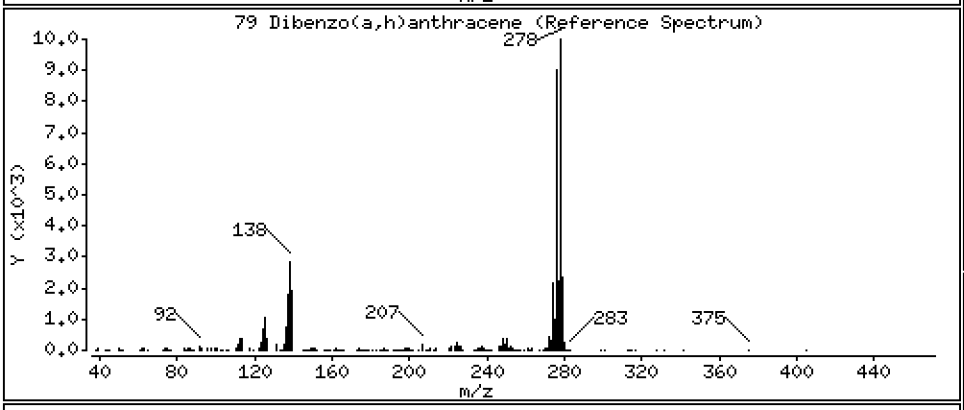
Column diameter: 0.25

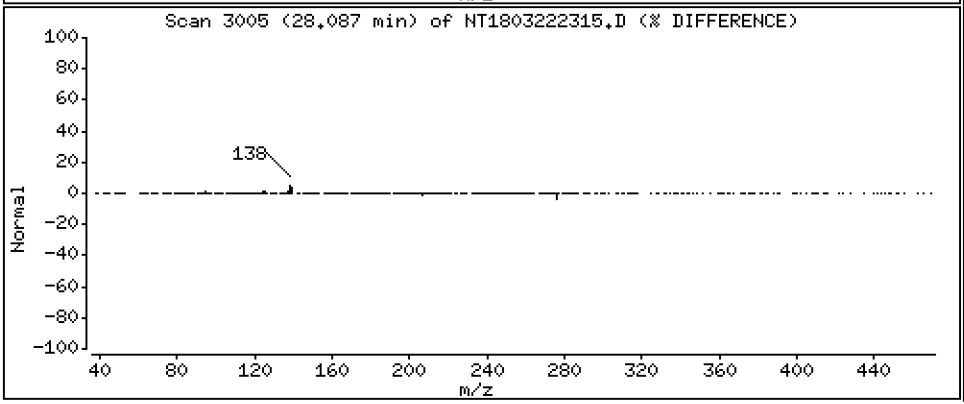
79 Dibenzo(a,h)anthracene

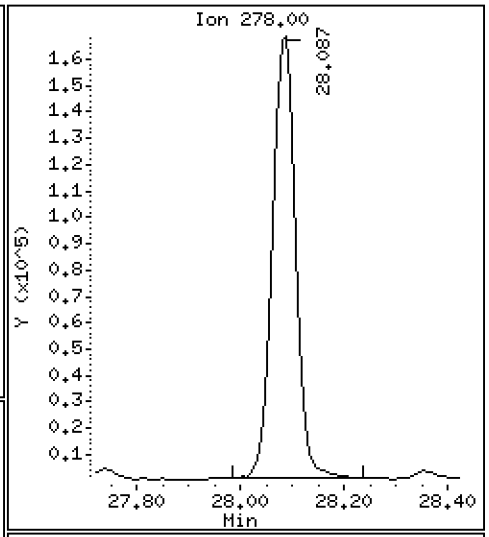
Concentration: 1.562 ug/mL

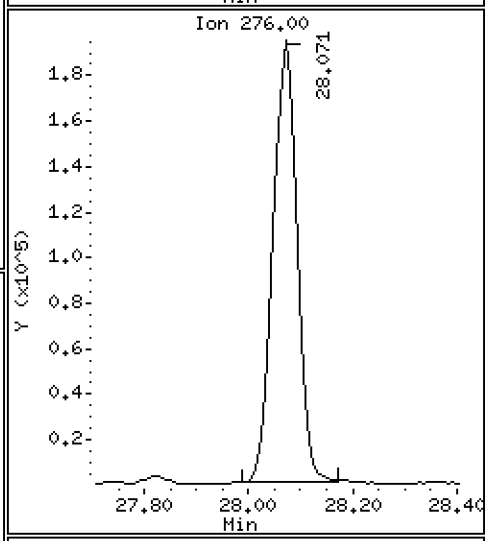


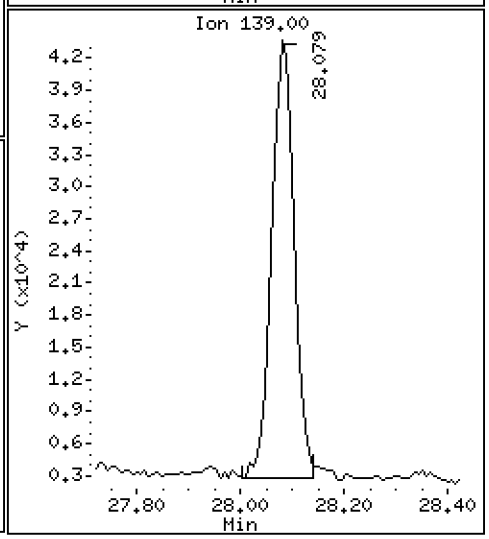












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222315.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

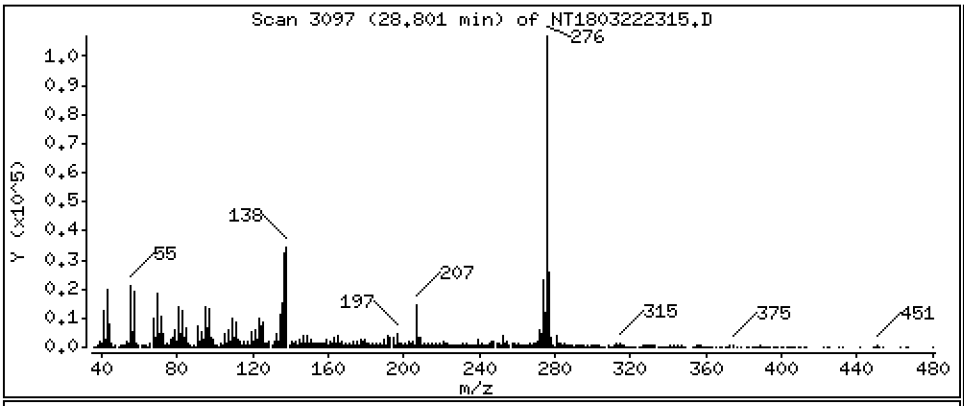
Operator: VTS

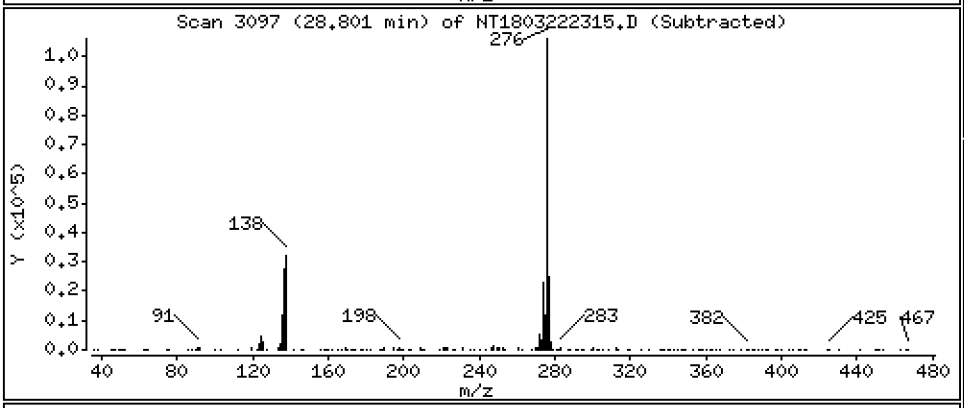
Column phase: ZB-5msi

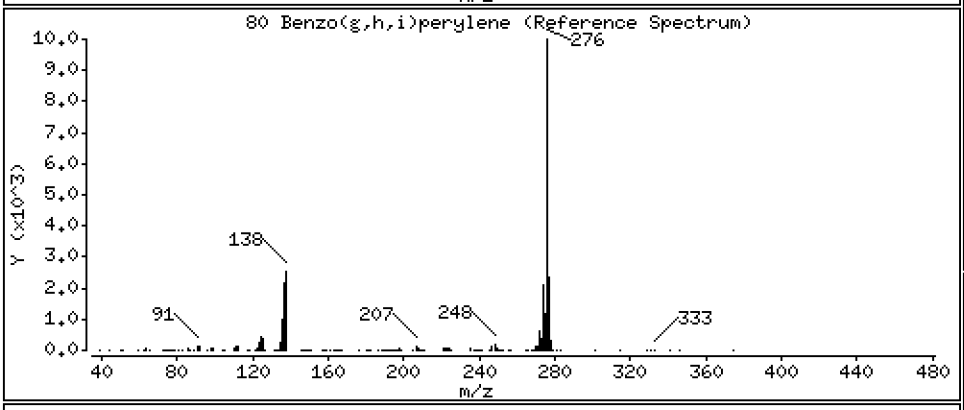
Column diameter: 0.25

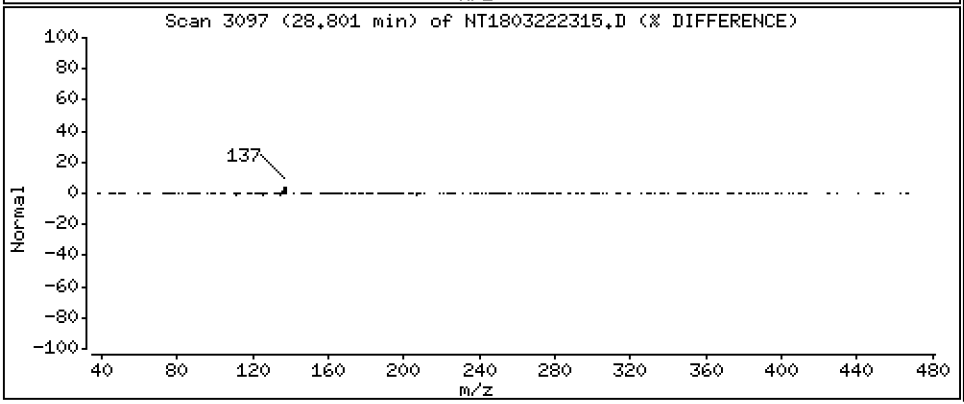
80 Benzo(g,h,i)perylene

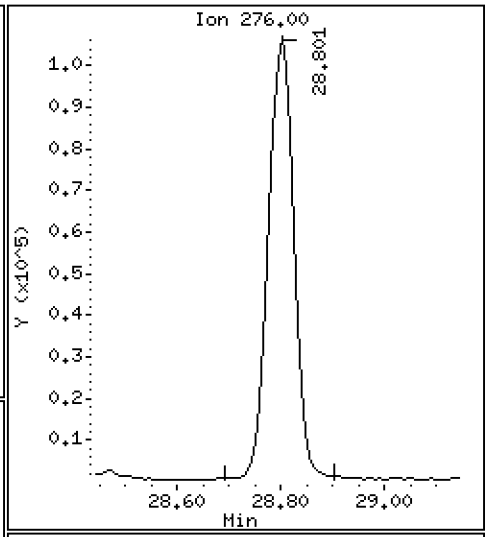
Concentration: 1.175 ug/mL

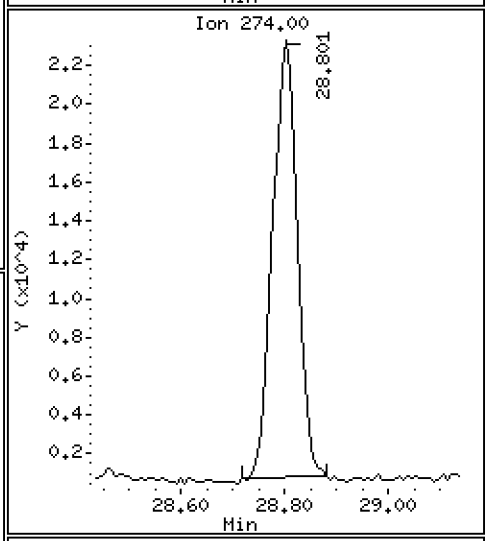


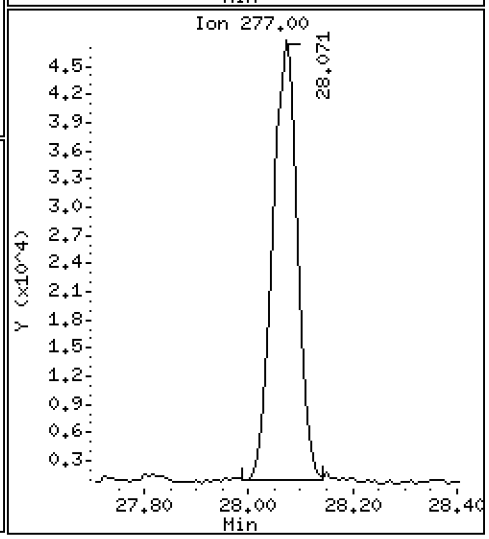












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222315.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

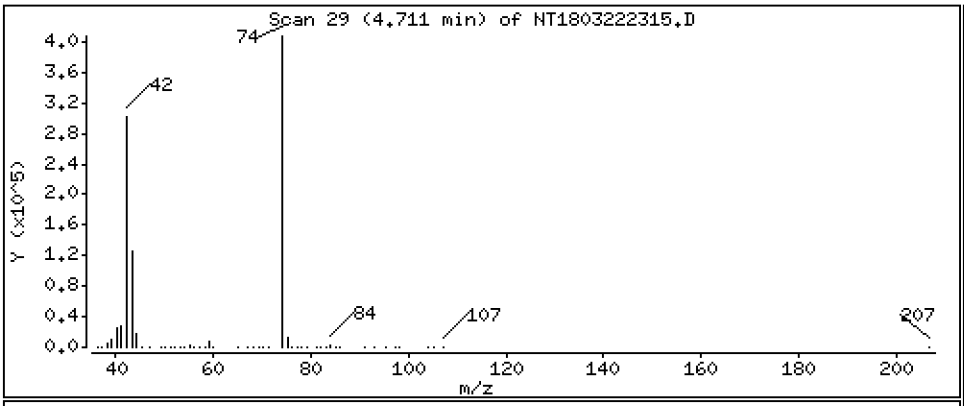
Operator: VTS

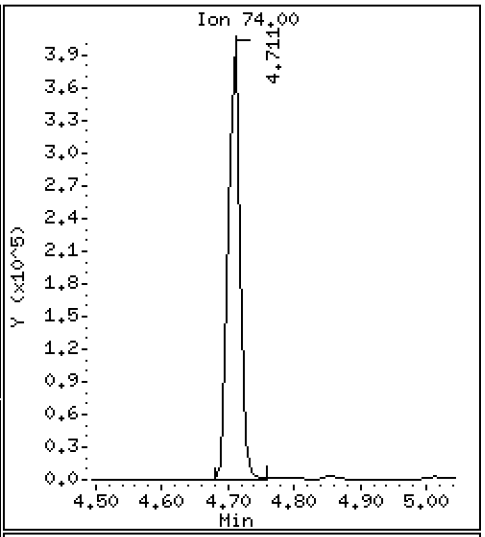
Column phase: ZB-5msi

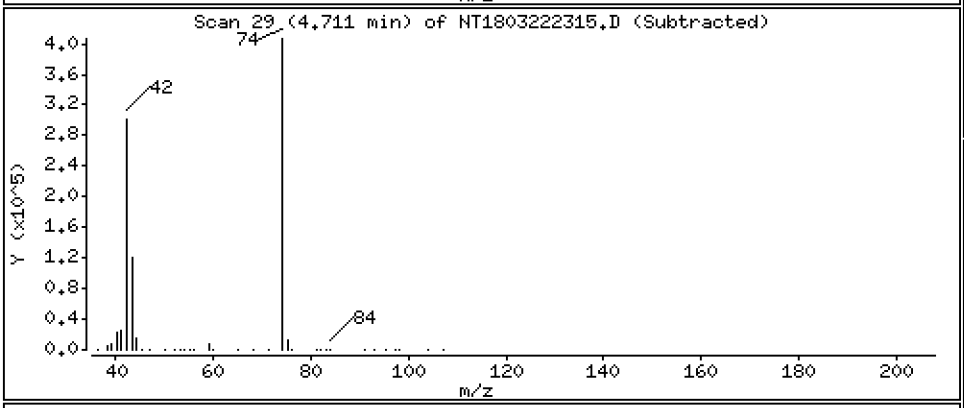
Column diameter: 0.25

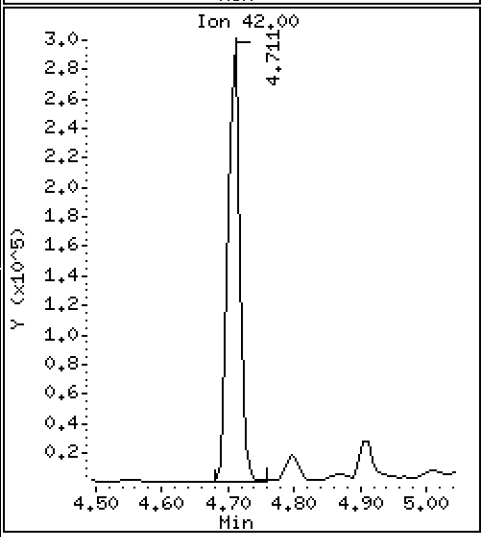
90 N-Nitrosodimethylamine

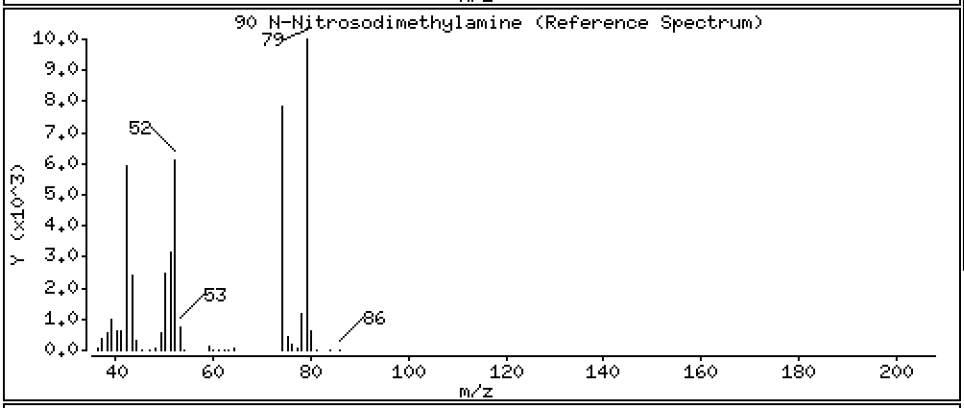
Concentration: 8.417 ug/mL

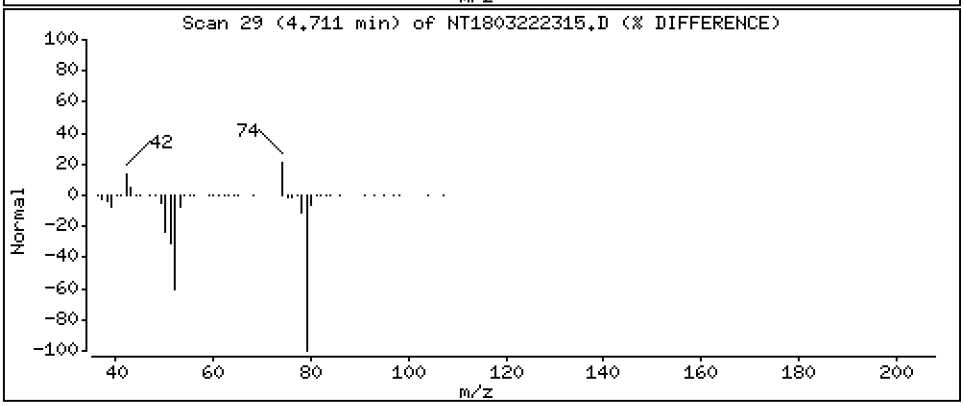












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222315.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

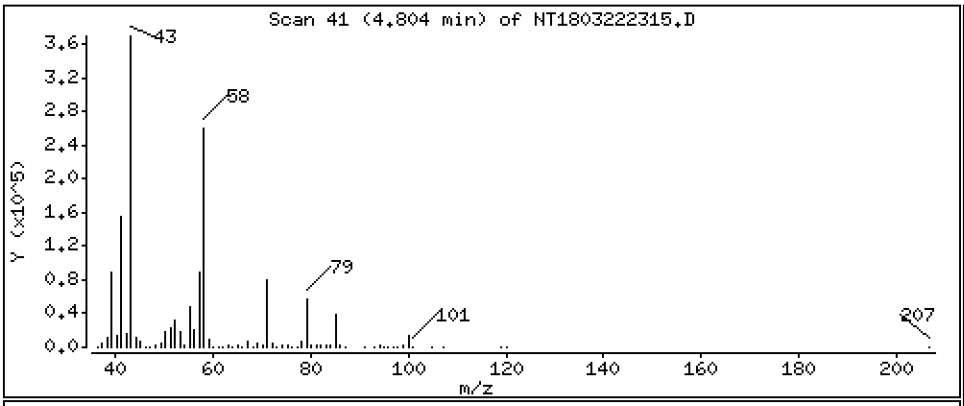
Operator: VTS

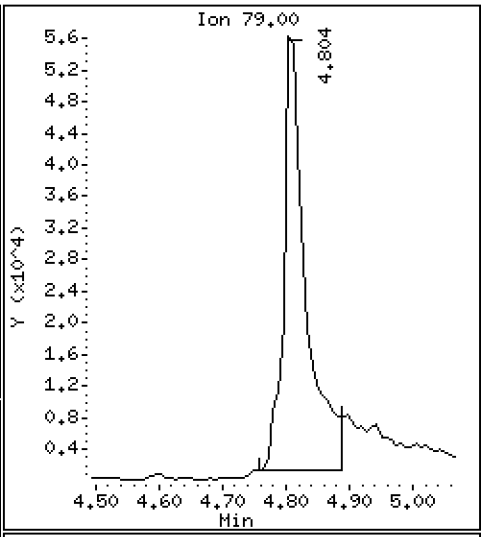
Column phase: ZB-5msi

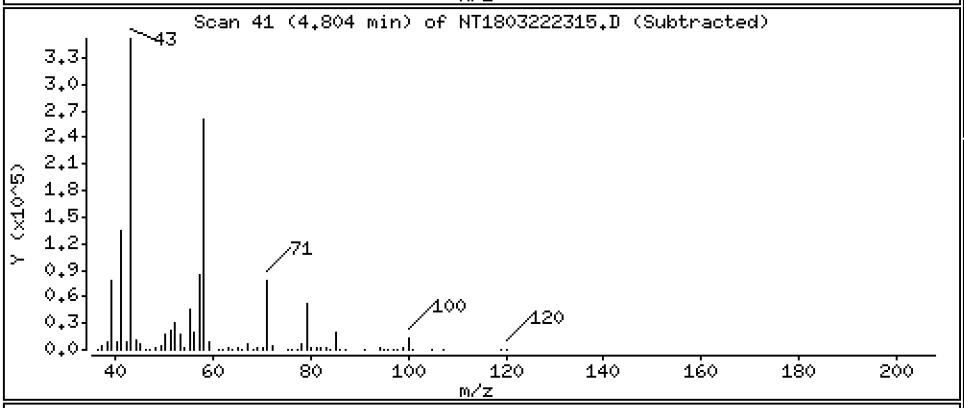
Column diameter: 0.25

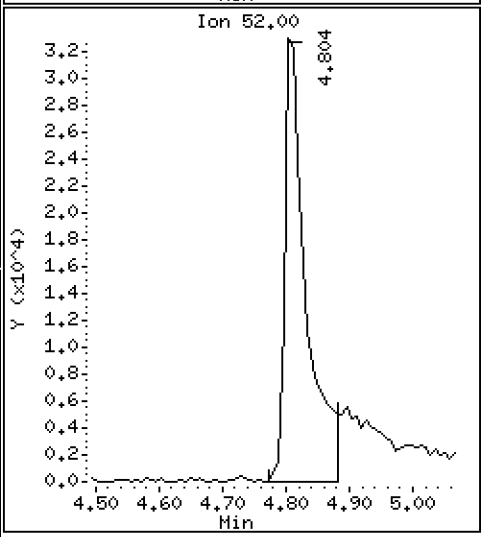
103 Pyridine

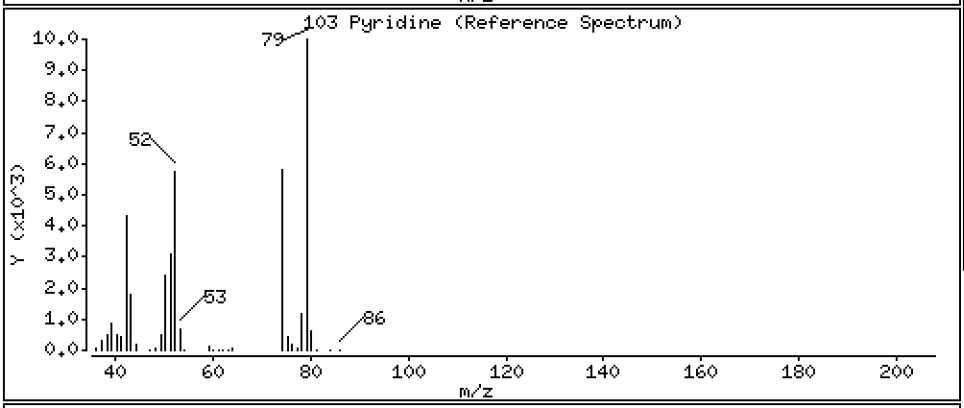
Concentration: 1.374 ug/mL

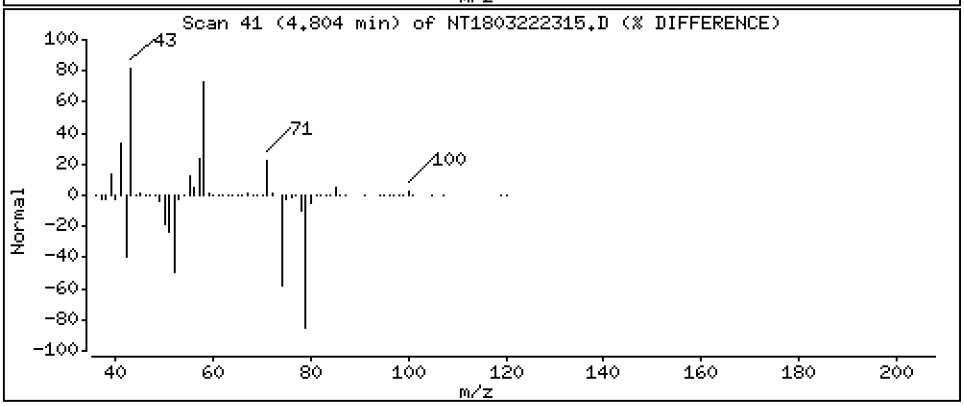












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222315.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

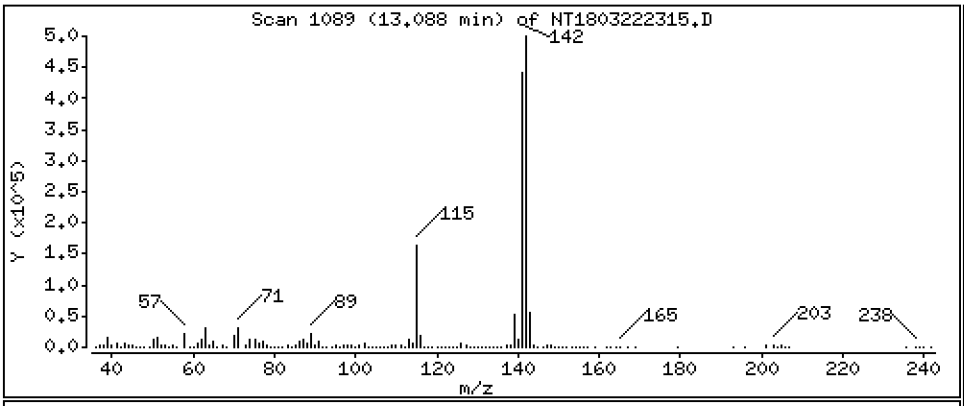
Operator: VTS

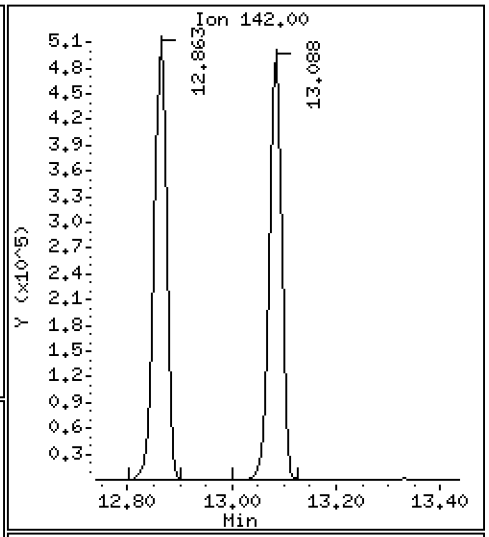
Column phase: ZB-5msi

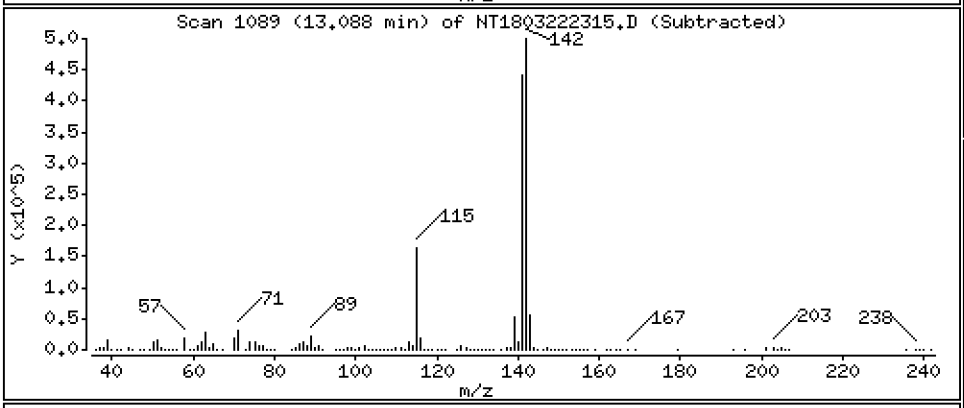
Column diameter: 0.25

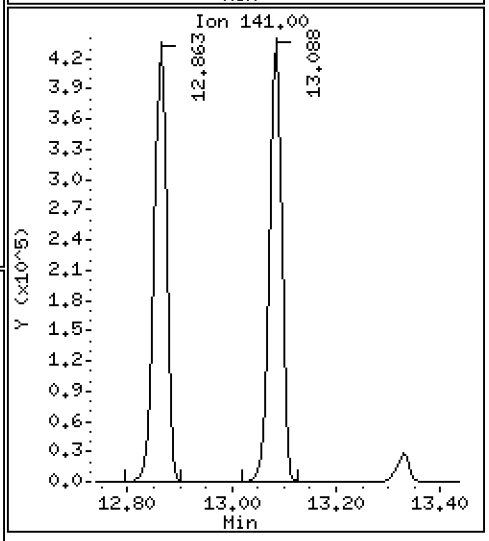
105 1-methylnaphthalene

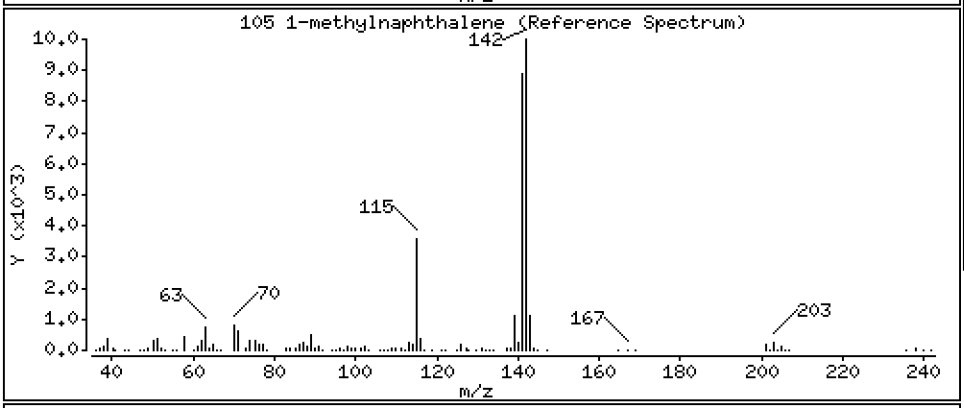
Concentration: 4.100 ug/mL

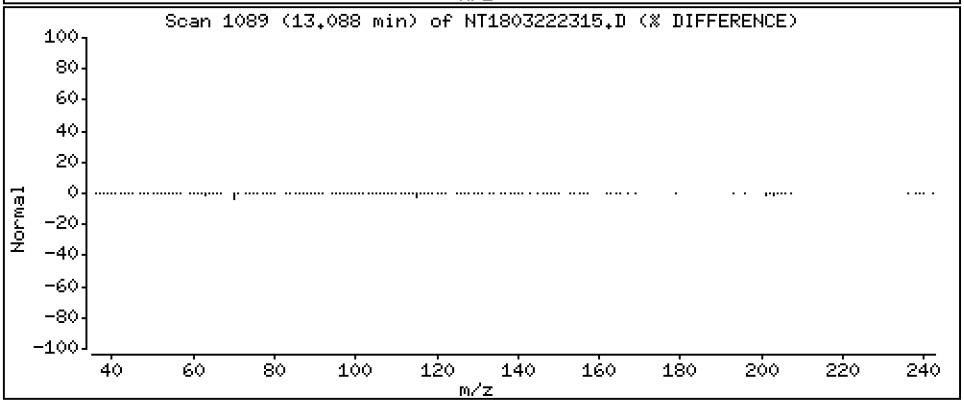












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222315.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

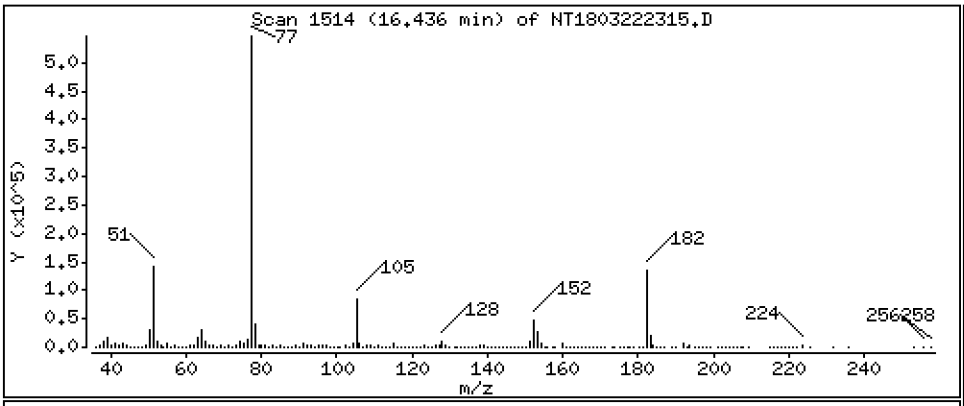
Operator: VTS

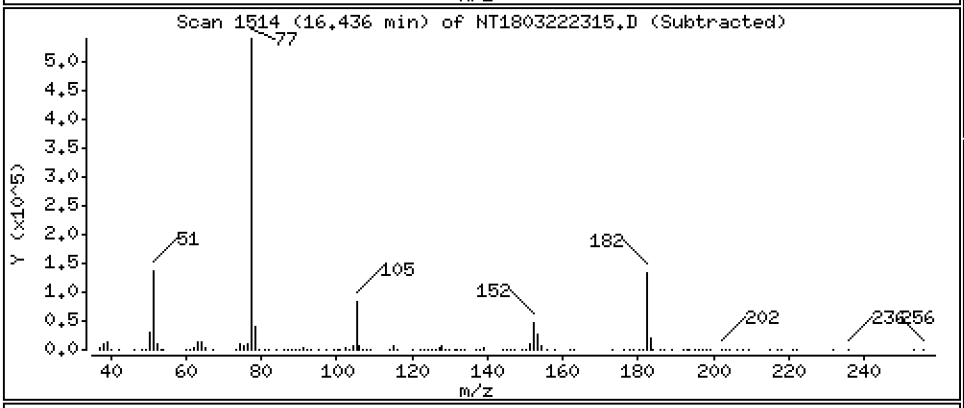
Column phase: ZB-5msi

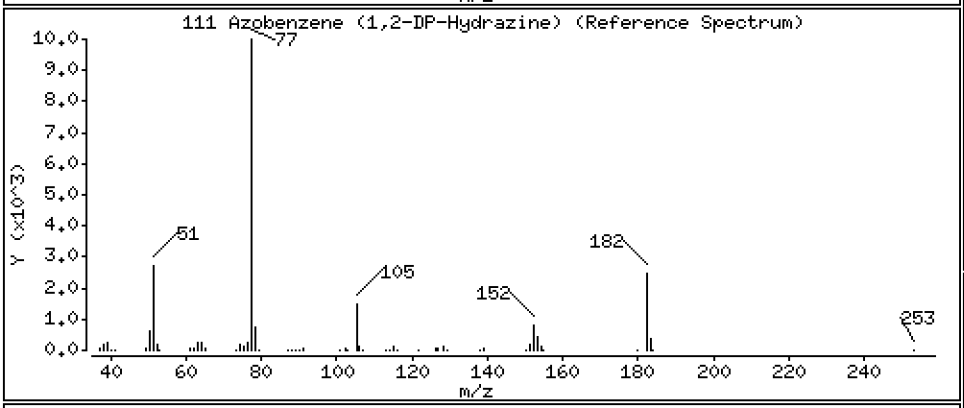
Column diameter: 0.25

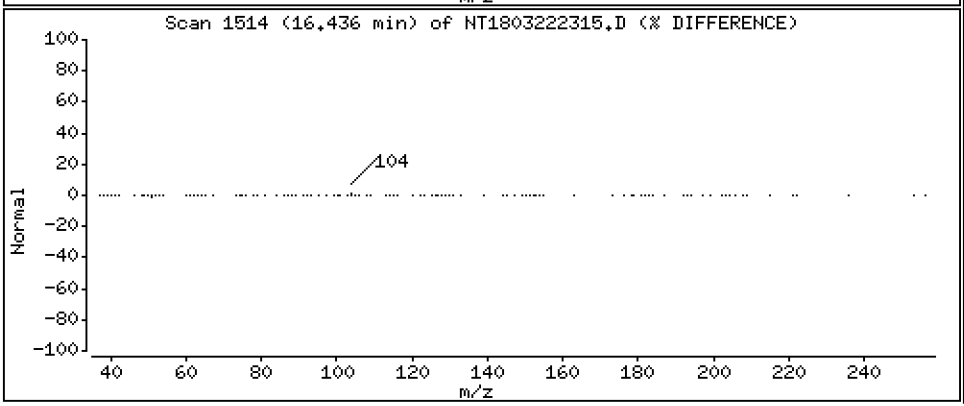
111 Azobenzene (1,2-DP-Hydrazine)

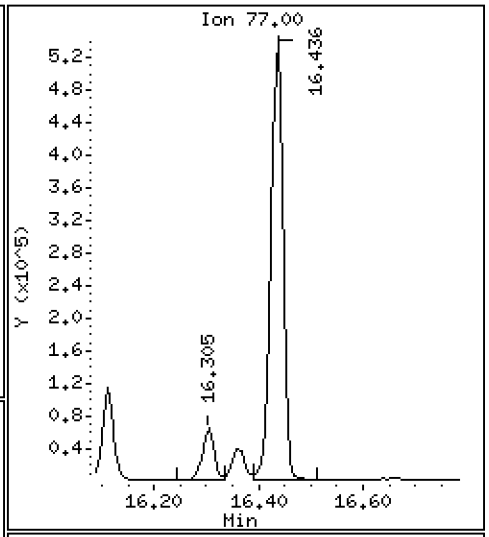
Concentration: 4.179 ug/mL

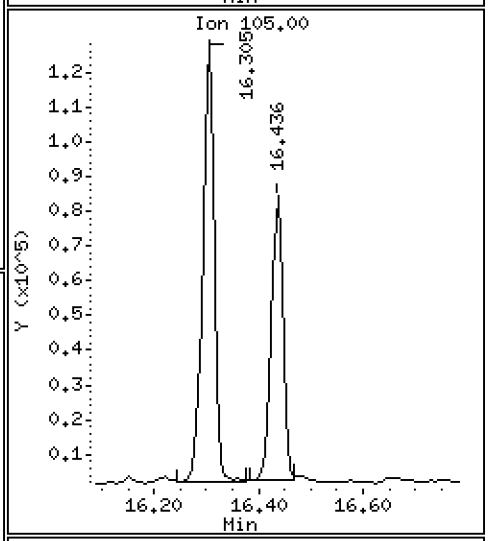


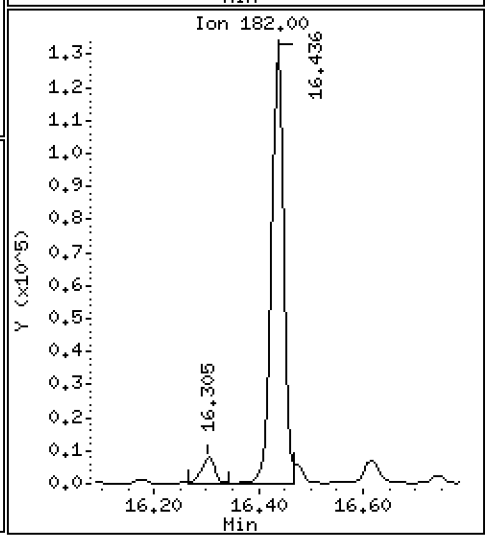












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

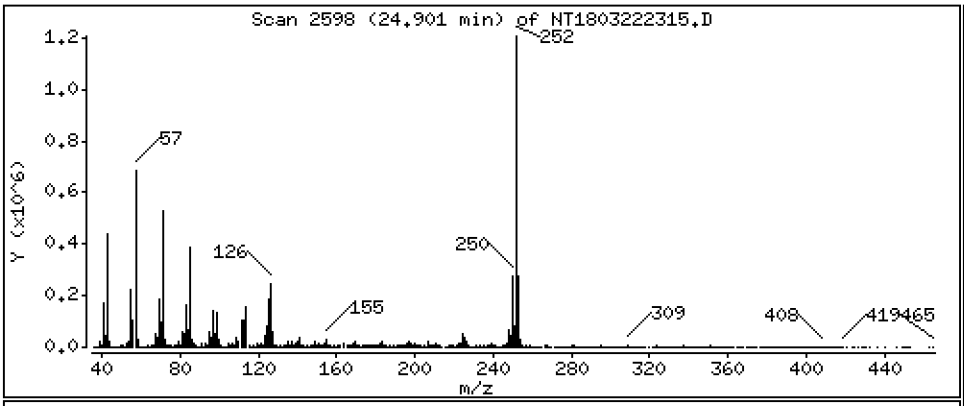
Operator: VTS

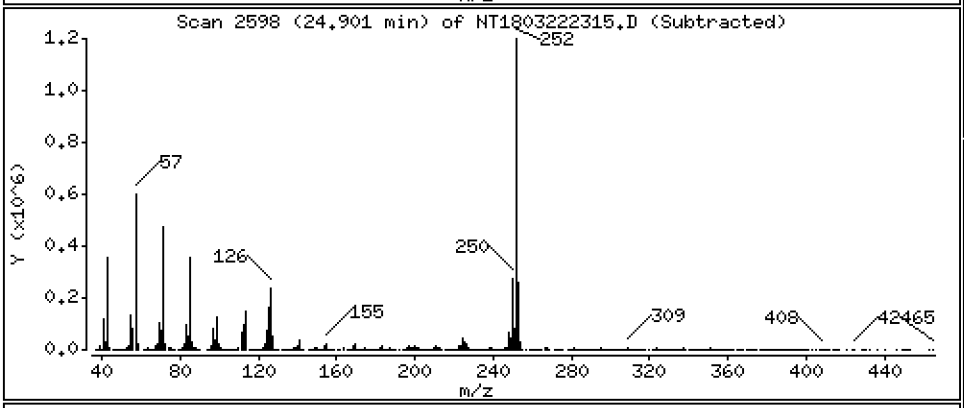
Column phase: ZB-5msi

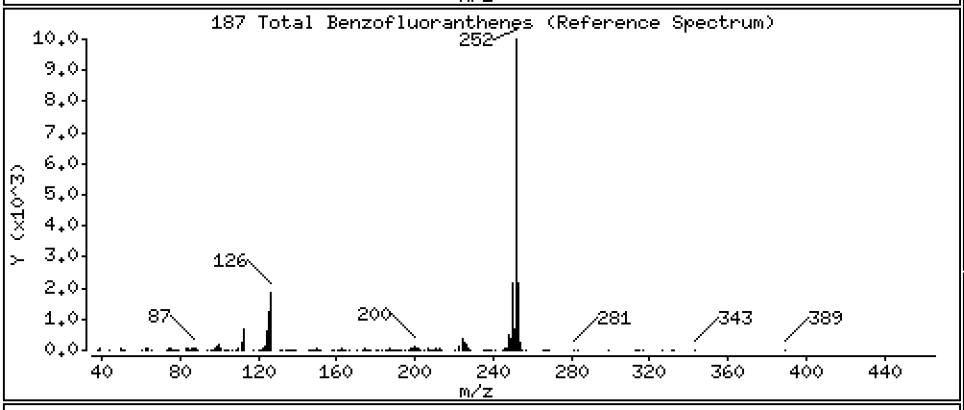
Column diameter: 0.25

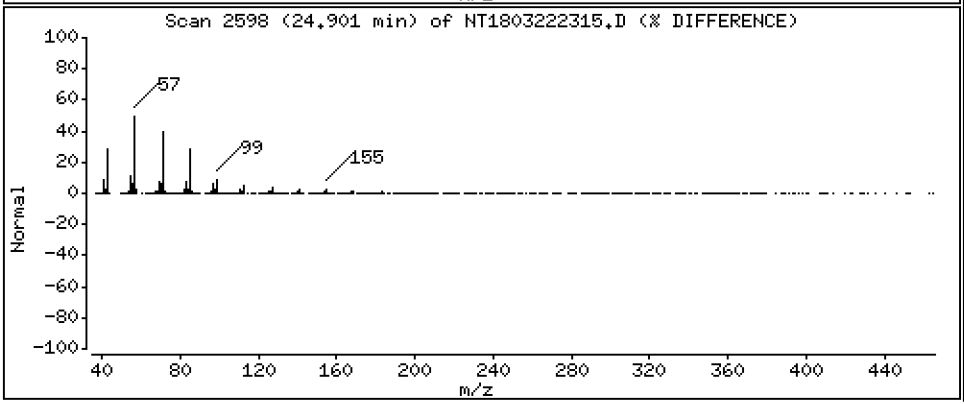
187 Total Benzofluoranthenes

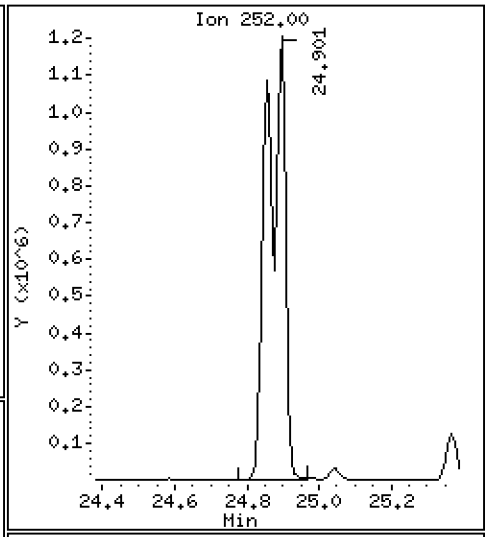
Concentration: 13.12 ug/mL

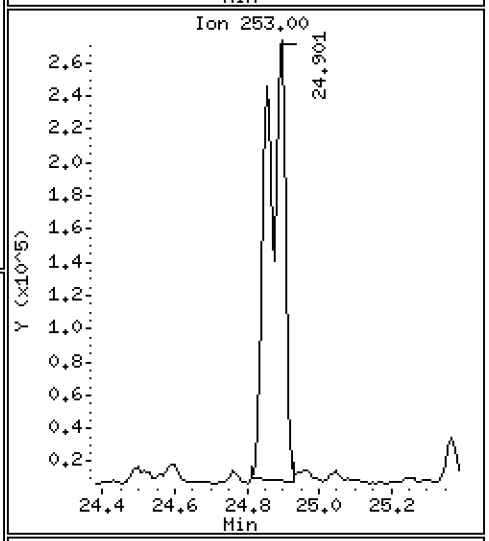


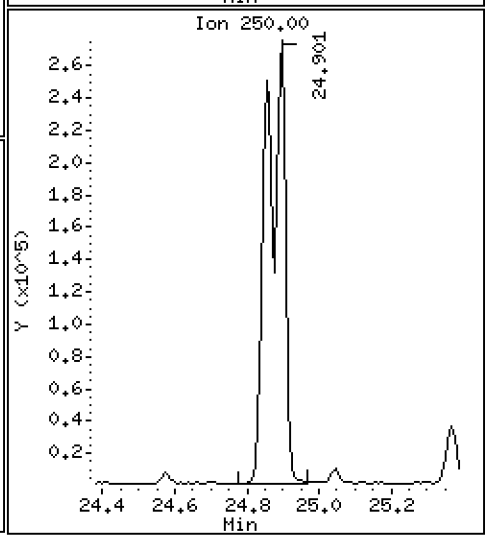












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222315.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS1

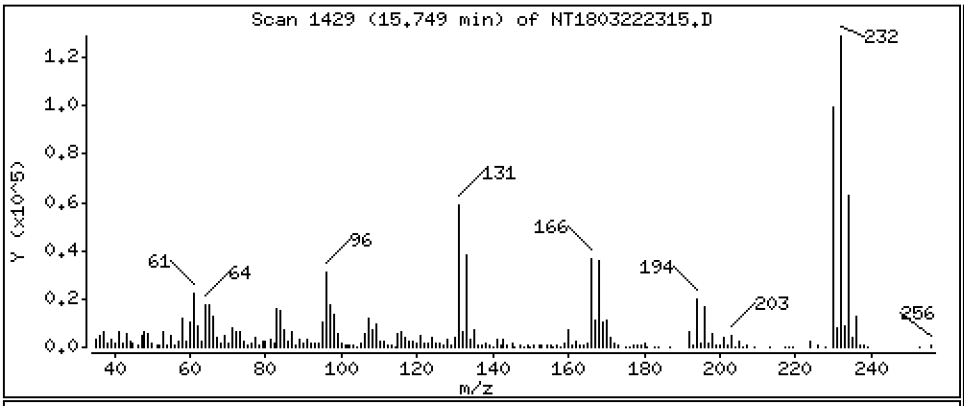
Operator: VTS

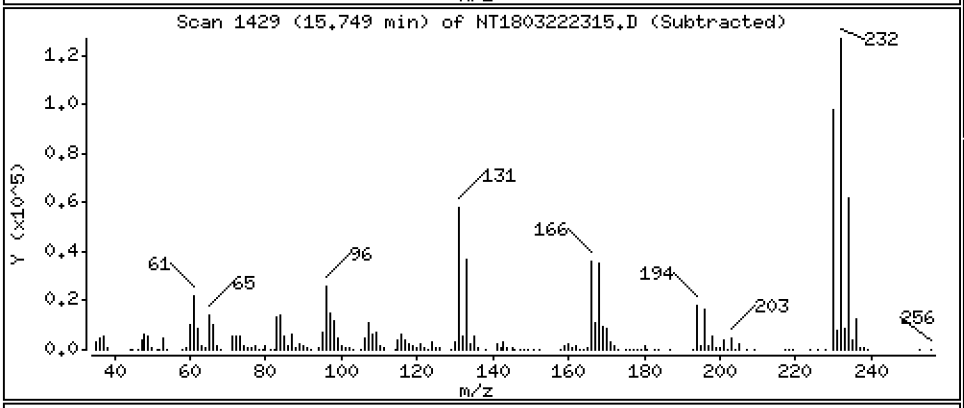
Column phase: ZB-5msi

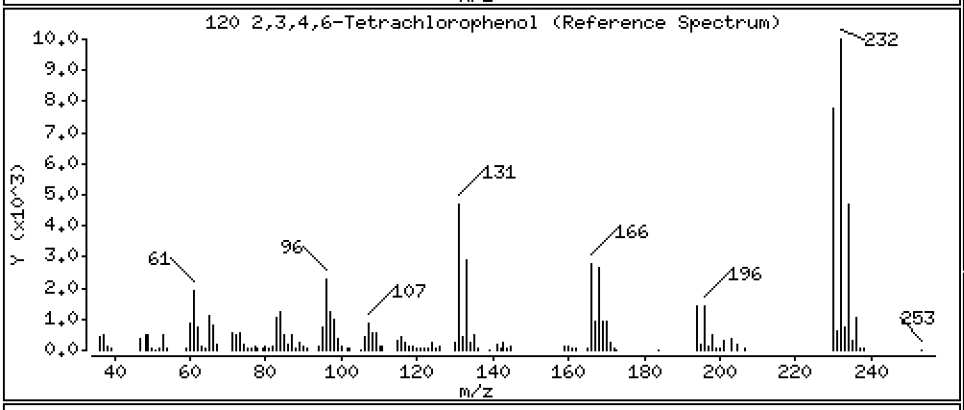
Column diameter: 0.25

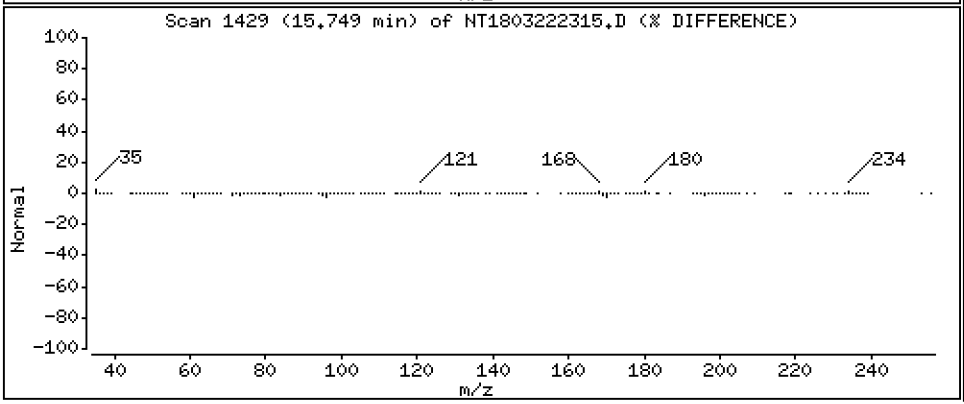
120 2,3,4,6-Tetrachlorophenol

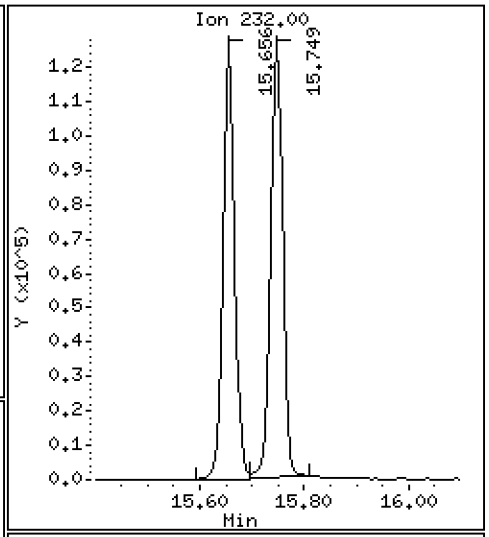
Concentration: 2.981 ug/mL

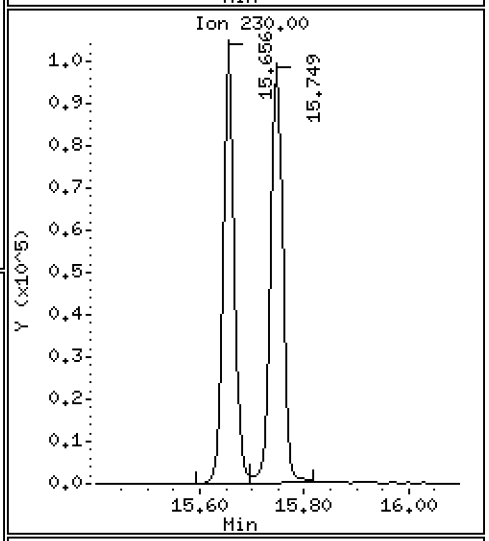


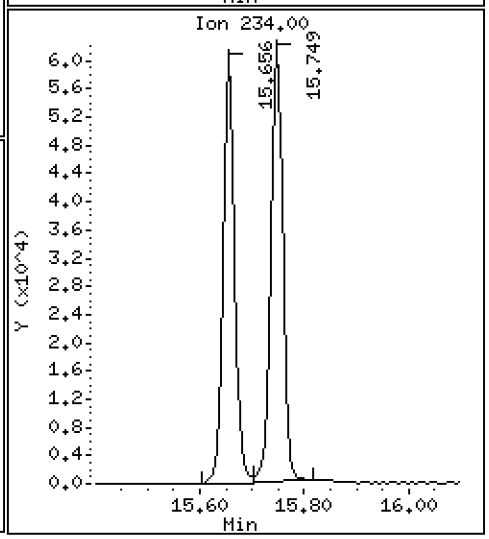












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230322.b\NT1803222315.D
Lab Smp Id: BLC0185-MS1
Inj Date : 23-MAR-2023 02:45
Operator : VTS Inst ID: nt18.i
Smp Info : BLC0185-MS1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230322.b\ABN.m
Meth Date : 04-Apr-2023 14:27 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 15:18 Cal File: NT1803192302.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: DEENAY-201905

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.796	6.773	(0.757)	570317	5.91665	5.917
$	2 Phenol-d5	99	8.349	8.341	(0.929)	742134	6.23220	6.232
	3 Phenol	94	8.380	8.364	(0.933)	1762565	13.8423	13.84
$	5 2-Chlorophenol-d4	132	8.619	8.619	(0.960)	663679	6.42968	6.430
	4 Bis(2-Chloroethyl)ether	93	8.534	8.534	(0.950)	378063	4.29016	4.290
	6 2-Chlorophenol	128	8.650	8.642	(0.963)	412394	3.78780	3.788
	7 1,3-Dichlorobenzene	146	8.913	8.913	(0.992)	438393	3.79250	3.792
*	8 1,4-Dichlorobenzene-d4	152	8.983	8.983	(1.000)	312672	4.00000	
	9 1,4-Dichlorobenzene	146	9.006	9.006	(1.003)	441899	3.81985	3.820
$	10 1,2-Dichlorobenzene-d4	152	9.332	9.332	(1.039)	286210	3.77890	3.779
	12 1,2-Dichlorobenzene	146	9.363	9.363	(1.042)	431140	3.78192	3.782
	11 Benzyl alcohol	108	9.247	9.247	(1.029)	247855	4.17155	4.172
	14 2,2'-oxybis(1-Chloropropane)	121	9.550	9.550	(1.063)	117943	4.39401	4.394
	13 2-Methylphenol	108	9.472	9.472	(1.054)	341083	3.52922	3.529
	17 Hexachloroethane	117	9.945	9.945	(1.107)	165515	3.65378	3.654
	16 N-Nitroso-di-n-propylamine	70	9.806	9.806	(1.092)	274524	3.98874	3.989
	15 4-Methylphenol	108	9.744	9.736	(1.085)	379227	3.77876	3.779
$	18 Nitrobenzene-d5	82	10.062	10.062	(0.880)	433890	4.49057	4.491
	19 Nitrobenzene	77	10.093	10.093	(0.882)	410349	4.31994	4.320
	20 Isophorone	82	10.543	10.543	(0.922)	743725	5.73358	5.734
	21 2-Nitrophenol	139	10.719	10.719	(0.937)	239296	4.24256	4.243
	22 2,4-Dimethylphenol	107	10.778	10.778	(0.942)	721992	7.56052	7.561
	23 Bis(2-Chloroethoxy)methane	93	10.973	10.973	(0.959)	454614	4.84890	4.849
	24 Benzoic acid	105	10.990	10.999	(0.961)	829427	12.1028	12.10
	25 2,4-Dichlorophenol	162	11.169	11.169	(0.976)	1139008	12.9591	12.96
	26 1,2,4-Trichlorobenzene	180	11.355	11.355	(0.993)	353197	3.83313	3.833
*	27 Naphthalene-d8	136	11.439	11.439	(1.000)	1172181	4.00000	
	28 Naphthalene	128	11.478	11.478	(1.003)	1259960	3.96106	3.961
	29 4-Chloroaniline	127	Compound Not Detected.					
	30 Hexachlorobutadiene	225	11.841	11.849	(1.035)	203051	3.87536	3.875
	31 4-Chloro-3-methylphenol	107	12.569	12.561	(1.099)	1023653	12.6459	12.65
	32 2-Methylnaphthalene	142	12.863	12.863	(1.124)	809531	3.90792	3.908(H)
	33 Hexachlorocyclopentadiene	237	13.327	13.335	(0.887)	377165	7.36620	7.366

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
34	2,4,6-Trichlorophenol	196	13.482	13.482	(0.897)	745747	14.0902	14.09
35	2,4,5-Trichlorophenol	196	13.551	13.551	(0.902)	770849	13.3244	13.32
$ 36	2-Fluorobiphenyl	172	13.644	13.644	(0.908)	915994	4.32324	4.323
37	2-Chloronaphthalene	162	13.846	13.846	(0.921)	725405	4.29169	4.292
38	2-Nitroaniline	65	14.109	14.109	(0.939)	555681	12.5454	12.55
39	Dimethylphthalate	163	14.542	14.542	(0.968)	812823	4.61033	4.610
40	Acenaphthylene	152	14.712	14.712	(0.979)	1185112	4.11738	4.117
41	2,6-Dinitrotoluene	165	14.681	14.674	(0.977)	517937	12.8043	12.80
* 42	Acenaphthene-d10	164	15.030	15.022	(1.000)	591672	4.00000	
43	3-Nitroaniline	138	14.960	14.952	(0.995)	158629	3.52125	3.521
44	Acenaphthene	153	15.091	15.091	(1.004)	769234	4.22222	4.222
45	2,4-Dinitrophenol	184	15.161	15.161	(1.009)	163973	6.97903	6.979
46	Dibenzofuran	168	15.416	15.416	(1.026)	1057286	4.22421	4.224
47	4-Nitrophenol	109	15.277	15.261	(1.016)	273274	11.3730	11.37
48	2,4-Dinitrotoluene	165	15.478	15.470	(1.030)	668478	12.5464	12.55
50	Diethylphthalate	149	15.988	15.988	(1.064)	1064775	5.96065	5.961
49	Fluorene	166	16.120	16.120	(1.073)	1033103	4.54708	4.547
51	4-Chlorophenyl-phenylether	204	16.112	16.112	(1.072)	475166	4.71223	4.712
52	4-Nitroaniline	138	16.212	16.212	(1.079)	174069	3.84261	3.843
53	4,6-Dinitro-2-methylphenol	198	16.305	16.305	(0.904)	474330	16.1260	16.13
54	N-Nitrosodiphenylamine	169	16.359	16.359	(0.907)	531415	4.09634	4.096
$ 55	2,4,6-Tribromophenol	330	16.652	16.644	(1.108)	192907	7.20499	7.205
56	4-Bromophenyl-phenylether	248	17.107	17.107	(0.949)	236170	4.58936	4.589
57	Hexachlorobenzene	284	17.415	17.415	(0.966)	253021	4.38343	4.383
58	Pentachlorophenol	266	17.772	17.772	(0.985)	529878	14.5542	14.55
* 59	Phenanthrene-d10	188	18.035	18.035	(1.000)	1018421	4.00000	
60	Phenanthrene	178	18.081	18.081	(1.003)	1374523	4.94428	4.944
61	Anthracene	178	18.174	18.166	(1.008)	1042783	3.93419	3.934
62	Carbazole	167	18.499	18.499	(1.026)	1059435	4.53905	4.539
63	Di-n-butylphthalate	149	19.319	19.311	(1.071)	1479688	4.79299	4.793
64	Fluoranthene	202	20.456	20.456	(0.887)	2041528	5.43661	5.437
65	Pyrene	202	20.882	20.874	(0.906)	2074087	5.24041	5.240
$ 66	Terphenyl-d14	244	21.168	21.168	(0.918)	1170089	3.97508	3.975
67	Butylbenzylphthalate	149	22.097	22.090	(0.958)	748123	4.41080	4.411
68	Benzo(a)anthracene	228	23.027	23.027	(0.999)	1975117	5.35614	5.356
* 69	Chrysene-d12	240	23.058	23.050	(1.000)	1178408	4.00000	
70	3,3'-Dichlorobenzidine	252	Compound Not Detected.					
71	Chrysene	228	23.104	23.096	(1.002)	2210996	5.80027	5.800
72	bis(2-Ethylhexyl)phthalate	149	23.119	23.119	(0.960)	1474101	5.42084	5.421
* 134	Di-n-octylphthalate-d4	153	24.095	24.087	(1.000)	1889509	4.00000	
73	Di-n-octylphthalate	149	24.103	24.095	(1.000)	2080818	4.47598	4.476
74	Benzo(b)fluoranthene	252	24.854	24.846	(0.972)	2248447	7.07499	7.075
75	Benzo(k)fluoranthene	252	24.900	24.885	(0.973)	2191112	6.26840	6.268
76	Benzo(a)pyrene	252	25.465	25.458	(0.995)	1565084	4.92372	4.924
* 77	Perylene-d12	264	25.581	25.566	(1.000)	1141589	4.00000	
78	Indeno(1,2,3-cd)pyrene	276	28.071	28.055	(1.097)	623593	1.56448	1.564
79	Dibenzo(a,h)anthracene	278	28.086	28.071	(1.098)	514556	1.56186	1.562
80	Benzo(g,h,i)perylene	276	28.801	28.793	(1.126)	372715	1.17460	1.175(M)
90	N-Nitrosodimethylamine	74	4.711	4.695	(0.524)	501586	8.41705	8.417
91	Aniline	93	Compound Not Detected.					
93	Benzidine	184	Compound Not Detected.					
103	Pyridine	79	4.803	4.718	(0.535)	135189	1.37373	1.374
105	1-methylnaphthalene	142	13.087	13.087	(1.144)	779752	4.10046	4.100
111	Azobenzene (1,2-DP-Hydrazine)	77	16.436	16.436	(1.094)	818050	4.17885	4.179

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187 Total Benzofluoranthenes	252	24.900	24.885	(0.973)	4179504	13.1228	13.12
120 2,3,4,6-Tetrachlorophenol	232	15.748	15.748	(1.048)	192999	2.98074	2.981

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222315.D
Lab Smp Id: BLC0185-MS1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322.b\ABN.m
Misc Info:

Calibration Date: 22-MAR-2023
Calibration Time: 17:55
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	259918	129959	519836	312672	20.30
27 Naphthalene-d8	969410	484705	1938820	1172181	20.92
42 Acenaphthene-d10	510287	255144	1020574	591672	15.95
59 Phenanthrene-d10	882628	441314	1765256	1018421	15.39
69 Chrysene-d12	800073	400037	1600146	1178408	47.29
134 Di-n-octylphthala	1258607	629304	2517214	1889509	50.13
77 Perylene-d12	911909	455955	1823818	1141589	25.19

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	-0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	-0.00
42 Acenaphthene-d10	15.02	14.52	15.52	15.03	0.05
59 Phenanthrene-d10	18.04	17.54	18.54	18.04	-0.00
69 Chrysene-d12	23.05	22.55	23.55	23.06	0.03
134 Di-n-octylphthala	24.09	23.59	24.59	24.10	0.03
77 Perylene-d12	25.57	25.07	26.07	25.58	0.06

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222315.D

Lab ID: BLC0185-MS1
nt18.i, ABN.m, 23-MAR-2023 02:45

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.535	0.525	0.0094	Pyridine

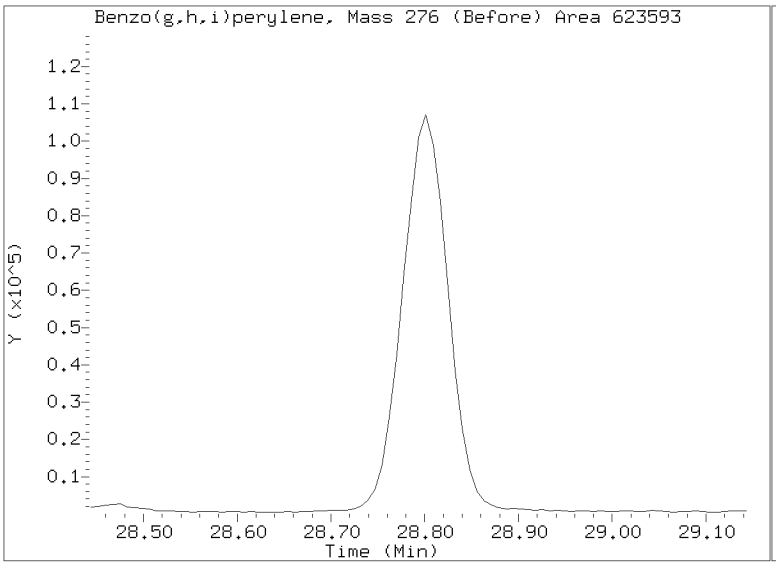
RRT check based on Ccal File: NT1803222302.D

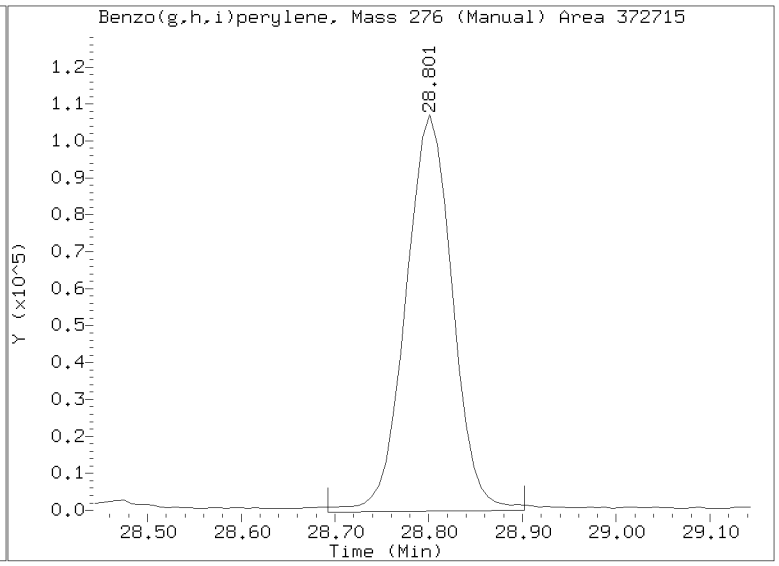
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230322.b/NT1803222315.D
Injection Date: 23-MAR-2023 02:45
Lab ID:BLC0185-MS1 Client ID:
Report Date: 04/04/2023 14:29





APPROVED

By Deenay Dunmore at 2:44 pm, Apr 04, 2023

Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222316.D

Date : 23-MAR-2023 03:25

Client ID:

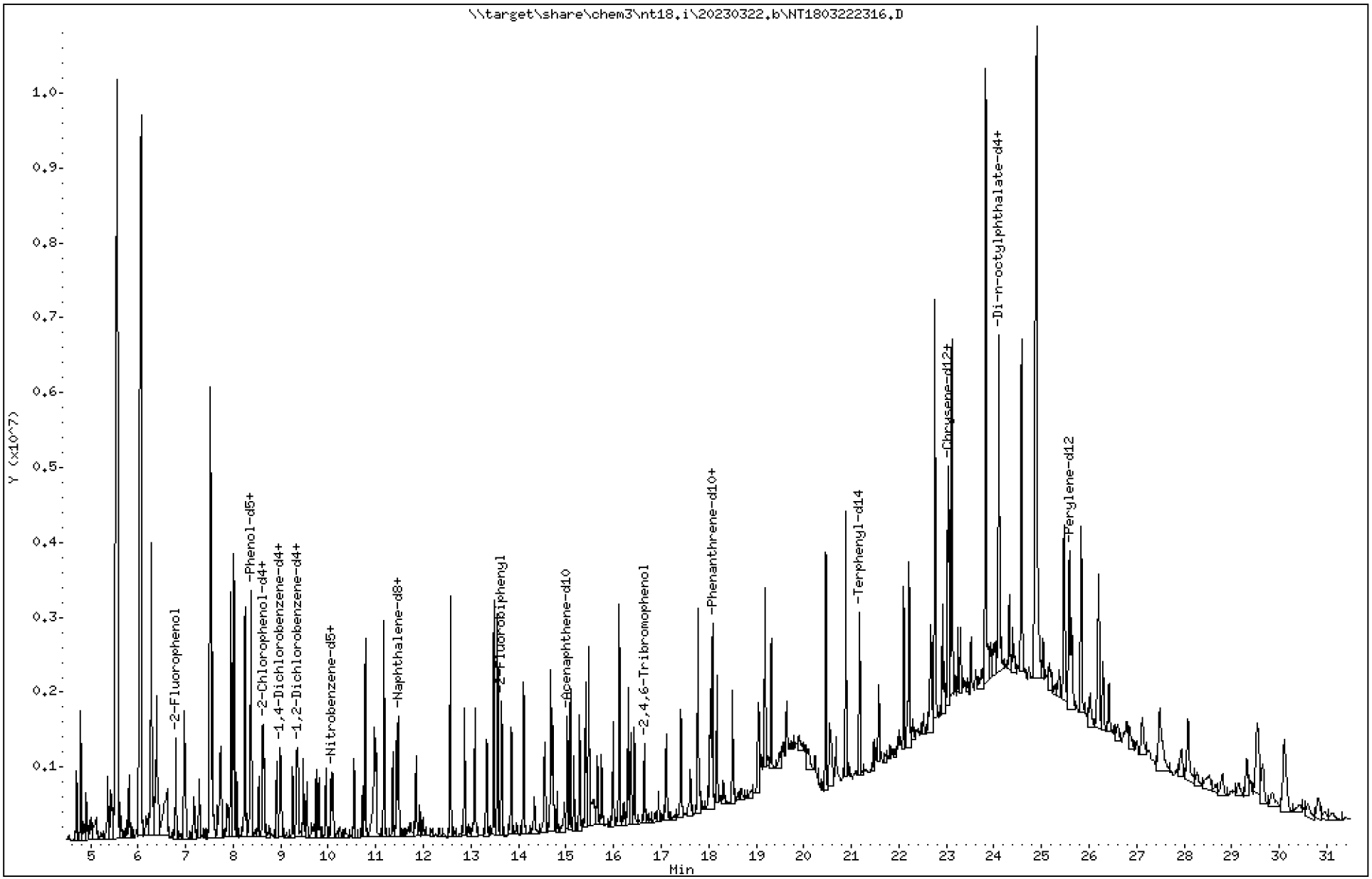
Sample Info: BLC0185-MSD1

Column phase: ZB-5msi

Instrument: nt18.i

Operator: VTS

Column diameter: 0.25



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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

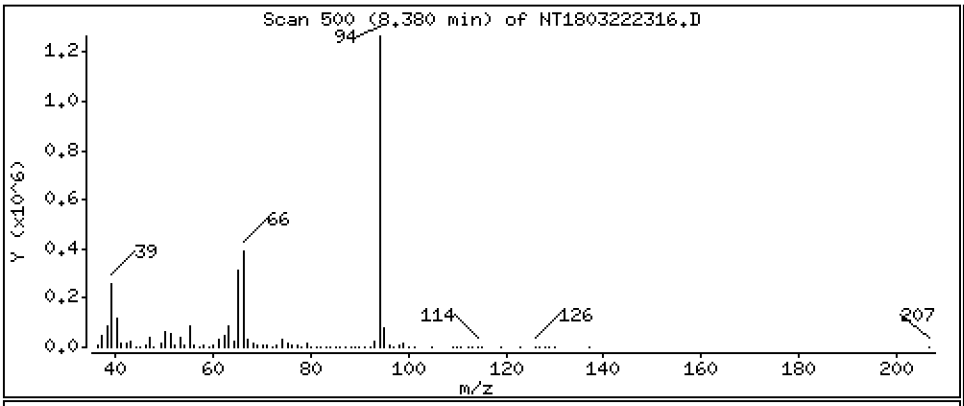
Operator: VTS

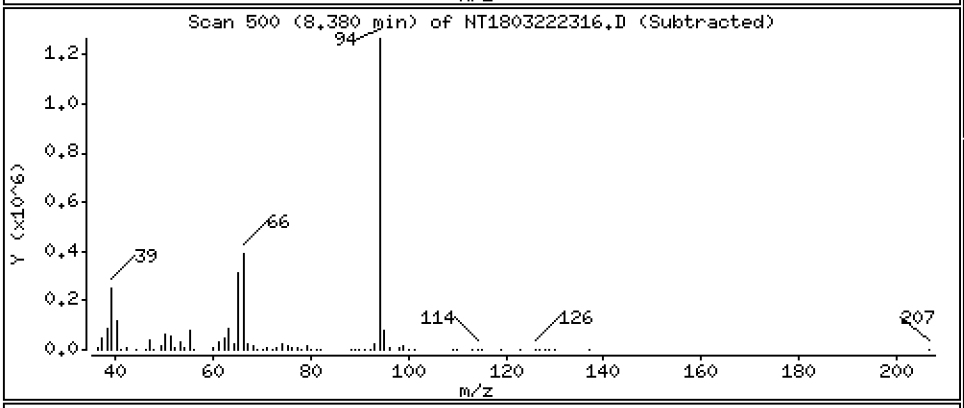
Column phase: ZB-5msi

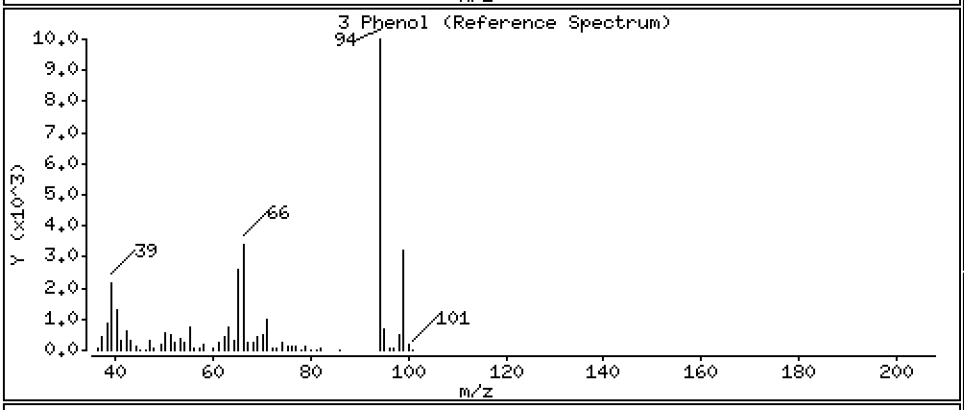
Column diameter: 0.25

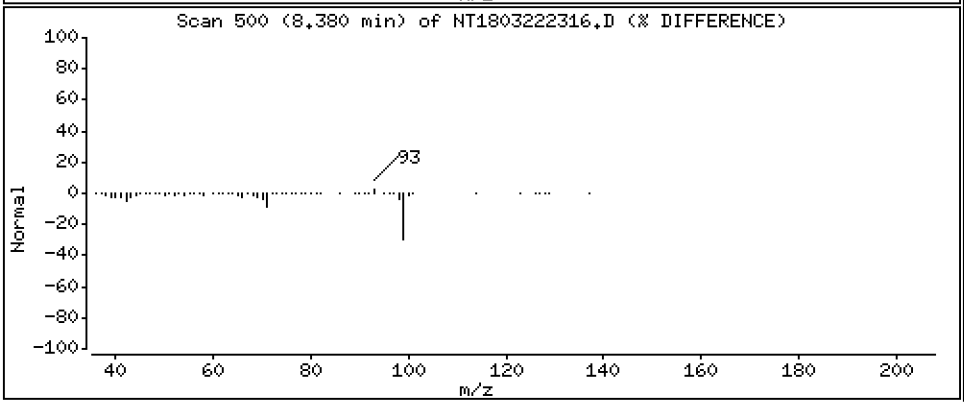
3 Phenol

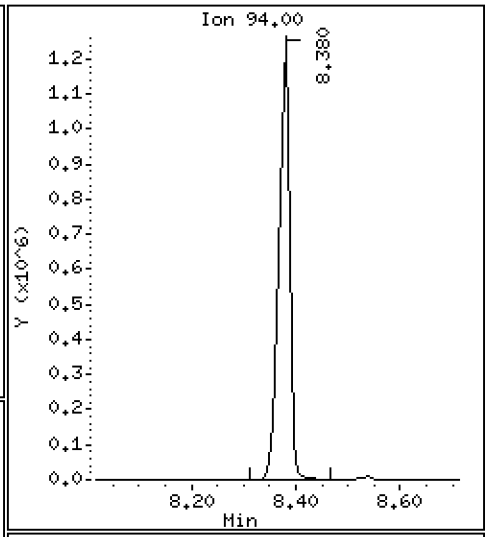
Concentration: 13.46 ug/mL

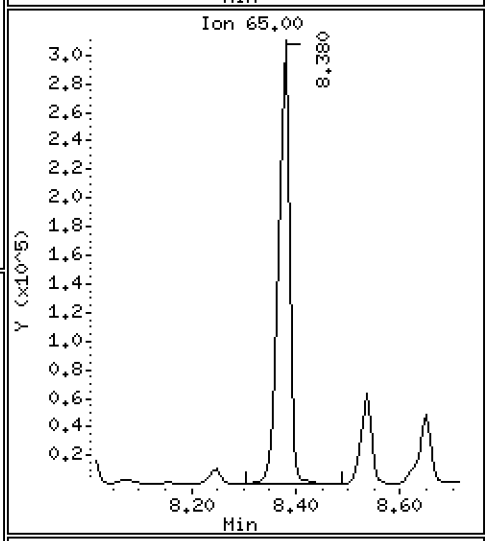


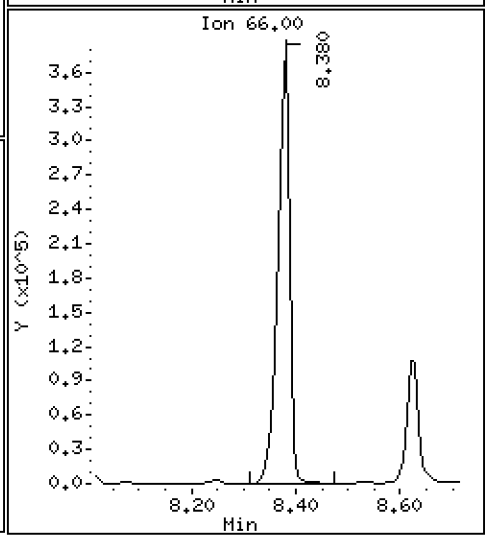












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222316.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

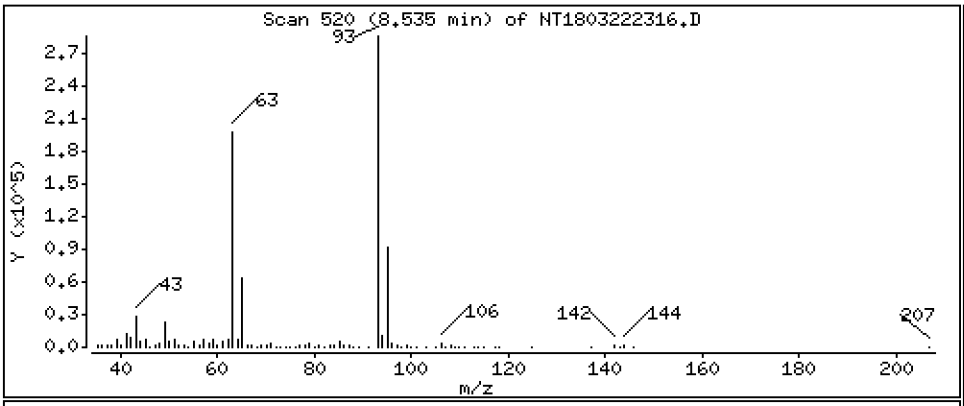
Operator: VTS

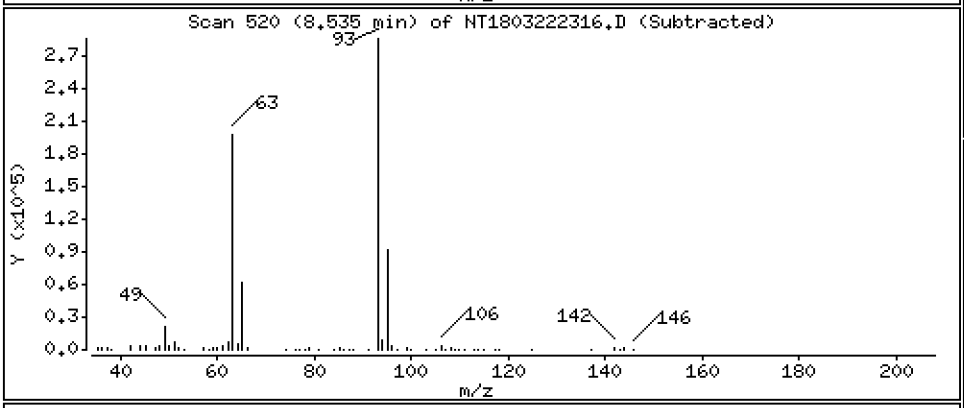
Column phase: ZB-5msi

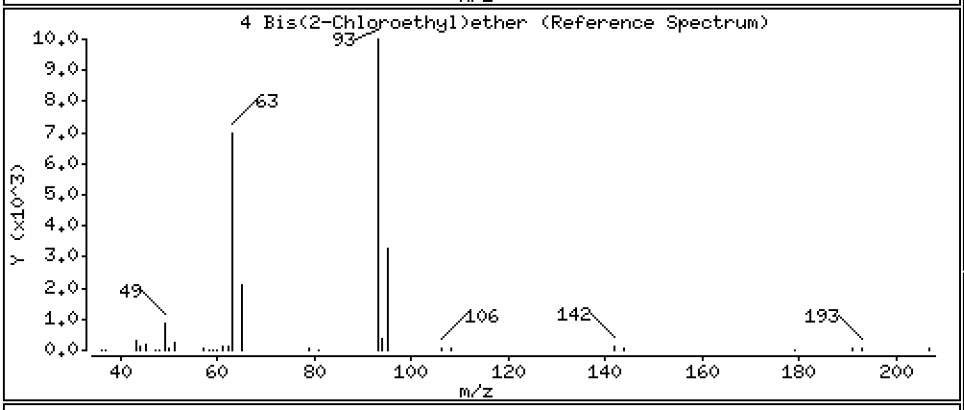
Column diameter: 0.25

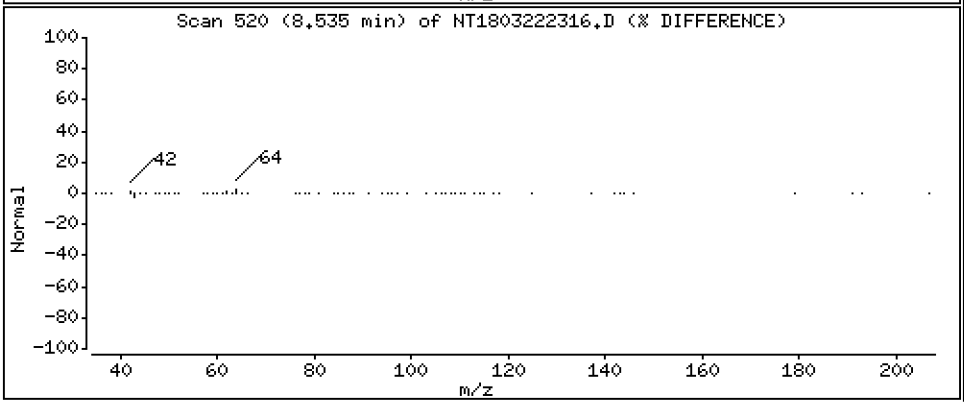
4 Bis(2-Chloroethyl)ether

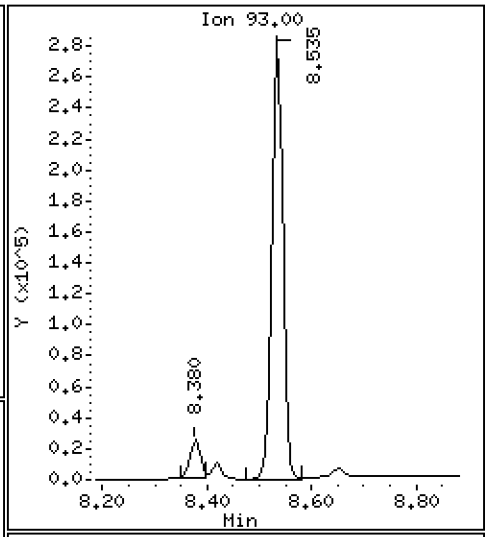
Concentration: 4.294 ug/mL

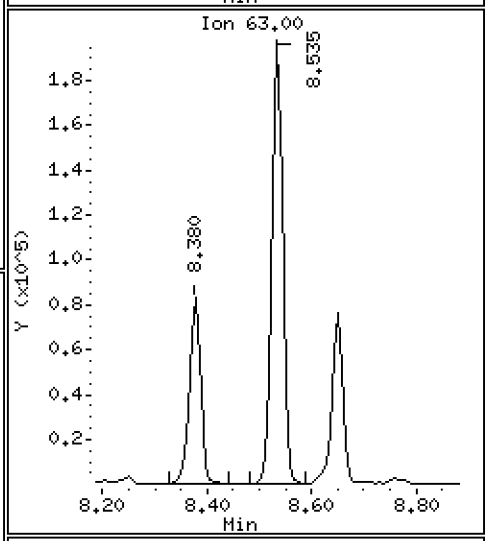


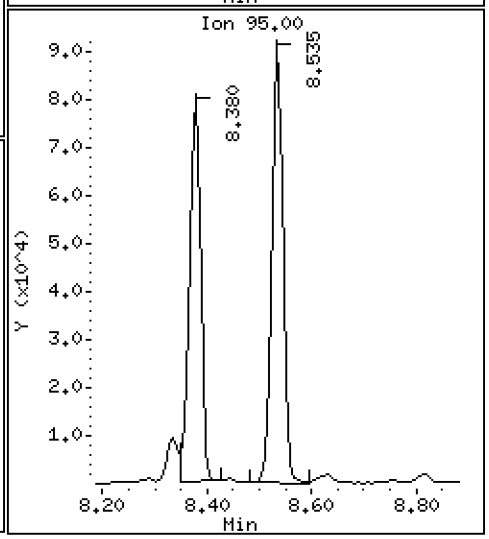












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222316.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

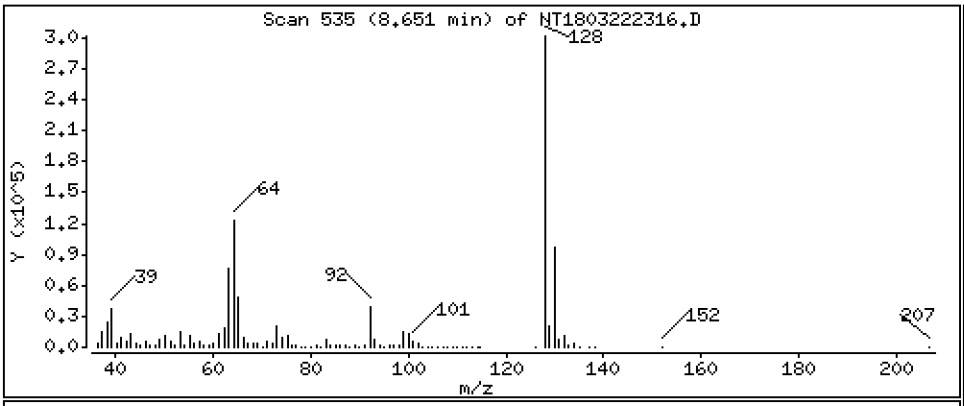
Operator: VTS

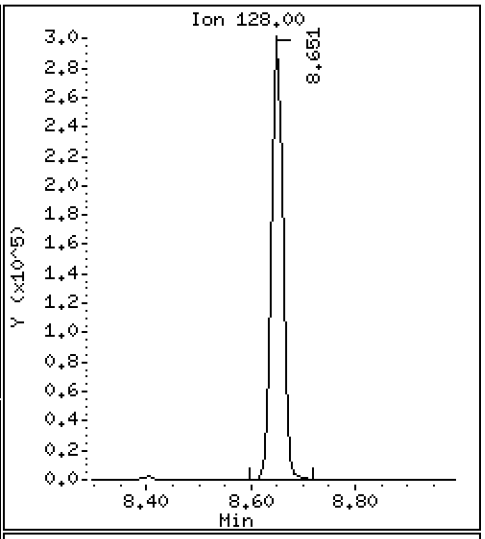
Column phase: ZB-5msi

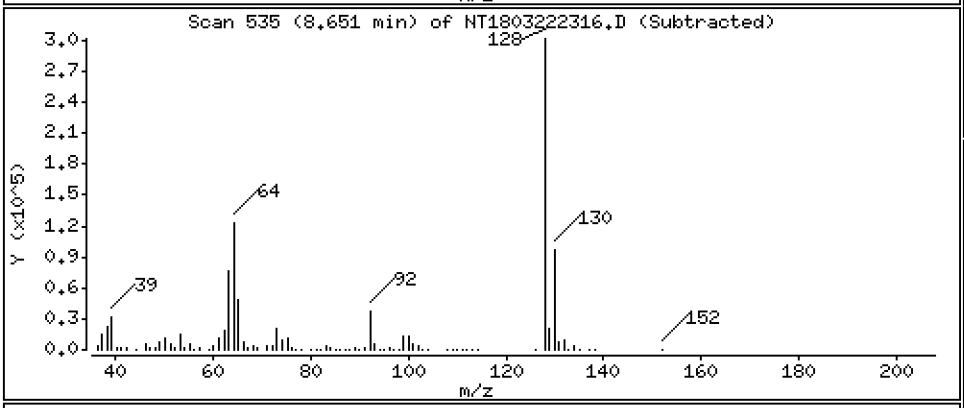
Column diameter: 0.25

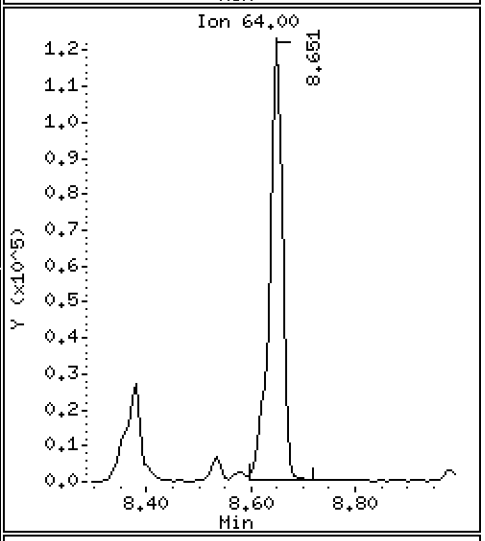
6 2-Chlorophenol

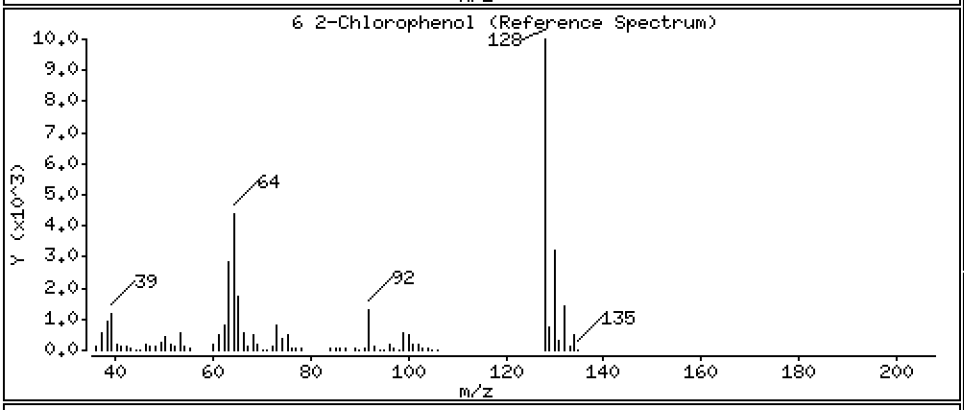
Concentration: 3.853 ug/mL

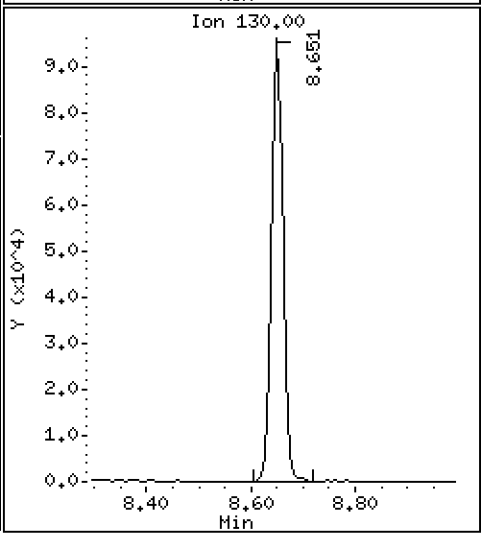


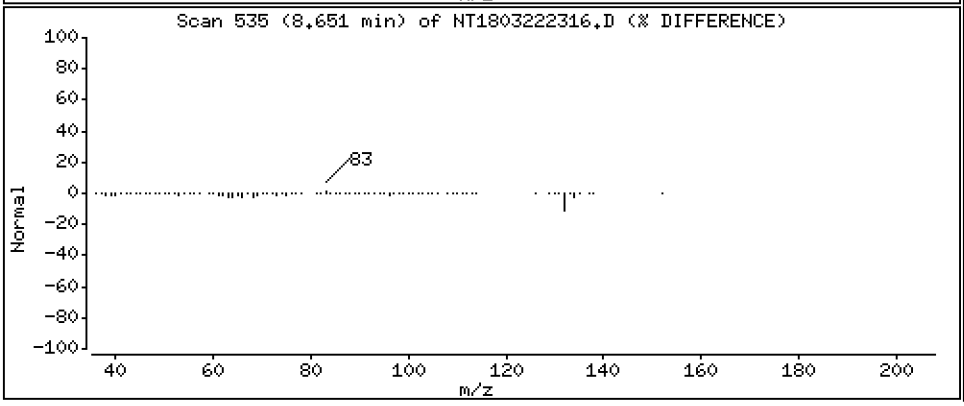












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

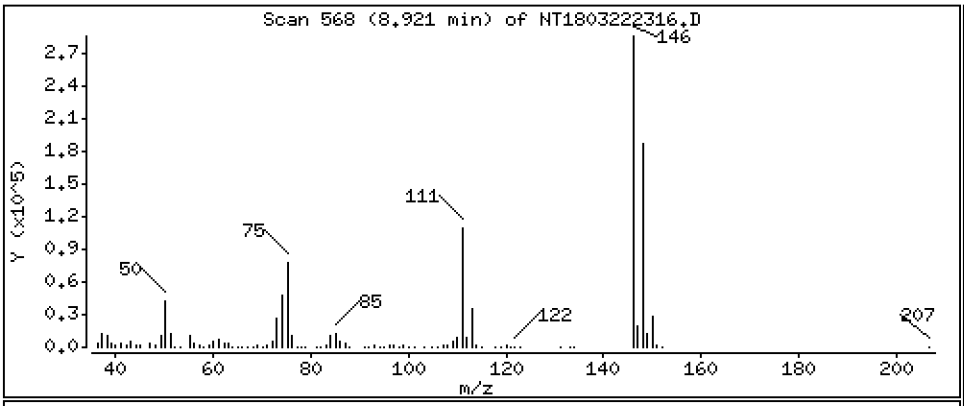
Operator: VTS

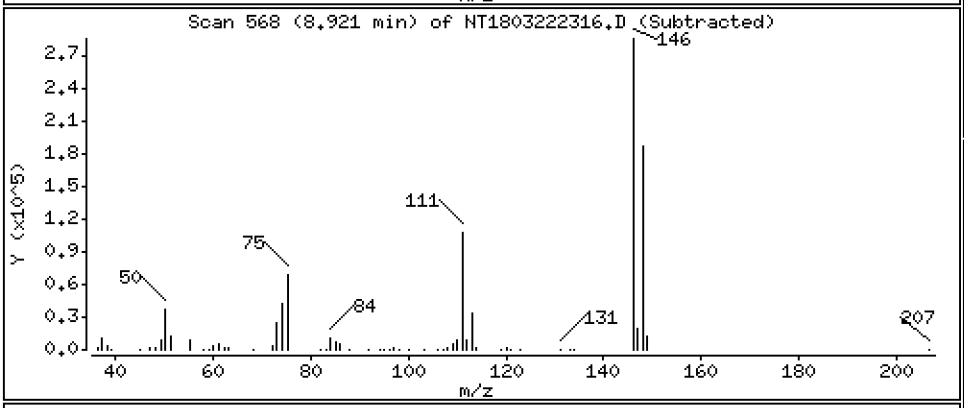
Column phase: ZB-5msi

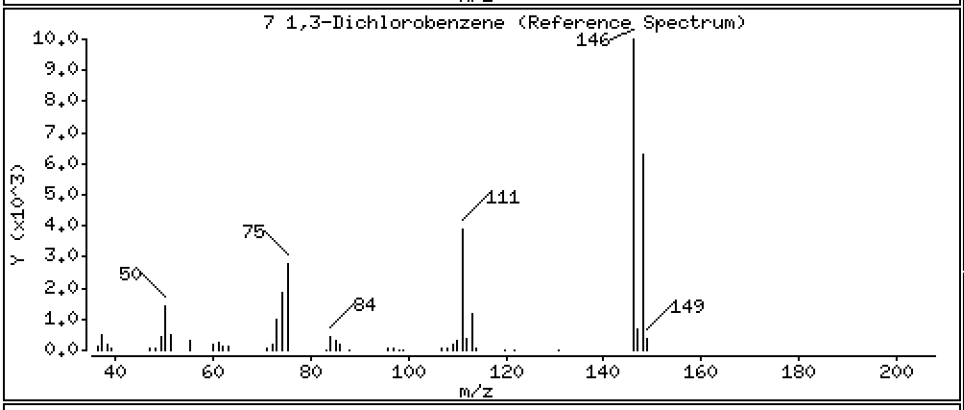
Column diameter: 0.25

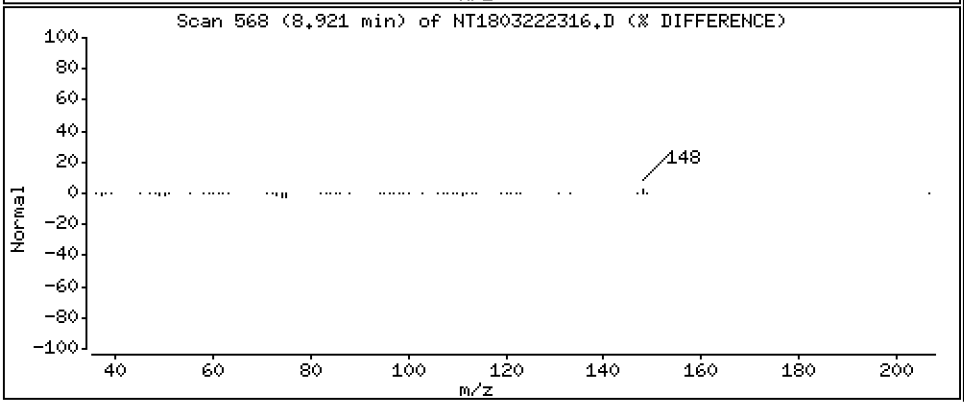
7 1,3-Dichlorobenzene

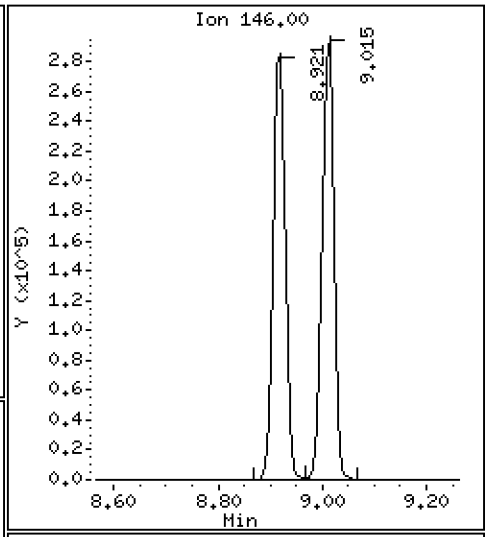
Concentration: 3.742 ug/mL

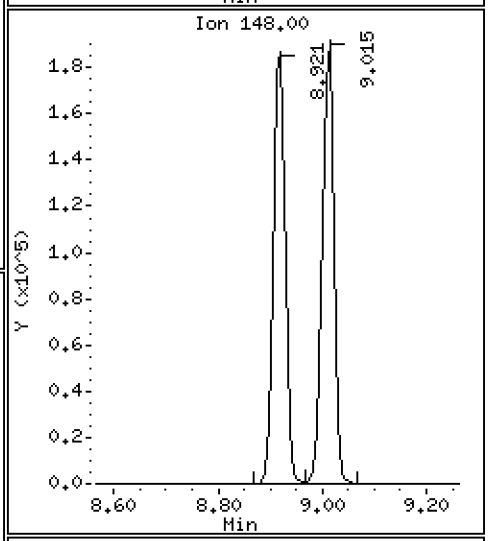


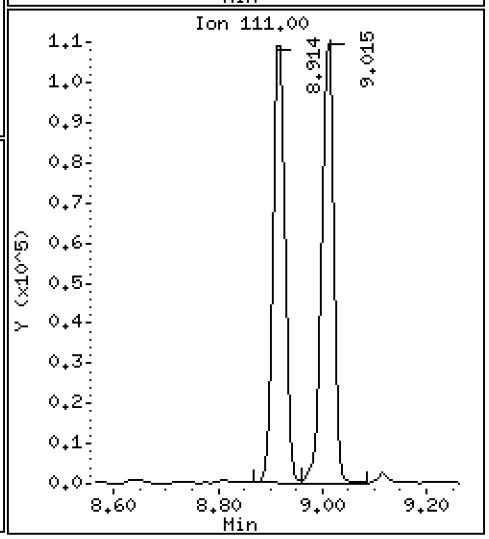












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

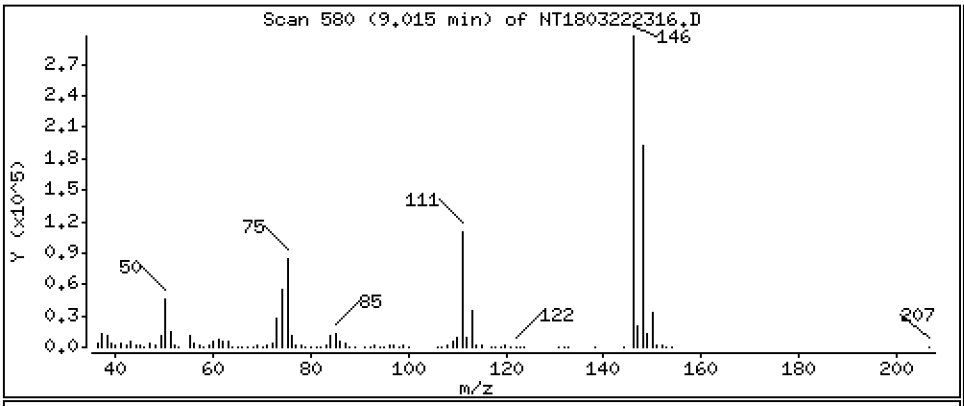
Operator: VTS

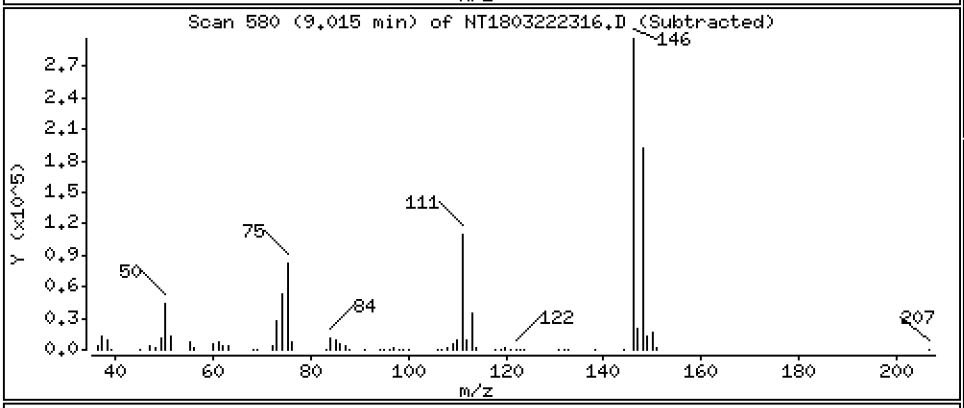
Column phase: ZB-5msi

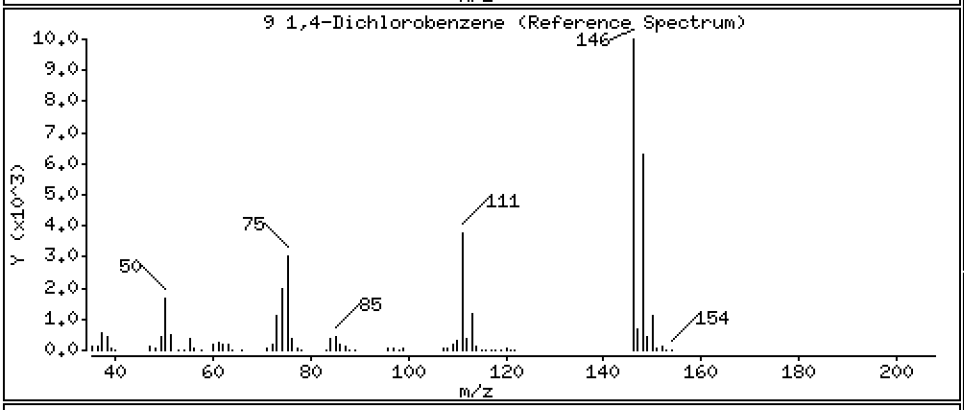
Column diameter: 0.25

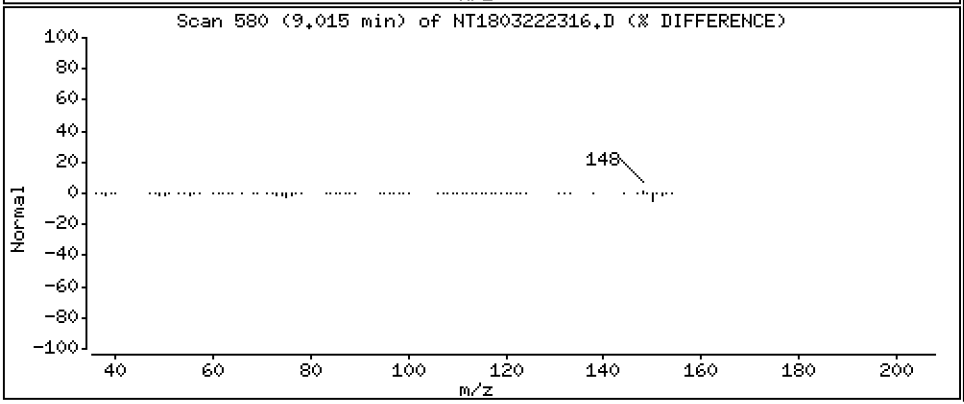
9 1,4-Dichlorobenzene

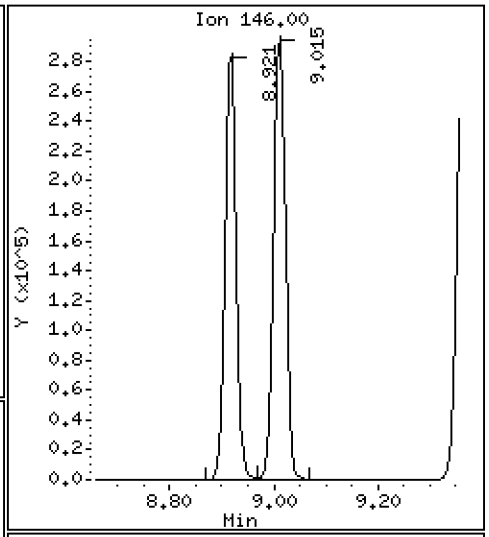
Concentration: 3.810 ug/mL

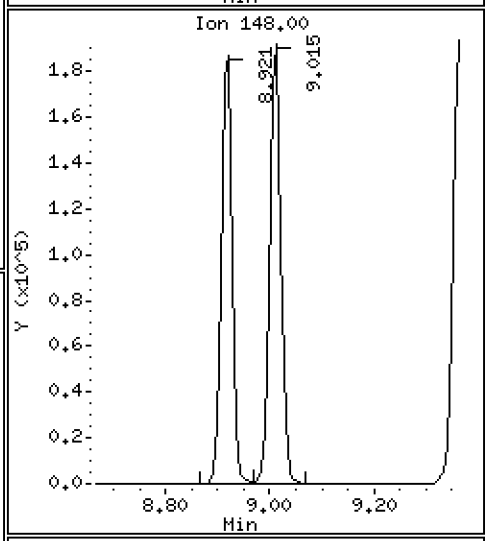


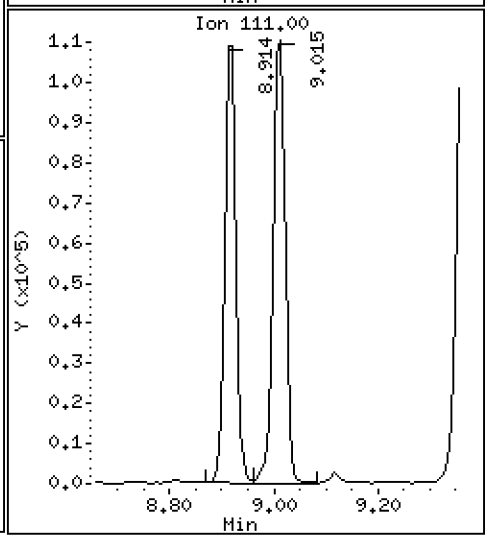












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

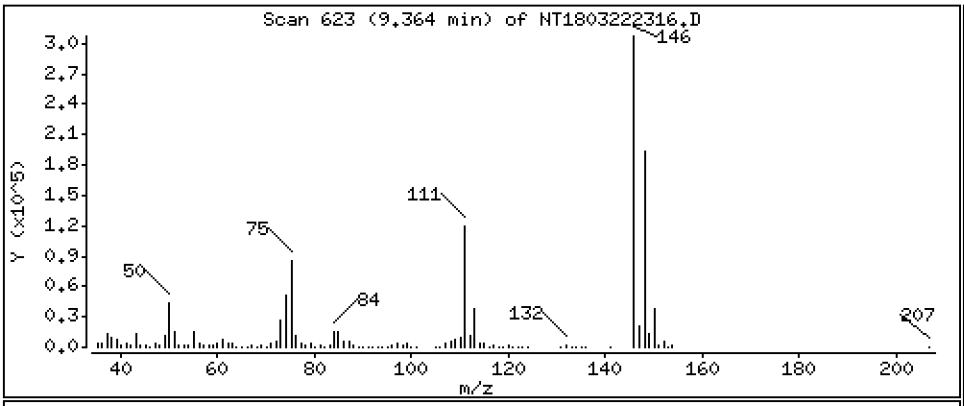
Operator: VTS

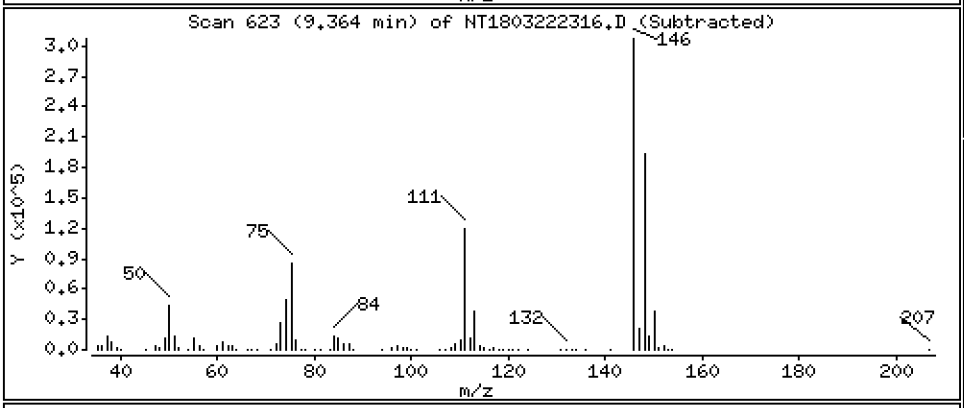
Column phase: ZB-5msi

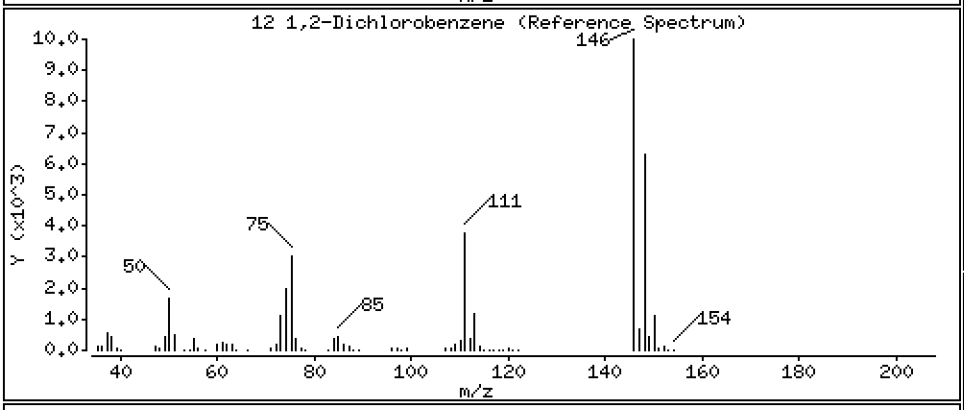
Column diameter: 0.25

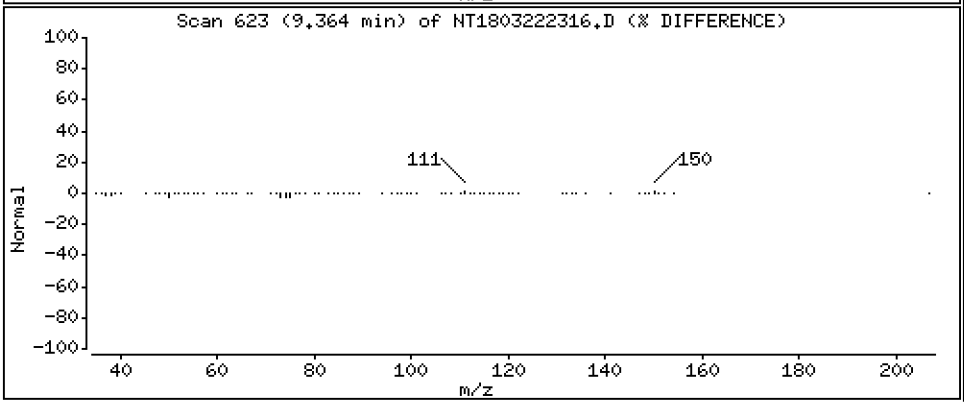
12 1,2-Dichlorobenzene

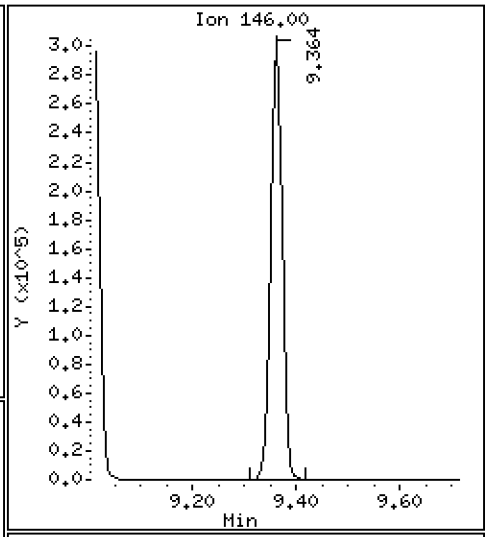
Concentration: 3.781 ug/mL

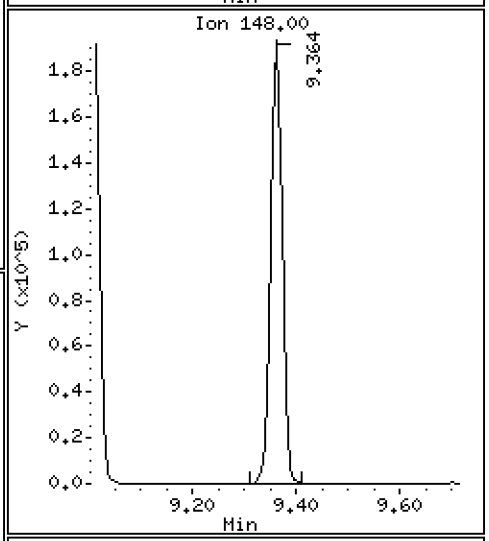


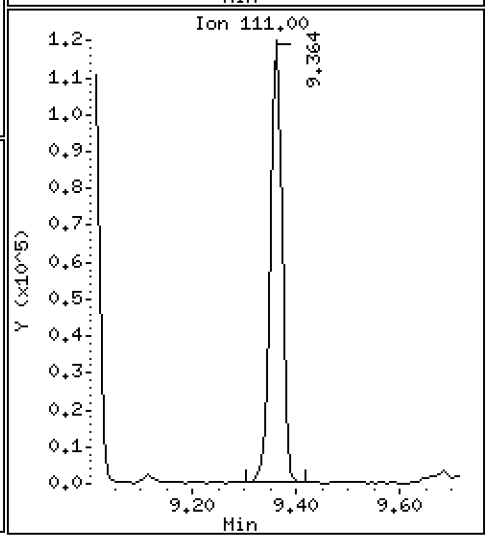












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

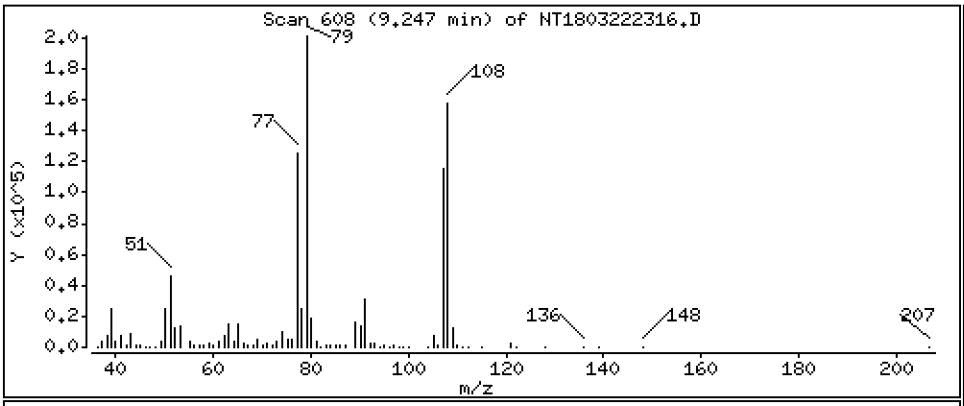
Operator: VTS

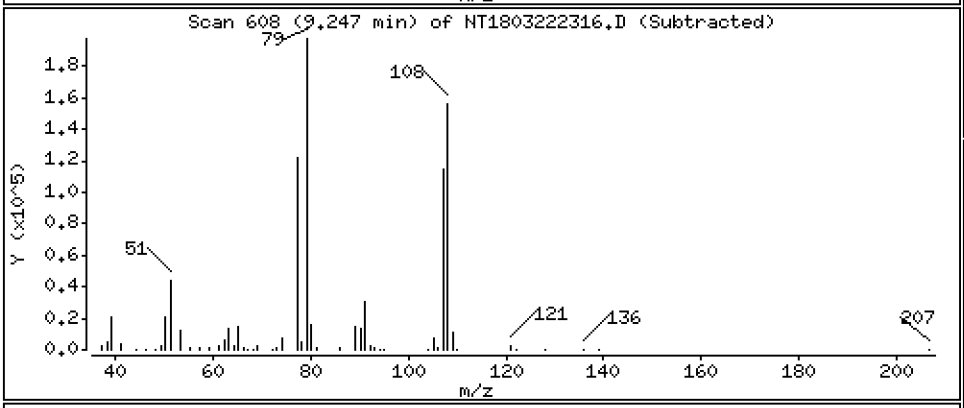
Column phase: ZB-5msi

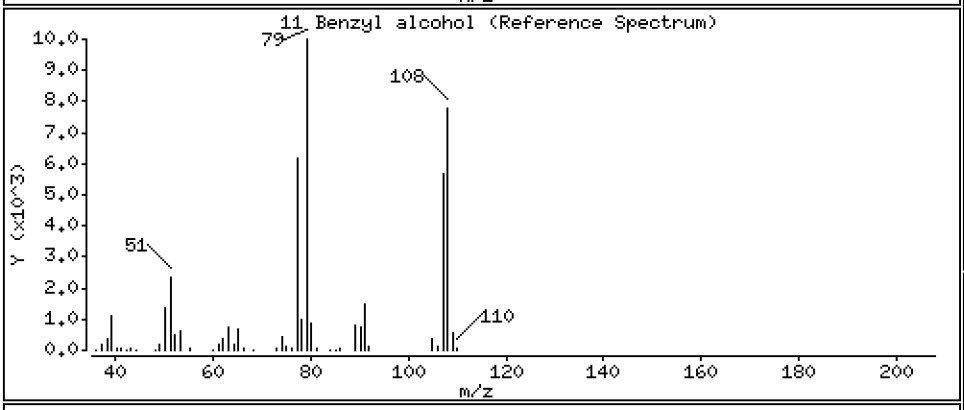
Column diameter: 0.25

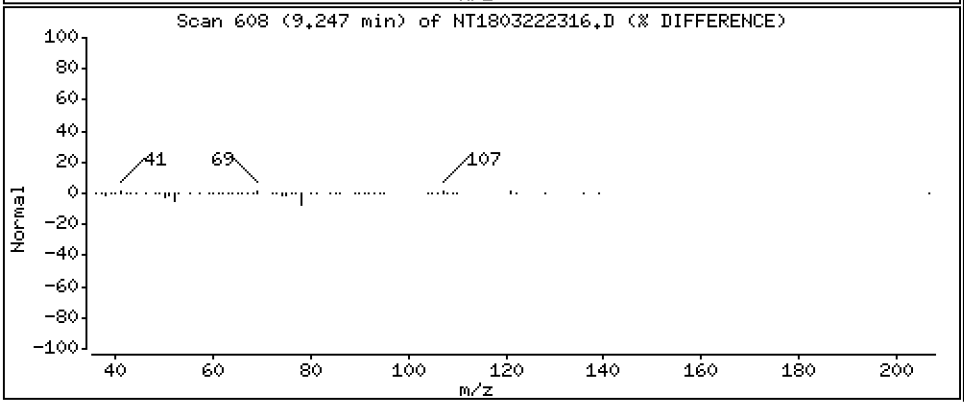
11 Benzyl alcohol

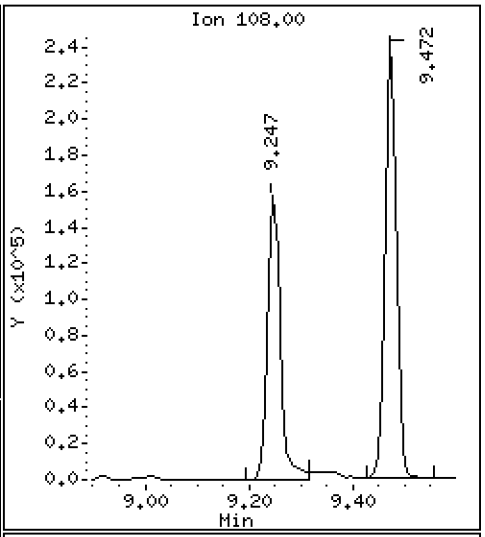
Concentration: 4.243 ug/mL

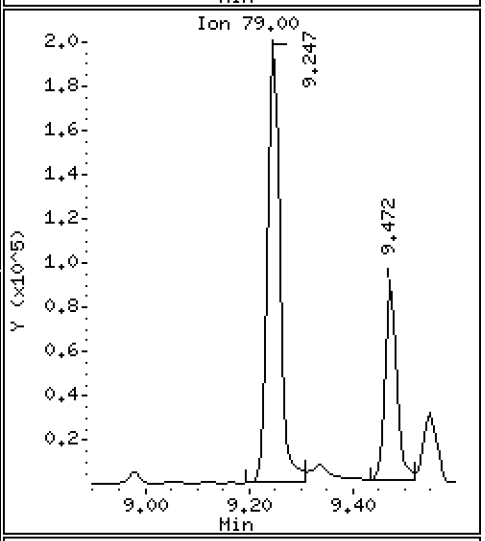


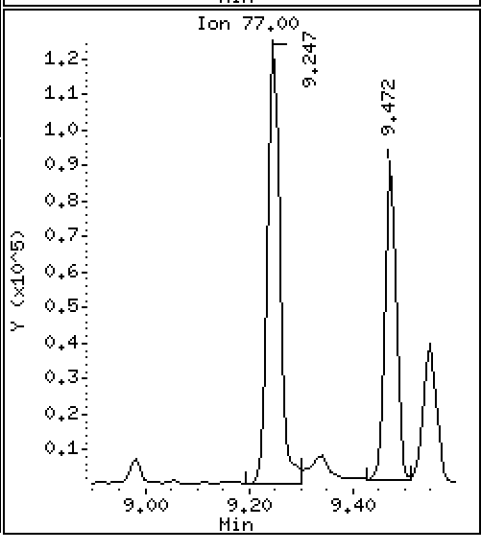












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

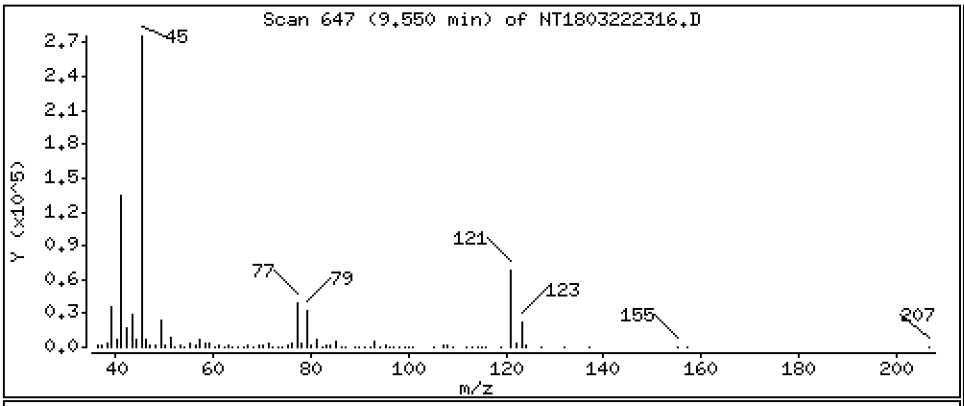
Operator: VTS

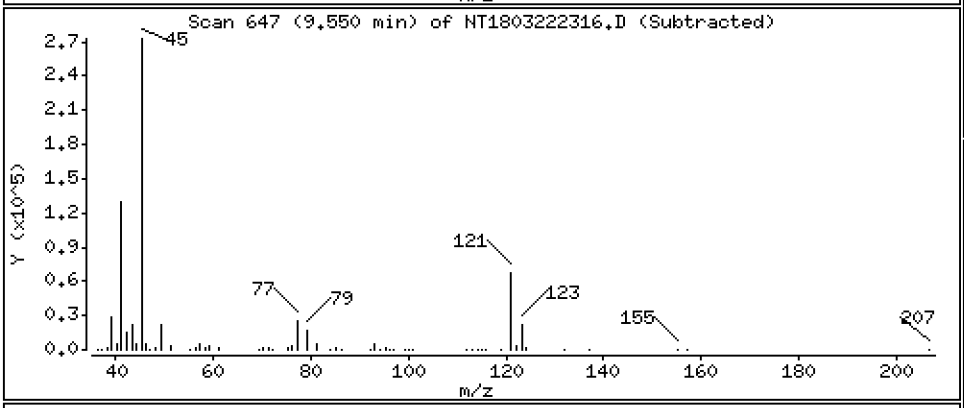
Column phase: ZB-5msi

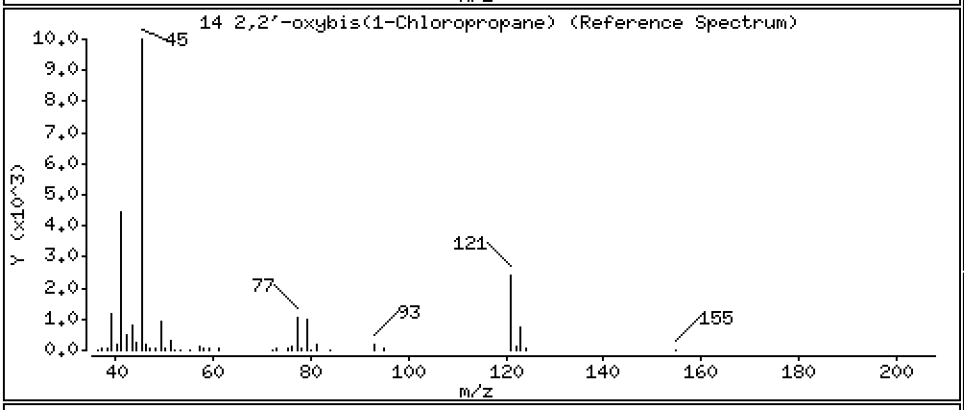
Column diameter: 0.25

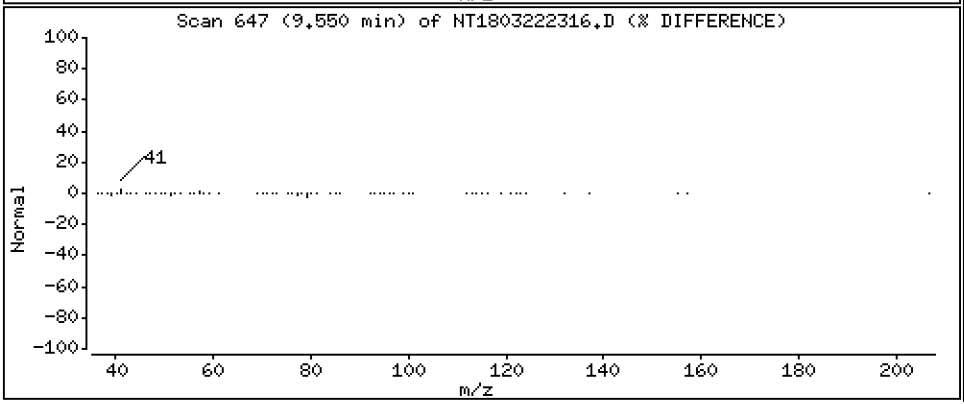
14 2,2'-oxybis(1-Chloropropane)

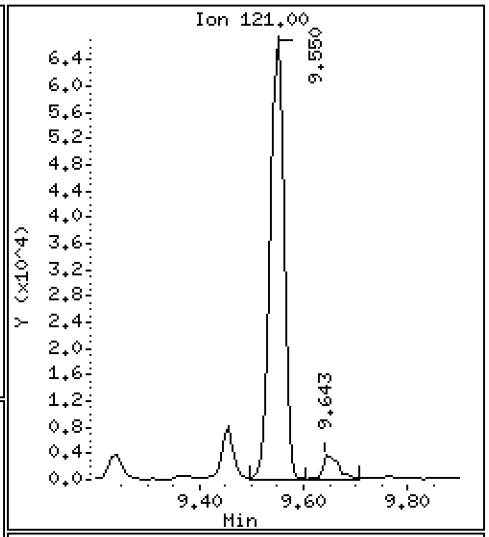
Concentration: 4.374 ug/mL

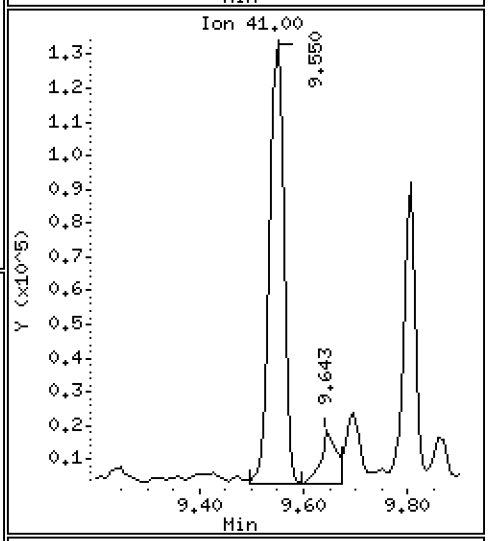


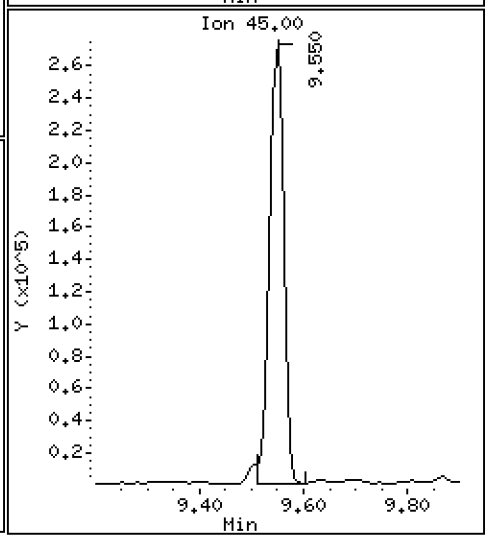












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

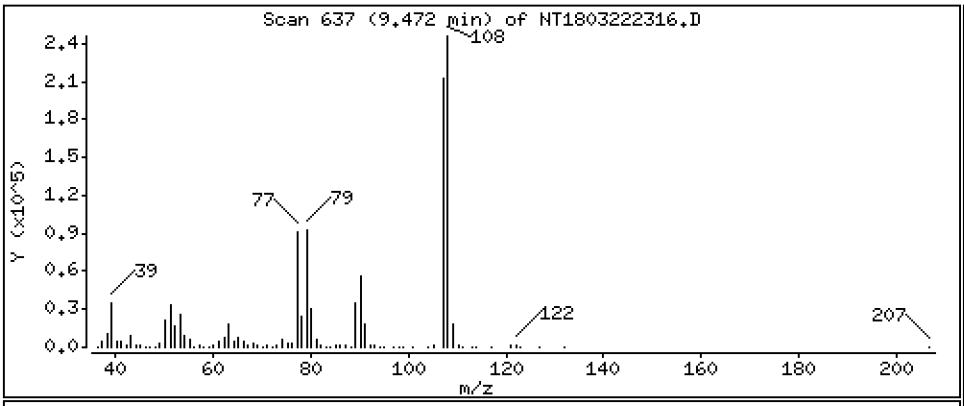
Operator: VTS

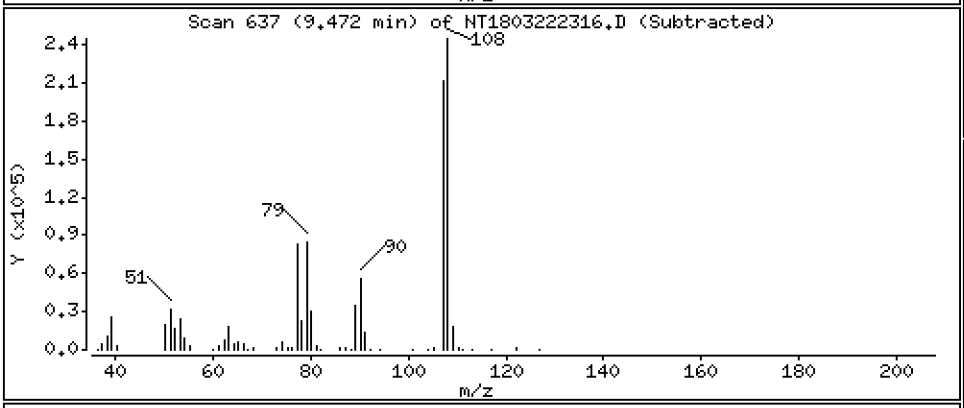
Column phase: ZB-5msi

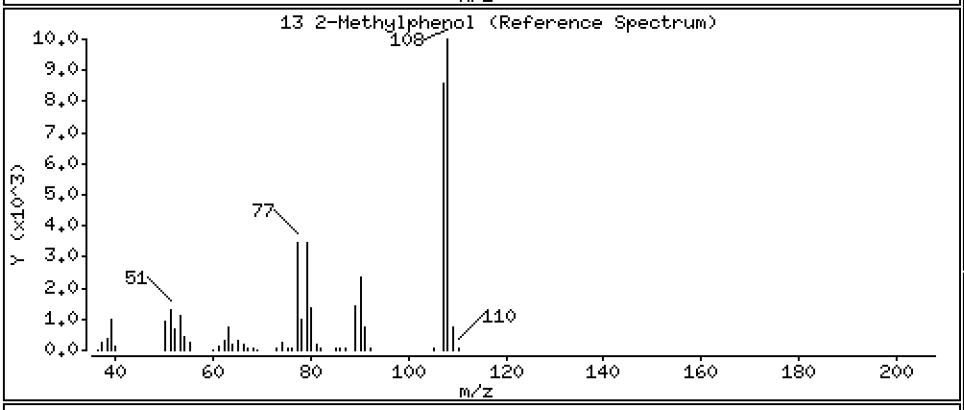
Column diameter: 0.25

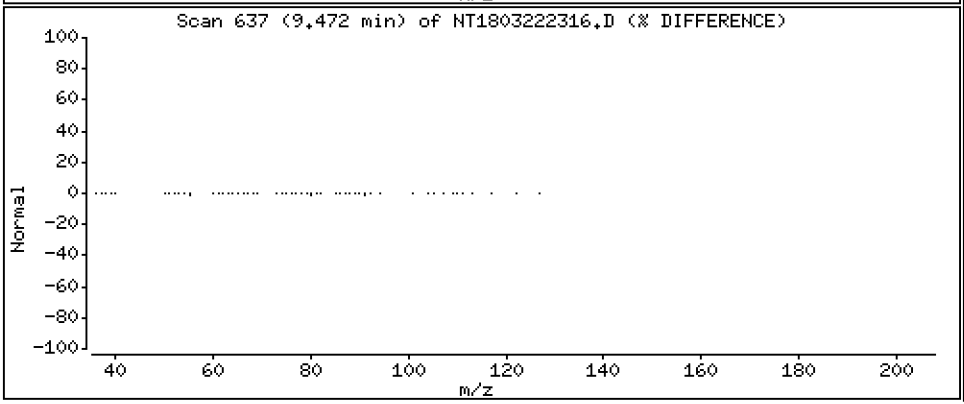
13 2-Methylphenol

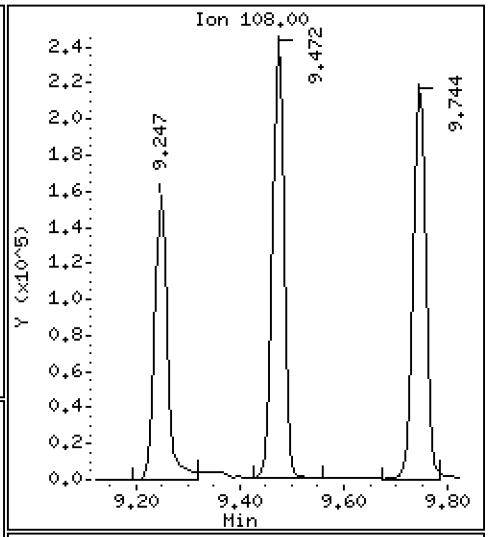
Concentration: 3.585 ug/mL

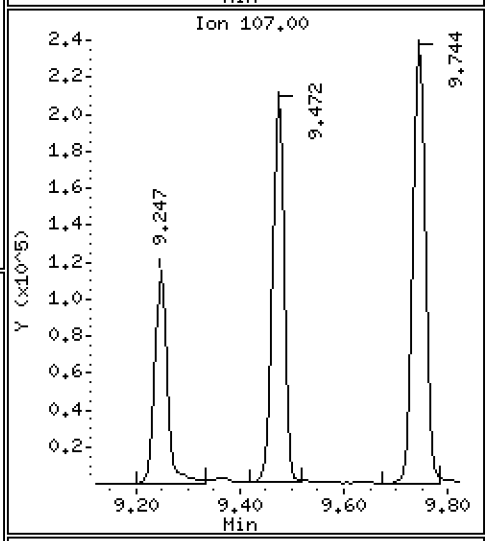


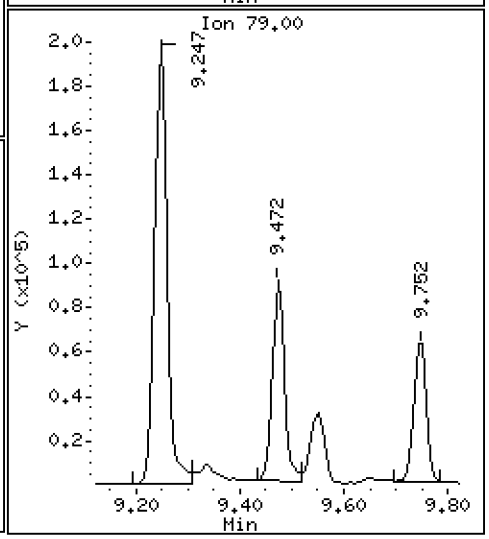












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222316.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

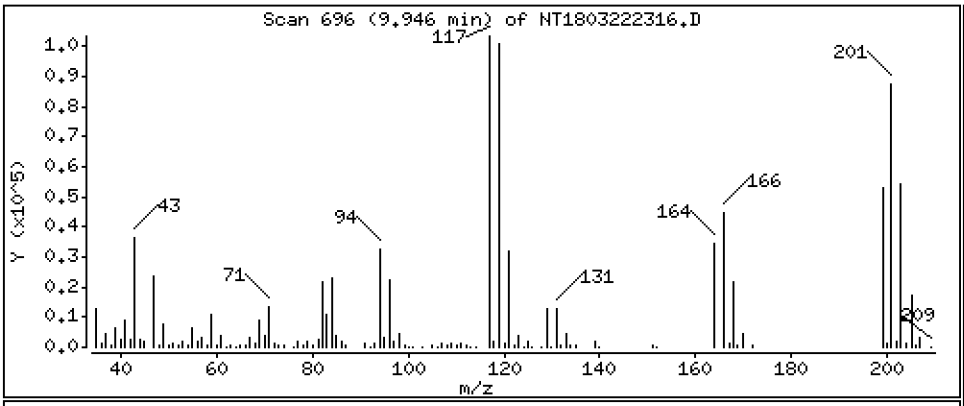
Operator: VTS

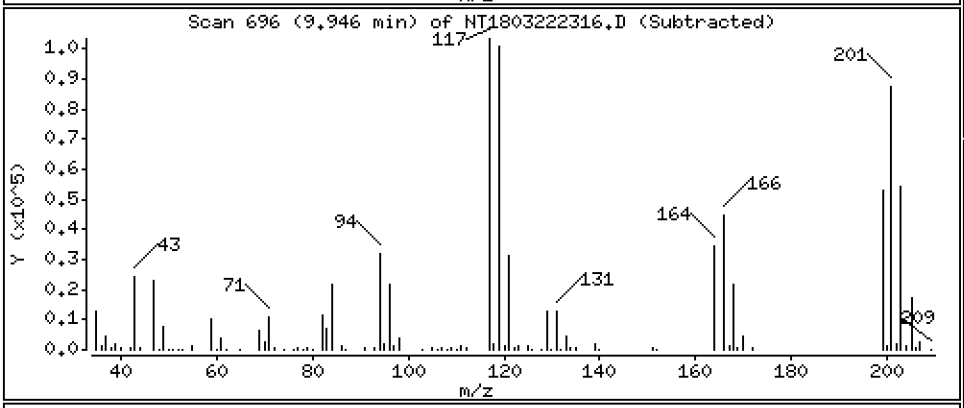
Column phase: ZB-5msi

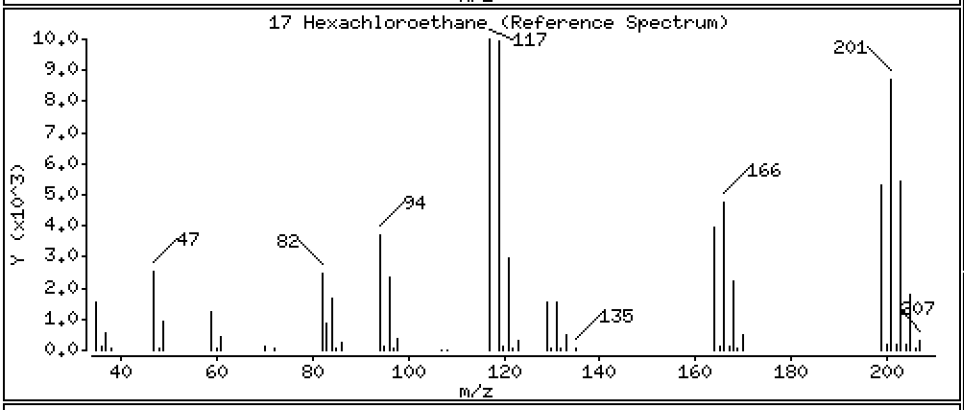
Column diameter: 0.25

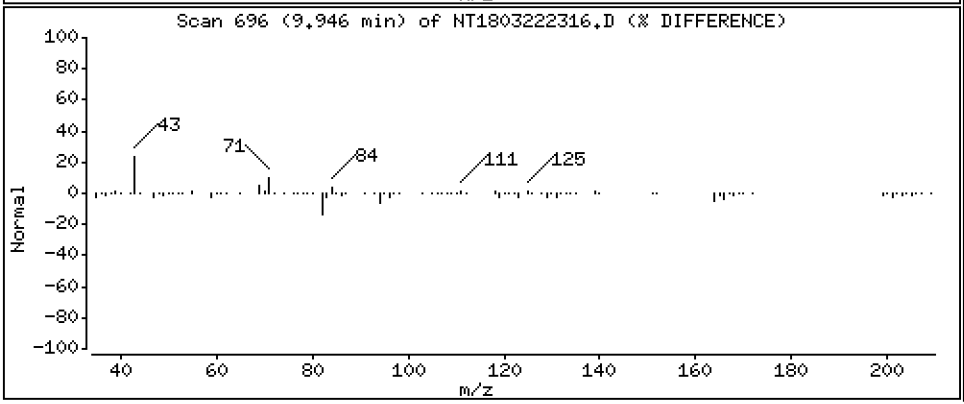
17 Hexachloroethane

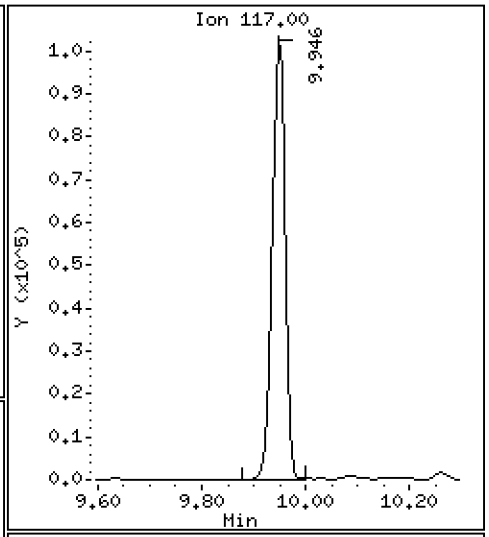
Concentration: 3.639 ug/mL

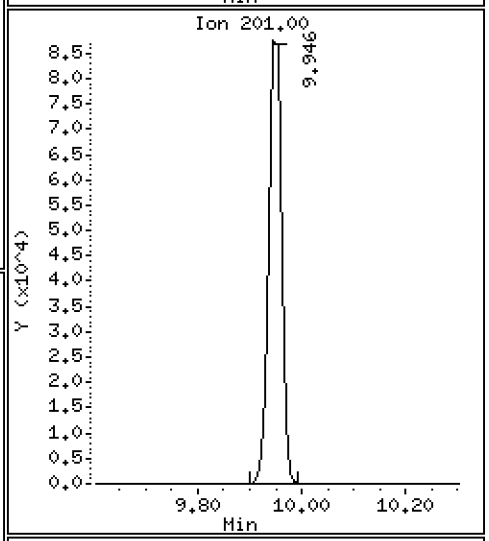


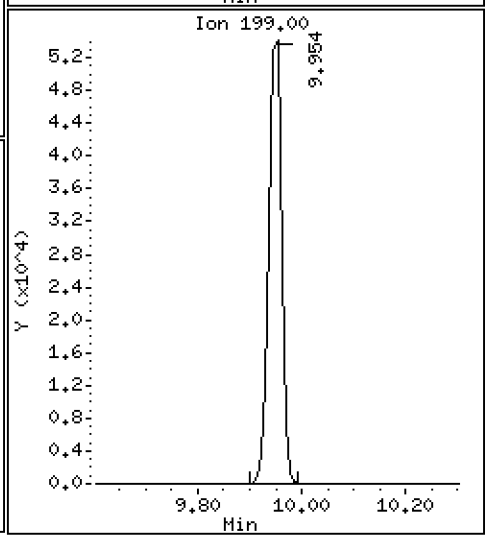












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

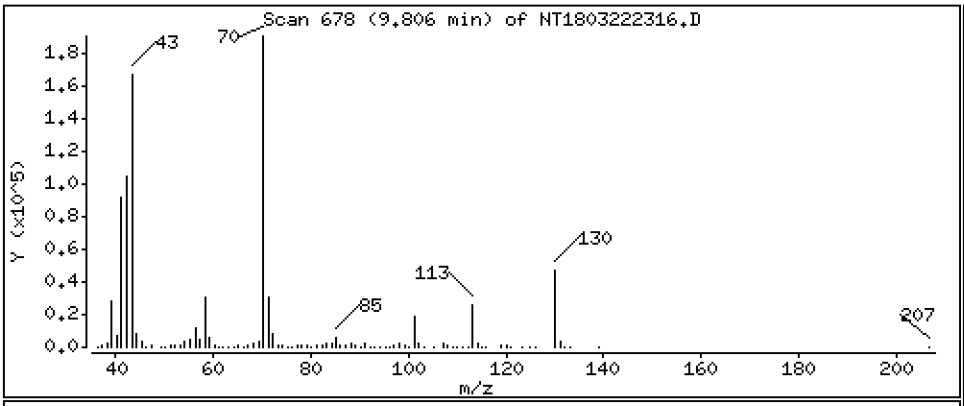
Operator: VTS

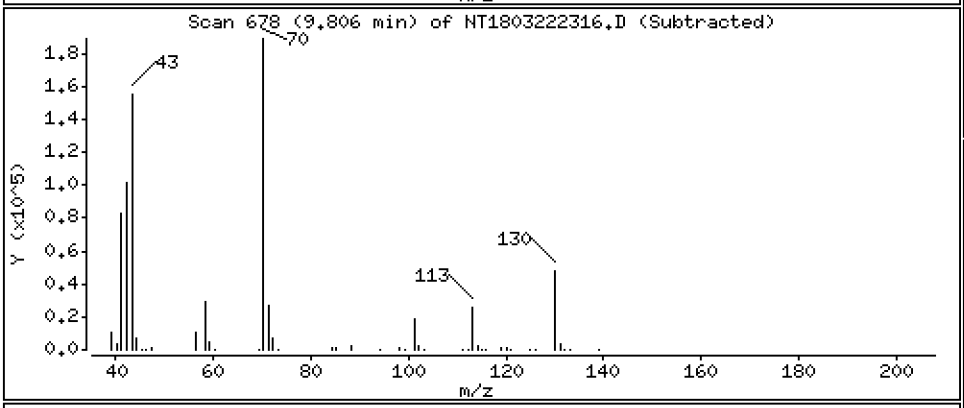
Column phase: ZB-5msi

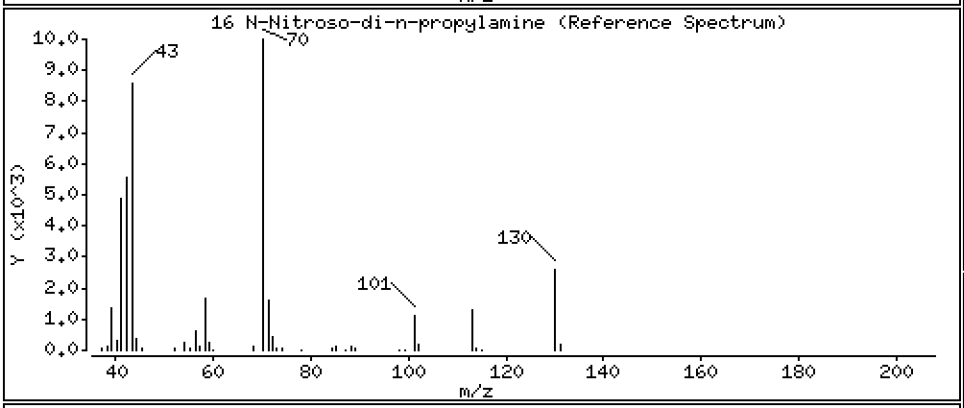
Column diameter: 0.25

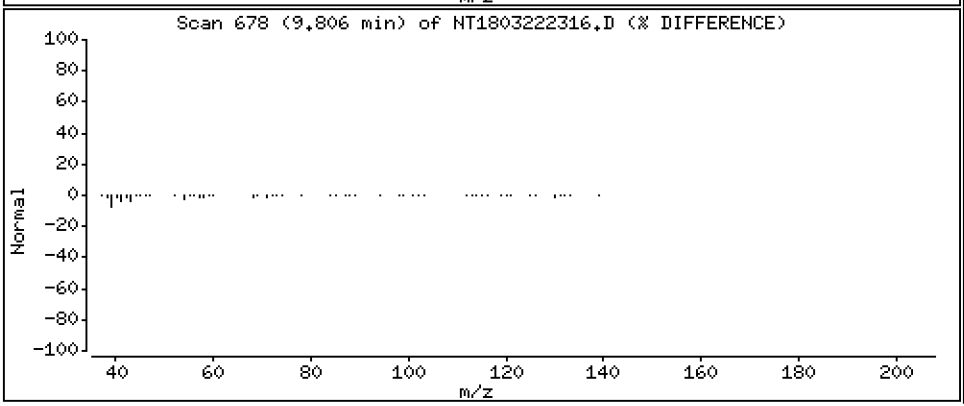
16 N-Nitroso-di-n-propylamine

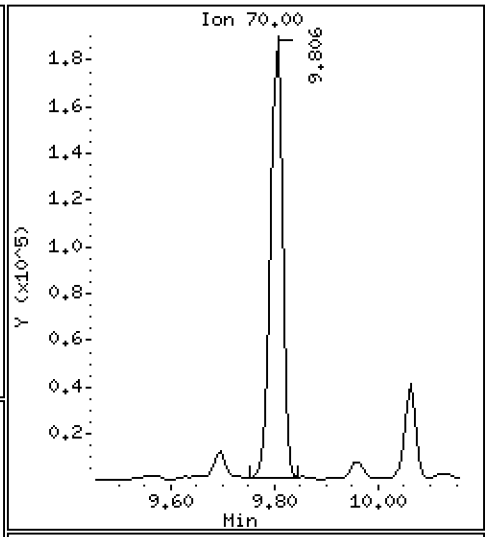
Concentration: 4.081 ug/mL

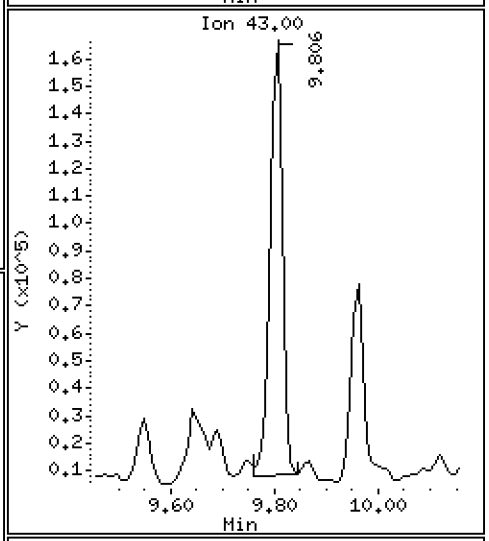


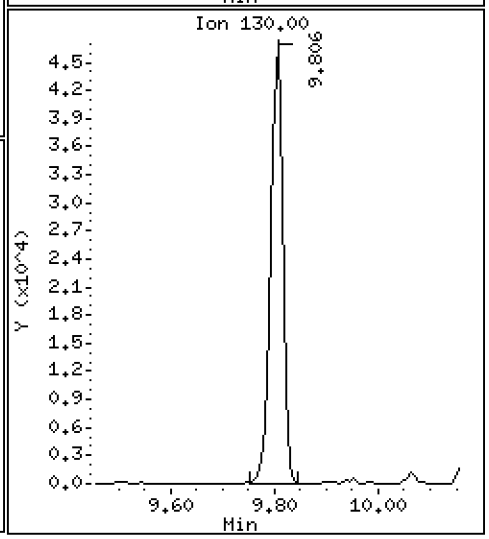












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

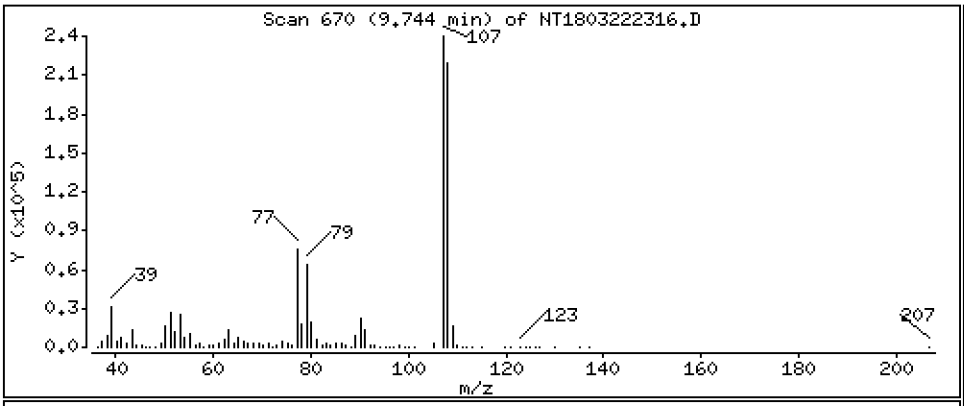
Operator: VTS

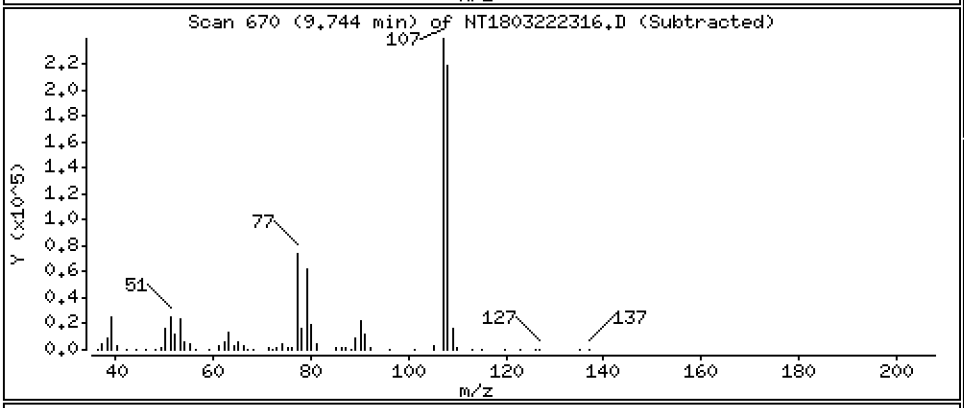
Column phase: ZB-5msi

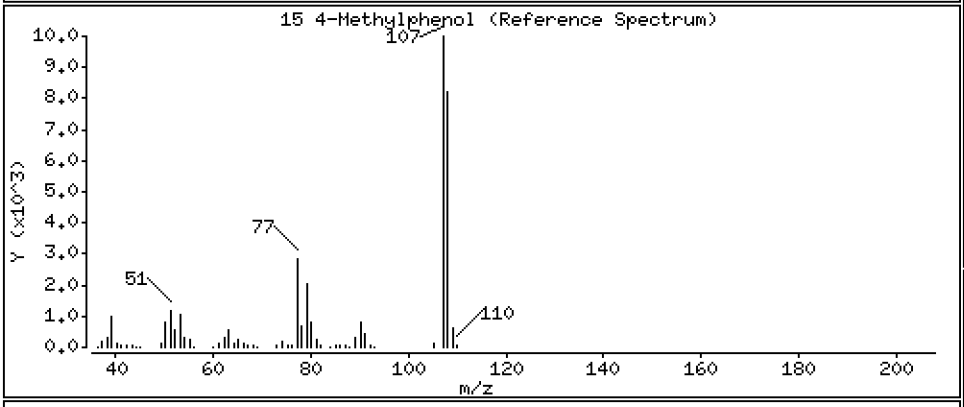
Column diameter: 0.25

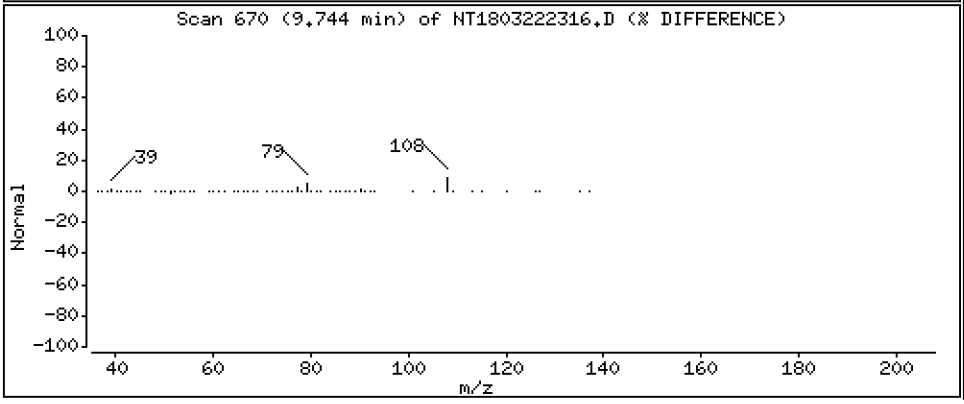
15 4-Methylphenol

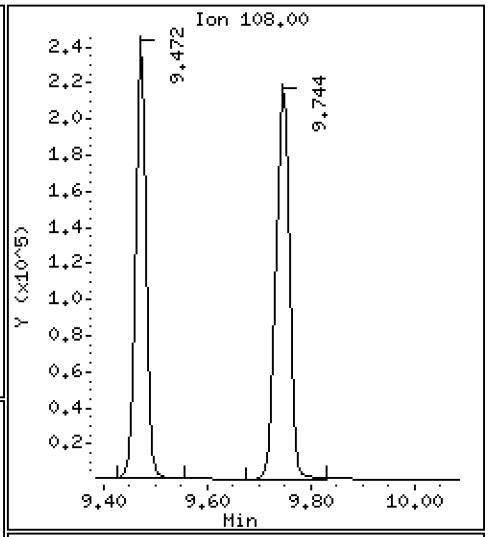
Concentration: 3.851 ug/mL

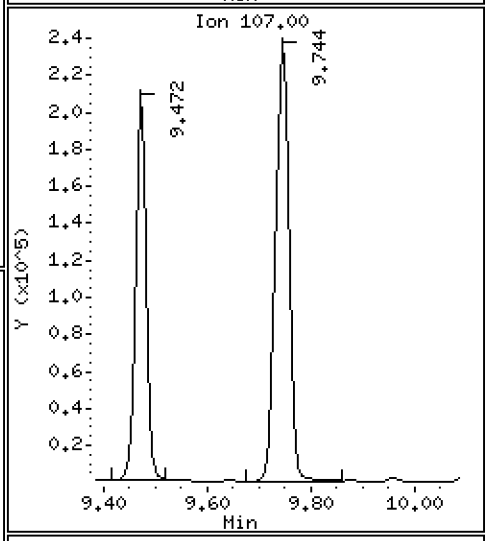


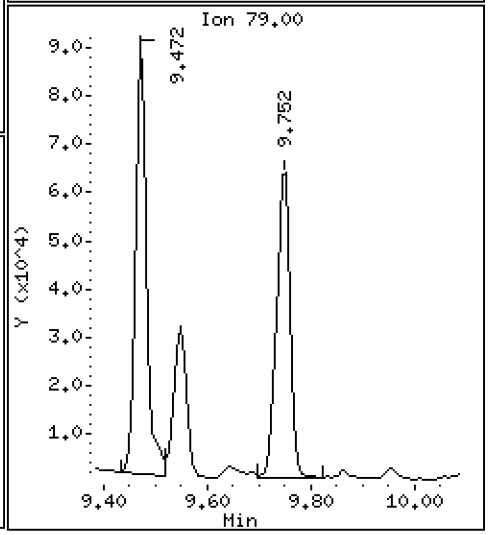












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

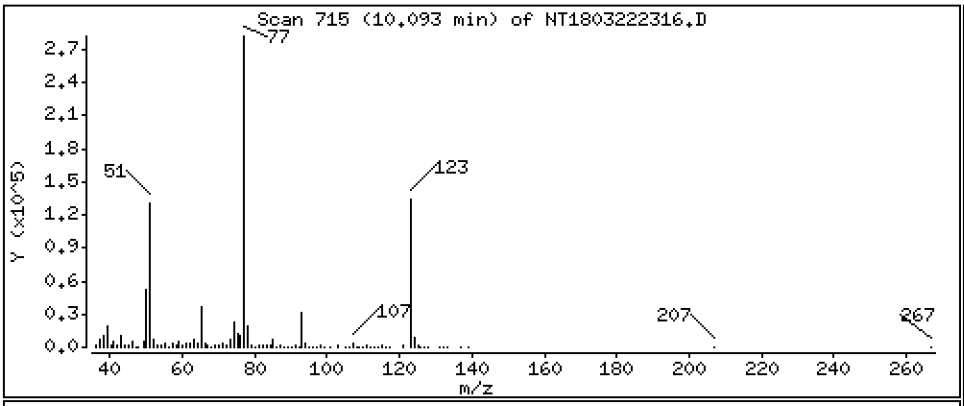
Operator: VTS

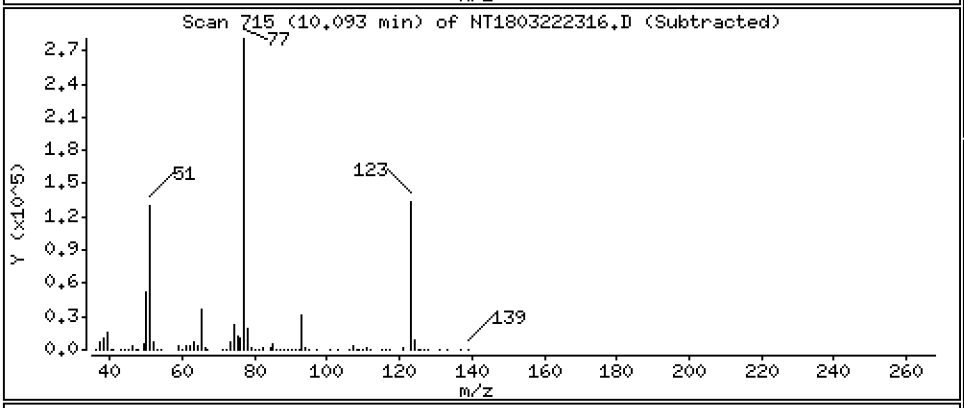
Column phase: ZB-5msi

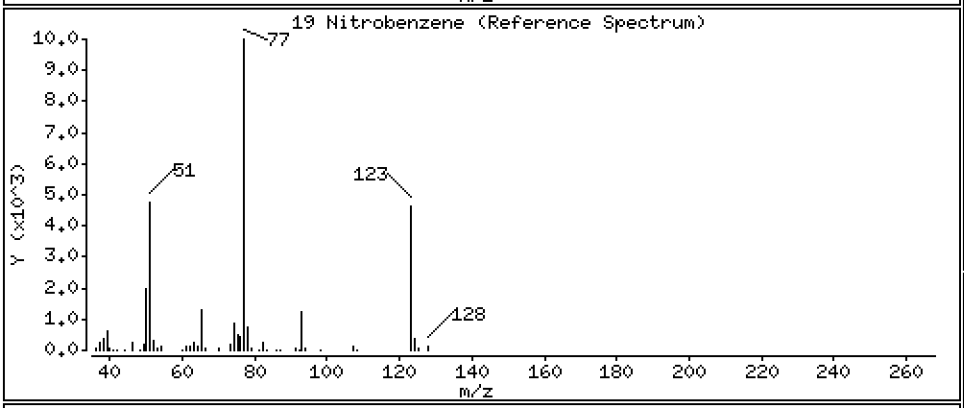
Column diameter: 0.25

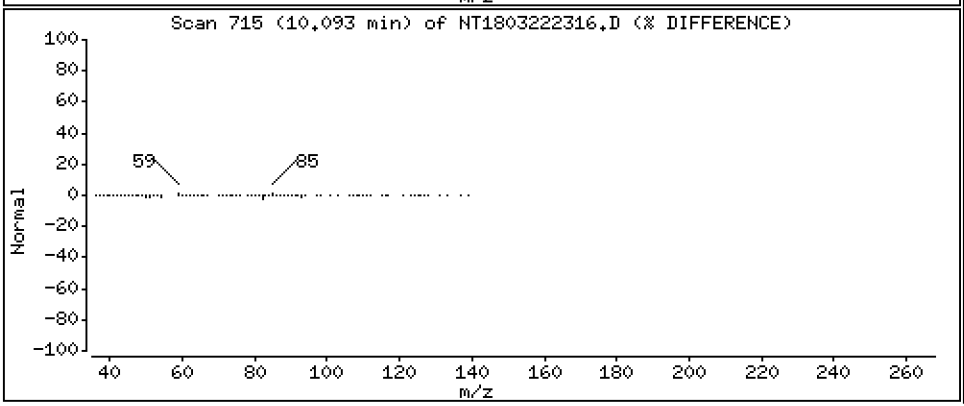
19 Nitrobenzene

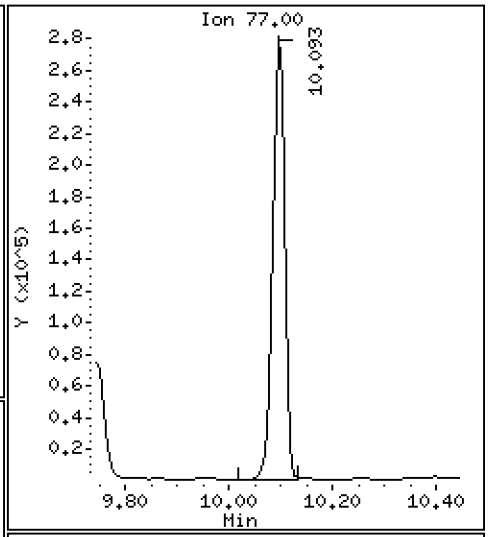
Concentration: 4.448 ug/mL

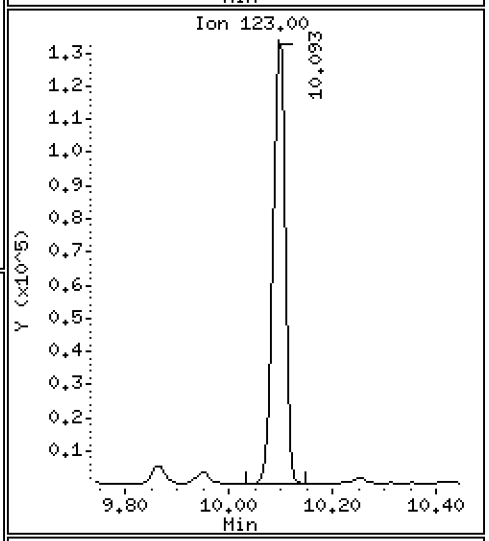


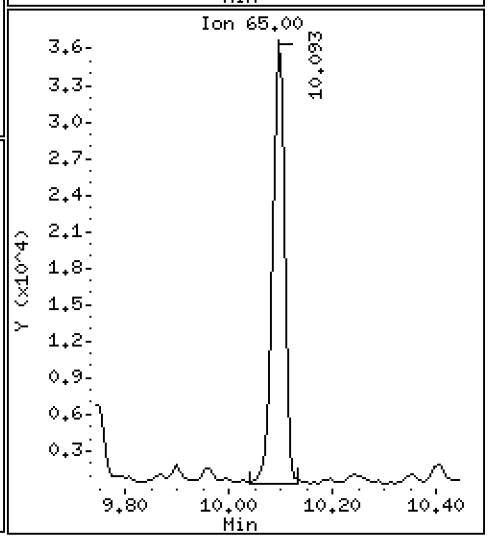












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

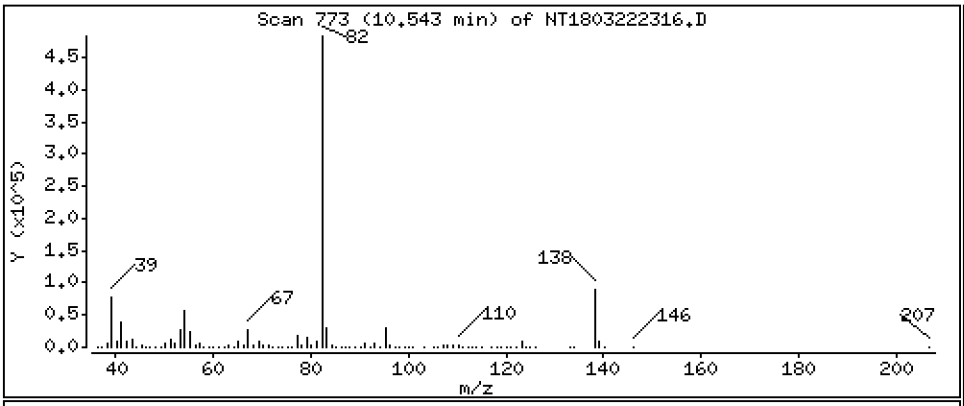
Operator: VTS

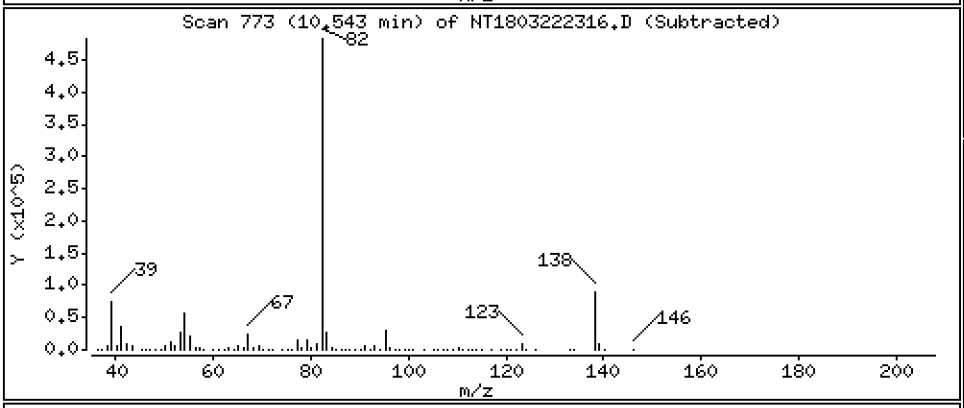
Column phase: ZB-5msi

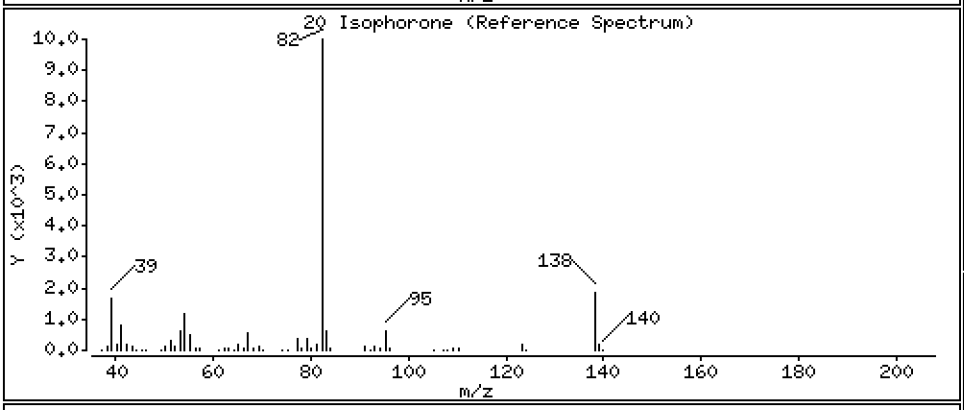
Column diameter: 0.25

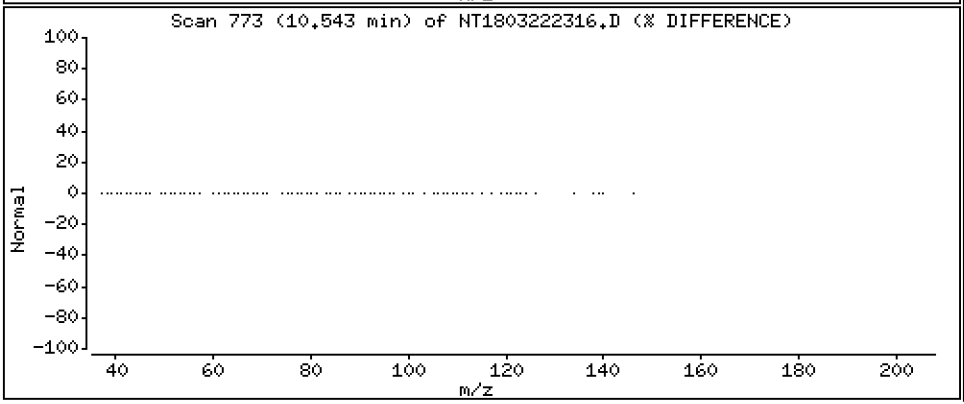
20 Isophorone

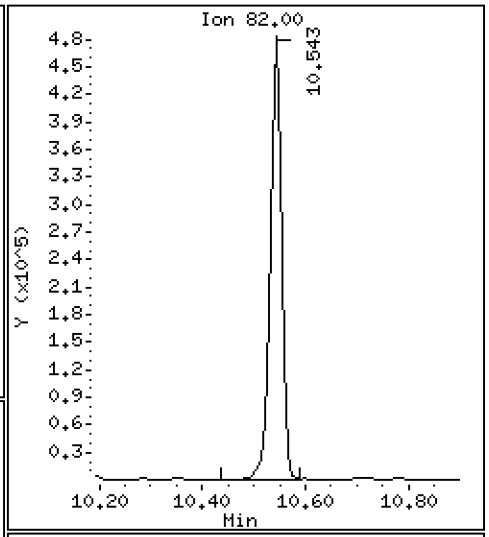
Concentration: 5.899 ug/mL

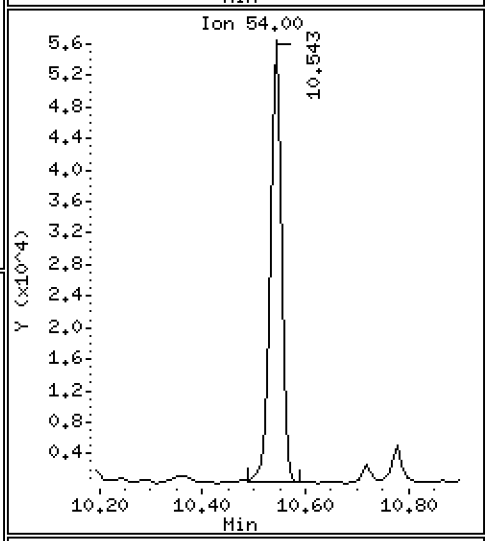


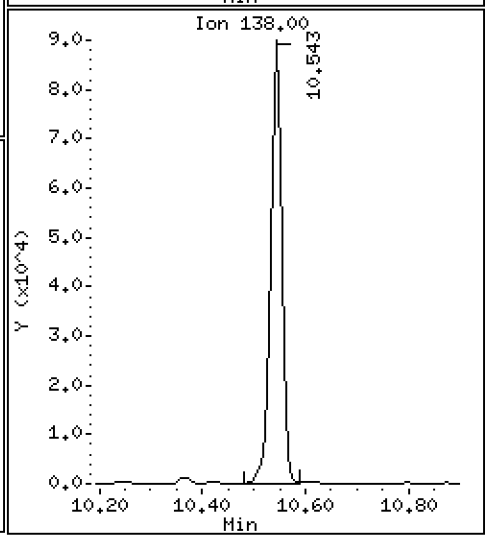












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

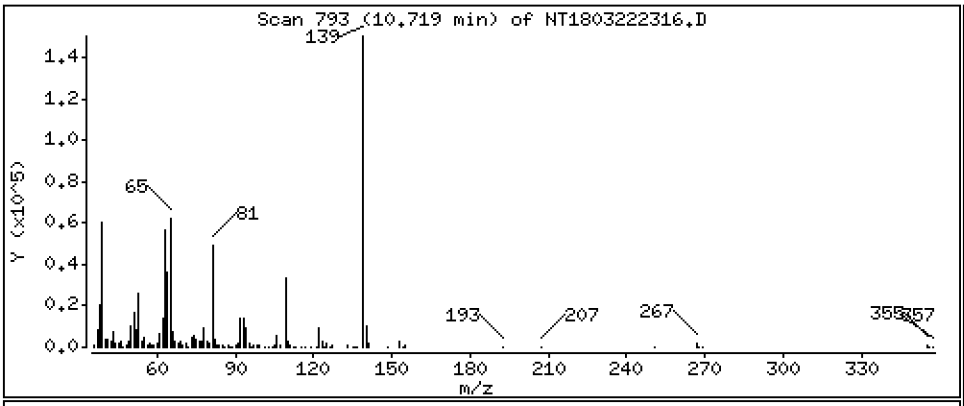
Operator: VTS

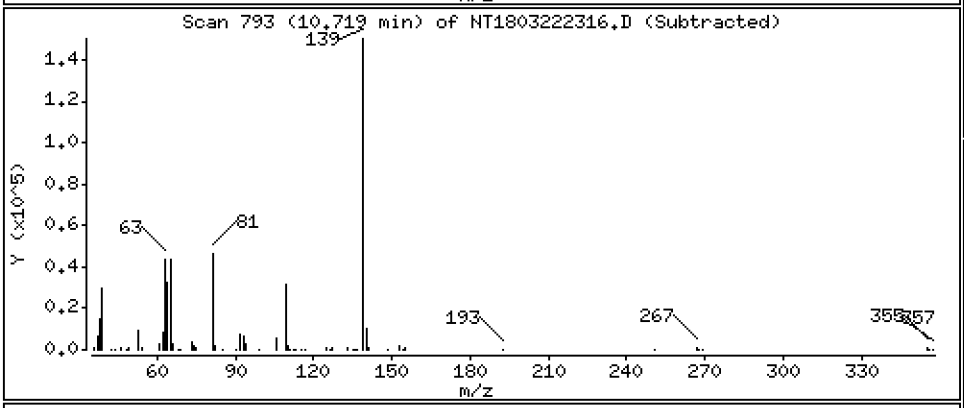
Column phase: ZB-5msi

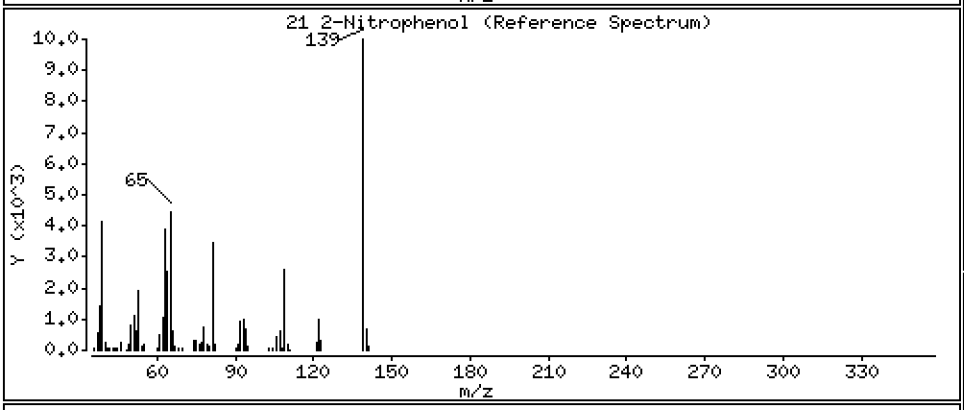
Column diameter: 0.25

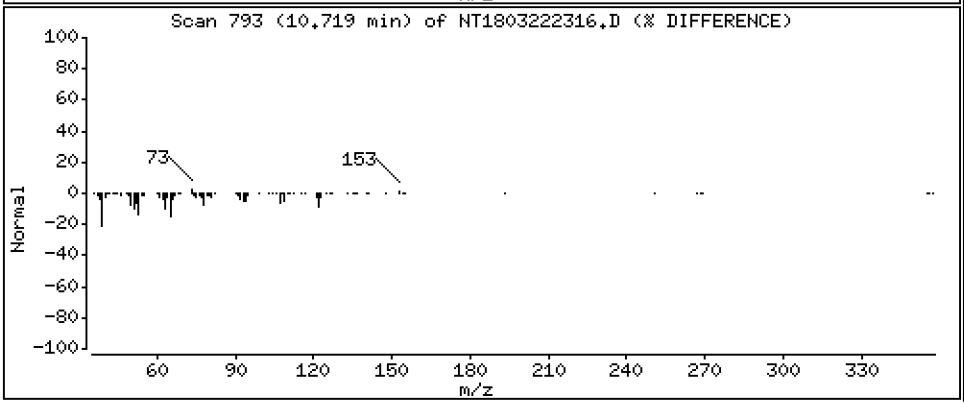
21 2-Nitrophenol

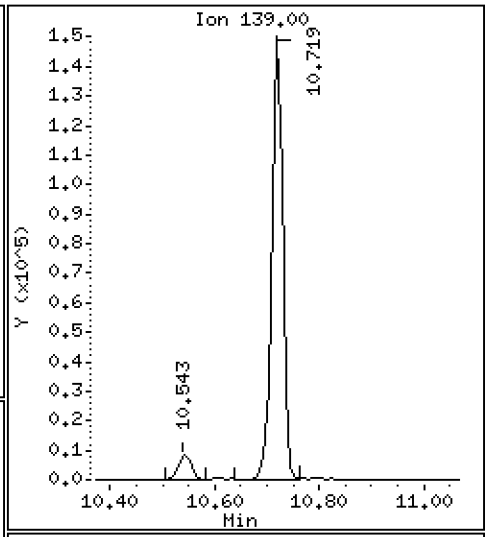
Concentration: 4.345 ug/mL

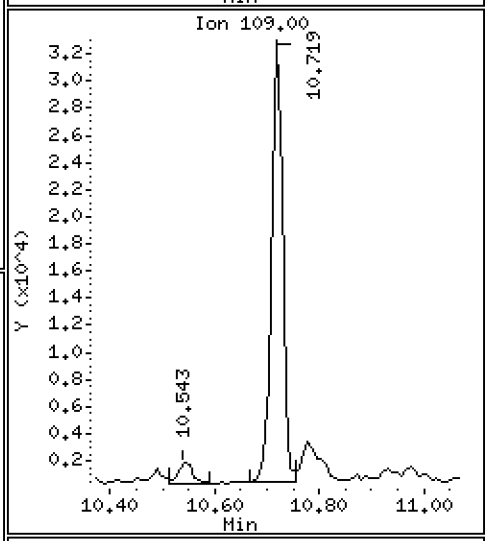


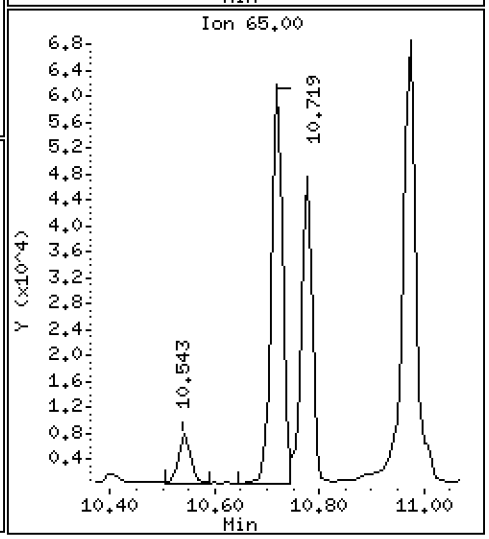












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

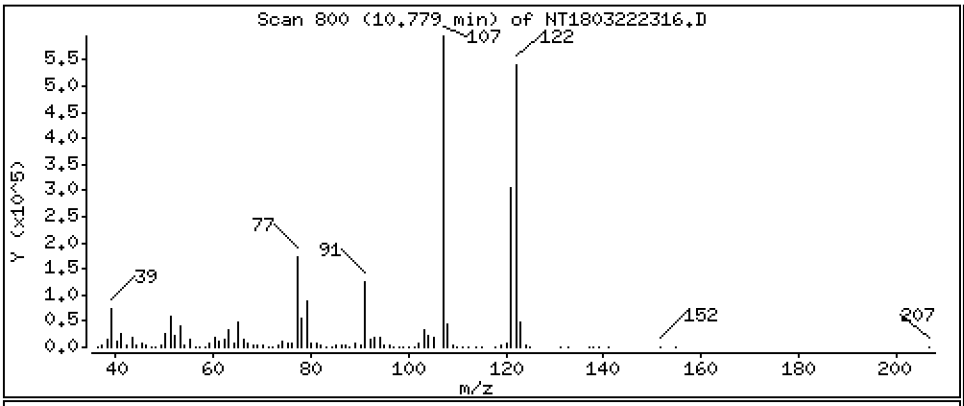
Operator: VTS

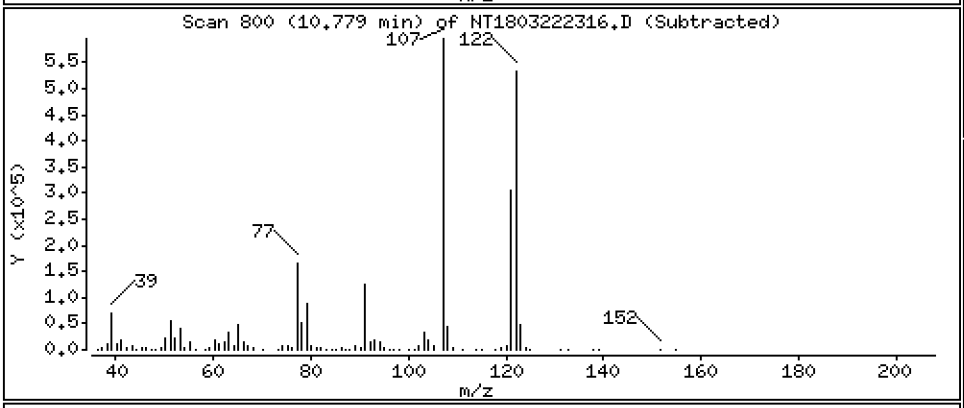
Column phase: ZB-5msi

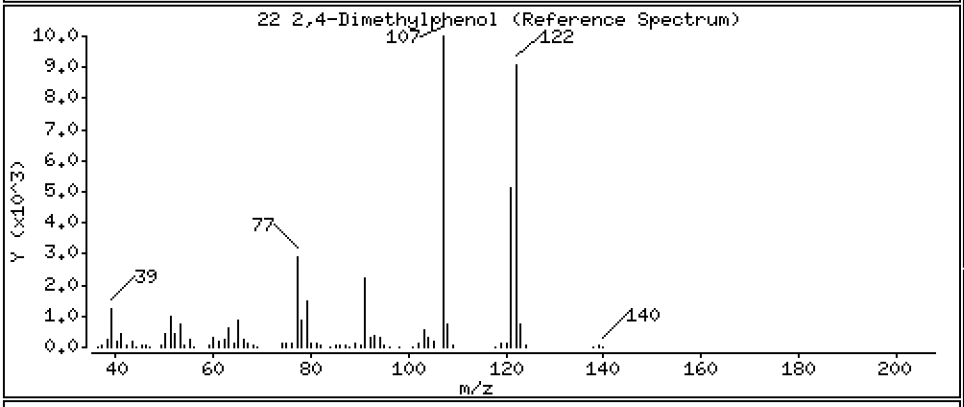
Column diameter: 0.25

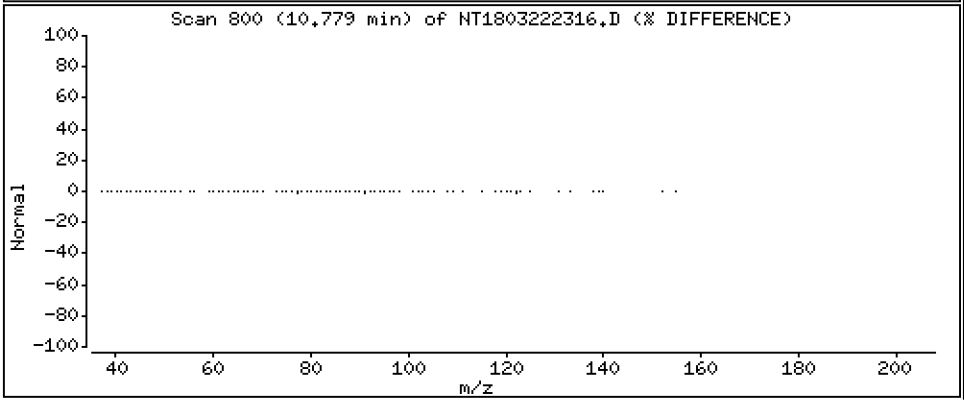
22 2,4-Dimethylphenol

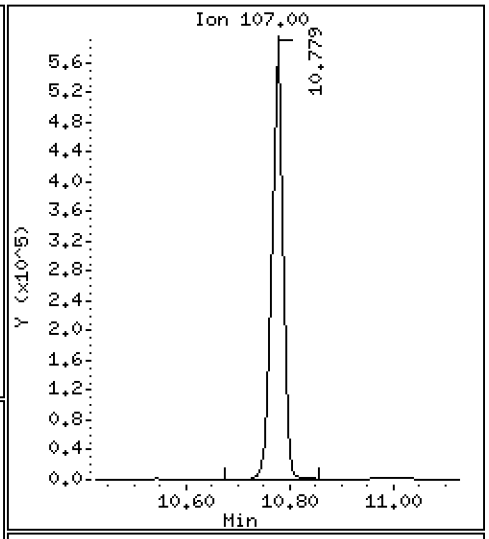
Concentration: 9.224 ug/mL

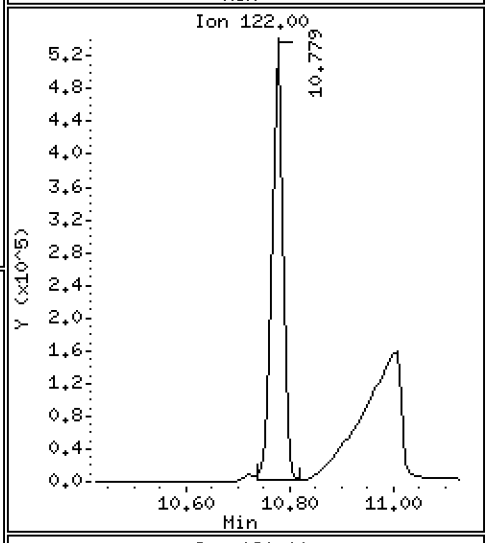


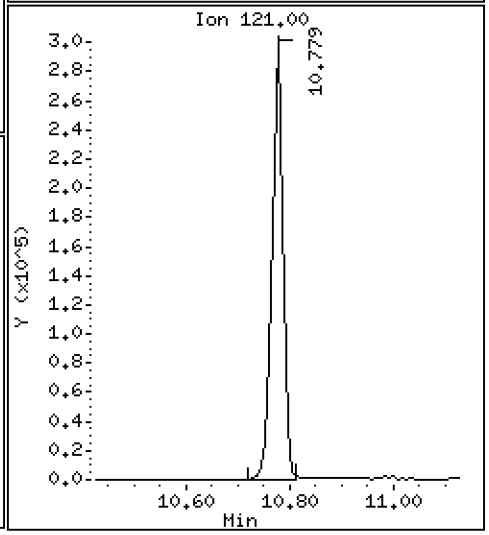












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222316.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

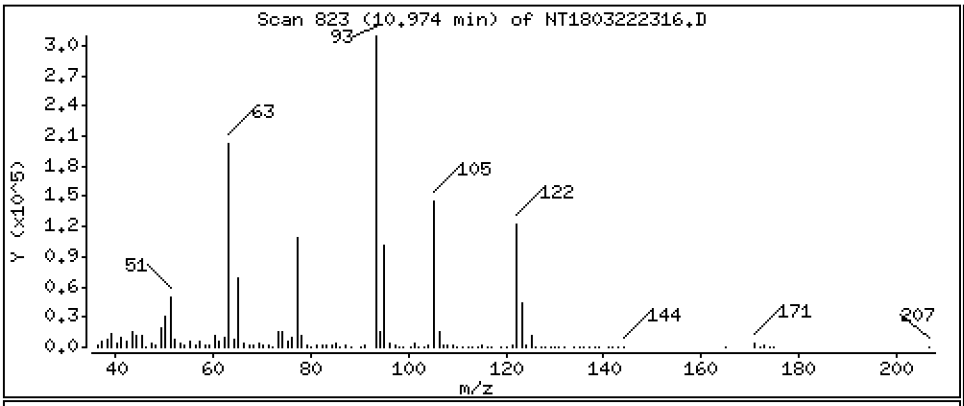
Operator: VTS

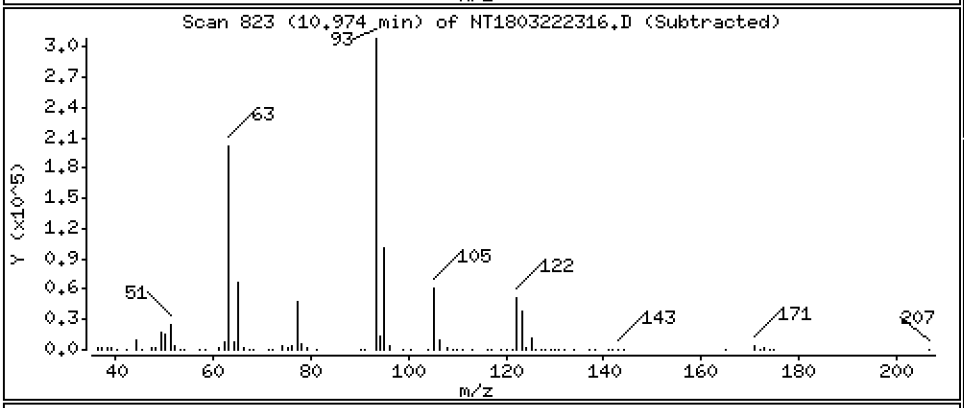
Column phase: ZB-5msi

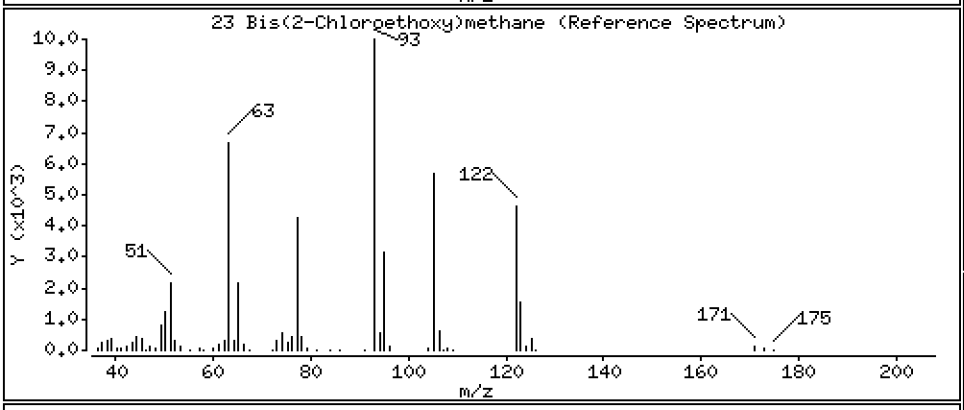
Column diameter: 0.25

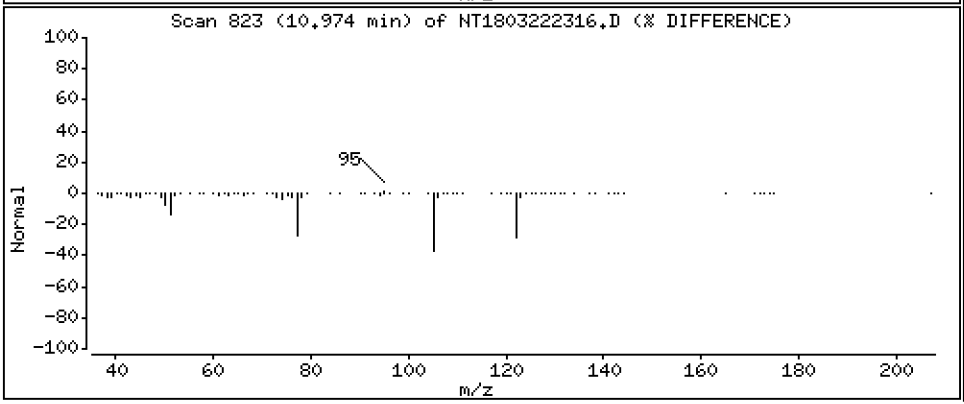
23 Bis(2-Chloroethoxy)methane

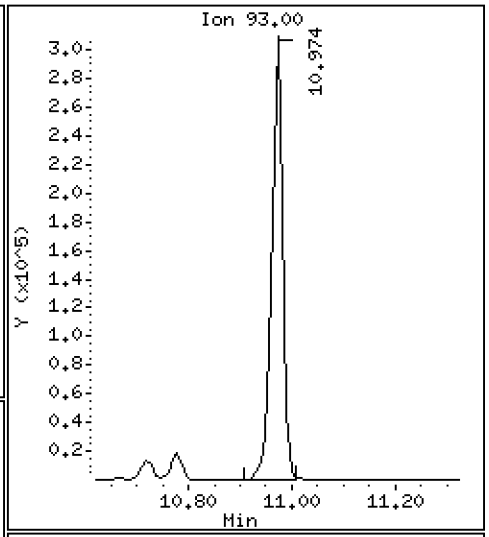
Concentration: 4.973 ug/mL

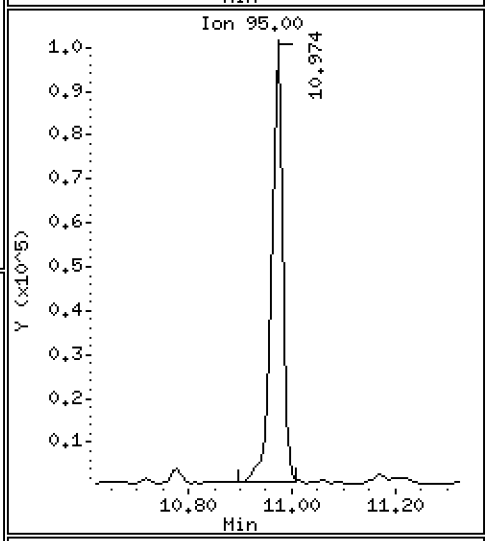


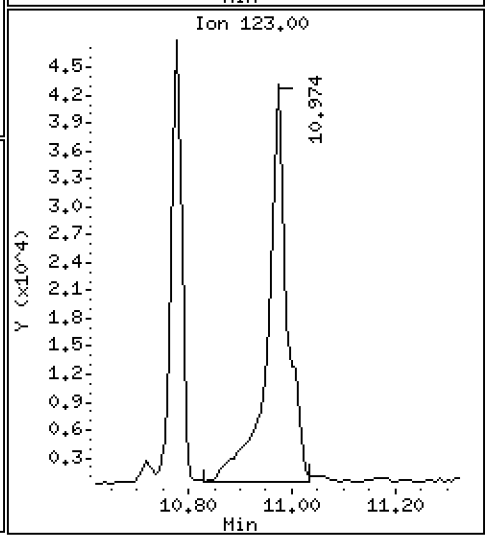












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

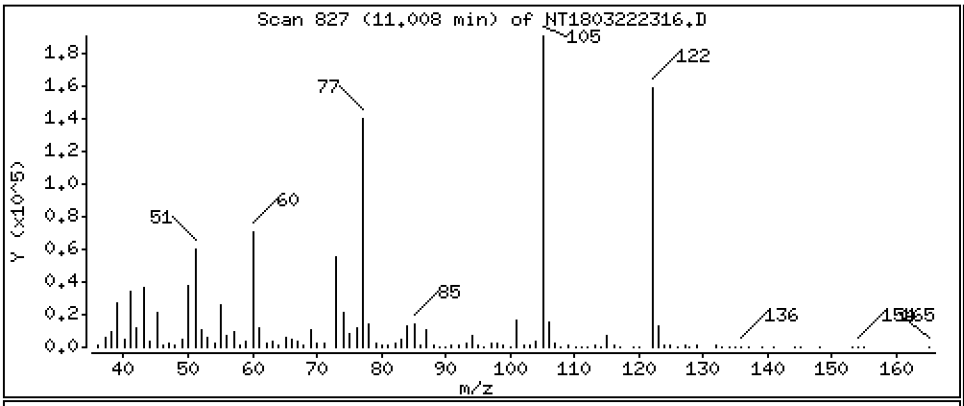
Operator: VTS

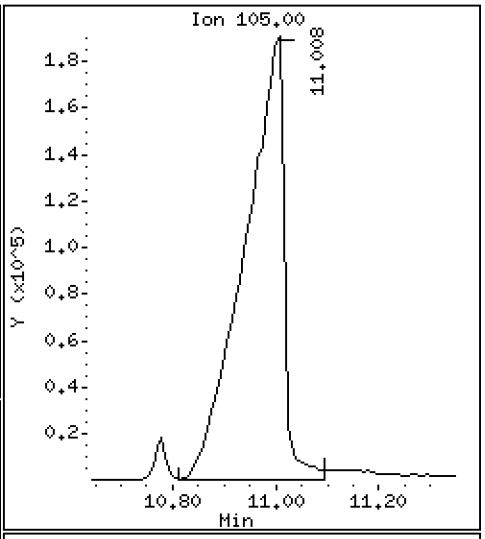
Column phase: ZB-5msi

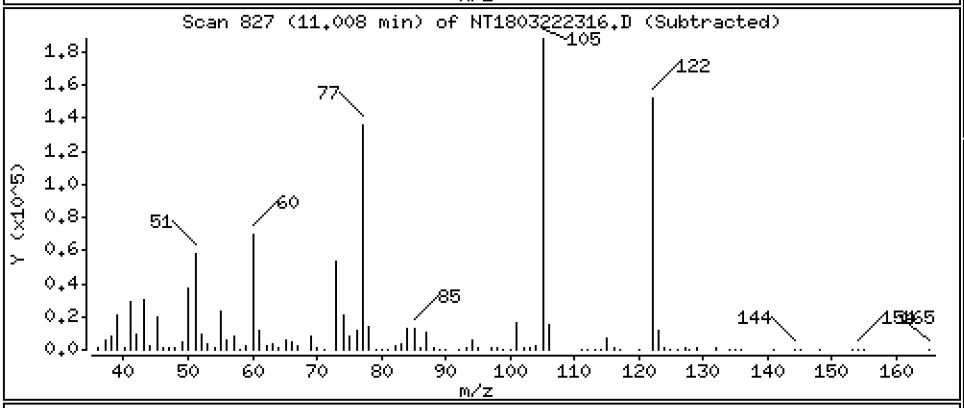
Column diameter: 0.25

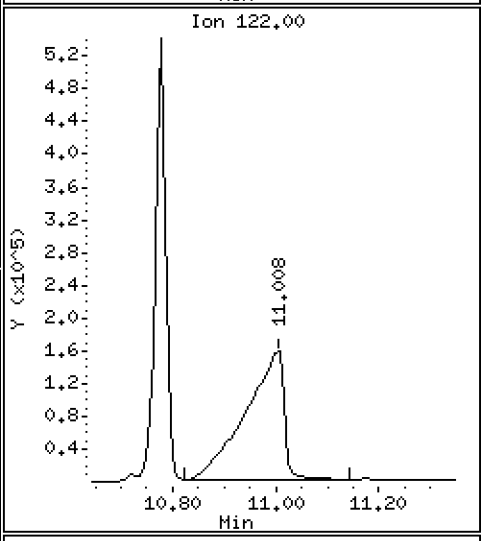
24 Benzoic acid

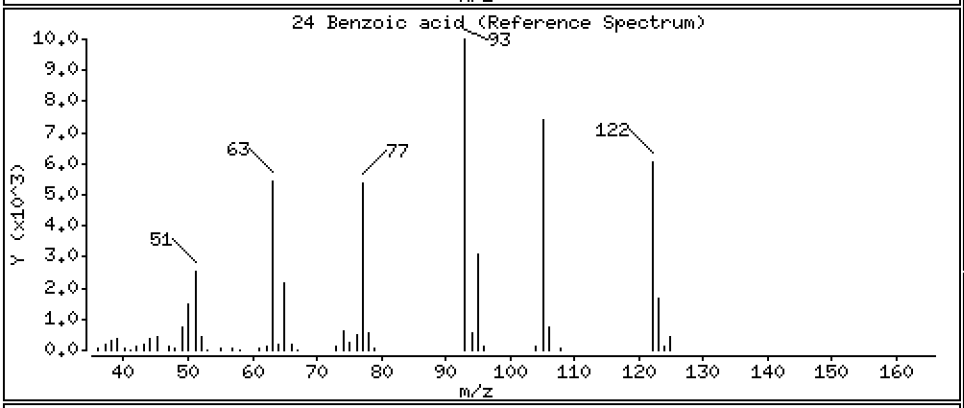
Concentration: 14.76 ug/mL

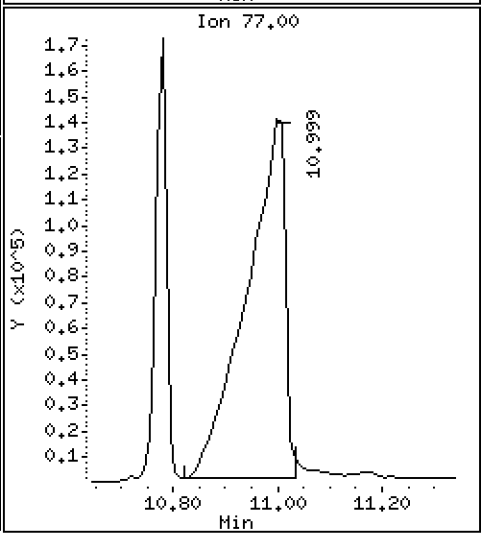


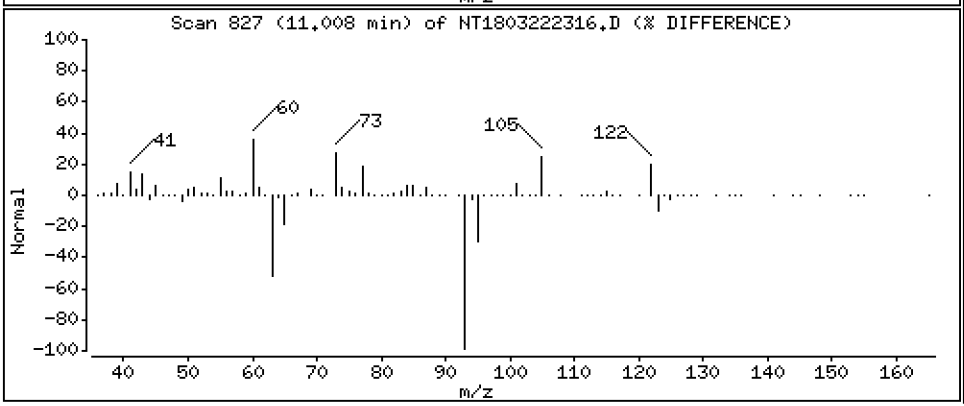












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

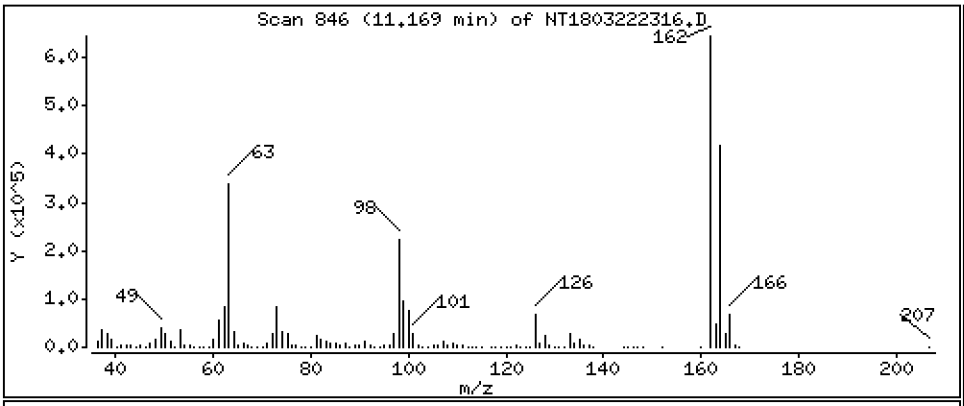
Operator: VTS

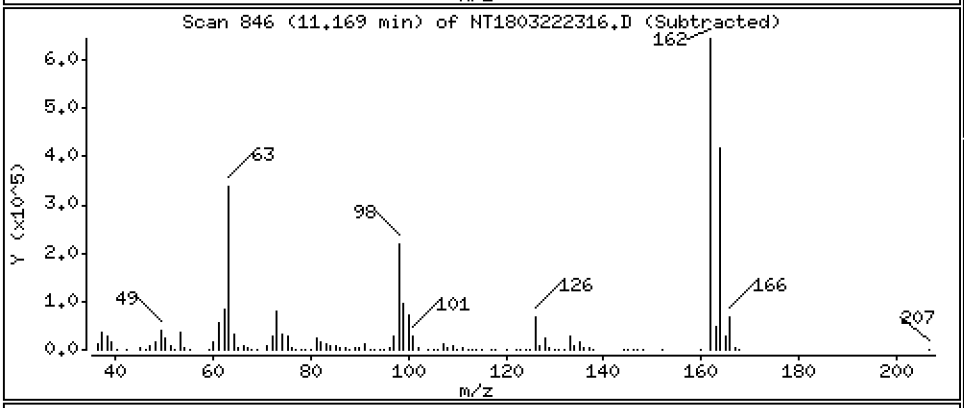
Column phase: ZB-5msi

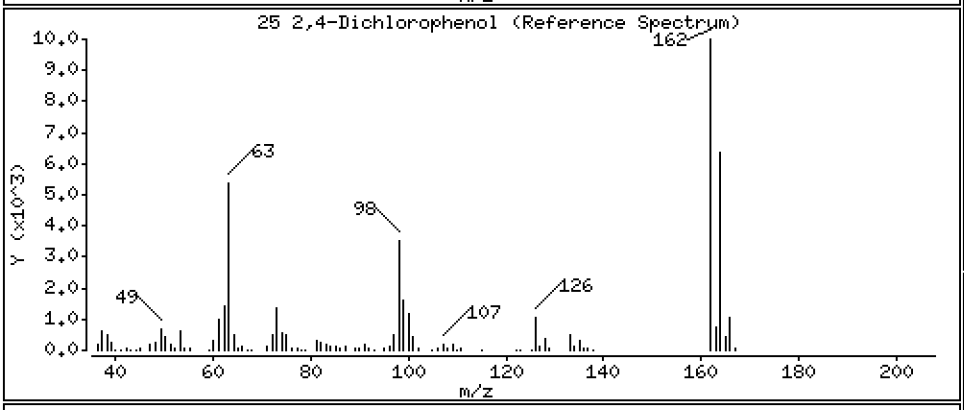
Column diameter: 0.25

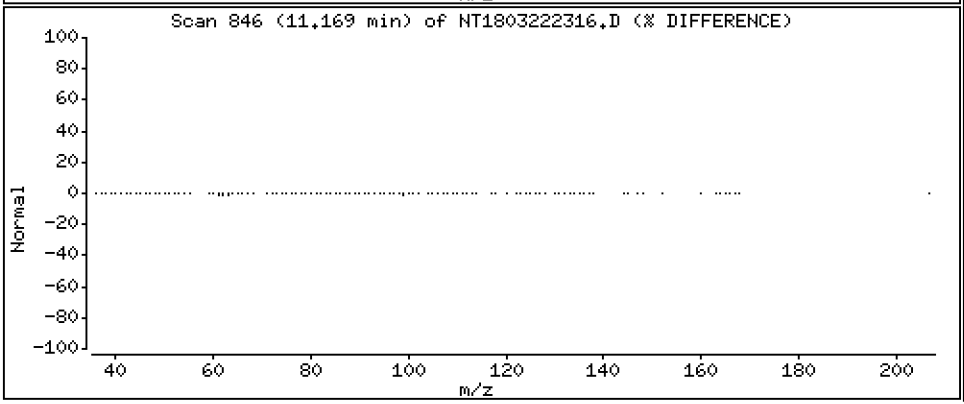
25 2,4-Dichlorophenol

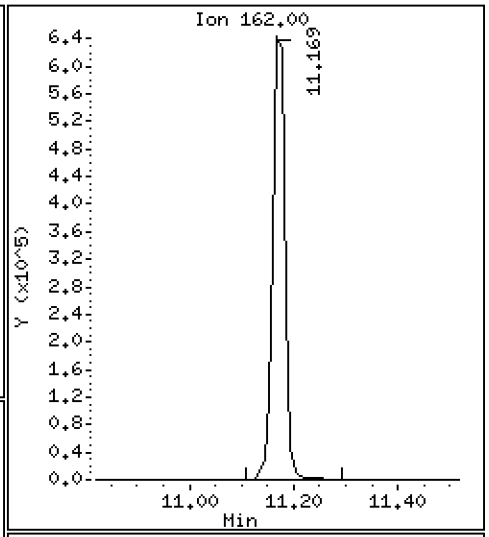
Concentration: 13.19 ug/mL

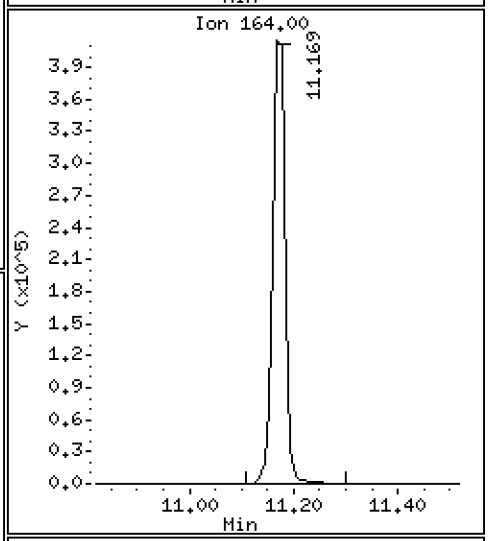


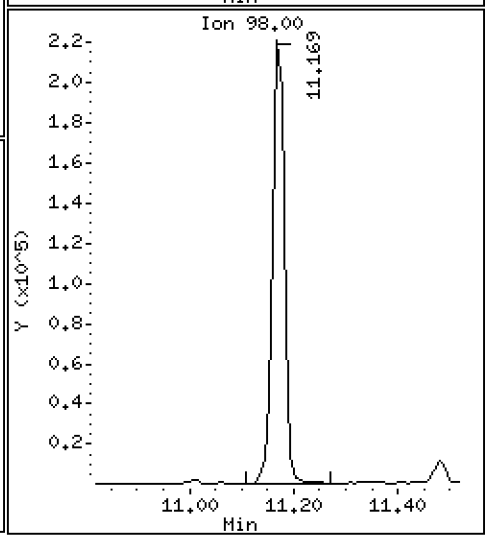












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

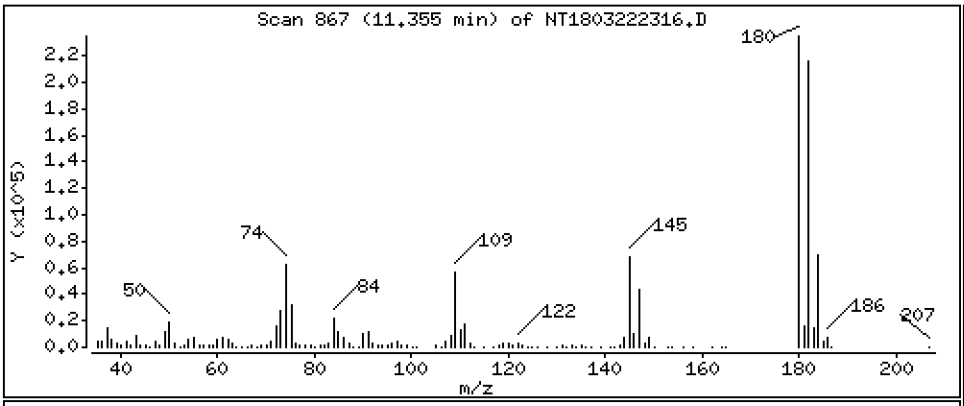
Operator: VTS

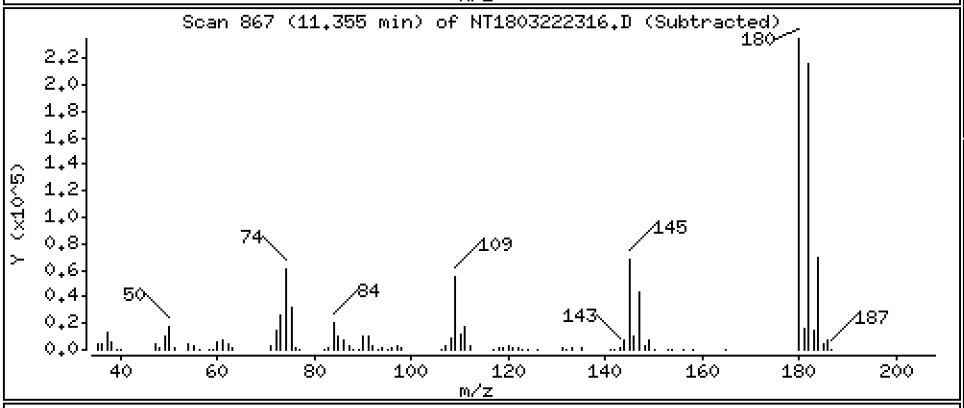
Column phase: ZB-5msi

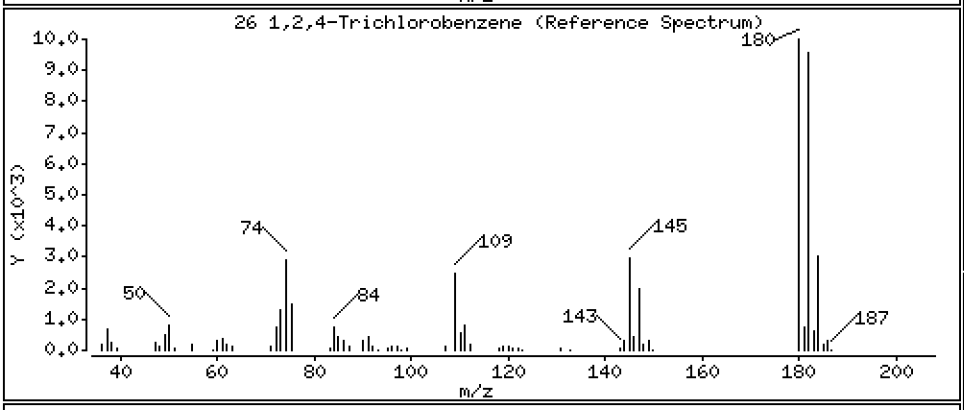
Column diameter: 0.25

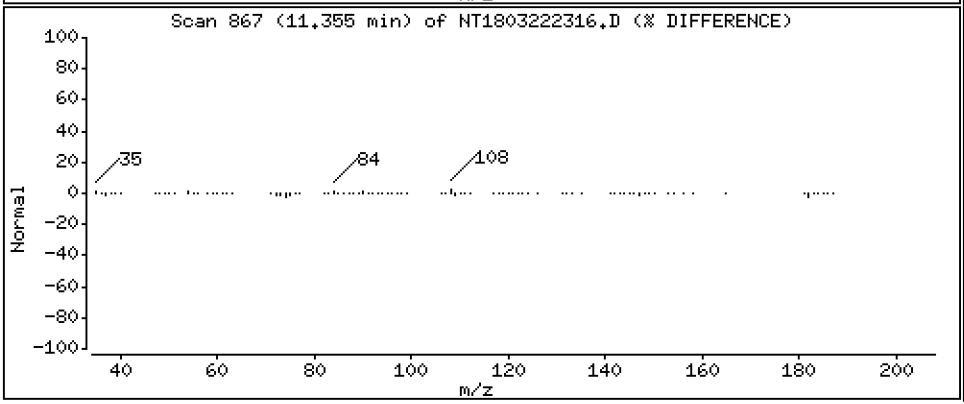
26 1,2,4-Trichlorobenzene

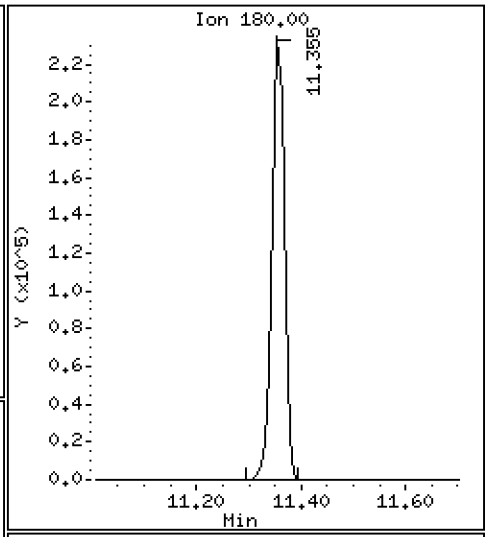
Concentration: 3.972 ug/mL

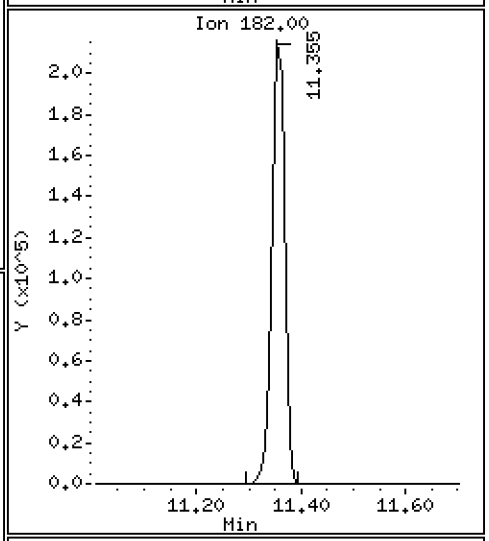


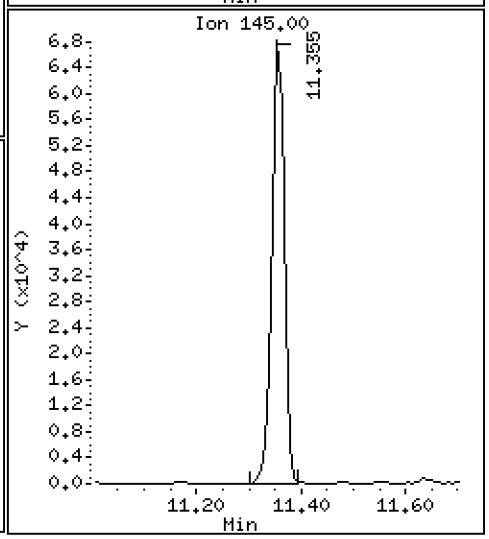












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

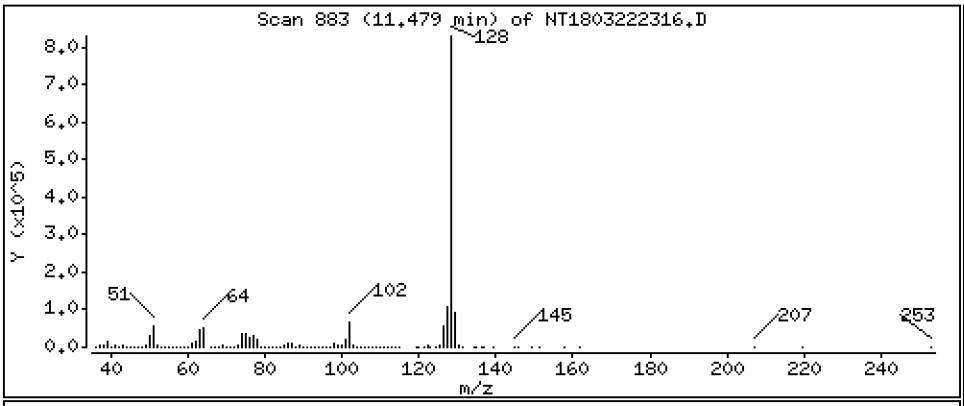
Operator: VTS

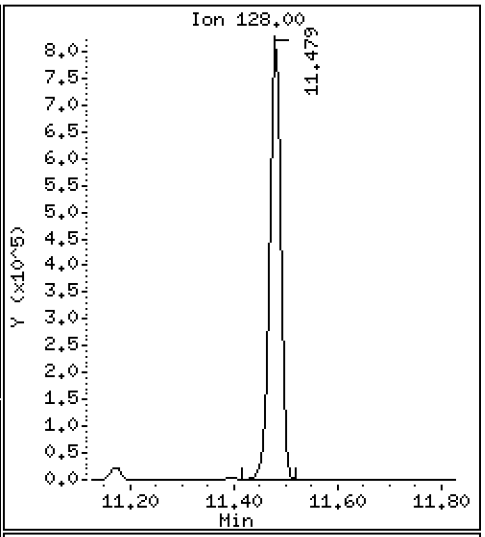
Column phase: ZB-5msi

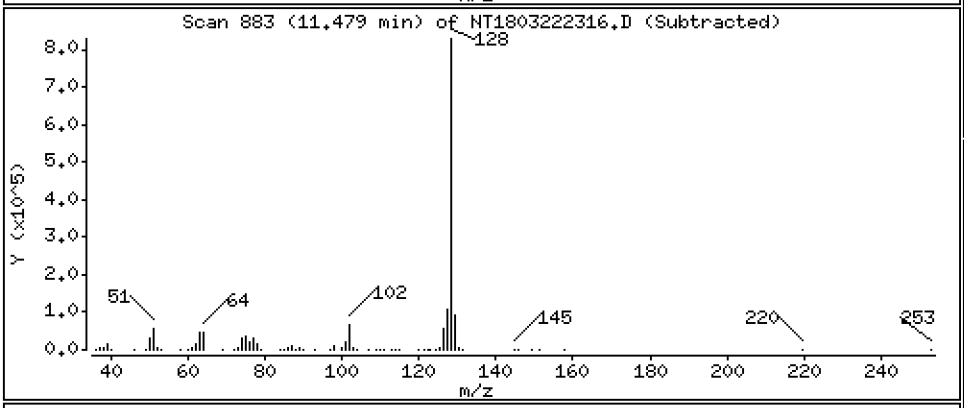
Column diameter: 0.25

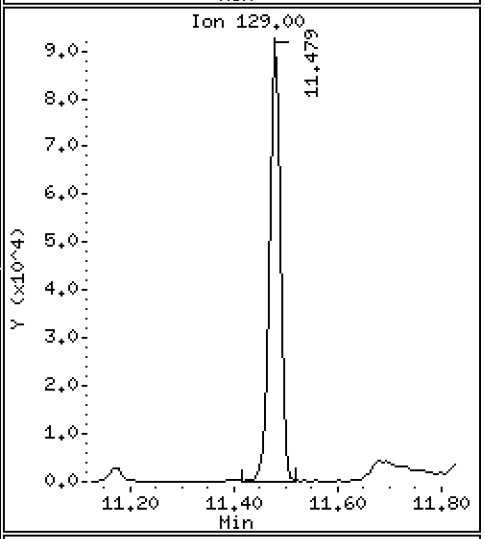
28 Naphthalene

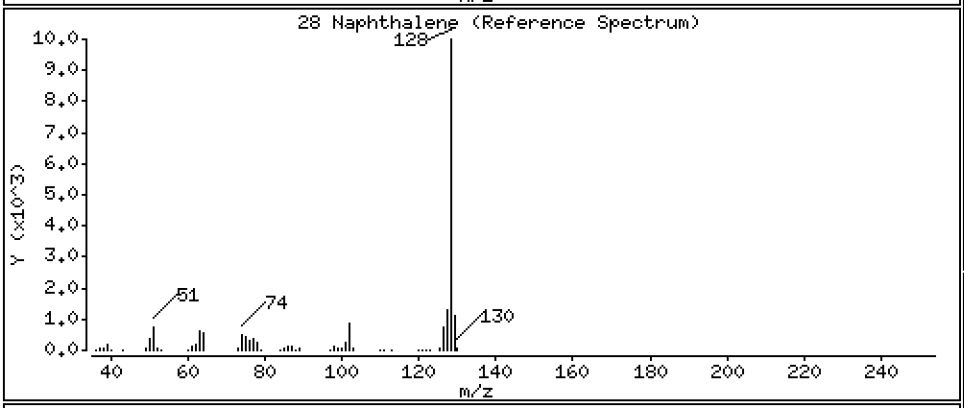
Concentration: 4.049 ug/mL

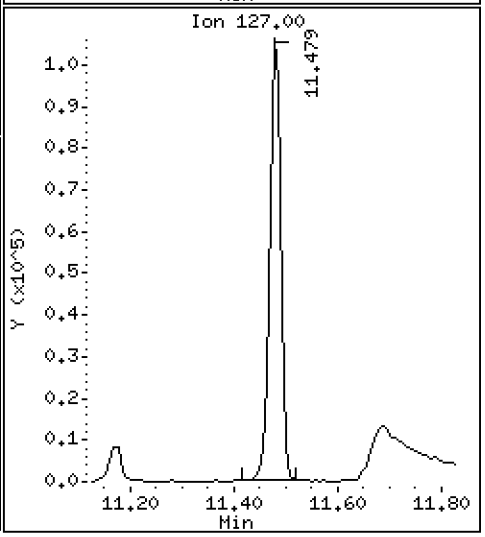


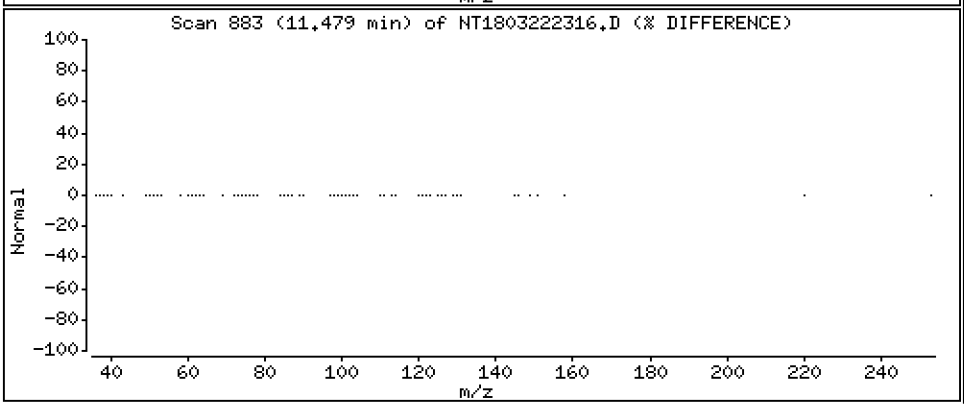












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

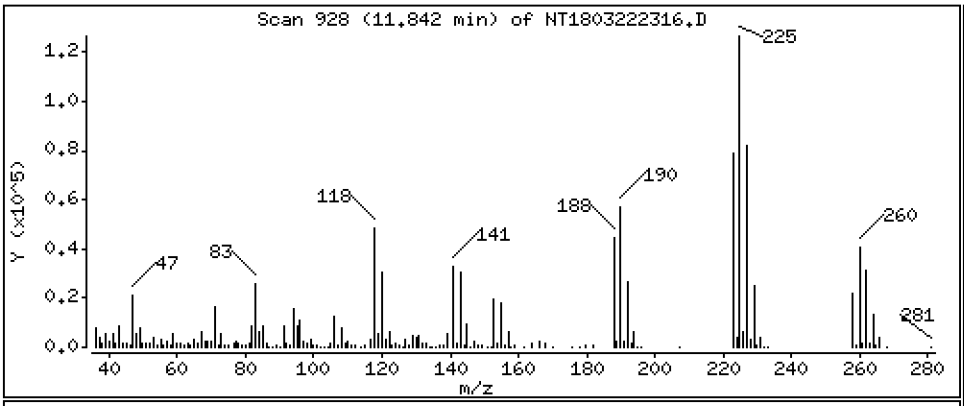
Operator: VTS

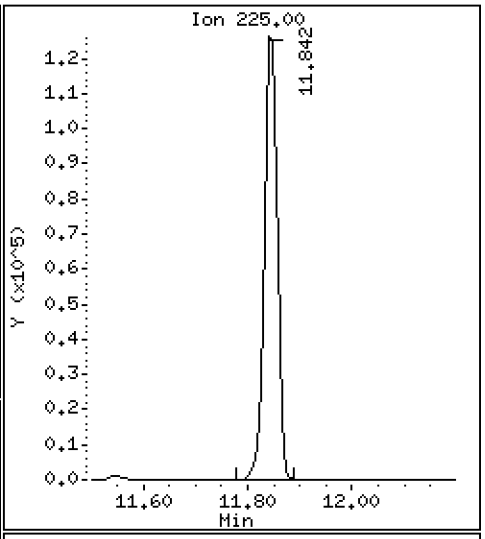
Column phase: ZB-5msi

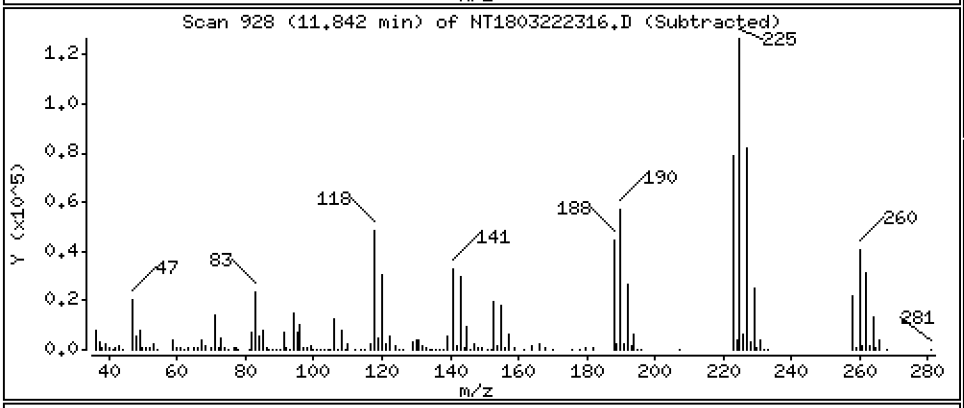
Column diameter: 0.25

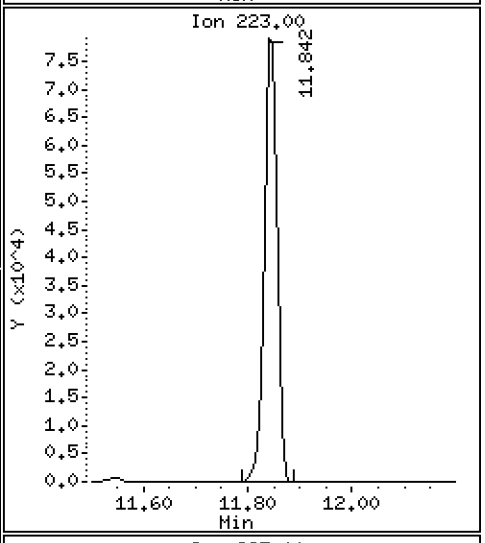
30 Hexachlorobutadiene

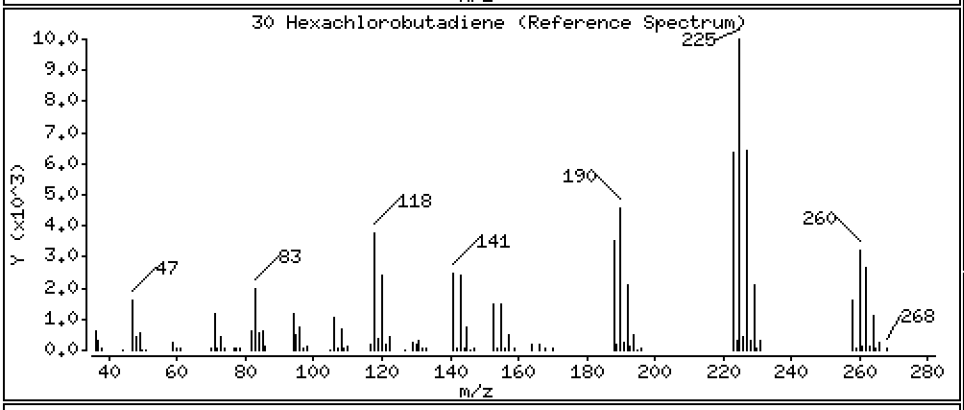
Concentration: 3.981 ug/mL

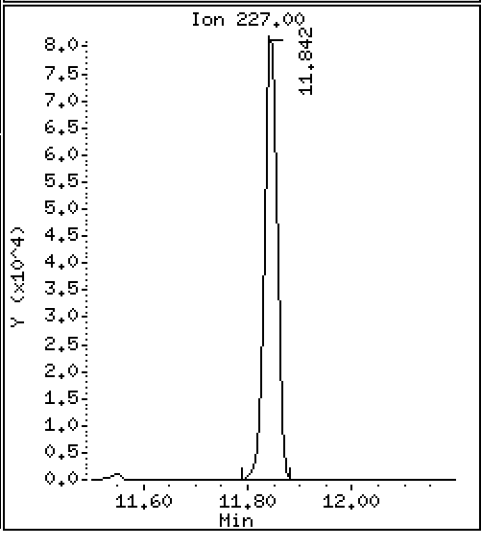


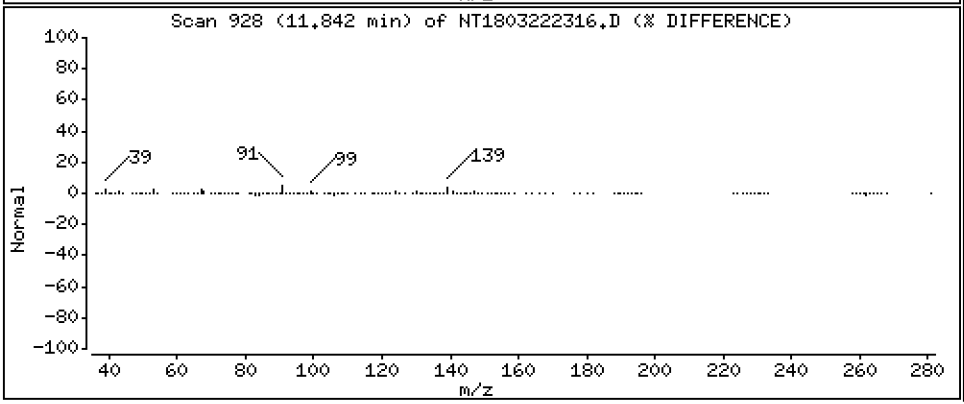












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

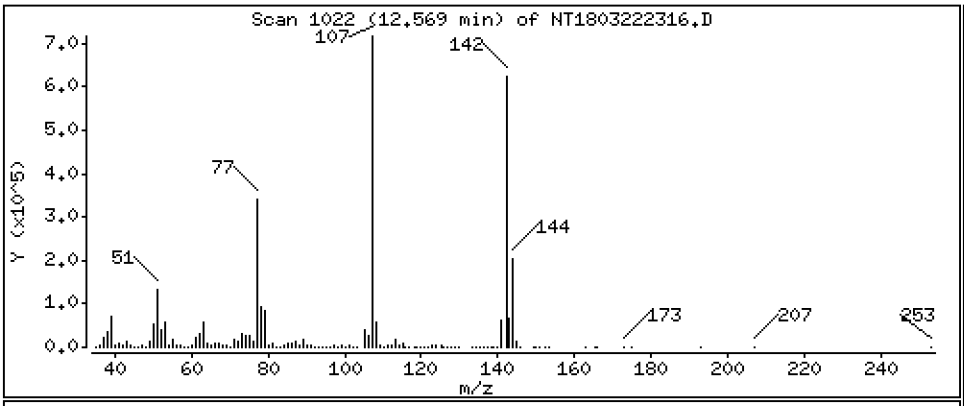
Operator: VTS

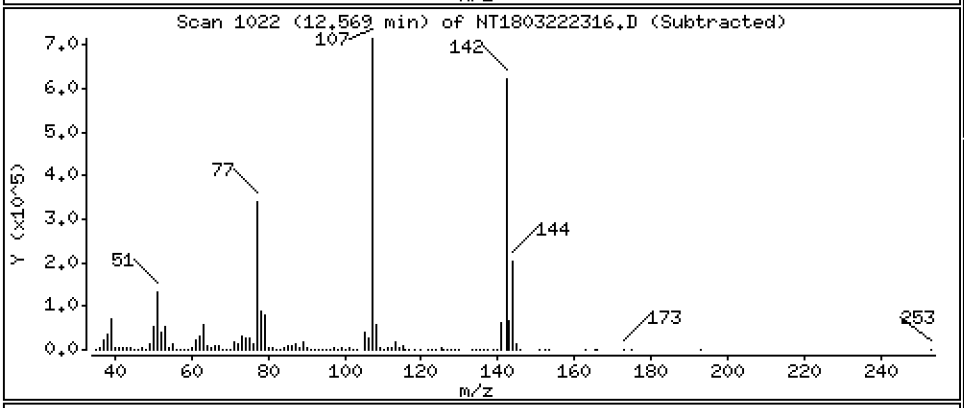
Column phase: ZB-5msi

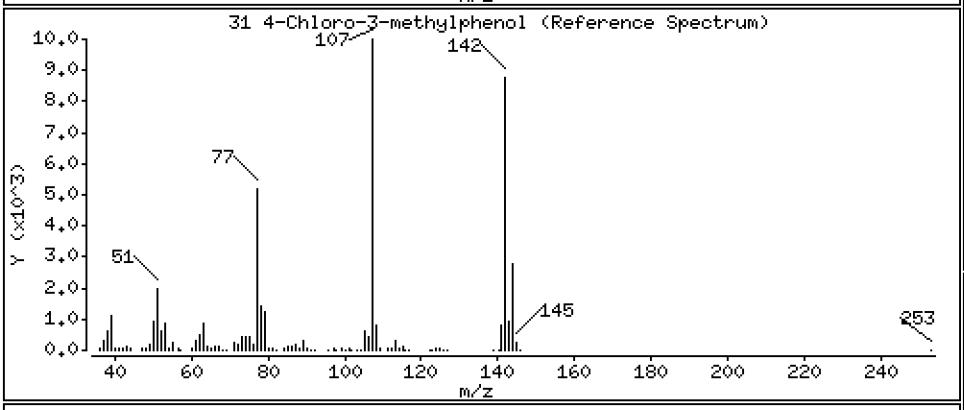
Column diameter: 0.25

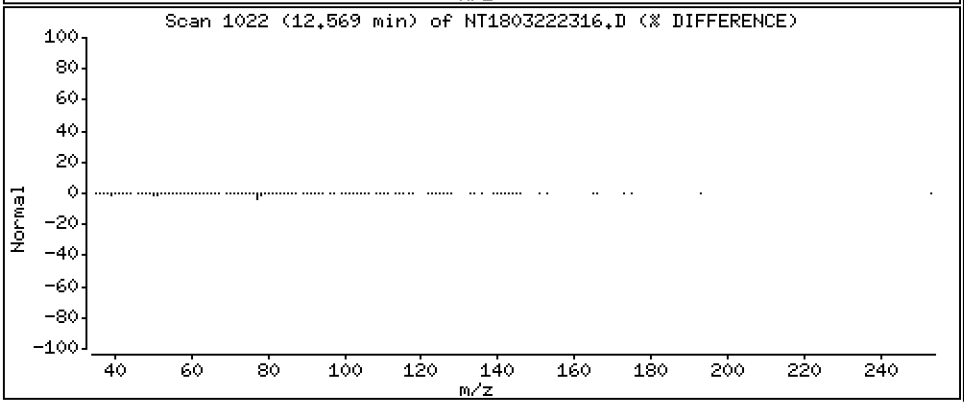
31 4-Chloro-3-methylphenol

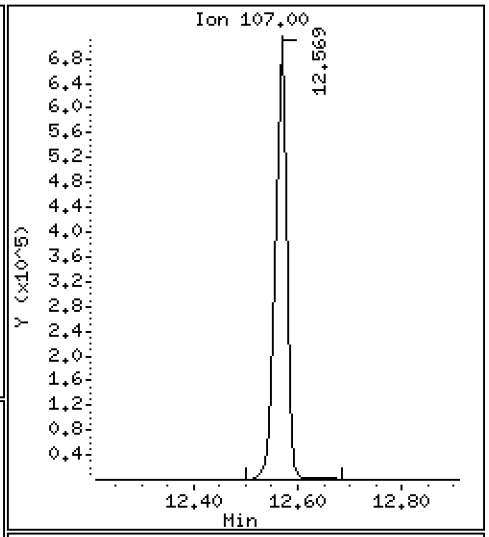
Concentration: 13.04 ug/mL

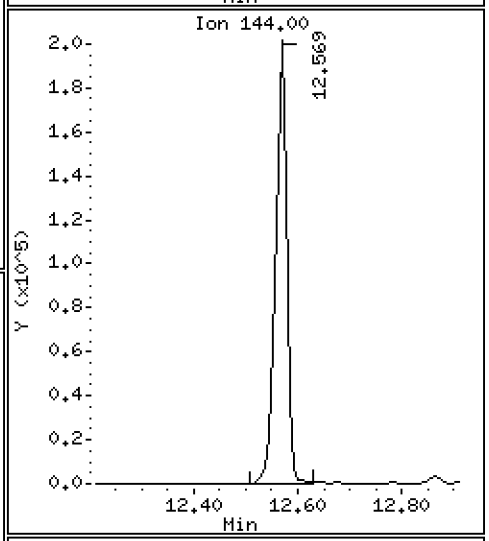


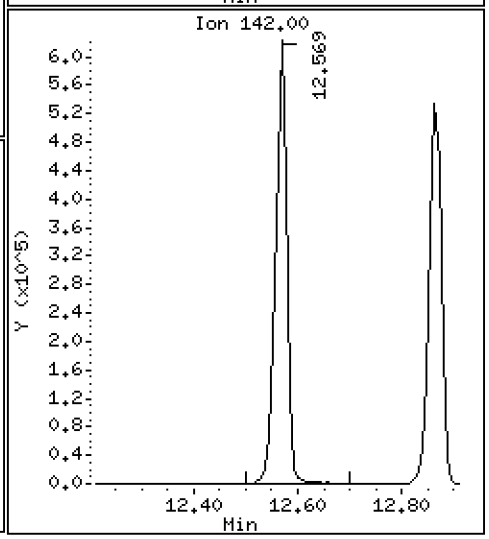












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222316.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

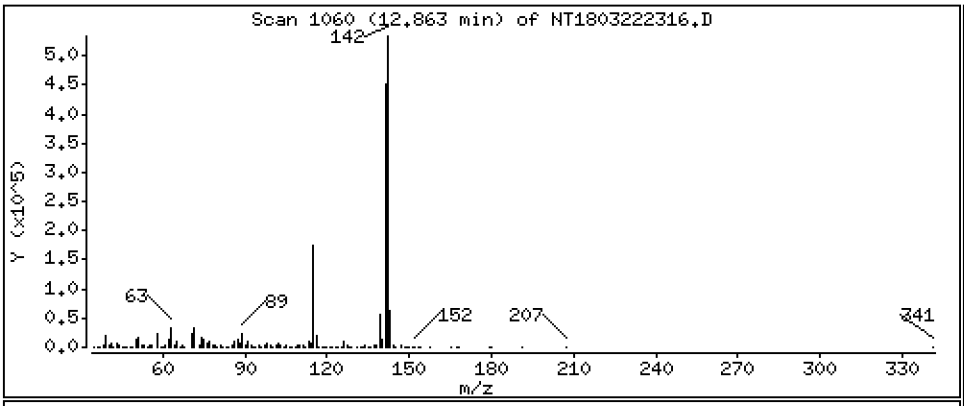
Operator: VTS

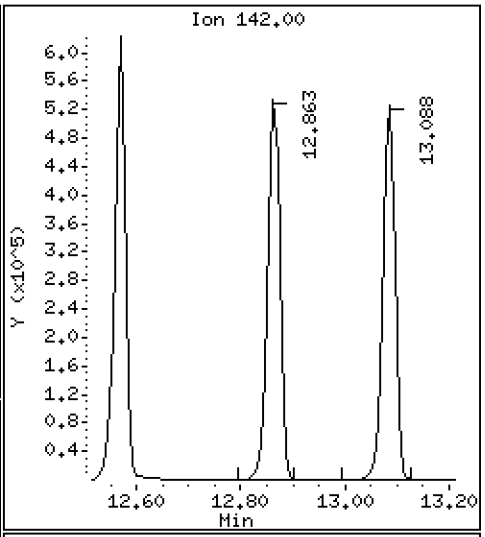
Column phase: ZB-5msi

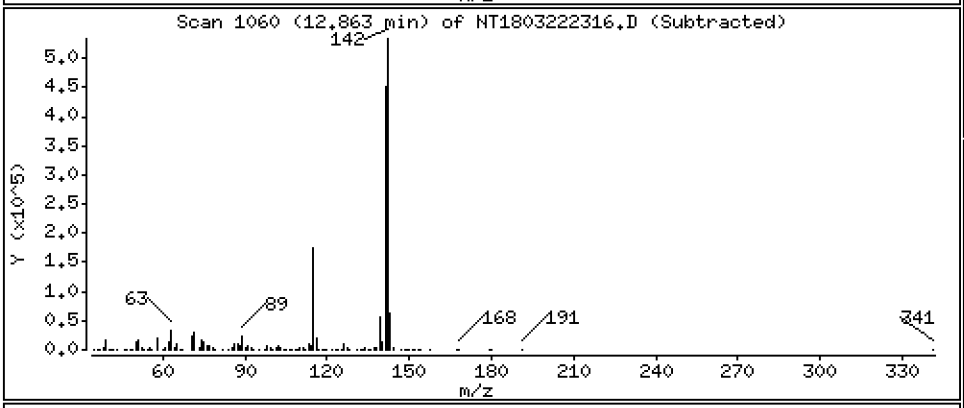
Column diameter: 0.25

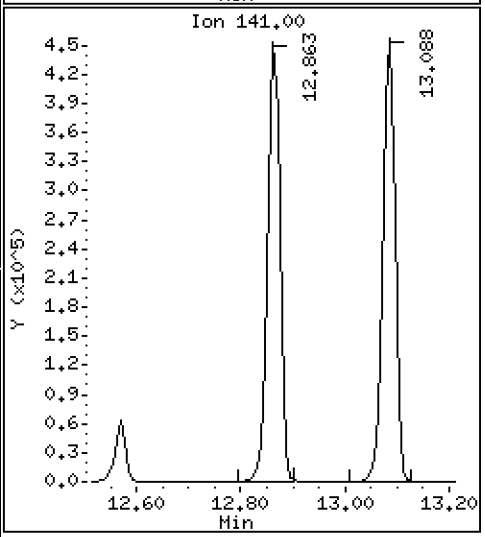
32 2-Methylnaphthalene

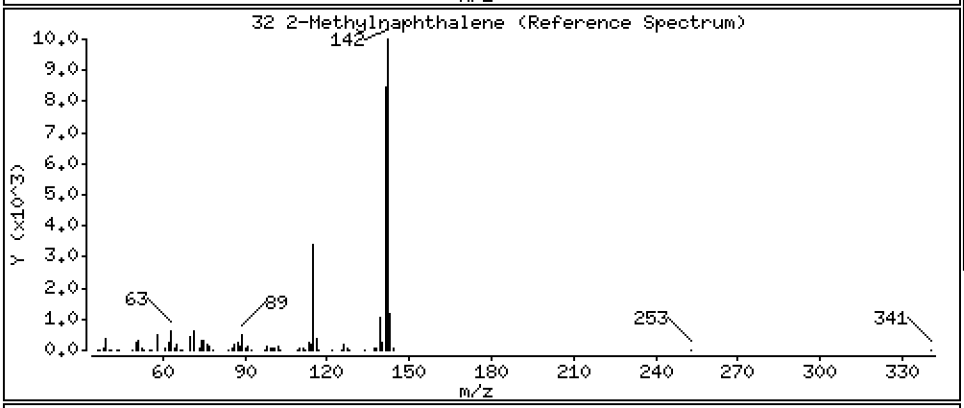
Concentration: 4.012 ug/mL

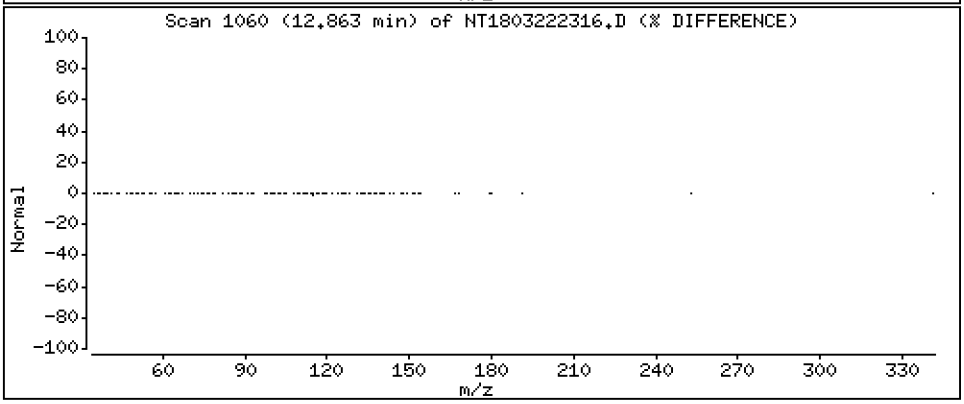












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222316.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

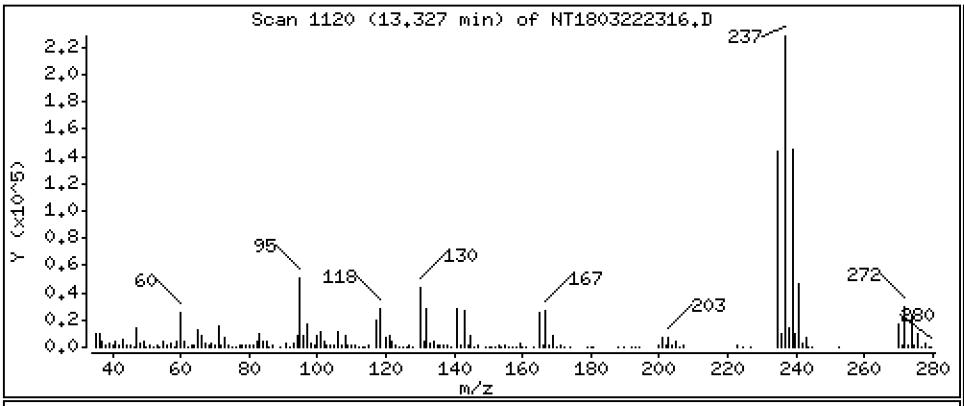
Operator: VTS

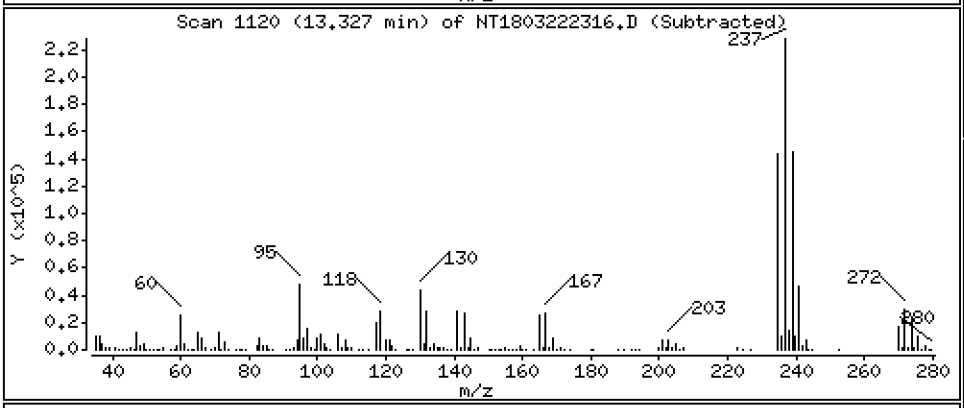
Column phase: ZB-5msi

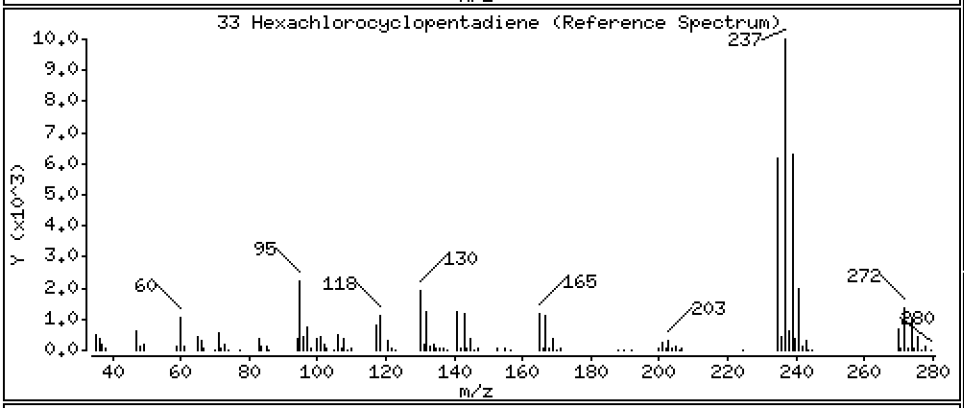
Column diameter: 0.25

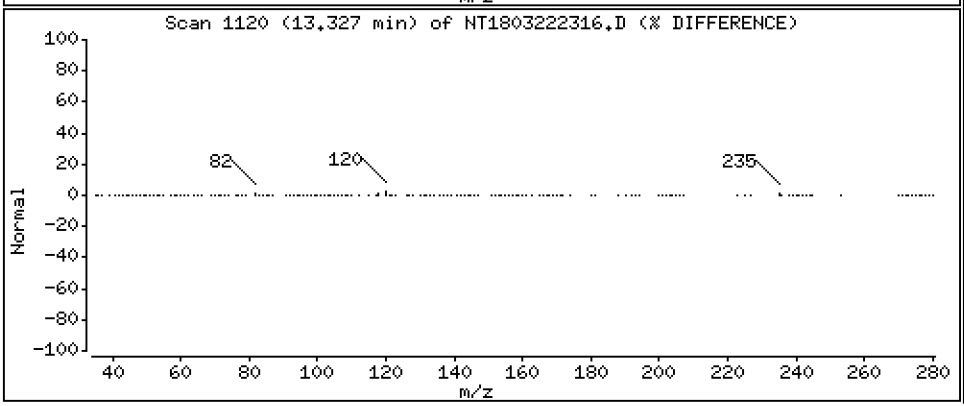
33 Hexachlorocyclopentadiene

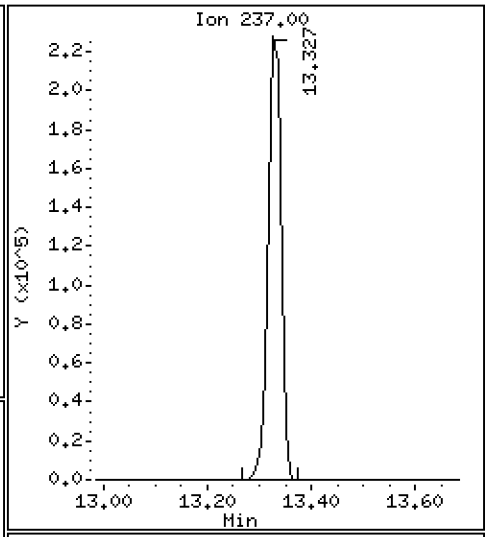
Concentration: 7.157 ug/mL

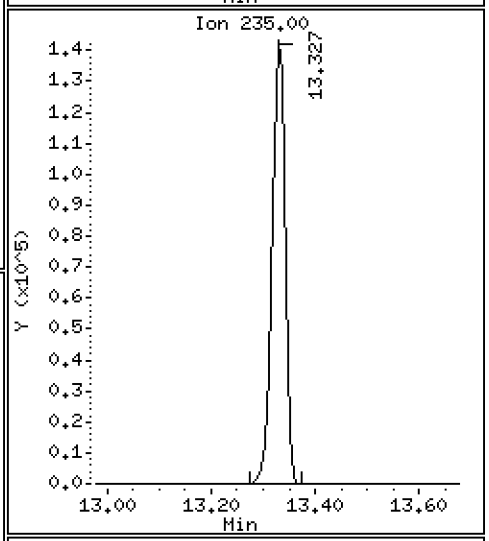


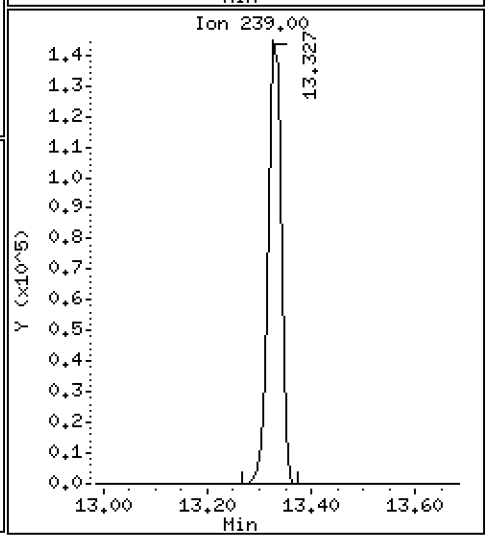












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222316.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

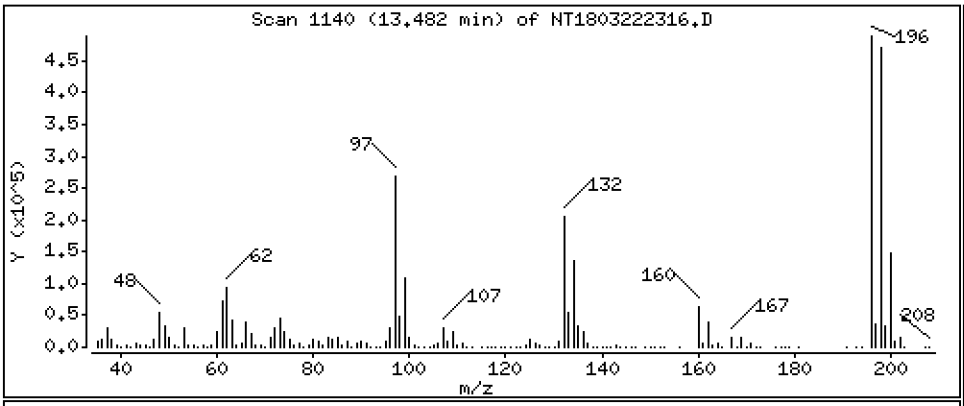
Operator: VTS

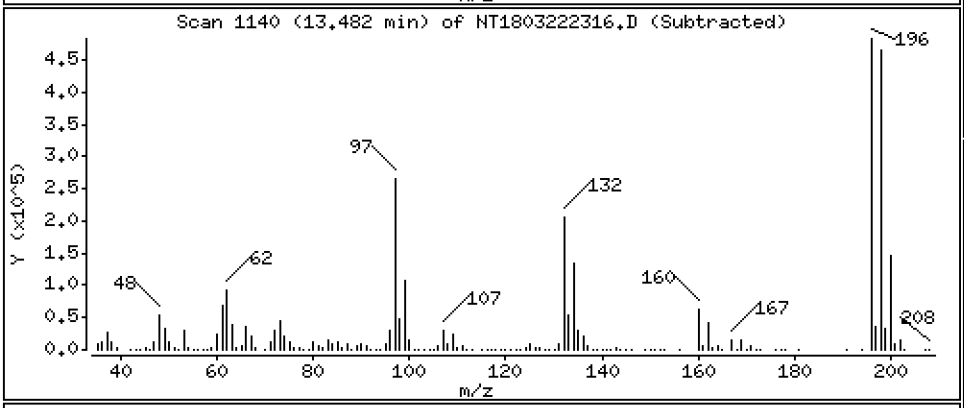
Column phase: ZB-5msi

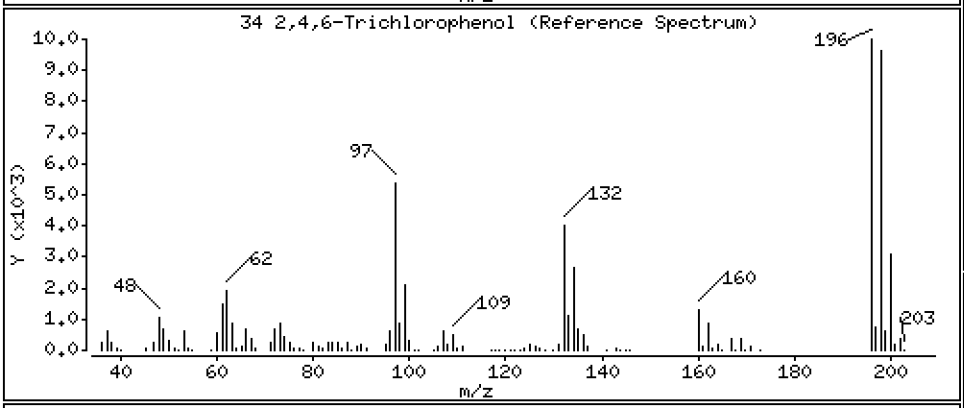
Column diameter: 0.25

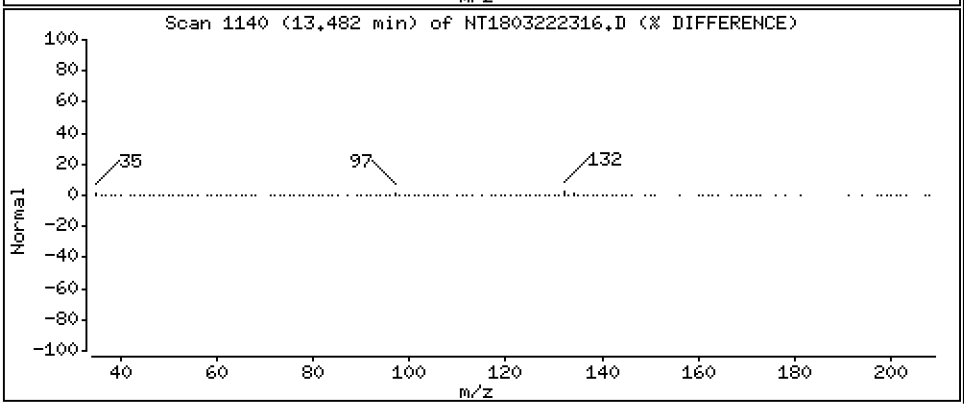
34 2,4,6-Trichlorophenol

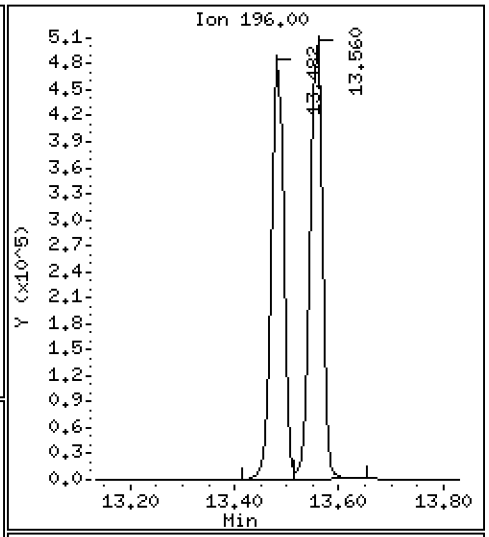
Concentration: 14.00 ug/mL

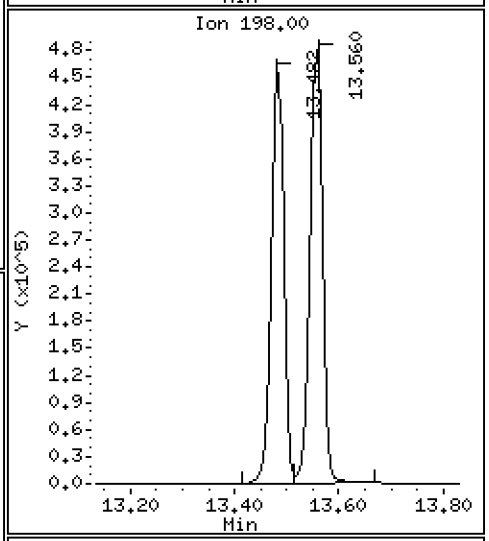


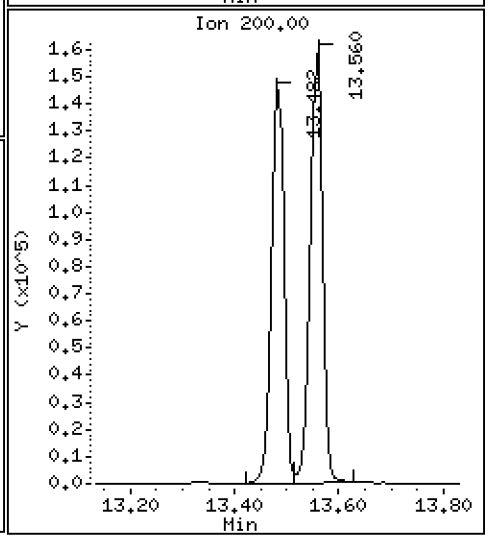












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222316.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

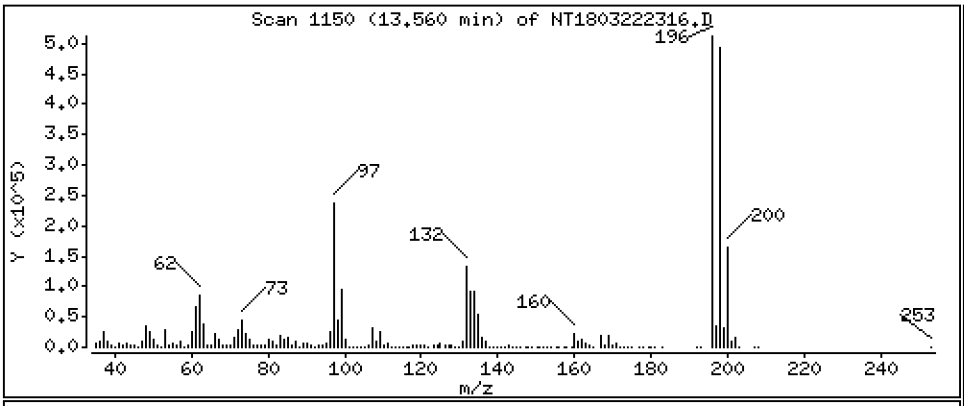
Operator: VTS

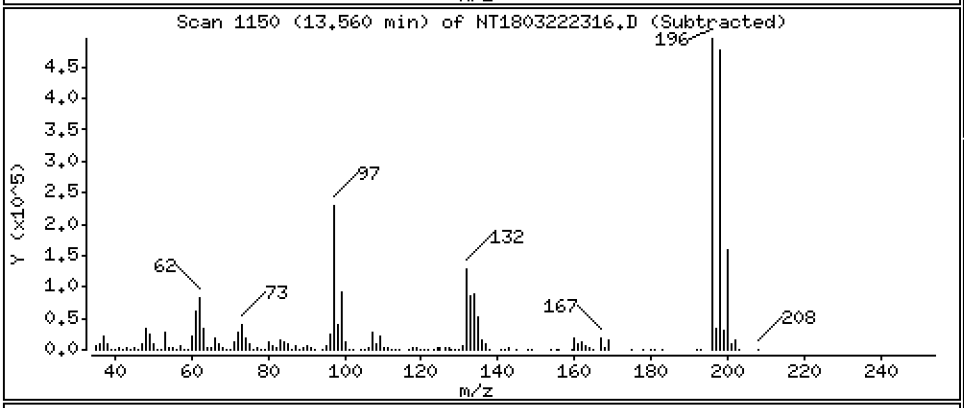
Column phase: ZB-5msi

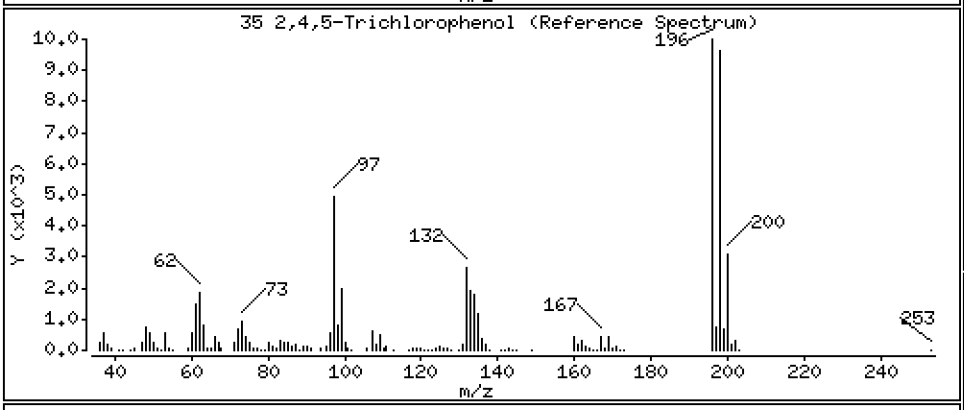
Column diameter: 0.25

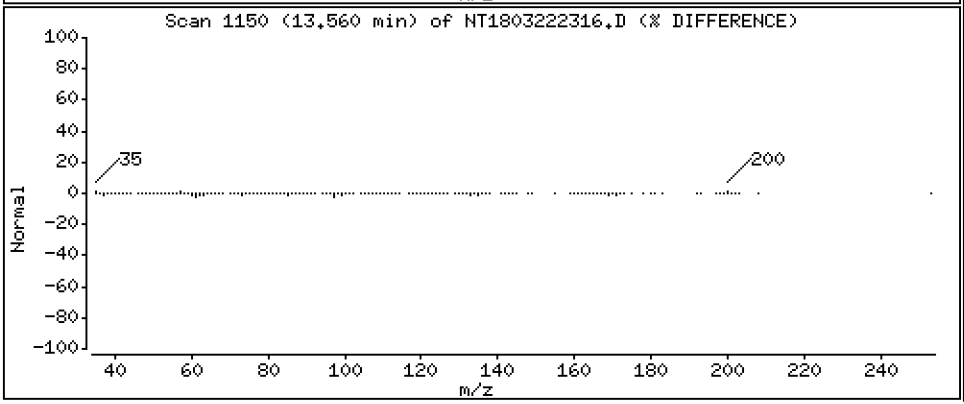
35 2,4,5-Trichlorophenol

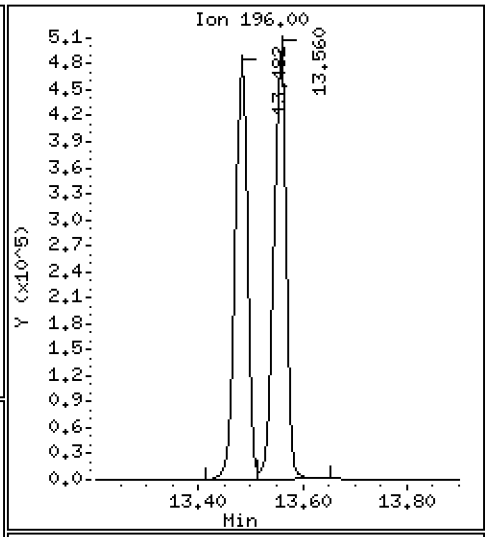
Concentration: 13.48 ug/mL

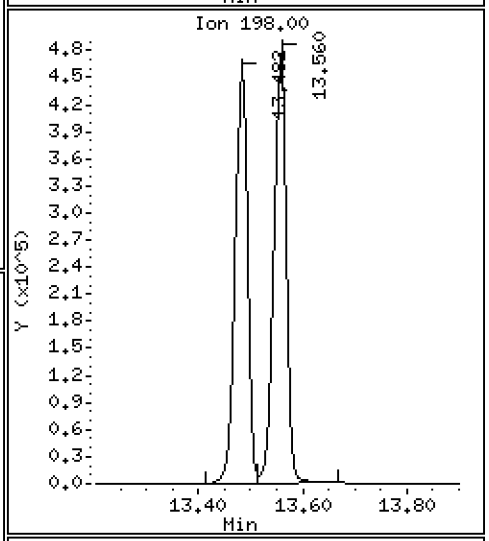


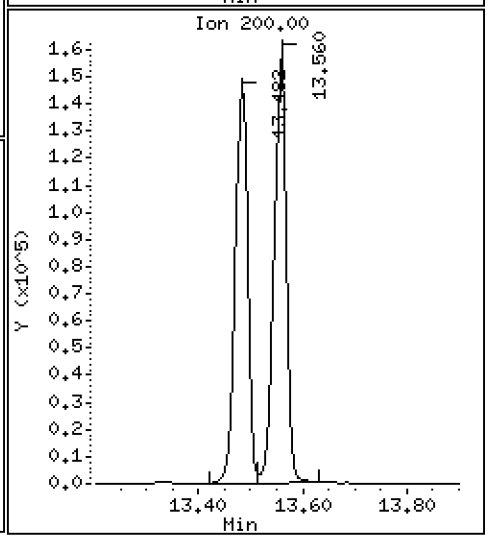












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

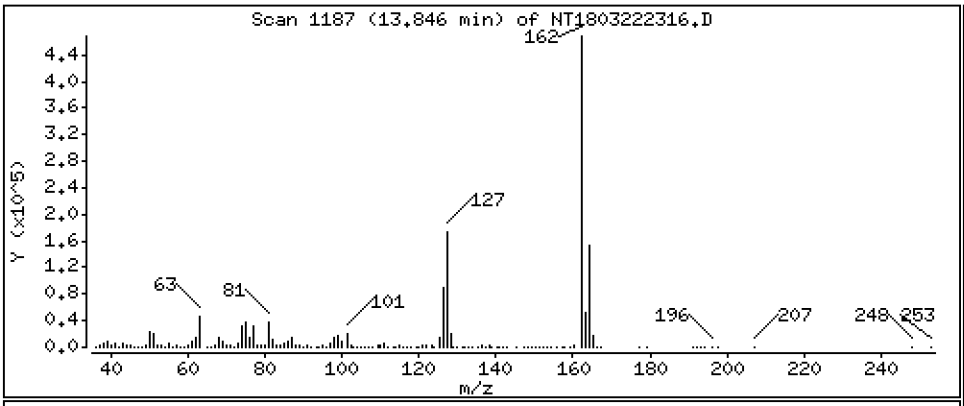
Operator: VTS

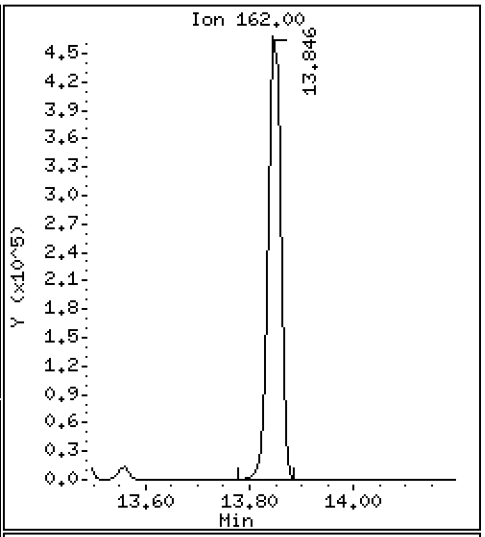
Column phase: ZB-5msi

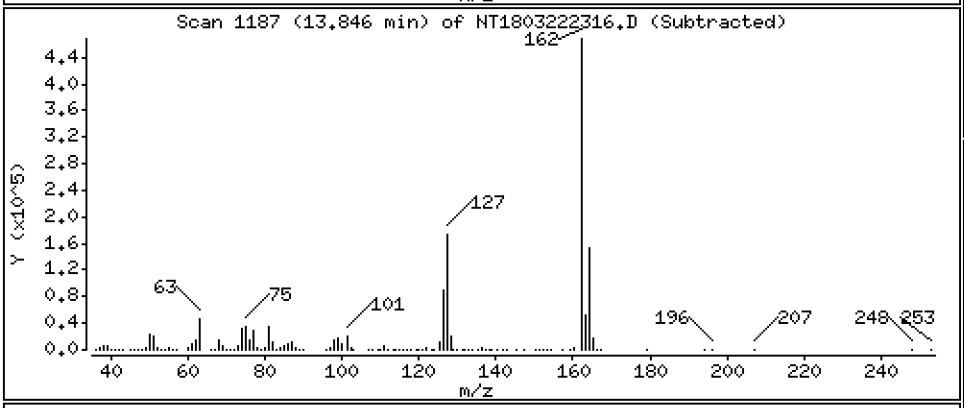
Column diameter: 0.25

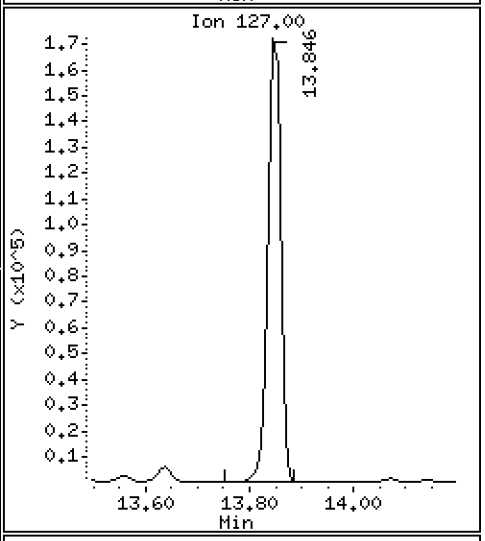
37 2-Chloronaphthalene

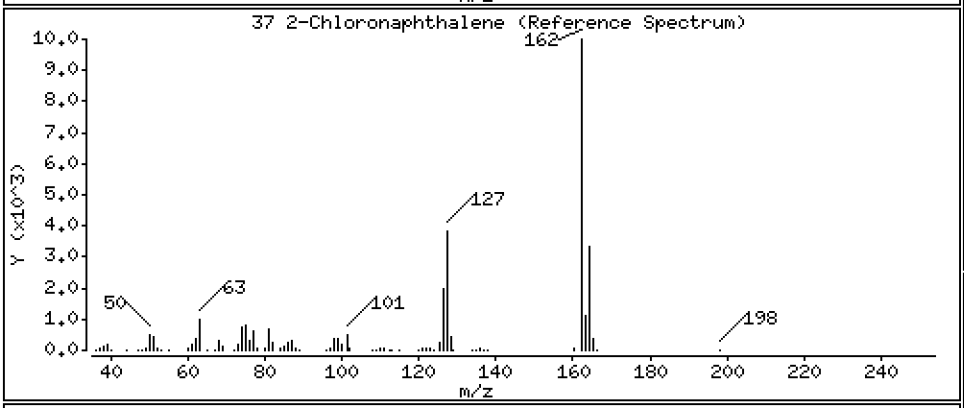
Concentration: 4.323 ug/mL

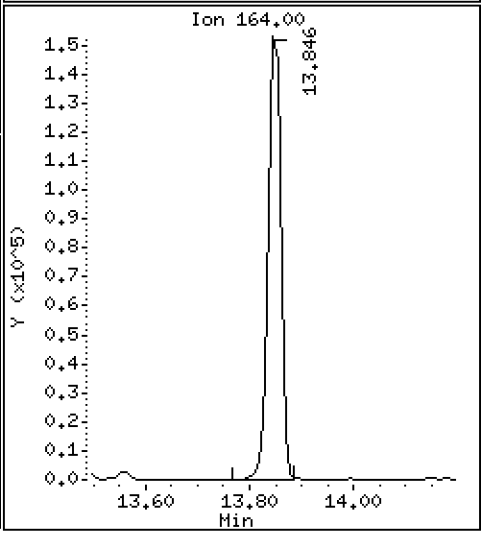


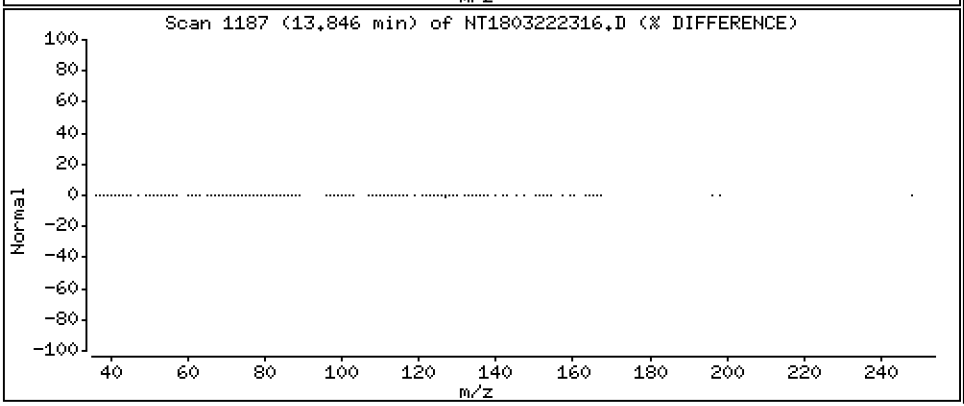












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

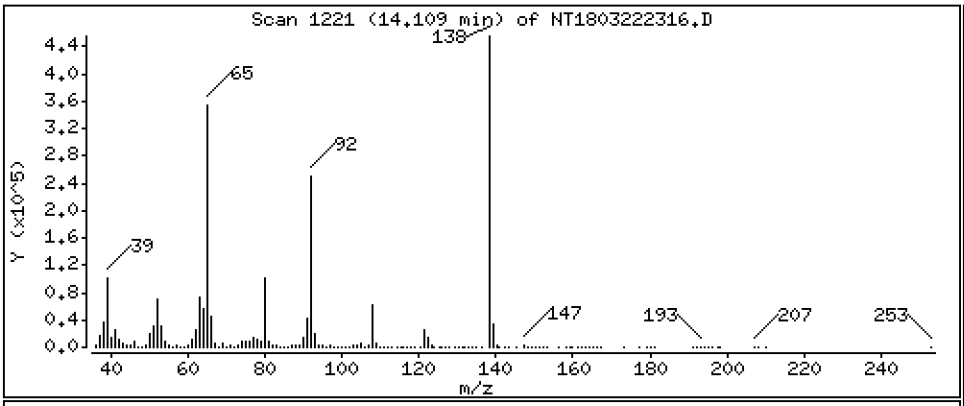
Operator: VTS

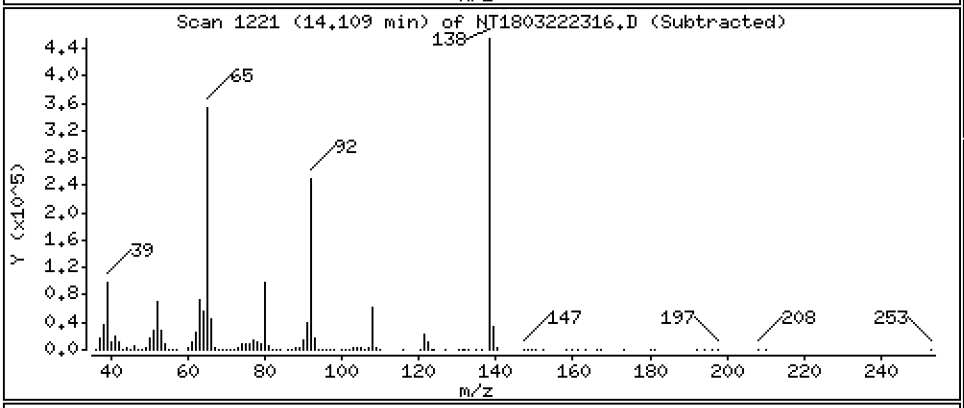
Column phase: ZB-5msi

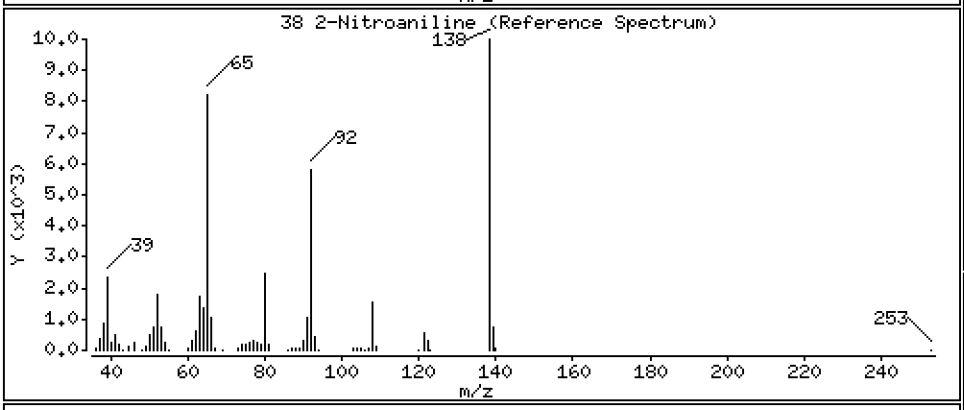
Column diameter: 0.25

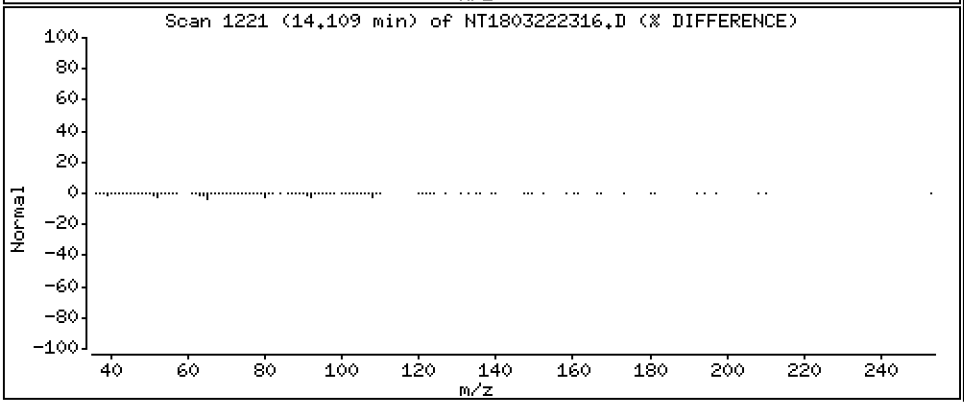
38 2-Nitroaniline

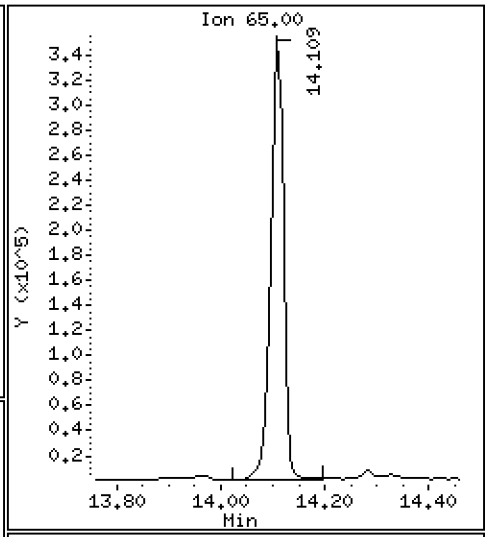
Concentration: 12.55 ug/mL

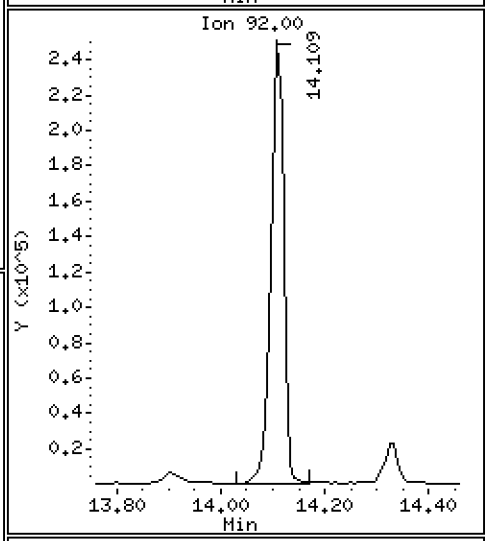


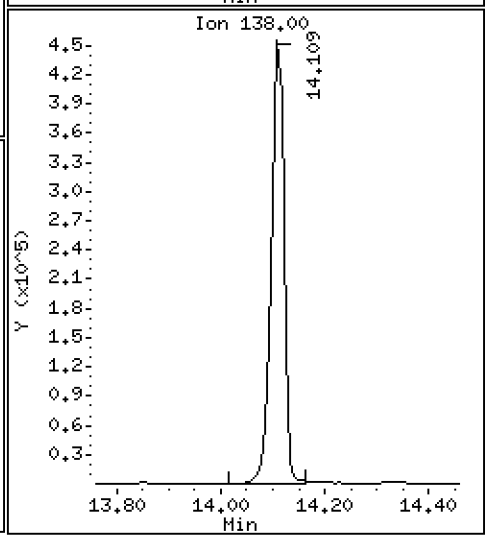












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222316.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

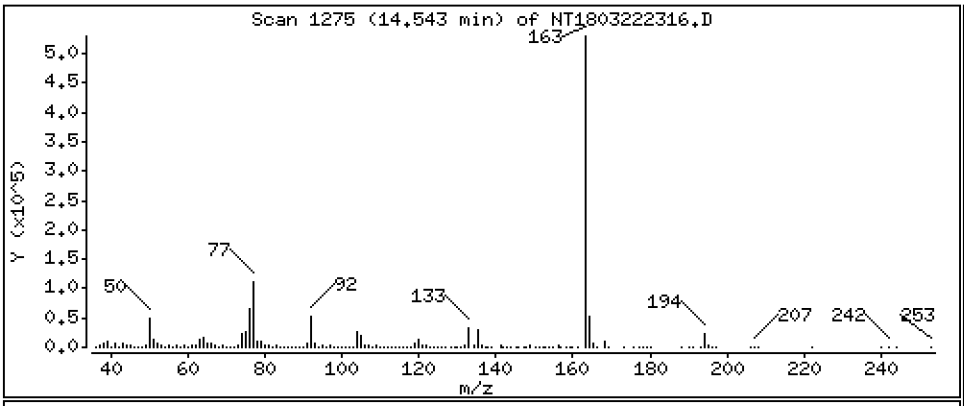
Operator: VTS

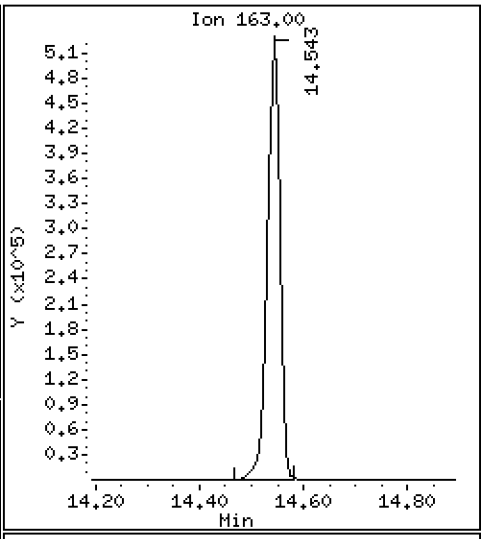
Column phase: ZB-5msi

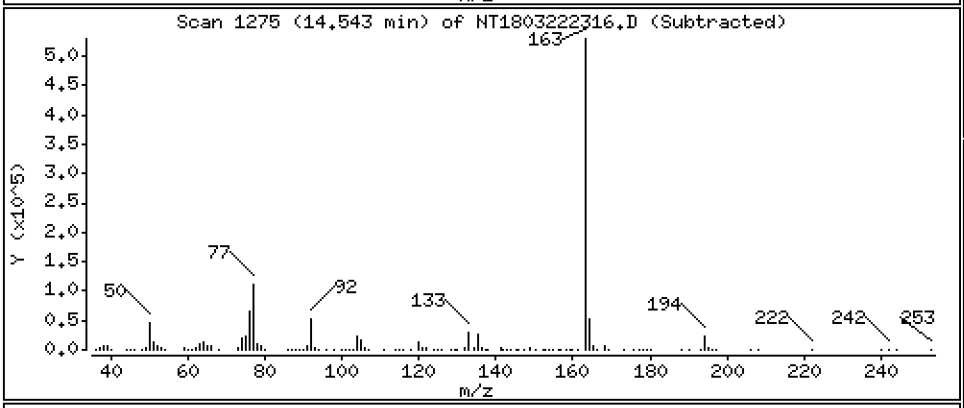
Column diameter: 0.25

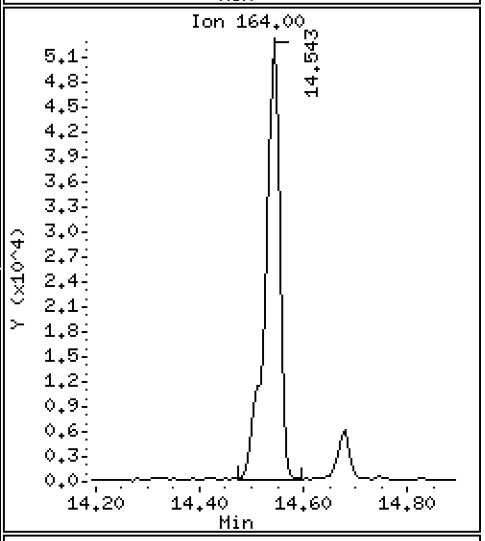
39 Dimethylphthalate

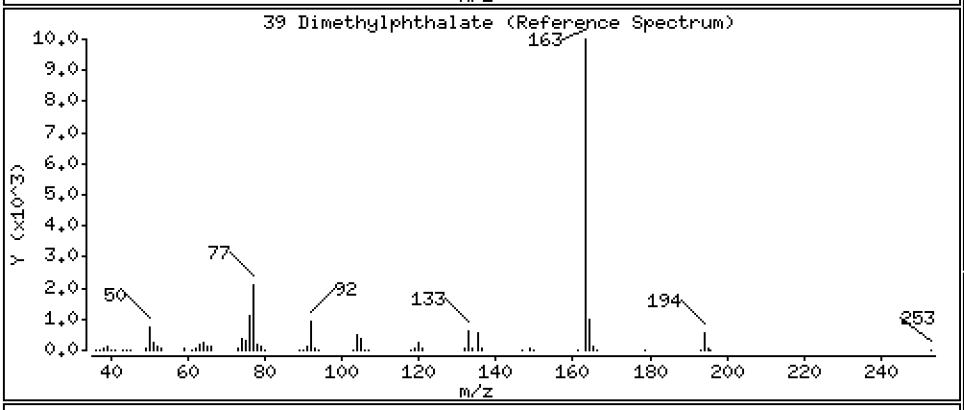
Concentration: 4.628 ug/mL

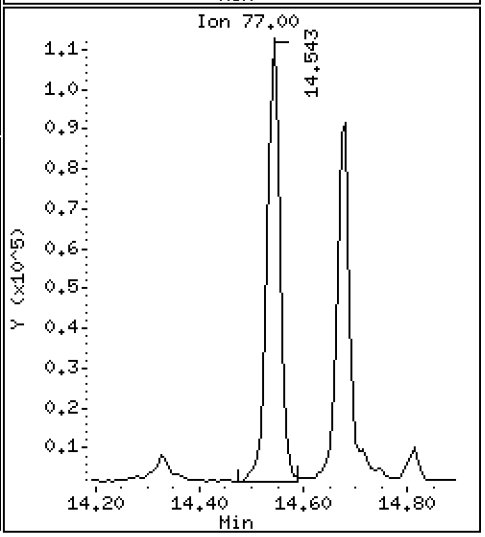


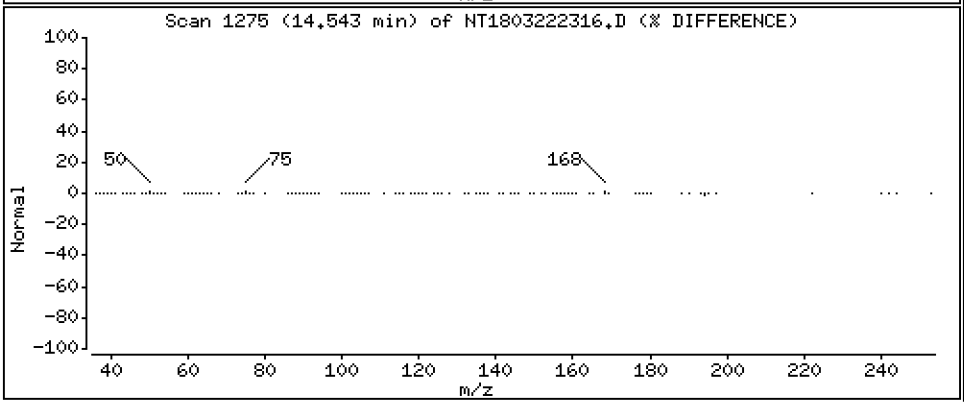












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222316.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

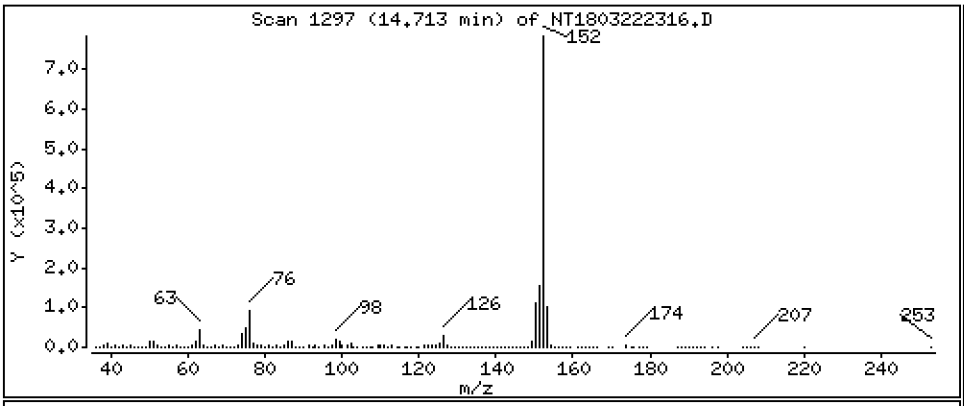
Operator: VTS

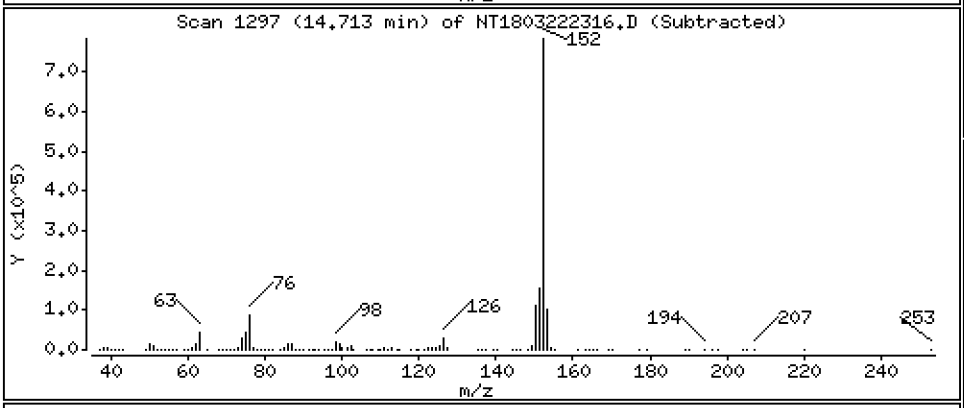
Column phase: ZB-5msi

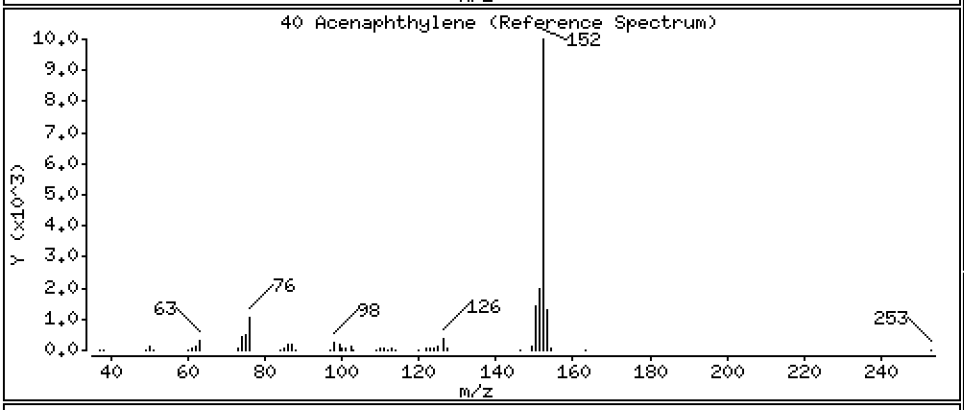
Column diameter: 0.25

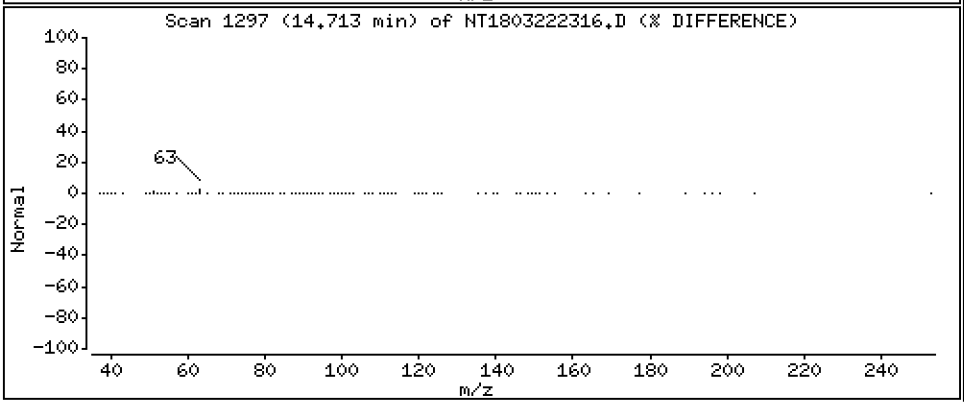
40 Acenaphthylene

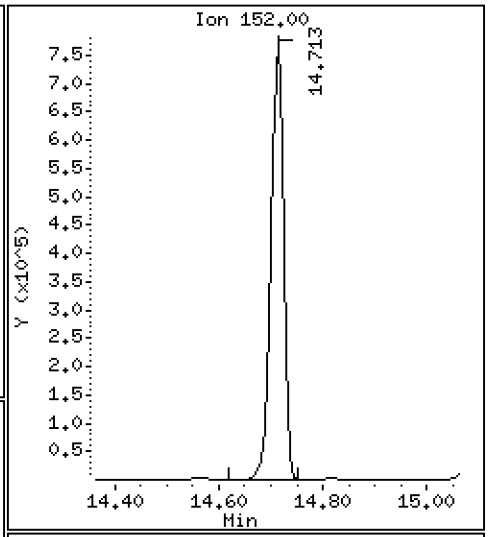
Concentration: 4.187 ug/mL

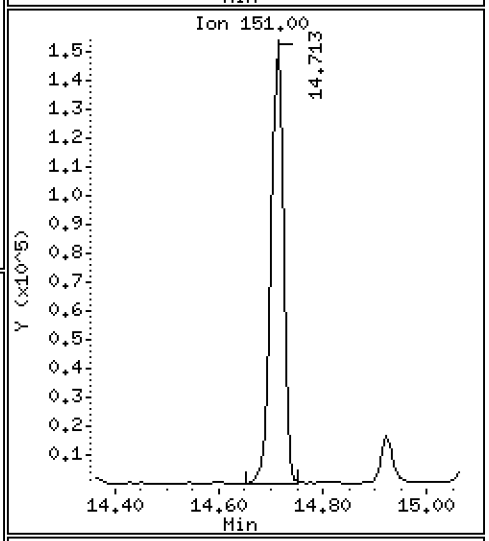


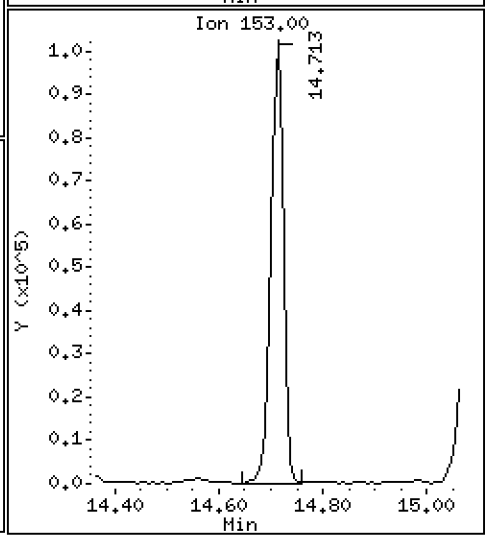












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

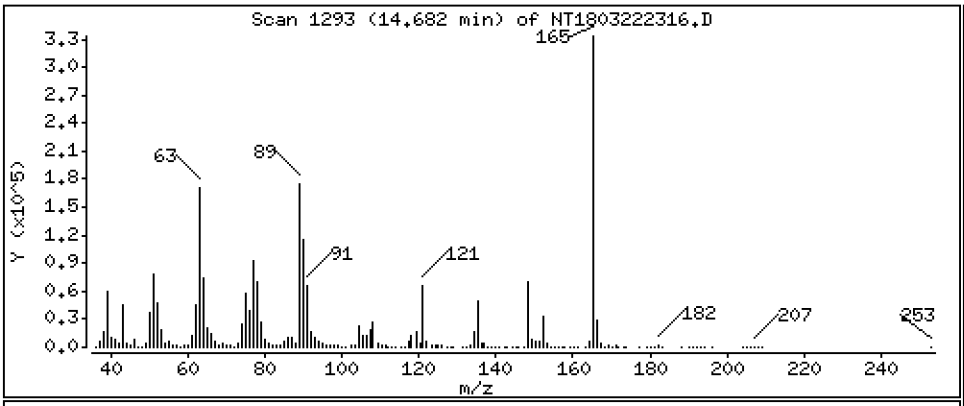
Operator: VTS

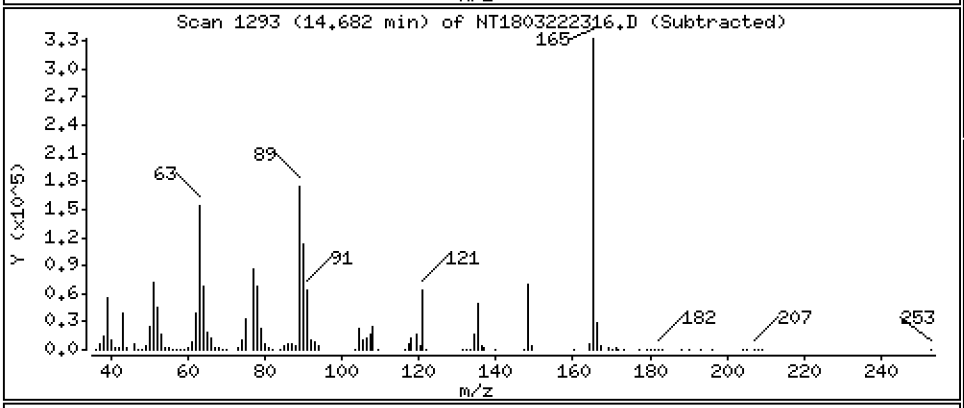
Column phase: ZB-5msi

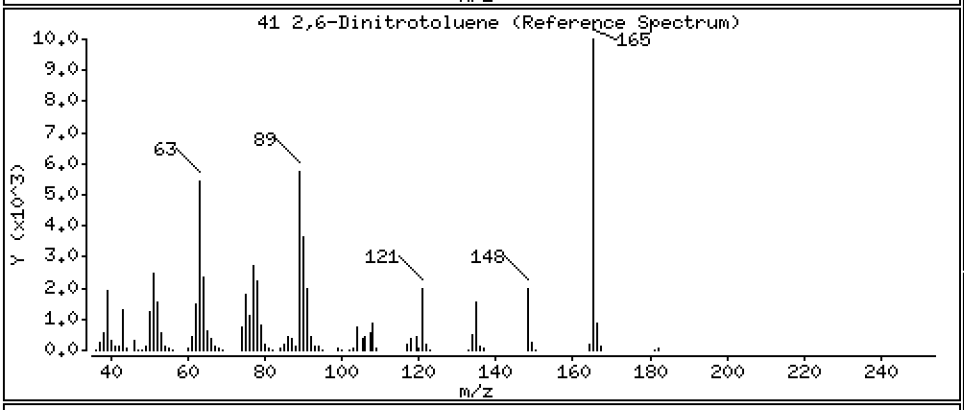
Column diameter: 0.25

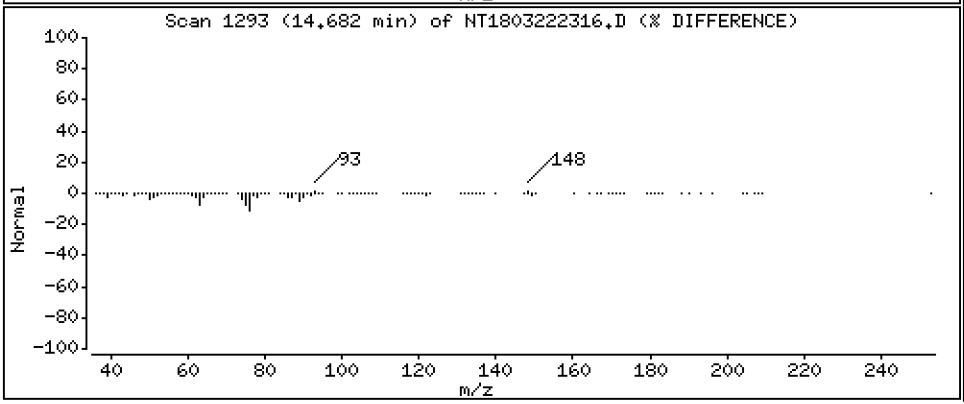
41 2,6-Dinitrotoluene

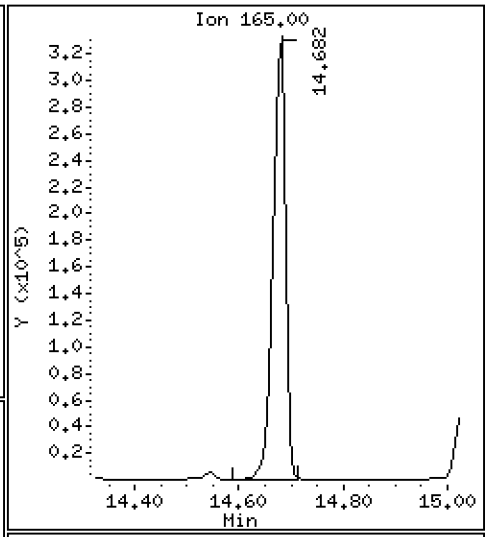
Concentration: 12.89 ug/mL

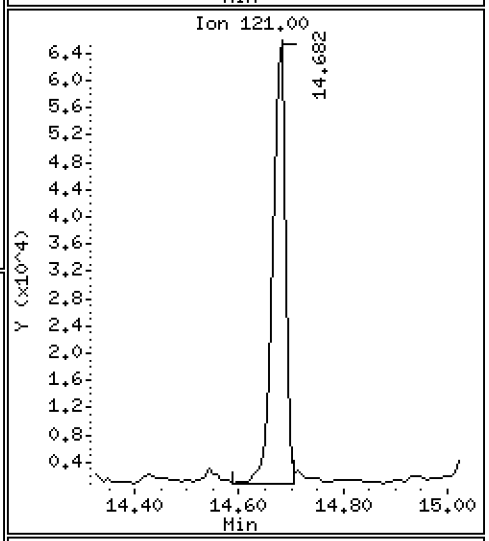


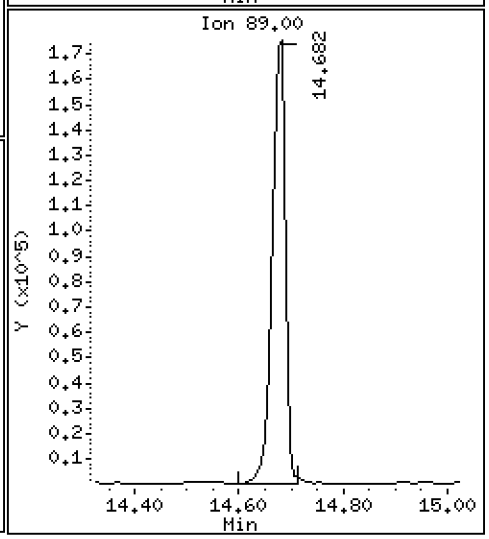












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

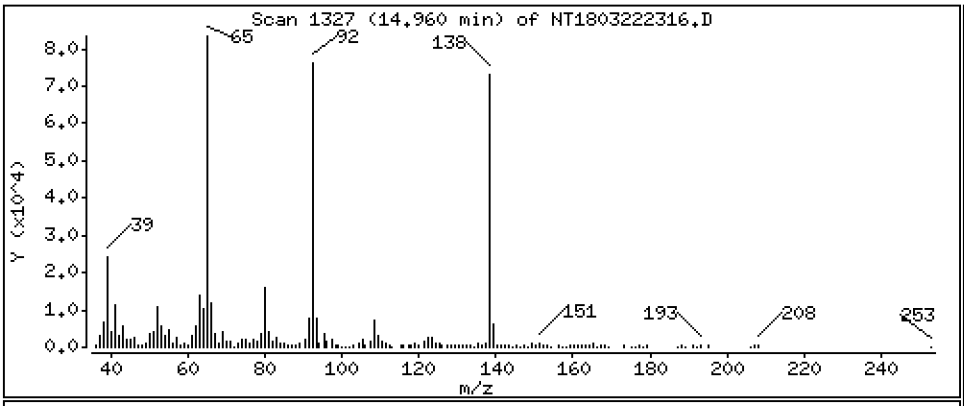
Operator: VTS

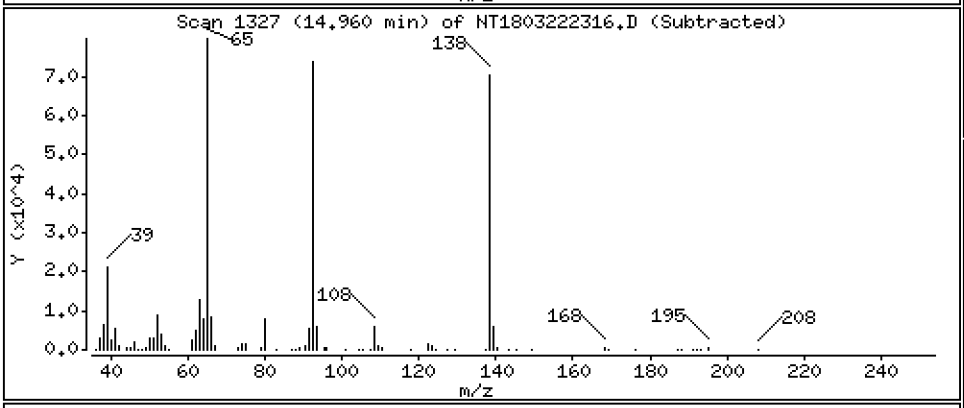
Column phase: ZB-5msi

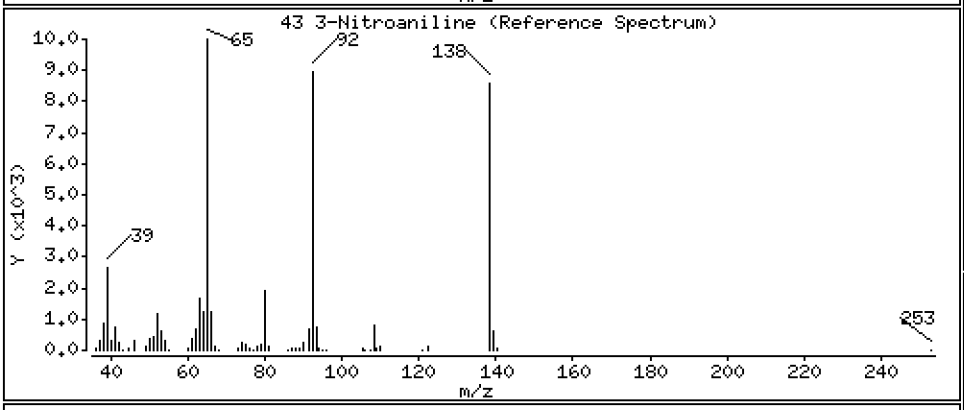
Column diameter: 0.25

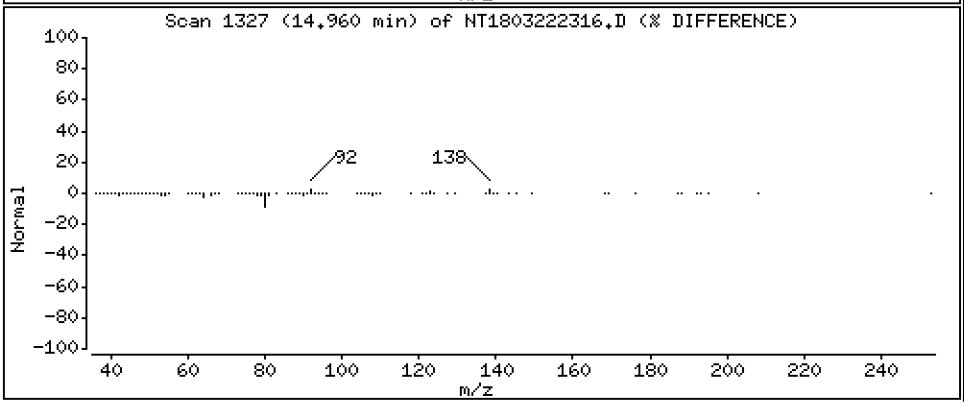
43 3-Nitroaniline

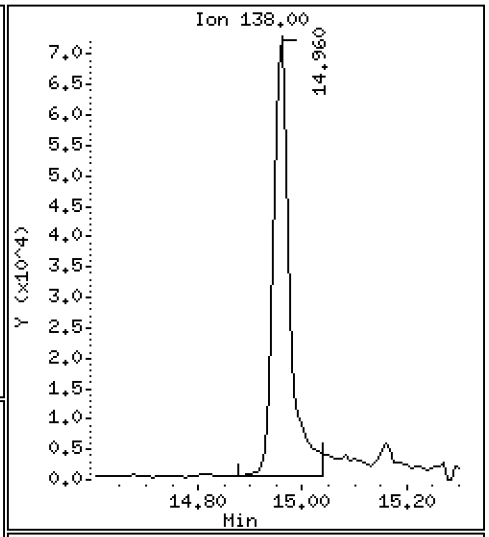
Concentration: 3.388 ug/mL

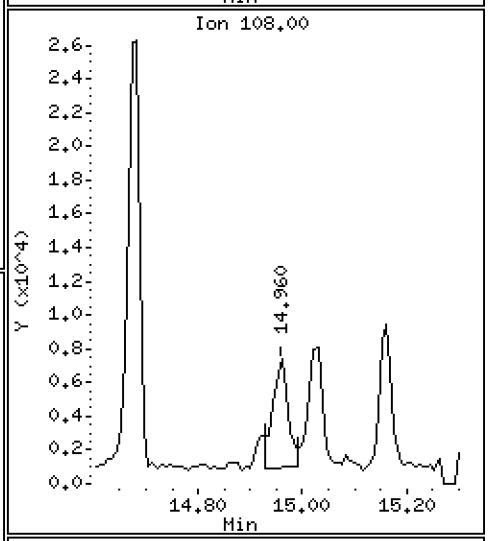


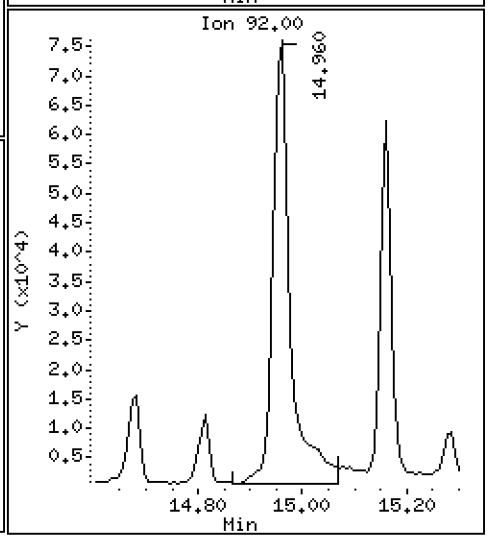












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

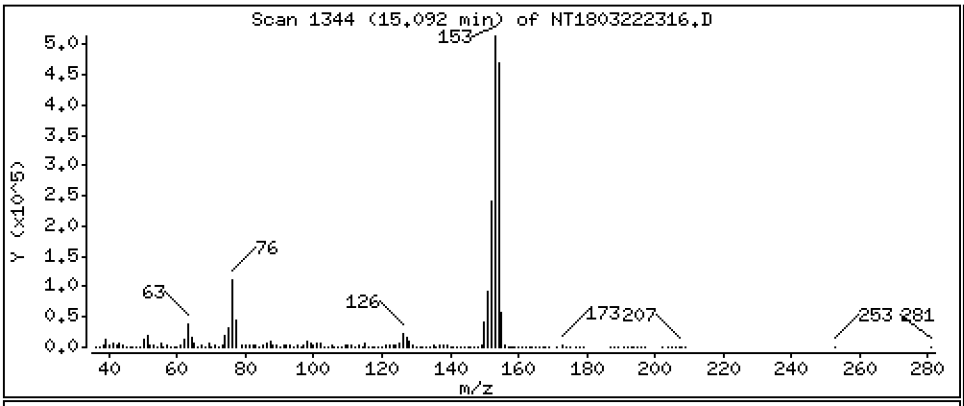
Operator: VTS

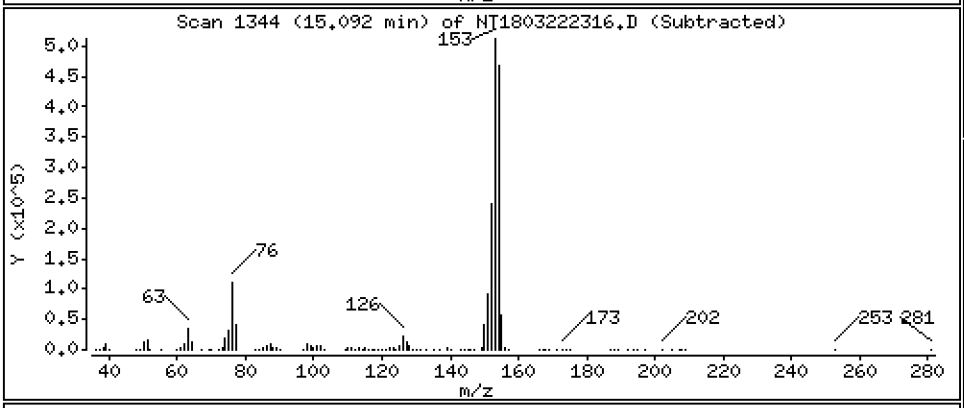
Column phase: ZB-5msi

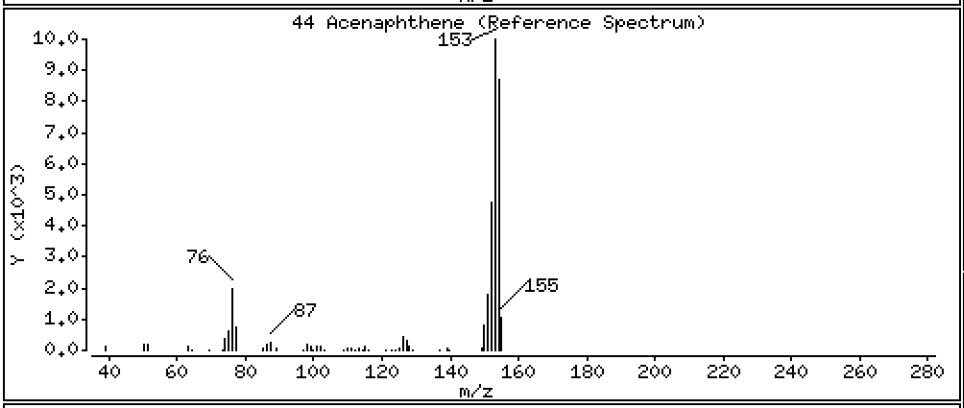
Column diameter: 0.25

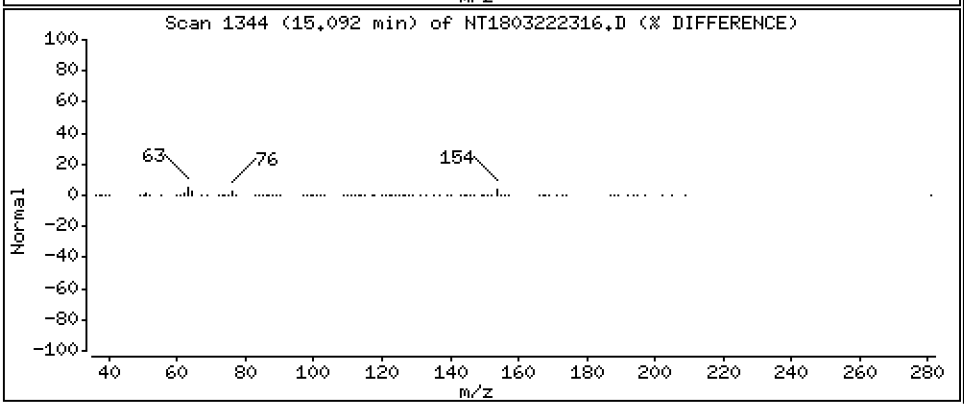
44 Acenaphthene

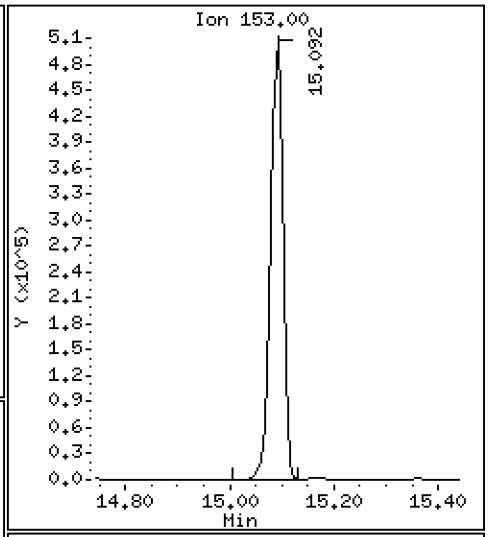
Concentration: 4.306 ug/mL

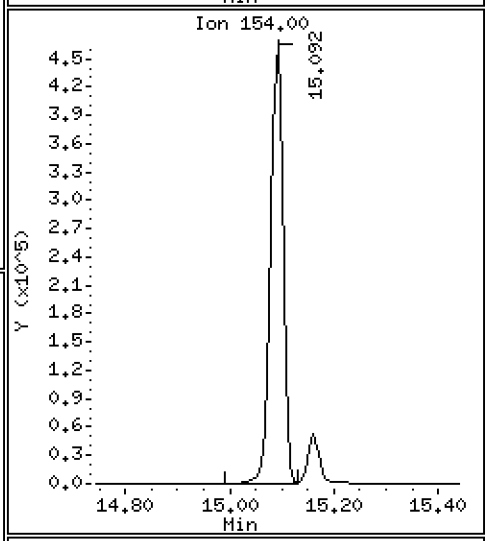


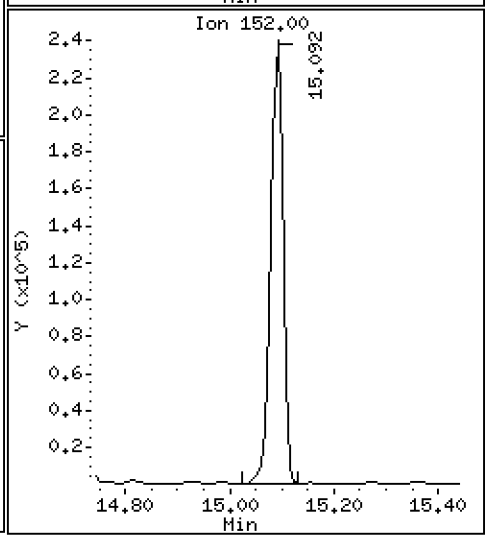












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

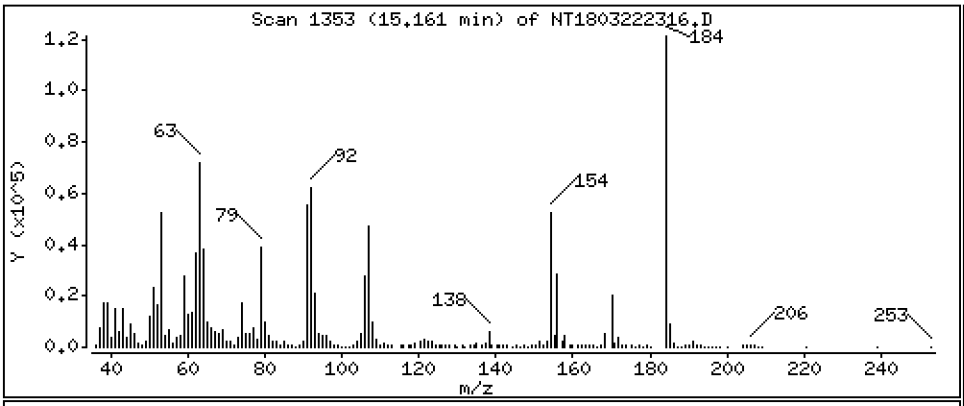
Operator: VTS

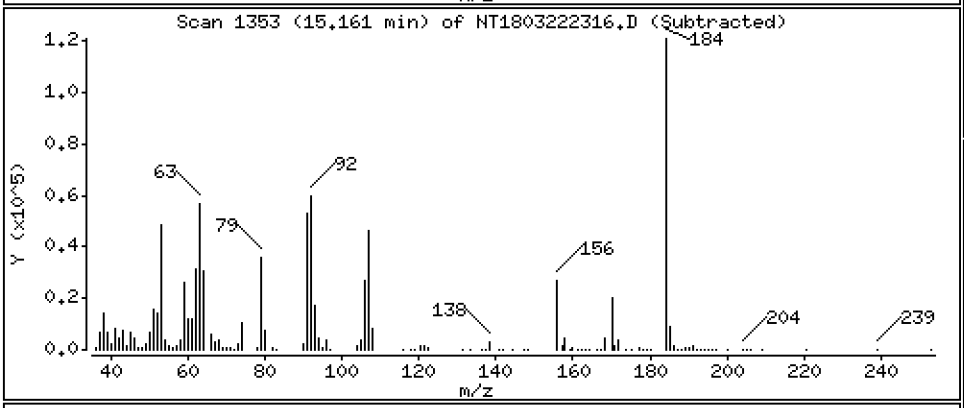
Column phase: ZB-5msi

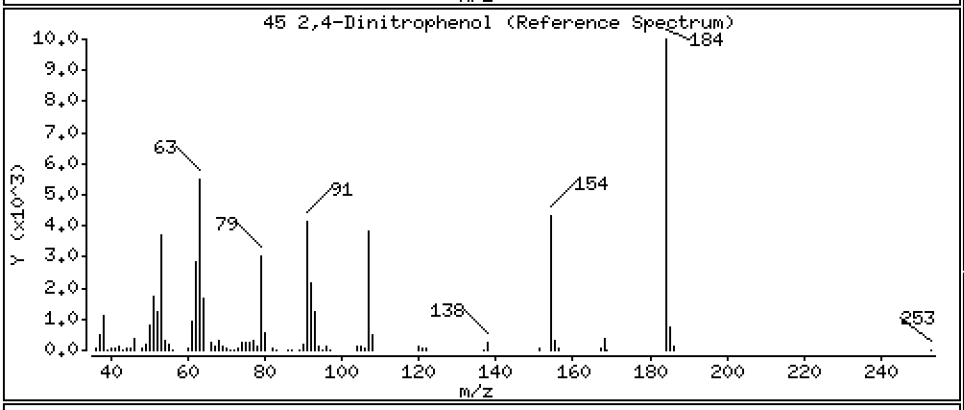
Column diameter: 0.25

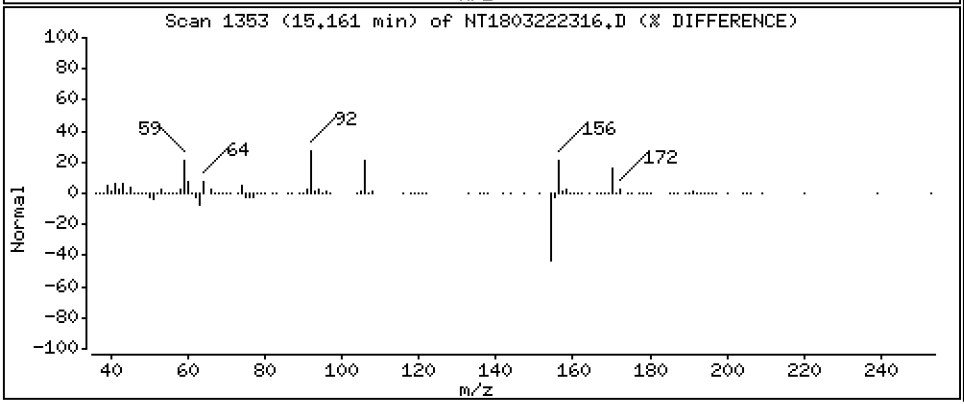
45 2,4-Dinitrophenol

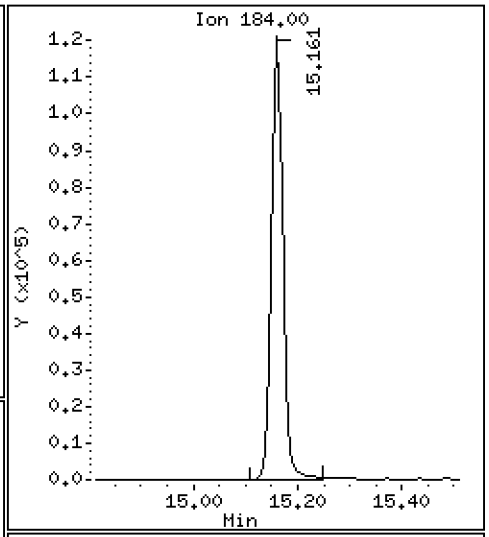
Concentration: 7.257 ug/mL

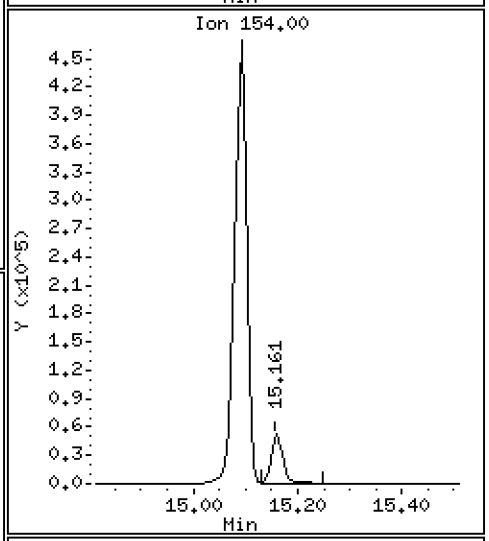


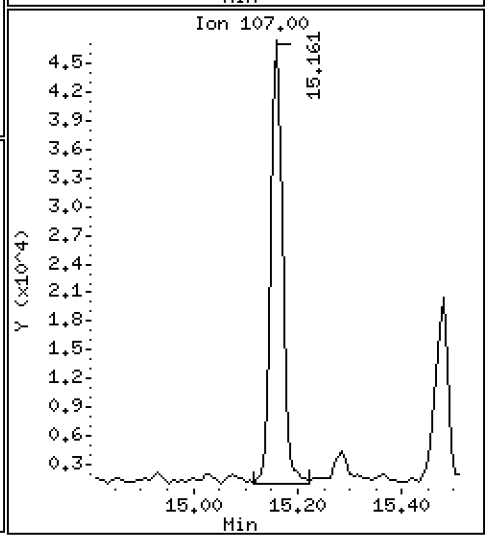












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

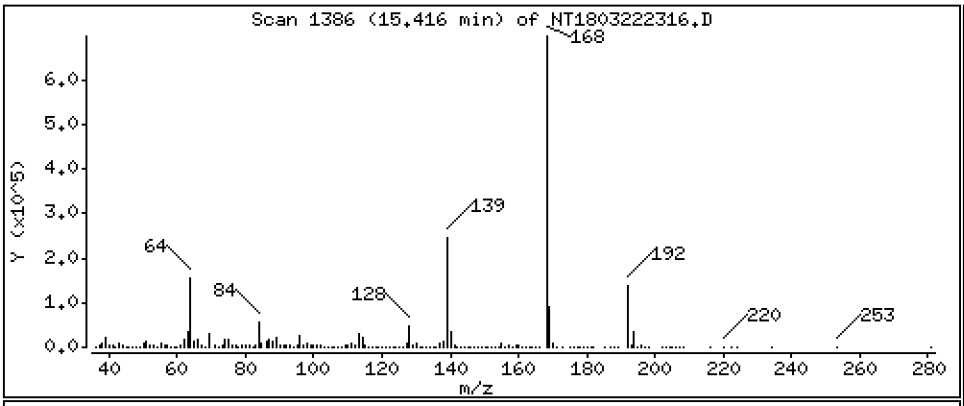
Operator: VTS

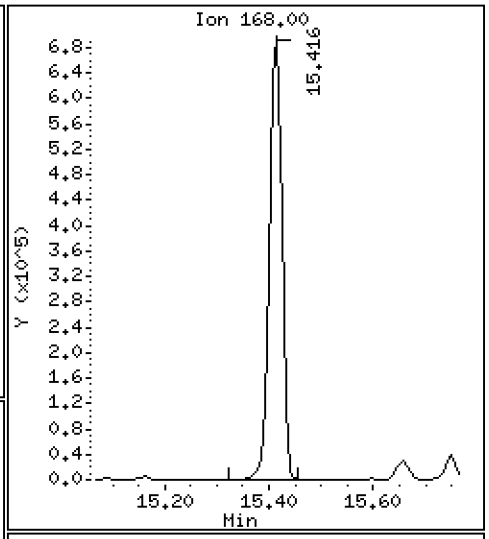
Column phase: ZB-5msi

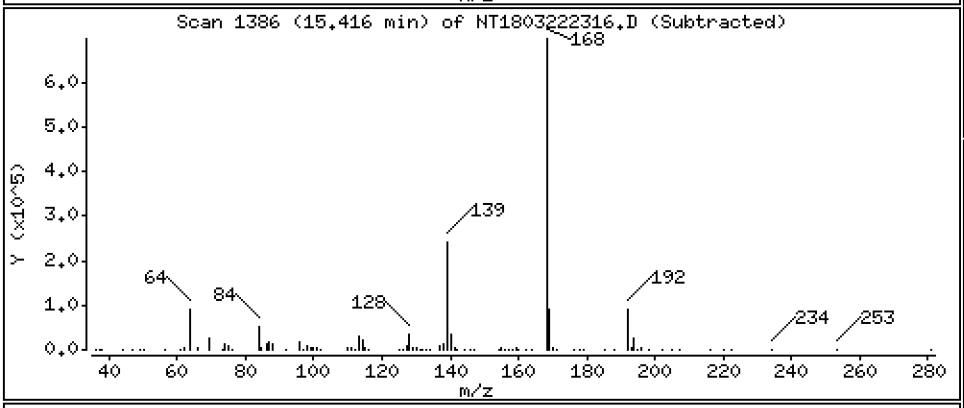
Column diameter: 0.25

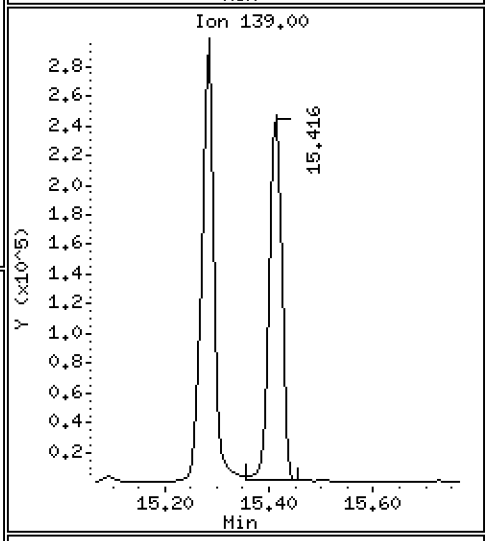
46 Dibenzofuran

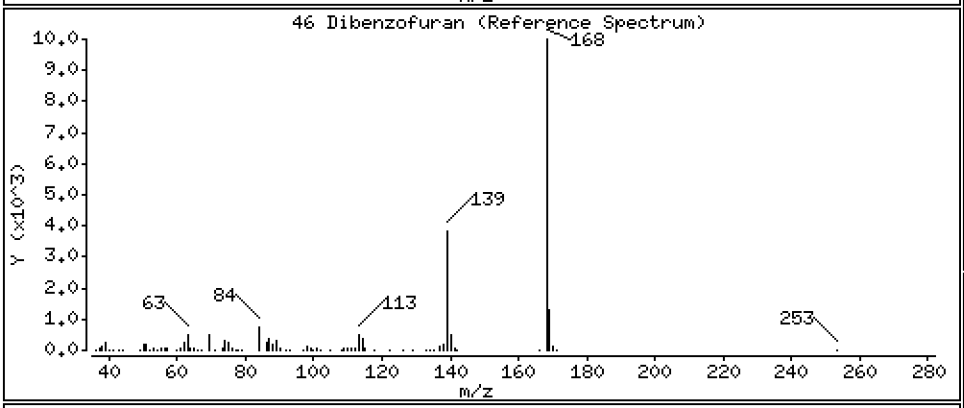
Concentration: 4.339 ug/mL

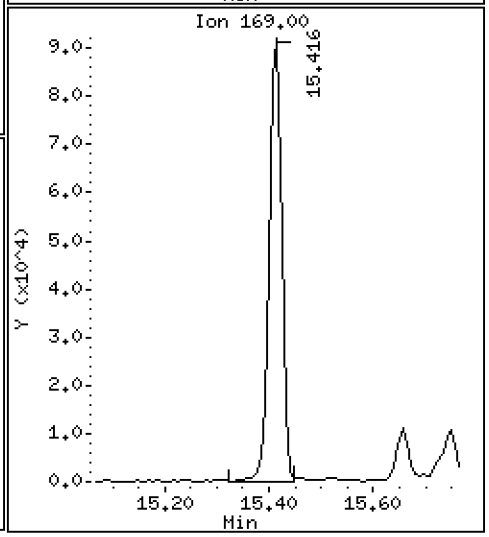


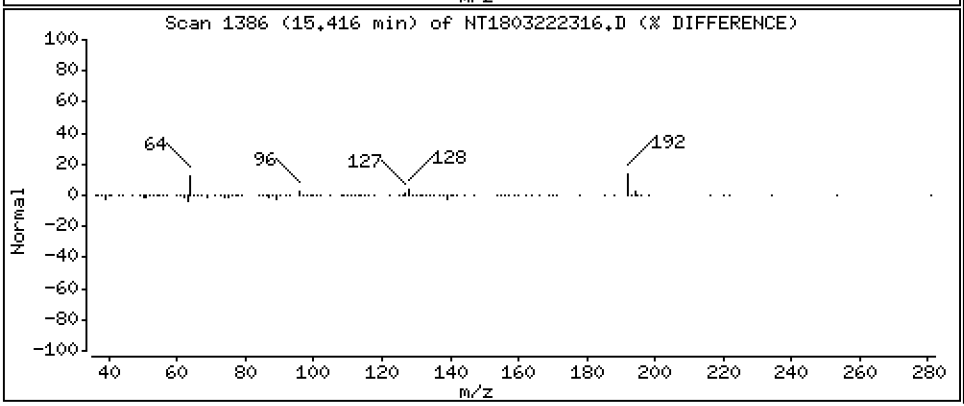












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

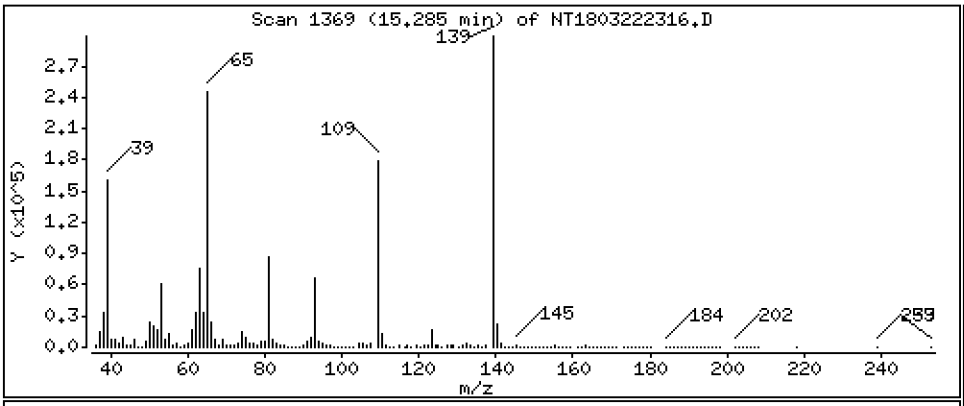
Operator: VTS

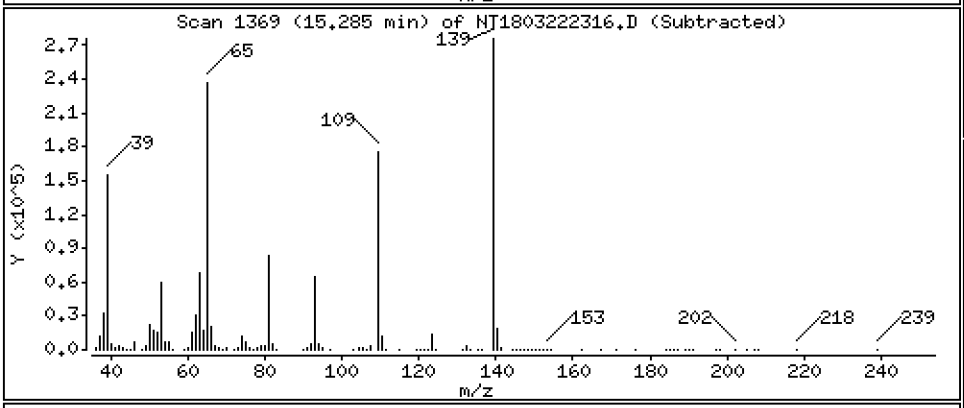
Column phase: ZB-5msi

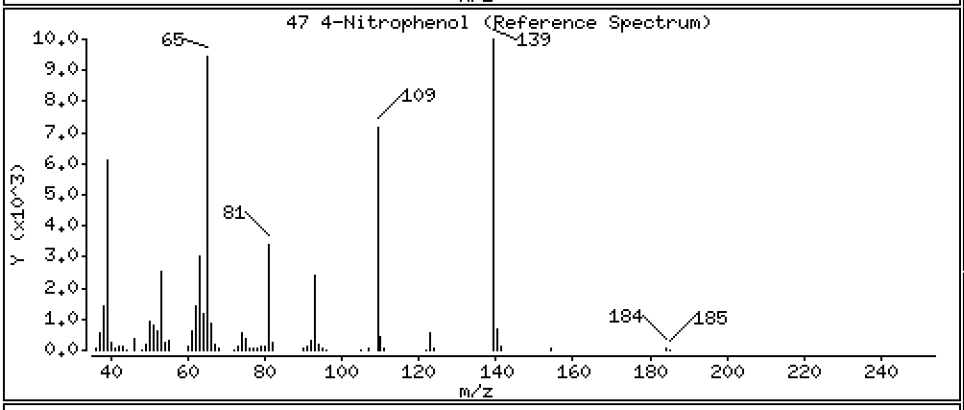
Column diameter: 0.25

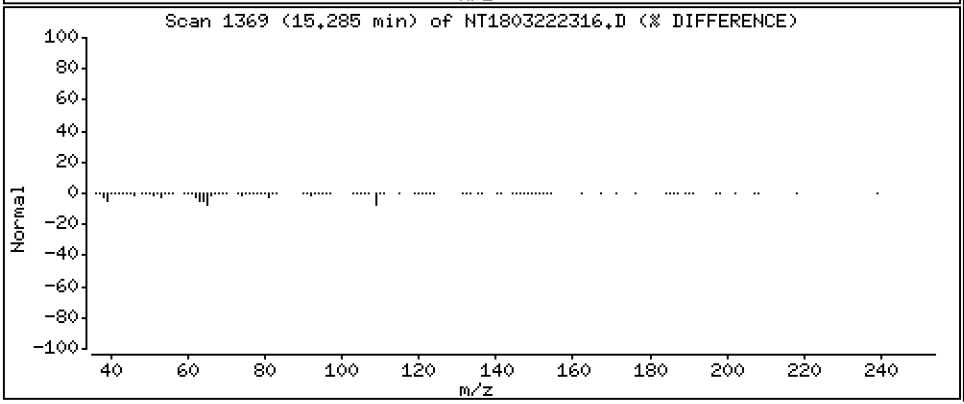
47 4-Nitrophenol

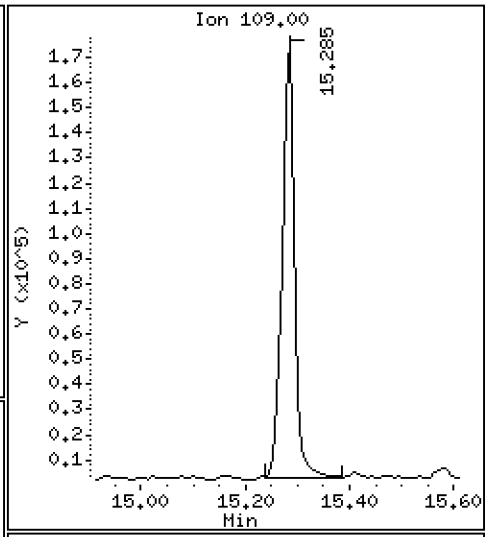
Concentration: 11.61 ug/mL

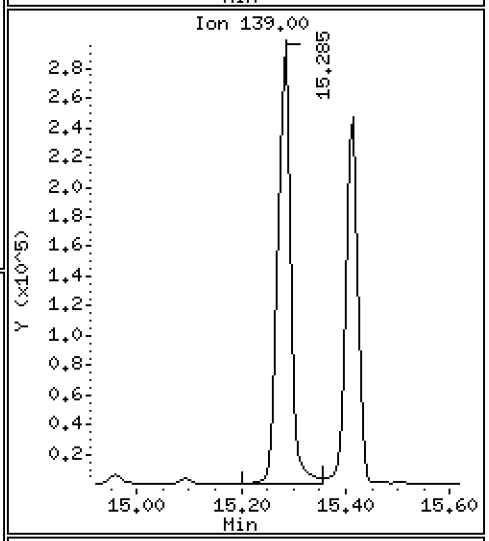


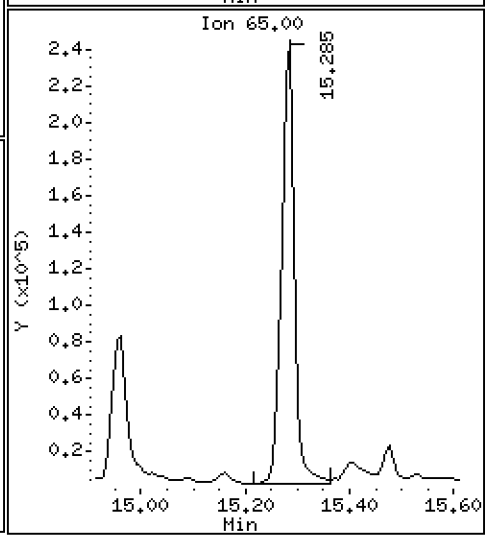












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222316.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

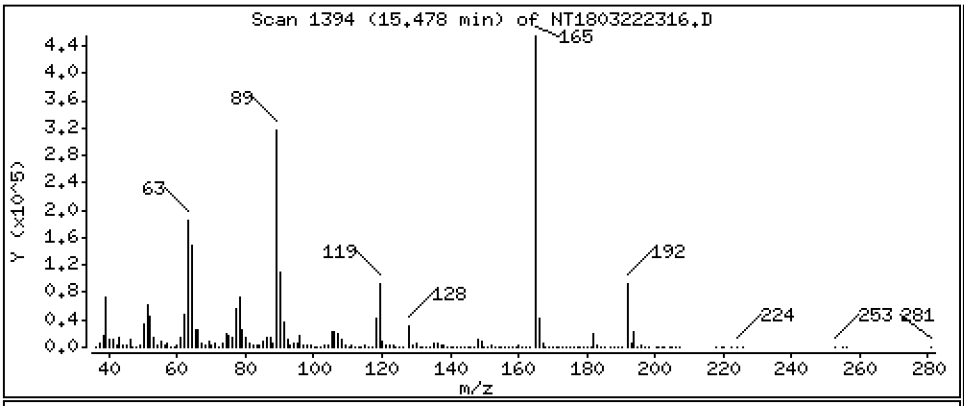
Operator: VTS

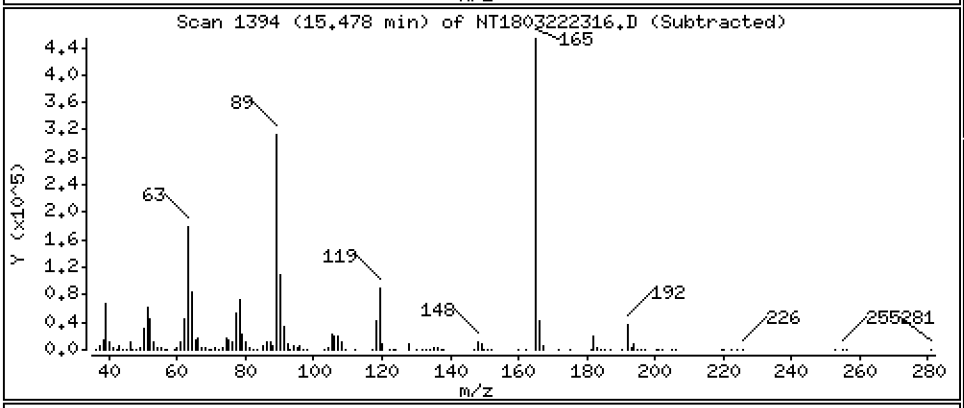
Column phase: ZB-5msi

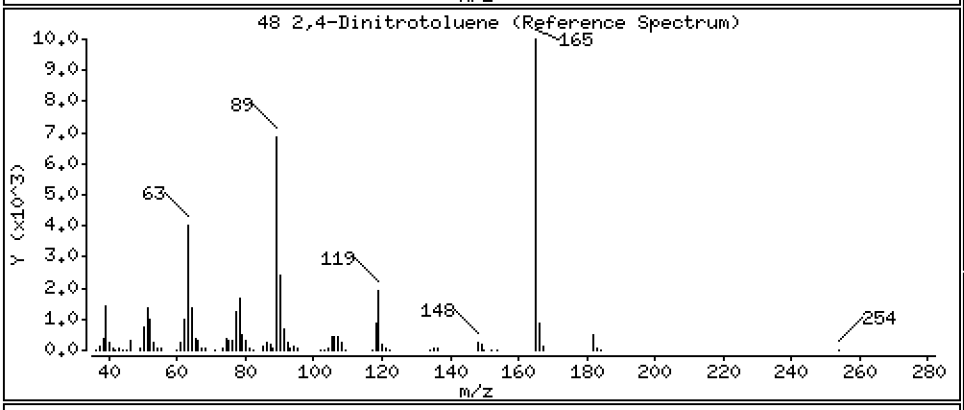
Column diameter: 0.25

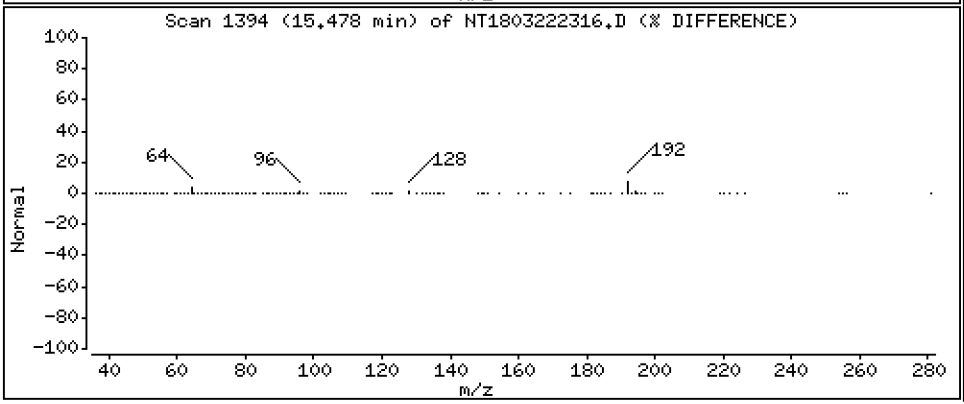
48 2,4-Dinitrotoluene

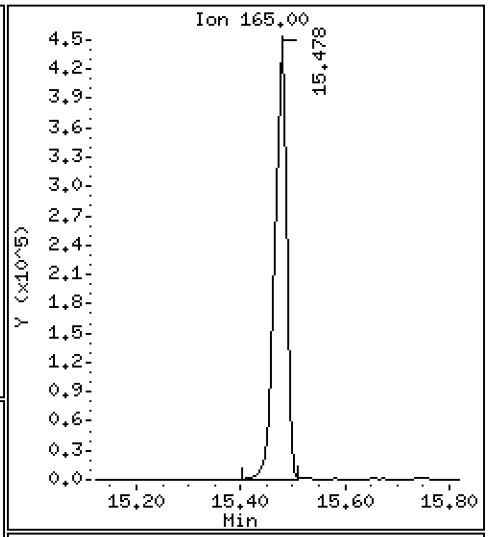
Concentration: 12.62 ug/mL

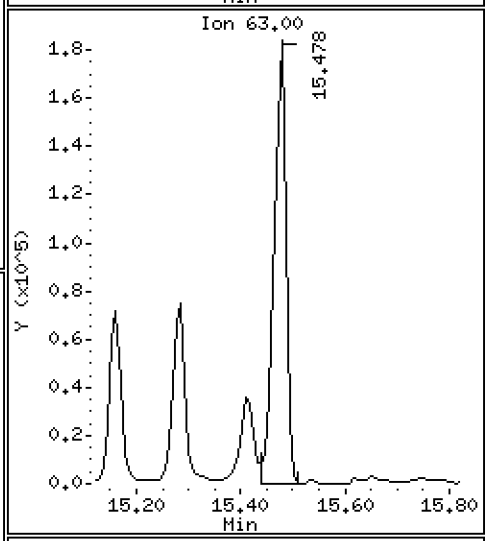


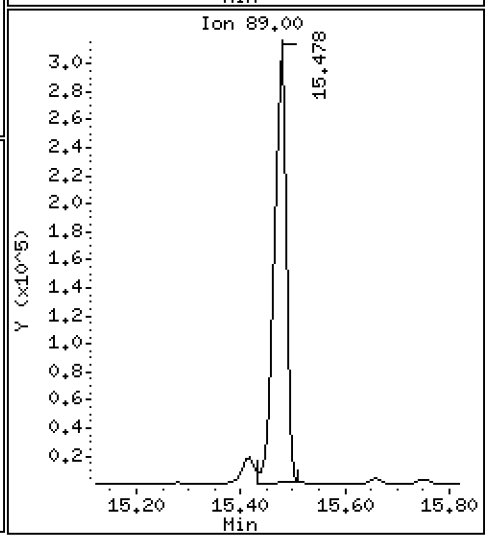












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

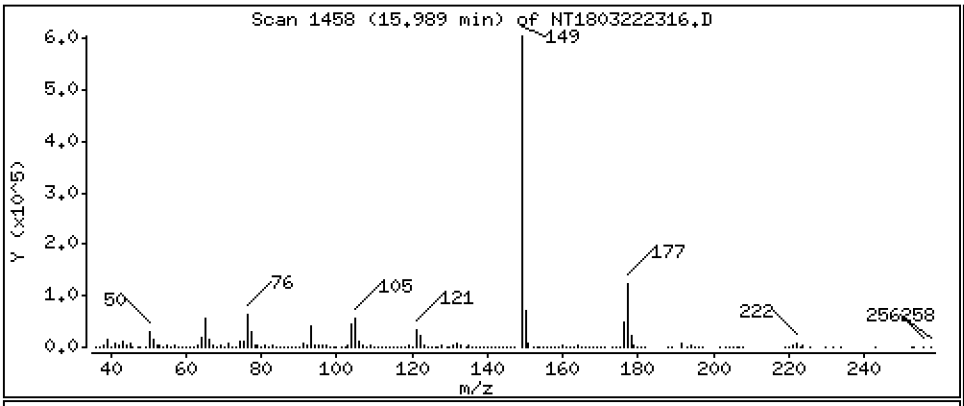
Operator: VTS

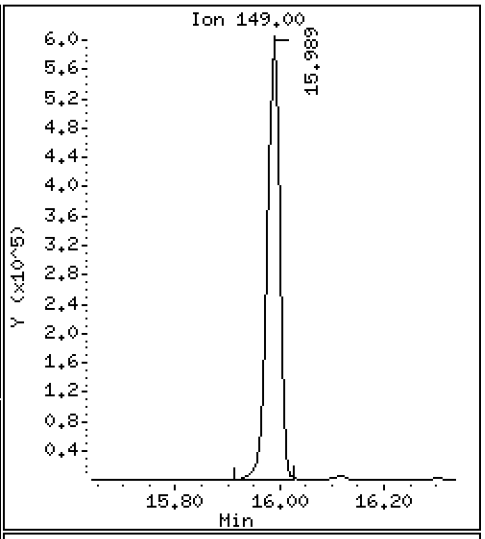
Column phase: ZB-5msi

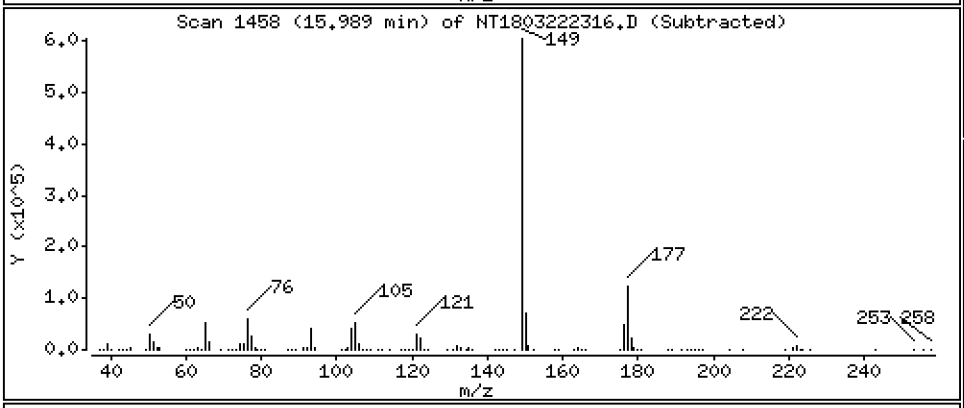
Column diameter: 0.25

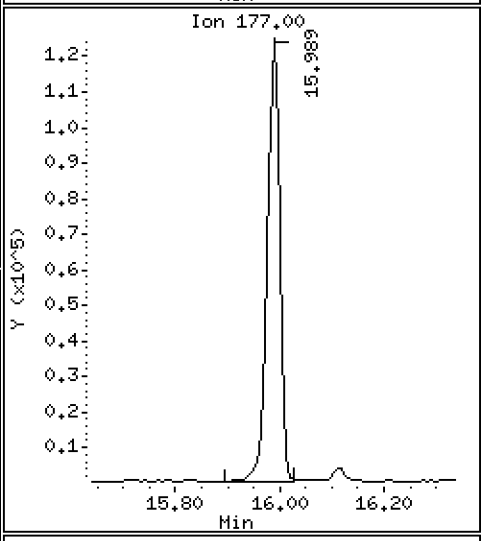
50 Diethylphthalate

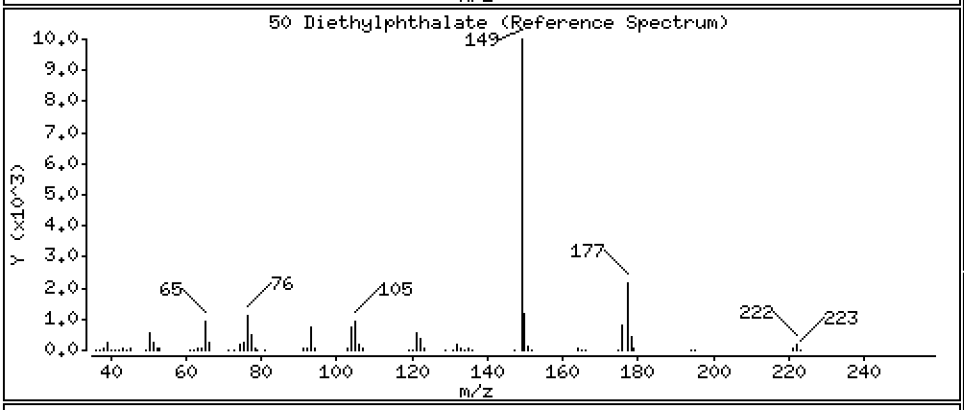
Concentration: 5.204 ug/mL

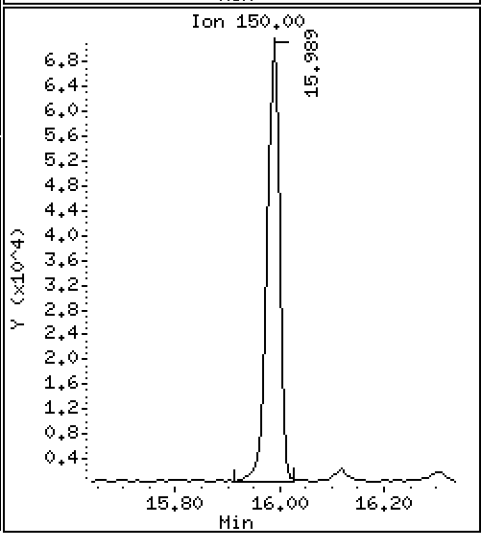


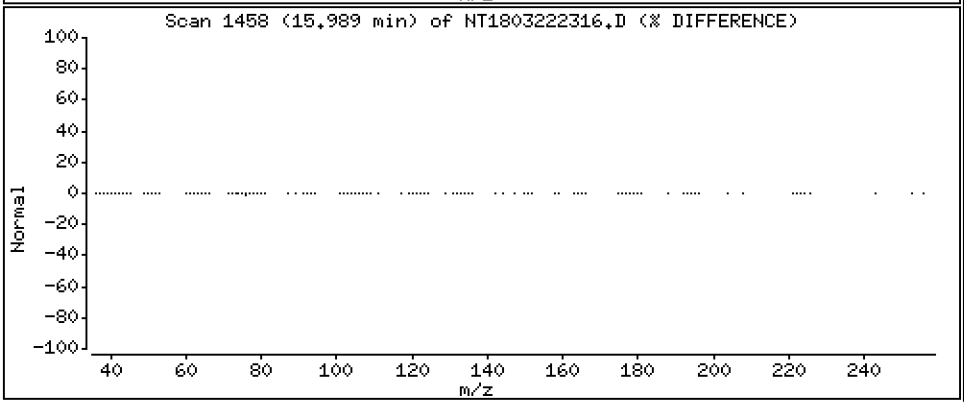












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222316.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

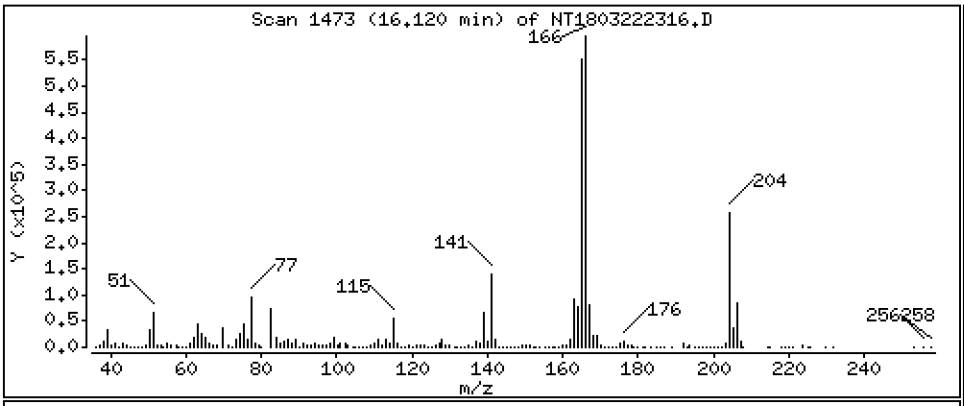
Operator: VTS

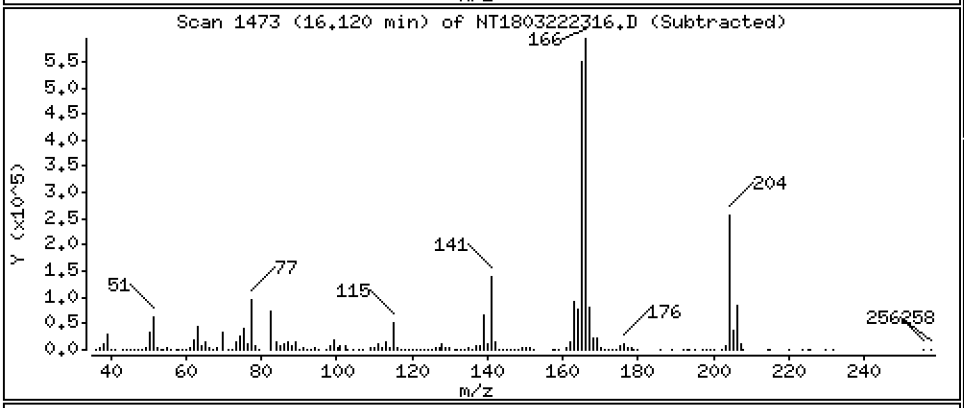
Column phase: ZB-5msi

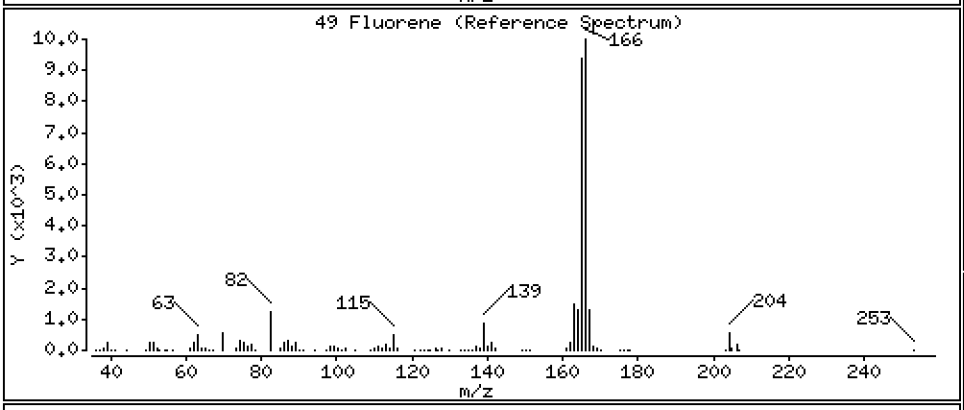
Column diameter: 0.25

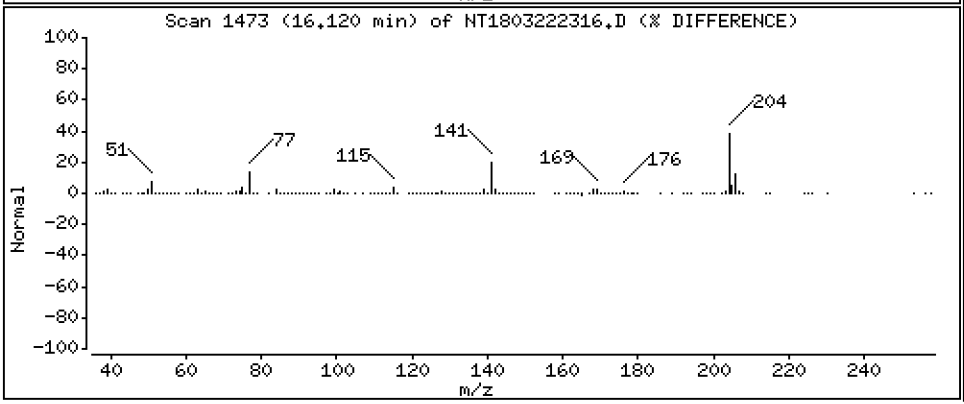
49 Fluorene

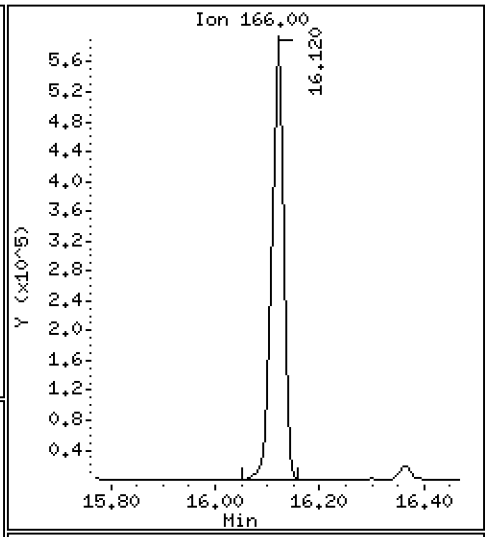
Concentration: 4.562 ug/mL

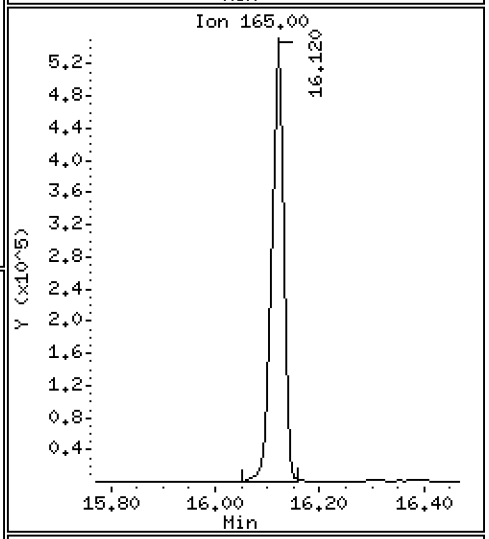


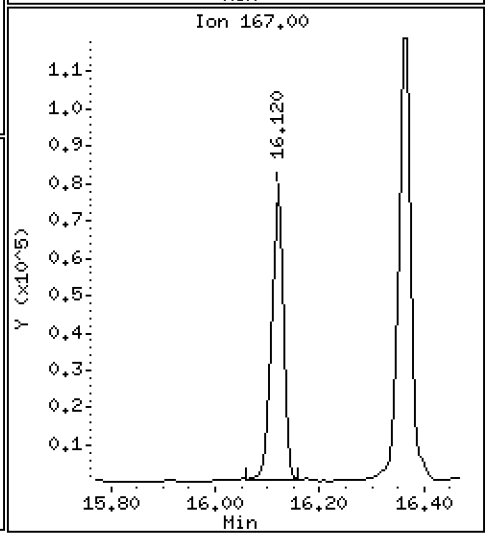












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

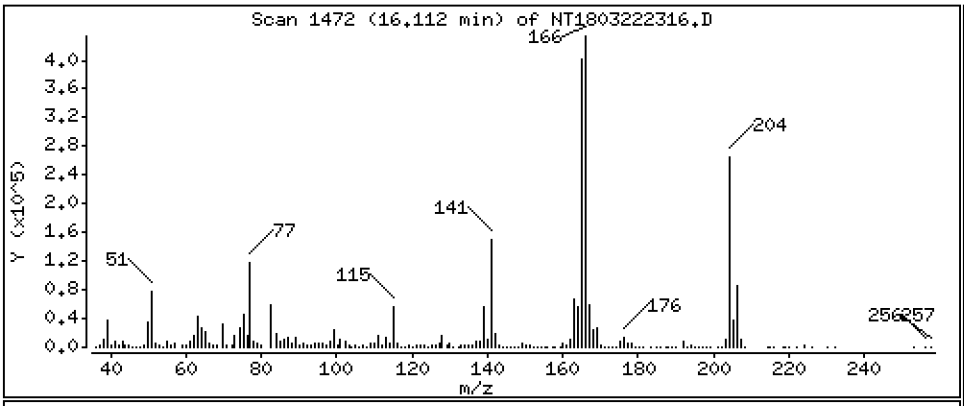
Operator: VTS

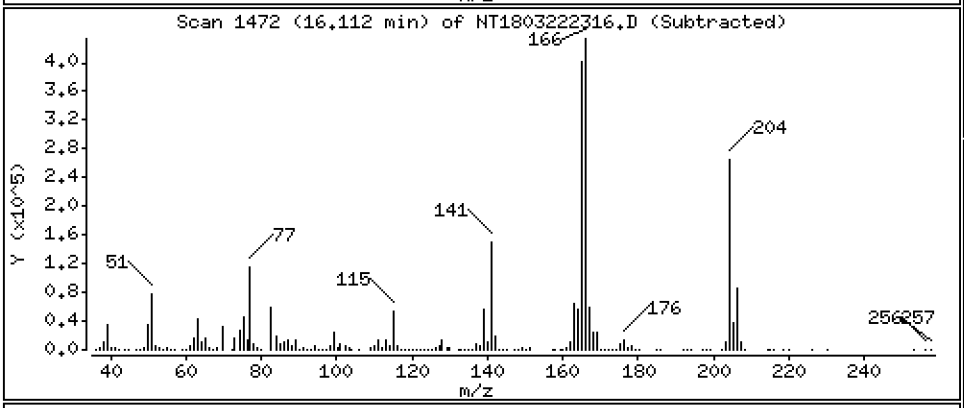
Column phase: ZB-5msi

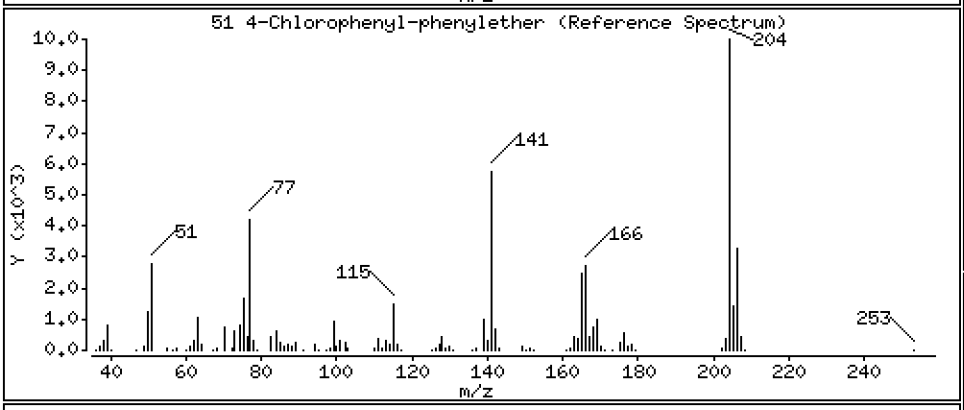
Column diameter: 0.25

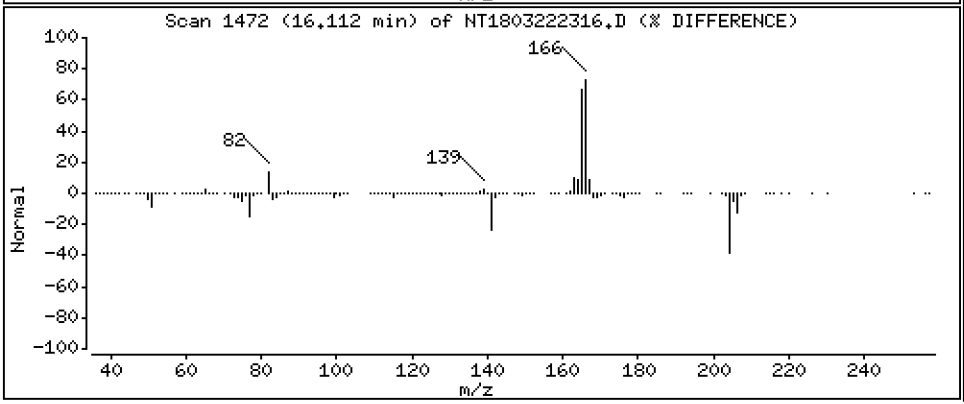
51 4-Chlorophenyl-phenylether

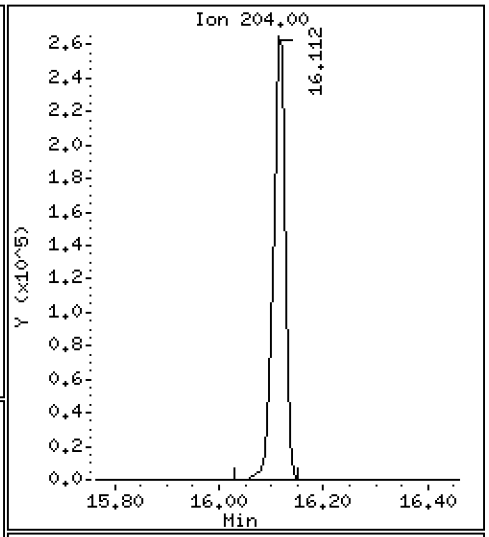
Concentration: 4.642 ug/mL

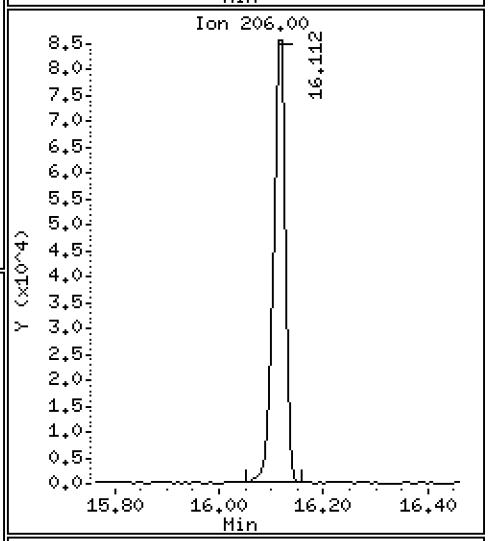


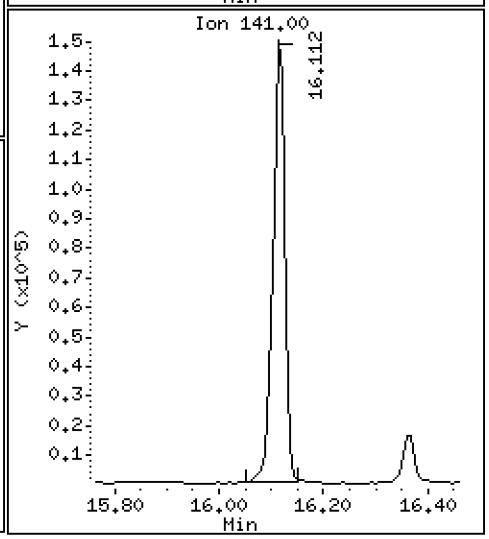












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

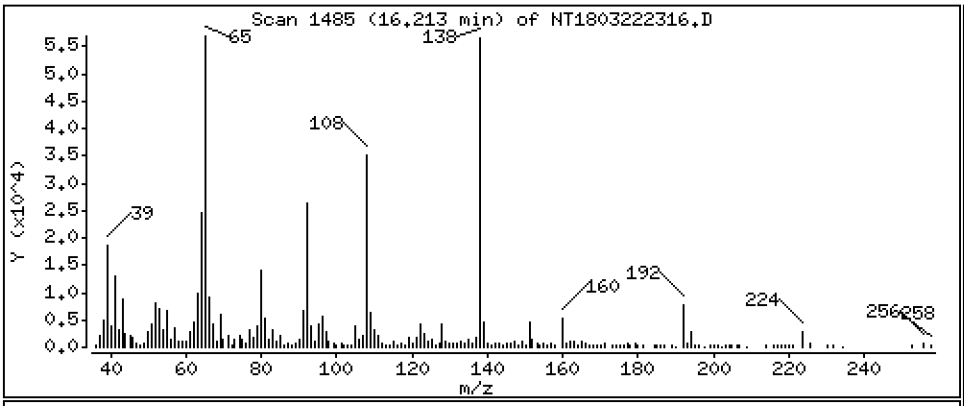
Operator: VTS

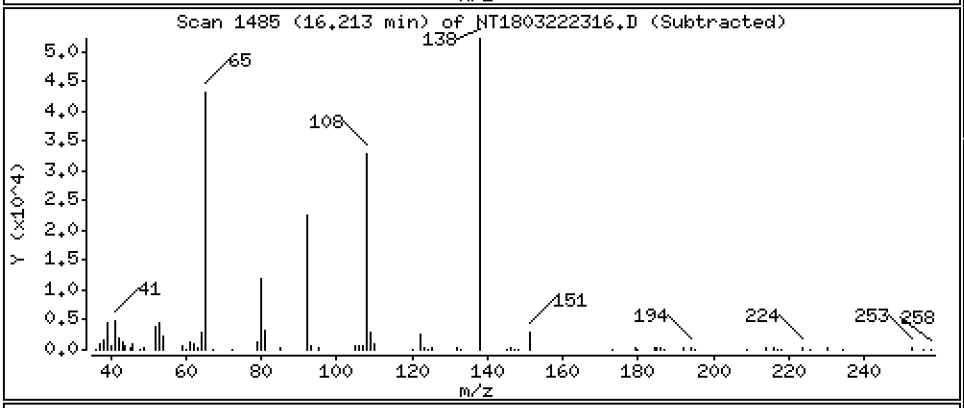
Column phase: ZB-5msi

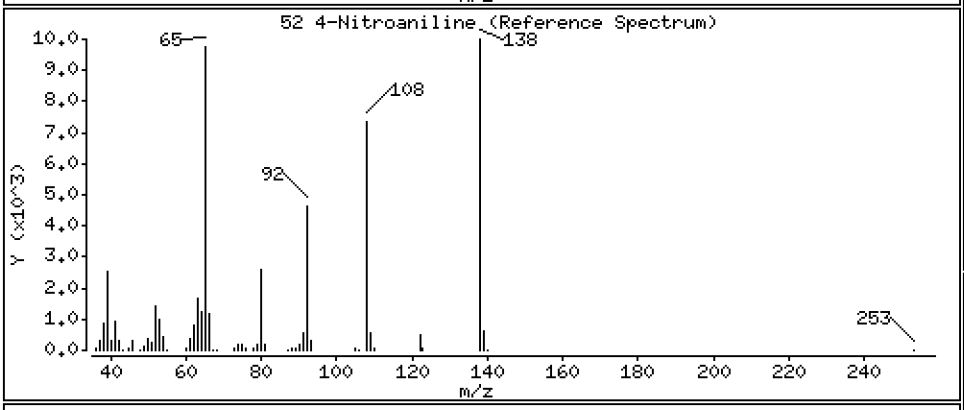
Column diameter: 0.25

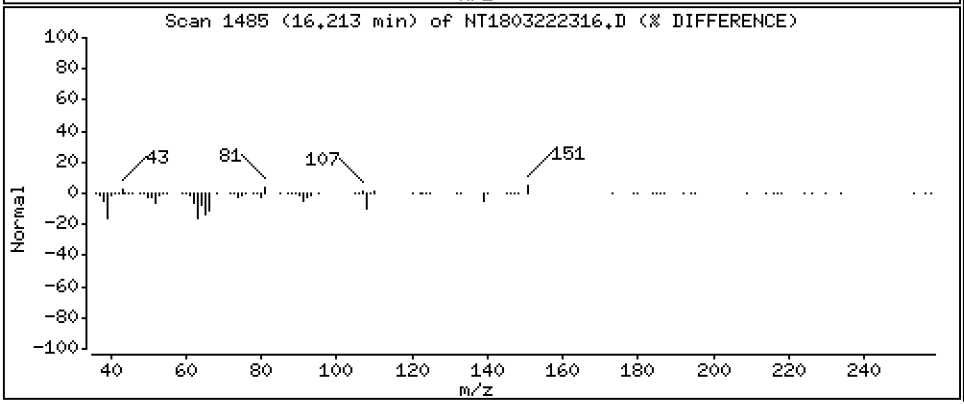
52 4-Nitroaniline

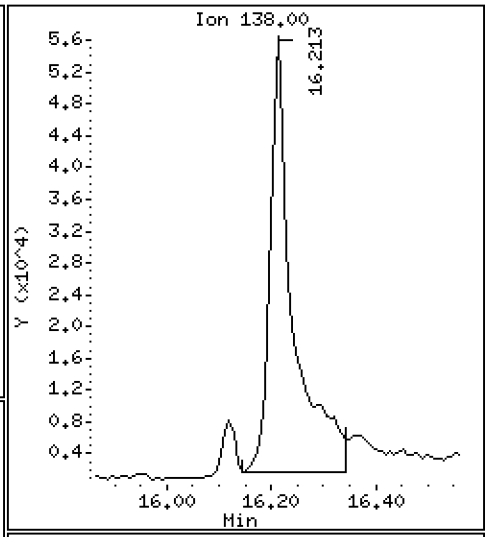
Concentration: 3.615 ug/mL

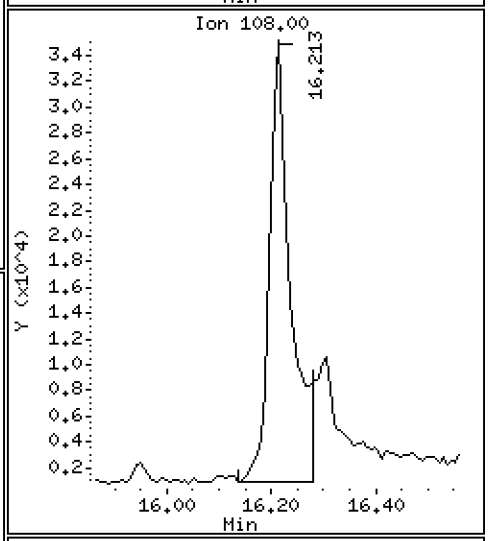


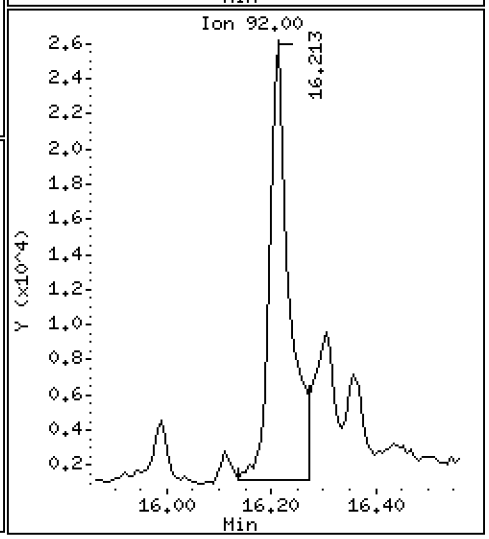












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

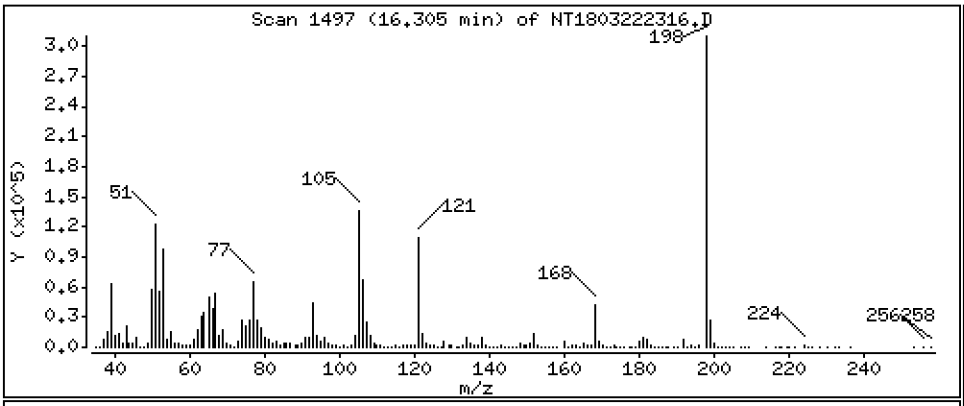
Operator: VTS

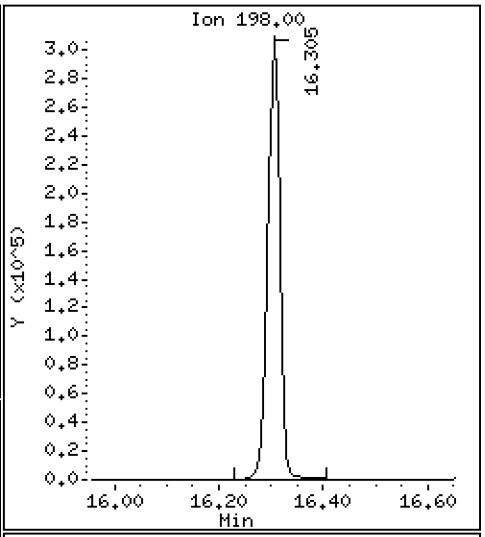
Column phase: ZB-5msi

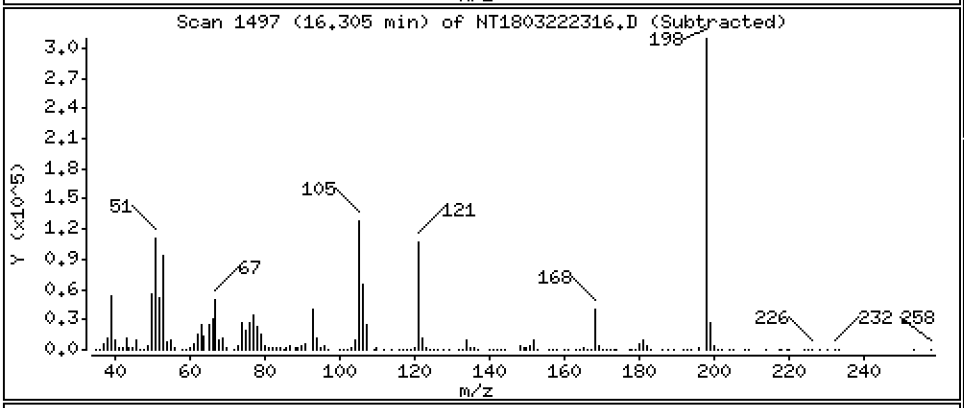
Column diameter: 0.25

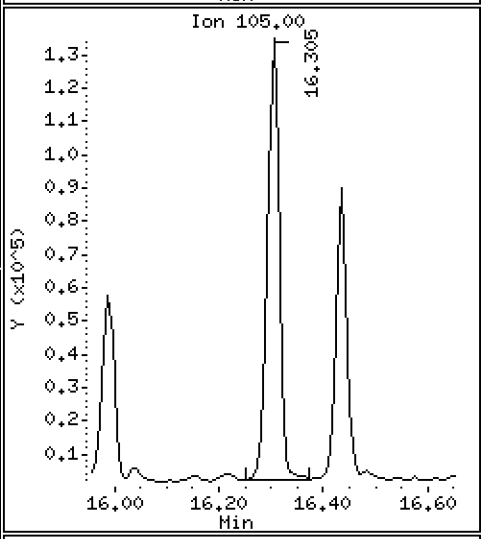
53 4,6-Dinitro-2-methylphenol

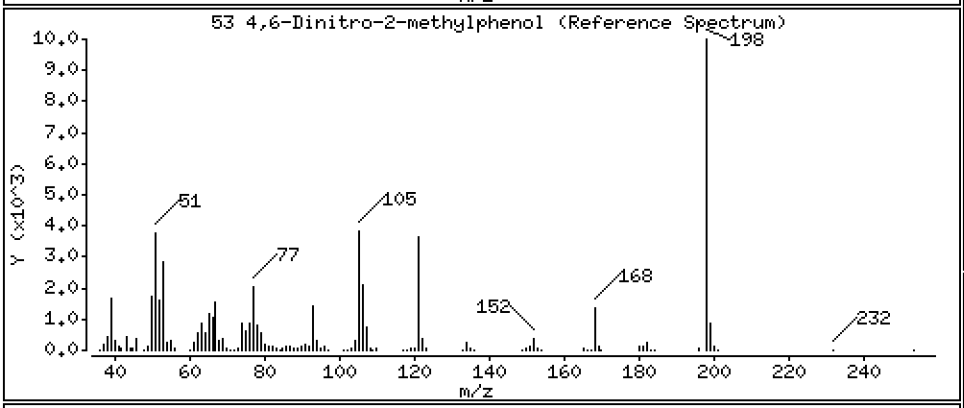
Concentration: 15.79 ug/mL

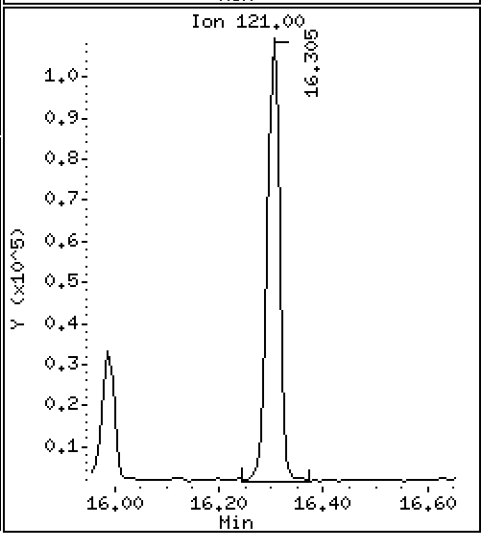


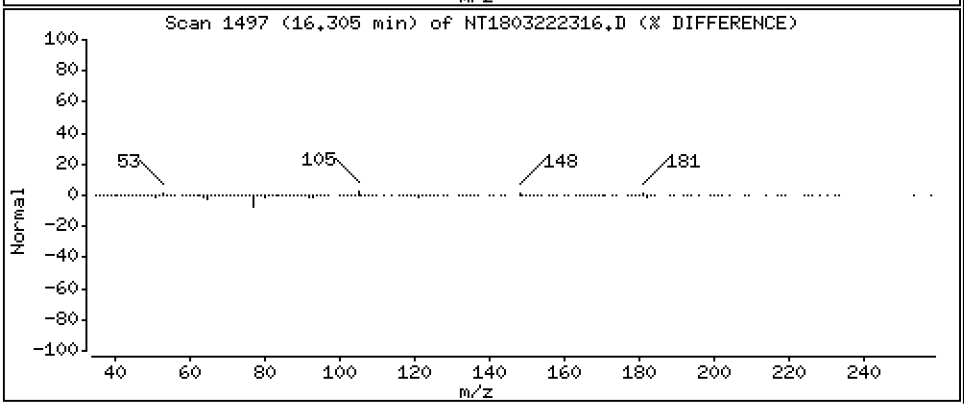












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

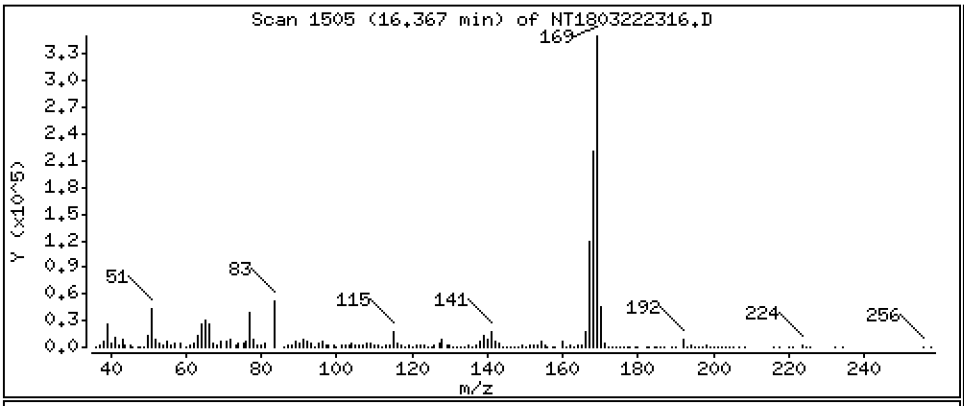
Operator: VTS

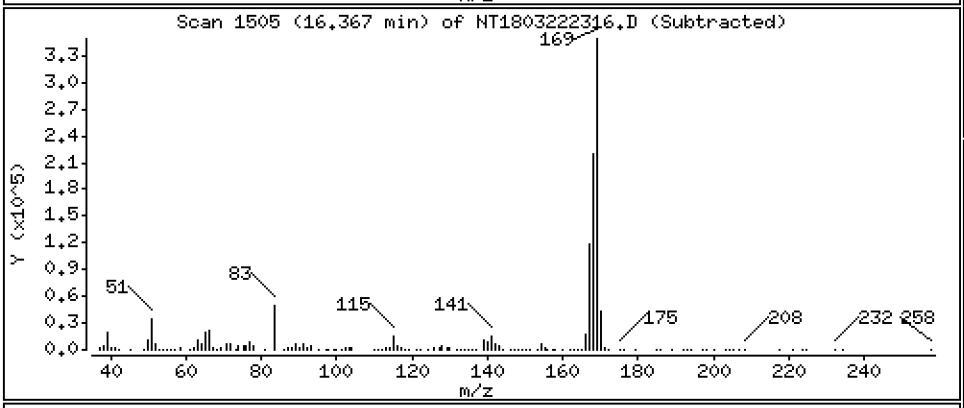
Column phase: ZB-5msi

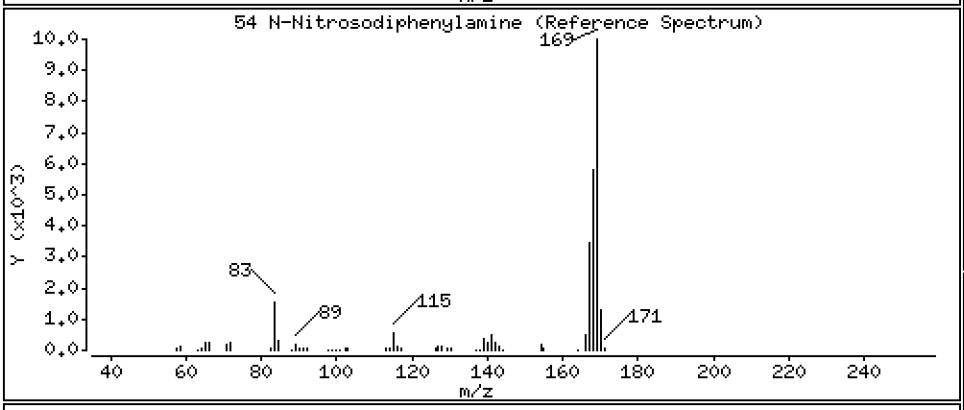
Column diameter: 0.25

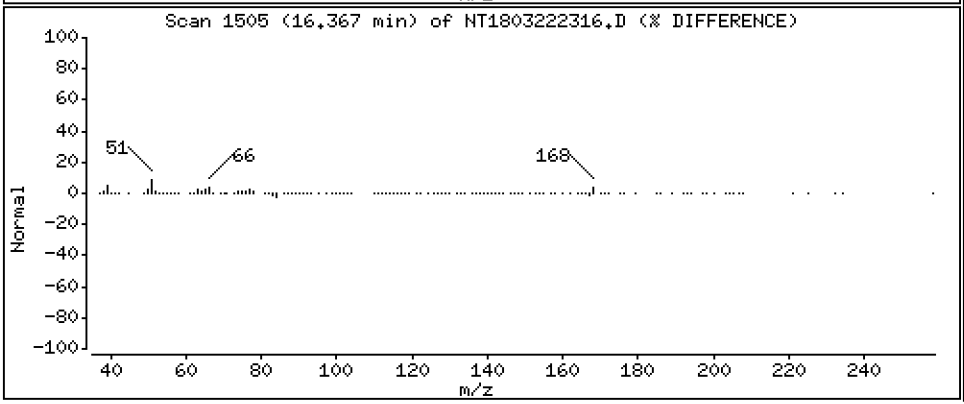
54 N-Nitrosodiphenylamine

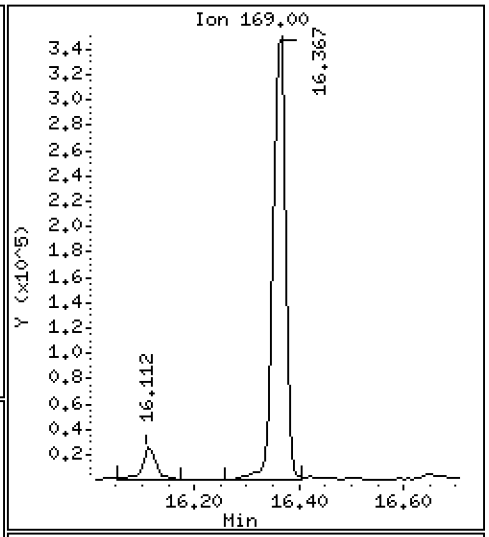
Concentration: 4.236 ug/mL

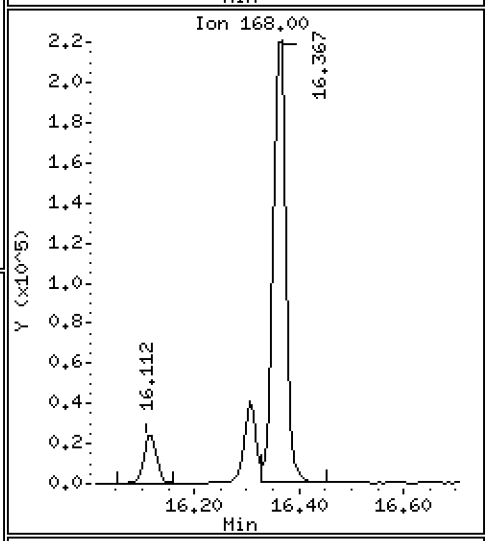


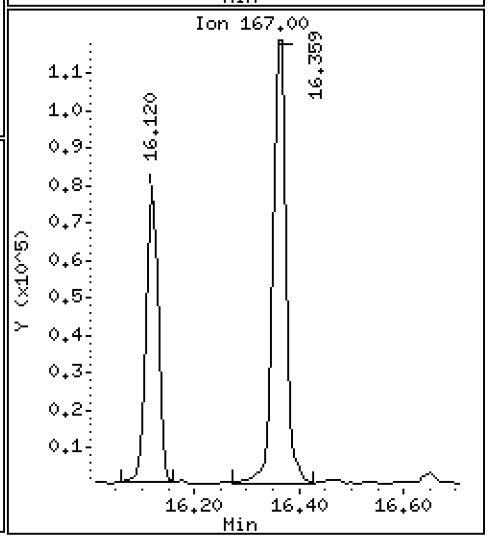












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222316.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

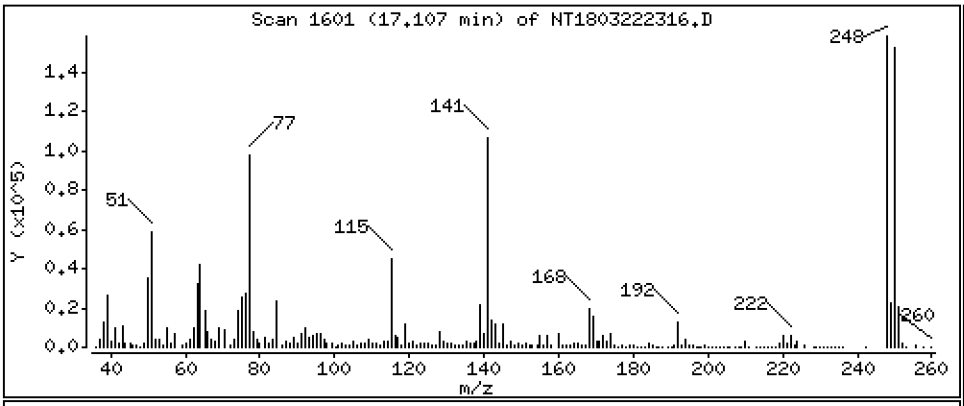
Operator: VTS

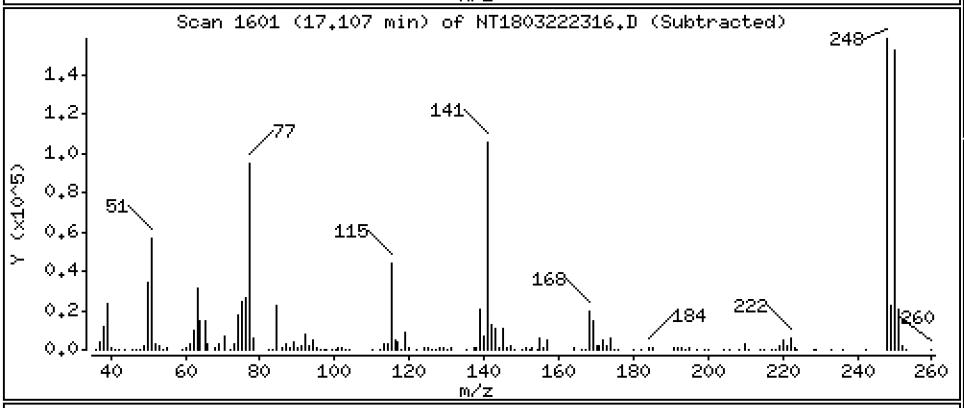
Column phase: ZB-5msi

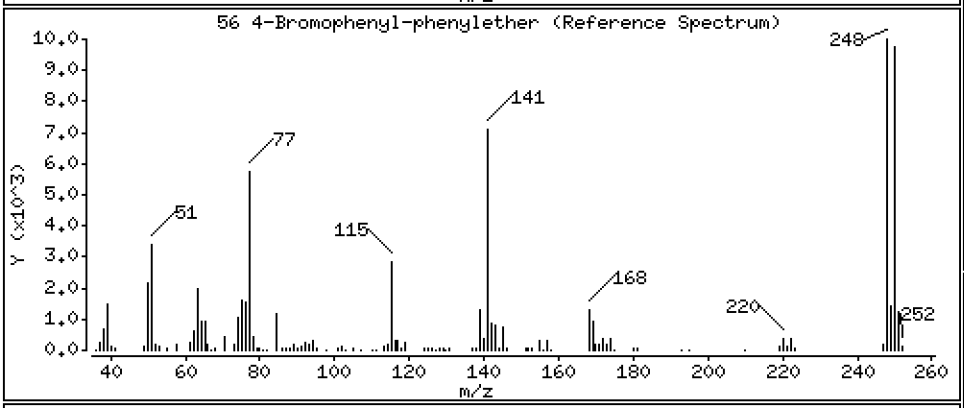
Column diameter: 0.25

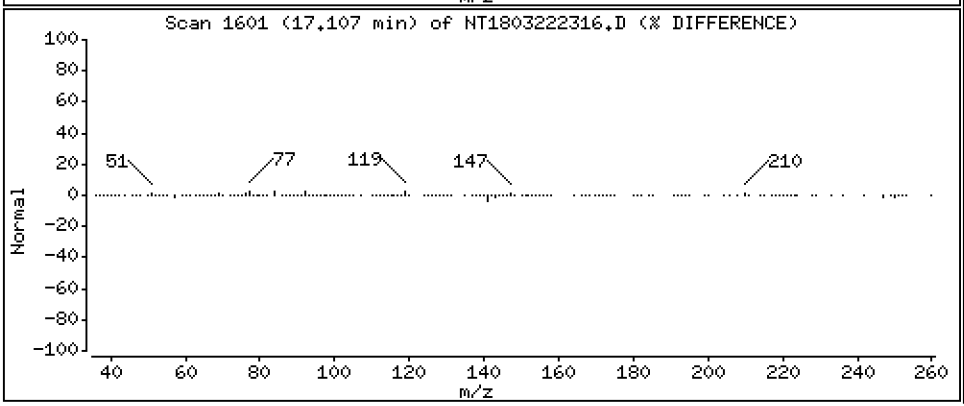
56 4-Bromophenyl-phenylether

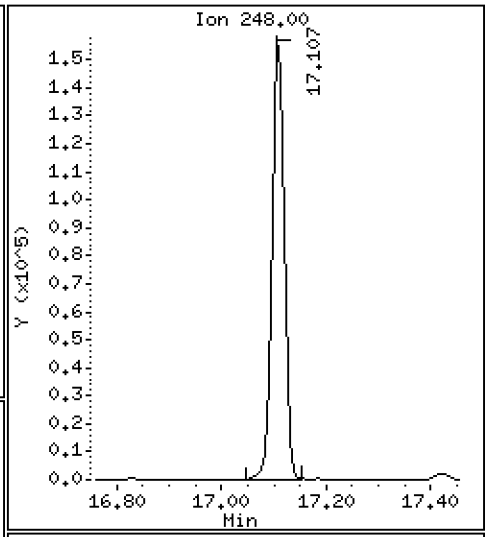
Concentration: 4.690 ug/mL

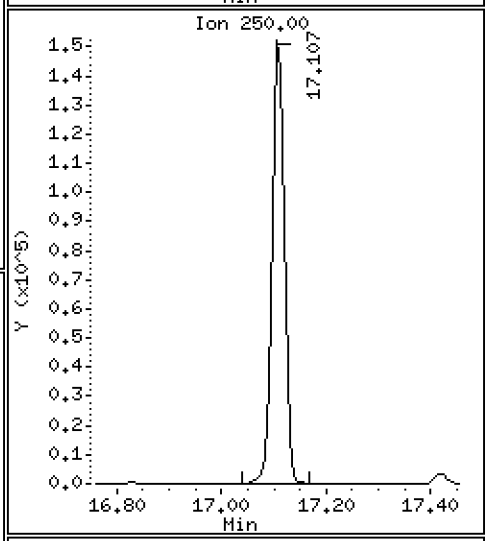


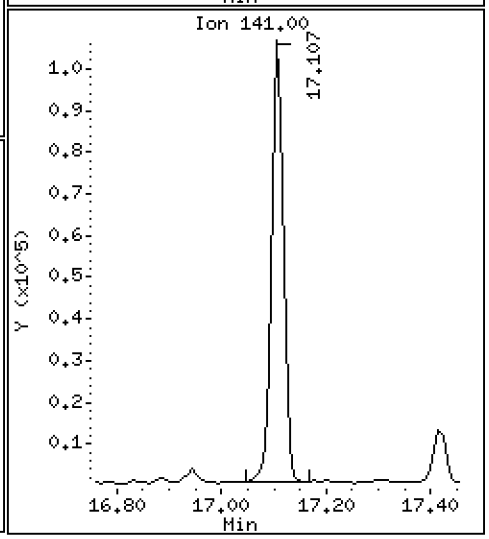












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

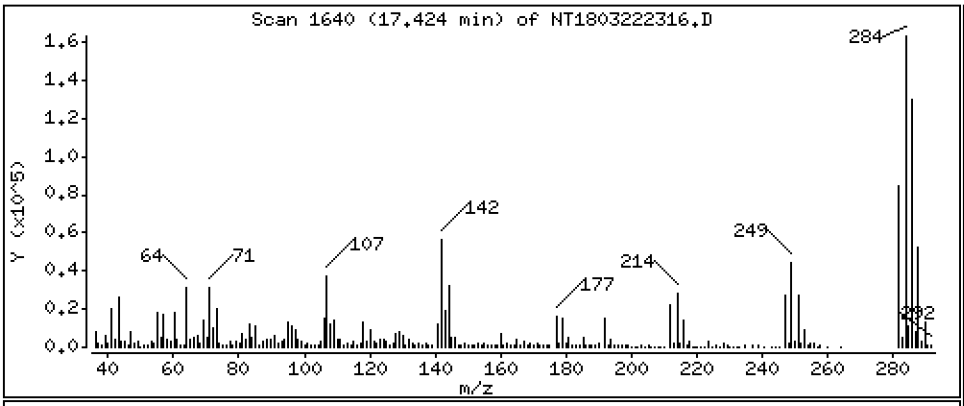
Operator: VTS

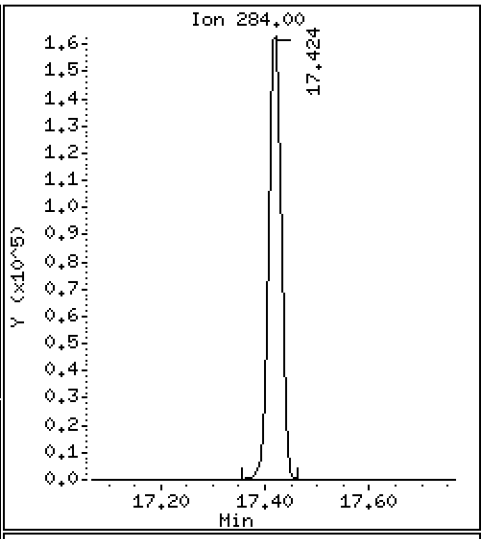
Column phase: ZB-5msi

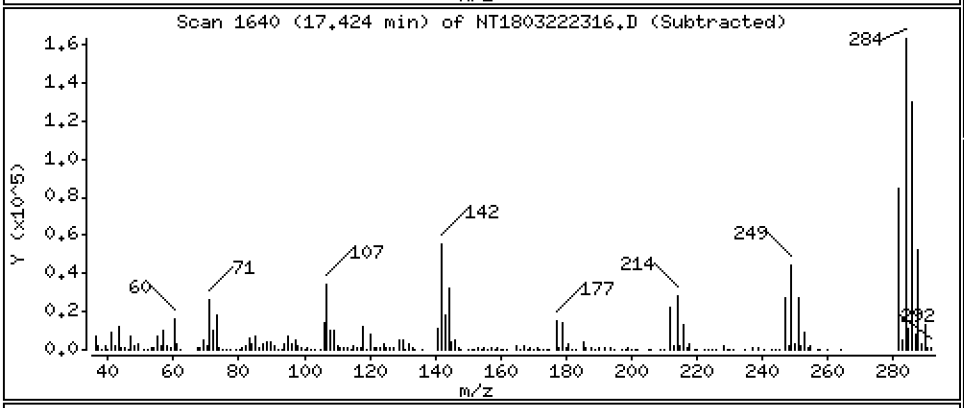
Column diameter: 0.25

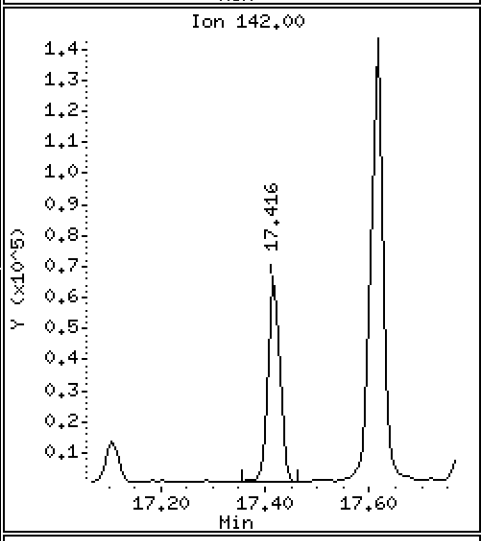
57 Hexachlorobenzene

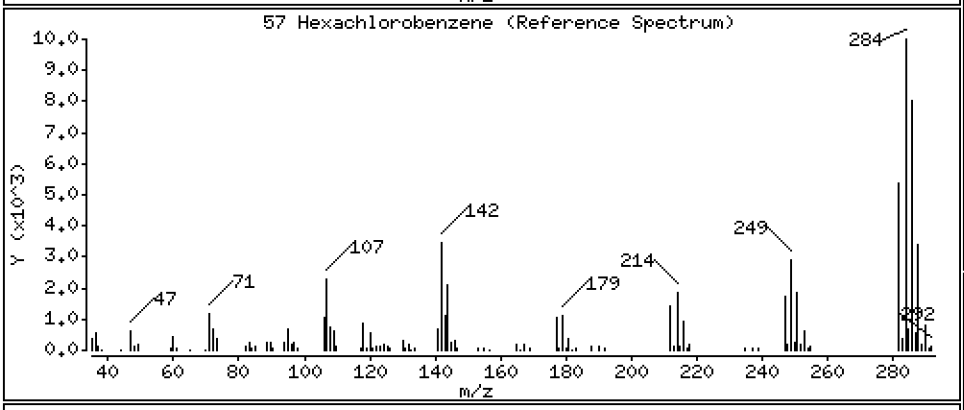
Concentration: 4.485 ug/mL

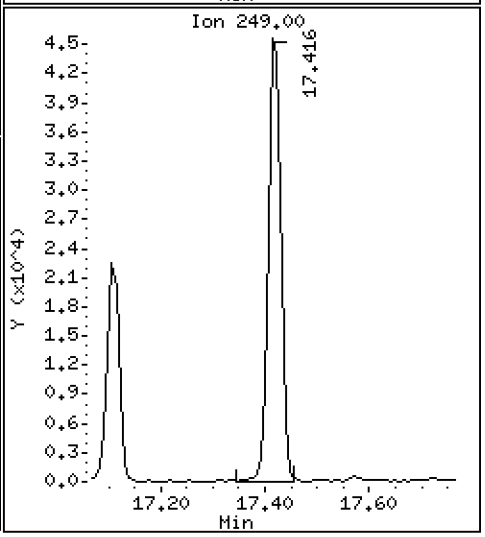


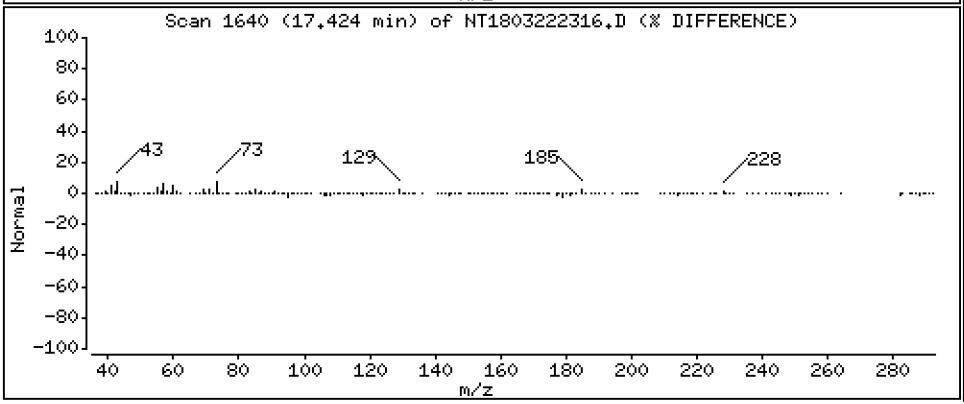












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

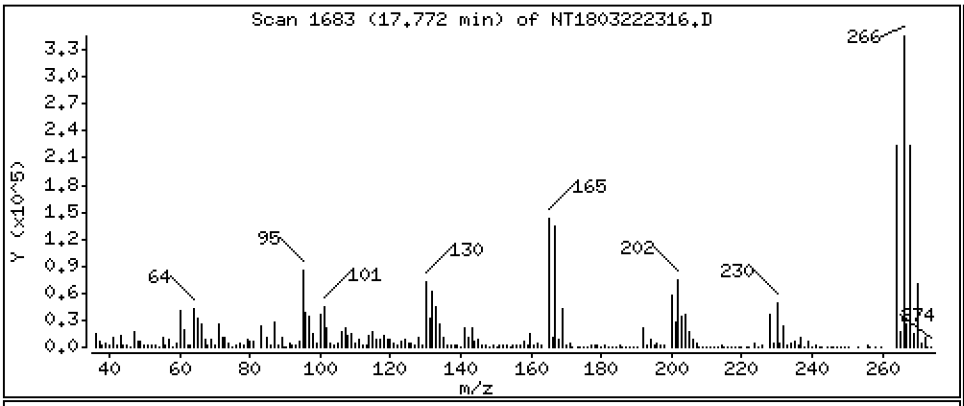
Operator: VTS

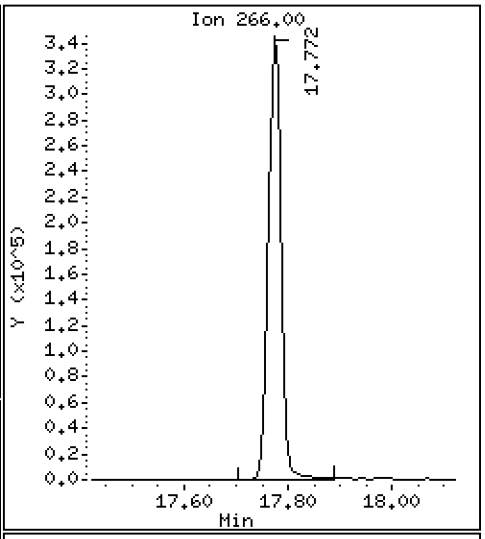
Column phase: ZB-5msi

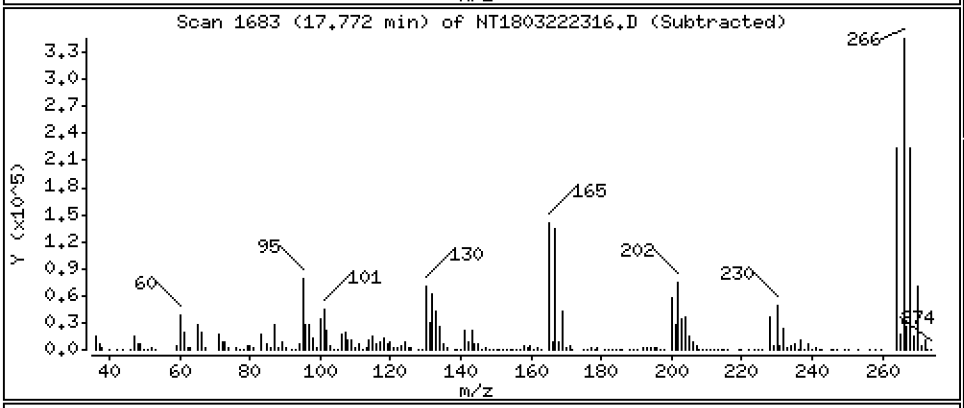
Column diameter: 0.25

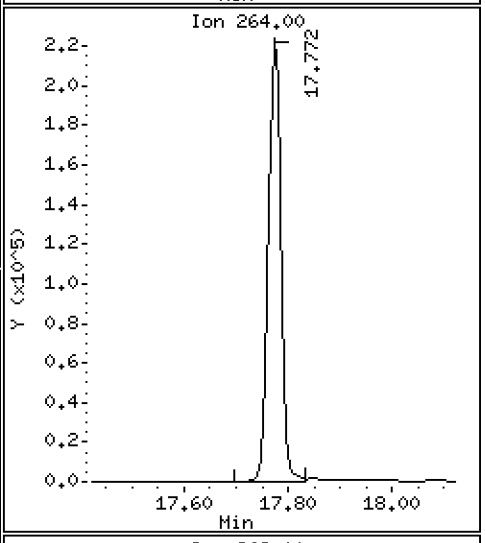
58 Pentachlorophenol

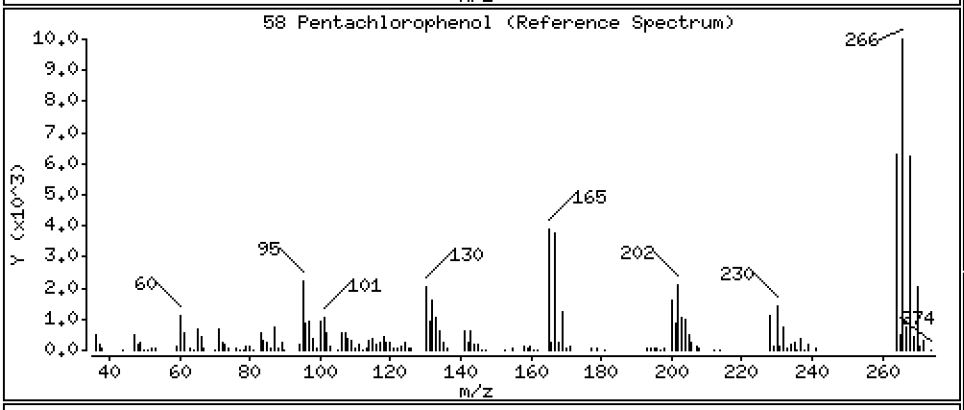
Concentration: 15.05 ug/mL

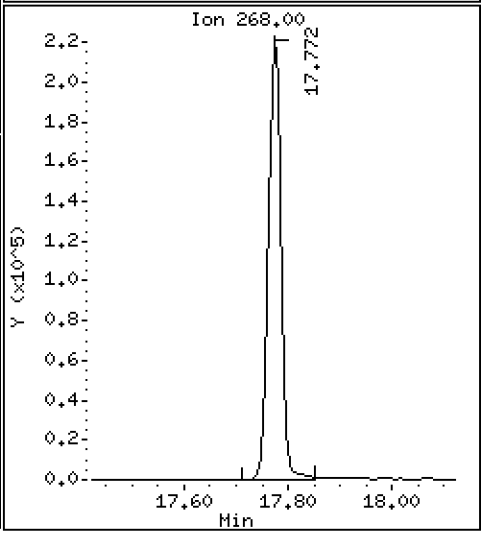


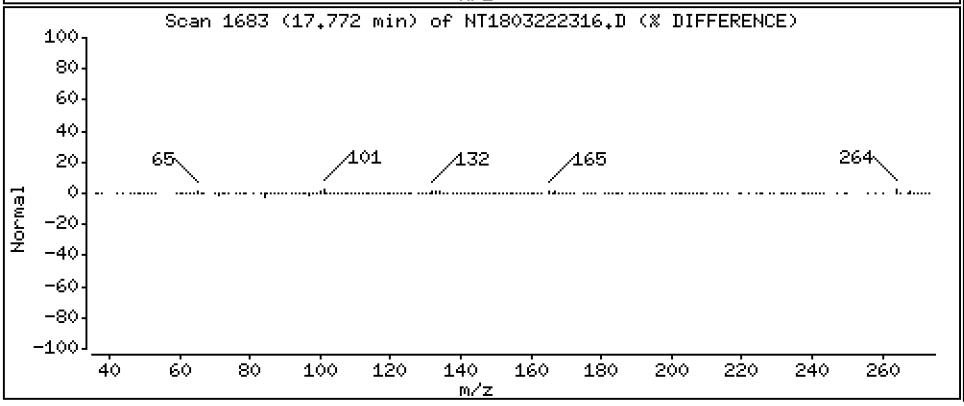












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

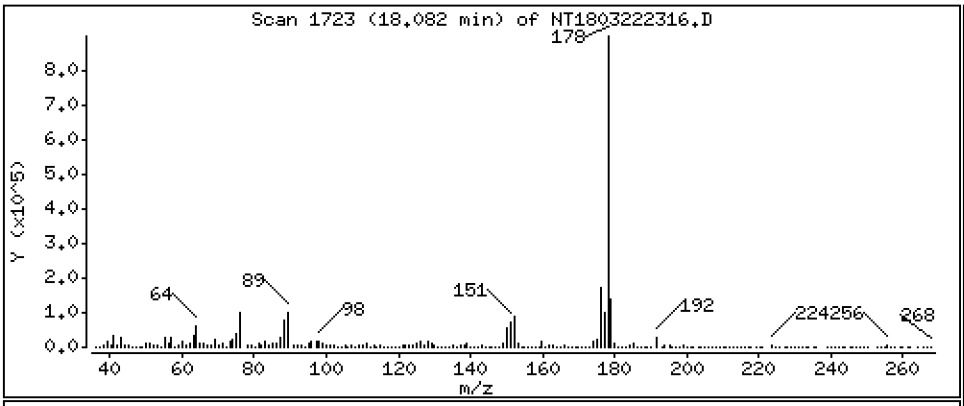
Operator: VTS

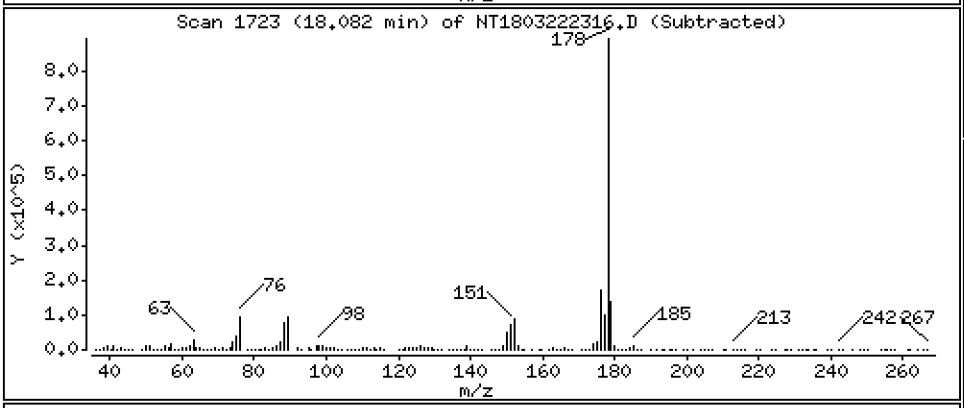
Column phase: ZB-5msi

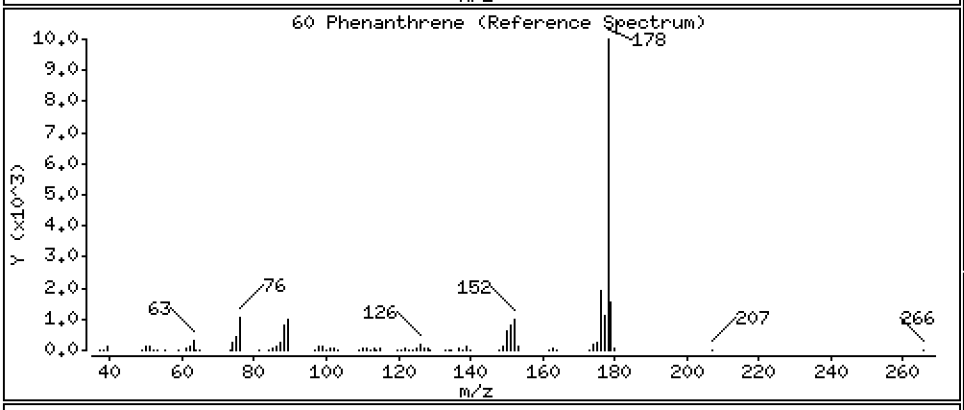
Column diameter: 0.25

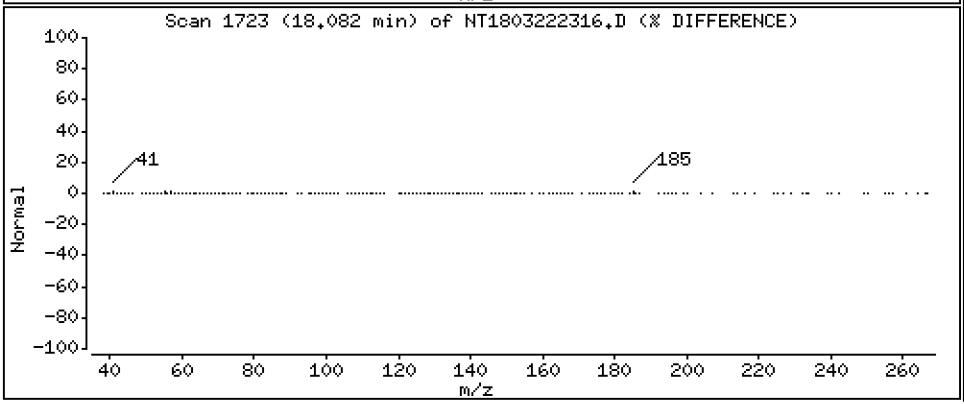
60 Phenanthrene

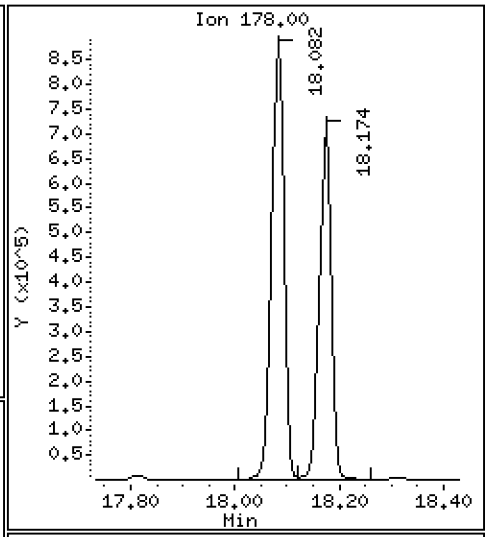
Concentration: 4.929 ug/mL

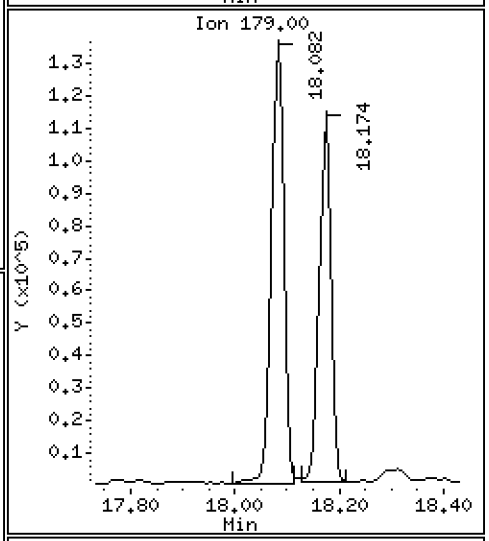


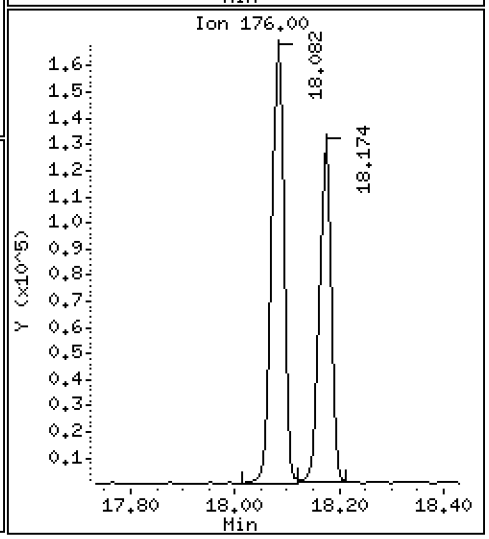












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

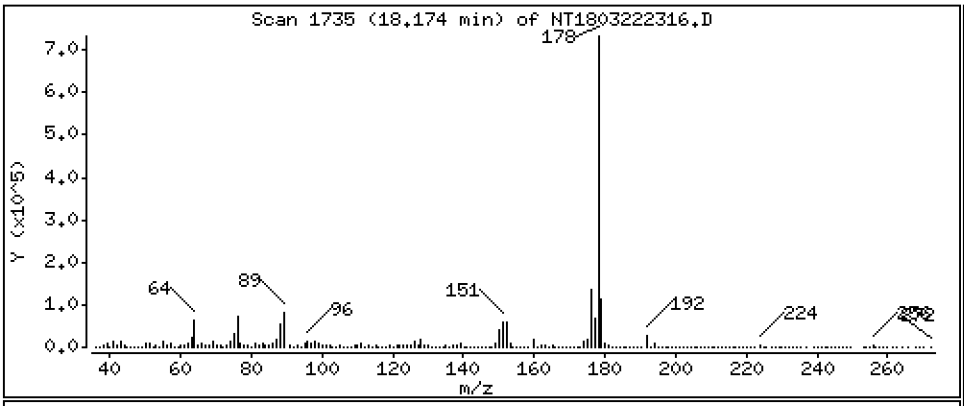
Operator: VTS

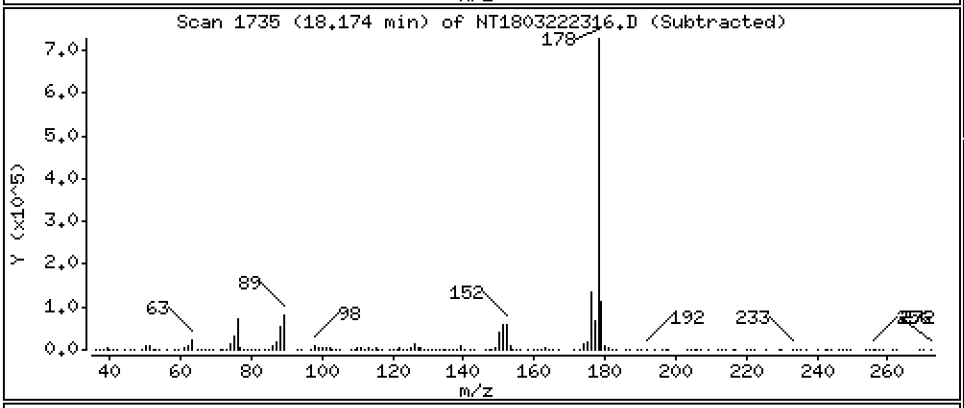
Column phase: ZB-5msi

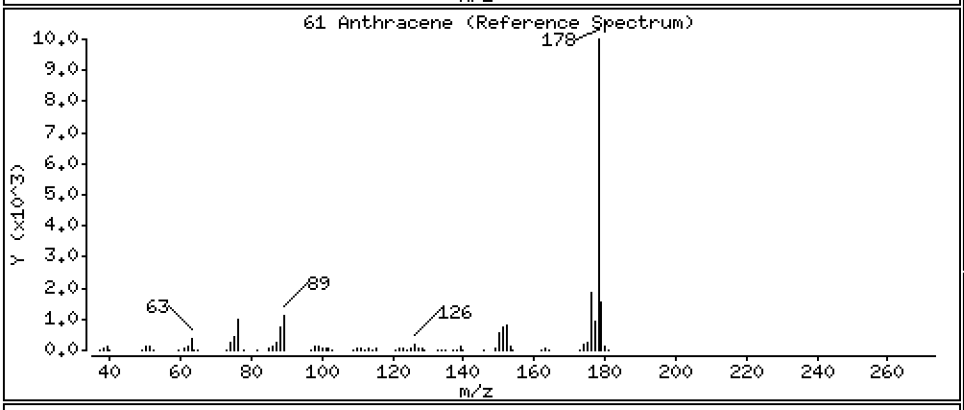
Column diameter: 0.25

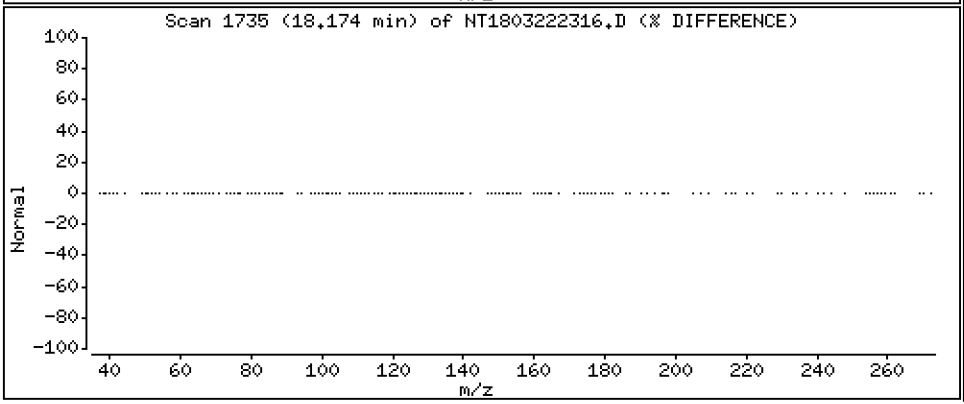
61 Anthracene

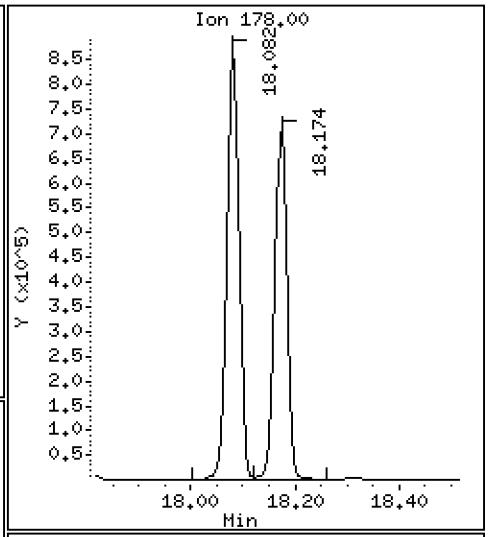
Concentration: 4.077 ug/mL

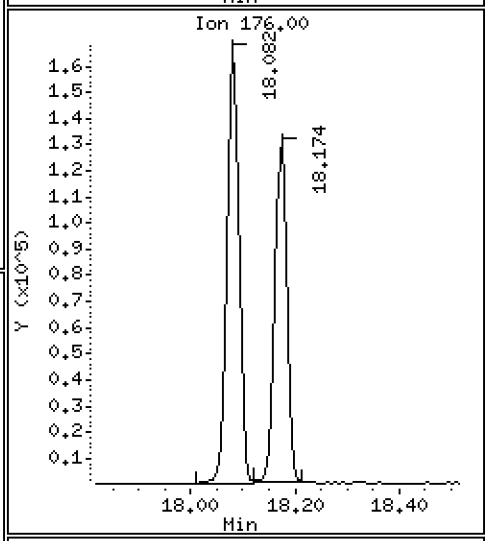


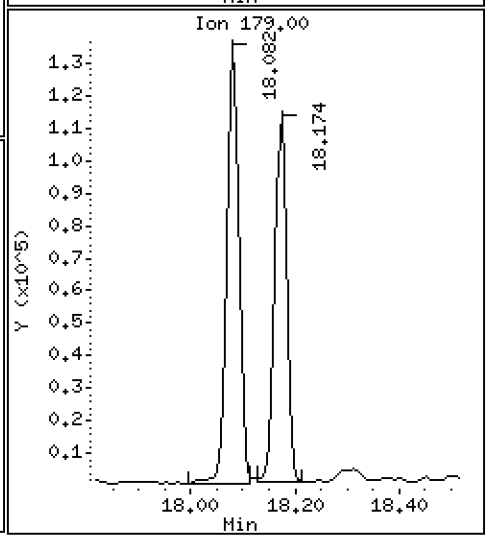












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

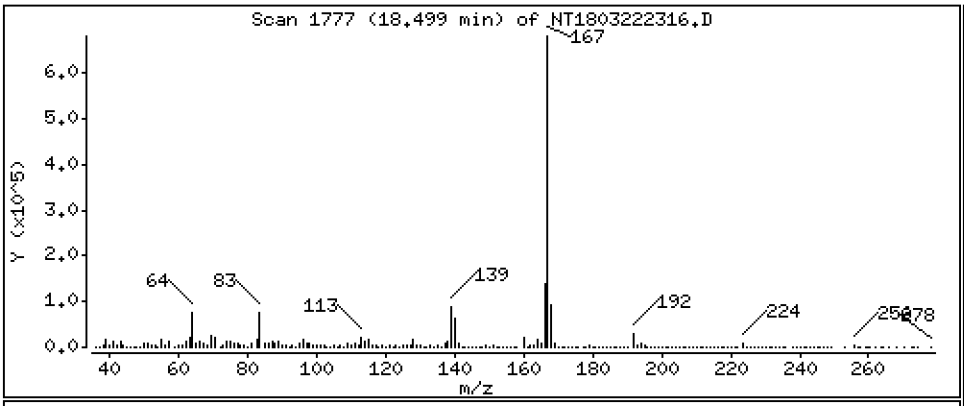
Operator: VTS

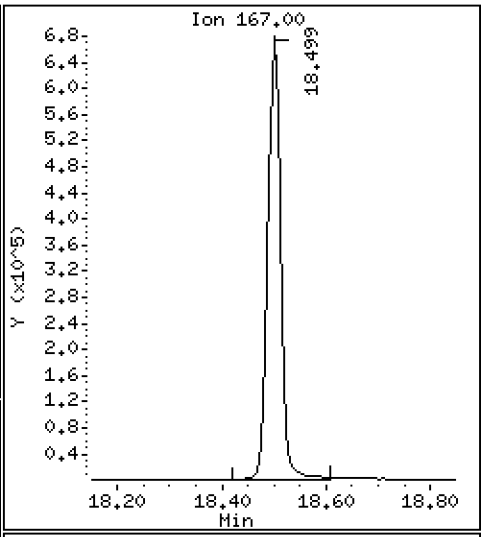
Column phase: ZB-5msi

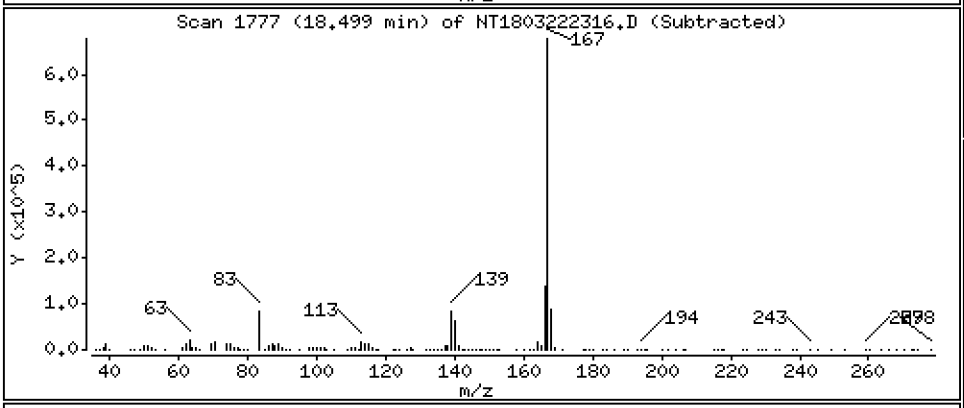
Column diameter: 0.25

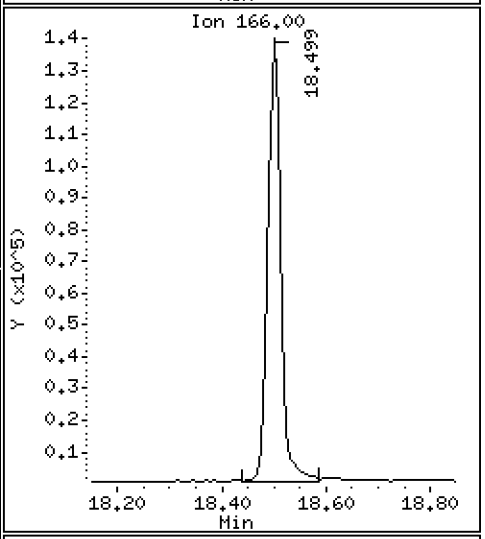
62 Carbazole

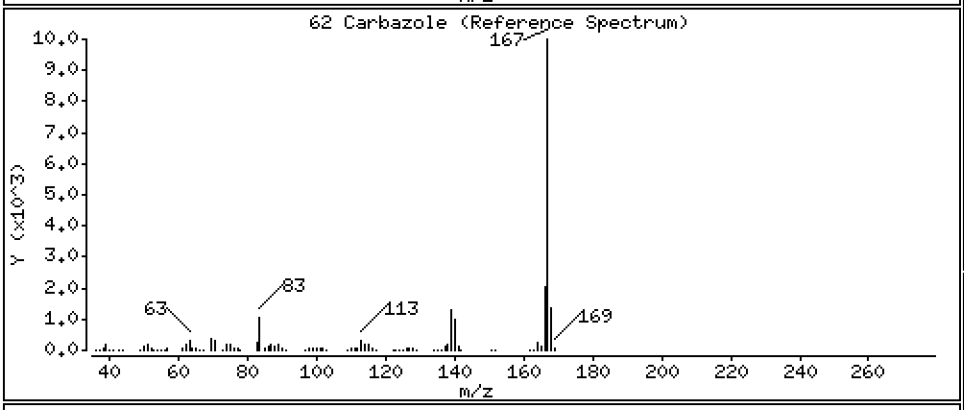
Concentration: 4.670 ug/mL

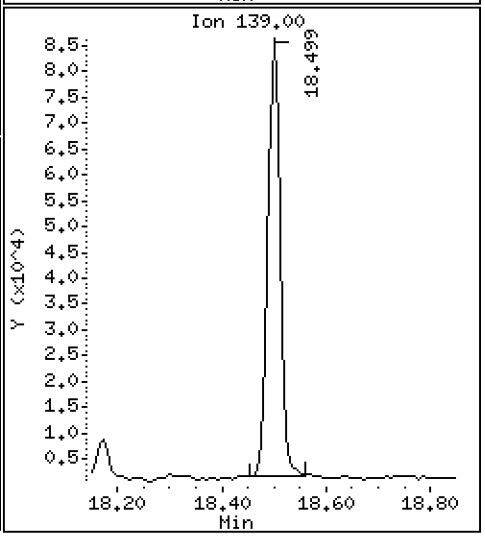


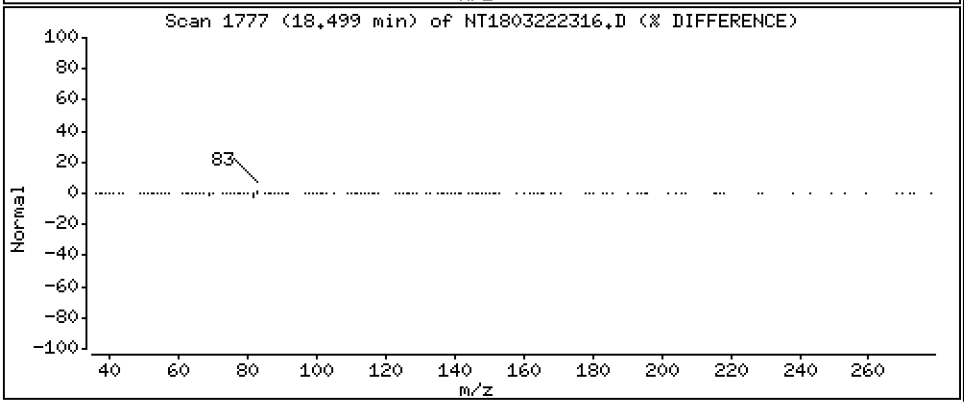












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

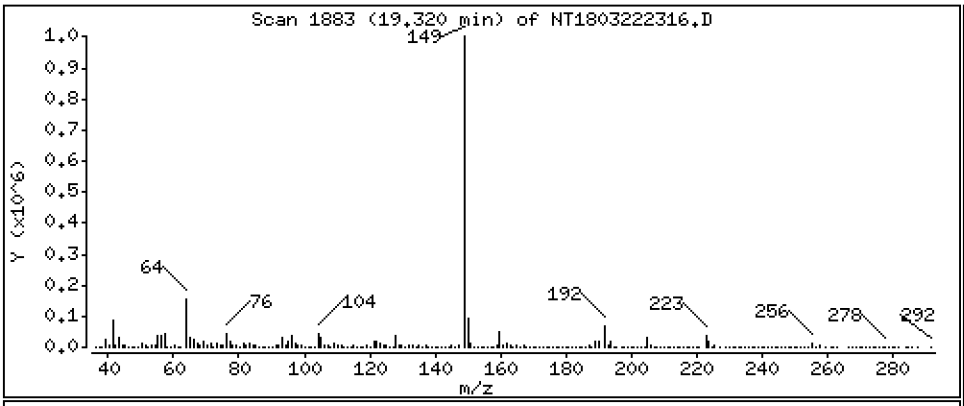
Operator: VTS

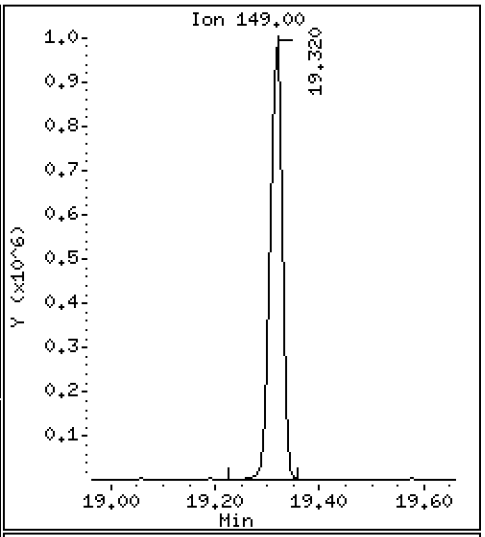
Column phase: ZB-5msi

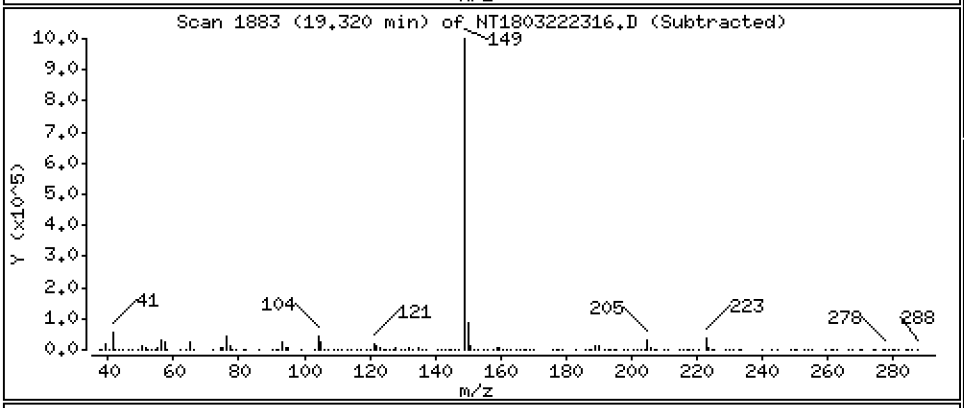
Column diameter: 0.25

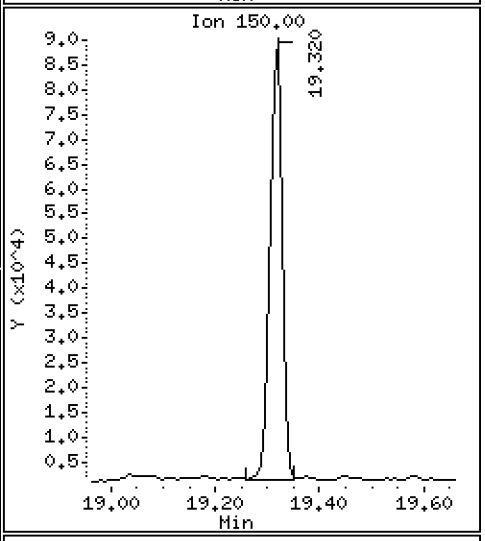
63 Di-n-butylphthalate

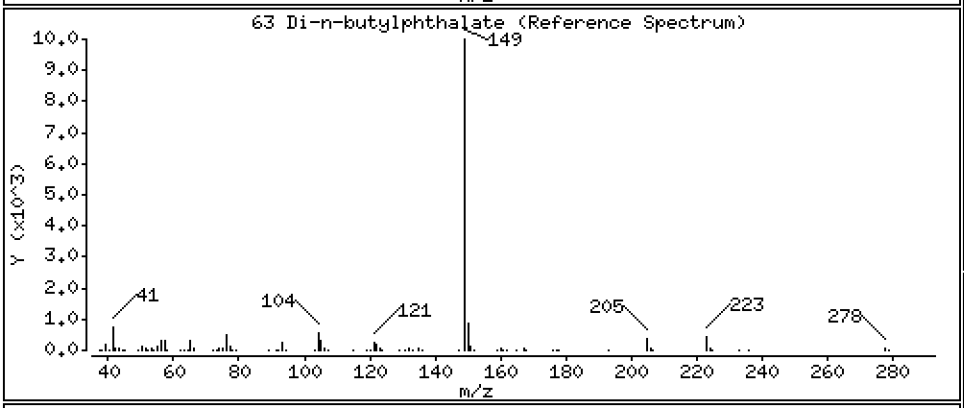
Concentration: 4.941 ug/mL

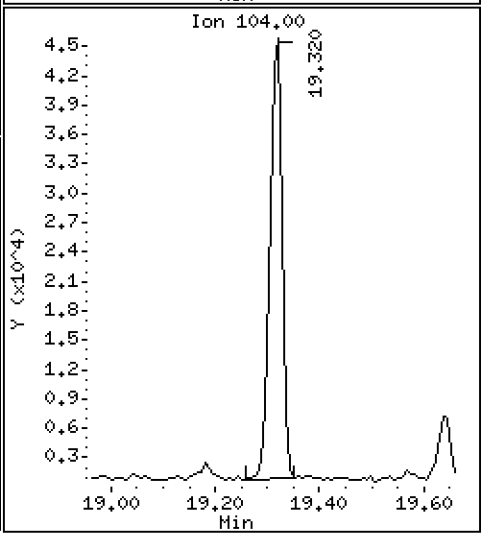


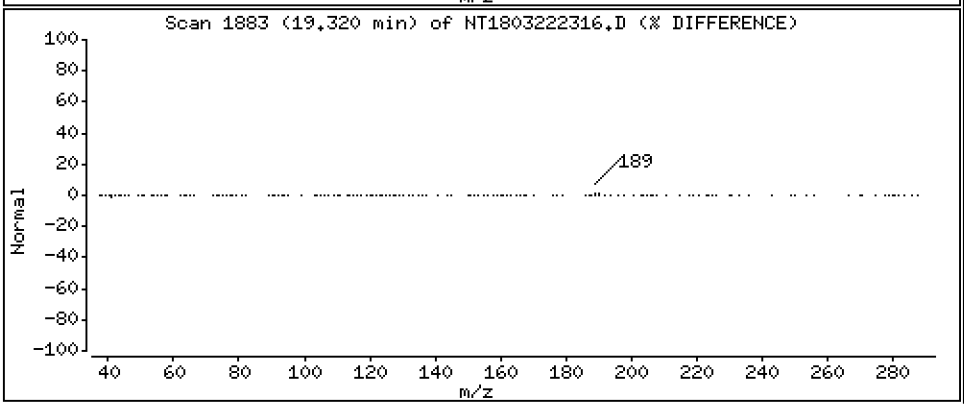












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222316.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

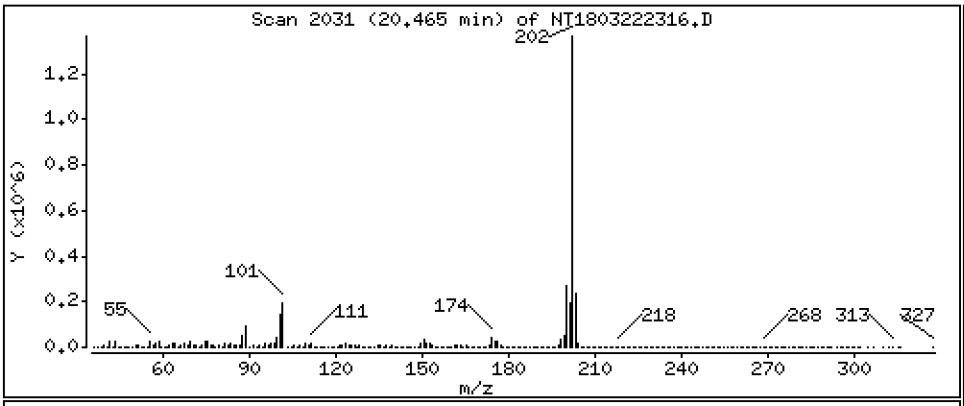
Operator: VTS

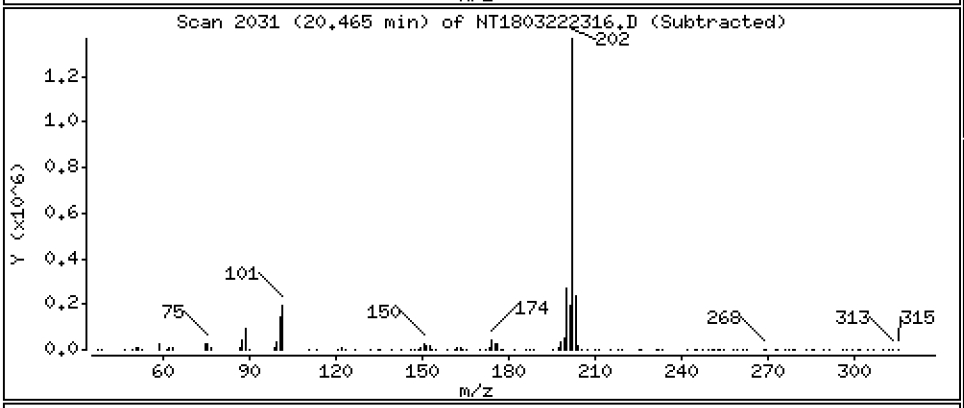
Column phase: ZB-5msi

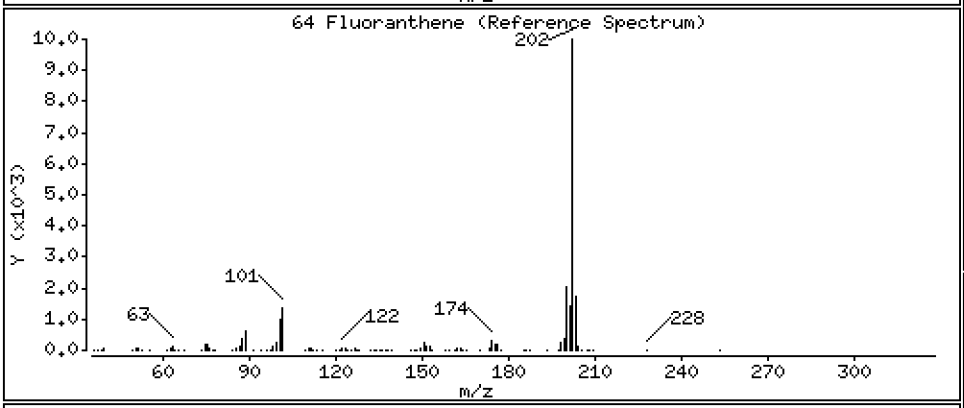
Column diameter: 0.25

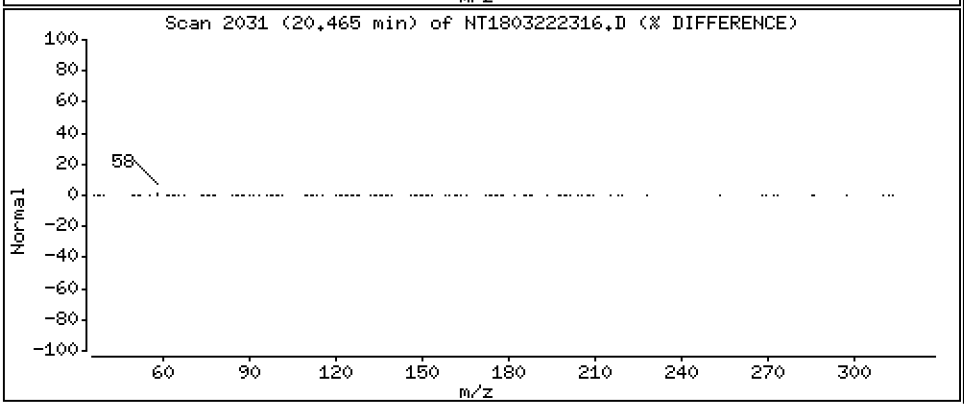
64 Fluoranthene

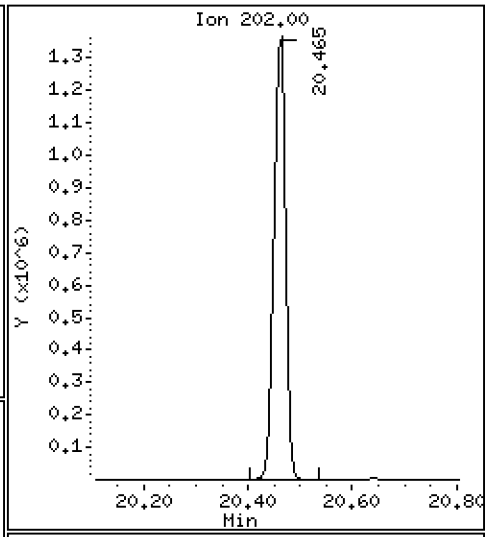
Concentration: 5.193 ug/mL

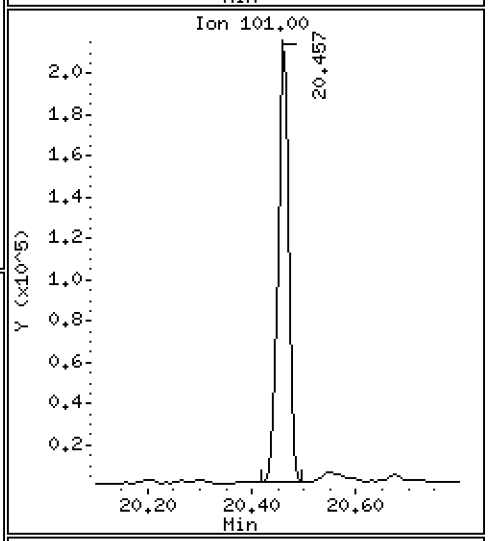


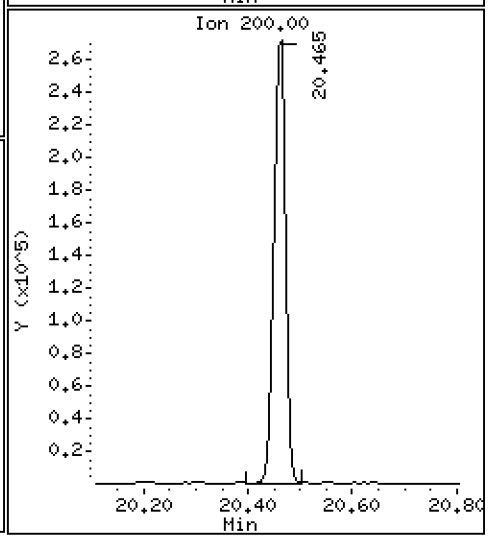












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

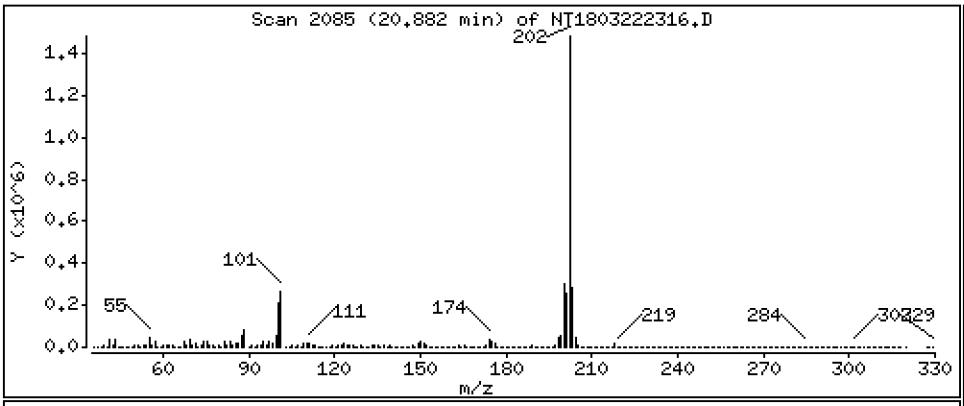
Operator: VTS

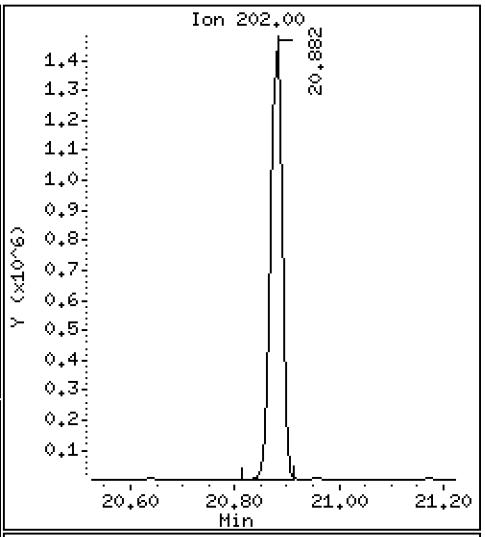
Column phase: ZB-5msi

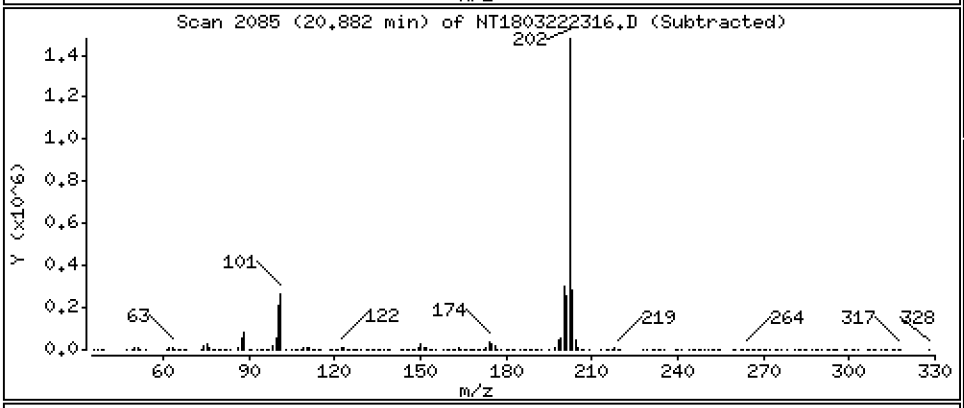
Column diameter: 0.25

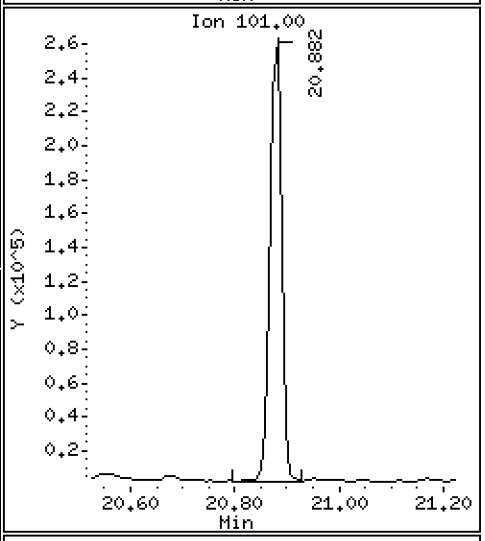
65 Pyrene

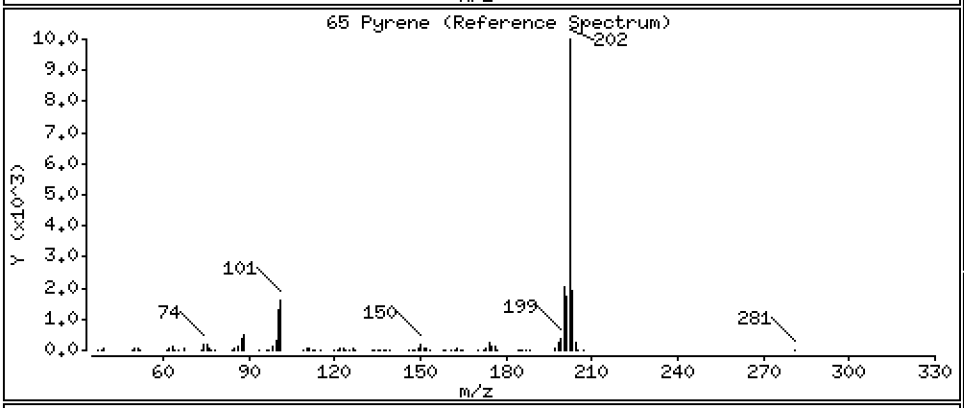
Concentration: 5.163 ug/mL

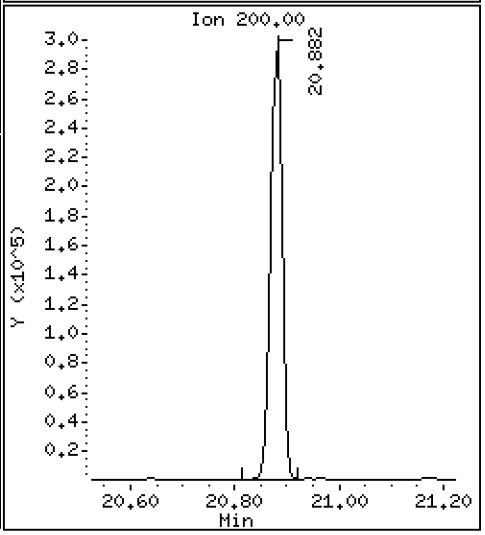


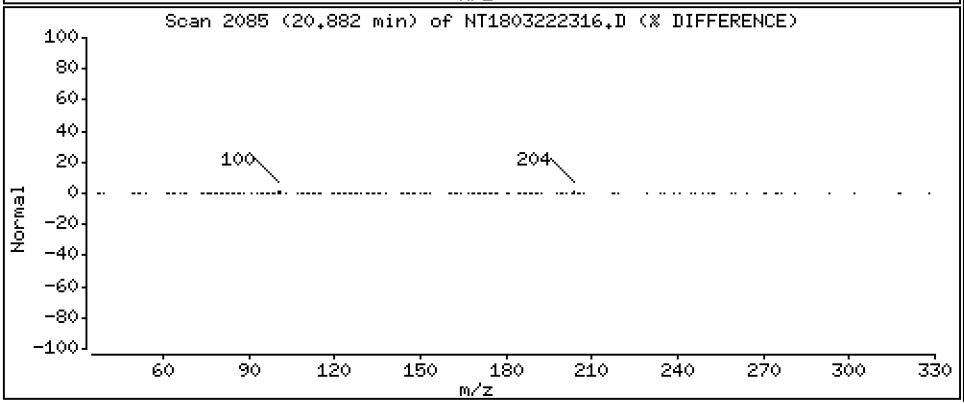












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222316.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

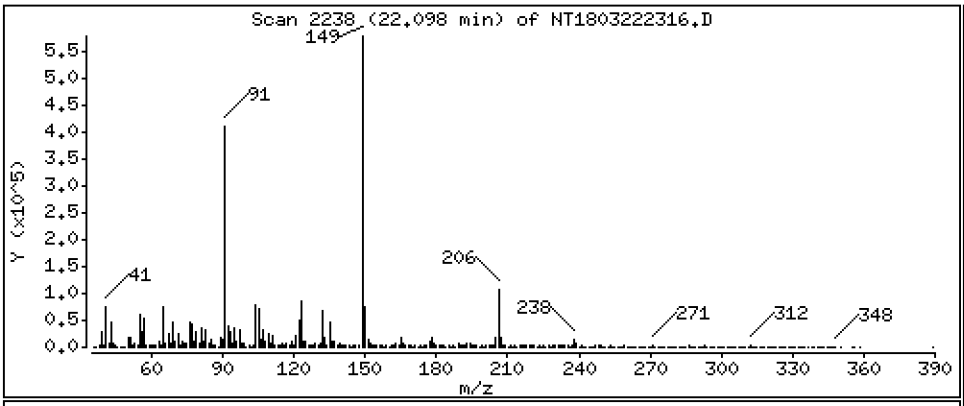
Operator: VTS

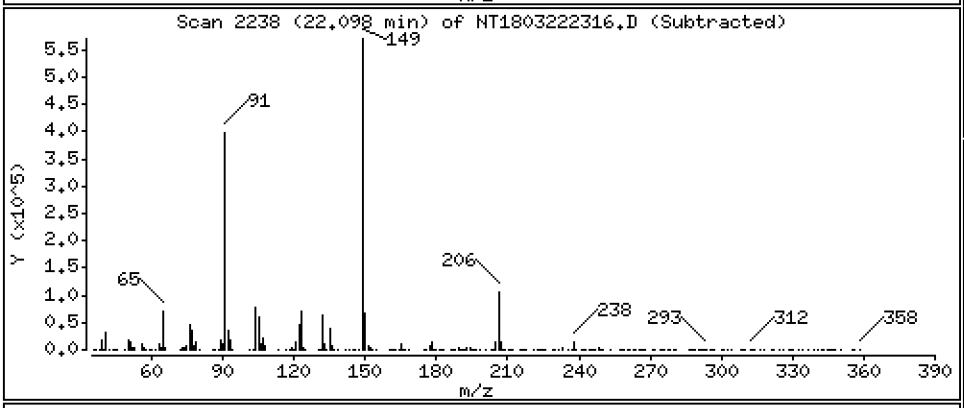
Column phase: ZB-5msi

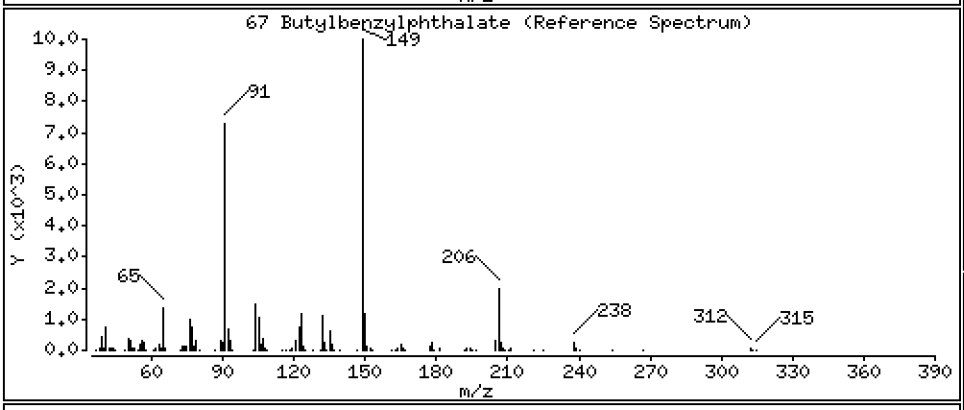
Column diameter: 0.25

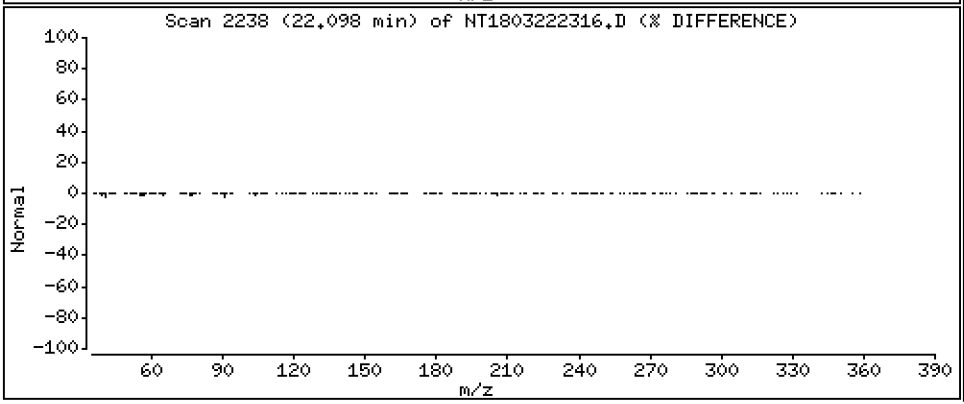
67 Butylbenzylphthalate

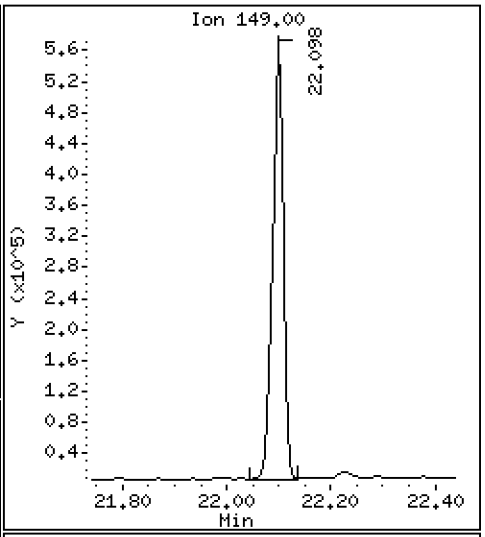
Concentration: 4.492 ug/mL

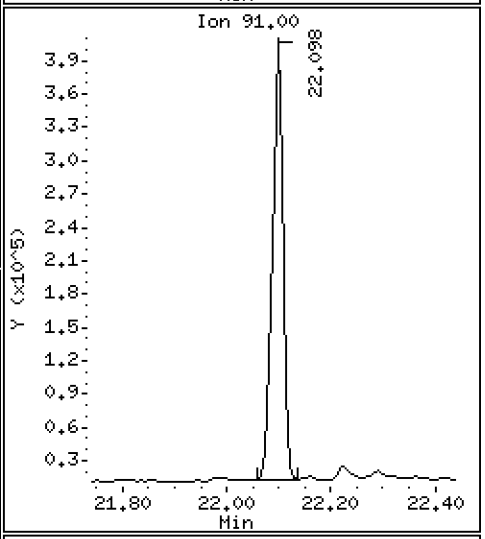


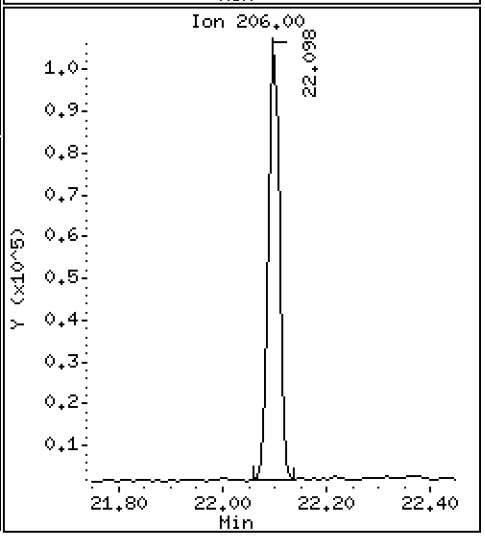












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

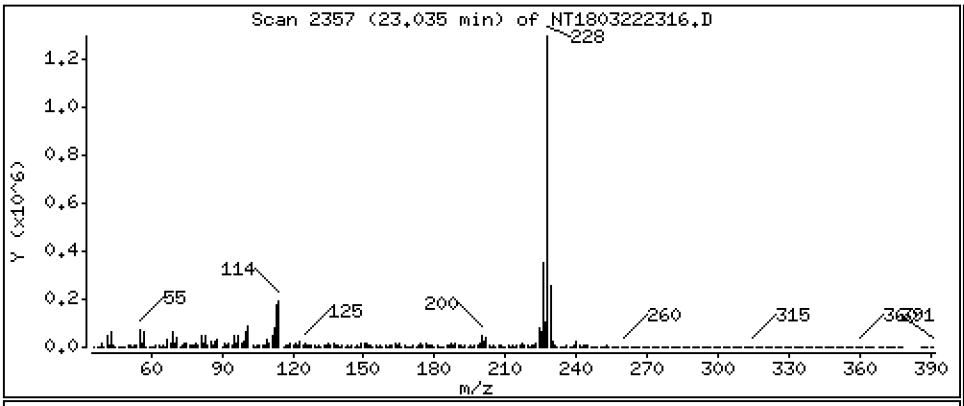
Operator: VTS

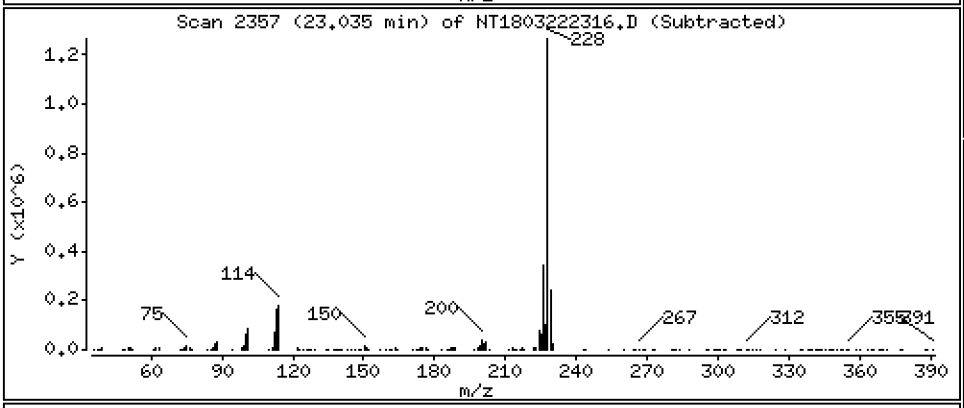
Column phase: ZB-5msi

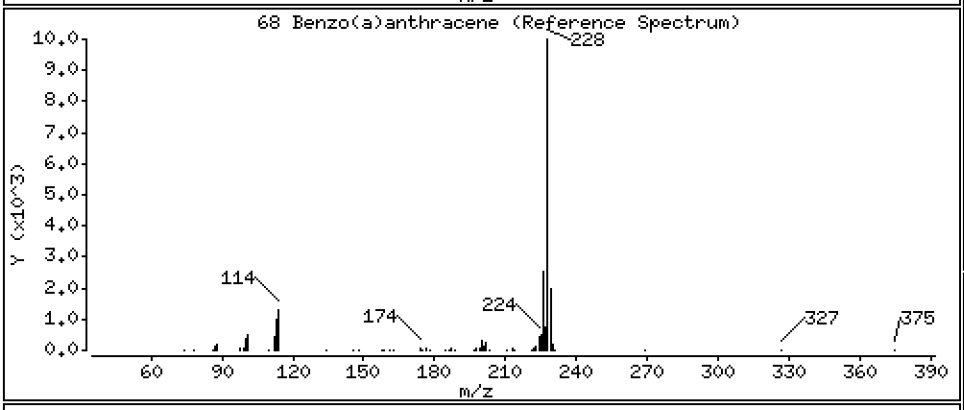
Column diameter: 0.25

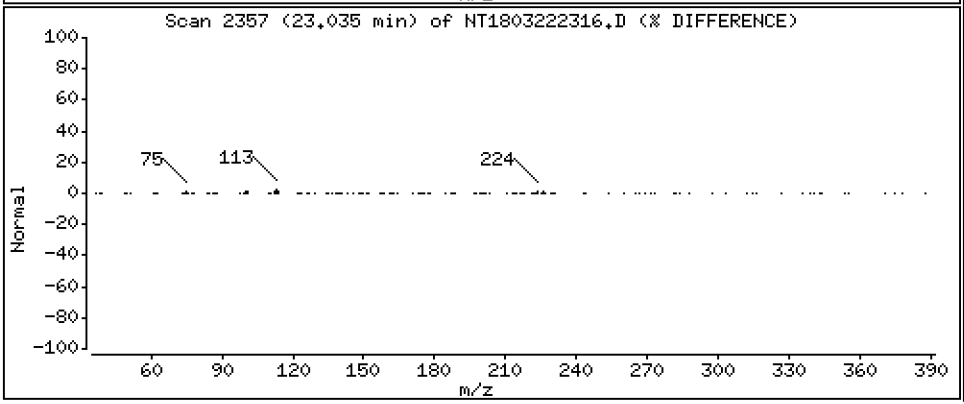
68 Benzo(a)anthracene

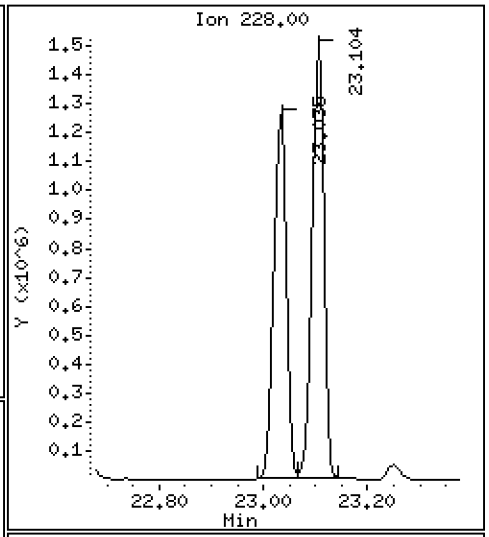
Concentration: 5.344 ug/mL

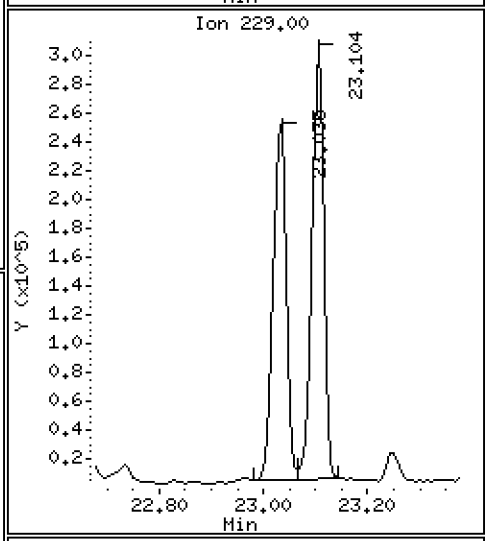


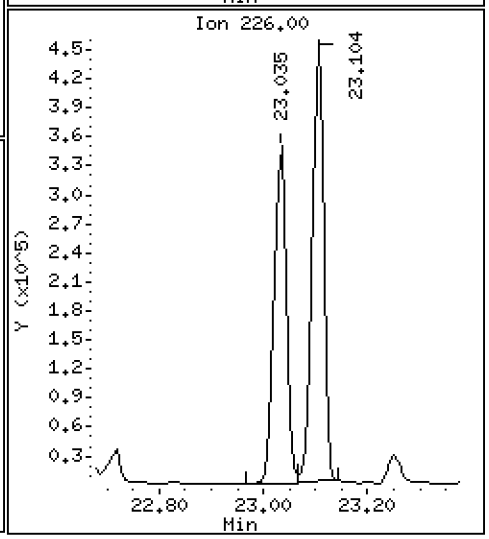












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

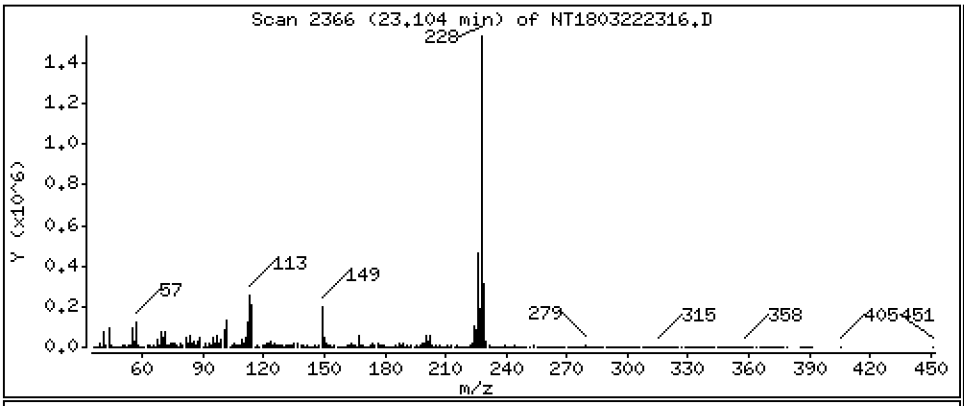
Operator: VTS

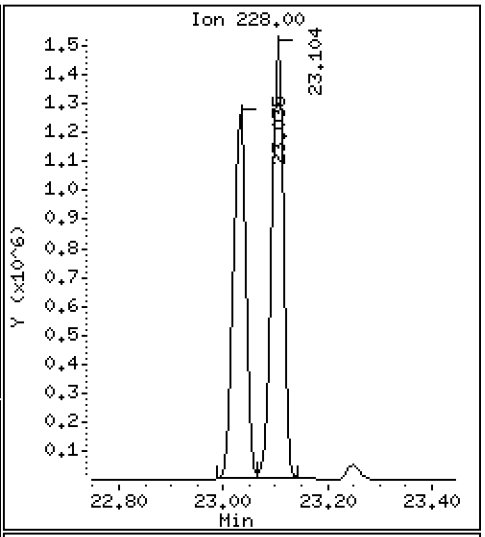
Column phase: ZB-5msi

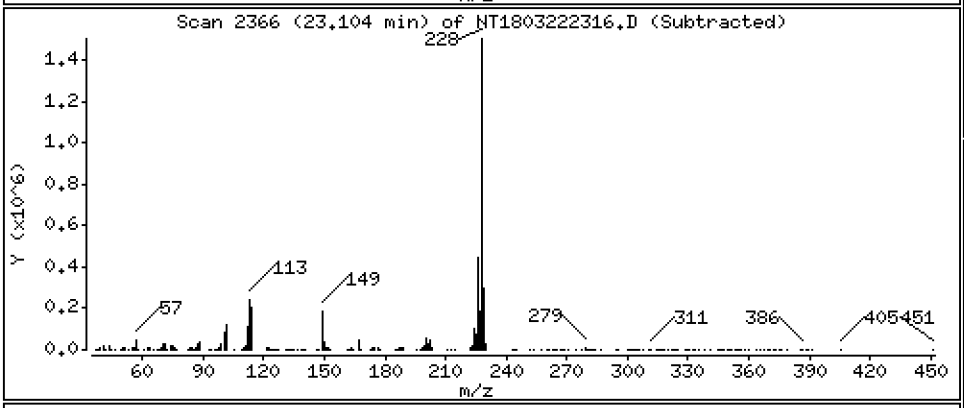
Column diameter: 0.25

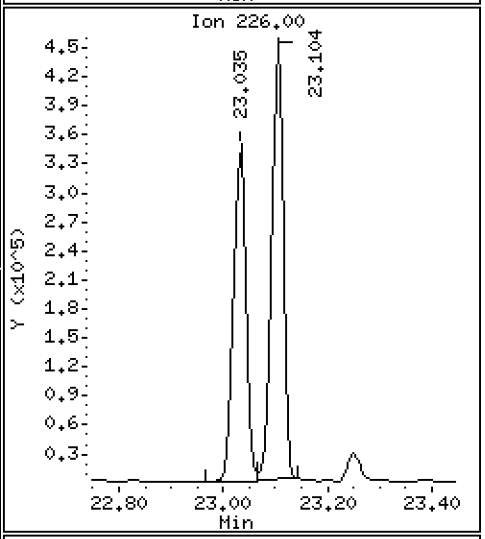
71 Chrysene

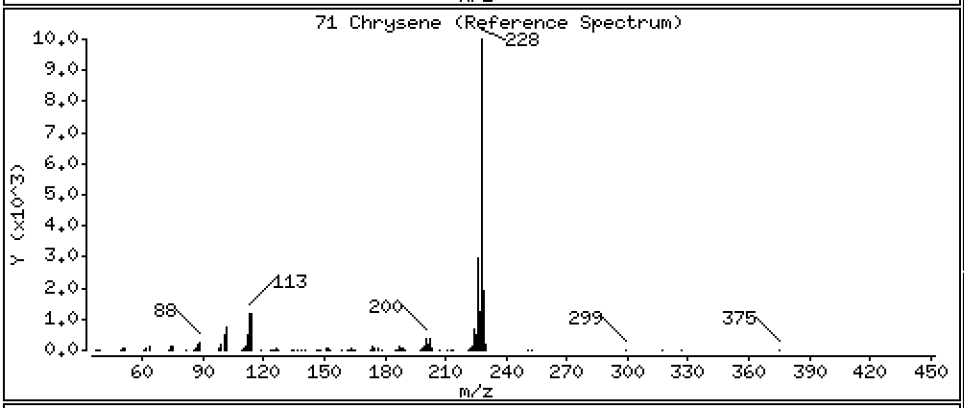
Concentration: 5.595 ug/mL

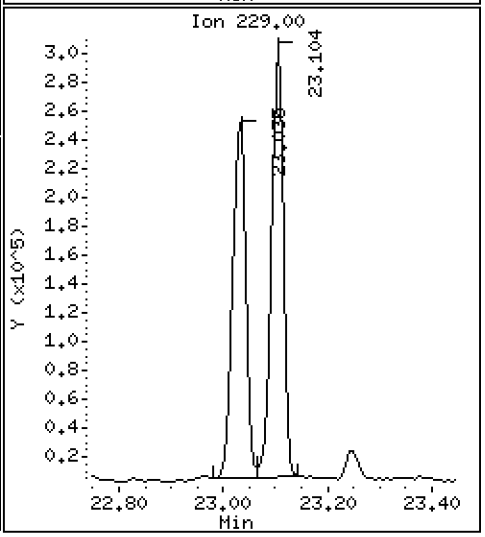


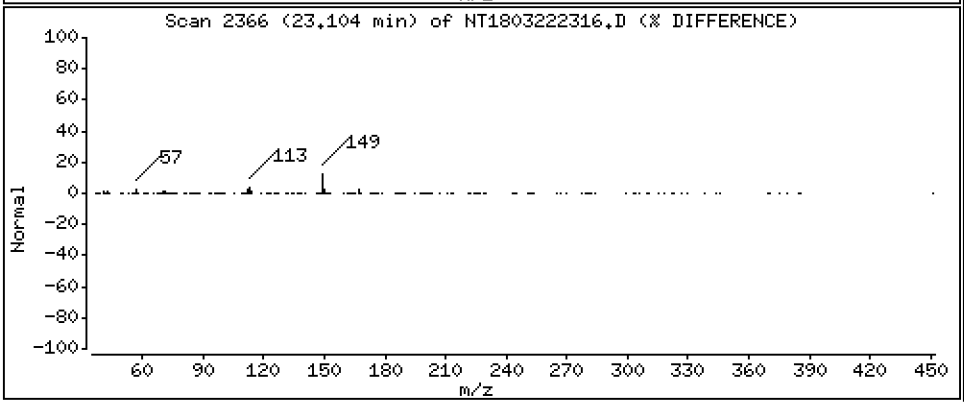












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

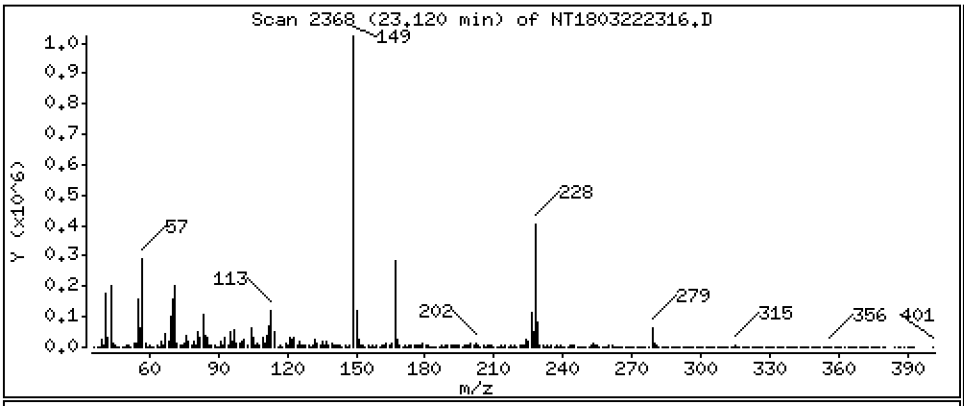
Operator: VTS

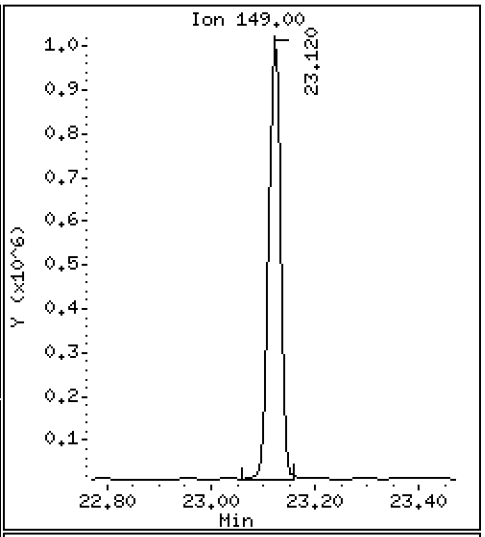
Column phase: ZB-5msi

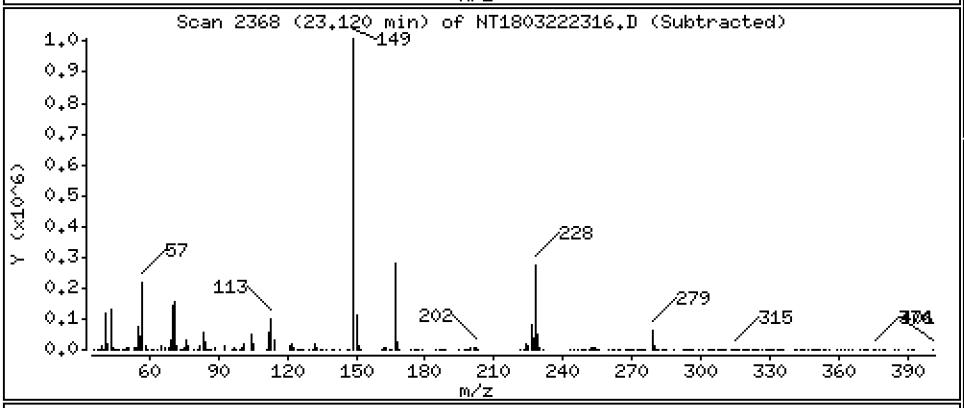
Column diameter: 0.25

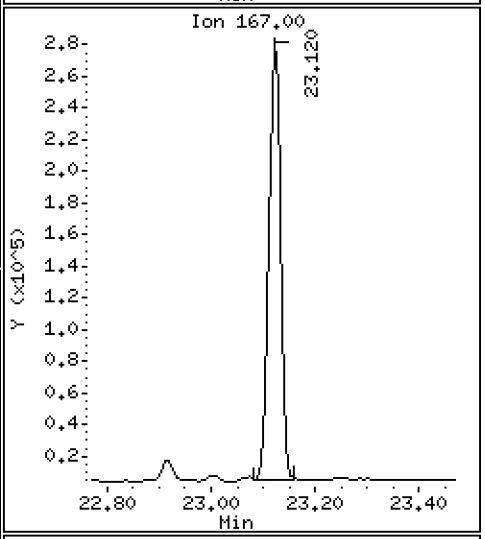
72 bis(2-Ethylhexyl)phthalate

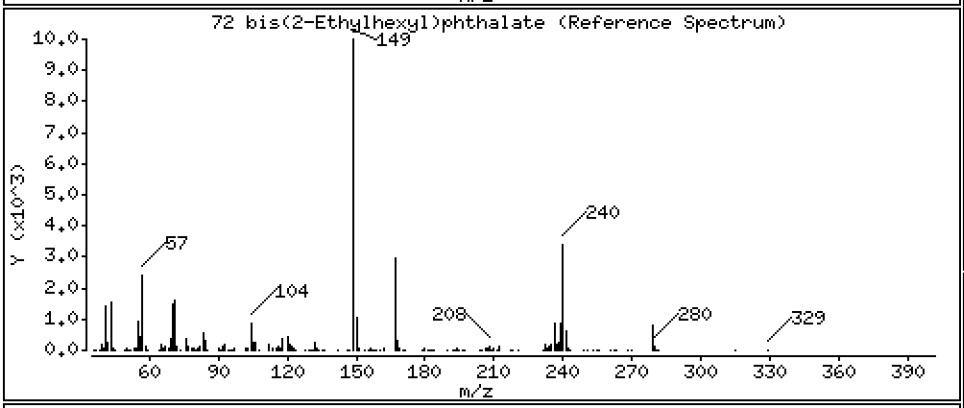
Concentration: 5.398 ug/mL

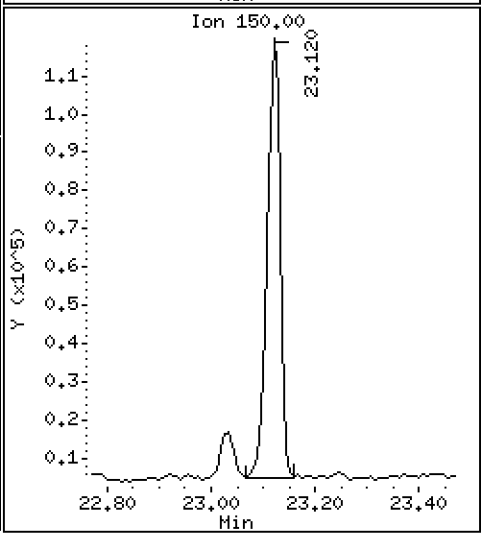


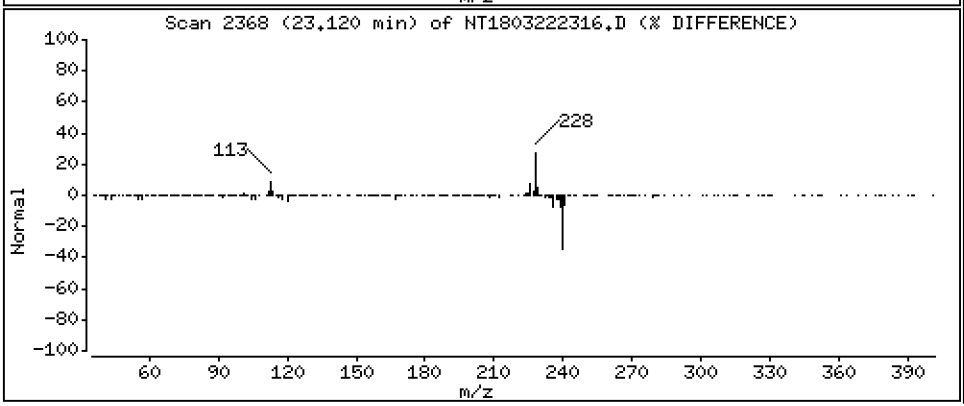












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

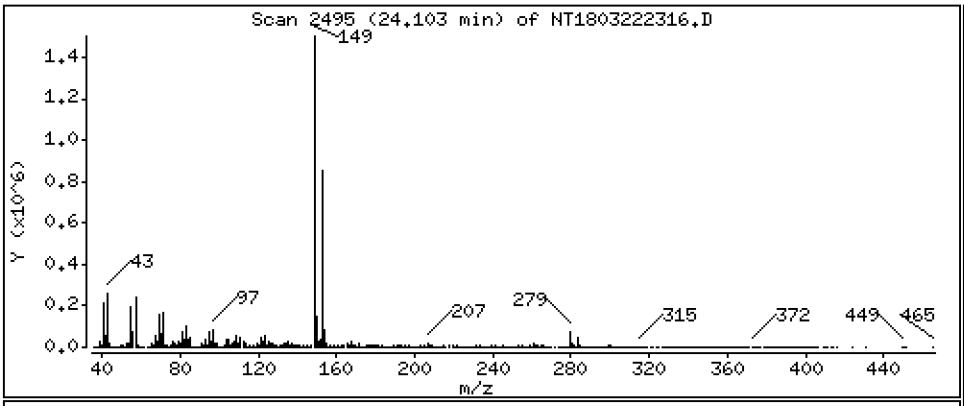
Operator: VTS

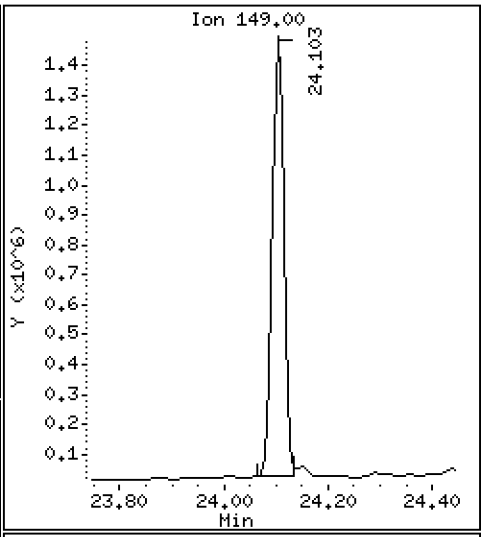
Column phase: ZB-5msi

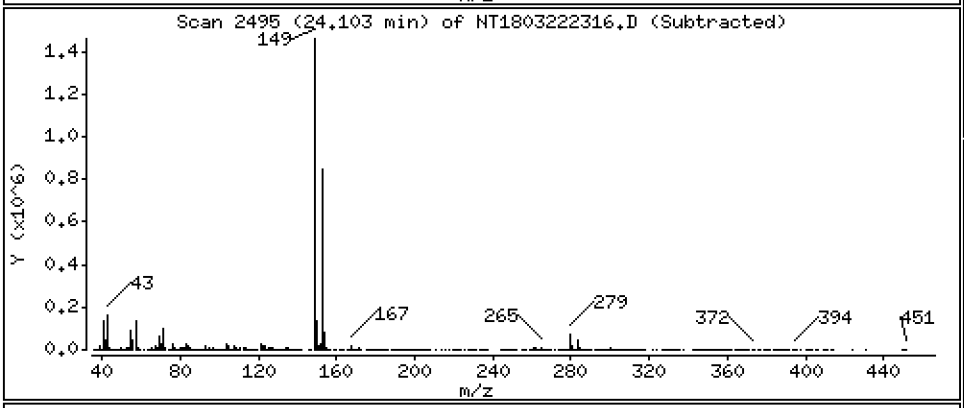
Column diameter: 0.25

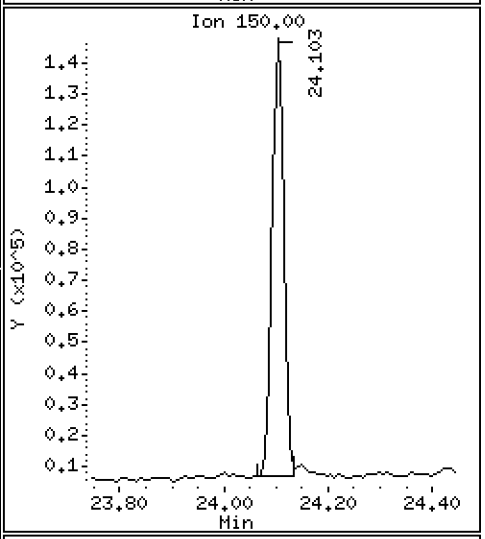
73 Di-n-octylphthalate

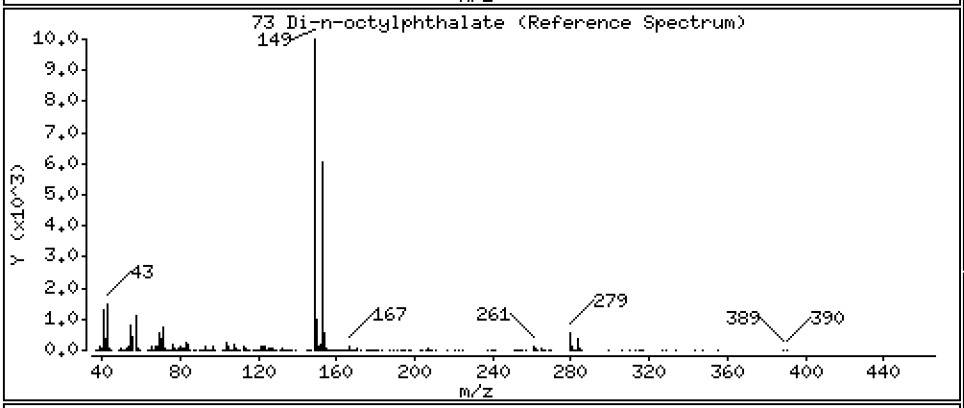
Concentration: 4.535 ug/mL

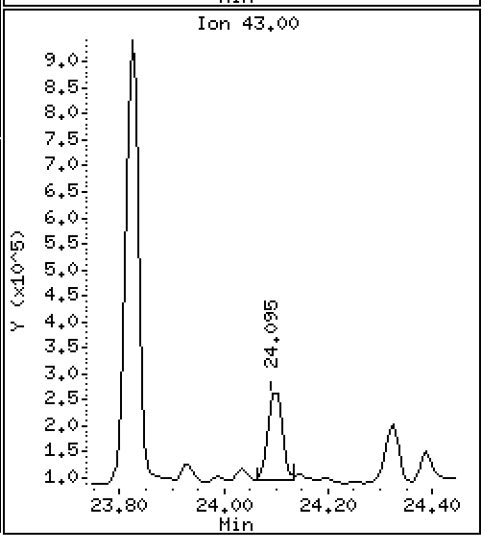


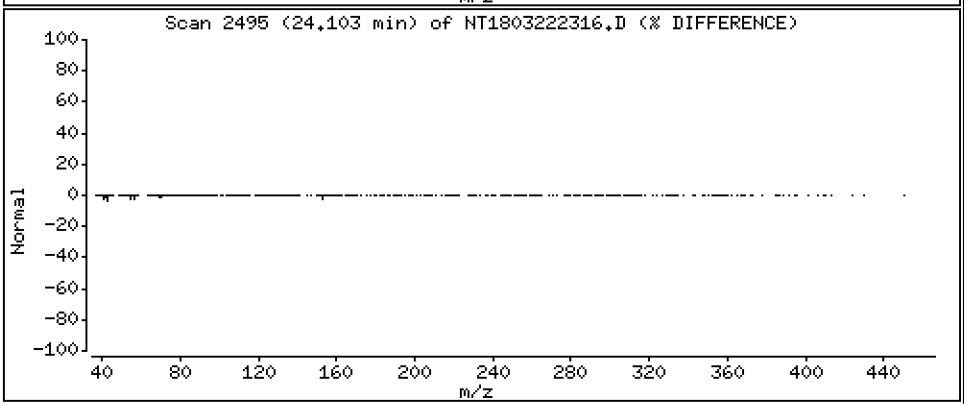












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222316.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

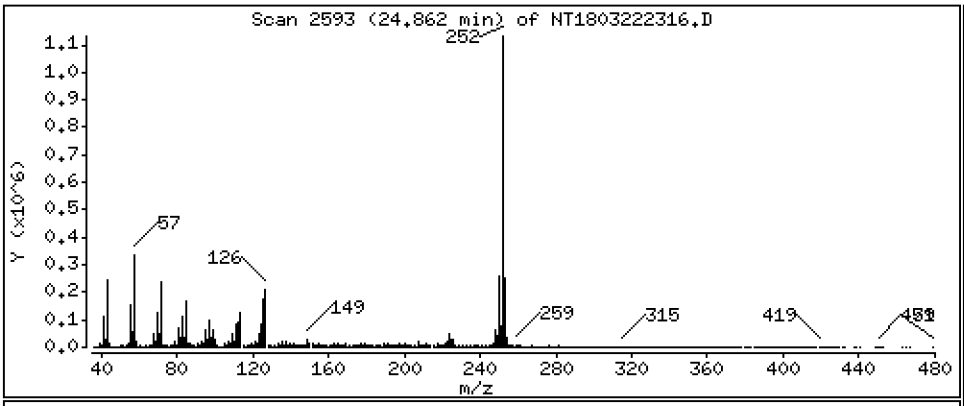
Operator: VTS

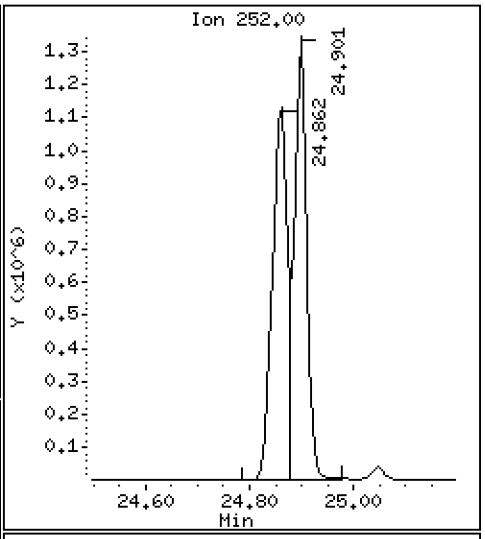
Column phase: ZB-5msi

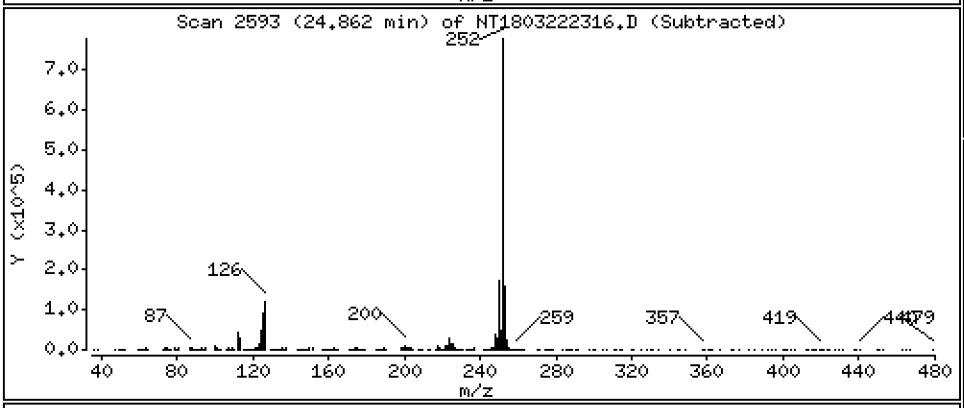
Column diameter: 0.25

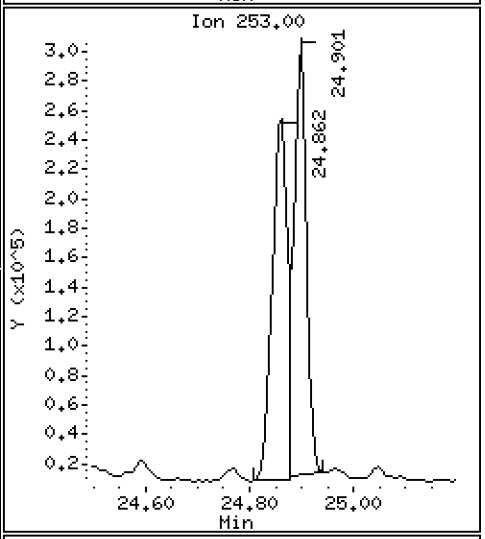
74 Benzo(b)fluoranthene

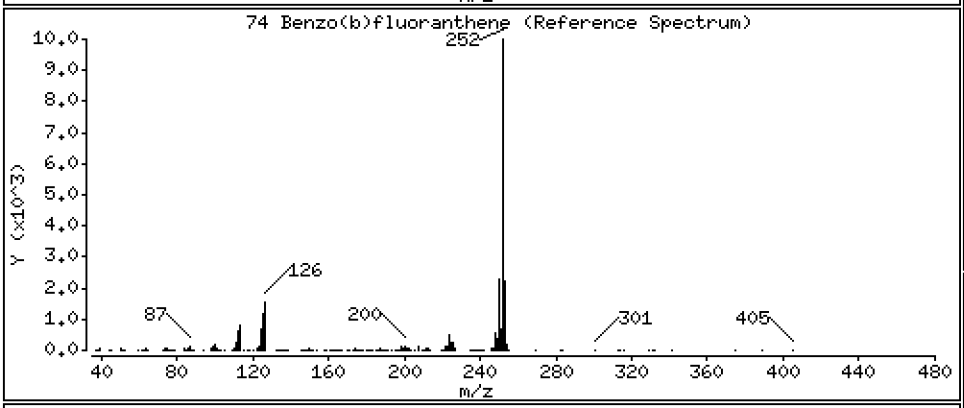
Concentration: 7.407 ug/mL

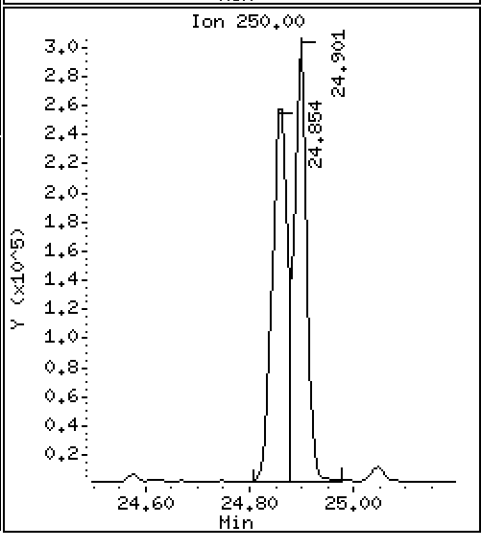


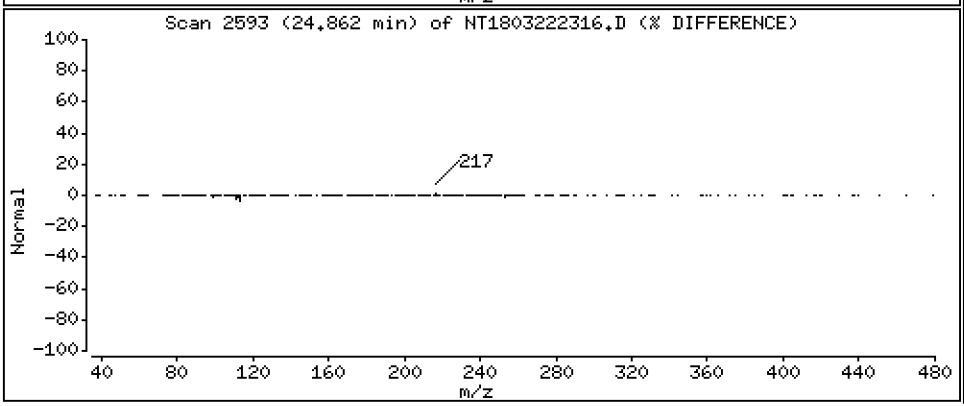












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

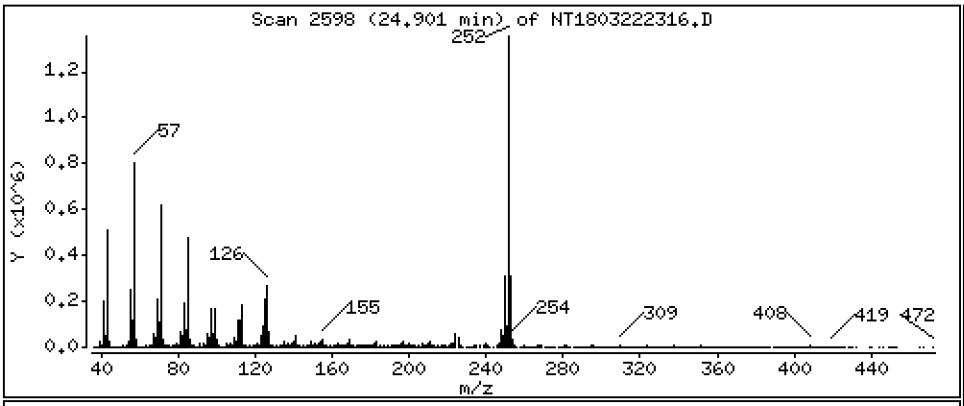
Operator: VTS

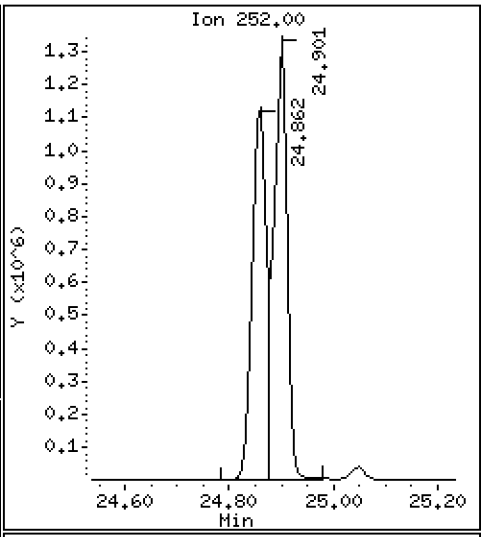
Column phase: ZB-5msi

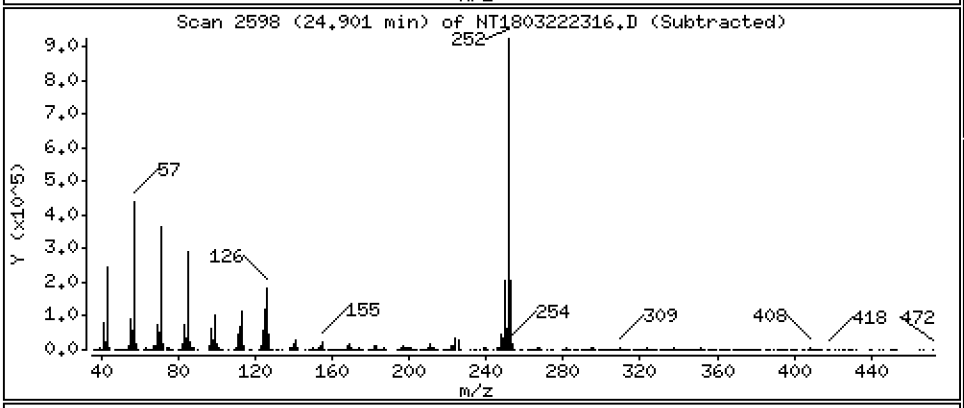
Column diameter: 0.25

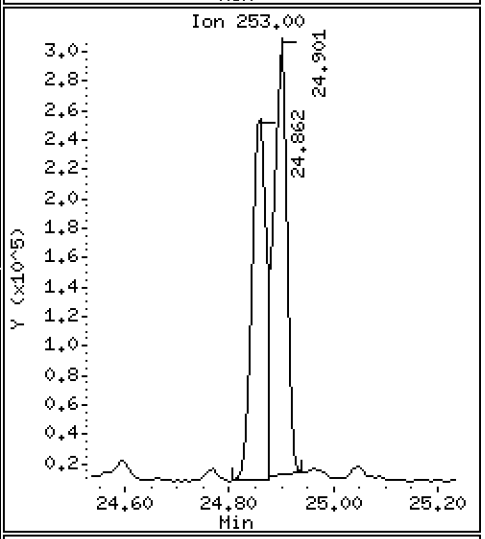
75 Benzo(k)fluoranthene

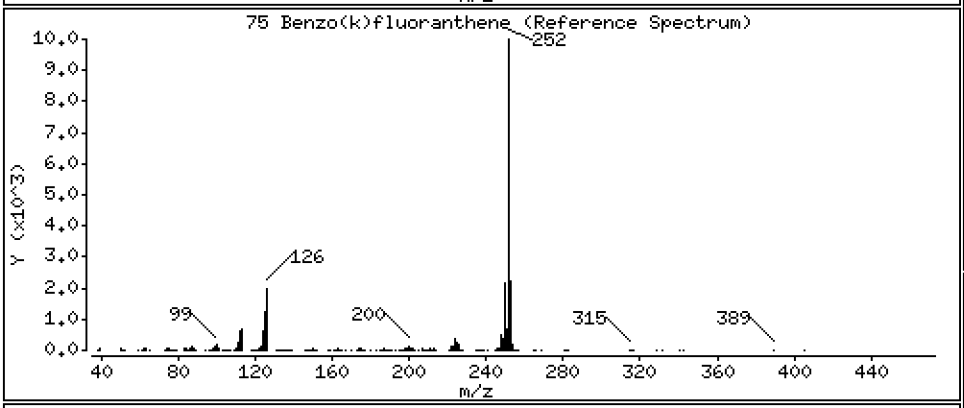
Concentration: 7.007 ug/mL

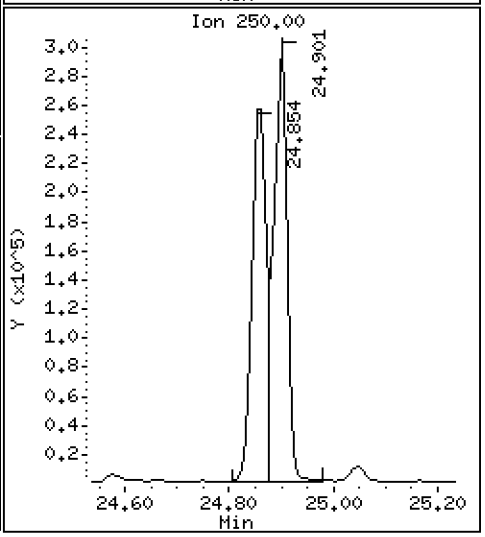


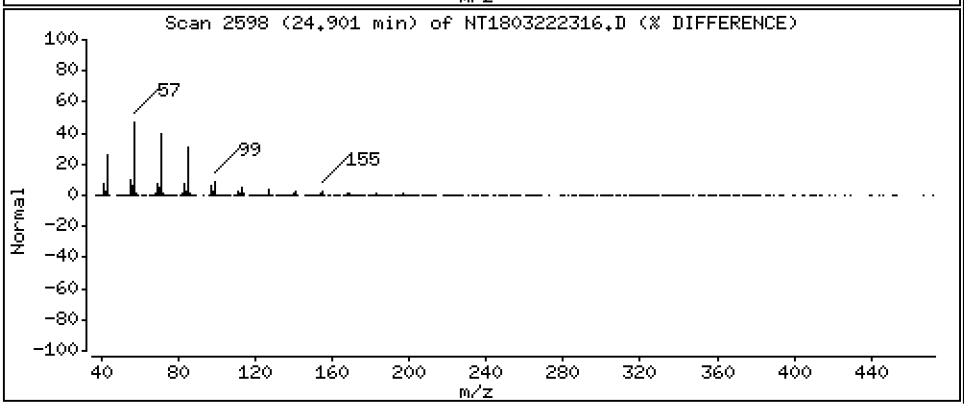












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

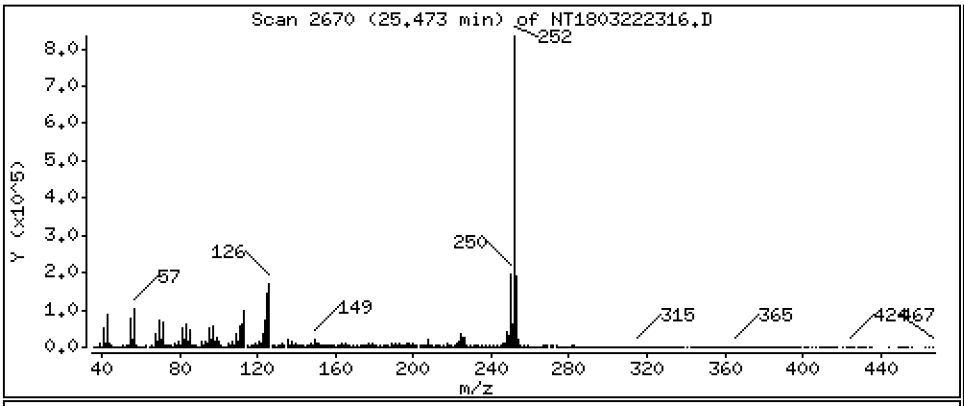
Operator: VTS

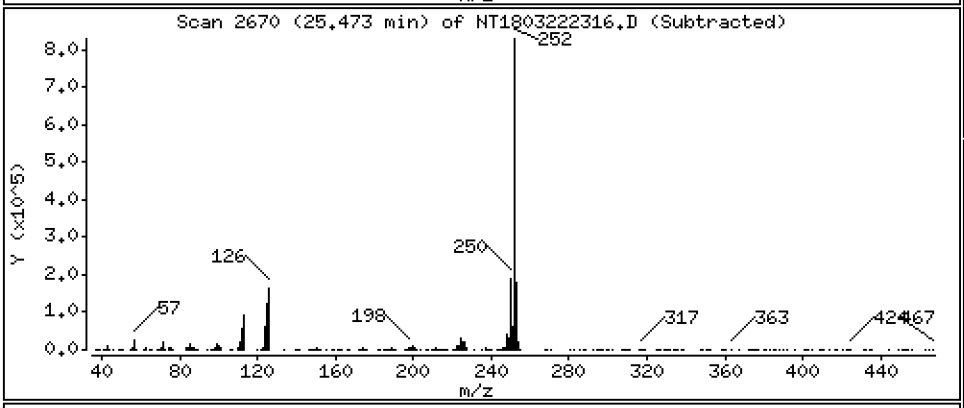
Column phase: ZB-5msi

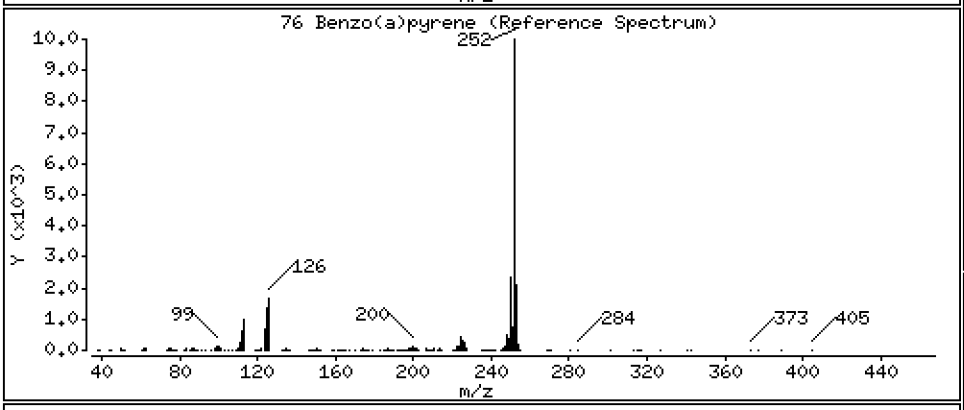
Column diameter: 0.25

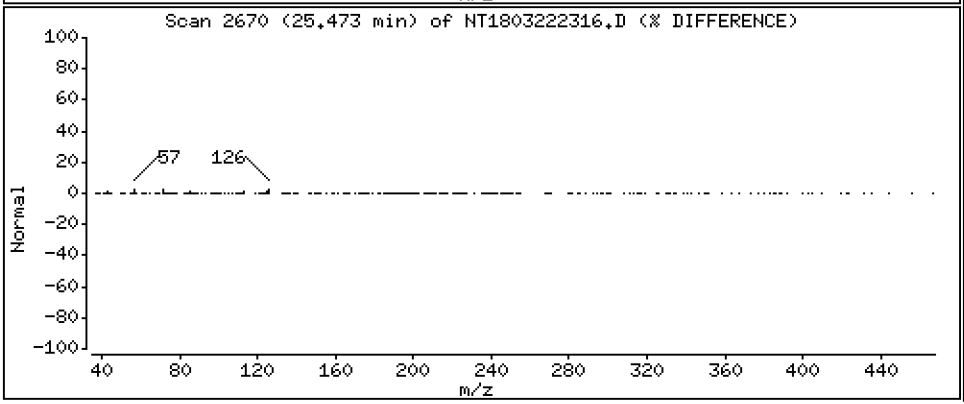
76 Benzo(a)pyrene

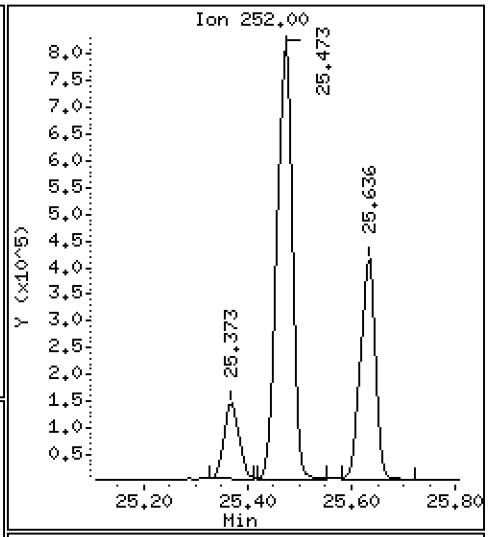
Concentration: 5.275 ug/mL

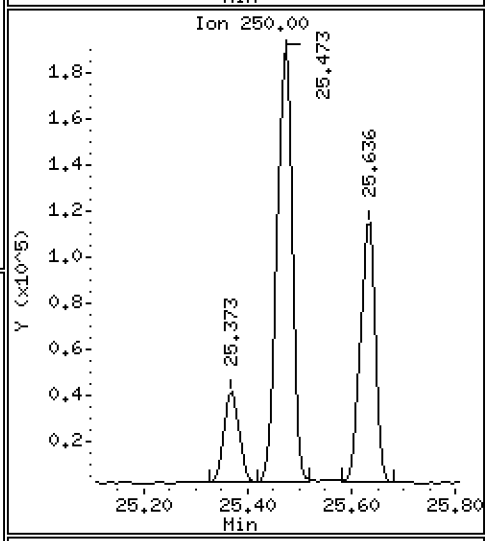


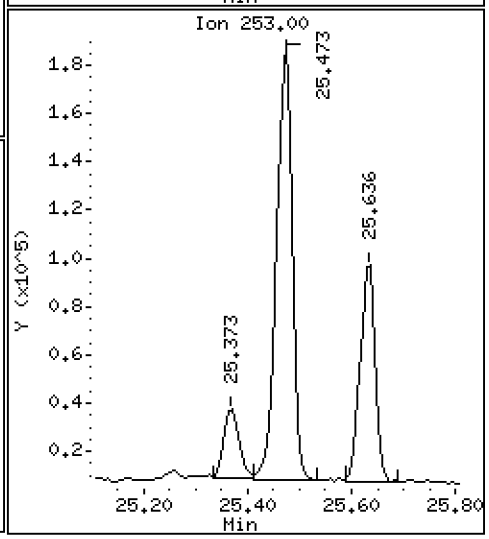












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

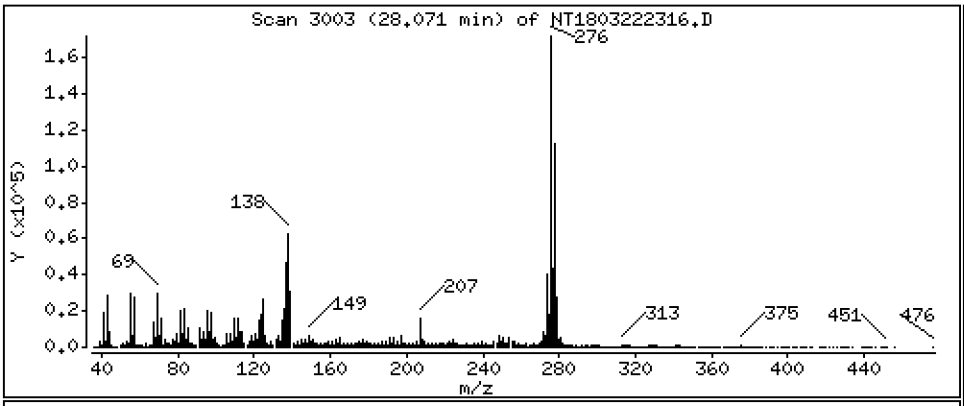
Operator: VTS

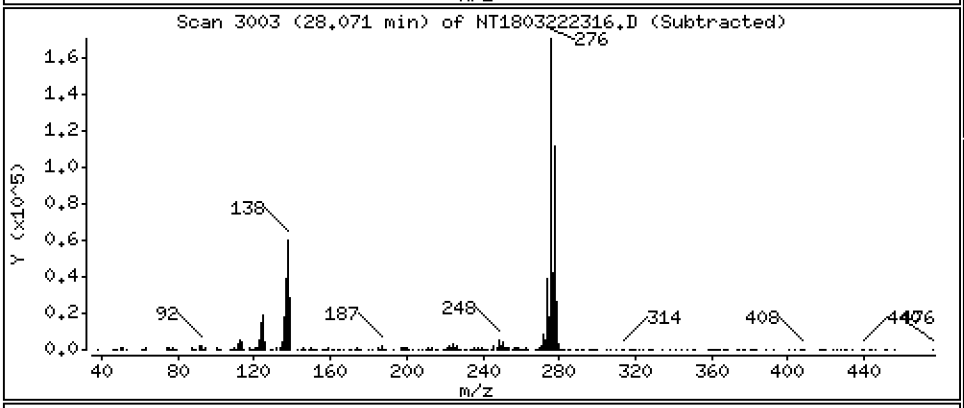
Column phase: ZB-5msi

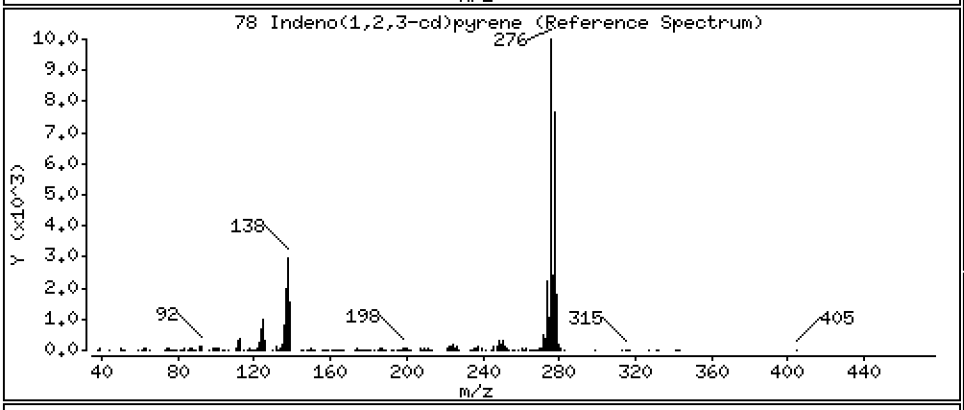
Column diameter: 0.25

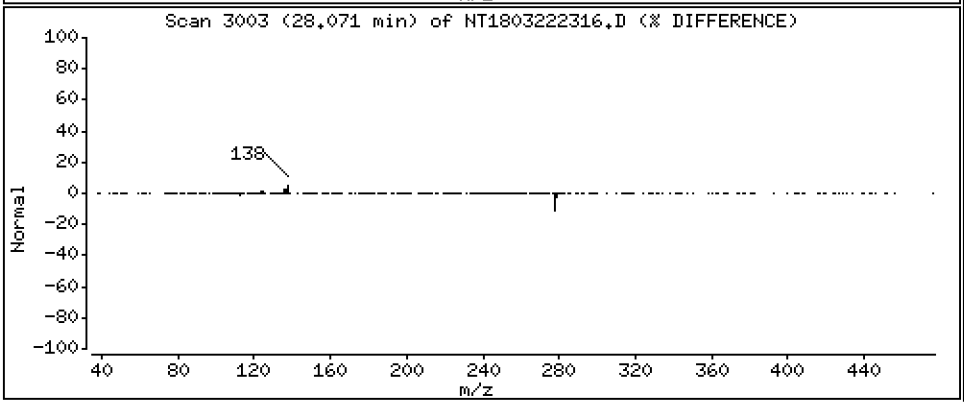
78 Indeno(1,2,3-cd)pyrene

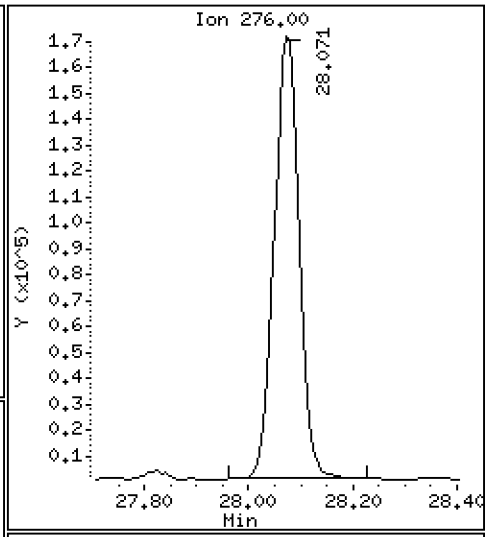
Concentration: 1.478 ug/mL

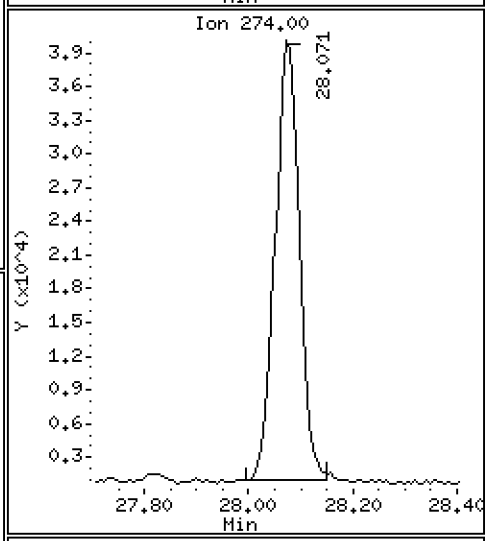


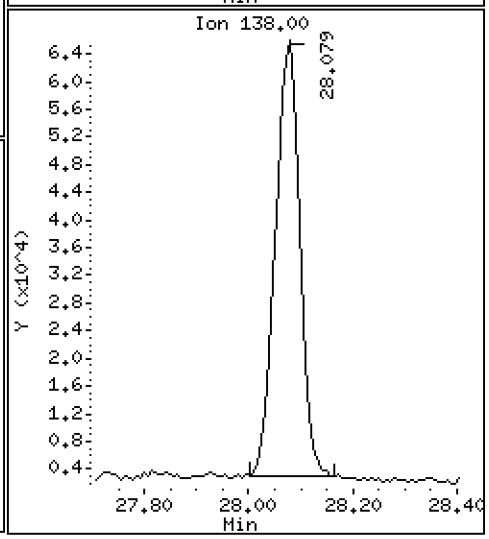












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

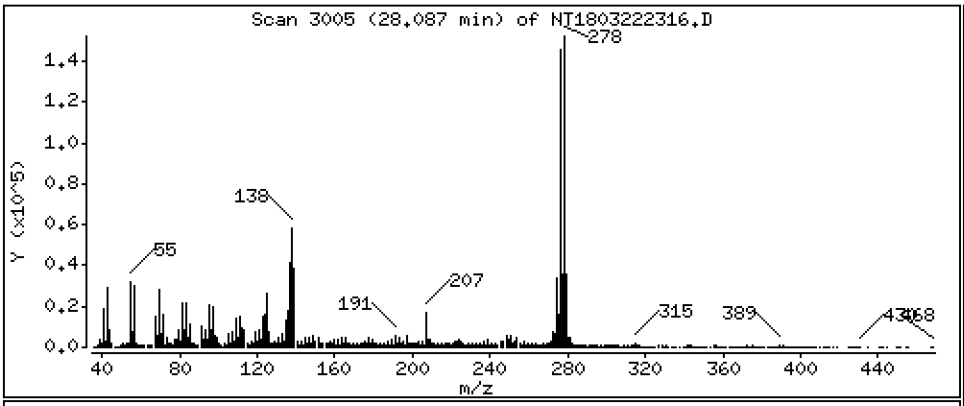
Operator: VTS

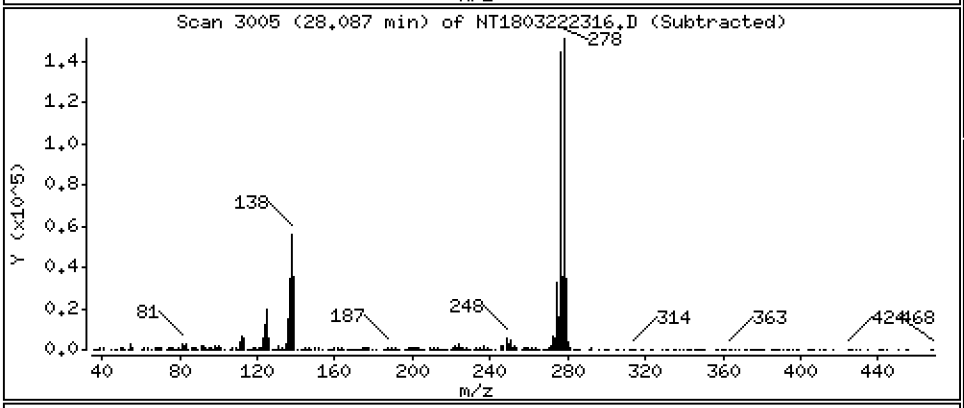
Column phase: ZB-5msi

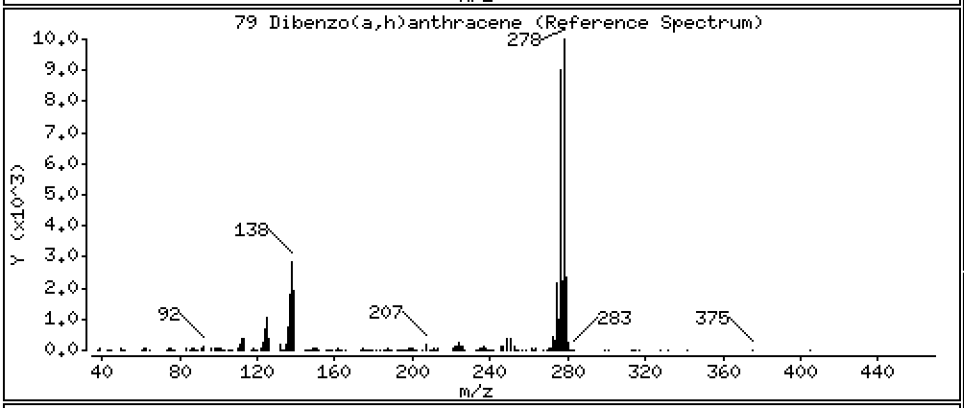
Column diameter: 0.25

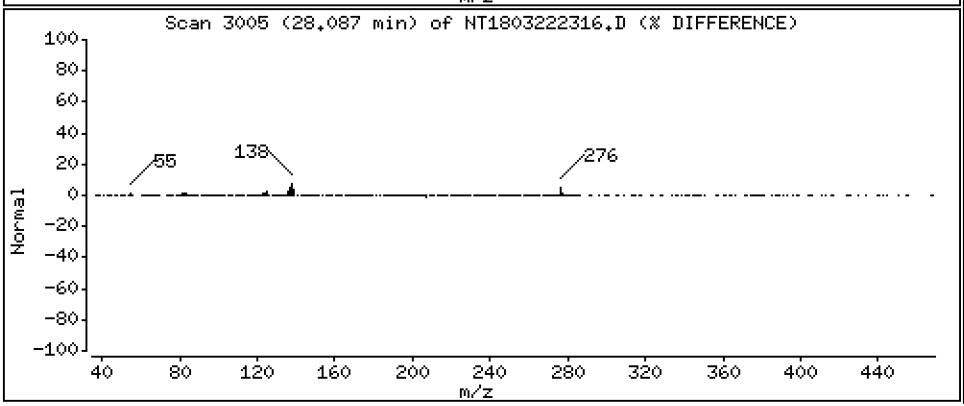
79 Dibenzo(a,h)anthracene

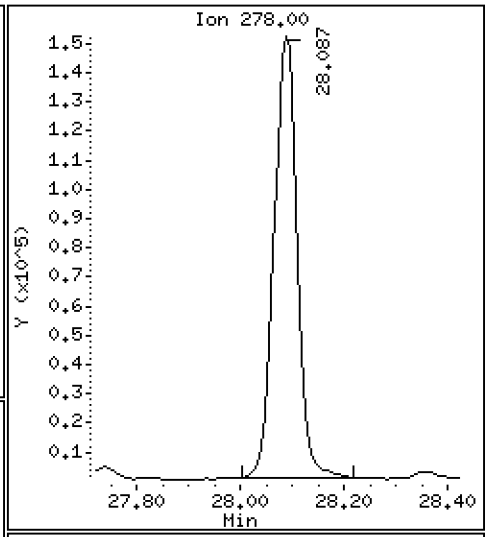
Concentration: 1.460 ug/mL

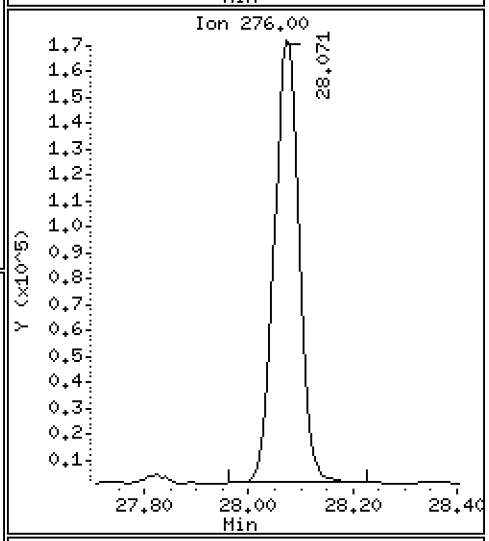


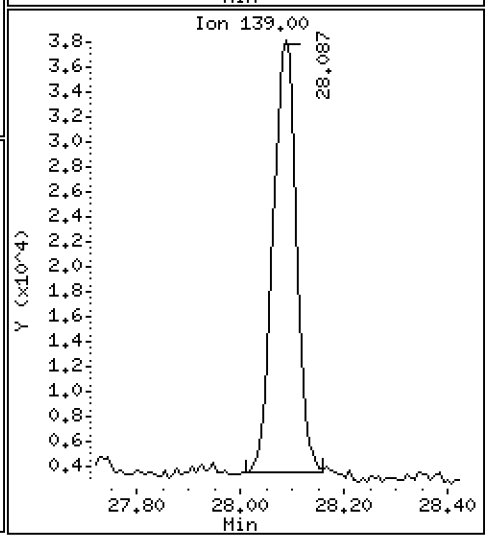












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

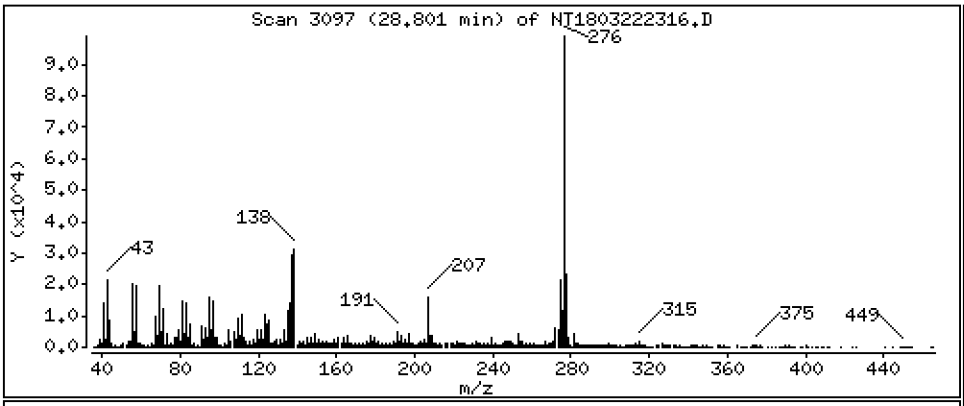
Operator: VTS

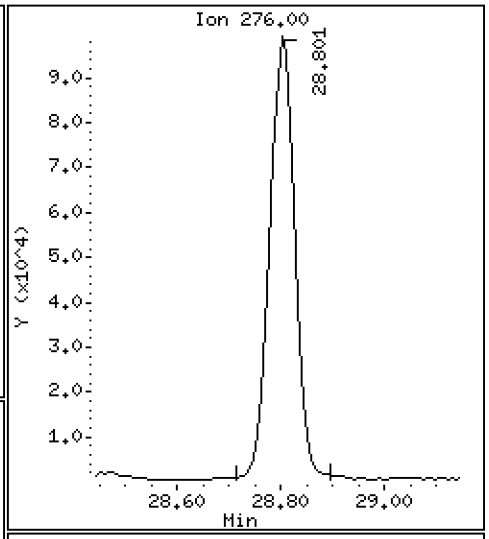
Column phase: ZB-5msi

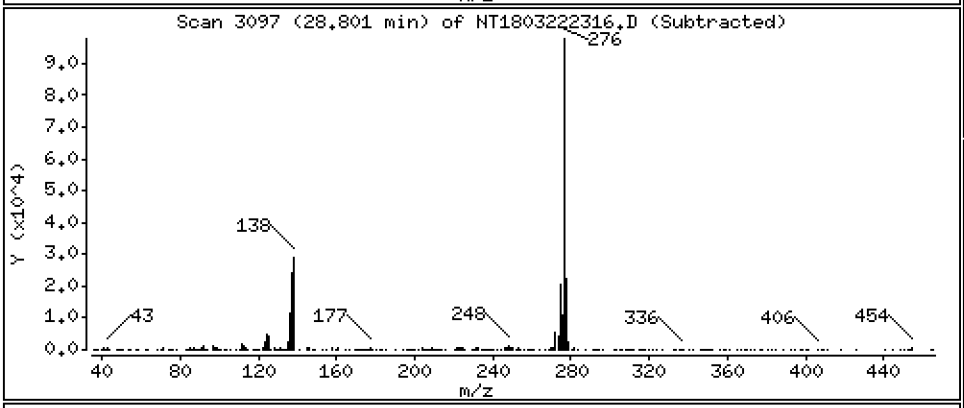
Column diameter: 0.25

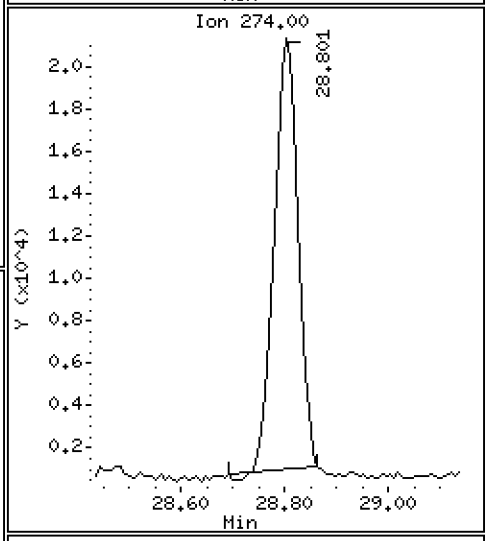
80 Benzo(g,h,i)perylene

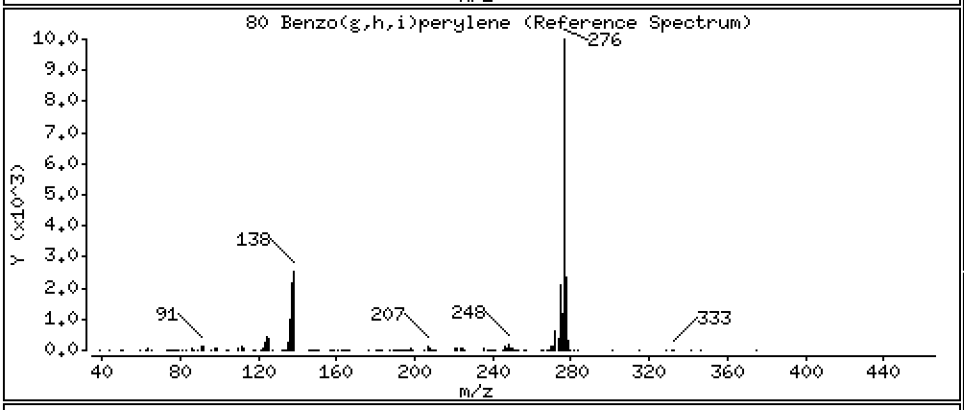
Concentration: 1.086 ug/mL

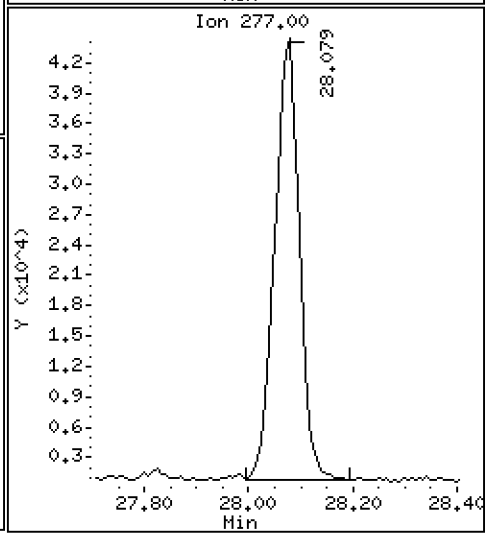


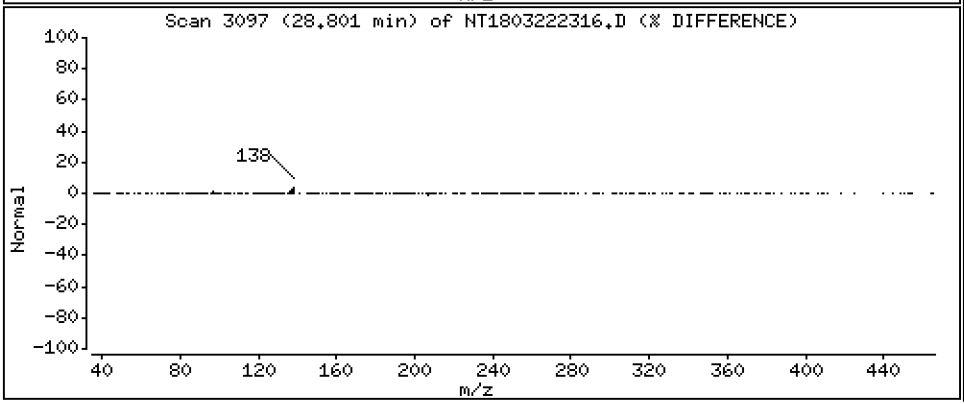












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

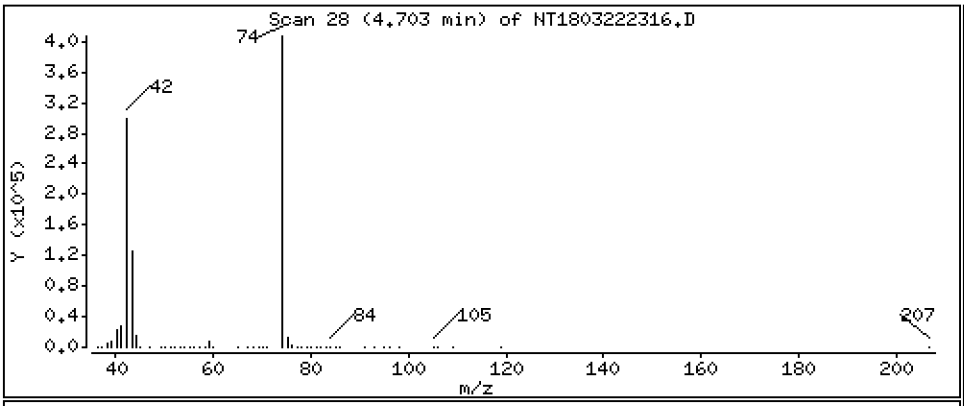
Operator: VTS

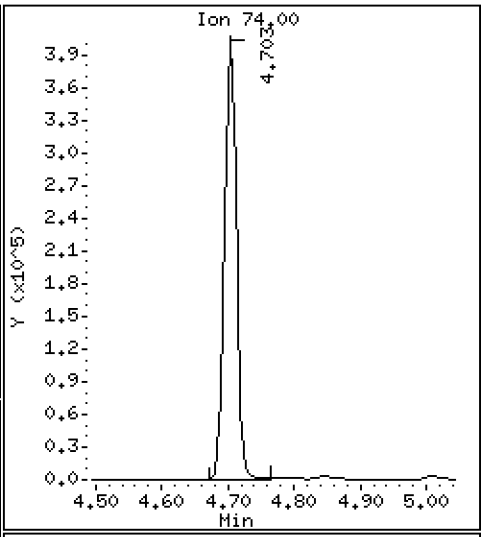
Column phase: ZB-5msi

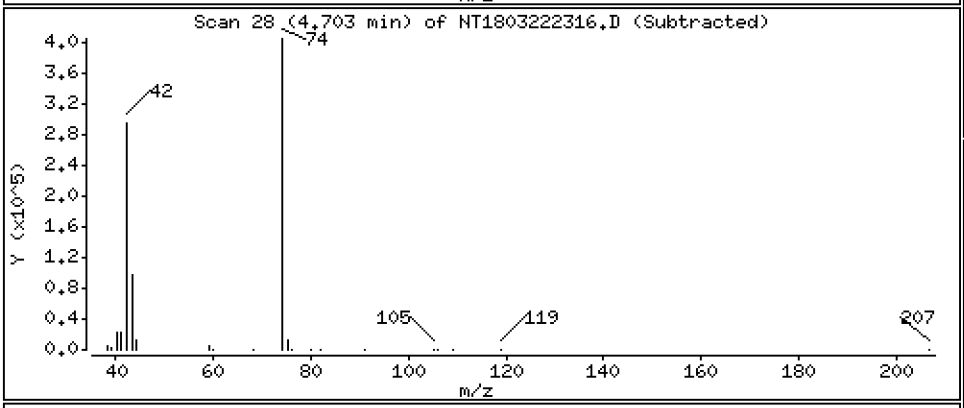
Column diameter: 0.25

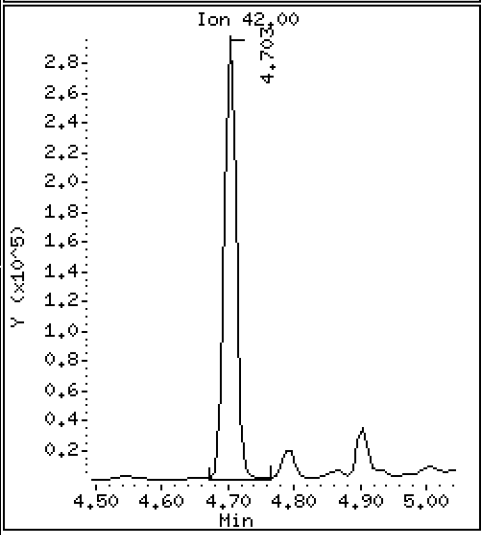
90 N-Nitrosodimethylamine

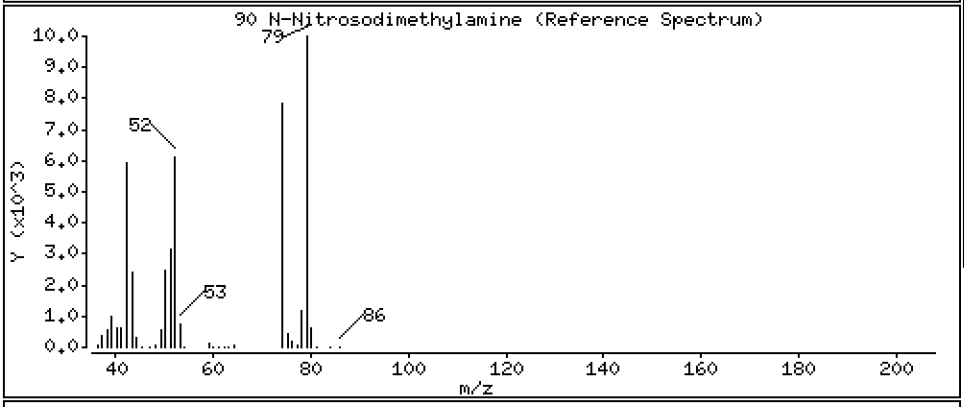
Concentration: 8.381 ug/mL

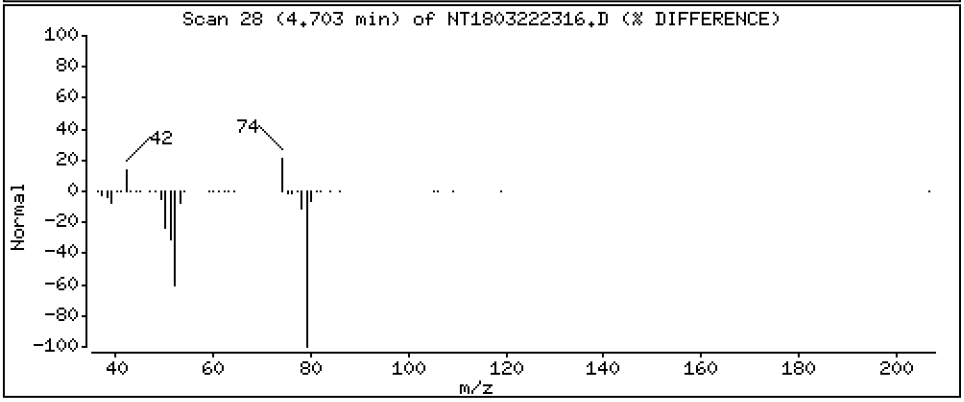












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

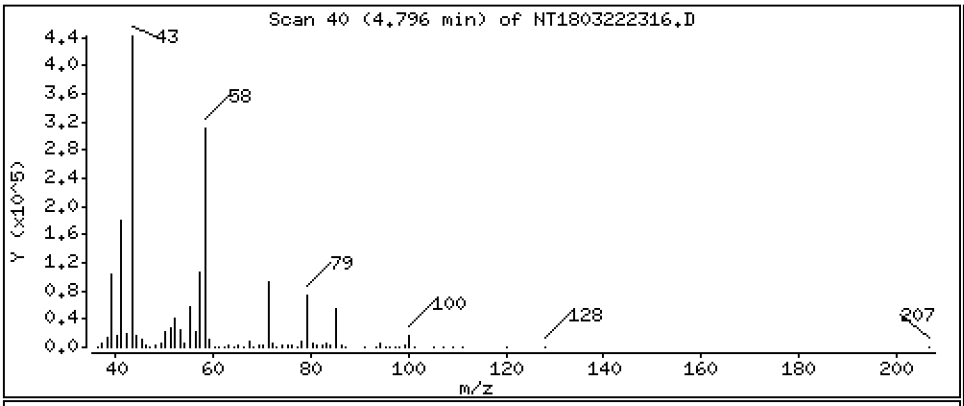
Operator: VTS

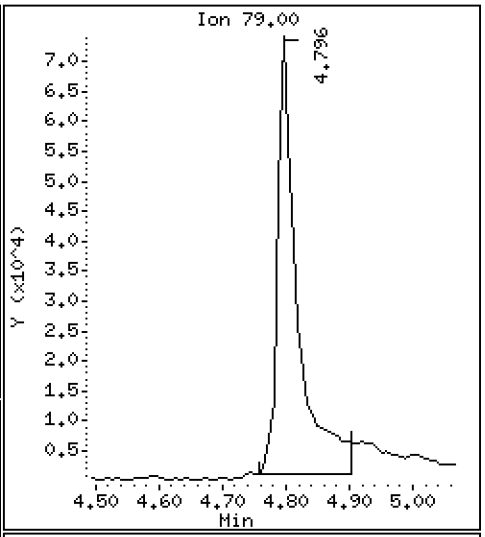
Column phase: ZB-5msi

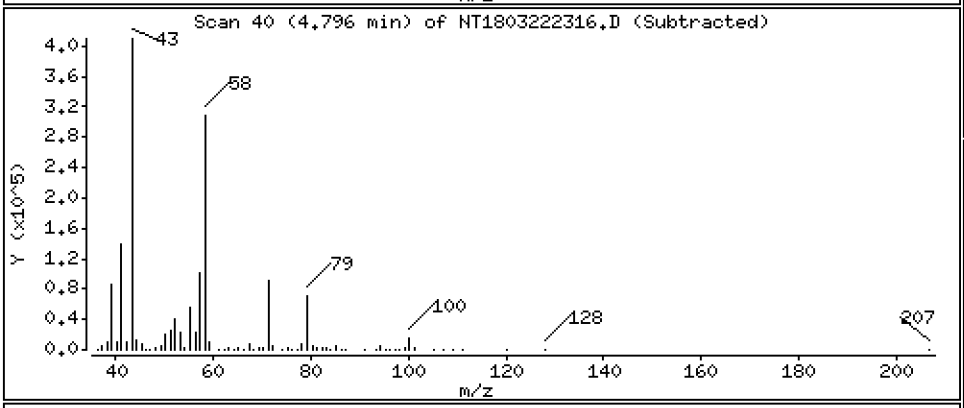
Column diameter: 0.25

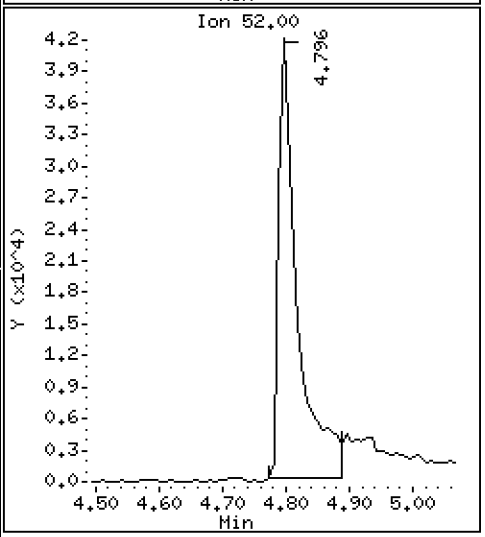
103 Pyridine

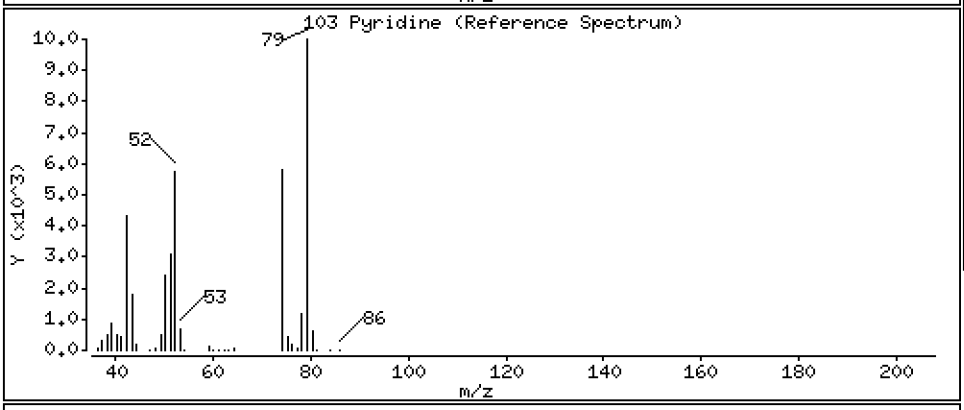
Concentration: 1.624 ug/mL

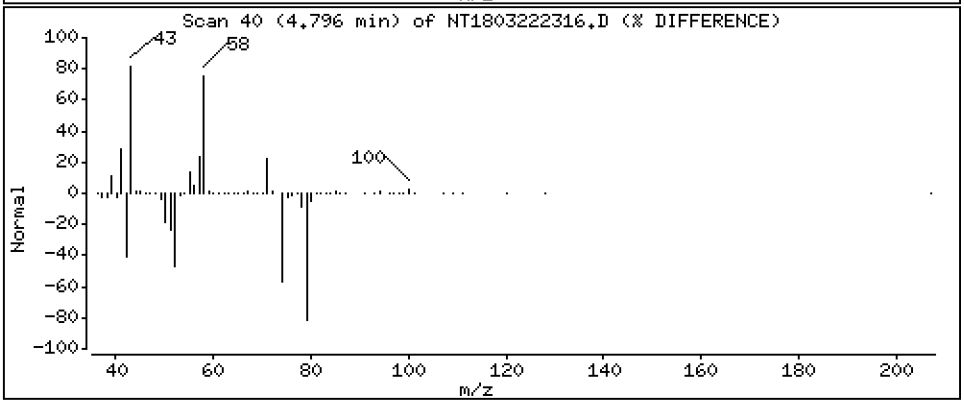












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

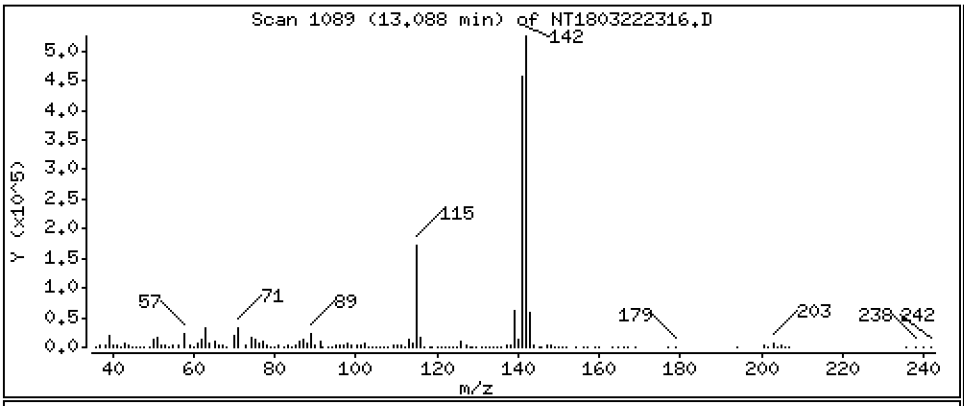
Operator: VTS

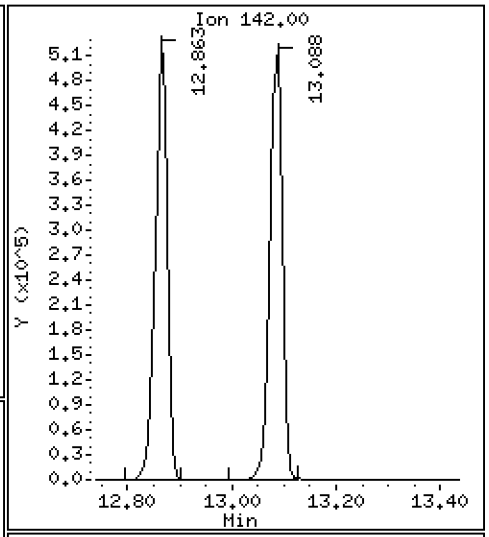
Column phase: ZB-5msi

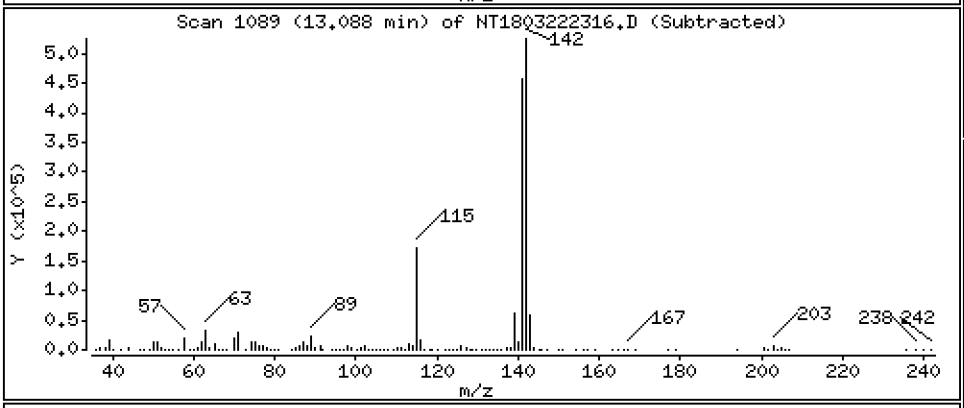
Column diameter: 0.25

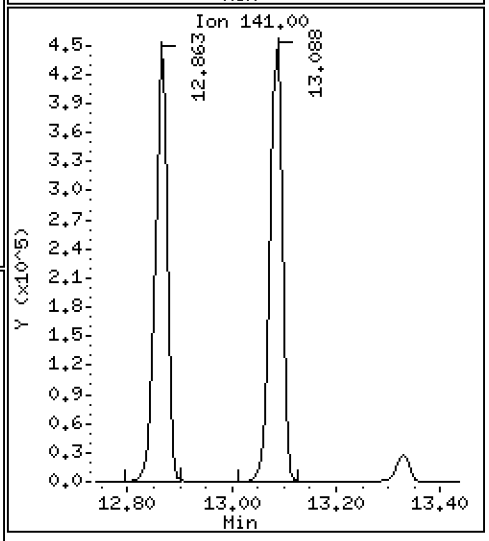
105 1-methylnaphthalene

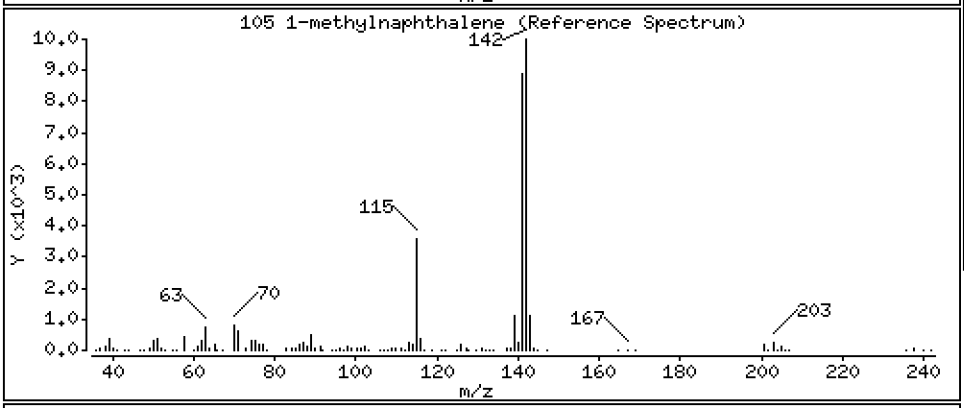
Concentration: 4.274 ug/mL

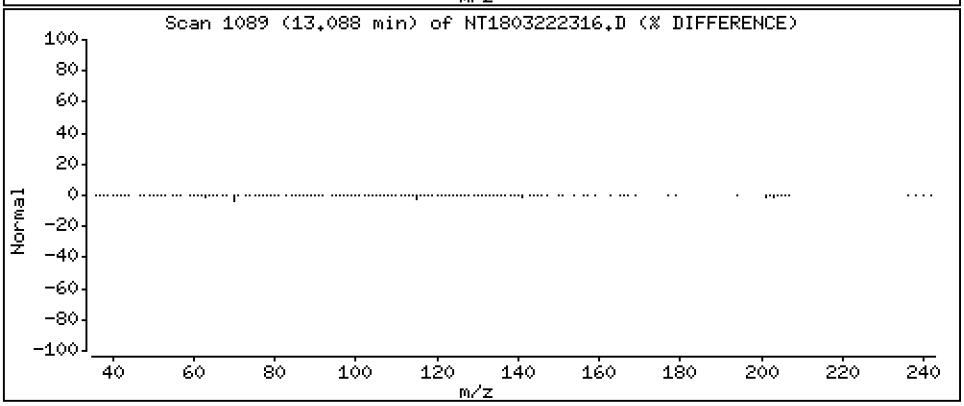












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

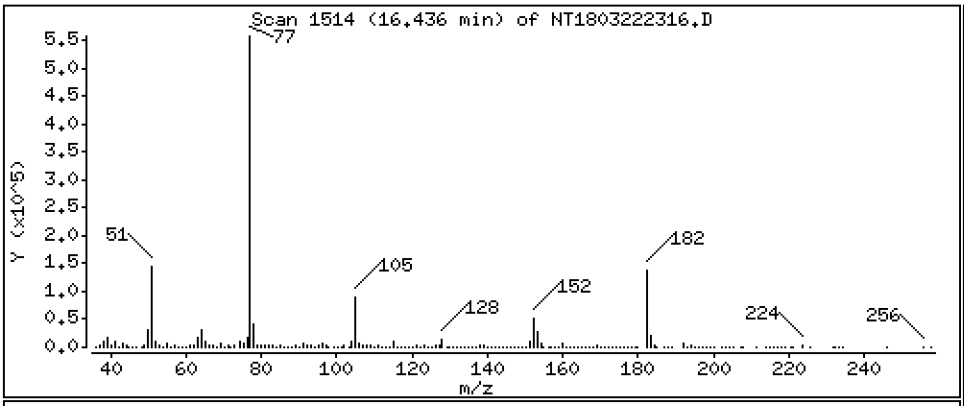
Operator: VTS

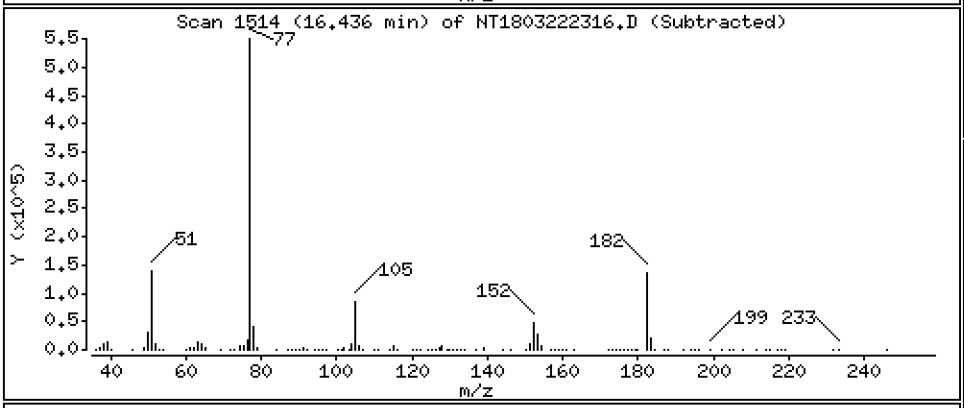
Column phase: ZB-5msi

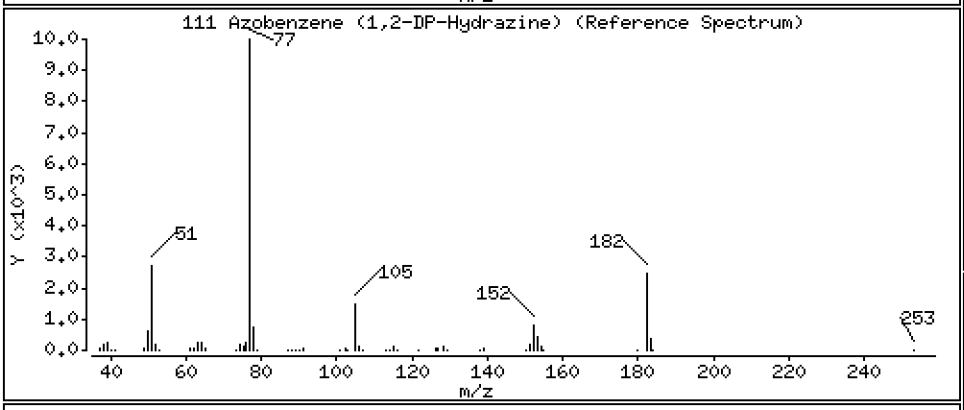
Column diameter: 0.25

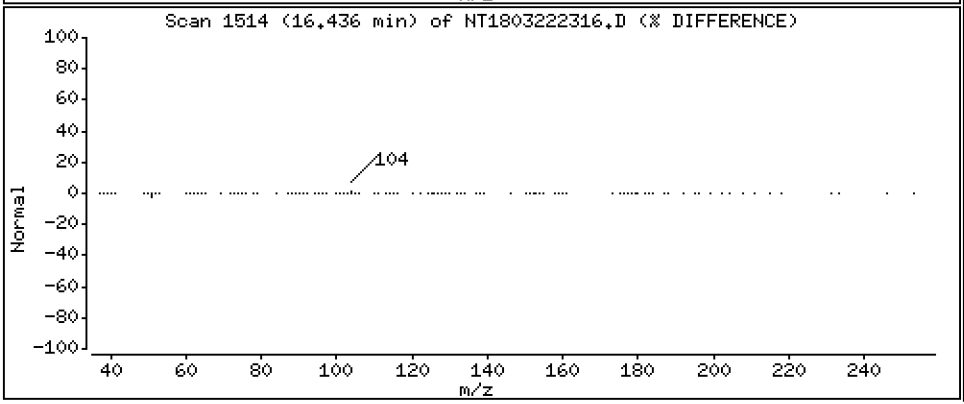
111 Azobenzene (1,2-DP-Hydrazine)

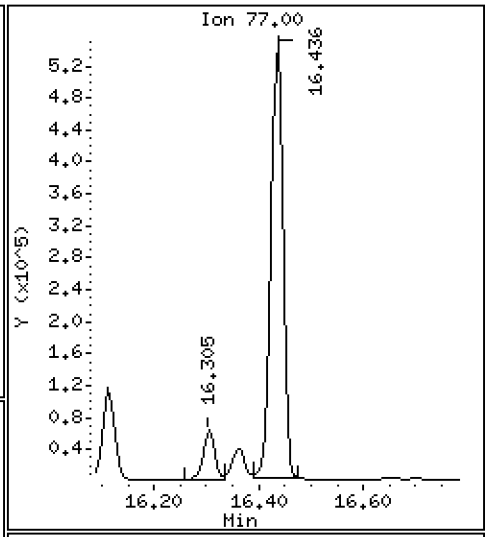
Concentration: 4.146 ug/mL

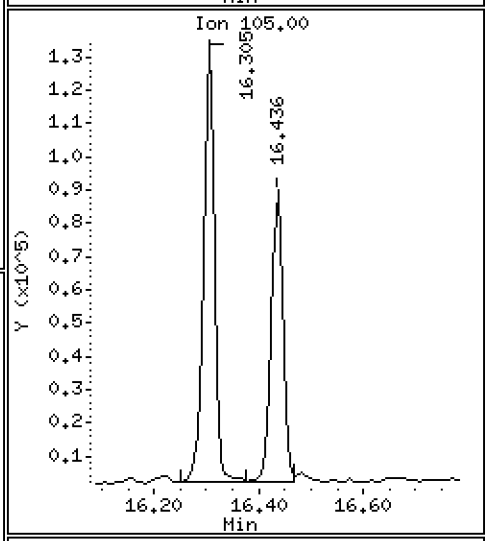


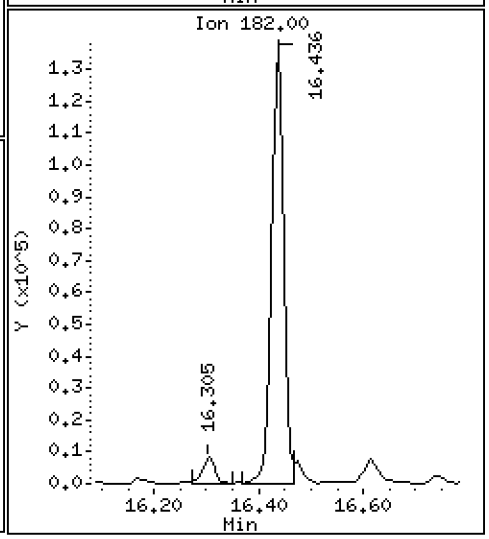












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

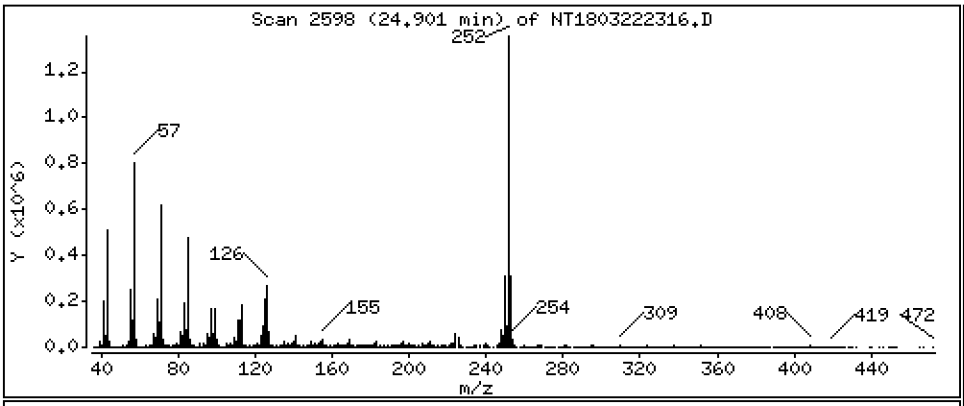
Operator: VTS

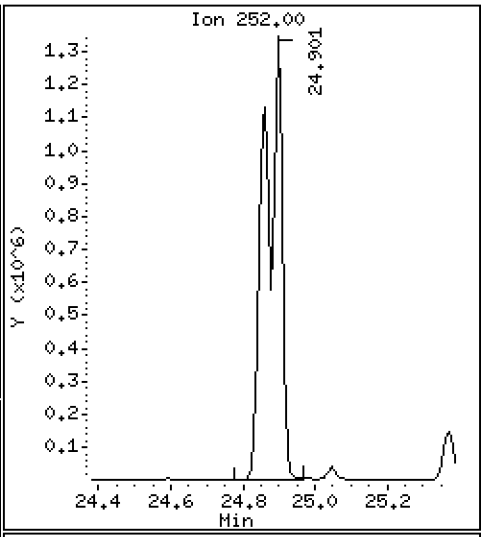
Column phase: ZB-5msi

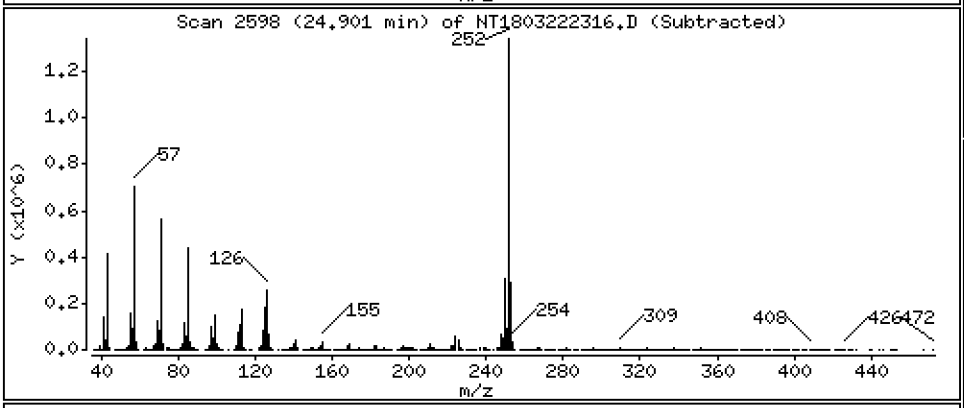
Column diameter: 0.25

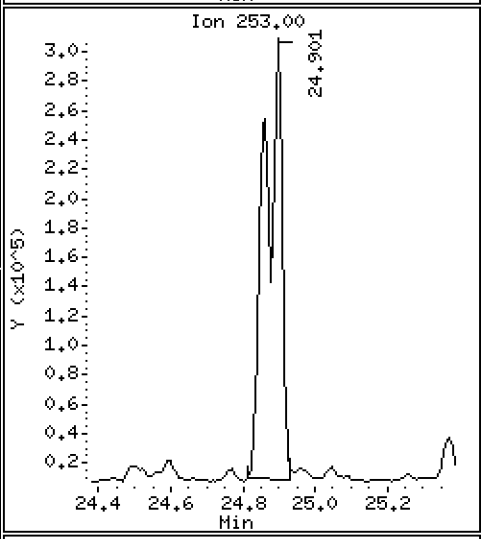
187 Total Benzofluoranthenes

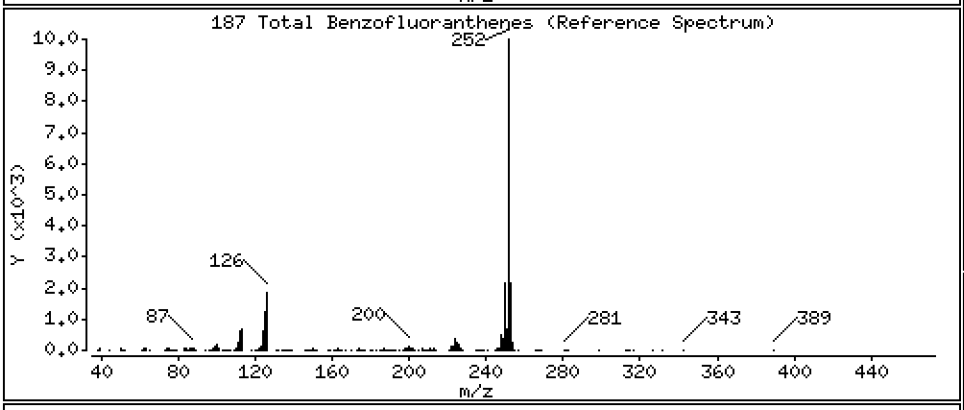
Concentration: 14.21 ug/mL

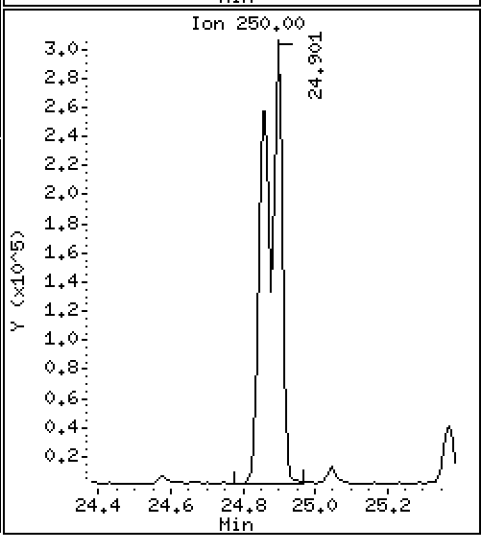


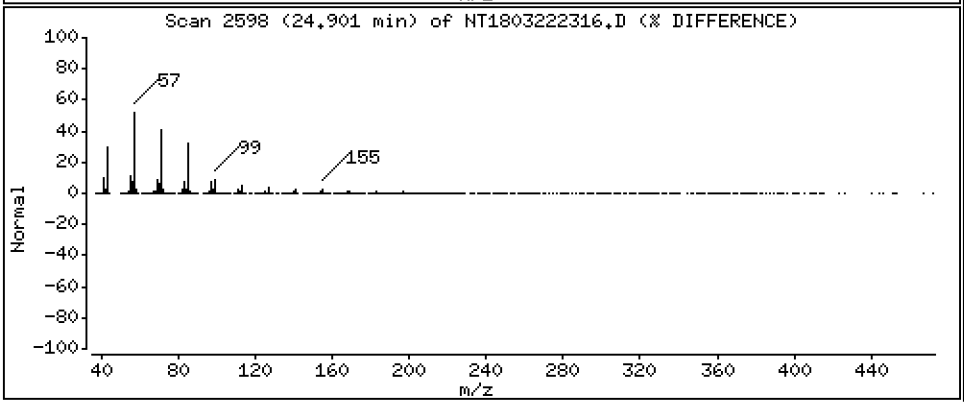












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD1

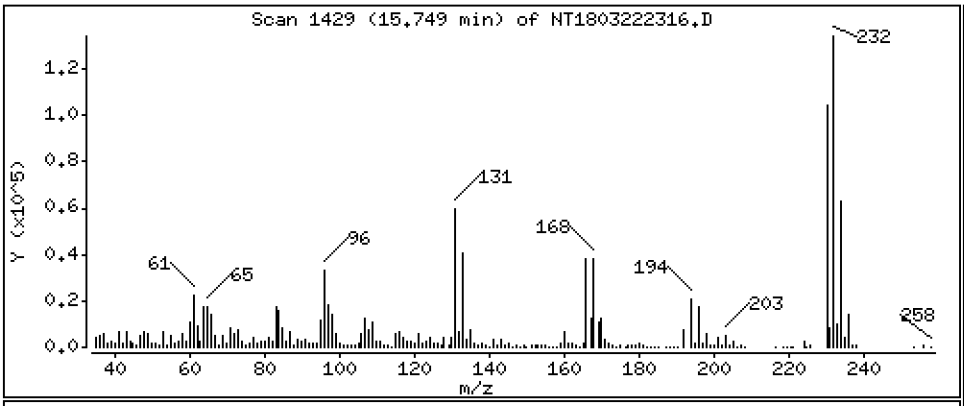
Operator: VTS

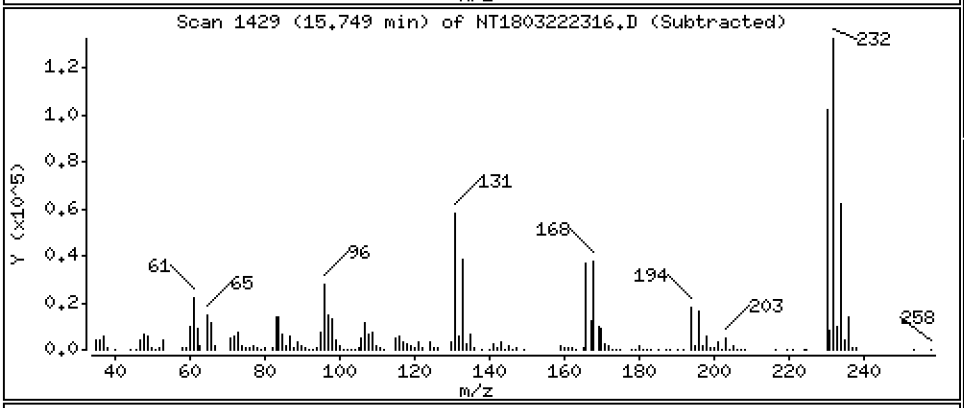
Column phase: ZB-5msi

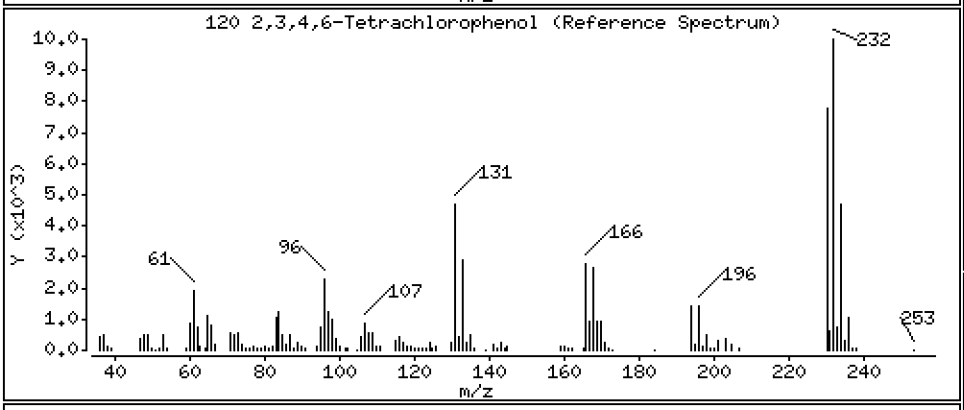
Column diameter: 0.25

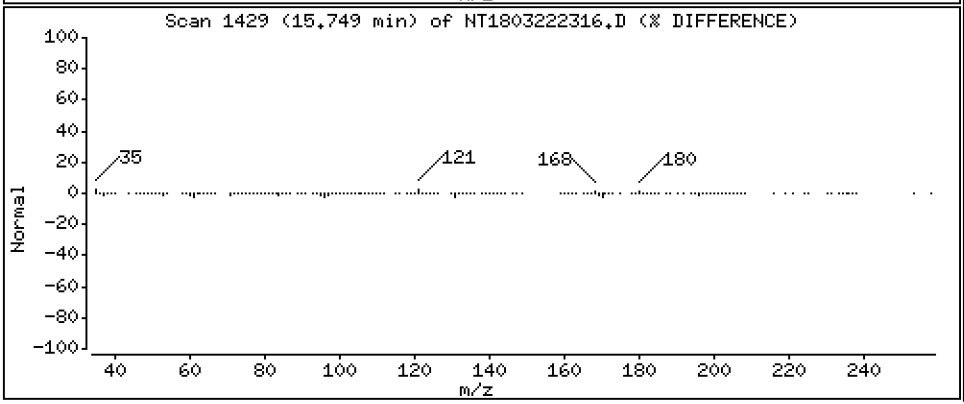
120 2,3,4,6-Tetrachlorophenol

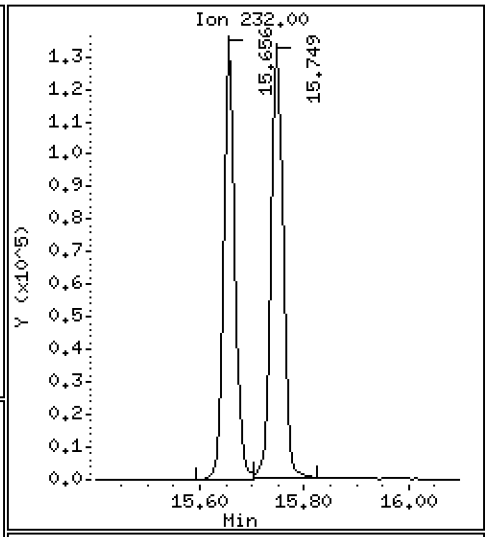
Concentration: 3.069 ug/mL

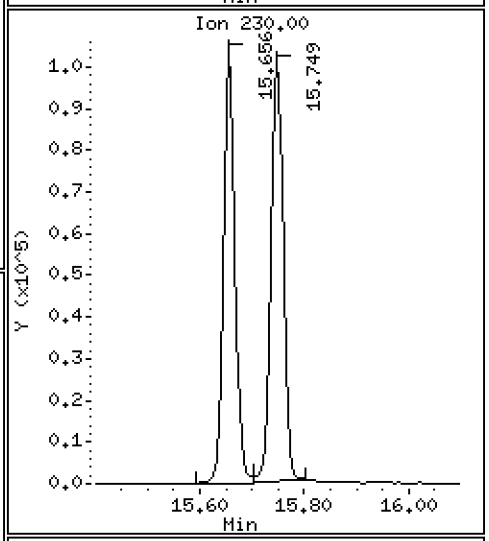


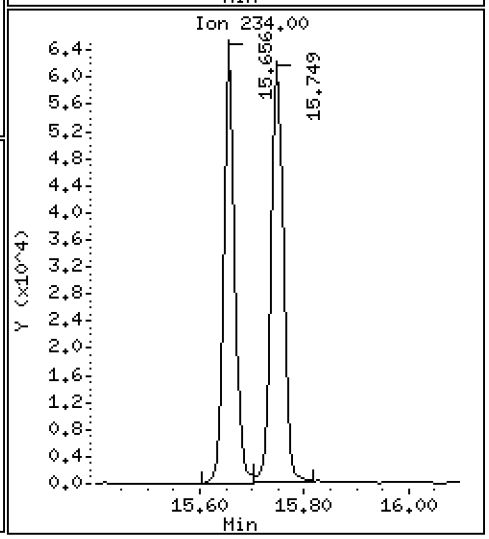












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230322.b\NT1803222316.D
Lab Smp Id: BLC0185-MSD1
Inj Date : 23-MAR-2023 03:25
Operator : VTS Inst ID: nt18.i
Smp Info : BLC0185-MSD1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230322.b\ABN.m
Meth Date : 04-Apr-2023 14:27 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 15:18 Cal File: NT1803192302.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: DEENAY-201905

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.796	6.773	(0.757)	588056	5.99405	5.994
$	2 Phenol-d5	99	8.357	8.341	(0.930)	746495	6.15926	6.159
	3 Phenol	94	8.380	8.364	(0.933)	1744984	13.4647	13.46
$	5 2-Chlorophenol-d4	132	8.627	8.619	(0.960)	682039	6.49207	6.492
	4 Bis(2-Chloroethyl)ether	93	8.534	8.534	(0.950)	385148	4.29417	4.294
	6 2-Chlorophenol	128	8.650	8.642	(0.963)	426971	3.85314	3.853
	7 1,3-Dichlorobenzene	146	8.921	8.913	(0.993)	440248	3.74198	3.742
*	8 1,4-Dichlorobenzene-d4	152	8.983	8.983	(1.000)	318234	4.00000	
	9 1,4-Dichlorobenzene	146	9.014	9.006	(1.003)	448568	3.80973	3.810
$	10 1,2-Dichlorobenzene-d4	152	9.340	9.332	(1.040)	294510	3.82053	3.821
	12 1,2-Dichlorobenzene	146	9.363	9.363	(1.042)	438687	3.78086	3.781
	11 Benzyl alcohol	108	9.247	9.247	(1.029)	256592	4.24312	4.243
	14 2,2'-oxybis(1-Chloropropane)	121	9.550	9.550	(1.063)	119506	4.37443	4.374
	13 2-Methylphenol	108	9.472	9.472	(1.054)	352608	3.58471	3.585
	17 Hexachloroethane	117	9.945	9.945	(1.107)	167770	3.63883	3.639
	16 N-Nitroso-di-n-propylamine	70	9.806	9.806	(1.092)	285864	4.08092	4.081
	15 4-Methylphenol	108	9.744	9.736	(1.085)	393395	3.85142	3.851
$	18 Nitrobenzene-d5	82	10.062	10.062	(0.880)	444318	4.60624	4.606
	19 Nitrobenzene	77	10.093	10.093	(0.882)	421762	4.44757	4.448
	20 Isophorone	82	10.543	10.543	(0.922)	763881	5.89888	5.899
	21 2-Nitrophenol	139	10.719	10.719	(0.937)	244743	4.34546	4.345
	22 2,4-Dimethylphenol	107	10.778	10.778	(0.942)	879370	9.22405	9.224
	23 Bis(2-Chloroethoxy)methane	93	10.973	10.973	(0.959)	465506	4.97343	4.973
	24 Benzoic acid	105	11.007	10.999	(0.962)	1013737	14.7576	14.76
	25 2,4-Dichlorophenol	162	11.169	11.169	(0.976)	1157586	13.1927	13.19
	26 1,2,4-Trichlorobenzene	180	11.355	11.355	(0.993)	365396	3.97220	3.972
*	27 Naphthalene-d8	136	11.439	11.439	(1.000)	1170211	4.00000	
	28 Naphthalene	128	11.478	11.478	(1.003)	1285851	4.04927	4.049
	29 4-Chloroaniline	127	Compound Not Detected.					
	30 Hexachlorobutadiene	225	11.841	11.849	(1.035)	208214	3.98059	3.981
	31 4-Chloro-3-methylphenol	107	12.569	12.561	(1.099)	1053931	13.0418	13.04
	32 2-Methylnaphthalene	142	12.863	12.863	(1.124)	829769	4.01236	4.012(H)
	33 Hexachlorocyclopentadiene	237	13.327	13.335	(0.887)	373219	7.15698	7.157

								CONCENTRATIONS	
			QUANT SIG					ON-COLUMN	FINAL
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/mL)	(ug/mL)
	34	2,4,6-Trichlorophenol	196	13.482	13.482	(0.897)	754858	14.0037	14.00
	35	2,4,5-Trichlorophenol	196	13.559	13.551	(0.902)	794431	13.4831	13.48
$	36	2-Fluorobiphenyl	172	13.644	13.644	(0.908)	938668	4.34993	4.350
	37	2-Chloronaphthalene	162	13.845	13.846	(0.921)	744106	4.32252	4.323
	38	2-Nitroaniline	65	14.109	14.109	(0.939)	566239	12.5520	12.55
	39	Dimethylphthalate	163	14.542	14.542	(0.968)	830916	4.62751	4.628
	40	Acenaphthylene	152	14.712	14.712	(0.979)	1227427	4.18708	4.187
	41	2,6-Dinitrotoluene	165	14.681	14.674	(0.977)	531002	12.8874	12.89
*	42	Acenaphthene-d10	164	15.029	15.022	(1.000)	602597	4.00000	
	43	3-Nitroaniline	138	14.960	14.952	(0.995)	155438	3.38786	3.388
	44	Acenaphthene	153	15.091	15.091	(1.004)	798901	4.30556	4.306
	45	2,4-Dinitrophenol	184	15.161	15.161	(1.009)	173763	7.25698	7.257
	46	Dibenzofuran	168	15.416	15.416	(1.026)	1105942	4.33850	4.339
	47	4-Nitrophenol	109	15.285	15.261	(1.017)	284235	11.6131	11.61
	48	2,4-Dinitrotoluene	165	15.478	15.470	(1.030)	685142	12.6240	12.62
	50	Diethylphthalate	149	15.988	15.988	(1.064)	946772	5.20398	5.204
	49	Fluorene	166	16.120	16.120	(1.073)	1055671	4.56217	4.562
	51	4-Chlorophenyl-phenylether	204	16.112	16.112	(1.072)	476736	4.64208	4.642
	52	4-Nitroaniline	138	16.212	16.212	(1.079)	166691	3.61529	3.615
	53	4,6-Dinitro-2-methylphenol	198	16.305	16.305	(0.904)	472626	15.7898	15.79
	54	N-Nitrosodiphenylamine	169	16.366	16.359	(0.907)	559636	4.23643	4.236
$	55	2,4,6-Tribromophenol	330	16.652	16.644	(1.108)	198759	7.28552	7.286
	56	4-Bromophenyl-phenylether	248	17.107	17.107	(0.949)	245750	4.68979	4.690
	57	Hexachlorobenzene	284	17.423	17.415	(0.966)	263644	4.48546	4.485
	58	Pentachlorophenol	266	17.772	17.772	(0.985)	559586	15.0548	15.05
*	59	Phenanthrene-d10	188	18.035	18.035	(1.000)	1037040	4.00000	
	60	Phenanthrene	178	18.081	18.081	(1.003)	1395258	4.92876	4.929
	61	Anthracene	178	18.174	18.166	(1.008)	1100492	4.07737	4.077
	62	Carbazole	167	18.499	18.499	(1.026)	1109884	4.66982	4.670
	63	Di-n-butylphthalate	149	19.319	19.311	(1.071)	1552982	4.94057	4.941
	64	Fluoranthene	202	20.464	20.456	(0.888)	2018162	5.19296	5.193
	65	Pyrene	202	20.882	20.874	(0.906)	2114976	5.16333	5.163
$	66	Terphenyl-d14	244	21.168	21.168	(0.918)	1239927	4.07014	4.070
	67	Butylbenzylphthalate	149	22.097	22.090	(0.958)	788326	4.49172	4.492
	68	Benzo(a)anthracene	228	23.034	23.027	(0.999)	2039315	5.34355	5.344
*	69	Chrysene-d12	240	23.058	23.050	(1.000)	1219578	4.00000	
	70	3,3'-Dichlorobenzidine	252	Compound Not Detected.					
	71	Chrysene	228	23.104	23.096	(1.002)	2207326	5.59517	5.595
	72	bis(2-Ethylhexyl)phthalate	149	23.119	23.119	(0.960)	1492628	5.39774	5.398
*	134	Di-n-octylphthalate-d4	153	24.095	24.087	(1.000)	1921269	4.00000	
	73	Di-n-octylphthalate	149	24.103	24.095	(1.000)	2143860	4.53536	4.535
	74	Benzo(b)fluoranthene	252	24.861	24.846	(0.972)	2298272	7.40705	7.407
	75	Benzo(k)fluoranthene	252	24.900	24.885	(0.973)	2391392	7.00718	7.007
	76	Benzo(a)pyrene	252	25.473	25.458	(0.996)	1637248	5.27532	5.275
*	77	Perylene-d12	264	25.581	25.566	(1.000)	1114575	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	28.071	28.055	(1.097)	574978	1.47801	1.478
	79	Dibenzo(a,h)anthracene	278	28.086	28.071	(1.098)	469324	1.45998	1.460
	80	Benzo(g,h,i)perylene	276	28.801	28.793	(1.126)	336440	1.08631	1.086(M)
	90	N-Nitrosodimethylamine	74	4.703	4.695	(0.524)	508334	8.38119	8.381
	91	Aniline	93	Compound Not Detected.					
	93	Benzidine	184	Compound Not Detected.					
	103	Pyridine	79	4.796	4.718	(0.534)	162668	1.62407	1.624
	105	1-methylnaphthalene	142	13.087	13.087	(1.144)	811398	4.27405	4.274
	111	Azobenzene (1,2-DP-Hydrazine)	77	16.436	16.436	(1.094)	826653	4.14624	4.146

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187 Total Benzofluoranthenes	252	24.900	24.885	(0.973)	4417258	14.2055	14.21
120 2,3,4,6-Tetrachlorophenol	232	15.748	15.748	(1.048)	202412	3.06944	3.069

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222316.D
Lab Smp Id: BLC0185-MSD1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322.b\ABN.m
Misc Info:

Calibration Date: 22-MAR-2023
Calibration Time: 17:55
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	259918	129959	519836	318234	22.44
27 Naphthalene-d8	969410	484705	1938820	1170211	20.71
42 Acenaphthene-d10	510287	255144	1020574	602597	18.09
59 Phenanthrene-d10	882628	441314	1765256	1037040	17.49
69 Chrysene-d12	800073	400037	1600146	1219578	52.43
134 Di-n-octylphthala	1258607	629304	2517214	1921269	52.65
77 Perylene-d12	911909	455955	1823818	1114575	22.22

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	-0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	-0.00
42 Acenaphthene-d10	15.02	14.52	15.52	15.03	0.05
59 Phenanthrene-d10	18.04	17.54	18.54	18.04	-0.00
69 Chrysene-d12	23.05	22.55	23.55	23.06	0.03
134 Di-n-octylphthala	24.09	23.59	24.59	24.10	0.03
77 Perylene-d12	25.57	25.07	26.07	25.58	0.06

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222316.D

Lab ID: BLC0185-MSD1
nt18.i, ABN.m, 23-MAR-2023 03:25

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.534	0.525	0.0086	Pyridine

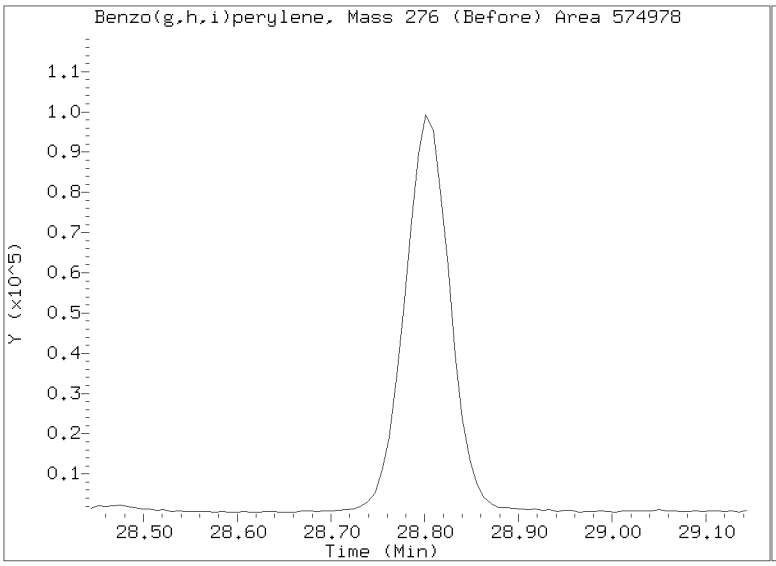
RRT check based on Ccal File: NT1803222302.D

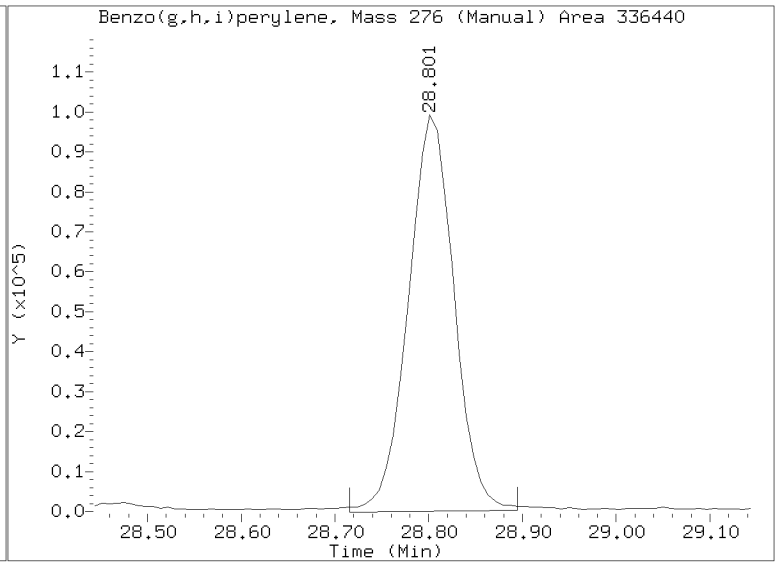
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230322.b/NT1803222316.D
Injection Date: 23-MAR-2023 03:25
Lab ID:BLC0185-MSD1 Client ID:
Report Date: 04/04/2023 14:29





APPROVED

By Deenay Dunmore at 2:44 pm, Apr 04, 2023

STANDARD REFERENCE MATERIAL RECOVERY

EPA 8270E

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Laboratory ID: BLC0185-SRM1
Batch: BLC0185
Initial/Final: 1 g / 1 mL
Preparation: EPA 3546 (Microwave)
Analyzed: 03/22/2023 23:22
Standard ID: K003477
Expires: 01/31/2024
Standard Lot#: CRM 143 (LRAC8918)
Description: CRM 143 BNAs - Sandy Loam

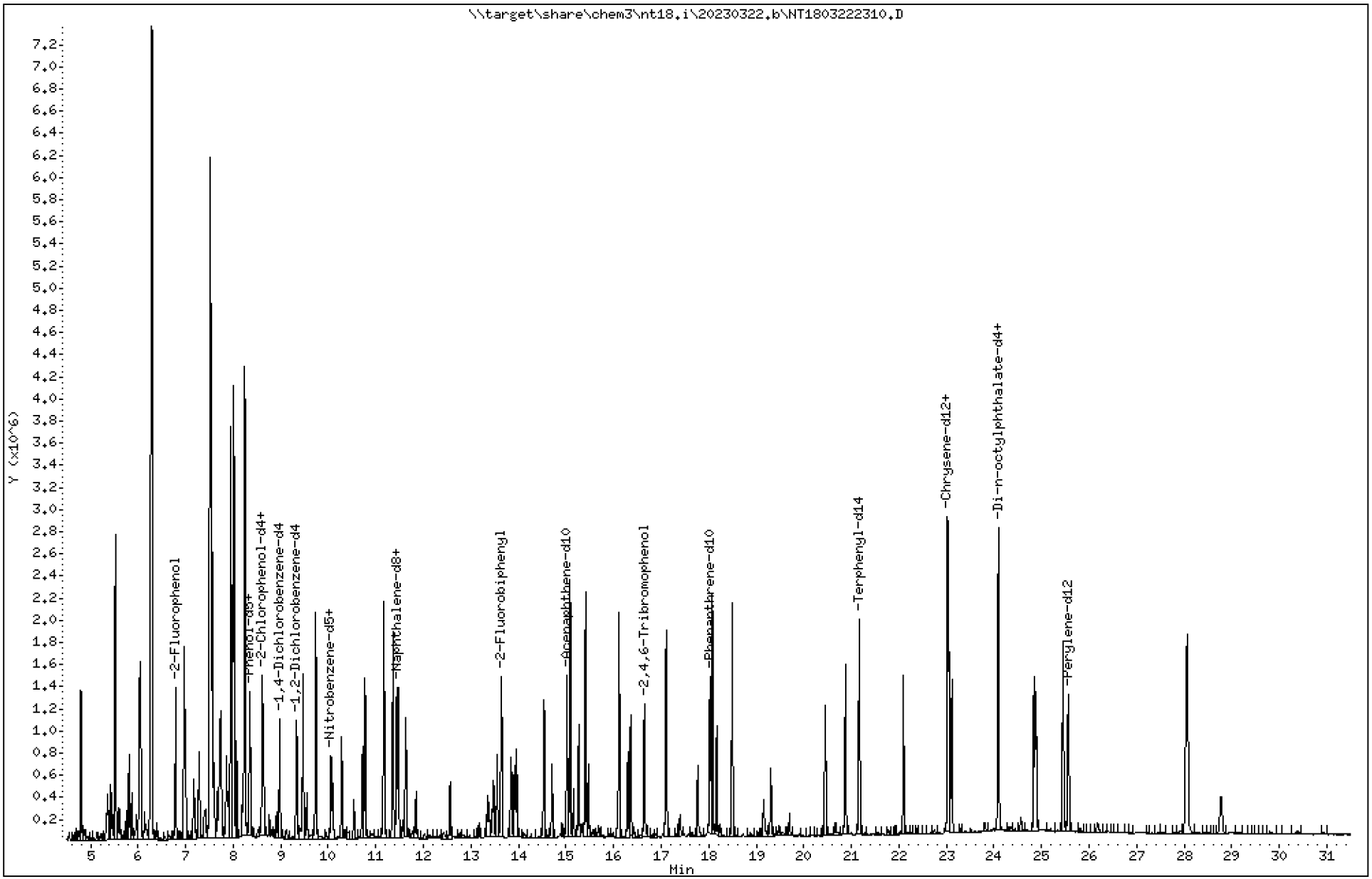
ANALYTE	TRUE (ug/kg wet)	FOUND (ug/kg wet)	MDL	MRL	Q	SRM % REC.	QC LIMITS REC.
Phenol	2660.0	2900	43.9	200		109	26 - 174
4-Methylphenol	6617.0	7700	73.9	200		116	40 - 160
Naphthalene	4458.0	3730	42.4	200		83.7	25 - 175
Acenaphthylene	1948.0	1850	62.4	200		95.0	37 - 167
Dimethylphthalate	4537.0	5430	43.9	200		120	41 - 159
Acenaphthene	5489.0	5850	52.2	200		107	41 - 159
Dibenzofuran	6130.0	6820	141	200		111	45 - 155
Fluorene	3724.0	3990	146	200		107	44 - 156
Phenanthrene	5052.0	5490	87.2	200		109	46 - 154
Anthracene	2866.0	2610	71.9	200		91.0	42 - 158
Fluoranthene	2497.0	2770	60.9	200		111	39 - 161
Pyrene	2964.0	3410	56.8	200		115	38 - 162
Butylbenzylphthalate	3511.0	4170	94.1	200		119	36 - 164
Benzo(a)anthracene	5751.0	6460	59.6	200		112	49 - 151
Chrysene	1477.0	1550	60.6	200		105	45 - 155
bis(2-Ethylhexyl)phthalate	2905.0	2940	54.6	500		101	26 - 174
Benzofluoranthenes, Total	6534.0	7440	100	400		114	40 - 160
Benzo(a)pyrene	5902.0	5630	42.3	200		95.4	43 - 157
Indeno(1,2,3-cd)pyrene	3914.0	4620	147	200		118	22 - 178
Dibenzo(a,h)anthracene	3420.0	4460	172	200		130	37 - 163
Benzo(g,h,i)perylene	1380.0	1770	136	200		129	35 - 165

* Values outside of QC limits

Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222310.D
Date : 22-MAR-2023 23:22
Client ID:
Sample Info: BLC0185-SRM1

Instrument: nt18.i
Operator: VTS
Column diameter: 0.25

Column phase: ZB-5msi



Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222310.D

Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

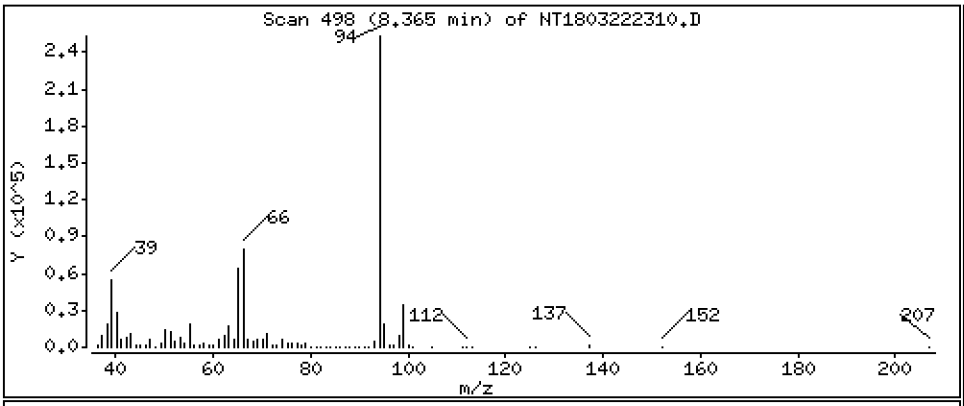
Operator: VTS

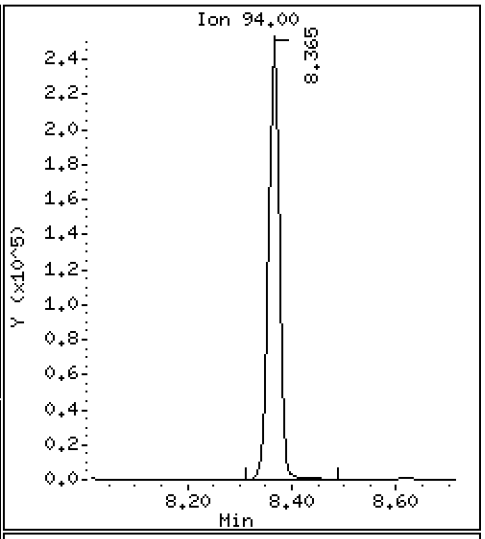
Column phase: ZB-5msi

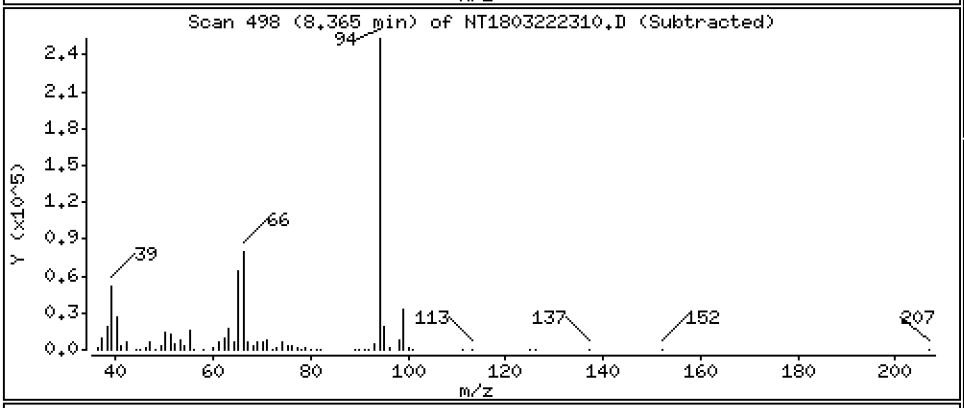
Column diameter: 0.25

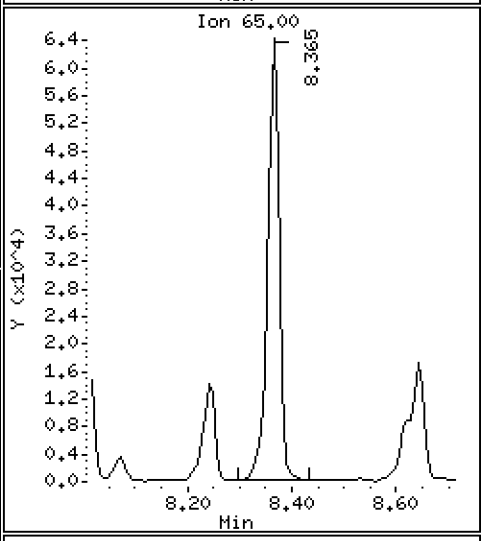
3 Phenol

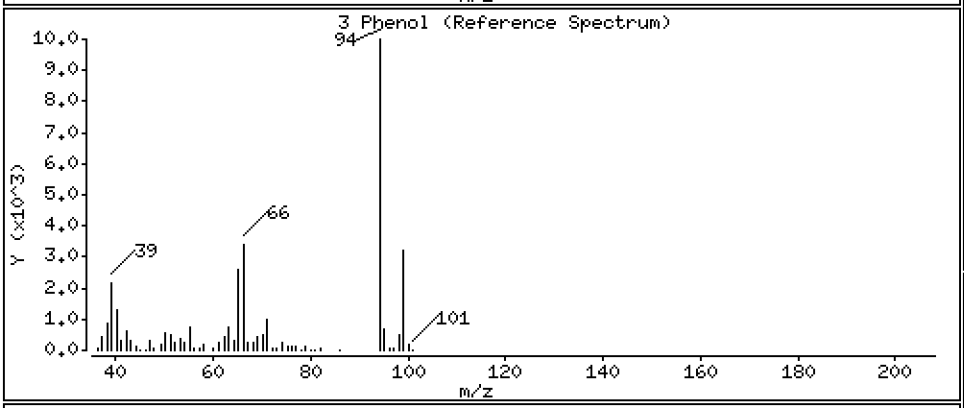
Concentration: 2.902 ug/mL

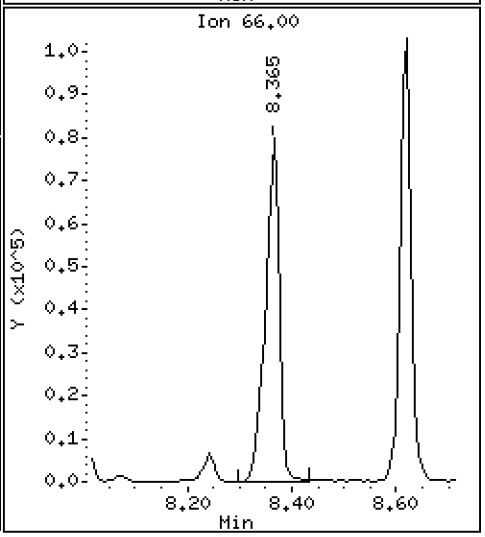


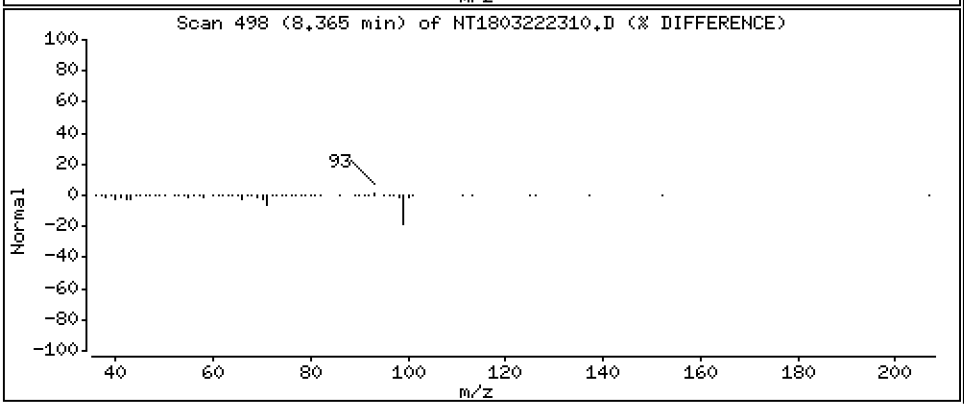












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222310.D

Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

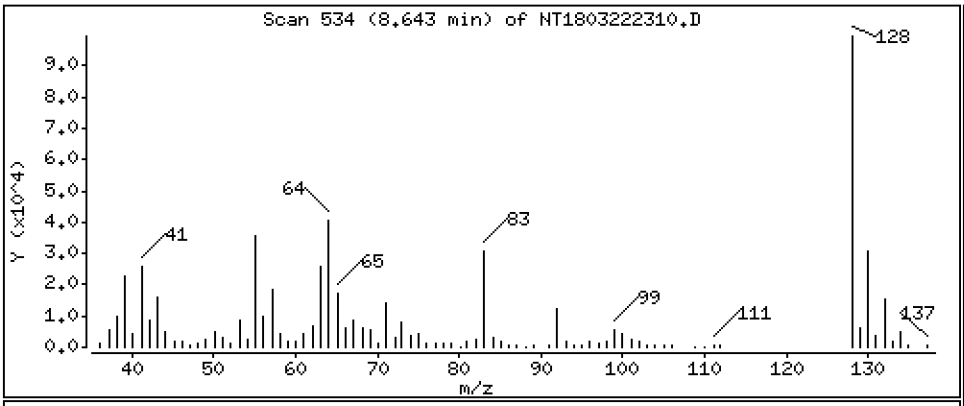
Operator: VTS

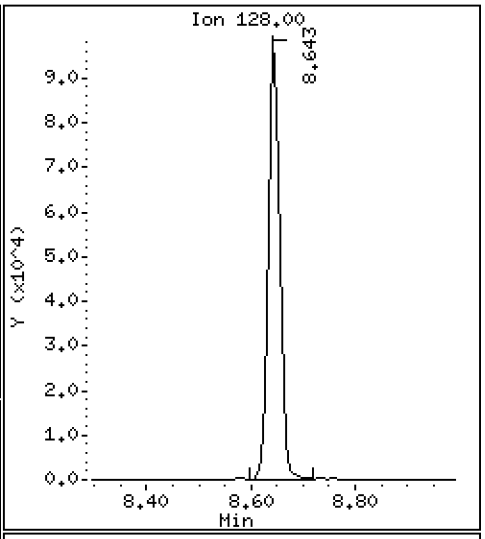
Column phase: ZB-5msi

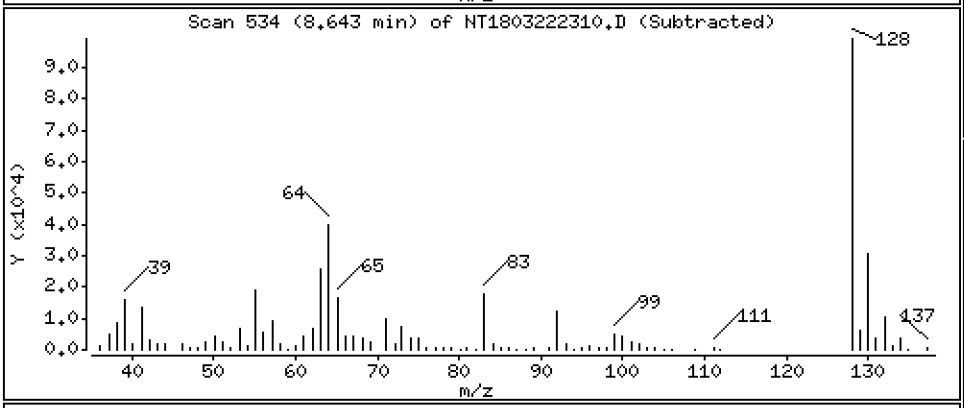
Column diameter: 0.25

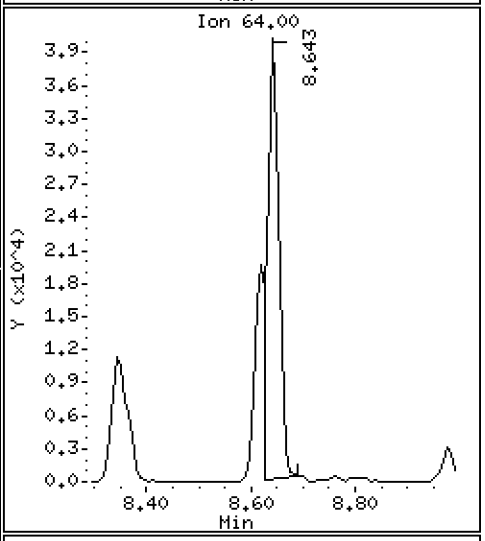
6 2-Chlorophenol

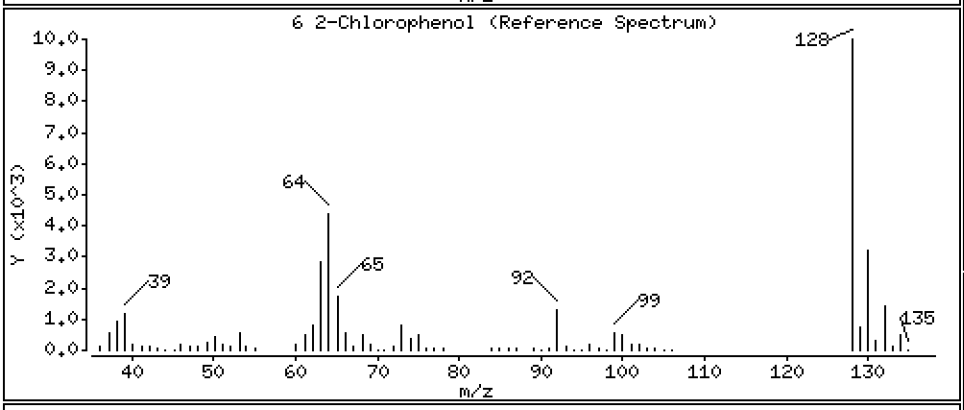
Concentration: 1.451 ug/mL

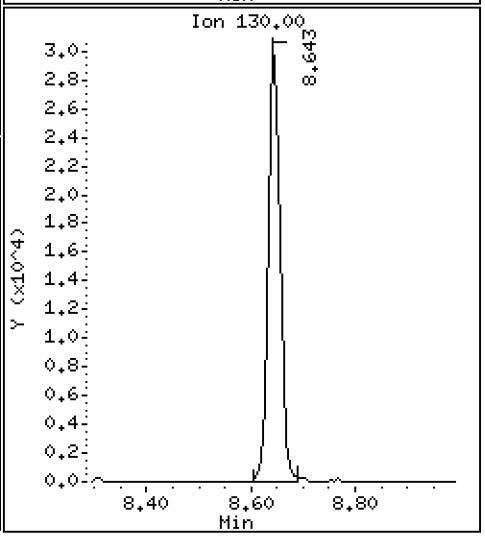


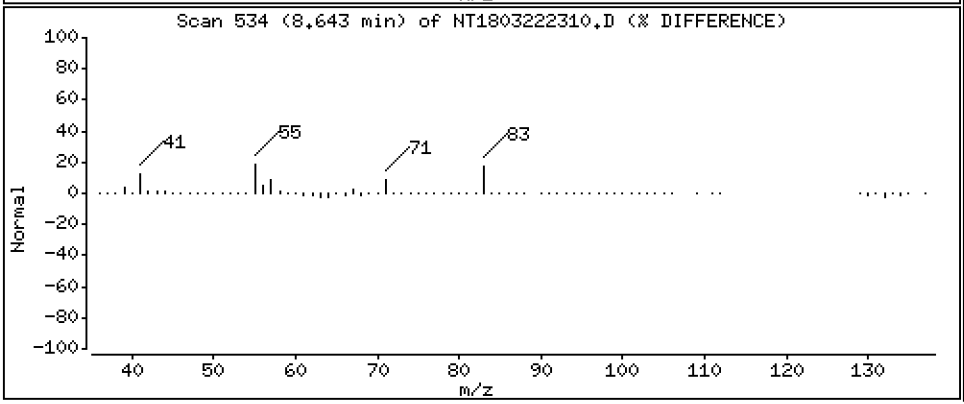












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

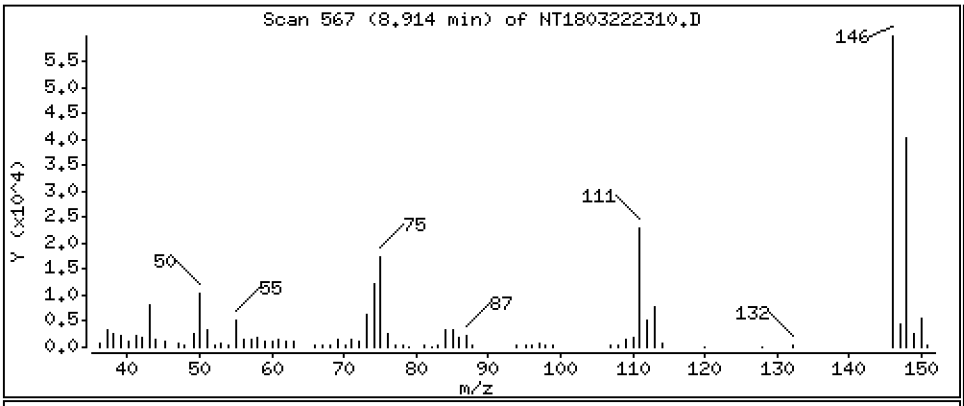
Operator: VTS

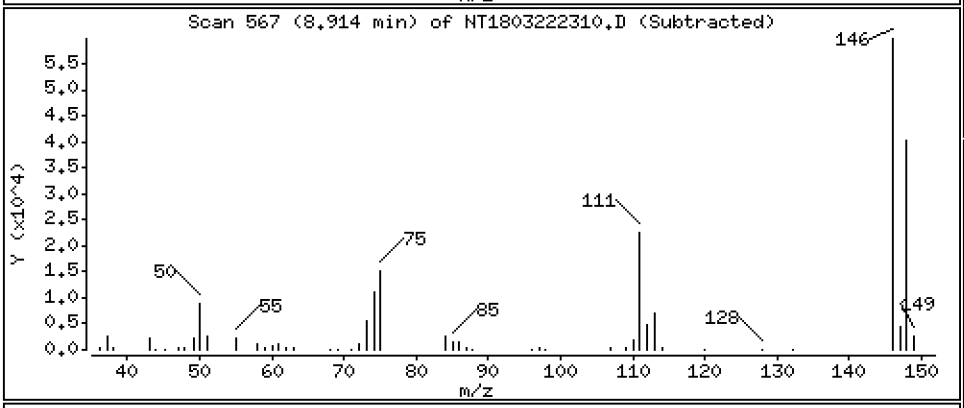
Column phase: ZB-5msi

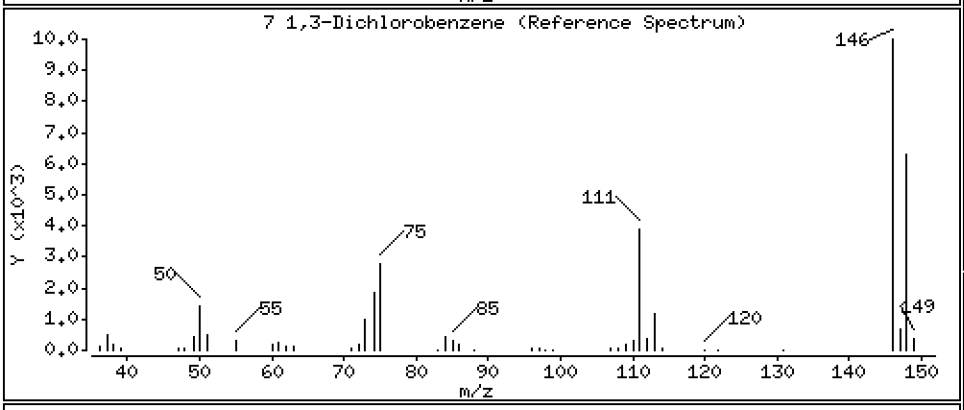
Column diameter: 0.25

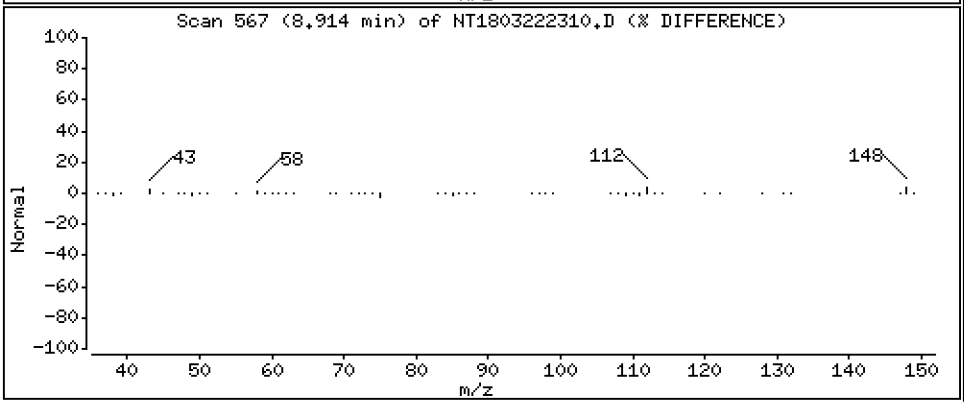
7 1,3-Dichlorobenzene

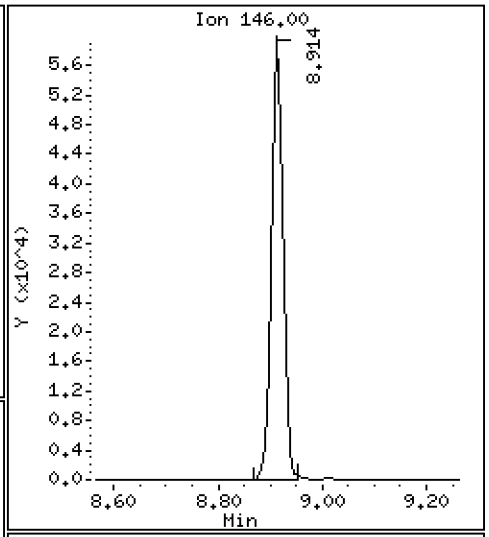
Concentration: 0.8433 ug/mL

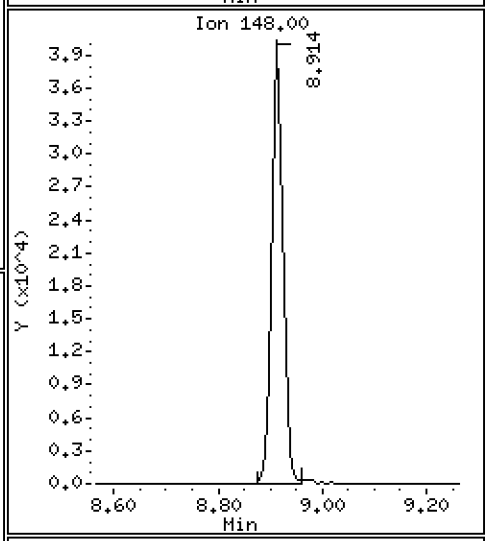


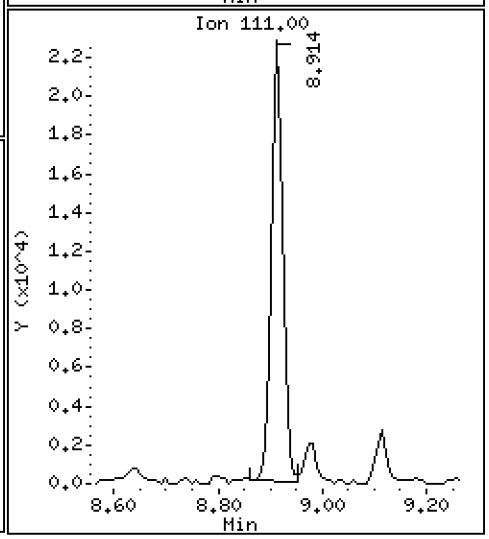












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222310.D

Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

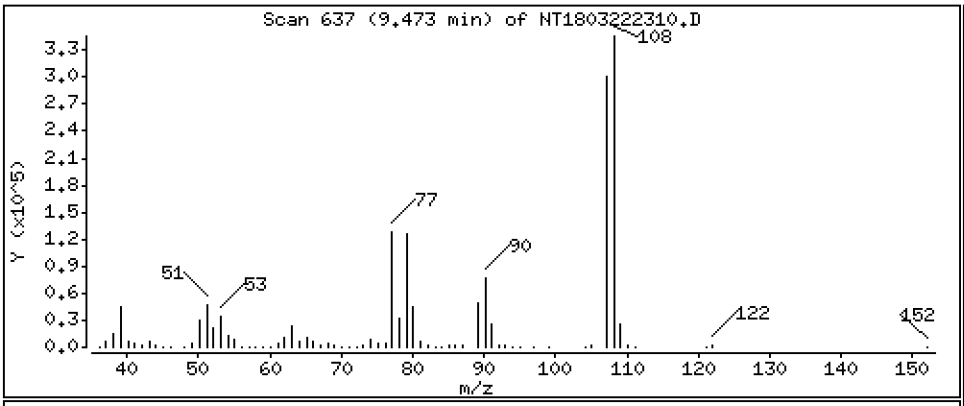
Operator: VTS

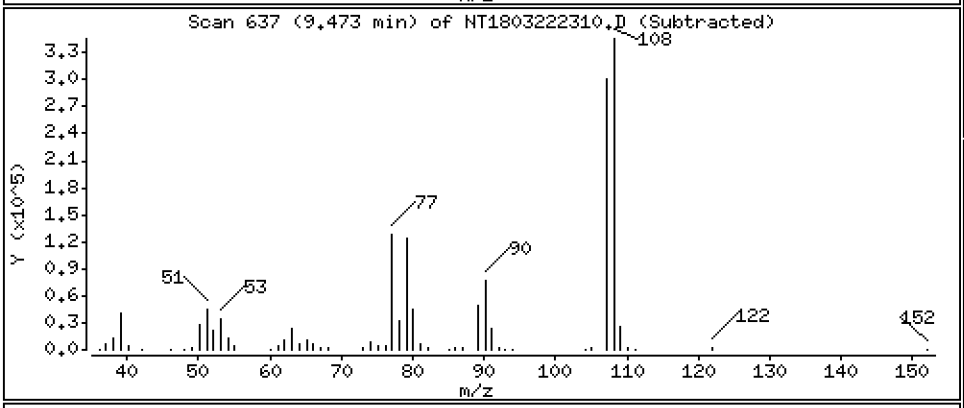
Column phase: ZB-5msi

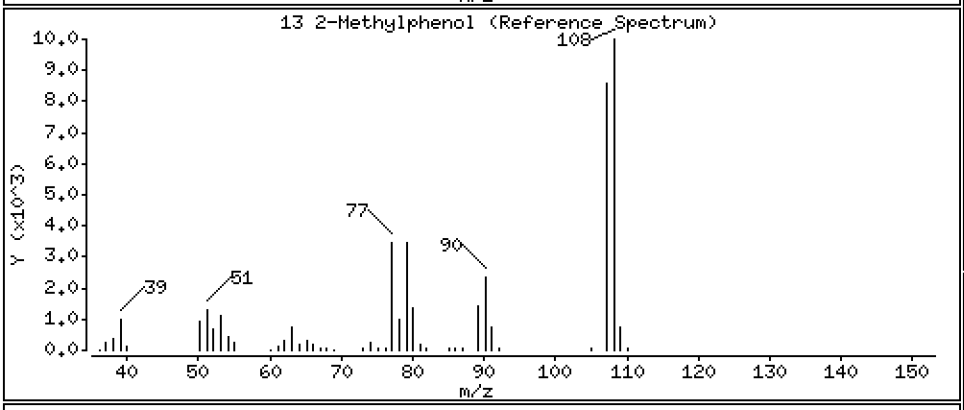
Column diameter: 0.25

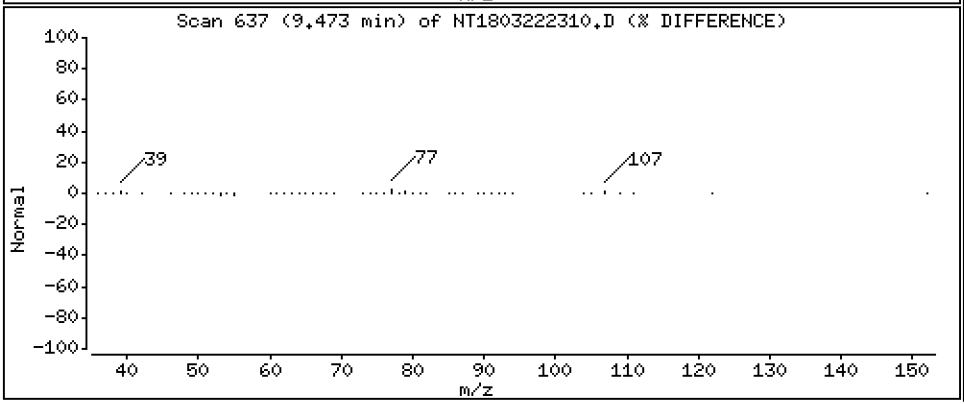
13 2-Methylphenol

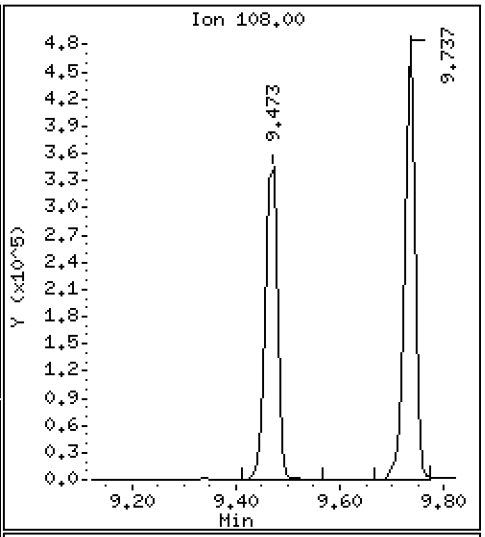
Concentration: 6.085 ug/mL

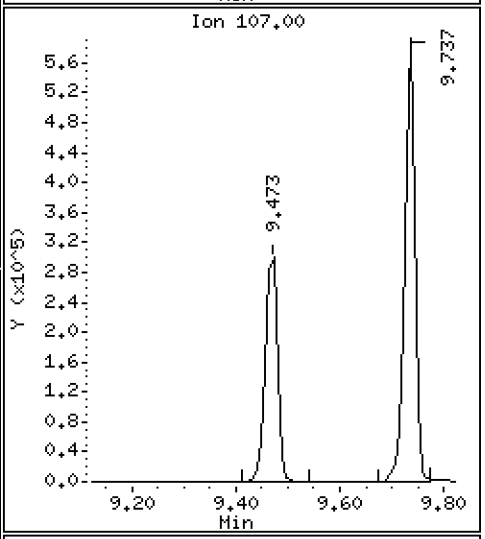


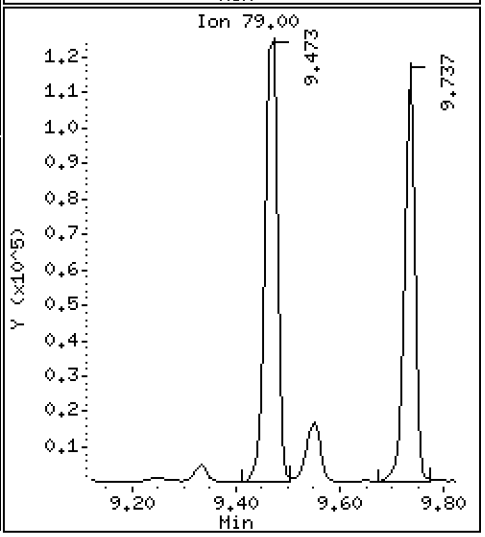












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

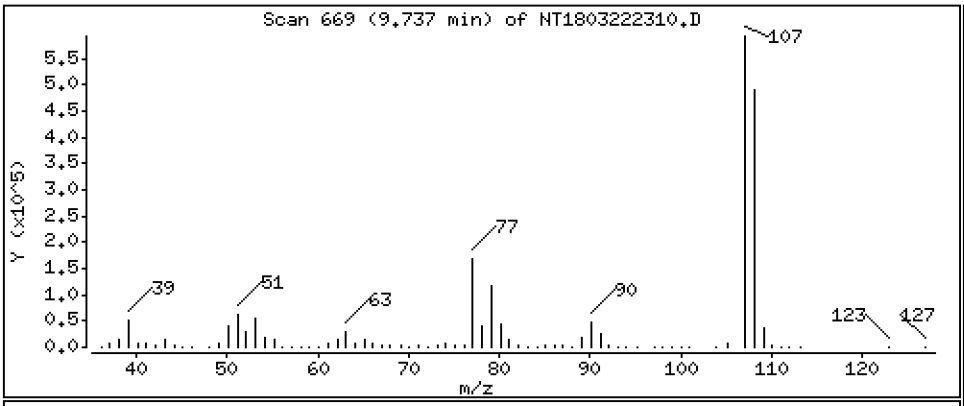
Operator: VTS

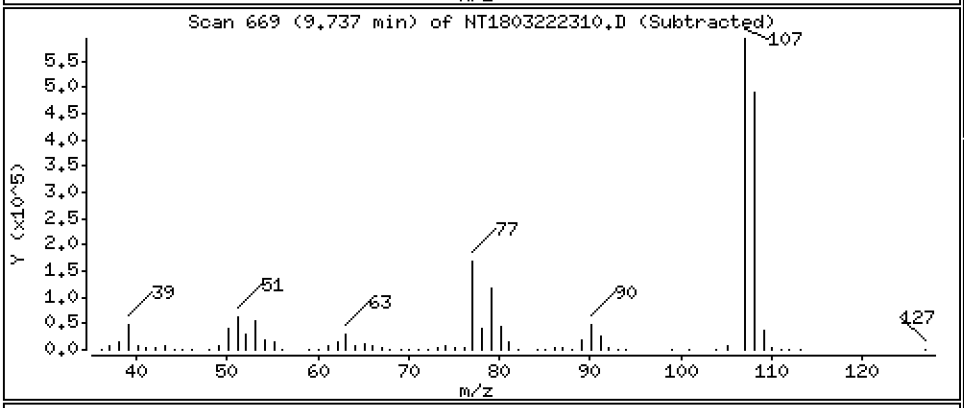
Column phase: ZB-5msi

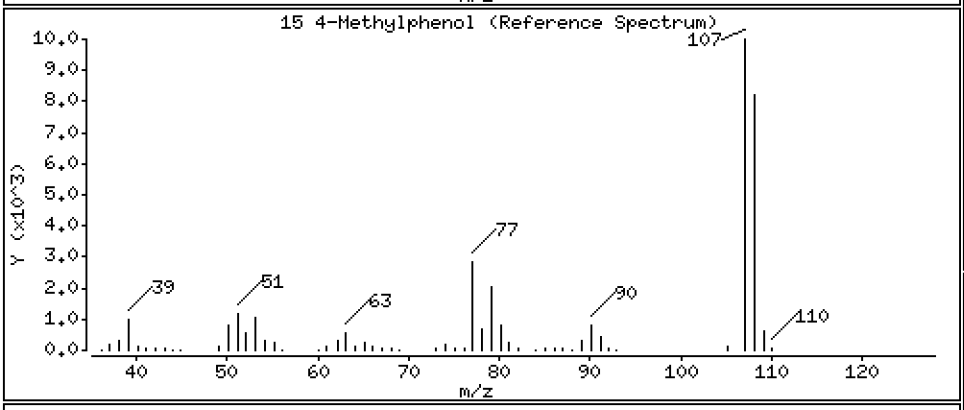
Column diameter: 0.25

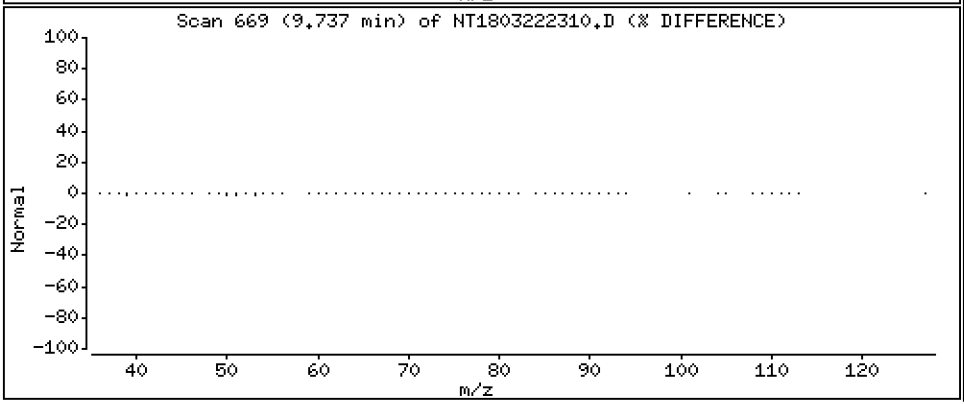
15 4-Methylphenol

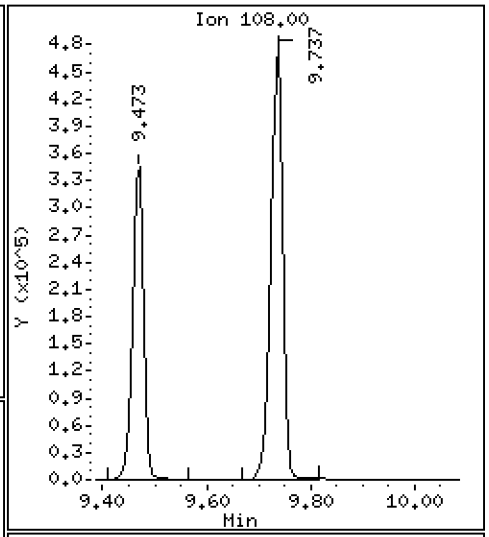
Concentration: 7.698 ug/mL

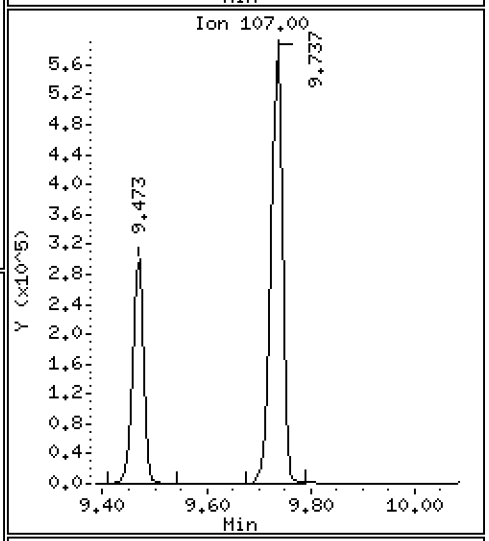


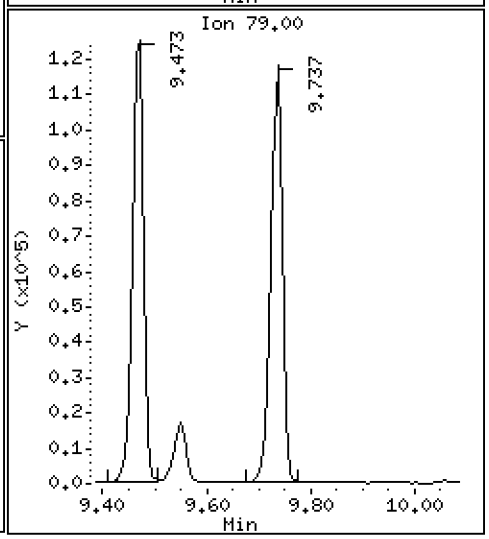












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

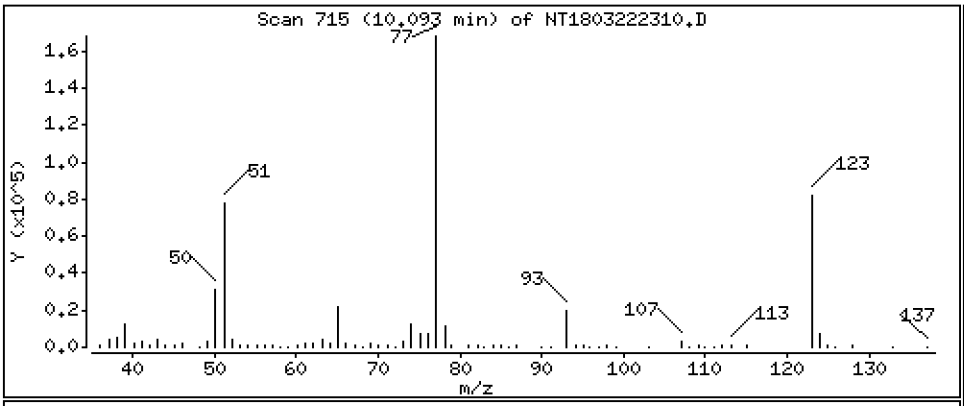
Operator: VTS

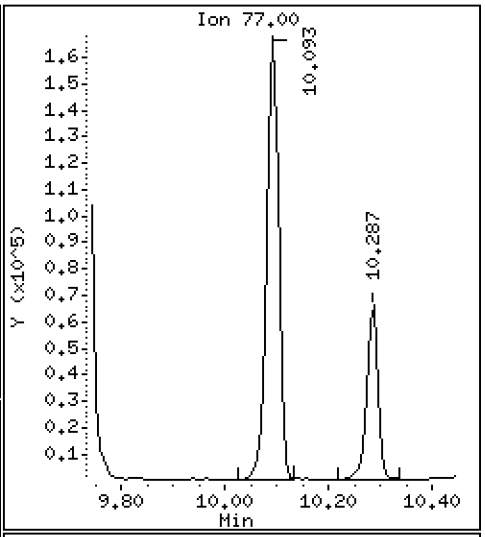
Column phase: ZB-5msi

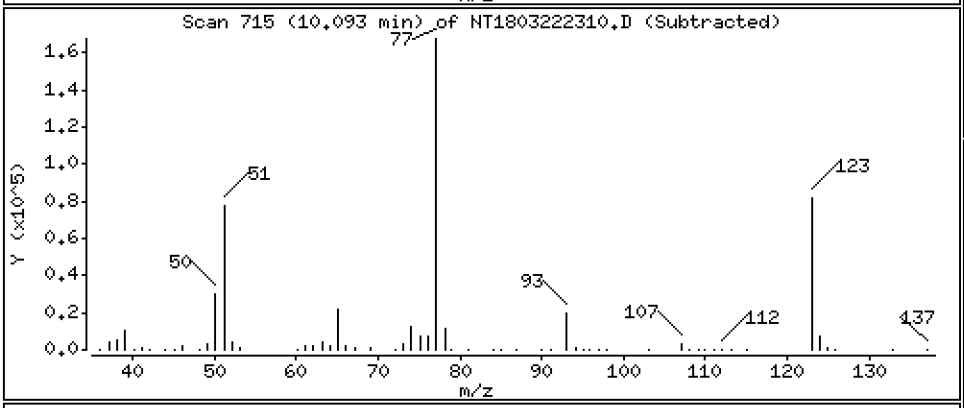
Column diameter: 0.25

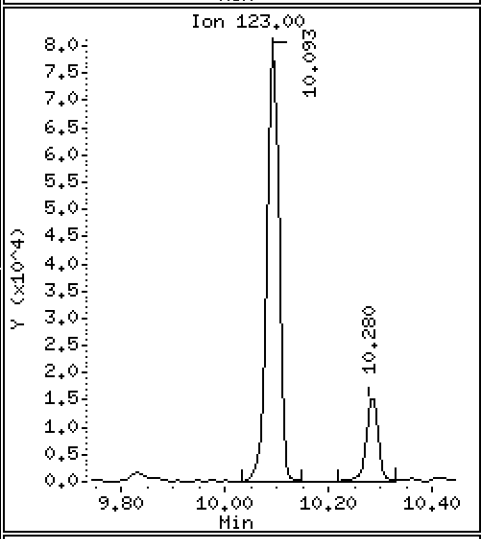
19 Nitrobenzene

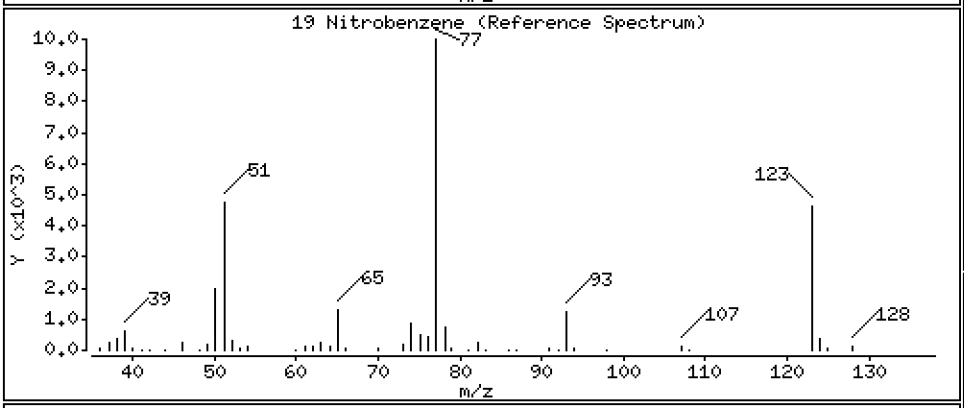
Concentration: 2.915 ug/mL

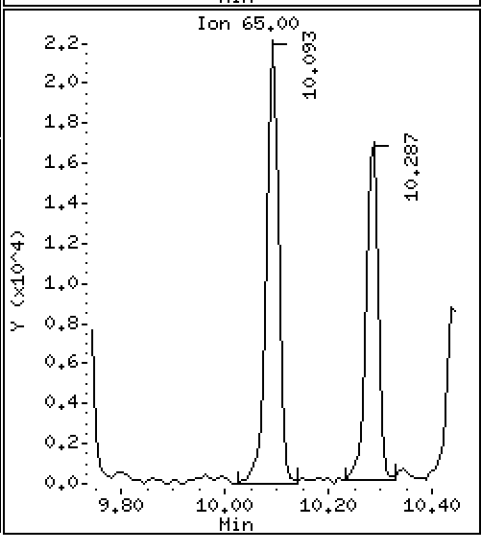


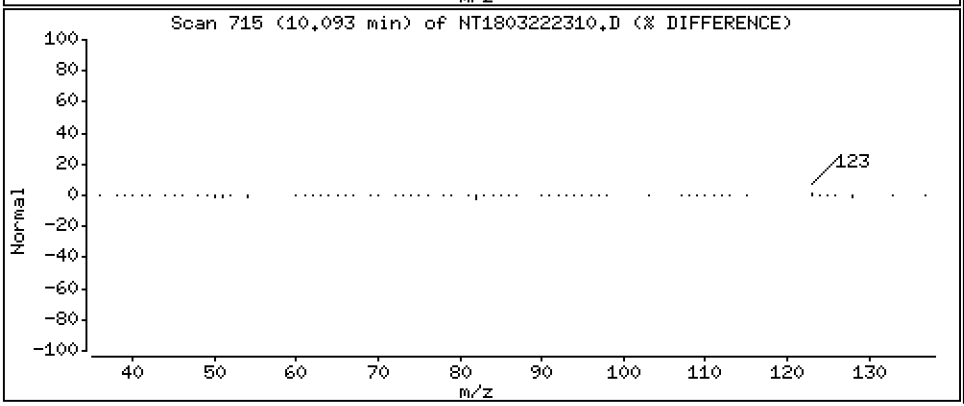












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

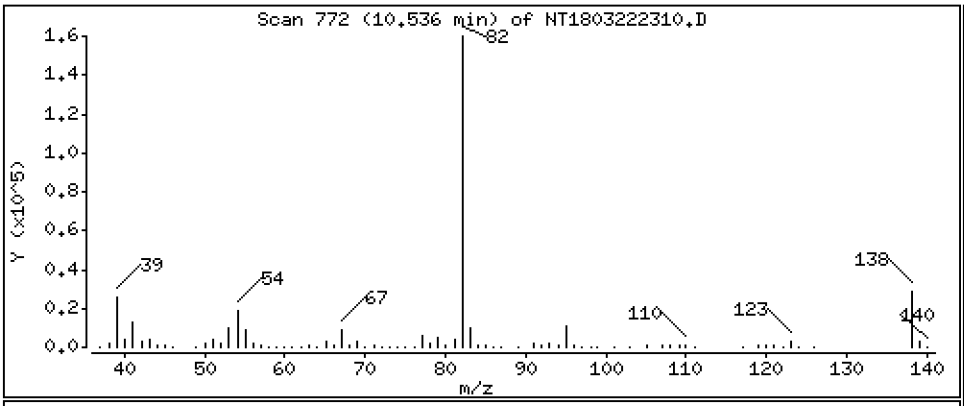
Operator: VTS

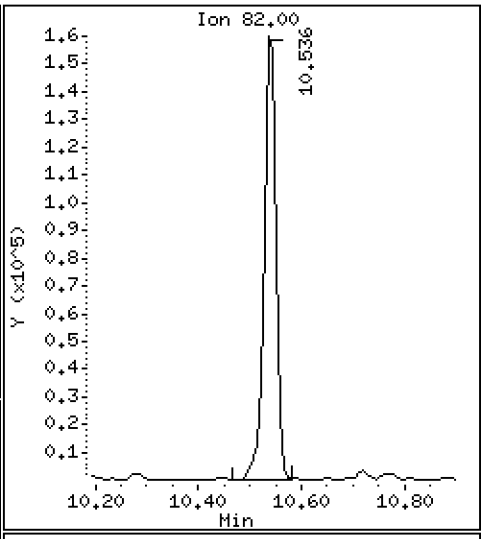
Column phase: ZB-5msi

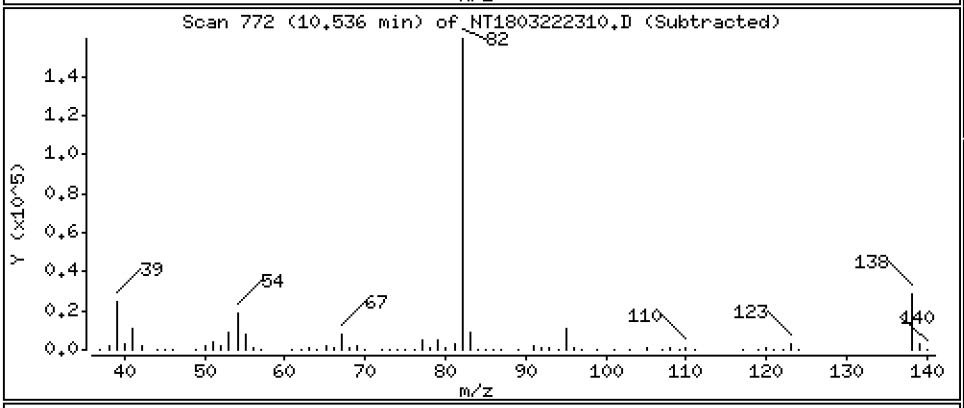
Column diameter: 0.25

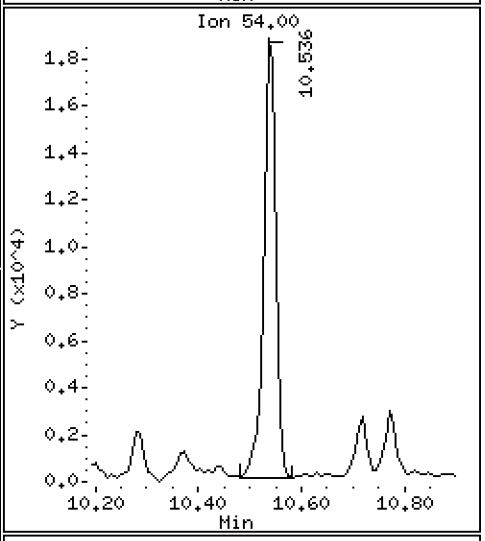
20 Isophorone

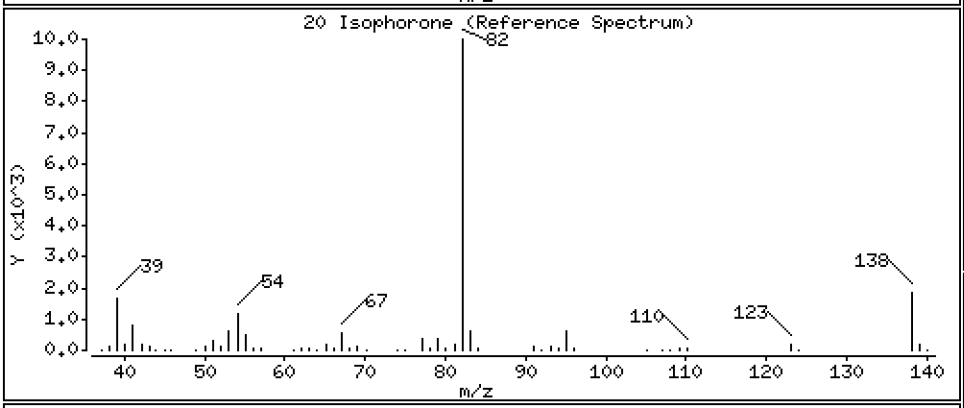
Concentration: 2.236 ug/mL

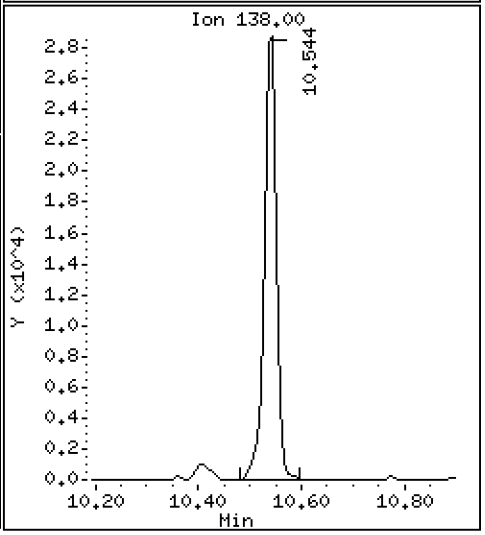


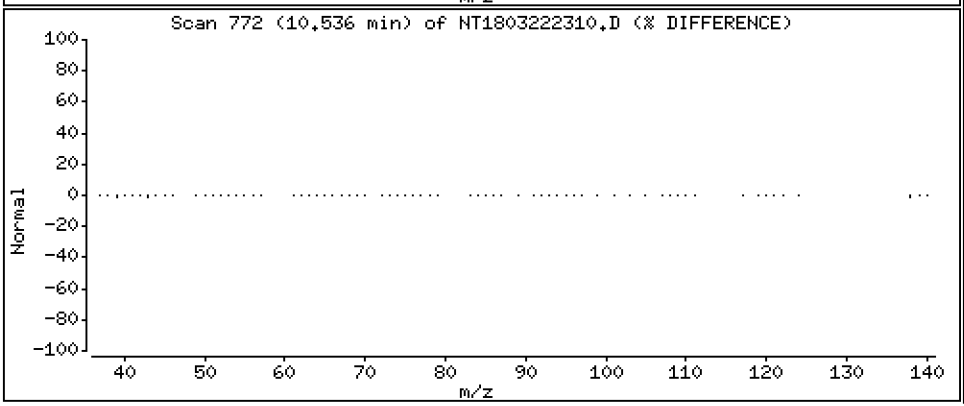












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

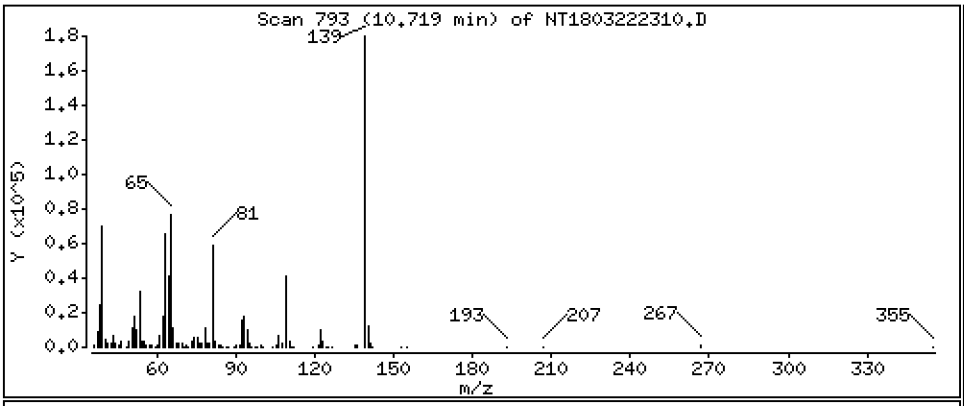
Operator: VTS

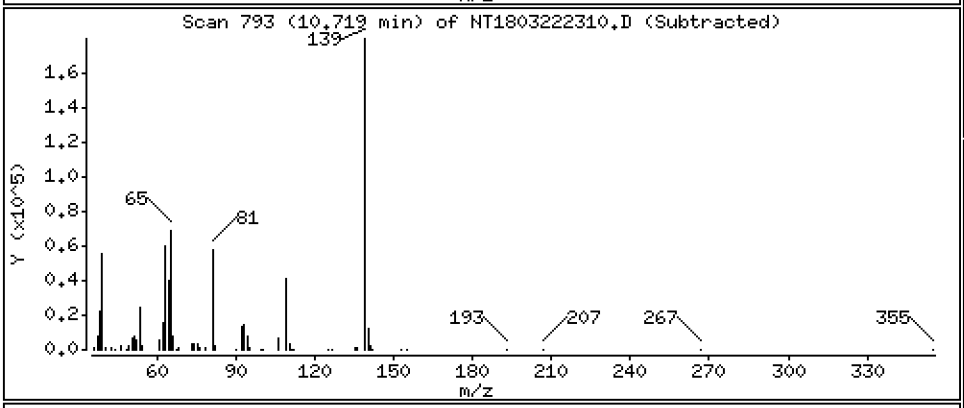
Column phase: ZB-5msi

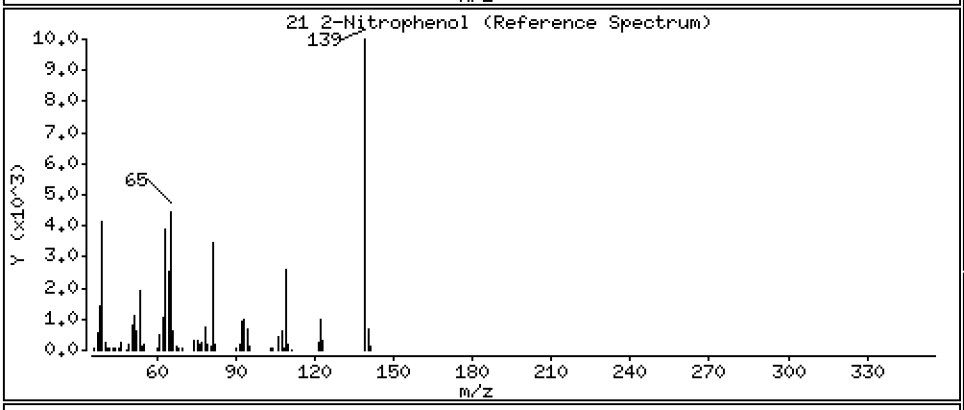
Column diameter: 0.25

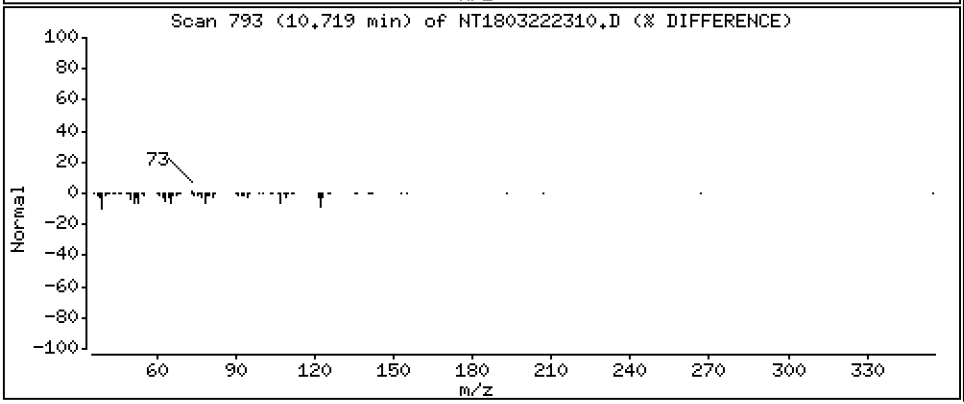
21 2-Nitrophenol

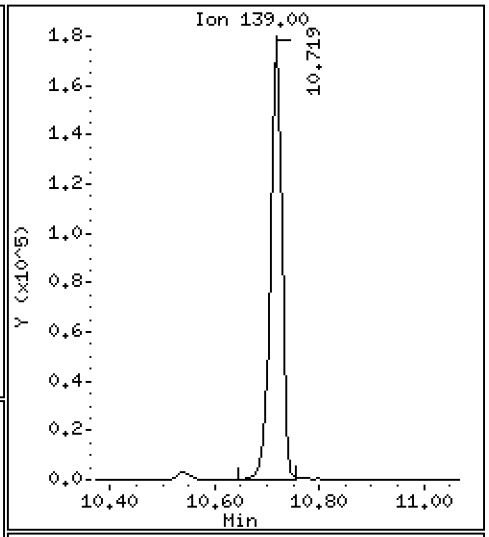
Concentration: 6.049 ug/mL

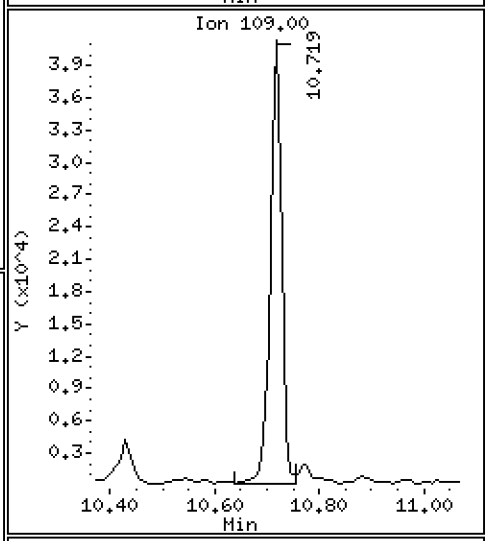


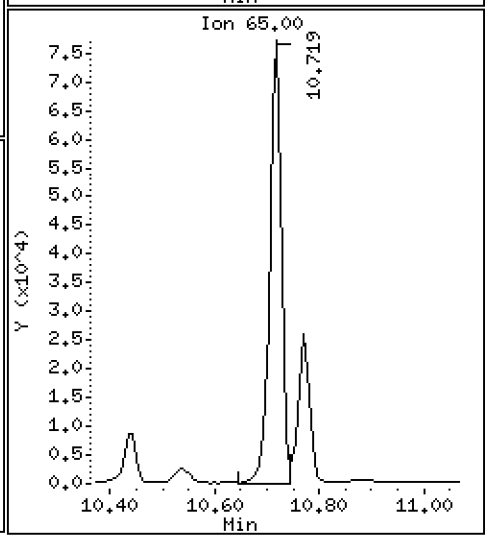












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

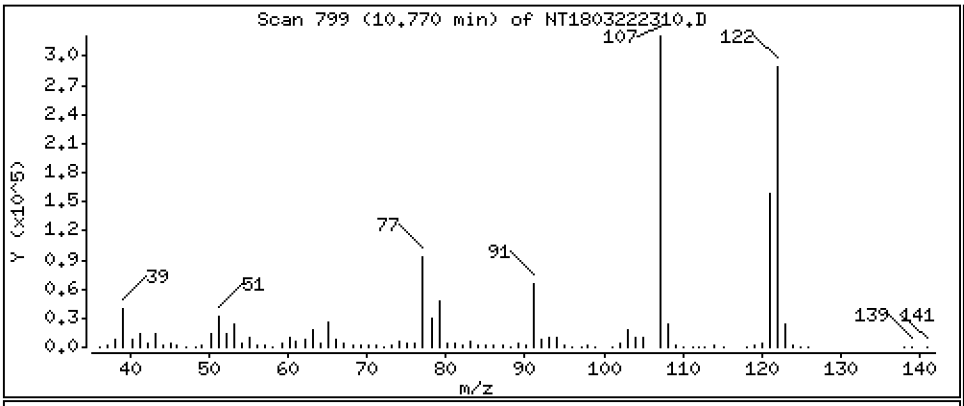
Operator: VTS

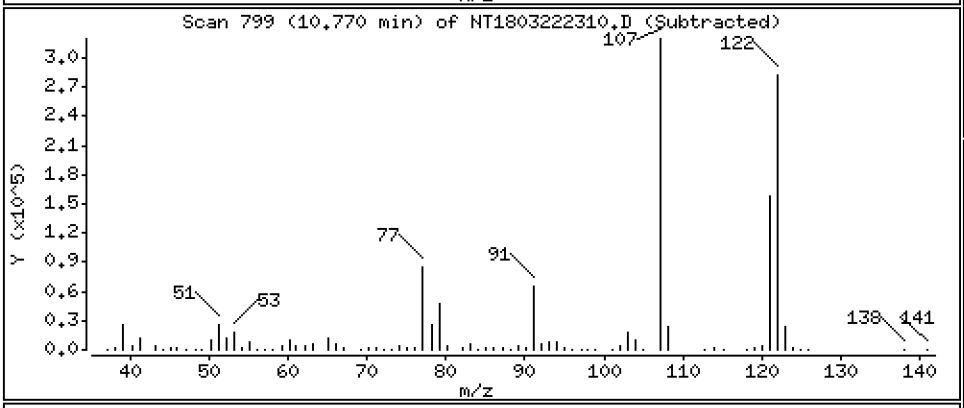
Column phase: ZB-5msi

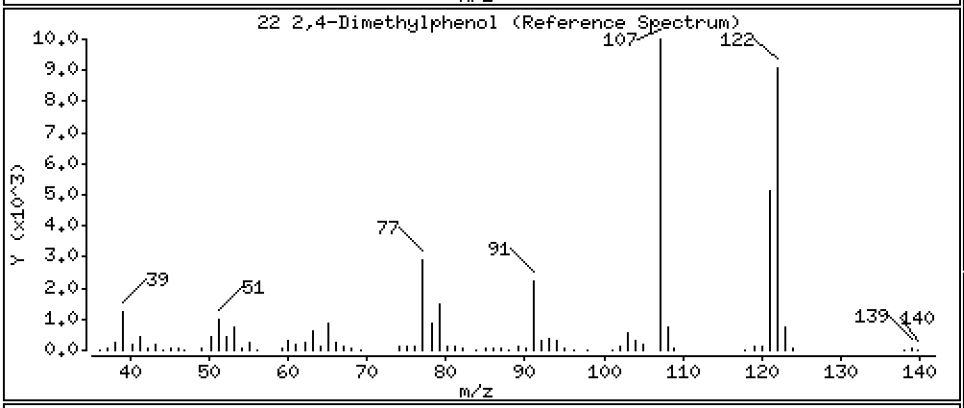
Column diameter: 0.25

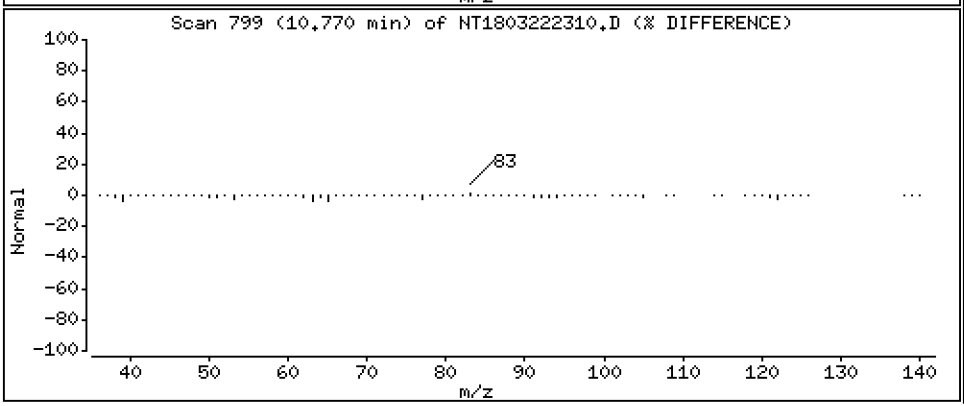
22 2,4-Dimethylphenol

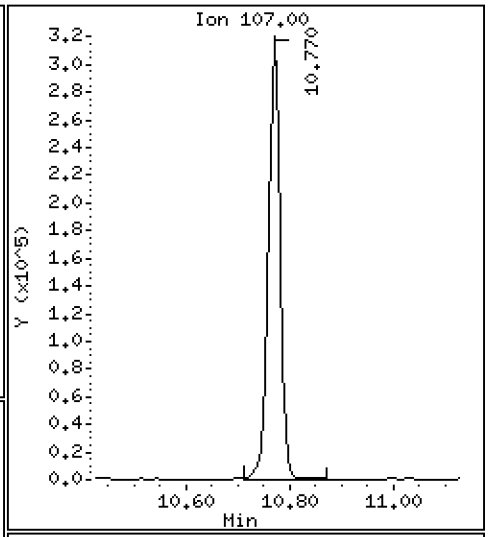
Concentration: 5.685 ug/mL

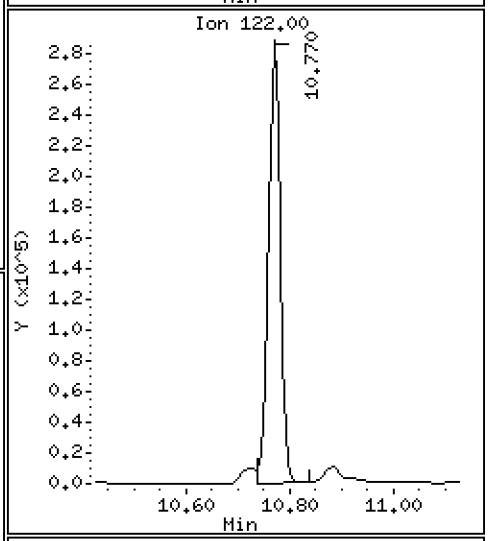


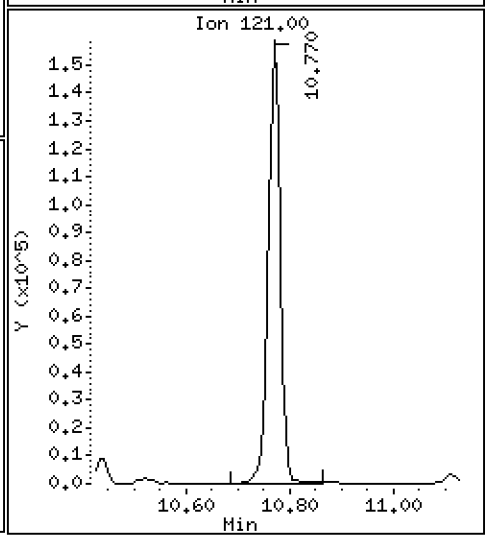












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

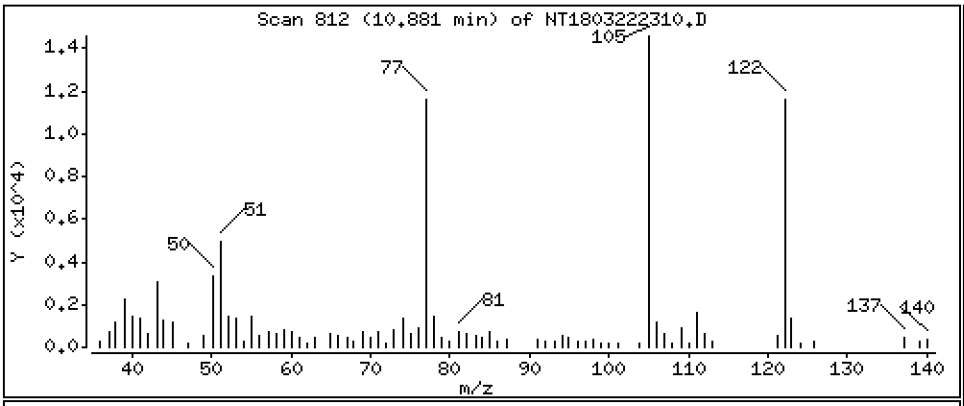
Operator: VTS

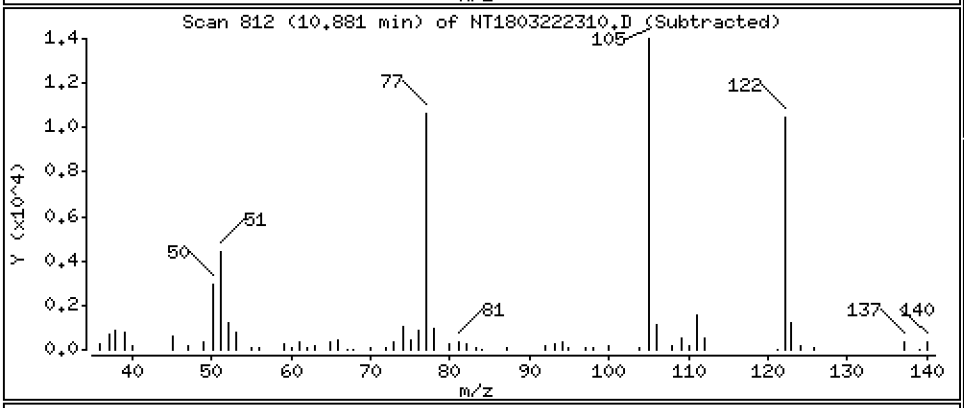
Column phase: ZB-5msi

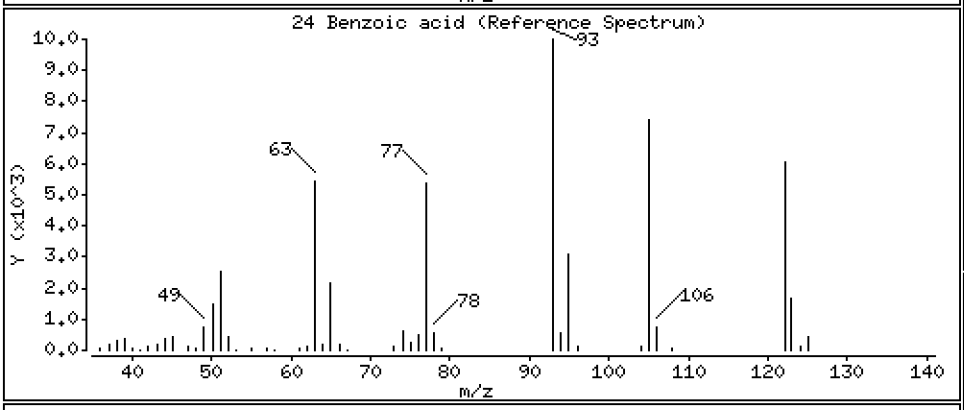
Column diameter: 0.25

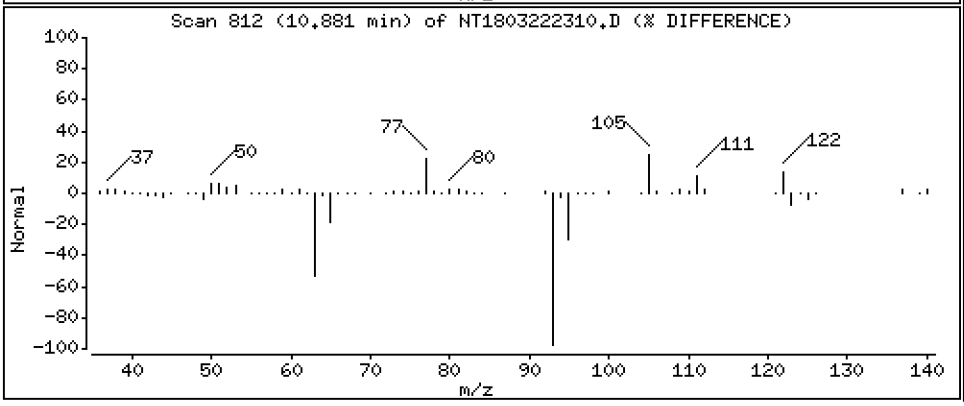
24 Benzoic acid

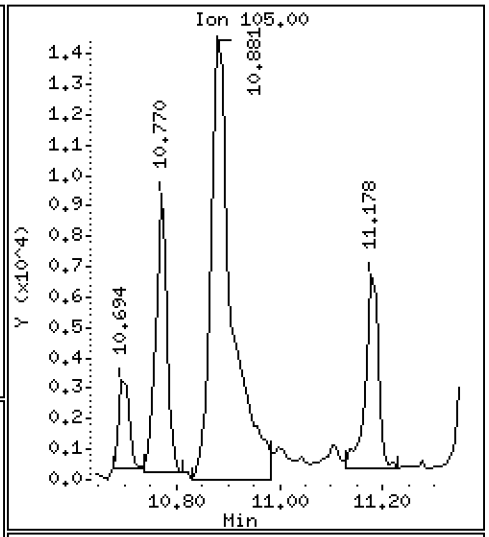
Concentration: 0.6724 ug/mL

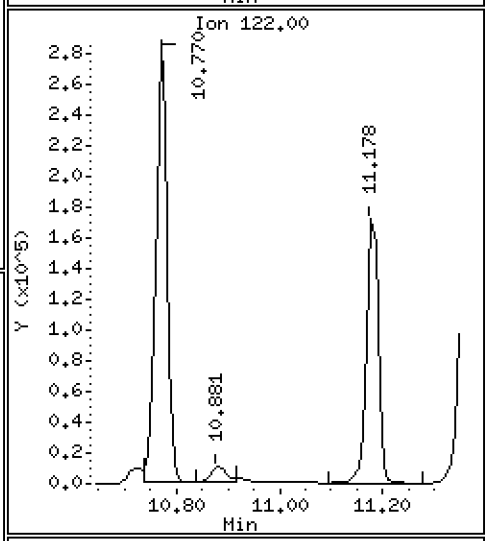


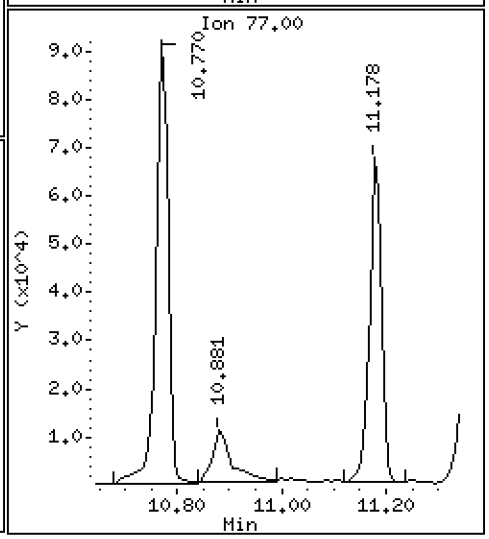












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

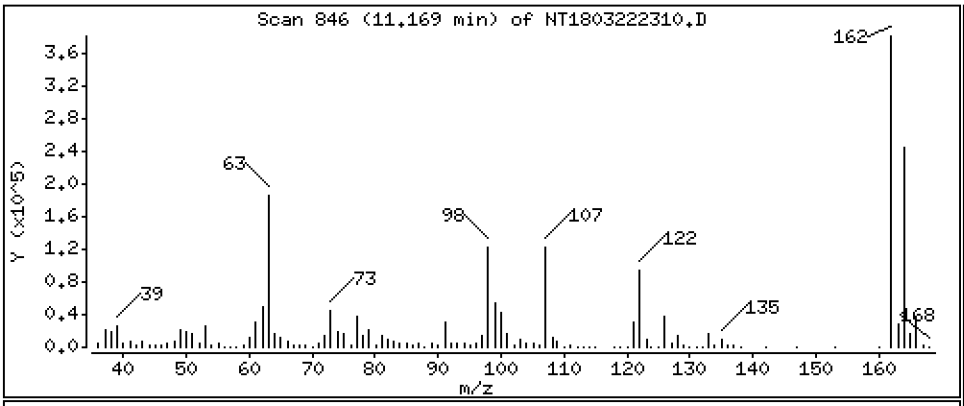
Operator: VTS

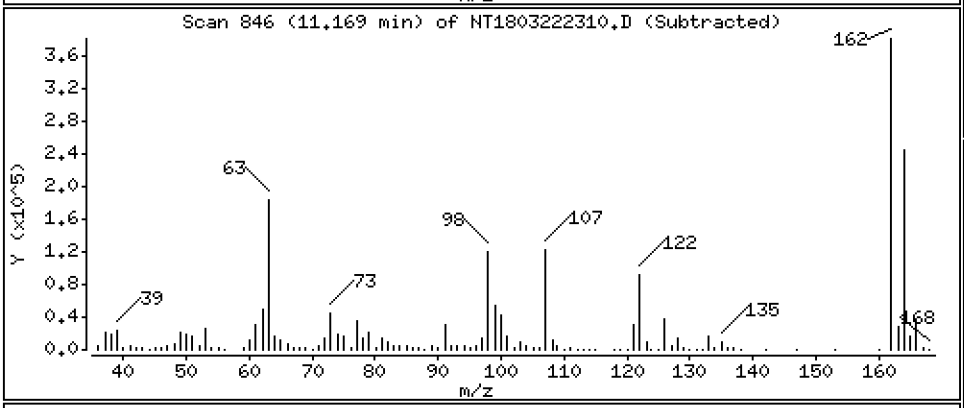
Column phase: ZB-5msi

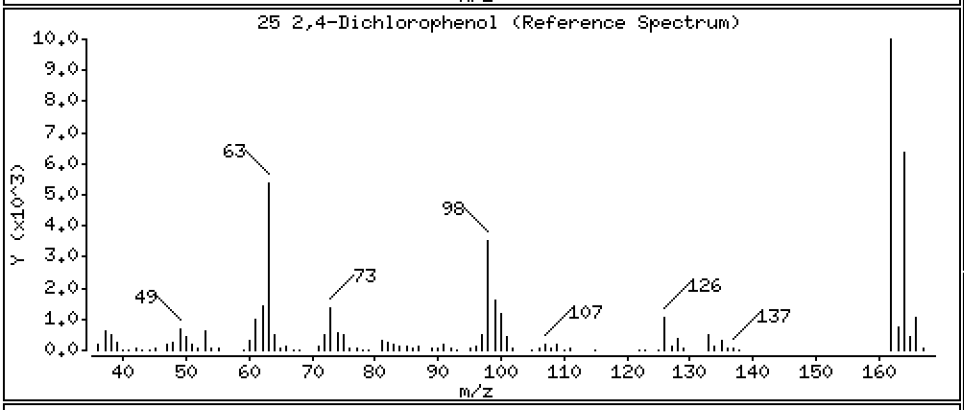
Column diameter: 0.25

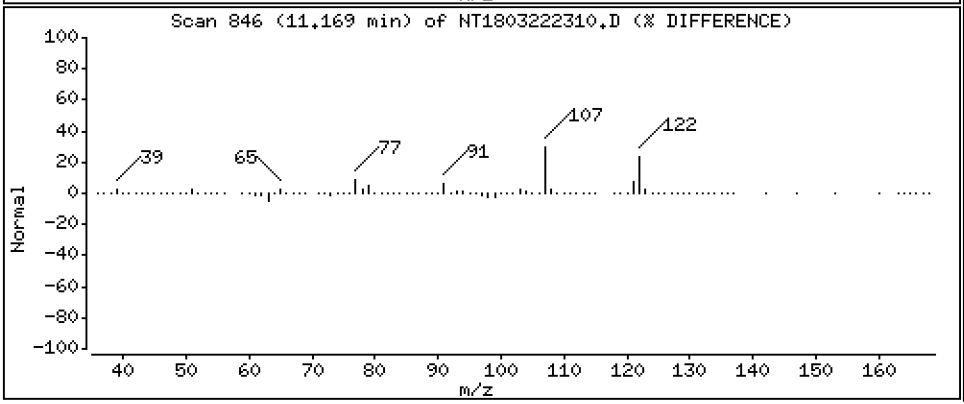
25 2,4-Dichlorophenol

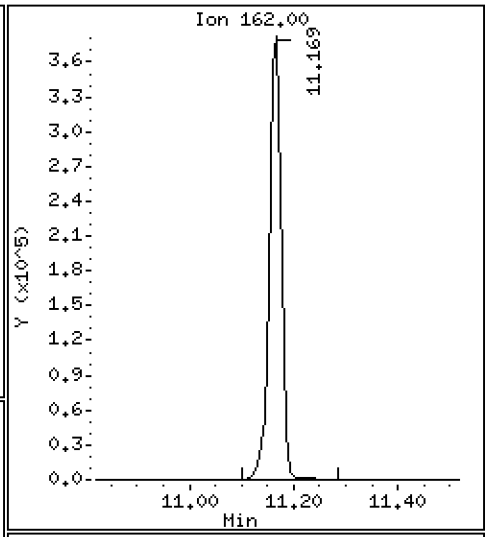
Concentration: 8.470 ug/mL

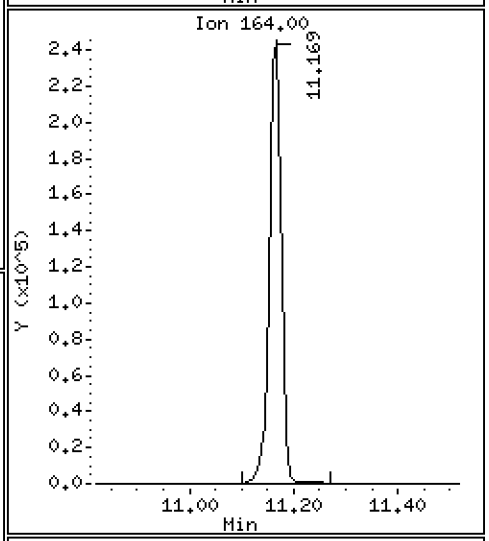


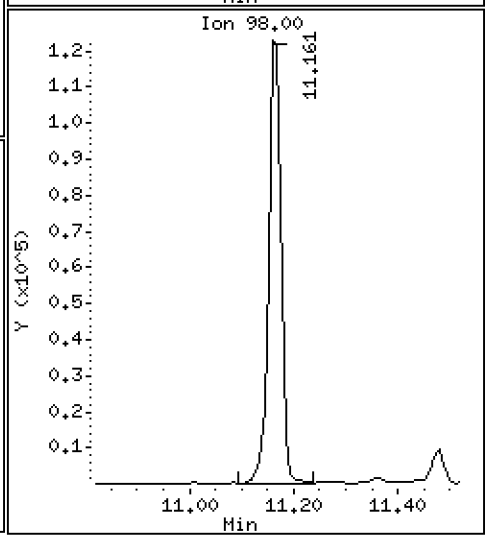












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

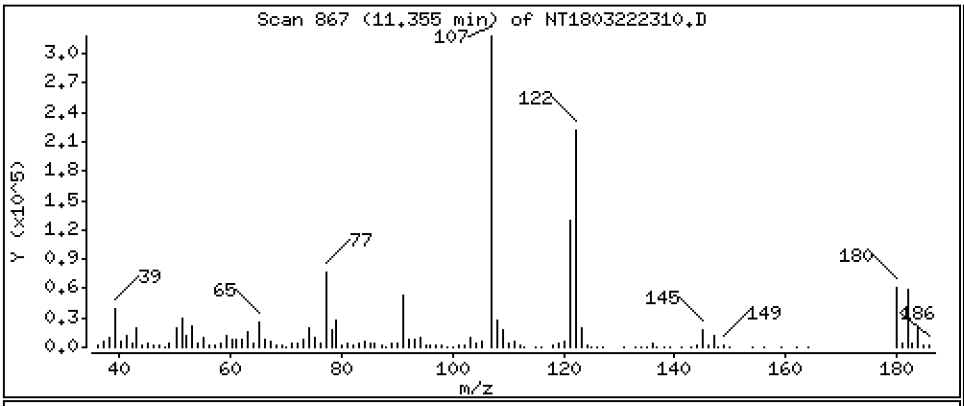
Operator: VTS

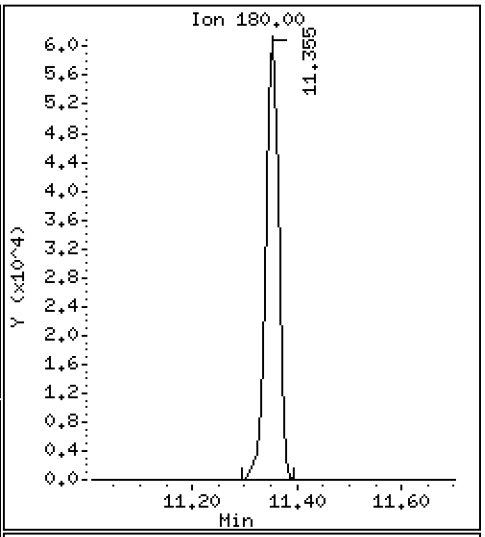
Column phase: ZB-5msi

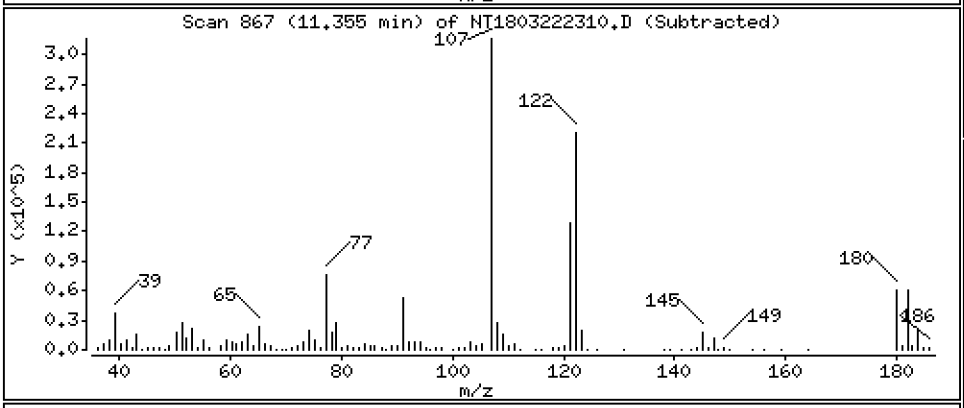
Column diameter: 0.25

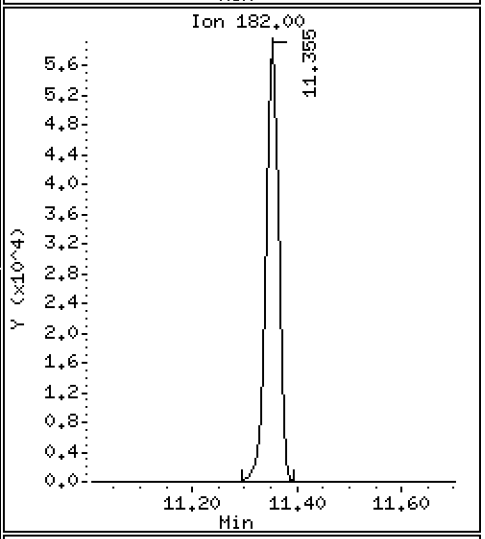
26 1,2,4-Trichlorobenzene

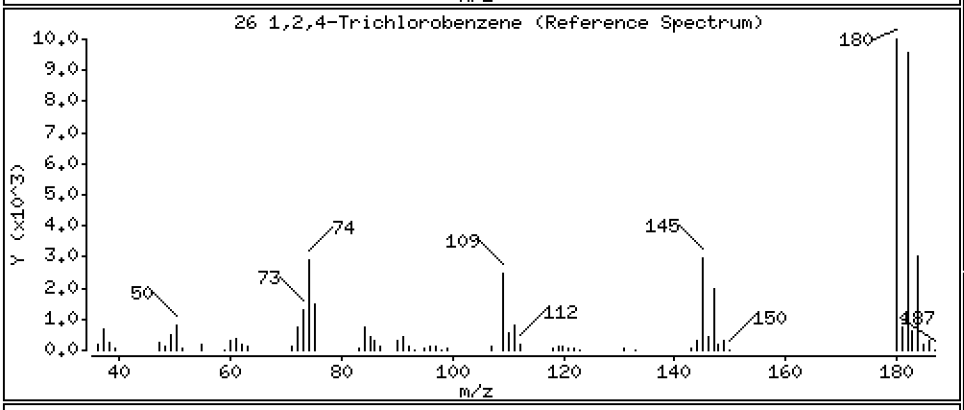
Concentration: 1.188 ug/mL

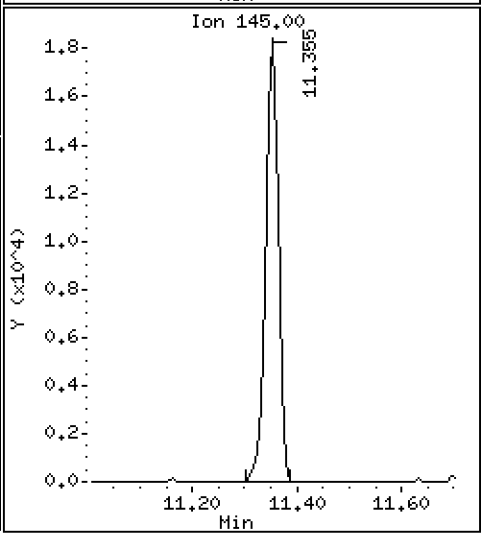


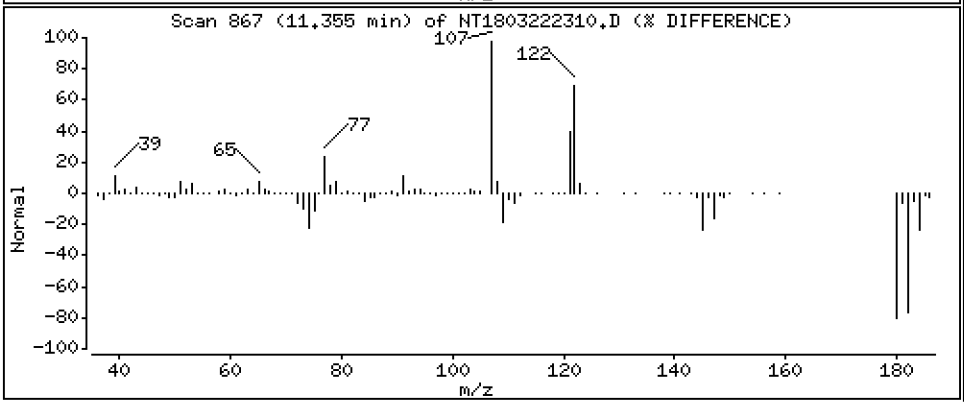












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

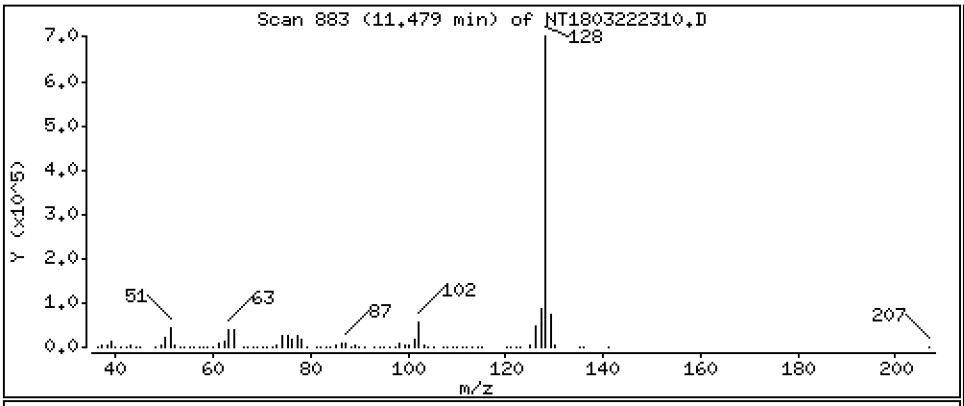
Operator: VTS

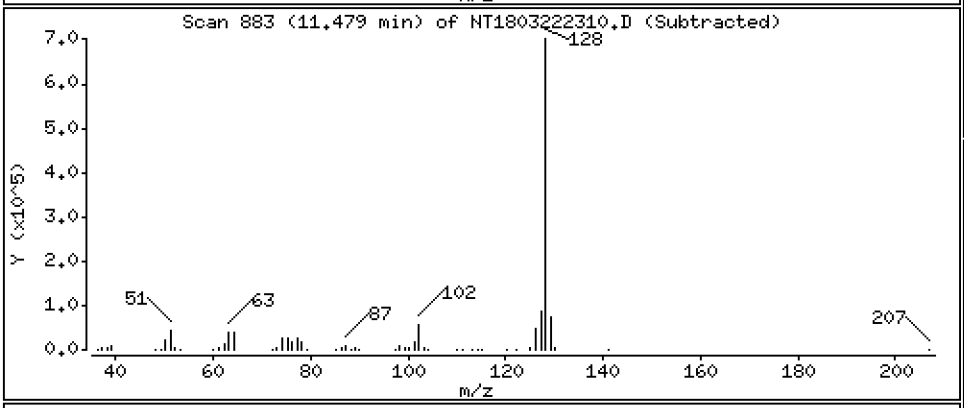
Column phase: ZB-5msi

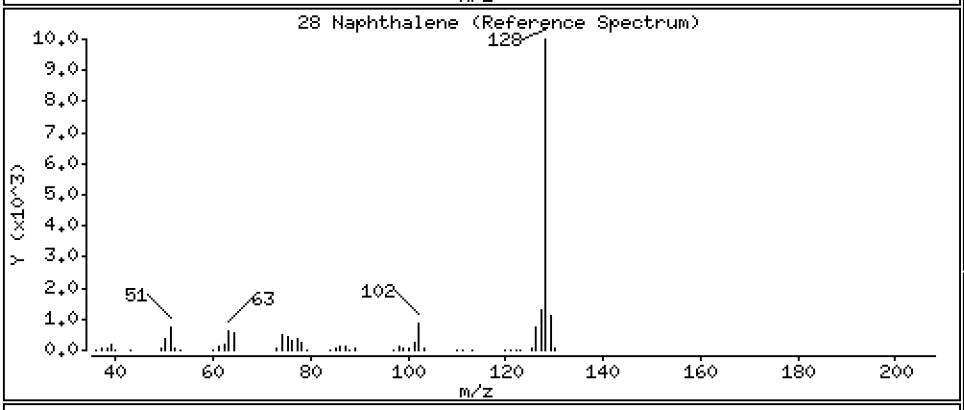
Column diameter: 0.25

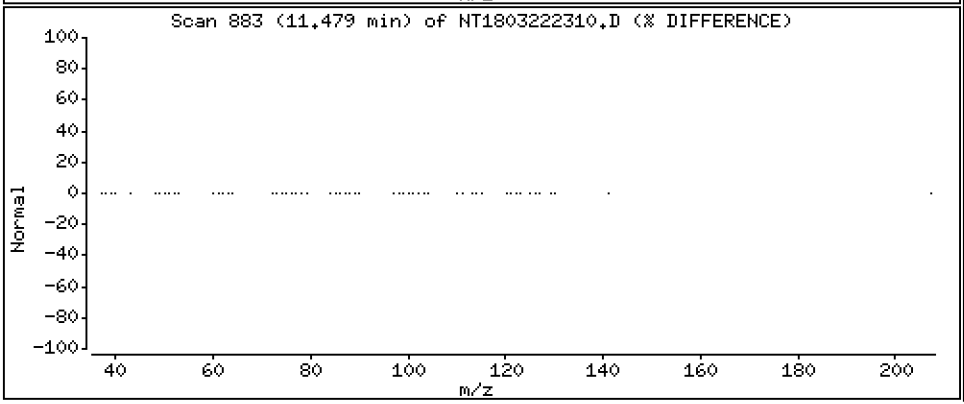
28 Naphthalene

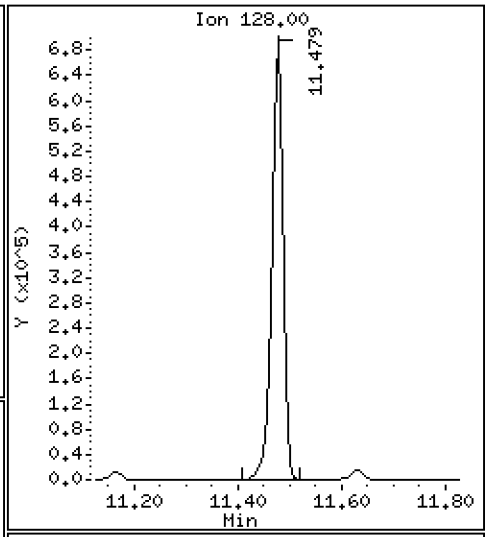
Concentration: 3.731 ug/mL

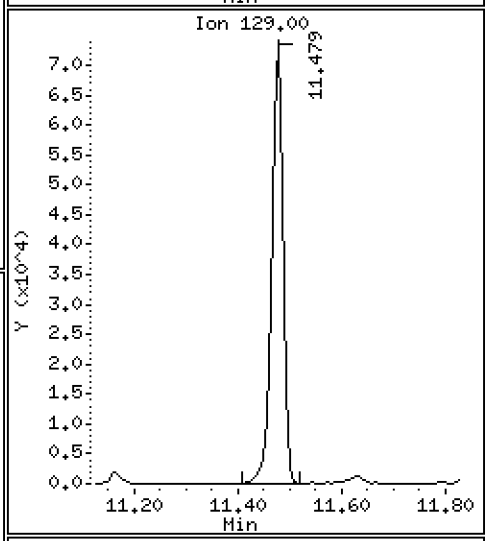


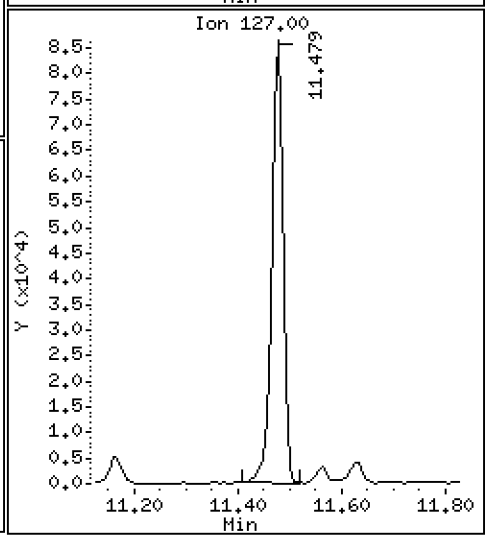












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

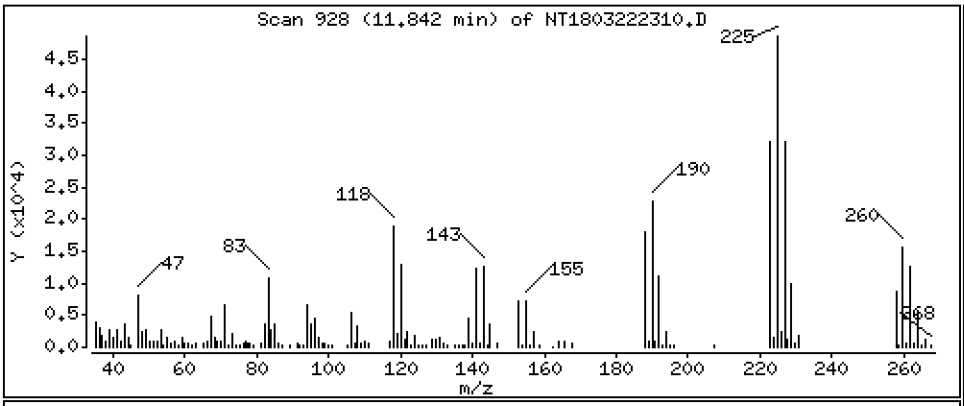
Operator: VTS

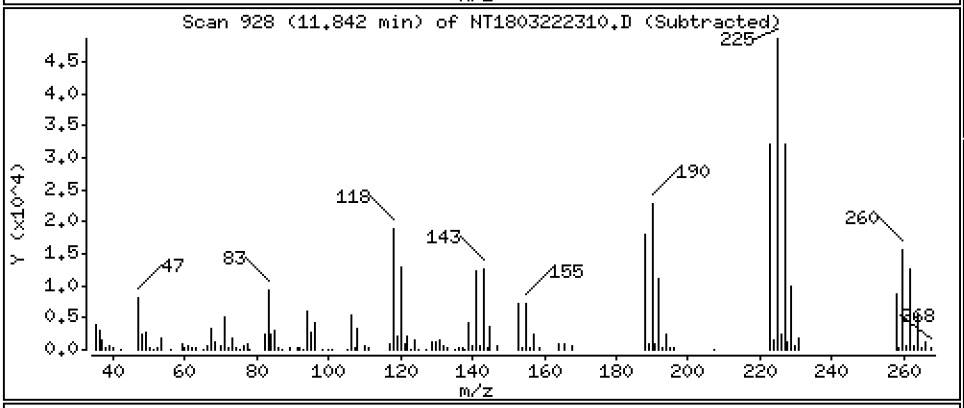
Column phase: ZB-5msi

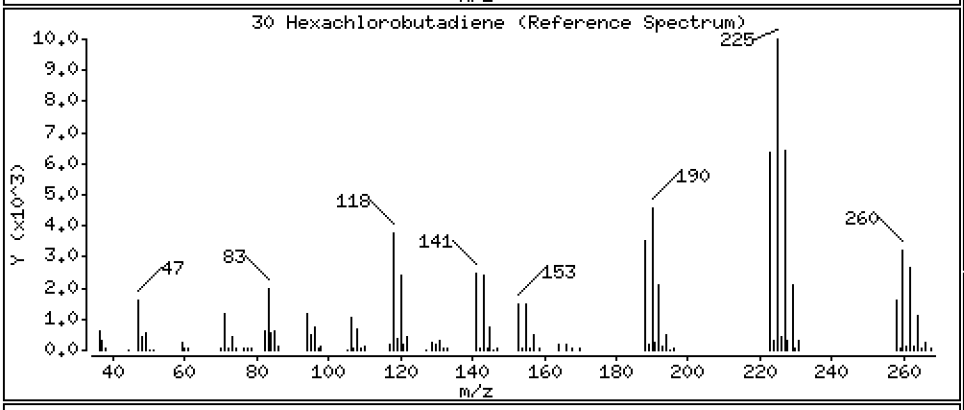
Column diameter: 0.25

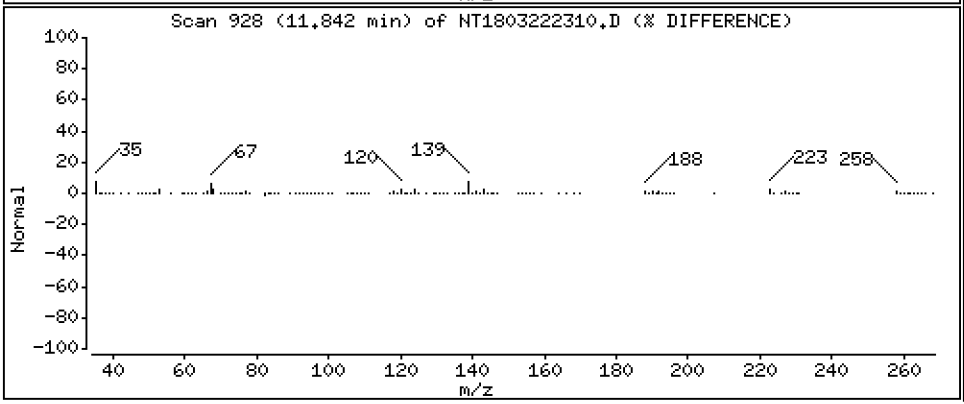
30 Hexachlorobutadiene

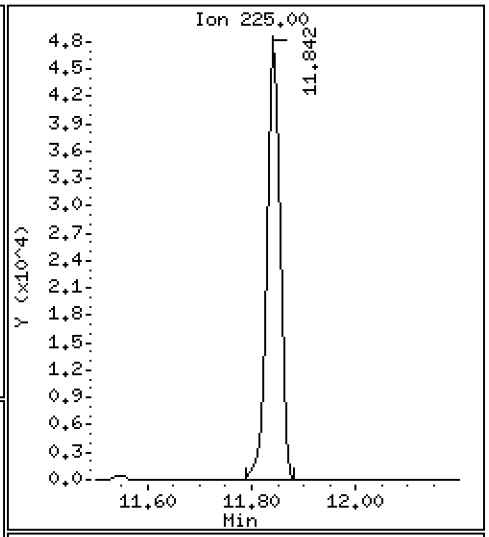
Concentration: 1.712 ug/mL

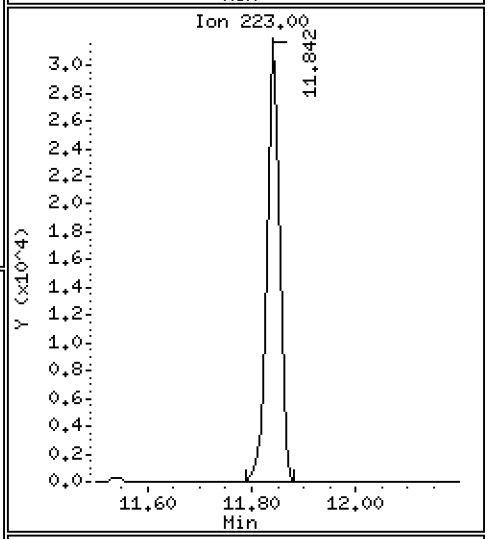


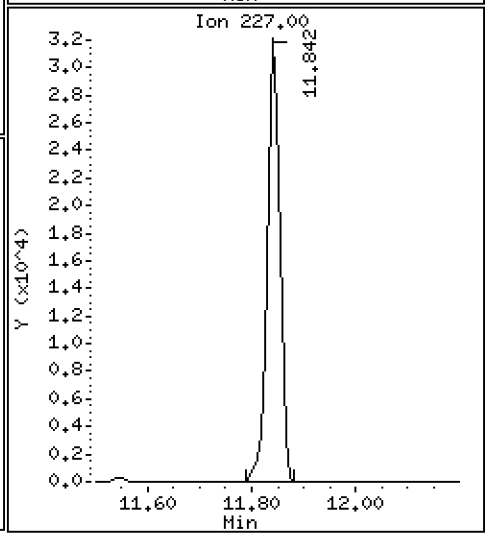












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

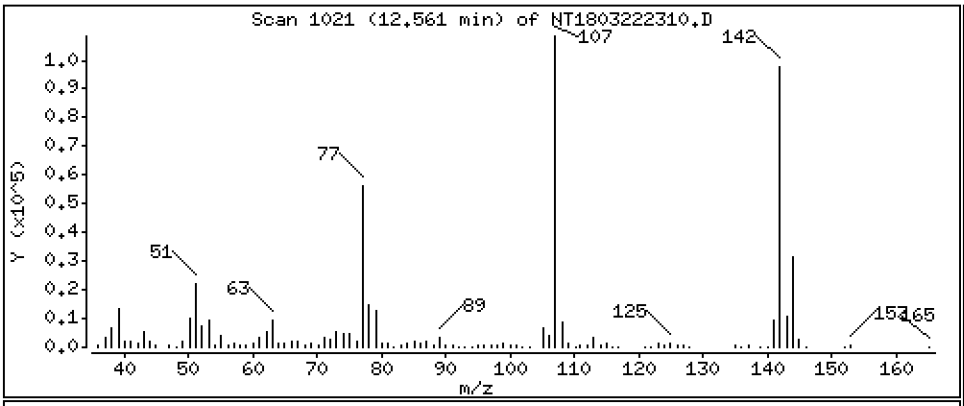
Operator: VTS

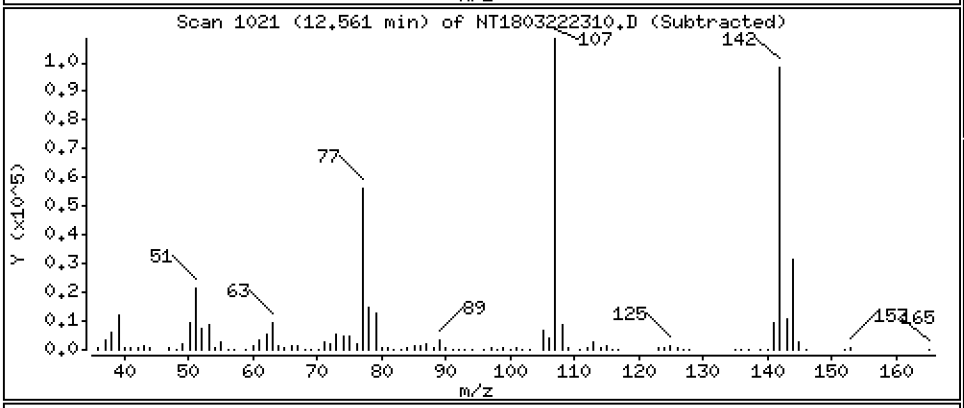
Column phase: ZB-5msi

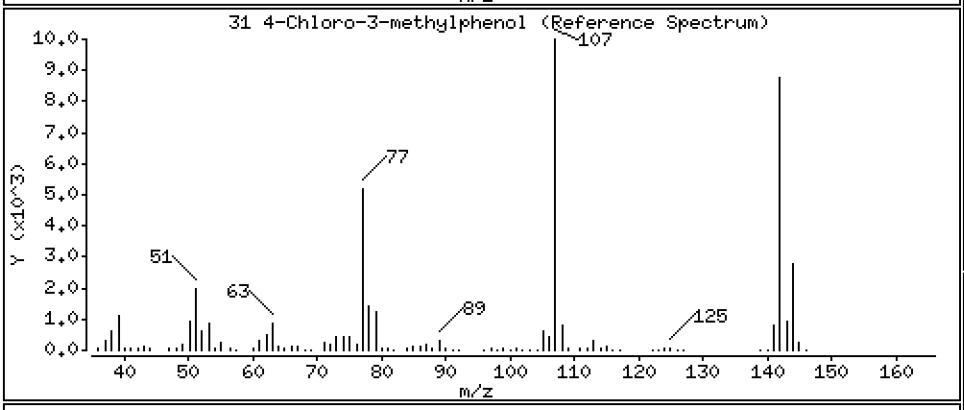
Column diameter: 0.25

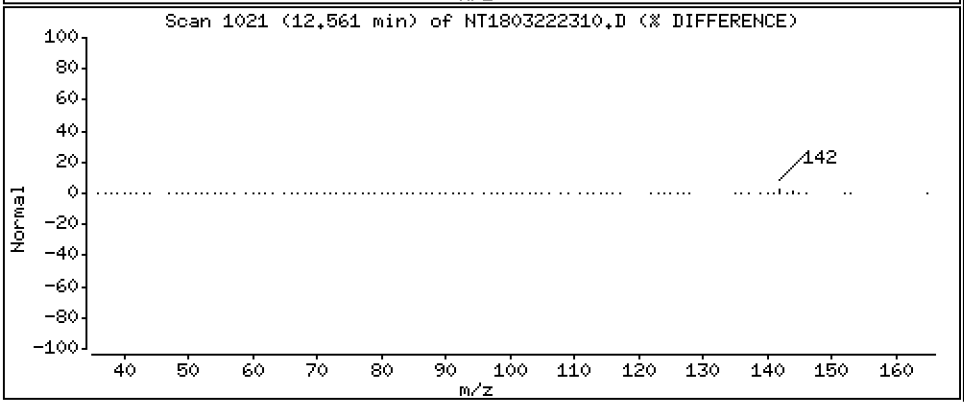
31 4-Chloro-3-methylphenol

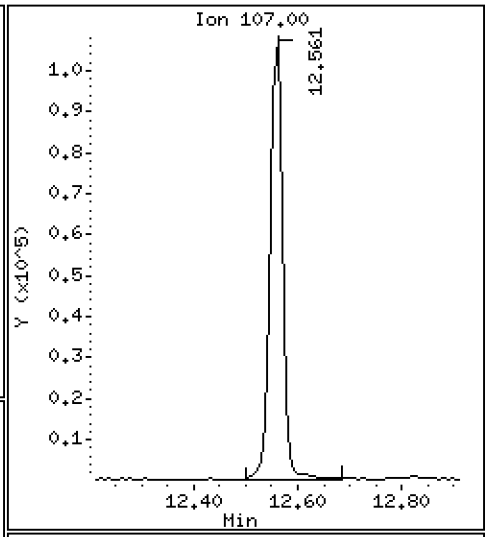
Concentration: 2.292 ug/mL

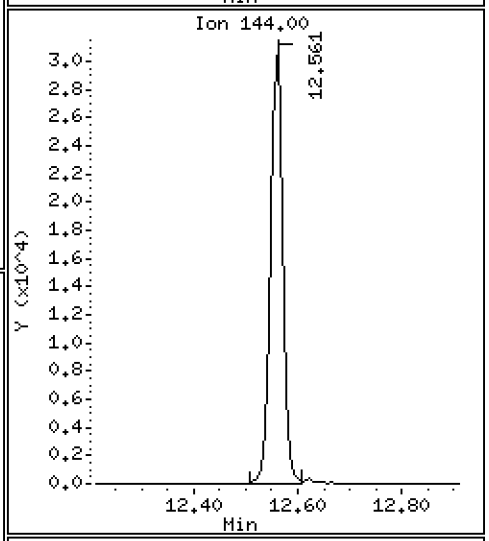


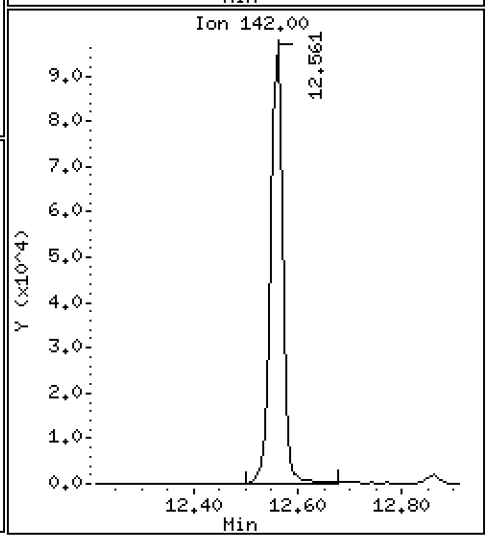












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

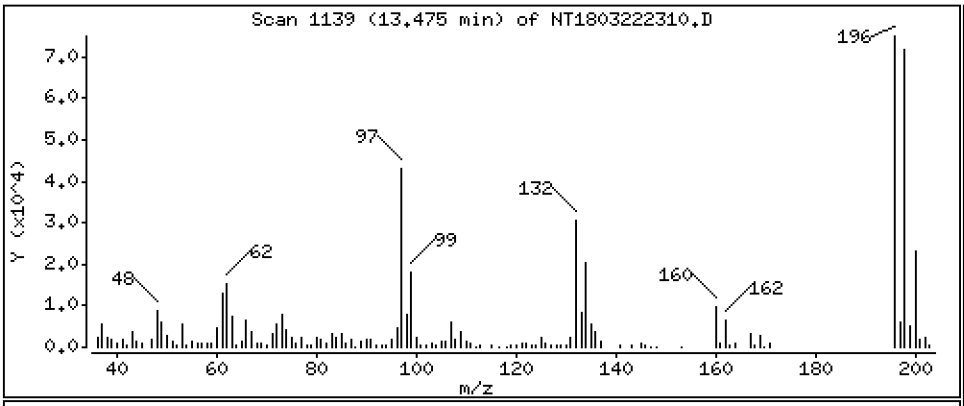
Operator: VTS

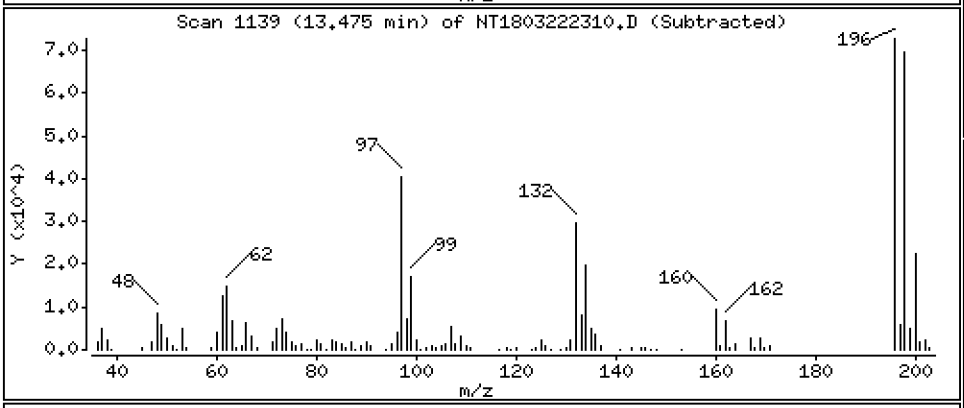
Column phase: ZB-5msi

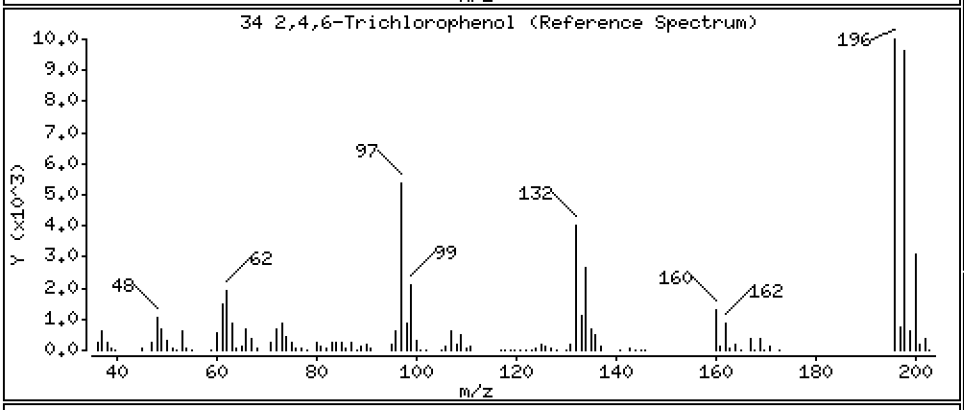
Column diameter: 0.25

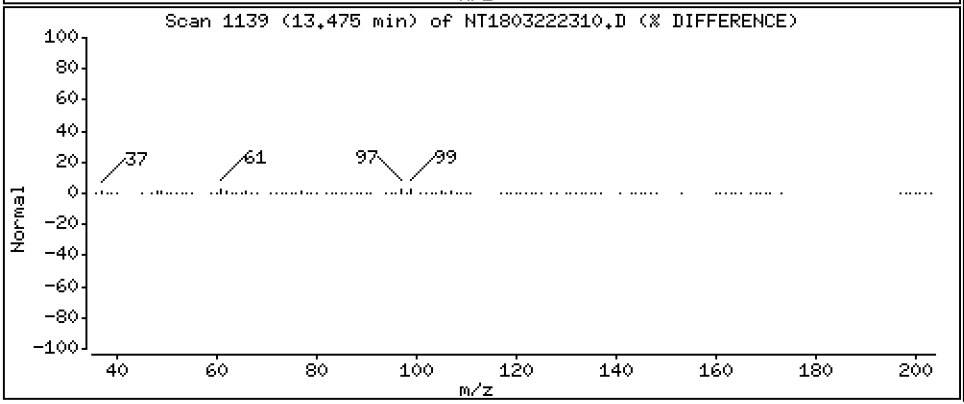
34 2,4,6-Trichlorophenol

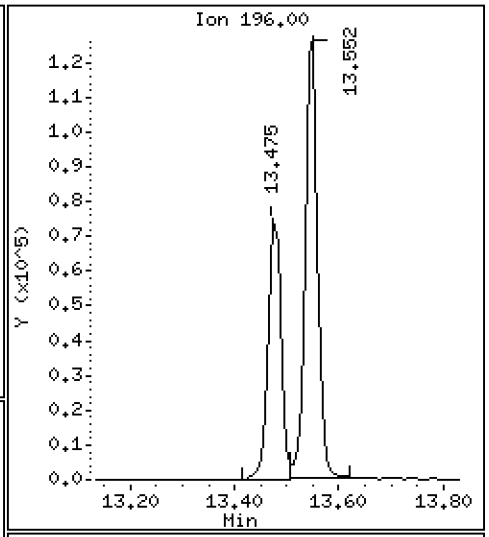
Concentration: 2.458 ug/mL

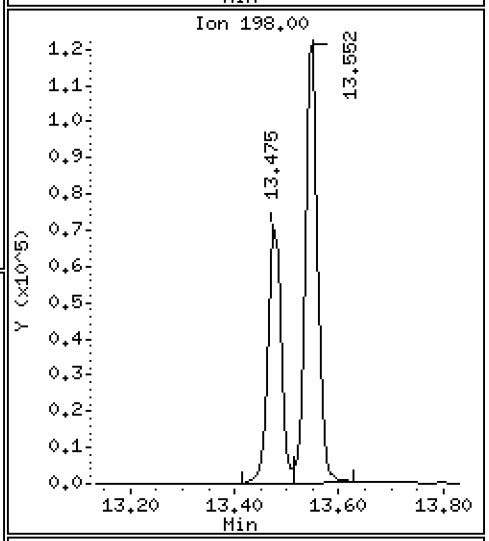


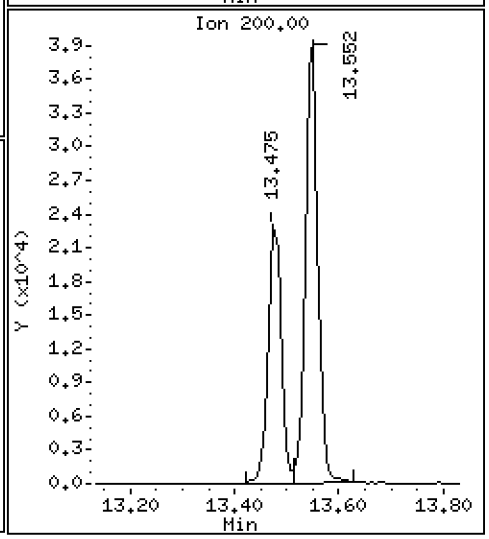












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

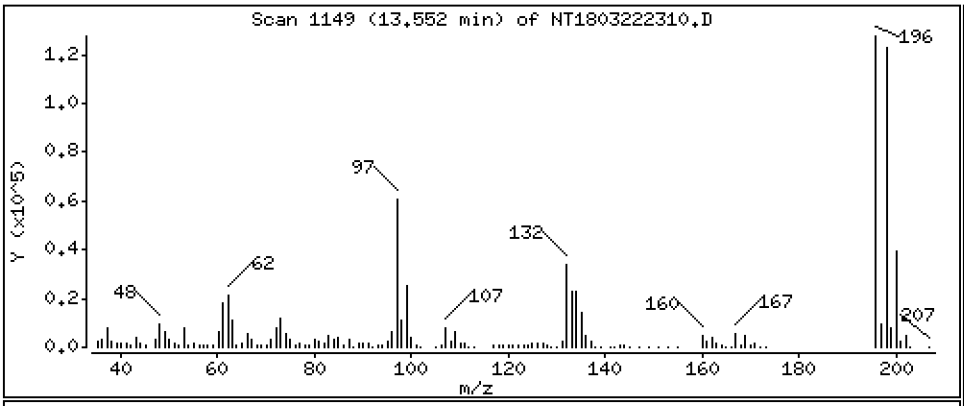
Operator: VTS

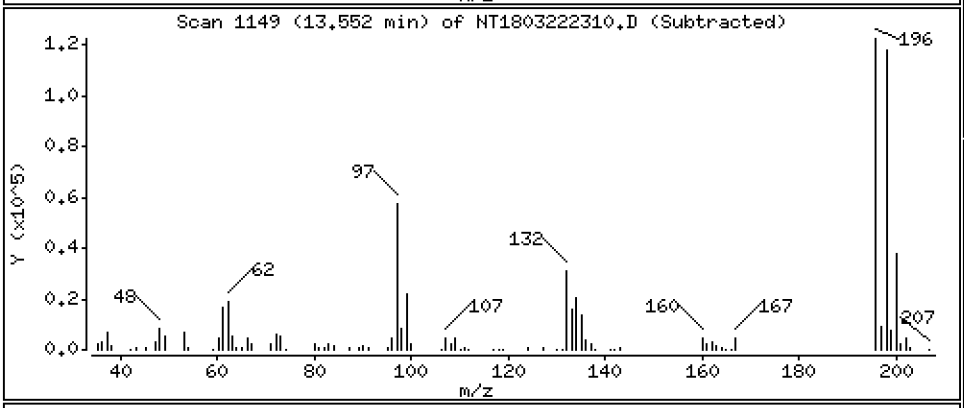
Column phase: ZB-5msi

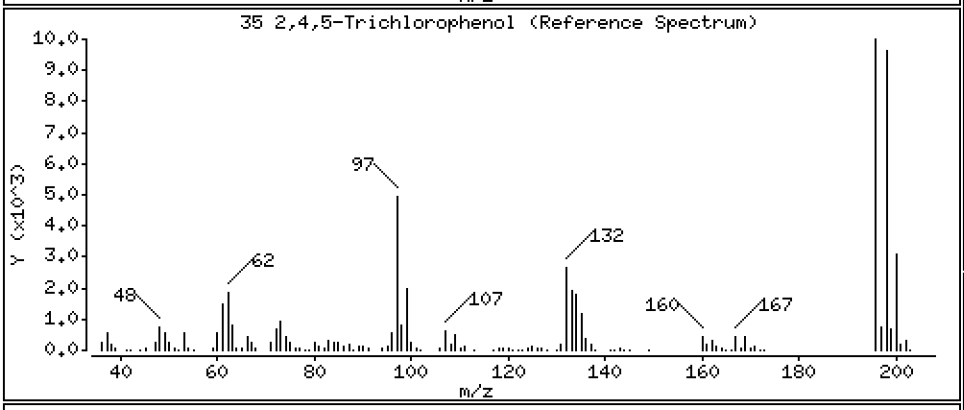
Column diameter: 0.25

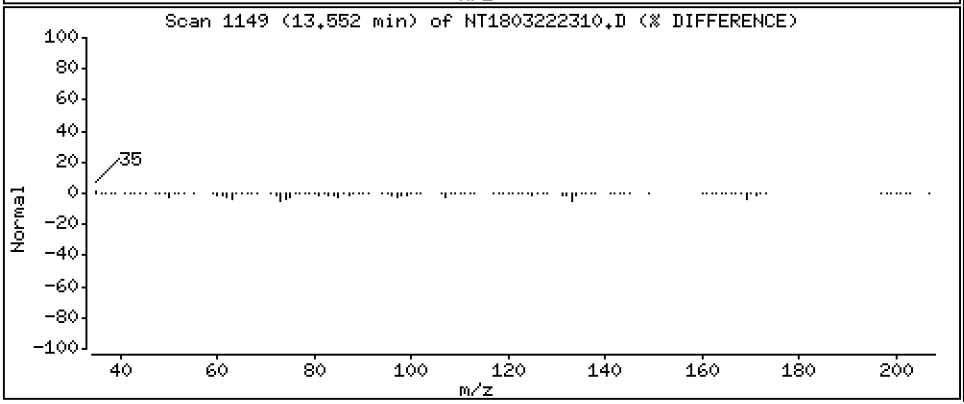
35 2,4,5-Trichlorophenol

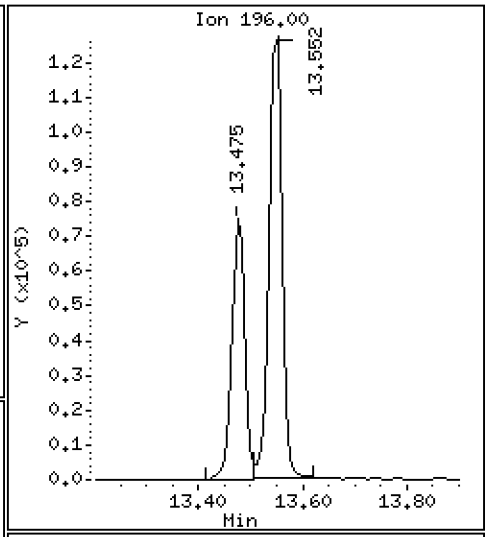
Concentration: 3.818 ug/mL

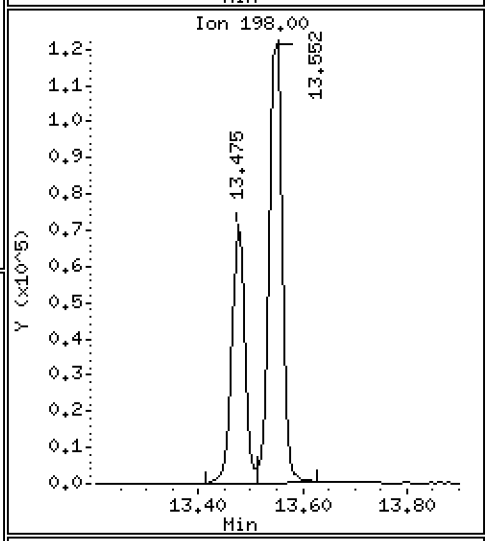


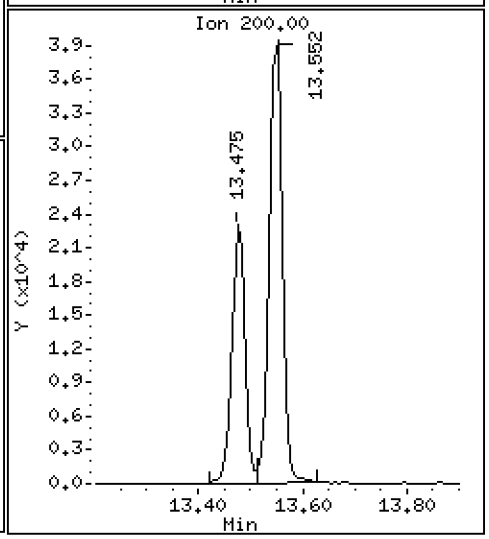












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

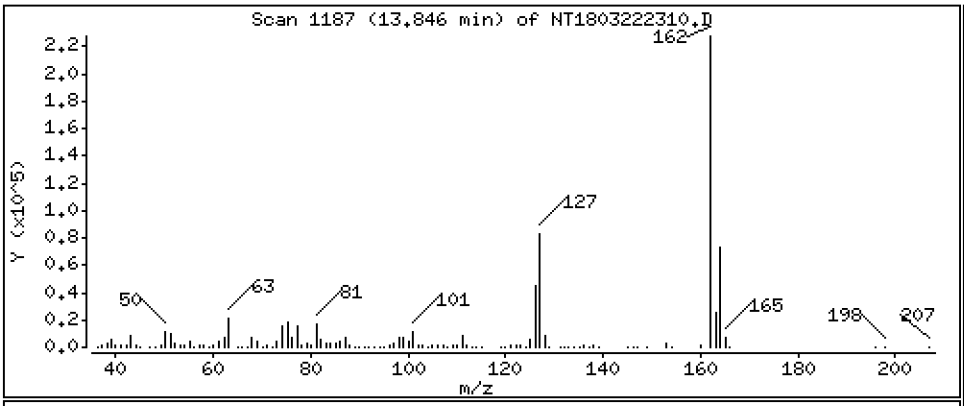
Operator: VTS

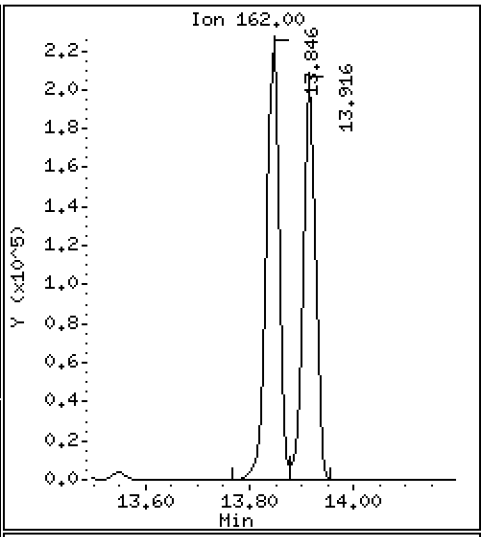
Column phase: ZB-5msi

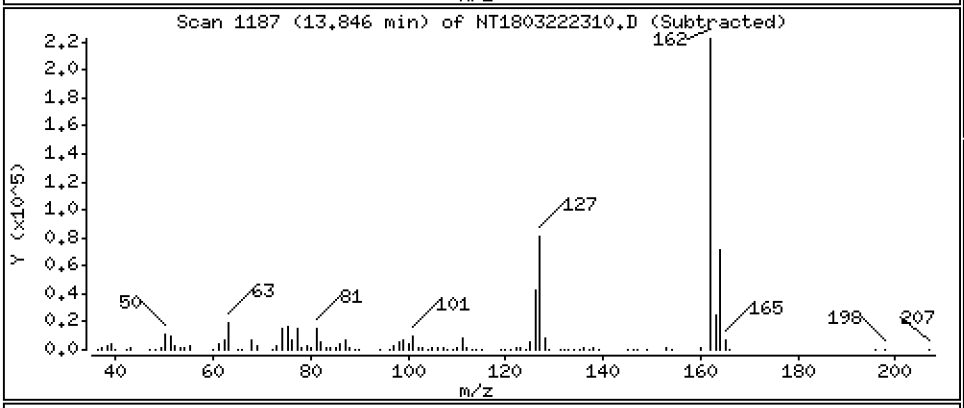
Column diameter: 0.25

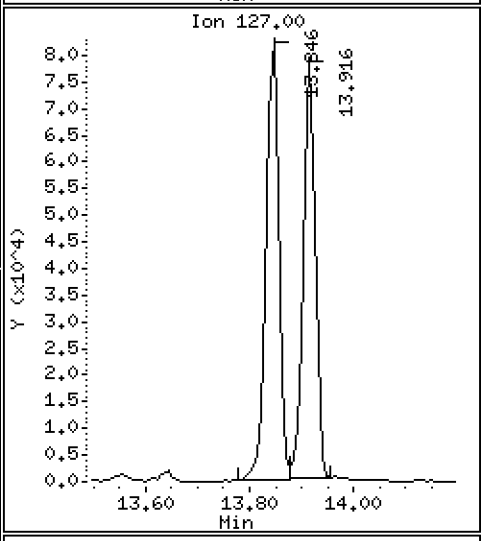
37 2-Chloronaphthalene

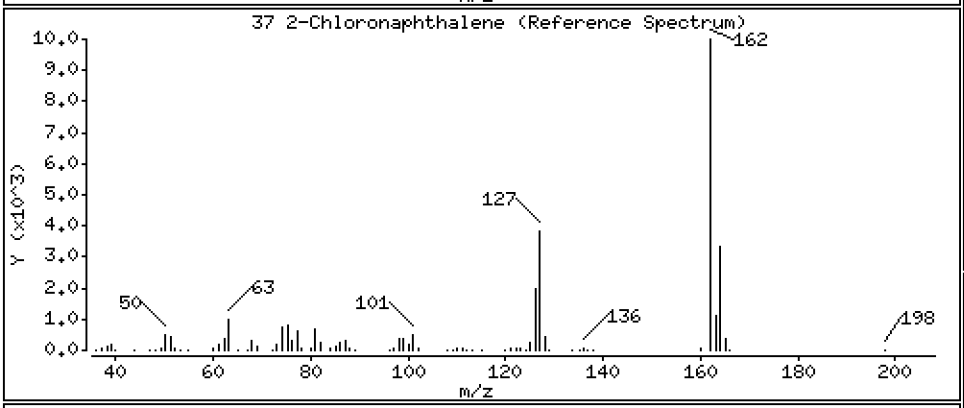
Concentration: 2.279 ug/mL

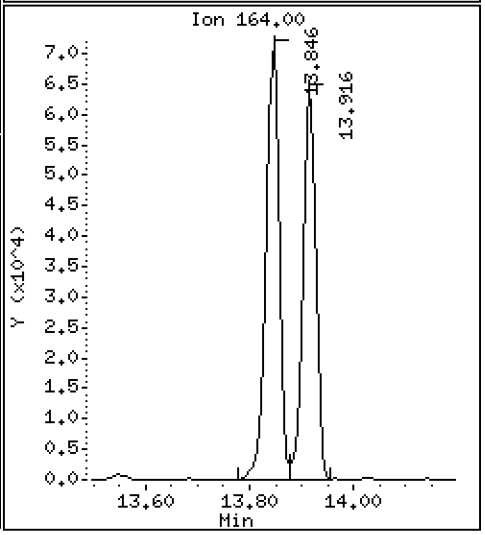


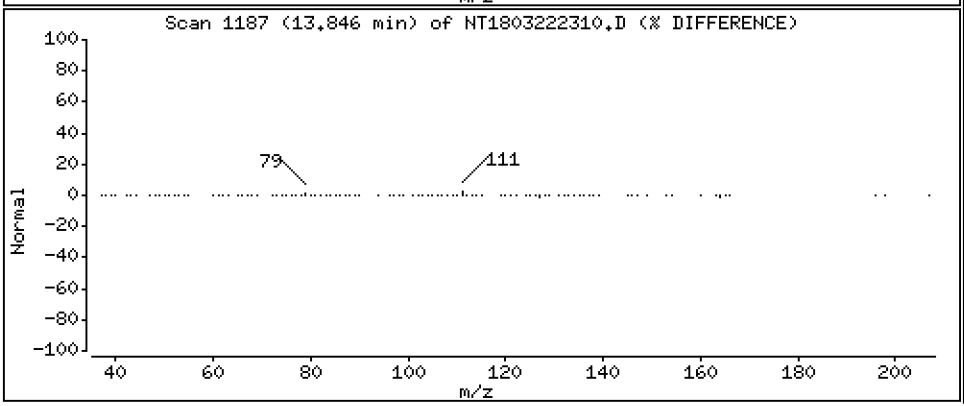












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222310.D

Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

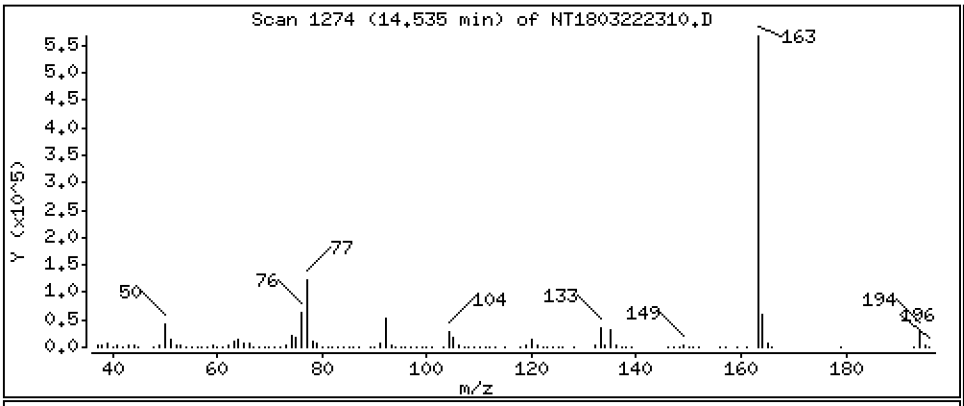
Operator: VTS

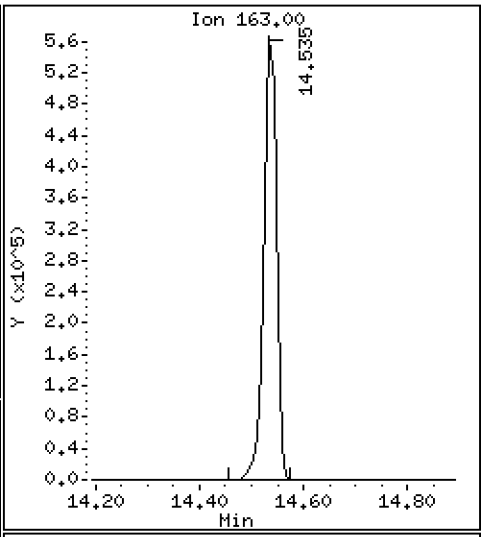
Column phase: ZB-5msi

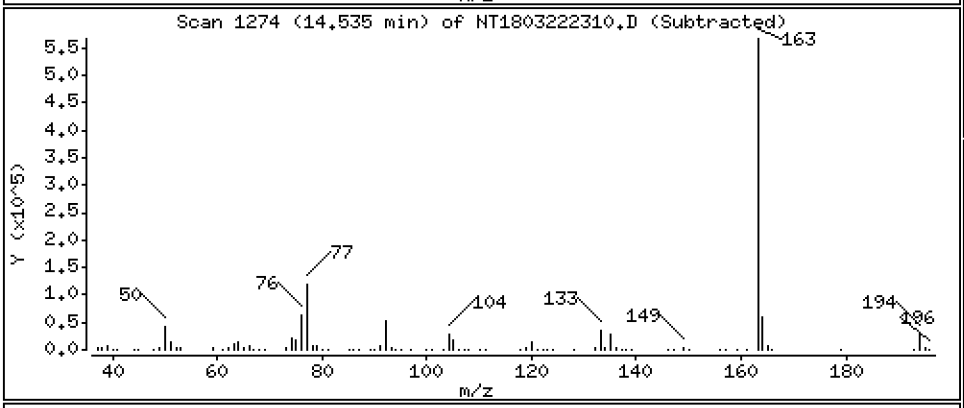
Column diameter: 0.25

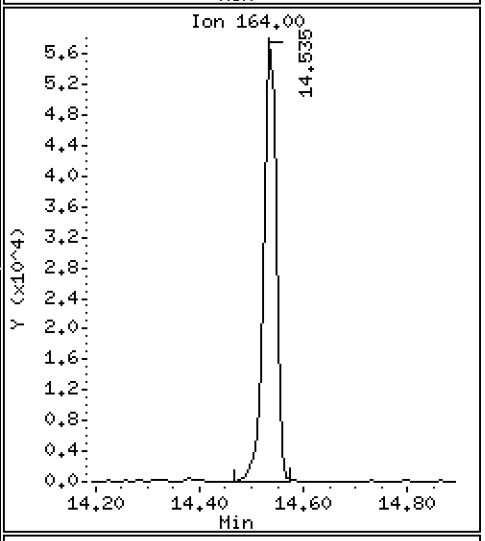
39 Dimethylphthalate

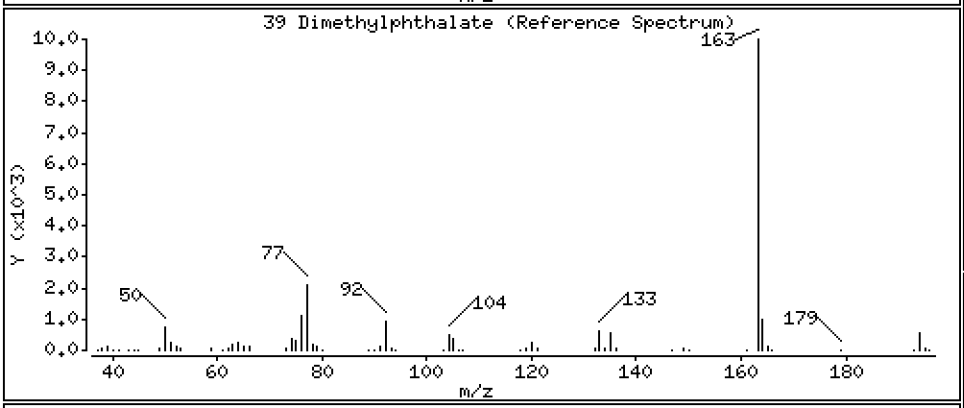
Concentration: 5.432 ug/mL

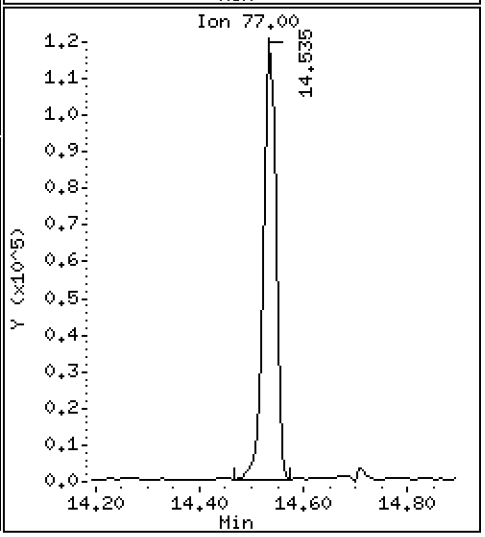


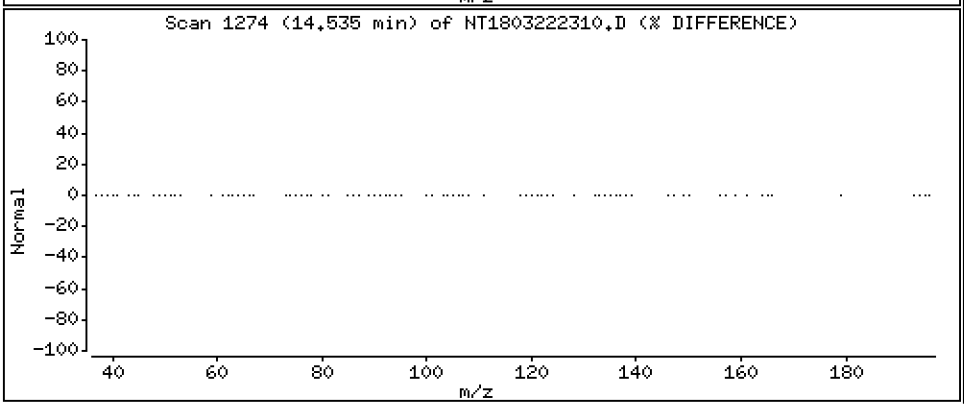












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

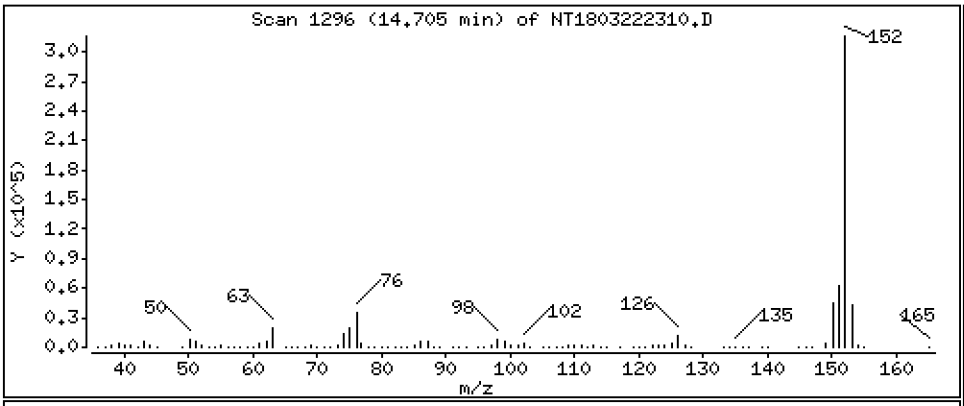
Operator: VTS

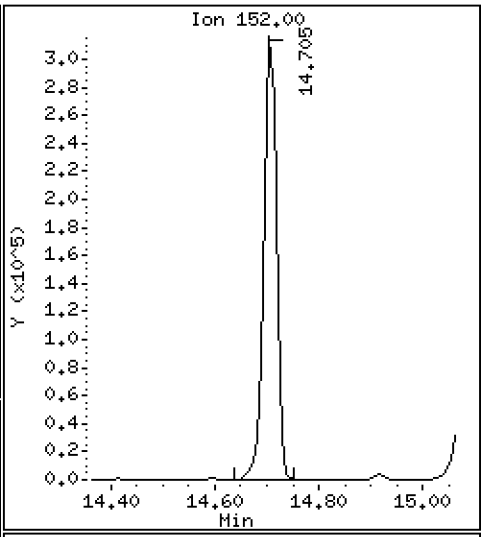
Column phase: ZB-5msi

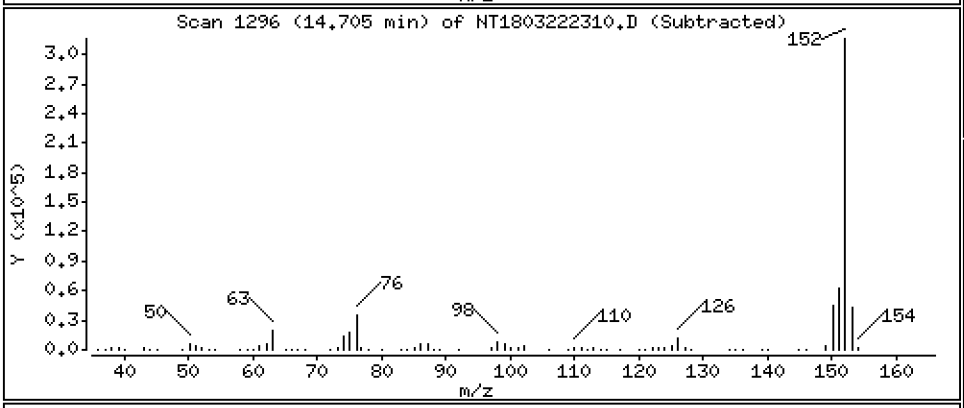
Column diameter: 0.25

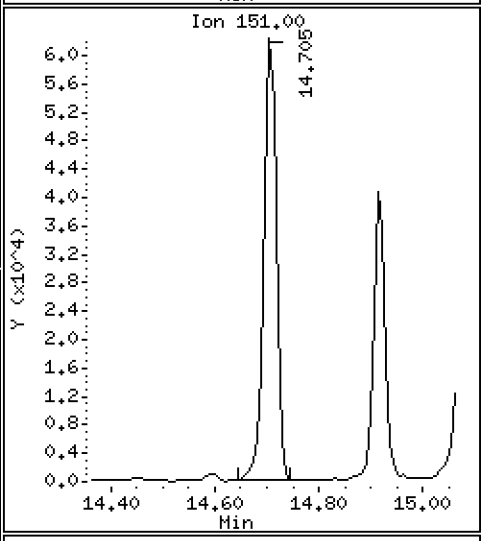
40 Acenaphthylene

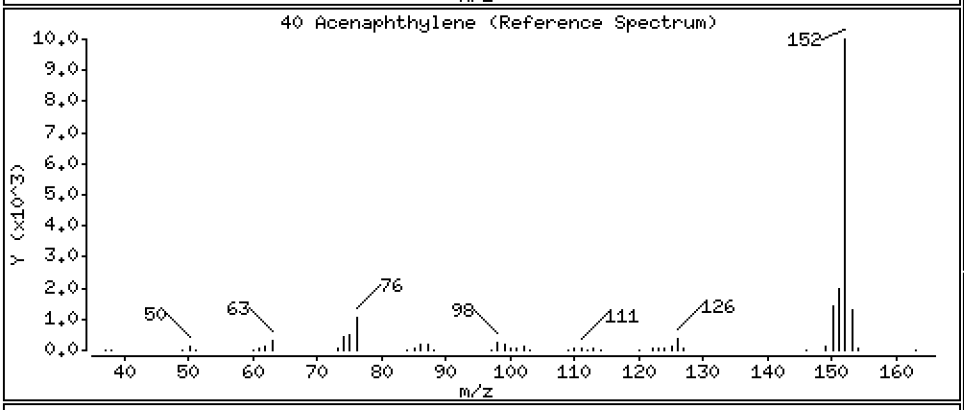
Concentration: 1.851 ug/mL

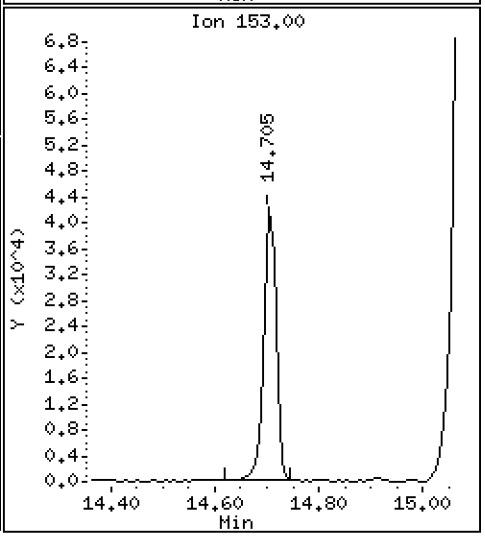


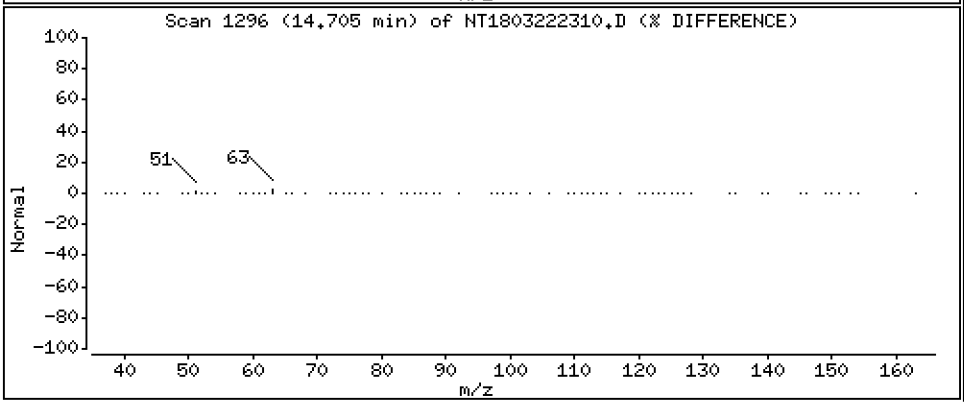












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

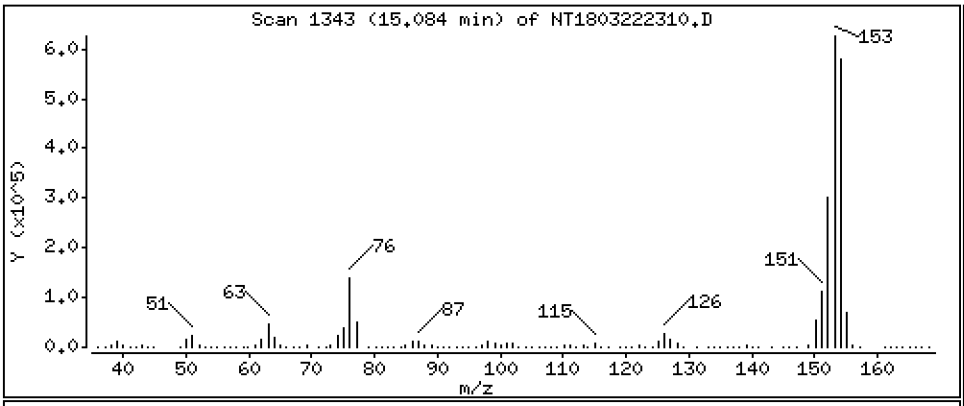
Operator: VTS

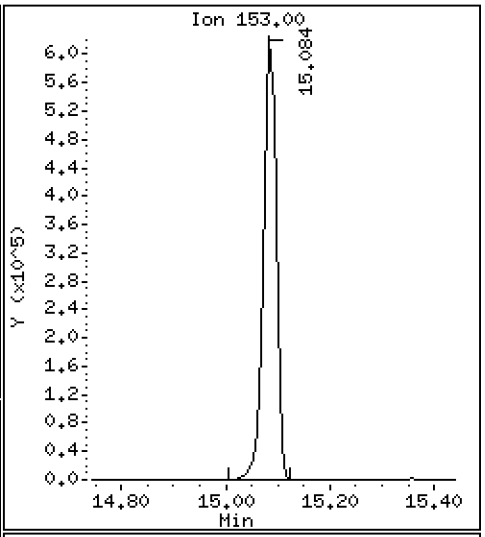
Column phase: ZB-5msi

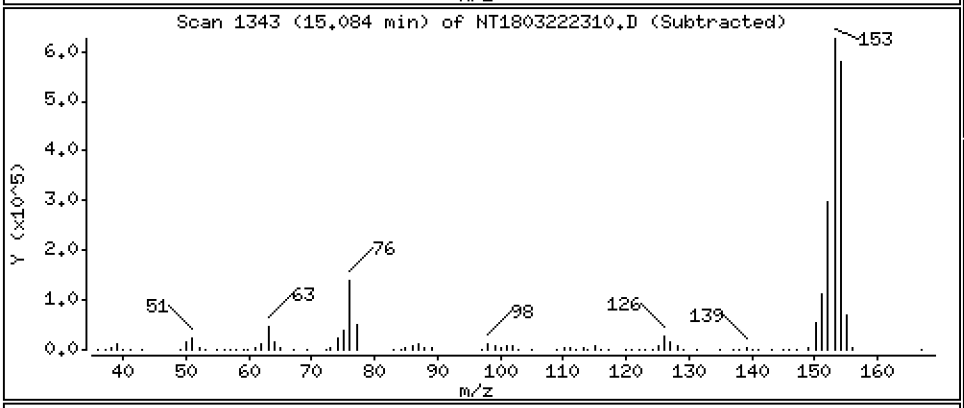
Column diameter: 0.25

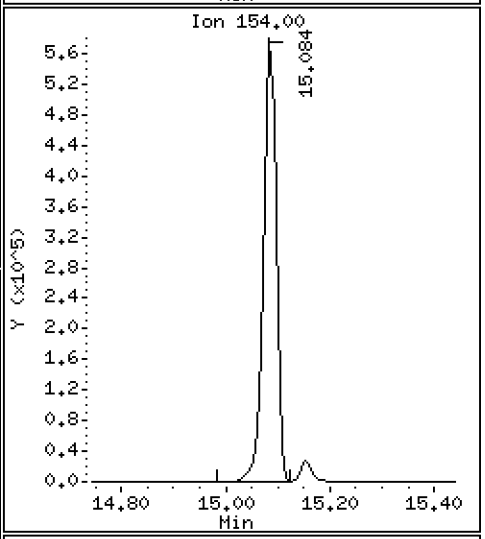
44 Acenaphthene

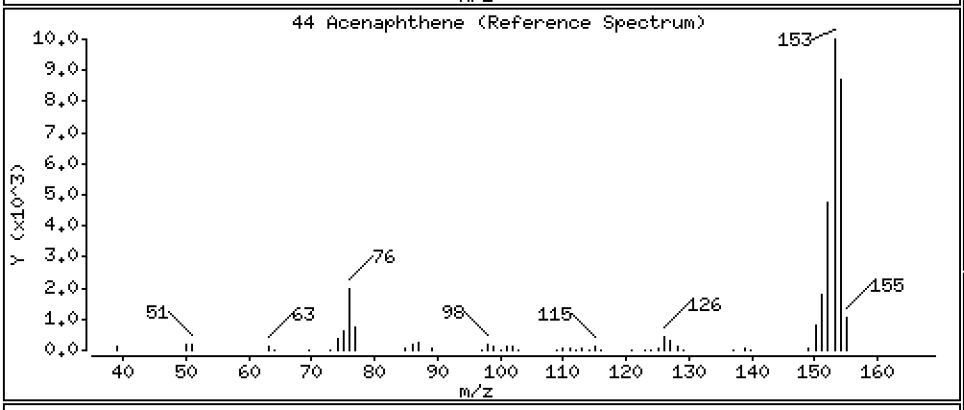
Concentration: 5.850 ug/mL

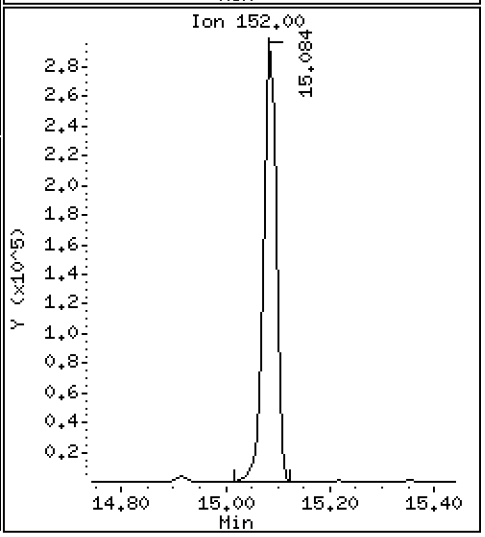


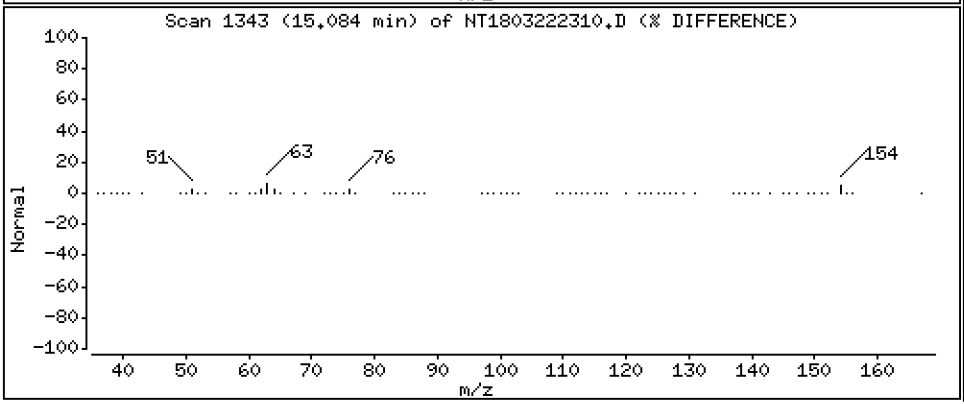












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

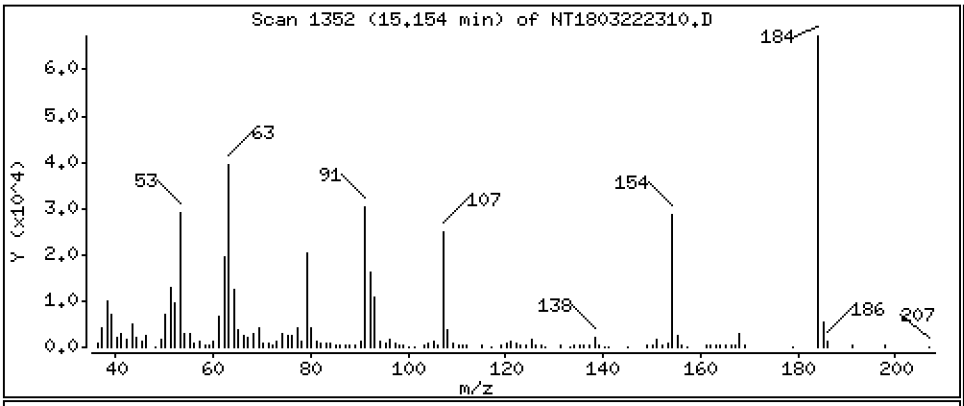
Operator: VTS

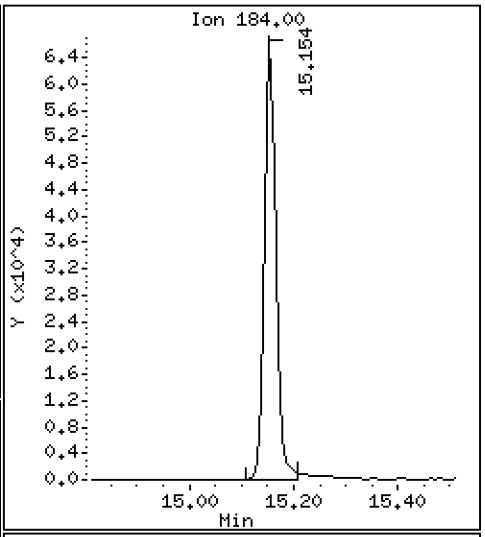
Column phase: ZB-5msi

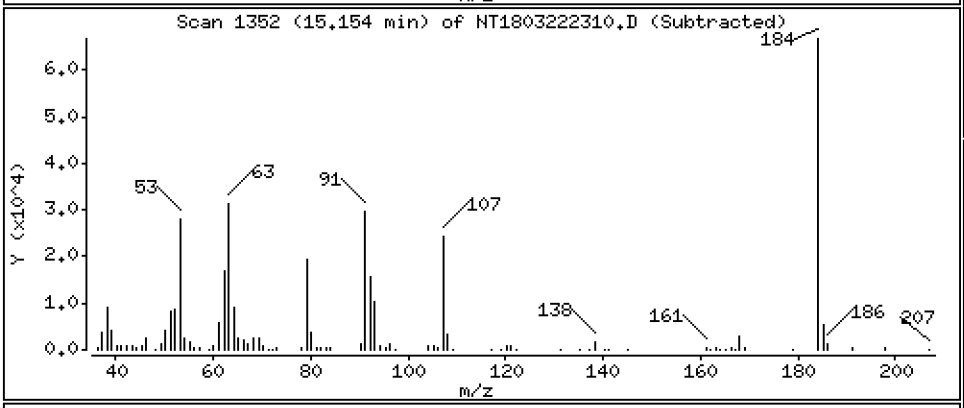
Column diameter: 0.25

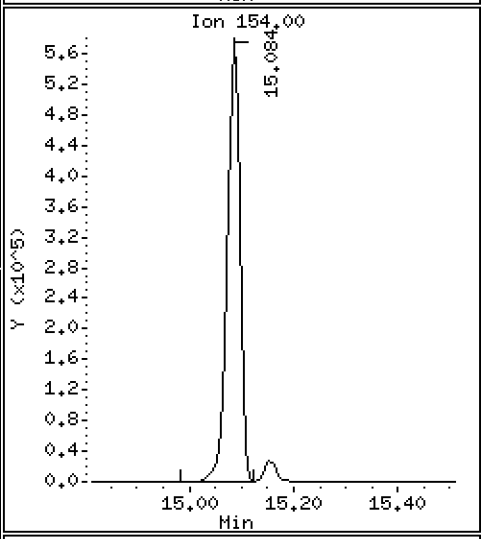
45 2,4-Dinitrophenol

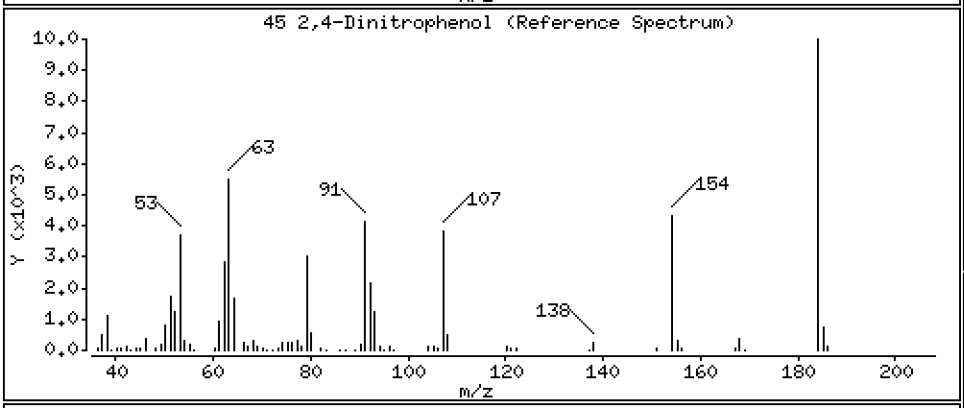
Concentration: 4.293 ug/mL

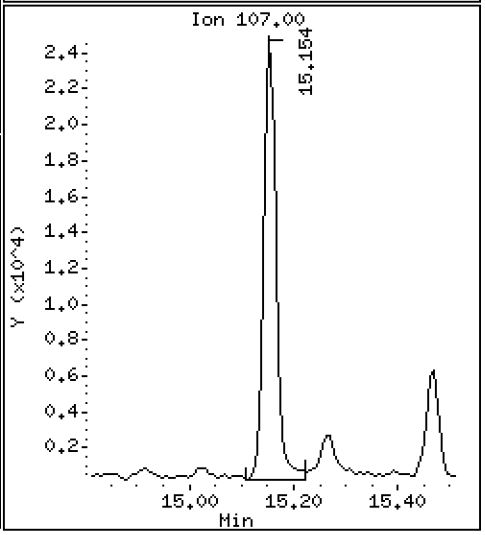


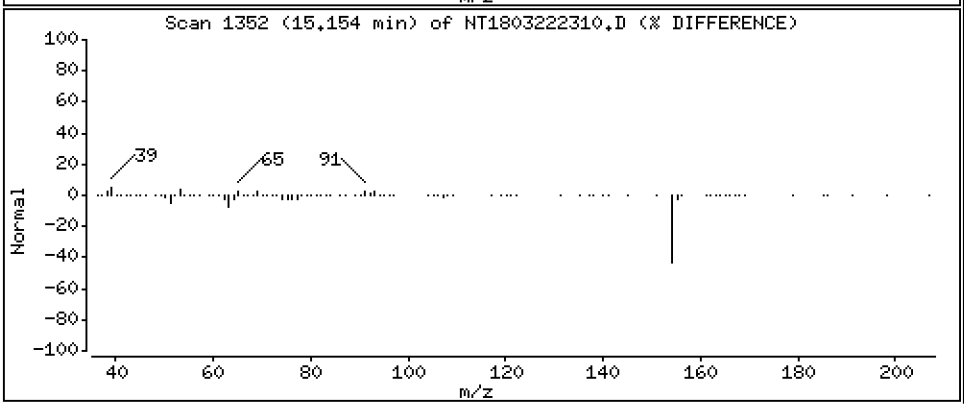












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

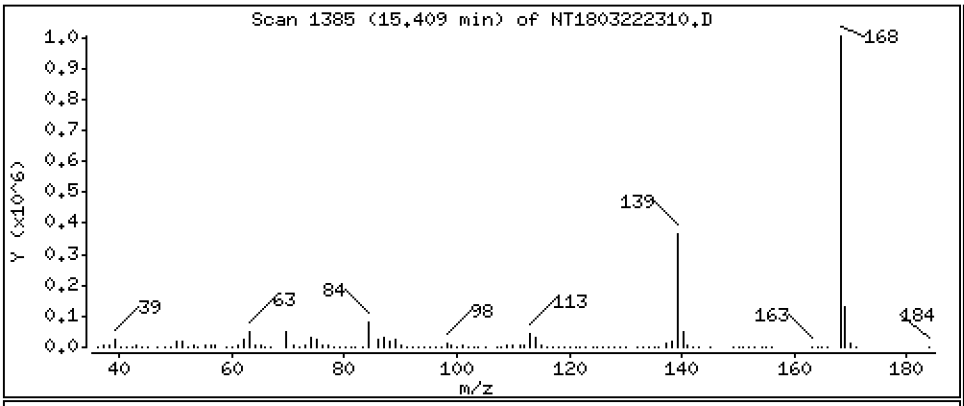
Operator: VTS

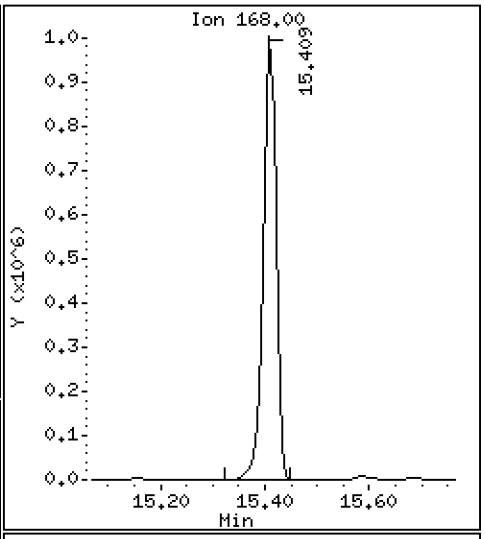
Column phase: ZB-5msi

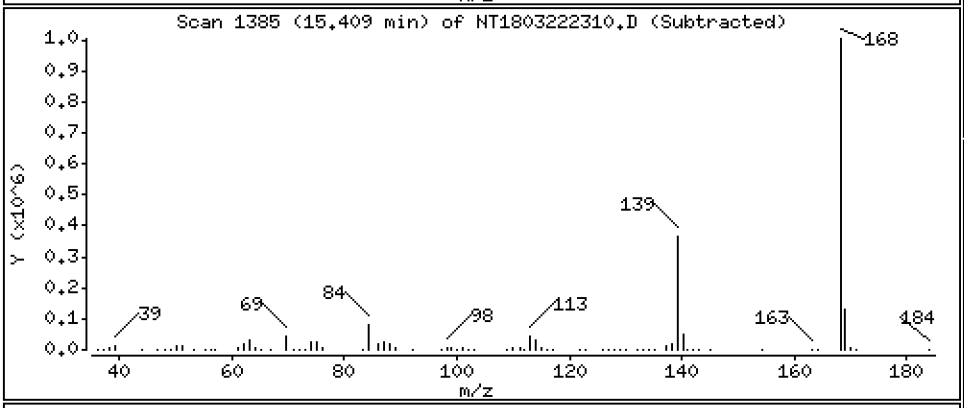
Column diameter: 0.25

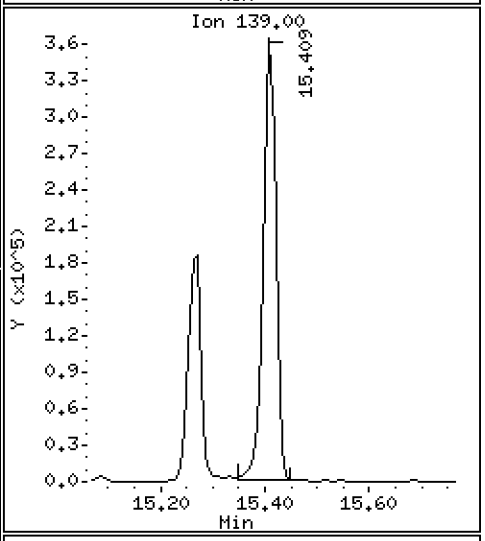
46 Dibenzofuran

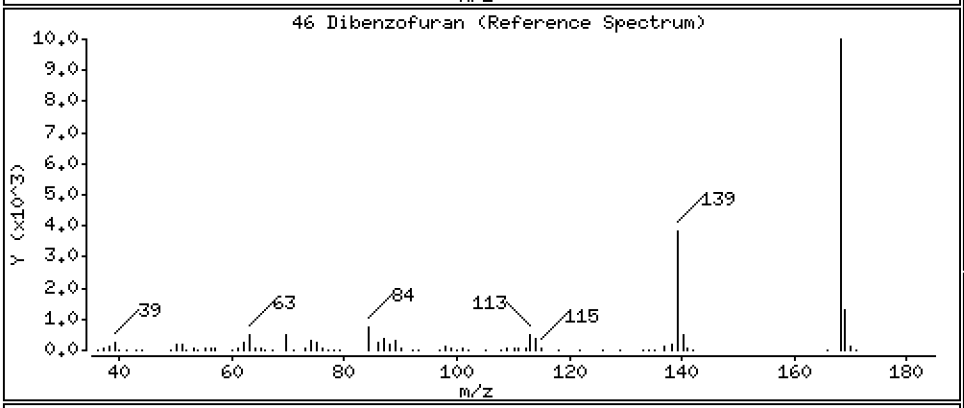
Concentration: 6.817 ug/mL

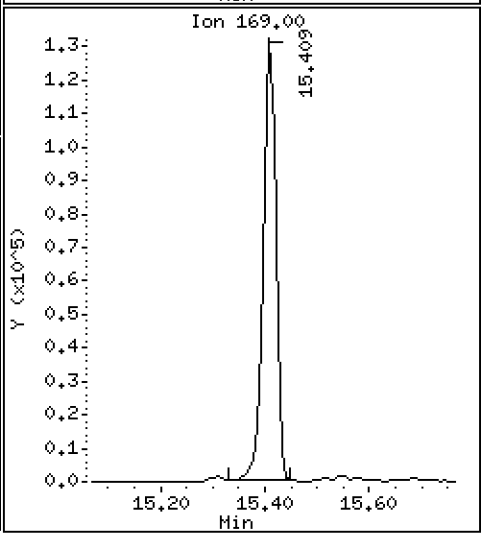


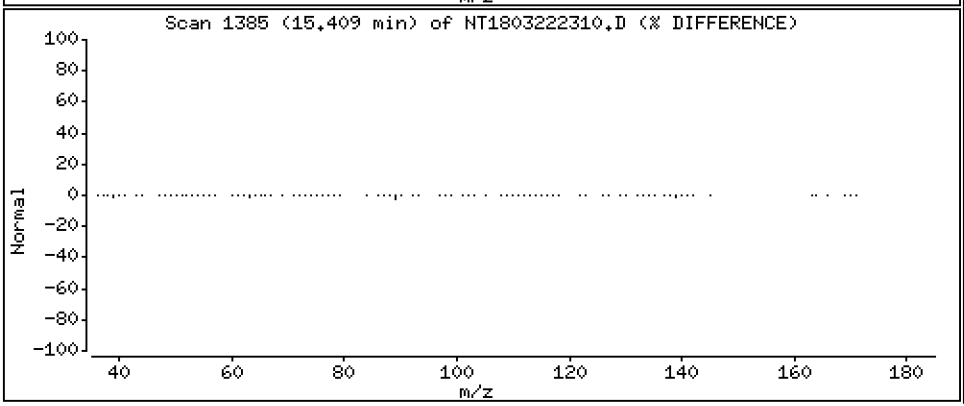












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

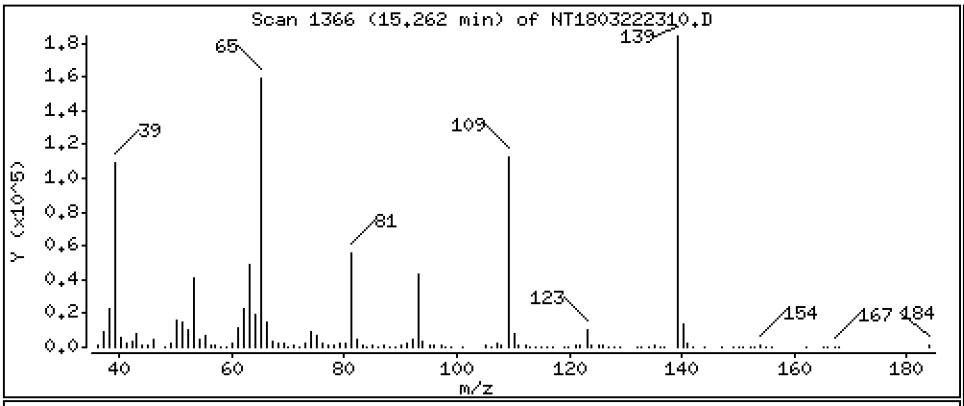
Operator: VTS

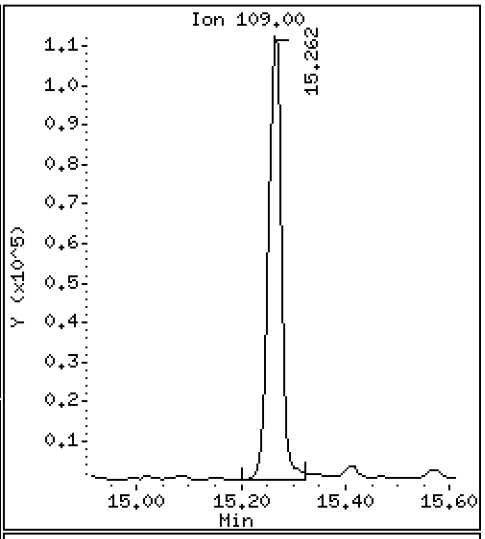
Column phase: ZB-5msi

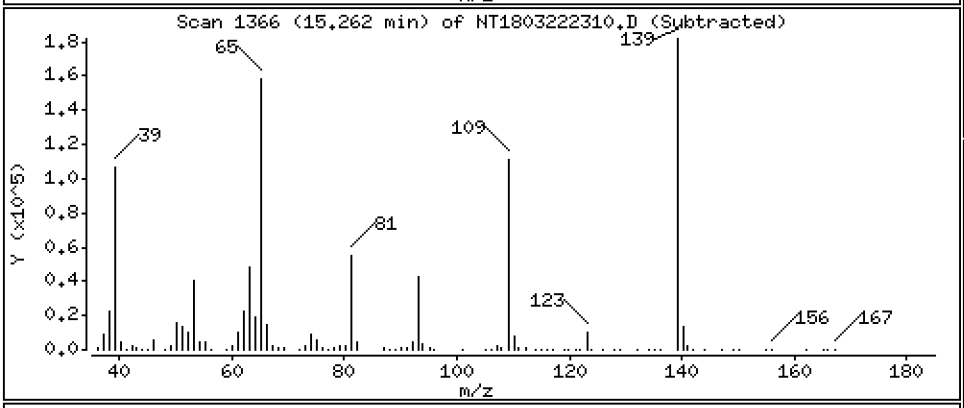
Column diameter: 0.25

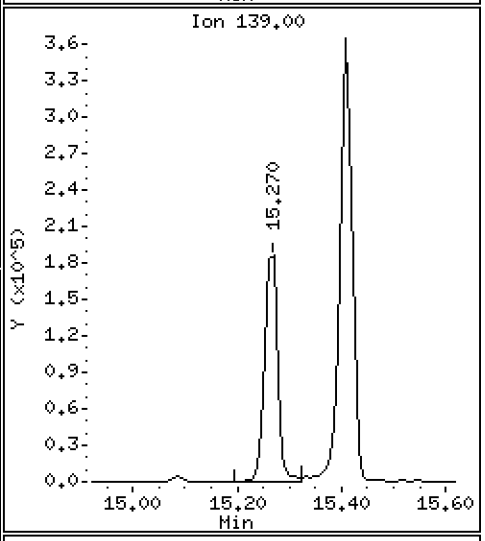
47 4-Nitrophenol

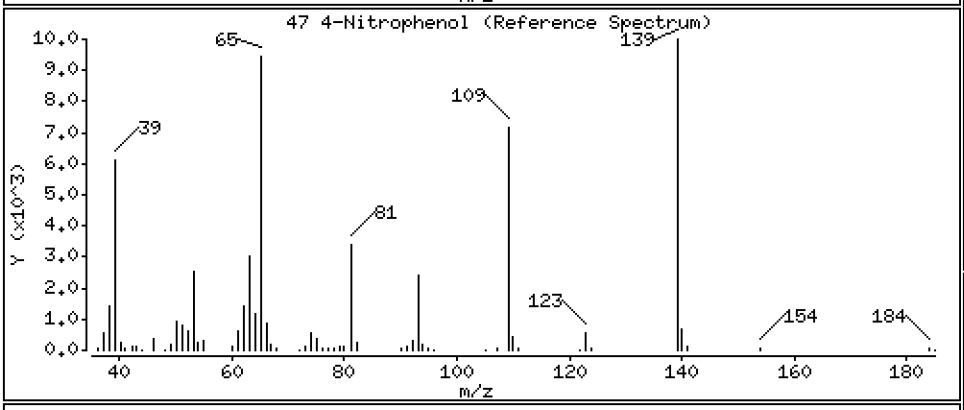
Concentration: 8.246 ug/mL

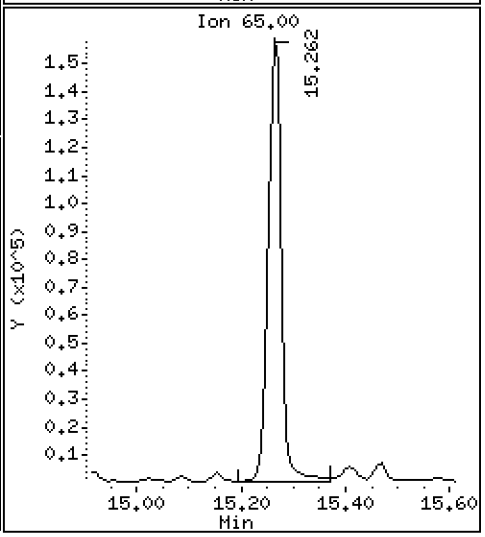


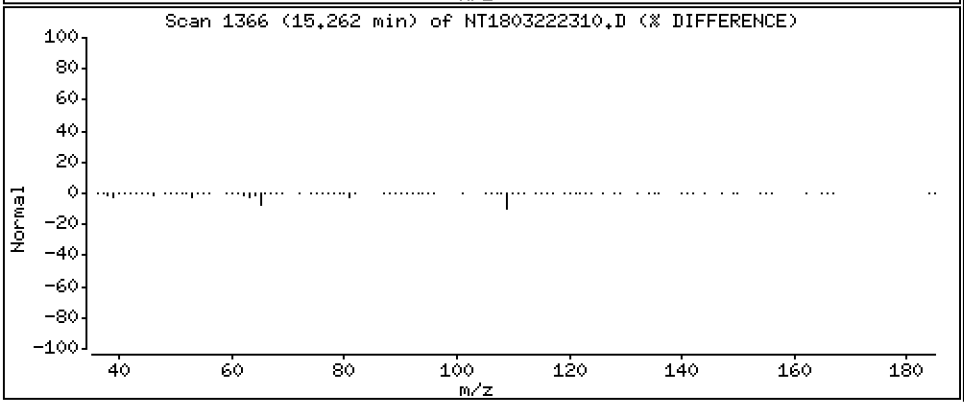












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

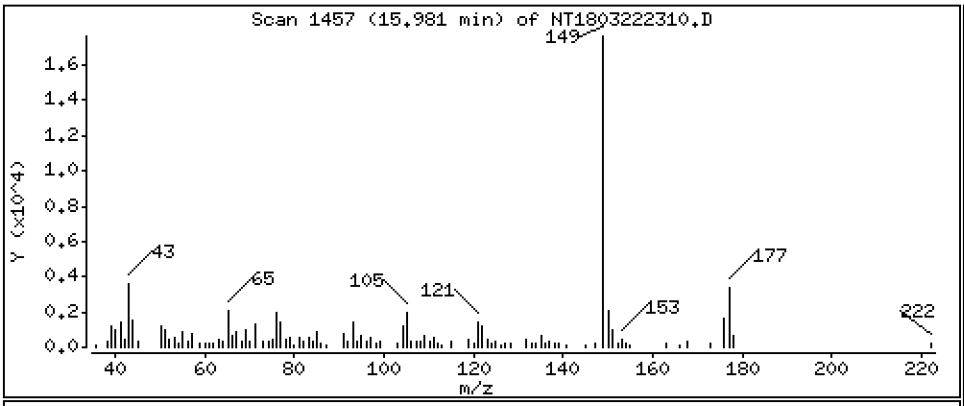
Operator: VTS

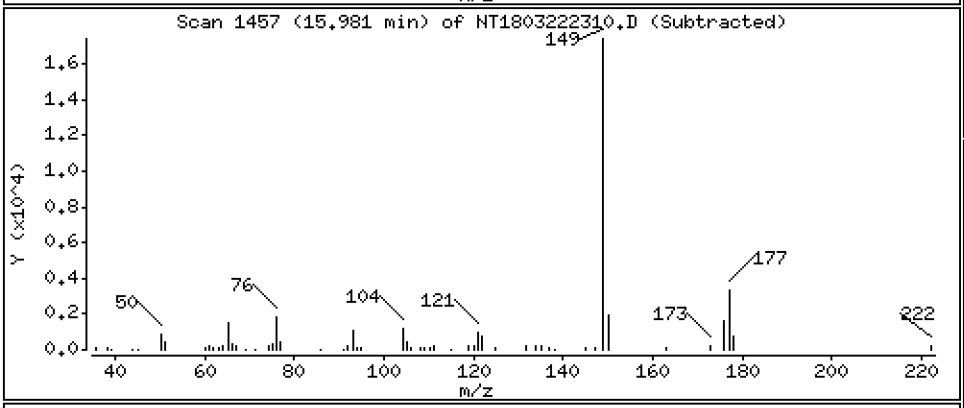
Column phase: ZB-5msi

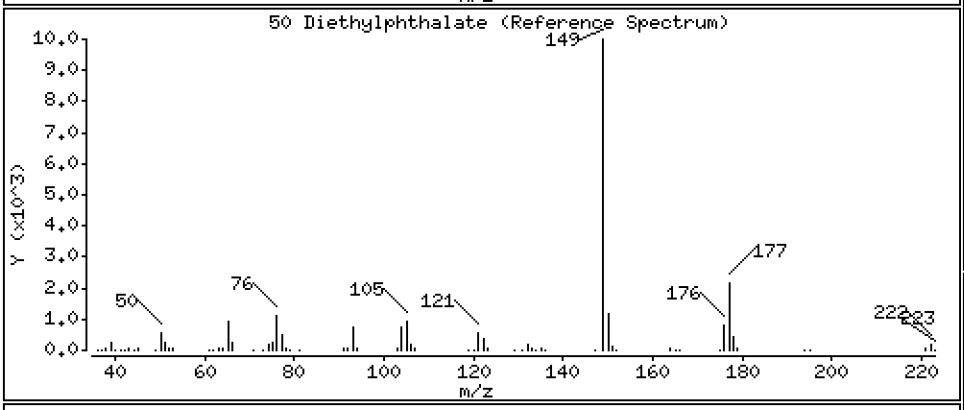
Column diameter: 0.25

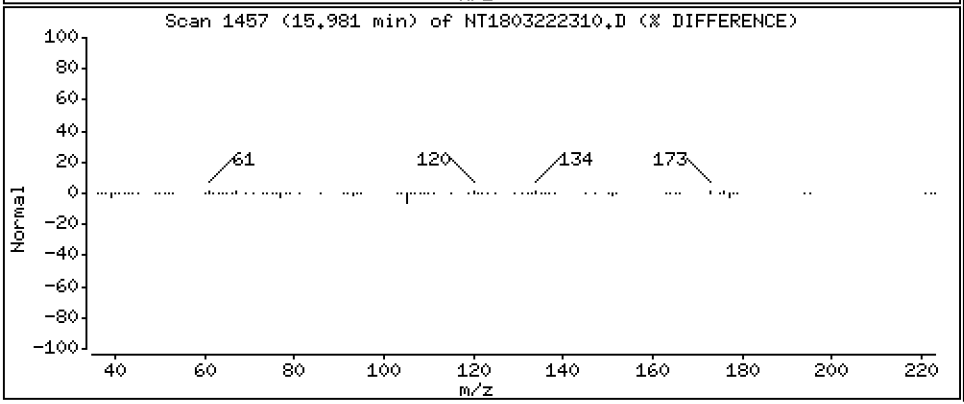
50 Diethylphthalate

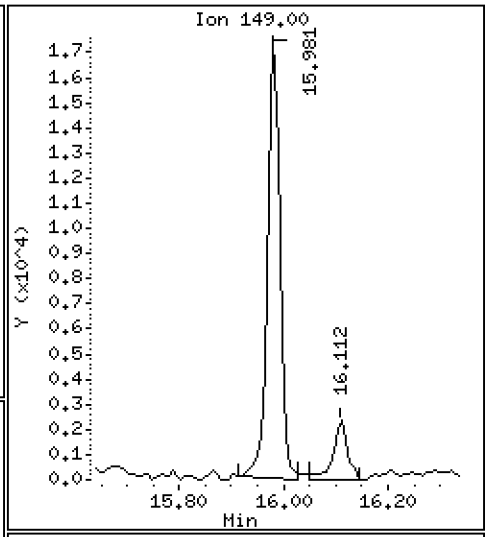
Concentration: 0.1613 ug/mL

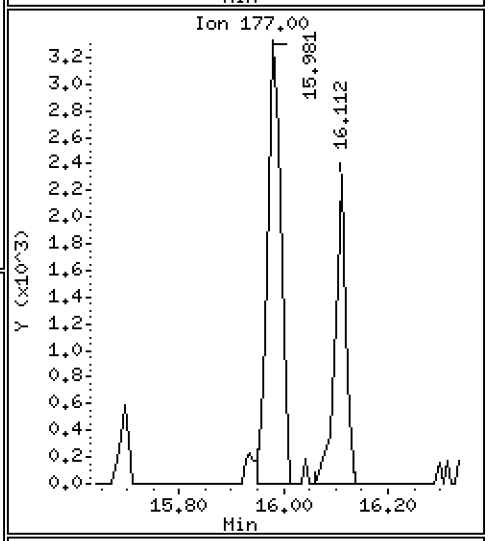


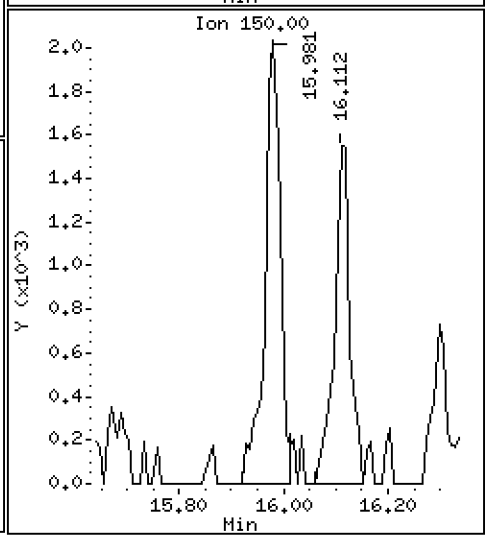












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222310.D

Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

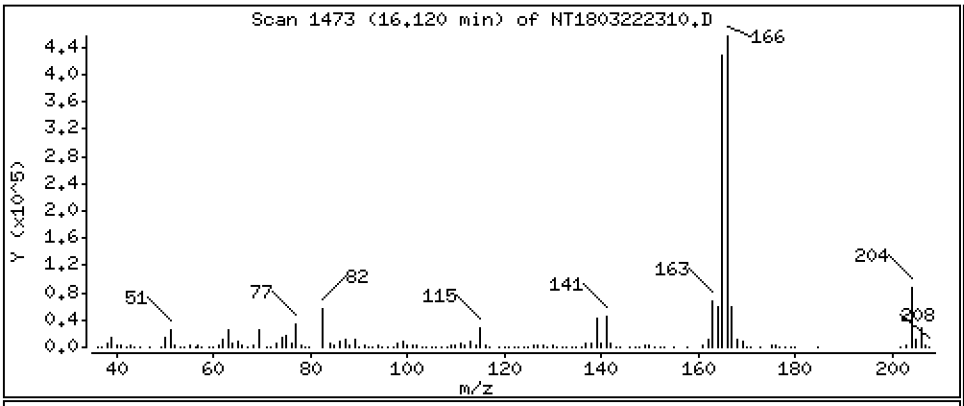
Operator: VTS

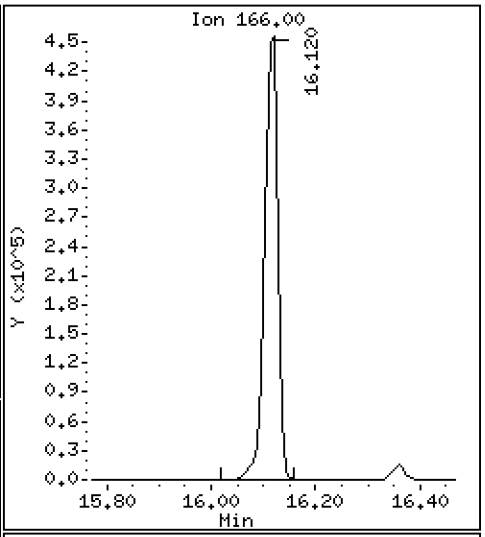
Column phase: ZB-5msi

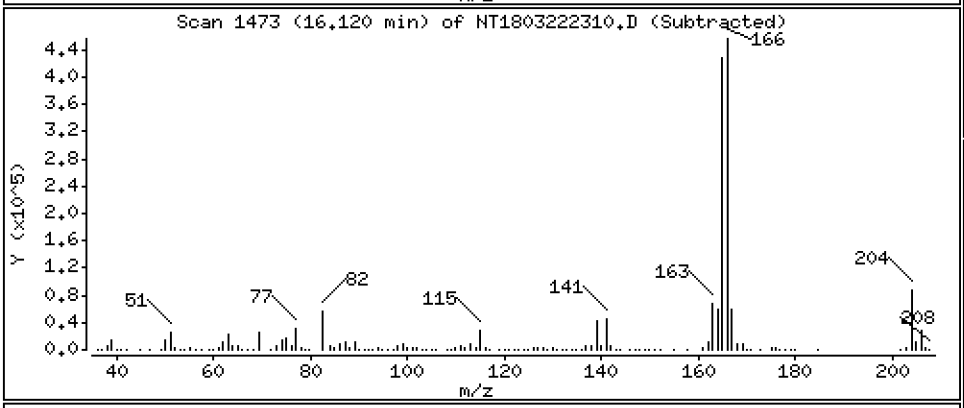
Column diameter: 0.25

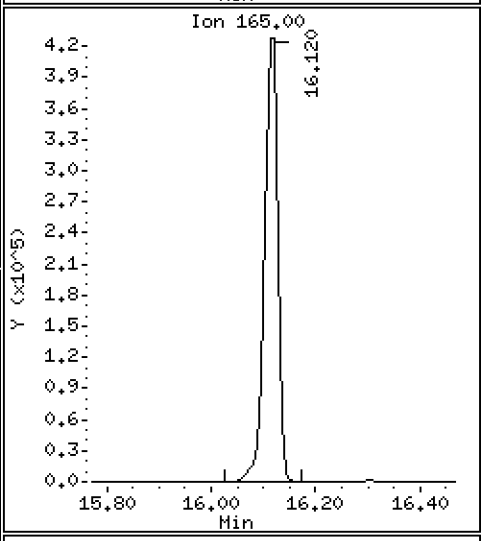
49 Fluorene

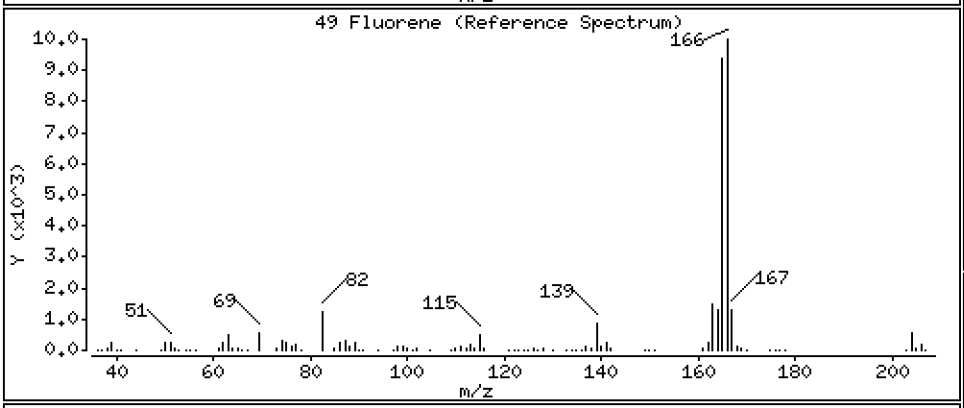
Concentration: 3.988 ug/mL

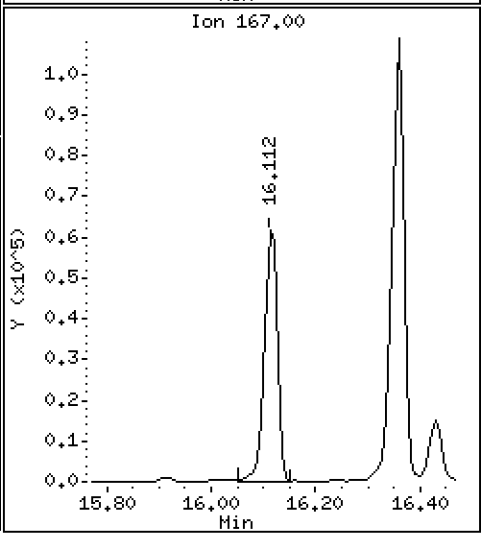


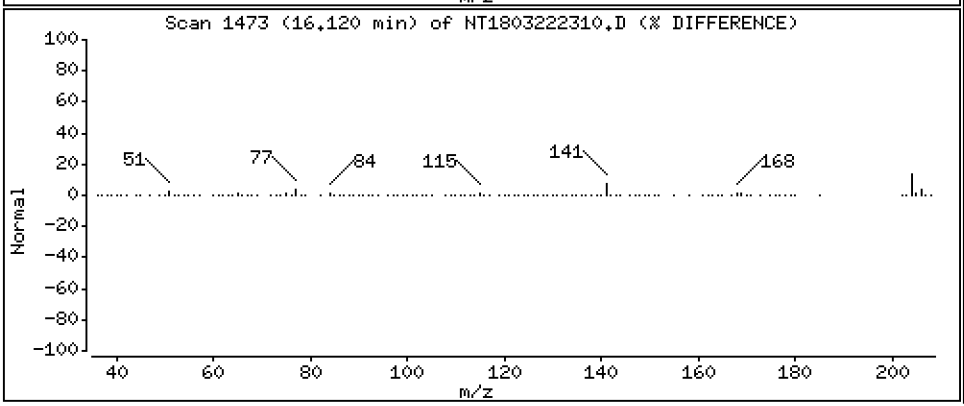












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

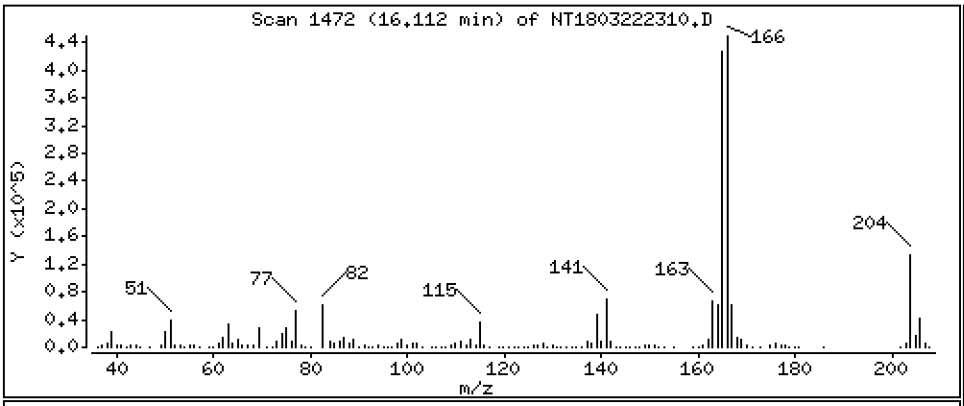
Operator: VTS

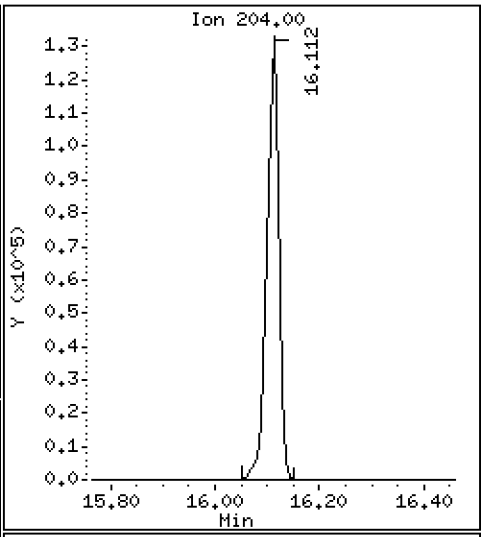
Column phase: ZB-5msi

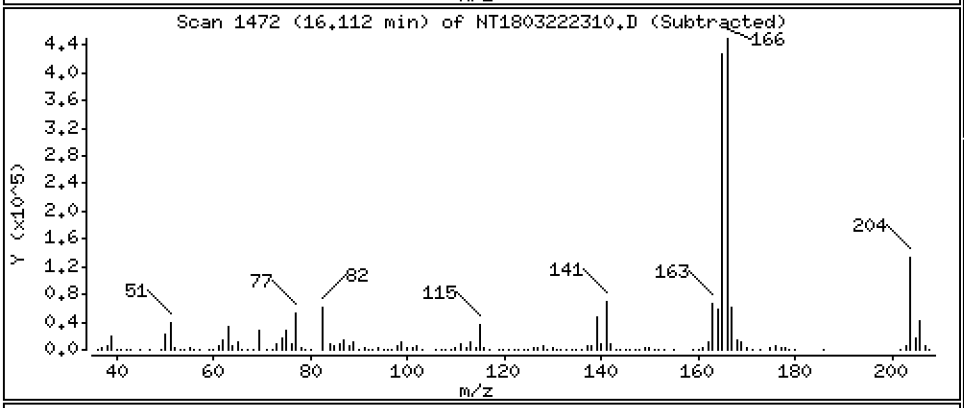
Column diameter: 0.25

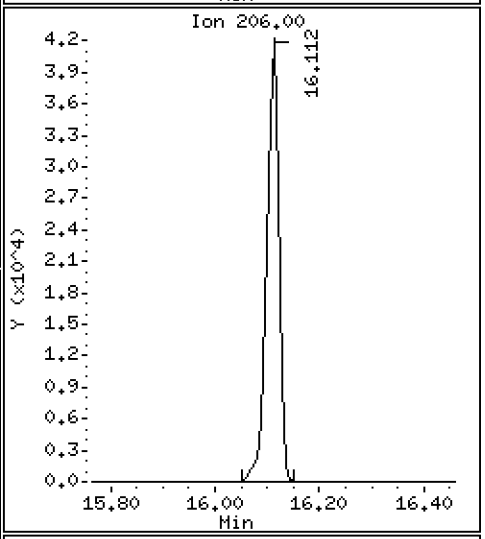
51 4-Chlorophenyl-phenylether

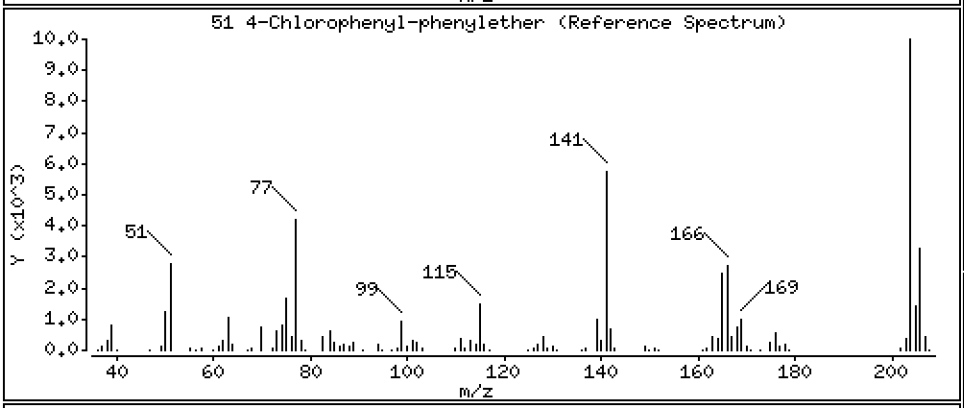
Concentration: 2.488 ug/mL

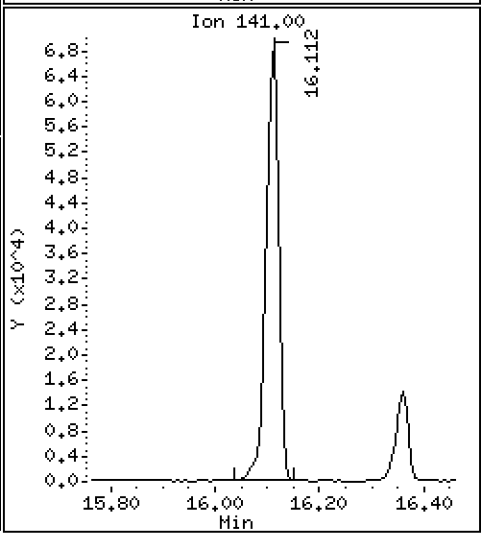


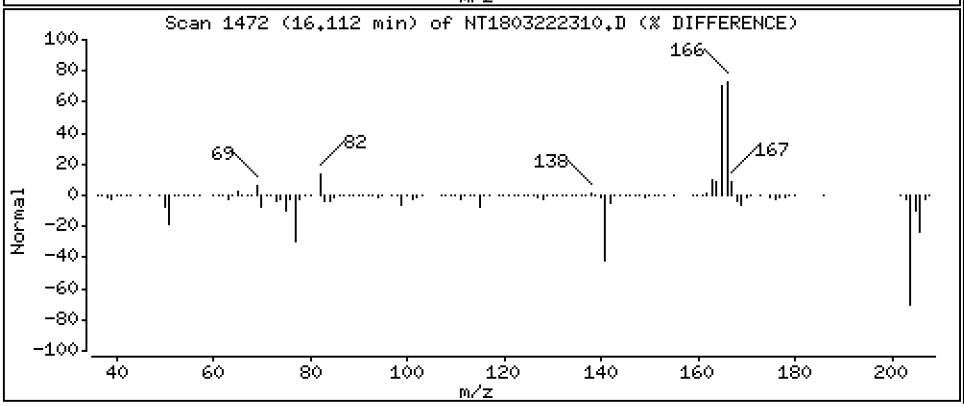












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222310.D

Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

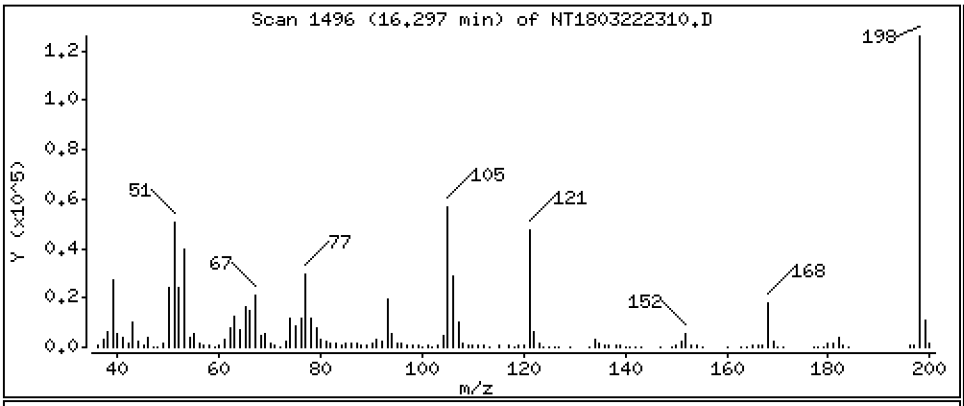
Operator: VTS

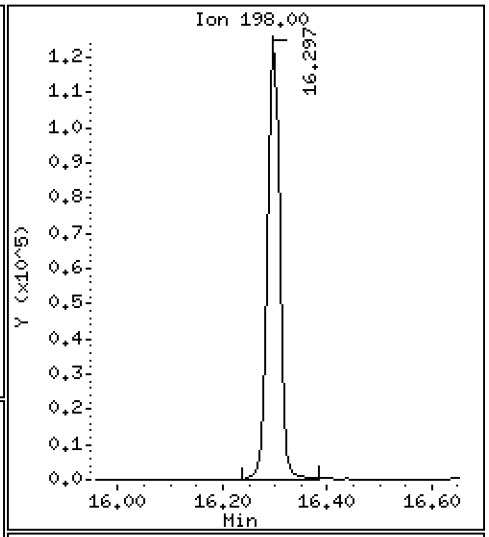
Column phase: ZB-5msi

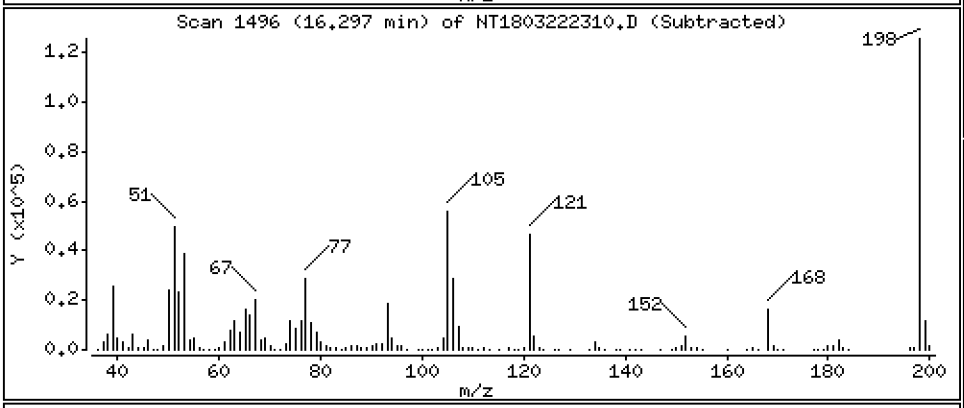
Column diameter: 0.25

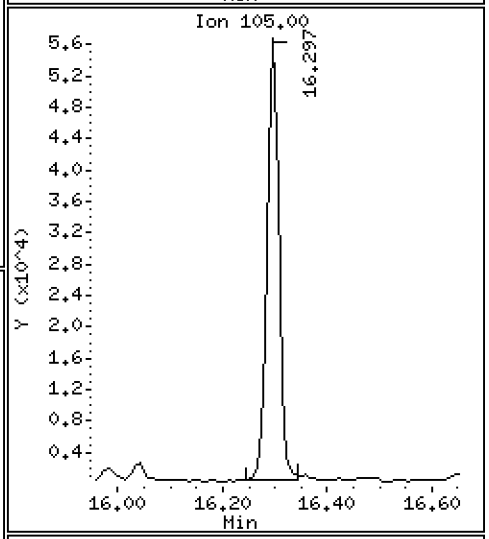
53 4,6-Dinitro-2-methylphenol

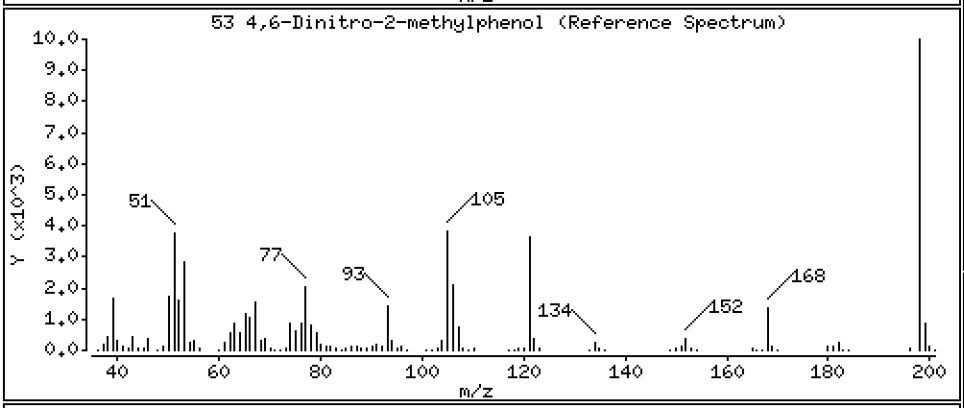
Concentration: 6.994 ug/mL

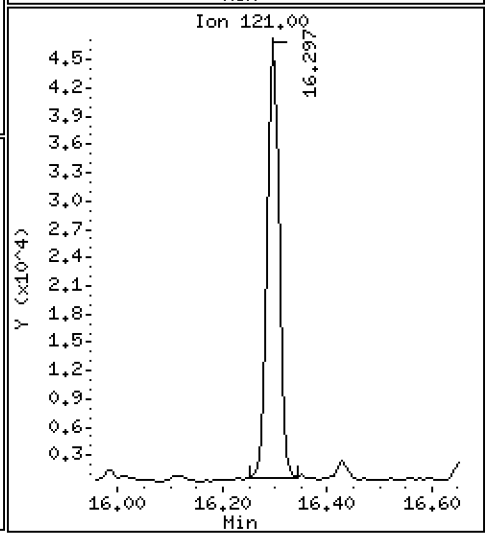


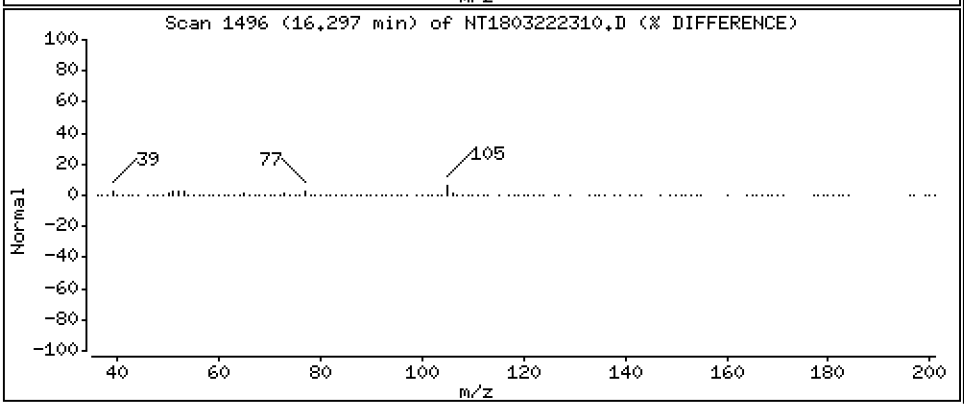












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

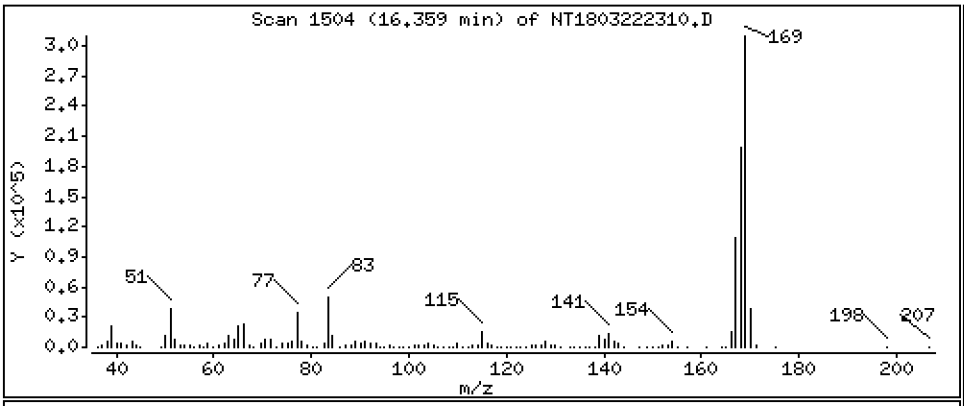
Operator: VTS

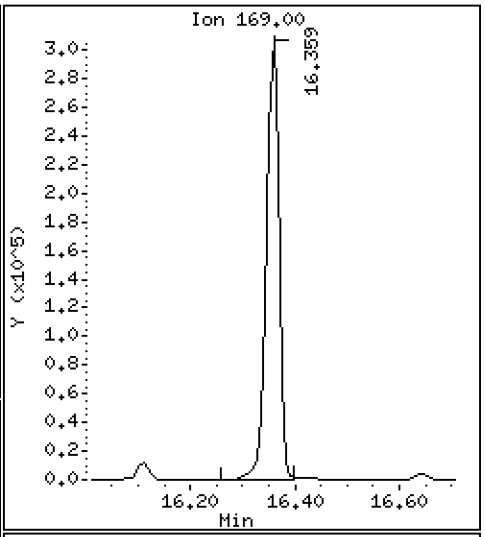
Column phase: ZB-5msi

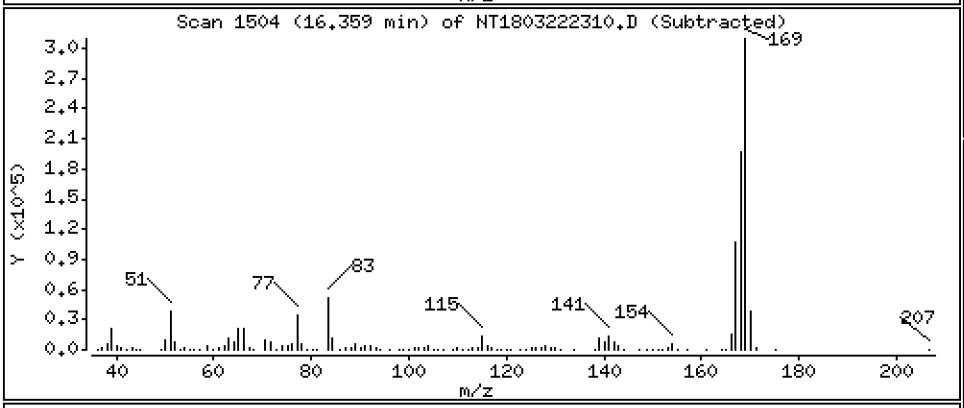
Column diameter: 0.25

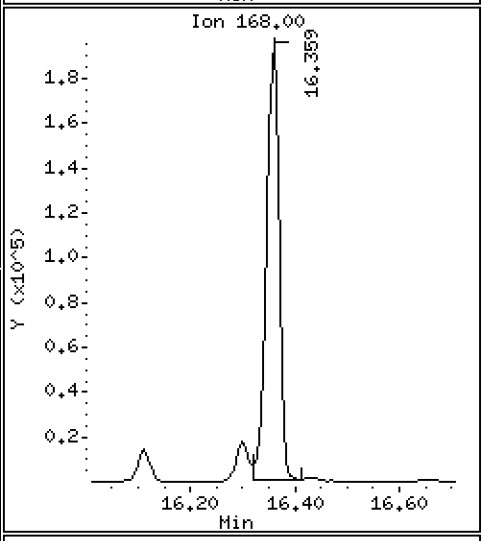
54 N-Nitrosodiphenylamine

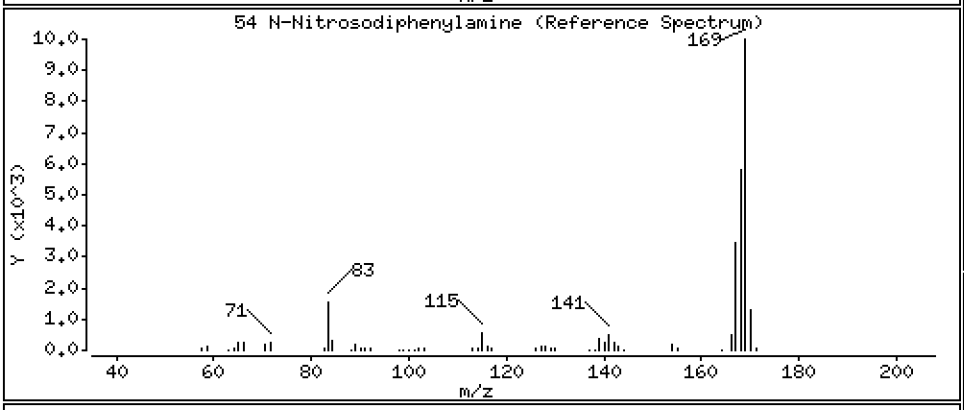
Concentration: 3.984 ug/mL

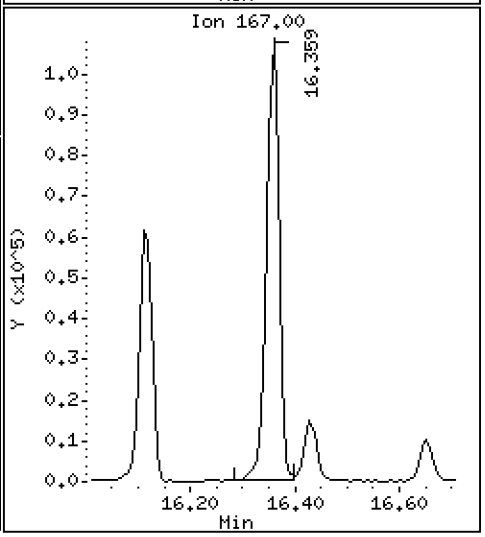


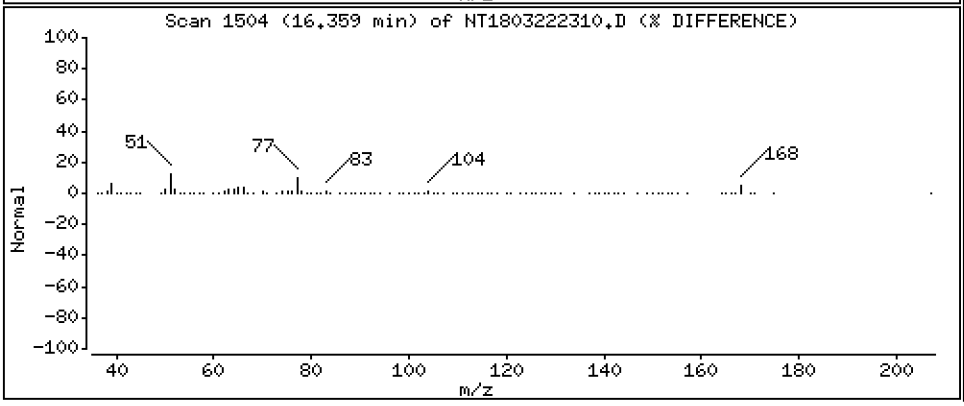












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

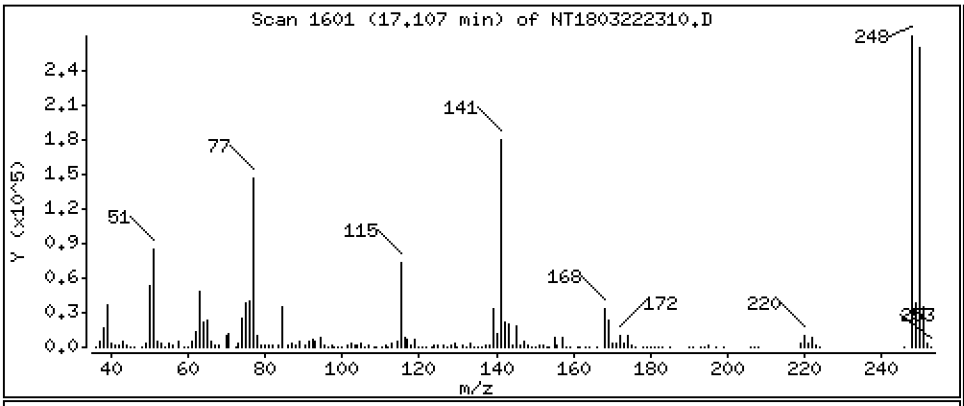
Operator: VTS

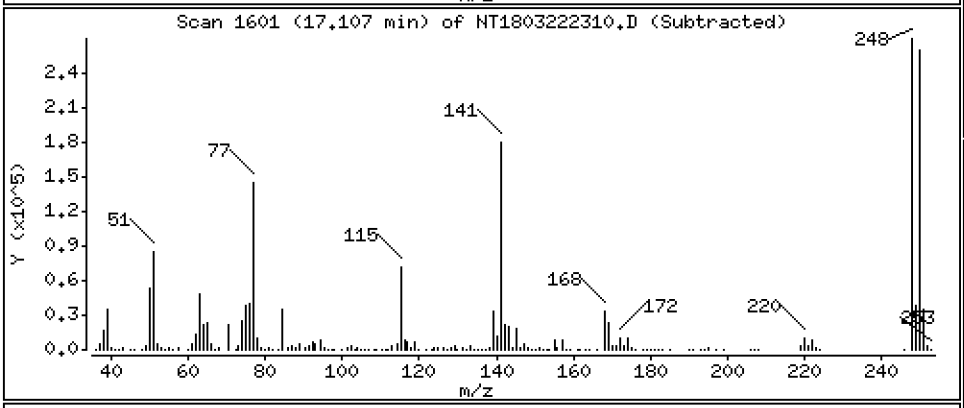
Column phase: ZB-5msi

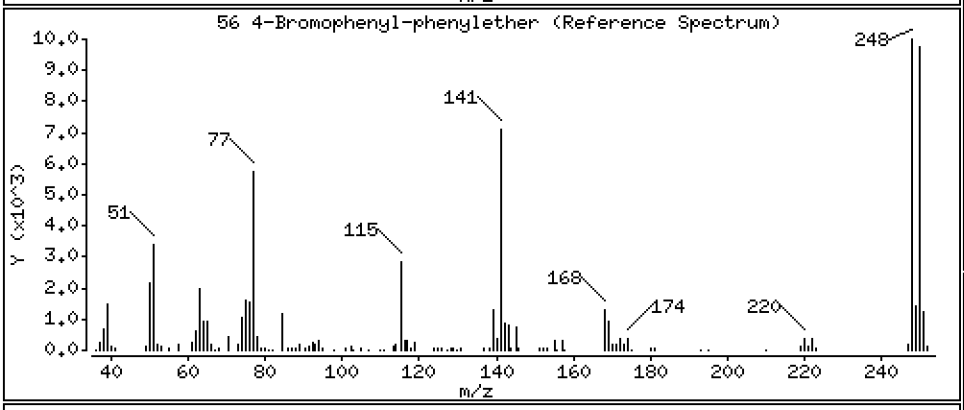
Column diameter: 0.25

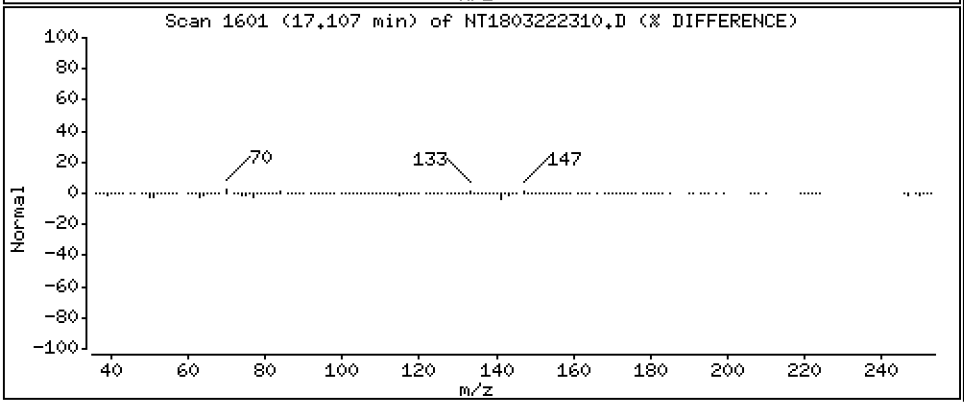
56 4-Bromophenyl-phenylether

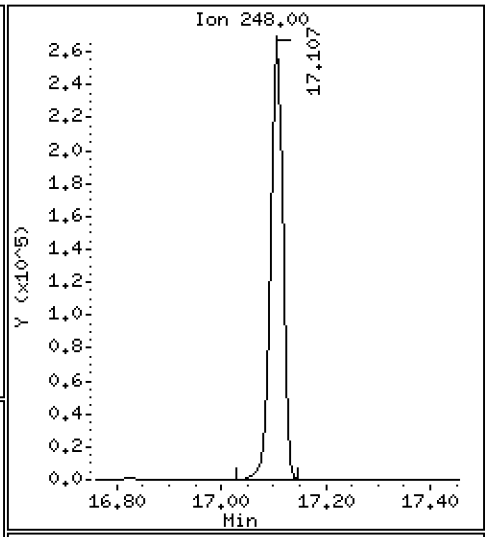
Concentration: 8.382 ug/mL

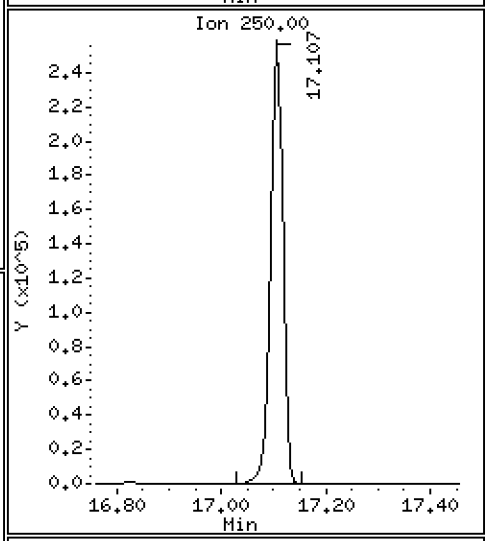


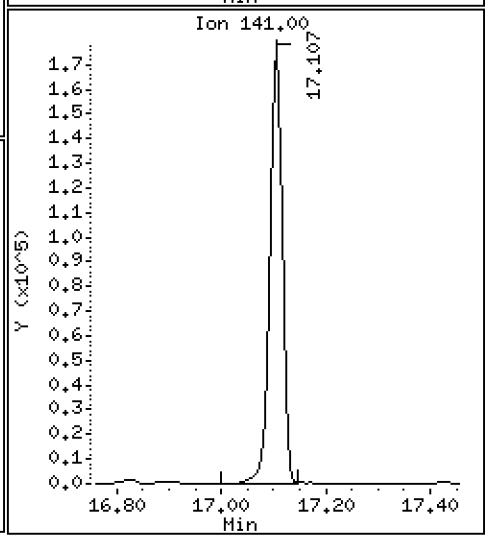












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

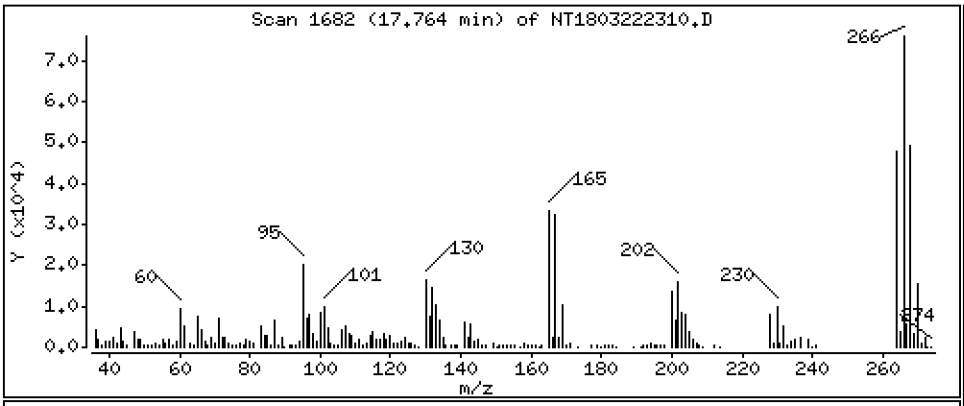
Operator: VTS

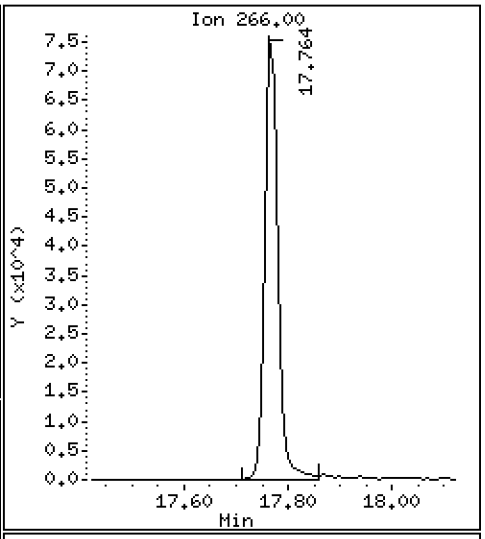
Column phase: ZB-5msi

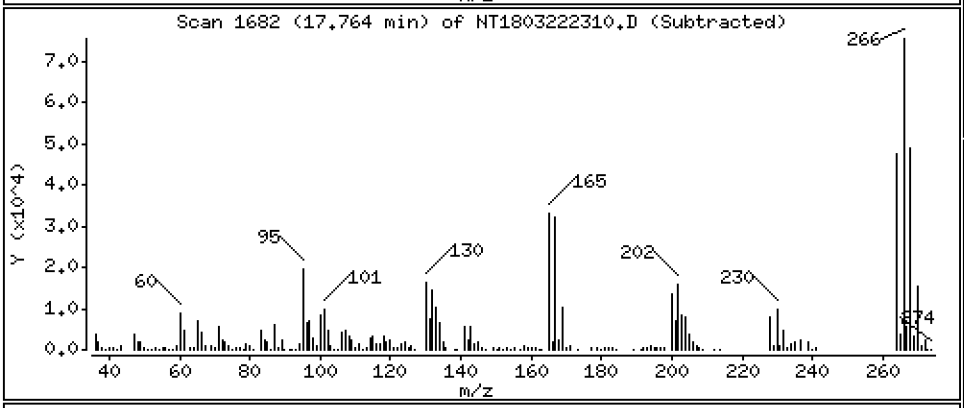
Column diameter: 0.25

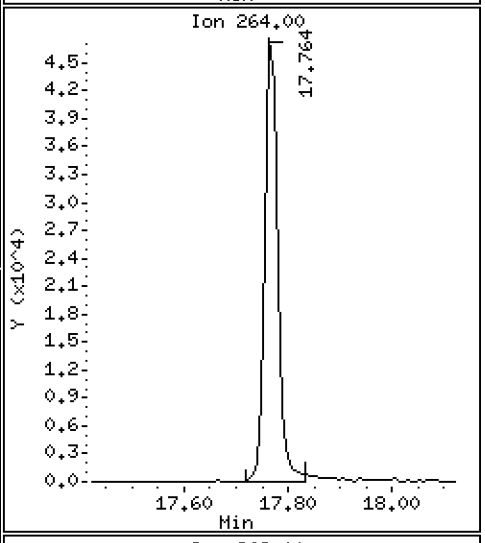
58 Pentachlorophenol

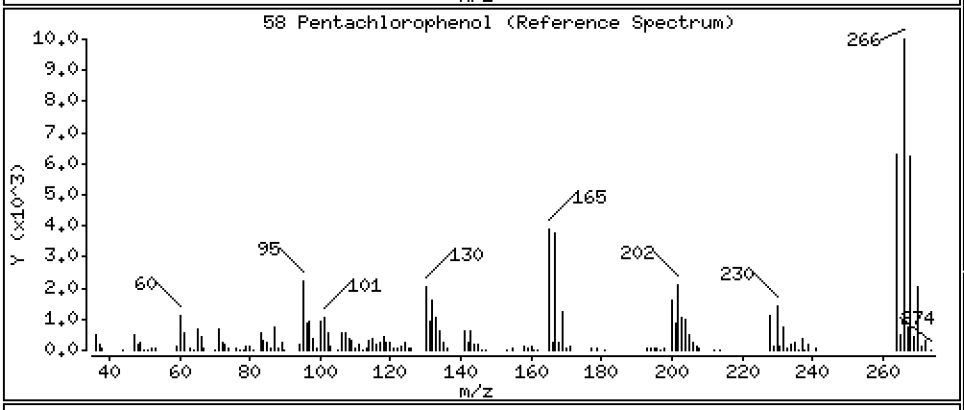
Concentration: 3.812 ug/mL

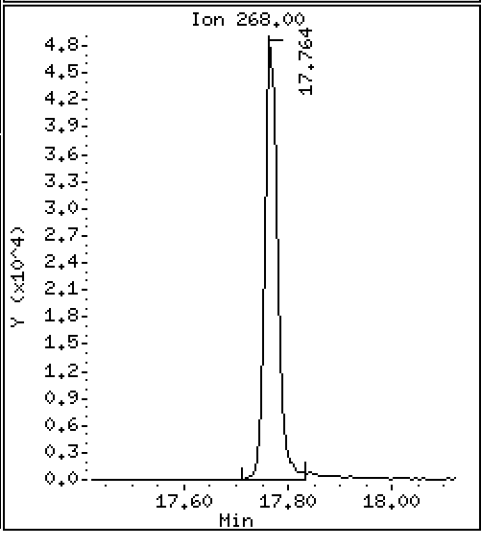


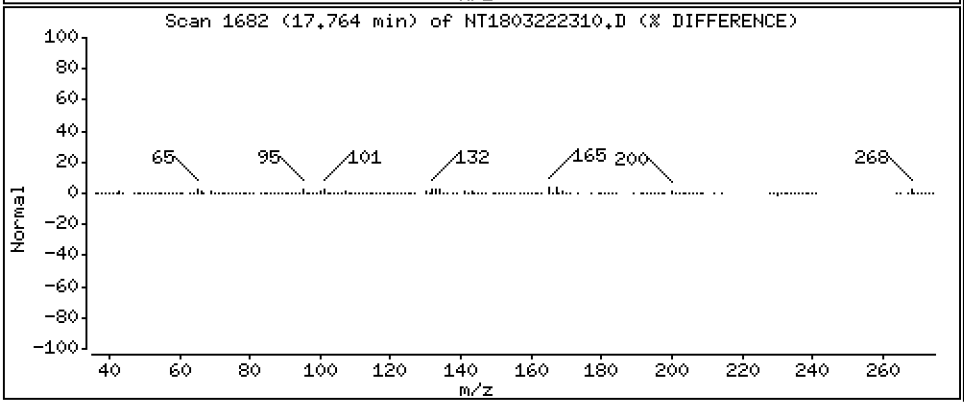












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

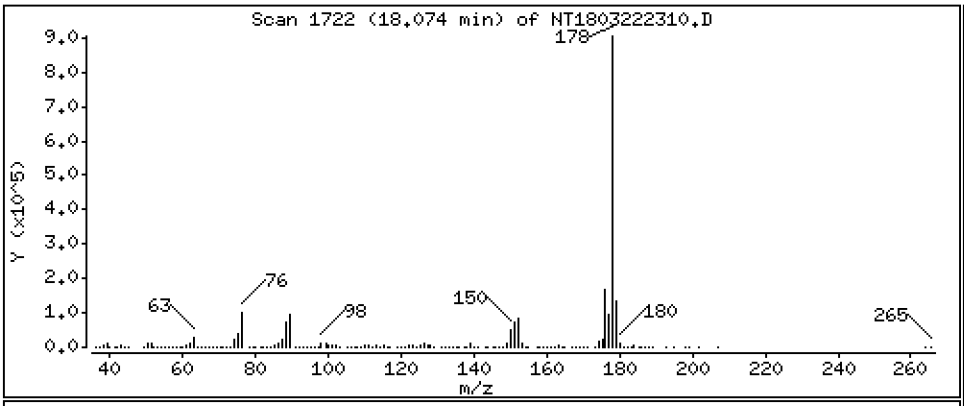
Operator: VTS

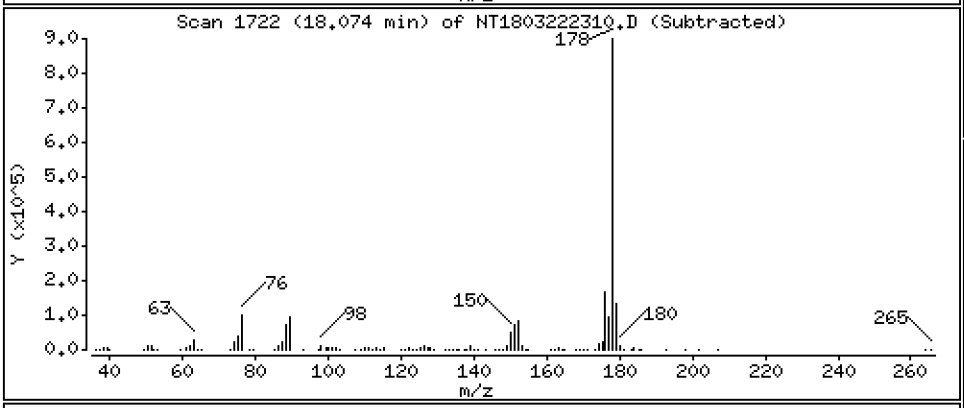
Column phase: ZB-5msi

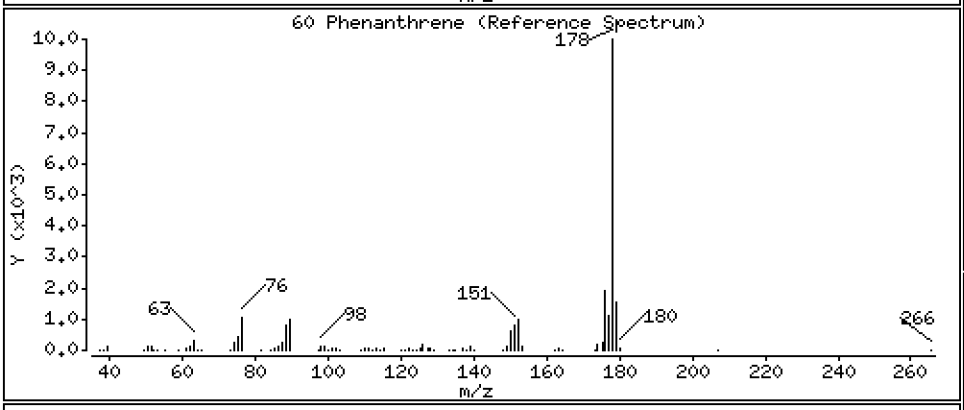
Column diameter: 0.25

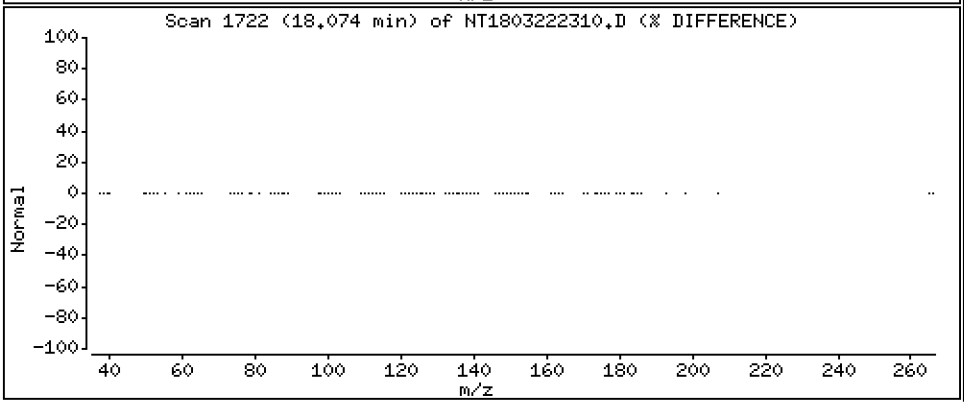
60 Phenanthrene

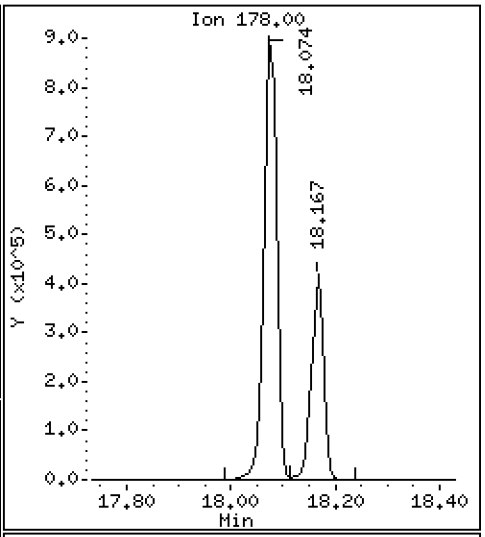
Concentration: 5.495 ug/mL

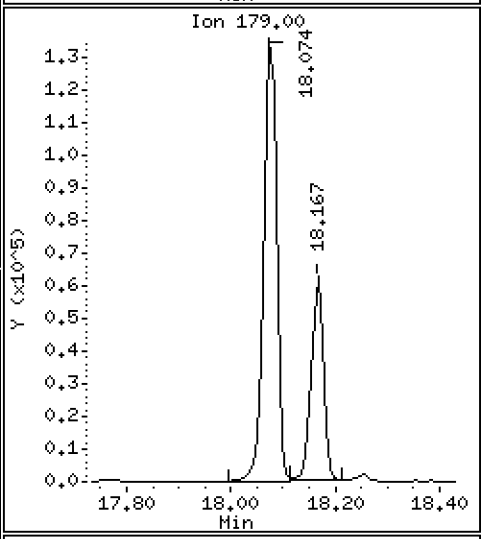


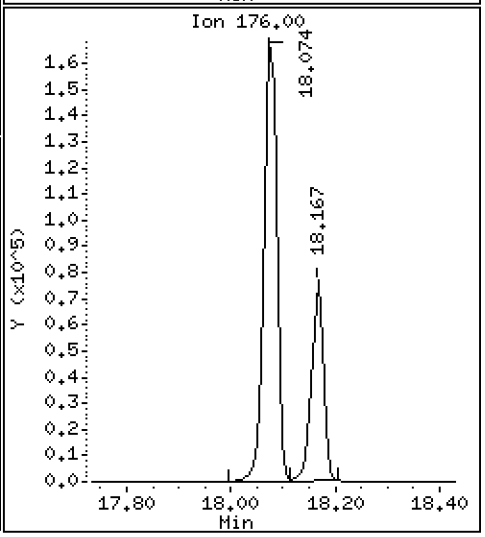












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222310.D

Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

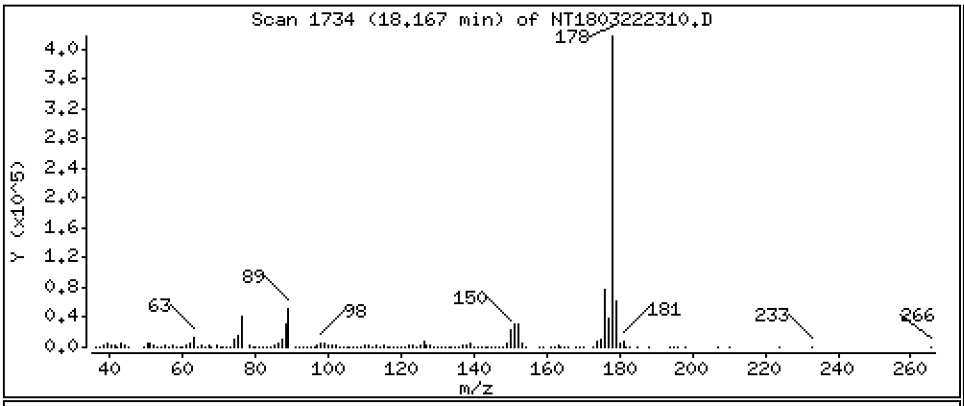
Operator: VTS

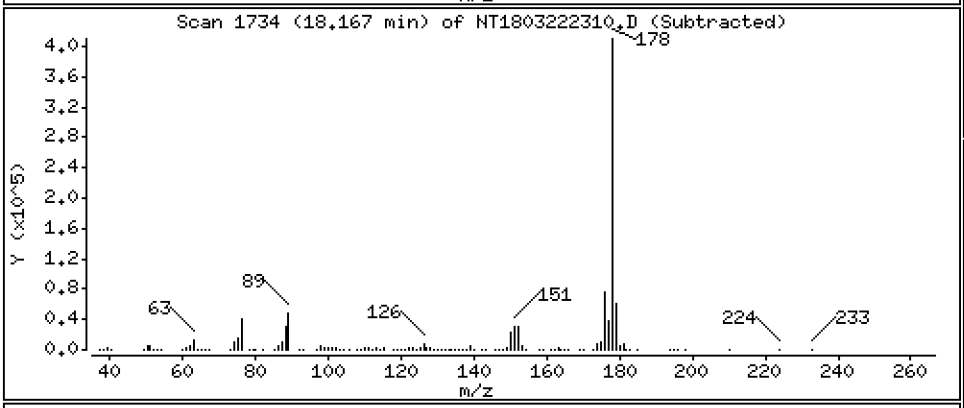
Column phase: ZB-5msi

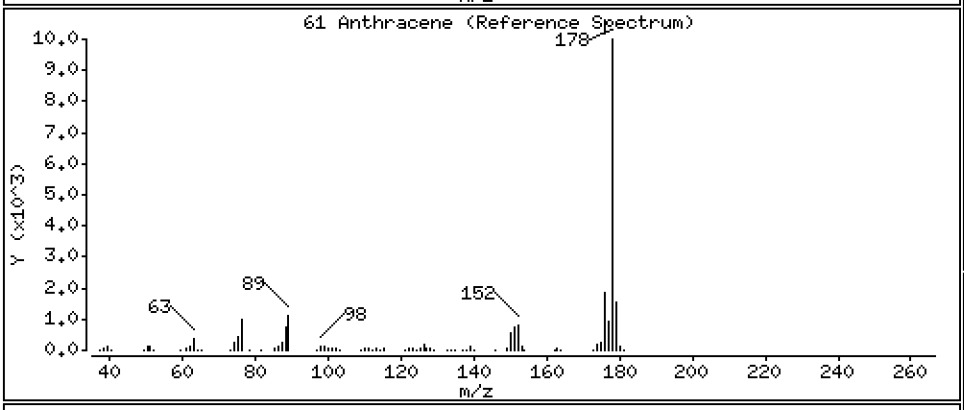
Column diameter: 0.25

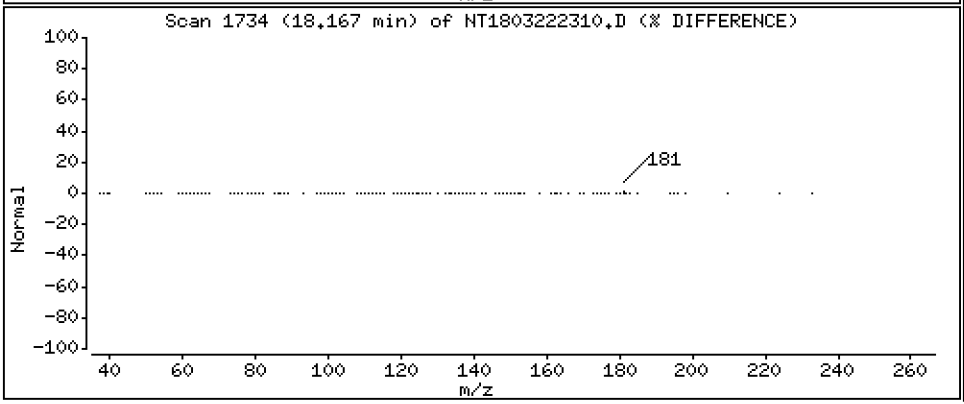
61 Anthracene

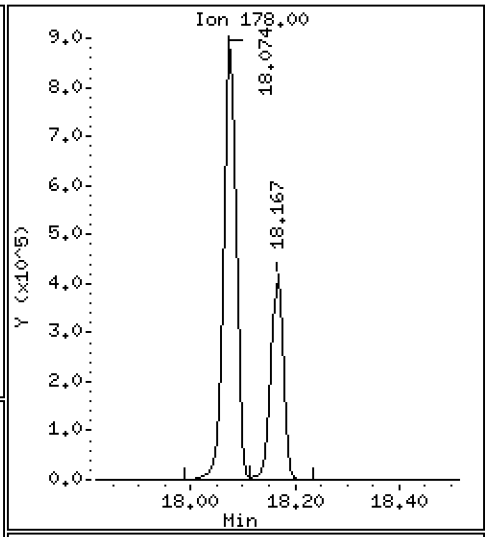
Concentration: 2.607 ug/mL

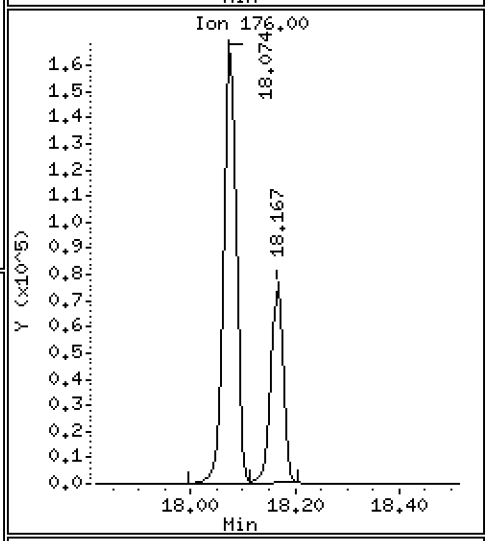


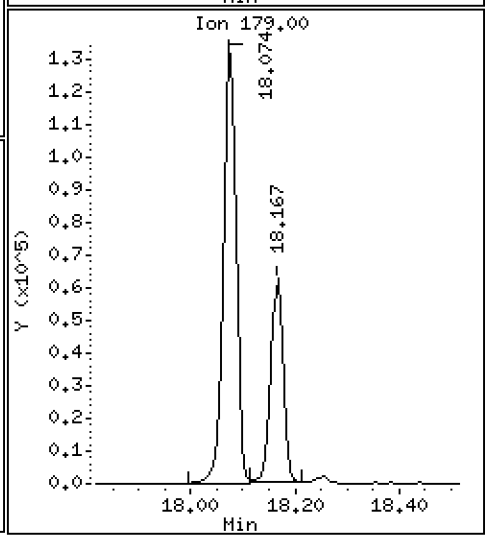












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

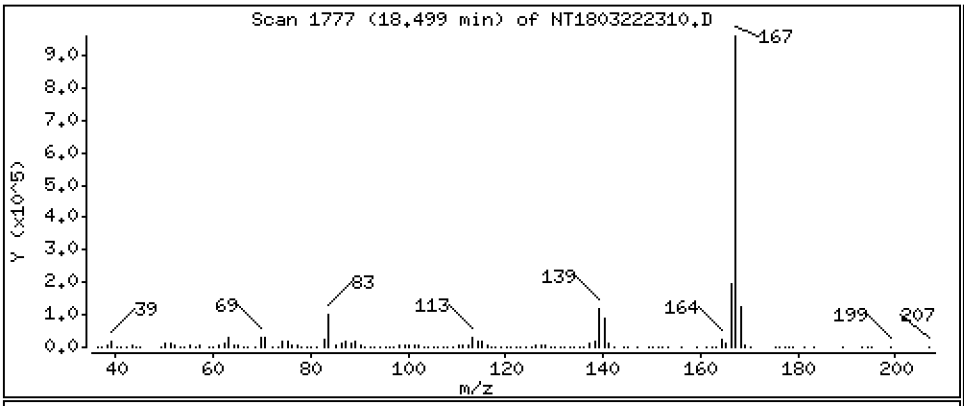
Operator: VTS

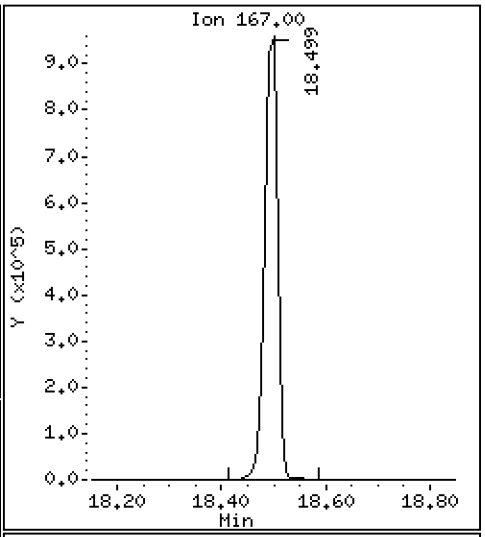
Column phase: ZB-5msi

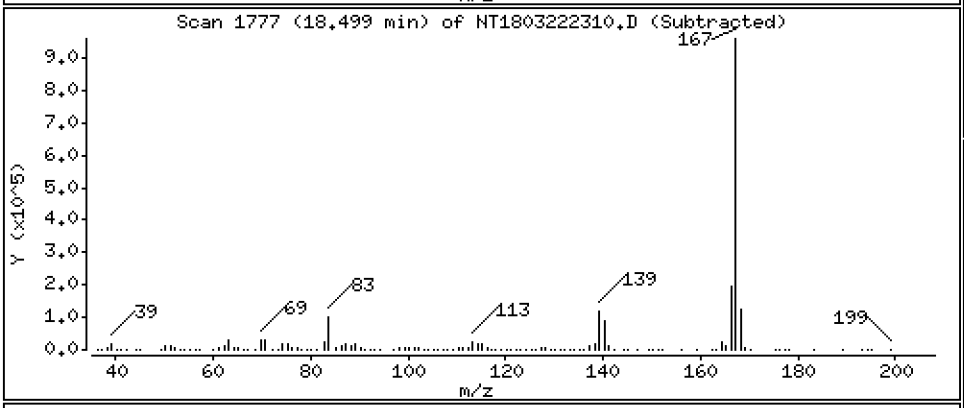
Column diameter: 0.25

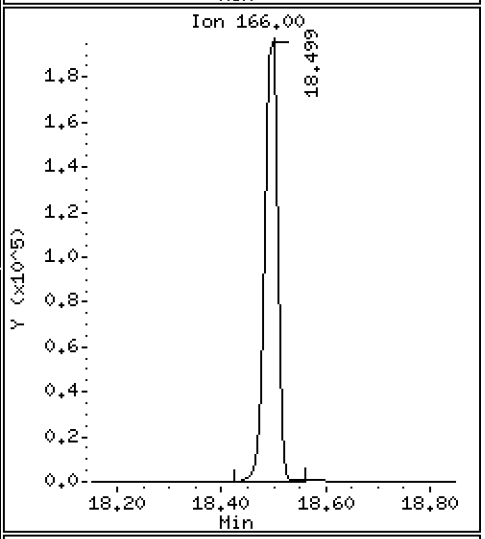
62 Carbazole

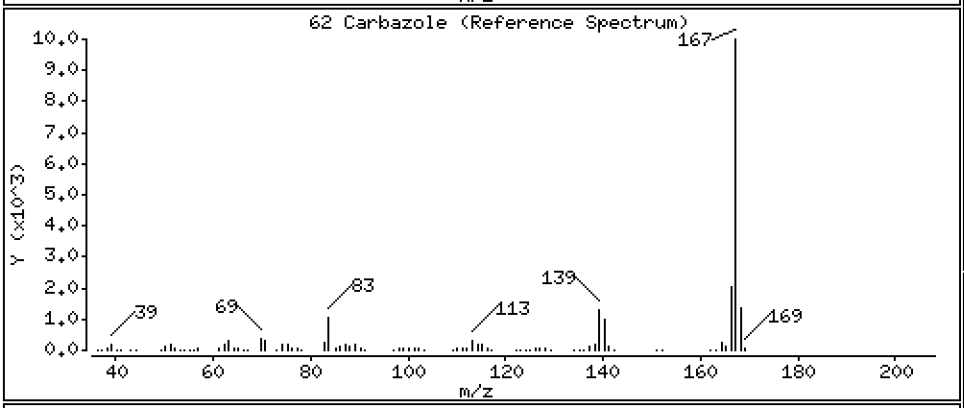
Concentration: 7.099 ug/mL

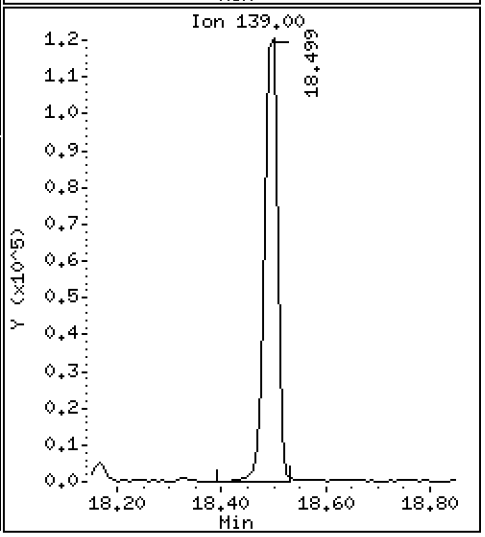


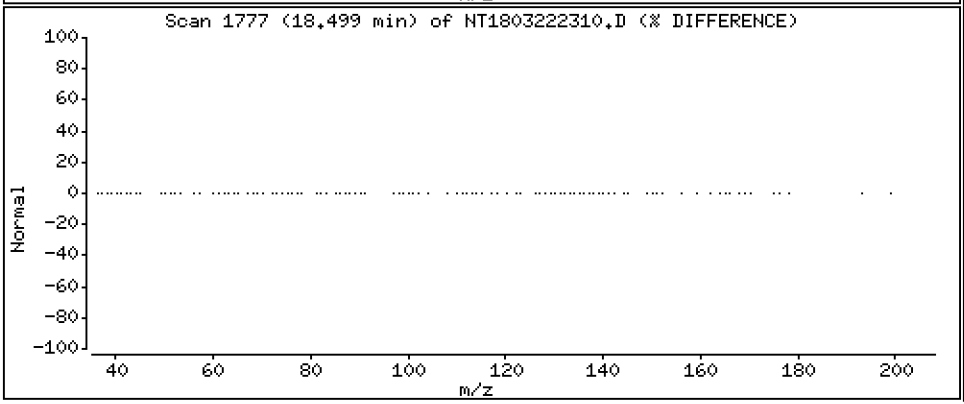












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222310.D

Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

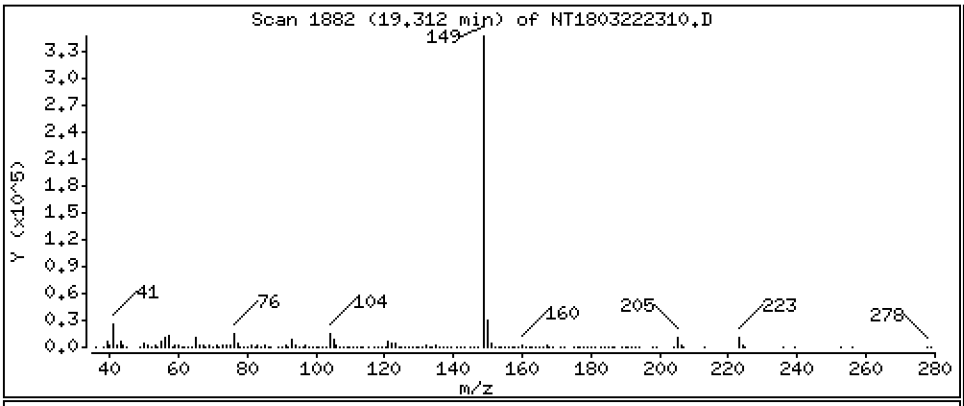
Operator: VTS

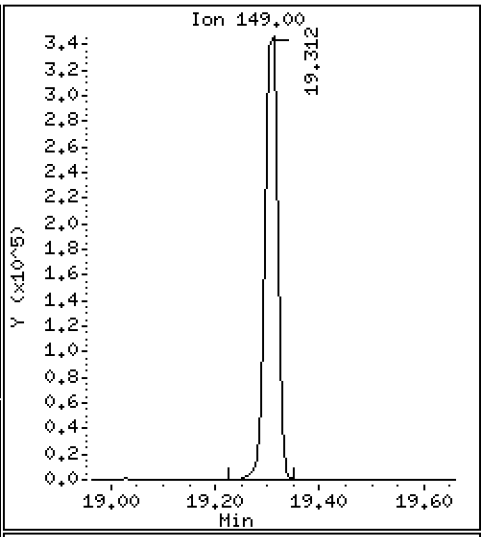
Column phase: ZB-5msi

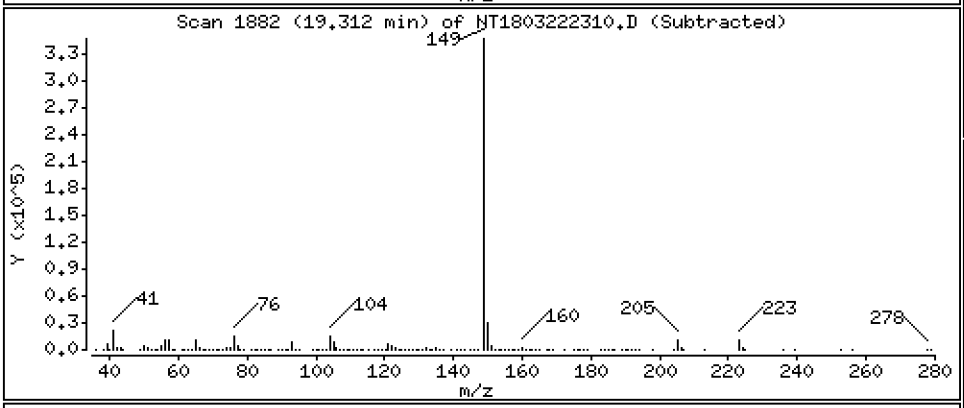
Column diameter: 0.25

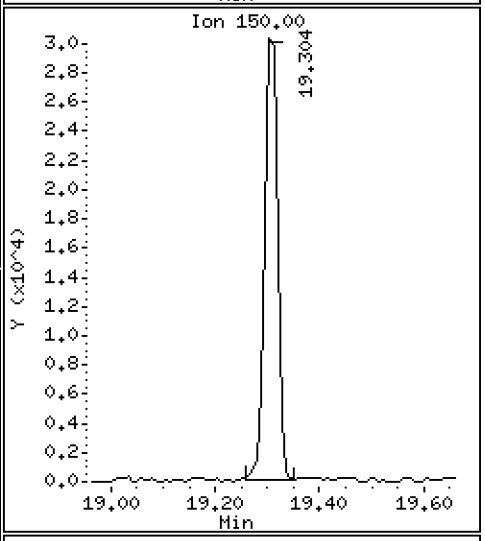
63 Di-n-butylphthalate

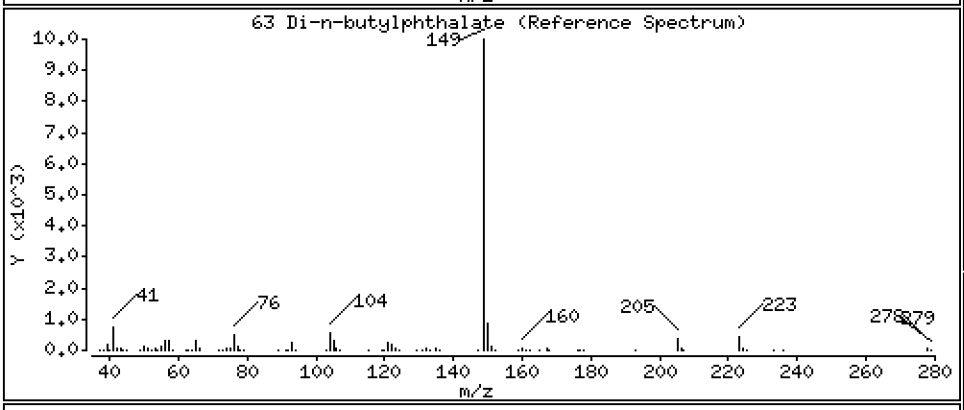
Concentration: 1.885 ug/mL

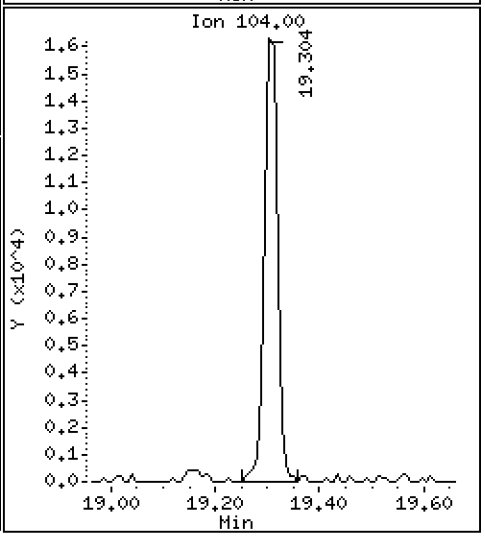


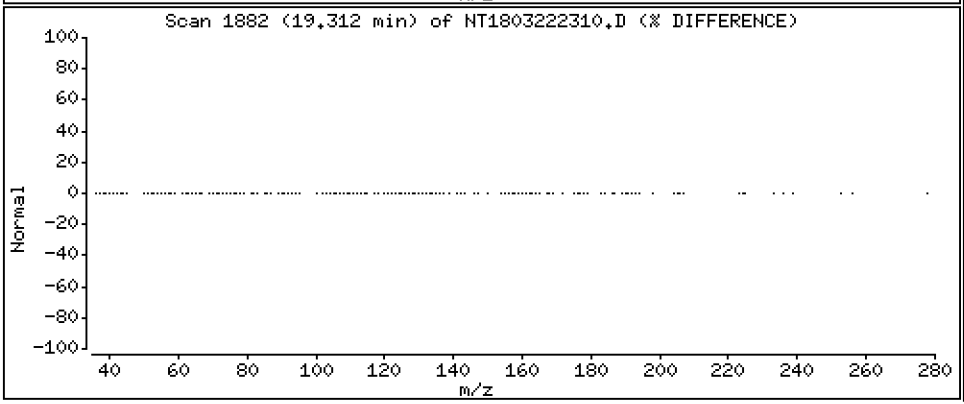












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

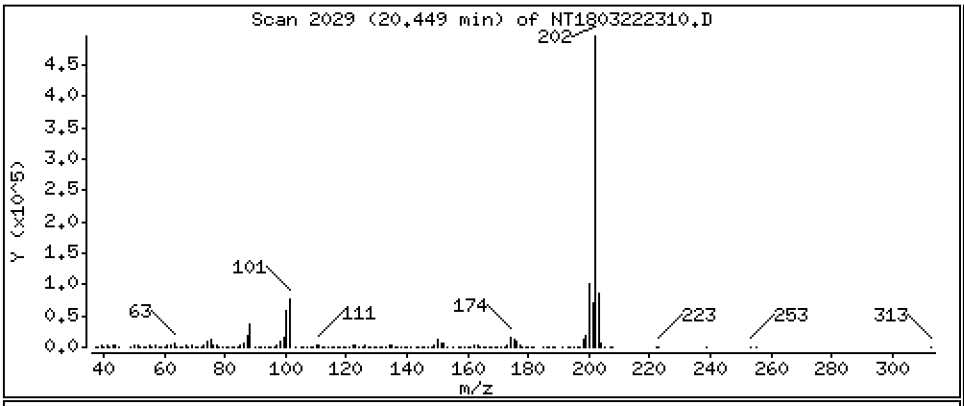
Operator: VTS

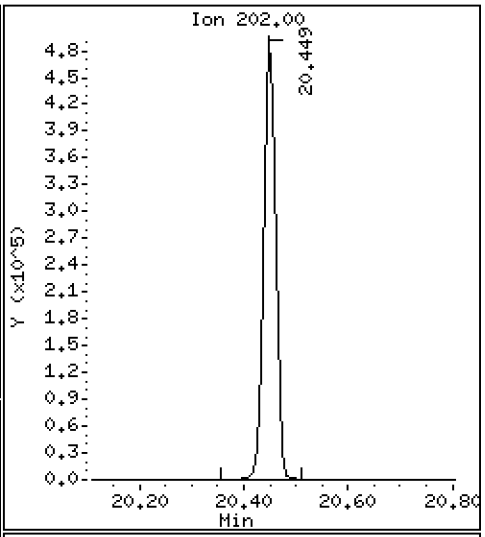
Column phase: ZB-5msi

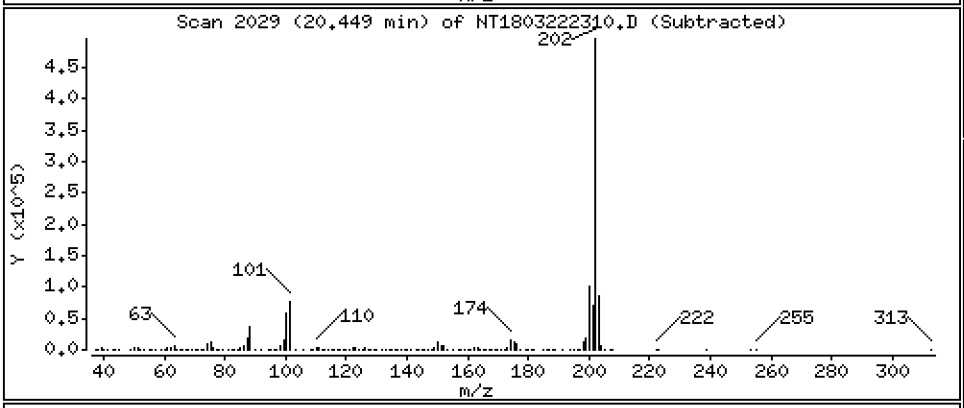
Column diameter: 0.25

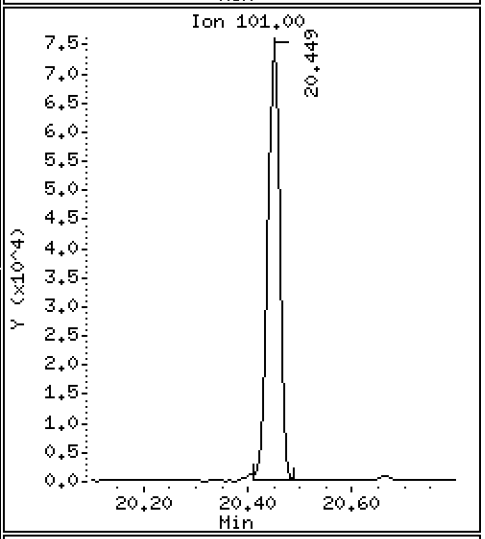
64 Fluoranthene

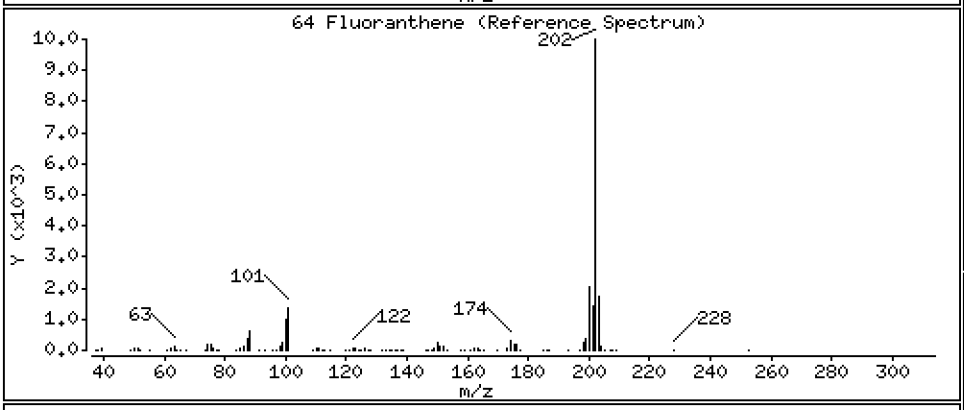
Concentration: 2.772 ug/mL

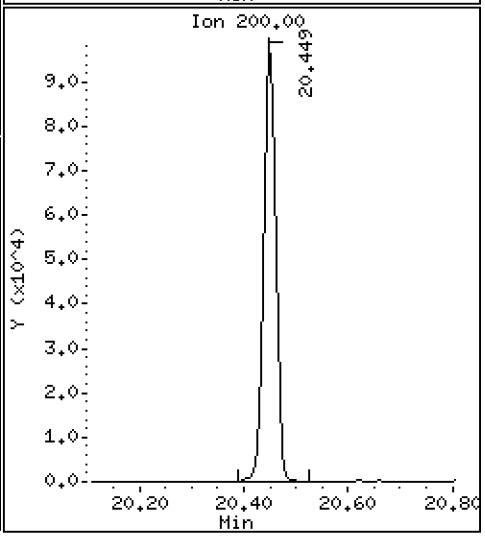


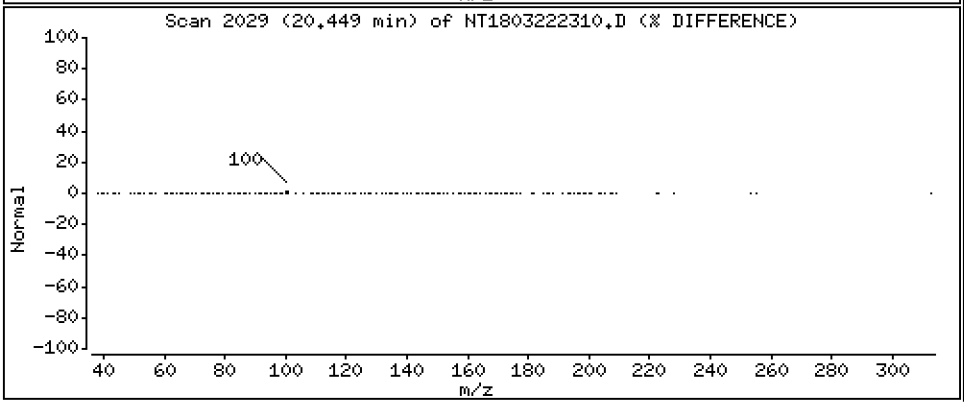












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

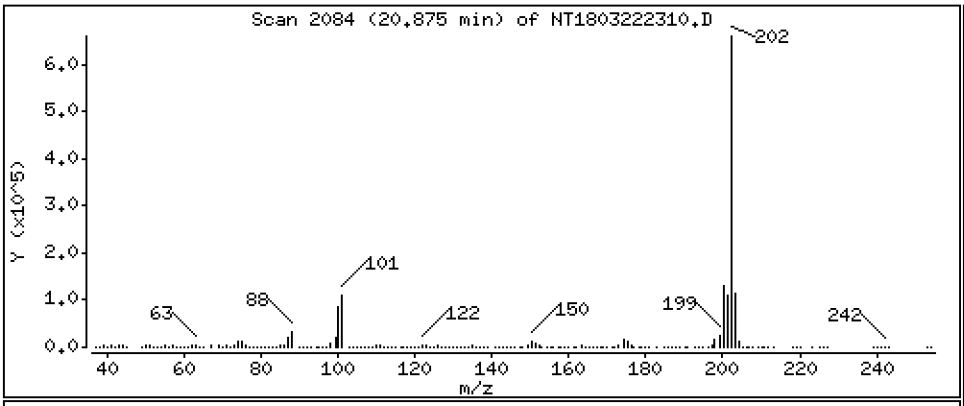
Operator: VTS

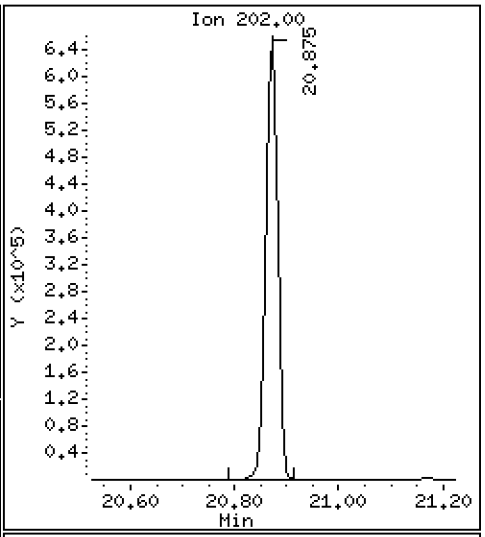
Column phase: ZB-5msi

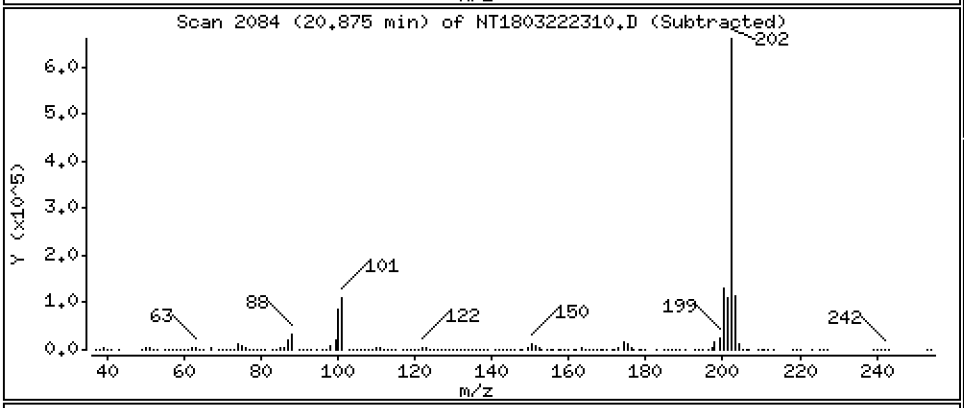
Column diameter: 0.25

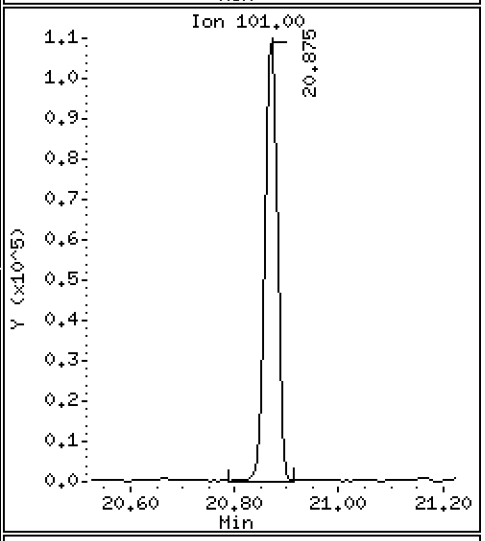
65 Pyrene

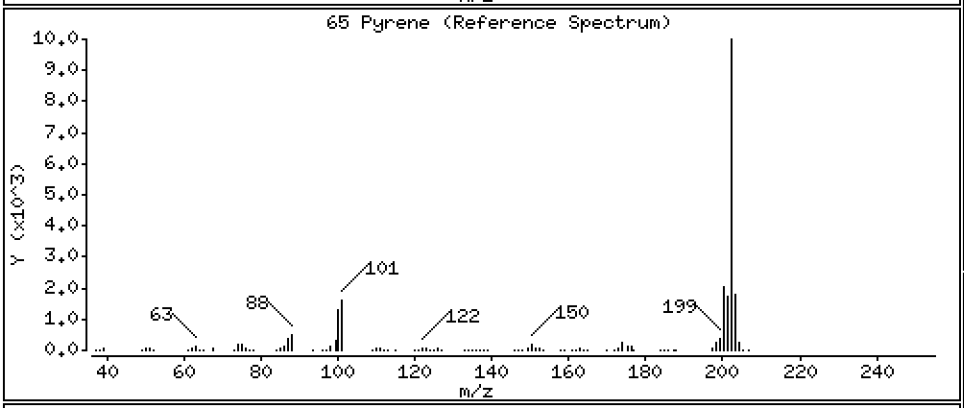
Concentration: 3.405 ug/mL

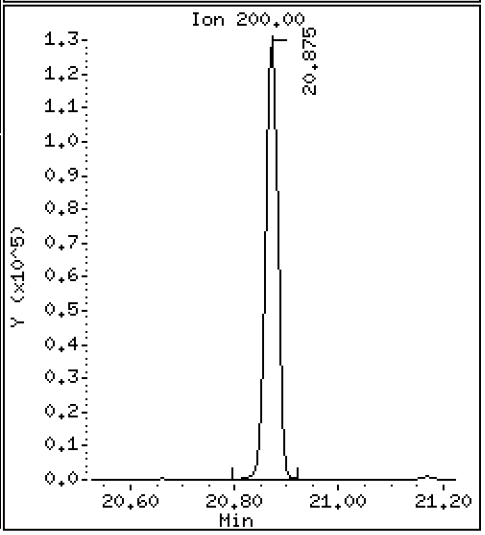


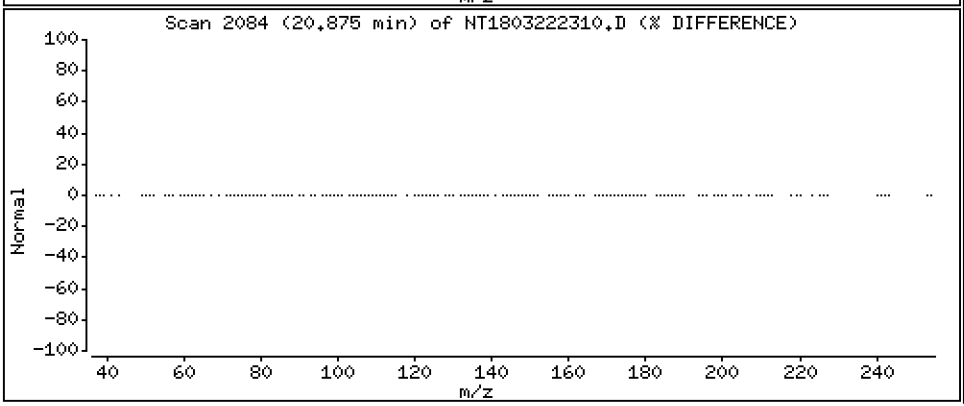












Date : 22-MAR-2023 23:22

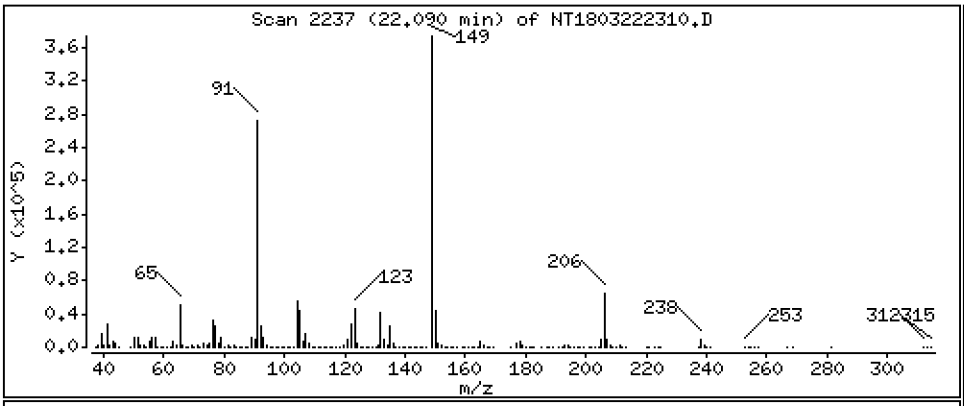
Client ID: Instrument: nt18.i

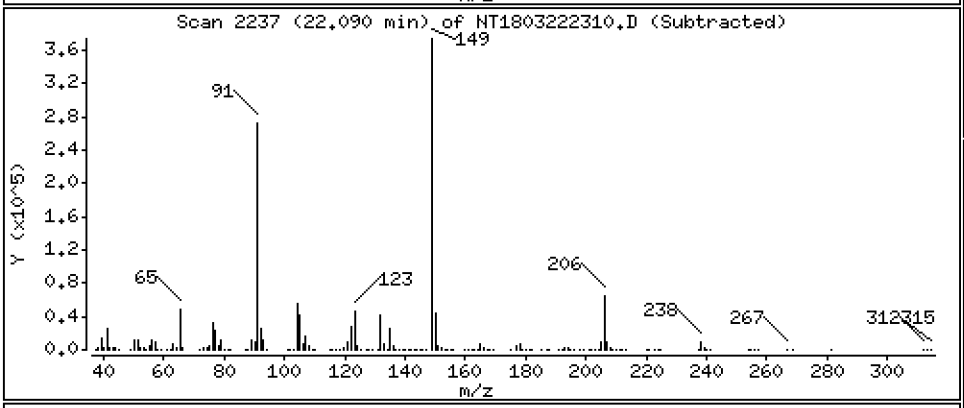
Sample Info: BLC0185-SRM1

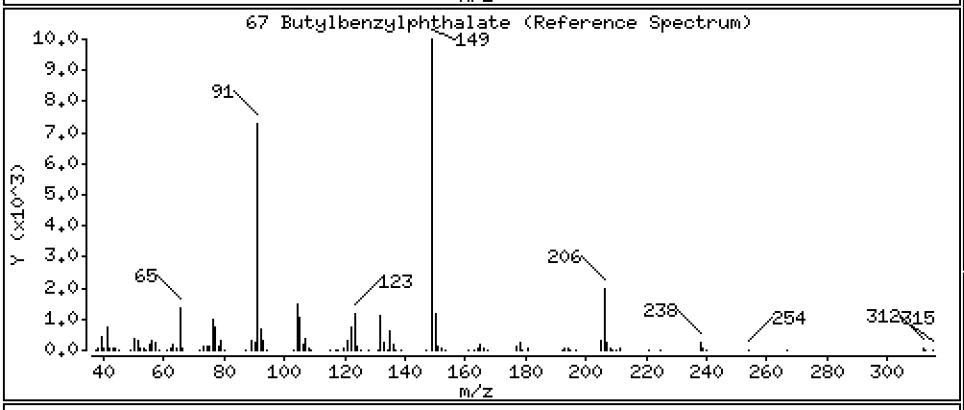
Operator: VTS

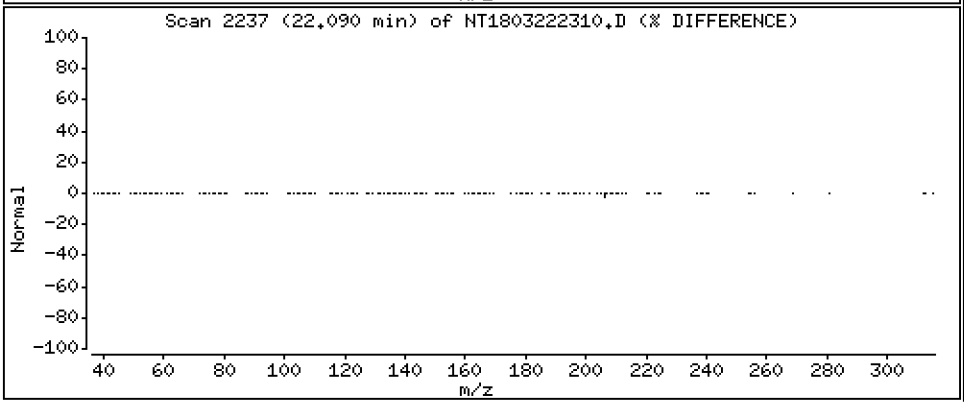
Column phase: ZB-5msi Column diameter: 0.25

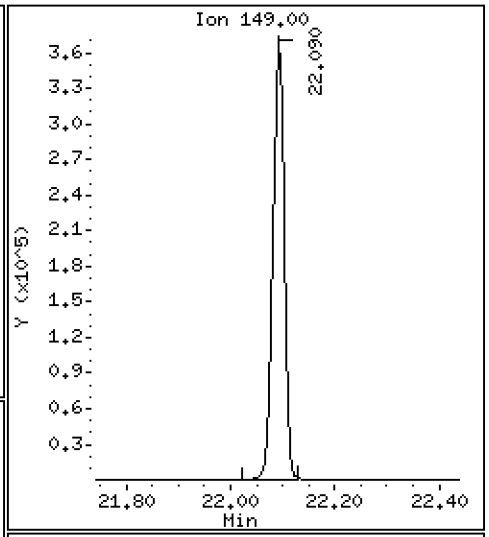
67 Butylbenzylphthalate Concentration: 4.173 ug/mL

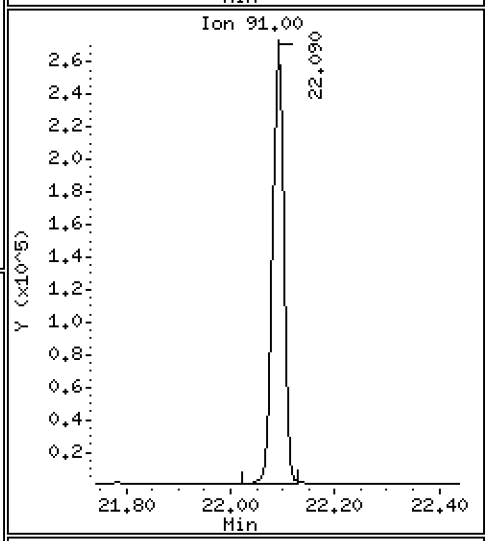


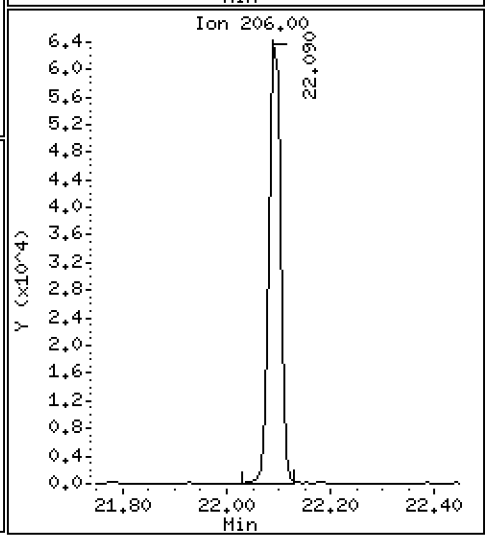












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222310.D

Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

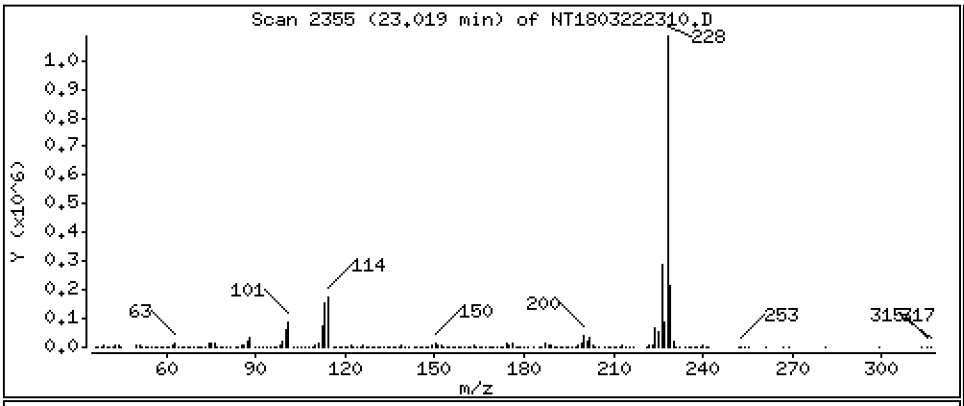
Operator: VTS

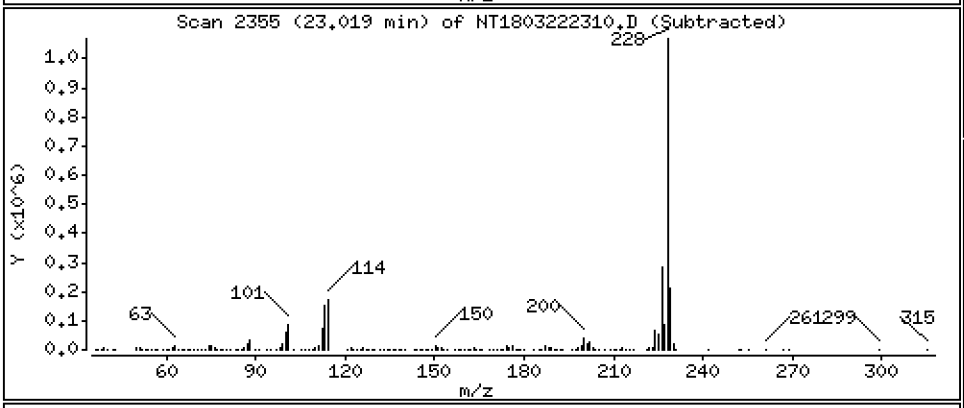
Column phase: ZB-5msi

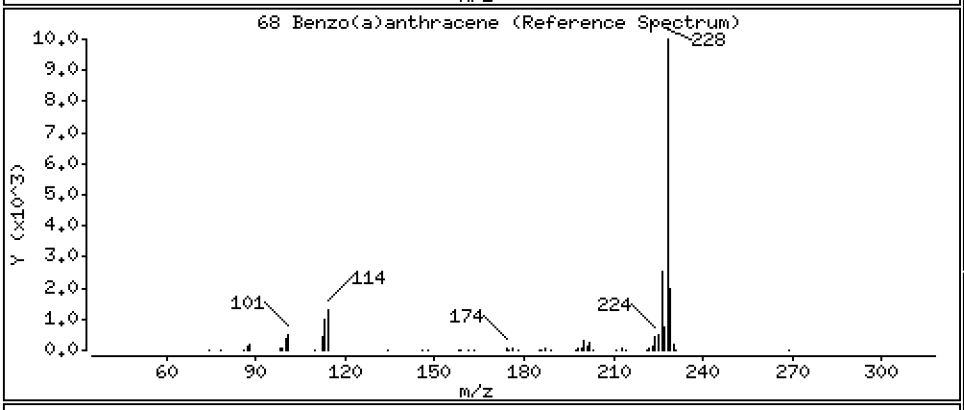
Column diameter: 0.25

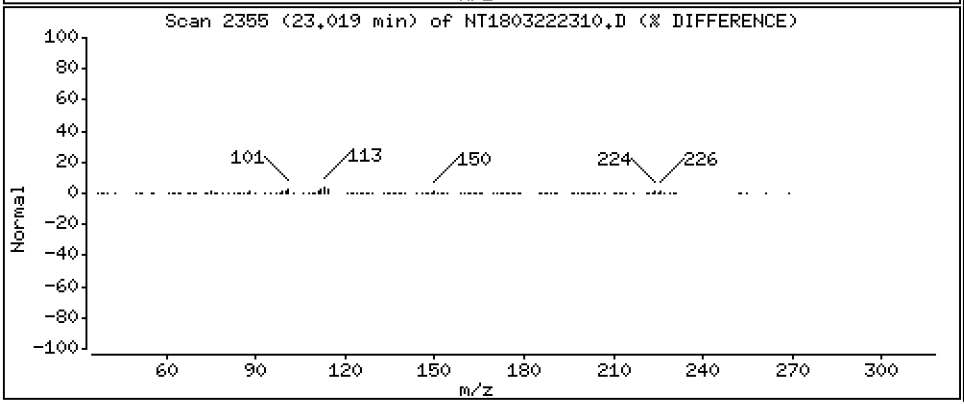
68 Benzo(a)anthracene

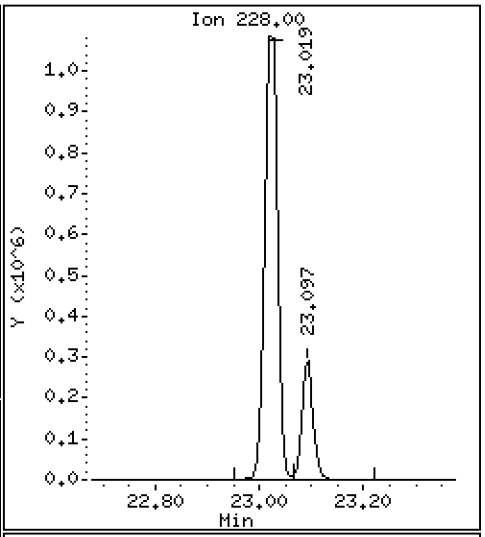
Concentration: 6.462 ug/mL

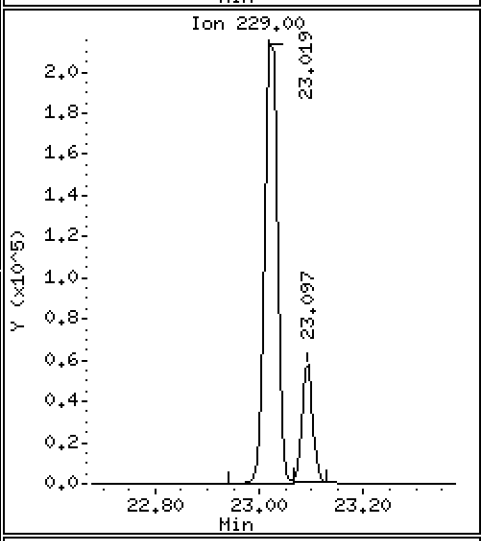


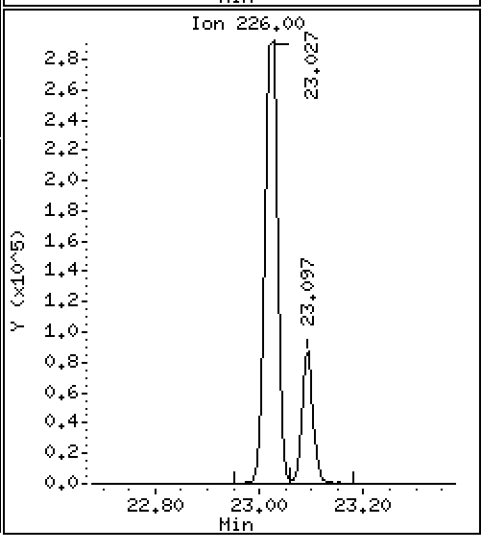












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222310.D

Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

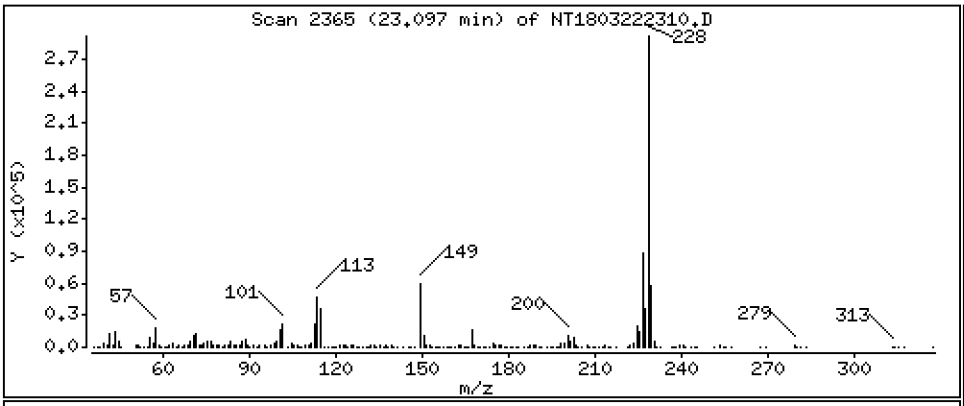
Operator: VTS

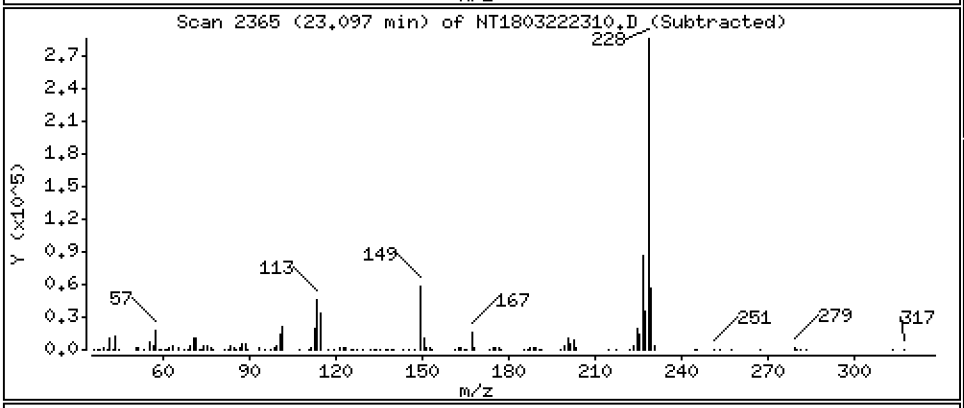
Column phase: ZB-5msi

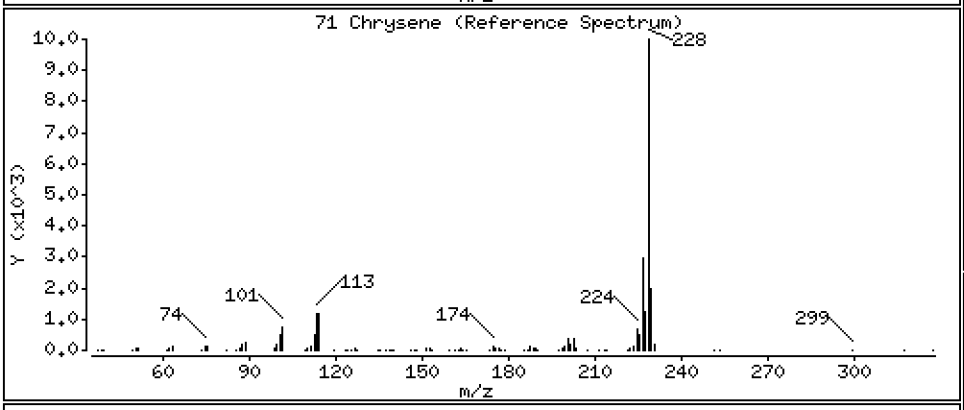
Column diameter: 0.25

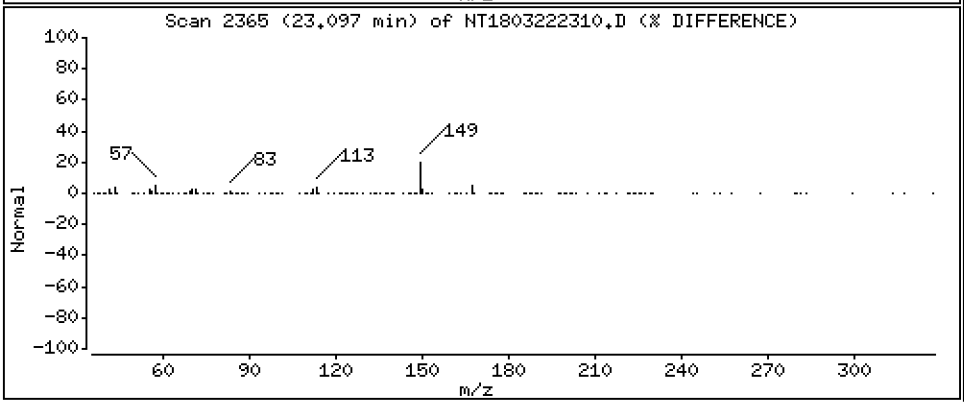
71 Chrysene

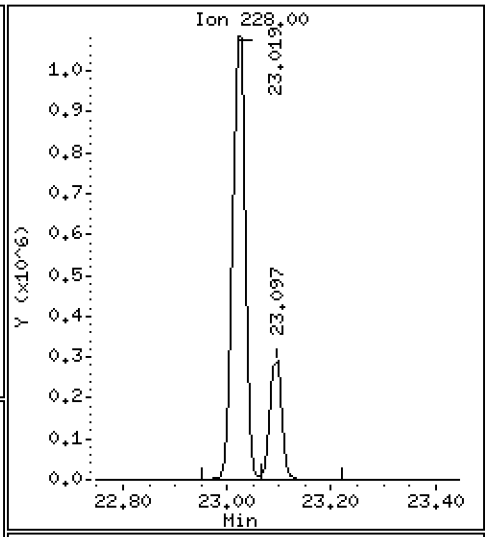
Concentration: 1.554 ug/mL

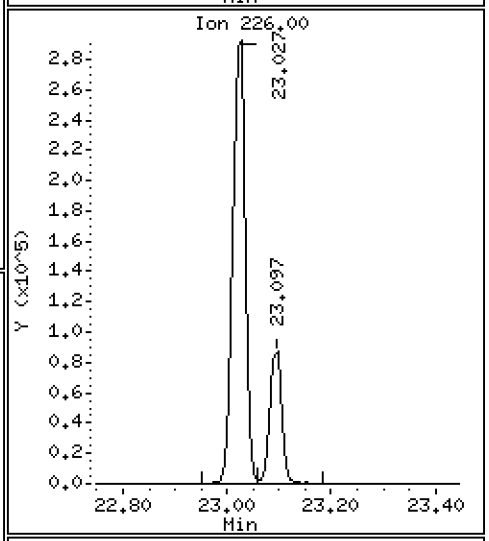


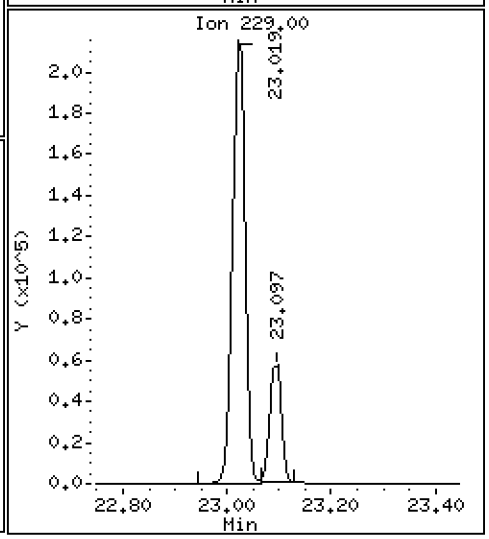












Date : 22-MAR-2023 23:22

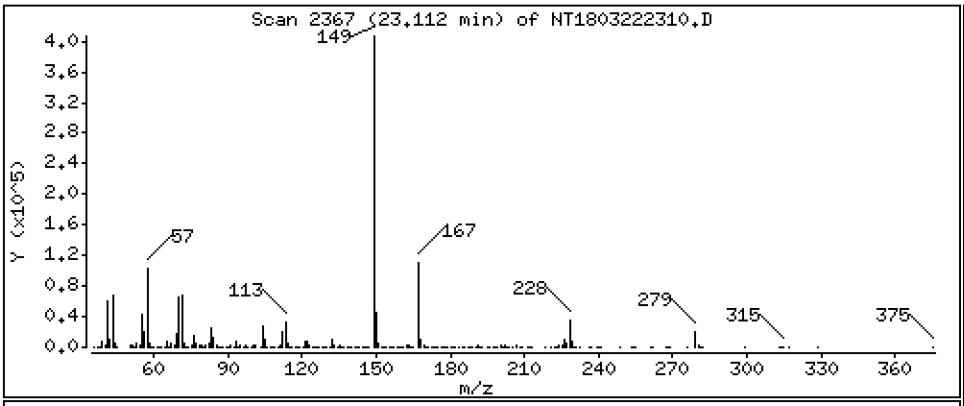
Client ID: Instrument: nt18.i

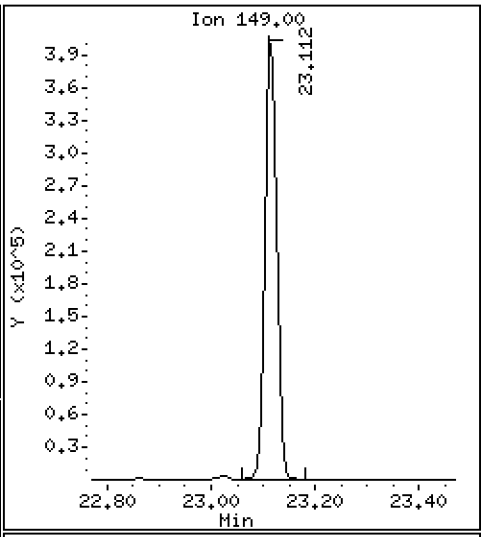
Sample Info: BLC0185-SRM1

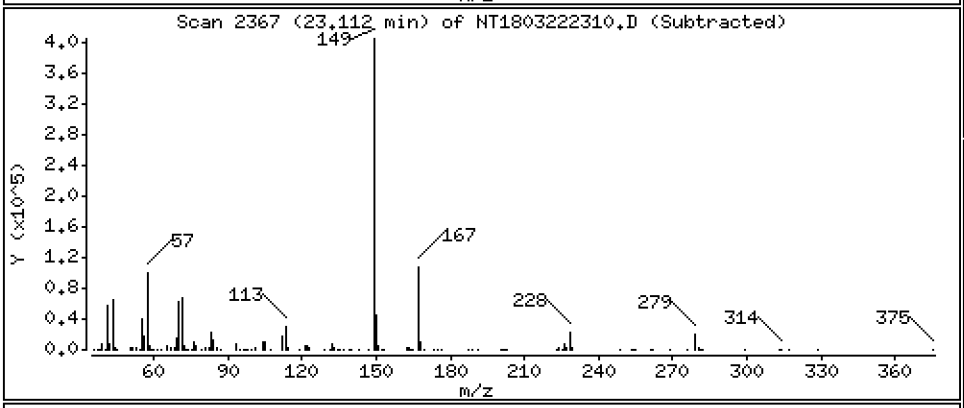
Operator: VTS

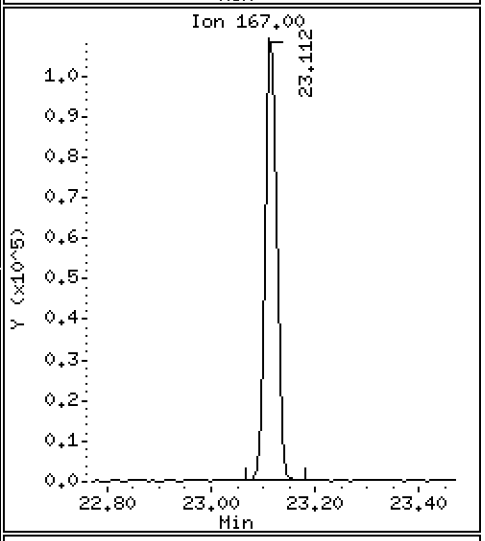
Column phase: ZB-5msi Column diameter: 0.25

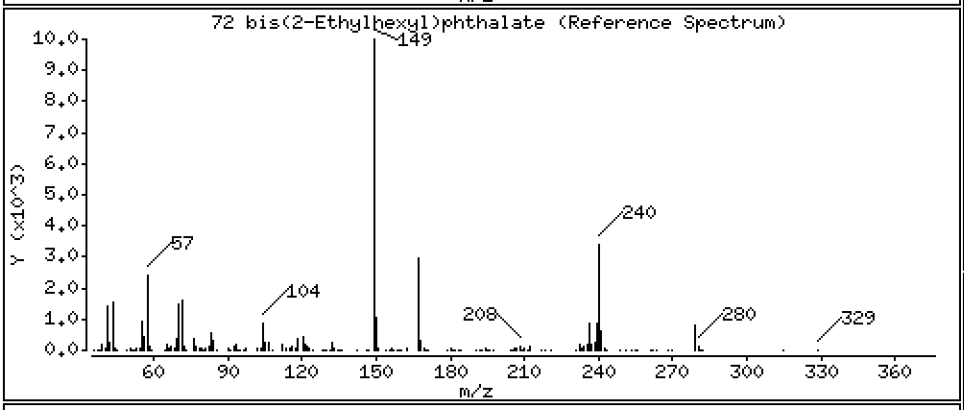
72 bis(2-Ethylhexyl)phthalate Concentration: 2.942 ug/mL

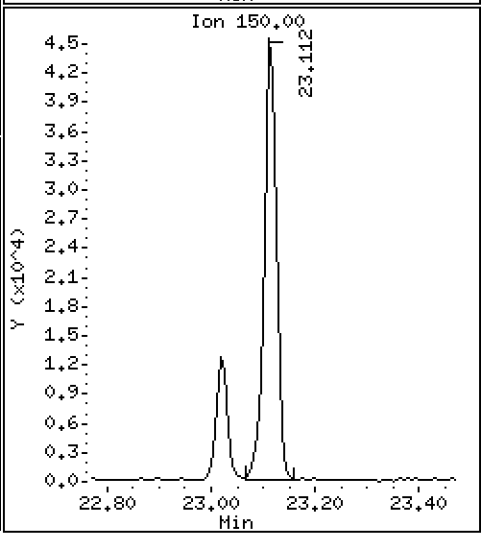


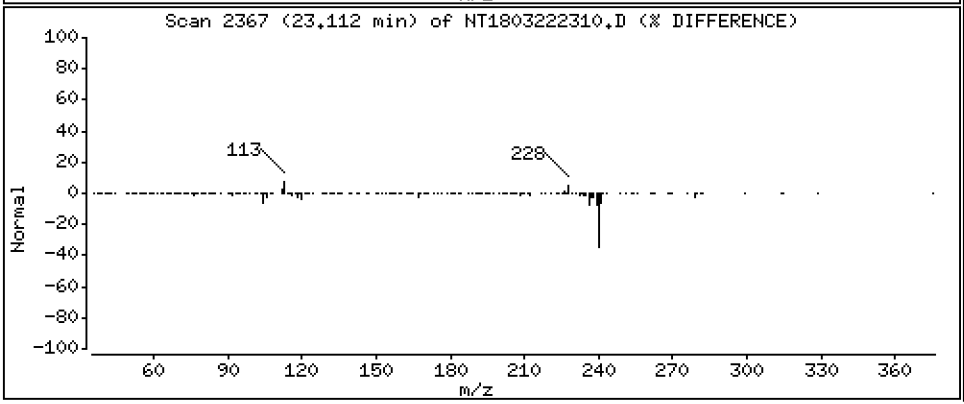












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222310.D

Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

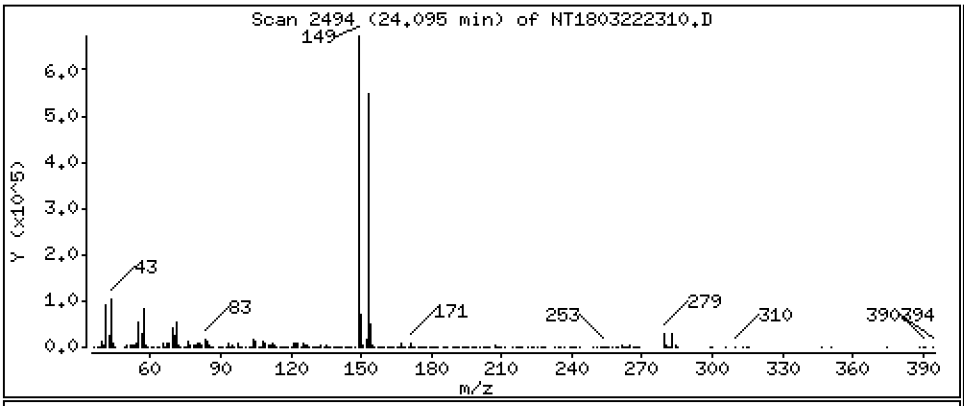
Operator: VTS

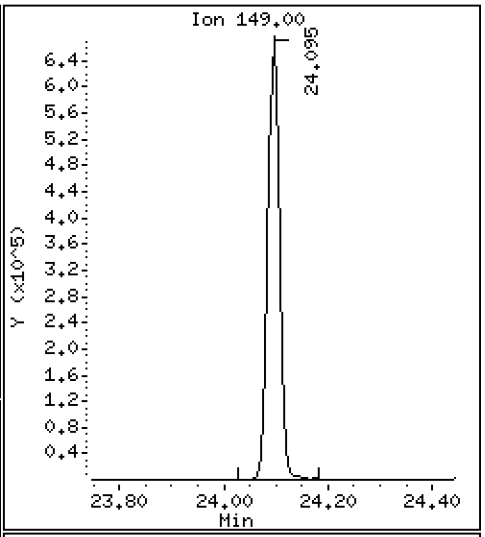
Column phase: ZB-5msi

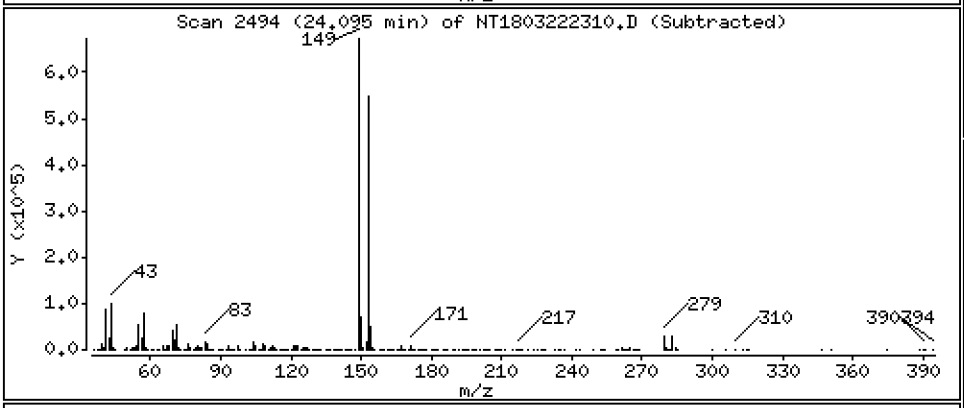
Column diameter: 0.25

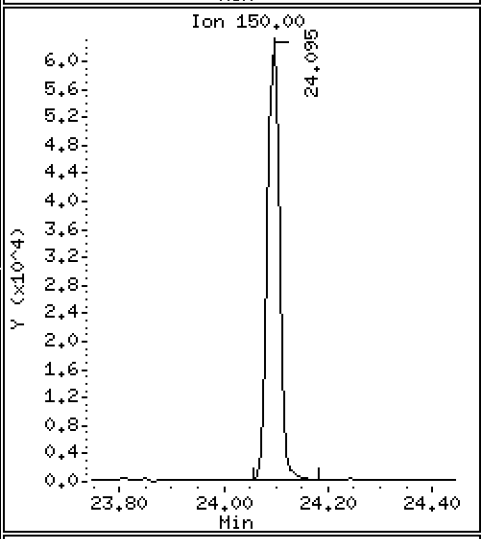
73 Di-n-octylphthalate

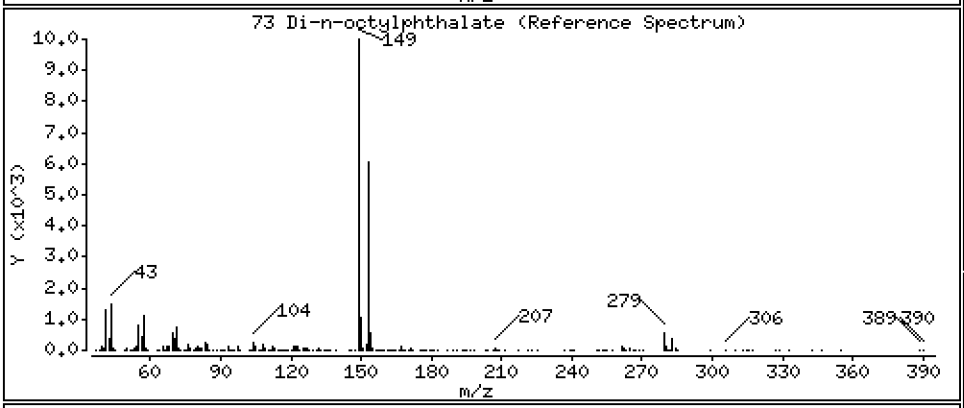
Concentration: 2.865 ug/mL

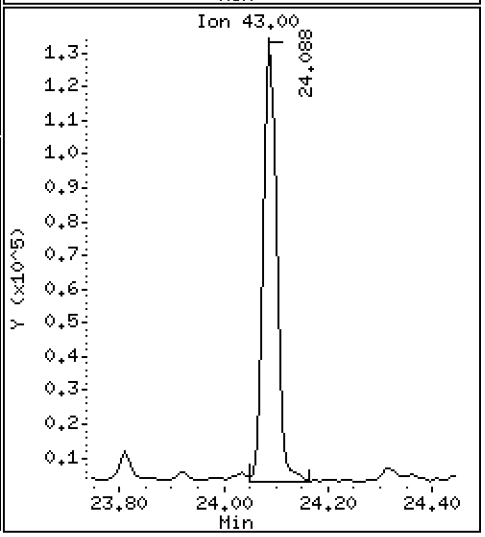


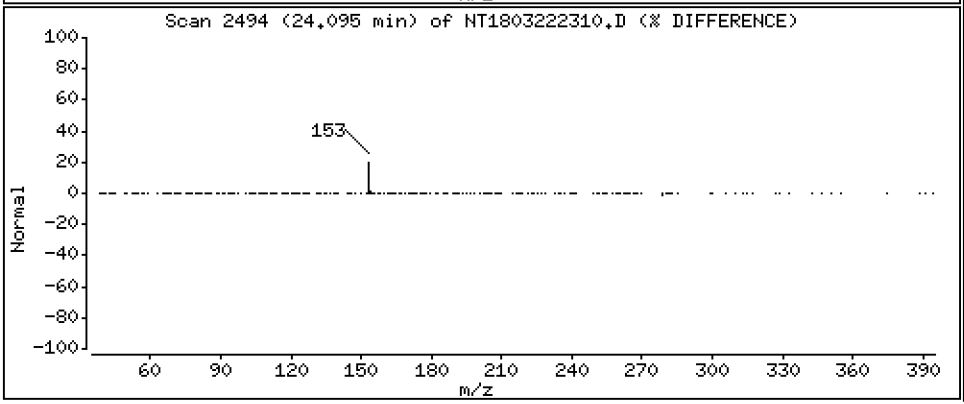












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

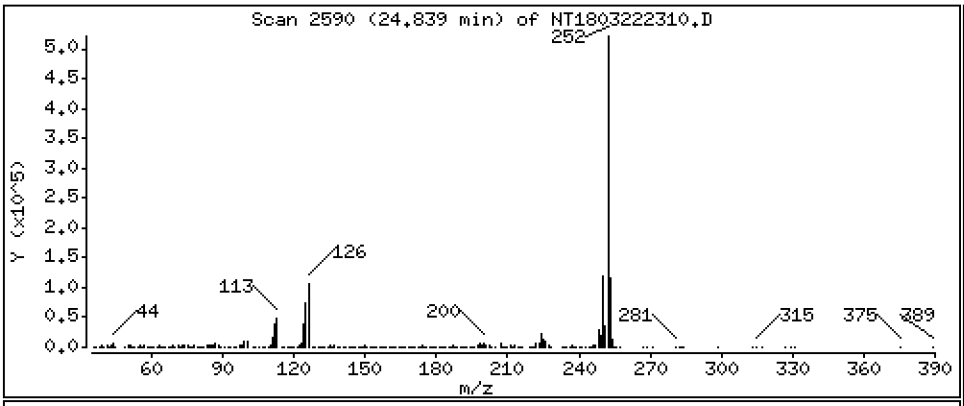
Operator: VTS

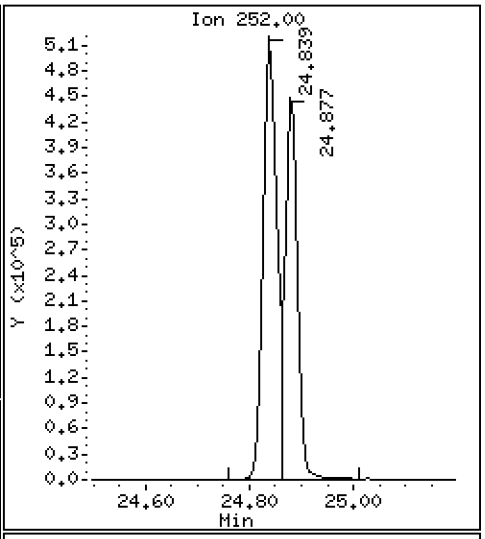
Column phase: ZB-5msi

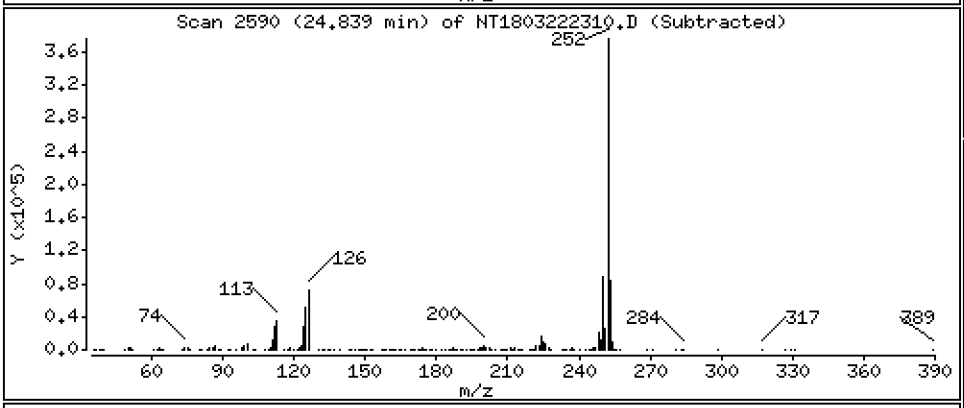
Column diameter: 0.25

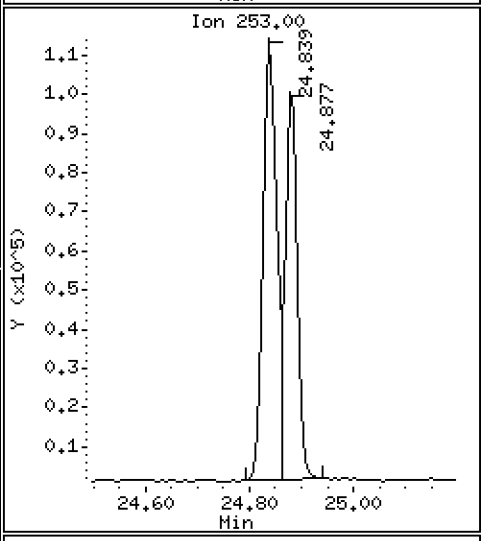
74 Benzo(b)fluoranthene

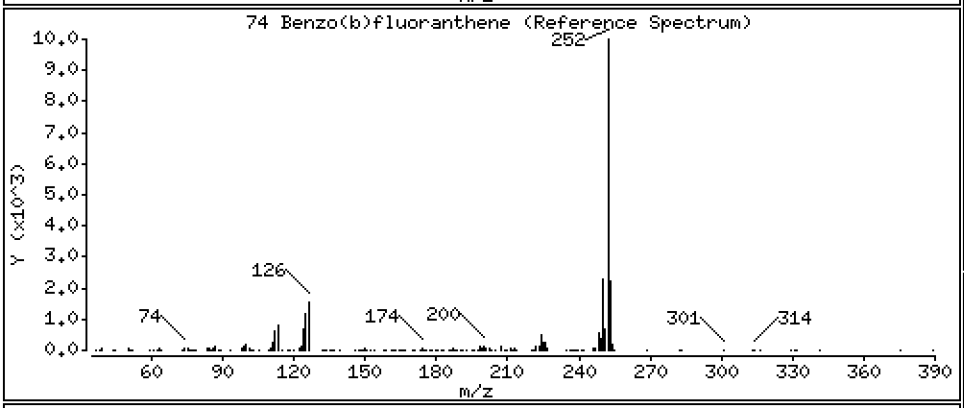
Concentration: 4.280 ug/mL

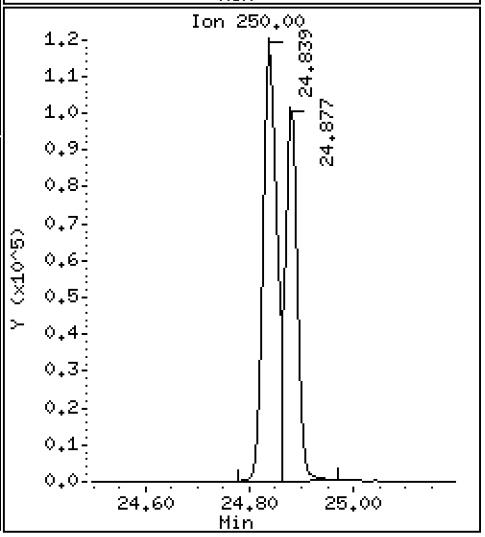


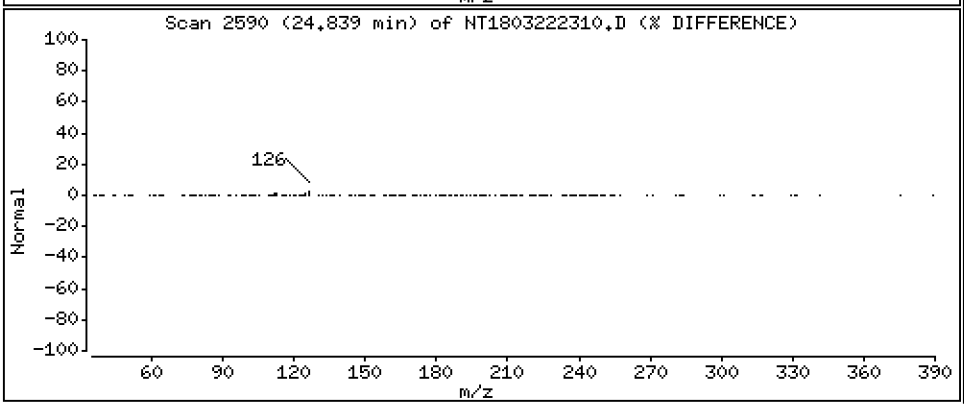












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

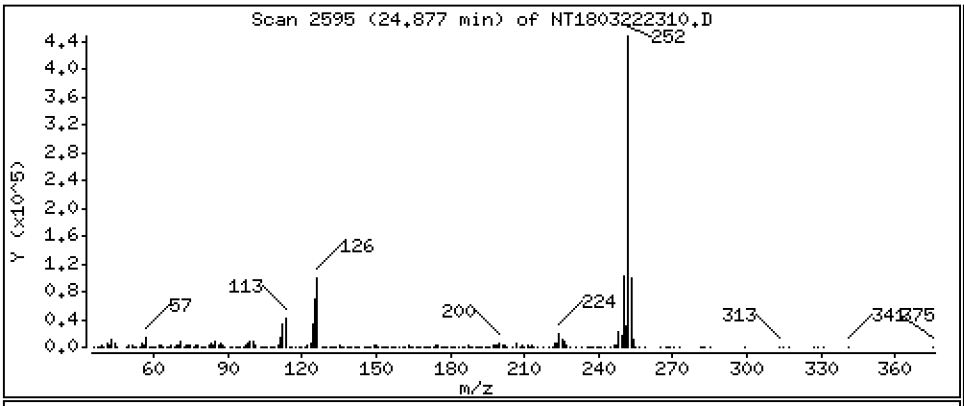
Operator: VTS

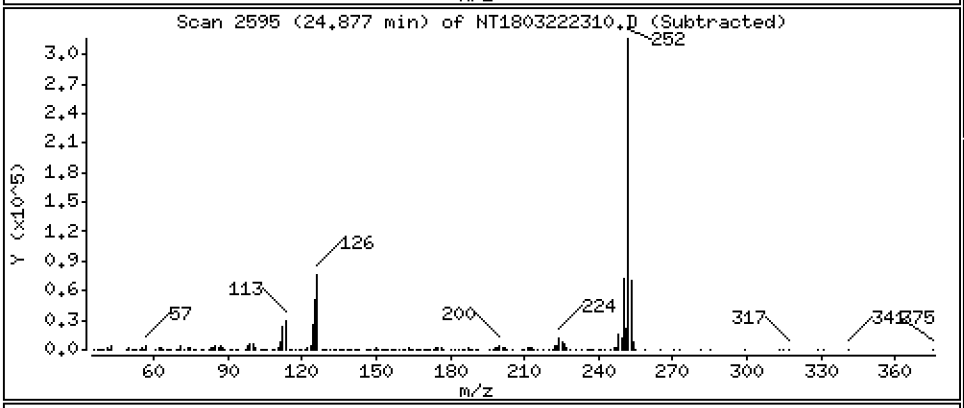
Column phase: ZB-5msi

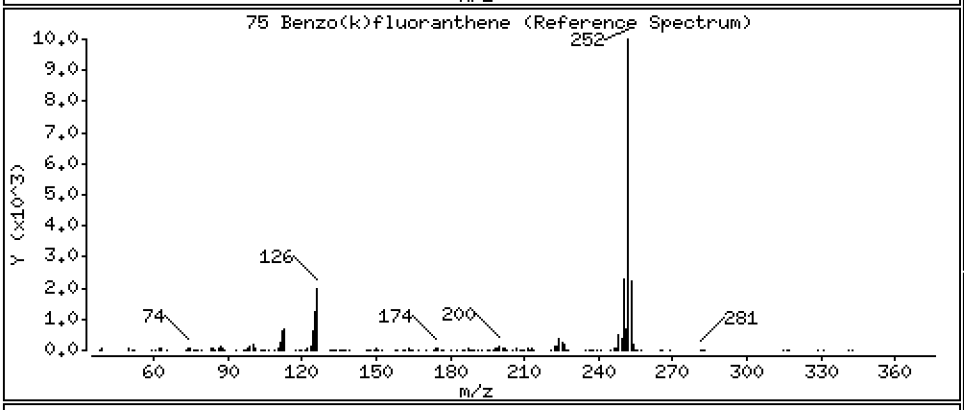
Column diameter: 0.25

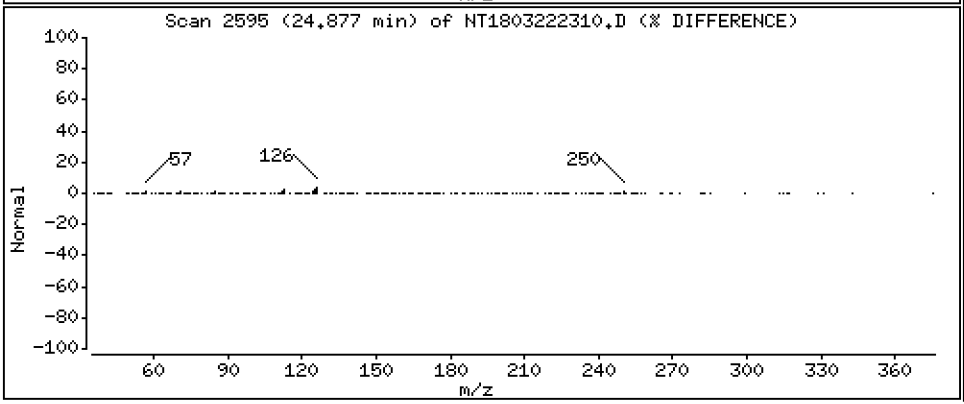
75 Benzo(k)fluoranthene

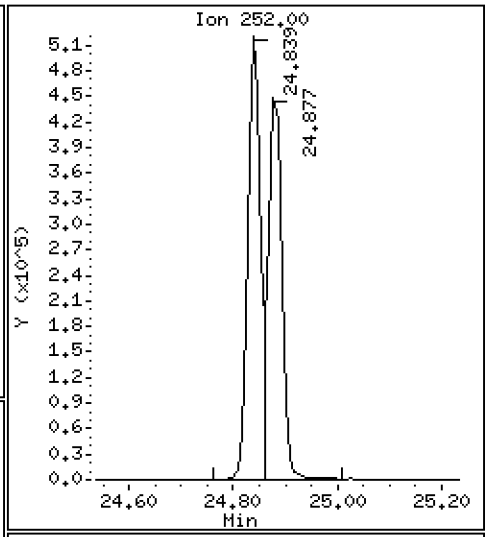
Concentration: 3.237 ug/mL

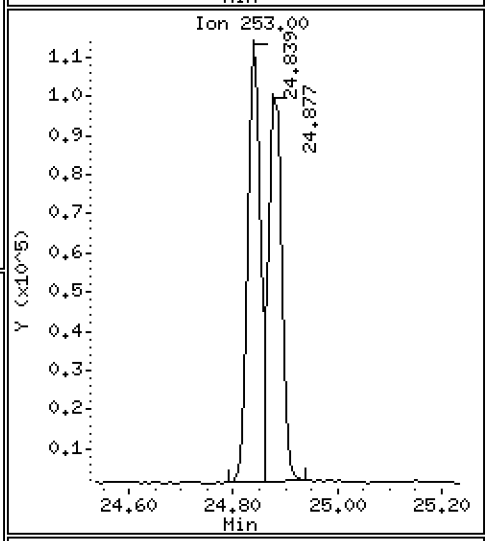


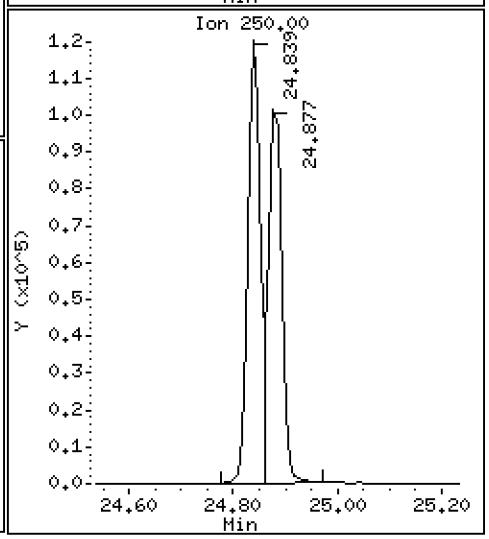












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

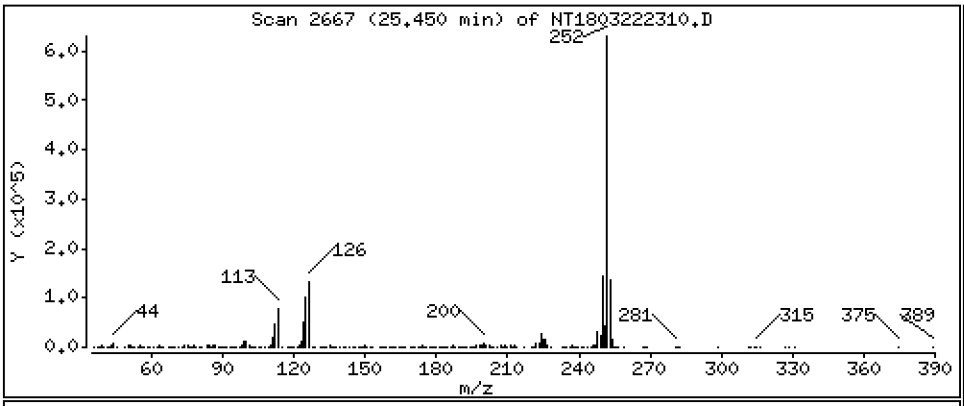
Operator: VTS

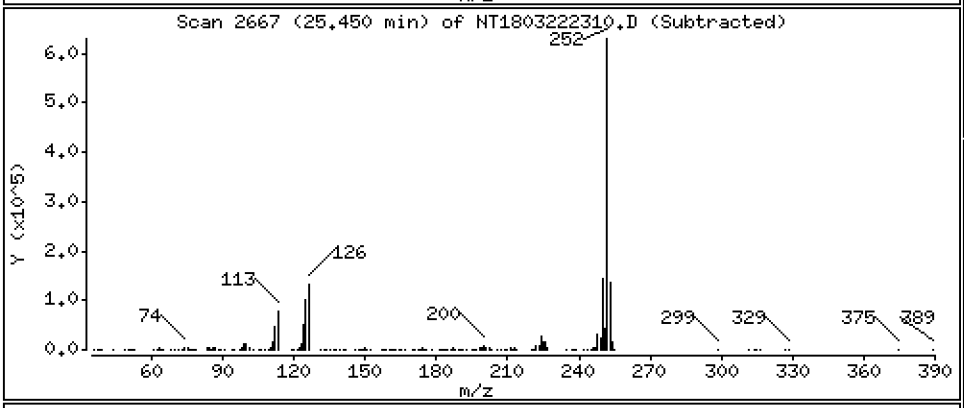
Column phase: ZB-5msi

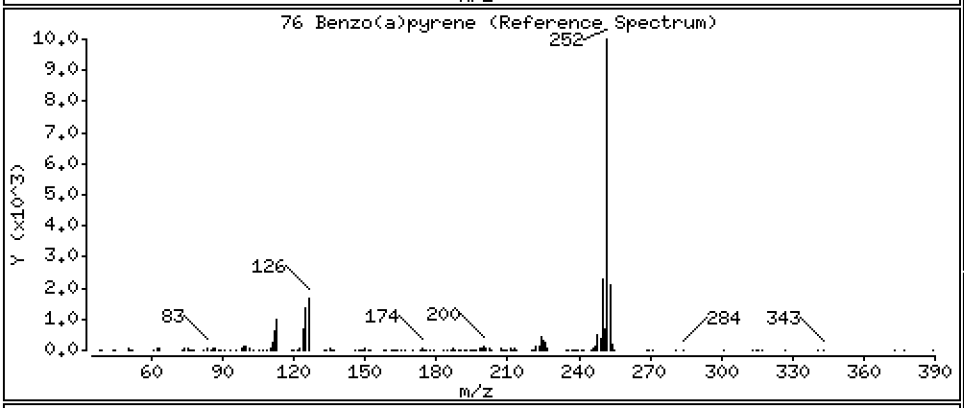
Column diameter: 0.25

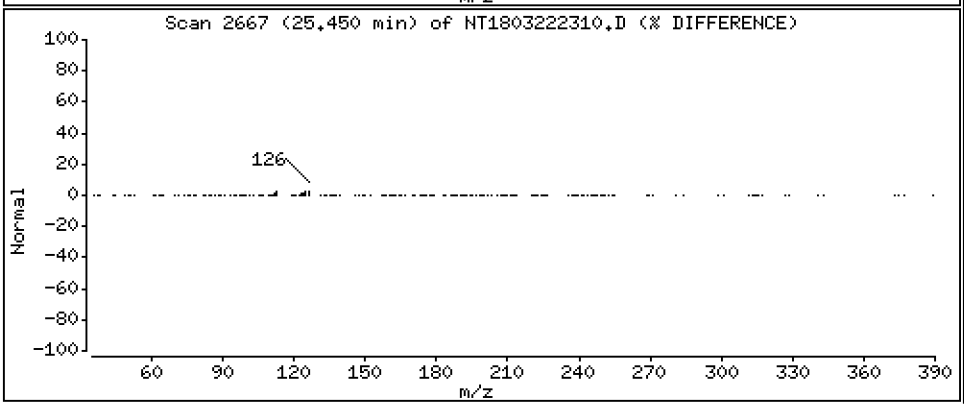
76 Benzo(a)pyrene

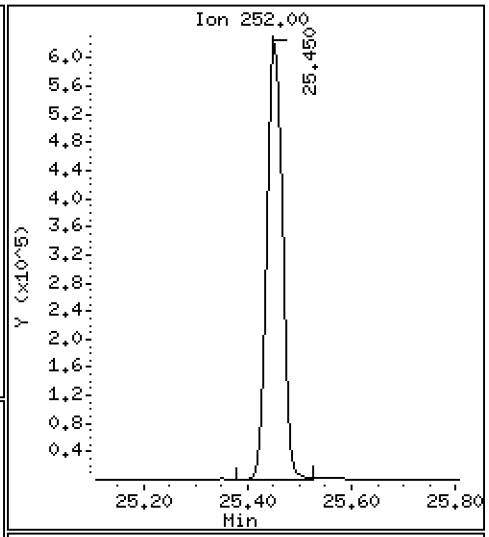
Concentration: 5.628 ug/mL

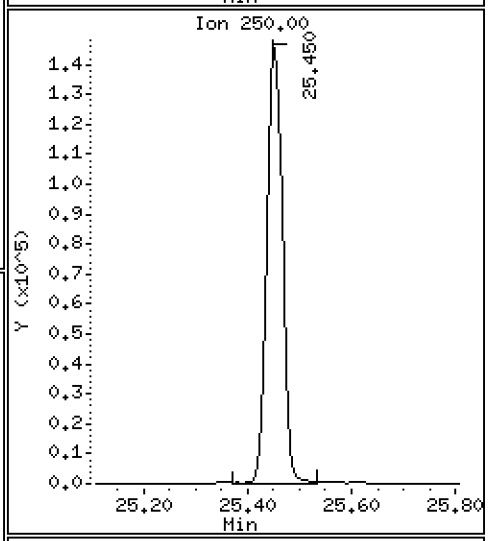


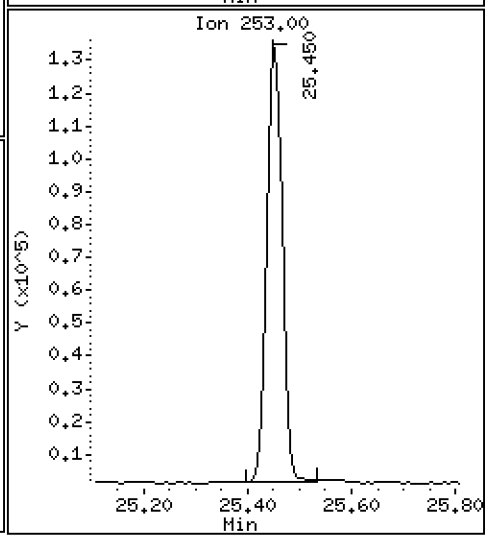












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

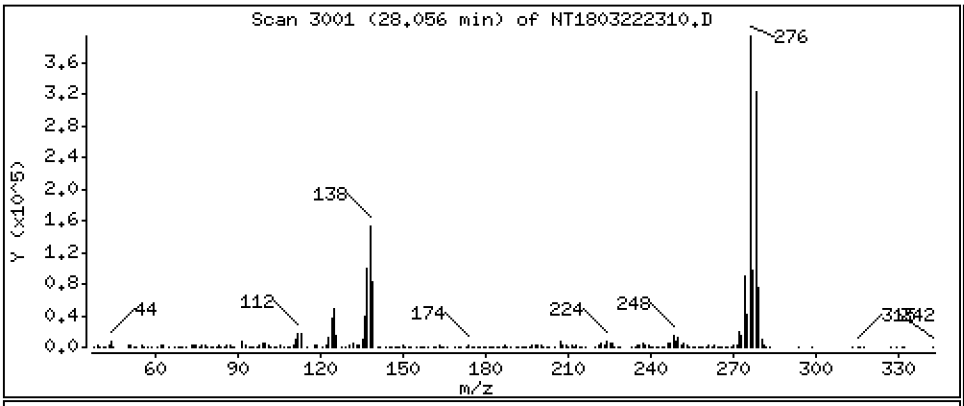
Operator: VTS

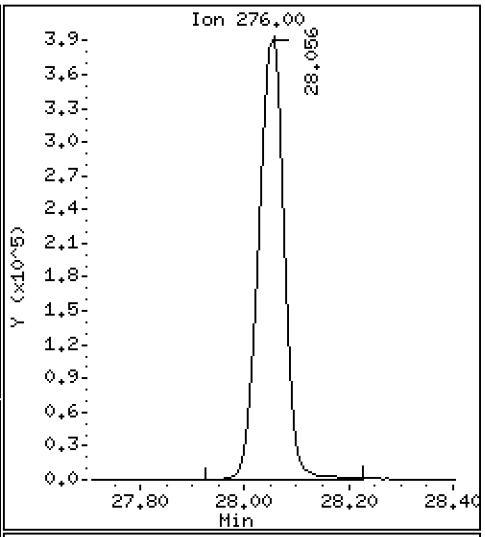
Column phase: ZB-5msi

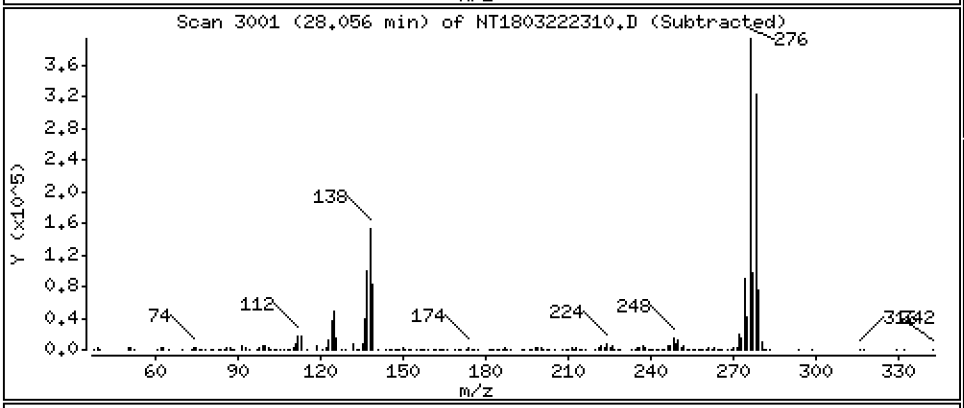
Column diameter: 0.25

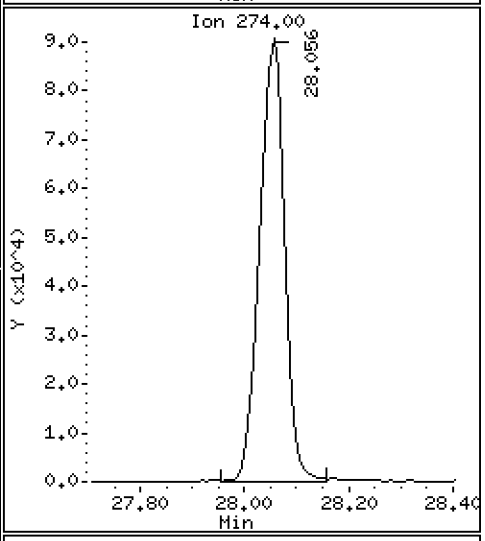
78 Indeno(1,2,3-cd)pyrene

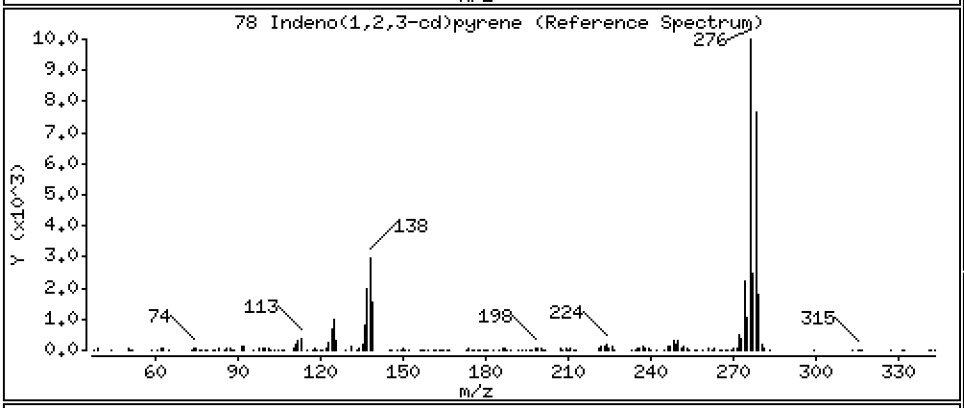
Concentration: 4.621 ug/mL

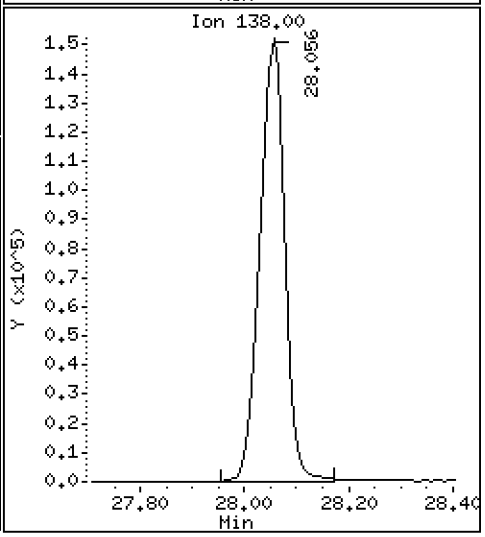


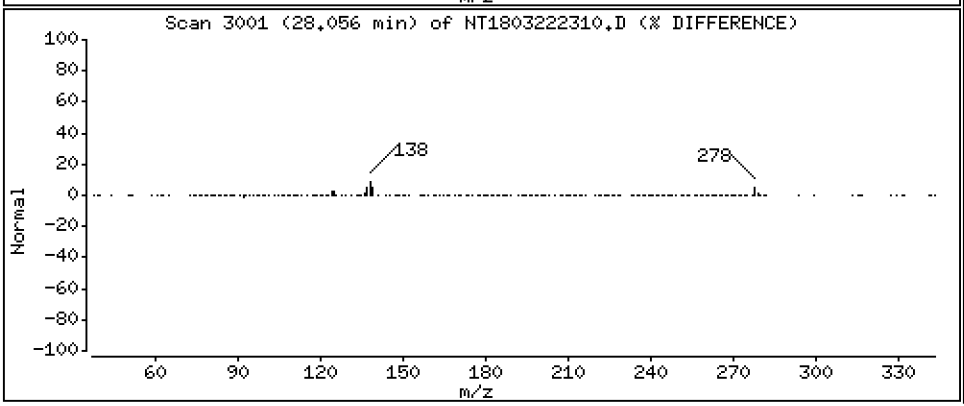












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

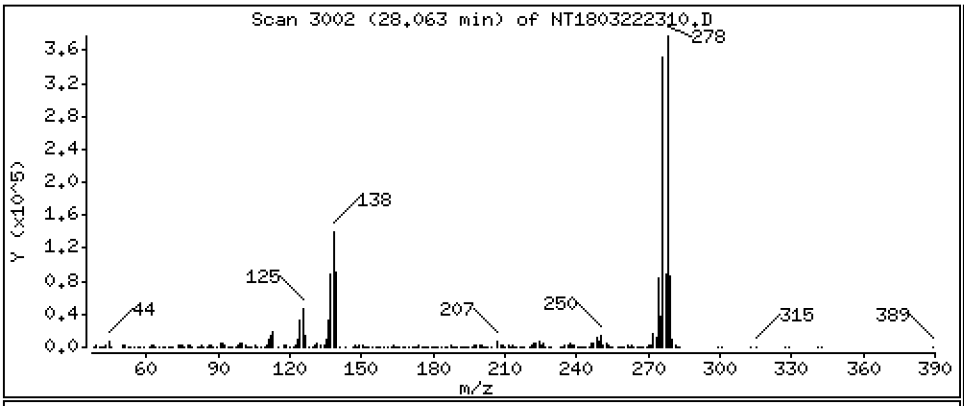
Operator: VTS

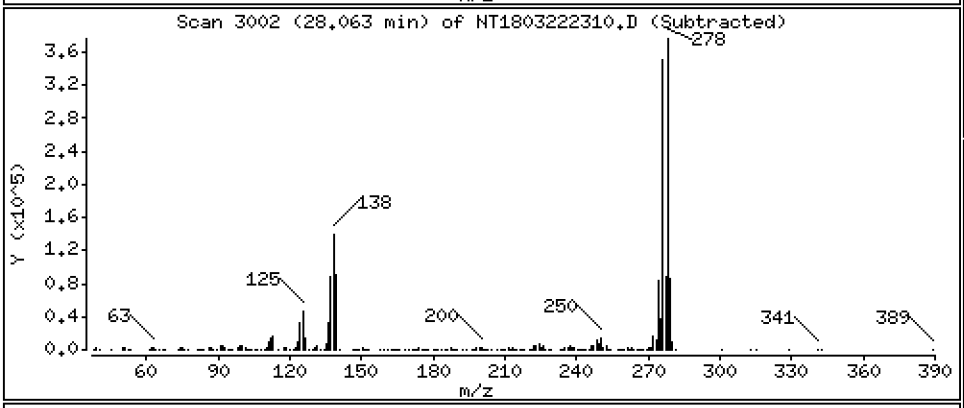
Column phase: ZB-5msi

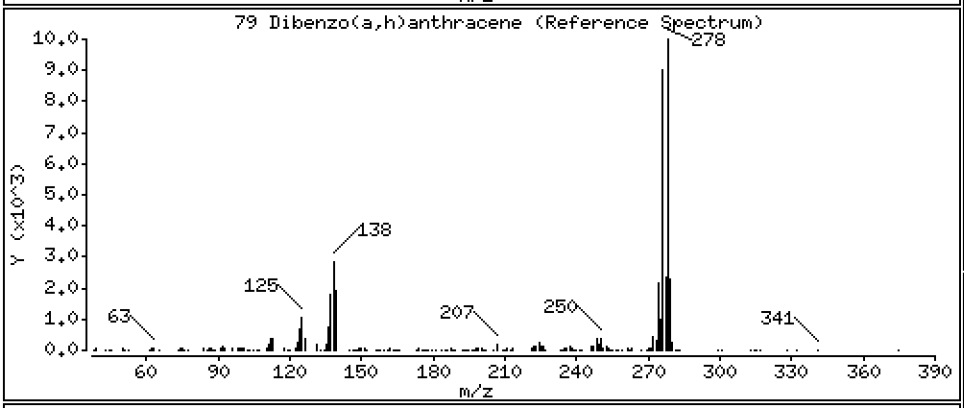
Column diameter: 0.25

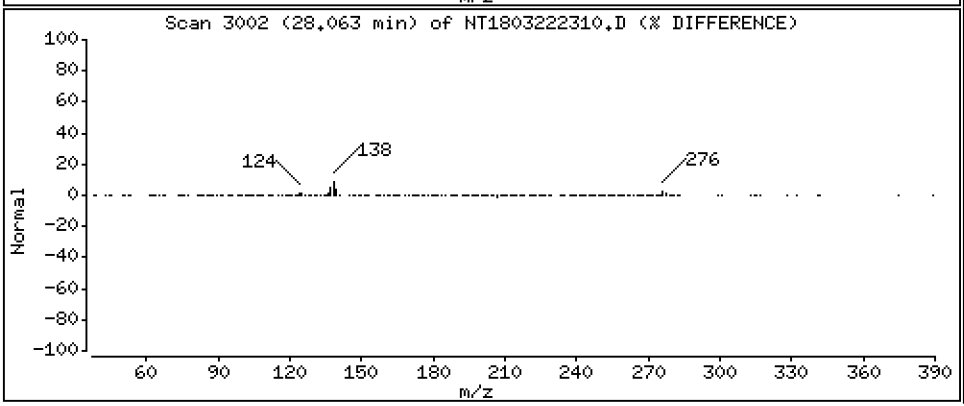
79 Dibenzo(a,h)anthracene

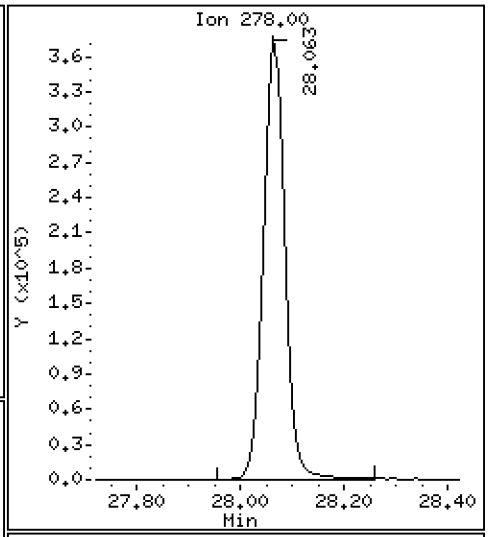
Concentration: 4.460 ug/mL

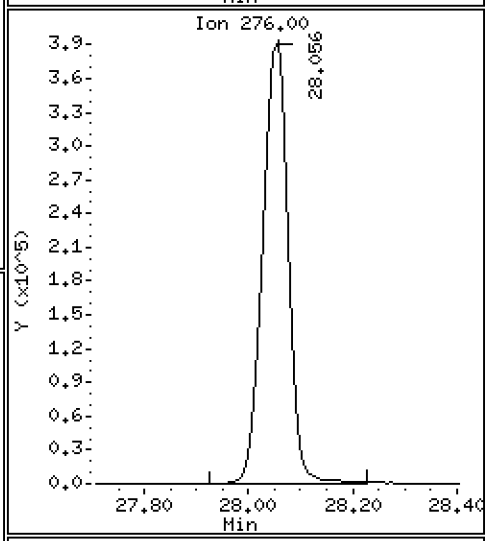


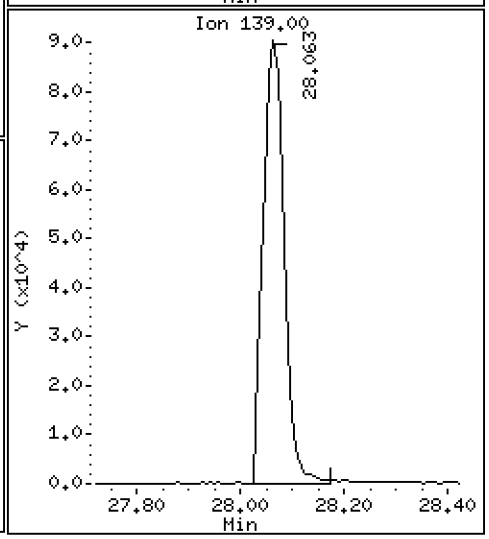












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

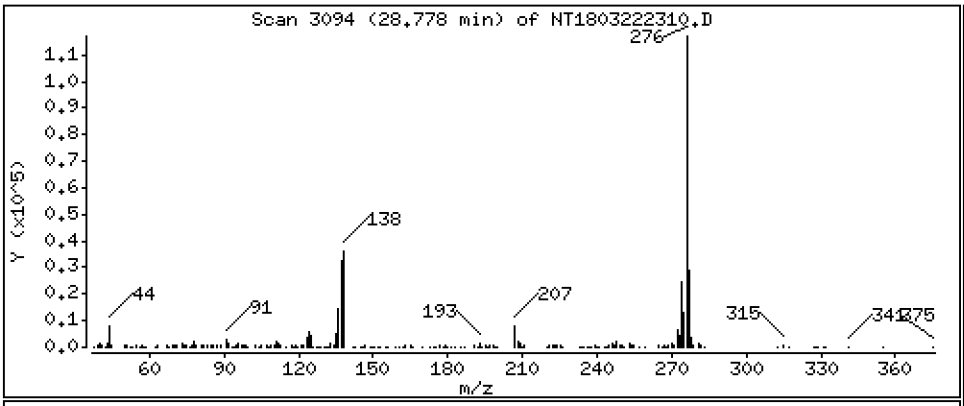
Operator: VTS

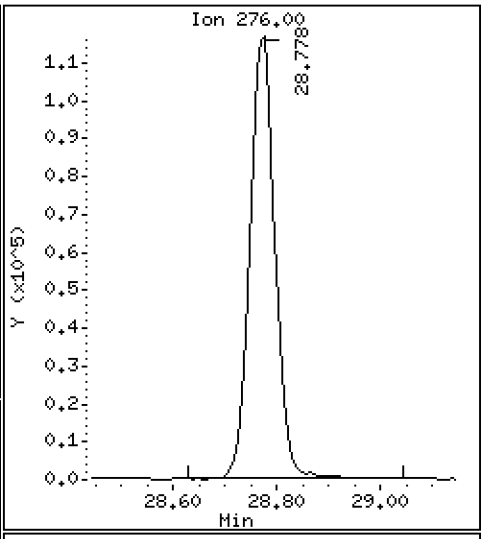
Column phase: ZB-5msi

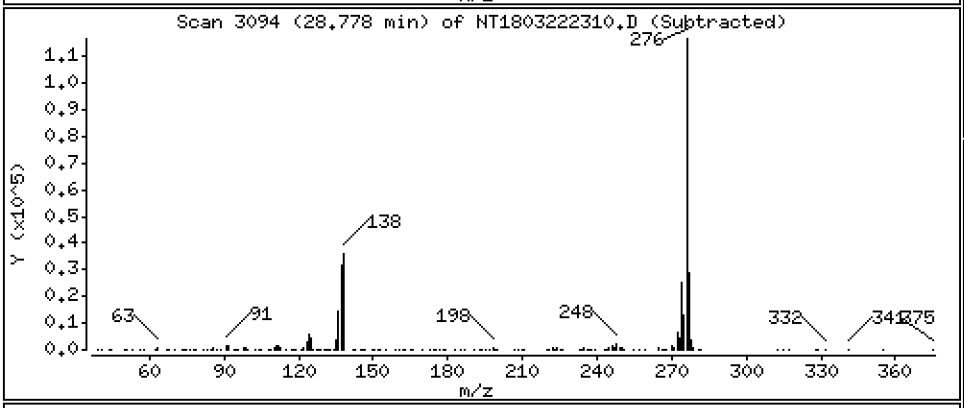
Column diameter: 0.25

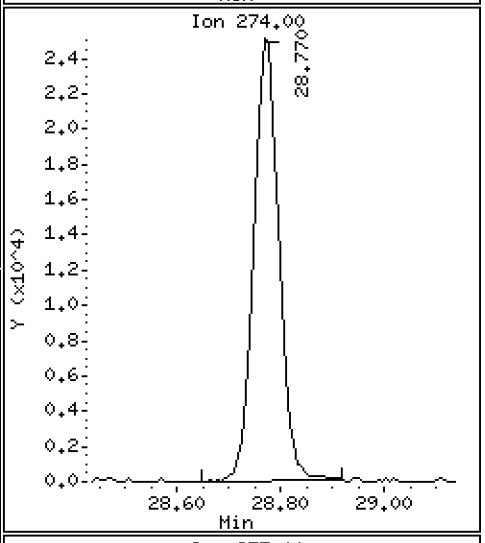
80 Benzo(g,h,i)perylene

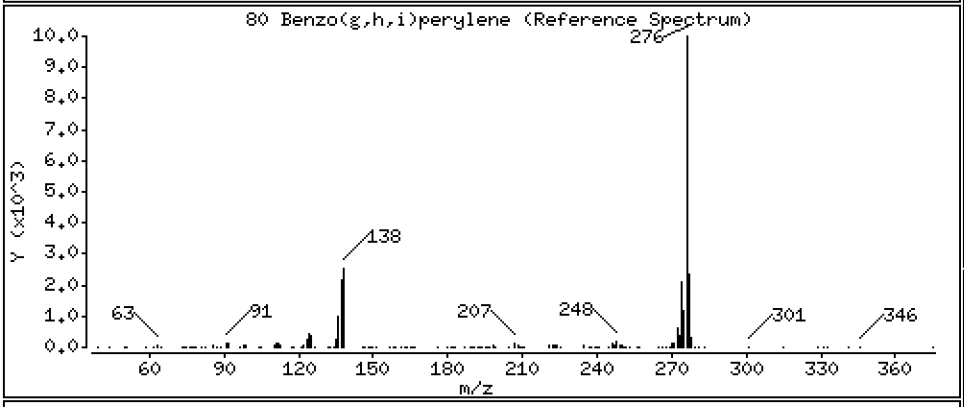
Concentration: 1.775 ug/mL

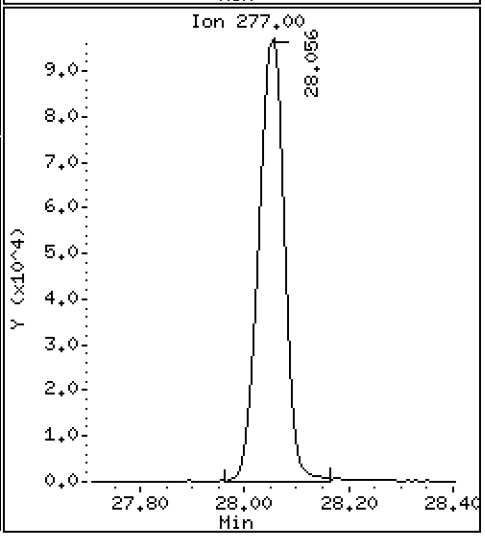


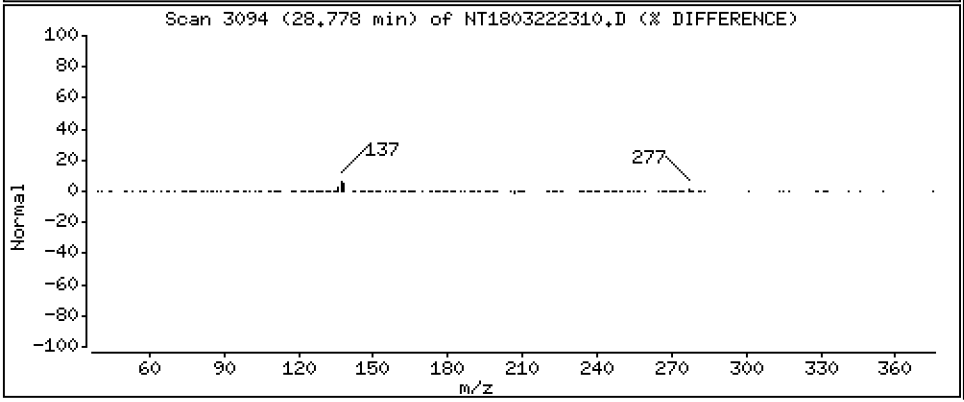












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

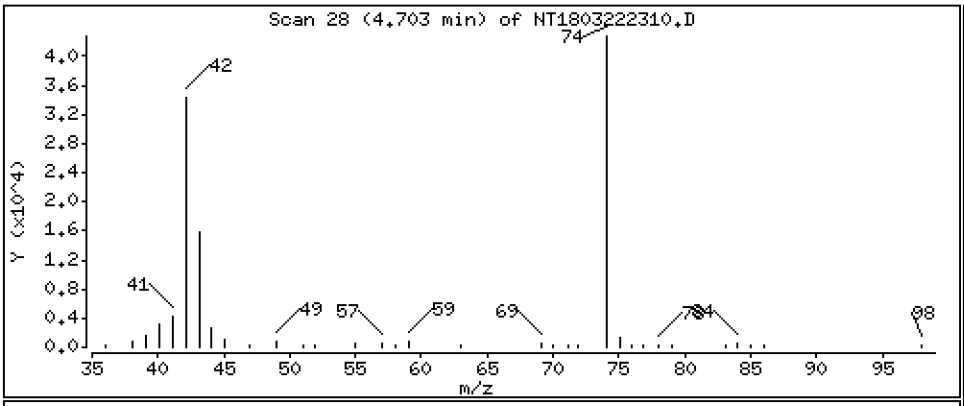
Operator: VTS

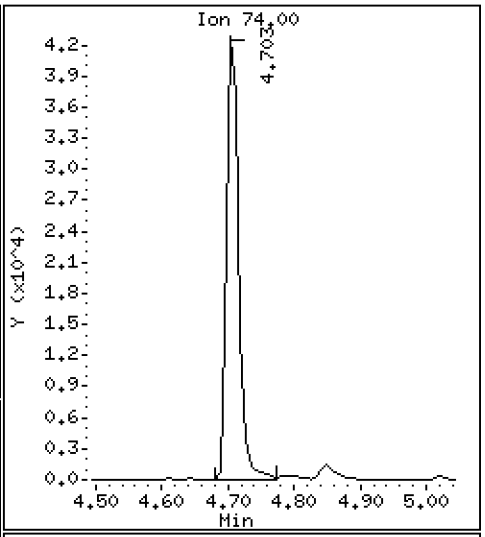
Column phase: ZB-5msi

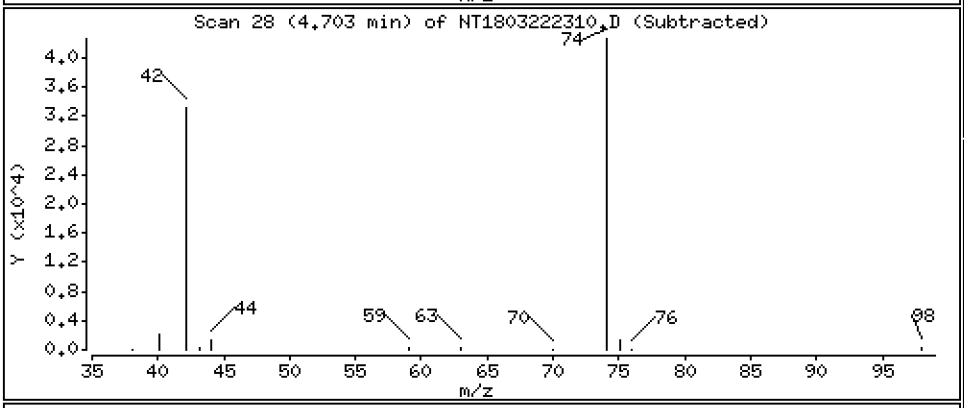
Column diameter: 0.25

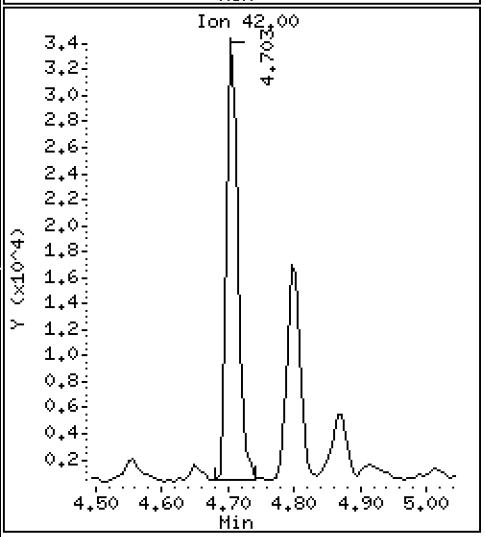
90 N-Nitrosodimethylamine

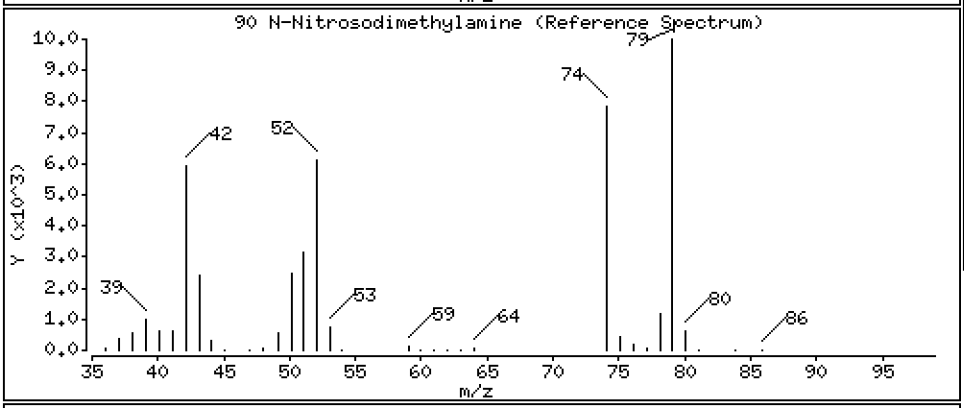
Concentration: 0.9884 ug/mL

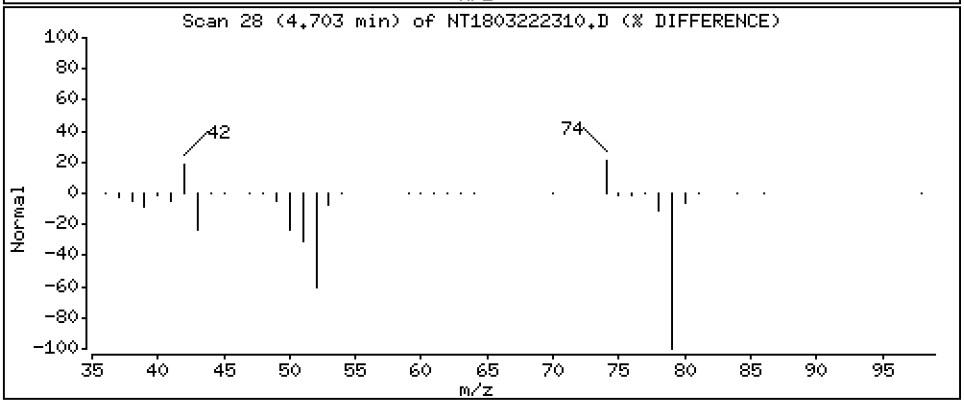












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

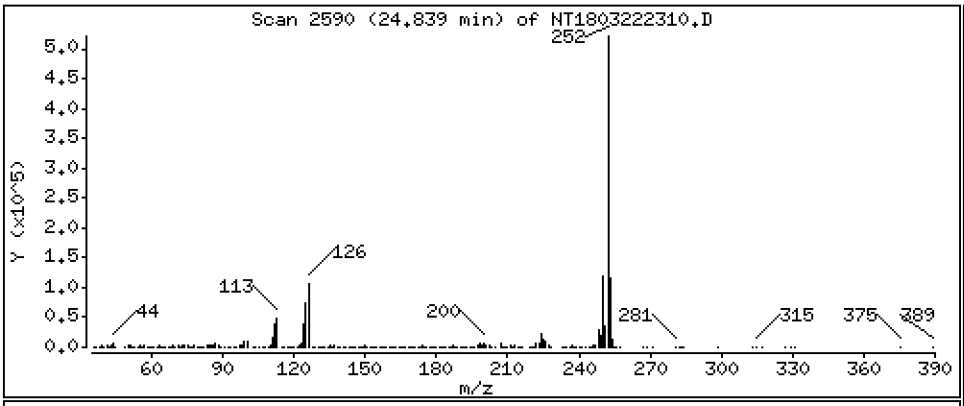
Operator: VTS

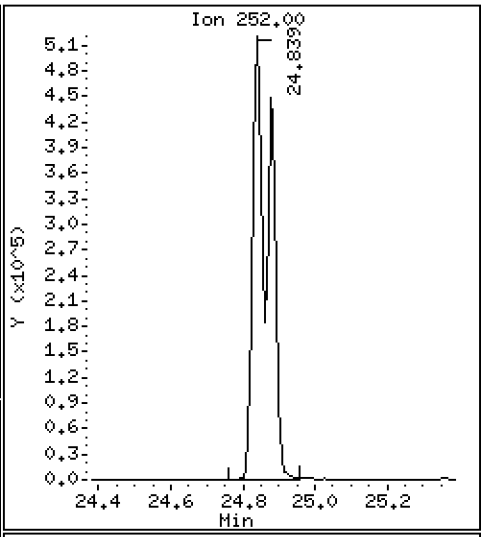
Column phase: ZB-5msi

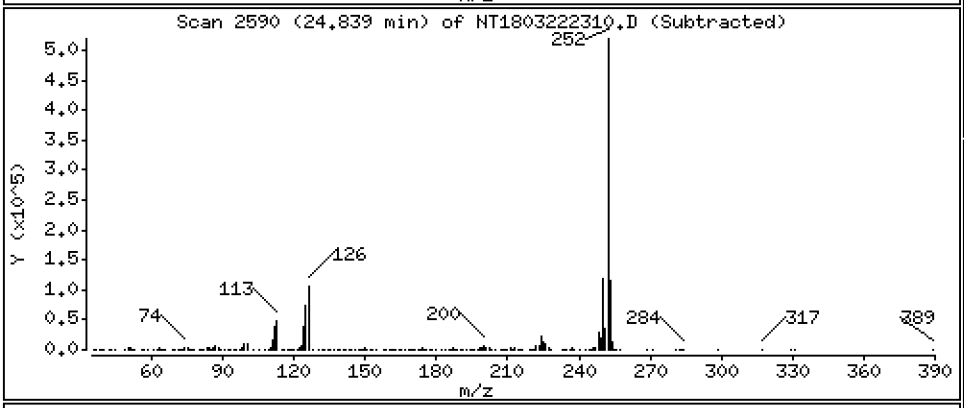
Column diameter: 0.25

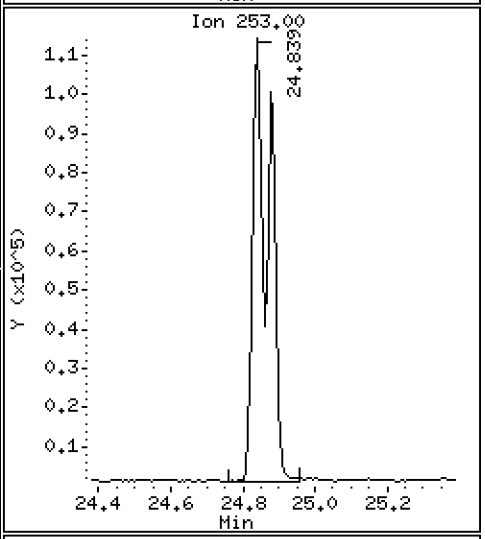
187 Total Benzofluoranthenes

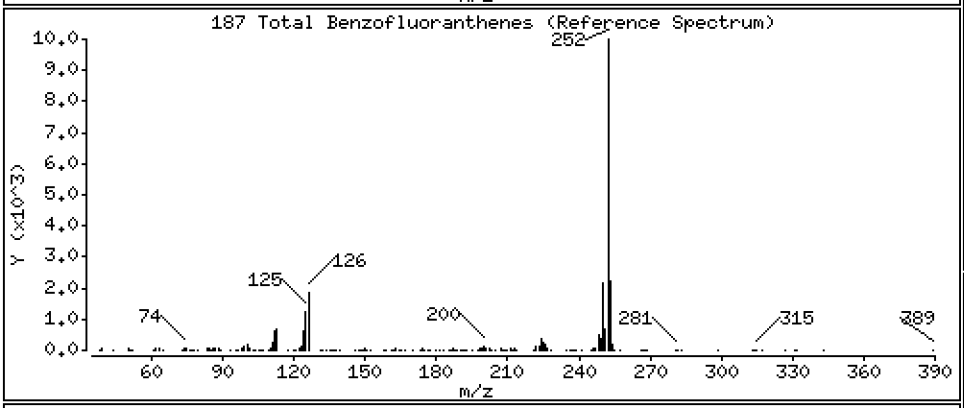
Concentration: 7.443 ug/mL

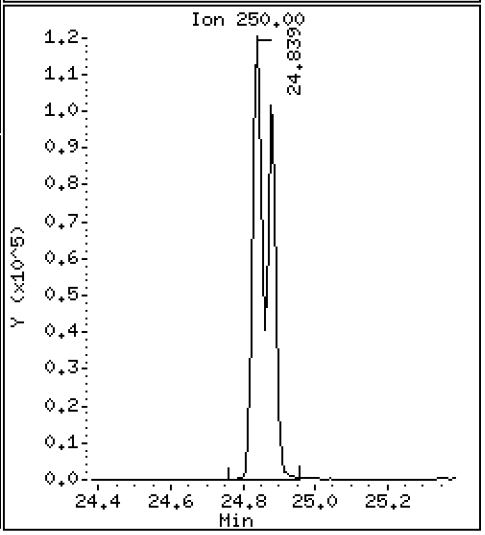


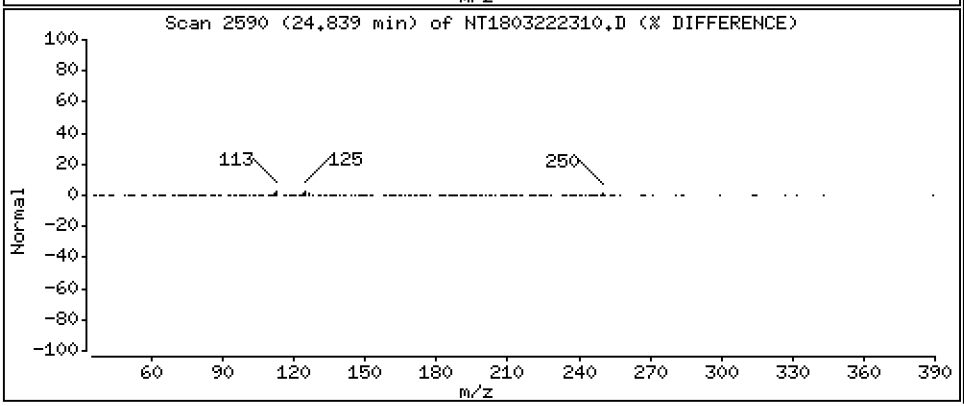












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM1

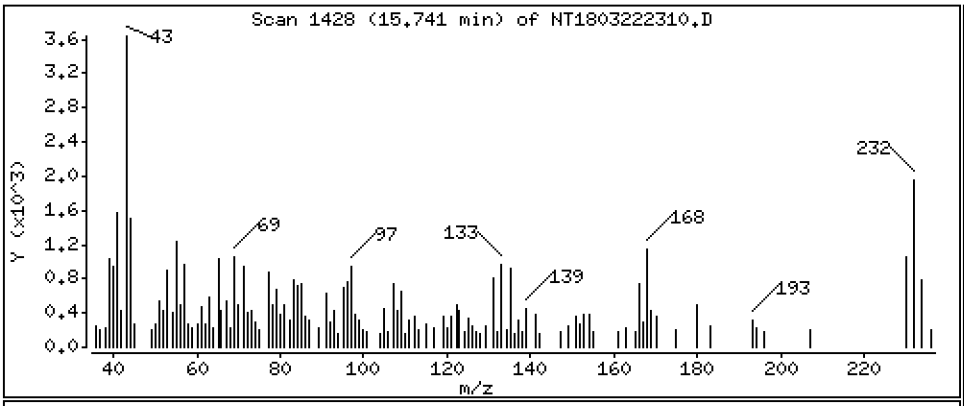
Operator: VTS

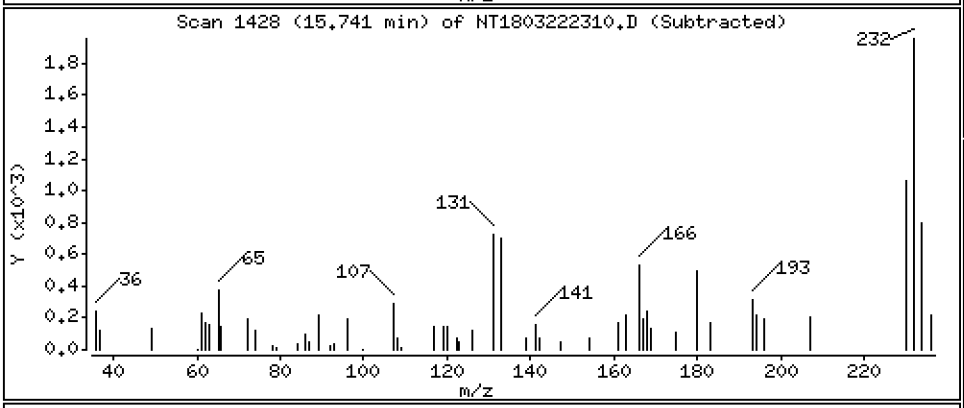
Column phase: ZB-5msi

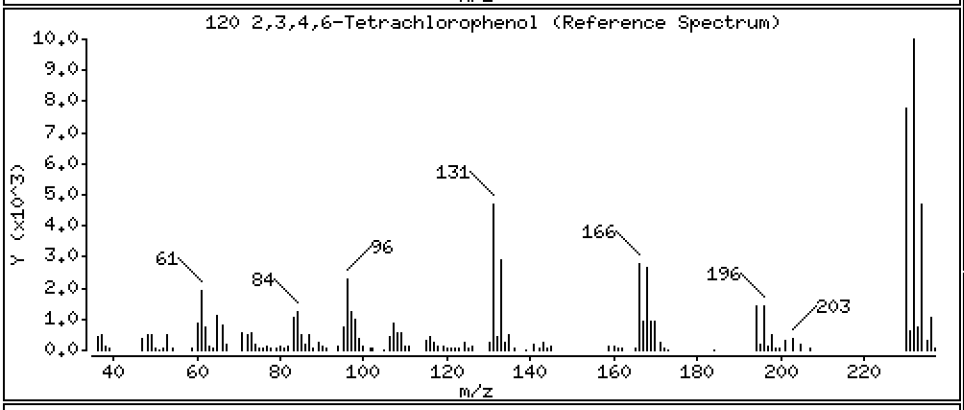
Column diameter: 0.25

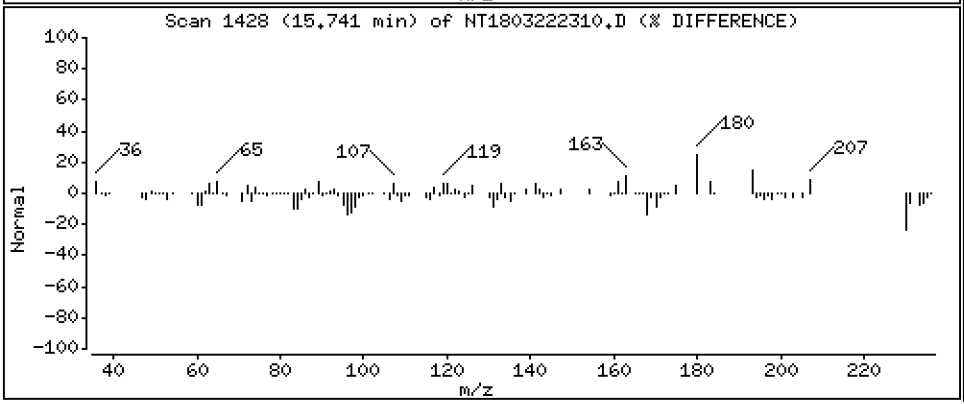
120 2,3,4,6-Tetrachlorophenol

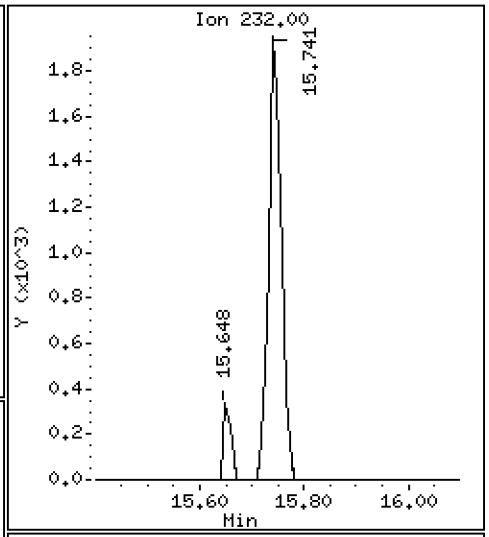
Concentration: 0.05153 ug/mL

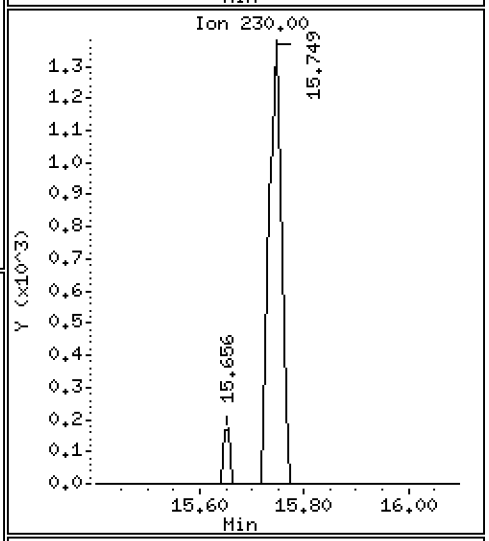


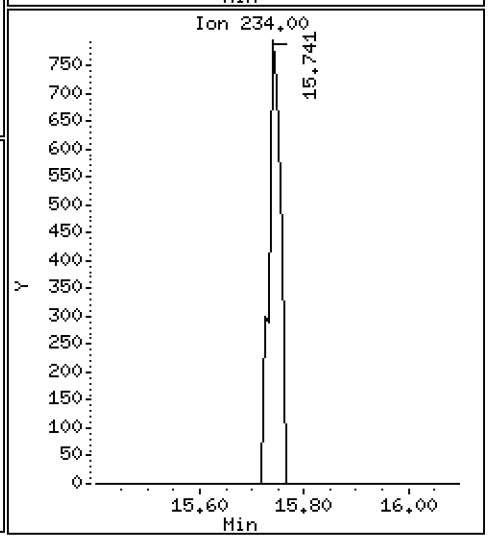












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230322.b\NT1803222310.D
Lab Smp Id: BLC0185-SRM1
Inj Date : 22-MAR-2023 23:22
Operator : VTS Inst ID: nt18.i
Smp Info : BLC0185-SRM1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230322.b\ABN.m
Meth Date : 04-Apr-2023 14:27 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 15:18 Cal File: NT1803192302.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: DEENAY-201905

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.788	6.773	(0.756)	543996	6.14767	6.148
$	2 Phenol-d5	99	8.341	8.341	(0.929)	718508	6.57274	6.573
	3 Phenol	94	8.364	8.364	(0.932)	339185	2.90171	2.902
$	5 2-Chlorophenol-d4	132	8.619	8.619	(0.960)	624683	6.59245	6.592
	4 Bis(2-Chloroethyl)ether	93	Compound Not Detected.					
	6 2-Chlorophenol	128	8.643	8.642	(0.963)	145063	1.45140	1.451(H)
	7 1,3-Dichlorobenzene	146	8.913	8.913	(0.993)	89492	0.84334	0.8433
*	8 1,4-Dichlorobenzene-d4	152	8.975	8.983	(1.000)	287034	4.00000	
	9 1,4-Dichlorobenzene	146	Compound Not Detected.					
$	10 1,2-Dichlorobenzene-d4	152	9.332	9.332	(1.040)	273162	3.92877	3.929
	12 1,2-Dichlorobenzene	146	Compound Not Detected.					
	11 Benzyl alcohol	108	Compound Not Detected.					
	14 2,2'-oxybis(1-Chloropropane)	121	Compound Not Detected.					
	13 2-Methylphenol	108	9.472	9.472	(1.055)	539829	6.08458	6.085
	17 Hexachloroethane	117	Compound Not Detected.					
	16 N-Nitroso-di-n-propylamine	70	Compound Not Detected.					
	15 4-Methylphenol	108	9.736	9.736	(1.085)	709193	7.69786	7.698
$	18 Nitrobenzene-d5	82	10.054	10.062	(0.879)	407241	4.60462	4.605
	19 Nitrobenzene	77	10.093	10.093	(0.882)	253478	2.91532	2.915
	20 Isophorone	82	10.535	10.543	(0.921)	265540	2.23648	2.236
	21 2-Nitrophenol	139	10.719	10.719	(0.937)	313537	6.04887	6.049
	22 2,4-Dimethylphenol	107	10.770	10.778	(0.941)	496928	5.68504	5.685
	23 Bis(2-Chloroethoxy)methane	93	Compound Not Detected.					
	24 Benzoic acid	105	10.880	10.999	(0.951)	41477	0.67238	0.6724
	25 2,4-Dichlorophenol	162	11.169	11.169	(0.976)	681384	8.46957	8.470
	26 1,2,4-Trichlorobenzene	180	11.355	11.355	(0.993)	100175	1.18773	1.188
*	27 Naphthalene-d8	136	11.440	11.439	(1.000)	1072936	4.00000	
	28 Naphthalene	128	11.478	11.478	(1.003)	1086163	3.73053	3.731
	29 4-Chloroaniline	127	Compound Not Detected.					
	30 Hexachlorobutadiene	225	11.841	11.849	(1.035)	82089	1.71164	1.712
	31 4-Chloro-3-methylphenol	107	12.561	12.561	(1.098)	169801	2.29170	2.292
	32 2-Methylnaphthalene	142	Compound Not Detected.					
	33 Hexachlorocyclopentadiene	237	Compound Not Detected.					

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
34	2,4,6-Trichlorophenol	196	13.474	13.482	(0.897)	122815	2.45797	2.458
35	2,4,5-Trichlorophenol	196	13.551	13.551	(0.902)	208537	3.81825	3.818
$ 36	2-Fluorobiphenyl	172	13.644	13.644	(0.908)	860034	4.29965	4.300
37	2-Chloronaphthalene	162	13.846	13.846	(0.922)	363592	2.27857	2.279
38	2-Nitroaniline	65	Compound Not Detected.					
39	Dimethylphthalate	163	14.534	14.542	(0.968)	904146	5.43220	5.432
40	Acenaphthylene	152	14.705	14.712	(0.979)	502943	1.85089	1.851
41	2,6-Dinitrotoluene	165	Compound Not Detected.					
* 42	Acenaphthene-d10	164	15.022	15.022	(1.000)	558573	4.00000	
43	3-Nitroaniline	138	Compound Not Detected.					
44	Acenaphthene	153	15.084	15.091	(1.004)	1006208	5.85021	5.850
45	2,4-Dinitrophenol	184	15.153	15.161	(1.009)	94633	4.29268	4.293
46	Dibenzofuran	168	15.408	15.416	(1.026)	1610710	6.81666	6.817
47	4-Nitrophenol	109	15.261	15.261	(1.016)	186738	8.24628	8.246
48	2,4-Dinitrotoluene	165	Compound Not Detected.					
50	Diethylphthalate	149	15.980	15.988	(1.064)	27199	0.16128	0.1613
49	Fluorene	166	16.120	16.120	(1.073)	855459	3.98831	3.988
51	4-Chlorophenyl-phenylether	204	16.112	16.112	(1.073)	236801	2.48751	2.488
52	4-Nitroaniline	138	Compound Not Detected.					
53	4,6-Dinitro-2-methylphenol	198	16.297	16.305	(0.904)	192048	6.99386	6.994
54	N-Nitrosodiphenylamine	169	16.359	16.359	(0.907)	490840	3.98363	3.984
$ 55	2,4,6-Tribromophenol	330	16.644	16.644	(1.108)	188227	7.43663	7.437
56	4-Bromophenyl-phenylether	248	17.107	17.107	(0.949)	409697	8.38237	8.382
57	Hexachlorobenzene	284	Compound Not Detected.					
58	Pentachlorophenol	266	17.764	17.772	(0.985)	125208	3.81242	3.812
* 59	Phenanthrene-d10	188	18.027	18.035	(1.000)	967277	4.00000	
60	Phenanthrene	178	18.073	18.081	(1.003)	1450835	5.49472	5.495
61	Anthracene	178	18.166	18.166	(1.008)	656368	2.60726	2.607
62	Carbazole	167	18.499	18.499	(1.026)	1573692	7.09883	7.099
63	Di-n-butylphthalate	149	19.311	19.311	(1.071)	553730	1.88484	1.885
64	Fluoranthene	202	20.449	20.456	(0.887)	767545	2.77234	2.772
65	Pyrene	202	20.874	20.874	(0.906)	993608	3.40505	3.405
$ 66	Terphenyl-d14	244	21.168	21.168	(0.918)	1049763	4.83713	4.837
67	Butylbenzylphthalate	149	22.090	22.090	(0.958)	522102	4.17298	4.173
68	Benzo(a)anthracene	228	23.019	23.027	(0.999)	1756966	6.46238	6.462
* 69	Chrysene-d12	240	23.050	23.050	(1.000)	868812	4.00000	
70	3,3'-Dichlorobenzidine	252	Compound Not Detected.					
71	Chrysene	228	23.096	23.096	(1.002)	436820	1.55429	1.554
72	bis(2-Ethylhexyl)phthalate	149	23.112	23.119	(0.960)	603919	2.94226	2.942
* 134	Di-n-octylphthalate-d4	153	24.087	24.087	(1.000)	1411928	4.00000	
73	Di-n-octylphthalate	149	24.095	24.095	(1.000)	995186	2.86480	2.865
74	Benzo(b)fluoranthene	252	24.838	24.846	(0.972)	960089	4.27976	4.280
75	Benzo(k)fluoranthene	252	24.877	24.885	(0.973)	798770	3.23727	3.237
76	Benzo(a)pyrene	252	25.450	25.458	(0.996)	1262972	5.62820	5.628
* 77	Perylene-d12	264	25.558	25.566	(1.000)	805833	4.00000	
78	Indeno(1,2,3-cd)pyrene	276	28.055	28.055	(1.098)	1317108	4.62084	4.621
79	Dibenzo(a,h)anthracene	278	28.063	28.071	(1.098)	1055690	4.45965	4.460
80	Benzo(g,h,i)perylene	276	28.778	28.793	(1.126)	398370	1.77484	1.775(MH)
90	N-Nitrosodimethylamine	74	4.703	4.695	(0.524)	54073	0.98844	0.9884
91	Aniline	93	Compound Not Detected.					
93	Benzidine	184	Compound Not Detected.					
103	Pyridine	79	Compound Not Detected.					
105	1-methylnaphthalene	142	Compound Not Detected.					
111	Azobenzene (1,2-DP-Hydrazine)	77	Compound Not Detected.					

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187 Total Benzofluoranthenes	252	24.838	24.885	(0.972)	1673404	7.44336	7.443
120 2,3,4,6-Tetrachlorophenol	232	15.741	15.748	(1.048)	3150	0.05153	0.05153

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222310.D
Lab Smp Id: BLC0185-SRM1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322.b\ABN.m
Misc Info:

Calibration Date: 22-MAR-2023
Calibration Time: 17:55
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	259918	129959	519836	287034	10.43
27 Naphthalene-d8	969410	484705	1938820	1072936	10.68
42 Acenaphthene-d10	510287	255144	1020574	558573	9.46
59 Phenanthrene-d10	882628	441314	1765256	967277	9.59
69 Chrysene-d12	800073	400037	1600146	868812	8.59
134 Di-n-octylphthala	1258607	629304	2517214	1411928	12.18
77 Perylene-d12	911909	455955	1823818	805833	-11.63

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	-0.09
27 Naphthalene-d8	11.44	10.94	11.94	11.44	0.00
42 Acenaphthene-d10	15.02	14.52	15.52	15.02	0.00
59 Phenanthrene-d10	18.04	17.54	18.54	18.03	-0.04
69 Chrysene-d12	23.05	22.55	23.55	23.05	0.00
134 Di-n-octylphthala	24.09	23.59	24.59	24.09	0.00
77 Perylene-d12	25.57	25.07	26.07	25.56	-0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222310.D

Lab ID: BLC0185-SRM1
nt18.i, ABN.m, 22-MAR-2023 23:22

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.951	0.961	-0.0104	Benzoic acid

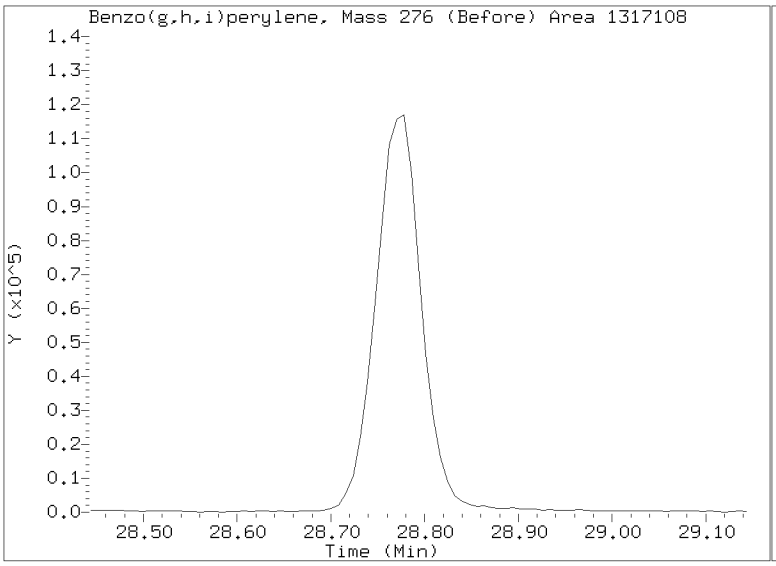
RRT check based on Ccal File: NT1803222302.D

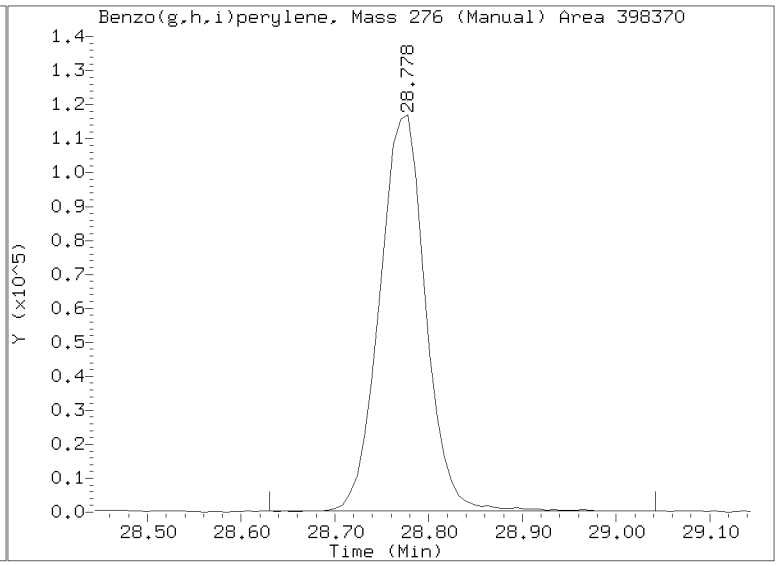
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230322.b/NT1803222310.D
Injection Date: 22-MAR-2023 23:22
Lab ID:BLC0185-SRM1 Client ID:
Report Date: 04/04/2023 14:28





APPROVED

By Deenay Dunmore at 2:45 pm, Apr 04, 2023

Analytical Resources, LLC
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8270E

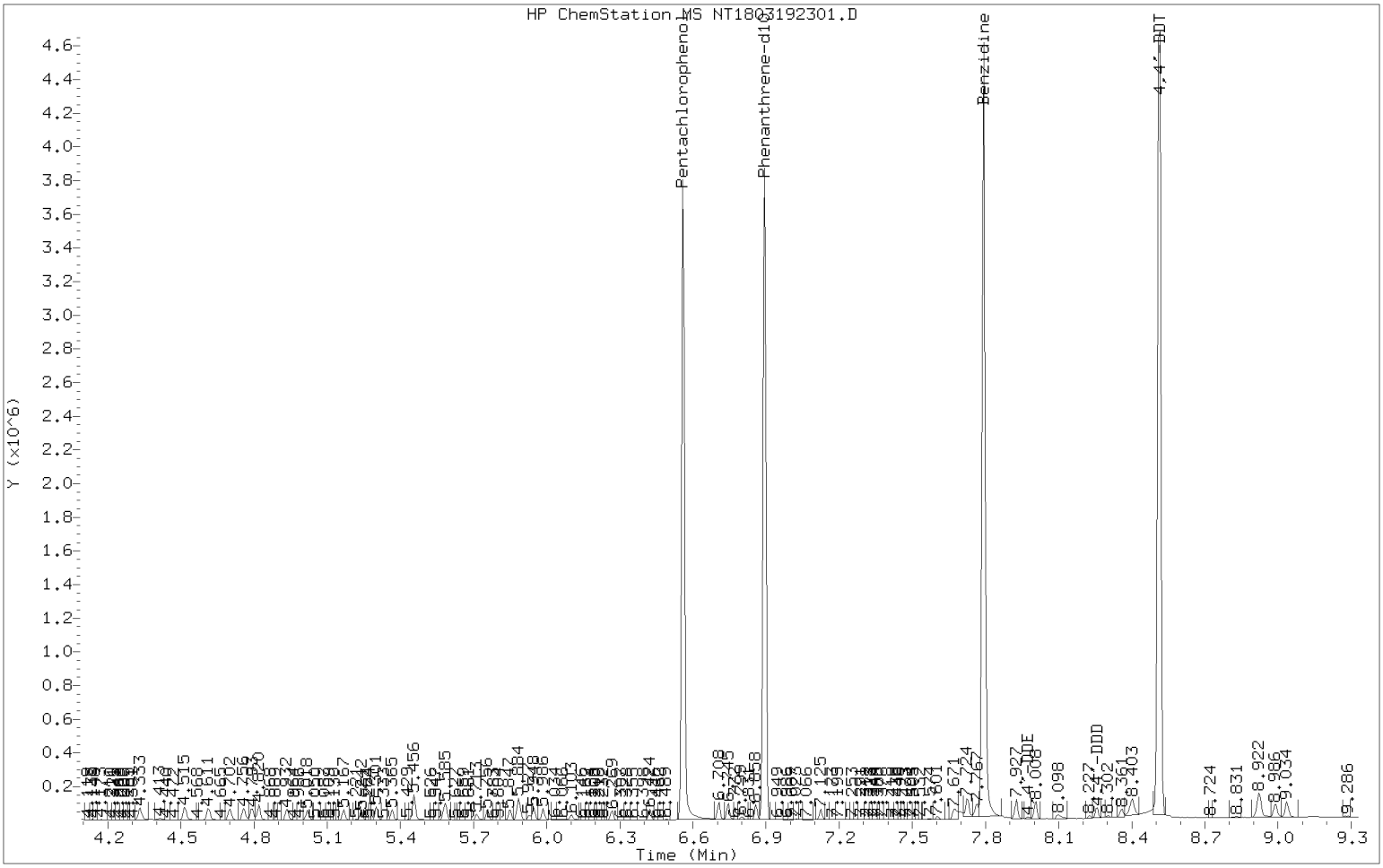
Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Lab File ID:	NT1803192301.D	Injection Date:	03/19/23
Instrument ID:	NT18	Injection Time:	15:00
Sequence:	SLC0502	Lab Sample ID:	SLC0502-TUN1

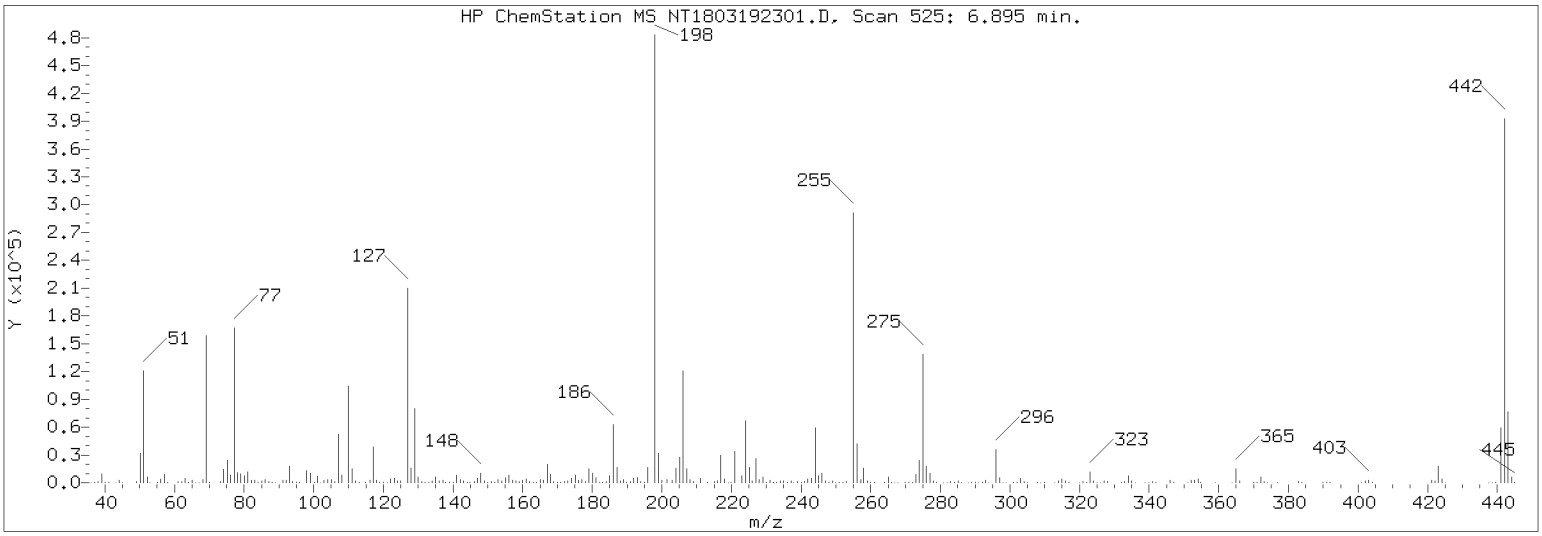
m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
68	Less than 2% of 69	1.17	PASS
69	Less than 100% of 198	35.2	PASS
70	Less than 2% of 69	0.288	PASS
197	Less than 2% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	6.59	PASS
365	1 - 100% of 198	3.1	PASS
441	Less than 150% of 443	78.1	PASS
442	1 - 200% of 198	77.1	PASS
443	15 - 24% of 442	19.2	PASS
4,4'-DDD	Less than 20% of 4,4'-DDT		
4,4'-DDE	Less than 20% of 4,4'-DDT		
4,4'-DDT	Base peak, 100% relative abundance		

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SLC0502-TUN1	NT1803192301.D	03/19/2023	15:00
Cal Standard	SLC0502-CAL7	NT1803192302.D	03/19/2023	15:18
Cal Standard	SLC0502-CAL6	NT1803192303.D	03/19/2023	15:59
Cal Standard	SLC0502-CAL5	NT1803192304.D	03/19/2023	16:40
Cal Standard	SLC0502-CAL4	NT1803192305.D	03/19/2023	17:21
Cal Standard	SLC0502-CAL3	NT1803192306.D	03/19/2023	18:02
Cal Standard	SLC0502-CAL2	NT1803192307.D	03/19/2023	18:43
Cal Standard	SLC0502-CAL1	NT1803192308.D	03/19/2023	19:24
Secondary Cal Check	SLC0502-SCV1	NT1803192311.D	03/19/2023	21:26
Initial Cal Blank	SLC0502-ICB1	NT1803192312.D	03/19/2023	22:06

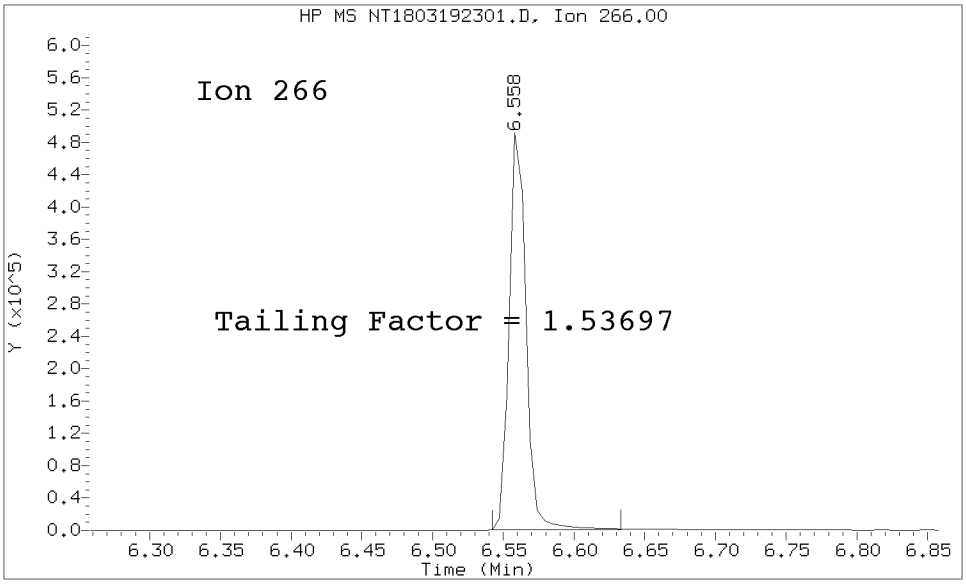
DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20230319.b/NT1803192301.D/NT1803192301.D
Method Used: \20230319.b\DFTPP8270E.m Inst: nt18
Injection Date: 19-MAR-2023 15:00 Operator: VTS
Sample Info: SEQ-TUN1 SEQ-TUN1
Report Date: 03/30/2023 15:26



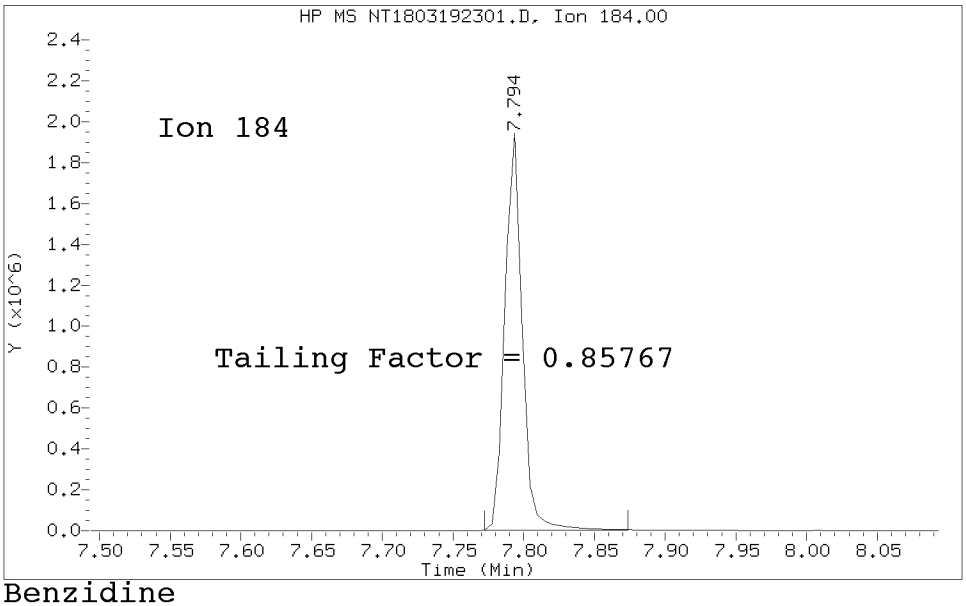


Datafile Analyzed: /20230319.b/NT1803192301.D/NT1803192301.D
Method Used: \20230319.b\DFTPP8270E.m\sw846ddt.m Inst: nt18
Injection Date: 19-MAR-2023 15:00 Operator: JGR
Sample Info: SEQ-TUN1
Report Date: 03/30/2023 15:26



Pentachlorophenol
==========
 Exp. RT = 6.558
Found RT = 6.558

Tail Factor = 1.537 Maximum Allowed = 2.0



Benzidine
==========
 Exp. RT = 7.794
Found RT = 7.794

Tail Factor = 0.858 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	1.5369718	2.000	PASS
Benzidine	0.8576687	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	917001			N/A
4,4-DDE	1172	0.1	20.0	PASS
4,4-DDD	10228	1.1	20.0	PASS
4,4-DDD + DDE	11400	1.2	20.0	PASS

Tuning Sample, nt18.i/20230319.b/NT1803192301.D, *** PASSED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
68	Less than 2.00% of mass 69	0.41 (1.17)
69	Mass 69 relative abundance	35.23
70	Less than 2.00% of mass 69	0.10 (0.29)
197	Less than 2.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.59
365	1.00 - 100.00% of mass 198	3.10
441	Less than 150.00% of mass 443	11.57 (78.15)
442	Less than 200.00% of mass 198	77.08
443	15.00 - 24.00% of mass 442	14.81 (19.21)

Data File: NT1803192301.D
Spectrum: Avg. Scans 524-526 (6.90), Background Scan 520
Location of Maximum: 198.00
Number of points: 309

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	121	125.00	1821	207.00	11135	295.00	329
37.00	500	127.00	163840	208.00	2805	296.00	26432
38.00	1245	128.00	12270	209.00	838	297.00	3716
39.00	7544	129.00	62072	211.00	3818	298.00	259
40.00	120	130.00	4849	213.00	193	299.00	64
41.00	100	131.00	992	215.00	881	301.00	417
43.00	67	132.00	615	216.00	1995	302.00	544
45.00	246	133.00	331	217.00	22552	303.00	3131
49.00	756	134.00	1761	218.00	2969	304.00	890
50.00	25768	135.00	4696	219.00	219	305.00	116
51.00	98952	136.00	1871	220.00	205	308.00	407
52.00	4822	137.00	2367	221.00	24104	309.00	177
53.00	263	138.00	376	223.00	5616	310.00	358
55.00	499	140.00	307	224.00	50896	313.00	172
56.00	3297	141.00	6738	225.00	12515	314.00	1264
57.00	7143	142.00	2782	226.00	1344	315.00	3056
58.00	291	143.00	1679	227.00	19752	316.00	1708
61.00	1370	144.00	534	228.00	2739	317.00	368
62.00	1420	145.00	421	229.00	4385	320.00	68
63.00	3824	146.00	1318	230.00	646	321.00	914
64.00	531	147.00	3639	231.00	1861	322.00	398
65.00	2235	148.00	7832	232.00	323	323.00	8720
66.00	98	149.00	1713	233.00	389	324.00	1632
67.00	77	150.00	476	234.00	1428	325.00	102
68.00	1506	151.00	1012	235.00	1512	326.00	193
69.00	128752	152.00	586	236.00	905	327.00	1786
70.00	371	153.00	2301	237.00	1602	328.00	901
72.00	57	154.00	1869	238.00	238	332.00	512
73.00	1015	155.00	4153	239.00	924	333.00	904
74.00	11313	156.00	6541	240.00	600	334.00	5260
75.00	19080	157.00	1566	241.00	1166	335.00	1536
76.00	6534	158.00	1474	242.00	3034	336.00	141
77.00	134464	159.00	1049	243.00	3206	339.00	80
78.00	8968	160.00	2372	244.00	43488	340.00	122
79.00	7701	161.00	3521	245.00	5633	341.00	1078
80.00	6286	162.00	1097	246.00	7685	342.00	204
81.00	8997	163.00	278	247.00	1682	346.00	1849
82.00	2343	164.00	557	248.00	317	347.00	344
83.00	2309	165.00	2816	249.00	1497	351.00	72
84.00	44	166.00	801	250.00	261	352.00	2497
85.00	1538	167.00	8878	251.00	348	353.00	1762
86.00	2357	168.00	6863	252.00	328	354.00	2672
87.00	1241	169.00	1320	253.00	921	355.00	504
88.00	510	170.00	540	255.00	215360	359.00	82
89.00	269	171.00	704	256.00	30688	364.00	168
91.00	2180	172.00	1234	257.00	2431	365.00	11323
92.00	2154	173.00	1872	258.00	11553	366.00	1511
93.00	14566	174.00	3365	259.00	1716	370.00	147
94.00	977	175.00	6401	260.00	396	371.00	589

95.00	170	176.00	2322	261.00	386	372.00	4312
96.00	802	177.00	2835	264.00	303	373.00	1006
97.00	209	178.00	915	265.00	4352	374.00	83
98.00	11227	179.00	11889	266.00	561	377.00	63
99.00	8764	180.00	7952	267.00	67	383.00	1088
100.00	795	181.00	4025	268.00	70	384.00	298
101.00	5504	182.00	752	270.00	296	390.00	599
102.00	329	183.00	431	271.00	435	391.00	328
103.00	1952	184.00	882	272.00	530	392.00	273
104.00	3328	185.00	5780	273.00	6856	401.00	213
105.00	2907	186.00	47296	274.00	17064	402.00	1482
106.00	941	187.00	12810	275.00	99032	403.00	2083
107.00	41200	188.00	1425	276.00	13034	404.00	794
108.00	6493	189.00	2487	277.00	7630	421.00	1834
109.00	203	190.00	481	278.00	1267	422.00	1840
110.00	83096	191.00	1220	279.00	211	423.00	13286
111.00	11519	192.00	3843	281.00	54	424.00	3047
112.00	1525	193.00	4363	282.00	104	425.00	306
113.00	356	194.00	880	283.00	954	437.00	66
115.00	185	195.00	690	284.00	649	438.00	87
116.00	2358	196.00	13260	285.00	1495	439.00	346
117.00	30504	198.00	365440	286.00	212	441.00	42288
118.00	2310	199.00	24096	288.00	71	442.00	281664
119.00	353	200.00	2074	289.00	381	443.00	54112
120.00	503	201.00	2296	290.00	324	444.00	4487
121.00	205	203.00	1957	291.00	53	445.00	294
122.00	2775	204.00	12144	292.00	420		
123.00	4014	205.00	21040	293.00	1979		
124.00	1725	206.00	90016	294.00	326		

INITIAL CALIBRATION DATA

EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GC00085	Instrument:	NT18
Calibration Date:	03/19/2023	Column (1):	ZB-5MS

Calibration Comments: ABN PSDDA
vts: Added 625.1 analysis to calibration

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	Conc	RRF	Conc	**RRF**	Conc	RRF	Conc	RRF	Conc	**RRF**	Conc	**RRF**
Phenol	0.2	1.47106	0.5	1.684556	1	1.592118	2.5	1.741783	5	1.602046	10	1.708352
bis(2-chloroethyl) ether	0.2	1.099266	0.5	1.210796	1	1.090334	2.5	1.198392	5	1.077487	10	1.138784
2-Chlorophenol	0.2	1.181078	0.5	1.416896	1	1.313239	2.5	1.499362	5	1.364605	10	1.587451
1,3-Dichlorobenzene	0.2	1.434493	0.5	1.589217	1	1.464886	2.5	1.556601	5	1.403344	10	1.476847
1,4-Dichlorobenzene	0.2	1.448825	0.5	1.57798	1	1.455514	2.5	1.56118	5	1.389471	10	1.496447
1,2-Dichlorobenzene	0.2	1.481984	0.5	1.545684	1	1.393035	2.5	1.510858	5	1.374758	10	1.47184
Benzyl Alcohol	0.2	0.566716	0.5	0.7253374	1	0.7028055	2.5	0.8381457	5	0.7847125	10	0.8627811
2,2'-Oxybis(1-chloropropane)	0.2	0.3264718	0.5	0.3788825	1	0.3251297	2.5	0.3917082	5	0.3171337	10	0.3340776
2-Methylphenol	0.2	1.073623	0.5	1.273443	1	1.194657	2.5	1.322055	5	1.219807	10	1.307531
Hexachloroethane	0.2	0.5347196	0.5	0.6096327	1	0.5542984	2.5	0.6070423	5	0.5695701	10	0.6037809
N-Nitroso-di-n-Propylamine	0.2	0.7523416	0.5	0.9136417	1	0.8410117	2.5	0.954087	5	0.8700522	10	0.9291372
4-Methylphenol	0.2	1.059987	0.5	1.316417	1	1.215916	2.5	1.405142	5	1.283394	10	1.370986
Nitrobenzene	0.2	0.2681729	0.5	0.3331604	1	0.3123946	2.5	0.3588464	5	0.3312632	10	0.3422634
Isophorone	0.2	0.3279516	0.5	0.4253469	1	0.4097264	2.5	0.4944146	5	0.4491605	10	0.5085903
2-Nitrophenol	0.2	0.083382	0.5	0.1128352	1	0.1083209	2.5	0.1669532	5	0.1750293	10	0.2048338
2,4-Dimethylphenol			1	0.3324279	2	0.3120996	5	0.3436948	10	0.3188443	20	0.336799
Bis(2-Chloroethoxy)methane	0.2	0.3002928	0.5	0.3304834	1	0.3202555	2.5	0.3456751	5	0.3111612	10	0.3216584
2,4-Dichlorophenol			1	0.2926478	2	0.285603	5	0.3237751	10	0.3109539	20	0.2993549
1,2,4-Trichlorobenzene	0.2	0.3135544	0.5	0.3290446	1	0.3063758	2.5	0.3290971	5	0.3018152	10	0.314096
Naphthalene	0.2	1.06892	0.5	1.181151	1	1.056069	2.5	1.145447	5	1.042939	10	1.077587
Benzoic acid			2	5.974425E-02	4	0.1066751	10	0.1982996	20	0.2180151	40	0.2558689
4-Chloroaniline			1	0.4259312	2	0.3897133	5	0.4433731	10	0.4055182	20	0.4307482
Hexachlorobutadiene	0.2	0.1749359	0.5	0.1932587	1	0.1747524	2.5	0.1866175	5	0.1696009	10	0.1775977
4-Chloro-3-Methylphenol			1	0.2589499	2	0.2525295	5	0.2989672	10	0.2767569	20	0.2940282
2-Methylnaphthalene	0.2	0.6498199	0.5	0.7746391	1	0.7076089	2.5	0.7530572	5	0.6844237	10	0.7106263
Hexachlorocyclopentadiene			1	0.2992326	2	0.2934442	5	0.3657608	10	0.3526746	20	0.384943
2,4,6-Trichlorophenol			1	0.3111616	2	0.3047685	5	0.3855882	10	0.3582226	20	0.3943735

INITIAL CALIBRATION DATA

EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GC00085	Instrument:	NT18
Calibration Date:	03/19/2023	Column (1):	ZB-5MS

Calibration Comments: ABN PSDDA
vts: Added 625.1 analysis to calibration

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	Conc	RRF	Conc	**RRF**	Conc	RRF	Conc	RRF	Conc	**RRF**	Conc	**RRF**
2,4,5-Trichlorophenol			1	0.3457433	2	0.335844	5	0.4143288	10	0.3953968	20	0.4352659
2-Chloronaphthalene	0.2	1.082457	0.5	1.210753	1	1.097974	2.5	1.210261	5	1.112245	10	1.159189
2-Nitroaniline			1	0.2485079	2	0.2626816	5	0.3293511	10	0.3095352	20	0.3316948
Acenaphthylene	0.2	1.69171	0.5	1.996655	1	1.885216	2.5	2.101734	5	1.93828	10	2.024812
Dimethylphthalate	0.2	1.064098	0.5	1.224904	1	1.131032	2.5	1.274702	5	1.175946	10	1.244242
2,6-Dinitrotoluene			1	0.193692	2	0.1958997	5	0.2618725	10	0.2556513	20	0.2850219
Acenaphthene	0.2	1.187065	0.5	1.320943	1	1.210013	2.5	1.306997	5	1.194027	10	1.230797
3-Nitroaniline			1	0.2477782	2	0.256249	5	0.321993	10	0.3087499	20	0.3451356
2,4-Dinitrophenol			2	3.661906E-02	4	5.819446E-02	10	0.1146357	20	0.1387904	40	0.1859893
Dibenzofuran	0.2	1.602018	0.5	1.810235	1	1.660753	2.5	1.786261	5	1.628215	10	1.715463
4-Nitrophenol			1	0.114764	2	0.1177453	5	0.1562045	10	0.1532434	20	0.1678929
2,4-Dinitrotoluene			1	0.255944	2	0.2725131	5	0.34749	10	0.3354325	20	0.3764839
Fluorene	0.2	1.20202	0.5	1.624078	1	1.523947	2.5	1.640485	5	1.52844	10	1.64799
4-Chlorophenylphenyl ether	0.2	0.5608689	0.5	0.6313908	1	0.6777154	2.5	0.7318277	5	0.6892974	10	0.7495783
Diethyl phthalate	0.2	1.003169	0.5	1.169383	1	1.096409	2.5	1.238906	5	1.264304	10	1.353487
4-Nitroaniline			1	0.2301758	2	0.1851572	5	0.2157128	10	0.2882298	20	0.3385437
4,6-Dinitro-2-methylphenol			2	0.0431477	4	5.656849E-02	10	9.379891E-02	20	0.1045903	40	0.128086
N-Nitrosodiphenylamine	0.2	0.4352356	0.5	0.5163932	1	0.4947474	2.5	0.5196115	5	0.4970439	10	0.553366
4-Bromophenyl phenyl ether	0.2	0.1756597	0.5	0.20194	1	0.1879065	2.5	0.2146265	5	0.2045771	10	0.2155028
Hexachlorobenzene	0.2	0.2123047	0.5	0.2312987	1	0.2163388	2.5	0.2326898	5	0.2204359	10	0.2342605
Pentachlorophenol			1	5.764047E-02	2	7.949257E-02	5	0.1224789	10	0.1271112	20	0.1538634
Phenanthrene	0.2	1.058528	0.5	1.102329	1	1.056478	2.5	1.136957	5	1.062864	10	1.131608
Anthracene	0.2	0.8712802	0.5	1.042998	1	0.9996086	2.5	1.114908	5	1.050266	10	1.129941
Carbazole	0.2	0.7164573	0.5	0.9243256	1	0.8922455	2.5	0.9828373	5	0.8940946	10	1.008906
Di-n-Butylphthalate	0.2	0.6209967	0.5	0.9266777	1	0.9380937	2.5	1.194018	5	1.146117	10	1.24005
Fluoranthene	0.2	1.089948	0.5	1.350667	1	1.263688	2.5	1.37255	5	1.305347	10	1.320327
Pyrene	0.2	1.20236	0.5	1.495504	1	1.287636	2.5	1.437119	5	1.353408	10	1.364191

INITIAL CALIBRATION DATA

EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GC00085	Instrument:	NT18
Calibration Date:	03/19/2023	Column (1):	ZB-5MS

Calibration Comments: ABN PSDDA
vts: Added 625.1 analysis to calibration

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	Conc	RRF	Conc	**RRF**	Conc	RRF	Conc	RRF	Conc	**RRF**	Conc	**RRF**
Butylbenzylphthalate	0.2	0.1946513	0.5	0.3881902	1	0.387081	2.5	0.5555247	5	0.5373405	10	0.5881318
Benzo(a)anthracene	0.2	1.093371	0.5	1.27809	1	1.230008	2.5	1.316418	5	1.269368	10	1.325115
3,3'-Dichlorobenzidine	0.6	0.2203987	1.5	0.3556792	3	0.3751598	7.5	0.4241219	15	0.3857973	30	0.4748962
Chrysene	0.2	1.218786	0.5	1.385446	1	1.271745	2.5	1.355202	5	1.290172	10	1.328603
bis(2-Ethylhexyl)phthalate	0.2	0.2577275	0.5	0.4467195	1	0.4624914	2.5	0.5813227	5	0.5359017	10	0.5827482
Di-n-Octylphthalate	0.2	0.9939068	0.5	1.051075	1	0.9756039	2.5	1.023103	5	0.943263	10	0.971774
Benzofluoranthenes, Total	0.4	0.8752982	1	1.116397	2	1.060861	5	1.210149	10	1.135191	20	1.223939
Benzo(a)pyrene	0.2	0.662905	0.5	0.9486403	1	0.921543	2.5	1.136162	5	1.072129	10	1.131238
Indeno(1,2,3-cd)pyrene	0.2	0.6969364	0.5	1.005153	1	1.059491	2.5	1.348727	5	1.343315	10	1.488353
Dibenzo(a,h)anthracene	0.2	0.5841633	0.5	0.8191527	1	0.8718432	2.5	1.109784	5	1.120151	10	1.251256
Benzo(g,h,i)perylene	0.2	0.6653539	0.5	0.8847233	1	0.8761085	2.5	1.137215	5	1.063486	10	1.173416
1-Methylnaphthalene	0.2	0.6058376	0.5	0.6959248	1	0.6486096	2.5	0.6912903	5	0.6295333	10	0.6506812
2-Fluorophenol	0.3	1.020011	0.75	1.265226	1.5	1.205476	3.75	1.364743	7.5	1.251404	15	1.320846
Phenol-d5	0.3	1.291735	0.75	1.590909	1.5	1.493808	3.75	1.682457	7.5	1.526037	15	1.603761
2-Chlorophenol-d4	0.3	1.102133	0.75	1.31512	1.5	1.268649	3.75	1.450962	7.5	1.3221	15	1.432359
1,2-Dichlorobenzene-d4	0.2	0.9655477	0.5	1.066091	1	0.9410097	2.5	1.014271	5	0.9065541	10	0.9664554
Nitrobenzene-d5	0.2	0.2582774	0.5	0.3251991	1	0.3082392	2.5	0.3724719	5	0.3475335	10	0.3576837
2-Fluorobiphenyl	0.2	1.375131	0.5	1.518758	1	1.371587	2.5	1.508	5	1.406008	10	1.445646
2,4,6-Tribromophenol			0.75	0.1201806	1.5	0.1318357	3.75	0.1636256	7.5	0.1671978	15	0.1973796
p-Terphenyl-d14	0.2	0.8724387	0.5	1.029019	1	0.9612105	2.5	1.044209	5	0.9946928	10	1.067507

INITIAL CALIBRATION DATA

EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GC00085	Instrument:	NT18
Calibration Date:	03/19/2023	Column (1):	ZB-5MS

Calibration Comments: ABN PSDDA
vts: Added 625.1 analysis to calibration

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF
Phenol	20	1.602767										
bis(2-chloroethyl) ether	20	1.076441										
2-Chlorophenol	20	1.387148										
1,3-Dichlorobenzene	20	1.426203										
1,4-Dichlorobenzene	20	1.430257										
1,2-Dichlorobenzene	20	1.430655										
Benzyl Alcohol	20	0.8402076										
2,2'-Oxybis(1-chloropropane)	20	0.3302939										
2-Methylphenol	20	1.263546										
Hexachloroethane	20	0.5775734										
N-Nitroso-di-n-Propylamine	20	0.9030275										
4-Methylphenol	20	1.335249										
Nitrobenzene	20	0.322921										
Isophorone	20	0.483298										
2-Nitrophenol	20	0.1985156										
2,4-Dimethylphenol	40	0.311361										
Bis(2-Chloroethoxy)methane	20	0.310037										
2,4-Dichlorophenol	40	0.2872312										
1,2,4-Trichlorobenzene	20	0.3070514										
Naphthalene	20	1.026043										
Benzoic acid	80	0.2632165										
4-Chloroaniline	40	0.4105913										
Hexachlorobutadiene	20	0.1748117										
4-Chloro-3-Methylphenol	40	0.2761433										
2-Methylnaphthalene	20	0.6680701										
Hexachlorocyclopentadiene	40	0.3808578										
2,4,6-Trichlorophenol	40	0.3927568										

INITIAL CALIBRATION DATA

EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GC00085	Instrument:	NT18
Calibration Date:	03/19/2023	Column (1):	ZB-5MS

Calibration Comments: ABN PSDDA
vts: Added 625.1 analysis to calibration

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF
2,4,5-Trichlorophenol	40	0.4200827										
2-Chloronaphthalene	20	1.126003										
2-Nitroaniline	40	0.3149174										
Acenaphthylene	20	1.982787										
Dimethylphthalate	20	1.228436										
2,6-Dinitrotoluene	40	0.2868303										
Acenaphthene	20	1.171893										
3-Nitroaniline	40	0.3474202										
2,4-Dinitrophenol	80	0.200778										
Dibenzofuran	20	1.641744										
4-Nitrophenol	40	0.1646198										
2,4-Dinitrotoluene	40	0.3824801										
Fluorene	20	1.585007										
4-Chlorophenylphenyl ether	20	0.7312742										
Diethyl phthalate	20	1.327934										
4-Nitroaniline	40	0.3428363										
4,6-Dinitro-2-methylphenol	80	0.1344483										
N-Nitrosodiphenylamine	20	0.5503178										
4-Bromophenyl phenyl ether	20	0.2146132										
Hexachlorobenzene	20	0.2396573										
Pentachlorophenol	40	0.1694583										
Phenanthrene	20	1.094515										
Anthracene	20	1.078351										
Carbazole	20	0.9982509										
Di-n-Butylphthalate	20	1.197403										
Fluoranthene	20	1.220041										
Pyrene	20	1.264029										

INITIAL CALIBRATION DATA

EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GC00085	Instrument:	NT18
Calibration Date:	03/19/2023	Column (1):	ZB-5MS

Calibration Comments: ABN PSDDA
vts: Added 625.1 analysis to calibration

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF
Butylbenzylphthalate	20	0.5555085										
Benzo(a)anthracene	20	1.249625										
3,3'-Dichlorobenzidine	60	0.4431724										
Chrysene	20	1.207412										
bis(2-Ethylhexyl)phthalate	20	0.5437194										
Di-n-Octylphthalate	20	0.9302546										
Benzofluoranthenes, Total	40	1.189852										
Benzo(a)pyrene	20	1.11465										
Indeno(1,2,3-cd)pyrene	20	1.520378										
Dibenzo(a,h)anthracene	20	1.317405										
Benzo(g,h,i)perylene	20	1.193374										
1-Methylnaphthalene	20	0.6205482										
2-Fluorophenol	30	1.204261										
Phenol-d5	30	1.475048										
2-Chlorophenol-d4	30	1.352198										
1,2-Dichlorobenzene-d4	20	0.9225473										
Nitrobenzene-d5	20	0.3386254										
2-Fluorobiphenyl	20	1.401625										
2,4,6-Tribromophenol	30	0.2149063										
p-Terphenyl-d14	20	1.025084										

INITIAL CALIBRATION DATA

EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GC00085	Instrument:	NT18
Calibration Date:	03/19/2023	Column (1):	ZB-5MS

Calibration Comments: ABN PSDDA
vts: Added 625.1 analysis to calibration

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Phenol	1.628955	5.6			RSD (15)	
bis(2-chloroethyl) ether	1.127357	5.0			RSD (15)	
2-Chlorophenol	1.392826	9.4			RSD (15)	
1,3-Dichlorobenzene	1.478799	4.7			RSD (15)	
1,4-Dichlorobenzene	1.479953	4.7			RSD (15)	
1,2-Dichlorobenzene	1.458402	4.3			RSD (15)	
Benzyl Alcohol	0.7601008	13.8			RSD (15)	
2,2'-Oxybis(1-chloropropane)	0.3433853	8.5			RSD (15)	
2-Methylphenol	1.23638	6.8			RSD (15)	
Hexachloroethane	0.5795168	5.0			RSD (15)	
N-Nitroso-di-n-Propylamine	0.8804713	7.7			RSD (15)	
4-Methylphenol	1.28387	9.0			RSD (15)	
Nitrobenzene	0.324146	8.8			RSD (15)	
Isophorone	0.4426412	14.1			RSD (15)	
2-Nitrophenol	0.1499814	32.0		0.9974	QCOD (0.99)	
2,4-Dimethylphenol	0.3258711	4.2			RSD (15)	
Bis(2-Chloroethoxy)methane	0.3199376	4.7			RSD (15)	
2,4-Dichlorophenol	0.2999277	5.0			RSD (15)	
1,2,4-Trichlorobenzene	0.3144335	3.5			RSD (15)	
Naphthalene	1.085451	5.2			RSD (15)	
Benzoic acid	0.1836366	45.0		0.9968	QCOD (0.99)	
4-Chloroaniline	0.4176459	4.6			RSD (15)	
Hexachlorobutadiene	0.1787964	4.6			RSD (15)	
4-Chloro-3-Methylphenol	0.2762292	6.7			RSD (15)	
2-Methylnaphthalene	0.7068922	6.3			RSD (15)	
Hexachlorocyclopentadiene	0.3461522	11.6			RSD (15)	
2,4,6-Trichlorophenol	0.3578119	11.4			RSD (15)	
2,4,5-Trichlorophenol	0.3911103	10.5			RSD (15)	
2-Chloronaphthalene	1.142697	4.6			RSD (15)	

INITIAL CALIBRATION DATA

EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GC00085	Instrument:	NT18
Calibration Date:	03/19/2023	Column (1):	ZB-5MS

Calibration Comments: ABN PSDDA
vts: Added 625.1 analysis to calibration

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
2-Nitroaniline	0.299448	11.8			RSD (15)	
Acenaphthylene	1.945885	6.7			RSD (15)	
Dimethylphthalate	1.191909	6.2			RSD (15)	
2,6-Dinitrotoluene	0.2464946	17.0		0.9990	QCOD (0.99)	
Acenaphthene	1.231676	4.8			RSD (15)	
3-Nitroaniline	0.3045543	14.2			RSD (15)	
2,4-Dinitrophenol	0.1225012	54.1		0.9928	QCOD (0.99)	
Dibenzofuran	1.692098	4.8			RSD (15)	
4-Nitrophenol	0.145745	16.1		0.9991	QCOD (0.99)	
2,4-Dinitrotoluene	0.3283906	16.1		0.9991	QCOD (0.99)	
Fluorene	1.535995	10.1			RSD (15)	
4-Chlorophenylphenyl ether	0.6817075	9.8			RSD (15)	
Diethyl phthalate	1.207656	10.5			RSD (15)	
4-Nitroaniline	0.2667759	24.9		0.9960	QCOD (0.99)	
4,6-Dinitro-2-methylphenol	9.343995E-02	39.7		0.9963	QCOD (0.99)	
N-Nitrosodiphenylamine	0.5095308	7.9			RSD (15)	
4-Bromophenyl phenyl ether	0.202118	7.6			RSD (15)	
Hexachlorobenzene	0.2267122	4.5			RSD (15)	
Pentachlorophenol	0.1183408	36.2		0.9976	QCOD (0.99)	
Phenanthrene	1.091897	3.1			RSD (15)	
Anthracene	1.04105	8.4			RSD (15)	
Carbazole	0.916731	11.0			RSD (15)	
Di-n-Butylphthalate	1.037622	21.5		0.9993	QCOD (0.99)	
Fluoranthene	1.274653	7.6			RSD (15)	
Pyrene	1.343464	7.6			RSD (15)	
Butylbenzylphthalate	0.4580611	31.1		0.9987	QCOD (0.99)	
Benzo(a)anthracene	1.251714	6.2			RSD (15)	
3,3'-Dichlorobenzidine	0.3827465	21.6		0.9970	QCOD (0.99)	
Chrysene	1.293909	5.2			RSD (15)	

INITIAL CALIBRATION DATA

EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GC00085	Instrument:	NT18
Calibration Date:	03/19/2023	Column (1):	ZB-5MS

Calibration Comments: ABN PSDDA
vts: Added 625.1 analysis to calibration

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
bis(2-Ethylhexyl)phthalate	0.4872329	23.5		0.9990	QCOD (0.99)	
Di-n-Octylphthalate	0.98414	4.3			RSD (15)	
Benzofluoranthenes, Total	1.115955	10.8			RSD (15)	
Benzo(a)pyrene	0.998181	17.2		0.9997	QCOD (0.99)	
Indeno(1,2,3-cd)pyrene	1.208908	24.8		0.9993	QCOD (0.99)	
Dibenzo(a,h)anthracene	1.010536	25.9		0.9993	QCOD (0.99)	
Benzo(g,h,i)perylene	0.9990967	19.6		0.9994	QCOD (0.99)	
1-Methylnaphthalene	0.6489179	5.3			RSD (15)	
2-Fluorophenol	1.233138	9.0			RSD (15)	
Phenol-d5	1.523394	8.2			RSD (15)	
2-Chlorophenol-d4	1.320503	8.8			RSD (15)	
1,2-Dichlorobenzene-d4	0.9689252	5.7			RSD (15)	
Nitrobenzene-d5	0.3297186	11.5			RSD (15)	
2-Fluorobiphenyl	1.432394	4.2			RSD (15)	
2,4,6-Tribromophenol	0.1658543	22.0		0.9986	QCOD (0.99)	
p-Terphenyl-d14	0.9991659	6.6			RSD (15)	

Analytical Resources, LLC
Analytical Chemists and Consultants

ANALYSIS SEQUENCE

SLC0502

Instrument: NT18
Calibration ID: GC00085

Printed: 3/30/2023 5:18:32PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SLC0502-TUN1	QC		1		L002618			
SLC0502-CAL1	QC		2		K011105	K010831		
SLC0502-CAL2	QC		3		K011106	K010831		
SLC0502-CAL3	QC		4		K011107	K010831		
SLC0502-CAL4	QC		5		K011108	K010831		
SLC0502-CAL5	QC		6		K011109	K010831		
SLC0502-CAL6	QC		7		K011110	K010831		
SLC0502-CAL7	QC		8		K011111	K010831		
SLC0502-SCV1	QC		9		K010066	K010831		
SLC0502-ICB1	QC		10		K005156	K010831		

Samples Loaded By Date

Data Processed By Date

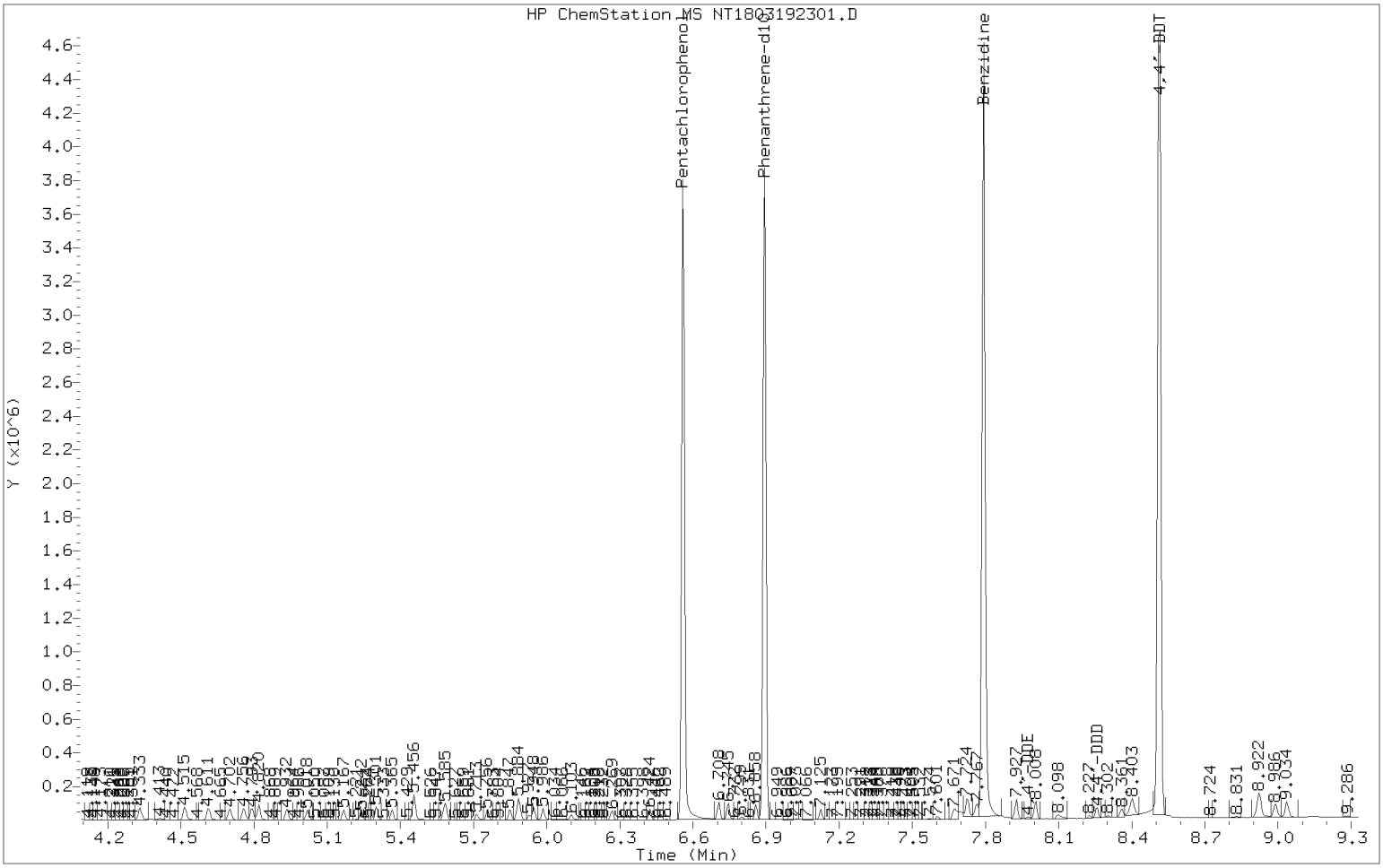
Security Status Report

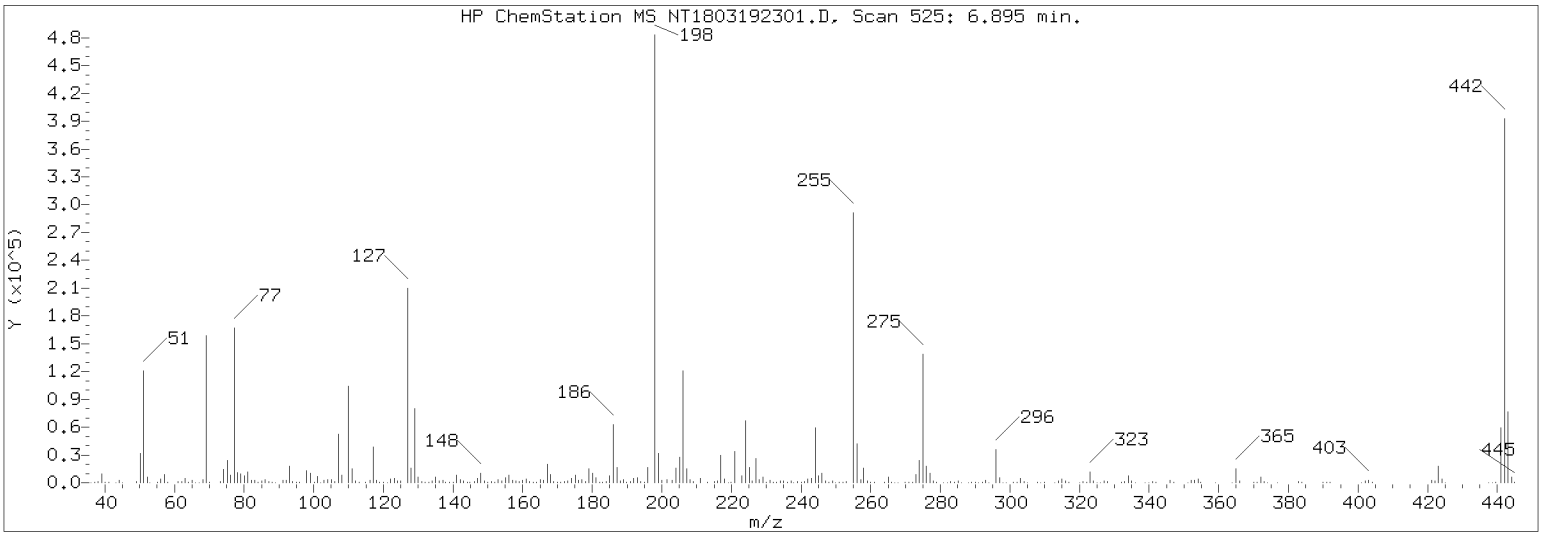
Date: 30-Mar-2023 17:48

NT1803192301.D	Data Locked	yev, 30-
NT1803192302.D	Data Locked	yev, 30-
NT1803192303.D	Data Locked	yev, 30-
NT1803192304.D	Data Locked	yev, 30-
NT1803192305.D	Data Locked	yev, 30-
NT1803192306.D	Data Locked	yev, 30-
NT1803192307.D	Data Locked	yev, 30-
NT1803192308.D	Data Locked	yev, 30-
NT1803192311.D	Data Locked	yev, 30-
NT1803192312.D	Data Locked	yev, 30-

DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20230319.b/NT1803192301.D/NT1803192301.D
Method Used: \20230319.b\DFTPP8270E.m Inst: nt18
Injection Date: 19-MAR-2023 15:00 Operator: VTS
Sample Info: SEQ-TUN1 SEQ-TUN1
Report Date: 03/30/2023 15:26





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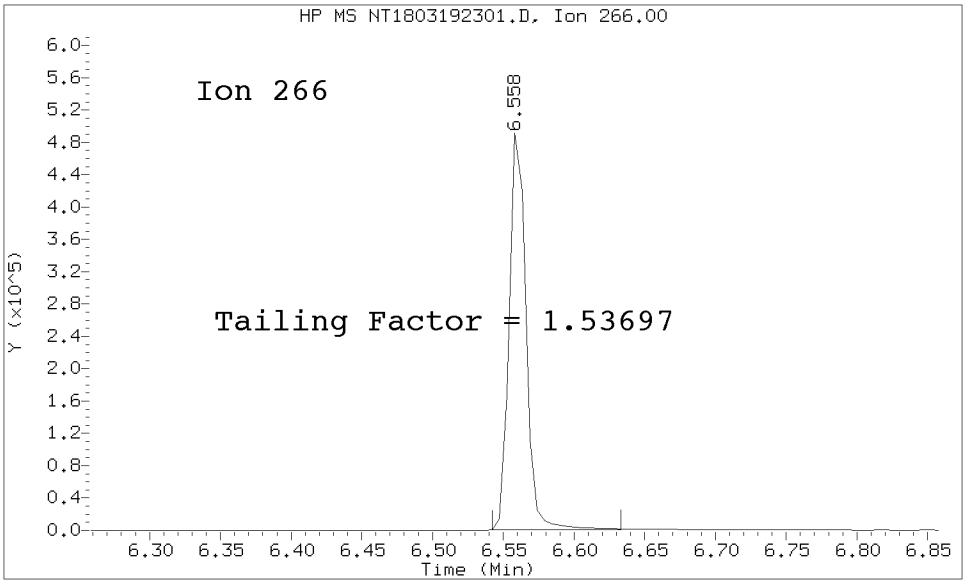
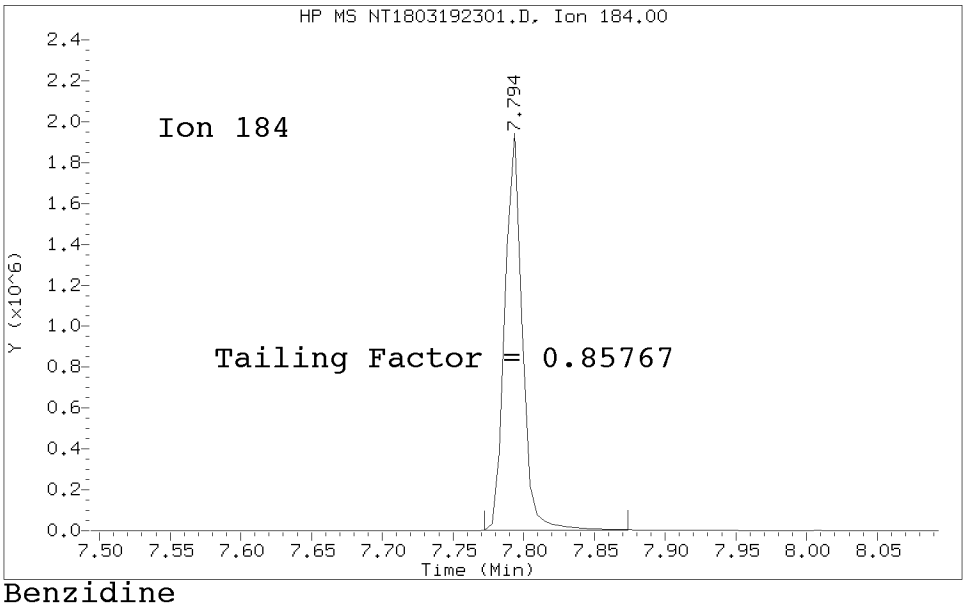
Method Used: \20230319.b\DFTPP8270E.m\sw846ddt.m Inst: nt18
Injection Date: 19-MAR-2023 15:00 Operator: JGR
Sample Info: SEQ-TUN1
Report Date: 03/30/2023 15:26



Pentachlorophenol
==========
 Exp. RT = 6.558
Found RT = 6.558

Tail Factor = 1.537 Maximum Allowed = 2.0



Benzidine
==========
 Exp. RT = 7.794
Found RT = 7.794

Tail Factor = 0.858 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	1.5369718	2.000	PASS
Benzidine	0.8576687	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	917001			N/A
4,4-DDE	1172	0.1	20.0	PASS
4,4-DDD	10228	1.1	20.0	PASS
4,4-DDD + DDE	11400	1.2	20.0	PASS

Tuning Sample, nt18.i/20230319.b/NT1803192301.D, *** PASSED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
68	Less than 2.00% of mass 69	0.41 (1.17)
69	Mass 69 relative abundance	35.23
70	Less than 2.00% of mass 69	0.10 (0.29)
197	Less than 2.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.59
365	1.00 - 100.00% of mass 198	3.10
441	Less than 150.00% of mass 443	11.57 (78.15)
442	Less than 200.00% of mass 198	77.08
443	15.00 - 24.00% of mass 442	14.81 (19.21)

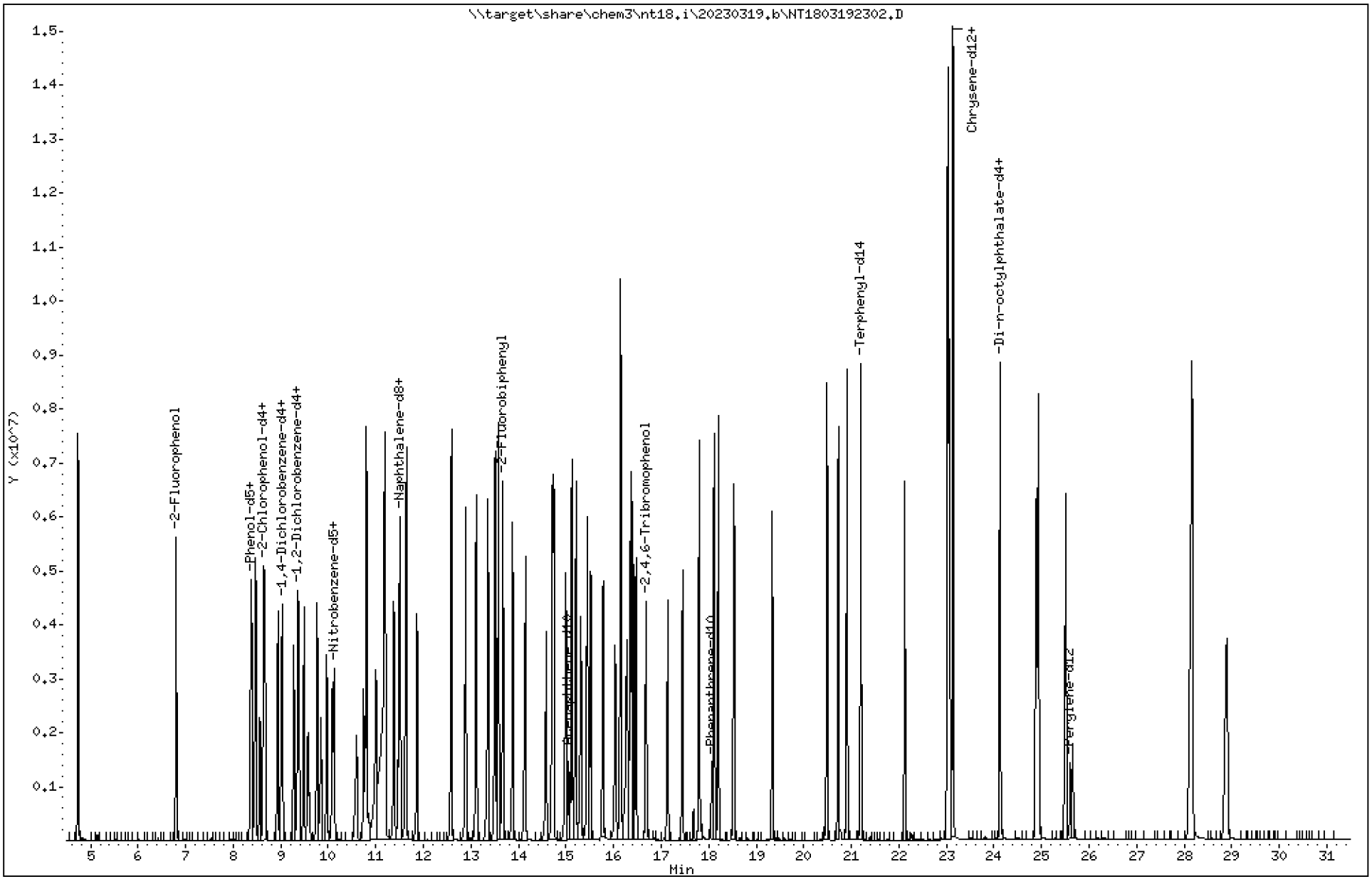
Data File: NT1803192301.D
Spectrum: Avg. Scans 524-526 (6.90), Background Scan 520
Location of Maximum: 198.00
Number of points: 309

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	121	125.00	1821	207.00	11135	295.00	329
37.00	500	127.00	163840	208.00	2805	296.00	26432
38.00	1245	128.00	12270	209.00	838	297.00	3716
39.00	7544	129.00	62072	211.00	3818	298.00	259
40.00	120	130.00	4849	213.00	193	299.00	64
41.00	100	131.00	992	215.00	881	301.00	417
43.00	67	132.00	615	216.00	1995	302.00	544
45.00	246	133.00	331	217.00	22552	303.00	3131
49.00	756	134.00	1761	218.00	2969	304.00	890
50.00	25768	135.00	4696	219.00	219	305.00	116
51.00	98952	136.00	1871	220.00	205	308.00	407
52.00	4822	137.00	2367	221.00	24104	309.00	177
53.00	263	138.00	376	223.00	5616	310.00	358
55.00	499	140.00	307	224.00	50896	313.00	172
56.00	3297	141.00	6738	225.00	12515	314.00	1264
57.00	7143	142.00	2782	226.00	1344	315.00	3056
58.00	291	143.00	1679	227.00	19752	316.00	1708
61.00	1370	144.00	534	228.00	2739	317.00	368
62.00	1420	145.00	421	229.00	4385	320.00	68
63.00	3824	146.00	1318	230.00	646	321.00	914
64.00	531	147.00	3639	231.00	1861	322.00	398
65.00	2235	148.00	7832	232.00	323	323.00	8720
66.00	98	149.00	1713	233.00	389	324.00	1632
67.00	77	150.00	476	234.00	1428	325.00	102
68.00	1506	151.00	1012	235.00	1512	326.00	193
69.00	128752	152.00	586	236.00	905	327.00	1786
70.00	371	153.00	2301	237.00	1602	328.00	901
72.00	57	154.00	1869	238.00	238	332.00	512
73.00	1015	155.00	4153	239.00	924	333.00	904
74.00	11313	156.00	6541	240.00	600	334.00	5260
75.00	19080	157.00	1566	241.00	1166	335.00	1536
76.00	6534	158.00	1474	242.00	3034	336.00	141
77.00	134464	159.00	1049	243.00	3206	339.00	80
78.00	8968	160.00	2372	244.00	43488	340.00	122
79.00	7701	161.00	3521	245.00	5633	341.00	1078
80.00	6286	162.00	1097	246.00	7685	342.00	204
81.00	8997	163.00	278	247.00	1682	346.00	1849
82.00	2343	164.00	557	248.00	317	347.00	344
83.00	2309	165.00	2816	249.00	1497	351.00	72
84.00	44	166.00	801	250.00	261	352.00	2497
85.00	1538	167.00	8878	251.00	348	353.00	1762
86.00	2357	168.00	6863	252.00	328	354.00	2672
87.00	1241	169.00	1320	253.00	921	355.00	504
88.00	510	170.00	540	255.00	215360	359.00	82
89.00	269	171.00	704	256.00	30688	364.00	168
91.00	2180	172.00	1234	257.00	2431	365.00	11323
92.00	2154	173.00	1872	258.00	11553	366.00	1511
93.00	14566	174.00	3365	259.00	1716	370.00	147
94.00	977	175.00	6401	260.00	396	371.00	589

95.00	170	176.00	2322	261.00	386	372.00	4312
96.00	802	177.00	2835	264.00	303	373.00	1006
97.00	209	178.00	915	265.00	4352	374.00	83
98.00	11227	179.00	11889	266.00	561	377.00	63
99.00	8764	180.00	7952	267.00	67	383.00	1088
100.00	795	181.00	4025	268.00	70	384.00	298
101.00	5504	182.00	752	270.00	296	390.00	599
102.00	329	183.00	431	271.00	435	391.00	328
103.00	1952	184.00	882	272.00	530	392.00	273
104.00	3328	185.00	5780	273.00	6856	401.00	213
105.00	2907	186.00	47296	274.00	17064	402.00	1482
106.00	941	187.00	12810	275.00	99032	403.00	2083
107.00	41200	188.00	1425	276.00	13034	404.00	794
108.00	6493	189.00	2487	277.00	7630	421.00	1834
109.00	203	190.00	481	278.00	1267	422.00	1840
110.00	83096	191.00	1220	279.00	211	423.00	13286
111.00	11519	192.00	3843	281.00	54	424.00	3047
112.00	1525	193.00	4363	282.00	104	425.00	306
113.00	356	194.00	880	283.00	954	437.00	66
115.00	185	195.00	690	284.00	649	438.00	87
116.00	2358	196.00	13260	285.00	1495	439.00	346
117.00	30504	198.00	365440	286.00	212	441.00	42288
118.00	2310	199.00	24096	288.00	71	442.00	281664
119.00	353	200.00	2074	289.00	381	443.00	54112
120.00	503	201.00	2296	290.00	324	444.00	4487
121.00	205	203.00	1957	291.00	53	445.00	294
122.00	2775	204.00	12144	292.00	420		
123.00	4014	205.00	21040	293.00	1979		
124.00	1725	206.00	90016	294.00	326		

Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192302.D
Date : 19-MAR-2023 15:18
Client ID:
Sample Info: cal7

Instrument: nt18.i
Operator: VTS
Column phase: ZB-5msi
Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230319.b\NT1803192302.D
Lab Smp Id: SKC0502-CAL7
Inj Date : 19-MAR-2023 15:18
Operator : VTS Inst ID: nt18.i
Smp Info : cal7
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230319.b\ABN.m
Meth Date : 30-Mar-2023 15:35 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 19:24 Cal File: NT1803192308.D
Als bottle: 2 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: ORGDATA102

							AMOUNTS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1 2-Fluorophenol	112	6.796	6.788	(0.755)	2401824	30.0000	29.30
$	2 Phenol-d5	99	8.372	8.350	(0.930)	2941891	30.0000	29.05
	3 Phenol	94	8.395	8.372	(0.933)	2131079	20.0000	19.68
$	5 2-Chlorophenol-d4	132	8.643	8.628	(0.960)	2696875	30.0000	30.72
	4 Bis(2-Chloroethyl)ether	93	8.558	8.542	(0.951)	1431263	20.0000	19.10
	6 2-Chlorophenol	128	8.673	8.657	(0.964)	1844387	20.0000	19.92
	7 1,3-Dichlorobenzene	146	8.937	8.929	(0.993)	1896315	20.0000	19.29
*	8 1,4-Dichlorobenzene-d4	152	8.999	8.999	(1.000)	265925	4.00000	
	9 1,4-Dichlorobenzene	146	9.030	9.022	(1.003)	1901705	20.0000	19.33
$	10 1,2-Dichlorobenzene-d4	152	9.356	9.348	(1.040)	1226642	20.0000	19.04
	12 1,2-Dichlorobenzene	146	9.387	9.379	(1.043)	1902234	20.0000	19.62
	11 Benzyl alcohol	108	9.278	9.263	(1.031)	1117161	20.0000	22.11
	14 2,2'-oxybis(1-Chloropropane)	121	9.573	9.566	(1.064)	439167	20.0000	19.24
	13 2-Methylphenol	108	9.495	9.480	(1.055)	1680042	20.0000	20.44
	17 Hexachloroethane	117	9.969	9.962	(1.108)	767956	20.0000	19.93
	16 N-Nitroso-di-n-propylamine	70	9.845	9.814	(1.094)	1200688	20.0000	20.51
	15 4-Methylphenol	108	9.767	9.744	(1.085)	1775381	20.0000	20.80
$	18 Nitrobenzene-d5	82	10.093	10.078	(0.881)	1786220	20.0000	20.54
	19 Nitrobenzene	77	10.124	10.109	(0.883)	1703381	20.0000	19.92
	20 Isophorone	82	10.590	10.559	(0.924)	2549356	20.0000	21.84
	21 2-Nitrophenol	139	10.744	10.736	(0.937)	1047153	20.0000	19.89
	22 2,4-Dimethylphenol	107	10.804	10.787	(0.943)	3284805	40.0000	38.22
	23 Bis(2-Chloroethoxy)methane	93	10.999	10.982	(0.960)	1635419	20.0000	19.38
	24 Benzoic acid	105	11.186	10.881	(0.976)	5553778	80.0000	79.67(M)
	25 2,4-Dichlorophenol	162	11.194	11.186	(0.977)	3030240	40.0000	38.31
	26 1,2,4-Trichlorobenzene	180	11.378	11.371	(0.993)	1619670	20.0000	19.53
*	27 Naphthalene-d8	136	11.463	11.456	(1.000)	1054983	4.00000	
	28 Naphthalene	128	11.509	11.494	(1.004)	5412291	20.0000	18.91
	29 4-Chloroaniline	127	11.640	11.625	(1.015)	4331668	40.0000	39.32
	30 Hexachlorobutadiene	225	11.864	11.857	(1.035)	922117	20.0000	19.55
	31 4-Chloro-3-methylphenol	107	12.592	12.577	(1.099)	2913265	40.0000	39.99
	32 2-Methylnaphthalene	142	13.110	13.103	(1.144)	3273339	20.0000	19.13
	33 Hexachlorocyclopentadiene	237	13.358	13.351	(0.887)	2143266	40.0000	44.01

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
	34	2,4,6-Trichlorophenol	196	13.513	13.498	(0.898)	2210227	40.0000	43.91
	35	2,4,5-Trichlorophenol	196	13.583	13.567	(0.902)	2364003	40.0000	42.96
$	36	2-Fluorobiphenyl	172	13.668	13.660	(0.908)	3943800	20.0000	19.57
	37	2-Chloronaphthalene	162	13.877	13.862	(0.922)	3168274	20.0000	19.71
	38	2-Nitroaniline	65	14.147	14.117	(0.940)	1772188	40.0000	42.07
	39	Dimethylphthalate	163	14.581	14.558	(0.969)	3456494	20.0000	20.61
	40	Acenaphthylene	152	14.744	14.729	(0.979)	5579038	20.0000	20.38
	41	2,6-Dinitrotoluene	165	14.713	14.690	(0.977)	1614129	40.0000	39.89
*	42	Acenaphthene-d10	164	15.053	15.046	(1.000)	562747	4.00000	
	43	3-Nitroaniline	138	14.999	14.961	(0.996)	1955097	40.0000	45.63
	44	Acenaphthene	153	15.122	15.107	(1.005)	3297395	20.0000	19.03
	45	2,4-Dinitrophenol	184	15.215	15.177	(1.011)	2259744	80.0000	79.54
	46	Dibenzofuran	168	15.447	15.424	(1.026)	4619434	20.0000	19.40
	47	4-Nitrophenol	109	15.316	15.270	(1.017)	926393	40.0000	39.89
	48	2,4-Dinitrotoluene	165	15.524	15.486	(1.031)	2152395	40.0000	39.90
	50	Diethylphthalate	149	16.035	16.004	(1.065)	3736453	20.0000	21.99
	49	Fluorene	166	16.151	16.136	(1.073)	4459791	20.0000	20.64
	51	4-Chlorophenyl-phenylether	204	16.143	16.128	(1.072)	2057612	20.0000	21.45
	52	4-Nitroaniline	138	16.282	16.213	(1.082)	1929301	40.0000	39.80
	53	4,6-Dinitro-2-methylphenol	198	16.366	16.312	(0.906)	2646760	80.0000	79.64
	54	N-Nitrosodiphenylamine	169	16.405	16.375	(0.908)	2708400	20.0000	21.60
$	55	2,4,6-Tribromophenol	330	16.683	16.668	(1.108)	907034	30.0000	29.92
	56	4-Bromophenyl-phenylether	248	17.137	17.129	(0.949)	1056223	20.0000	21.24
	57	Hexachlorobenzene	284	17.447	17.439	(0.966)	1179478	20.0000	21.14
	58	Pentachlorophenol	266	17.803	17.788	(0.985)	1667985	40.0000	39.87
*	59	Phenanthrene-d10	188	18.066	18.051	(1.000)	984304	4.00000	
	60	Phenanthrene	178	18.112	18.097	(1.003)	5386678	20.0000	20.05
	61	Anthracene	178	18.205	18.190	(1.008)	5307126	20.0000	20.72
	62	Carbazole	167	18.530	18.515	(1.026)	4912912	20.0000	21.78
	63	Di-n-butylphthalate	149	19.342	19.335	(1.071)	5893041	20.0000	19.95
	64	Fluoranthene	202	20.487	20.472	(0.887)	5691359	20.0000	19.14
	65	Pyrene	202	20.905	20.890	(0.905)	5896558	20.0000	18.82
$	66	Terphenyl-d14	244	21.199	21.184	(0.918)	4781904	20.0000	20.52
	67	Butylbenzylphthalate	149	22.121	22.113	(0.958)	2591386	20.0000	19.92
	68	Benzo(a)anthracene	228	23.058	23.043	(0.999)	5829364	20.0000	19.97
*	69	Chrysene-d12	240	23.089	23.074	(1.000)	932978	4.00000	
	70	3,3'-Dichlorobenzidine	252	23.027	23.004	(0.997)	6202052	60.0000	59.60
	71	Chrysene	228	23.135	23.112	(1.002)	5632443	20.0000	18.66
	72	bis(2-Ethylhexyl)phthalate	149	23.143	23.136	(0.960)	3728882	20.0000	19.93
*	134	Di-n-octylphthalate-d4	153	24.118	24.110	(1.000)	1371620	4.00000	
	73	Di-n-octylphthalate	149	24.126	24.119	(1.000)	6379779	20.0000	18.90
	74	Benzo(b)fluoranthene	252	24.892	24.870	(0.972)	5386276	20.0000	21.34
	75	Benzo(k)fluoranthene	252	24.939	24.908	(0.974)	5953274	20.0000	21.45(H)
	76	Benzo(a)pyrene	252	25.512	25.481	(0.996)	5052381	20.0000	19.97
*	77	Perylene-d12	264	25.605	25.597	(1.000)	906541	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	28.156	28.095	(1.100)	6891424	20.0000	19.95
	79	Dibenzo(a,h)anthracene	278	28.164	28.102	(1.100)	5971406	20.0000	19.96
	80	Benzo(g,h,i)perylene	276	28.156	28.095	(1.100)	6891424	20.0000	19.95
	90	N-Nitrosodimethylamine	74	4.742	4.703	(0.527)	1772339	40.0000	34.97
	91	Aniline	93	8.473	8.449	(0.942)	4533009	40.0000	38.93
	93	Benzidine	184	20.727	20.712	(0.898)	4871980	40.0000	38.54
	103	Pyridine	79	4.734	4.749	(0.526)	2882251	40.0000	34.44
	105	1-methylnaphthalene	142	13.110	13.103	(1.144)	3273339	20.0000	19.13
	111	Azobenzene (1,2-DP-Hydrazine)	77	16.474	16.451	(1.094)	3826513	20.0000	20.55

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187 Total Benzofluoranthenes	252	24.939	24.908	(0.974)	10786499	40.0000	42.65
120 2,3,4,6-Tetrachlorophenol	232	15.779	15.764	(1.048)	1249031	20.0000	20.28

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192302.D
Lab Smp Id: SKC0502-CAL7
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 16:40
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	268611	134306	537222	265925	-1.00
27 Naphthalene-d8	1007141	503571	2014282	1054983	4.75
42 Acenaphthene-d10	531283	265642	1062566	562747	5.92
59 Phenanthrene-d10	884709	442355	1769418	984304	11.26
69 Chrysene-d12	727768	363884	1455536	932978	28.20
134 Di-n-octylphthala	1108384	554192	2216768	1371620	23.75
77 Perylene-d12	824431	412216	1648862	906541	9.96

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	0.07
42 Acenaphthene-d10	15.05	14.55	15.55	15.05	0.05
59 Phenanthrene-d10	18.05	17.55	18.55	18.07	0.09
69 Chrysene-d12	23.07	22.57	23.57	23.09	0.07
134 Di-n-octylphthala	24.11	23.61	24.61	24.12	0.03
77 Perylene-d12	25.60	25.10	26.10	25.61	0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192302.D

Lab ID: SKC0502-CAL7
nt18.i, ABN.m, 19-MAR-2023 15:18

RT	CO-ELUTION COMPOUNDS
28.157	Benzo(g,h,i)perylene and Indeno(1,2,3-cd)pyrene
13.111	1-methylnaphthalene and 2-Methylnaphthalene

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.976	0.950	0.0260	Benzoic acid

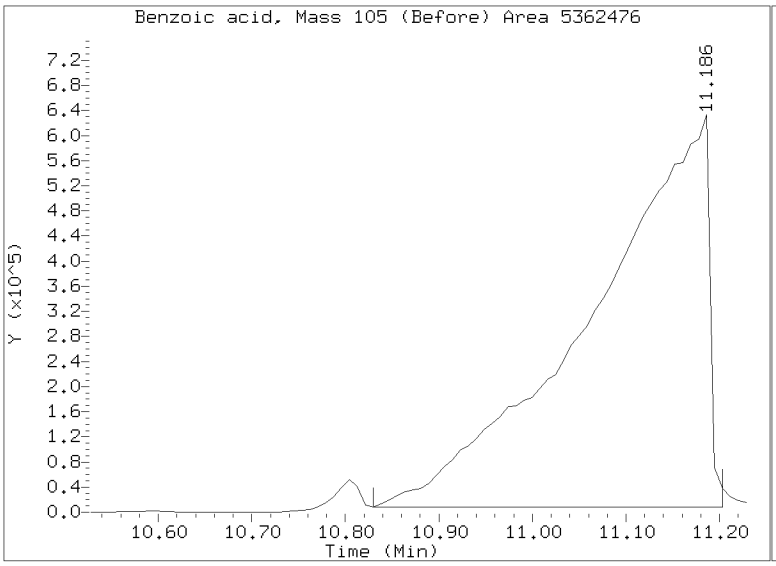
RRT check based on Ccal File: NT1803192308.D

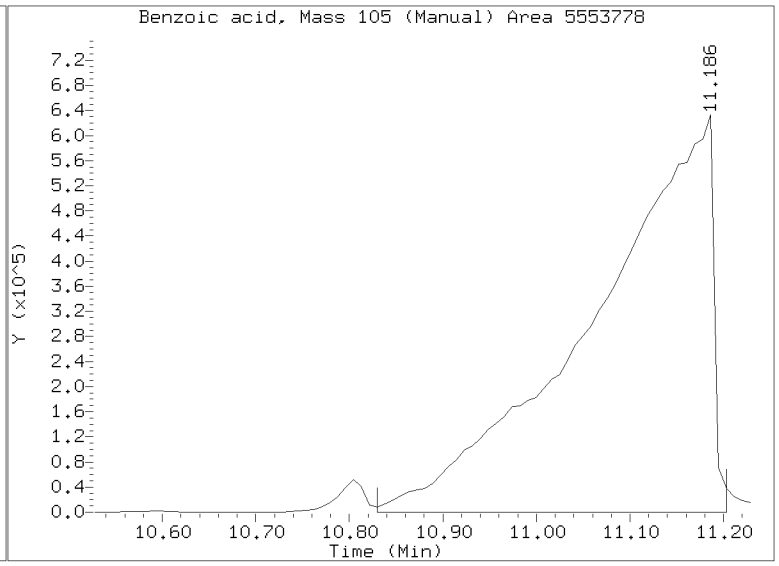
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230319.b/NT1803192302.D
Injection Date: 19-MAR-2023 15:18
Lab ID:SKC0502-CAL7 Client ID:
Report Date: 03/30/2023 16:56





Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192303.D

Date : 19-MAR-2023 15:59

Client ID:

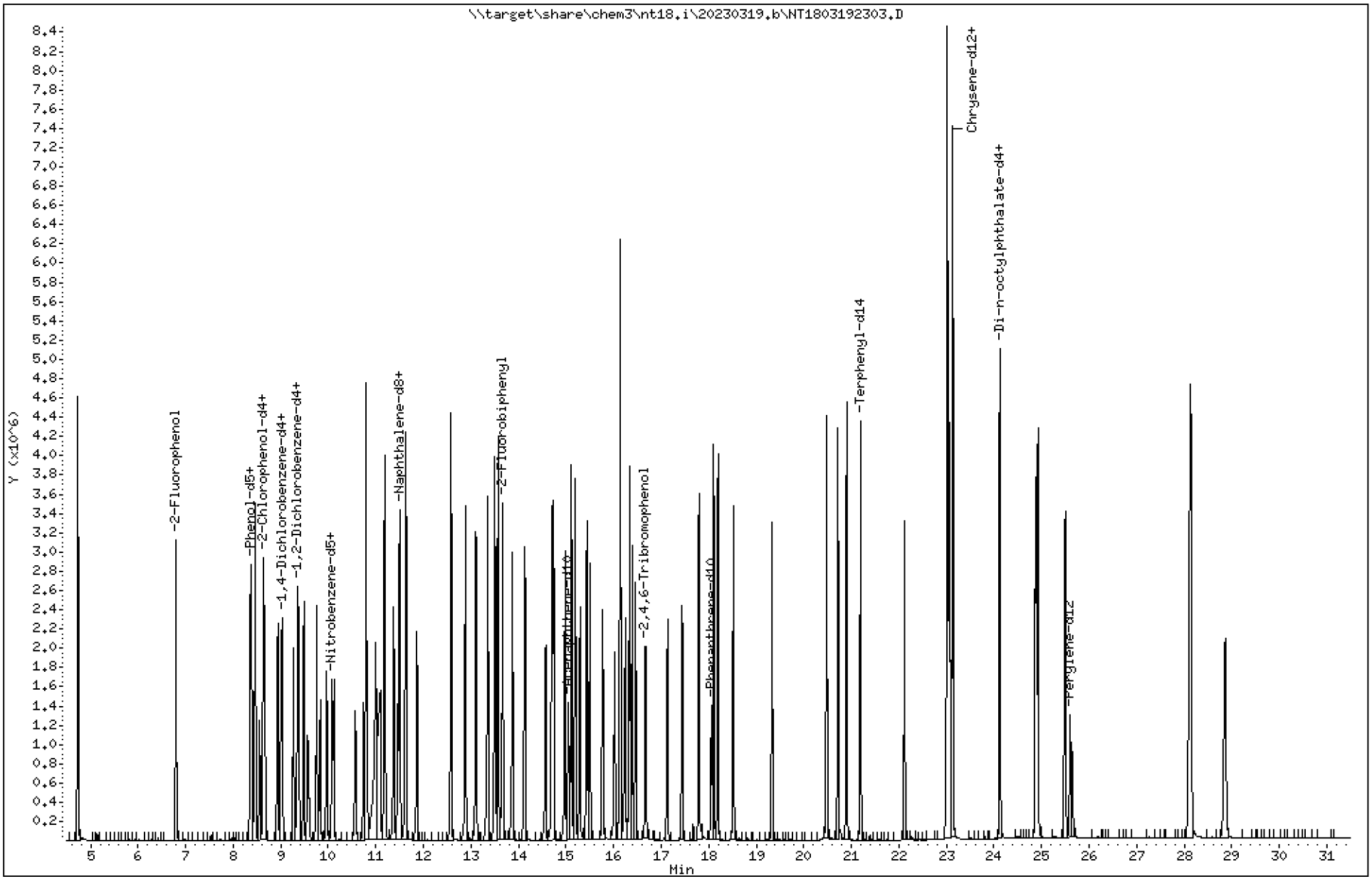
Instrument: nt18.i

Sample Info: cal6

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230319.b\NT1803192303.D
Lab Smp Id: SKC0502-CAL6
Inj Date : 19-MAR-2023 15:59
Operator : VTS Inst ID: nt18.i
Smp Info : cal6
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230319.b\ABN.m
Meth Date : 30-Mar-2023 15:35 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 19:24 Cal File: NT1803192308.D
Als bottle: 3 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: ORGDATA102

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1	2-Fluorophenol	112	6.796	6.788	(0.755)	1356694	15.0000	16.07
$	2	Phenol-d5	99	8.364	8.350	(0.930)	1647287	15.0000	15.79
	3	Phenol	94	8.388	8.372	(0.932)	1169811	10.0000	10.49
$	5	2-Chlorophenol-d4	132	8.635	8.628	(0.960)	1471233	15.0000	16.27
	4	Bis(2-Chloroethyl)ether	93	8.557	8.542	(0.951)	779794	10.0000	10.10
	6	2-Chlorophenol	128	8.666	8.657	(0.963)	1087023	10.0000	11.40
	7	1,3-Dichlorobenzene	146	8.936	8.929	(0.993)	1011286	10.0000	9.987
*	8	1,4-Dichlorobenzene-d4	152	8.998	8.999	(1.000)	273904	4.00000	
	9	1,4-Dichlorobenzene	146	9.029	9.022	(1.003)	1024707	10.0000	10.11
$	10	1,2-Dichlorobenzene-d4	152	9.355	9.348	(1.040)	661790	10.0000	9.975
	12	1,2-Dichlorobenzene	146	9.379	9.379	(1.042)	1007857	10.0000	10.09
	11	Benzyl alcohol	108	9.270	9.263	(1.030)	590798	10.0000	11.35
	14	2,2'-oxybis(1-Chloropropane)	121	9.565	9.566	(1.063)	228763	10.0000	9.729(M)
	13	2-Methylphenol	108	9.487	9.480	(1.054)	895345	10.0000	10.58
	17	Hexachloroethane	117	9.969	9.962	(1.108)	413445	10.0000	10.42
	16	N-Nitroso-di-n-propylamine	70	9.829	9.814	(1.092)	636236	10.0000	10.55
	15	4-Methylphenol	108	9.759	9.744	(1.085)	938796	10.0000	10.68
$	18	Nitrobenzene-d5	82	10.085	10.078	(0.880)	948605	10.0000	10.85
	19	Nitrobenzene	77	10.116	10.109	(0.883)	907709	10.0000	10.56
	20	Isophorone	82	10.574	10.559	(0.922)	1348821	10.0000	11.49
	21	2-Nitrophenol	139	10.736	10.736	(0.937)	543235	10.0000	10.49
	22	2,4-Dimethylphenol	107	10.795	10.787	(0.942)	1786434	20.0000	20.67
	23	Bis(2-Chloroethoxy)methane	93	10.990	10.982	(0.959)	853063	10.0000	10.05
	24	Benzoic acid	105	11.092	10.881	(0.968)	2714336	40.0000	41.72(M)
	25	2,4-Dichlorophenol	162	11.185	11.186	(0.976)	1587825	20.0000	19.96
	26	1,2,4-Trichlorobenzene	180	11.378	11.371	(0.993)	833007	10.0000	9.989
*	27	Naphthalene-d8	136	11.463	11.456	(1.000)	1060831	4.00000	
	28	Naphthalene	128	11.501	11.494	(1.003)	2857843	10.0000	9.928
	29	4-Chloroaniline	127	11.632	11.625	(1.015)	2284755	20.0000	20.63
	30	Hexachlorobutadiene	225	11.864	11.857	(1.035)	471003	10.0000	9.933
	31	4-Chloro-3-methylphenol	107	12.584	12.577	(1.098)	1559571	20.0000	21.29
	32	2-Methylnaphthalene	142	13.102	13.103	(1.143)	1725657	10.0000	10.03
	33	Hexachlorocyclopentadiene	237	13.350	13.351	(0.887)	1087745	20.0000	22.24

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
	34	2,4,6-Trichlorophenol	196	13.505	13.498	(0.898)	1114393	20.0000	22.04
	35	2,4,5-Trichlorophenol	196	13.575	13.567	(0.902)	1229944	20.0000	22.26
$	36	2-Fluorobiphenyl	172	13.667	13.660	(0.908)	2042503	10.0000	10.09
	37	2-Chloronaphthalene	162	13.869	13.862	(0.922)	1637778	10.0000	10.14
	38	2-Nitroaniline	65	14.132	14.117	(0.939)	937280	20.0000	22.15
	39	Dimethylphthalate	163	14.573	14.558	(0.969)	1757946	10.0000	10.44
	40	Acenaphthylene	152	14.736	14.729	(0.979)	2860786	10.0000	10.41
	41	2,6-Dinitrotoluene	165	14.705	14.690	(0.977)	805395	20.0000	20.56
*	42	Acenaphthene-d10	164	15.045	15.046	(1.000)	565146	4.00000	
	43	3-Nitroaniline	138	14.983	14.961	(0.996)	975260	20.0000	22.66
	44	Acenaphthene	153	15.114	15.107	(1.005)	1738950	10.0000	9.993
	45	2,4-Dinitrophenol	184	15.192	15.177	(1.010)	1051111	40.0000	42.61
	46	Dibenzofuran	168	15.439	15.424	(1.026)	2423717	10.0000	10.14
	47	4-Nitrophenol	109	15.292	15.270	(1.016)	474420	20.0000	20.57
	48	2,4-Dinitrotoluene	165	15.501	15.486	(1.030)	1063842	20.0000	20.55
	50	Diethylphthalate	149	16.027	16.004	(1.065)	1912295	10.0000	11.21
	49	Fluorene	166	16.143	16.136	(1.073)	2328388	10.0000	10.73
	51	4-Chlorophenyl-phenylether	204	16.135	16.128	(1.072)	1059053	10.0000	11.00
	52	4-Nitroaniline	138	16.251	16.213	(1.080)	956633	20.0000	21.01
	53	4,6-Dinitro-2-methylphenol	198	16.343	16.312	(0.905)	1242693	40.0000	42.00
	54	N-Nitrosodiphenylamine	169	16.389	16.375	(0.908)	1342192	10.0000	10.86
$	55	2,4,6-Tribromophenol	330	16.675	16.668	(1.108)	418306	15.0000	15.51
	56	4-Bromophenyl-phenylether	248	17.130	17.129	(0.949)	522703	10.0000	10.66
	57	Hexachlorobenzene	284	17.439	17.439	(0.966)	568200	10.0000	10.33
	58	Pentachlorophenol	266	17.795	17.788	(0.985)	746393	20.0000	20.80
*	59	Phenanthrene-d10	188	18.058	18.051	(1.000)	970202	4.00000	
	60	Phenanthrene	178	18.104	18.097	(1.003)	2744720	10.0000	10.36
	61	Anthracene	178	18.197	18.190	(1.008)	2740677	10.0000	10.85
	62	Carbazole	167	18.522	18.515	(1.026)	2447107	10.0000	11.01
	63	Di-n-butylphthalate	149	19.334	19.335	(1.071)	3007747	10.0000	10.26
	64	Fluoranthene	202	20.480	20.472	(0.887)	2869067	10.0000	10.36
	65	Pyrene	202	20.897	20.890	(0.905)	2964383	10.0000	10.15
$	66	Terphenyl-d14	244	21.191	21.184	(0.918)	2319690	10.0000	10.68
	67	Butylbenzylphthalate	149	22.121	22.113	(0.958)	1278009	10.0000	10.34
	68	Benzo(a)anthracene	228	23.050	23.043	(0.999)	2879471	10.0000	10.59
*	69	Chrysene-d12	240	23.081	23.074	(1.000)	869199	4.00000	
	70	3,3'-Dichlorobenzidine	252	23.019	23.004	(0.997)	3095845	30.0000	31.77
	71	Chrysene	228	23.127	23.112	(1.002)	2887050	10.0000	10.27
	72	bis(2-Ethylhexyl)phthalate	149	23.143	23.136	(0.960)	1923506	10.0000	10.32
*	134	Di-n-octylphthalate-d4	153	24.110	24.110	(1.000)	1320300	4.00000	
	73	Di-n-octylphthalate	149	24.126	24.119	(1.001)	3207583	10.0000	9.874
	74	Benzo(b)fluoranthene	252	24.877	24.870	(0.972)	2875586	10.0000	11.52
	75	Benzo(k)fluoranthene	252	24.923	24.908	(0.974)	2879135	10.0000	10.49
	76	Benzo(a)pyrene	252	25.496	25.481	(0.996)	2535891	10.0000	10.15
*	77	Perylene-d12	264	25.597	25.597	(1.000)	896678	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	28.125	28.095	(1.099)	3336433	10.0000	10.26
	79	Dibenzo(a,h)anthracene	278	28.133	28.102	(1.099)	2804935	10.0000	10.25
	80	Benzo(g,h,i)perylene	276	28.125	28.095	(1.099)	3336433	10.0000	10.26
	90	N-Nitrosodimethylamine	74	4.726	4.703	(0.525)	1036794	20.0000	19.86
	91	Aniline	93	8.465	8.449	(0.941)	2493726	20.0000	20.79
	93	Benzidine	184	20.719	20.712	(0.898)	2663310	20.0000	22.61
	103	Pyridine	79	4.734	4.749	(0.526)	1782769	20.0000	20.68
	105	1-methylnaphthalene	142	13.102	13.103	(1.143)	1725657	10.0000	10.03
	111	Azobenzene (1,2-DP-Hydrazine)	77	16.459	16.451	(1.094)	1940593	10.0000	10.38

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187 Total Benzofluoranthenes	252	24.923	24.908	(0.974)	5487394	20.0000	21.94
120 2,3,4,6-Tetrachlorophenol	232	15.772	15.764	(1.048)	604431	10.0000	9.773

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192303.D
Lab Smp Id: SKC0502-CAL6
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 16:40
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	268611	134306	537222	273904	1.97
27 Naphthalene-d8	1007141	503571	2014282	1060831	5.33
42 Acenaphthene-d10	531283	265642	1062566	565146	6.37
59 Phenanthrene-d10	884709	442355	1769418	970202	9.66
69 Chrysene-d12	727768	363884	1455536	869199	19.43
134 Di-n-octylphthala	1108384	554192	2216768	1320300	19.12
77 Perylene-d12	824431	412216	1648862	896678	8.76

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	-0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	0.07
42 Acenaphthene-d10	15.05	14.55	15.55	15.05	-0.00
59 Phenanthrene-d10	18.05	17.55	18.55	18.06	0.04
69 Chrysene-d12	23.07	22.57	23.57	23.08	0.03
134 Di-n-octylphthala	24.11	23.61	24.61	24.11	-0.00
77 Perylene-d12	25.60	25.10	26.10	25.60	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192303.D

Lab ID: SKC0502-CAL6
nt18.i, ABN.m, 19-MAR-2023 15:59

RT	CO-ELUTION COMPOUNDS
28.125	Benzo(g,h,i)perylene and Indeno(1,2,3-cd)pyrene
13.103	1-methylnaphthalene and 2-Methylnaphthalene

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.968	0.950	0.0179	Benzoic acid

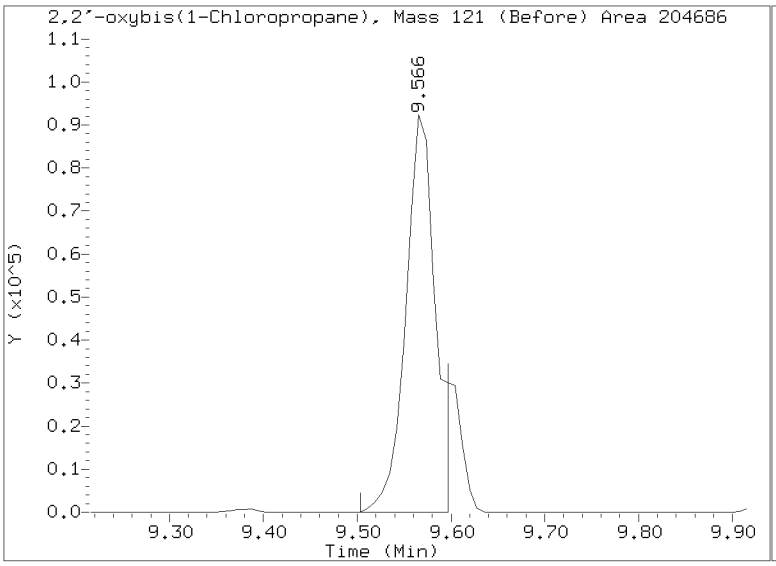
RRT check based on Ccal File: NT1803192308.D

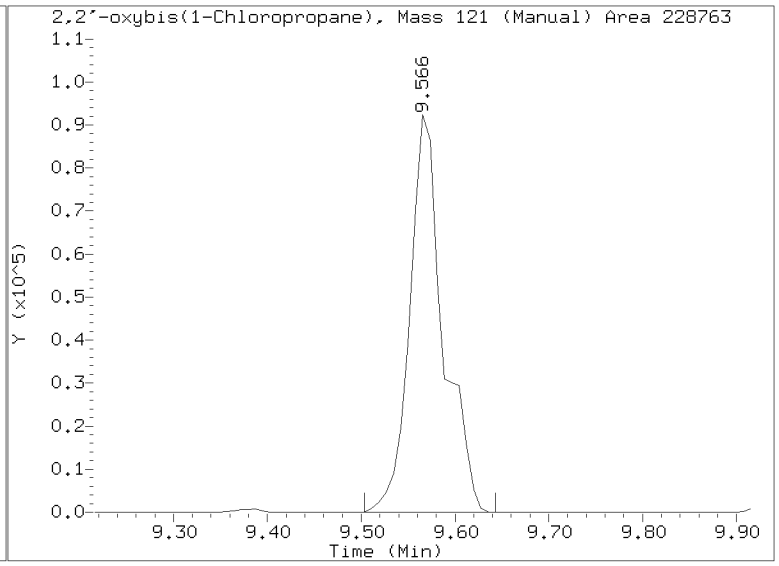
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

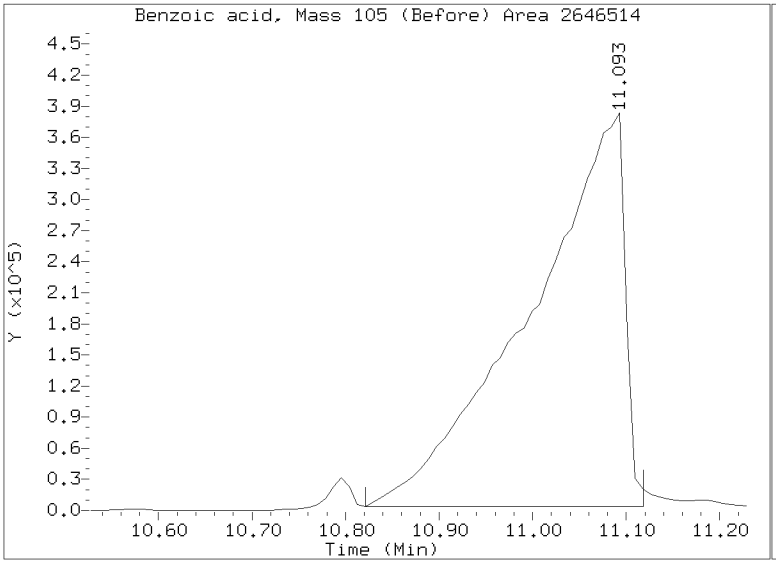
* Only compounds listed in the work order have been verified by the analyst *

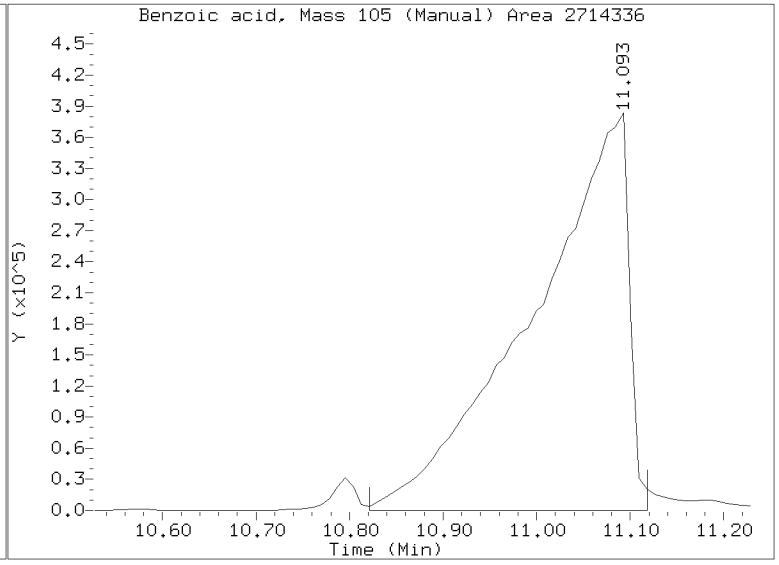
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230319.b/NT1803192303.D
Injection Date: 19-MAR-2023 15:59
Lab ID:SKC0502-CAL6 Client ID:
Report Date: 03/30/2023 16:56









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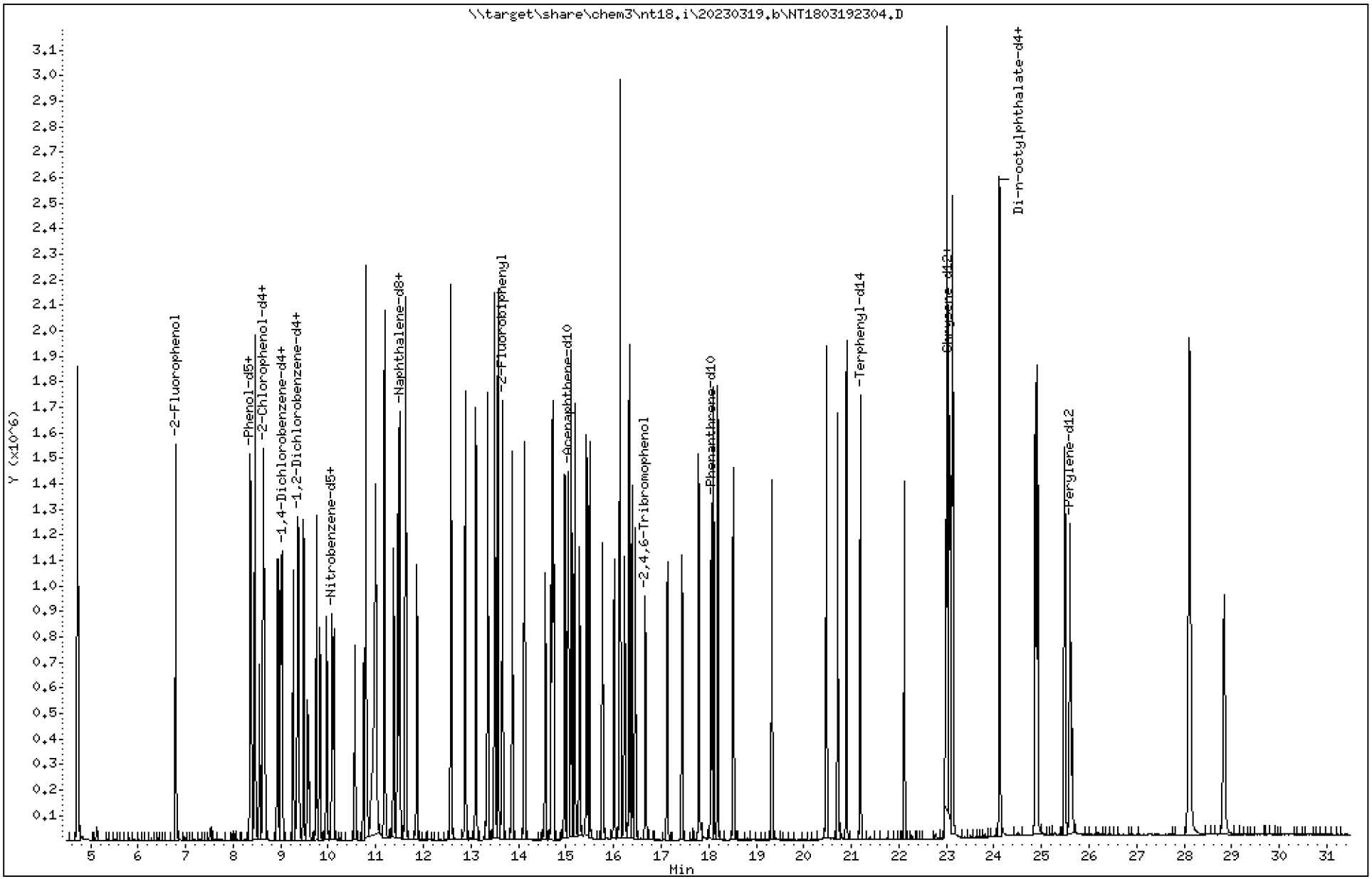
Date : 19-MAR-2023 16:40
Client ID:
Sample Info: cal5

Instrument: nt18.i
Operator: VTS
Column phase: ZB-5msi
Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230319.b\NT1803192304.D
Lab Smp Id: SKC0502-CAL5
Inj Date : 19-MAR-2023 16:40
Operator : VTS Inst ID: nt18.i
Smp Info : cal5
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230319.b\ABN.m
Meth Date : 30-Mar-2023 15:35 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 19:24 Cal File: NT1803192308.D
Als bottle: 4 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: ORGDATA102

							AMOUNTS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1 2-Fluorophenol	112	6.788	6.788	(0.754)	630264	7.50000	7.611
$	2 Phenol-d5	99	8.357	8.350	(0.929)	768582	7.50000	7.513
	3 Phenol	94	8.380	8.372	(0.931)	537909	5.00000	4.917
$	5 2-Chlorophenol-d4	132	8.635	8.628	(0.960)	665870	7.50000	7.509
	4 Bis(2-Chloroethyl)ether	93	8.550	8.542	(0.950)	361781	5.00000	4.779
	6 2-Chlorophenol	128	8.658	8.657	(0.962)	458185	5.00000	4.899
	7 1,3-Dichlorobenzene	146	8.937	8.929	(0.993)	471192	5.00000	4.745
*	8 1,4-Dichlorobenzene-d4	152	8.999	8.999	(1.000)	268611	4.00000	
	9 1,4-Dichlorobenzene	146	9.030	9.022	(1.003)	466534	5.00000	4.694
$	10 1,2-Dichlorobenzene-d4	152	9.356	9.348	(1.040)	304388	5.00000	4.678
	12 1,2-Dichlorobenzene	146	9.379	9.379	(1.042)	461594	5.00000	4.713
	11 Benzyl alcohol	108	9.262	9.263	(1.029)	263478	5.00000	5.162
	14 2,2'-oxybis(1-Chloropropane)	121	9.565	9.566	(1.063)	106482	5.00000	4.618(M)
	13 2-Methylphenol	108	9.480	9.480	(1.053)	409567	5.00000	4.933
	17 Hexachloroethane	117	9.969	9.962	(1.108)	191241	5.00000	4.914
	16 N-Nitroso-di-n-propylamine	70	9.821	9.814	(1.091)	292132	5.00000	4.941
	15 4-Methylphenol	108	9.752	9.744	(1.084)	430917	5.00000	4.998
$	18 Nitrobenzene-d5	82	10.078	10.078	(0.880)	437519	5.00000	5.270
	19 Nitrobenzene	77	10.116	10.109	(0.883)	417036	5.00000	5.110
	20 Isophorone	82	10.559	10.559	(0.922)	565460	5.00000	5.074
	21 2-Nitrophenol	139	10.736	10.736	(0.937)	220349	5.00000	4.544
	22 2,4-Dimethylphenol	107	10.787	10.787	(0.942)	802803	10.0000	9.784
	23 Bis(2-Chloroethoxy)methane	93	10.990	10.982	(0.959)	391729	5.00000	4.863
	24 Benzoic acid	105	11.024	10.881	(0.962)	1097860	20.0000	18.46
	25 2,4-Dichlorophenol	162	11.186	11.186	(0.976)	782936	10.0000	10.37
	26 1,2,4-Trichlorobenzene	180	11.378	11.371	(0.993)	379963	5.00000	4.799
*	27 Naphthalene-d8	136	11.455	11.456	(1.000)	1007141	4.00000	
	28 Naphthalene	128	11.501	11.494	(1.004)	1312983	5.00000	4.804
	29 4-Chloroaniline	127	11.625	11.625	(1.015)	1021035	10.0000	9.710
	30 Hexachlorobutadiene	225	11.864	11.857	(1.036)	213515	5.00000	4.743
	31 4-Chloro-3-methylphenol	107	12.576	12.577	(1.098)	696833	10.0000	10.02
	32 2-Methylnaphthalene	142	13.103	13.103	(1.144)	792536	5.00000	4.851
	33 Hexachlorocyclopentadiene	237	13.350	13.351	(0.887)	468425	10.0000	10.19

		QUANT SIG					AMOUNTS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.497	13.498	(0.897)	475794	10.0000	10.01
	35 2,4,5-Trichlorophenol	196	13.567	13.567	(0.902)	525169	10.0000	10.11
$	36 2-Fluorobiphenyl	172	13.660	13.660	(0.908)	933735	5.00000	4.908
	37 2-Chloronaphthalene	162	13.869	13.862	(0.922)	738646	5.00000	4.867
	38 2-Nitroaniline	65	14.124	14.117	(0.939)	411127	10.0000	10.34
	39 Dimethylphthalate	163	14.565	14.558	(0.968)	780950	5.00000	4.933
	40 Acenaphthylene	152	14.728	14.729	(0.979)	1287219	5.00000	4.980
	41 2,6-Dinitrotoluene	165	14.697	14.690	(0.977)	339558	10.0000	9.403
*	42 Acenaphthene-d10	164	15.045	15.046	(1.000)	531283	4.00000	
	43 3-Nitroaniline	138	14.976	14.961	(0.995)	410084	10.0000	10.14
	44 Acenaphthene	153	15.107	15.107	(1.004)	792958	5.00000	4.847
	45 2,4-Dinitrophenol	184	15.184	15.177	(1.009)	368685	20.0000	17.06
	46 Dibenzofuran	168	15.432	15.424	(1.026)	1081304	5.00000	4.811
	47 4-Nitrophenol	109	15.285	15.270	(1.016)	203539	10.0000	9.444
	48 2,4-Dinitrotoluene	165	15.493	15.486	(1.030)	445524	10.0000	9.373
	50 Diethylphthalate	149	16.012	16.004	(1.064)	839629	5.00000	5.235
	49 Fluorene	166	16.143	16.136	(1.073)	1015043	5.00000	4.975
	51 4-Chlorophenyl-phenylether	204	16.135	16.128	(1.072)	457765	5.00000	5.056
	52 4-Nitroaniline	138	16.228	16.213	(1.079)	382829	10.0000	9.269
	53 4,6-Dinitro-2-methylphenol	198	16.328	16.312	(0.905)	462660	20.0000	18.04
	54 N-Nitrosodiphenylamine	169	16.382	16.375	(0.908)	549674	5.00000	4.877
$	55 2,4,6-Tribromophenol	330	16.667	16.668	(1.108)	166555	7.50000	6.939
	56 4-Bromophenyl-phenylether	248	17.130	17.129	(0.949)	226239	5.00000	5.061
	57 Hexachlorobenzene	284	17.439	17.439	(0.966)	243777	5.00000	4.862
	58 Pentachlorophenol	266	17.787	17.788	(0.985)	281141	10.0000	9.133
*	59 Phenanthrene-d10	188	18.050	18.051	(1.000)	884709	4.00000	
	60 Phenanthrene	178	18.097	18.097	(1.003)	1175407	5.00000	4.867
	61 Anthracene	178	18.190	18.190	(1.008)	1161475	5.00000	5.044
	62 Carbazole	167	18.515	18.515	(1.026)	988767	5.00000	4.877
	63 Di-n-butylphthalate	149	19.335	19.335	(1.071)	1267475	5.00000	4.726
	64 Fluoranthene	202	20.472	20.472	(0.887)	1187487	5.00000	5.120
	65 Pyrene	202	20.897	20.890	(0.906)	1231209	5.00000	5.037
$	66 Terphenyl-d14	244	21.192	21.184	(0.918)	904882	5.00000	4.978
	67 Butylbenzylphthalate	149	22.113	22.113	(0.958)	488824	5.00000	4.669
	68 Benzo(a)anthracene	228	23.042	23.043	(0.999)	1154757	5.00000	5.071
*	69 Chrysene-d12	240	23.073	23.074	(1.000)	727768	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.003	23.004	(0.997)	1052891	15.0000	12.86
	71 Chrysene	228	23.120	23.112	(1.002)	1173682	5.00000	4.986
	72 bis(2-Ethylhexyl)phthalate	149	23.135	23.136	(0.960)	742481	5.00000	4.640
*	134 Di-n-octylphthalate-d4	153	24.111	24.110	(1.000)	1108384	4.00000	
	73 Di-n-octylphthalate	149	24.118	24.119	(1.000)	1306872	5.00000	4.792
	74 Benzo(b)fluoranthene	252	24.869	24.870	(0.972)	1214508	5.00000	5.292
	75 Benzo(k)fluoranthene	252	24.916	24.908	(0.973)	1241248	5.00000	4.917
	76 Benzo(a)pyrene	252	25.489	25.481	(0.996)	1104870	5.00000	4.813
*	77 Perylene-d12	264	25.597	25.597	(1.000)	824431	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	28.102	28.095	(1.098)	1384338	5.00000	4.745
	79 Dibenzo(a,h)anthracene	278	28.117	28.102	(1.098)	1154359	5.00000	4.758
	80 Benzo(g,h,i)perylene	276	28.102	28.095	(1.098)	1384338	5.00000	4.745
	90 N-Nitrosodimethylamine	74	4.711	4.703	(0.524)	498210	10.0000	9.732
	91 Aniline	93	8.457	8.449	(0.940)	1145663	10.0000	9.740
	93 Benzidine	184	20.712	20.712	(0.898)	945292	10.0000	9.586
	103 Pyridine	79	4.726	4.749	(0.525)	851019	10.0000	10.07
	105 1-methylnaphthalene	142	13.103	13.103	(1.144)	792536	5.00000	4.851
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.459	16.451	(1.094)	866899	5.00000	4.932

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187 Total Benzofluoranthenes	252	24.916	24.908	(0.973)	2339717	10.0000	10.17
120 2,3,4,6-Tetrachlorophenol	232	15.764	15.764	(1.048)	255084	5.00000	4.387

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192304.D
Lab Smp Id: SKC0502-CAL5
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 16:40
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	268611	134306	537222	268611	0.00
27 Naphthalene-d8	1007141	503571	2014282	1007141	0.00
42 Acenaphthene-d10	531283	265642	1062566	531283	0.00
59 Phenanthrene-d10	884709	442355	1769418	884709	0.00
69 Chrysene-d12	727768	363884	1455536	727768	0.00
134 Di-n-octylphthala	1108384	554192	2216768	1108384	0.00
77 Perylene-d12	824431	412216	1648862	824431	0.00

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	0.00
42 Acenaphthene-d10	15.05	14.55	15.55	15.05	0.00
59 Phenanthrene-d10	18.05	17.55	18.55	18.05	0.00
69 Chrysene-d12	23.07	22.57	23.57	23.07	0.00
134 Di-n-octylphthala	24.11	23.61	24.61	24.11	0.00
77 Perylene-d12	25.60	25.10	26.10	25.60	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192304.D

Lab ID: SKC0502-CAL5
nt18.i, ABN.m, 19-MAR-2023 16:40

RT	CO-ELUTION COMPOUNDS
28.102	Benzo(g,h,i)perylene and Indeno(1,2,3-cd)pyrene
13.103	1-methylnaphthalene and 2-Methylnaphthalene

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.962	0.950	0.0126	Benzoic acid

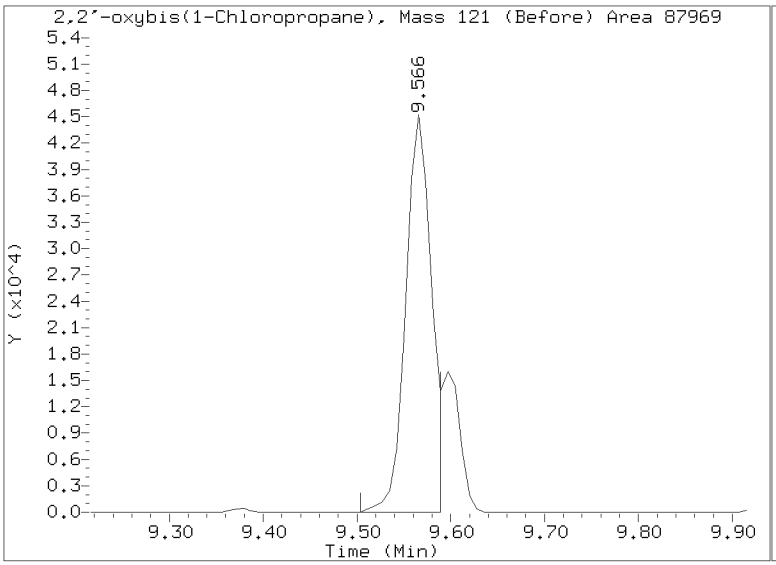
RRT check based on Ccal File: NT1803192308.D

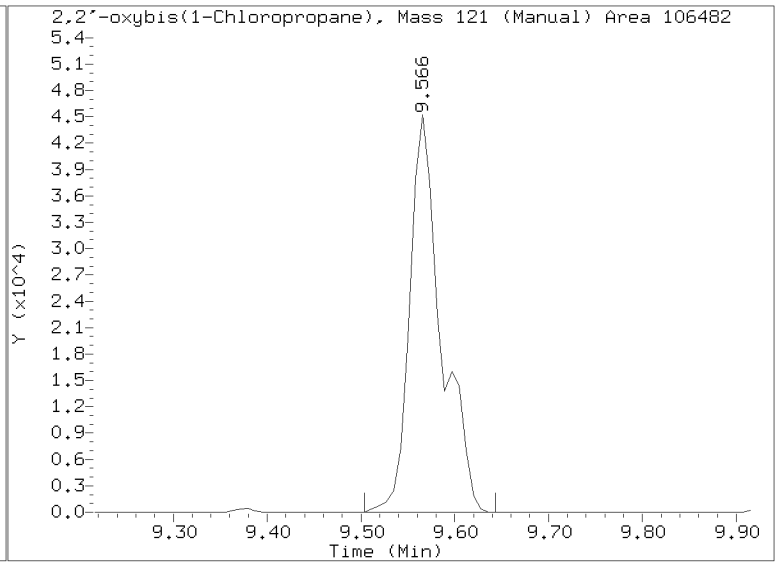
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

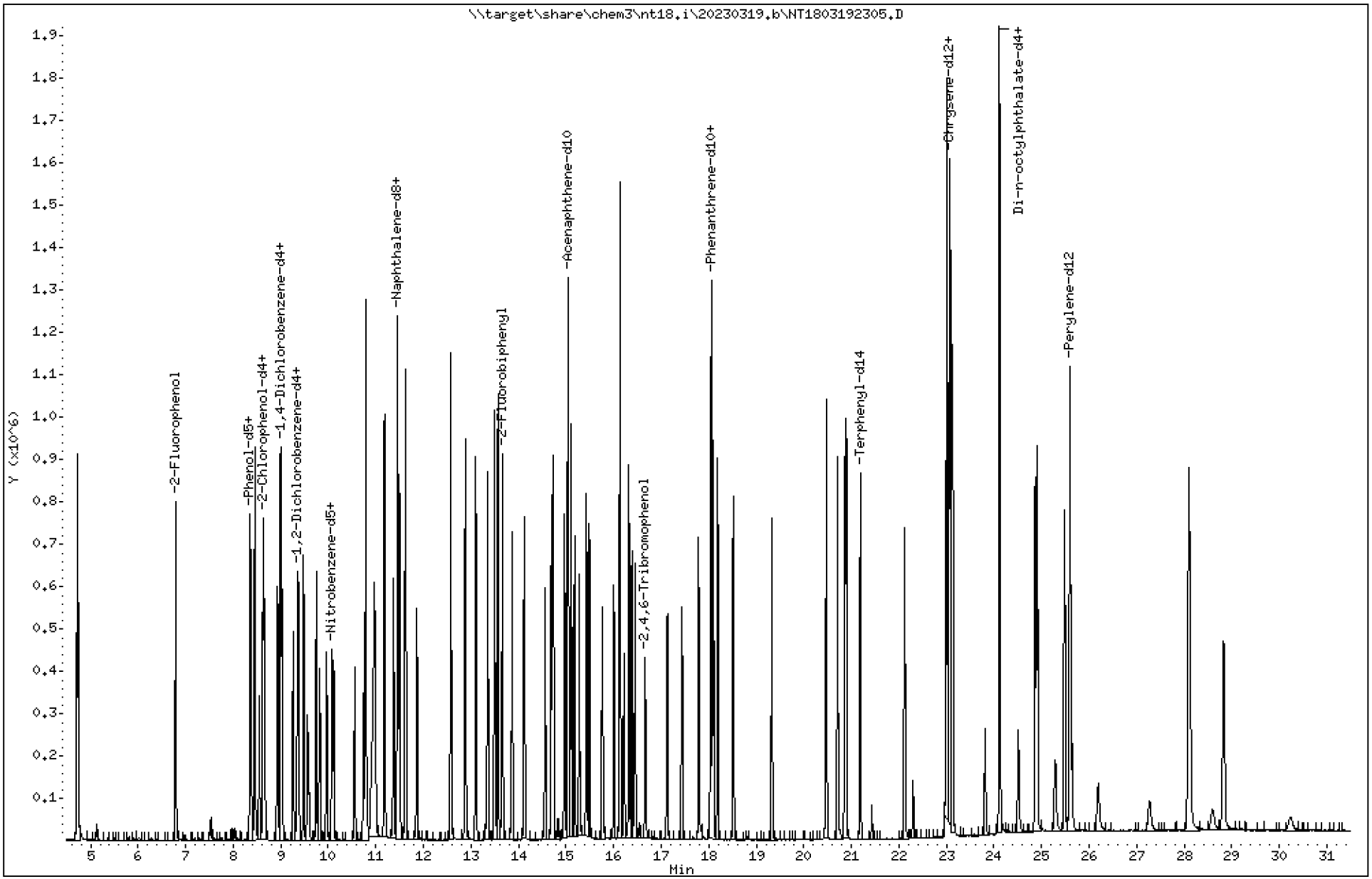
Datafile: //target/share/chem3/nt18.i/20230319.b/NT1803192304.D
Injection Date: 19-MAR-2023 16:40
Lab ID:SKC0502-CAL5 Client ID:
Report Date: 03/30/2023 16:57





Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192305.D
Date : 19-MAR-2023 17:21
Client ID:
Sample Info: cal4

Instrument: nt18.i
Operator: VTS
Column phase: ZB-5msi
Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230319.b\NT1803192305.D
Lab Smp Id: SKC0502-CAL4
Inj Date : 19-MAR-2023 17:21
Operator : VTS Inst ID: nt18.i
Smp Info : cal4
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230319.b\ABN.m
Meth Date : 30-Mar-2023 15:35 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 19:24 Cal File: NT1803192308.D
Als bottle: 5 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: ORGDATA102

							AMOUNTS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1 2-Fluorophenol	112	6.788	6.788	(0.754)	320518	3.75000	4.150
$	2 Phenol-d5	99	8.357	8.350	(0.929)	395135	3.75000	4.142
	3 Phenol	94	8.372	8.372	(0.930)	272712	2.50000	2.673
$	5 2-Chlorophenol-d4	132	8.635	8.628	(0.960)	340767	3.75000	4.120
	4 Bis(2-Chloroethyl)ether	93	8.550	8.542	(0.950)	187633	2.50000	2.658
	6 2-Chlorophenol	128	8.658	8.657	(0.962)	234756	2.50000	2.691
	7 1,3-Dichlorobenzene	146	8.929	8.929	(0.992)	243718	2.50000	2.632
*	8 1,4-Dichlorobenzene-d4	152	8.999	8.999	(1.000)	250513	4.00000	
	9 1,4-Dichlorobenzene	146	9.022	9.022	(1.003)	244435	2.50000	2.637
$	10 1,2-Dichlorobenzene-d4	152	9.348	9.348	(1.039)	158805	2.50000	2.617
	12 1,2-Dichlorobenzene	146	9.379	9.379	(1.042)	236556	2.50000	2.590
	11 Benzyl alcohol	108	9.262	9.263	(1.029)	131229	2.50000	2.757
	14 2,2'-oxybis(1-Chloropropane)	121	9.565	9.566	(1.063)	61330	2.50000	2.852(M)
	13 2-Methylphenol	108	9.480	9.480	(1.053)	206995	2.50000	2.673
	17 Hexachloroethane	117	9.961	9.962	(1.107)	95045	2.50000	2.619
	16 N-Nitroso-di-n-propylamine	70	9.821	9.814	(1.091)	149382	2.50000	2.709
	15 4-Methylphenol	108	9.744	9.744	(1.083)	220004	2.50000	2.736
$	18 Nitrobenzene-d5	82	10.077	10.078	(0.880)	217241	2.50000	2.824
	19 Nitrobenzene	77	10.109	10.109	(0.882)	209294	2.50000	2.768
	20 Isophorone	82	10.559	10.559	(0.922)	288363	2.50000	2.792
	21 2-Nitrophenol	139	10.736	10.736	(0.937)	97374	2.50000	2.178
	22 2,4-Dimethylphenol	107	10.787	10.787	(0.942)	400914	5.00000	5.273
	23 Bis(2-Chloroethoxy)methane	93	10.990	10.982	(0.959)	201612	2.50000	2.701
	24 Benzoic acid	105	10.973	10.881	(0.958)	462626	10.0000	8.525
	25 2,4-Dichlorophenol	162	11.186	11.186	(0.976)	377678	5.00000	5.398
	26 1,2,4-Trichlorobenzene	180	11.370	11.371	(0.993)	191943	2.50000	2.617
*	27 Naphthalene-d8	136	11.455	11.456	(1.000)	933186	4.00000	
	28 Naphthalene	128	11.494	11.494	(1.003)	668072	2.50000	2.638
	29 4-Chloroaniline	127	11.625	11.625	(1.015)	517187	5.00000	5.308
	30 Hexachlorobutadiene	225	11.864	11.857	(1.036)	108843	2.50000	2.609
	31 4-Chloro-3-methylphenol	107	12.576	12.577	(1.098)	348740	5.00000	5.412
	32 2-Methylnaphthalene	142	13.103	13.103	(1.144)	403189	2.50000	2.663
	33 Hexachlorocyclopentadiene	237	13.350	13.351	(0.887)	224632	5.00000	5.283

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
	34	2,4,6-Trichlorophenol	196	13.497	13.498	(0.897)	236809	5.00000	5.388
	35	2,4,5-Trichlorophenol	196	13.567	13.567	(0.902)	254460	5.00000	5.297
$	36	2-Fluorobiphenyl	172	13.660	13.660	(0.908)	463069	2.50000	2.632
	37	2-Chloronaphthalene	162	13.869	13.862	(0.922)	371641	2.50000	2.648
	38	2-Nitroaniline	65	14.124	14.117	(0.939)	202271	5.00000	5.499
	39	Dimethylphthalate	163	14.558	14.558	(0.968)	391429	2.50000	2.674
	40	Acenaphthylene	152	14.728	14.729	(0.979)	645390	2.50000	2.700
	41	2,6-Dinitrotoluene	165	14.689	14.690	(0.976)	160829	5.00000	4.853
*	42	Acenaphthene-d10	164	15.045	15.046	(1.000)	491320	4.00000	
	43	3-Nitroaniline	138	14.968	14.961	(0.995)	197752	5.00000	5.286
	44	Acenaphthene	153	15.107	15.107	(1.004)	401346	2.50000	2.653
	45	2,4-Dinitrophenol	184	15.176	15.177	(1.009)	140807	10.0000	7.213
	46	Dibenzofuran	168	15.432	15.424	(1.026)	548516	2.50000	2.639
	47	4-Nitrophenol	109	15.277	15.270	(1.015)	95933	5.00000	4.825
	48	2,4-Dinitrotoluene	165	15.486	15.486	(1.029)	213411	5.00000	4.899
	50	Diethylphthalate	149	16.004	16.004	(1.064)	380437	2.50000	2.565
	49	Fluorene	166	16.135	16.136	(1.072)	503752	2.50000	2.670
	51	4-Chlorophenyl-phenylether	204	16.135	16.128	(1.072)	224726	2.50000	2.684
	52	4-Nitroaniline	138	16.220	16.213	(1.078)	132480	5.00000	3.525
	53	4,6-Dinitro-2-methylphenol	198	16.320	16.312	(0.904)	195457	10.0000	8.241
	54	N-Nitrosodiphenylamine	169	16.382	16.375	(0.908)	270690	2.50000	2.549
$	55	2,4,6-Tribromophenol	330	16.667	16.668	(1.108)	75368	3.75000	3.463
	56	4-Bromophenyl-phenylether	248	17.130	17.129	(0.949)	111809	2.50000	2.655
	57	Hexachlorobenzene	284	17.439	17.439	(0.966)	121219	2.50000	2.566
	58	Pentachlorophenol	266	17.787	17.788	(0.985)	127610	5.00000	4.495
*	59	Phenanthrene-d10	188	18.050	18.051	(1.000)	833515	4.00000	
	60	Phenanthrene	178	18.097	18.097	(1.003)	592294	2.50000	2.603
	61	Anthracene	178	18.190	18.190	(1.008)	580808	2.50000	2.677
	62	Carbazole	167	18.514	18.515	(1.026)	512006	2.50000	2.680
	63	Di-n-butylphthalate	149	19.327	19.335	(1.071)	622020	2.50000	2.458
	64	Fluoranthene	202	20.472	20.472	(0.887)	598220	2.50000	2.692
	65	Pyrene	202	20.890	20.890	(0.905)	626362	2.50000	2.674
$	66	Terphenyl-d14	244	21.184	21.184	(0.918)	455114	2.50000	2.613
	67	Butylbenzylphthalate	149	22.113	22.113	(0.958)	242123	2.50000	2.402
	68	Benzo(a)anthracene	228	23.042	23.043	(0.999)	573755	2.50000	2.629
*	69	Chrysene-d12	240	23.073	23.074	(1.000)	697353	4.00000	
	70	3,3'-Dichlorobenzidine	252	23.003	23.004	(0.997)	554555	7.50000	7.059
	71	Chrysene	228	23.112	23.112	(1.002)	590659	2.50000	2.618
	72	bis(2-Ethylhexyl)phthalate	149	23.135	23.136	(0.960)	355041	2.50000	2.495
*	134	Di-n-octylphthalate-d4	153	24.110	24.110	(1.000)	977195	4.00000	
	73	Di-n-octylphthalate	149	24.118	24.119	(1.000)	624857	2.50000	2.599
	74	Benzo(b)fluoranthene	252	24.869	24.870	(0.972)	562794	2.50000	2.636
	75	Benzo(k)fluoranthene	252	24.908	24.908	(0.973)	653221	2.50000	2.781
	76	Benzo(a)pyrene	252	25.481	25.481	(0.995)	544644	2.50000	2.551
*	77	Perylene-d12	264	25.597	25.597	(1.000)	766995	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	28.094	28.095	(1.098)	646542	2.50000	2.406
	79	Dibenzo(a,h)anthracene	278	28.110	28.102	(1.098)	531999	2.50000	2.392
	80	Benzo(g,h,i)perylene	276	28.094	28.095	(1.098)	646542	2.50000	2.406
	90	N-Nitrosodimethylamine	74	4.703	4.703	(0.523)	259301	5.00000	5.431
	91	Aniline	93	8.457	8.449	(0.940)	572324	5.00000	5.217
	93	Benzidine	184	20.712	20.712	(0.898)	565640	5.00000	5.986
	103	Pyridine	79	4.726	4.749	(0.525)	442276	5.00000	5.609
	105	1-methylnaphthalene	142	13.103	13.103	(1.144)	403189	2.50000	2.663
	111	Azobenzene (1,2-DP-Hydrazine)	77	16.451	16.451	(1.093)	431708	2.50000	2.656

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187 Total Benzofluoranthenes	252	24.908	24.908	(0.973)	1160223	5.00000	5.422
120 2,3,4,6-Tetrachlorophenol	232	15.764	15.764	(1.048)	122342	2.50000	2.275

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192305.D
Lab Smp Id: SKC0502-CAL4
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 16:40
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	268611	134306	537222	250513	-6.74
27 Naphthalene-d8	1007141	503571	2014282	933186	-7.34
42 Acenaphthene-d10	531283	265642	1062566	491320	-7.52
59 Phenanthrene-d10	884709	442355	1769418	833515	-5.79
69 Chrysene-d12	727768	363884	1455536	697353	-4.18
134 Di-n-octylphthala	1108384	554192	2216768	977195	-11.84
77 Perylene-d12	824431	412216	1648862	766995	-6.97

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	-0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	-0.00
42 Acenaphthene-d10	15.05	14.55	15.55	15.05	-0.00
59 Phenanthrene-d10	18.05	17.55	18.55	18.05	-0.00
69 Chrysene-d12	23.07	22.57	23.57	23.07	-0.00
134 Di-n-octylphthala	24.11	23.61	24.61	24.11	-0.00
77 Perylene-d12	25.60	25.10	26.10	25.60	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192305.D

Lab ID: SKC0502-CAL4
nt18.i, ABN.m, 19-MAR-2023 17:21

RT	CO-ELUTION COMPOUNDS
28.095	Benzo(g,h,i)perylene and Indeno(1,2,3-cd)pyrene
13.103	1-methylnaphthalene and 2-Methylnaphthalene

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.958	0.950	0.0081	Benzoic acid

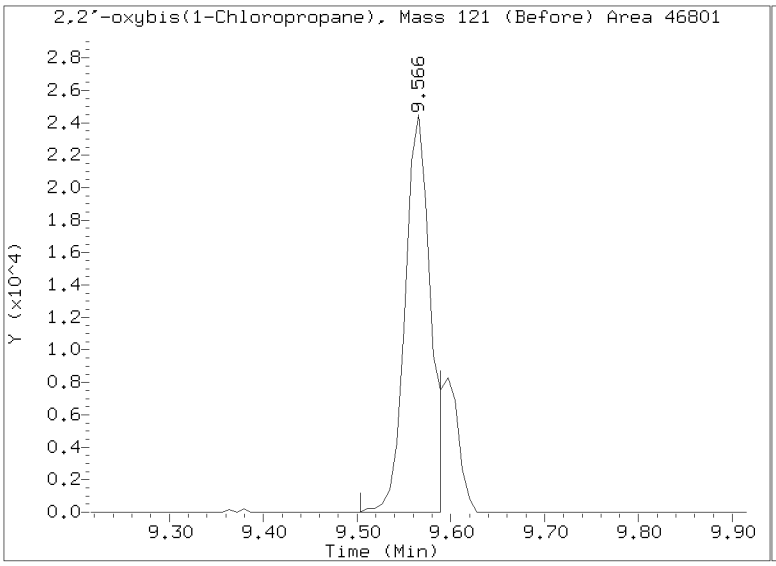
RRT check based on Ccal File: NT1803192308.D

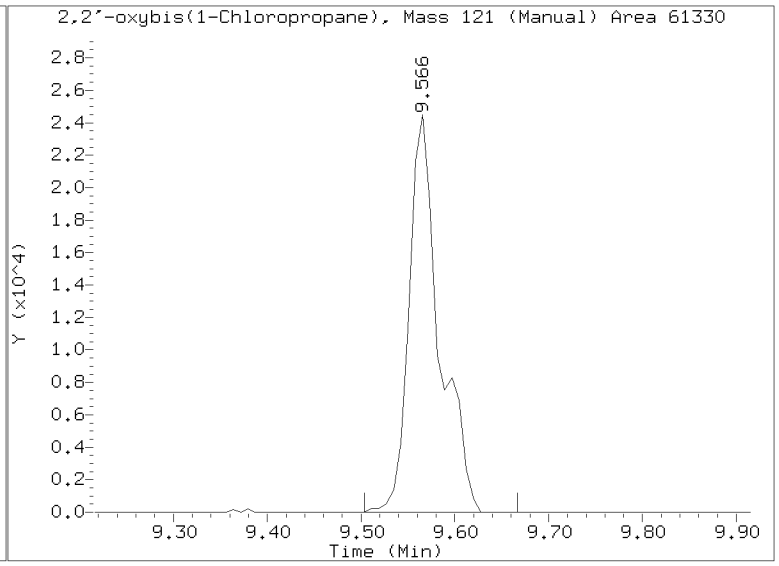
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

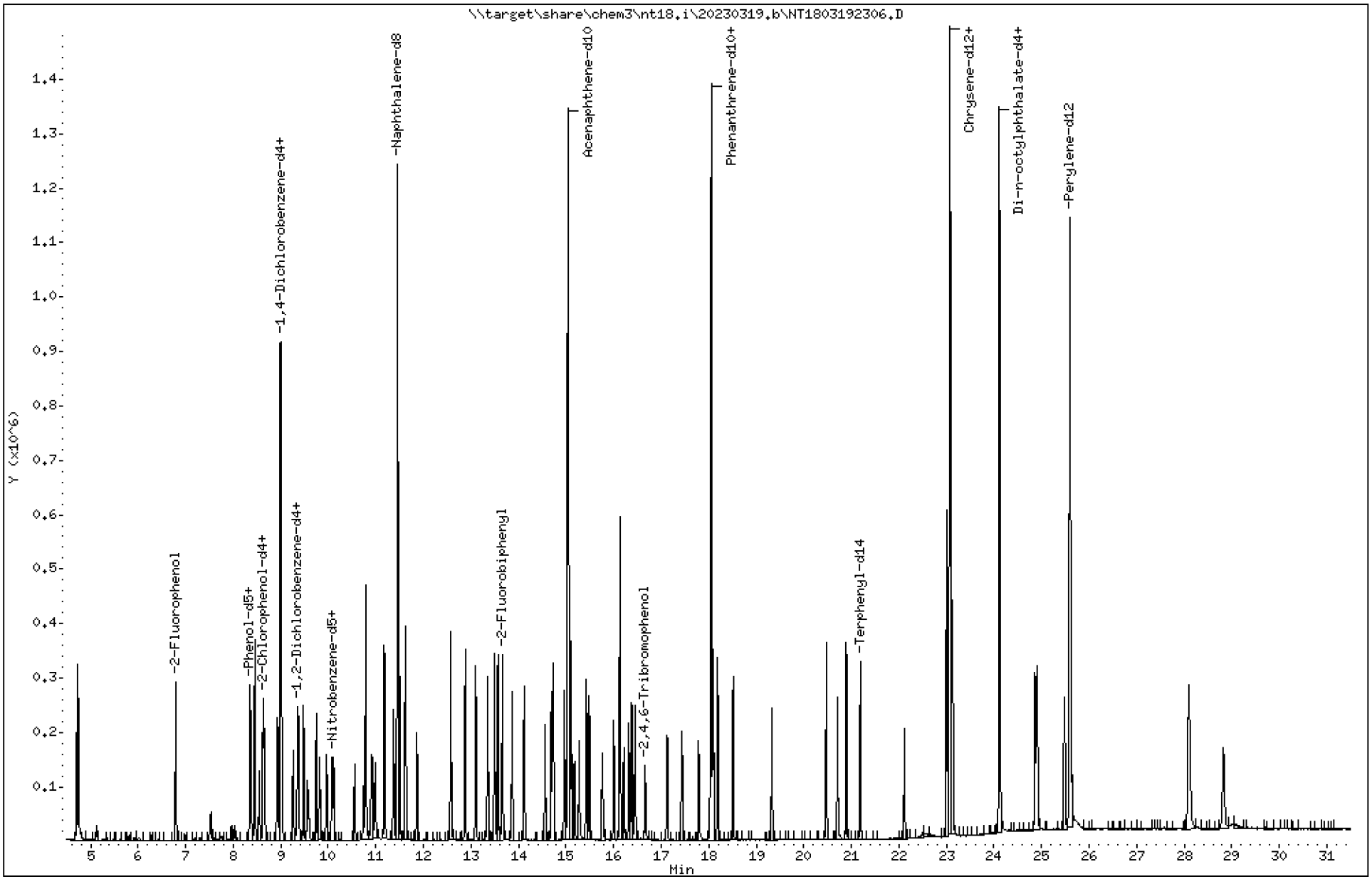
Datafile: //target/share/chem3/nt18.i/20230319.b/NT1803192305.D
Injection Date: 19-MAR-2023 17:21
Lab ID:SKC0502-CAL4 Client ID:
Report Date: 03/30/2023 16:57





Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192306.D
Date : 19-MAR-2023 18:02
Client ID:
Sample Info: cal3

Instrument: nt18.i
Operator: VTS
Column phase: ZB-5msi
Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230319.b\NT1803192306.D
Lab Smp Id: SKC0502-CAL3
Inj Date : 19-MAR-2023 18:02
Operator : VTS Inst ID: nt18.i
Smp Info : cal3
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230319.b\ABN.m
Meth Date : 30-Mar-2023 15:35 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 19:24 Cal File: NT1803192308.D
Als bottle: 6 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: ORGDATA102

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1 2-Fluorophenol	112	6.788	6.788	(0.754)	112871	1.50000	1.466
$	2 Phenol-d5	99	8.349	8.350	(0.928)	139868	1.50000	1.471
	3 Phenol	94	8.372	8.372	(0.930)	99382	1.00000	0.9774
$	5 2-Chlorophenol-d4	132	8.627	8.628	(0.959)	118786	1.50000	1.441
	4 Bis(2-Chloroethyl)ether	93	8.542	8.542	(0.949)	68060	1.00000	0.9672
	6 2-Chlorophenol	128	8.658	8.657	(0.962)	81974	1.00000	0.9429
	7 1,3-Dichlorobenzene	146	8.929	8.929	(0.992)	91440	1.00000	0.9906
*	8 1,4-Dichlorobenzene-d4	152	8.999	8.999	(1.000)	249685	4.00000	
	9 1,4-Dichlorobenzene	146	9.022	9.022	(1.003)	90855	1.00000	0.9835
$	10 1,2-Dichlorobenzene-d4	152	9.348	9.348	(1.039)	58739	1.00000	0.9712
	12 1,2-Dichlorobenzene	146	9.379	9.379	(1.042)	86955	1.00000	0.9552
	11 Benzyl alcohol	108	9.255	9.263	(1.028)	43870	1.00000	0.9246
	14 2,2'-oxybis(1-Chloropropane)	121	9.565	9.566	(1.063)	20295	1.00000	0.9468
	13 2-Methylphenol	108	9.480	9.480	(1.053)	74572	1.00000	0.9663
	17 Hexachloroethane	117	9.969	9.962	(1.108)	34600	1.00000	0.9565
	16 N-Nitroso-di-n-propylamine	70	9.814	9.814	(1.091)	52497	1.00000	0.9552
	15 4-Methylphenol	108	9.744	9.744	(1.083)	75899	1.00000	0.9471
$	18 Nitrobenzene-d5	82	10.077	10.078	(0.880)	72620	1.00000	0.9349
	19 Nitrobenzene	77	10.109	10.109	(0.882)	73599	1.00000	0.9637
	20 Isophorone	82	10.559	10.559	(0.922)	96530	1.00000	0.9256
	21 2-Nitrophenol	139	10.736	10.736	(0.937)	25520	1.00000	0.5673
	22 2,4-Dimethylphenol	107	10.787	10.787	(0.942)	147059	2.00000	1.915
	23 Bis(2-Chloroethoxy)methane	93	10.982	10.982	(0.959)	75451	1.00000	1.001
	24 Benzoic acid	105	10.923	10.881	(0.954)	100529	4.00000	1.852
	25 2,4-Dichlorophenol	162	11.177	11.186	(0.976)	134574	2.00000	1.904
	26 1,2,4-Trichlorobenzene	180	11.370	11.371	(0.993)	72181	1.00000	0.9744
*	27 Naphthalene-d8	136	11.455	11.456	(1.000)	942385	4.00000	
	28 Naphthalene	128	11.494	11.494	(1.003)	248806	1.00000	0.9729
	29 4-Chloroaniline	127	11.625	11.625	(1.015)	183630	2.00000	1.866
	30 Hexachlorobutadiene	225	11.864	11.857	(1.036)	41171	1.00000	0.9774
	31 4-Chloro-3-methylphenol	107	12.576	12.577	(1.098)	118990	2.00000	1.828
	32 2-Methylnaphthalene	142	13.103	13.103	(1.144)	152810	1.00000	0.9995
	33 Hexachlorocyclopentadiene	237	13.350	13.351	(0.887)	73126	2.00000	1.695

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
	34	2,4,6-Trichlorophenol	196	13.497	13.498	(0.897)	75948	2.00000	1.704
	35	2,4,5-Trichlorophenol	196	13.567	13.567	(0.902)	83692	2.00000	1.717
$	36	2-Fluorobiphenyl	172	13.660	13.660	(0.908)	170899	1.00000	0.9575
	37	2-Chloronaphthalene	162	13.861	13.862	(0.921)	136807	1.00000	0.9609
	38	2-Nitroaniline	65	14.116	14.117	(0.938)	65460	2.00000	1.754
	39	Dimethylphthalate	163	14.558	14.558	(0.968)	140926	1.00000	0.9489
	40	Acenaphthylene	152	14.728	14.729	(0.979)	234897	1.00000	0.9688
	41	2,6-Dinitrotoluene	165	14.689	14.690	(0.976)	48818	2.00000	1.460
*	42	Acenaphthene-d10	164	15.045	15.046	(1.000)	498398	4.00000	
	43	3-Nitroaniline	138	14.960	14.961	(0.994)	63857	2.00000	1.683
	44	Acenaphthene	153	15.107	15.107	(1.004)	150767	1.00000	0.9824
	45	2,4-Dinitrophenol	184	15.176	15.177	(1.009)	29004	4.00000	1.484
	46	Dibenzofuran	168	15.432	15.424	(1.026)	206929	1.00000	0.9815
	47	4-Nitrophenol	109	15.269	15.270	(1.015)	29342	2.00000	1.458
	48	2,4-Dinitrotoluene	165	15.486	15.486	(1.029)	67910	2.00000	1.547
	50	Diethylphthalate	149	16.004	16.004	(1.064)	136612	1.00000	0.9079
	49	Fluorene	166	16.135	16.136	(1.072)	189883	1.00000	0.9922
	51	4-Chlorophenyl-phenylether	204	16.135	16.128	(1.072)	84443	1.00000	0.9941
	52	4-Nitroaniline	138	16.212	16.213	(1.078)	46141	2.00000	1.218
	53	4,6-Dinitro-2-methylphenol	198	16.320	16.312	(0.904)	48124	4.00000	2.011
	54	N-Nitrosodiphenylamine	169	16.374	16.375	(0.907)	105223	1.00000	0.9710
$	55	2,4,6-Tribromophenol	330	16.667	16.668	(1.108)	24640	1.50000	1.130
	56	4-Bromophenyl-phenylether	248	17.130	17.129	(0.949)	39964	1.00000	0.9297
	57	Hexachlorobenzene	284	17.439	17.439	(0.966)	46011	1.00000	0.9542
	58	Pentachlorophenol	266	17.787	17.788	(0.985)	33813	2.00000	1.184
*	59	Phenanthrene-d10	188	18.050	18.051	(1.000)	850721	4.00000	
	60	Phenanthrene	178	18.097	18.097	(1.003)	224692	1.00000	0.9676
	61	Anthracene	178	18.190	18.190	(1.008)	212597	1.00000	0.9602
	62	Carbazole	167	18.514	18.515	(1.026)	189763	1.00000	0.9733
	63	Di-n-butylphthalate	149	19.327	19.335	(1.071)	199514	1.00000	0.7716
	64	Fluoranthene	202	20.472	20.472	(0.887)	219568	1.00000	0.9914
	65	Pyrene	202	20.890	20.890	(0.905)	223729	1.00000	0.9584
$	66	Terphenyl-d14	244	21.184	21.184	(0.918)	167012	1.00000	0.9620
	67	Butylbenzylphthalate	149	22.113	22.113	(0.958)	67256	1.00000	0.6668
	68	Benzo(a)anthracene	228	23.042	23.043	(0.999)	213716	1.00000	0.9827
*	69	Chrysene-d12	240	23.073	23.074	(1.000)	695007	4.00000	
	70	3,3'-Dichlorobenzidine	252	23.003	23.004	(0.997)	195554	3.00000	2.496
	71	Chrysene	228	23.112	23.112	(1.002)	220968	1.00000	0.9829
	72	bis(2-Ethylhexyl)phthalate	149	23.135	23.136	(0.960)	105077	1.00000	0.7882
*	134	Di-n-octylphthalate-d4	153	24.110	24.110	(1.000)	908791	4.00000	
	73	Di-n-octylphthalate	149	24.118	24.119	(1.000)	221655	1.00000	0.9913
	74	Benzo(b)fluoranthene	252	24.861	24.870	(0.971)	201647	1.00000	0.9362
	75	Benzo(k)fluoranthene	252	24.908	24.908	(0.973)	227789	1.00000	0.9615
	76	Benzo(a)pyrene	252	25.481	25.481	(0.995)	178246	1.00000	0.8279
*	77	Perylene-d12	264	25.597	25.597	(1.000)	773685	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	28.086	28.095	(1.097)	204928	1.00000	0.7611
	79	Dibenzo(a,h)anthracene	278	28.110	28.102	(1.098)	168633	1.00000	0.7589
	80	Benzo(g,h,i)perylene	276	28.086	28.095	(1.097)	204928	1.00000	0.7611
	90	N-Nitrosodimethylamine	74	4.703	4.703	(0.523)	94726	2.00000	1.991
	91	Aniline	93	8.449	8.449	(0.939)	208013	2.00000	1.902
	93	Benzidine	184	20.704	20.712	(0.897)	155775	2.00000	1.654
	103	Pyridine	79	4.734	4.749	(0.526)	162723	2.00000	2.071
	105	1-methylnaphthalene	142	13.103	13.103	(1.144)	152810	1.00000	0.9995
	111	Azobenzene (1,2-DP-Hydrazine)	77	16.451	16.451	(1.093)	156925	1.00000	0.9516

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187 Total Benzofluoranthenes	252	24.908	24.908	(0.973)	410386	2.00000	1.901
120 2,3,4,6-Tetrachlorophenol	232	15.764	15.764	(1.048)	34386	1.00000	0.6305

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192306.D
Lab Smp Id: SKC0502-CAL3
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 16:40
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	268611	134306	537222	249685	-7.05
27 Naphthalene-d8	1007141	503571	2014282	942385	-6.43
42 Acenaphthene-d10	531283	265642	1062566	498398	-6.19
59 Phenanthrene-d10	884709	442355	1769418	850721	-3.84
69 Chrysene-d12	727768	363884	1455536	695007	-4.50
134 Di-n-octylphthala	1108384	554192	2216768	908791	-18.01
77 Perylene-d12	824431	412216	1648862	773685	-6.16

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	-0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	-0.00
42 Acenaphthene-d10	15.05	14.55	15.55	15.05	-0.00
59 Phenanthrene-d10	18.05	17.55	18.55	18.05	-0.00
69 Chrysene-d12	23.07	22.57	23.57	23.07	-0.00
134 Di-n-octylphthala	24.11	23.61	24.61	24.11	-0.00
77 Perylene-d12	25.60	25.10	26.10	25.60	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192306.D

Lab ID: SKC0502-CAL3
nt18.i, ABN.m, 19-MAR-2023 18:02

RT	CO-ELUTION COMPOUNDS
28.087	Benzo(g,h,i)perylene and Indeno(1,2,3-cd)pyrene
13.103	1-methylnaphthalene and 2-Methylnaphthalene

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

RRT check based on Ccal File: NT1803192308.D

On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192307.D

Page 1

Date : 19-MAR-2023 18:43

Client ID:

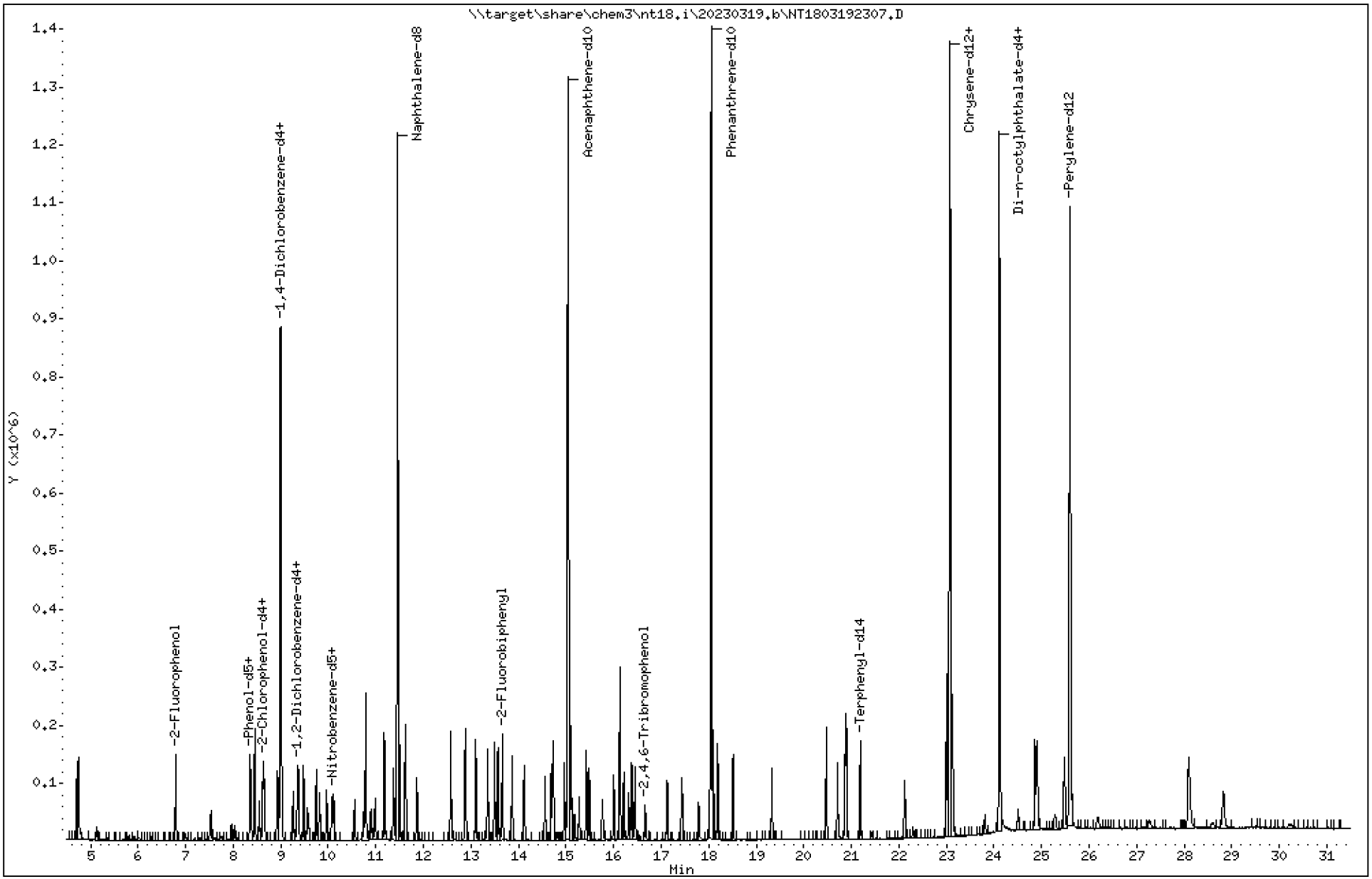
Instrument: nt18.i

Sample Info: cal2

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230319.b\NT1803192307.D
Lab Smp Id: SKC0502-CAL2
Inj Date : 19-MAR-2023 18:43
Operator : VTS Inst ID: nt18.i
Smp Info : cal2
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230319.b\ABN.m
Meth Date : 30-Mar-2023 15:35 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 19:24 Cal File: NT1803192308.D
Als bottle: 7 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: ORGDATA102

							AMOUNTS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1 2-Fluorophenol	112	6.788	6.788	(0.754)	57589	0.75000	0.7695
$	2 Phenol-d5	99	8.349	8.350	(0.928)	72413	0.75000	0.7832
	3 Phenol	94	8.372	8.372	(0.930)	51117	0.50000	0.5171
$	5 2-Chlorophenol-d4	132	8.627	8.628	(0.959)	59860	0.75000	0.7469
	4 Bis(2-Chloroethyl)ether	93	8.542	8.542	(0.949)	36741	0.50000	0.5370
	6 2-Chlorophenol	128	8.658	8.657	(0.962)	42995	0.50000	0.5086
	7 1,3-Dichlorobenzene	146	8.929	8.929	(0.992)	48224	0.50000	0.5373
*	8 1,4-Dichlorobenzene-d4	152	8.998	8.999	(1.000)	242756	4.00000	
	9 1,4-Dichlorobenzene	146	9.022	9.022	(1.003)	47883	0.50000	0.5331
$	10 1,2-Dichlorobenzene-d4	152	9.348	9.348	(1.039)	32350	0.50000	0.5501
	12 1,2-Dichlorobenzene	146	9.379	9.379	(1.042)	46903	0.50000	0.5299
	11 Benzyl alcohol	108	9.254	9.263	(1.028)	22010	0.50000	0.4771
	14 2,2'-oxybis(1-Chloropropane)	121	9.565	9.566	(1.063)	11497	0.50000	0.5517(M)
	13 2-Methylphenol	108	9.480	9.480	(1.053)	38642	0.50000	0.5150
	17 Hexachloroethane	117	9.961	9.962	(1.107)	18499	0.50000	0.5260
	16 N-Nitroso-di-n-propylamine	70	9.813	9.814	(1.091)	27724	0.50000	0.5188
	15 4-Methylphenol	108	9.744	9.744	(1.083)	39946	0.50000	0.5127
$	18 Nitrobenzene-d5	82	10.077	10.078	(0.880)	37294	0.50000	0.4931
	19 Nitrobenzene	77	10.108	10.109	(0.882)	38207	0.50000	0.5139
	20 Isophorone	82	10.551	10.559	(0.921)	48779	0.50000	0.4805
	21 2-Nitrophenol	139	10.736	10.736	(0.937)	12940	0.50000	0.2956
	22 2,4-Dimethylphenol	107	10.787	10.787	(0.942)	76246	1.00000	1.020
	23 Bis(2-Chloroethoxy)methane	93	10.982	10.982	(0.959)	37900	0.50000	0.5165
	24 Benzoic acid	105	10.897	10.881	(0.951)	27406	2.00000	0.5197
	25 2,4-Dichlorophenol	162	11.177	11.186	(0.976)	67122	1.00000	0.9757
	26 1,2,4-Trichlorobenzene	180	11.370	11.371	(0.993)	37735	0.50000	0.5232
*	27 Naphthalene-d8	136	11.455	11.456	(1.000)	917444	4.00000	
	28 Naphthalene	128	11.493	11.494	(1.003)	135455	0.50000	0.5441
	29 4-Chloroaniline	127	11.625	11.625	(1.015)	97692	1.00000	1.020
	30 Hexachlorobutadiene	225	11.864	11.857	(1.036)	22163	0.50000	0.5404
	31 4-Chloro-3-methylphenol	107	12.576	12.577	(1.098)	59393	1.00000	0.9374
	32 2-Methylnaphthalene	142	13.102	13.103	(1.144)	79809	0.50000	0.5362
	33 Hexachlorocyclopentadiene	237	13.350	13.351	(0.887)	36498	1.00000	0.8645

		QUANT SIG					AMOUNTS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.497	13.498	(0.897)	37953	1.00000	0.8696
	35 2,4,5-Trichlorophenol	196	13.567	13.567	(0.902)	42171	1.00000	0.8840
$	36 2-Fluorobiphenyl	172	13.660	13.660	(0.908)	92623	0.50000	0.5301
	37 2-Chloronaphthalene	162	13.861	13.862	(0.921)	73839	0.50000	0.5298
	38 2-Nitroaniline	65	14.116	14.117	(0.938)	30311	1.00000	0.8299
	39 Dimethylphthalate	163	14.558	14.558	(0.968)	74702	0.50000	0.5138
	40 Acenaphthylene	152	14.728	14.729	(0.979)	121768	0.50000	0.5130
	41 2,6-Dinitrotoluene	165	14.689	14.690	(0.976)	23625	1.00000	0.7227
*	42 Acenaphthene-d10	164	15.045	15.046	(1.000)	487888	4.00000	
	43 3-Nitroaniline	138	14.960	14.961	(0.994)	30222	1.00000	0.8136
	44 Acenaphthene	153	15.107	15.107	(1.004)	80559	0.50000	0.5362
	45 2,4-Dinitrophenol	184	15.176	15.177	(1.009)	8933	2.00000	0.4679
	46 Dibenzofuran	168	15.431	15.424	(1.026)	110399	0.50000	0.5349
	47 4-Nitrophenol	109	15.269	15.270	(1.015)	13998	1.00000	0.7106
	48 2,4-Dinitrotoluene	165	15.485	15.486	(1.029)	31218	1.00000	0.7276
	50 Diethylphthalate	149	16.004	16.004	(1.064)	71316	0.50000	0.4842
	49 Fluorene	166	16.135	16.136	(1.072)	99046	0.50000	0.5287
	51 4-Chlorophenyl-phenylether	204	16.135	16.128	(1.072)	38506	0.50000	0.4631
	52 4-Nitroaniline	138	16.212	16.213	(1.078)	28075	1.00000	0.7579
	53 4,6-Dinitro-2-methylphenol	198	16.320	16.312	(0.904)	18271	2.00000	0.7686
	54 N-Nitrosodiphenylamine	169	16.374	16.375	(0.907)	54667	0.50000	0.5067
$	55 2,4,6-Tribromophenol	330	16.667	16.668	(1.108)	10994	0.75000	0.5168
	56 4-Bromophenyl-phenylether	248	17.122	17.129	(0.949)	21378	0.50000	0.4996
	57 Hexachlorobenzene	284	17.439	17.439	(0.966)	24486	0.50000	0.5101
	58 Pentachlorophenol	266	17.787	17.788	(0.985)	12204	1.00000	0.4307
*	59 Phenanthrene-d10	188	18.050	18.051	(1.000)	846905	4.00000	
	60 Phenanthrene	178	18.097	18.097	(1.003)	116696	0.50000	0.5048
	61 Anthracene	178	18.189	18.190	(1.008)	110415	0.50000	0.5009
	62 Carbazole	167	18.514	18.515	(1.026)	97852	0.50000	0.5041
	63 Di-n-butylphthalate	149	19.327	19.335	(1.071)	98101	0.50000	0.3810
	64 Fluoranthene	202	20.472	20.472	(0.887)	115495	0.50000	0.5298
	65 Pyrene	202	20.890	20.890	(0.905)	127880	0.50000	0.5566
$	66 Terphenyl-d14	244	21.184	21.184	(0.918)	87991	0.50000	0.5149
	67 Butylbenzylphthalate	149	22.113	22.113	(0.958)	33194	0.50000	0.3341
	68 Benzo(a)anthracene	228	23.042	23.043	(0.999)	109289	0.50000	0.5105
*	69 Chrysene-d12	240	23.073	23.074	(1.000)	684077	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.003	23.004	(0.997)	91242	1.50000	1.183
	71 Chrysene	228	23.112	23.112	(1.002)	118469	0.50000	0.5354
	72 bis(2-Ethylhexyl)phthalate	149	23.135	23.136	(0.960)	48870	0.50000	0.3800
*	134 Di-n-octylphthalate-d4	153	24.110	24.110	(1.000)	875180	4.00000	
	73 Di-n-octylphthalate	149	24.118	24.119	(1.000)	114985	0.50000	0.5340
	74 Benzo(b)fluoranthene	252	24.861	24.870	(0.972)	102553	0.50000	0.4913
	75 Benzo(k)fluoranthene	252	24.908	24.908	(0.973)	116453	0.50000	0.5072
	76 Benzo(a)pyrene	252	25.481	25.481	(0.996)	88917	0.50000	0.4261
*	77 Perylene-d12	264	25.589	25.597	(1.000)	749848	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	28.094	28.095	(1.098)	94214	0.50000	0.3616
	79 Dibenzo(a,h)anthracene	278	28.102	28.102	(1.098)	76780	0.50000	0.3573
	80 Benzo(g,h,i)perylene	276	28.094	28.095	(1.098)	94214	0.50000	0.3616
	90 N-Nitrosodimethylamine	74	4.703	4.703	(0.523)	50053	1.00000	1.082
	91 Aniline	93	8.449	8.449	(0.939)	108301	1.00000	1.019
	93 Benzidine	184	20.712	20.712	(0.898)	85577	1.00000	0.9232
	103 Pyridine	79	4.741	4.749	(0.527)	82599	1.00000	1.081
	105 1-methylnaphthalene	142	13.102	13.103	(1.144)	79809	0.50000	0.5362
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.451	16.451	(1.093)	83740	0.50000	0.5188

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187 Total Benzofluoranthenes	252	24.908	24.908	(0.973)	209282	1.00000	1.000
120 2,3,4,6-Tetrachlorophenol	232	15.764	15.764	(1.048)	15400	0.50000	0.2884

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192307.D
Lab Smp Id: SKC0502-CAL2
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 16:40
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	268611	134306	537222	242756	-9.63
27 Naphthalene-d8	1007141	503571	2014282	917444	-8.91
42 Acenaphthene-d10	531283	265642	1062566	487888	-8.17
59 Phenanthrene-d10	884709	442355	1769418	846905	-4.27
69 Chrysene-d12	727768	363884	1455536	684077	-6.00
134 Di-n-octylphthala	1108384	554192	2216768	875180	-21.04
77 Perylene-d12	824431	412216	1648862	749848	-9.05

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	-0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	-0.00
42 Acenaphthene-d10	15.05	14.55	15.55	15.05	-0.00
59 Phenanthrene-d10	18.05	17.55	18.55	18.05	-0.00
69 Chrysene-d12	23.07	22.57	23.57	23.07	-0.00
134 Di-n-octylphthala	24.11	23.61	24.61	24.11	-0.00
77 Perylene-d12	25.60	25.10	26.10	25.59	-0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192307.D

Lab ID: SKC0502-CAL2
nt18.i, ABN.m, 19-MAR-2023 18:43

RT	CO-ELUTION COMPOUNDS
28.094	Benzo(g,h,i)perylene and Indeno(1,2,3-cd)pyrene
13.103	1-methylnaphthalene and 2-Methylnaphthalene

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

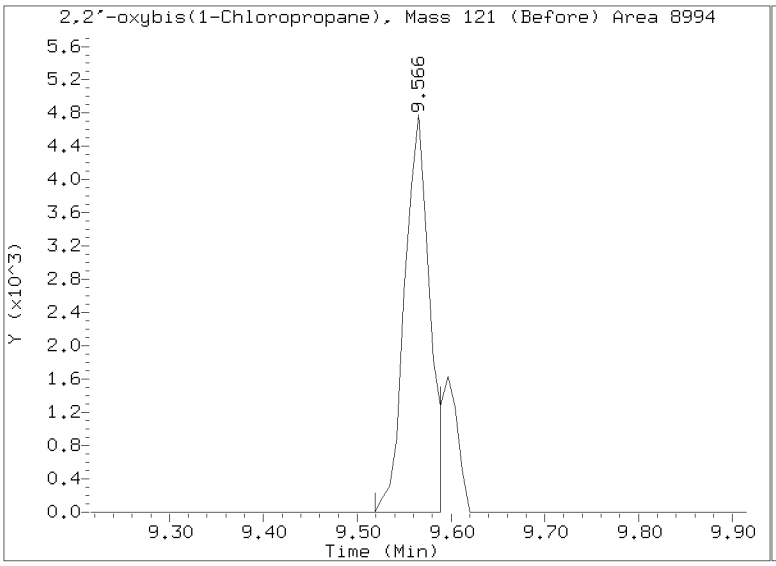
RRT check based on Ccal File: NT1803192308.D

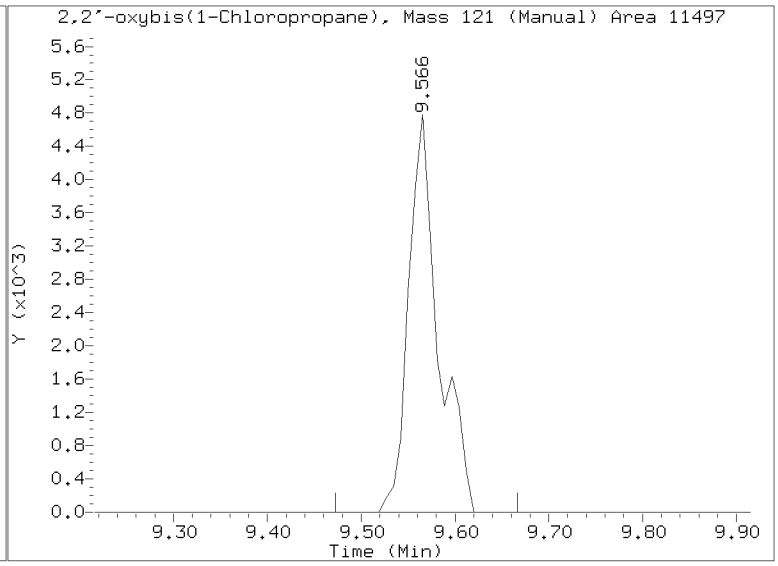
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230319.b/NT1803192307.D
Injection Date: 19-MAR-2023 18:43
Lab ID:SKC0502-CAL2 Client ID:
Report Date: 03/30/2023 16:57

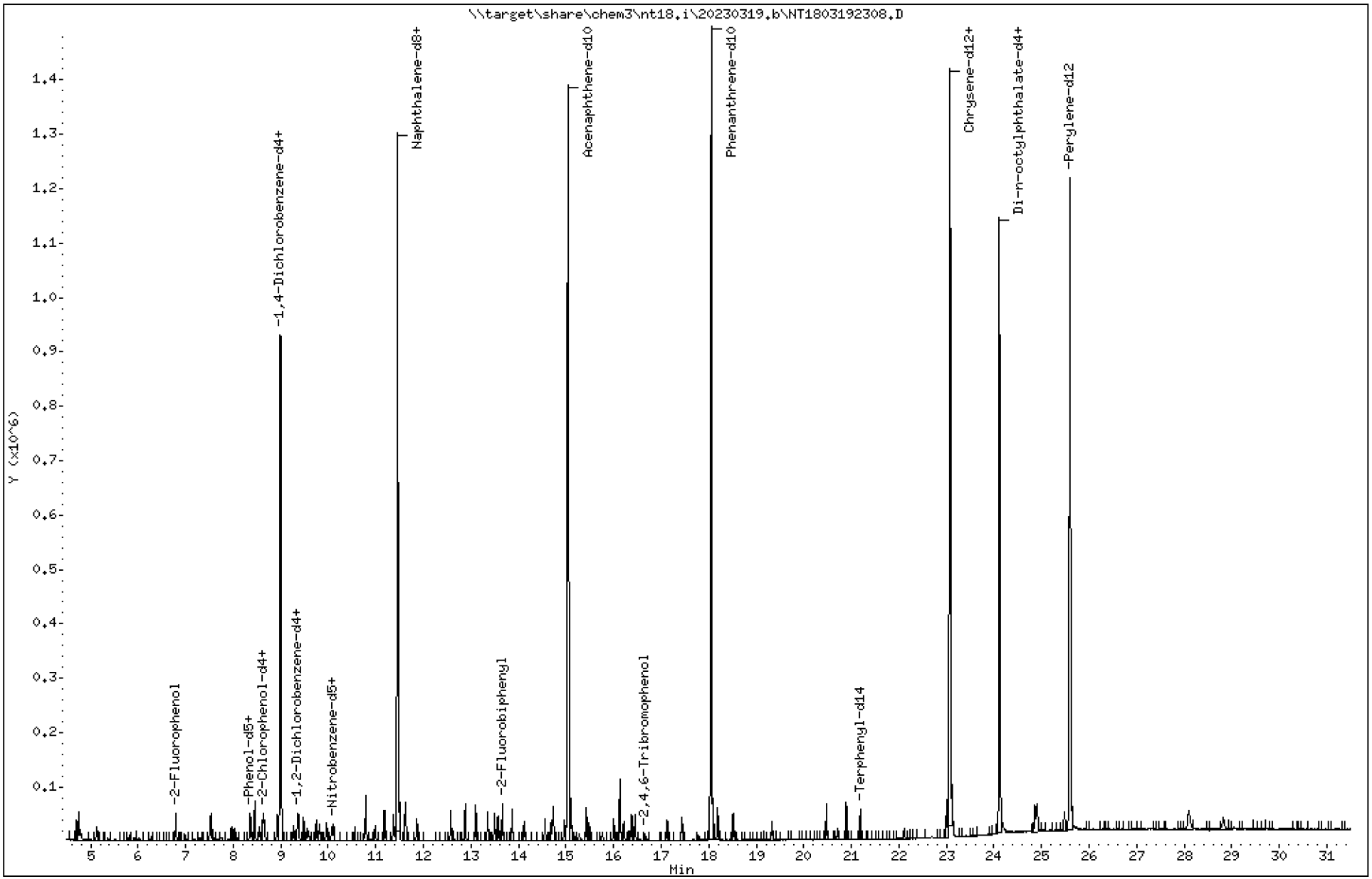




Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192308.D
Date : 19-MAR-2023 19:24
Client ID:
Sample Info: cal1

Instrument: nt18.i
Operator: VTS
Column diameter: 0.25

Column phase: ZB-5msi



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230319.b\NT1803192308.D
Lab Smp Id: SKC0502-CAL1
Inj Date : 19-MAR-2023 19:24
Operator : VTS Inst ID: nt18.i
Smp Info : cal1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230319.b\ABN.m
Meth Date : 30-Mar-2023 15:35 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 19:24 Cal File: NT1803192308.D
Als bottle: 8 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: ORGDATA102

							AMOUNTS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1 2-Fluorophenol	112	6.788	6.788	(0.754)	19749	0.30000	0.2482
$	2 Phenol-d5	99	8.349	8.350	(0.928)	25010	0.30000	0.2544
	3 Phenol	94	8.372	8.372	(0.930)	18988	0.20000	0.1806
$	5 2-Chlorophenol-d4	132	8.627	8.628	(0.959)	21339	0.30000	0.2504
	4 Bis(2-Chloroethyl)ether	93	8.542	8.542	(0.949)	14189	0.20000	0.1950
	6 2-Chlorophenol	128	8.658	8.657	(0.962)	15245	0.20000	0.1696
	7 1,3-Dichlorobenzene	146	8.929	8.929	(0.992)	18516	0.20000	0.1940
*	8 1,4-Dichlorobenzene-d4	152	8.999	8.999	(1.000)	258154	4.00000	
	9 1,4-Dichlorobenzene	146	9.022	9.022	(1.003)	18701	0.20000	0.1958
$	10 1,2-Dichlorobenzene-d4	152	9.348	9.348	(1.039)	12463	0.20000	0.1993
	12 1,2-Dichlorobenzene	146	9.379	9.379	(1.042)	19129	0.20000	0.2032
	11 Benzyl alcohol	108	9.262	9.263	(1.029)	7315	0.20000	0.1491
	14 2,2'-oxybis(1-Chloropropane)	121	9.565	9.566	(1.063)	4214	0.20000	0.1901(M)
	13 2-Methylphenol	108	9.480	9.480	(1.053)	13858	0.20000	0.1737
	17 Hexachloroethane	117	9.961	9.962	(1.107)	6902	0.20000	0.1845
	16 N-Nitroso-di-n-propylamine	70	9.814	9.814	(1.091)	9711	0.20000	0.1709
	15 4-Methylphenol	108	9.744	9.744	(1.083)	13682	0.20000	0.1651
$	18 Nitrobenzene-d5	82	10.077	10.078	(0.880)	12737	0.20000	0.1567
	19 Nitrobenzene	77	10.109	10.109	(0.882)	13225	0.20000	0.1655
	20 Isophorone	82	10.559	10.559	(0.922)	16173	0.20000	0.1482
	21 2-Nitrophenol	139	10.736	10.736	(0.937)	4112	0.20000	0.08742
	22 2,4-Dimethylphenol	107	10.787	10.787	(0.942)	26389	0.40000	0.3284
	23 Bis(2-Chloroethoxy)methane	93	10.982	10.982	(0.959)	14809	0.20000	0.1877
	24 Benzoic acid	105	10.880	10.881	(0.950)	2669	0.80000	0.04711(M)
	25 2,4-Dichlorophenol	162	11.186	11.186	(0.976)	20192	0.40000	0.2730
	26 1,2,4-Trichlorobenzene	180	11.370	11.371	(0.993)	15463	0.20000	0.1994
*	27 Naphthalene-d8	136	11.455	11.456	(1.000)	986304	4.00000	
	28 Naphthalene	128	11.494	11.494	(1.003)	52714	0.20000	0.1970
	29 4-Chloroaniline	127	11.625	11.625	(1.015)	34103	0.40000	0.3312
	30 Hexachlorobutadiene	225	11.857	11.857	(1.035)	8627	0.20000	0.1957
	31 4-Chloro-3-methylphenol	107	12.576	12.577	(1.098)	18140	0.40000	0.2663
	32 2-Methylnaphthalene	142	13.103	13.103	(1.144)	29877	0.20000	0.1867
	33 Hexachlorocyclopentadiene	237	13.350	13.351	(0.887)	12240	0.40000	0.2705

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
	34	2,4,6-Trichlorophenol	196	13.497	13.498	(0.897)	10851	0.40000	0.2320
	35	2,4,5-Trichlorophenol	196	13.567	13.567	(0.902)	12305	0.40000	0.2407(M)
$	36	2-Fluorobiphenyl	172	13.660	13.660	(0.908)	35953	0.20000	0.1920
	37	2-Chloronaphthalene	162	13.861	13.862	(0.921)	28301	0.20000	0.1895
	38	2-Nitroaniline	65	14.116	14.117	(0.938)	8550	0.40000	0.2184
	39	Dimethylphthalate	163	14.558	14.558	(0.968)	27821	0.20000	0.1786
	40	Acenaphthylene	152	14.728	14.729	(0.979)	44230	0.20000	0.1739
	41	2,6-Dinitrotoluene	165	14.689	14.690	(0.976)	6522	0.40000	0.1863
*	42	Acenaphthene-d10	164	15.045	15.046	(1.000)	522903	4.00000	
	43	3-Nitroaniline	138	14.960	14.961	(0.994)	8173	0.40000	0.2053
	44	Acenaphthene	153	15.107	15.107	(1.004)	31036	0.20000	0.1928
	45	2,4-Dinitrophenol	184	15.176	15.177	(1.009)	1376	0.80000	0.06731
	46	Dibenzofuran	168	15.424	15.424	(1.025)	41885	0.20000	0.1894
	47	4-Nitrophenol	109	15.269	15.270	(1.015)	2780	0.40000	0.1317
	48	2,4-Dinitrotoluene	165	15.486	15.486	(1.029)	7531	0.40000	0.1639
	50	Diethylphthalate	149	16.004	16.004	(1.064)	26228	0.20000	0.1661
	49	Fluorene	166	16.135	16.136	(1.072)	31427	0.20000	0.1565
	51	4-Chlorophenyl-phenylether	204	16.127	16.128	(1.072)	14664	0.20000	0.1645
	52	4-Nitroaniline	138	16.212	16.213	(1.078)	8776	0.40000	0.2214
	53	4,6-Dinitro-2-methylphenol	198	16.312	16.312	(0.904)	3515	0.80000	0.1370
	54	N-Nitrosodiphenylamine	169	16.374	16.375	(0.907)	19906	0.20000	0.1708
$	55	2,4,6-Tribromophenol	330	16.667	16.668	(1.108)	3095	0.30000	0.1360
	56	4-Bromophenyl-phenylether	248	17.130	17.129	(0.949)	8034	0.20000	0.1738
	57	Hexachlorobenzene	284	17.439	17.439	(0.966)	9710	0.20000	0.1873
	58	Pentachlorophenol	266	17.787	17.788	(0.985)	2393	0.40000	0.07831
*	59	Phenanthrene-d10	188	18.050	18.051	(1.000)	914723	4.00000	
	60	Phenanthrene	178	18.097	18.097	(1.003)	48413	0.20000	0.1939
	61	Anthracene	178	18.190	18.190	(1.008)	39849	0.20000	0.1674
	62	Carbazole	167	18.514	18.515	(1.026)	32768	0.20000	0.1563
	63	Di-n-butylphthalate	149	19.335	19.335	(1.071)	28402	0.20000	0.1021
	64	Fluoranthene	202	20.472	20.472	(0.887)	39482	0.20000	0.1710
	65	Pyrene	202	20.890	20.890	(0.905)	43554	0.20000	0.1790
$	66	Terphenyl-d14	244	21.184	21.184	(0.918)	31603	0.20000	0.1746
	67	Butylbenzylphthalate	149	22.113	22.113	(0.958)	7051	0.20000	0.06698
	68	Benzo(a)anthracene	228	23.042	23.043	(0.999)	39606	0.20000	0.1747
*	69	Chrysene-d12	240	23.073	23.074	(1.000)	724475	4.00000	
	70	3,3'-Dichlorobenzidine	252	23.003	23.004	(0.997)	23951	0.60000	0.2931
	71	Chrysene	228	23.112	23.112	(1.002)	44149	0.20000	0.1884
	72	bis(2-Ethylhexyl)phthalate	149	23.135	23.136	(0.960)	11137	0.20000	0.08759
*	134	Di-n-octylphthalate-d4	153	24.110	24.110	(1.000)	864246	4.00000	
	73	Di-n-octylphthalate	149	24.118	24.119	(1.000)	42949	0.20000	0.2020
	74	Benzo(b)fluoranthene	252	24.869	24.870	(0.972)	33056	0.20000	0.1499
	75	Benzo(k)fluoranthene	252	24.908	24.908	(0.973)	39154	0.20000	0.1614
	76	Benzo(a)pyrene	252	25.481	25.481	(0.995)	26258	0.20000	0.1191
*	77	Perylene-d12	264	25.597	25.597	(1.000)	792210	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	28.094	28.095	(1.098)	27606	0.20000	0.1004
	79	Dibenzo(a,h)anthracene	278	28.102	28.102	(1.098)	23139	0.20000	0.1021
	80	Benzo(g,h,i)perylene	276	28.094	28.095	(1.098)	27606	0.20000	0.1004
	90	N-Nitrosodimethylamine	74	4.703	4.703	(0.523)	19606	0.40000	0.3985
	91	Aniline	93	8.449	8.449	(0.939)	40369	0.40000	0.3571
	93	Benzidine	184	20.712	20.712	(0.898)	15799	0.40000	0.1609
	103	Pyridine	79	4.749	4.749	(0.528)	27958	0.40000	0.3441
	105	1-methylnaphthalene	142	13.103	13.103	(1.144)	29877	0.20000	0.1867
	111	Azobenzene (1,2-DP-Hydrazine)	77	16.451	16.451	(1.093)	31029	0.20000	0.1794

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187 Total Benzofluoranthenes	252	24.908	24.908	(0.973)	69342	0.40000	0.3137
120 2,3,4,6-Tetrachlorophenol	232	15.764	15.764	(1.048)	4058	0.20000	0.07092

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192308.D
Lab Smp Id: SKC0502-CAL1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 16:40
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	268611	134306	537222	258154	-3.89
27 Naphthalene-d8	1007141	503571	2014282	986304	-2.07
42 Acenaphthene-d10	531283	265642	1062566	522903	-1.58
59 Phenanthrene-d10	884709	442355	1769418	914723	3.39
69 Chrysene-d12	727768	363884	1455536	724475	-0.45
134 Di-n-octylphthala	1108384	554192	2216768	864246	-22.03
77 Perylene-d12	824431	412216	1648862	792210	-3.91

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	-0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	-0.00
42 Acenaphthene-d10	15.05	14.55	15.55	15.05	-0.00
59 Phenanthrene-d10	18.05	17.55	18.55	18.05	-0.00
69 Chrysene-d12	23.07	22.57	23.57	23.07	-0.00
134 Di-n-octylphthala	24.11	23.61	24.61	24.11	-0.00
77 Perylene-d12	25.60	25.10	26.10	25.60	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192308.D

Lab ID: SKC0502-CAL1
nt18.i, ABN.m, 19-MAR-2023 19:24

RT	CO-ELUTION COMPOUNDS
28.095	Benzo(g,h,i)perylene and Indeno(1,2,3-cd)pyrene
13.103	1-methylnaphthalene and 2-Methylnaphthalene

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

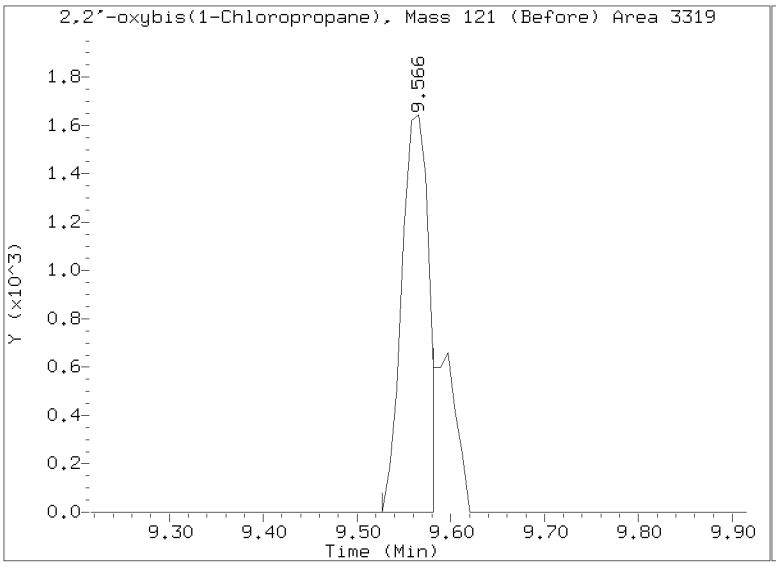
RRT check based on Ccal File: NT1803192308.D

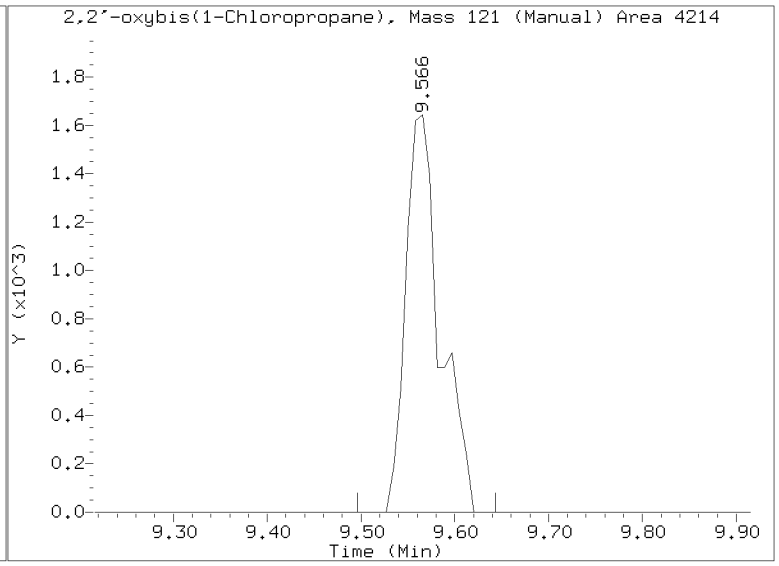
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

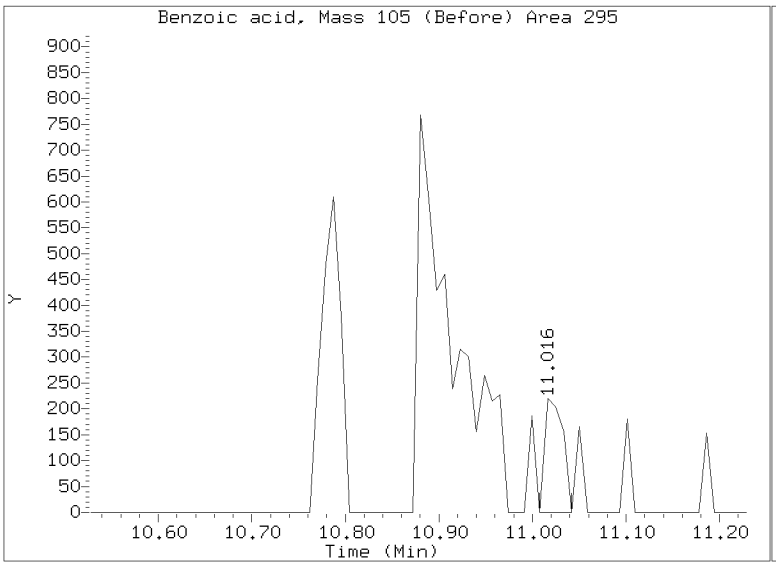
* Only compounds listed in the work order have been verified by the analyst *

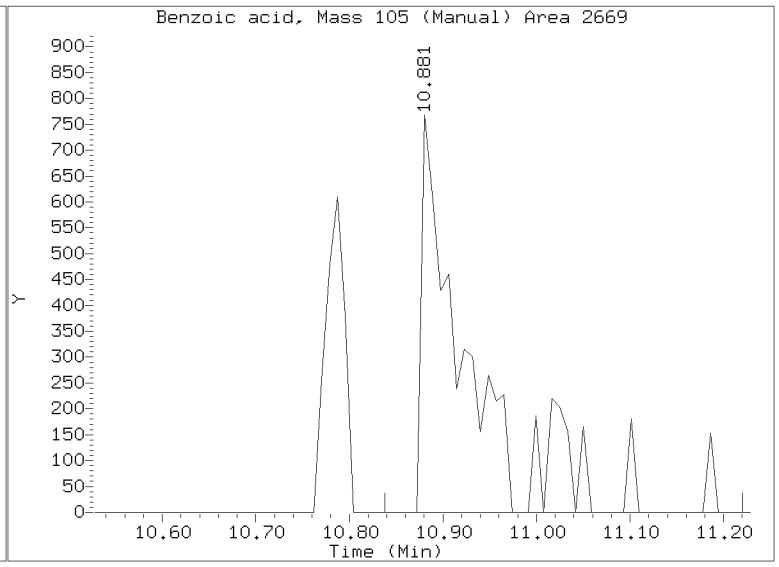
Quant Ion Manual Peak Adjustment Report

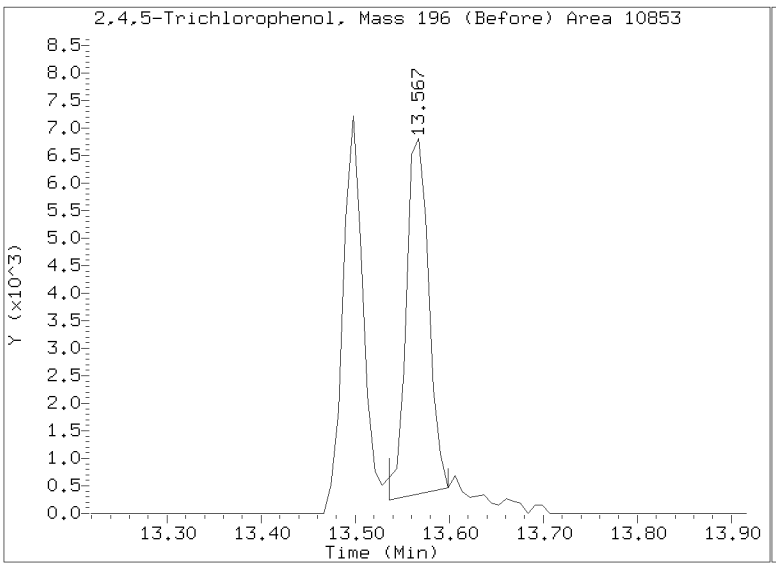
Datafile: //target/share/chem3/nt18.i/20230319.b/NT1803192308.D
Injection Date: 19-MAR-2023 19:24
Lab ID:SKC0502-CAL1 Client ID:
Report Date: 03/30/2023 16:57

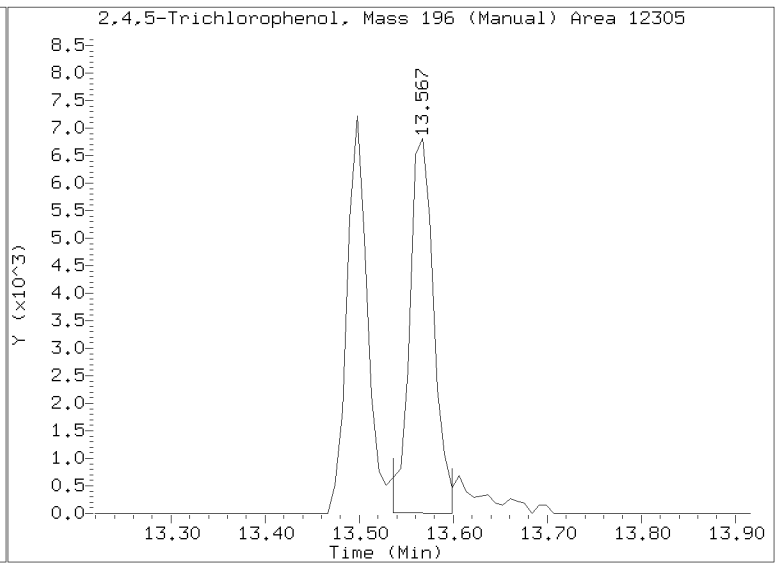












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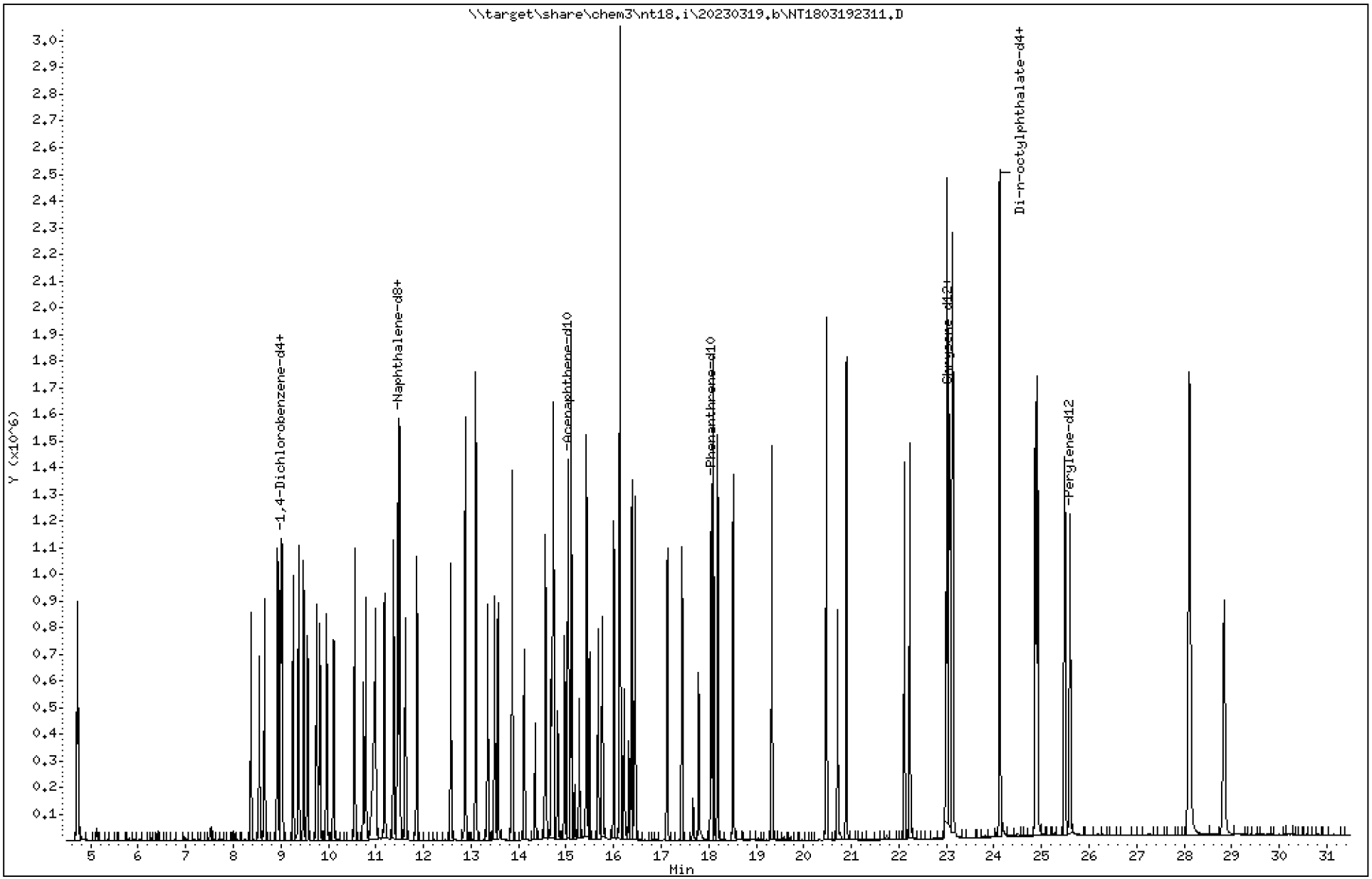
Date : 19-MAR-2023 21:26
Client ID:
Sample Info: scv

Instrument: nt18.i
Operator: VTS
Column phase: ZB-5msi
Column diameter: 0.25



Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

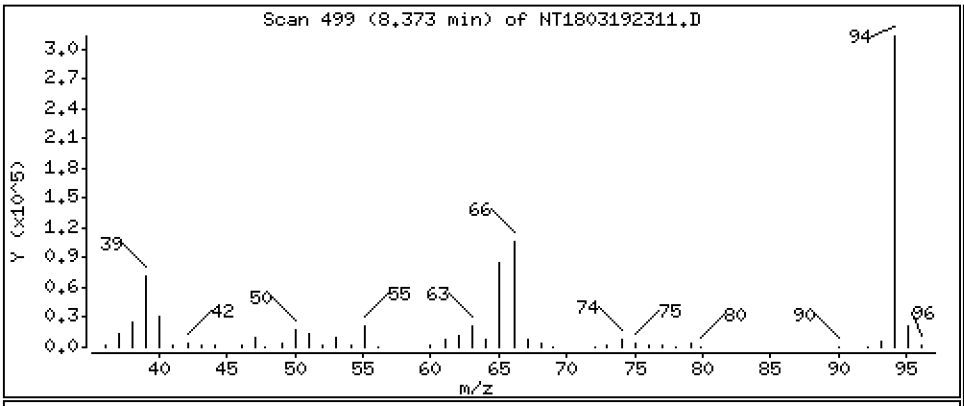
Operator: VTS

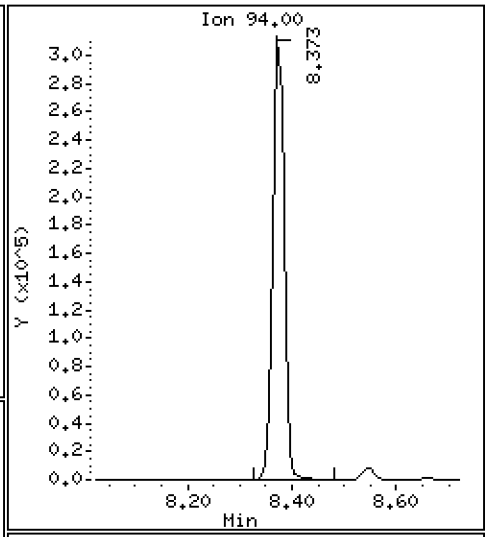
Column phase: ZB-5msi

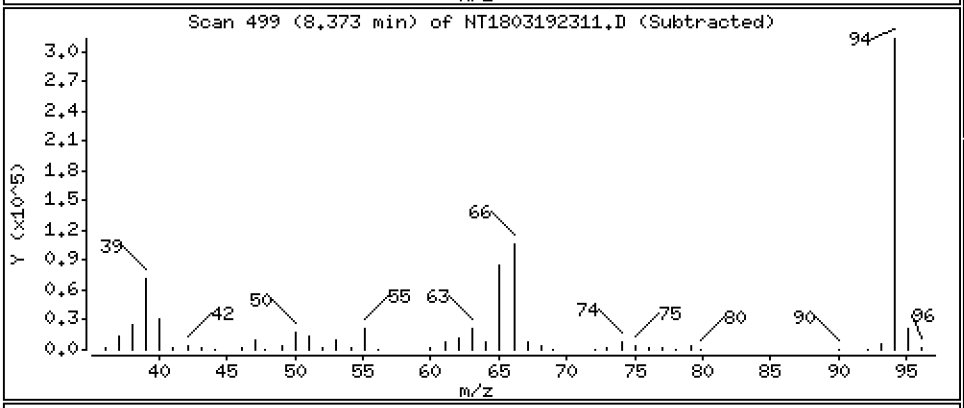
Column diameter: 0.25

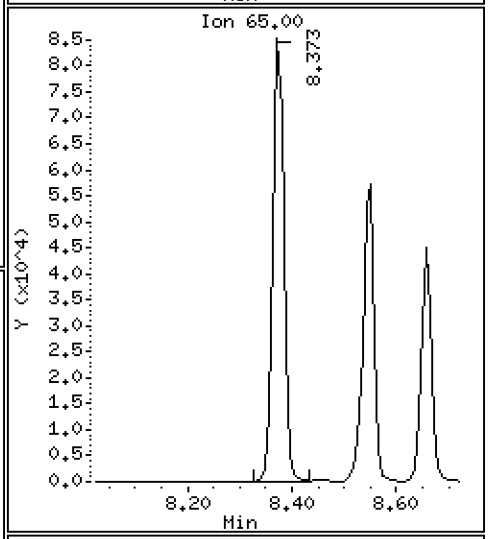
3 Phenol

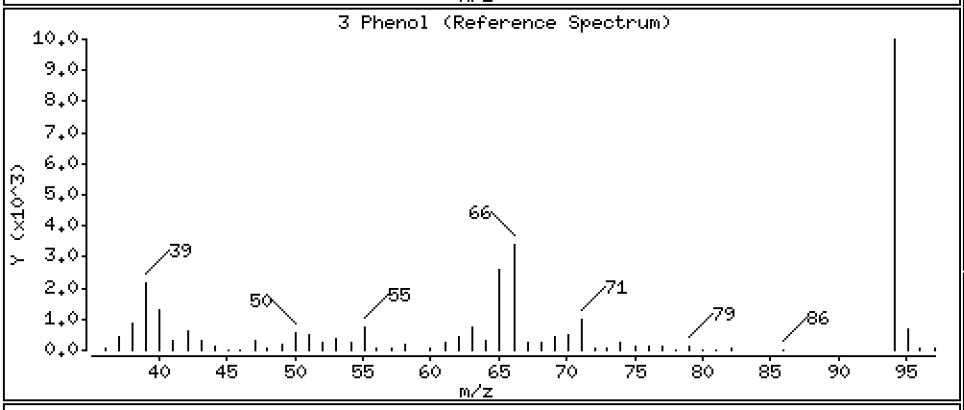
Concentration: 4.352 ug/mL

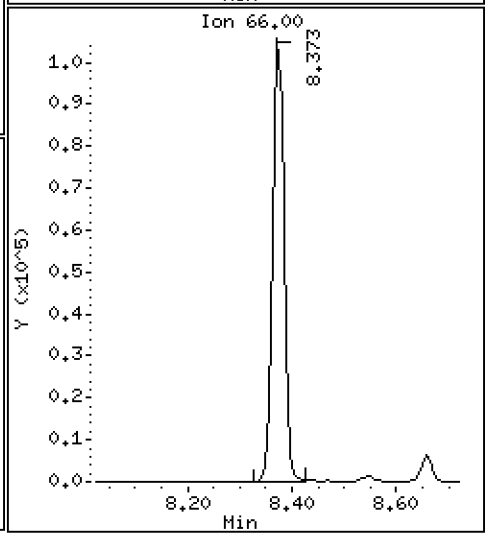


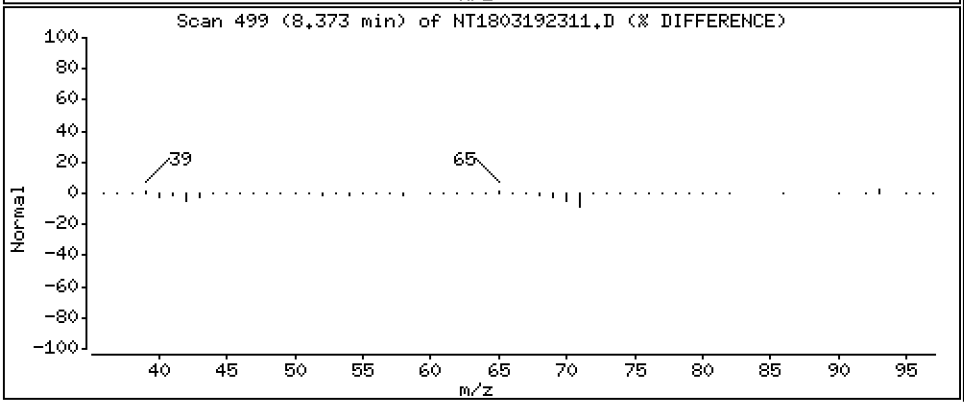












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

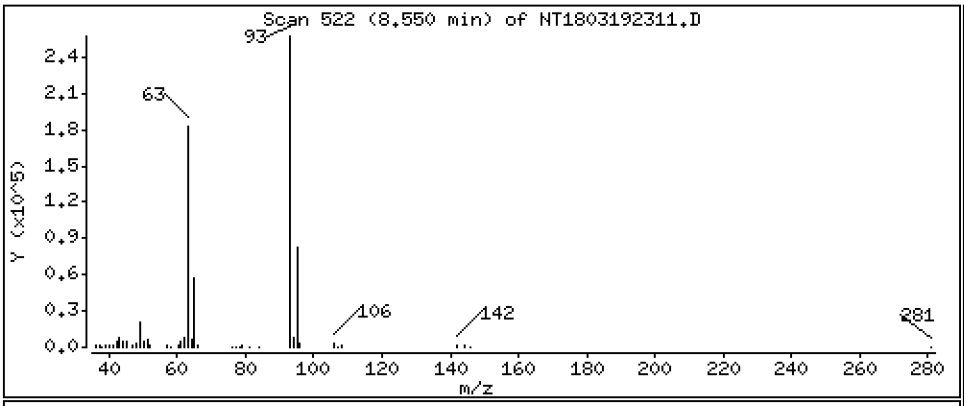
Operator: VTS

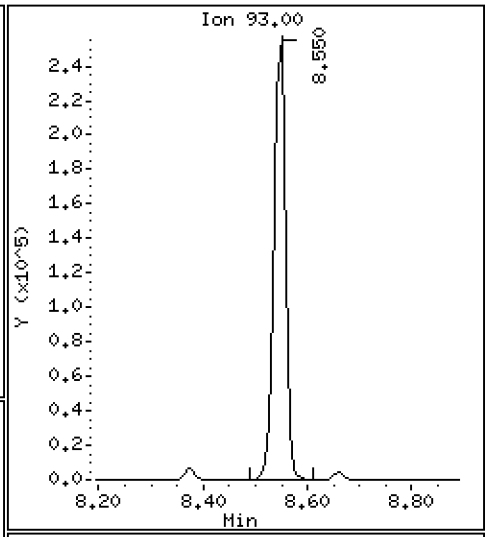
Column phase: ZB-5msi

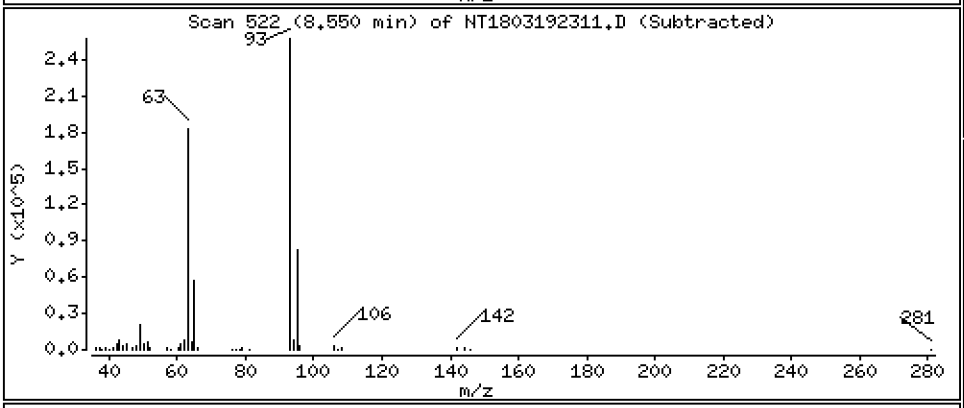
Column diameter: 0.25

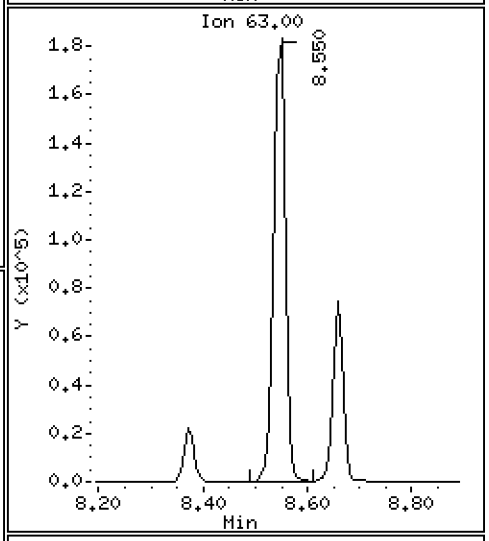
4 Bis(2-Chloroethyl)ether

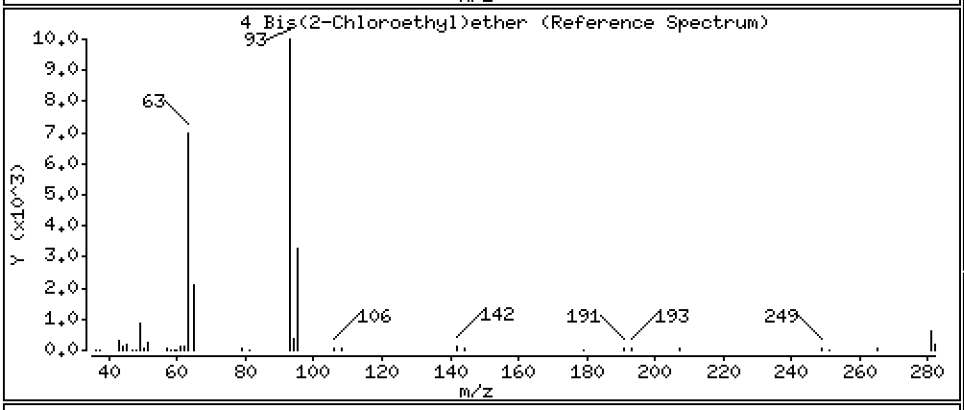
Concentration: 5.260 ug/mL

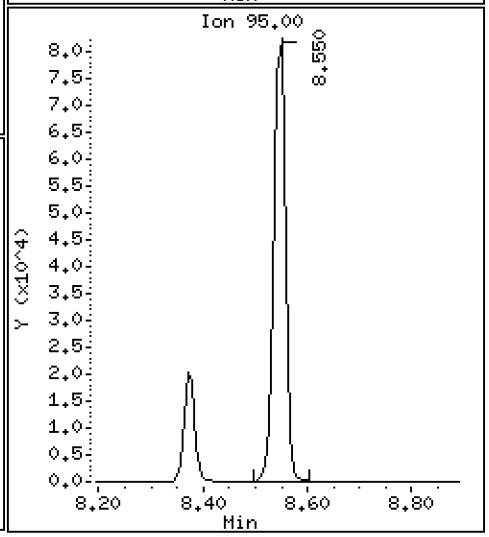


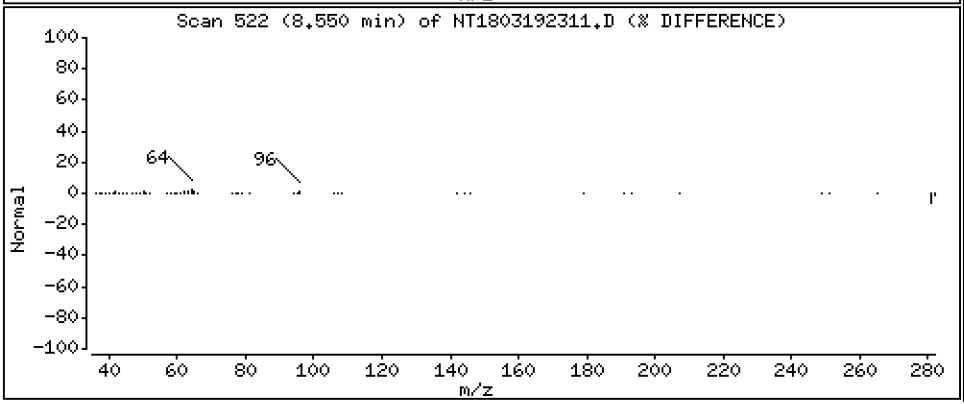












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

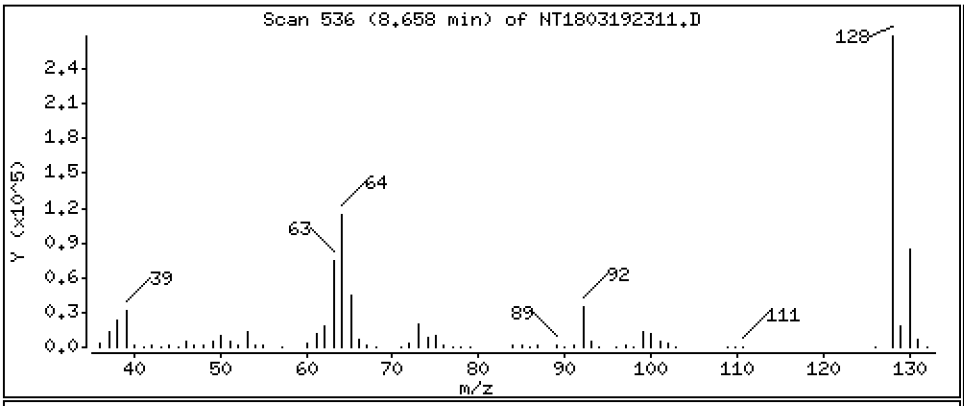
Operator: VTS

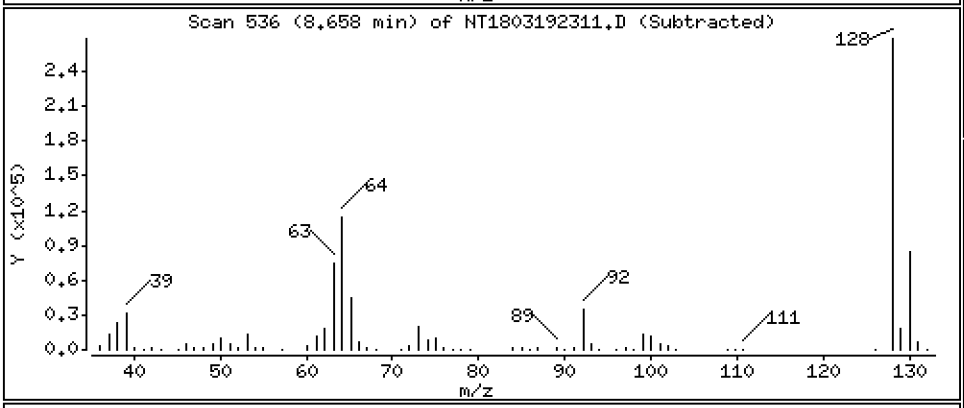
Column phase: ZB-5msi

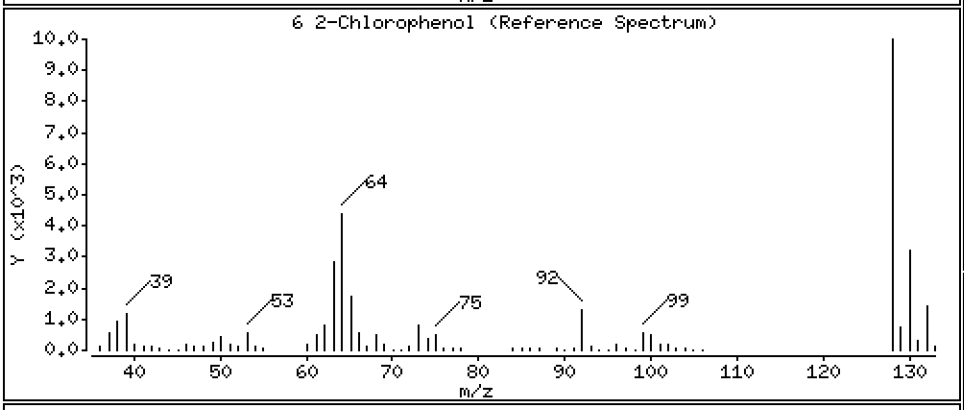
Column diameter: 0.25

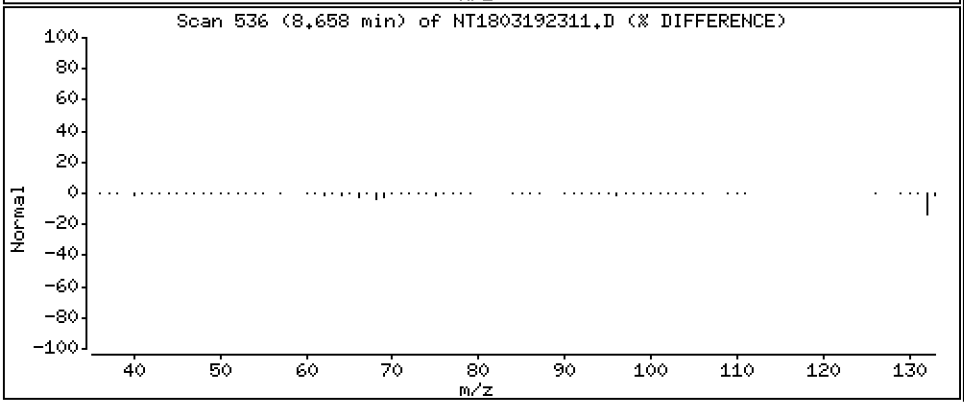
6 2-Chlorophenol

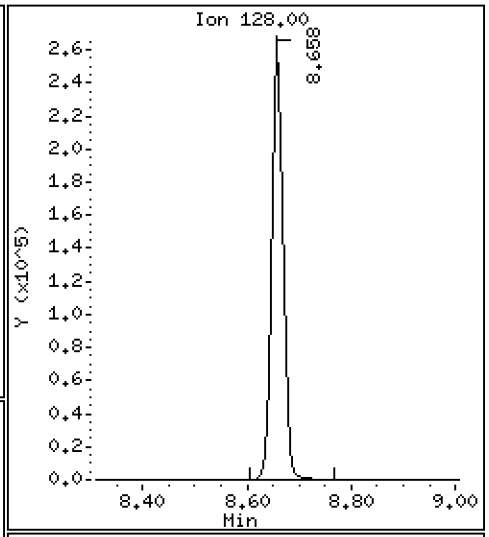
Concentration: 4.473 ug/mL

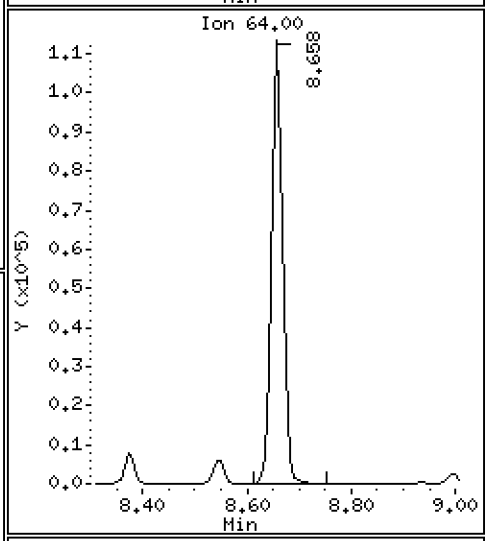


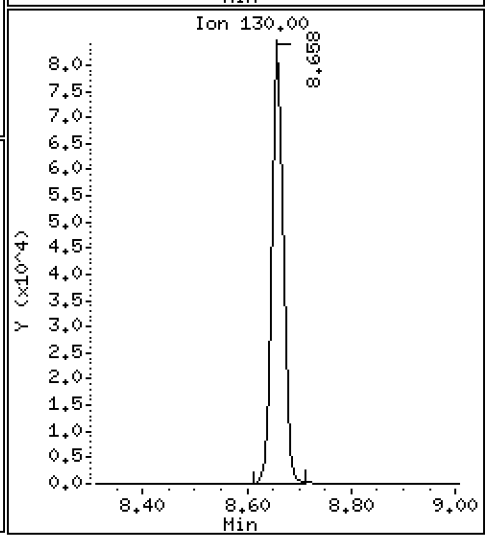












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

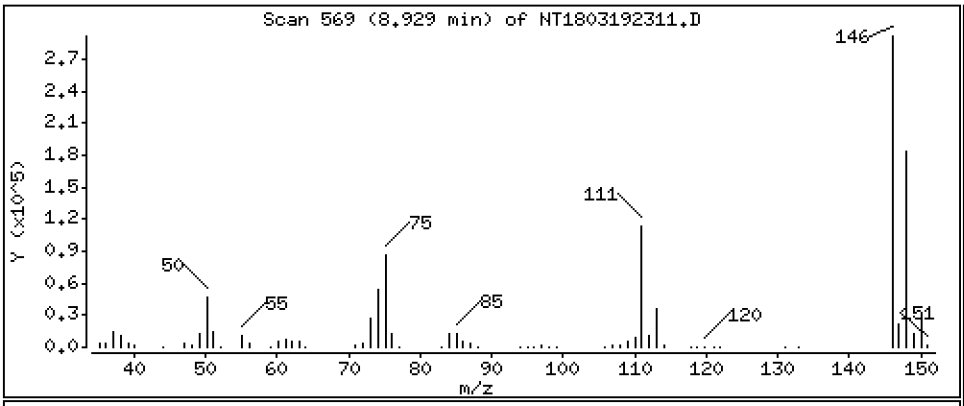
Operator: VTS

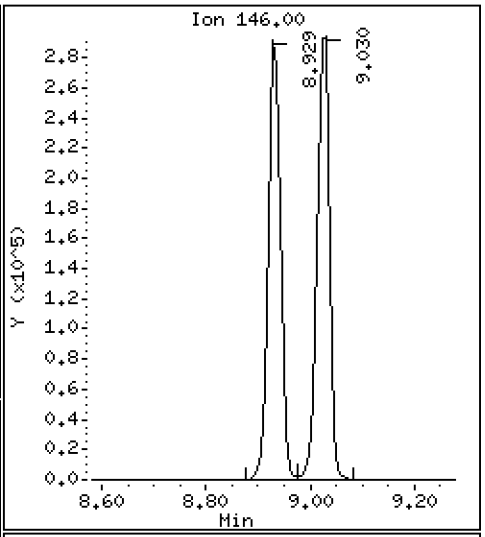
Column phase: ZB-5msi

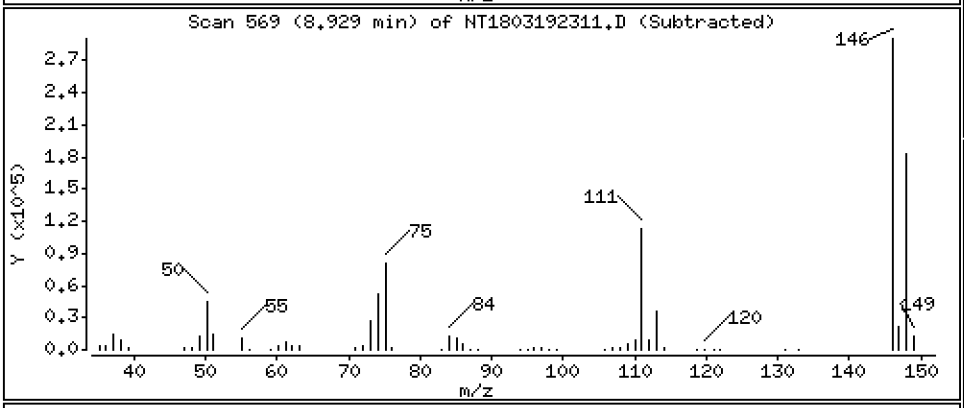
Column diameter: 0.25

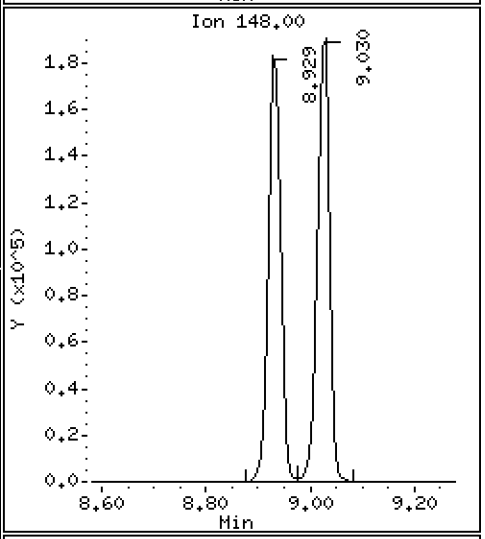
7 1,3-Dichlorobenzene

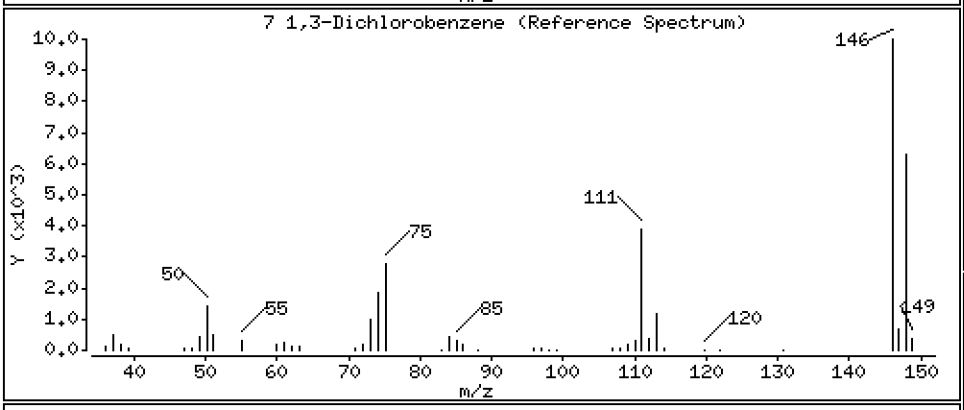
Concentration: 5.009 ug/mL

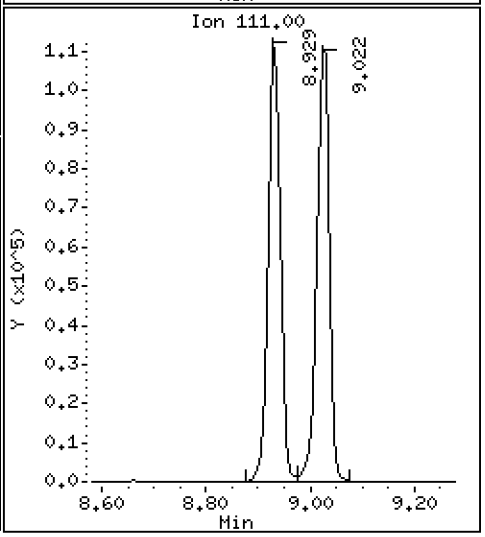


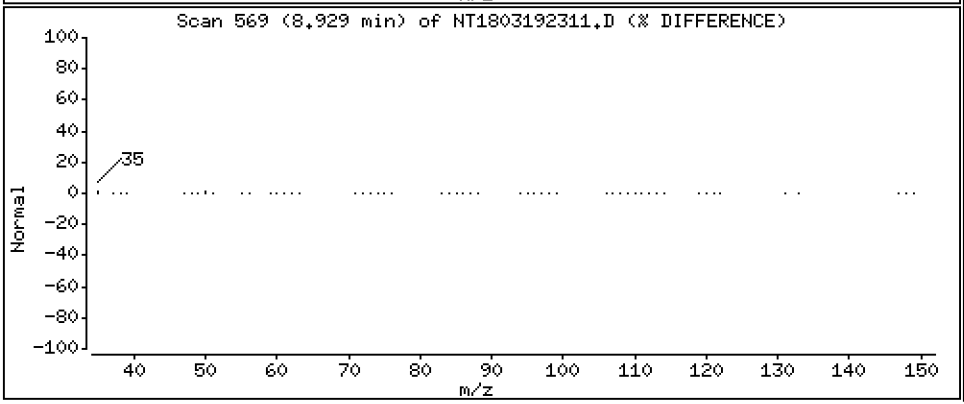












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

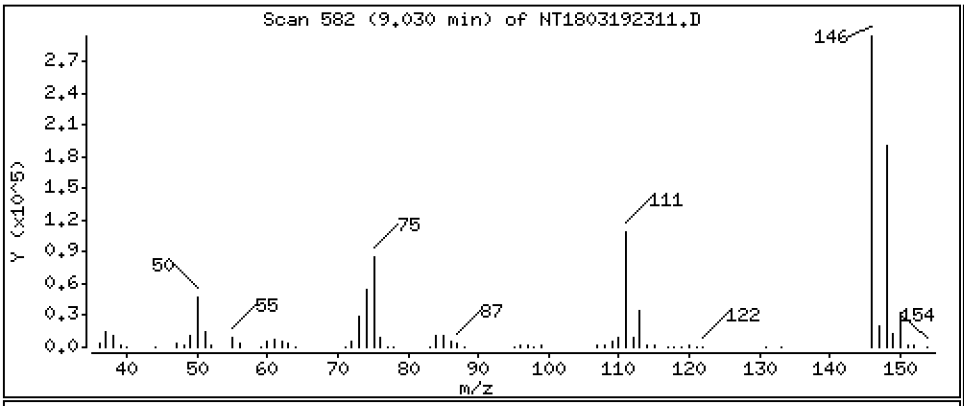
Operator: VTS

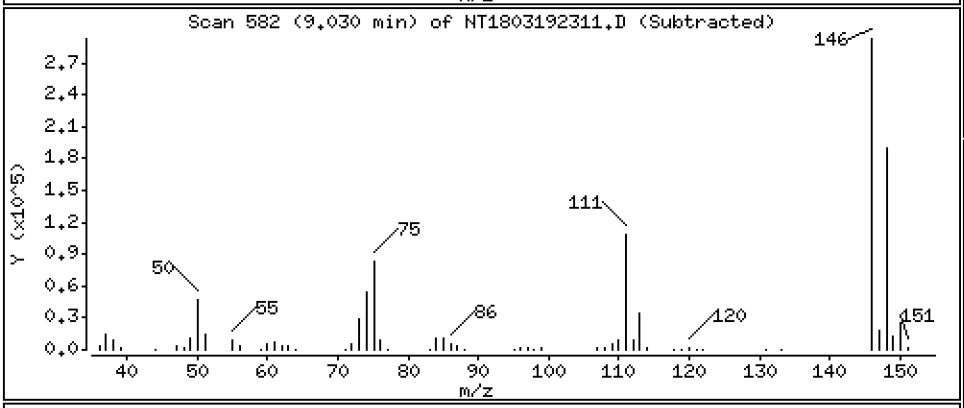
Column phase: ZB-5msi

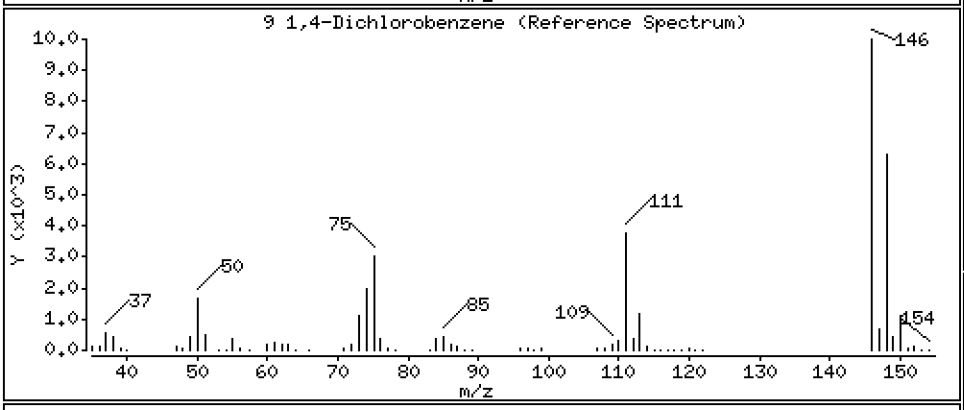
Column diameter: 0.25

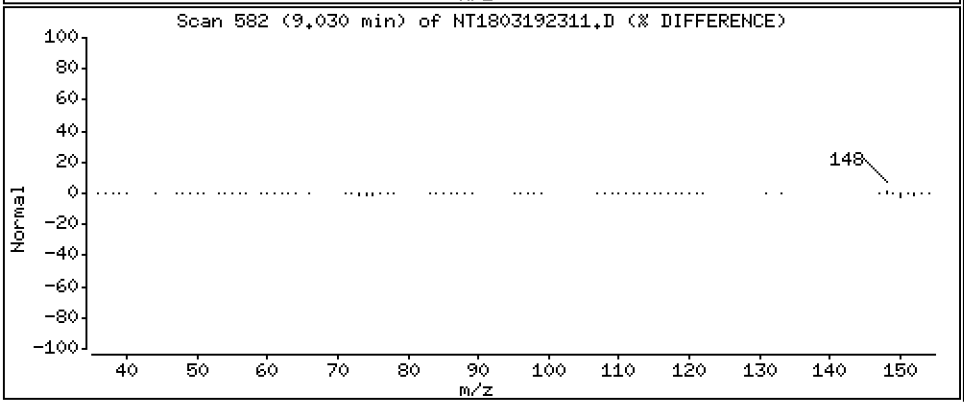
9 1,4-Dichlorobenzene

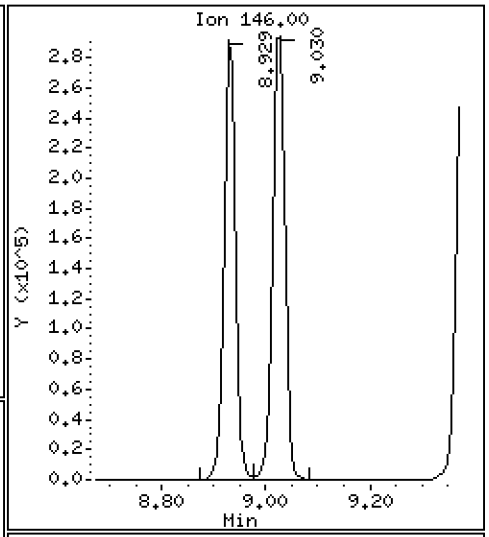
Concentration: 5.071 ug/mL

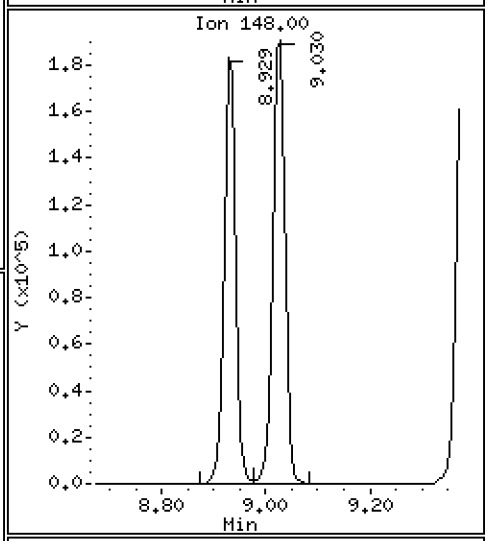


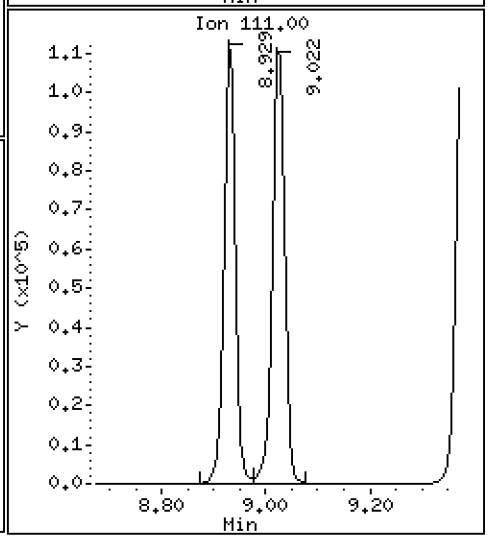












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

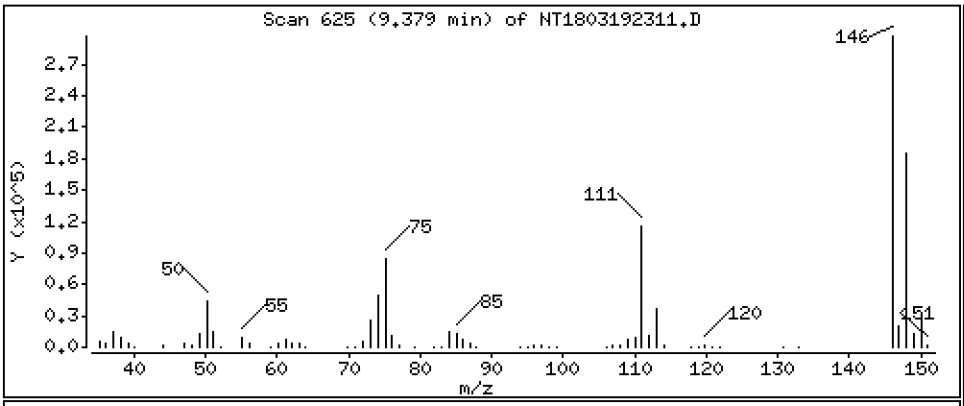
Operator: VTS

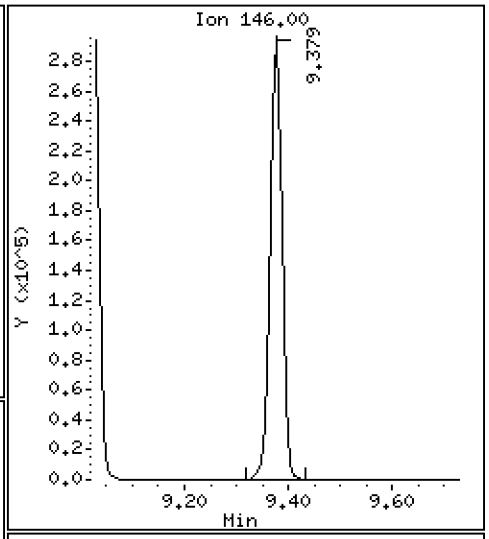
Column phase: ZB-5msi

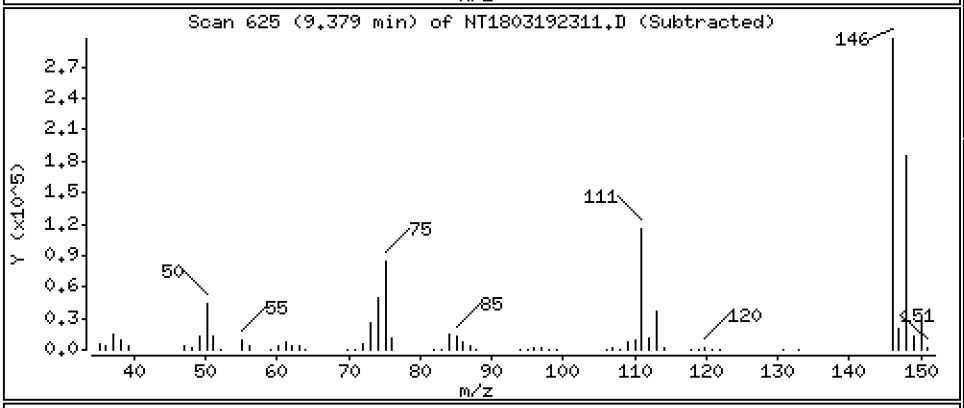
Column diameter: 0.25

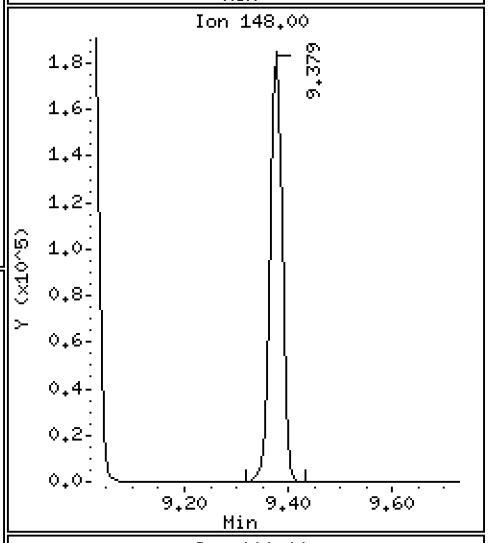
12 1,2-Dichlorobenzene

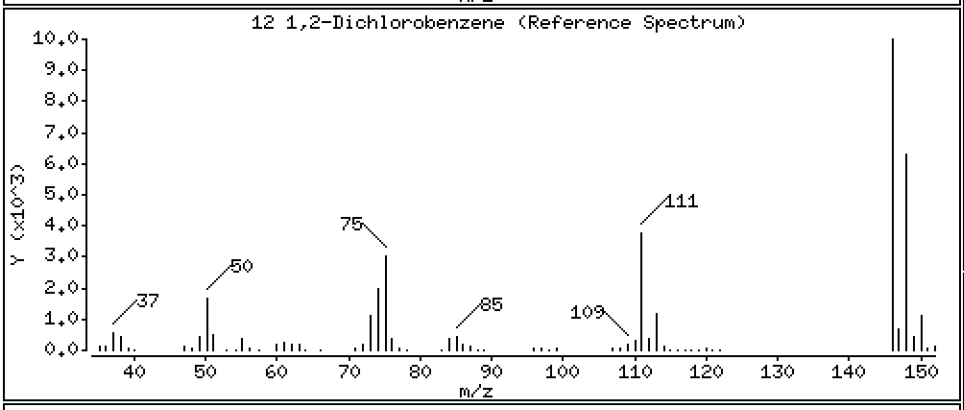
Concentration: 4.916 ug/mL

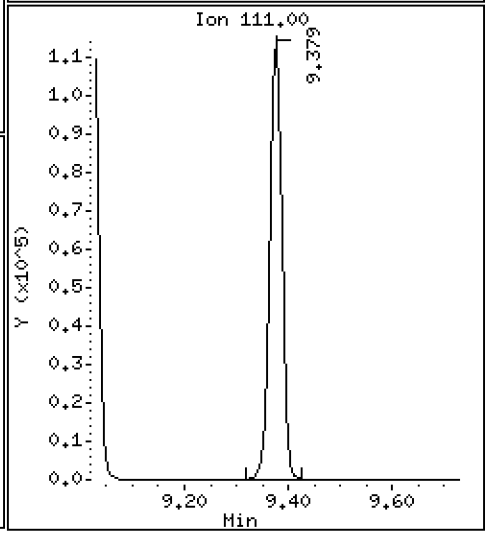


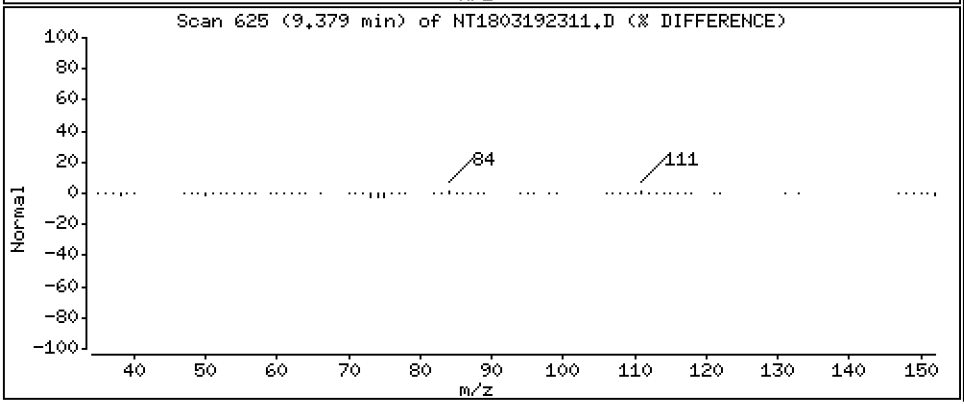












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

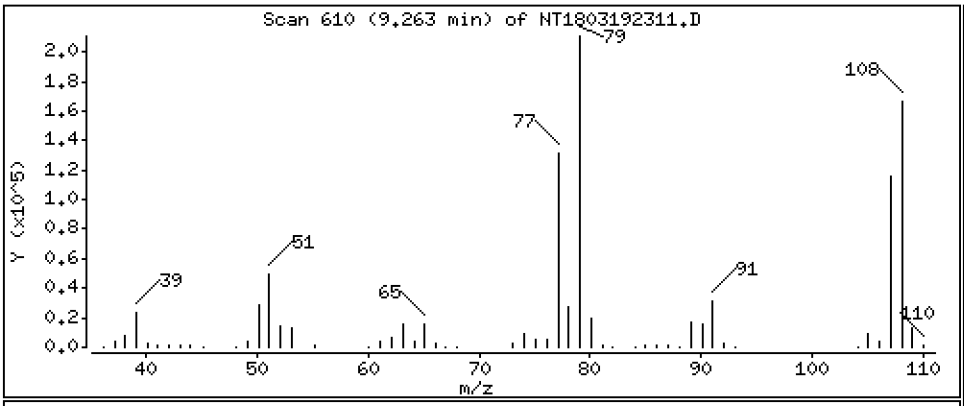
Operator: VTS

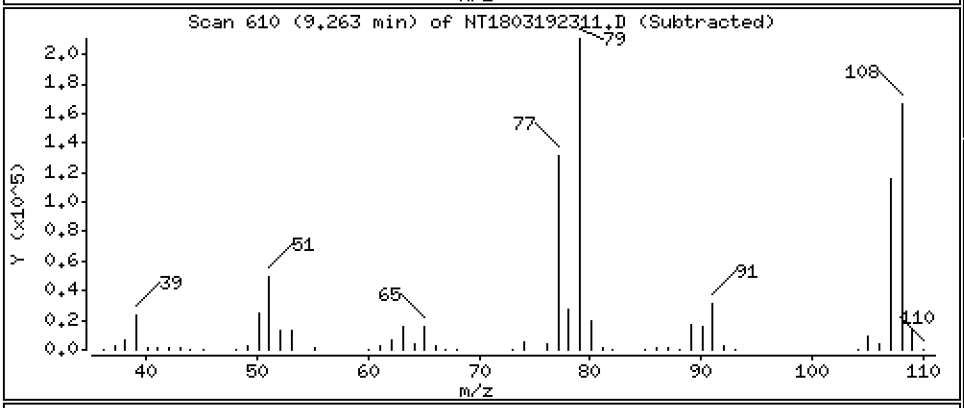
Column phase: ZB-5msi

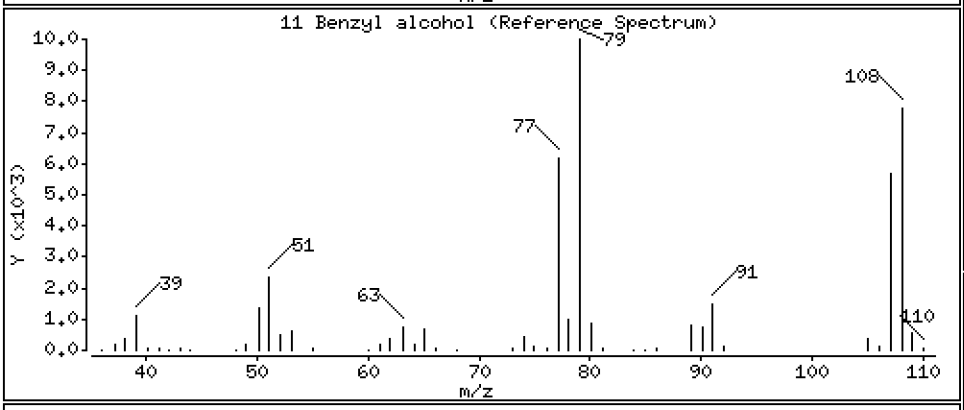
Column diameter: 0.25

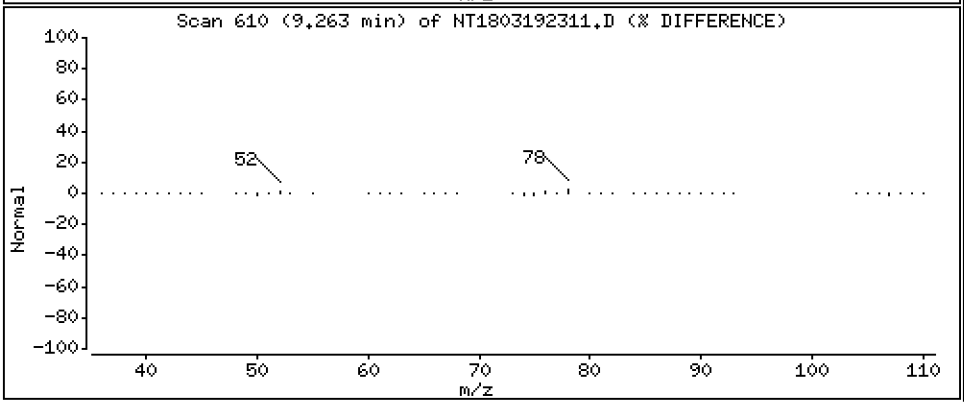
11 Benzyl alcohol

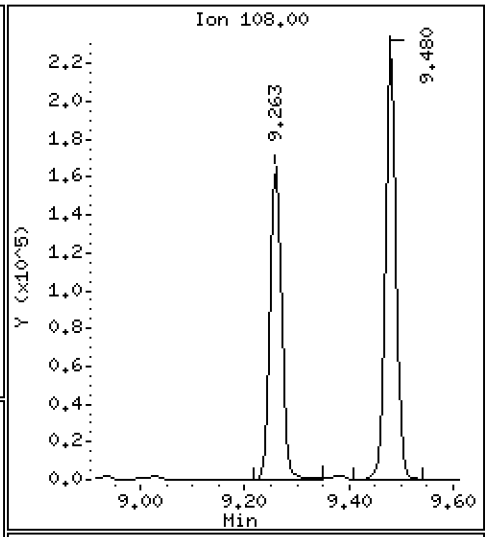
Concentration: 5.203 ug/mL

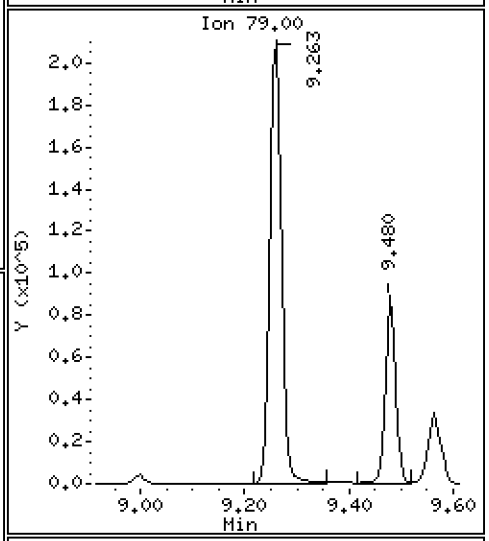


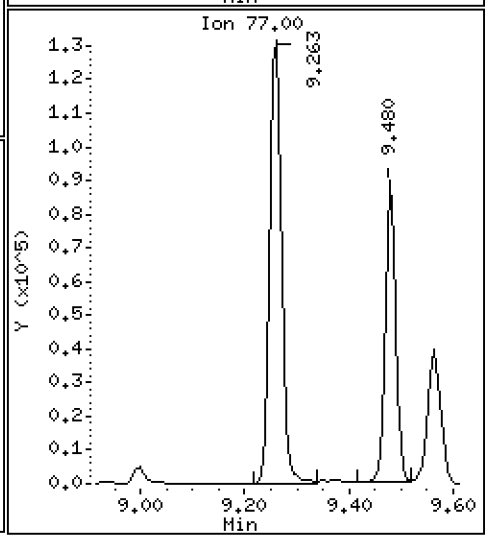












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

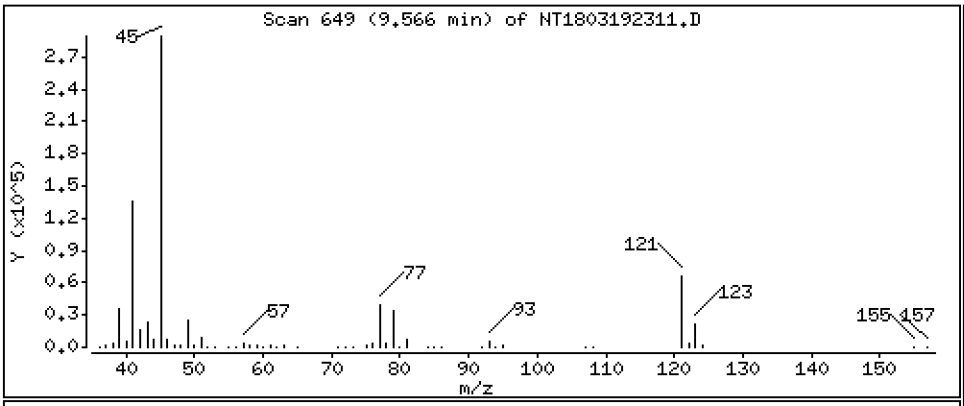
Operator: VTS

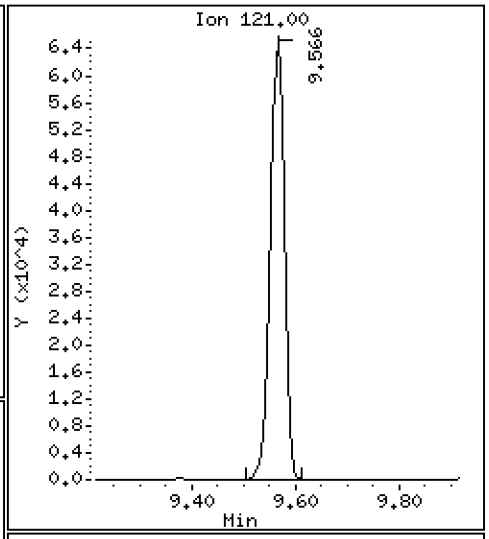
Column phase: ZB-5msi

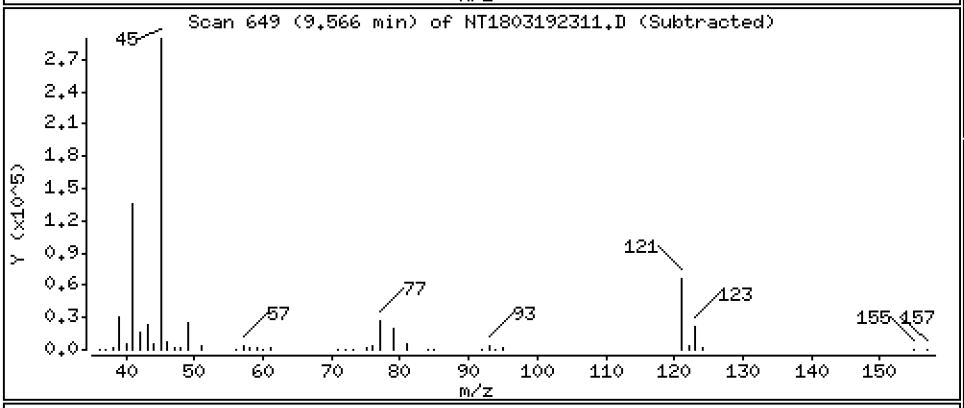
Column diameter: 0.25

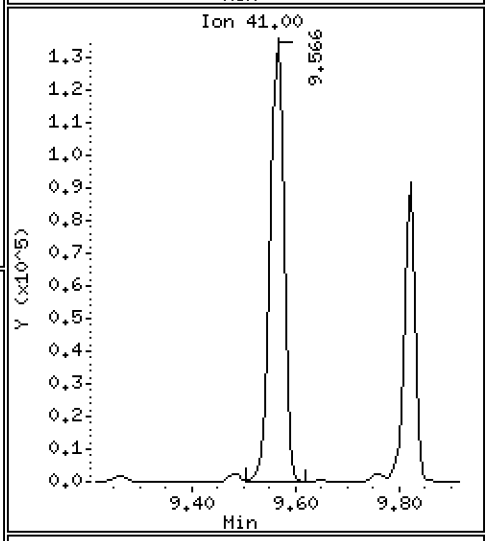
14 2,2'-oxybis(1-Chloropropane)

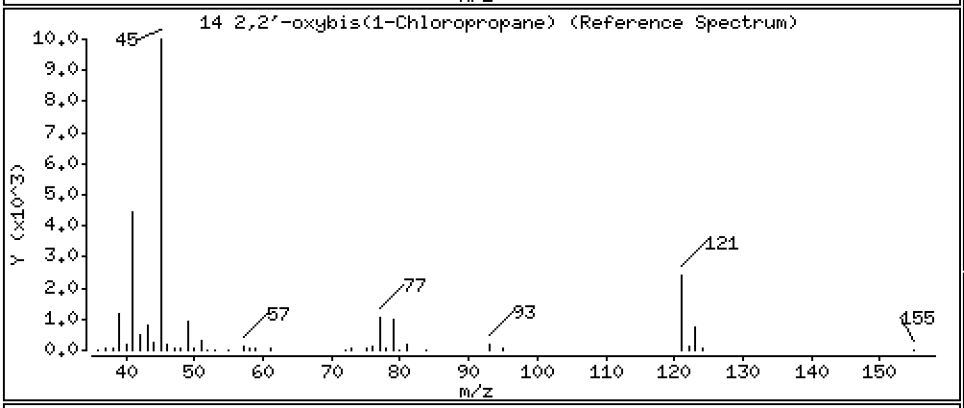
Concentration: 5.545 ug/mL

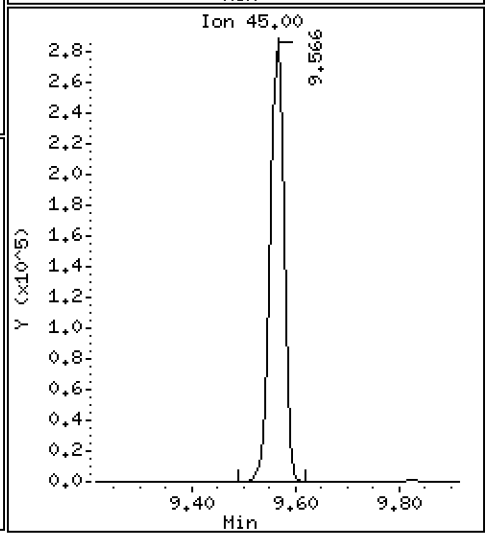


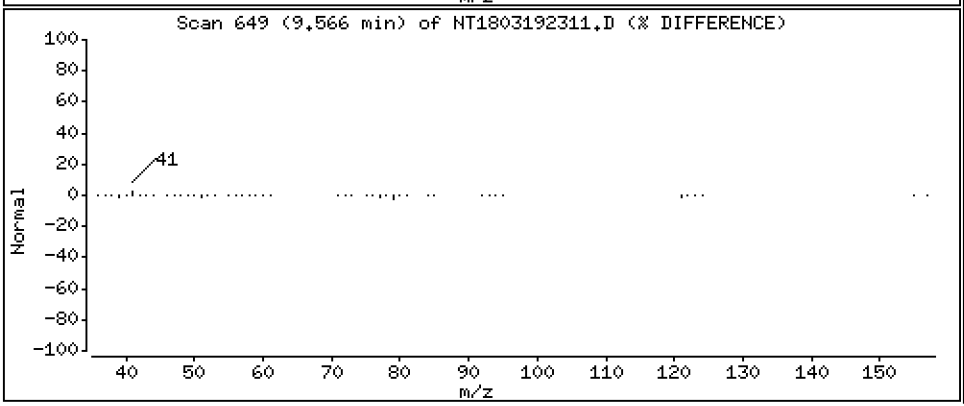












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

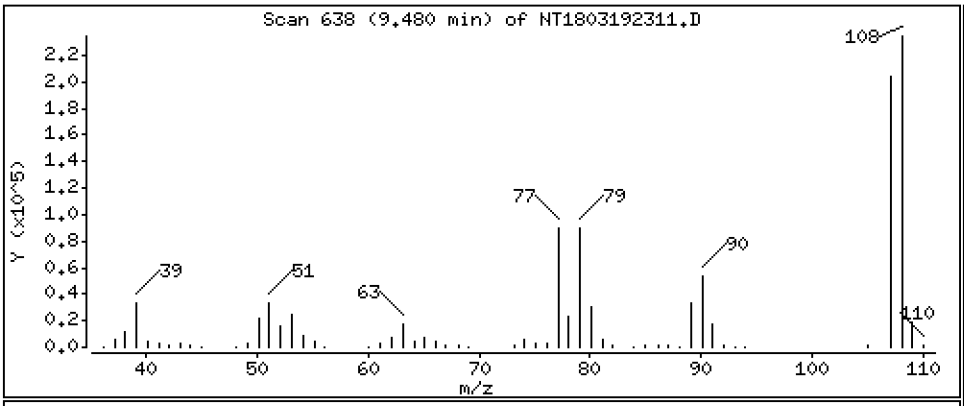
Operator: VTS

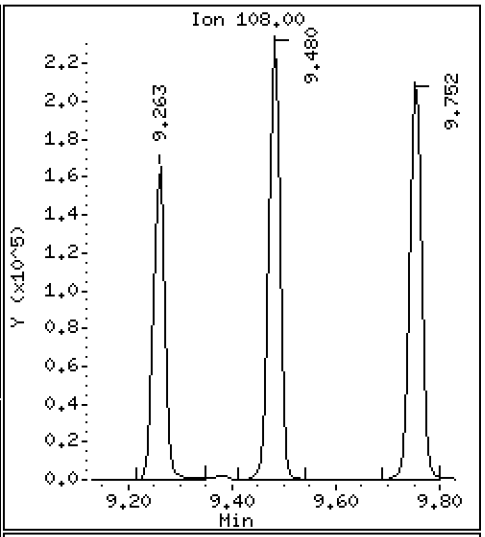
Column phase: ZB-5msi

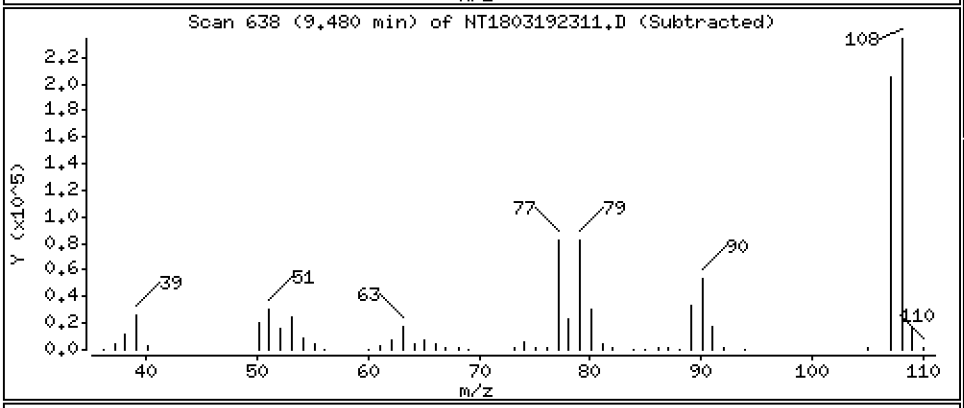
Column diameter: 0.25

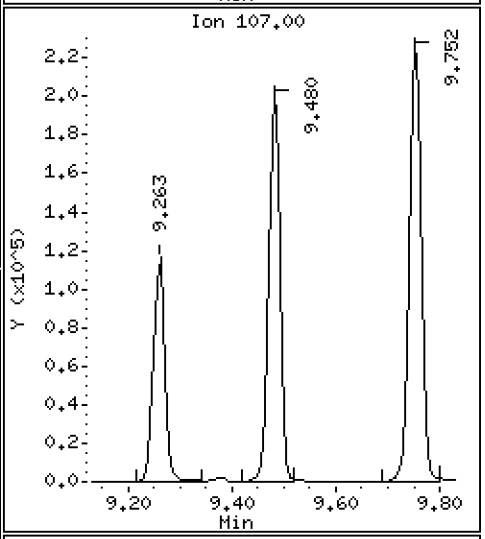
13 2-Methylphenol

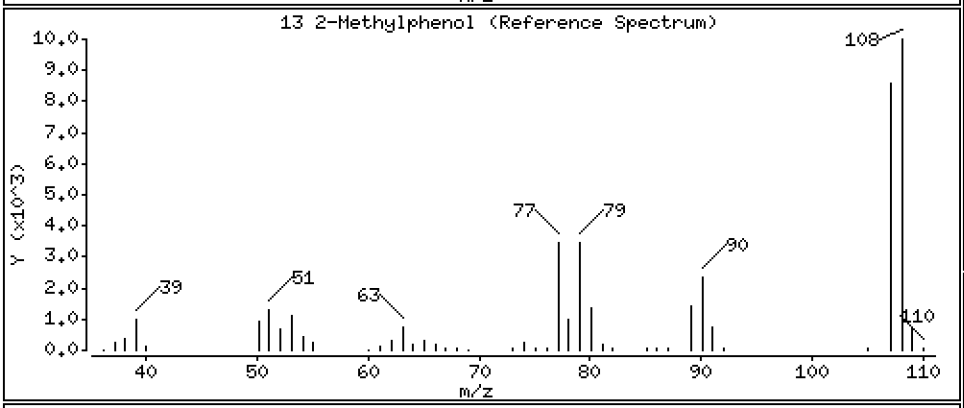
Concentration: 4.238 ug/mL

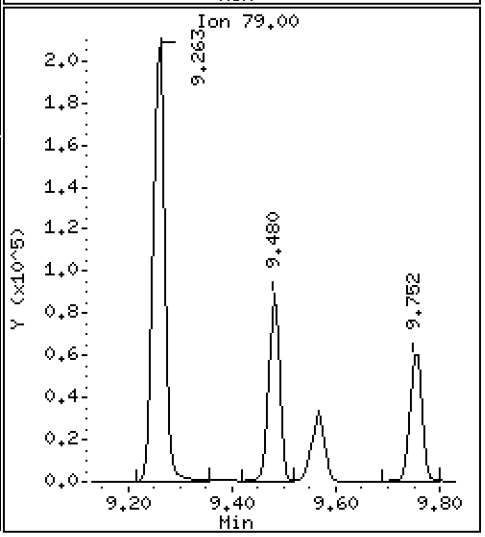


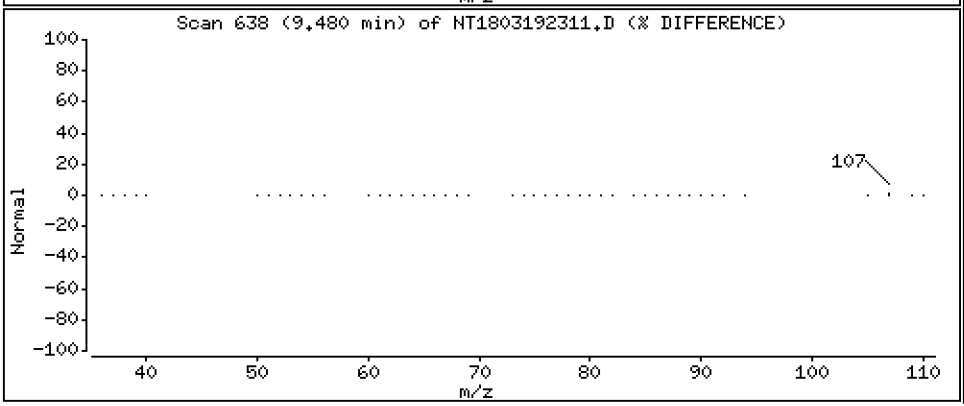












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

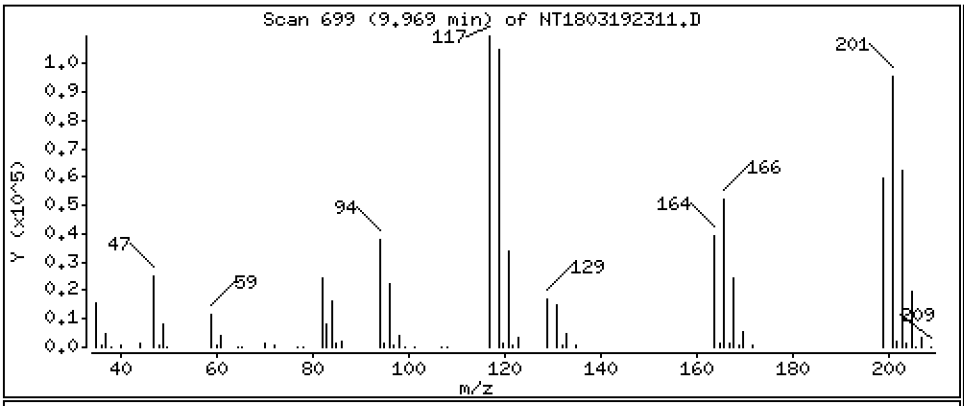
Operator: VTS

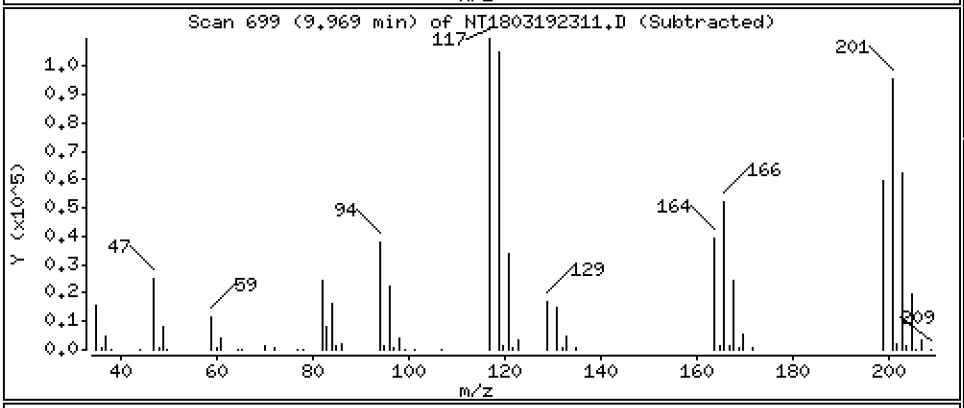
Column phase: ZB-5msi

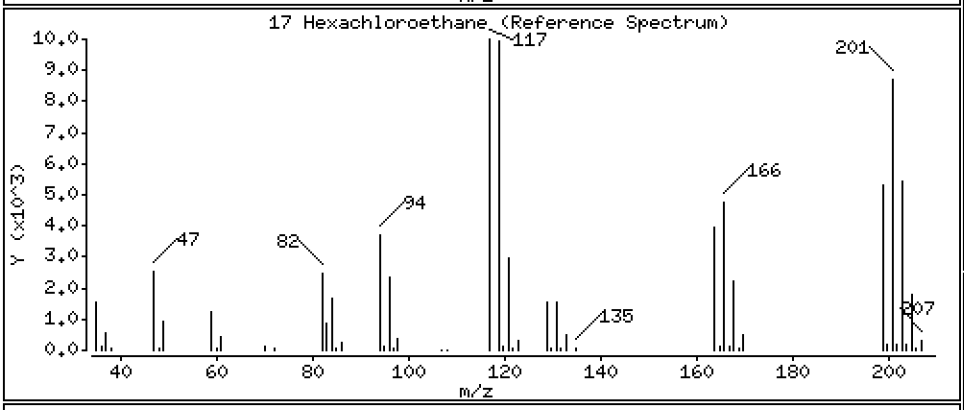
Column diameter: 0.25

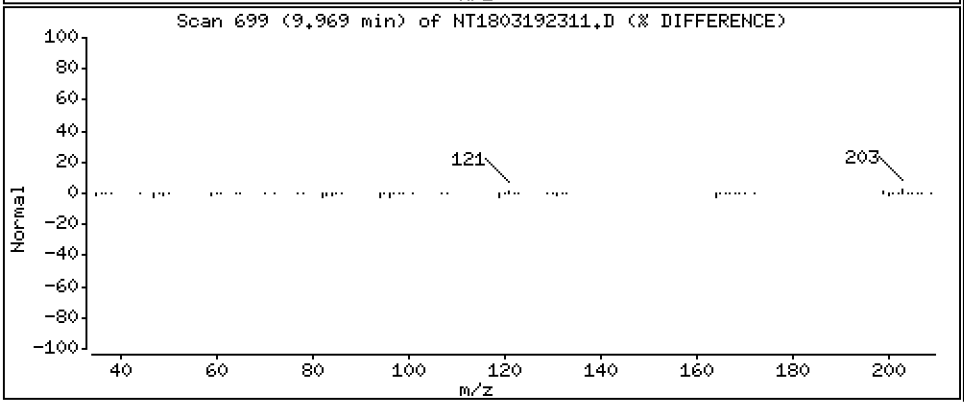
17 Hexachloroethane

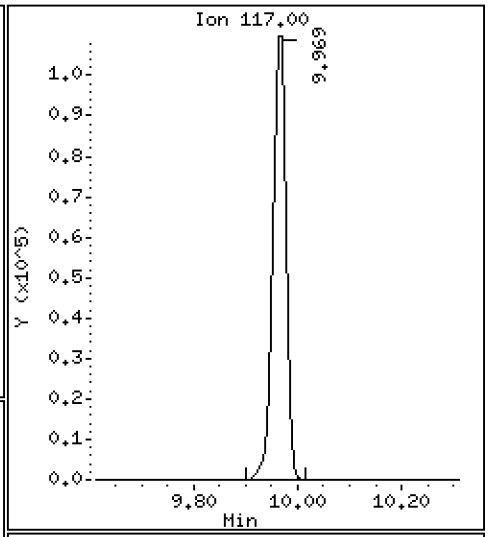
Concentration: 5.164 ug/mL

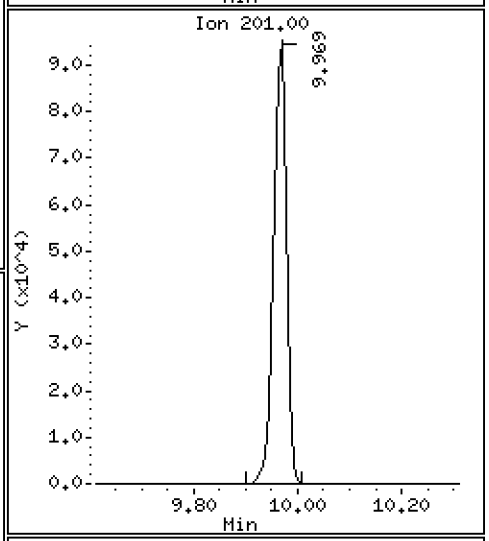


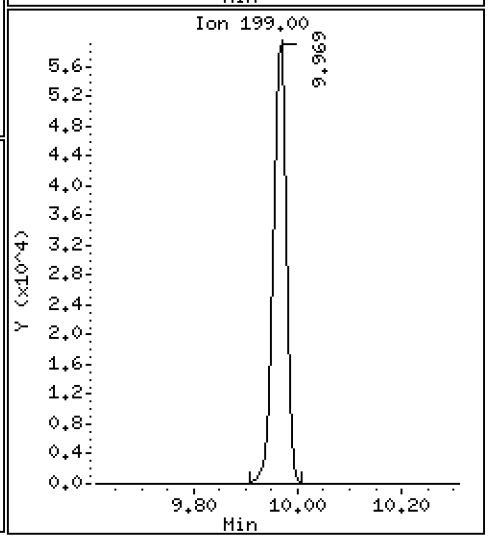












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

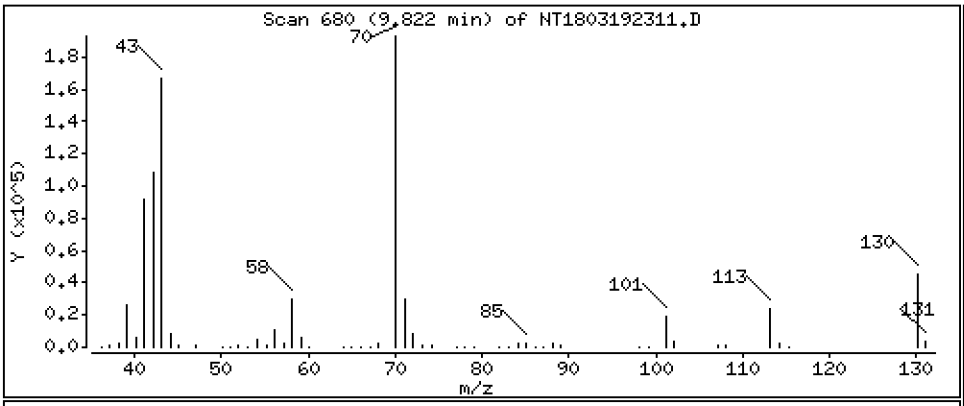
Operator: VTS

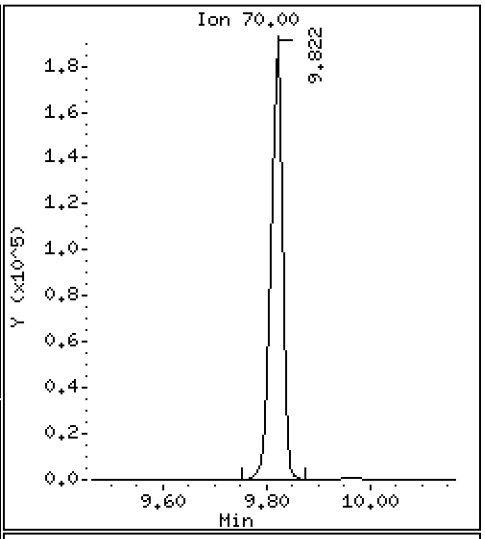
Column phase: ZB-5msi

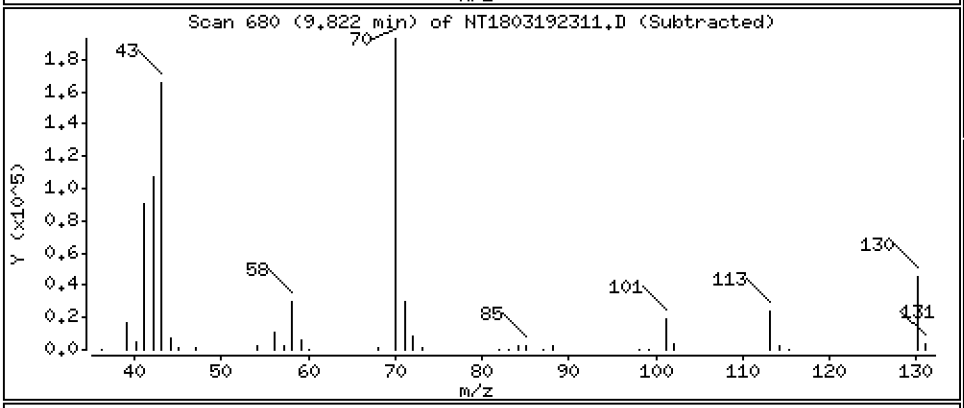
Column diameter: 0.25

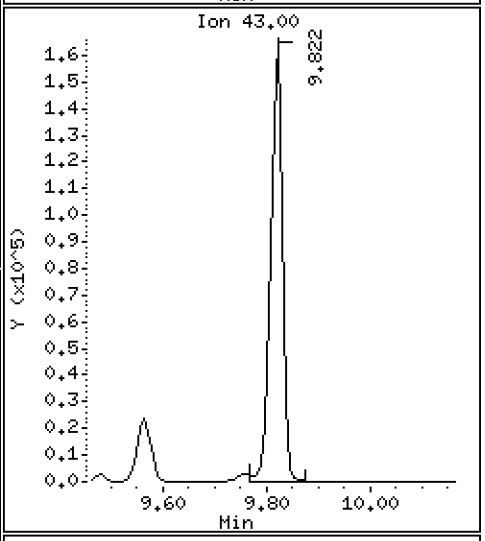
16 N-Nitroso-di-n-propylamine

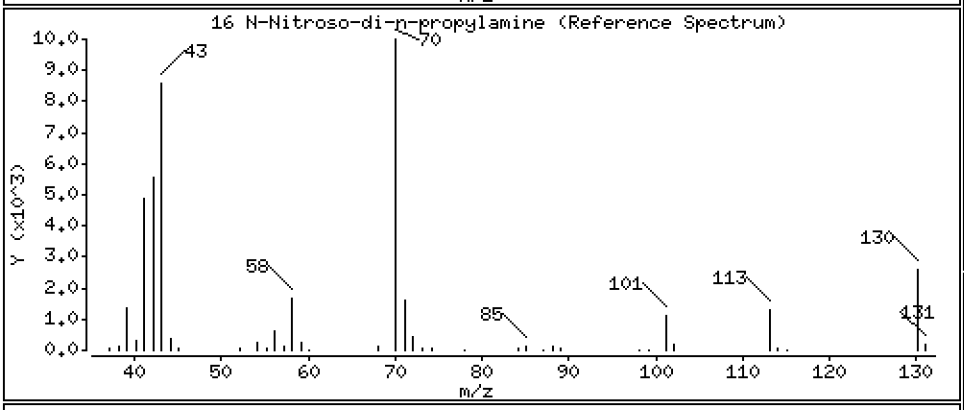
Concentration: 5.237 ug/mL

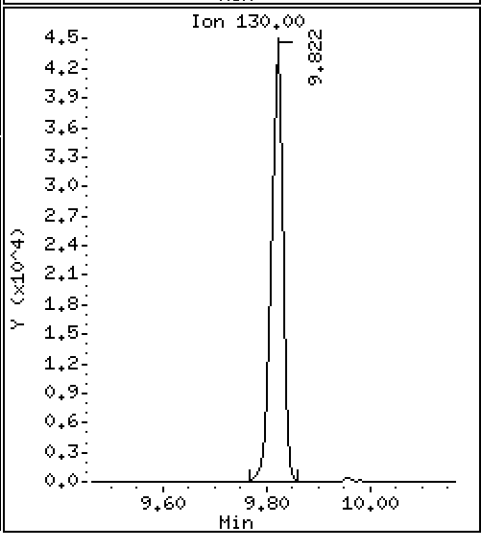


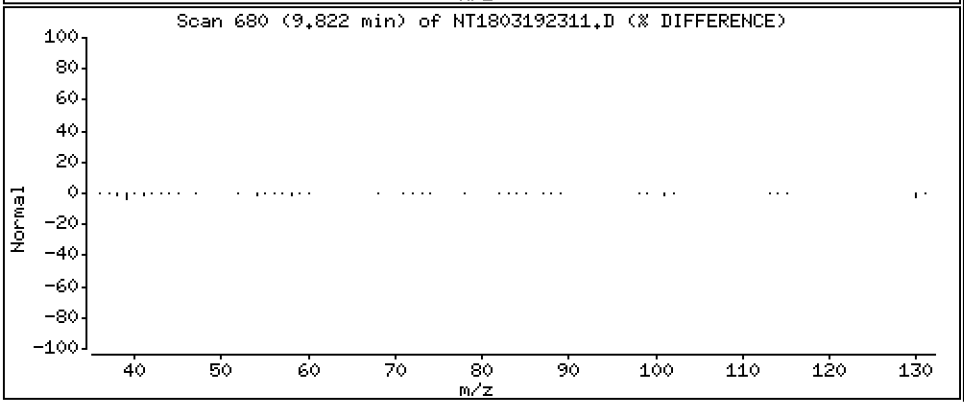












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

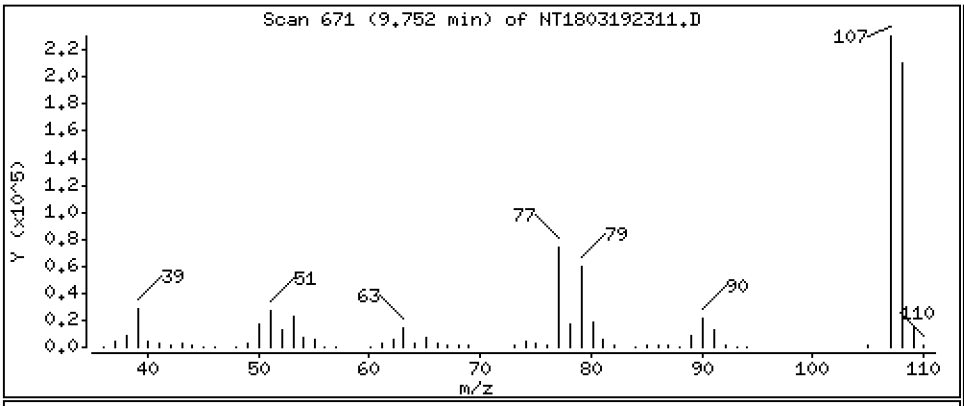
Operator: VTS

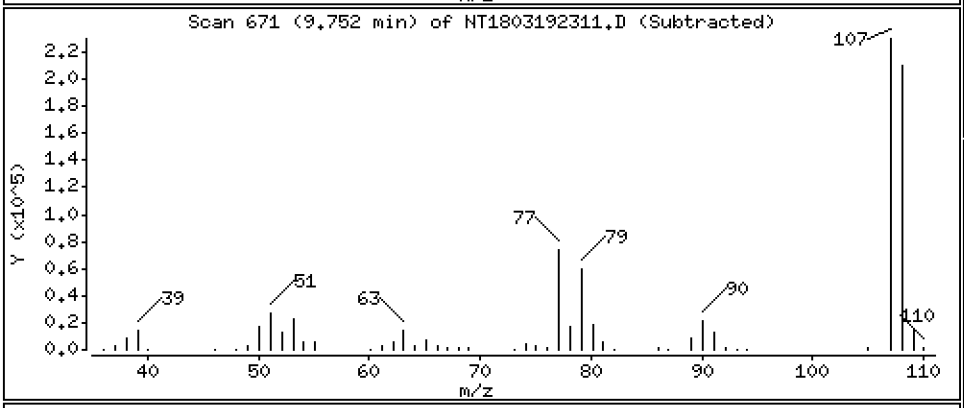
Column phase: ZB-5msi

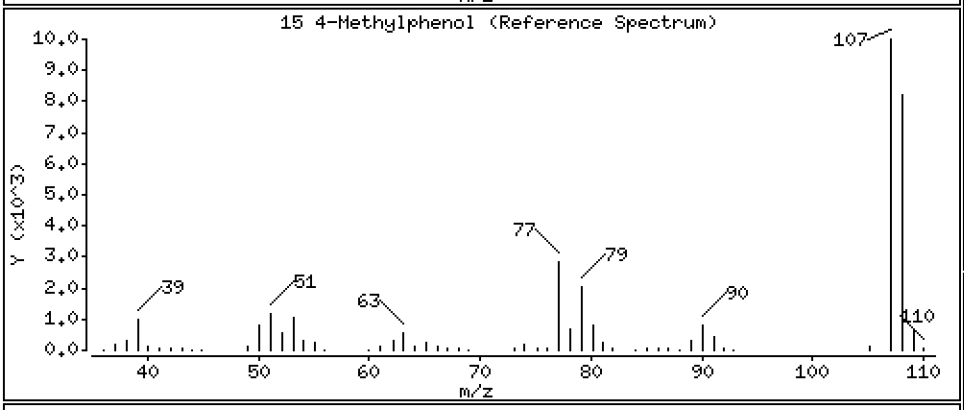
Column diameter: 0.25

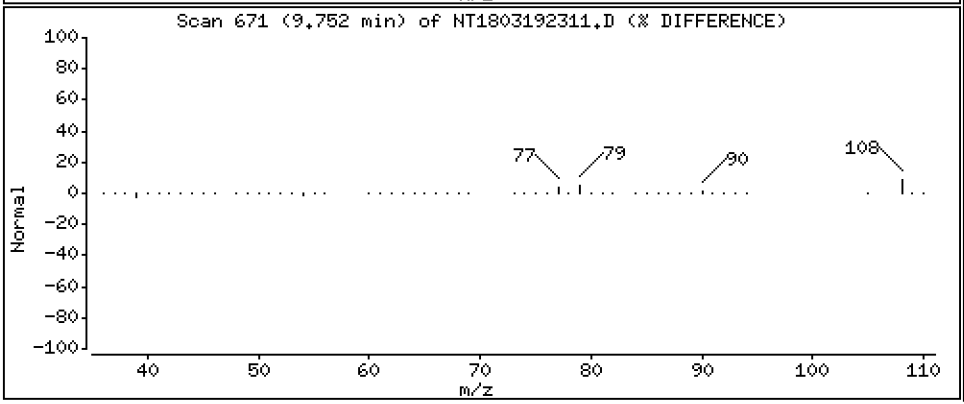
15 4-Methylphenol

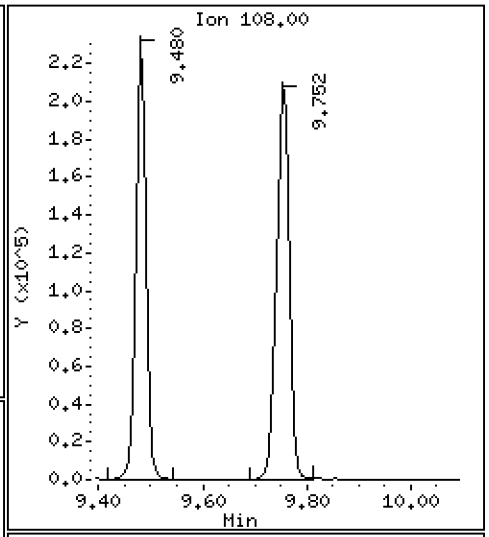
Concentration: 4.482 ug/mL

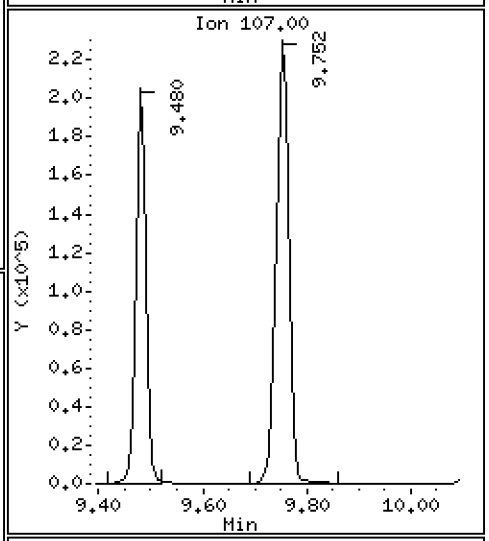


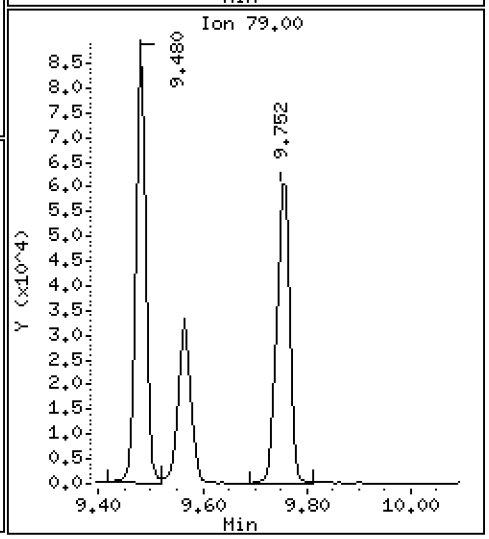












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

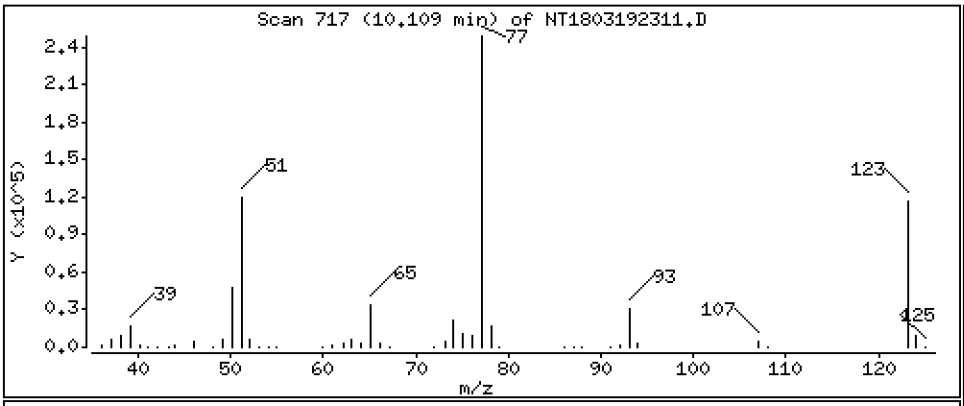
Operator: VTS

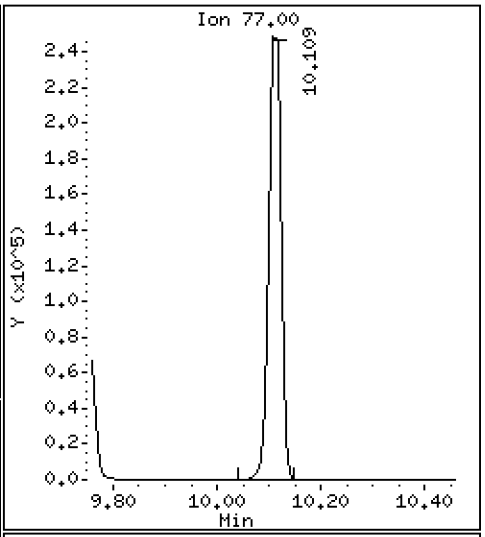
Column phase: ZB-5msi

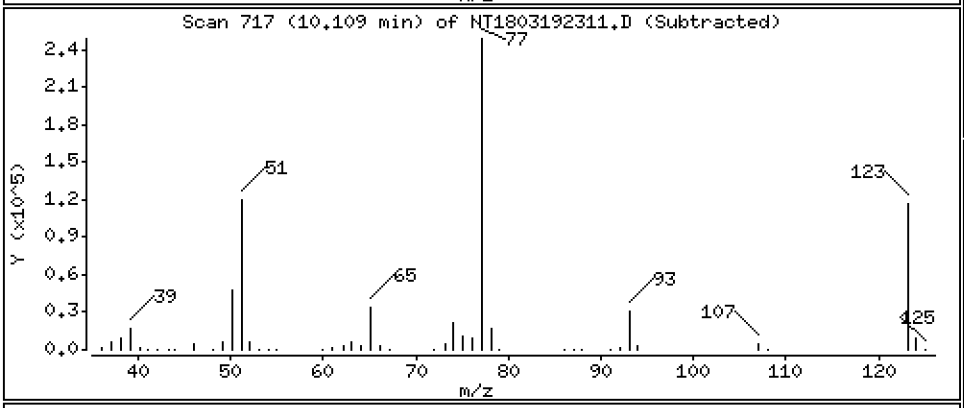
Column diameter: 0.25

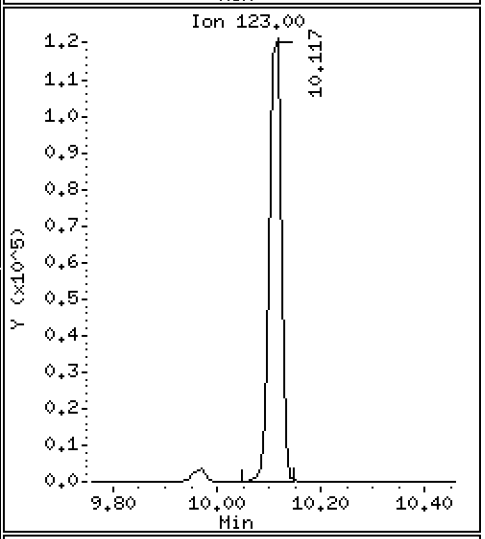
19 Nitrobenzene

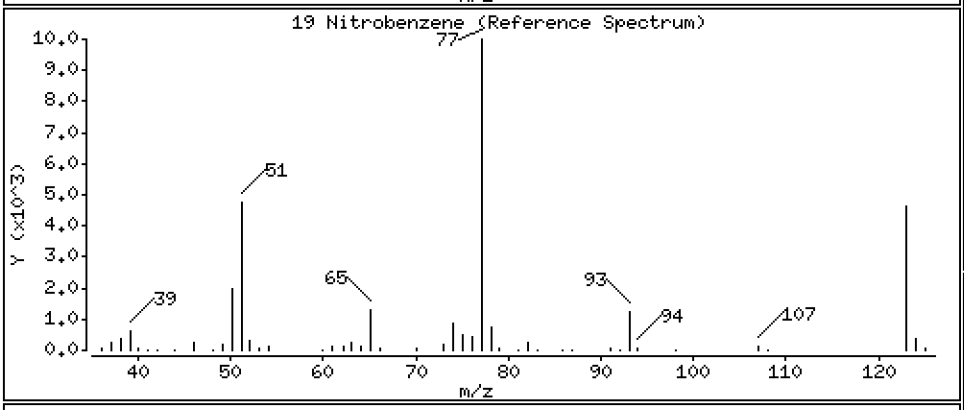
Concentration: 5.029 ug/mL

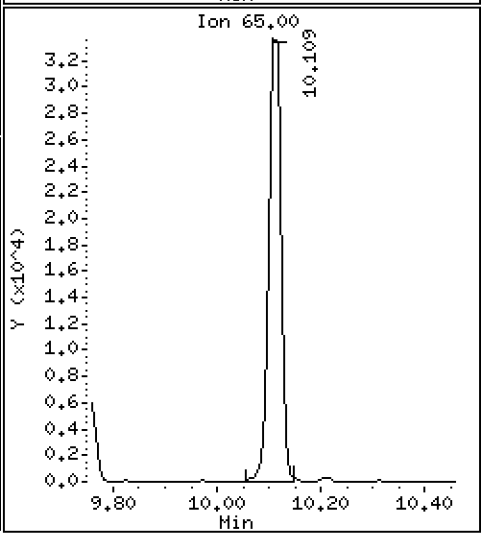


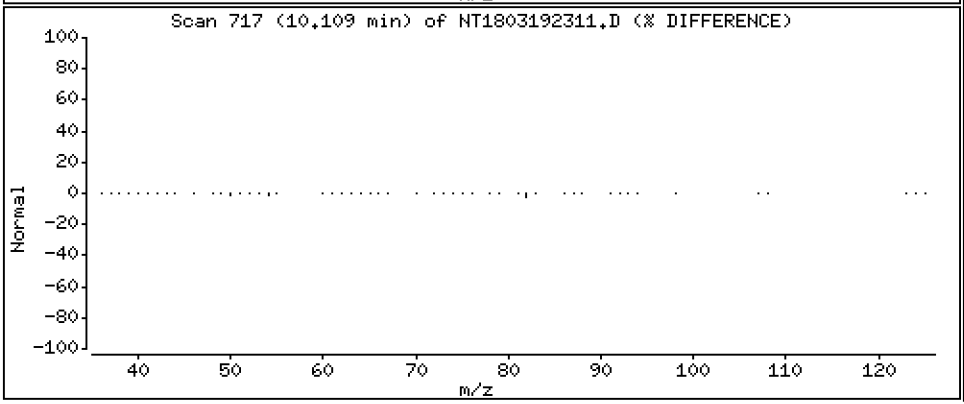












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

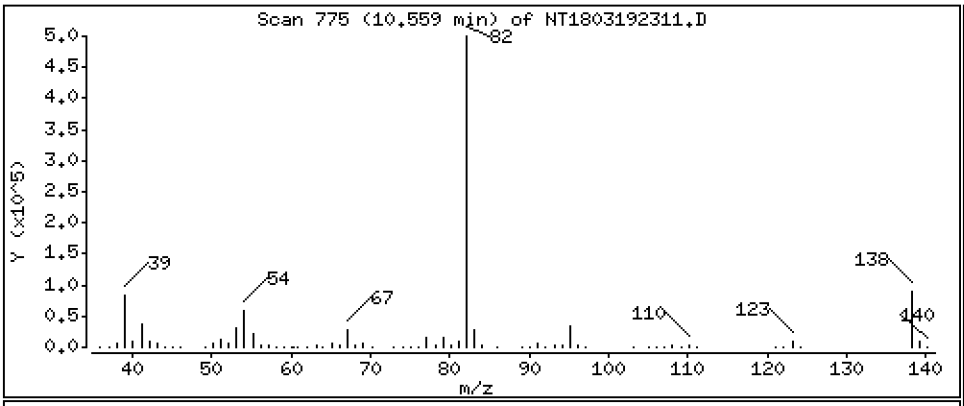
Operator: VTS

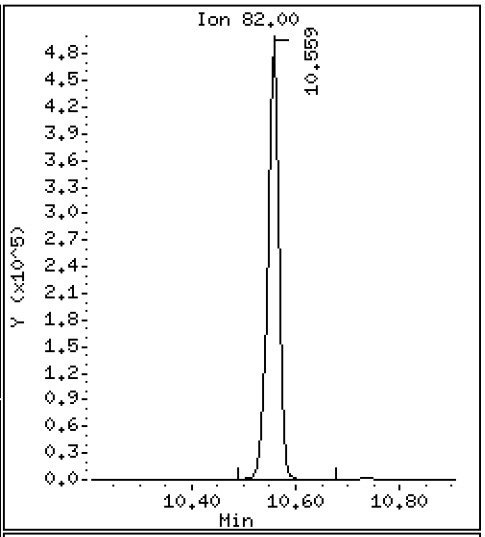
Column phase: ZB-5msi

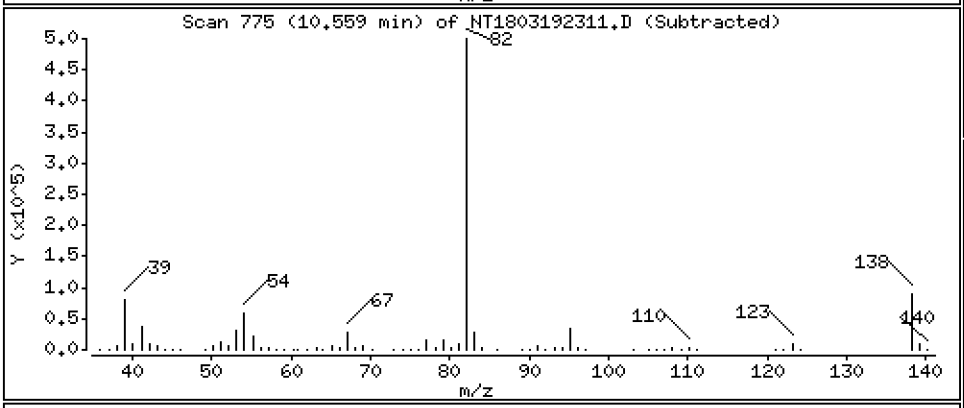
Column diameter: 0.25

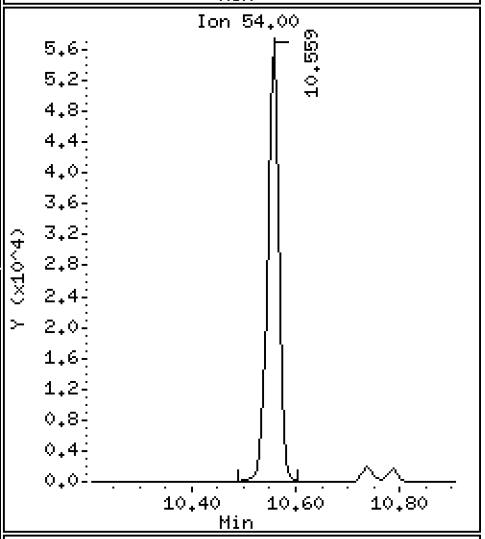
20 Isophorone

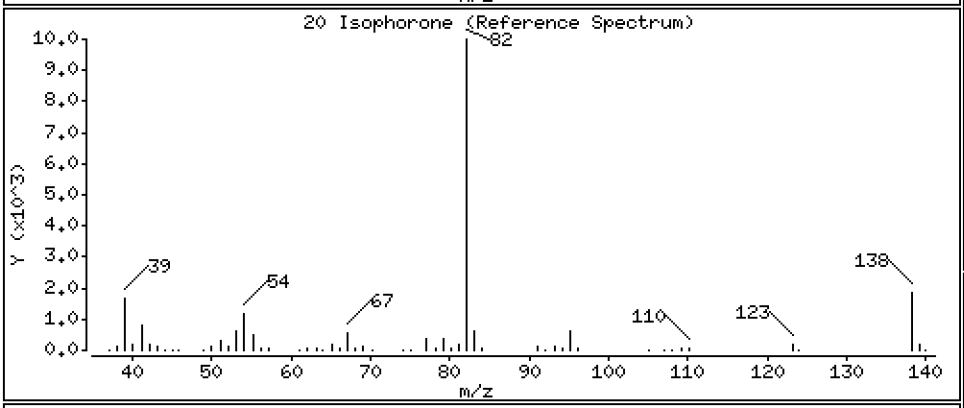
Concentration: 7.923 ug/mL

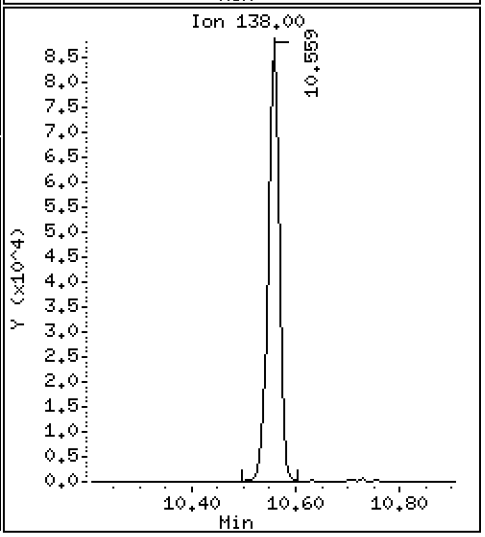


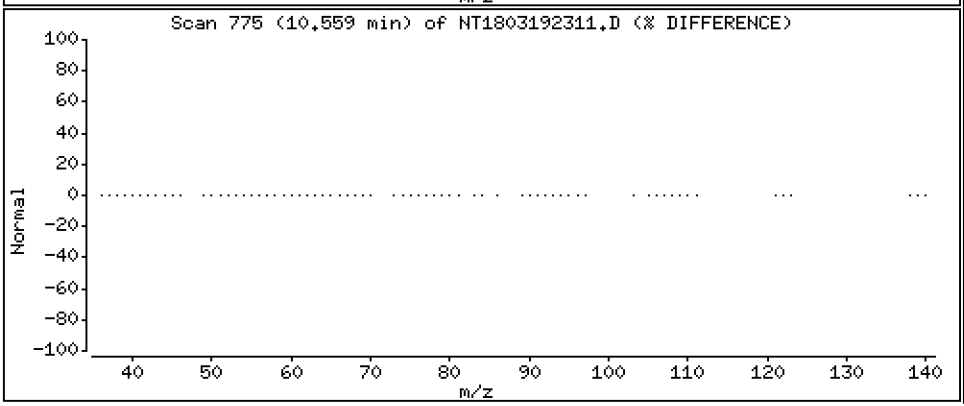












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

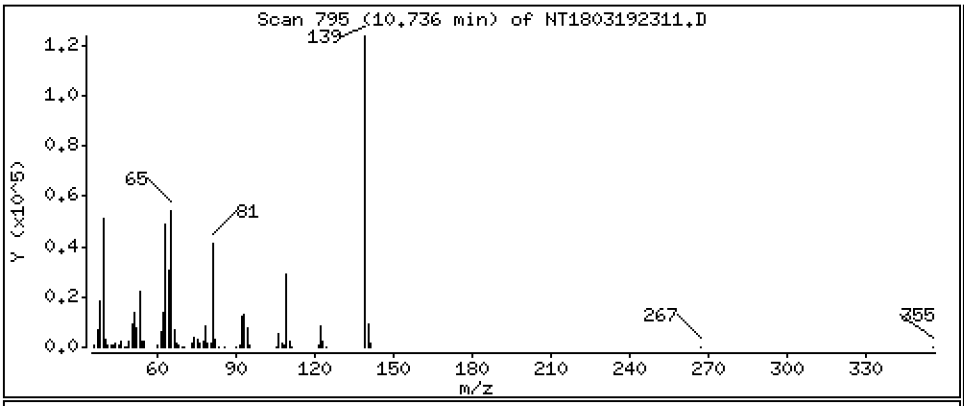
Operator: VTS

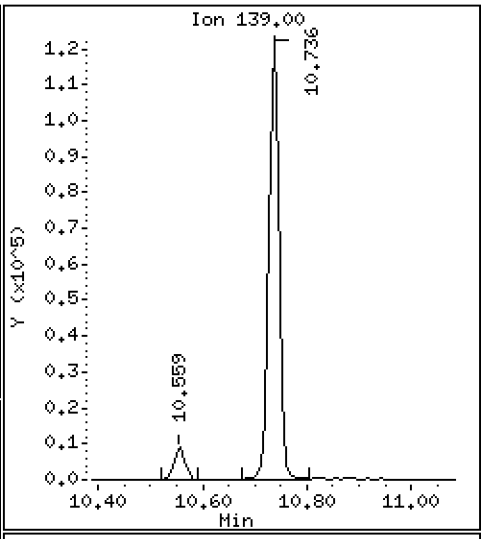
Column phase: ZB-5msi

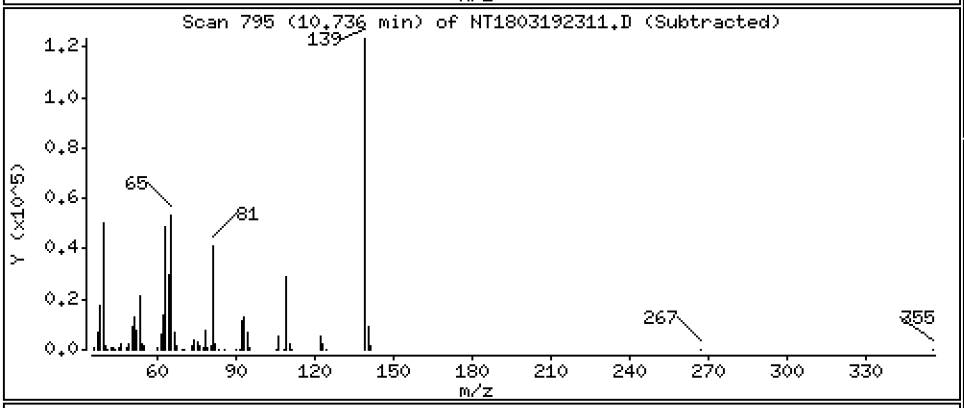
Column diameter: 0.25

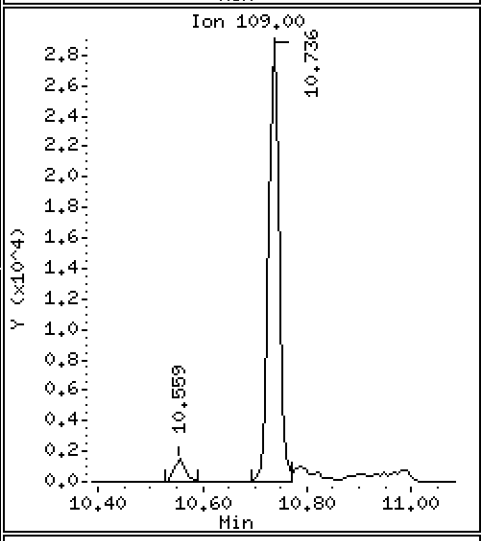
21 2-Nitrophenol

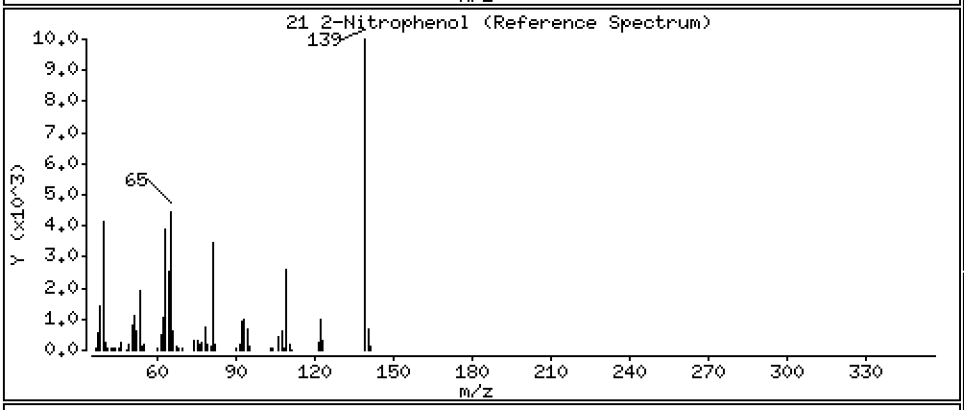
Concentration: 3.748 ug/mL

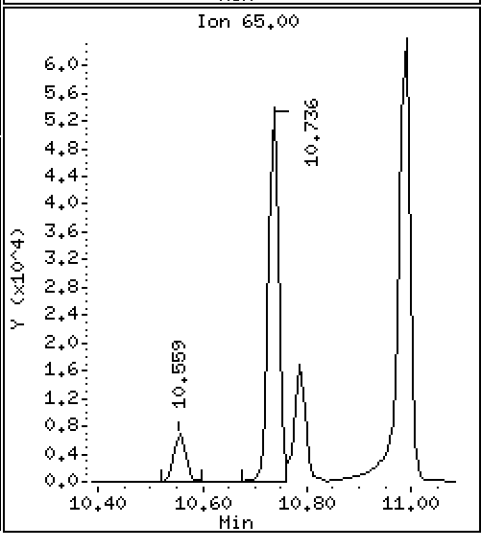


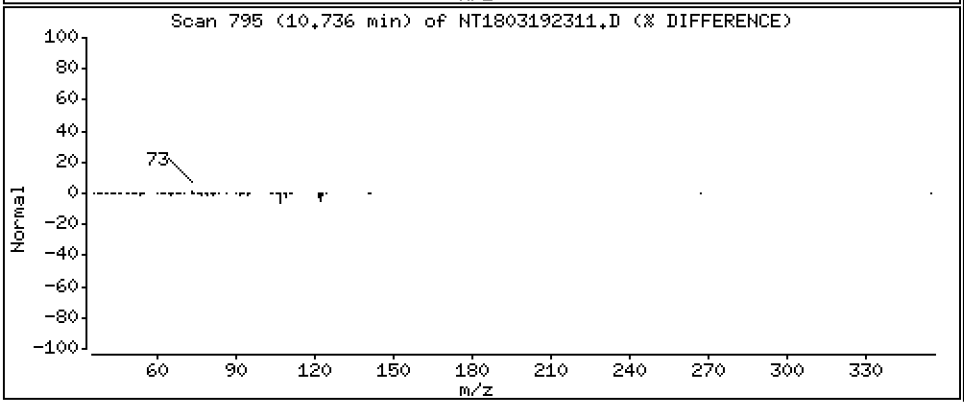












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

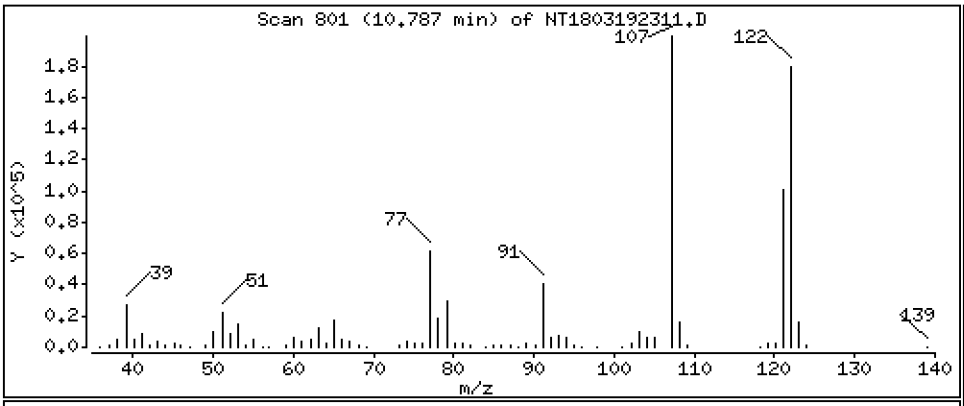
Operator: VTS

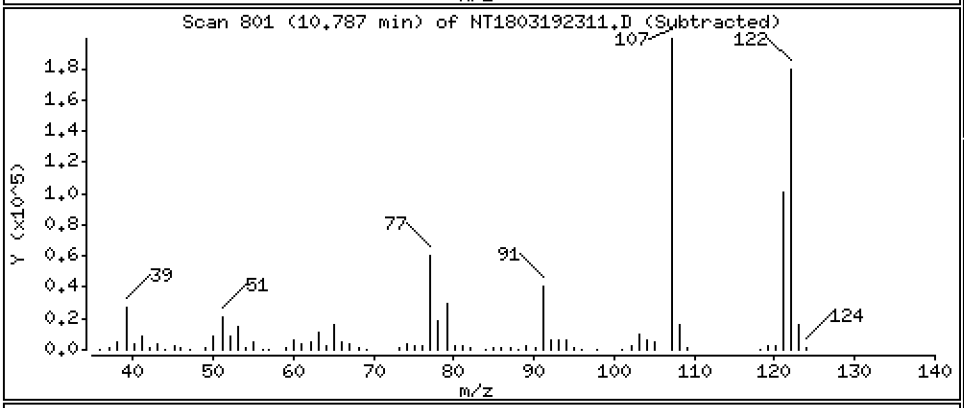
Column phase: ZB-5msi

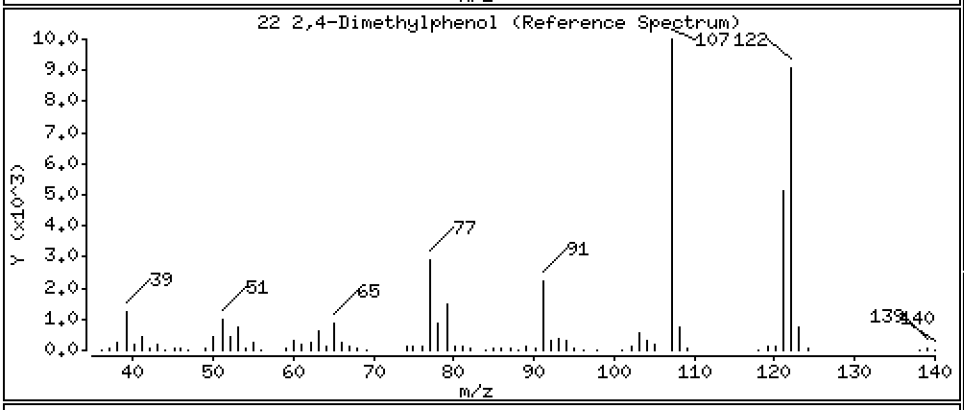
Column diameter: 0.25

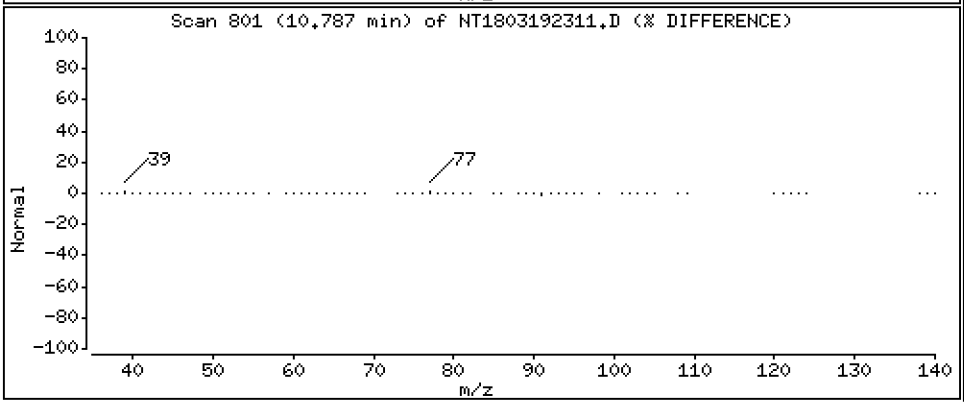
22 2,4-Dimethylphenol

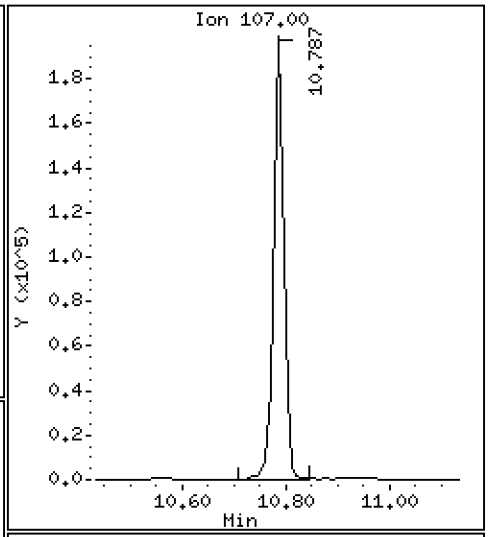
Concentration: 3.726 ug/mL

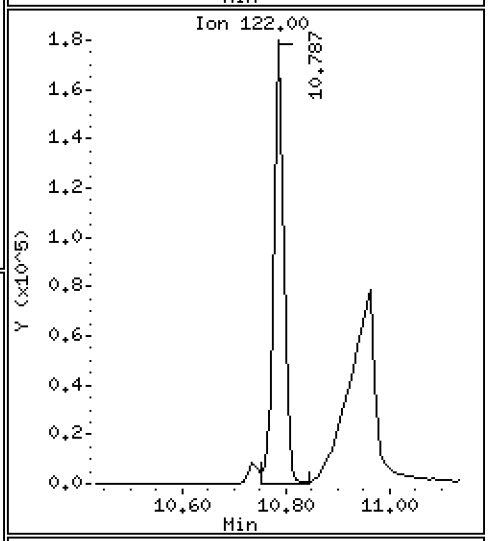


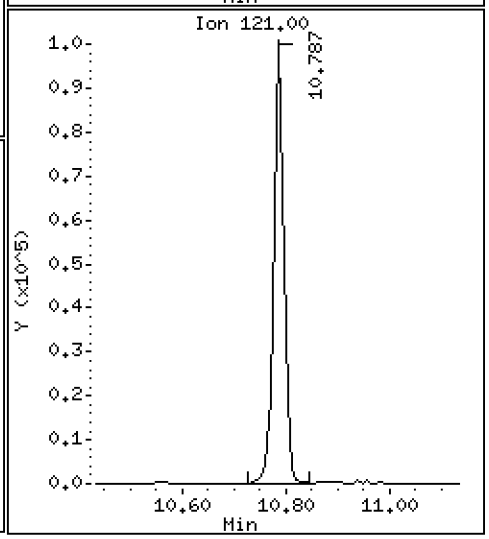












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

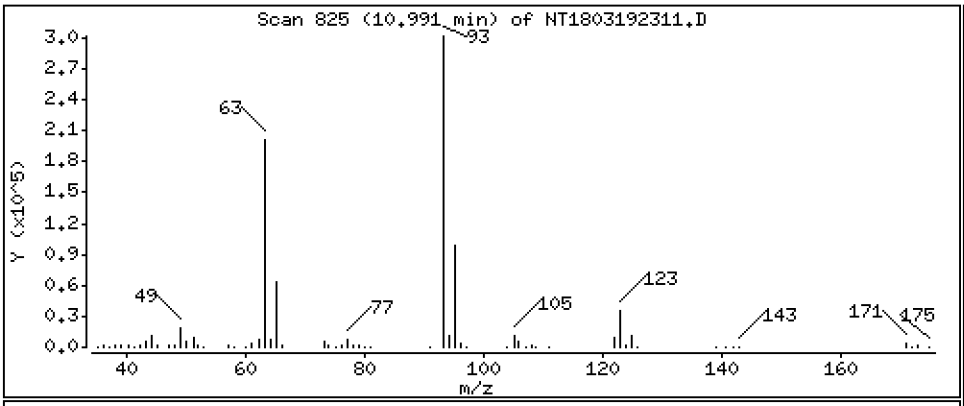
Operator: VTS

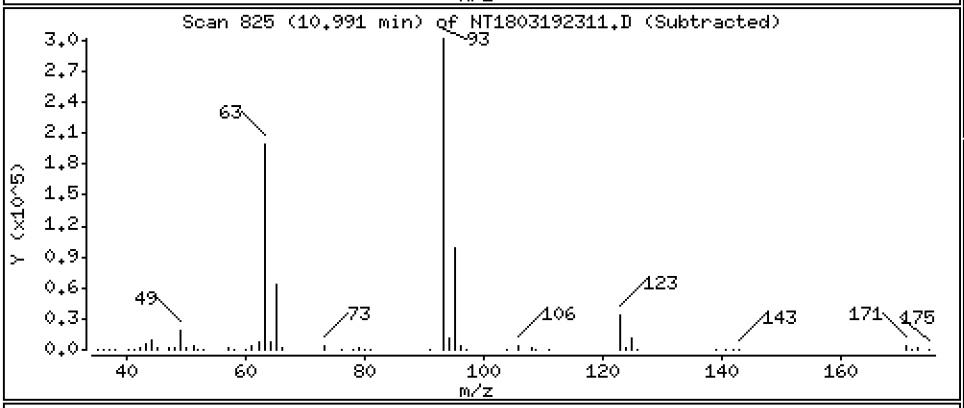
Column phase: ZB-5msi

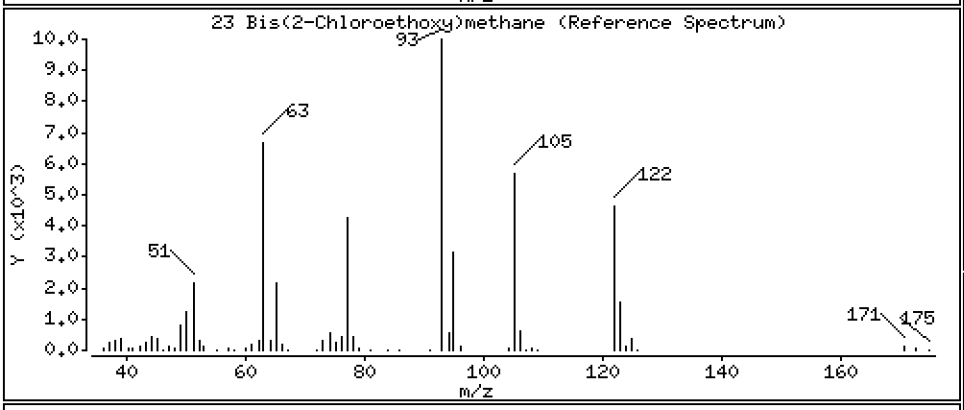
Column diameter: 0.25

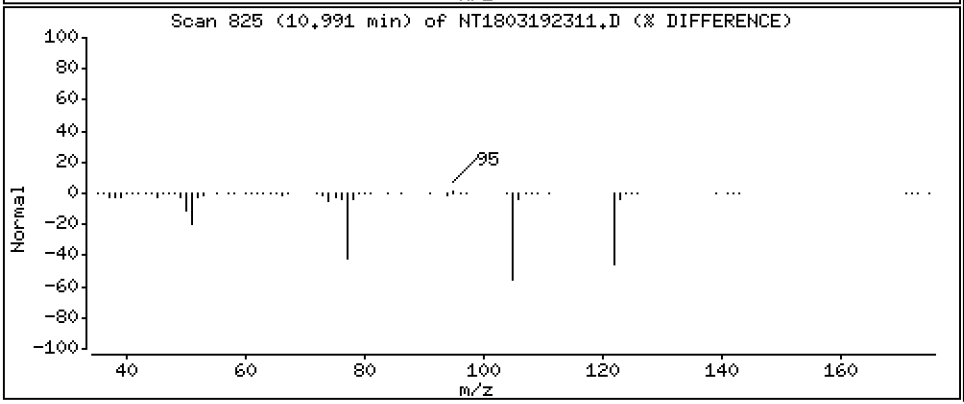
23 Bis(2-Chloroethoxy)methane

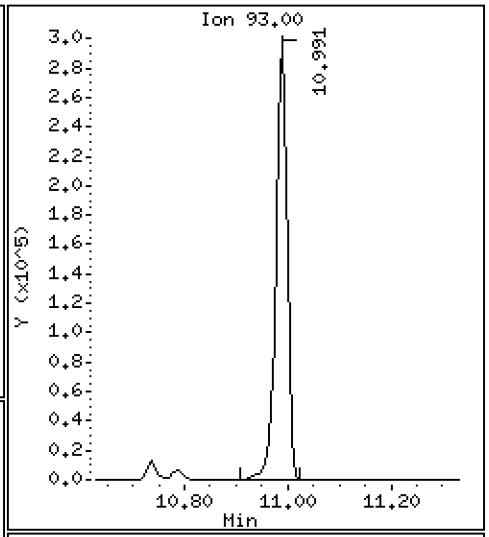
Concentration: 5.862 ug/mL

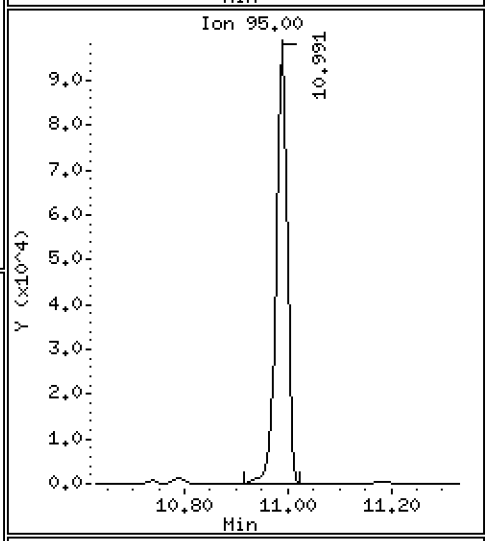


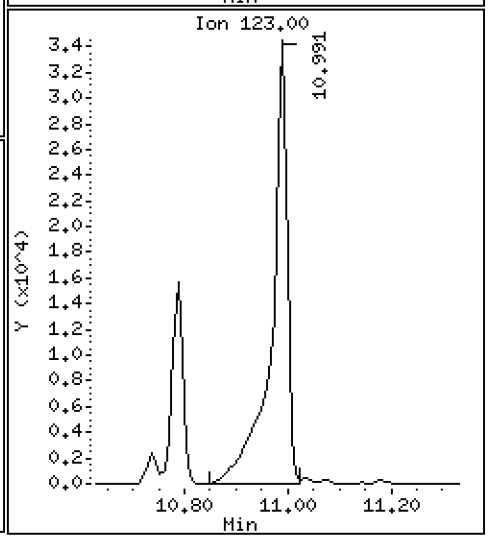












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

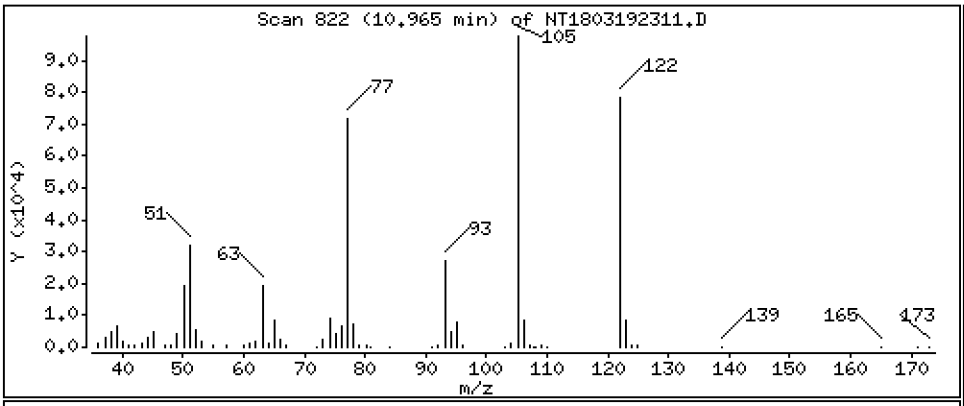
Operator: VTS

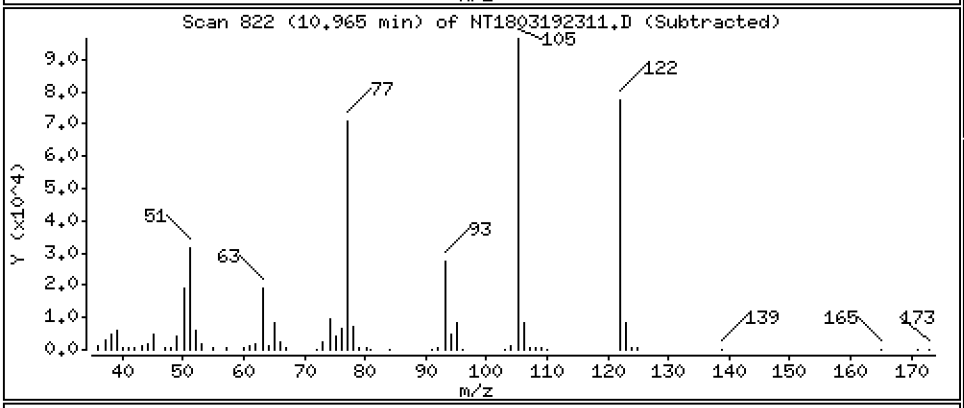
Column phase: ZB-5msi

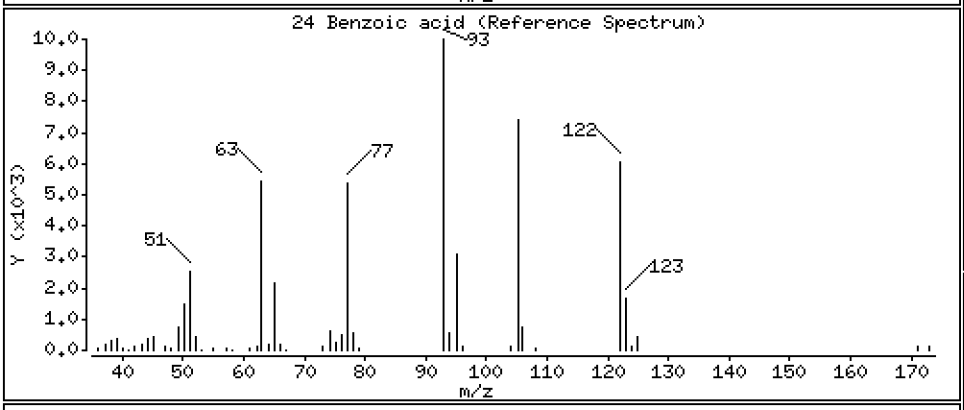
Column diameter: 0.25

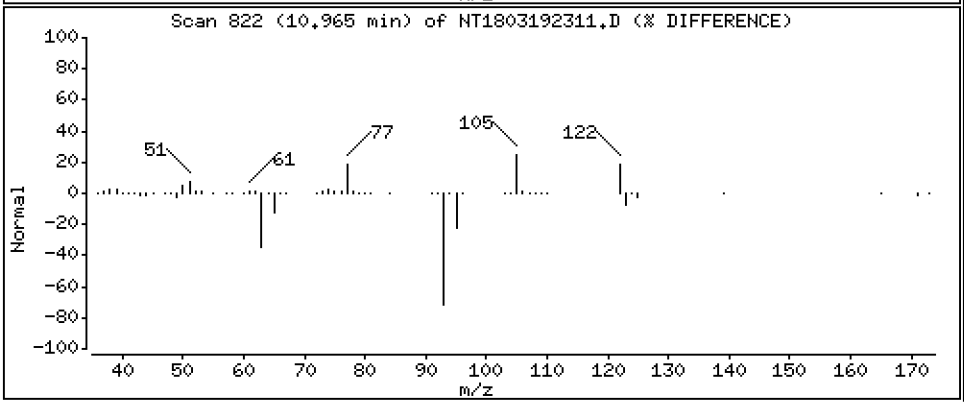
24 Benzoic acid

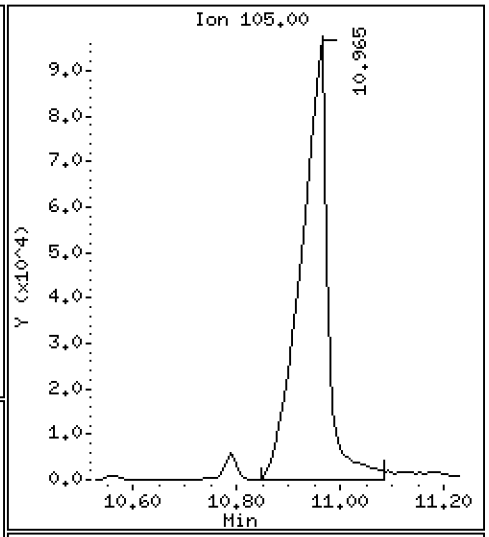
Concentration: 6.422 ug/mL

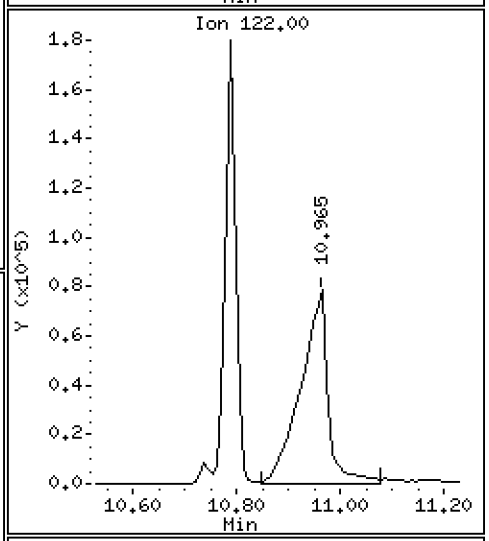


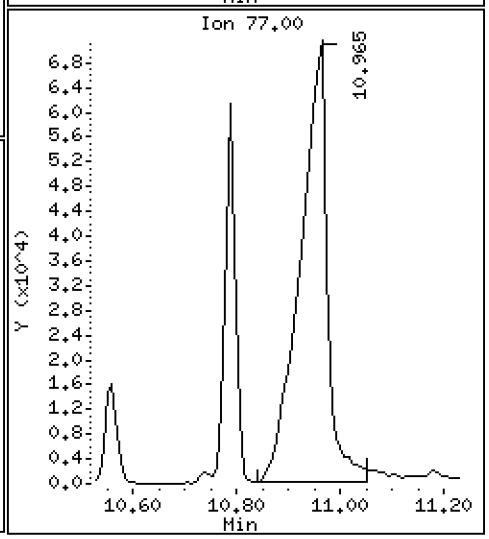












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

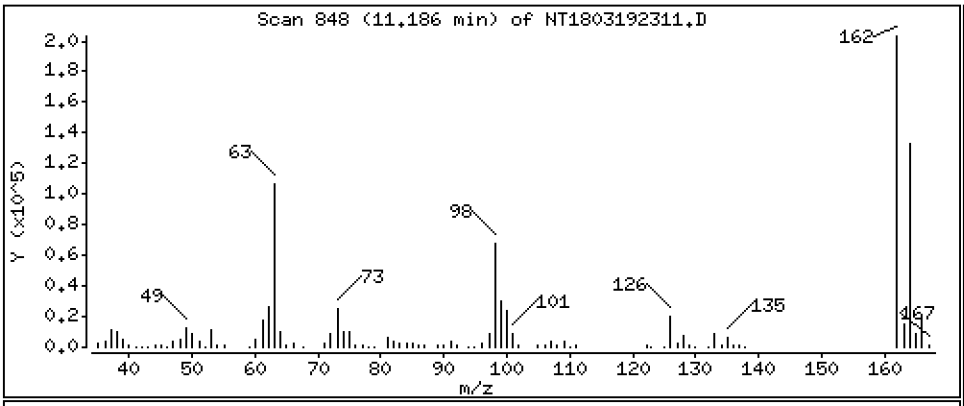
Operator: VTS

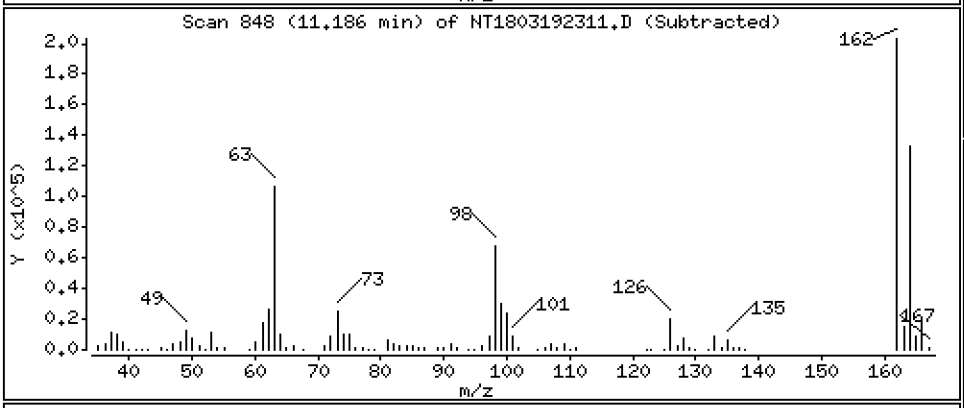
Column phase: ZB-5msi

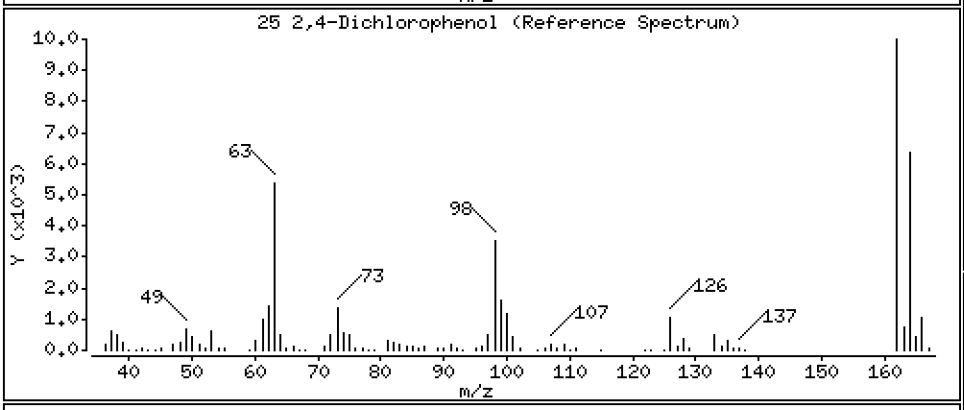
Column diameter: 0.25

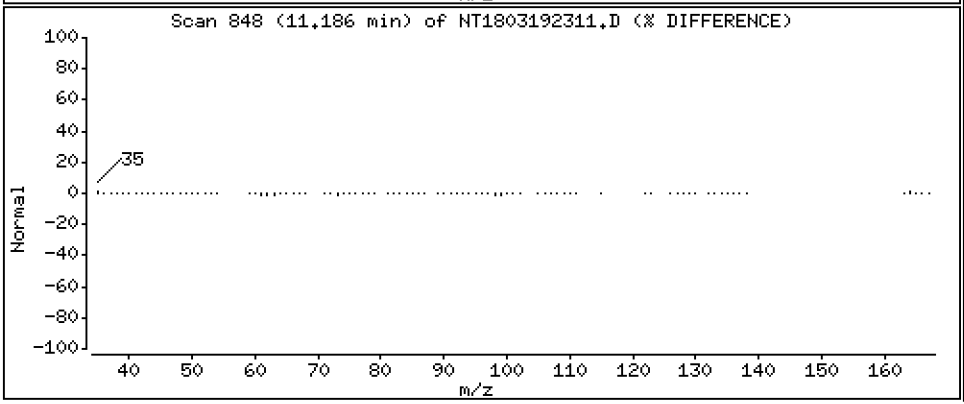
25 2,4-Dichlorophenol

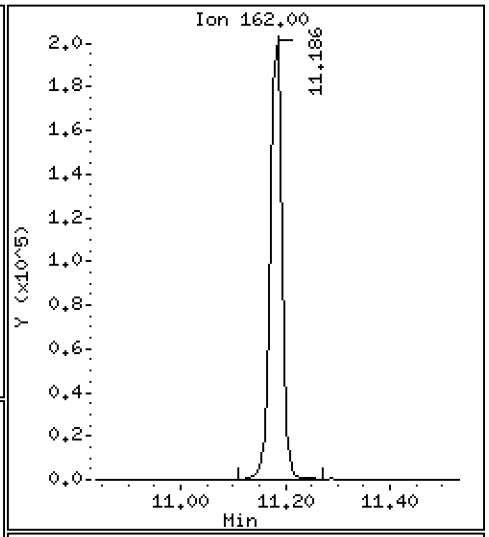
Concentration: 4.980 ug/mL

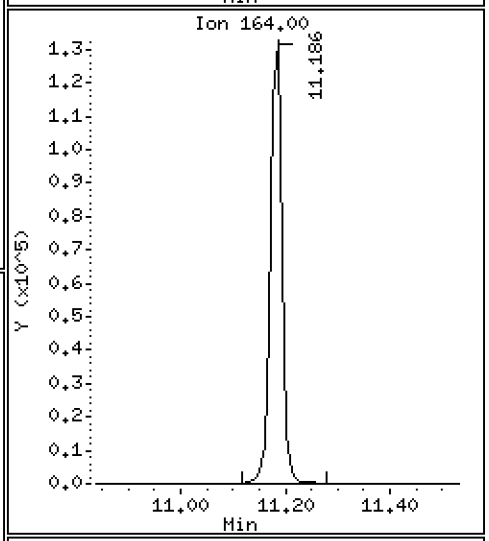


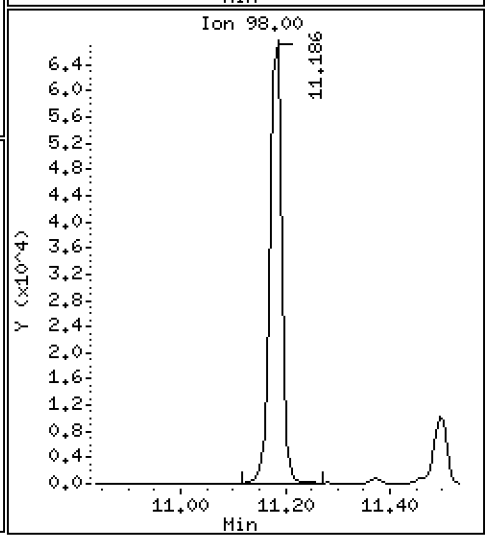












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

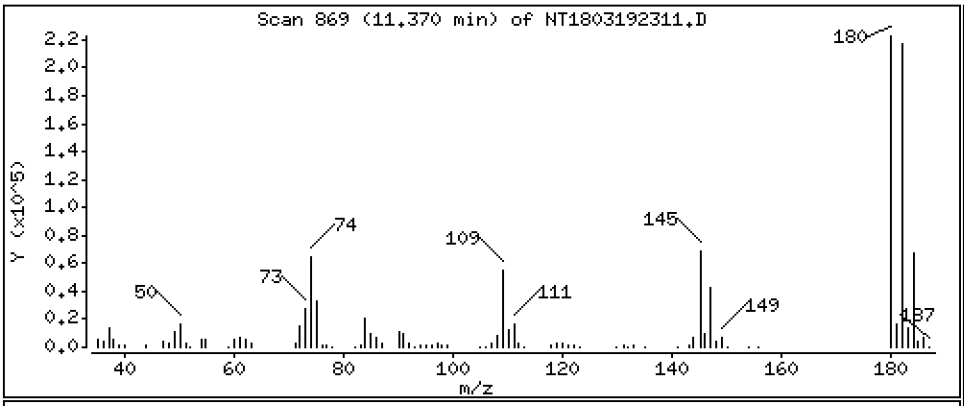
Operator: VTS

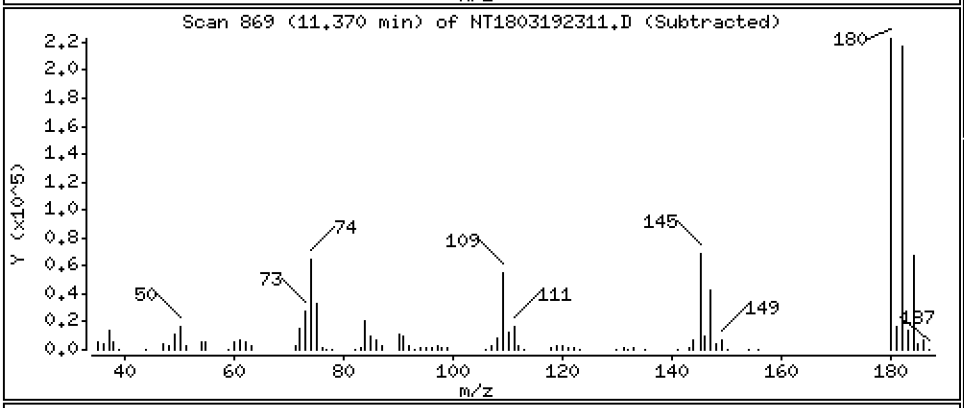
Column phase: ZB-5msi

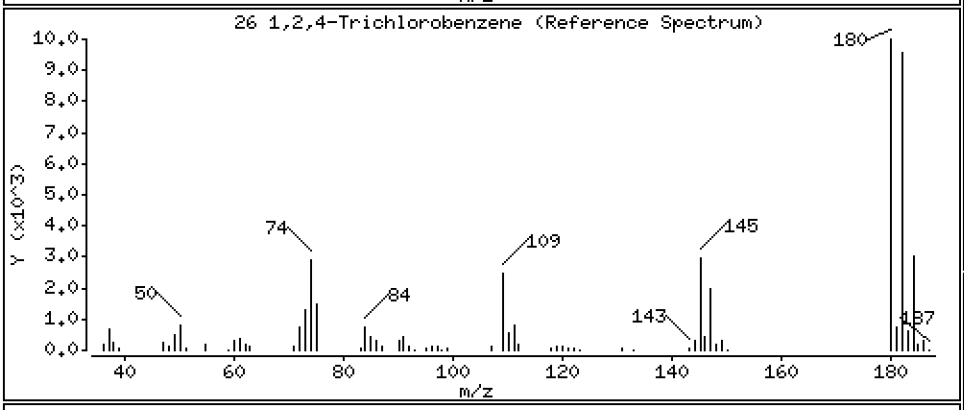
Column diameter: 0.25

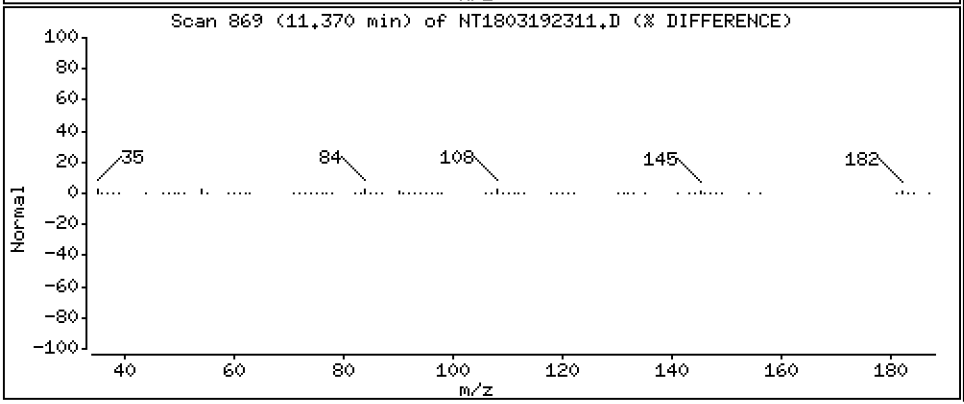
26 1,2,4-Trichlorobenzene

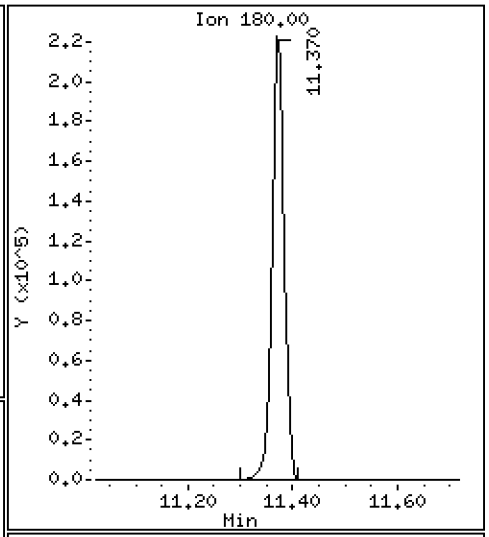
Concentration: 4.858 ug/mL

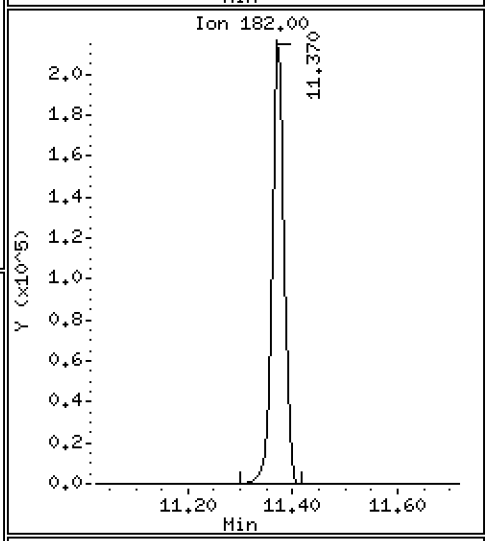


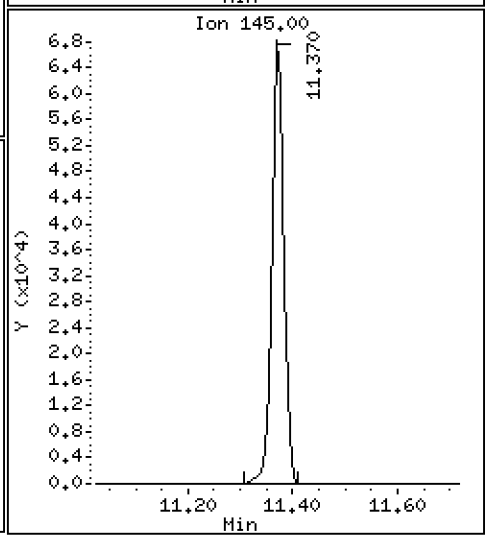












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

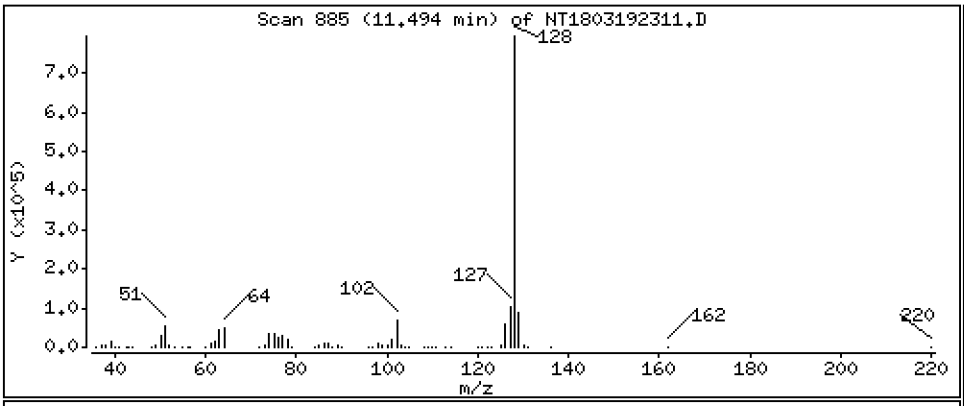
Operator: VTS

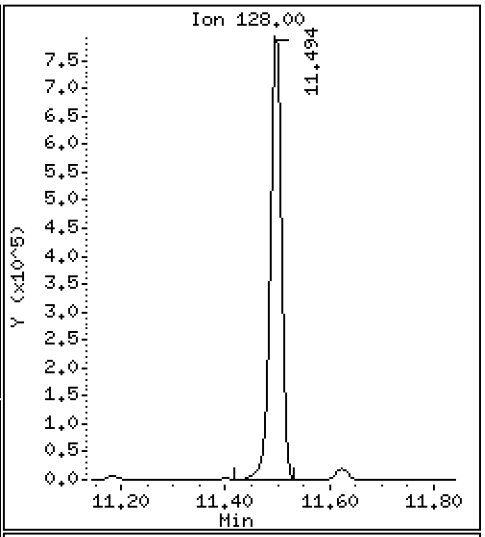
Column phase: ZB-5msi

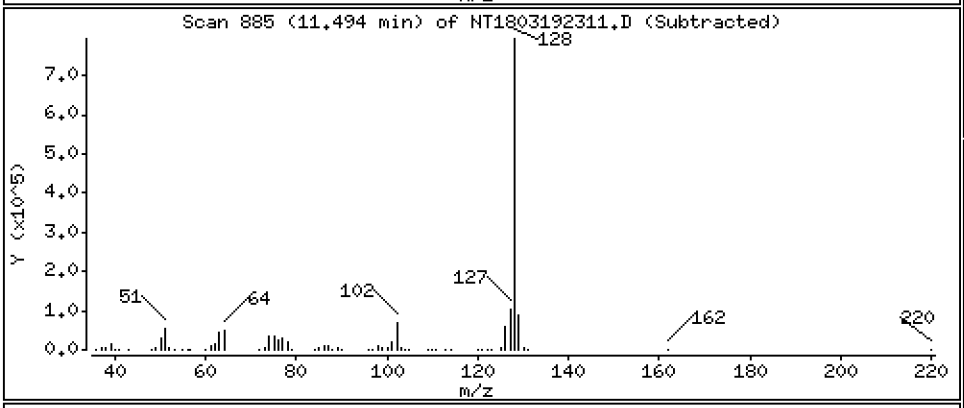
Column diameter: 0.25

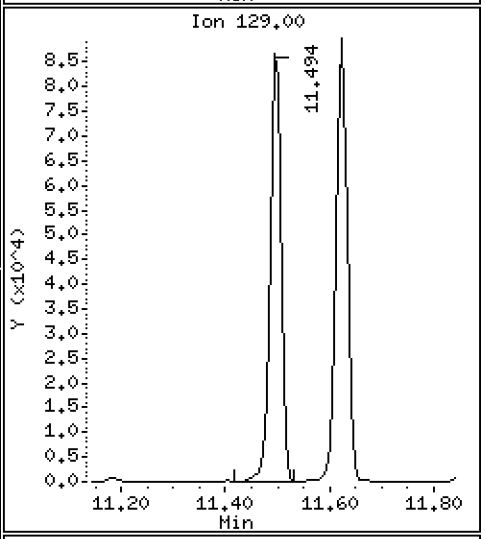
28 Naphthalene

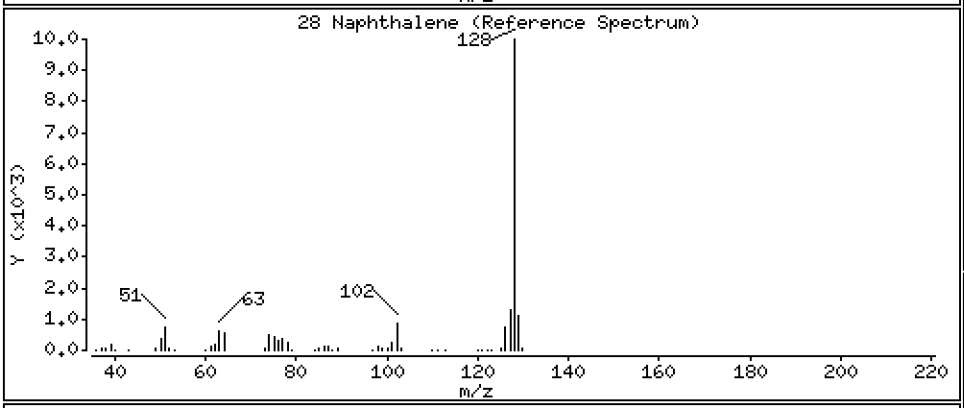
Concentration: 4.875 ug/mL

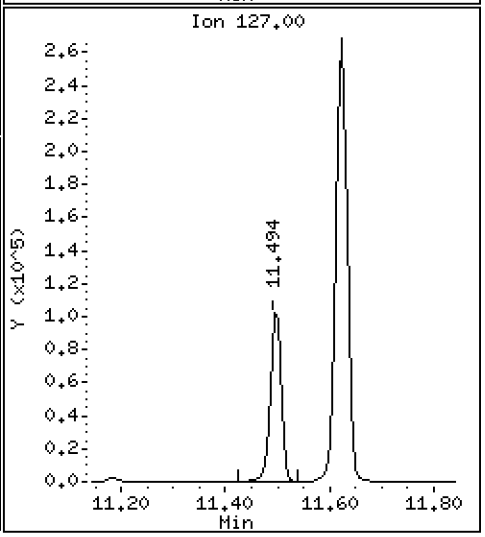


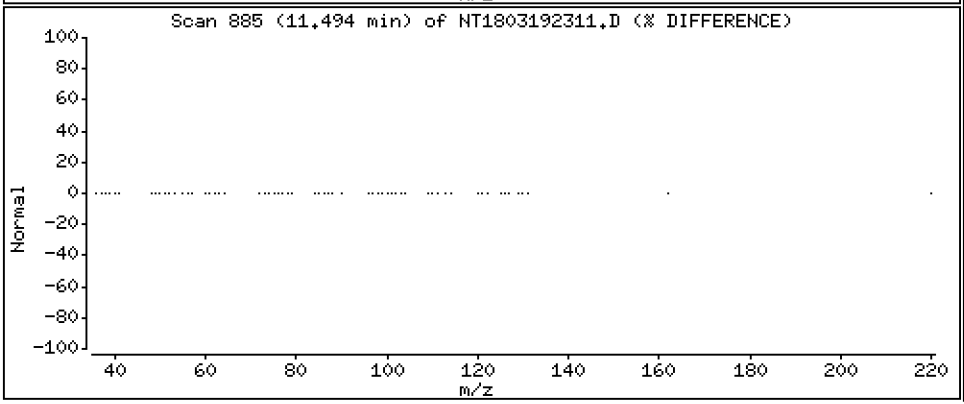












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

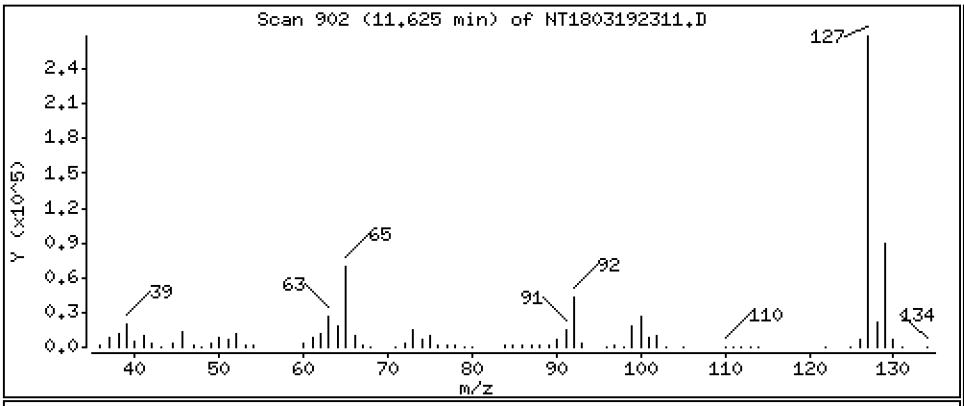
Operator: VTS

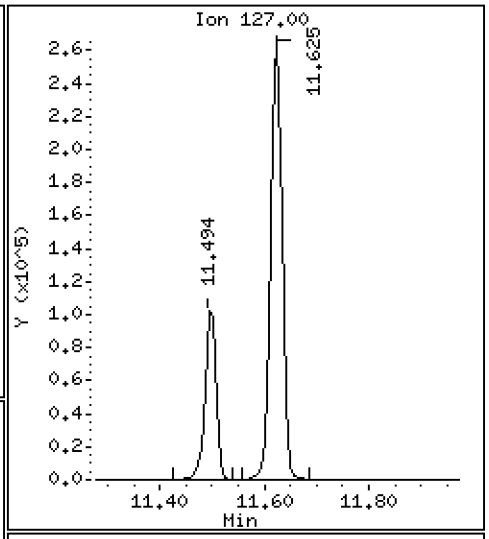
Column phase: ZB-5msi

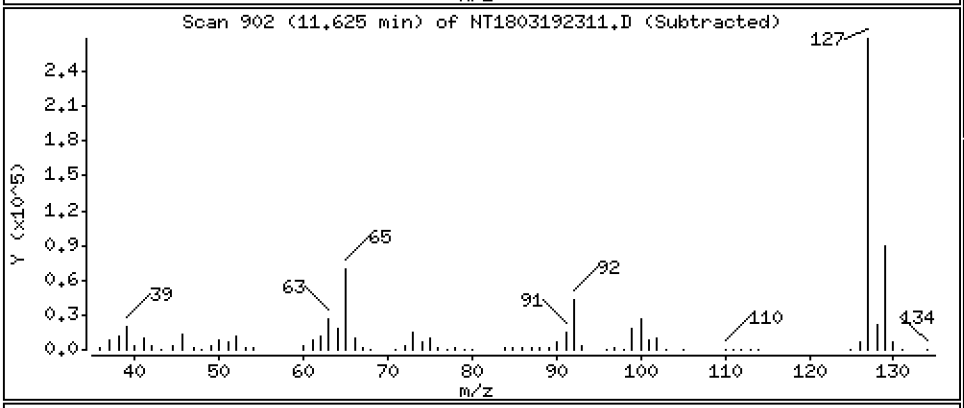
Column diameter: 0.25

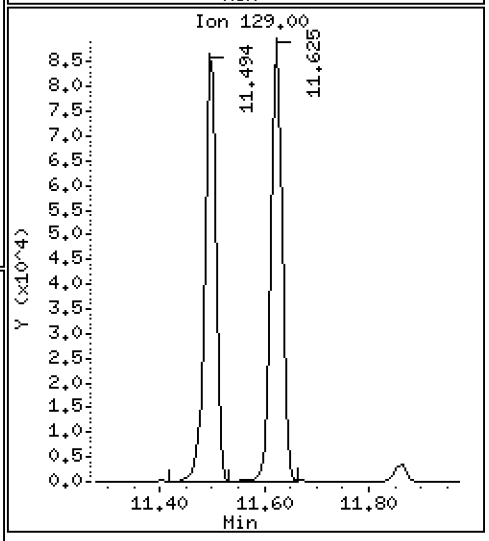
29 4-Chloroaniline

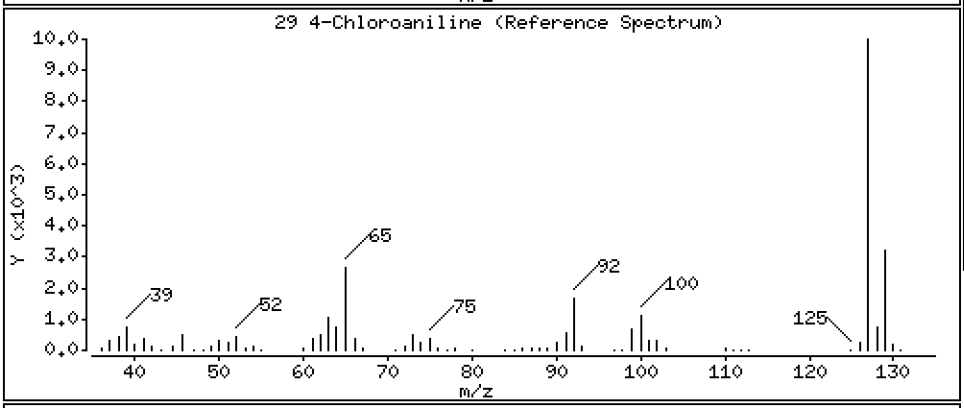
Concentration: 3.897 ug/mL

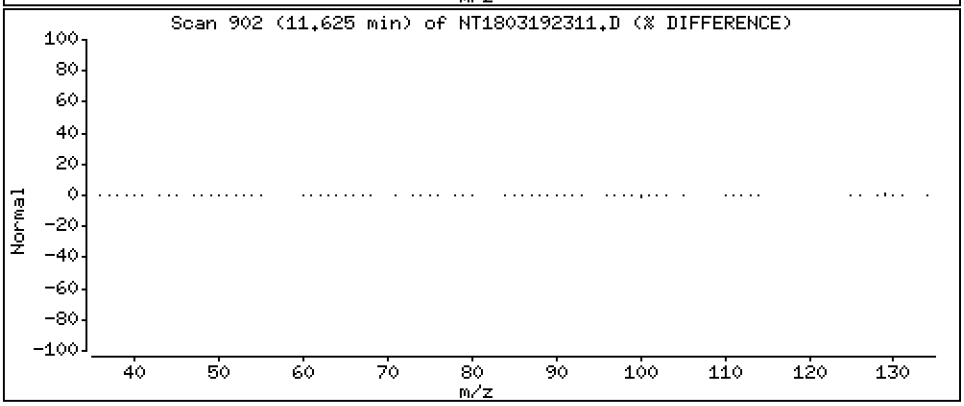












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

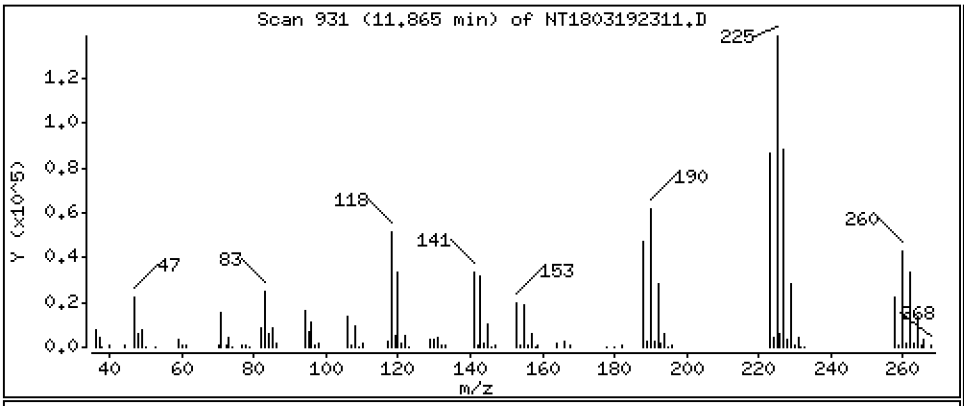
Operator: VTS

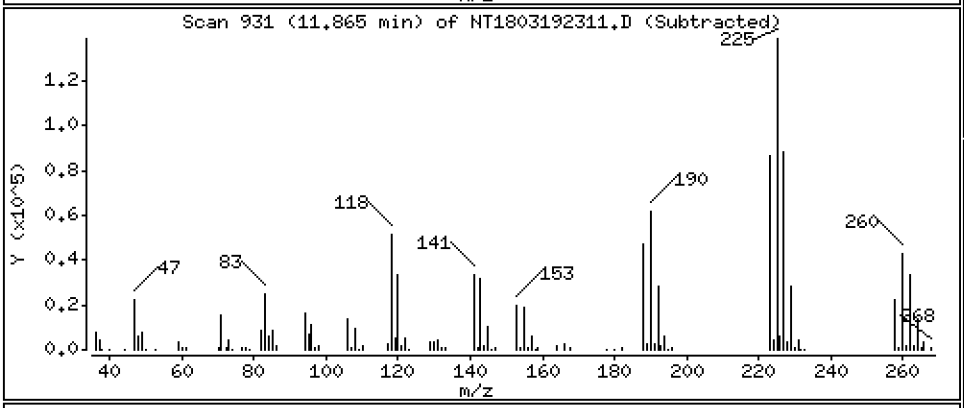
Column phase: ZB-5msi

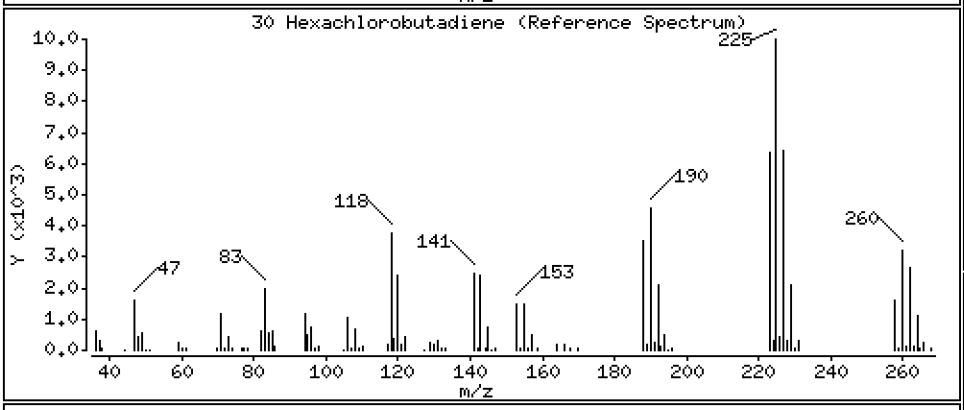
Column diameter: 0.25

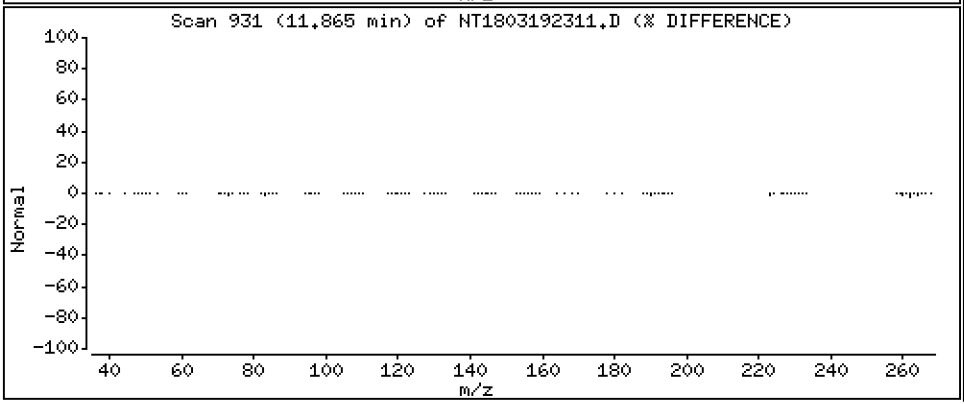
30 Hexachlorobutadiene

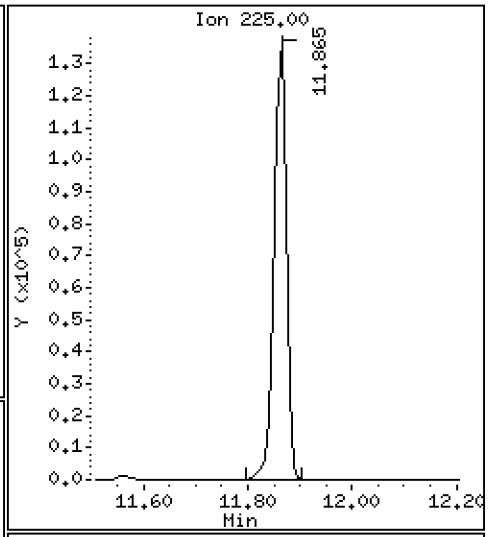
Concentration: 5.033 ug/mL

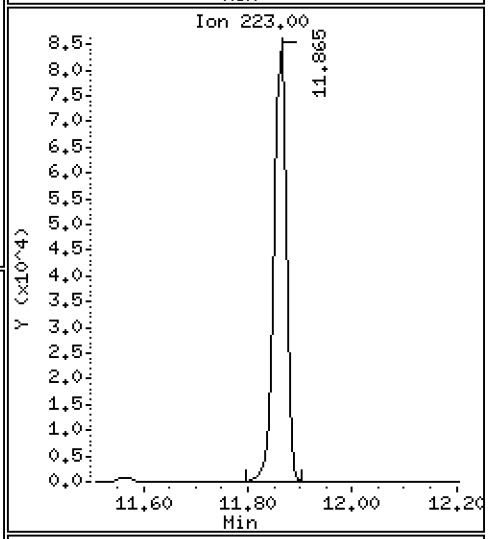


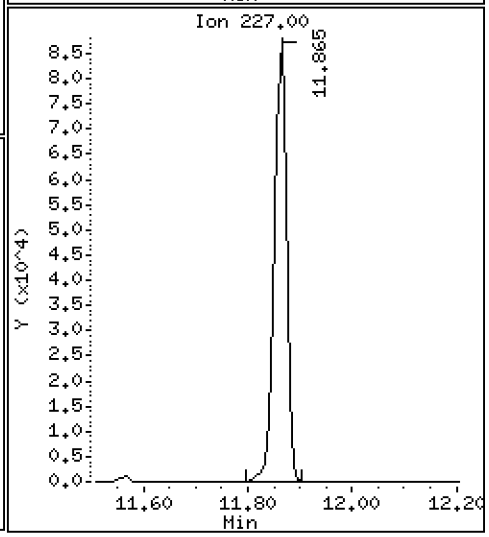












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

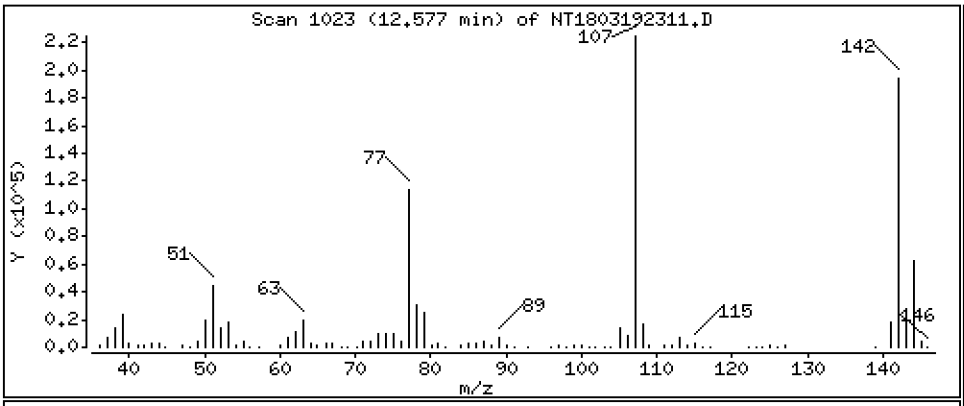
Operator: VTS

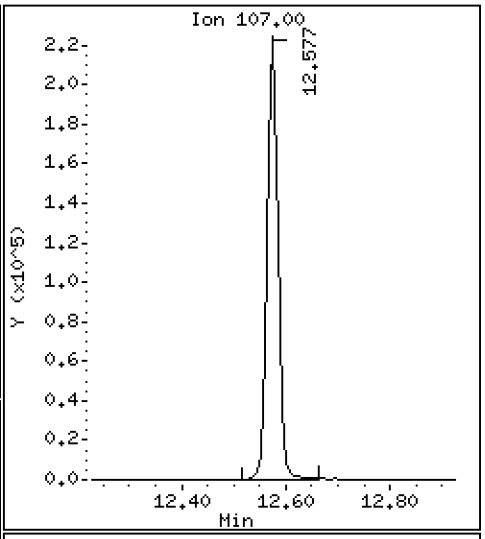
Column phase: ZB-5msi

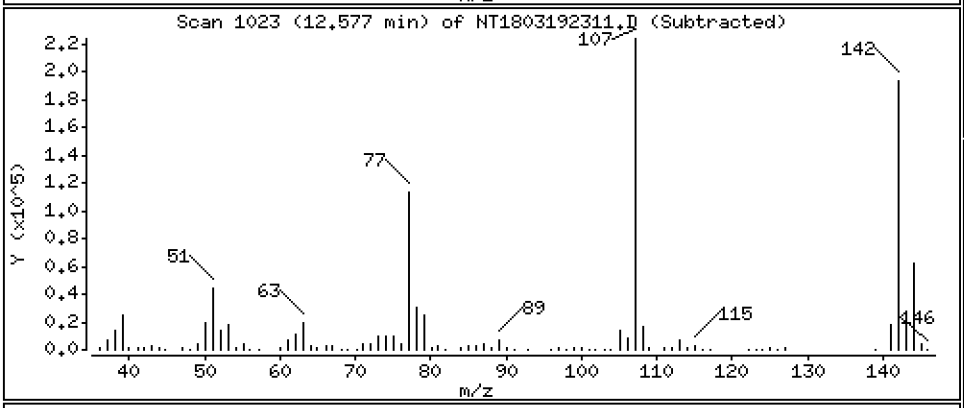
Column diameter: 0.25

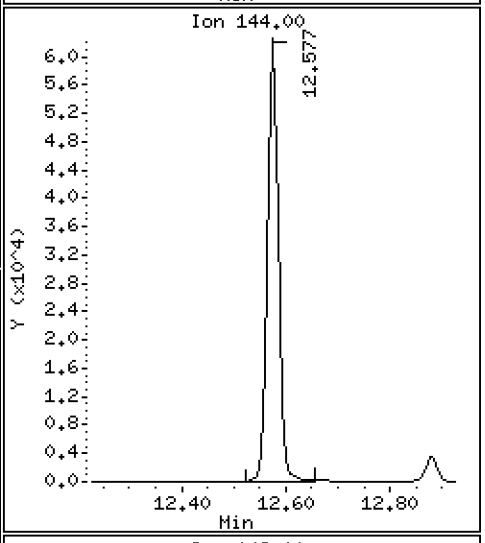
31 4-Chloro-3-methylphenol

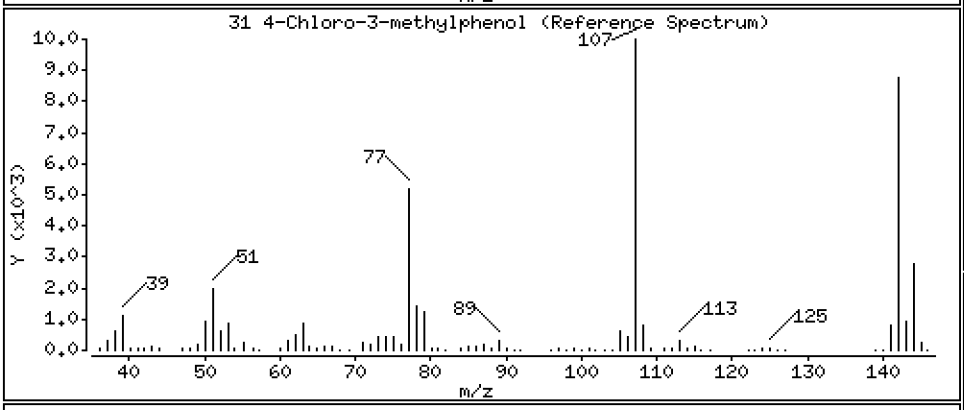
Concentration: 4.709 ug/mL

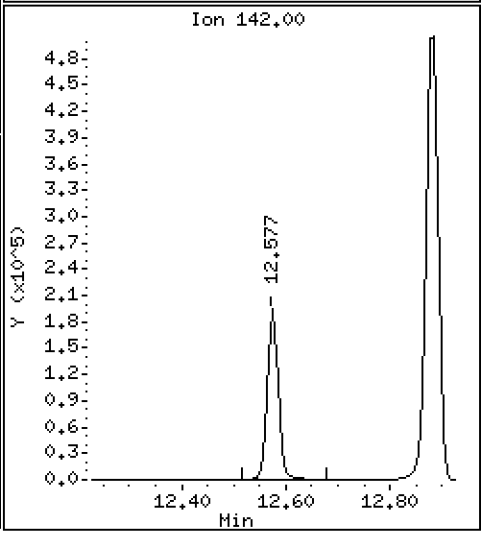


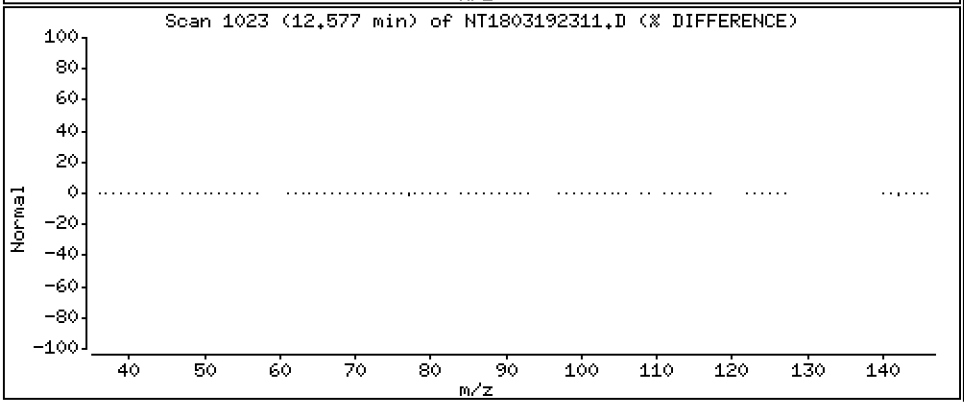












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

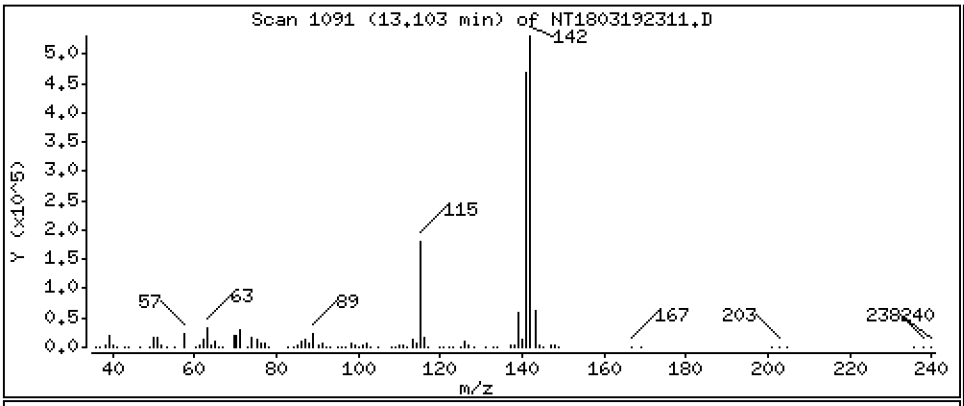
Operator: VTS

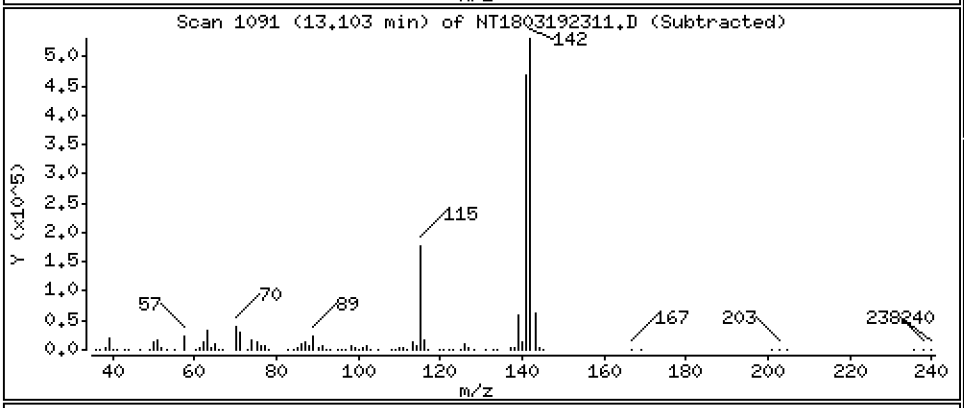
Column phase: ZB-5msi

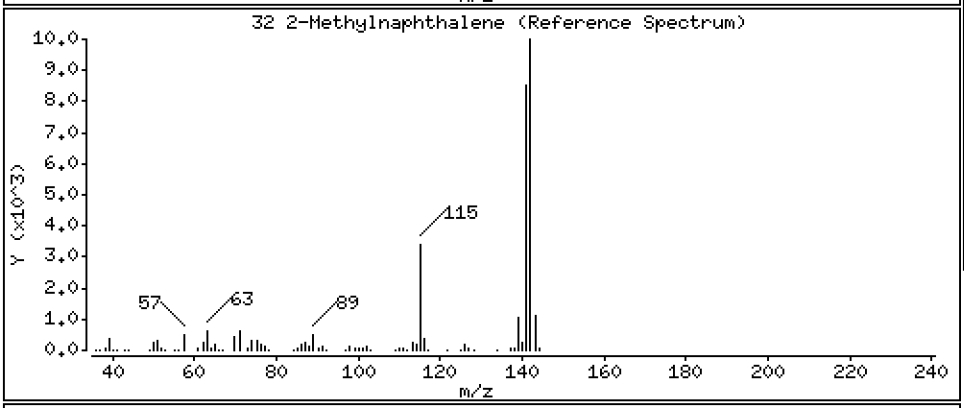
Column diameter: 0.25

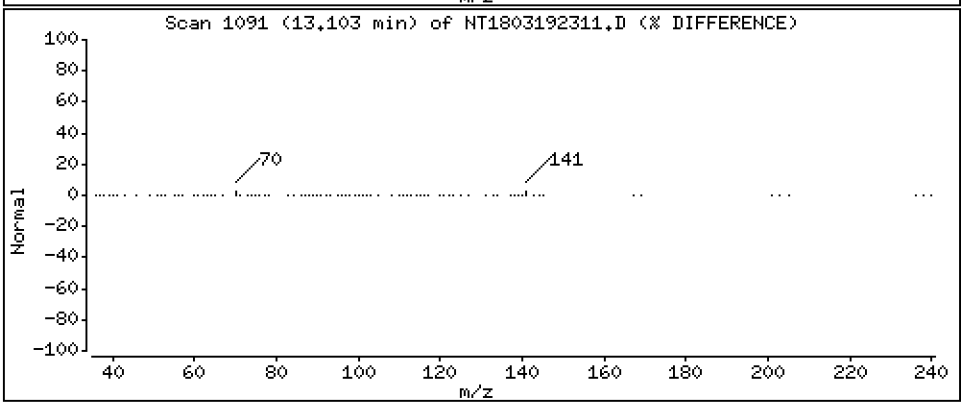
32 2-Methylnaphthalene

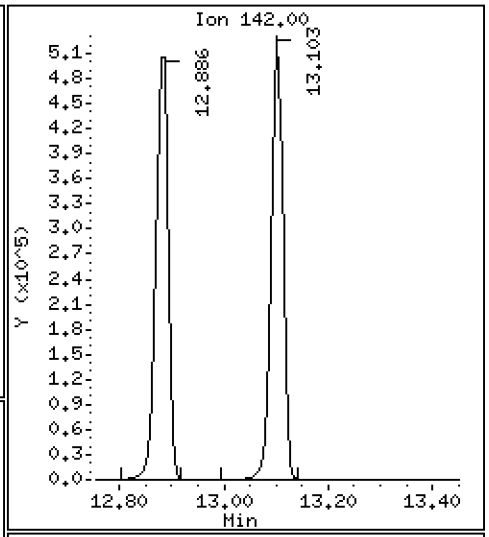
Concentration: 5.095 ug/mL

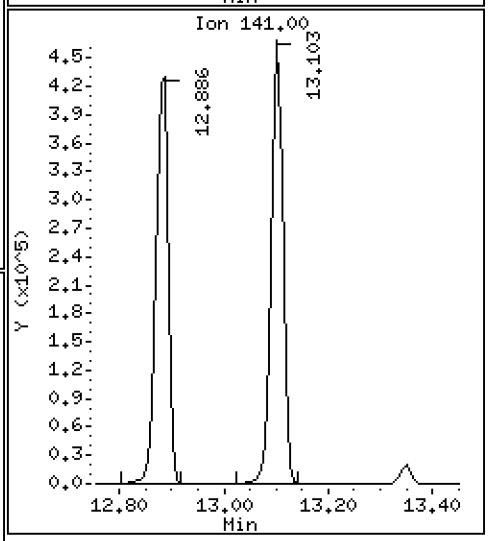












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

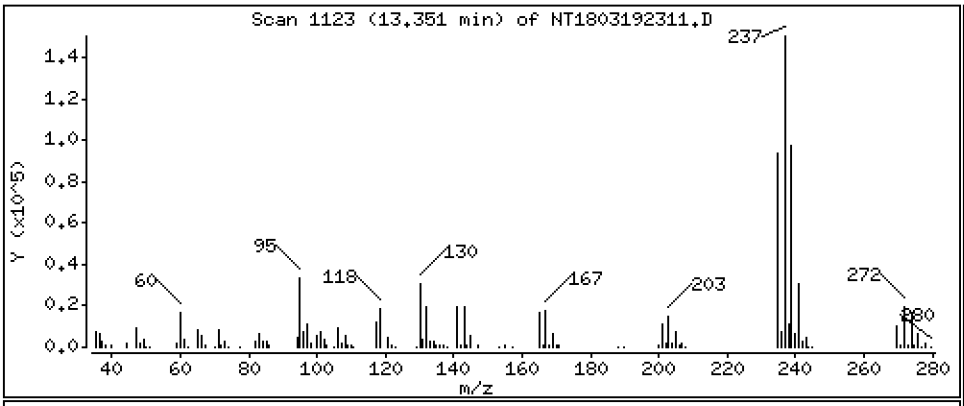
Operator: VTS

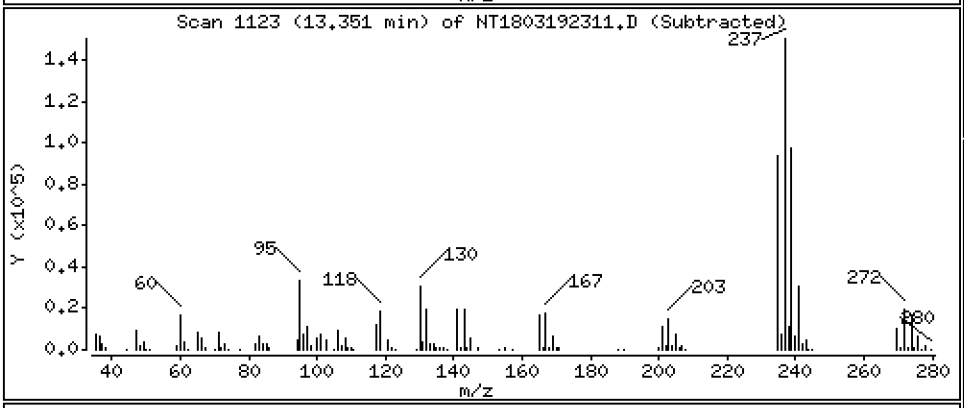
Column phase: ZB-5msi

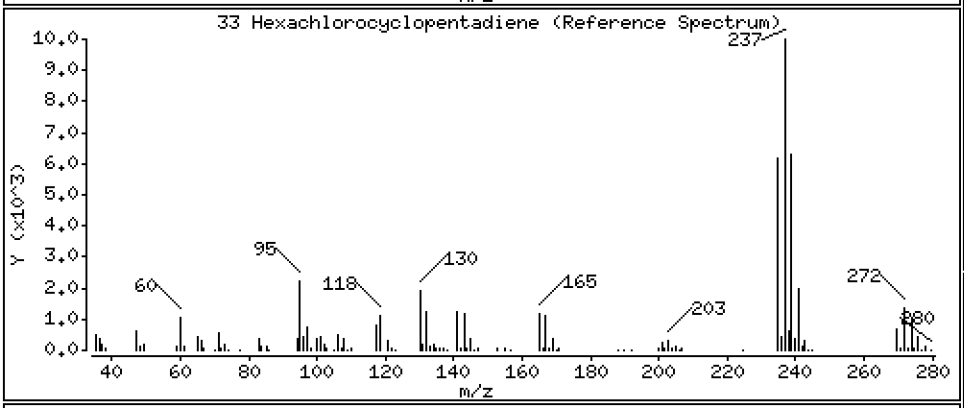
Column diameter: 0.25

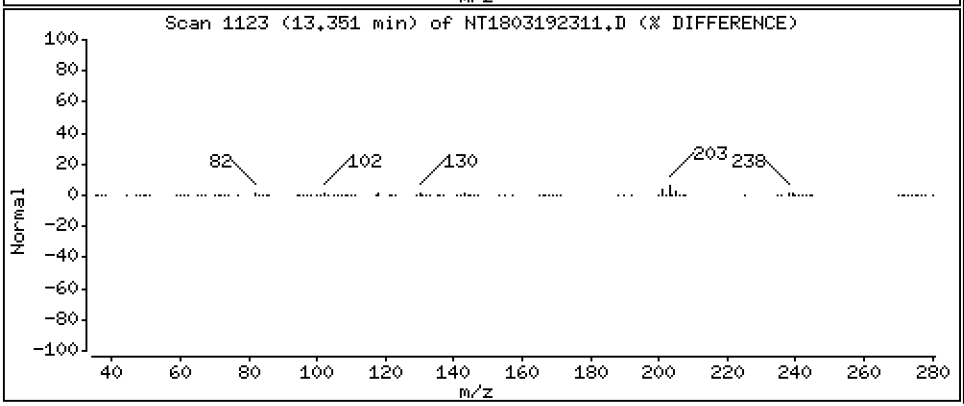
33 Hexachlorocyclopentadiene

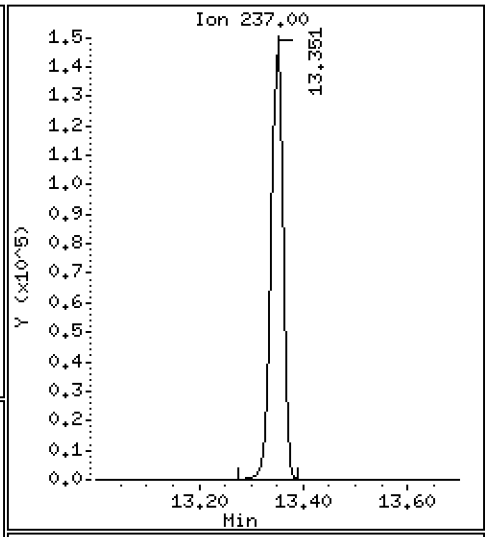
Concentration: 5.056 ug/mL

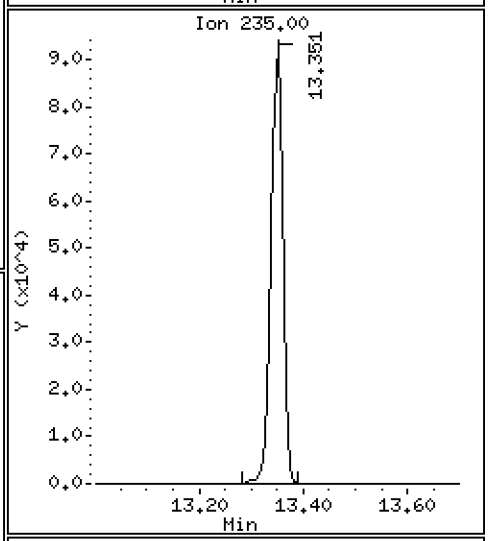


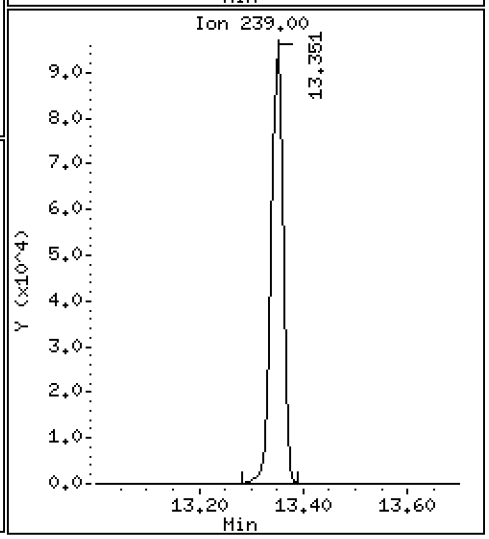












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

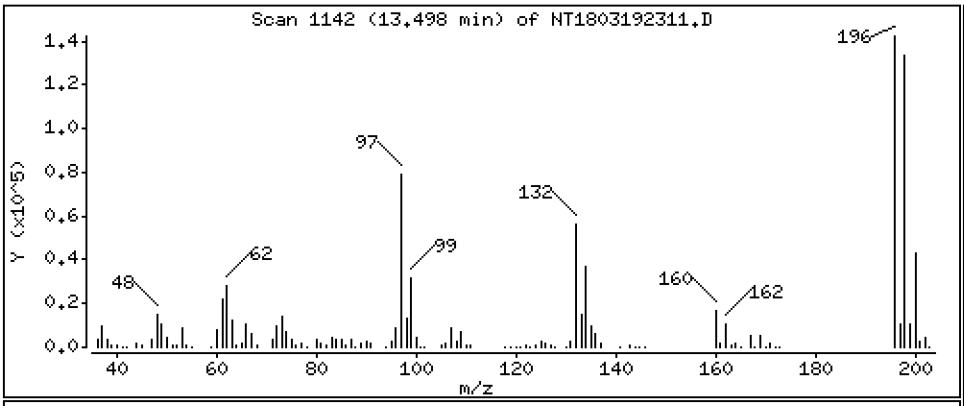
Operator: VTS

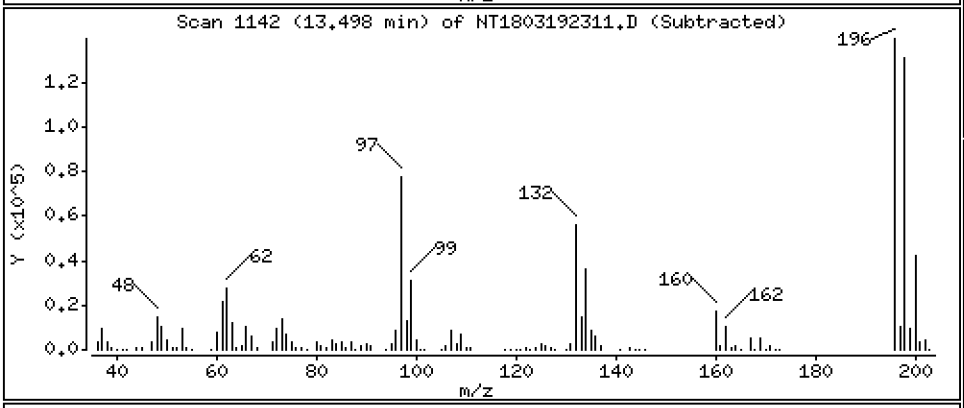
Column phase: ZB-5msi

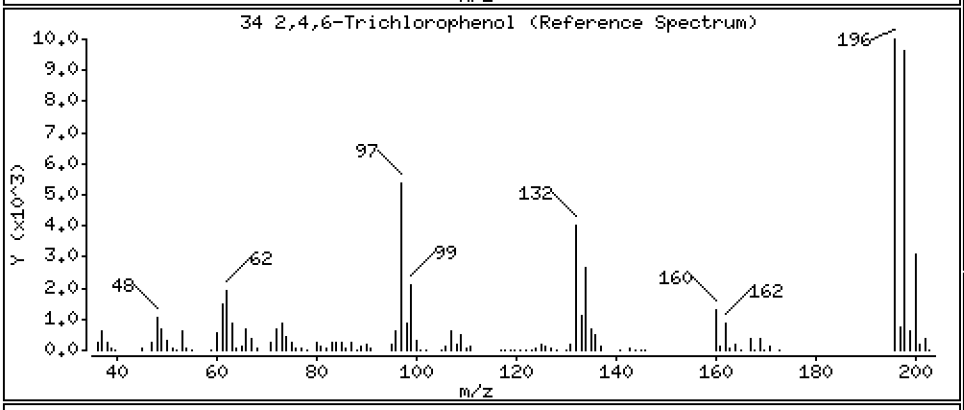
Column diameter: 0.25

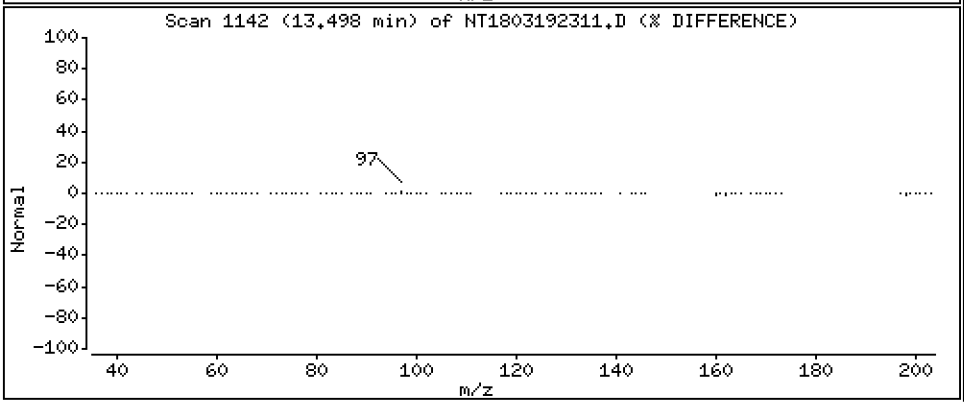
34 2,4,6-Trichlorophenol

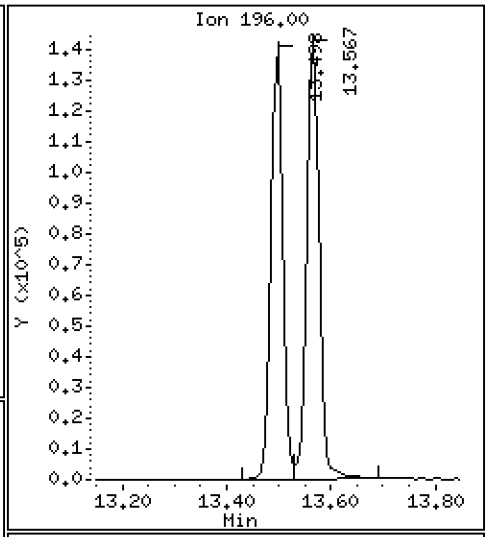
Concentration: 4.580 ug/mL

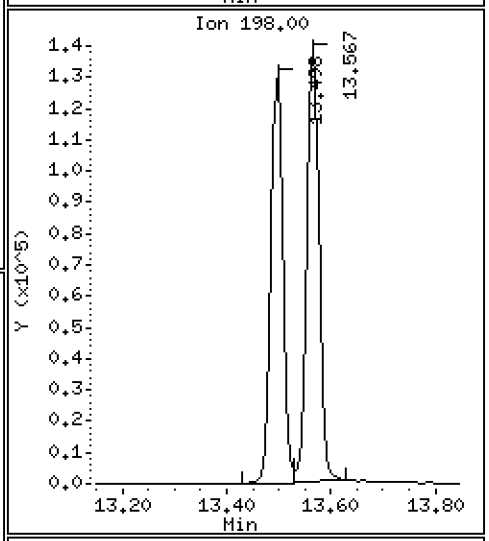


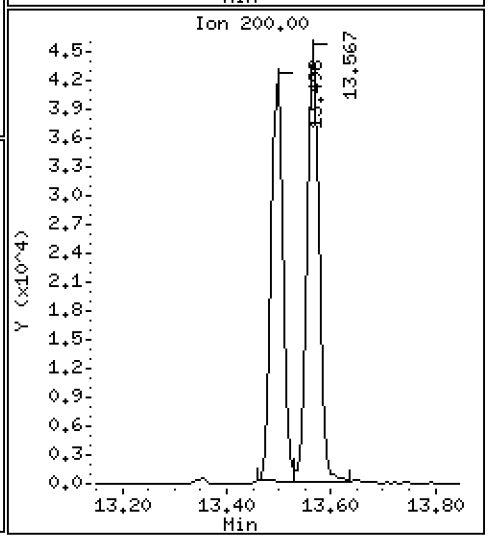












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

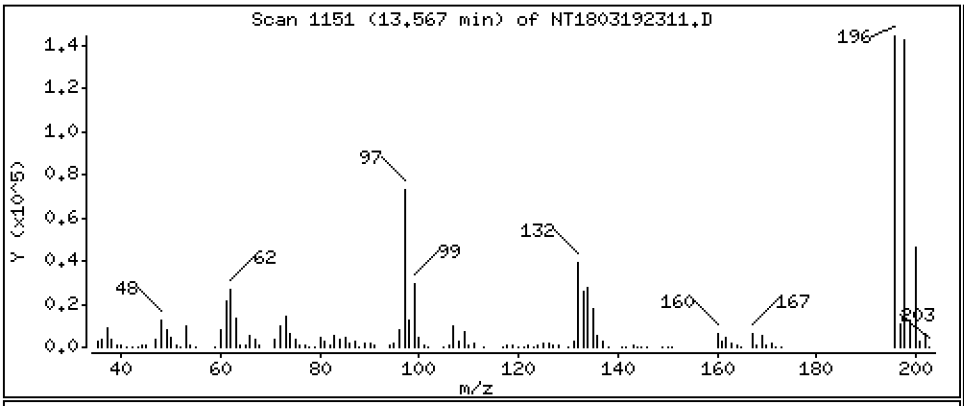
Operator: VTS

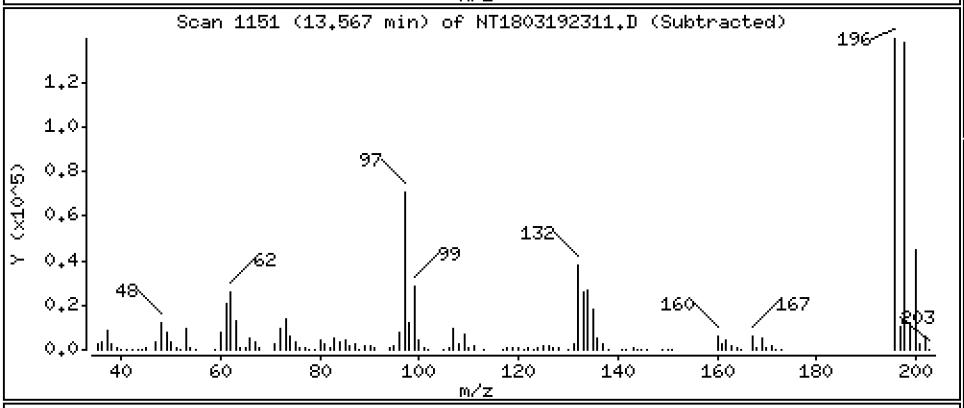
Column phase: ZB-5msi

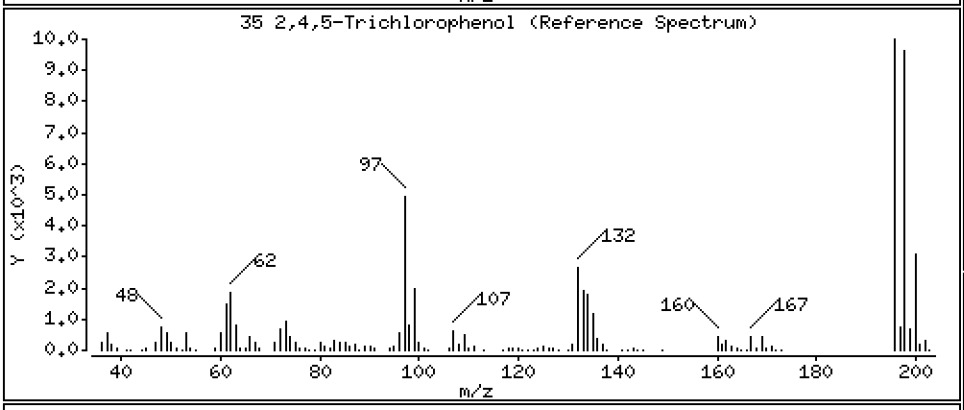
Column diameter: 0.25

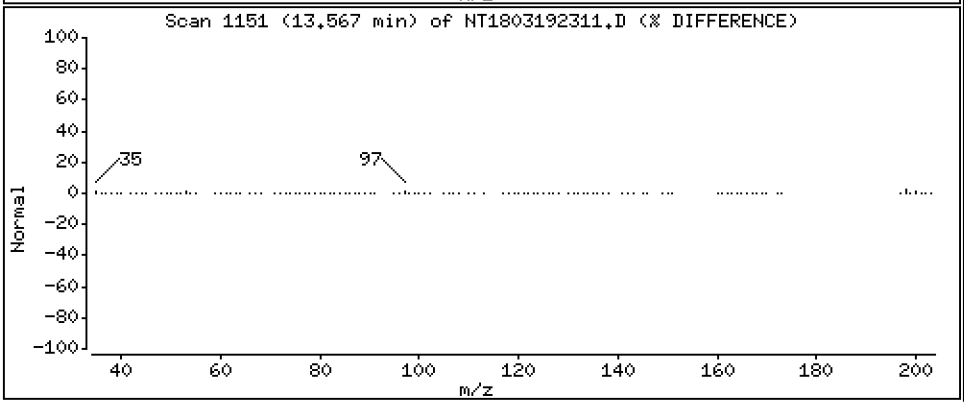
35 2,4,5-Trichlorophenol

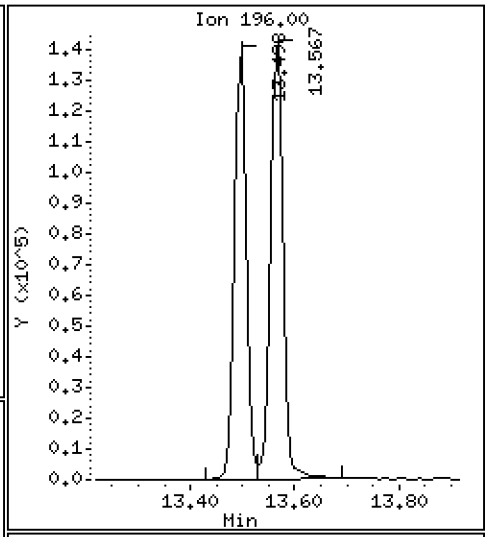
Concentration: 4.528 ug/mL

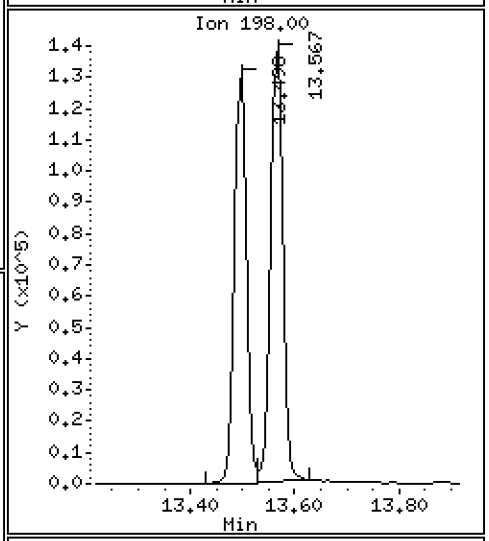


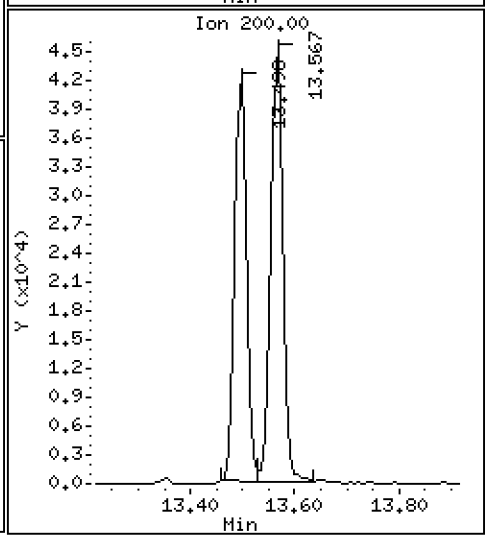












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

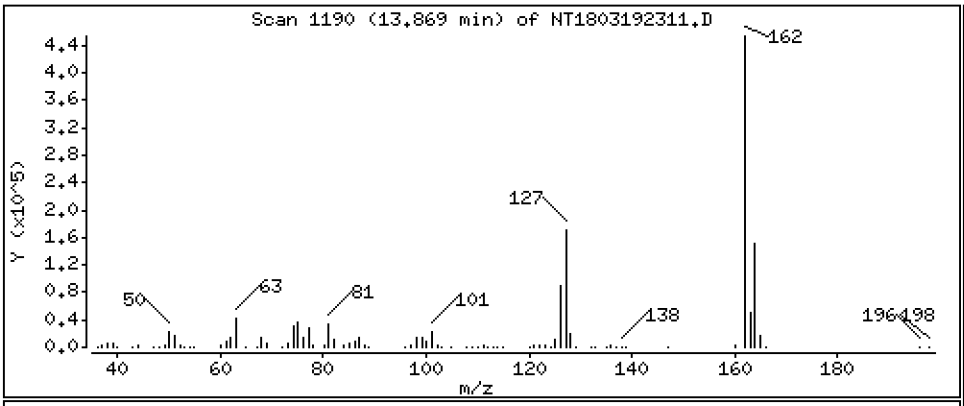
Operator: VTS

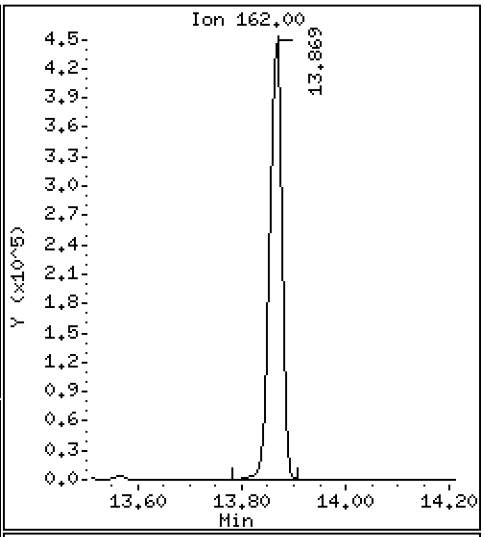
Column phase: ZB-5msi

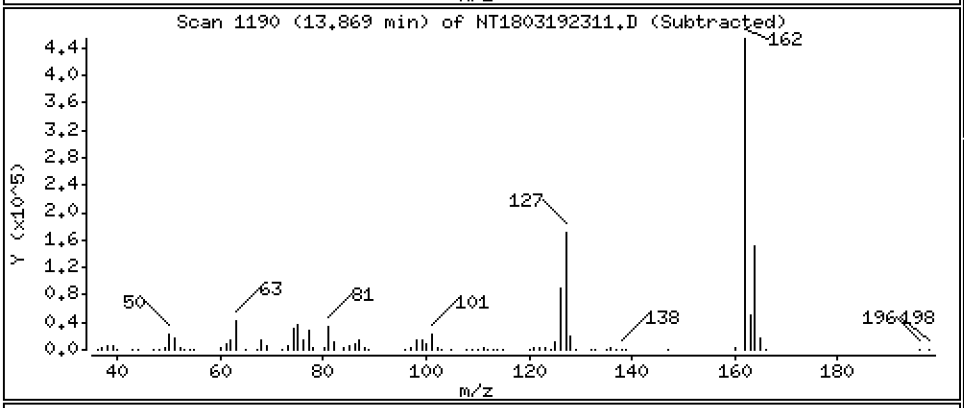
Column diameter: 0.25

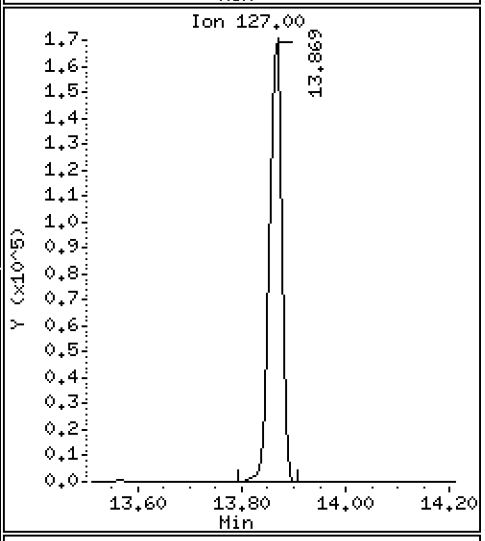
37 2-Chloronaphthalene

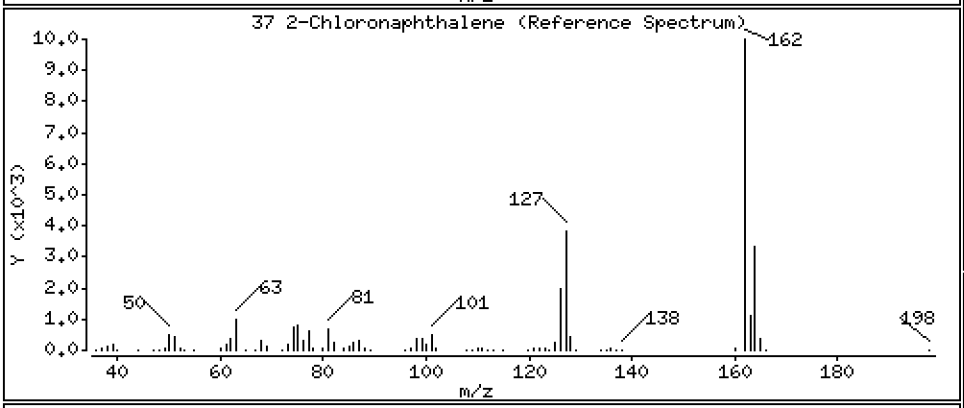
Concentration: 4.885 ug/mL

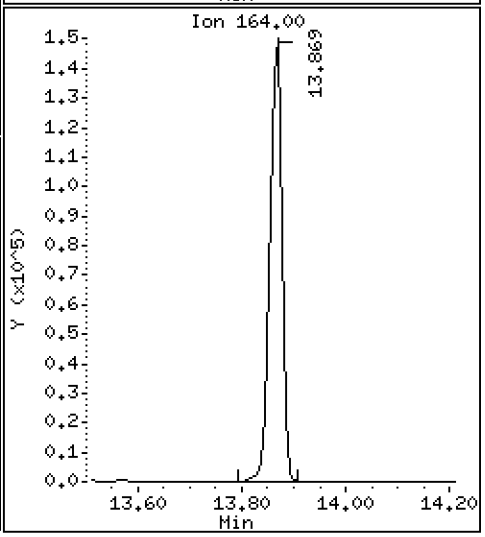


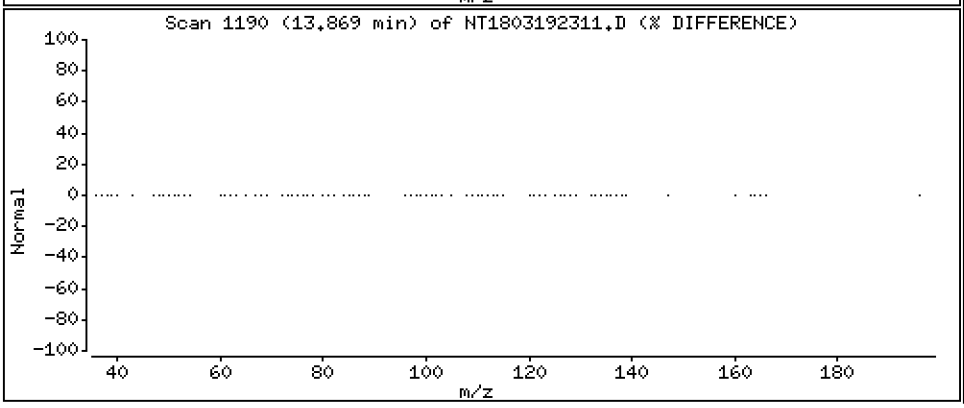












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

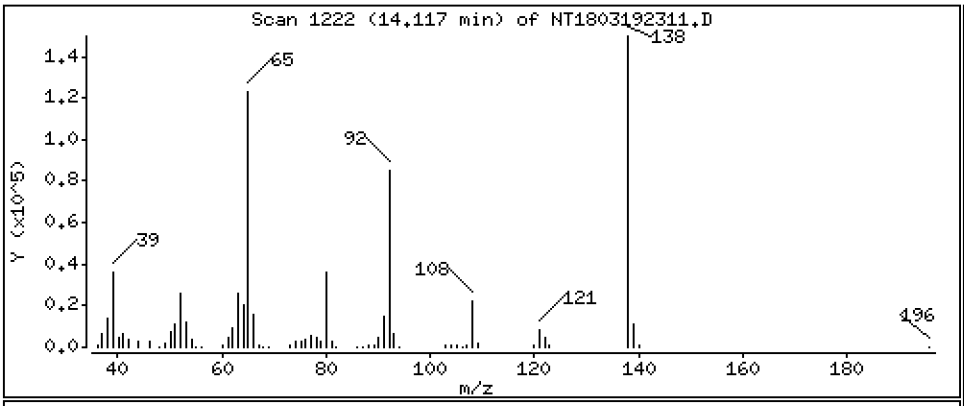
Operator: VTS

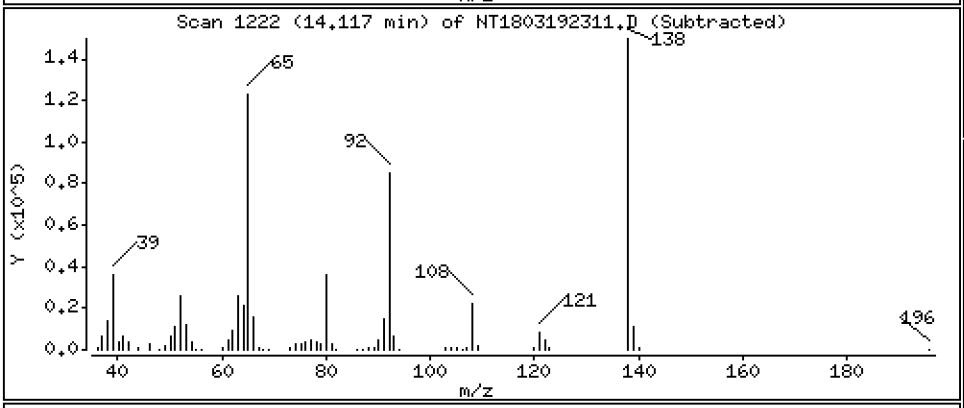
Column phase: ZB-5msi

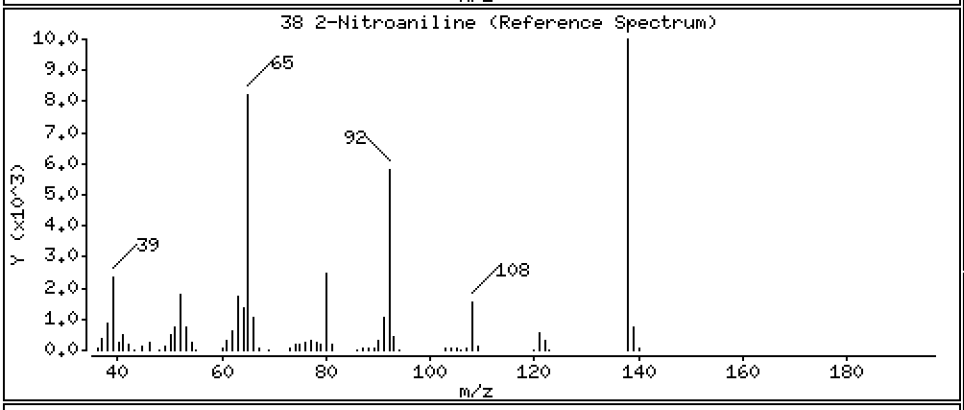
Column diameter: 0.25

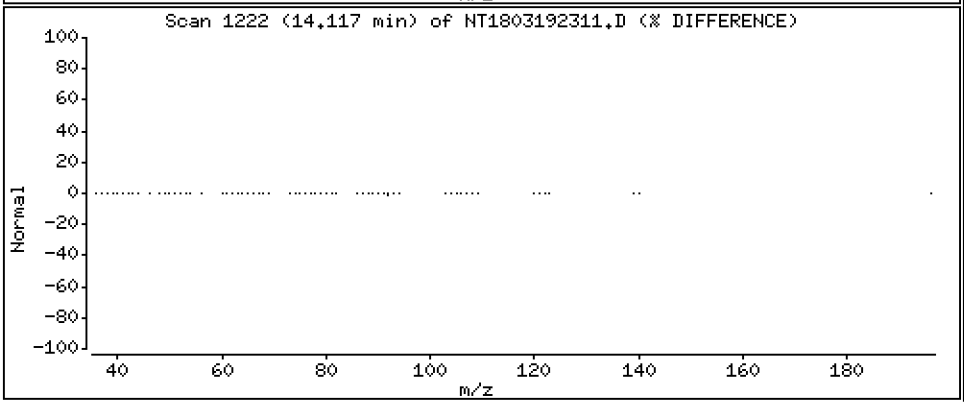
38 2-Nitroaniline

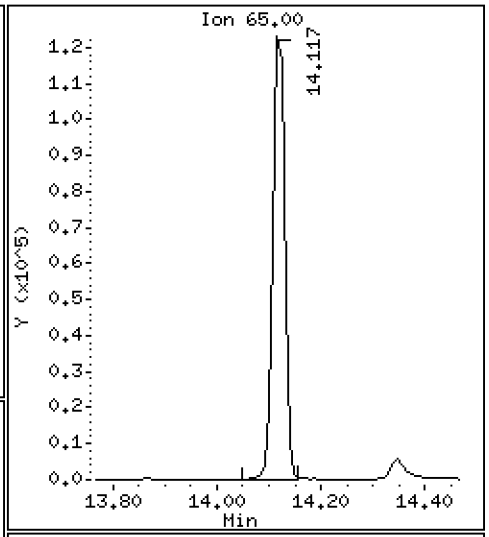
Concentration: 4.812 ug/mL

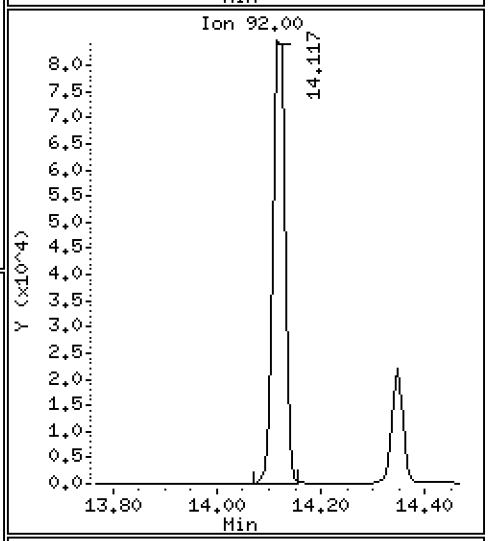


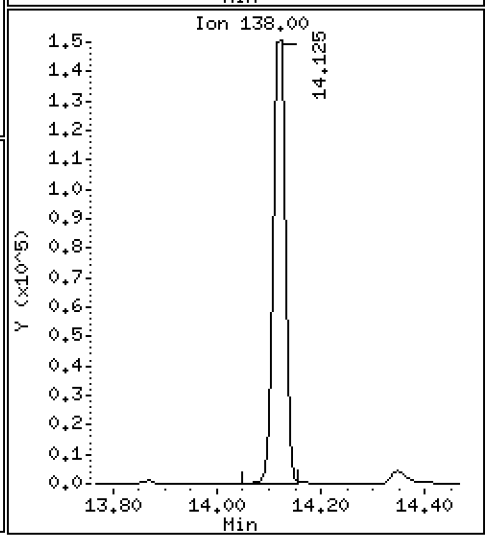












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

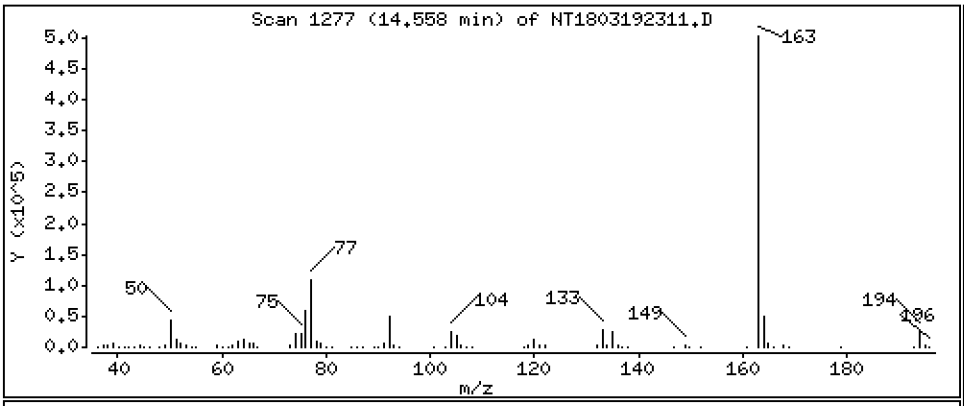
Operator: VTS

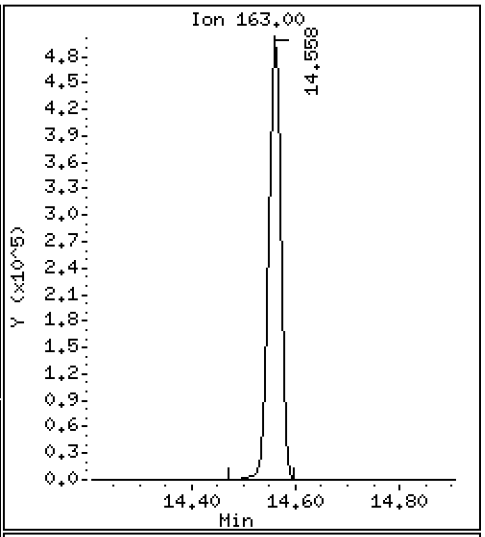
Column phase: ZB-5msi

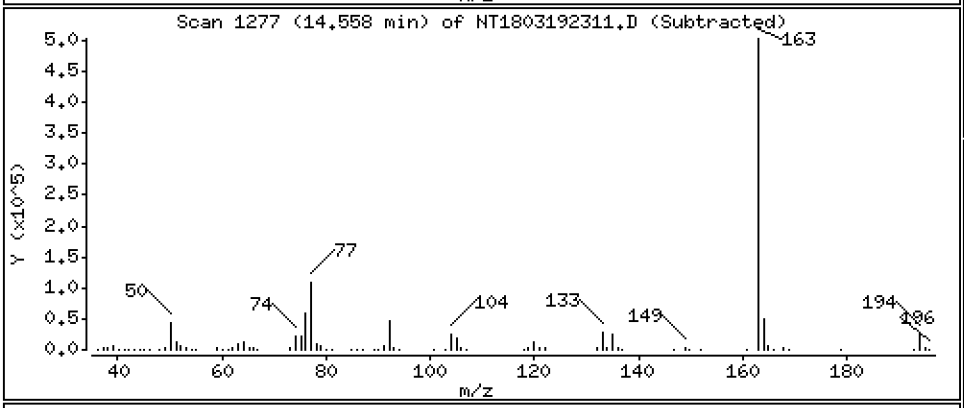
Column diameter: 0.25

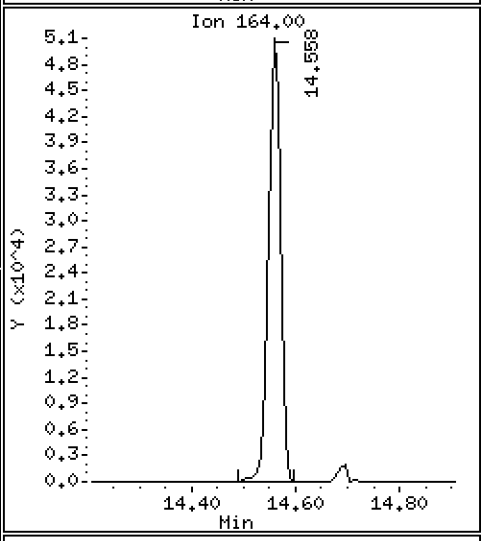
39 Dimethylphthalate

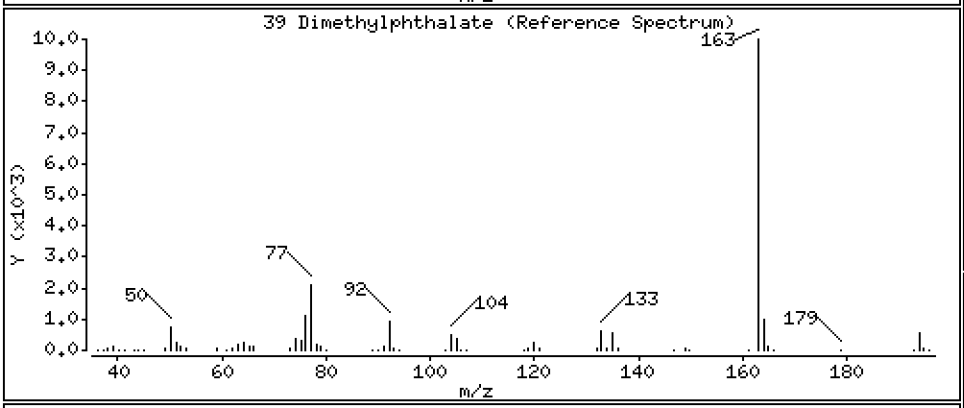
Concentration: 5.105 ug/mL

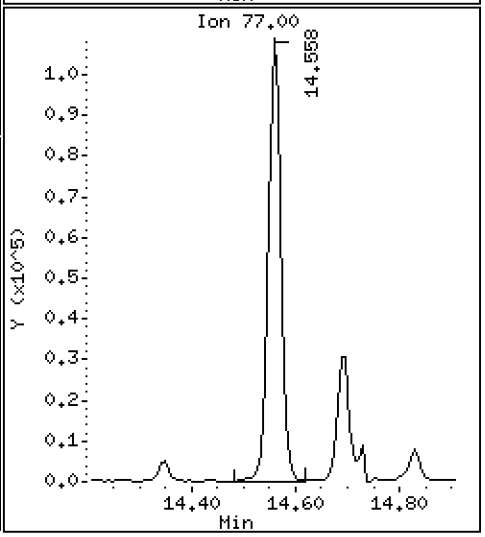


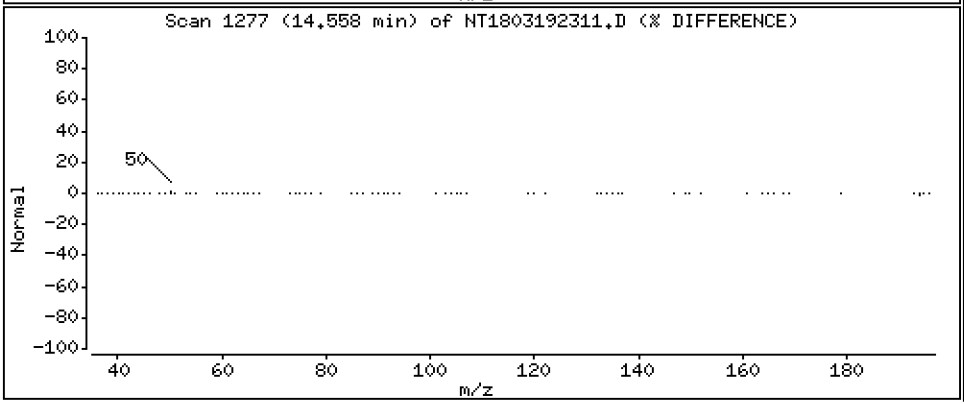












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

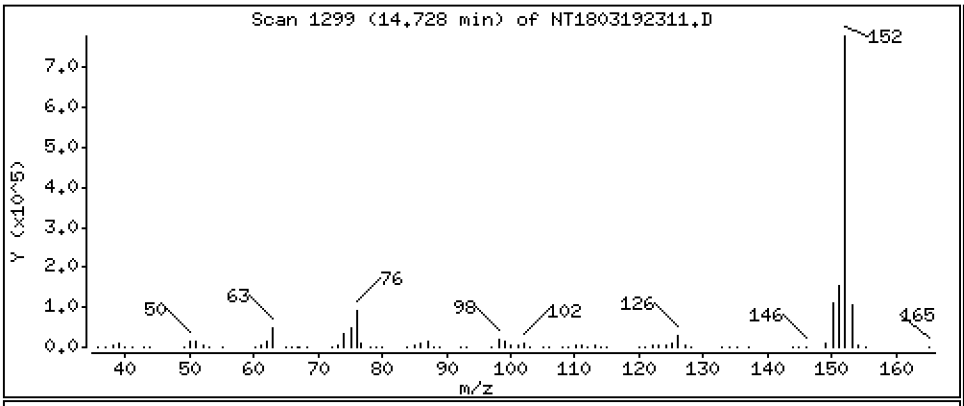
Operator: VTS

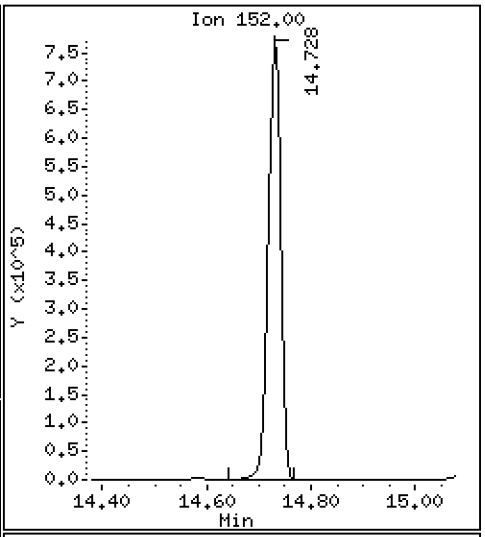
Column phase: ZB-5msi

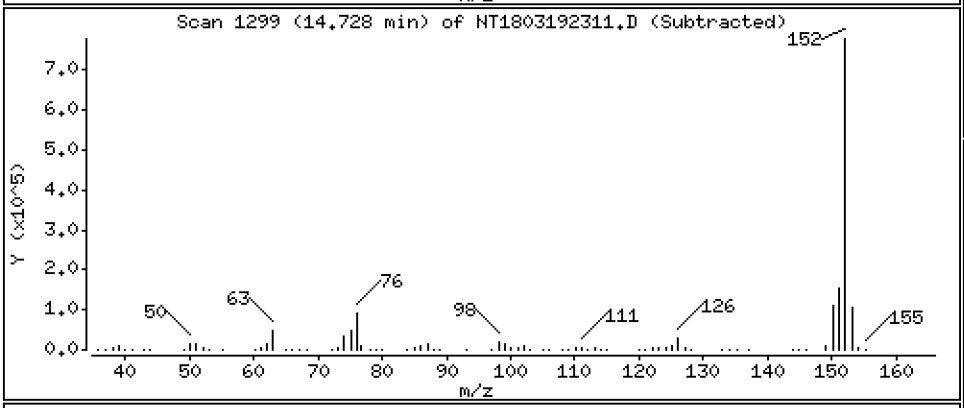
Column diameter: 0.25

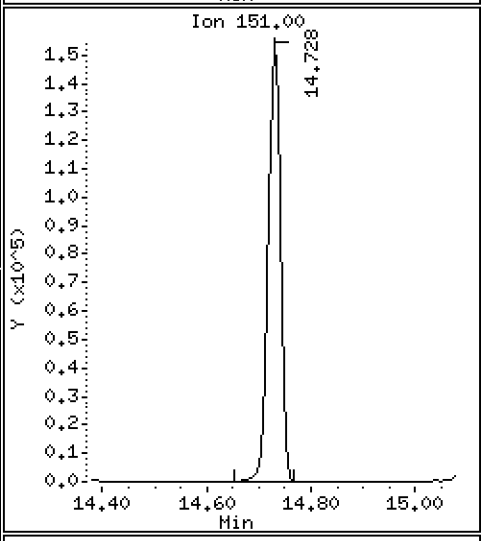
40 Acenaphthylene

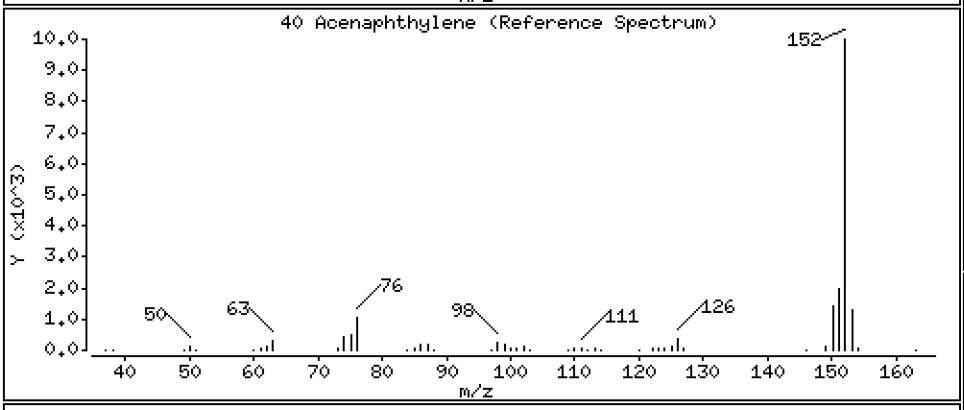
Concentration: 4.922 ug/mL

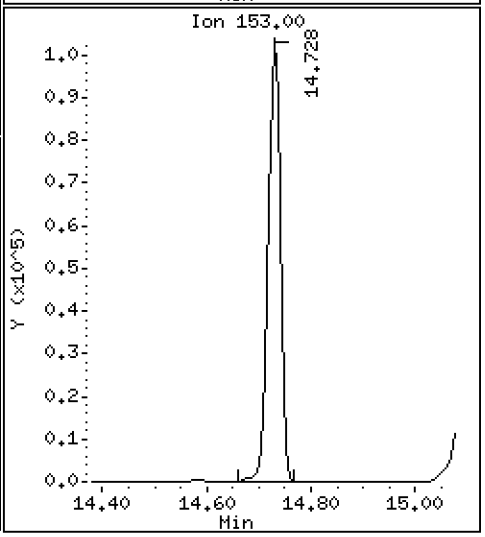


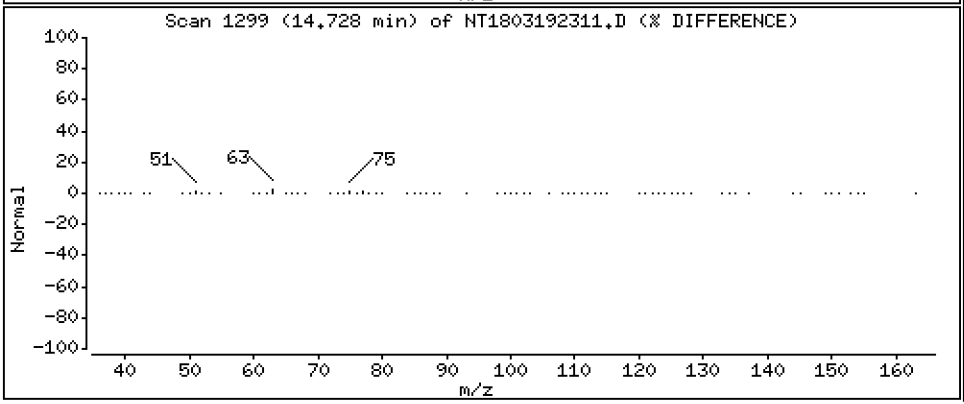












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

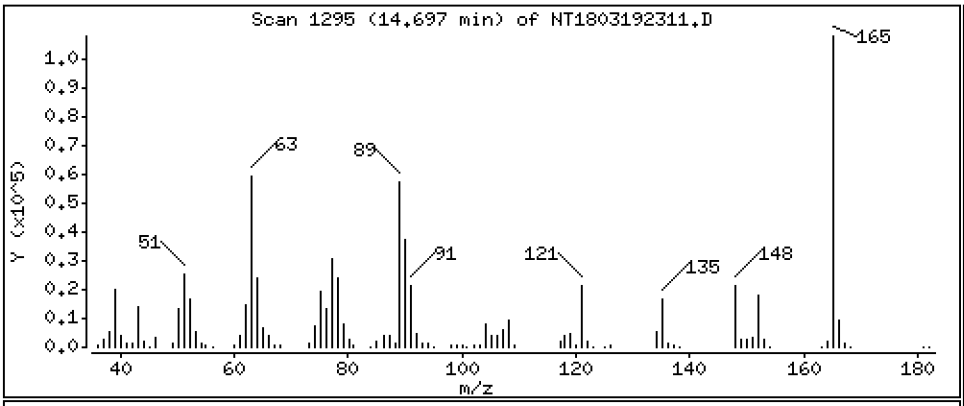
Operator: VTS

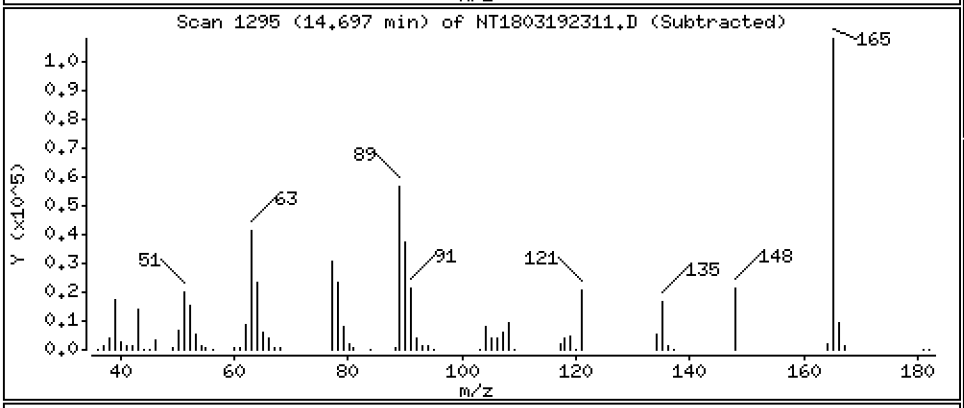
Column phase: ZB-5msi

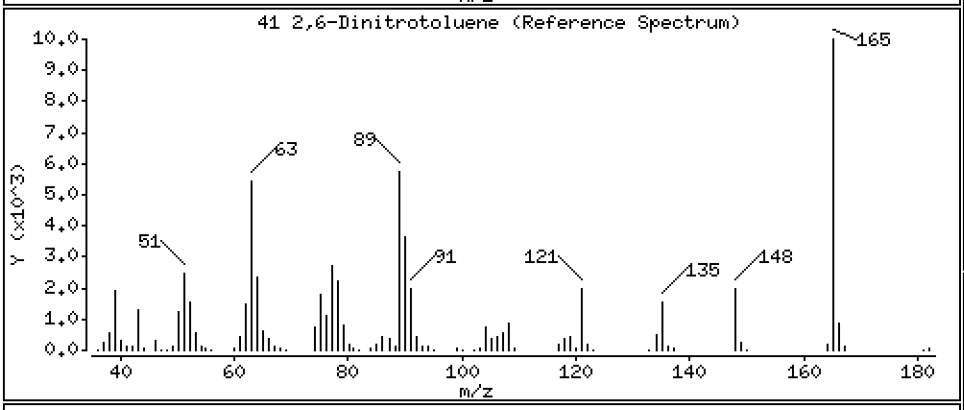
Column diameter: 0.25

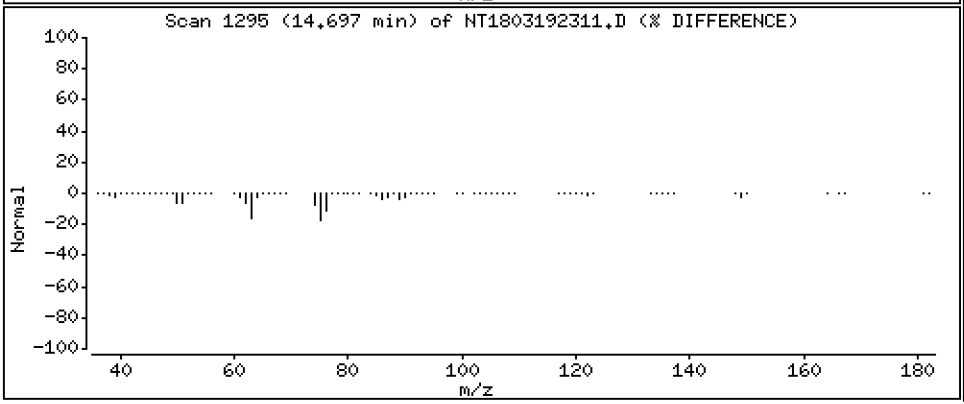
41 2,6-Dinitrotoluene

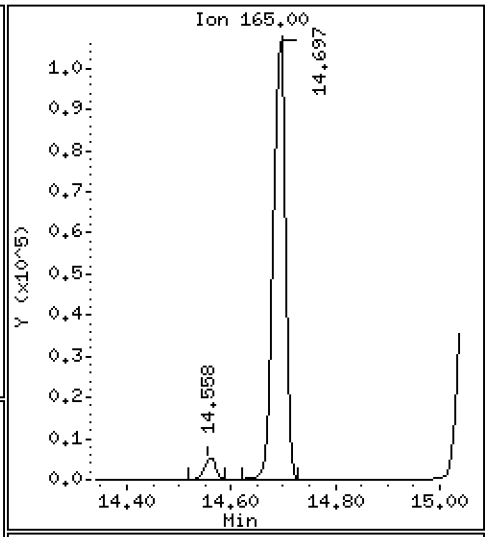
Concentration: 4.857 ug/mL

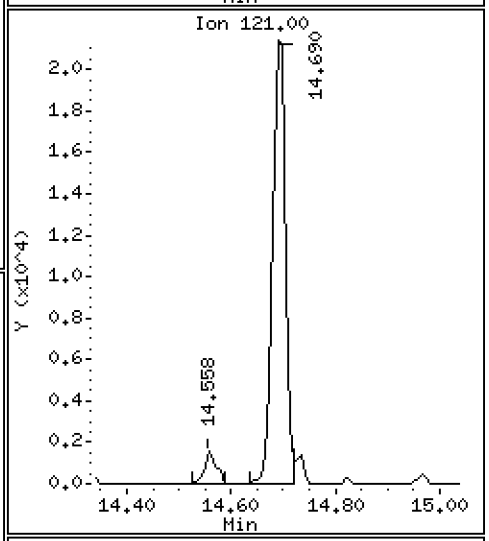


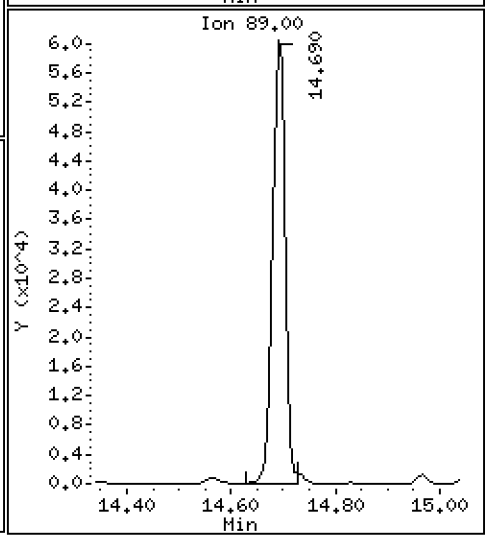












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

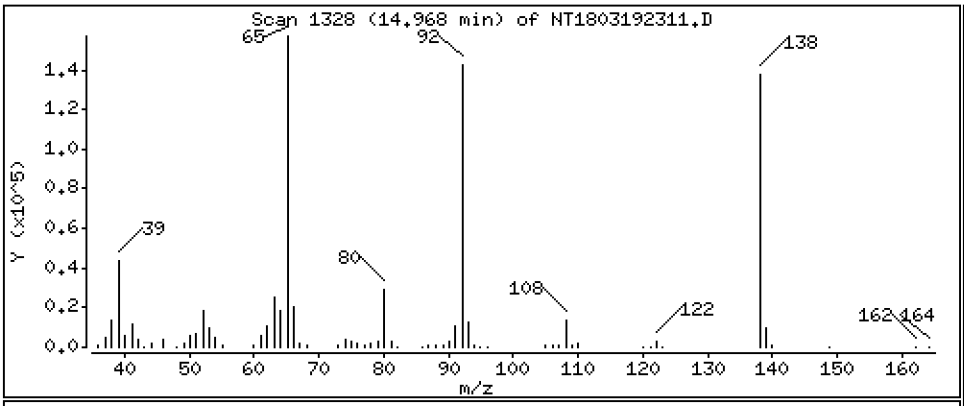
Operator: VTS

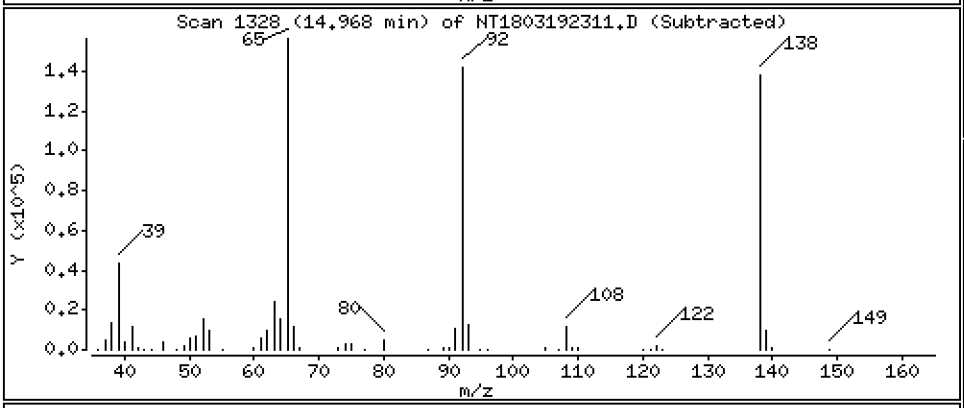
Column phase: ZB-5msi

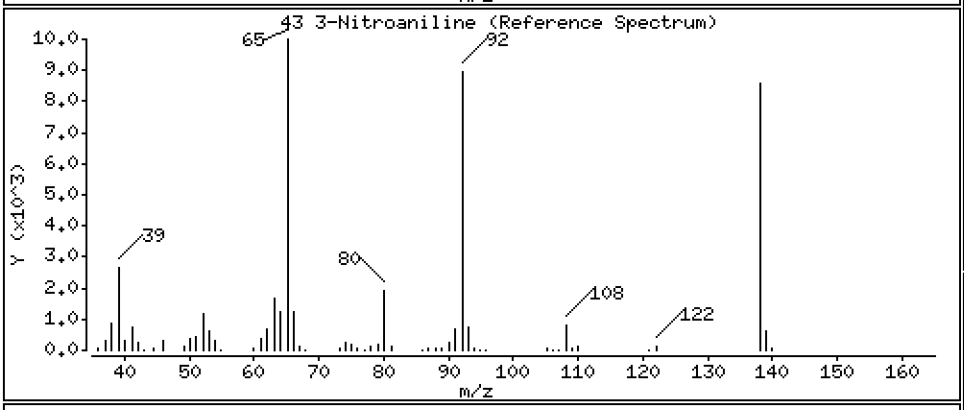
Column diameter: 0.25

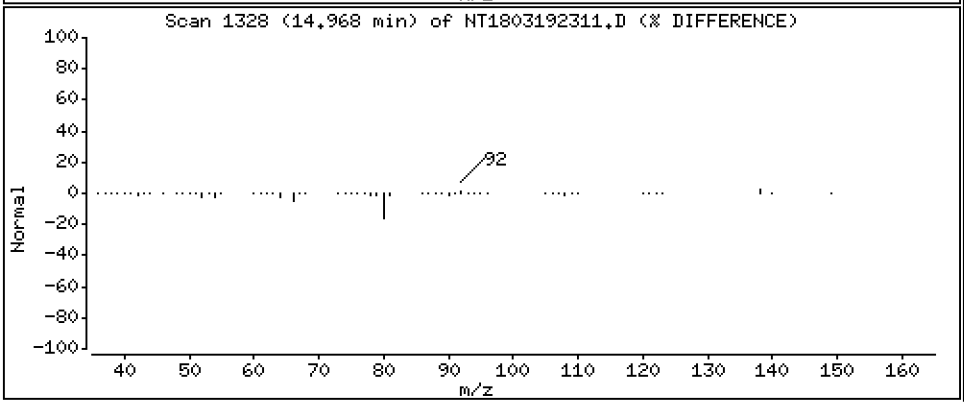
43 3-Nitroaniline

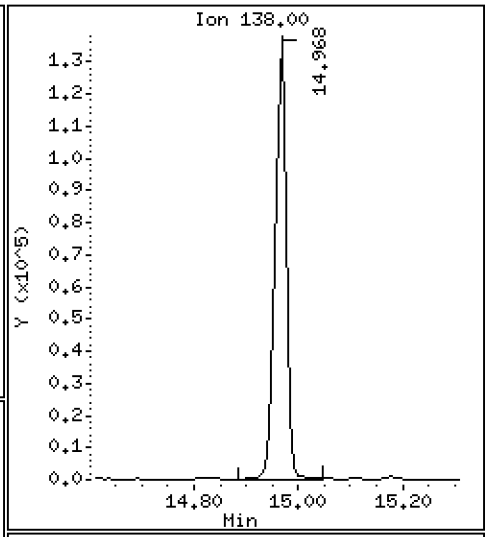
Concentration: 5.150 ug/mL

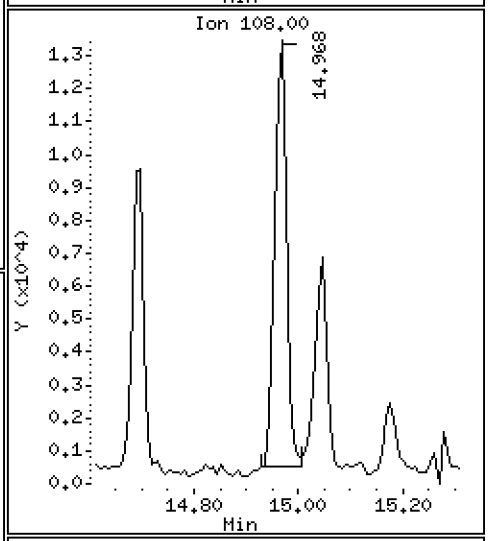


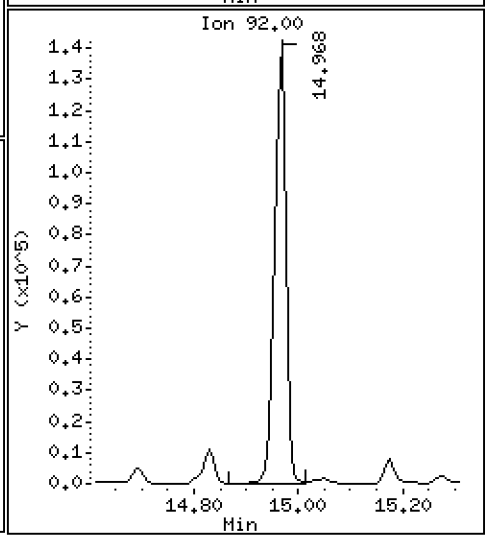












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

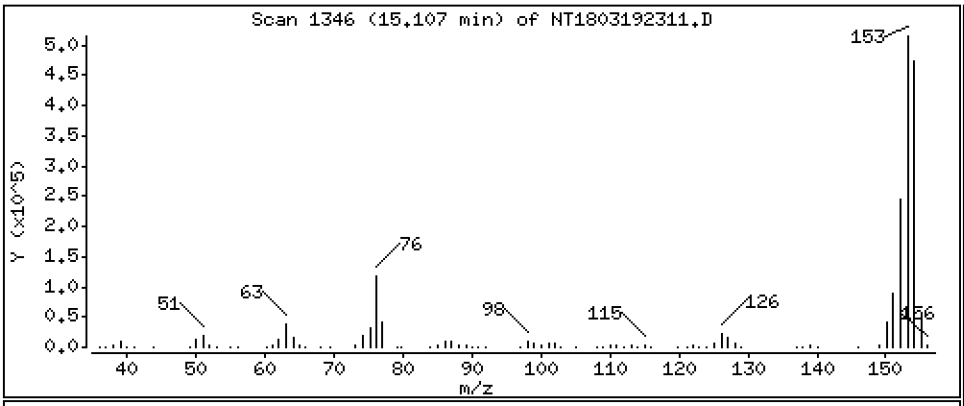
Operator: VTS

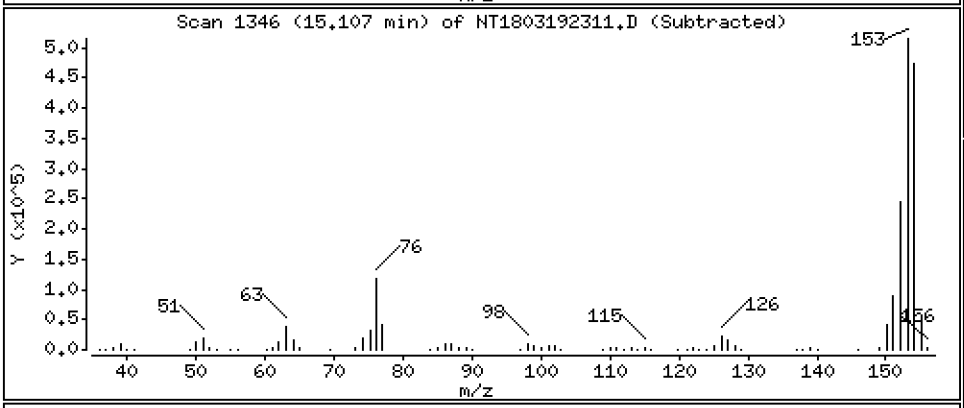
Column phase: ZB-5msi

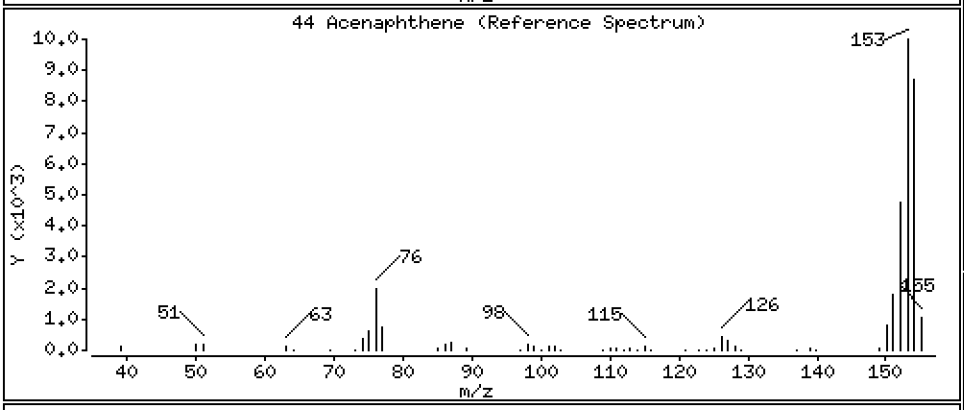
Column diameter: 0.25

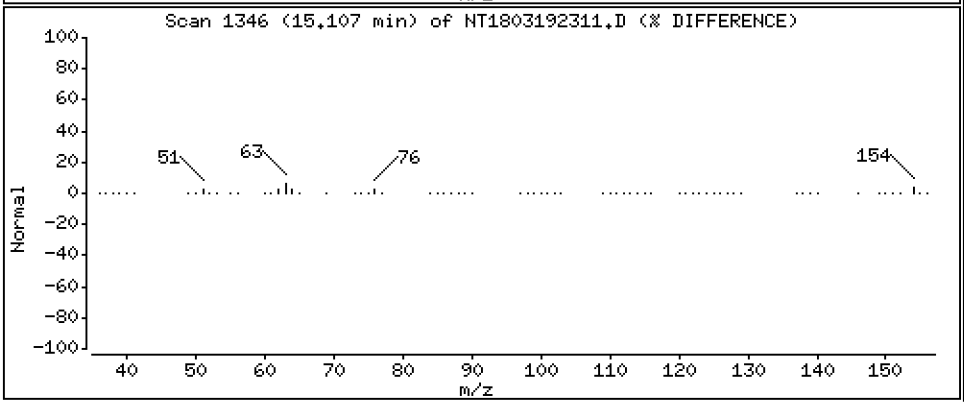
44 Acenaphthene

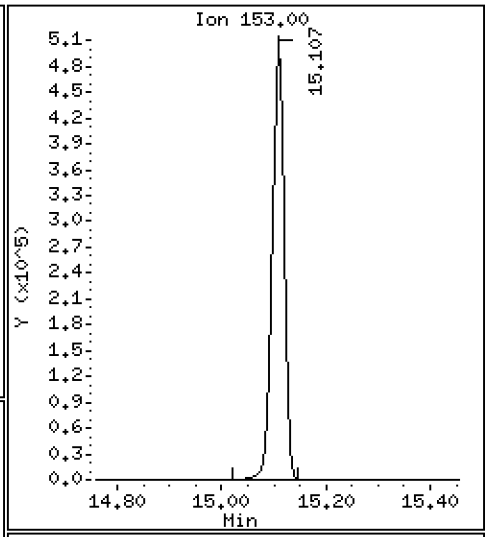
Concentration: 4.842 ug/mL

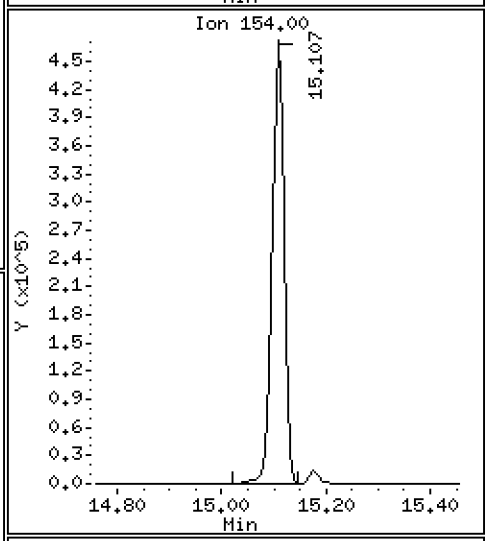


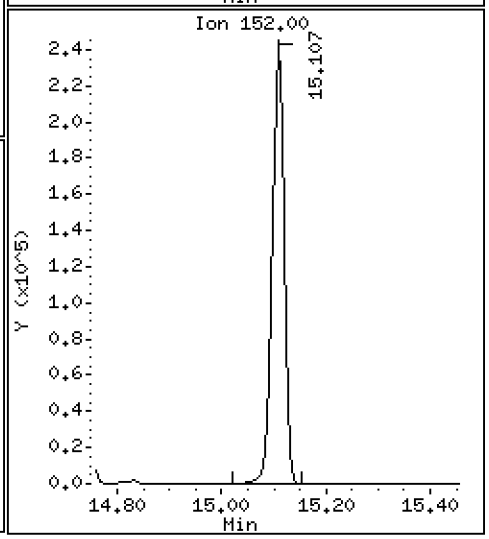












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

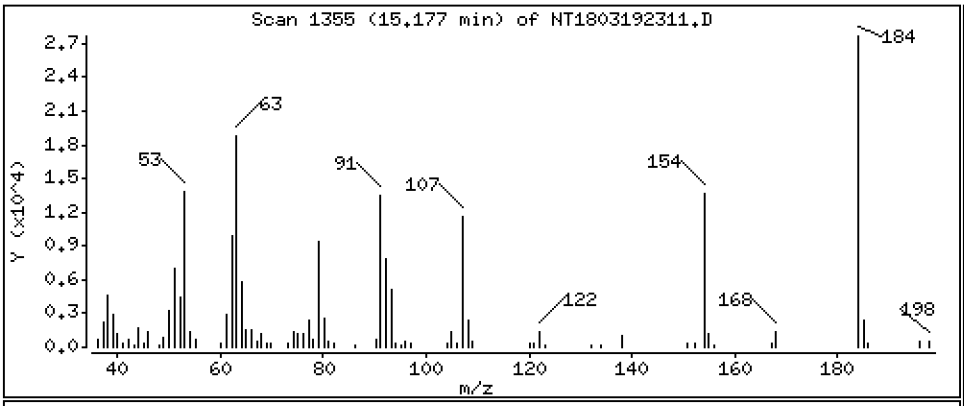
Operator: VTS

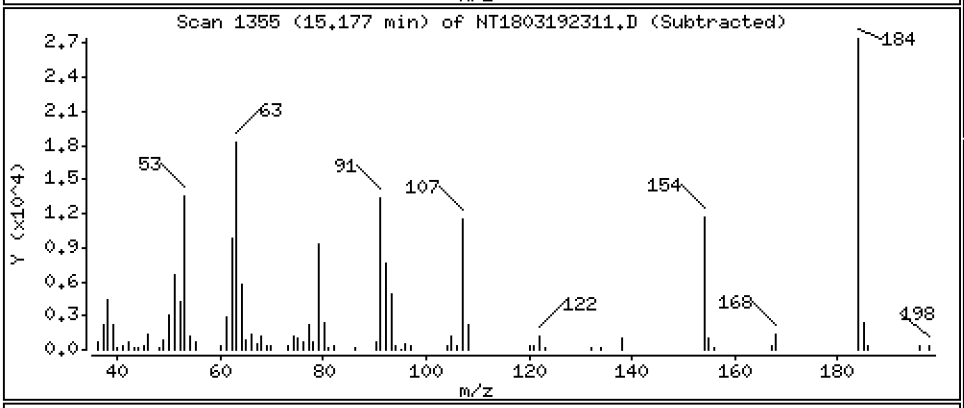
Column phase: ZB-5msi

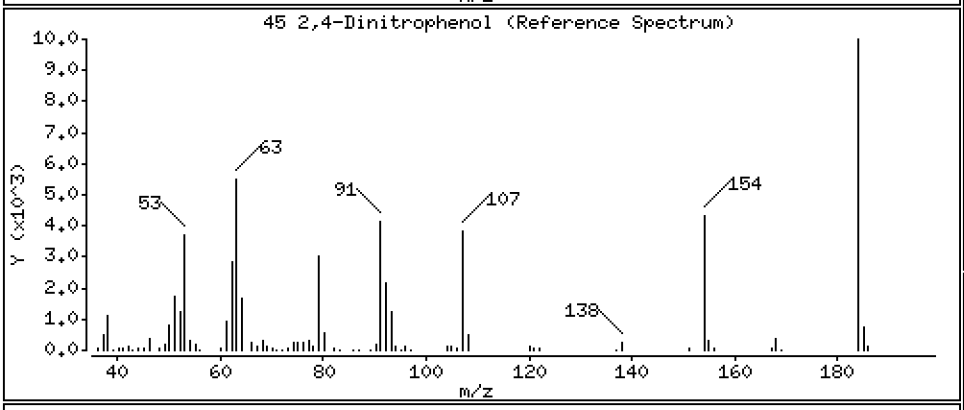
Column diameter: 0.25

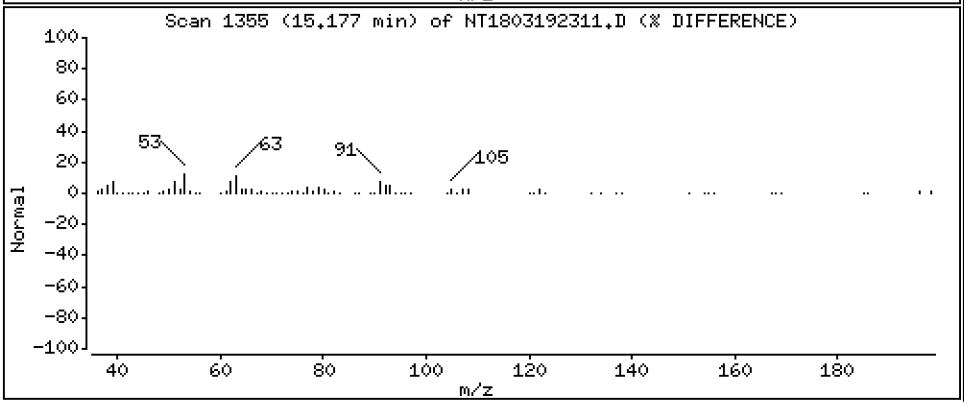
45 2,4-Dinitrophenol

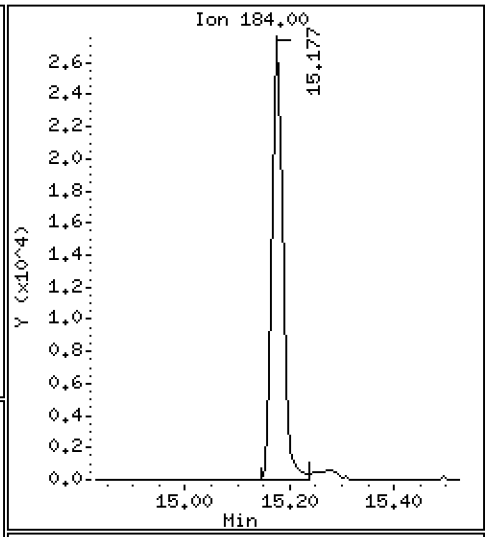
Concentration: 1.887 ug/mL

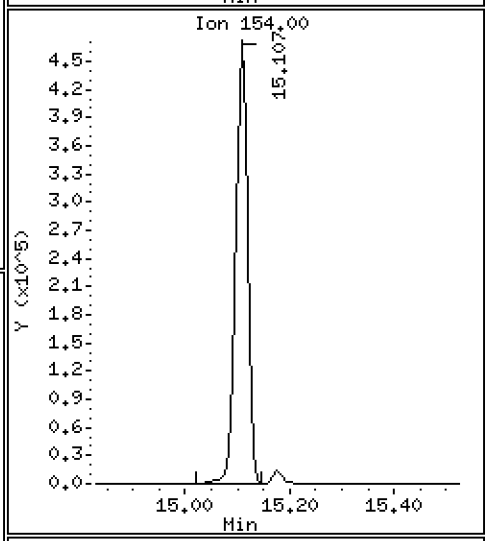


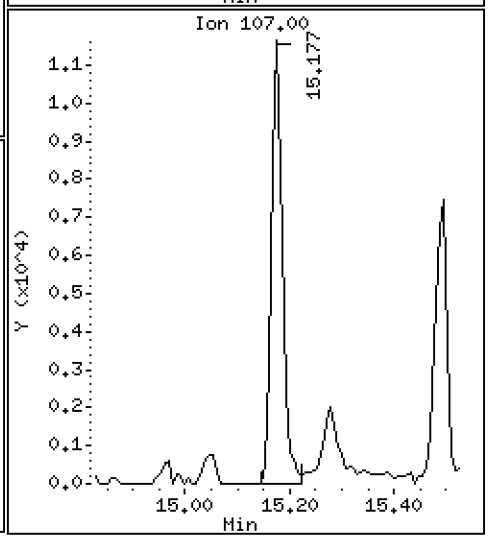












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

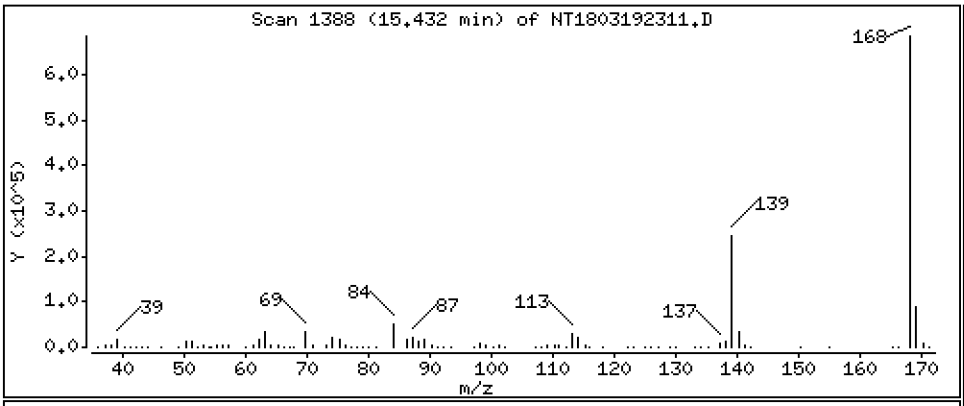
Operator: VTS

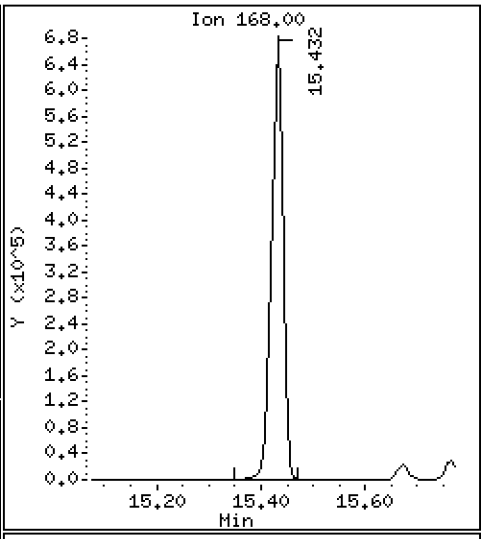
Column phase: ZB-5msi

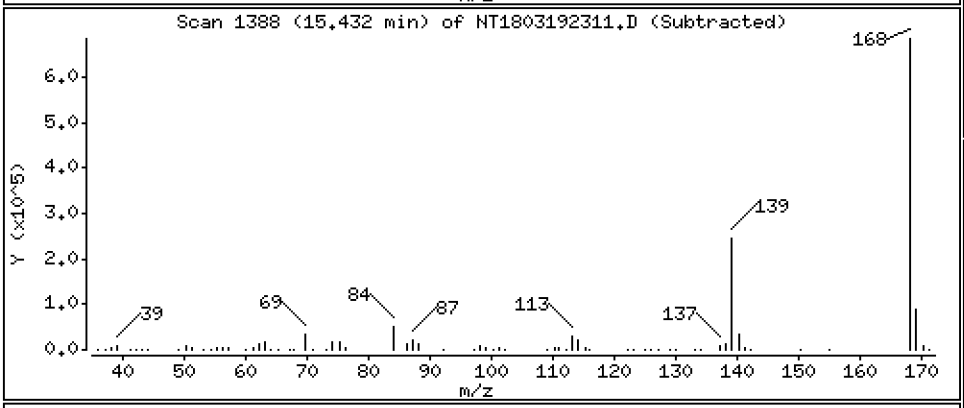
Column diameter: 0.25

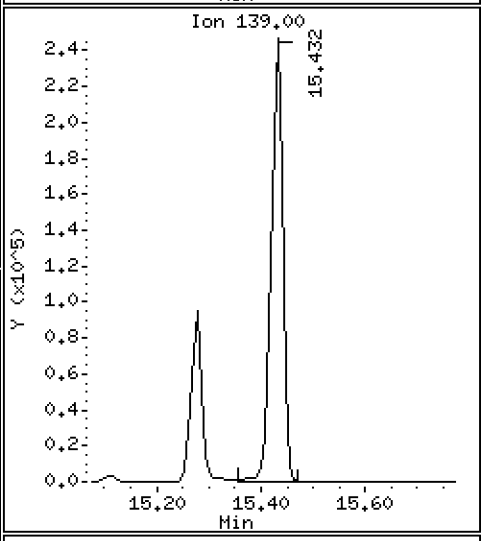
46 Dibenzofuran

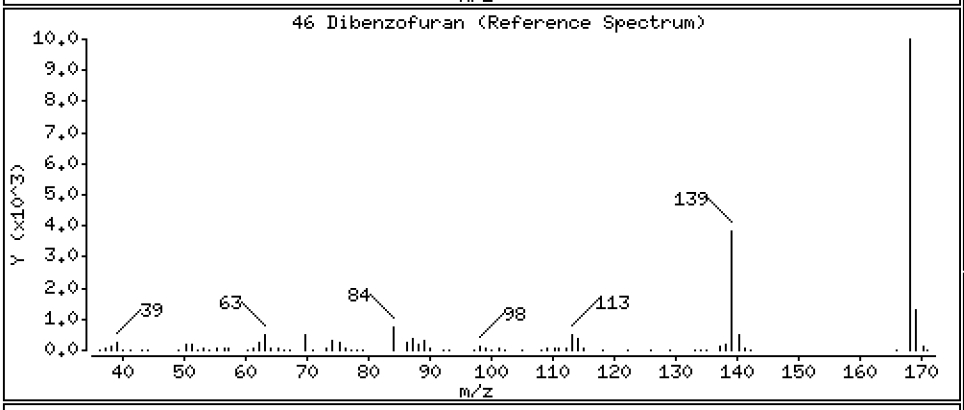
Concentration: 4.756 ug/mL

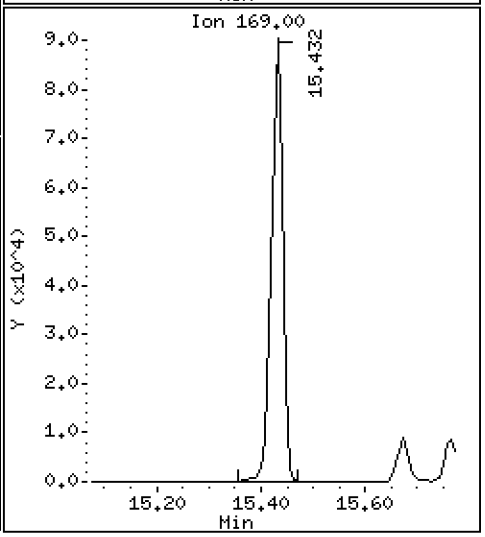


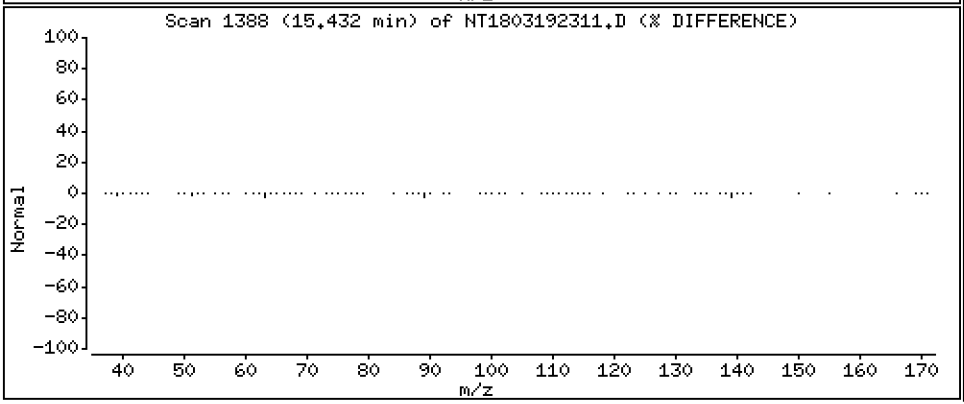












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

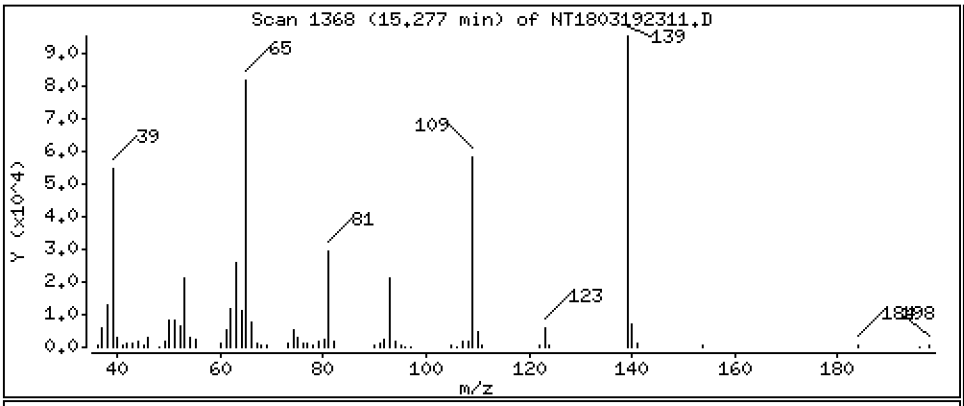
Operator: VTS

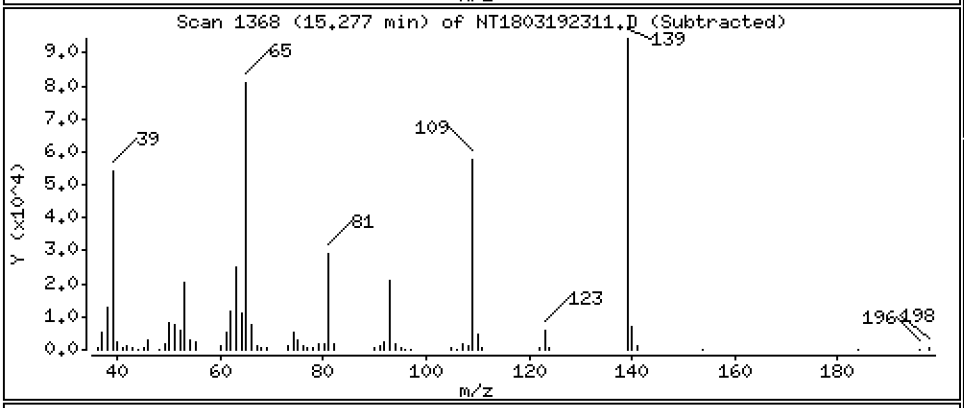
Column phase: ZB-5msi

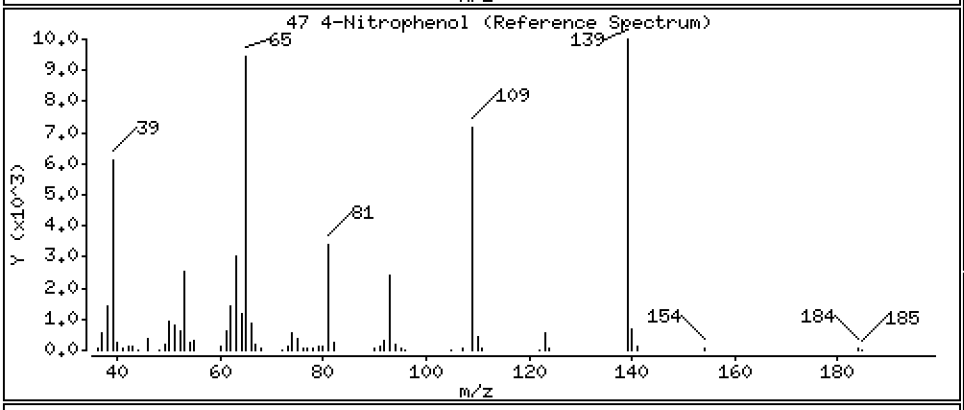
Column diameter: 0.25

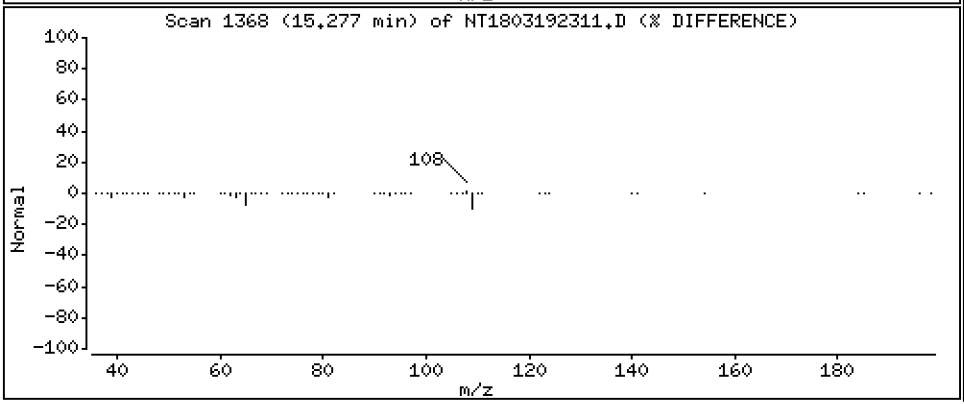
47 4-Nitrophenol

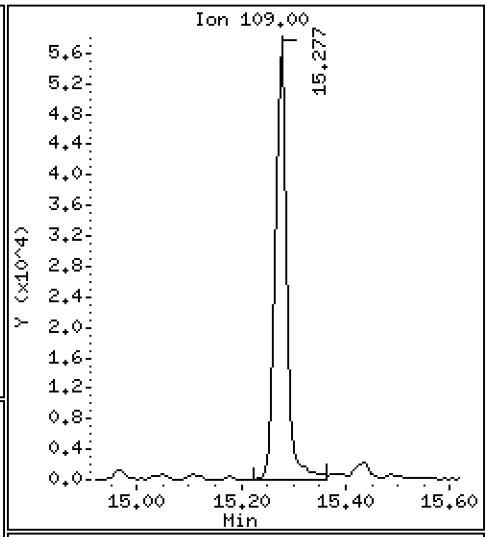
Concentration: 4.128 ug/mL

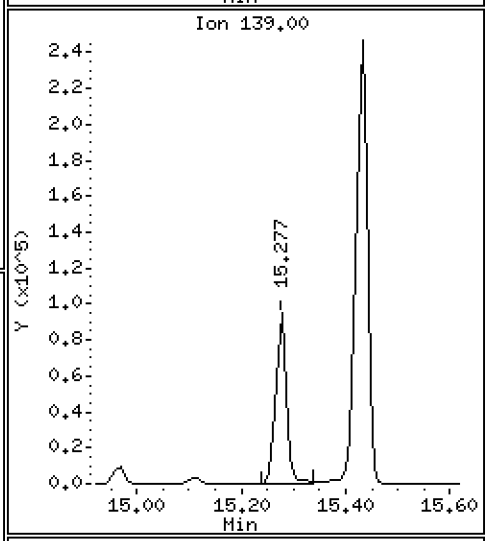


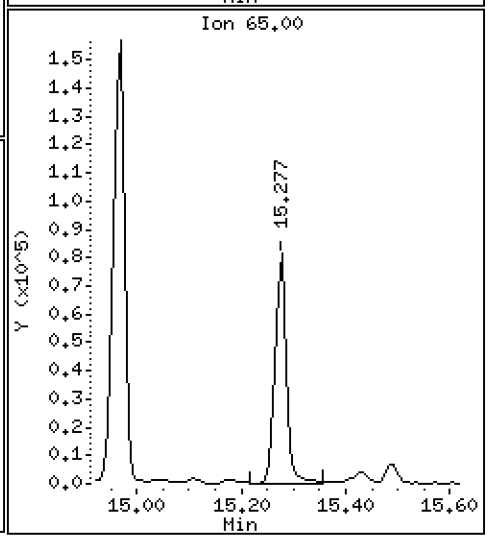












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

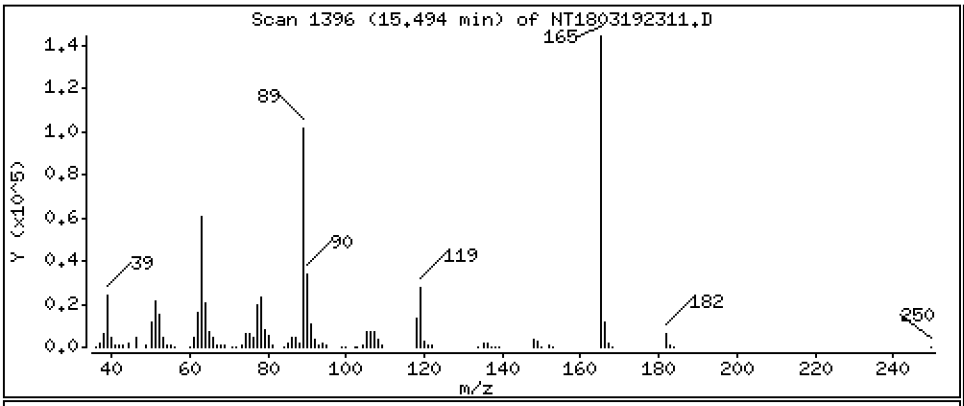
Operator: VTS

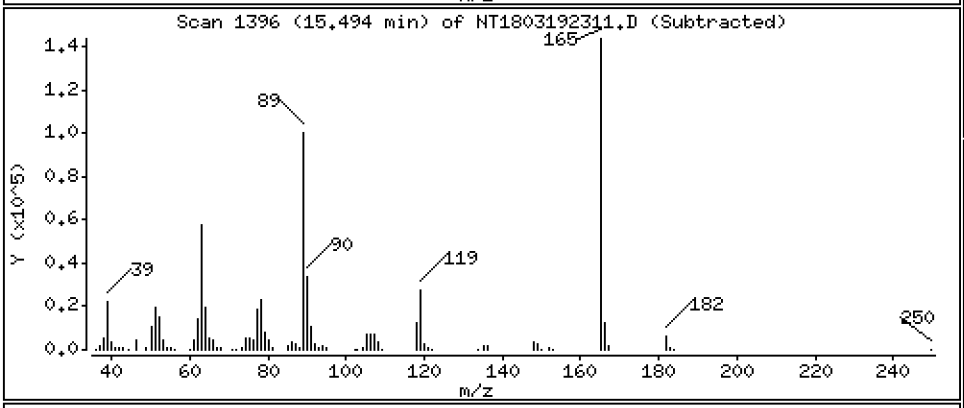
Column phase: ZB-5msi

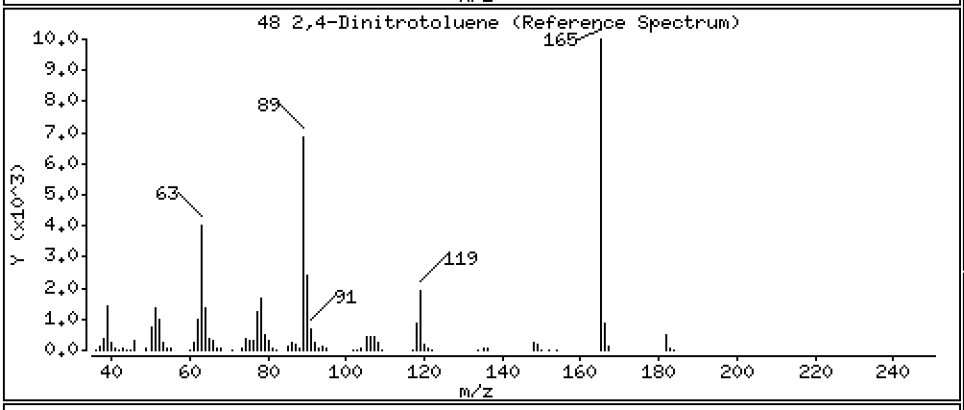
Column diameter: 0.25

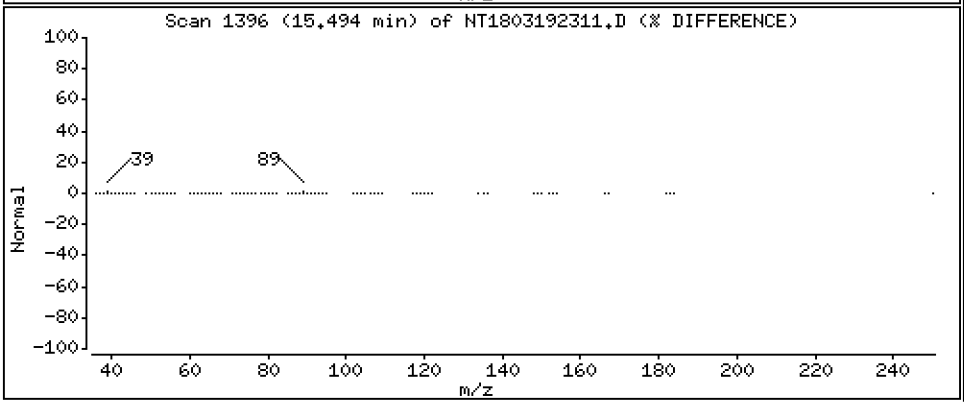
48 2,4-Dinitrotoluene

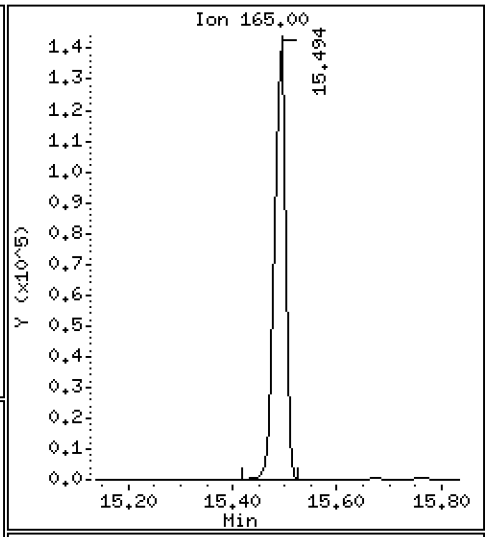
Concentration: 4.481 ug/mL

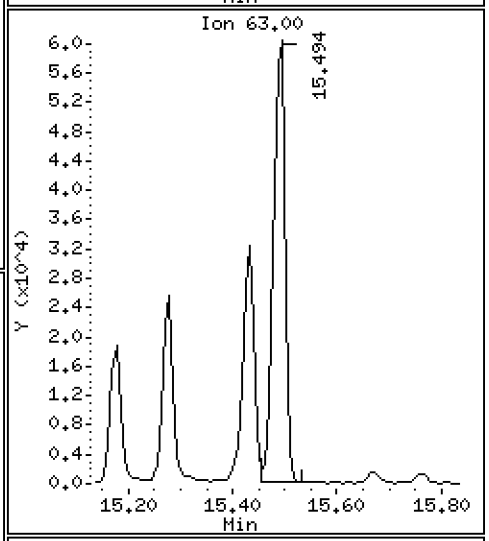


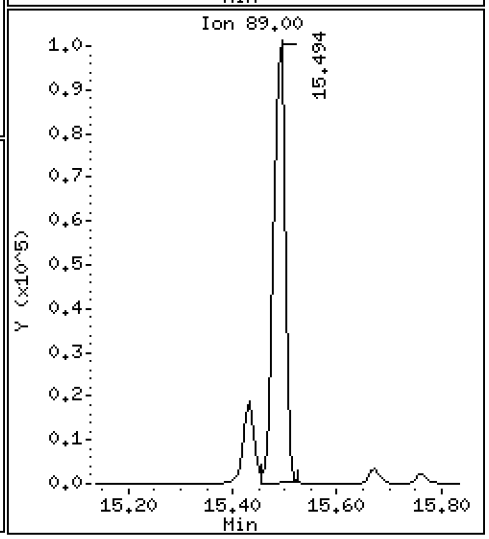












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

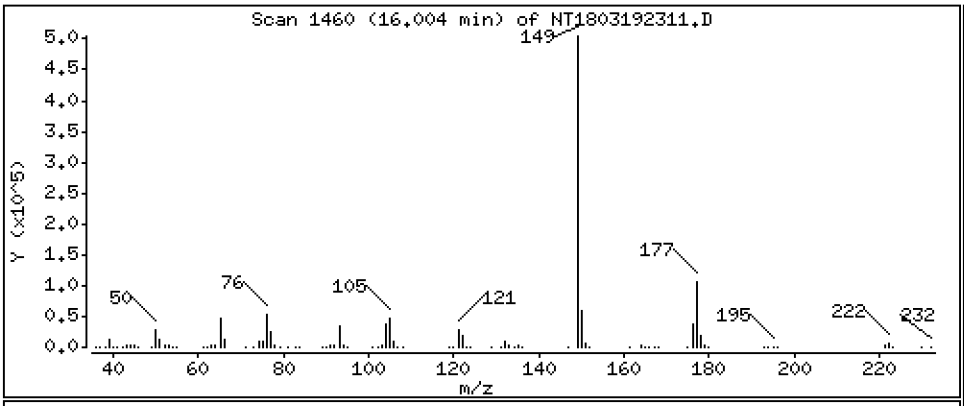
Operator: VTS

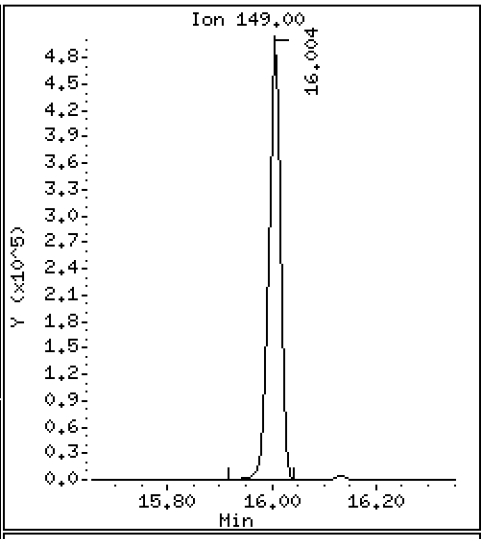
Column phase: ZB-5msi

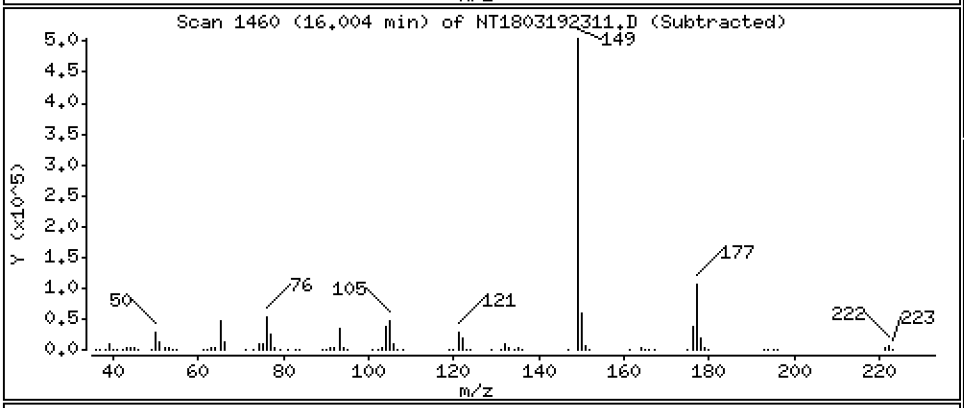
Column diameter: 0.25

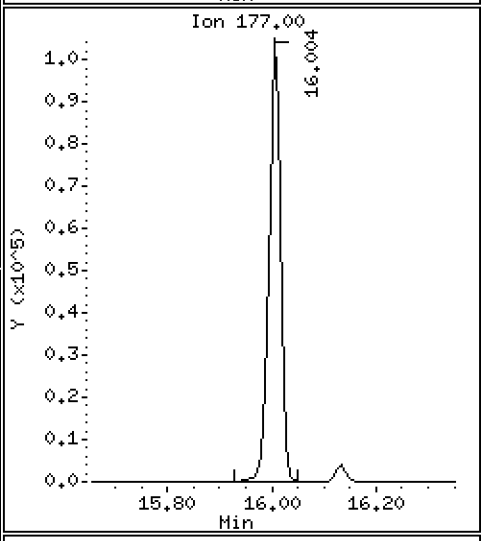
50 Diethylphthalate

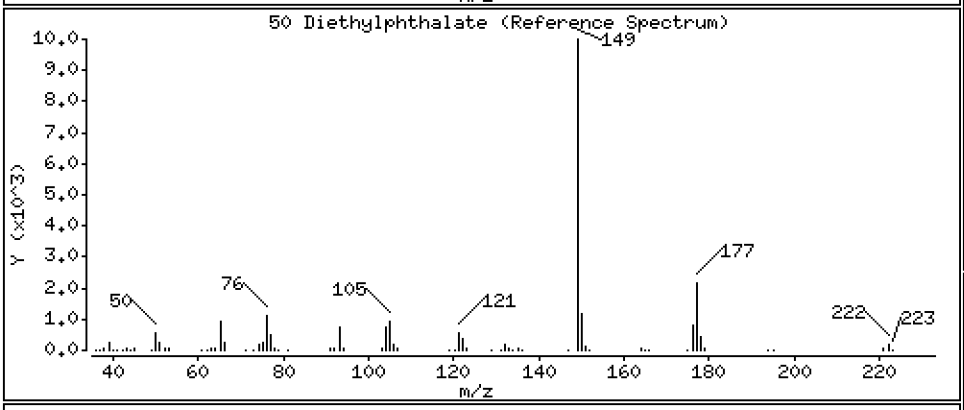
Concentration: 5.021 ug/mL

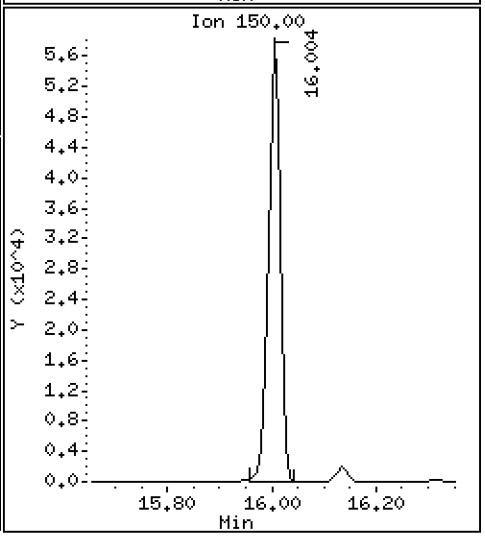


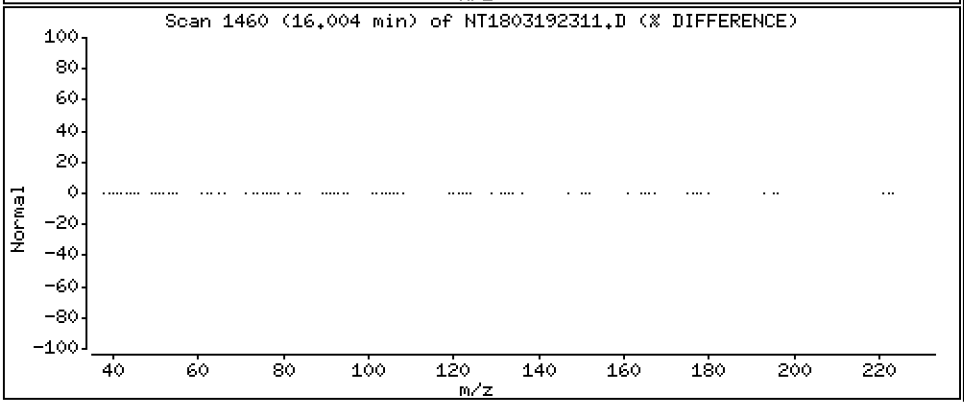












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

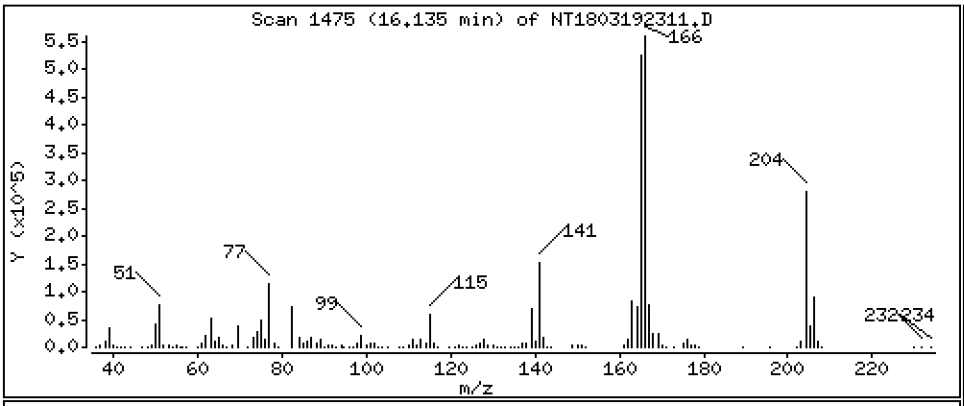
Operator: VTS

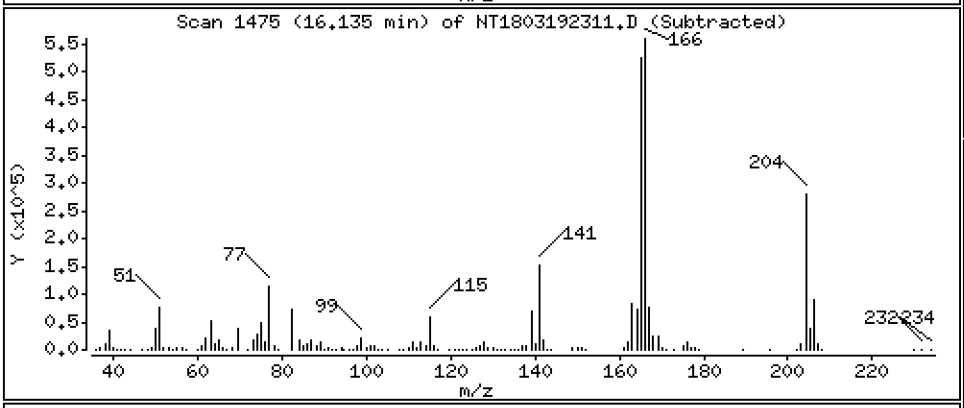
Column phase: ZB-5msi

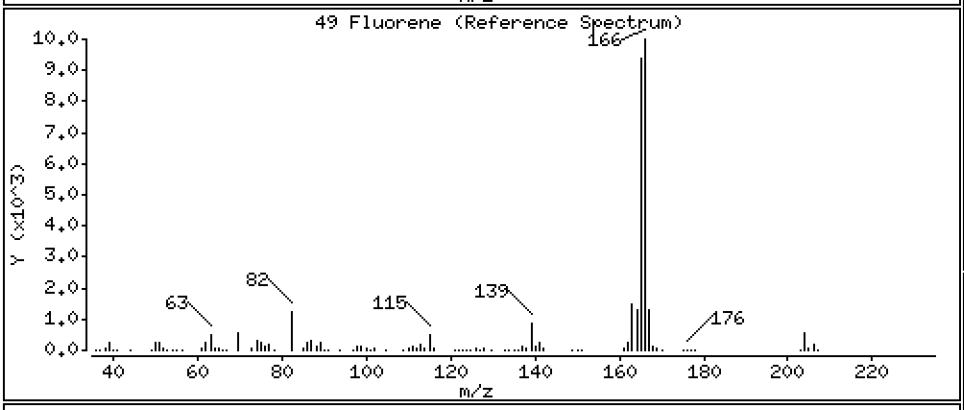
Column diameter: 0.25

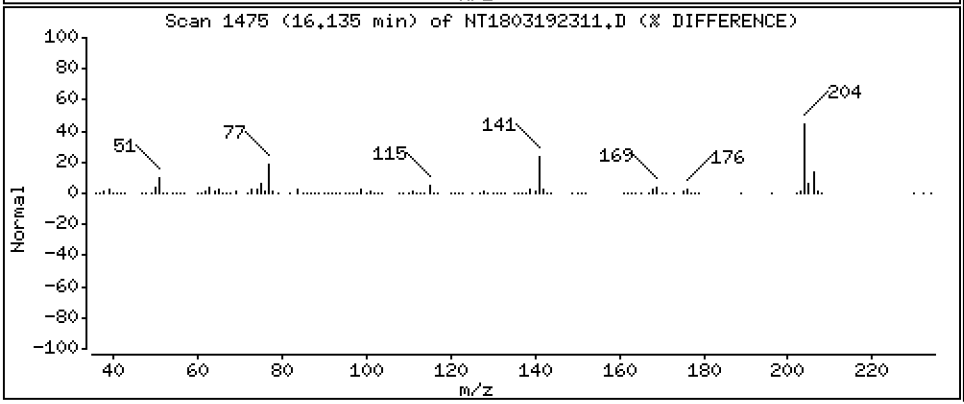
49 Fluorene

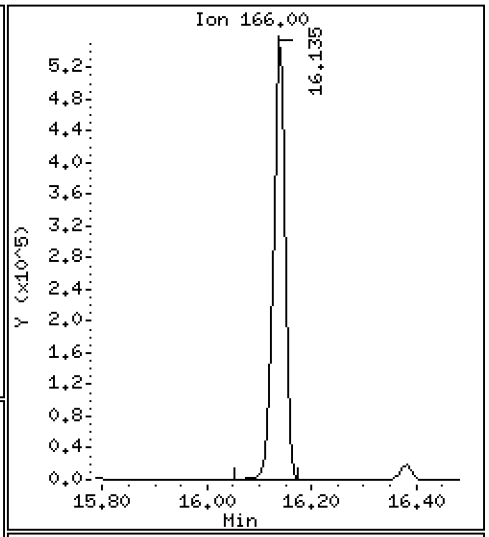
Concentration: 5.040 ug/mL

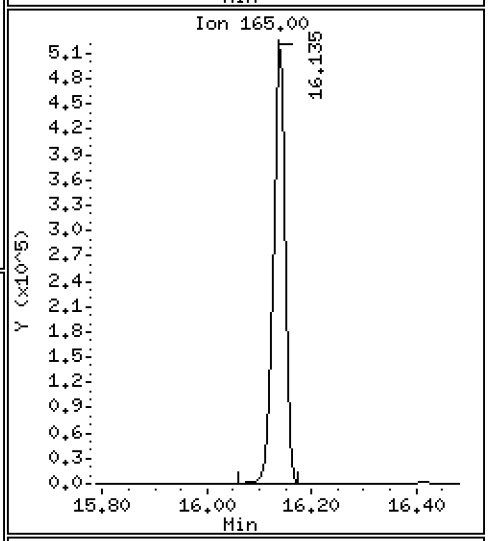


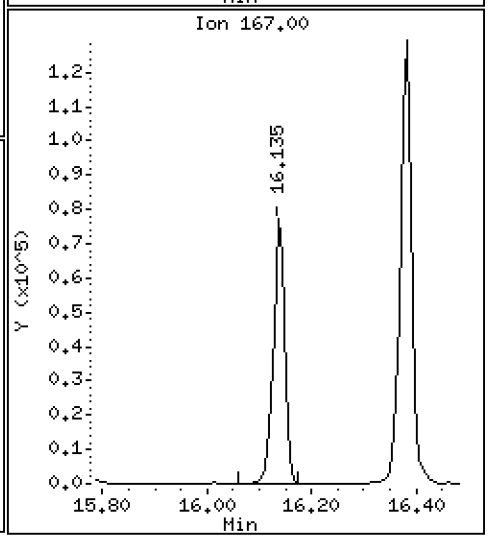












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

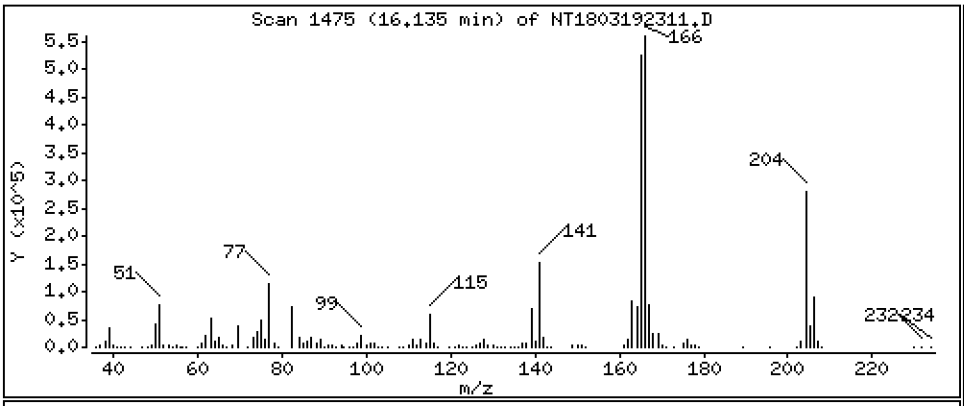
Operator: VTS

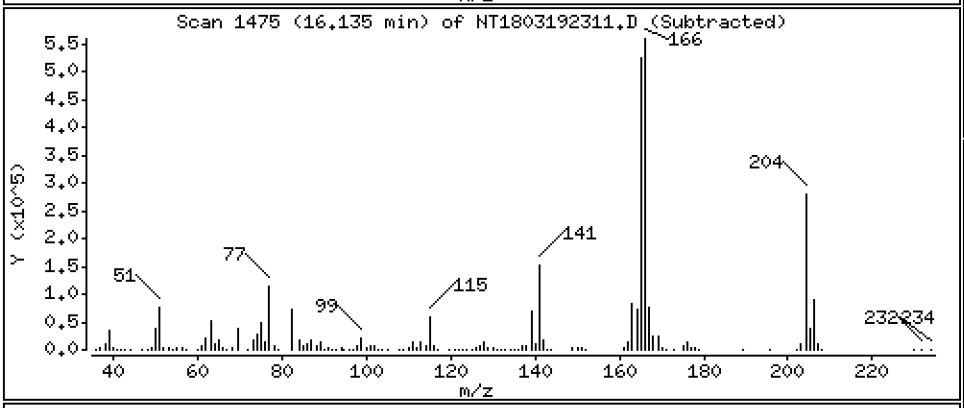
Column phase: ZB-5msi

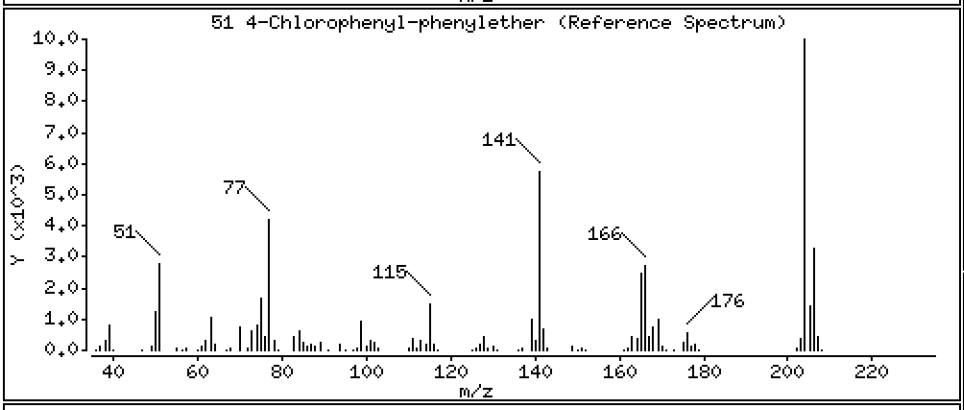
Column diameter: 0.25

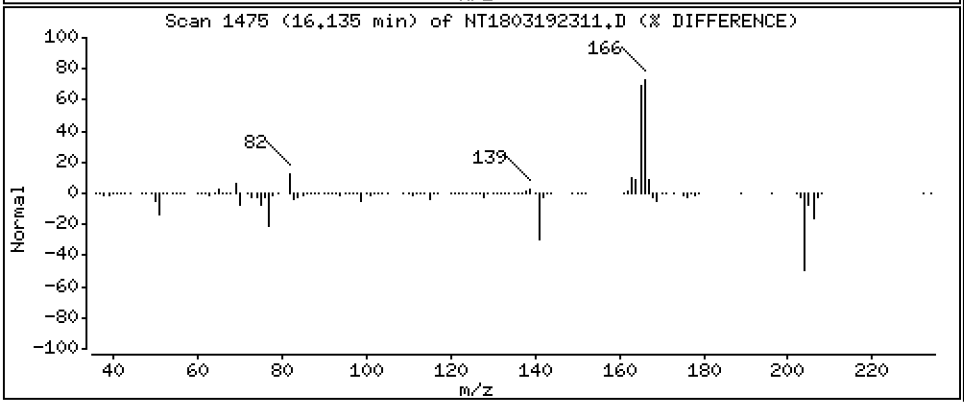
51 4-Chlorophenyl-phenylether

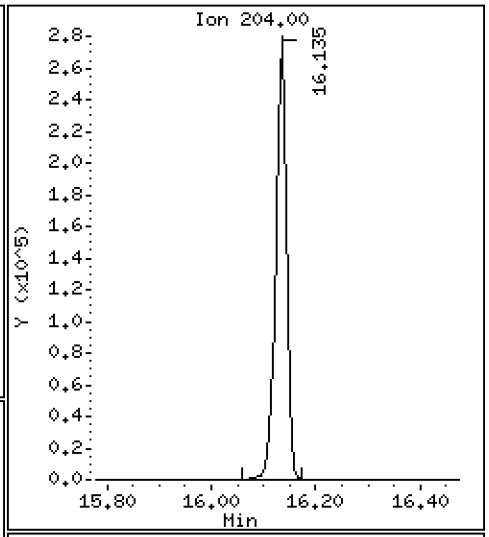
Concentration: 5.398 ug/mL

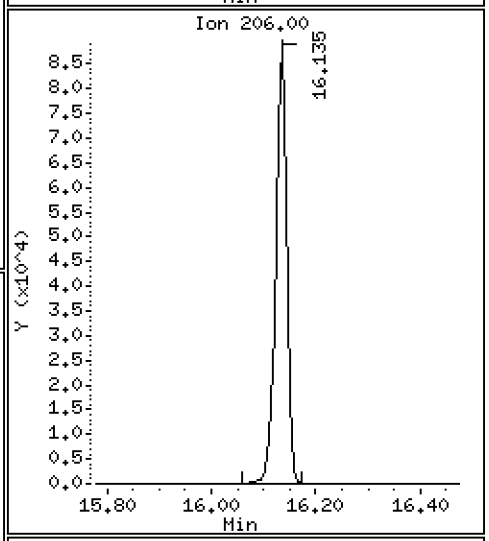


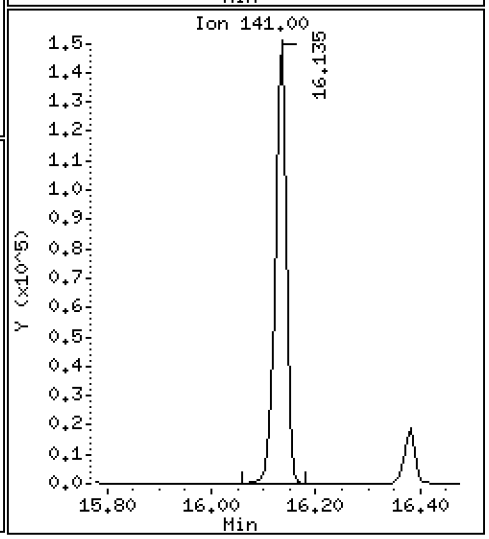












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

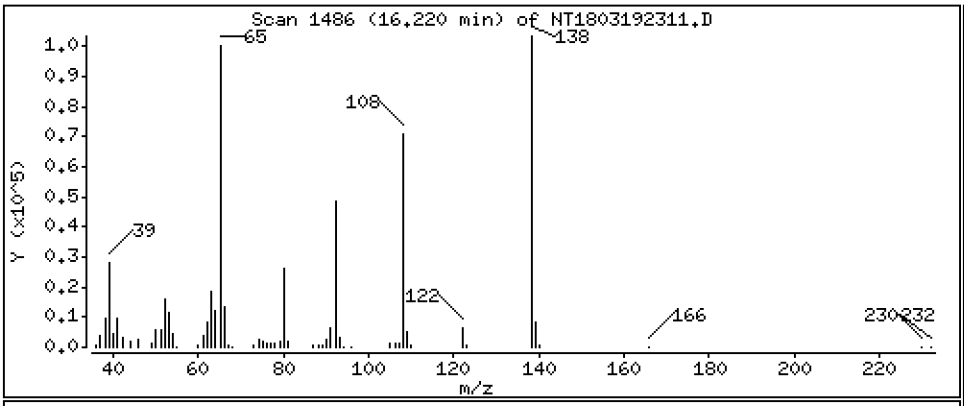
Operator: VTS

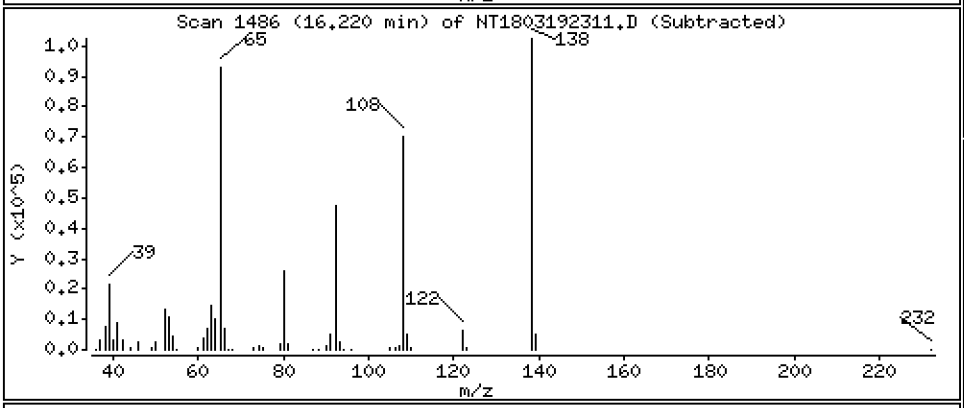
Column phase: ZB-5msi

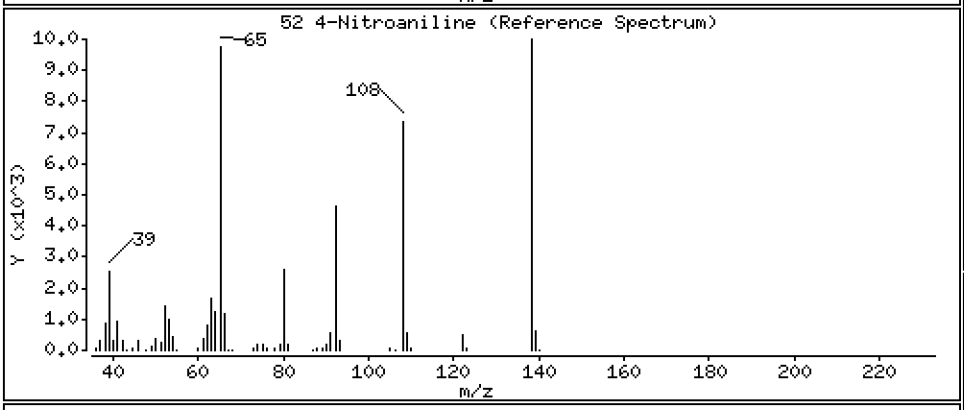
Column diameter: 0.25

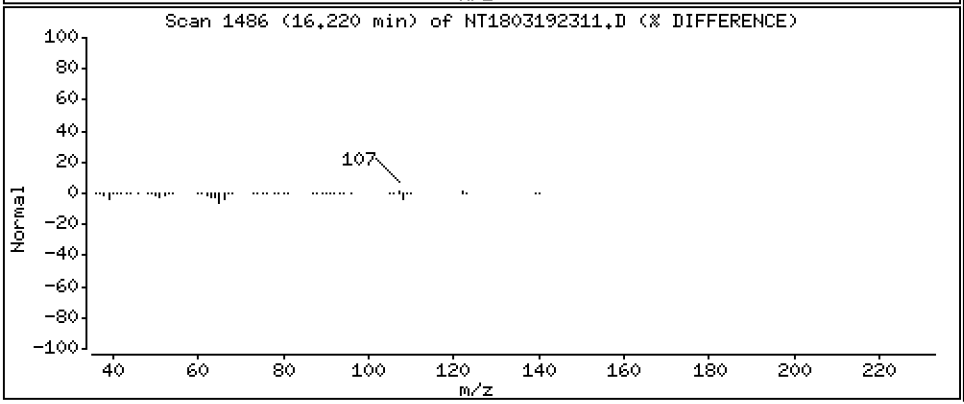
52 4-Nitroaniline

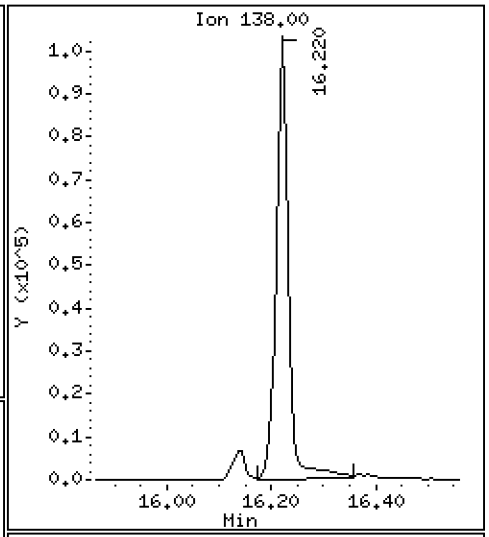
Concentration: 4.323 ug/mL

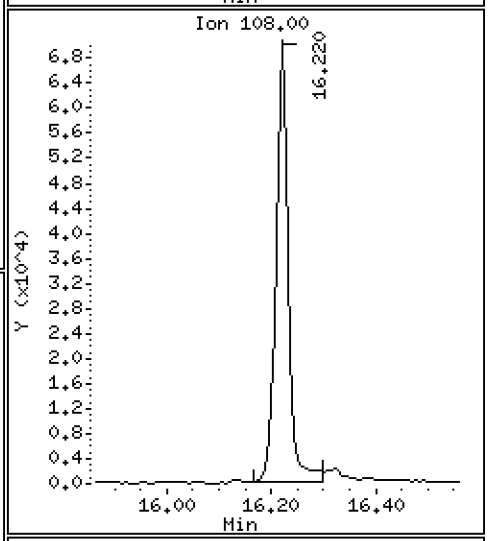


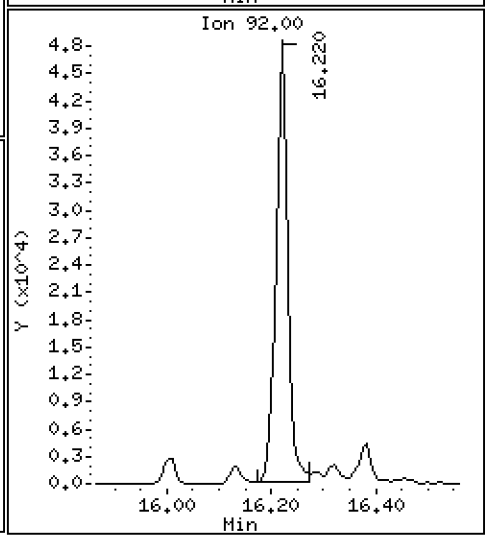












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

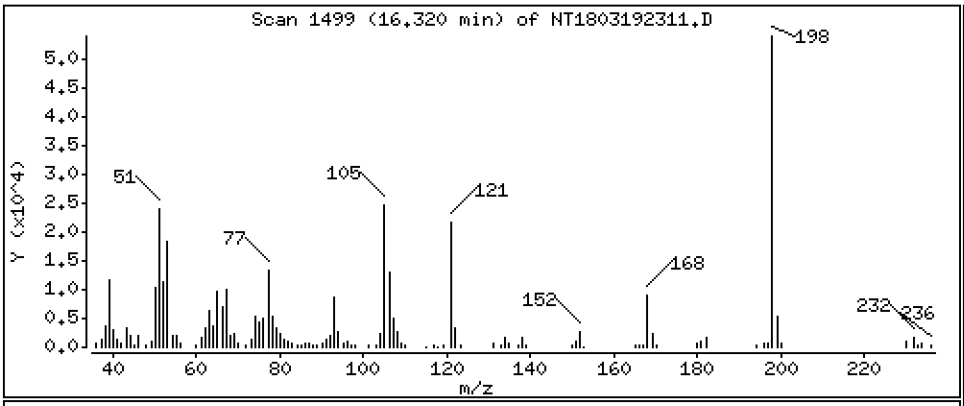
Operator: VTS

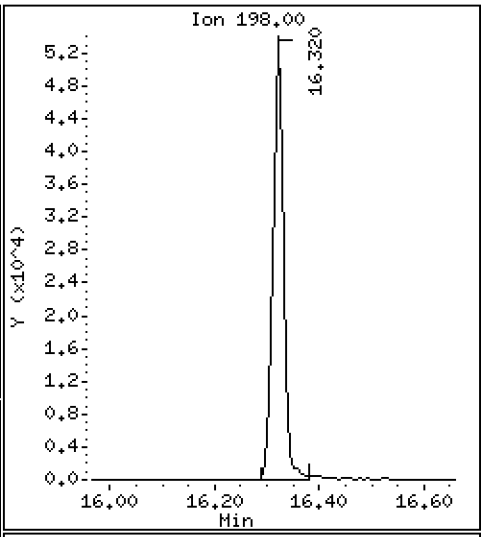
Column phase: ZB-5msi

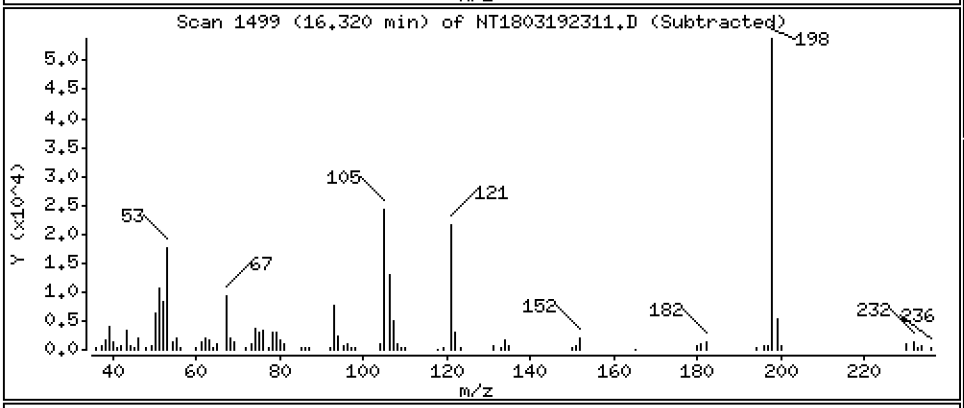
Column diameter: 0.25

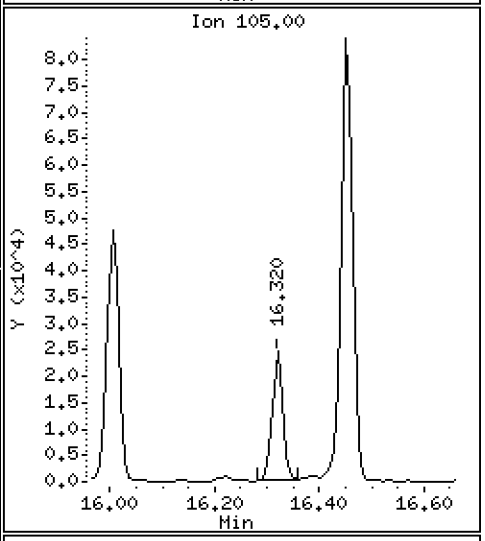
53 4,6-Dinitro-2-methylphenol

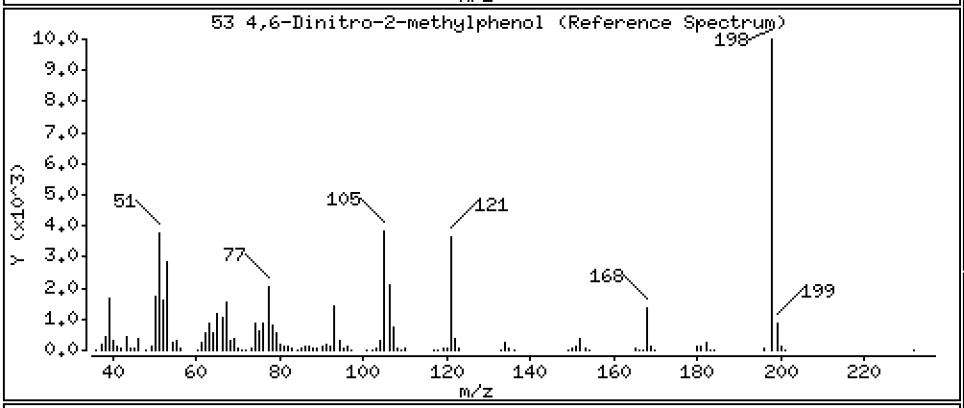
Concentration: 3.088 ug/mL

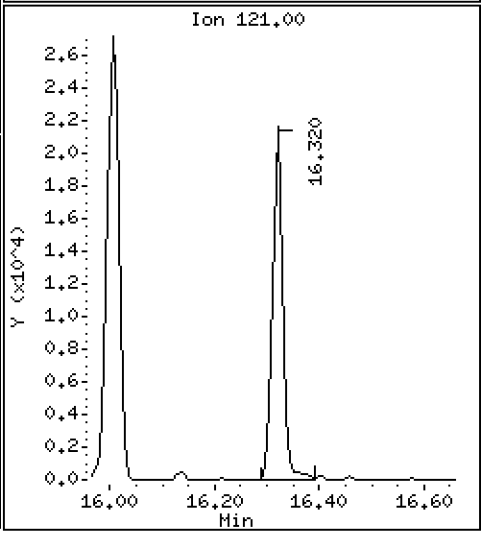


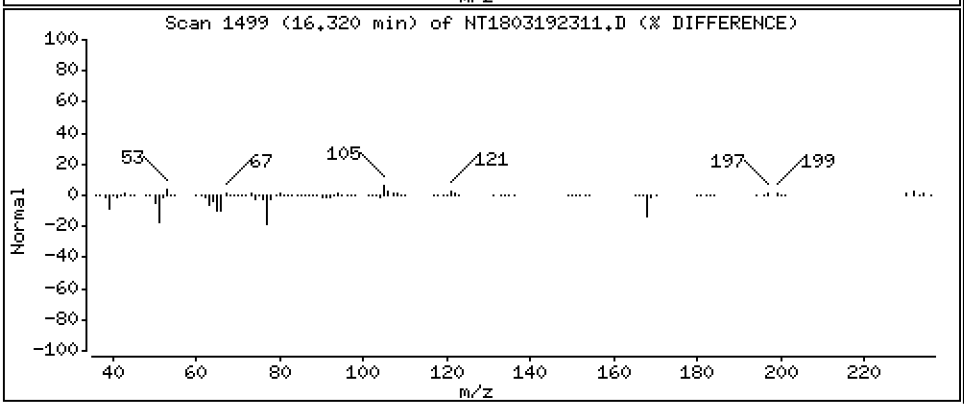












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

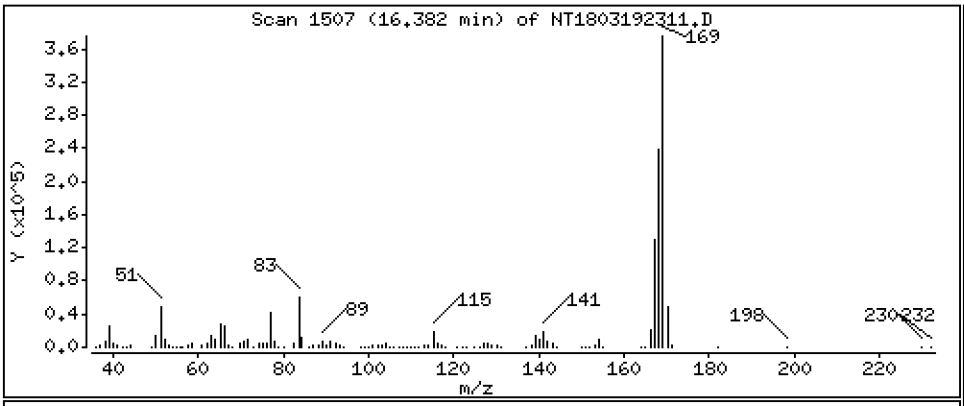
Operator: VTS

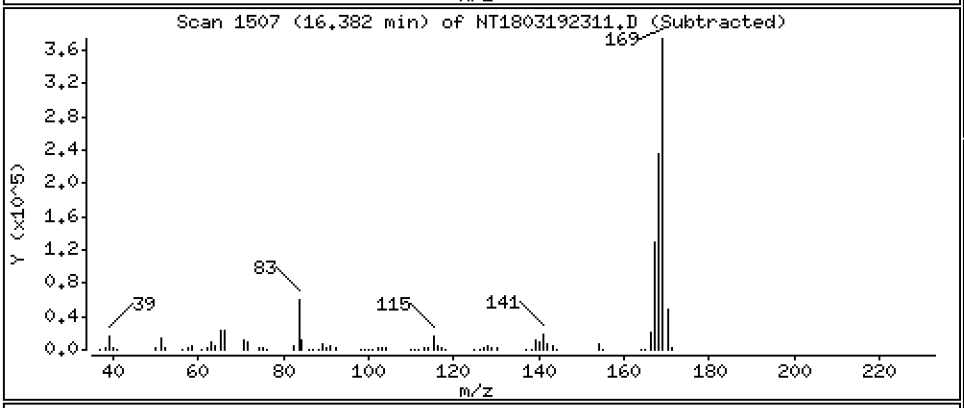
Column phase: ZB-5msi

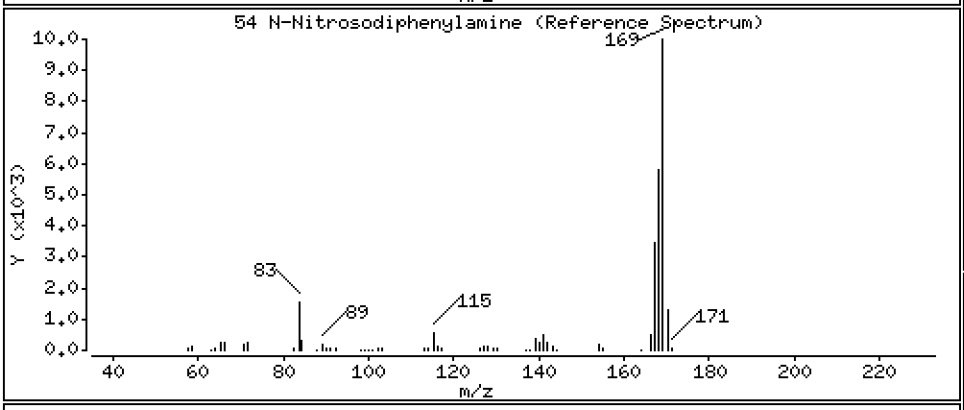
Column diameter: 0.25

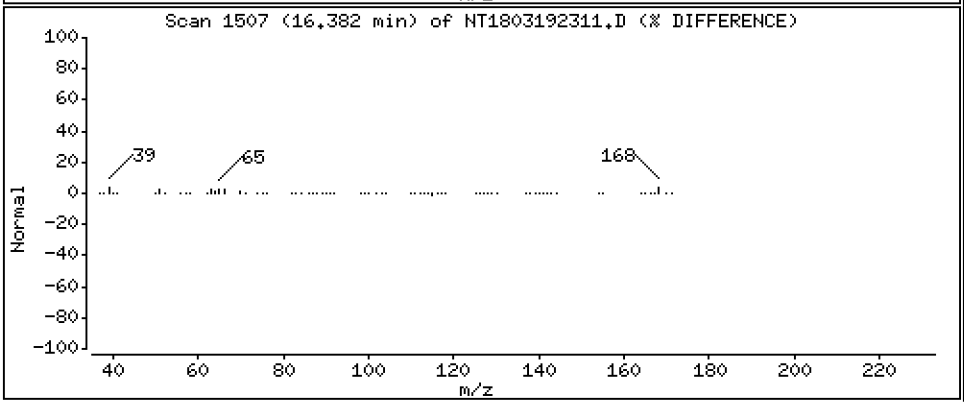
54 N-Nitrosodiphenylamine

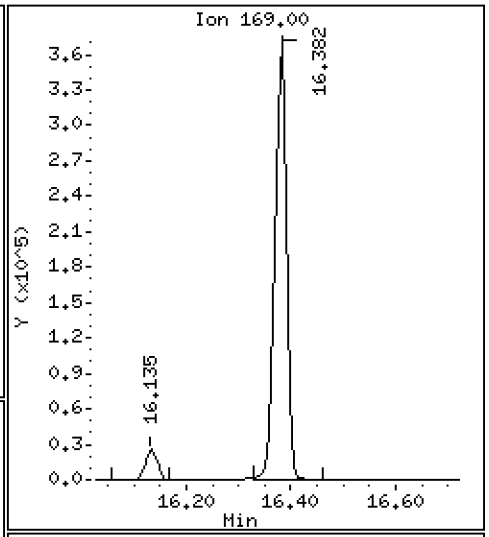
Concentration: 5.077 ug/mL

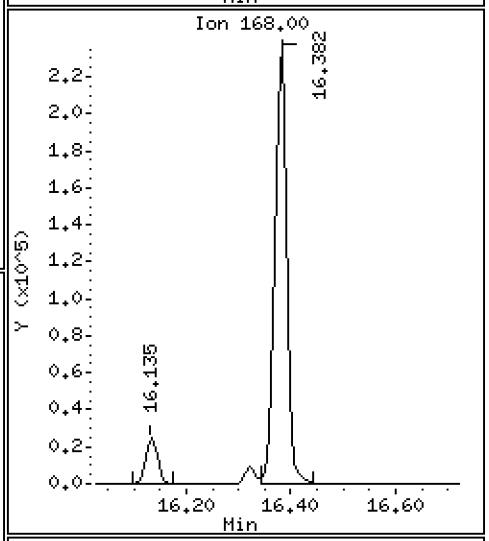


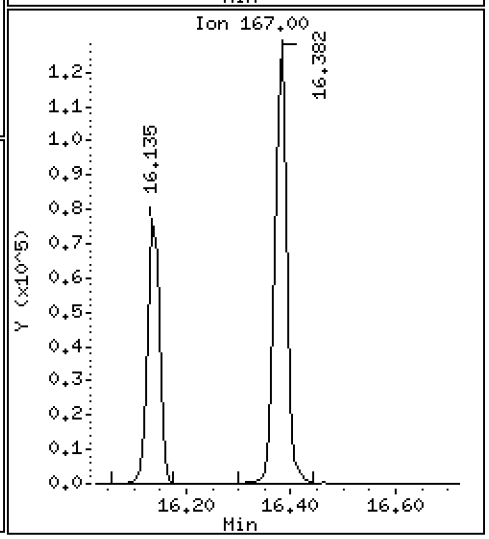












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

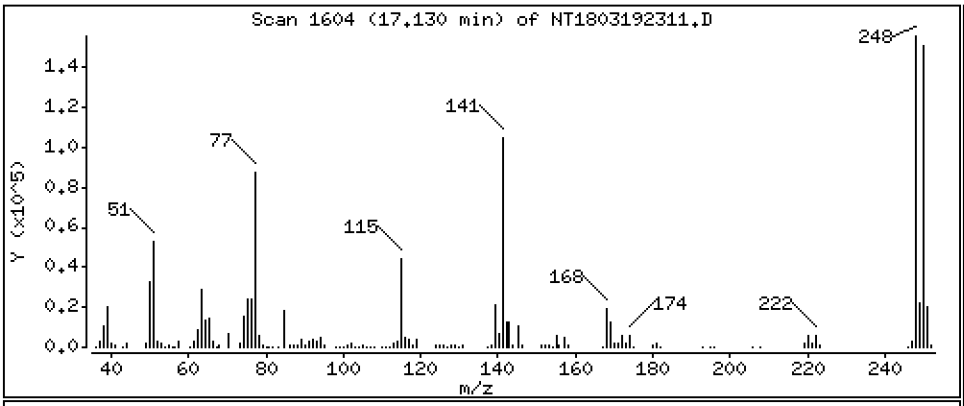
Operator: VTS

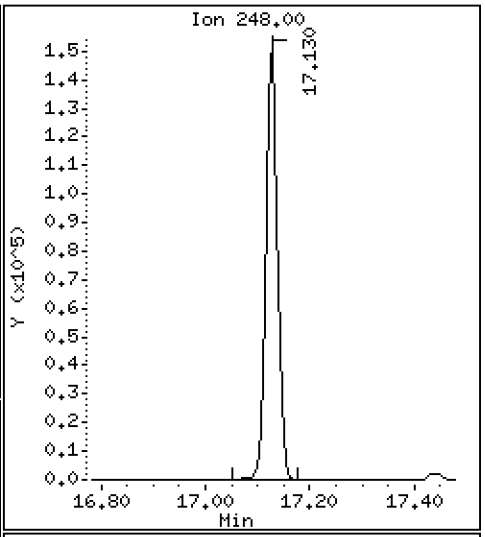
Column phase: ZB-5msi

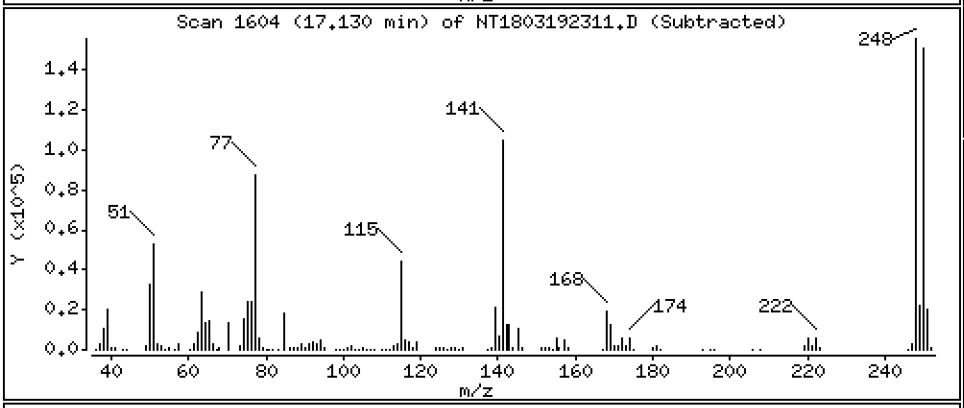
Column diameter: 0.25

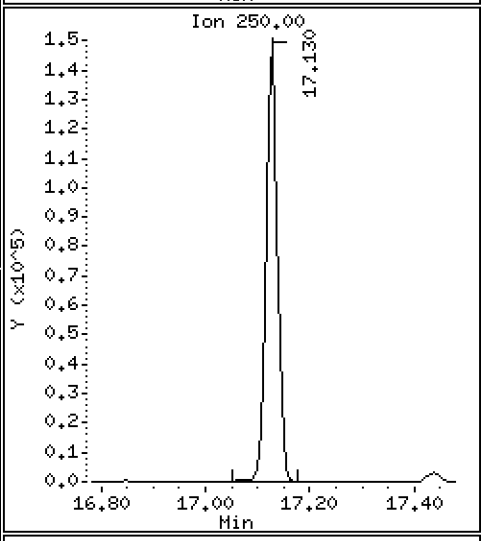
56 4-Bromophenyl-phenylether

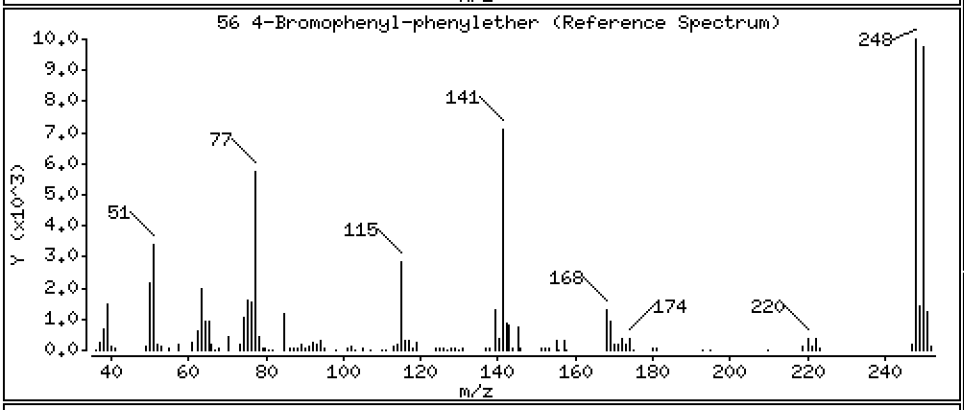
Concentration: 5.335 ug/mL

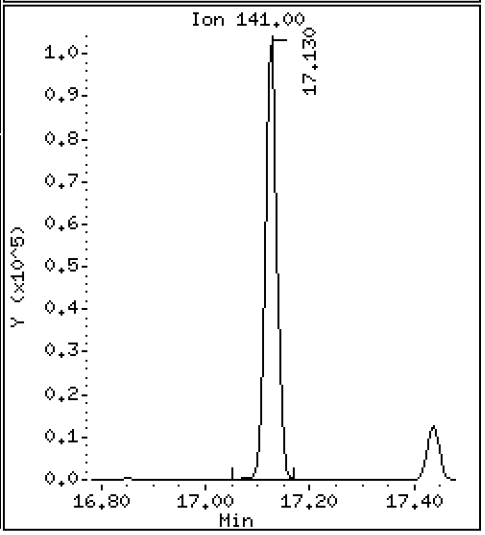


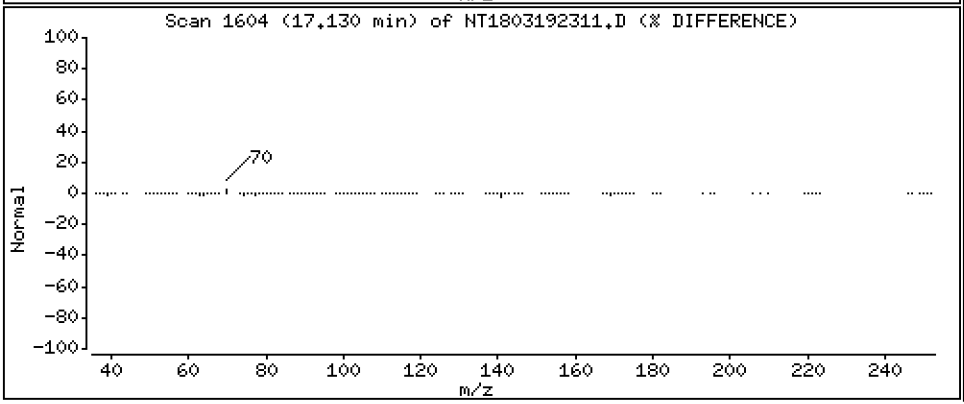












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

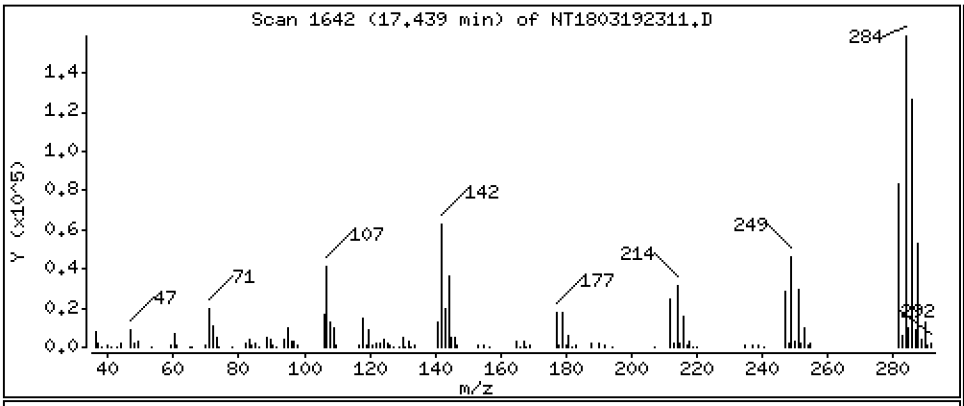
Operator: VTS

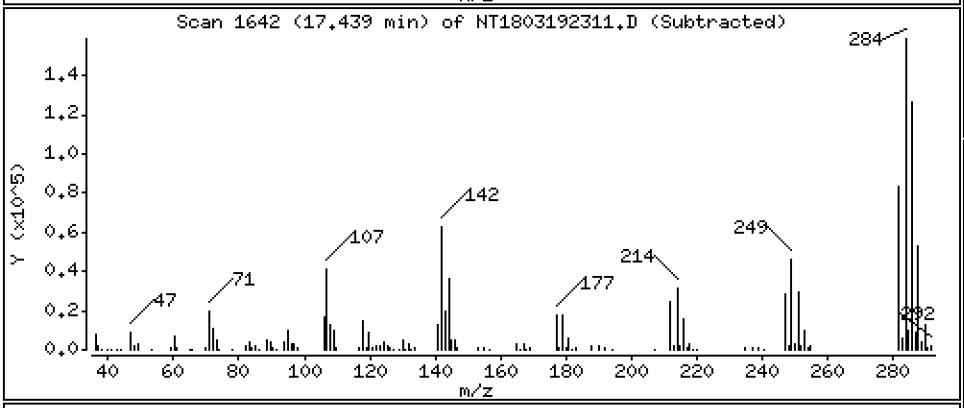
Column phase: ZB-5msi

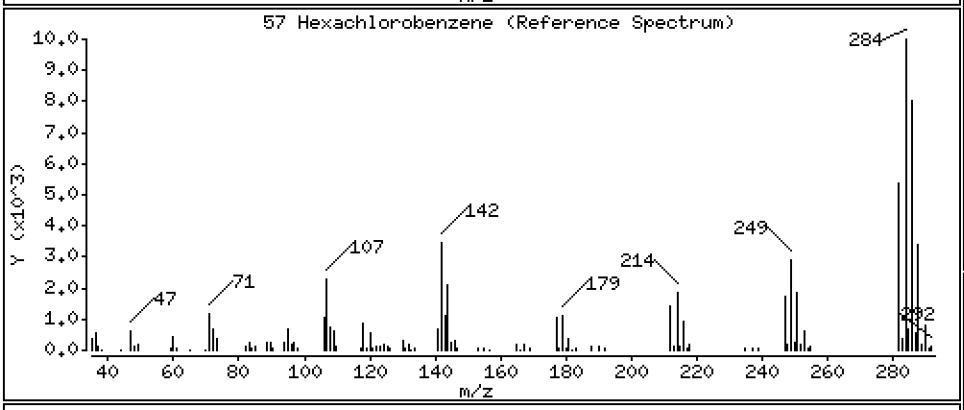
Column diameter: 0.25

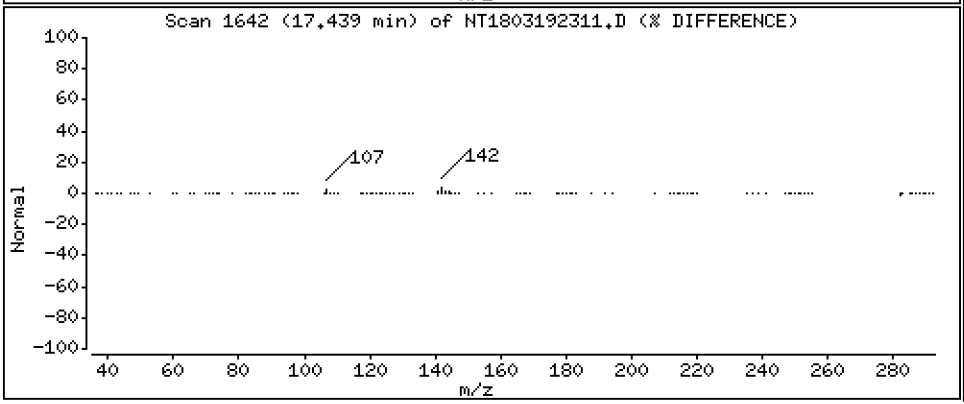
57 Hexachlorobenzene

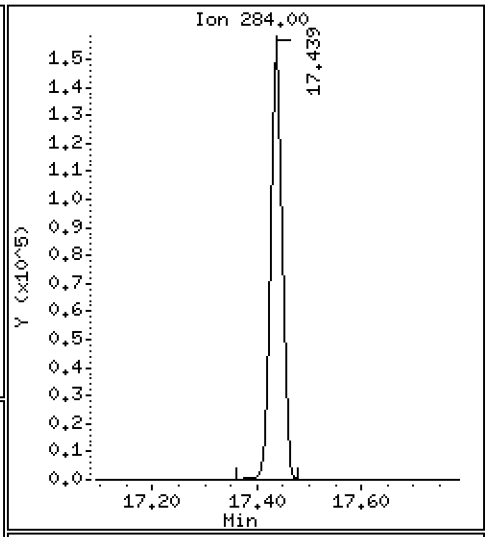
Concentration: 4.899 ug/mL

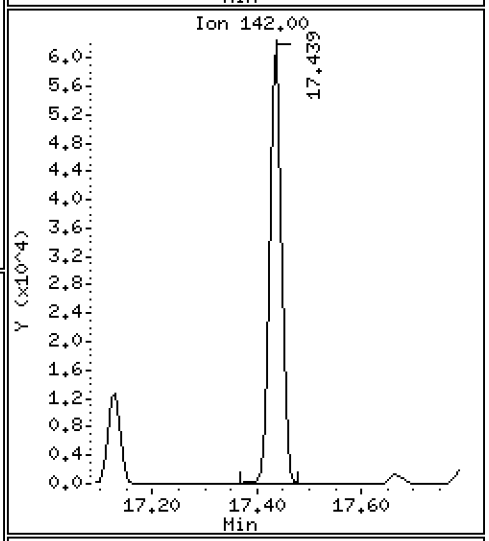


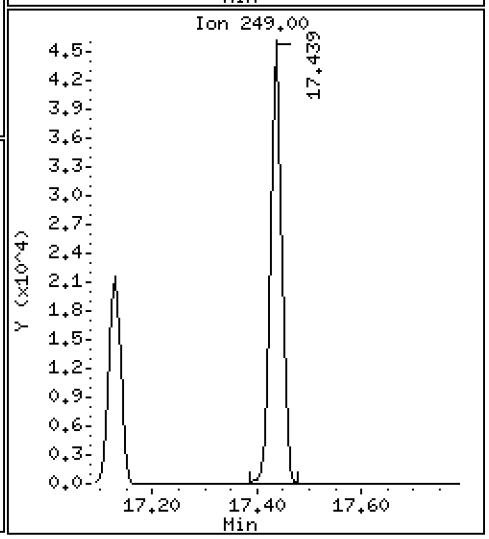












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

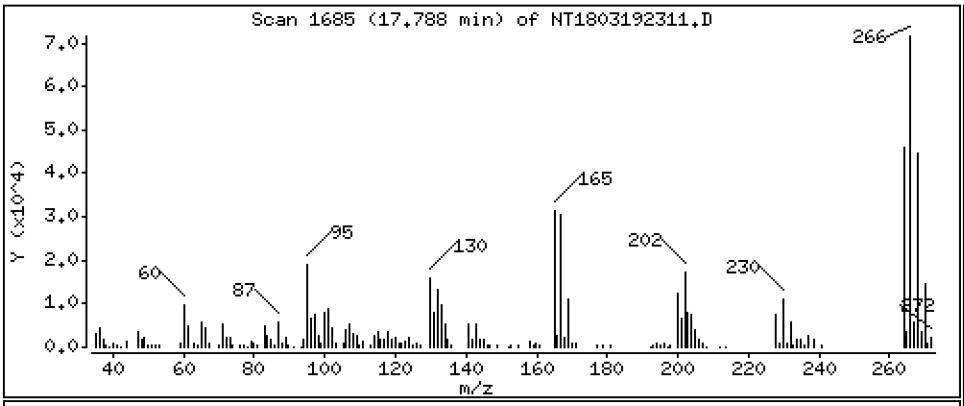
Operator: VTS

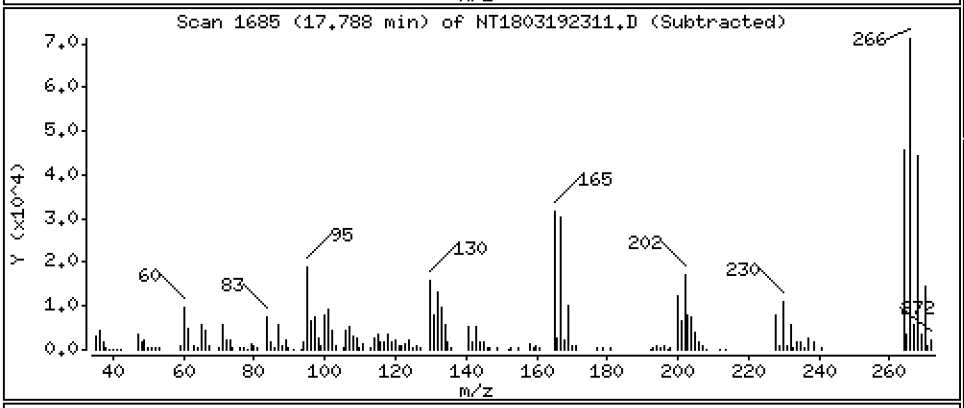
Column phase: ZB-5msi

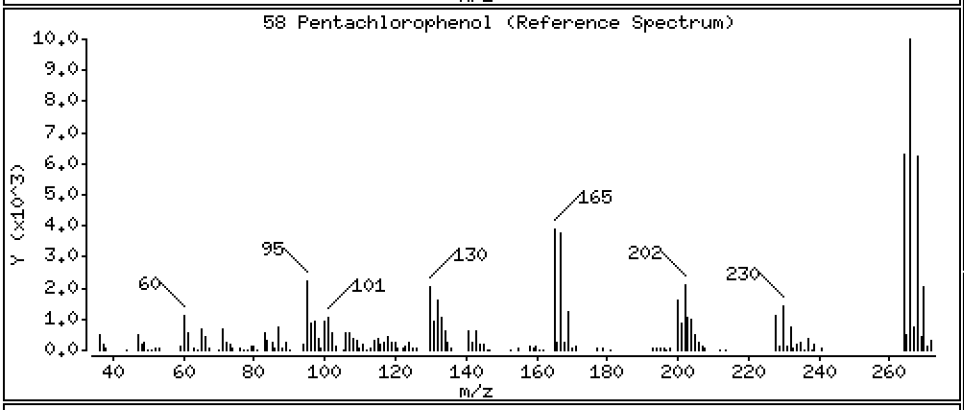
Column diameter: 0.25

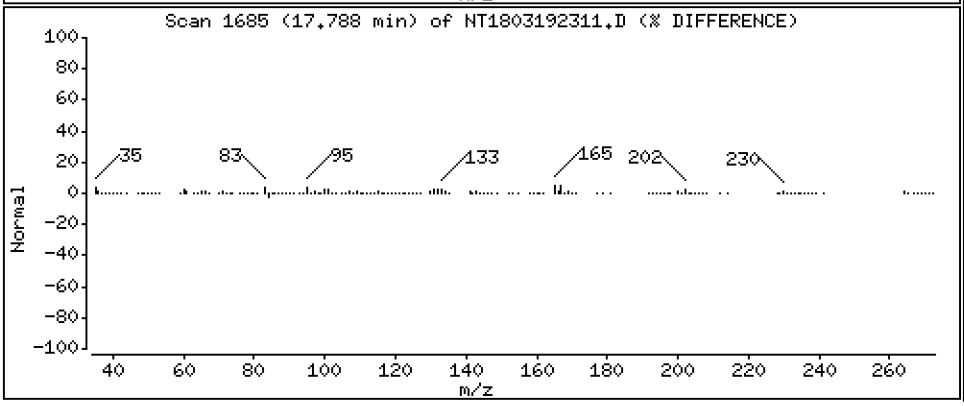
58 Pentachlorophenol

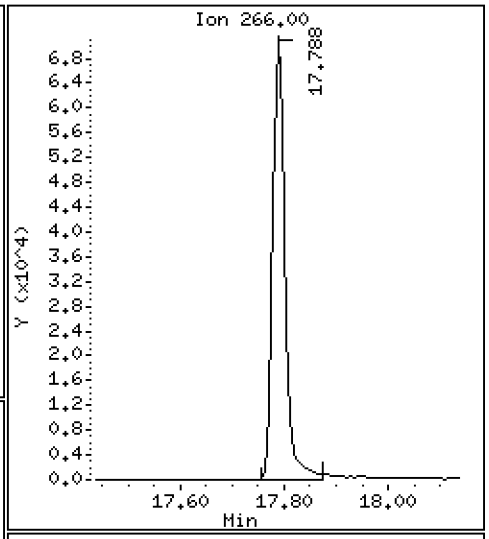
Concentration: 3.802 ug/mL

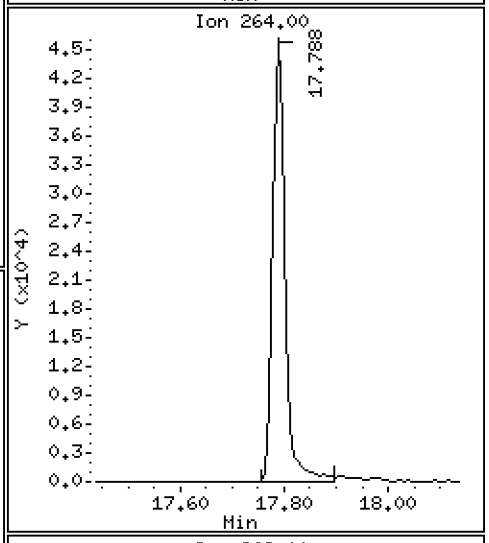


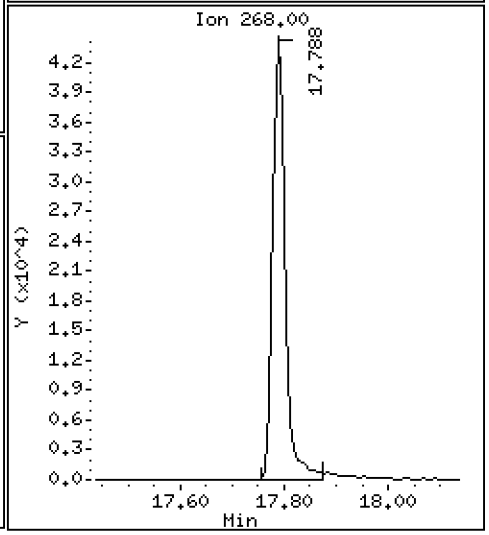












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

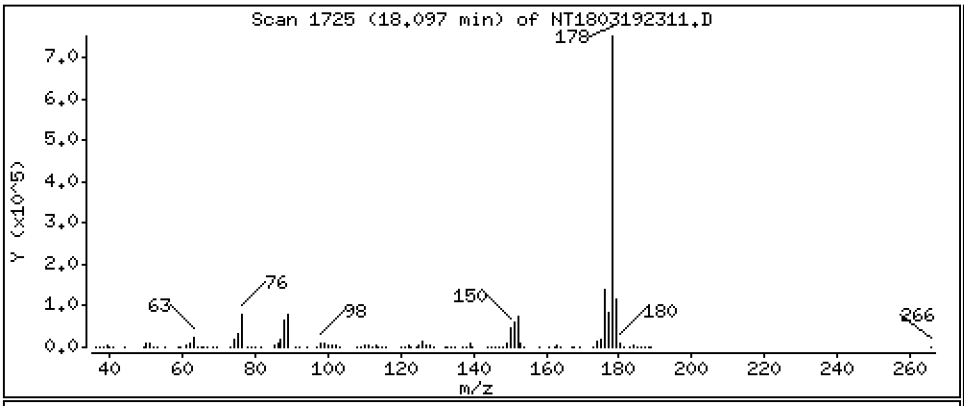
Operator: VTS

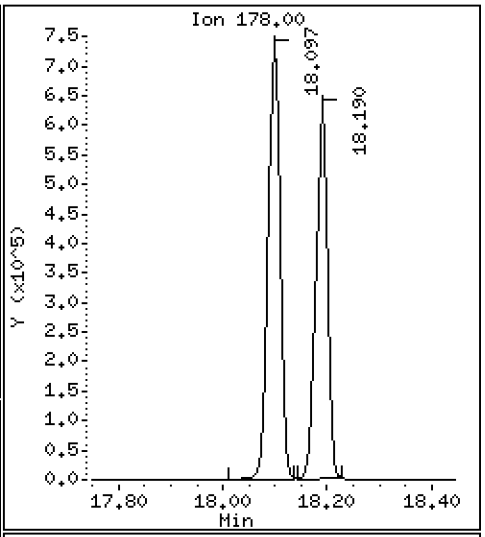
Column phase: ZB-5msi

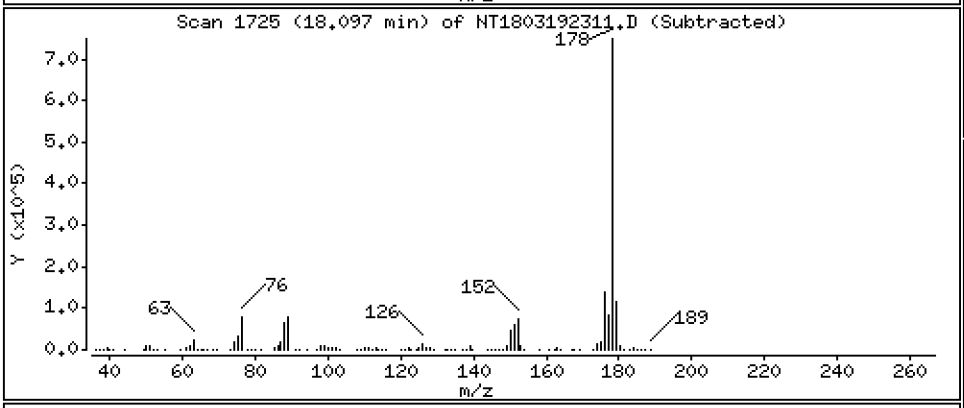
Column diameter: 0.25

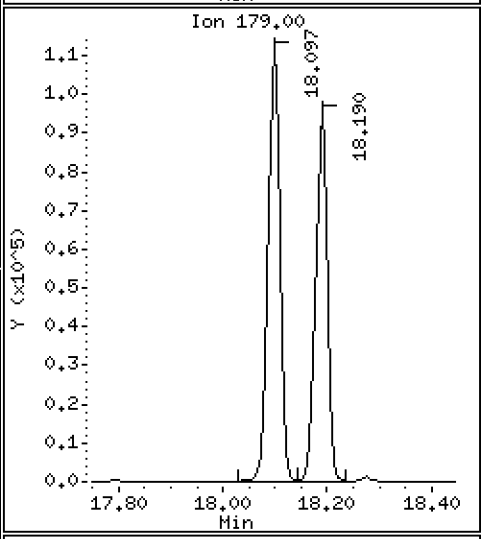
60 Phenanthrene

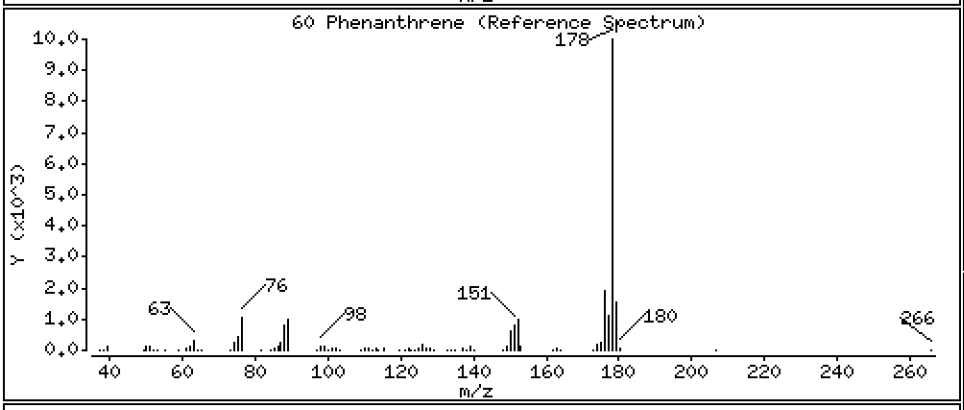
Concentration: 4.825 ug/mL

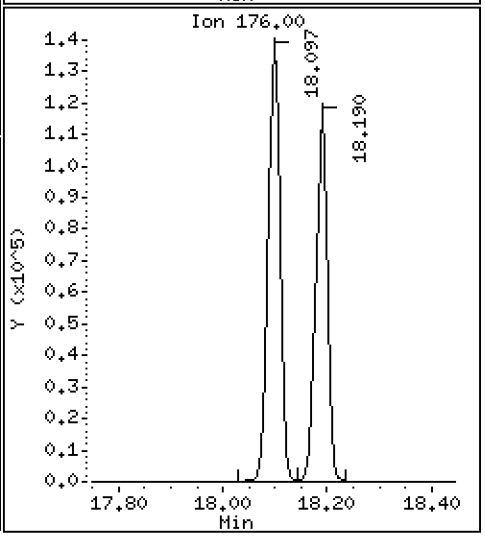


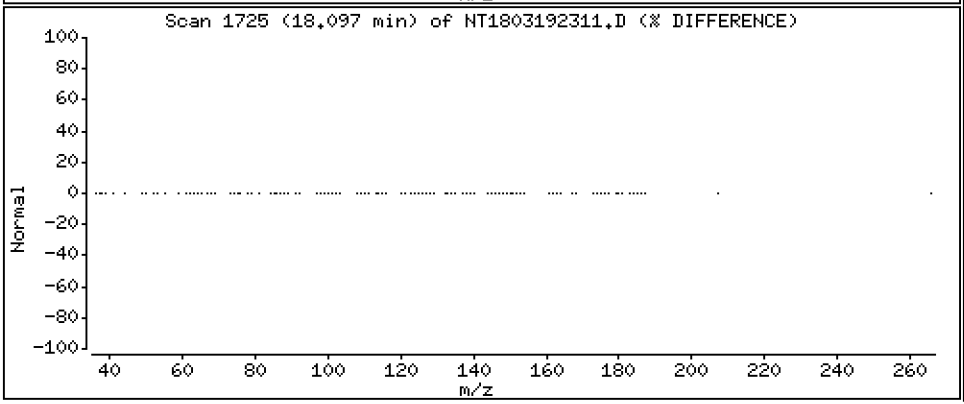












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

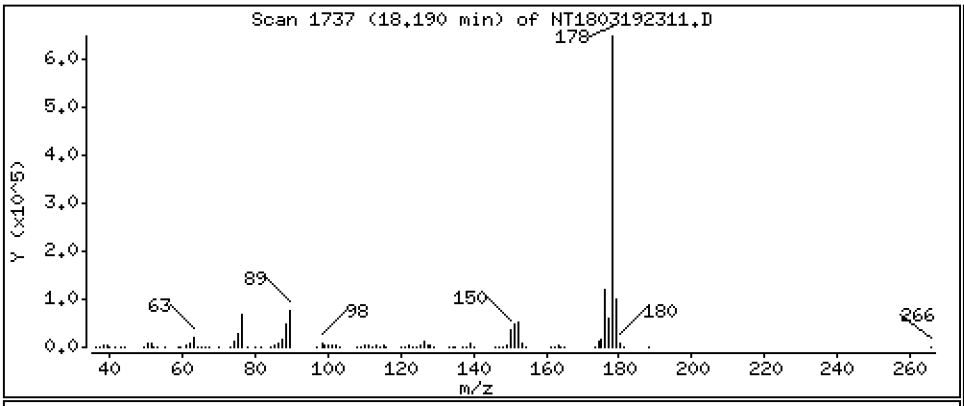
Operator: VTS

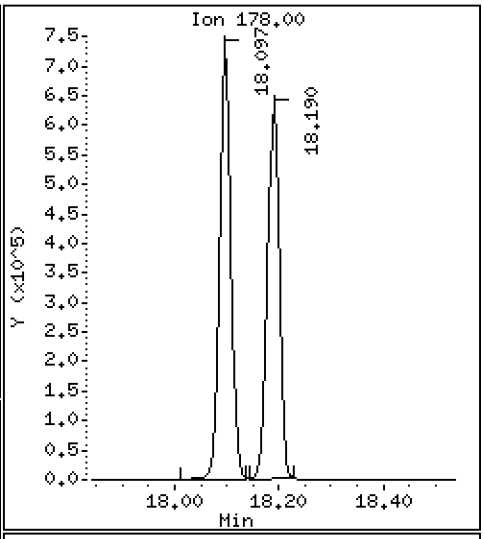
Column phase: ZB-5msi

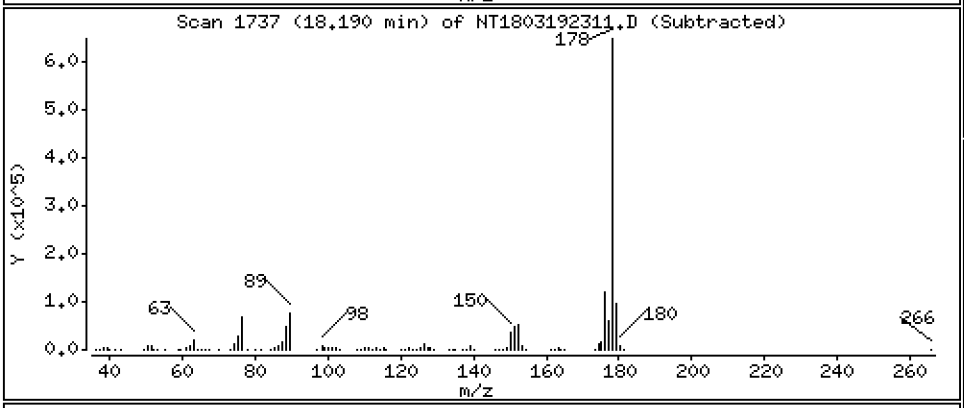
Column diameter: 0.25

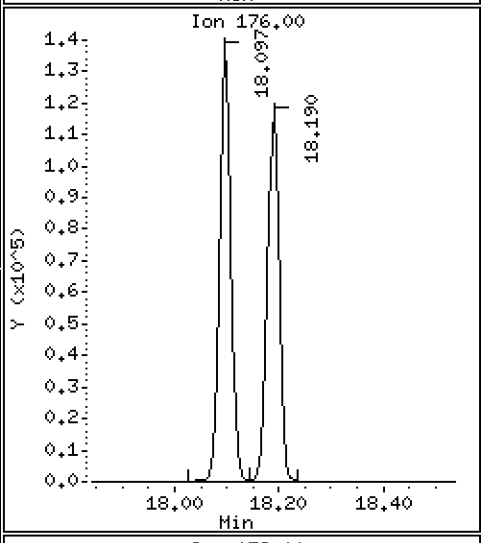
61 Anthracene

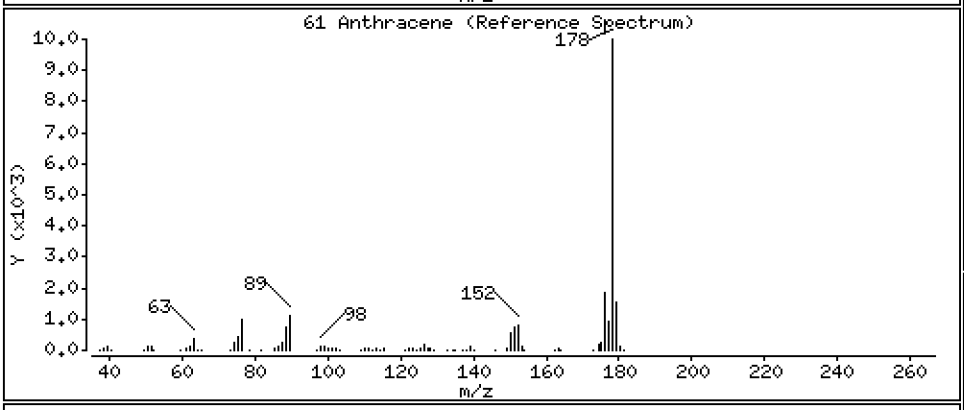
Concentration: 4.270 ug/mL

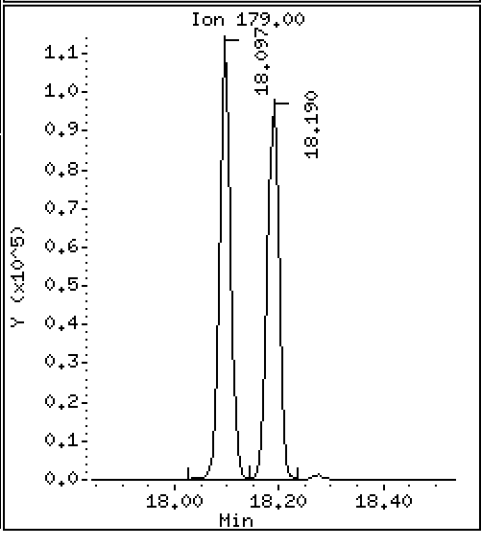


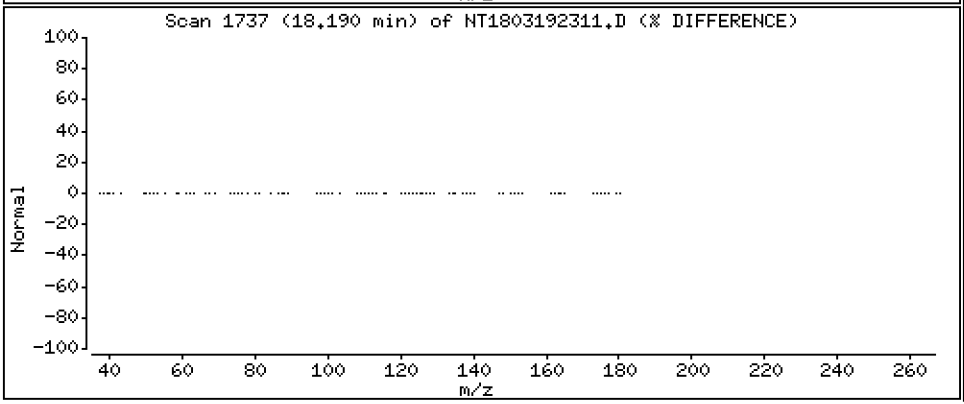












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

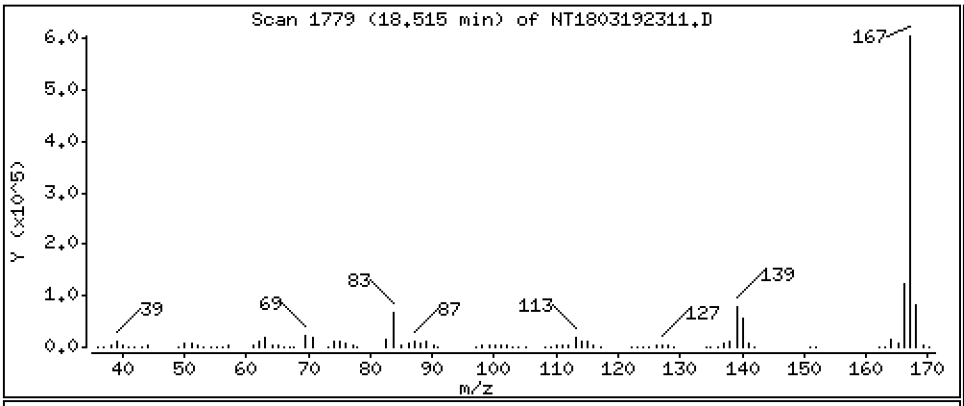
Operator: VTS

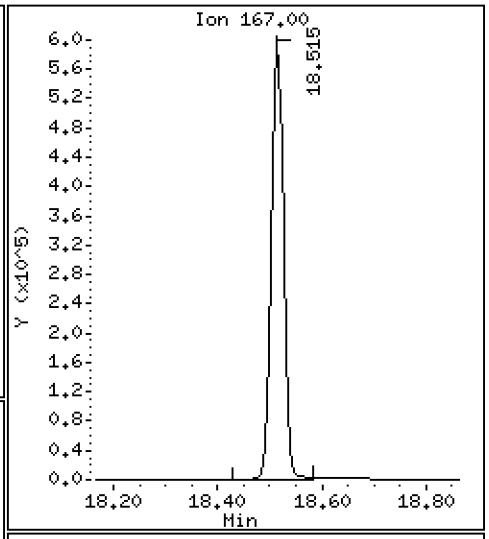
Column phase: ZB-5msi

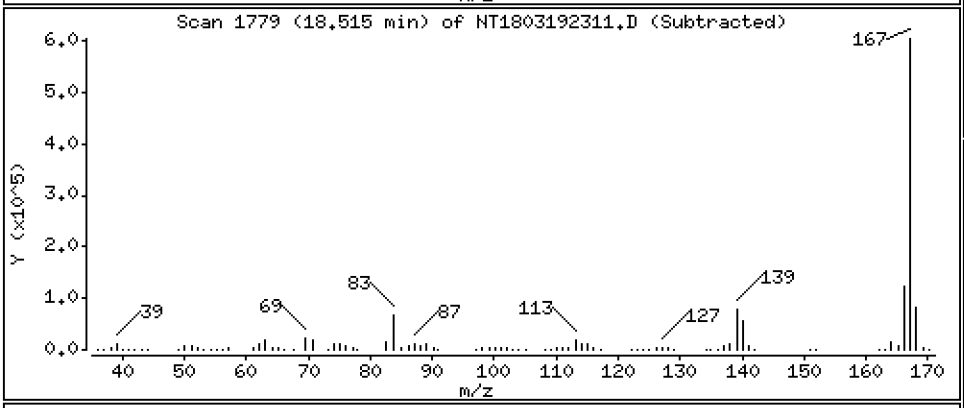
Column diameter: 0.25

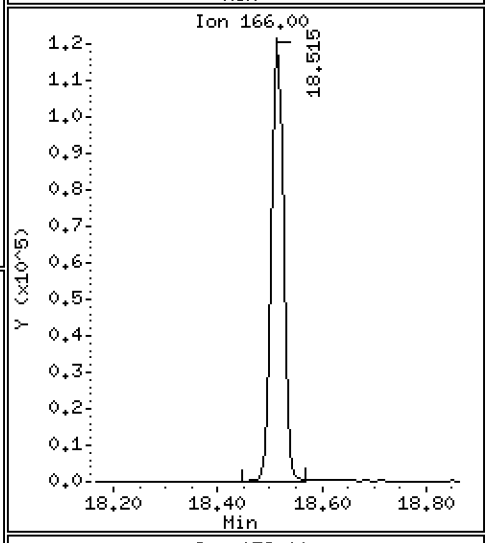
62 Carbazole

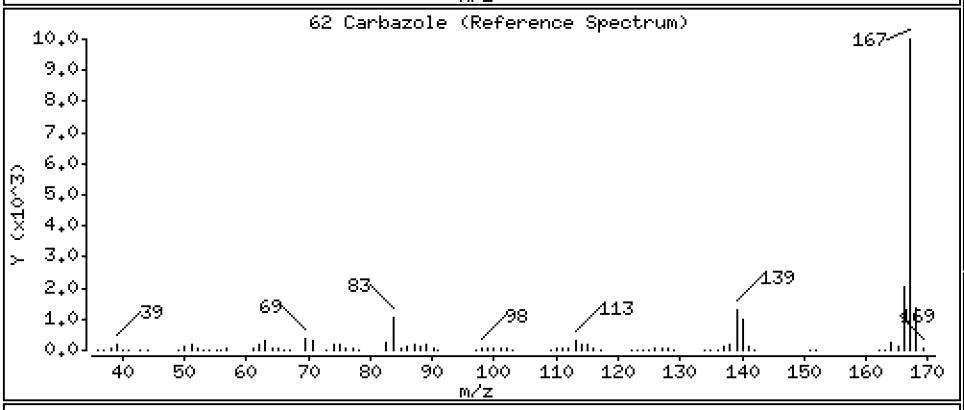
Concentration: 4.679 ug/mL

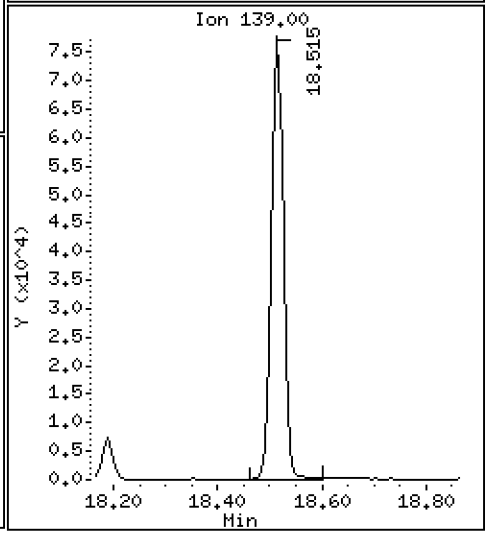


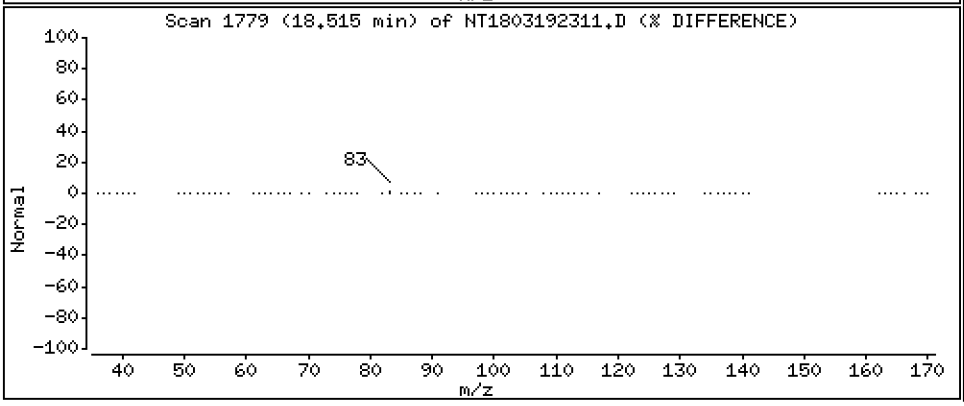












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

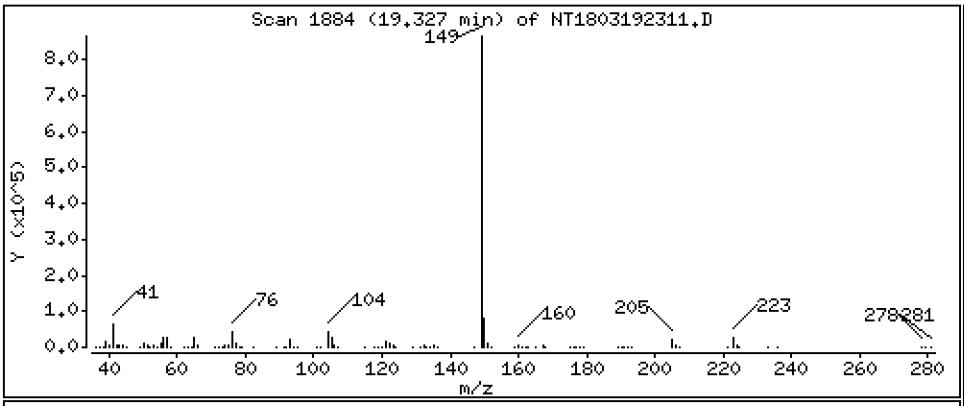
Operator: VTS

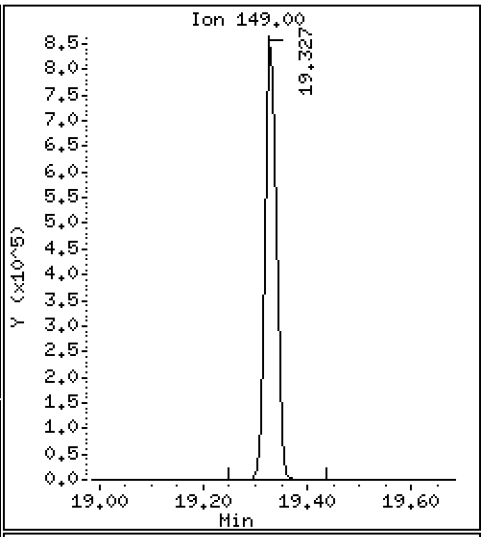
Column phase: ZB-5msi

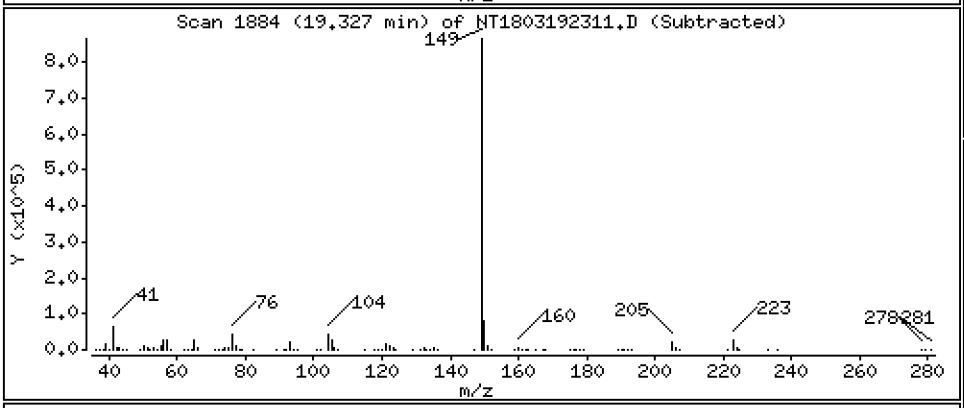
Column diameter: 0.25

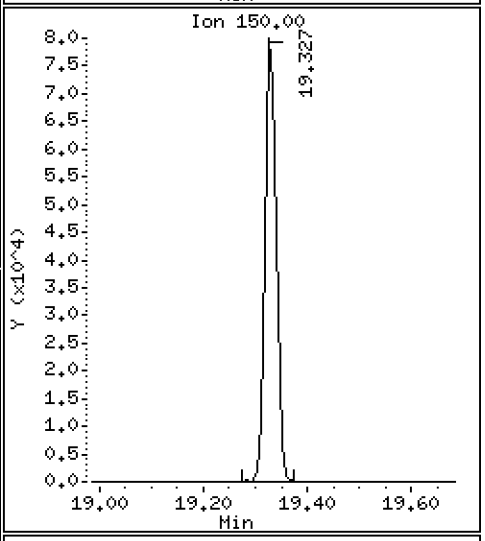
63 Di-n-butylphthalate

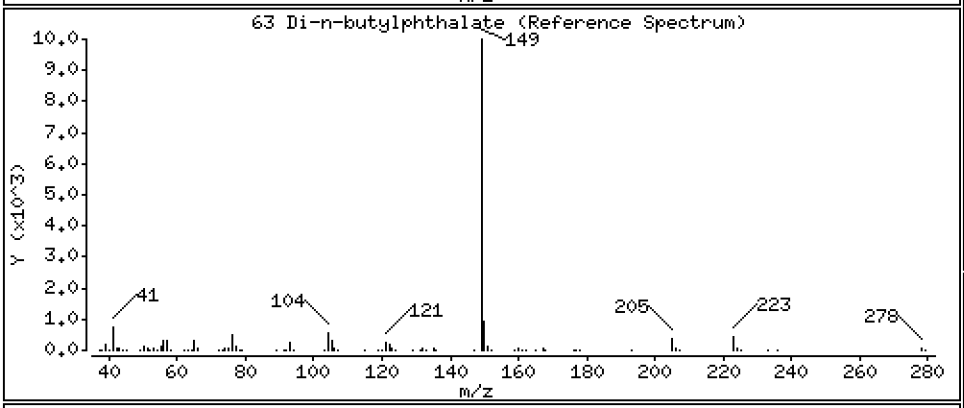
Concentration: 4.839 ug/mL

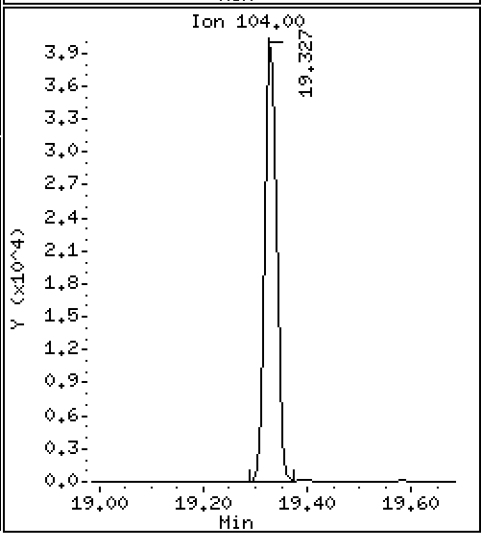


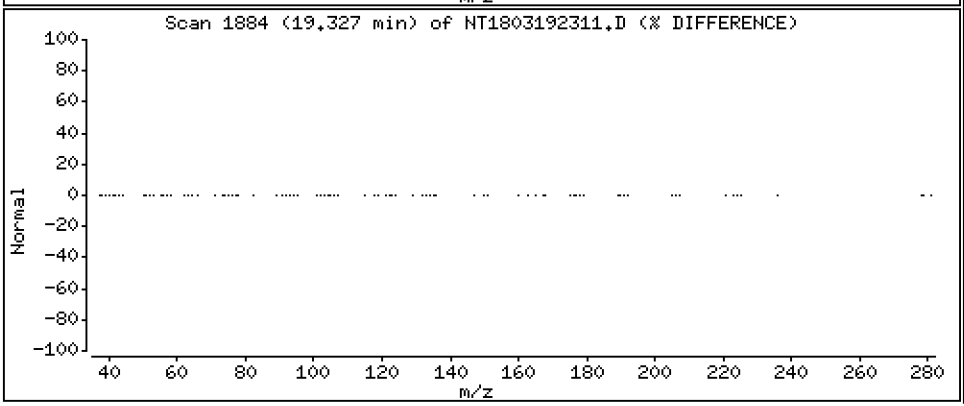












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

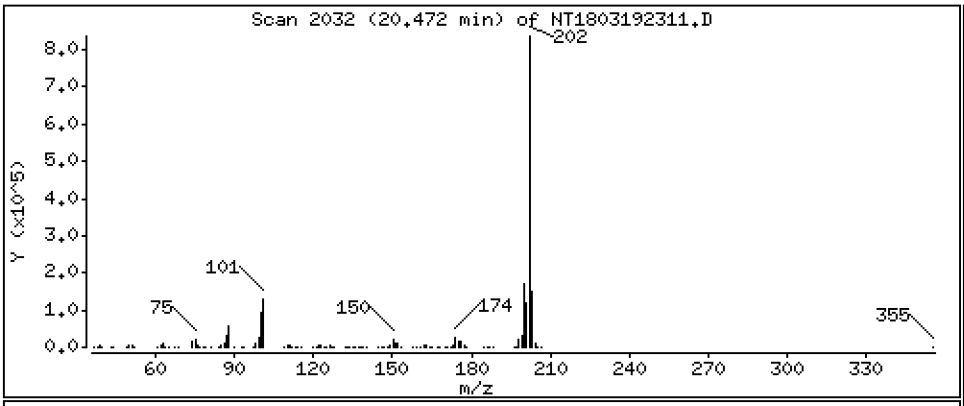
Operator: VTS

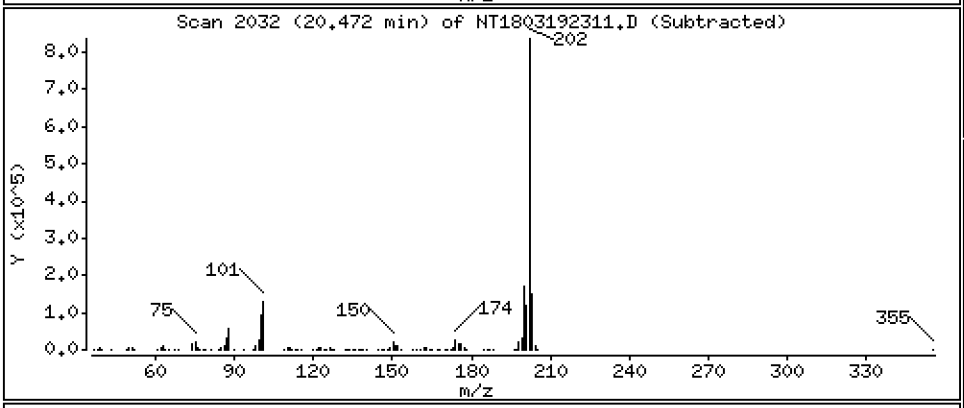
Column phase: ZB-5msi

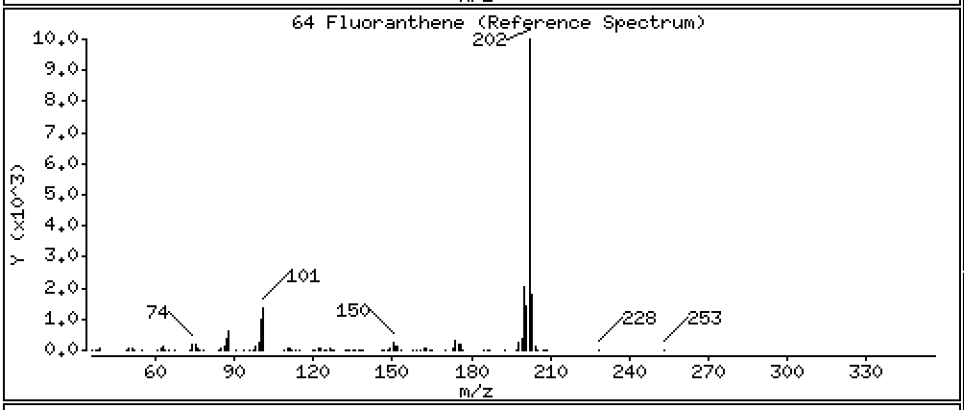
Column diameter: 0.25

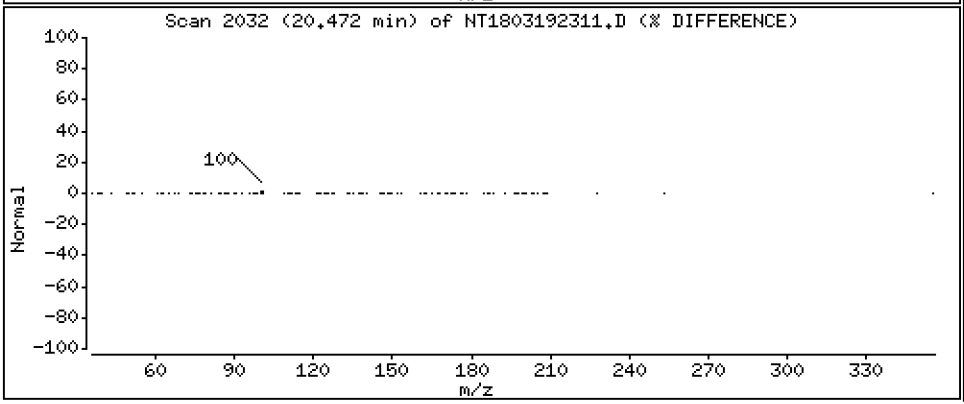
64 Fluoranthene

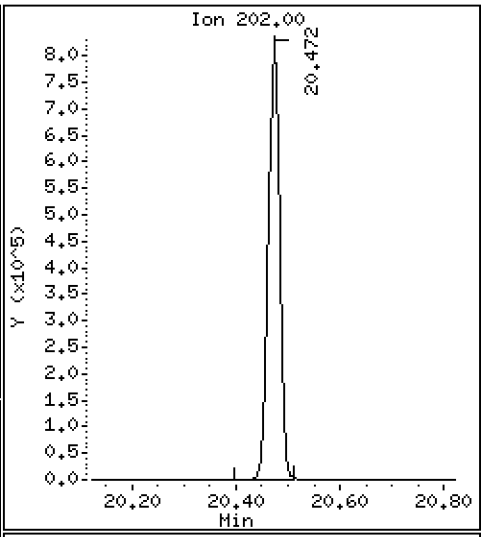
Concentration: 5.213 ug/mL

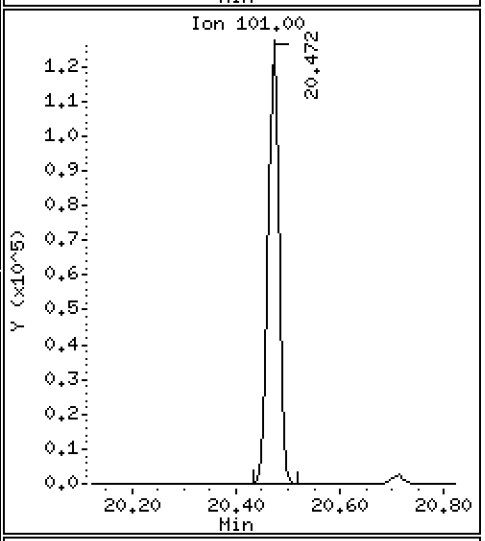


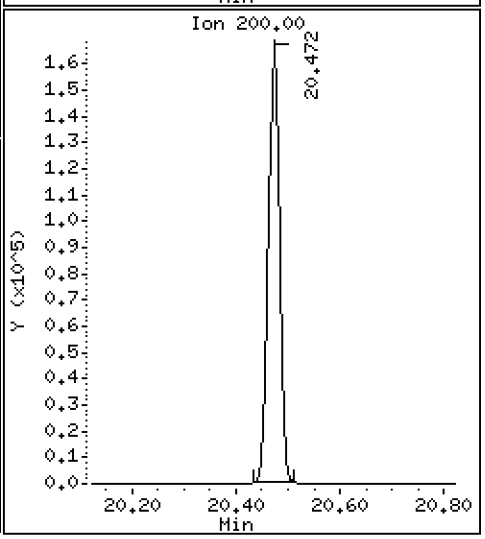












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

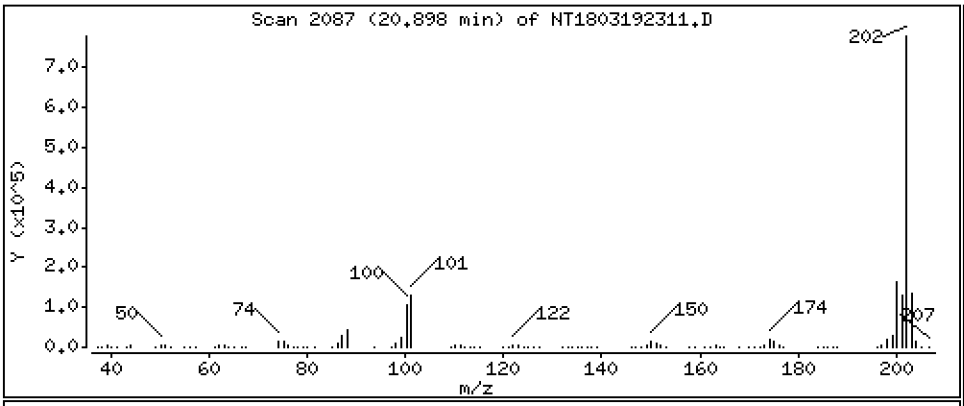
Operator: VTS

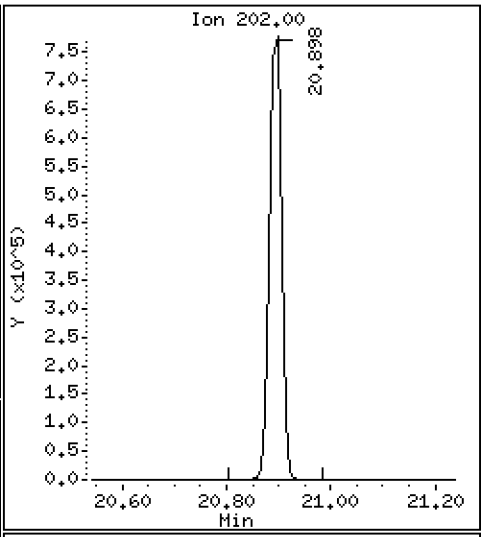
Column phase: ZB-5msi

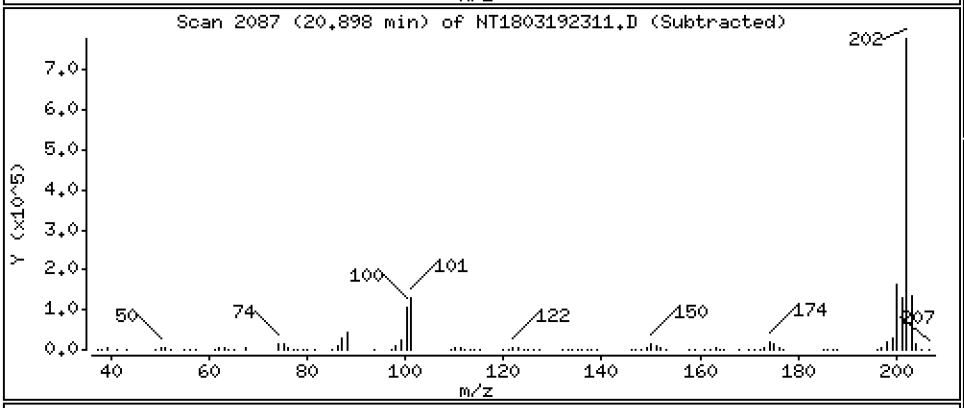
Column diameter: 0.25

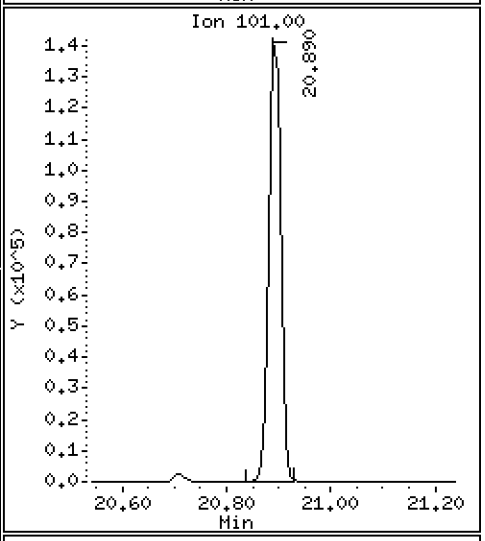
65 Pyrene

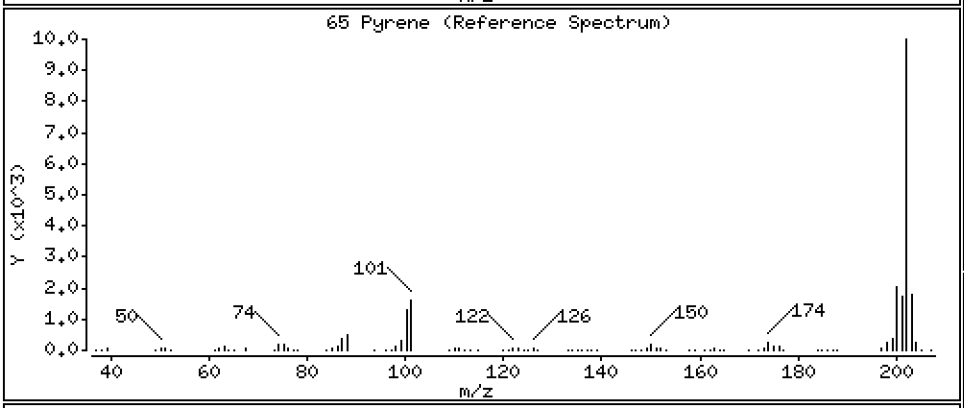
Concentration: 5.030 ug/mL

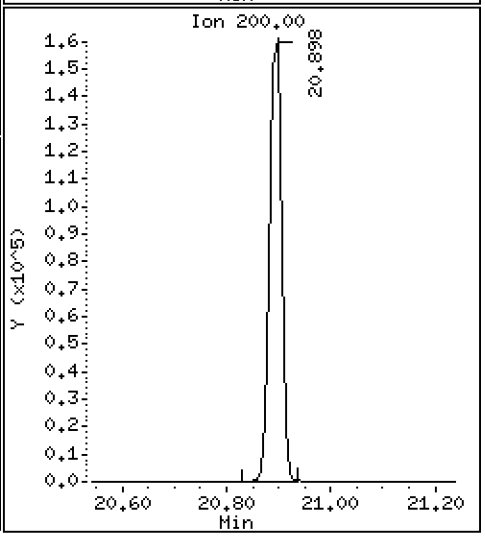


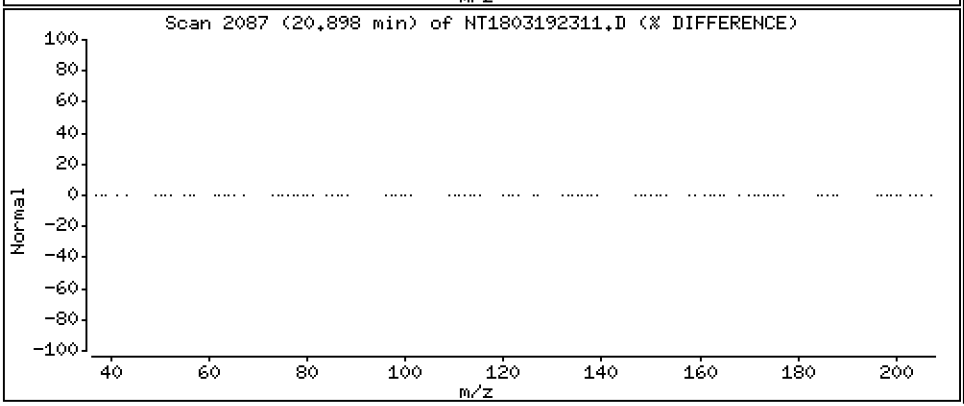












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

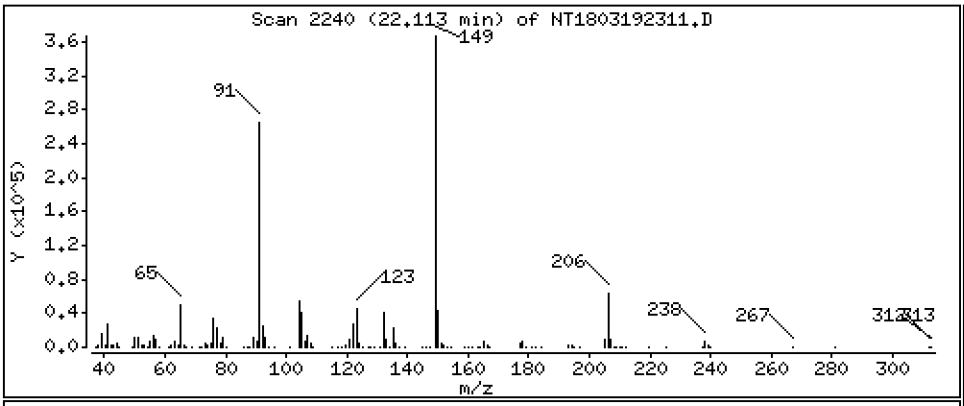
Operator: VTS

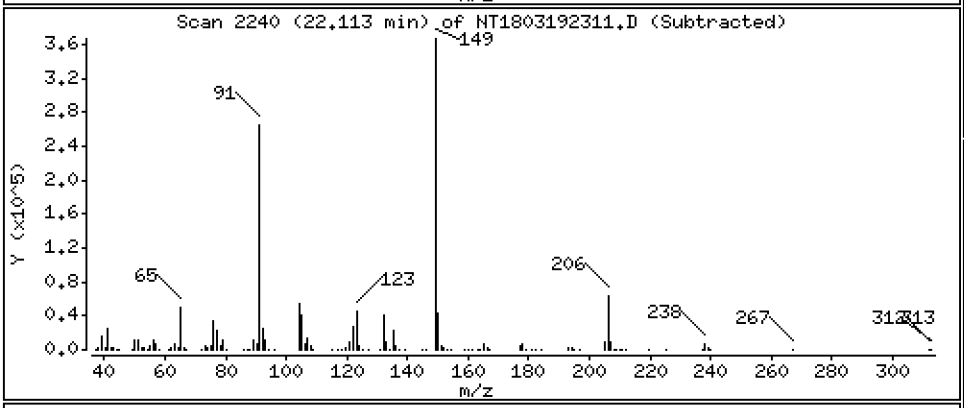
Column phase: ZB-5msi

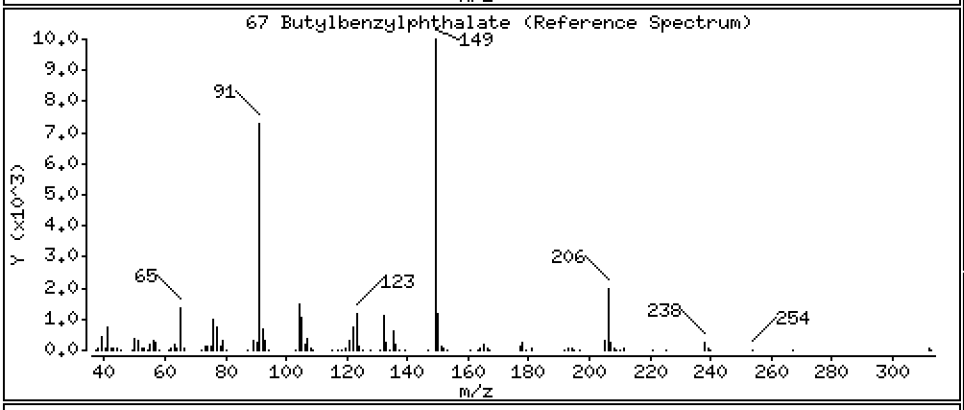
Column diameter: 0.25

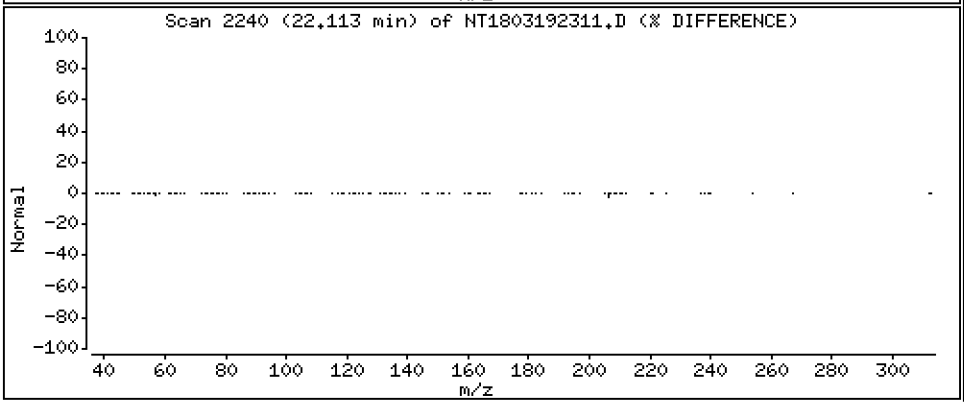
67 Butylbenzylphthalate

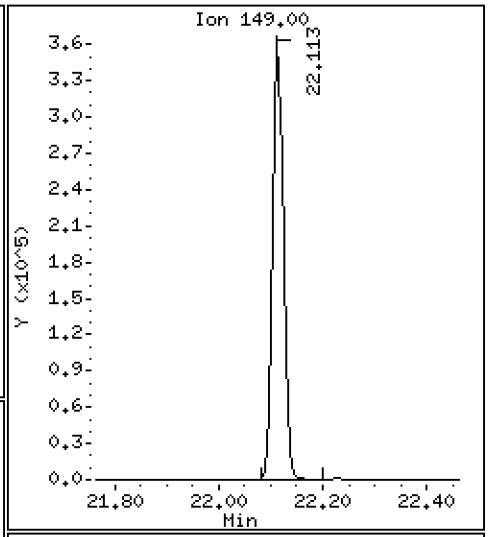
Concentration: 4.792 ug/mL

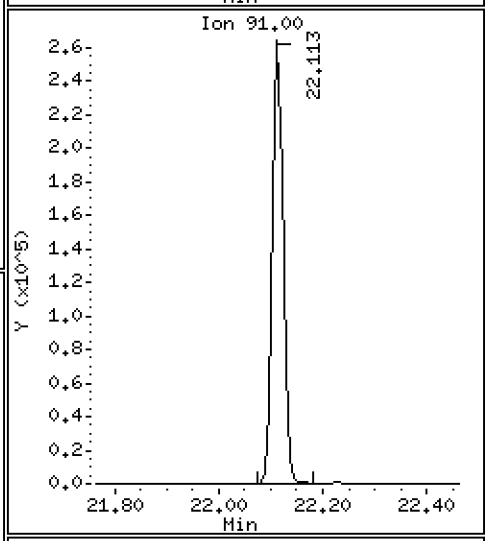


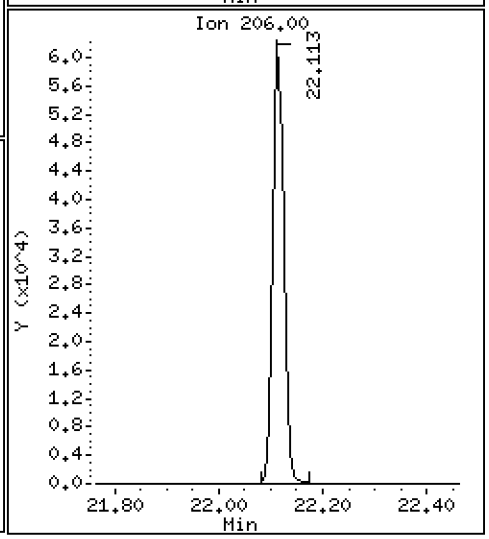












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

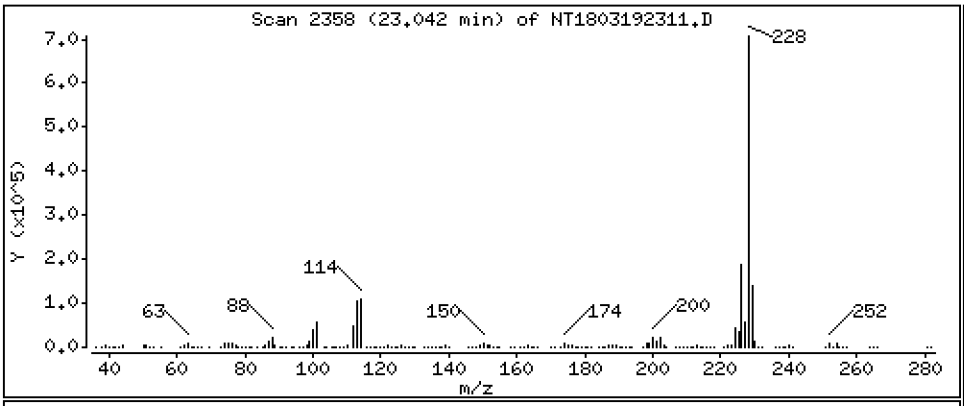
Operator: VTS

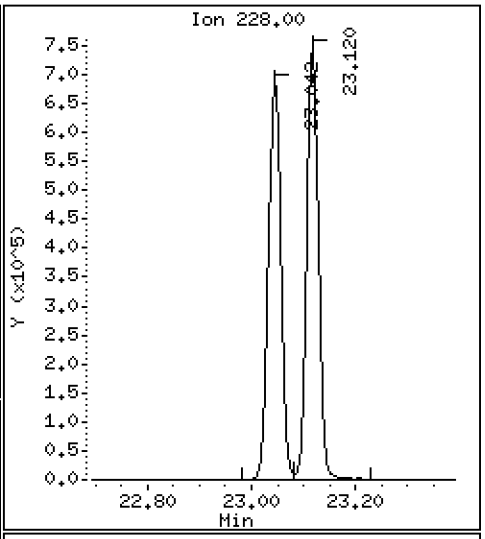
Column phase: ZB-5msi

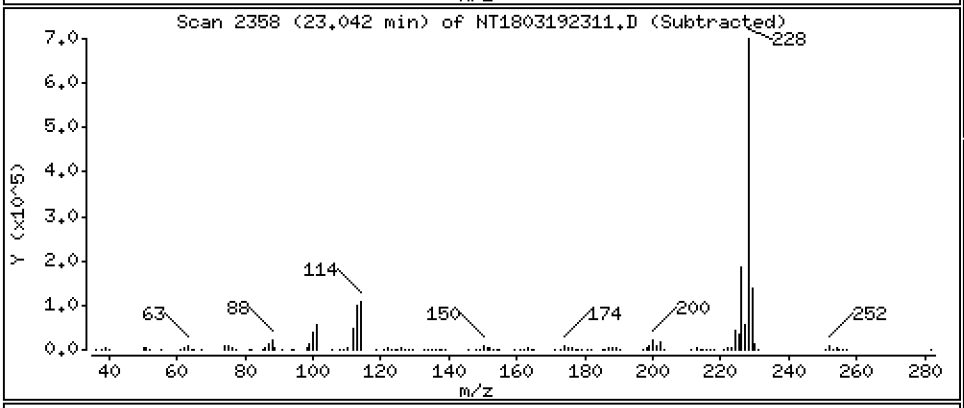
Column diameter: 0.25

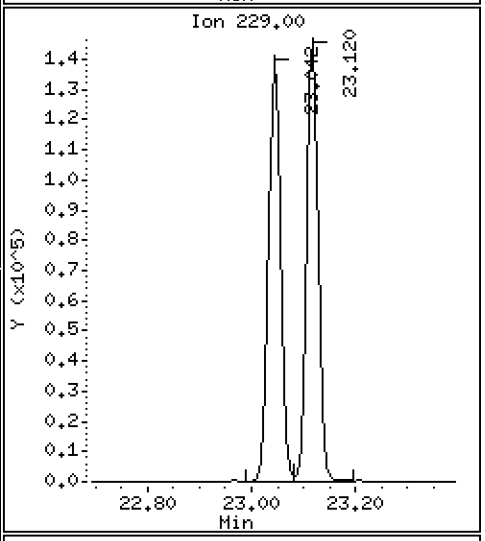
68 Benzo(a)anthracene

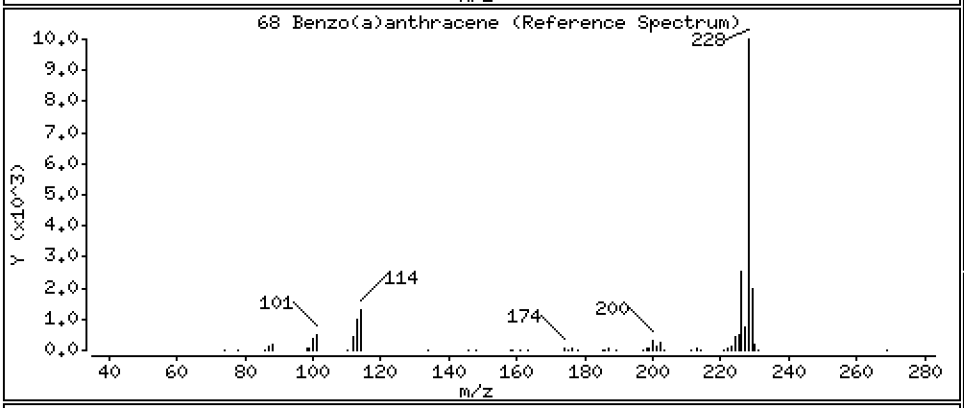
Concentration: 4.954 ug/mL

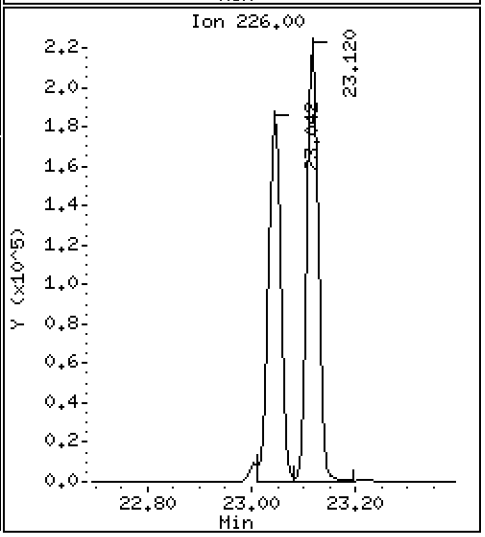


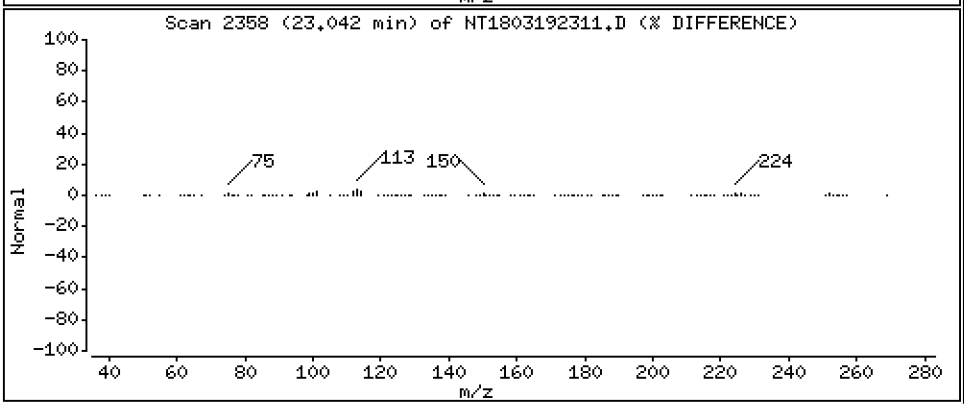












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

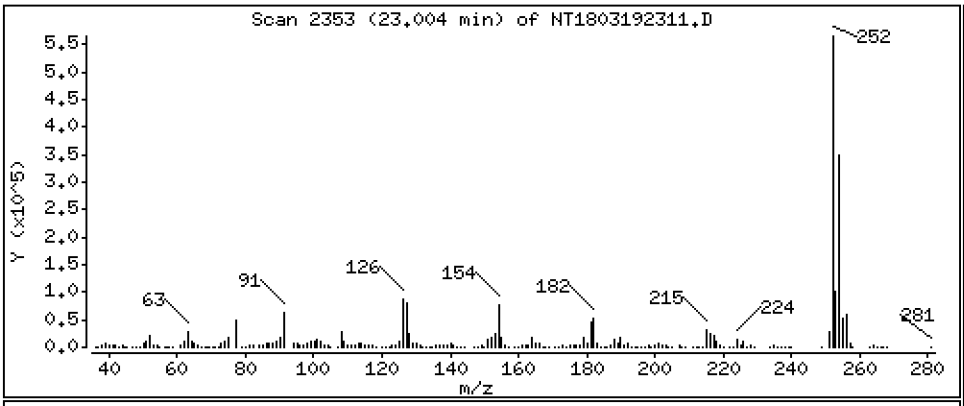
Operator: VTS

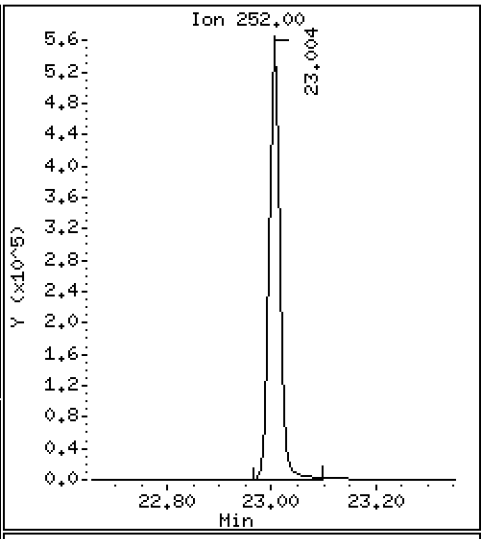
Column phase: ZB-5msi

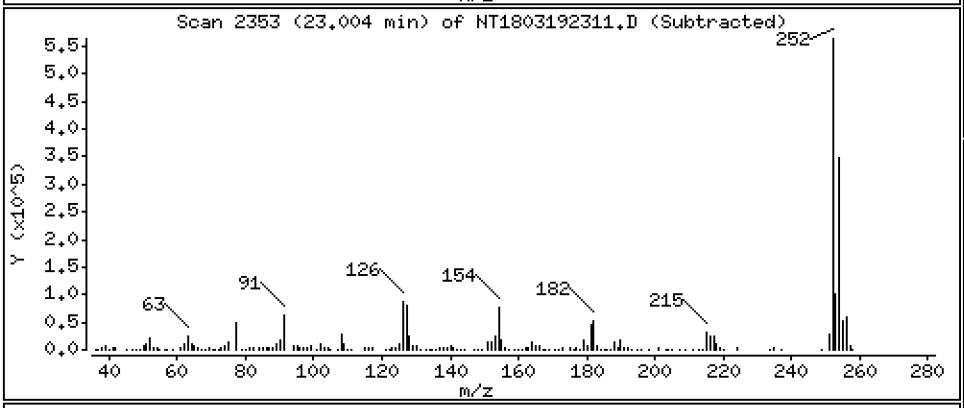
Column diameter: 0.25

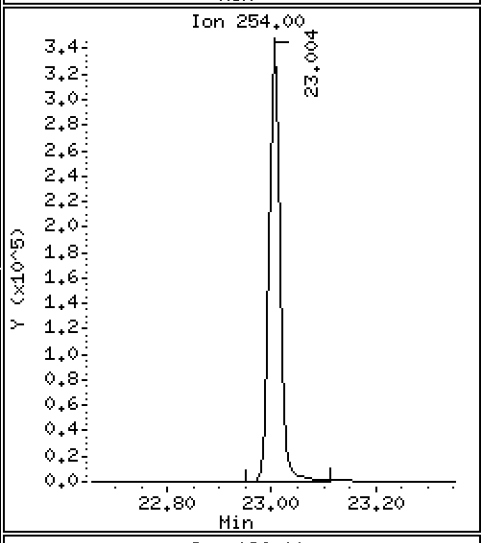
70 3,3'-Dichlorobenzidine

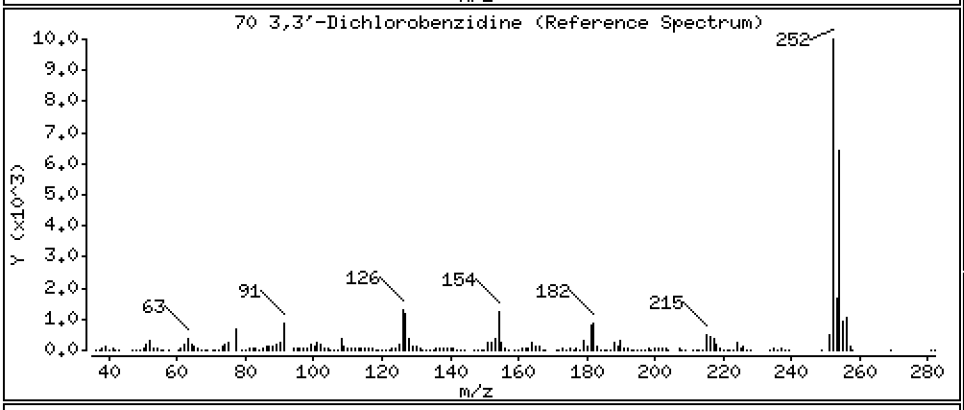
Concentration: 9.289 ug/mL

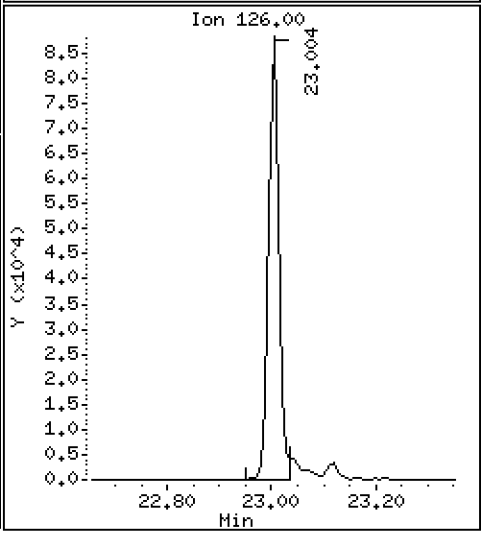


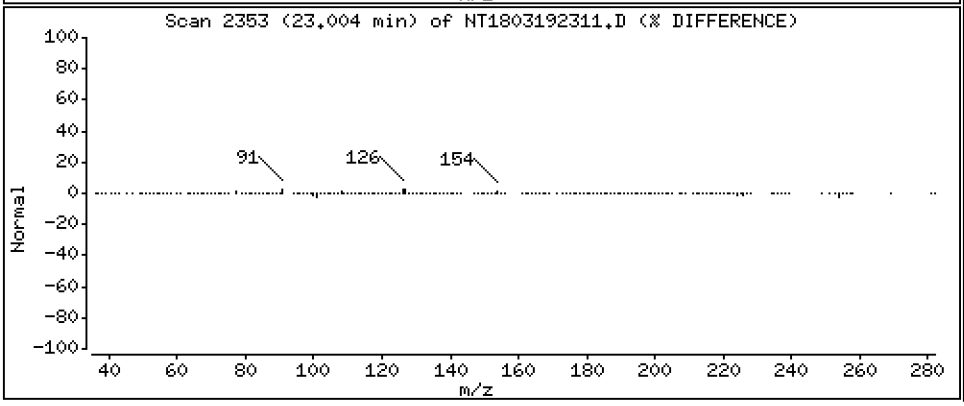












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

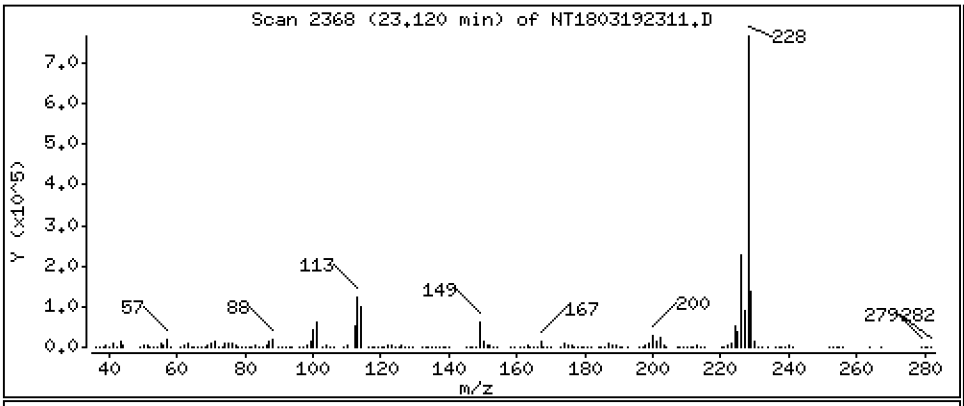
Operator: VTS

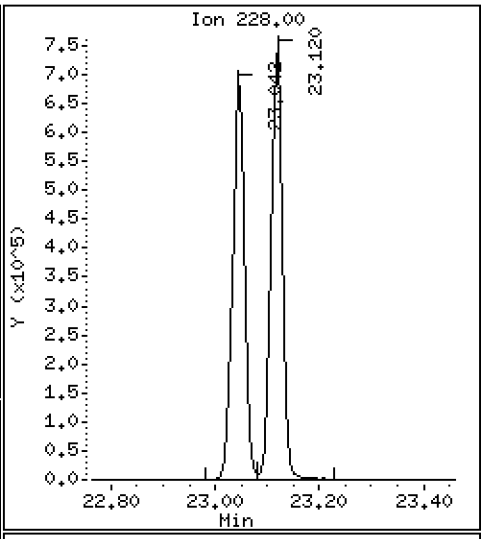
Column phase: ZB-5msi

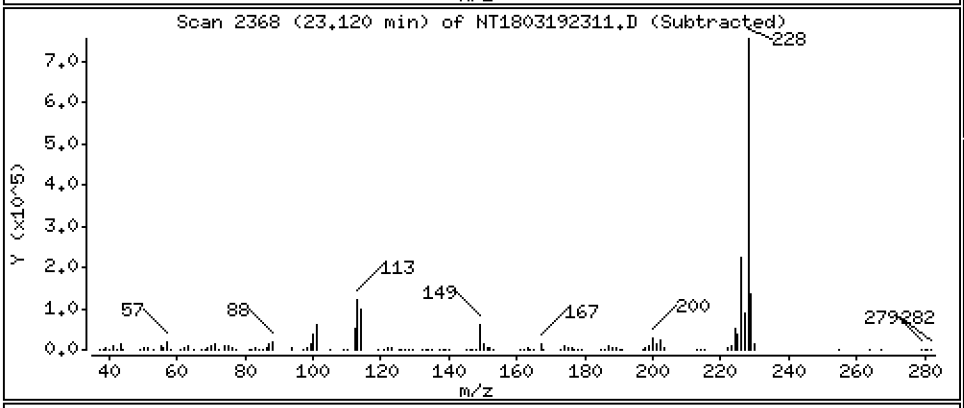
Column diameter: 0.25

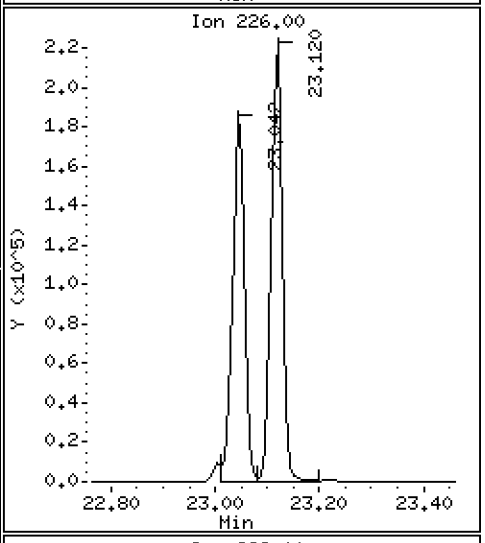
71 Chrysene

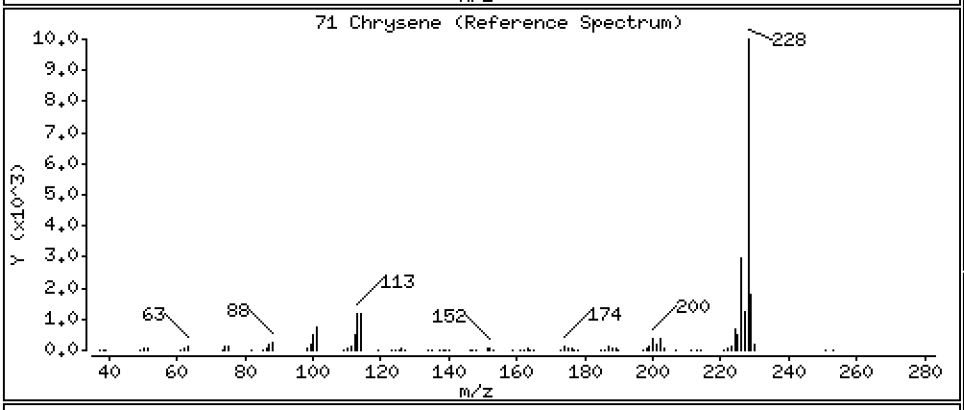
Concentration: 4.814 ug/mL

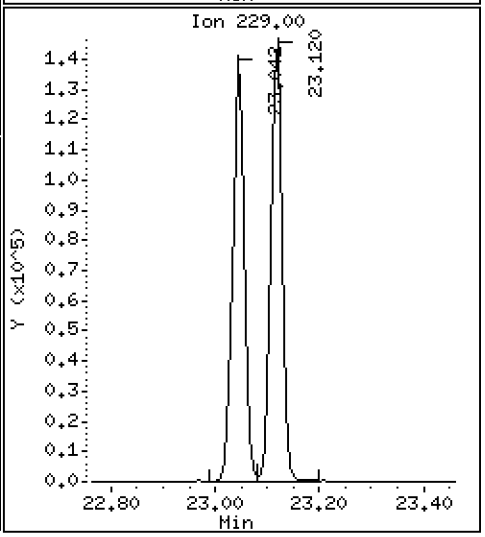


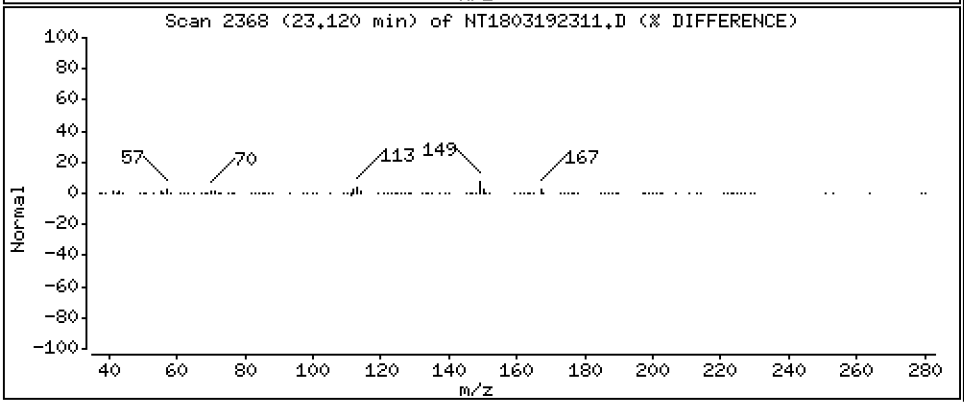












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

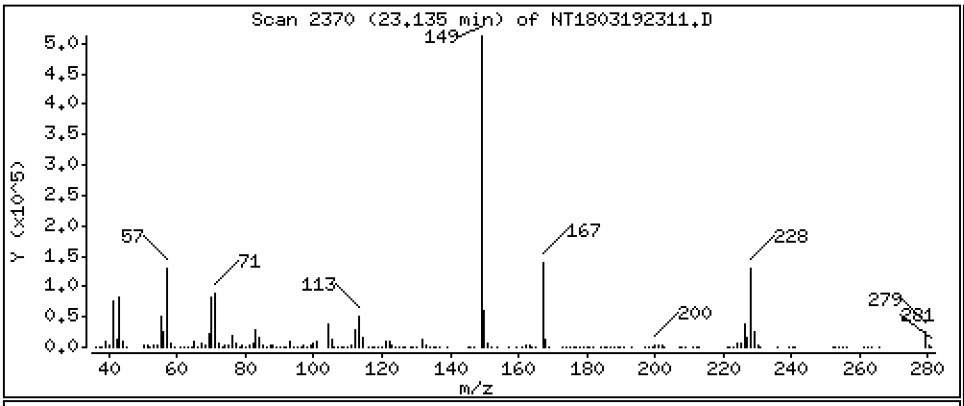
Operator: VTS

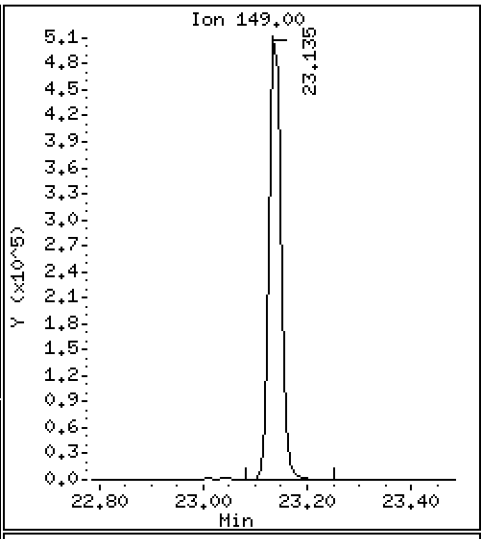
Column phase: ZB-5msi

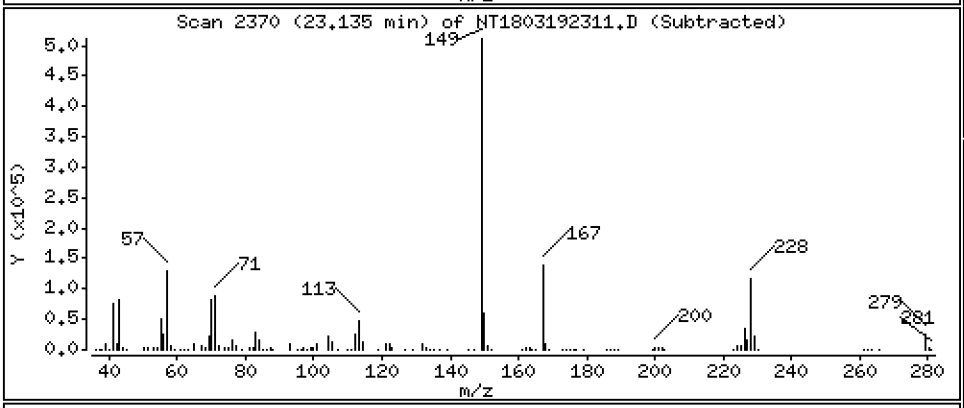
Column diameter: 0.25

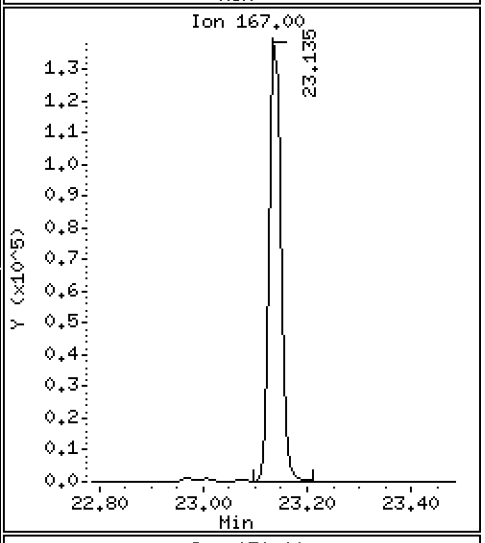
72 bis(2-Ethylhexyl)phthalate

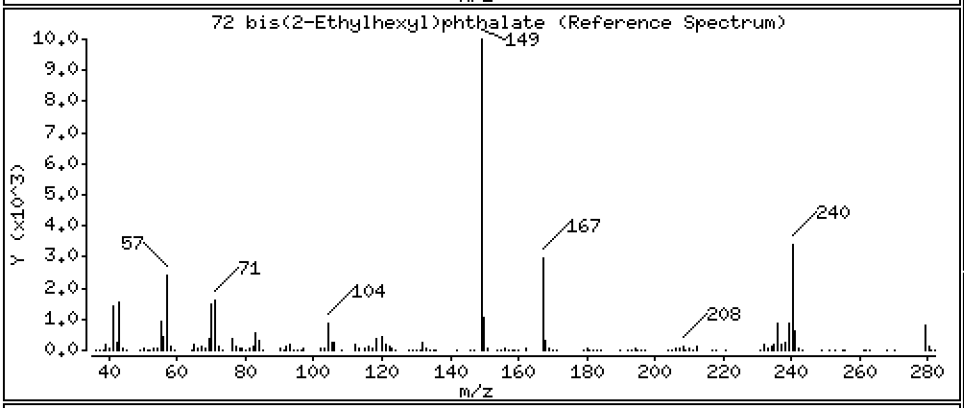
Concentration: 5.003 ug/mL

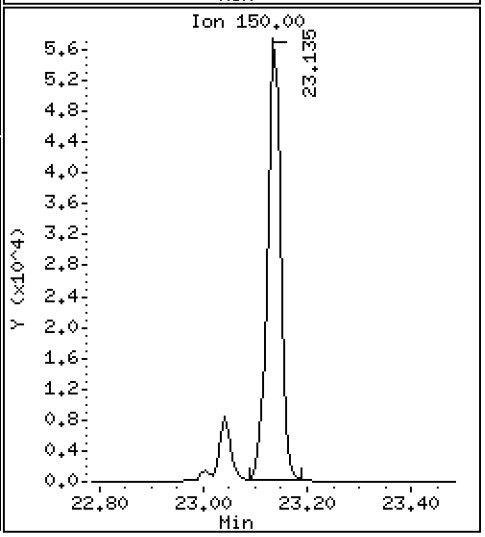


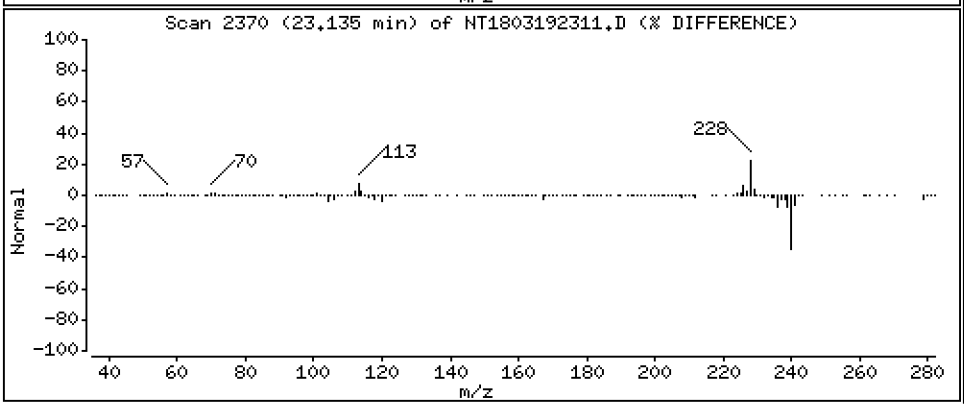












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

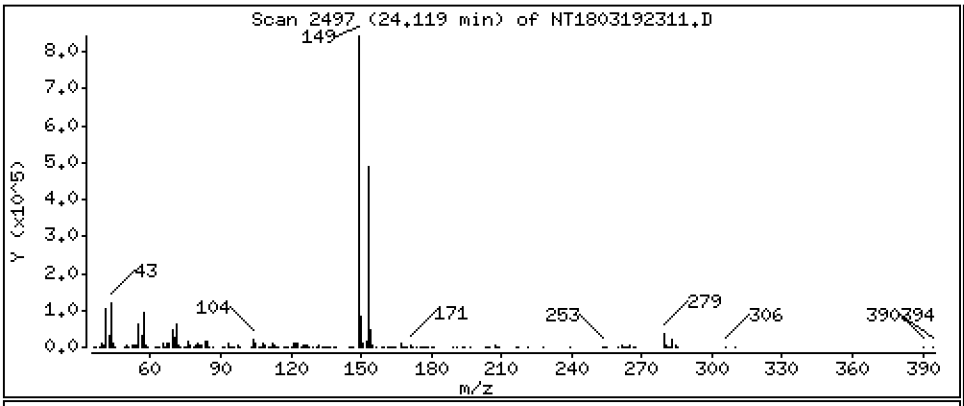
Operator: VTS

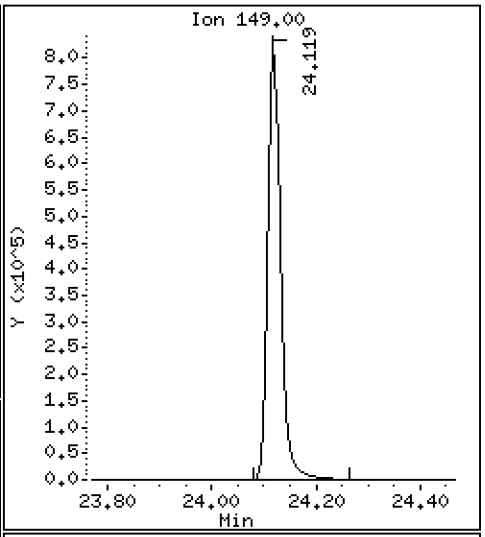
Column phase: ZB-5msi

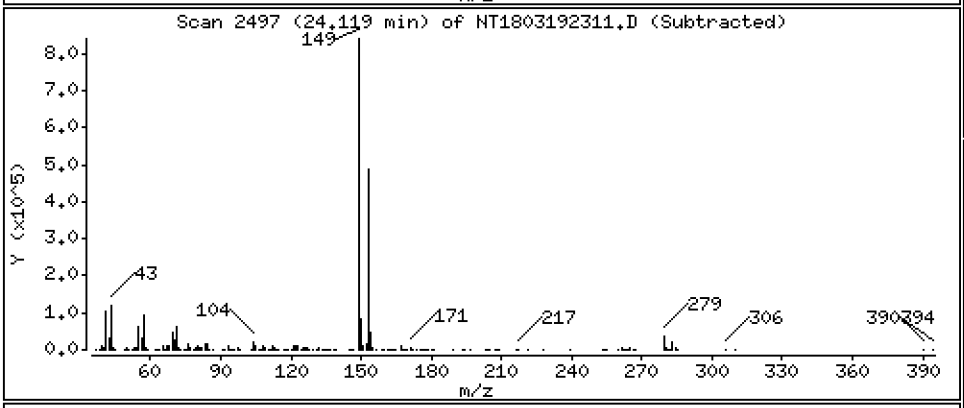
Column diameter: 0.25

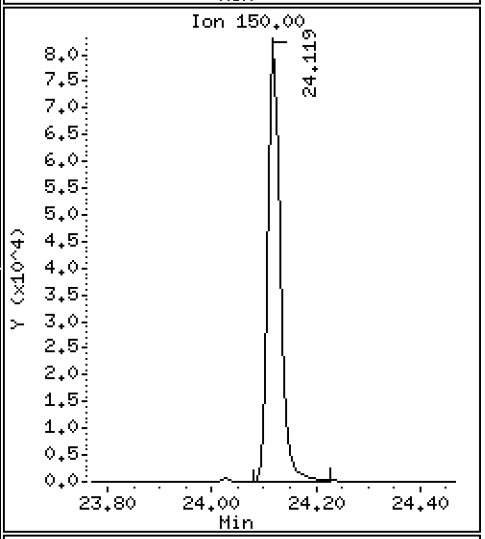
73 Di-n-octylphthalate

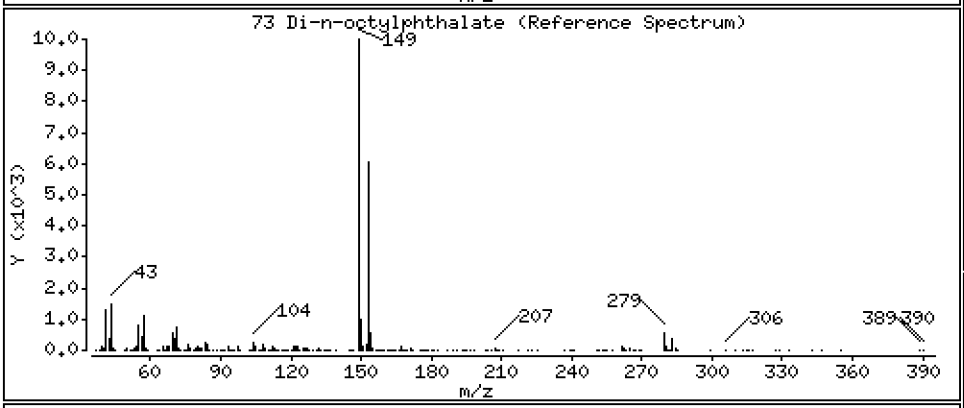
Concentration: 5.149 ug/mL

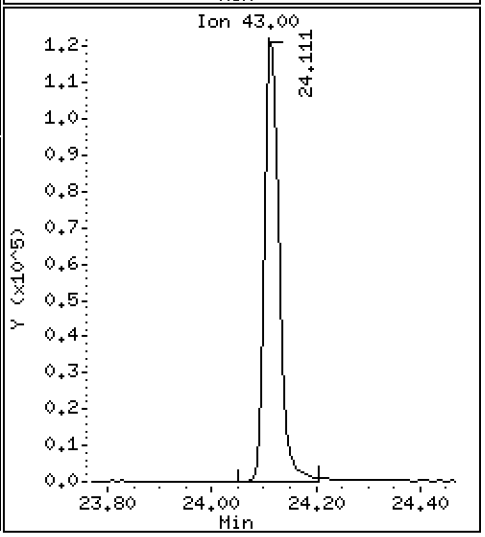


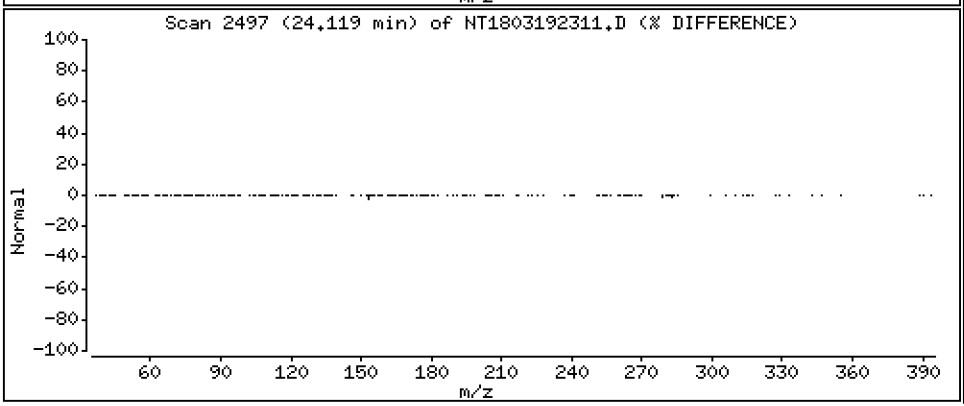












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

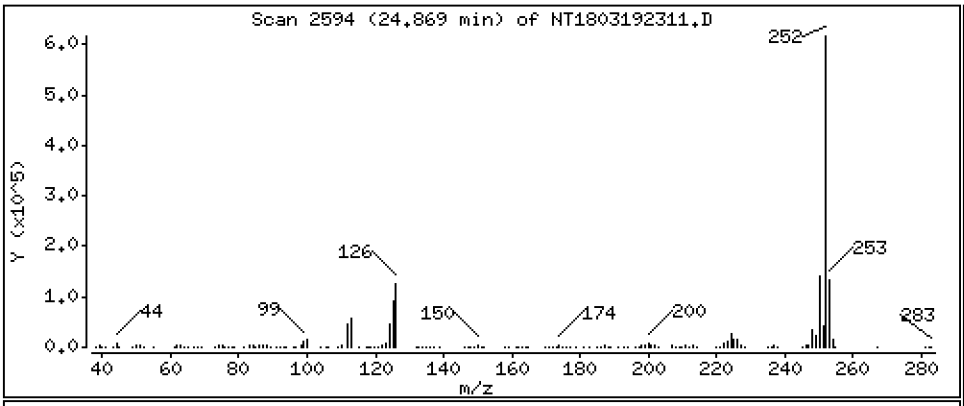
Operator: VTS

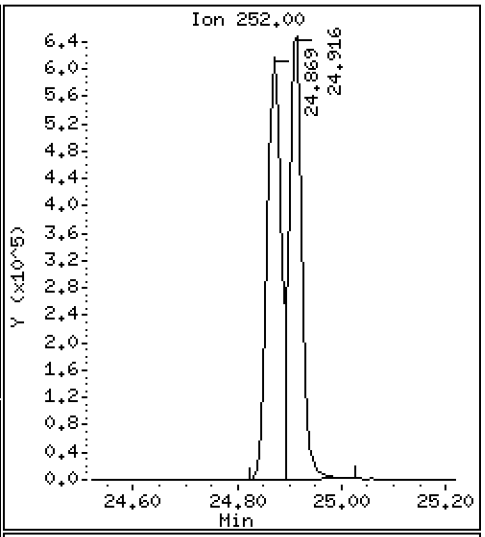
Column phase: ZB-5msi

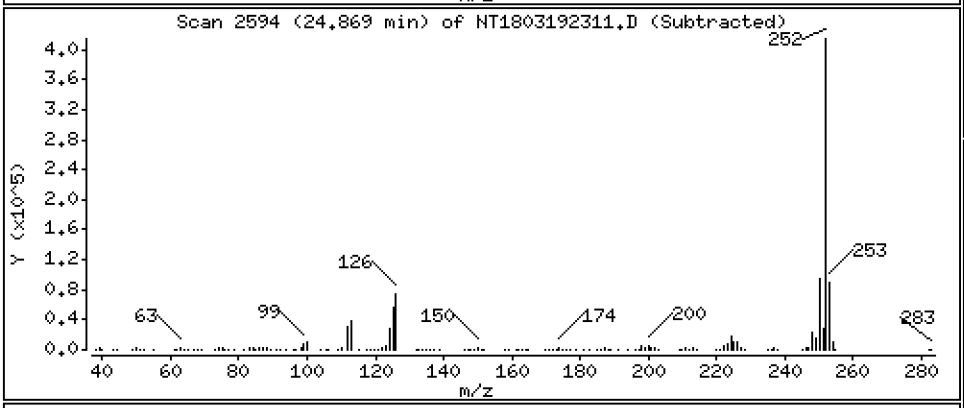
Column diameter: 0.25

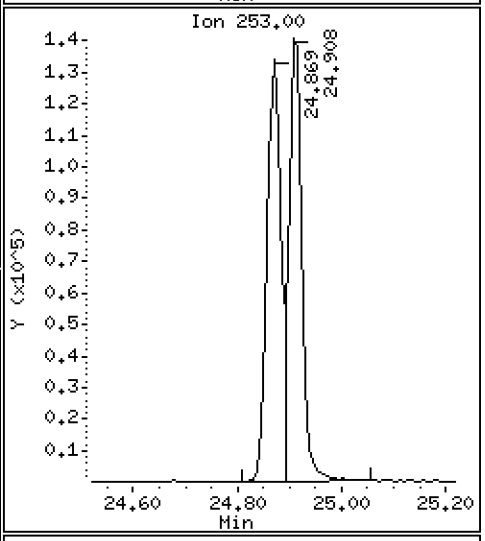
74 Benzo(b)fluoranthene

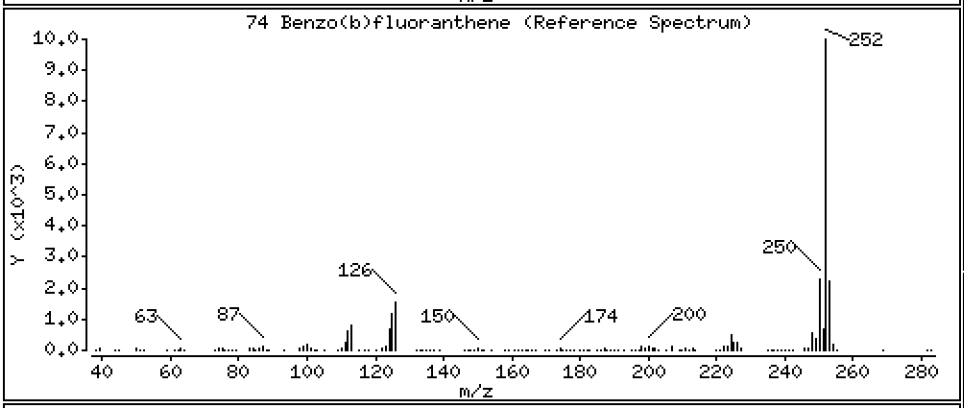
Concentration: 5.172 ug/mL

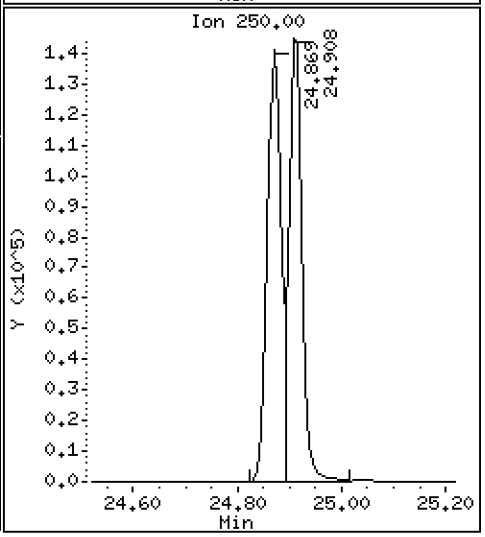


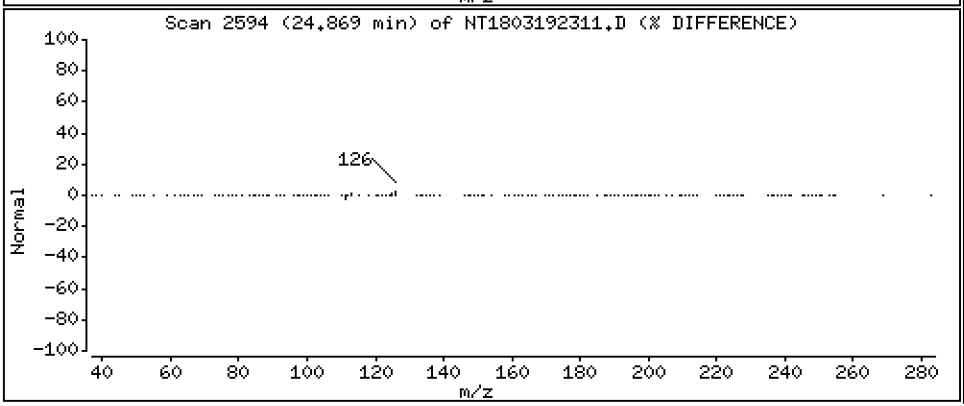












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

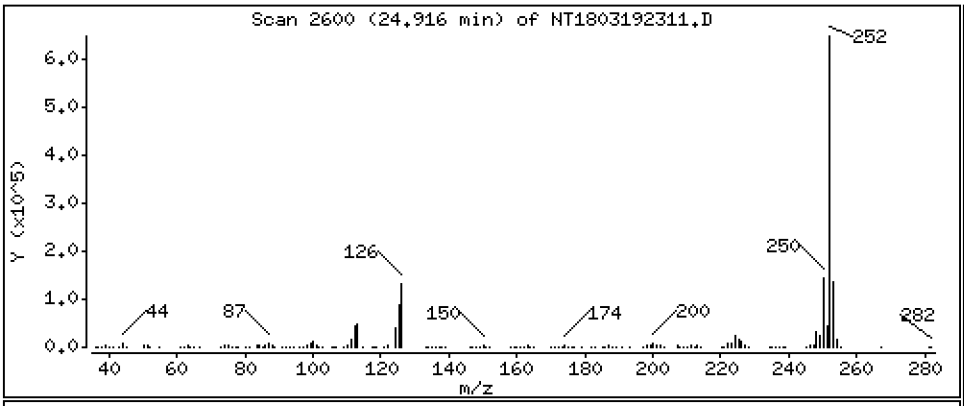
Operator: VTS

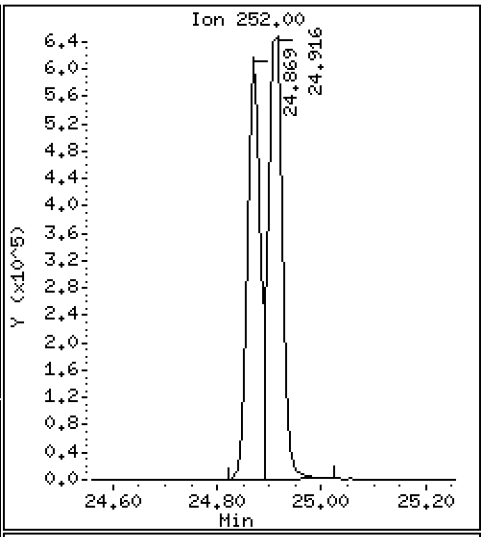
Column phase: ZB-5msi

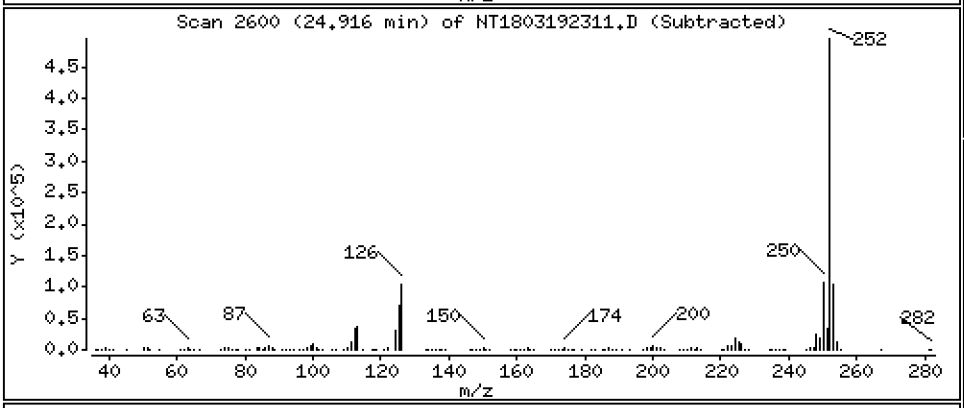
Column diameter: 0.25

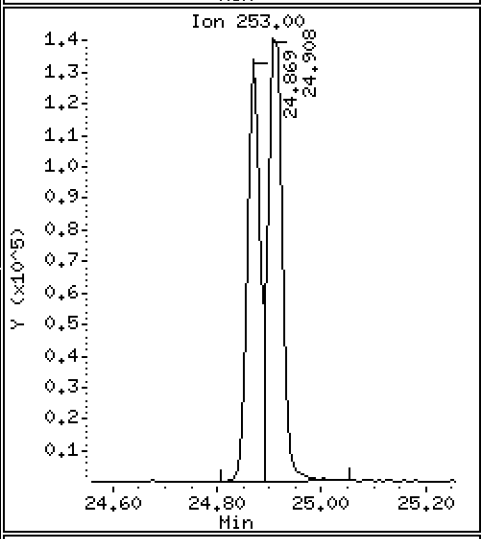
75 Benzo(k)fluoranthene

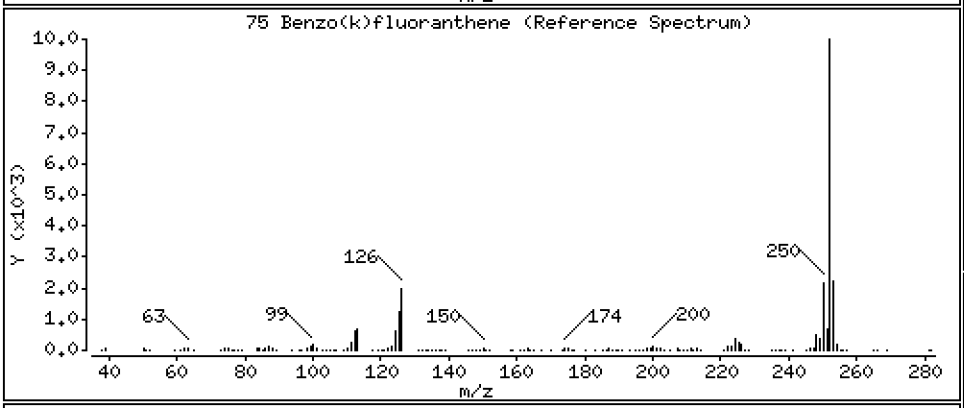
Concentration: 4.854 ug/mL

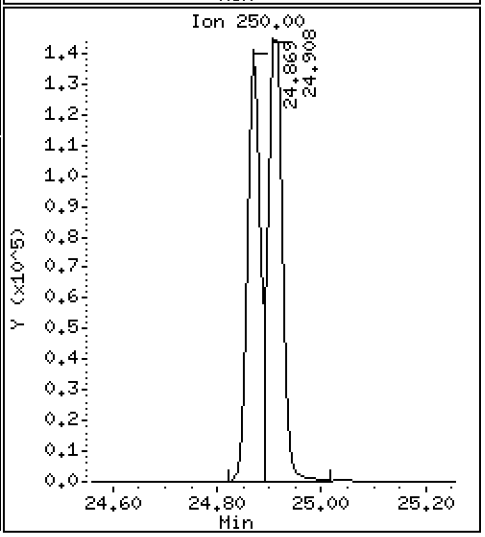


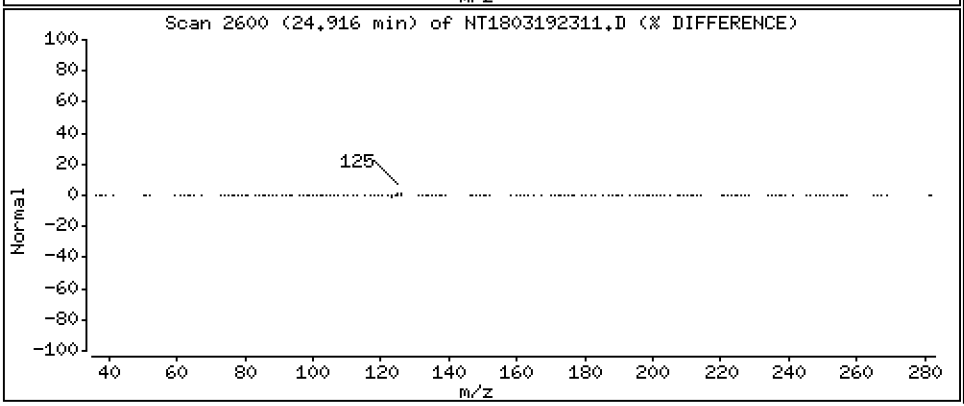












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

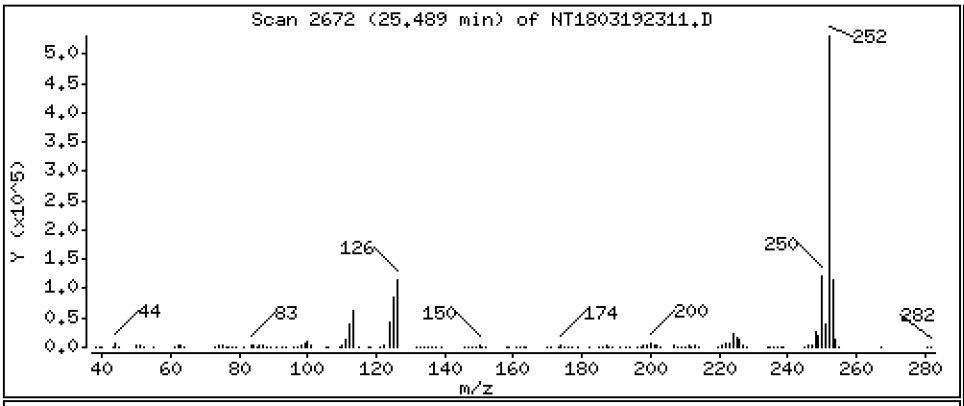
Operator: VTS

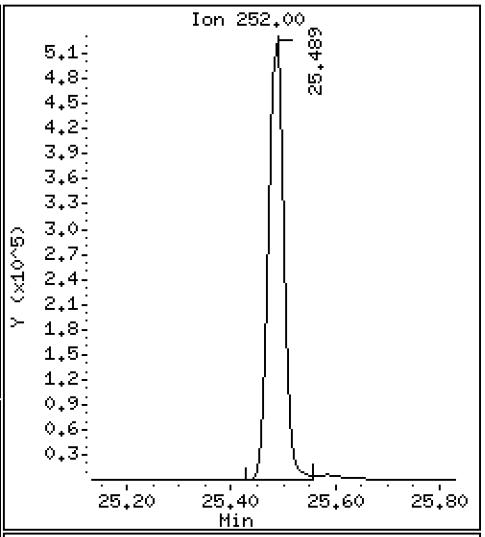
Column phase: ZB-5msi

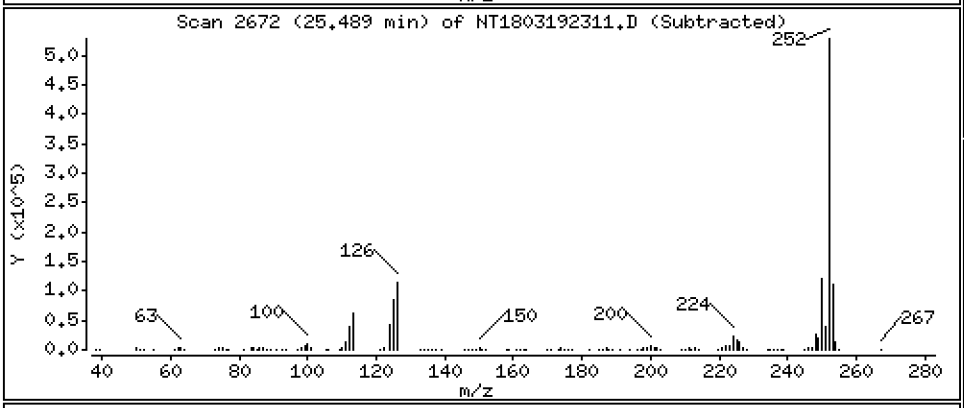
Column diameter: 0.25

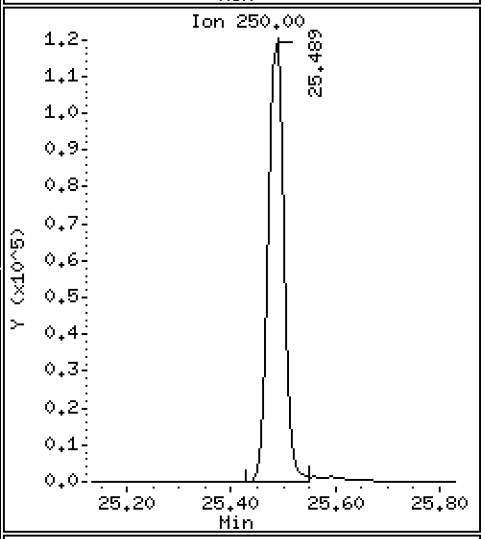
76 Benzo(a)pyrene

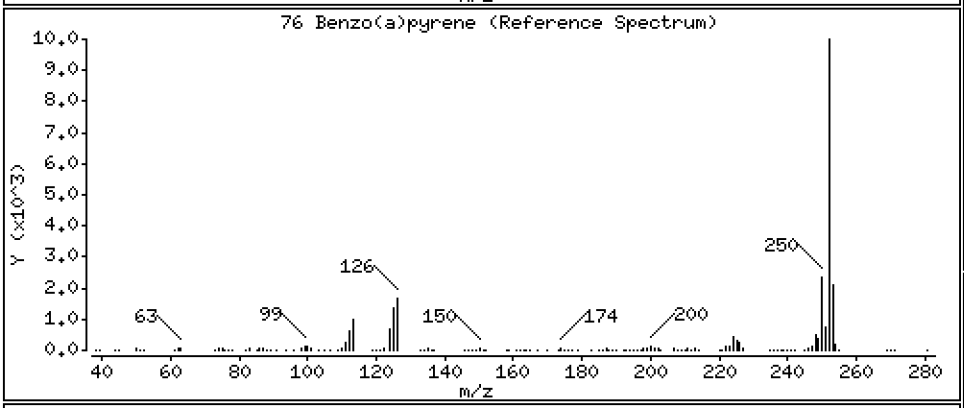
Concentration: 4.673 ug/mL

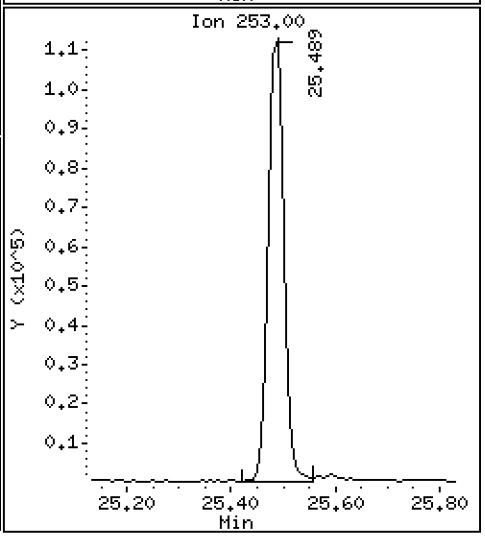


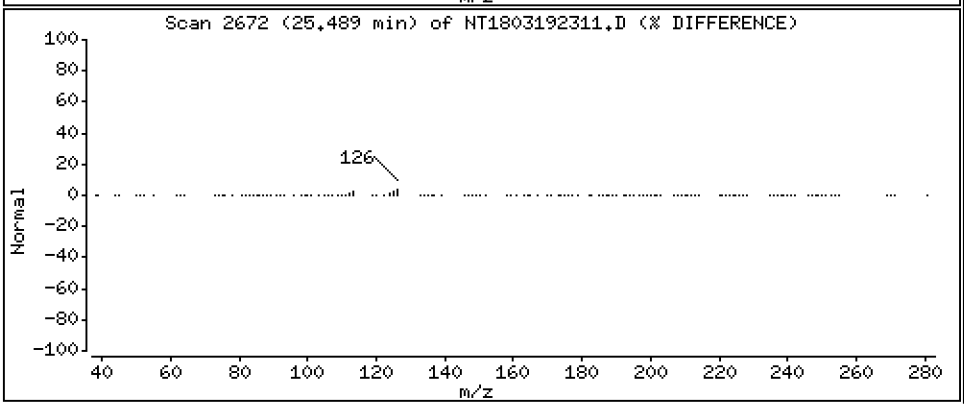












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

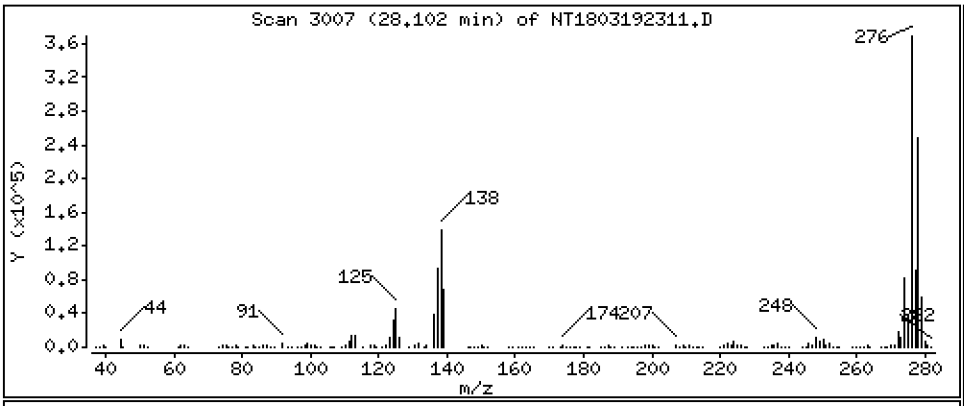
Operator: VTS

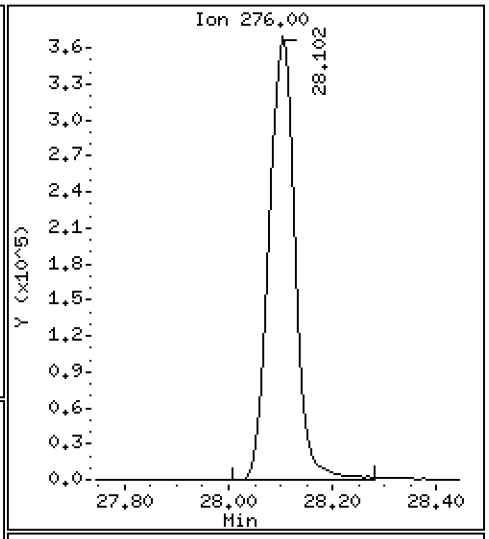
Column phase: ZB-5msi

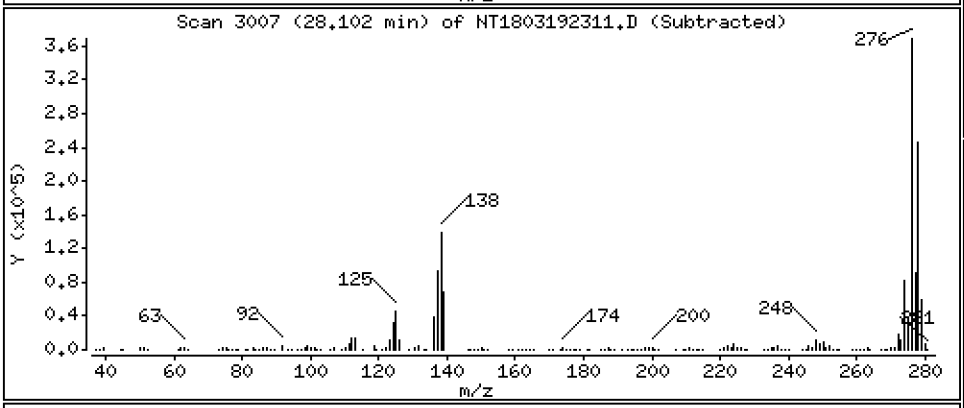
Column diameter: 0.25

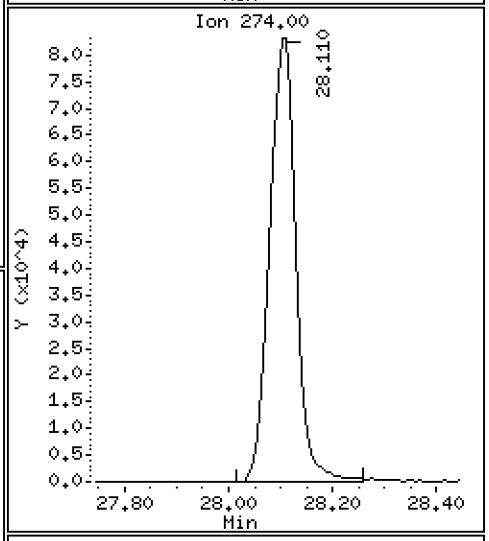
78 Indeno(1,2,3-cd)pyrene

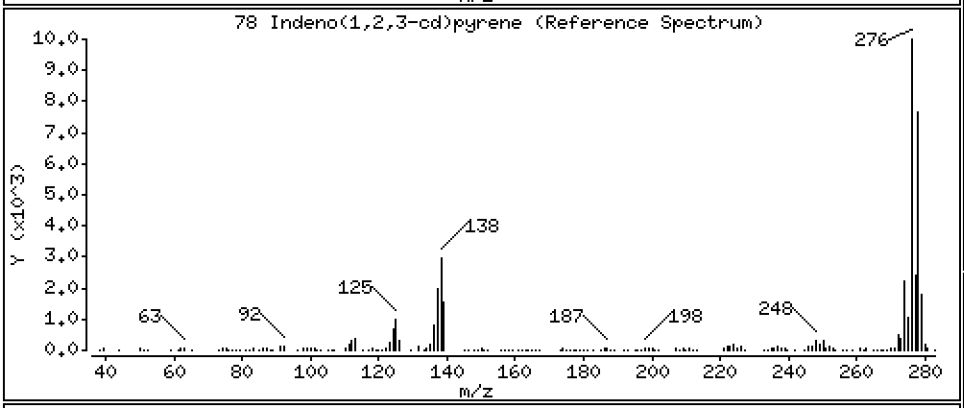
Concentration: 4.553 ug/mL

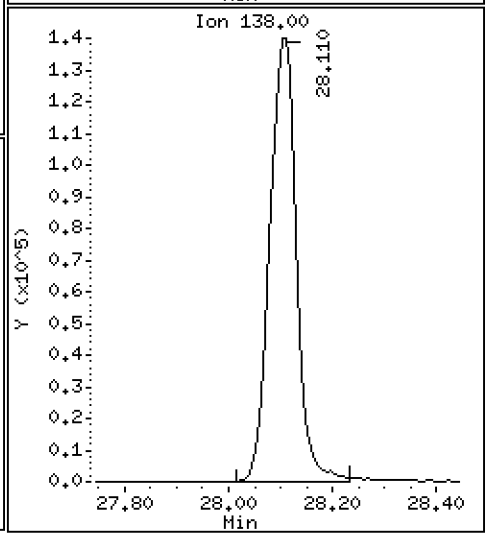


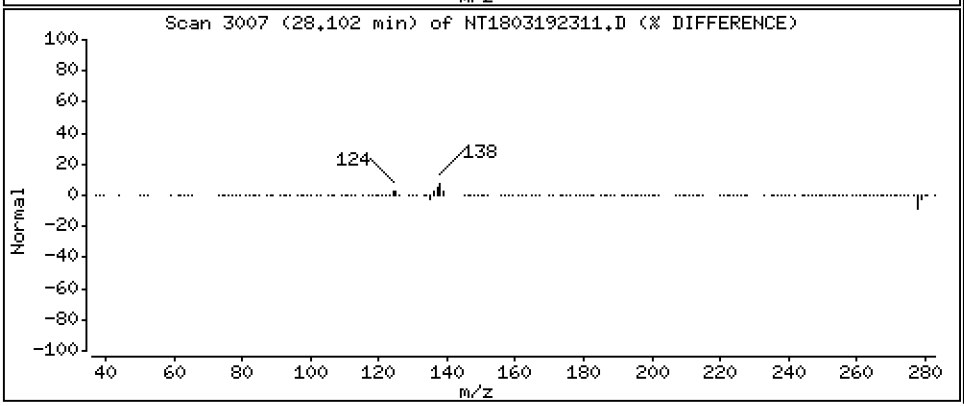












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

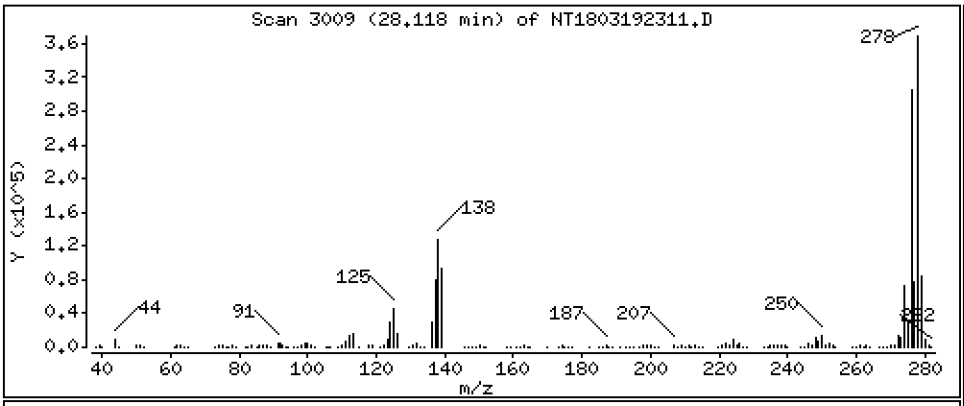
Operator: VTS

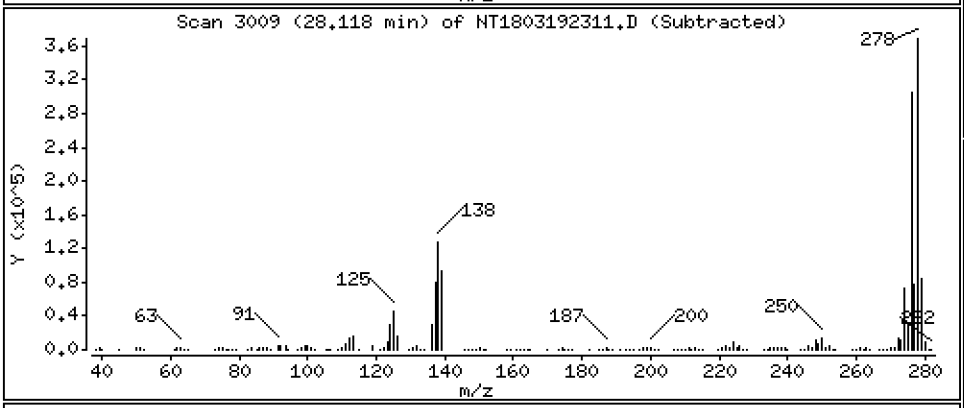
Column phase: ZB-5msi

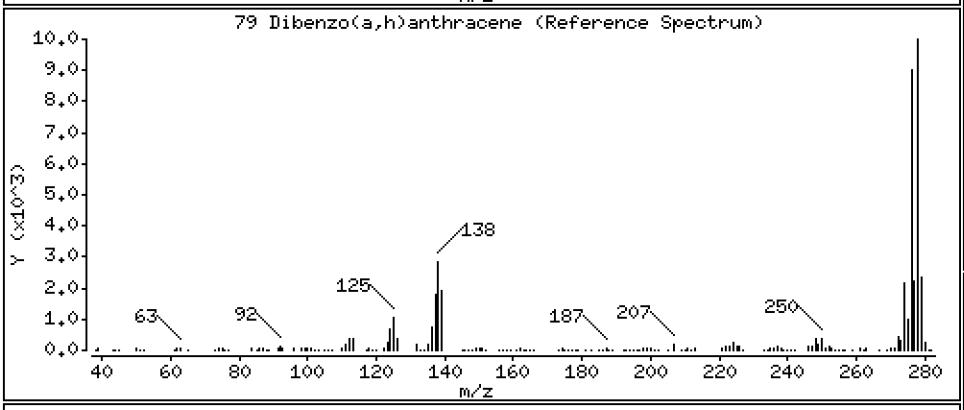
Column diameter: 0.25

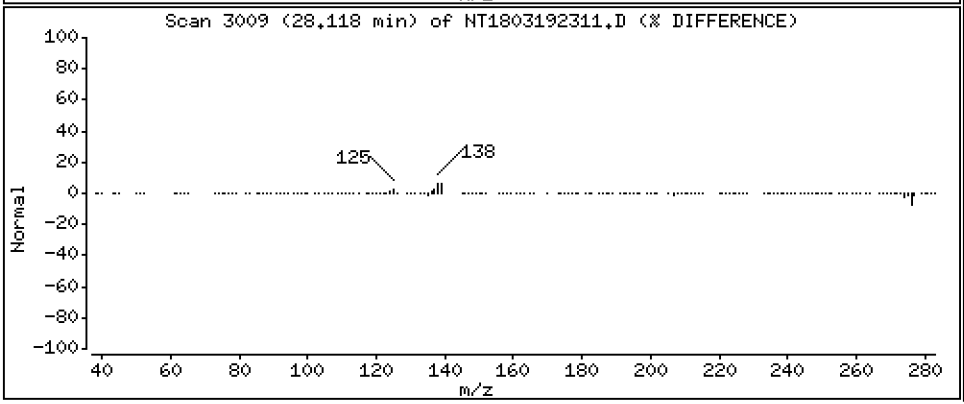
79 Dibenzo(a,h)anthracene

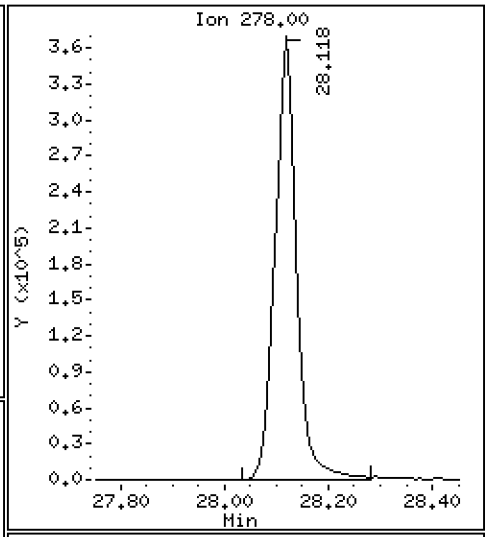
Concentration: 4.544 ug/mL

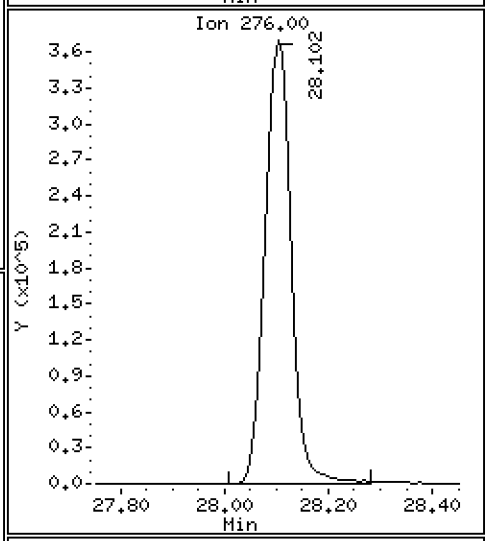


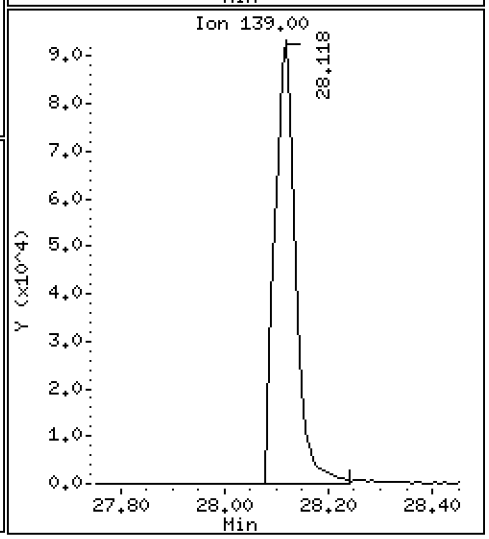












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

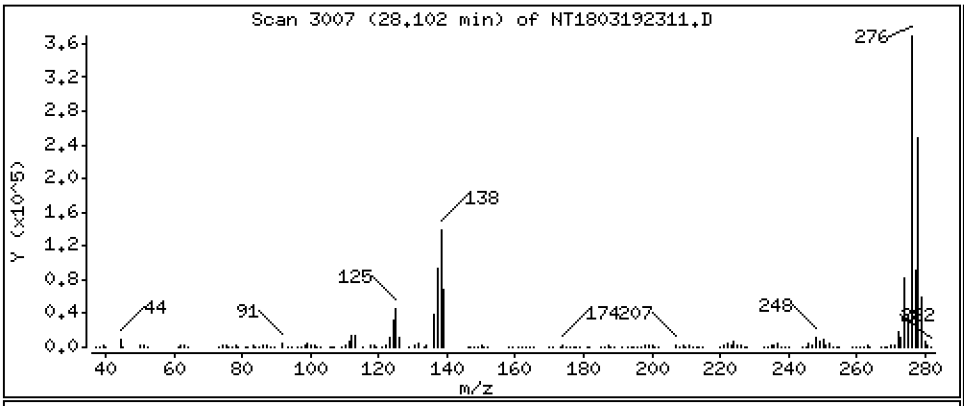
Operator: VTS

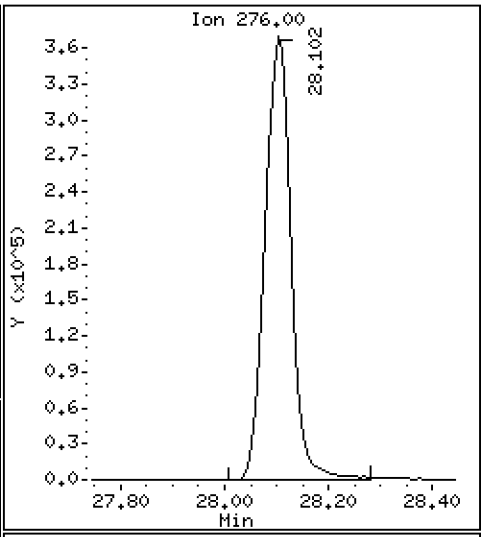
Column phase: ZB-5msi

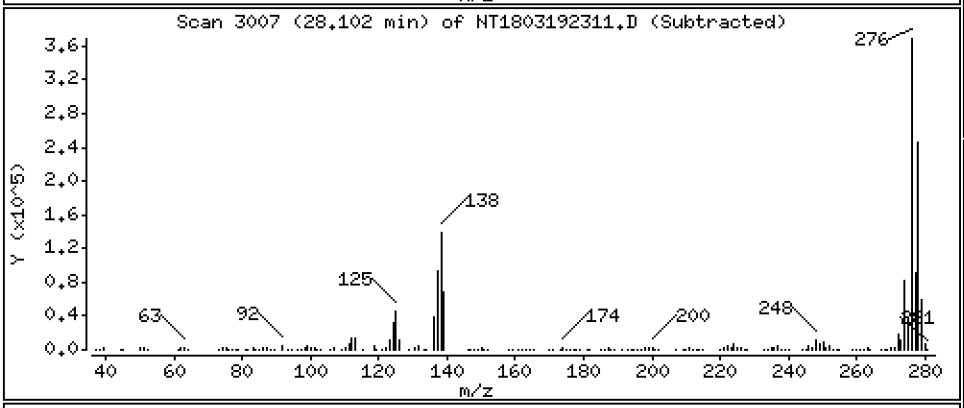
Column diameter: 0.25

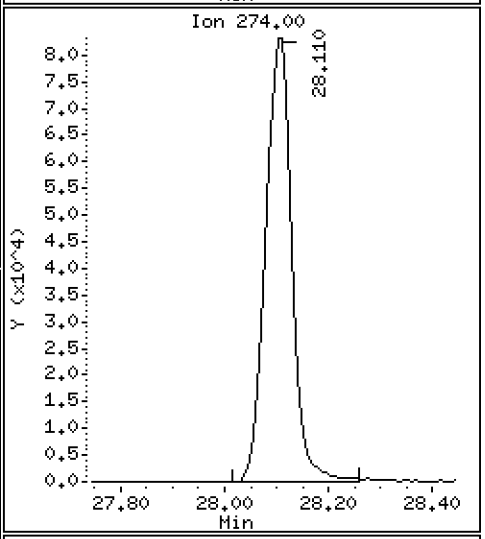
80 Benzo(g,h,i)perylene

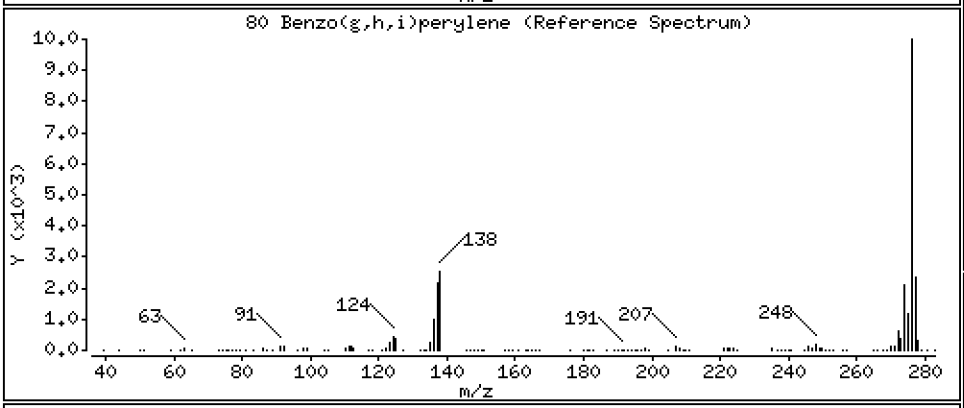
Concentration: 4.553 ug/mL

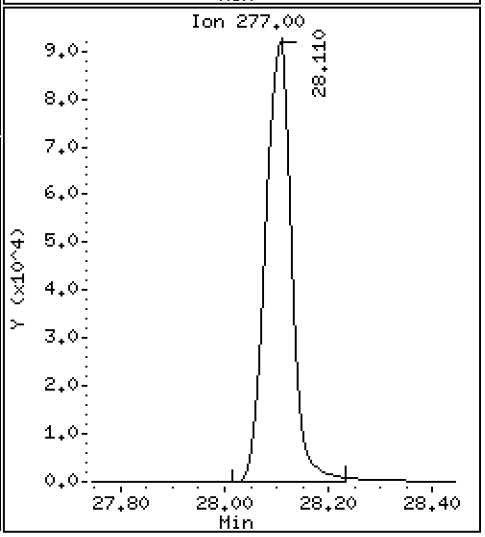


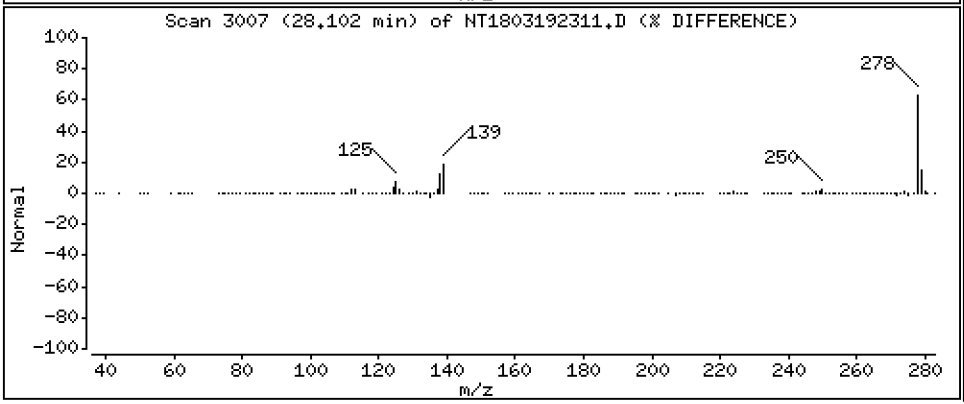












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

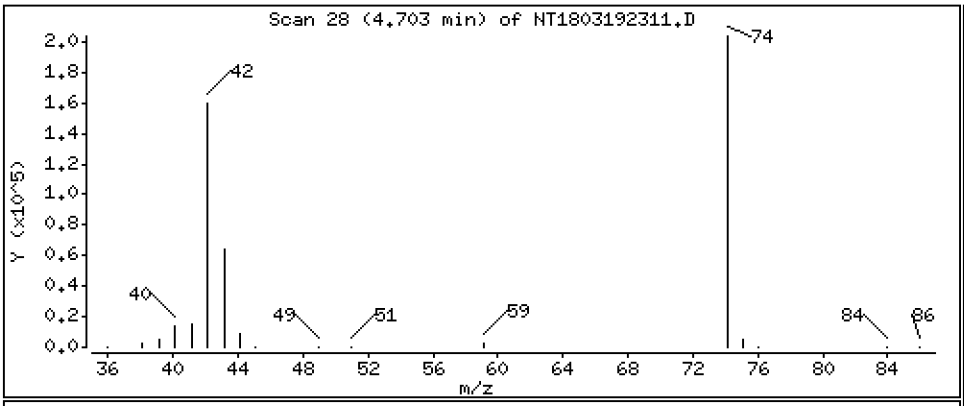
Operator: VTS

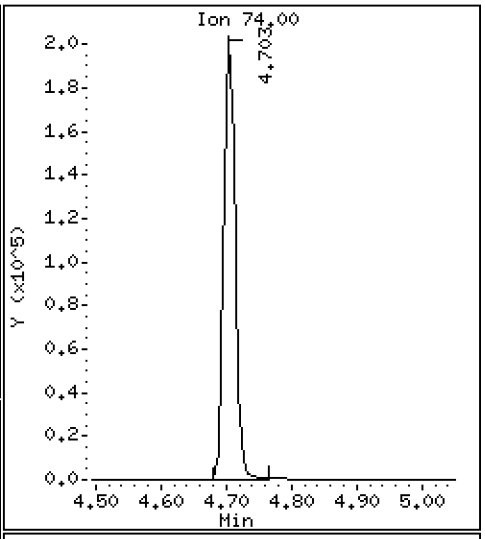
Column phase: ZB-5msi

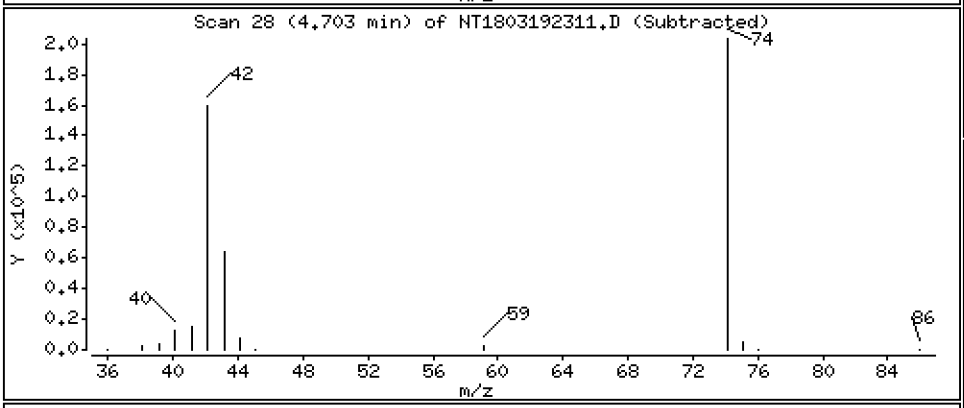
Column diameter: 0.25

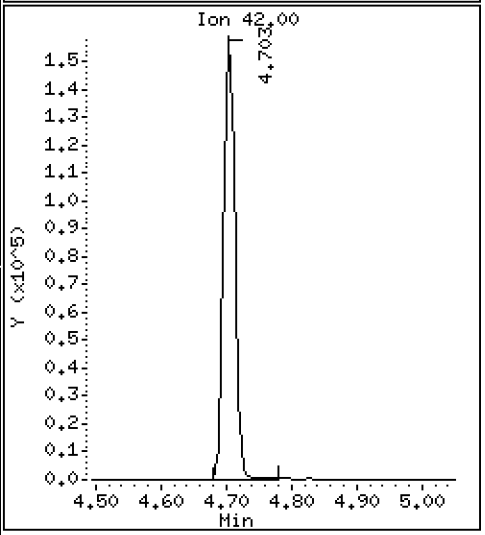
90 N-Nitrosodimethylamine

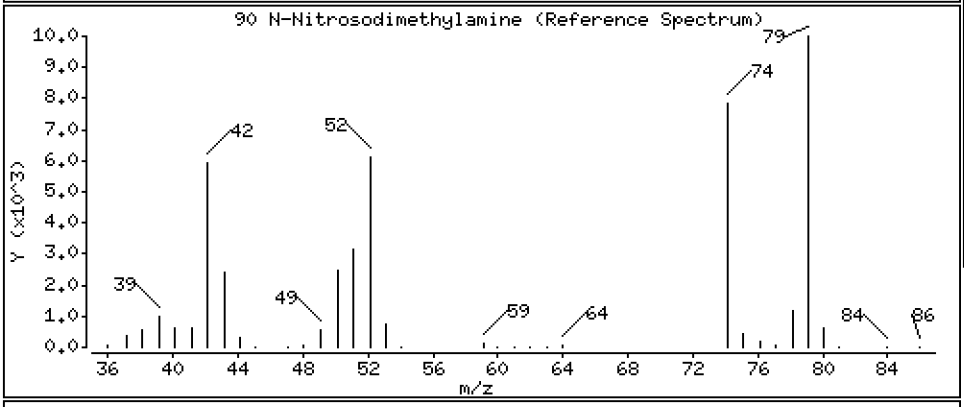
Concentration: 5.136 ug/mL

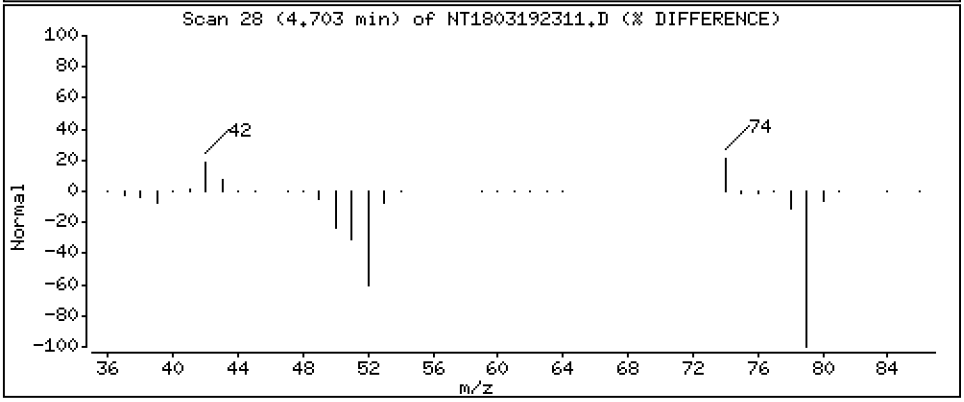












Date : 19-MAR-2023 21:26

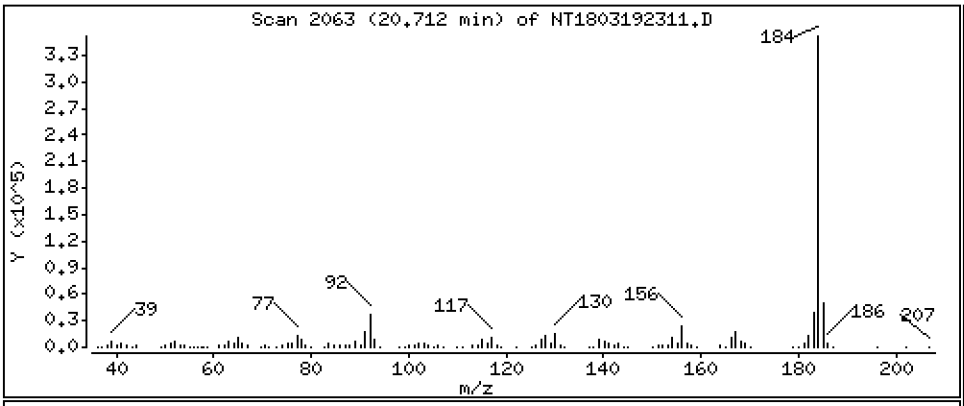
Client ID: Instrument: nt18.i

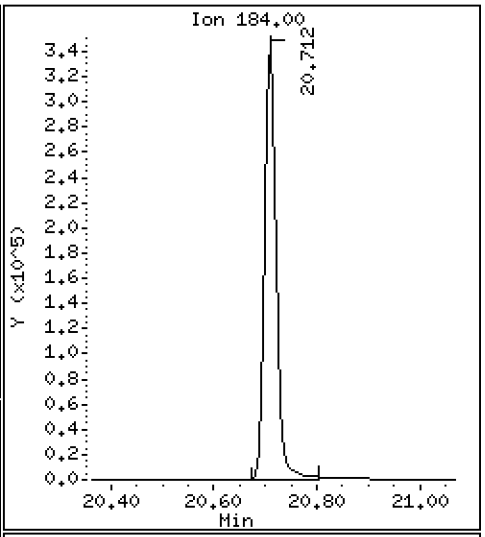
Sample Info: scv

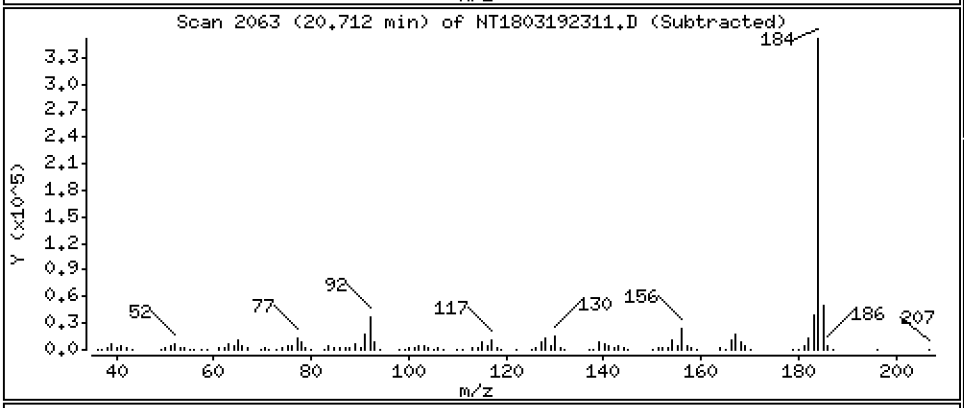
Operator: VTS

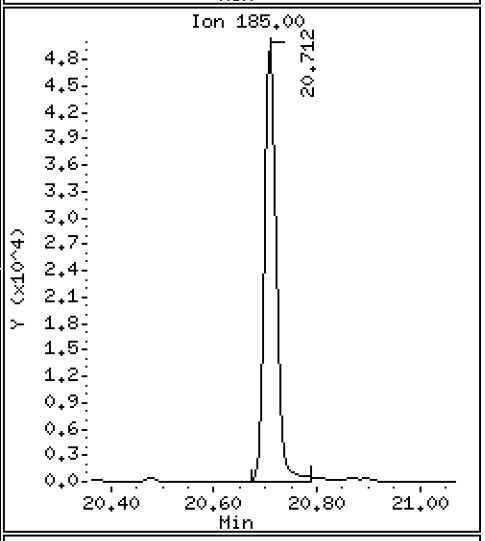
Column phase: ZB-5msi Column diameter: 0.25

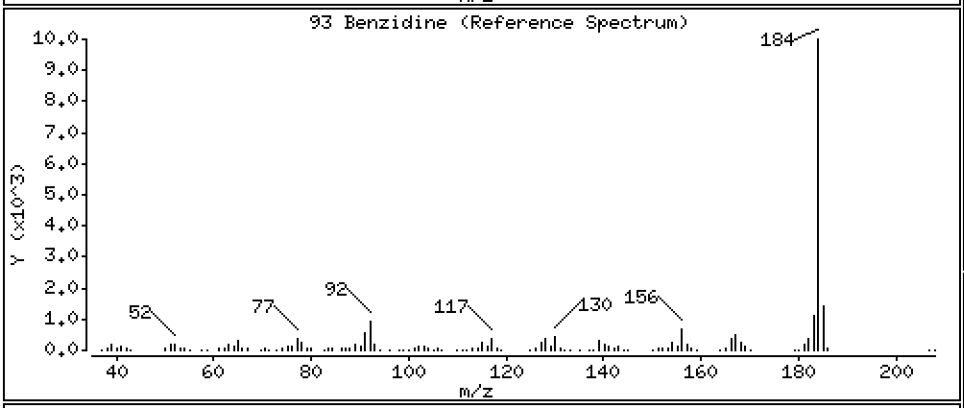
93 Benzidine Concentration: 5.266 ug/mL

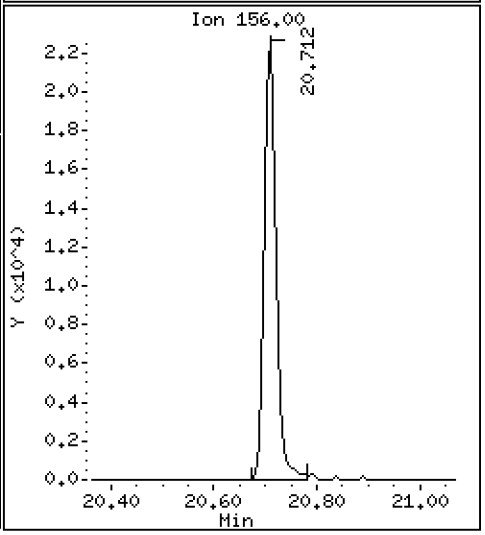


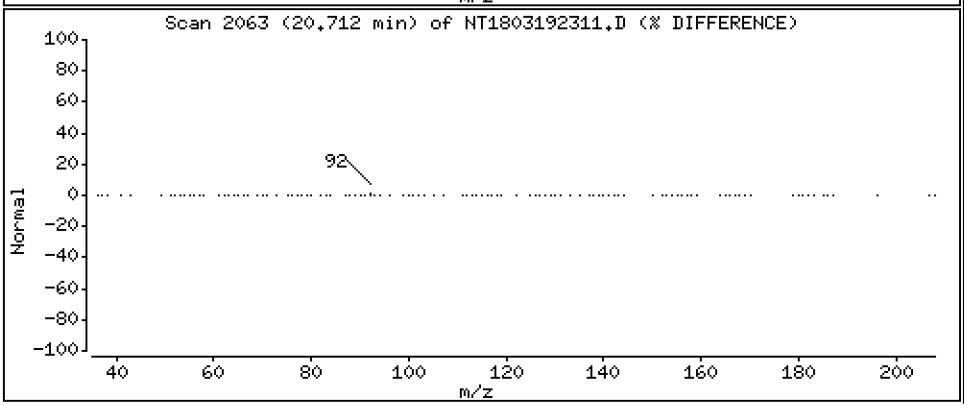












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

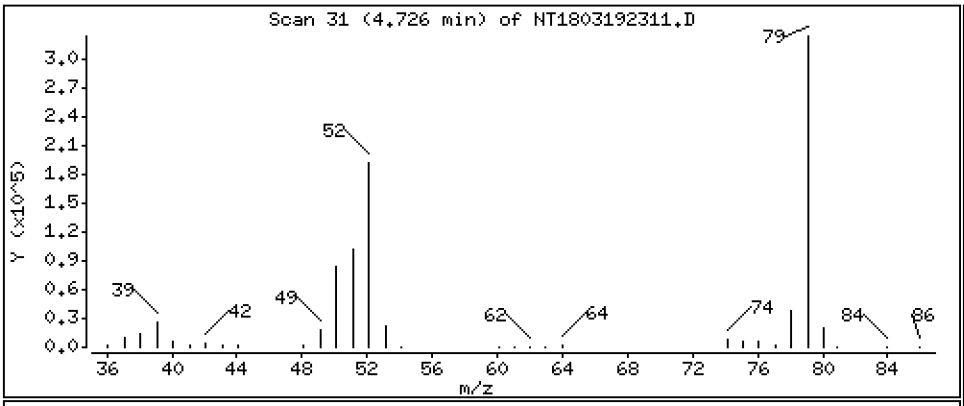
Operator: VTS

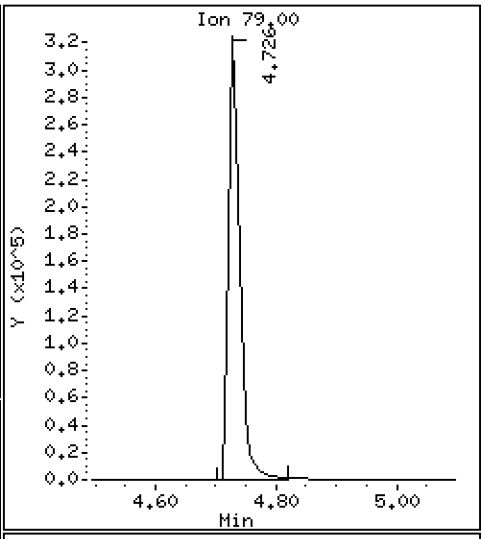
Column phase: ZB-5msi

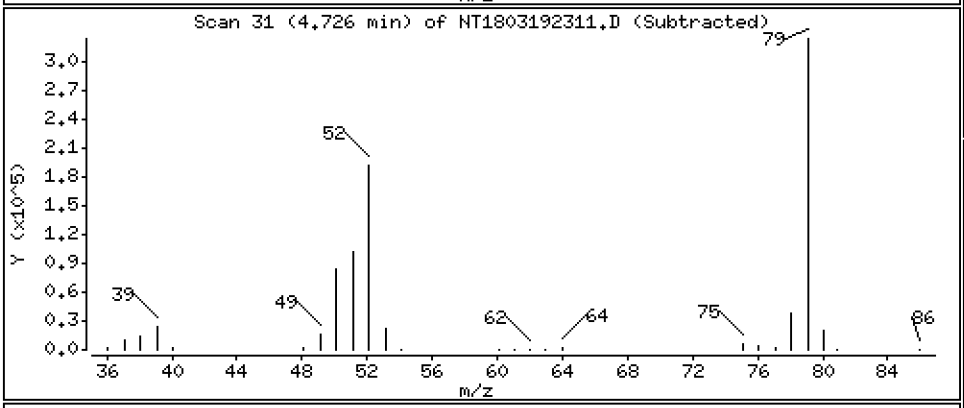
Column diameter: 0.25

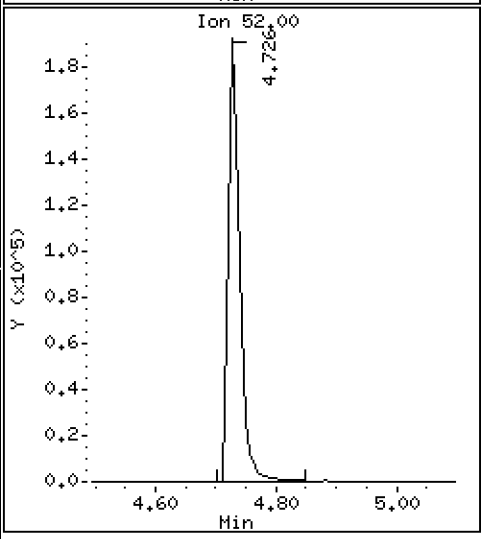
103 Pyridine

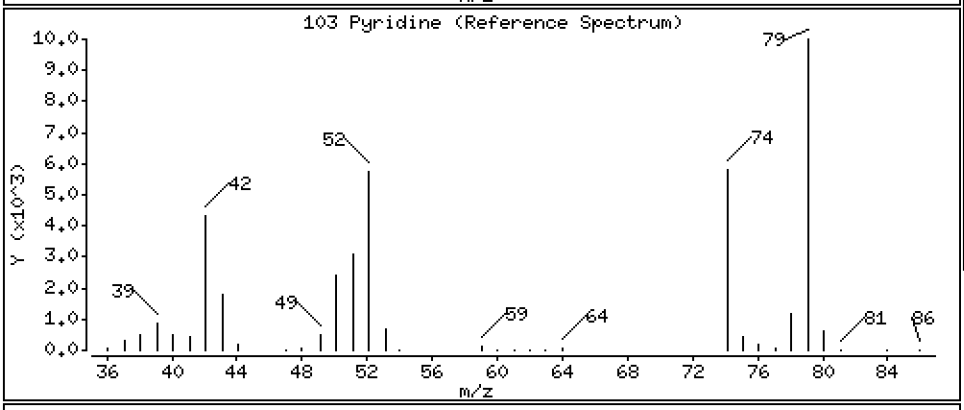
Concentration: 5.323 ug/mL

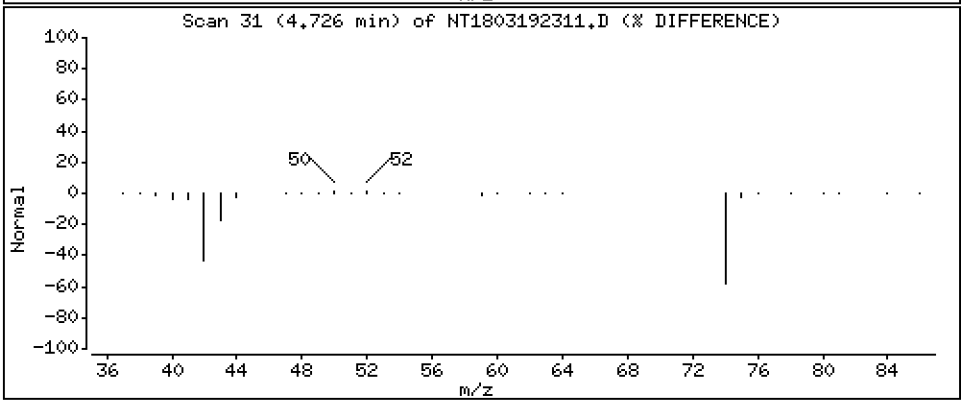












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

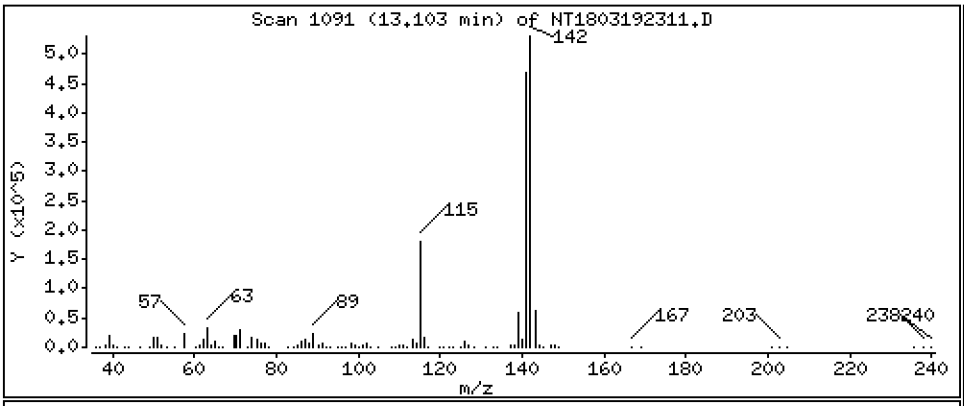
Operator: VTS

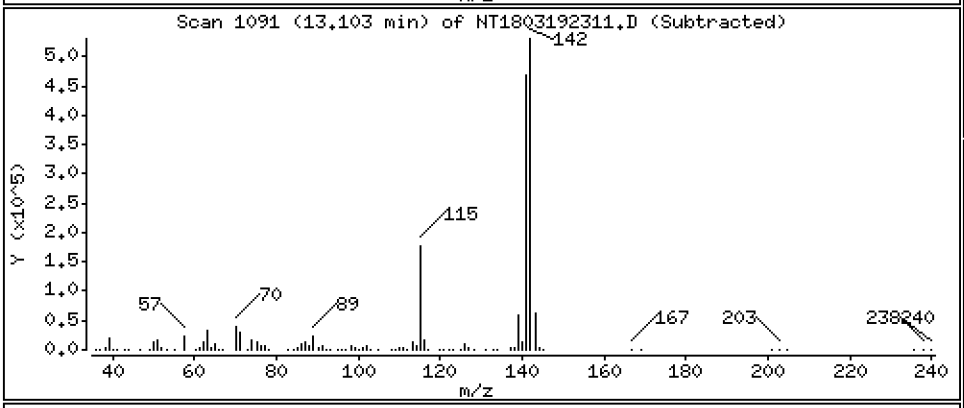
Column phase: ZB-5msi

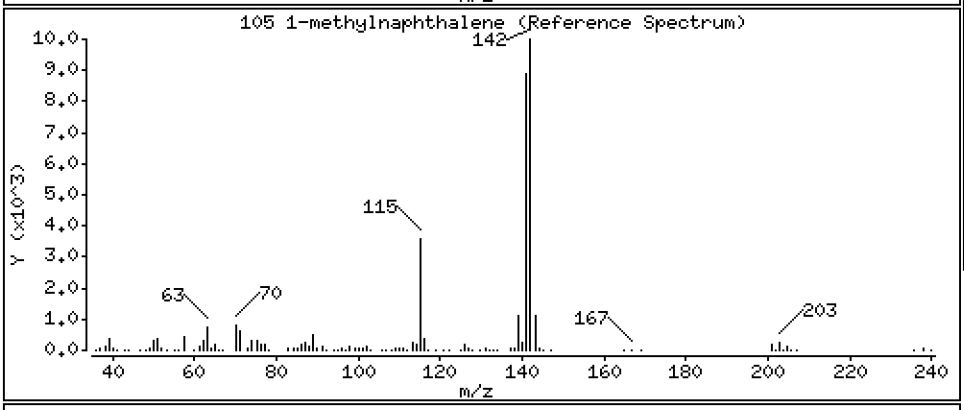
Column diameter: 0.25

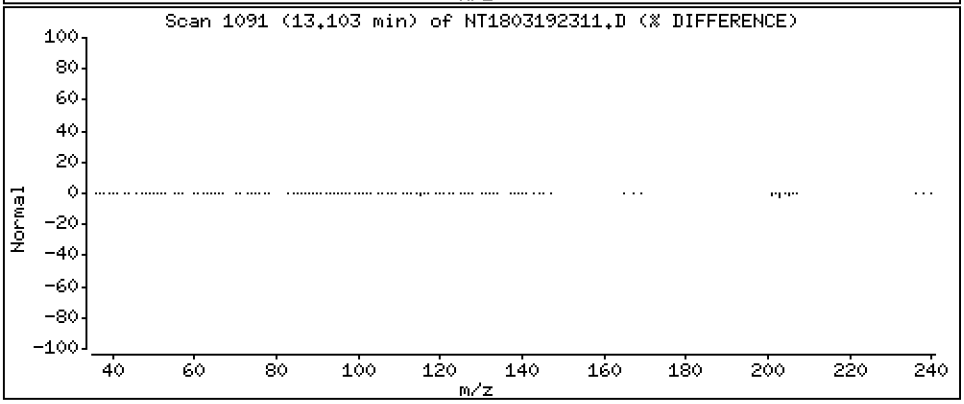
105 1-methylnaphthalene

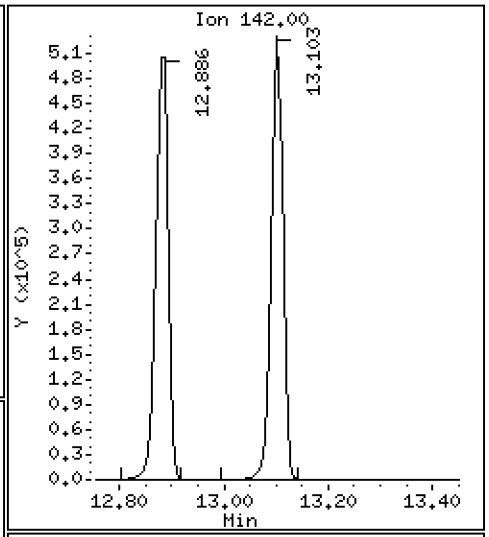
Concentration: 5.095 ug/mL

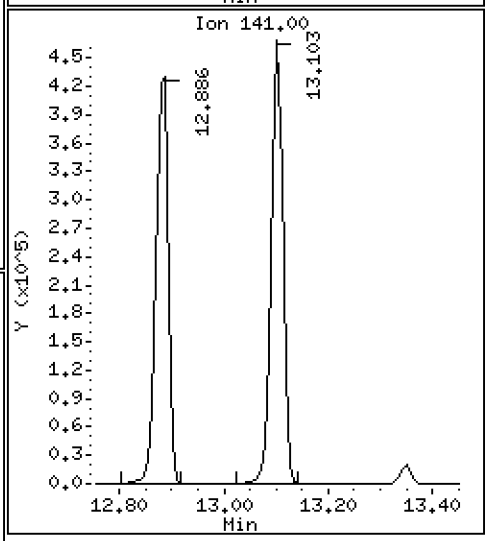












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

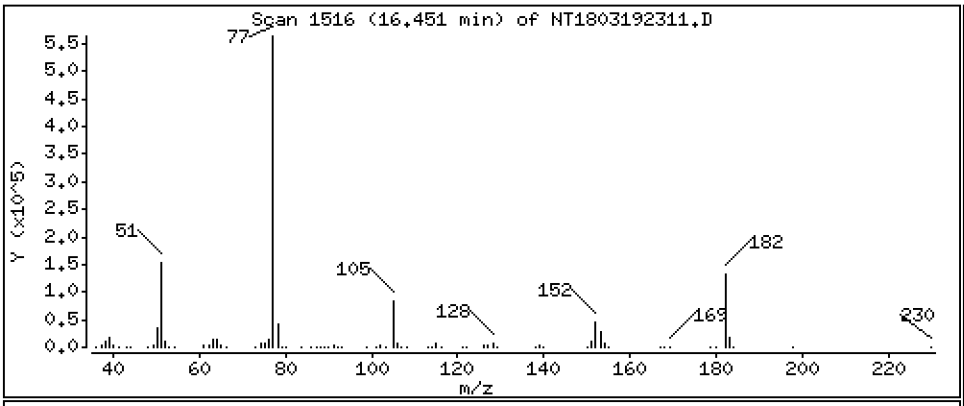
Operator: VTS

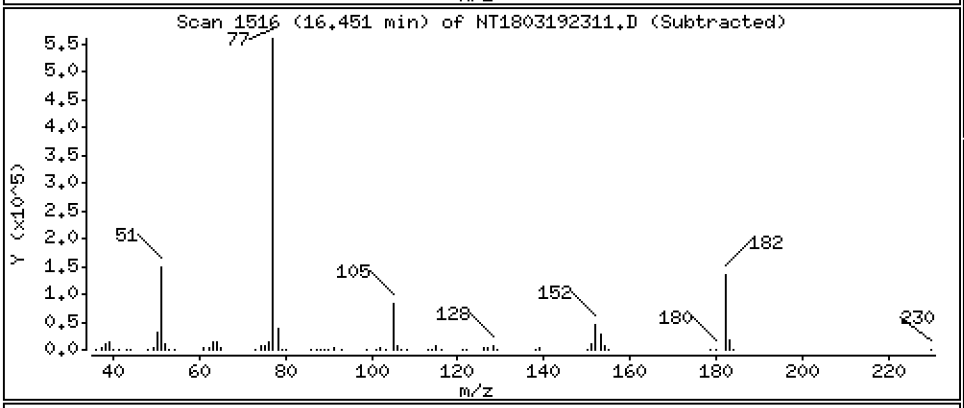
Column phase: ZB-5msi

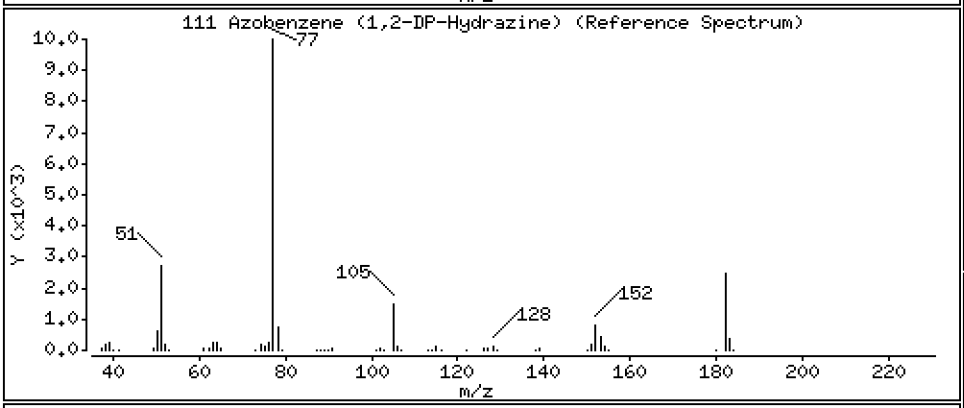
Column diameter: 0.25

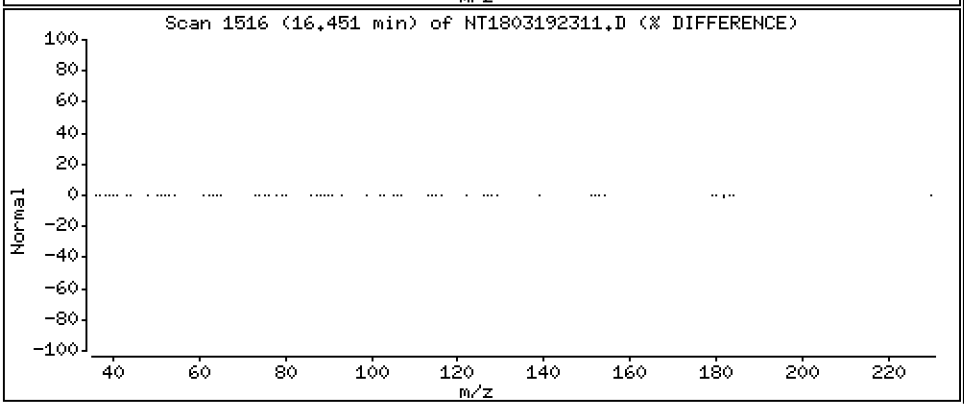
111 Azobenzene (1,2-DP-Hydrazine)

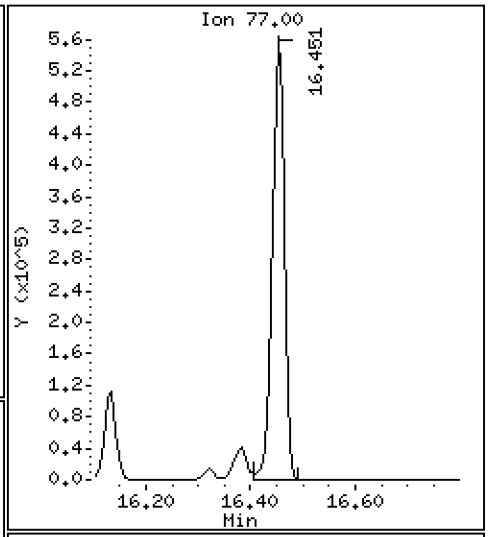
Concentration: 4.957 ug/mL

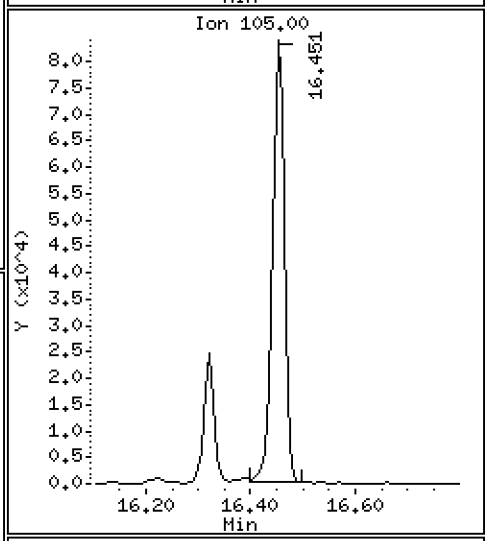


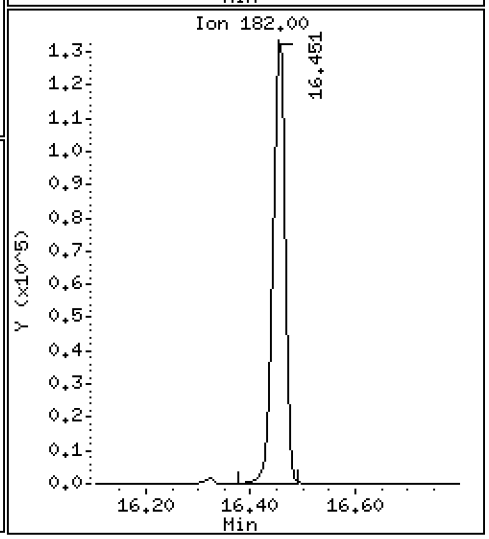












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

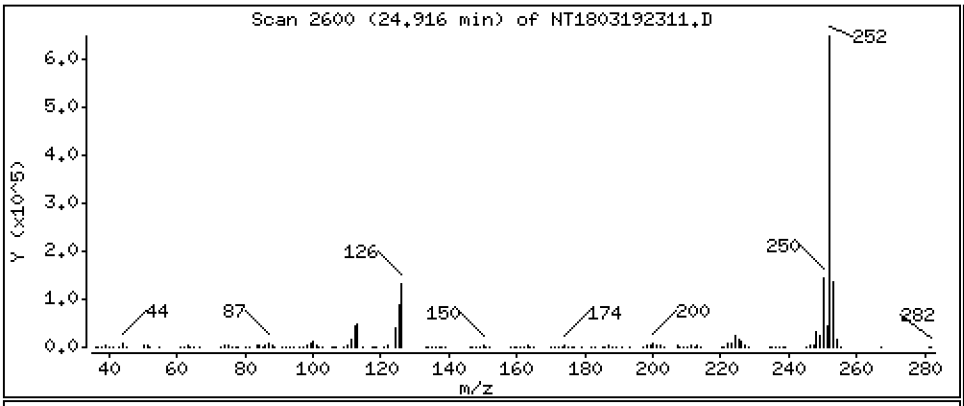
Operator: VTS

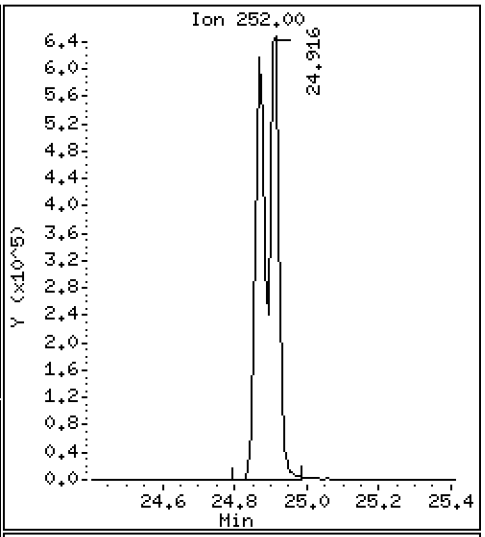
Column phase: ZB-5msi

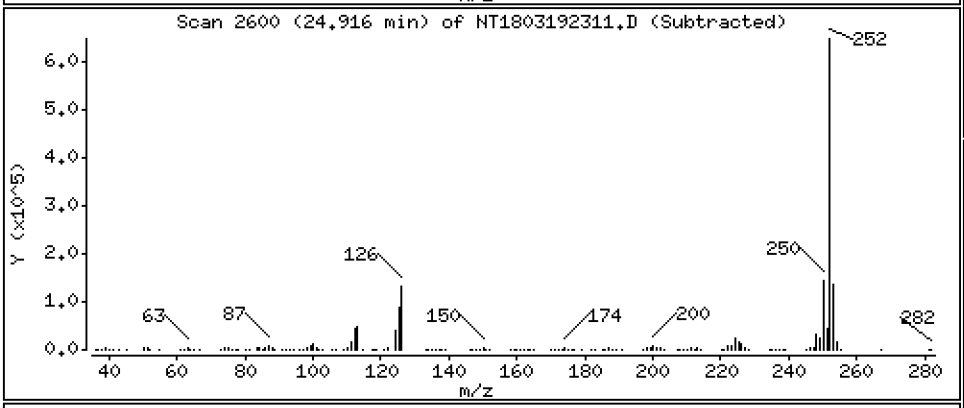
Column diameter: 0.25

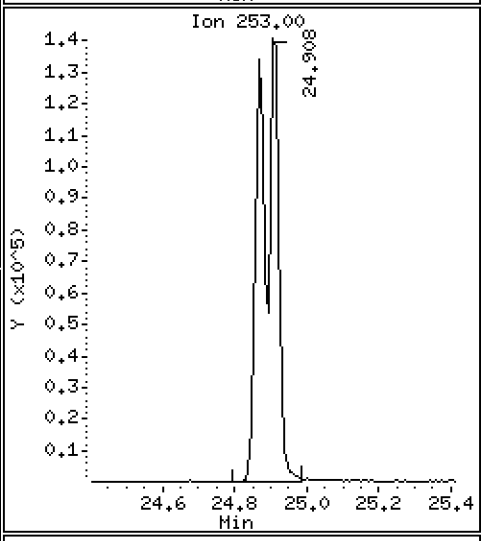
187 Total Benzofluoranthenes

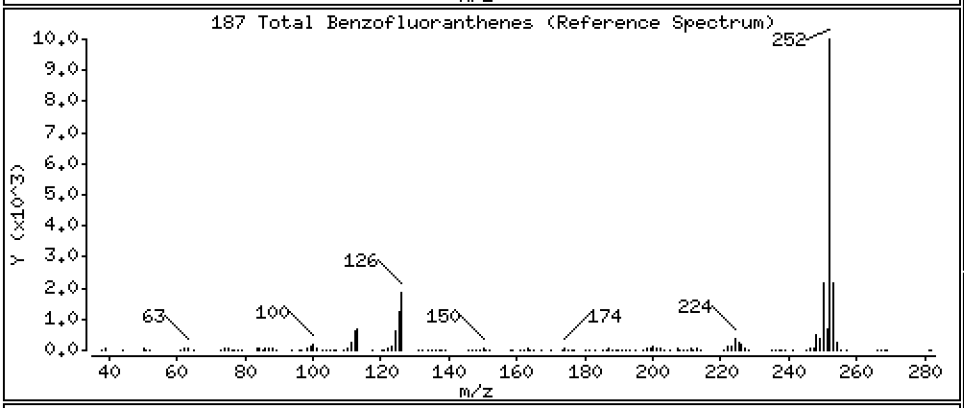
Concentration: 10.02 ug/mL

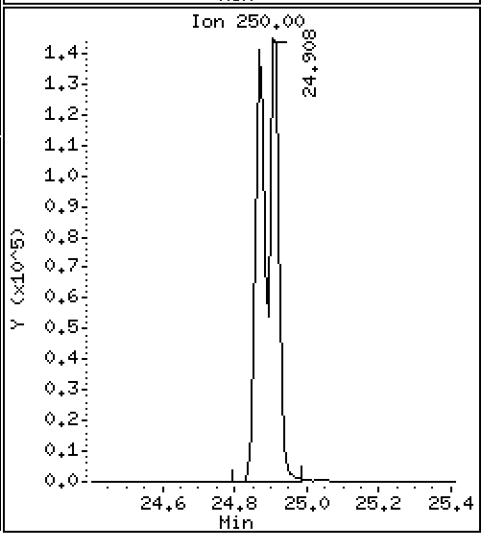


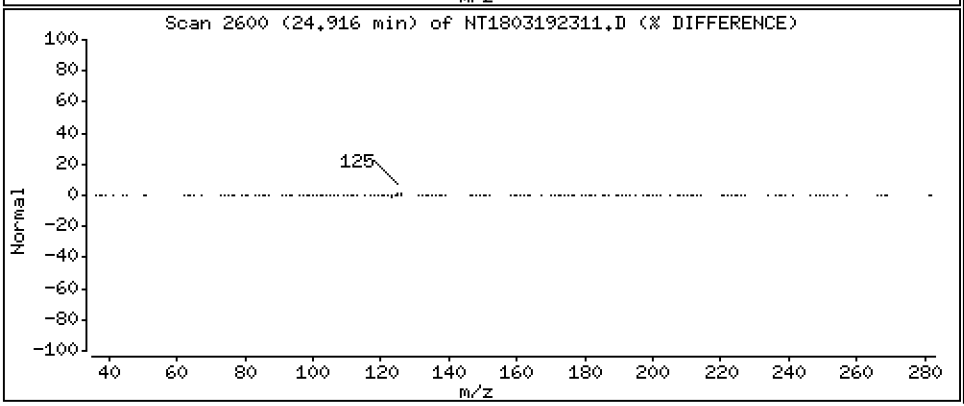












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

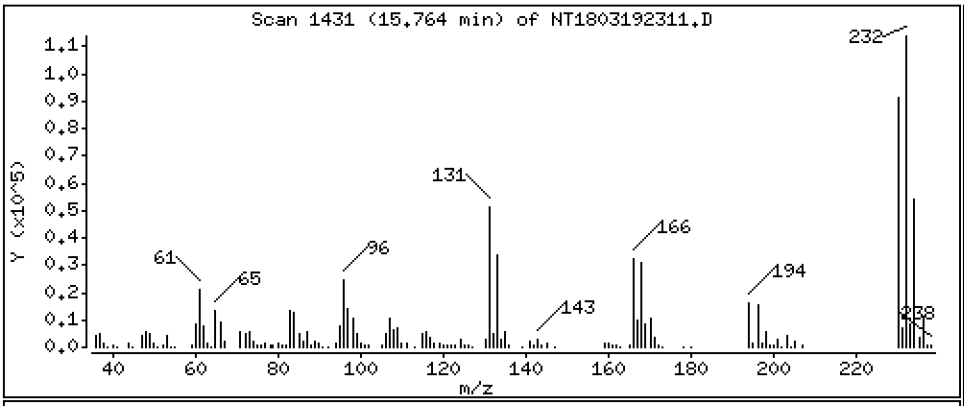
Operator: VTS

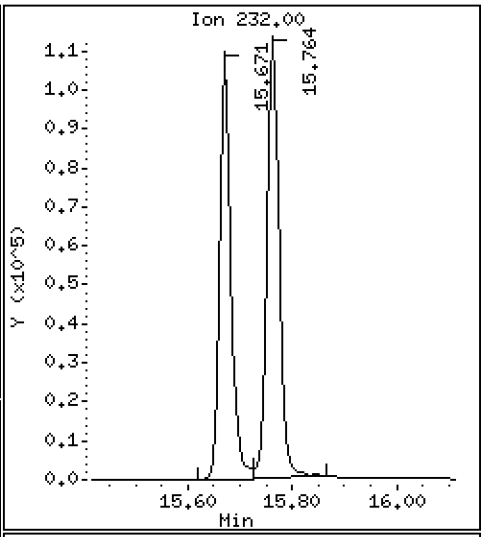
Column phase: ZB-5msi

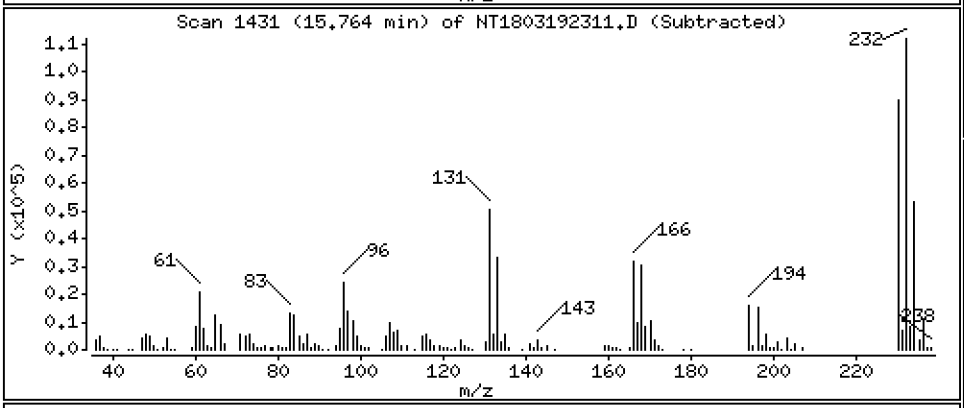
Column diameter: 0.25

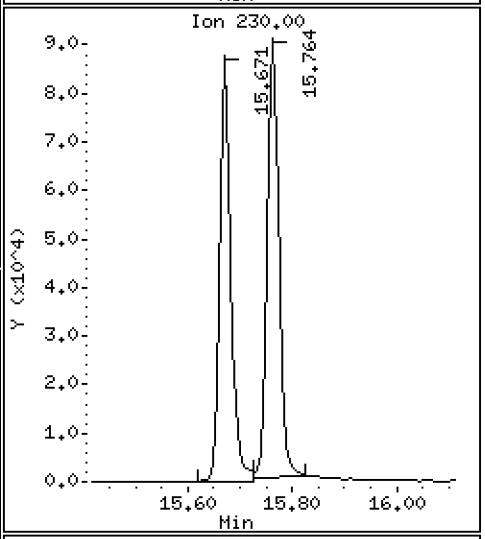
120 2,3,4,6-Tetrachlorophenol

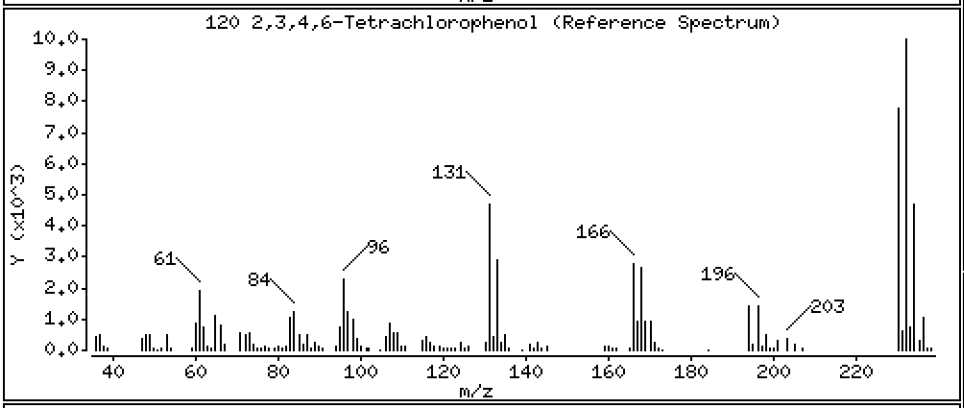
Concentration: 3.470 ug/mL

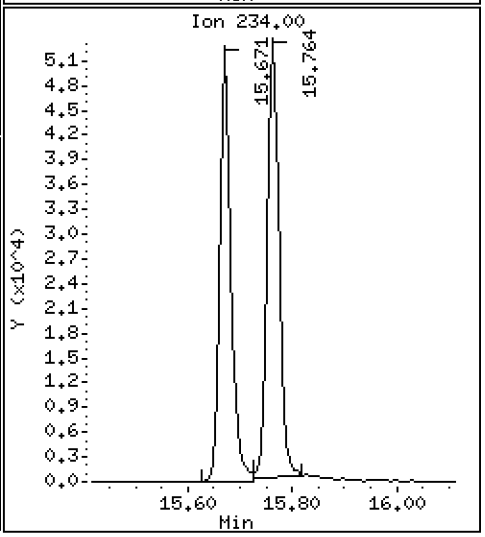


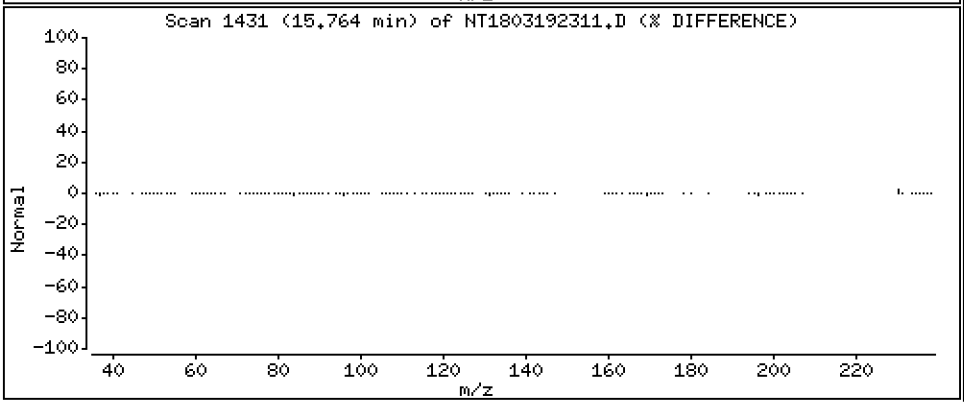












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D
Lab Smp Id: SLC0502-SCV1
Inj Date : 19-MAR-2023 21:26
Operator : VTS Inst ID: nt18.i
Smp Info : scv
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230319.b\ABN.m
Meth Date : 30-Mar-2023 15:35 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 19:24 Cal File: NT1803192308.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: ORGDATA102

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$ 1	2-Fluorophenol	112	Compound Not Detected.					
$ 2	Phenol-d5	99	Compound Not Detected.					
3	Phenol	94	8.372	8.372	(0.930)	441043	4.35211	4.352
$ 5	2-Chlorophenol-d4	132	Compound Not Detected.					
4	Bis(2-Chloroethyl)ether	93	8.550	8.542	(0.950)	368879	5.25957	5.260
6	2-Chlorophenol	128	8.658	8.657	(0.962)	387609	4.47327	4.473
7	1,3-Dichlorobenzene	146	8.929	8.929	(0.992)	460837	5.00917	5.009
* 8	1,4-Dichlorobenzene-d4	152	8.998	8.999	(1.000)	248847	4.00000	
9	1,4-Dichlorobenzene	146	9.029	9.022	(1.003)	466917	5.07130	5.071
$ 10	1,2-Dichlorobenzene-d4	152	Compound Not Detected.					
12	1,2-Dichlorobenzene	146	9.379	9.379	(1.042)	446066	4.91643	4.916
11	Benzyl alcohol	108	9.262	9.263	(1.029)	246021	5.20270	5.203
14	2,2'-oxybis(1-Chloropropane)	121	9.565	9.566	(1.063)	118450	5.54474	5.545
13	2-Methylphenol	108	9.480	9.480	(1.053)	325960	4.23779	4.238
17	Hexachloroethane	117	9.969	9.962	(1.108)	186172	5.16388	5.164
16	N-Nitroso-di-n-propylamine	70	9.821	9.814	(1.091)	286844	5.23671	5.237
15	4-Methylphenol	108	9.751	9.744	(1.084)	358003	4.48222	4.482
$ 18	Nitrobenzene-d5	82	Compound Not Detected.					
19	Nitrobenzene	77	10.108	10.109	(0.882)	383821	5.02881	5.029
20	Isophorone	82	10.558	10.559	(0.922)	825809	7.92328	7.923
21	2-Nitrophenol	139	10.736	10.736	(0.937)	169697	3.74842	3.748
22	2,4-Dimethylphenol	107	10.787	10.787	(0.942)	285900	3.72602	3.726
23	Bis(2-Chloroethoxy)methane	93	10.990	10.982	(0.959)	441596	5.86188	5.862
24	Benzoic acid	105	10.965	10.881	(0.957)	350650	6.42179	6.422
25	2,4-Dichlorophenol	162	11.185	11.186	(0.976)	351728	4.98044	4.980
26	1,2,4-Trichlorobenzene	180	11.370	11.371	(0.993)	359680	4.85808	4.858
* 27	Naphthalene-d8	136	11.455	11.456	(1.000)	941852	4.00000	
28	Naphthalene	128	11.493	11.494	(1.003)	1245937	4.87487	4.875
29	4-Chloroaniline	127	11.625	11.625	(1.015)	383246	3.89715	3.897
30	Hexachlorobutadiene	225	11.864	11.857	(1.036)	211903	5.03333	5.033
31	4-Chloro-3-methylphenol	107	12.576	12.577	(1.098)	306271	4.70884	4.709
32	2-Methylnaphthalene	142	13.102	13.103	(1.144)	778553	5.09537	5.095
33	Hexachlorocyclopentadiene	237	13.350	13.351	(0.887)	222562	5.05604	5.056

		QUANT SIG					CONCENTRATIONS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.497	13.498	(0.897)	208419	4.58046	4.580
	35 2,4,5-Trichlorophenol	196	13.567	13.567	(0.902)	225198	4.52785	4.528
$	36 2-Fluorobiphenyl	172	Compound Not Detected.					
	37 2-Chloronaphthalene	162	13.869	13.862	(0.922)	709799	4.88462	4.885
	38 2-Nitroaniline	65	14.116	14.117	(0.938)	183222	4.81152	4.812
	39 Dimethylphthalate	163	14.557	14.558	(0.968)	773755	5.10490	5.105
	40 Acenaphthylene	152	14.728	14.729	(0.979)	1218077	4.92248	4.922
	41 2,6-Dinitrotoluene	165	14.697	14.690	(0.977)	166669	4.85742	4.857
*	42 Acenaphthene-d10	164	15.045	15.046	(1.000)	508667	4.00000	
	43 3-Nitroaniline	138	14.968	14.961	(0.995)	199465	5.15025	5.150
	44 Acenaphthene	153	15.107	15.107	(1.004)	758439	4.84229	4.842
	45 2,4-Dinitrophenol	184	15.176	15.177	(1.009)	37685	1.88731	1.887
	46 Dibenzofuran	168	15.431	15.424	(1.026)	1023349	4.75581	4.756
	47 4-Nitrophenol	109	15.277	15.270	(1.015)	84926	4.12755	4.128
	48 2,4-Dinitrotoluene	165	15.493	15.486	(1.030)	201908	4.48058	4.481
	50 Diethylphthalate	149	16.004	16.004	(1.064)	771038	5.02064	5.021
	49 Fluorene	166	16.135	16.136	(1.072)	984533	5.04042	5.040
	51 4-Chlorophenyl-phenylether	204	16.135	16.128	(1.072)	467934	5.39775	5.398
	52 4-Nitroaniline	138	16.220	16.213	(1.078)	168586	4.32315	4.323
	53 4,6-Dinitro-2-methylphenol	198	16.320	16.312	(0.904)	74351	3.08813	3.088
	54 N-Nitrosodiphenylamine	169	16.382	16.375	(0.908)	552391	5.07694	5.077
$	55 2,4,6-Tribromophenol	330	Compound Not Detected.					
	56 4-Bromophenyl-phenylether	248	17.130	17.129	(0.949)	230243	5.33467	5.335
	57 Hexachlorobenzene	284	17.439	17.439	(0.966)	237192	4.89949	4.899
	58 Pentachlorophenol	266	17.787	17.788	(0.985)	110267	3.80234	3.802
*	59 Phenanthrene-d10	188	18.050	18.051	(1.000)	854150	4.00000	
	60 Phenanthrene	178	18.097	18.097	(1.003)	1124988	4.82494	4.825
	61 Anthracene	178	18.189	18.190	(1.008)	949240	4.27002	4.270
	62 Carbazole	167	18.514	18.515	(1.026)	915932	4.67894	4.679
	63 Di-n-butylphthalate	149	19.327	19.335	(1.071)	1252814	4.83870	4.839
	64 Fluoranthene	202	20.472	20.472	(0.887)	1169339	5.21259	5.213
	65 Pyrene	202	20.897	20.890	(0.906)	1189380	5.03037	5.030
$	66 Terphenyl-d14	244	Compound Not Detected.					
	67 Butylbenzylphthalate	149	22.113	22.113	(0.958)	485115	4.79167	4.792
	68 Benzo(a)anthracene	228	23.042	23.043	(0.999)	1091414	4.95439	4.954
*	69 Chrysene-d12	240	23.073	23.074	(1.000)	703971	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.003	23.004	(0.997)	736332	9.28906	9.289
	71 Chrysene	228	23.119	23.112	(1.002)	1096346	4.81448	4.814
	72 bis(2-Ethylhexyl)phthalate	149	23.135	23.136	(0.960)	758931	5.00338	5.003
*	134 Di-n-octylphthalate-d4	153	24.110	24.110	(1.000)	1052203	4.00000	
	73 Di-n-octylphthalate	149	24.118	24.119	(1.000)	1333082	5.14944	5.149
	74 Benzo(b)fluoranthene	252	24.869	24.870	(0.972)	1146645	5.17215	5.172
	75 Benzo(k)fluoranthene	252	24.915	24.908	(0.973)	1183533	4.85368	4.854
	76 Benzo(a)pyrene	252	25.488	25.481	(0.996)	1036082	4.67267	4.673
*	77 Perylene-d12	264	25.597	25.597	(1.000)	796363	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	28.102	28.095	(1.098)	1282147	4.55301	4.553
	79 Dibenzo(a,h)anthracene	278	28.117	28.102	(1.098)	1063521	4.54375	4.544
	80 Benzo(g,h,i)perylene	276	28.102	28.095	(1.098)	1282147	4.55301	4.553
	90 N-Nitrosodimethylamine	74	4.703	4.703	(0.523)	243602	5.13632	5.136(H)
	91 Aniline	93	Compound Not Detected.					
	93 Benzidine	184	20.712	20.712	(0.898)	502334	5.26600	5.266
	103 Pyridine	79	4.726	4.749	(0.525)	416943	5.32344	5.323
	105 1-methylnaphthalene	142	13.102	13.103	(1.144)	778553	5.09537	5.095
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.451	16.451	(1.093)	834251	4.95703	4.957

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187 Total Benzofluoranthenes	252	24.915	24.908	(0.973)	2225200	10.0155	10.02
120 2,3,4,6-Tetrachlorophenol	232	15.764	15.764	(1.048)	193132	3.46953	3.470

QC Flag Legend

H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192311.D
Lab Smp Id: SLC0502-SCV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 16:40
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	268611	134306	537222	248847	-7.36
27 Naphthalene-d8	1007141	503571	2014282	941852	-6.48
42 Acenaphthene-d10	531283	265642	1062566	508667	-4.26
59 Phenanthrene-d10	884709	442355	1769418	854150	-3.45
69 Chrysene-d12	727768	363884	1455536	703971	-3.27
134 Di-n-octylphthala	1108384	554192	2216768	1052203	-5.07
77 Perylene-d12	824431	412216	1648862	796363	-3.40

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	-0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	-0.00
42 Acenaphthene-d10	15.05	14.55	15.55	15.05	-0.00
59 Phenanthrene-d10	18.05	17.55	18.55	18.05	-0.00
69 Chrysene-d12	23.07	22.57	23.57	23.07	-0.00
134 Di-n-octylphthala	24.11	23.61	24.61	24.11	-0.00
77 Perylene-d12	25.60	25.10	26.10	25.60	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192311.D

Lab ID: SLC0502-SCV1
nt18.i, ABN.m, 19-MAR-2023 21:26

RT	CO-ELUTION COMPOUNDS
28.102	Benzo(g,h,i)perylene and Indeno(1,2,3-cd)pyrene
13.103	1-methylnaphthalene and 2-Methylnaphthalene

** FIRST SURROGATE NOT FOUND. ICAL Check not performed **

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.957	0.950	0.0074	Benzoic acid

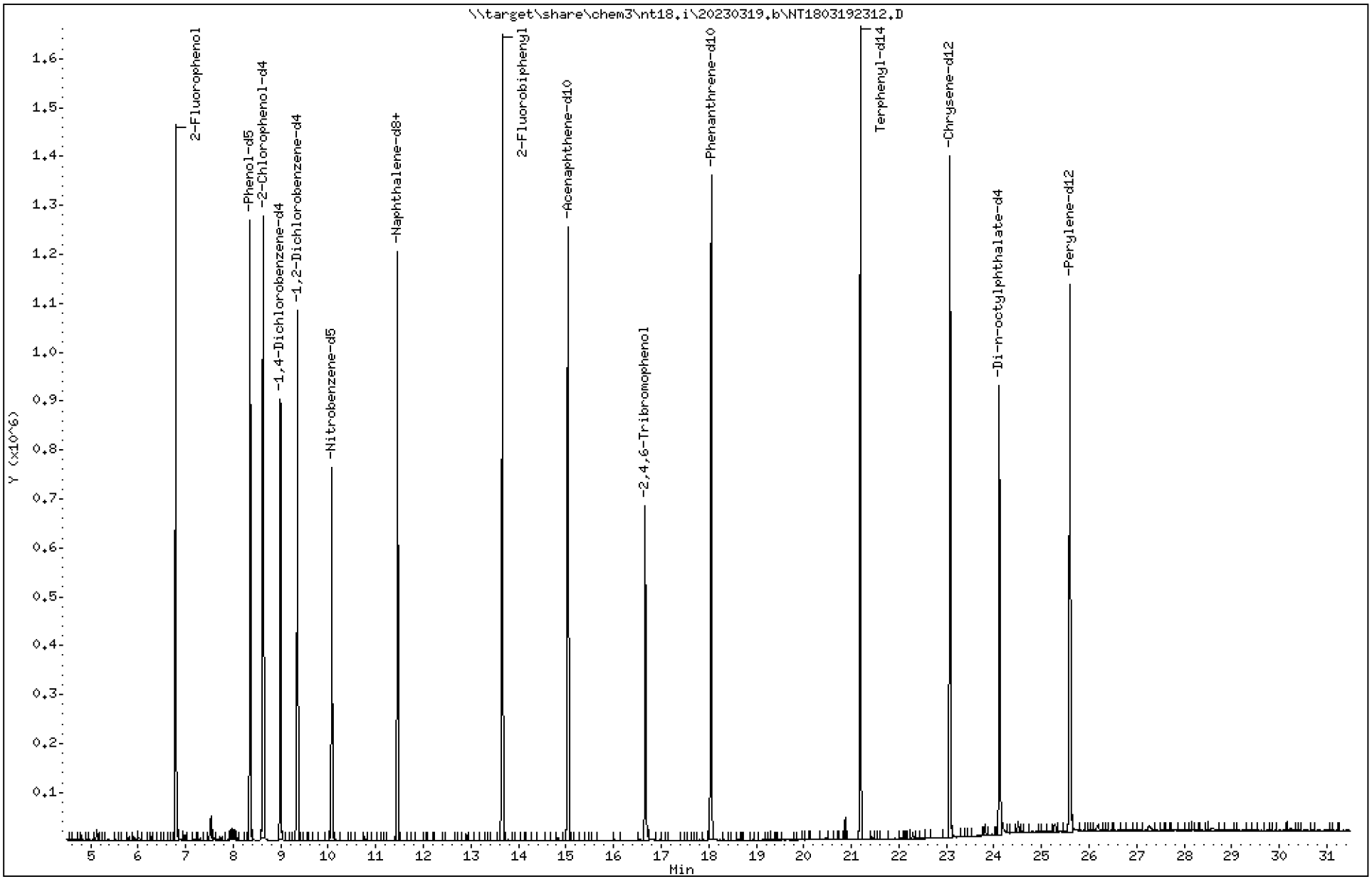
RRT check based on Ccal File: NT1803192308.D

On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192312.D
Date : 19-MAR-2023 22:06
Client ID:
Sample Info: icb

Instrument: nt18.i
Operator: VTS
Column phase: ZB-5msi
Column diameter: 0.25



Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192312.D

Date : 19-MAR-2023 22:06

Client ID:

Instrument: nt18.i

Sample Info: icb

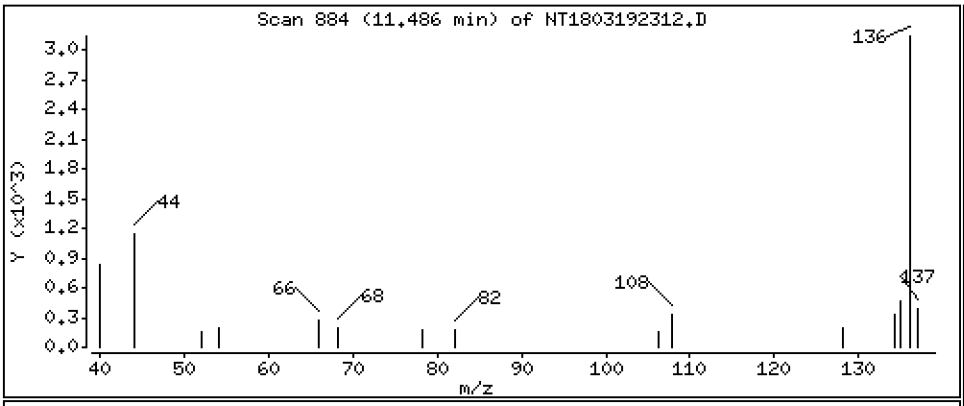
Operator: VTS

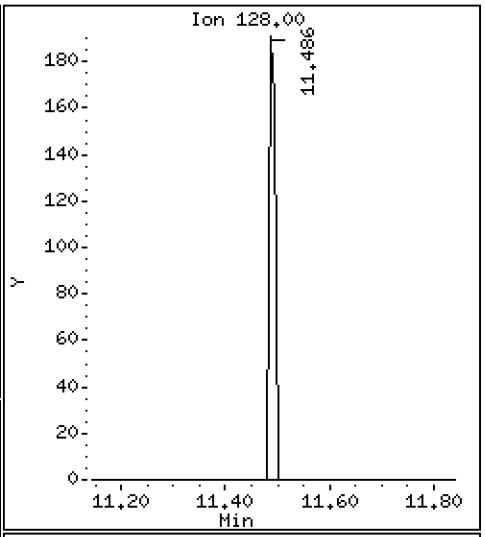
Column phase: ZB-5msi

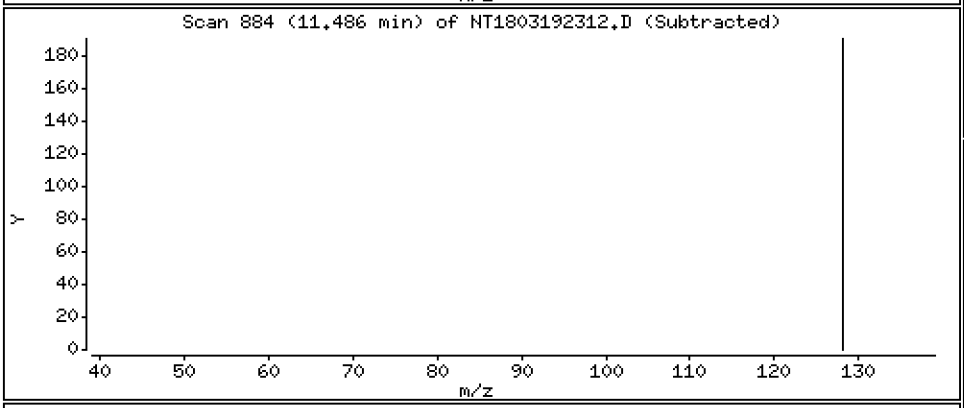
Column diameter: 0.25

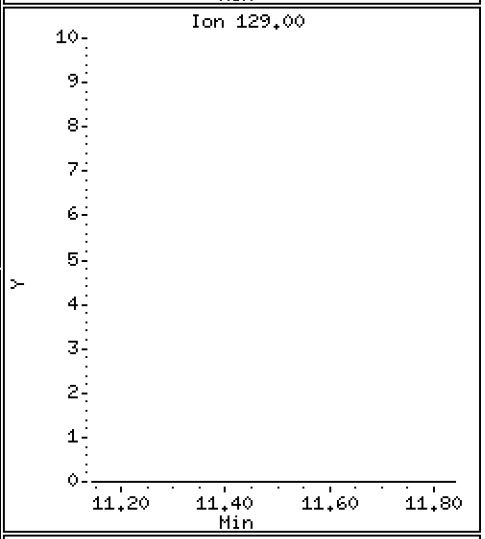
28 Naphthalene

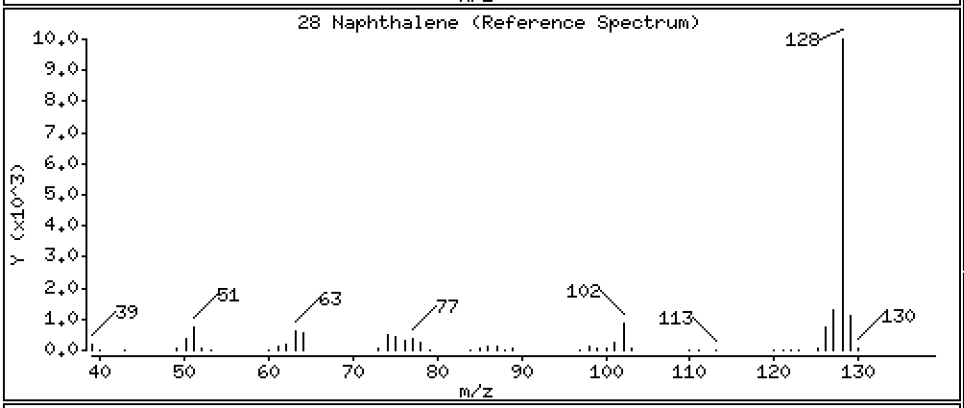
Concentration: 0.0006606 ug/mL

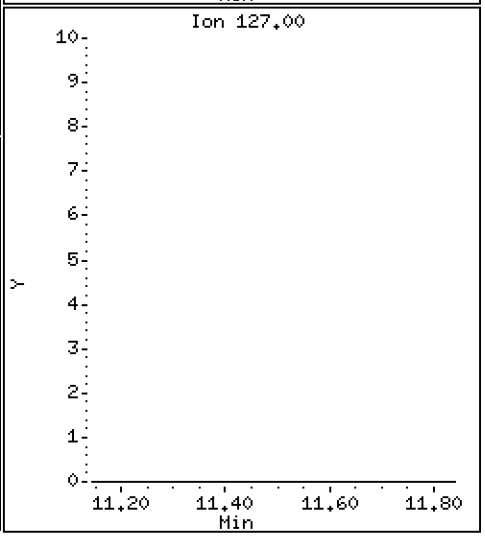


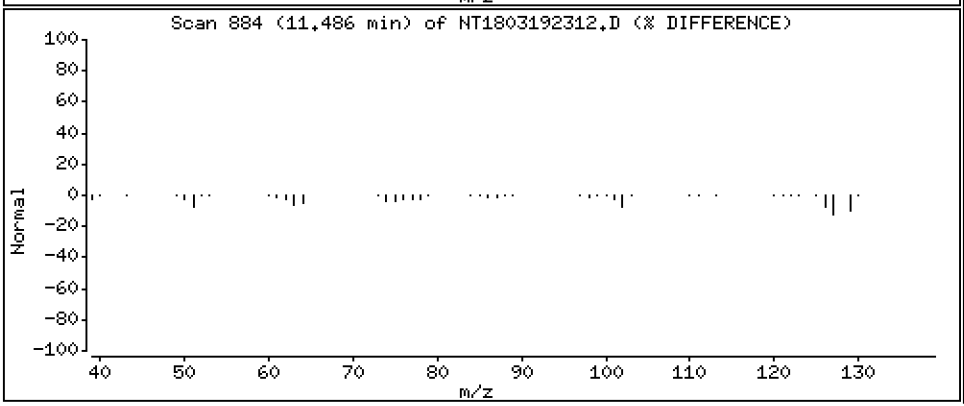












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230319.b\NT1803192312.D
Lab Smp Id: SLC0502-ICB1
Inj Date : 19-MAR-2023 22:06
Operator : VTS Inst ID: nt18.i
Smp Info : icb
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230319.b\ABN.m
Meth Date : 30-Mar-2023 15:35 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 19:24 Cal File: NT1803192308.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: ORGDATA102

							CONCENTRATIONS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.788	6.788	(0.754)	575807	7.51509	7.515
$	2 Phenol-d5	99	8.357	8.350	(0.929)	725275	7.66231	7.662
	3 Phenol	94	Compound Not Detected.					
$	5 2-Chlorophenol-d4	132	8.627	8.628	(0.959)	607404	7.40299	7.403
	4 Bis(2-Chloroethyl)ether	93	Compound Not Detected.					
	6 2-Chlorophenol	128	Compound Not Detected.					
	7 1,3-Dichlorobenzene	146	Compound Not Detected.					
*	8 1,4-Dichlorobenzene-d4	152	8.998	8.999	(1.000)	248537	4.00000	
	9 1,4-Dichlorobenzene	146	Compound Not Detected.					
$	10 1,2-Dichlorobenzene-d4	152	9.348	9.348	(1.039)	287335	4.77273	4.773
	12 1,2-Dichlorobenzene	146	Compound Not Detected.					
	11 Benzyl alcohol	108	Compound Not Detected.					
	14 2,2'-oxybis(1-Chloropropane)	121	Compound Not Detected.					
	13 2-Methylphenol	108	Compound Not Detected.					
	17 Hexachloroethane	117	Compound Not Detected.					
	16 N-Nitroso-di-n-propylamine	70	Compound Not Detected.					
	15 4-Methylphenol	108	Compound Not Detected.					
$	18 Nitrobenzene-d5	82	10.077	10.078	(0.880)	388386	5.14992	5.150
	19 Nitrobenzene	77	Compound Not Detected.					
	20 Isophorone	82	Compound Not Detected.					
	21 2-Nitrophenol	139	Compound Not Detected.					
	22 2,4-Dimethylphenol	107	Compound Not Detected.					
	23 Bis(2-Chloroethoxy)methane	93	Compound Not Detected.					
	24 Benzoic acid	105	Compound Not Detected.					
	25 2,4-Dichlorophenol	162	Compound Not Detected.					
	26 1,2,4-Trichlorobenzene	180	Compound Not Detected.					
*	27 Naphthalene-d8	136	11.455	11.456	(1.000)	914912	4.00000	
	28 Naphthalene	128	11.486	11.494	(1.003)	164	7e-004	0.0006606
	29 4-Chloroaniline	127	Compound Not Detected.					
	30 Hexachlorobutadiene	225	Compound Not Detected.					
	31 4-Chloro-3-methylphenol	107	Compound Not Detected.					
	32 2-Methylnaphthalene	142	Compound Not Detected.					
	33 Hexachlorocyclopentadiene	237	Compound Not Detected.					

			QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
	34	2,4,6-Trichlorophenol	196	Compound Not Detected.					
	35	2,4,5-Trichlorophenol	196	Compound Not Detected.					
$	36	2-Fluorobiphenyl	172	13.660	13.660	(0.908)	838878	4.89619	4.896
	37	2-Chloronaphthalene	162	Compound Not Detected.					
	38	2-Nitroaniline	65	Compound Not Detected.					
	39	Dimethylphthalate	163	Compound Not Detected.					
	40	Acenaphthylene	152	Compound Not Detected.					
	41	2,6-Dinitrotoluene	165	Compound Not Detected.					
*	42	Acenaphthene-d10	164	15.045	15.046	(1.000)	478452	4.00000	
	43	3-Nitroaniline	138	Compound Not Detected.					
	44	Acenaphthene	153	Compound Not Detected.					
	45	2,4-Dinitrophenol	184	Compound Not Detected.					
	46	Dibenzofuran	168	Compound Not Detected.					
	47	4-Nitrophenol	109	Compound Not Detected.					
	48	2,4-Dinitrotoluene	165	Compound Not Detected.					
	50	Diethylphthalate	149	Compound Not Detected.					
	49	Fluorene	166	Compound Not Detected.					
	51	4-Chlorophenyl-phenylether	204	Compound Not Detected.					
	52	4-Nitroaniline	138	Compound Not Detected.					
	53	4,6-Dinitro-2-methylphenol	198	Compound Not Detected.					
	54	N-Nitrosodiphenylamine	169	Compound Not Detected.					
$	55	2,4,6-Tribromophenol	330	16.667	16.668	(1.108)	123817	5.76674	5.767
	56	4-Bromophenyl-phenylether	248	Compound Not Detected.					
	57	Hexachlorobenzene	284	Compound Not Detected.					
	58	Pentachlorophenol	266	Compound Not Detected.					
*	59	Phenanthrene-d10	188	18.050	18.051	(1.000)	846112	4.00000	
	60	Phenanthrene	178	Compound Not Detected.					
	61	Anthracene	178	Compound Not Detected.					
	62	Carbazole	167	Compound Not Detected.					
	63	Di-n-butylphthalate	149	Compound Not Detected.					
	64	Fluoranthene	202	Compound Not Detected.					
	65	Pyrene	202	Compound Not Detected.					
$	66	Terphenyl-d14	244	21.191	21.184	(0.918)	883581	5.22754	5.228
	67	Butylbenzylphthalate	149	Compound Not Detected.					
	68	Benzo(a)anthracene	228	Compound Not Detected.					
*	69	Chrysene-d12	240	23.073	23.074	(1.000)	676661	4.00000	
	70	3,3'-Dichlorobenzidine	252	Compound Not Detected.					
	71	Chrysene	228	Compound Not Detected.					
	72	bis(2-Ethylhexyl)phthalate	149	Compound Not Detected.					
*	134	Di-n-octylphthalate-d4	153	24.110	24.110	(1.000)	797100	4.00000	
	73	Di-n-octylphthalate	149	Compound Not Detected.					
	74	Benzo(b)fluoranthene	252	Compound Not Detected.					
	75	Benzo(k)fluoranthene	252	Compound Not Detected.					
	76	Benzo(a)pyrene	252	Compound Not Detected.					
*	77	Perylene-d12	264	25.589	25.597	(1.000)	739815	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
	79	Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	80	Benzo(g,h,i)perylene	276	Compound Not Detected.					
	90	N-Nitrosodimethylamine	74	Compound Not Detected.					
	91	Aniline	93	Compound Not Detected.					
	93	Benzidine	184	Compound Not Detected.					
	103	Pyridine	79	Compound Not Detected.					
	105	1-methylnaphthalene	142	Compound Not Detected.					
	111	Azobenzene (1,2-DP-Hydrazine)	77	Compound Not Detected.					

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187 Total Benzofluoranthenes	252	Compound Not Detected.					
120 2,3,4,6-Tetrachlorophenol	232	Compound Not Detected.					

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192312.D
Lab Smp Id: SLC0502-ICB1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 16:40
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	268611	134306	537222	248537	-7.47
27 Naphthalene-d8	1007141	503571	2014282	914912	-9.16
42 Acenaphthene-d10	531283	265642	1062566	478452	-9.94
59 Phenanthrene-d10	884709	442355	1769418	846112	-4.36
69 Chrysene-d12	727768	363884	1455536	676661	-7.02
134 Di-n-octylphthala	1108384	554192	2216768	797100	-28.08
77 Perylene-d12	824431	412216	1648862	739815	-10.26

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	-0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	-0.00
42 Acenaphthene-d10	15.05	14.55	15.55	15.05	-0.00
59 Phenanthrene-d10	18.05	17.55	18.55	18.05	-0.00
69 Chrysene-d12	23.07	22.57	23.57	23.07	-0.00
134 Di-n-octylphthala	24.11	23.61	24.61	24.11	-0.00
77 Perylene-d12	25.60	25.10	26.10	25.59	-0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192312.D

Lab ID: SLC0502-ICB1
nt18.i, ABN.m, 19-MAR-2023 22:06

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

RRT check based on Ccal File: NT1803192308.D

On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Analytical Resources, LLC
Analytical Chemists and Consultants

ANALYSIS SEQUENCE

SLC0502

Instrument: NT18
Calibration ID: GC00085

Printed: 4/1/2023 8:02:10AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SLC0502-TUN1	QC		1		L002618			
SLC0502-CAL1	QC		2		K011105	K010831		
SLC0502-CAL2	QC		3		K011106	K010831		
SLC0502-CAL3	QC		4		K011107	K010831		
SLC0502-CAL4	QC		5		K011108	K010831		
SLC0502-CAL5	QC		6		K011109	K010831		
SLC0502-CAL6	QC		7		K011110	K010831		
SLC0502-CAL7	QC		8		K011111	K010831		
SLC0502-SCV1	QC		9		K010066	K010831		
SLC0502-ICB1	QC		10		K005156	K010831		

Samples Loaded By Date

Data Processed By Date

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt18.i\20230319.b

	Time	Filename	LabID	ClientId	DF																	
1	1500	NT1803192301.D	SLC0502-TUN1		1	|NO ISTDS FOUND||																
2	1518	NT1803192302.D	SKC0502-CAL7		1	9.00	265925	11.46	1054983	15.05	562747	18.07	984304	23.09	932978	25.61	906541	24.12	1371620			
3	1559	NT1803192303.D	SKC0502-CAL6		1	9.00	273904	11.46	1060831	15.05	565146	18.06	970202	23.08	869199	25.60	896678	24.11	1320300			
4	1640	NT1803192304.D	SKC0502-CAL5		1	9.00	268611	11.46	1007141	15.05	531283	18.05	884709	23.07	727768	25.60	824431	24.11	1108384			
5	1721	NT1803192305.D	SKC0502-CAL4		1	9.00	250513	11.46	933186	15.05	491320	18.05	833515	23.07	697353	25.60	766995	24.11	977195			
6	1802	NT1803192306.D	SKC0502-CAL3		1	9.00	249685	11.46	942385	15.05	498398	18.05	850721	23.07	695007	25.60	773685	24.11	908791			
7	1843	NT1803192307.D	SKC0502-CAL2		1	9.00	242756	11.46	917444	15.05	487888	18.05	846905	23.07	684077	25.59	749848	24.11	875180			
8	1924	NT1803192308.D	SKC0502-CAL1		1	9.00	258154	11.46	986304	15.05	522903	18.05	914723	23.07	724475	25.60	792210	24.11	864246			
9	2126	NT1803192311.D	SLC0502-SCV1		1	9.00	248847	11.46	941852	15.05	508667	18.05	854150	23.07	703971	25.60	796363	24.11	1052203			
10	2206	NT1803192312.D	SLC0502-ICB1		1	9.00	248537	11.46	914912	15.05	478452	18.05	846112	23.07	676661	25.59	739815	24.11	797100			

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt18.i\20230319.b

ARI Job No.: SLC0 Method: DFTPP8270E.m Instrument: nt18.i Date: 19-MAR-2023

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1500	NT1803192301.D	SLC0502-TUN1		1	NO MANUAL INTEGRATION
1518	NT1803192302.D	SKC0502-CAL7		1	Benzoic acid, Benzo(g,h,i)perylene,
1559	NT1803192303.D	SKC0502-CAL6		1	2,2'-oxybis(1-Chloropropane), Benzoic acid, Benzo(g,h,i)perylene,
1640	NT1803192304.D	SKC0502-CAL5		1	2,2'-oxybis(1-Chloropropane), Benzo(g,h,i)perylene,
1721	NT1803192305.D	SKC0502-CAL4		1	2,2'-oxybis(1-Chloropropane), Benzo(g,h,i)perylene,
1802	NT1803192306.D	SKC0502-CAL3		1	Benzo(g,h,i)perylene,
1843	NT1803192307.D	SKC0502-CAL2		1	2,2'-oxybis(1-Chloropropane), Benzo(g,h,i)perylene,
1924	NT1803192308.D	SKC0502-CAL1		1	2,2'-oxybis(1-Chloropropane), Benzoic acid, 2,4,5-Trichlorophenol, Benzo(g,h,i)perylene,
2126	NT1803192311.D	SLC0502-SCV1		1	NO MANUAL INTEGRATION
2206	NT1803192312.D	SLC0502-ICB1		1	NO MANUAL INTEGRATION

Security Status Report

Date: 01-Apr-2023 07:55

NT1803192301.D	Data Locked	yev, 01-
NT1803192302.D	Data Locked	yev, 01-
NT1803192303.D	Data Locked	yev, 01-
NT1803192304.D	Data Locked	yev, 01-
NT1803192305.D	Data Locked	yev, 01-
NT1803192306.D	Data Locked	yev, 01-
NT1803192307.D	Data Locked	yev, 01-
NT1803192308.D	Data Locked	yev, 01-
NT1803192311.D	Data Locked	yev, 01-
NT1803192312.D	Data Locked	yev, 01-

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Batch File: \\target\share\chem3\nt18.i\20230319.b
Inst ID: nt18.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06	RT07
FILENAME:	NT1803192302	NT1803192303	NT1803192304	NT1803192305	NT1803192306	NT1803192307	NT1803192308
INJ.DATE:	19-MAR-2023	19-MAR-2023	19-MAR-2023	19-MAR-2023	19-MAR-2023	19-MAR-2023	19-MAR-2023
INJ.TIME:	15:18	15:59	16:40	17:21	18:02	18:43	19:24

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
$ 1 2-Fluorophenol	6.797	6.797	6.789	6.789	6.789	6.789	6.789	6.797	3.797-9.797	6.791	0.004
186 Carbaryl	+++++	+++++	+++++	+++++	+++++	+++++	+++++	18.785	15.785-21.785	+++++	+++++
179 n-Decane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.921	5.921-11.921	+++++	+++++
180 n-Octadecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	17.908	14.908-20.908	+++++	+++++
169 4-tert-Butylphenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	20.871	17.871-23.871	+++++	+++++
170 N,N-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	20.829	17.829-23.829	+++++	+++++
171 2,3-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	19.559	16.559-22.559	+++++	+++++
172 2,4-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	19.559	16.559-22.559	+++++	+++++
173 2,5-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	24.506	21.506-27.506	+++++	+++++
174 2,6-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	19.196	16.196-22.196	+++++	+++++
175 3,4-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	19.559	16.559-22.559	+++++	+++++
176 3,5-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	21.572	18.572-24.572	+++++	+++++
177 p-Benzoquinone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.736	5.736-11.736	+++++	+++++
168 Pentachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	15.842	12.842-18.842	+++++	+++++
145 4,4'-DDE	+++++	+++++	+++++	+++++	+++++	+++++	+++++	47.212	44.212-50.212	+++++	+++++
146 4,4'-DDD	+++++	+++++	+++++	+++++	+++++	+++++	+++++	47.746	44.746-50.746	+++++	+++++
147 4,4'-DDT	+++++	+++++	+++++	+++++	+++++	+++++	+++++	48.216	45.216-51.216	+++++	+++++

Reviewer 1 _____ Date:_____
Reviewer 2 _____ Date:_____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Batch File: \\target\share\chem3\nt18.i\20230319.b
Inst ID: nt18.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
148 Dieldrin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	47.281	44.281-50.281	+++++	+++++
149 TCMX	+++++	+++++	+++++	+++++	+++++	+++++	+++++	43.387	40.387-46.387	+++++	+++++
150 DCBP	+++++	+++++	+++++	+++++	+++++	+++++	+++++	50.989	47.989-53.989	+++++	+++++
138 Chlorobenzilate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	67.733	64.733-70.733	+++++	+++++
139 Isodrin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	65.067	62.067-68.067	+++++	+++++
140 Diallate A	+++++	+++++	+++++	+++++	+++++	+++++	+++++	65.487	62.487-68.487	+++++	+++++
141 Diallate B	+++++	+++++	+++++	+++++	+++++	+++++	+++++	65.487	62.487-68.487	+++++	+++++
142 1,2-Dibromo-3-Chloropr	+++++	+++++	+++++	+++++	+++++	+++++	+++++	49.917	46.917-52.917	+++++	+++++
135 2,3,5,6-Tetrachlorophe	+++++	+++++	+++++	+++++	+++++	+++++	+++++	16.672	13.672-19.672	+++++	+++++
136 2,3,4,5-tetrachlorophe	+++++	+++++	+++++	+++++	+++++	+++++	+++++	39.317	36.317-42.317	+++++	+++++
$ 137 d8-1,4-Dioxane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	2.445	0.000-5.445	+++++	+++++
* 134 Di-n-octylphthalate-d4	24.119	24.111	24.111	24.111	24.111	24.111	24.111	24.119	21.119-27.119	24.112	0.003
133 Butylatedhydroxytoluen	+++++	+++++	+++++	+++++	+++++	+++++	+++++	16.539	13.539-19.539	+++++	+++++
132 3,6-Dimethylphenanthre	+++++	+++++	+++++	+++++	+++++	+++++	+++++	65.450	62.450-68.450	+++++	+++++
131 1-Methylphenanthrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	64.400	61.400-67.400	+++++	+++++
130 Dibenzothiophene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	62.100	59.100-65.100	+++++	+++++
129 1-Methylfluorene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	54.912	51.912-57.912	+++++	+++++
128 N-Hexadecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	54.212	51.212-57.212	+++++	+++++
127 2-Isopropylnaphthalene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	57.650	54.650-60.650	+++++	+++++
126 N-Tetradecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	56.750	53.750-59.750	+++++	+++++
144 alpha-Terpineol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	12.260	9.260-15.260	+++++	+++++
125 Safrole	+++++	+++++	+++++	+++++	+++++	+++++	+++++	52.166	49.166-55.166	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Batch File: \\target\share\chem3\nt18.i\20230319.b
Inst ID: nt18.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
124 3,4-Dimethylphenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	50.617	47.617-53.617	+++++	+++++
123 Acetophenone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.381	8.381-14.381	+++++	+++++
122 Furfuraldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	43.467	40.467-46.467	+++++	+++++
143 1,4-Dioxane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	2.697	0.000-5.697	+++++	+++++
121 Quinoline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	54.500	51.500-57.500	+++++	+++++
120 2,3,4,6-Tetrachlorophe	15.780	15.772	15.764	15.764	15.764	15.764	15.764	15.780	12.780-18.780	15.768	0.006
178 2-Benzyl-4-Chloropheno	+++++	+++++	+++++	+++++	+++++	+++++	+++++	18.963	15.963-21.963	+++++	+++++
119 7,12-Dimethylbenz(a)an	+++++	+++++	+++++	+++++	+++++	+++++	+++++	47.069	44.069-50.069	+++++	+++++
118 Triphenyl Phosphate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	21.215	18.215-24.215	+++++	+++++
117 Butyl Diphenyl Phospha	+++++	+++++	+++++	+++++	+++++	+++++	+++++	17.541	14.541-20.541	+++++	+++++
116 Dibutyl Phenyl Phospha	+++++	+++++	+++++	+++++	+++++	+++++	+++++	18.747	15.747-21.747	+++++	+++++
115 Tributyl Phosphate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	17.049	14.049-20.049	+++++	+++++
114 Beta-Pinene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	48.950	45.950-51.950	+++++	+++++
113 Diphenyl Oxide	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.341	11.341-17.341	+++++	+++++
112 Biphenyl	+++++	+++++	+++++	+++++	+++++	+++++	+++++	15.526	12.526-18.526	+++++	+++++
111 Azobenzene (1,2-DP-Hyd	16.475	16.459	16.459	16.452	16.452	16.452	16.452	16.475	13.475-19.475	16.457	0.009
110 Tetrachloroguaiacol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	17.874	14.874-20.874	+++++	+++++
109 3,4,5-Trichloroguaiaco	+++++	+++++	+++++	+++++	+++++	+++++	+++++	15.070	12.070-18.070	+++++	+++++
181 3,4,6-Trichloroguaiaco	+++++	+++++	+++++	+++++	+++++	+++++	+++++	15.232	12.232-18.232	+++++	+++++
108 4,5,6-Trichloroguaiaco	+++++	+++++	+++++	+++++	+++++	+++++	+++++	16.374	13.374-19.374	+++++	+++++
184 3,4-Dichloroguaiacol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	13.739	10.739-16.739	+++++	+++++
107 4,5-Dichloroguaiacol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.160	11.160-17.160	+++++	+++++
182 4,6-Dichloroguaiacol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.160	11.160-17.160	+++++	+++++
185 4-Chloroguaiacol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.737	8.737-14.737	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Batch File: \\target\share\chem3\nt18.i\20230319.b
Inst ID: nt18.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
106 Guaiacol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.750	6.750-12.750	+++++	+++++
105 1-methylnaphthalene	13.111	13.103	13.103	13.103	13.103	13.103	13.103	13.111	10.111-16.111	13.104	0.003
151 1,2,4,5-Tetrachloroben	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.499	8.499-14.499	+++++	+++++
152 Benzo(e)pyrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	30.943	27.943-33.943	+++++	+++++
153 Chlorpyrifos	+++++	+++++	+++++	+++++	+++++	+++++	+++++	28.456	25.456-31.456	+++++	+++++
154 Diazinon	+++++	+++++	+++++	+++++	+++++	+++++	+++++	26.930	23.930-29.930	+++++	+++++
155 Kelthane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	29.054	26.054-32.054	+++++	+++++
156 Methyl Parathion	+++++	+++++	+++++	+++++	+++++	+++++	+++++	26.586	23.586-29.586	+++++	+++++
157 Ethyl Parathion	+++++	+++++	+++++	+++++	+++++	+++++	+++++	27.276	24.276-30.276	+++++	+++++
158 Ethion	+++++	+++++	+++++	+++++	+++++	+++++	+++++	24.808	21.808-27.808	+++++	+++++
159 4-Nonylphenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	26.109	23.109-29.109	+++++	+++++
160 Tetraethyl Tin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	21.115	18.115-24.115	+++++	+++++
161 1,2,3-Trichloronaphtha	+++++	+++++	+++++	+++++	+++++	+++++	+++++	36.246	33.246-39.246	+++++	+++++
162 1,2,3,4-Tetrachloronap	+++++	+++++	+++++	+++++	+++++	+++++	+++++	37.506	34.506-40.506	+++++	+++++
163 1,2,3,5,8-Pentachloron	+++++	+++++	+++++	+++++	+++++	+++++	+++++	38.893	35.893-41.893	+++++	+++++
164 1,2,3,4,6,7-Hexachloro	+++++	+++++	+++++	+++++	+++++	+++++	+++++	39.681	36.681-42.681	+++++	+++++
165 1,2,3,4,5,6,7-Heptachl	+++++	+++++	+++++	+++++	+++++	+++++	+++++	41.123	38.123-44.123	+++++	+++++
166 Octachloronaphthalene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	42.253	39.253-45.253	+++++	+++++
167 2,2',4,4',5-Pentabromo	+++++	+++++	+++++	+++++	+++++	+++++	+++++	42.033	39.033-45.033	+++++	+++++
$ 2 Phenol-d5	8.373	8.365	8.357	8.357	8.350	8.349	8.350	8.373	5.373-11.373	8.357	0.009
3 Phenol	8.396	8.388	8.380	8.373	8.373	8.373	8.373	8.396	5.396-11.396	8.379	0.009
4 Bis(2-Chloroethyl)ethe	8.558	8.558	8.550	8.550	8.543	8.542	8.543	8.558	5.558-11.558	8.549	0.007
$ 5 2-Chlorophenol-d4	8.643	8.635	8.635	8.635	8.628	8.627	8.628	8.643	5.643-11.643	8.633	0.006

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Batch File: \\target\share\chem3\nt18.i\20230319.b
Inst ID: nt18.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
	6 2-Chlorophenol	8.674	8.666	8.659	8.658	8.658	8.658	8.658	8.674	5.674-11.674	8.662	0.006
	7 1,3-Dichlorobenzene	8.937	8.937	8.937	8.929	8.929	8.929	8.929	8.937	5.937-11.937	8.933	0.004
*	8 1,4-Dichlorobenzene-d4	8.999	8.999	8.999	8.999	8.999	8.999	8.999	8.999	5.999-11.999	8.999	0.000
	9 1,4-Dichlorobenzene	9.030	9.030	9.030	9.022	9.022	9.022	9.022	9.030	6.030-12.030	9.026	0.004
$	10 1,2-Dichlorobenzene-d4	9.356	9.356	9.356	9.348	9.348	9.348	9.348	9.356	6.356-12.356	9.352	0.004
	11 Benzyl alcohol	9.278	9.271	9.263	9.263	9.255	9.255	9.263	9.278	6.278-12.278	9.264	0.008
	12 1,2-Dichlorobenzene	9.387	9.379	9.379	9.379	9.379	9.379	9.379	9.387	6.387-12.387	9.380	0.003
	13 2-Methylphenol	9.496	9.488	9.480	9.480	9.480	9.480	9.480	9.496	6.496-12.496	9.484	0.006
	14 2,2'-oxybis(1-Chloropr	9.574	9.566	9.566	9.566	9.566	9.566	9.566	9.574	6.574-12.574	9.567	0.003
	15 4-Methylphenol	9.768	9.760	9.752	9.744	9.744	9.744	9.744	9.768	6.768-12.768	9.751	0.009
	16 N-Nitroso-di-n-propyla	9.845	9.830	9.822	9.822	9.814	9.814	9.814	9.845	6.845-12.845	9.823	0.011
	17 Hexachloroethane	9.969	9.969	9.969	9.962	9.969	9.961	9.962	9.969	6.969-12.969	9.966	0.004
$	18 Nitrobenzene-d5	10.094	10.086	10.078	10.078	10.078	10.078	10.078	10.094	7.094-13.094	10.081	0.006
	19 Nitrobenzene	10.125	10.117	10.117	10.109	10.109	10.109	10.109	10.125	7.125-13.125	10.113	0.006
	20 Isophorone	10.590	10.574	10.559	10.559	10.559	10.551	10.559	10.590	7.590-13.590	10.565	0.013
	21 2-Nitrophenol	10.745	10.736	10.736	10.736	10.736	10.736	10.736	10.745	7.745-13.745	10.738	0.003
	22 2,4-Dimethylphenol	10.804	10.796	10.787	10.787	10.787	10.787	10.787	10.804	7.804-13.804	10.791	0.007
	23 Bis(2-Chloroethoxy)met	10.999	10.991	10.991	10.991	10.982	10.982	10.982	10.999	7.999-13.999	10.988	0.006
	24 Benzoic acid	11.186	11.093	11.025	10.974	10.923	10.897	10.881	11.186	8.186-14.186	10.997	0.112
	25 2,4-Dichlorophenol	11.195	11.186	11.186	11.186	11.178	11.177	11.186	11.195	8.195-14.195	11.185	0.006
	26 1,2,4-Trichlorobenzene	11.378	11.378	11.378	11.371	11.371	11.370	11.371	11.378	8.378-14.378	11.374	0.004
*	27 Naphthalene-d8	11.463	11.463	11.456	11.455	11.456	11.455	11.456	11.463	8.463-14.463	11.458	0.004
	28 Naphthalene	11.510	11.502	11.502	11.494	11.494	11.494	11.494	11.510	8.510-14.510	11.498	0.006
	29 4-Chloroaniline	11.641	11.633	11.625	11.625	11.625	11.625	11.625	11.641	8.641-14.641	11.629	0.006

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Batch File: \\target\share\chem3\nt18.i\20230319.b
Inst ID: nt18.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
	30 Hexachlorobutadiene	11.865	11.865	11.865	11.865	11.865	11.865	11.857	11.865	8.865-14.865	11.864	0.003
	31 4-Chloro-3-methylpheno	12.592	12.584	12.577	12.577	12.577	12.577	12.577	12.592	9.592-15.592	12.580	0.006
	32 2-Methylnaphthalene	13.111	13.103	13.103	13.103	13.103	13.103	13.103	13.111	10.111-16.111	13.104	0.003
	33 Hexachlorocyclopentadi	13.359	13.351	13.351	13.351	13.351	13.351	13.351	13.359	10.359-16.359	13.352	0.003
	34 2,4,6-Trichlorophenol	13.513	13.505	13.498	13.498	13.498	13.498	13.498	13.513	10.513-16.513	13.501	0.006
	35 2,4,5-Trichlorophenol	13.583	13.575	13.568	13.567	13.567	13.567	13.567	13.583	10.583-16.583	13.571	0.006
$	36 2-Fluorobiphenyl	13.668	13.668	13.660	13.660	13.660	13.660	13.660	13.668	10.668-16.668	13.663	0.004
	37 2-Chloronaphthalene	13.877	13.869	13.869	13.869	13.862	13.861	13.862	13.877	10.877-16.877	13.867	0.006
	38 2-Nitroaniline	14.148	14.132	14.125	14.125	14.117	14.117	14.117	14.148	11.148-17.148	14.126	0.011
	39 Dimethylphthalate	14.581	14.574	14.566	14.558	14.558	14.558	14.558	14.581	11.581-17.581	14.565	0.009
	40 Acenaphthylene	14.744	14.736	14.729	14.728	14.729	14.728	14.729	14.744	11.744-17.744	14.732	0.006
	41 2,6-Dinitrotoluene	14.713	14.705	14.698	14.690	14.690	14.690	14.690	14.713	11.713-17.713	14.696	0.009
*	42 Acenaphthene-d10	15.053	15.045	15.046	15.046	15.046	15.045	15.046	15.053	12.053-18.053	15.047	0.003
	43 3-Nitroaniline	14.999	14.984	14.976	14.968	14.961	14.960	14.961	14.999	11.999-17.999	14.973	0.015
	44 Acenaphthene	15.123	15.115	15.107	15.107	15.107	15.107	15.107	15.123	12.123-18.123	15.111	0.006
	45 2,4-Dinitrophenol	15.216	15.192	15.185	15.177	15.177	15.177	15.177	15.216	12.216-18.216	15.186	0.014
	46 Dibenzofuran	15.448	15.440	15.432	15.432	15.432	15.432	15.424	15.448	12.448-18.448	15.434	0.007
	47 4-Nitrophenol	15.316	15.293	15.285	15.277	15.270	15.270	15.270	15.316	12.316-18.316	15.283	0.017
	48 2,4-Dinitrotoluene	15.525	15.501	15.494	15.486	15.486	15.486	15.486	15.525	12.525-18.525	15.495	0.014
	49 Fluorene	16.151	16.143	16.143	16.136	16.136	16.135	16.136	16.151	13.151-19.151	16.140	0.006
	50 Diethylphthalate	16.035	16.027	16.012	16.004	16.004	16.004	16.004	16.035	13.035-19.035	16.013	0.013
	51 4-Chlorophenyl-phenyle	16.143	16.135	16.136	16.136	16.136	16.135	16.128	16.143	13.143-19.143	16.136	0.004
	52 4-Nitroaniline	16.282	16.251	16.228	16.220	16.213	16.212	16.213	16.282	13.282-19.282	16.231	0.026
	53 4,6-Dinitro-2-methylph	16.367	16.344	16.328	16.321	16.321	16.320	16.313	16.367	13.367-19.367	16.330	0.019

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Batch File: \\target\share\chem3\nt18.i\20230319.b
Inst ID: nt18.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
	54 N-Nitrosodiphenylamine	16.405	16.390	16.382	16.382	16.375	16.374	16.375	16.405	13.405-19.405	16.383	0.011
$	55 2,4,6-Tribromophenol	16.683	16.675	16.668	16.668	16.668	16.667	16.668	16.683	13.683-19.683	16.671	0.006
	56 4-Bromophenyl-phenylet	17.138	17.130	17.130	17.130	17.130	17.122	17.130	17.138	14.138-20.138	17.130	0.005
	57 Hexachlorobenzene	17.447	17.439	17.439	17.439	17.439	17.439	17.439	17.447	14.447-20.447	17.440	0.003
	58 Pentachlorophenol	17.803	17.795	17.788	17.788	17.788	17.788	17.788	17.803	14.803-20.803	17.791	0.006
*	59 Phenanthrene-d10	18.066	18.058	18.051	18.051	18.051	18.051	18.051	18.066	15.066-21.066	18.054	0.006
	60 Phenanthrene	18.113	18.105	18.097	18.097	18.097	18.097	18.097	18.113	15.113-21.113	18.100	0.006
	61 Anthracene	18.206	18.198	18.190	18.190	18.190	18.190	18.190	18.206	15.206-21.206	18.193	0.006
	62 Carbazole	18.530	18.523	18.515	18.515	18.515	18.515	18.515	18.530	15.530-21.530	18.518	0.006
	63 Di-n-butylphthalate	19.343	19.335	19.335	19.327	19.327	19.327	19.335	19.343	16.343-22.343	19.333	0.006
	64 Fluoranthene	20.488	20.480	20.472	20.472	20.472	20.472	20.472	20.488	17.488-23.488	20.476	0.006
	65 Pyrene	20.906	20.898	20.898	20.890	20.890	20.890	20.890	20.906	17.906-23.906	20.895	0.006
$	66 Terphenyl-d14	21.200	21.192	21.192	21.184	21.184	21.184	21.184	21.200	18.200-24.200	21.189	0.006
	67 Butylbenzylphthalate	22.121	22.121	22.113	22.113	22.113	22.113	22.113	22.121	19.121-25.121	22.116	0.004
	68 Benzo(a)anthracene	23.058	23.050	23.043	23.043	23.043	23.042	23.043	23.058	20.058-26.058	23.046	0.006
*	69 Chrysene-d12	23.089	23.081	23.074	23.074	23.074	23.073	23.074	23.089	20.089-26.089	23.077	0.006
	70 3,3'-Dichlorobenzidine	23.027	23.019	23.004	23.004	23.004	23.004	23.004	23.027	20.027-26.027	23.009	0.010
	71 Chrysene	23.136	23.128	23.120	23.112	23.112	23.112	23.112	23.136	20.136-26.136	23.119	0.009
	72 bis(2-Ethylhexyl)phtha	23.143	23.143	23.136	23.136	23.136	23.135	23.136	23.143	20.143-26.143	23.138	0.004
	73 Di-n-octylphthalate	24.126	24.126	24.119	24.119	24.119	24.119	24.119	24.126	21.126-27.126	24.121	0.004
	74 Benzo(b)fluoranthene	24.893	24.877	24.870	24.870	24.862	24.862	24.870	24.893	21.893-27.893	24.872	0.011
	75 Benzo(k)fluoranthene	24.939	24.924	24.916	24.908	24.908	24.908	24.908	24.939	21.939-27.939	24.916	0.012
	187 Total Benzofluoranthen	24.939	24.924	24.916	24.908	24.908	24.908	24.908	24.939	21.939-27.939	24.916	0.012
	76 Benzo(a)pyrene	25.512	25.497	25.489	25.481	25.481	25.481	25.481	25.512	22.512-28.512	25.489	0.012

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Batch File: \\target\share\chem3\nt18.i\20230319.b
Inst ID: nt18.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
*	77 Perylene-d12	25.605	25.597	25.598	25.597	25.597	25.590	25.598	25.605	22.605-28.605	25.597	0.005
	78 Indeno(1,2,3-cd)pyrene	28.157	28.125	28.102	28.095	28.087	28.094	28.095	28.157	25.157-31.157	28.108	0.025
	79 Dibenzo(a,h)anthracene	28.165	28.133	28.118	28.110	28.110	28.102	28.102	28.165	25.165-31.165	28.120	0.022
	80 Benzo(g,h,i)perylene	28.895	28.863	28.840	28.825	28.825	28.825	28.817	28.895	25.895-31.895	28.841	0.028
$	85 p-Cresol-d4	+++++	+++++	+++++	+++++	+++++	+++++	+++++	51.633	48.633-54.633	+++++	+++++
$	86 Anthracene-d10	+++++	+++++	+++++	+++++	+++++	+++++	+++++	63.533	60.533-66.533	+++++	+++++
$	87 Fluoranthene-d10	+++++	+++++	+++++	+++++	+++++	+++++	+++++	60.273	57.273-63.273	+++++	+++++
$	88 Dibenz(a,h)anthracene-	+++++	+++++	+++++	+++++	+++++	+++++	+++++	78.600	75.600-81.600	+++++	+++++
$	89 Diphenyl-d10	+++++	+++++	+++++	+++++	+++++	+++++	+++++	50.841	47.841-53.841	+++++	+++++
	90 N-Nitrosodimethylamine	4.742	4.727	4.711	4.703	4.703	4.703	4.704	4.742	1.742-7.742	4.713	0.015
	91 Aniline	8.473	8.465	8.458	8.458	8.450	8.450	8.450	8.473	5.473-11.473	8.458	0.009
	92 1,2-Diphenylhydrazine	+++++	+++++	+++++	+++++	+++++	+++++	+++++	56.160	53.160-59.160	+++++	+++++
	93 Benzidine	20.728	20.720	20.712	20.712	20.705	20.712	20.712	20.728	17.728-23.728	20.714	0.007
$	95 D10-1-methylnaphthalen	+++++	+++++	+++++	+++++	+++++	+++++	+++++	52.075	49.075-55.075	+++++	+++++
	96 p-Cymene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	49.250	46.250-52.250	+++++	+++++
	97 Caffeine	+++++	+++++	+++++	+++++	+++++	+++++	+++++	61.202	58.202-64.202	+++++	+++++
	98 Retene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	18.248	15.248-21.248	+++++	+++++
	99 Perylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	26.094	23.094-29.094	+++++	+++++
	100 3-beta-Coprostanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	25.411	22.411-28.411	+++++	+++++
	101 Cholesterol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	26.023	23.023-29.023	+++++	+++++
	102 beta-Sitosterol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	79.550	76.550-82.550	+++++	+++++
	103 Pyridine	4.734	4.734	4.727	4.727	4.734	4.742	4.750	4.734	1.734-7.734	4.735	0.008
	188 2,6-Dichlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.874	8.874-14.874	+++++	+++++
	189 N-Nitrosomethylethylam	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.818	2.818-8.818	+++++	+++++

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAR-2023 15:18
End Cal Date : 19-MAR-2023 19:24
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt18.i\20230319.b\ABN.m
Last Edit : 01-Apr-2023 07:28 yev

Calibration File Names:
Level 1: \\target\share\chem3\nt18.i\20230319.b\NT1803192308.D
Level 2: \\target\share\chem3\nt18.i\20230319.b\NT1803192307.D
Level 3: \\target\share\chem3\nt18.i\20230319.b\NT1803192306.D
Level 4: \\target\share\chem3\nt18.i\20230319.b\NT1803192305.D
Level 5: \\target\share\chem3\nt18.i\20230319.b\NT1803192304.D
Level 6: \\target\share\chem3\nt18.i\20230319.b\NT1803192303.D
Level 7: \\target\share\chem3\nt18.i\20230319.b\NT1803192302.D

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
186 Carbaryl	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
179 n-Decane	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
180 n-Octadecane	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
169 4-tert-Butylphenol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-

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Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
170 N,N-Dimethylaniline	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
171 2,3-Dimethylaniline	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
172 2,4-Dimethylaniline	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
173 2,5-Dimethylaniline	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
174 2,6-Dimethylaniline	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
175 3,4-Dimethylaniline	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
176 3,5-Dimethylaniline	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-

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Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
177 p-Benzoquinone	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
168 Pentachlorobenzene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
145 4,4'-DDE	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
146 4,4'-DDD	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
147 4,4'-DDT	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
148 Dieldrin	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
149 TCMX	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-

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Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
150 DCBP	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
138 Chlorobenzilate	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
139 Isodrin	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
140 Diallate A	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
141 Diallate B	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
142 1,2-Dibromo-3-Chloropropane	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
135 2,3,5,6-Tetrachlorophenol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-

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Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
136 2,3,4,5-tetrachlorophenol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
133 Butylatedhydroxytoluene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
132 3,6-Dimethylphenanthrene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
131 1-Methylphenanthrene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
130 Dibenzothiophene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
129 1-Methylfluorene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
128 N-Hexadecane	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-

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Start Cal Date : 19-MAR-2023 15:18
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Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt18.i\20230319.b\ABN.m
Last Edit : 01-Apr-2023 07:28 yev

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
127 2-Isopropylnaphthalene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
126 N-Tetradecane	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
144 alpha-Terpineol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
125 Safrole	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
124 3,4-Dimethylphenol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
123 Acetophenone	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
122 Furfuraldehyde	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-

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Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
143 1,4-Dioxane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
121 Quinoline	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
120 2,3,4,6-Tetrachlorophenol	4058	15400	34386	122342	255084	604431						
	1249031						LINR	0.000e+000	0.43773		0.99759	
178 2-Benzyl-4-Chlorophenol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
119 7,12-Dimethylbenz(a)anthracen	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
118 Triphenyl Phosphate	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
117 Butyl Diphenyl Phosphate	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-

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Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
116 Dibutyl Phenyl Phosphate	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
115 Tributyl Phosphate	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
114 Beta-Pinene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
113 Diphenyl Oxide	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
112 Biphenyl	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
111 Azobenzene (1,2-DP-Hydrazine)	1.18680 / 1.35994	1.37310	1.25944	1.40587	1.30537	1.37352	AVRG		1.32343		5.86882	
110 Tetrachloroguaiacol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-

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Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
109 3,4,5-Trichloroguaiacol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
181 3,4,6-Trichloroguaiacol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
108 4,5,6-Trichloroguaiacol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
184 3,4-Dichloroguaiacol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
107 4,5-Dichloroguaiacol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
182 4,6-Dichloroguaiacol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
185 4-Chloroguaiacol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-

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Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
106 Guaiacol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
105 1-methylnaphthalene	0.60584	0.69592	0.64861	0.69129	0.62953	0.65068						
	0.62055						AVRG		0.64892		5.28042	
151 1,2,4,5-Tetrachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
152 Benzo(e)pyrene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
153 Chlorpyrifos	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
154 Diazinon	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
155 Kelthane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-

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Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
156 Methyl Parathion	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
157 Ethyl Parathion	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
158 Ethion	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
159 4-Nonylphenol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
160 Tetraethyl Tin	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
161 1,2,3-Trichloronaphthalene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
162 1,2,3,4-Tetrachloronapthalene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-

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Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
163 1,2,3,5,8-Pentachloronaphthal	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
164 1,2,3,4,6,7-Hexachloronaphtha	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
165 1,2,3,4,5,6,7-Heptachloronaph	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
166 Octachloronaphthalene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
167 2,2',4,4',5-Pentabromobipheny	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
3 Phenol	1.47106 / 1.60277	1.68456	1.59212	1.74178	1.60205	1.70835	AVRG		1.62895		5.59411	
4 Bis(2-Chloroethyl)ether	1.09927 / 1.07644	1.21080	1.09033	1.19839	1.07749	1.13878	AVRG		1.12736		5.04100	

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Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
6 2-Chlorophenol	1.18108	1.41690	1.31324	1.49936	1.36461	1.58745					
	1.38715						AVRG		1.39283		9.35231
7 1,3-Dichlorobenzene	1.43449	1.58922	1.46489	1.55660	1.40334	1.47685					
	1.42620						AVRG		1.47880		4.69035
9 1,4-Dichlorobenzene	1.44883	1.57798	1.45551	1.56118	1.38947	1.49645					
	1.43026						AVRG		1.47995		4.67340
11 Benzyl alcohol	0.56672	0.72534	0.70281	0.83815	0.78471	0.86278					
	0.84021						AVRG		0.76010		13.75075
12 1,2-Dichlorobenzene	1.48198	1.54568	1.39304	1.51086	1.37476	1.47184					
	1.43065						AVRG		1.45840		4.25873
13 2-Methylphenol	1.07362	1.27344	1.19466	1.32206	1.21981	1.30753					
	1.26355						AVRG		1.23638		6.84867
14 2,2'-oxybis(1-Chloropropane)	0.32647	0.37888	0.32513	0.39171	0.31713	0.33408					
	0.33029						AVRG		0.34339		8.54156

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Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
15 4-Methylphenol	1.05999	1.31642	1.21592	1.40514	1.28339	1.37099						
	1.33525						AVRG		1.28387		9.03521	
16 N-Nitroso-di-n-propylamine	0.75234	0.91364	0.84101	0.95409	0.87005	0.92914						
	0.90303						AVRG		0.88047		7.68624	
17 Hexachloroethane	0.53472	0.60963	0.55430	0.60704	0.56957	0.60378						
	0.57757						AVRG		0.57952		4.98073	
19 Nitrobenzene	0.26817	0.33316	0.31239	0.35885	0.33126	0.34226						
	0.32292						AVRG		0.32415		8.84930	
20 Isophorone	0.32795	0.42535	0.40973	0.49441	0.44916	0.50859						
	0.48330						AVRG		0.44264		14.06665	
21 2-Nitrophenol	4112	12940	25520	97374	220349	543235						
	1047153						QUAD	0.000e+000	5.24332	-0.23425	0.99838	<-
22 2,4-Dimethylphenol	+++++	0.33243	0.31210	0.34369	0.31884	0.33680						
	0.31136						AVRG		0.32587		4.18440	

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Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
23 Bis(2-Chloroethoxy)methane	0.30029	0.33048	0.32026	0.34568	0.31116	0.32166					
	0.31004						AVRG		0.31994		4.66694
24 Benzoic acid	+++++	27406	100529	462626	1097860	2714336					
	5553778						QUAD	0.000e+000	4.35248	-0.10805	0.99863
25 2,4-Dichlorophenol	+++++	0.29265	0.28560	0.32378	0.31095	0.29935					
	0.28723						AVRG		0.29993		4.96775
26 1,2,4-Trichlorobenzene	0.31355	0.32904	0.30638	0.32910	0.30182	0.31410					
	0.30705						AVRG		0.31443		3.45480
28 Naphthalene	1.06892	1.18115	1.05607	1.14545	1.04294	1.07759					
	1.02604						AVRG		1.08545		5.22413
29 4-Chloroaniline	+++++	0.42593	0.38971	0.44337	0.40552	0.43075					
	0.41059						AVRG		0.41765		4.64198
30 Hexachlorobutadiene	0.17494	0.19326	0.17475	0.18662	0.16960	0.17760					
	0.17481						AVRG		0.17880		4.58631

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Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
31 4-Chloro-3-methylphenol	+++++	0.25895	0.25253	0.29897	0.27676	0.29403					
	0.27614						AVRG		0.27623		6.66420
32 2-Methylnaphthalene	0.60584	0.69592	0.64861	0.69129	0.62953	0.65068					
	0.62055						AVRG		0.64892		5.28042
33 Hexachlorocyclopentadiene	+++++	0.29923	0.29344	0.36576	0.35267	0.38494					
	0.38086						AVRG		0.34615		11.63896
34 2,4,6-Trichlorophenol	+++++	0.31116	0.30477	0.38559	0.35822	0.39437					
	0.39276						AVRG		0.35781		11.40007
35 2,4,5-Trichlorophenol	+++++	0.34574	0.33584	0.41433	0.39540	0.43527					
	0.42008						AVRG		0.39111		10.51667
37 2-Chloronaphthalene	1.08246	1.21075	1.09797	1.21026	1.11224	1.15919					
	1.12600						AVRG		1.14270		4.56179
38 2-Nitroaniline	+++++	0.24851	0.26268	0.32935	0.30954	0.33169					
	0.31492						AVRG		0.29945		11.78014

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Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
39 Dimethylphthalate	1.06410	1.22490	1.13103	1.27470	1.17595	1.24424					
	1.22844						AVRG		1.19191		6.15699
40 Acenaphthylene	1.69171	1.99665	1.88522	2.10173	1.93828	2.02481					
	1.98279						AVRG		1.94588		6.72678
41 2,6-Dinitrotoluene	+++++	23625	48818	160829	339558	805395					
	1614129						QUAD	0.000e+000	3.73571	-0.09016	0.99938
43 3-Nitroaniline	+++++	0.24778	0.25625	0.32199	0.30875	0.34514					
	0.34742						AVRG		0.30455		14.20879
44 Acenaphthene	1.18707	1.32094	1.21001	1.30700	1.19403	1.23080					
	1.17189						AVRG		1.23168		4.81394
45 2,4-Dinitrophenol	+++++	8933	29004	140807	368685	1051111					
	2259744						QUAD	0.000e+000	6.39529	-0.35937	0.99664
46 Dibenzofuran	1.60202	1.81024	1.66075	1.78626	1.62822	1.71546					
	1.64174						AVRG		1.69210		4.76967

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Compound	0.2000000 Level 1	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	20.0000 Level 7										
47 4-Nitrophenol	+++++	13998	29342	95933	203539	474420					
	926393						QUAD	0.000e+000	6.19443	-0.08327	0.99940
48 2,4-Dinitrotoluene	+++++	31218	67910	213411	445524	1063842					
	2152395						QUAD	0.000e+000	2.84677	-0.06245	0.99939
49 Fluorene	1.20202	1.62408	1.52395	1.64049	1.52844	1.64799					
	1.58501						AVRG		1.53600		10.13356
50 Diethylphthalate	1.00317	1.16938	1.09641	1.23891	1.26430	1.35349					
	1.32793						AVRG		1.20766		10.45088
51 4-Chlorophenyl-phenylether	0.56087	0.63139	0.67772	0.73183	0.68930	0.74958					
	0.73127						AVRG		0.68171		9.80061
52 4-Nitroaniline	+++++	28075	46141	132480	382829	956633					
	1929301						QUAD	0.000e+000	3.29944	-0.11594	0.99761
53 4,6-Dinitro-2-methylphenol	+++++	18271	48124	195457	462660	1242693					
	2646760						QUAD	0.000e+000	8.91820	-0.56315	0.99819

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAR-2023 15:18
End Cal Date : 19-MAR-2023 19:24
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt18.i\20230319.b\ABN.m
Last Edit : 01-Apr-2023 07:28 yev

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
54 N-Nitrosodiphenylamine	0.43524	0.51639	0.49475	0.51961	0.49704	0.55337					
	0.55032						AVRG		0.50953		7.86183
56 4-Bromophenyl-phenylether	0.17566	0.20194	0.18791	0.21463	0.20458	0.21550					
	0.21461						AVRG		0.20212		7.55713
57 Hexachlorobenzene	0.21230	0.23130	0.21634	0.23269	0.22044	0.23426					
	0.23966						AVRG		0.22671		4.54089
58 Pentachlorophenol	+++++	12204	33813	127610	281141	746393					
	1667985						QUAD	0.000e+000	7.48556	-0.94619	0.99882
60 Phenanthrene	1.05853	1.10233	1.05648	1.13696	1.06286	1.13161					
	1.09452						AVRG		1.09190		3.11337
61 Anthracene	0.87128	1.04300	0.99961	1.11491	1.05027	1.12994					
	1.07835						AVRG		1.04105		8.35344
62 Carbazole	0.71646	0.92433	0.89225	0.98284	0.89409	1.00891					
	0.99825						AVRG		0.91673		10.97999

ARI Labs, Inc.

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Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt18.i\20230319.b\ABN.m
Last Edit : 01-Apr-2023 07:28 yev

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
63 Di-n-butylphthalate	28402	98101	199514	622020	1267475	3007747					
	5893041						QUAD	0.000e+000	0.82209	0.00180	0.99951
64 Fluoranthene	1.08995	1.35067	1.26369	1.37255	1.30535	1.32033					
	1.22004						AVRG		1.27465		7.55274
65 Pyrene	1.20236	1.49550	1.28764	1.43712	1.35341	1.36419					
	1.26403						AVRG		1.34346		7.55139
67 Butylbenzylphthalate	7051	33194	67256	242123	488824	1278009					
	2591386						QUAD	0.000e+000	1.72019	0.02635	0.99920
68 Benzo(a)anthracene	1.09337	1.27809	1.23001	1.31642	1.26937	1.32511					
	1.24963						AVRG		1.25171		6.19942
70 3,3'-Dichlorobenzidine	23951	91242	195554	554555	1052891	3095845					
	6202052						QUAD	0.000e+000	2.21623	0.00380	0.99744
71 Chrysene	1.21879	1.38545	1.27175	1.35520	1.29017	1.32860					
	1.20741						AVRG		1.29391		5.18157

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Method file : \\target\share\chem3\nt18.i\20230319.b\ABN.m
Last Edit : 01-Apr-2023 07:28 yev

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
72 bis(2-Ethylhexyl)phthalate	11137	48870	105077	355041	742481	1923506						
	3728882						QUAD	0.000e+000	1.69858	0.04939	0.99926	
73 Di-n-octylphthalate	0.99391	1.05108	0.97560	1.02310	0.94326	0.97177						
	0.93025						AVRG		0.98414		4.32977	
74 Benzo(b)fluoranthene	0.83453	1.09412	1.04253	1.17402	1.17852	1.28277						
	1.18831						AVRG		1.11354		12.98169	
75 Benzo(k)fluoranthene	0.98848	1.24242	1.17768	1.36266	1.20447	1.28436						
	1.31340						AVRG		1.22478		9.95496	
187 Total Benzofluoranthenes	0.87530	1.11640	1.06086	1.21015	1.13519	1.22394						
	1.18985						AVRG		1.11596		10.80992	
76 Benzo(a)pyrene	26258	88917	178246	544644	1104870	2535891						
	5052381						QUAD	0.000e+000	0.89850	-0.00047	0.99976	<-
78 Indeno(1,2,3-cd)pyrene	27606	94214	204928	646542	1384338	3336433						
	6891424						QUAD	0.000e+000	0.72064	-0.00848	0.99956	

ARI Labs, Inc.

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Last Edit : 01-Apr-2023 07:28 yev

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
79 Dibenzo(a,h)anthracene	23139	76780	168633	531999	1154359	2804935					
	5971406						QUAD	0.000e+000	0.87427	-0.01774	0.99960
80 Benzo(g,h,i)perylene	26355	82926	169458	545149	1095963	2630441					
	5409212						QUAD	0.000e+000	0.90307	-0.01118	0.99956
90 N-Nitrosodimethylamine	0.75947	0.82475	0.75876	0.82806	0.74191	0.75705					
	0.66648						AVRG		0.76235		7.15857
91 Aniline	+++++	1.78452	1.66620	1.82769	1.70606	1.82088					
	1.70462						AVRG		1.75166		3.89262
92 1,2-Diphenylhydrazine	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+000		0.000e+000 <-
93 Benzidine	+++++	0.50039	0.44827	0.64890	0.51956	0.61282					
	0.52220						AVRG		0.54202		13.77057
96 p-Cymene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+000		0.000e+000 <-

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Last Edit : 01-Apr-2023 07:28 yev

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
97 Caffeine	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
98 Retene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
99 Perylene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
100 3-beta-Coprostanol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
101 Cholesterol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
102 beta-Sitosterol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
103 Pyridine	1.08300 / 1.08386	1.36102	1.30343	1.41238	1.26729	1.30175	AVRG		1.25896		10.22654	

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Last Edit : 01-Apr-2023 07:28 yev

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
188 2,6-Dichlorophenol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
189 N-Nitrosomethylethylamine	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
$ 1 2-Fluorophenol	1.02001 / 1.20426	1.26523	1.20548	1.36474	1.25140	1.32085	AVRG		1.23314		8.96922	
$ 137 d8-1,4-Dioxane	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
$ 2 Phenol-d5	1.29174 / 1.47505	1.59091	1.49381	1.68246	1.52604	1.60376	AVRG		1.52339		8.18141	
$ 5 2-Chlorophenol-d4	1.10213 / 1.35220	1.31512	1.26865	1.45096	1.32210	1.43236	AVRG		1.32050		8.79571	
$ 10 1,2-Dichlorobenzene-d4	0.96555 / 0.92255	1.06609	0.94101	1.01427	0.90655	0.96646	AVRG		0.96893		5.70529	

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Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	Coefficients m1	Coefficients m2	%RSD or R^2	
$ 18 Nitrobenzene-d5	0.25828	0.32520	0.30824	0.37247	0.34753	0.35768						
	0.33863						AVRG		0.32972		11.47715	
$ 36 2-Fluorobiphenyl	1.37513	1.51876	1.37159	1.50800	1.40601	1.44565						
	1.40162						AVRG		1.43239		4.22454	
$ 55 2,4,6-Tribromophenol	3095	10994	24640	75368	166555	418306						
	907034						QUAD	0.000e+000	5.74896	-0.68793	0.99921	
$ 66 Terphenyl-d14	0.87244	1.02902	0.96121	1.04421	0.99469	1.06751						
	1.02508						AVRG		0.99917		6.56072	
$ 85 p-Cresol-d4	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
$ 86 Anthracene-d10	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
$ 87 Fluoranthene-d10	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-

ARI Labs, Inc.

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Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
$ 88 Dibenz(a,h)anthracene-d14	+++++ / +++++	+++++	+++++	+++++	+++++	+++++ / +++++	AVRG		0.000e+000		0.000e+000	<-
$ 89 Diphenyl-d10	+++++ / +++++	+++++	+++++	+++++	+++++	+++++ / +++++	AVRG		0.000e+000		0.000e+000	<-
$ 95 D10-1-methylnaphthalene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++ / +++++	AVRG		0.000e+000		0.000e+000	<-

ARI Labs, Inc.

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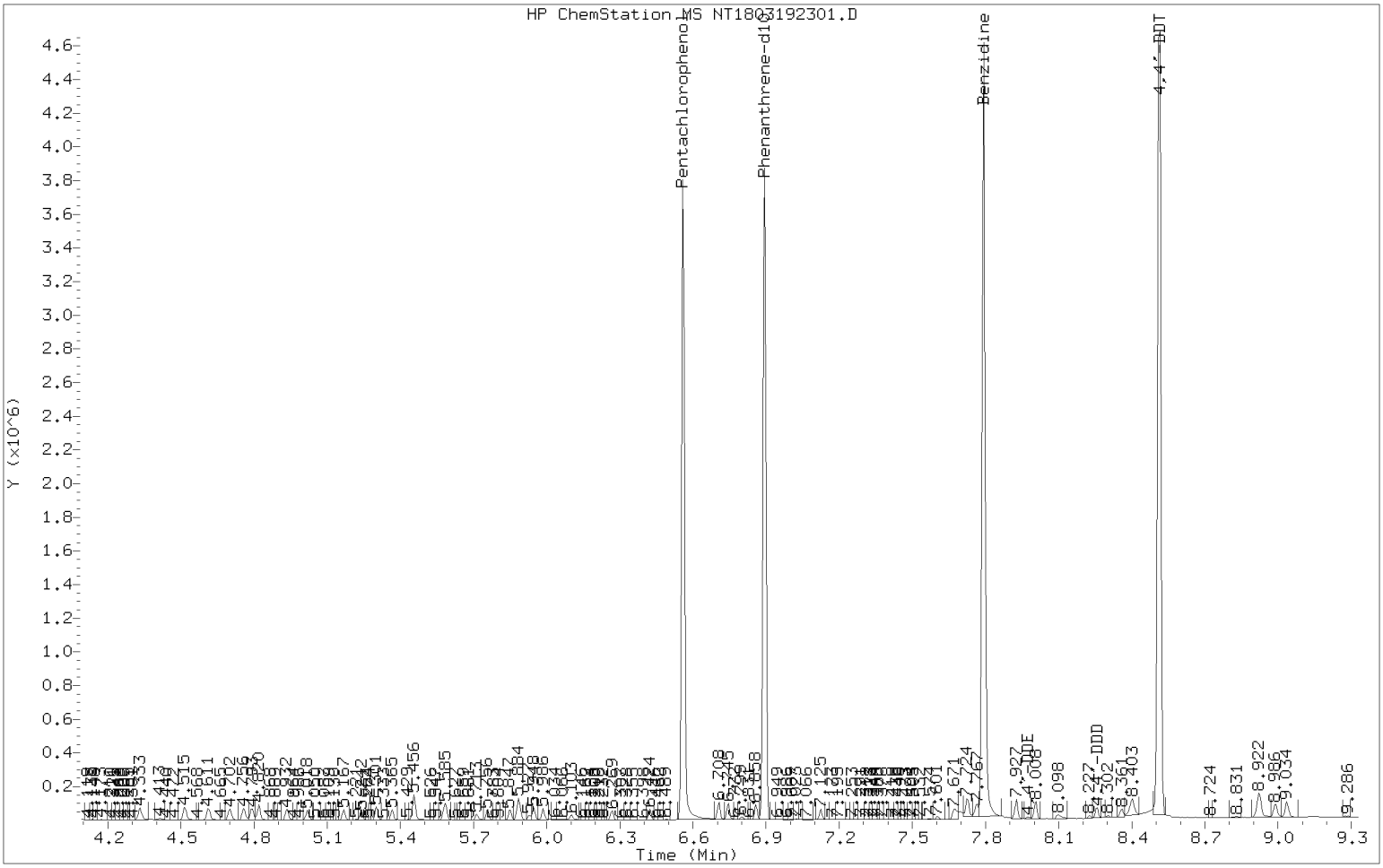
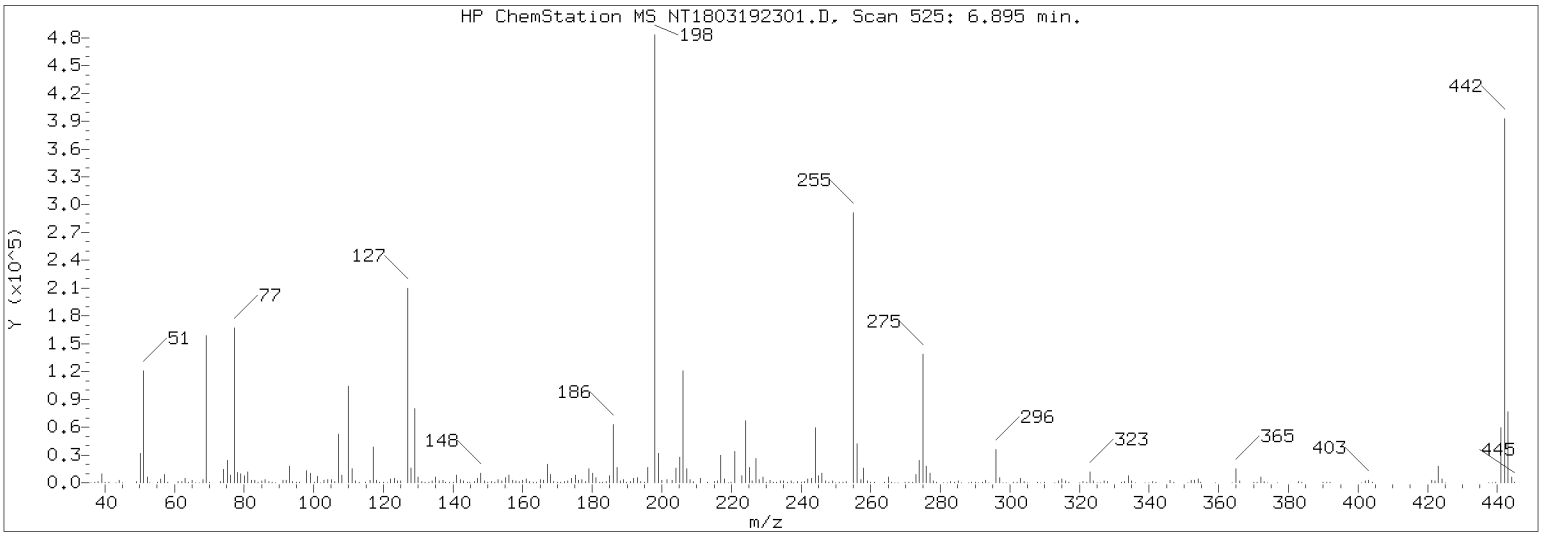
Last Edit : 01-Apr-2023 07:28 yev

Curve	Formula	Units
Averaged	Amt = Rsp/m1	Response
Linear	Amt = b + Rsp/m1	Response
Quad	Amt = b + m1*Rsp + m2*Rsp^2	Response

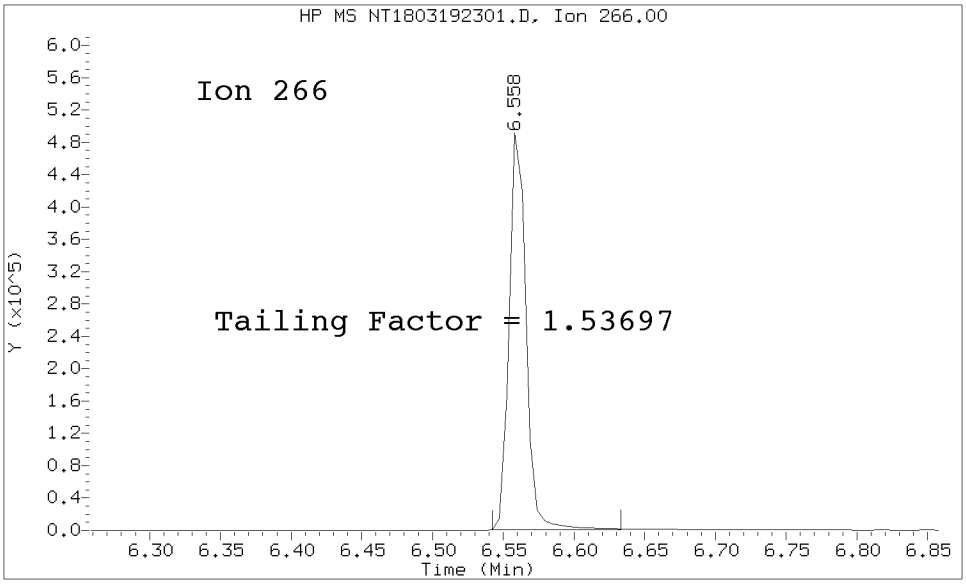
DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20230319.b/NT1803192301.D/NT1803192301.D
Method Used: \20230319.b\DFTPP8270E.m Inst: nt18
Injection Date: 19-MAR-2023 15:00 Operator: VTS
Sample Info: SEQ-TUN1 SEQ-TUN1
Report Date: 03/30/2023 15:26



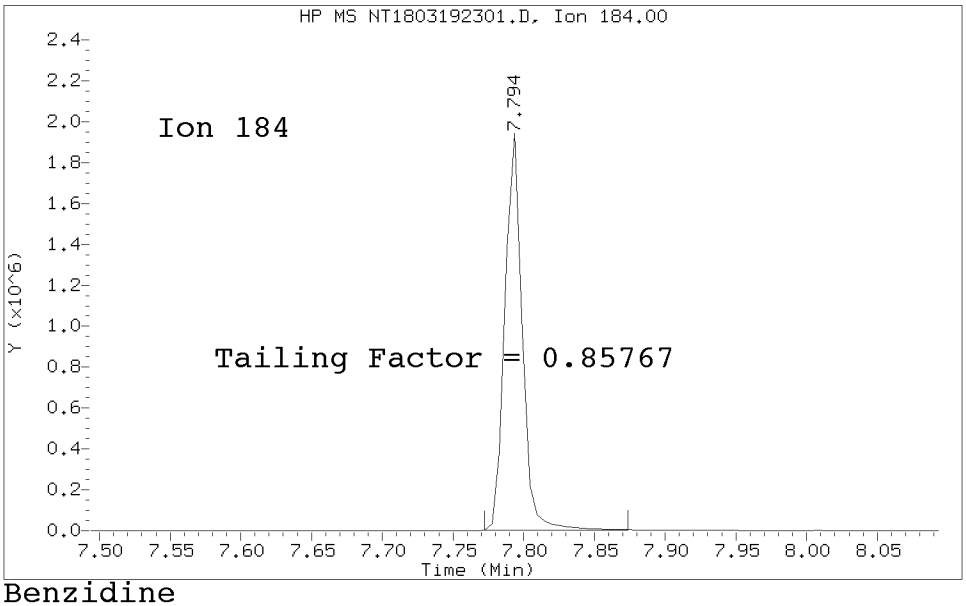


Datafile Analyzed: /20230319.b/NT1803192301.D/NT1803192301.D
Method Used: \20230319.b\DFTPP8270E.m\sw846ddt.m Inst: nt18
Injection Date: 19-MAR-2023 15:00 Operator: JGR
Sample Info: SEQ-TUN1
Report Date: 03/30/2023 15:26



Pentachlorophenol
==========
 Exp. RT = 6.558
Found RT = 6.558

Tail Factor = 1.537 Maximum Allowed = 2.0



Benzidine
==========
 Exp. RT = 7.794
Found RT = 7.794

Tail Factor = 0.858 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	1.5369718	2.000	PASS
Benzidine	0.8576687	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	917001			N/A
4,4-DDE	1172	0.1	20.0	PASS
4,4-DDD	10228	1.1	20.0	PASS
4,4-DDD + DDE	11400	1.2	20.0	PASS

Tuning Sample, nt18.i/20230319.b/NT1803192301.D, *** PASSED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
68	Less than 2.00% of mass 69	0.41 (1.17)
69	Mass 69 relative abundance	35.23
70	Less than 2.00% of mass 69	0.10 (0.29)
197	Less than 2.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.59
365	1.00 - 100.00% of mass 198	3.10
441	Less than 150.00% of mass 443	11.57 (78.15)
442	Less than 200.00% of mass 198	77.08
443	15.00 - 24.00% of mass 442	14.81 (19.21)

Data File: NT1803192301.D
Spectrum: Avg. Scans 524-526 (6.90), Background Scan 520
Location of Maximum: 198.00
Number of points: 309

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	121	125.00	1821	207.00	11135	295.00	329
37.00	500	127.00	163840	208.00	2805	296.00	26432
38.00	1245	128.00	12270	209.00	838	297.00	3716
39.00	7544	129.00	62072	211.00	3818	298.00	259
40.00	120	130.00	4849	213.00	193	299.00	64
41.00	100	131.00	992	215.00	881	301.00	417
43.00	67	132.00	615	216.00	1995	302.00	544
45.00	246	133.00	331	217.00	22552	303.00	3131
49.00	756	134.00	1761	218.00	2969	304.00	890
50.00	25768	135.00	4696	219.00	219	305.00	116
51.00	98952	136.00	1871	220.00	205	308.00	407
52.00	4822	137.00	2367	221.00	24104	309.00	177
53.00	263	138.00	376	223.00	5616	310.00	358
55.00	499	140.00	307	224.00	50896	313.00	172
56.00	3297	141.00	6738	225.00	12515	314.00	1264
57.00	7143	142.00	2782	226.00	1344	315.00	3056
58.00	291	143.00	1679	227.00	19752	316.00	1708
61.00	1370	144.00	534	228.00	2739	317.00	368
62.00	1420	145.00	421	229.00	4385	320.00	68
63.00	3824	146.00	1318	230.00	646	321.00	914
64.00	531	147.00	3639	231.00	1861	322.00	398
65.00	2235	148.00	7832	232.00	323	323.00	8720
66.00	98	149.00	1713	233.00	389	324.00	1632
67.00	77	150.00	476	234.00	1428	325.00	102
68.00	1506	151.00	1012	235.00	1512	326.00	193
69.00	128752	152.00	586	236.00	905	327.00	1786
70.00	371	153.00	2301	237.00	1602	328.00	901
72.00	57	154.00	1869	238.00	238	332.00	512
73.00	1015	155.00	4153	239.00	924	333.00	904
74.00	11313	156.00	6541	240.00	600	334.00	5260
75.00	19080	157.00	1566	241.00	1166	335.00	1536
76.00	6534	158.00	1474	242.00	3034	336.00	141
77.00	134464	159.00	1049	243.00	3206	339.00	80
78.00	8968	160.00	2372	244.00	43488	340.00	122
79.00	7701	161.00	3521	245.00	5633	341.00	1078
80.00	6286	162.00	1097	246.00	7685	342.00	204
81.00	8997	163.00	278	247.00	1682	346.00	1849
82.00	2343	164.00	557	248.00	317	347.00	344
83.00	2309	165.00	2816	249.00	1497	351.00	72
84.00	44	166.00	801	250.00	261	352.00	2497
85.00	1538	167.00	8878	251.00	348	353.00	1762
86.00	2357	168.00	6863	252.00	328	354.00	2672
87.00	1241	169.00	1320	253.00	921	355.00	504
88.00	510	170.00	540	255.00	215360	359.00	82
89.00	269	171.00	704	256.00	30688	364.00	168
91.00	2180	172.00	1234	257.00	2431	365.00	11323
92.00	2154	173.00	1872	258.00	11553	366.00	1511
93.00	14566	174.00	3365	259.00	1716	370.00	147
94.00	977	175.00	6401	260.00	396	371.00	589

95.00	170	176.00	2322	261.00	386	372.00	4312
96.00	802	177.00	2835	264.00	303	373.00	1006
97.00	209	178.00	915	265.00	4352	374.00	83
98.00	11227	179.00	11889	266.00	561	377.00	63
99.00	8764	180.00	7952	267.00	67	383.00	1088
100.00	795	181.00	4025	268.00	70	384.00	298
101.00	5504	182.00	752	270.00	296	390.00	599
102.00	329	183.00	431	271.00	435	391.00	328
103.00	1952	184.00	882	272.00	530	392.00	273
104.00	3328	185.00	5780	273.00	6856	401.00	213
105.00	2907	186.00	47296	274.00	17064	402.00	1482
106.00	941	187.00	12810	275.00	99032	403.00	2083
107.00	41200	188.00	1425	276.00	13034	404.00	794
108.00	6493	189.00	2487	277.00	7630	421.00	1834
109.00	203	190.00	481	278.00	1267	422.00	1840
110.00	83096	191.00	1220	279.00	211	423.00	13286
111.00	11519	192.00	3843	281.00	54	424.00	3047
112.00	1525	193.00	4363	282.00	104	425.00	306
113.00	356	194.00	880	283.00	954	437.00	66
115.00	185	195.00	690	284.00	649	438.00	87
116.00	2358	196.00	13260	285.00	1495	439.00	346
117.00	30504	198.00	365440	286.00	212	441.00	42288
118.00	2310	199.00	24096	288.00	71	442.00	281664
119.00	353	200.00	2074	289.00	381	443.00	54112
120.00	503	201.00	2296	290.00	324	444.00	4487
121.00	205	203.00	1957	291.00	53	445.00	294
122.00	2775	204.00	12144	292.00	420		
123.00	4014	205.00	21040	293.00	1979		
124.00	1725	206.00	90016	294.00	326		

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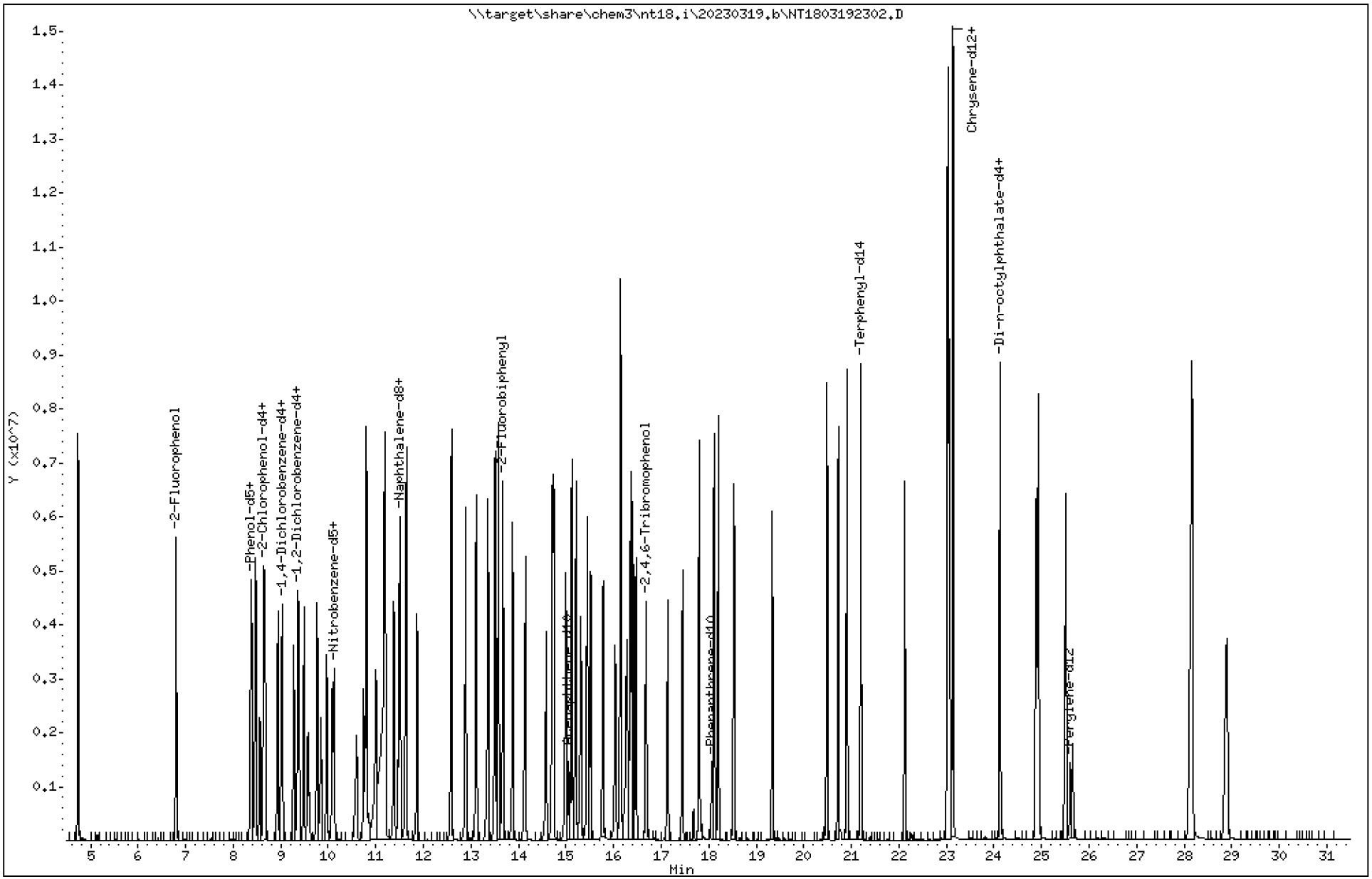
Date : 19-MAR-2023 15:18
Client ID:
Sample Info: cal7

Instrument: nt18.i
Operator: VTS
Column phase: ZB-5msi
Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230319.b\NT1803192302.D
Lab Smp Id: SKC0502-CAL7
Inj Date : 19-MAR-2023 15:18
Operator : VTS Inst ID: nt18.i
Smp Info : cal7
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230319.b\ABN.m
Meth Date : 01-Apr-2023 07:53 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 15:18 Cal File: NT1803192302.D
Als bottle: 2 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: ORGDATA102

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1	2-Fluorophenol	112	6.796	6.796	(0.755)	2401824	30.0000	29.30
$	2	Phenol-d5	99	8.372	8.372	(0.930)	2941891	30.0000	29.05
	3	Phenol	94	8.395	8.395	(0.933)	2131079	20.0000	19.68
$	5	2-Chlorophenol-d4	132	8.643	8.643	(0.960)	2696875	30.0000	30.72
	4	Bis(2-Chloroethyl)ether	93	8.558	8.558	(0.951)	1431263	20.0000	19.10
	6	2-Chlorophenol	128	8.673	8.673	(0.964)	1844387	20.0000	19.92
	7	1,3-Dichlorobenzene	146	8.937	8.937	(0.993)	1896315	20.0000	19.29
*	8	1,4-Dichlorobenzene-d4	152	8.999	8.999	(1.000)	265925	4.00000	
	9	1,4-Dichlorobenzene	146	9.030	9.030	(1.003)	1901705	20.0000	19.33
$	10	1,2-Dichlorobenzene-d4	152	9.356	9.356	(1.040)	1226642	20.0000	19.04
	12	1,2-Dichlorobenzene	146	9.387	9.387	(1.043)	1902234	20.0000	19.62
	11	Benzyl alcohol	108	9.278	9.278	(1.031)	1117161	20.0000	22.11
	14	2,2'-oxybis(1-Chloropropane)	121	9.573	9.573	(1.064)	439167	20.0000	19.24
	13	2-Methylphenol	108	9.495	9.495	(1.055)	1680042	20.0000	20.44
	17	Hexachloroethane	117	9.969	9.969	(1.108)	767956	20.0000	19.93
	16	N-Nitroso-di-n-propylamine	70	9.845	9.845	(1.094)	1200688	20.0000	20.51
	15	4-Methylphenol	108	9.767	9.767	(1.085)	1775381	20.0000	20.80
$	18	Nitrobenzene-d5	82	10.093	10.093	(0.881)	1786220	20.0000	20.54
	19	Nitrobenzene	77	10.124	10.124	(0.883)	1703381	20.0000	19.92
	20	Isophorone	82	10.590	10.590	(0.924)	2549356	20.0000	21.84
	21	2-Nitrophenol	139	10.744	10.744	(0.937)	1047153	20.0000	19.89
	22	2,4-Dimethylphenol	107	10.804	10.804	(0.943)	3284805	40.0000	38.22
	23	Bis(2-Chloroethoxy)methane	93	10.999	10.999	(0.960)	1635419	20.0000	19.38
	24	Benzoic acid	105	11.186	11.186	(0.976)	5553778	80.0000	79.67(M)
	25	2,4-Dichlorophenol	162	11.194	11.194	(0.977)	3030240	40.0000	38.31
	26	1,2,4-Trichlorobenzene	180	11.378	11.378	(0.993)	1619670	20.0000	19.53
*	27	Naphthalene-d8	136	11.463	11.463	(1.000)	1054983	4.00000	
	28	Naphthalene	128	11.509	11.509	(1.004)	5412291	20.0000	18.91
	29	4-Chloroaniline	127	11.640	11.640	(1.015)	4331668	40.0000	39.32
	30	Hexachlorobutadiene	225	11.864	11.864	(1.035)	922117	20.0000	19.55
	31	4-Chloro-3-methylphenol	107	12.592	12.592	(1.099)	2913265	40.0000	39.99
	32	2-Methylnaphthalene	142	13.110	13.110	(1.144)	3273339	20.0000	19.13
	33	Hexachlorocyclopentadiene	237	13.358	13.358	(0.887)	2143266	40.0000	44.01

		QUANT SIG					AMOUNTS CAL-AMT	ON-COL
Compounds		MASS	RT	EXP RT	REL RT	RESPONSE	(ug/mL)	(ug/mL)
34	2,4,6-Trichlorophenol	196	13.513	13.513	(0.898)	2210227	40.0000	43.91
35	2,4,5-Trichlorophenol	196	13.583	13.583	(0.902)	2364003	40.0000	42.96
$ 36	2-Fluorobiphenyl	172	13.668	13.668	(0.908)	3943800	20.0000	19.57
37	2-Chloronaphthalene	162	13.877	13.877	(0.922)	3168274	20.0000	19.71
38	2-Nitroaniline	65	14.147	14.147	(0.940)	1772188	40.0000	42.07
39	Dimethylphthalate	163	14.581	14.581	(0.969)	3456494	20.0000	20.61
40	Acenaphthylene	152	14.744	14.744	(0.979)	5579038	20.0000	20.38
41	2,6-Dinitrotoluene	165	14.713	14.713	(0.977)	1614129	40.0000	39.89
* 42	Acenaphthene-d10	164	15.053	15.053	(1.000)	562747	4.00000	
43	3-Nitroaniline	138	14.999	14.999	(0.996)	1955097	40.0000	45.63
44	Acenaphthene	153	15.122	15.122	(1.005)	3297395	20.0000	19.03
45	2,4-Dinitrophenol	184	15.215	15.215	(1.011)	2259744	80.0000	79.54
46	Dibenzofuran	168	15.447	15.447	(1.026)	4619434	20.0000	19.40
47	4-Nitrophenol	109	15.316	15.316	(1.017)	926393	40.0000	39.89
48	2,4-Dinitrotoluene	165	15.524	15.524	(1.031)	2152395	40.0000	39.90
50	Diethylphthalate	149	16.035	16.035	(1.065)	3736453	20.0000	21.99
49	Fluorene	166	16.151	16.151	(1.073)	4459791	20.0000	20.64
51	4-Chlorophenyl-phenylether	204	16.143	16.143	(1.072)	2057612	20.0000	21.45
52	4-Nitroaniline	138	16.282	16.282	(1.082)	1929301	40.0000	39.80
53	4,6-Dinitro-2-methylphenol	198	16.366	16.366	(0.906)	2646760	80.0000	79.64
54	N-Nitrosodiphenylamine	169	16.405	16.405	(0.908)	2708400	20.0000	21.60
$ 55	2,4,6-Tribromophenol	330	16.683	16.683	(1.108)	907034	30.0000	29.92
56	4-Bromophenyl-phenylether	248	17.137	17.137	(0.949)	1056223	20.0000	21.24
57	Hexachlorobenzene	284	17.447	17.447	(0.966)	1179478	20.0000	21.14
58	Pentachlorophenol	266	17.803	17.803	(0.985)	1667985	40.0000	39.87
* 59	Phenanthrene-d10	188	18.066	18.066	(1.000)	984304	4.00000	
60	Phenanthrene	178	18.112	18.112	(1.003)	5386678	20.0000	20.05
61	Anthracene	178	18.205	18.205	(1.008)	5307126	20.0000	20.72
62	Carbazole	167	18.530	18.530	(1.026)	4912912	20.0000	21.78
63	Di-n-butylphthalate	149	19.342	19.342	(1.071)	5893041	20.0000	19.95
64	Fluoranthene	202	20.487	20.487	(0.887)	5691359	20.0000	19.14
65	Pyrene	202	20.905	20.905	(0.905)	5896558	20.0000	18.82
$ 66	Terphenyl-d14	244	21.199	21.199	(0.918)	4781904	20.0000	20.52
67	Butylbenzylphthalate	149	22.121	22.121	(0.958)	2591386	20.0000	19.92
68	Benzo(a)anthracene	228	23.058	23.058	(0.999)	5829364	20.0000	19.97
* 69	Chrysene-d12	240	23.089	23.089	(1.000)	932978	4.00000	
70	3,3'-Dichlorobenzidine	252	23.027	23.027	(0.997)	6202052	60.0000	59.60
71	Chrysene	228	23.135	23.135	(1.002)	5632443	20.0000	18.66
72	bis(2-Ethylhexyl)phthalate	149	23.143	23.143	(0.960)	3728882	20.0000	19.93
* 134	Di-n-octylphthalate-d4	153	24.118	24.118	(1.000)	1371620	4.00000	
73	Di-n-octylphthalate	149	24.126	24.126	(1.000)	6379779	20.0000	18.90
74	Benzo(b)fluoranthene	252	24.892	24.892	(0.972)	5386276	20.0000	21.34
75	Benzo(k)fluoranthene	252	24.939	24.939	(0.974)	5953274	20.0000	21.45(H)
76	Benzo(a)pyrene	252	25.512	25.512	(0.996)	5052381	20.0000	19.97
* 77	Perylene-d12	264	25.605	25.605	(1.000)	906541	4.00000	
78	Indeno(1,2,3-cd)pyrene	276	28.156	28.156	(1.100)	6891424	20.0000	19.95
79	Dibenzo(a,h)anthracene	278	28.164	28.164	(1.100)	5971406	20.0000	19.96
80	Benzo(g,h,i)perylene	276	28.894	28.894	(1.128)	5409212	20.0000	19.96(M)
90	N-Nitrosodimethylamine	74	4.742	4.742	(0.527)	1772339	40.0000	34.97
91	Aniline	93	8.473	8.473	(0.942)	4533009	40.0000	38.93
93	Benzidine	184	20.727	20.727	(0.898)	4871980	40.0000	38.54
103	Pyridine	79	4.734	4.734	(0.526)	2882251	40.0000	34.44
105	1-methylnaphthalene	142	13.110	13.110	(1.144)	3273339	20.0000	19.13
111	Azobenzene (1,2-DP-Hydrazine)	77	16.474	16.474	(1.094)	3826513	20.0000	20.55

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187 Total Benzofluoranthenes	252	24.939	24.939	(0.974)	10786499	40.0000	42.65
120 2,3,4,6-Tetrachlorophenol	232	15.779	15.779	(1.048)	1249031	20.0000	20.28

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192302.D
Lab Smp Id: SKC0502-CAL7
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 16:40
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	268611	134306	537222	265925	-1.00
27 Naphthalene-d8	1007141	503571	2014282	1054983	4.75
42 Acenaphthene-d10	531283	265642	1062566	562747	5.92
59 Phenanthrene-d10	884709	442355	1769418	984304	11.26
69 Chrysene-d12	727768	363884	1455536	932978	28.20
134 Di-n-octylphthala	1108384	554192	2216768	1371620	23.75
77 Perylene-d12	824431	412216	1648862	906541	9.96

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	0.07
42 Acenaphthene-d10	15.05	14.55	15.55	15.05	0.05
59 Phenanthrene-d10	18.05	17.55	18.55	18.07	0.09
69 Chrysene-d12	23.07	22.57	23.57	23.09	0.07
134 Di-n-octylphthala	24.11	23.61	24.61	24.12	0.03
77 Perylene-d12	25.60	25.10	26.10	25.61	0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192302.D

Lab ID: SKC0502-CAL7
nt18.i, ABN.m, 19-MAR-2023 15:18

RT	CO-ELUTION COMPOUNDS
13.111	1-methylnaphthalene and 2-Methylnaphthalene

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

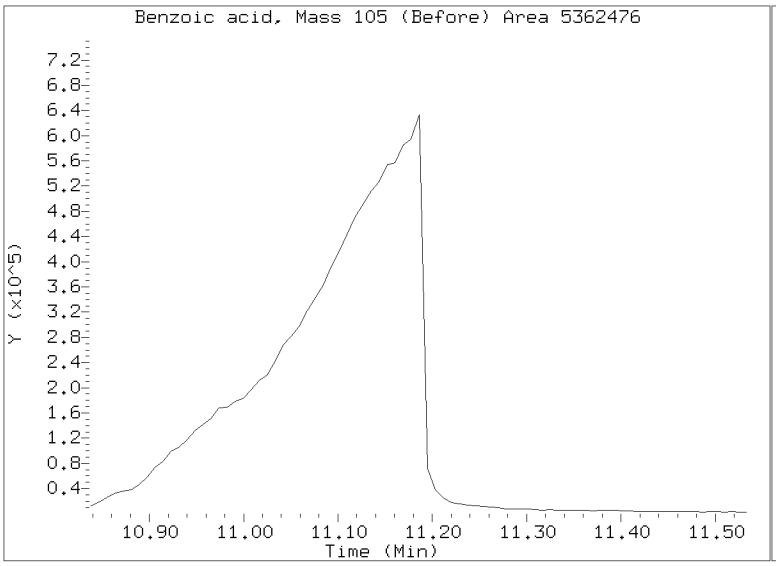
RRT check based on Ccal File: NT1803192302.D

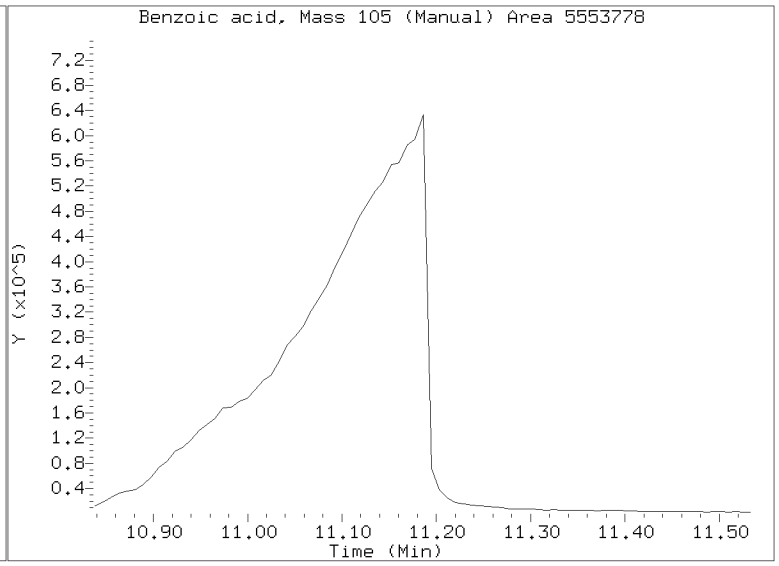
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

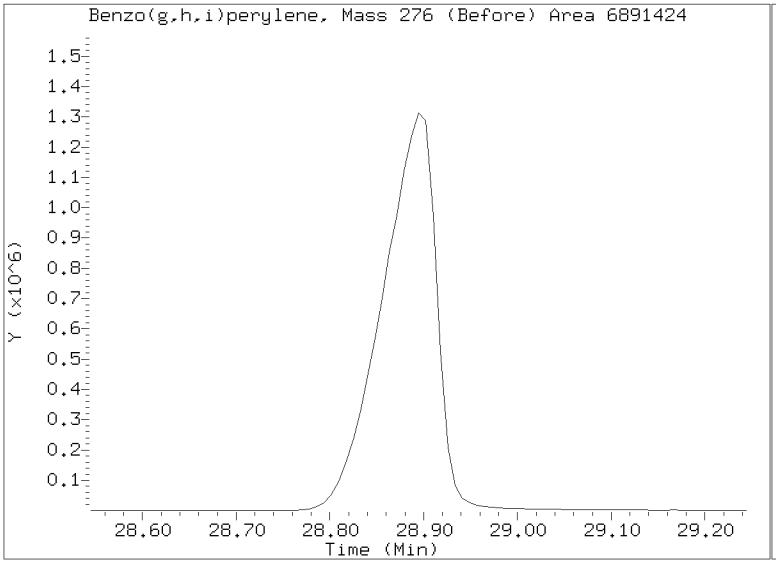
* Only compounds listed in the work order have been verified by the analyst *

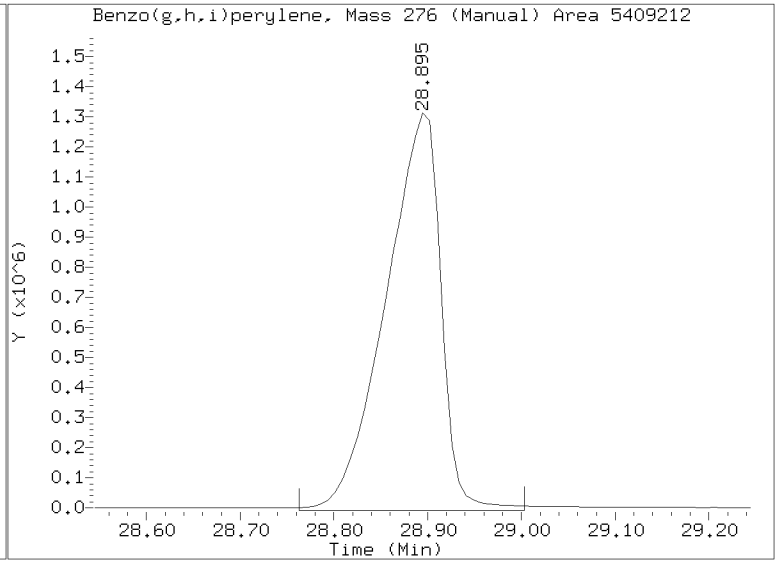
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230319.b/NT1803192302.D
Injection Date: 19-MAR-2023 15:18
Lab ID:SKC0502-CAL7 Client ID:
Report Date: 04/01/2023 07:53









Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192303.D

Page 1

Date : 19-MAR-2023 15:59

Client ID:

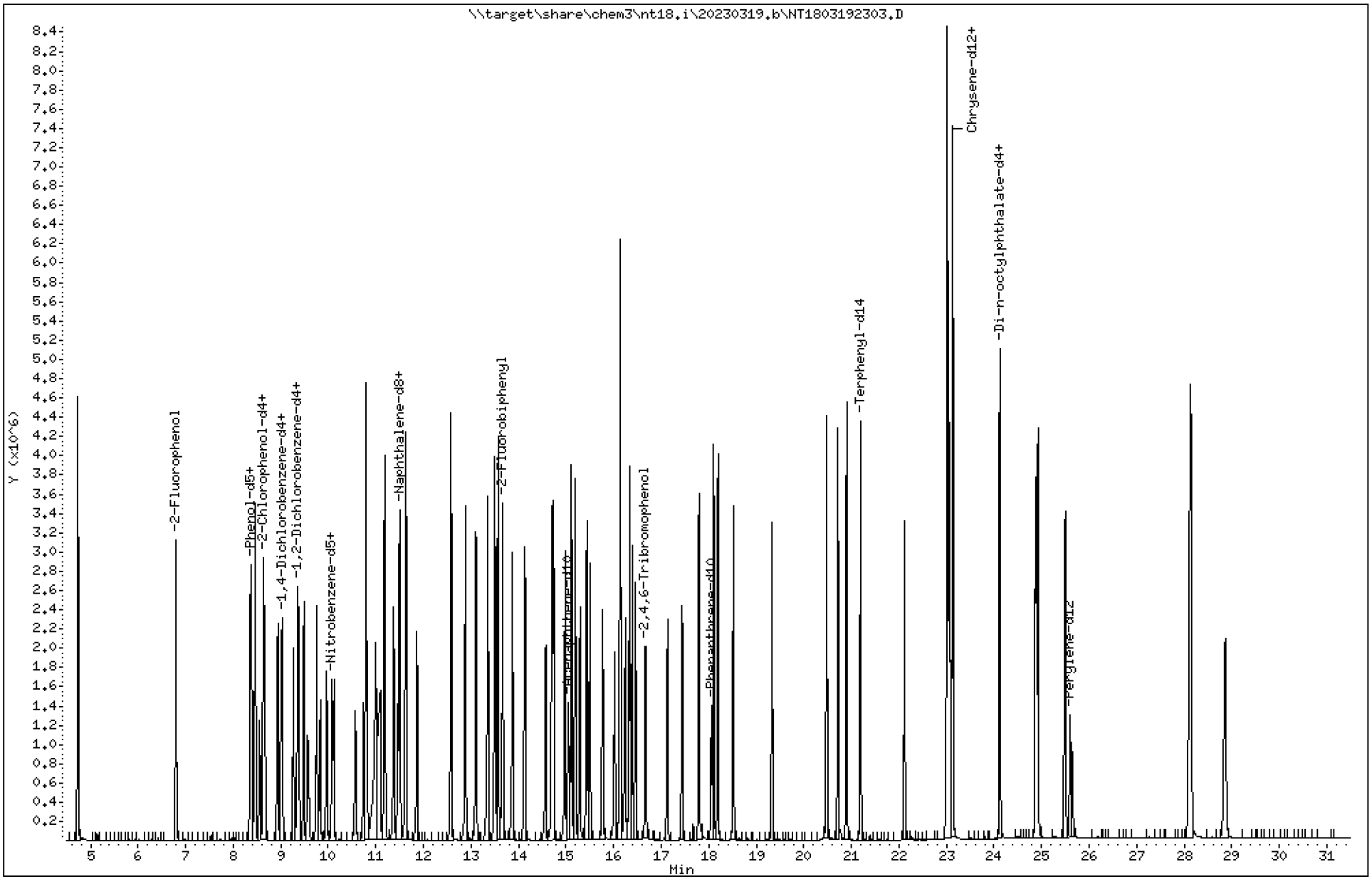
Instrument: nt18.i

Sample Info: cal6

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230319.b\NT1803192303.D
Lab Smp Id: SKC0502-CAL6
Inj Date : 19-MAR-2023 15:59
Operator : VTS Inst ID: nt18.i
Smp Info : cal6
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230319.b\ABN.m
Meth Date : 01-Apr-2023 07:53 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 15:59 Cal File: NT1803192303.D
Als bottle: 3 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: ORGDATA102

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1 2-Fluorophenol	112	6.796	6.796	(0.755)	1356694	15.0000	16.07
$	2 Phenol-d5	99	8.364	8.364	(0.930)	1647287	15.0000	15.79
	3 Phenol	94	8.388	8.388	(0.932)	1169811	10.0000	10.49
$	5 2-Chlorophenol-d4	132	8.635	8.635	(0.960)	1471233	15.0000	16.27
	4 Bis(2-Chloroethyl)ether	93	8.557	8.557	(0.951)	779794	10.0000	10.10
	6 2-Chlorophenol	128	8.666	8.666	(0.963)	1087023	10.0000	11.40
	7 1,3-Dichlorobenzene	146	8.936	8.936	(0.993)	1011286	10.0000	9.987
*	8 1,4-Dichlorobenzene-d4	152	8.998	8.998	(1.000)	273904	4.00000	
	9 1,4-Dichlorobenzene	146	9.029	9.029	(1.003)	1024707	10.0000	10.11
$	10 1,2-Dichlorobenzene-d4	152	9.355	9.355	(1.040)	661790	10.0000	9.975
	12 1,2-Dichlorobenzene	146	9.379	9.379	(1.042)	1007857	10.0000	10.09
	11 Benzyl alcohol	108	9.270	9.270	(1.030)	590798	10.0000	11.35
	14 2,2'-oxybis(1-Chloropropane)	121	9.565	9.565	(1.063)	228763	10.0000	9.729(M)
	13 2-Methylphenol	108	9.487	9.487	(1.054)	895345	10.0000	10.58
	17 Hexachloroethane	117	9.969	9.969	(1.108)	413445	10.0000	10.42
	16 N-Nitroso-di-n-propylamine	70	9.829	9.829	(1.092)	636236	10.0000	10.55
	15 4-Methylphenol	108	9.759	9.759	(1.085)	938796	10.0000	10.68
$	18 Nitrobenzene-d5	82	10.085	10.085	(0.880)	948605	10.0000	10.85
	19 Nitrobenzene	77	10.116	10.116	(0.883)	907709	10.0000	10.56
	20 Isophorone	82	10.574	10.574	(0.922)	1348821	10.0000	11.49
	21 2-Nitrophenol	139	10.736	10.736	(0.937)	543235	10.0000	10.49
	22 2,4-Dimethylphenol	107	10.795	10.795	(0.942)	1786434	20.0000	20.67
	23 Bis(2-Chloroethoxy)methane	93	10.990	10.990	(0.959)	853063	10.0000	10.05
	24 Benzoic acid	105	11.092	11.092	(0.968)	2714336	40.0000	41.72(M)
	25 2,4-Dichlorophenol	162	11.185	11.185	(0.976)	1587825	20.0000	19.96
	26 1,2,4-Trichlorobenzene	180	11.378	11.378	(0.993)	833007	10.0000	9.989
*	27 Naphthalene-d8	136	11.463	11.463	(1.000)	1060831	4.00000	
	28 Naphthalene	128	11.501	11.501	(1.003)	2857843	10.0000	9.928
	29 4-Chloroaniline	127	11.632	11.632	(1.015)	2284755	20.0000	20.63
	30 Hexachlorobutadiene	225	11.864	11.864	(1.035)	471003	10.0000	9.933
	31 4-Chloro-3-methylphenol	107	12.584	12.584	(1.098)	1559571	20.0000	21.29
	32 2-Methylnaphthalene	142	13.102	13.102	(1.143)	1725657	10.0000	10.03
	33 Hexachlorocyclopentadiene	237	13.350	13.350	(0.887)	1087745	20.0000	22.24

		QUANT SIG					AMOUNTS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.505	13.505	(0.898)	1114393	20.0000	22.04
	35 2,4,5-Trichlorophenol	196	13.575	13.575	(0.902)	1229944	20.0000	22.26
$	36 2-Fluorobiphenyl	172	13.667	13.667	(0.908)	2042503	10.0000	10.09
	37 2-Chloronaphthalene	162	13.869	13.869	(0.922)	1637778	10.0000	10.14
	38 2-Nitroaniline	65	14.132	14.132	(0.939)	937280	20.0000	22.15
	39 Dimethylphthalate	163	14.573	14.573	(0.969)	1757946	10.0000	10.44
	40 Acenaphthylene	152	14.736	14.736	(0.979)	2860786	10.0000	10.41
	41 2,6-Dinitrotoluene	165	14.705	14.705	(0.977)	805395	20.0000	20.56
*	42 Acenaphthene-d10	164	15.045	15.045	(1.000)	565146	4.00000	
	43 3-Nitroaniline	138	14.983	14.983	(0.996)	975260	20.0000	22.66
	44 Acenaphthene	153	15.114	15.114	(1.005)	1738950	10.0000	9.993
	45 2,4-Dinitrophenol	184	15.192	15.192	(1.010)	1051111	40.0000	42.61
	46 Dibenzofuran	168	15.439	15.439	(1.026)	2423717	10.0000	10.14
	47 4-Nitrophenol	109	15.292	15.292	(1.016)	474420	20.0000	20.57
	48 2,4-Dinitrotoluene	165	15.501	15.501	(1.030)	1063842	20.0000	20.55
	50 Diethylphthalate	149	16.027	16.027	(1.065)	1912295	10.0000	11.21
	49 Fluorene	166	16.143	16.143	(1.073)	2328388	10.0000	10.73
	51 4-Chlorophenyl-phenylether	204	16.135	16.135	(1.072)	1059053	10.0000	11.00
	52 4-Nitroaniline	138	16.251	16.251	(1.080)	956633	20.0000	21.01
	53 4,6-Dinitro-2-methylphenol	198	16.343	16.343	(0.905)	1242693	40.0000	42.00
	54 N-Nitrosodiphenylamine	169	16.389	16.389	(0.908)	1342192	10.0000	10.86
$	55 2,4,6-Tribromophenol	330	16.675	16.675	(1.108)	418306	15.0000	15.51
	56 4-Bromophenyl-phenylether	248	17.130	17.130	(0.949)	522703	10.0000	10.66
	57 Hexachlorobenzene	284	17.439	17.439	(0.966)	568200	10.0000	10.33
	58 Pentachlorophenol	266	17.795	17.795	(0.985)	746393	20.0000	20.80
*	59 Phenanthrene-d10	188	18.058	18.058	(1.000)	970202	4.00000	
	60 Phenanthrene	178	18.104	18.104	(1.003)	2744720	10.0000	10.36
	61 Anthracene	178	18.197	18.197	(1.008)	2740677	10.0000	10.85
	62 Carbazole	167	18.522	18.522	(1.026)	2447107	10.0000	11.01
	63 Di-n-butylphthalate	149	19.334	19.334	(1.071)	3007747	10.0000	10.26
	64 Fluoranthene	202	20.480	20.480	(0.887)	2869067	10.0000	10.36
	65 Pyrene	202	20.897	20.897	(0.905)	2964383	10.0000	10.15
$	66 Terphenyl-d14	244	21.191	21.191	(0.918)	2319690	10.0000	10.68
	67 Butylbenzylphthalate	149	22.121	22.121	(0.958)	1278009	10.0000	10.34
	68 Benzo(a)anthracene	228	23.050	23.050	(0.999)	2879471	10.0000	10.59
*	69 Chrysene-d12	240	23.081	23.081	(1.000)	869199	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.019	23.019	(0.997)	3095845	30.0000	31.77
	71 Chrysene	228	23.127	23.127	(1.002)	2887050	10.0000	10.27
	72 bis(2-Ethylhexyl)phthalate	149	23.143	23.143	(0.960)	1923506	10.0000	10.32
*	134 Di-n-octylphthalate-d4	153	24.110	24.110	(1.000)	1320300	4.00000	
	73 Di-n-octylphthalate	149	24.126	24.126	(1.001)	3207583	10.0000	9.874
	74 Benzo(b)fluoranthene	252	24.877	24.877	(0.972)	2875586	10.0000	11.52
	75 Benzo(k)fluoranthene	252	24.923	24.923	(0.974)	2879135	10.0000	10.49
	76 Benzo(a)pyrene	252	25.496	25.496	(0.996)	2535891	10.0000	10.15
*	77 Perylene-d12	264	25.597	25.597	(1.000)	896678	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	28.125	28.125	(1.099)	3336433	10.0000	10.26
	79 Dibenzo(a,h)anthracene	278	28.133	28.133	(1.099)	2804935	10.0000	10.25
	80 Benzo(g,h,i)perylene	276	28.863	28.863	(1.128)	2630441	10.0000	10.21(M)
	90 N-Nitrosodimethylamine	74	4.726	4.726	(0.525)	1036794	20.0000	19.86
	91 Aniline	93	8.465	8.465	(0.941)	2493726	20.0000	20.79
	93 Benzidine	184	20.719	20.719	(0.898)	2663310	20.0000	22.61
	103 Pyridine	79	4.734	4.734	(0.526)	1782769	20.0000	20.68
	105 1-methylnaphthalene	142	13.102	13.102	(1.143)	1725657	10.0000	10.03
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.459	16.459	(1.094)	1940593	10.0000	10.38

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187 Total Benzofluoranthenes	252	24.923	24.923	(0.974)	5487394	20.0000	21.94
120 2,3,4,6-Tetrachlorophenol	232	15.772	15.772	(1.048)	604431	10.0000	9.773

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192303.D
Lab Smp Id: SKC0502-CAL6
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 16:40
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	268611	134306	537222	273904	1.97
27 Naphthalene-d8	1007141	503571	2014282	1060831	5.33
42 Acenaphthene-d10	531283	265642	1062566	565146	6.37
59 Phenanthrene-d10	884709	442355	1769418	970202	9.66
69 Chrysene-d12	727768	363884	1455536	869199	19.43
134 Di-n-octylphthala	1108384	554192	2216768	1320300	19.12
77 Perylene-d12	824431	412216	1648862	896678	8.76

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	-0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	0.07
42 Acenaphthene-d10	15.05	14.55	15.55	15.05	-0.00
59 Phenanthrene-d10	18.05	17.55	18.55	18.06	0.04
69 Chrysene-d12	23.07	22.57	23.57	23.08	0.03
134 Di-n-octylphthala	24.11	23.61	24.61	24.11	-0.00
77 Perylene-d12	25.60	25.10	26.10	25.60	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192303.D

Lab ID: SKC0502-CAL6
nt18.i, ABN.m, 19-MAR-2023 15:59

RT	CO-ELUTION COMPOUNDS
13.103	1-methylnaphthalene and 2-Methylnaphthalene

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

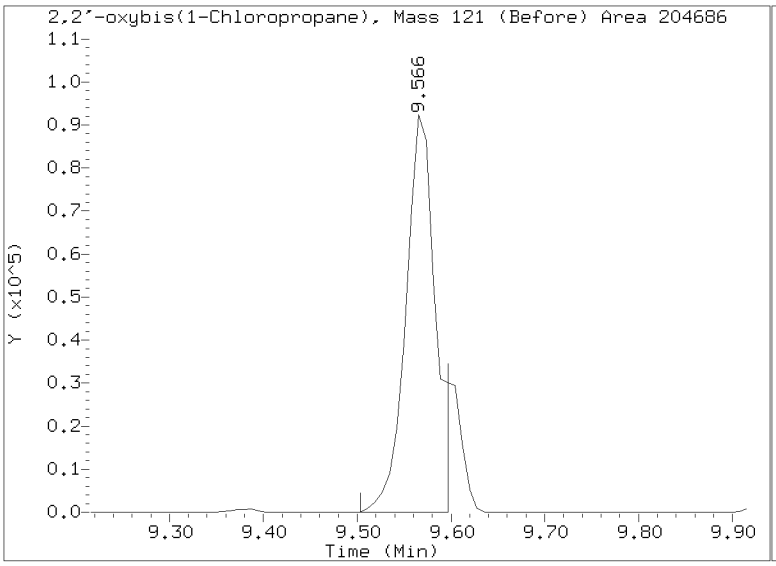
RRT check based on Ccal File: NT1803192303.D

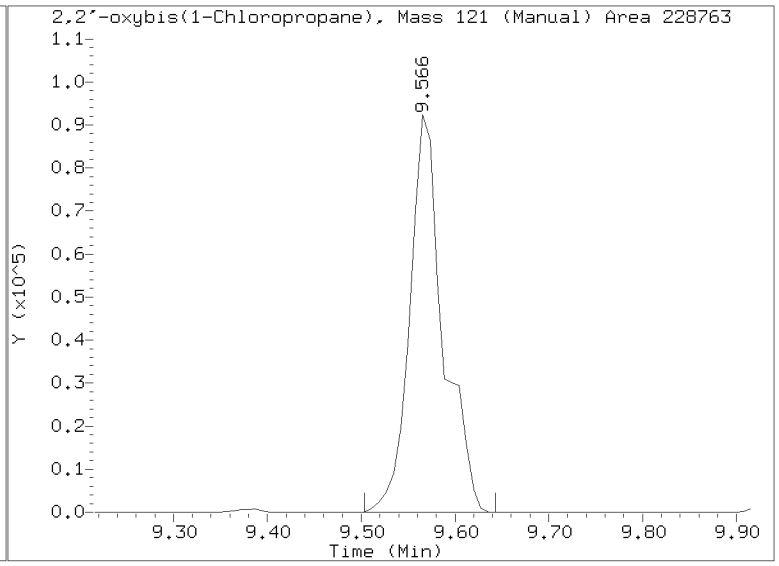
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

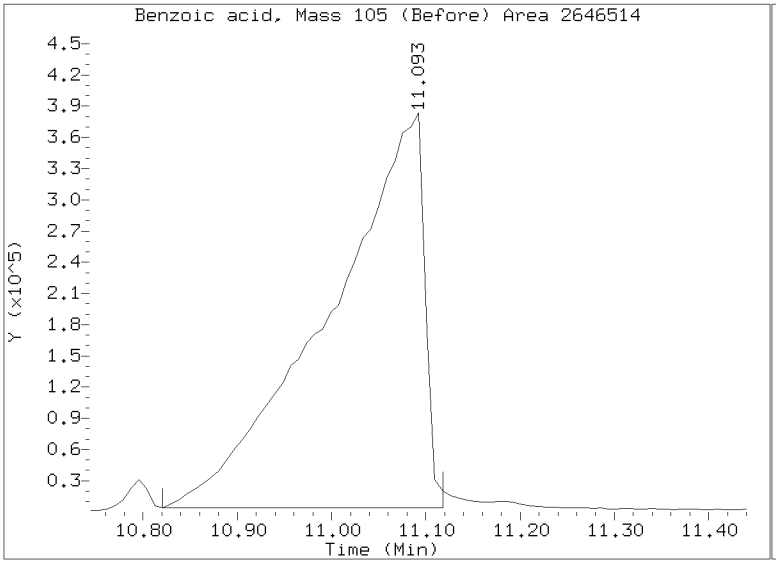
* Only compounds listed in the work order have been verified by the analyst *

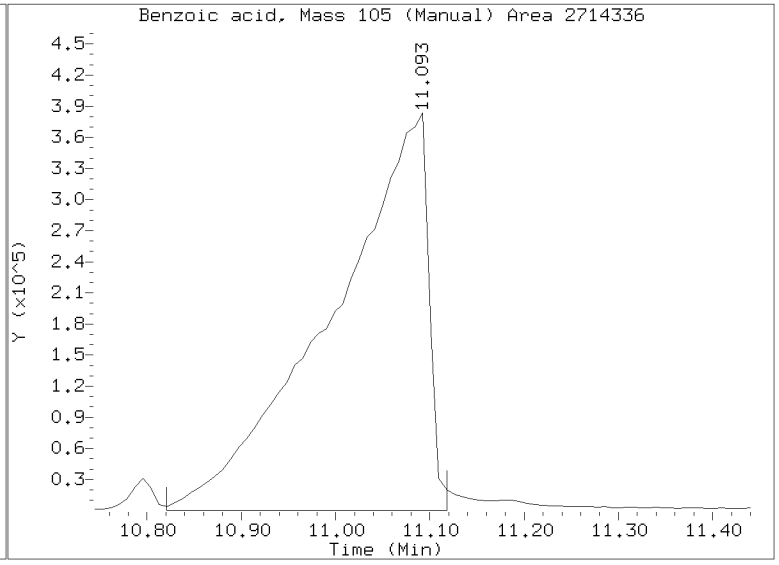
Quant Ion Manual Peak Adjustment Report

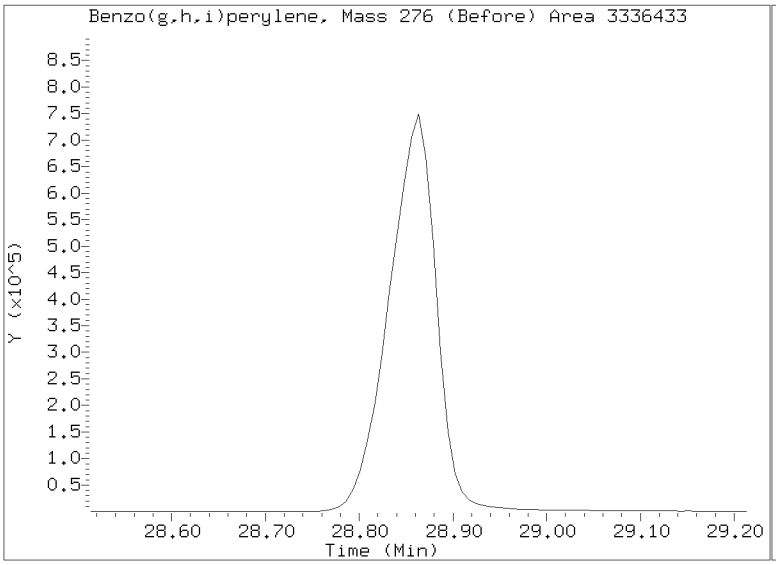
Datafile: //target/share/chem3/nt18.i/20230319.b/NT1803192303.D
Injection Date: 19-MAR-2023 15:59
Lab ID:SKC0502-CAL6 Client ID:
Report Date: 04/01/2023 07:53

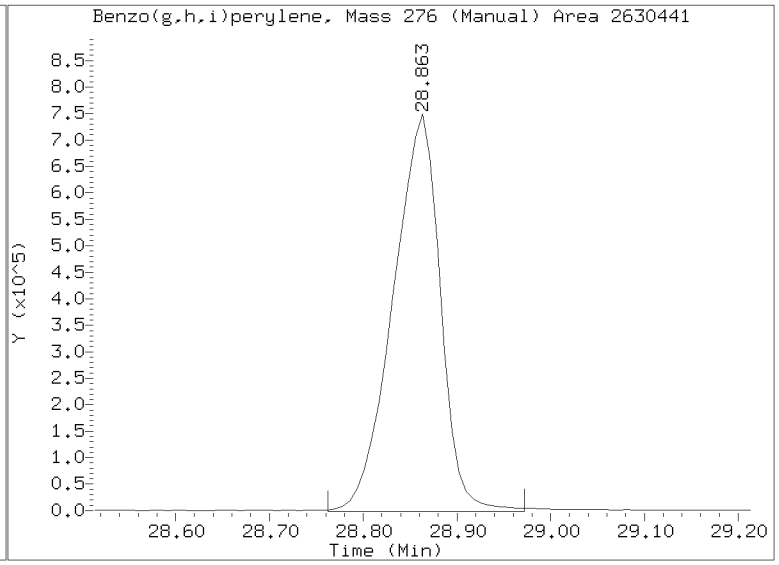






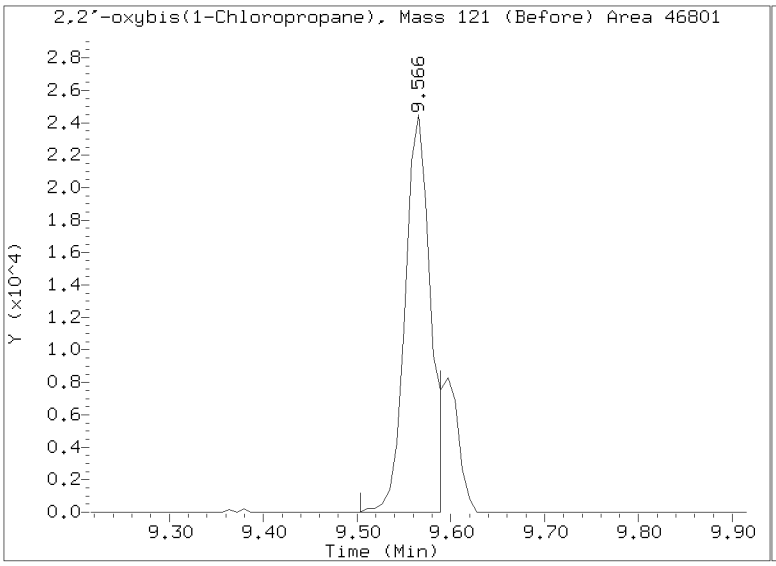


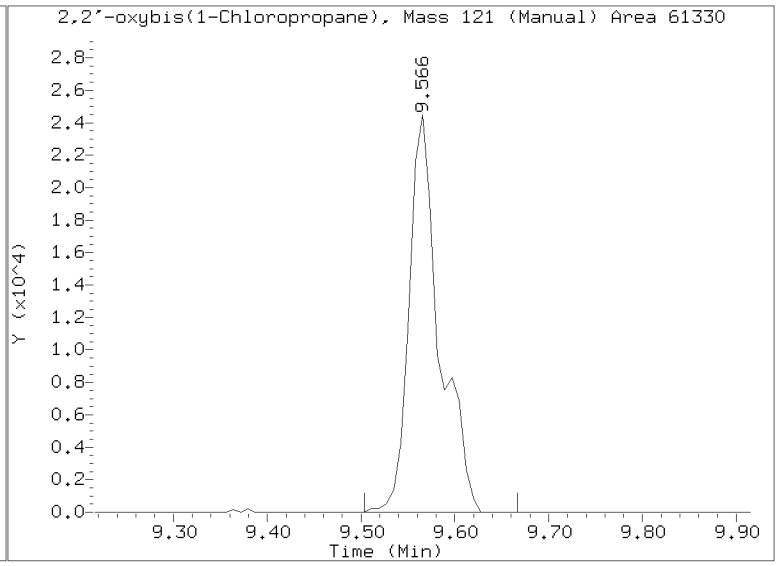


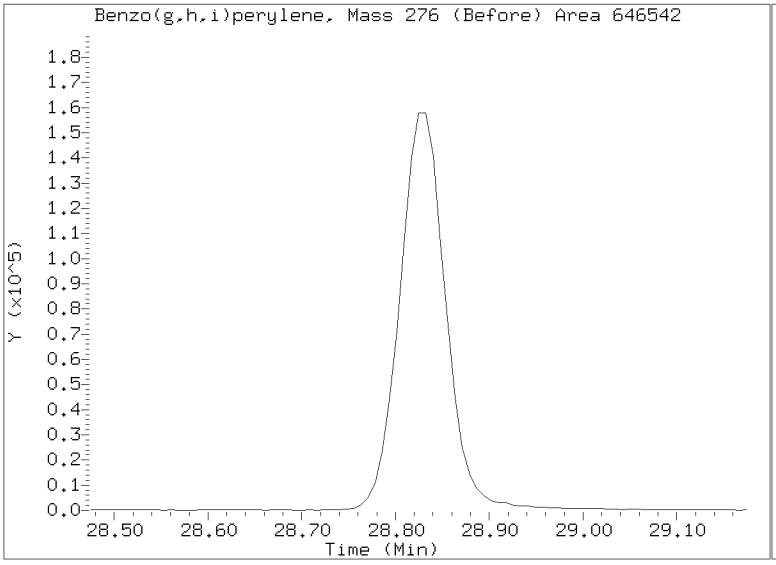


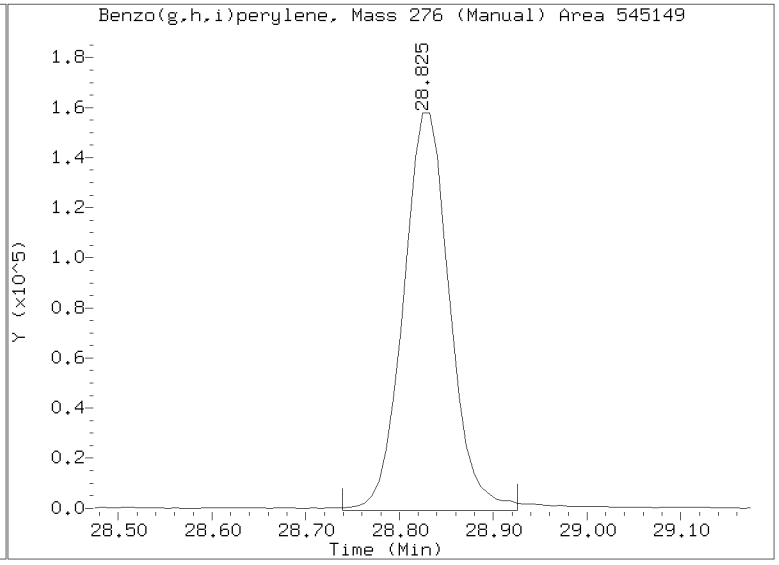
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230319.b/NT1803192305.D
Injection Date: 19-MAR-2023 17:21
Lab ID:SKC0502-CAL4 Client ID:
Report Date: 04/01/2023 07:53



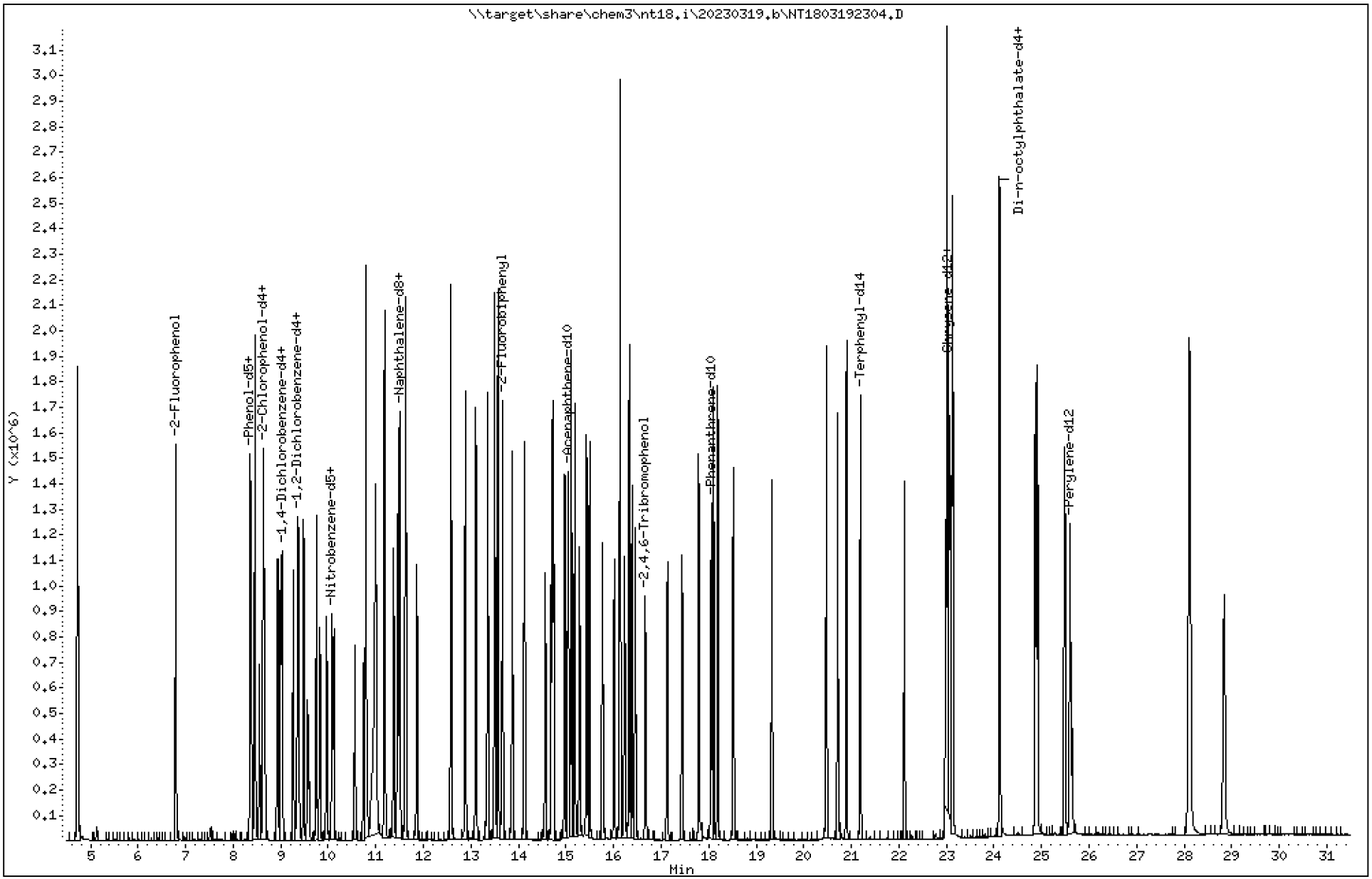






Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192304.D
Date : 19-MAR-2023 16:40
Client ID:
Sample Info: cal5

Instrument: nt18.i
Operator: VTS
Column phase: ZB-5msi
Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230319.b\NT1803192304.D
Lab Smp Id: SKC0502-CAL5
Inj Date : 19-MAR-2023 16:40
Operator : VTS Inst ID: nt18.i
Smp Info : cal5
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230319.b\ABN.m
Meth Date : 01-Apr-2023 07:53 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 16:40 Cal File: NT1803192304.D
Als bottle: 4 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: ORGDATA102

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1	2-Fluorophenol	112	6.788	6.788	(0.754)	630264	7.50000	7.611
$	2	Phenol-d5	99	8.357	8.357	(0.929)	768582	7.50000	7.513
	3	Phenol	94	8.380	8.380	(0.931)	537909	5.00000	4.917
$	5	2-Chlorophenol-d4	132	8.635	8.635	(0.960)	665870	7.50000	7.509
	4	Bis(2-Chloroethyl)ether	93	8.550	8.550	(0.950)	361781	5.00000	4.779
	6	2-Chlorophenol	128	8.658	8.658	(0.962)	458185	5.00000	4.899
	7	1,3-Dichlorobenzene	146	8.937	8.937	(0.993)	471192	5.00000	4.745
*	8	1,4-Dichlorobenzene-d4	152	8.999	8.999	(1.000)	268611	4.00000	
	9	1,4-Dichlorobenzene	146	9.030	9.030	(1.003)	466534	5.00000	4.694
$	10	1,2-Dichlorobenzene-d4	152	9.356	9.356	(1.040)	304388	5.00000	4.678
	12	1,2-Dichlorobenzene	146	9.379	9.379	(1.042)	461594	5.00000	4.713
	11	Benzyl alcohol	108	9.262	9.262	(1.029)	263478	5.00000	5.162
	14	2,2'-oxybis(1-Chloropropane)	121	9.565	9.565	(1.063)	106482	5.00000	4.618(M)
	13	2-Methylphenol	108	9.480	9.480	(1.053)	409567	5.00000	4.933
	17	Hexachloroethane	117	9.969	9.969	(1.108)	191241	5.00000	4.914
	16	N-Nitroso-di-n-propylamine	70	9.821	9.821	(1.091)	292132	5.00000	4.941
	15	4-Methylphenol	108	9.752	9.752	(1.084)	430917	5.00000	4.998
$	18	Nitrobenzene-d5	82	10.078	10.078	(0.880)	437519	5.00000	5.270
	19	Nitrobenzene	77	10.116	10.116	(0.883)	417036	5.00000	5.110
	20	Isophorone	82	10.559	10.559	(0.922)	565460	5.00000	5.074
	21	2-Nitrophenol	139	10.736	10.736	(0.937)	220349	5.00000	4.544
	22	2,4-Dimethylphenol	107	10.787	10.787	(0.942)	802803	10.0000	9.784
	23	Bis(2-Chloroethoxy)methane	93	10.990	10.990	(0.959)	391729	5.00000	4.863
	24	Benzoic acid	105	11.024	11.024	(0.962)	1097860	20.0000	18.46
	25	2,4-Dichlorophenol	162	11.186	11.186	(0.976)	782936	10.0000	10.37
	26	1,2,4-Trichlorobenzene	180	11.378	11.378	(0.993)	379963	5.00000	4.799
*	27	Naphthalene-d8	136	11.455	11.455	(1.000)	1007141	4.00000	
	28	Naphthalene	128	11.501	11.501	(1.004)	1312983	5.00000	4.804
	29	4-Chloroaniline	127	11.625	11.625	(1.015)	1021035	10.0000	9.710
	30	Hexachlorobutadiene	225	11.864	11.864	(1.036)	213515	5.00000	4.743
	31	4-Chloro-3-methylphenol	107	12.576	12.576	(1.098)	696833	10.0000	10.02
	32	2-Methylnaphthalene	142	13.103	13.103	(1.144)	792536	5.00000	4.851
	33	Hexachlorocyclopentadiene	237	13.350	13.350	(0.887)	468425	10.0000	10.19

		QUANT SIG					AMOUNTS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.497	13.497	(0.897)	475794	10.0000	10.01
	35 2,4,5-Trichlorophenol	196	13.567	13.567	(0.902)	525169	10.0000	10.11
$	36 2-Fluorobiphenyl	172	13.660	13.660	(0.908)	933735	5.00000	4.908
	37 2-Chloronaphthalene	162	13.869	13.869	(0.922)	738646	5.00000	4.867
	38 2-Nitroaniline	65	14.124	14.124	(0.939)	411127	10.0000	10.34
	39 Dimethylphthalate	163	14.565	14.565	(0.968)	780950	5.00000	4.933
	40 Acenaphthylene	152	14.728	14.728	(0.979)	1287219	5.00000	4.980
	41 2,6-Dinitrotoluene	165	14.697	14.697	(0.977)	339558	10.0000	9.403
*	42 Acenaphthene-d10	164	15.045	15.045	(1.000)	531283	4.00000	
	43 3-Nitroaniline	138	14.976	14.976	(0.995)	410084	10.0000	10.14
	44 Acenaphthene	153	15.107	15.107	(1.004)	792958	5.00000	4.847
	45 2,4-Dinitrophenol	184	15.184	15.184	(1.009)	368685	20.0000	17.06
	46 Dibenzofuran	168	15.432	15.432	(1.026)	1081304	5.00000	4.811
	47 4-Nitrophenol	109	15.285	15.285	(1.016)	203539	10.0000	9.444
	48 2,4-Dinitrotoluene	165	15.493	15.493	(1.030)	445524	10.0000	9.373
	50 Diethylphthalate	149	16.012	16.012	(1.064)	839629	5.00000	5.235
	49 Fluorene	166	16.143	16.143	(1.073)	1015043	5.00000	4.975
	51 4-Chlorophenyl-phenylether	204	16.135	16.135	(1.072)	457765	5.00000	5.056
	52 4-Nitroaniline	138	16.228	16.228	(1.079)	382829	10.0000	9.269
	53 4,6-Dinitro-2-methylphenol	198	16.328	16.328	(0.905)	462660	20.0000	18.04
	54 N-Nitrosodiphenylamine	169	16.382	16.382	(0.908)	549674	5.00000	4.877
$	55 2,4,6-Tribromophenol	330	16.667	16.667	(1.108)	166555	7.50000	6.939
	56 4-Bromophenyl-phenylether	248	17.130	17.130	(0.949)	226239	5.00000	5.061
	57 Hexachlorobenzene	284	17.439	17.439	(0.966)	243777	5.00000	4.862
	58 Pentachlorophenol	266	17.787	17.787	(0.985)	281141	10.0000	9.133
*	59 Phenanthrene-d10	188	18.050	18.050	(1.000)	884709	4.00000	
	60 Phenanthrene	178	18.097	18.097	(1.003)	1175407	5.00000	4.867
	61 Anthracene	178	18.190	18.190	(1.008)	1161475	5.00000	5.044
	62 Carbazole	167	18.515	18.515	(1.026)	988767	5.00000	4.877
	63 Di-n-butylphthalate	149	19.335	19.335	(1.071)	1267475	5.00000	4.726
	64 Fluoranthene	202	20.472	20.472	(0.887)	1187487	5.00000	5.120
	65 Pyrene	202	20.897	20.897	(0.906)	1231209	5.00000	5.037
$	66 Terphenyl-d14	244	21.192	21.192	(0.918)	904882	5.00000	4.978
	67 Butylbenzylphthalate	149	22.113	22.113	(0.958)	488824	5.00000	4.669
	68 Benzo(a)anthracene	228	23.042	23.042	(0.999)	1154757	5.00000	5.071
*	69 Chrysene-d12	240	23.073	23.073	(1.000)	727768	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.003	23.003	(0.997)	1052891	15.0000	12.86
	71 Chrysene	228	23.120	23.120	(1.002)	1173682	5.00000	4.986
	72 bis(2-Ethylhexyl)phthalate	149	23.135	23.135	(0.960)	742481	5.00000	4.640
*	134 Di-n-octylphthalate-d4	153	24.111	24.111	(1.000)	1108384	4.00000	
	73 Di-n-octylphthalate	149	24.118	24.118	(1.000)	1306872	5.00000	4.792
	74 Benzo(b)fluoranthene	252	24.869	24.869	(0.972)	1214508	5.00000	5.292
	75 Benzo(k)fluoranthene	252	24.916	24.916	(0.973)	1241248	5.00000	4.917
	76 Benzo(a)pyrene	252	25.489	25.489	(0.996)	1104870	5.00000	4.813
*	77 Perylene-d12	264	25.597	25.597	(1.000)	824431	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	28.102	28.102	(1.098)	1384338	5.00000	4.745
	79 Dibenzo(a,h)anthracene	278	28.117	28.117	(1.098)	1154359	5.00000	4.758
	80 Benzo(g,h,i)perylene	276	28.840	28.840	(1.127)	1095963	5.00000	4.723(M)
	90 N-Nitrosodimethylamine	74	4.711	4.711	(0.524)	498210	10.0000	9.732
	91 Aniline	93	8.457	8.457	(0.940)	1145663	10.0000	9.740
	93 Benzidine	184	20.712	20.712	(0.898)	945292	10.0000	9.586
	103 Pyridine	79	4.726	4.726	(0.525)	851019	10.0000	10.07
	105 1-methylnaphthalene	142	13.103	13.103	(1.144)	792536	5.00000	4.851
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.459	16.459	(1.094)	866899	5.00000	4.932

						AMOUNTS	
	QUANT SIG					CAL-AMT	ON-COL
Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/mL)	(ug/mL)
187 Total Benzofluoranthenes	252	24.916	24.916	(0.973)	2339717	10.0000	10.17
120 2,3,4,6-Tetrachlorophenol	232	15.764	15.764	(1.048)	255084	5.00000	4.387

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192304.D
Lab Smp Id: SKC0502-CAL5
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 16:40
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	268611	134306	537222	268611	0.00
27 Naphthalene-d8	1007141	503571	2014282	1007141	0.00
42 Acenaphthene-d10	531283	265642	1062566	531283	0.00
59 Phenanthrene-d10	884709	442355	1769418	884709	0.00
69 Chrysene-d12	727768	363884	1455536	727768	0.00
134 Di-n-octylphthala	1108384	554192	2216768	1108384	0.00
77 Perylene-d12	824431	412216	1648862	824431	0.00

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	0.00
42 Acenaphthene-d10	15.05	14.55	15.55	15.05	0.00
59 Phenanthrene-d10	18.05	17.55	18.55	18.05	0.00
69 Chrysene-d12	23.07	22.57	23.57	23.07	0.00
134 Di-n-octylphthala	24.11	23.61	24.61	24.11	0.00
77 Perylene-d12	25.60	25.10	26.10	25.60	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192304.D

Lab ID: SKC0502-CAL5
nt18.i, ABN.m, 19-MAR-2023 16:40

RT	CO-ELUTION COMPOUNDS
13.103	1-methylnaphthalene and 2-Methylnaphthalene

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

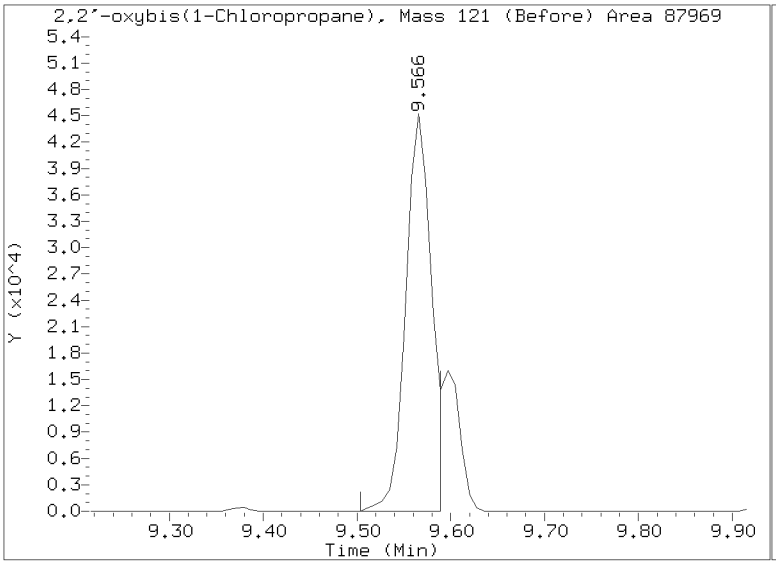
RRT check based on Ccal File: NT1803192304.D

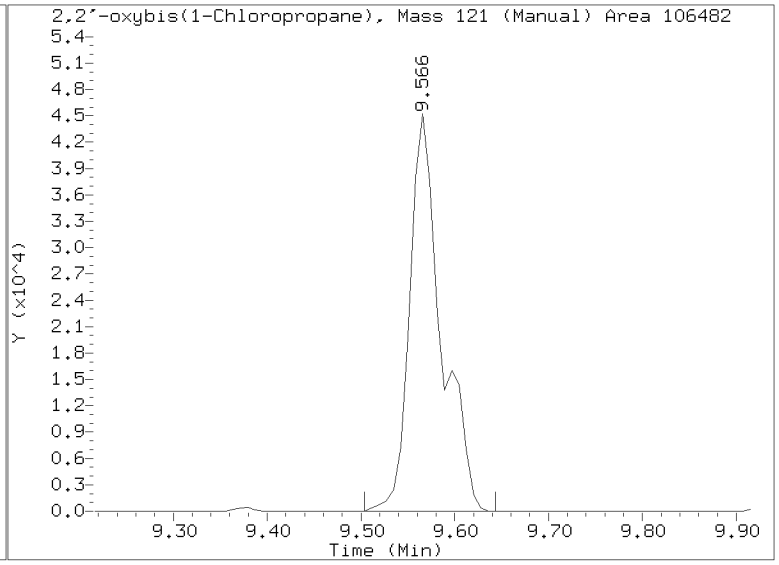
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

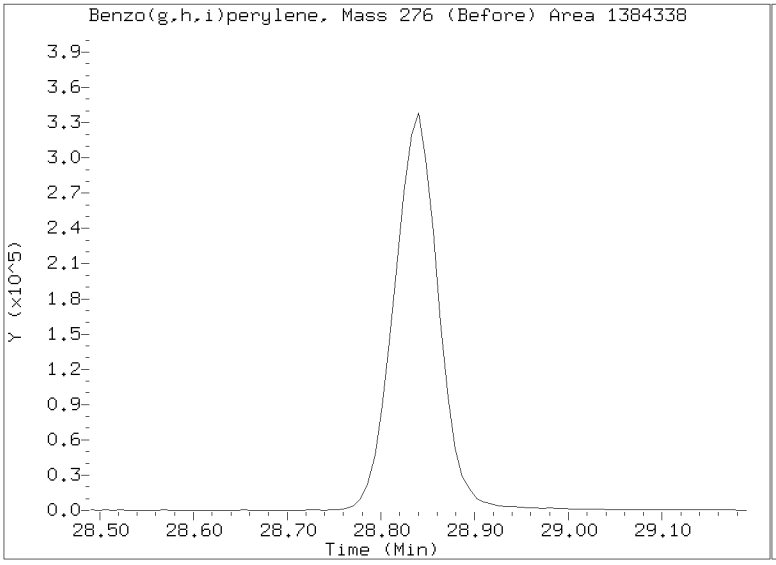
* Only compounds listed in the work order have been verified by the analyst *

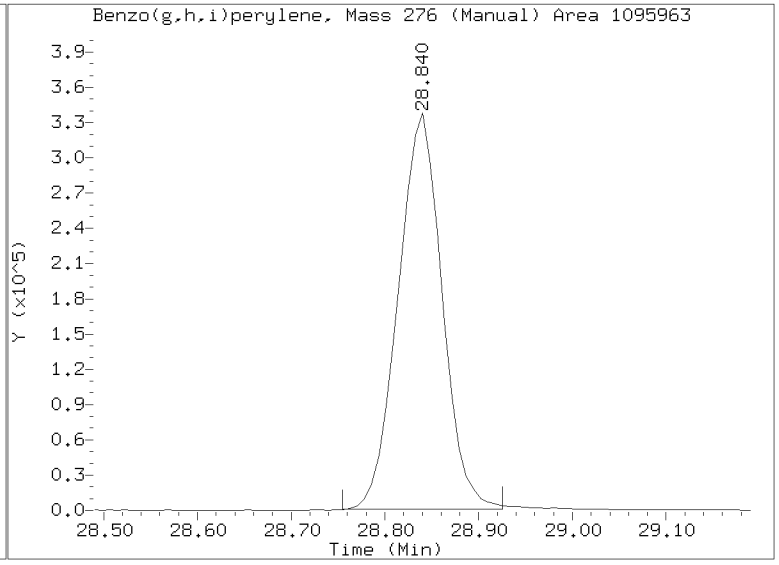
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230319.b/NT1803192304.D
Injection Date: 19-MAR-2023 16:40
Lab ID:SKC0502-CAL5 Client ID:
Report Date: 04/01/2023 07:53









Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192306.D

Page 1

Date : 19-MAR-2023 18:02

Client ID:

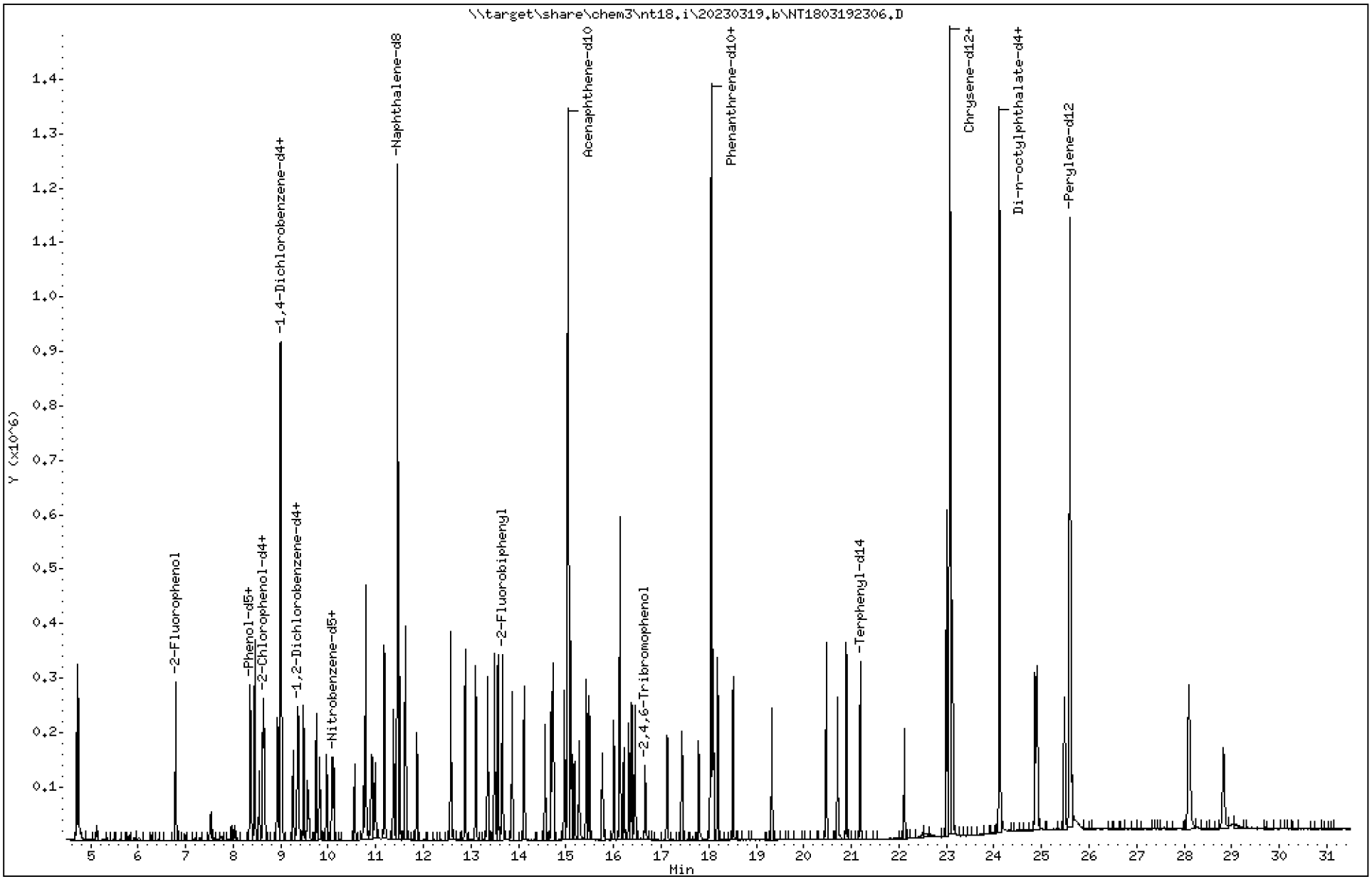
Instrument: nt18.i

Sample Info: cal3

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230319.b\NT1803192306.D
Lab Smp Id: SKC0502-CAL3
Inj Date : 19-MAR-2023 18:02
Operator : VTS Inst ID: nt18.i
Smp Info : cal3
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230319.b\ABN.m
Meth Date : 01-Apr-2023 07:53 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 18:02 Cal File: NT1803192306.D
Als bottle: 6 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: ORGDATA102

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1 2-Fluorophenol	112	6.788	6.788	(0.754)	112871	1.50000	1.466
$	2 Phenol-d5	99	8.349	8.349	(0.928)	139868	1.50000	1.471
	3 Phenol	94	8.372	8.372	(0.930)	99382	1.00000	0.9774
$	5 2-Chlorophenol-d4	132	8.627	8.627	(0.959)	118786	1.50000	1.441
	4 Bis(2-Chloroethyl)ether	93	8.542	8.542	(0.949)	68060	1.00000	0.9672
	6 2-Chlorophenol	128	8.658	8.658	(0.962)	81974	1.00000	0.9429
	7 1,3-Dichlorobenzene	146	8.929	8.929	(0.992)	91440	1.00000	0.9906
*	8 1,4-Dichlorobenzene-d4	152	8.999	8.999	(1.000)	249685	4.00000	
	9 1,4-Dichlorobenzene	146	9.022	9.022	(1.003)	90855	1.00000	0.9835
$	10 1,2-Dichlorobenzene-d4	152	9.348	9.348	(1.039)	58739	1.00000	0.9712
	12 1,2-Dichlorobenzene	146	9.379	9.379	(1.042)	86955	1.00000	0.9552
	11 Benzyl alcohol	108	9.255	9.255	(1.028)	43870	1.00000	0.9246
	14 2,2'-oxybis(1-Chloropropane)	121	9.565	9.565	(1.063)	20295	1.00000	0.9468
	13 2-Methylphenol	108	9.480	9.480	(1.053)	74572	1.00000	0.9663
	17 Hexachloroethane	117	9.969	9.969	(1.108)	34600	1.00000	0.9565
	16 N-Nitroso-di-n-propylamine	70	9.814	9.814	(1.091)	52497	1.00000	0.9552
	15 4-Methylphenol	108	9.744	9.744	(1.083)	75899	1.00000	0.9471
$	18 Nitrobenzene-d5	82	10.077	10.077	(0.880)	72620	1.00000	0.9349
	19 Nitrobenzene	77	10.109	10.109	(0.882)	73599	1.00000	0.9637
	20 Isophorone	82	10.559	10.559	(0.922)	96530	1.00000	0.9256
	21 2-Nitrophenol	139	10.736	10.736	(0.937)	25520	1.00000	0.5673
	22 2,4-Dimethylphenol	107	10.787	10.787	(0.942)	147059	2.00000	1.915
	23 Bis(2-Chloroethoxy)methane	93	10.982	10.982	(0.959)	75451	1.00000	1.001
	24 Benzoic acid	105	10.923	10.923	(0.954)	100529	4.00000	1.852
	25 2,4-Dichlorophenol	162	11.177	11.177	(0.976)	134574	2.00000	1.904
	26 1,2,4-Trichlorobenzene	180	11.370	11.370	(0.993)	72181	1.00000	0.9744
*	27 Naphthalene-d8	136	11.455	11.455	(1.000)	942385	4.00000	
	28 Naphthalene	128	11.494	11.494	(1.003)	248806	1.00000	0.9729
	29 4-Chloroaniline	127	11.625	11.625	(1.015)	183630	2.00000	1.866
	30 Hexachlorobutadiene	225	11.864	11.864	(1.036)	41171	1.00000	0.9774
	31 4-Chloro-3-methylphenol	107	12.576	12.576	(1.098)	118990	2.00000	1.828
	32 2-Methylnaphthalene	142	13.103	13.103	(1.144)	152810	1.00000	0.9995
	33 Hexachlorocyclopentadiene	237	13.350	13.350	(0.887)	73126	2.00000	1.695

		QUANT SIG					AMOUNTS CAL-AMT	ON-COL
Compounds		MASS	RT	EXP RT	REL RT	RESPONSE	(ug/mL)	(ug/mL)
34	2,4,6-Trichlorophenol	196	13.497	13.497	(0.897)	75948	2.00000	1.704
35	2,4,5-Trichlorophenol	196	13.567	13.567	(0.902)	83692	2.00000	1.717
$ 36	2-Fluorobiphenyl	172	13.660	13.660	(0.908)	170899	1.00000	0.9575
37	2-Chloronaphthalene	162	13.861	13.861	(0.921)	136807	1.00000	0.9609
38	2-Nitroaniline	65	14.116	14.116	(0.938)	65460	2.00000	1.754
39	Dimethylphthalate	163	14.558	14.558	(0.968)	140926	1.00000	0.9489
40	Acenaphthylene	152	14.728	14.728	(0.979)	234897	1.00000	0.9688
41	2,6-Dinitrotoluene	165	14.689	14.689	(0.976)	48818	2.00000	1.460
* 42	Acenaphthene-d10	164	15.045	15.045	(1.000)	498398	4.00000	
43	3-Nitroaniline	138	14.960	14.960	(0.994)	63857	2.00000	1.683
44	Acenaphthene	153	15.107	15.107	(1.004)	150767	1.00000	0.9824
45	2,4-Dinitrophenol	184	15.176	15.176	(1.009)	29004	4.00000	1.484
46	Dibenzofuran	168	15.432	15.432	(1.026)	206929	1.00000	0.9815
47	4-Nitrophenol	109	15.269	15.269	(1.015)	29342	2.00000	1.458
48	2,4-Dinitrotoluene	165	15.486	15.486	(1.029)	67910	2.00000	1.547
50	Diethylphthalate	149	16.004	16.004	(1.064)	136612	1.00000	0.9079
49	Fluorene	166	16.135	16.135	(1.072)	189883	1.00000	0.9922
51	4-Chlorophenyl-phenylether	204	16.135	16.135	(1.072)	84443	1.00000	0.9941
52	4-Nitroaniline	138	16.212	16.212	(1.078)	46141	2.00000	1.218
53	4,6-Dinitro-2-methylphenol	198	16.320	16.320	(0.904)	48124	4.00000	2.011
54	N-Nitrosodiphenylamine	169	16.374	16.374	(0.907)	105223	1.00000	0.9710
$ 55	2,4,6-Tribromophenol	330	16.667	16.667	(1.108)	24640	1.50000	1.130
56	4-Bromophenyl-phenylether	248	17.130	17.130	(0.949)	39964	1.00000	0.9297
57	Hexachlorobenzene	284	17.439	17.439	(0.966)	46011	1.00000	0.9542
58	Pentachlorophenol	266	17.787	17.787	(0.985)	33813	2.00000	1.184
* 59	Phenanthrene-d10	188	18.050	18.050	(1.000)	850721	4.00000	
60	Phenanthrene	178	18.097	18.097	(1.003)	224692	1.00000	0.9676
61	Anthracene	178	18.190	18.190	(1.008)	212597	1.00000	0.9602
62	Carbazole	167	18.514	18.514	(1.026)	189763	1.00000	0.9733
63	Di-n-butylphthalate	149	19.327	19.327	(1.071)	199514	1.00000	0.7716
64	Fluoranthene	202	20.472	20.472	(0.887)	219568	1.00000	0.9914
65	Pyrene	202	20.890	20.890	(0.905)	223729	1.00000	0.9584
$ 66	Terphenyl-d14	244	21.184	21.184	(0.918)	167012	1.00000	0.9620
67	Butylbenzylphthalate	149	22.113	22.113	(0.958)	67256	1.00000	0.6668
68	Benzo(a)anthracene	228	23.042	23.042	(0.999)	213716	1.00000	0.9827
* 69	Chrysene-d12	240	23.073	23.073	(1.000)	695007	4.00000	
70	3,3'-Dichlorobenzidine	252	23.003	23.003	(0.997)	195554	3.00000	2.496
71	Chrysene	228	23.112	23.112	(1.002)	220968	1.00000	0.9829
72	bis(2-Ethylhexyl)phthalate	149	23.135	23.135	(0.960)	105077	1.00000	0.7882
* 134	Di-n-octylphthalate-d4	153	24.110	24.110	(1.000)	908791	4.00000	
73	Di-n-octylphthalate	149	24.118	24.118	(1.000)	221655	1.00000	0.9913
74	Benzo(b)fluoranthene	252	24.861	24.861	(0.971)	201647	1.00000	0.9362
75	Benzo(k)fluoranthene	252	24.908	24.908	(0.973)	227789	1.00000	0.9615
76	Benzo(a)pyrene	252	25.481	25.481	(0.995)	178246	1.00000	0.8279
* 77	Perylene-d12	264	25.597	25.597	(1.000)	773685	4.00000	
78	Indeno(1,2,3-cd)pyrene	276	28.086	28.086	(1.097)	204928	1.00000	0.7611
79	Dibenzo(a,h)anthracene	278	28.110	28.110	(1.098)	168633	1.00000	0.7589
80	Benzo(g,h,i)perylene	276	28.824	28.824	(1.126)	169458	1.00000	0.7890(M)
90	N-Nitrosodimethylamine	74	4.703	4.703	(0.523)	94726	2.00000	1.991
91	Aniline	93	8.449	8.449	(0.939)	208013	2.00000	1.902
93	Benzidine	184	20.704	20.704	(0.897)	155775	2.00000	1.654
103	Pyridine	79	4.734	4.734	(0.526)	162723	2.00000	2.071
105	1-methylnaphthalene	142	13.103	13.103	(1.144)	152810	1.00000	0.9995
111	Azobenzene (1,2-DP-Hydrazine)	77	16.451	16.451	(1.093)	156925	1.00000	0.9516

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187 Total Benzofluoranthenes	252	24.908	24.908	(0.973)	410386	2.00000	1.901
120 2,3,4,6-Tetrachlorophenol	232	15.764	15.764	(1.048)	34386	1.00000	0.6305

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192306.D
Lab Smp Id: SKC0502-CAL3
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 16:40
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	268611	134306	537222	249685	-7.05
27 Naphthalene-d8	1007141	503571	2014282	942385	-6.43
42 Acenaphthene-d10	531283	265642	1062566	498398	-6.19
59 Phenanthrene-d10	884709	442355	1769418	850721	-3.84
69 Chrysene-d12	727768	363884	1455536	695007	-4.50
134 Di-n-octylphthala	1108384	554192	2216768	908791	-18.01
77 Perylene-d12	824431	412216	1648862	773685	-6.16

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	-0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	-0.00
42 Acenaphthene-d10	15.05	14.55	15.55	15.05	-0.00
59 Phenanthrene-d10	18.05	17.55	18.55	18.05	-0.00
69 Chrysene-d12	23.07	22.57	23.57	23.07	-0.00
134 Di-n-octylphthala	24.11	23.61	24.61	24.11	-0.00
77 Perylene-d12	25.60	25.10	26.10	25.60	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192306.D

Lab ID: SKC0502-CAL3
nt18.i, ABN.m, 19-MAR-2023 18:02

RT	CO-ELUTION COMPOUNDS
13.103	1-methylnaphthalene and 2-Methylnaphthalene

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

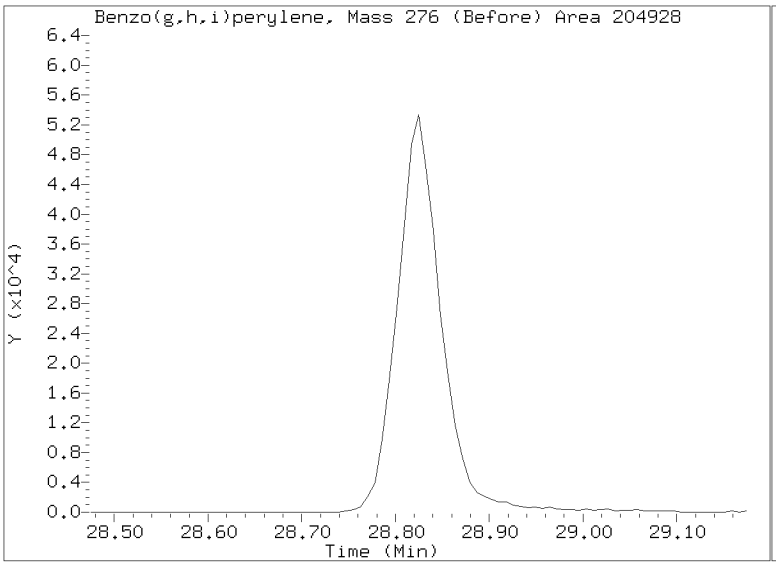
RRT check based on Ccal File: NT1803192306.D

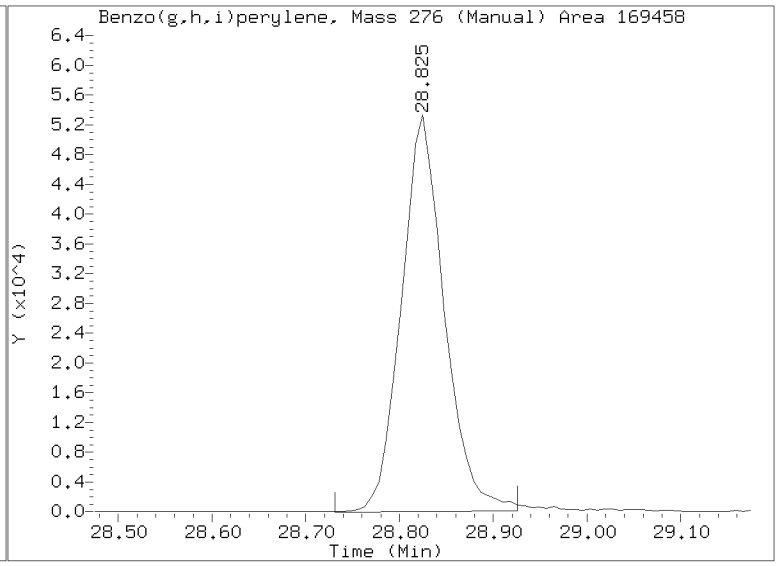
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230319.b/NT1803192306.D
Injection Date: 19-MAR-2023 18:02
Lab ID:SKC0502-CAL3 Client ID:
Report Date: 04/01/2023 07:53





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Page 1

Date : 19-MAR-2023 18:43

Client ID:

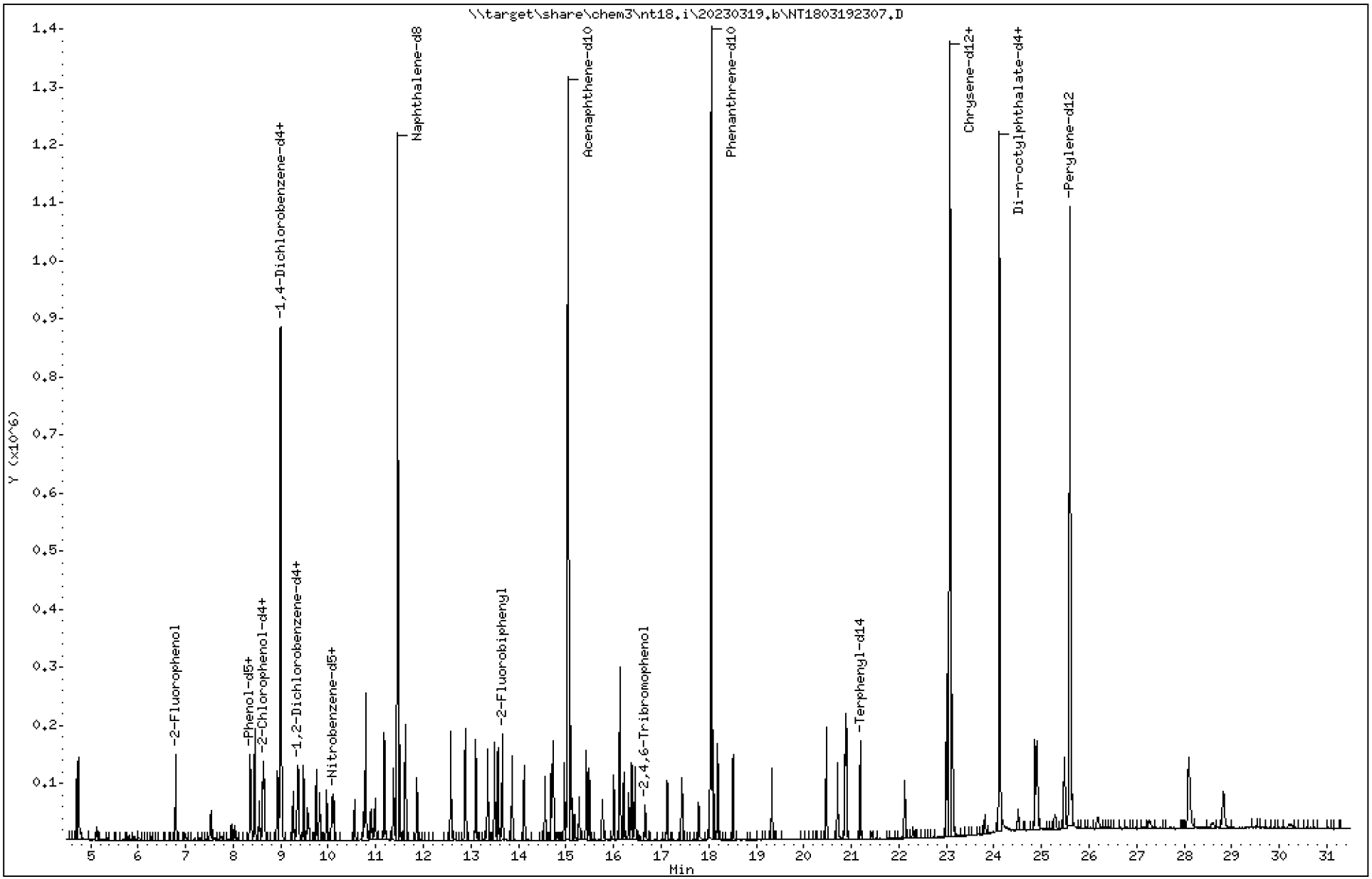
Instrument: nt18.i

Sample Info: cal2

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230319.b\NT1803192307.D
Lab Smp Id: SKC0502-CAL2
Inj Date : 19-MAR-2023 18:43
Operator : VTS Inst ID: nt18.i
Smp Info : cal2
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230319.b\ABN.m
Meth Date : 01-Apr-2023 07:53 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 18:43 Cal File: NT1803192307.D
Als bottle: 7 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: ORGDATA102

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1 2-Fluorophenol	112	6.788	6.788	(0.754)	57589	0.75000	0.7695
$	2 Phenol-d5	99	8.349	8.349	(0.928)	72413	0.75000	0.7832
	3 Phenol	94	8.372	8.372	(0.930)	51117	0.50000	0.5171
$	5 2-Chlorophenol-d4	132	8.627	8.627	(0.959)	59860	0.75000	0.7469
	4 Bis(2-Chloroethyl)ether	93	8.542	8.542	(0.949)	36741	0.50000	0.5370
	6 2-Chlorophenol	128	8.658	8.658	(0.962)	42995	0.50000	0.5086
	7 1,3-Dichlorobenzene	146	8.929	8.929	(0.992)	48224	0.50000	0.5373
*	8 1,4-Dichlorobenzene-d4	152	8.998	8.998	(1.000)	242756	4.00000	
	9 1,4-Dichlorobenzene	146	9.022	9.022	(1.003)	47883	0.50000	0.5331
$	10 1,2-Dichlorobenzene-d4	152	9.348	9.348	(1.039)	32350	0.50000	0.5501
	12 1,2-Dichlorobenzene	146	9.379	9.379	(1.042)	46903	0.50000	0.5299
	11 Benzyl alcohol	108	9.254	9.254	(1.028)	22010	0.50000	0.4771
	14 2,2'-oxybis(1-Chloropropane)	121	9.565	9.565	(1.063)	11497	0.50000	0.5517(M)
	13 2-Methylphenol	108	9.480	9.480	(1.053)	38642	0.50000	0.5150
	17 Hexachloroethane	117	9.961	9.961	(1.107)	18499	0.50000	0.5260
	16 N-Nitroso-di-n-propylamine	70	9.813	9.813	(1.091)	27724	0.50000	0.5188
	15 4-Methylphenol	108	9.744	9.744	(1.083)	39946	0.50000	0.5127
$	18 Nitrobenzene-d5	82	10.077	10.077	(0.880)	37294	0.50000	0.4931
	19 Nitrobenzene	77	10.108	10.108	(0.882)	38207	0.50000	0.5139
	20 Isophorone	82	10.551	10.551	(0.921)	48779	0.50000	0.4805
	21 2-Nitrophenol	139	10.736	10.736	(0.937)	12940	0.50000	0.2956
	22 2,4-Dimethylphenol	107	10.787	10.787	(0.942)	76246	1.00000	1.020
	23 Bis(2-Chloroethoxy)methane	93	10.982	10.982	(0.959)	37900	0.50000	0.5165
	24 Benzoic acid	105	10.897	10.897	(0.951)	27406	2.00000	0.5197
	25 2,4-Dichlorophenol	162	11.177	11.177	(0.976)	67122	1.00000	0.9757
	26 1,2,4-Trichlorobenzene	180	11.370	11.370	(0.993)	37735	0.50000	0.5232
*	27 Naphthalene-d8	136	11.455	11.455	(1.000)	917444	4.00000	
	28 Naphthalene	128	11.493	11.493	(1.003)	135455	0.50000	0.5441
	29 4-Chloroaniline	127	11.625	11.625	(1.015)	97692	1.00000	1.020
	30 Hexachlorobutadiene	225	11.864	11.864	(1.036)	22163	0.50000	0.5404
	31 4-Chloro-3-methylphenol	107	12.576	12.576	(1.098)	59393	1.00000	0.9374
	32 2-Methylnaphthalene	142	13.102	13.102	(1.144)	79809	0.50000	0.5362
	33 Hexachlorocyclopentadiene	237	13.350	13.350	(0.887)	36498	1.00000	0.8645

		QUANT SIG					AMOUNTS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.497	13.497	(0.897)	37953	1.00000	0.8696
	35 2,4,5-Trichlorophenol	196	13.567	13.567	(0.902)	42171	1.00000	0.8840
$	36 2-Fluorobiphenyl	172	13.660	13.660	(0.908)	92623	0.50000	0.5301
	37 2-Chloronaphthalene	162	13.861	13.861	(0.921)	73839	0.50000	0.5298
	38 2-Nitroaniline	65	14.116	14.116	(0.938)	30311	1.00000	0.8299
	39 Dimethylphthalate	163	14.558	14.558	(0.968)	74702	0.50000	0.5138
	40 Acenaphthylene	152	14.728	14.728	(0.979)	121768	0.50000	0.5130
	41 2,6-Dinitrotoluene	165	14.689	14.689	(0.976)	23625	1.00000	0.7227
*	42 Acenaphthene-d10	164	15.045	15.045	(1.000)	487888	4.00000	
	43 3-Nitroaniline	138	14.960	14.960	(0.994)	30222	1.00000	0.8136
	44 Acenaphthene	153	15.107	15.107	(1.004)	80559	0.50000	0.5362
	45 2,4-Dinitrophenol	184	15.176	15.176	(1.009)	8933	2.00000	0.4679
	46 Dibenzofuran	168	15.431	15.431	(1.026)	110399	0.50000	0.5349
	47 4-Nitrophenol	109	15.269	15.269	(1.015)	13998	1.00000	0.7106
	48 2,4-Dinitrotoluene	165	15.485	15.485	(1.029)	31218	1.00000	0.7276
	50 Diethylphthalate	149	16.004	16.004	(1.064)	71316	0.50000	0.4842
	49 Fluorene	166	16.135	16.135	(1.072)	99046	0.50000	0.5287
	51 4-Chlorophenyl-phenylether	204	16.135	16.135	(1.072)	38506	0.50000	0.4631
	52 4-Nitroaniline	138	16.212	16.212	(1.078)	28075	1.00000	0.7579
	53 4,6-Dinitro-2-methylphenol	198	16.320	16.320	(0.904)	18271	2.00000	0.7686
	54 N-Nitrosodiphenylamine	169	16.374	16.374	(0.907)	54667	0.50000	0.5067
$	55 2,4,6-Tribromophenol	330	16.667	16.667	(1.108)	10994	0.75000	0.5168
	56 4-Bromophenyl-phenylether	248	17.122	17.122	(0.949)	21378	0.50000	0.4996
	57 Hexachlorobenzene	284	17.439	17.439	(0.966)	24486	0.50000	0.5101
	58 Pentachlorophenol	266	17.787	17.787	(0.985)	12204	1.00000	0.4307
*	59 Phenanthrene-d10	188	18.050	18.050	(1.000)	846905	4.00000	
	60 Phenanthrene	178	18.097	18.097	(1.003)	116696	0.50000	0.5048
	61 Anthracene	178	18.189	18.189	(1.008)	110415	0.50000	0.5009
	62 Carbazole	167	18.514	18.514	(1.026)	97852	0.50000	0.5041
	63 Di-n-butylphthalate	149	19.327	19.327	(1.071)	98101	0.50000	0.3810
	64 Fluoranthene	202	20.472	20.472	(0.887)	115495	0.50000	0.5298
	65 Pyrene	202	20.890	20.890	(0.905)	127880	0.50000	0.5566
$	66 Terphenyl-d14	244	21.184	21.184	(0.918)	87991	0.50000	0.5149
	67 Butylbenzylphthalate	149	22.113	22.113	(0.958)	33194	0.50000	0.3341
	68 Benzo(a)anthracene	228	23.042	23.042	(0.999)	109289	0.50000	0.5105
*	69 Chrysene-d12	240	23.073	23.073	(1.000)	684077	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.003	23.003	(0.997)	91242	1.50000	1.183
	71 Chrysene	228	23.112	23.112	(1.002)	118469	0.50000	0.5354
	72 bis(2-Ethylhexyl)phthalate	149	23.135	23.135	(0.960)	48870	0.50000	0.3800
*	134 Di-n-octylphthalate-d4	153	24.110	24.110	(1.000)	875180	4.00000	
	73 Di-n-octylphthalate	149	24.118	24.118	(1.000)	114985	0.50000	0.5340
	74 Benzo(b)fluoranthene	252	24.861	24.861	(0.972)	102553	0.50000	0.4913
	75 Benzo(k)fluoranthene	252	24.908	24.908	(0.973)	116453	0.50000	0.5072
	76 Benzo(a)pyrene	252	25.481	25.481	(0.996)	88917	0.50000	0.4261
*	77 Perylene-d12	264	25.589	25.589	(1.000)	749848	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	28.094	28.094	(1.098)	94214	0.50000	0.3616
	79 Dibenzo(a,h)anthracene	278	28.102	28.102	(1.098)	76780	0.50000	0.3573
	80 Benzo(g,h,i)perylene	276	28.824	28.824	(1.126)	82926	0.50000	0.3989(M)
	90 N-Nitrosodimethylamine	74	4.703	4.703	(0.523)	50053	1.00000	1.082
	91 Aniline	93	8.449	8.449	(0.939)	108301	1.00000	1.019
	93 Benzidine	184	20.712	20.712	(0.898)	85577	1.00000	0.9232
	103 Pyridine	79	4.741	4.741	(0.527)	82599	1.00000	1.081
	105 1-methylnaphthalene	142	13.102	13.102	(1.144)	79809	0.50000	0.5362
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.451	16.451	(1.093)	83740	0.50000	0.5188

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187 Total Benzofluoranthenes	252	24.908	24.908	(0.973)	209282	1.00000	1.000
120 2,3,4,6-Tetrachlorophenol	232	15.764	15.764	(1.048)	15400	0.50000	0.2884

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192307.D
Lab Smp Id: SKC0502-CAL2
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 16:40
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	268611	134306	537222	242756	-9.63
27 Naphthalene-d8	1007141	503571	2014282	917444	-8.91
42 Acenaphthene-d10	531283	265642	1062566	487888	-8.17
59 Phenanthrene-d10	884709	442355	1769418	846905	-4.27
69 Chrysene-d12	727768	363884	1455536	684077	-6.00
134 Di-n-octylphthala	1108384	554192	2216768	875180	-21.04
77 Perylene-d12	824431	412216	1648862	749848	-9.05

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	-0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	-0.00
42 Acenaphthene-d10	15.05	14.55	15.55	15.05	-0.00
59 Phenanthrene-d10	18.05	17.55	18.55	18.05	-0.00
69 Chrysene-d12	23.07	22.57	23.57	23.07	-0.00
134 Di-n-octylphthala	24.11	23.61	24.61	24.11	-0.00
77 Perylene-d12	25.60	25.10	26.10	25.59	-0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192307.D

Lab ID: SKC0502-CAL2
nt18.i, ABN.m, 19-MAR-2023 18:43

RT	CO-ELUTION COMPOUNDS
13.103	1-methylnaphthalene and 2-Methylnaphthalene

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

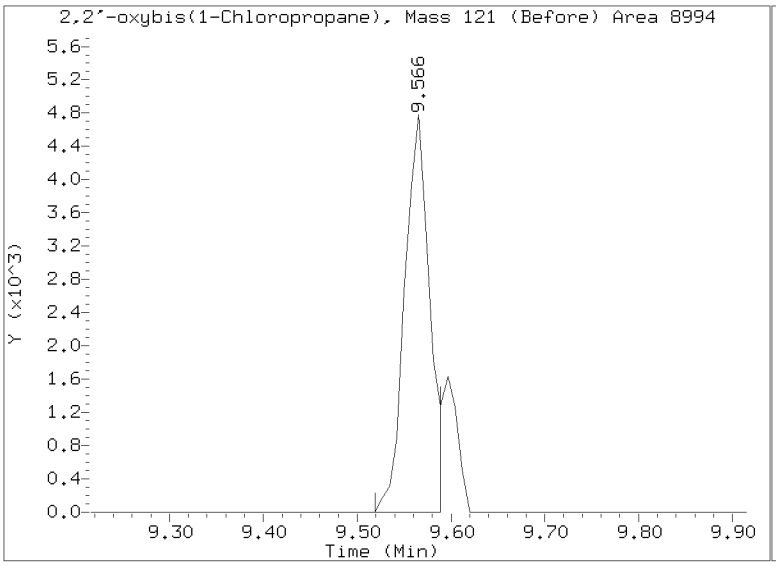
RRT check based on Ccal File: NT1803192307.D

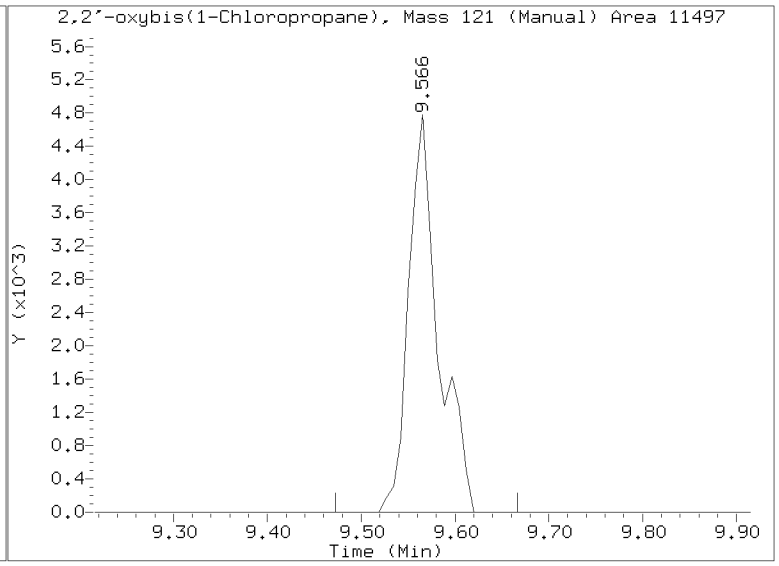
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

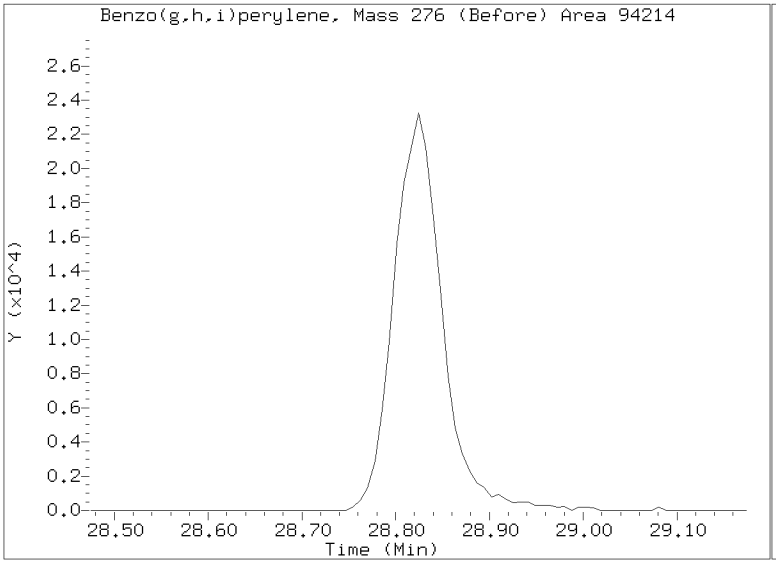
* Only compounds listed in the work order have been verified by the analyst *

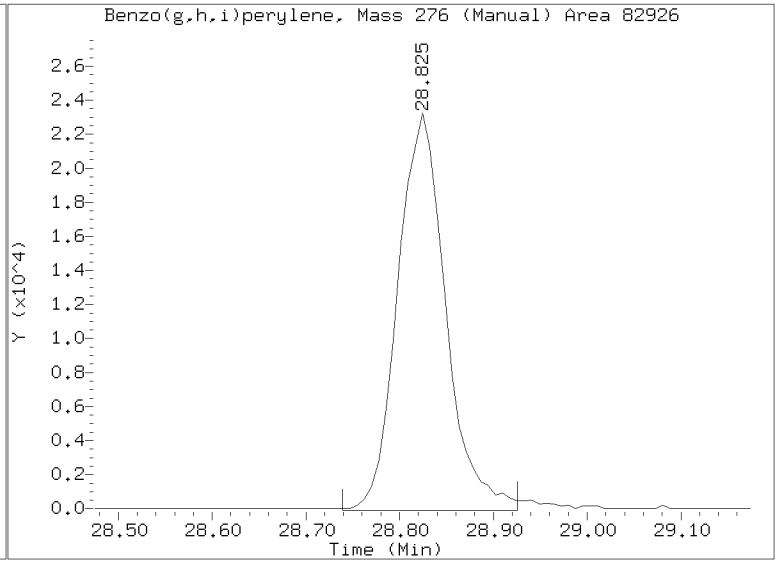
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230319.b/NT1803192307.D
Injection Date: 19-MAR-2023 18:43
Lab ID:SKC0502-CAL2 Client ID:
Report Date: 04/01/2023 07:53





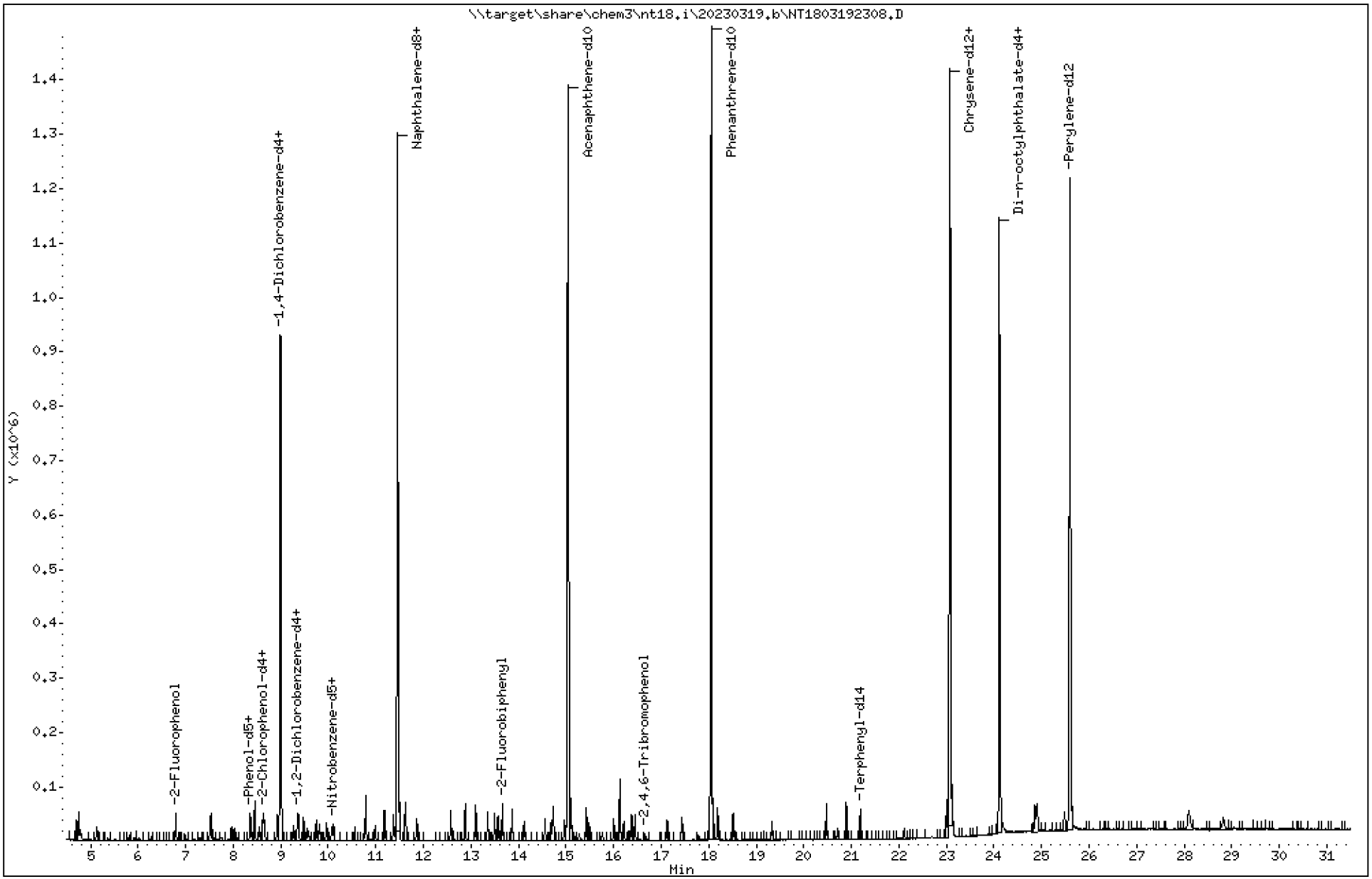




Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192308.D
Date : 19-MAR-2023 19:24
Client ID:
Sample Info: cal1

Instrument: nt18.i
Operator: VTS
Column diameter: 0.25

Column phase: ZB-5msi



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230319.b\NT1803192308.D
Lab Smp Id: SKC0502-CAL1
Inj Date : 19-MAR-2023 19:24
Operator : VTS Inst ID: nt18.i
Smp Info : cal1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230319.b\ABN.m
Meth Date : 01-Apr-2023 07:53 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 19:24 Cal File: NT1803192308.D
Als bottle: 8 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: ORGDATA102

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1 2-Fluorophenol	112	6.788	6.788	(0.754)	19749	0.30000	0.2482
$	2 Phenol-d5	99	8.349	8.349	(0.928)	25010	0.30000	0.2544
	3 Phenol	94	8.372	8.372	(0.930)	18988	0.20000	0.1806
$	5 2-Chlorophenol-d4	132	8.627	8.627	(0.959)	21339	0.30000	0.2504
	4 Bis(2-Chloroethyl)ether	93	8.542	8.542	(0.949)	14189	0.20000	0.1950
	6 2-Chlorophenol	128	8.658	8.658	(0.962)	15245	0.20000	0.1696
	7 1,3-Dichlorobenzene	146	8.929	8.929	(0.992)	18516	0.20000	0.1940
*	8 1,4-Dichlorobenzene-d4	152	8.999	8.999	(1.000)	258154	4.00000	
	9 1,4-Dichlorobenzene	146	9.022	9.022	(1.003)	18701	0.20000	0.1958
$	10 1,2-Dichlorobenzene-d4	152	9.348	9.348	(1.039)	12463	0.20000	0.1993
	12 1,2-Dichlorobenzene	146	9.379	9.379	(1.042)	19129	0.20000	0.2032
	11 Benzyl alcohol	108	9.262	9.262	(1.029)	7315	0.20000	0.1491
	14 2,2'-oxybis(1-Chloropropane)	121	9.565	9.565	(1.063)	4214	0.20000	0.1901(M)
	13 2-Methylphenol	108	9.480	9.480	(1.053)	13858	0.20000	0.1737
	17 Hexachloroethane	117	9.961	9.961	(1.107)	6902	0.20000	0.1845
	16 N-Nitroso-di-n-propylamine	70	9.814	9.814	(1.091)	9711	0.20000	0.1709
	15 4-Methylphenol	108	9.744	9.744	(1.083)	13682	0.20000	0.1651
$	18 Nitrobenzene-d5	82	10.077	10.077	(0.880)	12737	0.20000	0.1567
	19 Nitrobenzene	77	10.109	10.109	(0.882)	13225	0.20000	0.1655
	20 Isophorone	82	10.559	10.559	(0.922)	16173	0.20000	0.1482
	21 2-Nitrophenol	139	10.736	10.736	(0.937)	4112	0.20000	0.08742
	22 2,4-Dimethylphenol	107	10.787	10.787	(0.942)	26389	0.40000	0.3284
	23 Bis(2-Chloroethoxy)methane	93	10.982	10.982	(0.959)	14809	0.20000	0.1877
	24 Benzoic acid	105	10.880	10.880	(0.950)	2669	0.80000	0.04711(M)
	25 2,4-Dichlorophenol	162	11.186	11.186	(0.976)	20192	0.40000	0.2730
	26 1,2,4-Trichlorobenzene	180	11.370	11.370	(0.993)	15463	0.20000	0.1994
*	27 Naphthalene-d8	136	11.455	11.455	(1.000)	986304	4.00000	
	28 Naphthalene	128	11.494	11.494	(1.003)	52714	0.20000	0.1970
	29 4-Chloroaniline	127	11.625	11.625	(1.015)	34103	0.40000	0.3312
	30 Hexachlorobutadiene	225	11.857	11.857	(1.035)	8627	0.20000	0.1957
	31 4-Chloro-3-methylphenol	107	12.576	12.576	(1.098)	18140	0.40000	0.2663
	32 2-Methylnaphthalene	142	13.103	13.103	(1.144)	29877	0.20000	0.1867
	33 Hexachlorocyclopentadiene	237	13.350	13.350	(0.887)	12240	0.40000	0.2705

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
	34	2,4,6-Trichlorophenol	196	13.497	13.497	(0.897)	10851	0.40000	0.2320
	35	2,4,5-Trichlorophenol	196	13.567	13.567	(0.902)	12305	0.40000	0.2407(M)
$	36	2-Fluorobiphenyl	172	13.660	13.660	(0.908)	35953	0.20000	0.1920
	37	2-Chloronaphthalene	162	13.861	13.861	(0.921)	28301	0.20000	0.1895
	38	2-Nitroaniline	65	14.116	14.116	(0.938)	8550	0.40000	0.2184
	39	Dimethylphthalate	163	14.558	14.558	(0.968)	27821	0.20000	0.1786
	40	Acenaphthylene	152	14.728	14.728	(0.979)	44230	0.20000	0.1739
	41	2,6-Dinitrotoluene	165	14.689	14.689	(0.976)	6522	0.40000	0.1863
*	42	Acenaphthene-d10	164	15.045	15.045	(1.000)	522903	4.00000	
	43	3-Nitroaniline	138	14.960	14.960	(0.994)	8173	0.40000	0.2053
	44	Acenaphthene	153	15.107	15.107	(1.004)	31036	0.20000	0.1928
	45	2,4-Dinitrophenol	184	15.176	15.176	(1.009)	1376	0.80000	0.06731
	46	Dibenzofuran	168	15.424	15.424	(1.025)	41885	0.20000	0.1894
	47	4-Nitrophenol	109	15.269	15.269	(1.015)	2780	0.40000	0.1317
	48	2,4-Dinitrotoluene	165	15.486	15.486	(1.029)	7531	0.40000	0.1639
	50	Diethylphthalate	149	16.004	16.004	(1.064)	26228	0.20000	0.1661
	49	Fluorene	166	16.135	16.135	(1.072)	31427	0.20000	0.1565
	51	4-Chlorophenyl-phenylether	204	16.127	16.127	(1.072)	14664	0.20000	0.1645
	52	4-Nitroaniline	138	16.212	16.212	(1.078)	8776	0.40000	0.2214
	53	4,6-Dinitro-2-methylphenol	198	16.312	16.312	(0.904)	3515	0.80000	0.1370
	54	N-Nitrosodiphenylamine	169	16.374	16.374	(0.907)	19906	0.20000	0.1708
$	55	2,4,6-Tribromophenol	330	16.667	16.667	(1.108)	3095	0.30000	0.1360
	56	4-Bromophenyl-phenylether	248	17.130	17.130	(0.949)	8034	0.20000	0.1738
	57	Hexachlorobenzene	284	17.439	17.439	(0.966)	9710	0.20000	0.1873
	58	Pentachlorophenol	266	17.787	17.787	(0.985)	2393	0.40000	0.07831
*	59	Phenanthrene-d10	188	18.050	18.050	(1.000)	914723	4.00000	
	60	Phenanthrene	178	18.097	18.097	(1.003)	48413	0.20000	0.1939
	61	Anthracene	178	18.190	18.190	(1.008)	39849	0.20000	0.1674
	62	Carbazole	167	18.514	18.514	(1.026)	32768	0.20000	0.1563
	63	Di-n-butylphthalate	149	19.335	19.335	(1.071)	28402	0.20000	0.1021
	64	Fluoranthene	202	20.472	20.472	(0.887)	39482	0.20000	0.1710
	65	Pyrene	202	20.890	20.890	(0.905)	43554	0.20000	0.1790
$	66	Terphenyl-d14	244	21.184	21.184	(0.918)	31603	0.20000	0.1746
	67	Butylbenzylphthalate	149	22.113	22.113	(0.958)	7051	0.20000	0.06698
	68	Benzo(a)anthracene	228	23.042	23.042	(0.999)	39606	0.20000	0.1747
*	69	Chrysene-d12	240	23.073	23.073	(1.000)	724475	4.00000	
	70	3,3'-Dichlorobenzidine	252	23.003	23.003	(0.997)	23951	0.60000	0.2931
	71	Chrysene	228	23.112	23.112	(1.002)	44149	0.20000	0.1884
	72	bis(2-Ethylhexyl)phthalate	149	23.135	23.135	(0.960)	11137	0.20000	0.08759
*	134	Di-n-octylphthalate-d4	153	24.110	24.110	(1.000)	864246	4.00000	
	73	Di-n-octylphthalate	149	24.118	24.118	(1.000)	42949	0.20000	0.2020
	74	Benzo(b)fluoranthene	252	24.869	24.869	(0.972)	33056	0.20000	0.1499
	75	Benzo(k)fluoranthene	252	24.908	24.908	(0.973)	39154	0.20000	0.1614
	76	Benzo(a)pyrene	252	25.481	25.481	(0.995)	26258	0.20000	0.1191
*	77	Perylene-d12	264	25.597	25.597	(1.000)	792210	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	28.094	28.094	(1.098)	27606	0.20000	0.1004
	79	Dibenzo(a,h)anthracene	278	28.102	28.102	(1.098)	23139	0.20000	0.1021
	80	Benzo(g,h,i)perylene	276	28.816	28.816	(1.126)	26355	0.20000	0.1201(M)
	90	N-Nitrosodimethylamine	74	4.703	4.703	(0.523)	19606	0.40000	0.3985
	91	Aniline	93	8.449	8.449	(0.939)	40369	0.40000	0.3571
	93	Benzidine	184	20.712	20.712	(0.898)	15799	0.40000	0.1609
	103	Pyridine	79	4.749	4.749	(0.528)	27958	0.40000	0.3441
	105	1-methylnaphthalene	142	13.103	13.103	(1.144)	29877	0.20000	0.1867
	111	Azobenzene (1,2-DP-Hydrazine)	77	16.451	16.451	(1.093)	31029	0.20000	0.1794

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187 Total Benzofluoranthenes	252	24.908	24.908	(0.973)	69342	0.40000	0.3137
120 2,3,4,6-Tetrachlorophenol	232	15.764	15.764	(1.048)	4058	0.20000	0.07092

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192308.D
Lab Smp Id: SKC0502-CAL1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 16:40
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	268611	134306	537222	258154	-3.89
27 Naphthalene-d8	1007141	503571	2014282	986304	-2.07
42 Acenaphthene-d10	531283	265642	1062566	522903	-1.58
59 Phenanthrene-d10	884709	442355	1769418	914723	3.39
69 Chrysene-d12	727768	363884	1455536	724475	-0.45
134 Di-n-octylphthala	1108384	554192	2216768	864246	-22.03
77 Perylene-d12	824431	412216	1648862	792210	-3.91

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	-0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	-0.00
42 Acenaphthene-d10	15.05	14.55	15.55	15.05	-0.00
59 Phenanthrene-d10	18.05	17.55	18.55	18.05	-0.00
69 Chrysene-d12	23.07	22.57	23.57	23.07	-0.00
134 Di-n-octylphthala	24.11	23.61	24.61	24.11	-0.00
77 Perylene-d12	25.60	25.10	26.10	25.60	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192308.D

Lab ID: SKC0502-CAL1
nt18.i, ABN.m, 19-MAR-2023 19:24

RT	CO-ELUTION COMPOUNDS
13.103	1-methylnaphthalene and 2-Methylnaphthalene

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

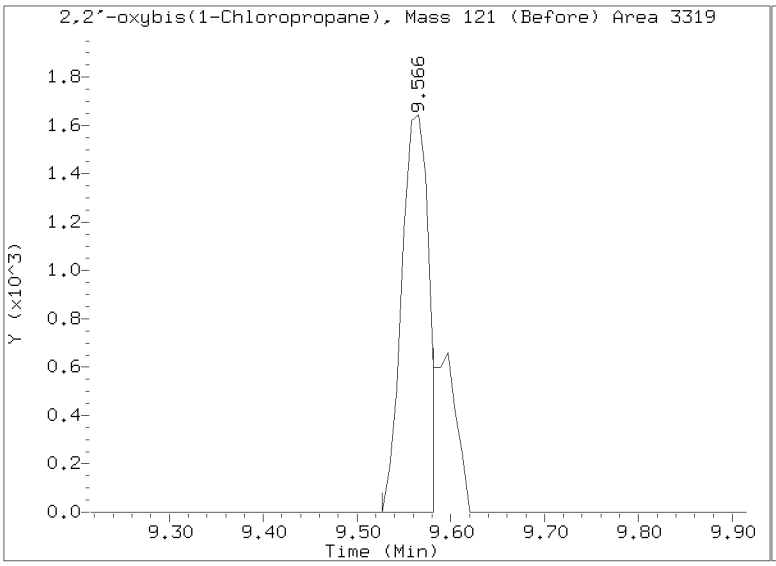
RRT check based on Ccal File: NT1803192308.D

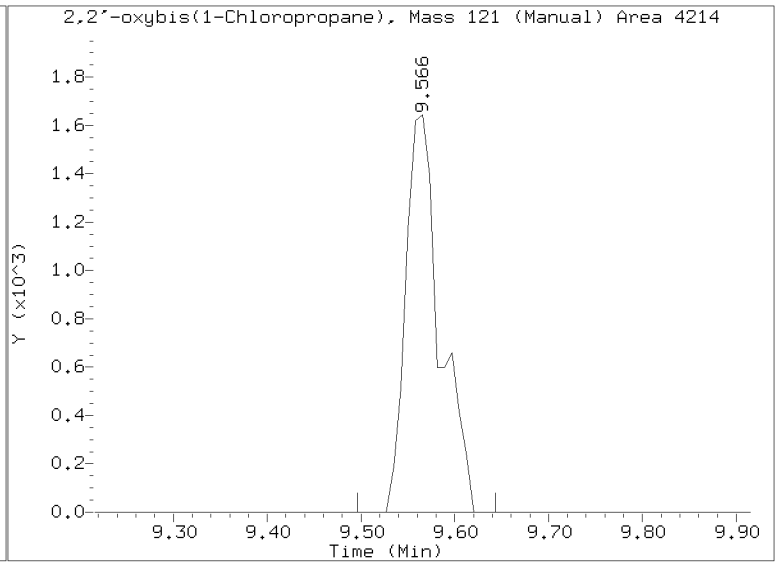
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

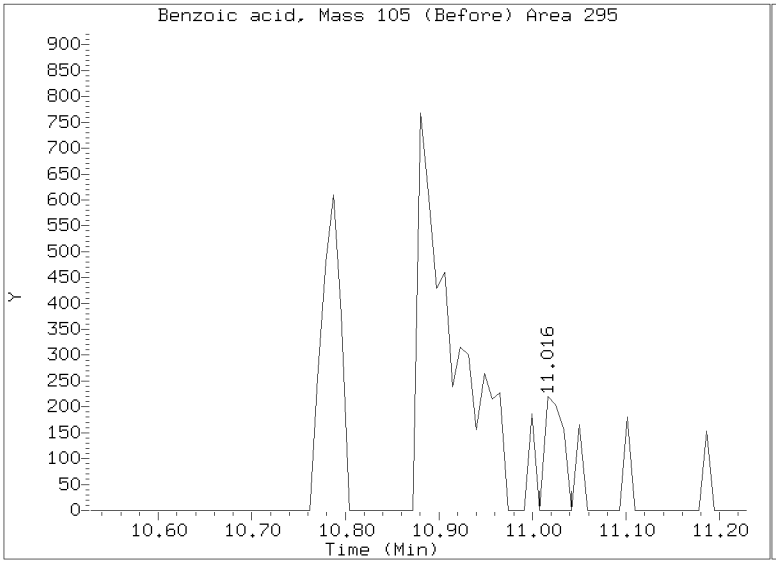
* Only compounds listed in the work order have been verified by the analyst *

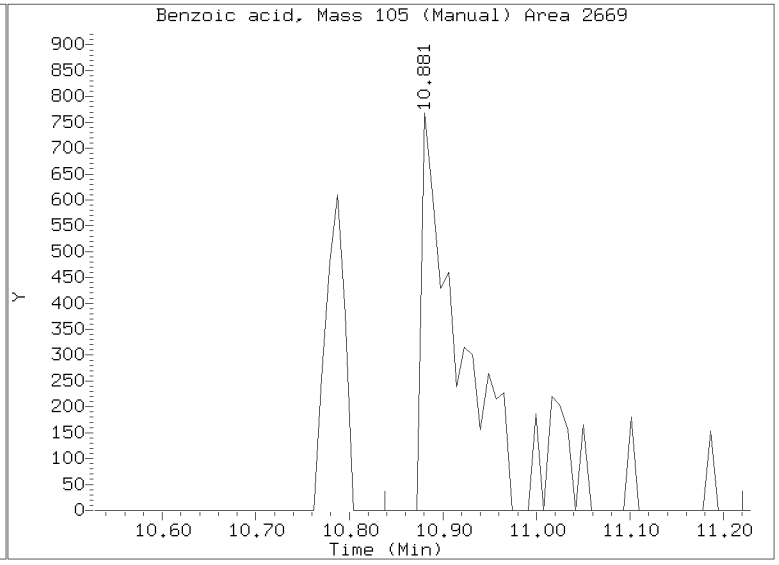
Quant Ion Manual Peak Adjustment Report

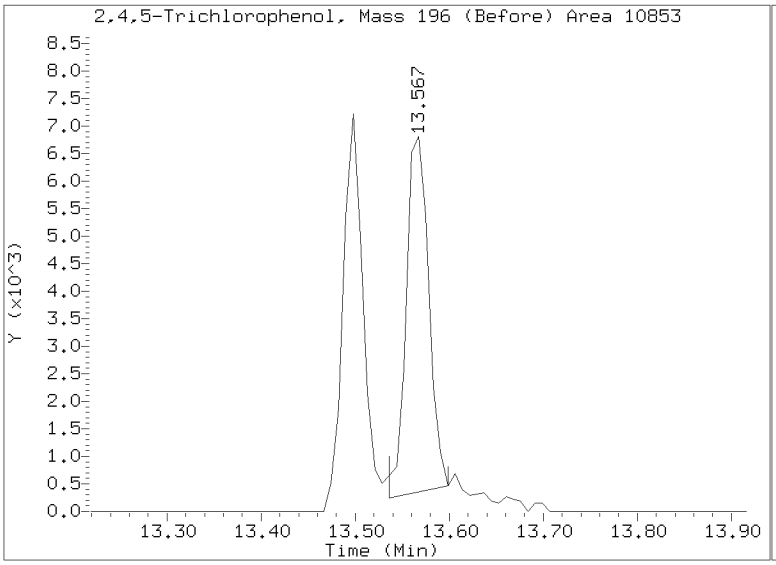
Datafile: //target/share/chem3/nt18.i/20230319.b/NT1803192308.D
Injection Date: 19-MAR-2023 19:24
Lab ID:SKC0502-CAL1 Client ID:
Report Date: 04/01/2023 07:53

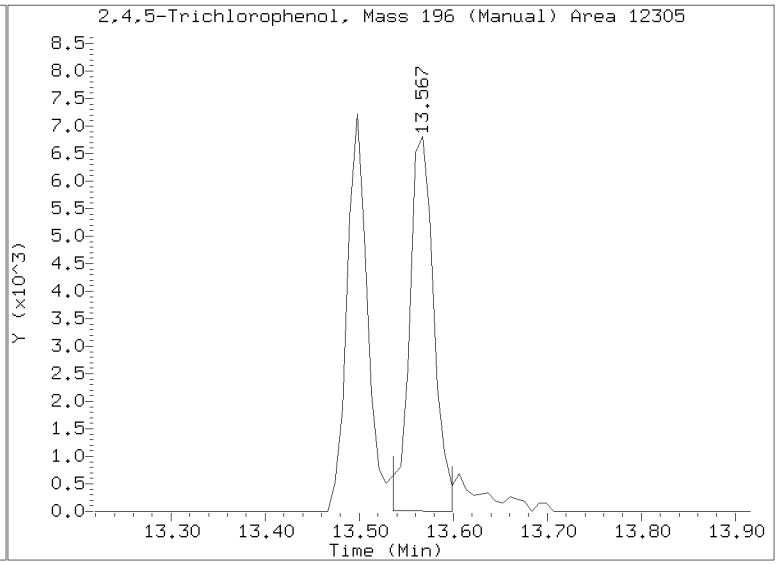






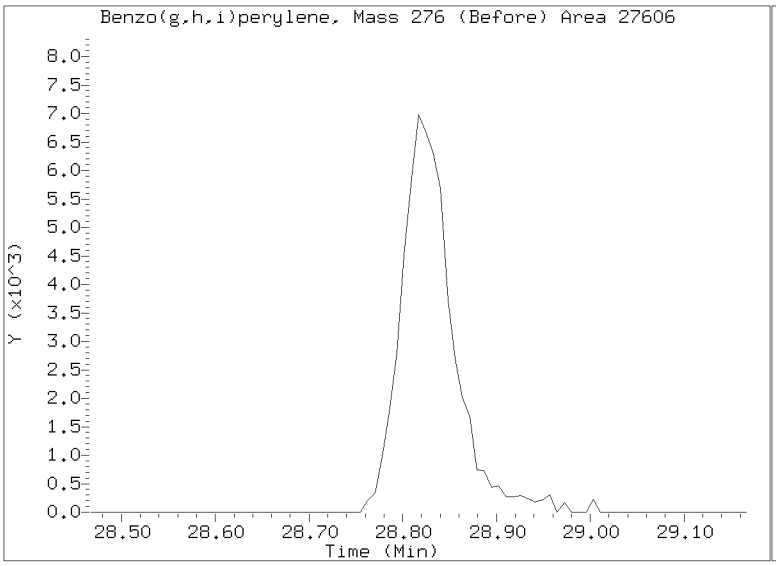


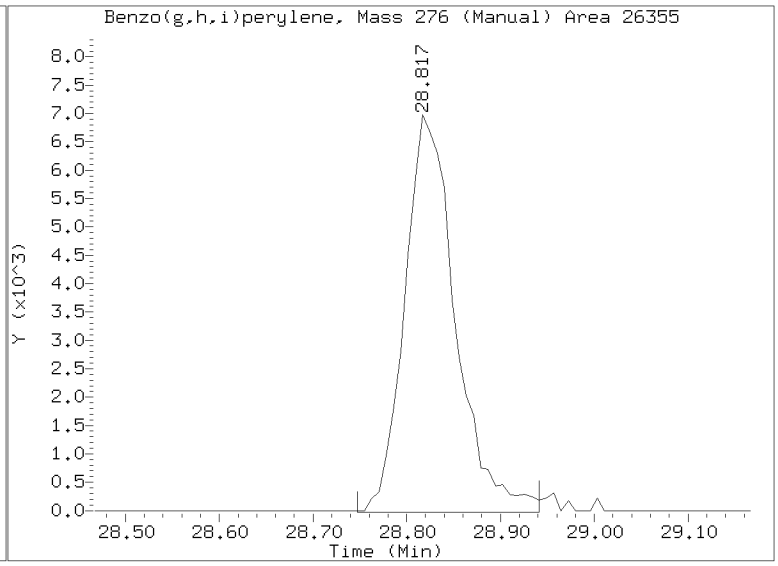




Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230319.b/NT1803192308.D
Injection Date: 19-MAR-2023 19:24
Lab ID:SKC0502-CAL1 Client ID:
Report Date: 04/01/2023 07:53





Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

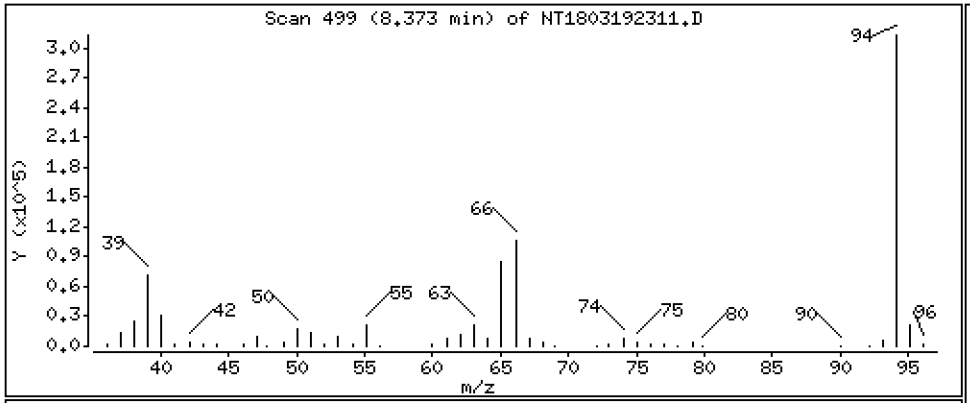
Operator: VTS

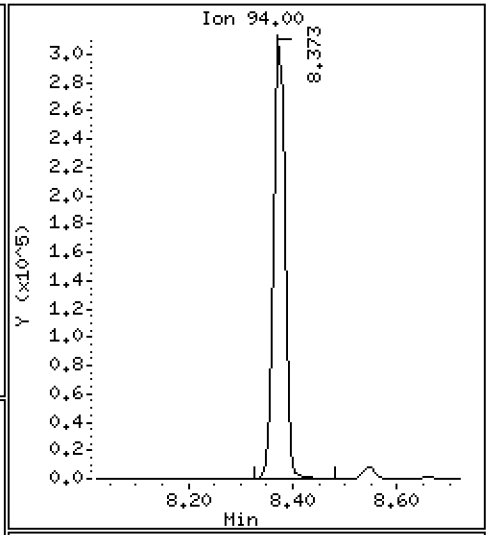
Column phase: ZB-5msi

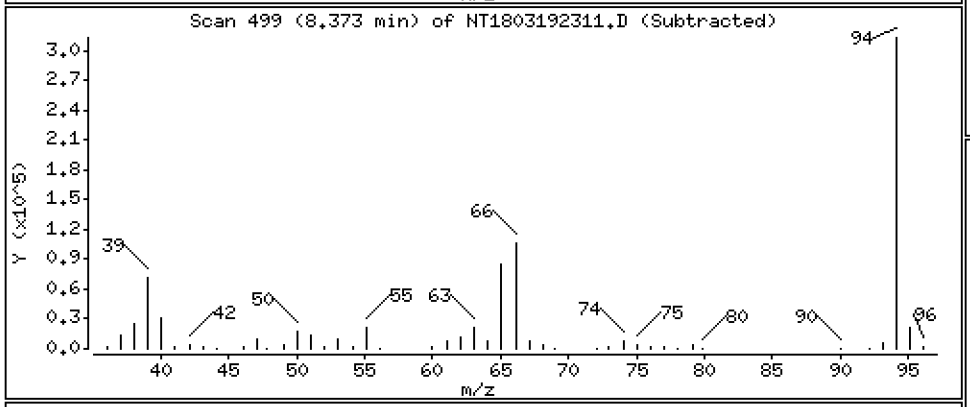
Column diameter: 0.25

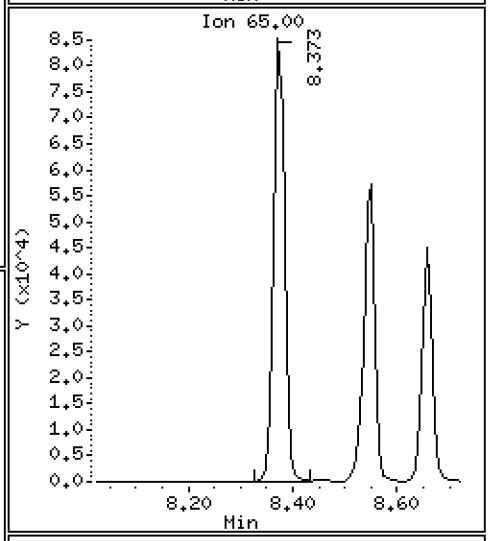
3 Phenol

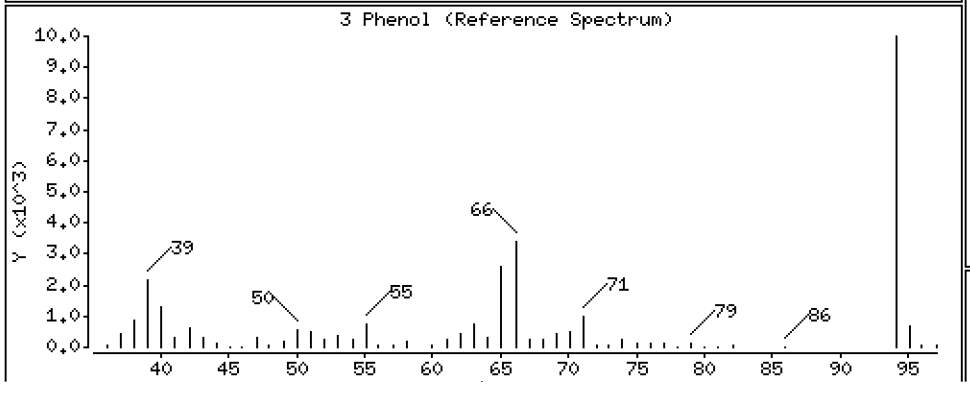
Concentration: 4.352 ug/mL

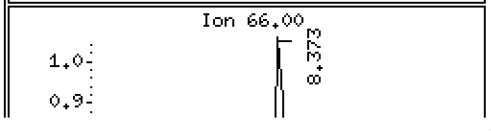












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

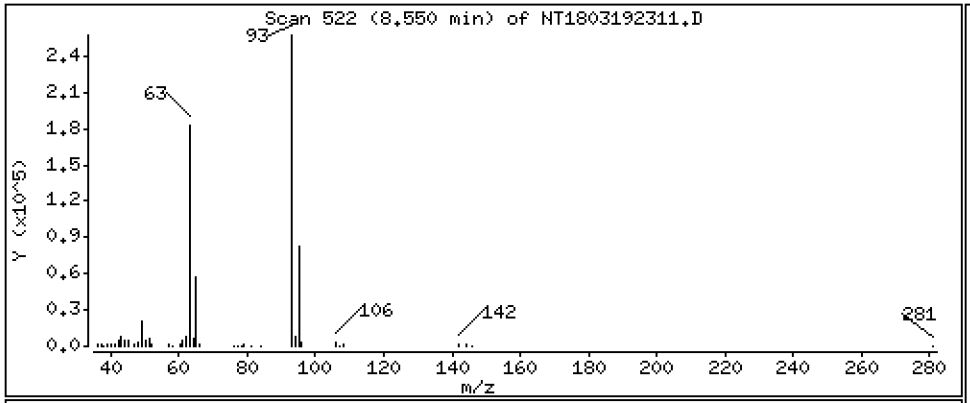
Operator: VTS

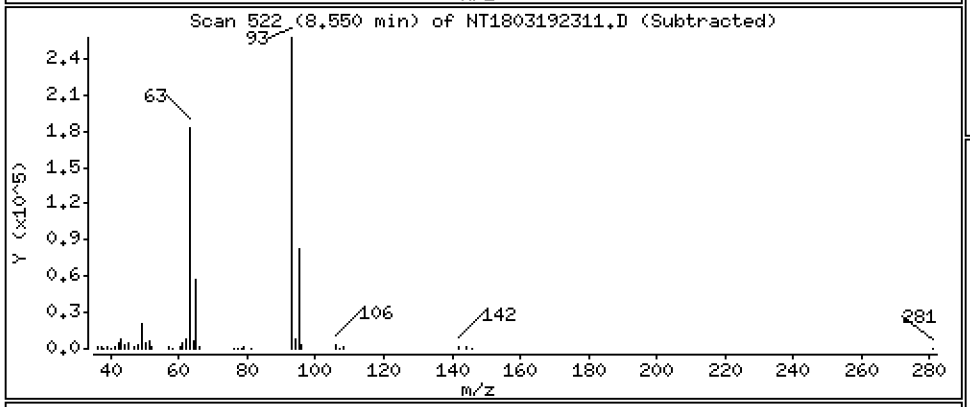
Column phase: ZB-5msi

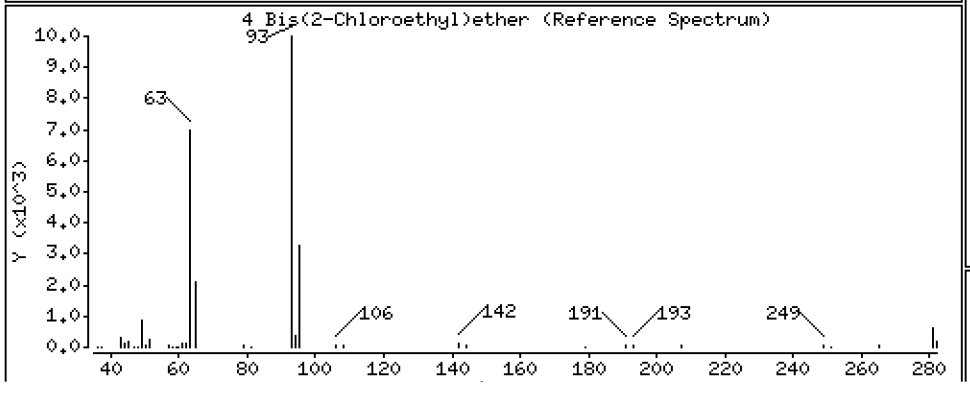
Column diameter: 0.25

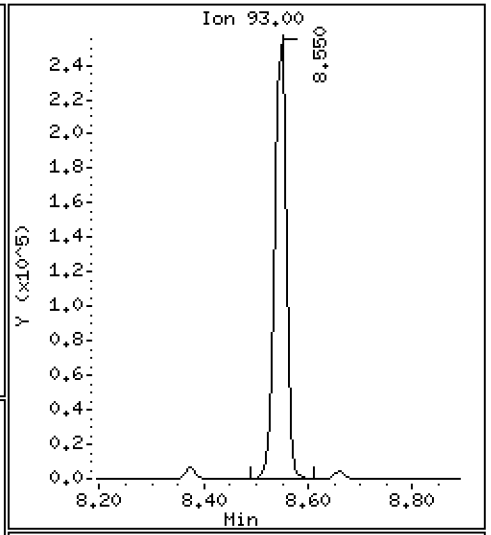
4 Bis(2-Chloroethyl)ether

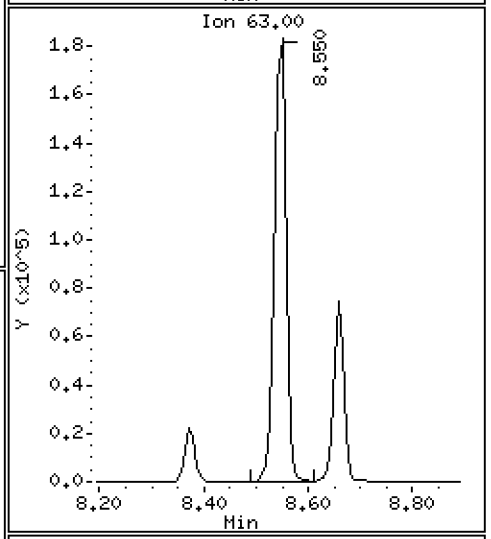
Concentration: 5.260 ug/mL

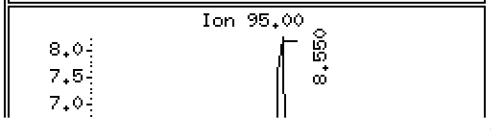












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

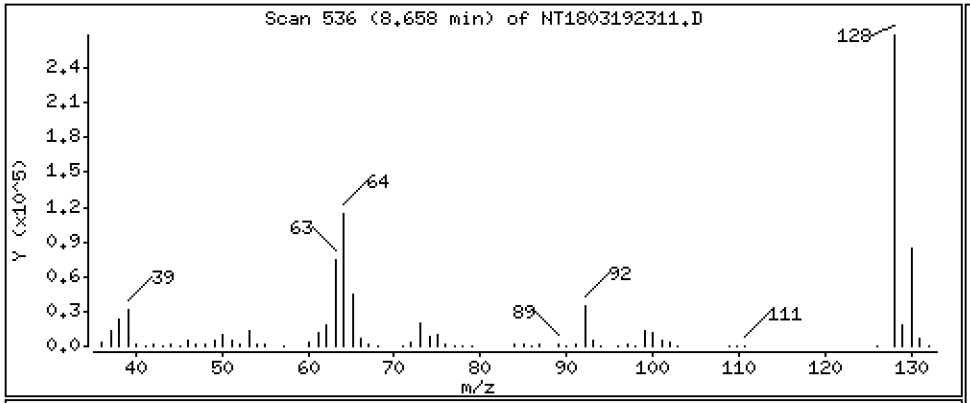
Operator: VTS

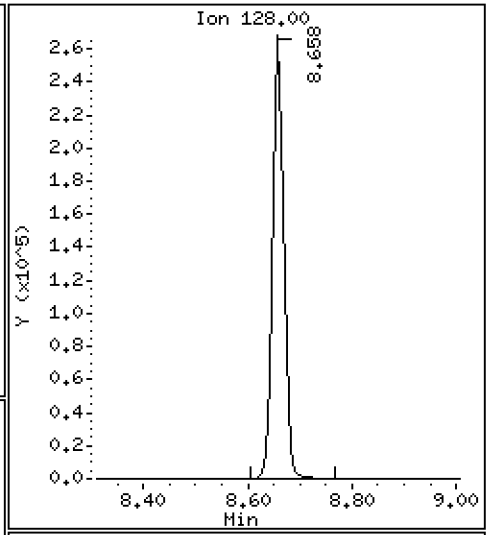
Column phase: ZB-5msi

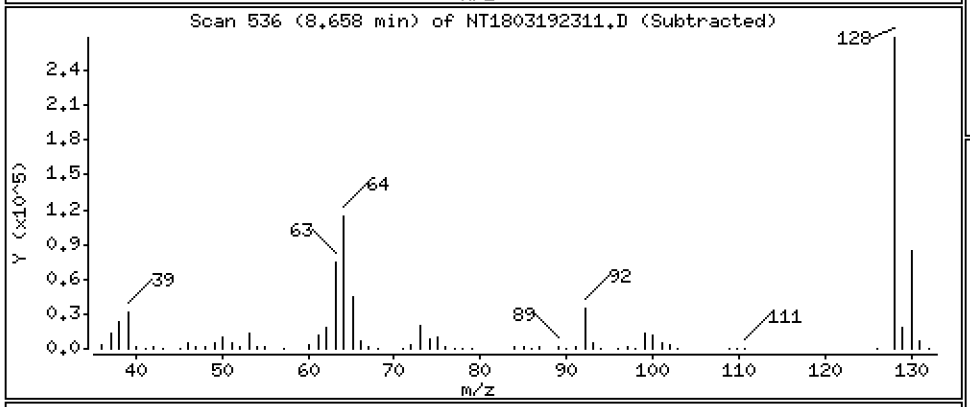
Column diameter: 0.25

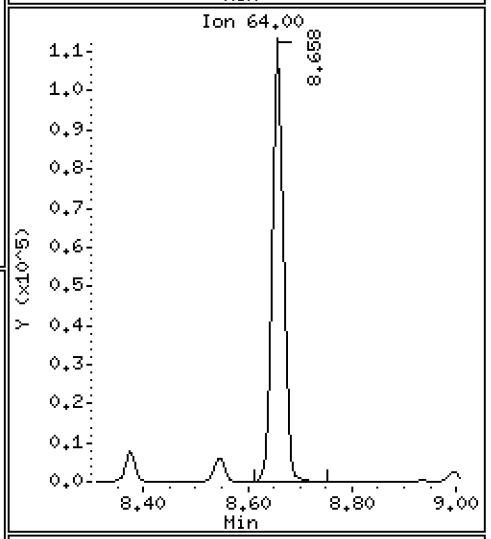
6 2-Chlorophenol

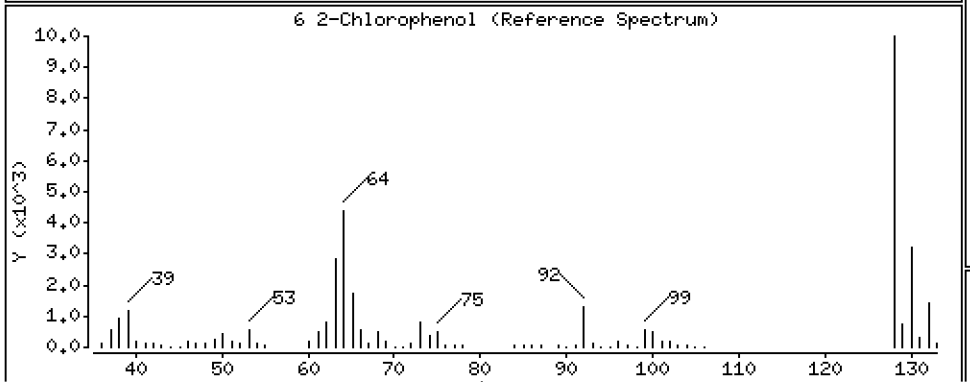
Concentration: 4.473 ug/mL

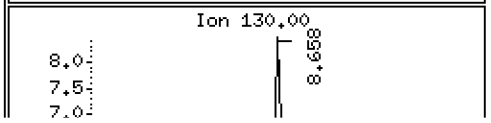












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

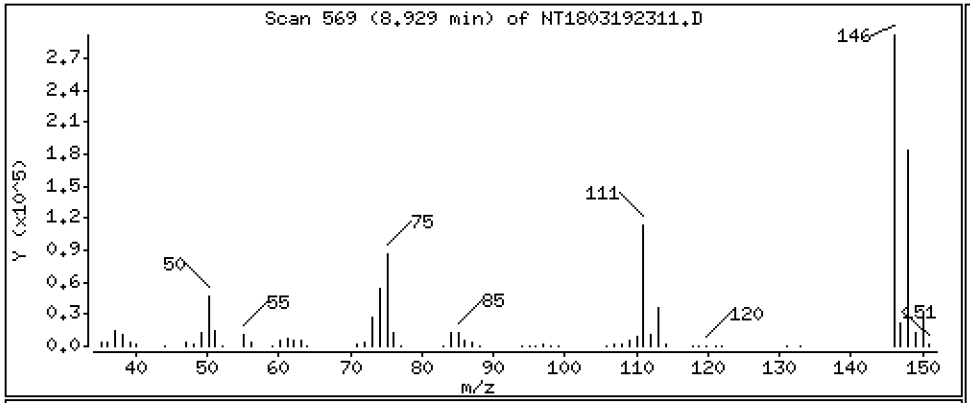
Operator: VTS

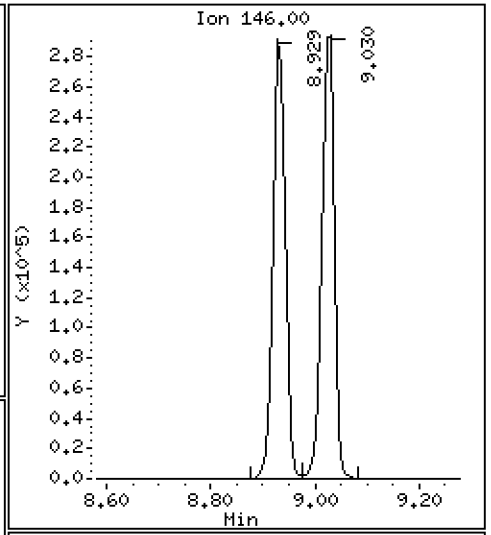
Column phase: ZB-5msi

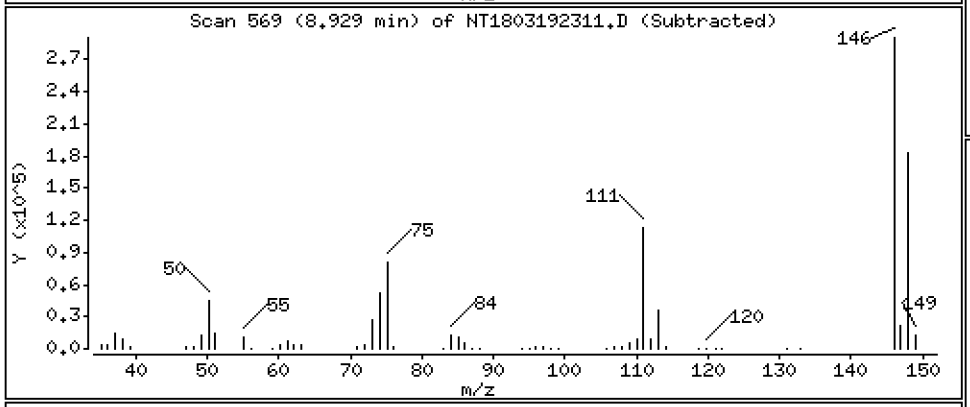
Column diameter: 0.25

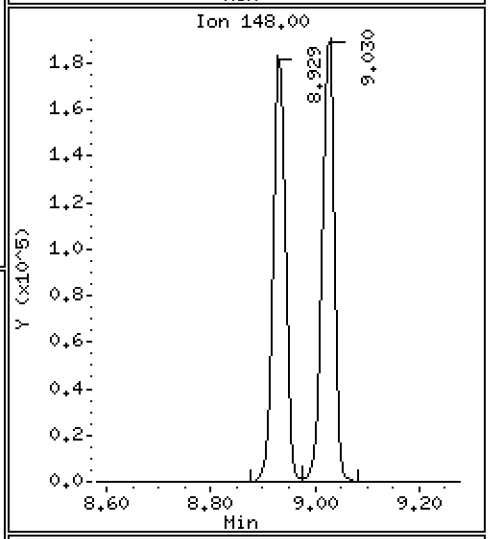
7 1,3-Dichlorobenzene

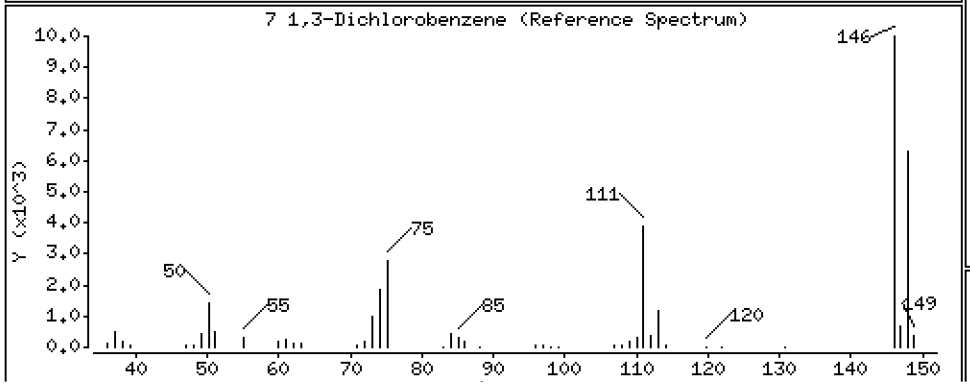
Concentration: 5.009 ug/mL

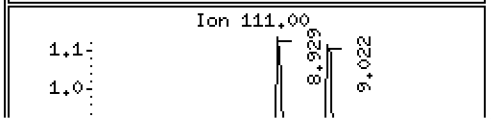












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

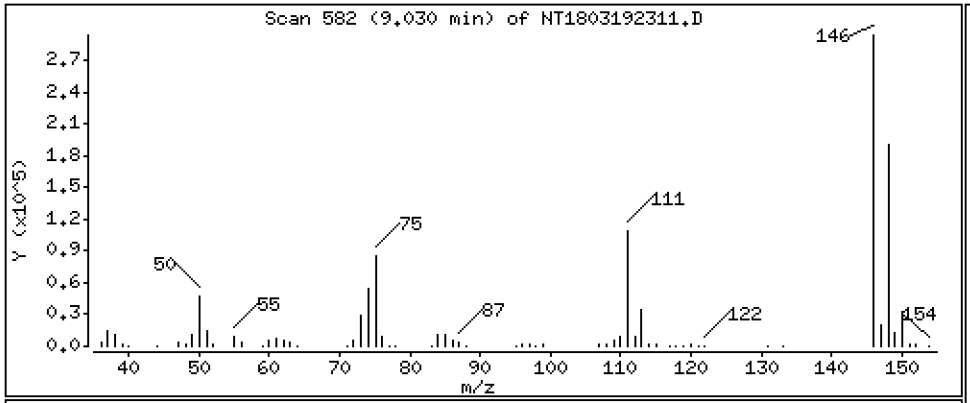
Operator: VTS

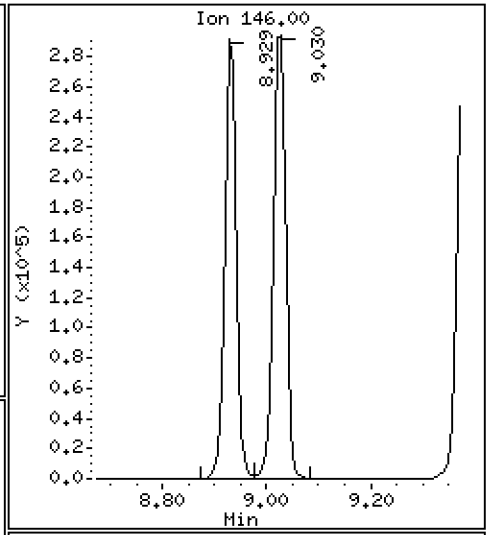
Column phase: ZB-5msi

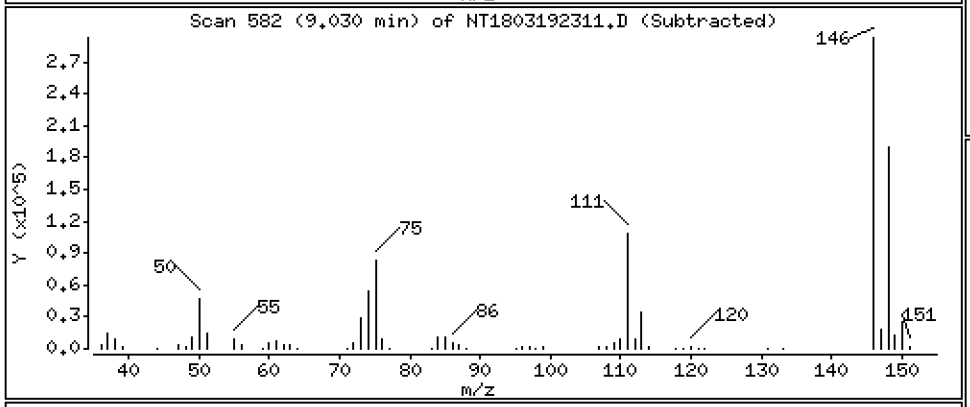
Column diameter: 0.25

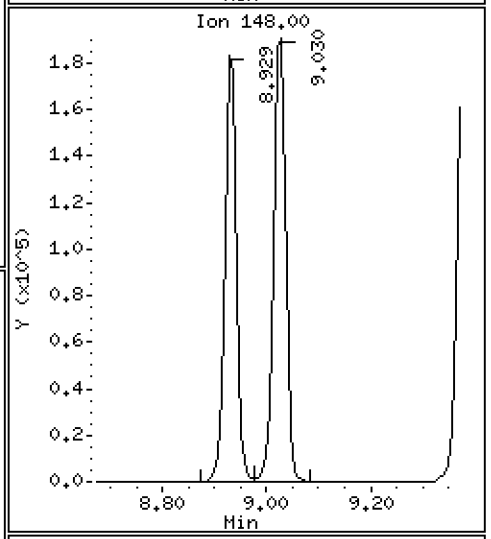
9 1,4-Dichlorobenzene

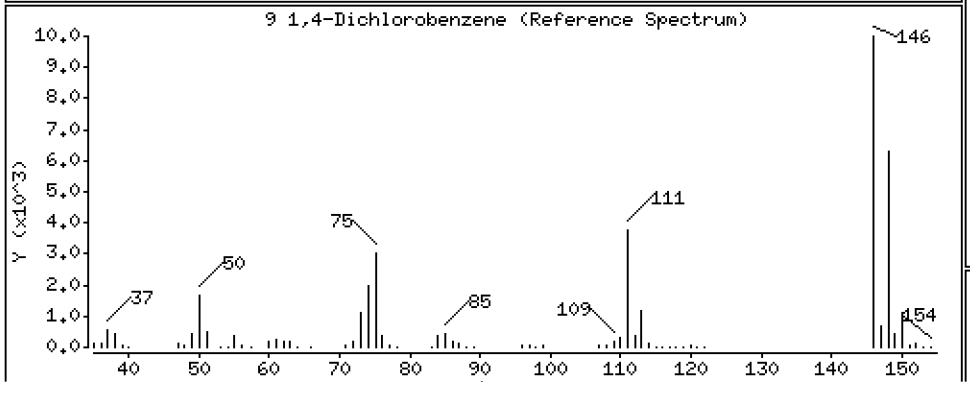
Concentration: 5.071 ug/mL

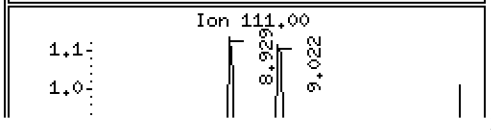












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

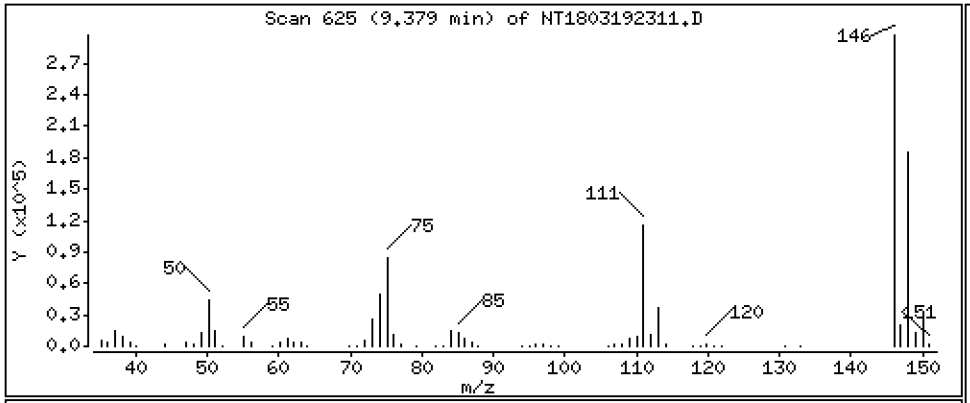
Operator: VTS

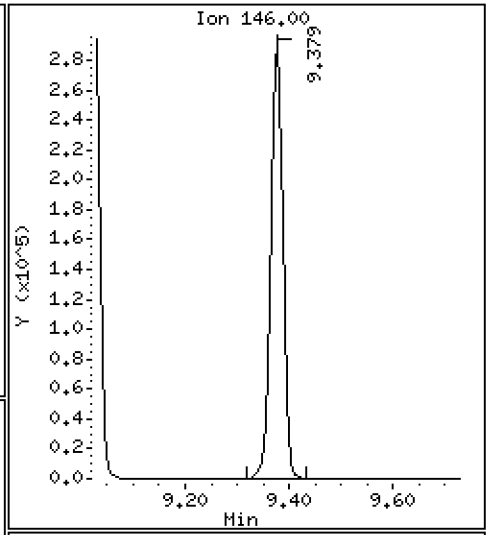
Column phase: ZB-5msi

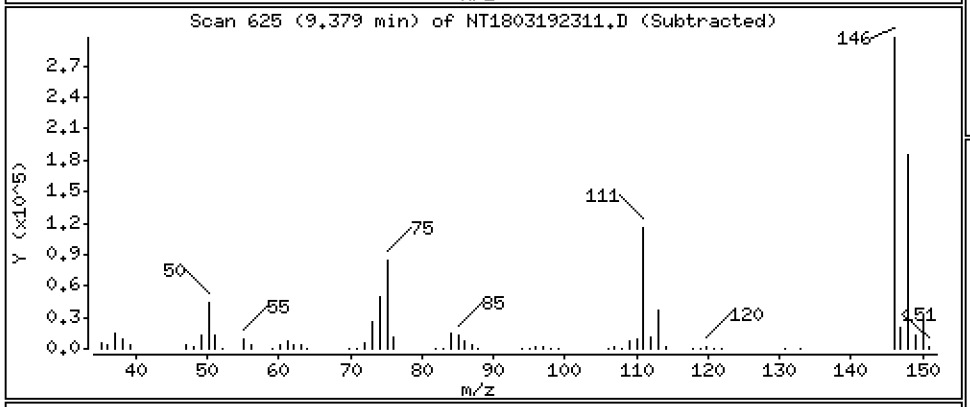
Column diameter: 0.25

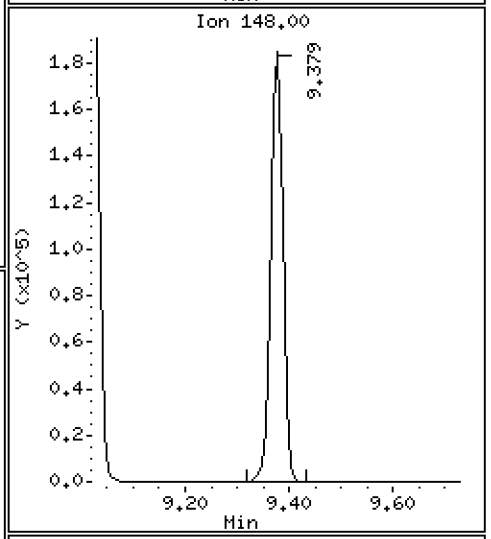
12 1,2-Dichlorobenzene

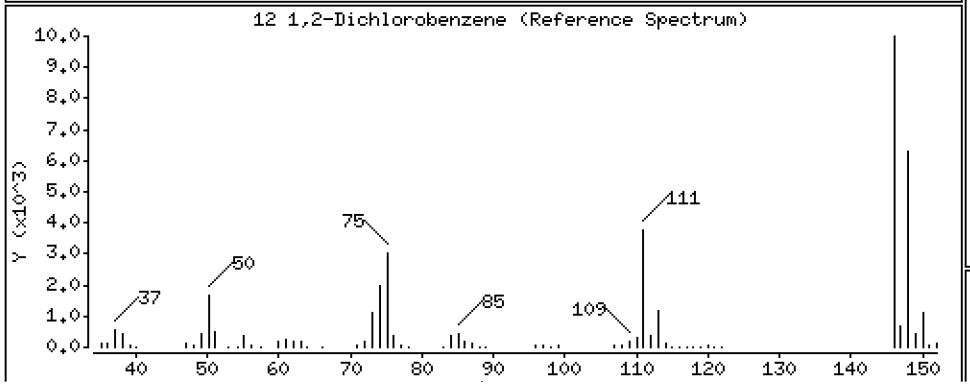
Concentration: 4.916 ug/mL

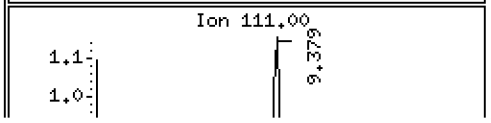












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

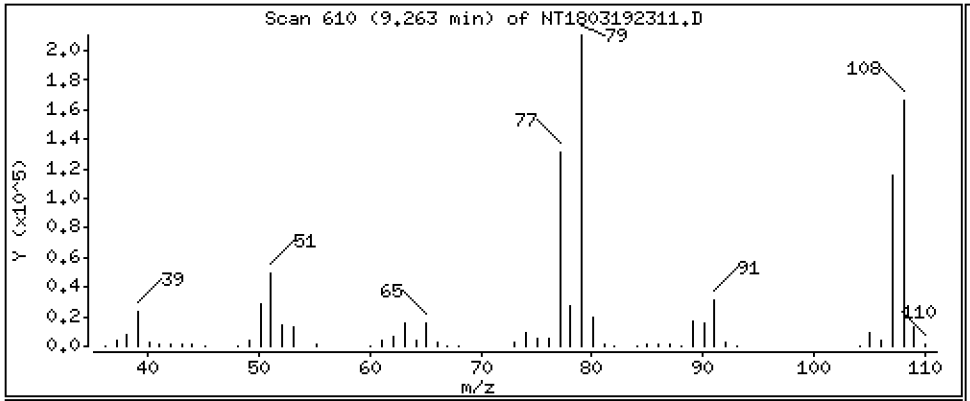
Operator: VTS

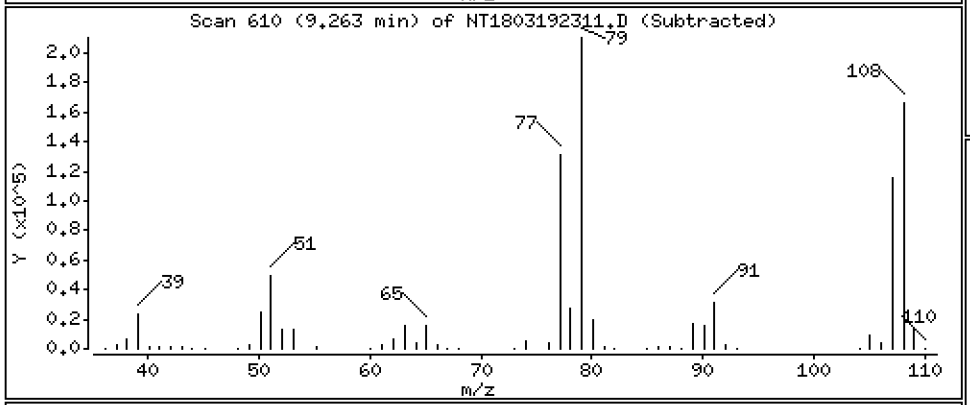
Column phase: ZB-5msi

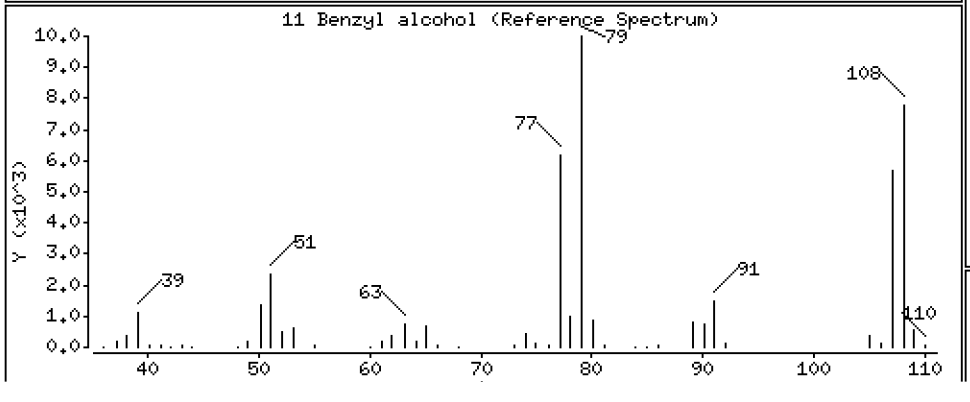
Column diameter: 0.25

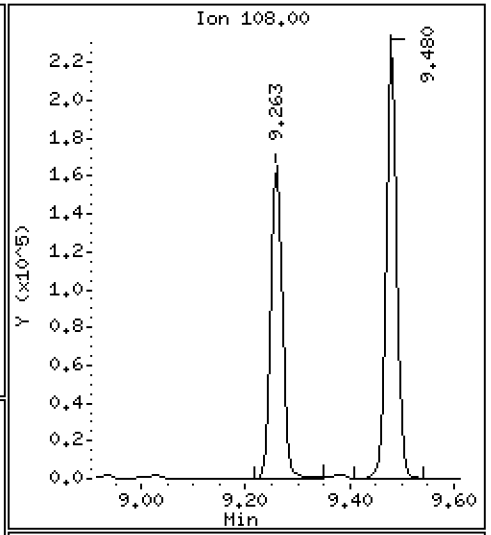
11 Benzyl alcohol

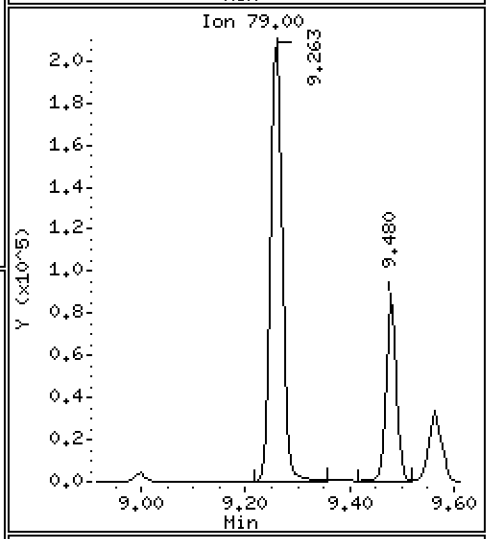
Concentration: 5.203 ug/mL

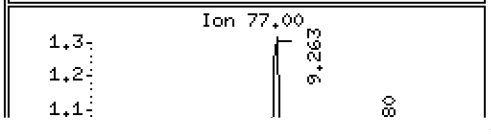












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

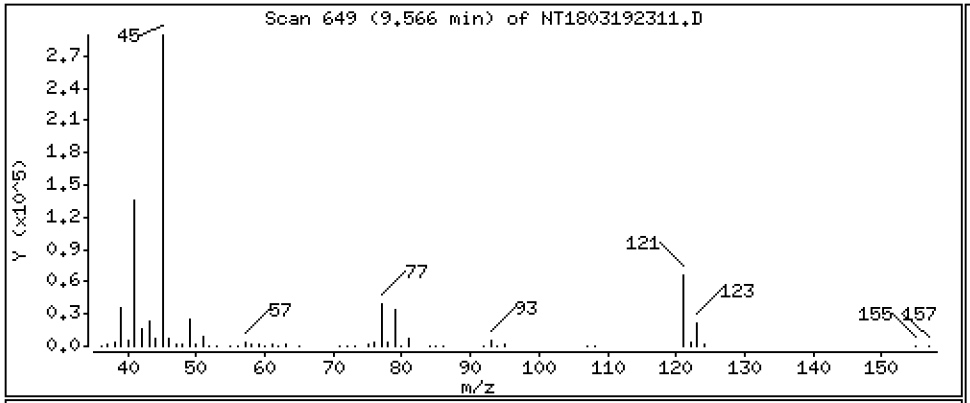
Operator: VTS

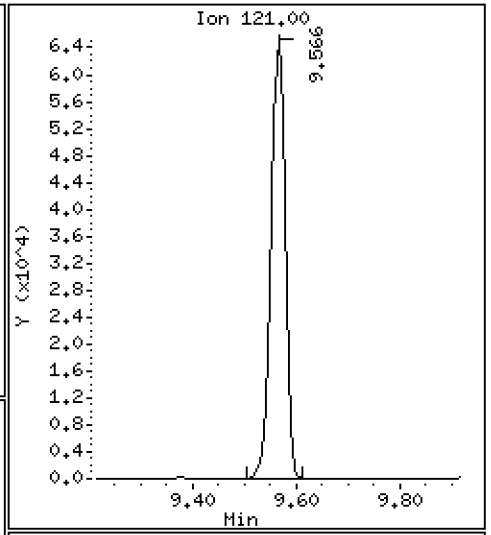
Column phase: ZB-5msi

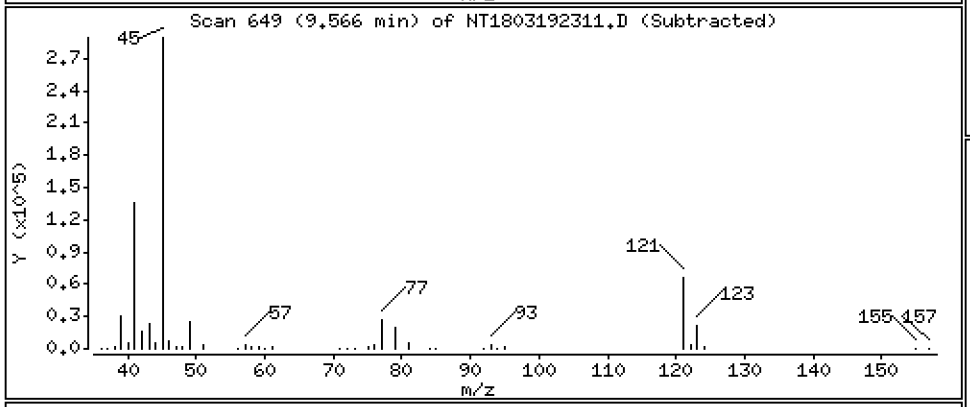
Column diameter: 0.25

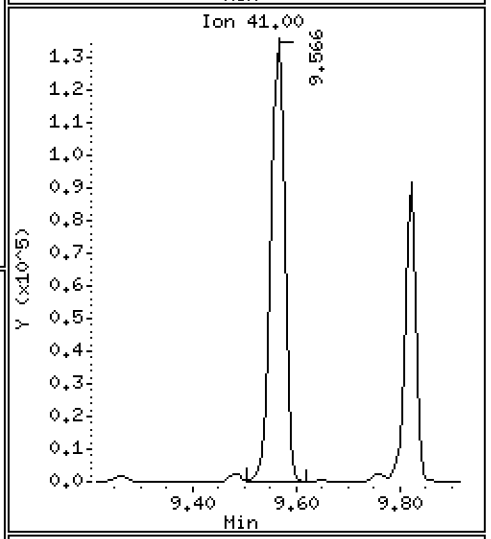
14 2,2'-oxybis(1-Chloropropane)

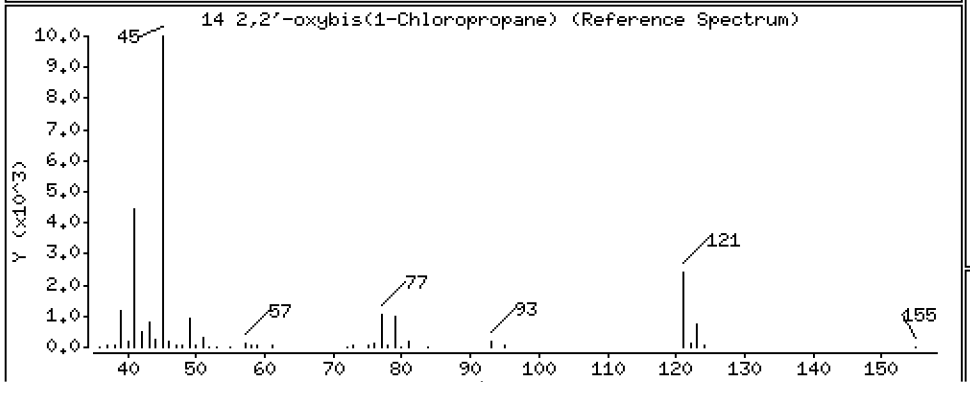
Concentration: 5.545 ug/mL

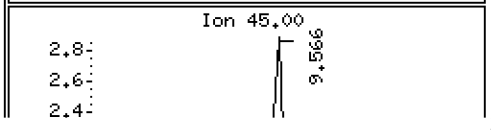












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

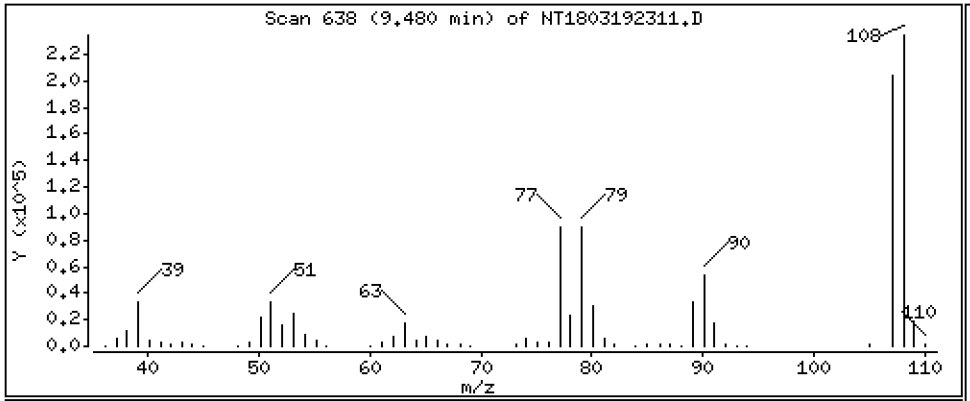
Operator: VTS

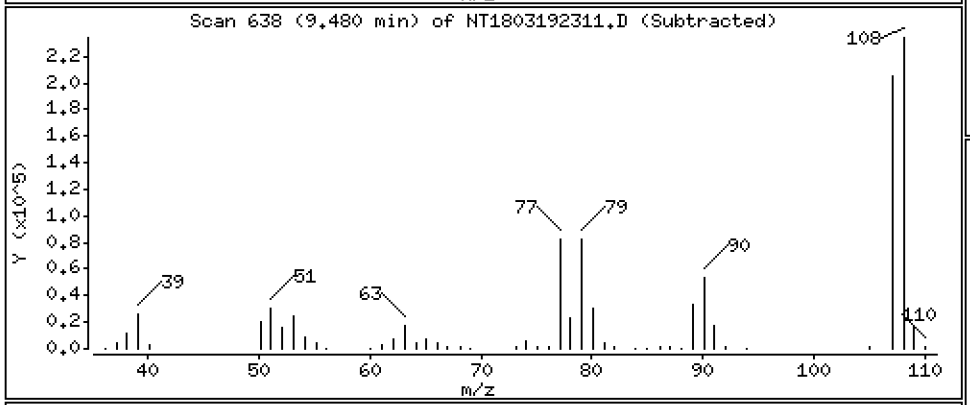
Column phase: ZB-5msi

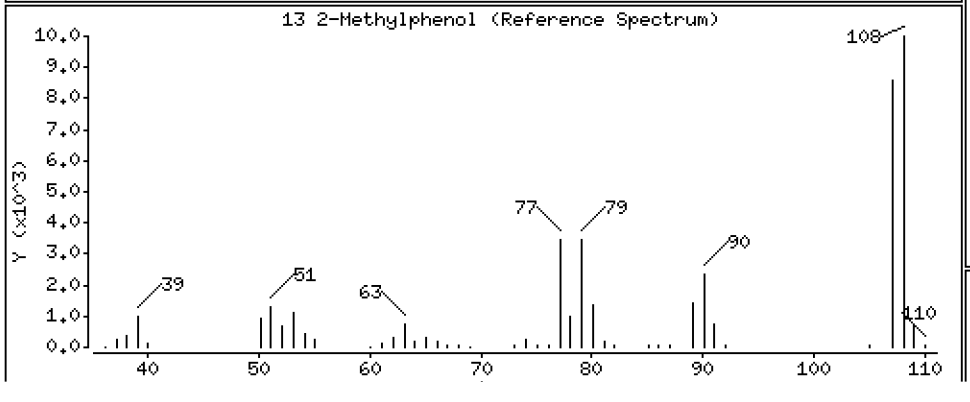
Column diameter: 0.25

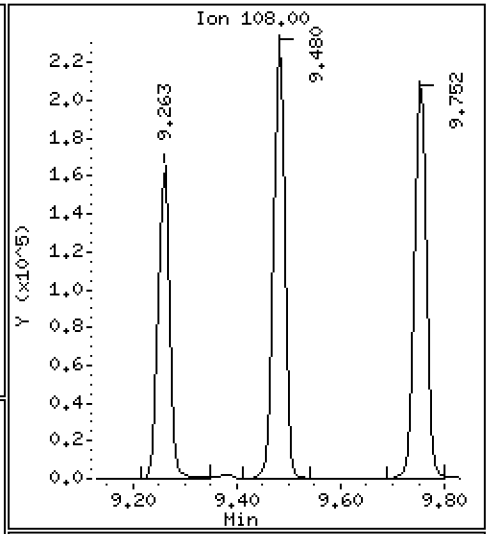
13 2-Methylphenol

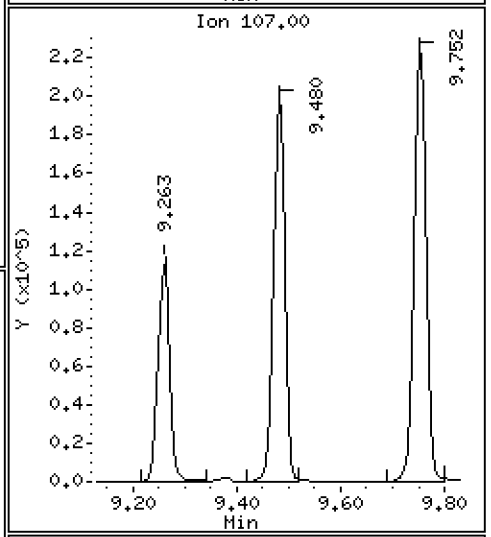
Concentration: 4.238 ug/mL

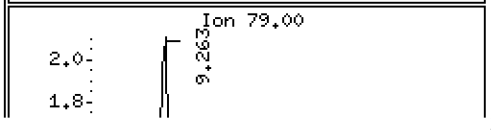












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

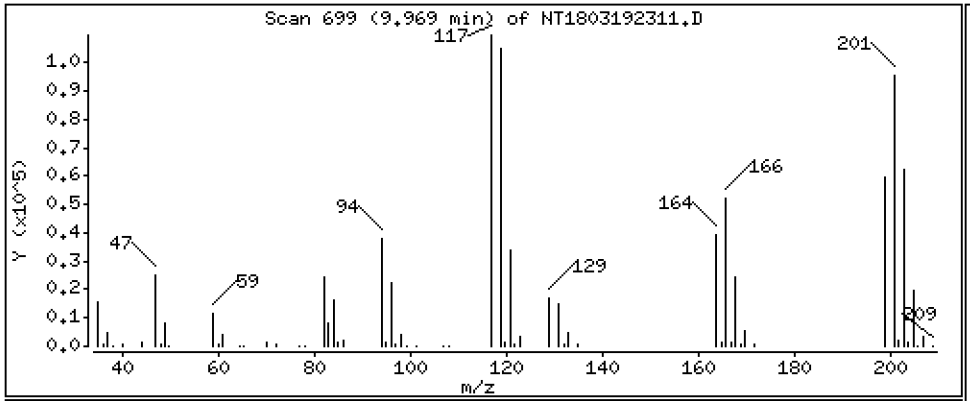
Operator: VTS

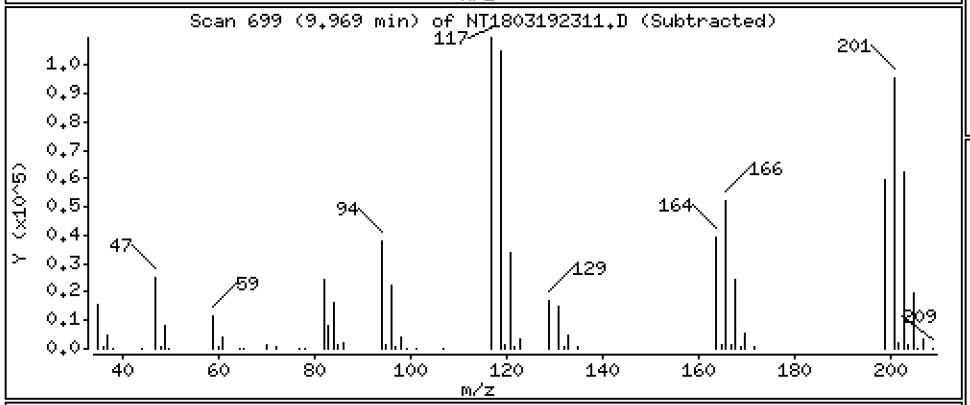
Column phase: ZB-5msi

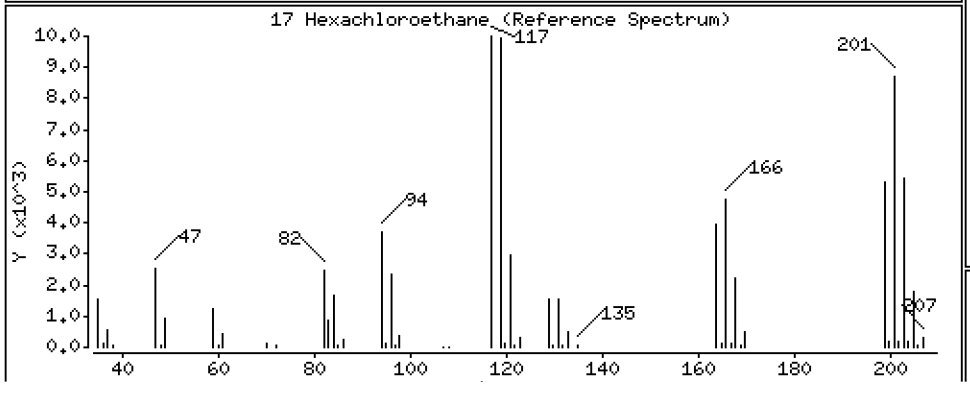
Column diameter: 0.25

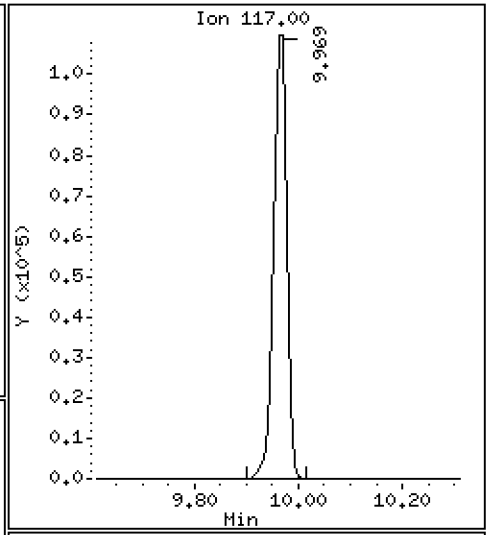
17 Hexachloroethane

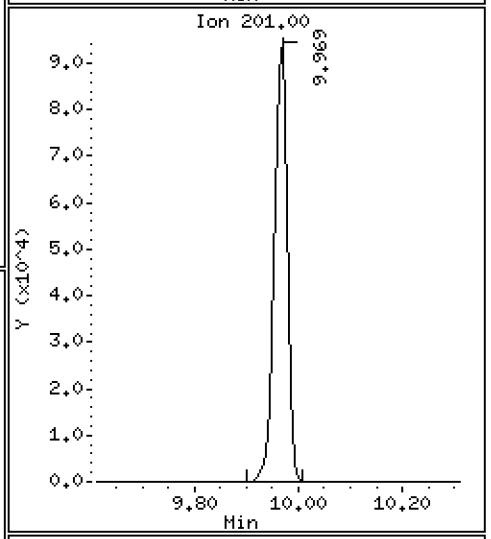
Concentration: 5.164 ug/mL

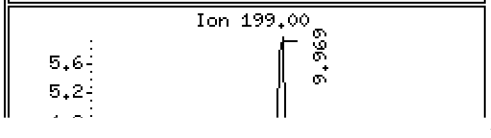












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

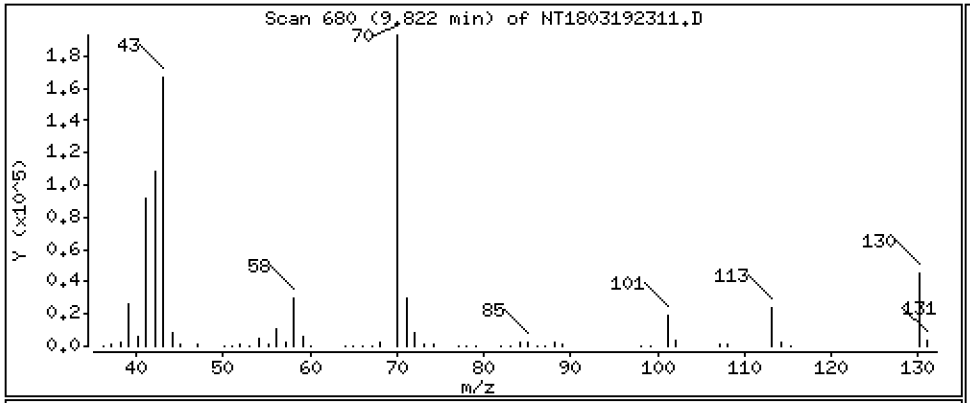
Operator: VTS

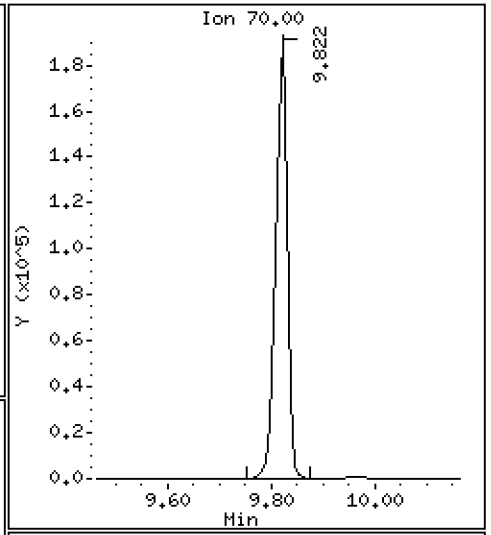
Column phase: ZB-5msi

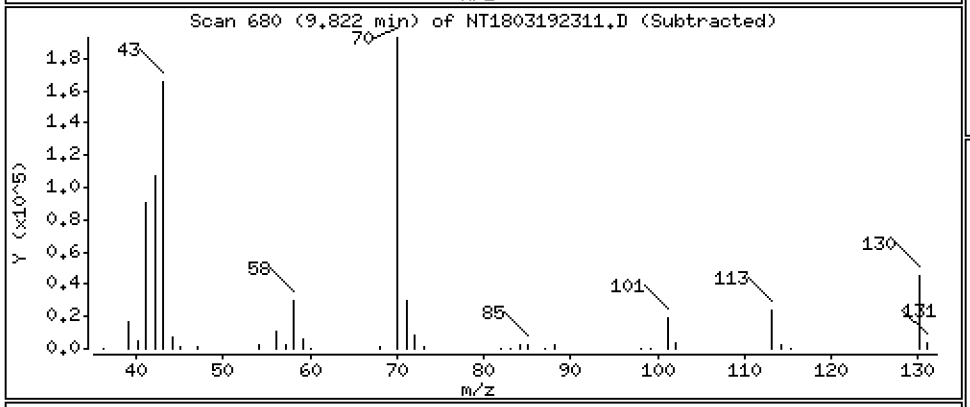
Column diameter: 0.25

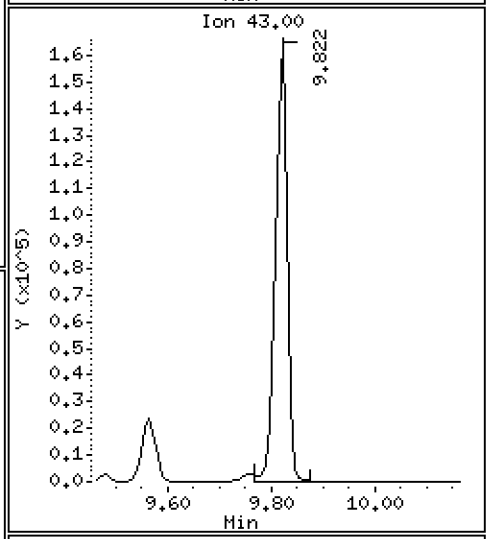
16 N-Nitroso-di-n-propylamine

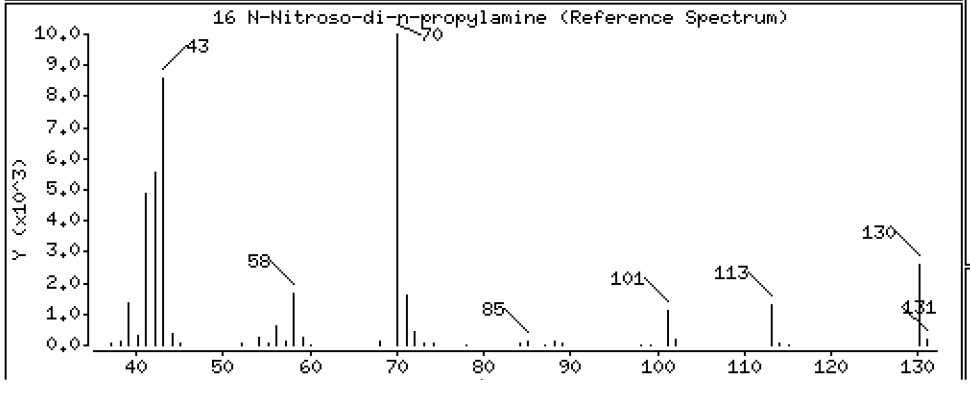
Concentration: 5.237 ug/mL

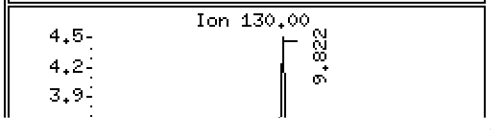












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

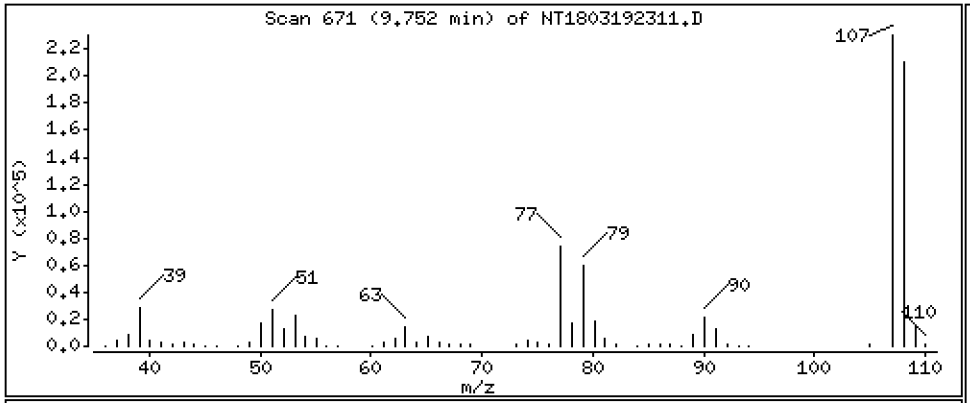
Operator: VTS

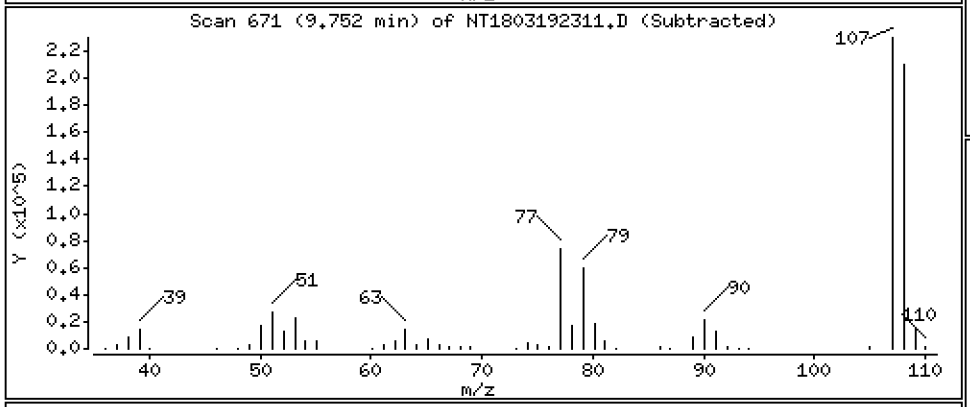
Column phase: ZB-5msi

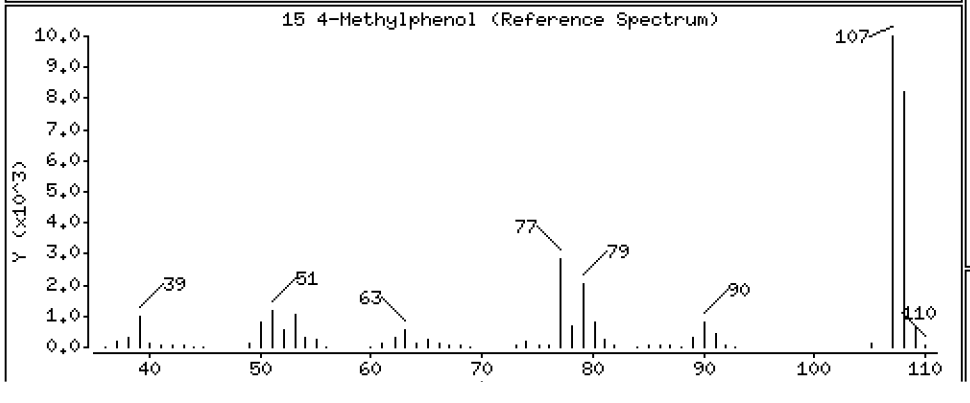
Column diameter: 0.25

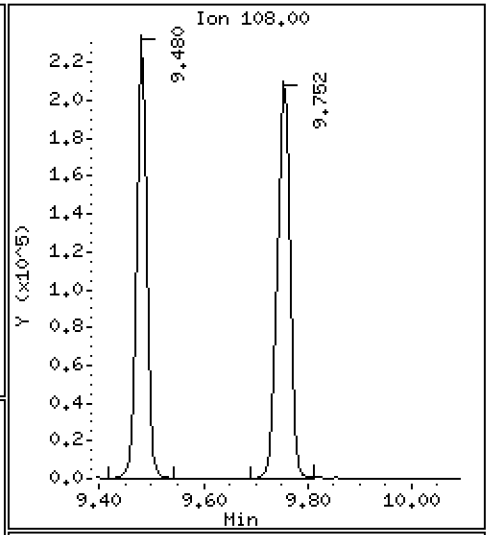
15 4-Methylphenol

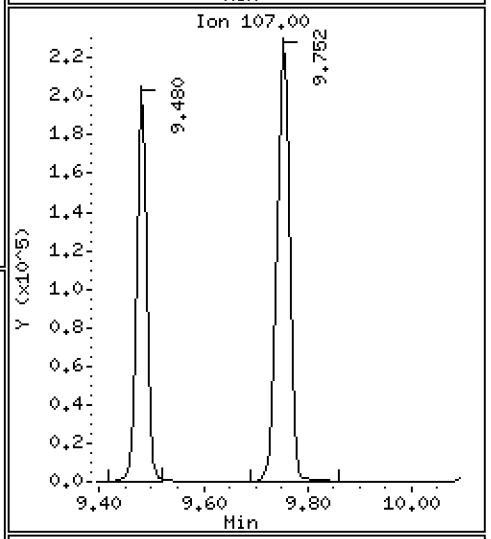
Concentration: 4.482 ug/mL

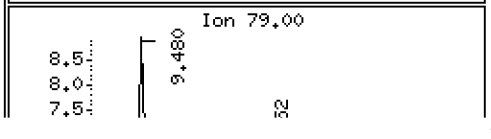












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

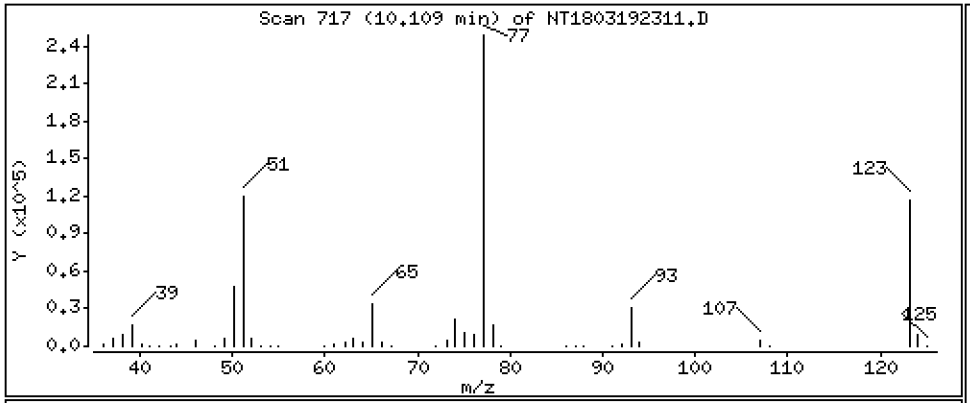
Operator: VTS

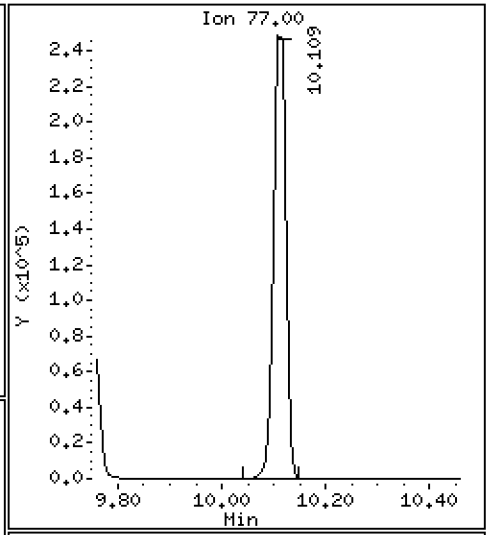
Column phase: ZB-5msi

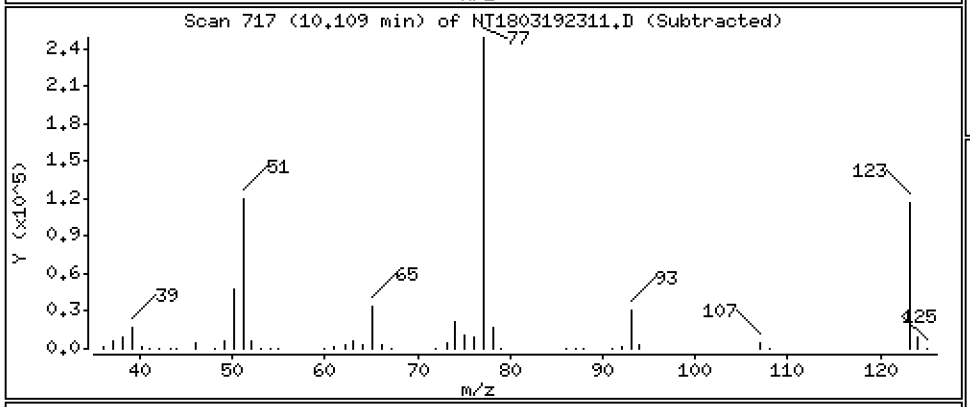
Column diameter: 0.25

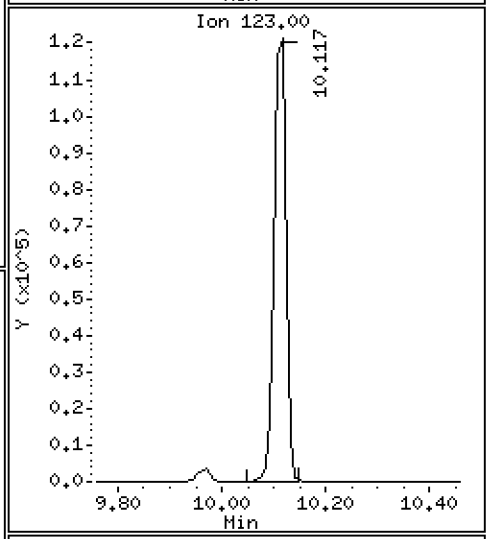
19 Nitrobenzene

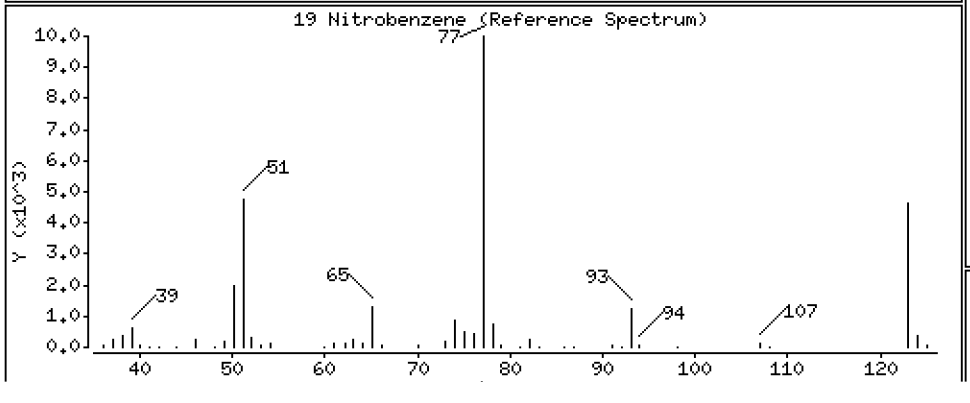
Concentration: 5.029 ug/mL

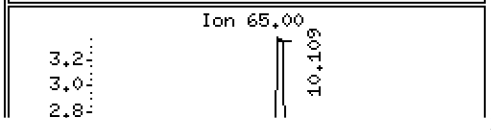












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

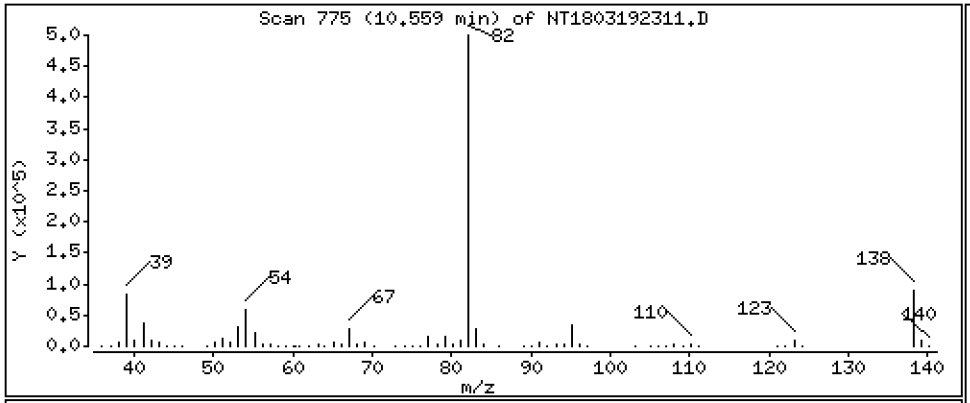
Operator: VTS

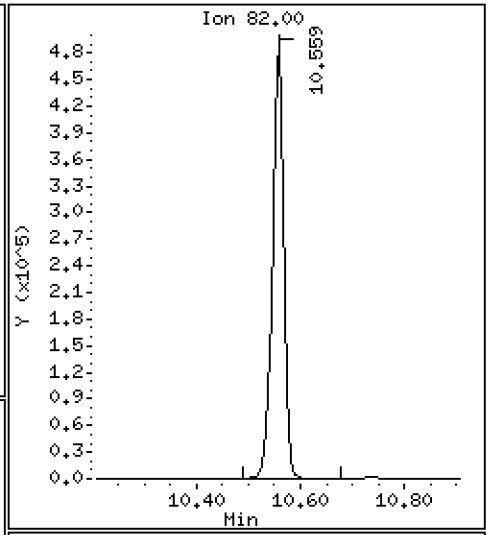
Column phase: ZB-5msi

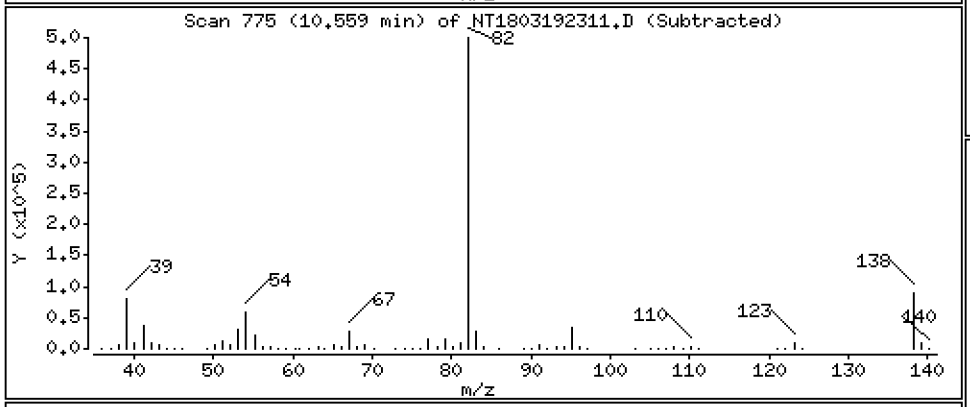
Column diameter: 0.25

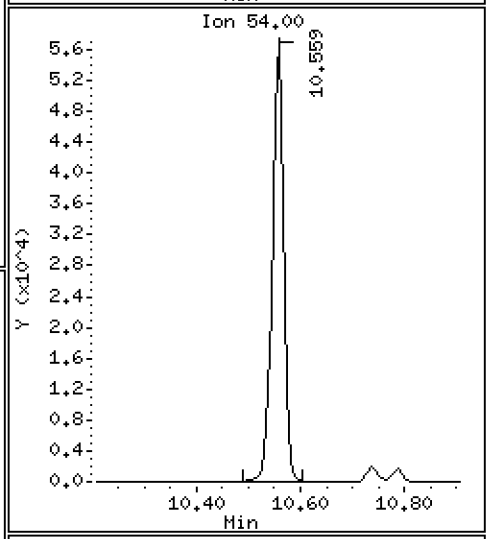
20 Isophorone

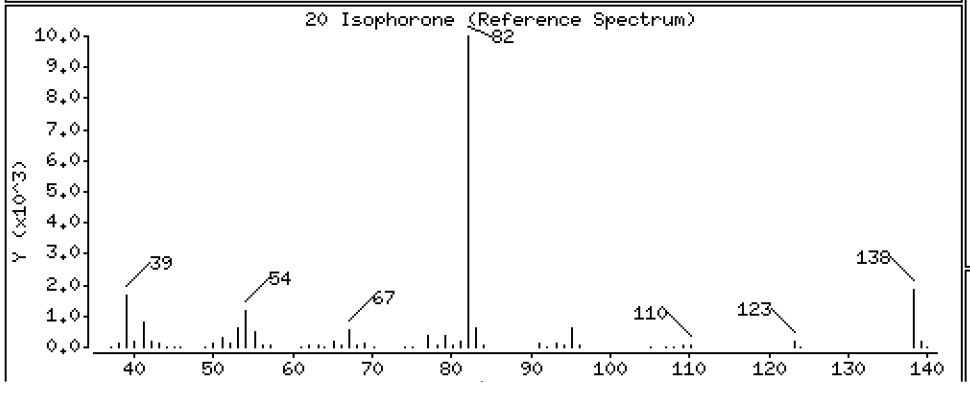
Concentration: 7.923 ug/mL

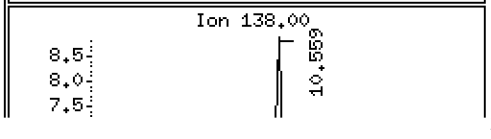












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

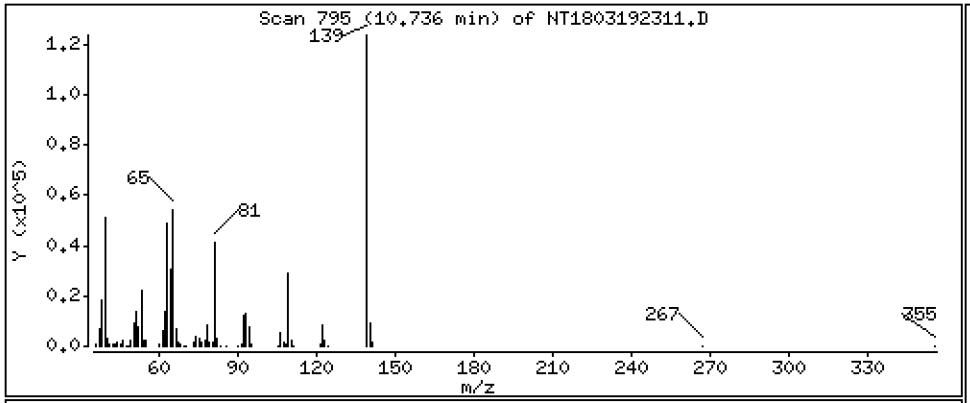
Operator: VTS

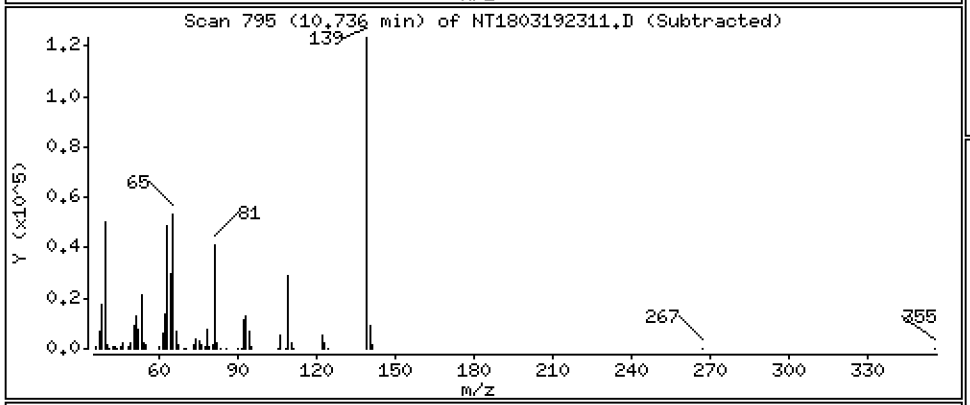
Column phase: ZB-5msi

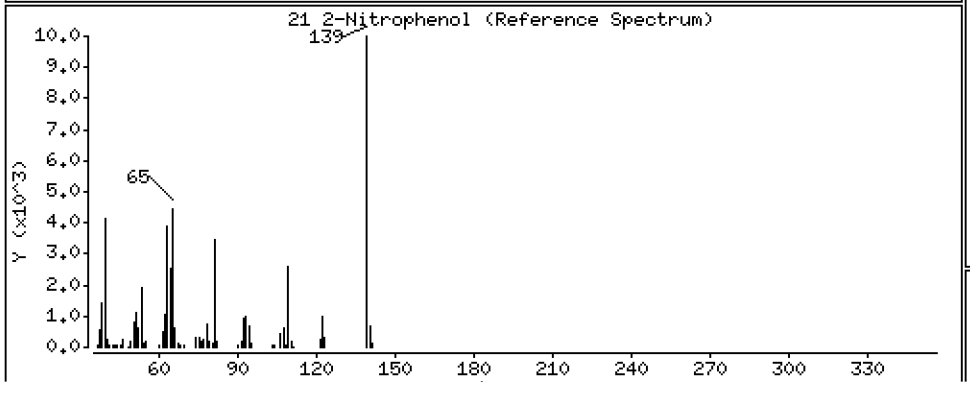
Column diameter: 0.25

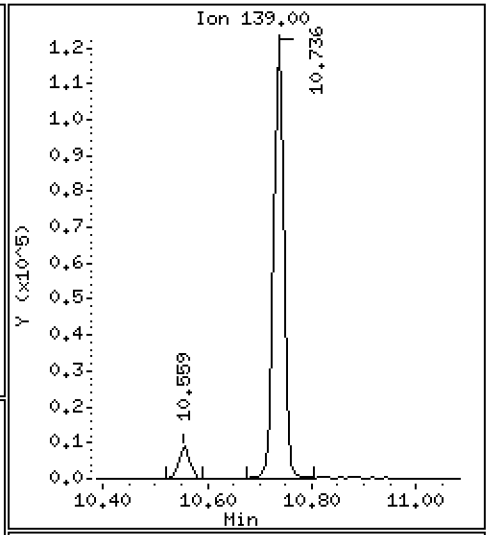
21 2-Nitrophenol

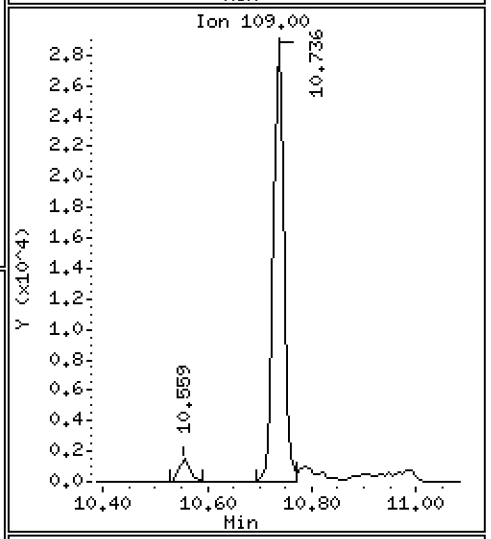
Concentration: 3.748 ug/mL

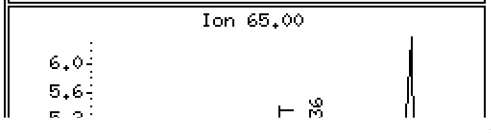












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

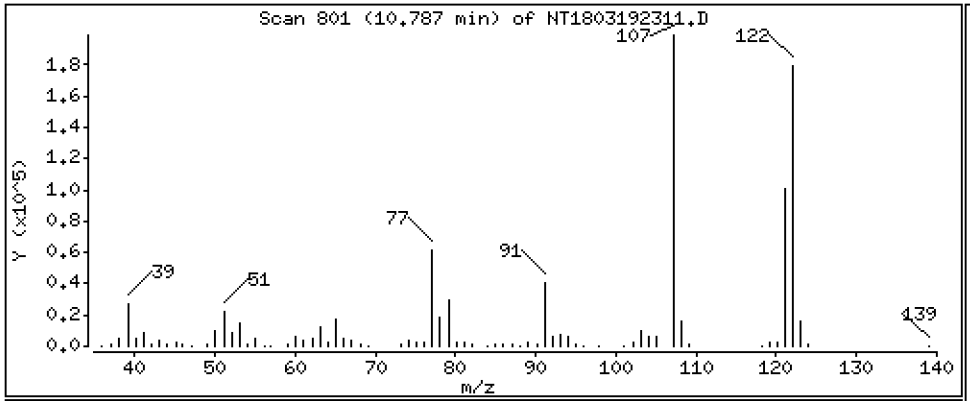
Operator: VTS

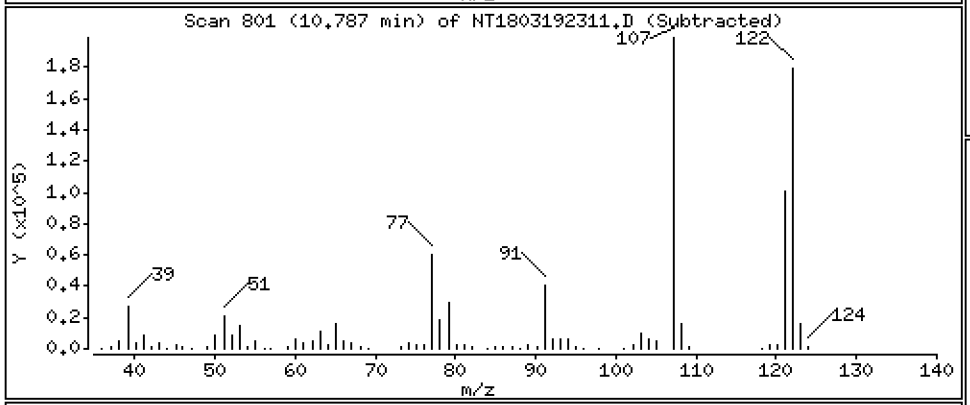
Column phase: ZB-5msi

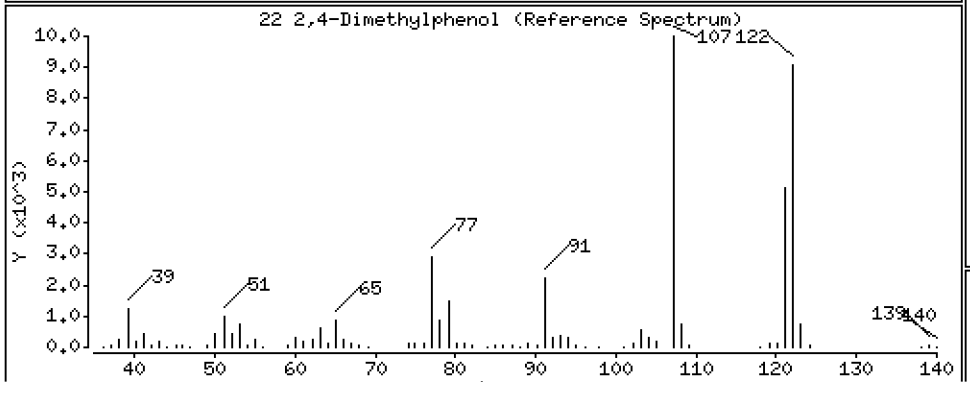
Column diameter: 0.25

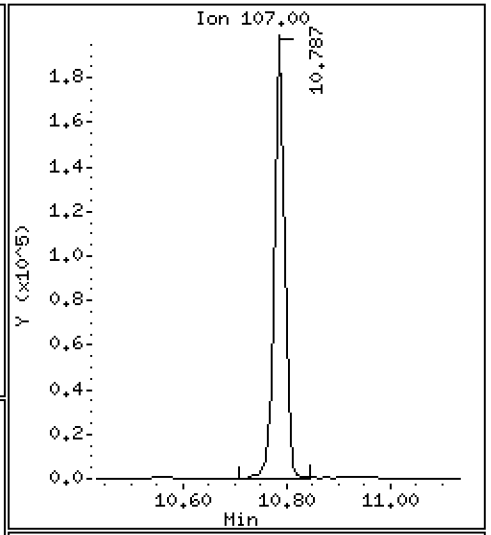
22 2,4-Dimethylphenol

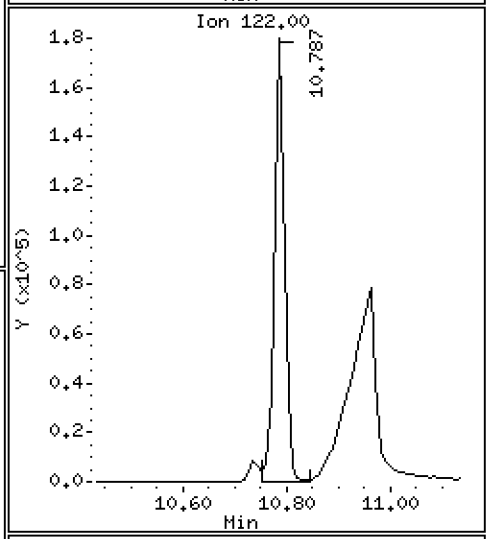
Concentration: 3.726 ug/mL

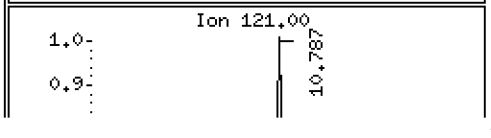












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

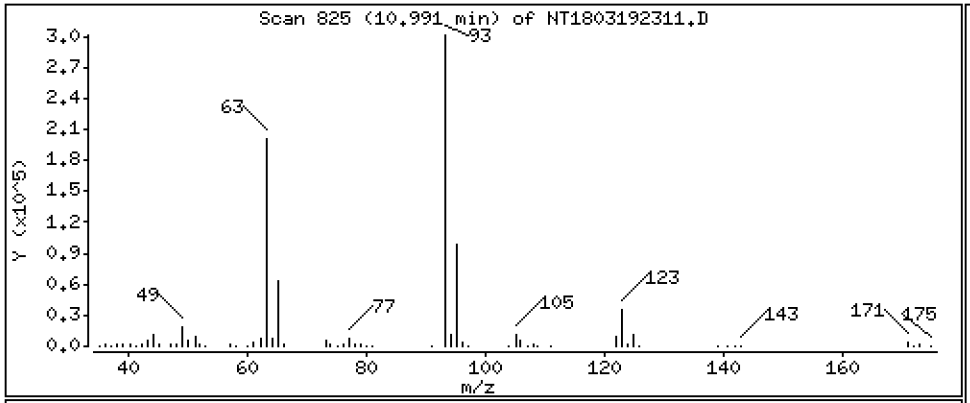
Operator: VTS

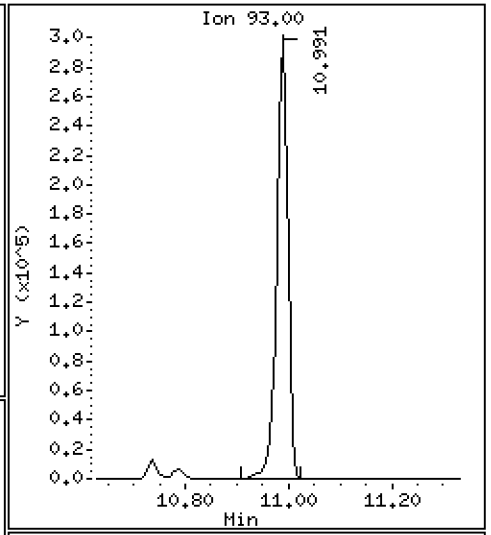
Column phase: ZB-5msi

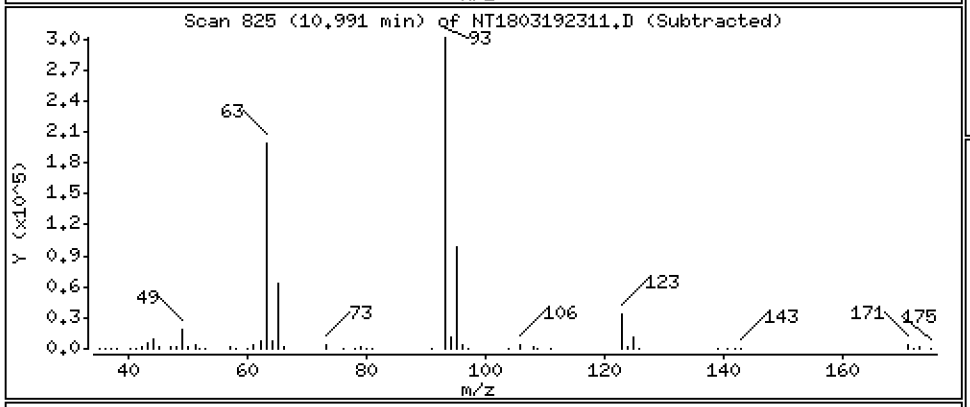
Column diameter: 0.25

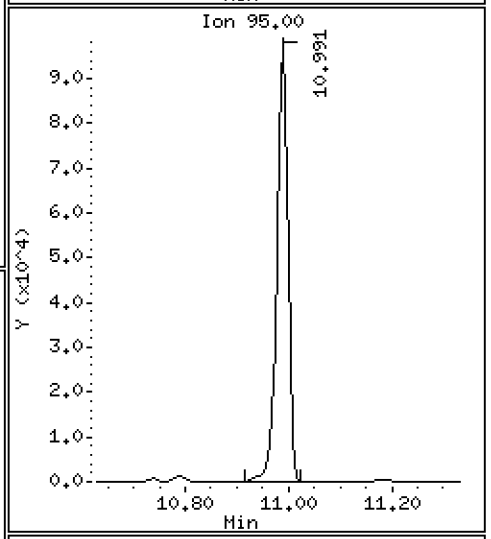
23 Bis(2-Chloroethoxy)methane

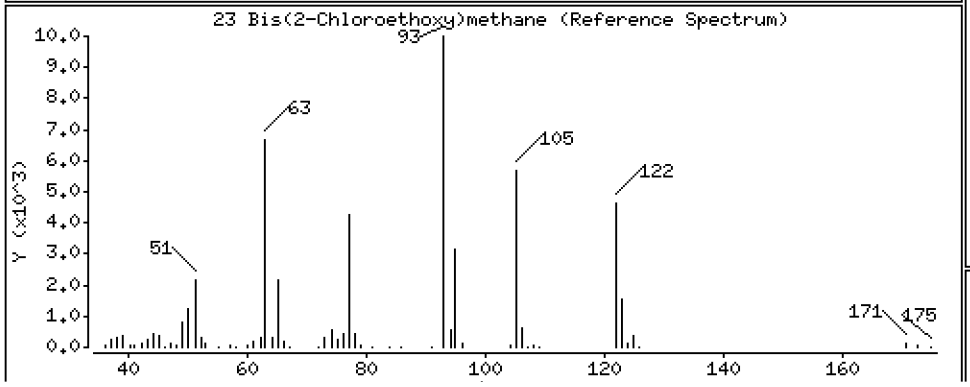
Concentration: 5.862 ug/mL

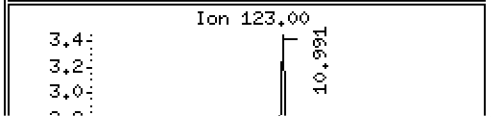












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

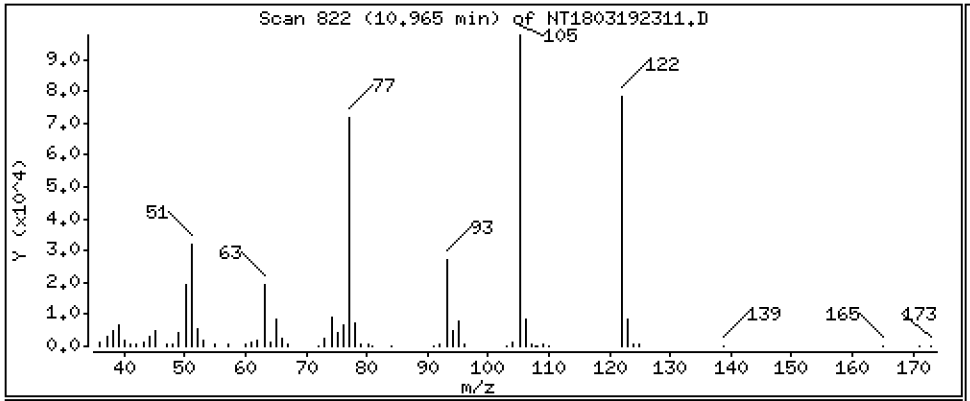
Operator: VTS

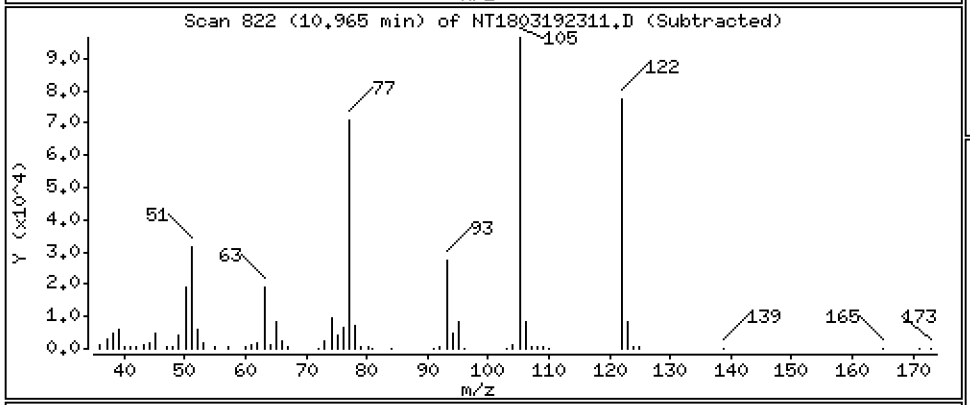
Column phase: ZB-5msi

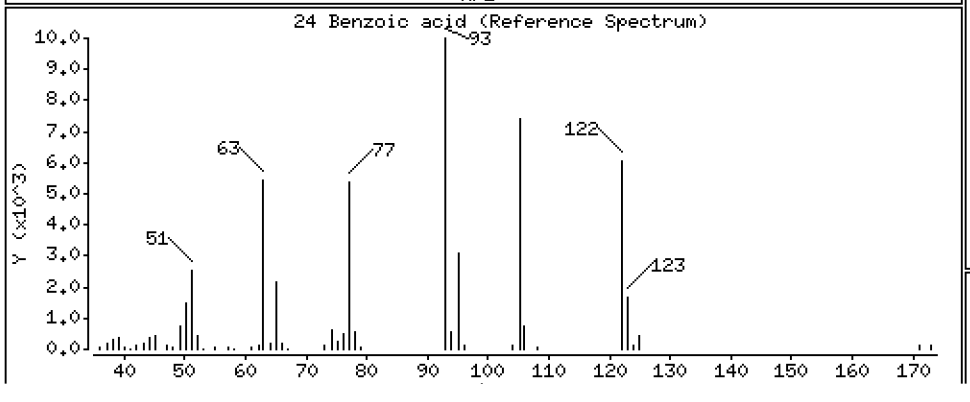
Column diameter: 0.25

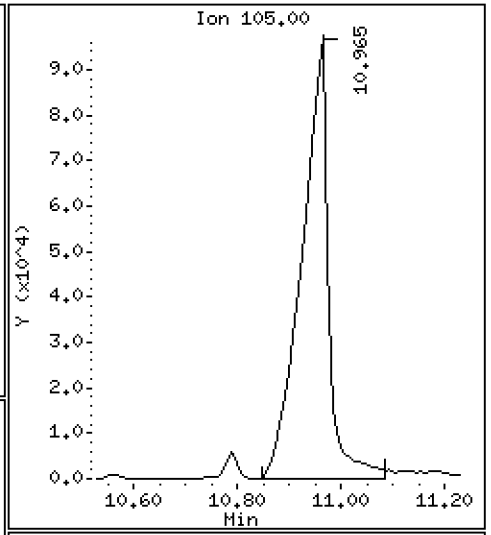
24 Benzoic acid

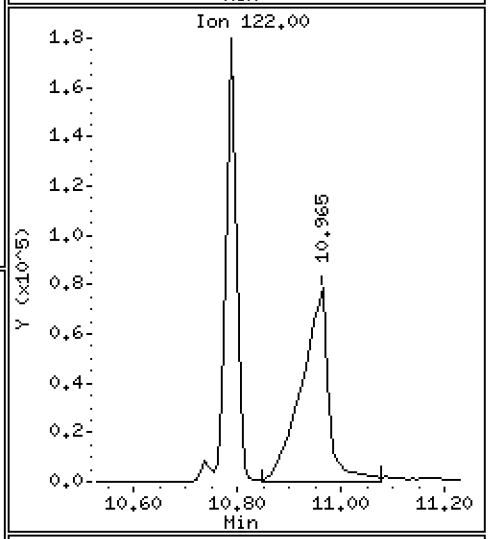
Concentration: 6.422 ug/mL

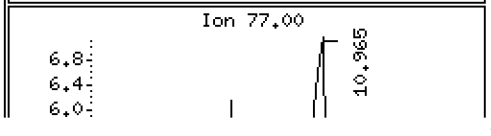












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

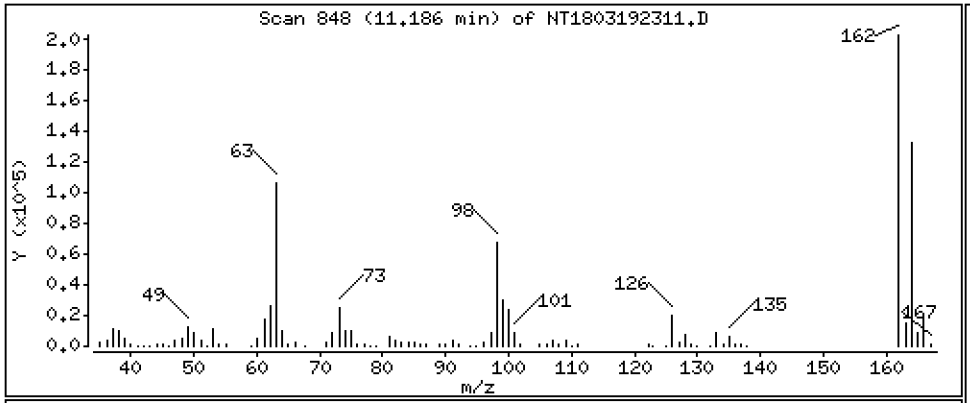
Operator: VTS

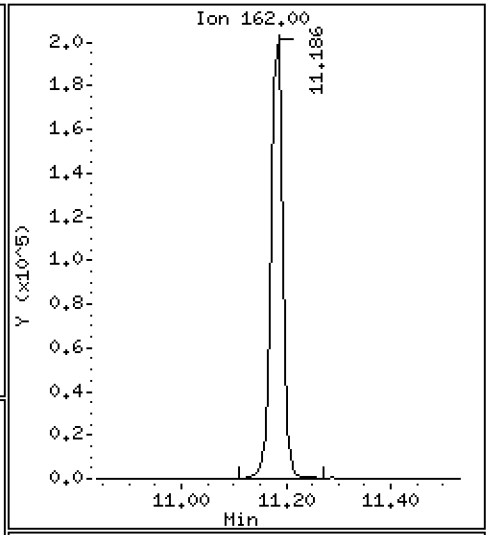
Column phase: ZB-5msi

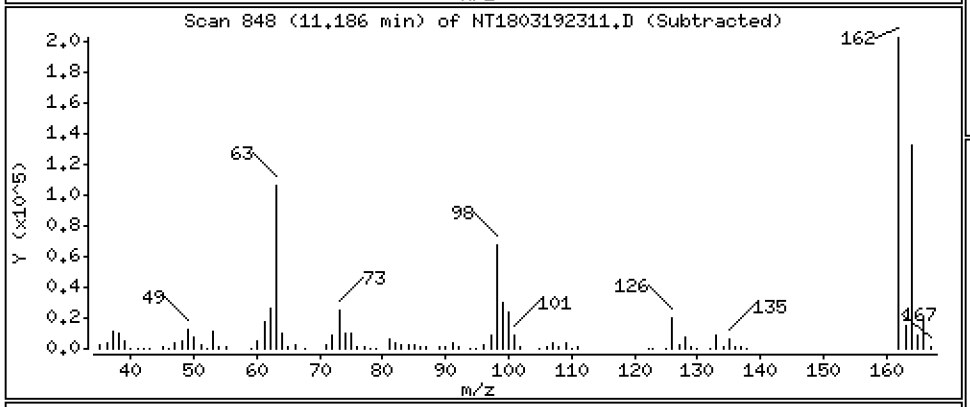
Column diameter: 0.25

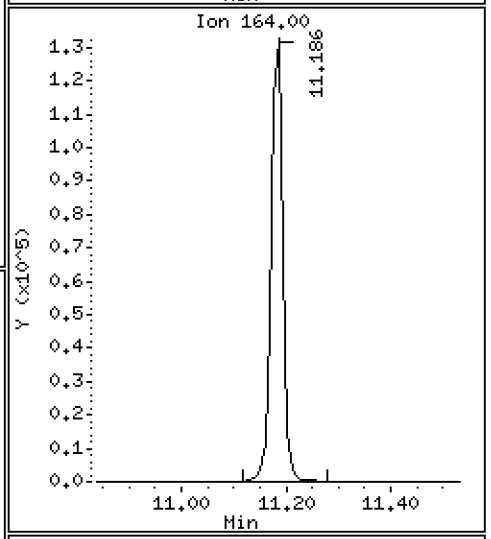
25 2,4-Dichlorophenol

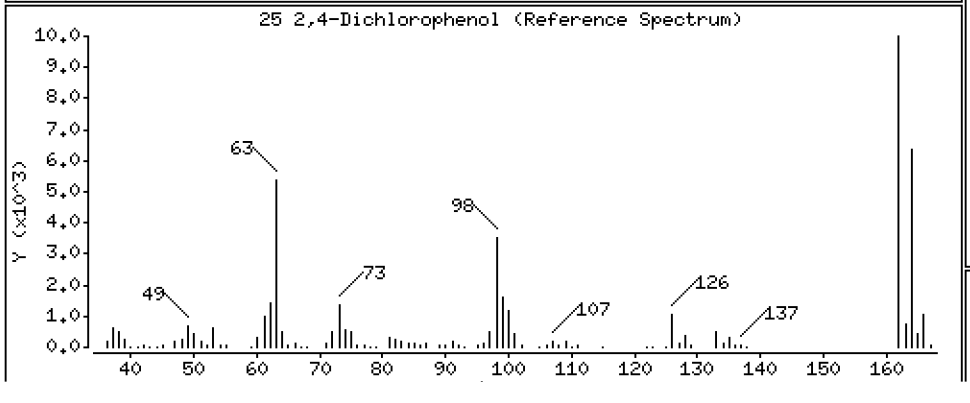
Concentration: 4.980 ug/mL

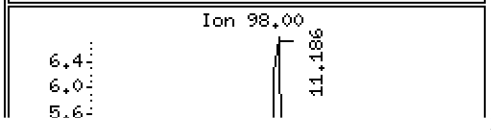












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

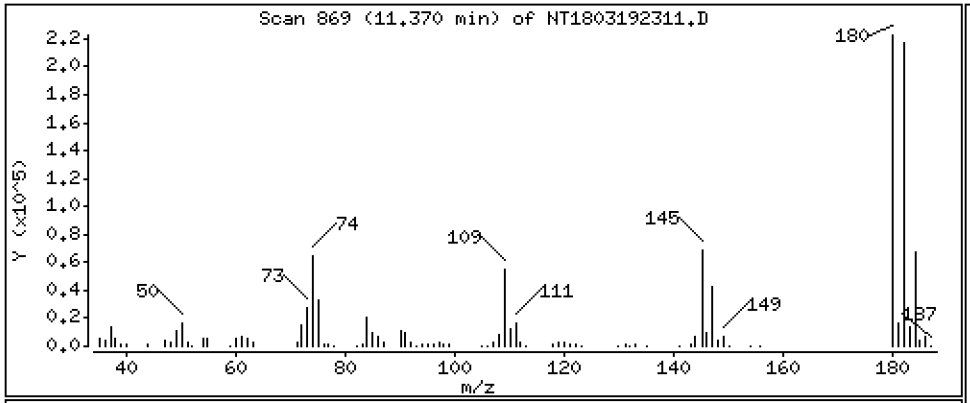
Operator: VTS

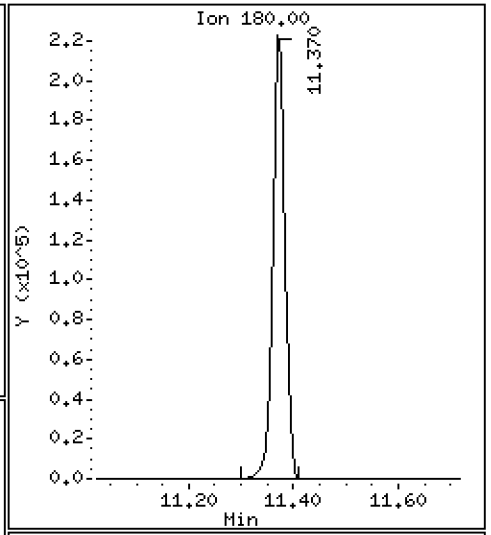
Column phase: ZB-5msi

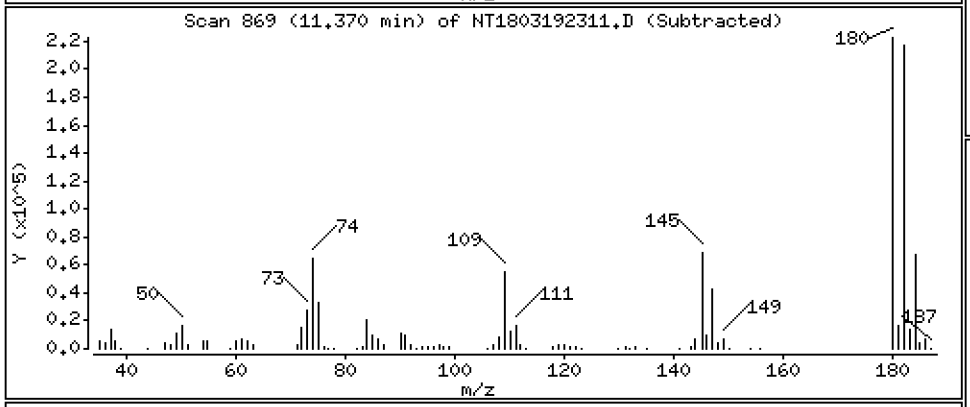
Column diameter: 0.25

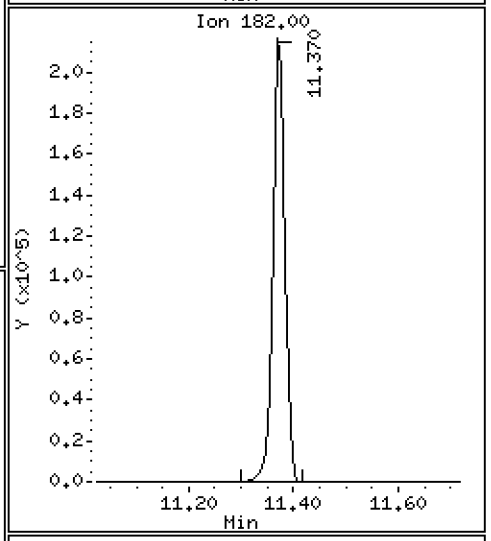
26 1,2,4-Trichlorobenzene

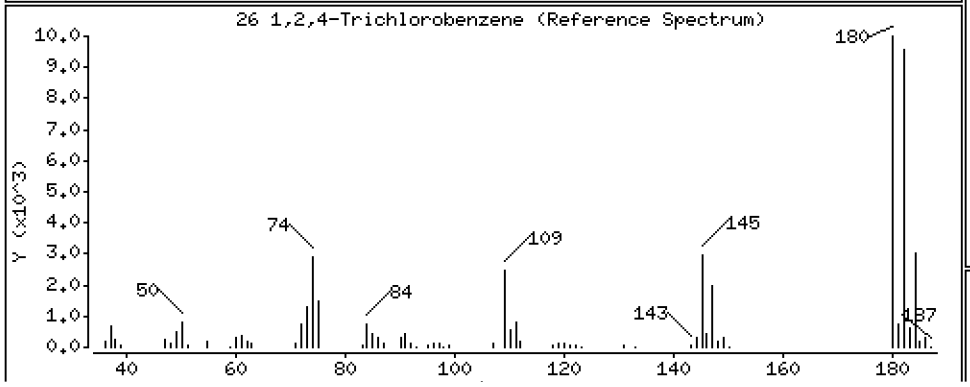
Concentration: 4.858 ug/mL

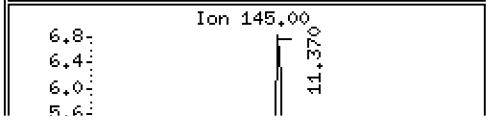












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

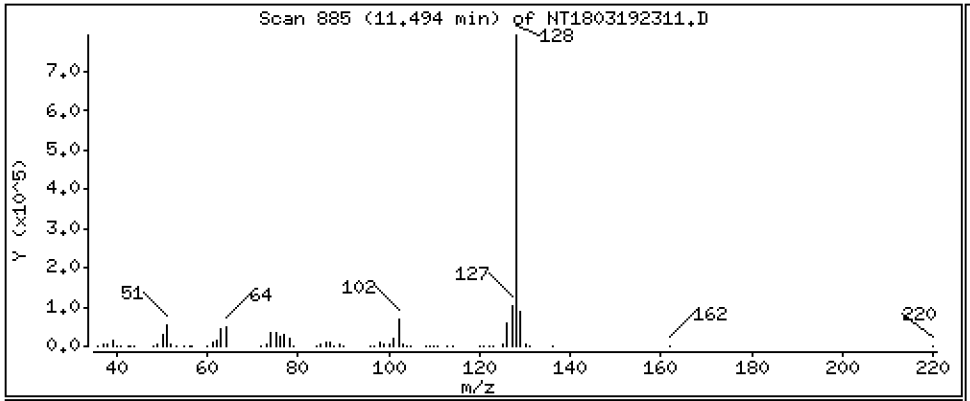
Operator: VTS

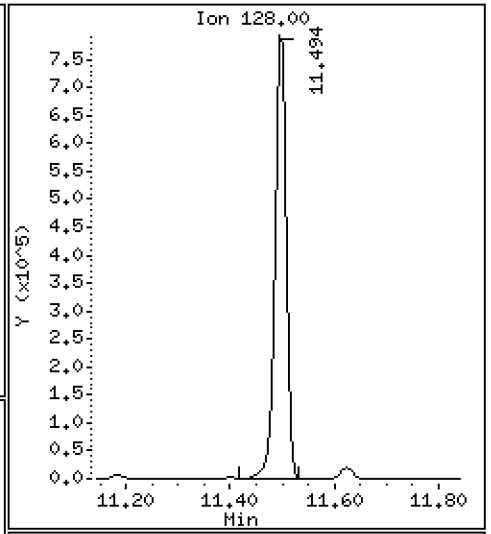
Column phase: ZB-5msi

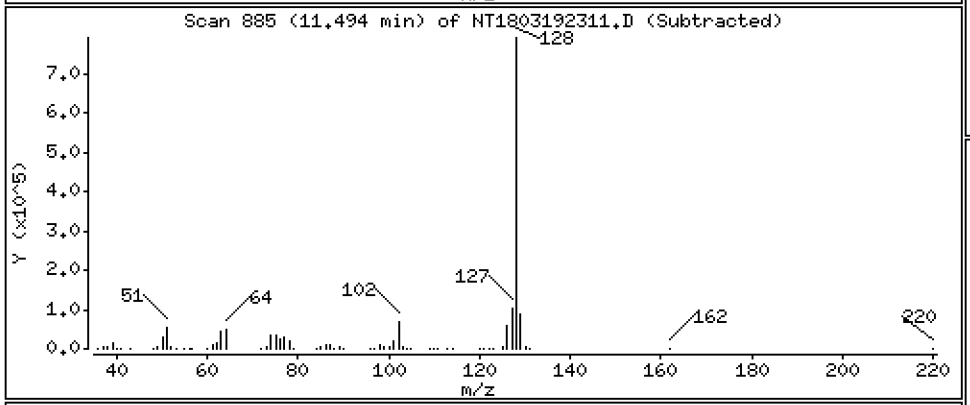
Column diameter: 0.25

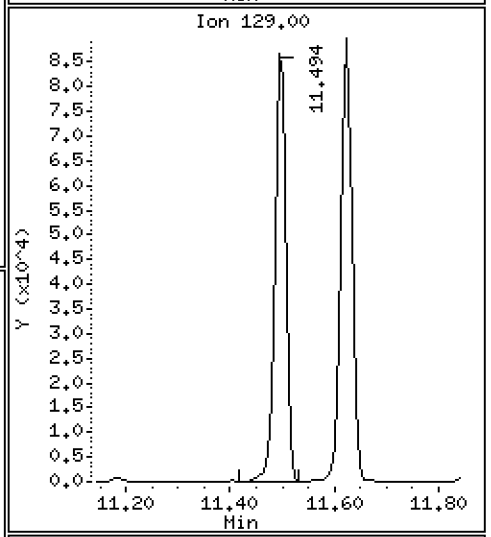
28 Naphthalene

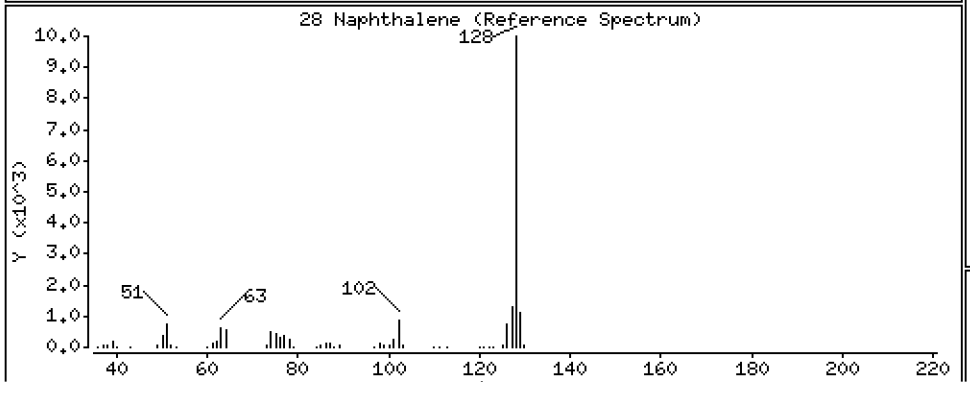
Concentration: 4.875 ug/mL

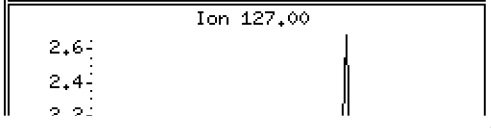












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

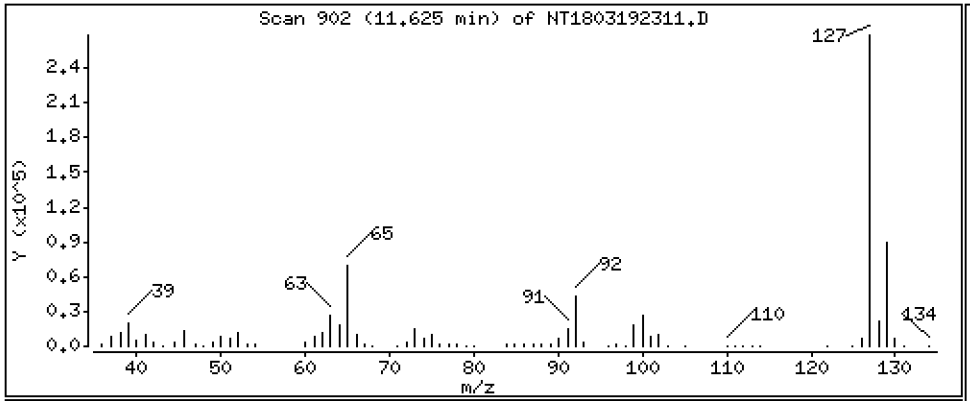
Operator: VTS

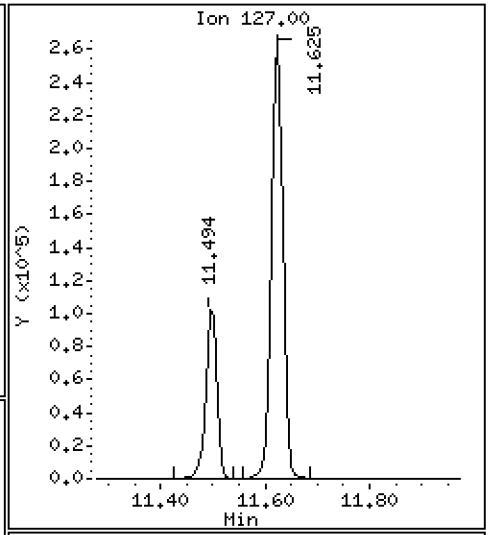
Column phase: ZB-5msi

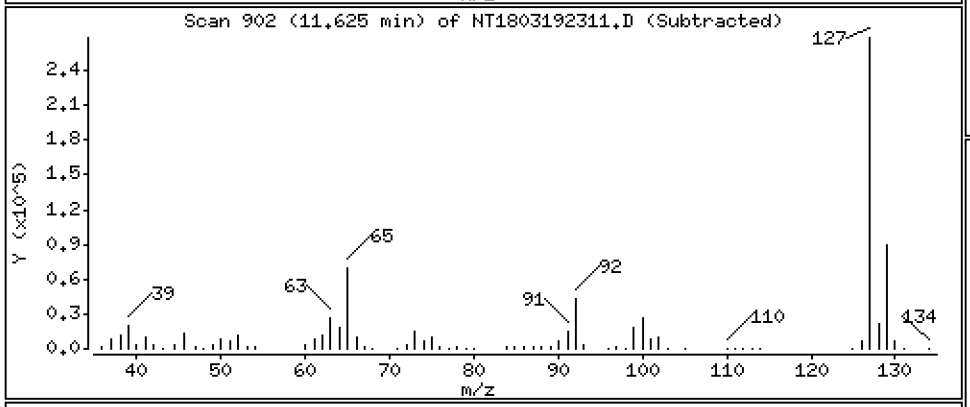
Column diameter: 0.25

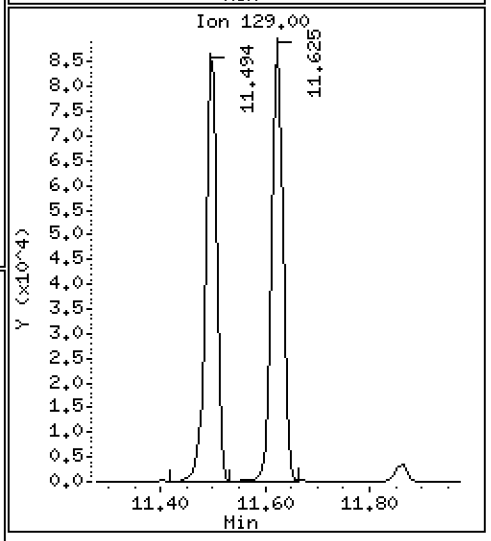
29 4-Chloroaniline

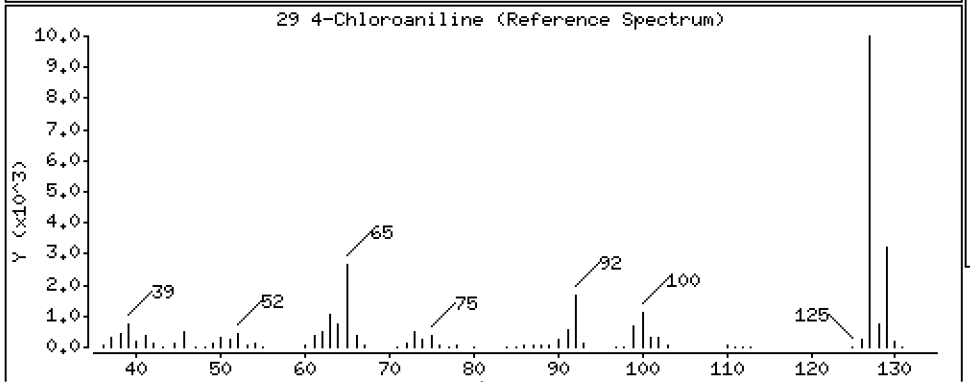
Concentration: 3.897 ug/mL











Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

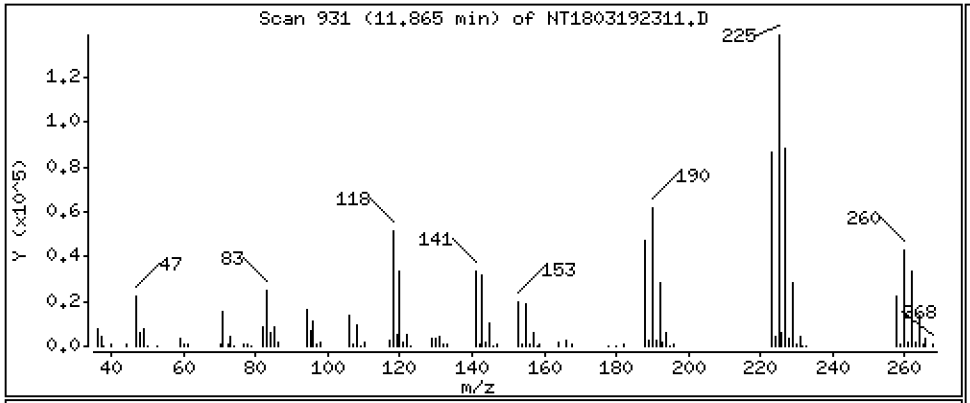
Operator: VTS

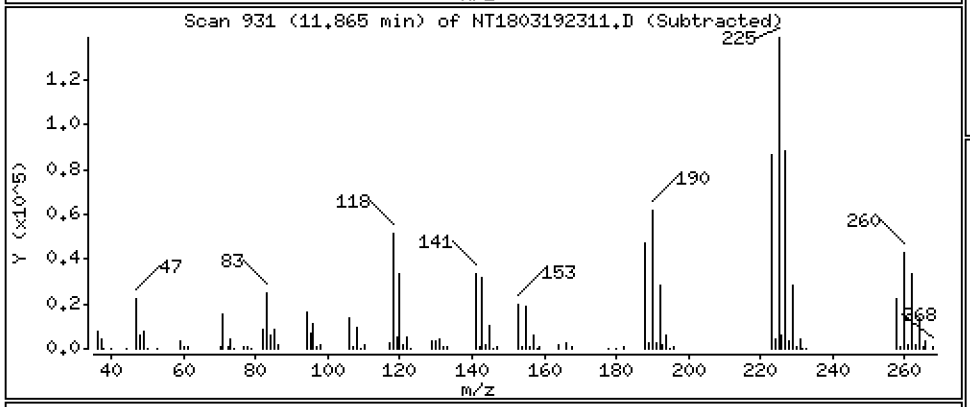
Column phase: ZB-5msi

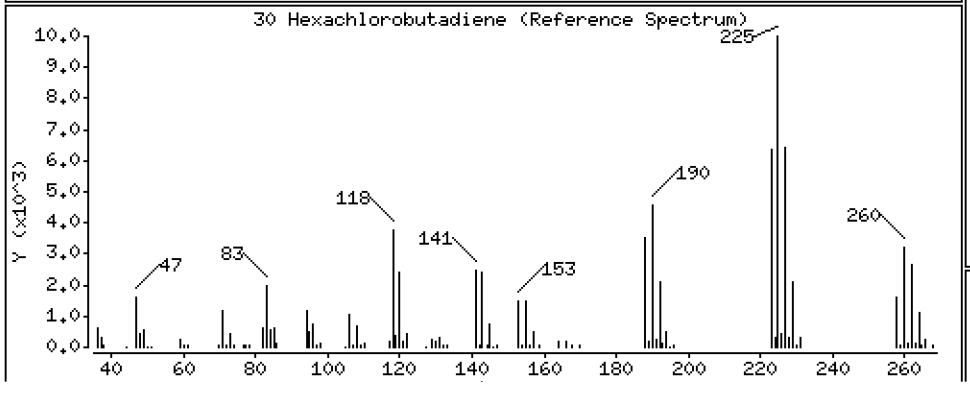
Column diameter: 0.25

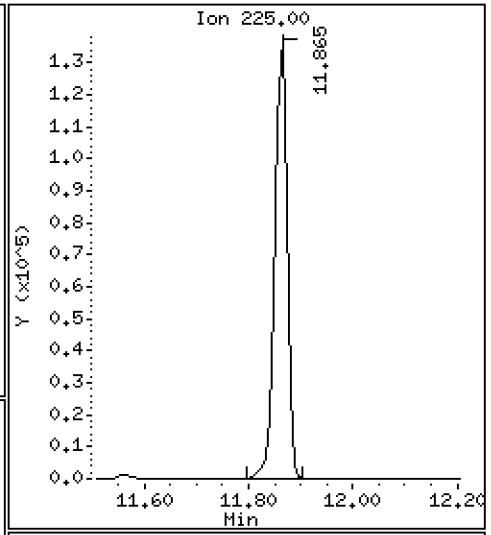
30 Hexachlorobutadiene

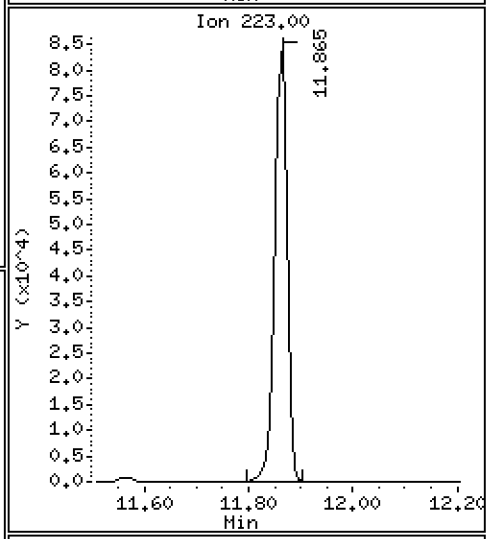
Concentration: 5.033 ug/mL

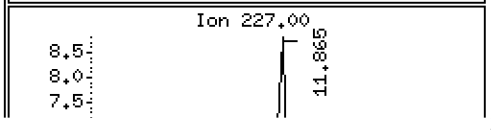












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

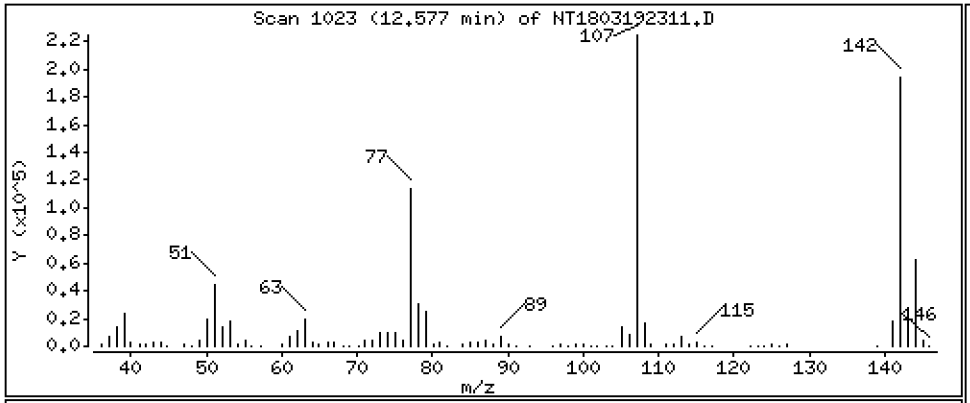
Operator: VTS

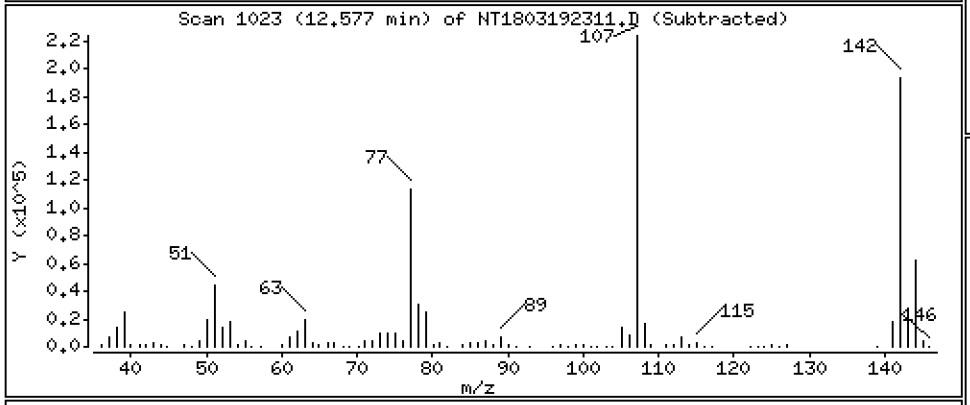
Column phase: ZB-5msi

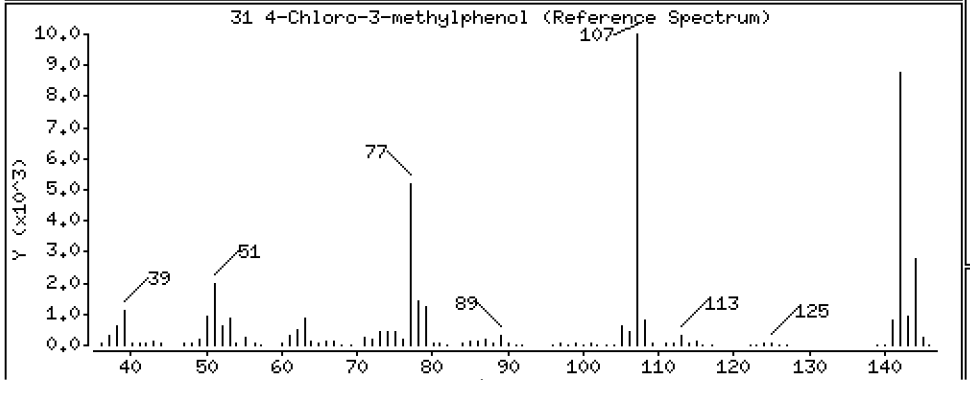
Column diameter: 0.25

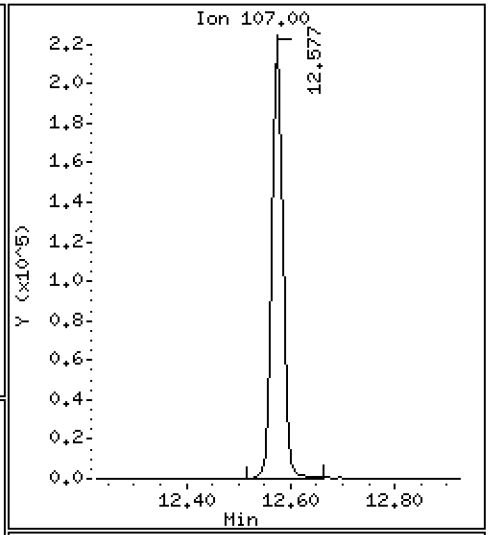
31 4-Chloro-3-methylphenol

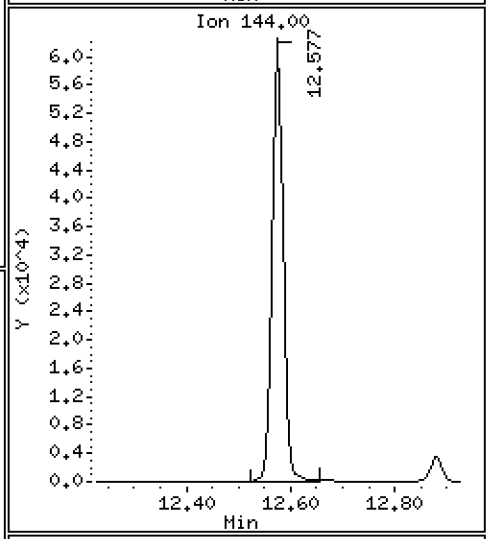
Concentration: 4.709 ug/mL

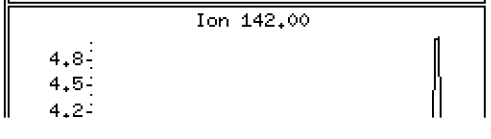












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

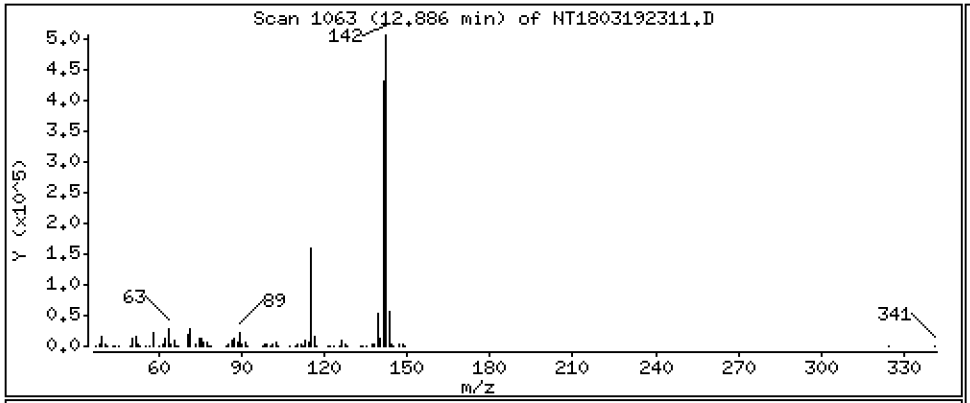
Operator: VTS

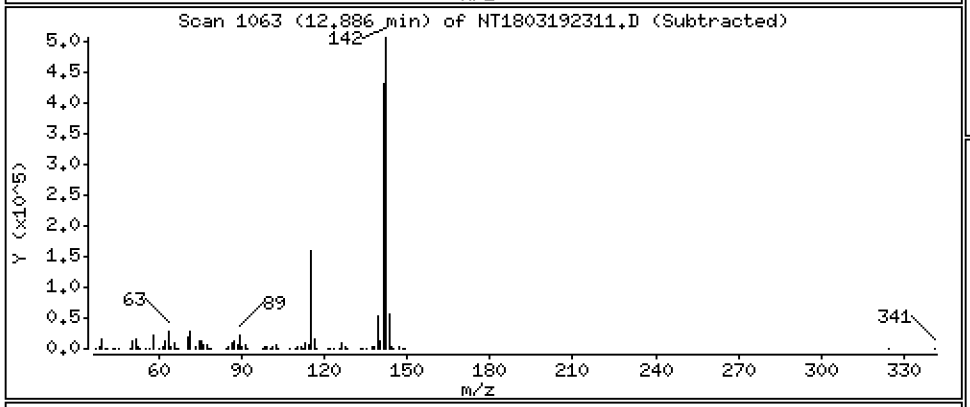
Column phase: ZB-5msi

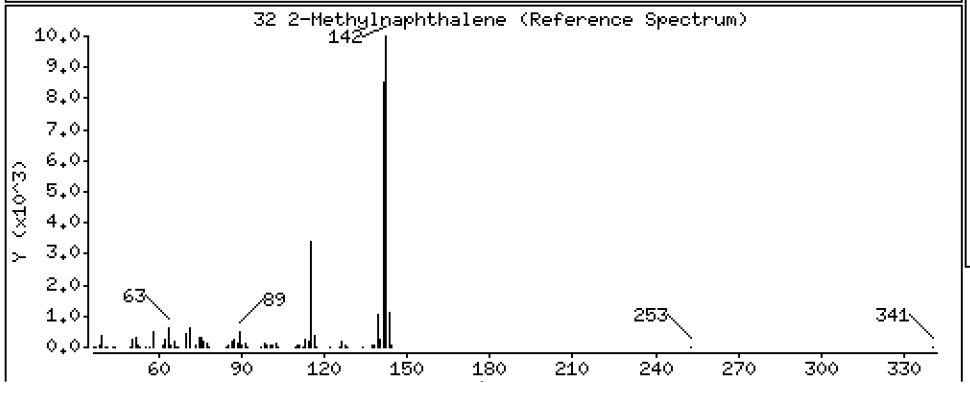
Column diameter: 0.25

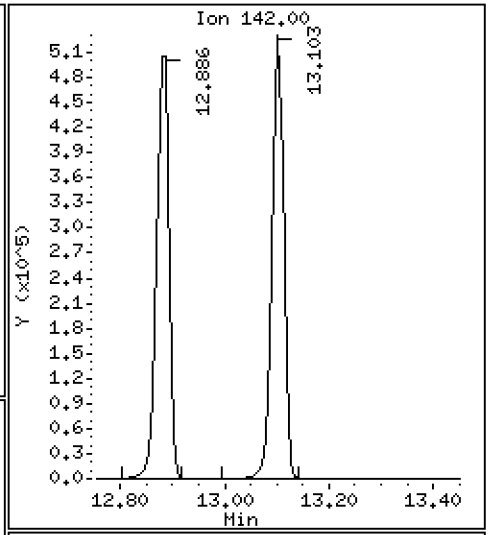
32 2-Methylnaphthalene

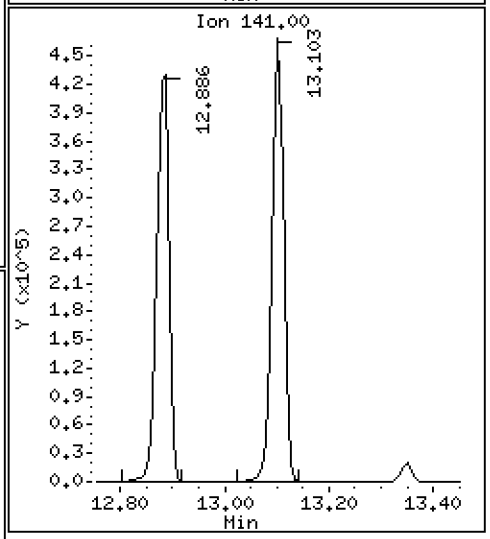
Concentration: 5.247 ug/mL











Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

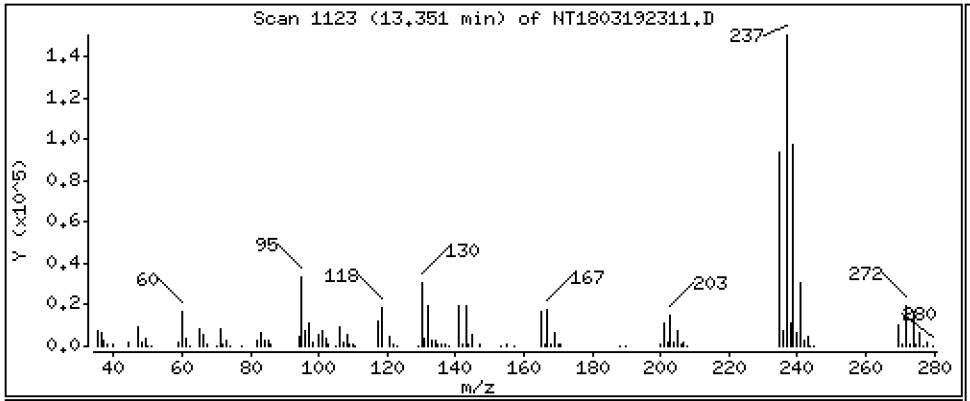
Operator: VTS

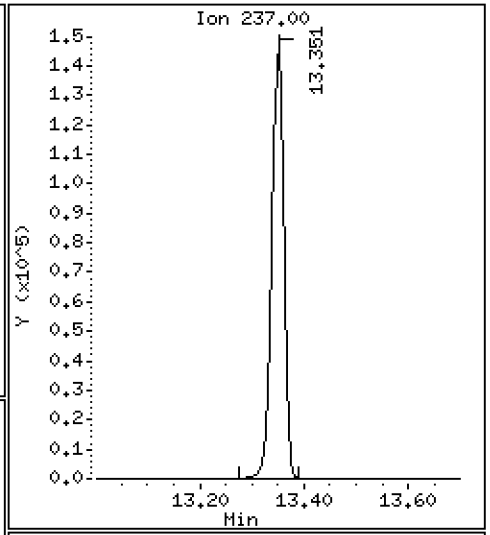
Column phase: ZB-5msi

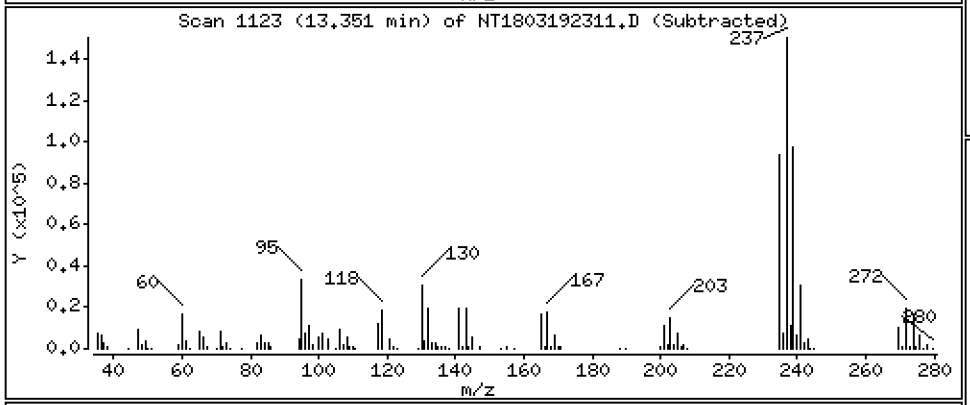
Column diameter: 0.25

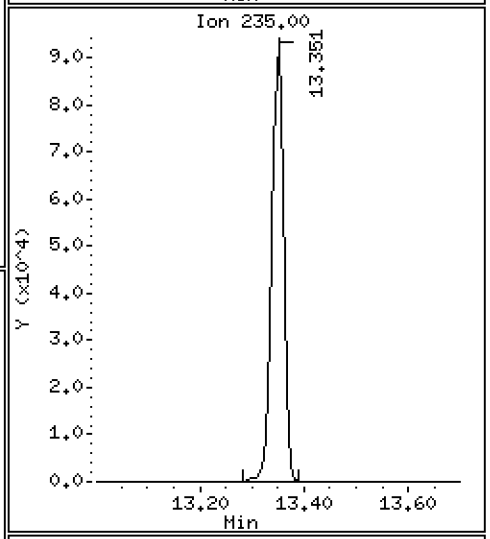
33 Hexachlorocyclopentadiene

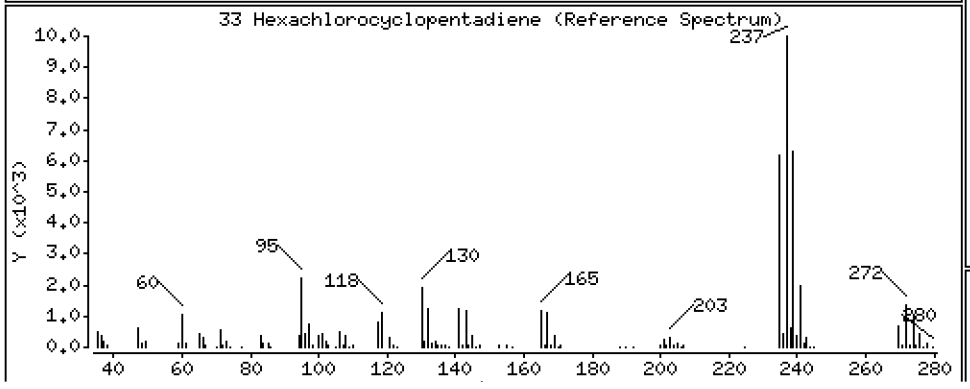
Concentration: 5.056 ug/mL

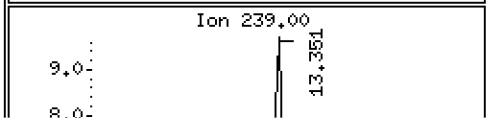












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

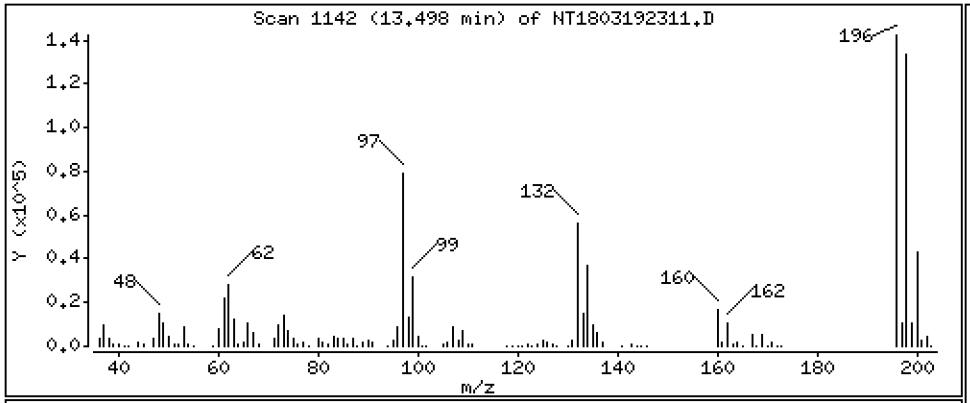
Operator: VTS

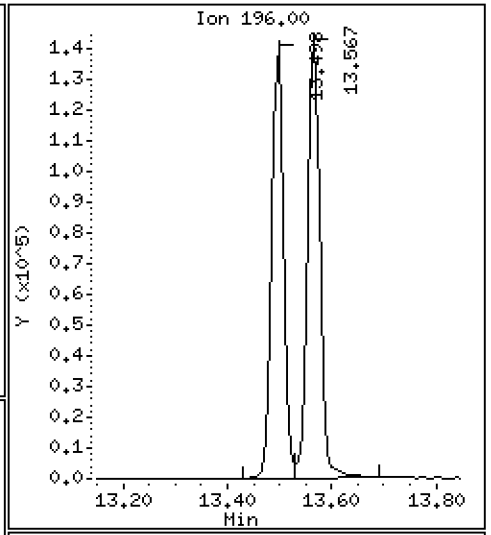
Column phase: ZB-5msi

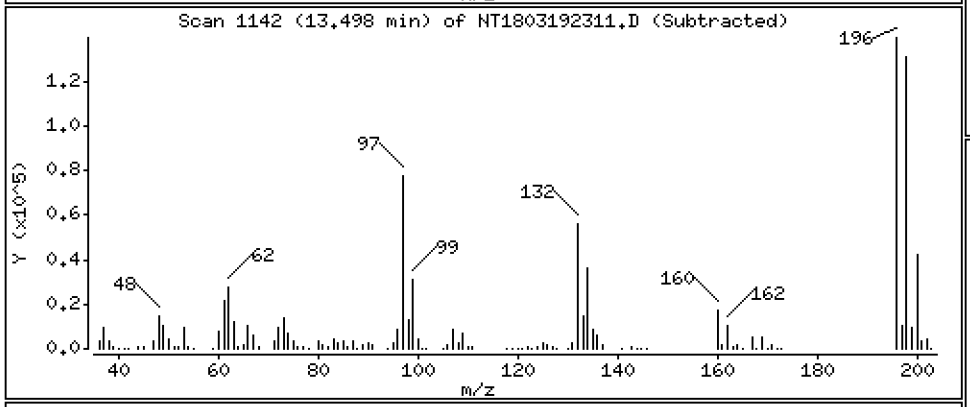
Column diameter: 0.25

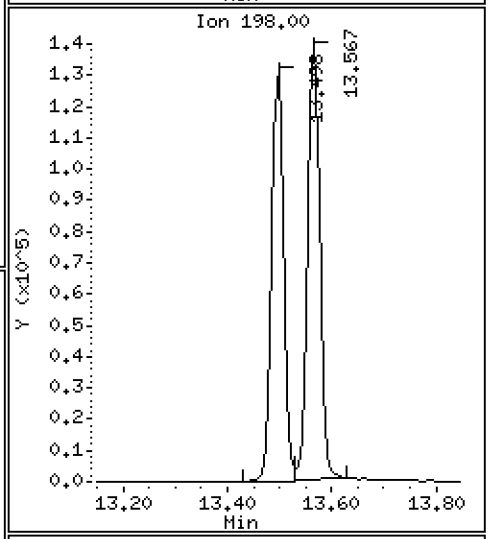
34 2,4,6-Trichlorophenol

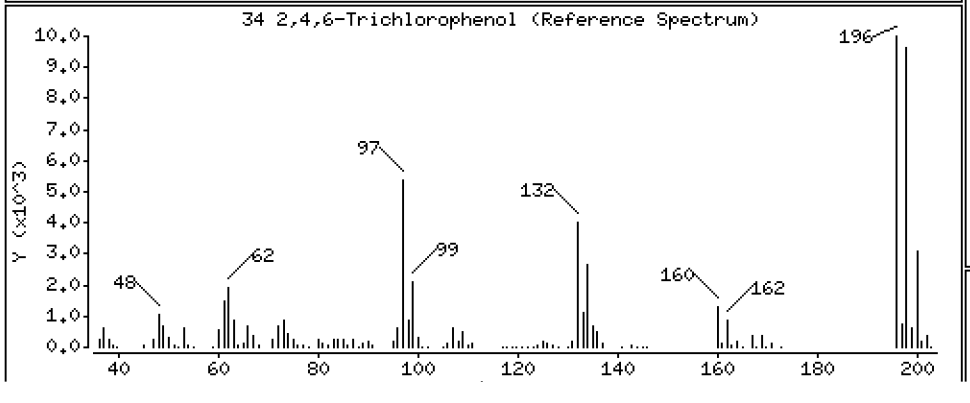
Concentration: 4.580 ug/mL

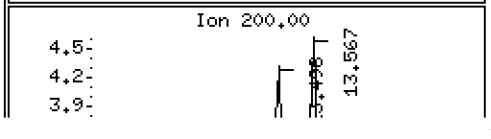












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

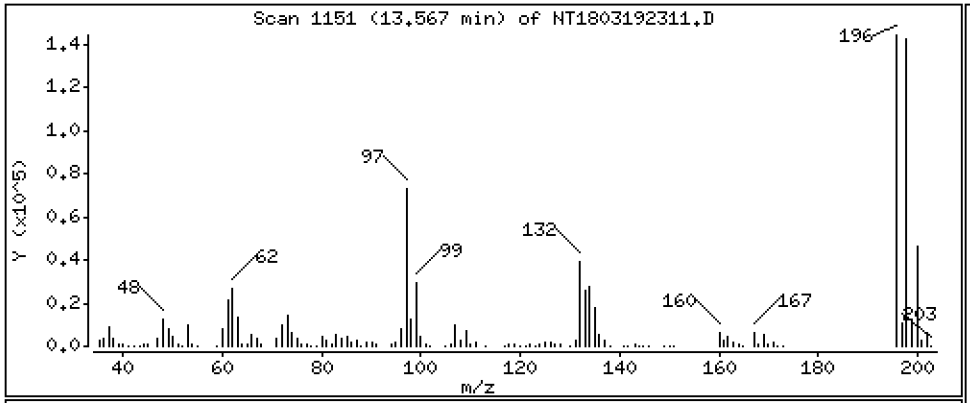
Operator: VTS

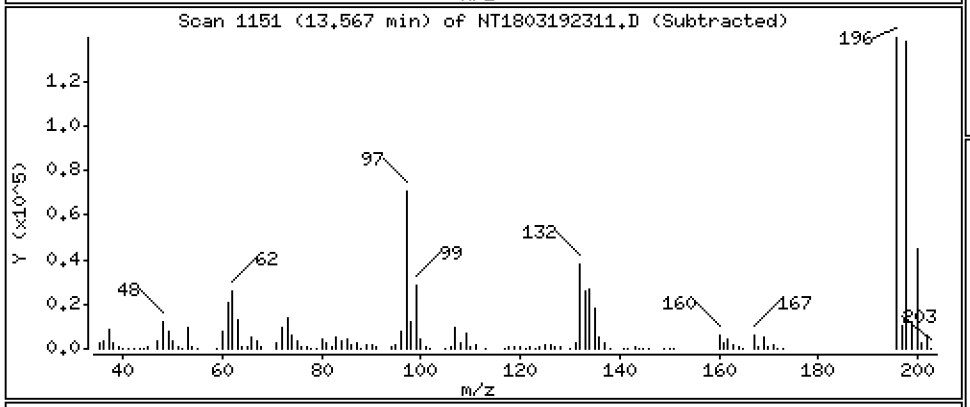
Column phase: ZB-5msi

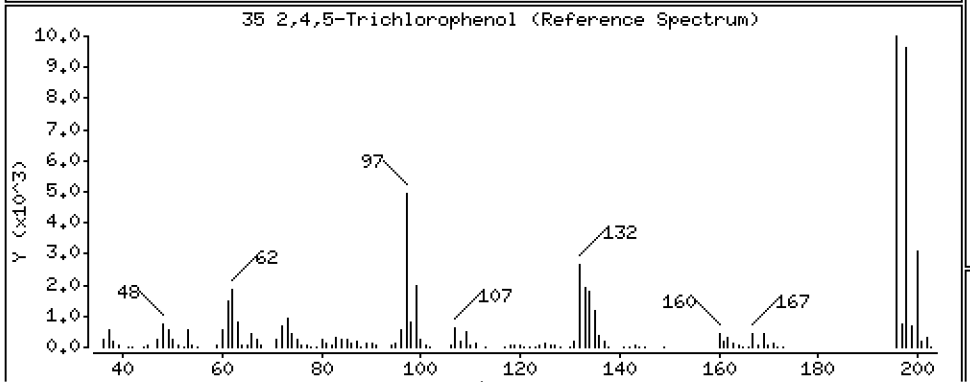
Column diameter: 0.25

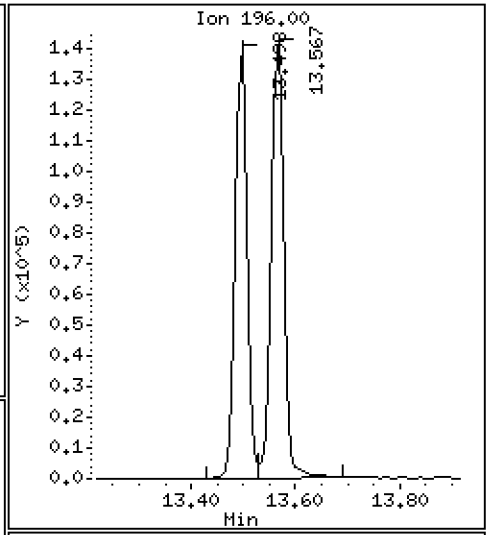
35 2,4,5-Trichlorophenol

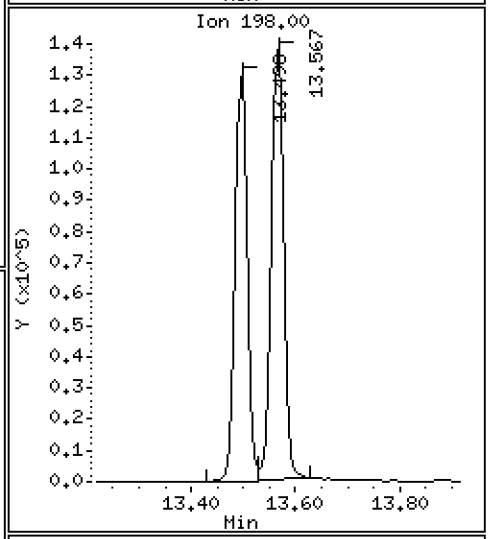
Concentration: 4.528 ug/mL

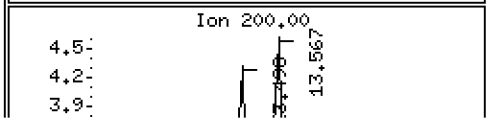












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

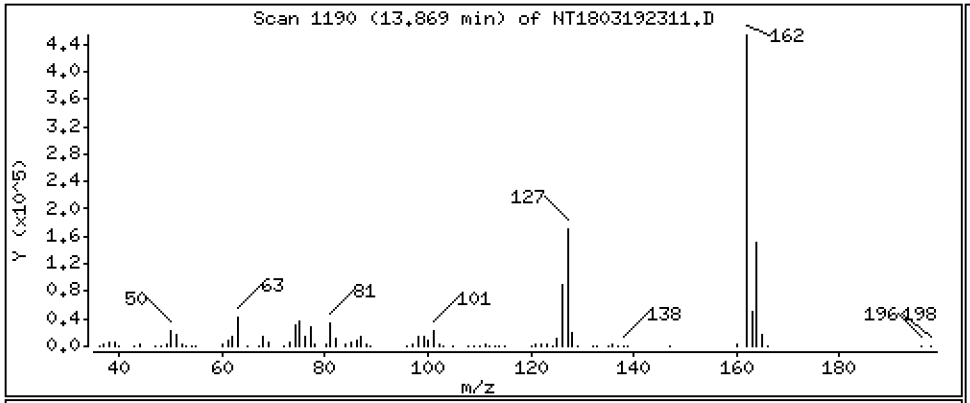
Operator: VTS

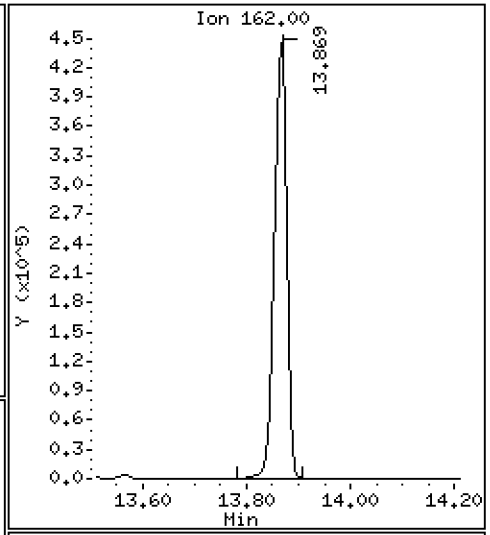
Column phase: ZB-5msi

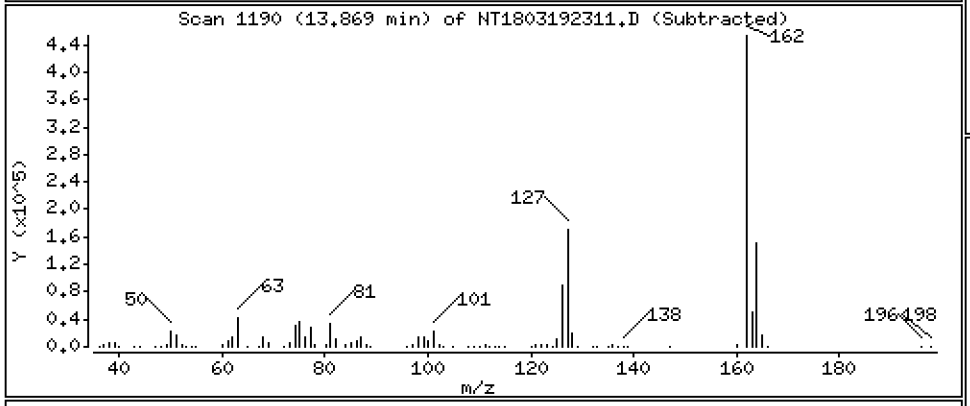
Column diameter: 0.25

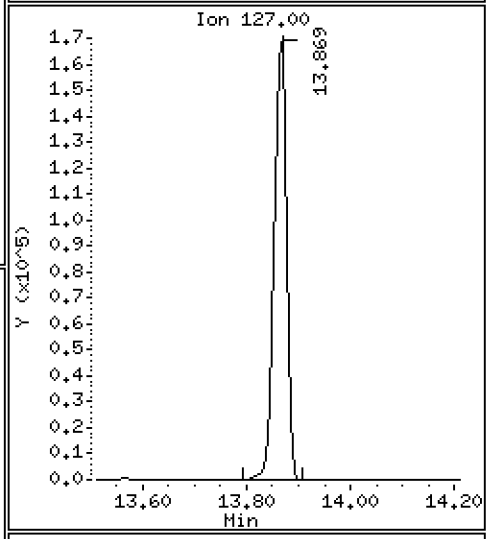
37 2-Chloronaphthalene

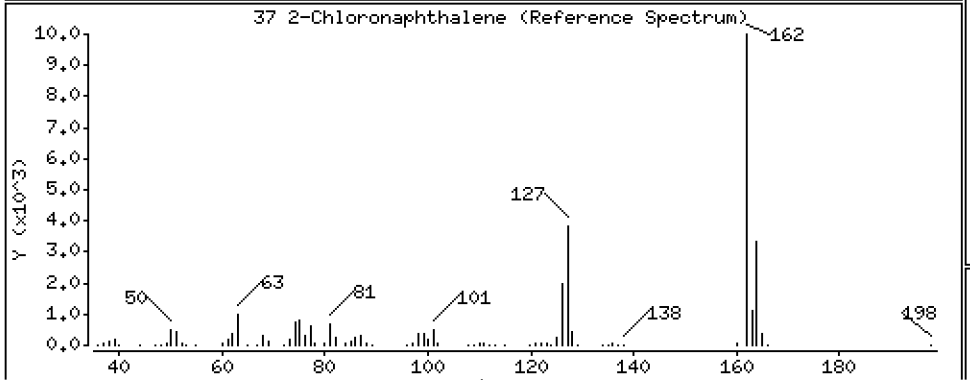
Concentration: 4.885 ug/mL

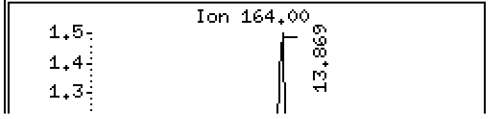












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

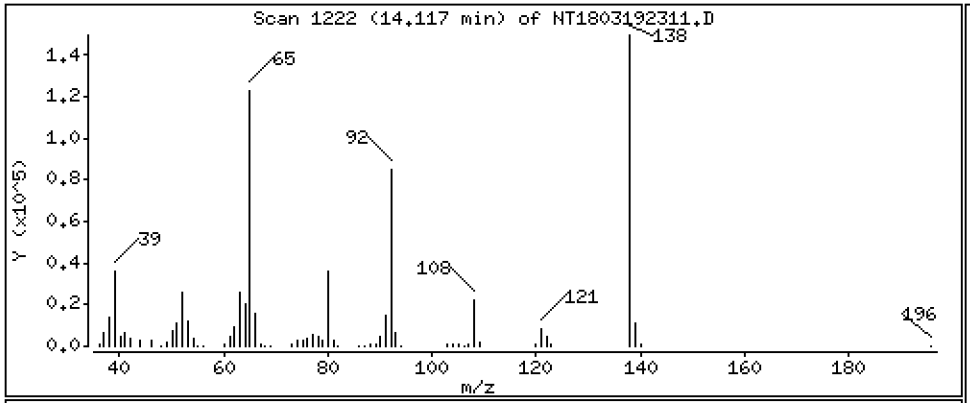
Operator: VTS

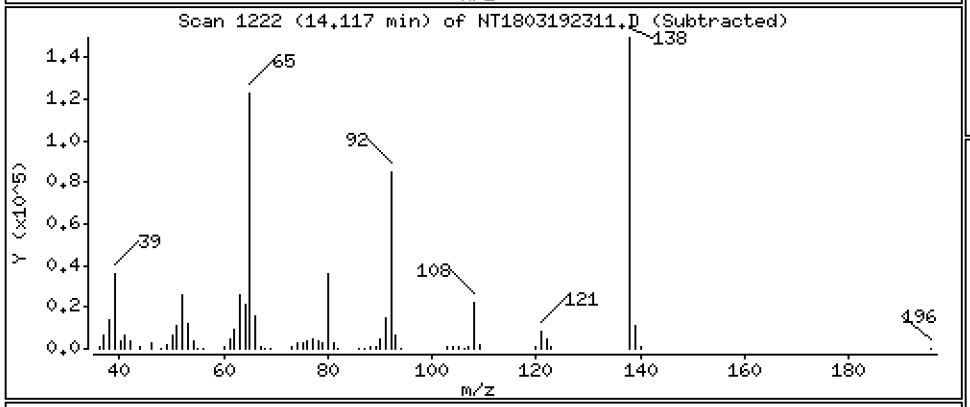
Column phase: ZB-5msi

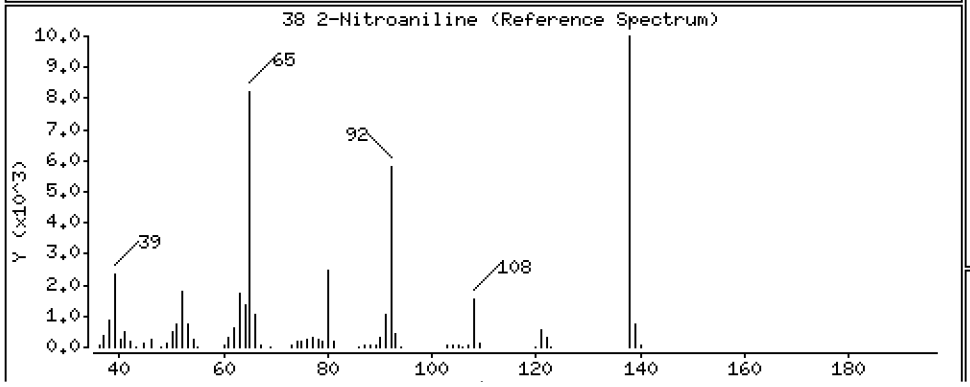
Column diameter: 0.25

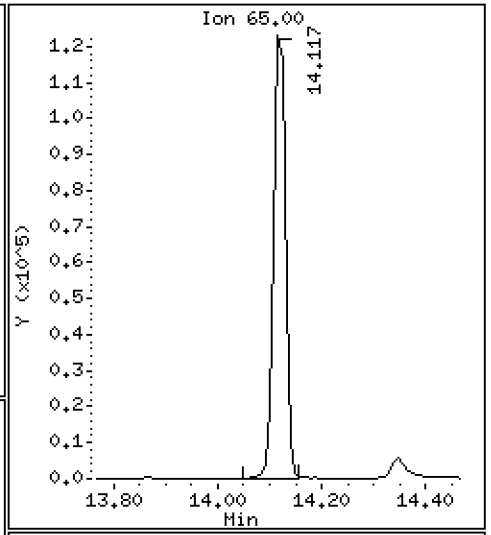
38 2-Nitroaniline

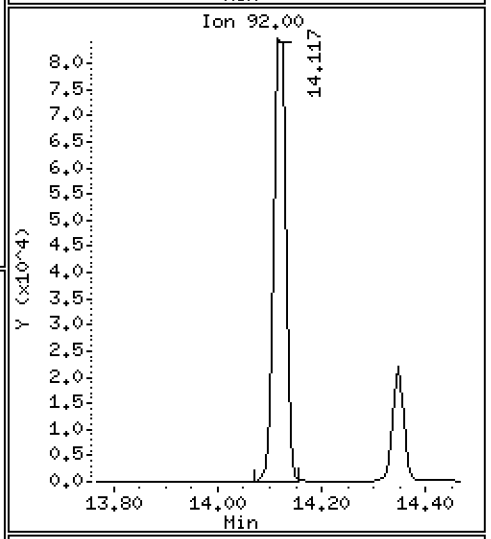
Concentration: 4.812 ug/mL

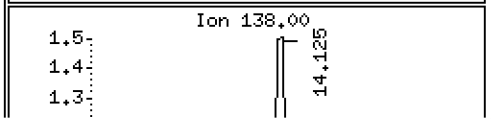












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

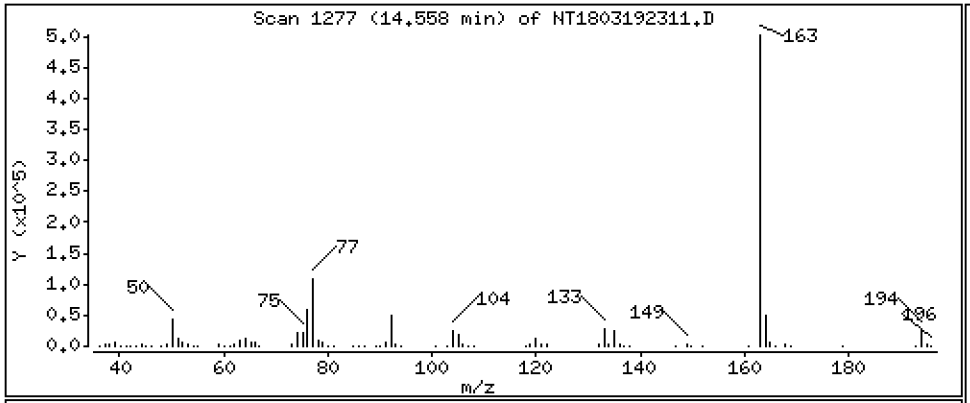
Operator: VTS

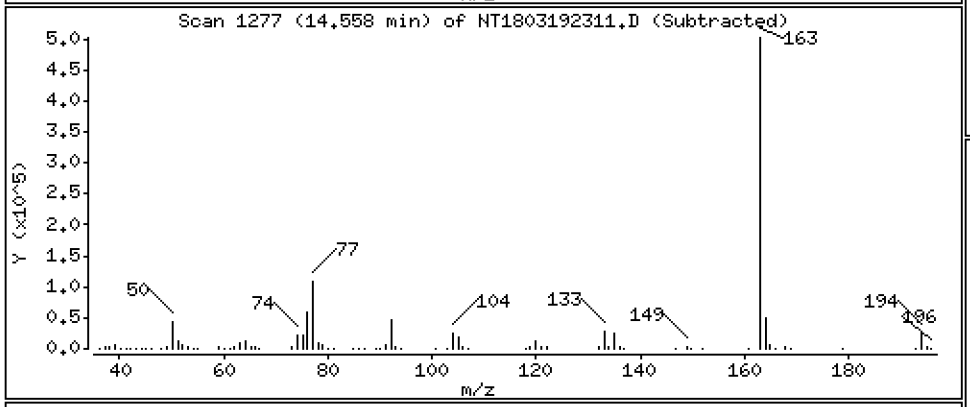
Column phase: ZB-5msi

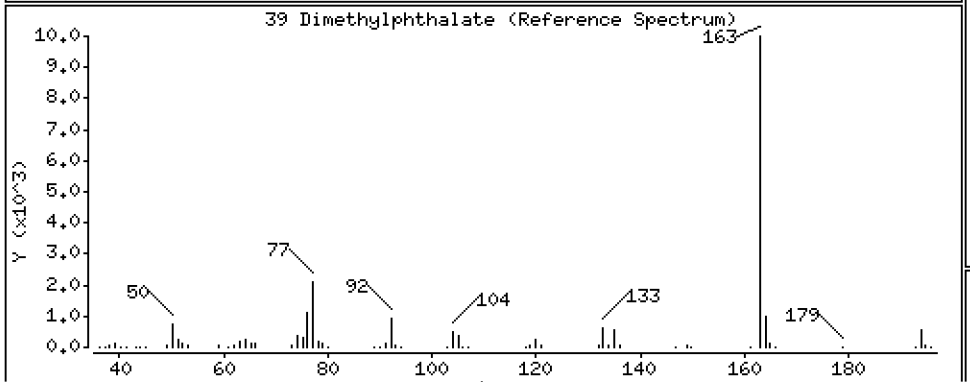
Column diameter: 0.25

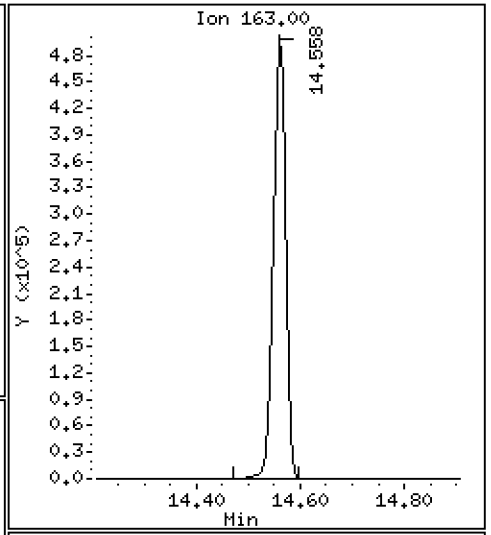
39 Dimethylphthalate

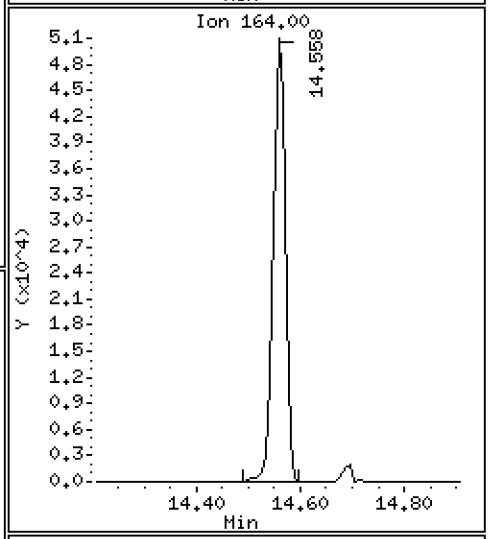
Concentration: 5.105 ug/mL

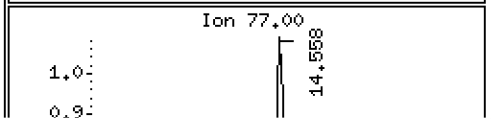












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

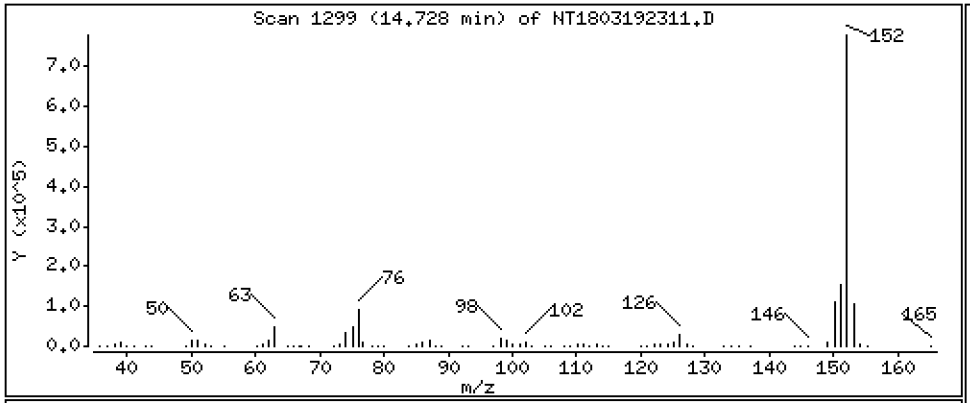
Operator: VTS

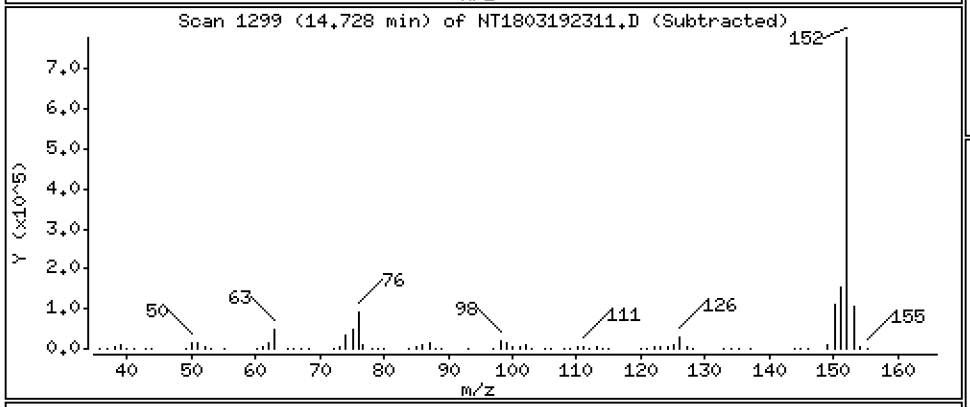
Column phase: ZB-5msi

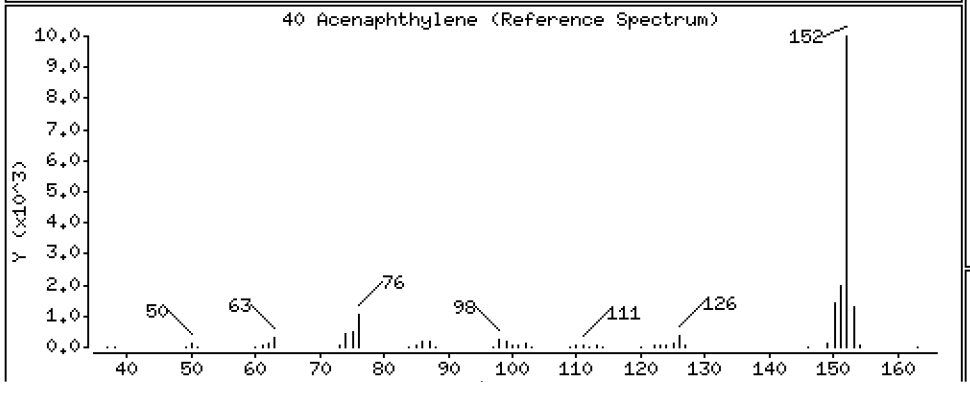
Column diameter: 0.25

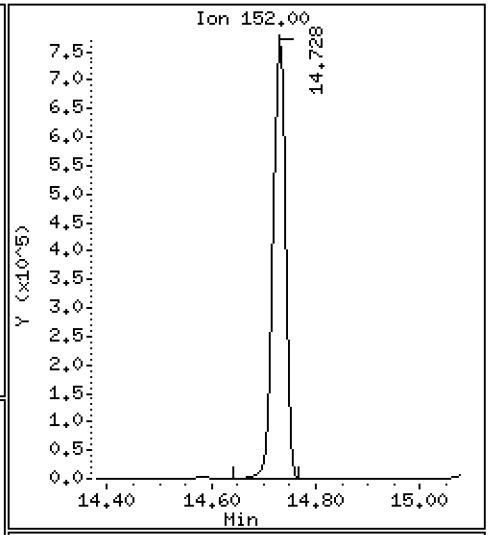
40 Acenaphthylene

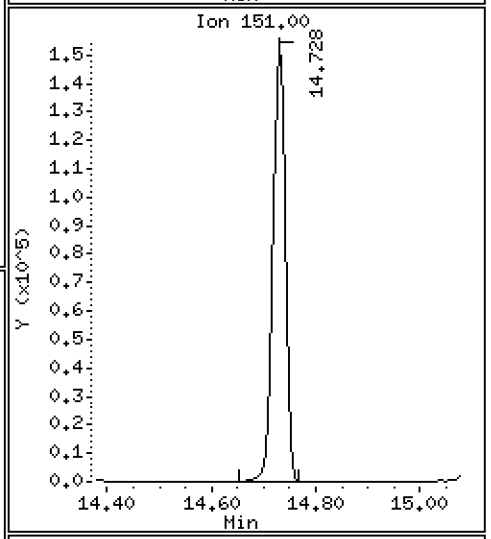
Concentration: 4.922 ug/mL

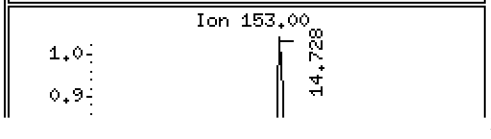












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

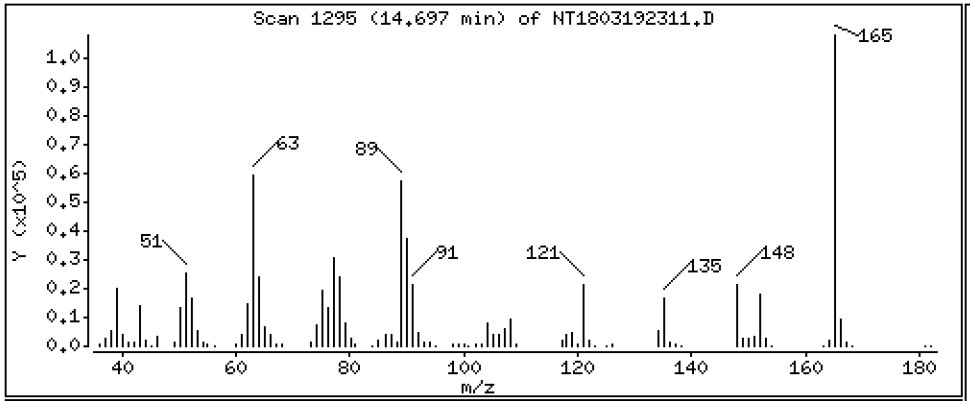
Operator: VTS

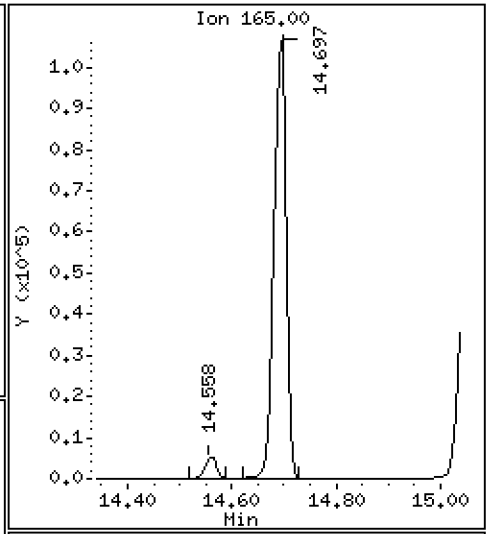
Column phase: ZB-5msi

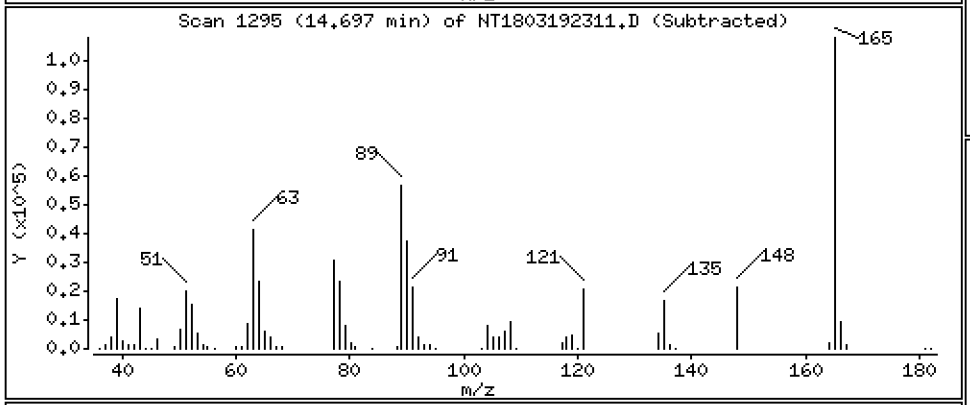
Column diameter: 0.25

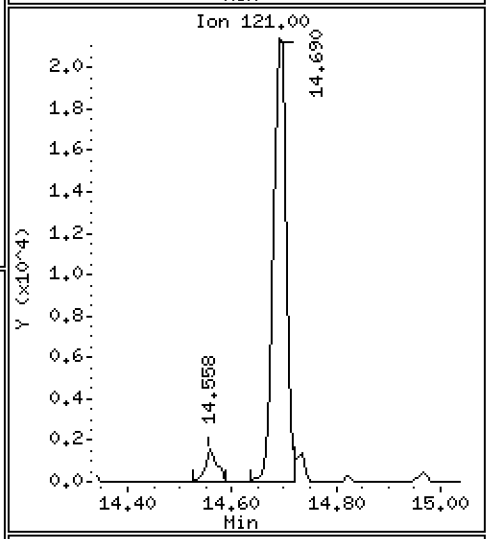
41 2,6-Dinitrotoluene

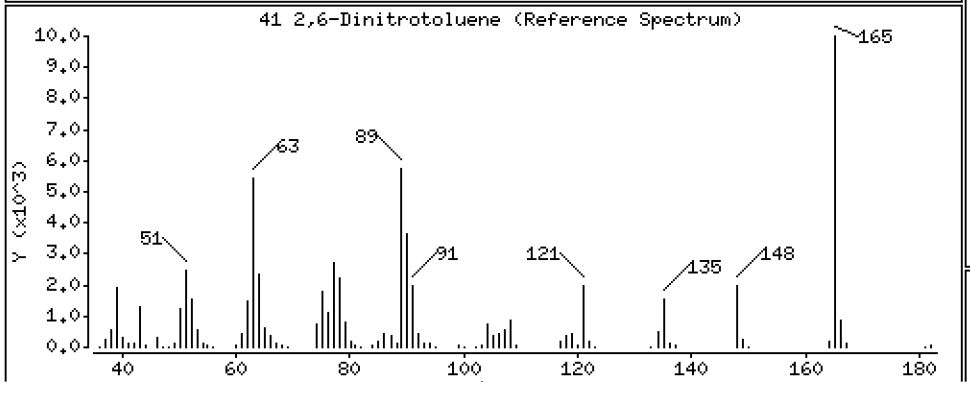
Concentration: 4.857 ug/mL

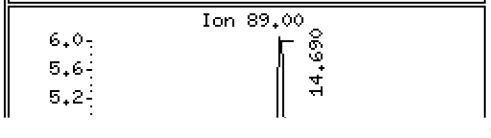












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

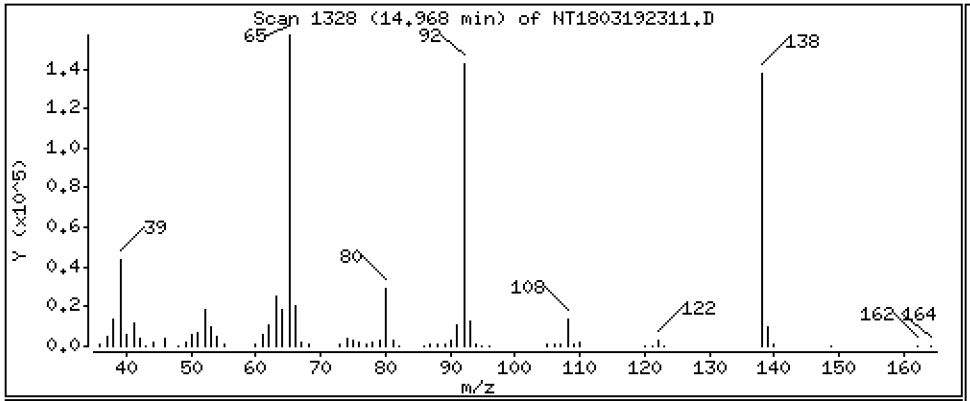
Operator: VTS

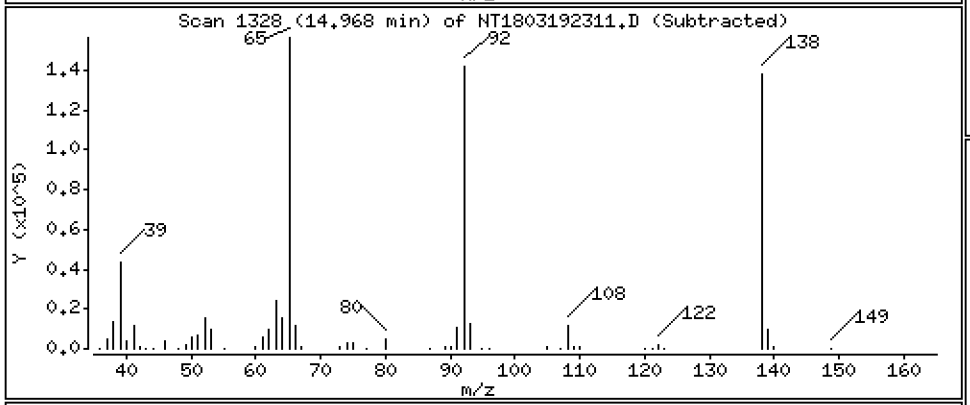
Column phase: ZB-5msi

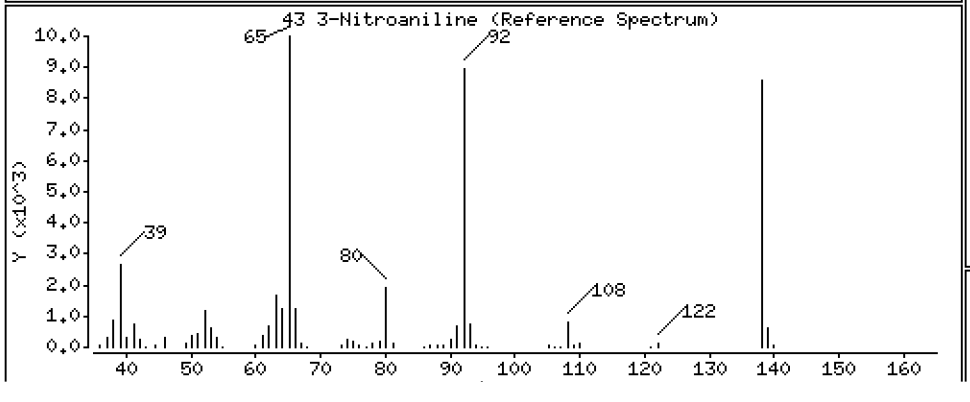
Column diameter: 0.25

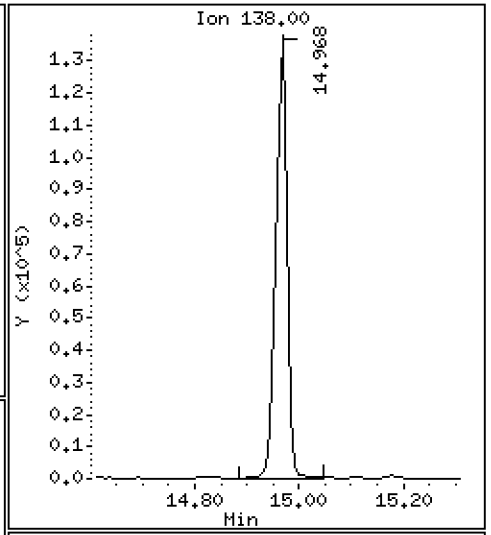
43 3-Nitroaniline

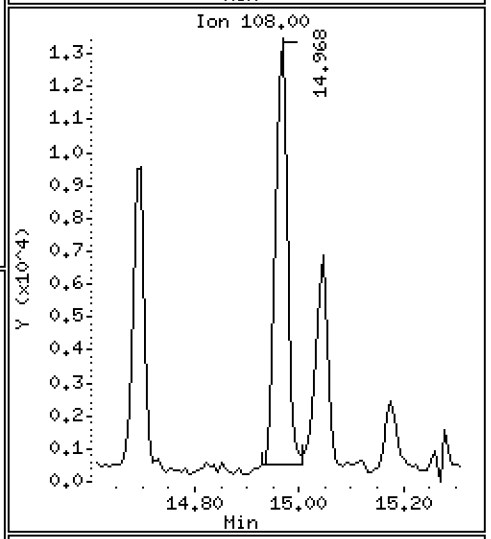
Concentration: 5.150 ug/mL

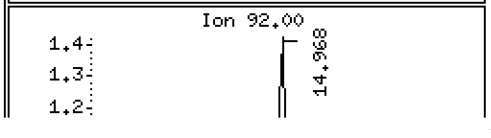












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

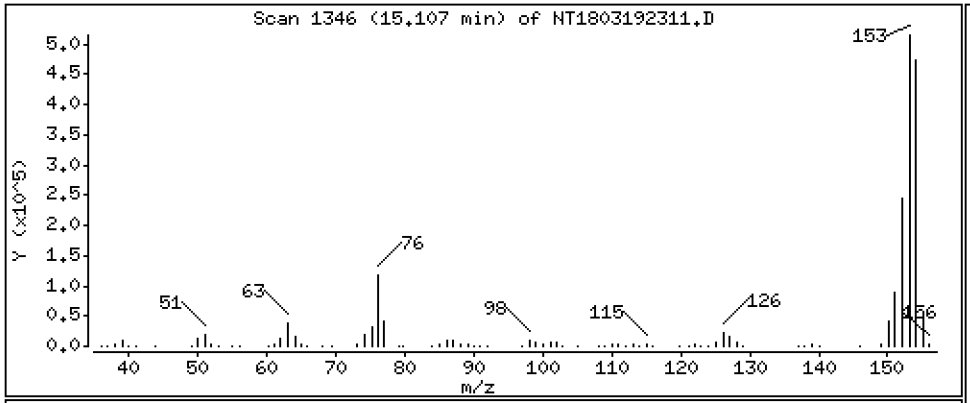
Operator: VTS

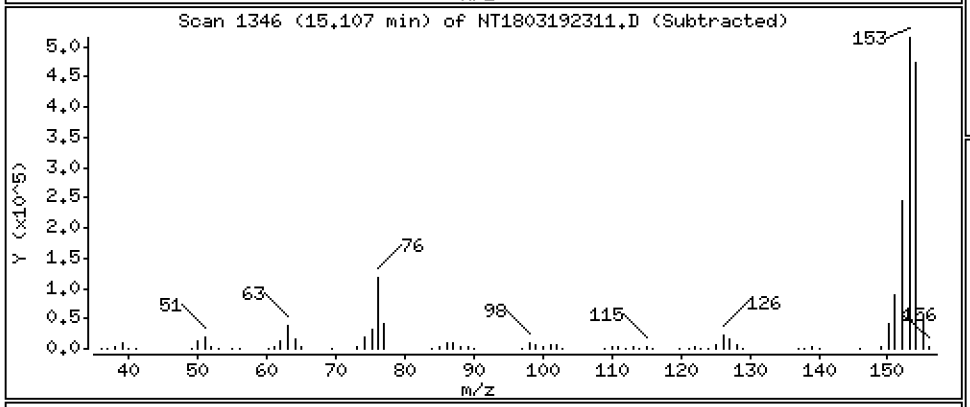
Column phase: ZB-5msi

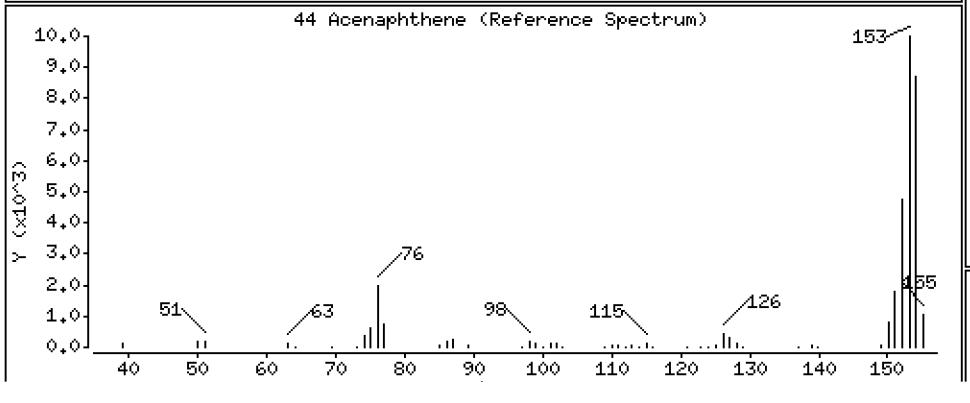
Column diameter: 0.25

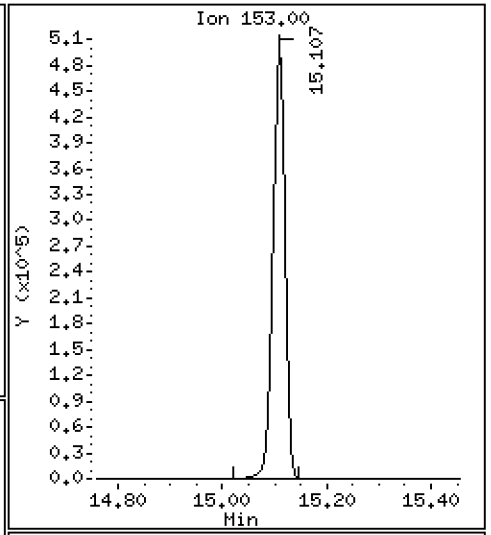
44 Acenaphthene

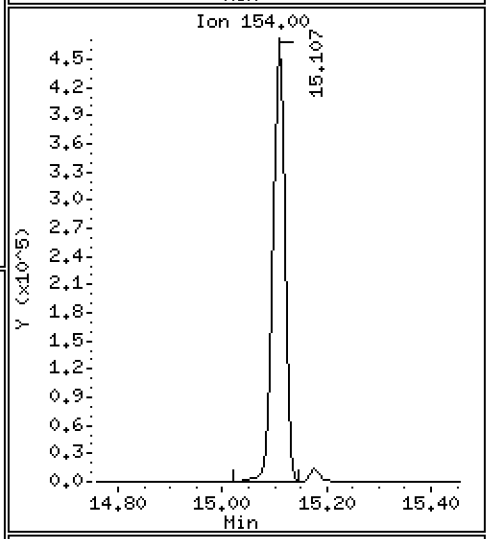
Concentration: 4.842 ug/mL

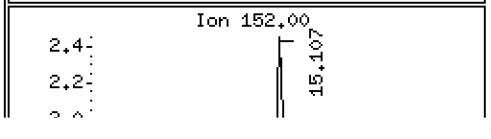












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

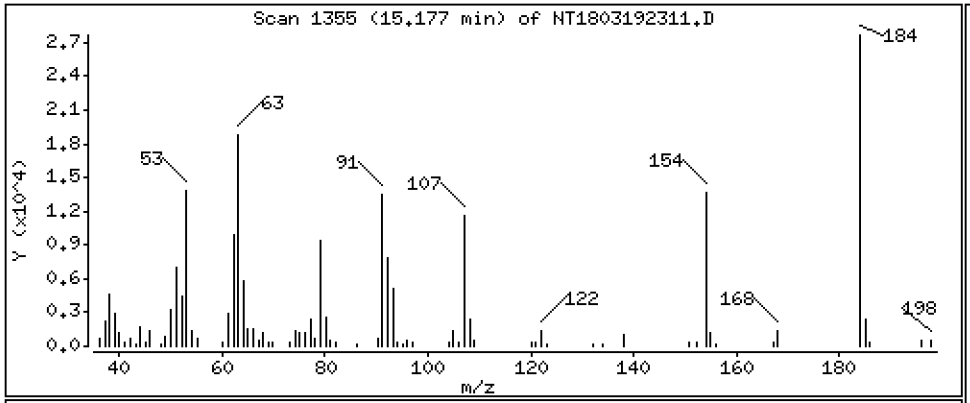
Operator: VTS

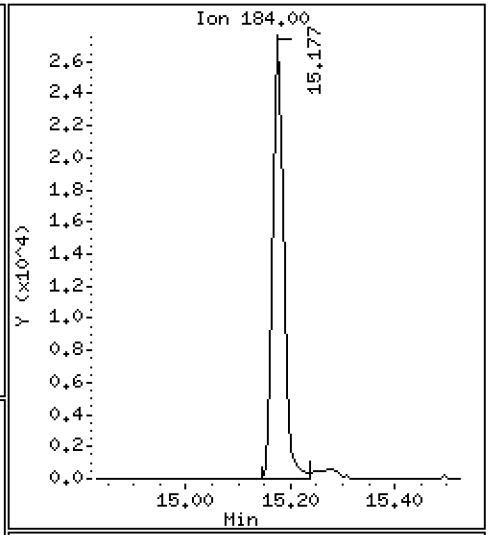
Column phase: ZB-5msi

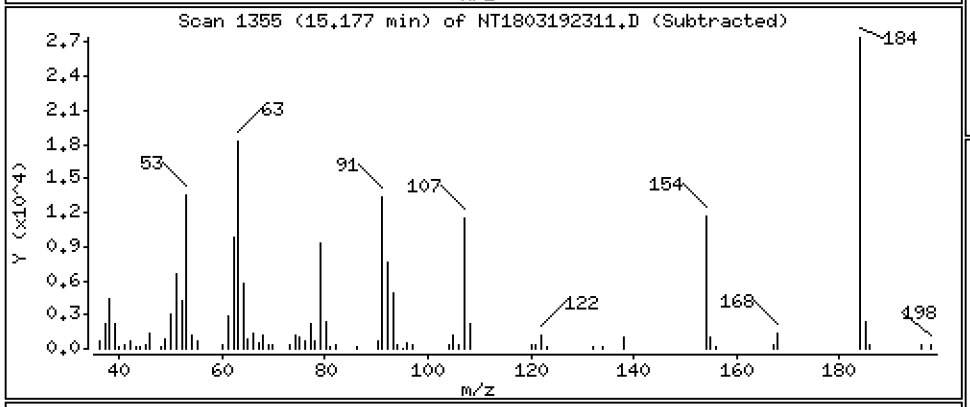
Column diameter: 0.25

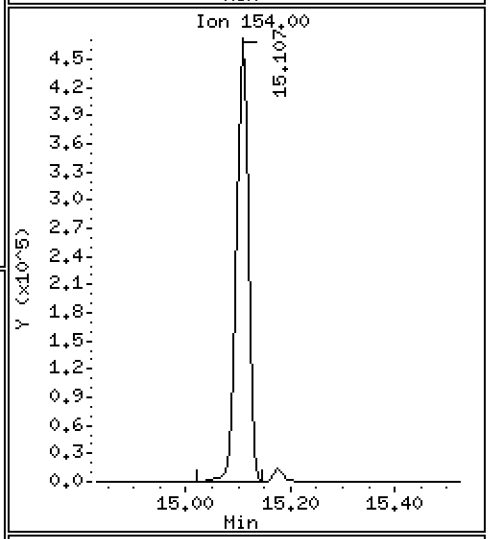
45 2,4-Dinitrophenol

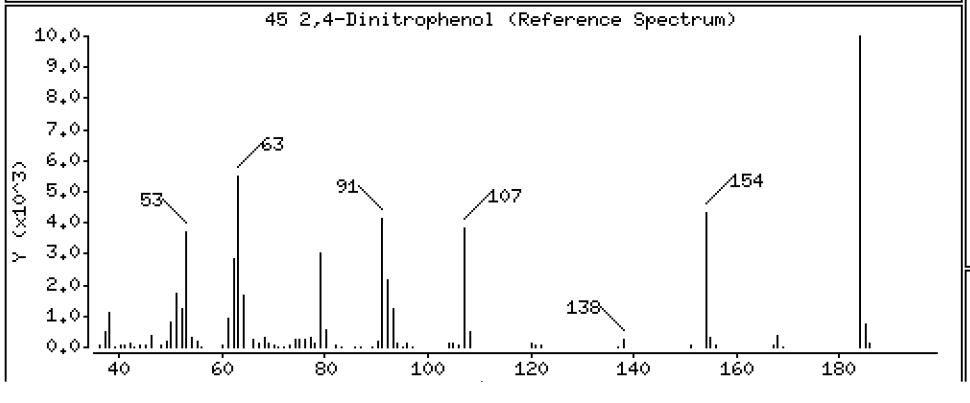
Concentration: 1.887 ug/mL

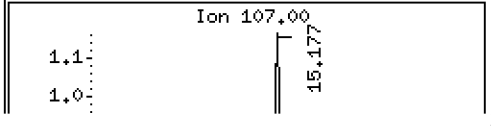












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

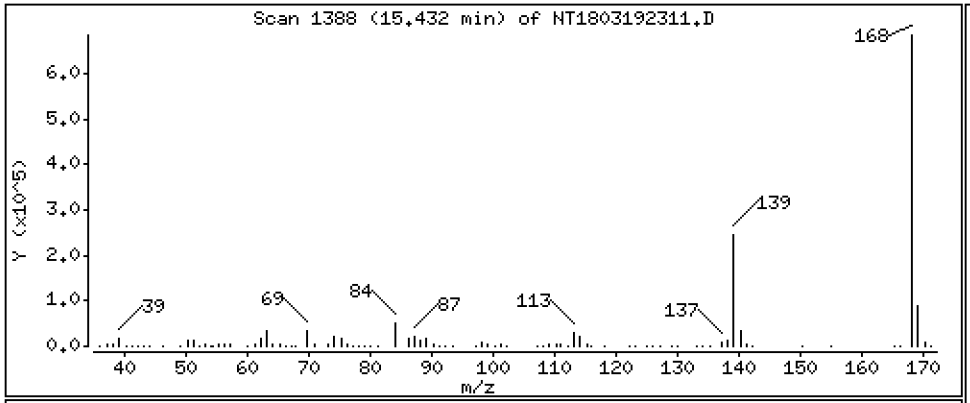
Operator: VTS

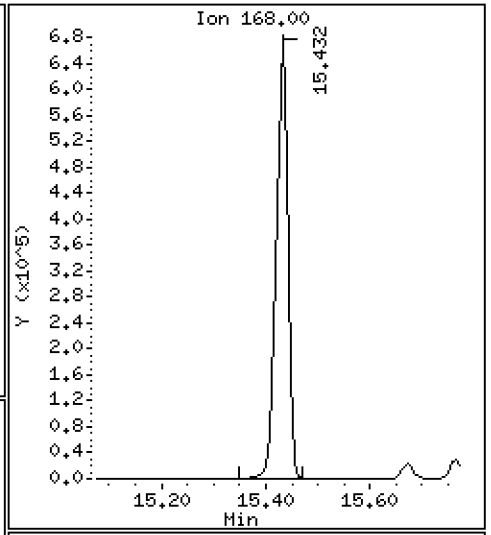
Column phase: ZB-5msi

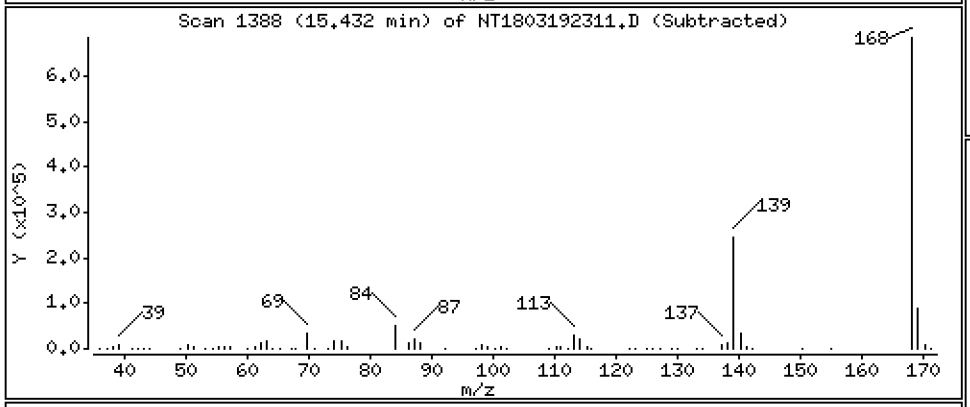
Column diameter: 0.25

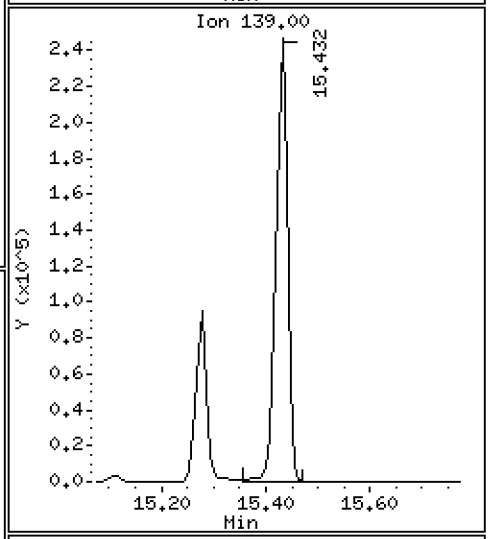
46 Dibenzofuran

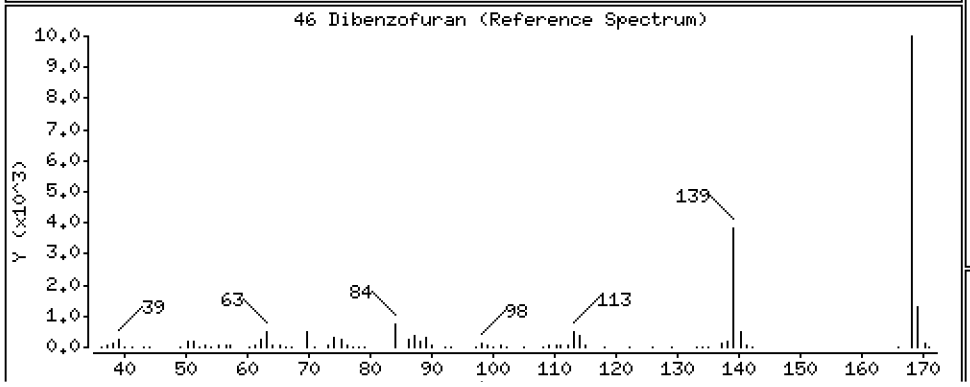
Concentration: 4.756 ug/mL

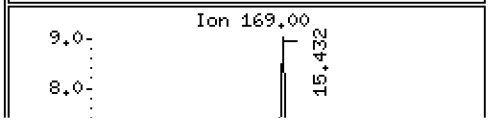












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

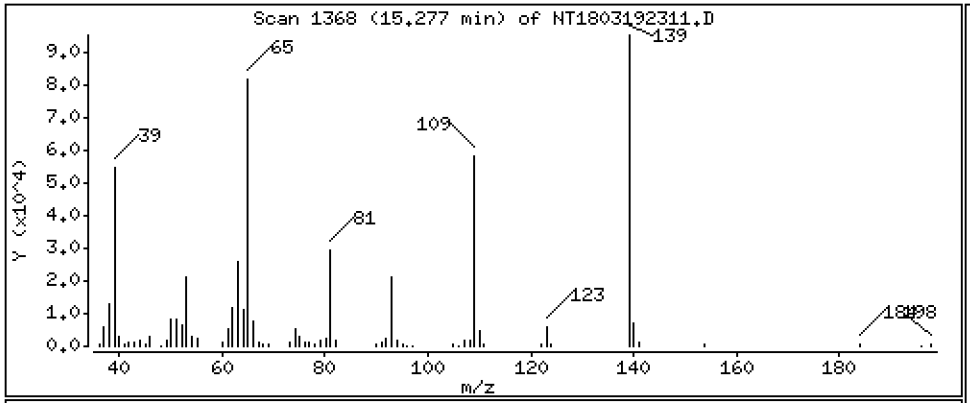
Operator: VTS

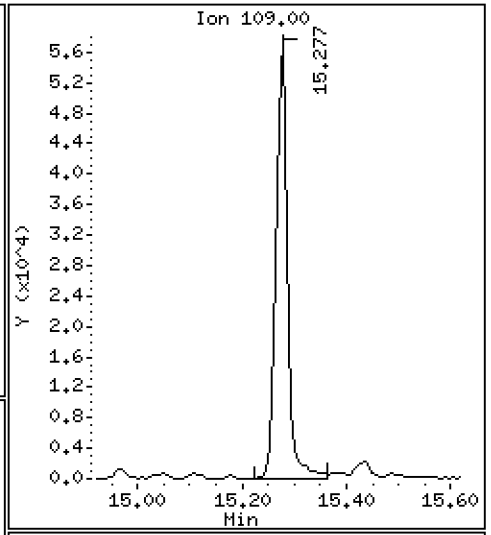
Column phase: ZB-5msi

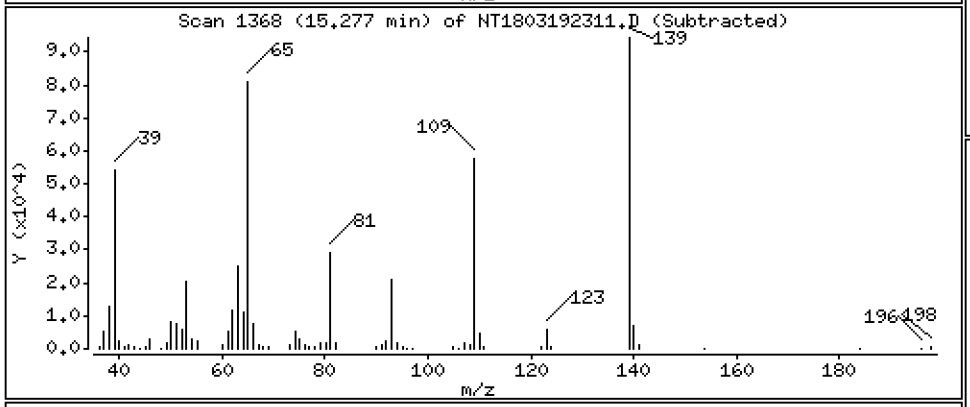
Column diameter: 0.25

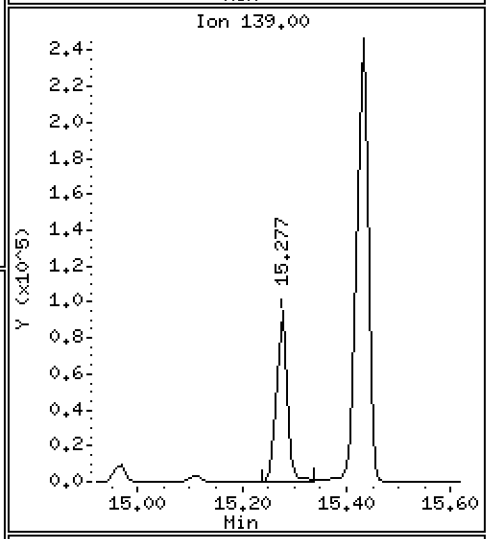
47 4-Nitrophenol

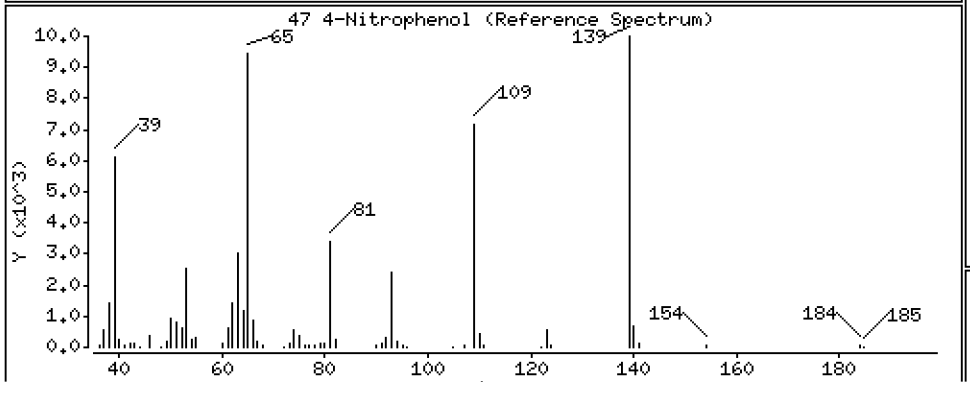
Concentration: 4.128 ug/mL

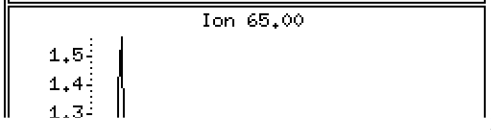












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

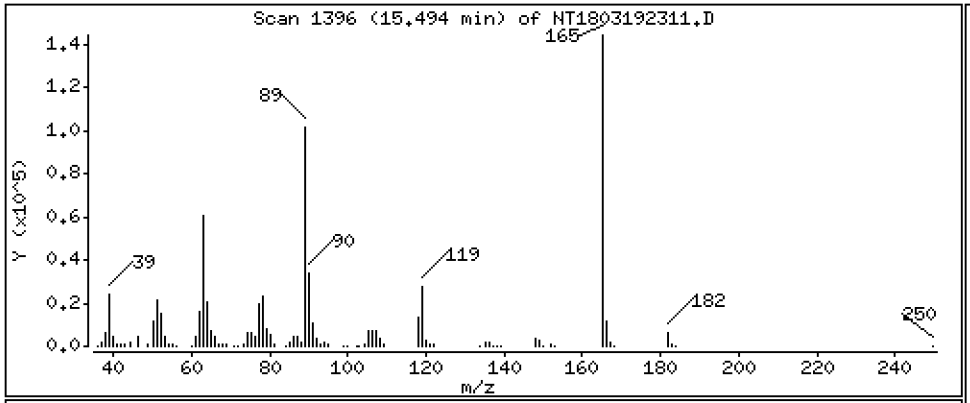
Operator: VTS

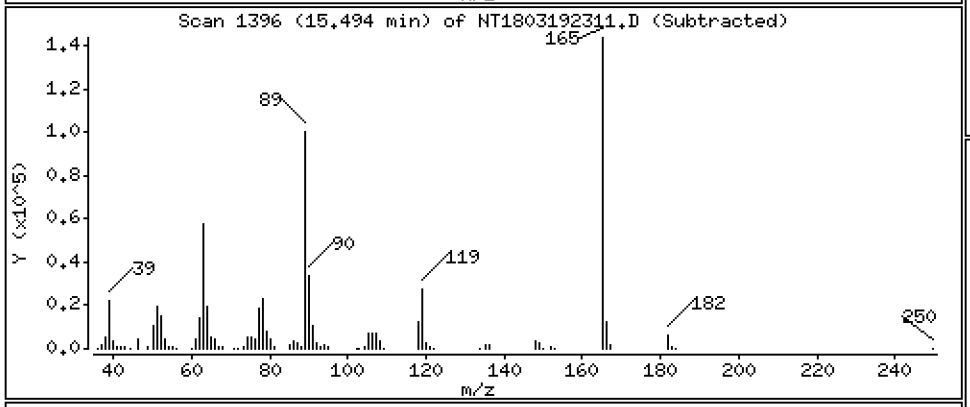
Column phase: ZB-5msi

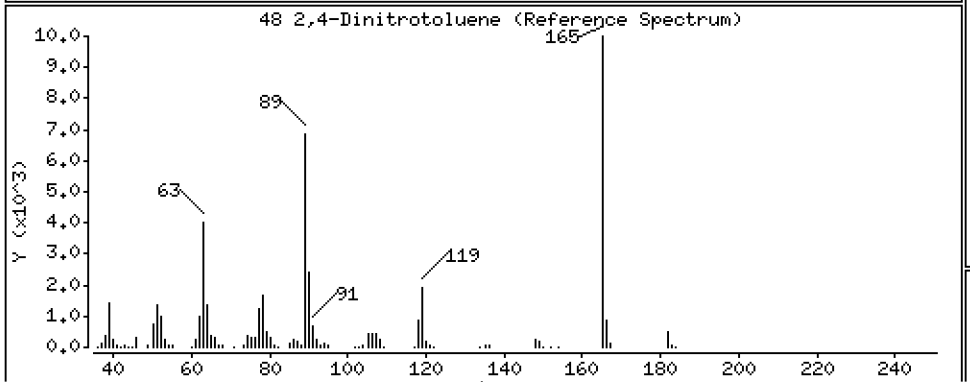
Column diameter: 0.25

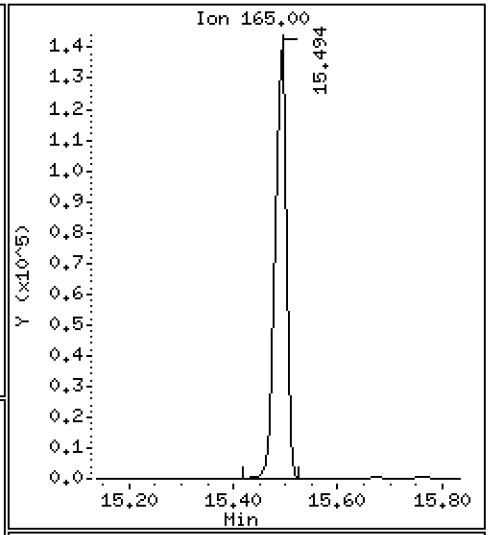
48 2,4-Dinitrotoluene

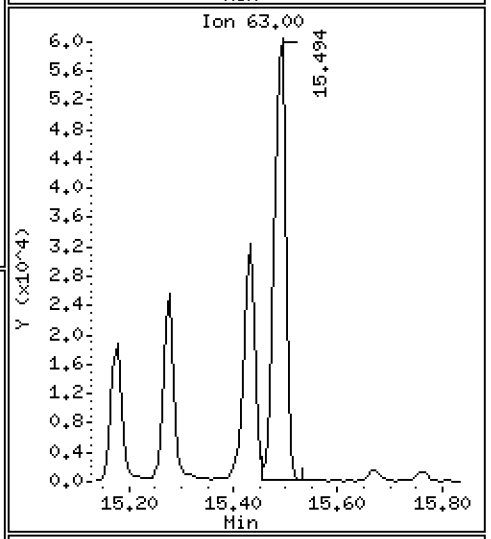
Concentration: 4.481 ug/mL

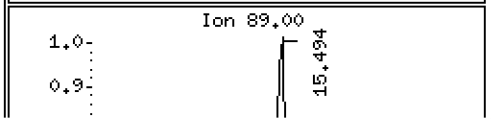












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

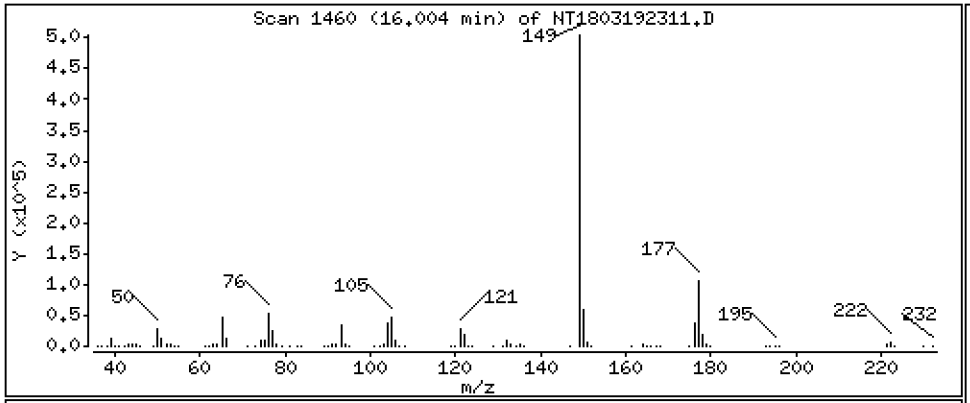
Operator: VTS

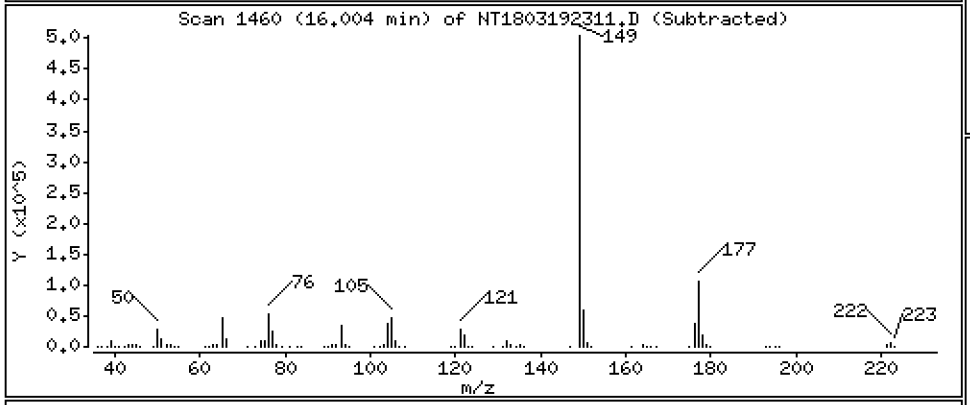
Column phase: ZB-5msi

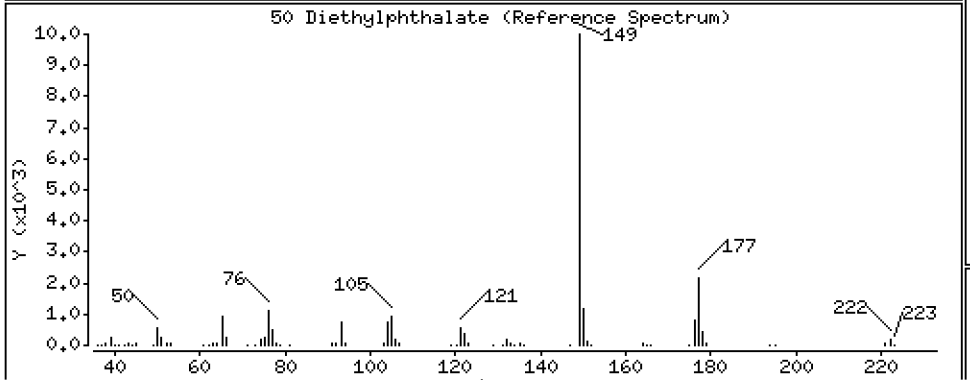
Column diameter: 0.25

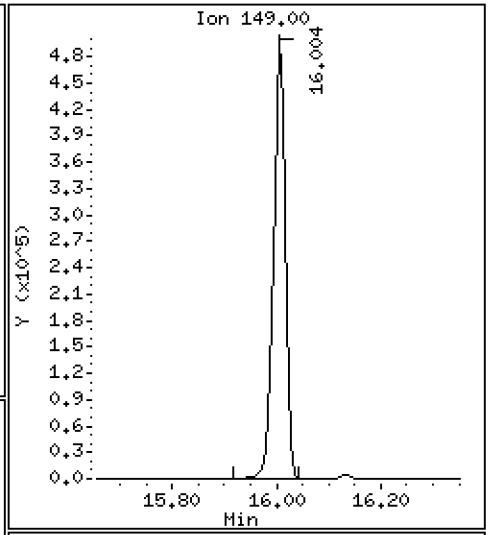
50 Diethylphthalate

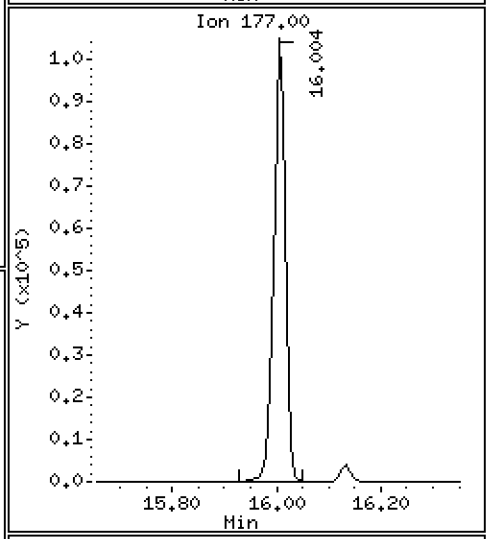
Concentration: 5.021 ug/mL

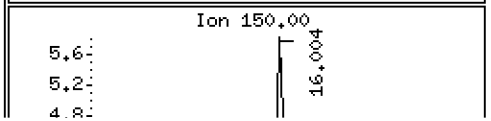












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

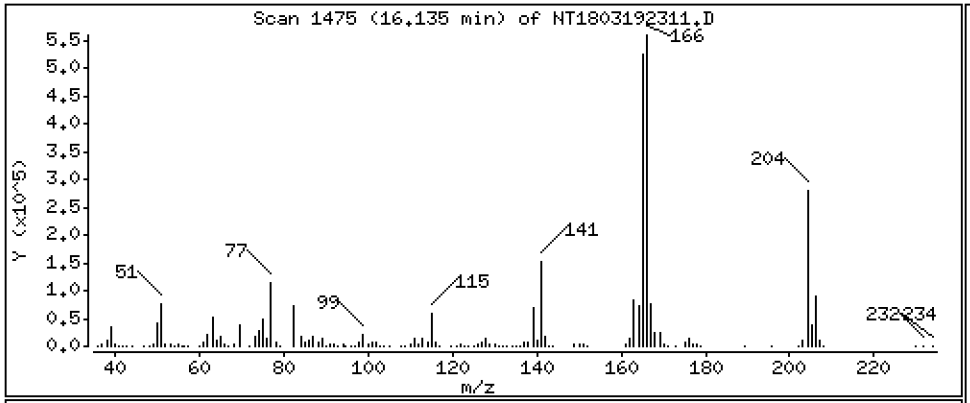
Operator: VTS

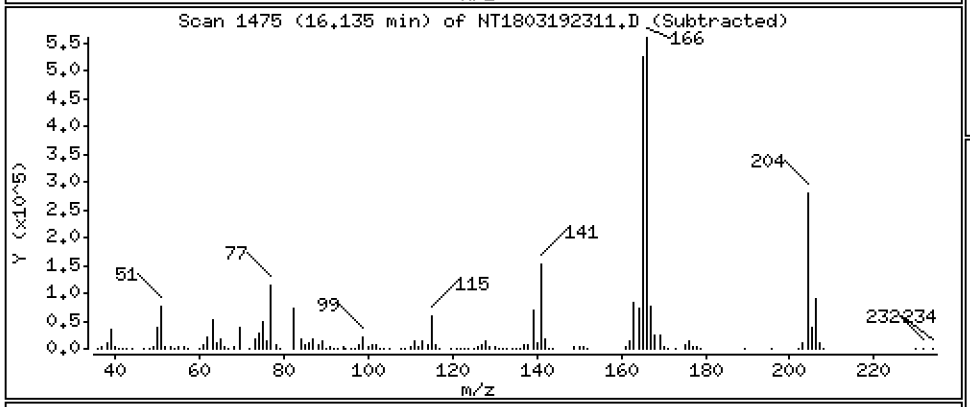
Column phase: ZB-5msi

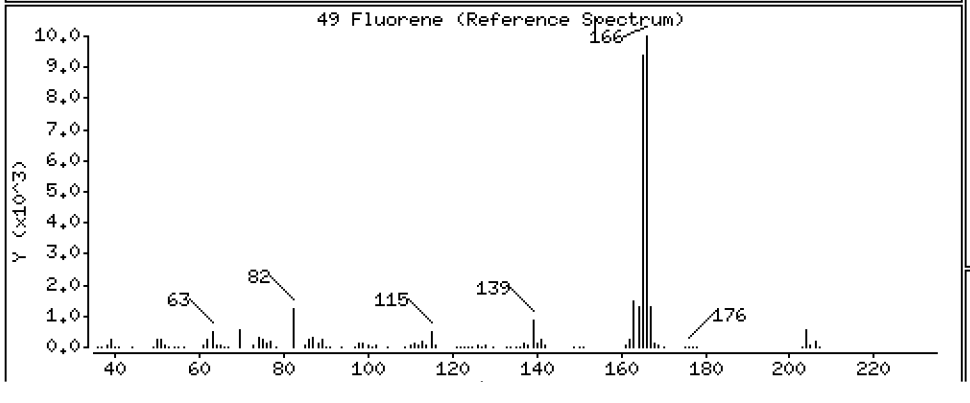
Column diameter: 0.25

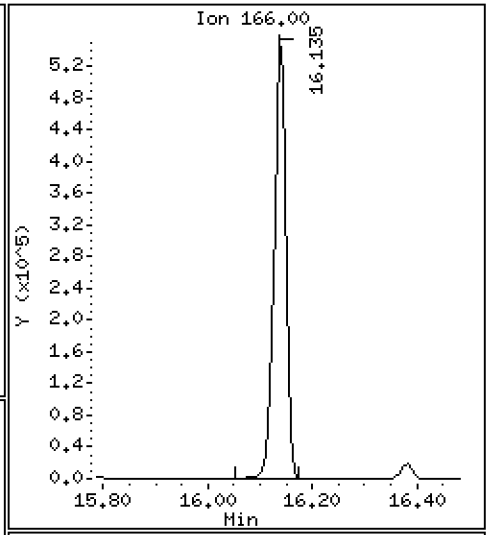
49 Fluorene

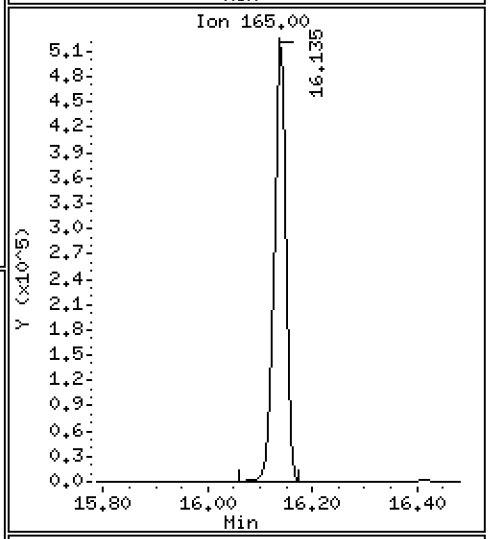
Concentration: 5.040 ug/mL

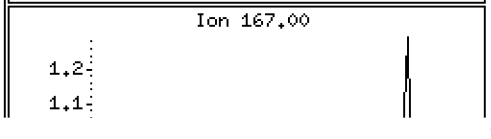












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

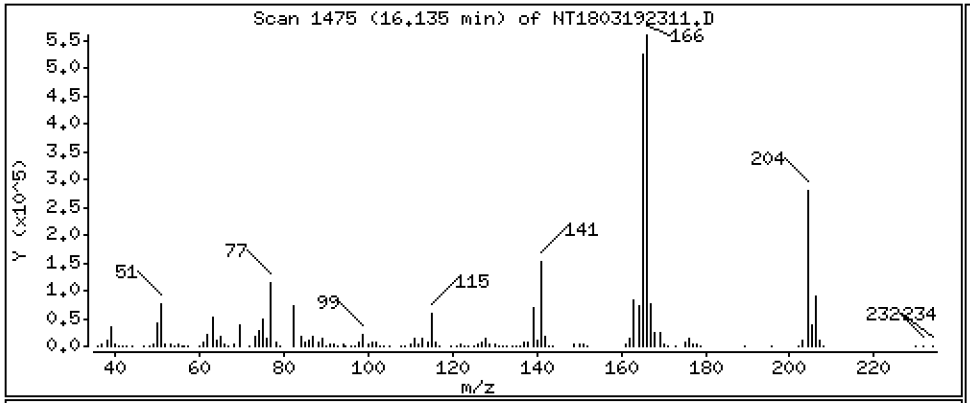
Operator: VTS

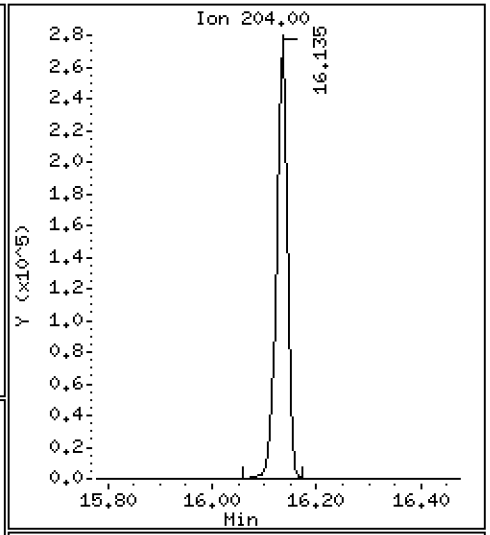
Column phase: ZB-5msi

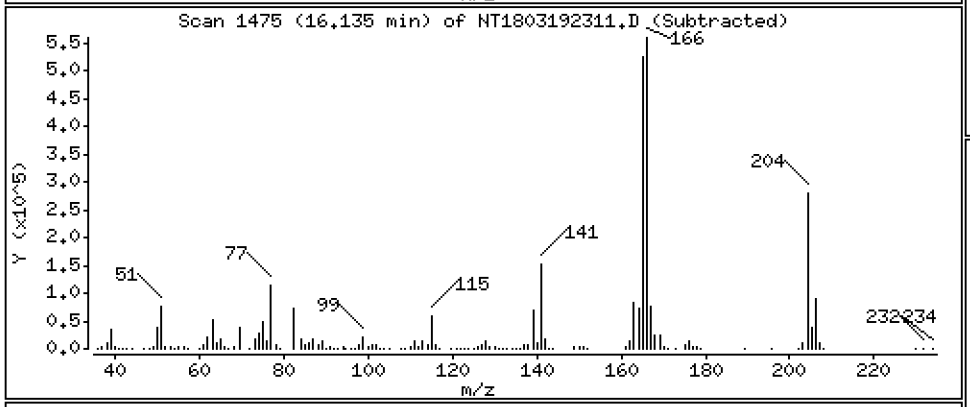
Column diameter: 0.25

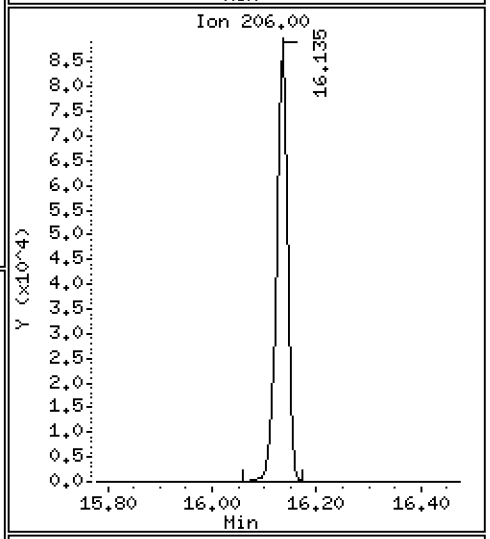
51 4-Chlorophenyl-phenylether

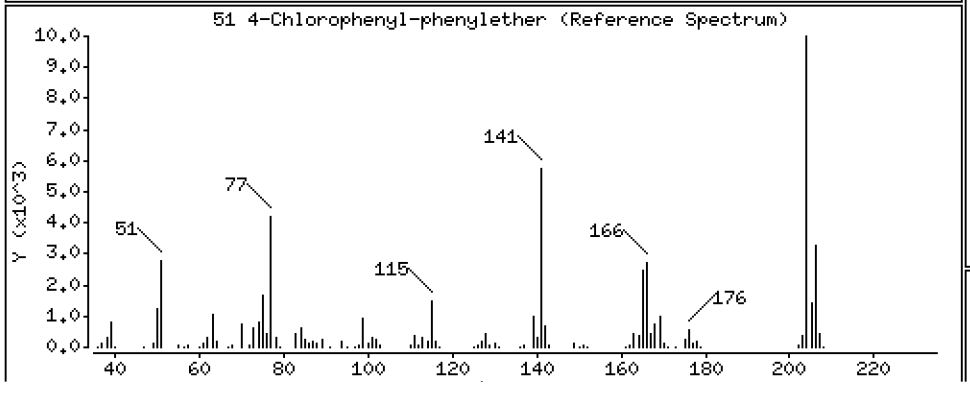
Concentration: 5.398 ug/mL

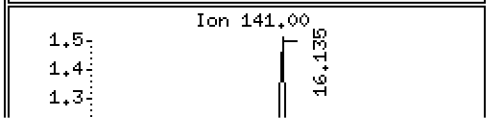












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

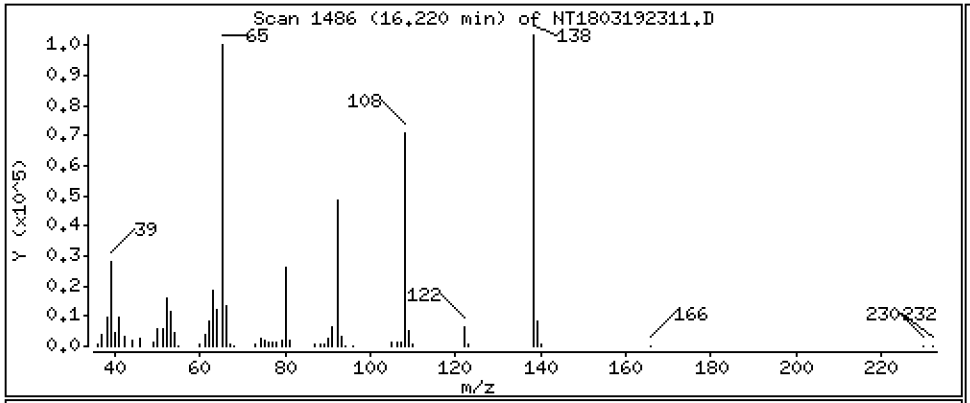
Operator: VTS

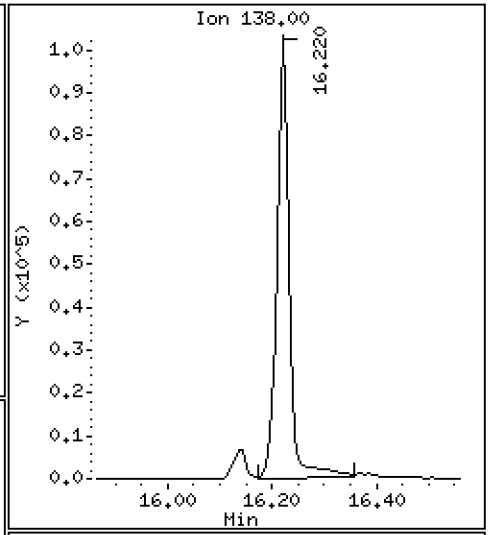
Column phase: ZB-5msi

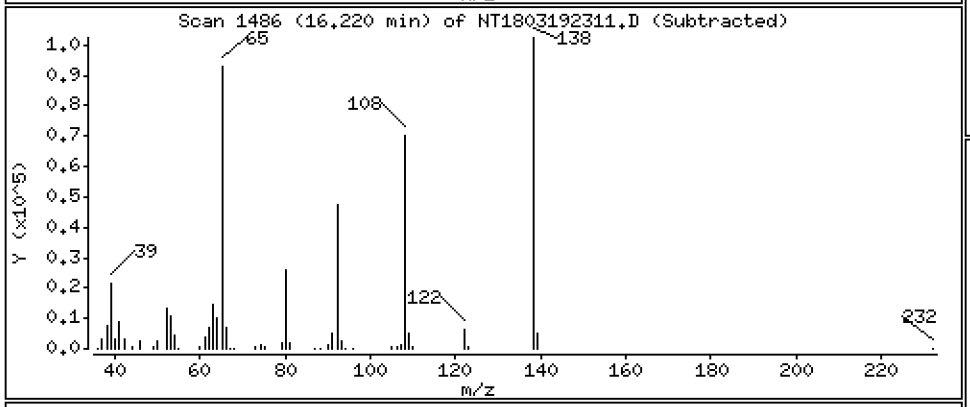
Column diameter: 0.25

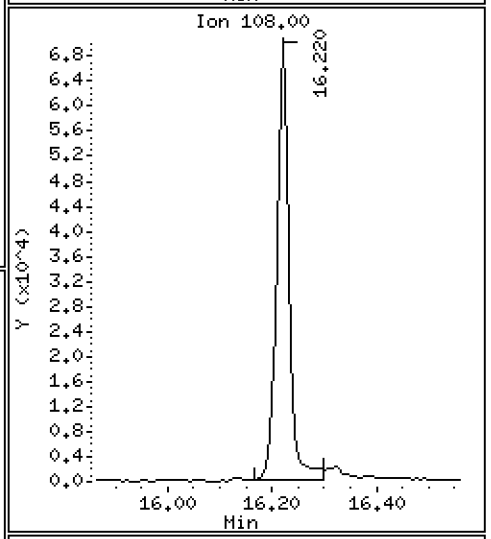
52 4-Nitroaniline

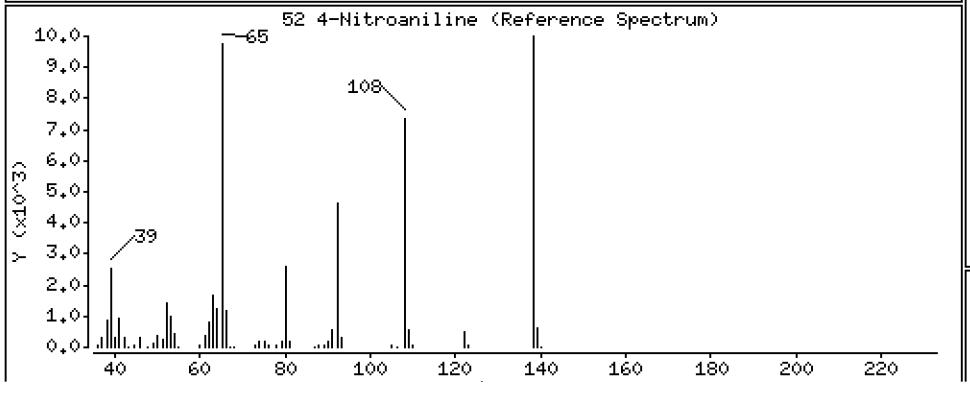
Concentration: 4.323 ug/mL

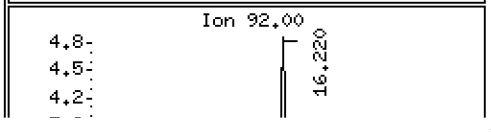












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

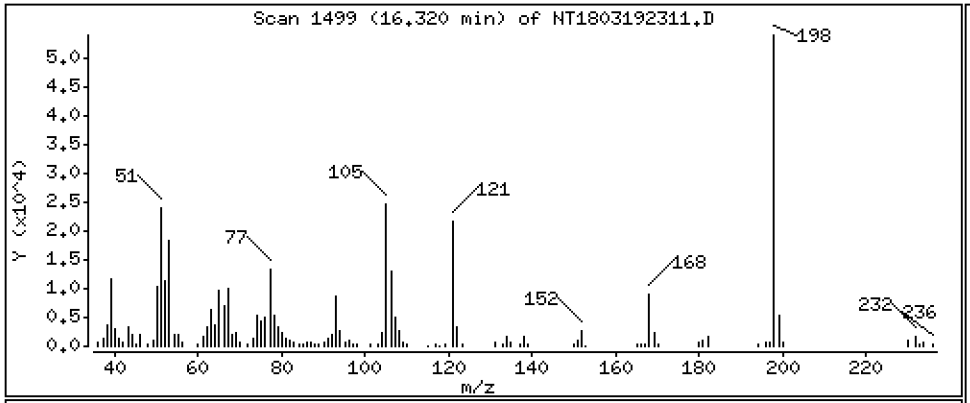
Operator: VTS

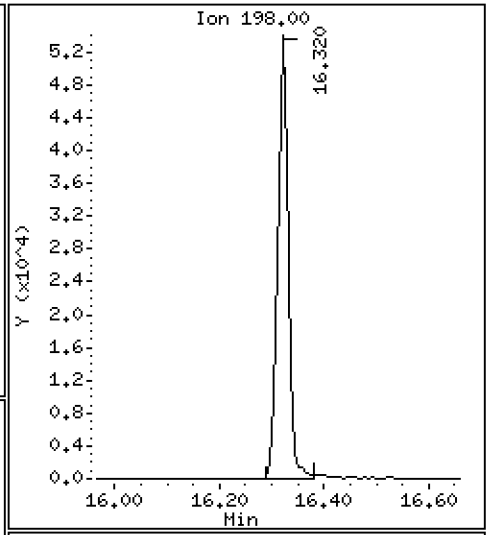
Column phase: ZB-5msi

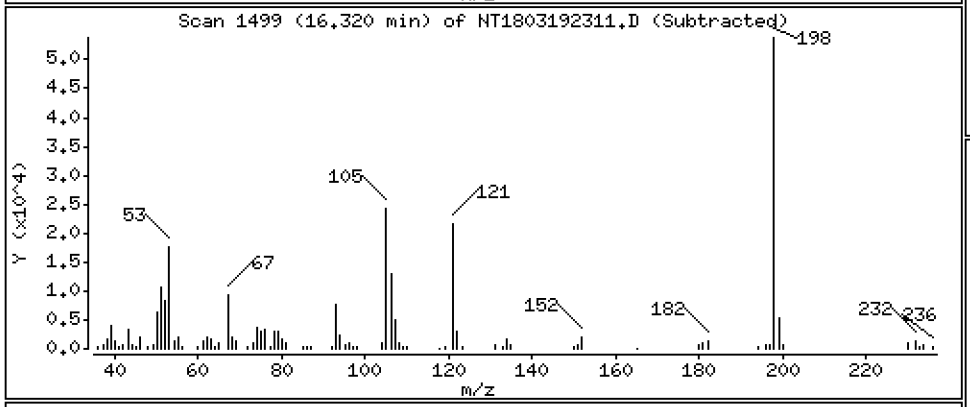
Column diameter: 0.25

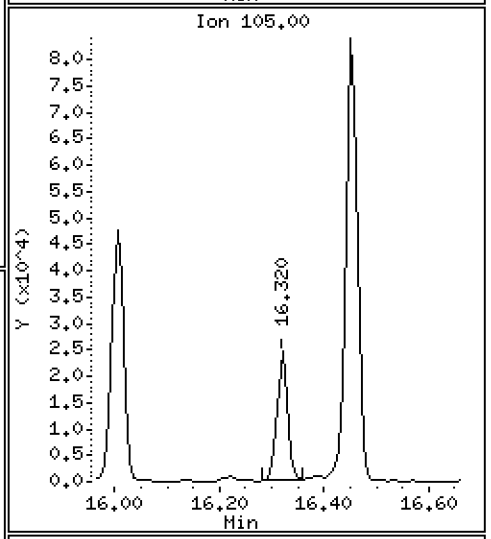
53 4,6-Dinitro-2-methylphenol

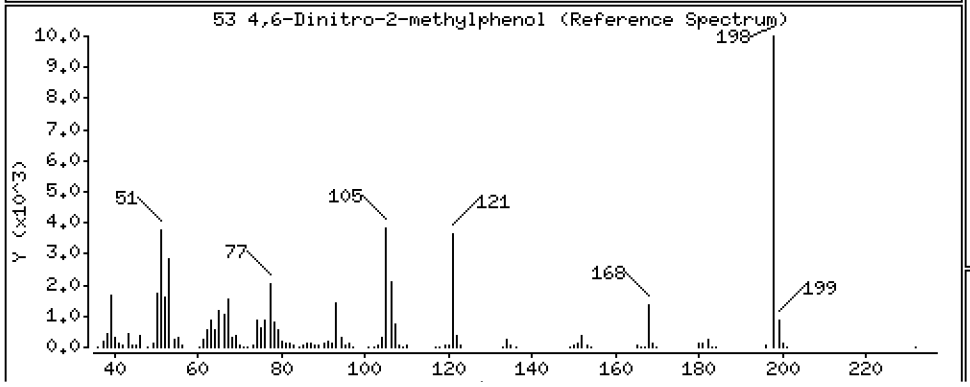
Concentration: 3.088 ug/mL

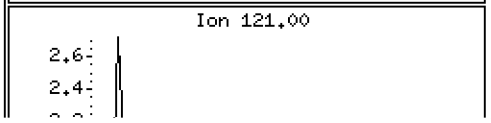












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

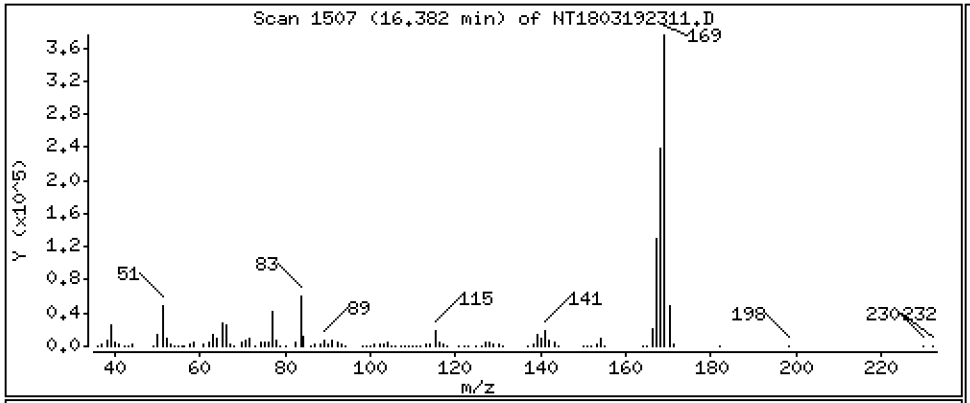
Operator: VTS

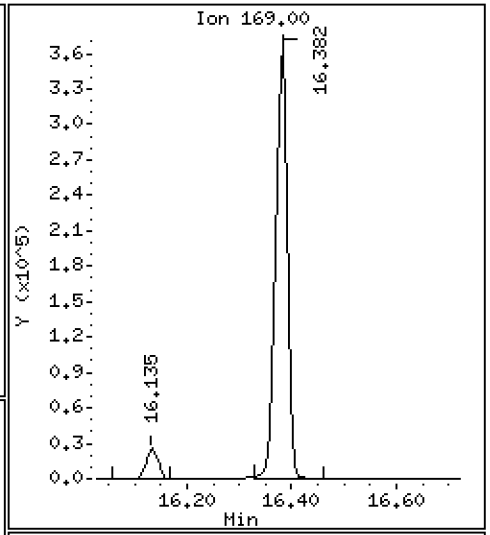
Column phase: ZB-5msi

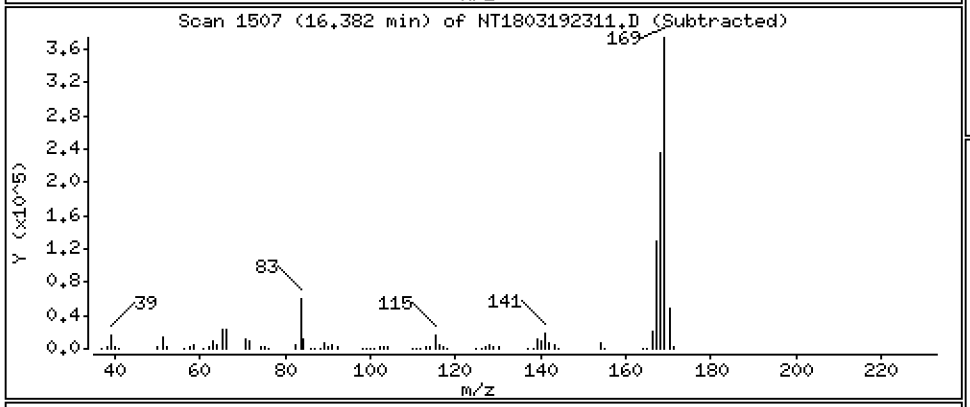
Column diameter: 0.25

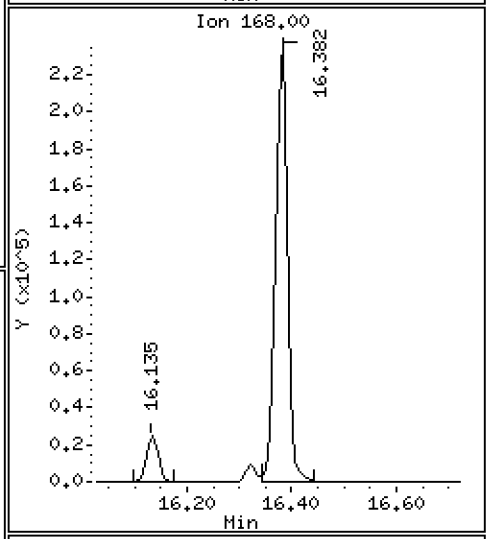
54 N-Nitrosodiphenylamine

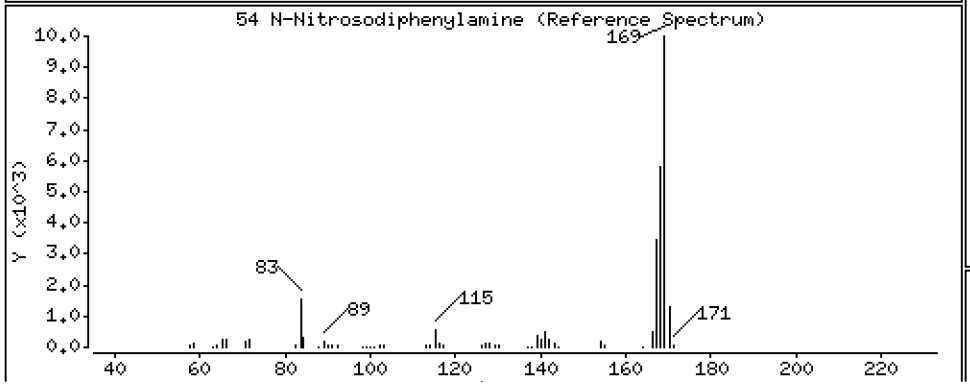
Concentration: 5.077 ug/mL

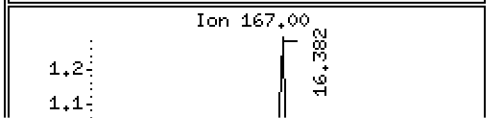












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

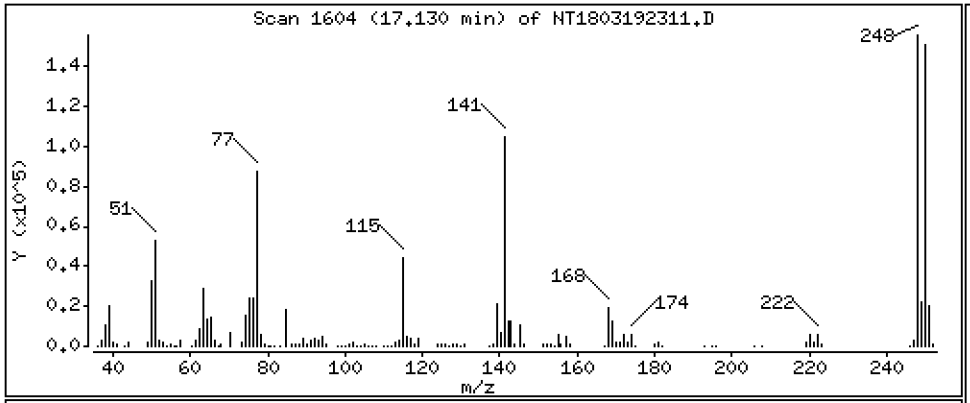
Operator: VTS

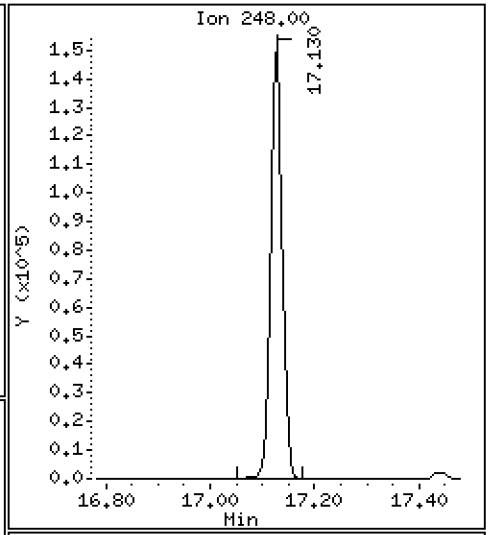
Column phase: ZB-5msi

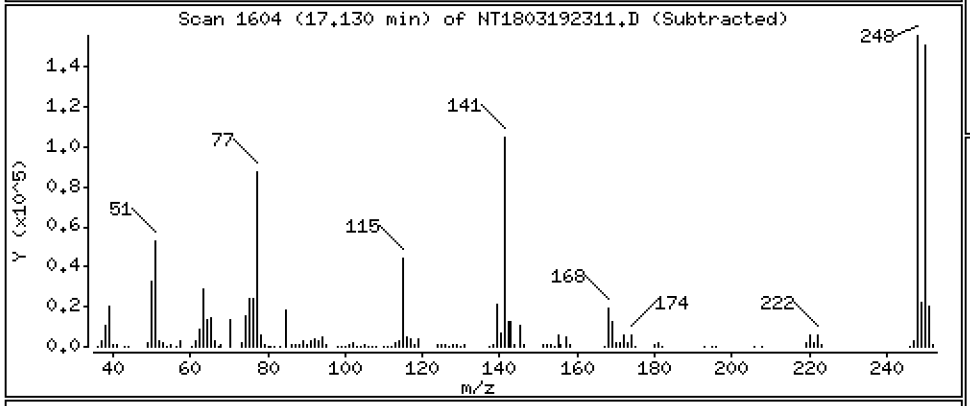
Column diameter: 0.25

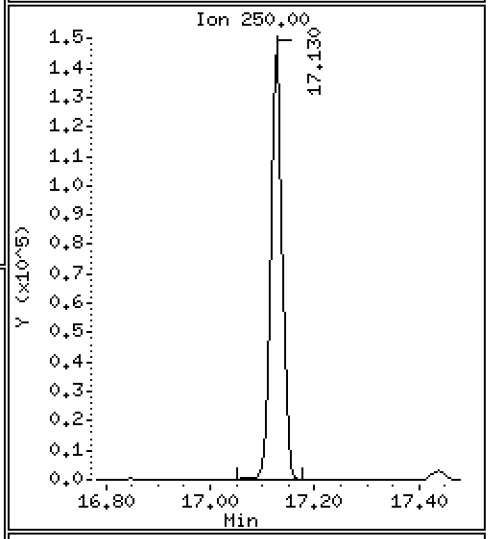
56 4-Bromophenyl-phenylether

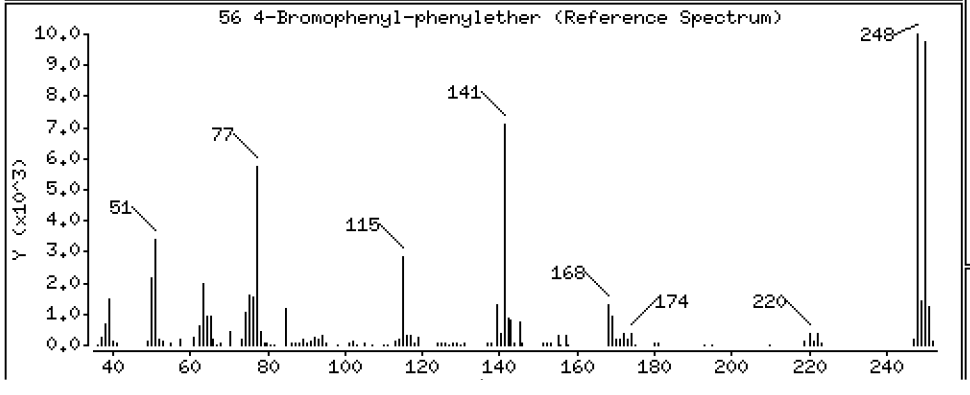
Concentration: 5.335 ug/mL

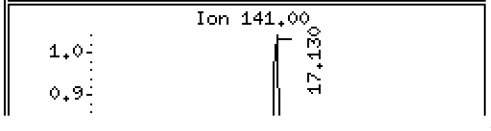












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

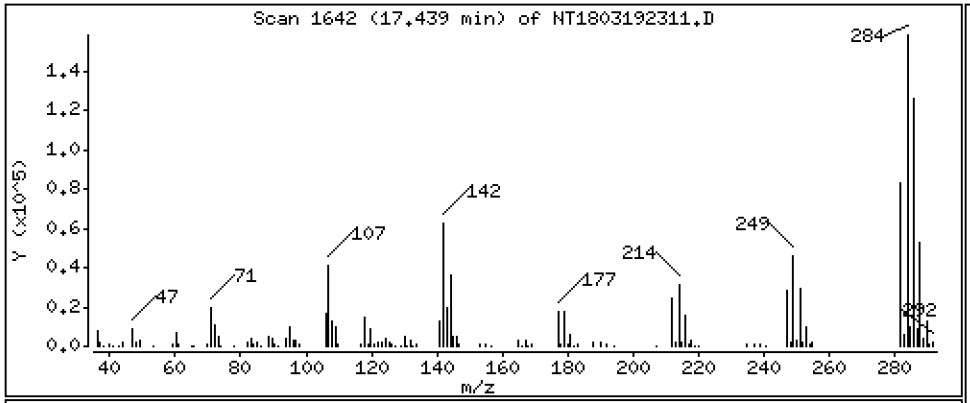
Operator: VTS

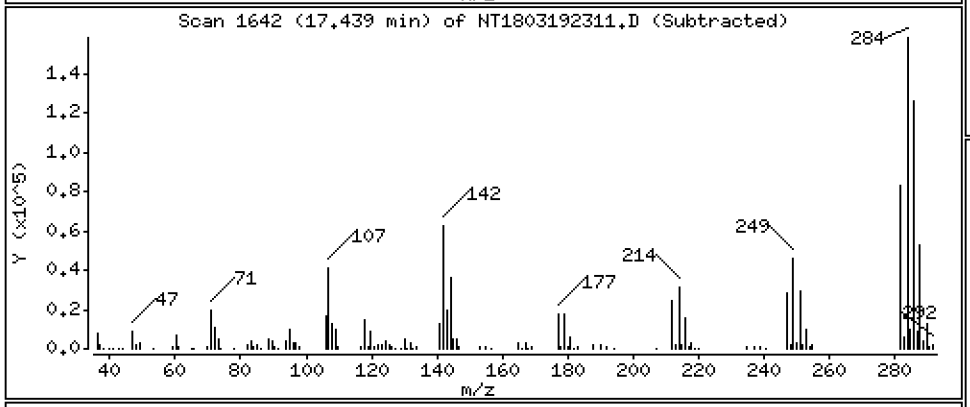
Column phase: ZB-5msi

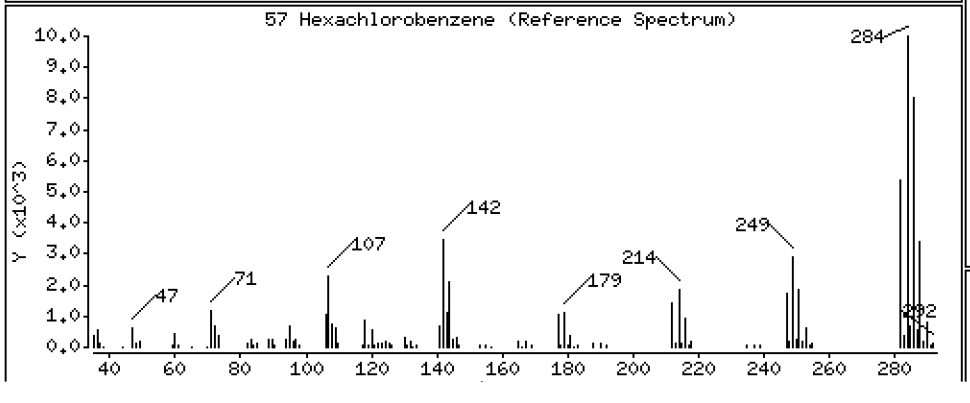
Column diameter: 0.25

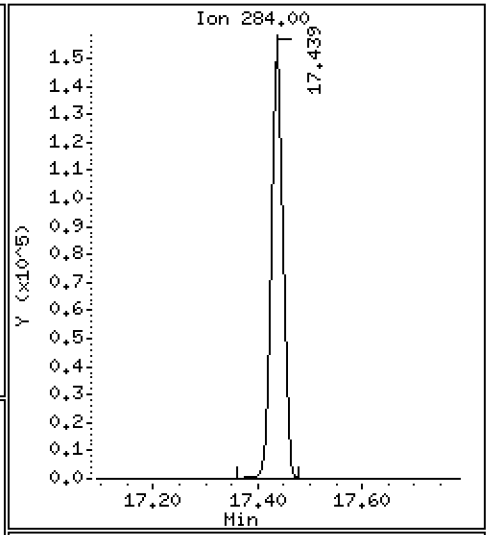
57 Hexachlorobenzene

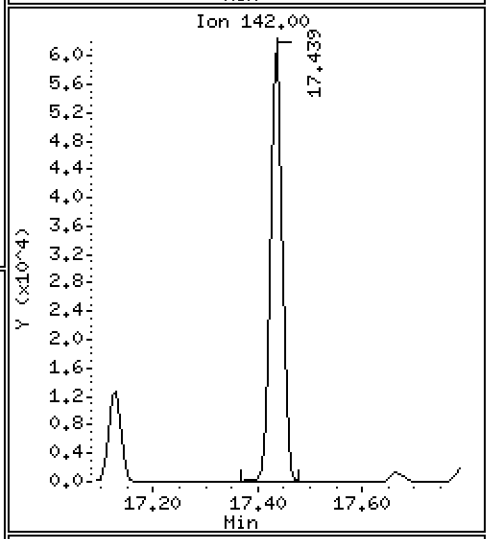
Concentration: 4.899 ug/mL

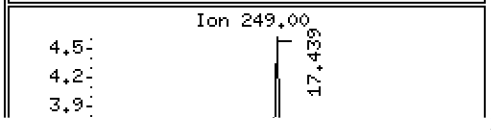












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

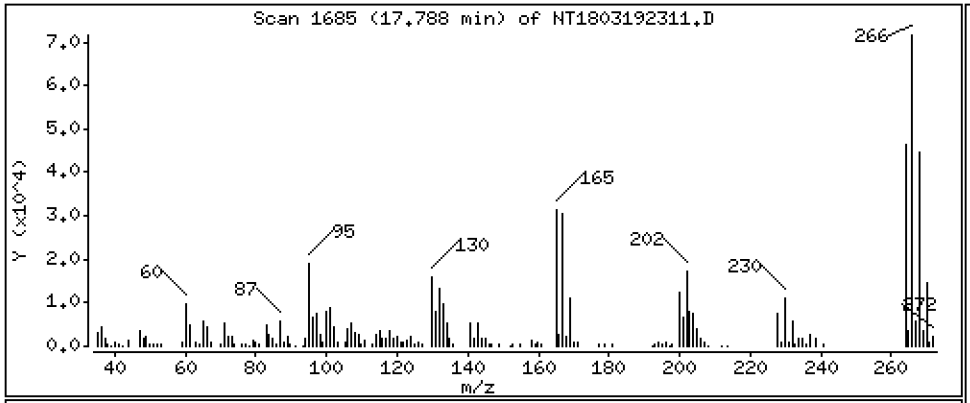
Operator: VTS

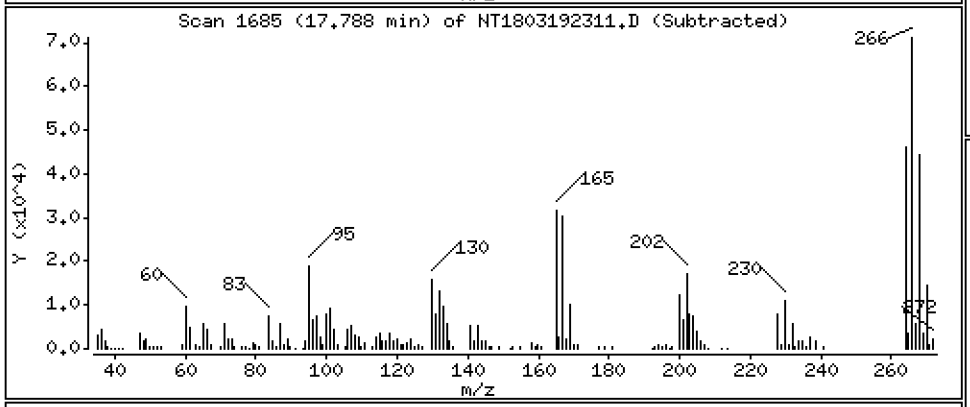
Column phase: ZB-5msi

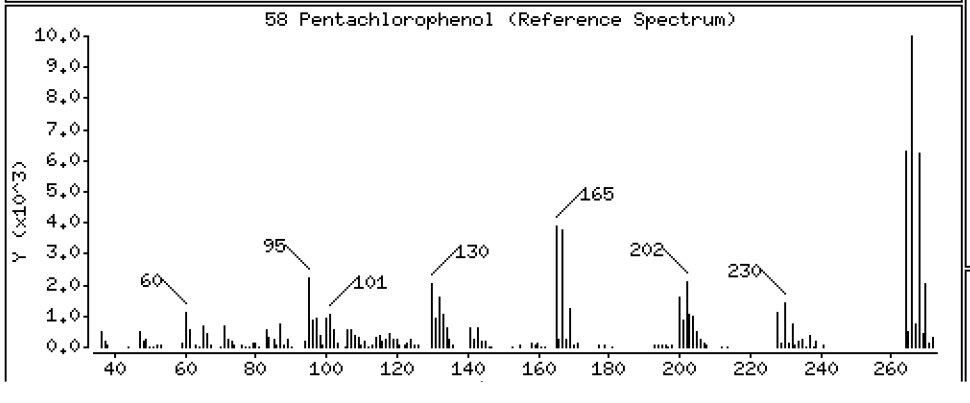
Column diameter: 0.25

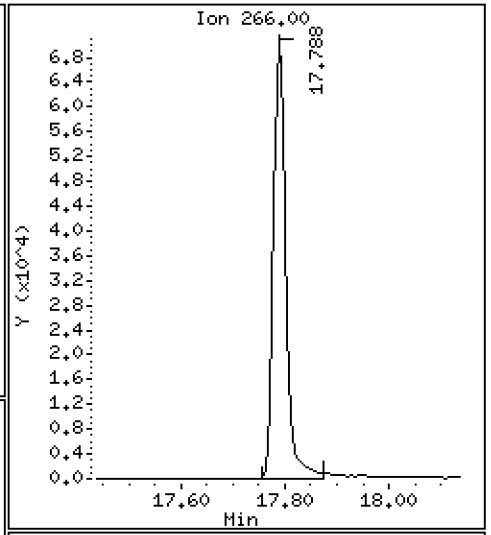
58 Pentachlorophenol

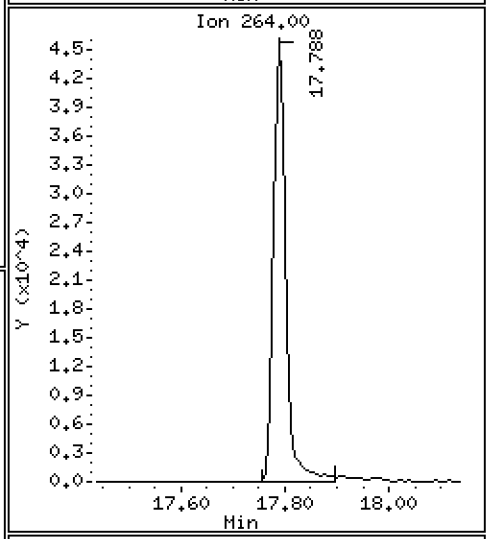
Concentration: 3.802 ug/mL

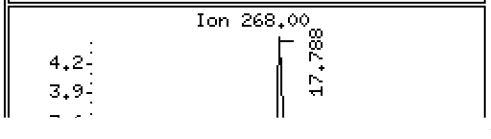












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

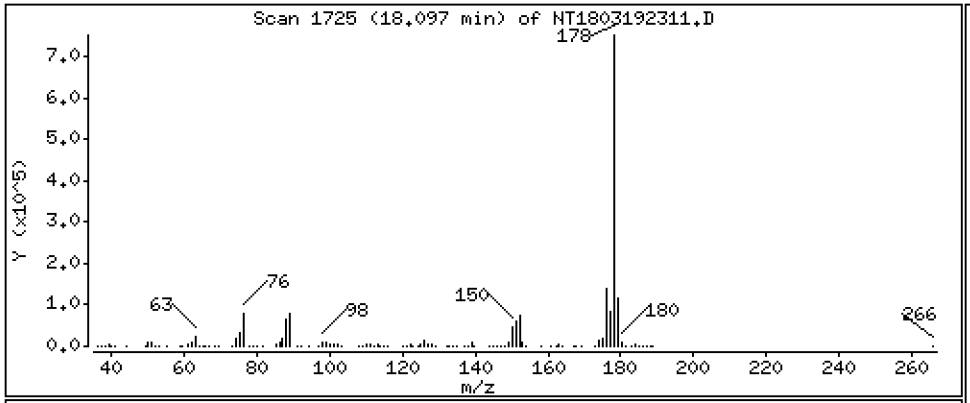
Operator: VTS

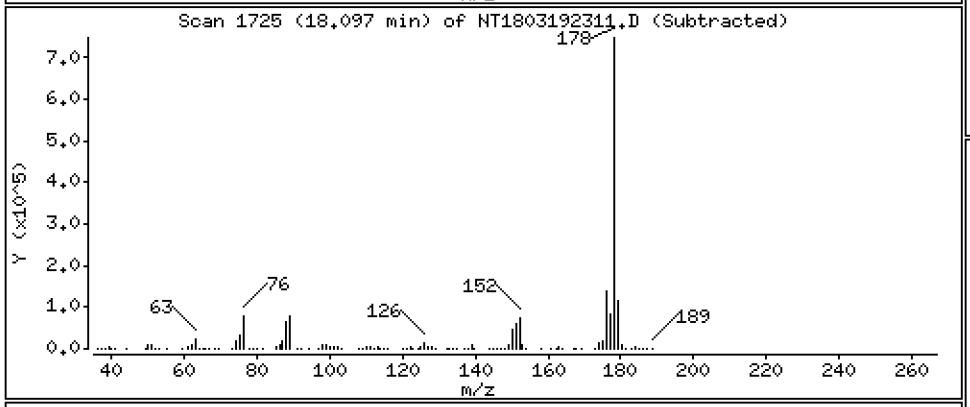
Column phase: ZB-5msi

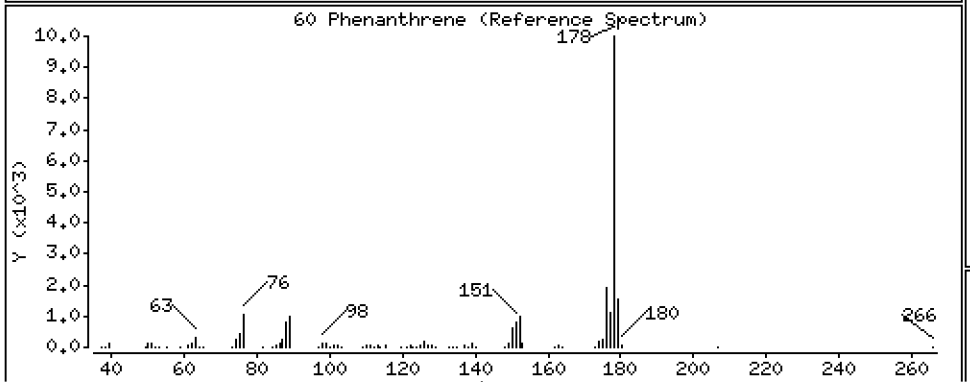
Column diameter: 0.25

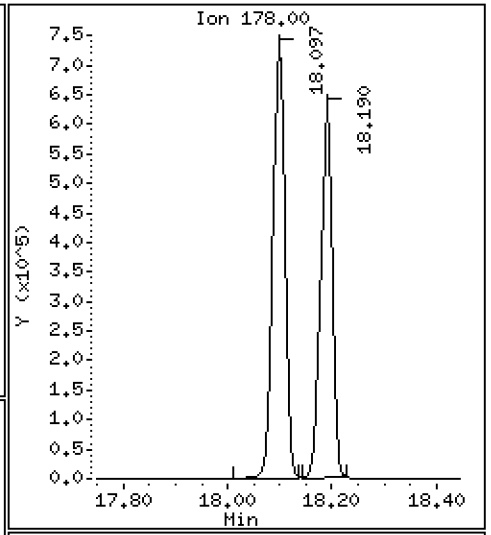
60 Phenanthrene

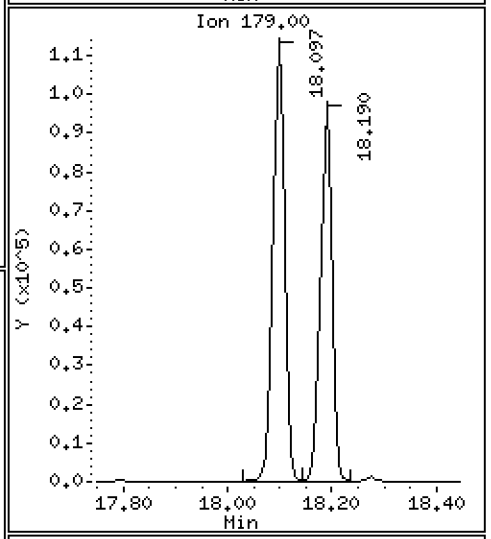
Concentration: 4.825 ug/mL

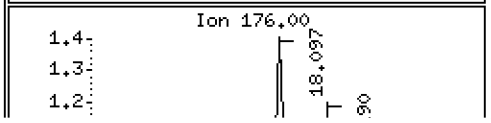












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

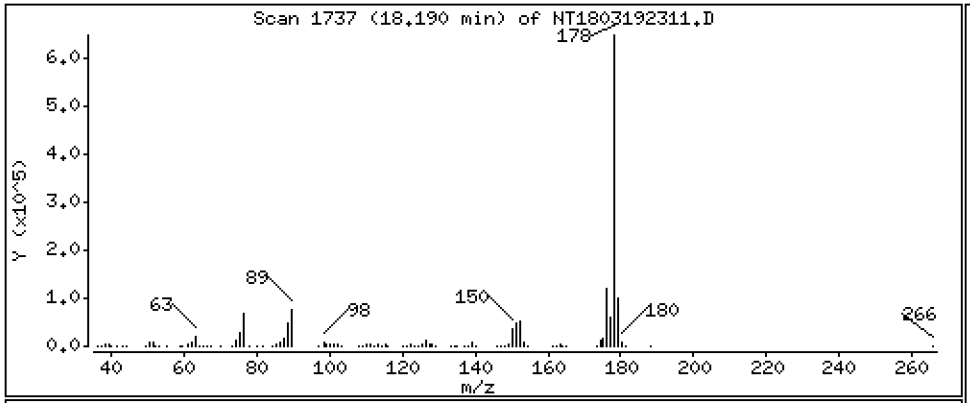
Operator: VTS

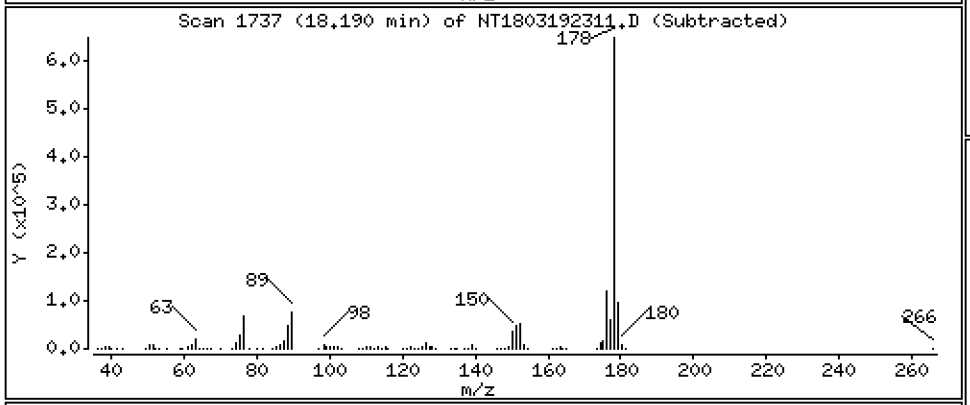
Column phase: ZB-5msi

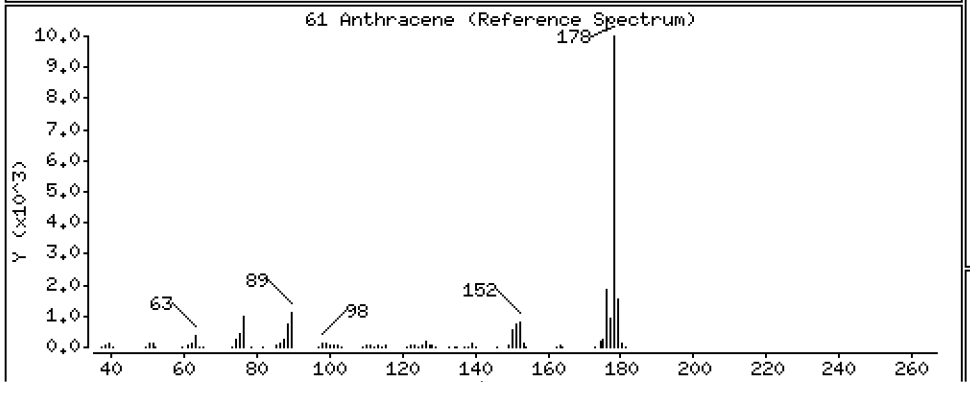
Column diameter: 0.25

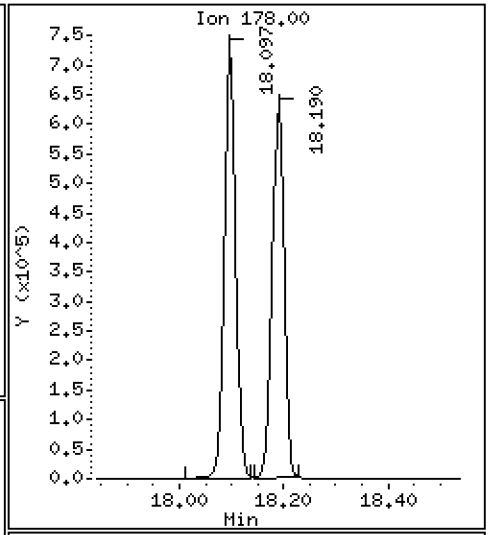
61 Anthracene

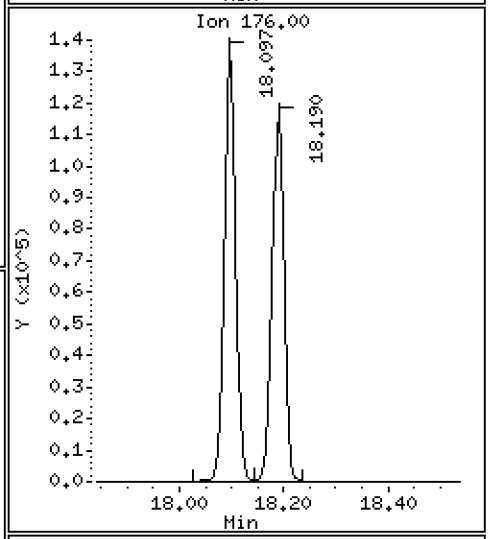
Concentration: 4.270 ug/mL

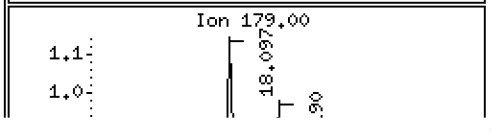












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

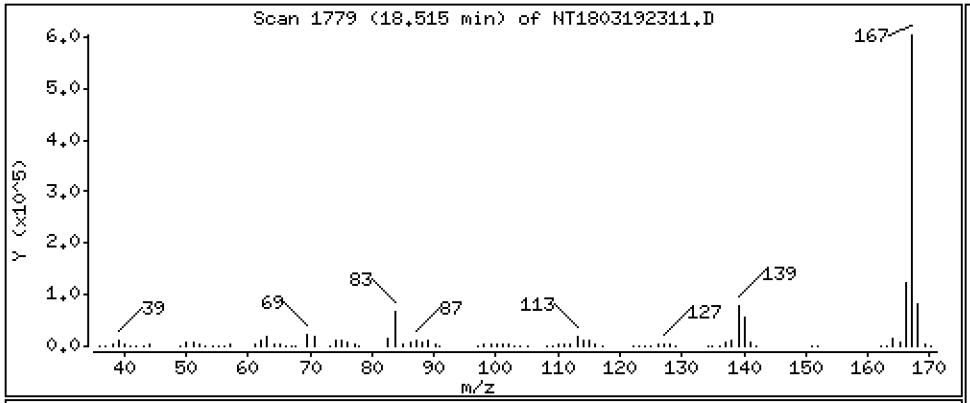
Operator: VTS

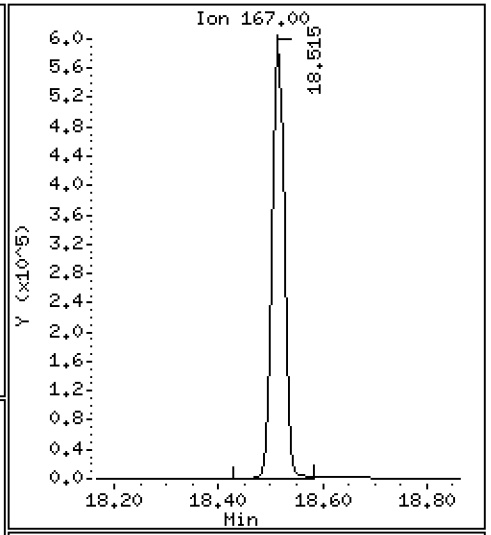
Column phase: ZB-5msi

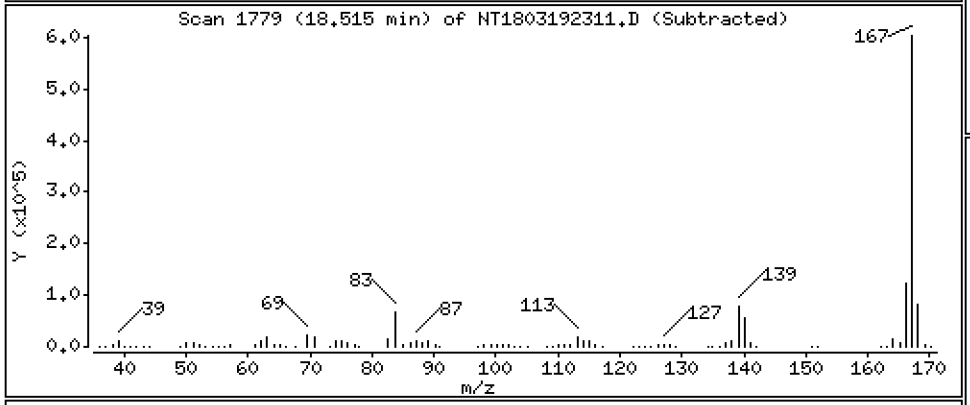
Column diameter: 0.25

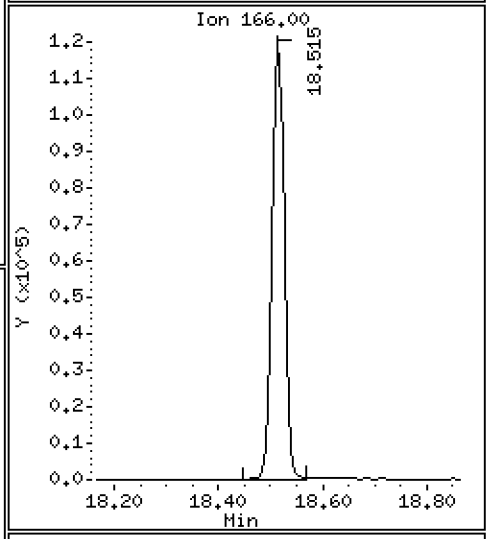
62 Carbazole

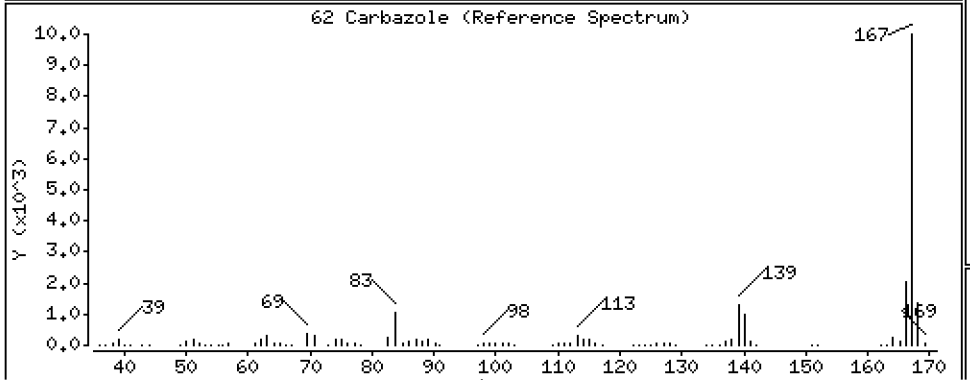
Concentration: 4.679 ug/mL

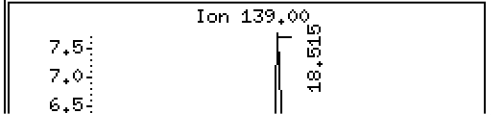












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

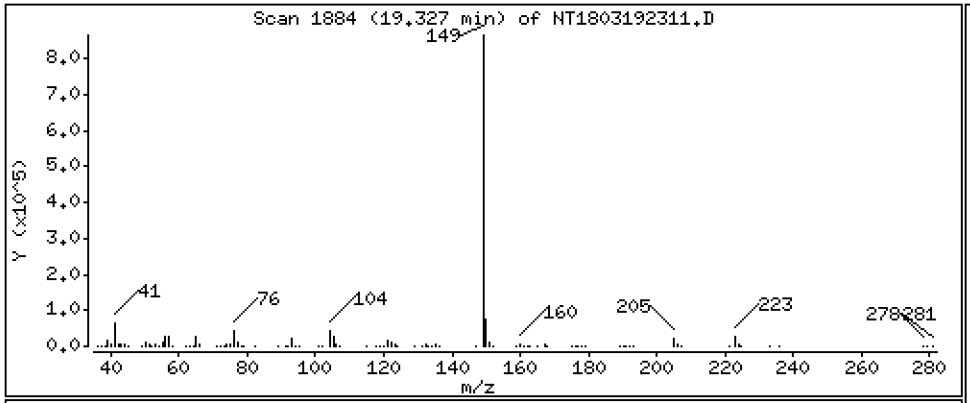
Operator: VTS

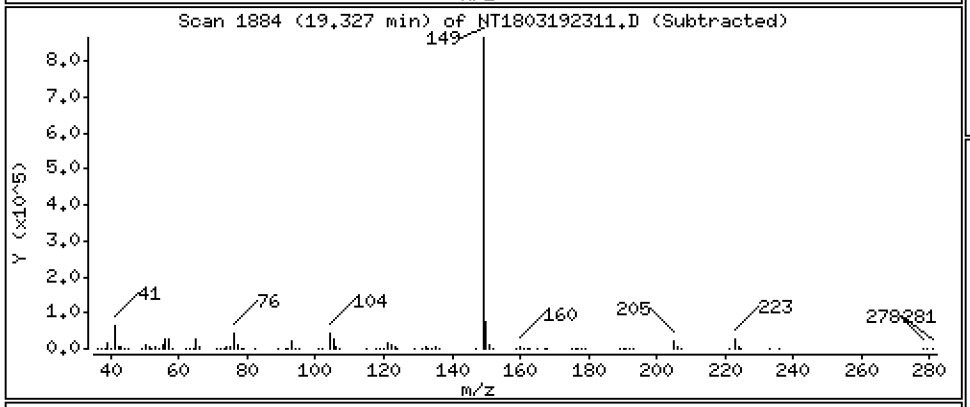
Column phase: ZB-5msi

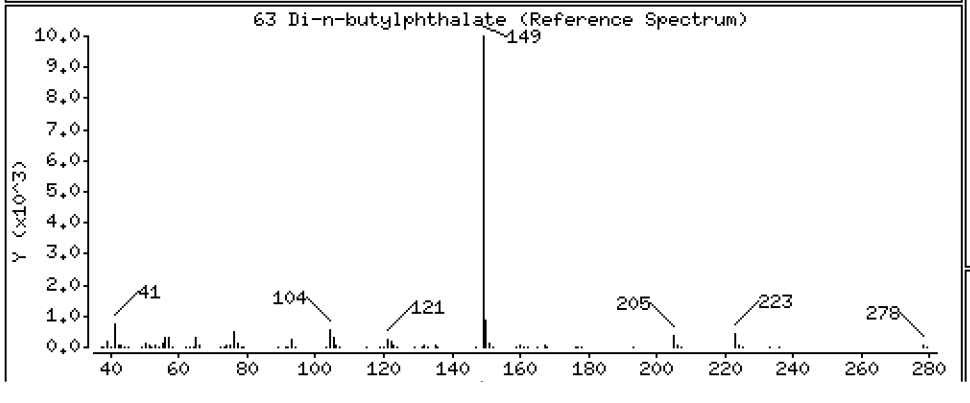
Column diameter: 0.25

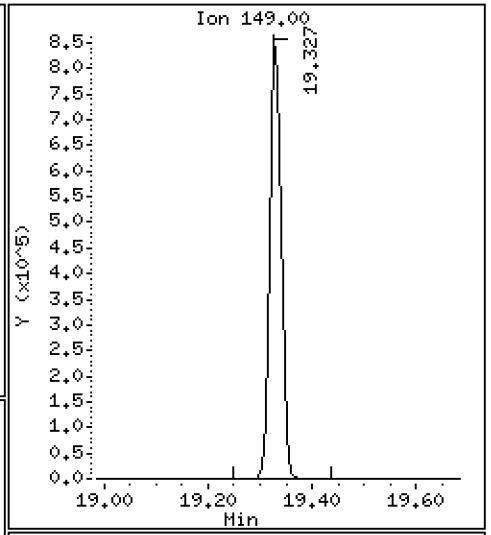
63 Di-n-butylphthalate

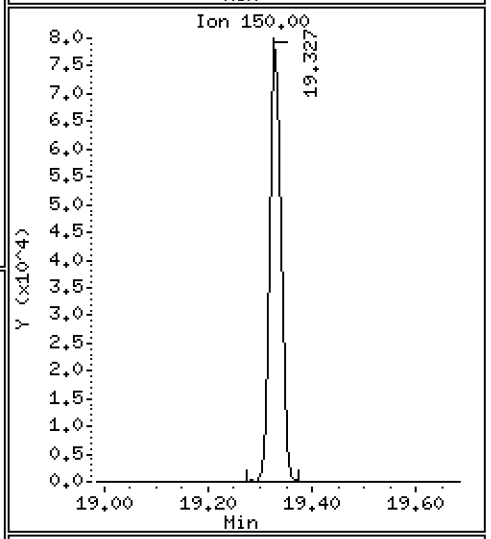
Concentration: 4.839 ug/mL

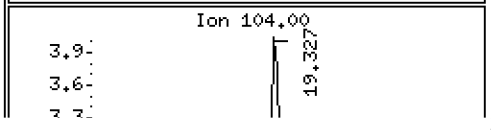












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

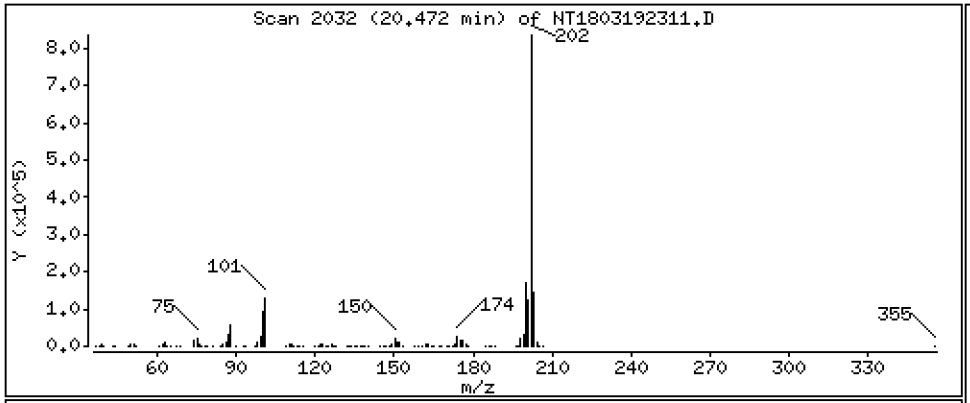
Operator: VTS

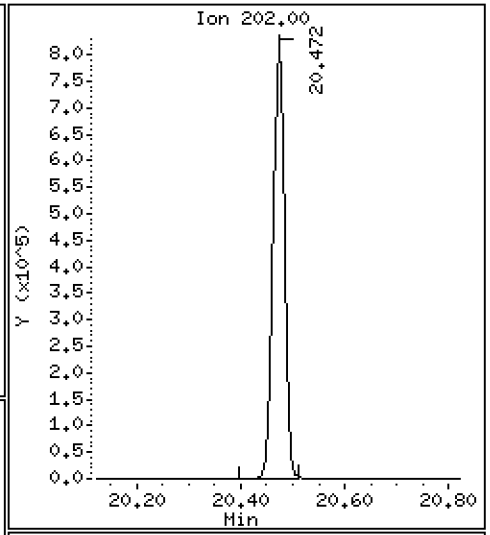
Column phase: ZB-5msi

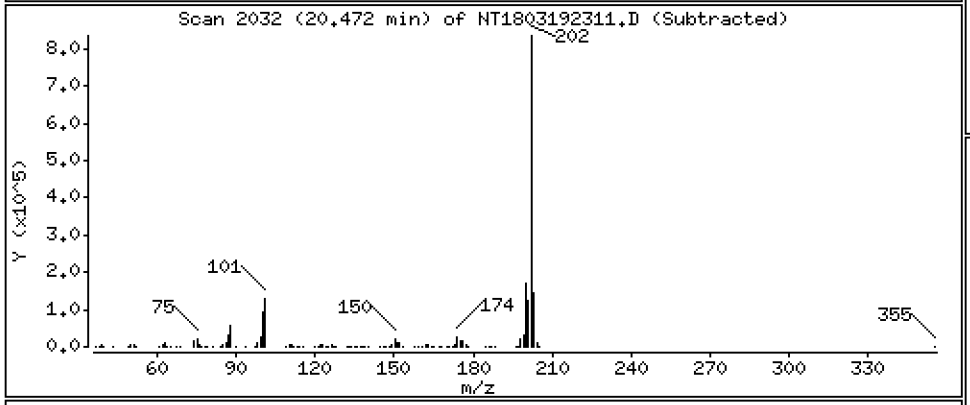
Column diameter: 0.25

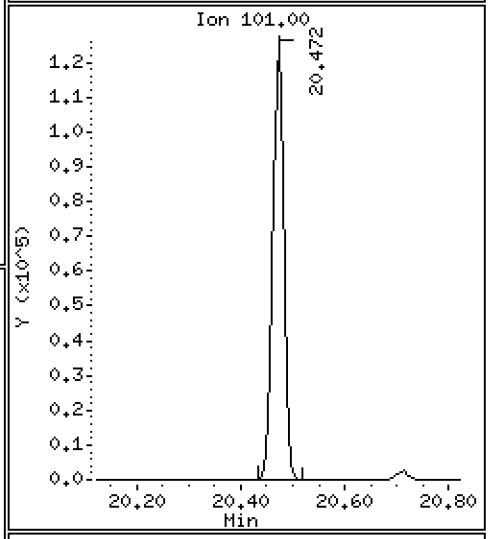
64 Fluoranthene

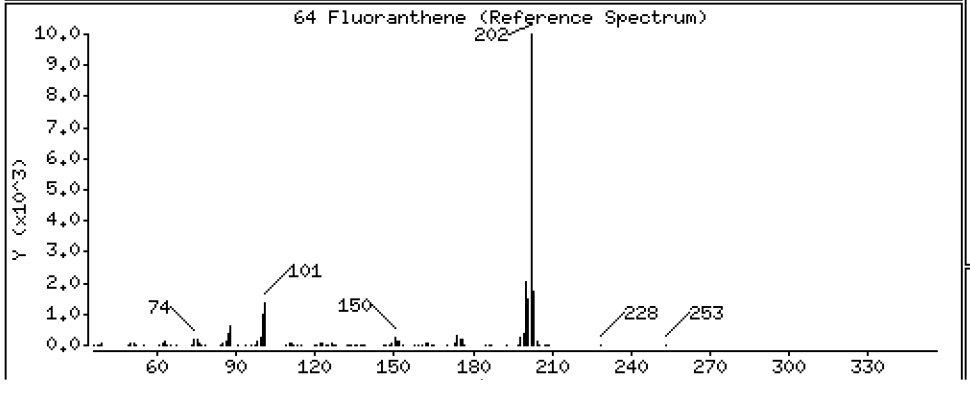
Concentration: 5.213 ug/mL

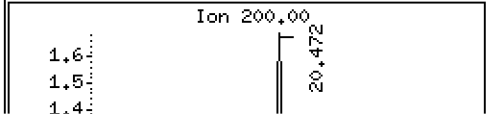












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

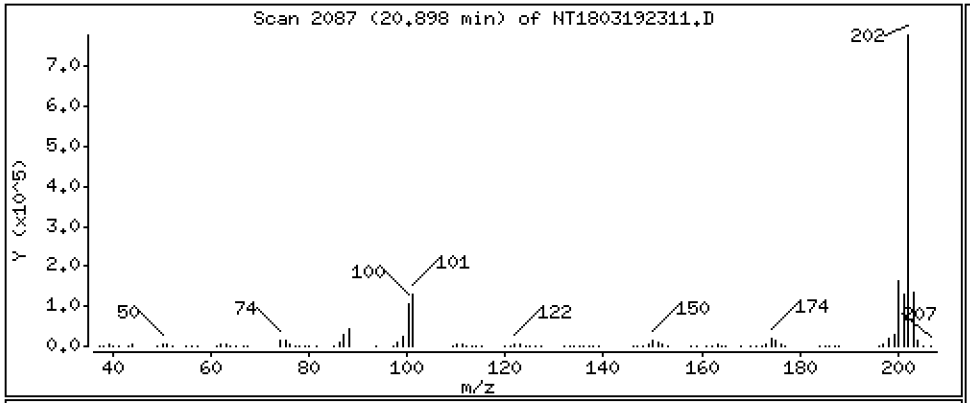
Operator: VTS

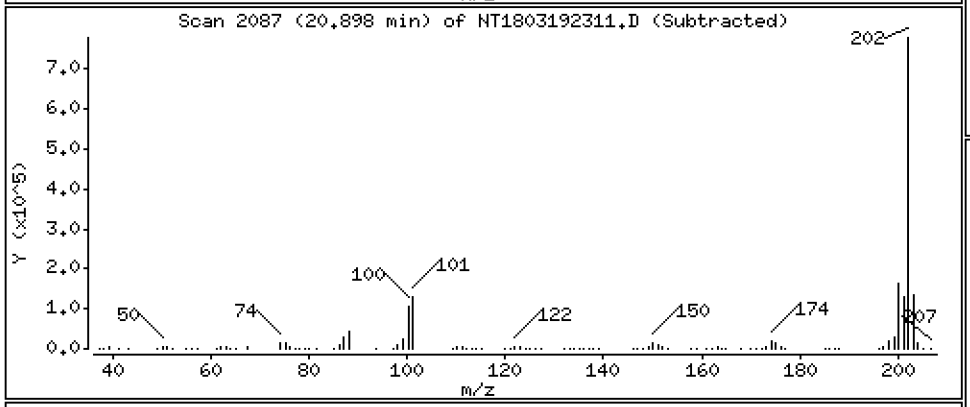
Column phase: ZB-5msi

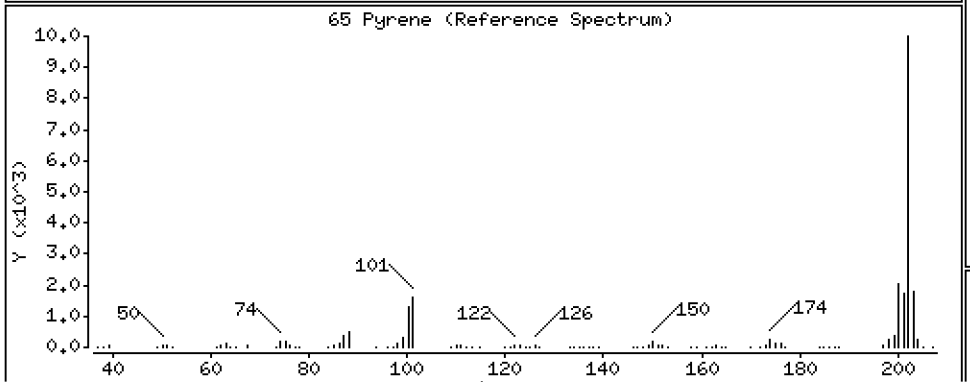
Column diameter: 0.25

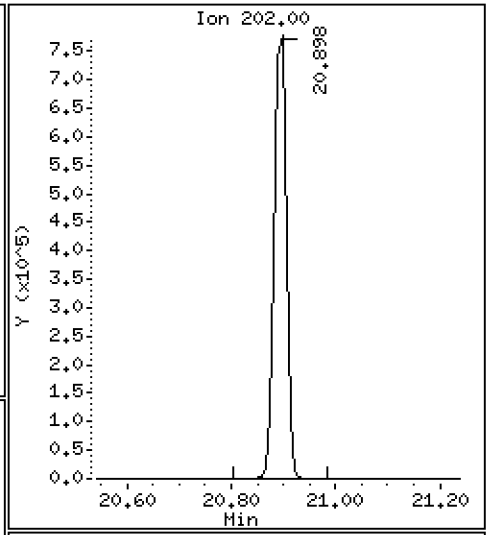
65 Pyrene

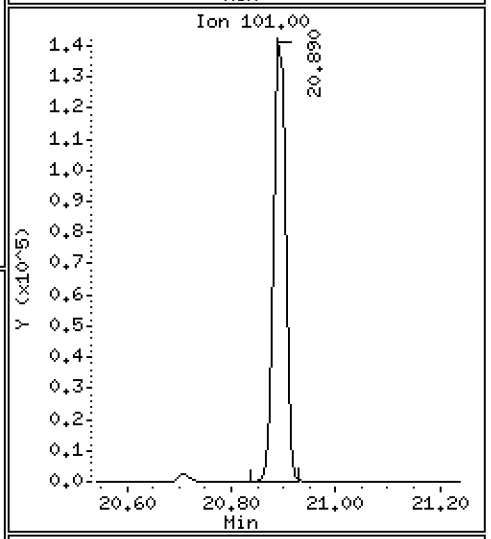
Concentration: 5.030 ug/mL

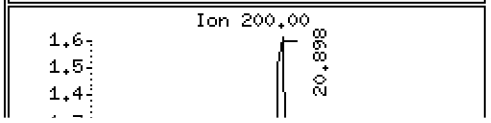












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

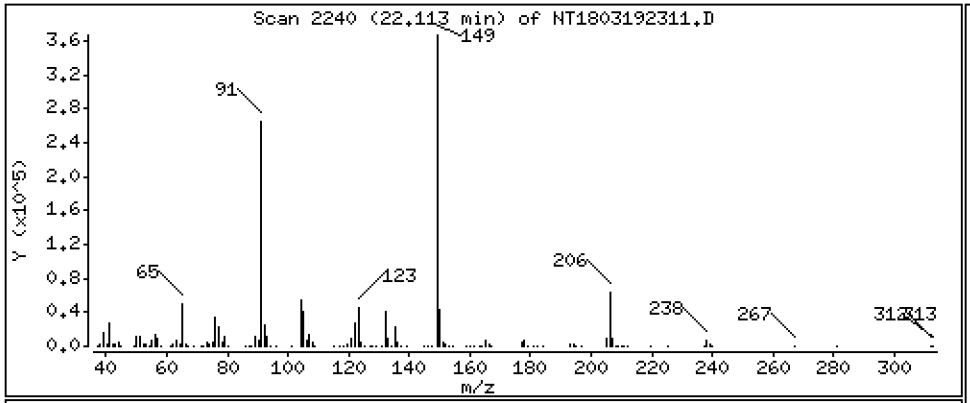
Operator: VTS

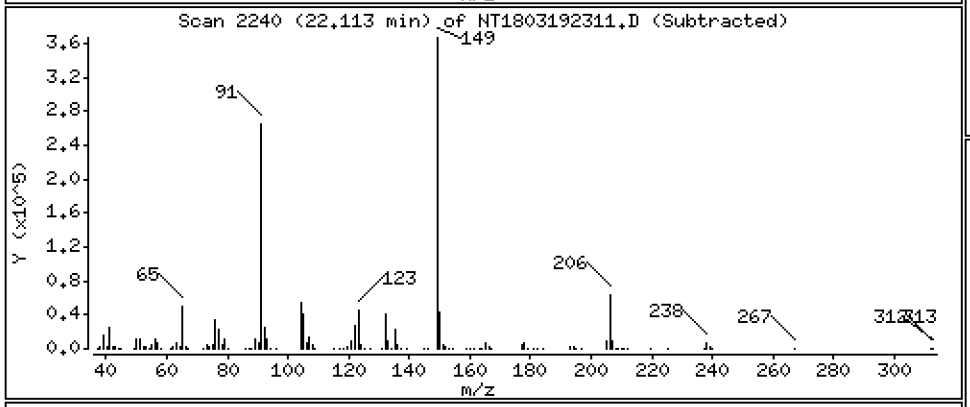
Column phase: ZB-5msi

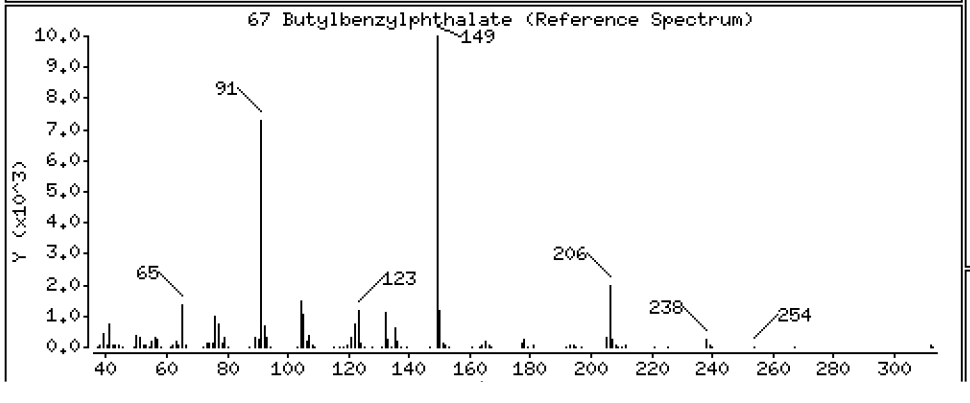
Column diameter: 0.25

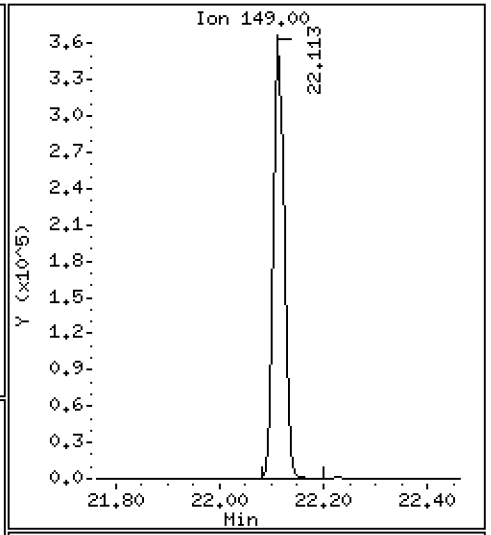
67 Butylbenzylphthalate

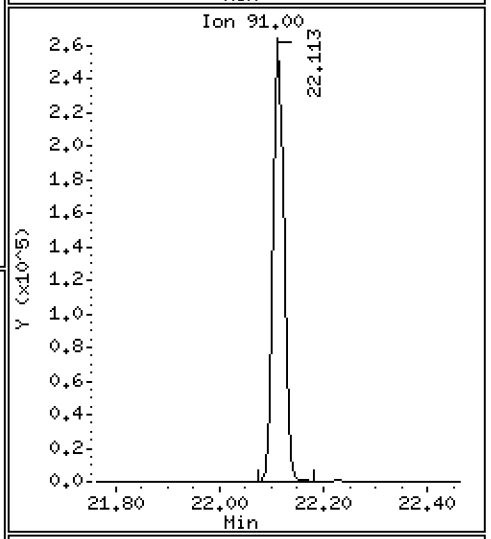
Concentration: 4.792 ug/mL

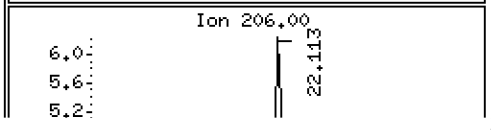












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

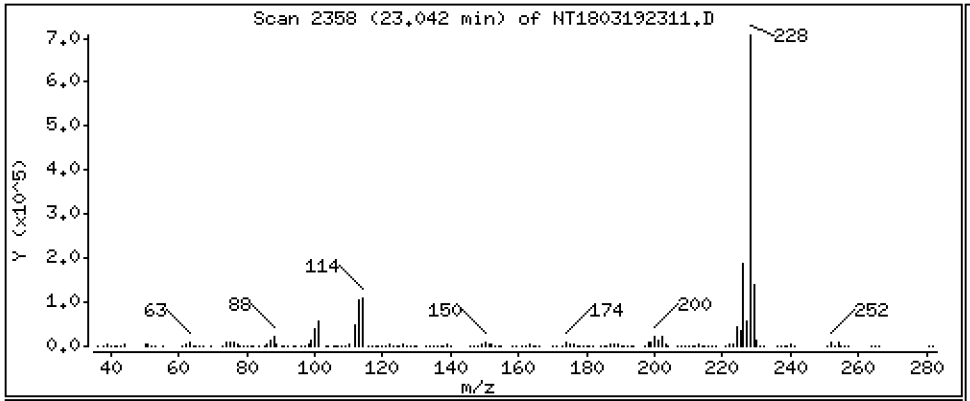
Operator: VTS

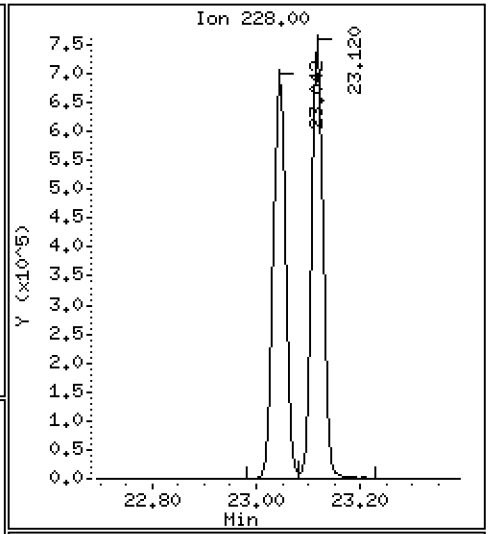
Column phase: ZB-5msi

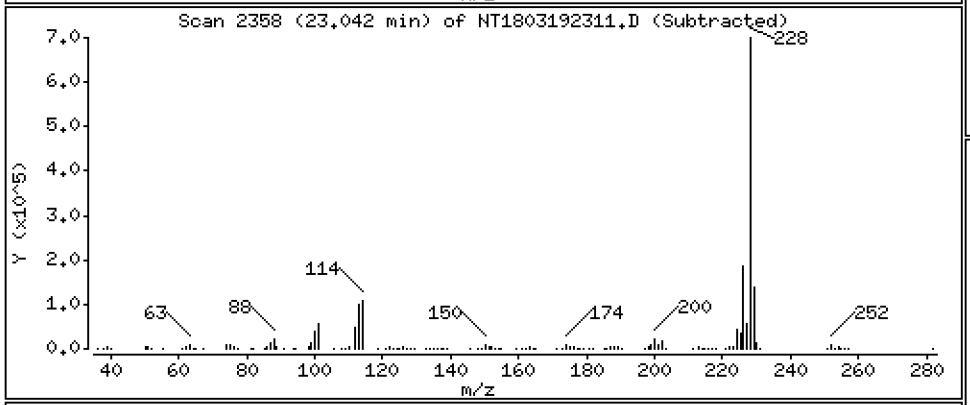
Column diameter: 0.25

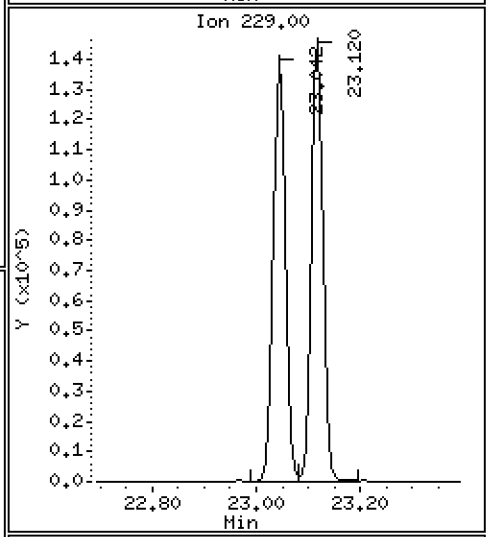
68 Benzo(a)anthracene

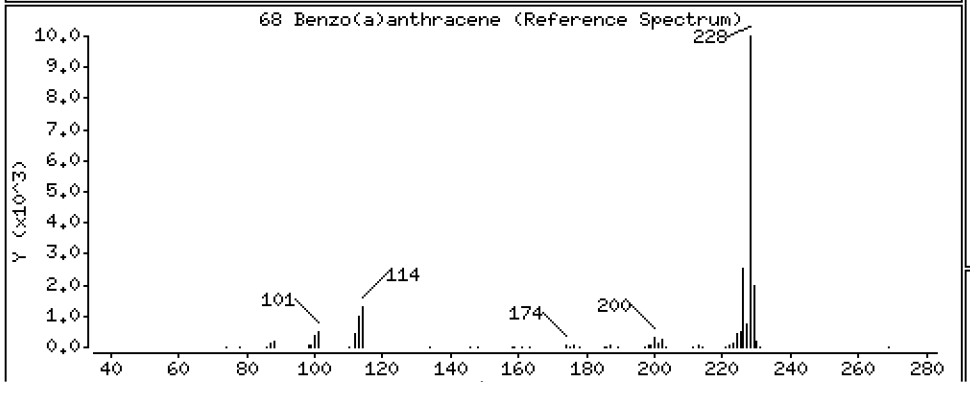
Concentration: 4.954 ug/mL

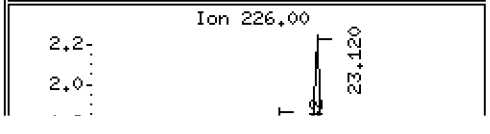












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

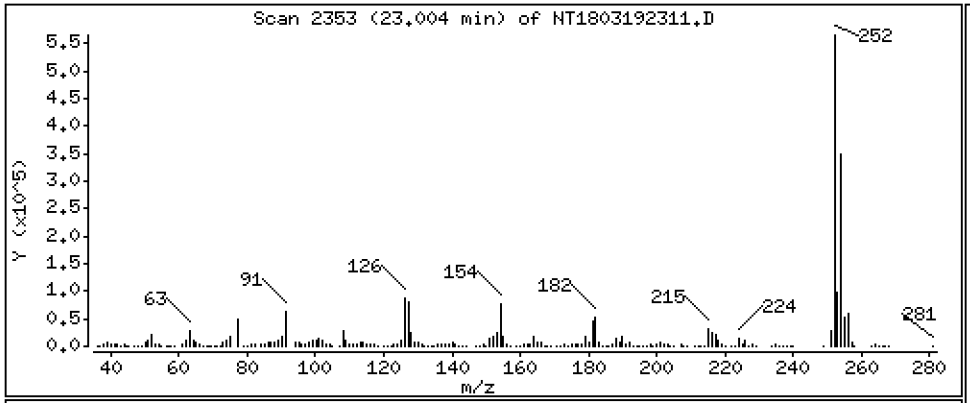
Operator: VTS

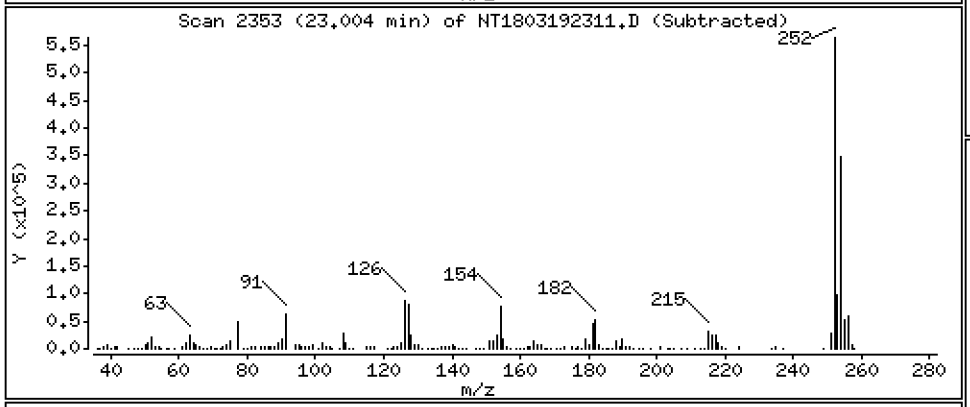
Column phase: ZB-5msi

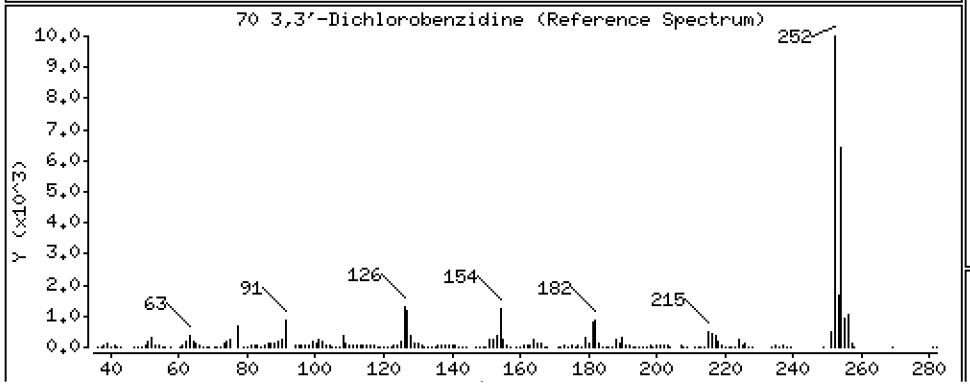
Column diameter: 0.25

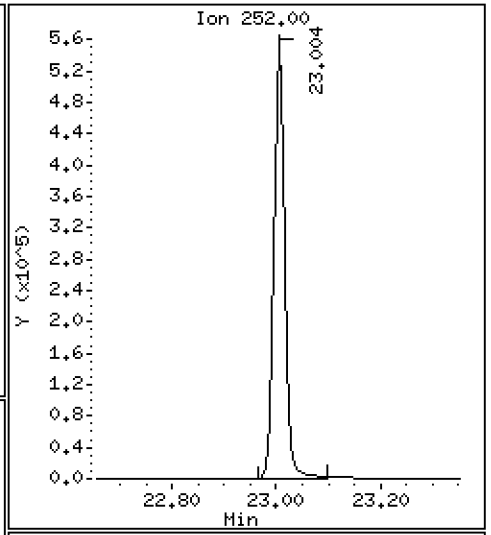
70 3,3'-Dichlorobenzidine

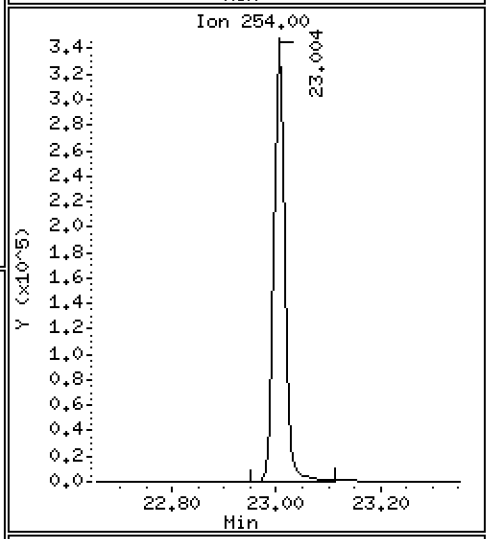
Concentration: 9.289 ug/mL

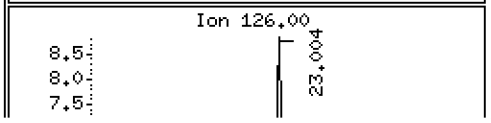












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

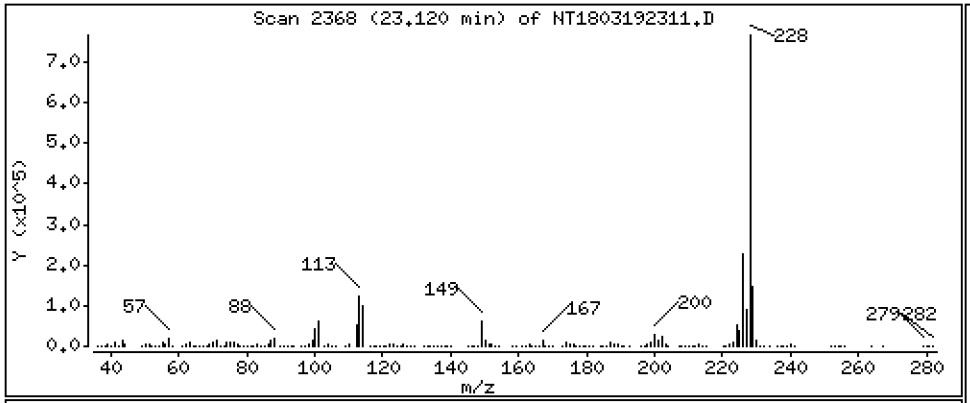
Operator: VTS

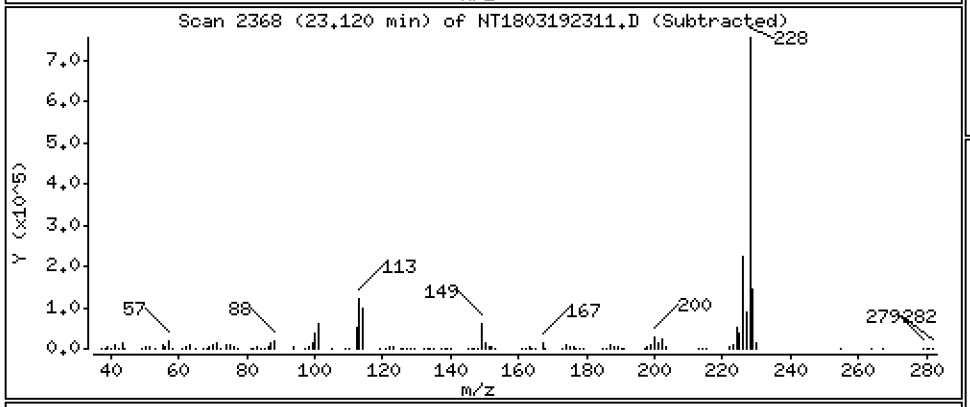
Column phase: ZB-5msi

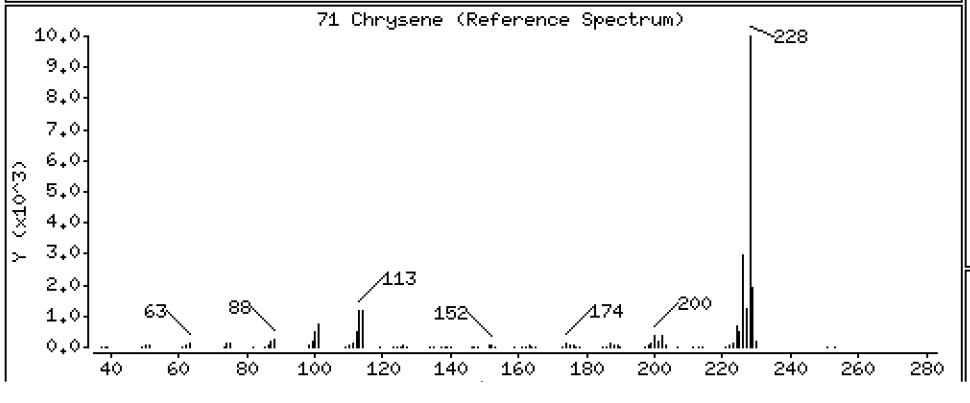
Column diameter: 0.25

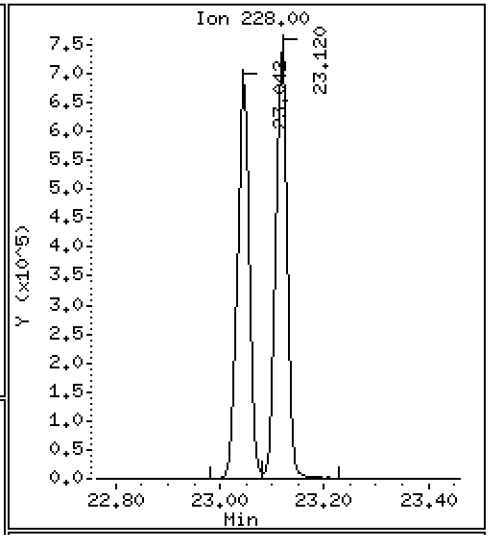
71 Chrysene

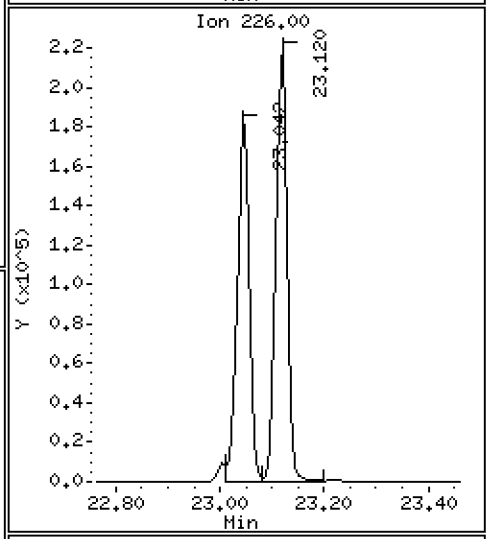
Concentration: 4.814 ug/mL

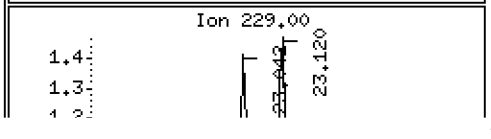












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

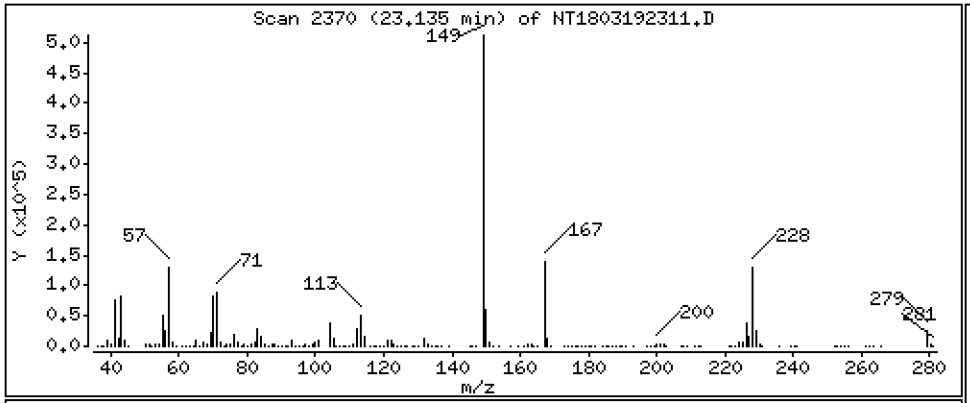
Operator: VTS

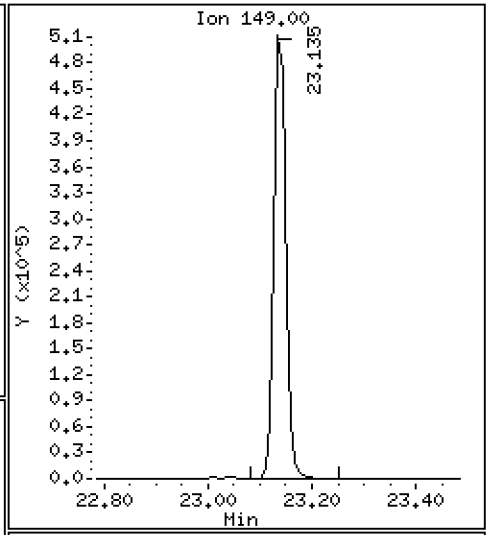
Column phase: ZB-5msi

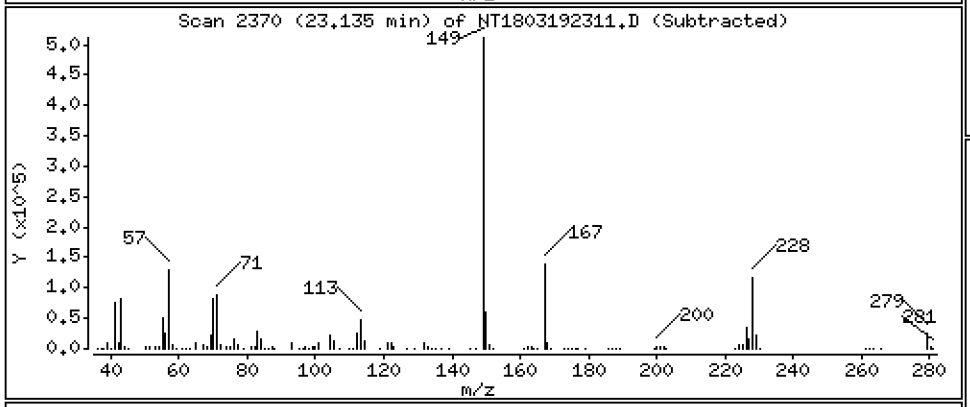
Column diameter: 0.25

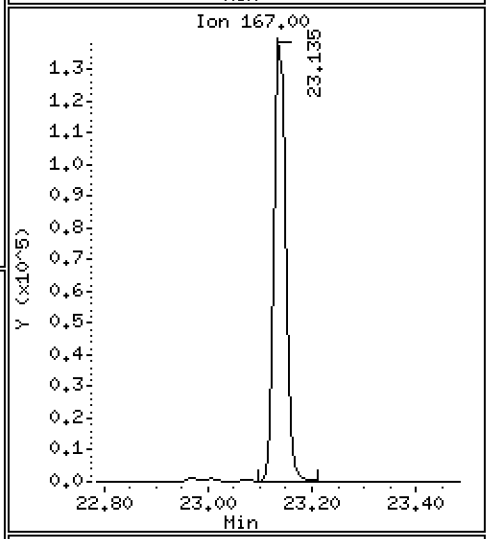
72 bis(2-Ethylhexyl)phthalate

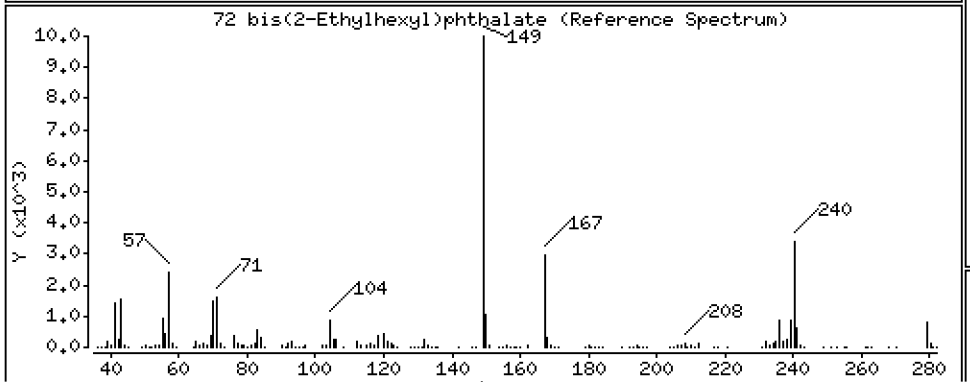
Concentration: 5.003 ug/mL

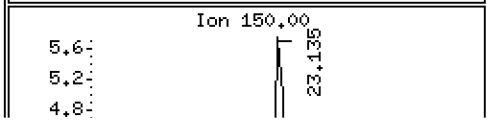












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

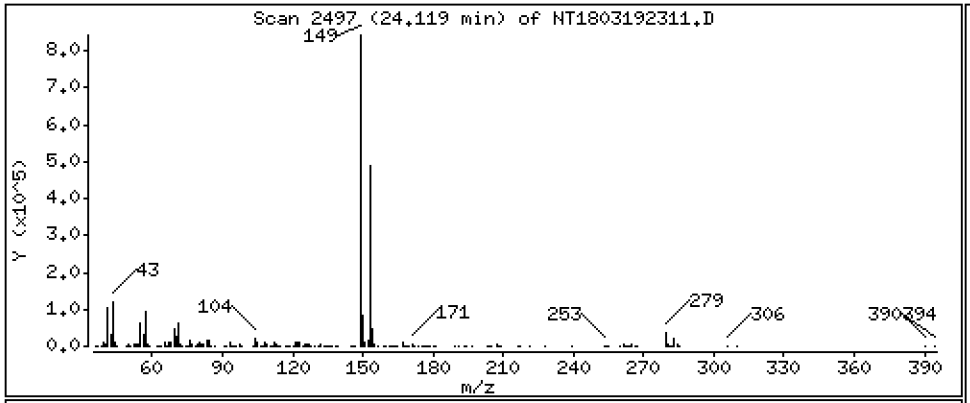
Operator: VTS

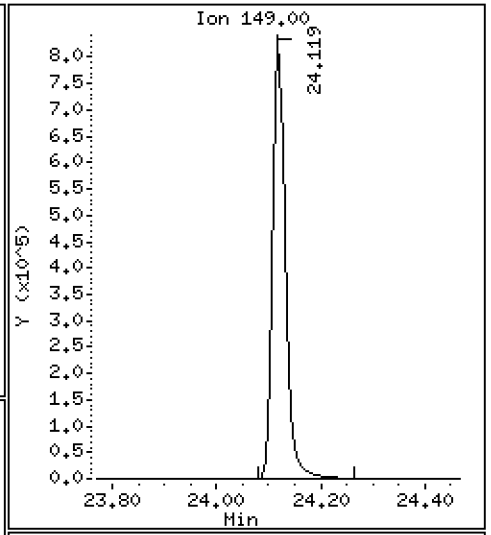
Column phase: ZB-5msi

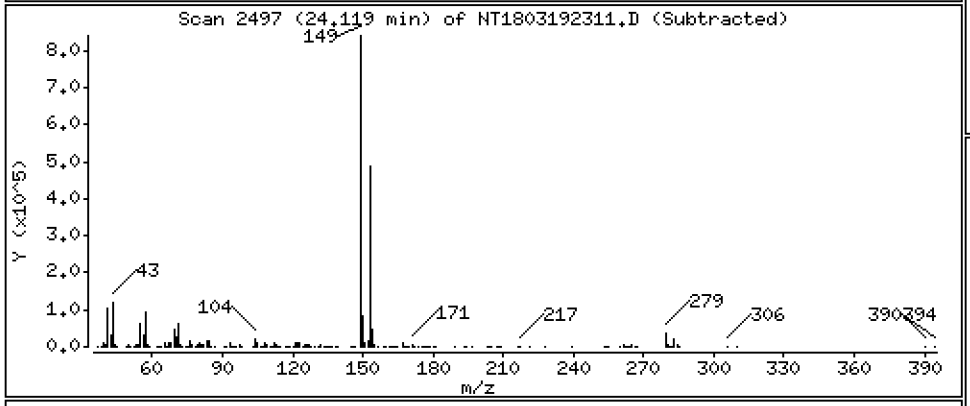
Column diameter: 0.25

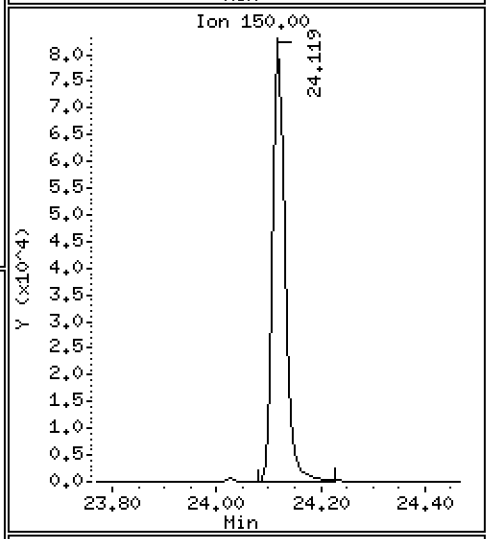
73 Di-n-octylphthalate

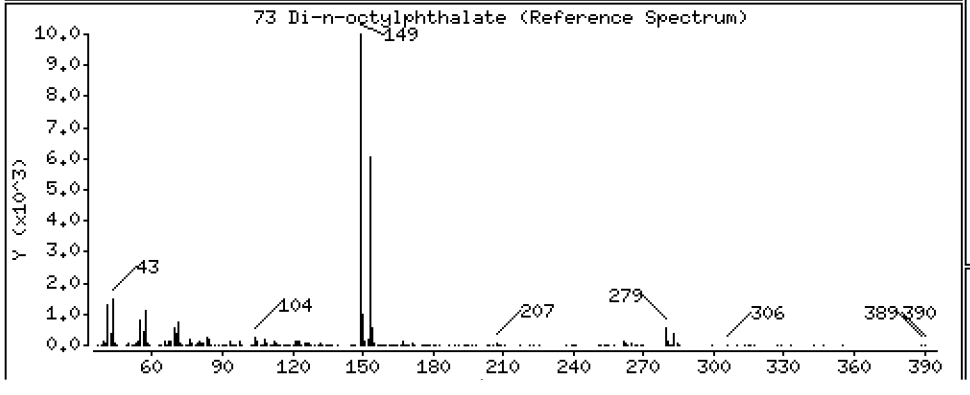
Concentration: 5.149 ug/mL

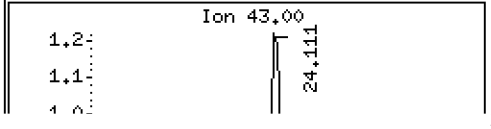












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

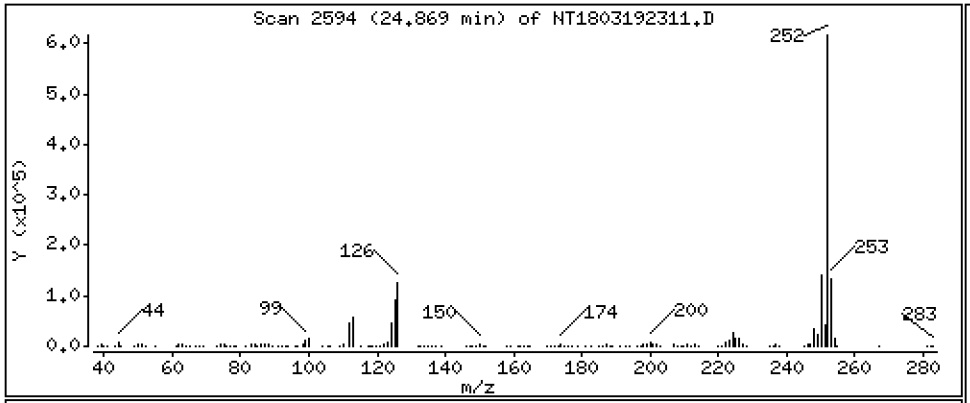
Operator: VTS

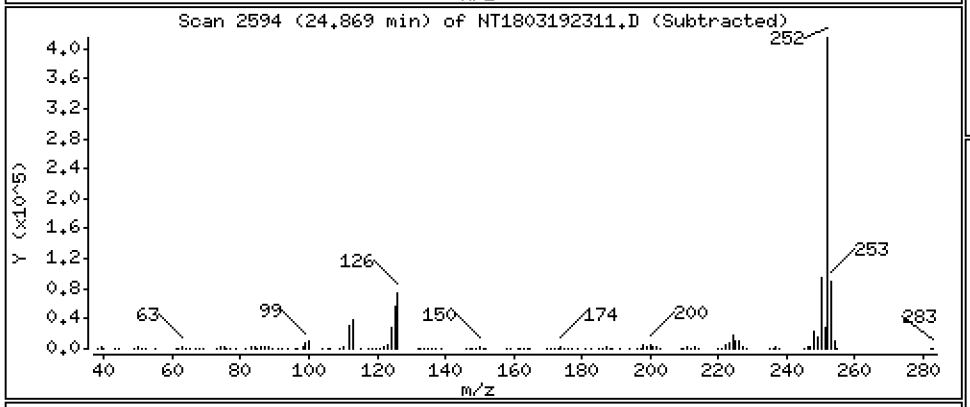
Column phase: ZB-5msi

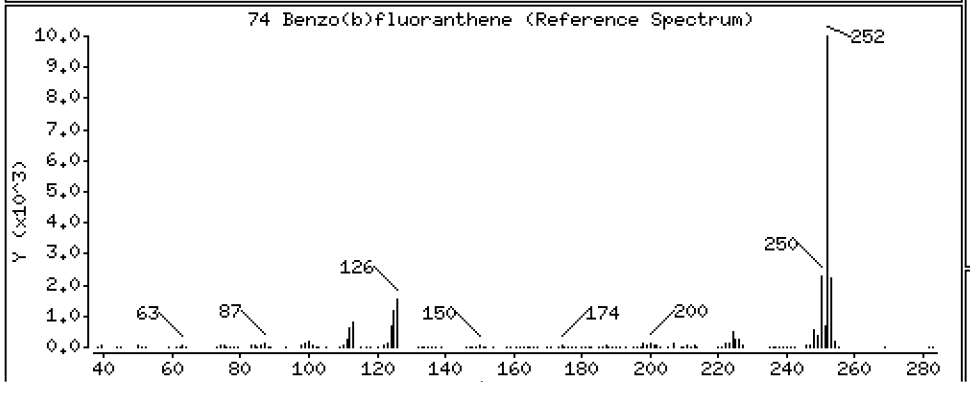
Column diameter: 0.25

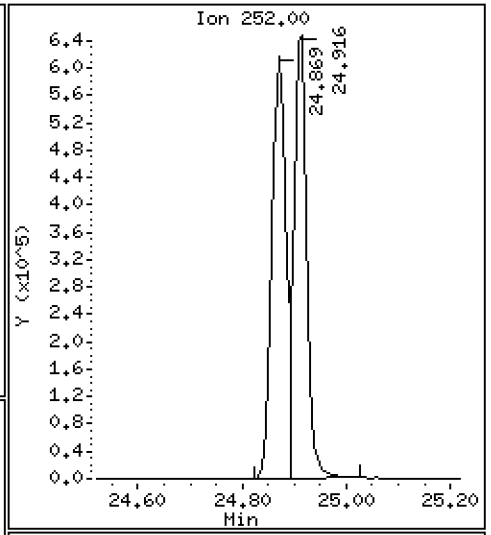
74 Benzo(b)fluoranthene

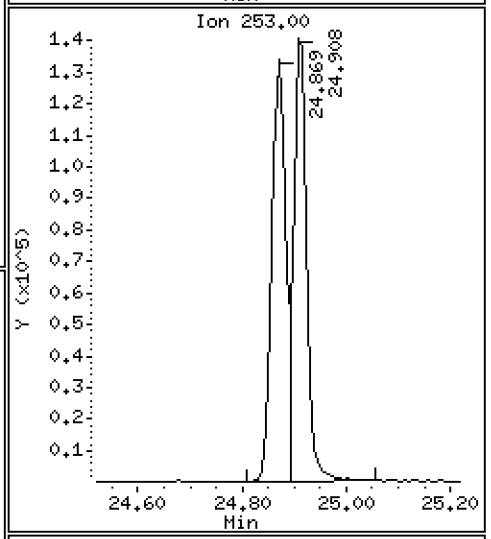
Concentration: 5.172 ug/mL

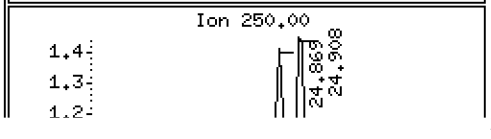












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

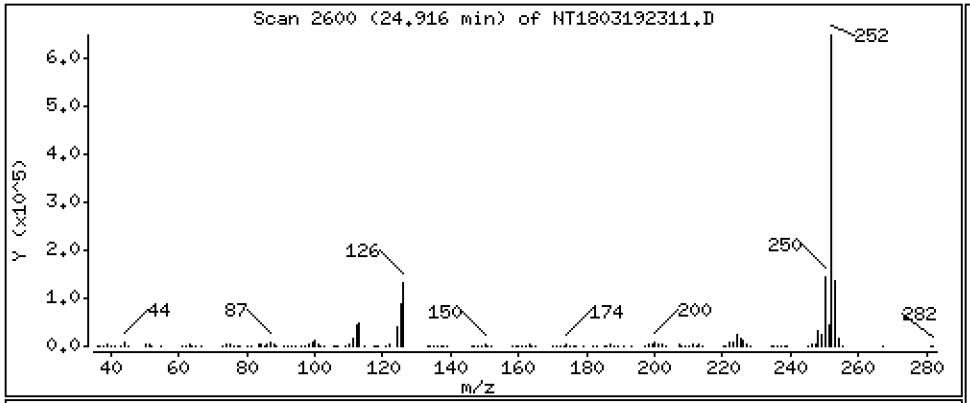
Operator: VTS

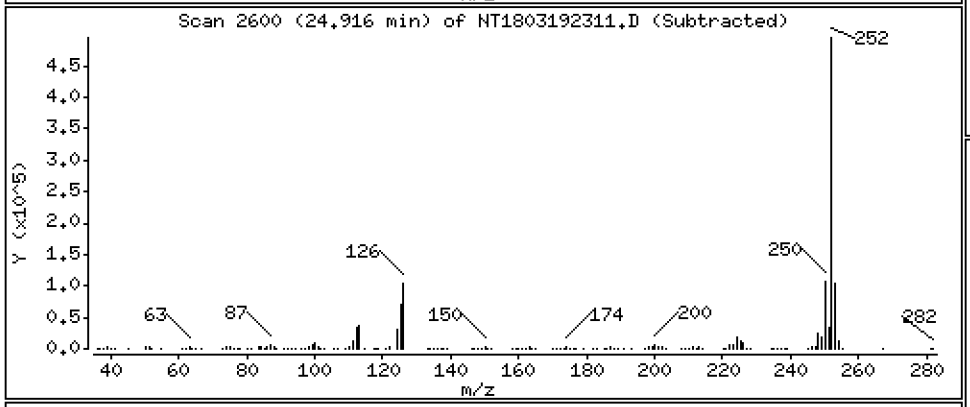
Column phase: ZB-5msi

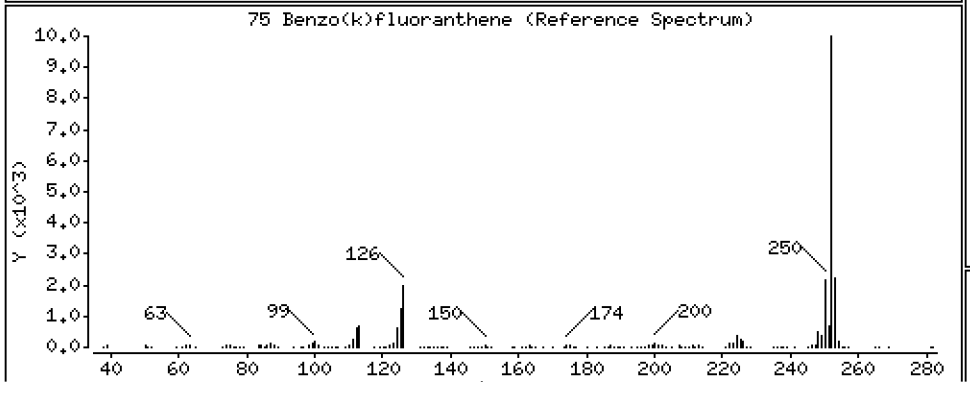
Column diameter: 0.25

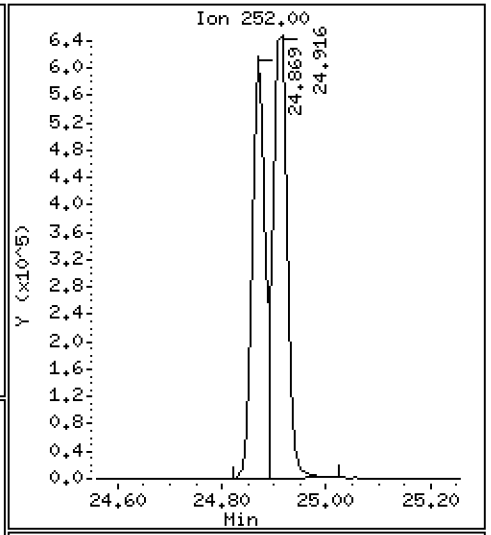
75 Benzo(k)fluoranthene

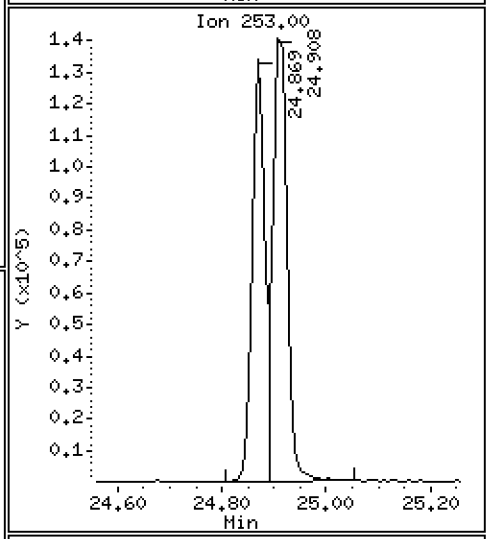
Concentration: 4.854 ug/mL

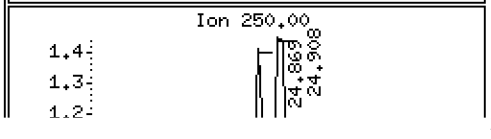












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

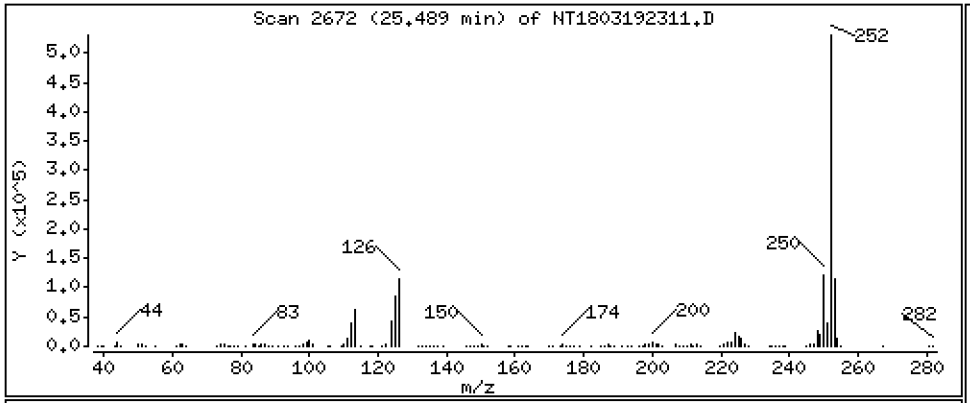
Operator: VTS

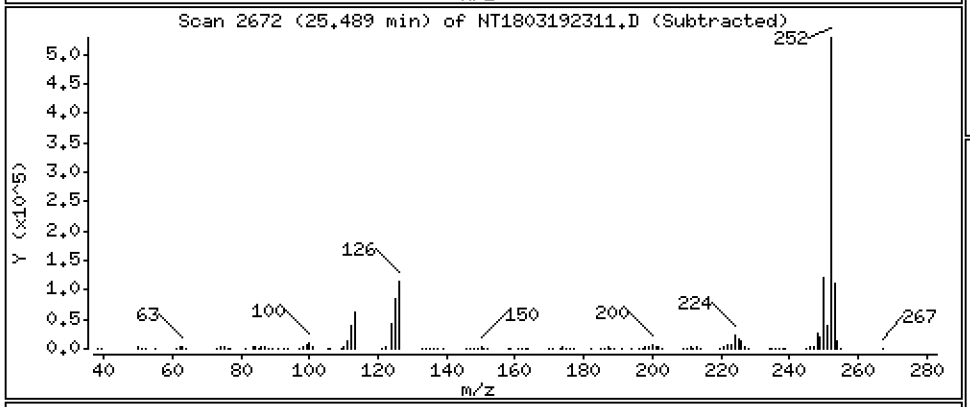
Column phase: ZB-5msi

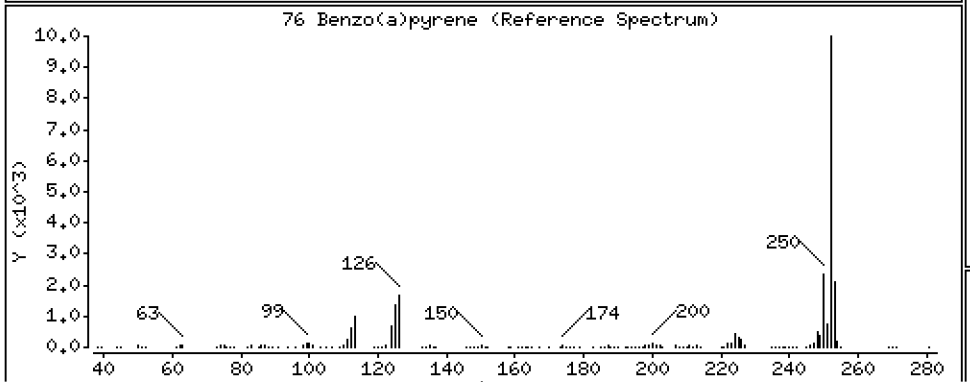
Column diameter: 0.25

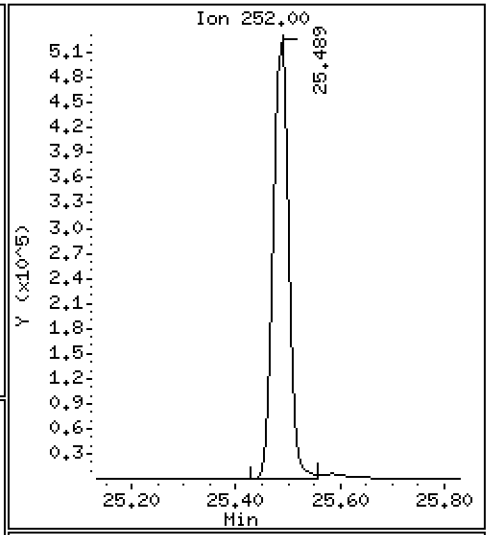
76 Benzo(a)pyrene

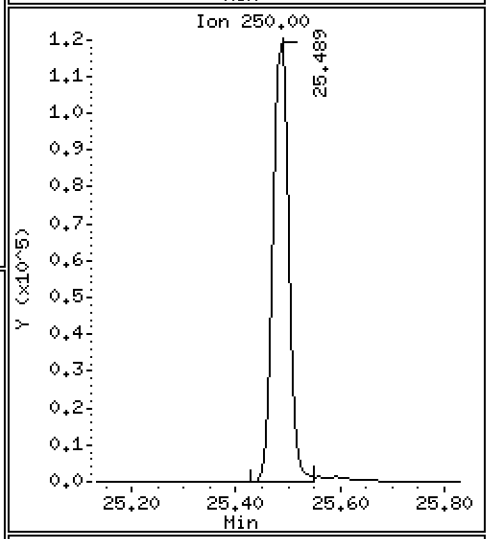
Concentration: 4.673 ug/mL

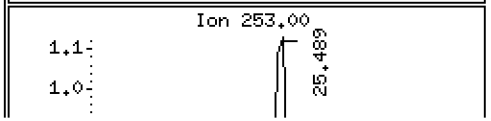












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

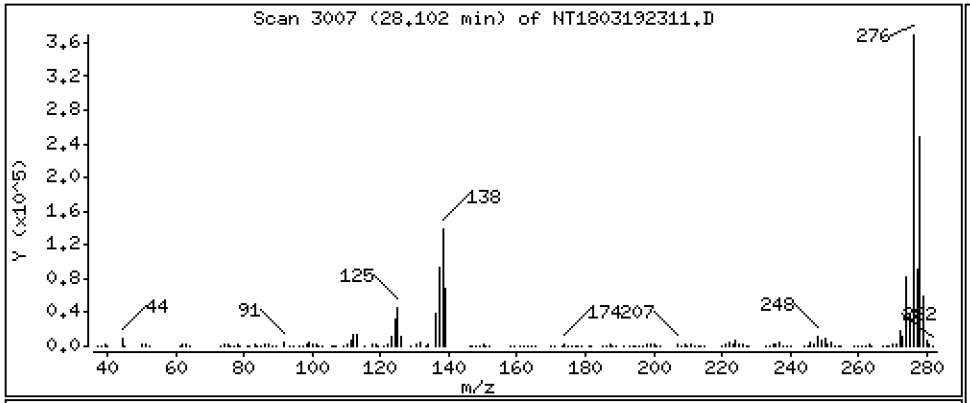
Operator: VTS

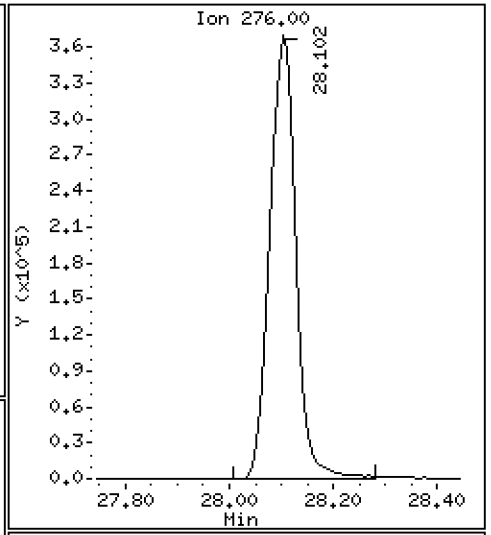
Column phase: ZB-5msi

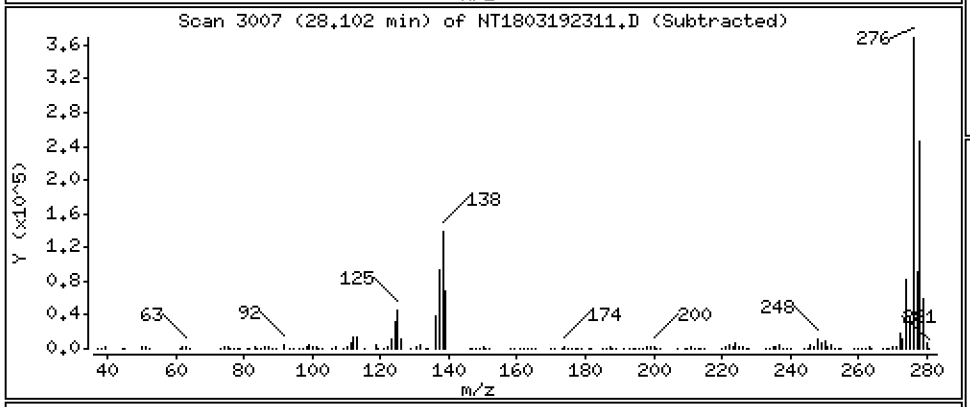
Column diameter: 0.25

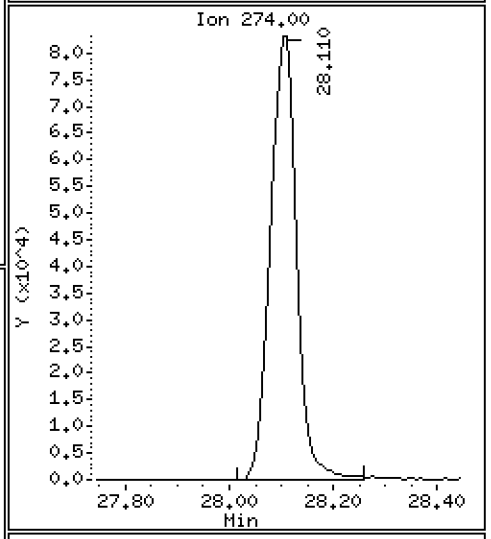
78 Indeno(1,2,3-cd)pyrene

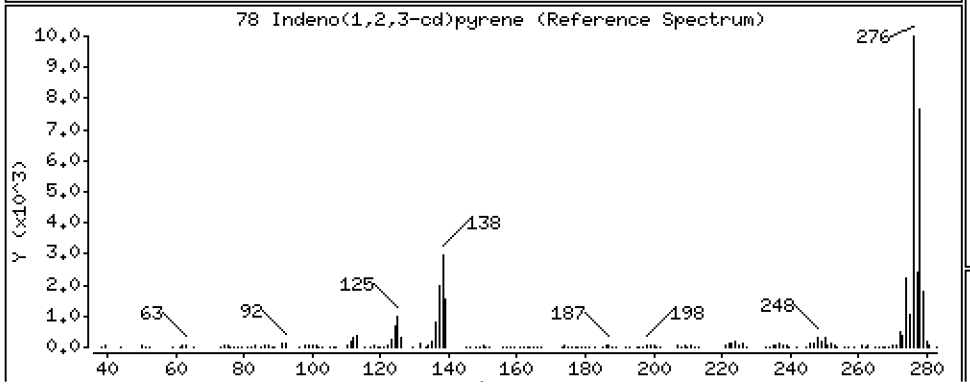
Concentration: 4.553 ug/mL

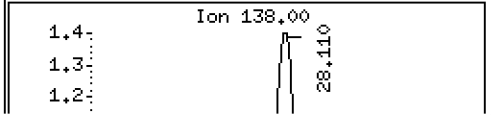












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

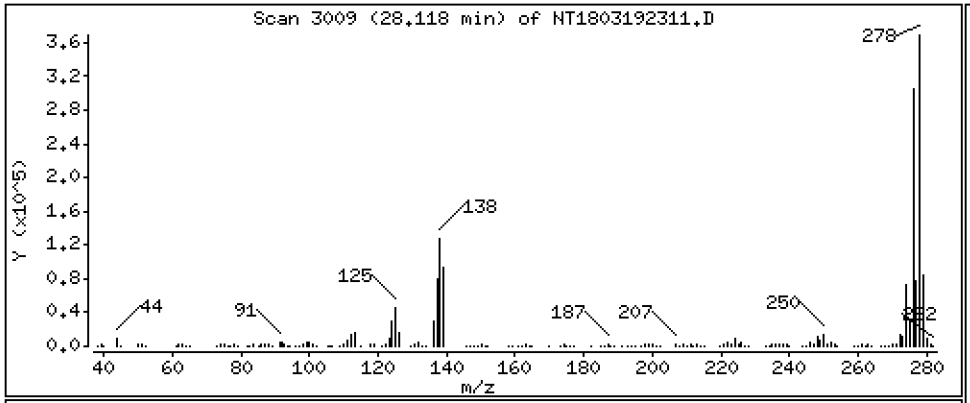
Operator: VTS

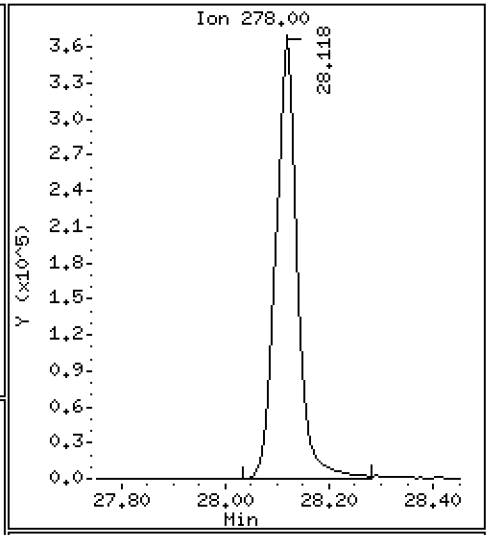
Column phase: ZB-5msi

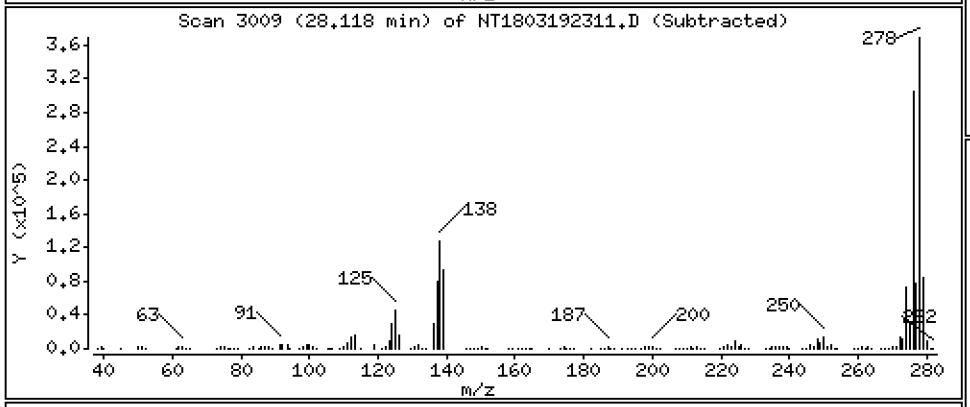
Column diameter: 0.25

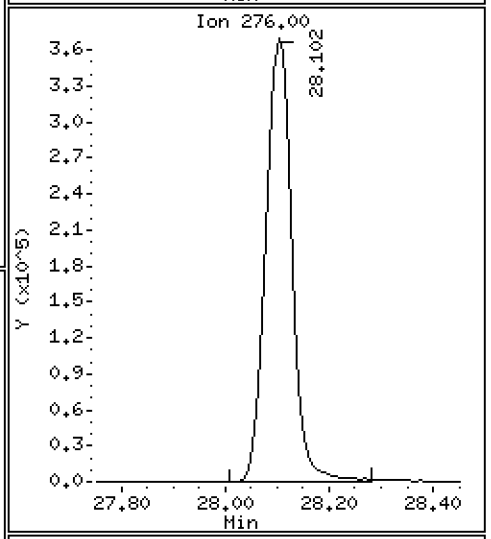
79 Dibenzo(a,h)anthracene

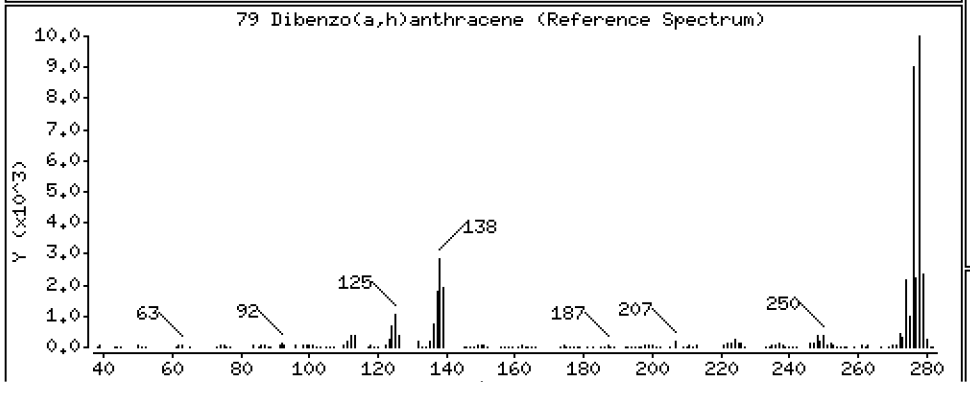
Concentration: 4.544 ug/mL

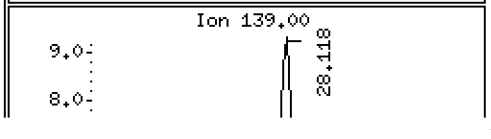












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

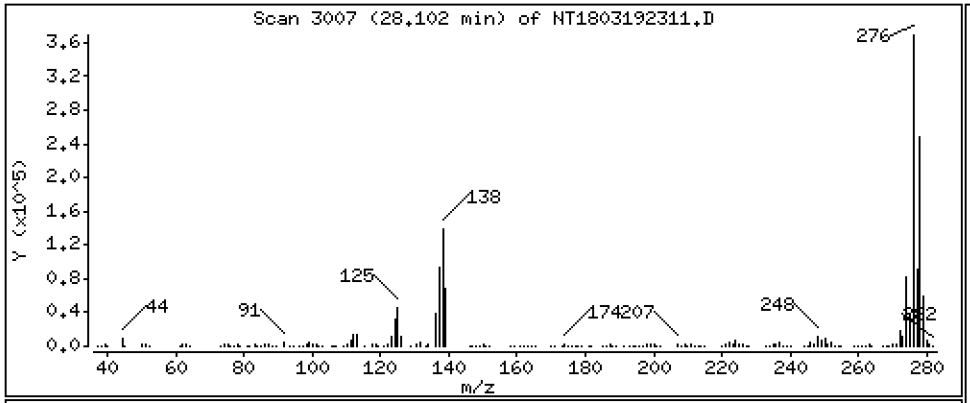
Operator: VTS

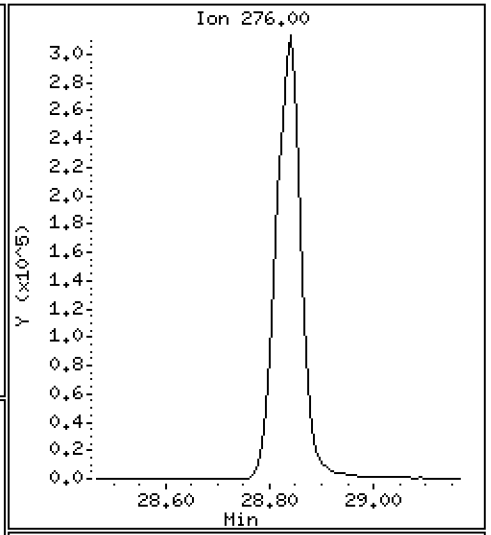
Column phase: ZB-5msi

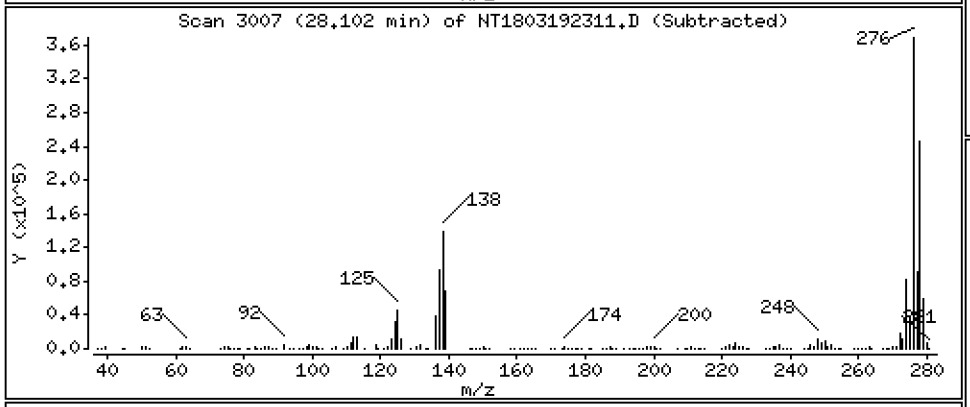
Column diameter: 0.25

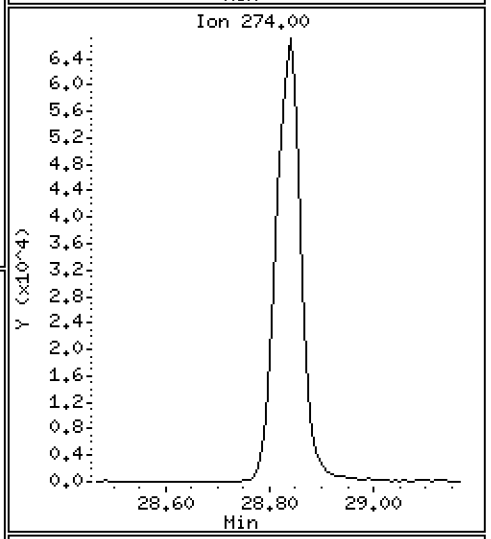
80 Benzo(g,h,i)perylene

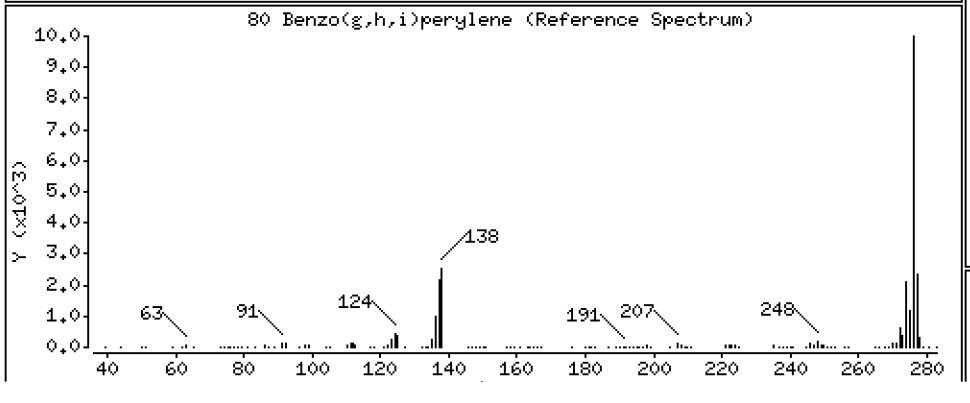
Concentration: 5.700 ug/mL

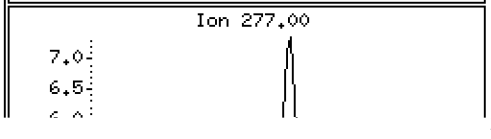












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

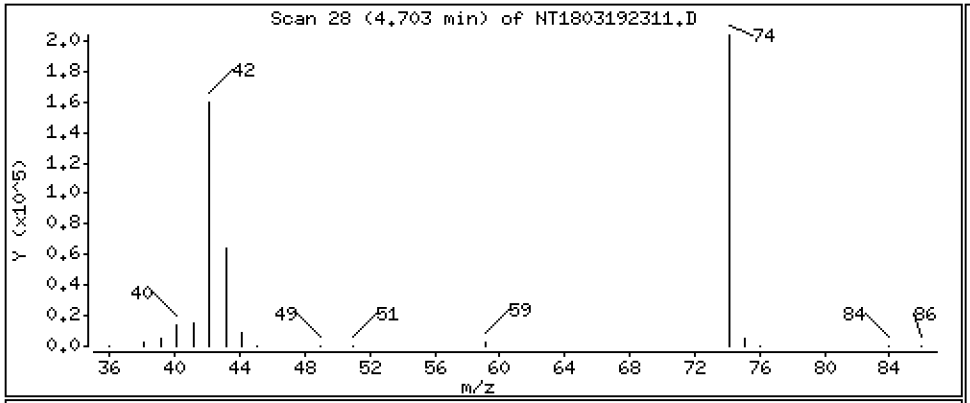
Operator: VTS

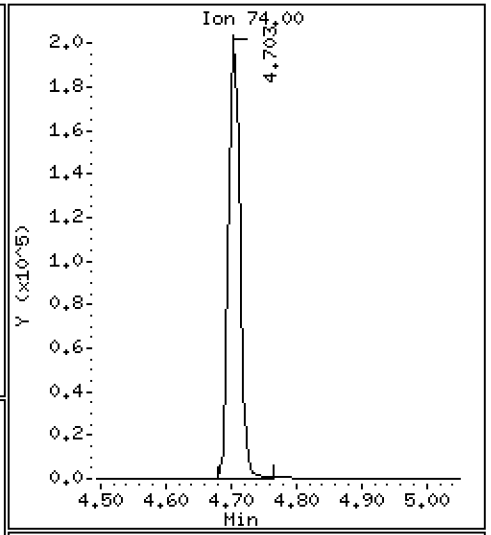
Column phase: ZB-5msi

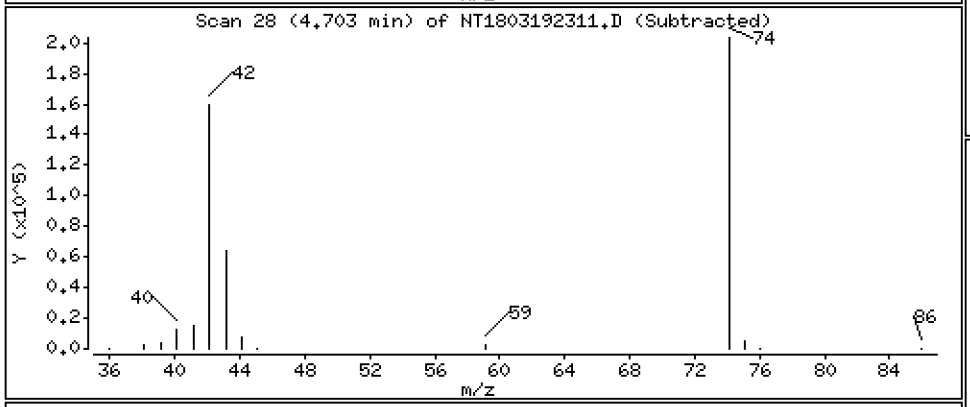
Column diameter: 0.25

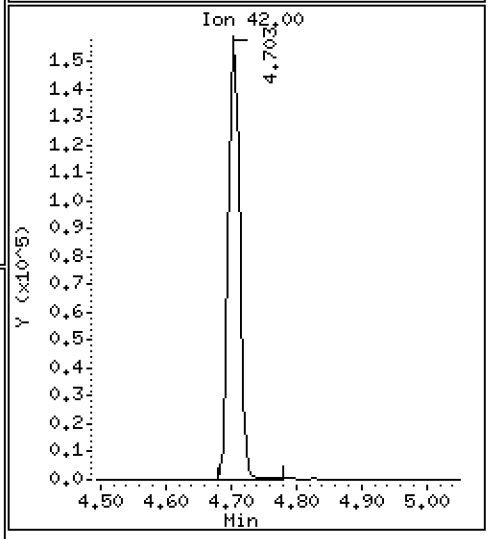
90 N-Nitrosodimethylamine

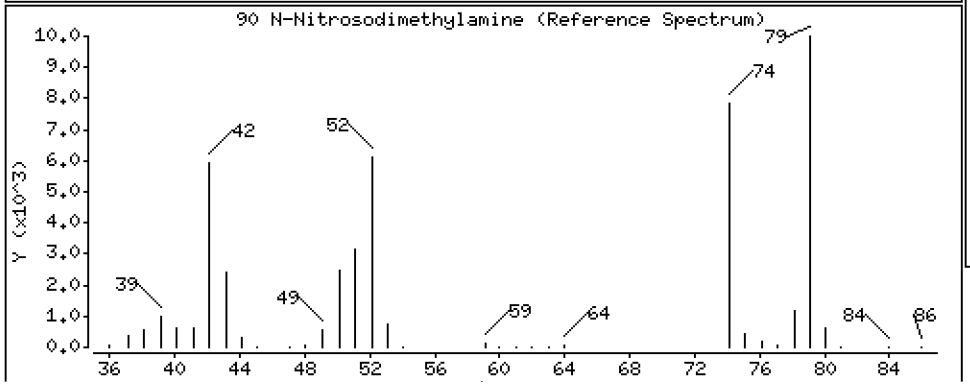
Concentration: 5.136 ug/mL











Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

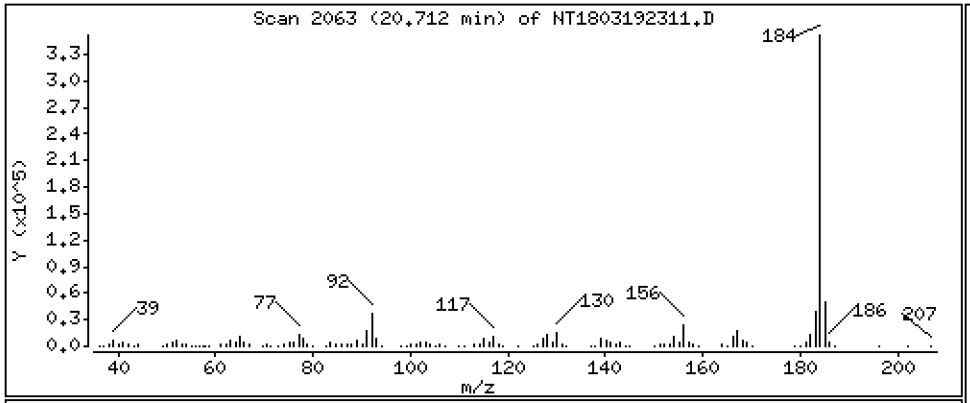
Operator: VTS

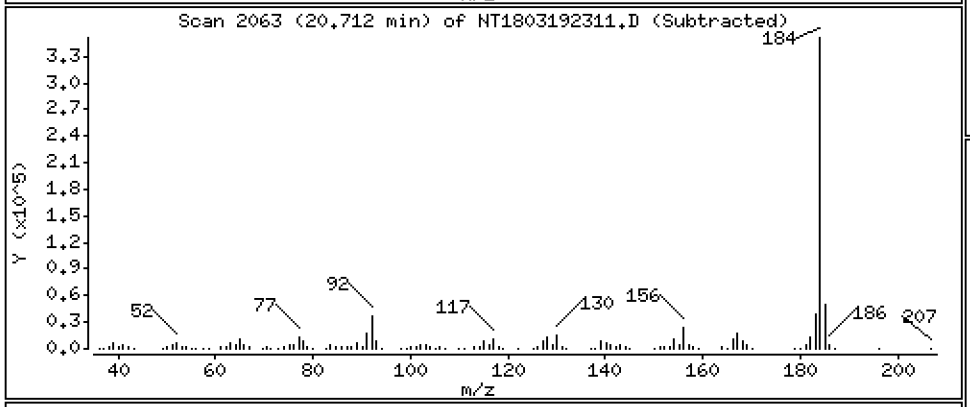
Column phase: ZB-5msi

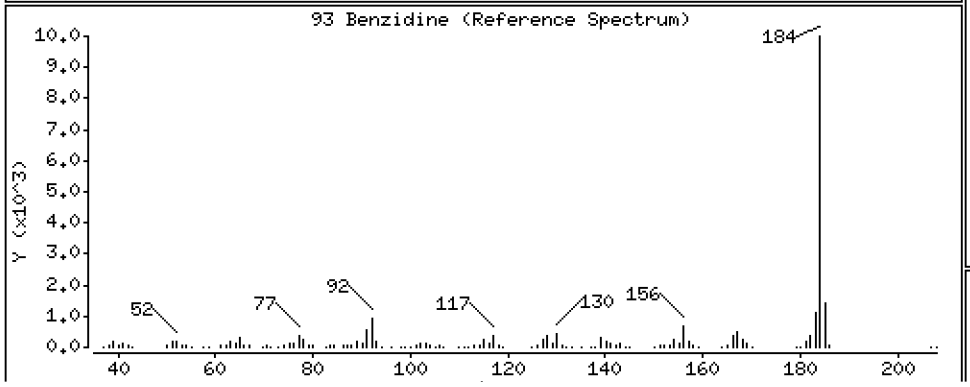
Column diameter: 0.25

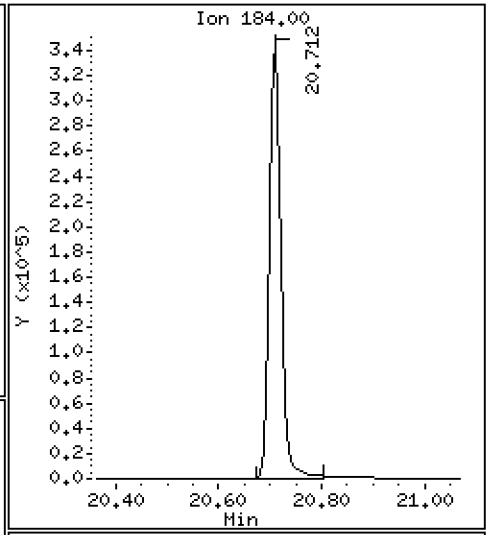
93 Benzidine

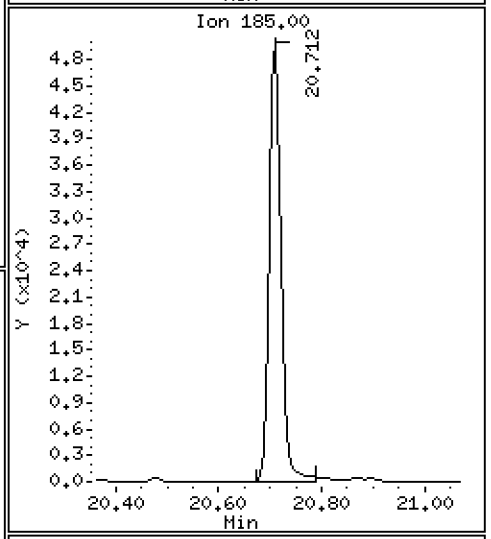
Concentration: 5.266 ug/mL

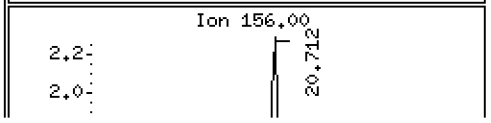












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

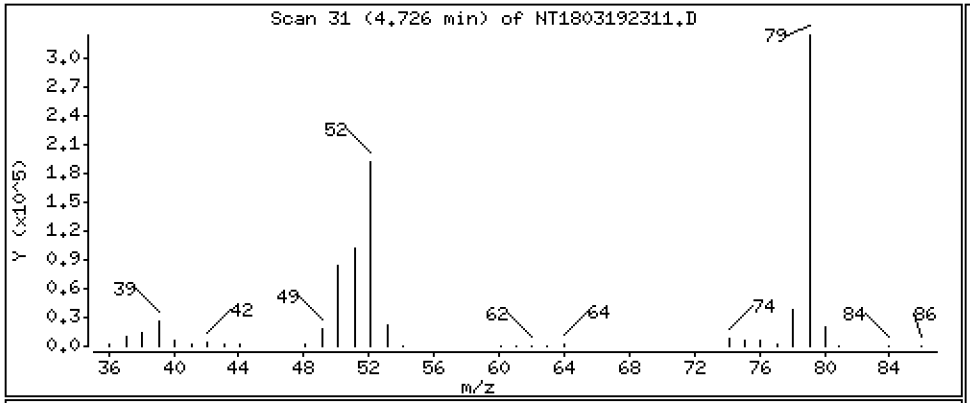
Operator: VTS

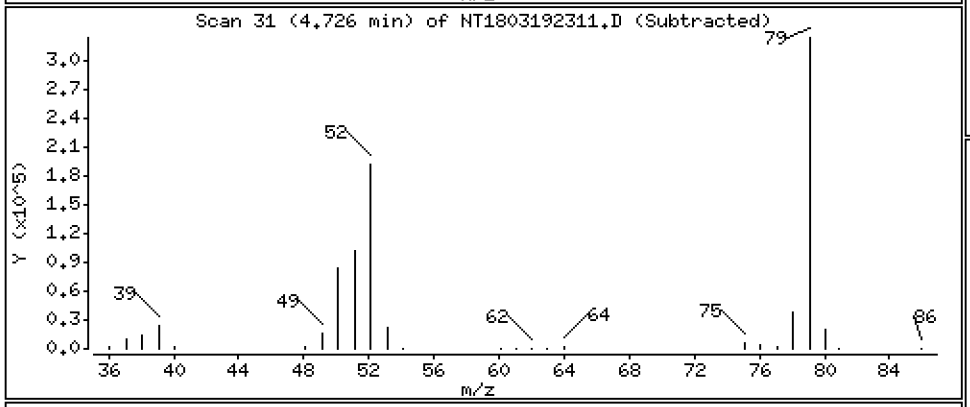
Column phase: ZB-5msi

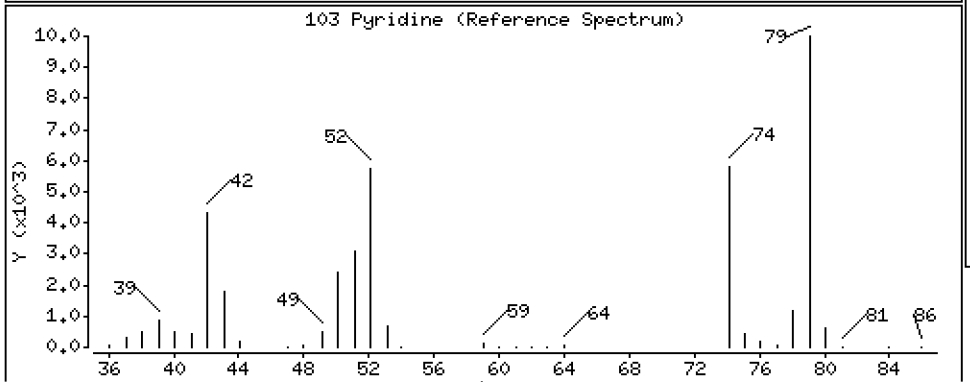
Column diameter: 0.25

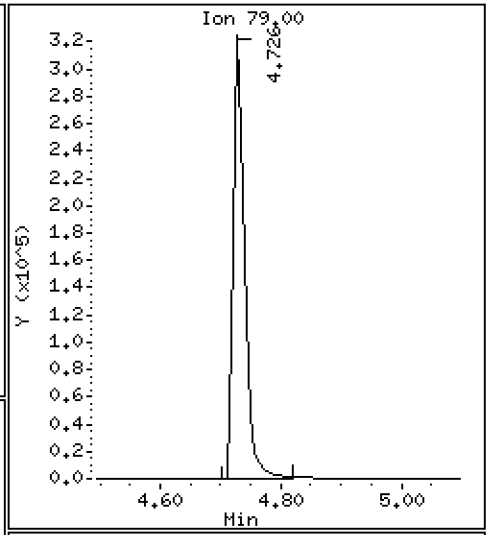
103 Pyridine

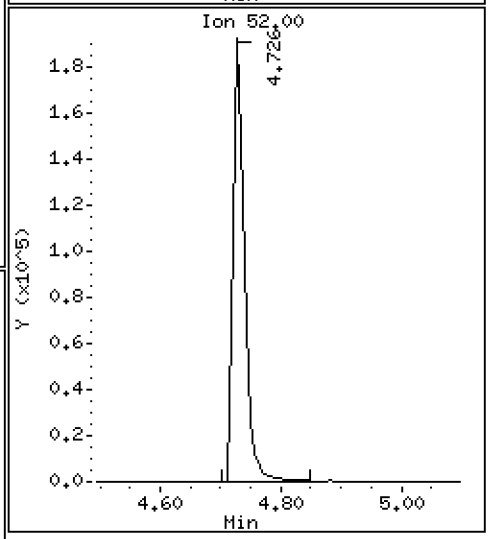
Concentration: 5.323 ug/mL











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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

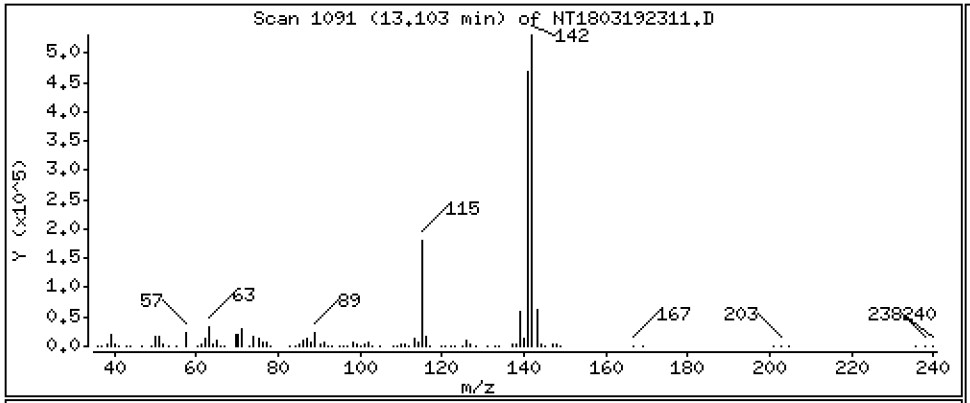
Operator: VTS

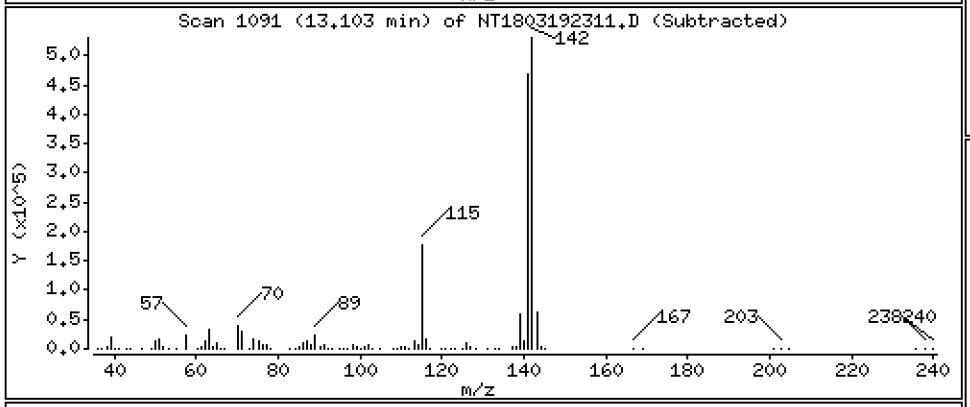
Column phase: ZB-5msi

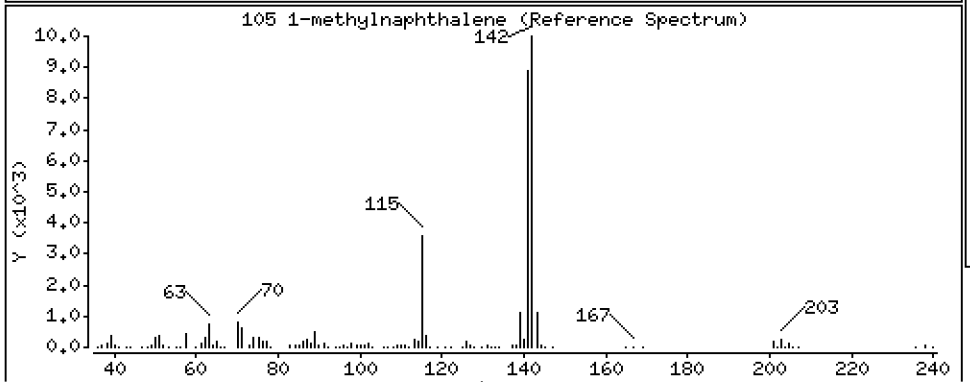
Column diameter: 0.25

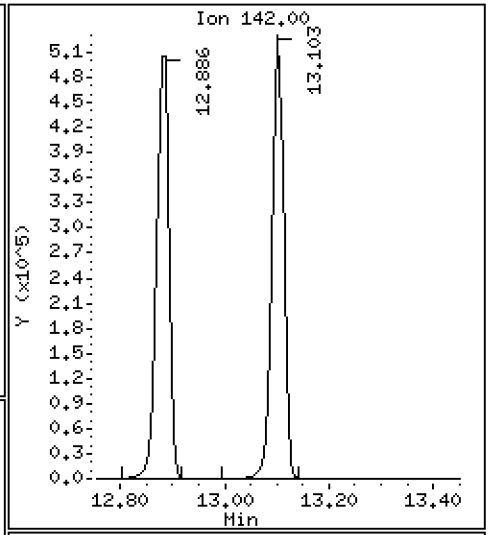
105 1-methylnaphthalene

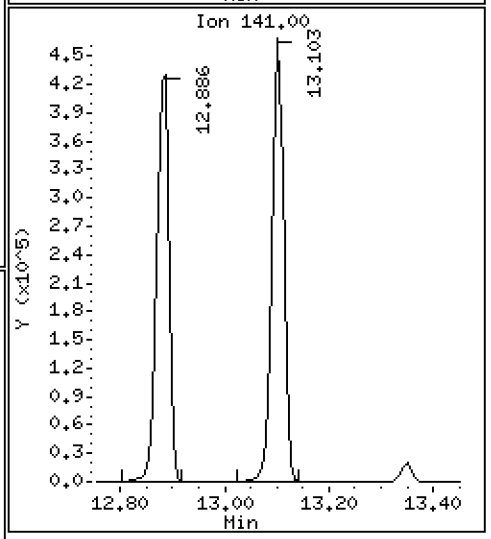
Concentration: 5.095 ug/mL











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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

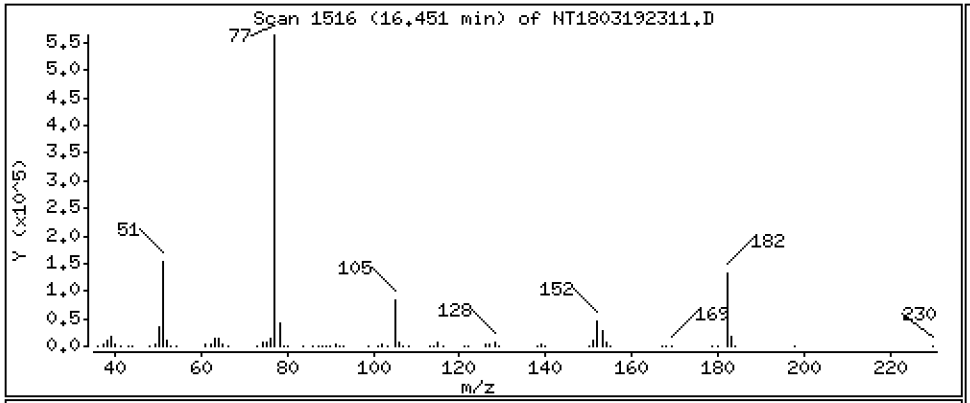
Operator: VTS

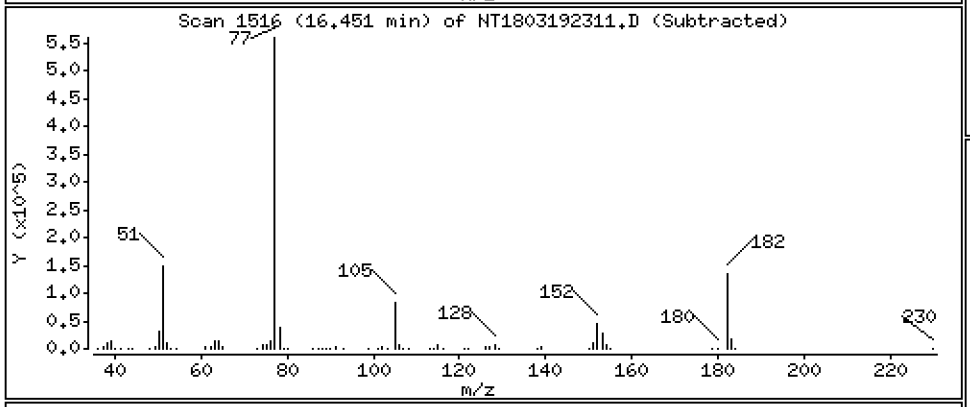
Column phase: ZB-5msi

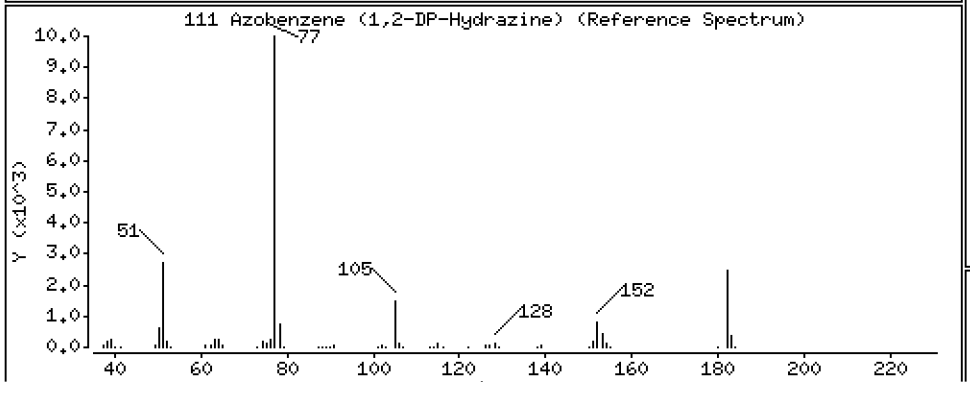
Column diameter: 0.25

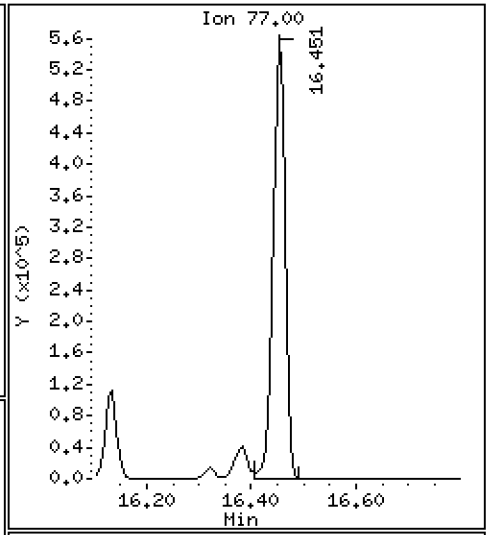
111 Azobenzene (1,2-DP-Hydrazine)

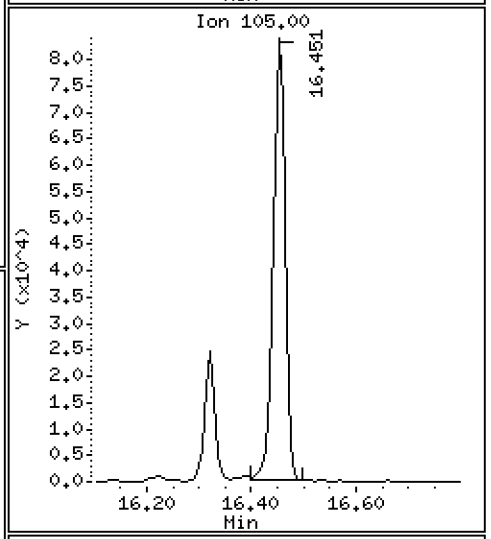
Concentration: 4.957 ug/mL

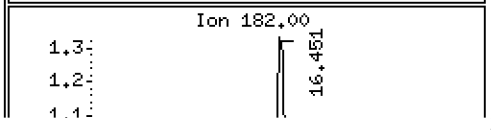












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

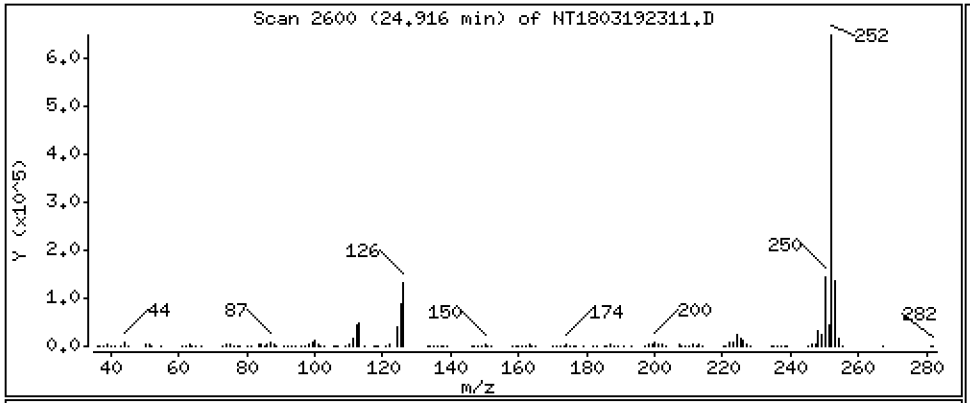
Operator: VTS

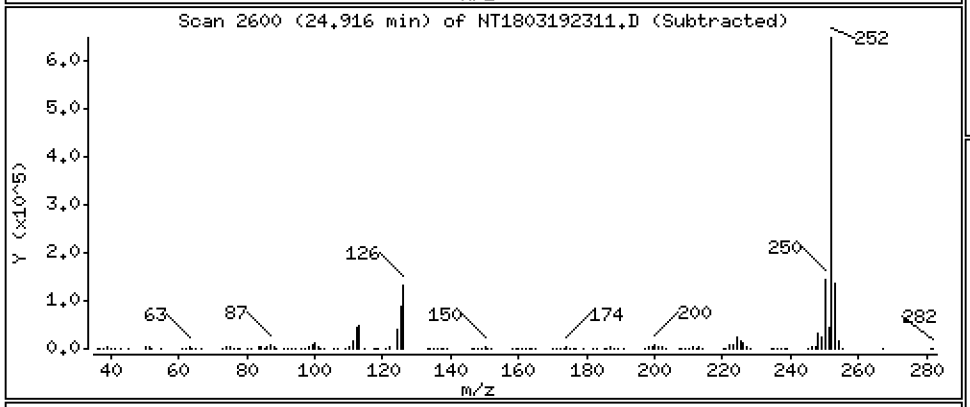
Column phase: ZB-5msi

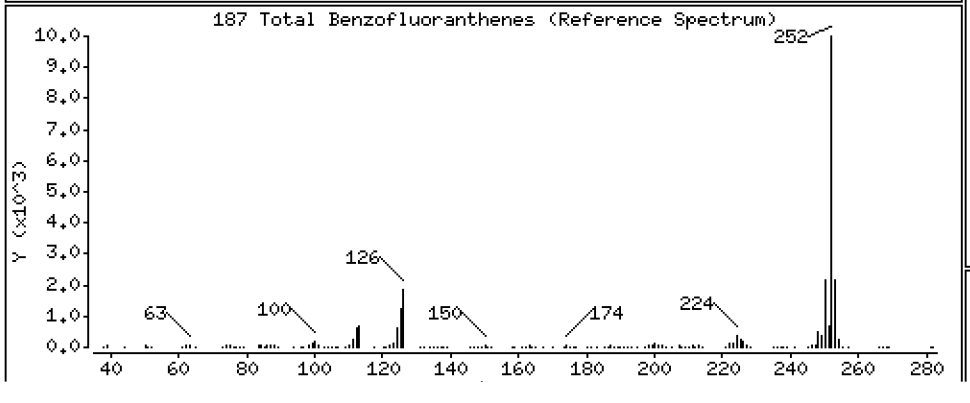
Column diameter: 0.25

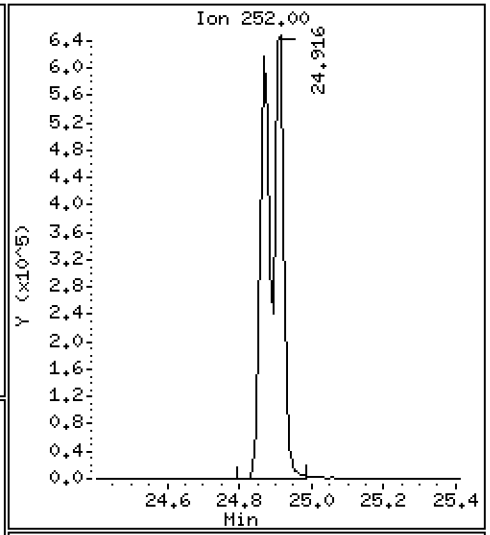
187 Total Benzofluoranthenes

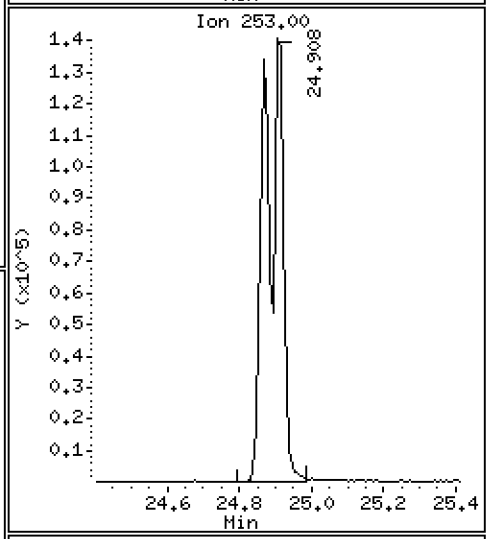
Concentration: 10.02 ug/mL

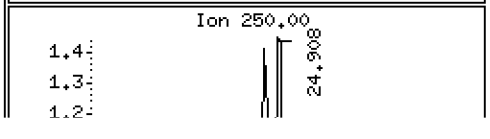












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

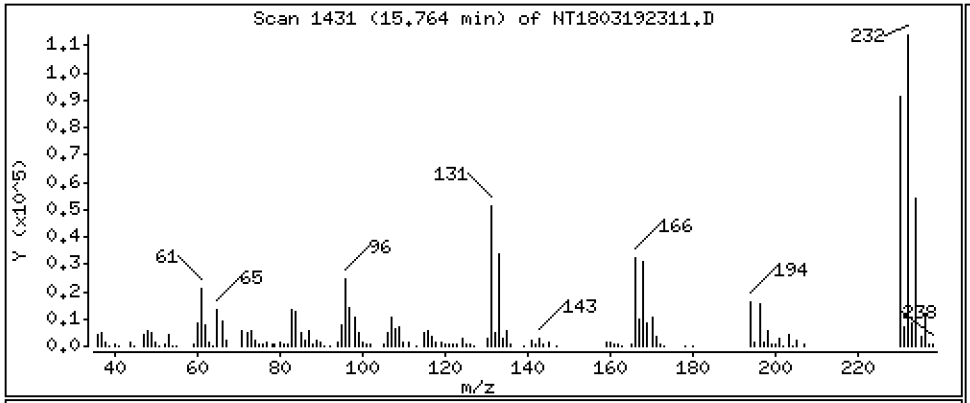
Operator: VTS

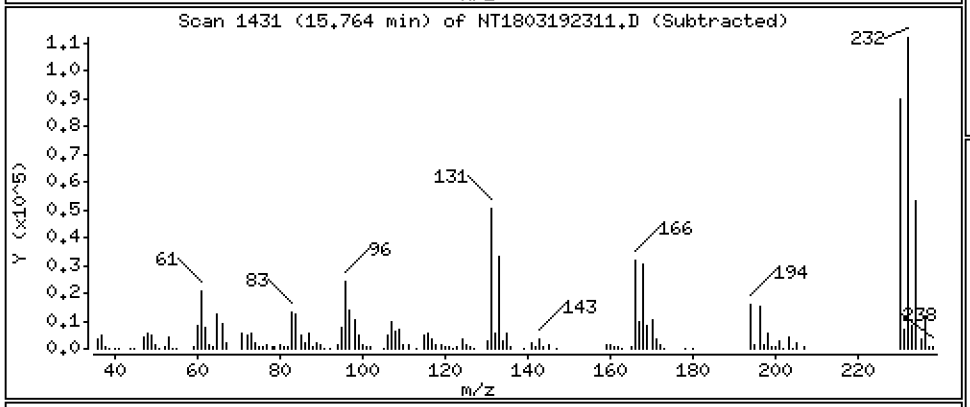
Column phase: ZB-5msi

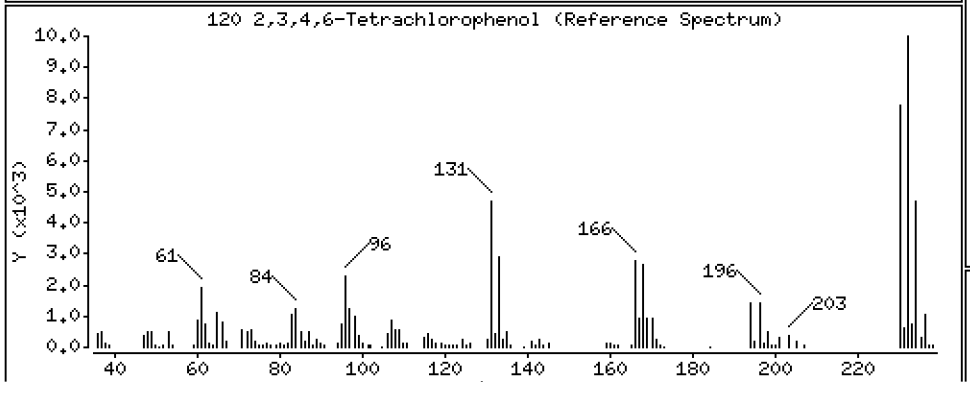
Column diameter: 0.25

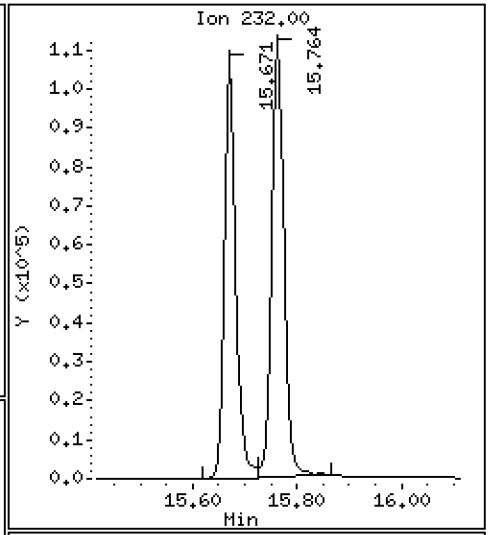
120 2,3,4,6-Tetrachlorophenol

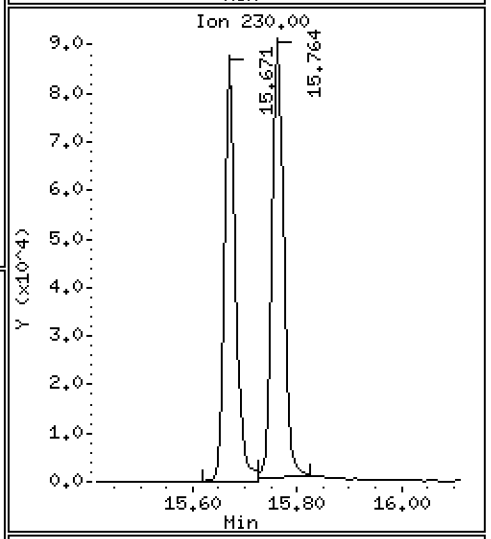
Concentration: 3.470 ug/mL

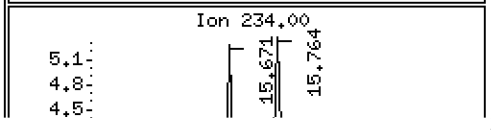












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

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Inj Date : 19-MAR-2023 21:26
Operator : VTS Inst ID: nt18.i
Smp Info : scv
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230319.b\ABN.m
Meth Date : 01-Apr-2023 07:54 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 19:24 Cal File: NT1803192308.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: ORGDATA102

							CONCENTRATIONS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	Compound Not Detected.					
$	2 Phenol-d5	99	Compound Not Detected.					
	3 Phenol	94	8.372	8.372	(0.930)	441043	4.35211	4.352
$	5 2-Chlorophenol-d4	132	Compound Not Detected.					
	4 Bis(2-Chloroethyl)ether	93	8.550	8.542	(0.950)	368879	5.25957	5.260
	6 2-Chlorophenol	128	8.658	8.658	(0.962)	387609	4.47327	4.473
	7 1,3-Dichlorobenzene	146	8.929	8.929	(0.992)	460837	5.00917	5.009
*	8 1,4-Dichlorobenzene-d4	152	8.998	8.999	(1.000)	248847	4.00000	
	9 1,4-Dichlorobenzene	146	9.029	9.022	(1.003)	466917	5.07130	5.071
$	10 1,2-Dichlorobenzene-d4	152	Compound Not Detected.					
	12 1,2-Dichlorobenzene	146	9.379	9.379	(1.042)	446066	4.91643	4.916
	11 Benzyl alcohol	108	9.262	9.262	(1.029)	246021	5.20270	5.203
	14 2,2'-oxybis(1-Chloropropane)	121	9.565	9.565	(1.063)	118450	5.54474	5.545
	13 2-Methylphenol	108	9.480	9.480	(1.053)	325960	4.23779	4.238
	17 Hexachloroethane	117	9.969	9.961	(1.108)	186172	5.16388	5.164
	16 N-Nitroso-di-n-propylamine	70	9.821	9.814	(1.091)	286844	5.23671	5.237
	15 4-Methylphenol	108	9.751	9.744	(1.084)	358003	4.48222	4.482
$	18 Nitrobenzene-d5	82	Compound Not Detected.					

	19	Nitrobenzene	77	10.108	10.109	(0.882)	383821	5.02881	5.029
	20	Isophorone	82	10.558	10.559	(0.922)	825809	7.92328	7.923
	21	2-Nitrophenol	139	10.736	10.736	(0.937)	169697	3.74842	3.748
	22	2,4-Dimethylphenol	107	10.787	10.787	(0.942)	285900	3.72602	3.726
	23	Bis(2-Chloroethoxy)methane	93	10.990	10.982	(0.959)	441596	5.86188	5.862
	24	Benzoic acid	105	10.965	10.880	(0.957)	350650	6.42179	6.422
	25	2,4-Dichlorophenol	162	11.185	11.186	(0.976)	351728	4.98044	4.980
	26	1,2,4-Trichlorobenzene	180	11.370	11.370	(0.993)	359680	4.85808	4.858
*	27	Naphthalene-d8	136	11.455	11.455	(1.000)	941852	4.00000	
	28	Naphthalene	128	11.493	11.494	(1.003)	1245937	4.87487	4.875
	29	4-Chloroaniline	127	11.625	11.625	(1.015)	383246	3.89715	3.897
	30	Hexachlorobutadiene	225	11.864	11.857	(1.036)	211903	5.03333	5.033
	31	4-Chloro-3-methylphenol	107	12.576	12.576	(1.098)	306271	4.70884	4.709
	32	2-Methylnaphthalene	142	12.886	13.103	(1.125)	801723	5.24701	5.247(H)
	33	Hexachlorocyclopentadiene	237	13.350	13.350	(0.887)	222562	5.05604	5.056

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.497	13.497	(0.897)	208419	4.58046	4.580
	35 2,4,5-Trichlorophenol	196	13.567	13.567	(0.902)	225198	4.52785	4.528
$	36 2-Fluorobiphenyl	172	Compound Not Detected.					
	37 2-Chloronaphthalene	162	13.869	13.861	(0.922)	709799	4.88462	4.885
	38 2-Nitroaniline	65	14.116	14.116	(0.938)	183222	4.81152	4.812
	39 Dimethylphthalate	163	14.557	14.558	(0.968)	773755	5.10490	5.105
	40 Acenaphthylene	152	14.728	14.728	(0.979)	1218077	4.92248	4.922
	41 2,6-Dinitrotoluene	165	14.697	14.689	(0.977)	166669	4.85742	4.857
*	42 Acenaphthene-d10	164	15.045	15.045	(1.000)	508667	4.00000	
	43 3-Nitroaniline	138	14.968	14.960	(0.995)	199465	5.15025	5.150
	44 Acenaphthene	153	15.107	15.107	(1.004)	758439	4.84229	4.842
	45 2,4-Dinitrophenol	184	15.176	15.176	(1.009)	37685	1.88731	1.887
	46 Dibenzofuran	168	15.431	15.424	(1.026)	1023349	4.75581	4.756
	47 4-Nitrophenol	109	15.277	15.269	(1.015)	84926	4.12755	4.128
	48 2,4-Dinitrotoluene	165	15.493	15.486	(1.030)	201908	4.48058	4.481
	50 Diethylphthalate	149	16.004	16.004	(1.064)	771038	5.02064	5.021
	49 Fluorene	166	16.135	16.135	(1.072)	984533	5.04042	5.040
	51 4-Chlorophenyl-phenylether	204	16.135	16.127	(1.072)	467934	5.39775	5.398
	52 4-Nitroaniline	138	16.220	16.212	(1.078)	168586	4.32315	4.323
	53 4,6-Dinitro-2-methylphenol	198	16.320	16.312	(0.904)	74351	3.08813	3.088
	54 N-Nitrosodiphenylamine	169	16.382	16.374	(0.908)	552391	5.07694	5.077
$	55 2,4,6-Tribromophenol	330	Compound Not Detected.					
	56 4-Bromophenyl-phenylether	248	17.130	17.130	(0.949)	230243	5.33467	5.335
	57 Hexachlorobenzene	284	17.439	17.439	(0.966)	237192	4.89949	4.899
	58 Pentachlorophenol	266	17.787	17.787	(0.985)	110267	3.80234	3.802
*	59 Phenanthrene-d10	188	18.050	18.050	(1.000)	854150	4.00000	
	60 Phenanthrene	178	18.097	18.097	(1.003)	1124988	4.82494	4.825
	61 Anthracene	178	18.189	18.190	(1.008)	949240	4.27002	4.270
	62 Carbazole	167	18.514	18.514	(1.026)	915932	4.67894	4.679
	63 Di-n-butylphthalate	149	19.327	19.335	(1.071)	1252814	4.83870	4.839
	64 Fluoranthene	202	20.472	20.472	(0.887)	1169339	5.21259	5.213
	65 Pyrene	202	20.897	20.890	(0.906)	1189380	5.03037	5.030
$	66 Terphenyl-d14	244	Compound Not Detected.					
	67 Butylbenzylphthalate	149	22.113	22.113	(0.958)	485115	4.79167	4.792
	68 Benzo(a)anthracene	228	23.042	23.042	(0.999)	1091414	4.95439	4.954
*	69 Chrysene-d12	240	23.073	23.073	(1.000)	703971	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.003	23.003	(0.997)	736332	9.28906	9.289
	71 Chrysene	228	23.119	23.112	(1.002)	1096346	4.81448	4.814
	72 bis(2-Ethylhexyl)phthalate	149	23.135	23.135	(0.960)	758931	5.00338	5.003
*	134 Di-n-octylphthalate-d4	153	24.110	24.110	(1.000)	1052203	4.00000	

	73	Di-n-octylphthalate	149	24.118	24.118 (1.000)	1333082	5.14944	5.149
	74	Benzo(b)fluoranthene	252	24.869	24.869 (0.972)	1146645	5.17215	5.172
	75	Benzo(k)fluoranthene	252	24.915	24.908 (0.973)	1183533	4.85368	4.854
	76	Benzo(a)pyrene	252	25.488	25.481 (0.996)	1036082	4.67267	4.673
*	77	Perylene-d12	264	25.597	25.597 (1.000)	796363	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	28.102	28.094 (1.098)	1282147	4.55301	4.553
	79	Dibenzo(a,h)anthracene	278	28.117	28.102 (1.098)	1063521	4.54375	4.544
	80	Benzo(g,h,i)perylene	276	28.102	28.816 (1.098)	1282147	5.69990	5.700
	90	N-Nitrosodimethylamine	74	4.703	4.703 (0.523)	243602	5.13632	5.136(H)
	91	Aniline	93	Compound Not Detected.				
	93	Benzidine	184	20.712	20.712 (0.898)	502334	5.26600	5.266
	103	Pyridine	79	4.726	4.749 (0.525)	416943	5.32344	5.323
	105	1-methylnaphthalene	142	13.102	13.103 (1.144)	778553	5.09537	5.095
	111	Azobenzene (1,2-DP-Hydrazine)	77	16.451	16.451 (1.093)	834251	4.95703	4.957

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
187 Total Benzofluoranthenes	252	24.915	24.908	(0.973)	2225200	10.0155	10.02
120 2,3,4,6-Tetrachlorophenol	232	15.764	15.764	(1.048)	193132	3.46953	3.470

QC Flag Legend

H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192311.D
Lab Smp Id: SLC0502-SCV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 16:40
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	268611	134306	537222	248847	-7.36
27 Naphthalene-d8	1007141	503571	2014282	941852	-6.48
42 Acenaphthene-d10	531283	265642	1062566	508667	-4.26
59 Phenanthrene-d10	884709	442355	1769418	854150	-3.45
69 Chrysene-d12	727768	363884	1455536	703971	-3.27
134 Di-n-octylphthala	1108384	554192	2216768	1052203	-5.07
77 Perylene-d12	824431	412216	1648862	796363	-3.40

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	-0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	-0.00
42 Acenaphthene-d10	15.05	14.55	15.55	15.05	-0.00
59 Phenanthrene-d10	18.05	17.55	18.55	18.05	-0.00
69 Chrysene-d12	23.07	22.57	23.57	23.07	-0.00
134 Di-n-octylphthala	24.11	23.61	24.61	24.11	-0.00
77 Perylene-d12	25.60	25.10	26.10	25.60	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192311.D

Lab ID: SLC0502-SCV1
nt18.i, ABN.m, 19-MAR-2023 21:26

RT	CO-ELUTION COMPOUNDS
28.102	Benzo(g,h,i)perylene and Indeno(1,2,3-cd)pyrene

** FIRST SURROGATE NOT FOUND. ICAL Check not performed **

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.957	0.950	0.0074	Benzoic acid
1.125	1.144	-0.0189	2-Methylnaphthalene
1.098	1.126	-0.0279	Benzo(g,h,i)perylene

RRT check based on Ccal File: NT1803192308.D

On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192312.D

Date : 19-MAR-2023 22:06

Client ID:

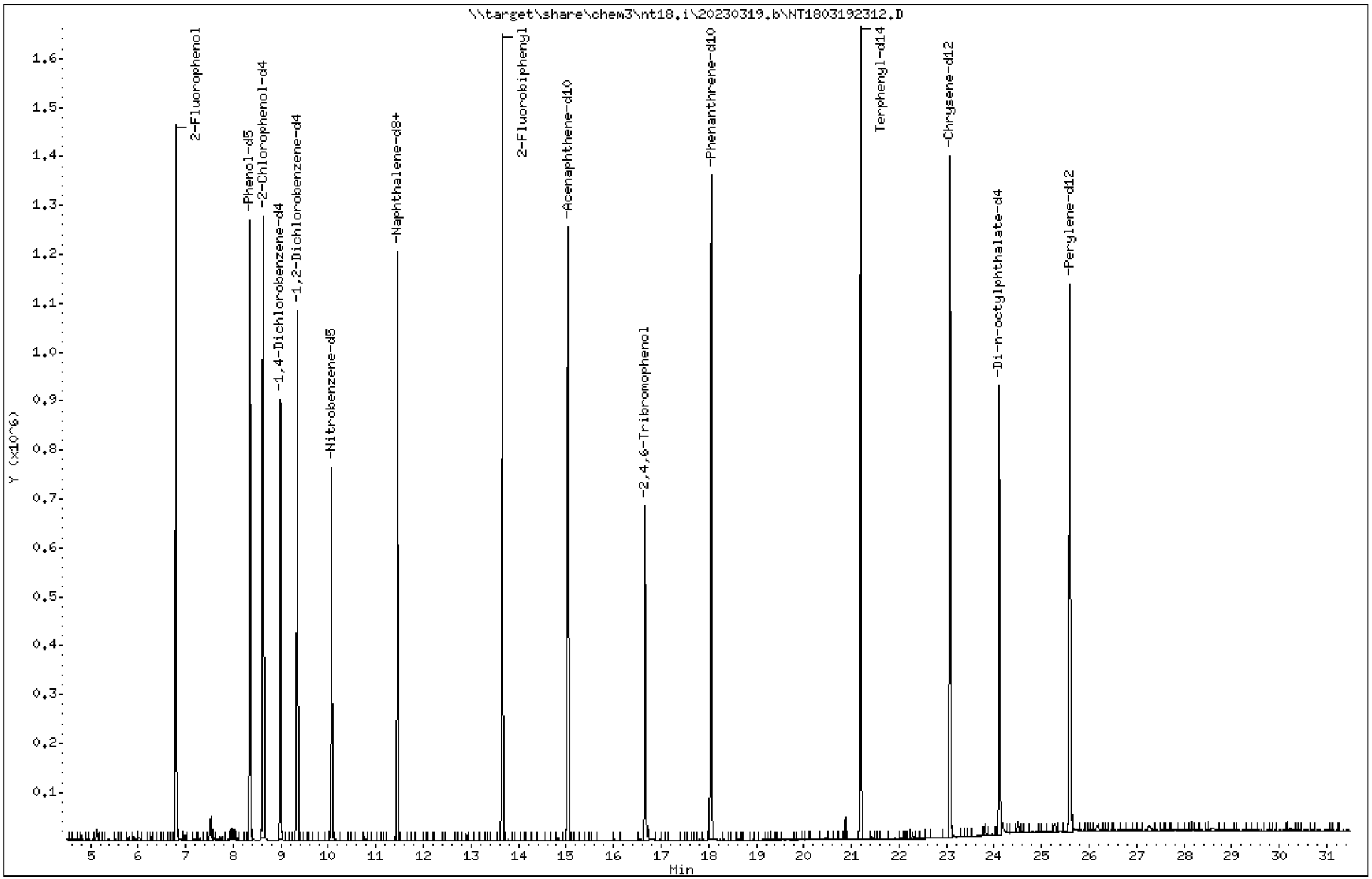
Instrument: nt18.i

Sample Info: icb

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192312.D

Date : 19-MAR-2023 22:06

Client ID:

Instrument: nt18.i

Sample Info: icb

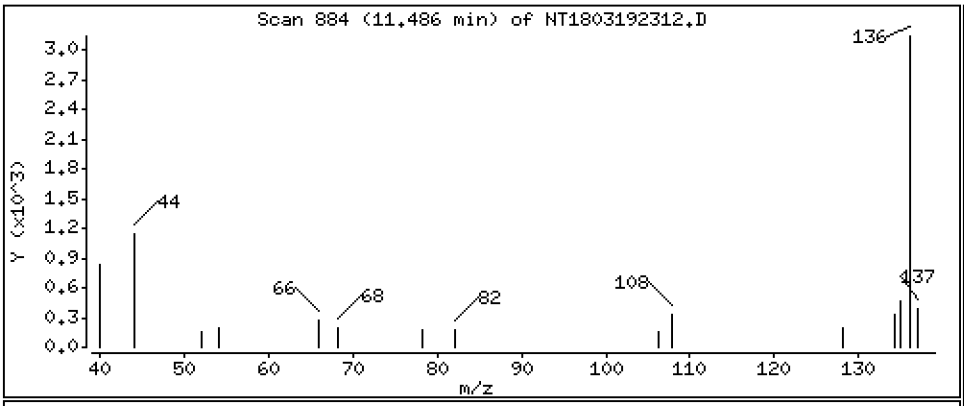
Operator: VTS

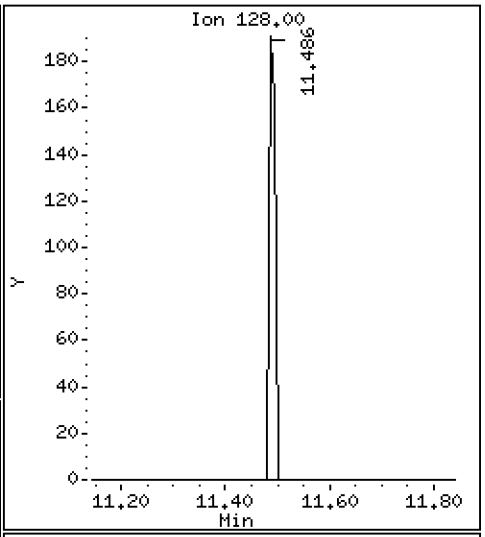
Column phase: ZB-5msi

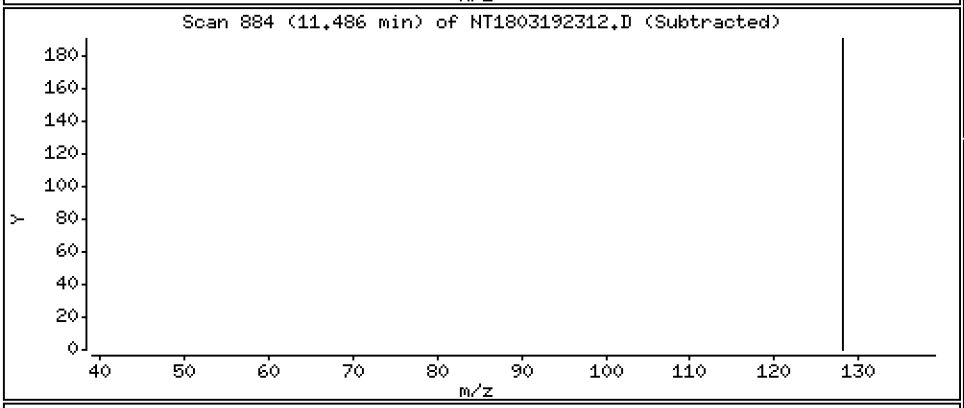
Column diameter: 0.25

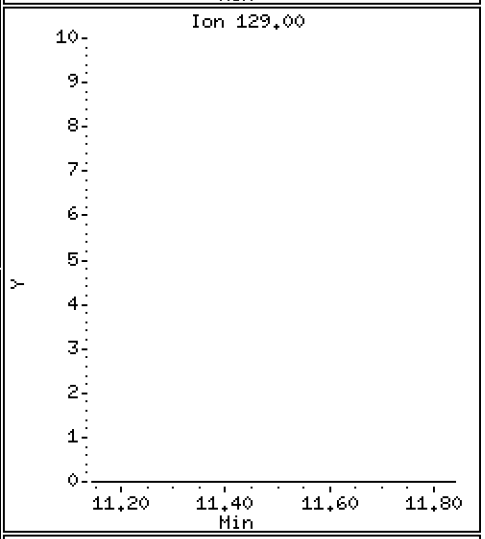
28 Naphthalene

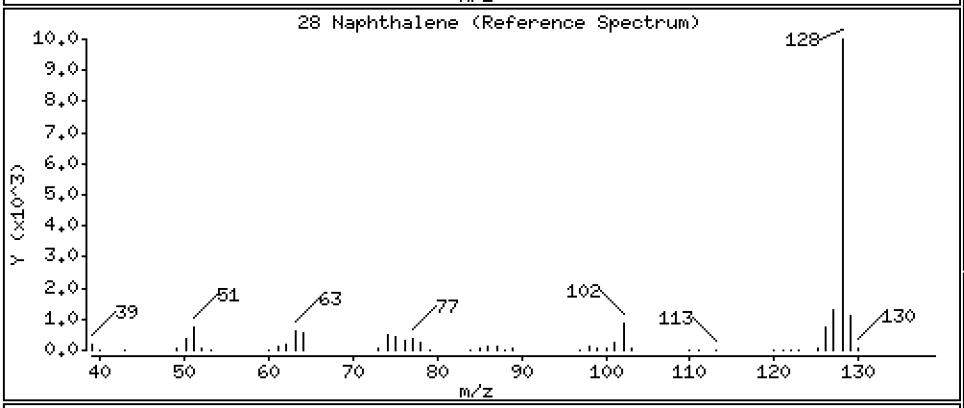
Concentration: 0.0006606 ug/mL

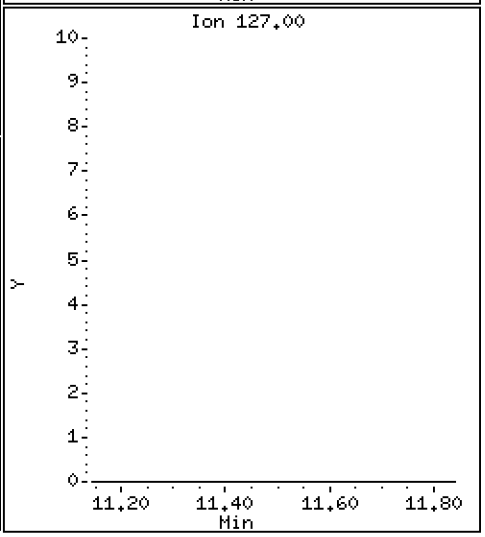


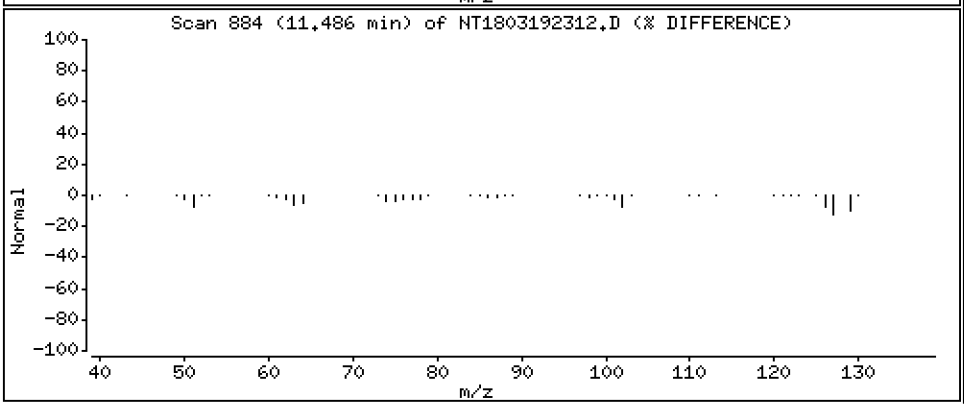












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230319.b\NT1803192312.D
Lab Smp Id: SLC0502-ICB1
Inj Date : 19-MAR-2023 22:06
Operator : VTS Inst ID: nt18.i
Smp Info : icb
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230319.b\ABN.m
Meth Date : 30-Mar-2023 15:35 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 19:24 Cal File: NT1803192308.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: ORGDATA102

							CONCENTRATIONS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.788	6.788	(0.754)	575807	7.51509	7.515
$	2 Phenol-d5	99	8.357	8.350	(0.929)	725275	7.66231	7.662
	3 Phenol	94	Compound Not Detected.					
$	5 2-Chlorophenol-d4	132	8.627	8.628	(0.959)	607404	7.40299	7.403
	4 Bis(2-Chloroethyl)ether	93	Compound Not Detected.					
	6 2-Chlorophenol	128	Compound Not Detected.					
	7 1,3-Dichlorobenzene	146	Compound Not Detected.					
*	8 1,4-Dichlorobenzene-d4	152	8.998	8.999	(1.000)	248537	4.00000	
	9 1,4-Dichlorobenzene	146	Compound Not Detected.					
$	10 1,2-Dichlorobenzene-d4	152	9.348	9.348	(1.039)	287335	4.77273	4.773
	12 1,2-Dichlorobenzene	146	Compound Not Detected.					
	11 Benzyl alcohol	108	Compound Not Detected.					
	14 2,2'-oxybis(1-Chloropropane)	121	Compound Not Detected.					
	13 2-Methylphenol	108	Compound Not Detected.					
	17 Hexachloroethane	117	Compound Not Detected.					
	16 N-Nitroso-di-n-propylamine	70	Compound Not Detected.					
	15 4-Methylphenol	108	Compound Not Detected.					
$	18 Nitrobenzene-d5	82	10.077	10.078	(0.880)	388386	5.14992	5.150
	19 Nitrobenzene	77	Compound Not Detected.					
	20 Isophorone	82	Compound Not Detected.					
	21 2-Nitrophenol	139	Compound Not Detected.					
	22 2,4-Dimethylphenol	107	Compound Not Detected.					
	23 Bis(2-Chloroethoxy)methane	93	Compound Not Detected.					
	24 Benzoic acid	105	Compound Not Detected.					
	25 2,4-Dichlorophenol	162	Compound Not Detected.					
	26 1,2,4-Trichlorobenzene	180	Compound Not Detected.					
*	27 Naphthalene-d8	136	11.455	11.456	(1.000)	914912	4.00000	
	28 Naphthalene	128	11.486	11.494	(1.003)	164	7e-004	0.0006606
	29 4-Chloroaniline	127	Compound Not Detected.					
	30 Hexachlorobutadiene	225	Compound Not Detected.					
	31 4-Chloro-3-methylphenol	107	Compound Not Detected.					
	32 2-Methylnaphthalene	142	Compound Not Detected.					
	33 Hexachlorocyclopentadiene	237	Compound Not Detected.					

		QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	Compound Not Detected.					
	35 2,4,5-Trichlorophenol	196	Compound Not Detected.					
$	36 2-Fluorobiphenyl	172	13.660	13.660	(0.908)	838878	4.89619	4.896
	37 2-Chloronaphthalene	162	Compound Not Detected.					
	38 2-Nitroaniline	65	Compound Not Detected.					
	39 Dimethylphthalate	163	Compound Not Detected.					
	40 Acenaphthylene	152	Compound Not Detected.					
	41 2,6-Dinitrotoluene	165	Compound Not Detected.					
*	42 Acenaphthene-d10	164	15.045	15.046	(1.000)	478452	4.00000	
	43 3-Nitroaniline	138	Compound Not Detected.					
	44 Acenaphthene	153	Compound Not Detected.					
	45 2,4-Dinitrophenol	184	Compound Not Detected.					
	46 Dibenzofuran	168	Compound Not Detected.					
	47 4-Nitrophenol	109	Compound Not Detected.					
	48 2,4-Dinitrotoluene	165	Compound Not Detected.					
	50 Diethylphthalate	149	Compound Not Detected.					
	49 Fluorene	166	Compound Not Detected.					
	51 4-Chlorophenyl-phenylether	204	Compound Not Detected.					
	52 4-Nitroaniline	138	Compound Not Detected.					
	53 4,6-Dinitro-2-methylphenol	198	Compound Not Detected.					
	54 N-Nitrosodiphenylamine	169	Compound Not Detected.					
$	55 2,4,6-Tribromophenol	330	16.667	16.668	(1.108)	123817	5.76674	5.767
	56 4-Bromophenyl-phenylether	248	Compound Not Detected.					
	57 Hexachlorobenzene	284	Compound Not Detected.					
	58 Pentachlorophenol	266	Compound Not Detected.					
*	59 Phenanthrene-d10	188	18.050	18.051	(1.000)	846112	4.00000	
	60 Phenanthrene	178	Compound Not Detected.					
	61 Anthracene	178	Compound Not Detected.					
	62 Carbazole	167	Compound Not Detected.					
	63 Di-n-butylphthalate	149	Compound Not Detected.					
	64 Fluoranthene	202	Compound Not Detected.					
	65 Pyrene	202	Compound Not Detected.					
$	66 Terphenyl-d14	244	21.191	21.184	(0.918)	883581	5.22754	5.228
	67 Butylbenzylphthalate	149	Compound Not Detected.					
	68 Benzo(a)anthracene	228	Compound Not Detected.					
*	69 Chrysene-d12	240	23.073	23.074	(1.000)	676661	4.00000	
	70 3,3'-Dichlorobenzidine	252	Compound Not Detected.					
	71 Chrysene	228	Compound Not Detected.					
	72 bis(2-Ethylhexyl)phthalate	149	Compound Not Detected.					
*	134 Di-n-octylphthalate-d4	153	24.110	24.110	(1.000)	797100	4.00000	
	73 Di-n-octylphthalate	149	Compound Not Detected.					
	74 Benzo(b)fluoranthene	252	Compound Not Detected.					
	75 Benzo(k)fluoranthene	252	Compound Not Detected.					
	76 Benzo(a)pyrene	252	Compound Not Detected.					
*	77 Perylene-d12	264	25.589	25.597	(1.000)	739815	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
	79 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	80 Benzo(g,h,i)perylene	276	Compound Not Detected.					
	90 N-Nitrosodimethylamine	74	Compound Not Detected.					
	91 Aniline	93	Compound Not Detected.					
	93 Benzidine	184	Compound Not Detected.					
	103 Pyridine	79	Compound Not Detected.					
	105 1-methylnaphthalene	142	Compound Not Detected.					
	111 Azobenzene (1,2-DP-Hydrazine)	77	Compound Not Detected.					

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187 Total Benzofluoranthenes	252	Compound Not Detected.					
120 2,3,4,6-Tetrachlorophenol	232	Compound Not Detected.					

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192312.D
Lab Smp Id: SLC0502-ICB1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 16:40
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	268611	134306	537222	248537	-7.47
27 Naphthalene-d8	1007141	503571	2014282	914912	-9.16
42 Acenaphthene-d10	531283	265642	1062566	478452	-9.94
59 Phenanthrene-d10	884709	442355	1769418	846112	-4.36
69 Chrysene-d12	727768	363884	1455536	676661	-7.02
134 Di-n-octylphthala	1108384	554192	2216768	797100	-28.08
77 Perylene-d12	824431	412216	1648862	739815	-10.26

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	-0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	-0.00
42 Acenaphthene-d10	15.05	14.55	15.55	15.05	-0.00
59 Phenanthrene-d10	18.05	17.55	18.55	18.05	-0.00
69 Chrysene-d12	23.07	22.57	23.57	23.07	-0.00
134 Di-n-octylphthala	24.11	23.61	24.61	24.11	-0.00
77 Perylene-d12	25.60	25.10	26.10	25.59	-0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192312.D

Lab ID: SLC0502-ICB1
nt18.i, ABN.m, 19-MAR-2023 22:06

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

RRT check based on Ccal File: NT1803192308.D

On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Analytical Resources, LLC
Analytical Chemists and Consultants

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270E

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GC00085
Laboratory ID: SLC0502-SCV1
Sequence: SLC0502
Sequence Name: SCV 5.0
Standard ID: K010066

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DRIFT	QC LIMIT
Phenol	5.0000	4.4	-13.0	20.00
bis(2-chloroethyl) ether	5.0000	5.3	5.2	20.00
2-Chlorophenol	5.0000	4.5	-10.5	20.00
1,3-Dichlorobenzene	5.0000	5.0	0.2	20.00
1,4-Dichlorobenzene	5.0000	5.1	1.4	20.00
1,2-Dichlorobenzene	5.0000	4.9	-1.7	20.00
Benzyl Alcohol	5.0000	5.2	4.1	20.00
2,2'-Oxybis(1-chloropropane)	5.0000	5.5	10.9	20.00
2-Methylphenol	5.0000	4.2	-15.2	20.00
Hexachloroethane	5.0000	5.2	3.3	20.00
N-Nitroso-di-n-Propylamine	5.0000	5.2	4.7	20.00
4-Methylphenol	5.0000	4.5	-10.4	20.00
Nitrobenzene	5.0000	5.0	0.6	20.00
Isophorone	5.0000	7.9	58.5 *	20.00
2-Nitrophenol	5.0000	3.7	-25.0 *	20.00
2,4-Dimethylphenol	5.0000	3.7	-25.5 *	20.00
Bis(2-Chloroethoxy)methane	5.0000	5.9	17.2	20.00
2,4-Dichlorophenol	5.0000	5.0	-0.4	20.00
1,2,4-Trichlorobenzene	5.0000	4.9	-2.8	20.00
Naphthalene	5.0000	4.9	-2.5	20.00
Benzoic acid	10.000	6.4	-35.8 *	20.00
4-Chloroaniline	5.0000	3.9	-22.1 *	20.00
Hexachlorobutadiene	5.0000	5.0	0.7	20.00
4-Chloro-3-Methylphenol	5.0000	4.7	-5.8	20.00
2-Methylnaphthalene	5.0000	4.8	-3.7	20.00
Hexachlorocyclopentadiene	5.0000	5.1	1.1	20.00
2,4,6-Trichlorophenol	5.0000	4.6	-8.4	20.00
2,4,5-Trichlorophenol	5.0000	4.5	-9.4	20.00
2-Chloronaphthalene	5.0000	4.9	-2.3	20.00
2-Nitroaniline	5.0000	4.8	-3.8	20.00
Acenaphthylene	5.0000	4.9	-1.6	20.00
Dimethylphthalate	5.0000	5.1	2.1	20.00
2,6-Dinitrotoluene	5.0000	4.9	-2.9	20.00
Acenaphthene	5.0000	4.8	-3.2	20.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270E

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GC00085
Laboratory ID: SLC0502-SCV1
Sequence: SLC0502
Sequence Name: SCV 5.0
Standard ID: K010066

3-Nitroaniline	5.0000	5.2	3.0	20.00
2,4-Dinitrophenol	5.0000	1.9	-62.3 *	20.00
Dibenzofuran	5.0000	4.8	-4.9	20.00
4-Nitrophenol	5.0000	4.1	-17.4	20.00
2,4-Dinitrotoluene	5.0000	4.5	-10.4	20.00
Fluorene	5.0000	5.0	0.8	20.00
4-Chlorophenylphenyl ether	5.0000	5.4	8.0	20.00
Diethyl phthalate	5.0000	5.0	0.4	20.00
4-Nitroaniline	5.0000	4.3	-13.5	20.00
4,6-Dinitro-2-methylphenol	5.0000	3.1	-38.2 *	20.00
N-Nitrosodiphenylamine	5.0000	5.1	1.5	20.00
4-Bromophenyl phenyl ether	5.0000	5.3	6.7	20.00
Hexachlorobenzene	5.0000	4.9	-2.0	20.00
Pentachlorophenol	5.0000	3.8	-24.0 *	20.00
Phenanthrene	5.0000	4.8	-3.5	20.00
Anthracene	5.0000	4.3	-14.6	20.00
Carbazole	5.0000	4.7	-6.4	20.00
Di-n-Butylphthalate	5.0000	4.8	-3.2	20.00
Fluoranthene	5.0000	5.2	4.3	20.00
Pyrene	5.0000	5.0	0.6	20.00
Butylbenzylphthalate	5.0000	4.8	-4.2	20.00
Benzo(a)anthracene	5.0000	5.0	-0.9	20.00
3,3'-Dichlorobenzidine	10.000	9.3	-7.1	20.00
Chrysene	5.0000	4.8	-3.7	20.00
bis(2-Ethylhexyl)phthalate	5.0000	5.0	0.07	20.00
Di-n-Octylphthalate	5.0000	5.1	3.0	20.00
Benzofluoranthenes, Total	10.000	10.0	0.2	20.00
Benzo(a)pyrene	5.0000	4.7	-6.5	20.00
Indeno(1,2,3-cd)pyrene	5.0000	4.6	-8.9	20.00
Dibenzo(a,h)anthracene	5.0000	4.5	-9.1	20.00
Benzo(g,h,i)perylene	5.0000	5.7	14.0	20.00
1-Methylnaphthalene	5.0000	5.1	1.9	20.00

* Indicates values outside of QC limits

Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

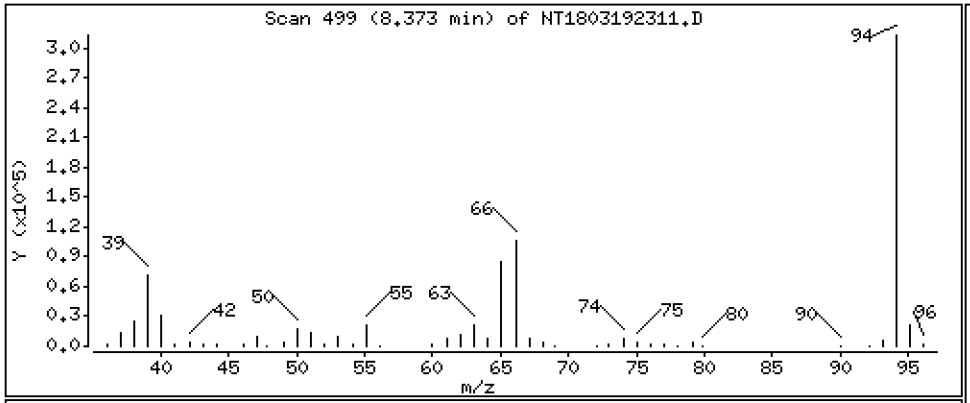
Operator: VTS

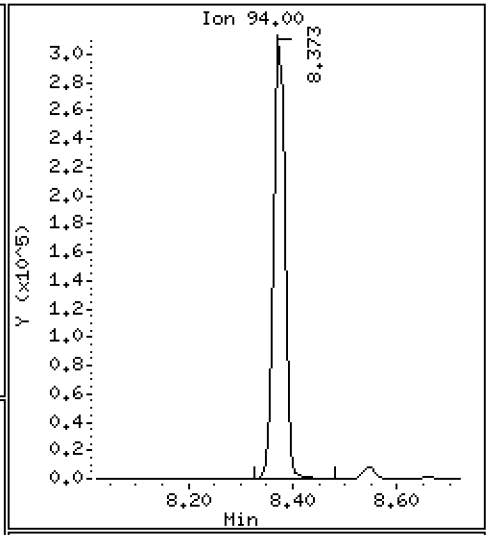
Column phase: ZB-5msi

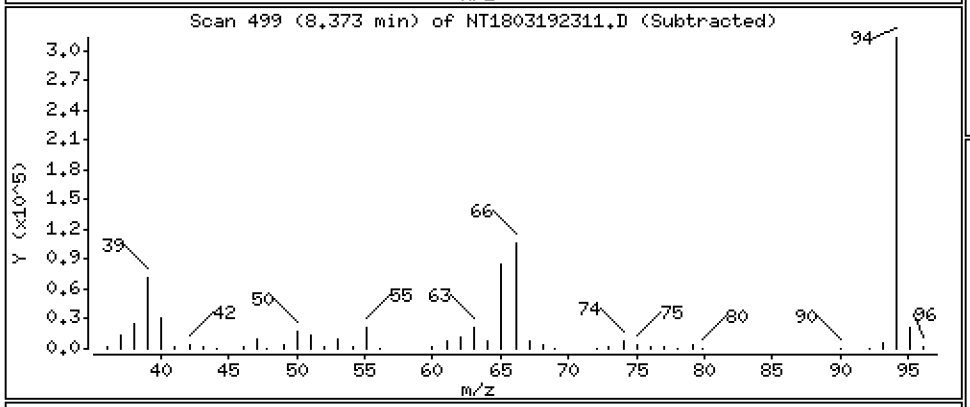
Column diameter: 0.25

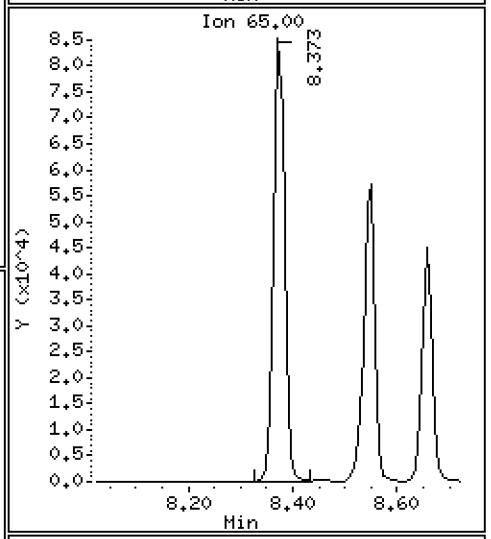
3 Phenol

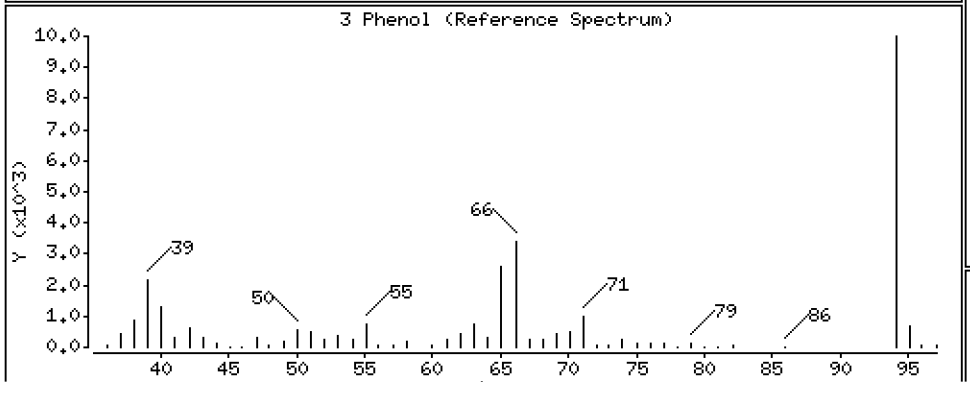
Concentration: 4.352 ug/mL

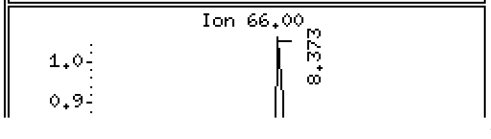












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

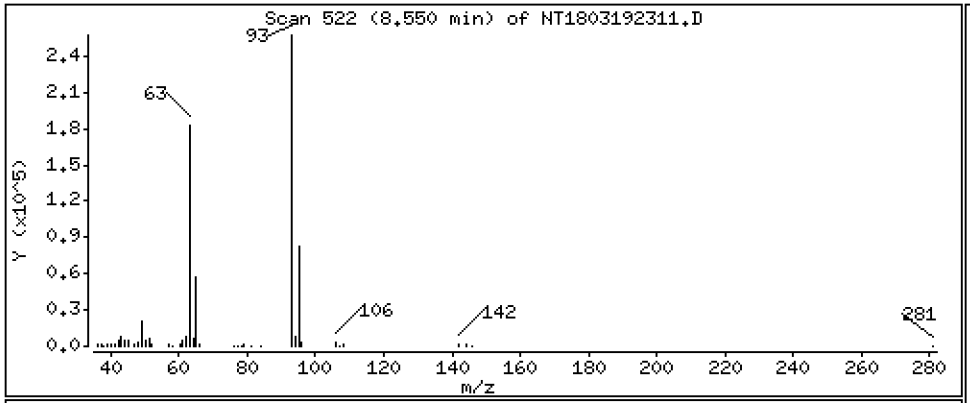
Operator: VTS

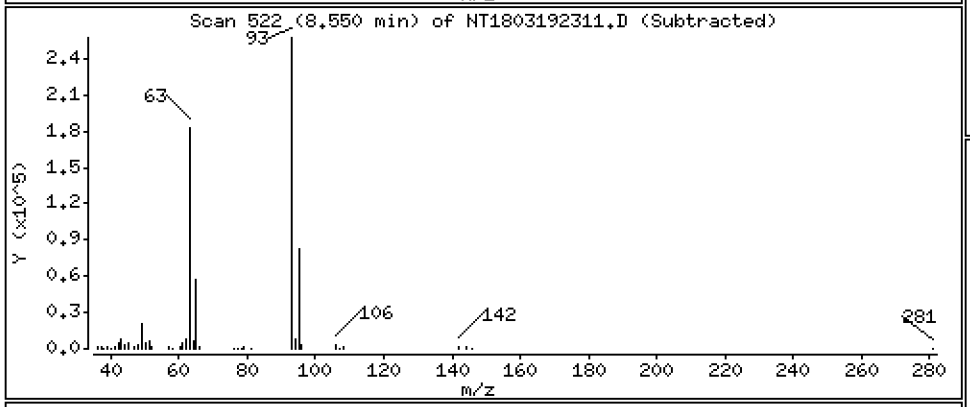
Column phase: ZB-5msi

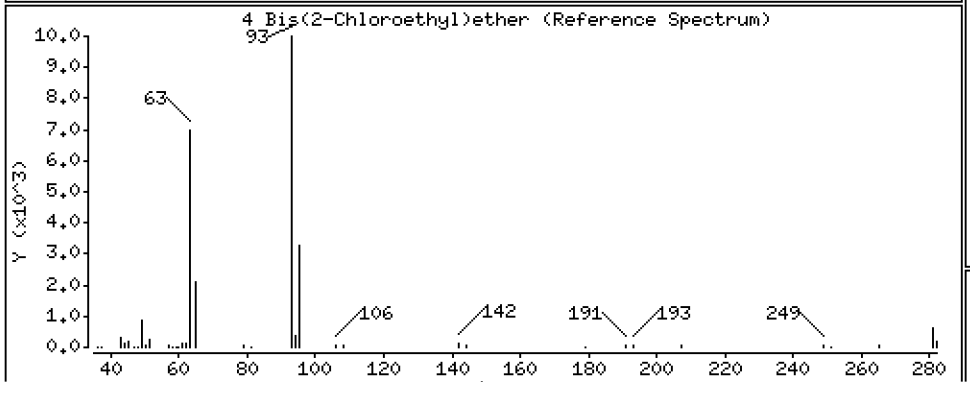
Column diameter: 0.25

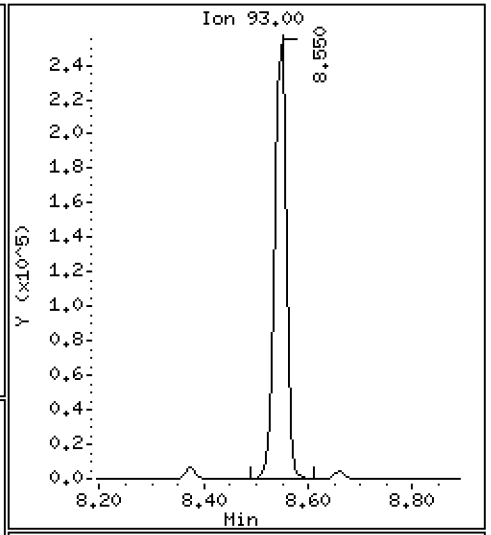
4 Bis(2-Chloroethyl)ether

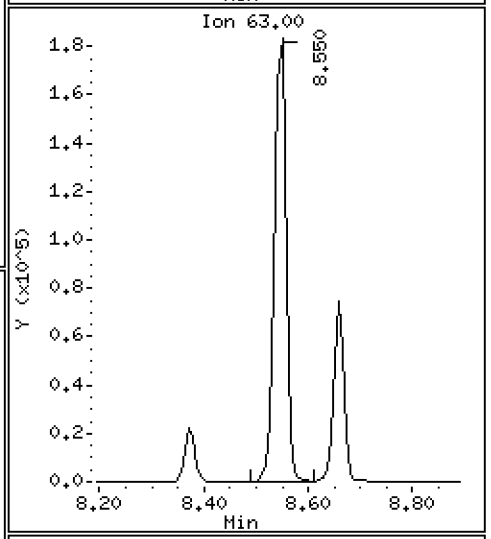
Concentration: 5.260 ug/mL

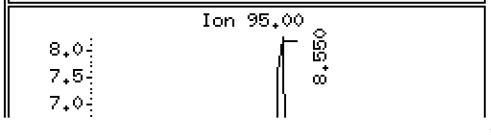












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

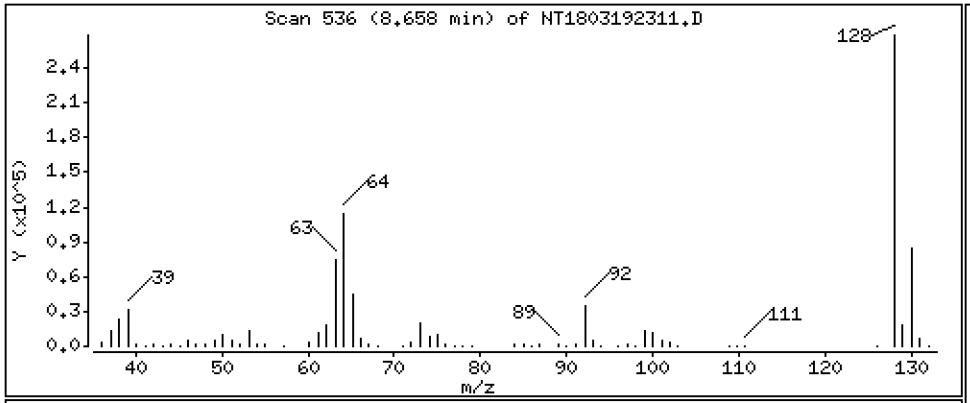
Operator: VTS

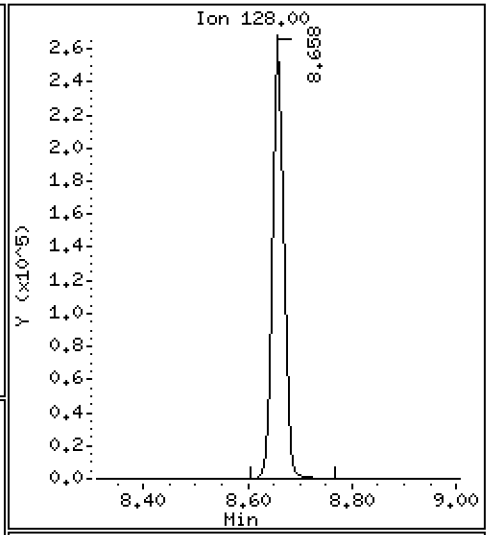
Column phase: ZB-5msi

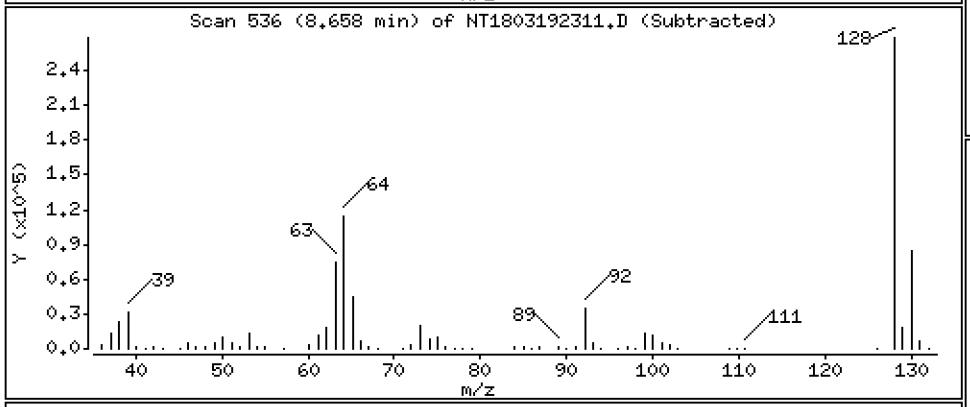
Column diameter: 0.25

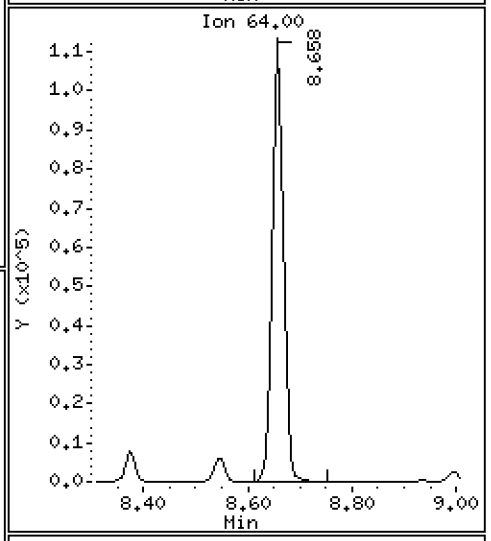
6 2-Chlorophenol

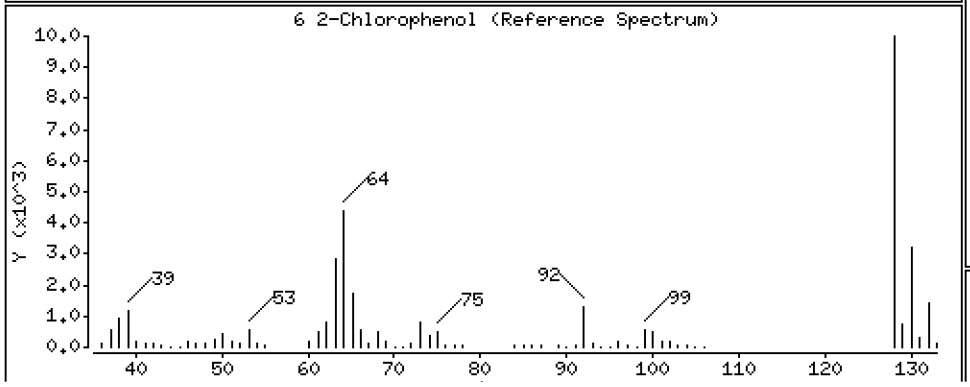
Concentration: 4.473 ug/mL

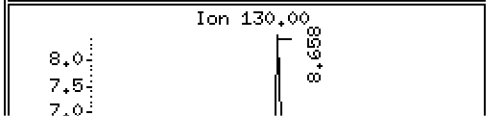












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

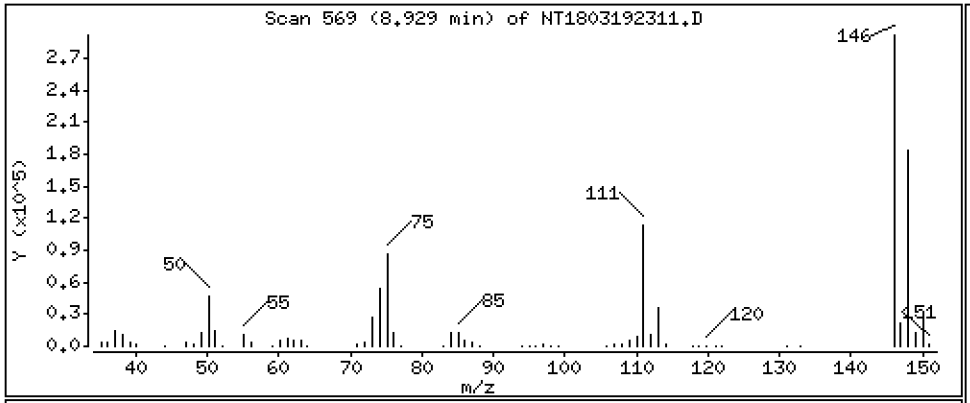
Operator: VTS

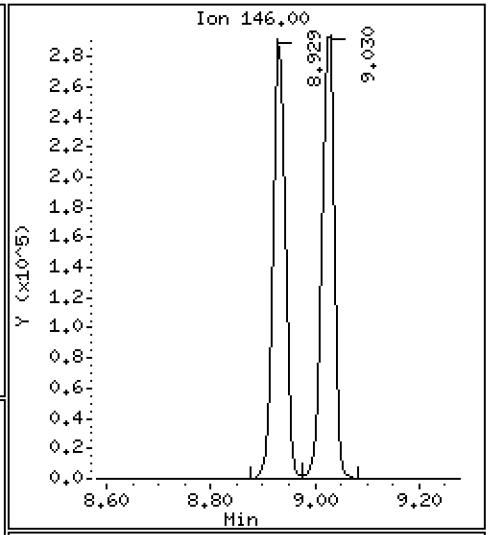
Column phase: ZB-5msi

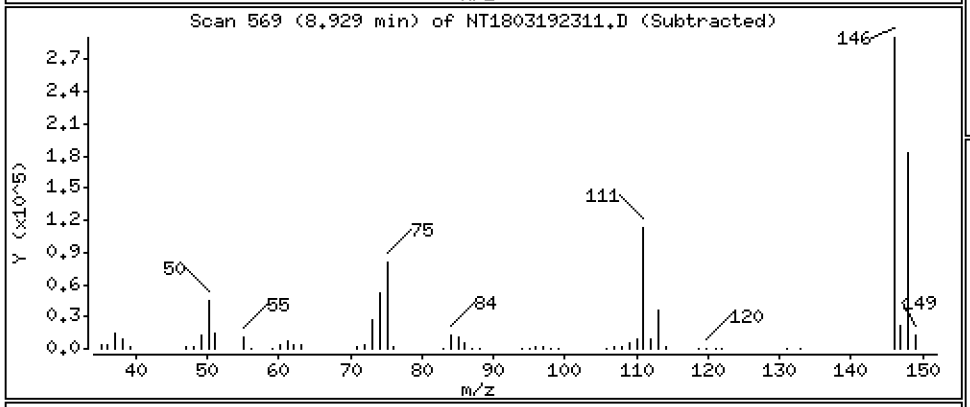
Column diameter: 0.25

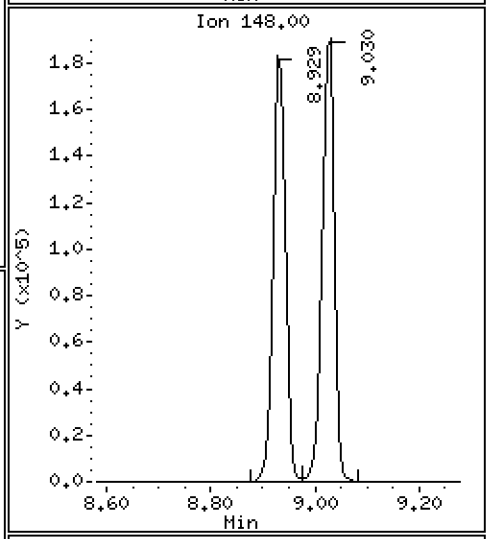
7 1,3-Dichlorobenzene

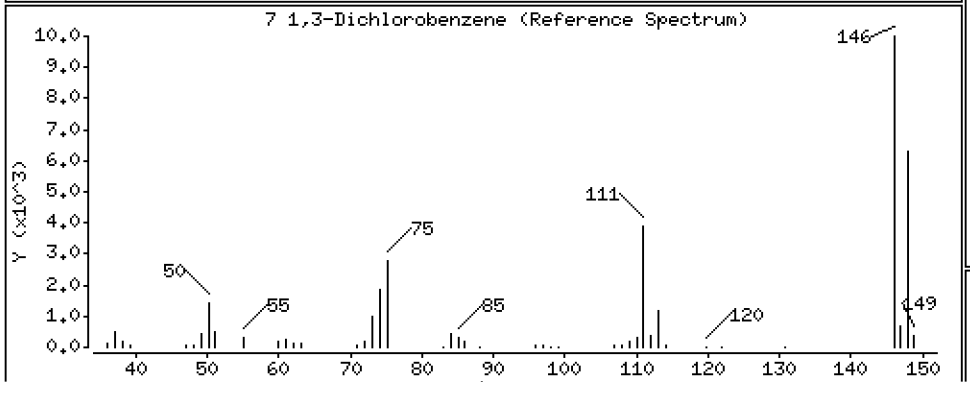
Concentration: 5.009 ug/mL

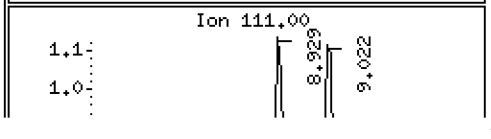












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

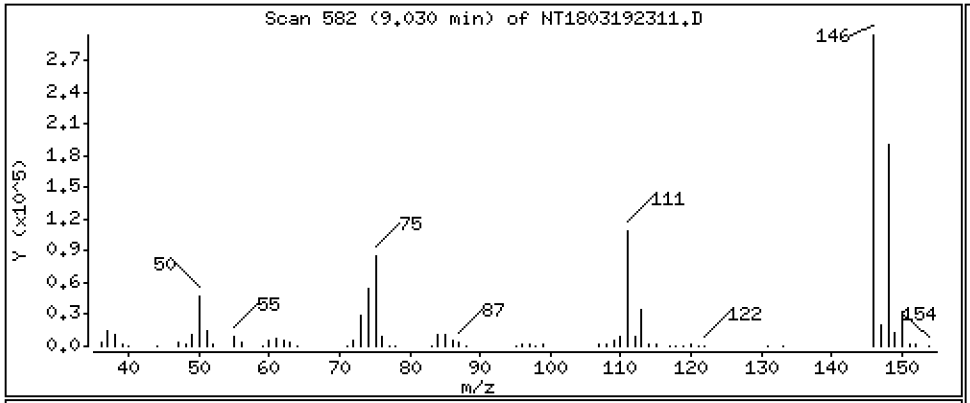
Operator: VTS

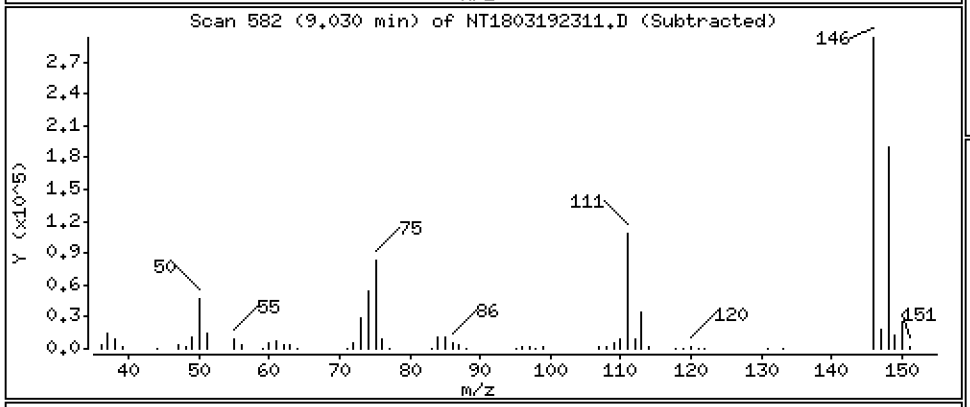
Column phase: ZB-5msi

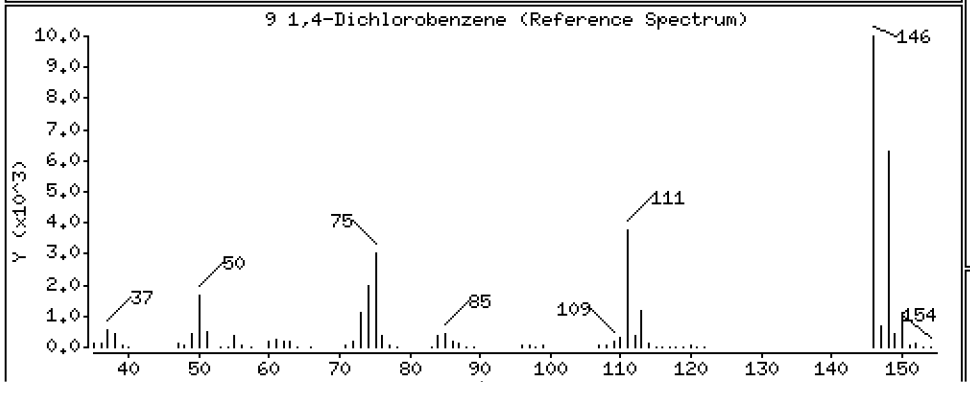
Column diameter: 0.25

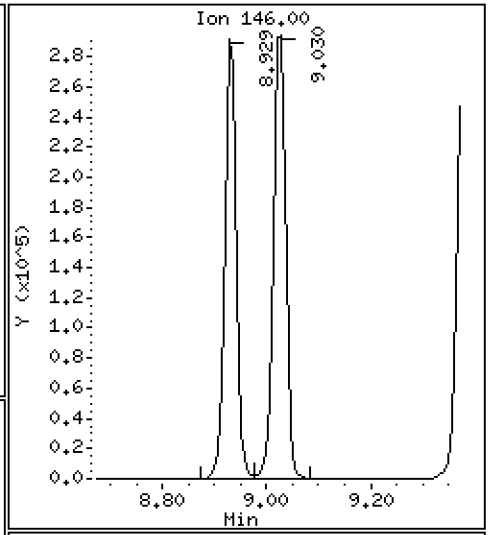
9 1,4-Dichlorobenzene

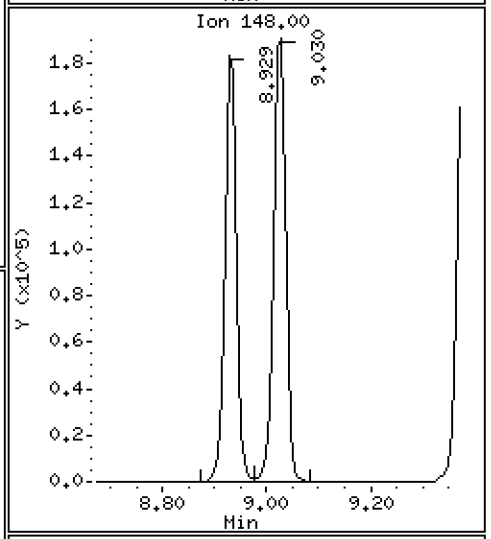
Concentration: 5.071 ug/mL

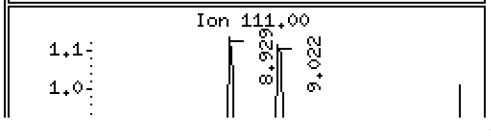












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

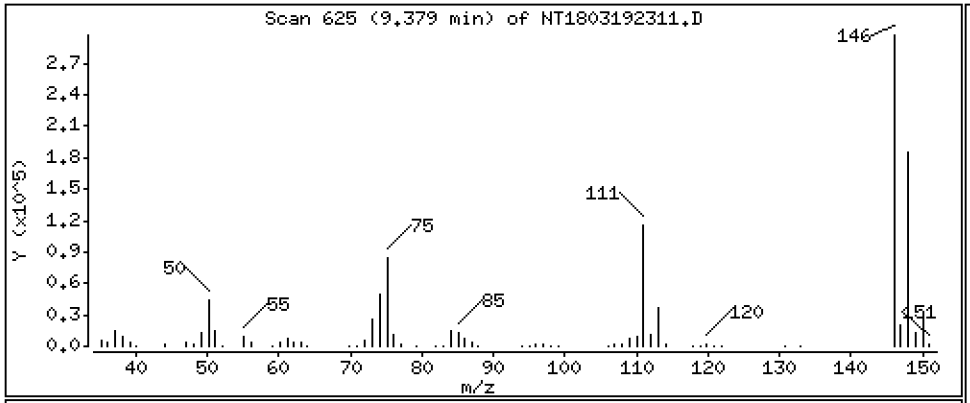
Operator: VTS

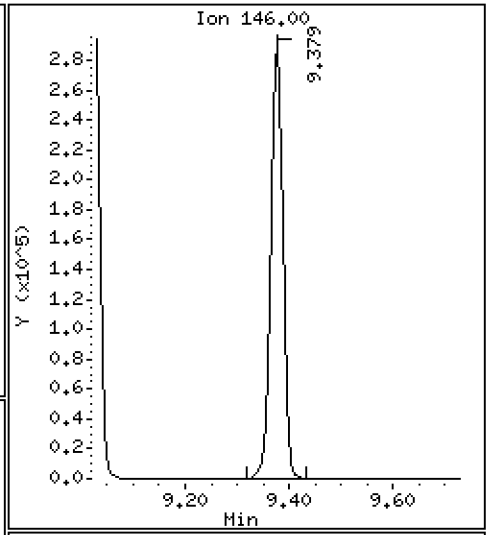
Column phase: ZB-5msi

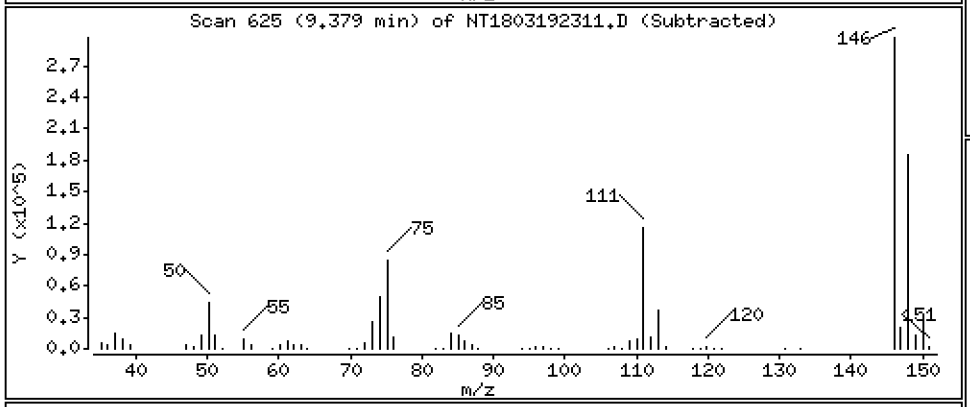
Column diameter: 0.25

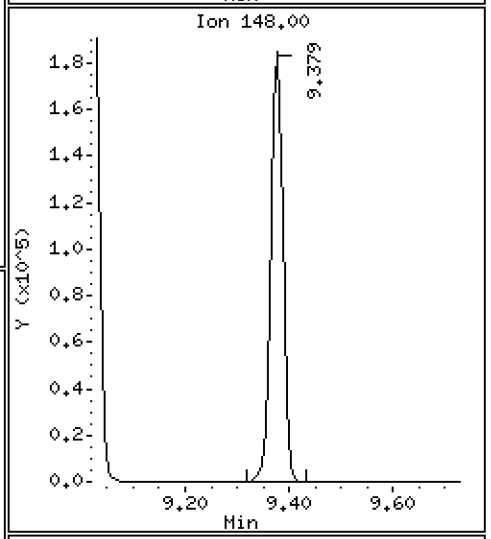
12 1,2-Dichlorobenzene

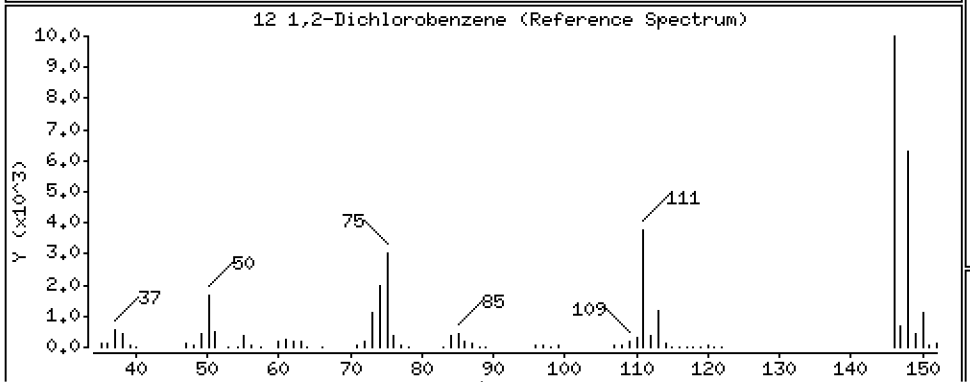
Concentration: 4.916 ug/mL

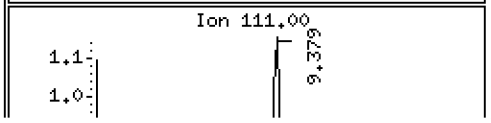












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

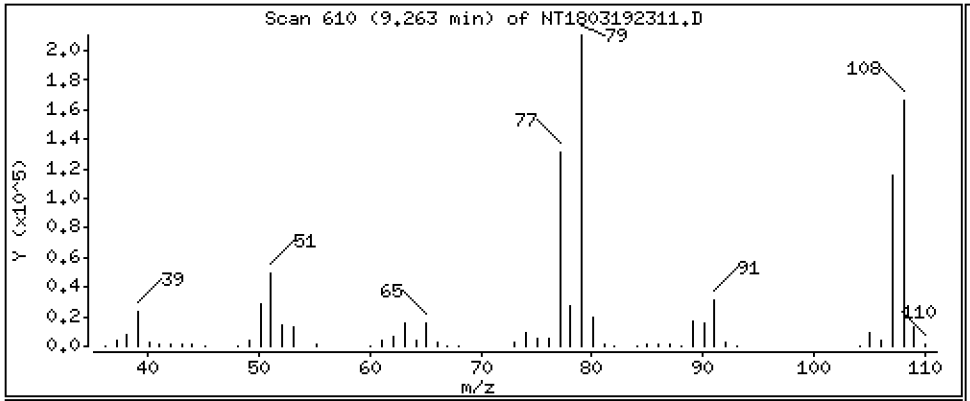
Operator: VTS

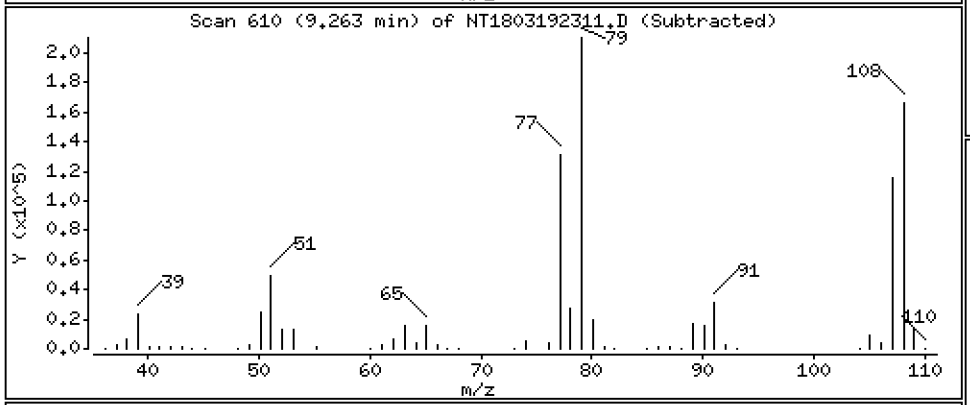
Column phase: ZB-5msi

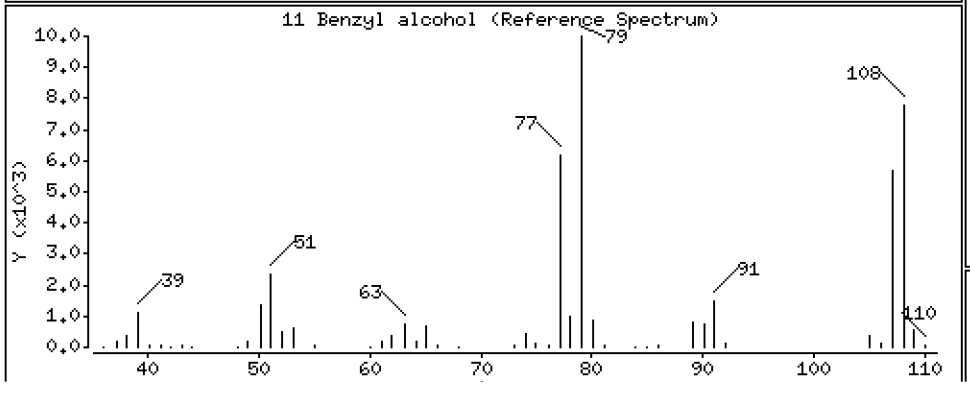
Column diameter: 0.25

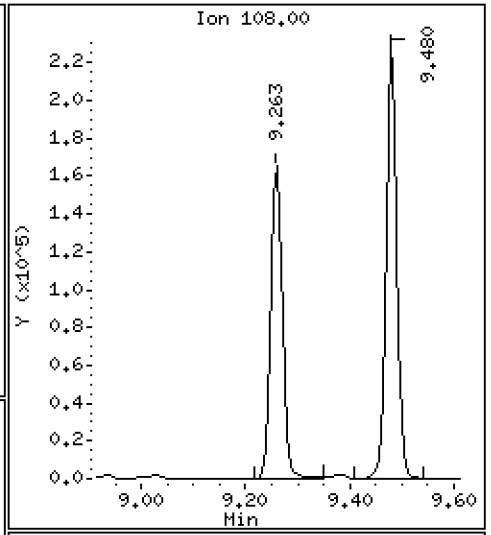
11 Benzyl alcohol

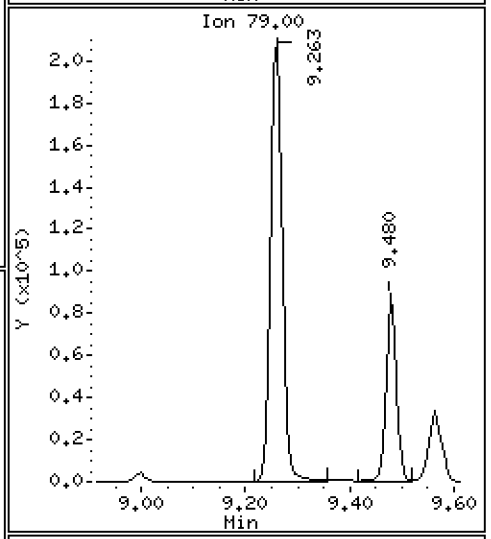
Concentration: 5.203 ug/mL

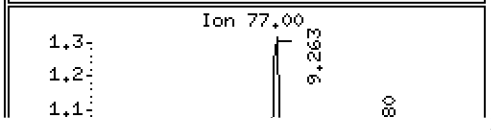












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

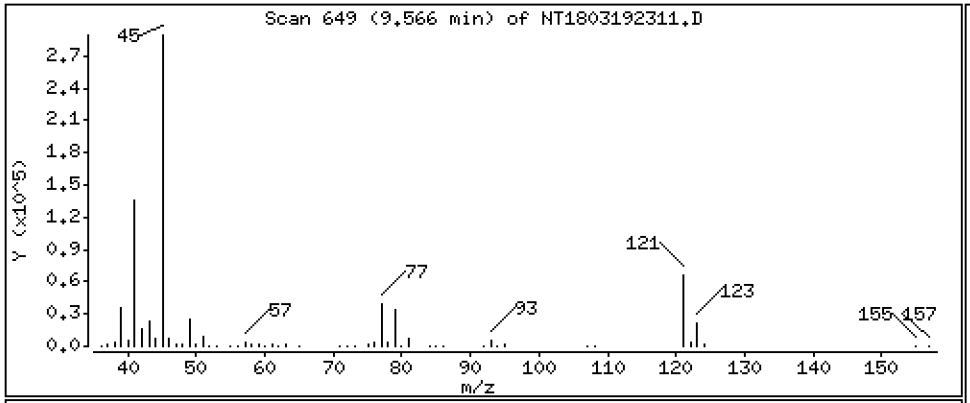
Operator: VTS

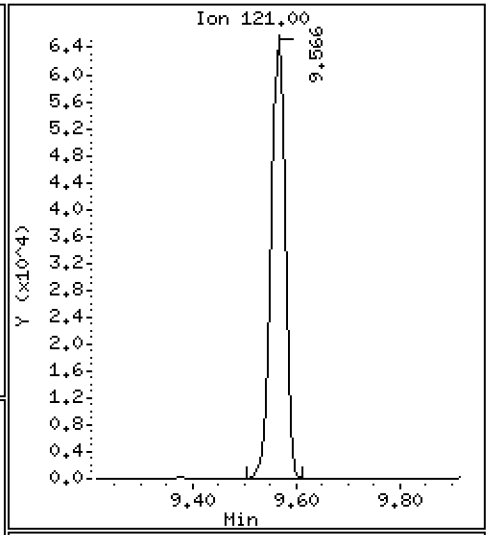
Column phase: ZB-5msi

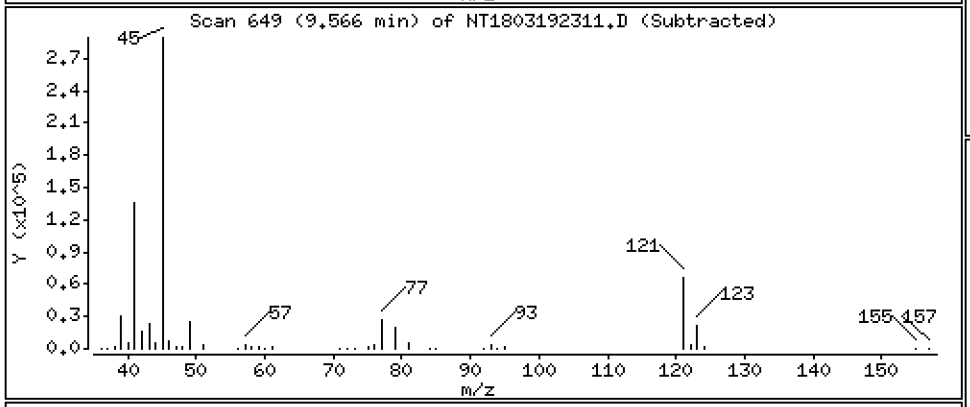
Column diameter: 0.25

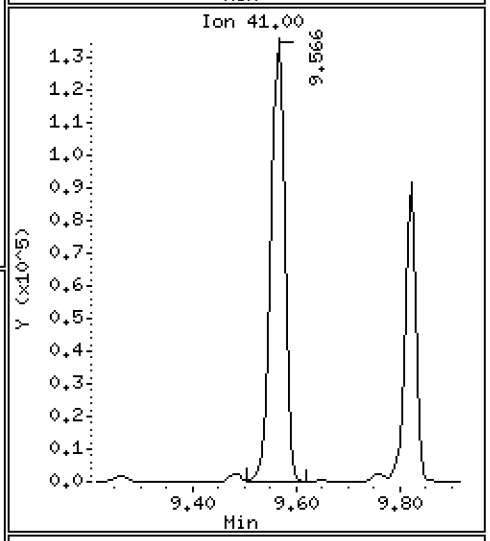
14 2,2'-oxybis(1-Chloropropane)

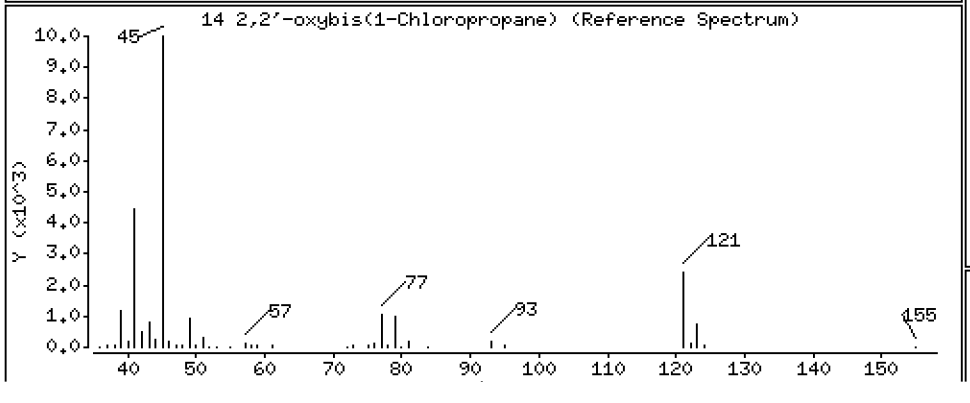
Concentration: 5.545 ug/mL

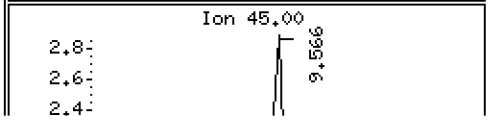












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

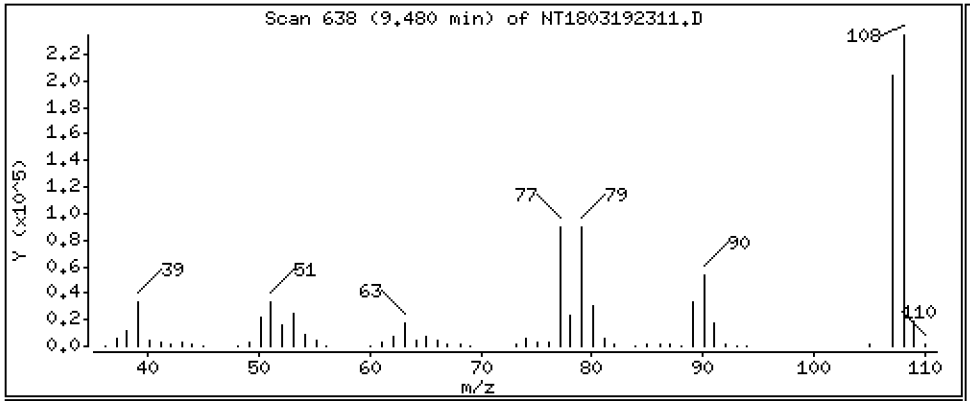
Operator: VTS

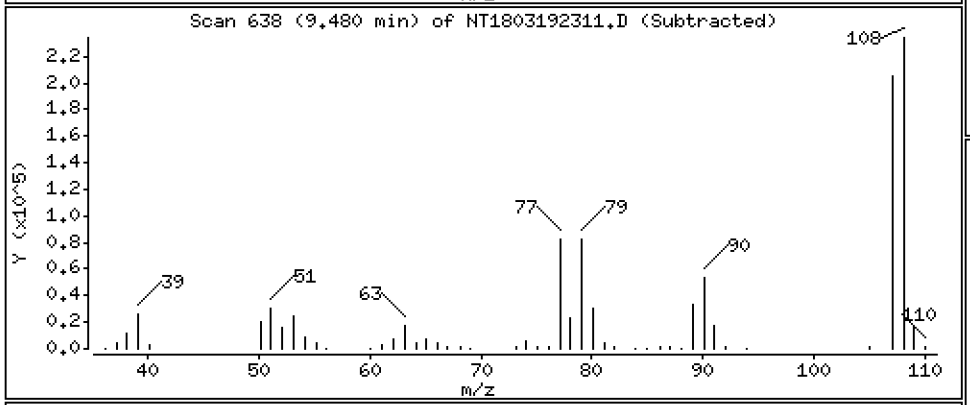
Column phase: ZB-5msi

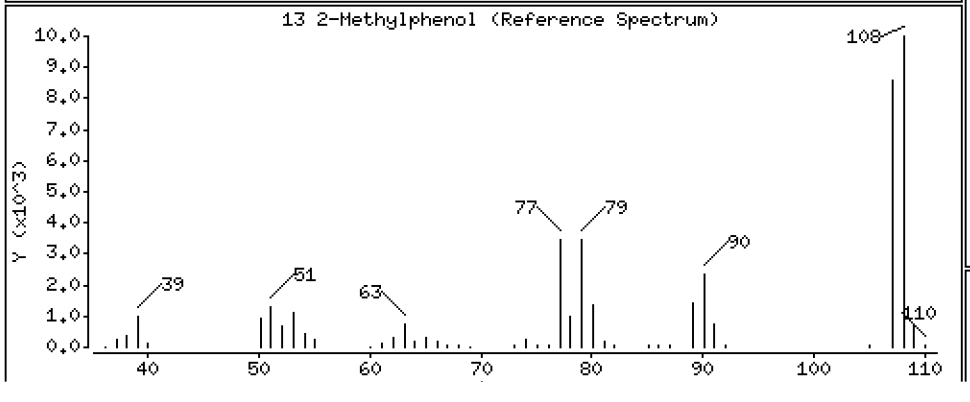
Column diameter: 0.25

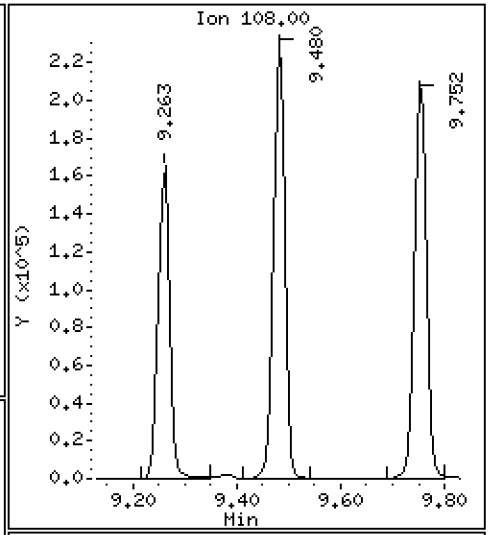
13 2-Methylphenol

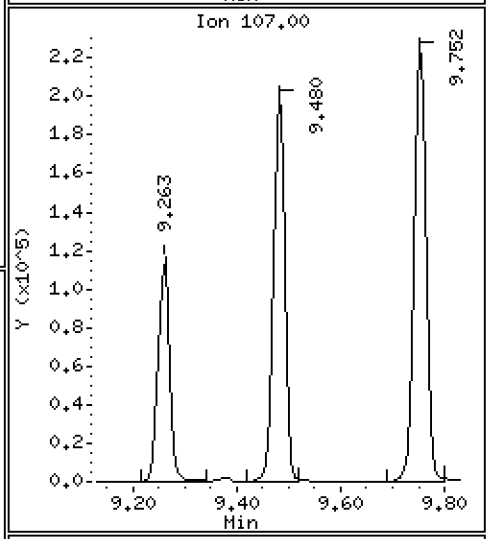
Concentration: 4.238 ug/mL

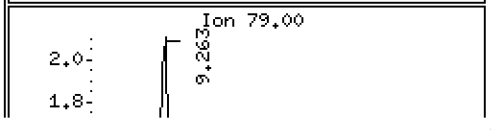












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

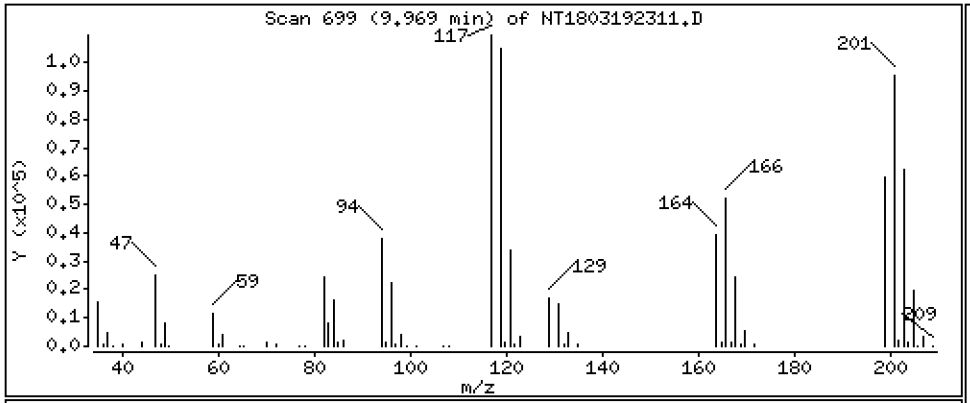
Operator: VTS

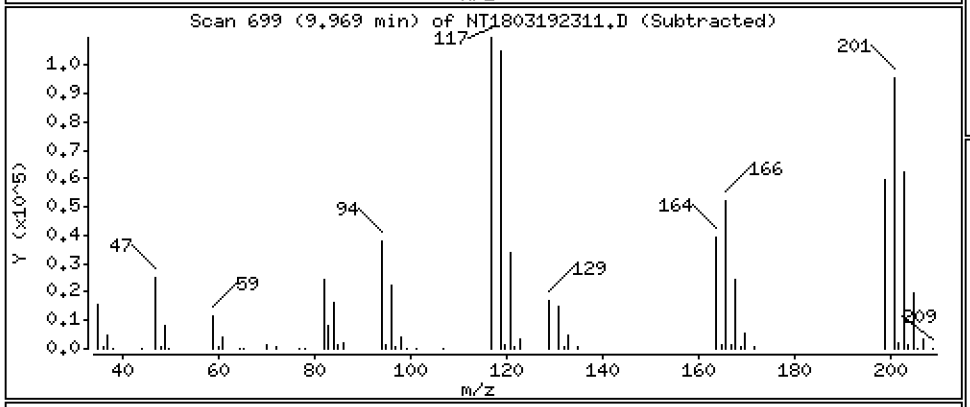
Column phase: ZB-5msi

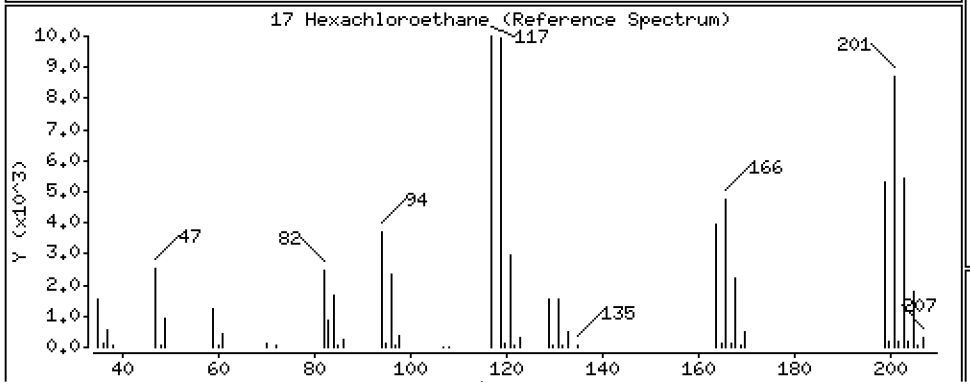
Column diameter: 0.25

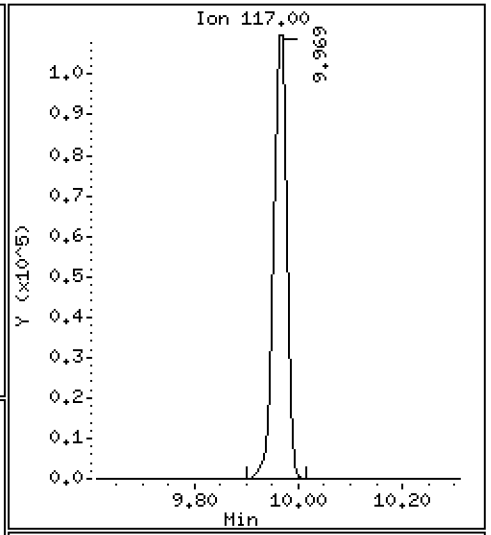
17 Hexachloroethane

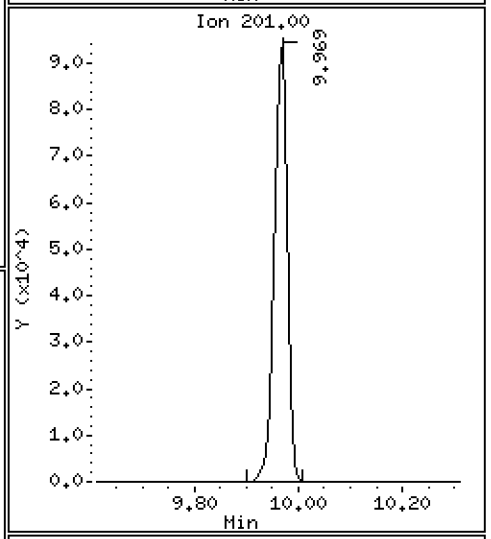
Concentration: 5.164 ug/mL

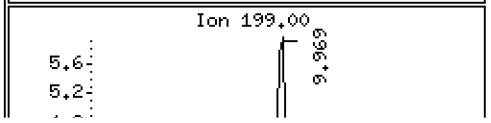












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

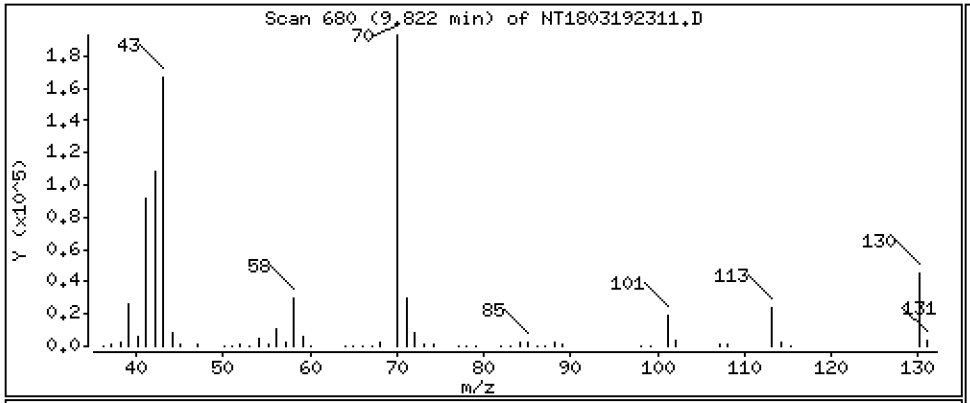
Operator: VTS

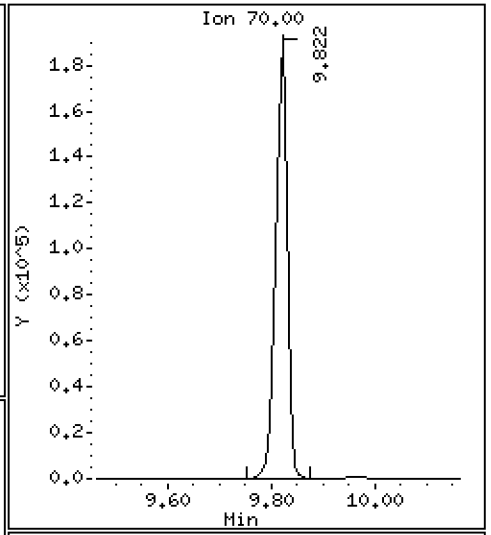
Column phase: ZB-5msi

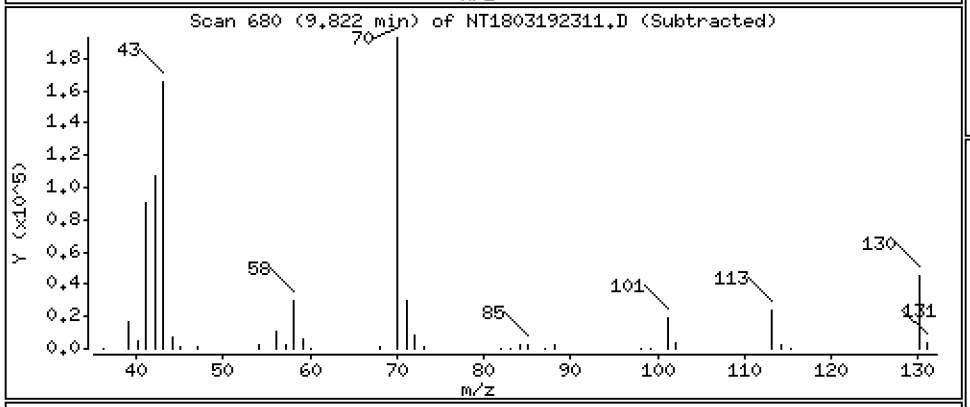
Column diameter: 0.25

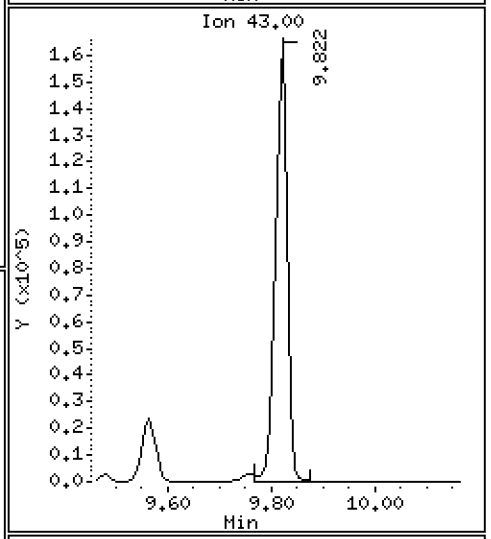
16 N-Nitroso-di-n-propylamine

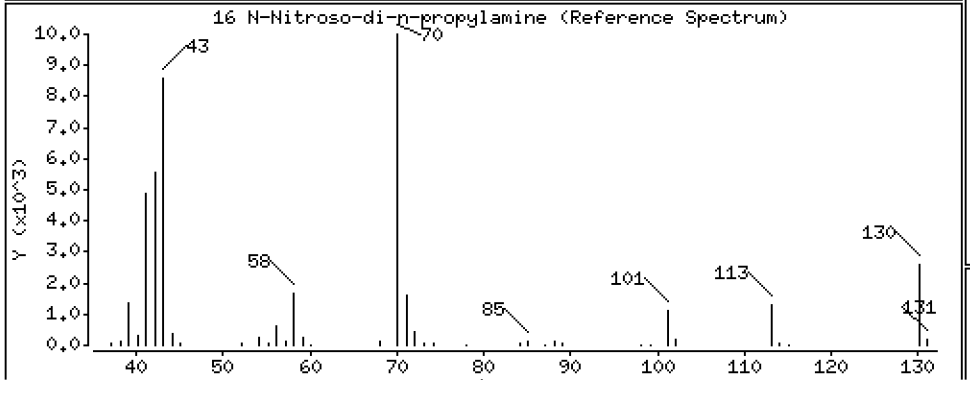
Concentration: 5.237 ug/mL

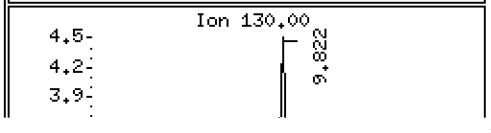












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

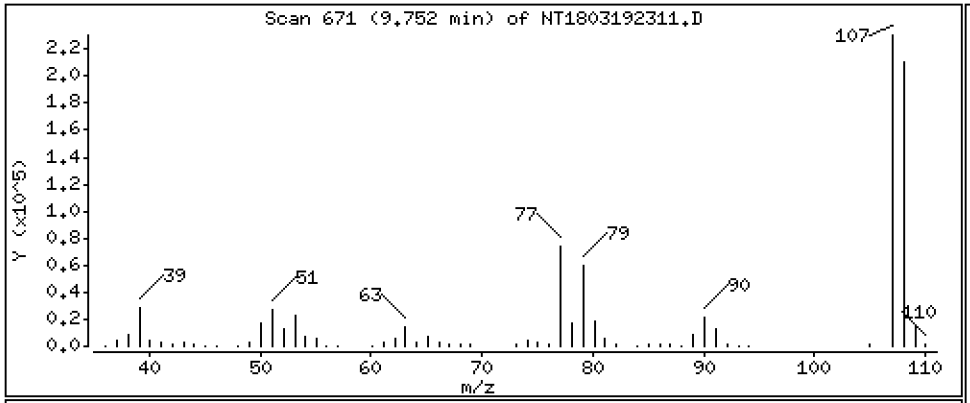
Operator: VTS

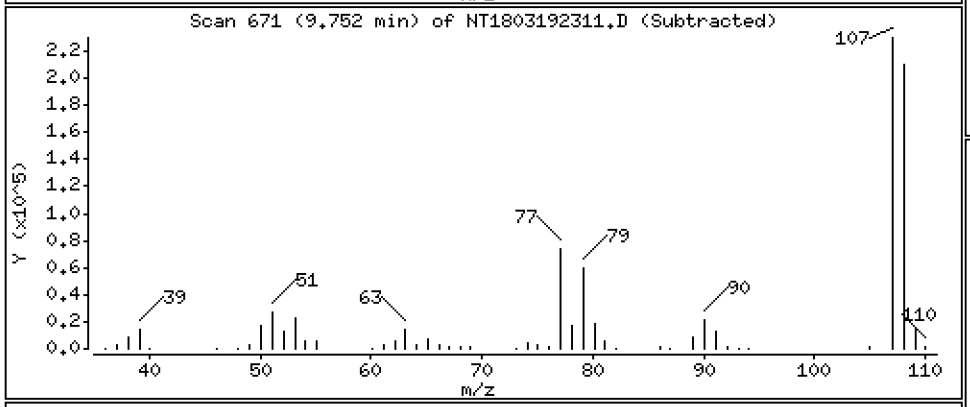
Column phase: ZB-5msi

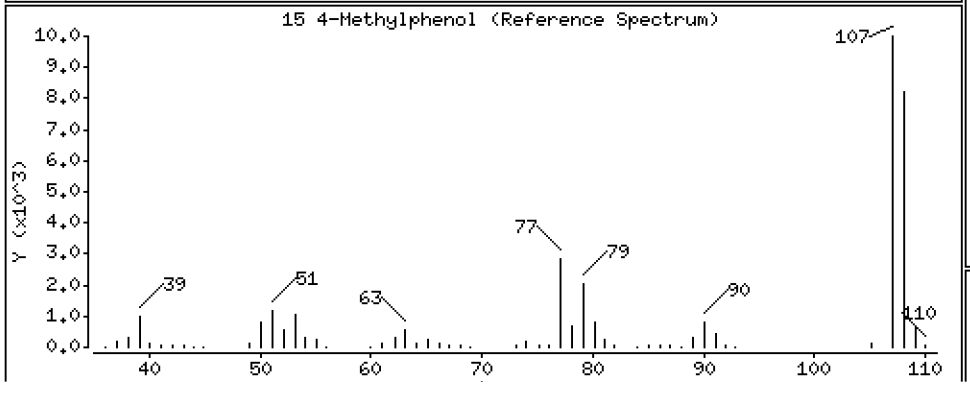
Column diameter: 0.25

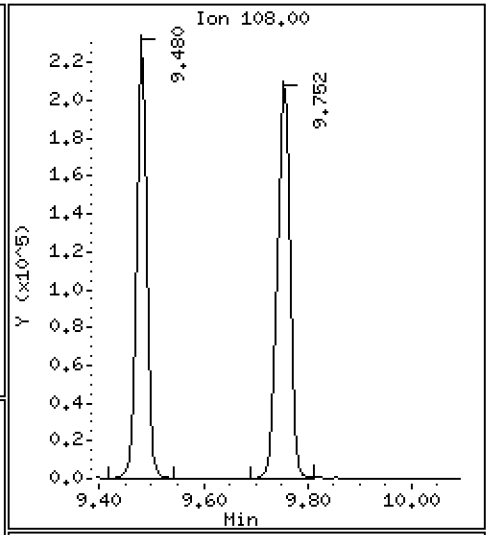
15 4-Methylphenol

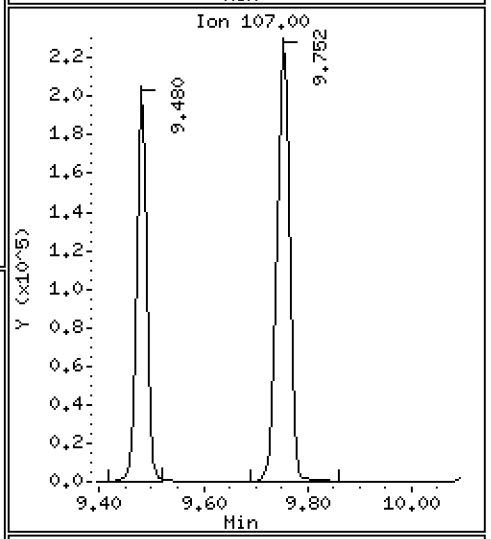
Concentration: 4.482 ug/mL

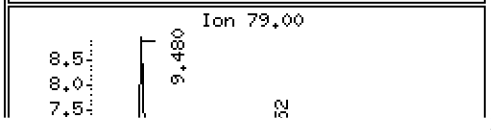












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

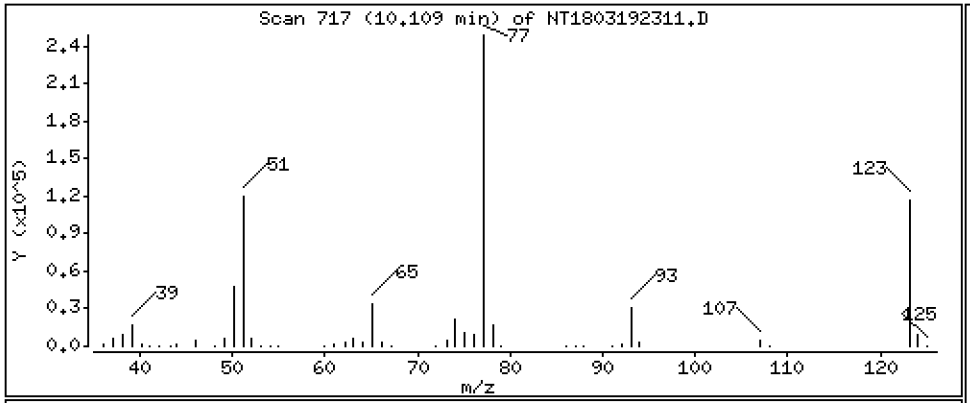
Operator: VTS

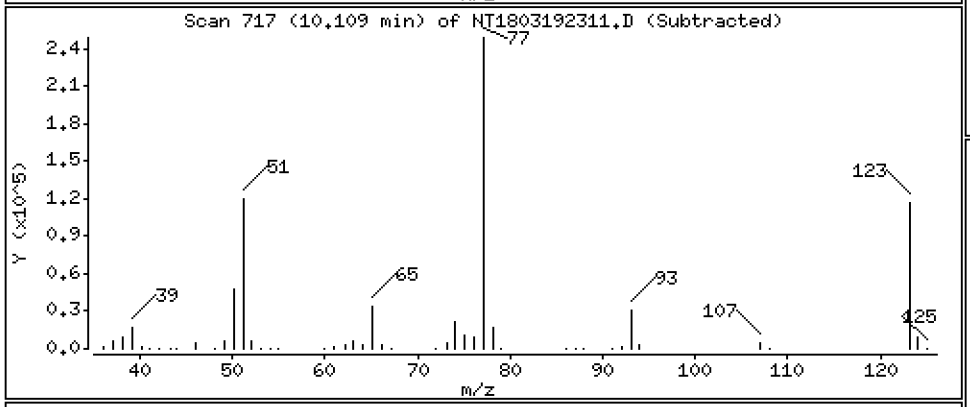
Column phase: ZB-5msi

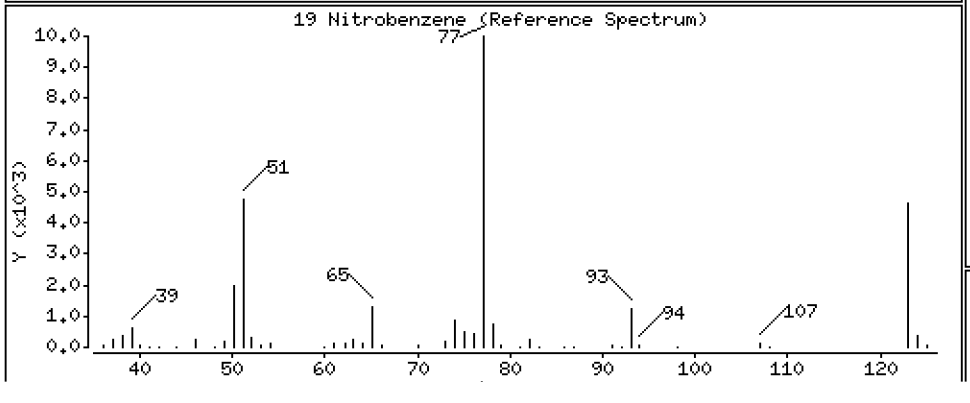
Column diameter: 0.25

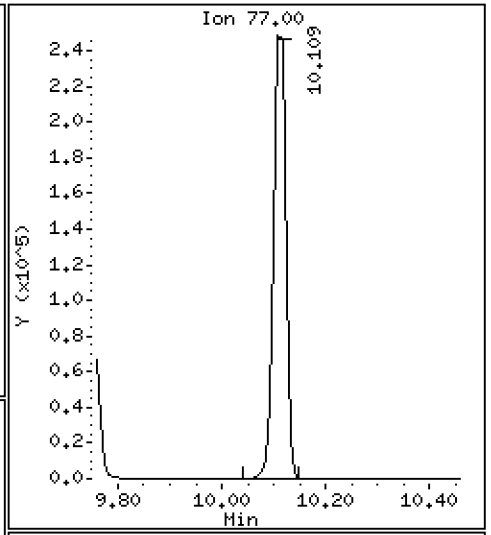
19 Nitrobenzene

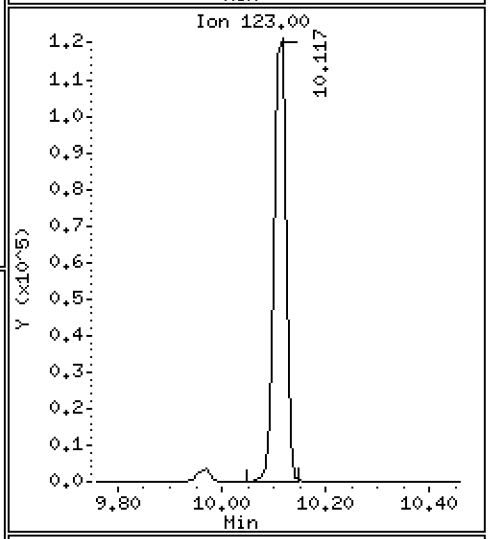
Concentration: 5.029 ug/mL

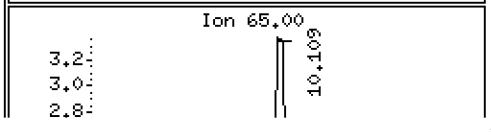












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

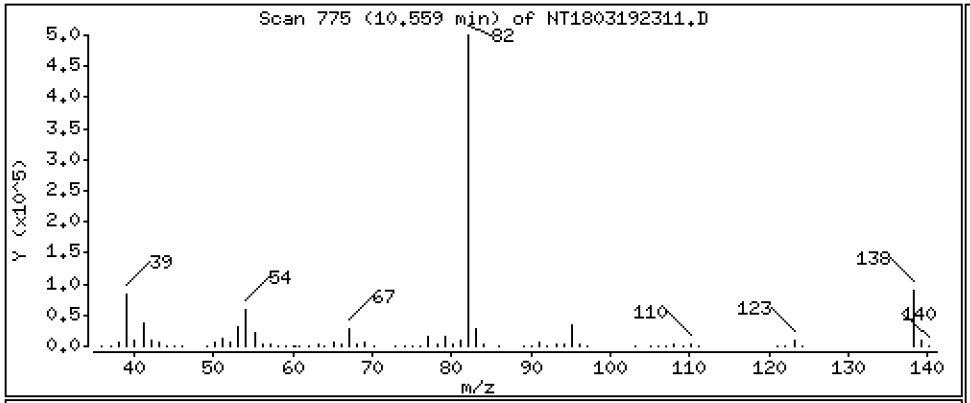
Operator: VTS

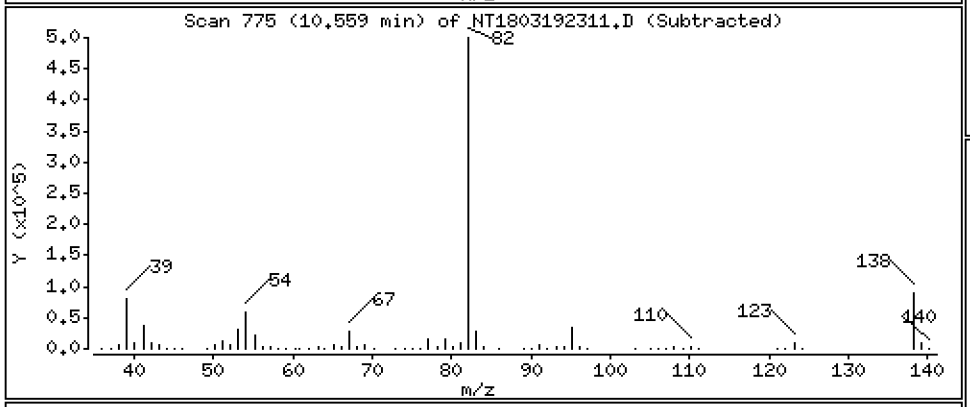
Column phase: ZB-5msi

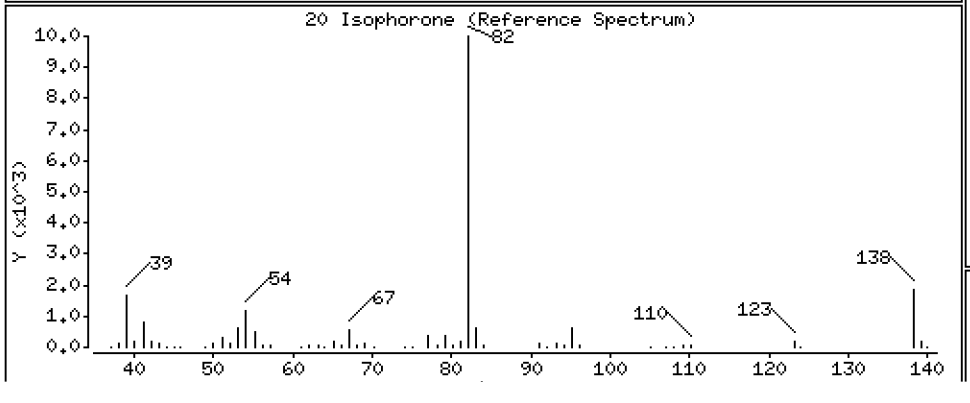
Column diameter: 0.25

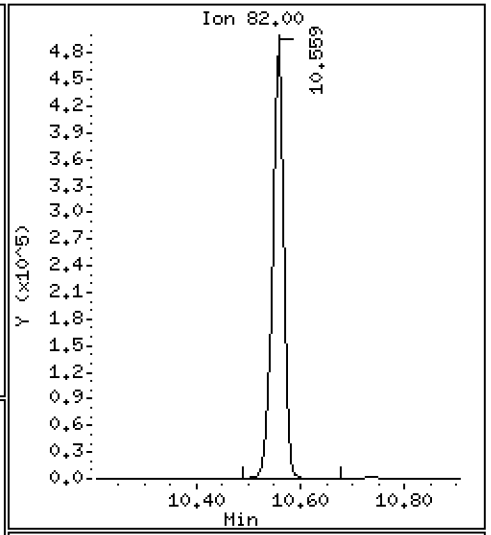
20 Isophorone

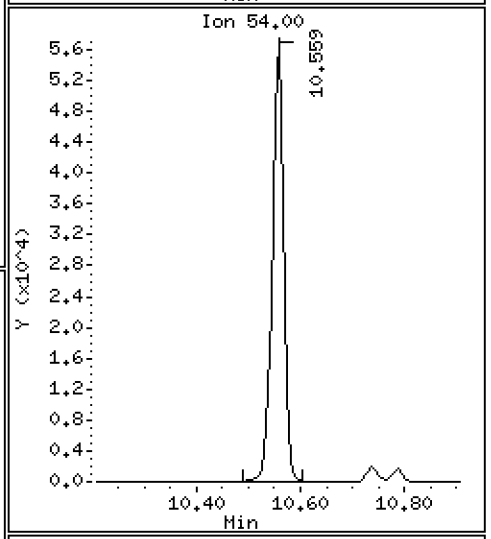
Concentration: 7.923 ug/mL

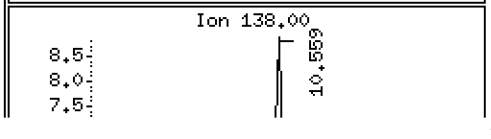












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

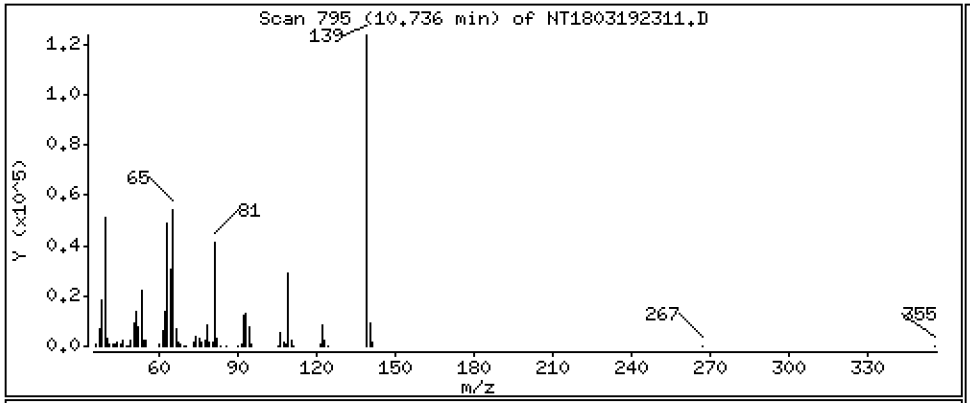
Operator: VTS

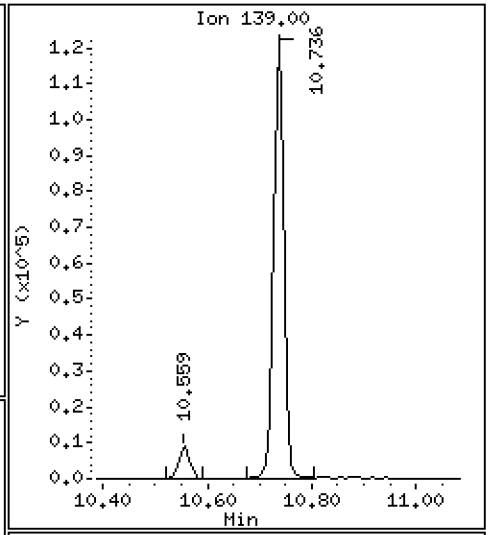
Column phase: ZB-5msi

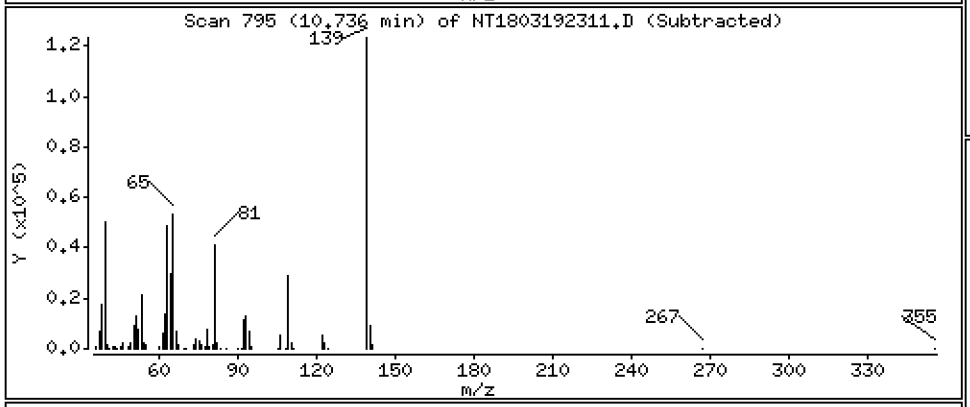
Column diameter: 0.25

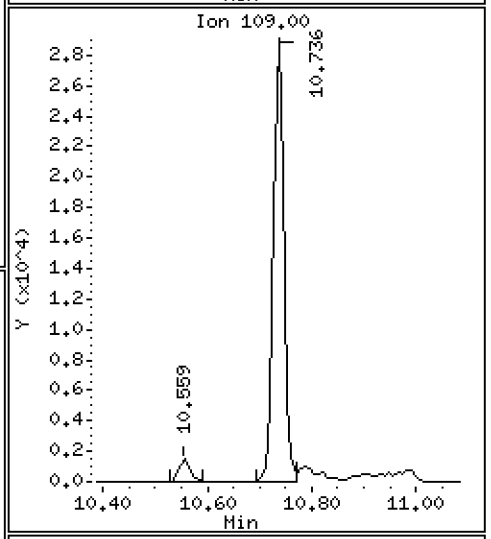
21 2-Nitrophenol

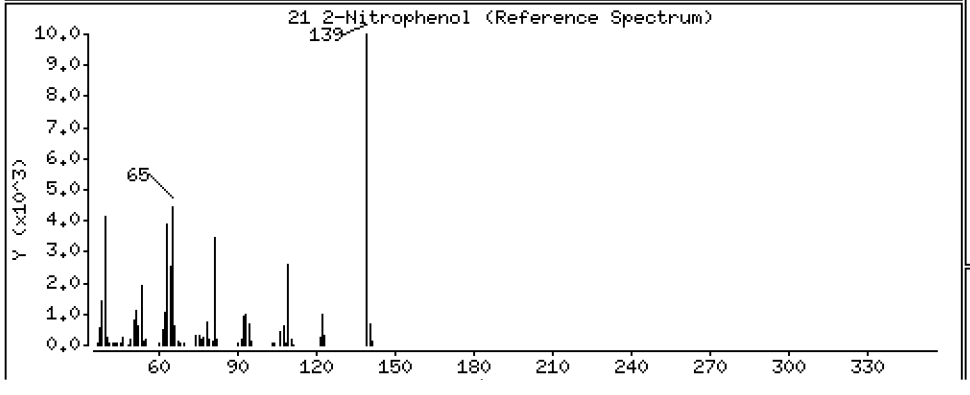
Concentration: 3.748 ug/mL

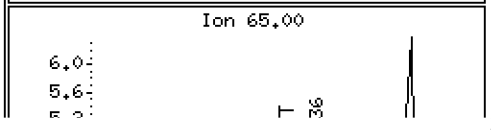












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

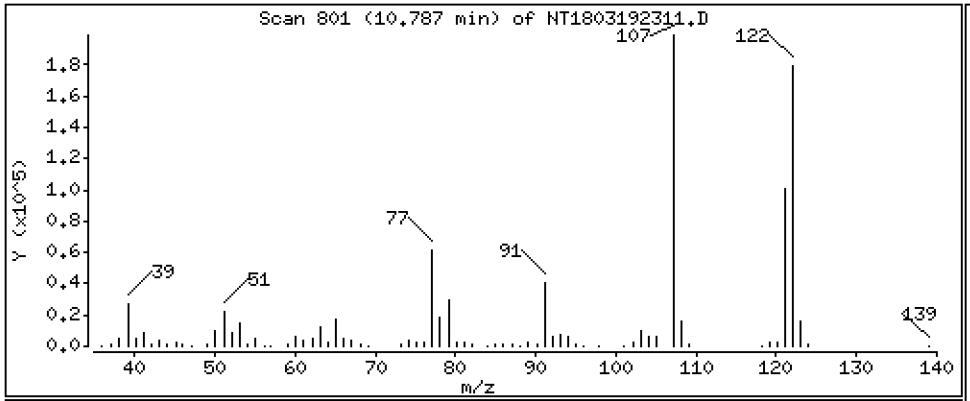
Operator: VTS

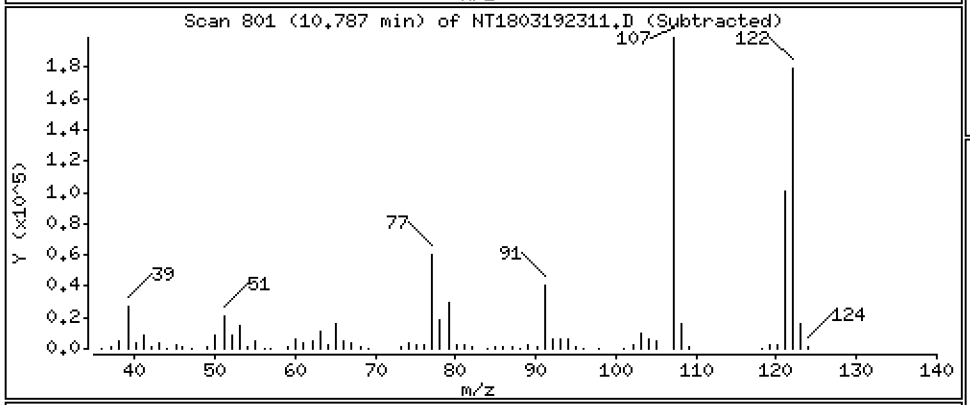
Column phase: ZB-5msi

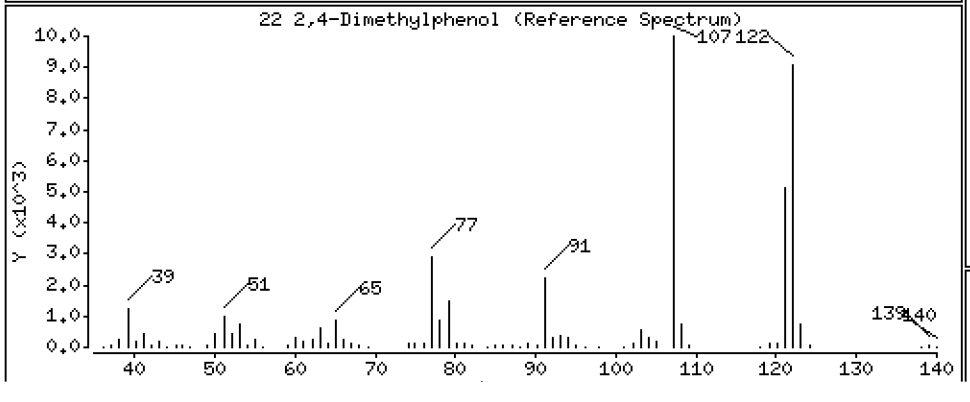
Column diameter: 0.25

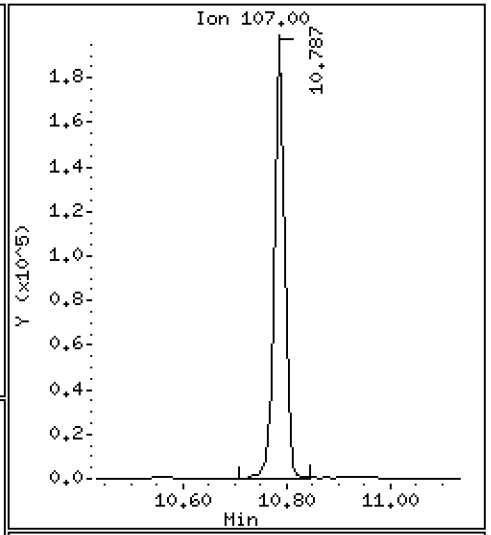
22 2,4-Dimethylphenol

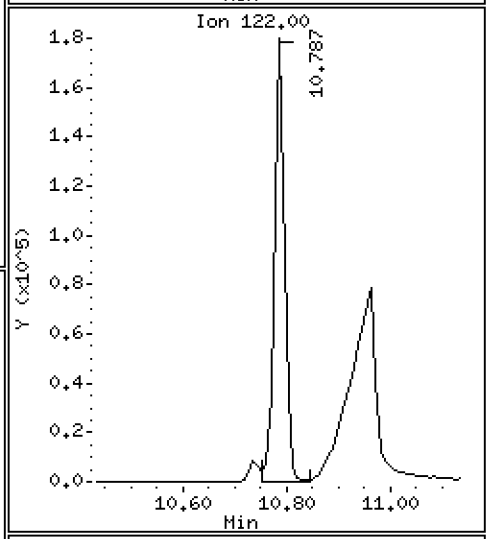
Concentration: 3.726 ug/mL

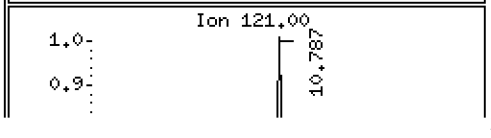












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

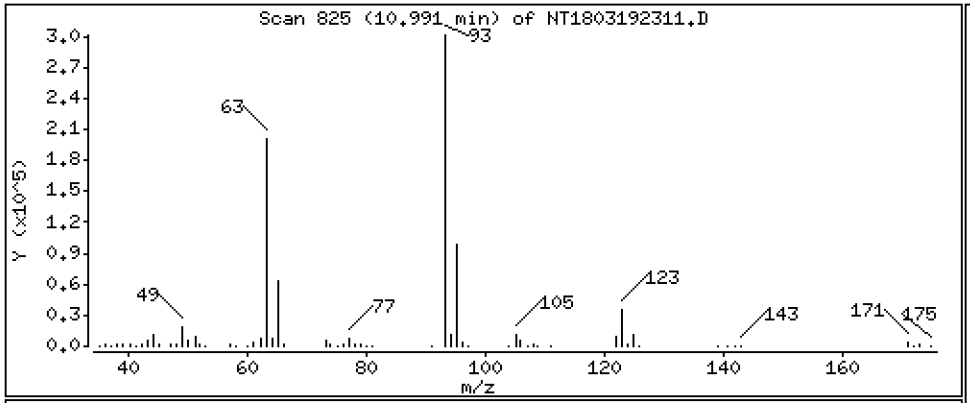
Operator: VTS

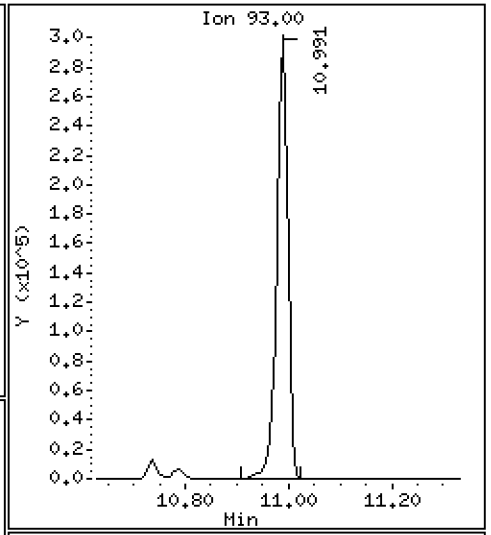
Column phase: ZB-5msi

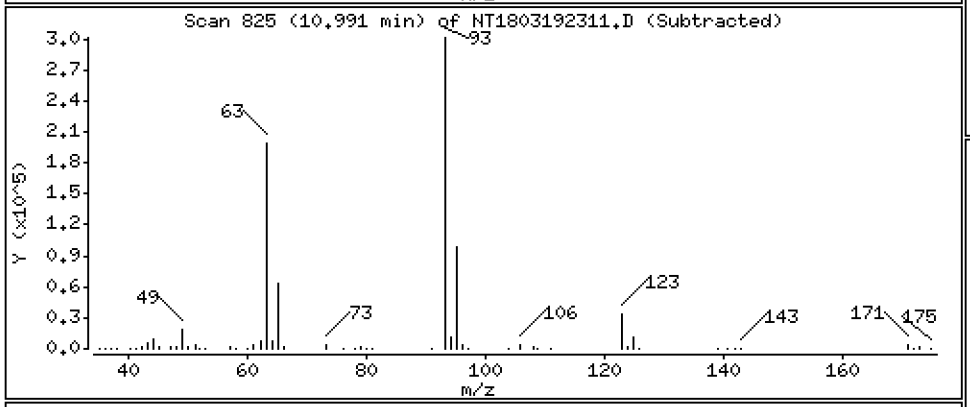
Column diameter: 0.25

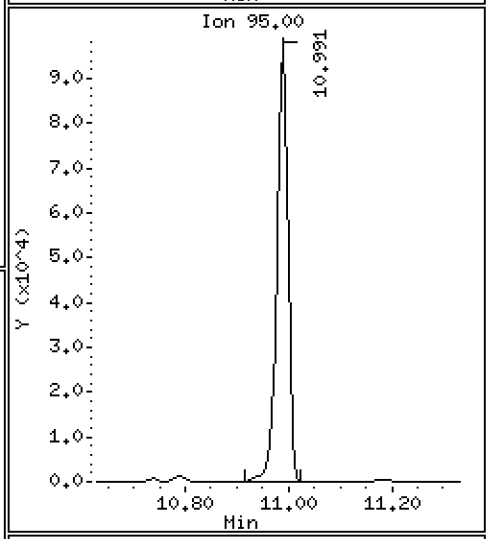
23 Bis(2-Chloroethoxy)methane

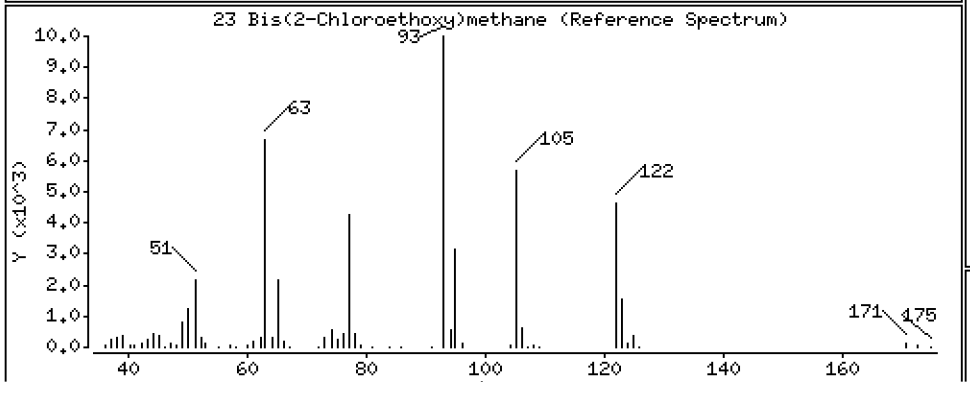
Concentration: 5.862 ug/mL

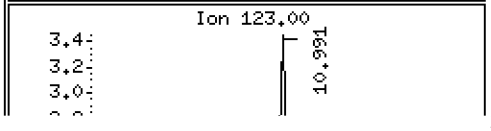












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

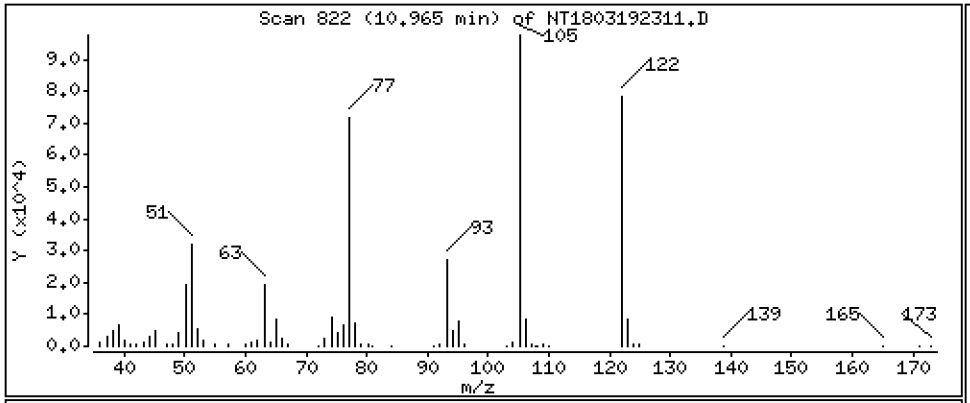
Operator: VTS

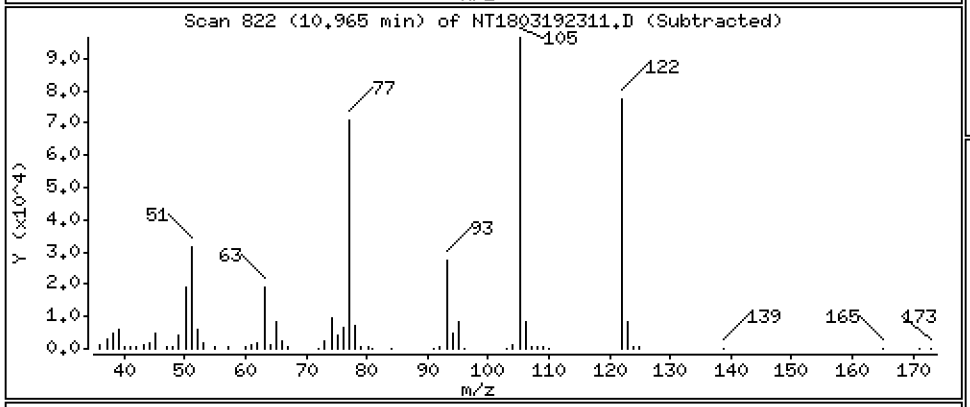
Column phase: ZB-5msi

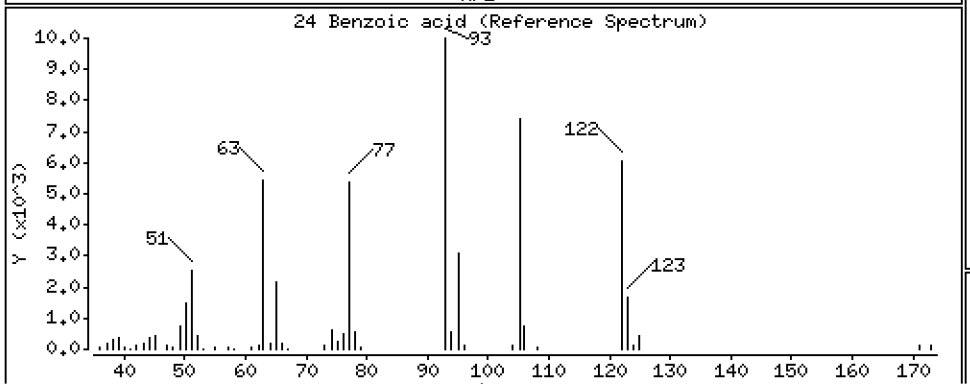
Column diameter: 0.25

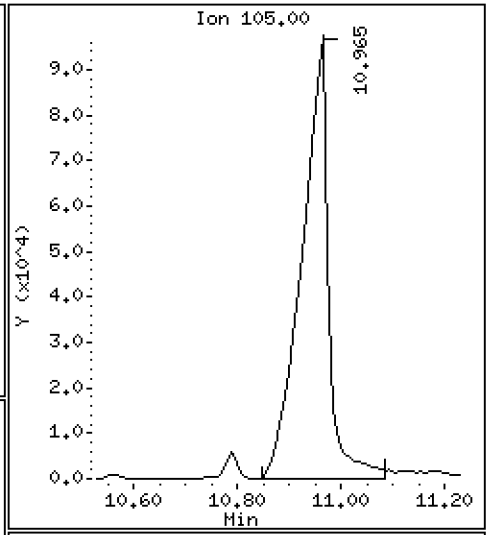
24 Benzoic acid

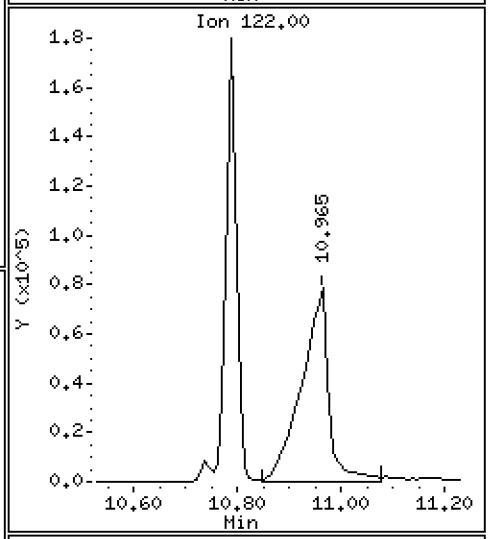
Concentration: 6.422 ug/mL

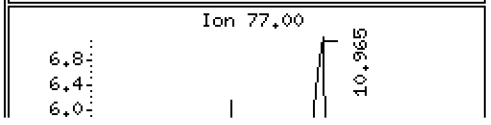












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

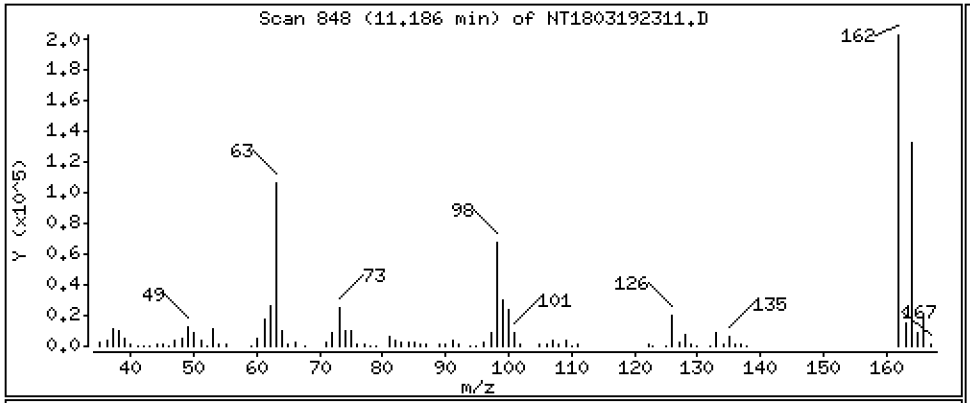
Operator: VTS

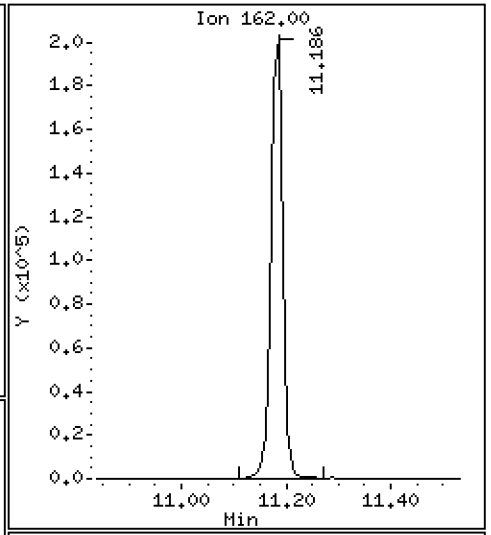
Column phase: ZB-5msi

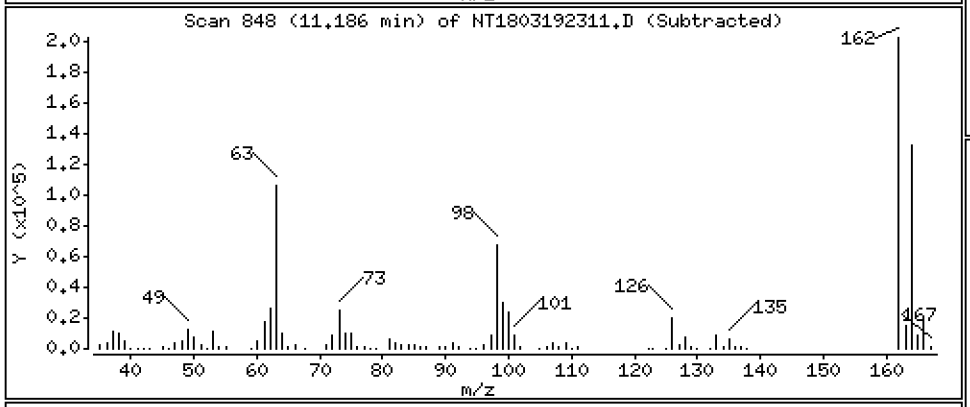
Column diameter: 0.25

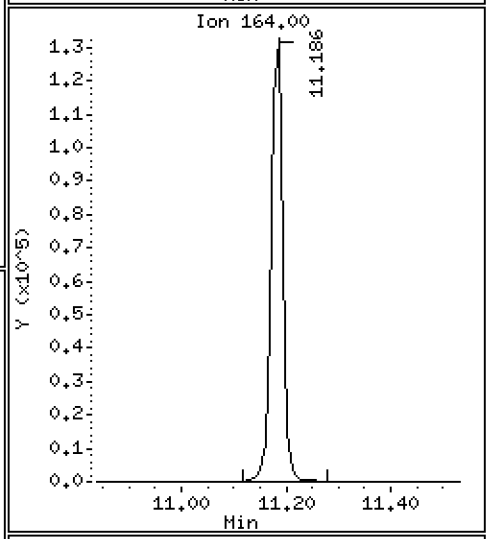
25 2,4-Dichlorophenol

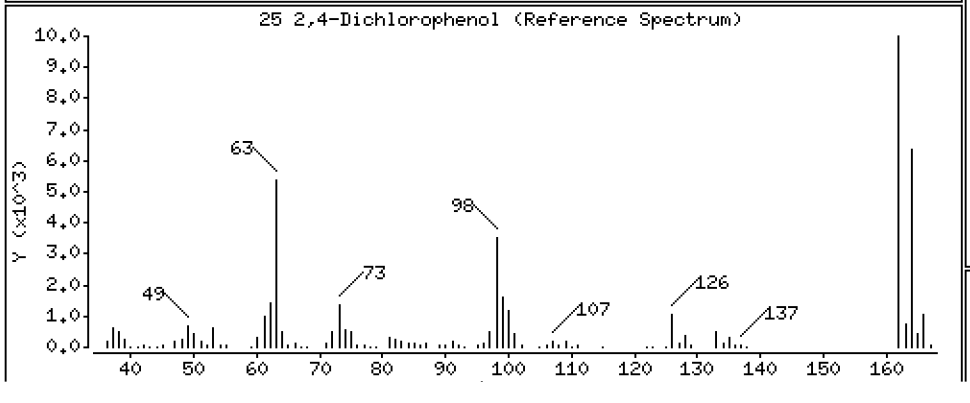
Concentration: 4.980 ug/mL

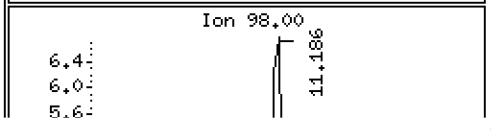












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

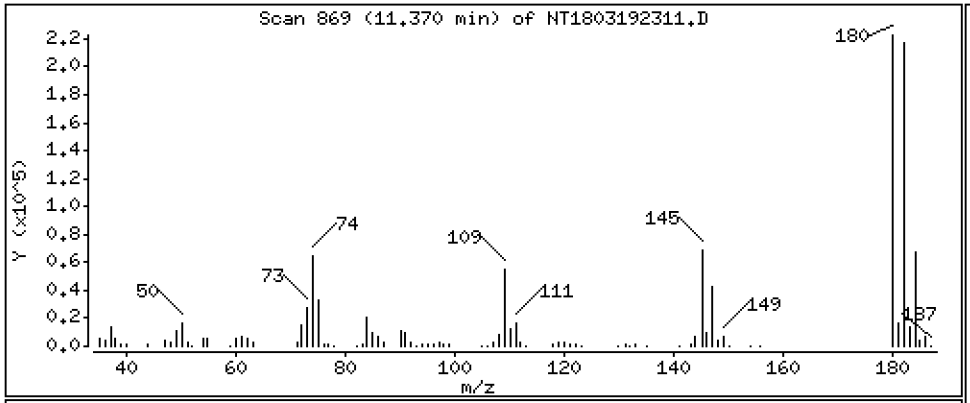
Operator: VTS

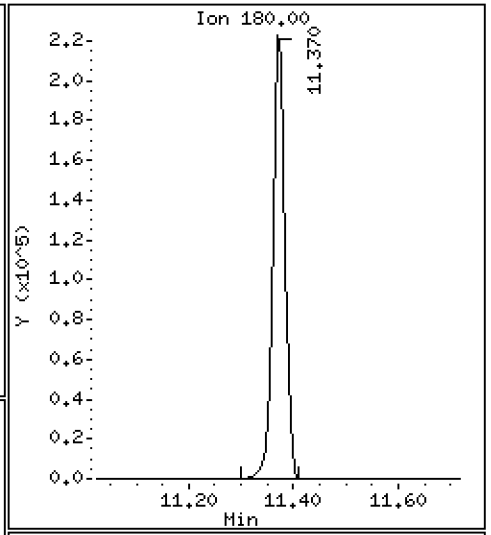
Column phase: ZB-5msi

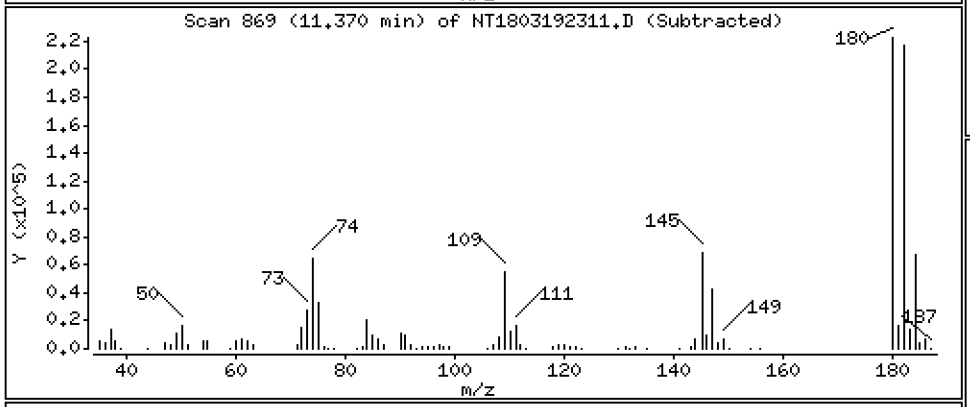
Column diameter: 0.25

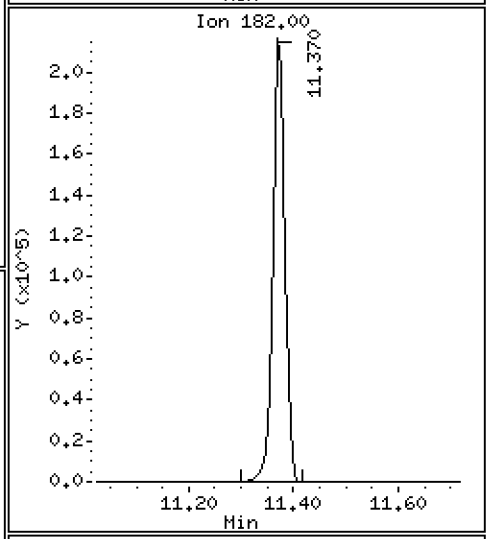
26 1,2,4-Trichlorobenzene

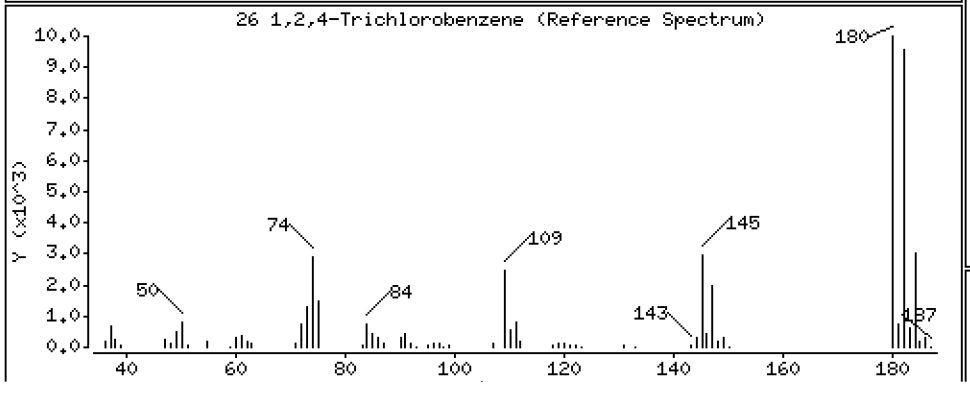
Concentration: 4.858 ug/mL

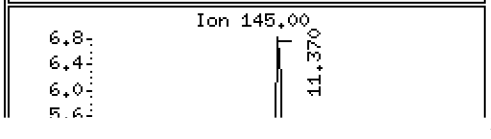












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

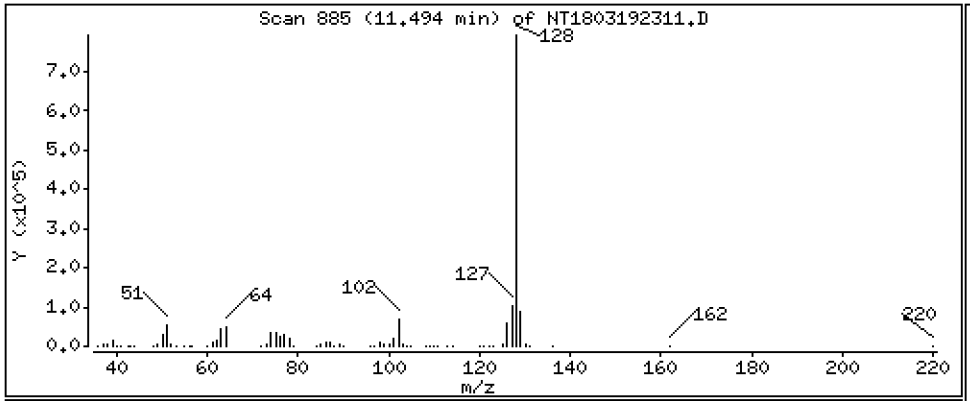
Operator: VTS

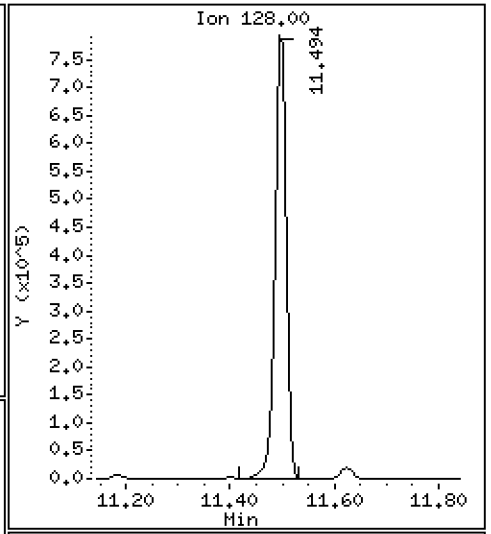
Column phase: ZB-5msi

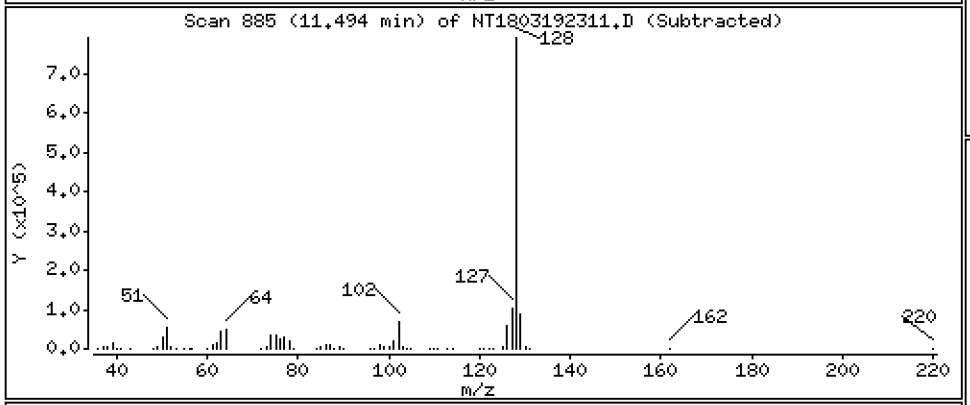
Column diameter: 0.25

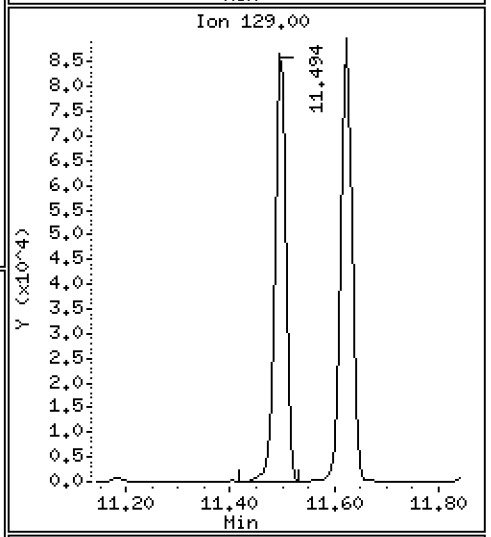
28 Naphthalene

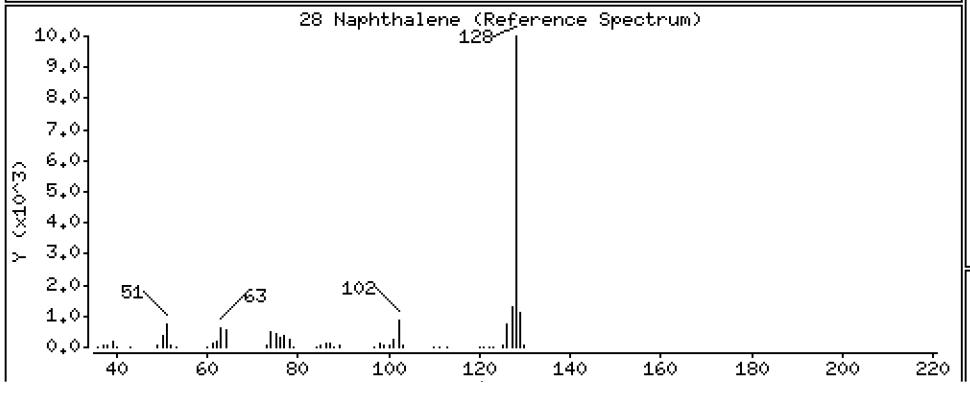
Concentration: 4.875 ug/mL

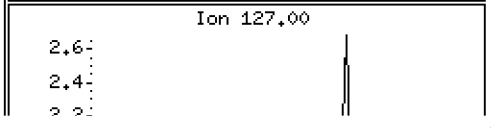












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

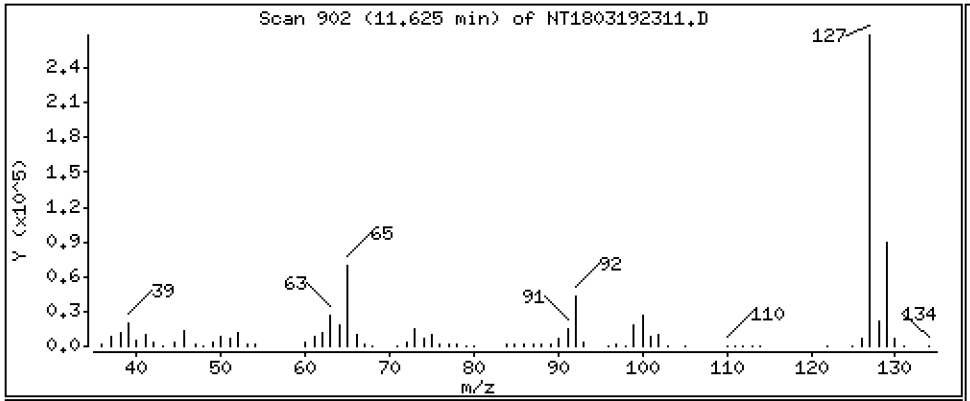
Operator: VTS

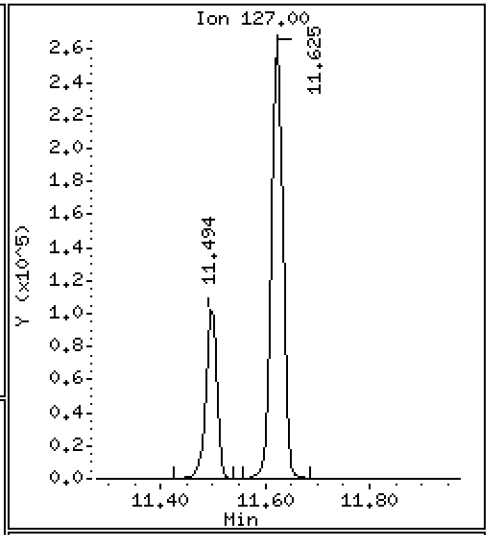
Column phase: ZB-5msi

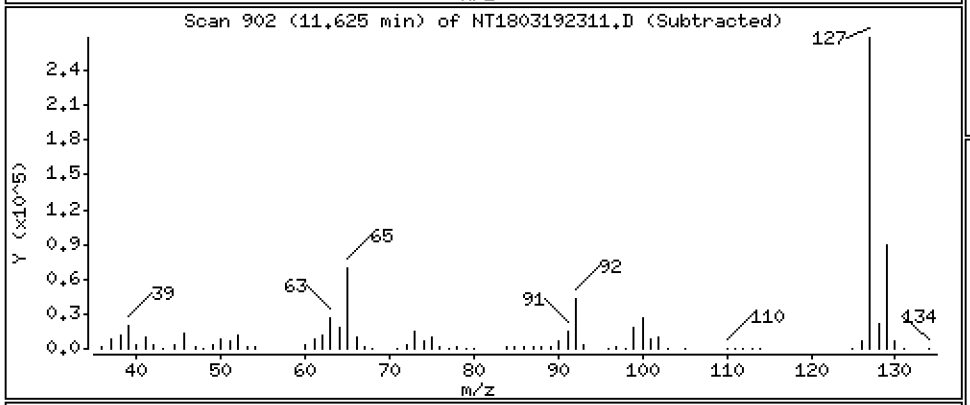
Column diameter: 0.25

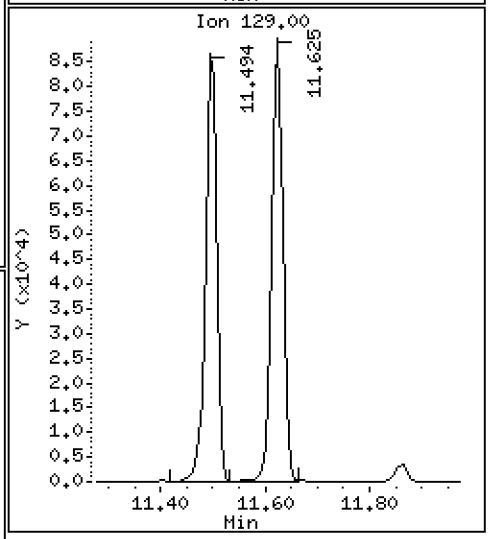
29 4-Chloroaniline

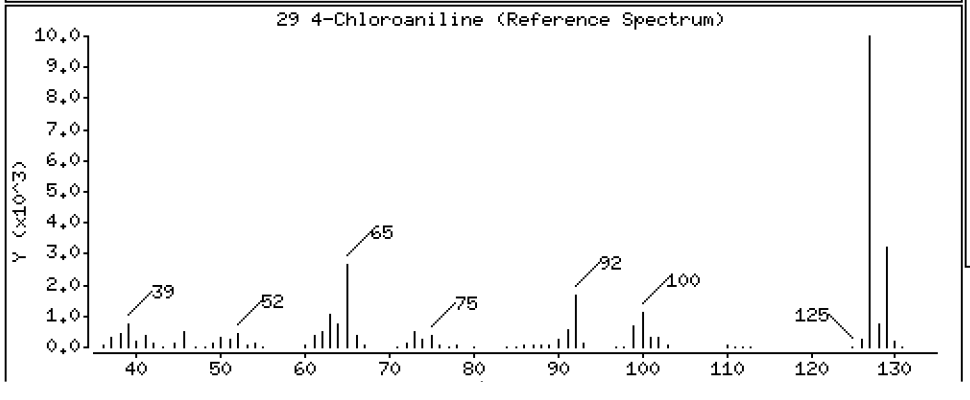
Concentration: 3.897 ug/mL











Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

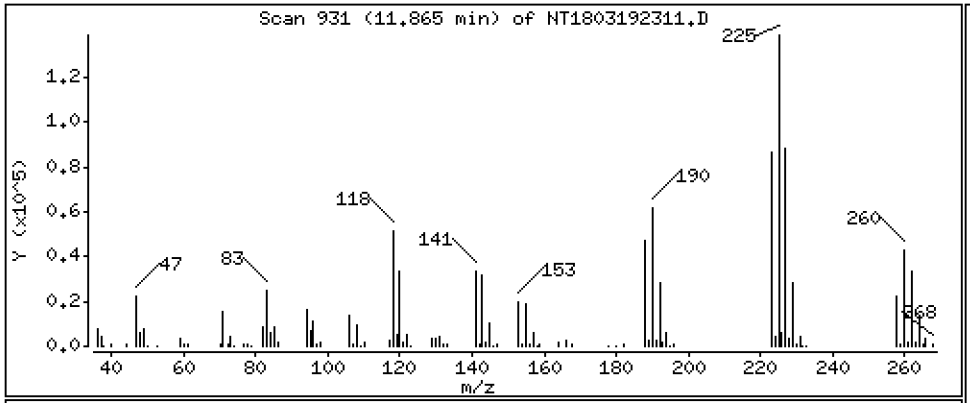
Operator: VTS

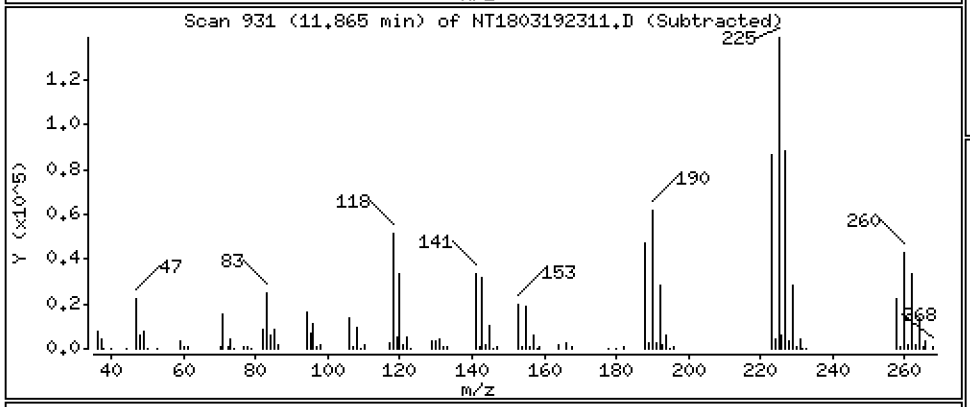
Column phase: ZB-5msi

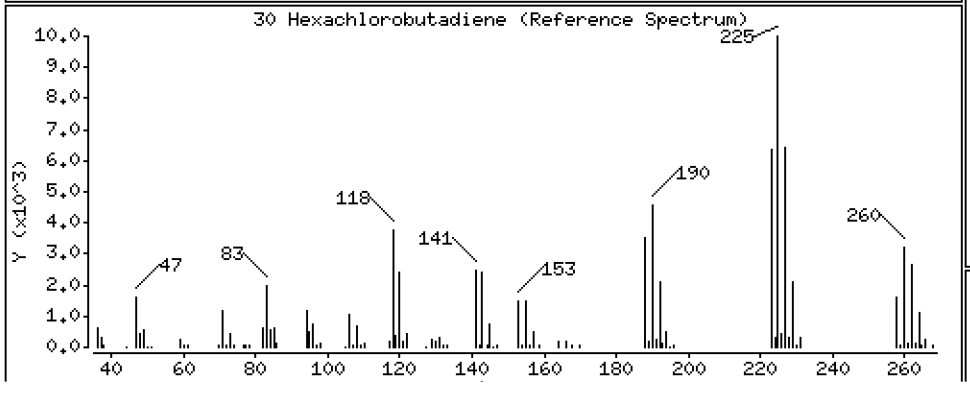
Column diameter: 0.25

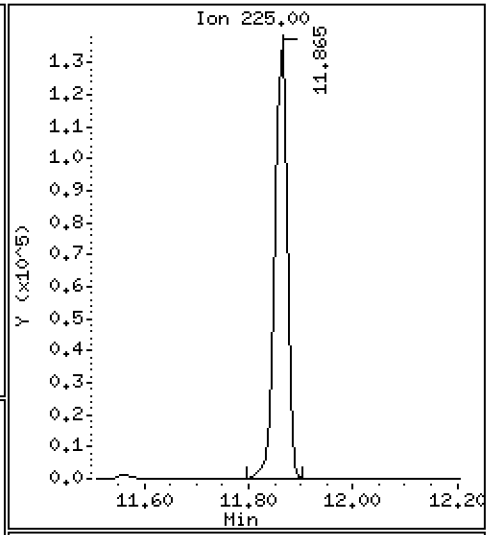
30 Hexachlorobutadiene

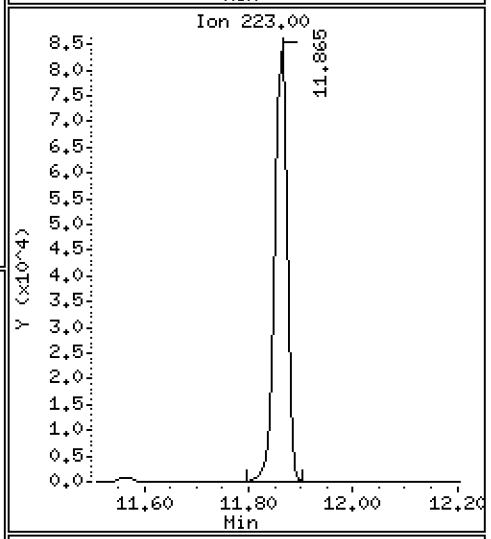
Concentration: 5.033 ug/mL

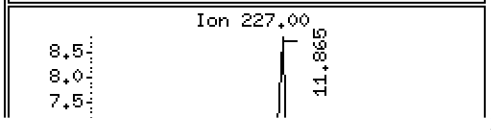












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

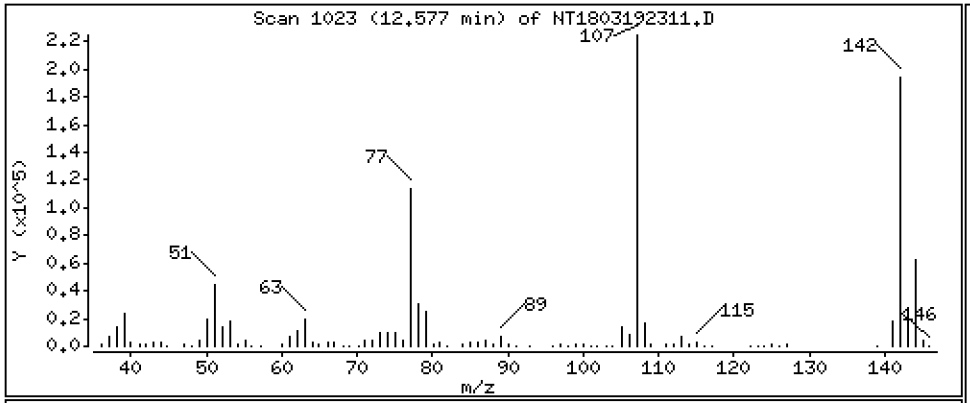
Operator: VTS

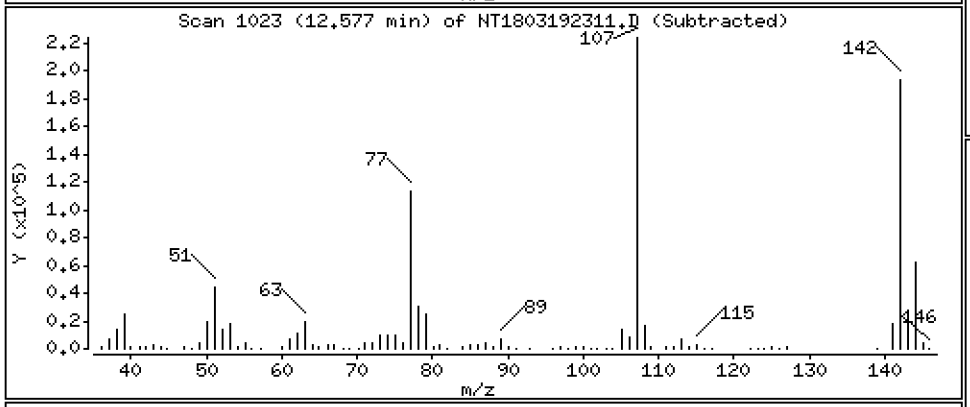
Column phase: ZB-5msi

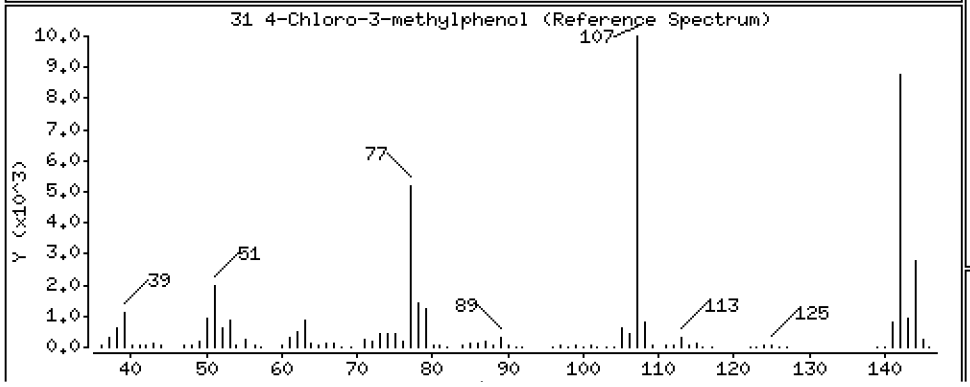
Column diameter: 0.25

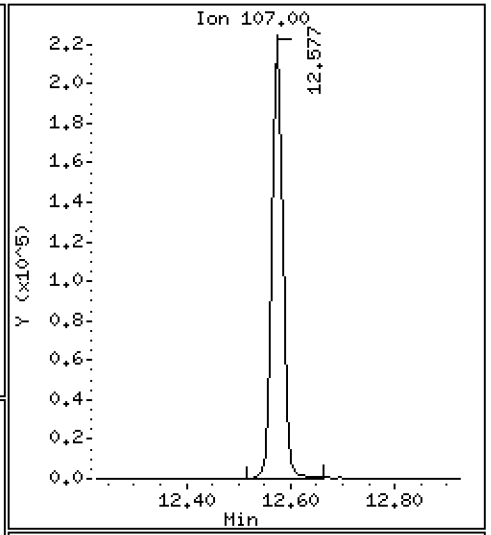
31 4-Chloro-3-methylphenol

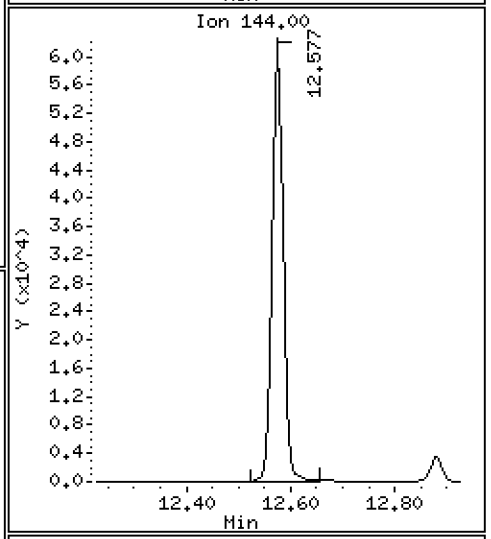
Concentration: 4.709 ug/mL

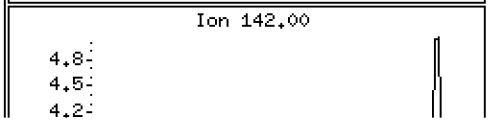












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

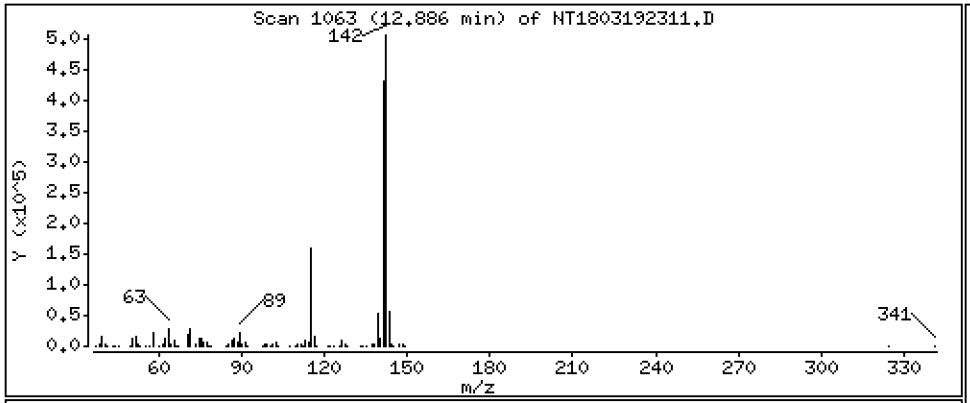
Operator: VTS

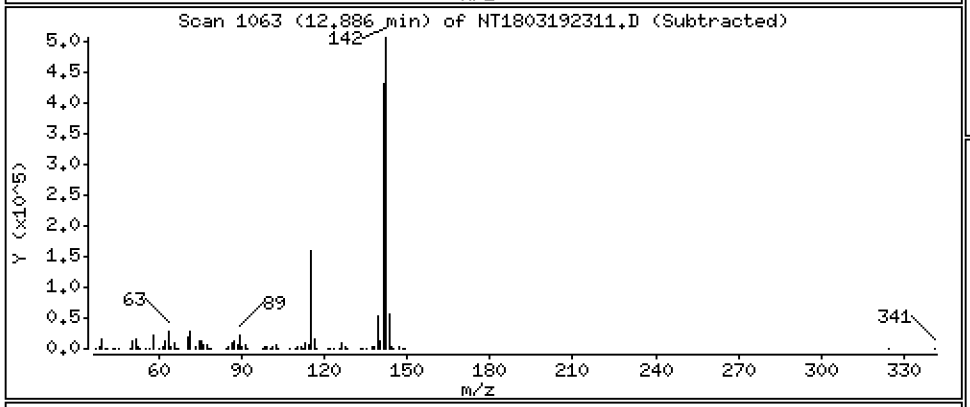
Column phase: ZB-5msi

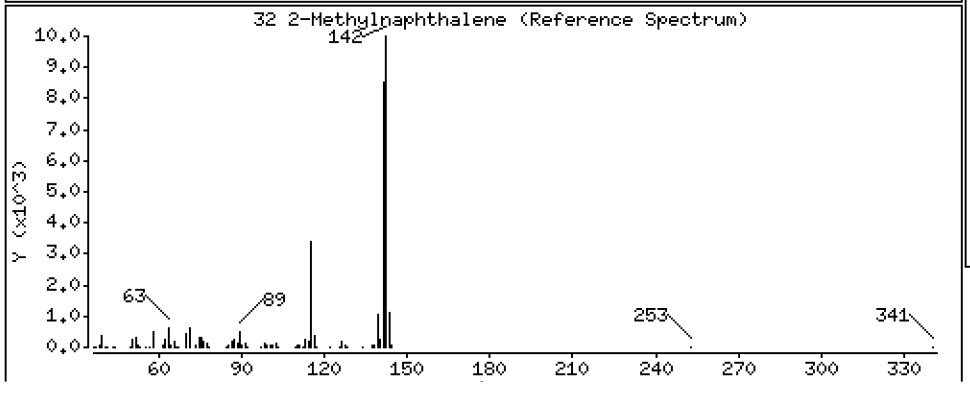
Column diameter: 0.25

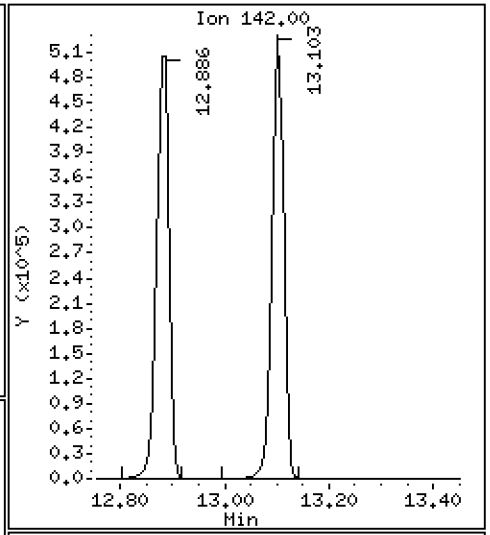
32 2-Methylnaphthalene

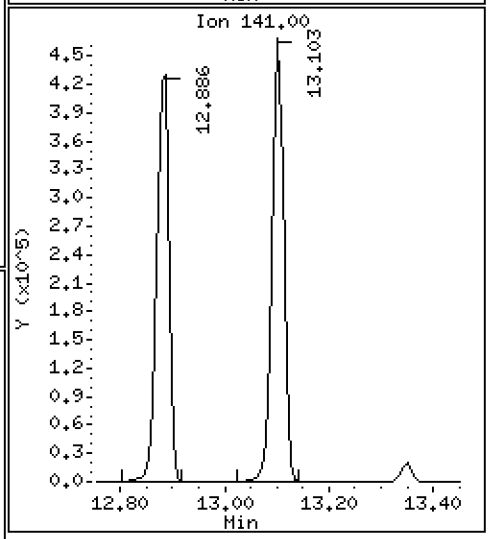
Concentration: 5.247 ug/mL











Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

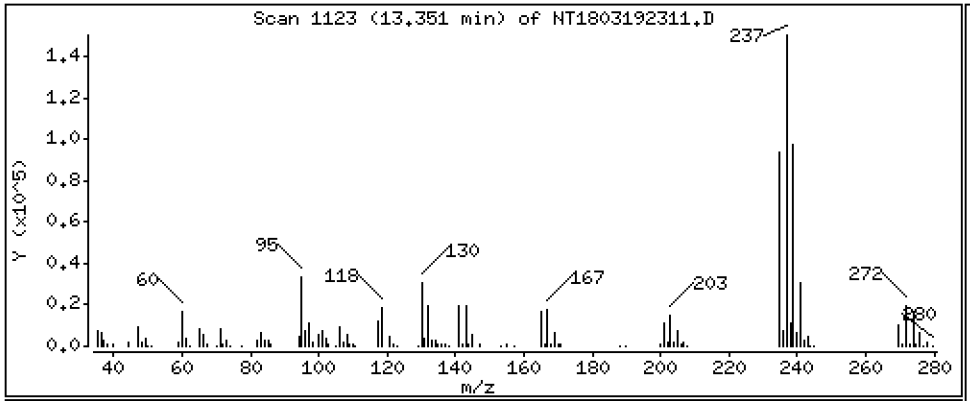
Operator: VTS

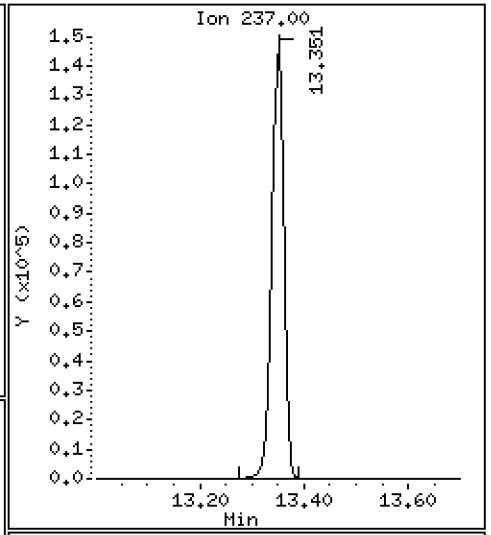
Column phase: ZB-5msi

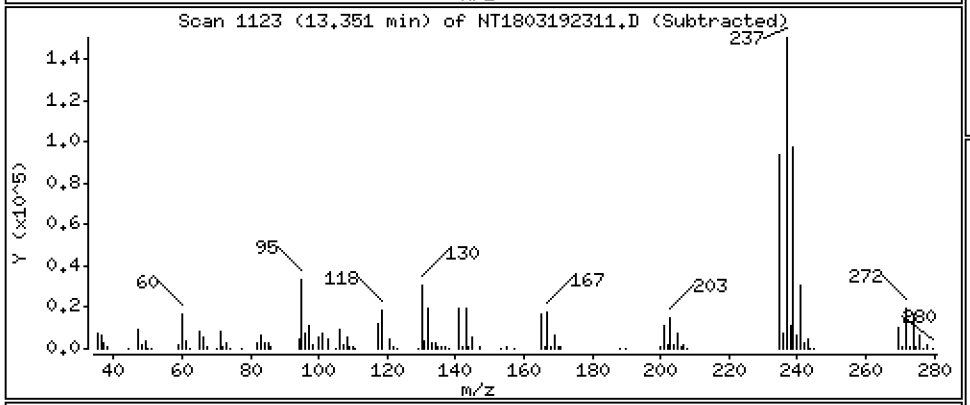
Column diameter: 0.25

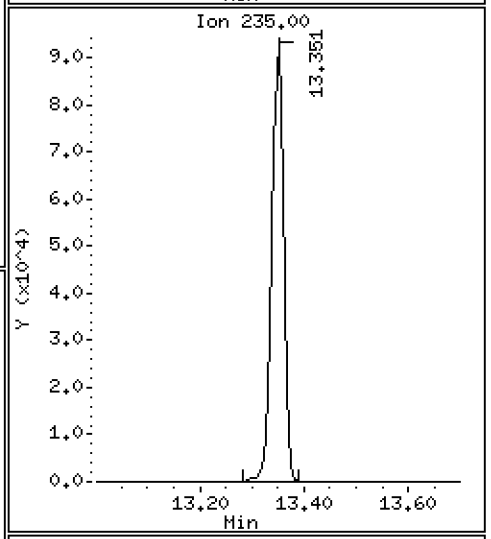
33 Hexachlorocyclopentadiene

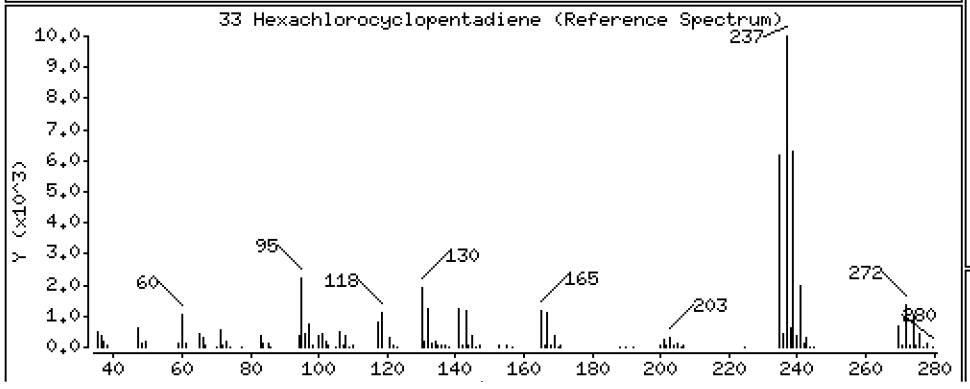
Concentration: 5.056 ug/mL

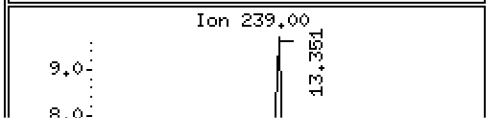












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

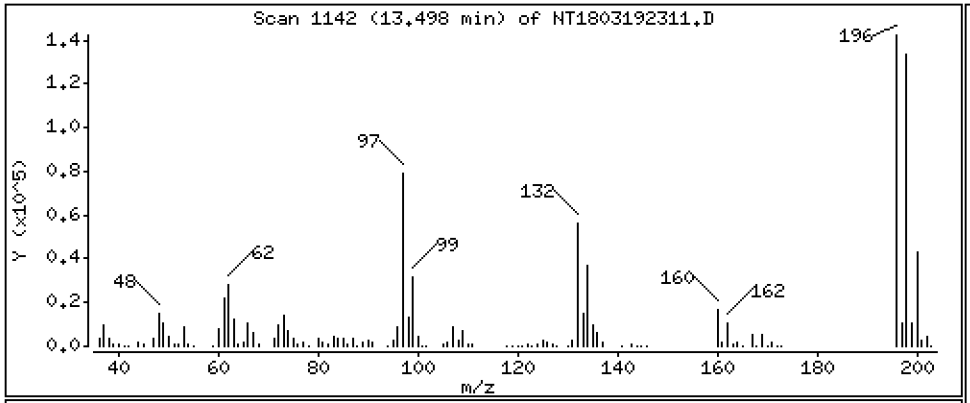
Operator: VTS

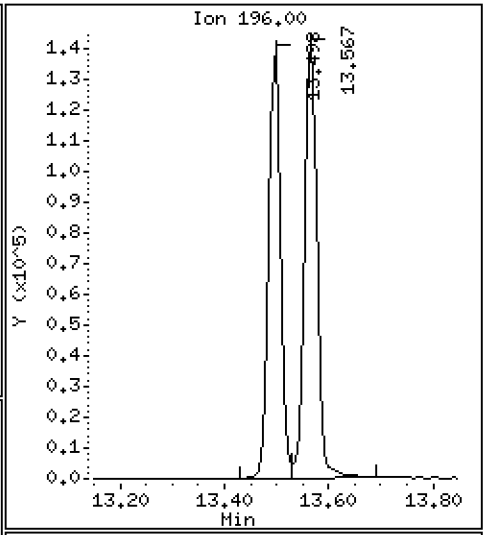
Column phase: ZB-5msi

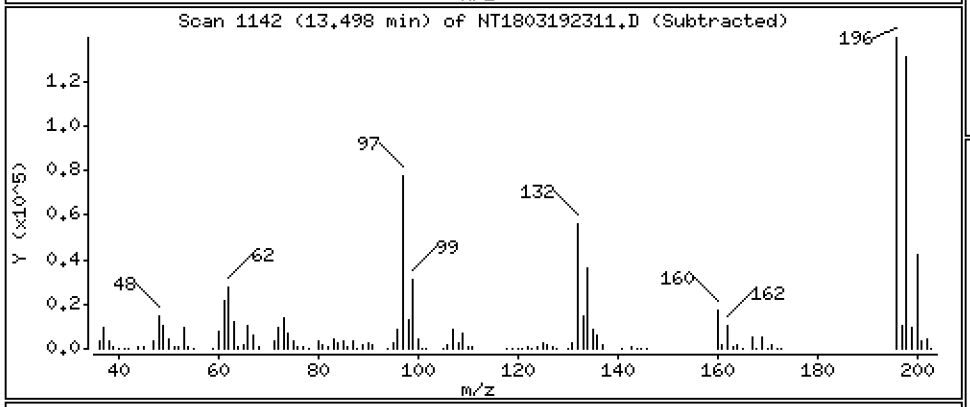
Column diameter: 0.25

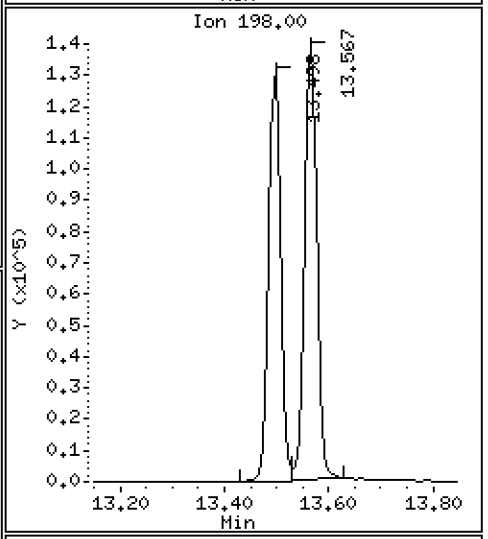
34 2,4,6-Trichlorophenol

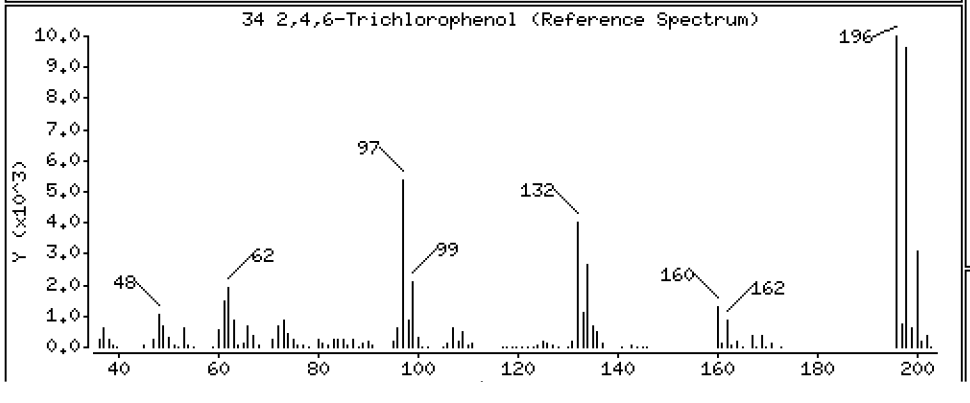
Concentration: 4.580 ug/mL

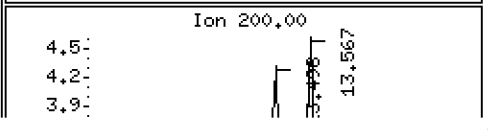












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

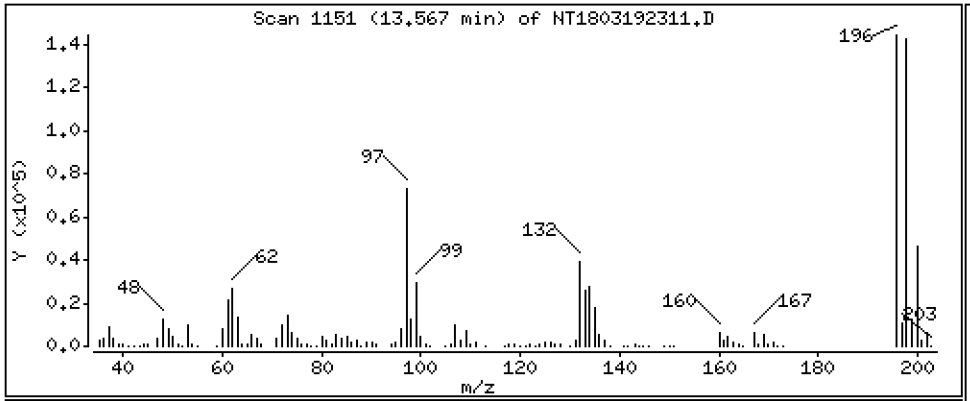
Operator: VTS

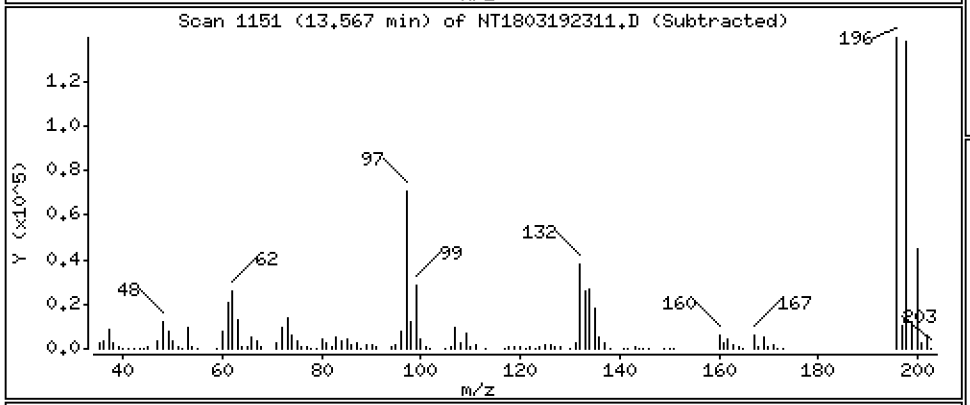
Column phase: ZB-5msi

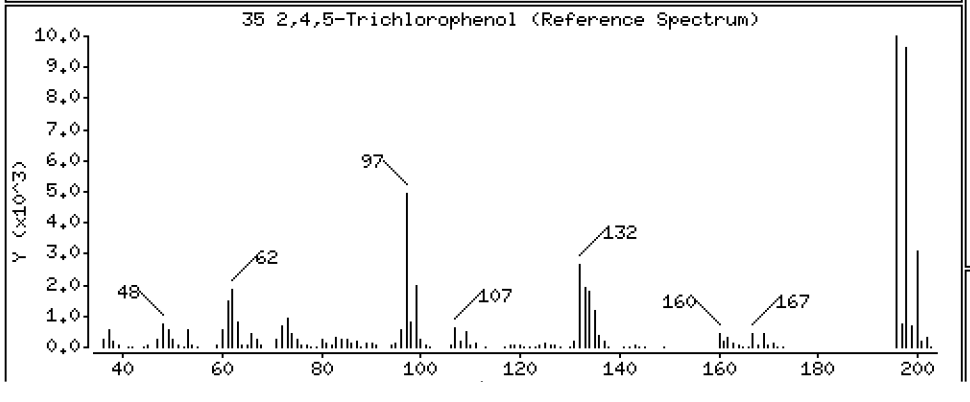
Column diameter: 0.25

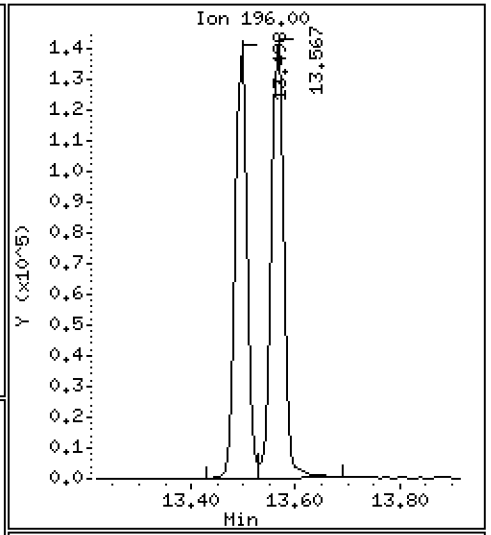
35 2,4,5-Trichlorophenol

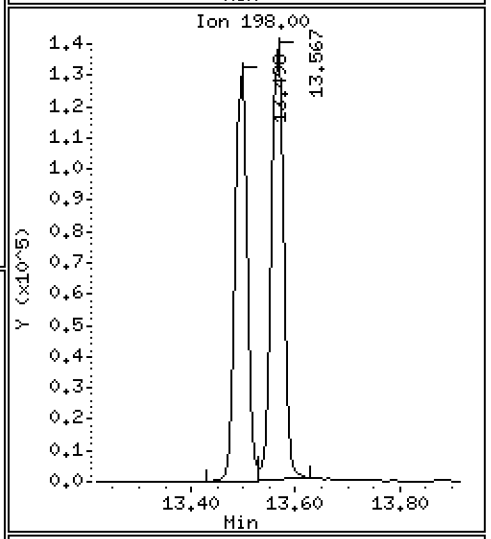
Concentration: 4.528 ug/mL

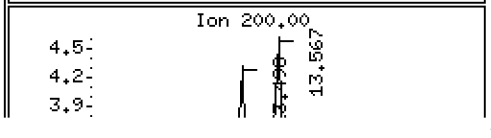












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

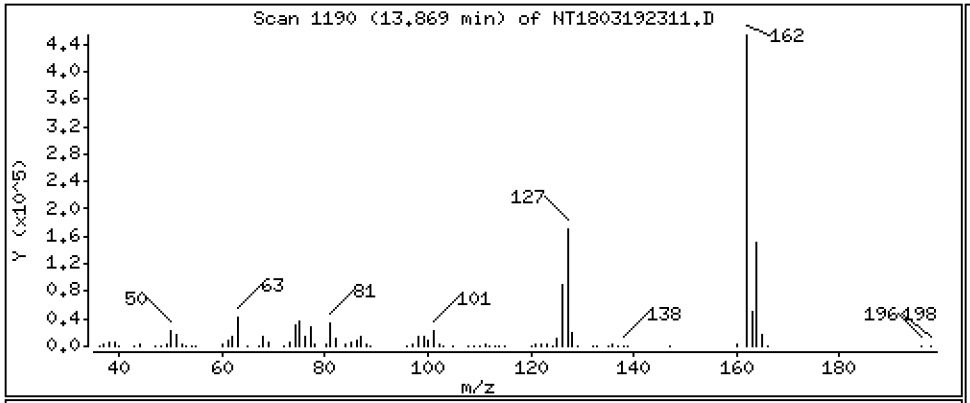
Operator: VTS

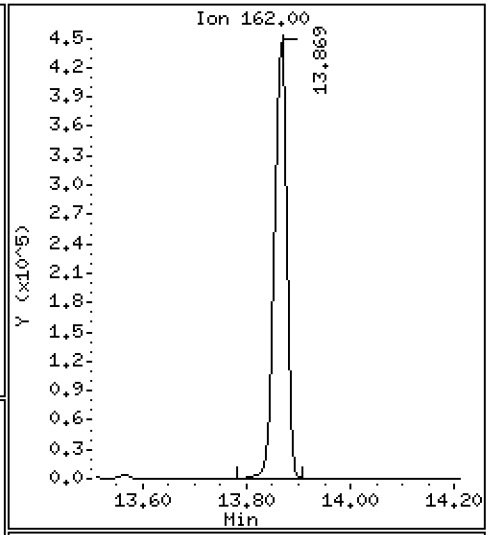
Column phase: ZB-5msi

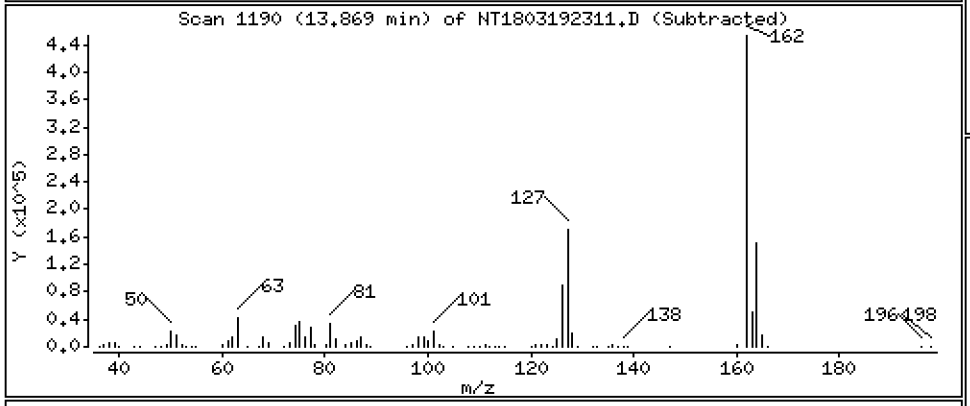
Column diameter: 0.25

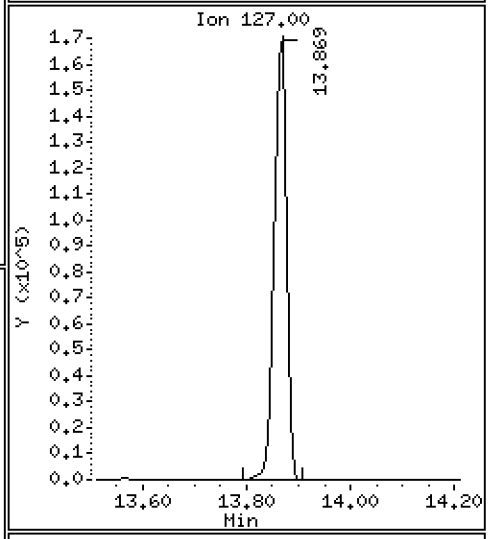
37 2-Chloronaphthalene

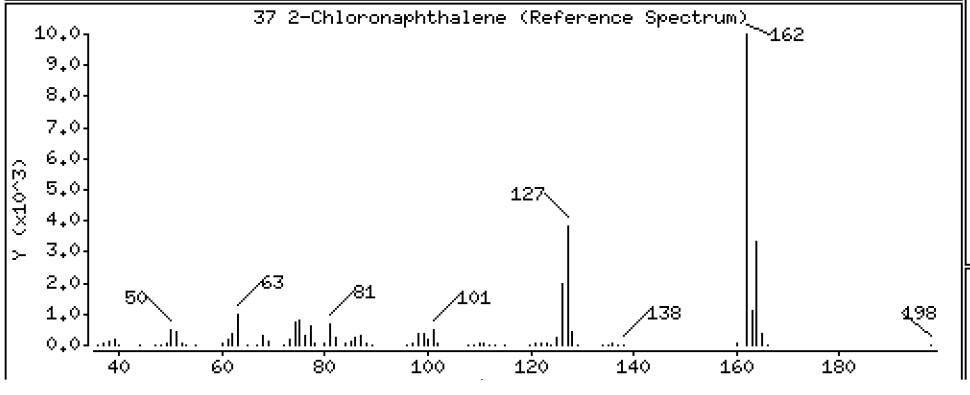
Concentration: 4.885 ug/mL

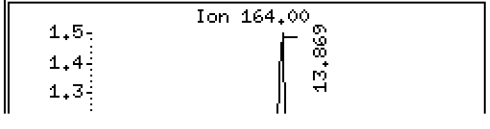












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

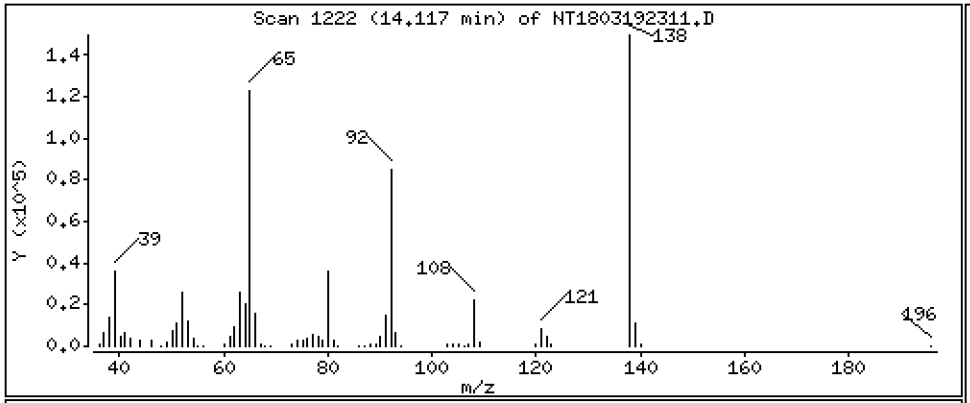
Operator: VTS

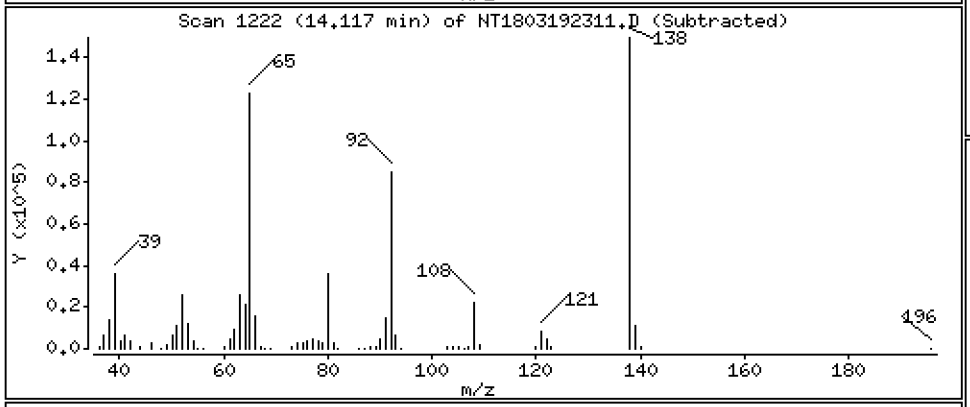
Column phase: ZB-5msi

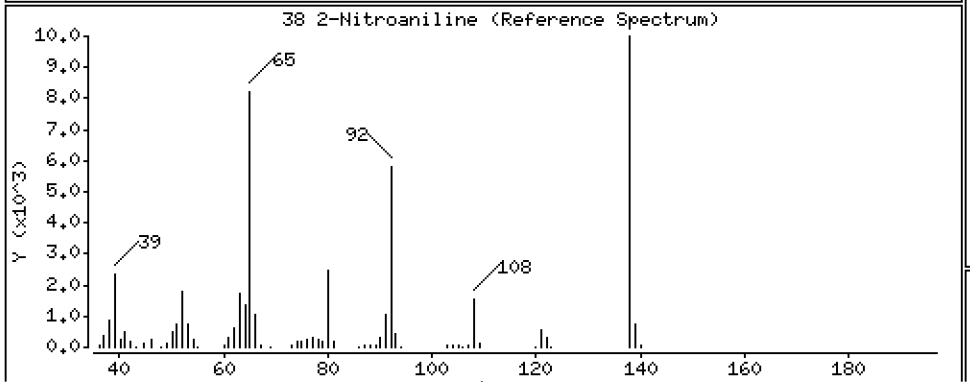
Column diameter: 0.25

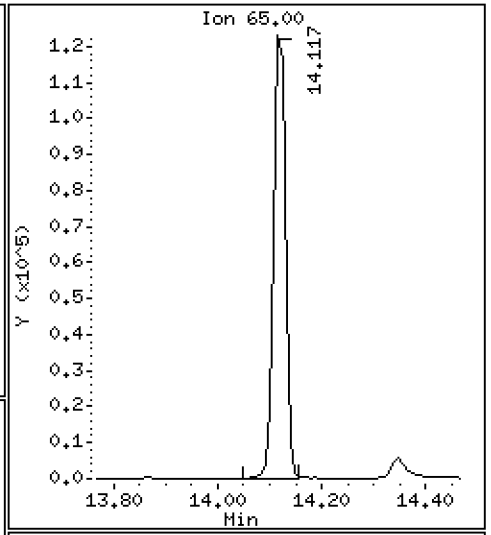
38 2-Nitroaniline

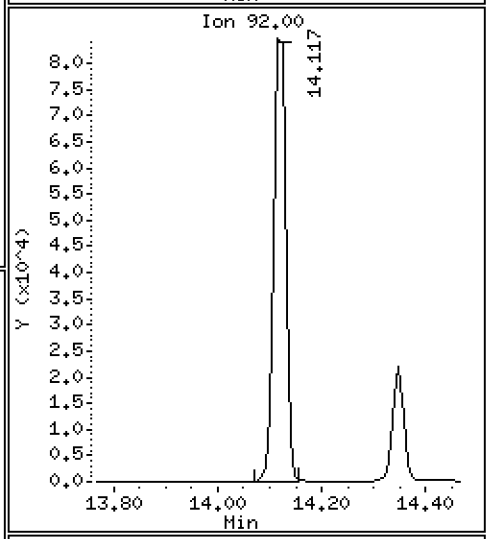
Concentration: 4.812 ug/mL

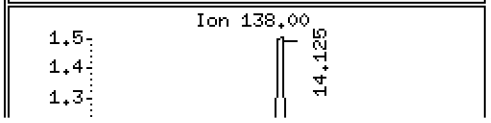












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

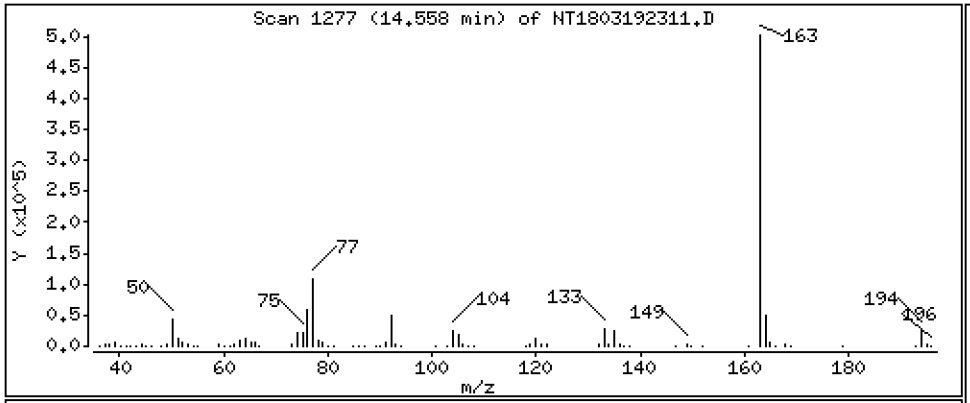
Operator: VTS

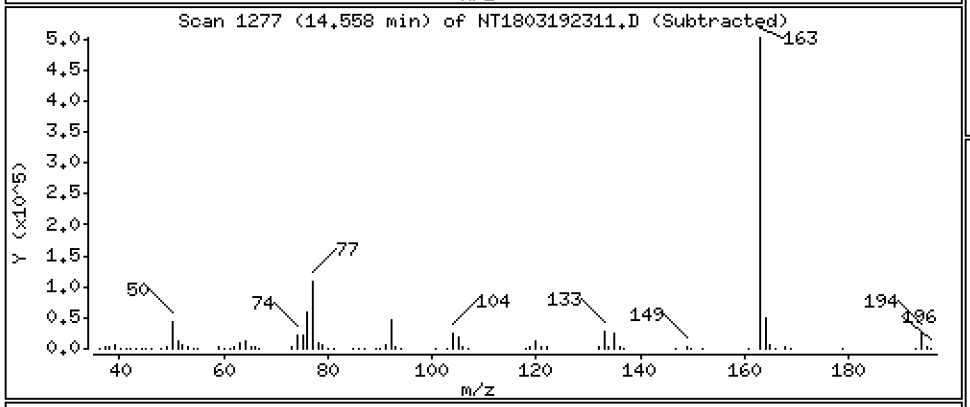
Column phase: ZB-5msi

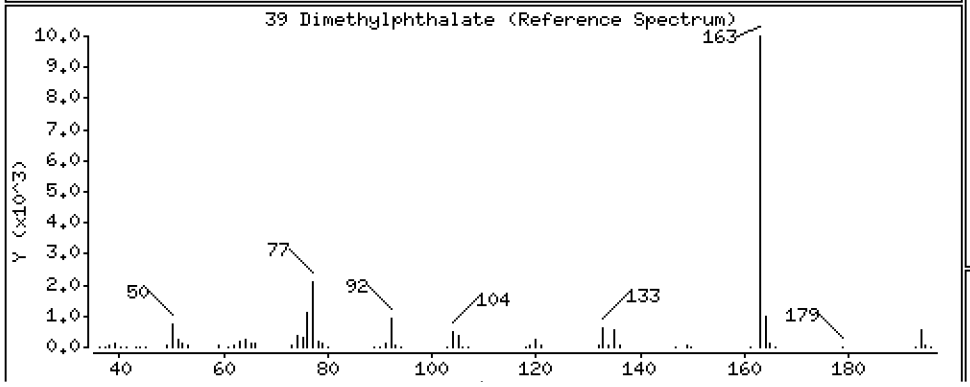
Column diameter: 0.25

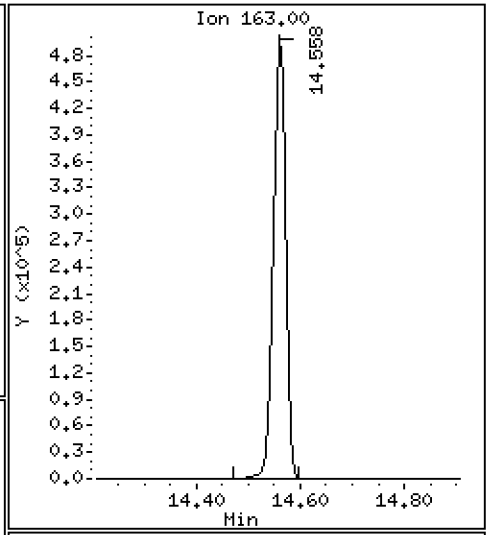
39 Dimethylphthalate

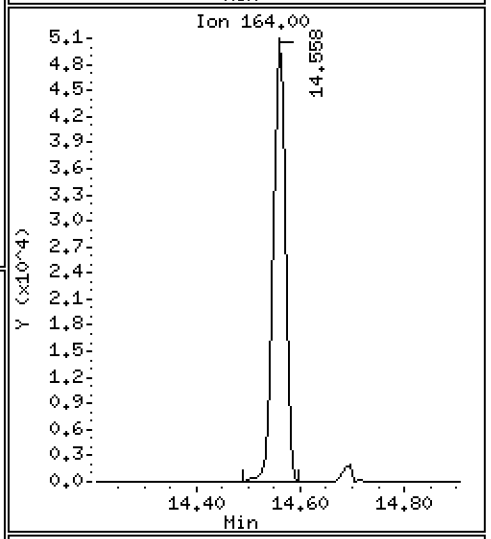
Concentration: 5.105 ug/mL

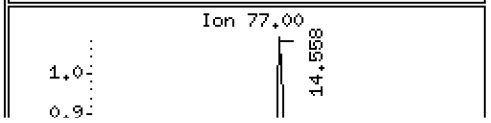












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

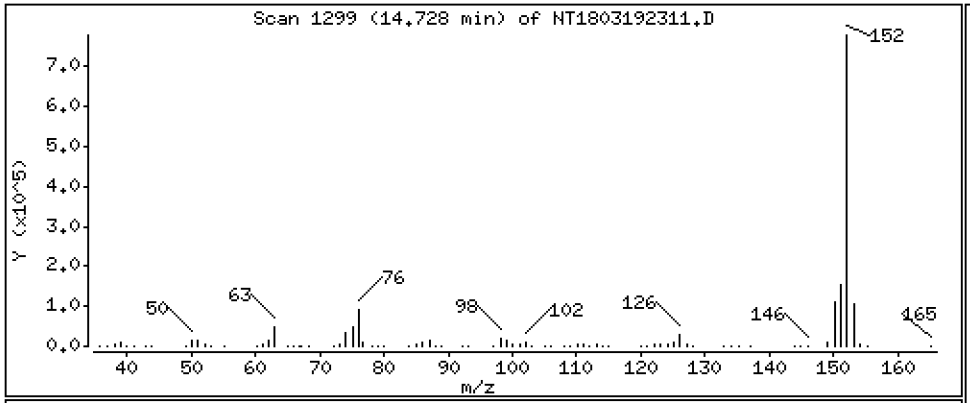
Operator: VTS

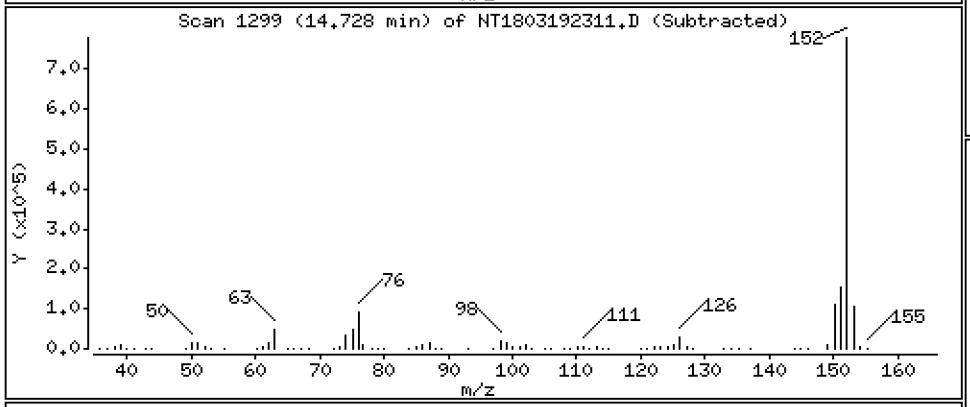
Column phase: ZB-5msi

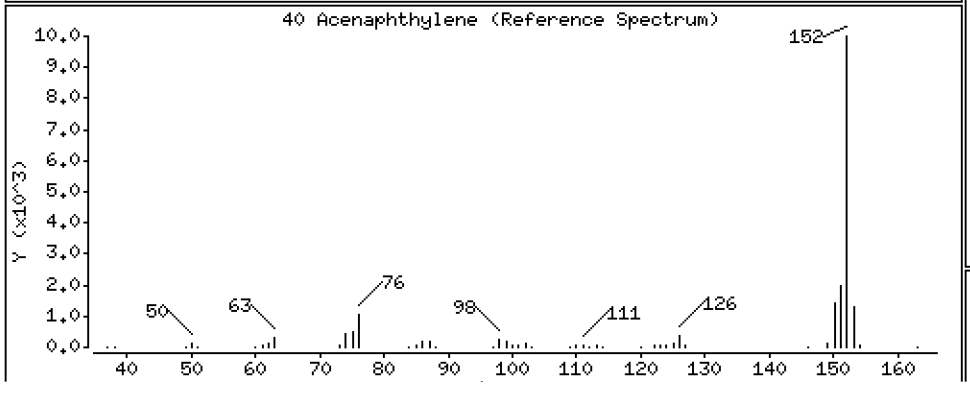
Column diameter: 0.25

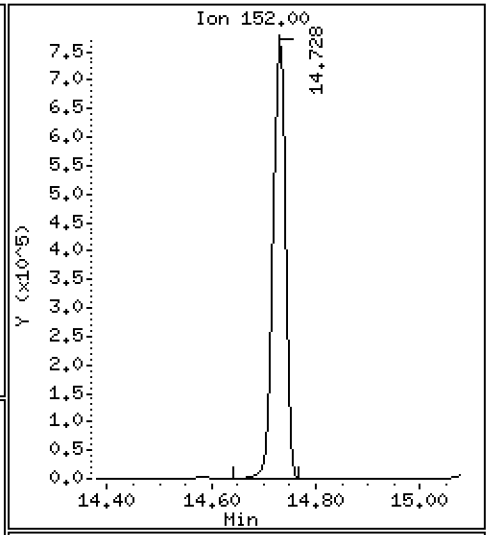
40 Acenaphthylene

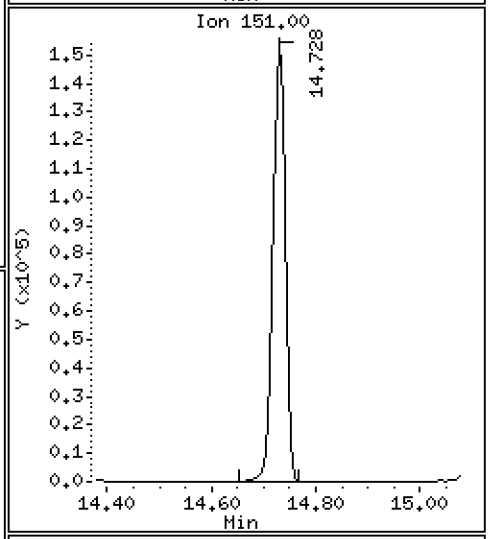
Concentration: 4.922 ug/mL

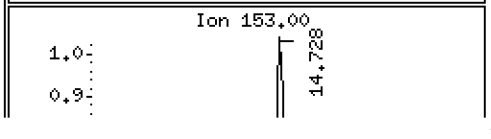












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

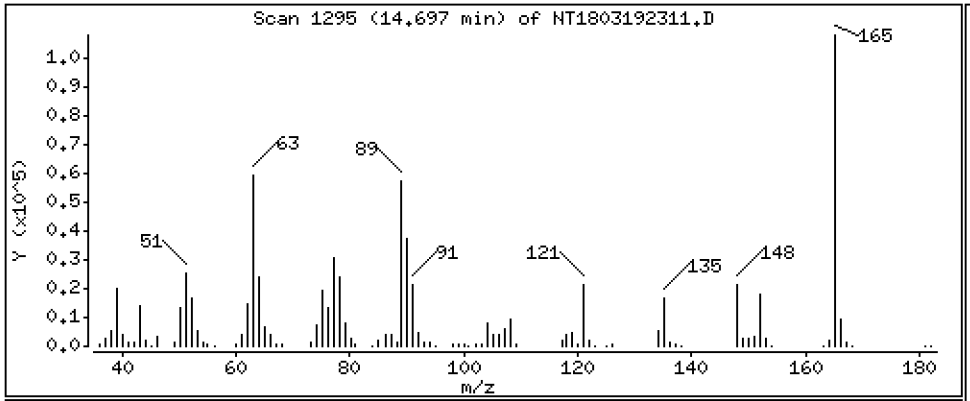
Operator: VTS

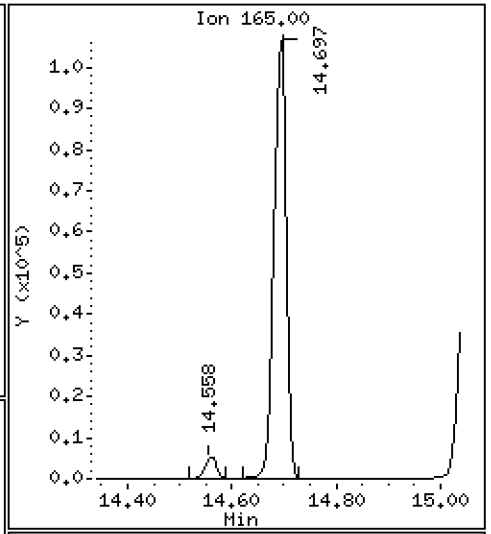
Column phase: ZB-5msi

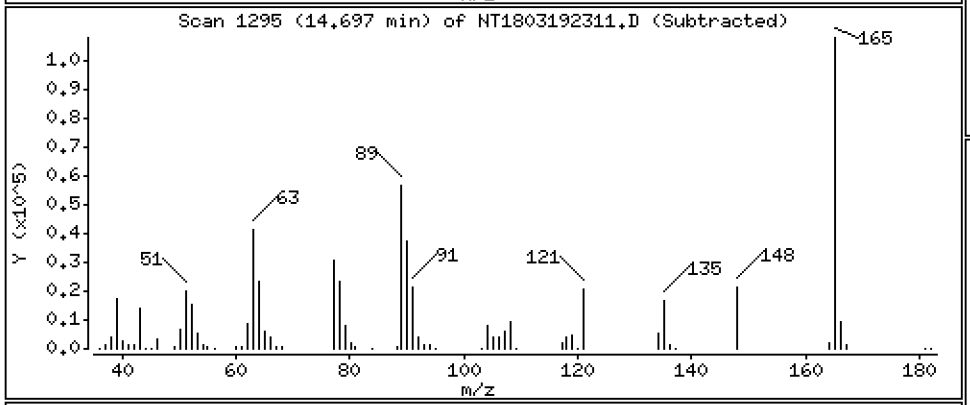
Column diameter: 0.25

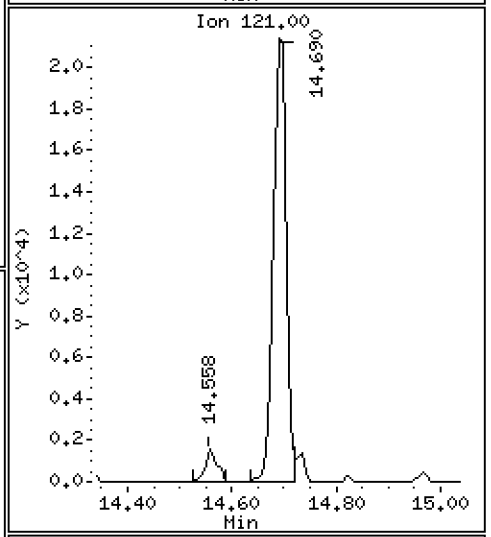
41 2,6-Dinitrotoluene

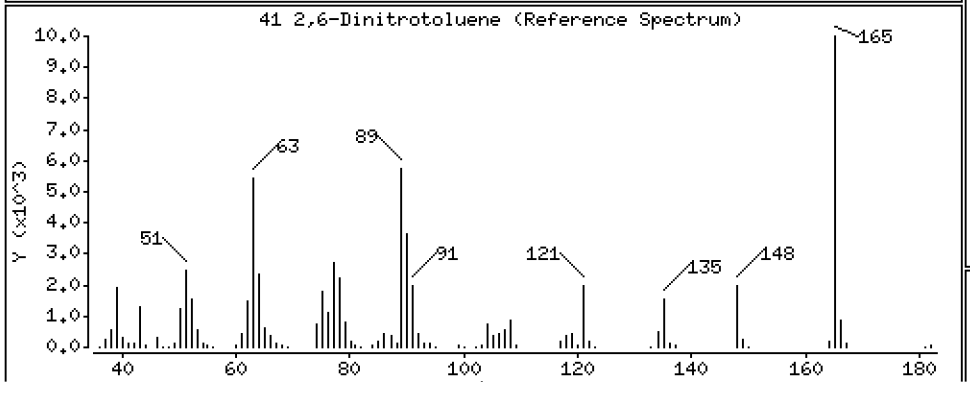
Concentration: 4.857 ug/mL

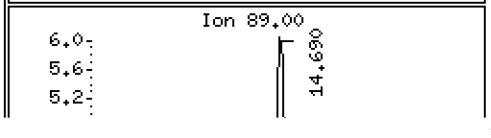












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

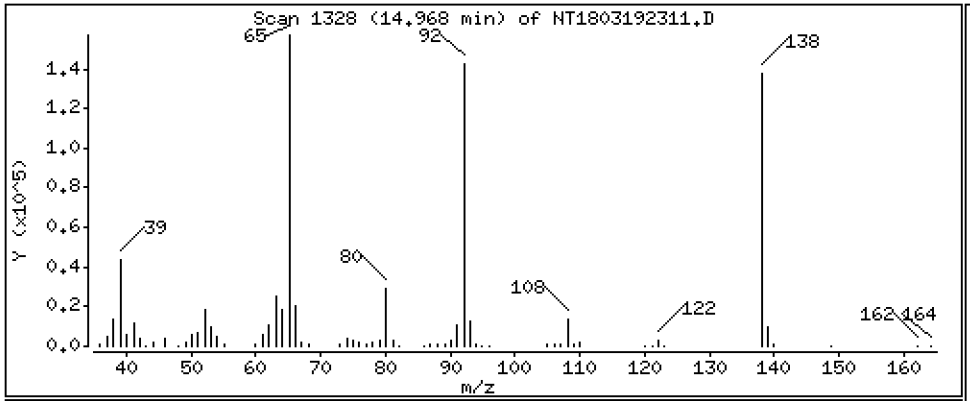
Operator: VTS

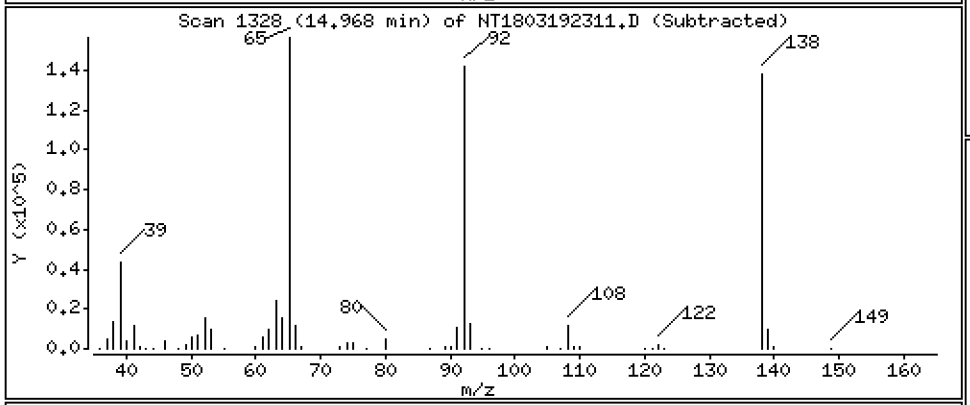
Column phase: ZB-5msi

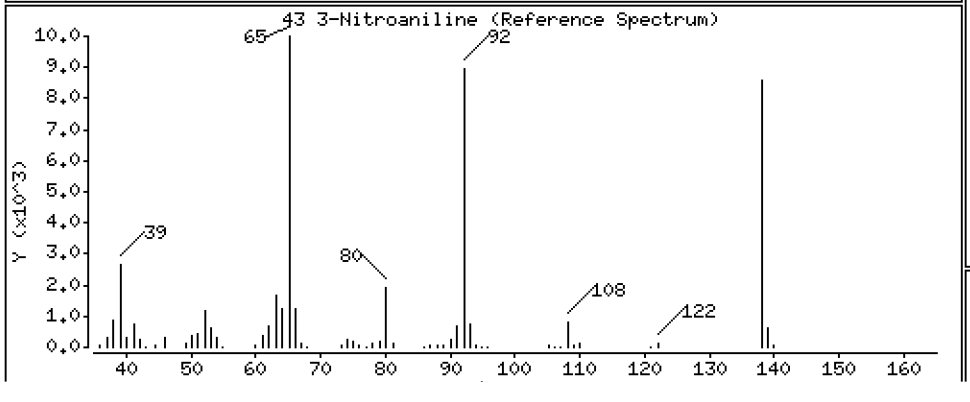
Column diameter: 0.25

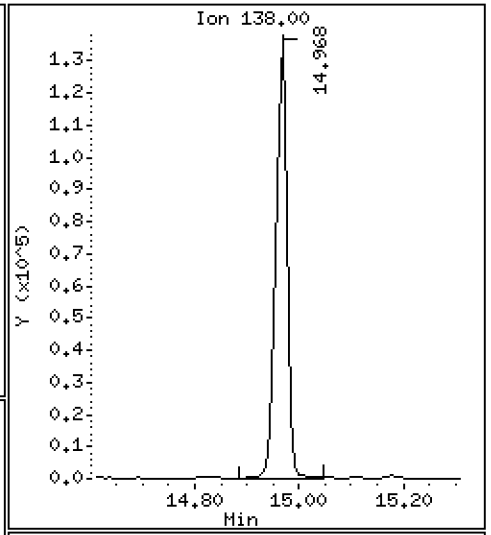
43 3-Nitroaniline

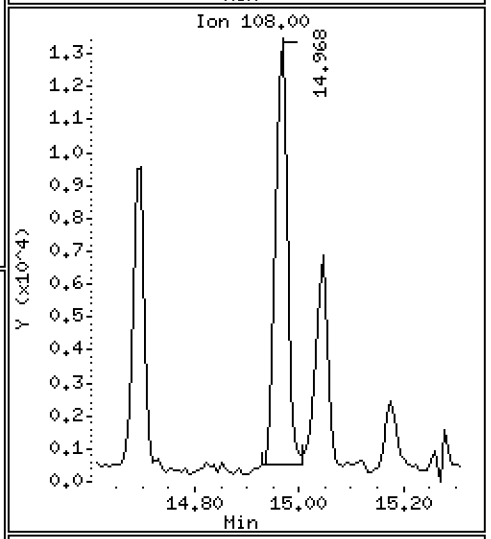
Concentration: 5.150 ug/mL

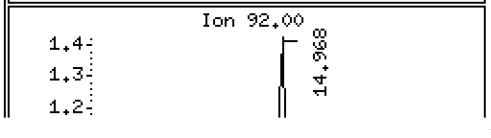












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

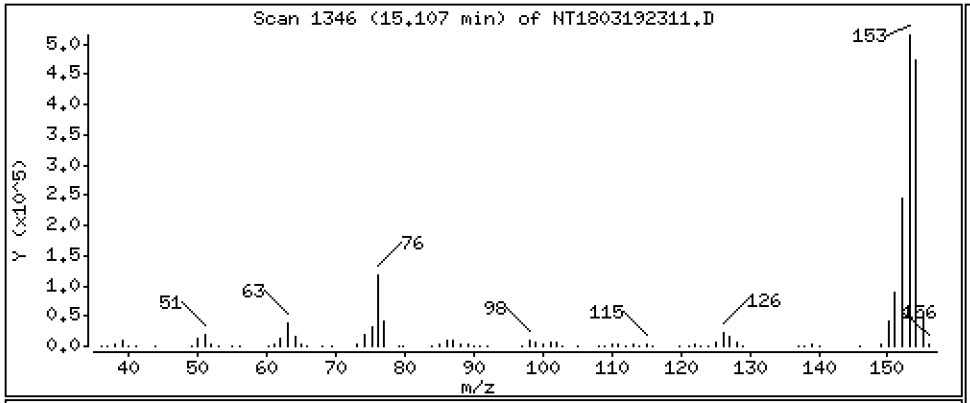
Operator: VTS

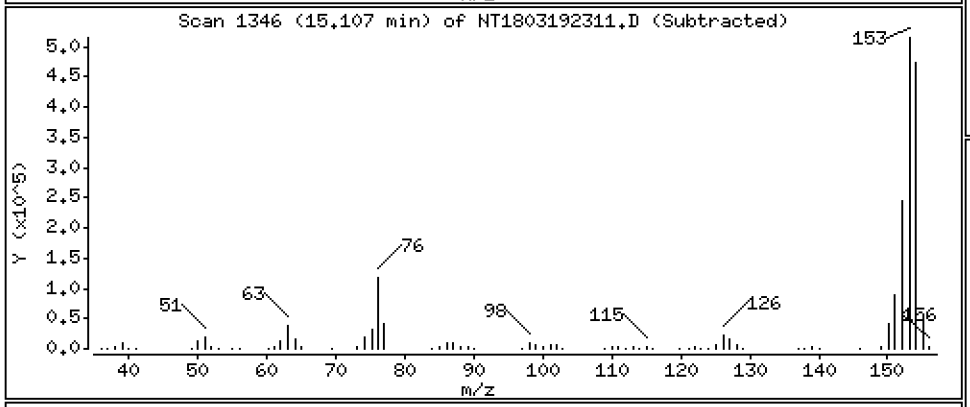
Column phase: ZB-5msi

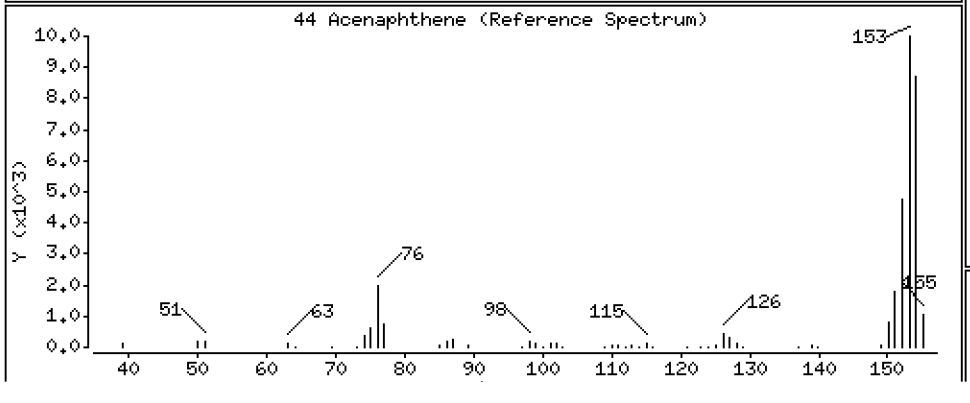
Column diameter: 0.25

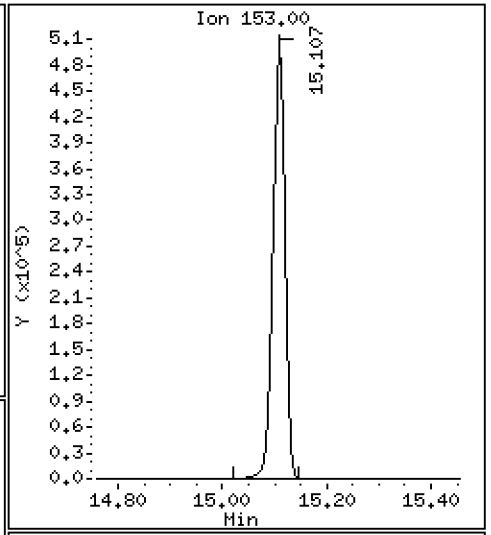
44 Acenaphthene

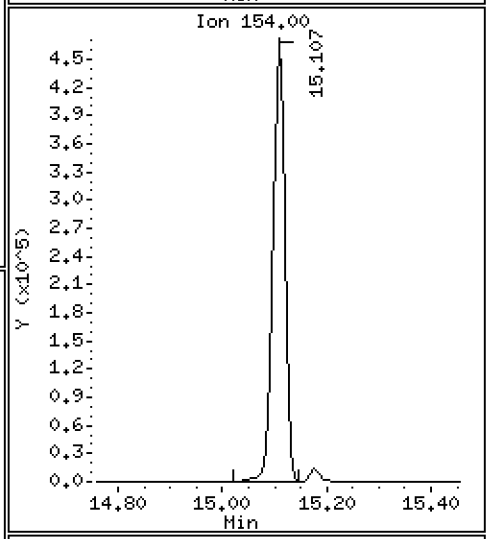
Concentration: 4.842 ug/mL

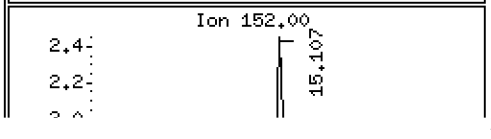












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

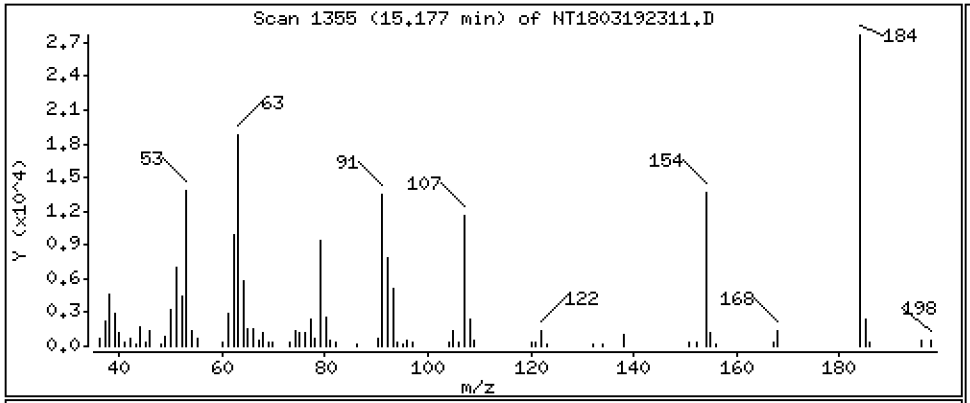
Operator: VTS

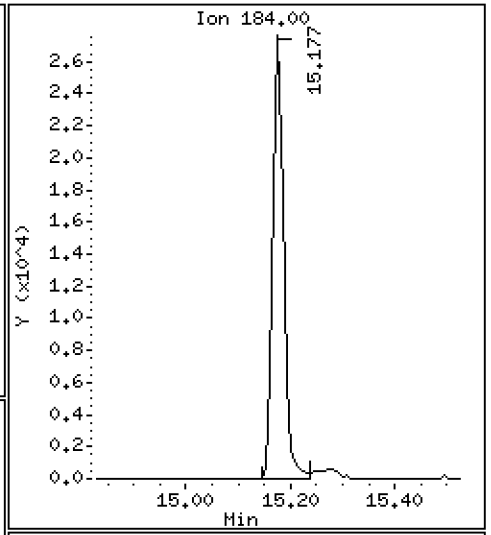
Column phase: ZB-5msi

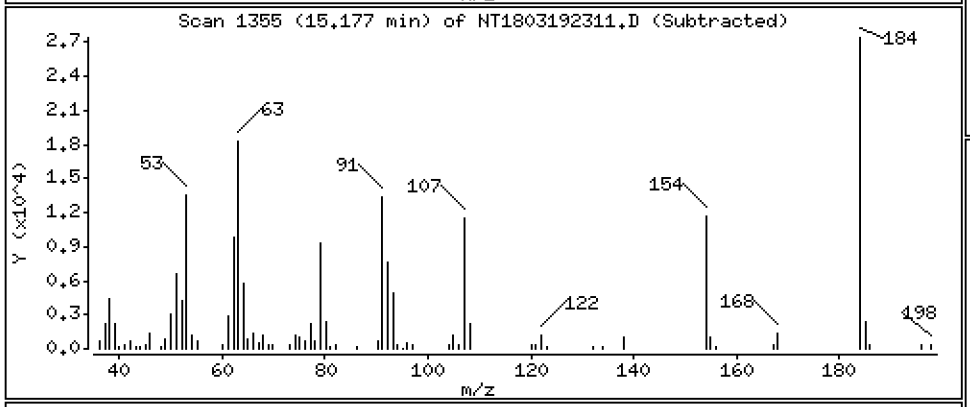
Column diameter: 0.25

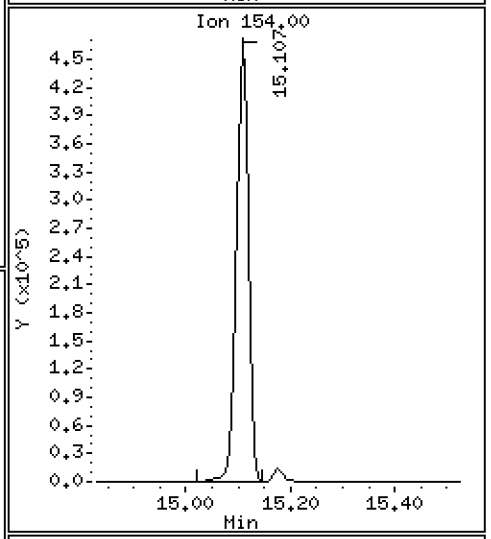
45 2,4-Dinitrophenol

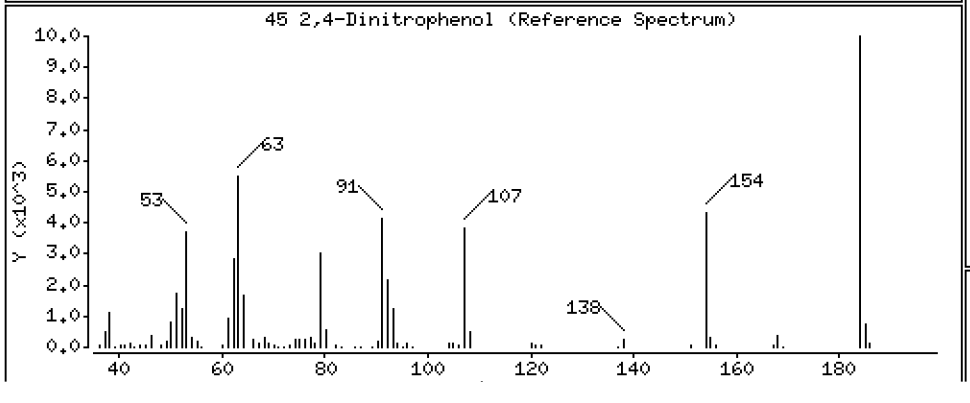
Concentration: 1.887 ug/mL

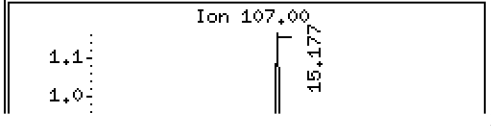












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

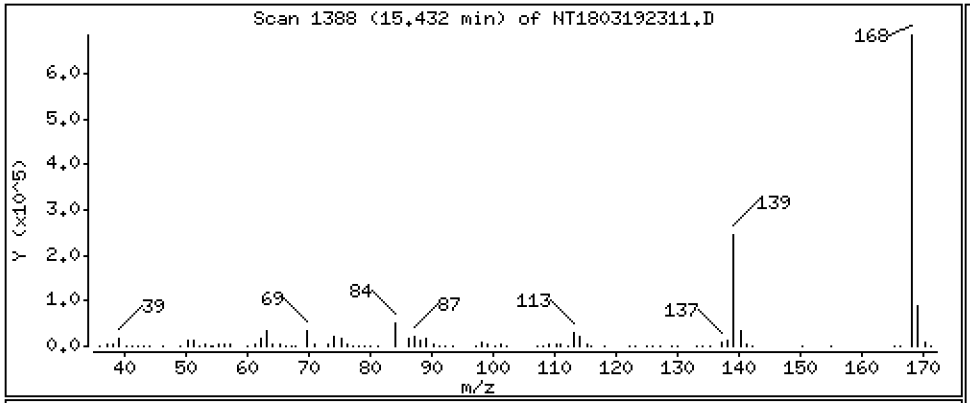
Operator: VTS

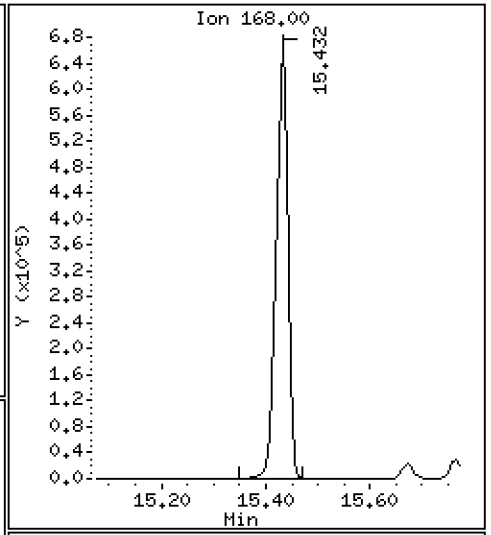
Column phase: ZB-5msi

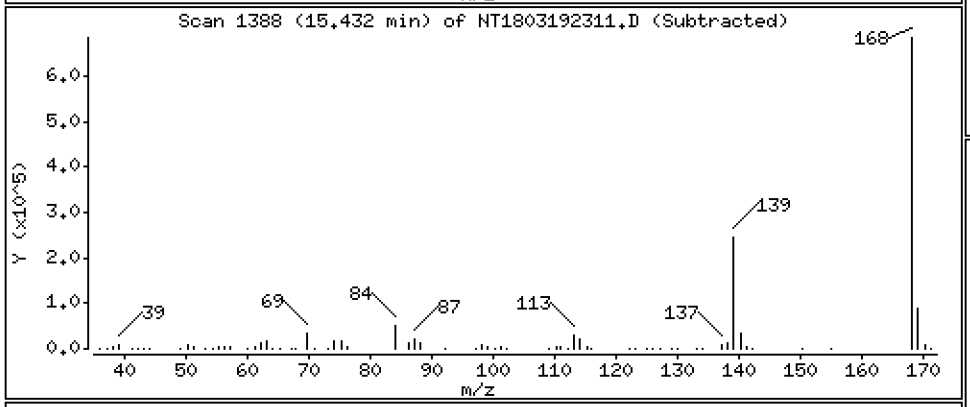
Column diameter: 0.25

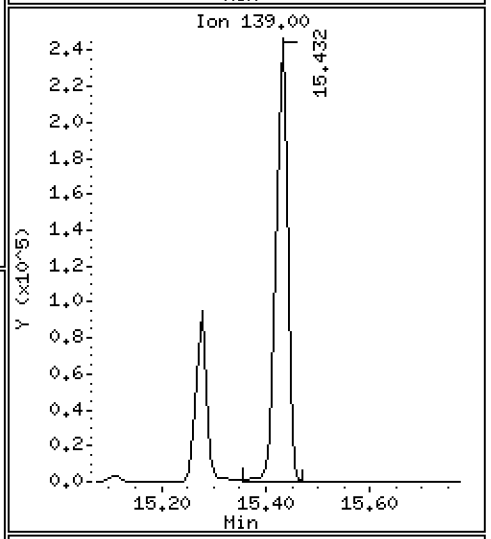
46 Dibenzofuran

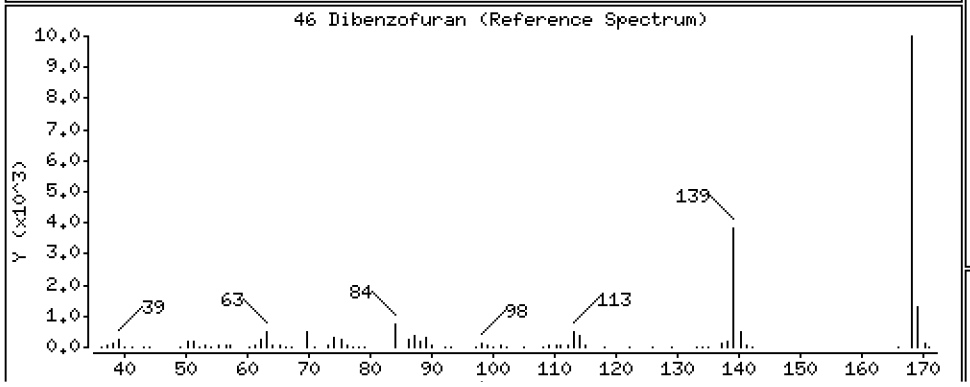
Concentration: 4.756 ug/mL

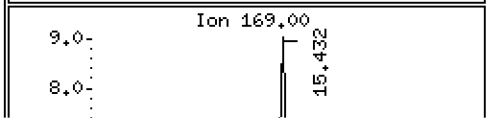












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

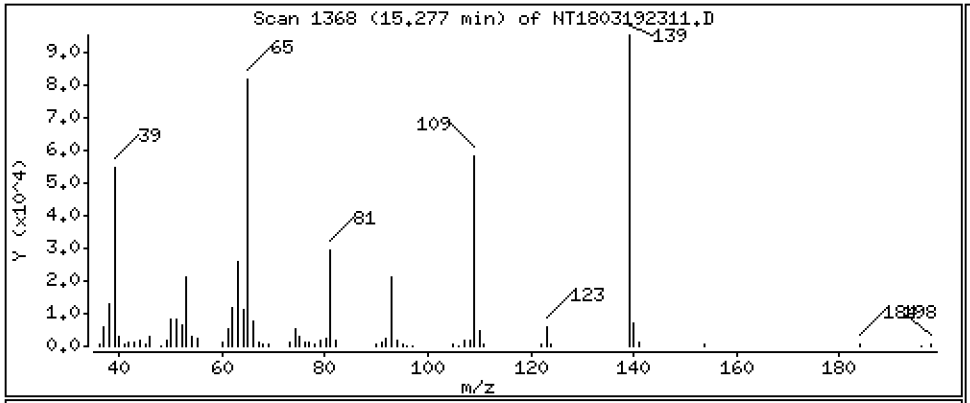
Operator: VTS

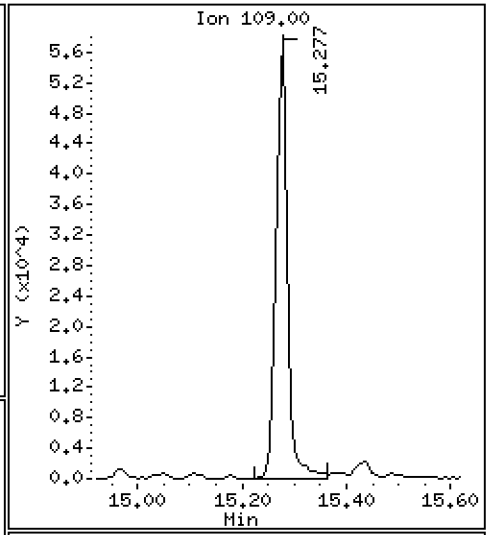
Column phase: ZB-5msi

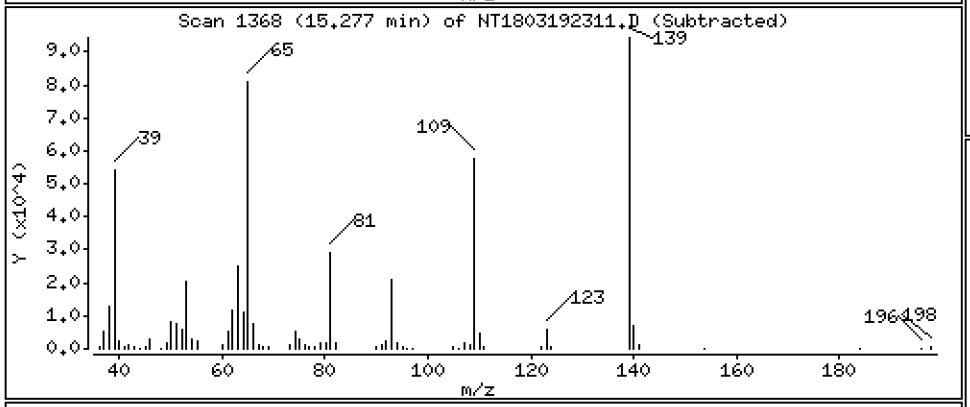
Column diameter: 0.25

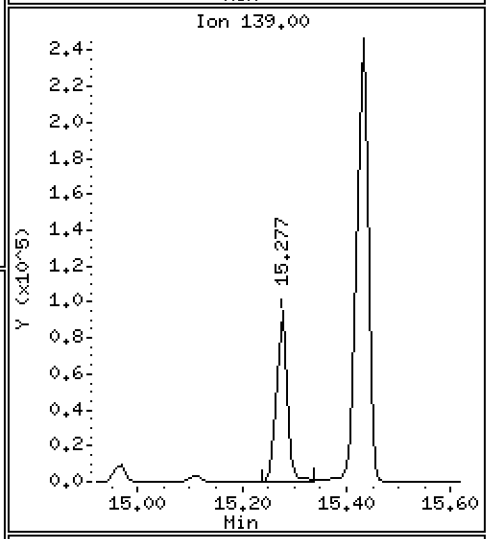
47 4-Nitrophenol

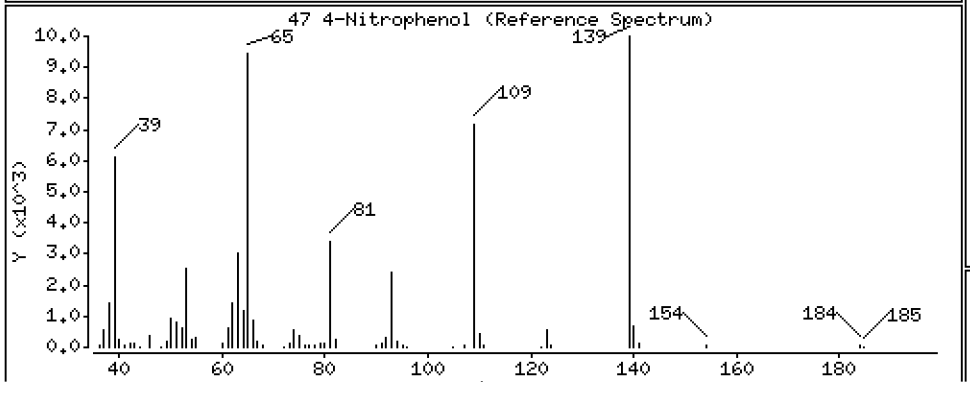
Concentration: 4.128 ug/mL

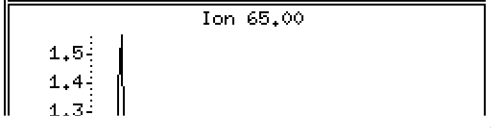












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

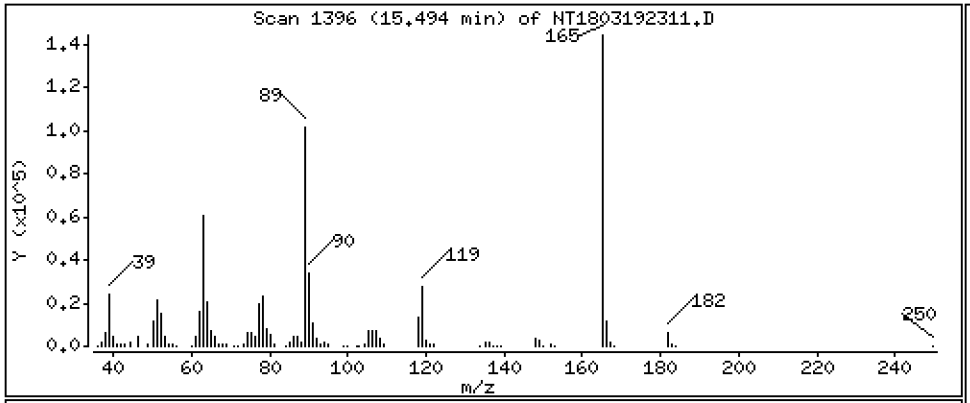
Operator: VTS

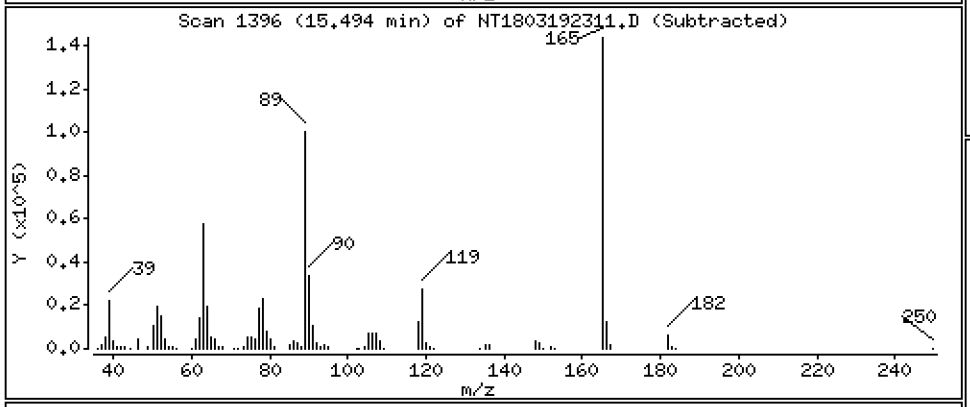
Column phase: ZB-5msi

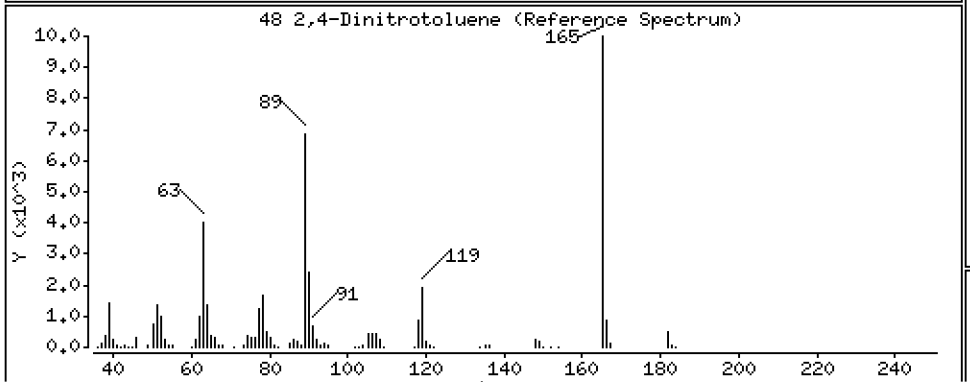
Column diameter: 0.25

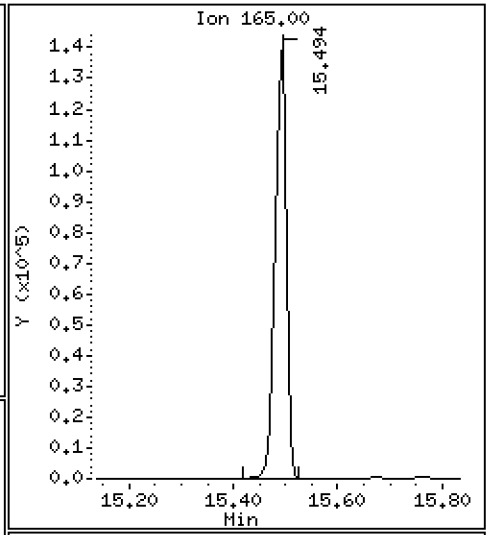
48 2,4-Dinitrotoluene

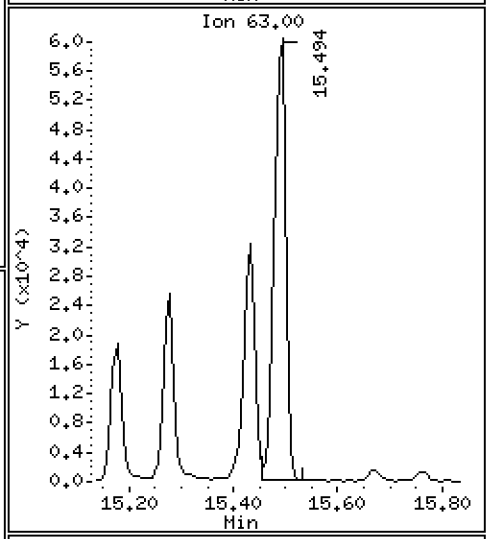
Concentration: 4.481 ug/mL

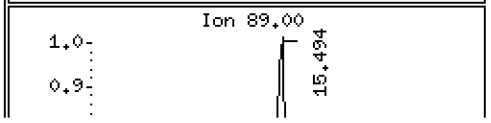












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

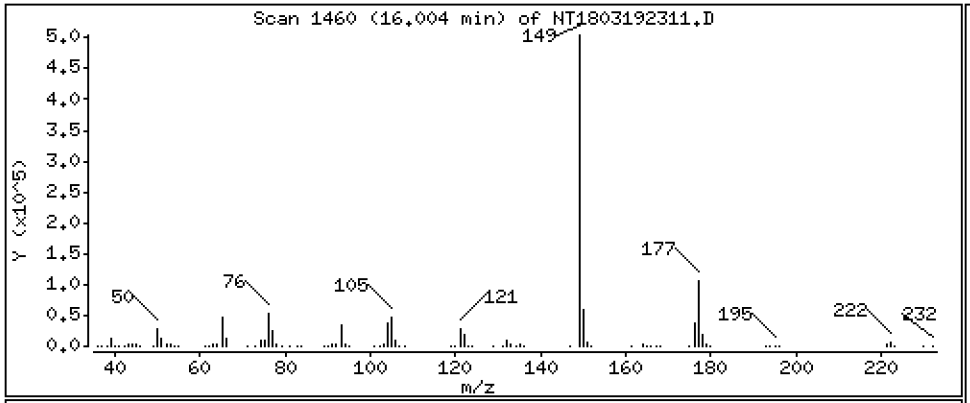
Operator: VTS

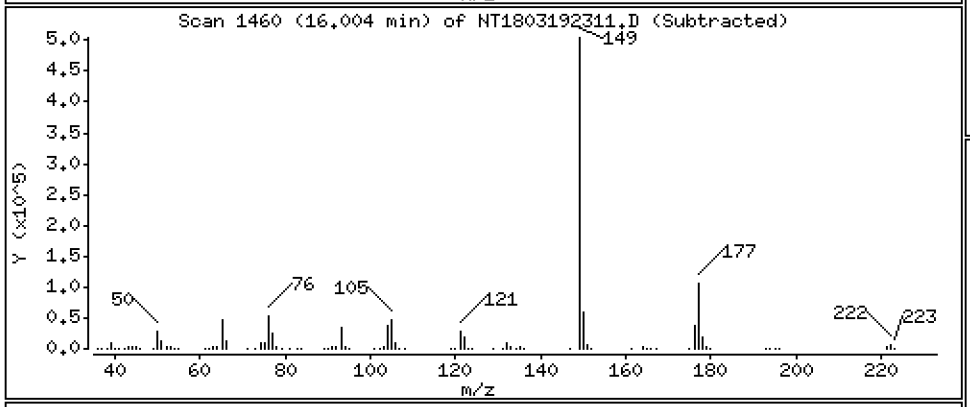
Column phase: ZB-5msi

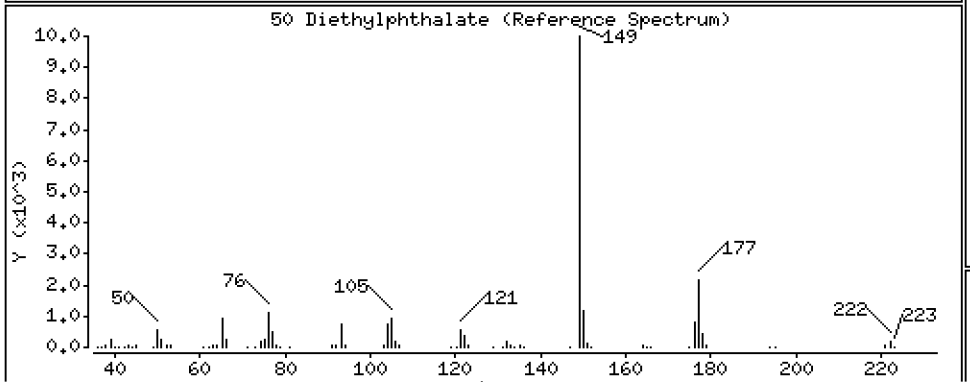
Column diameter: 0.25

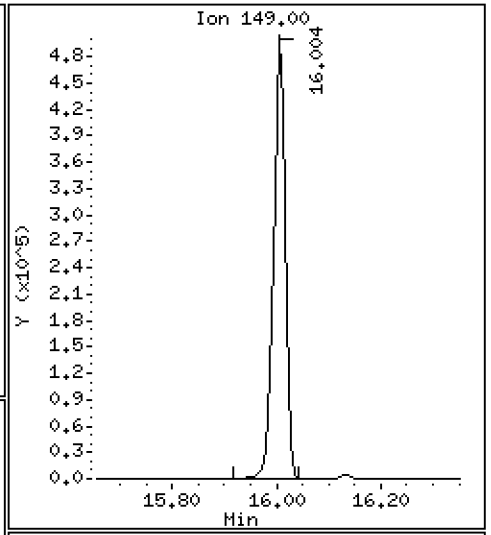
50 Diethylphthalate

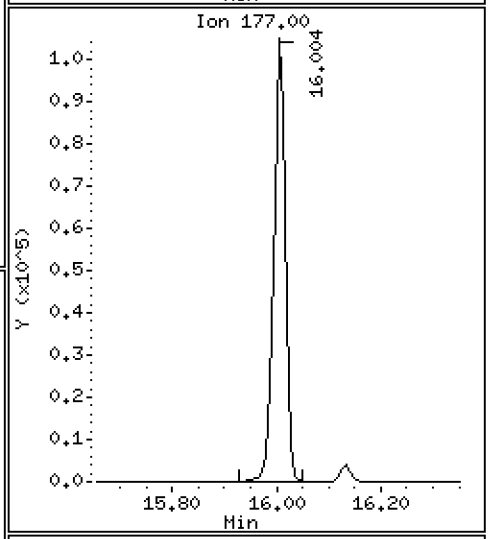
Concentration: 5.021 ug/mL

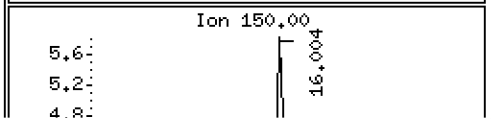












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

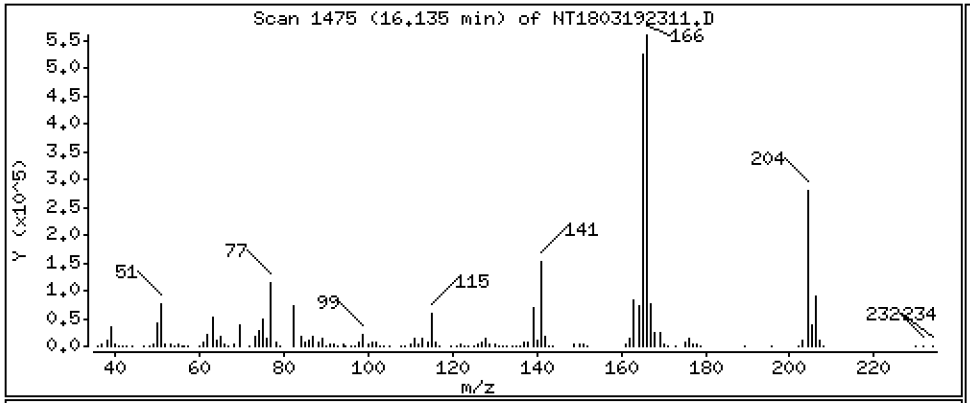
Operator: VTS

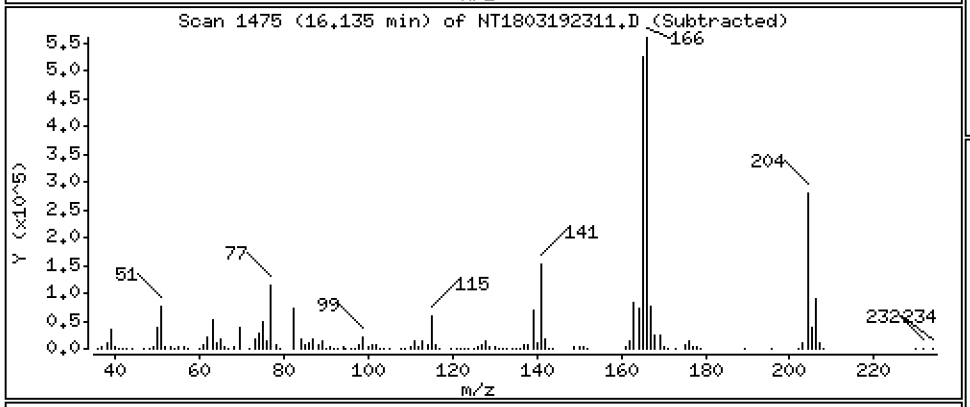
Column phase: ZB-5msi

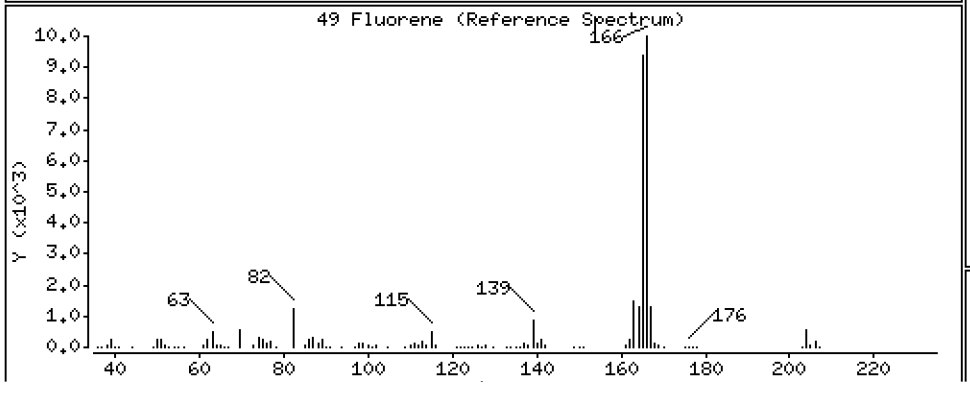
Column diameter: 0.25

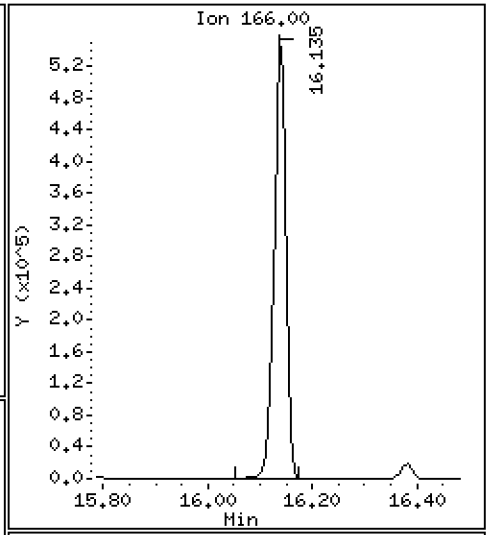
49 Fluorene

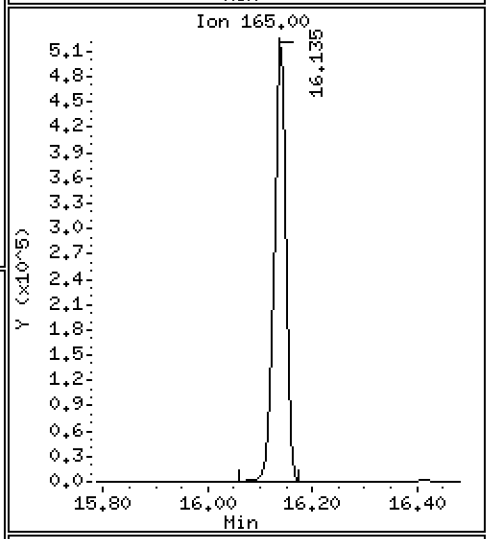
Concentration: 5.040 ug/mL

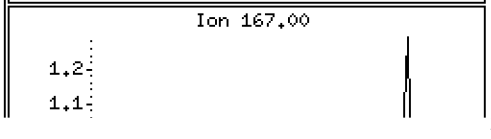












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

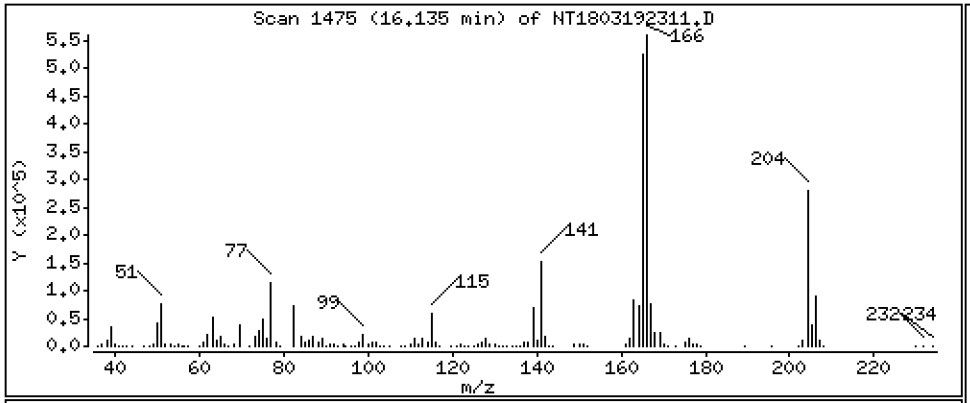
Operator: VTS

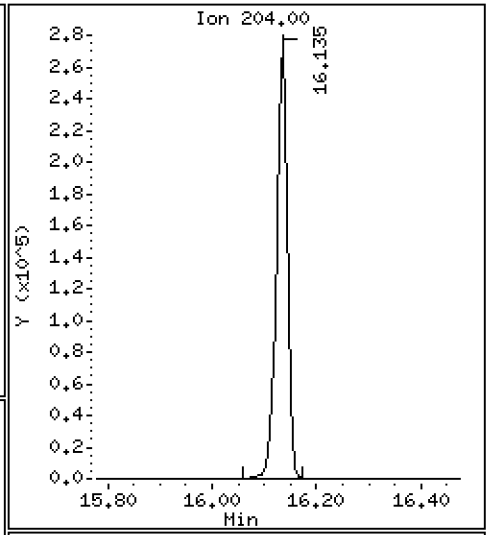
Column phase: ZB-5msi

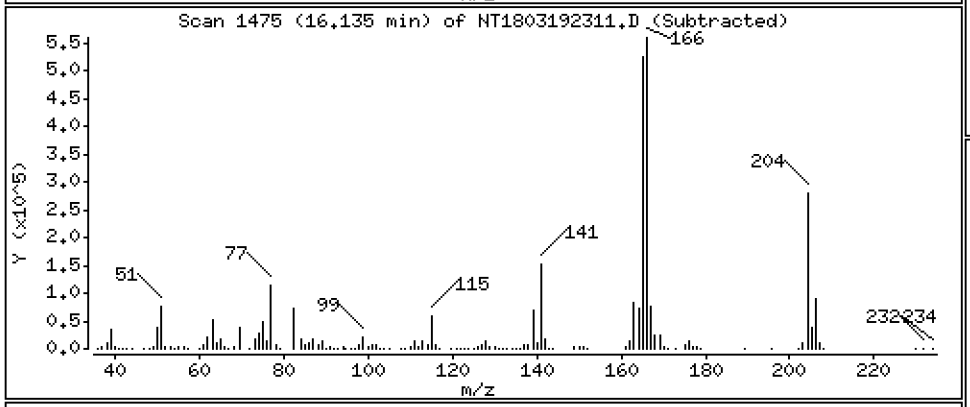
Column diameter: 0.25

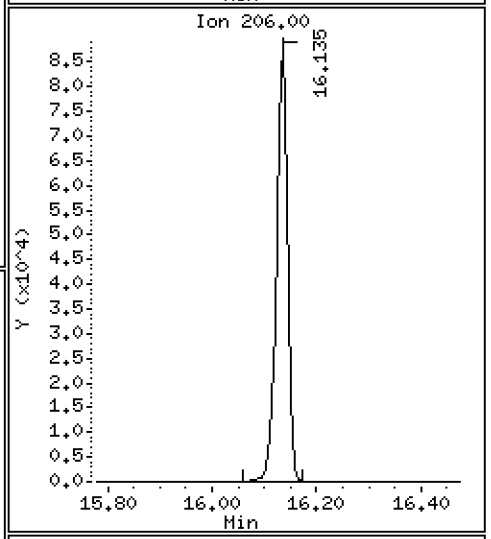
51 4-Chlorophenyl-phenylether

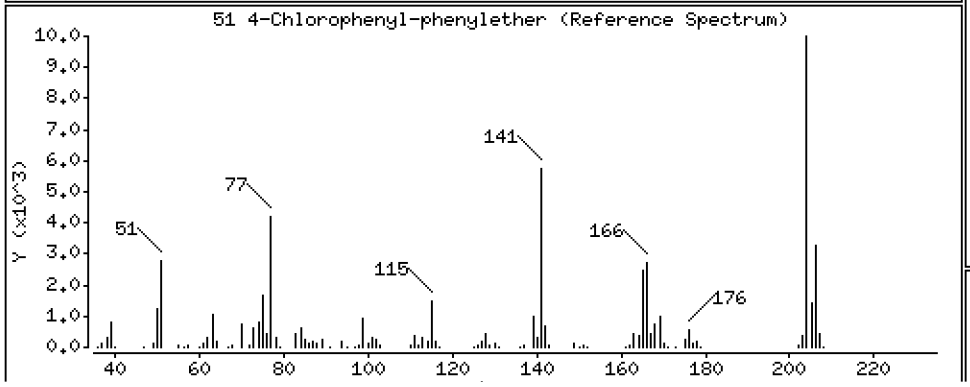
Concentration: 5.398 ug/mL

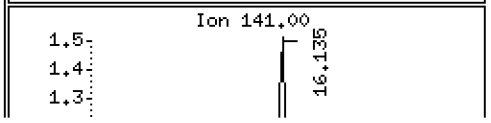












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

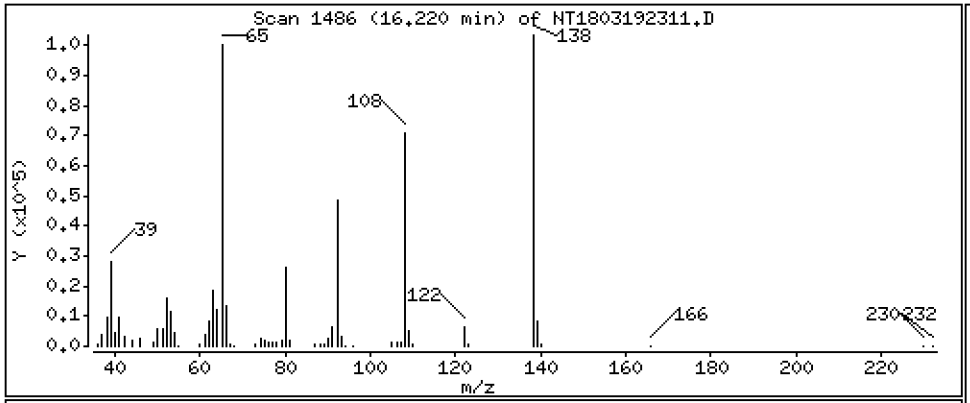
Operator: VTS

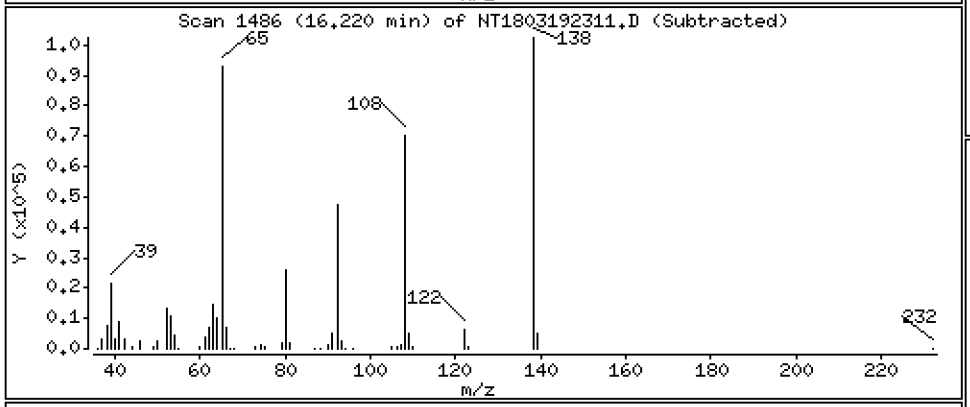
Column phase: ZB-5msi

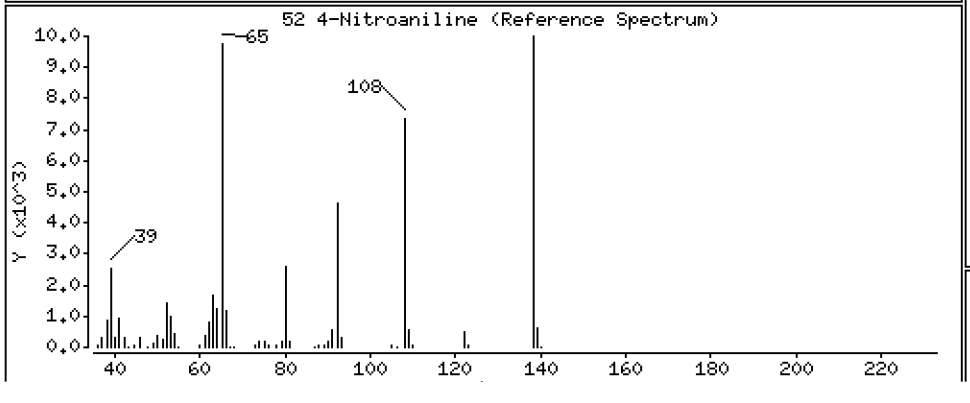
Column diameter: 0.25

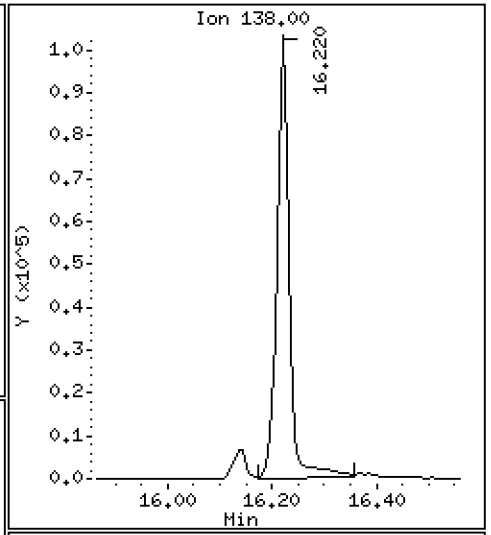
52 4-Nitroaniline

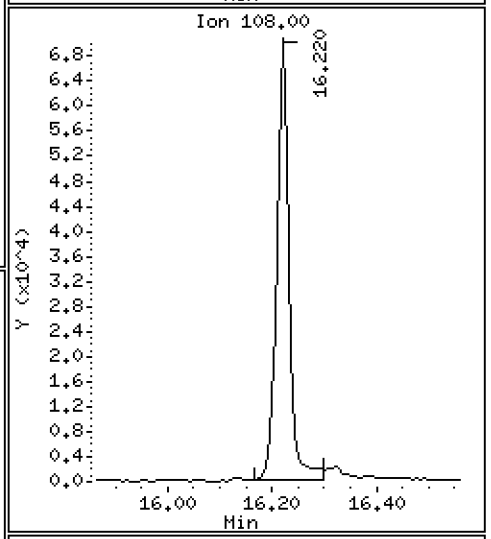
Concentration: 4.323 ug/mL

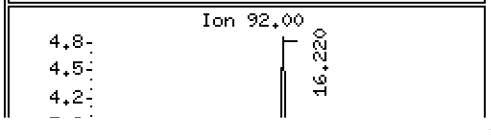












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

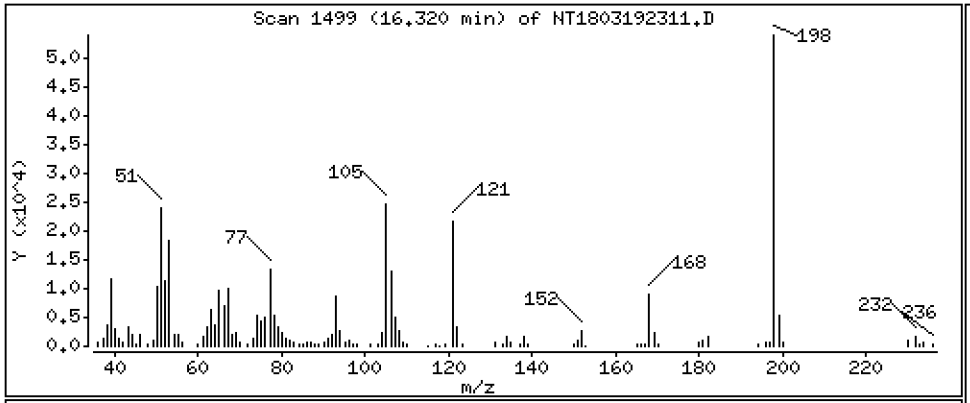
Operator: VTS

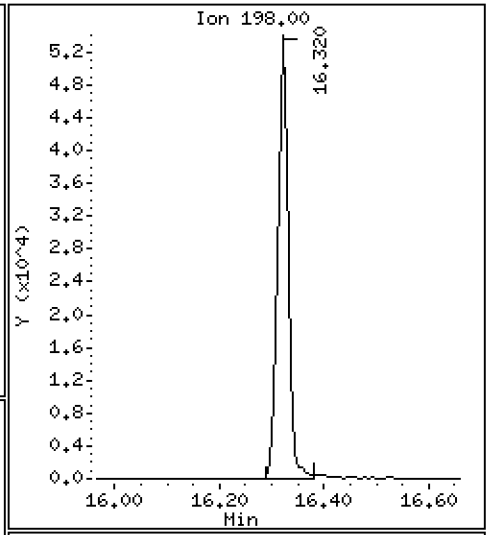
Column phase: ZB-5msi

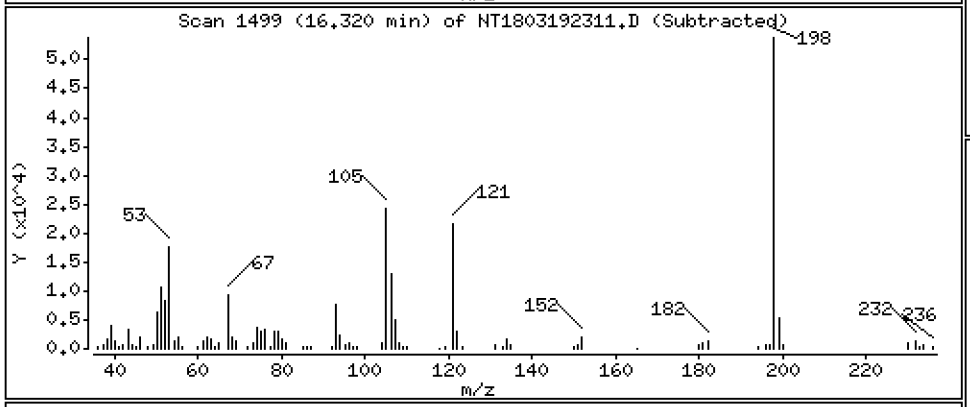
Column diameter: 0.25

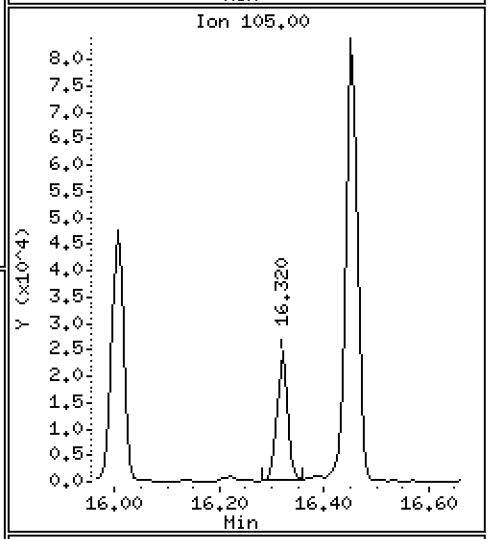
53 4,6-Dinitro-2-methylphenol

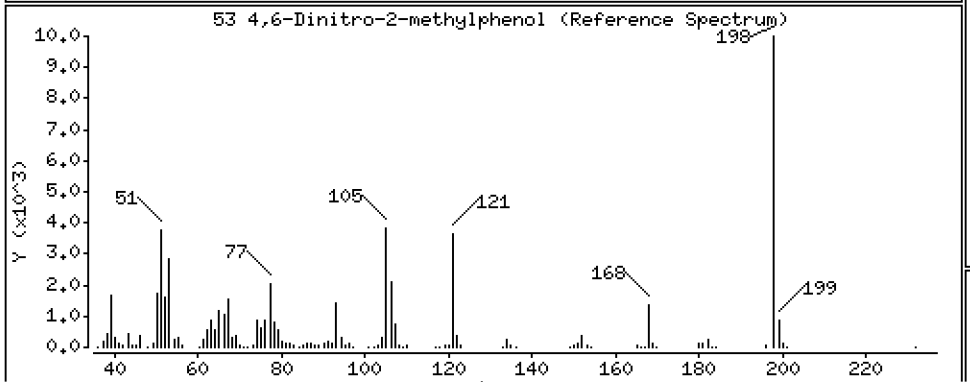
Concentration: 3.088 ug/mL

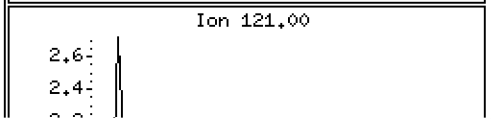












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

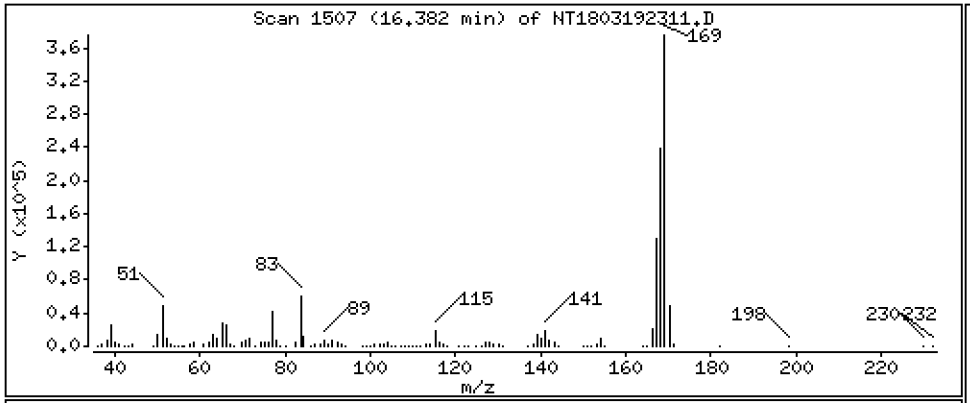
Operator: VTS

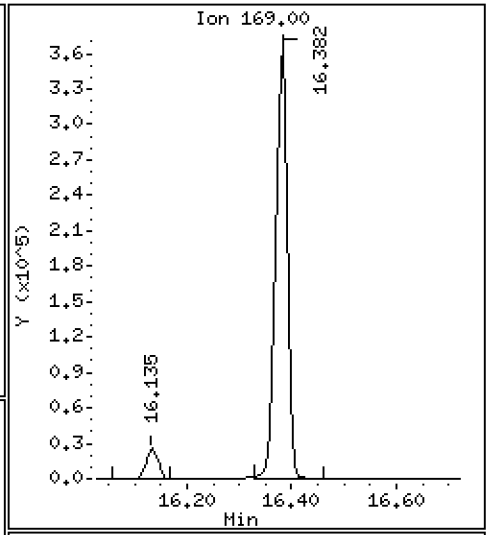
Column phase: ZB-5msi

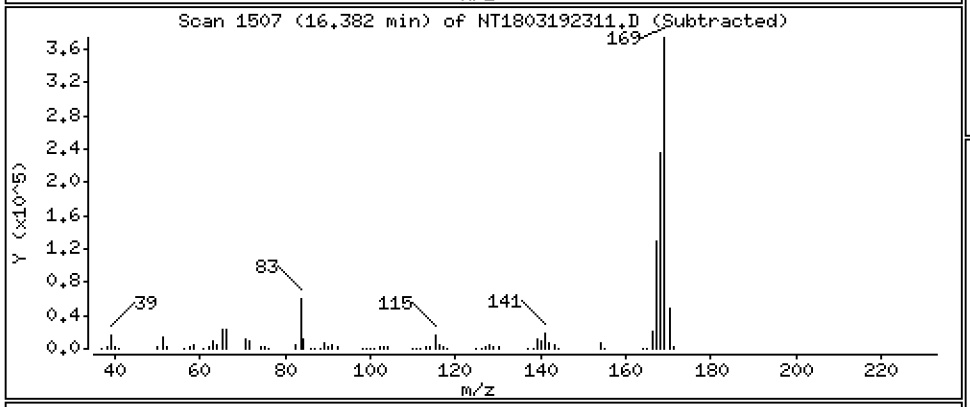
Column diameter: 0.25

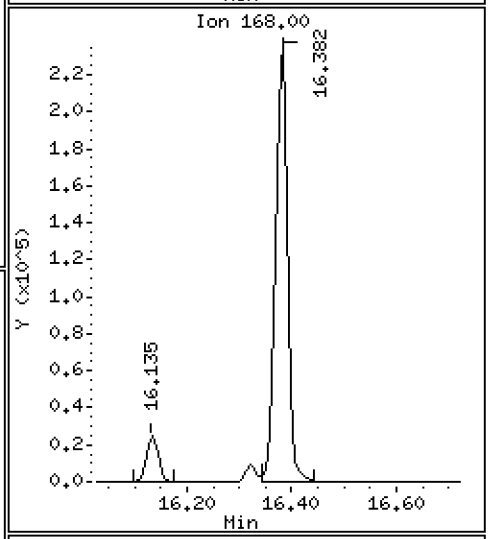
54 N-Nitrosodiphenylamine

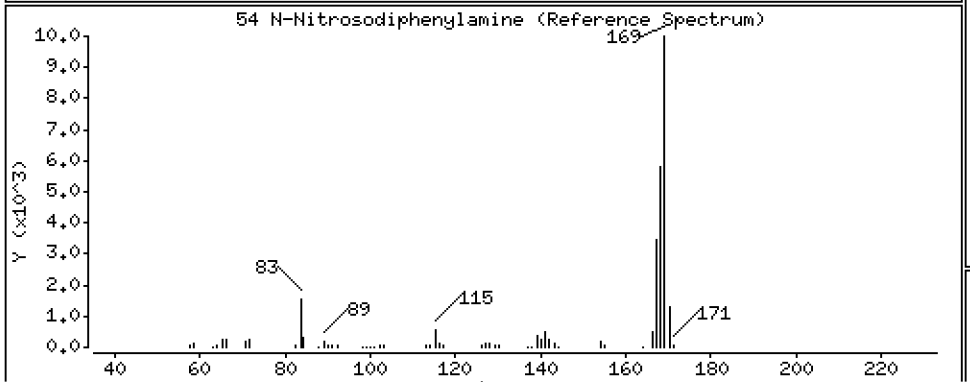
Concentration: 5.077 ug/mL

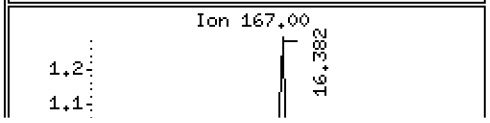












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

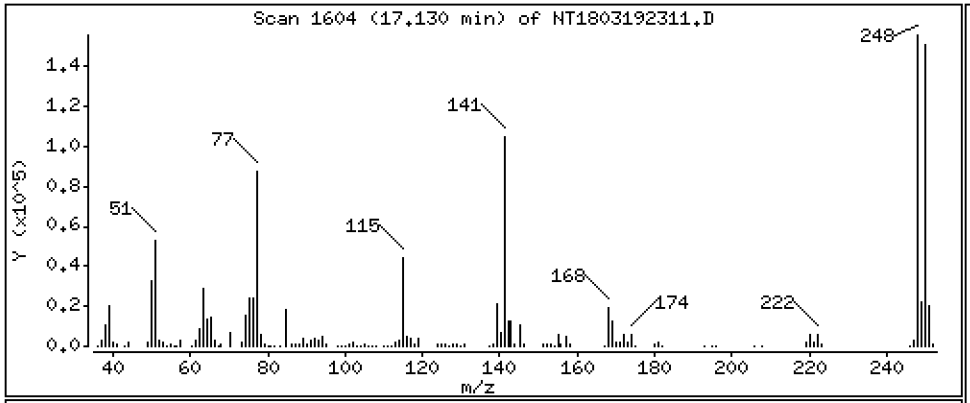
Operator: VTS

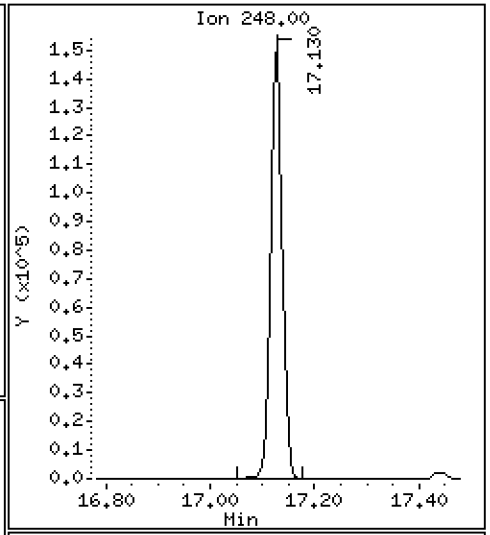
Column phase: ZB-5msi

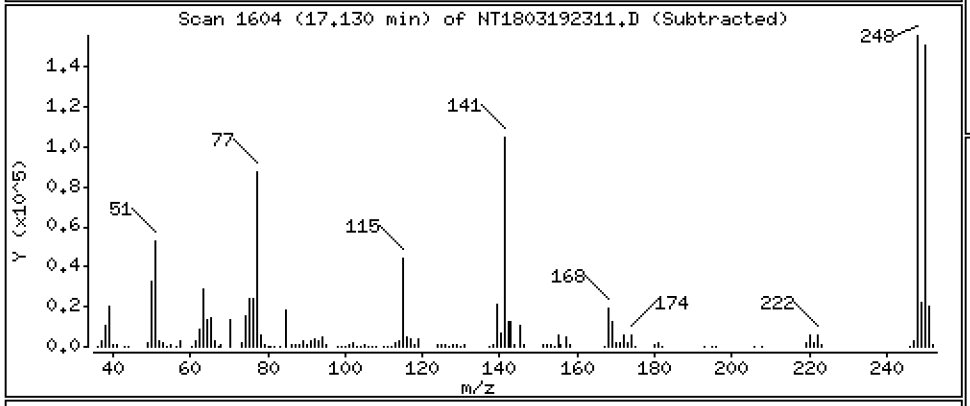
Column diameter: 0.25

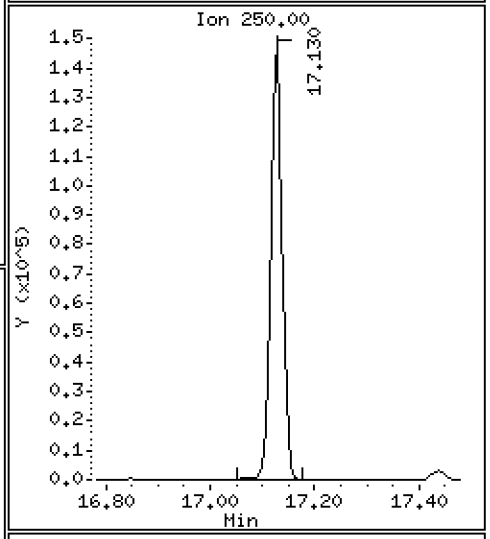
56 4-Bromophenyl-phenylether

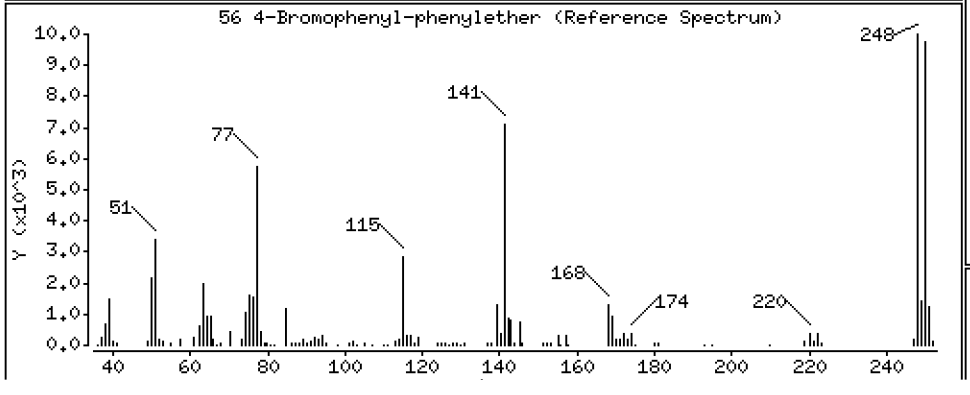
Concentration: 5.335 ug/mL

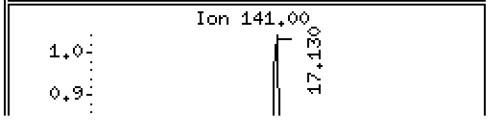












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

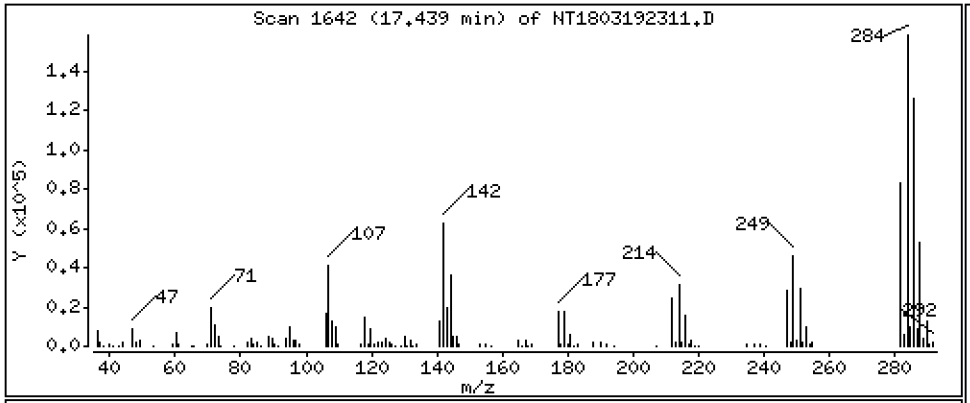
Operator: VTS

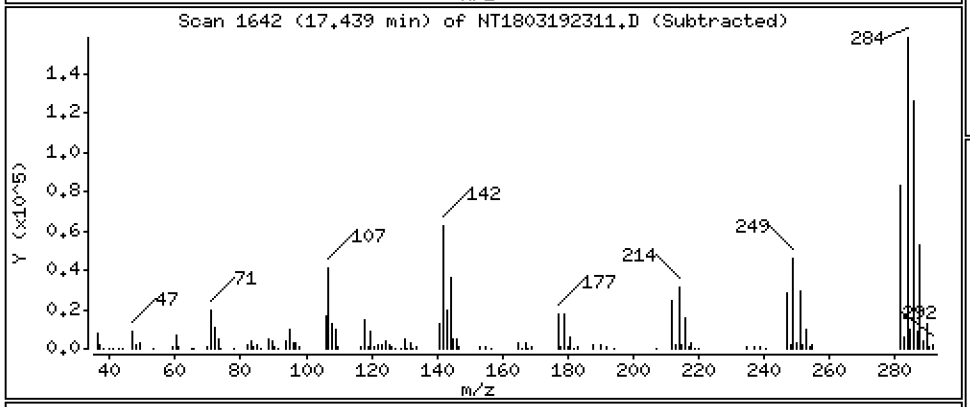
Column phase: ZB-5msi

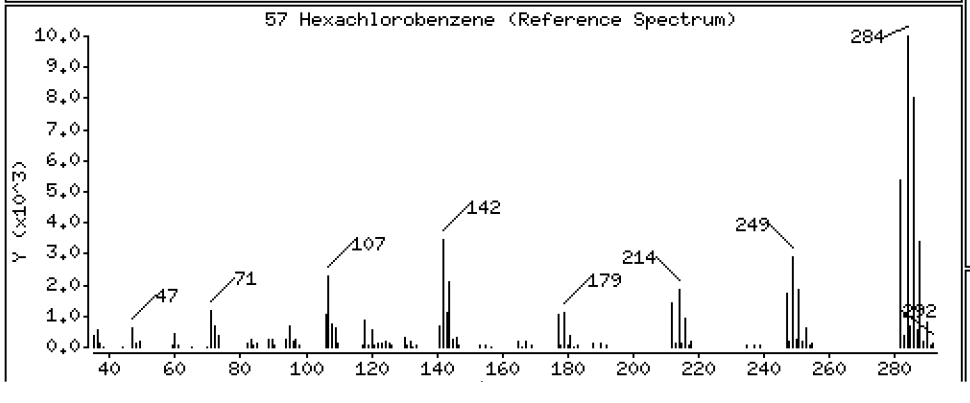
Column diameter: 0.25

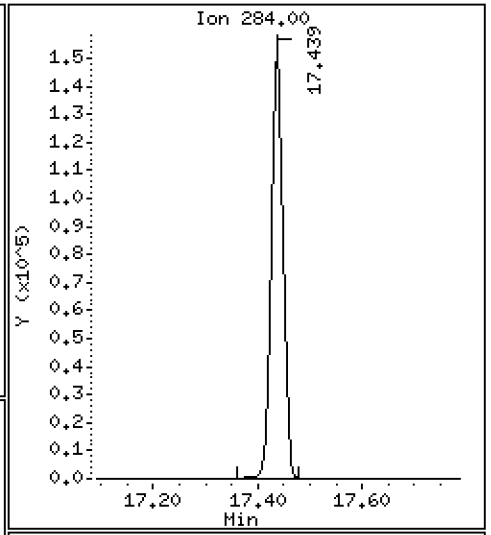
57 Hexachlorobenzene

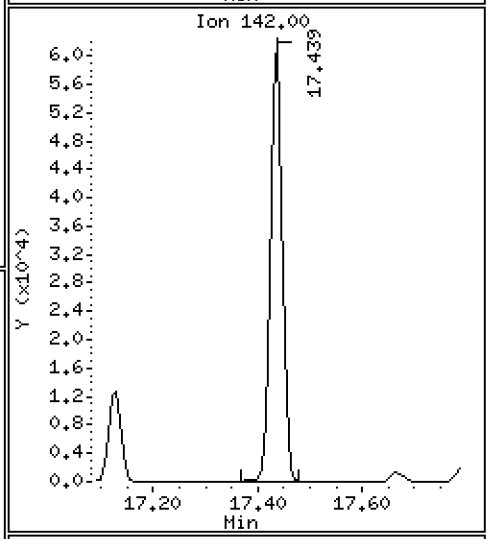
Concentration: 4.899 ug/mL

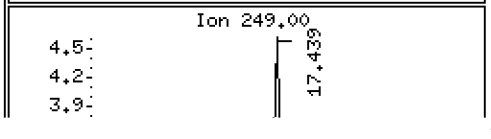












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

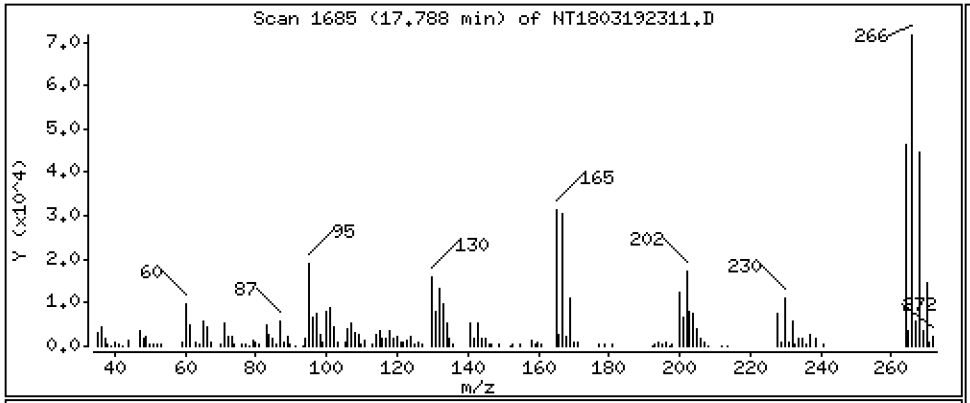
Operator: VTS

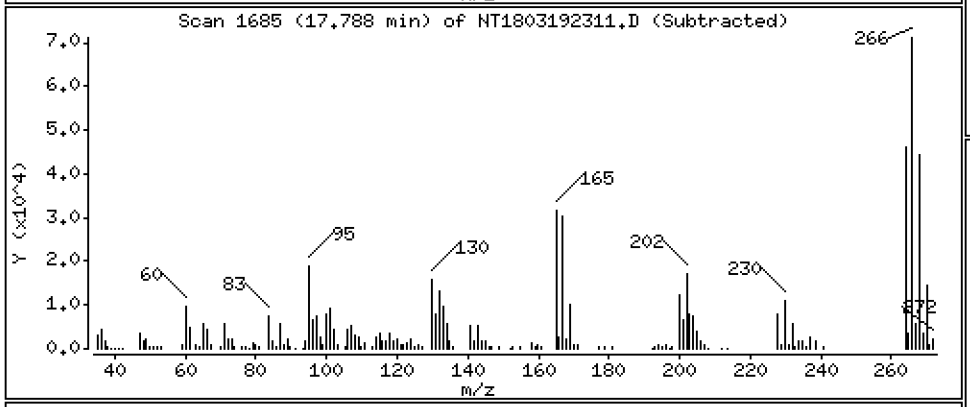
Column phase: ZB-5msi

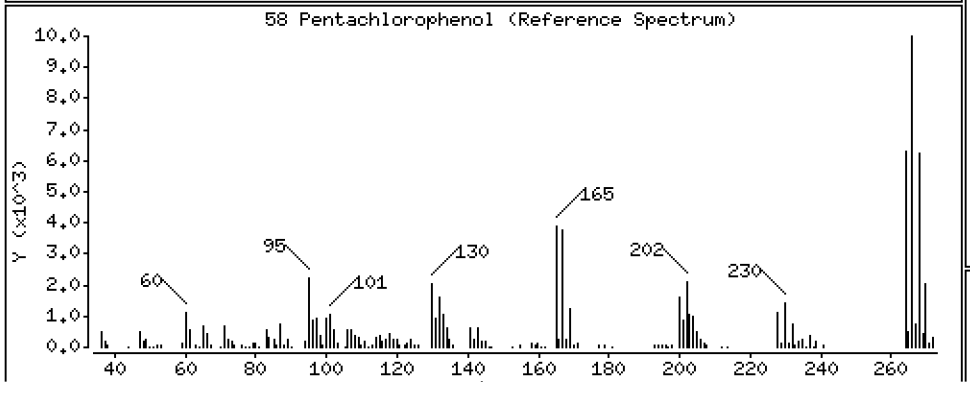
Column diameter: 0.25

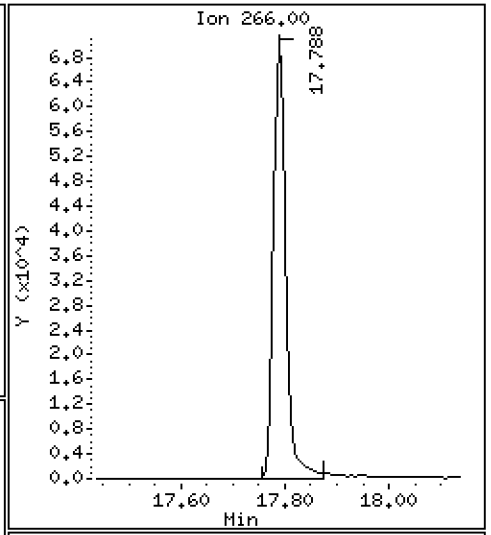
58 Pentachlorophenol

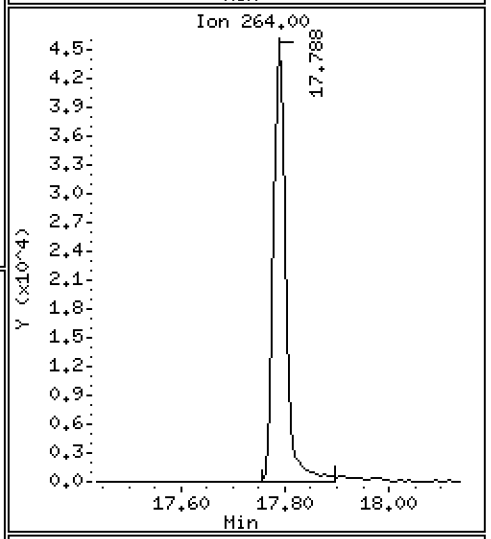
Concentration: 3.802 ug/mL

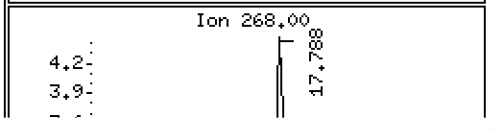












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

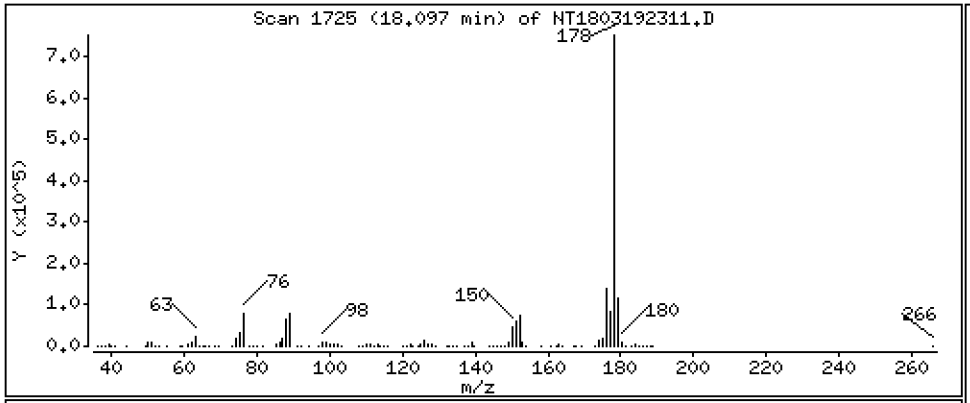
Operator: VTS

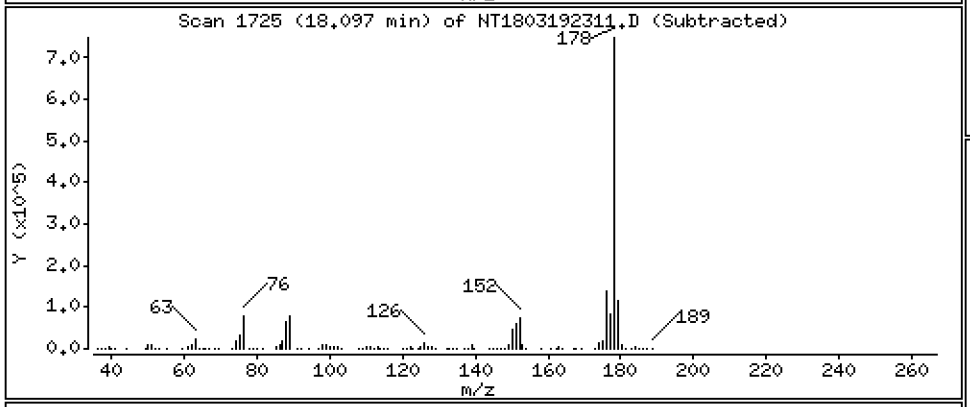
Column phase: ZB-5msi

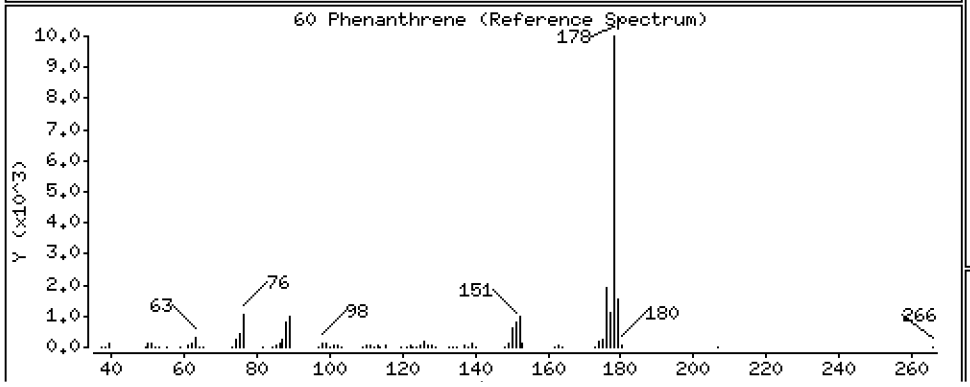
Column diameter: 0.25

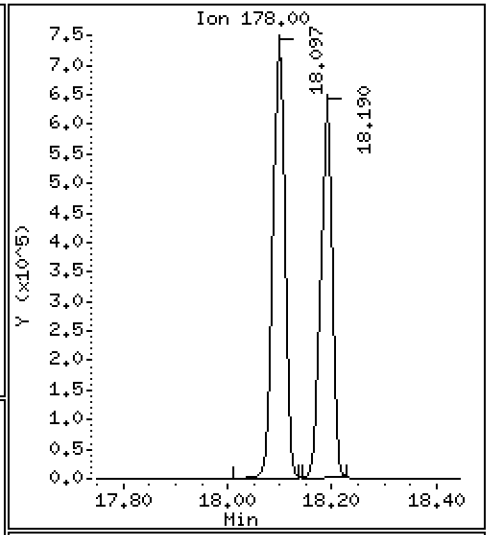
60 Phenanthrene

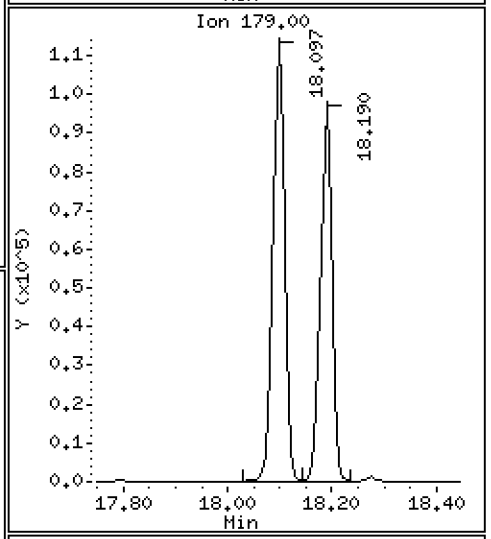
Concentration: 4.825 ug/mL

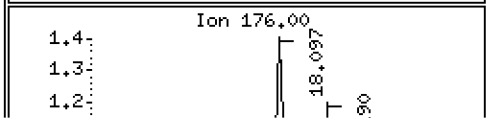












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

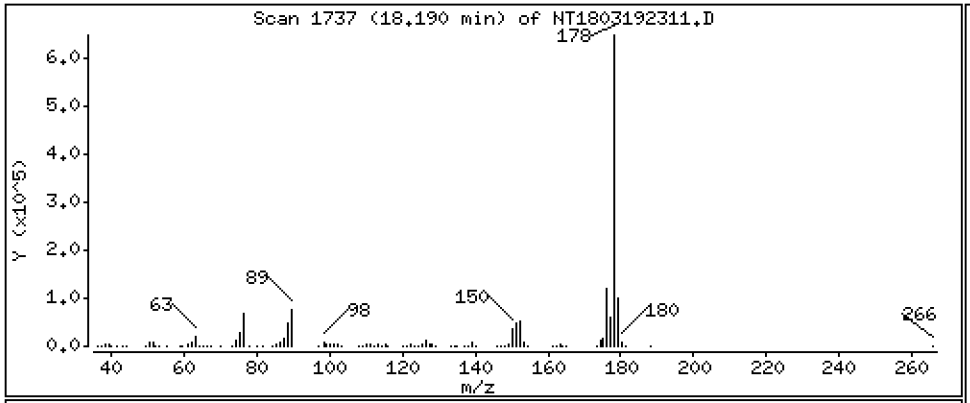
Operator: VTS

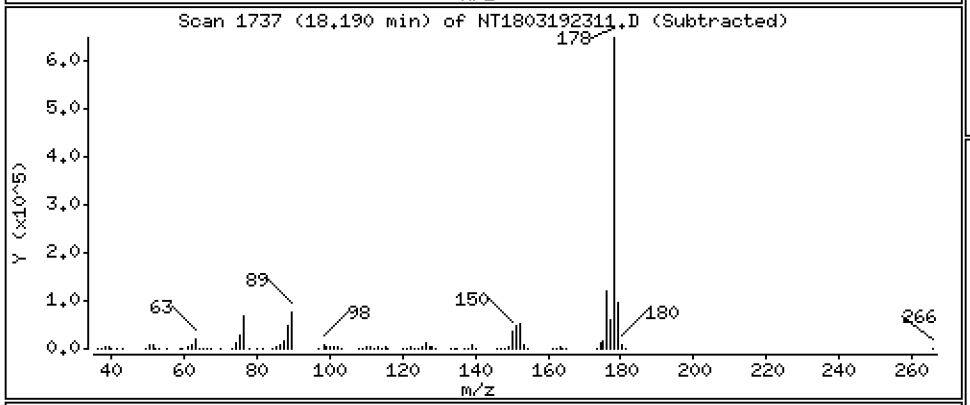
Column phase: ZB-5msi

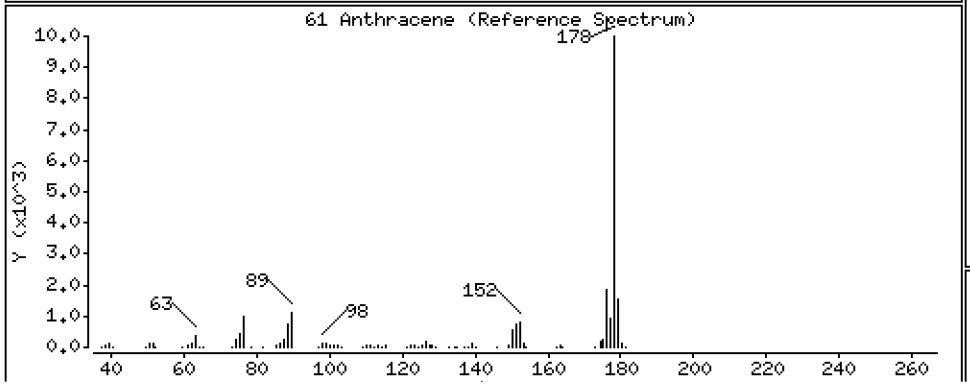
Column diameter: 0.25

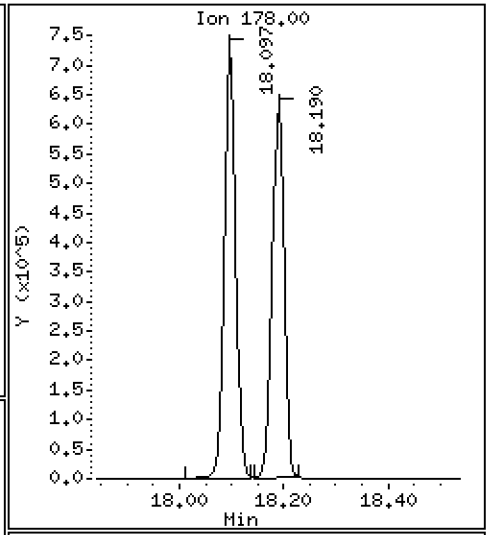
61 Anthracene

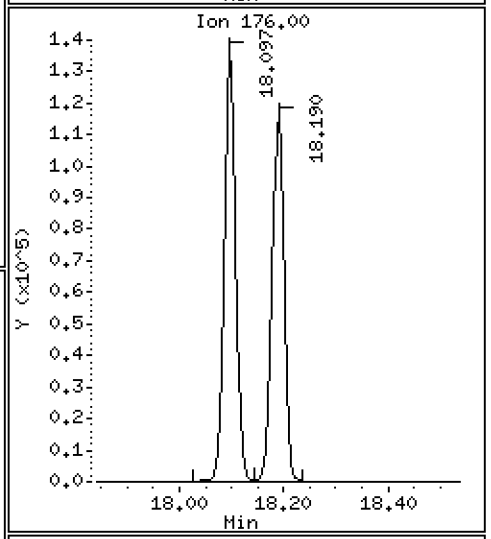
Concentration: 4.270 ug/mL

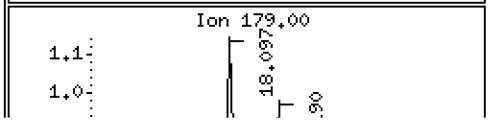












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

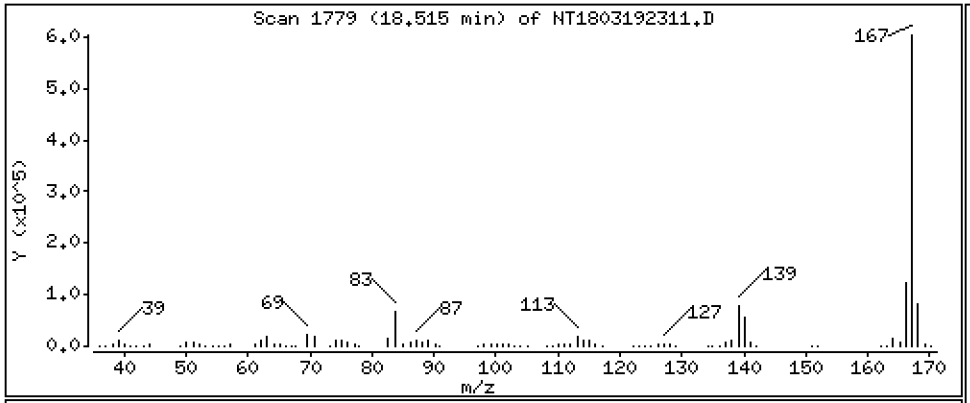
Operator: VTS

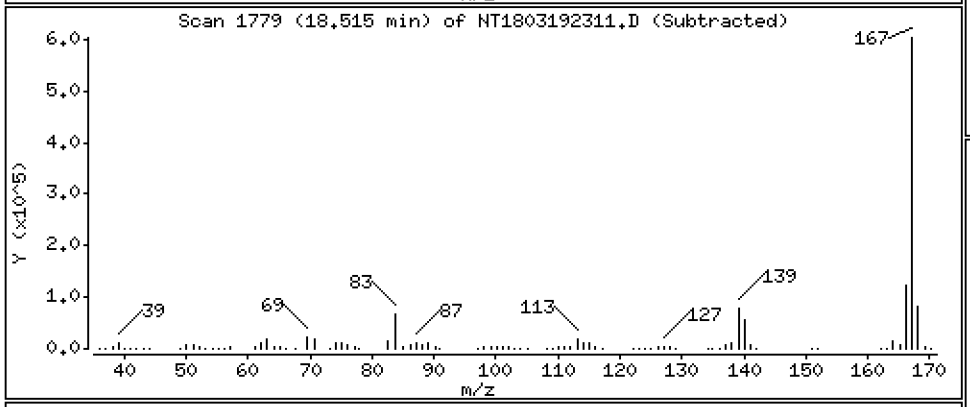
Column phase: ZB-5msi

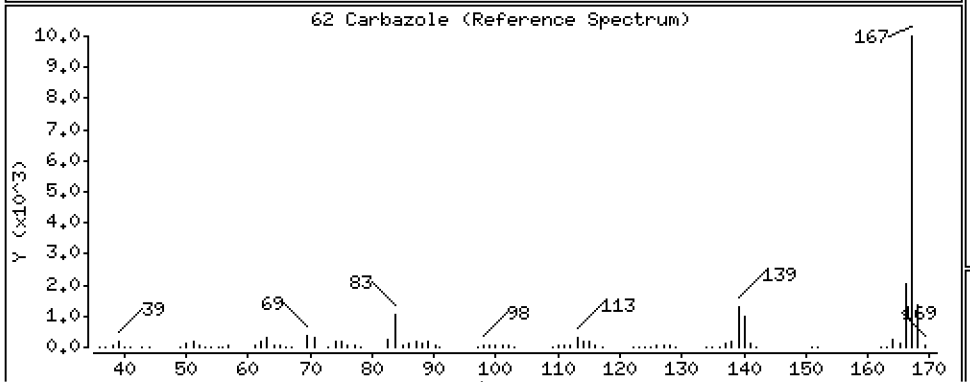
Column diameter: 0.25

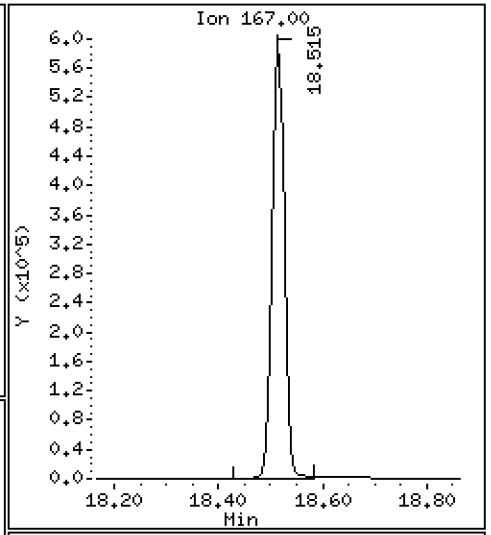
62 Carbazole

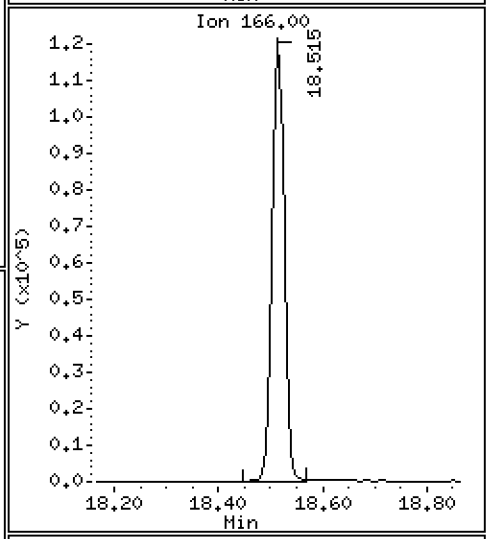
Concentration: 4.679 ug/mL

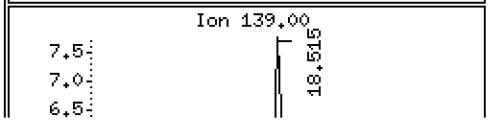












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

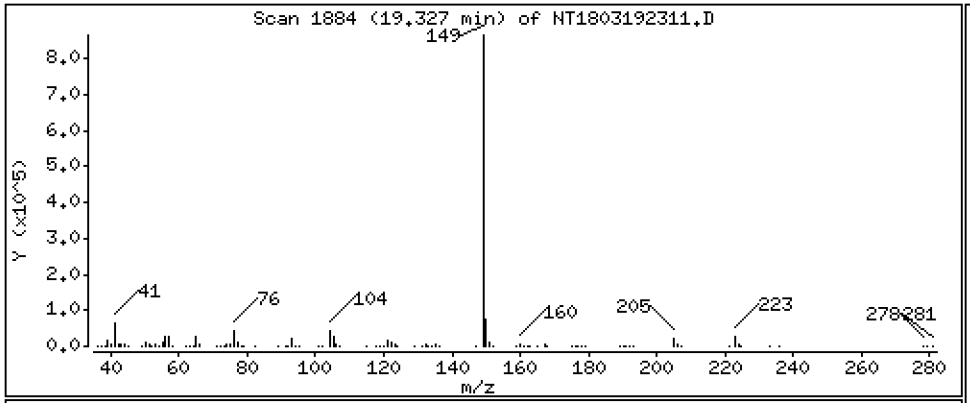
Operator: VTS

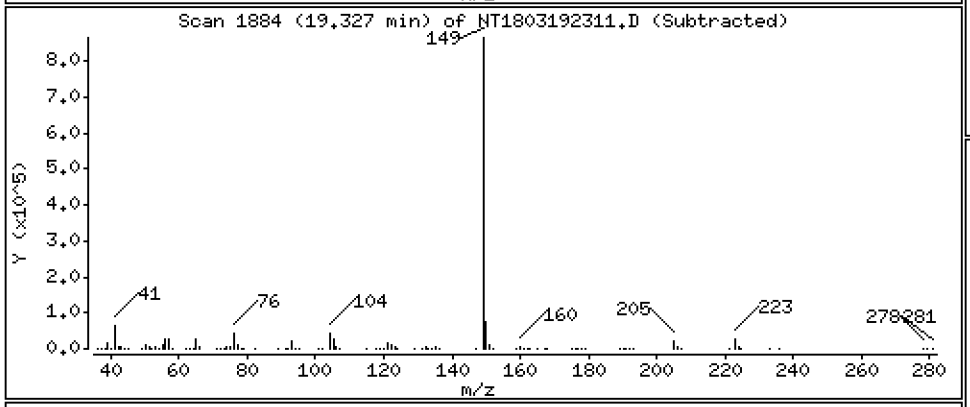
Column phase: ZB-5msi

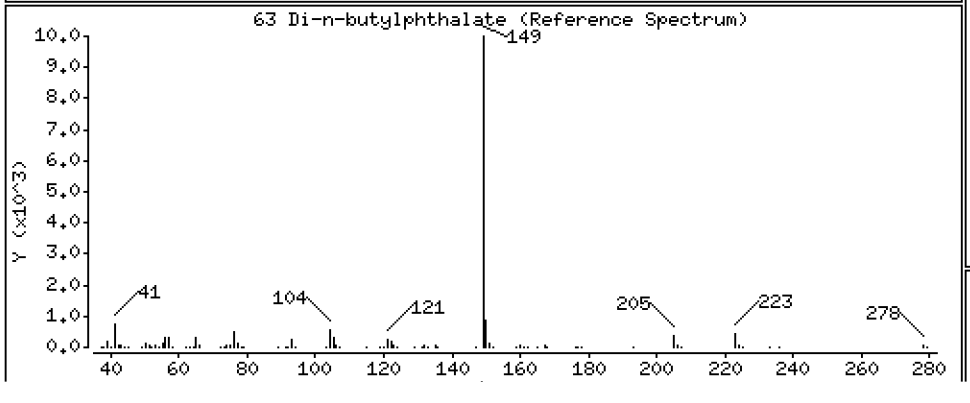
Column diameter: 0.25

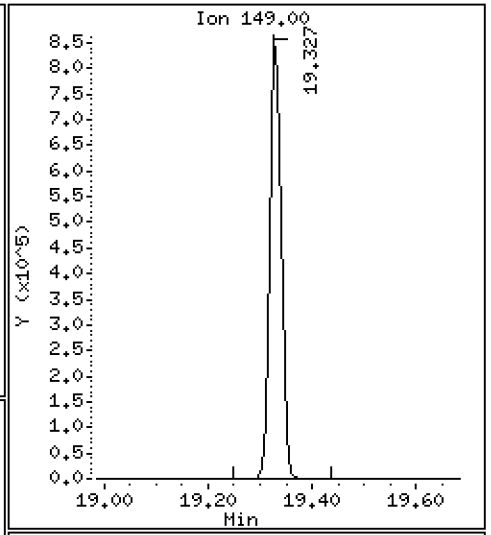
63 Di-n-butylphthalate

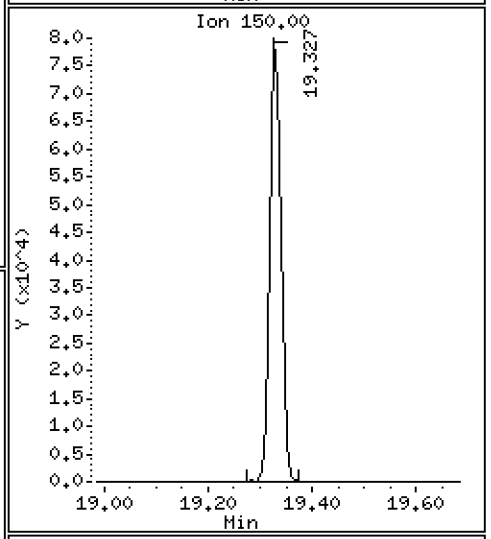
Concentration: 4.839 ug/mL

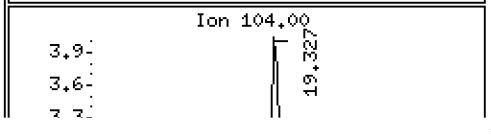












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

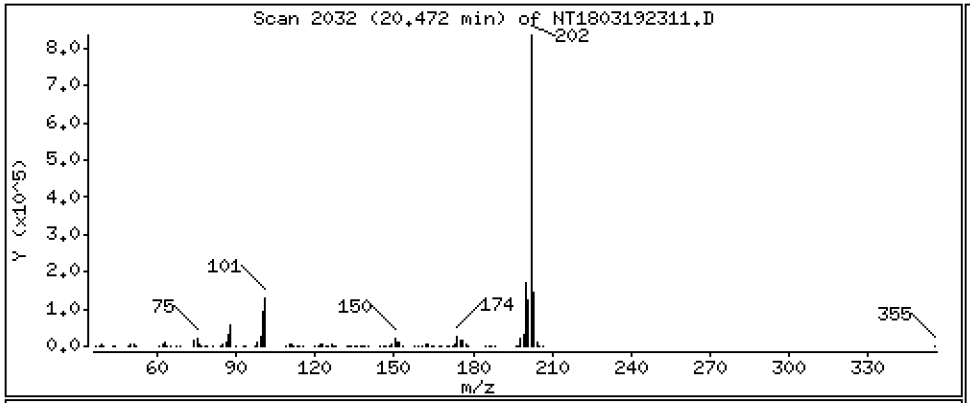
Operator: VTS

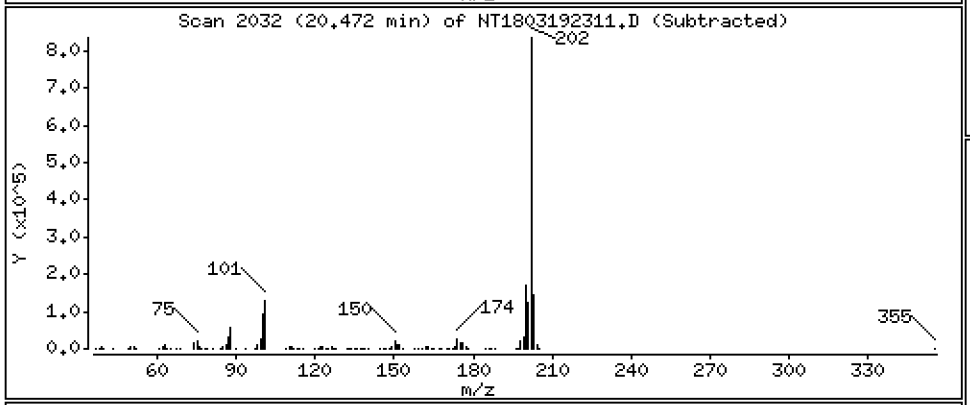
Column phase: ZB-5msi

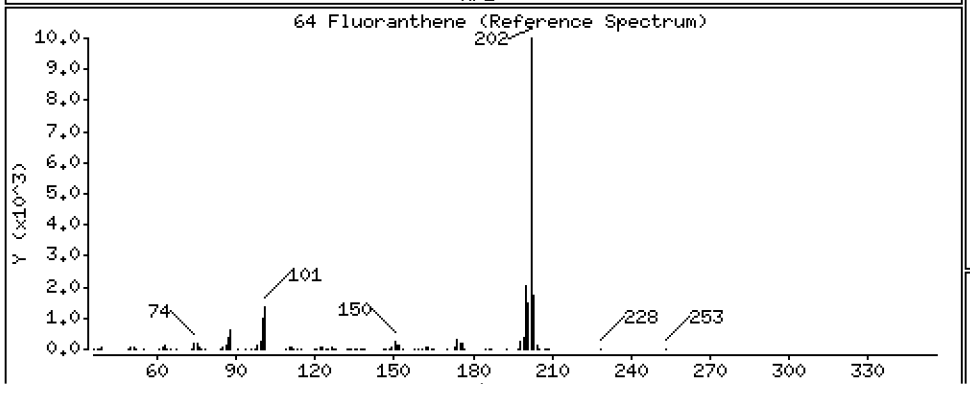
Column diameter: 0.25

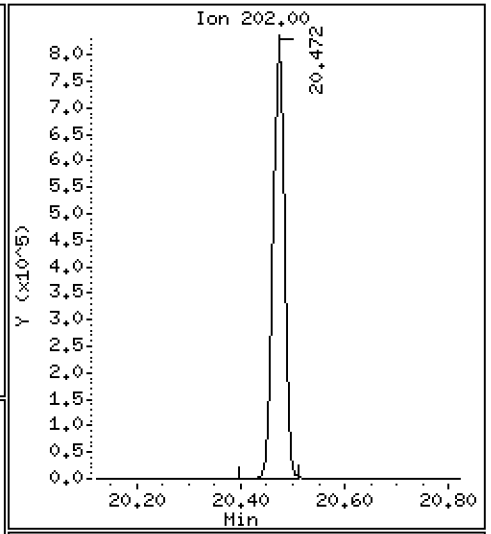
64 Fluoranthene

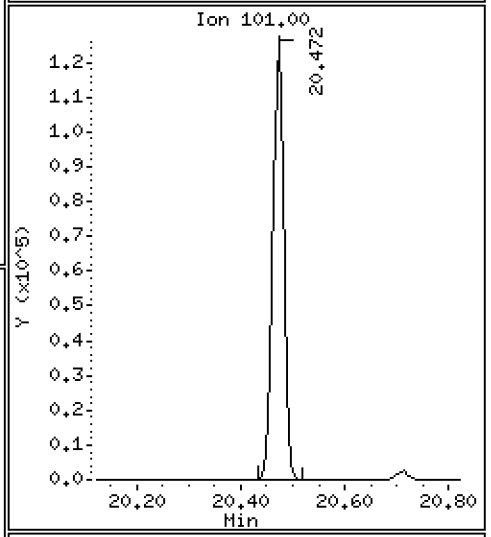
Concentration: 5.213 ug/mL

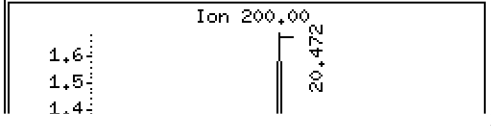












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

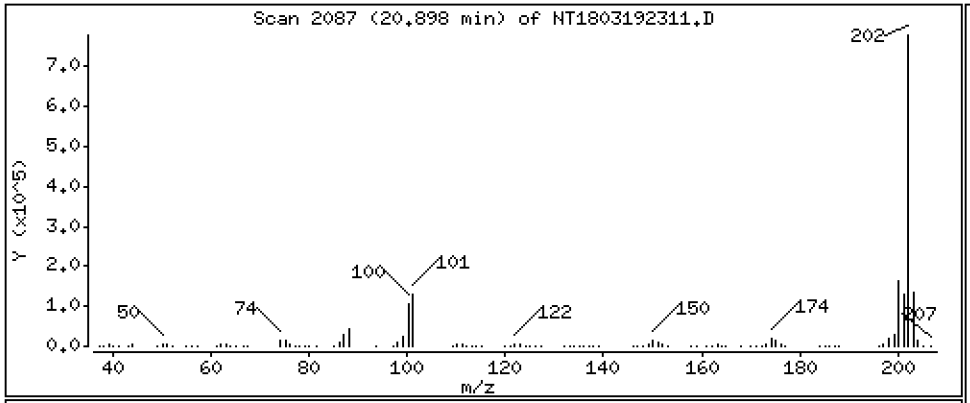
Operator: VTS

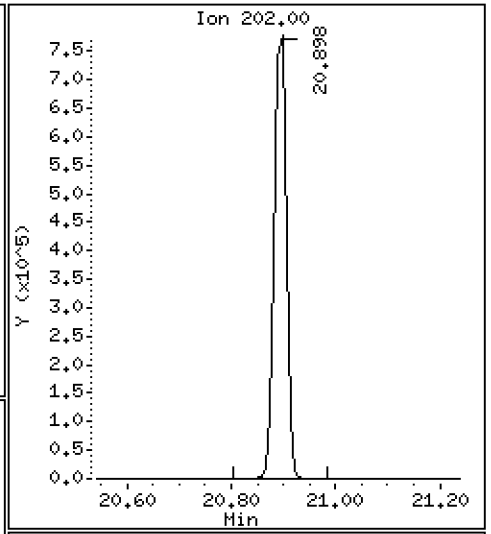
Column phase: ZB-5msi

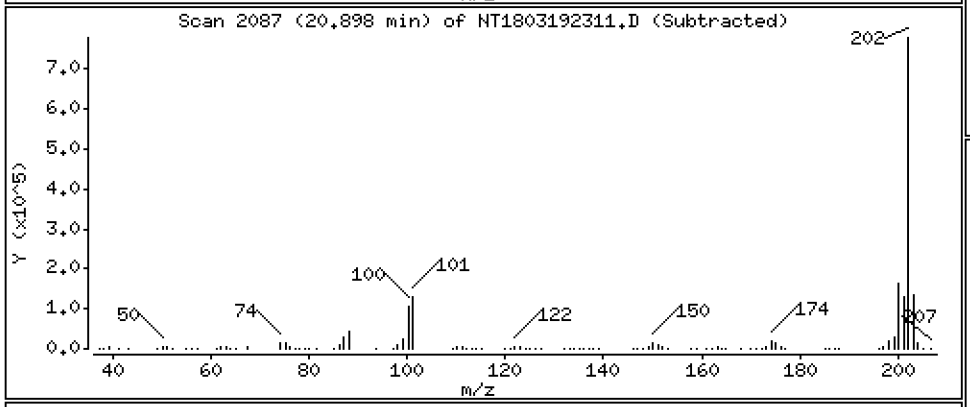
Column diameter: 0.25

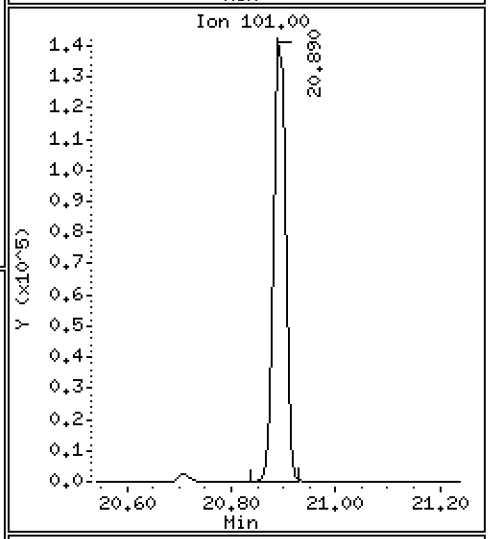
65 Pyrene

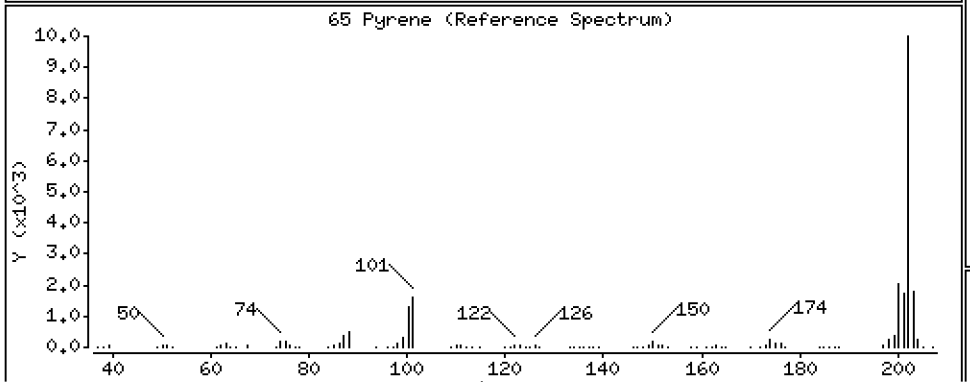
Concentration: 5.030 ug/mL

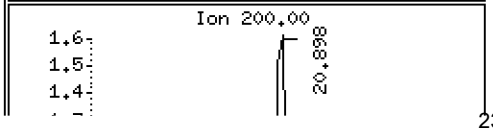












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

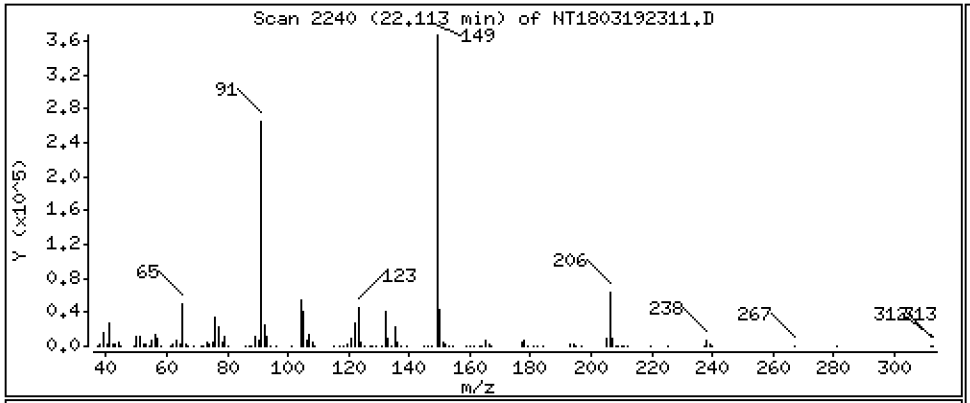
Operator: VTS

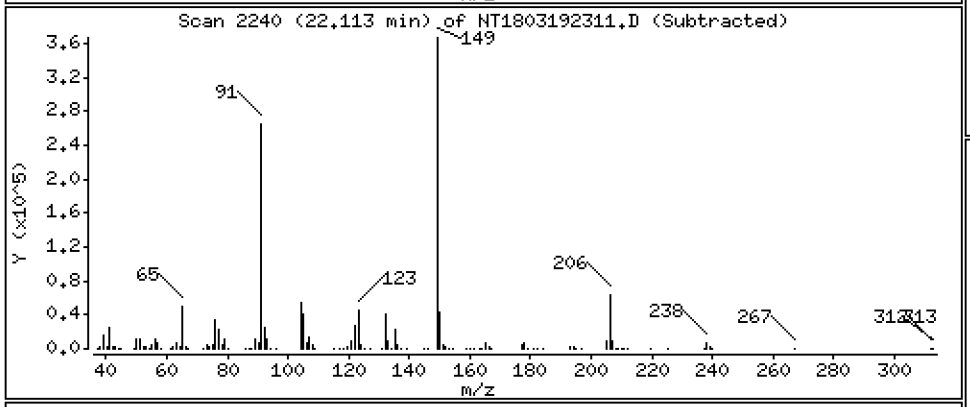
Column phase: ZB-5msi

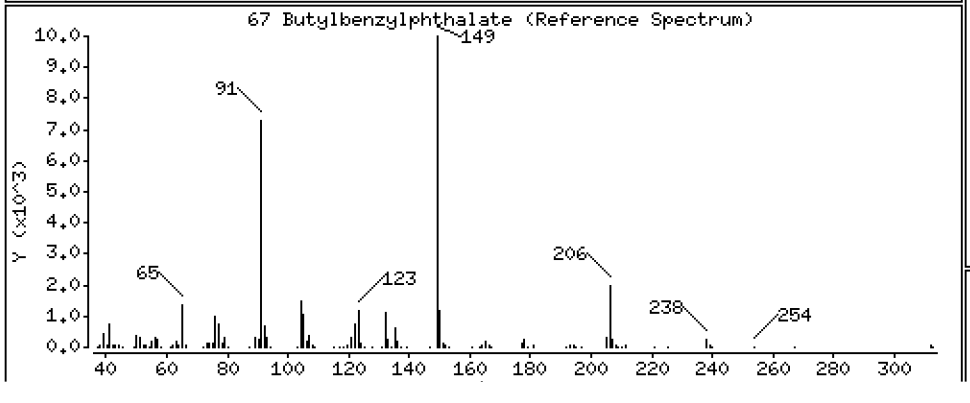
Column diameter: 0.25

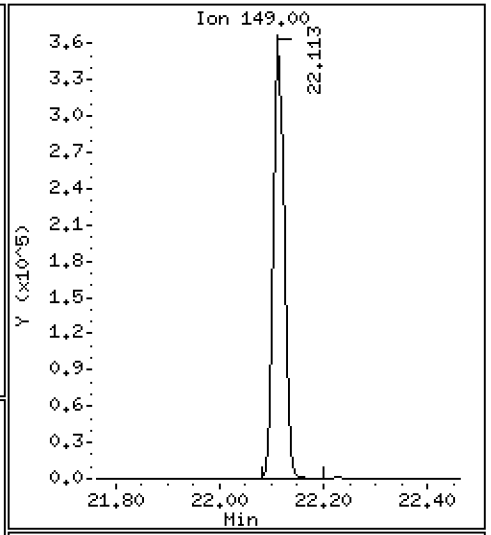
67 Butylbenzylphthalate

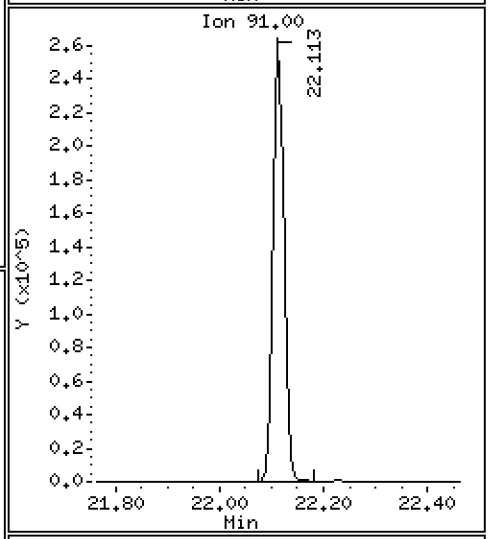
Concentration: 4.792 ug/mL

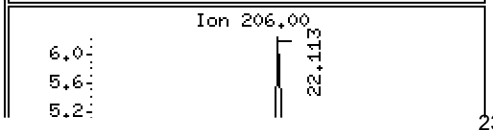












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

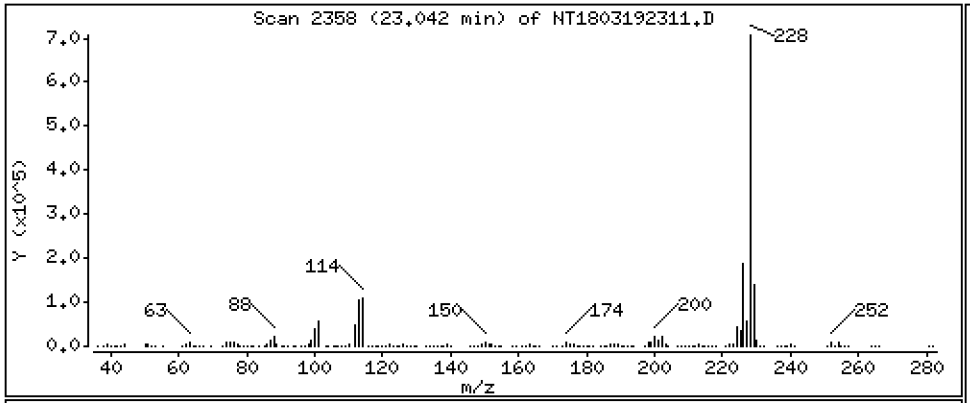
Operator: VTS

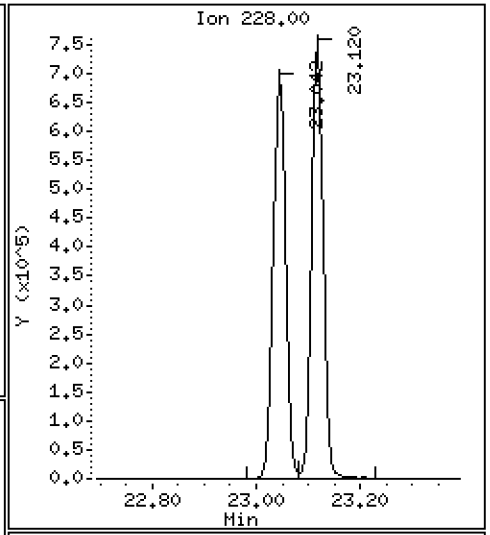
Column phase: ZB-5msi

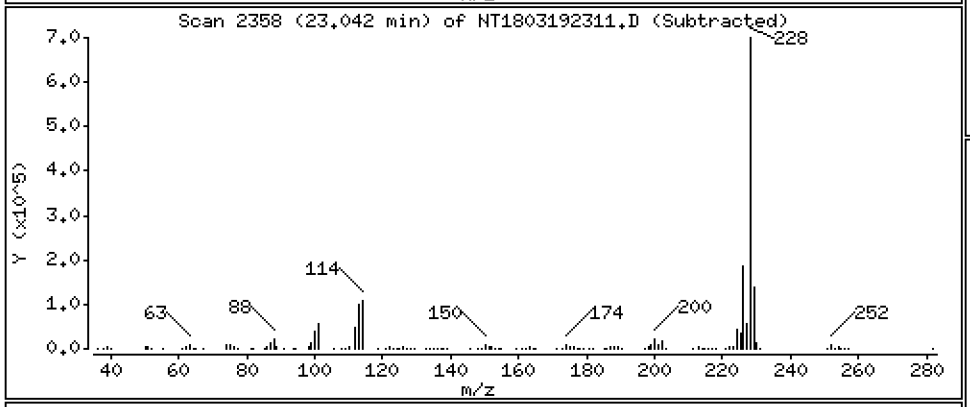
Column diameter: 0.25

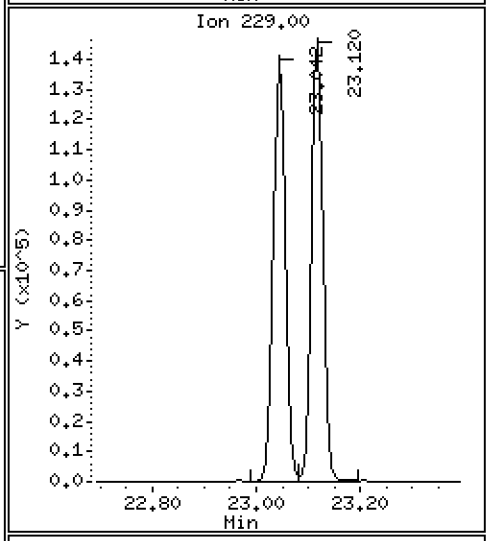
68 Benzo(a)anthracene

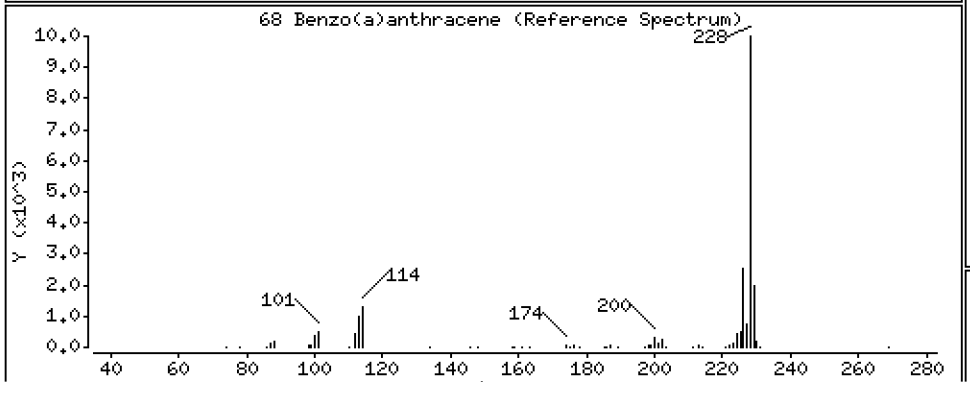
Concentration: 4.954 ug/mL

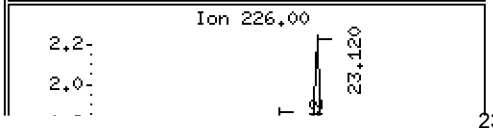












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

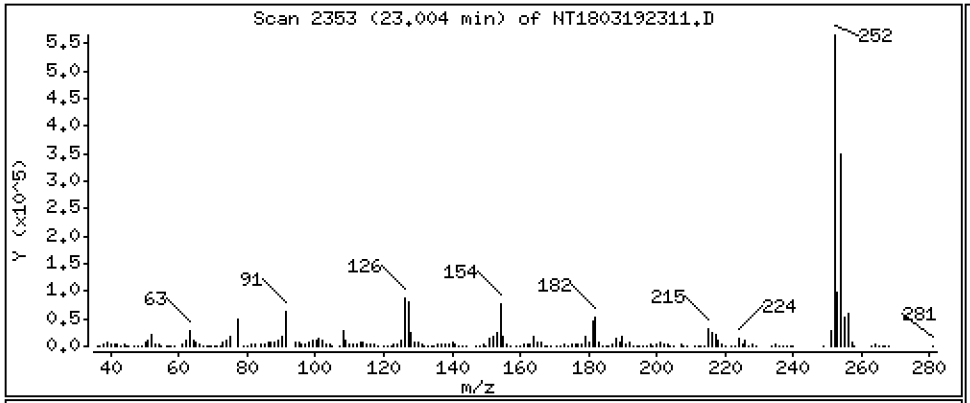
Operator: VTS

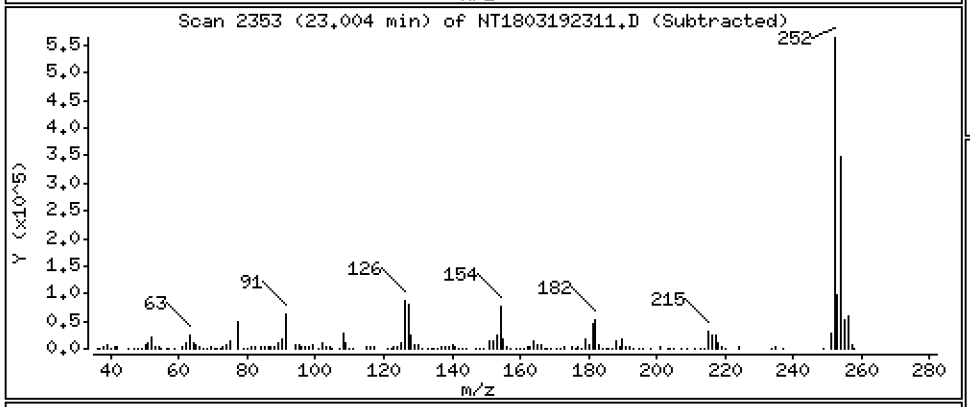
Column phase: ZB-5msi

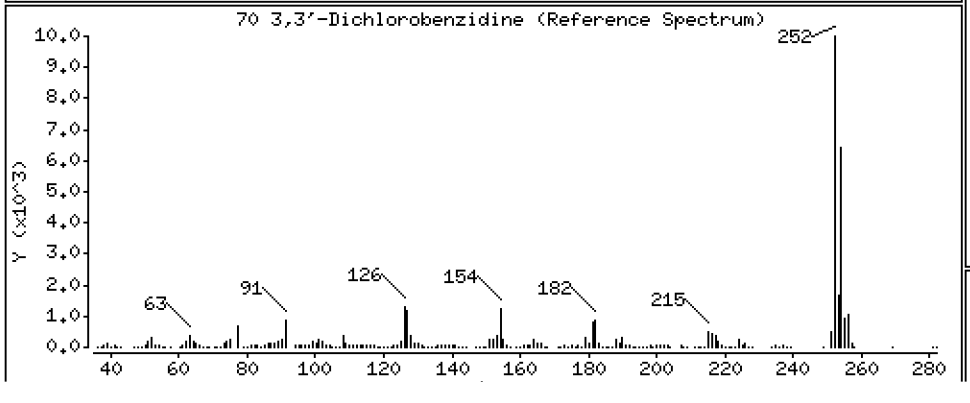
Column diameter: 0.25

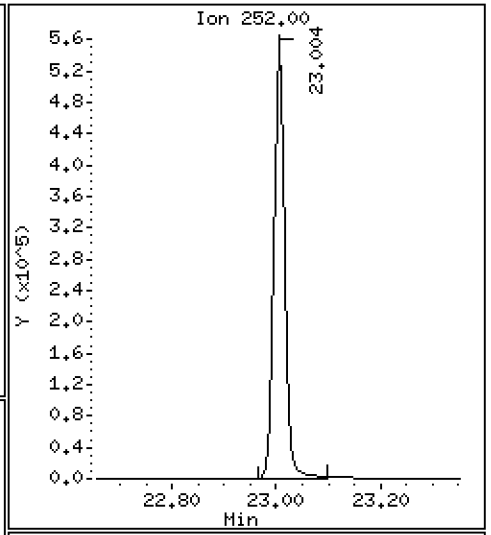
70 3,3'-Dichlorobenzidine

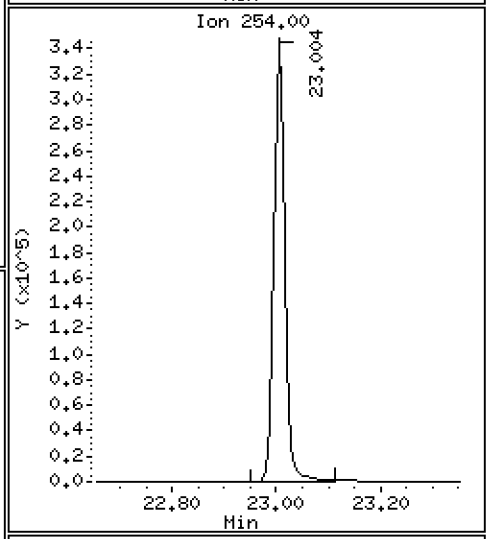
Concentration: 9.289 ug/mL

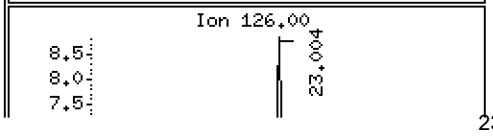












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

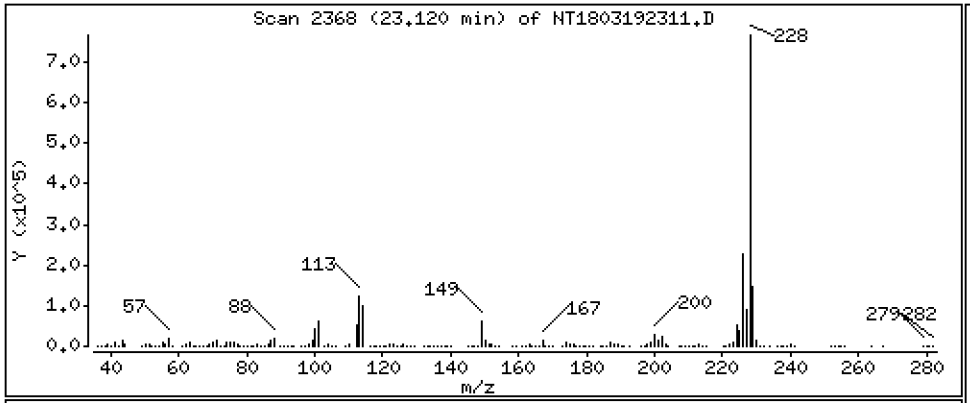
Operator: VTS

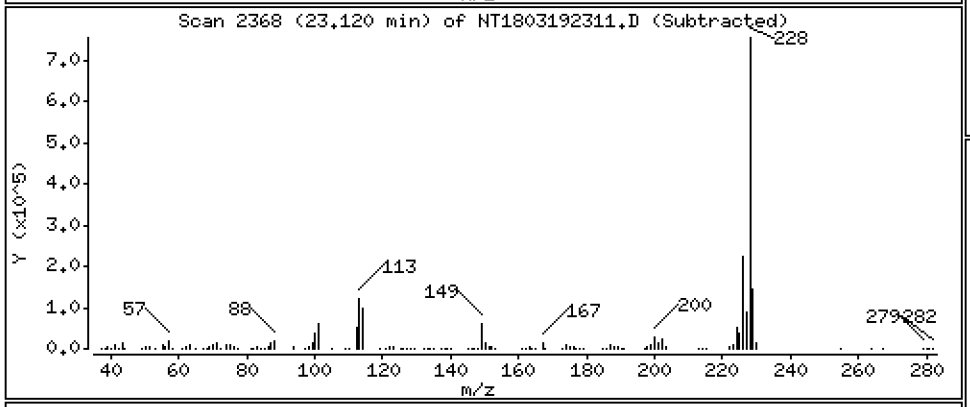
Column phase: ZB-5msi

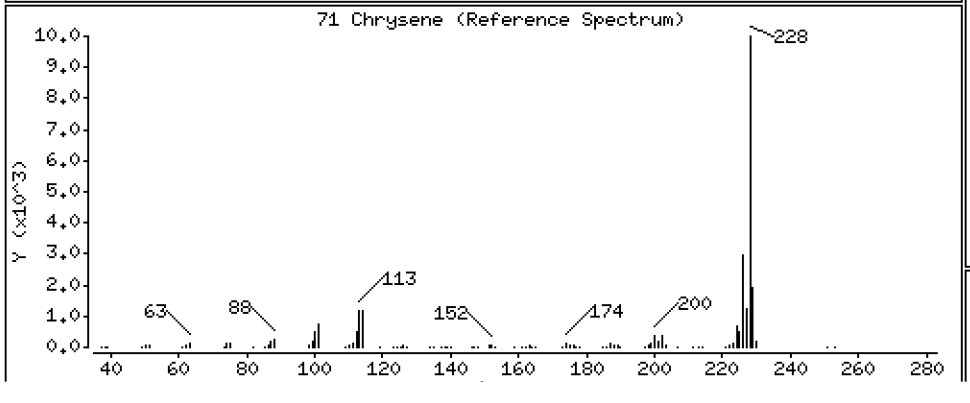
Column diameter: 0.25

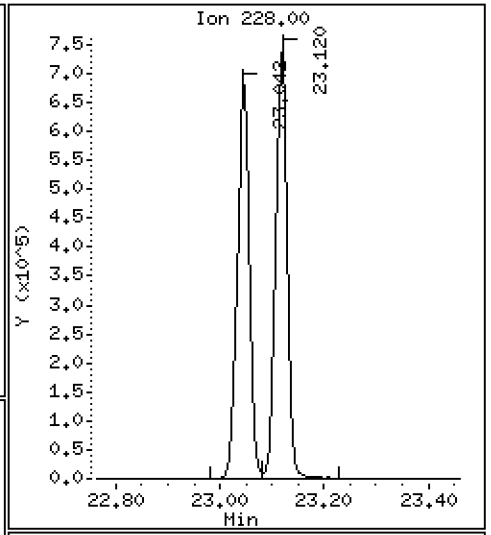
71 Chrysene

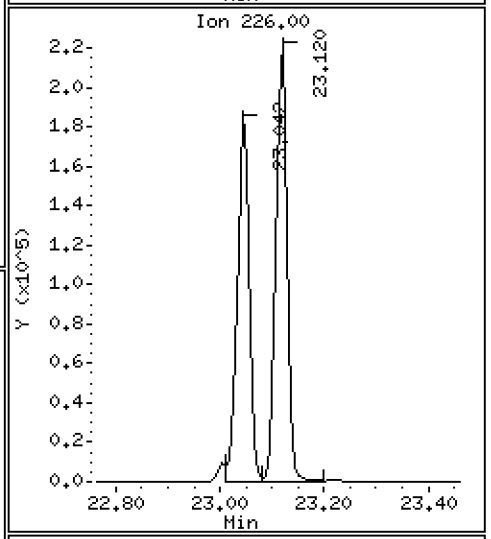
Concentration: 4.814 ug/mL

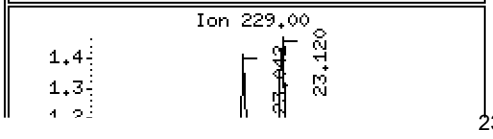












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

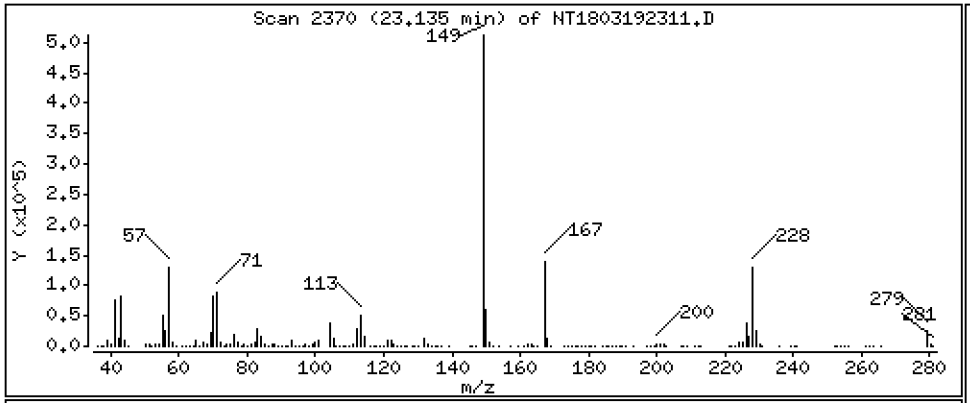
Operator: VTS

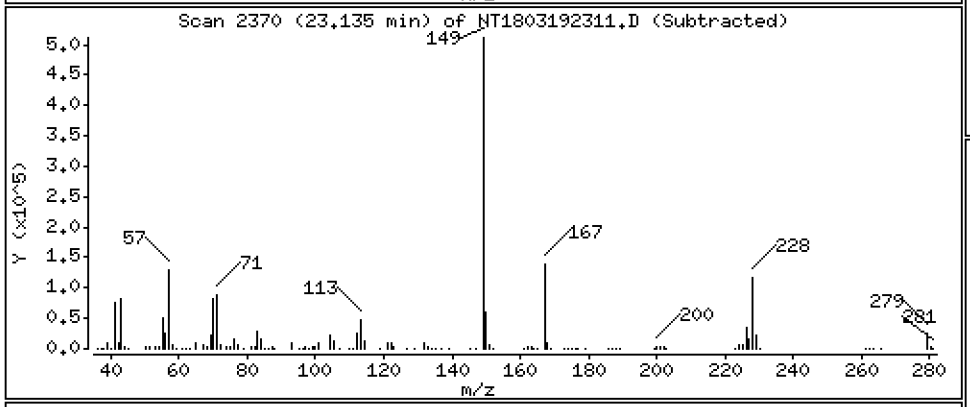
Column phase: ZB-5msi

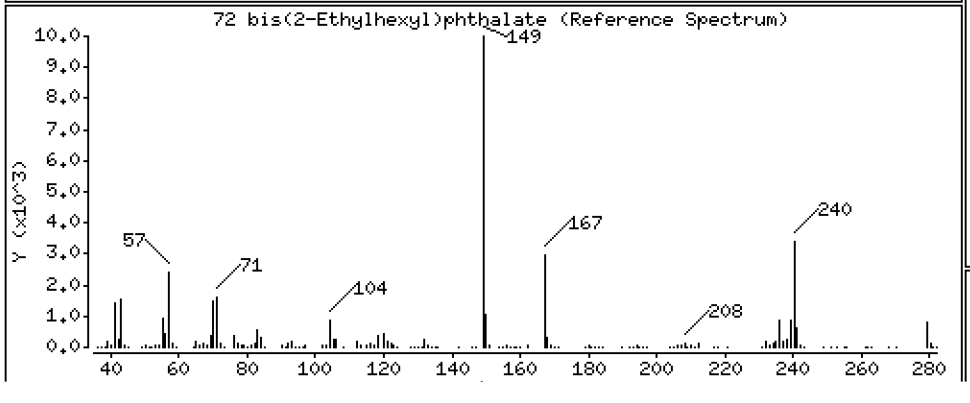
Column diameter: 0.25

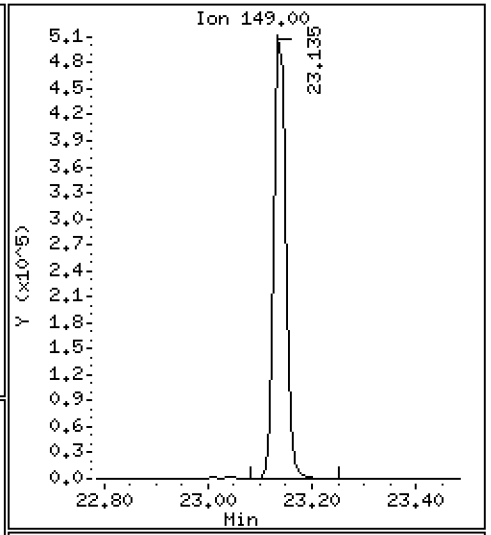
72 bis(2-Ethylhexyl)phthalate

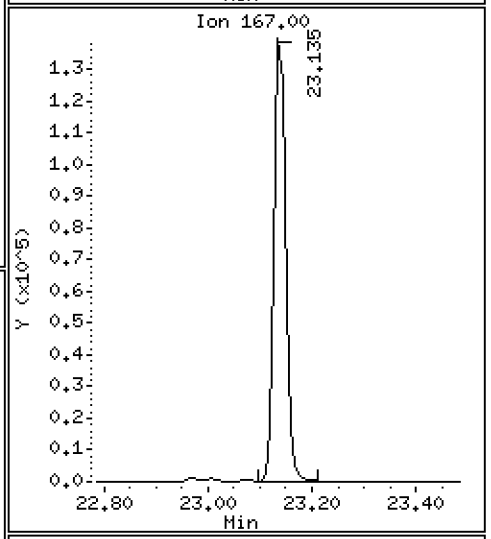
Concentration: 5.003 ug/mL

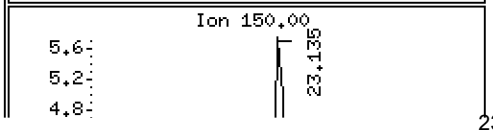












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

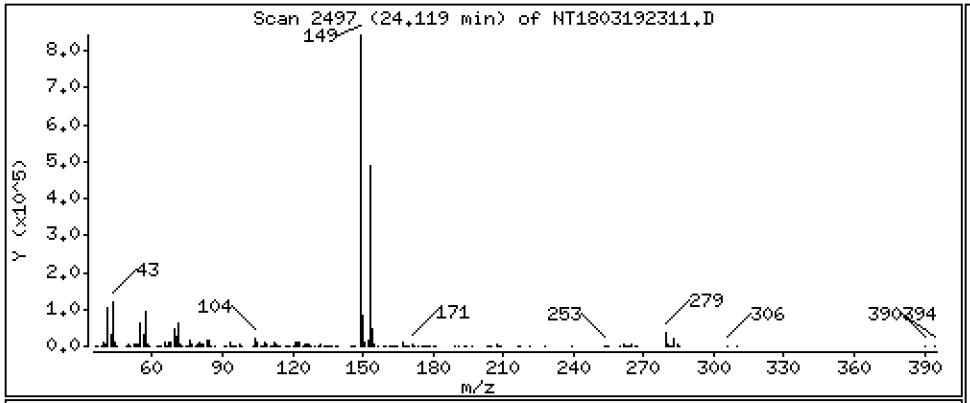
Operator: VTS

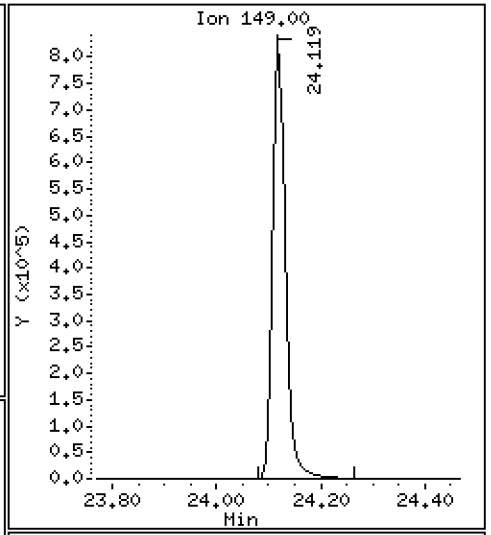
Column phase: ZB-5msi

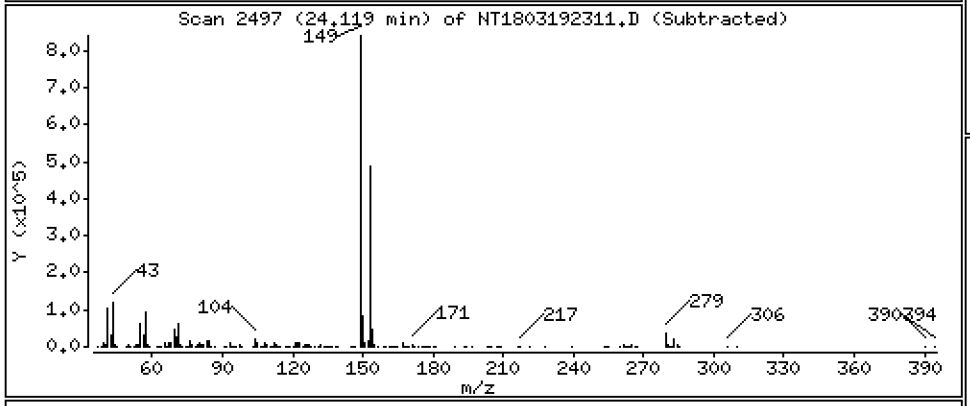
Column diameter: 0.25

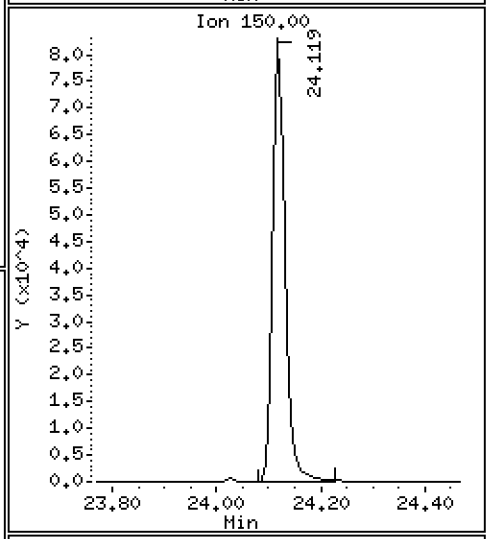
73 Di-n-octylphthalate

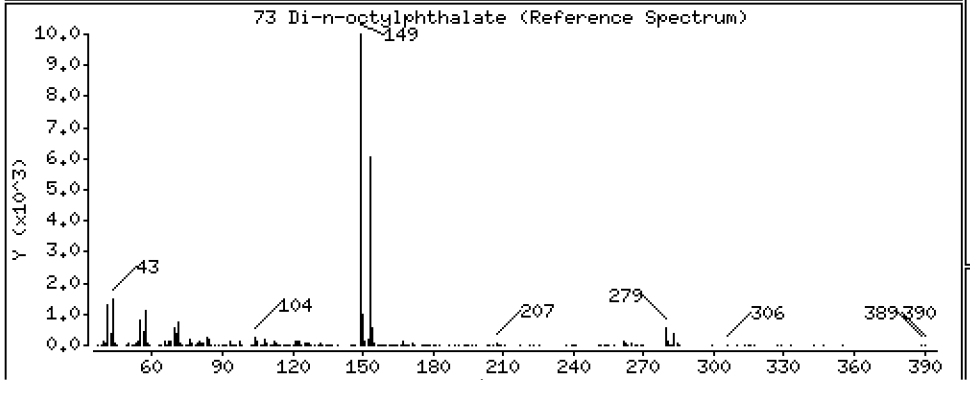
Concentration: 5.149 ug/mL

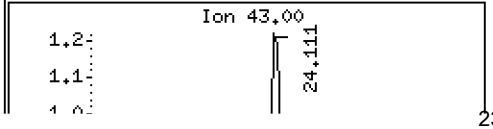












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

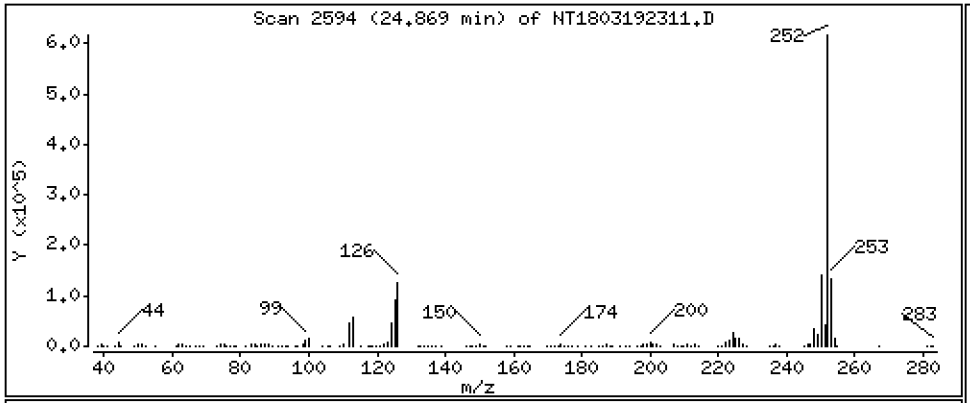
Operator: VTS

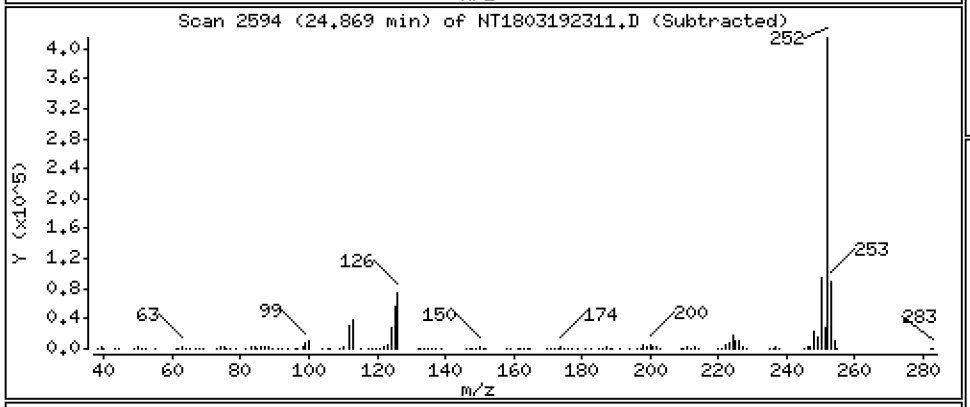
Column phase: ZB-5msi

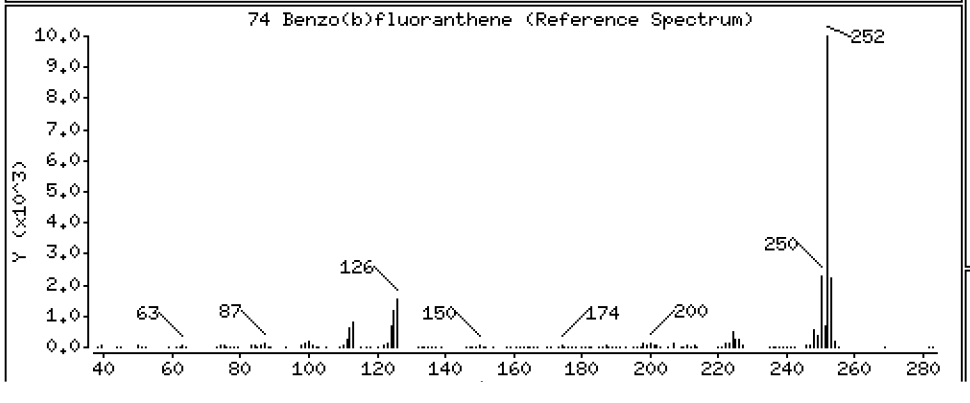
Column diameter: 0.25

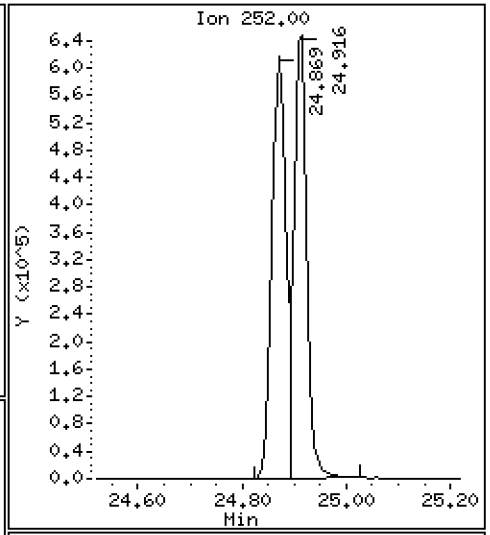
74 Benzo(b)fluoranthene

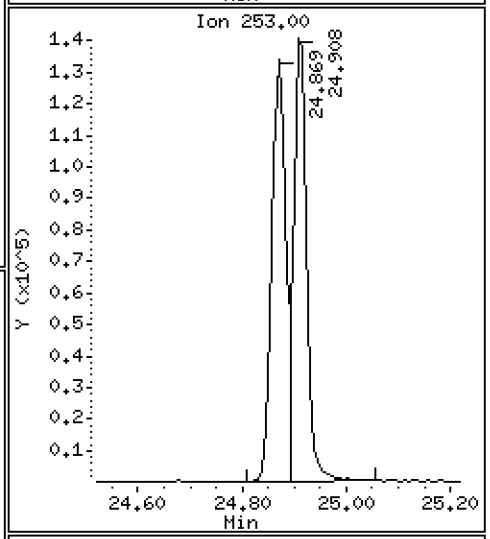
Concentration: 5.172 ug/mL

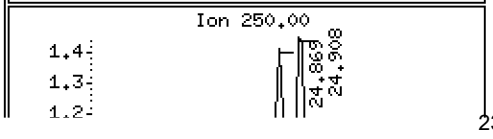












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

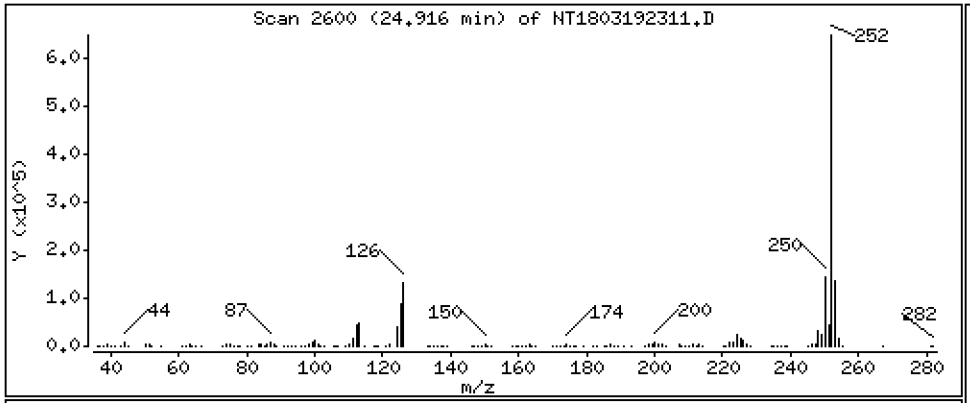
Operator: VTS

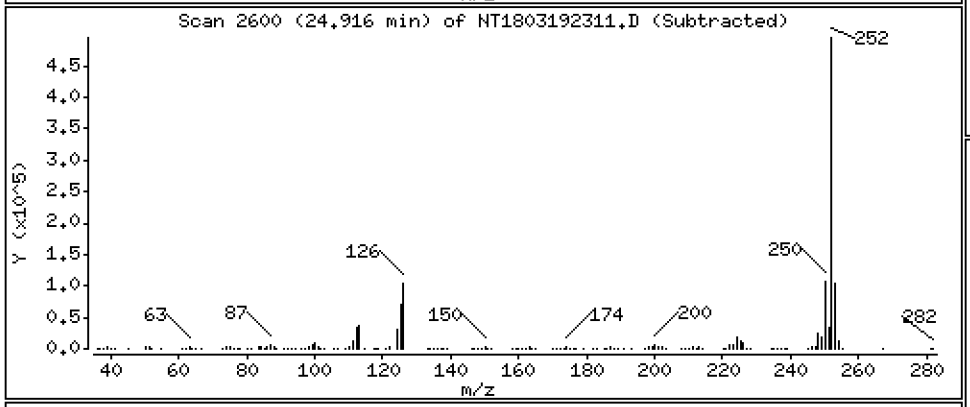
Column phase: ZB-5msi

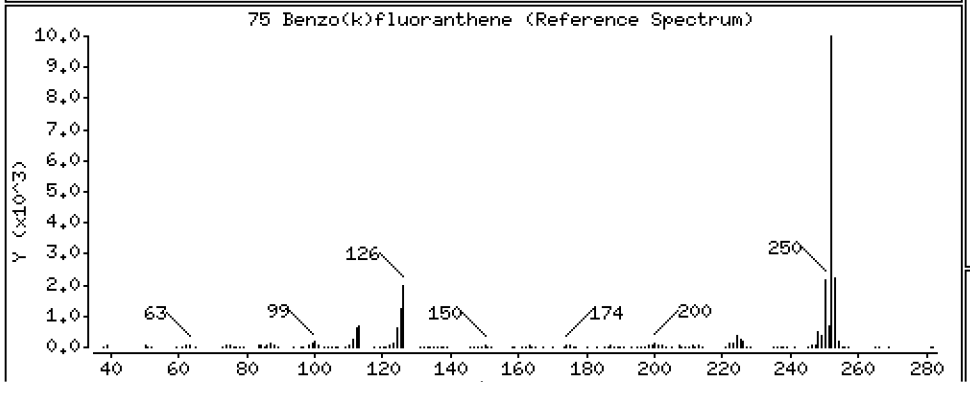
Column diameter: 0.25

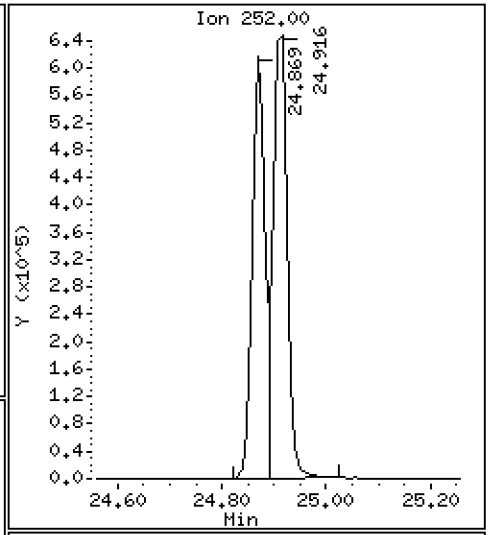
75 Benzo(k)fluoranthene

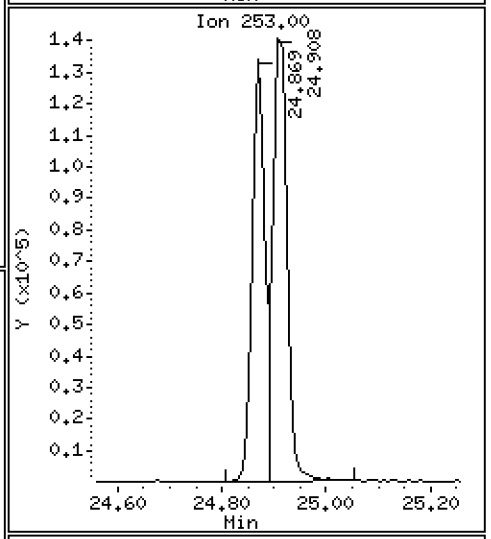
Concentration: 4.854 ug/mL

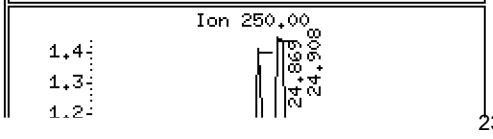












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

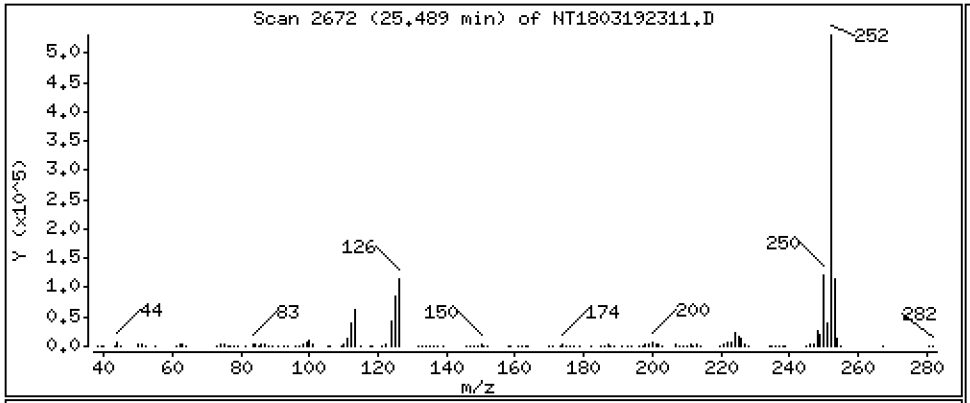
Operator: VTS

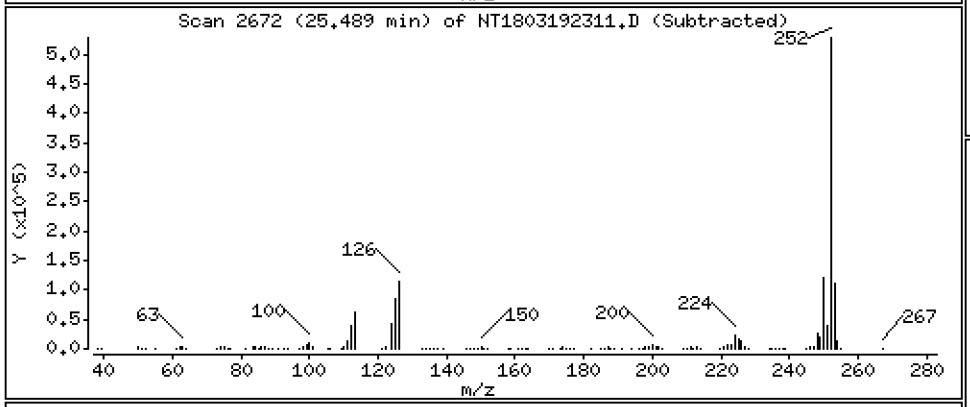
Column phase: ZB-5msi

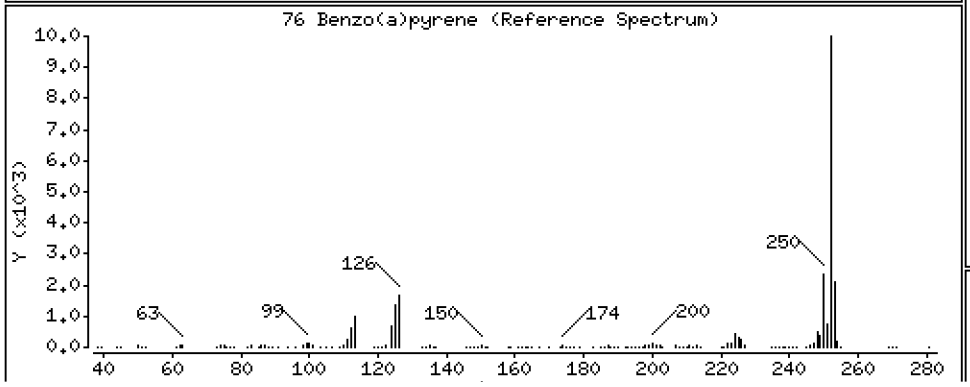
Column diameter: 0.25

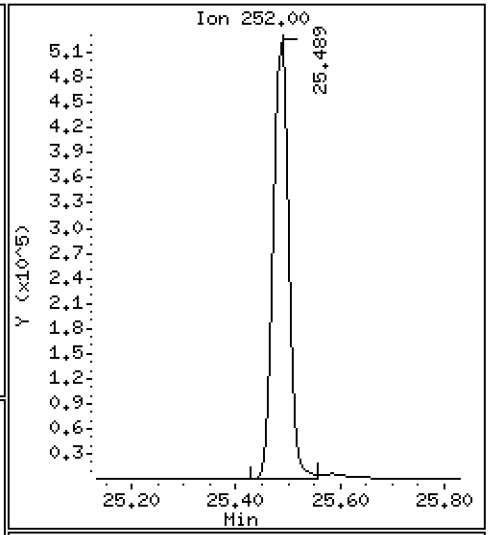
76 Benzo(a)pyrene

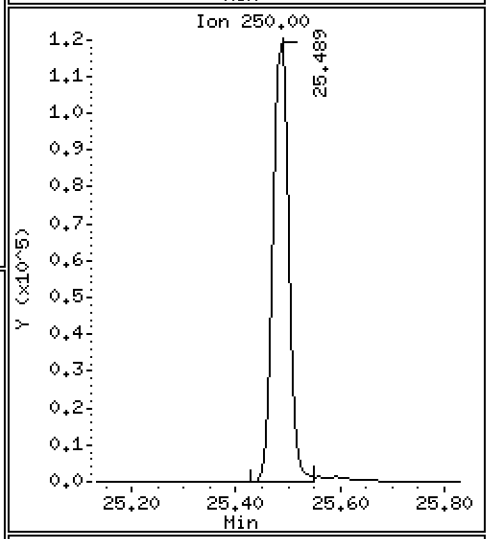
Concentration: 4.673 ug/mL

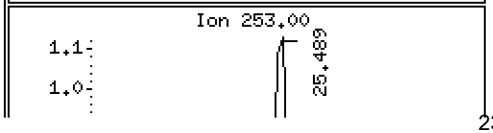












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

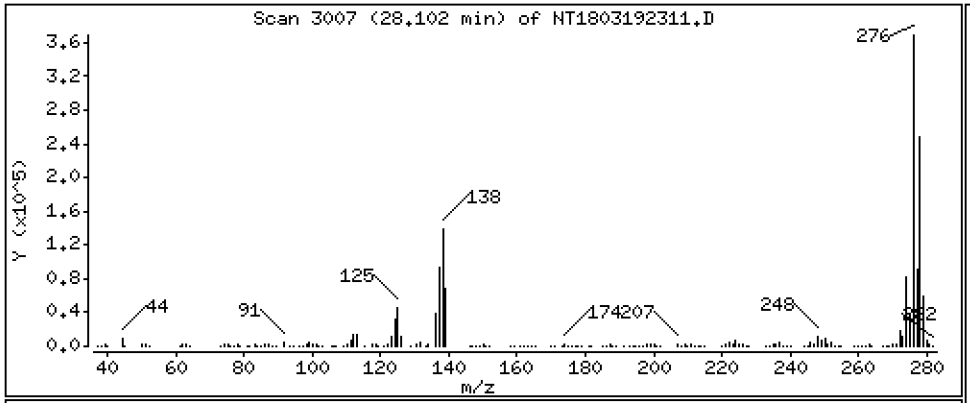
Operator: VTS

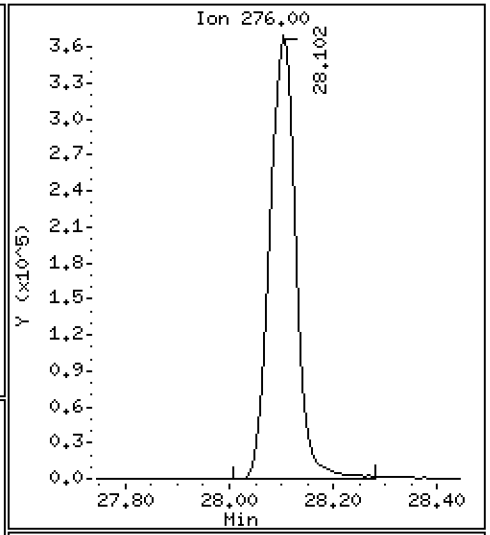
Column phase: ZB-5msi

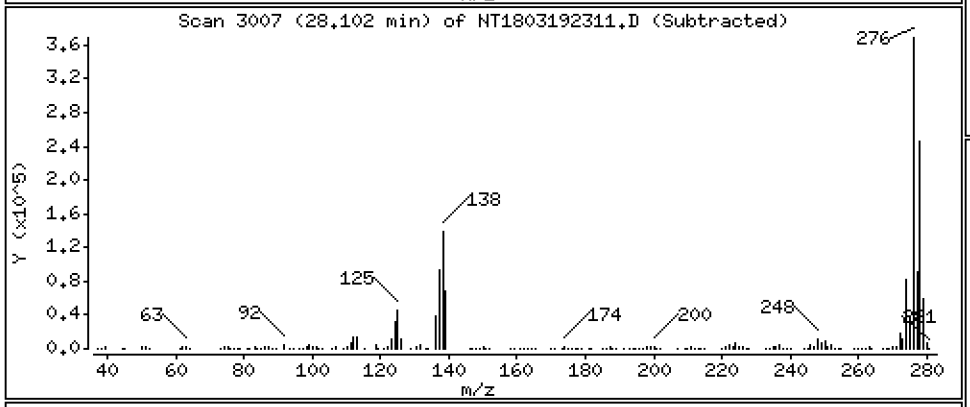
Column diameter: 0.25

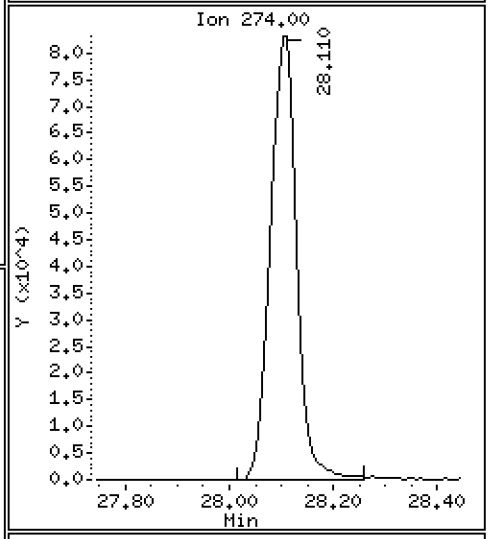
78 Indeno(1,2,3-cd)pyrene

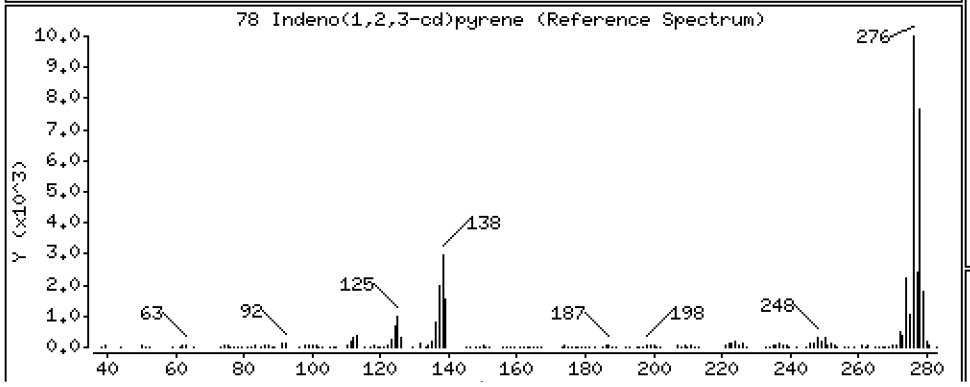
Concentration: 4.553 ug/mL

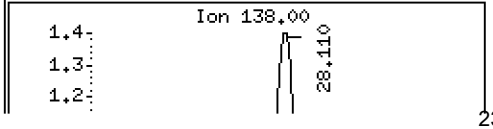












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

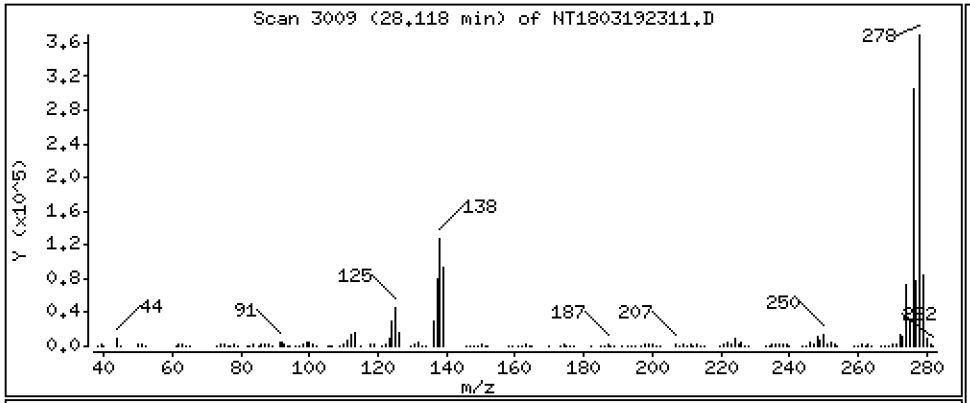
Operator: VTS

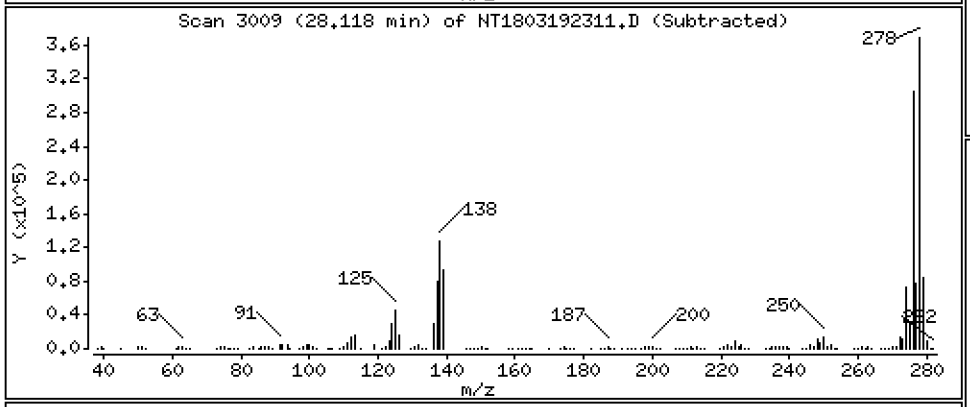
Column phase: ZB-5msi

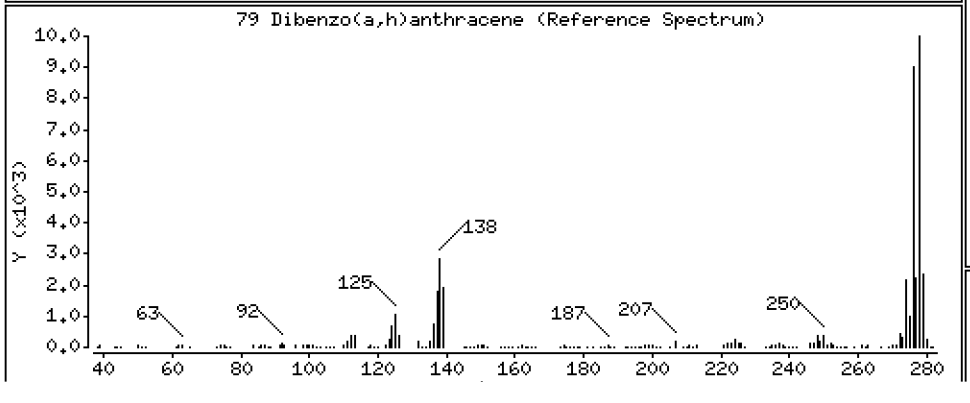
Column diameter: 0.25

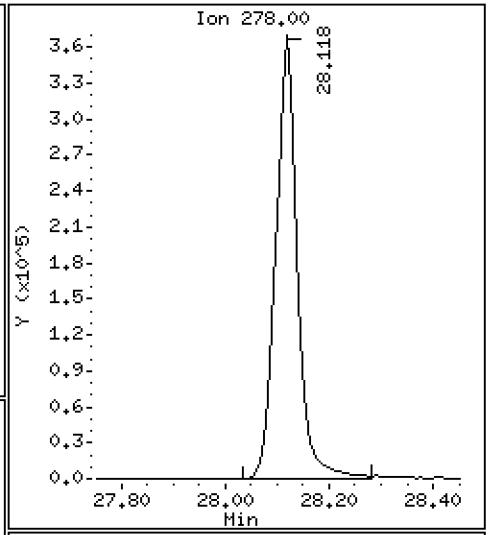
79 Dibenzo(a,h)anthracene

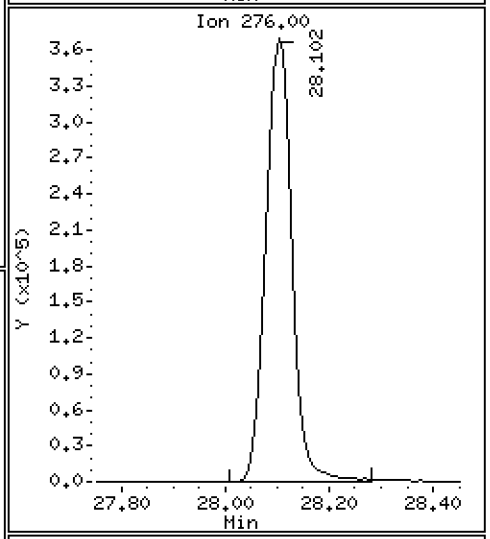
Concentration: 4.544 ug/mL

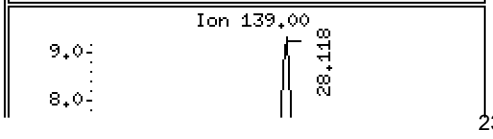












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

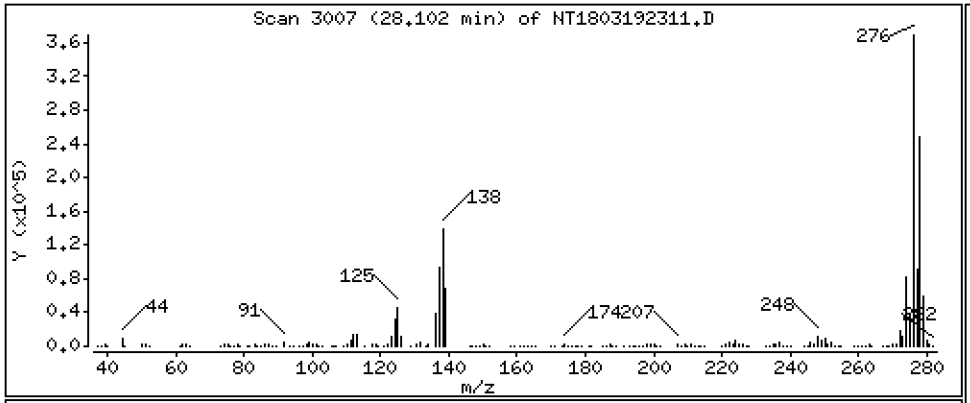
Operator: VTS

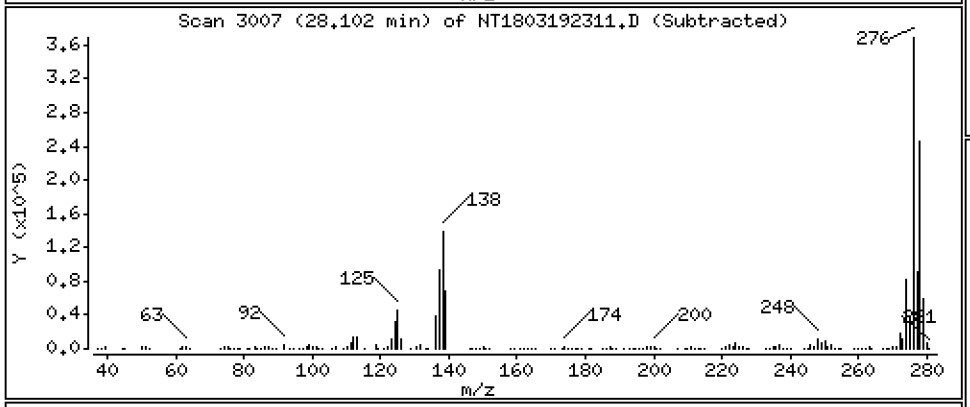
Column phase: ZB-5msi

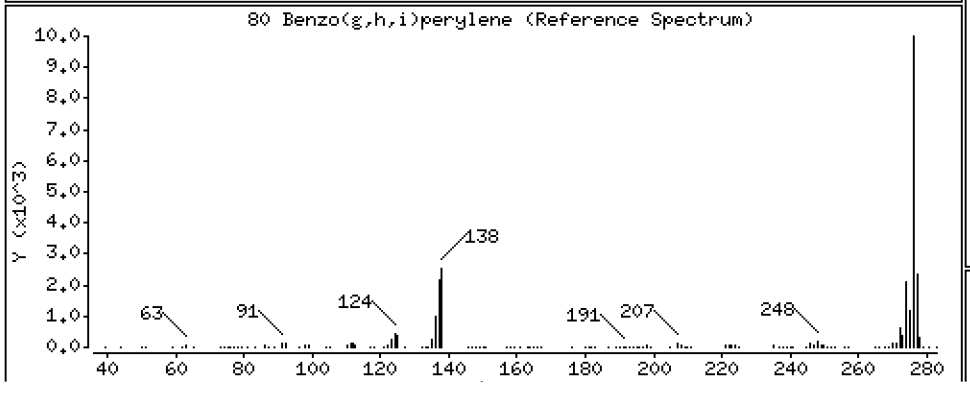
Column diameter: 0.25

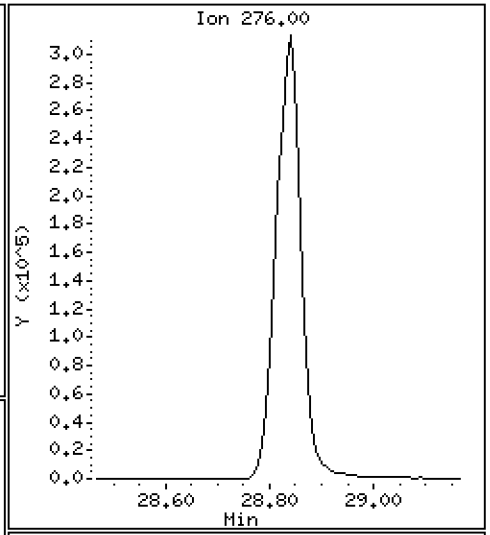
80 Benzo(g,h,i)perylene

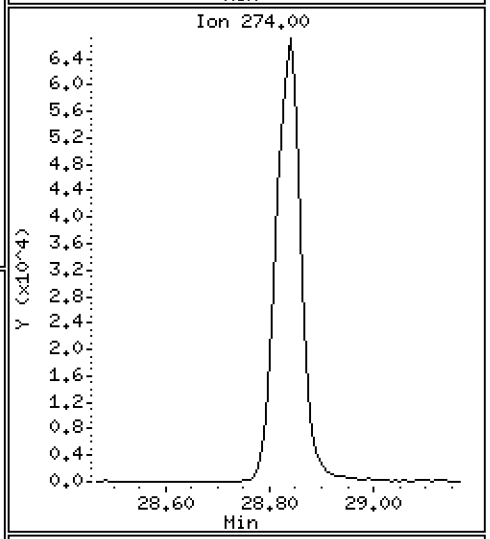
Concentration: 5.700 ug/mL

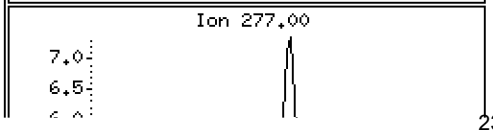












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

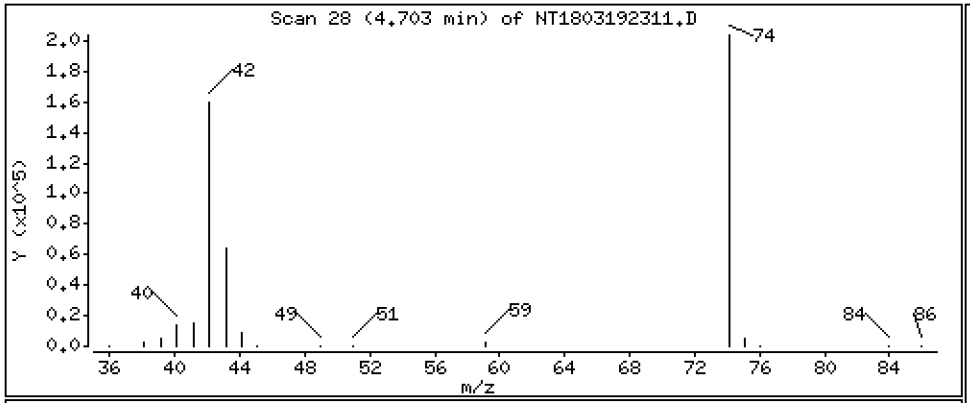
Operator: VTS

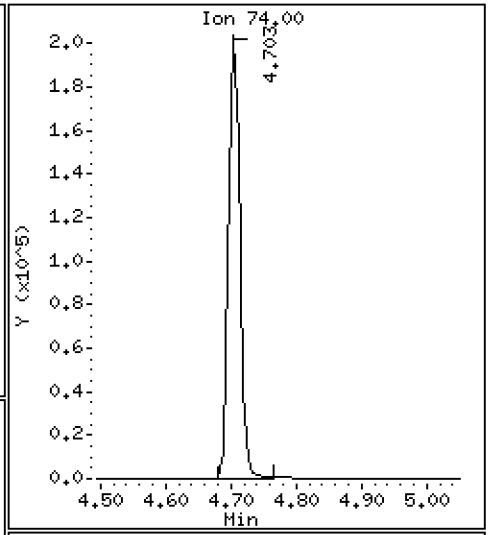
Column phase: ZB-5msi

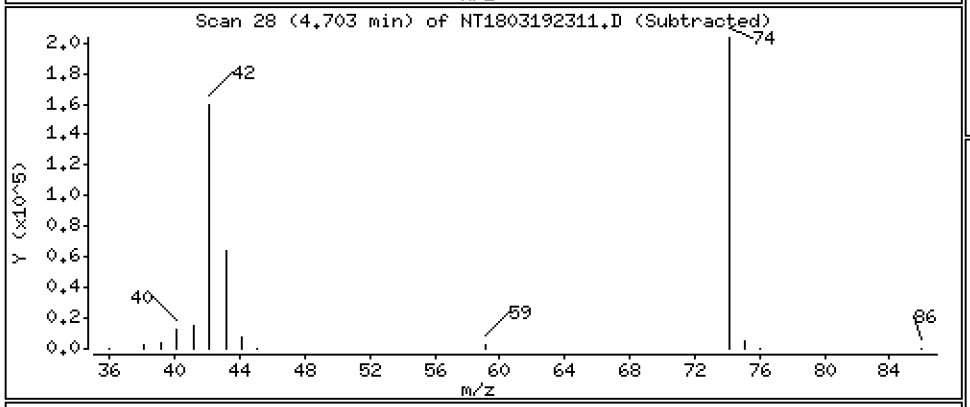
Column diameter: 0.25

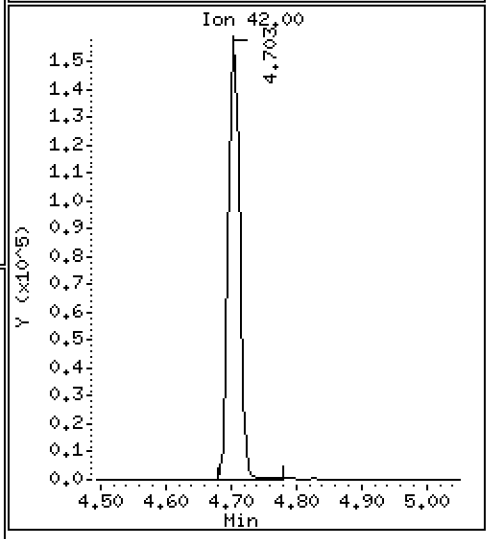
90 N-Nitrosodimethylamine

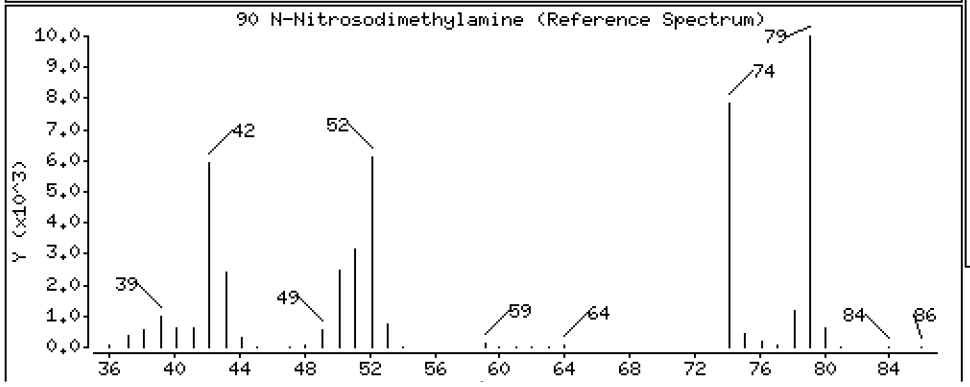
Concentration: 5.136 ug/mL











Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

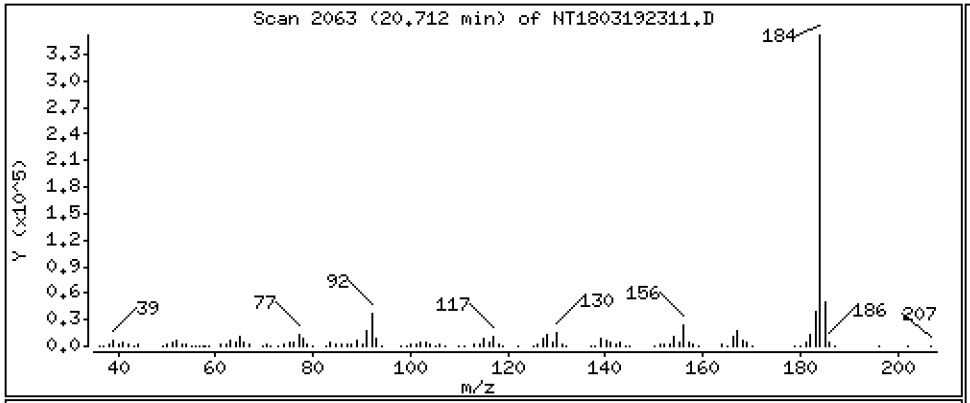
Operator: VTS

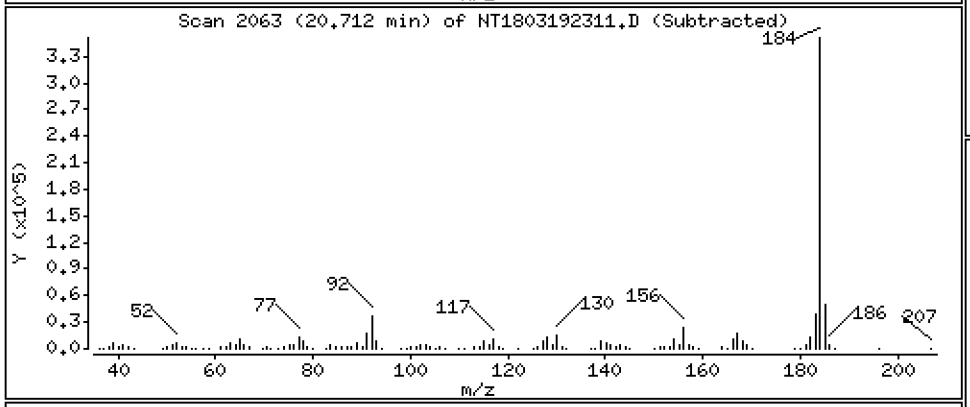
Column phase: ZB-5msi

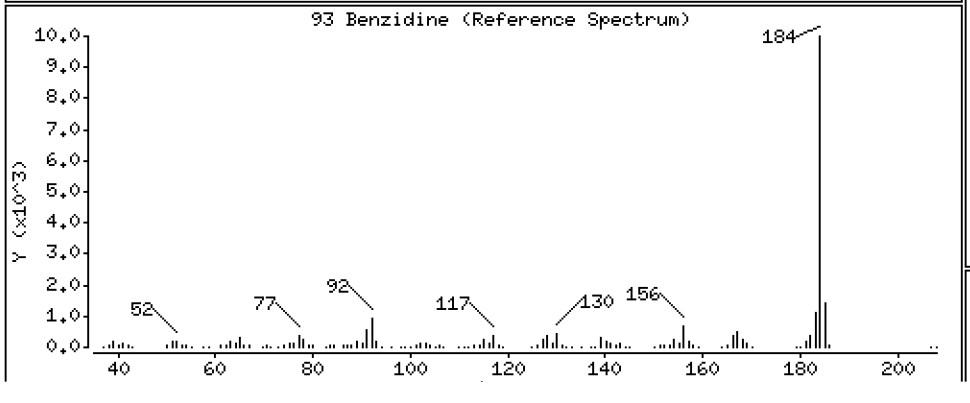
Column diameter: 0.25

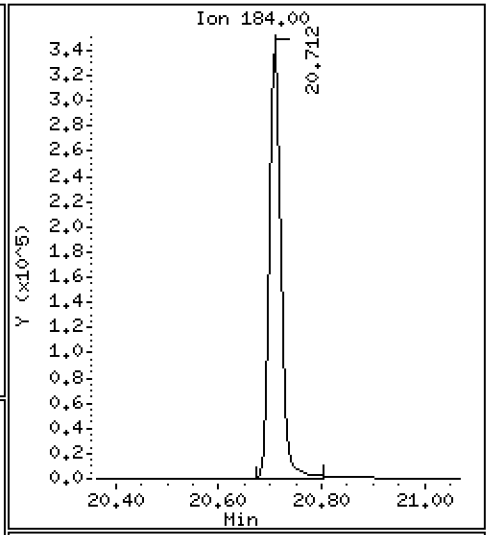
93 Benzidine

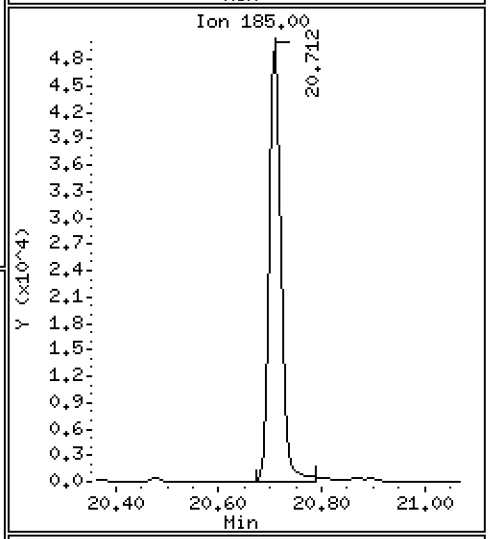
Concentration: 5.266 ug/mL

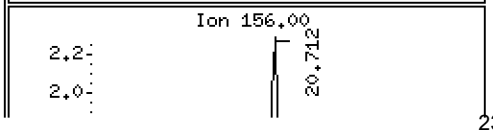












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

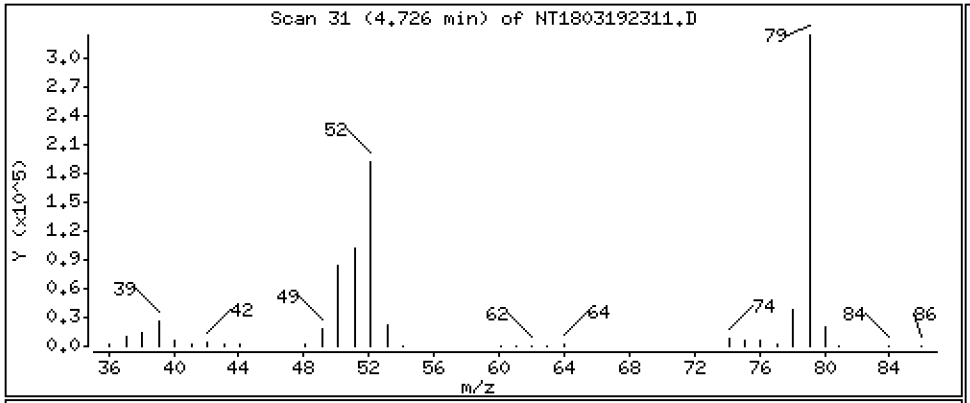
Operator: VTS

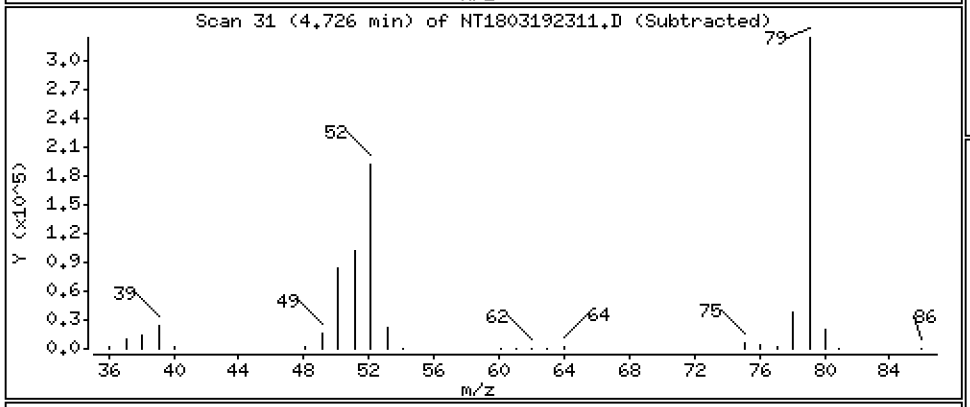
Column phase: ZB-5msi

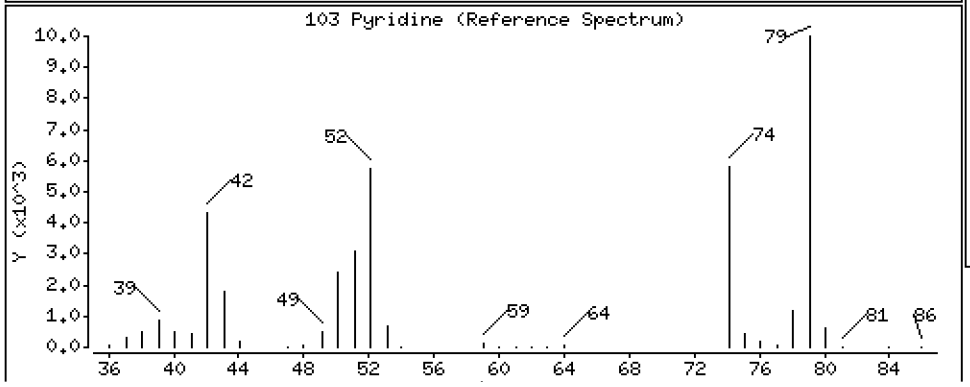
Column diameter: 0.25

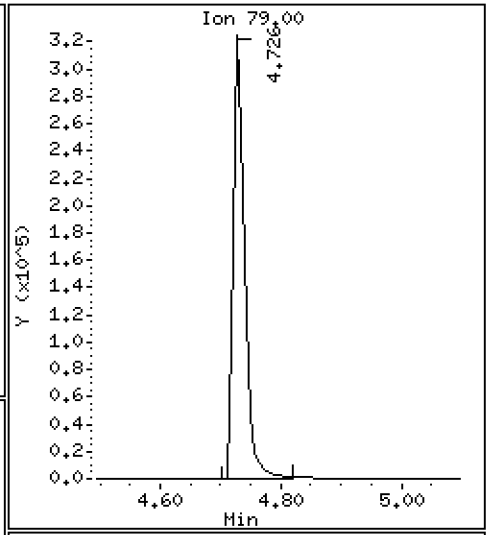
103 Pyridine

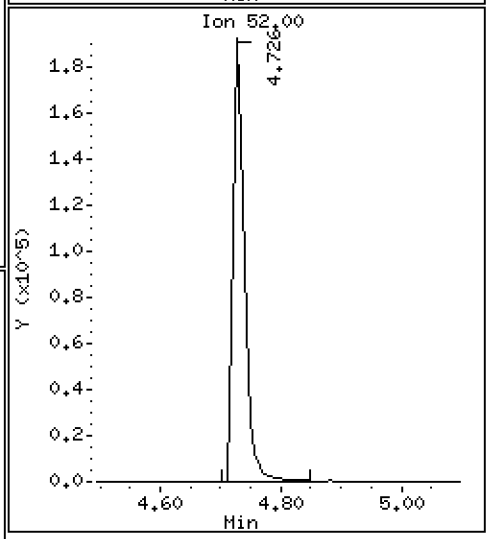
Concentration: 5.323 ug/mL











Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

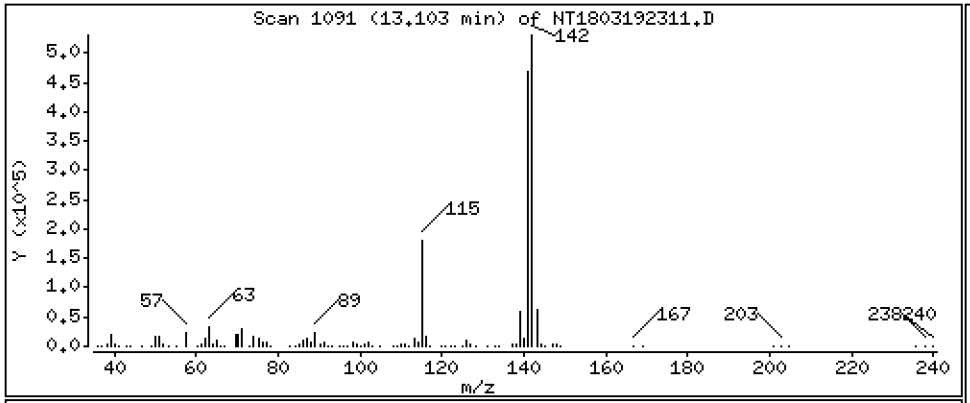
Operator: VTS

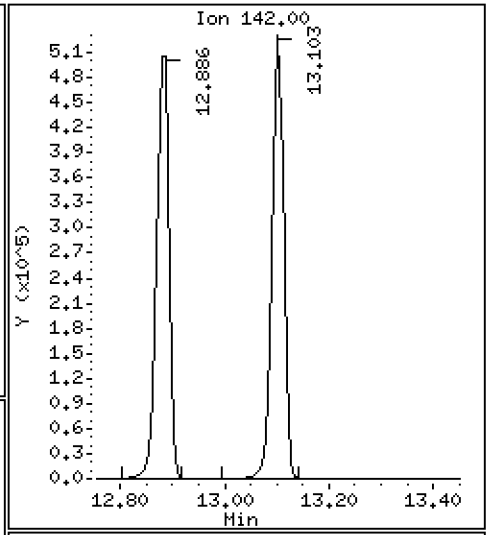
Column phase: ZB-5msi

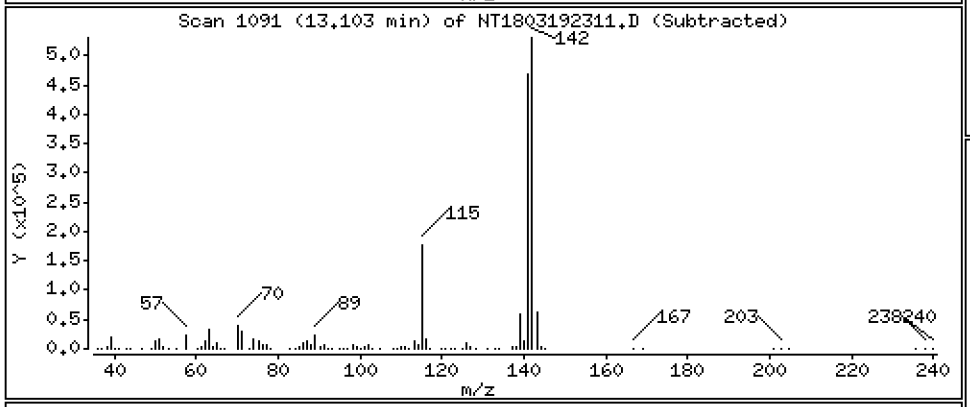
Column diameter: 0.25

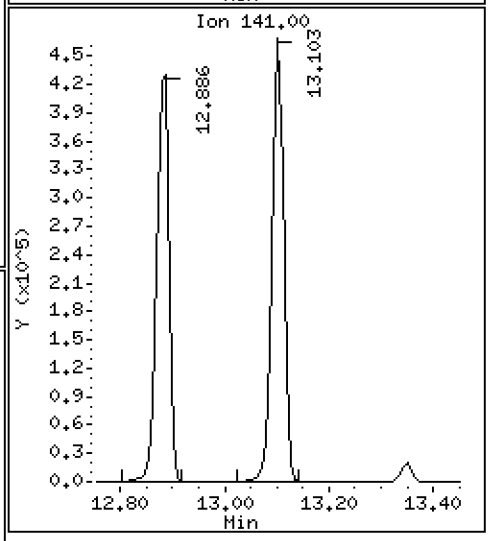
105 1-methylnaphthalene

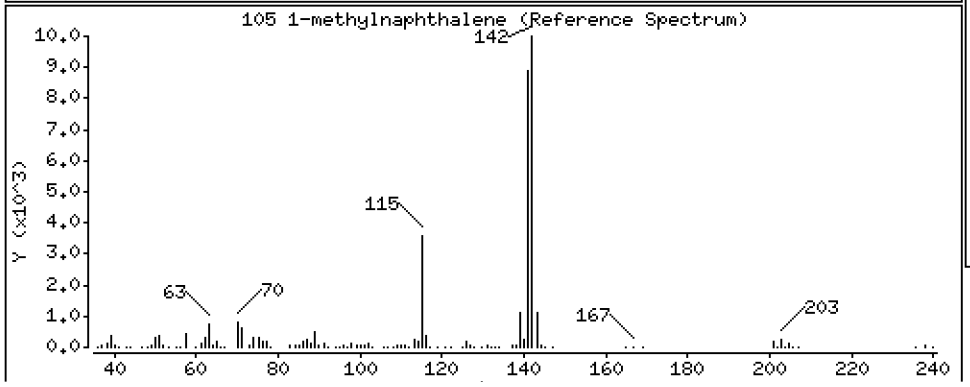
Concentration: 5.095 ug/mL











Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

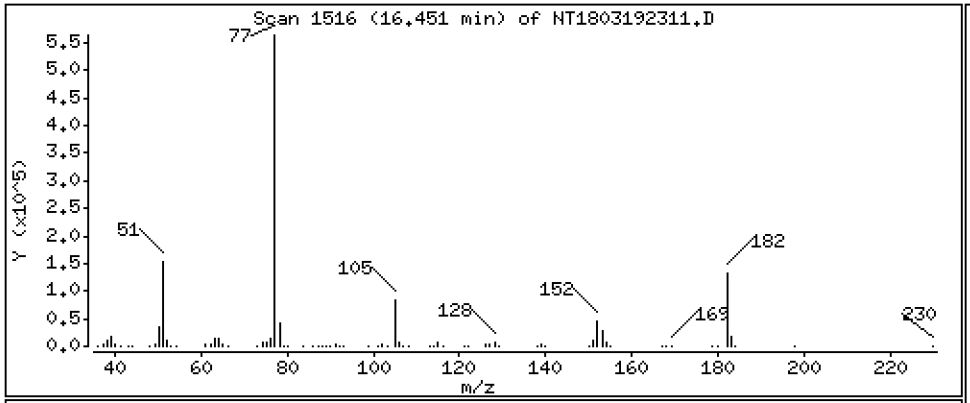
Operator: VTS

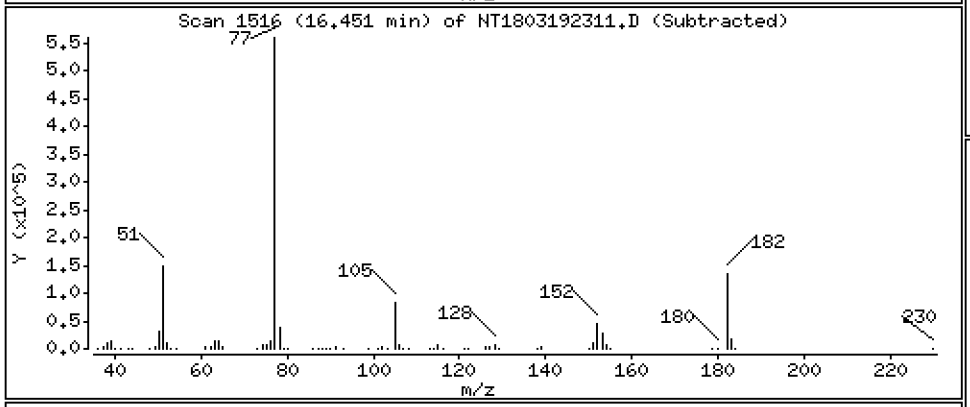
Column phase: ZB-5msi

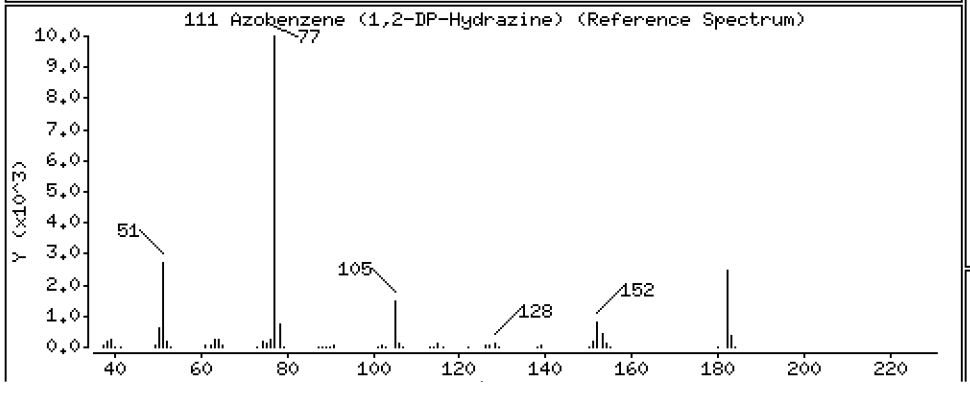
Column diameter: 0.25

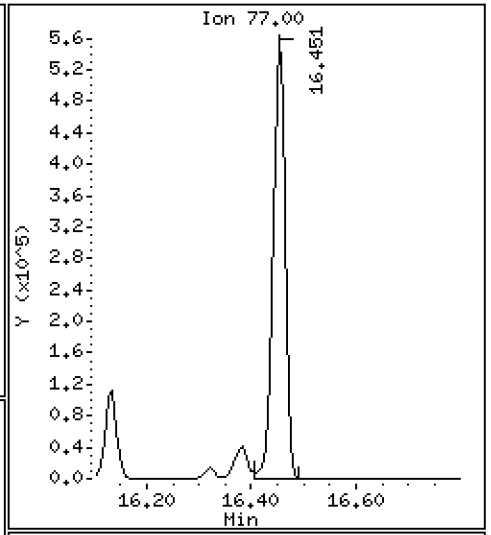
111 Azobenzene (1,2-DP-Hydrazine)

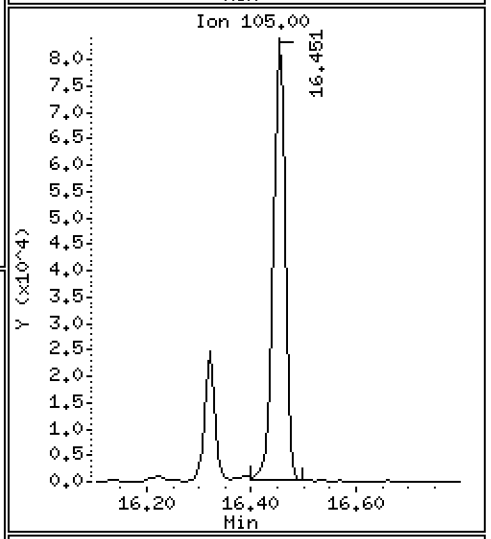
Concentration: 4.957 ug/mL

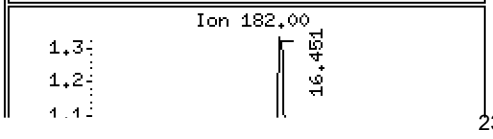












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

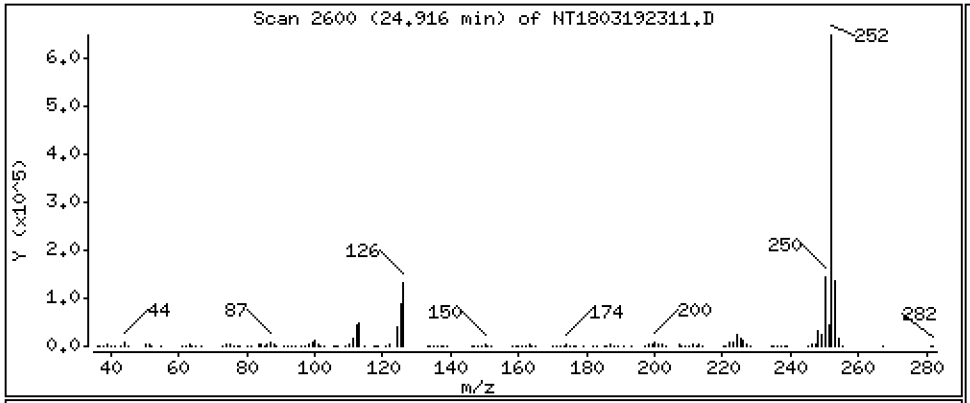
Operator: VTS

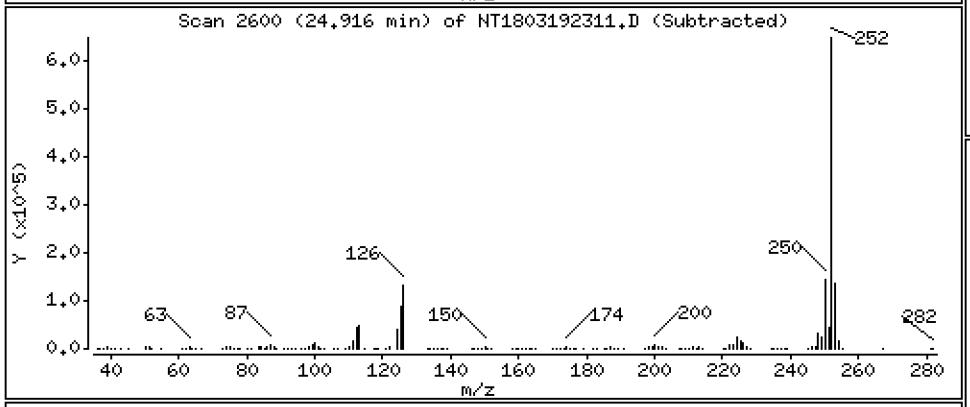
Column phase: ZB-5msi

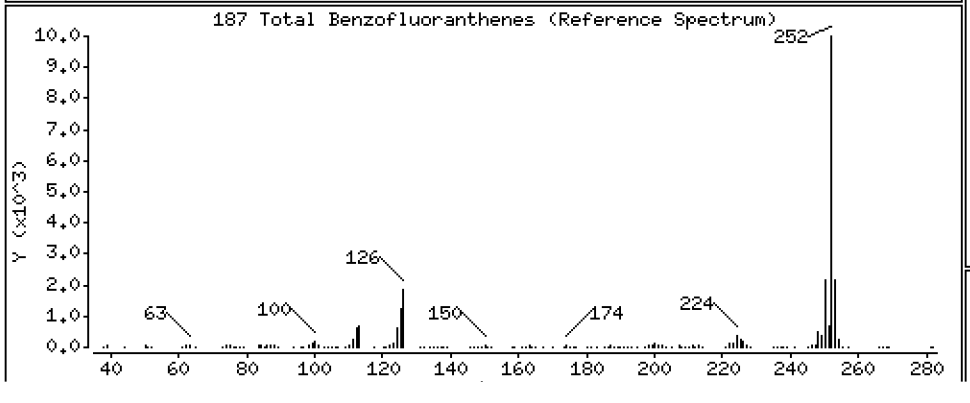
Column diameter: 0.25

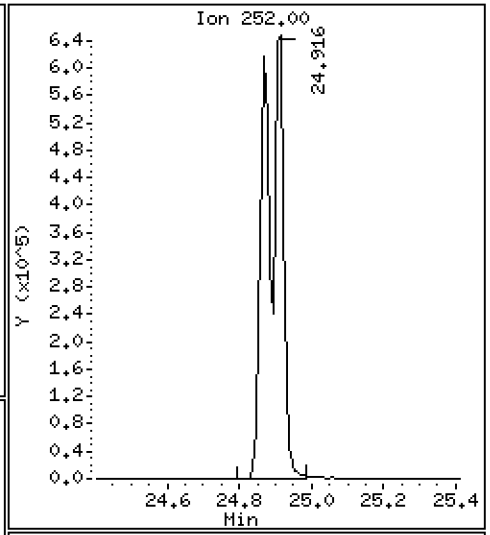
187 Total Benzofluoranthenes

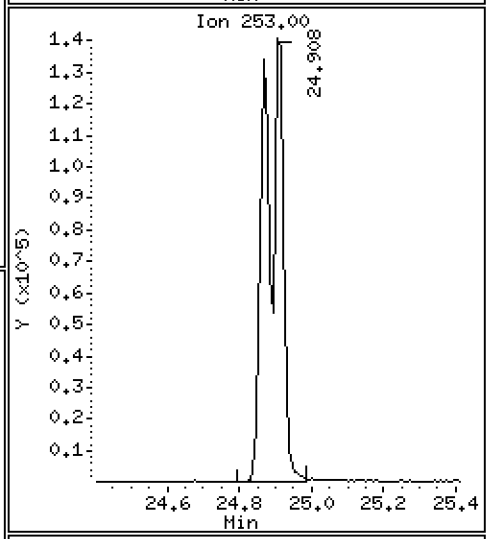
Concentration: 10.02 ug/mL

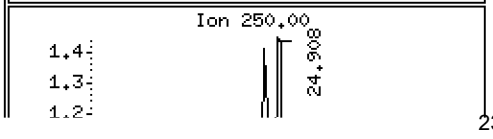












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

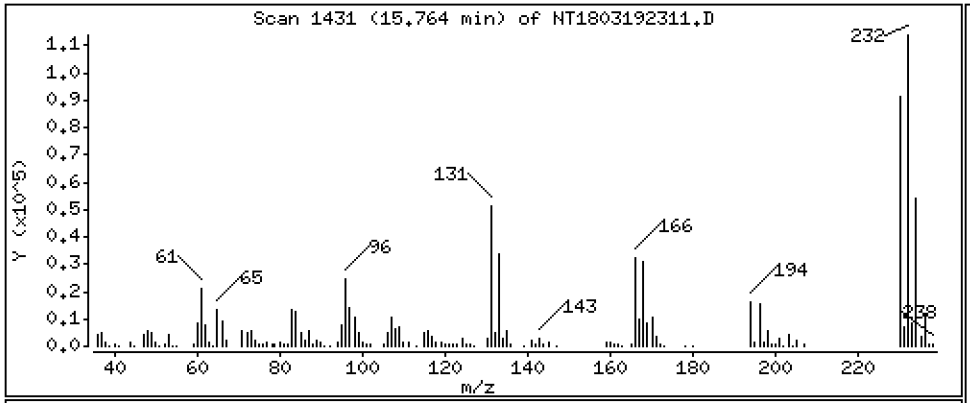
Operator: VTS

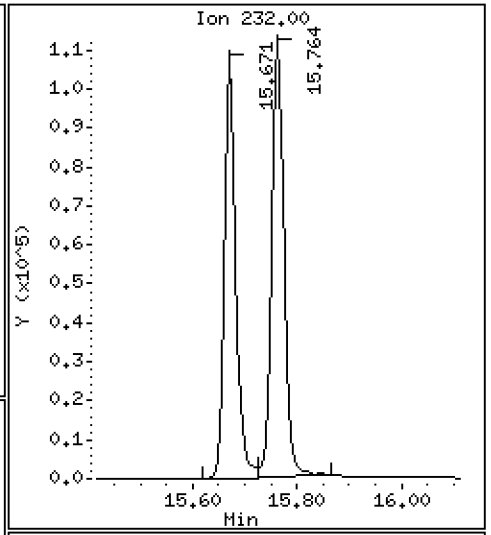
Column phase: ZB-5msi

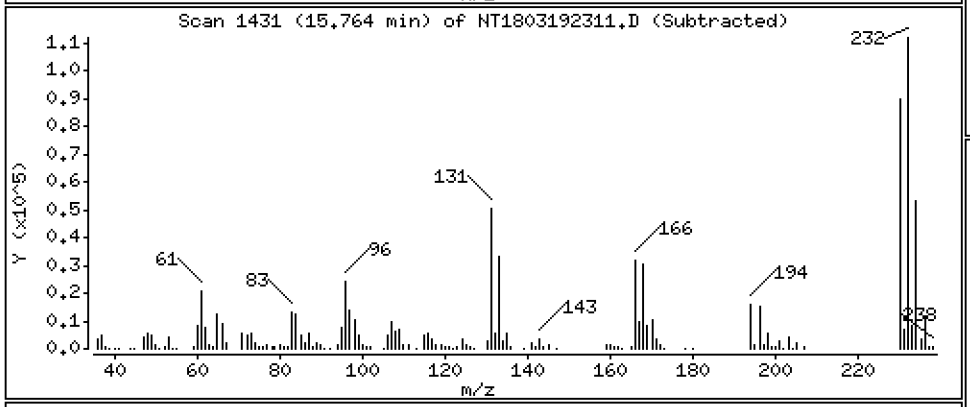
Column diameter: 0.25

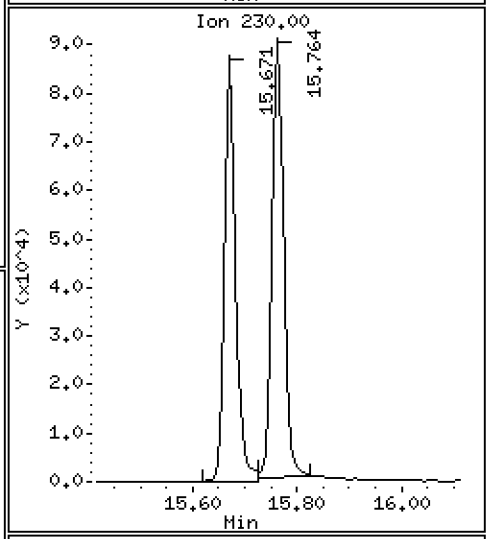
120 2,3,4,6-Tetrachlorophenol

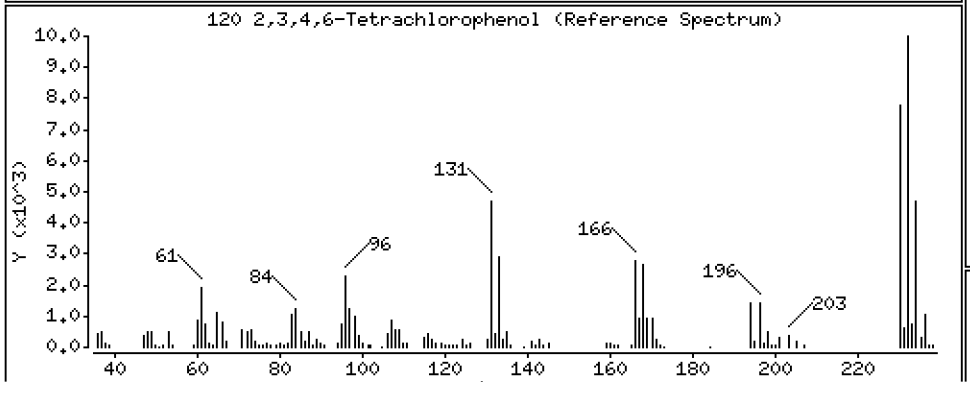
Concentration: 3.470 ug/mL

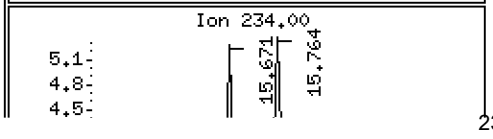












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D
Lab Smp Id: SLC0502-SCV1
Inj Date : 19-MAR-2023 21:26
Operator : VTS Inst ID: nt18.i
Smp Info : scv
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230319.b\ABN.m
Meth Date : 01-Apr-2023 07:54 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 19:24 Cal File: NT1803192308.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: ORGDATA102

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$ 1	2-Fluorophenol	112	Compound Not Detected.					
$ 2	Phenol-d5	99	Compound Not Detected.					
3	Phenol	94	8.372	8.372	(0.930)	441043	4.35211	4.352
$ 5	2-Chlorophenol-d4	132	Compound Not Detected.					
4	Bis(2-Chloroethyl)ether	93	8.550	8.542	(0.950)	368879	5.25957	5.260
6	2-Chlorophenol	128	8.658	8.658	(0.962)	387609	4.47327	4.473
7	1,3-Dichlorobenzene	146	8.929	8.929	(0.992)	460837	5.00917	5.009
* 8	1,4-Dichlorobenzene-d4	152	8.998	8.999	(1.000)	248847	4.00000	
9	1,4-Dichlorobenzene	146	9.029	9.022	(1.003)	466917	5.07130	5.071
$ 10	1,2-Dichlorobenzene-d4	152	Compound Not Detected.					
12	1,2-Dichlorobenzene	146	9.379	9.379	(1.042)	446066	4.91643	4.916
11	Benzyl alcohol	108	9.262	9.262	(1.029)	246021	5.20270	5.203
14	2,2'-oxybis(1-Chloropropane)	121	9.565	9.565	(1.063)	118450	5.54474	5.545
13	2-Methylphenol	108	9.480	9.480	(1.053)	325960	4.23779	4.238
17	Hexachloroethane	117	9.969	9.961	(1.108)	186172	5.16388	5.164
16	N-Nitroso-di-n-propylamine	70	9.821	9.814	(1.091)	286844	5.23671	5.237
15	4-Methylphenol	108	9.751	9.744	(1.084)	358003	4.48222	4.482
$ 18	Nitrobenzene-d5	82	Compound Not Detected.					

	19	Nitrobenzene	77	10.108	10.109	(0.882)	383821	5.02881	5.029
	20	Isophorone	82	10.558	10.559	(0.922)	825809	7.92328	7.923
	21	2-Nitrophenol	139	10.736	10.736	(0.937)	169697	3.74842	3.748
	22	2,4-Dimethylphenol	107	10.787	10.787	(0.942)	285900	3.72602	3.726
	23	Bis(2-Chloroethoxy)methane	93	10.990	10.982	(0.959)	441596	5.86188	5.862
	24	Benzoic acid	105	10.965	10.880	(0.957)	350650	6.42179	6.422
	25	2,4-Dichlorophenol	162	11.185	11.186	(0.976)	351728	4.98044	4.980
	26	1,2,4-Trichlorobenzene	180	11.370	11.370	(0.993)	359680	4.85808	4.858
*	27	Naphthalene-d8	136	11.455	11.455	(1.000)	941852	4.00000	
	28	Naphthalene	128	11.493	11.494	(1.003)	1245937	4.87487	4.875
	29	4-Chloroaniline	127	11.625	11.625	(1.015)	383246	3.89715	3.897
	30	Hexachlorobutadiene	225	11.864	11.857	(1.036)	211903	5.03333	5.033
	31	4-Chloro-3-methylphenol	107	12.576	12.576	(1.098)	306271	4.70884	4.709
	32	2-Methylnaphthalene	142	12.886	13.103	(1.125)	801723	5.24701	5.247(H)
	33	Hexachlorocyclopentadiene	237	13.350	13.350	(0.887)	222562	5.05604	5.056

		QUANT SIG					CONCENTRATIONS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.497	13.497	(0.897)	208419	4.58046	4.580
	35 2,4,5-Trichlorophenol	196	13.567	13.567	(0.902)	225198	4.52785	4.528
$	36 2-Fluorobiphenyl	172	Compound Not Detected.					
	37 2-Chloronaphthalene	162	13.869	13.861	(0.922)	709799	4.88462	4.885
	38 2-Nitroaniline	65	14.116	14.116	(0.938)	183222	4.81152	4.812
	39 Dimethylphthalate	163	14.557	14.558	(0.968)	773755	5.10490	5.105
	40 Acenaphthylene	152	14.728	14.728	(0.979)	1218077	4.92248	4.922
	41 2,6-Dinitrotoluene	165	14.697	14.689	(0.977)	166669	4.85742	4.857
*	42 Acenaphthene-d10	164	15.045	15.045	(1.000)	508667	4.00000	
	43 3-Nitroaniline	138	14.968	14.960	(0.995)	199465	5.15025	5.150
	44 Acenaphthene	153	15.107	15.107	(1.004)	758439	4.84229	4.842
	45 2,4-Dinitrophenol	184	15.176	15.176	(1.009)	37685	1.88731	1.887
	46 Dibenzofuran	168	15.431	15.424	(1.026)	1023349	4.75581	4.756
	47 4-Nitrophenol	109	15.277	15.269	(1.015)	84926	4.12755	4.128
	48 2,4-Dinitrotoluene	165	15.493	15.486	(1.030)	201908	4.48058	4.481
	50 Diethylphthalate	149	16.004	16.004	(1.064)	771038	5.02064	5.021
	49 Fluorene	166	16.135	16.135	(1.072)	984533	5.04042	5.040
	51 4-Chlorophenyl-phenylether	204	16.135	16.127	(1.072)	467934	5.39775	5.398
	52 4-Nitroaniline	138	16.220	16.212	(1.078)	168586	4.32315	4.323
	53 4,6-Dinitro-2-methylphenol	198	16.320	16.312	(0.904)	74351	3.08813	3.088
	54 N-Nitrosodiphenylamine	169	16.382	16.374	(0.908)	552391	5.07694	5.077
$	55 2,4,6-Tribromophenol	330	Compound Not Detected.					
	56 4-Bromophenyl-phenylether	248	17.130	17.130	(0.949)	230243	5.33467	5.335
	57 Hexachlorobenzene	284	17.439	17.439	(0.966)	237192	4.89949	4.899
	58 Pentachlorophenol	266	17.787	17.787	(0.985)	110267	3.80234	3.802
*	59 Phenanthrene-d10	188	18.050	18.050	(1.000)	854150	4.00000	
	60 Phenanthrene	178	18.097	18.097	(1.003)	1124988	4.82494	4.825
	61 Anthracene	178	18.189	18.190	(1.008)	949240	4.27002	4.270
	62 Carbazole	167	18.514	18.514	(1.026)	915932	4.67894	4.679
	63 Di-n-butylphthalate	149	19.327	19.335	(1.071)	1252814	4.83870	4.839
	64 Fluoranthene	202	20.472	20.472	(0.887)	1169339	5.21259	5.213
	65 Pyrene	202	20.897	20.890	(0.906)	1189380	5.03037	5.030
$	66 Terphenyl-d14	244	Compound Not Detected.					
	67 Butylbenzylphthalate	149	22.113	22.113	(0.958)	485115	4.79167	4.792
	68 Benzo(a)anthracene	228	23.042	23.042	(0.999)	1091414	4.95439	4.954
*	69 Chrysene-d12	240	23.073	23.073	(1.000)	703971	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.003	23.003	(0.997)	736332	9.28906	9.289
	71 Chrysene	228	23.119	23.112	(1.002)	1096346	4.81448	4.814
	72 bis(2-Ethylhexyl)phthalate	149	23.135	23.135	(0.960)	758931	5.00338	5.003
*	134 Di-n-octylphthalate-d4	153	24.110	24.110	(1.000)	1052203	4.00000	

	73	Di-n-octylphthalate	149	24.118	24.118	(1.000)	1333082	5.14944	5.149
	74	Benzo(b)fluoranthene	252	24.869	24.869	(0.972)	1146645	5.17215	5.172
	75	Benzo(k)fluoranthene	252	24.915	24.908	(0.973)	1183533	4.85368	4.854
	76	Benzo(a)pyrene	252	25.488	25.481	(0.996)	1036082	4.67267	4.673
*	77	Perylene-d12	264	25.597	25.597	(1.000)	796363	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	28.102	28.094	(1.098)	1282147	4.55301	4.553
	79	Dibenzo(a,h)anthracene	278	28.117	28.102	(1.098)	1063521	4.54375	4.544
	80	Benzo(g,h,i)perylene	276	28.102	28.816	(1.098)	1282147	5.69990	5.700
	90	N-Nitrosodimethylamine	74	4.703	4.703	(0.523)	243602	5.13632	5.136(H)
	91	Aniline	93	Compound Not Detected.					
	93	Benzidine	184	20.712	20.712	(0.898)	502334	5.26600	5.266
	103	Pyridine	79	4.726	4.749	(0.525)	416943	5.32344	5.323
	105	1-methylnaphthalene	142	13.102	13.103	(1.144)	778553	5.09537	5.095
	111	Azobenzene (1,2-DP-Hydrazine)	77	16.451	16.451	(1.093)	834251	4.95703	4.957

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187 Total Benzofluoranthenes	252	24.915	24.908	(0.973)	2225200	10.0155	10.02
120 2,3,4,6-Tetrachlorophenol	232	15.764	15.764	(1.048)	193132	3.46953	3.470

QC Flag Legend

H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192311.D
Lab Smp Id: SLC0502-SCV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 16:40
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	268611	134306	537222	248847	-7.36
27 Naphthalene-d8	1007141	503571	2014282	941852	-6.48
42 Acenaphthene-d10	531283	265642	1062566	508667	-4.26
59 Phenanthrene-d10	884709	442355	1769418	854150	-3.45
69 Chrysene-d12	727768	363884	1455536	703971	-3.27
134 Di-n-octylphthala	1108384	554192	2216768	1052203	-5.07
77 Perylene-d12	824431	412216	1648862	796363	-3.40

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	-0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	-0.00
42 Acenaphthene-d10	15.05	14.55	15.55	15.05	-0.00
59 Phenanthrene-d10	18.05	17.55	18.55	18.05	-0.00
69 Chrysene-d12	23.07	22.57	23.57	23.07	-0.00
134 Di-n-octylphthala	24.11	23.61	24.61	24.11	-0.00
77 Perylene-d12	25.60	25.10	26.10	25.60	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192311.D

Lab ID: SLC0502-SCV1
nt18.i, ABN.m, 19-MAR-2023 21:26

RT	CO-ELUTION COMPOUNDS
28.102	Benzo(g,h,i)perylene and Indeno(1,2,3-cd)pyrene

** FIRST SURROGATE NOT FOUND. ICAL Check not performed **

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.957	0.950	0.0074	Benzoic acid
1.125	1.144	-0.0189	2-Methylnaphthalene
1.098	1.126	-0.0279	Benzo(g,h,i)perylene

RRT check based on Ccal File: NT1803192308.D

On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270E

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GC00085
Laboratory ID: SLC0502-SCV1
Sequence: SLC0502
Standard ID: K010066

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DRIFT	QC LIMIT
Phenol	5.0000	4.4	-13.0	20.00
bis(2-chloroethyl) ether	5.0000	5.3	5.2	20.00
2-Chlorophenol	5.0000	4.5	-10.5	20.00
1,3-Dichlorobenzene	5.0000	5.0	0.2	20.00
1,4-Dichlorobenzene	5.0000	5.1	1.4	20.00
1,2-Dichlorobenzene	5.0000	4.9	-1.7	20.00
Benzyl Alcohol	5.0000	5.2	4.1	20.00
2,2'-Oxybis(1-chloropropane)	5.0000	5.5	10.9	20.00
2-Methylphenol	5.0000	4.2	-15.2	20.00
Hexachloroethane	5.0000	5.2	3.3	20.00
N-Nitroso-di-n-Propylamine	5.0000	5.2	4.7	20.00
4-Methylphenol	5.0000	4.5	-10.4	20.00
Nitrobenzene	5.0000	5.0	0.6	20.00
Isophorone	5.0000	7.9	58.5 *	20.00
2-Nitrophenol	5.0000	3.7	-25.0 *	20.00
2,4-Dimethylphenol	5.0000	3.7	-25.5 *	20.00
Bis(2-Chloroethoxy)methane	5.0000	5.9	17.2	20.00
2,4-Dichlorophenol	5.0000	5.0	-0.4	20.00
1,2,4-Trichlorobenzene	5.0000	4.9	-2.8	20.00
Naphthalene	5.0000	4.9	-2.5	20.00
Benzoic acid	10.000	6.4	-35.8 *	20.00
4-Chloroaniline	5.0000	3.9	-22.1 *	20.00
Hexachlorobutadiene	5.0000	5.0	0.7	20.00
4-Chloro-3-Methylphenol	5.0000	4.7	-5.8	20.00
2-Methylnaphthalene	5.0000	4.8	-3.7	20.00
Hexachlorocyclopentadiene	5.0000	5.1	1.1	20.00
2,4,6-Trichlorophenol	5.0000	4.6	-8.4	20.00
2,4,5-Trichlorophenol	5.0000	4.5	-9.4	20.00
2-Chloronaphthalene	5.0000	4.9	-2.3	20.00
2-Nitroaniline	5.0000	4.8	-3.8	20.00
Acenaphthylene	5.0000	4.9	-1.6	20.00
Dimethylphthalate	5.0000	5.1	2.1	20.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270E

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GC00085
Laboratory ID: SLC0502-SCV1
Sequence: SLC0502
Standard ID: K010066

2,6-Dinitrotoluene	5.0000	4.9	-2.9	20.00
Acenaphthene	5.0000	4.8	-3.2	20.00
3-Nitroaniline	5.0000	5.2	3.0	20.00
2,4-Dinitrophenol	5.0000	1.9	-62.3 *	20.00
Dibenzofuran	5.0000	4.8	-4.9	20.00
4-Nitrophenol	5.0000	4.1	-17.4	20.00
2,4-Dinitrotoluene	5.0000	4.5	-10.4	20.00
Fluorene	5.0000	5.0	0.8	20.00
4-Chlorophenylphenyl ether	5.0000	5.4	8.0	20.00
Diethyl phthalate	5.0000	5.0	0.4	20.00
4-Nitroaniline	5.0000	4.3	-13.5	20.00
4,6-Dinitro-2-methylphenol	5.0000	3.1	-38.2 *	20.00
N-Nitrosodiphenylamine	5.0000	5.1	1.5	20.00
4-Bromophenyl phenyl ether	5.0000	5.3	6.7	20.00
Hexachlorobenzene	5.0000	4.9	-2.0	20.00
Pentachlorophenol	5.0000	3.8	-24.0 *	20.00
Phenanthrene	5.0000	4.8	-3.5	20.00
Anthracene	5.0000	4.3	-14.6	20.00
Carbazole	5.0000	4.7	-6.4	20.00
Di-n-Butylphthalate	5.0000	4.8	-3.2	20.00
Fluoranthene	5.0000	5.2	4.3	20.00
Pyrene	5.0000	5.0	0.6	20.00
Butylbenzylphthalate	5.0000	4.8	-4.2	20.00
Benzo(a)anthracene	5.0000	5.0	-0.9	20.00
3,3'-Dichlorobenzidine	10.000	9.3	-7.1	20.00
Chrysene	5.0000	4.8	-3.7	20.00
bis(2-Ethylhexyl)phthalate	5.0000	5.0	0.07	20.00
Di-n-Octylphthalate	5.0000	5.1	3.0	20.00
Benzofluoranthenes, Total	10.000	10.0	0.2	20.00
Benzo(a)pyrene	5.0000	4.7	-6.5	20.00
Indeno(1,2,3-cd)pyrene	5.0000	4.6	-8.9	20.00
Dibenzo(a,h)anthracene	5.0000	4.5	-9.1	20.00
Benzo(g,h,i)perylene	5.0000	5.7	14.0	20.00
1-Methylnaphthalene	5.0000	5.1	1.9	20.00

* Values outside of QC limits

Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

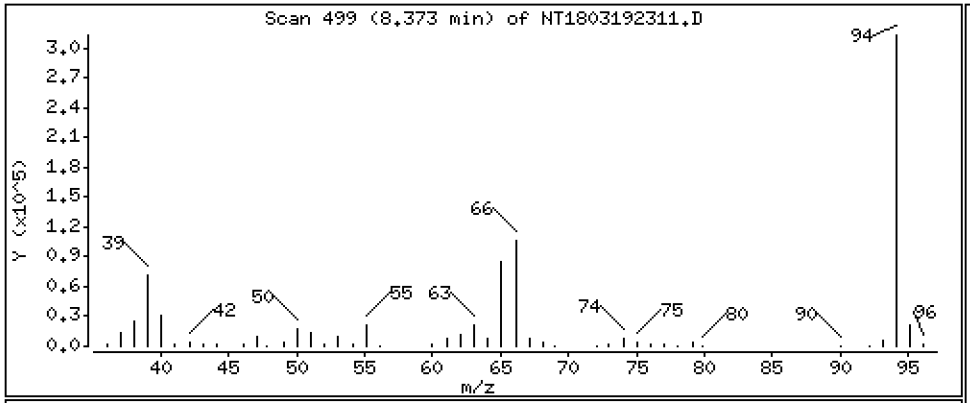
Operator: VTS

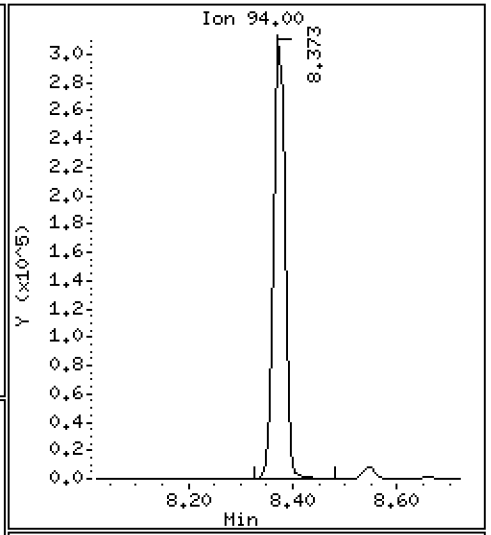
Column phase: ZB-5msi

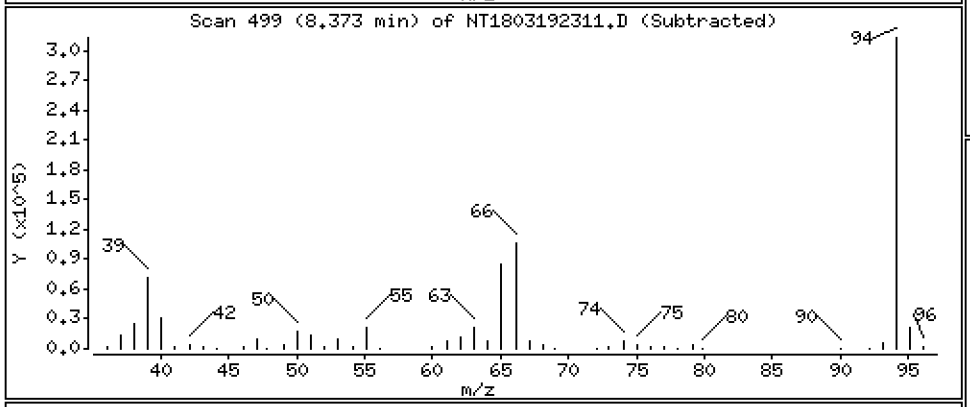
Column diameter: 0.25

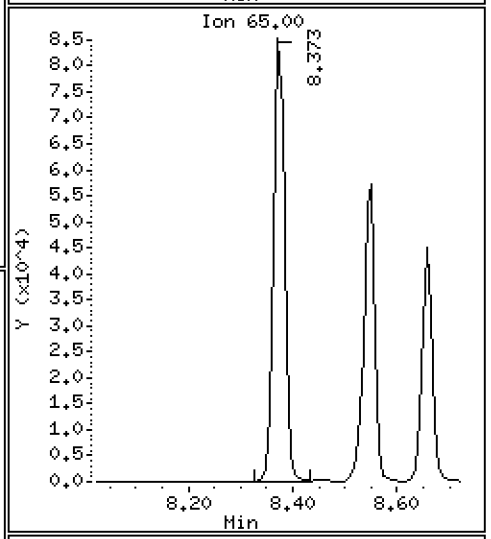
3 Phenol

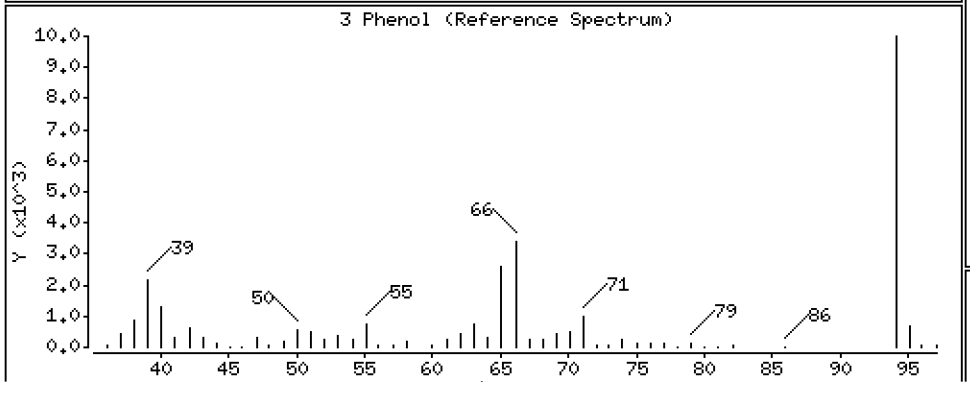
Concentration: 4.352 ug/mL

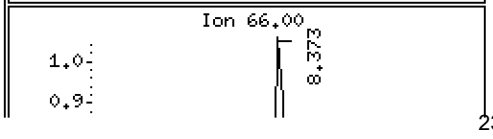












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

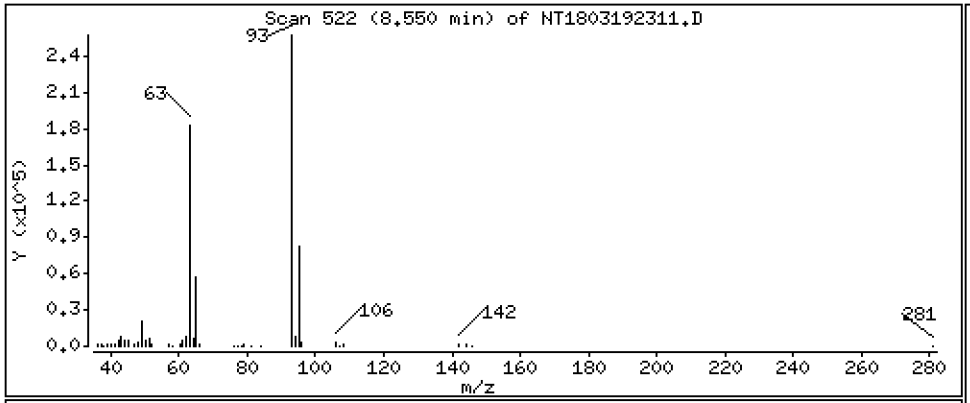
Operator: VTS

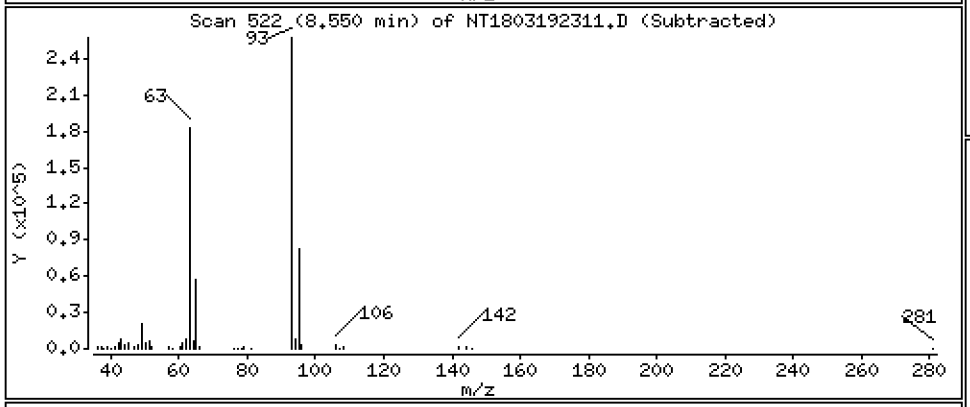
Column phase: ZB-5msi

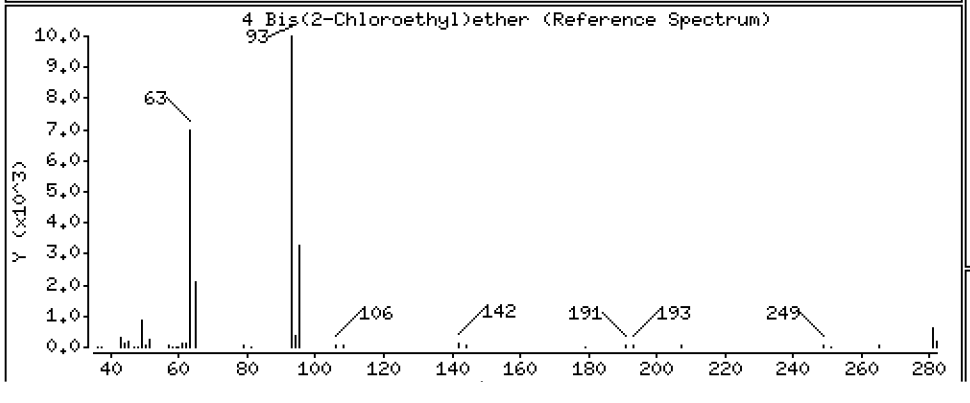
Column diameter: 0.25

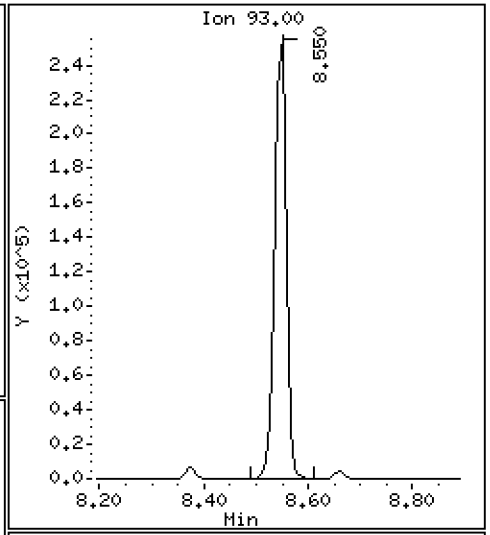
4 Bis(2-Chloroethyl)ether

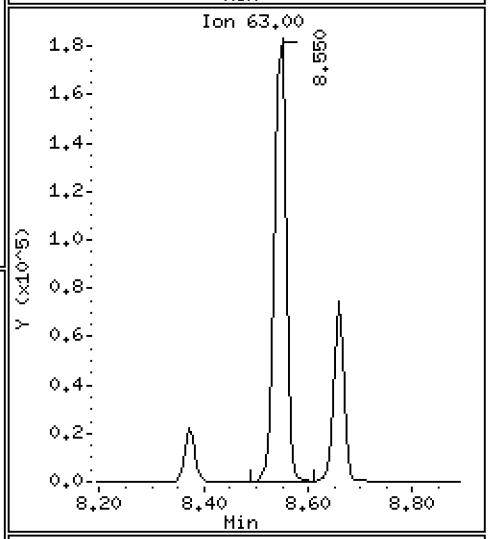
Concentration: 5.260 ug/mL

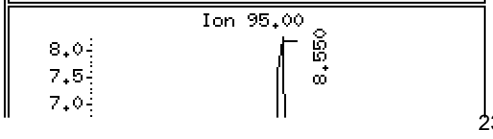












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

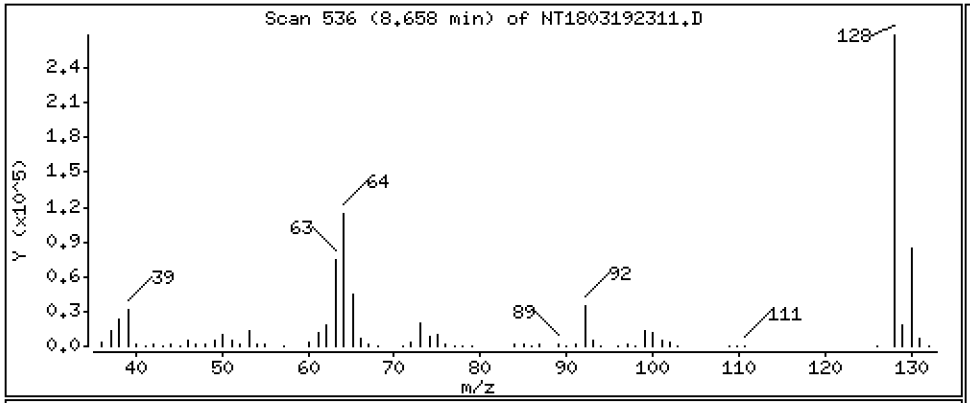
Operator: VTS

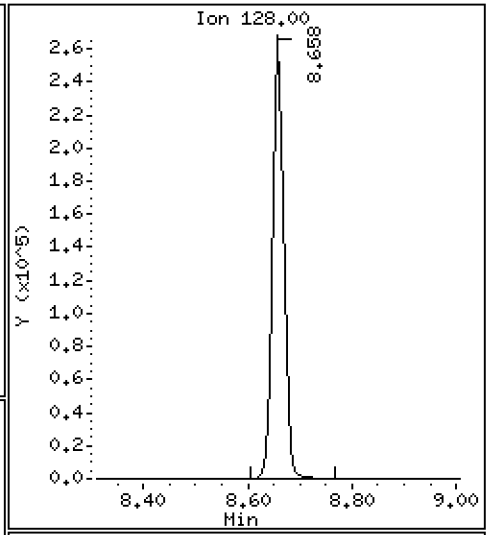
Column phase: ZB-5msi

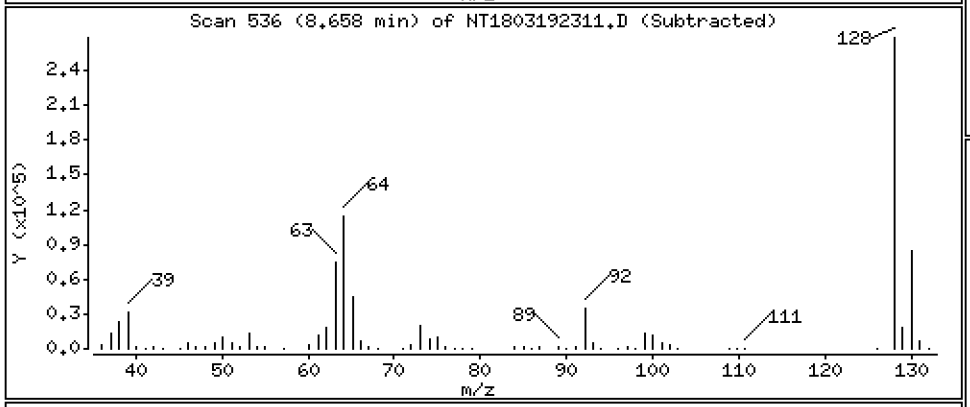
Column diameter: 0.25

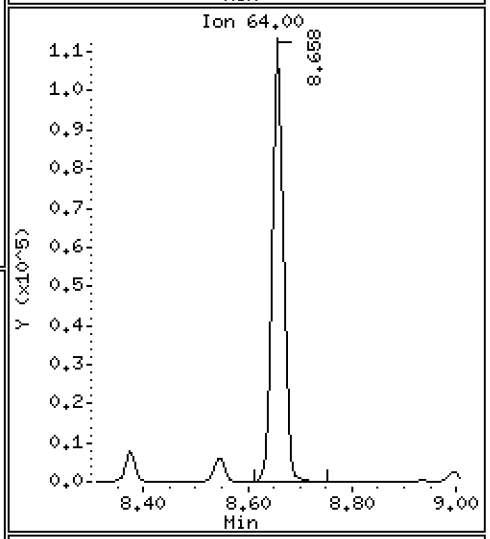
6 2-Chlorophenol

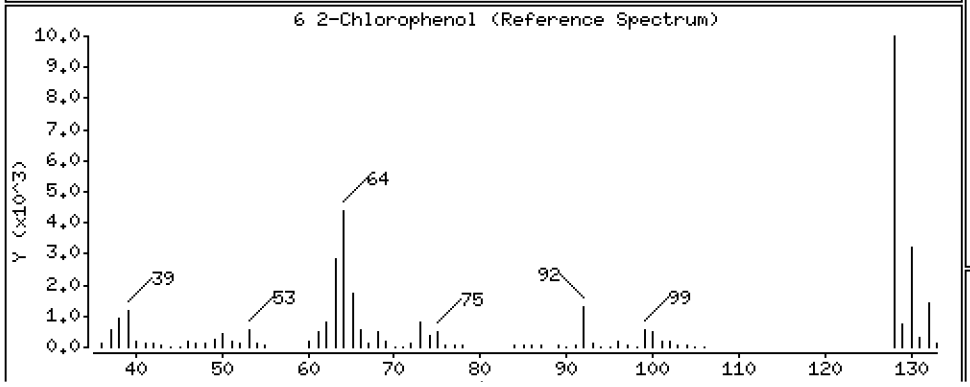
Concentration: 4.473 ug/mL

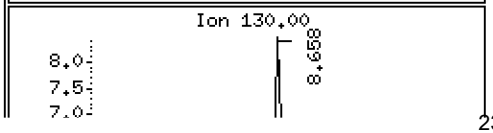












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

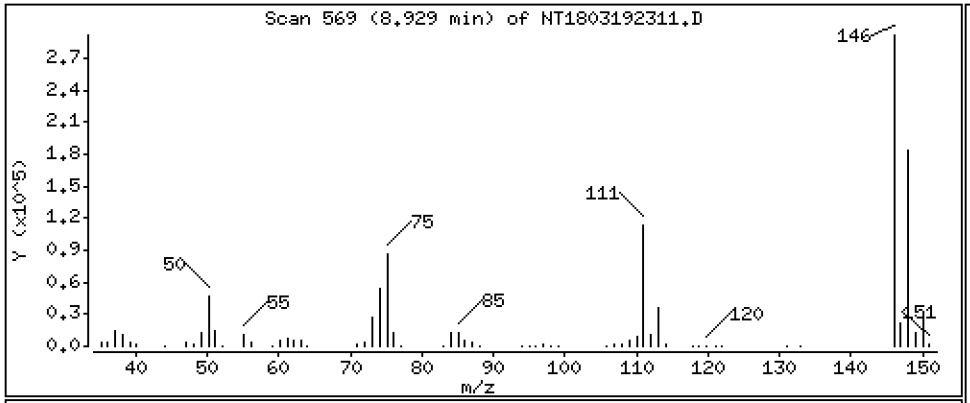
Operator: VTS

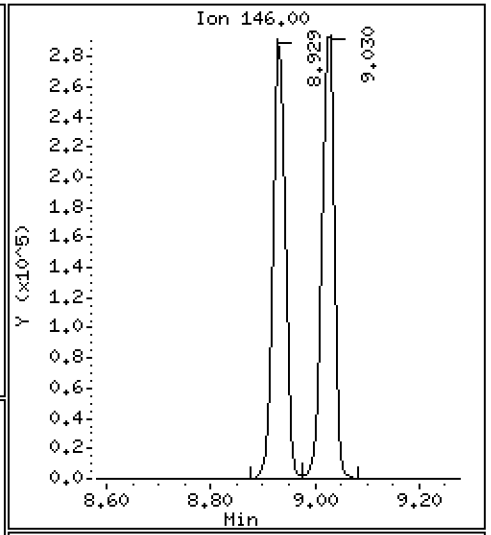
Column phase: ZB-5msi

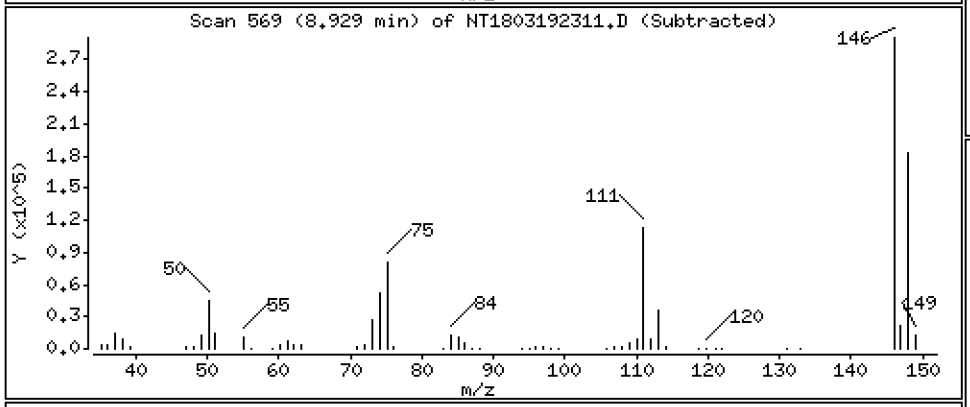
Column diameter: 0.25

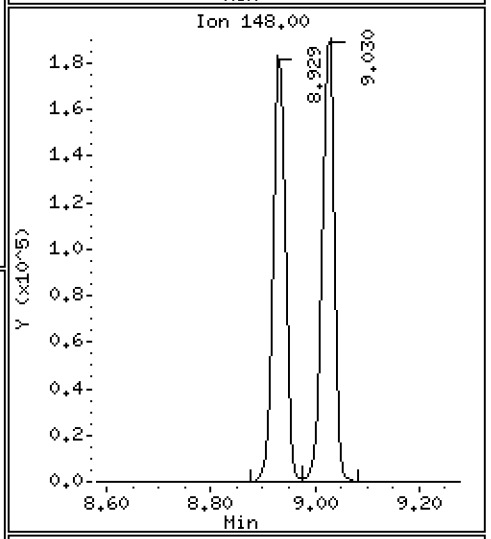
7 1,3-Dichlorobenzene

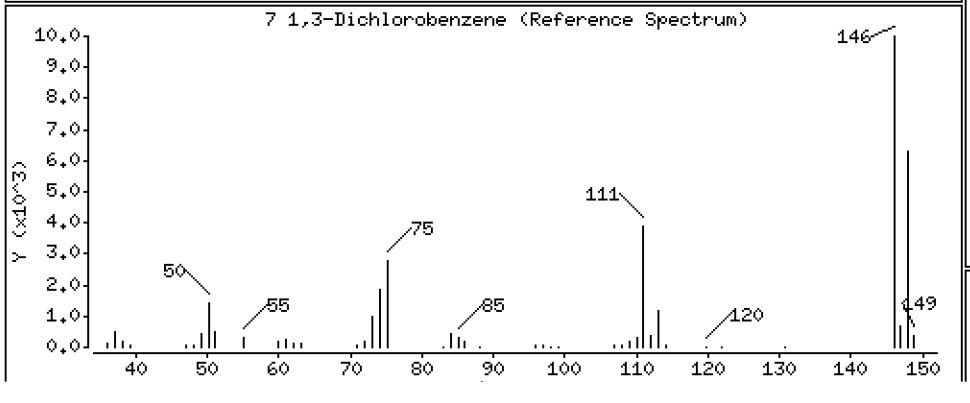
Concentration: 5.009 ug/mL

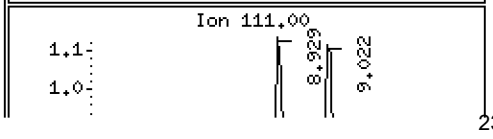












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

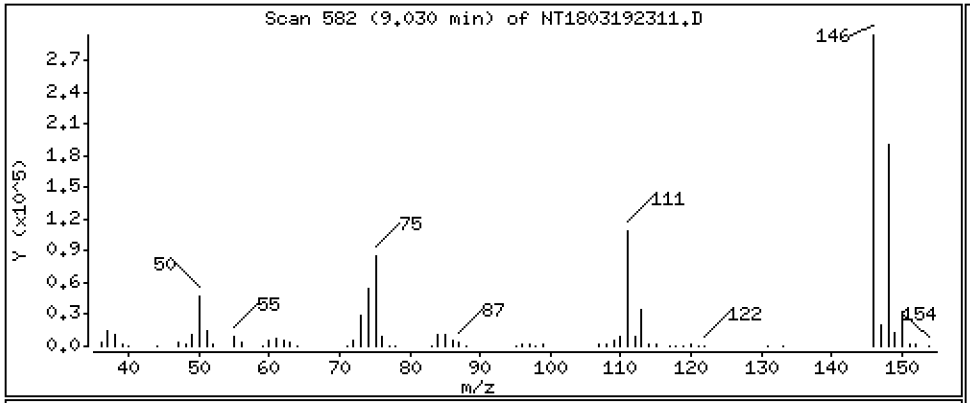
Operator: VTS

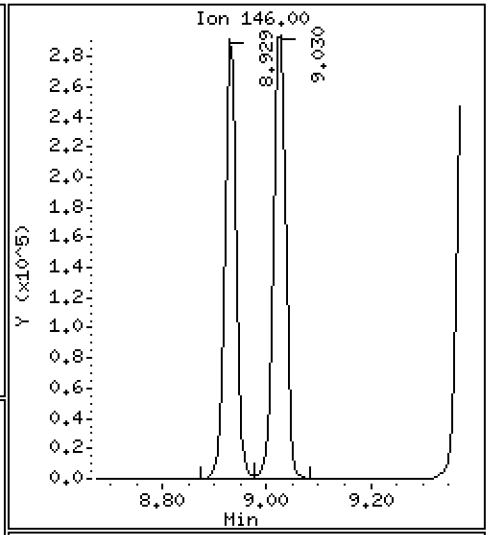
Column phase: ZB-5msi

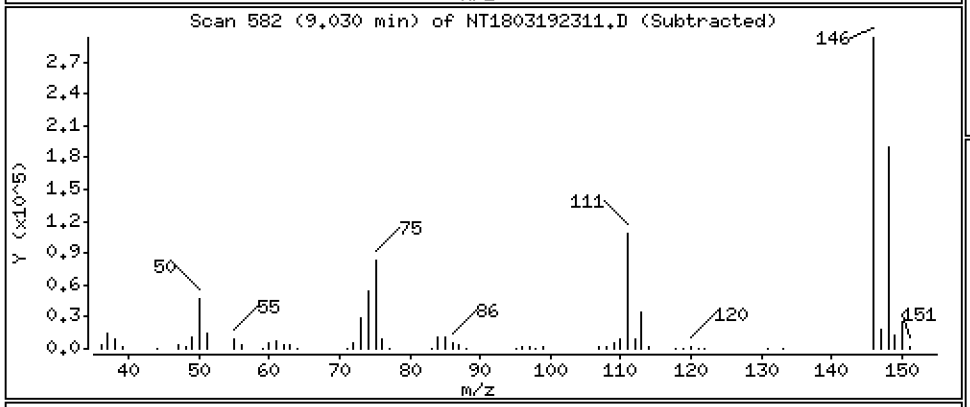
Column diameter: 0.25

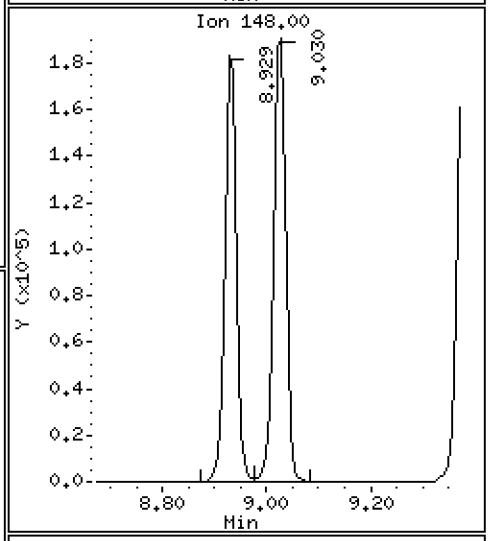
9 1,4-Dichlorobenzene

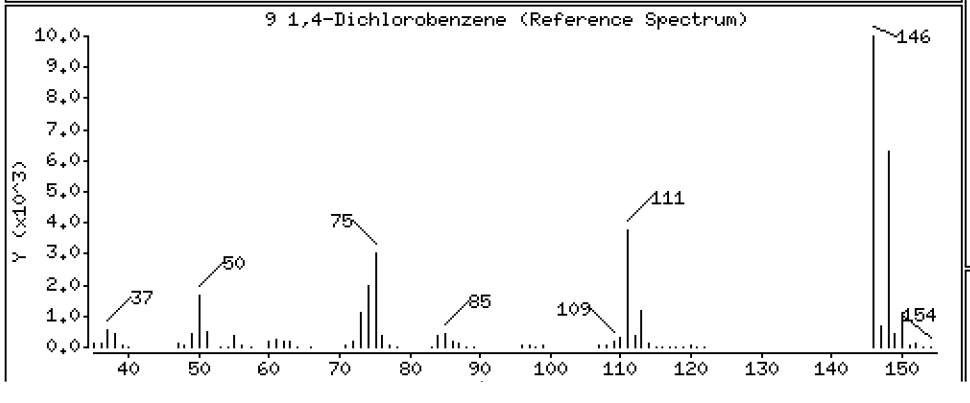
Concentration: 5.071 ug/mL

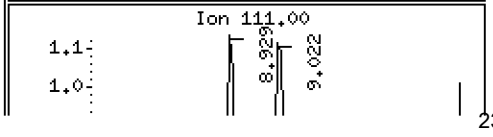












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

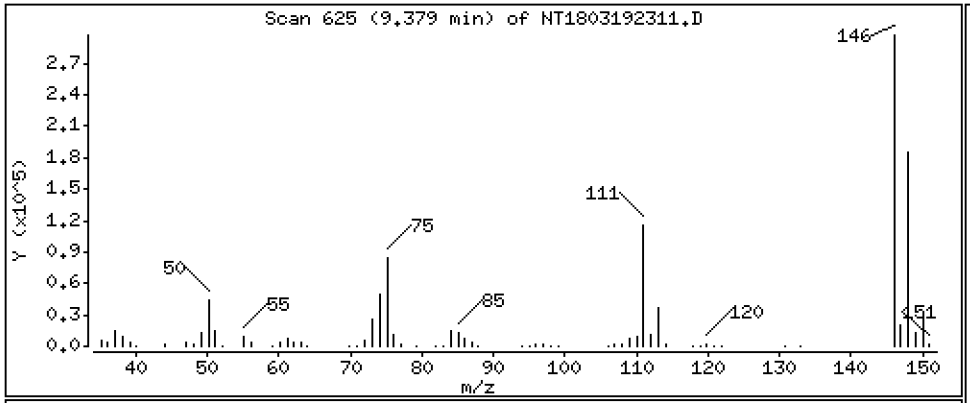
Operator: VTS

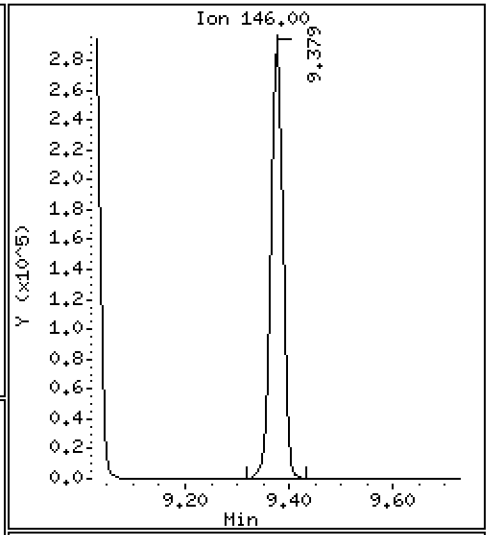
Column phase: ZB-5msi

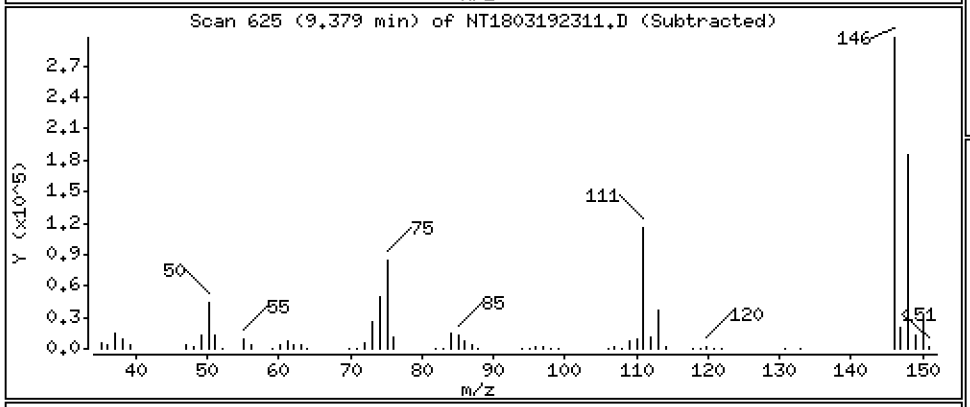
Column diameter: 0.25

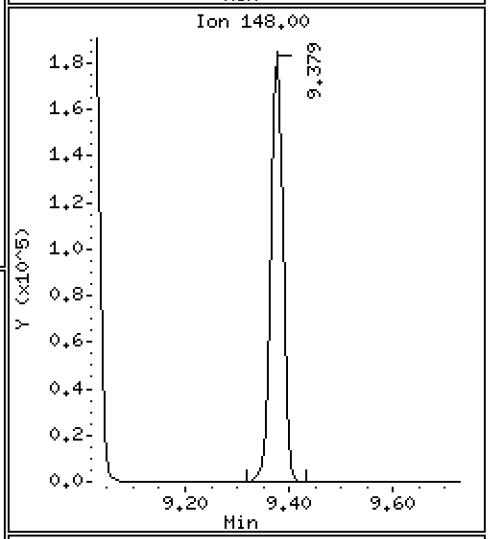
12 1,2-Dichlorobenzene

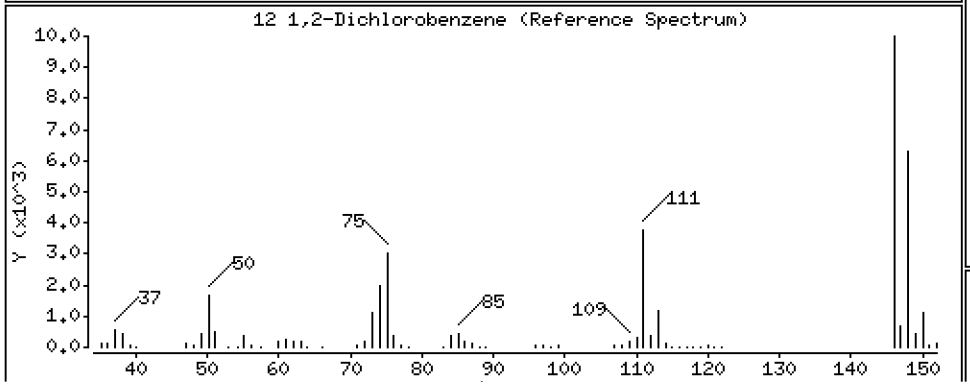
Concentration: 4.916 ug/mL

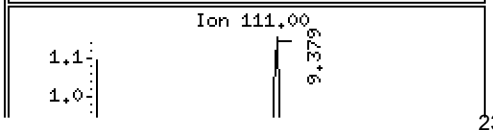












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

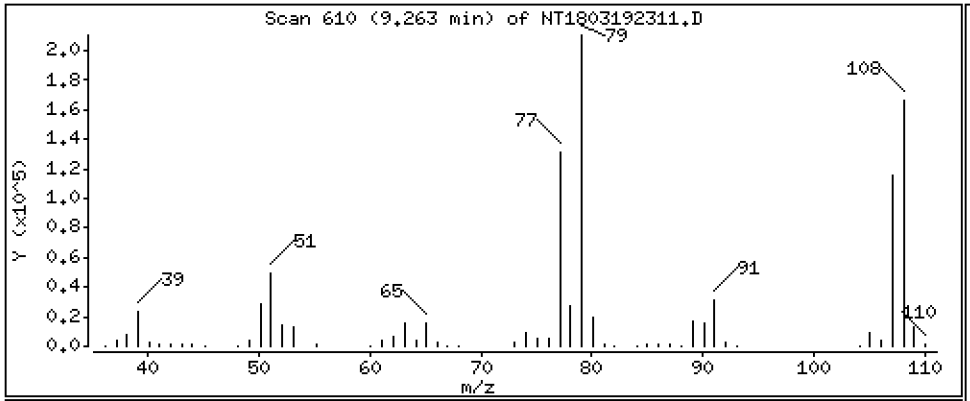
Operator: VTS

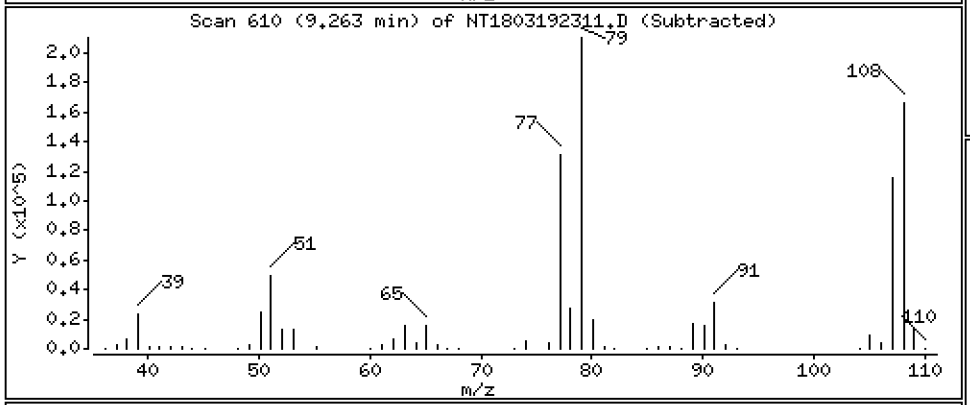
Column phase: ZB-5msi

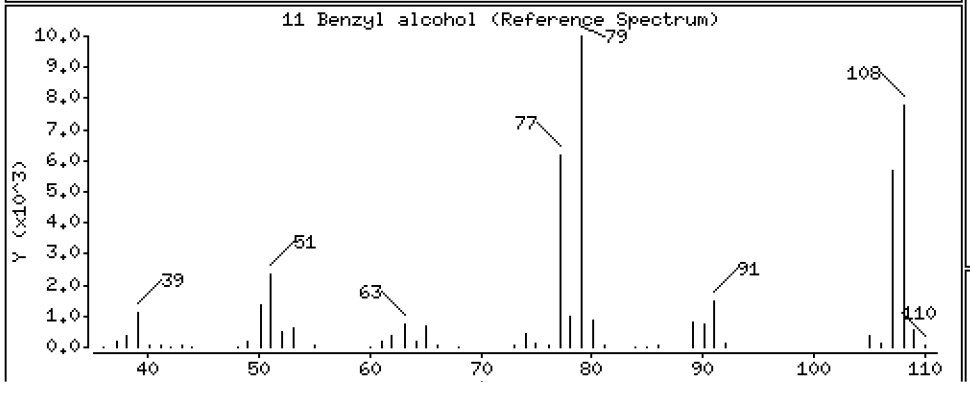
Column diameter: 0.25

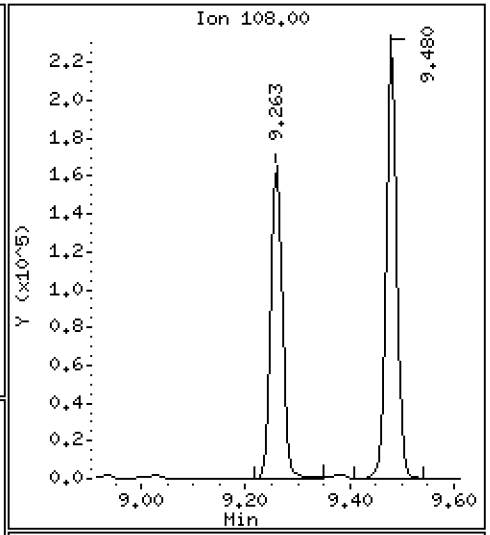
11 Benzyl alcohol

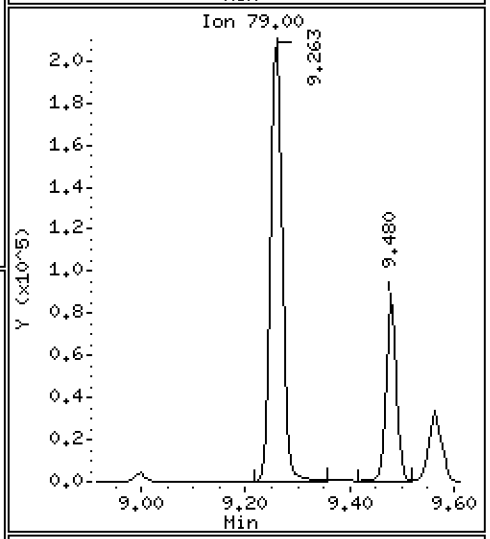
Concentration: 5.203 ug/mL

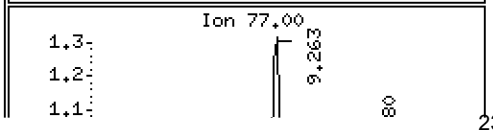












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

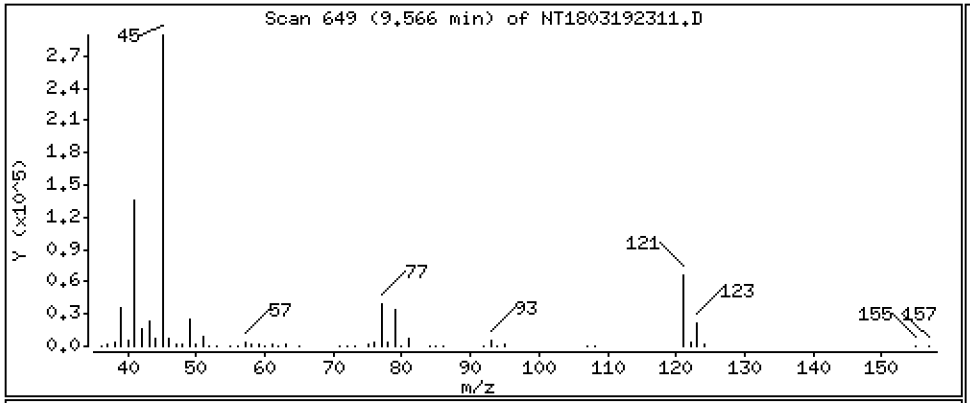
Operator: VTS

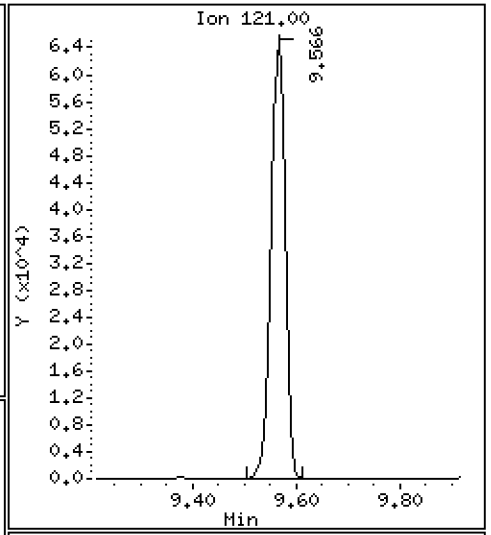
Column phase: ZB-5msi

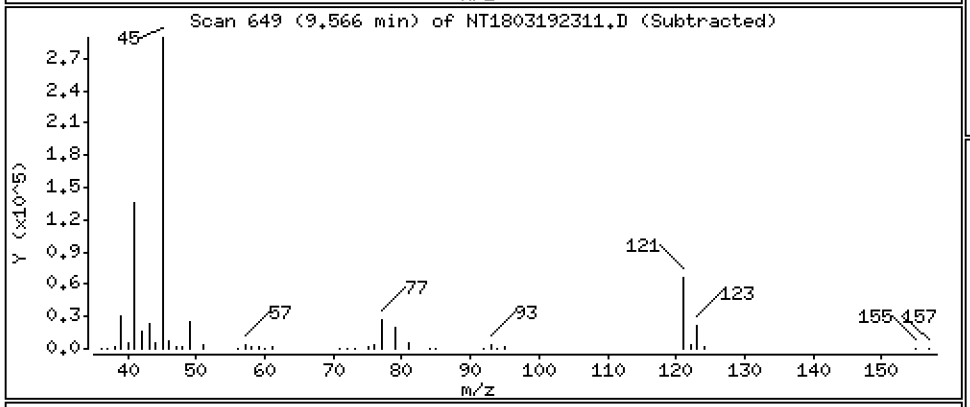
Column diameter: 0.25

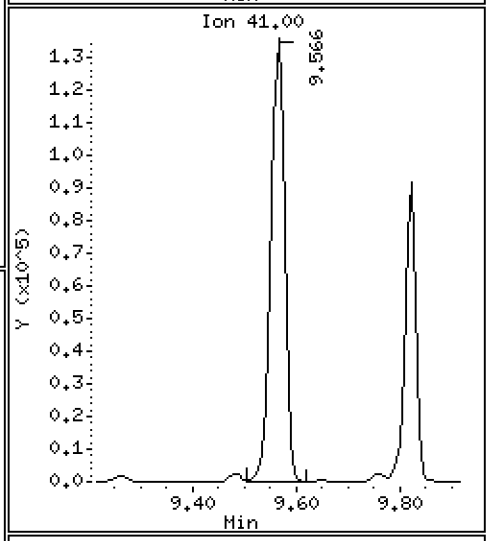
14 2,2'-oxybis(1-Chloropropane)

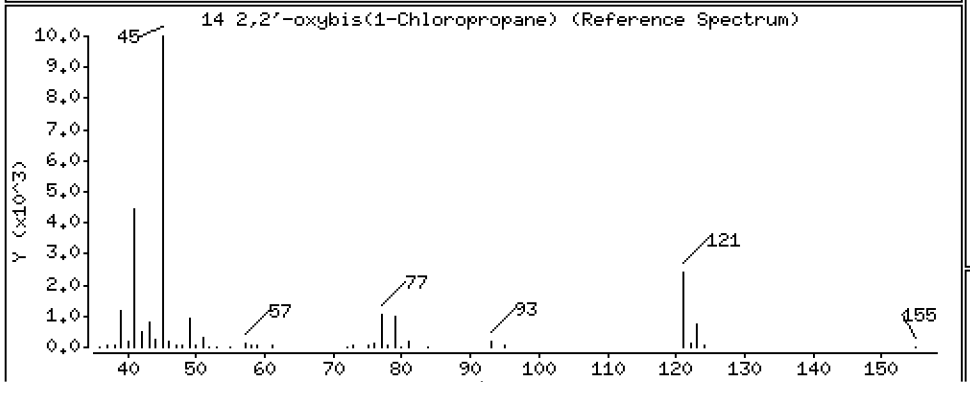
Concentration: 5.545 ug/mL

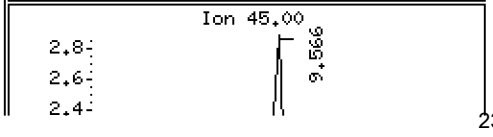












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

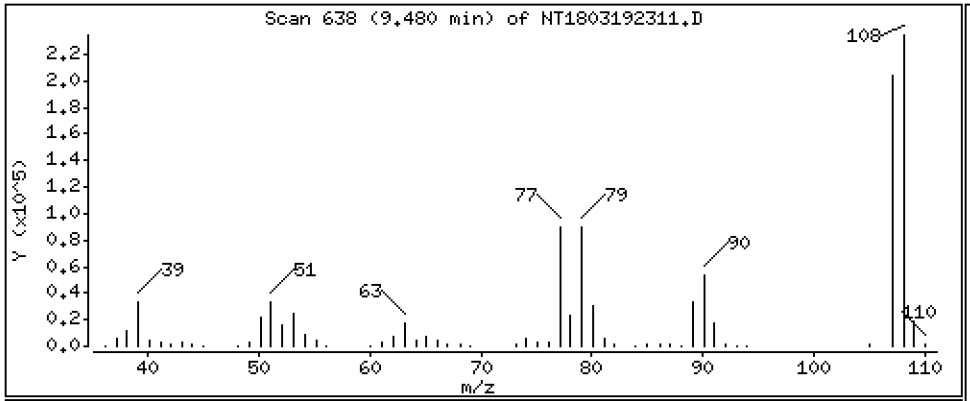
Operator: VTS

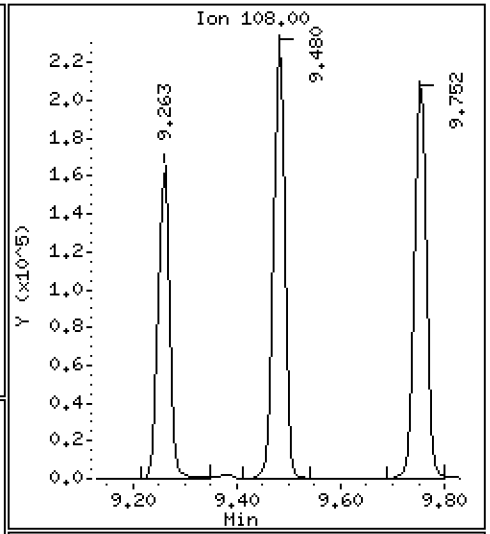
Column phase: ZB-5msi

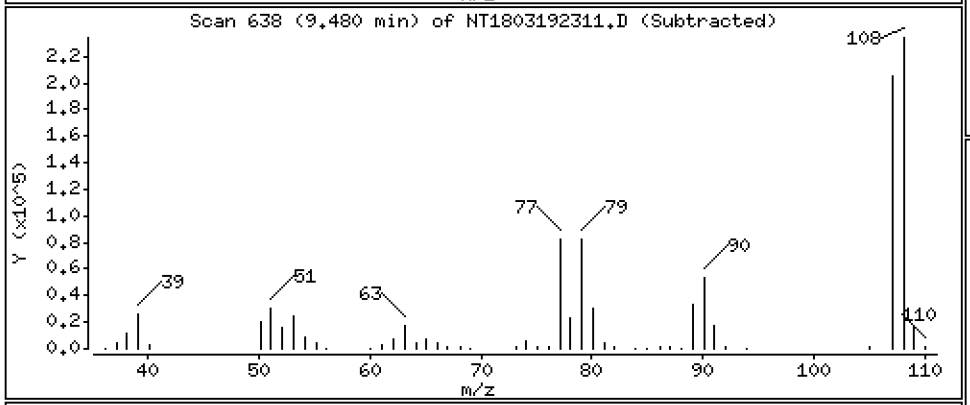
Column diameter: 0.25

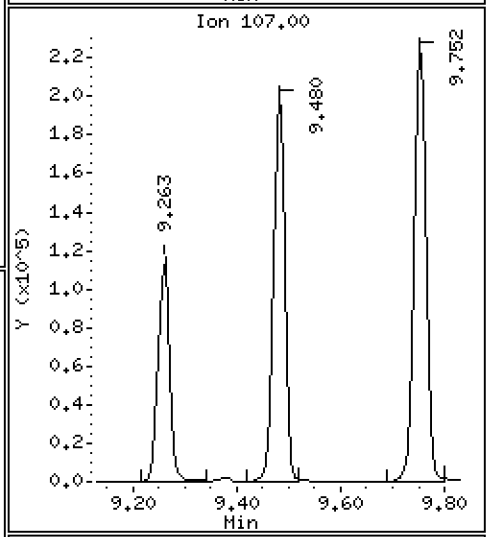
13 2-Methylphenol

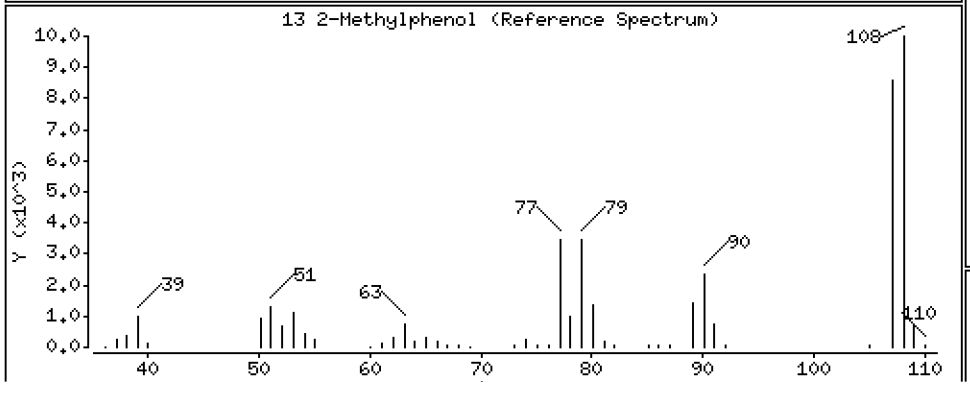
Concentration: 4.238 ug/mL

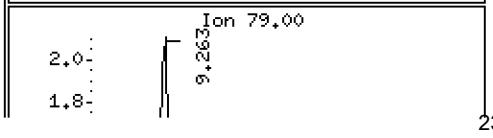












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

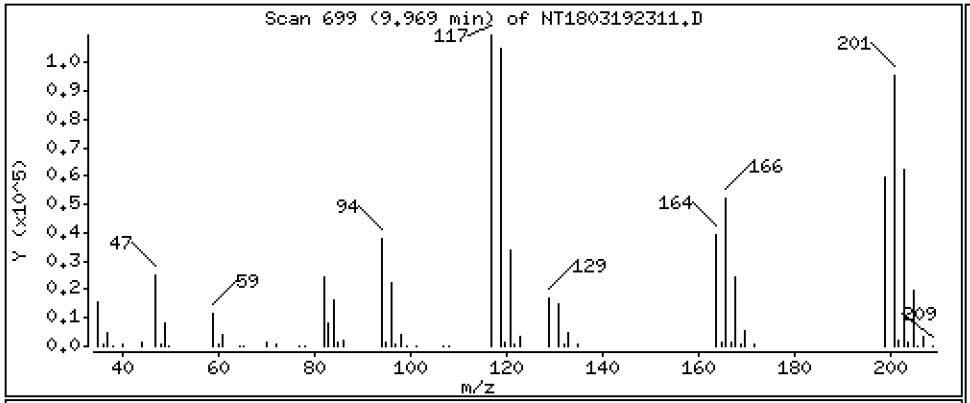
Operator: VTS

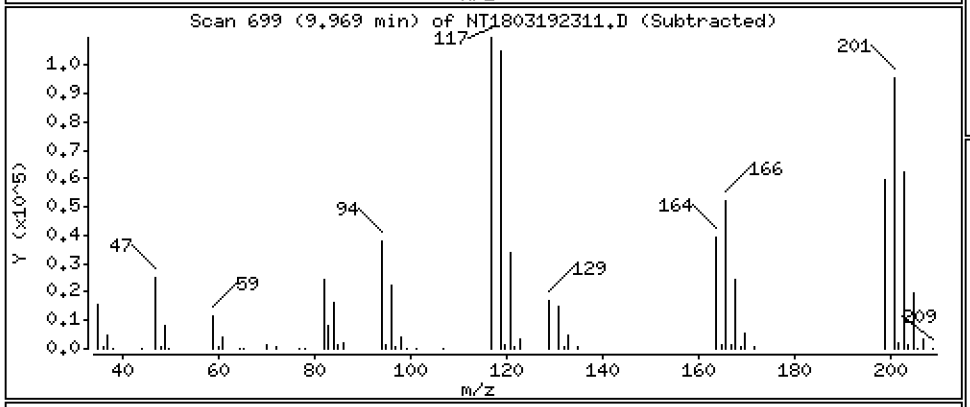
Column phase: ZB-5msi

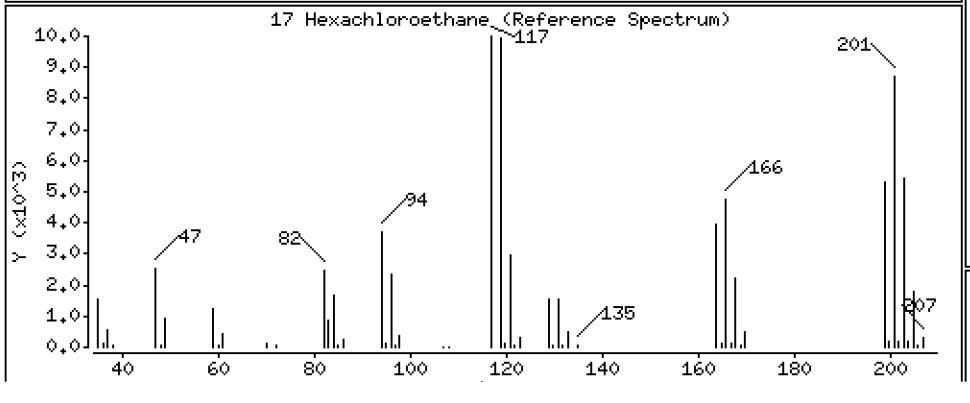
Column diameter: 0.25

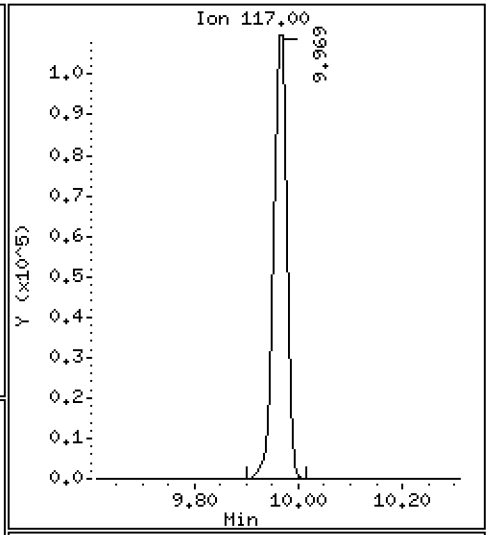
17 Hexachloroethane

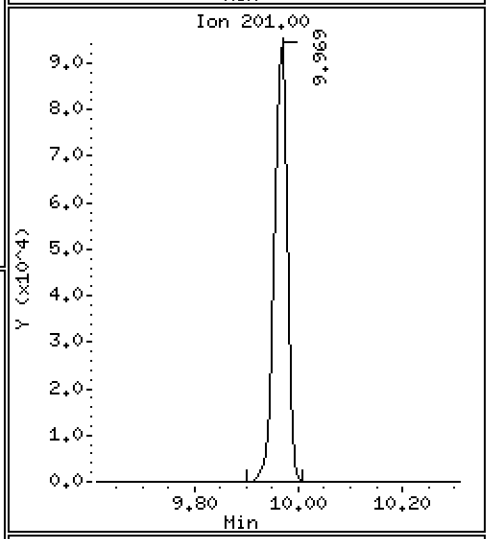
Concentration: 5.164 ug/mL

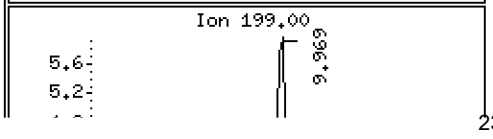












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

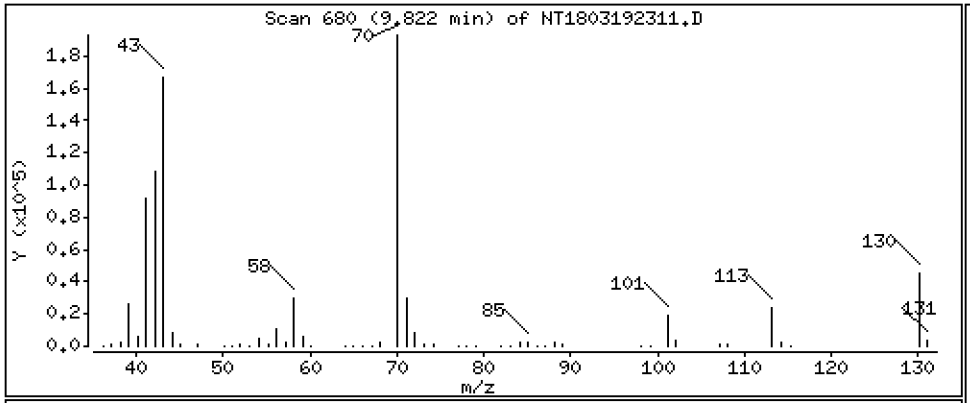
Operator: VTS

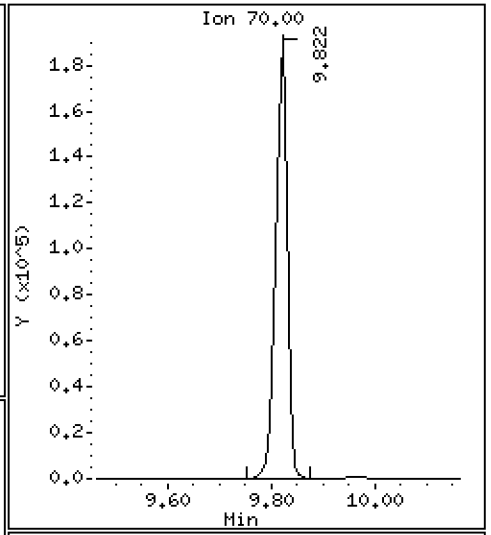
Column phase: ZB-5msi

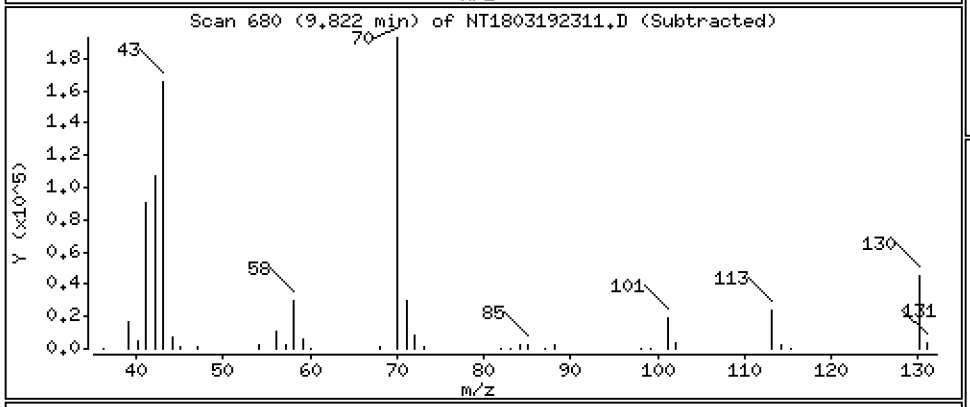
Column diameter: 0.25

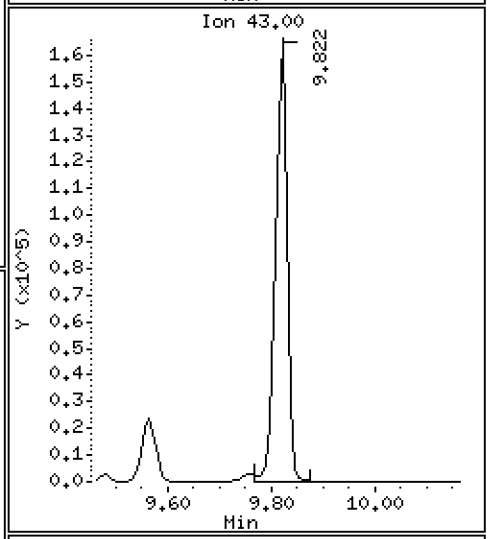
16 N-Nitroso-di-n-propylamine

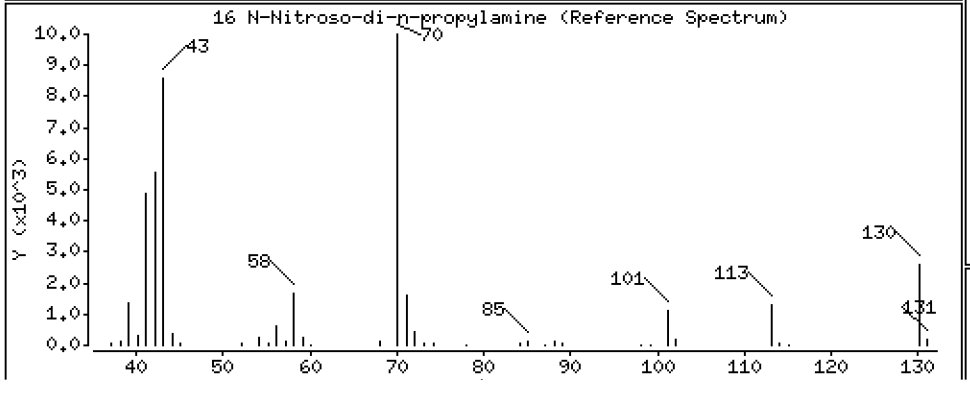
Concentration: 5.237 ug/mL

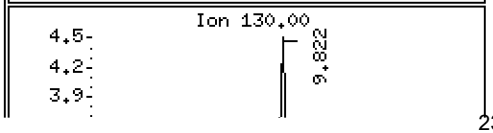












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

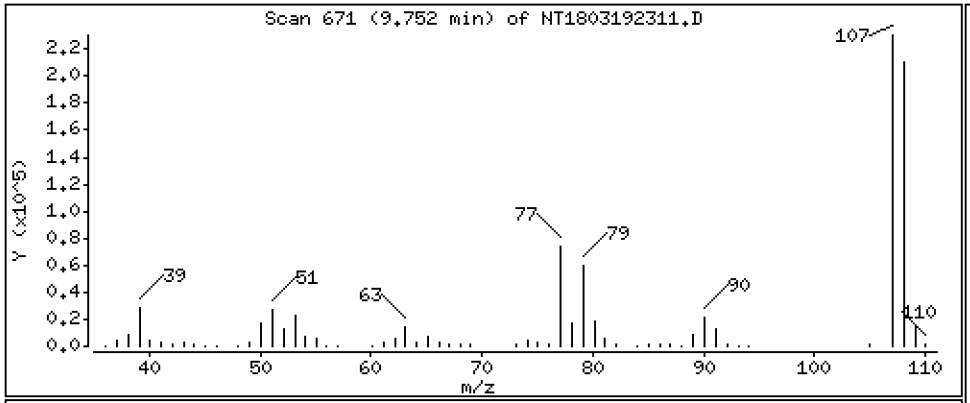
Operator: VTS

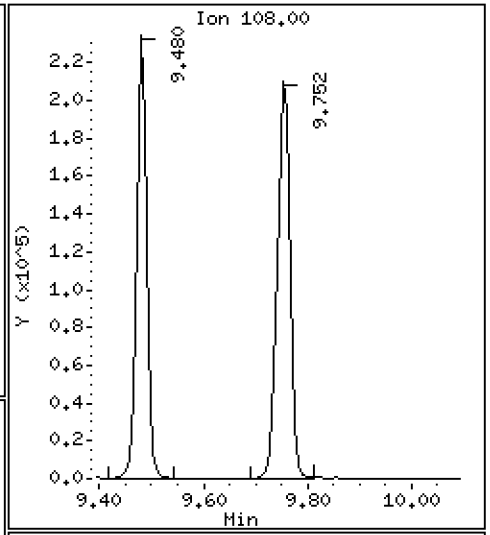
Column phase: ZB-5msi

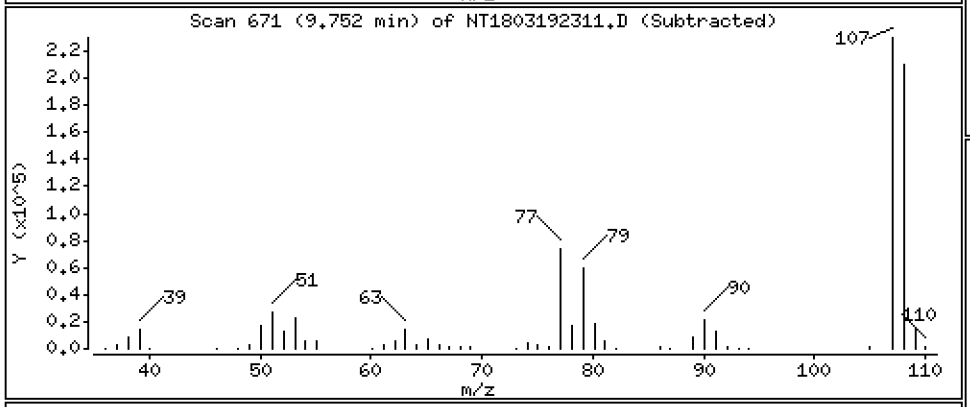
Column diameter: 0.25

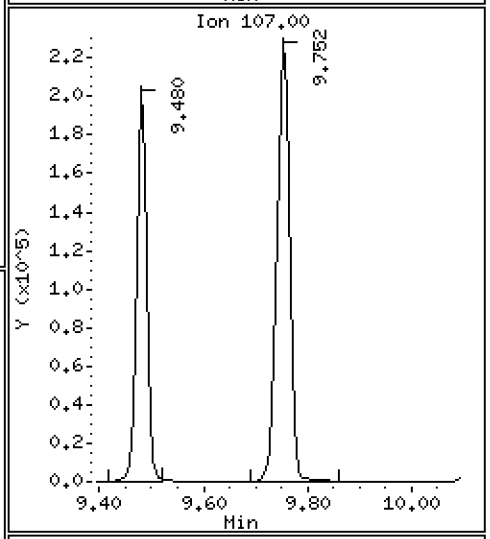
15 4-Methylphenol

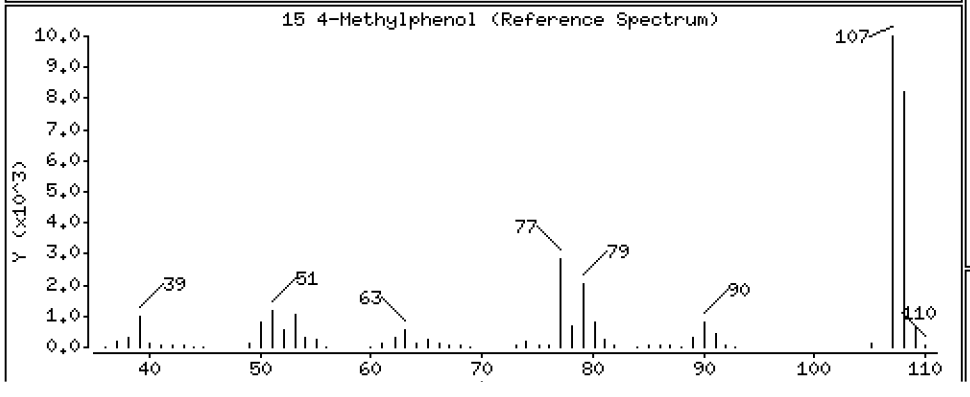
Concentration: 4.482 ug/mL

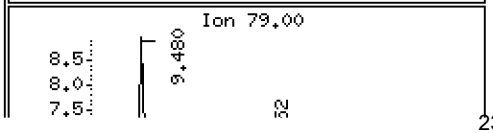












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

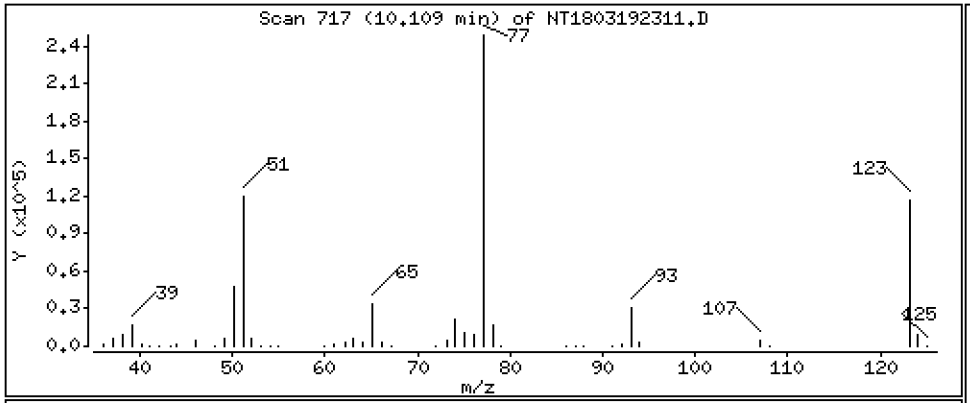
Operator: VTS

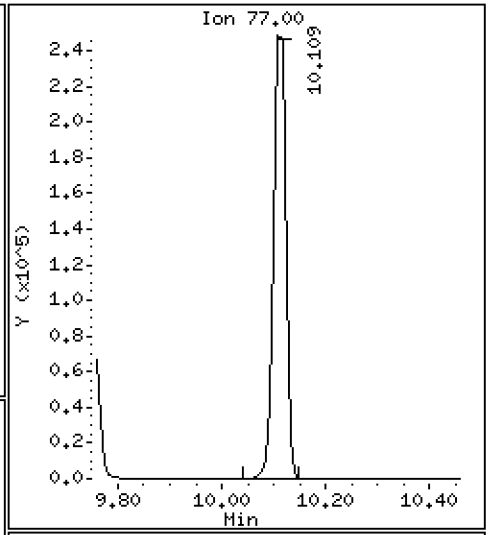
Column phase: ZB-5msi

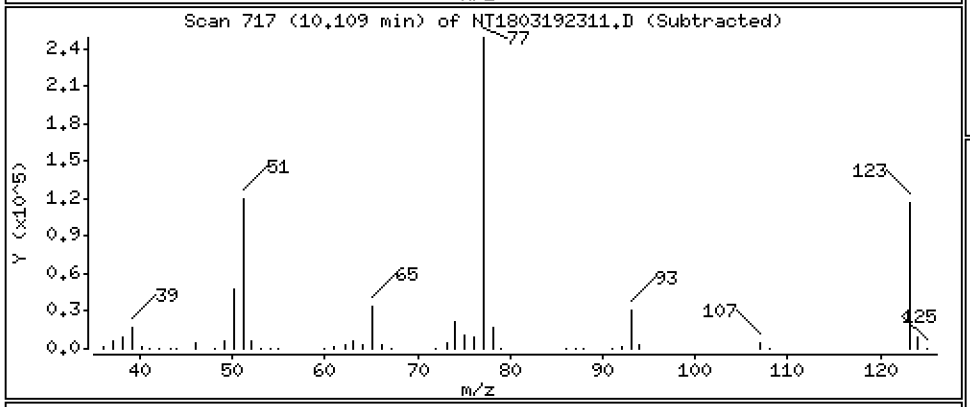
Column diameter: 0.25

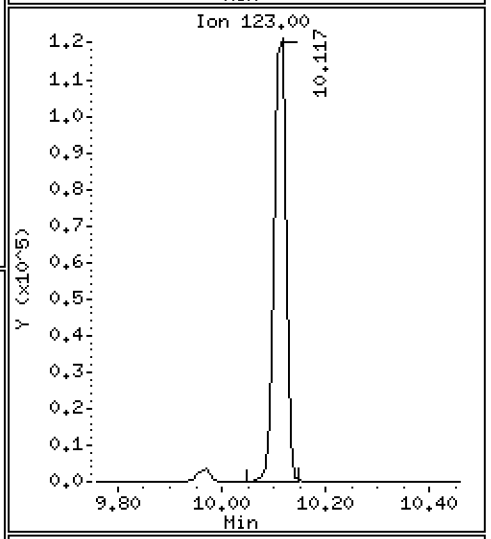
19 Nitrobenzene

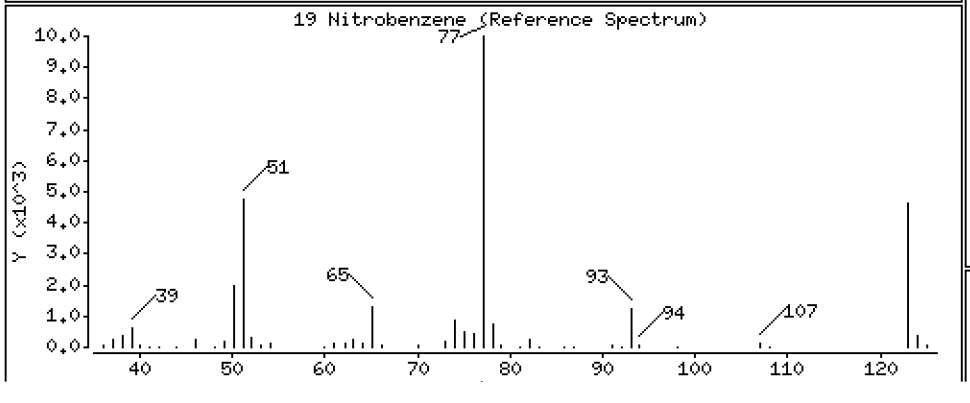
Concentration: 5.029 ug/mL

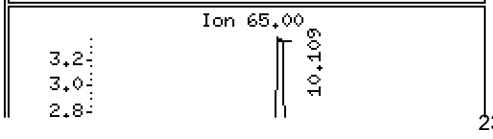












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

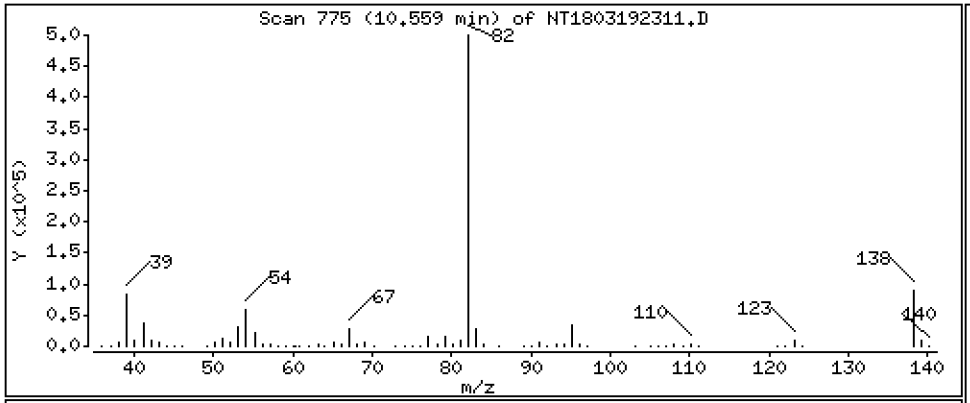
Operator: VTS

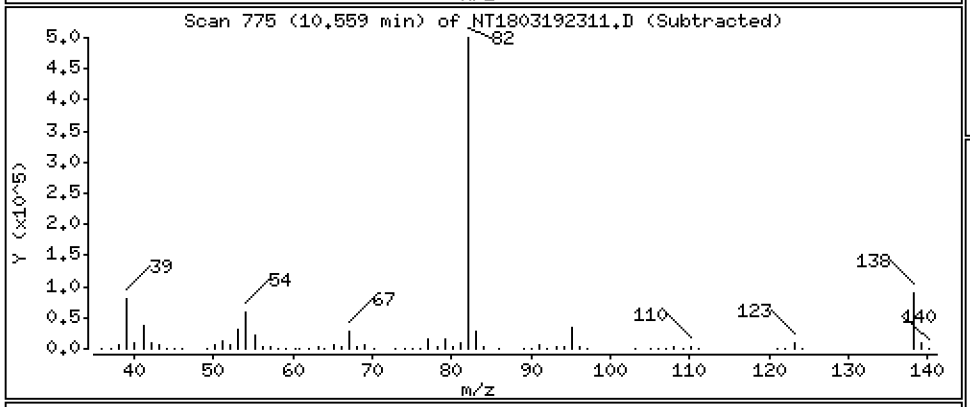
Column phase: ZB-5msi

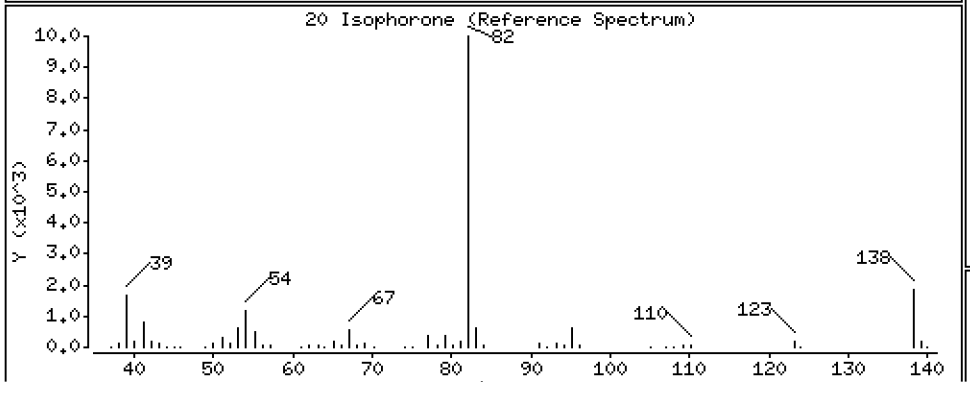
Column diameter: 0.25

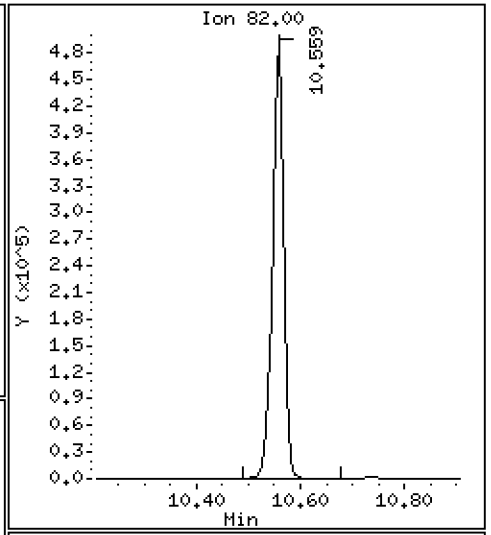
20 Isophorone

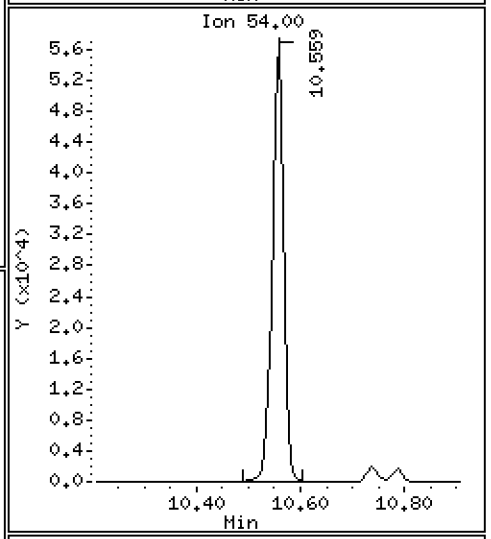
Concentration: 7.923 ug/mL

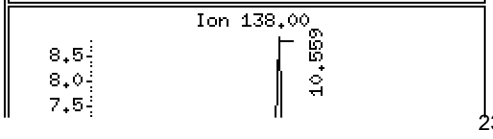












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

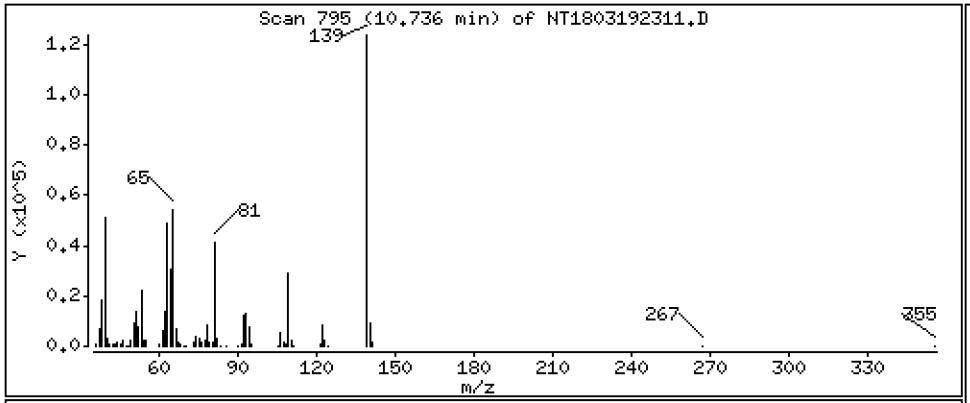
Operator: VTS

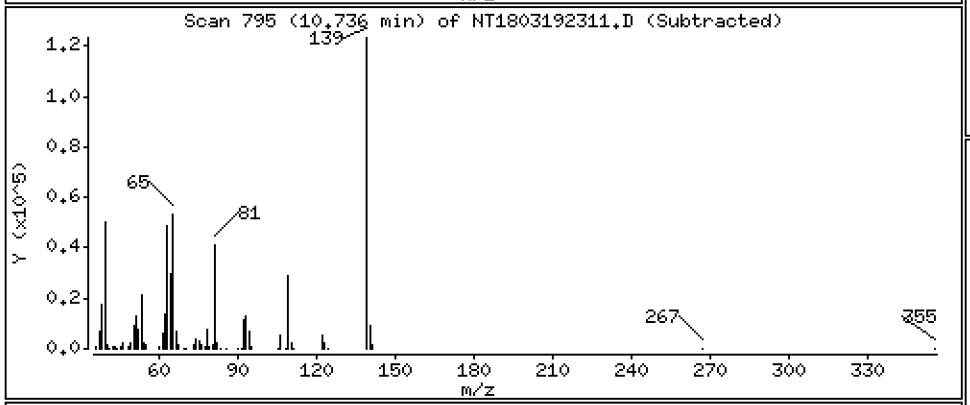
Column phase: ZB-5msi

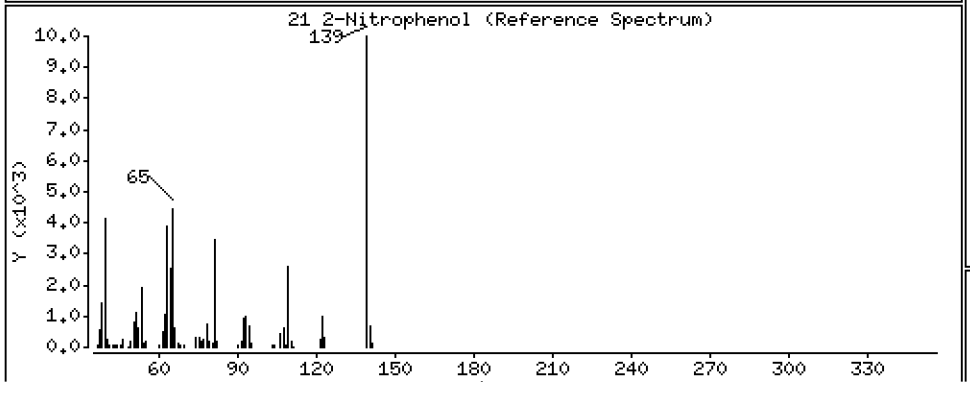
Column diameter: 0.25

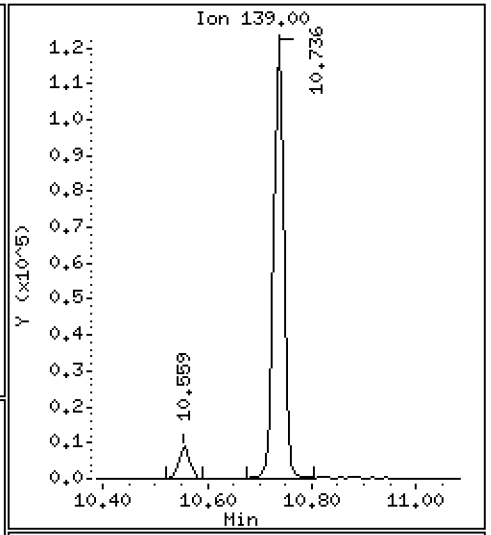
21 2-Nitrophenol

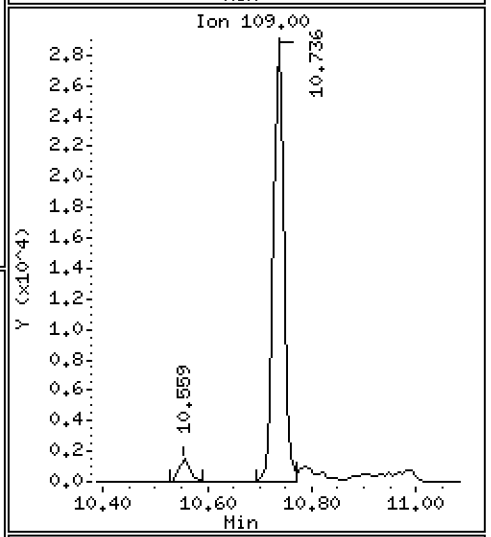
Concentration: 3.748 ug/mL

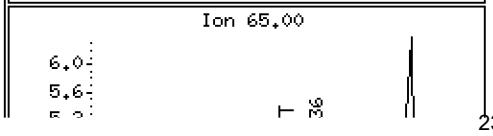












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

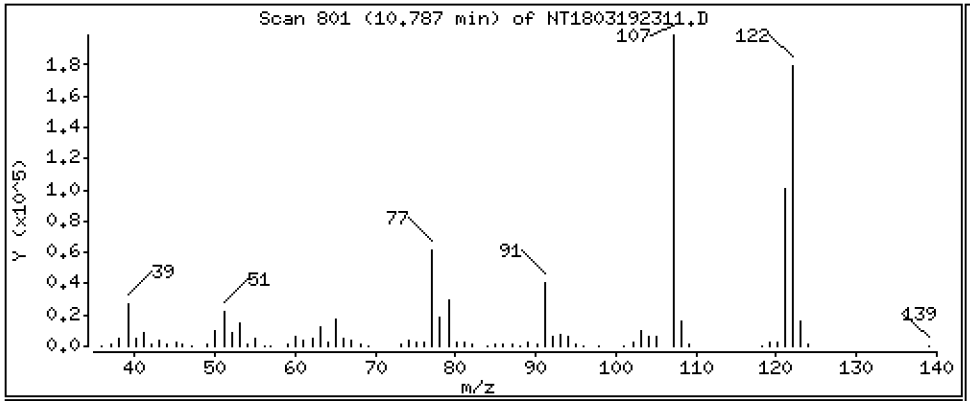
Operator: VTS

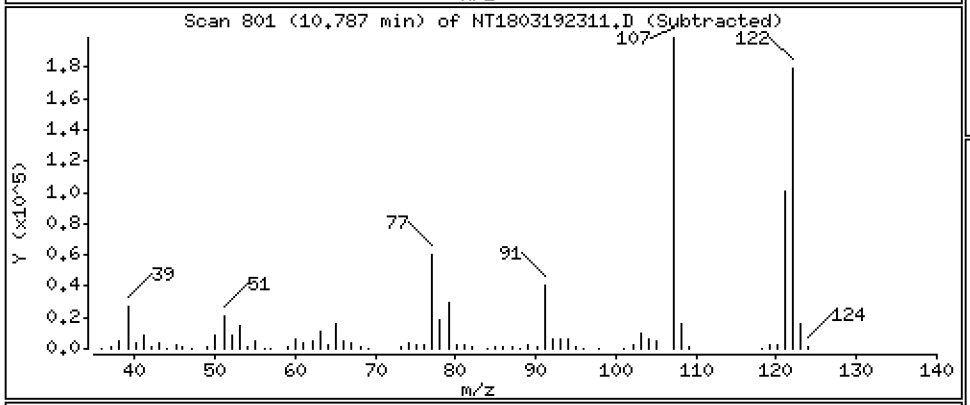
Column phase: ZB-5msi

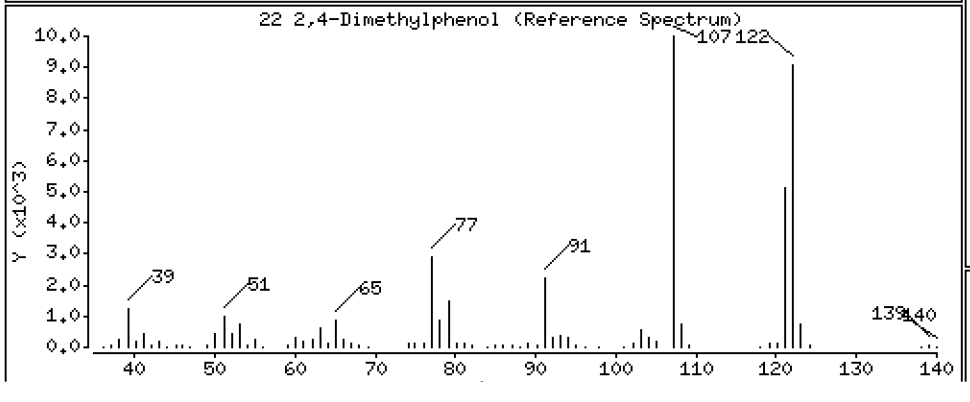
Column diameter: 0.25

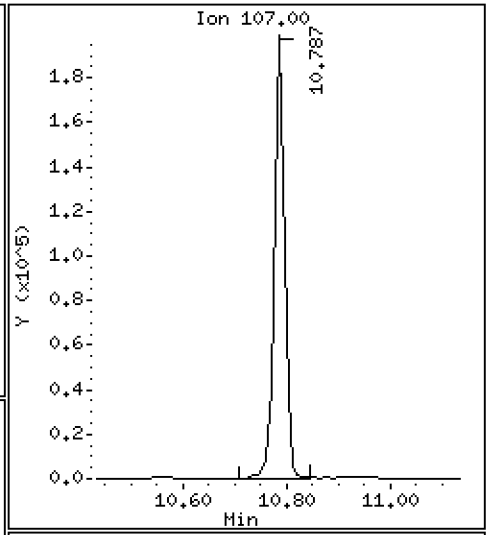
22 2,4-Dimethylphenol

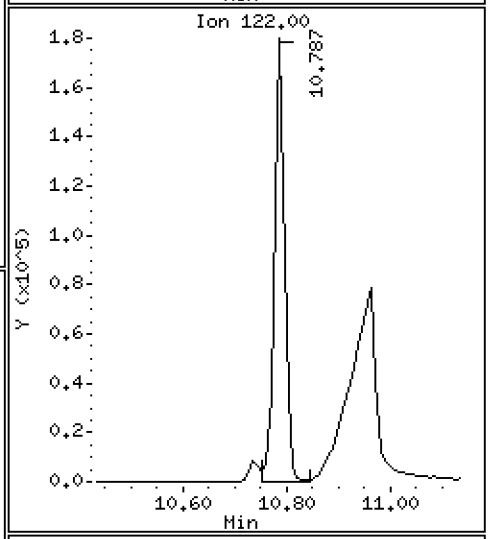
Concentration: 3.726 ug/mL

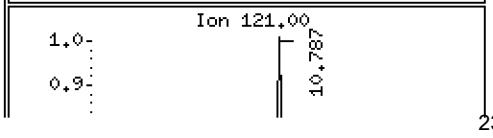












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

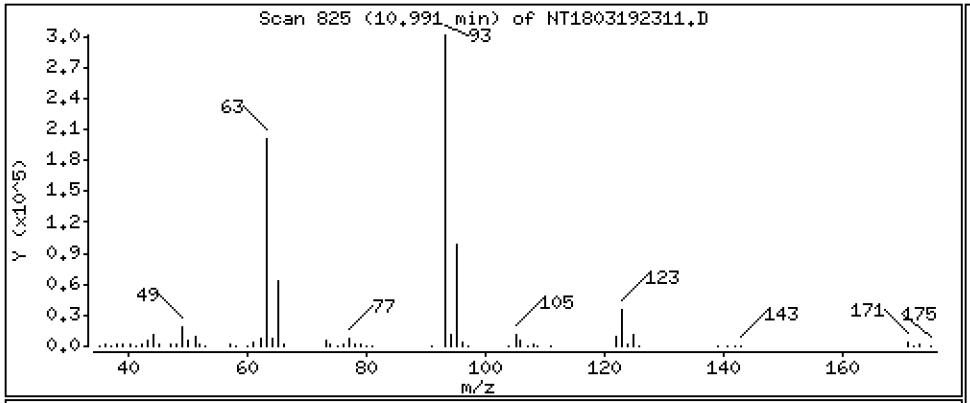
Operator: VTS

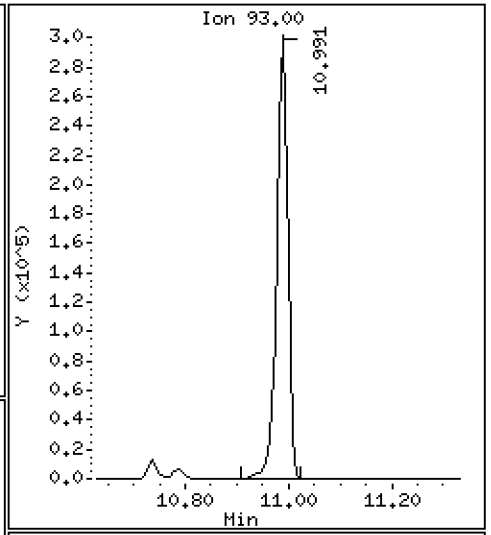
Column phase: ZB-5msi

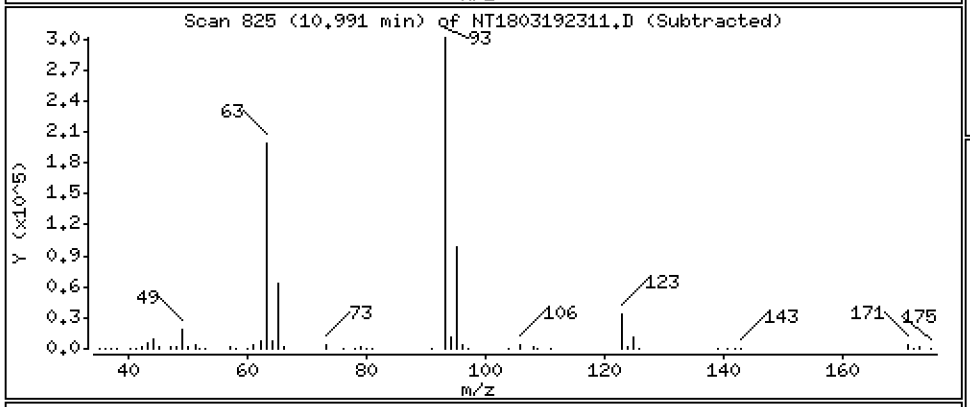
Column diameter: 0.25

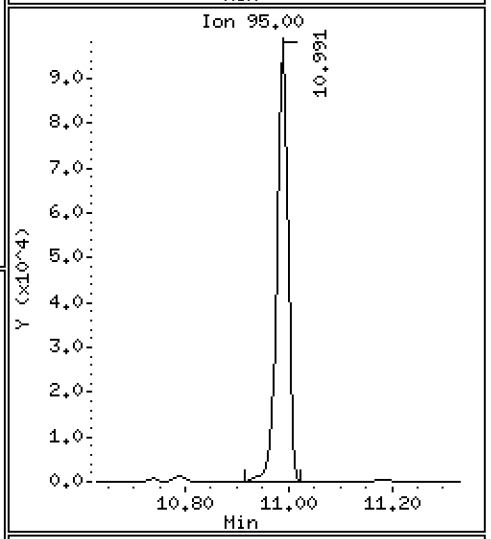
23 Bis(2-Chloroethoxy)methane

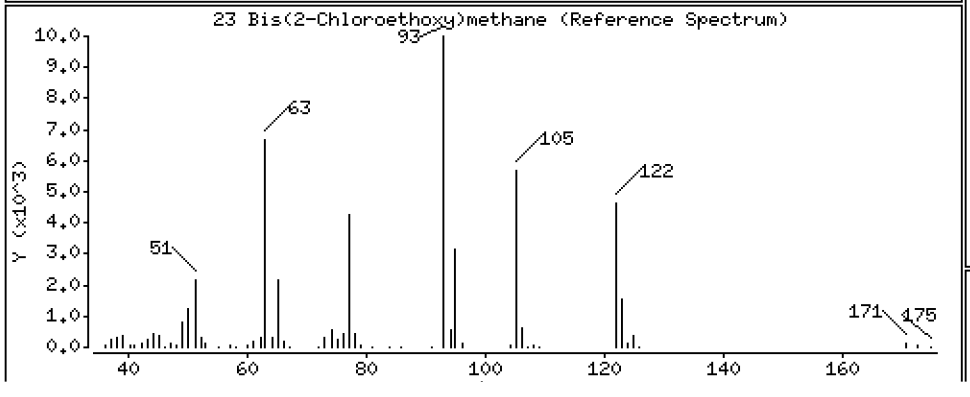
Concentration: 5.862 ug/mL

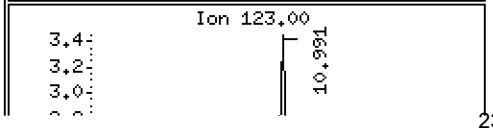












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

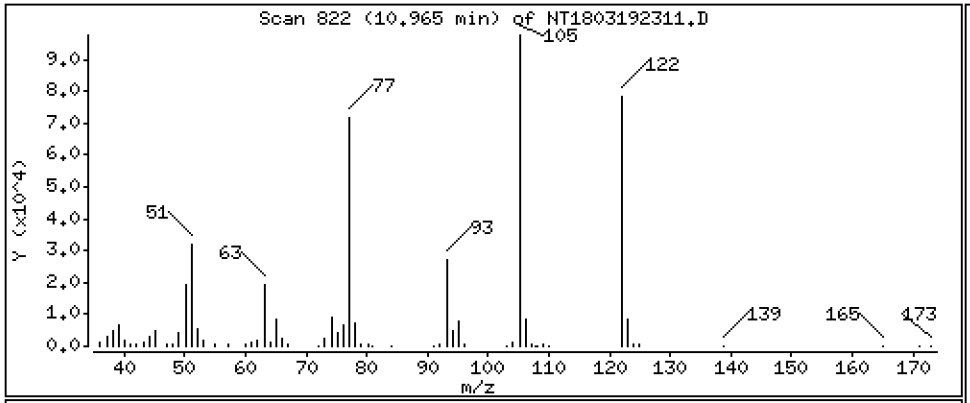
Operator: VTS

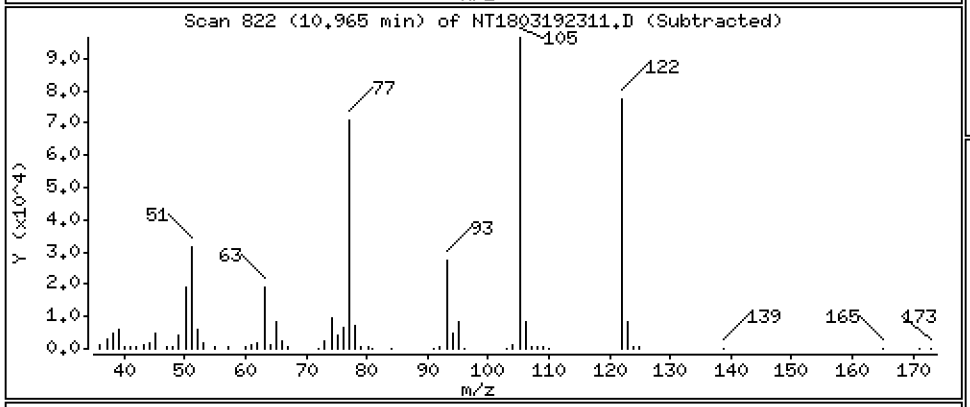
Column phase: ZB-5msi

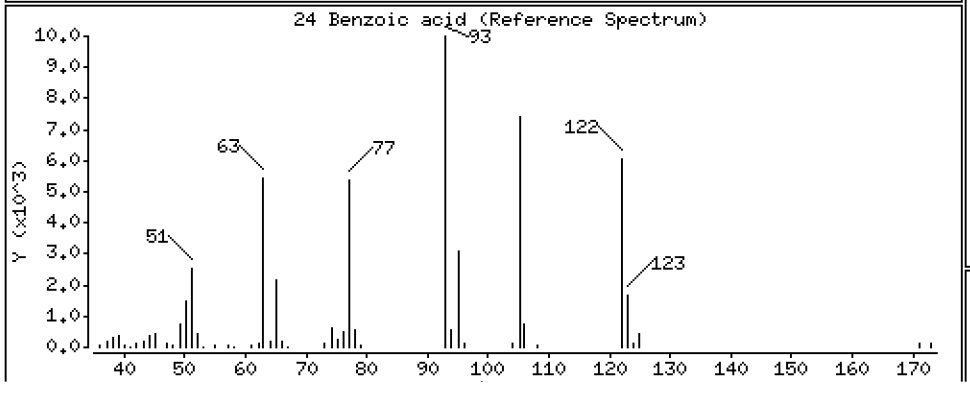
Column diameter: 0.25

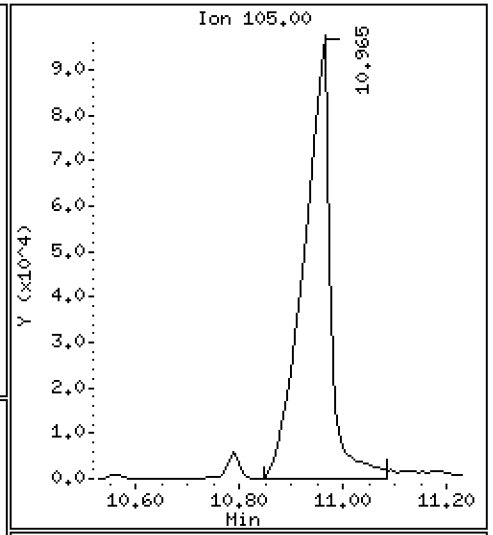
24 Benzoic acid

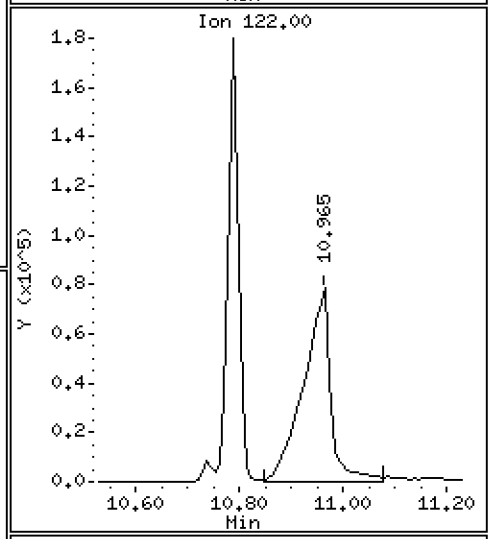
Concentration: 6.422 ug/mL

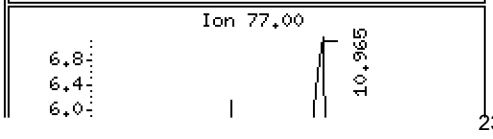












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

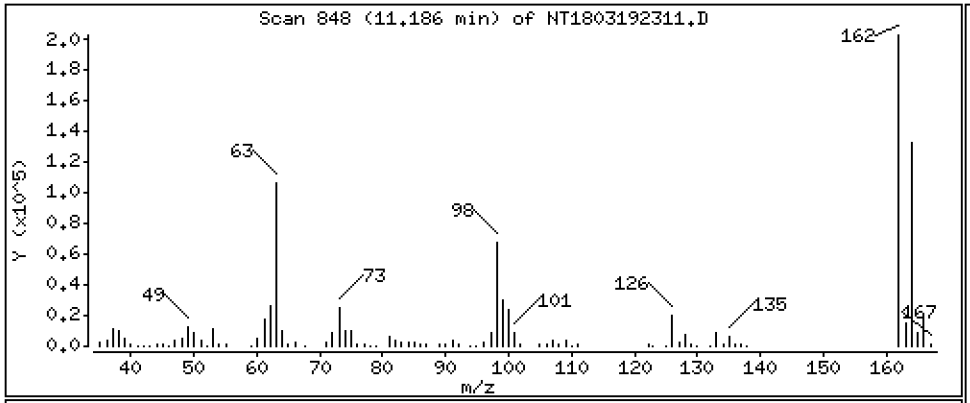
Operator: VTS

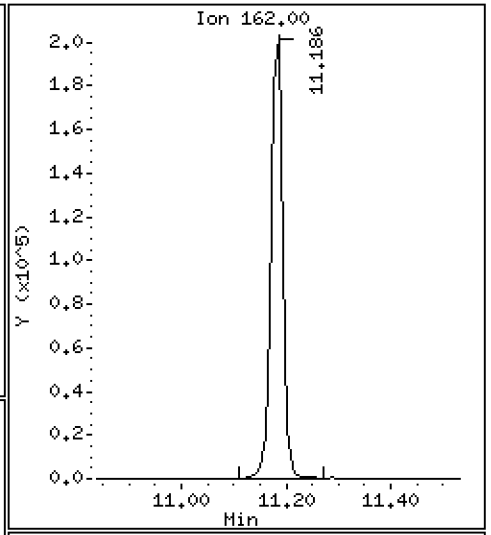
Column phase: ZB-5msi

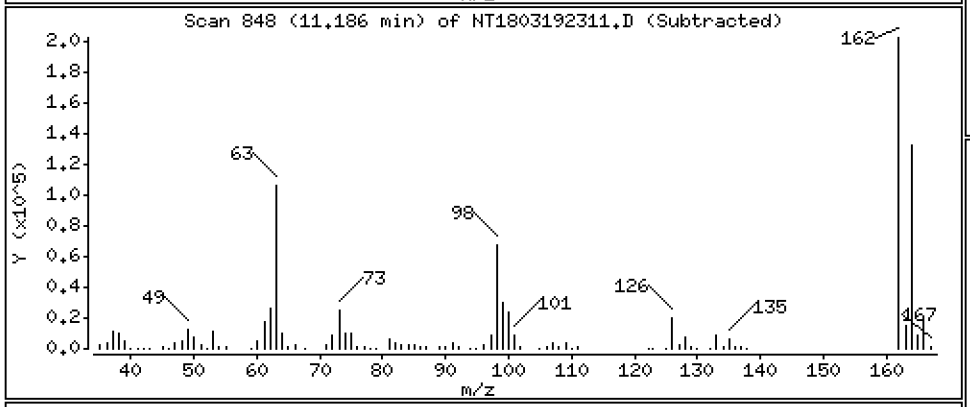
Column diameter: 0.25

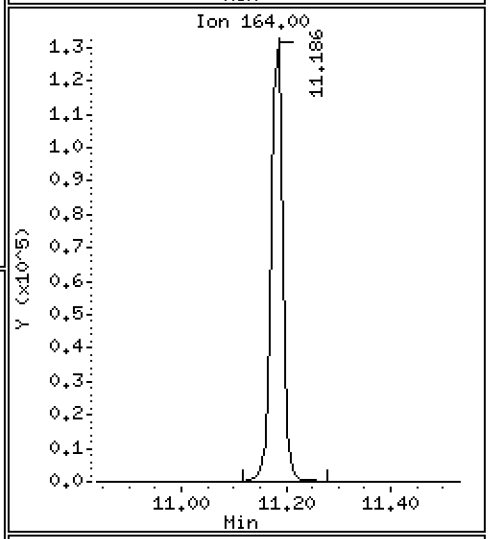
25 2,4-Dichlorophenol

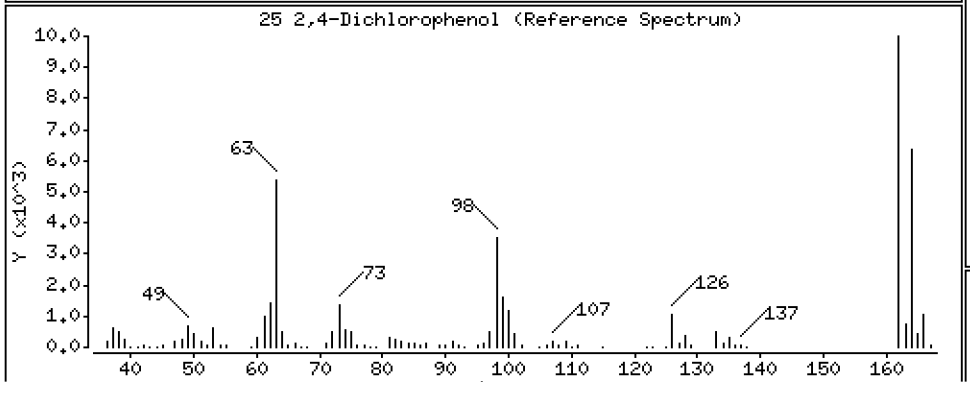
Concentration: 4.980 ug/mL

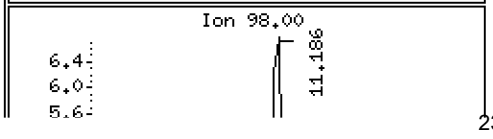












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

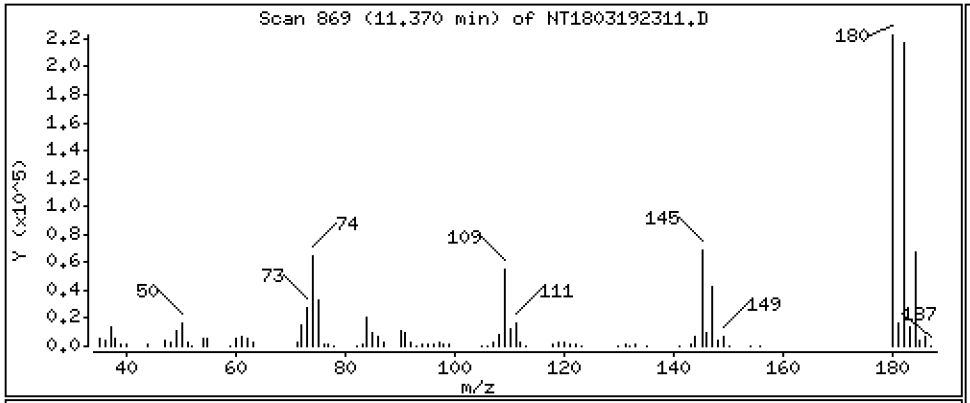
Operator: VTS

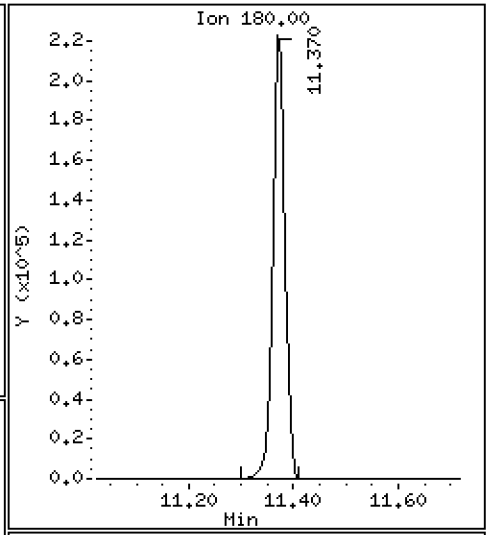
Column phase: ZB-5msi

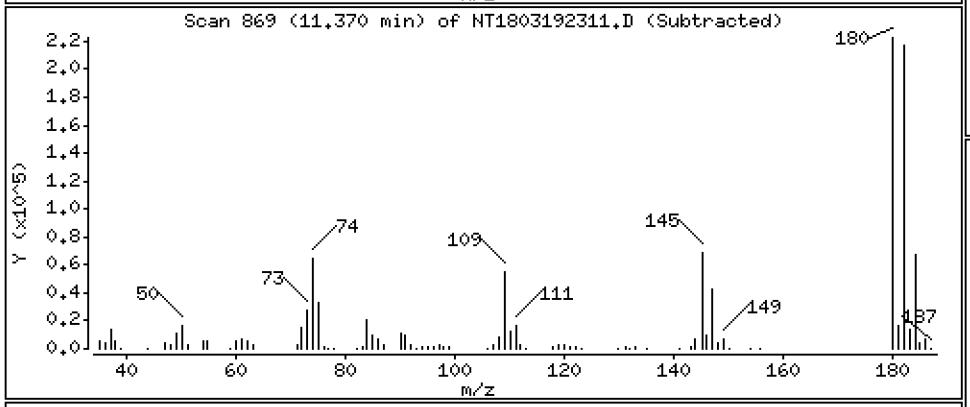
Column diameter: 0.25

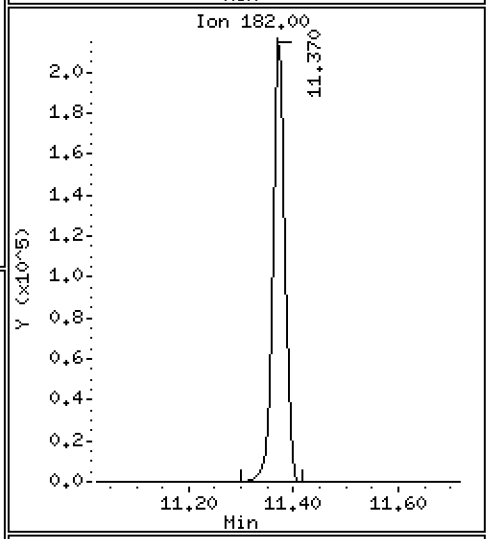
26 1,2,4-Trichlorobenzene

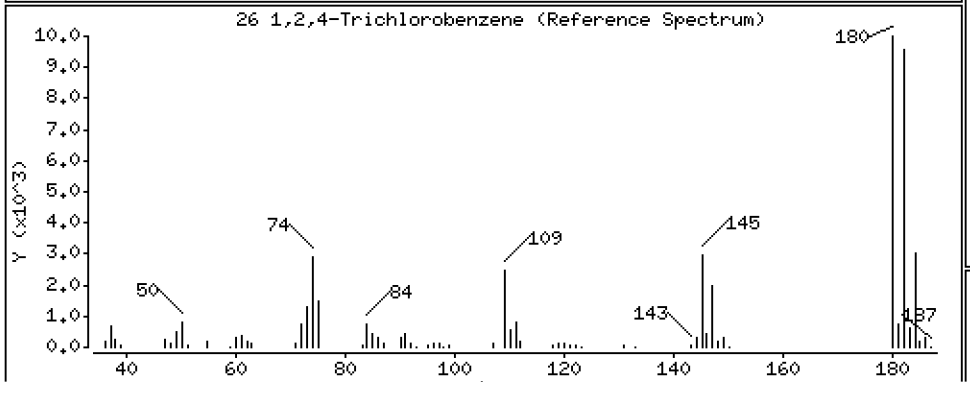
Concentration: 4.858 ug/mL

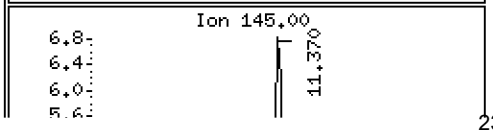












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

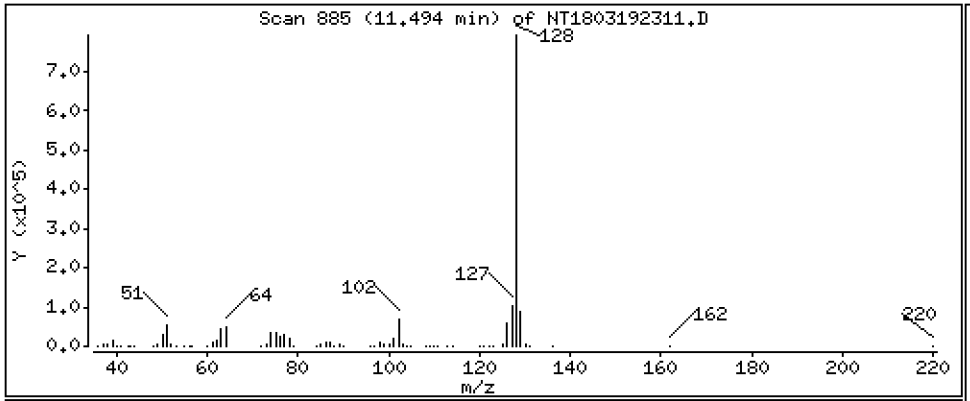
Operator: VTS

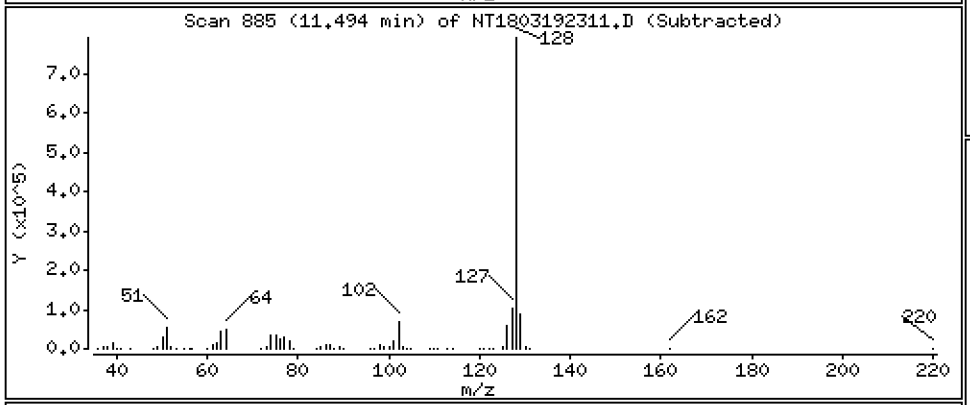
Column phase: ZB-5msi

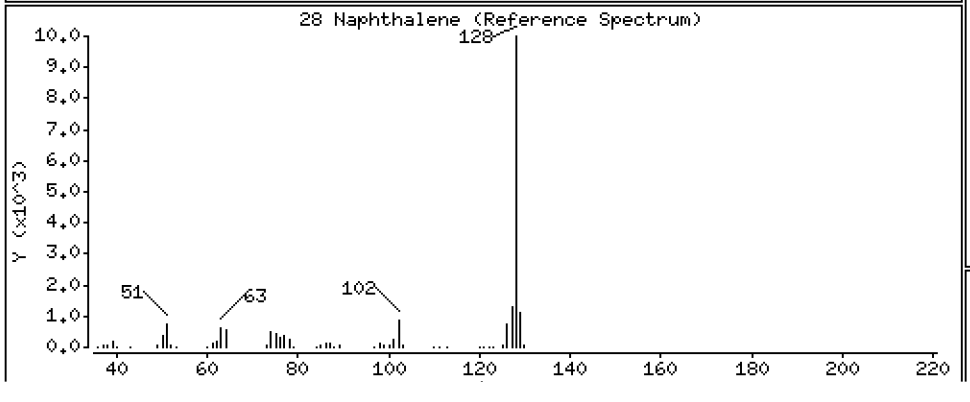
Column diameter: 0.25

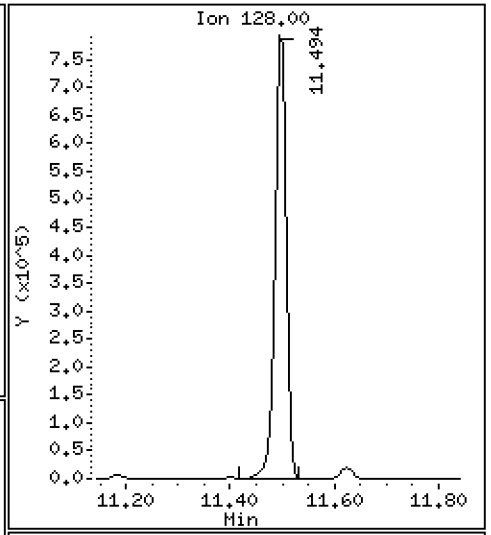
28 Naphthalene

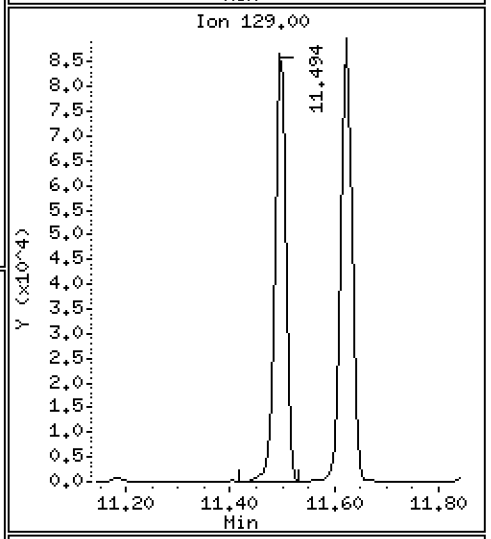
Concentration: 4.875 ug/mL

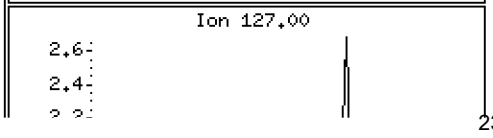












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

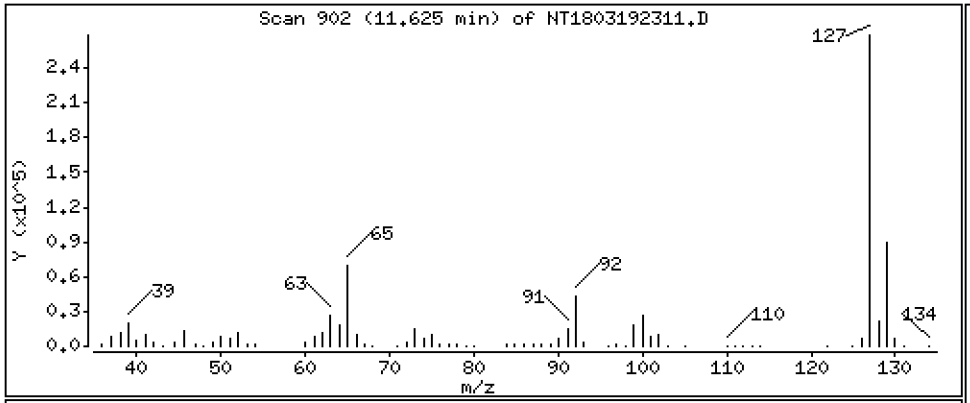
Operator: VTS

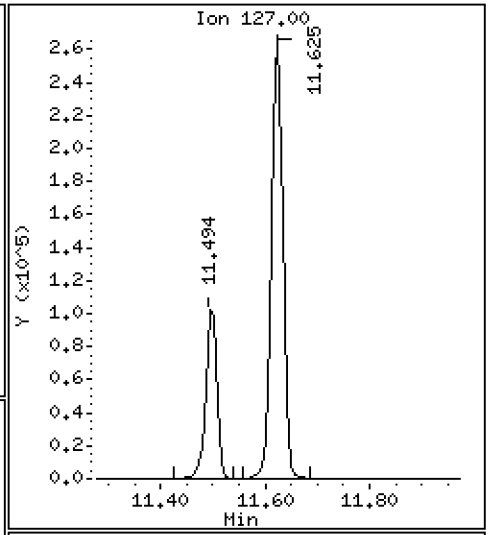
Column phase: ZB-5msi

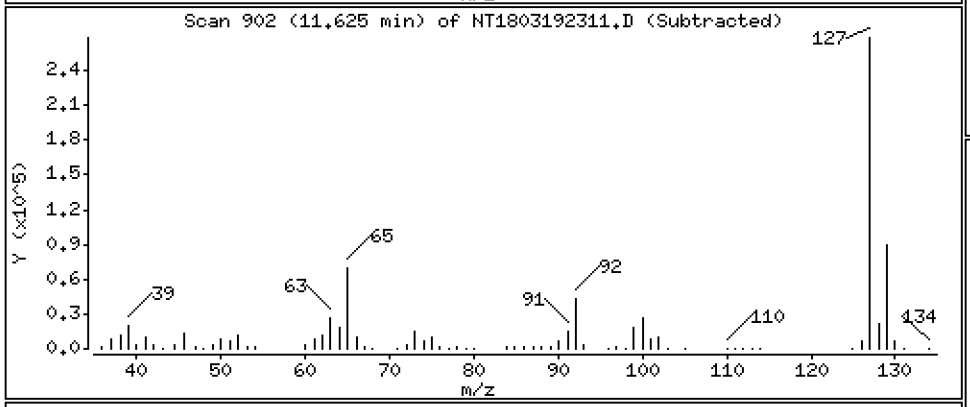
Column diameter: 0.25

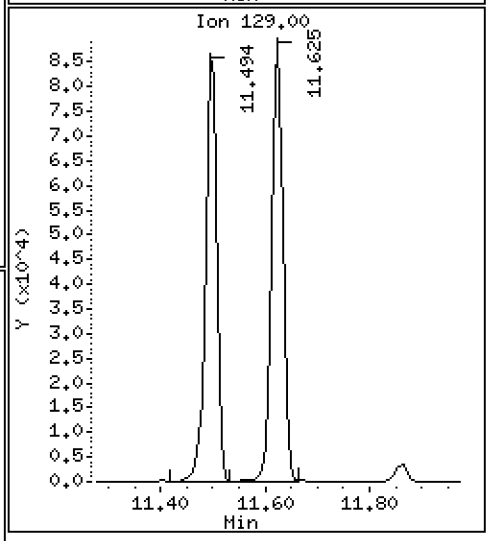
29 4-Chloroaniline

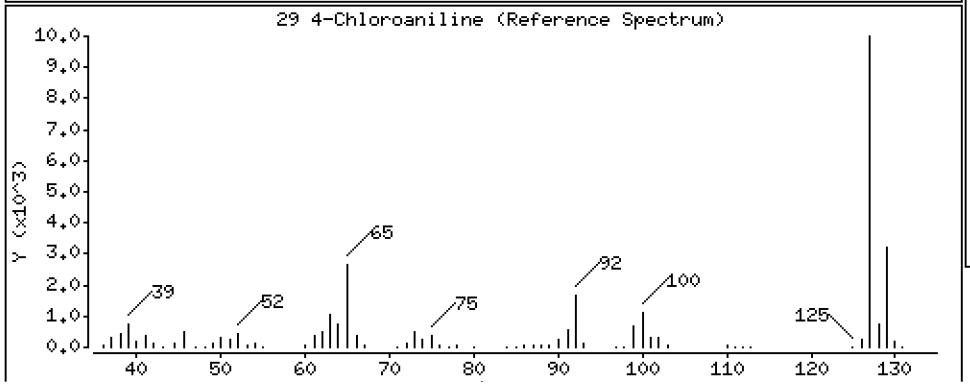
Concentration: 3.897 ug/mL











Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

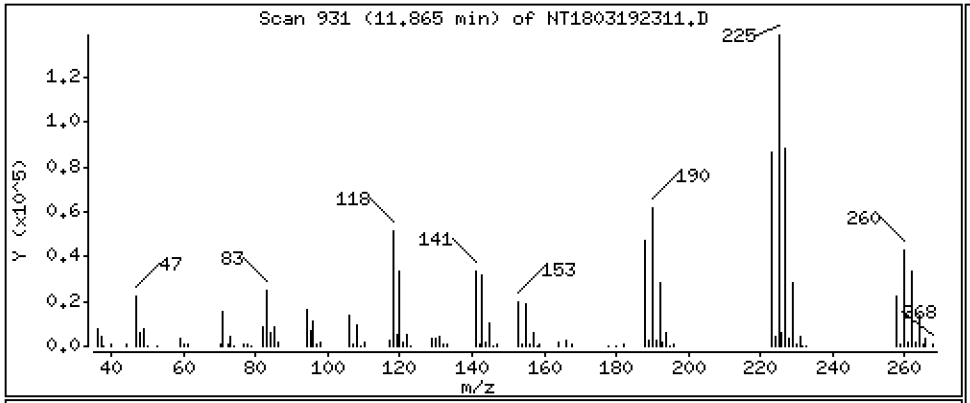
Operator: VTS

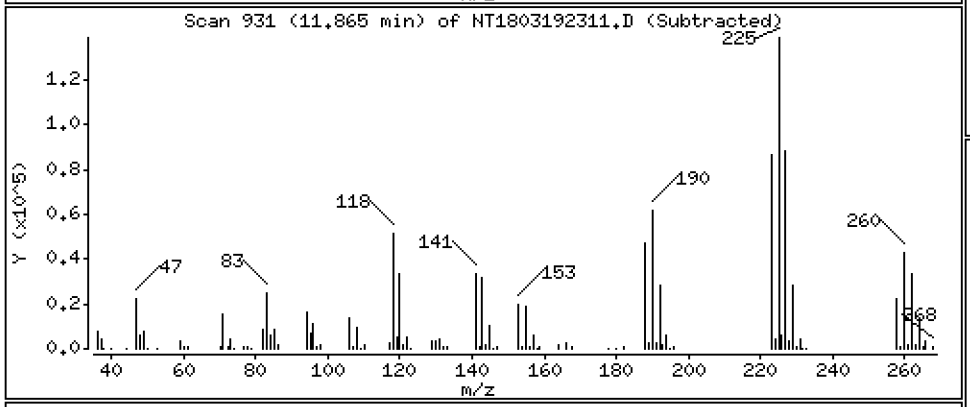
Column phase: ZB-5msi

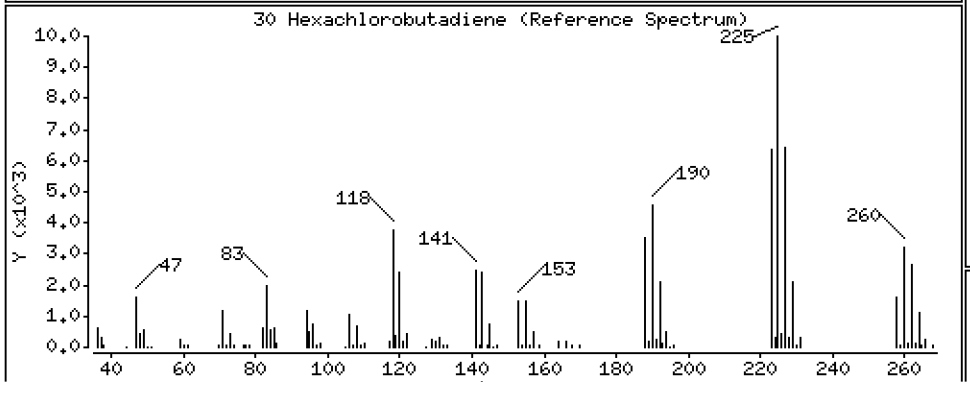
Column diameter: 0.25

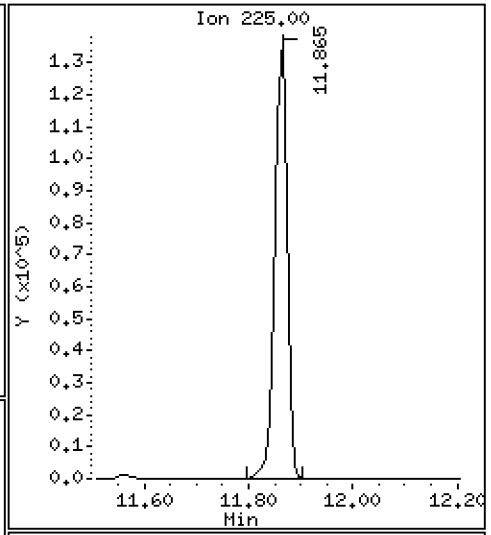
30 Hexachlorobutadiene

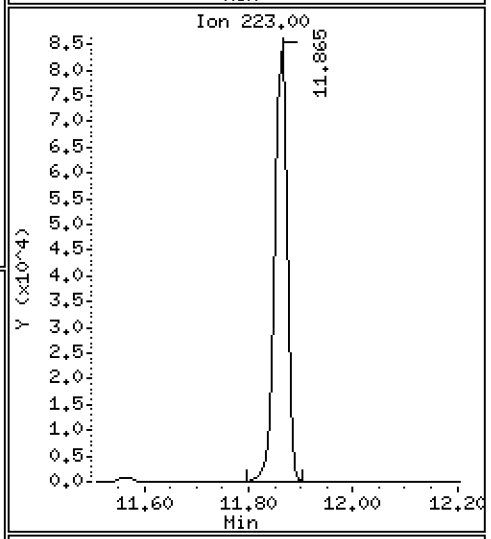
Concentration: 5.033 ug/mL

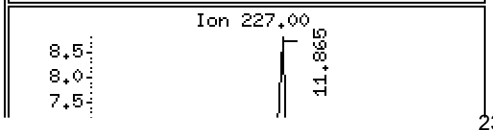












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

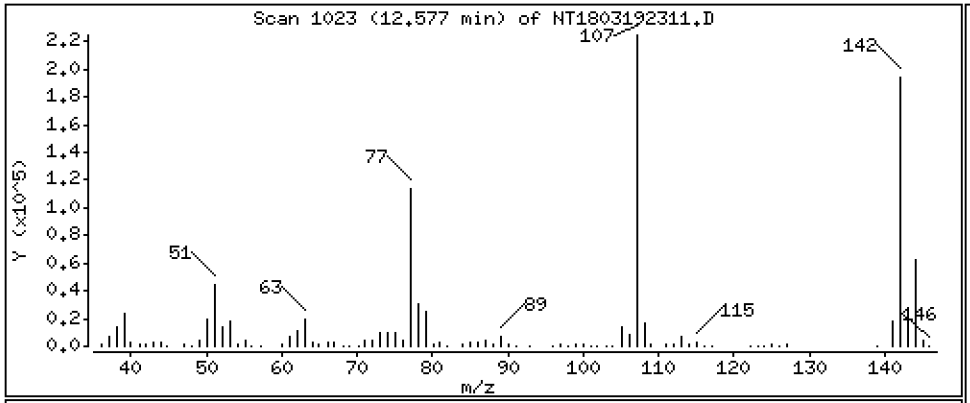
Operator: VTS

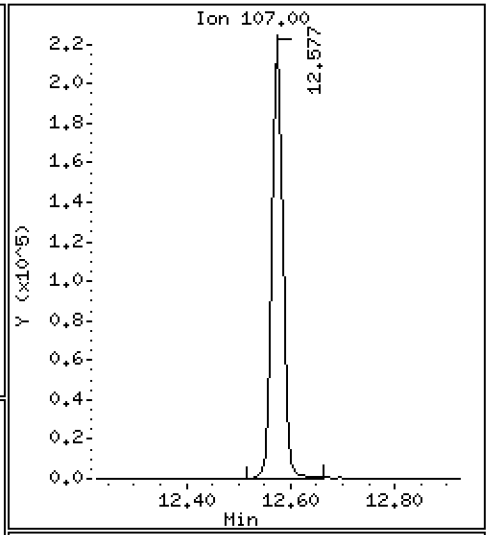
Column phase: ZB-5msi

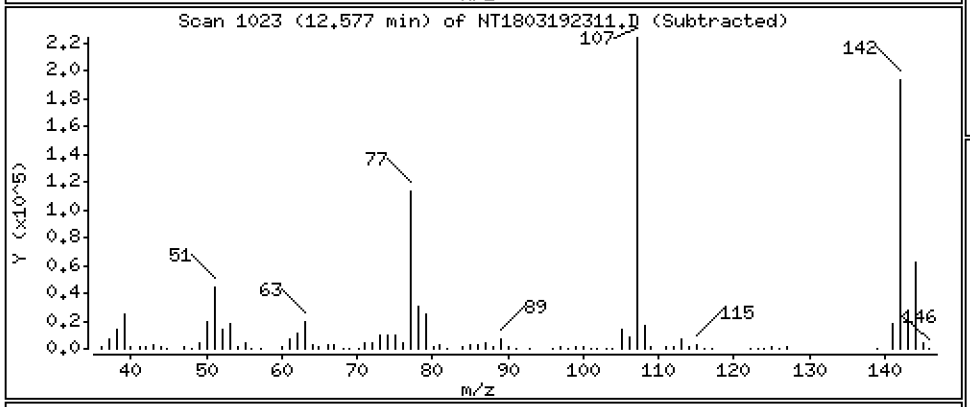
Column diameter: 0.25

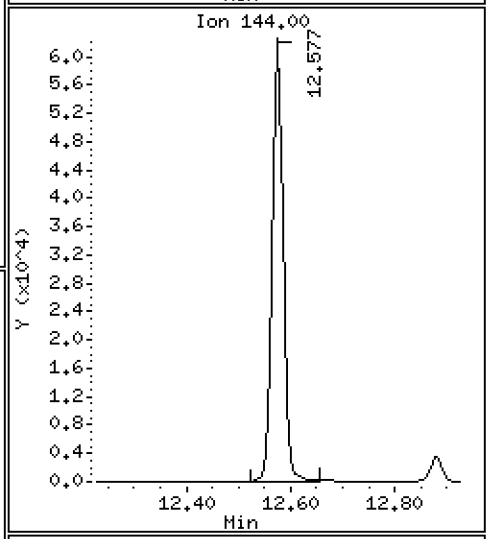
31 4-Chloro-3-methylphenol

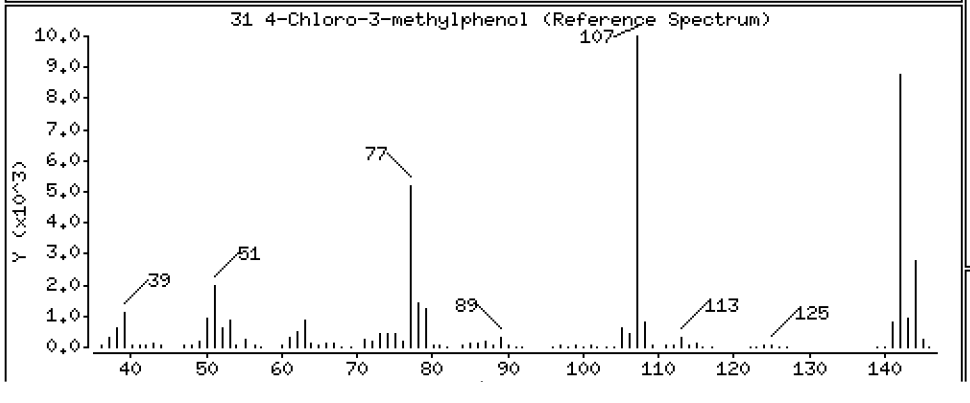
Concentration: 4.709 ug/mL

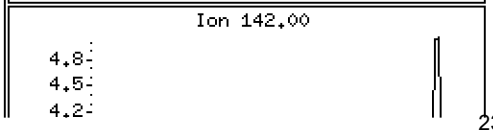












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

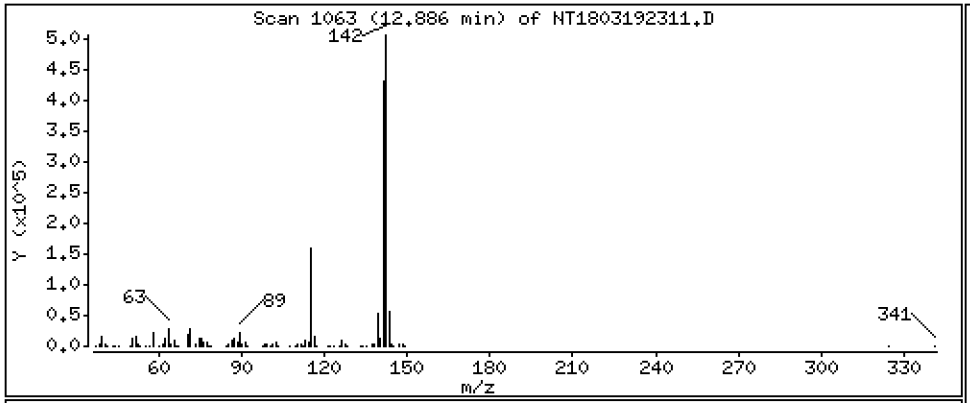
Operator: VTS

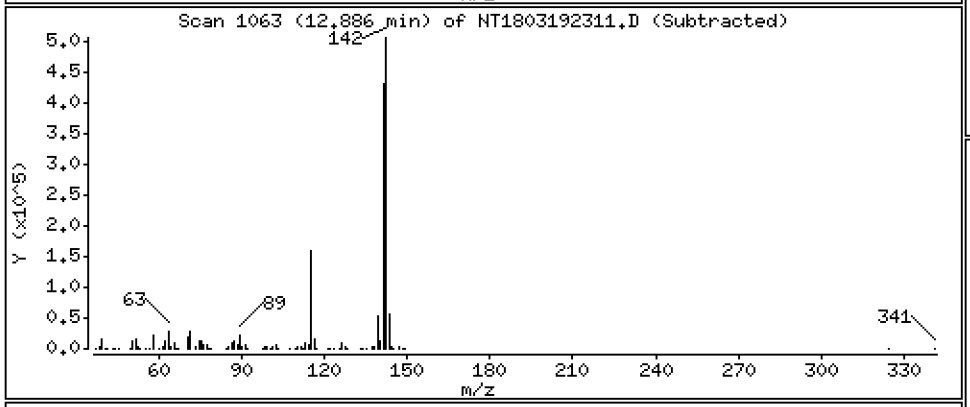
Column phase: ZB-5msi

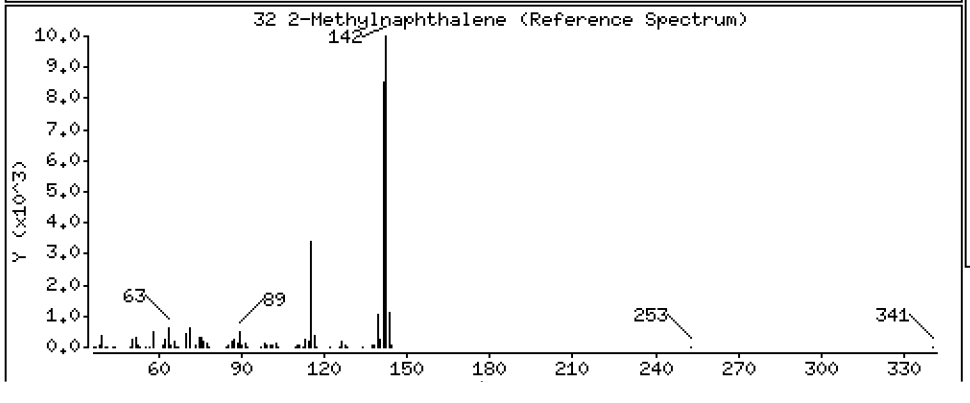
Column diameter: 0.25

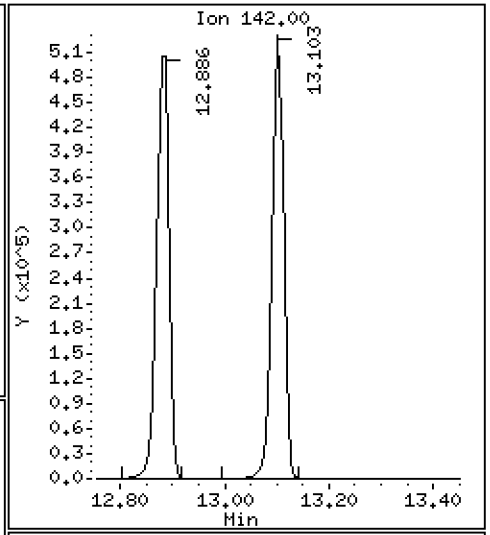
32 2-Methylnaphthalene

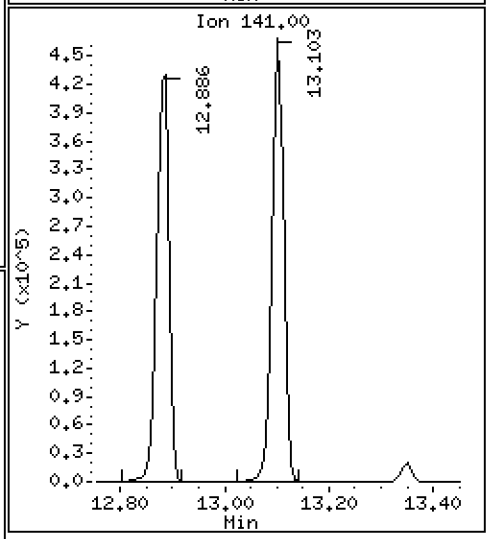
Concentration: 5.247 ug/mL











Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

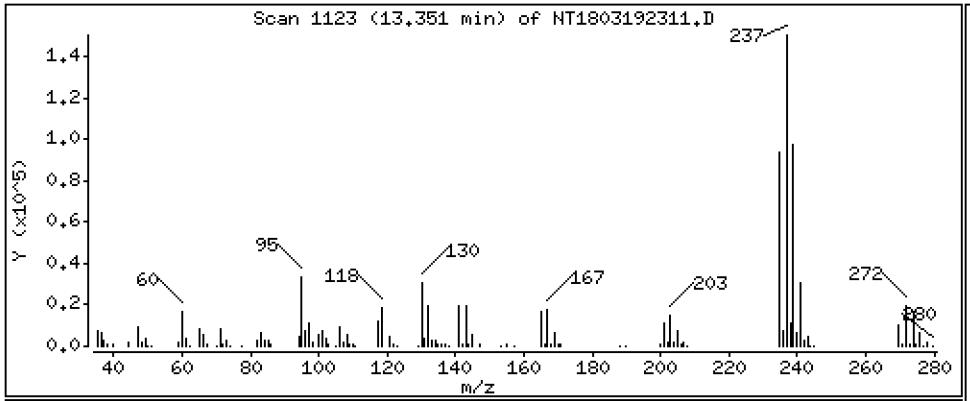
Operator: VTS

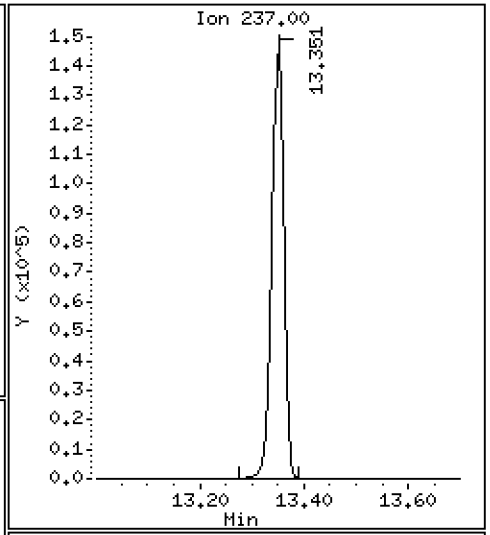
Column phase: ZB-5msi

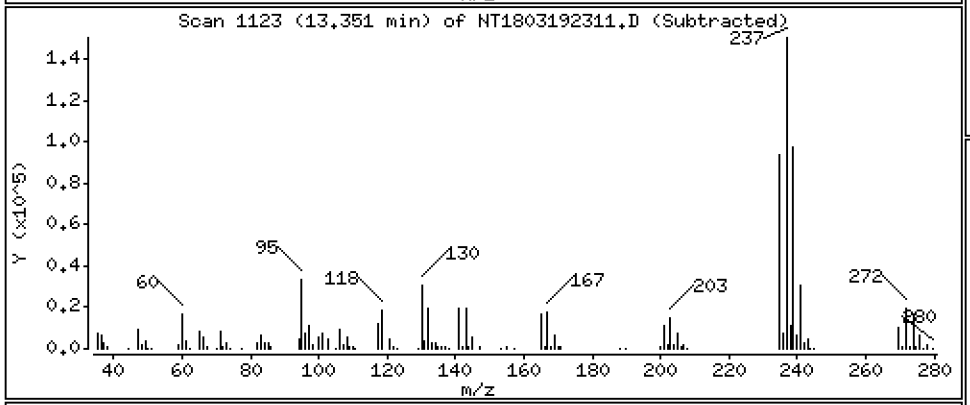
Column diameter: 0.25

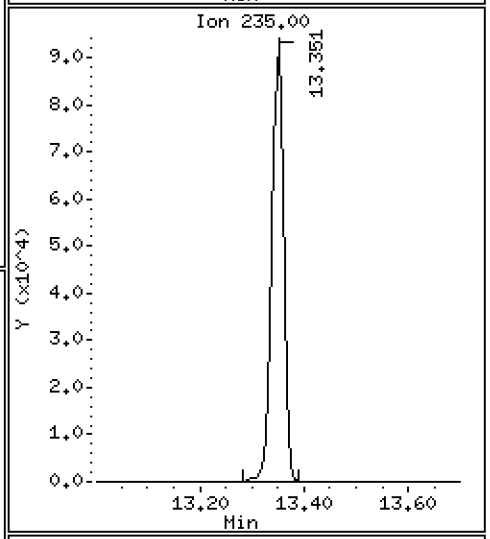
33 Hexachlorocyclopentadiene

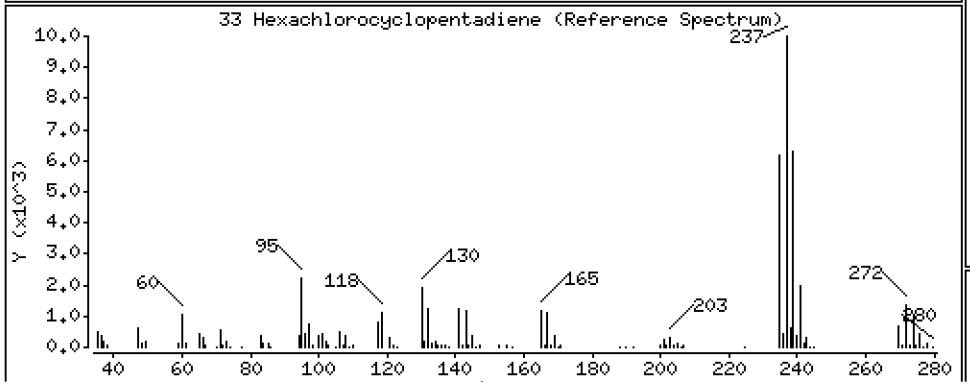
Concentration: 5.056 ug/mL

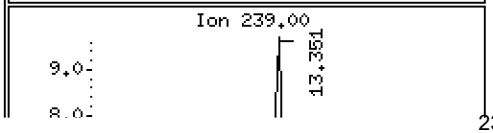












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

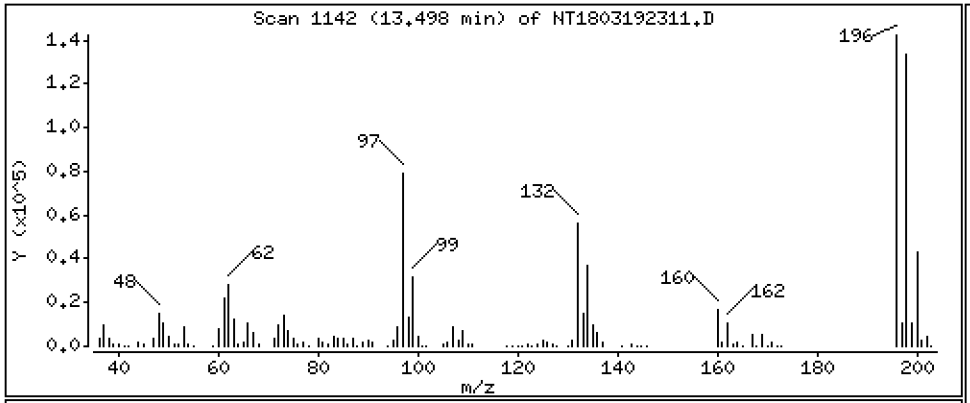
Operator: VTS

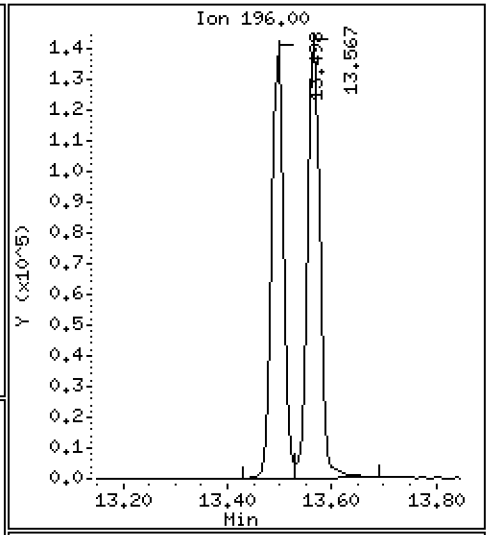
Column phase: ZB-5msi

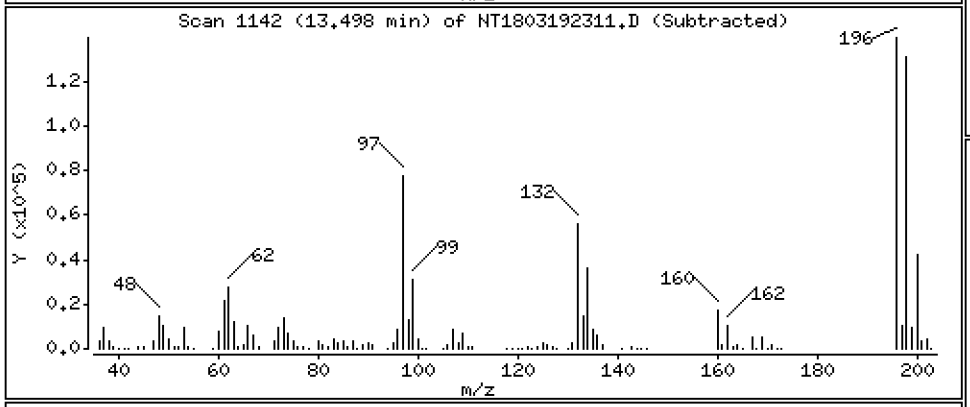
Column diameter: 0.25

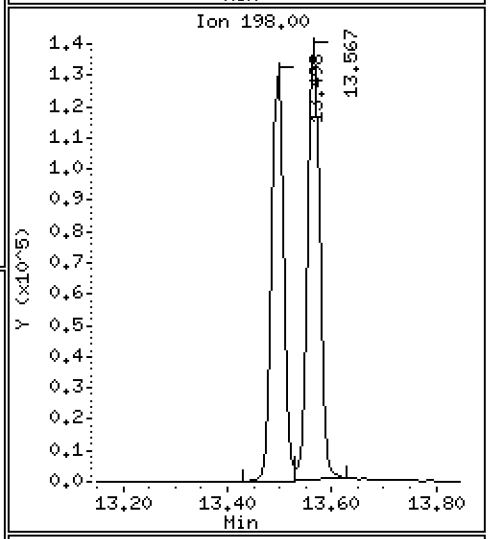
34 2,4,6-Trichlorophenol

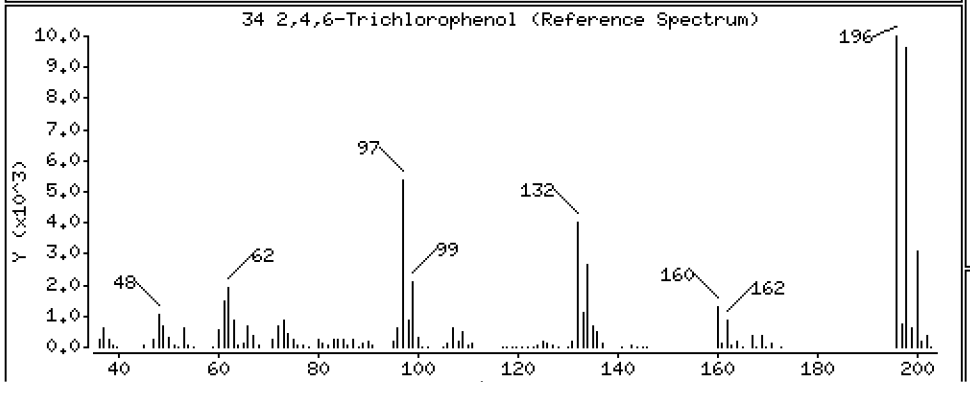
Concentration: 4.580 ug/mL

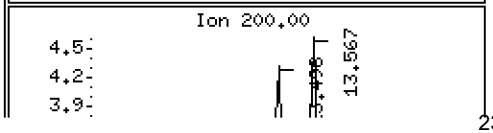












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

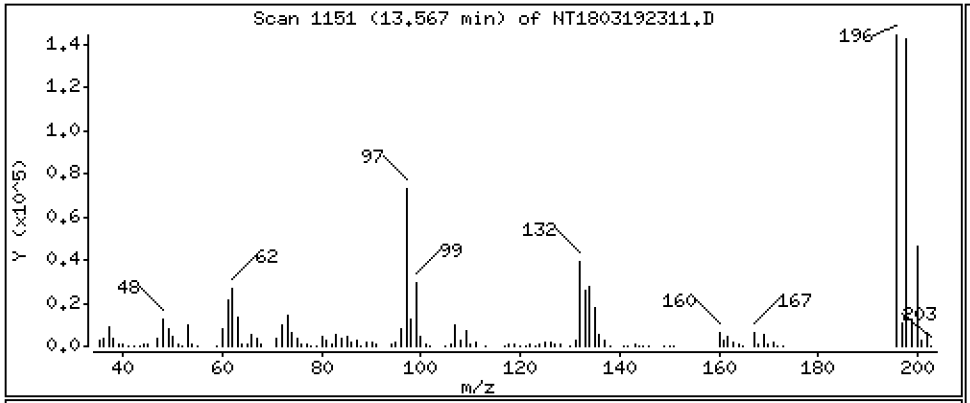
Operator: VTS

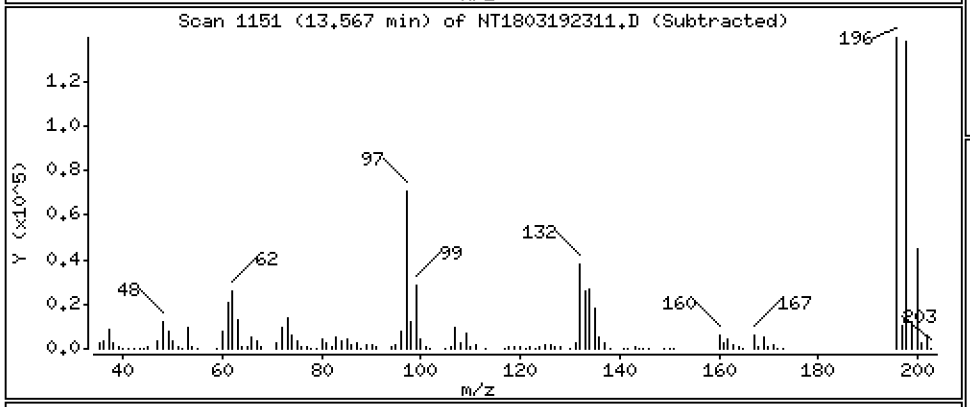
Column phase: ZB-5msi

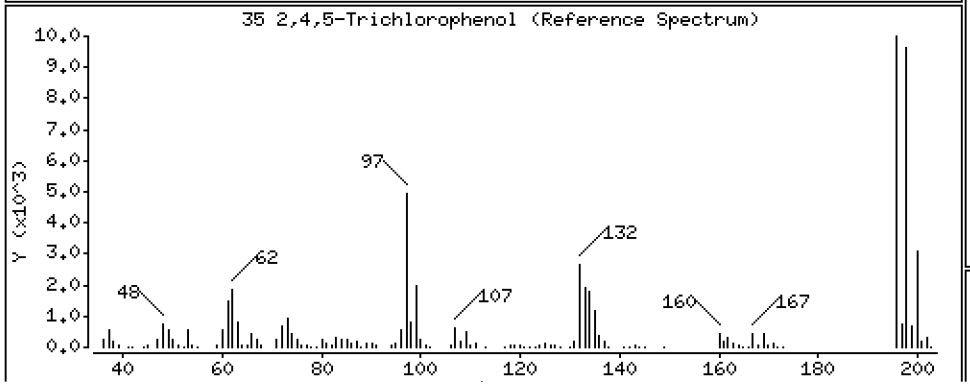
Column diameter: 0.25

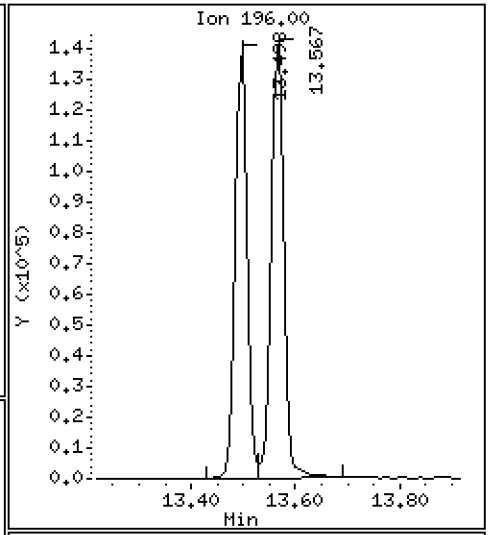
35 2,4,5-Trichlorophenol

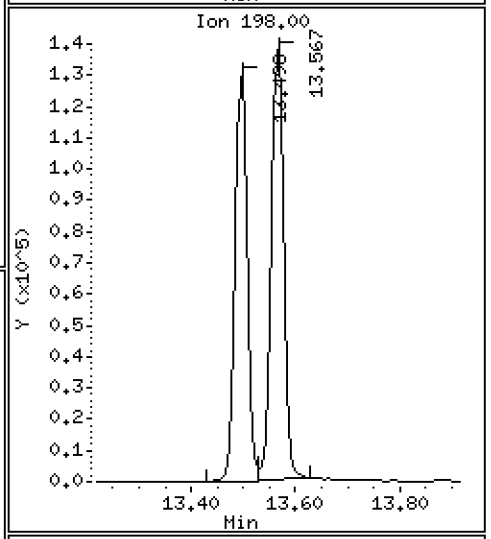
Concentration: 4.528 ug/mL

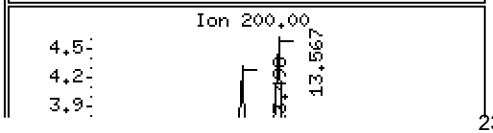












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

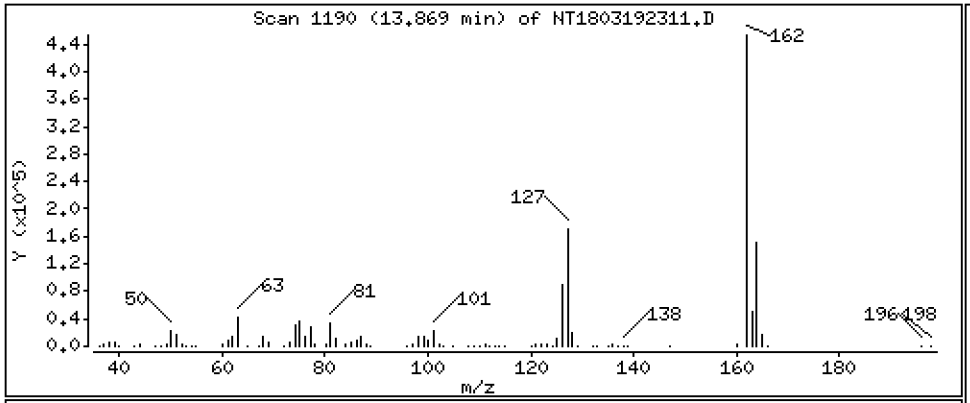
Operator: VTS

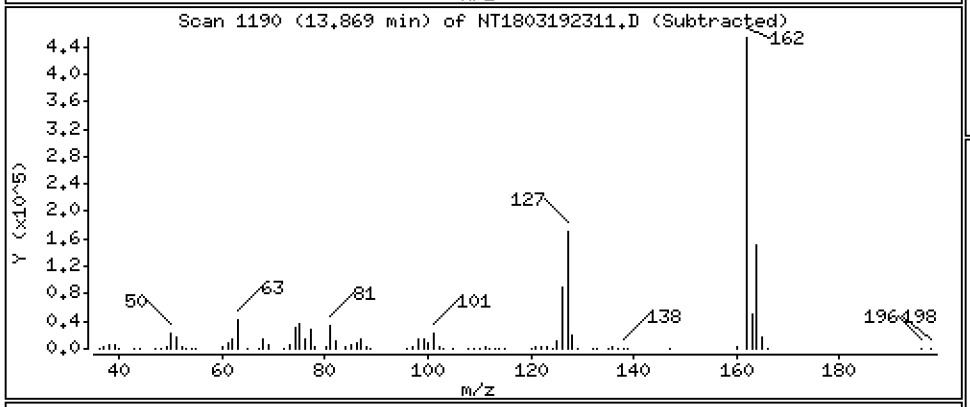
Column phase: ZB-5msi

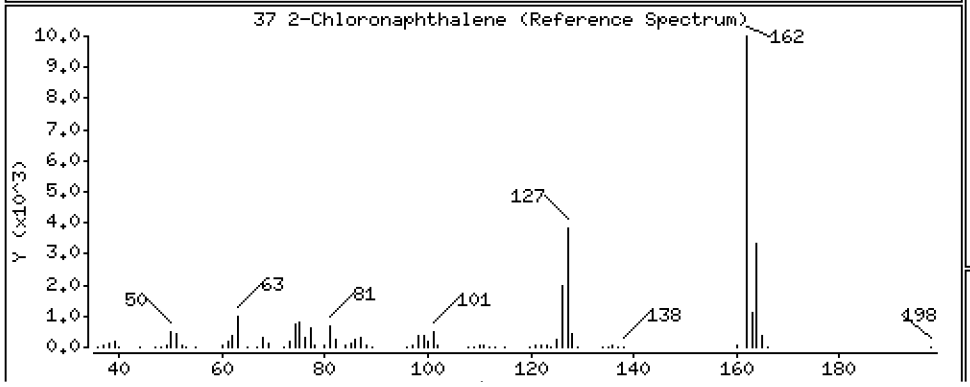
Column diameter: 0.25

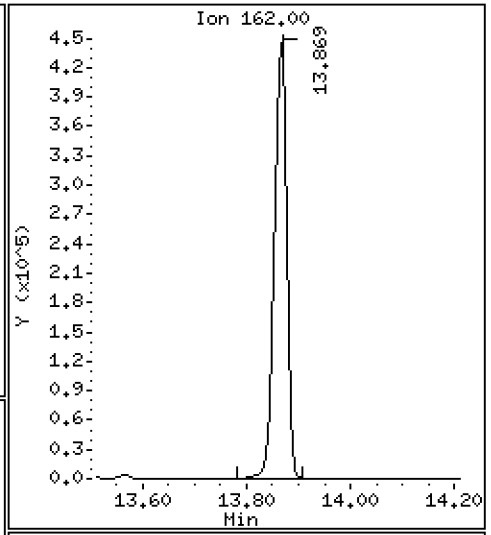
37 2-Chloronaphthalene

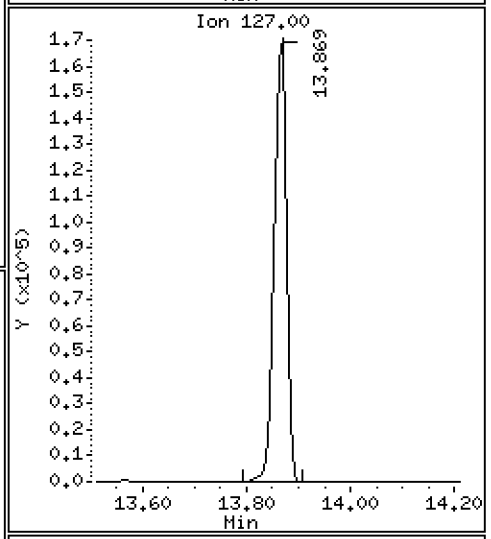
Concentration: 4.885 ug/mL

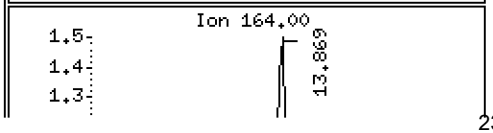












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

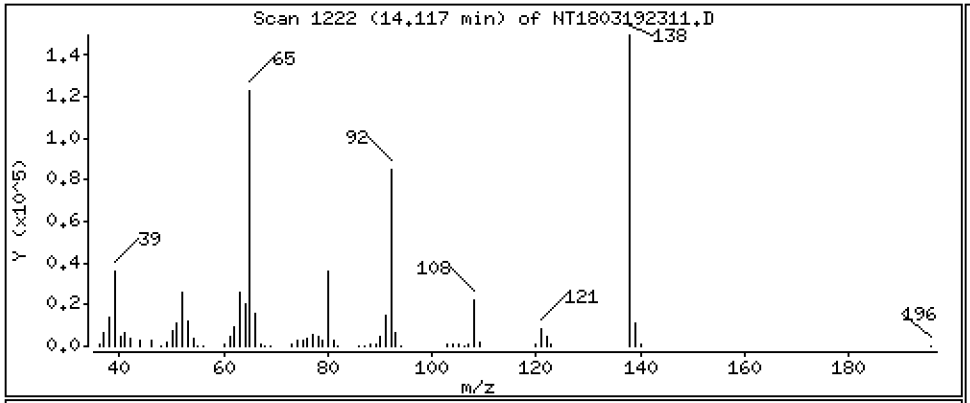
Operator: VTS

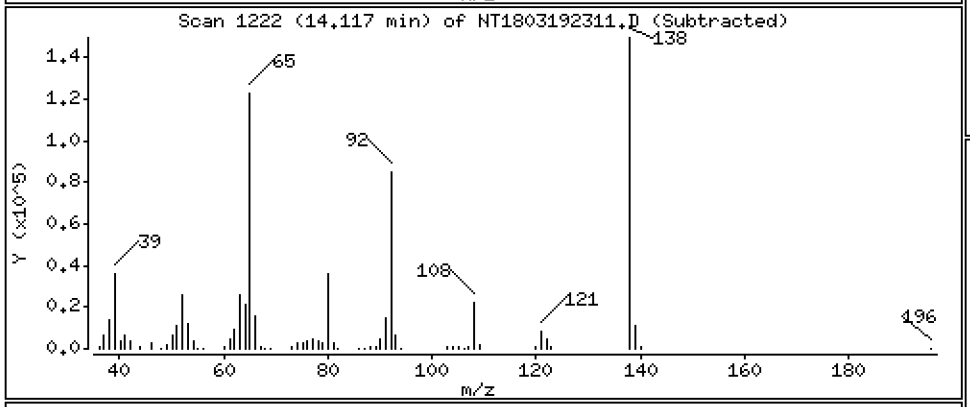
Column phase: ZB-5msi

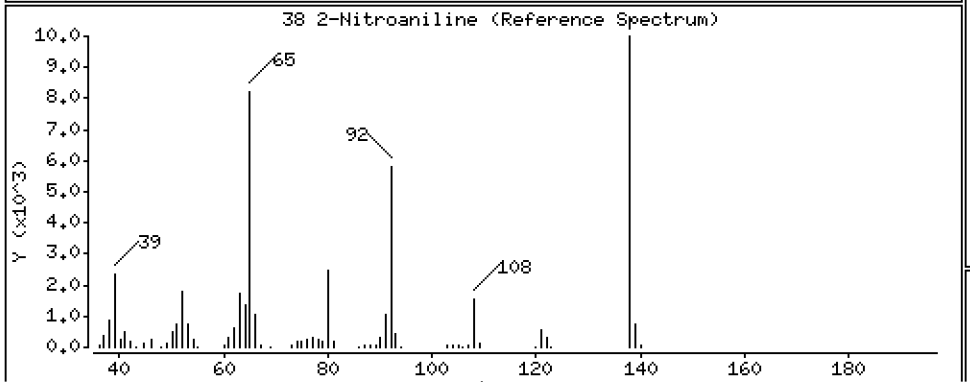
Column diameter: 0.25

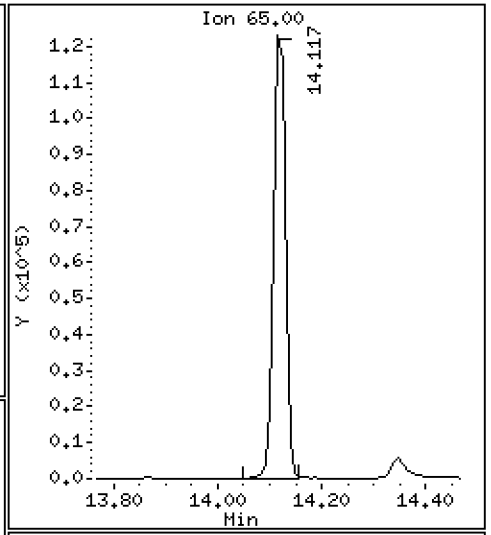
38 2-Nitroaniline

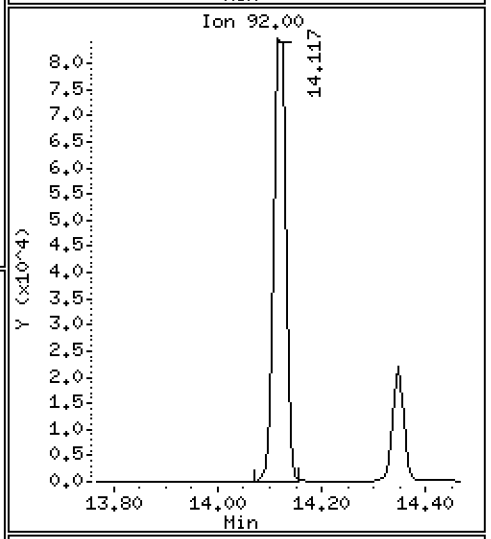
Concentration: 4.812 ug/mL

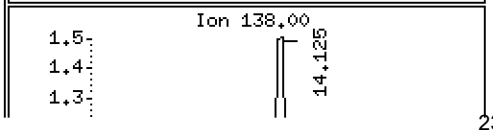












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

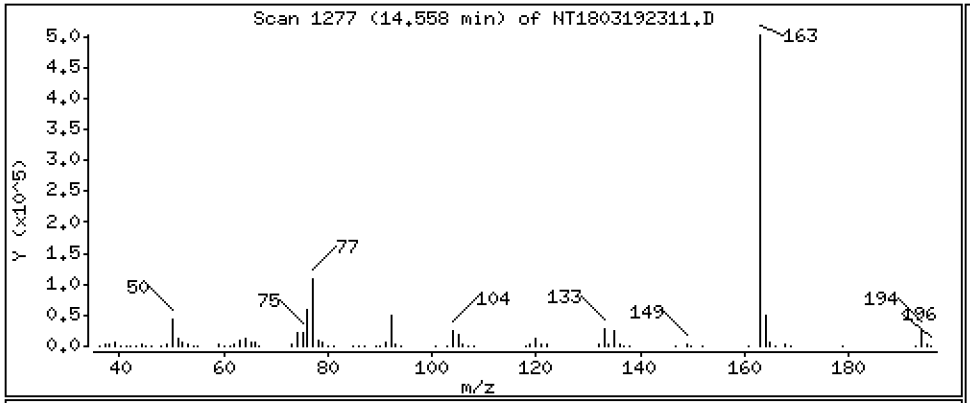
Operator: VTS

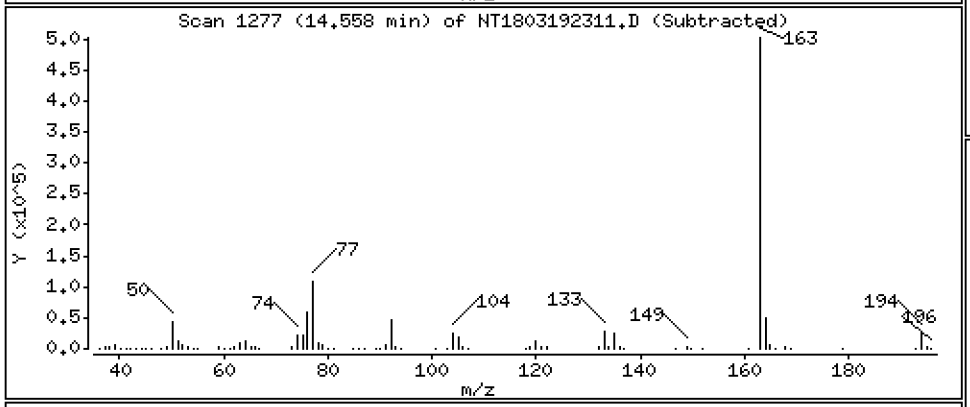
Column phase: ZB-5msi

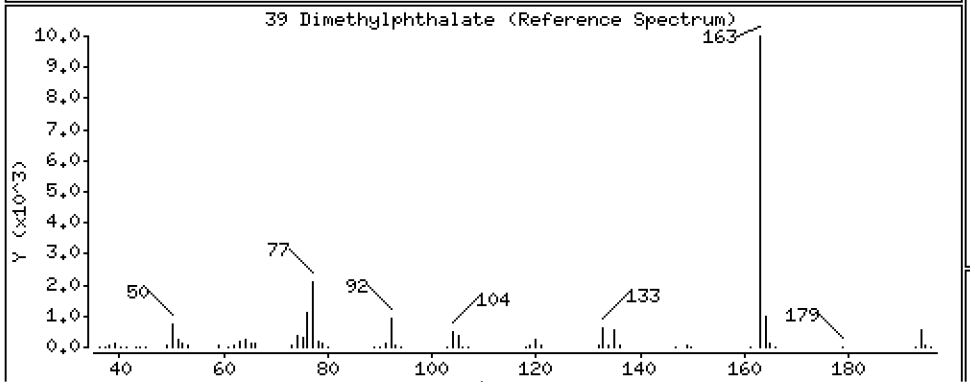
Column diameter: 0.25

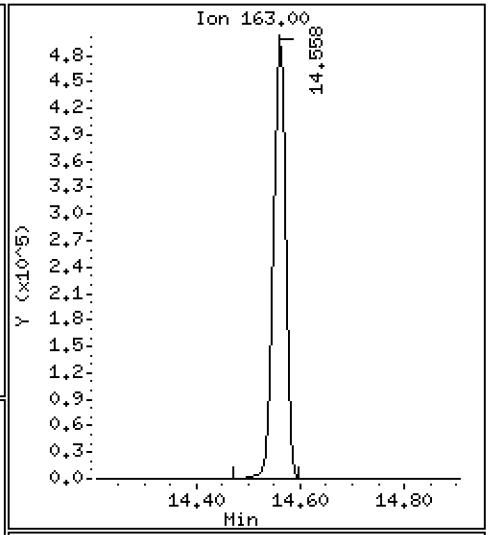
39 Dimethylphthalate

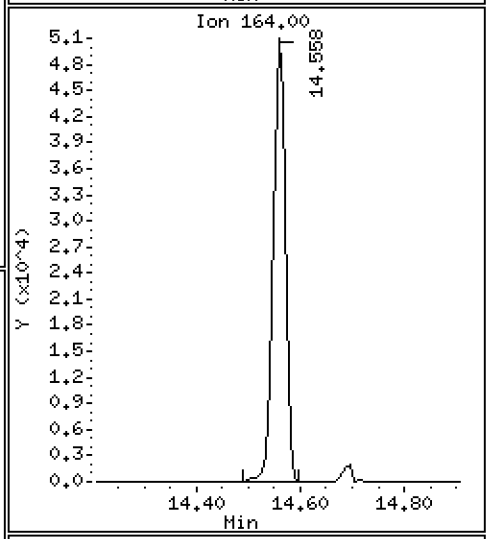
Concentration: 5.105 ug/mL

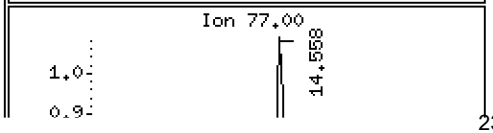












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

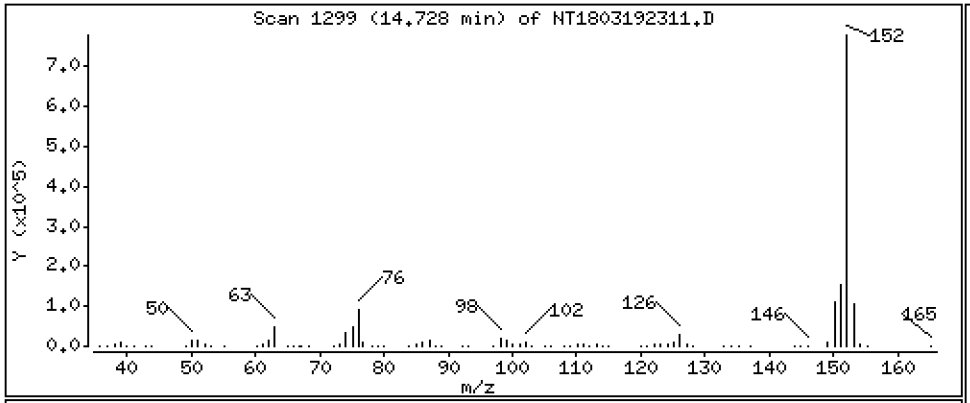
Operator: VTS

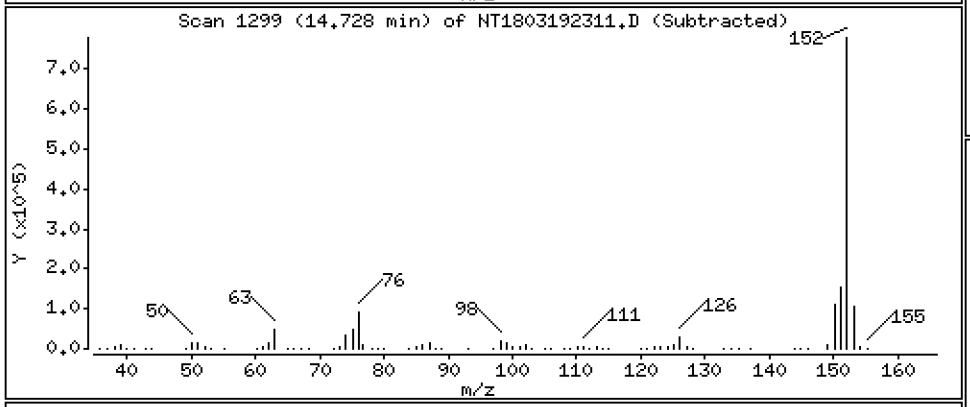
Column phase: ZB-5msi

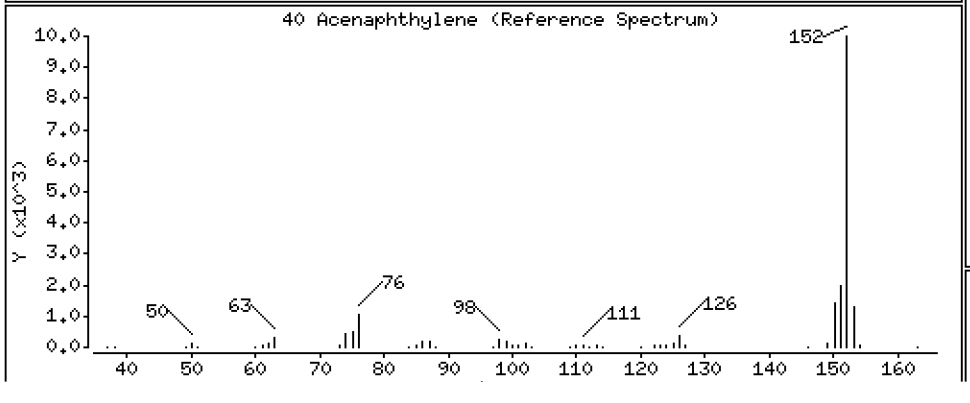
Column diameter: 0.25

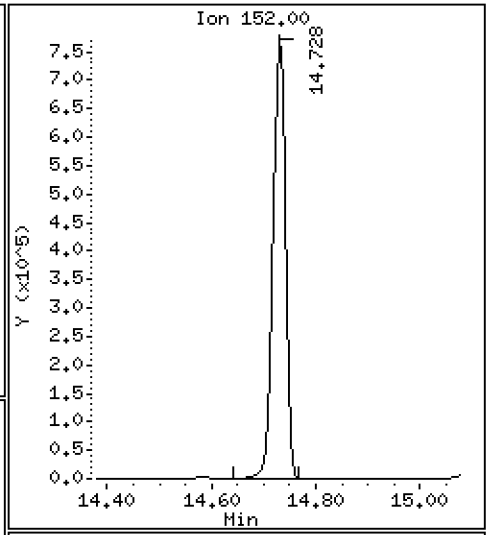
40 Acenaphthylene

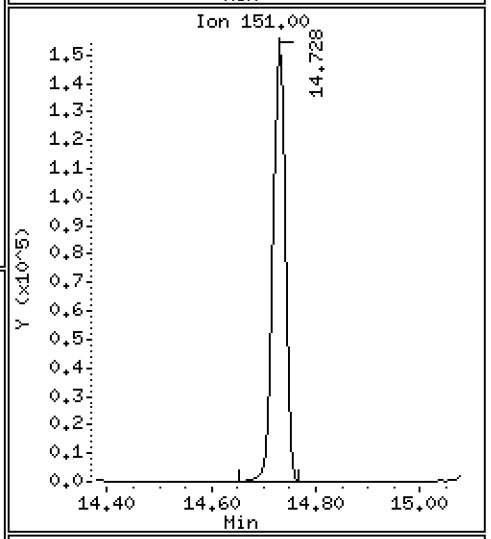
Concentration: 4.922 ug/mL

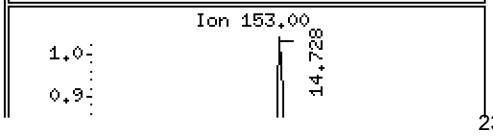












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

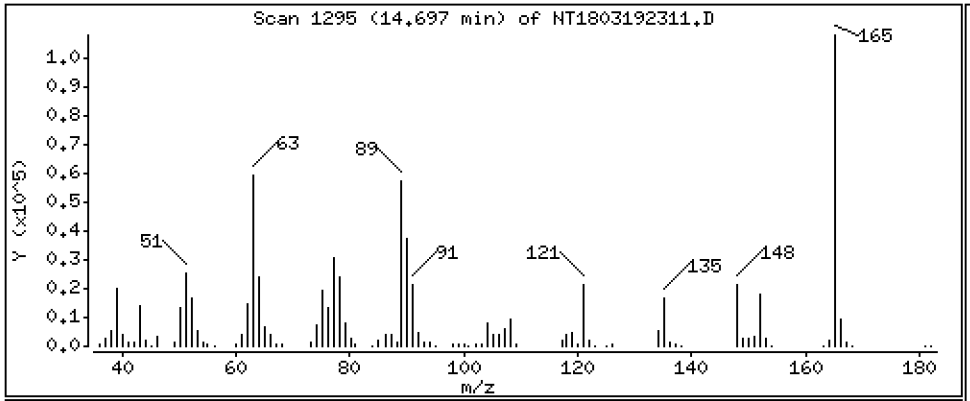
Operator: VTS

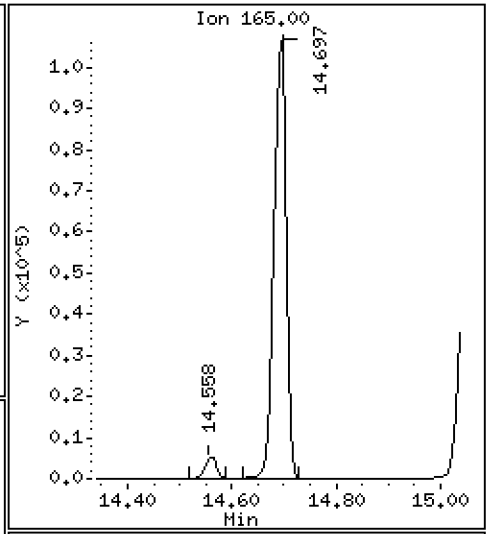
Column phase: ZB-5msi

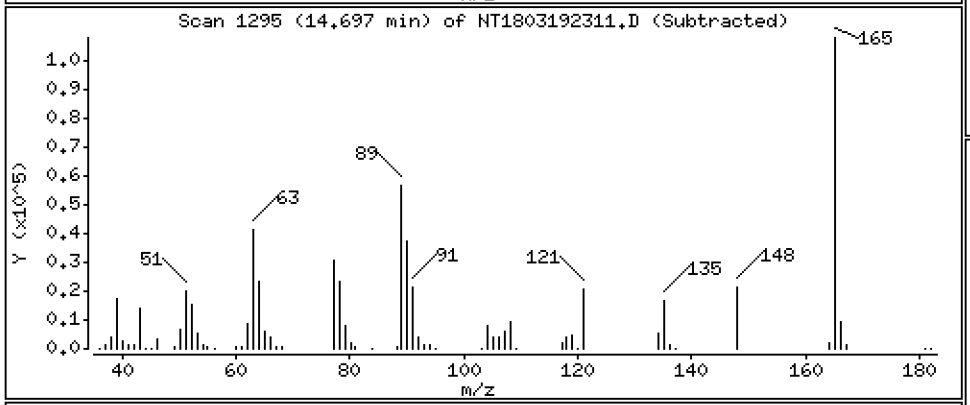
Column diameter: 0.25

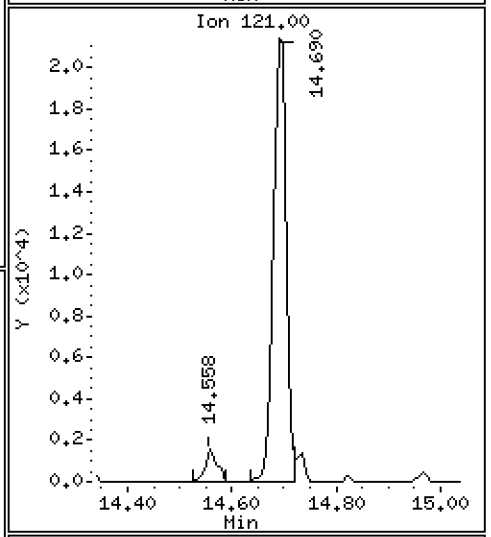
41 2,6-Dinitrotoluene

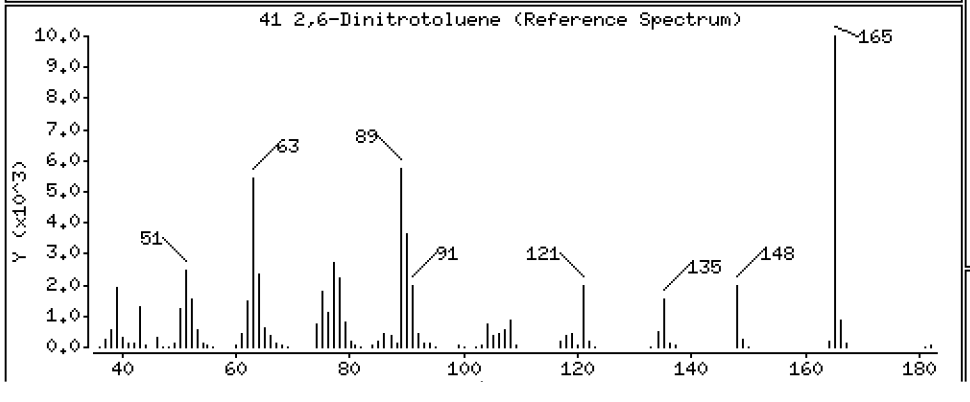
Concentration: 4.857 ug/mL

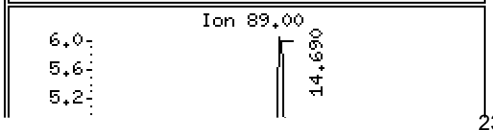












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

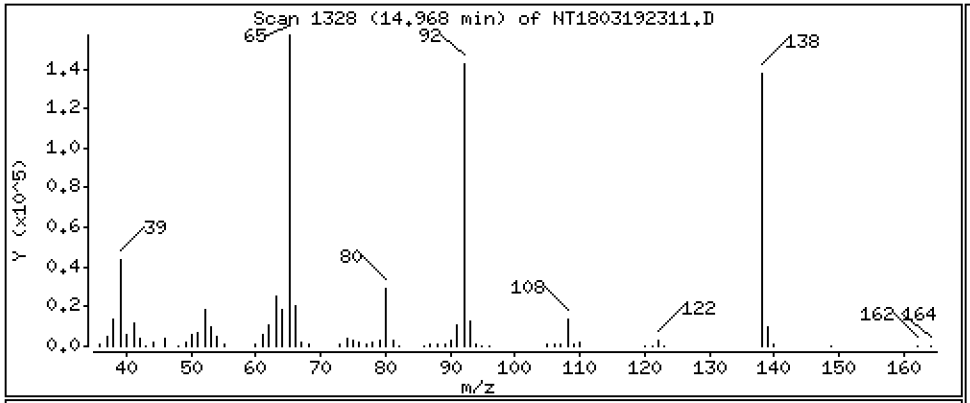
Operator: VTS

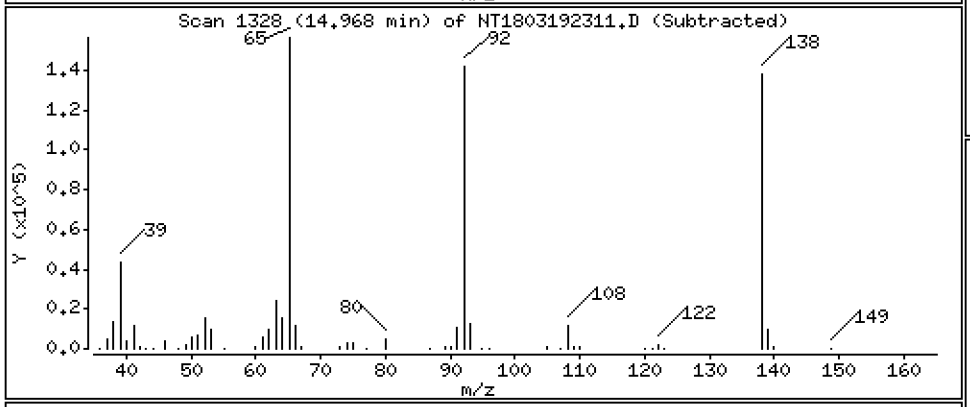
Column phase: ZB-5msi

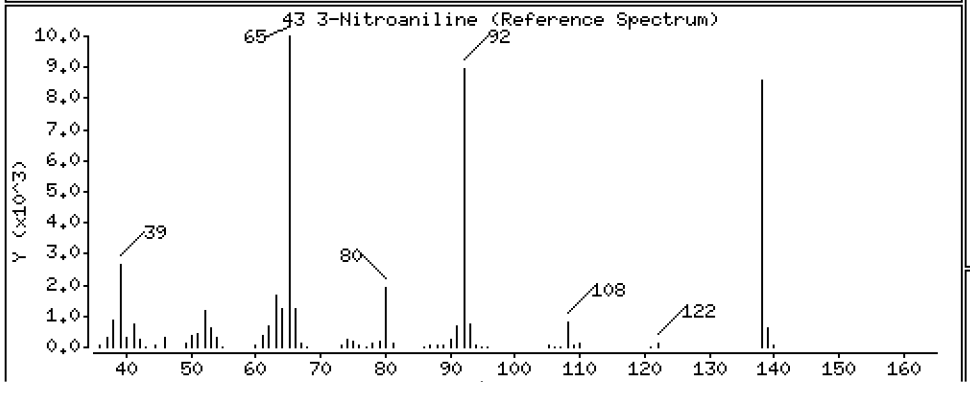
Column diameter: 0.25

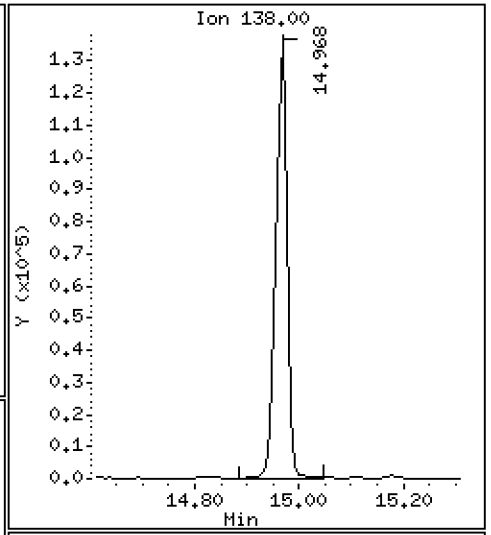
43 3-Nitroaniline

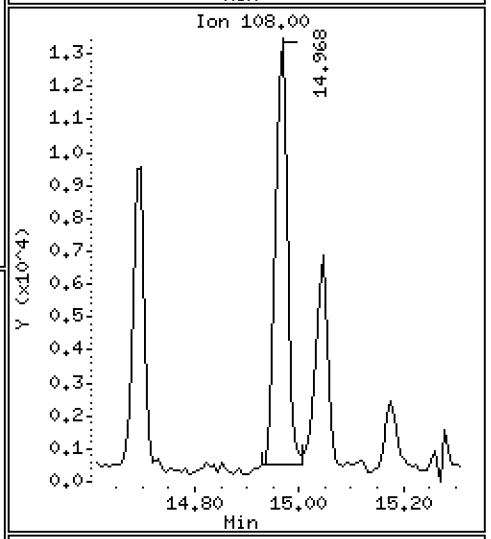
Concentration: 5.150 ug/mL

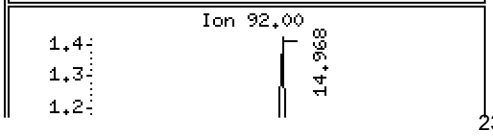












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

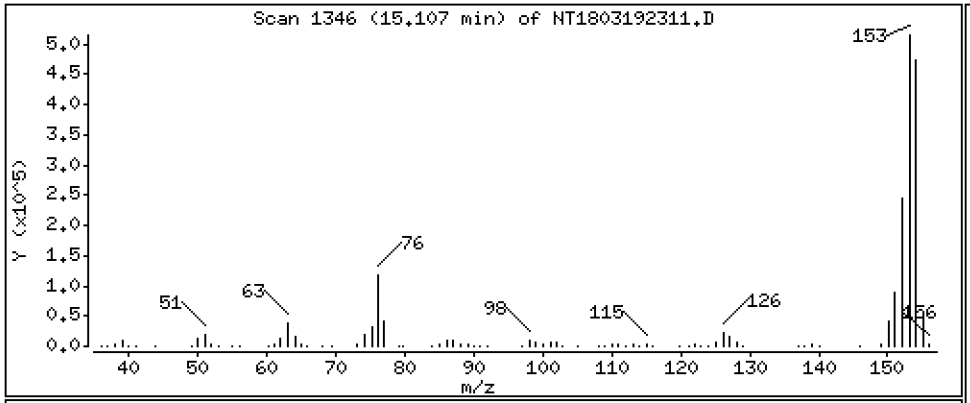
Operator: VTS

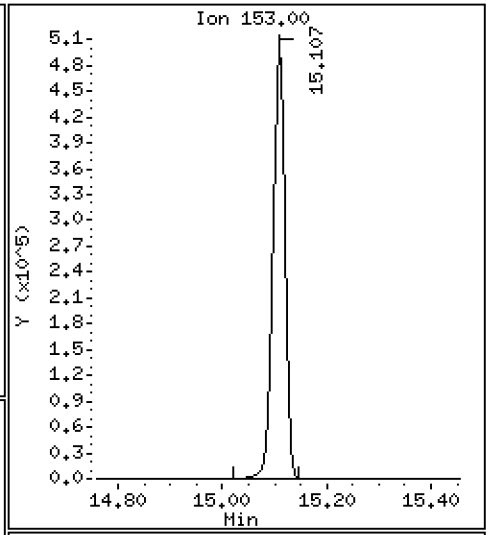
Column phase: ZB-5msi

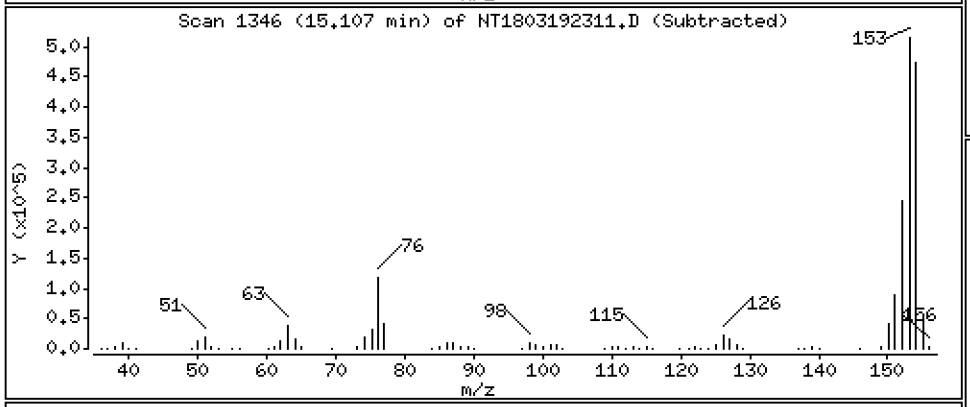
Column diameter: 0.25

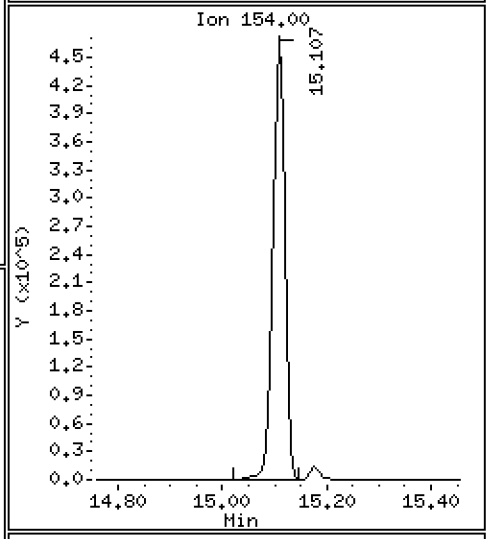
44 Acenaphthene

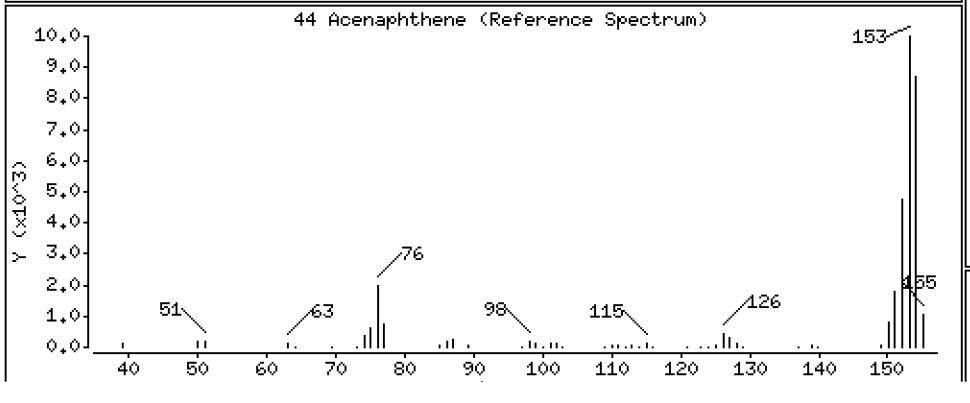
Concentration: 4.842 ug/mL

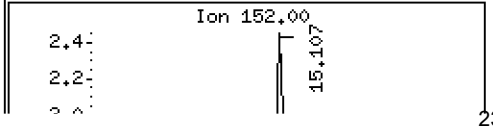












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

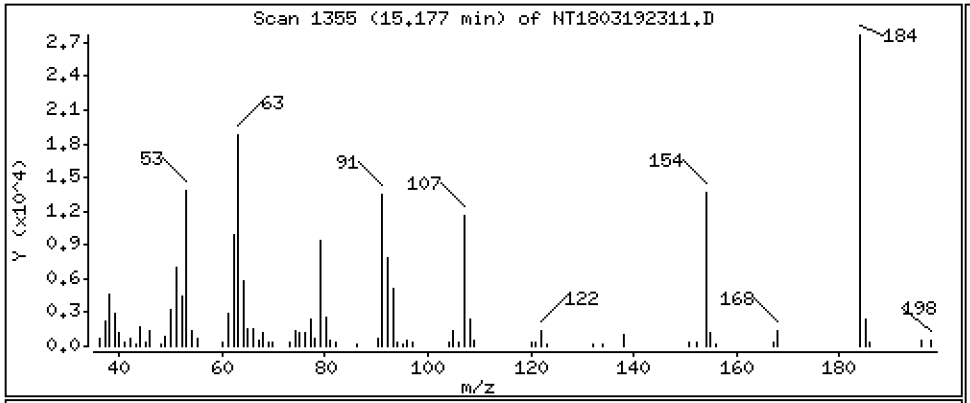
Operator: VTS

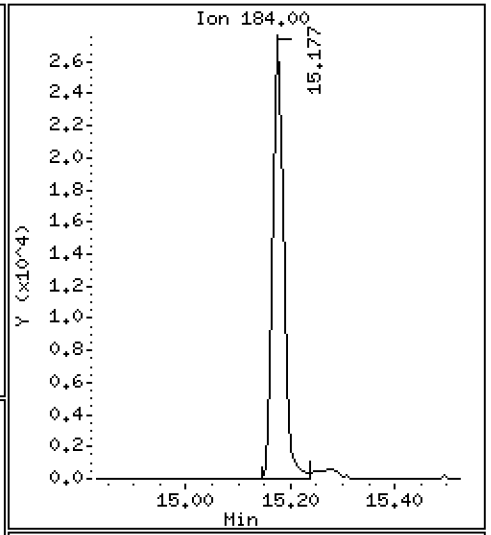
Column phase: ZB-5msi

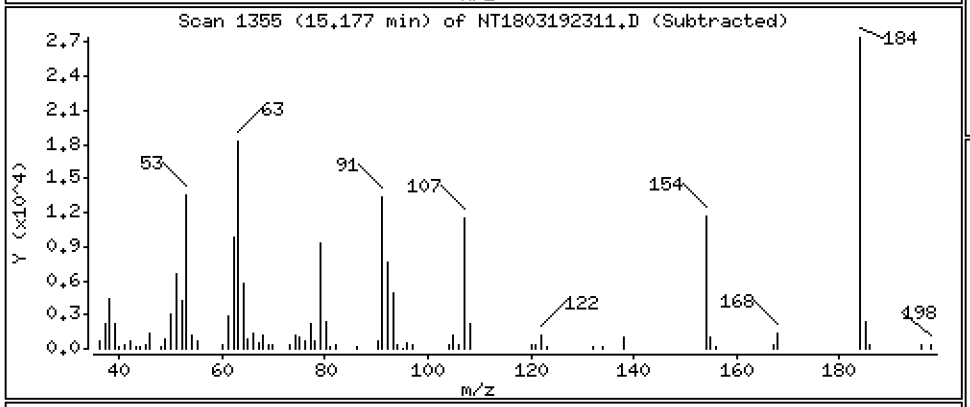
Column diameter: 0.25

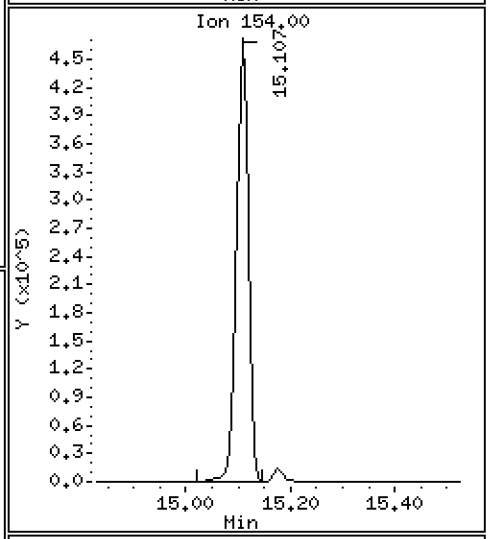
45 2,4-Dinitrophenol

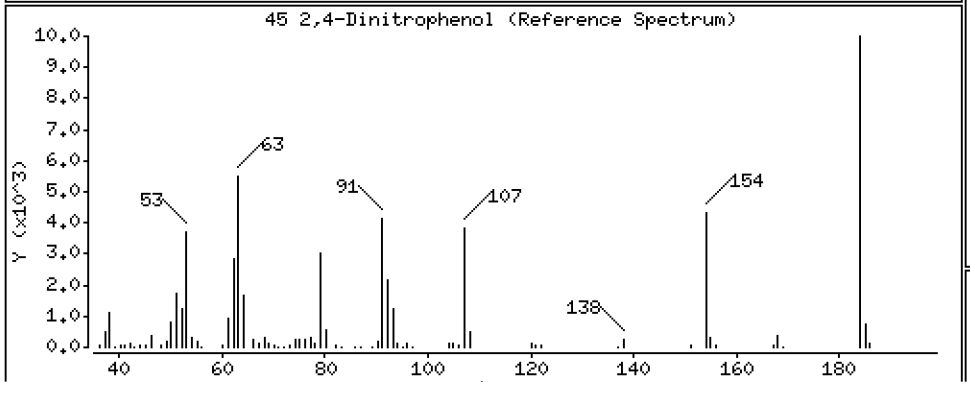
Concentration: 1.887 ug/mL

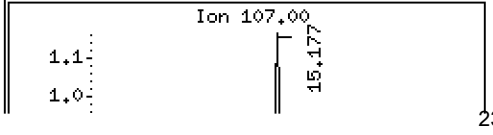












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

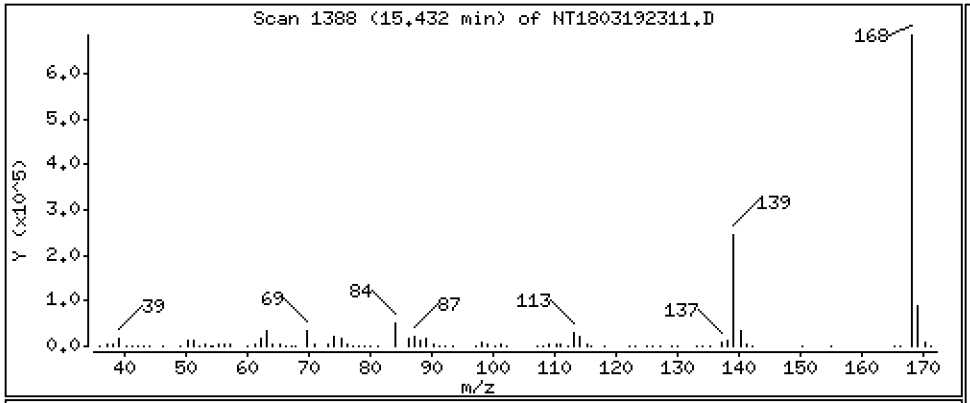
Operator: VTS

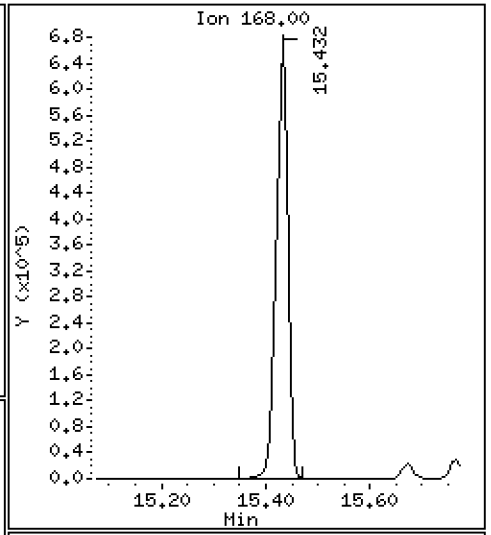
Column phase: ZB-5msi

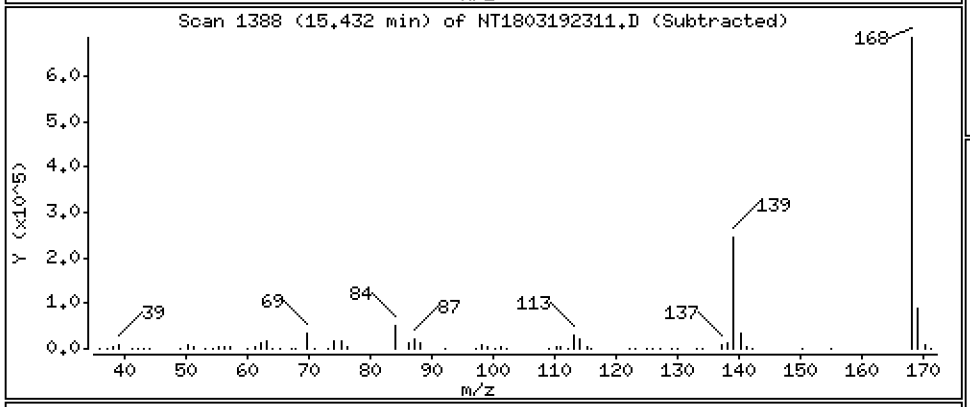
Column diameter: 0.25

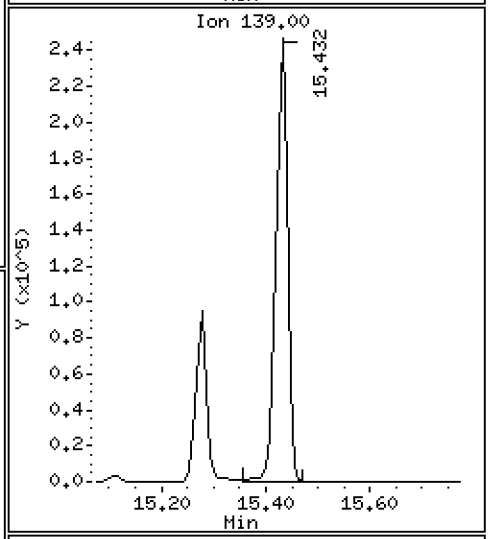
46 Dibenzofuran

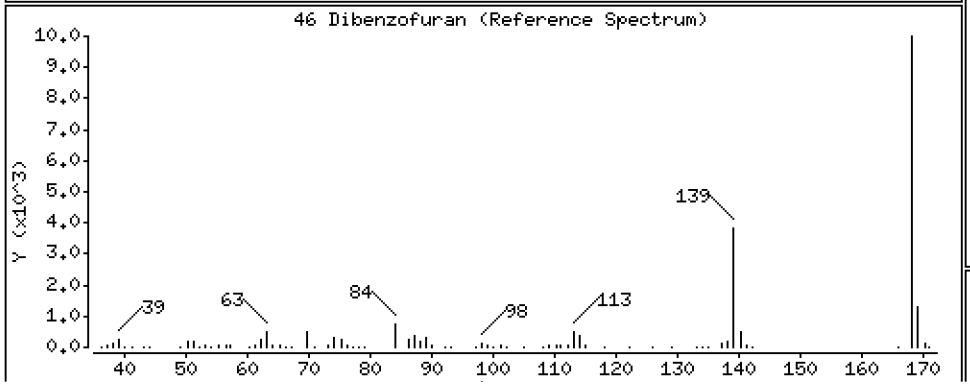
Concentration: 4.756 ug/mL

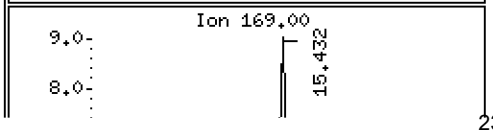












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

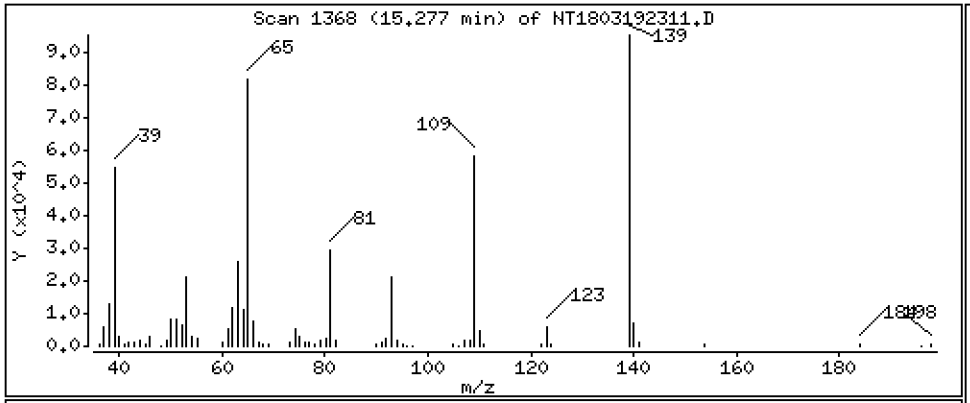
Operator: VTS

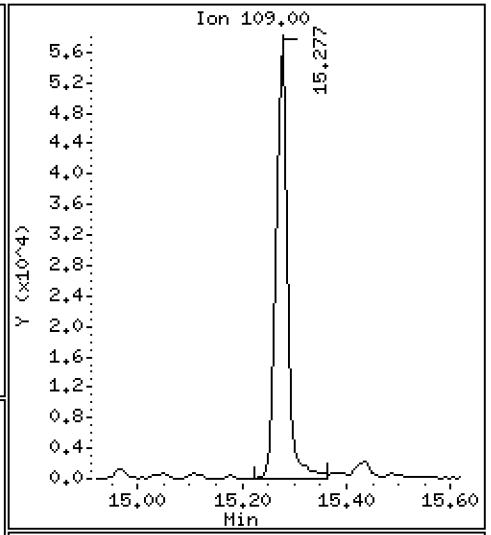
Column phase: ZB-5msi

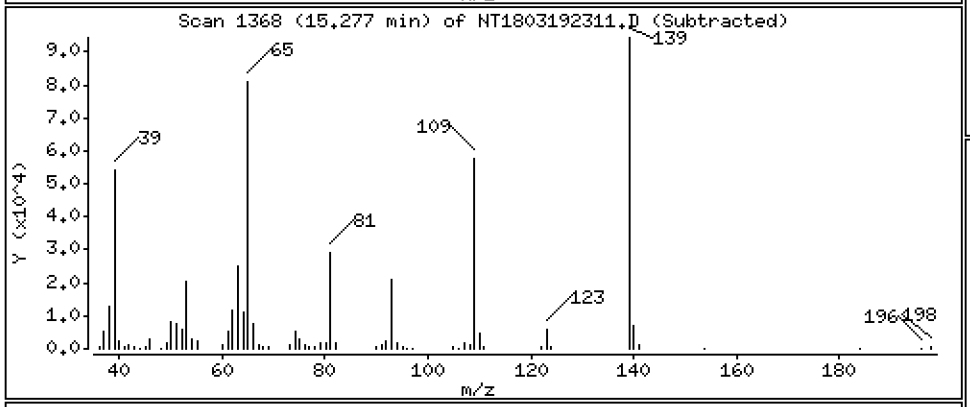
Column diameter: 0.25

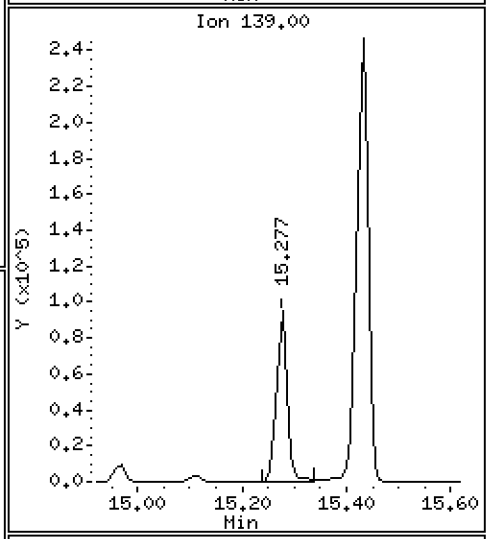
47 4-Nitrophenol

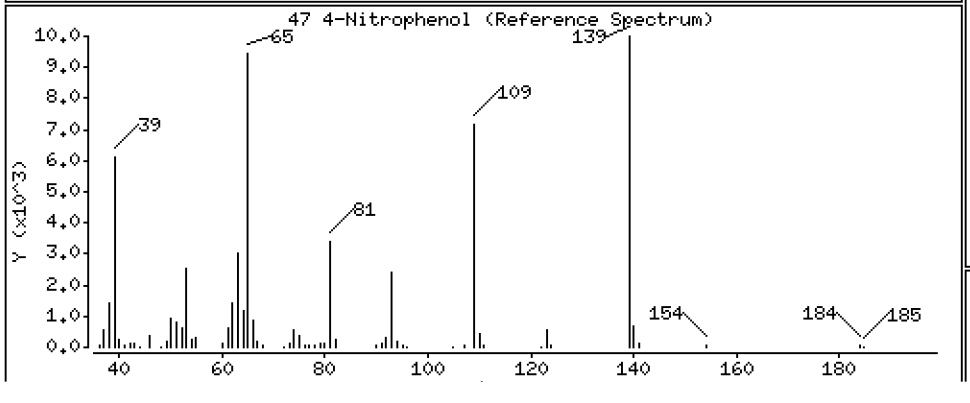
Concentration: 4.128 ug/mL











Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

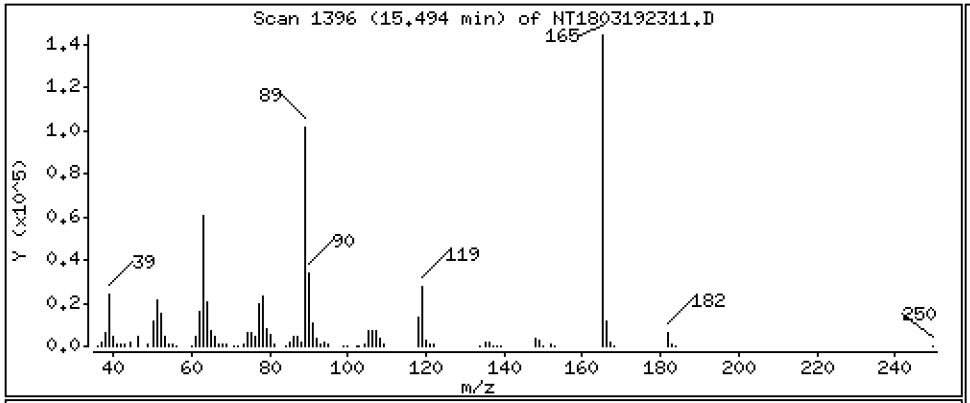
Operator: VTS

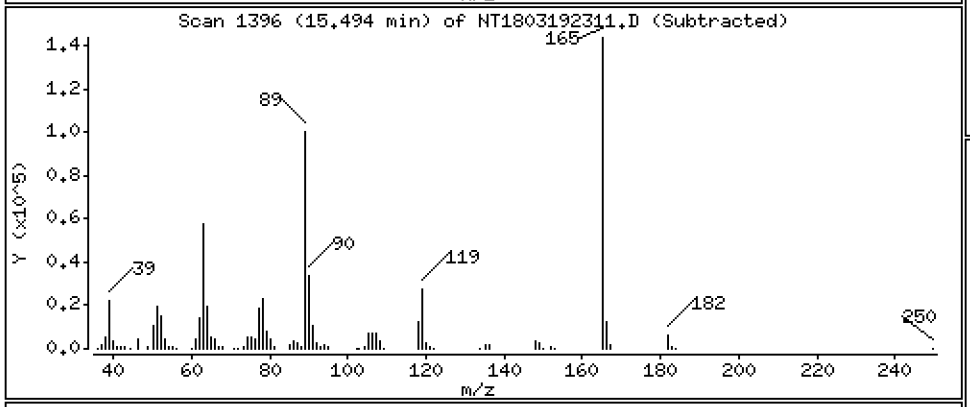
Column phase: ZB-5msi

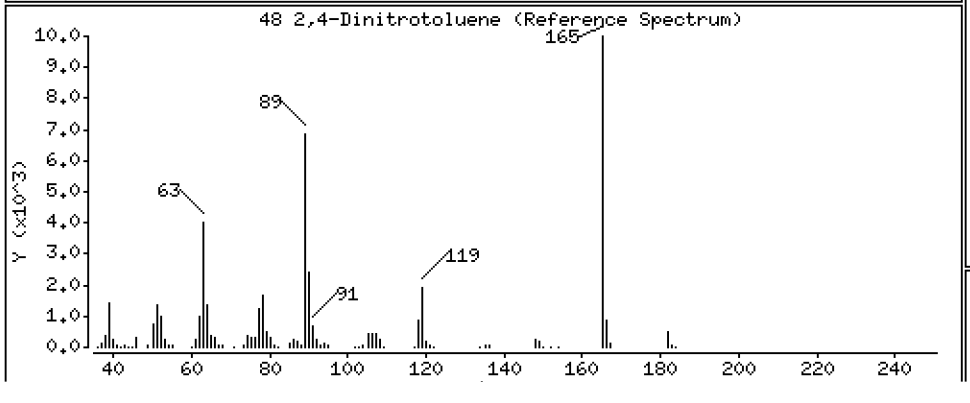
Column diameter: 0.25

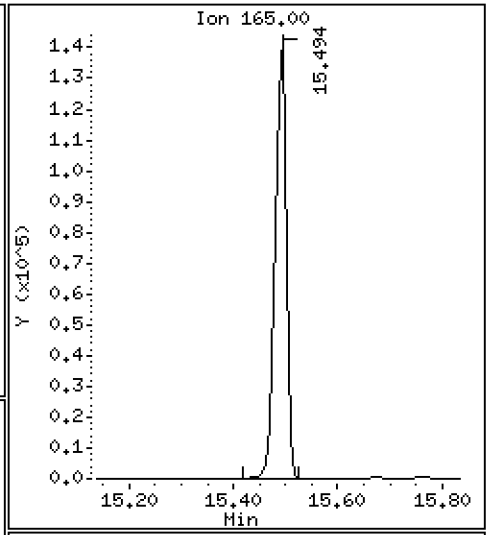
48 2,4-Dinitrotoluene

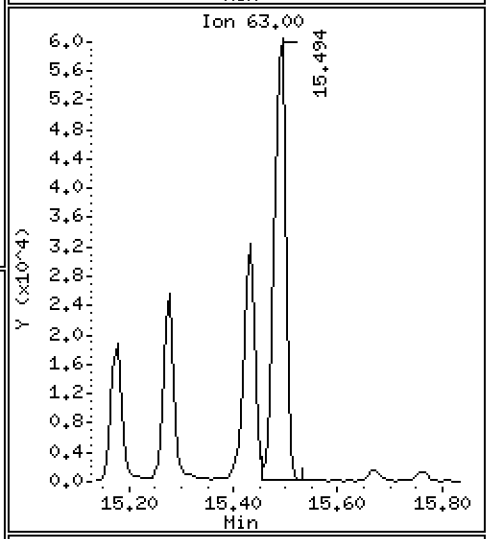
Concentration: 4.481 ug/mL

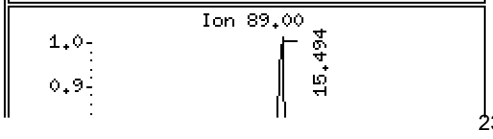












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

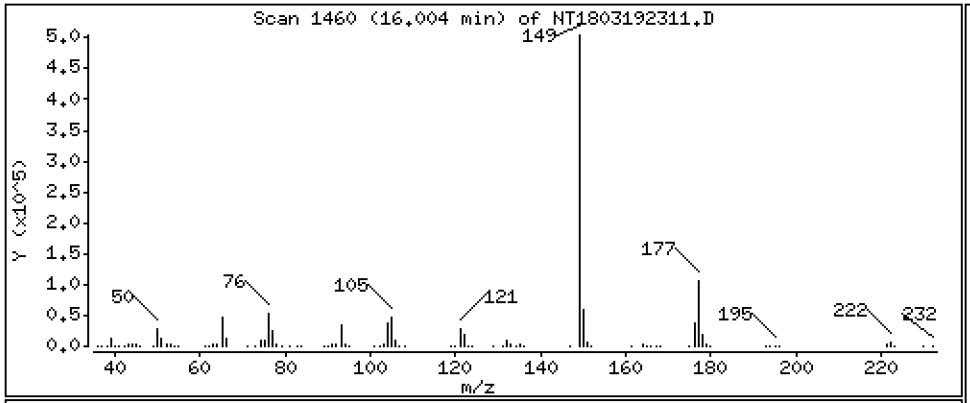
Operator: VTS

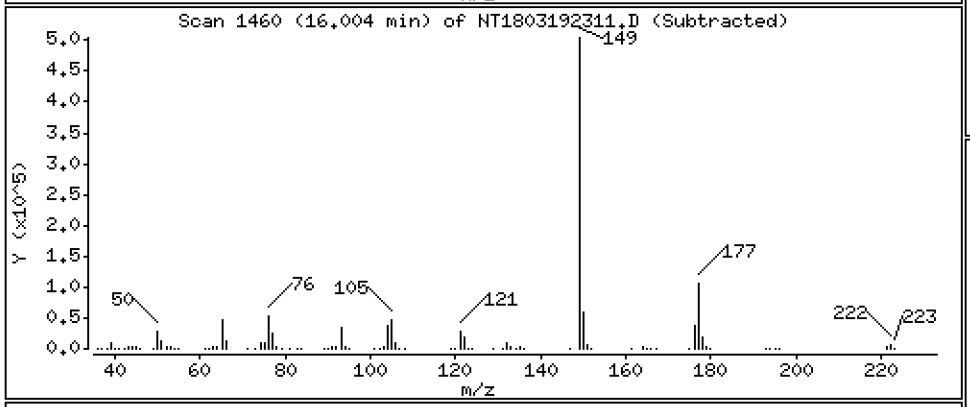
Column phase: ZB-5msi

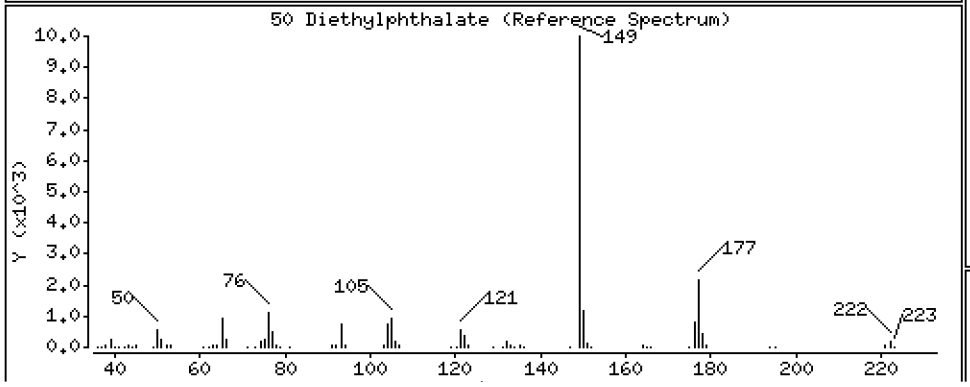
Column diameter: 0.25

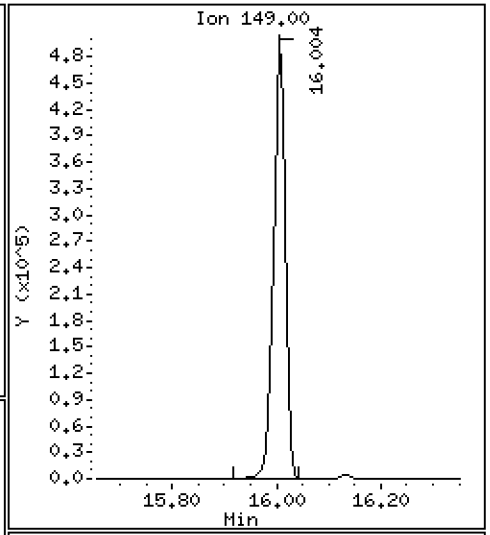
50 Diethylphthalate

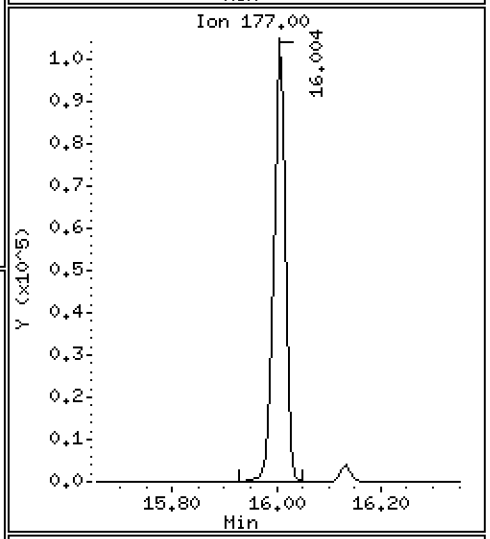
Concentration: 5.021 ug/mL

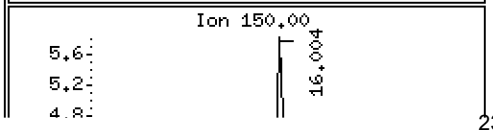












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

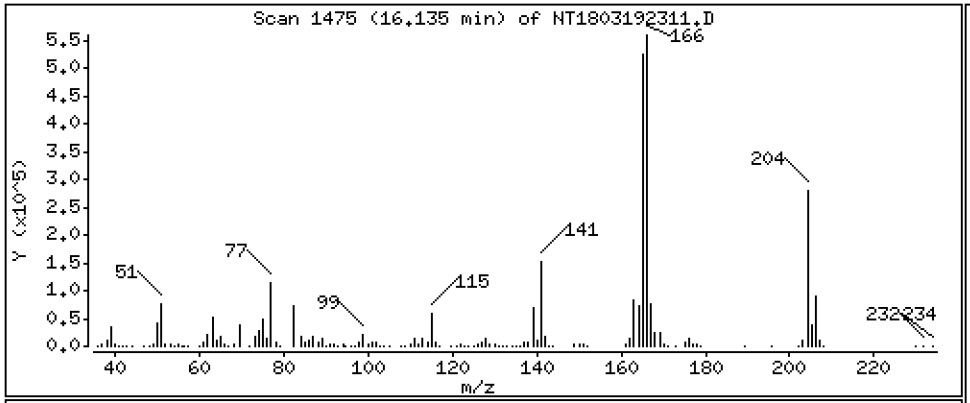
Operator: VTS

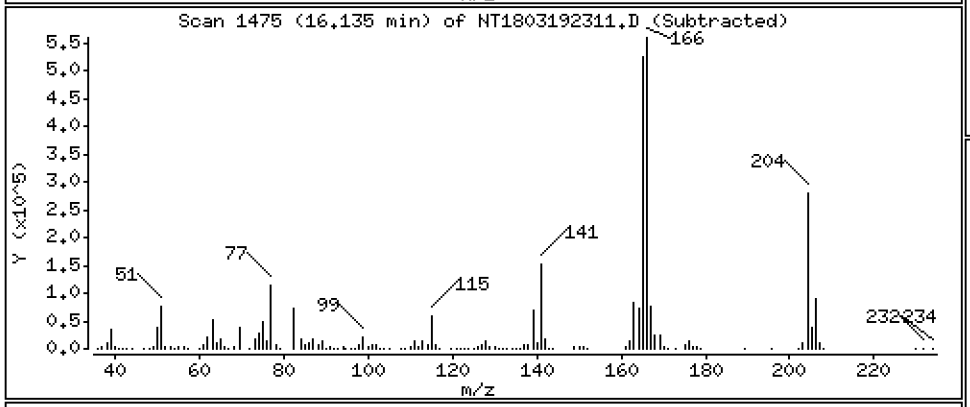
Column phase: ZB-5msi

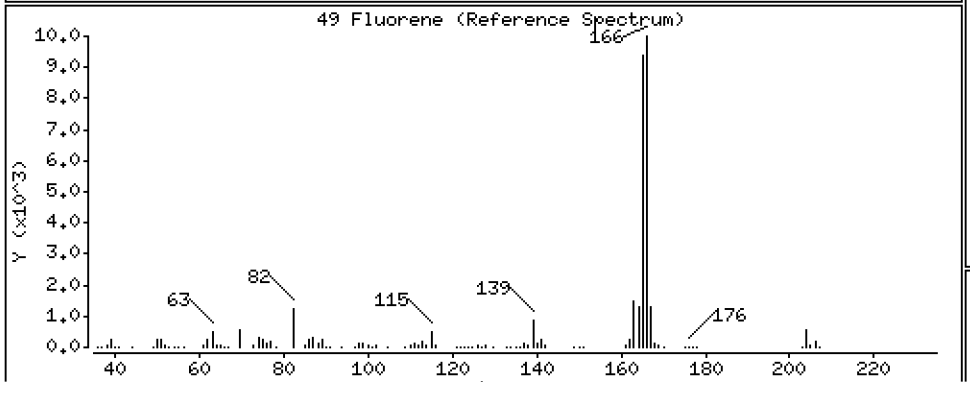
Column diameter: 0.25

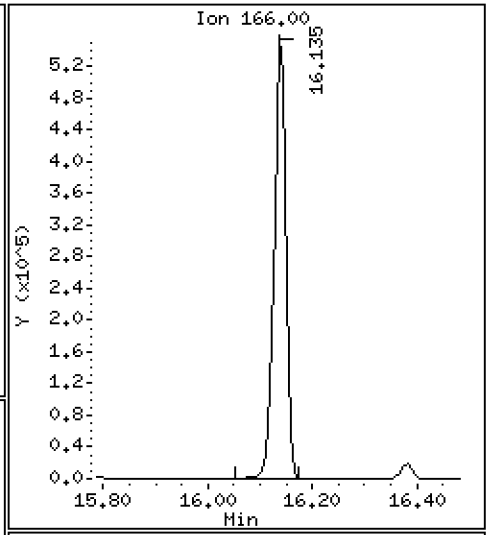
49 Fluorene

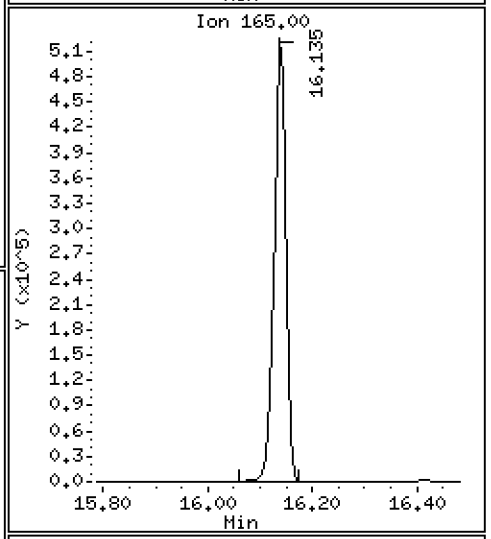
Concentration: 5.040 ug/mL

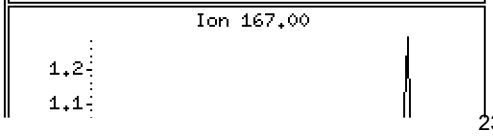












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

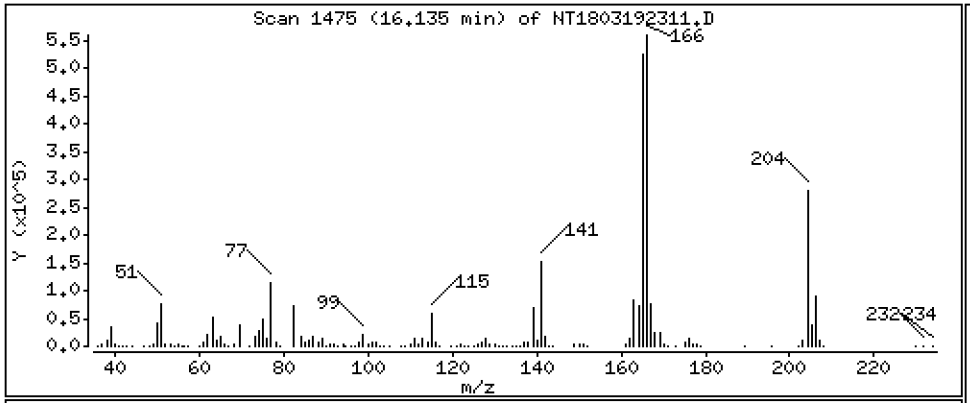
Operator: VTS

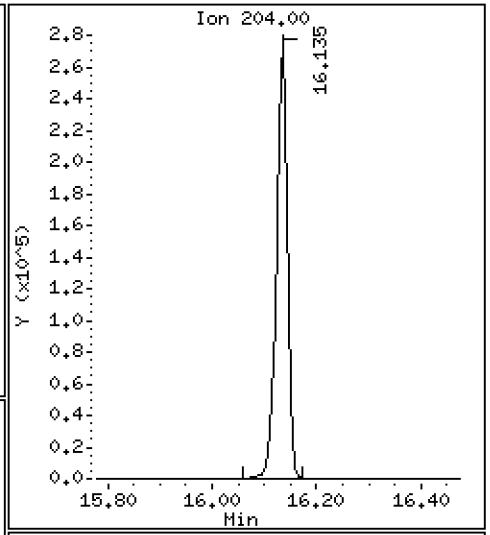
Column phase: ZB-5msi

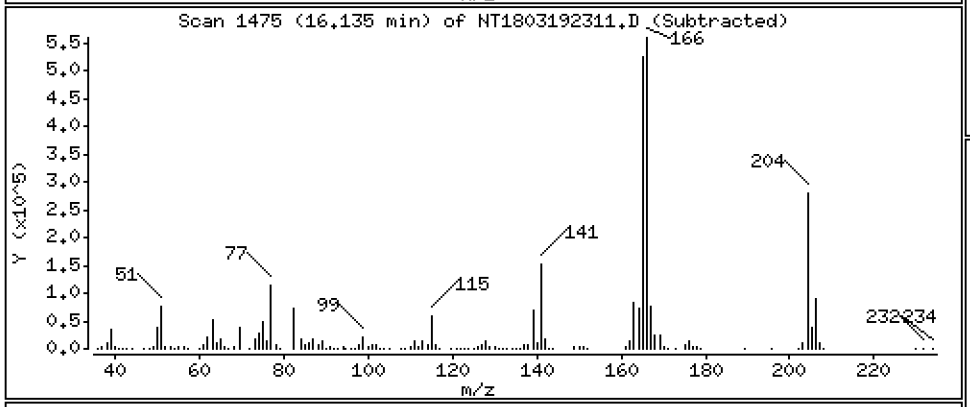
Column diameter: 0.25

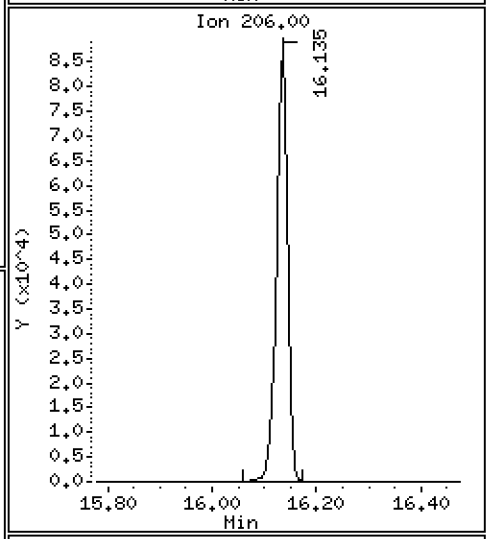
51 4-Chlorophenyl-phenylether

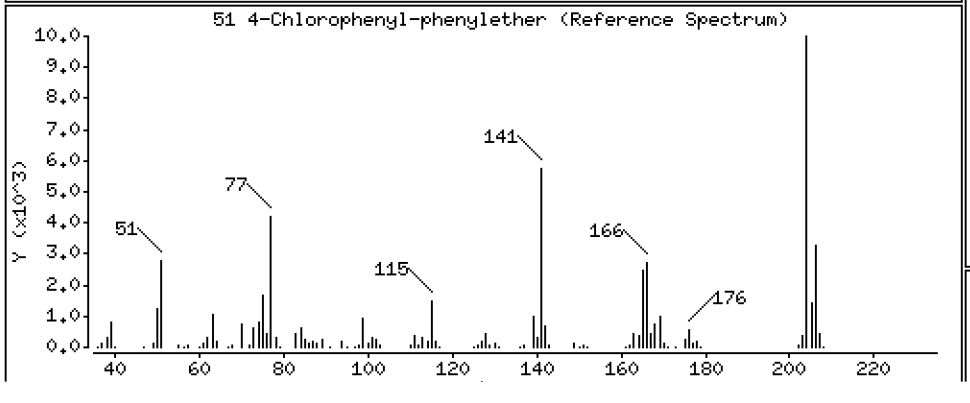
Concentration: 5.398 ug/mL

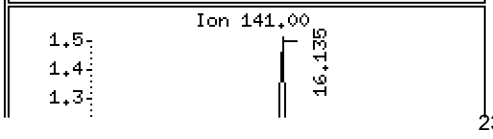












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

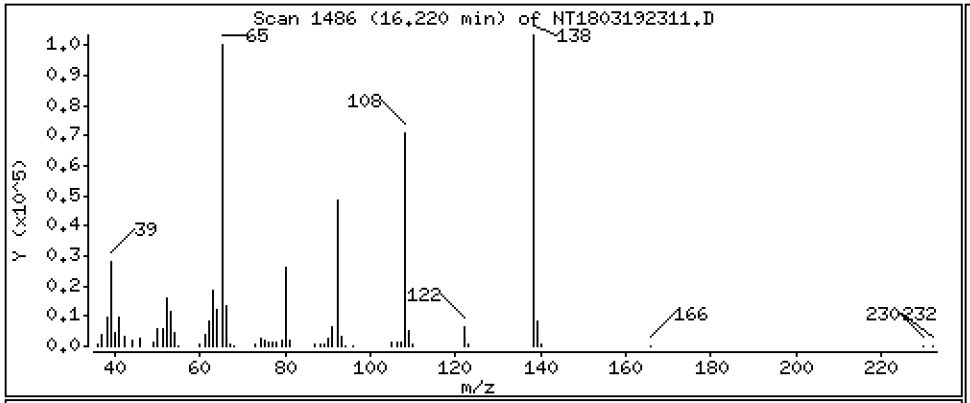
Operator: VTS

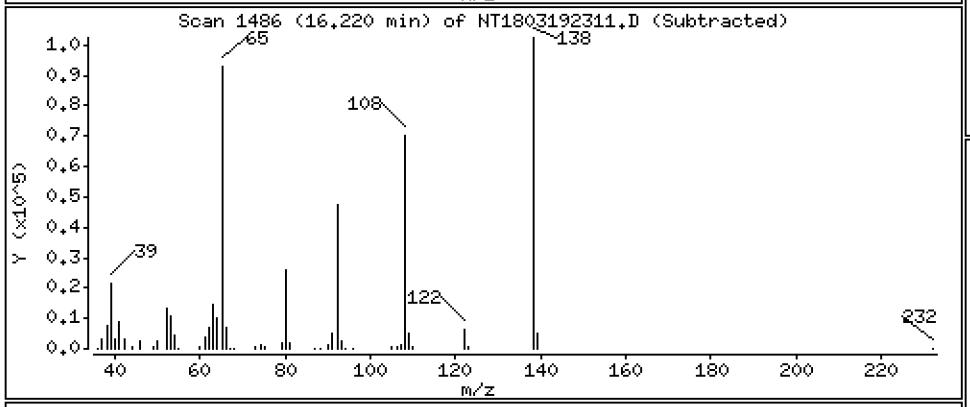
Column phase: ZB-5msi

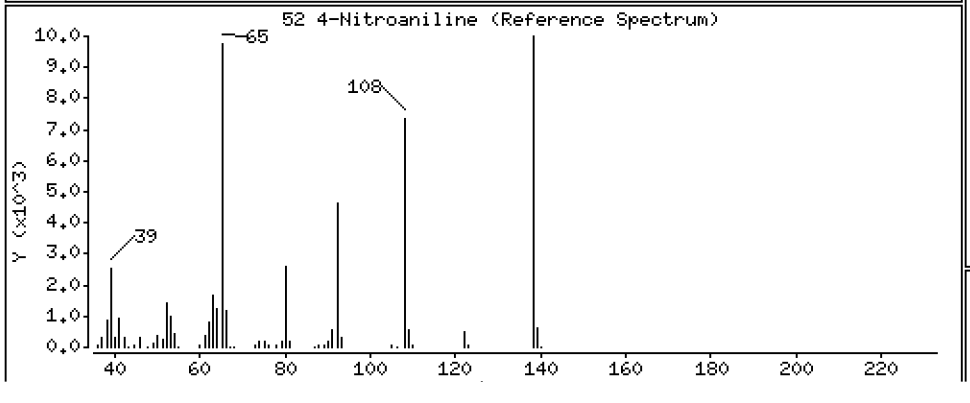
Column diameter: 0.25

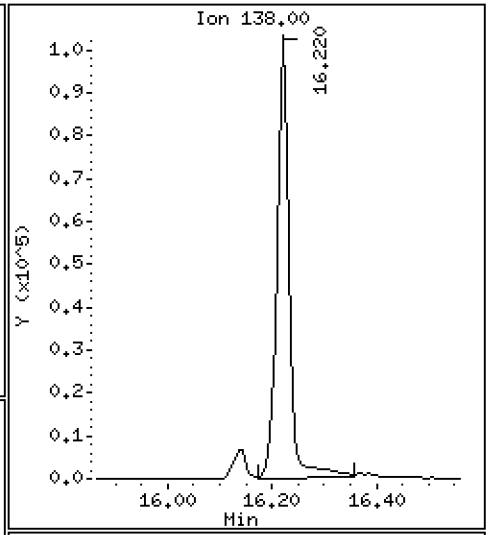
52 4-Nitroaniline

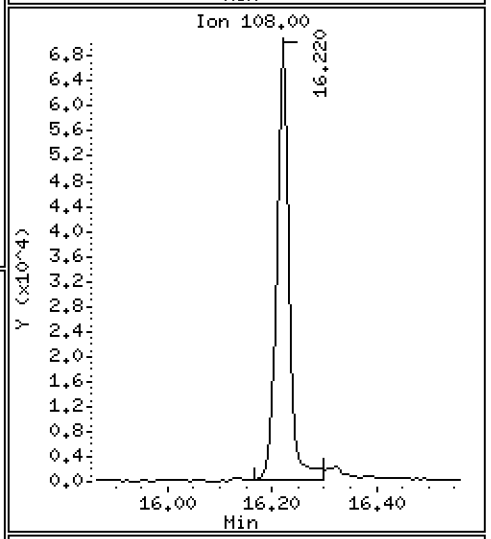
Concentration: 4.323 ug/mL

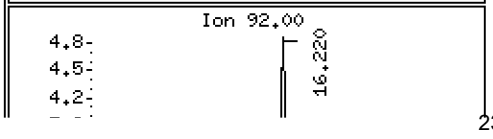












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

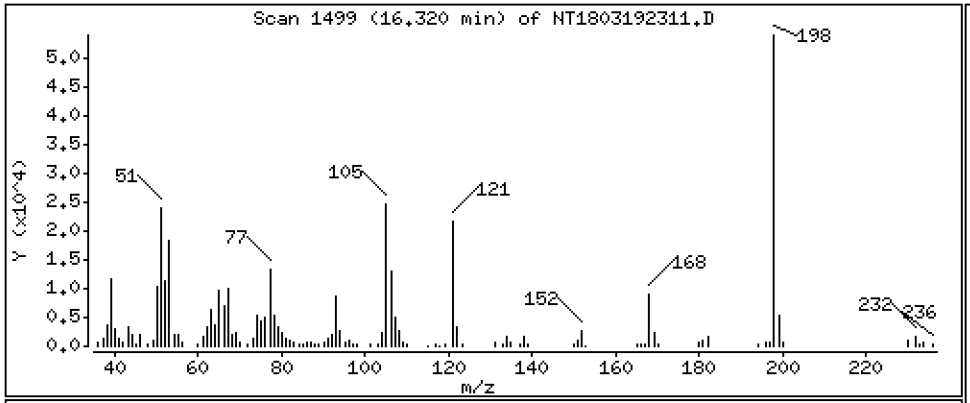
Operator: VTS

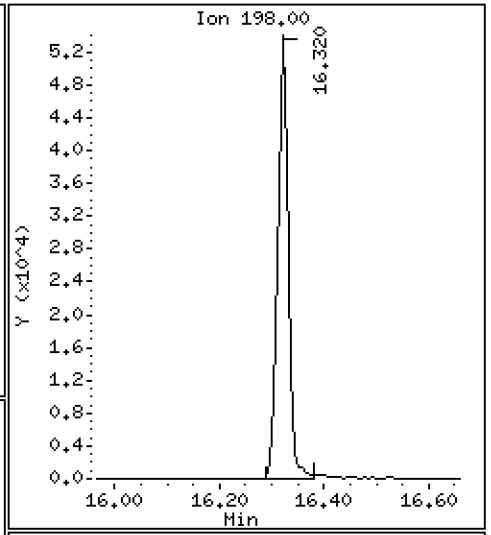
Column phase: ZB-5msi

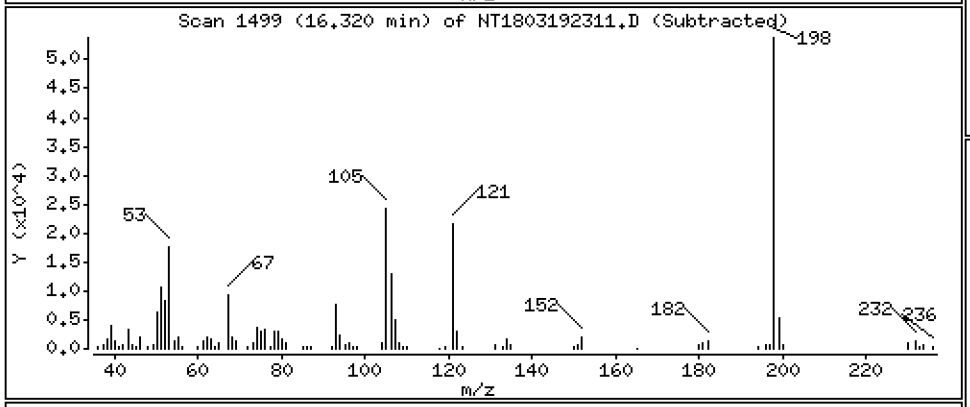
Column diameter: 0.25

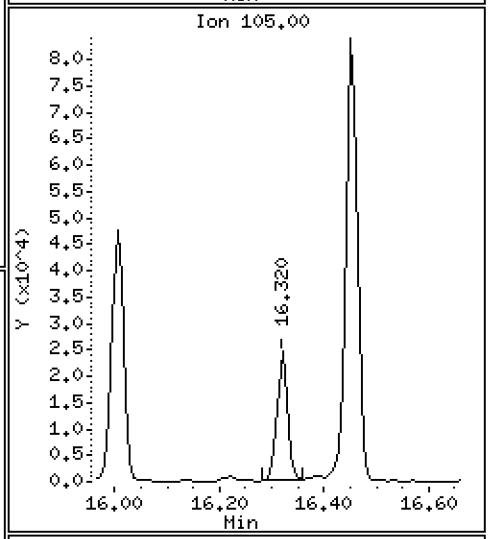
53 4,6-Dinitro-2-methylphenol

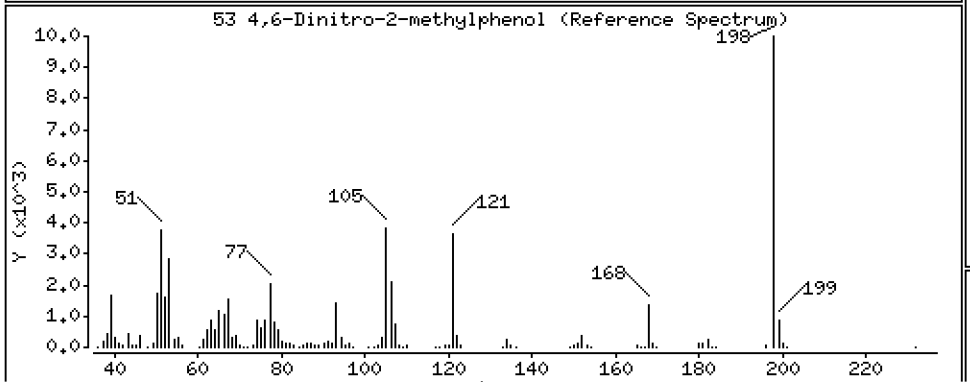
Concentration: 3.088 ug/mL

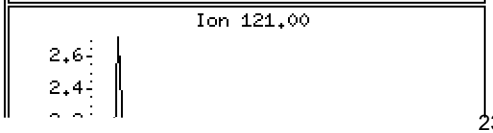












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

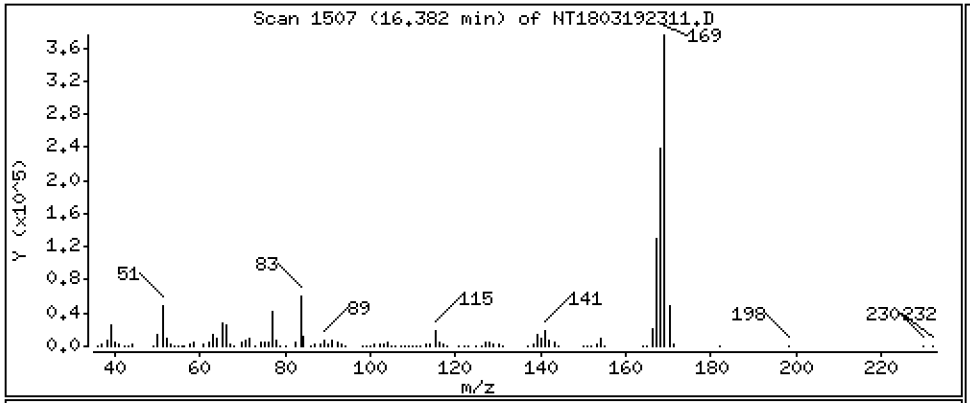
Operator: VTS

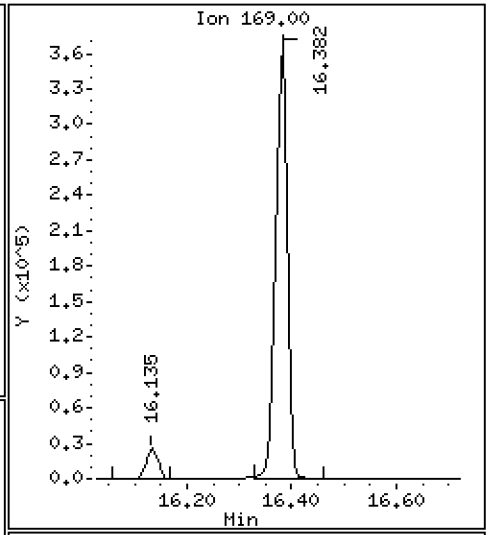
Column phase: ZB-5msi

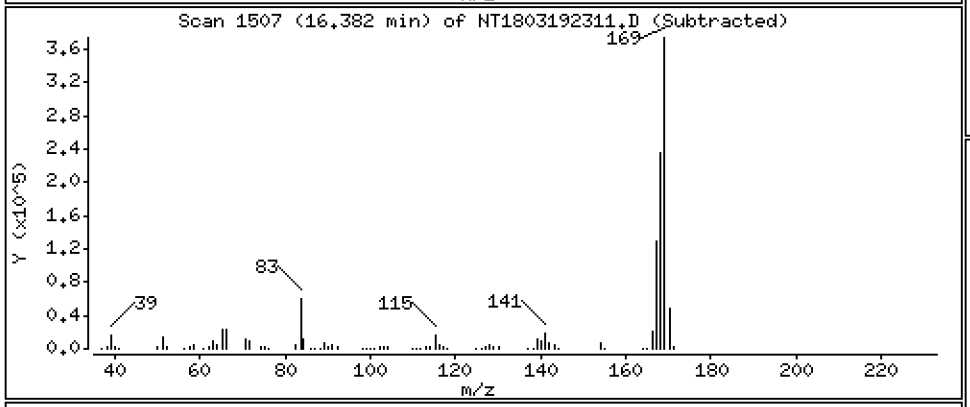
Column diameter: 0.25

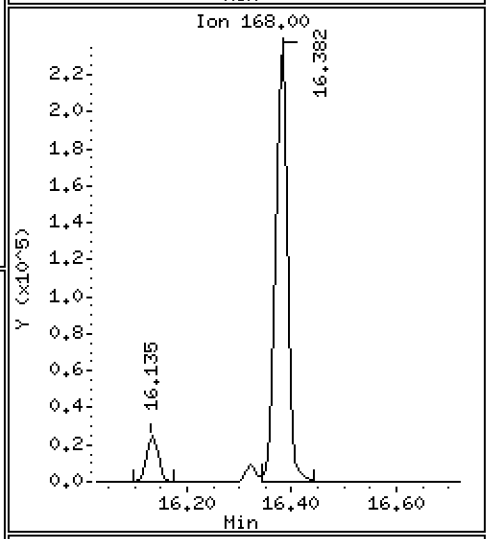
54 N-Nitrosodiphenylamine

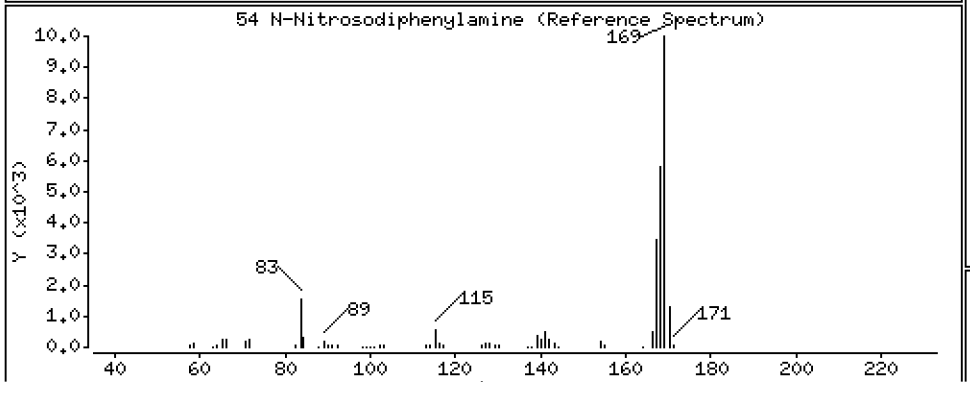
Concentration: 5.077 ug/mL

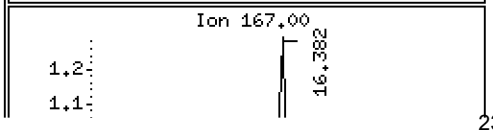












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

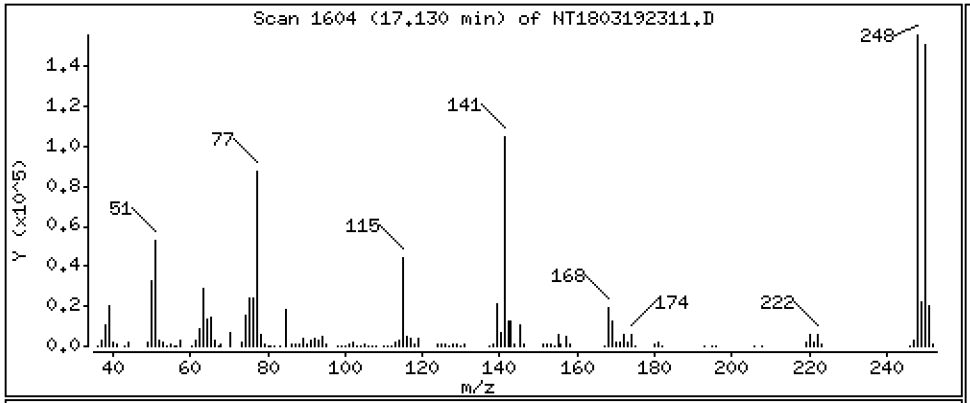
Operator: VTS

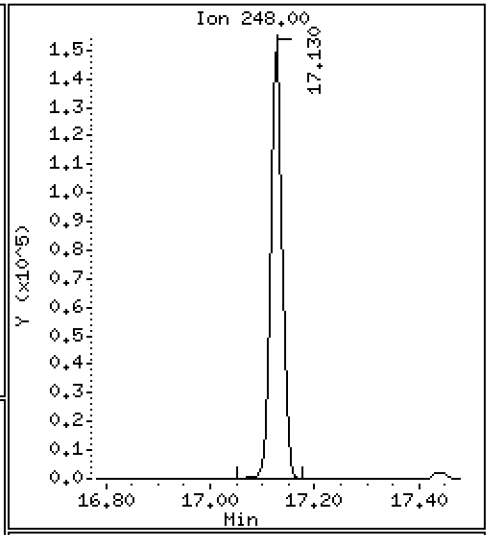
Column phase: ZB-5msi

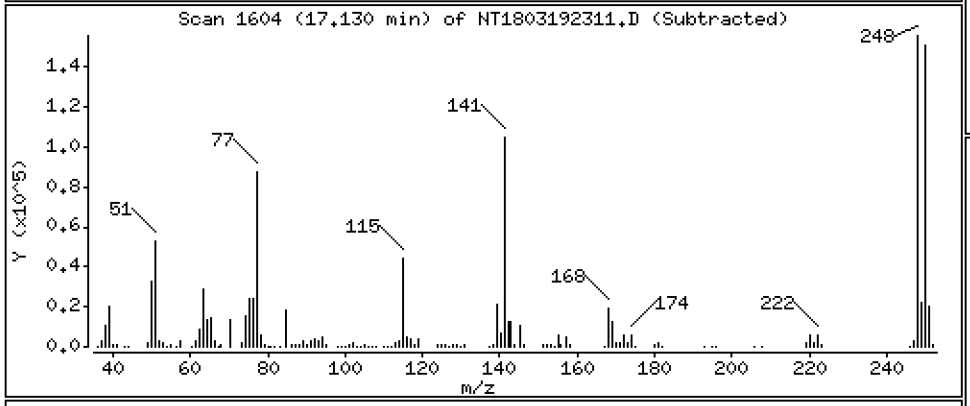
Column diameter: 0.25

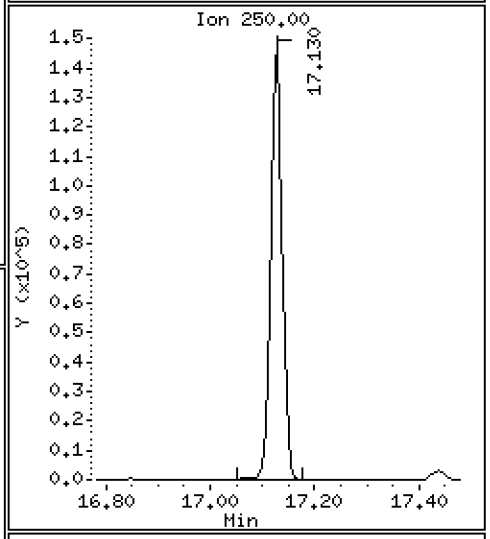
56 4-Bromophenyl-phenylether

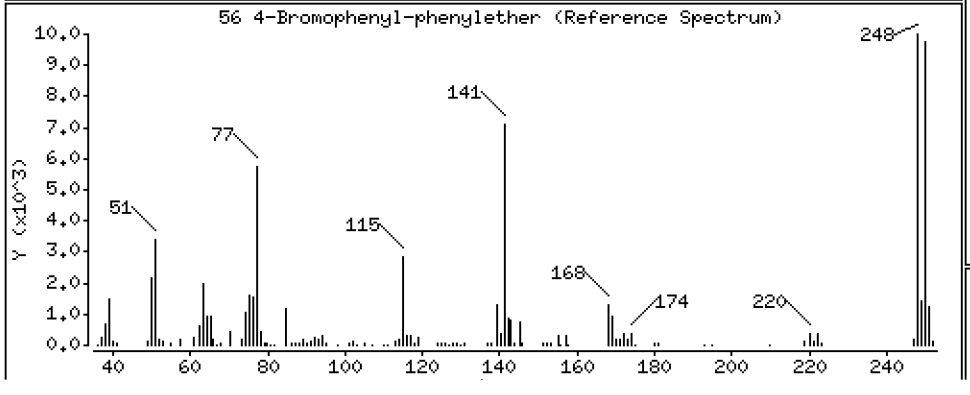
Concentration: 5.335 ug/mL

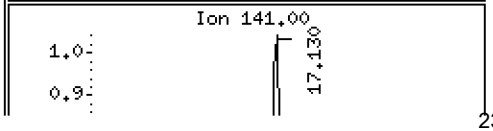












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

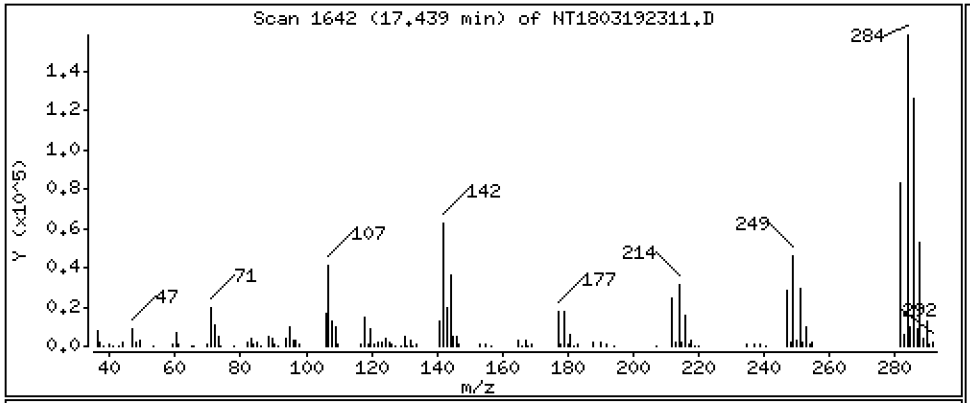
Operator: VTS

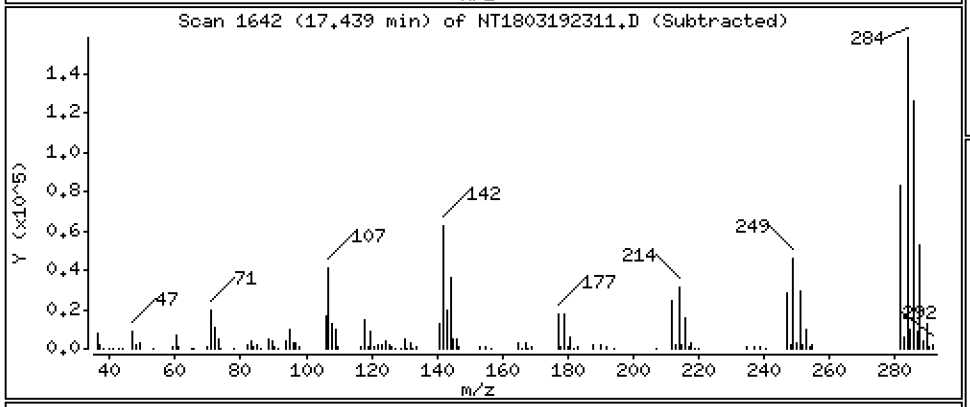
Column phase: ZB-5msi

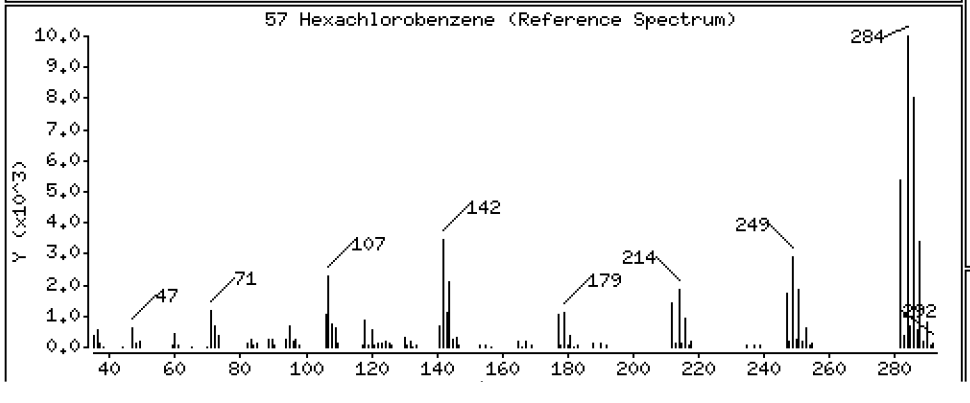
Column diameter: 0.25

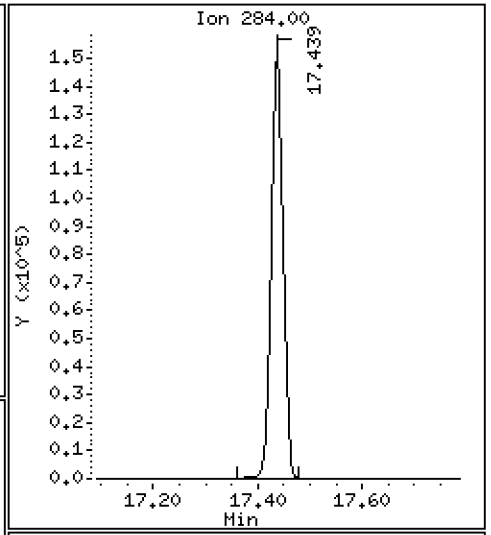
57 Hexachlorobenzene

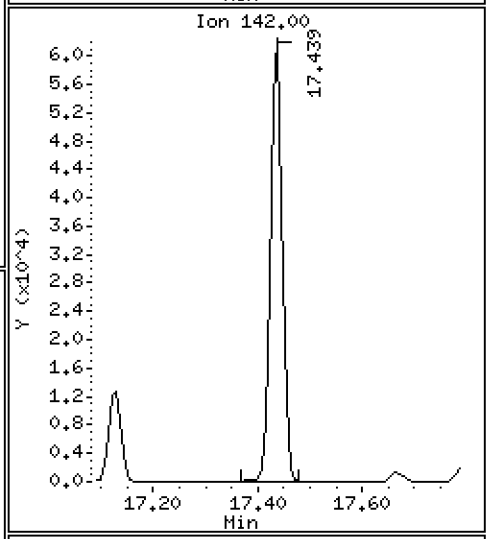
Concentration: 4.899 ug/mL

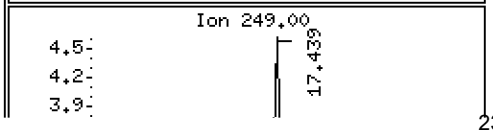












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

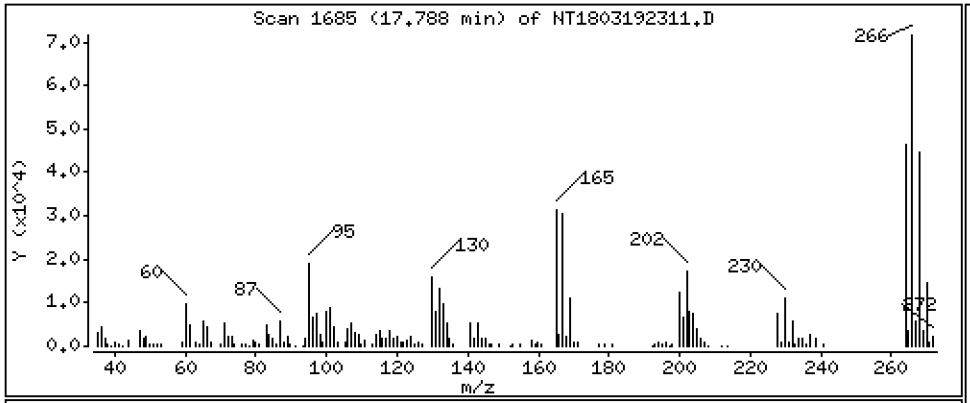
Operator: VTS

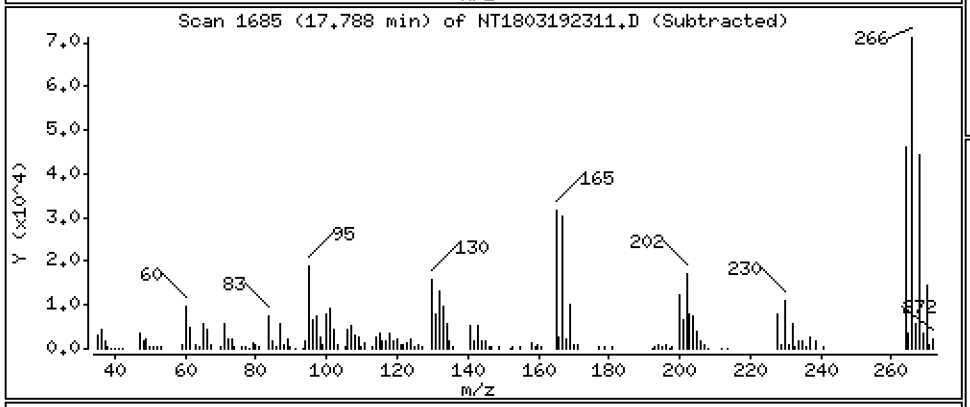
Column phase: ZB-5msi

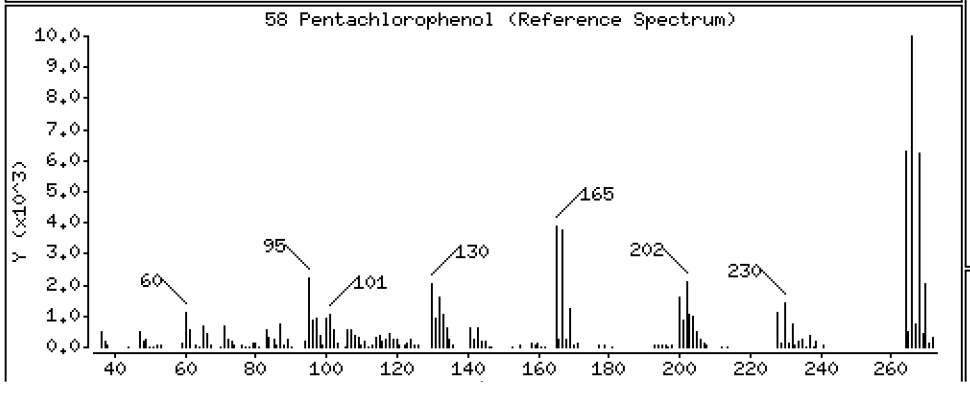
Column diameter: 0.25

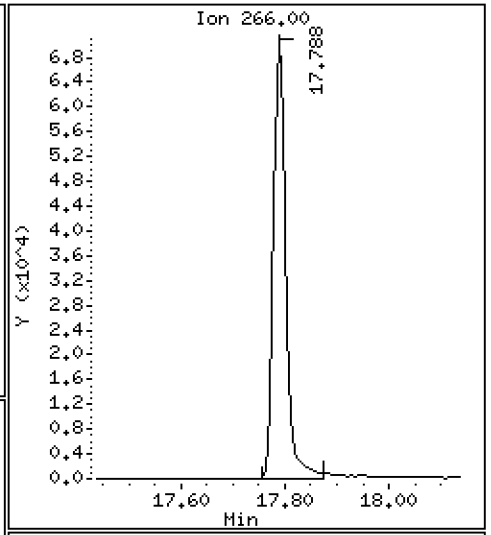
58 Pentachlorophenol

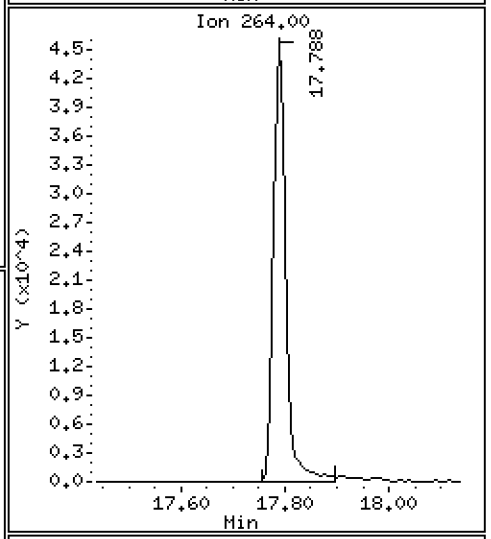
Concentration: 3.802 ug/mL

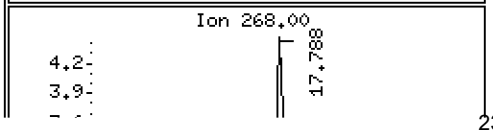












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

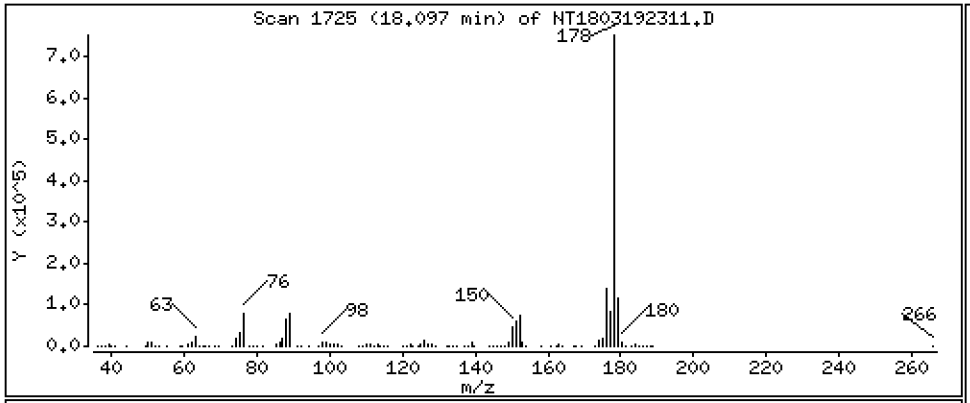
Operator: VTS

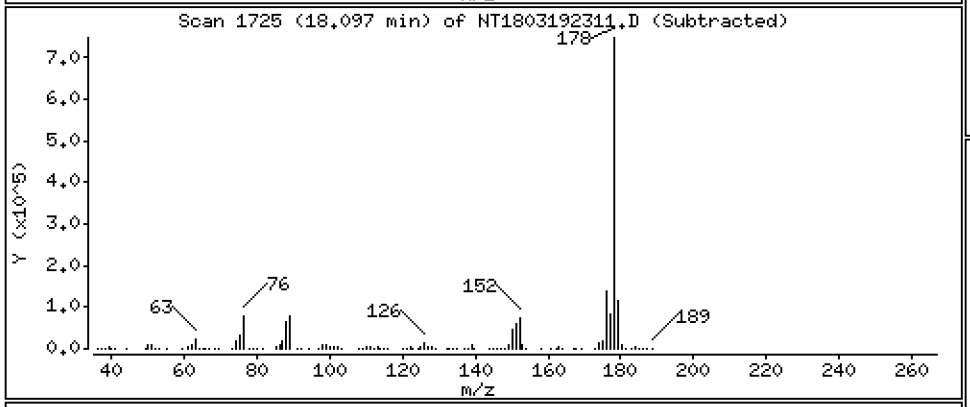
Column phase: ZB-5msi

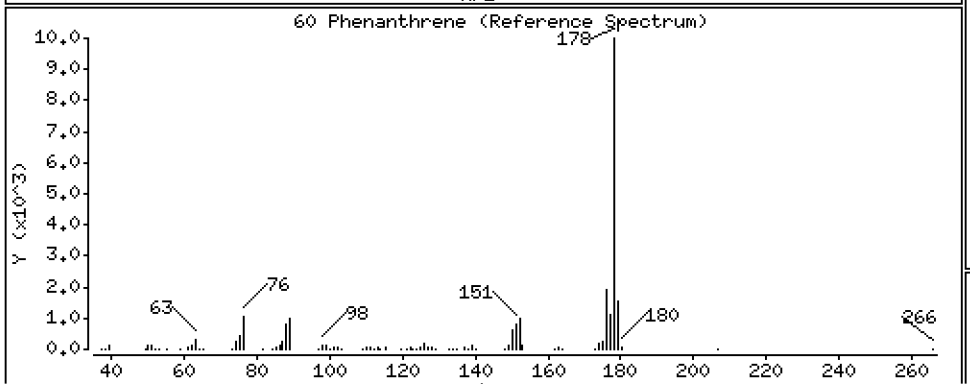
Column diameter: 0.25

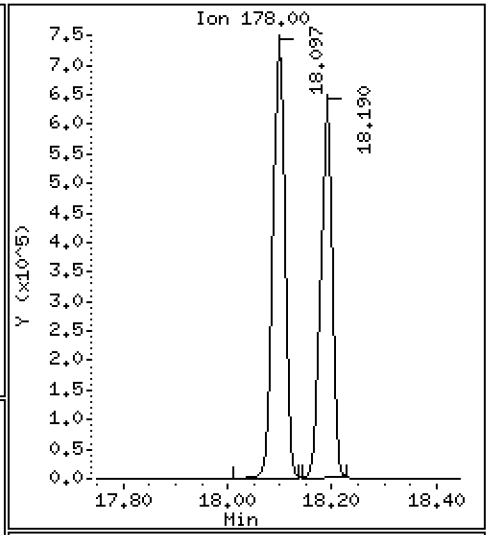
60 Phenanthrene

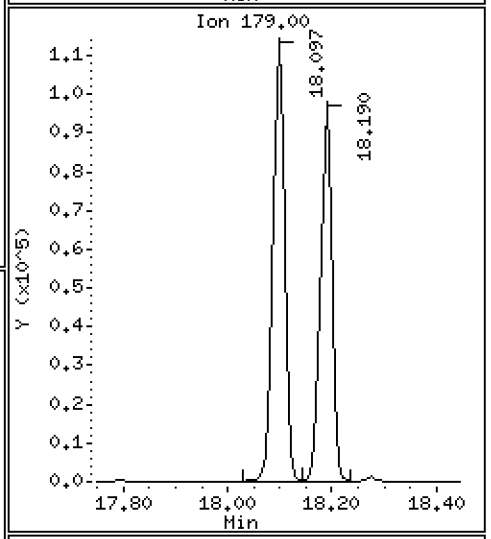
Concentration: 4.825 ug/mL

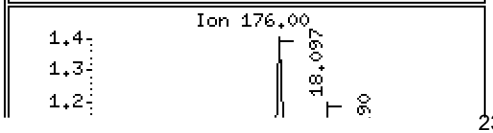












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

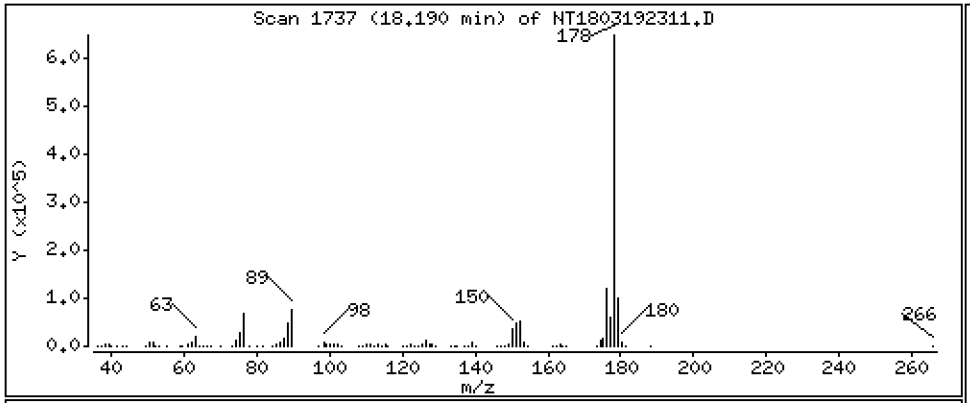
Operator: VTS

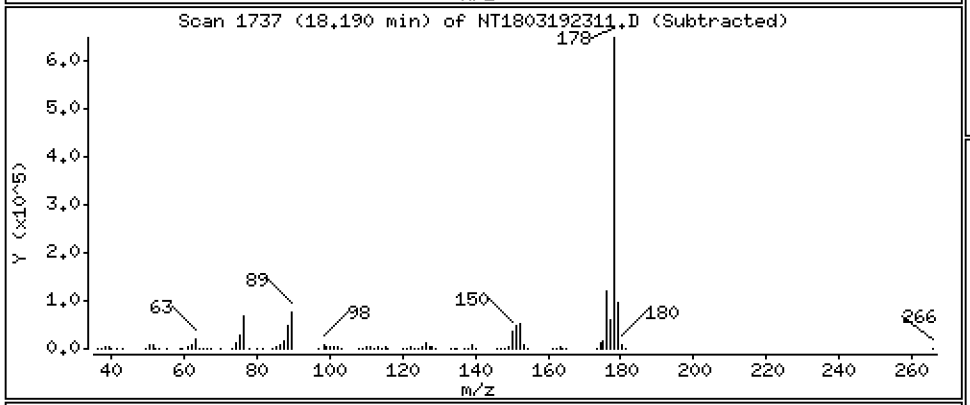
Column phase: ZB-5msi

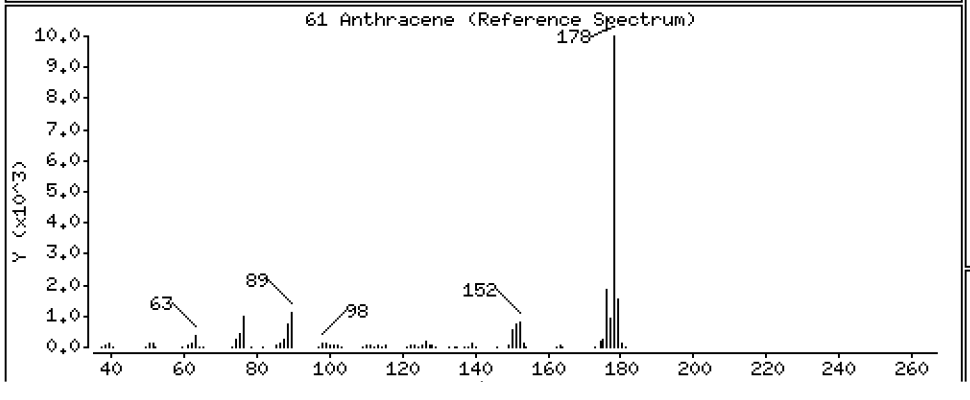
Column diameter: 0.25

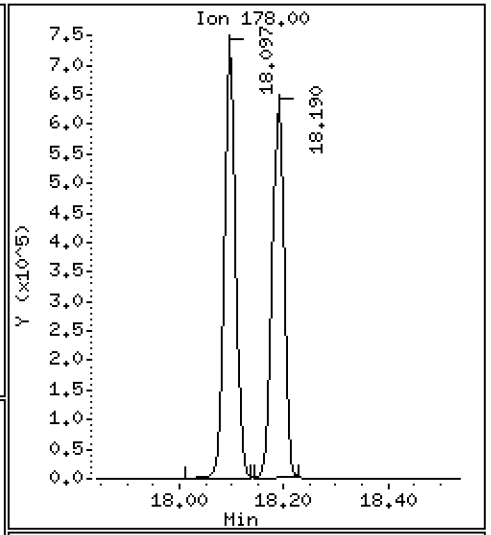
61 Anthracene

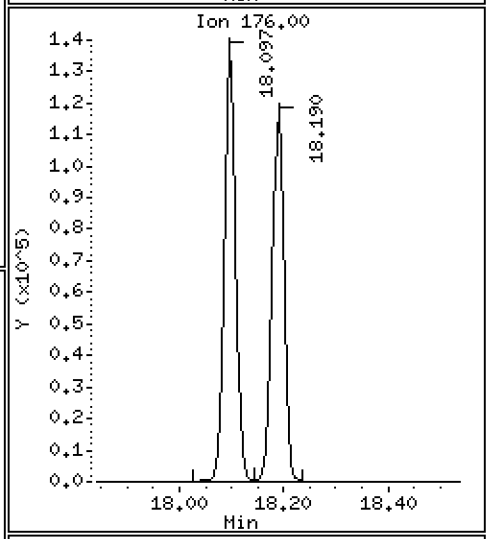
Concentration: 4.270 ug/mL

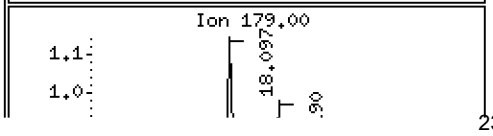












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

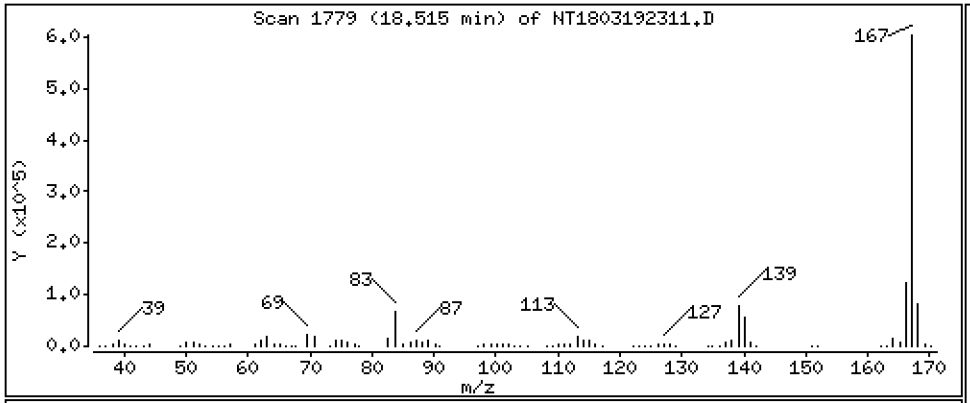
Operator: VTS

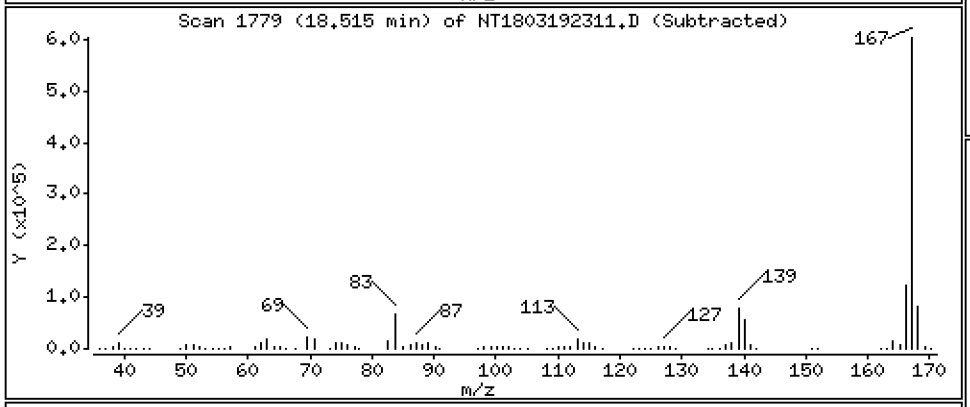
Column phase: ZB-5msi

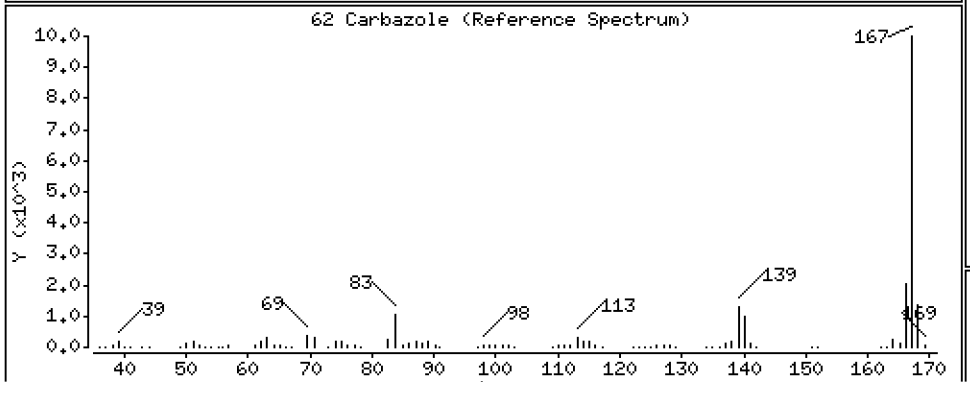
Column diameter: 0.25

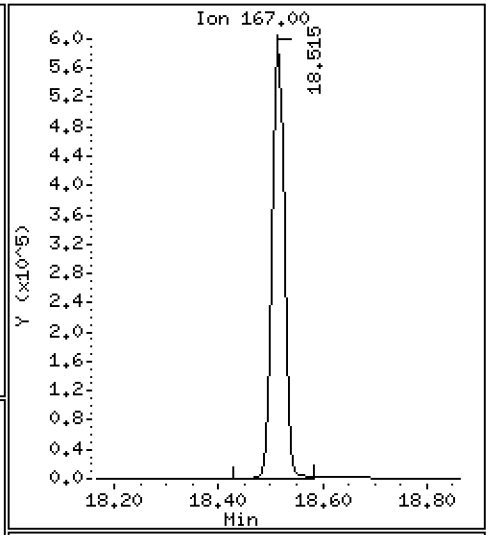
62 Carbazole

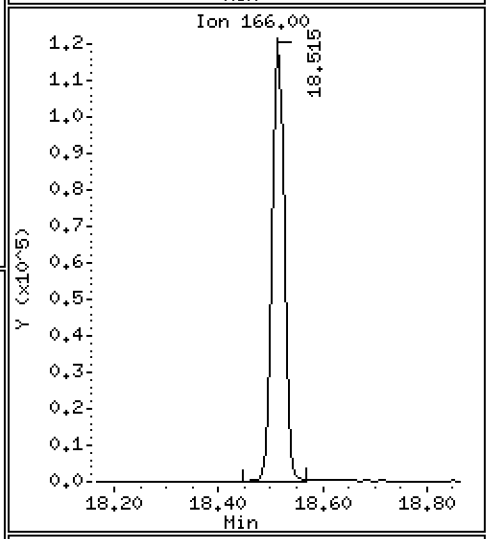
Concentration: 4.679 ug/mL

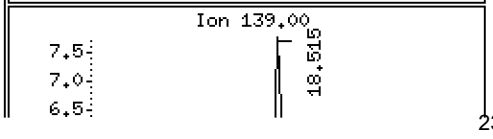












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

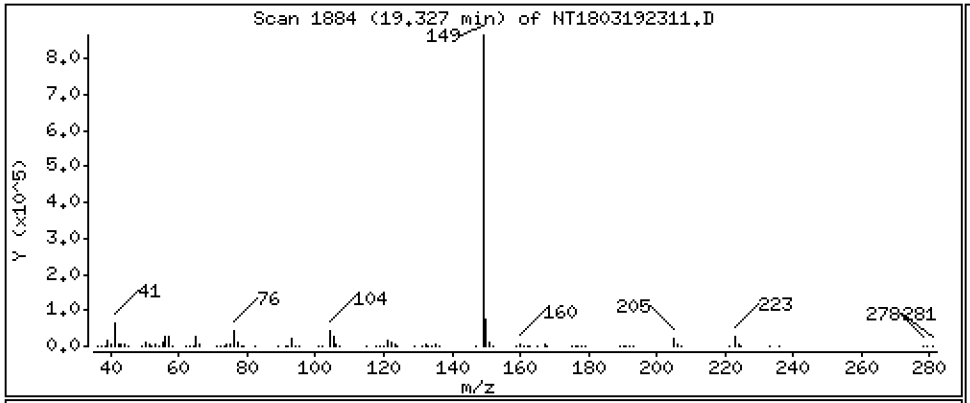
Operator: VTS

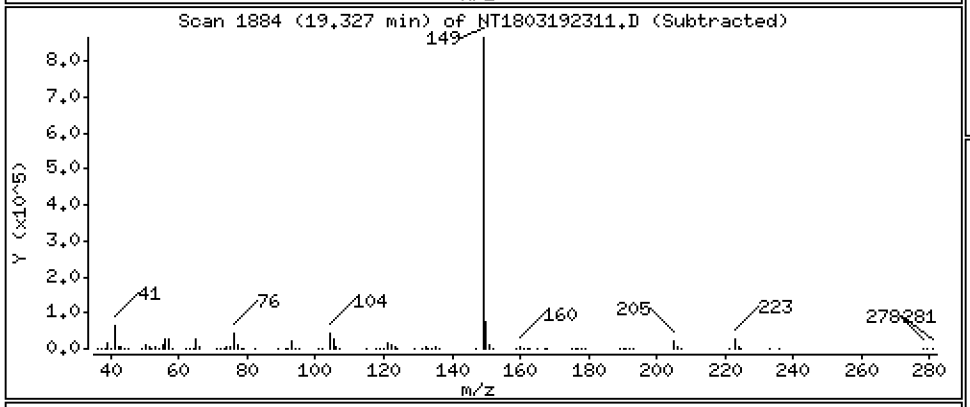
Column phase: ZB-5msi

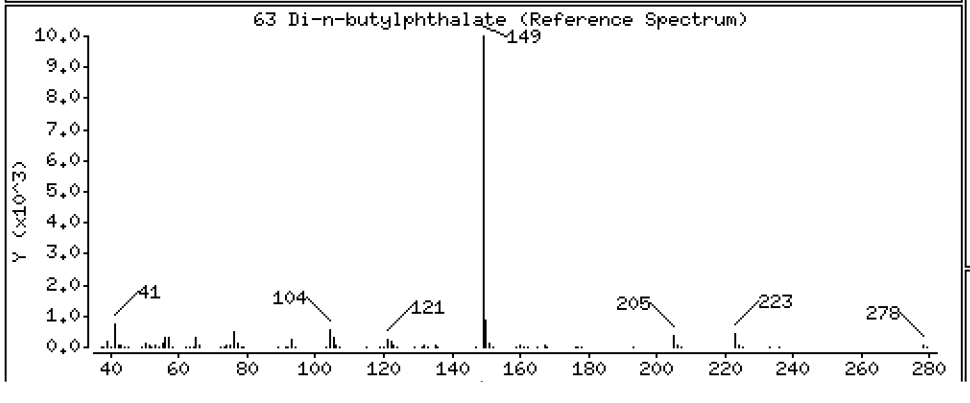
Column diameter: 0.25

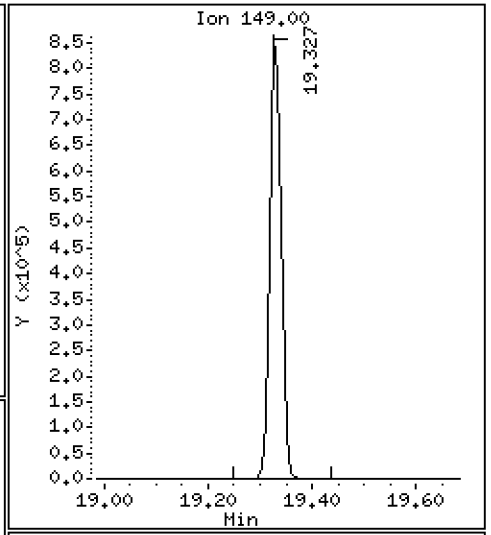
63 Di-n-butylphthalate

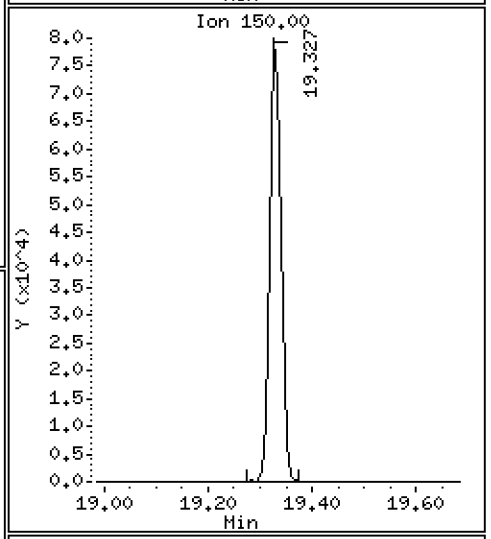
Concentration: 4.839 ug/mL

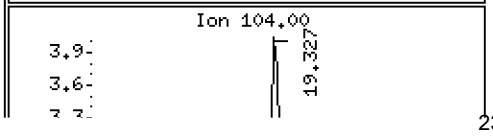












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

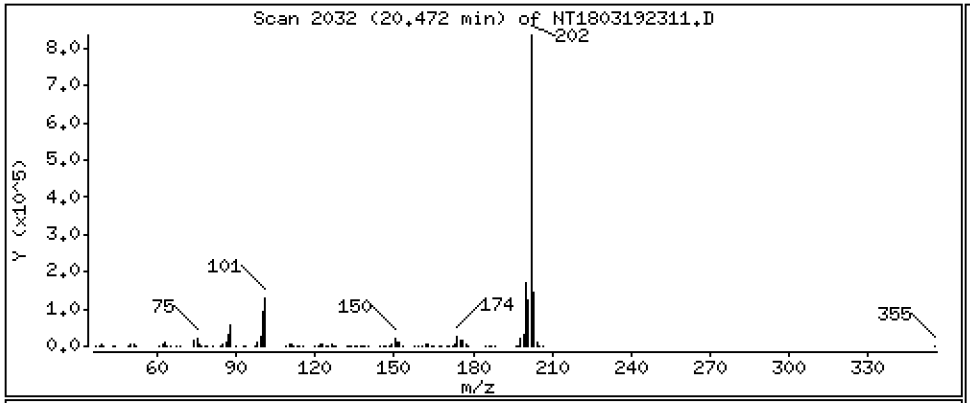
Operator: VTS

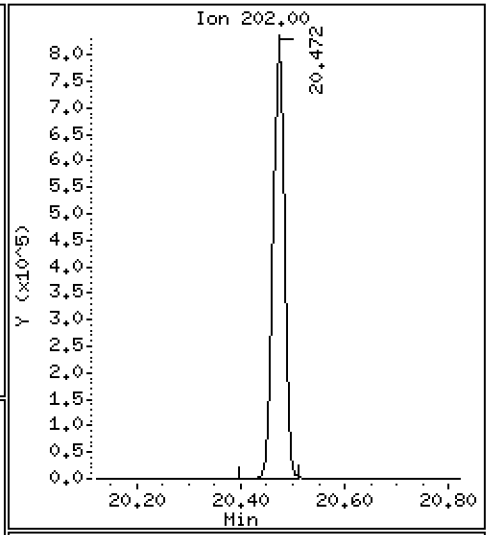
Column phase: ZB-5msi

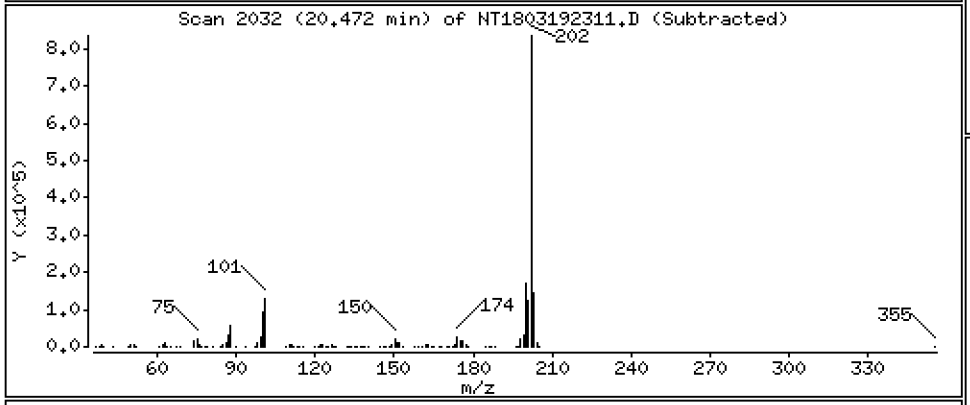
Column diameter: 0.25

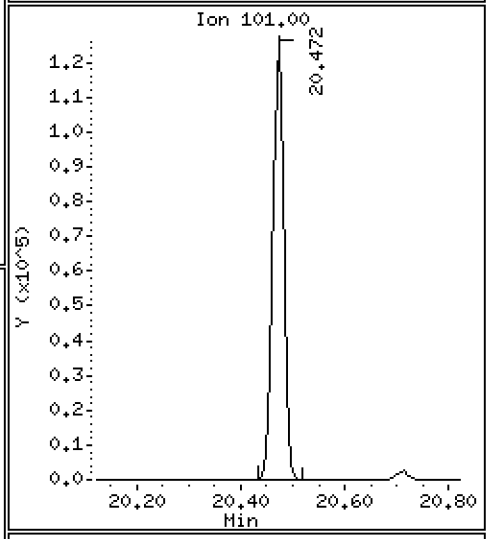
64 Fluoranthene

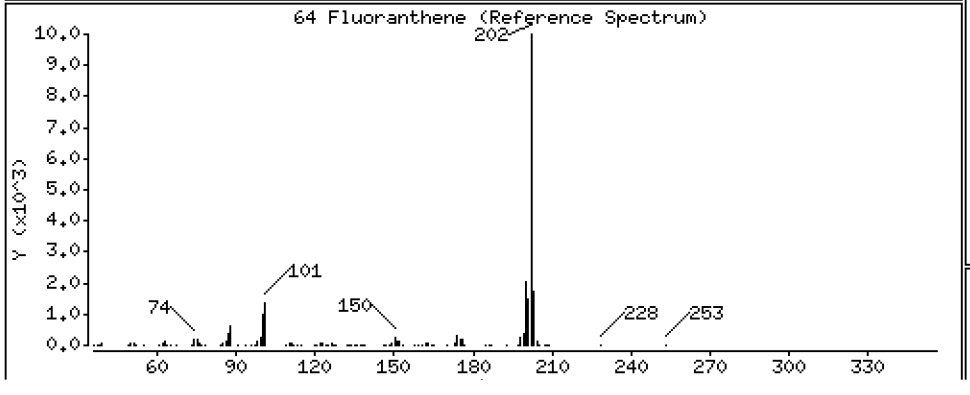
Concentration: 5.213 ug/mL

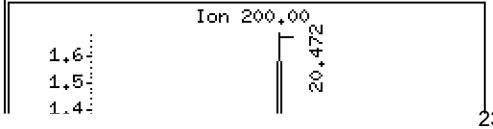












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

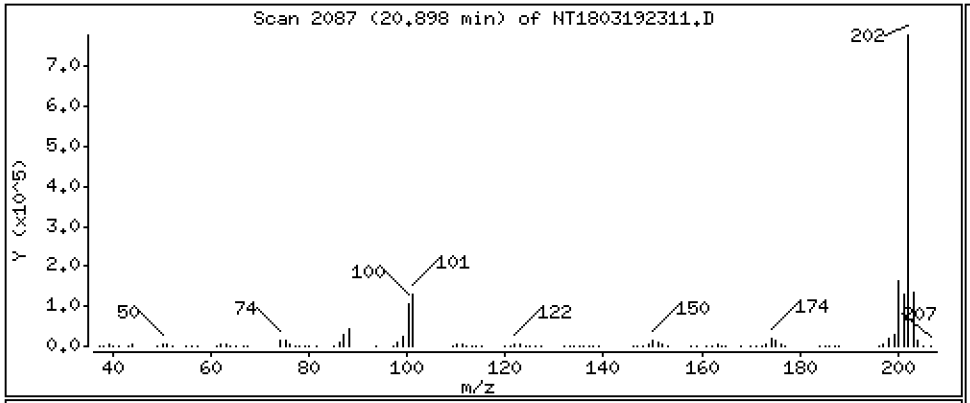
Operator: VTS

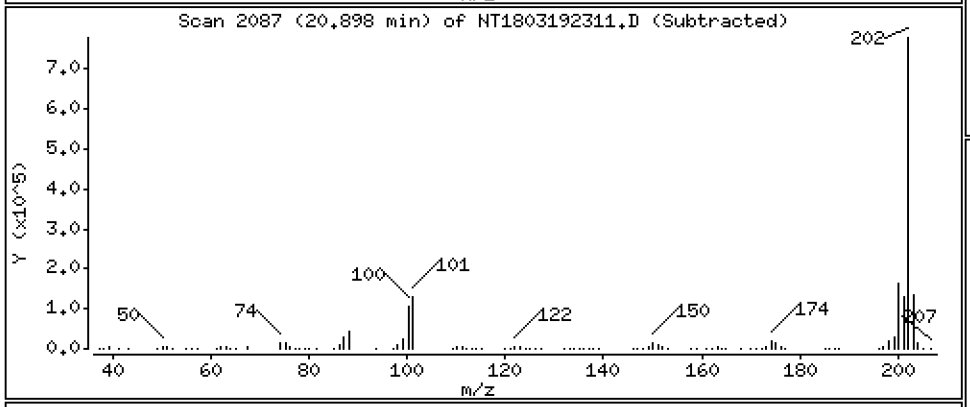
Column phase: ZB-5msi

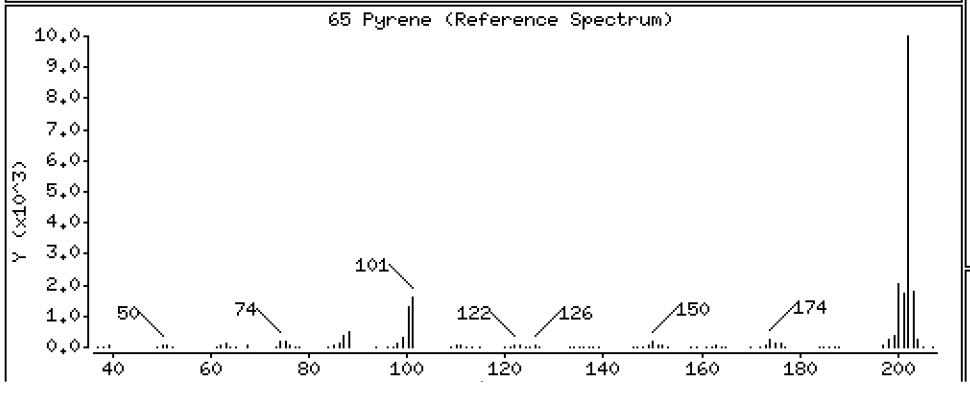
Column diameter: 0.25

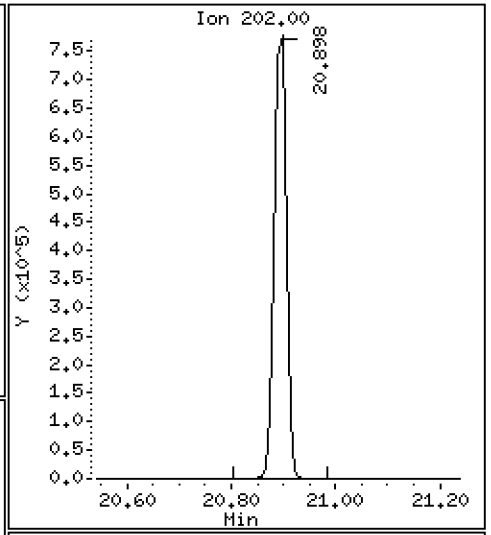
65 Pyrene

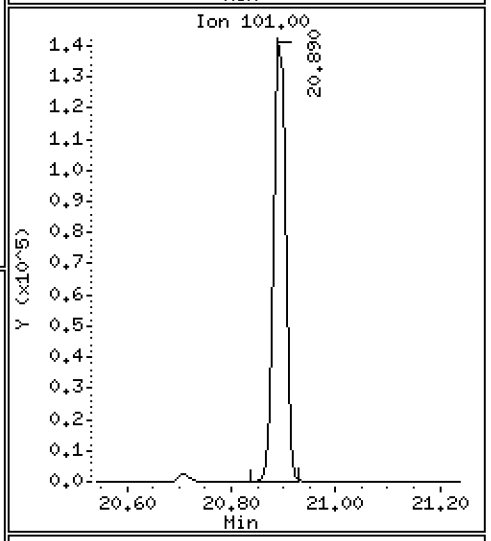
Concentration: 5.030 ug/mL

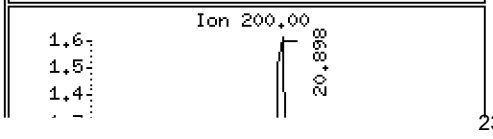












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

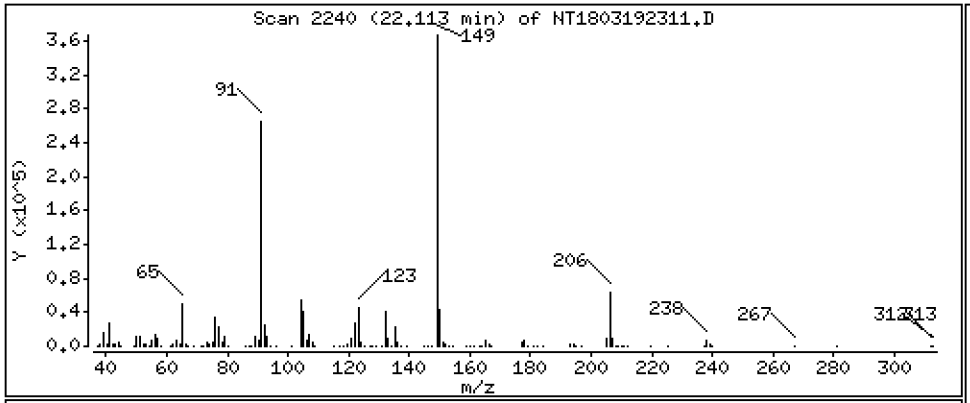
Operator: VTS

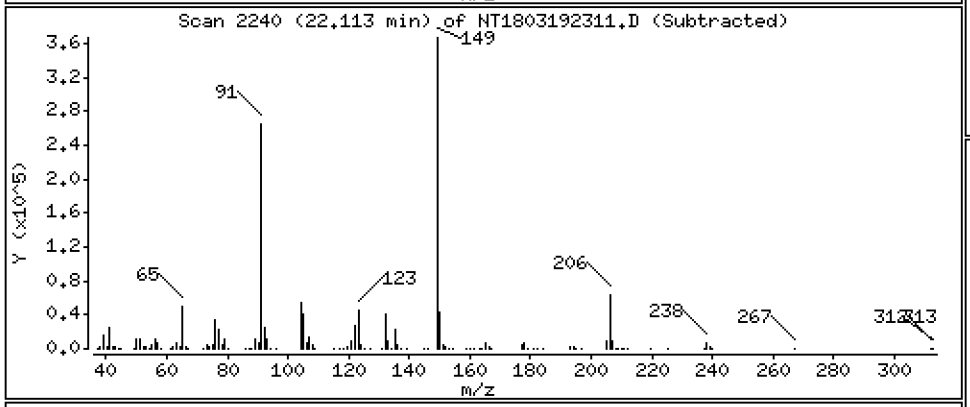
Column phase: ZB-5msi

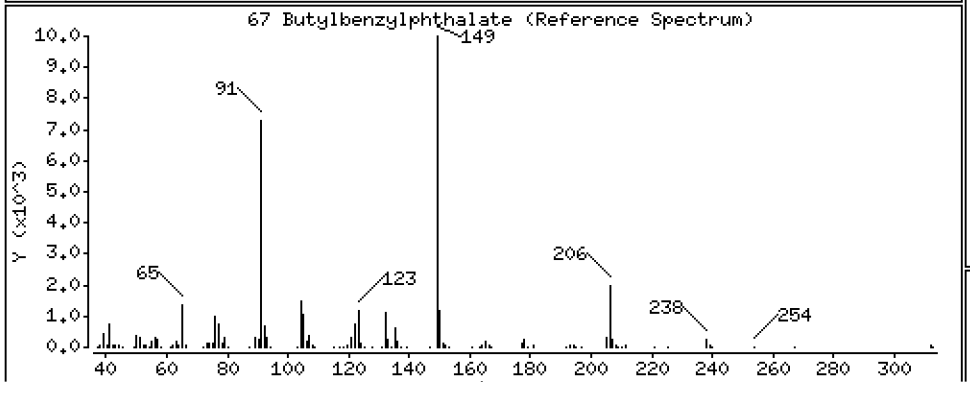
Column diameter: 0.25

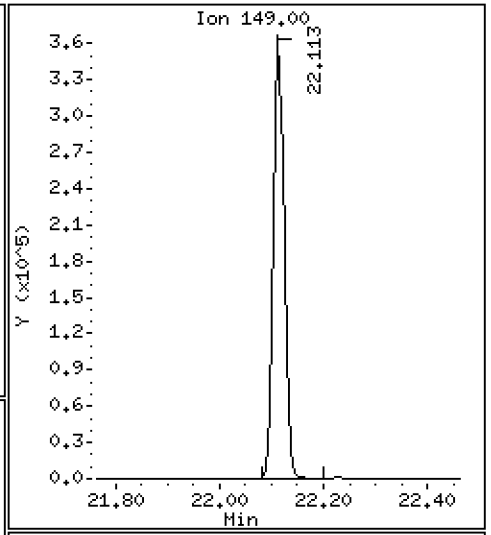
67 Butylbenzylphthalate

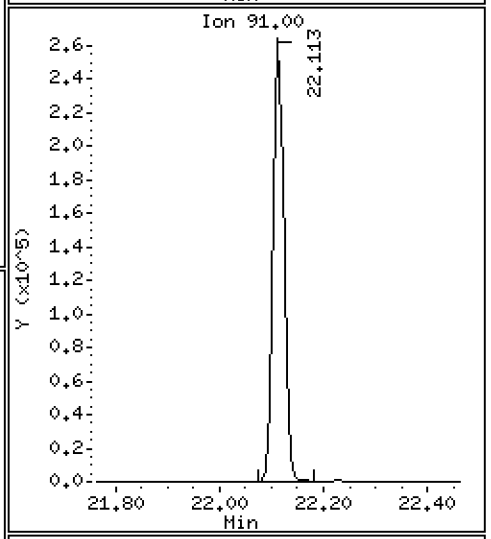
Concentration: 4.792 ug/mL

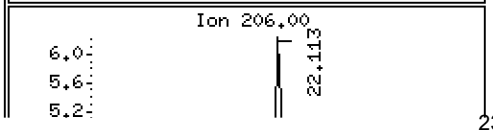












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

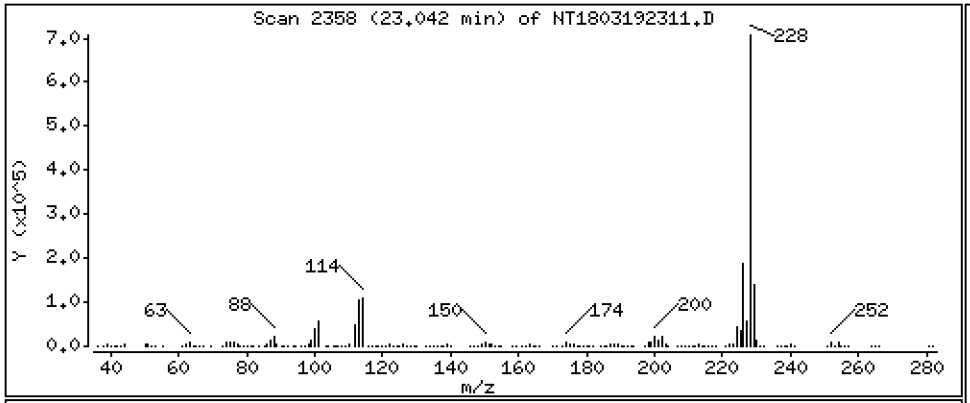
Operator: VTS

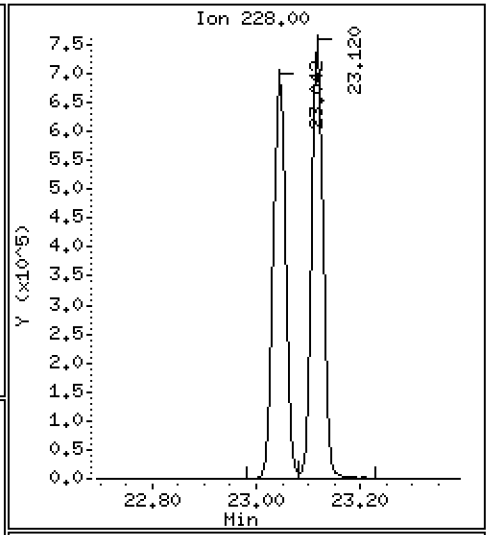
Column phase: ZB-5msi

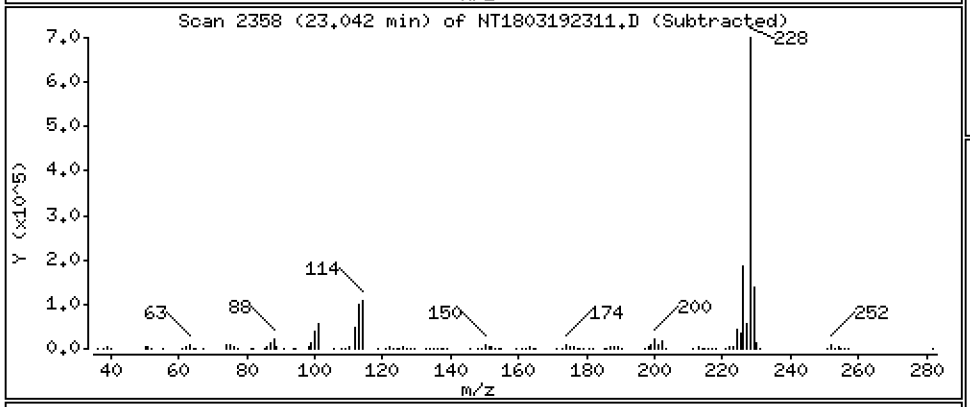
Column diameter: 0.25

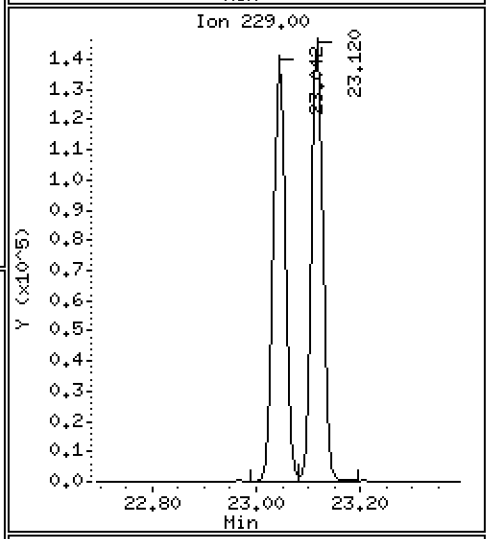
68 Benzo(a)anthracene

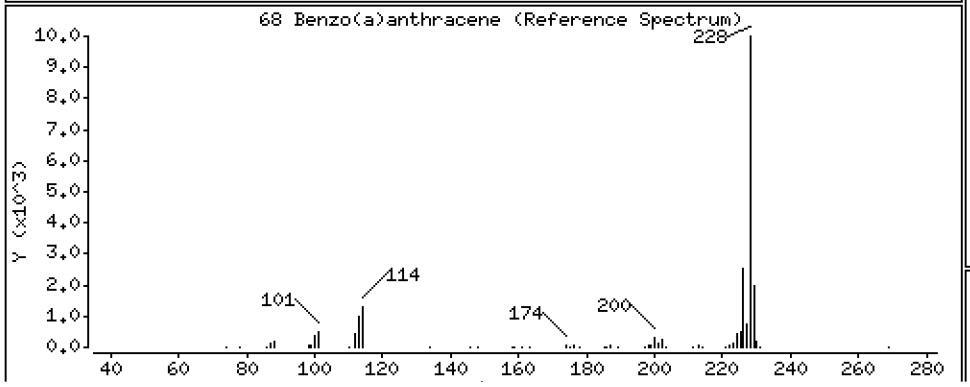
Concentration: 4.954 ug/mL

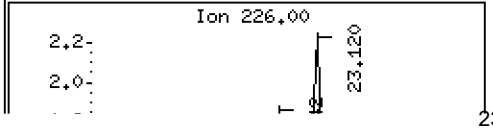












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

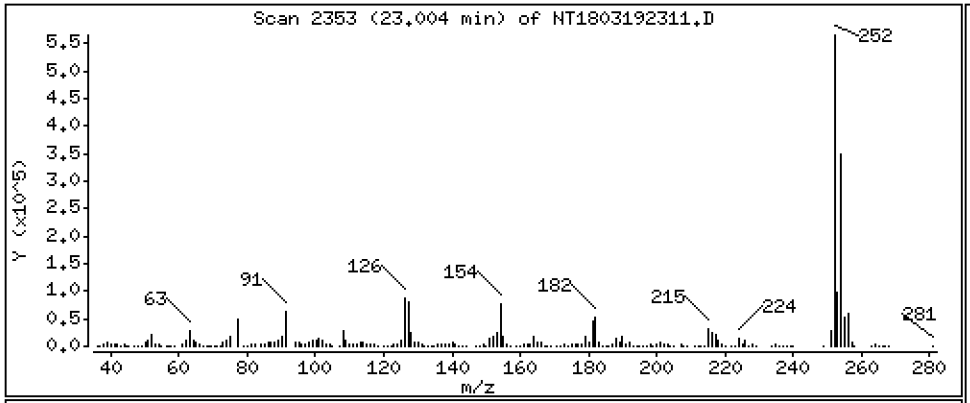
Operator: VTS

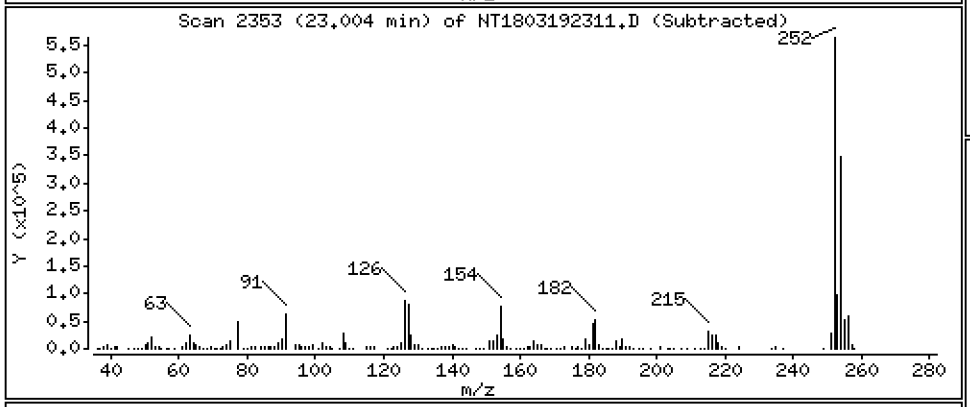
Column phase: ZB-5msi

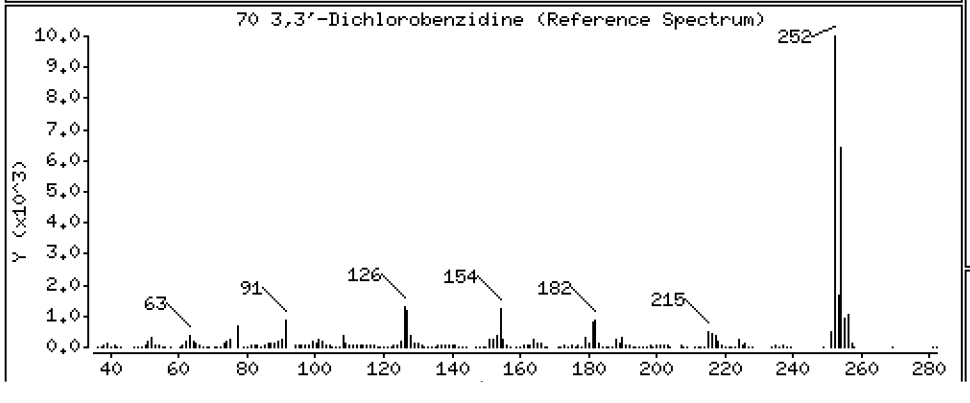
Column diameter: 0.25

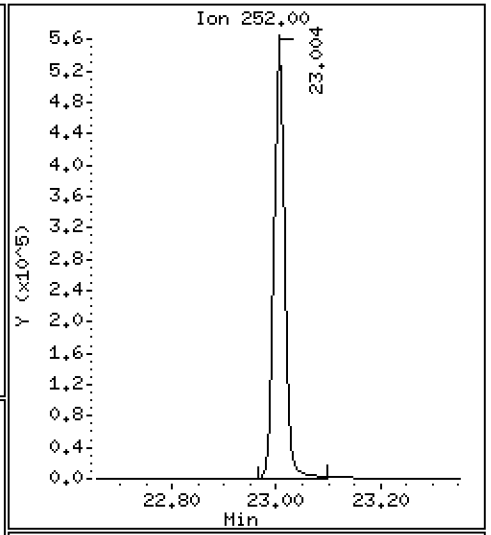
70 3,3'-Dichlorobenzidine

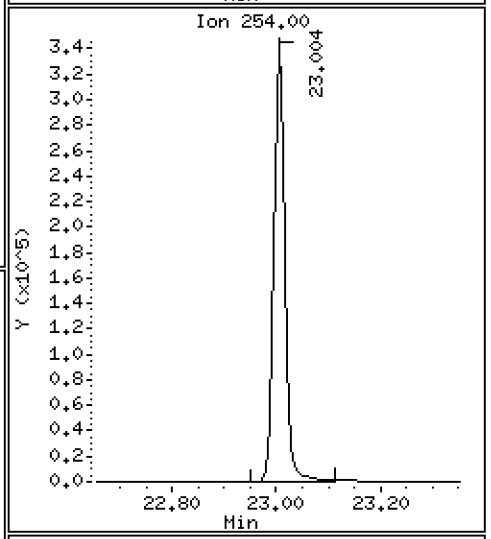
Concentration: 9.289 ug/mL

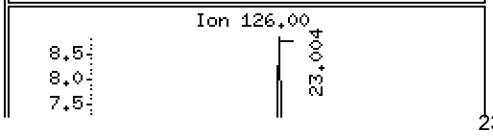












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

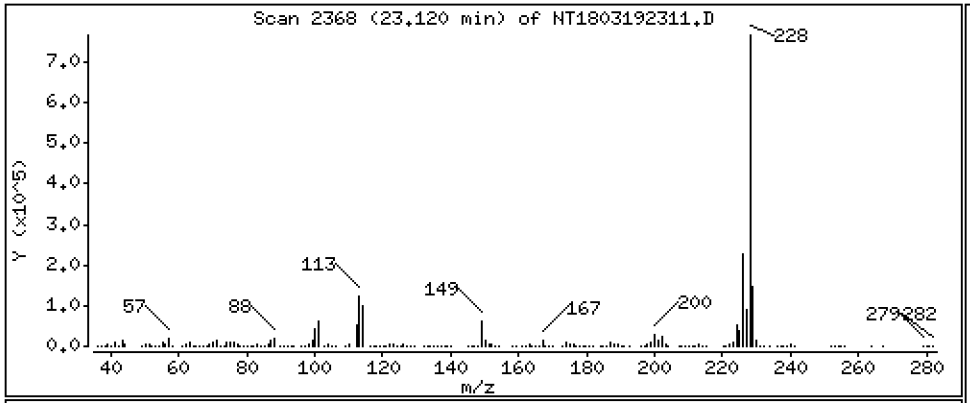
Operator: VTS

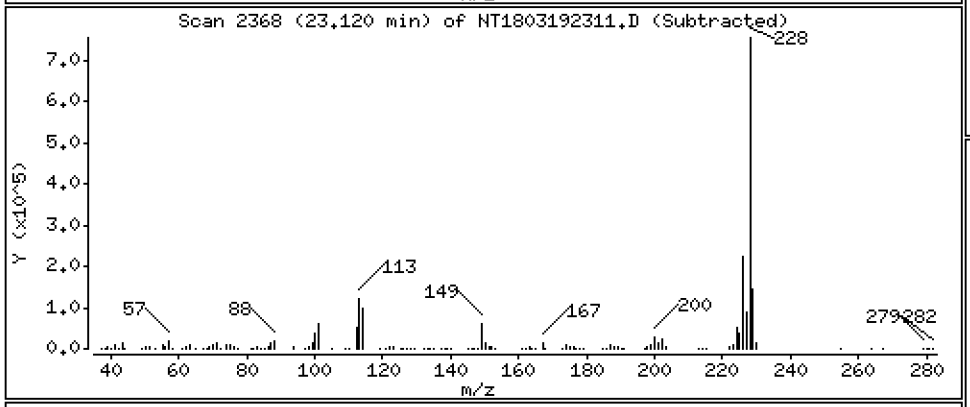
Column phase: ZB-5msi

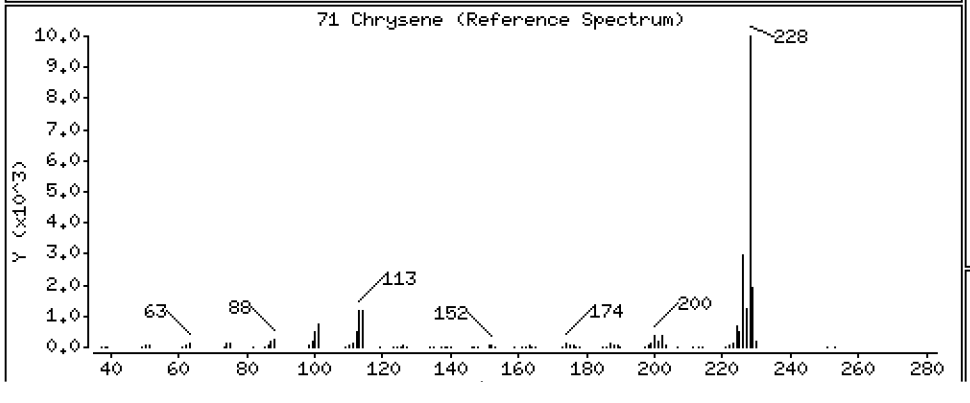
Column diameter: 0.25

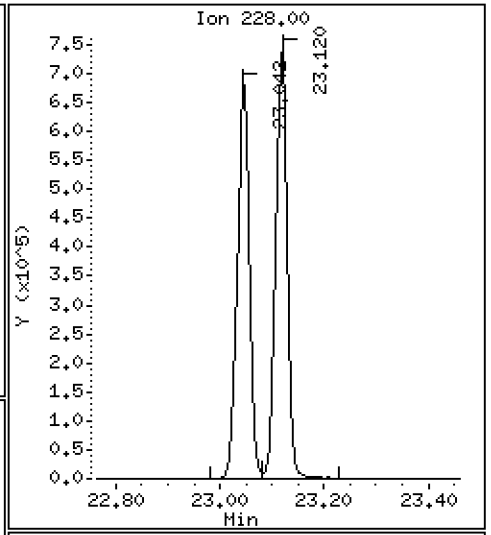
71 Chrysene

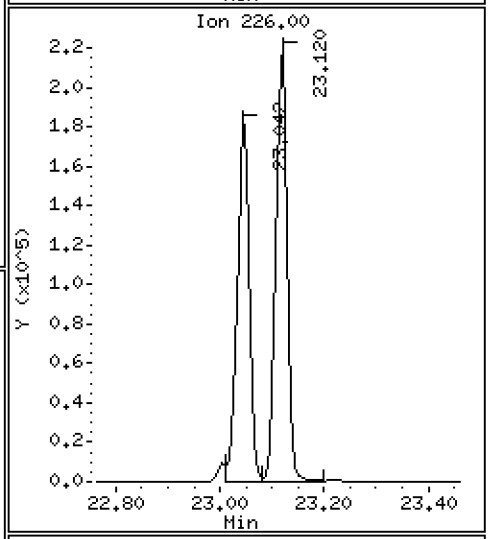
Concentration: 4.814 ug/mL

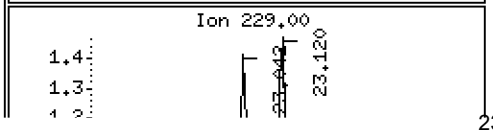












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

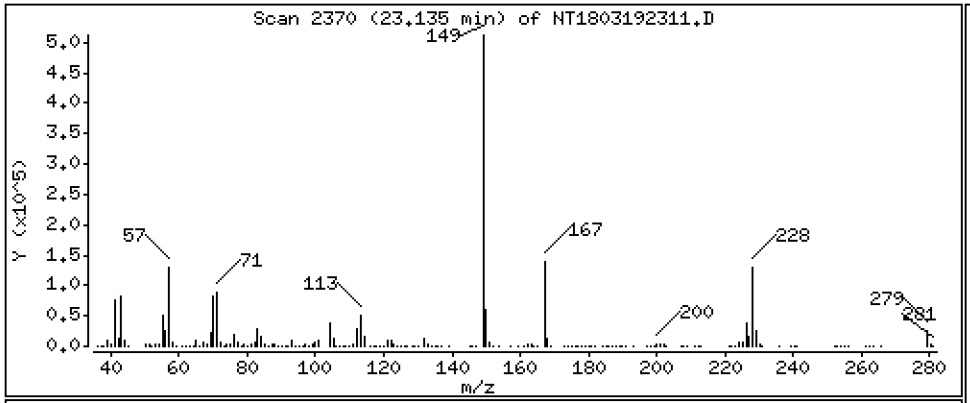
Operator: VTS

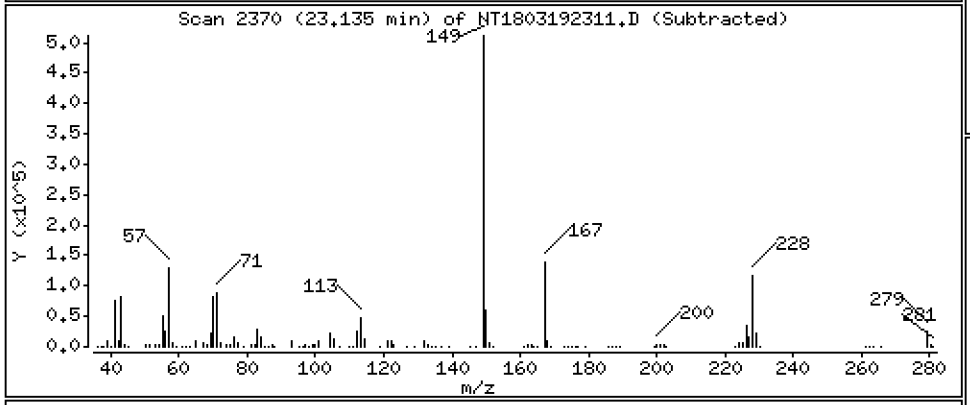
Column phase: ZB-5msi

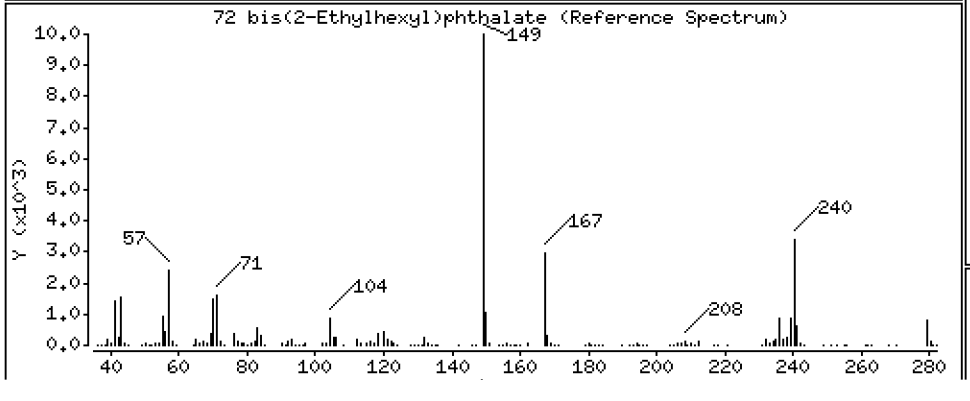
Column diameter: 0.25

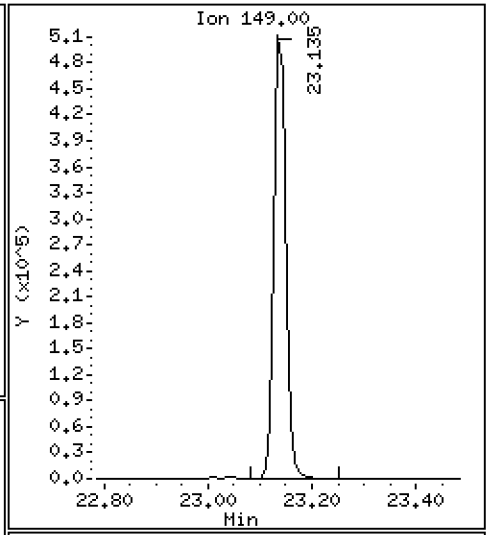
72 bis(2-Ethylhexyl)phthalate

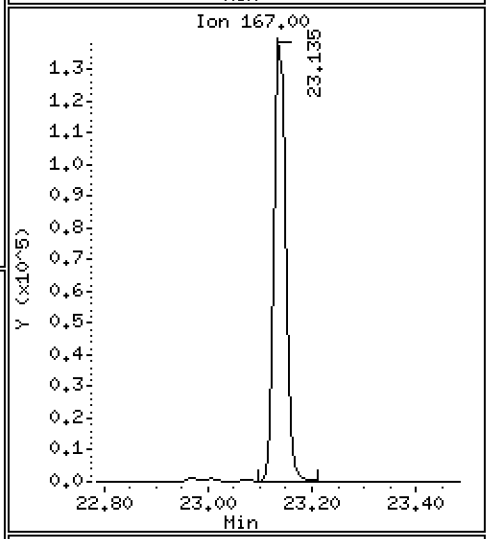
Concentration: 5.003 ug/mL

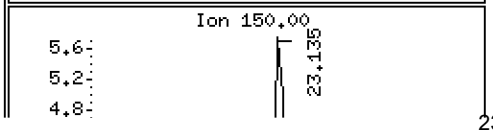












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

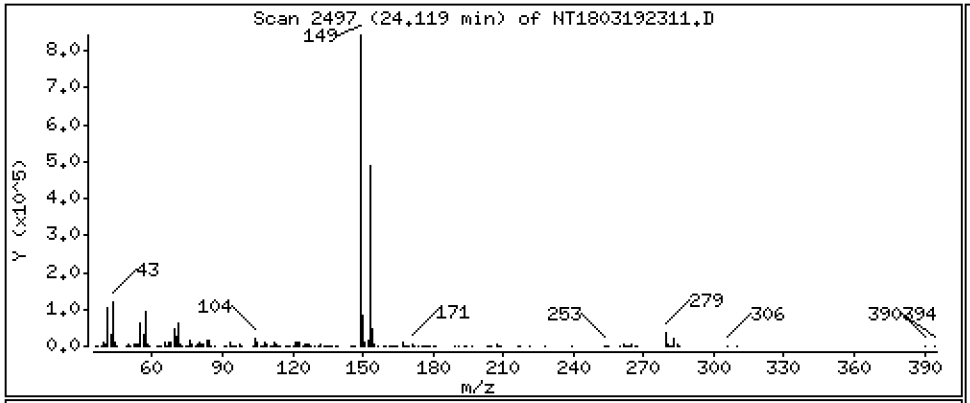
Operator: VTS

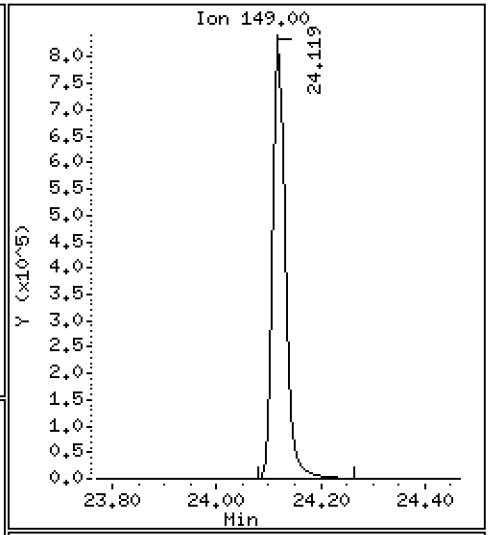
Column phase: ZB-5msi

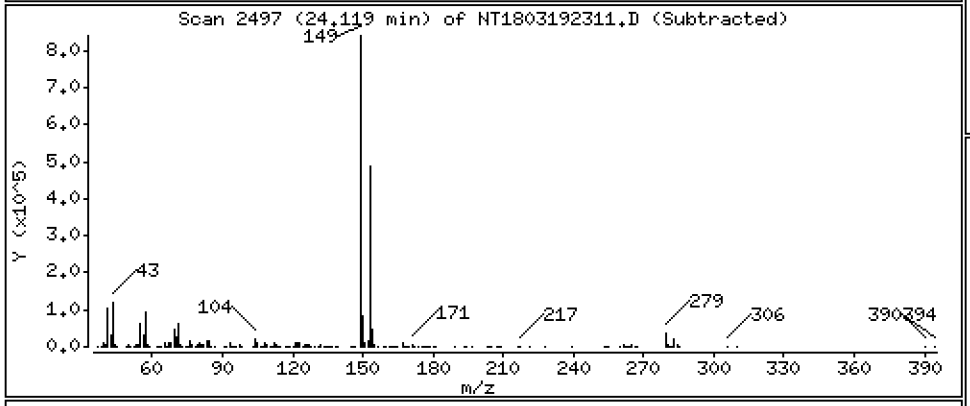
Column diameter: 0.25

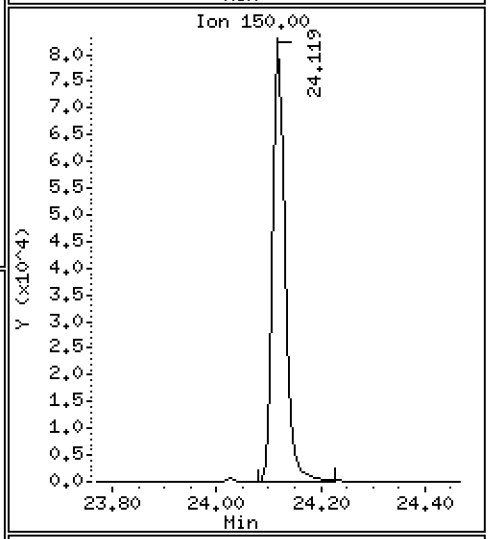
73 Di-n-octylphthalate

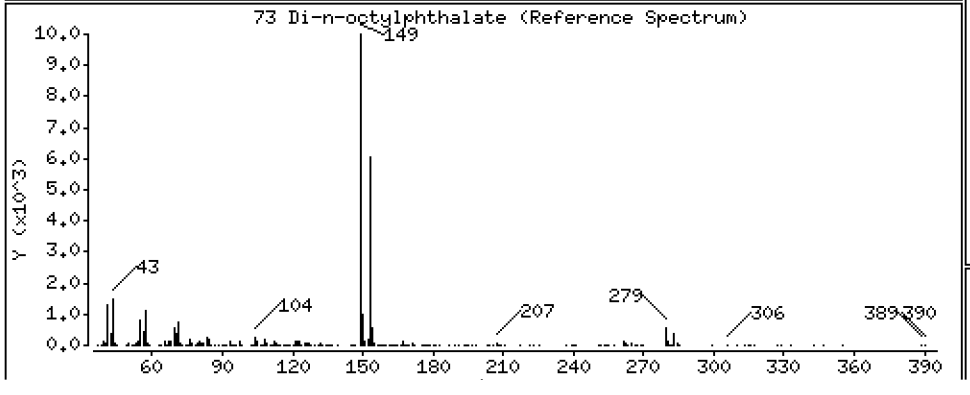
Concentration: 5.149 ug/mL

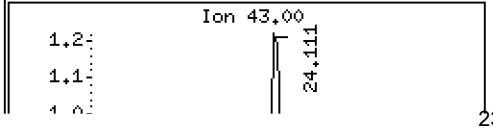












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

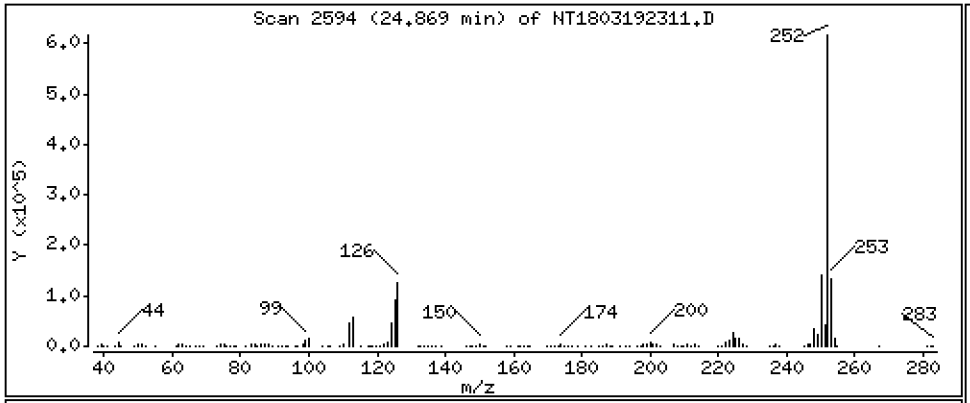
Operator: VTS

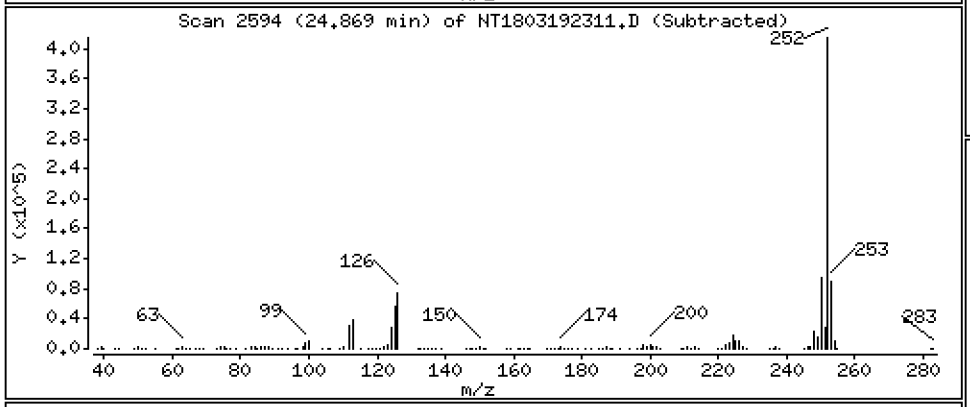
Column phase: ZB-5msi

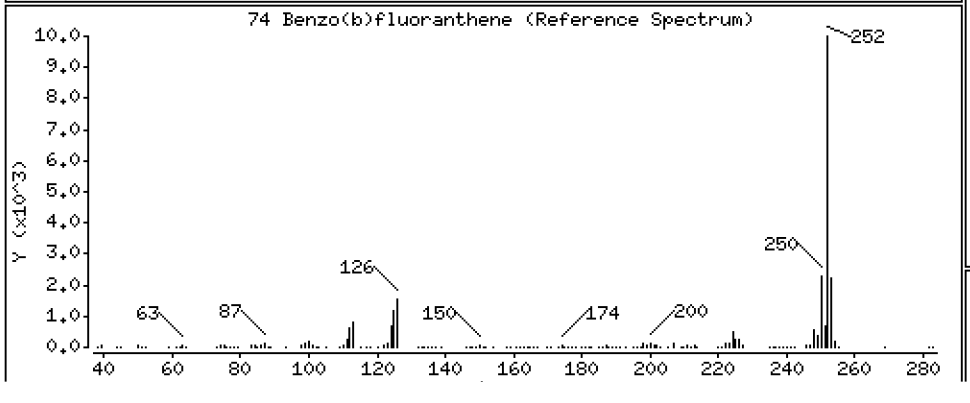
Column diameter: 0.25

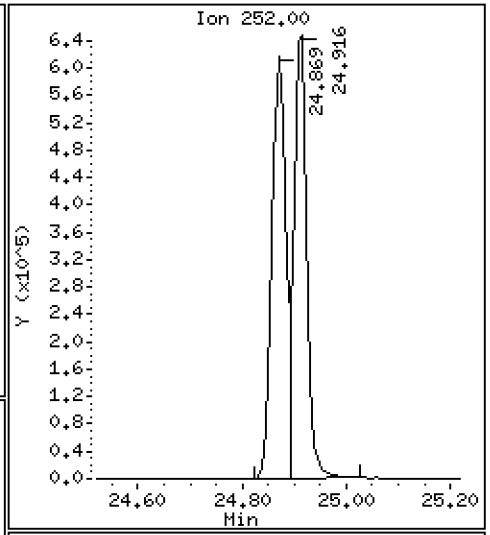
74 Benzo(b)fluoranthene

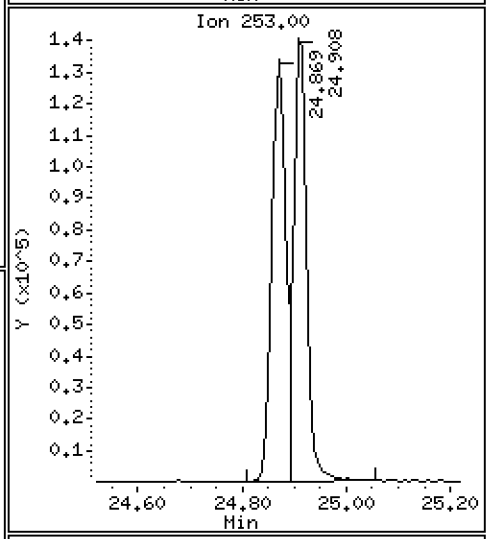
Concentration: 5.172 ug/mL

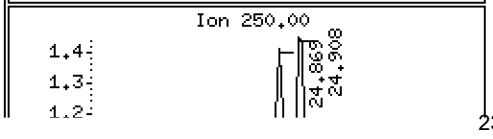












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

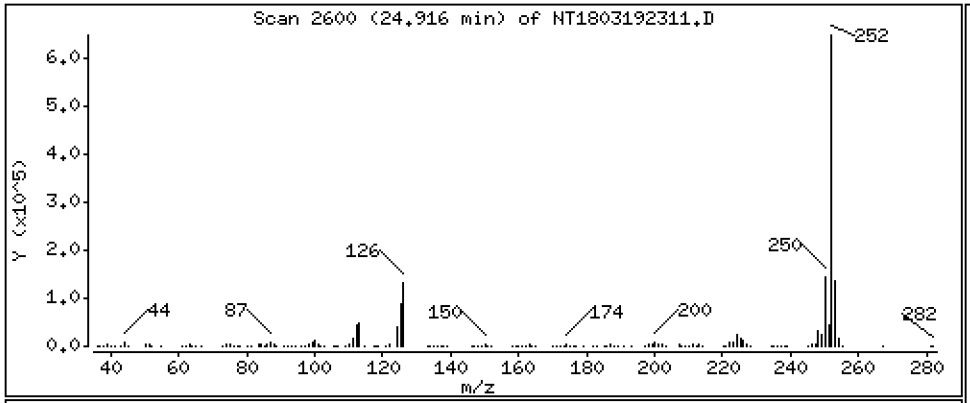
Operator: VTS

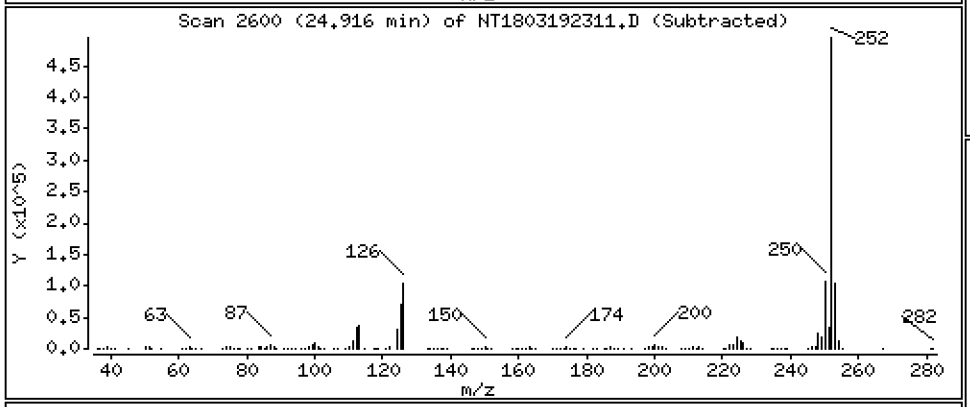
Column phase: ZB-5msi

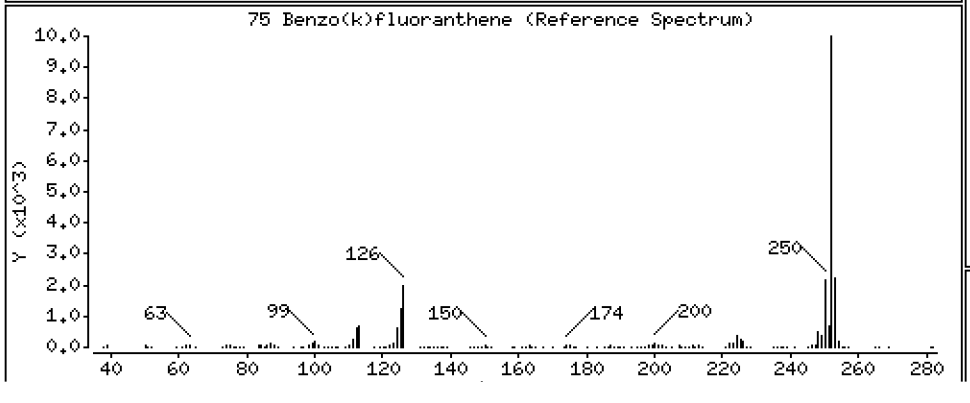
Column diameter: 0.25

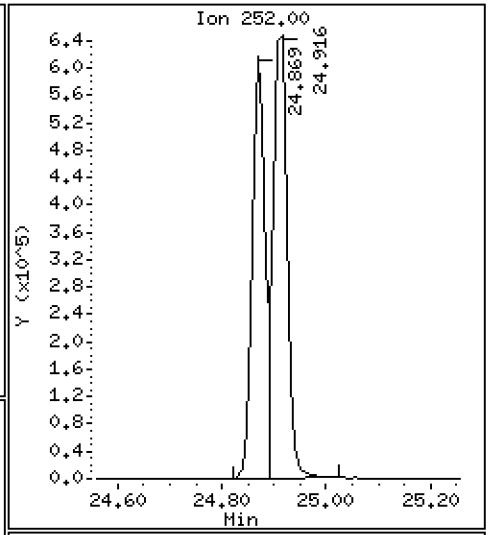
75 Benzo(k)fluoranthene

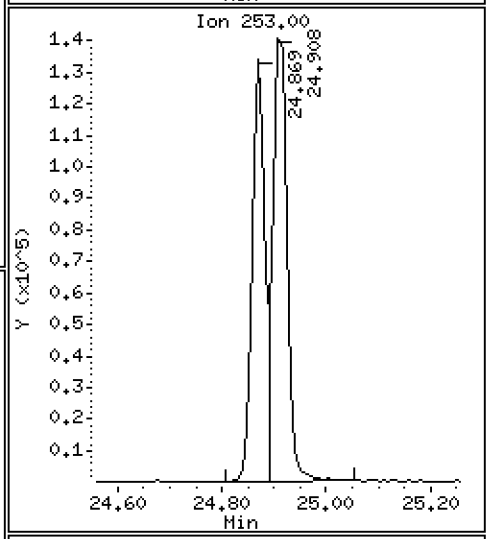
Concentration: 4.854 ug/mL

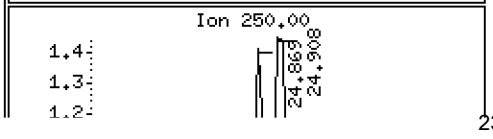












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

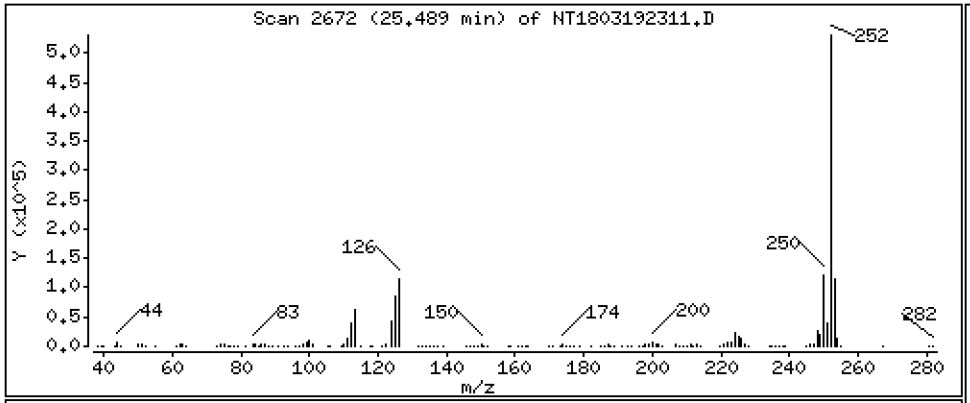
Operator: VTS

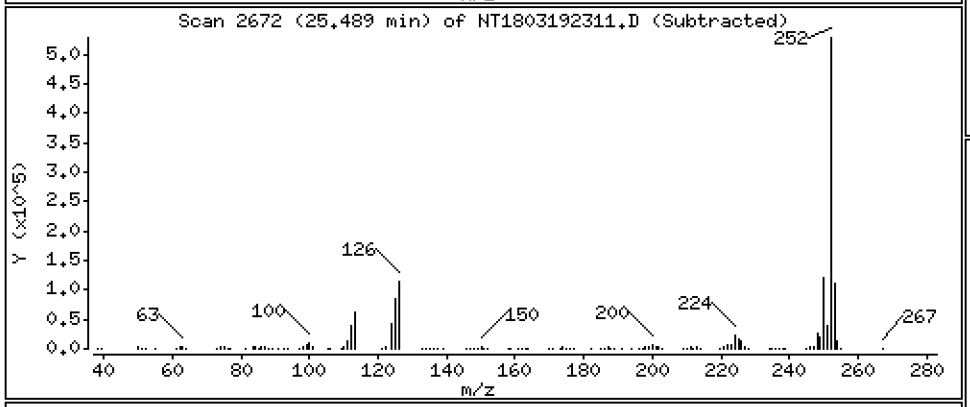
Column phase: ZB-5msi

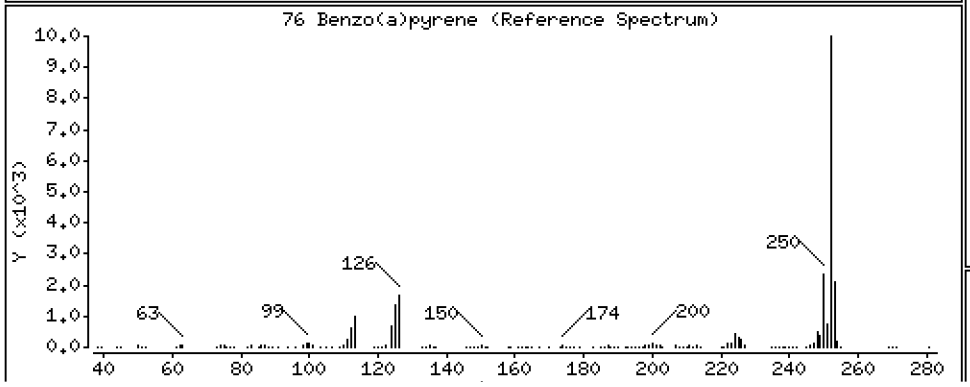
Column diameter: 0.25

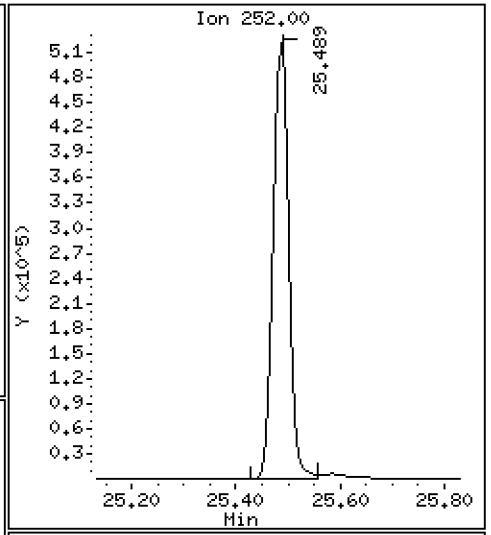
76 Benzo(a)pyrene

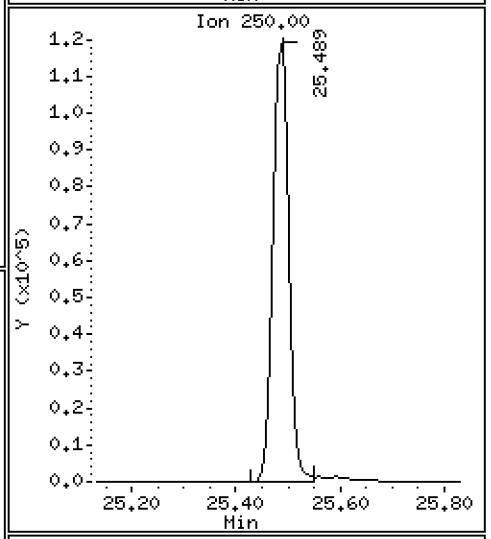
Concentration: 4.673 ug/mL

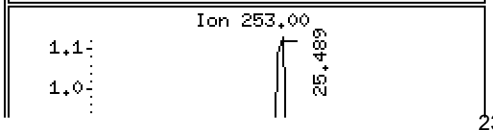












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

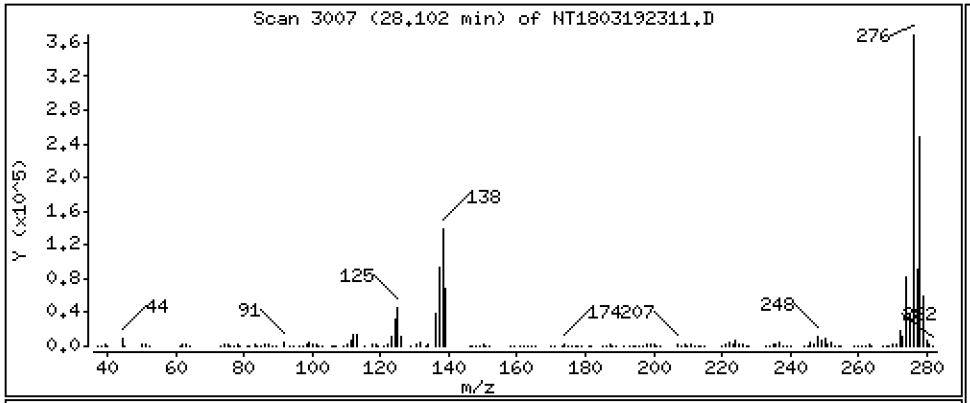
Operator: VTS

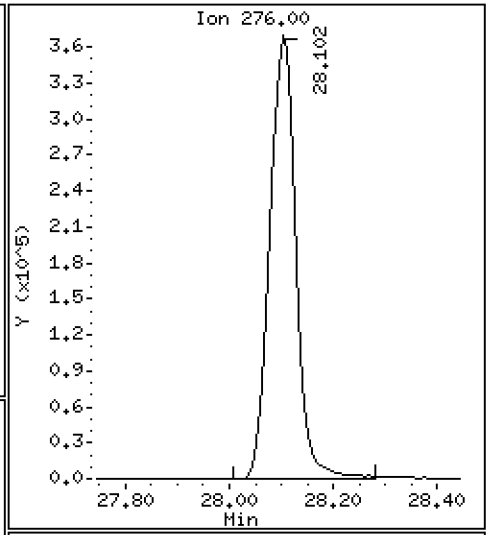
Column phase: ZB-5msi

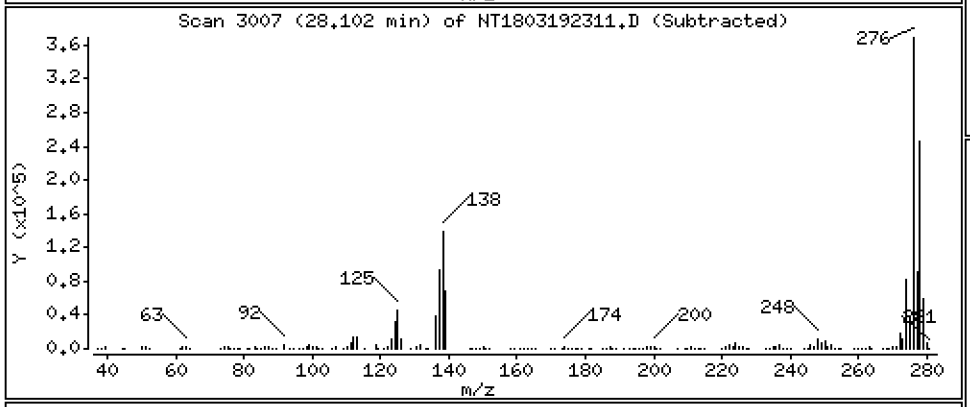
Column diameter: 0.25

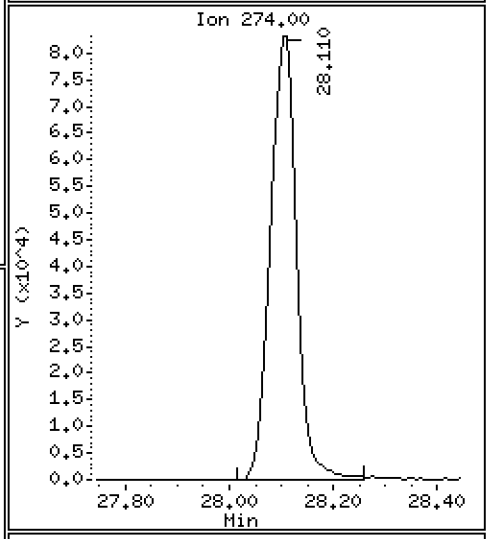
78 Indeno(1,2,3-cd)pyrene

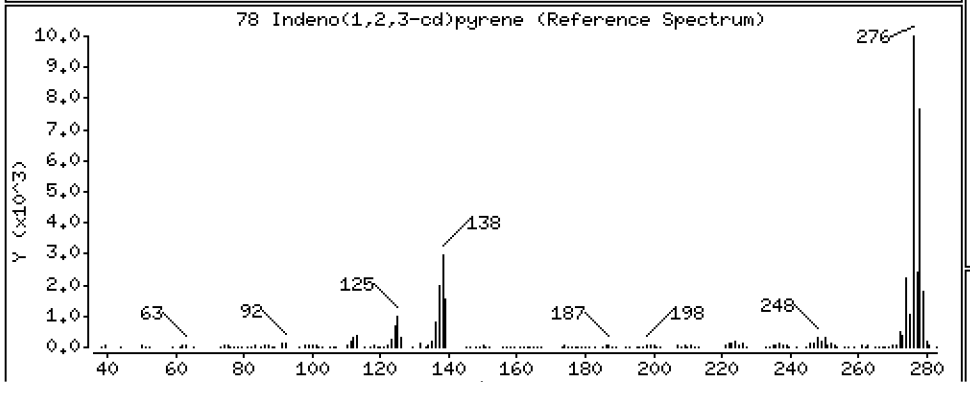
Concentration: 4.553 ug/mL











Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

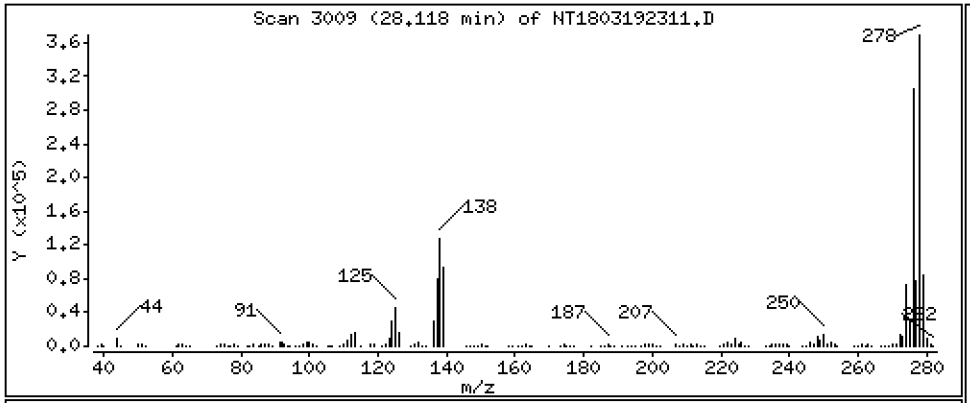
Operator: VTS

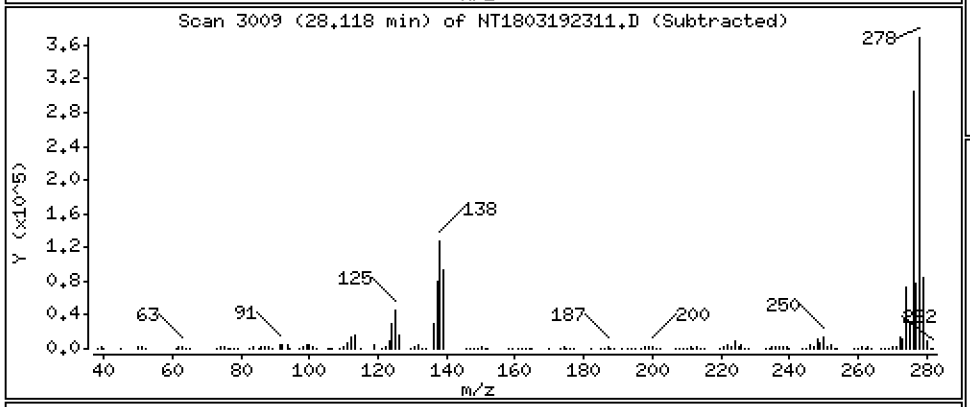
Column phase: ZB-5msi

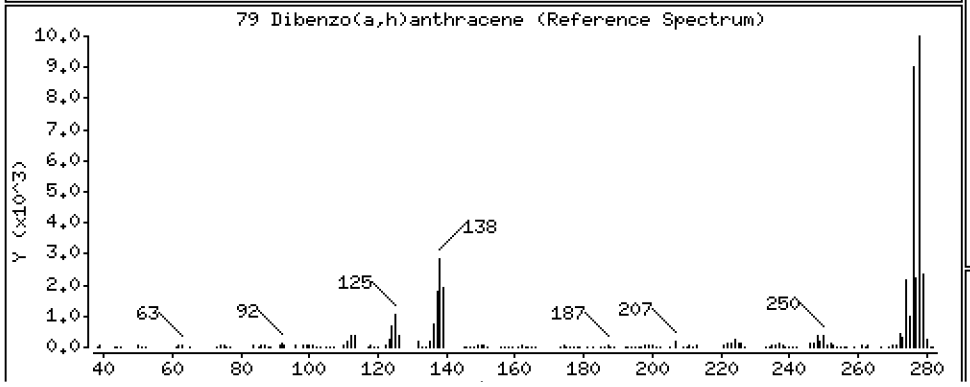
Column diameter: 0.25

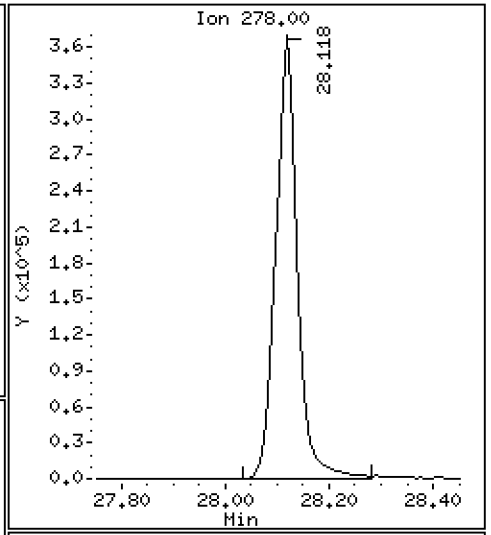
79 Dibenzo(a,h)anthracene

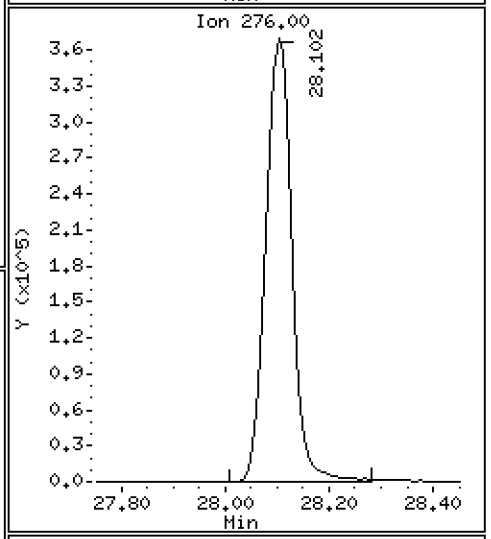
Concentration: 4.544 ug/mL

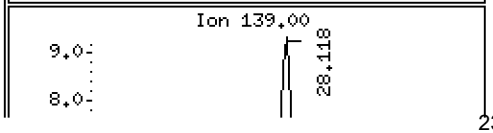












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

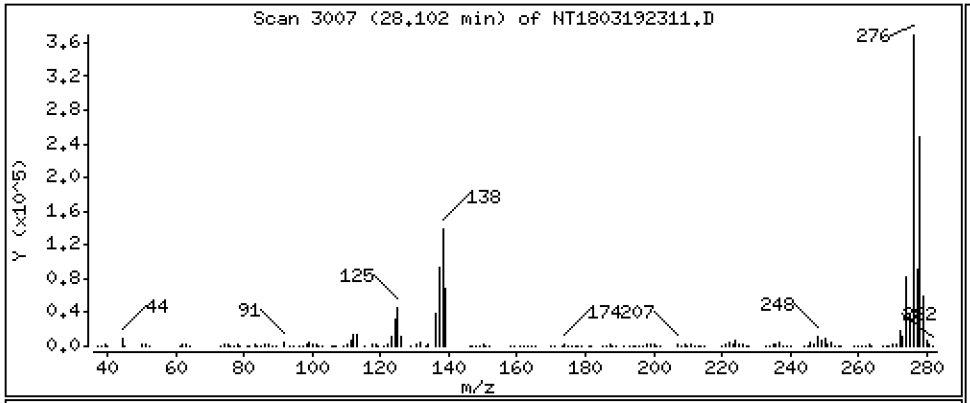
Operator: VTS

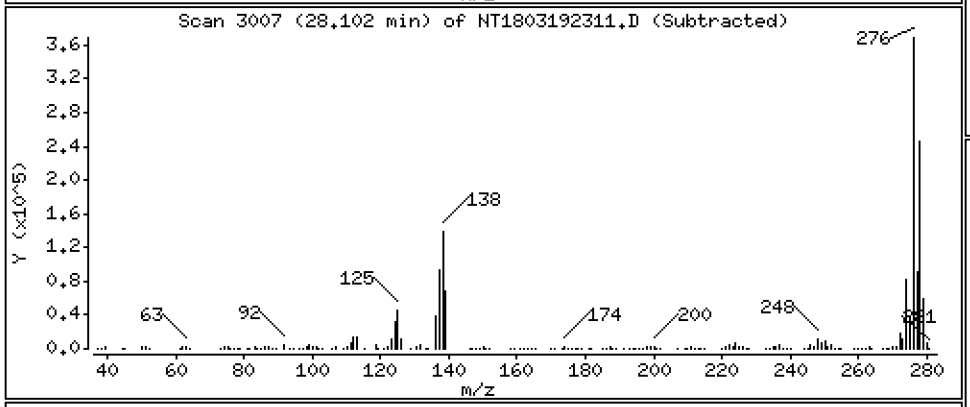
Column phase: ZB-5msi

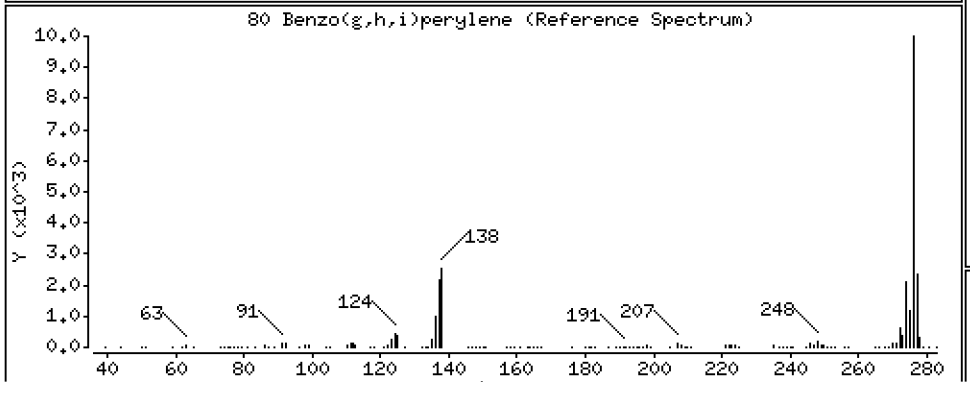
Column diameter: 0.25

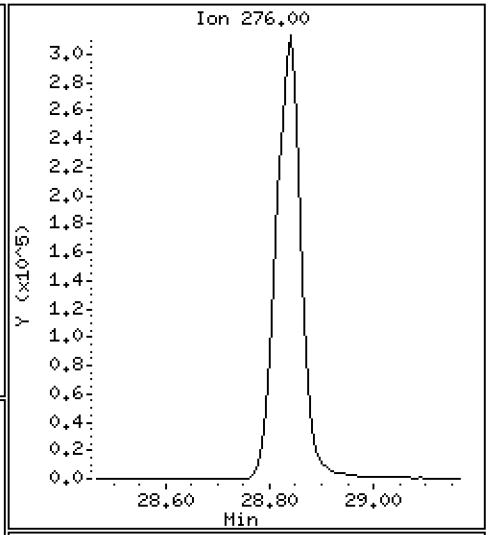
80 Benzo(g,h,i)perylene

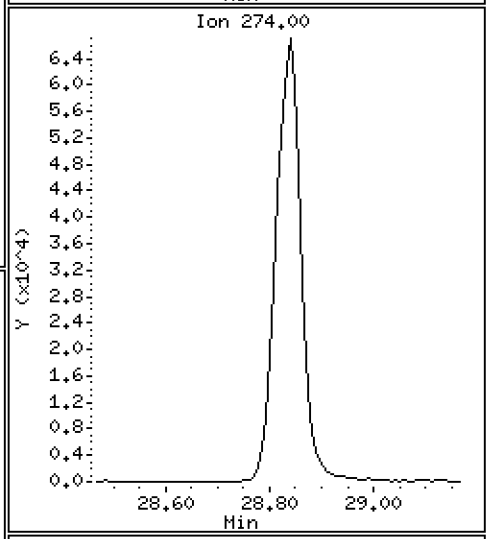
Concentration: 5.700 ug/mL

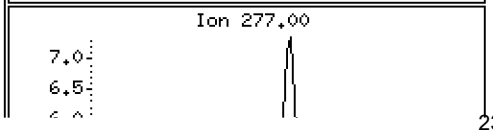












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

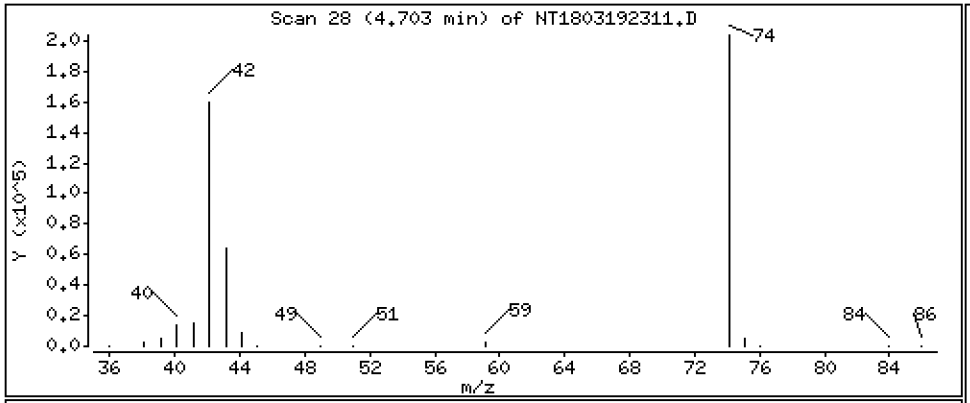
Operator: VTS

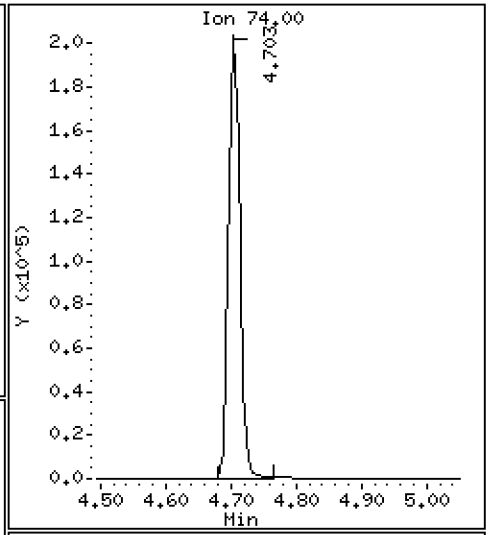
Column phase: ZB-5msi

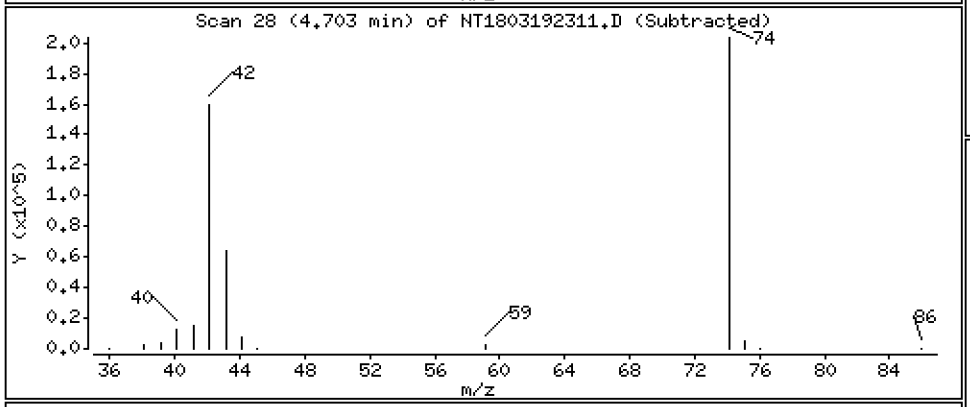
Column diameter: 0.25

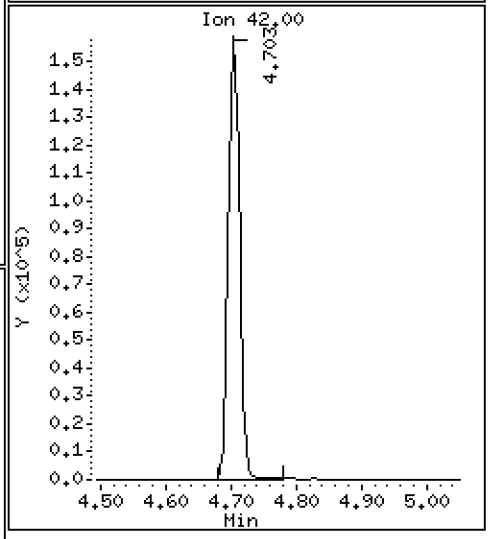
90 N-Nitrosodimethylamine

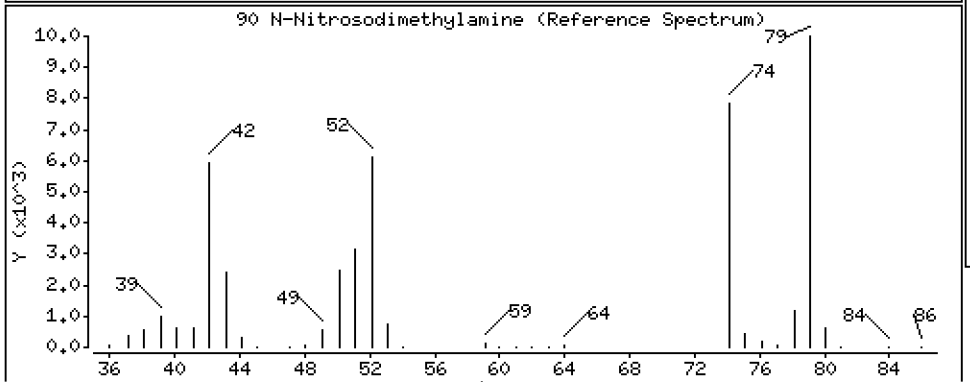
Concentration: 5.136 ug/mL











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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

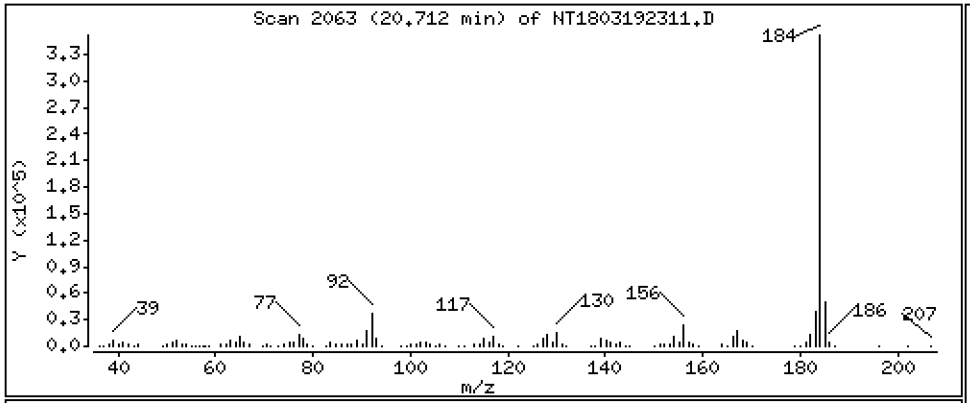
Operator: VTS

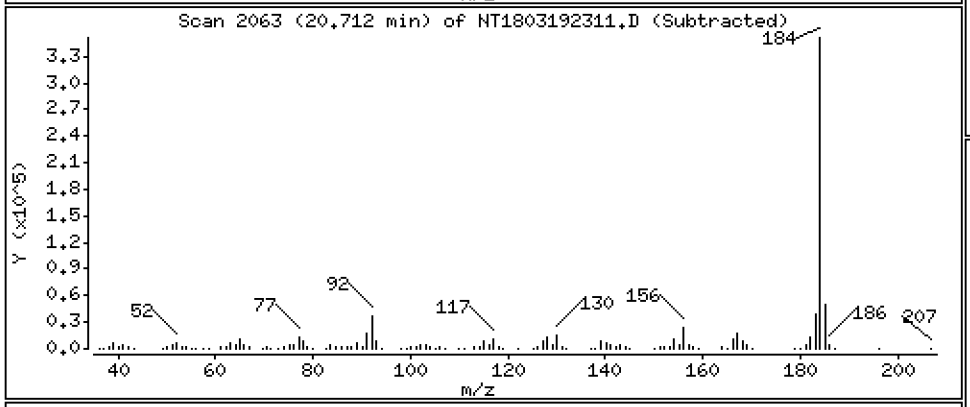
Column phase: ZB-5msi

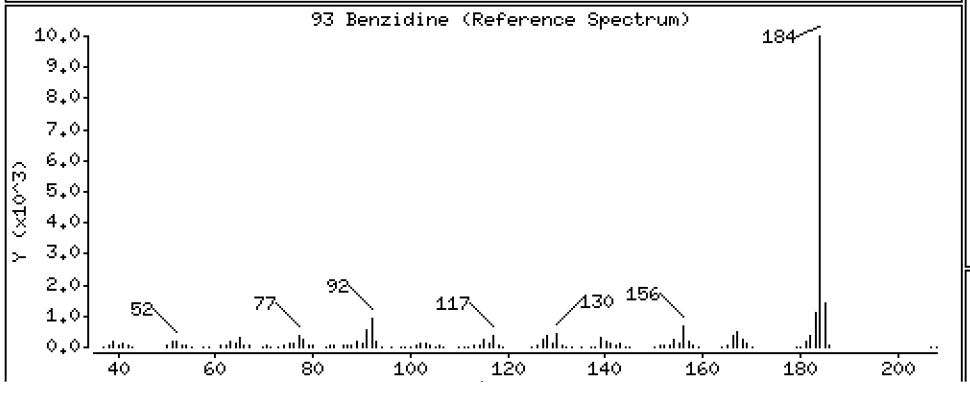
Column diameter: 0.25

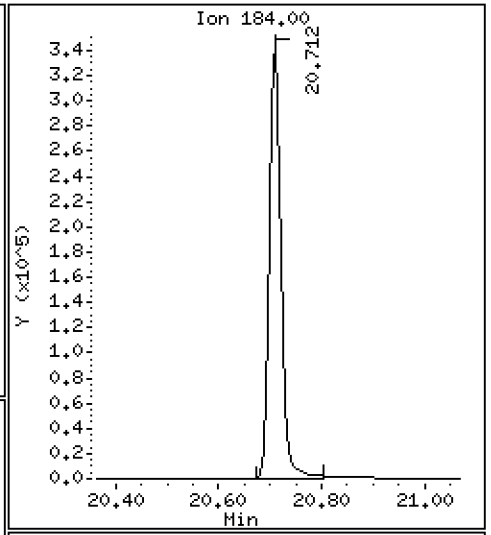
93 Benzidine

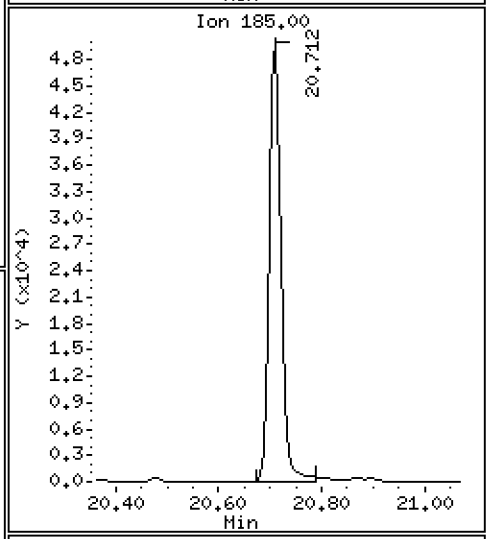
Concentration: 5.266 ug/mL

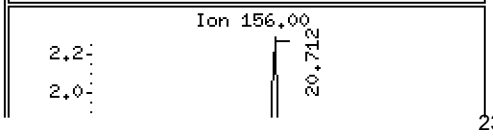












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

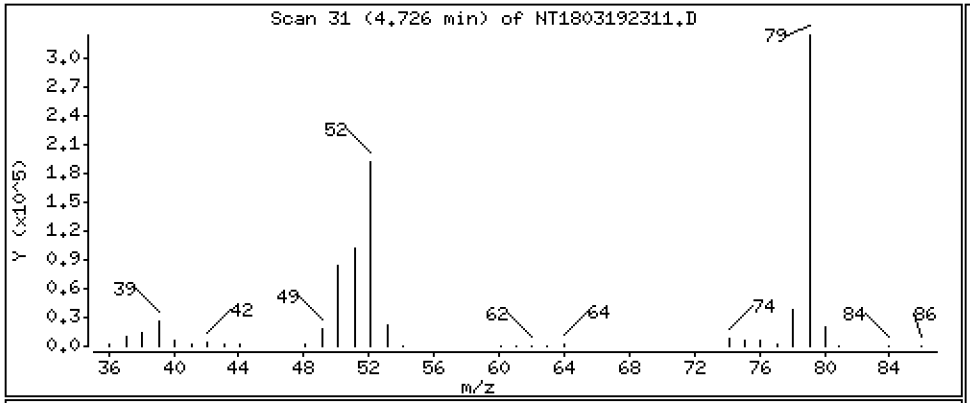
Operator: VTS

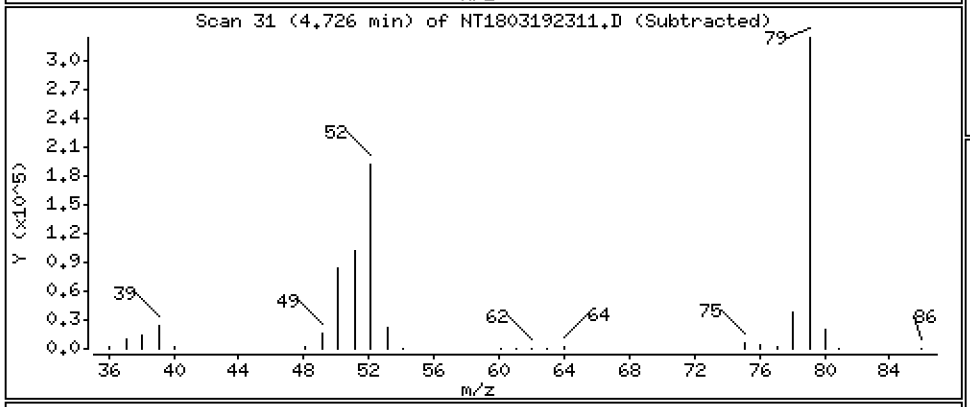
Column phase: ZB-5msi

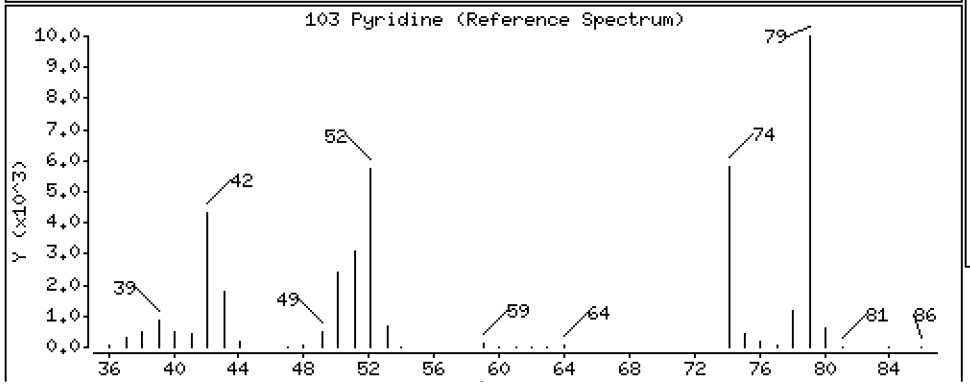
Column diameter: 0.25

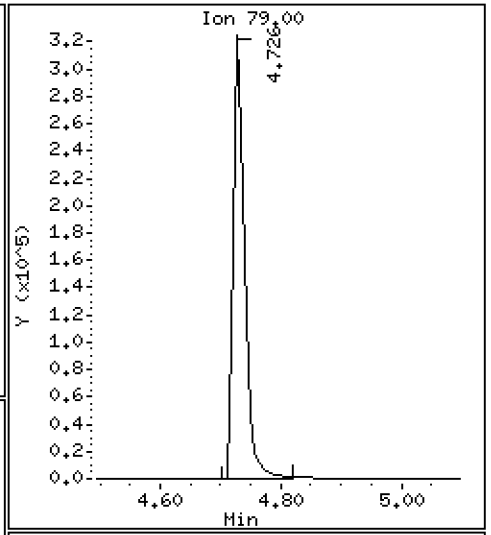
103 Pyridine

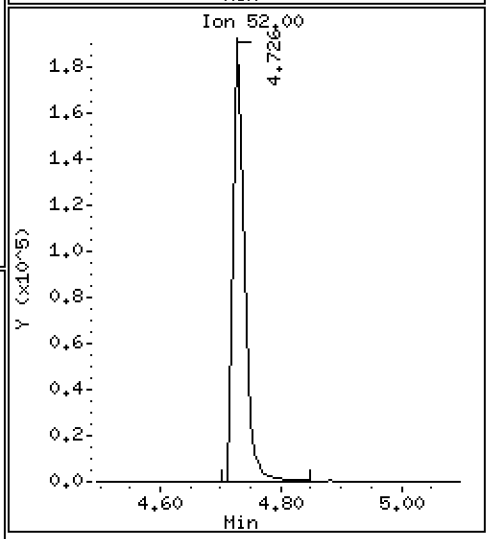
Concentration: 5.323 ug/mL











Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

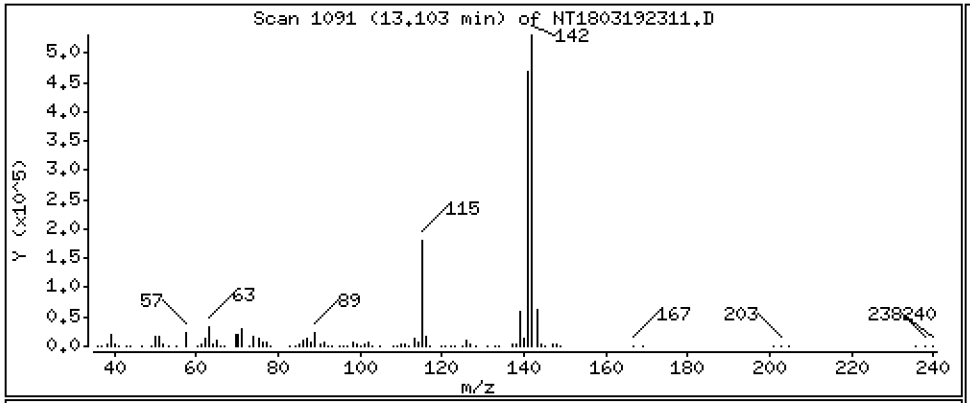
Operator: VTS

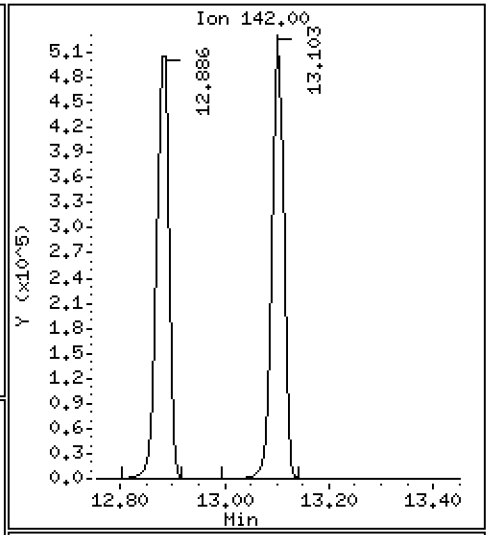
Column phase: ZB-5msi

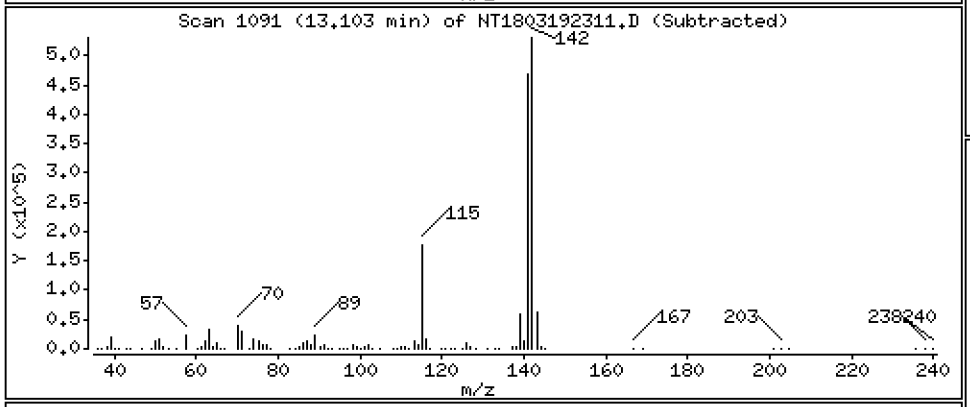
Column diameter: 0.25

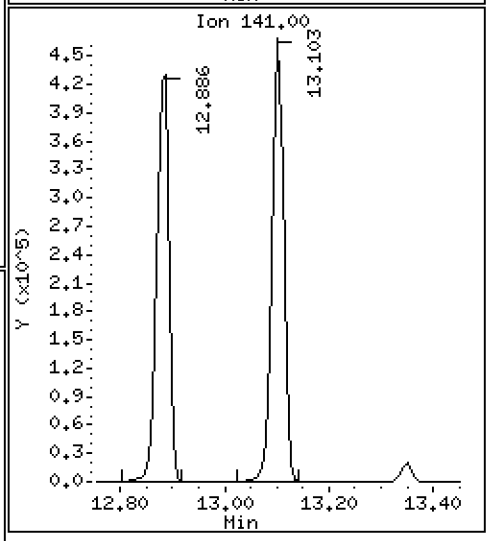
105 1-methylnaphthalene

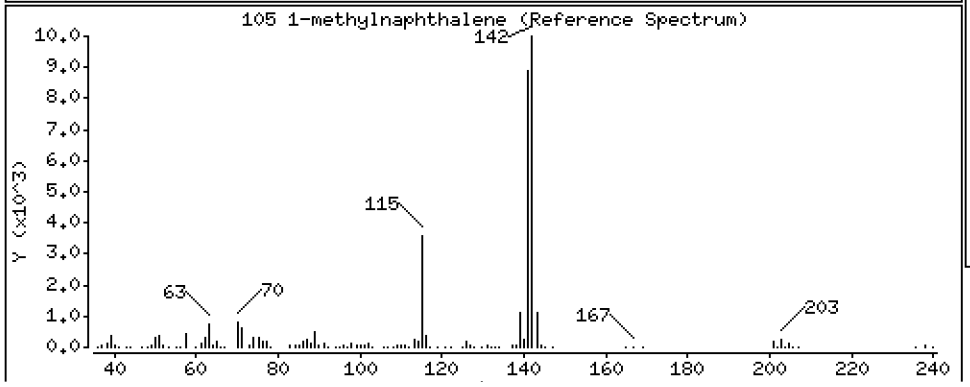
Concentration: 5.095 ug/mL











Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

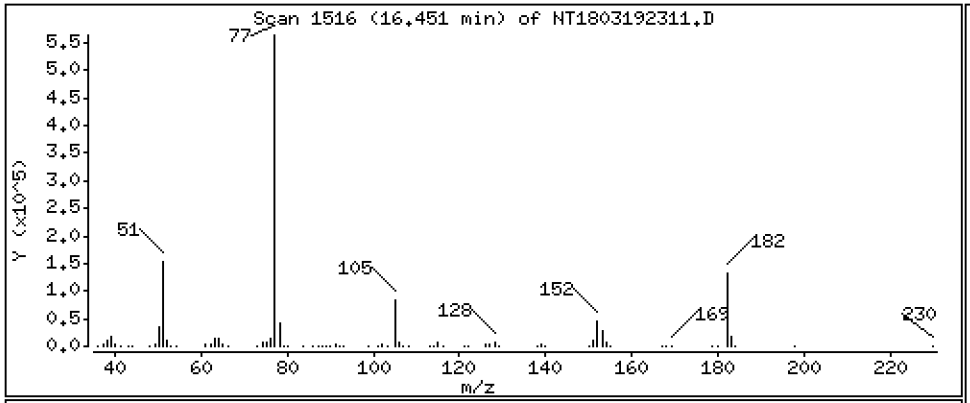
Operator: VTS

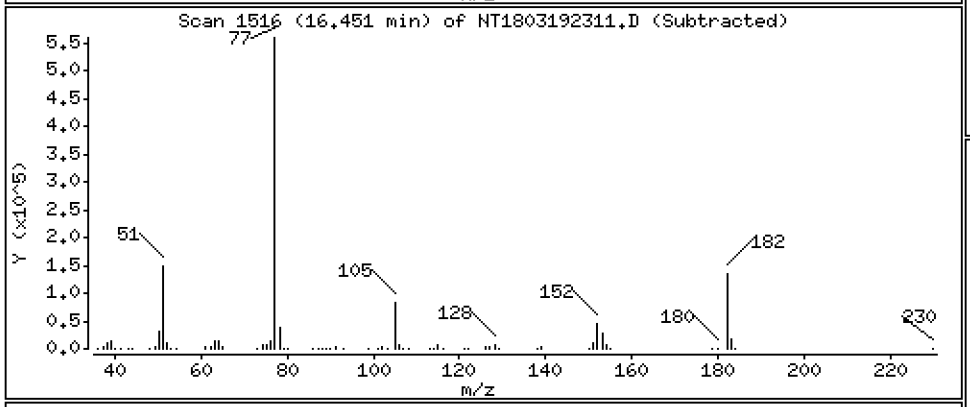
Column phase: ZB-5msi

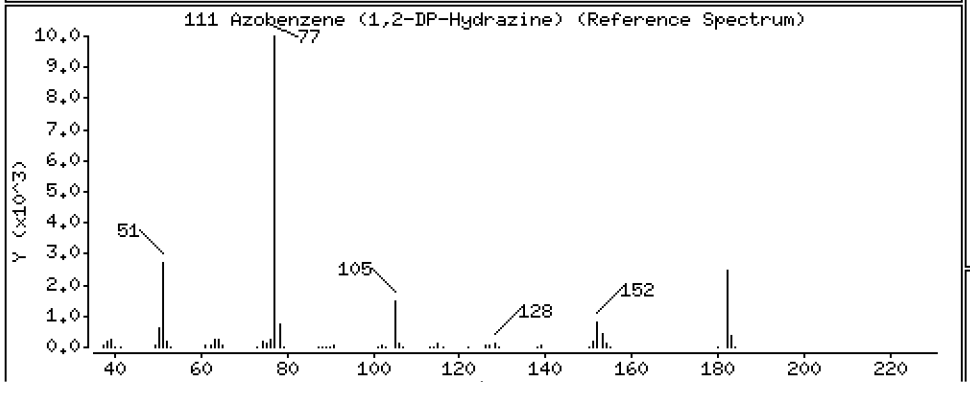
Column diameter: 0.25

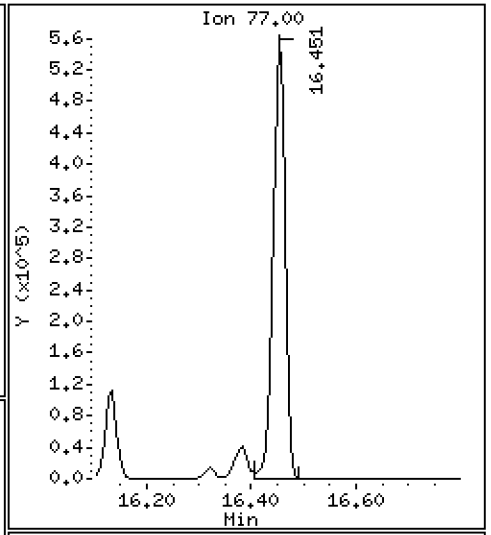
111 Azobenzene (1,2-DP-Hydrazine)

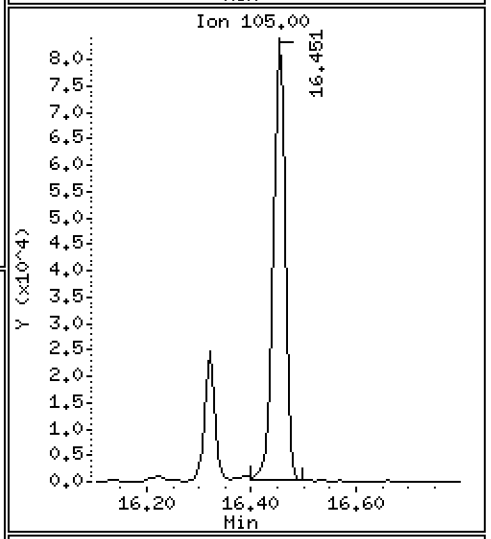
Concentration: 4.957 ug/mL

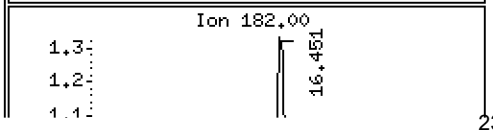












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

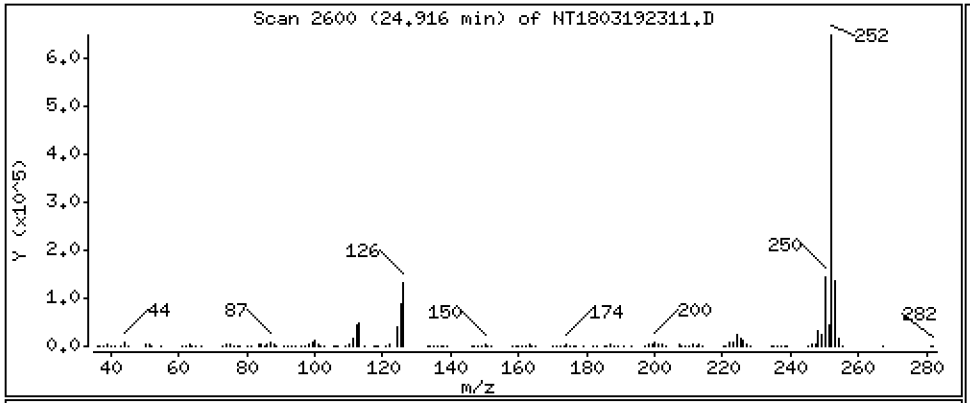
Operator: VTS

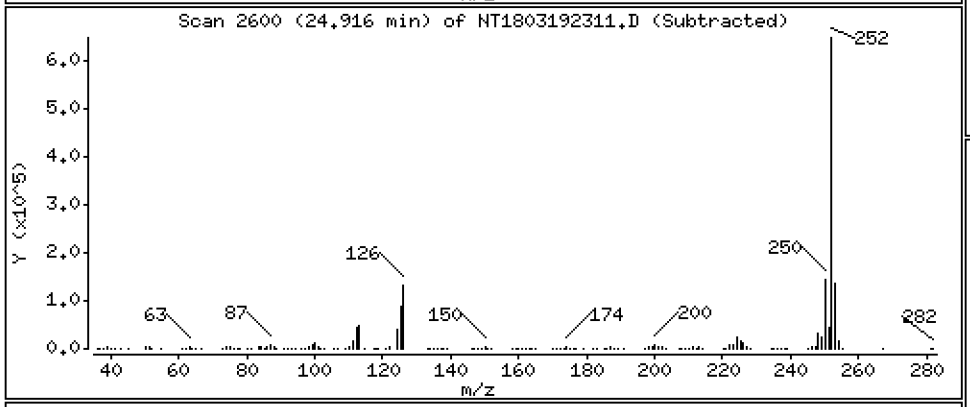
Column phase: ZB-5msi

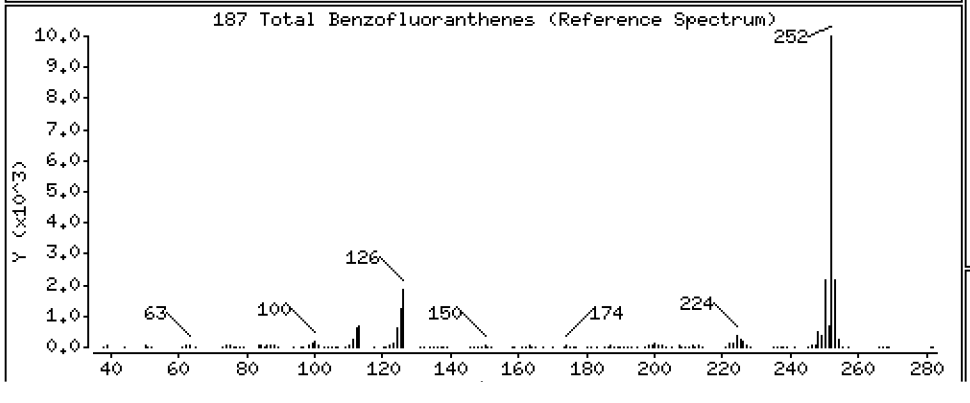
Column diameter: 0.25

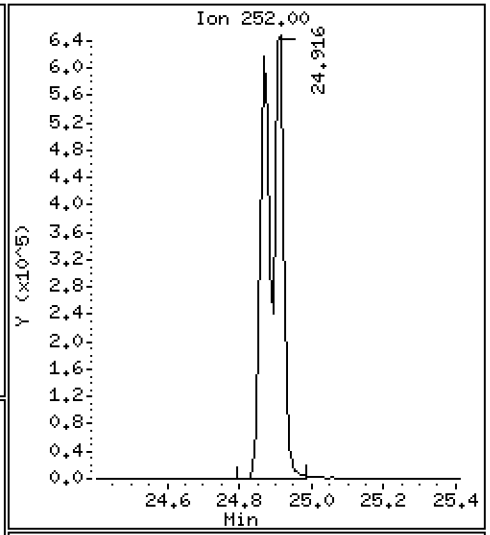
187 Total Benzofluoranthenes

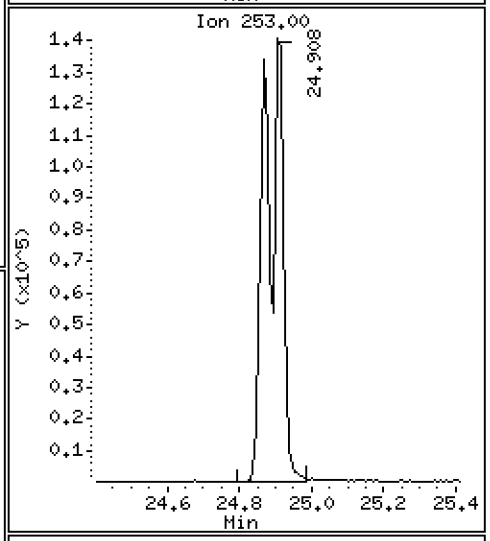
Concentration: 10.02 ug/mL

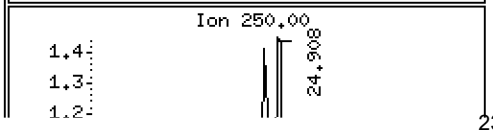












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

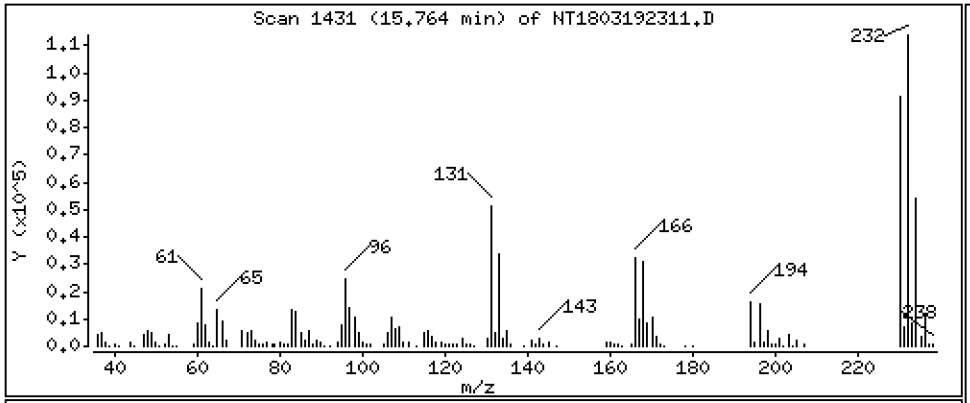
Operator: VTS

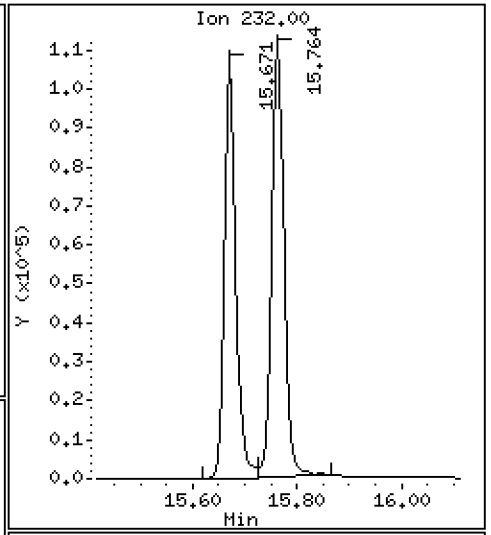
Column phase: ZB-5msi

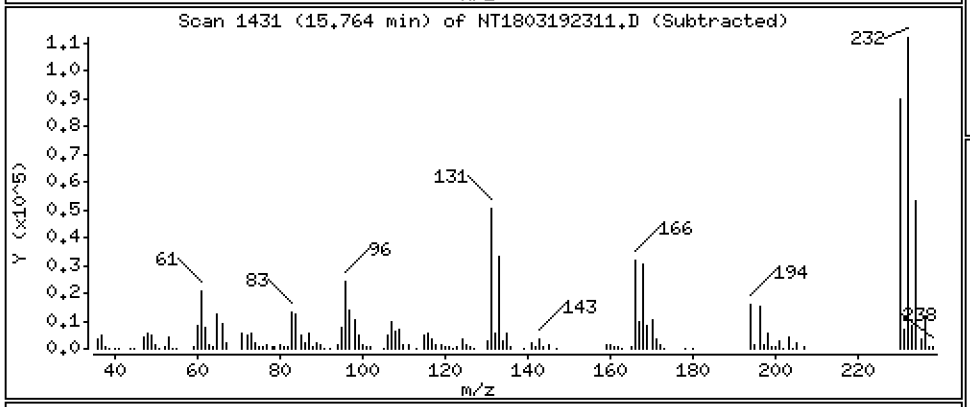
Column diameter: 0.25

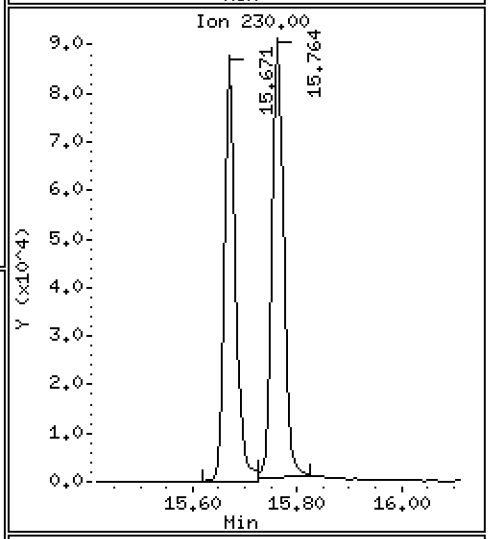
120 2,3,4,6-Tetrachlorophenol

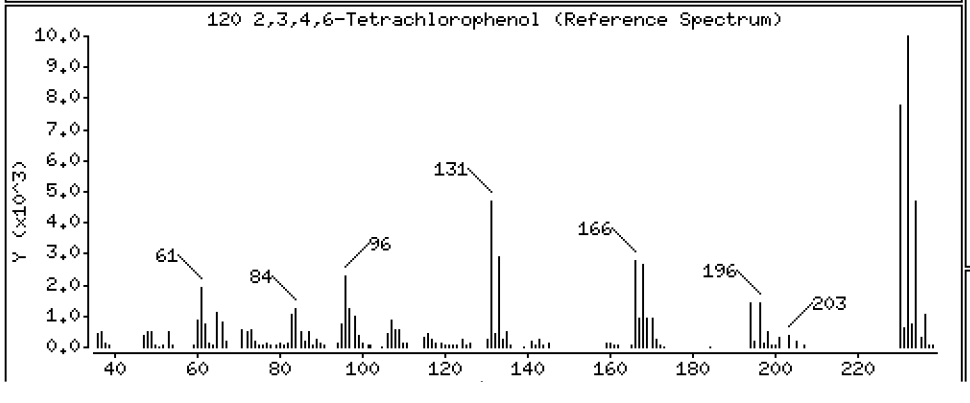
Concentration: 3.470 ug/mL

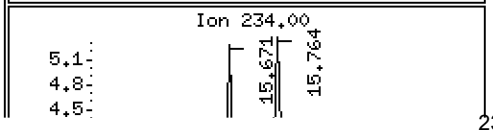












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D
Lab Smp Id: SLC0502-SCV1
Inj Date : 19-MAR-2023 21:26
Operator : VTS Inst ID: nt18.i
Smp Info : scv
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230319.b\ABN.m
Meth Date : 01-Apr-2023 07:54 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 19:24 Cal File: NT1803192308.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: ORGDATA102

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$ 1	2-Fluorophenol	112	Compound Not Detected.					
$ 2	Phenol-d5	99	Compound Not Detected.					
3	Phenol	94	8.372	8.372	(0.930)	441043	4.35211	4.352
$ 5	2-Chlorophenol-d4	132	Compound Not Detected.					
4	Bis(2-Chloroethyl)ether	93	8.550	8.542	(0.950)	368879	5.25957	5.260
6	2-Chlorophenol	128	8.658	8.658	(0.962)	387609	4.47327	4.473
7	1,3-Dichlorobenzene	146	8.929	8.929	(0.992)	460837	5.00917	5.009
* 8	1,4-Dichlorobenzene-d4	152	8.998	8.999	(1.000)	248847	4.00000	
9	1,4-Dichlorobenzene	146	9.029	9.022	(1.003)	466917	5.07130	5.071
$ 10	1,2-Dichlorobenzene-d4	152	Compound Not Detected.					
12	1,2-Dichlorobenzene	146	9.379	9.379	(1.042)	446066	4.91643	4.916
11	Benzyl alcohol	108	9.262	9.262	(1.029)	246021	5.20270	5.203
14	2,2'-oxybis(1-Chloropropane)	121	9.565	9.565	(1.063)	118450	5.54474	5.545
13	2-Methylphenol	108	9.480	9.480	(1.053)	325960	4.23779	4.238
17	Hexachloroethane	117	9.969	9.961	(1.108)	186172	5.16388	5.164
16	N-Nitroso-di-n-propylamine	70	9.821	9.814	(1.091)	286844	5.23671	5.237
15	4-Methylphenol	108	9.751	9.744	(1.084)	358003	4.48222	4.482
$ 18	Nitrobenzene-d5	82	Compound Not Detected.					

	19	Nitrobenzene	77	10.108	10.109	(0.882)	383821	5.02881	5.029
	20	Isophorone	82	10.558	10.559	(0.922)	825809	7.92328	7.923
	21	2-Nitrophenol	139	10.736	10.736	(0.937)	169697	3.74842	3.748
	22	2,4-Dimethylphenol	107	10.787	10.787	(0.942)	285900	3.72602	3.726
	23	Bis(2-Chloroethoxy)methane	93	10.990	10.982	(0.959)	441596	5.86188	5.862
	24	Benzoic acid	105	10.965	10.880	(0.957)	350650	6.42179	6.422
	25	2,4-Dichlorophenol	162	11.185	11.186	(0.976)	351728	4.98044	4.980
	26	1,2,4-Trichlorobenzene	180	11.370	11.370	(0.993)	359680	4.85808	4.858
*	27	Naphthalene-d8	136	11.455	11.455	(1.000)	941852	4.00000	
	28	Naphthalene	128	11.493	11.494	(1.003)	1245937	4.87487	4.875
	29	4-Chloroaniline	127	11.625	11.625	(1.015)	383246	3.89715	3.897
	30	Hexachlorobutadiene	225	11.864	11.857	(1.036)	211903	5.03333	5.033
	31	4-Chloro-3-methylphenol	107	12.576	12.576	(1.098)	306271	4.70884	4.709
	32	2-Methylnaphthalene	142	12.886	13.103	(1.125)	801723	5.24701	5.247(H)
	33	Hexachlorocyclopentadiene	237	13.350	13.350	(0.887)	222562	5.05604	5.056

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.497	13.497	(0.897)	208419	4.58046	4.580
	35 2,4,5-Trichlorophenol	196	13.567	13.567	(0.902)	225198	4.52785	4.528
$	36 2-Fluorobiphenyl	172	Compound Not Detected.					
	37 2-Chloronaphthalene	162	13.869	13.861	(0.922)	709799	4.88462	4.885
	38 2-Nitroaniline	65	14.116	14.116	(0.938)	183222	4.81152	4.812
	39 Dimethylphthalate	163	14.557	14.558	(0.968)	773755	5.10490	5.105
	40 Acenaphthylene	152	14.728	14.728	(0.979)	1218077	4.92248	4.922
	41 2,6-Dinitrotoluene	165	14.697	14.689	(0.977)	166669	4.85742	4.857
*	42 Acenaphthene-d10	164	15.045	15.045	(1.000)	508667	4.00000	
	43 3-Nitroaniline	138	14.968	14.960	(0.995)	199465	5.15025	5.150
	44 Acenaphthene	153	15.107	15.107	(1.004)	758439	4.84229	4.842
	45 2,4-Dinitrophenol	184	15.176	15.176	(1.009)	37685	1.88731	1.887
	46 Dibenzofuran	168	15.431	15.424	(1.026)	1023349	4.75581	4.756
	47 4-Nitrophenol	109	15.277	15.269	(1.015)	84926	4.12755	4.128
	48 2,4-Dinitrotoluene	165	15.493	15.486	(1.030)	201908	4.48058	4.481
	50 Diethylphthalate	149	16.004	16.004	(1.064)	771038	5.02064	5.021
	49 Fluorene	166	16.135	16.135	(1.072)	984533	5.04042	5.040
	51 4-Chlorophenyl-phenylether	204	16.135	16.127	(1.072)	467934	5.39775	5.398
	52 4-Nitroaniline	138	16.220	16.212	(1.078)	168586	4.32315	4.323
	53 4,6-Dinitro-2-methylphenol	198	16.320	16.312	(0.904)	74351	3.08813	3.088
	54 N-Nitrosodiphenylamine	169	16.382	16.374	(0.908)	552391	5.07694	5.077
$	55 2,4,6-Tribromophenol	330	Compound Not Detected.					
	56 4-Bromophenyl-phenylether	248	17.130	17.130	(0.949)	230243	5.33467	5.335
	57 Hexachlorobenzene	284	17.439	17.439	(0.966)	237192	4.89949	4.899
	58 Pentachlorophenol	266	17.787	17.787	(0.985)	110267	3.80234	3.802
*	59 Phenanthrene-d10	188	18.050	18.050	(1.000)	854150	4.00000	
	60 Phenanthrene	178	18.097	18.097	(1.003)	1124988	4.82494	4.825
	61 Anthracene	178	18.189	18.190	(1.008)	949240	4.27002	4.270
	62 Carbazole	167	18.514	18.514	(1.026)	915932	4.67894	4.679
	63 Di-n-butylphthalate	149	19.327	19.335	(1.071)	1252814	4.83870	4.839
	64 Fluoranthene	202	20.472	20.472	(0.887)	1169339	5.21259	5.213
	65 Pyrene	202	20.897	20.890	(0.906)	1189380	5.03037	5.030
$	66 Terphenyl-d14	244	Compound Not Detected.					
	67 Butylbenzylphthalate	149	22.113	22.113	(0.958)	485115	4.79167	4.792
	68 Benzo(a)anthracene	228	23.042	23.042	(0.999)	1091414	4.95439	4.954
*	69 Chrysene-d12	240	23.073	23.073	(1.000)	703971	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.003	23.003	(0.997)	736332	9.28906	9.289
	71 Chrysene	228	23.119	23.112	(1.002)	1096346	4.81448	4.814
	72 bis(2-Ethylhexyl)phthalate	149	23.135	23.135	(0.960)	758931	5.00338	5.003
*	134 Di-n-octylphthalate-d4	153	24.110	24.110	(1.000)	1052203	4.00000	

	73	Di-n-octylphthalate	149	24.118	24.118	(1.000)	1333082	5.14944	5.149
	74	Benzo(b)fluoranthene	252	24.869	24.869	(0.972)	1146645	5.17215	5.172
	75	Benzo(k)fluoranthene	252	24.915	24.908	(0.973)	1183533	4.85368	4.854
	76	Benzo(a)pyrene	252	25.488	25.481	(0.996)	1036082	4.67267	4.673
*	77	Perylene-d12	264	25.597	25.597	(1.000)	796363	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	28.102	28.094	(1.098)	1282147	4.55301	4.553
	79	Dibenzo(a,h)anthracene	278	28.117	28.102	(1.098)	1063521	4.54375	4.544
	80	Benzo(g,h,i)perylene	276	28.102	28.816	(1.098)	1282147	5.69990	5.700
	90	N-Nitrosodimethylamine	74	4.703	4.703	(0.523)	243602	5.13632	5.136(H)
	91	Aniline	93	Compound Not Detected.					
	93	Benzidine	184	20.712	20.712	(0.898)	502334	5.26600	5.266
	103	Pyridine	79	4.726	4.749	(0.525)	416943	5.32344	5.323
	105	1-methylnaphthalene	142	13.102	13.103	(1.144)	778553	5.09537	5.095
	111	Azobenzene (1,2-DP-Hydrazine)	77	16.451	16.451	(1.093)	834251	4.95703	4.957

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
187 Total Benzofluoranthenes	252	24.915	24.908	(0.973)	2225200	10.0155	10.02
120 2,3,4,6-Tetrachlorophenol	232	15.764	15.764	(1.048)	193132	3.46953	3.470

QC Flag Legend

H - Operator selected an alternate compound hit.

Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D Page 1
Report Date: 01-Apr-2023 07:57

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192311.D
Lab Smp Id: SLC0502-SCV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 16:40
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	268611	134306	537222	248847	-7.36
27 Naphthalene-d8	1007141	503571	2014282	941852	-6.48
42 Acenaphthene-d10	531283	265642	1062566	508667	-4.26
59 Phenanthrene-d10	884709	442355	1769418	854150	-3.45
69 Chrysene-d12	727768	363884	1455536	703971	-3.27
134 Di-n-octylphthala	1108384	554192	2216768	1052203	-5.07
77 Perylene-d12	824431	412216	1648862	796363	-3.40

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	-0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	-0.00
42 Acenaphthene-d10	15.05	14.55	15.55	15.05	-0.00
59 Phenanthrene-d10	18.05	17.55	18.55	18.05	-0.00
69 Chrysene-d12	23.07	22.57	23.57	23.07	-0.00
134 Di-n-octylphthala	24.11	23.61	24.61	24.11	-0.00
77 Perylene-d12	25.60	25.10	26.10	25.60	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192311.D

Lab ID: SLC0502-SCV1
nt18.i, ABN.m, 19-MAR-2023 21:26

RT	CO-ELUTION COMPOUNDS
28.102	Benzo(g,h,i)perylene and Indeno(1,2,3-cd)pyrene

** FIRST SURROGATE NOT FOUND. ICAL Check not performed **

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.957	0.950	0.0074	Benzoic acid
1.125	1.144	-0.0189	2-Methylnaphthalene
1.098	1.126	-0.0279	Benzo(g,h,i)perylene

RRT check based on Ccal File: NT1803192308.D

On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

LOW-CONCENTRATION CALIBRATION VERIFICATION

EPA 8270E

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GC00085
Laboratory ID: SLD0051-LCV1
Sequence: SLD0051
Standard ID: K011105

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DRIFT	QC LIMIT
Phenol	0.20000	0.2	-10.0	50.00
4-Methylphenol	0.20000	0.2	-17.6	50.00
Naphthalene	0.20000	0.2	-3.6	50.00
2-Methylnaphthalene	0.20000	0.2	-5.5	50.00
Acenaphthylene	0.20000	0.2	-11.7	50.00
Dimethylphthalate	0.20000	0.2	-12.0	50.00
Acenaphthene	0.20000	0.2	-3.9	50.00
Dibenzofuran	0.20000	0.2	-3.8	50.00
Fluorene	0.20000	0.2	-6.8	50.00
Phenanthrene	0.20000	0.2	-2.8	50.00
Anthracene	0.20000	0.2	-17.1	50.00
Fluoranthene	0.20000	0.2	-14.2	50.00
Pyrene	0.20000	0.2	-13.2	50.00
Butylbenzylphthalate	0.20000	0.1	-47.3	50.00
Benzo(a)anthracene	0.20000	0.2	-6.5	50.00
Chrysene	0.20000	0.2	-7.7	50.00
bis(2-Ethylhexyl)phthalate	0.20000	0.1	-45.9	50.00
Benzofluoranthenes, Total	0.40000	0.4	-7.8	50.00
Benzo(a)pyrene	0.20000	0.2	-24.0	50.00
Indeno(1,2,3-cd)pyrene	0.20000	0.09	-53.1 *	50.00
Dibenzo(a,h)anthracene	0.20000	0.08	-58.4 *	50.00
Benzo(g,h,i)perylene	0.20000	0.1	-45.2	50.00
2-Fluorophenol	0.30000	0.241	-19.8	50.00
Phenol-d5	0.30000	0.254	-15.4	50.00
2-Chlorophenol-d4	0.30000	0.250	-16.6	50.00
1,2-Dichlorobenzene-d4	0.20000	0.194	-2.9	50.00
Nitrobenzene-d5	0.20000	0.169	-15.4	50.00
2-Fluorobiphenyl	0.20000	0.193	-3.5	50.00
2,4,6-Tribromophenol	0.30000	0.129	-56.9 *	50.00

LOW-CONCENTRATION CALIBRATION VERIFICATION
EPA 8270E

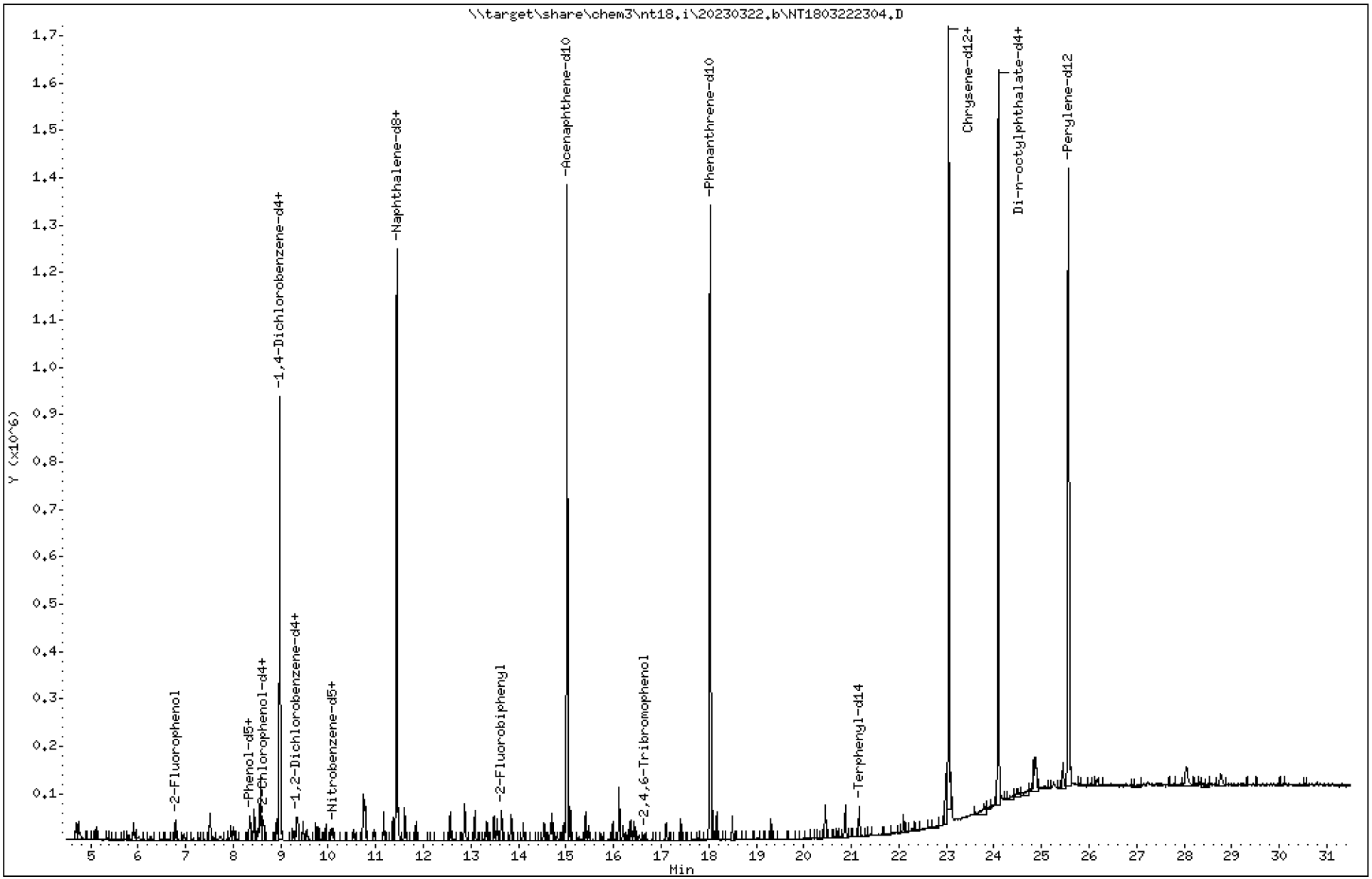
Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GC00085
Laboratory ID: SLD0051-LCV1
Sequence: SLD0051
Standard ID: K011105

p-Terphenyl-d14	0.20000	0.173	-13.6	50.00

* Values outside of QC limits

Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D
Date : 22-MAR-2023 19:17
Client ID:
Sample Info: SLD0051-LCV1

Instrument: nt18.i
Operator: VTS
Column phase: ZB-5msi
Column diameter: 0.25



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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

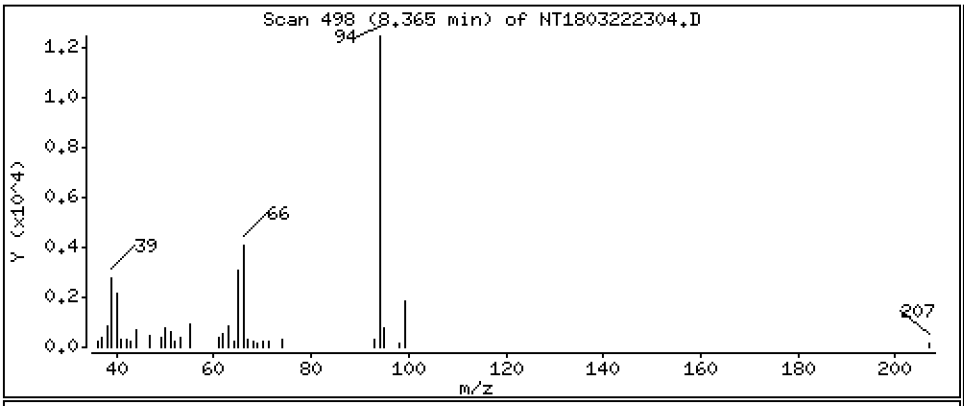
Operator: VTS

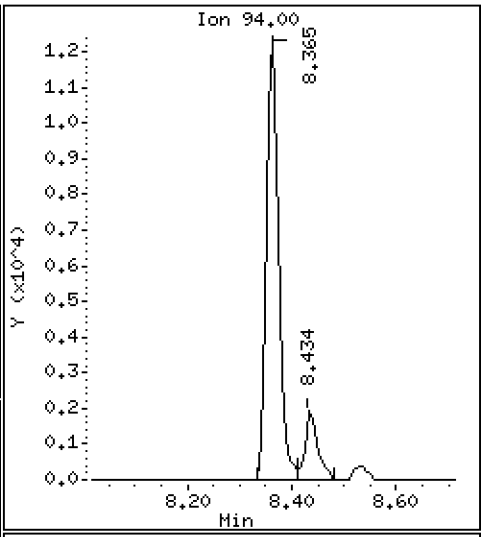
Column phase: ZB-5msi

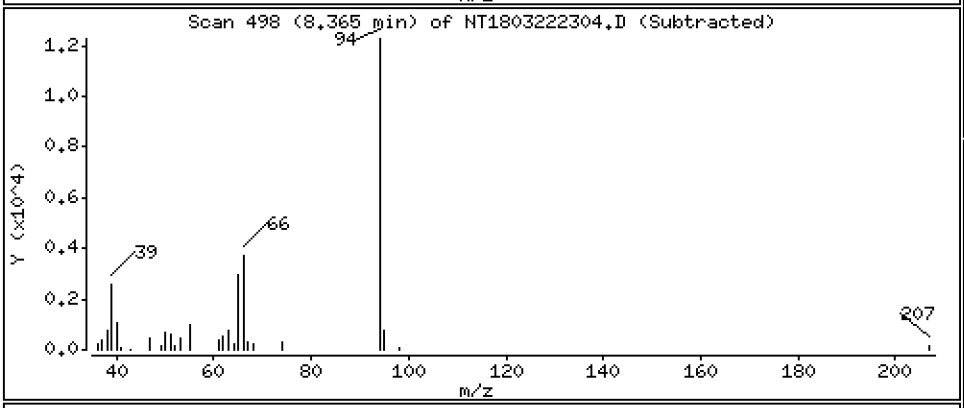
Column diameter: 0.25

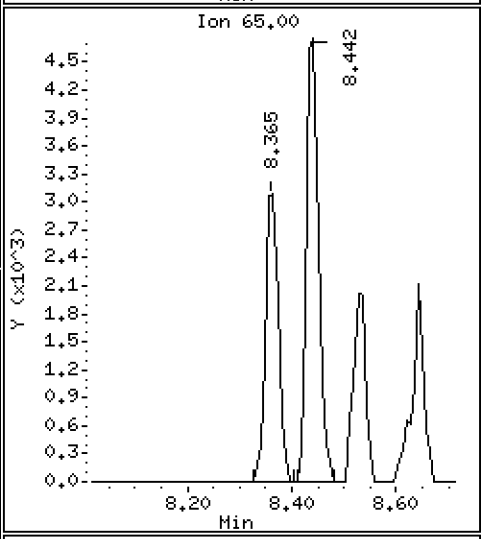
3 Phenol

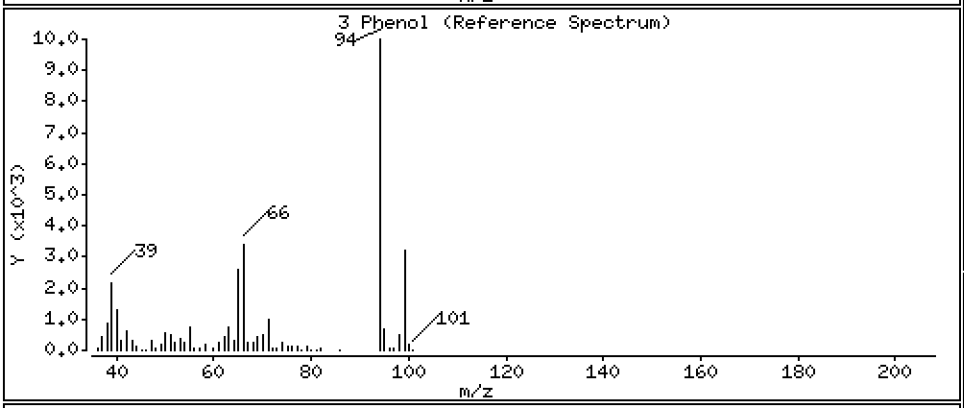
Concentration: 0.1800 ug/mL

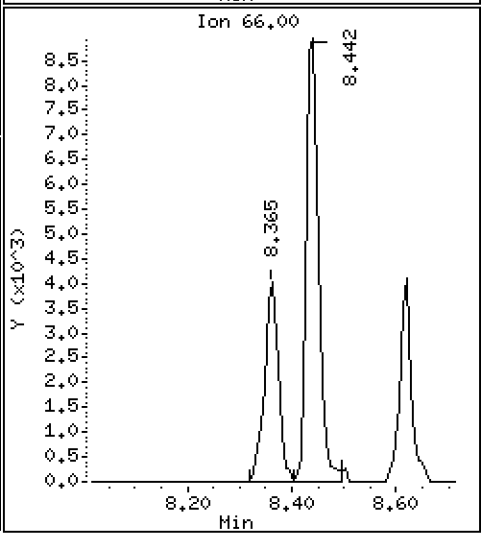


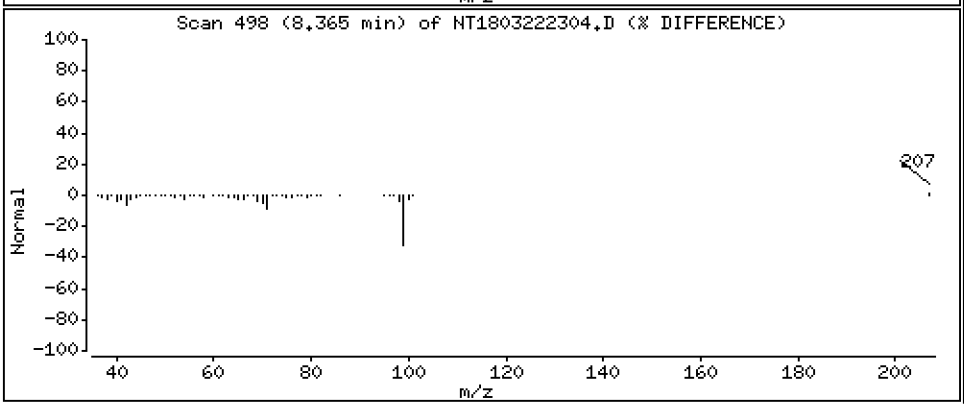












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

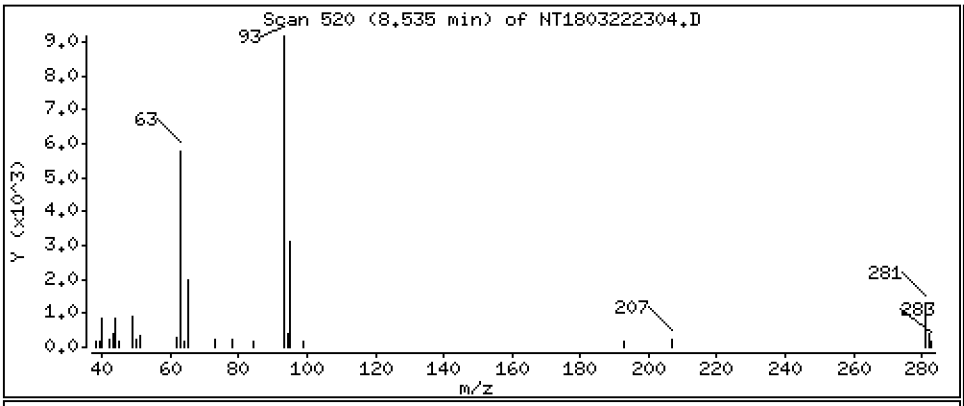
Operator: VTS

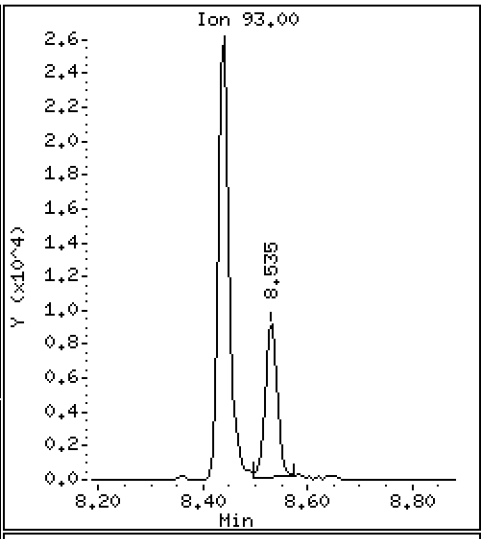
Column phase: ZB-5msi

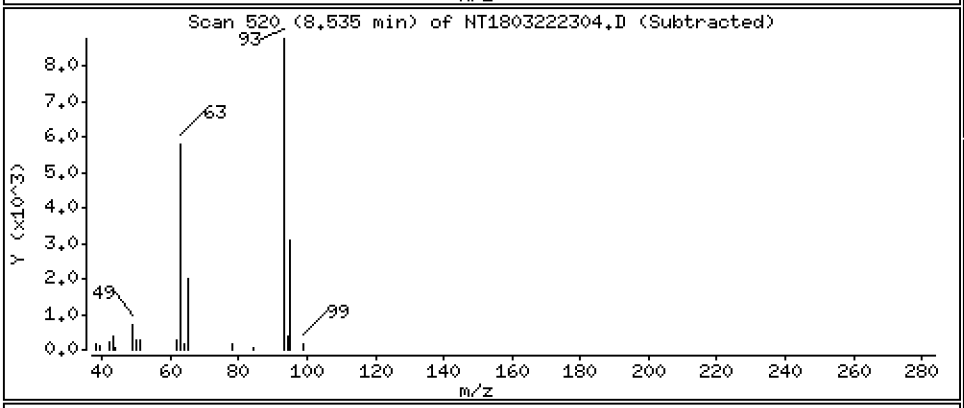
Column diameter: 0.25

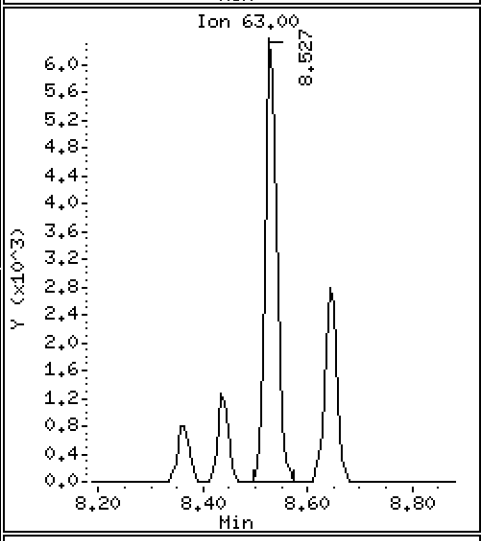
4 Bis(2-Chloroethyl)ether

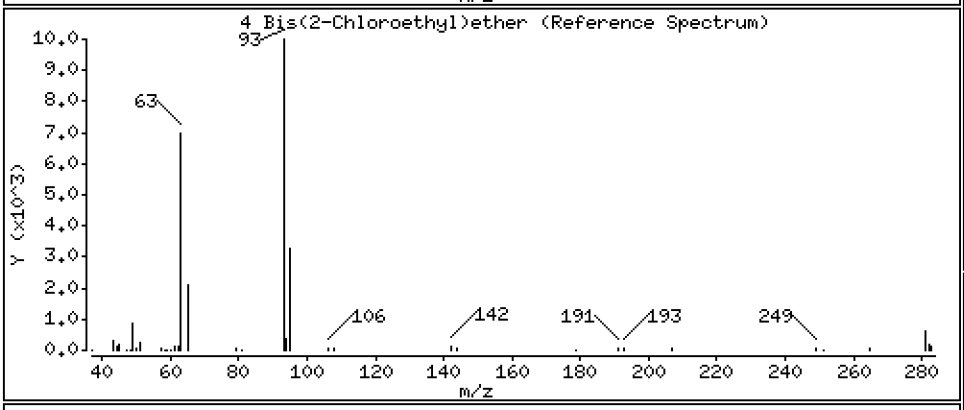
Concentration: 0.1870 ug/mL

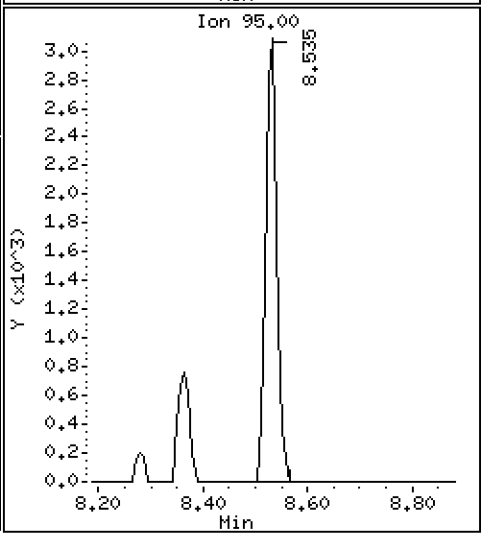


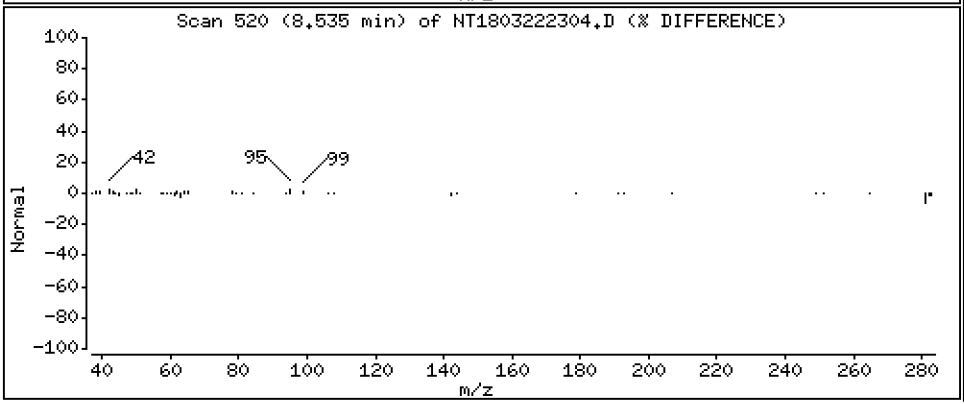












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

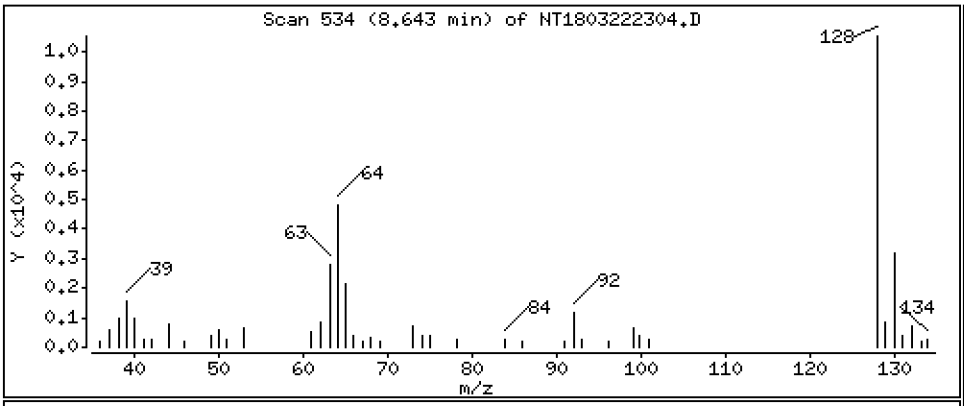
Operator: VTS

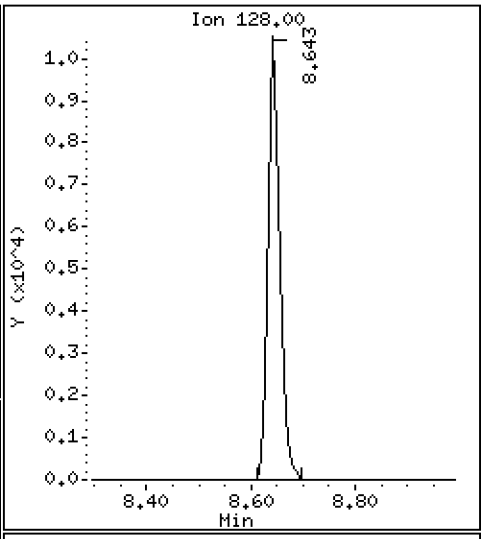
Column phase: ZB-5msi

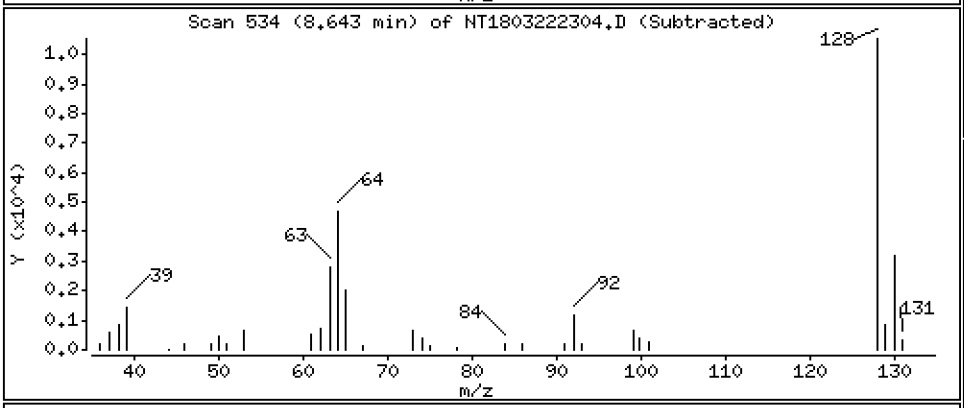
Column diameter: 0.25

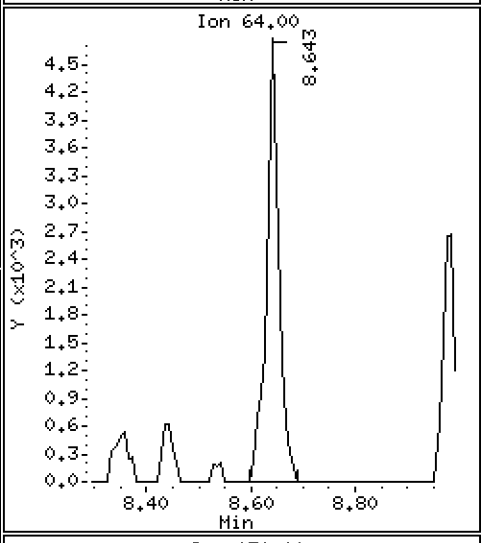
6 2-Chlorophenol

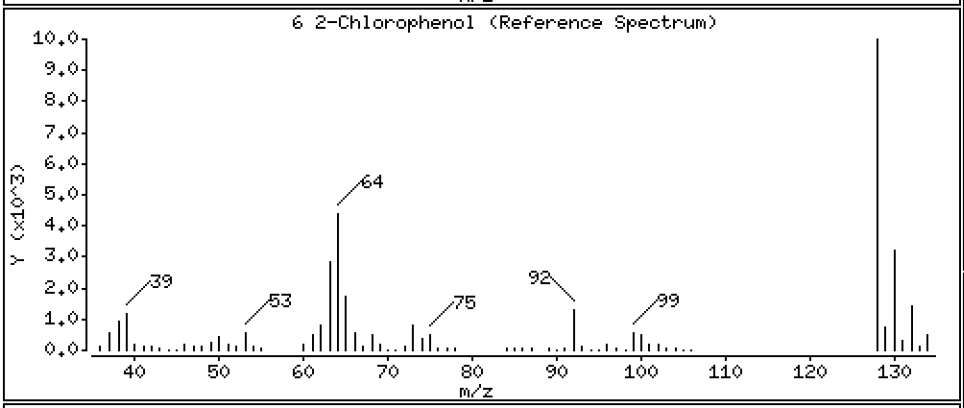
Concentration: 0.1761 ug/mL

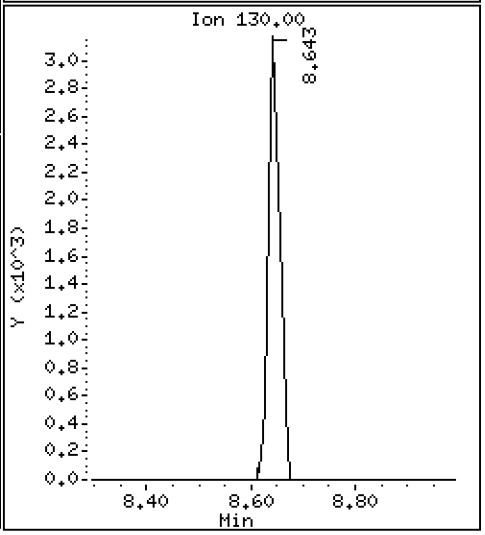


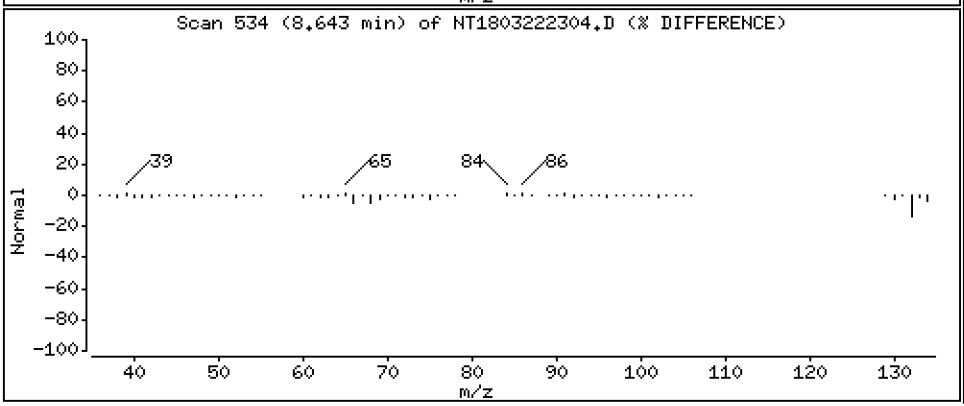












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

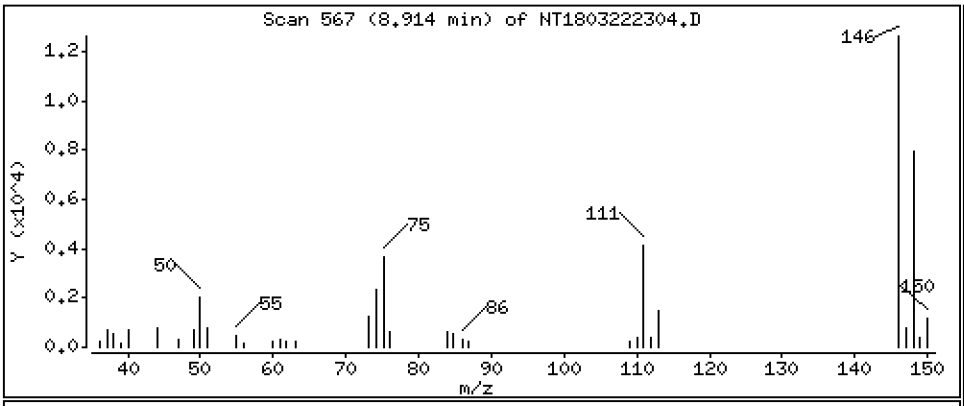
Operator: VTS

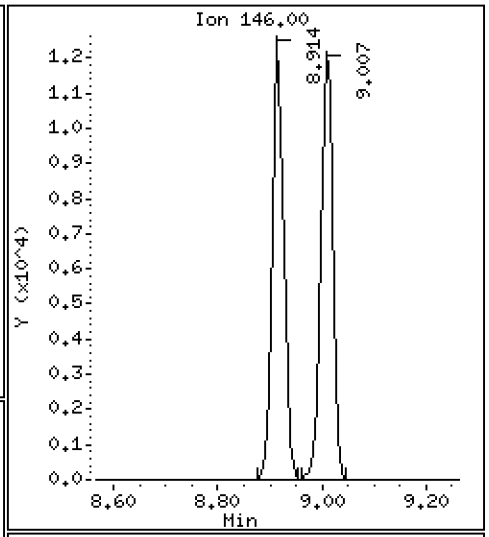
Column phase: ZB-5msi

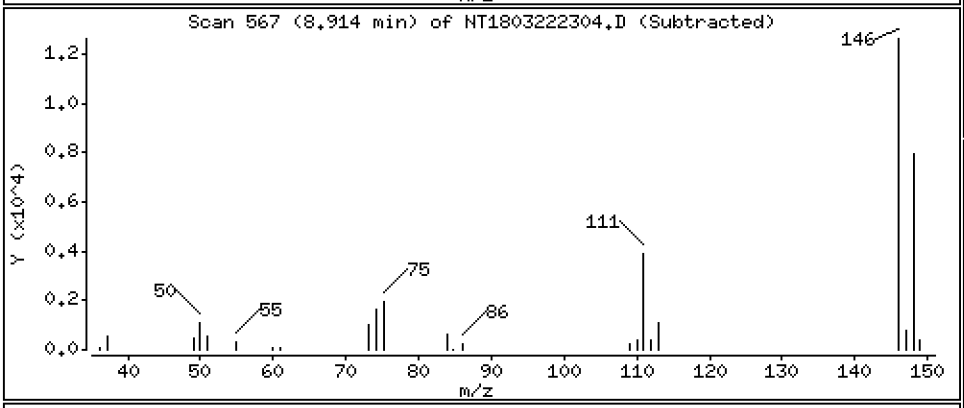
Column diameter: 0.25

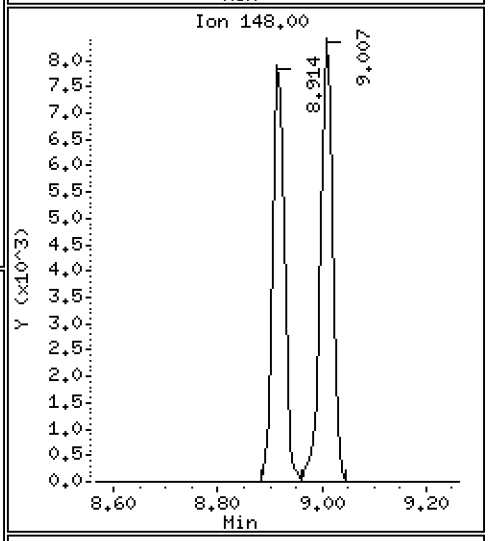
7 1,3-Dichlorobenzene

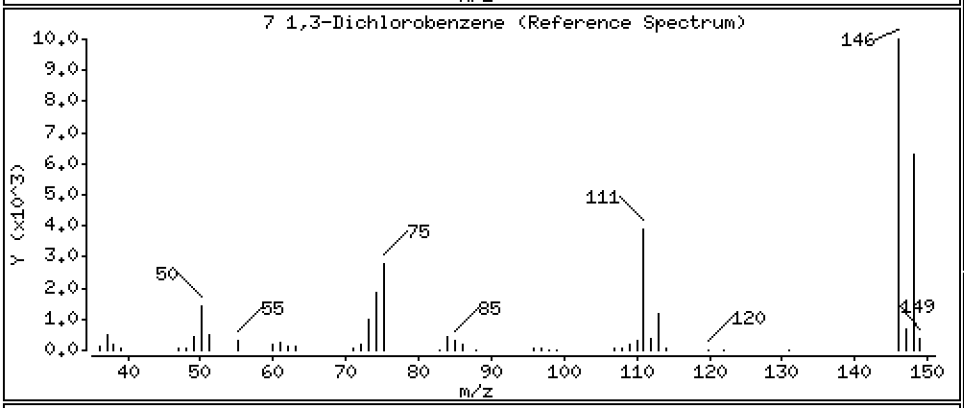
Concentration: 0.1925 ug/mL

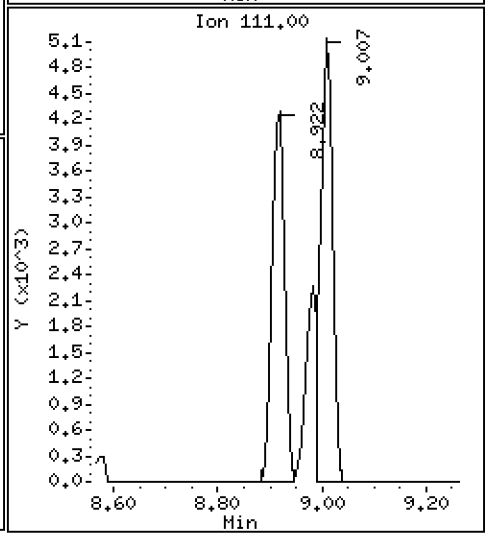


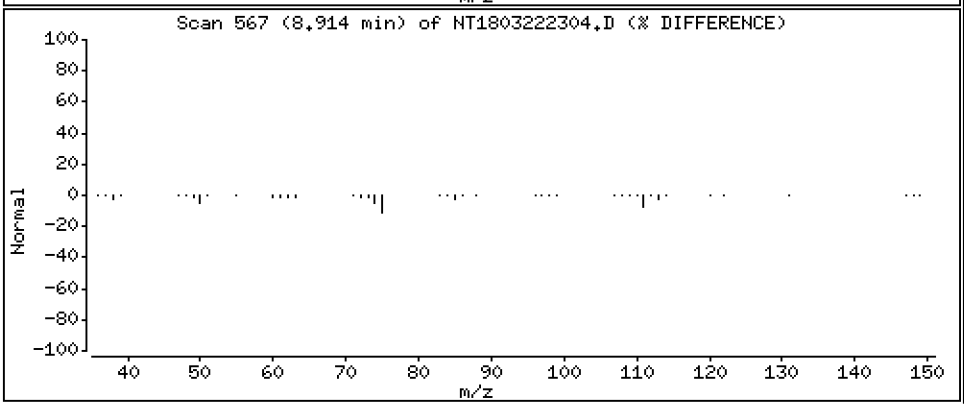












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

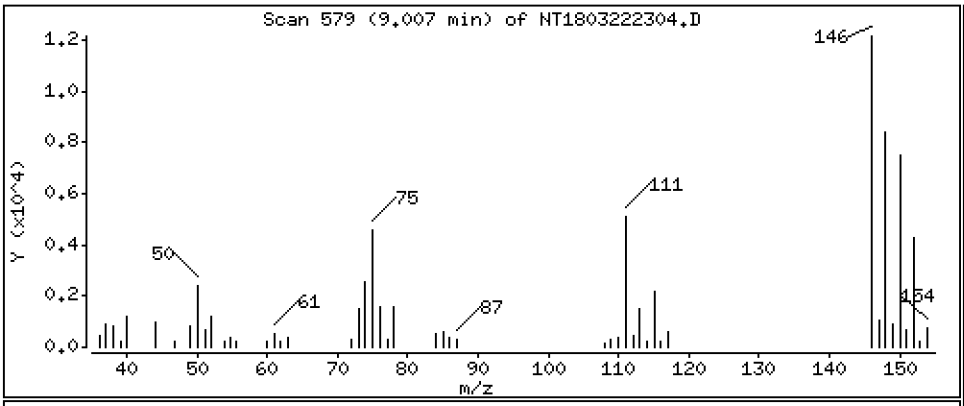
Operator: VTS

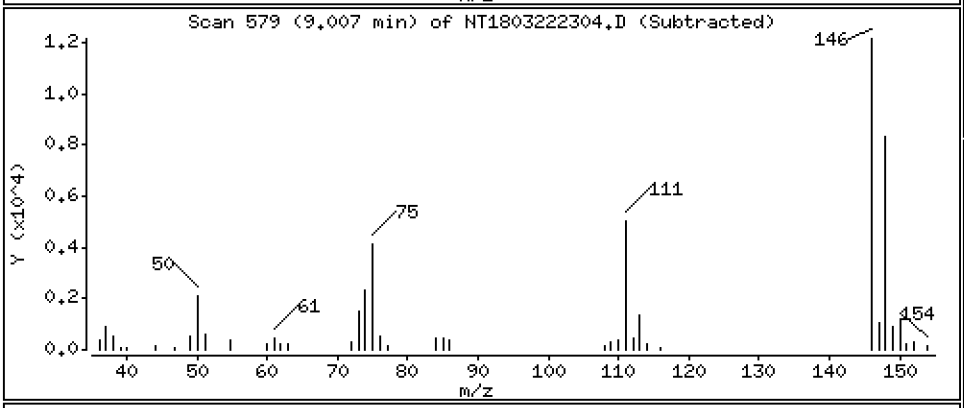
Column phase: ZB-5msi

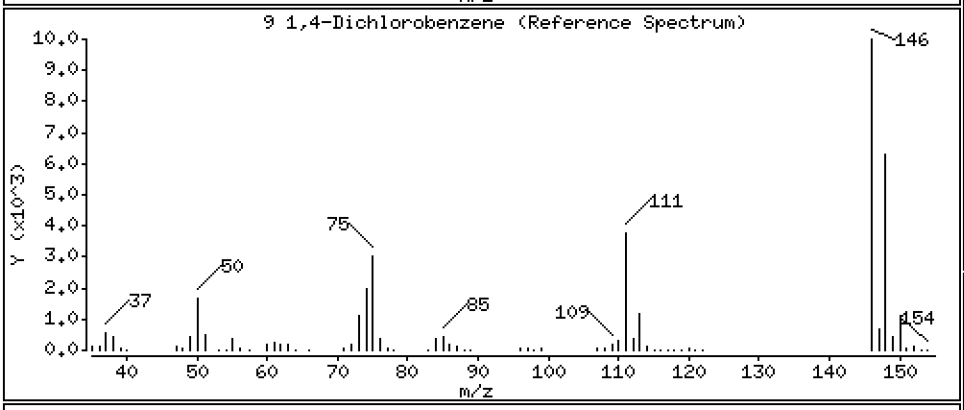
Column diameter: 0.25

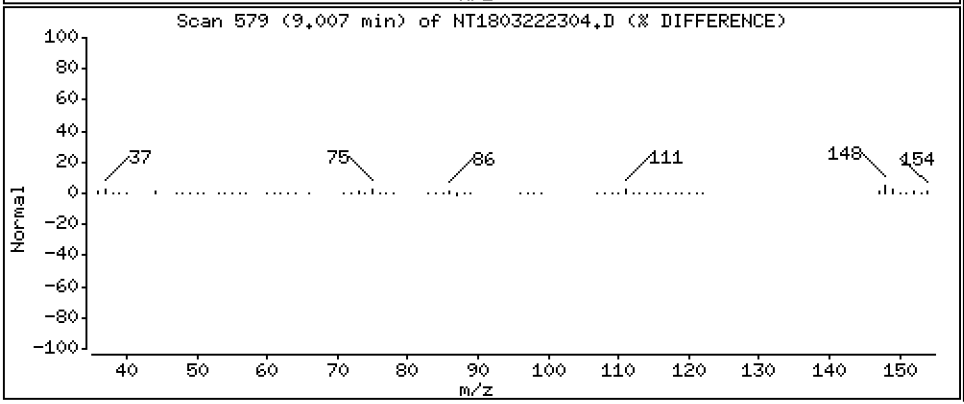
9 1,4-Dichlorobenzene

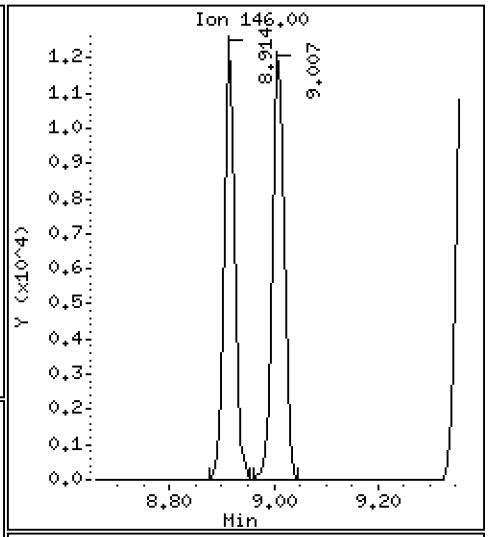
Concentration: 0.1932 ug/mL

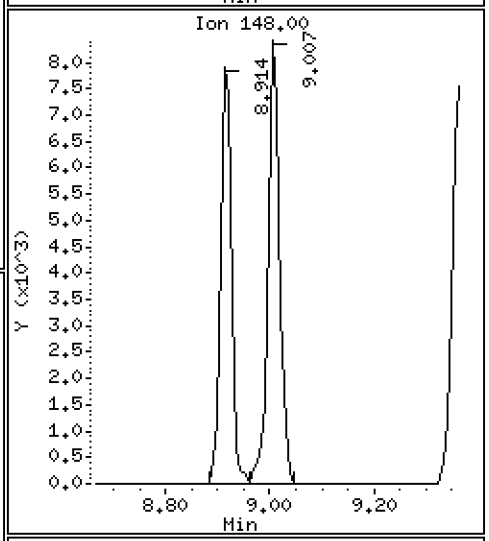


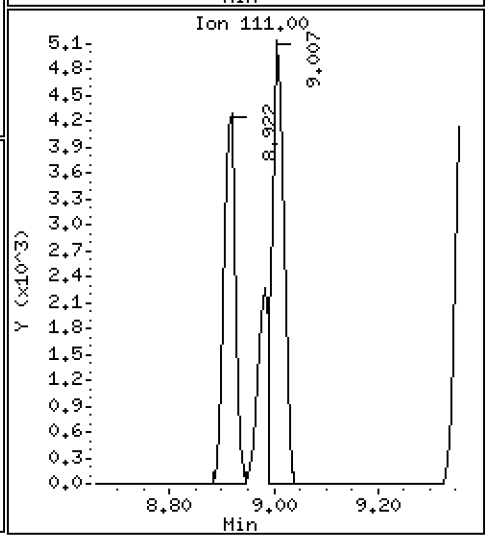












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

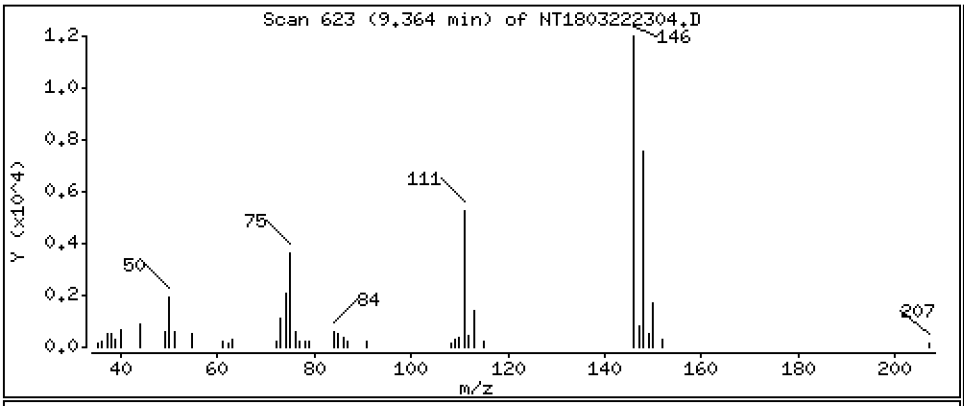
Operator: VTS

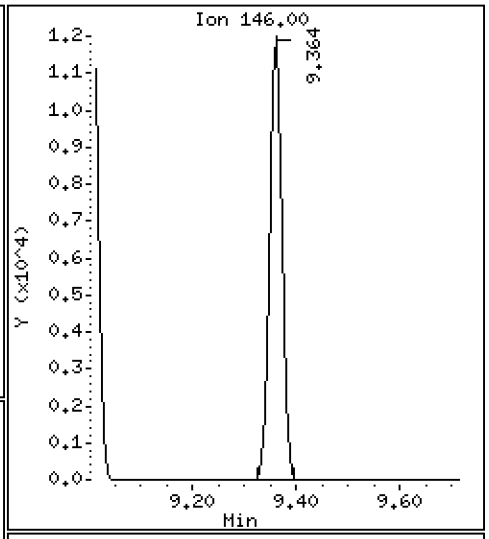
Column phase: ZB-5msi

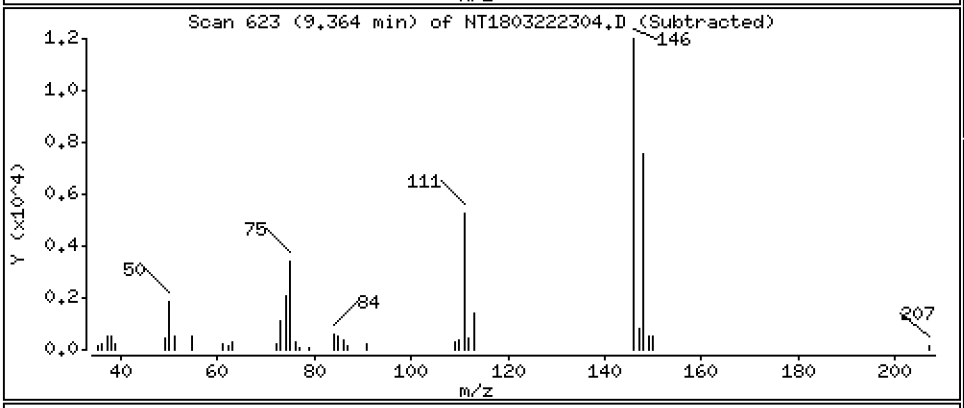
Column diameter: 0.25

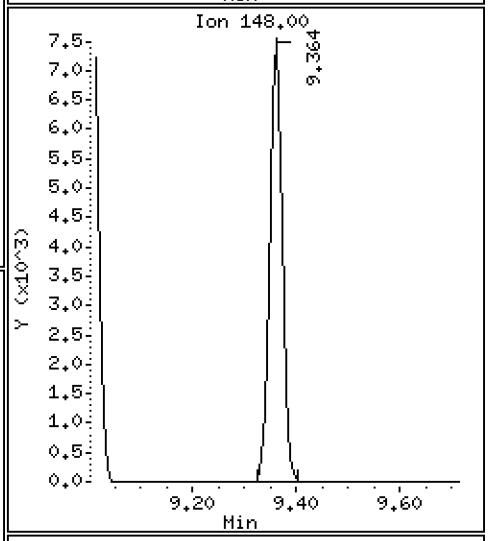
12 1,2-Dichlorobenzene

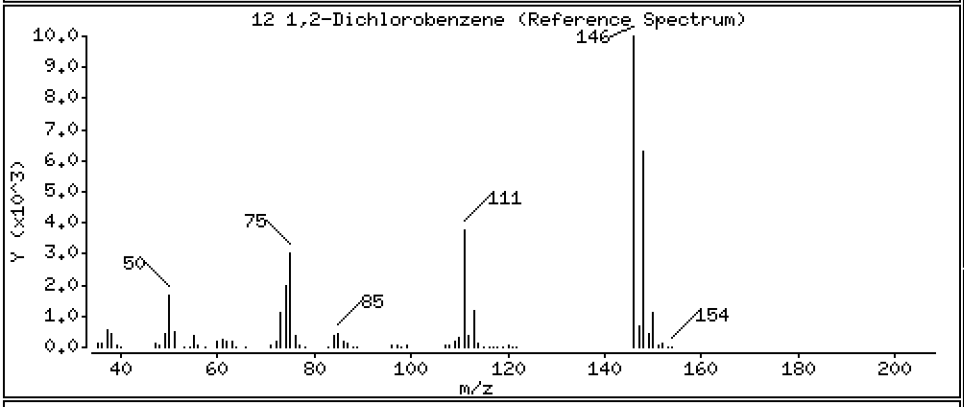
Concentration: 0.1975 ug/mL

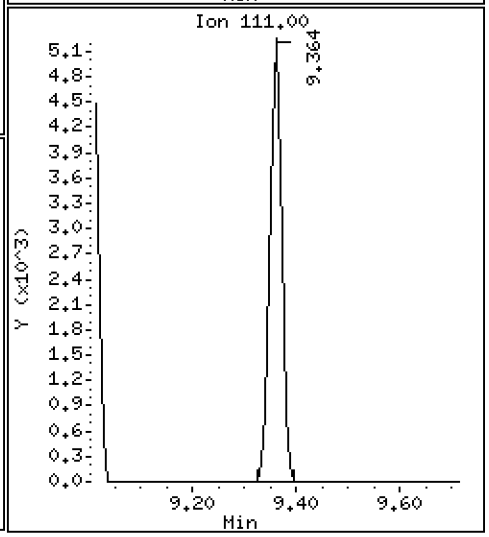


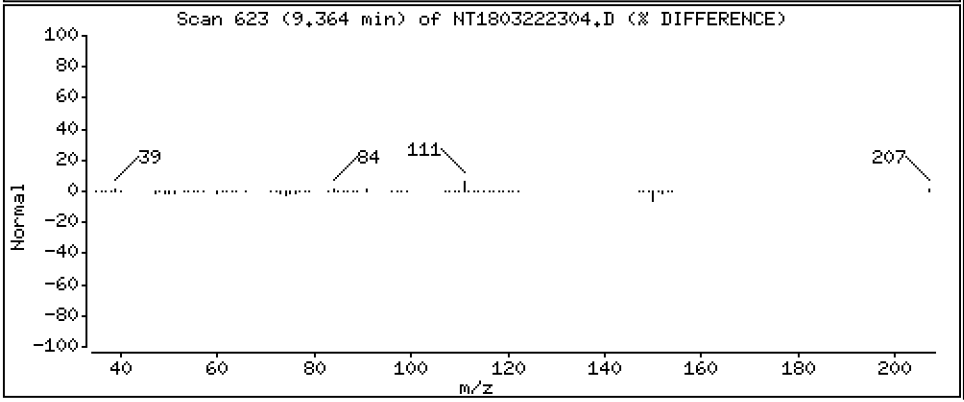












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

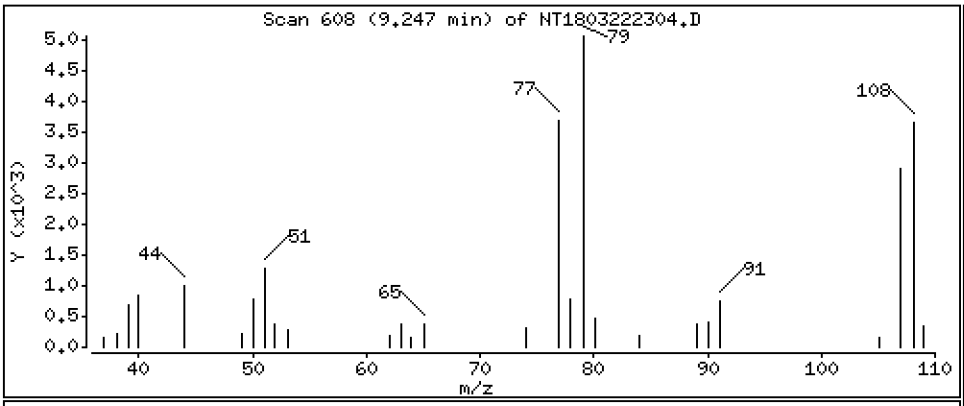
Operator: VTS

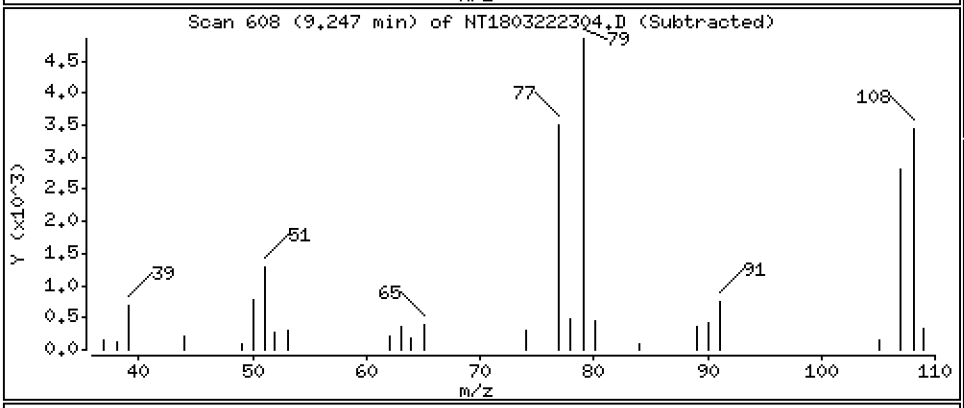
Column phase: ZB-5msi

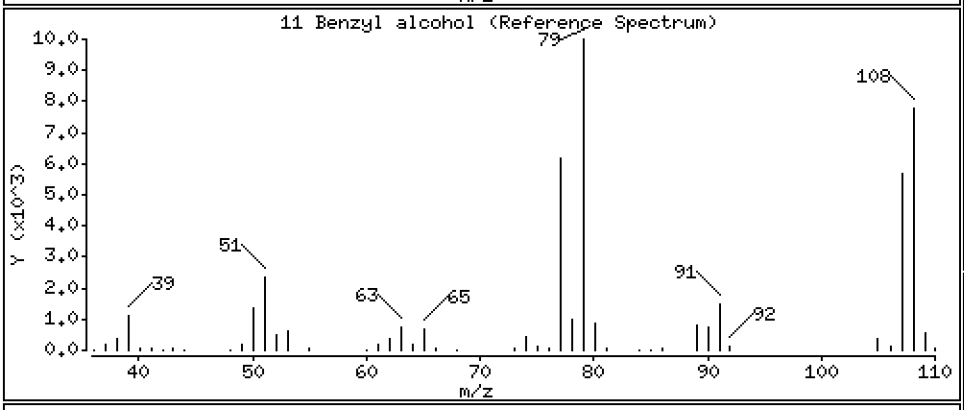
Column diameter: 0.25

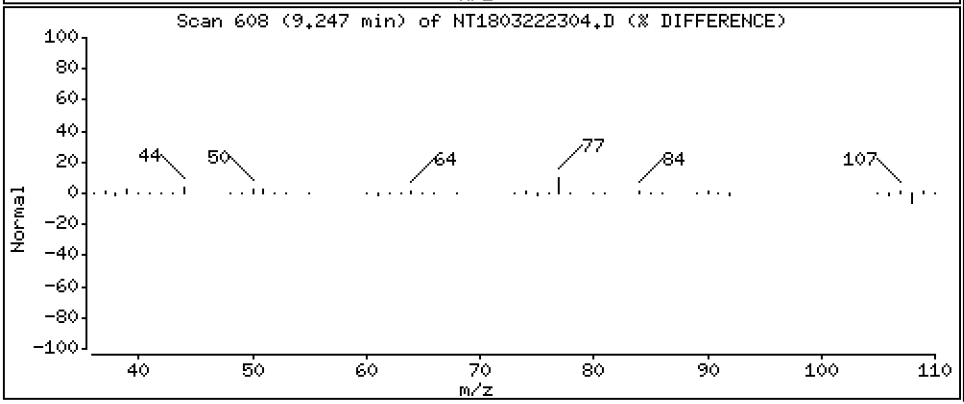
11 Benzyl alcohol

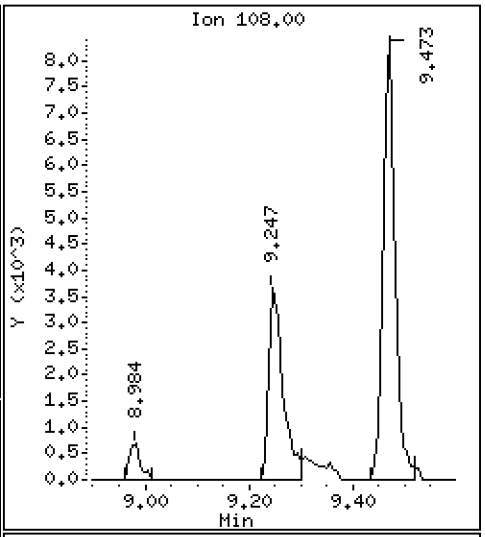
Concentration: 0.1364 ug/mL

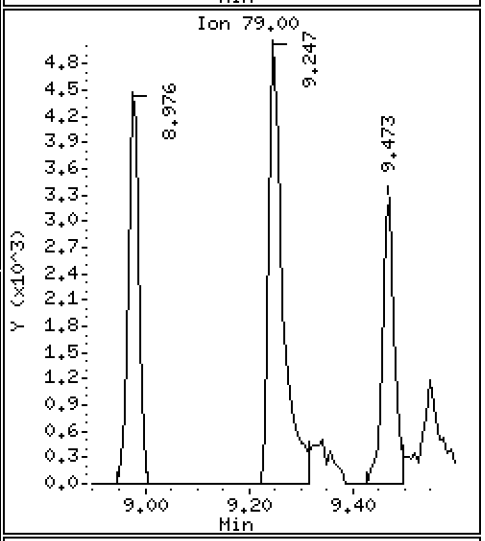


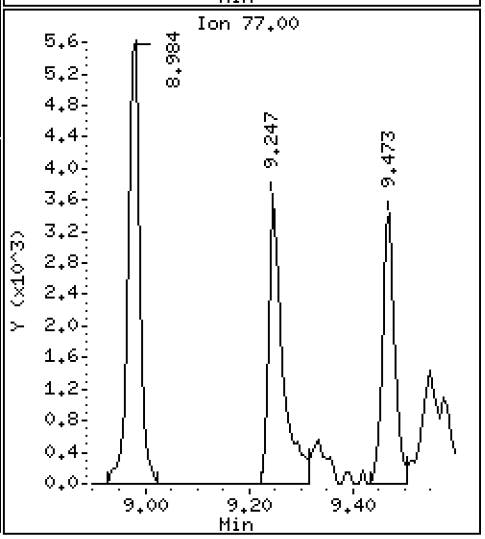












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

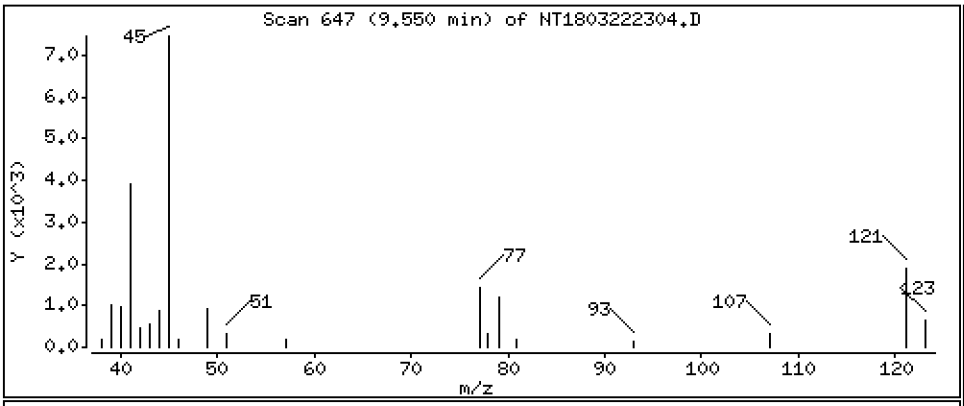
Operator: VTS

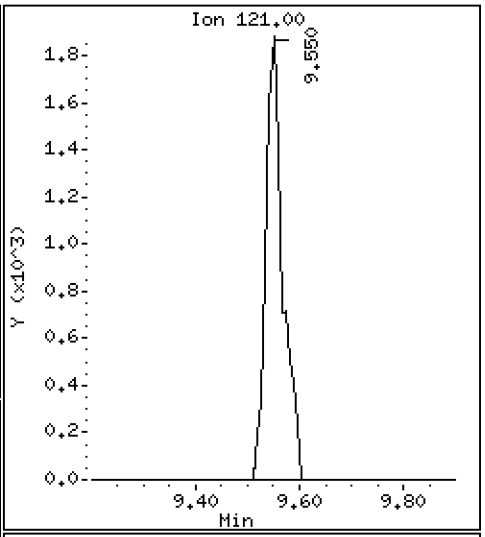
Column phase: ZB-5msi

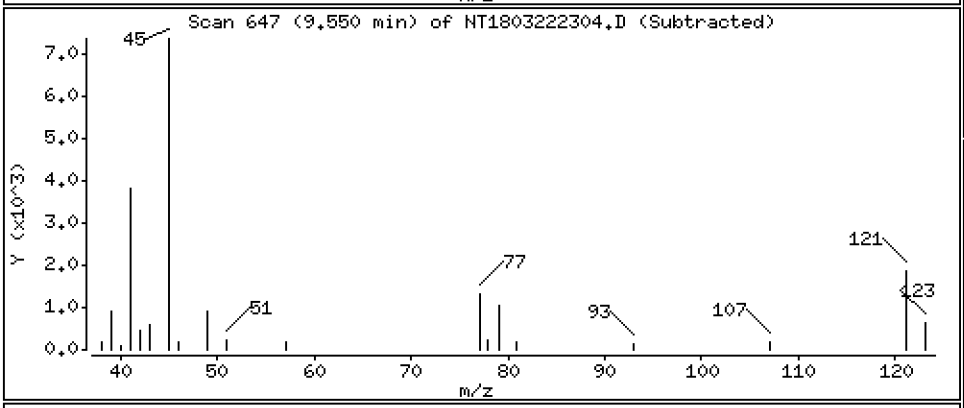
Column diameter: 0.25

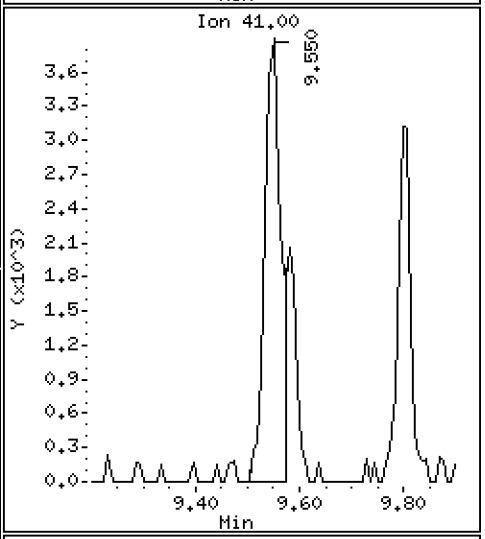
14 2,2'-oxybis(1-Chloropropane)

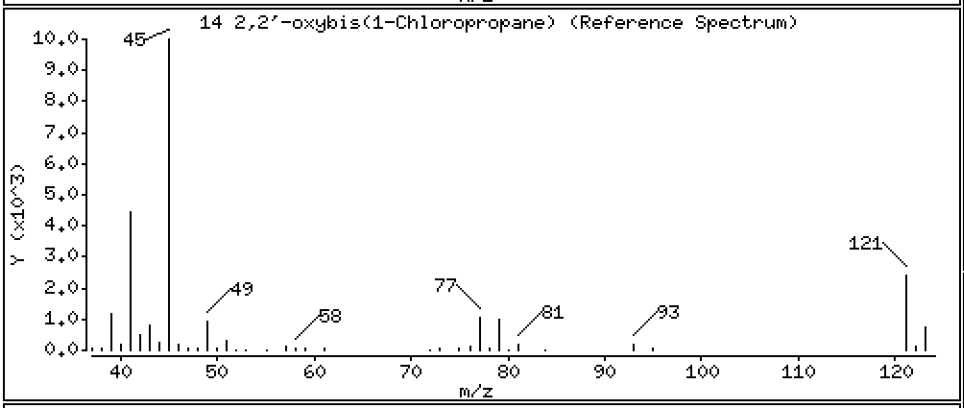
Concentration: 0.1859 ug/mL

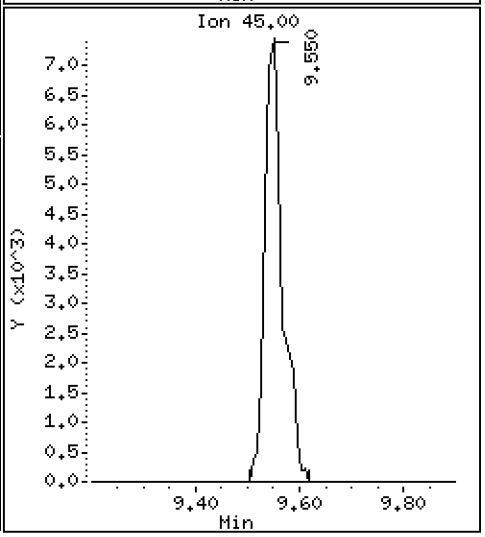


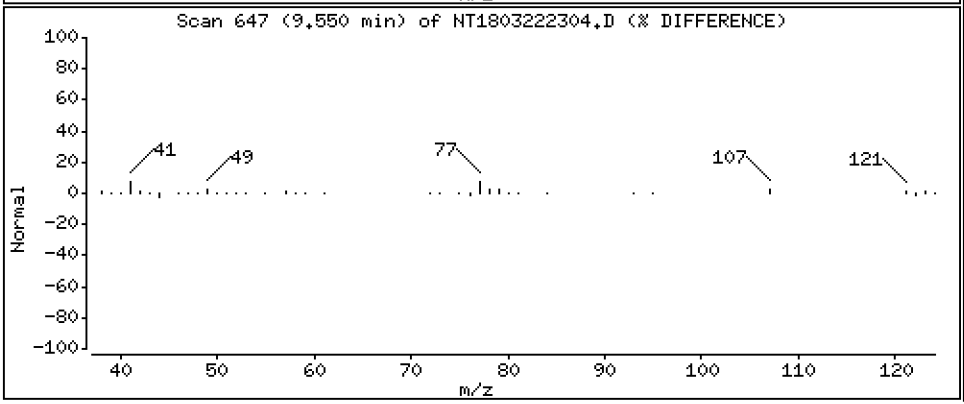












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

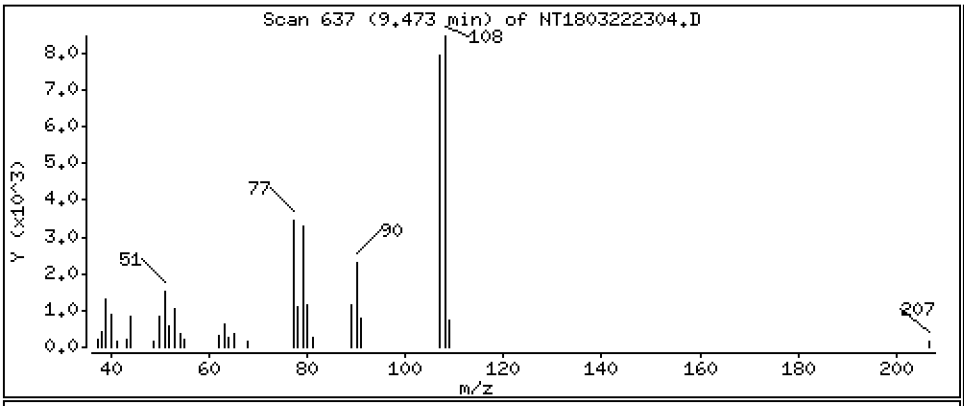
Operator: VTS

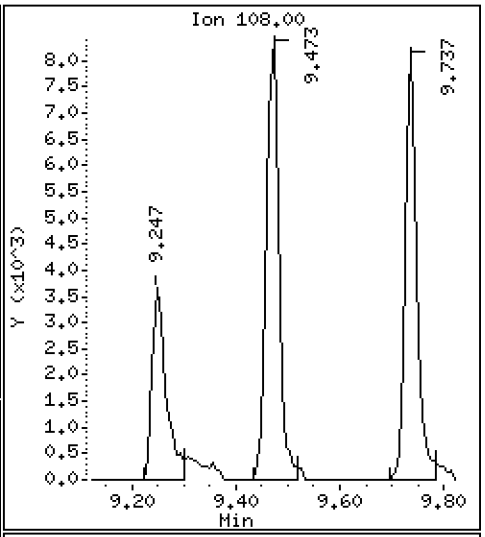
Column phase: ZB-5msi

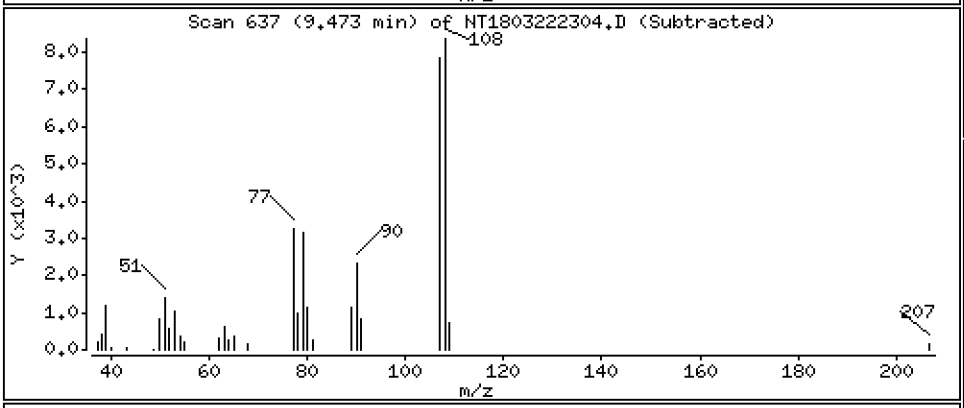
Column diameter: 0.25

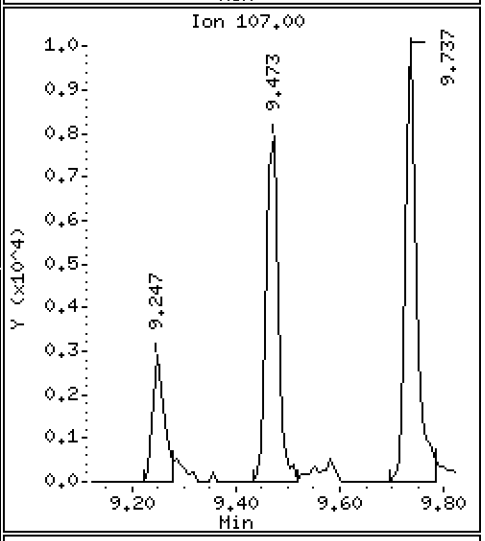
13 2-Methylphenol

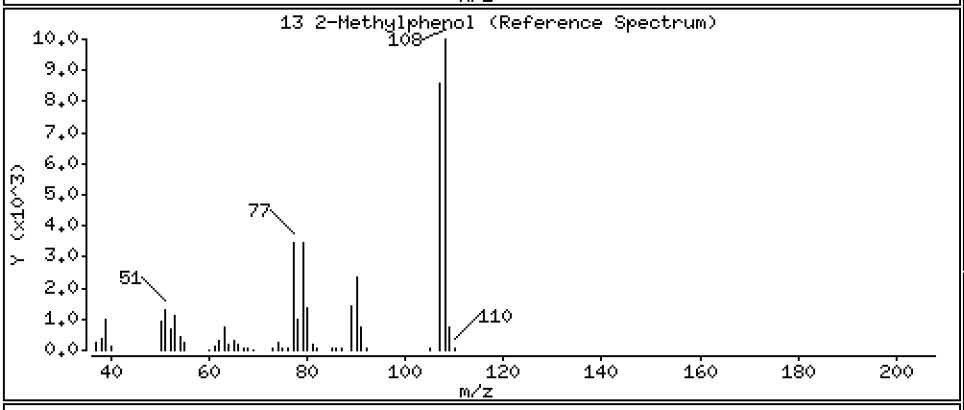
Concentration: 0.1680 ug/mL

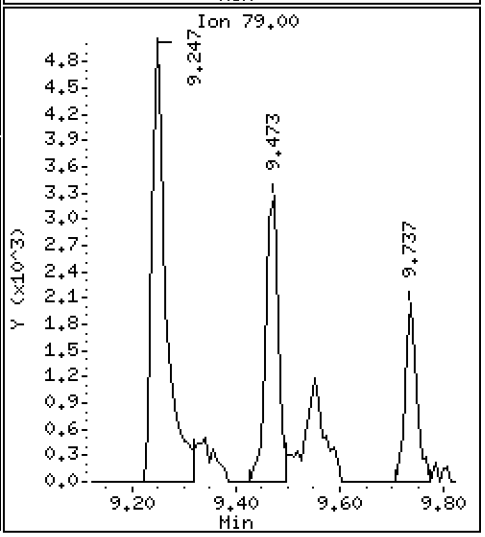


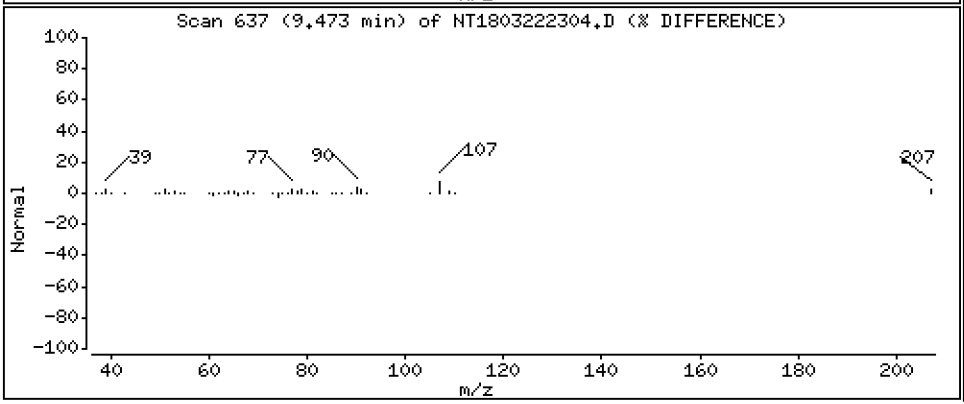












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

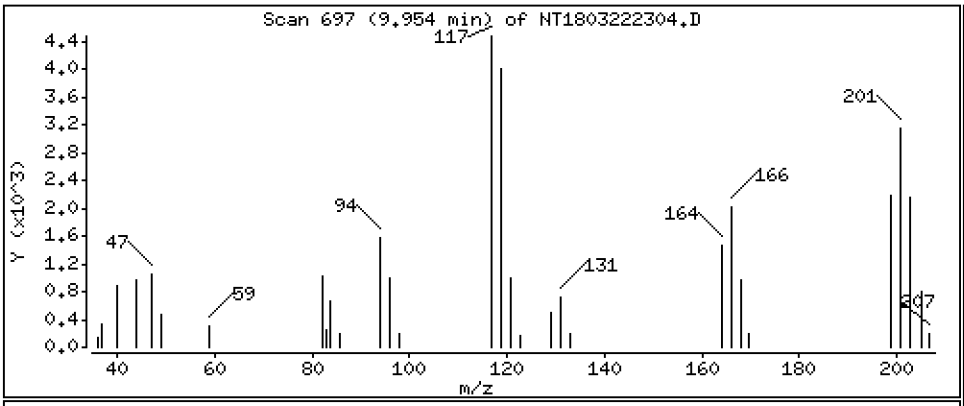
Operator: VTS

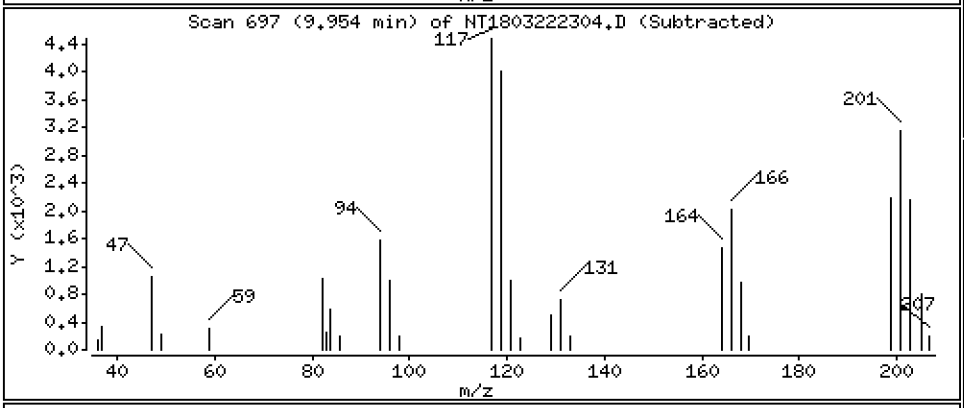
Column phase: ZB-5msi

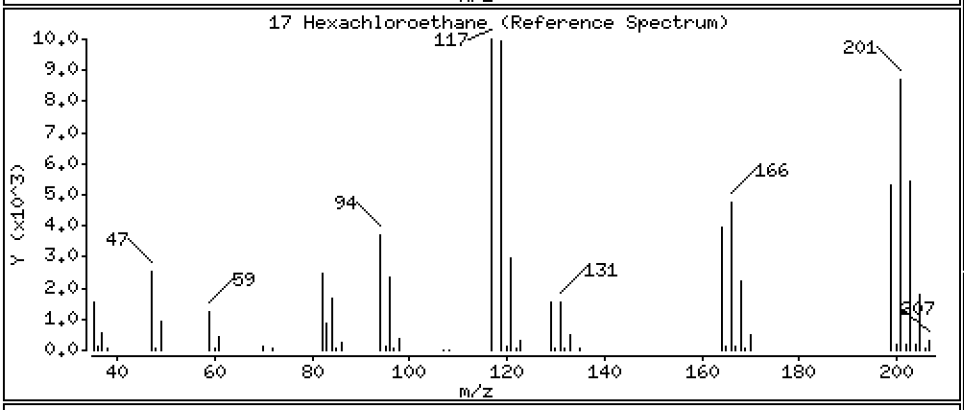
Column diameter: 0.25

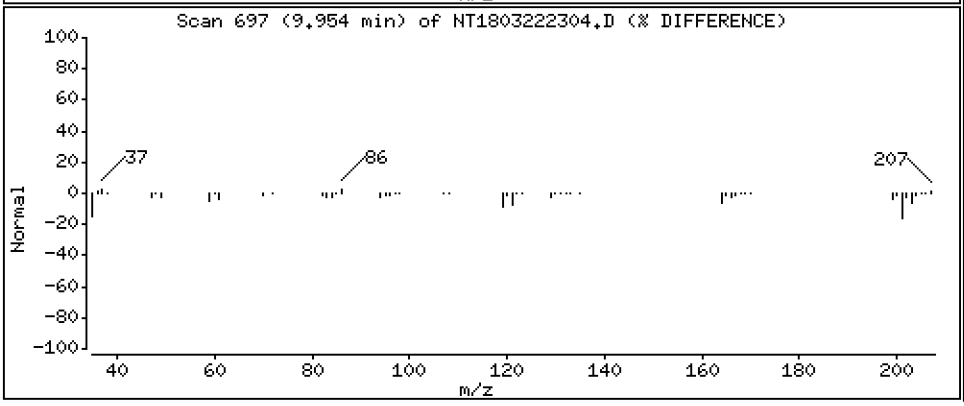
17 Hexachloroethane

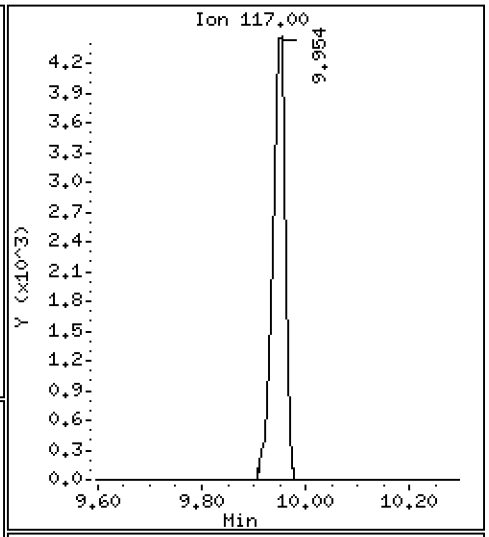
Concentration: 0.1941 ug/mL

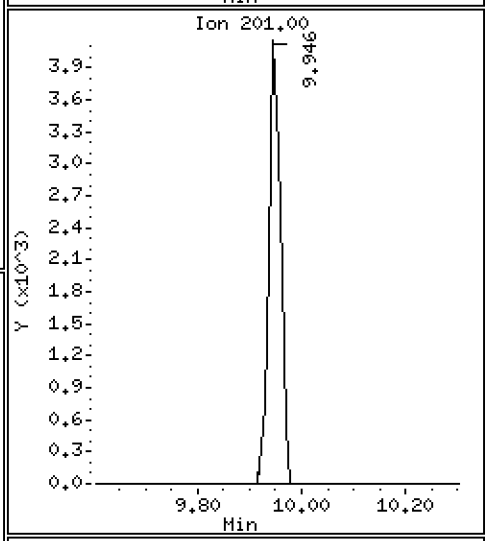


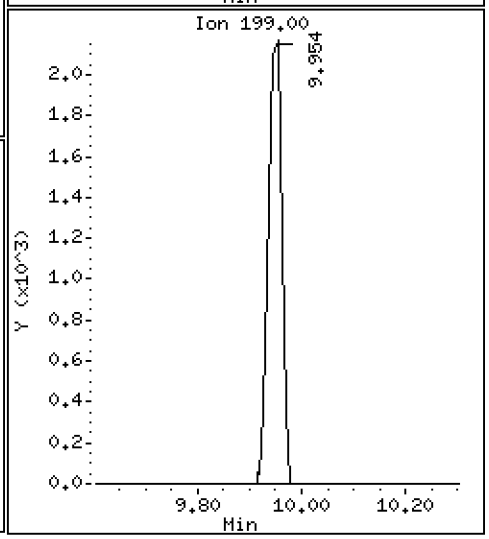












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

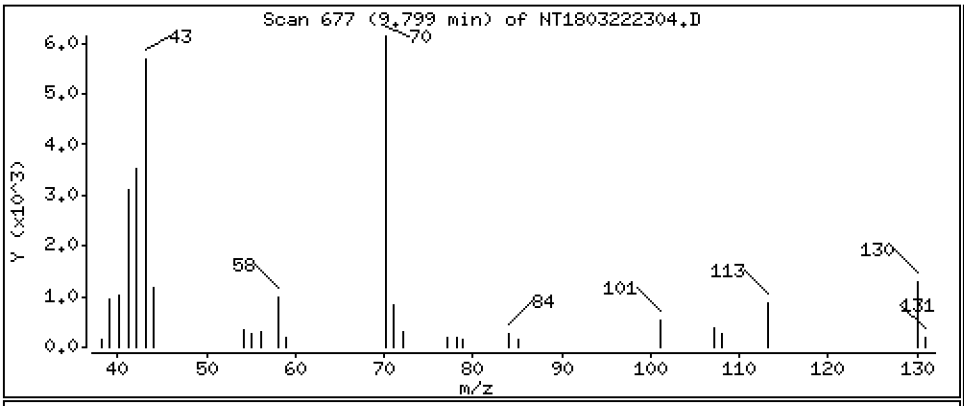
Operator: VTS

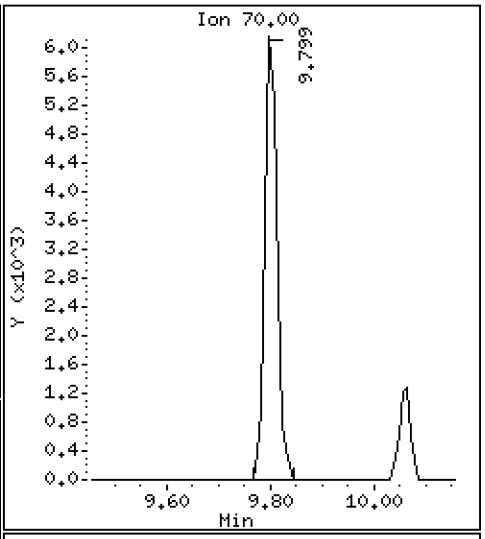
Column phase: ZB-5msi

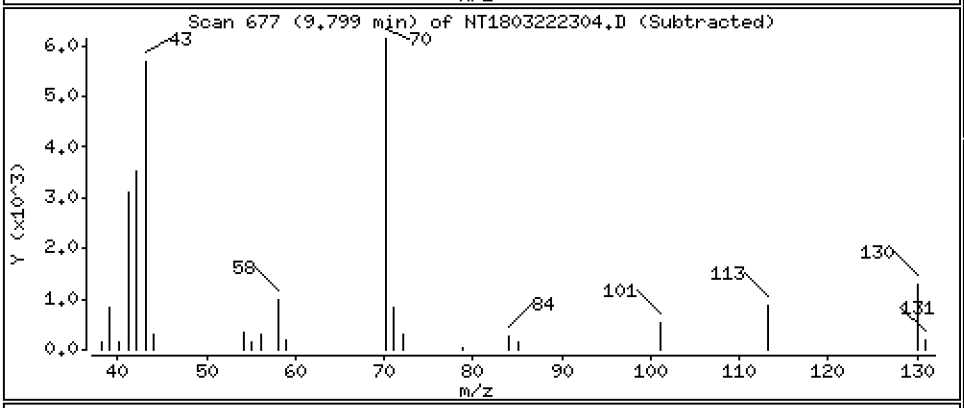
Column diameter: 0.25

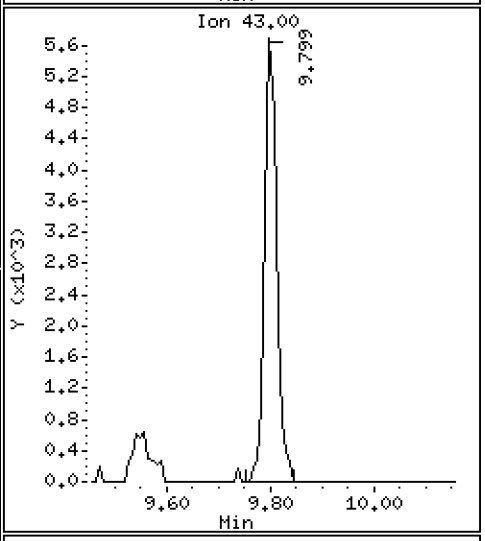
16 N-Nitroso-di-n-propylamine

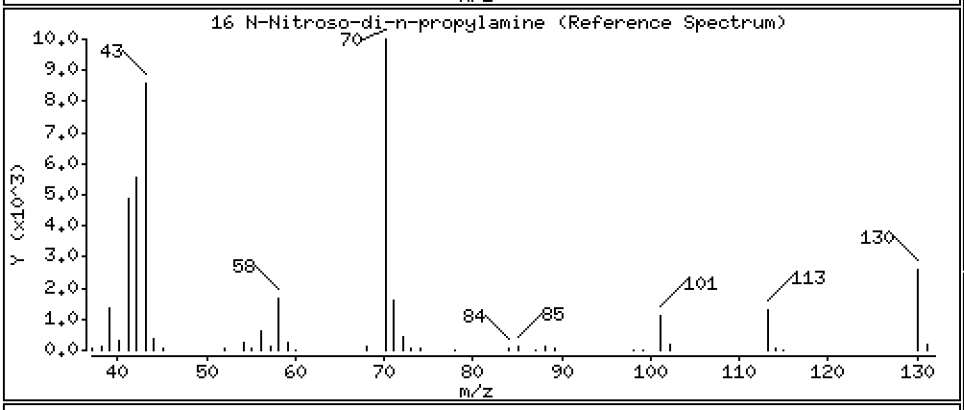
Concentration: 0.1668 ug/mL

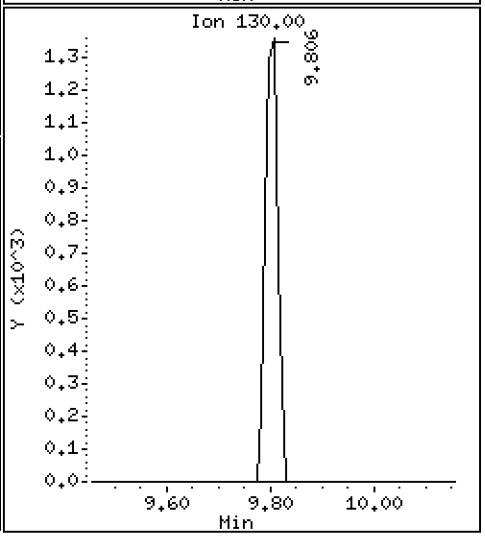


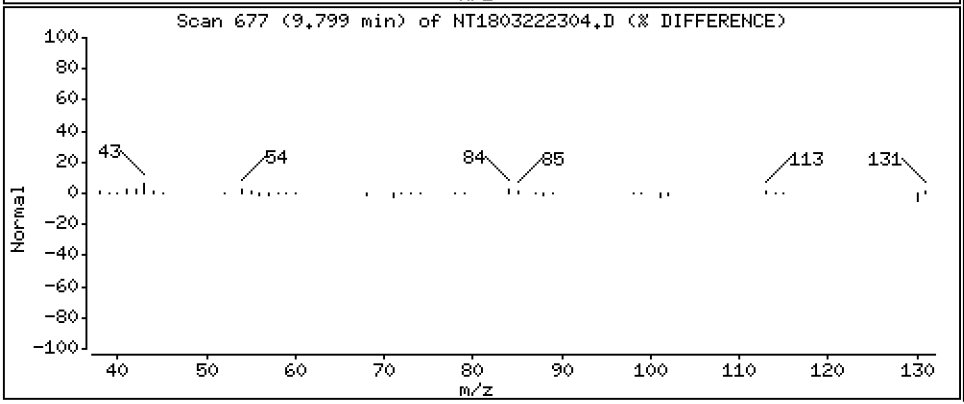












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

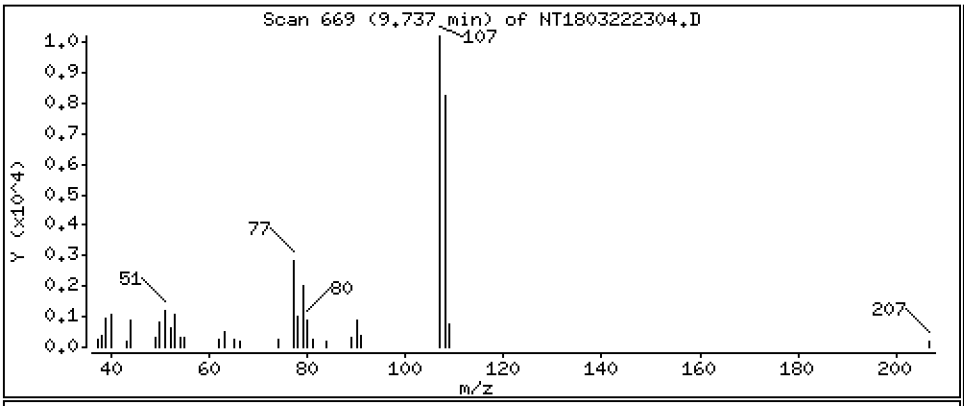
Operator: VTS

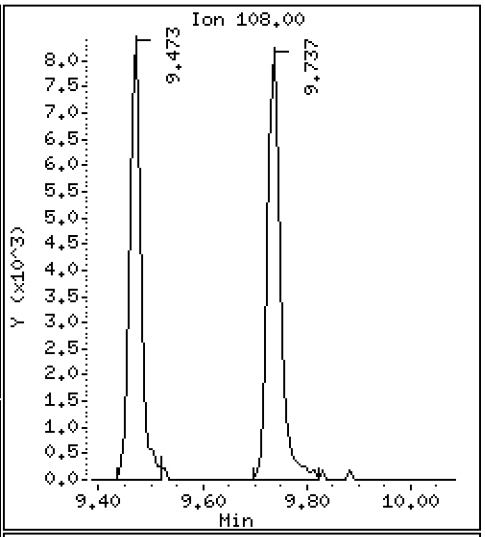
Column phase: ZB-5msi

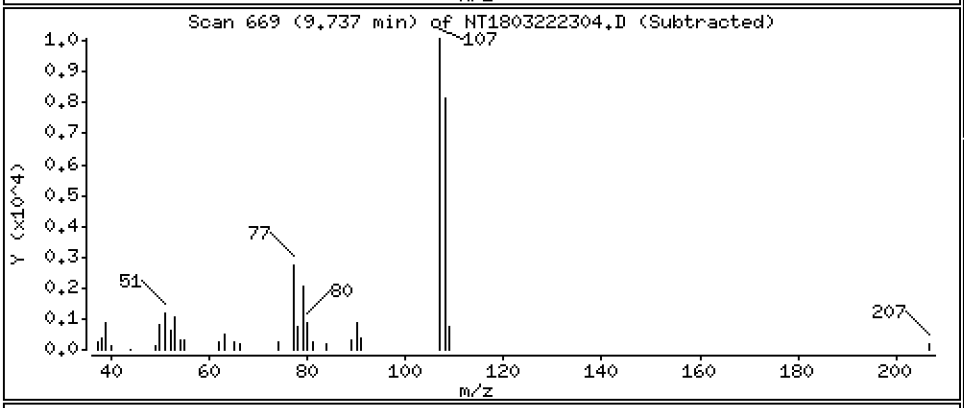
Column diameter: 0.25

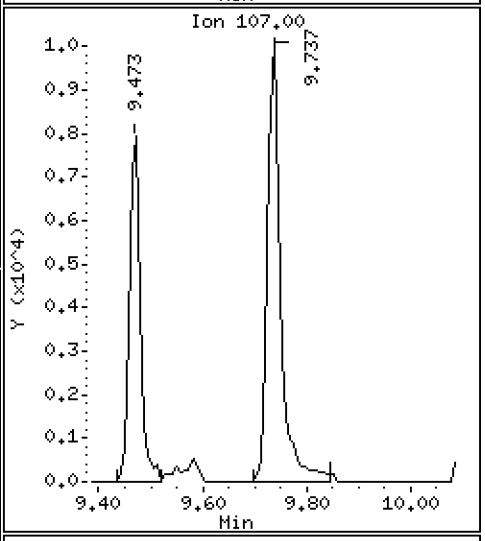
15 4-Methylphenol

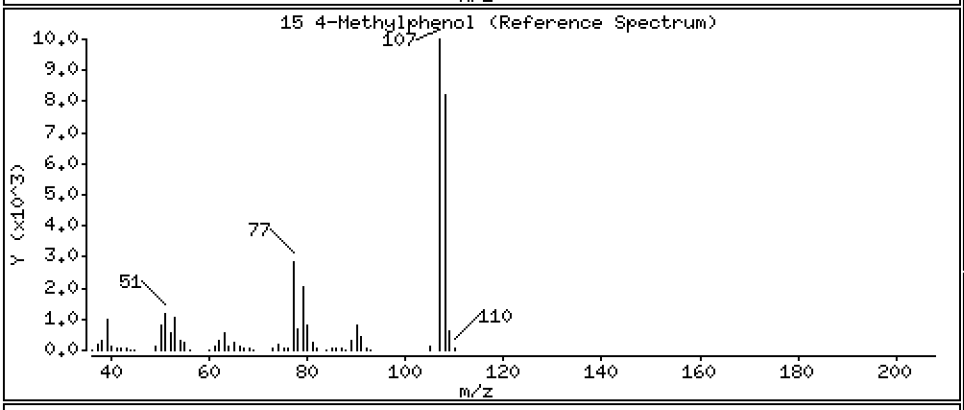
Concentration: 0.1647 ug/mL

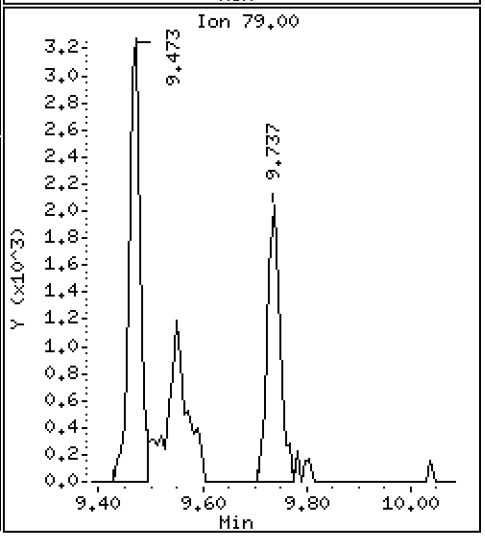


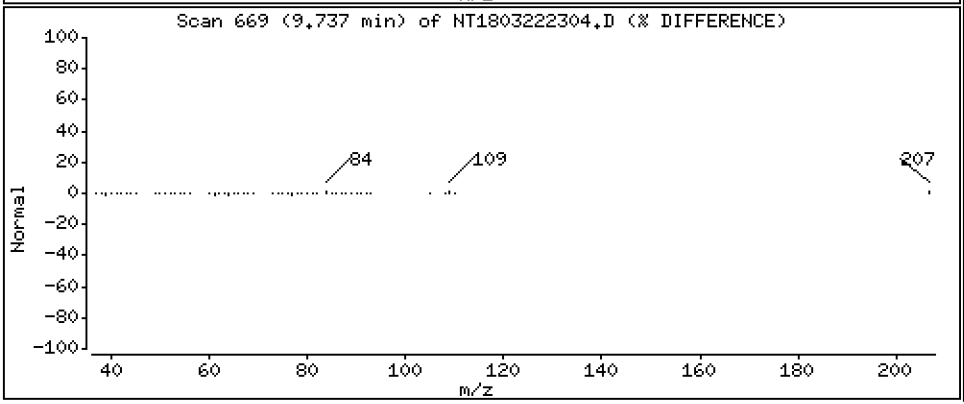












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

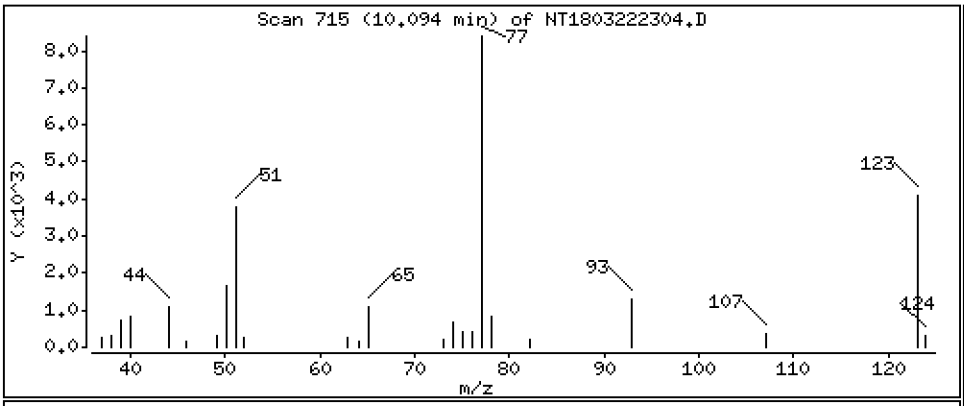
Operator: VTS

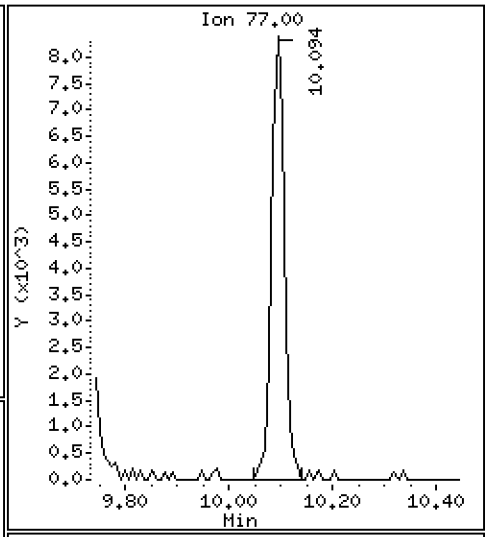
Column phase: ZB-5msi

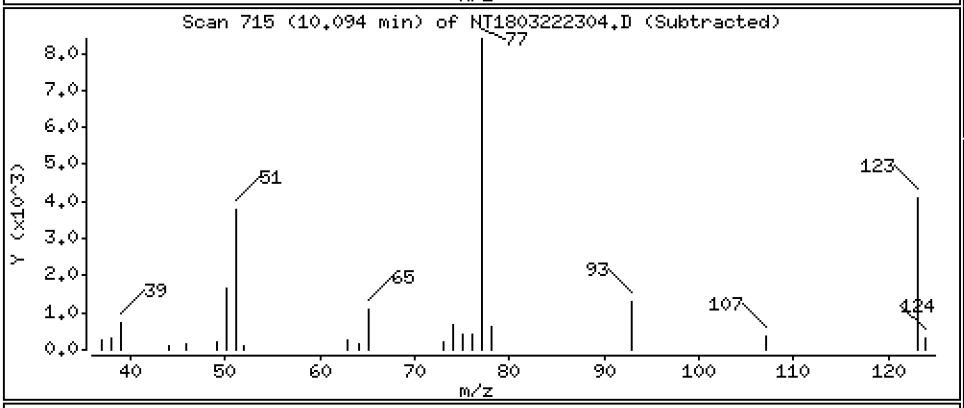
Column diameter: 0.25

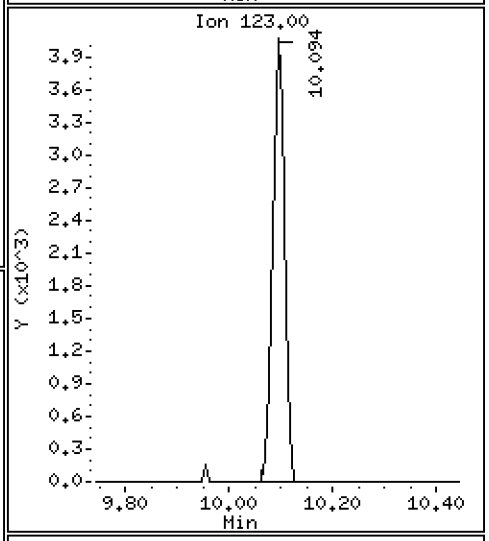
19 Nitrobenzene

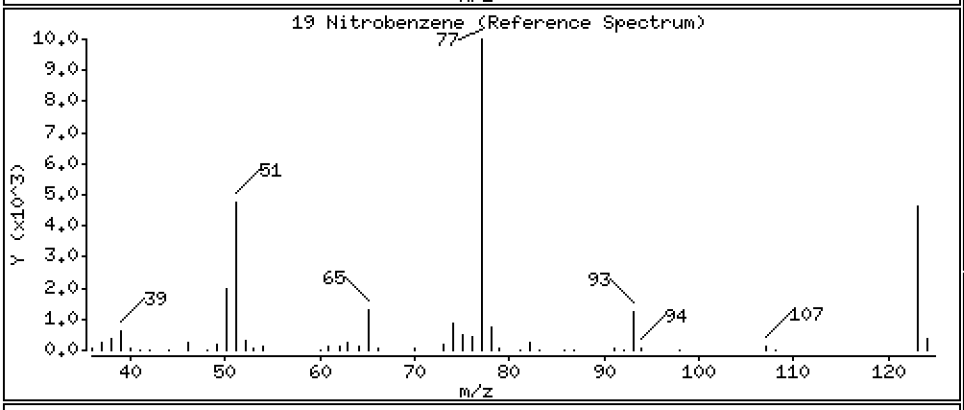
Concentration: 0.1775 ug/mL

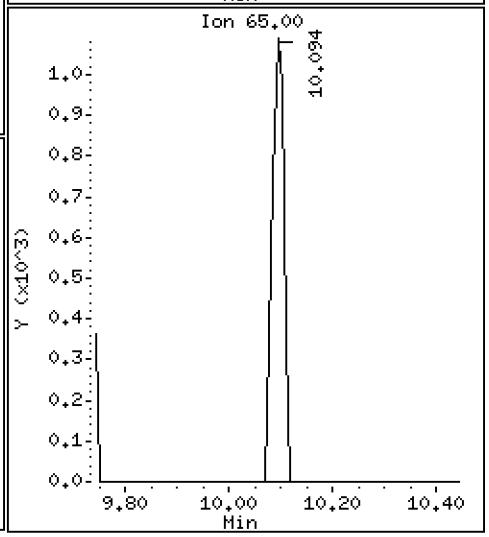


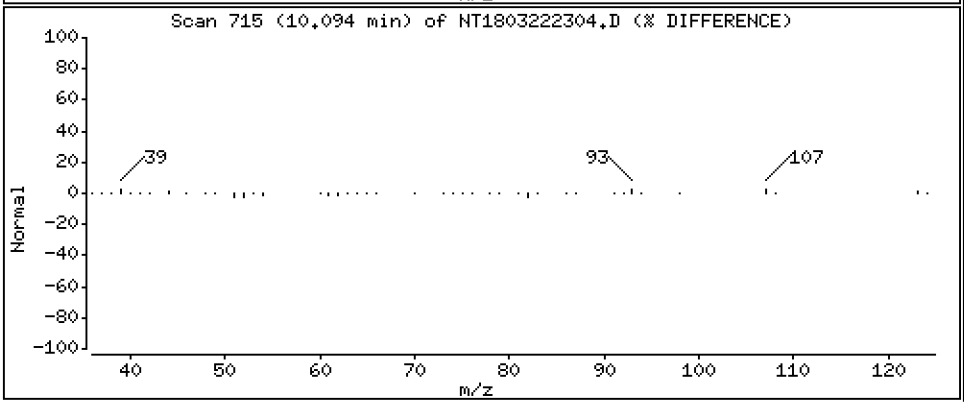












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

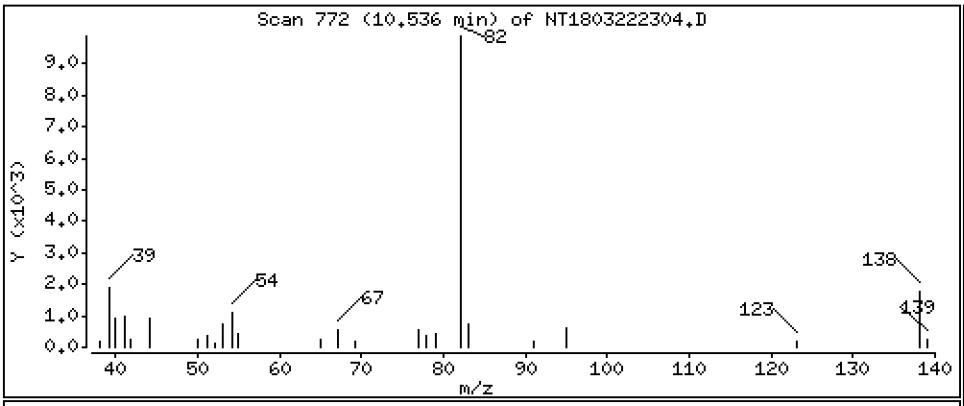
Operator: VTS

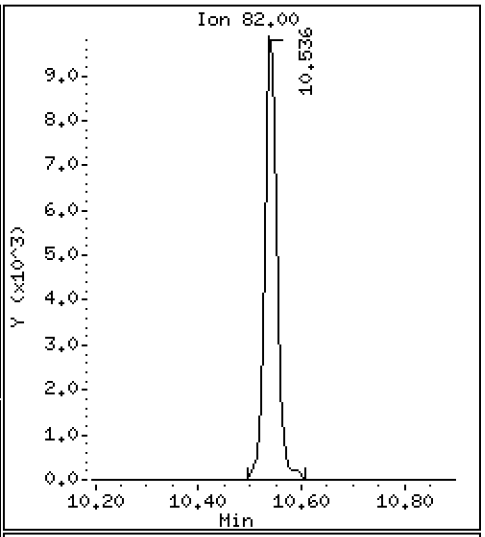
Column phase: ZB-5msi

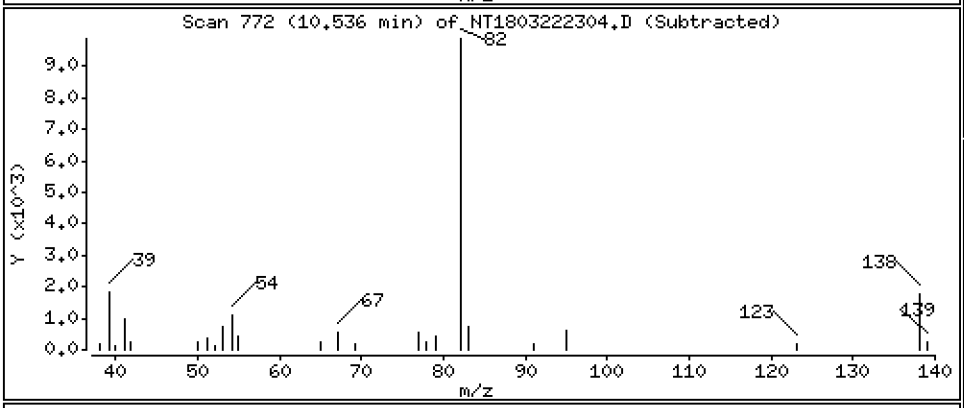
Column diameter: 0.25

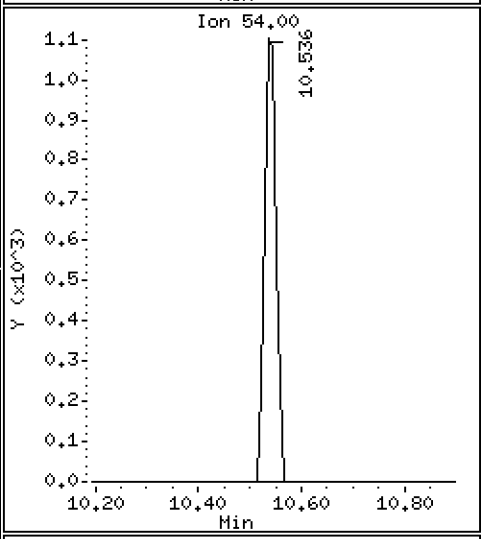
20 Isophorone

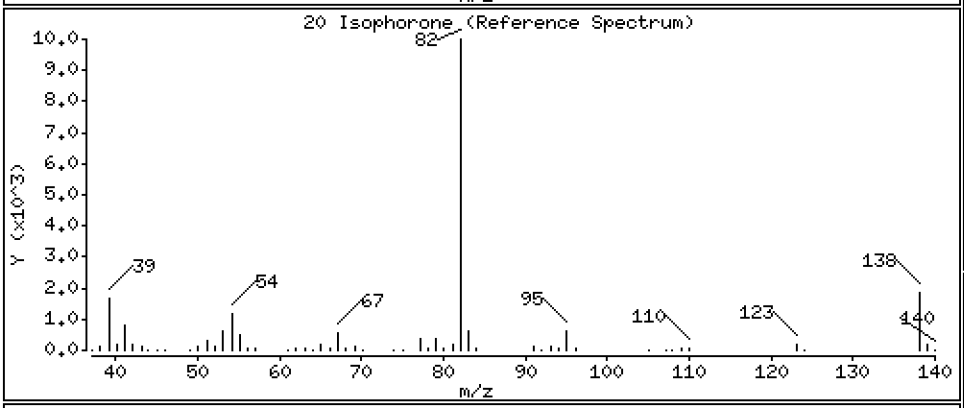
Concentration: 0.1598 ug/mL

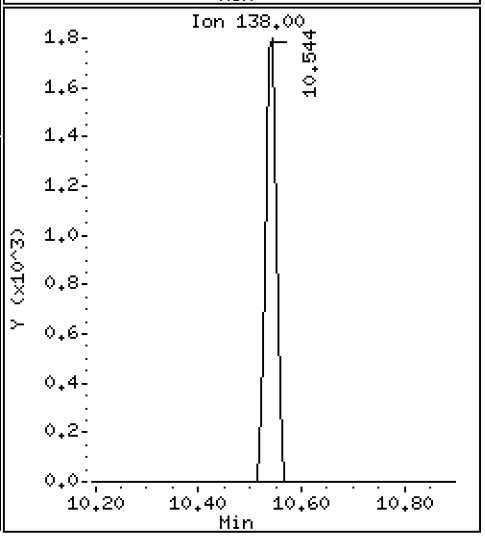


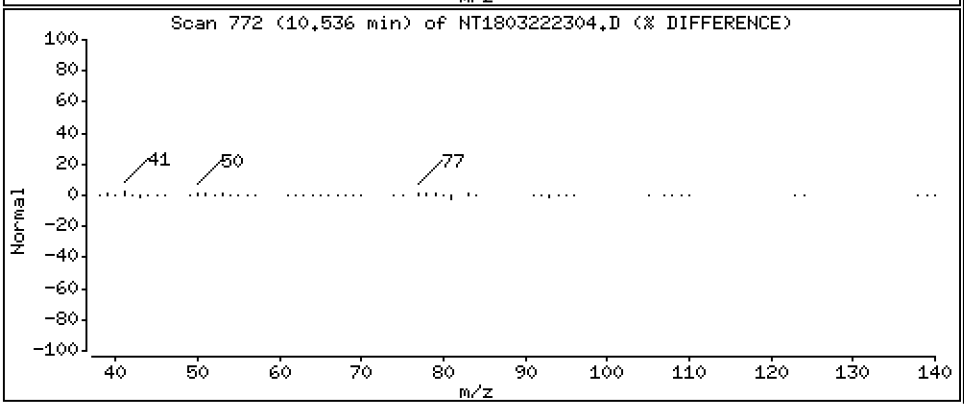












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

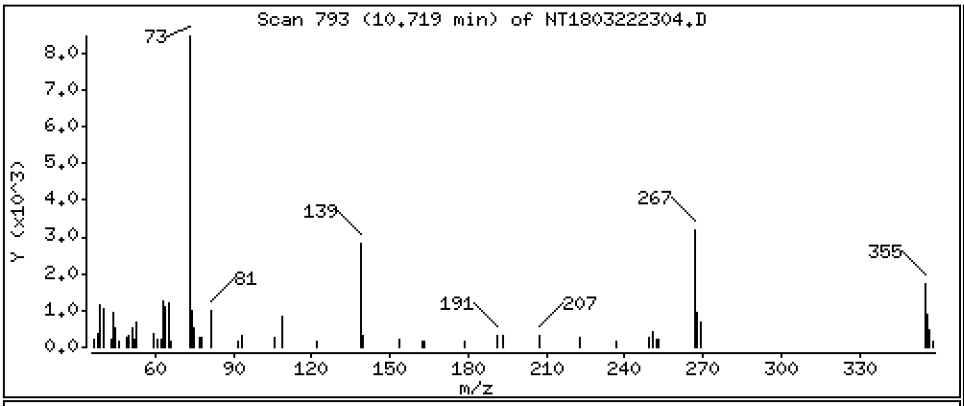
Operator: VTS

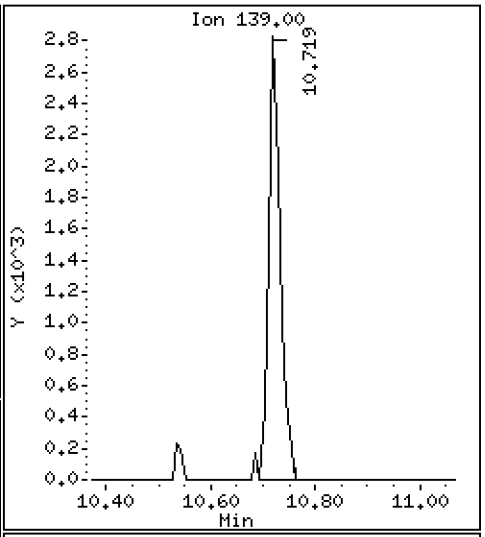
Column phase: ZB-5msi

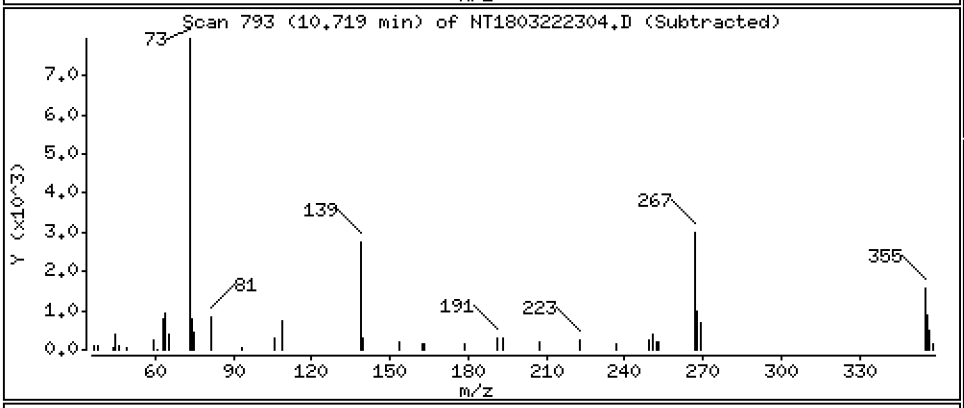
Column diameter: 0.25

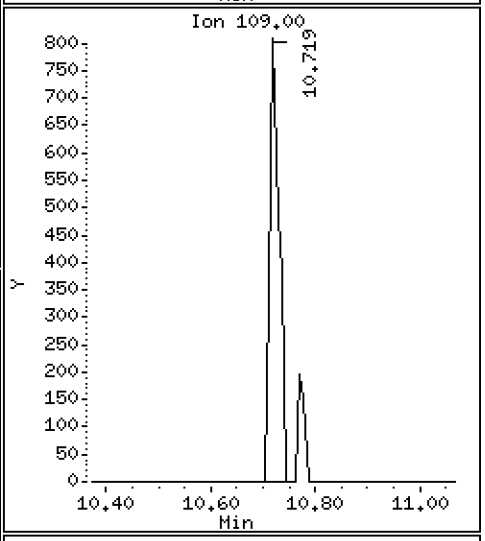
21 2-Nitrophenol

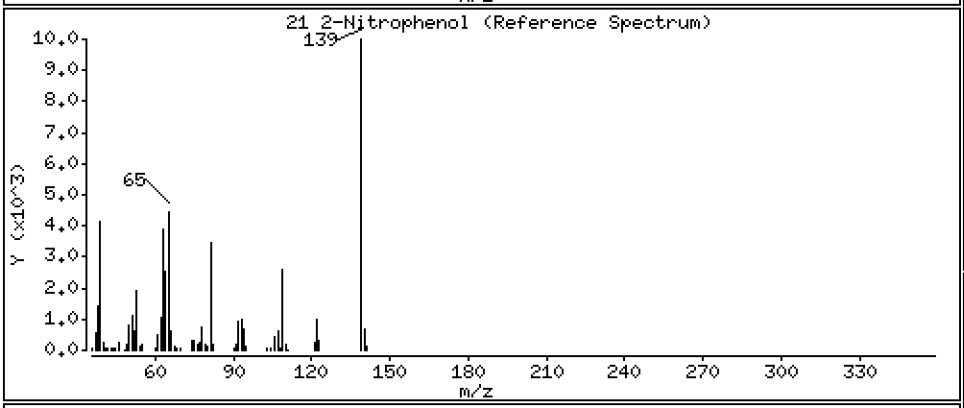
Concentration: 0.09420 ug/mL

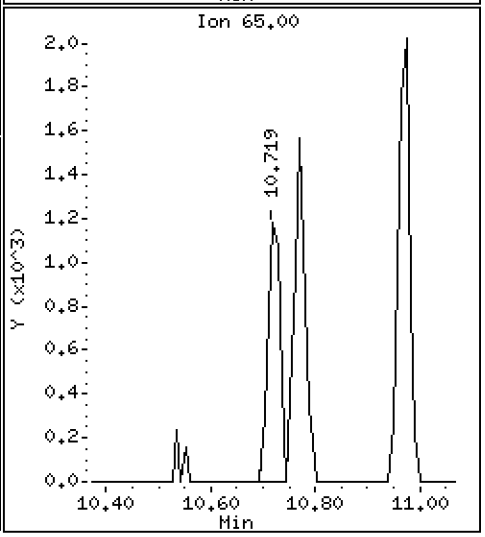


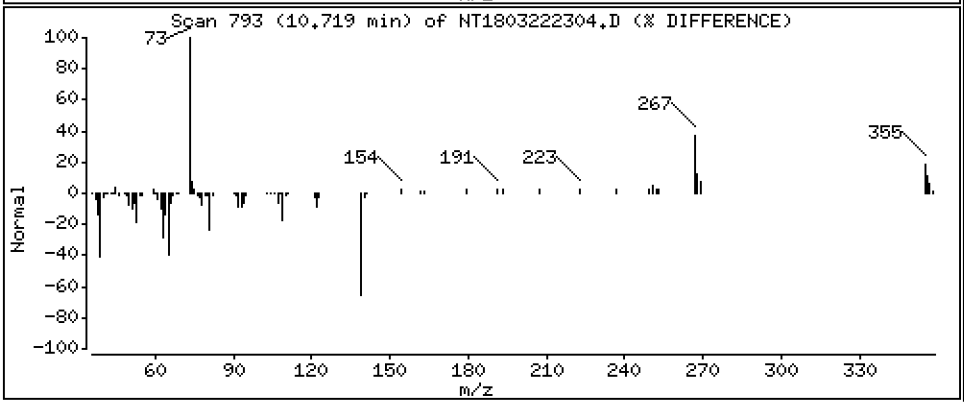












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

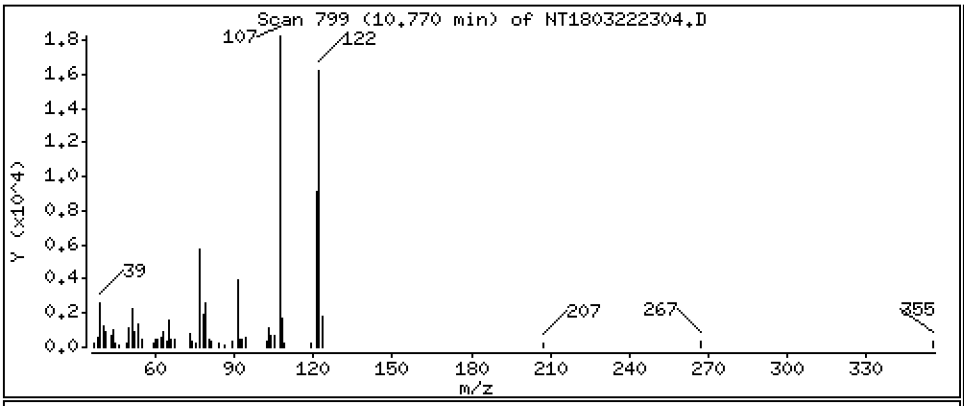
Operator: VTS

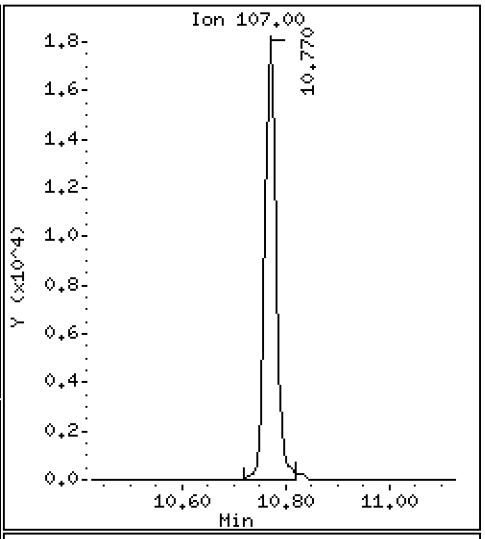
Column phase: ZB-5msi

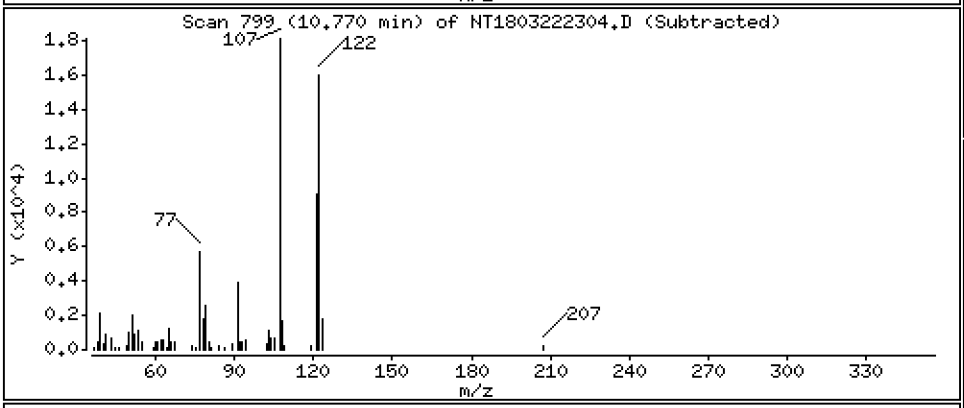
Column diameter: 0.25

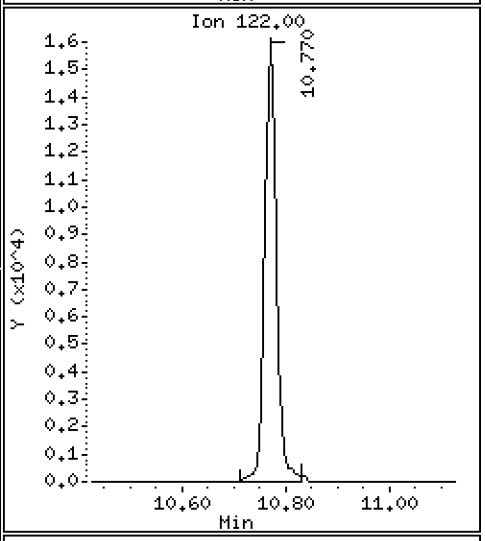
22 2,4-Dimethylphenol

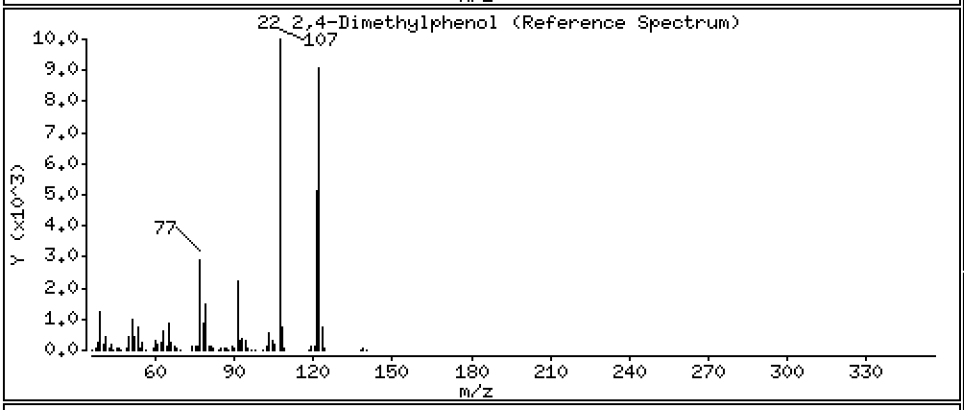
Concentration: 0.3514 ug/mL

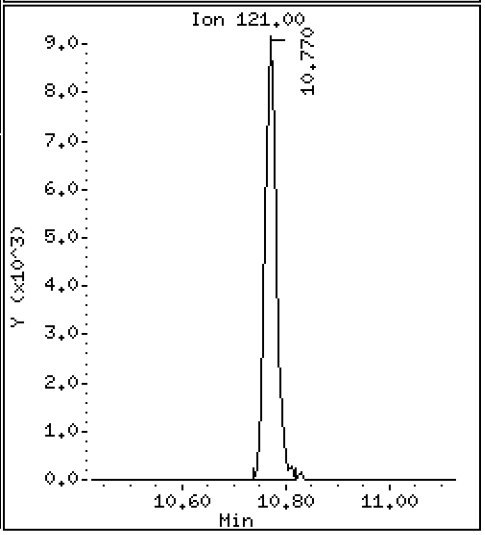


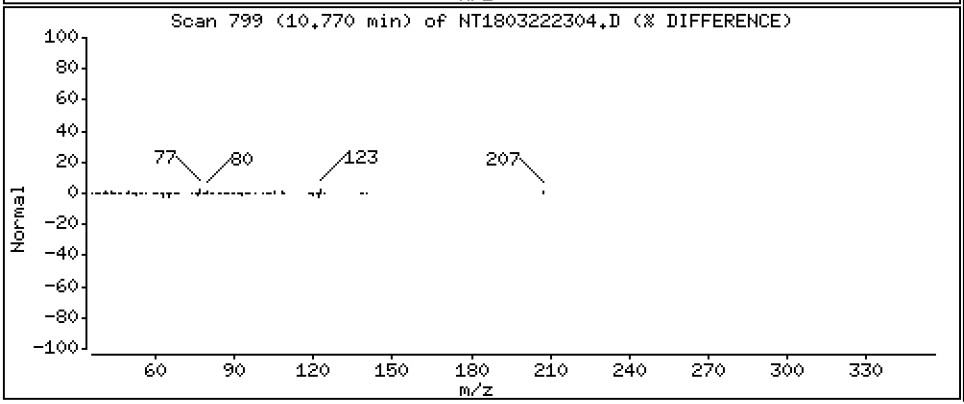












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

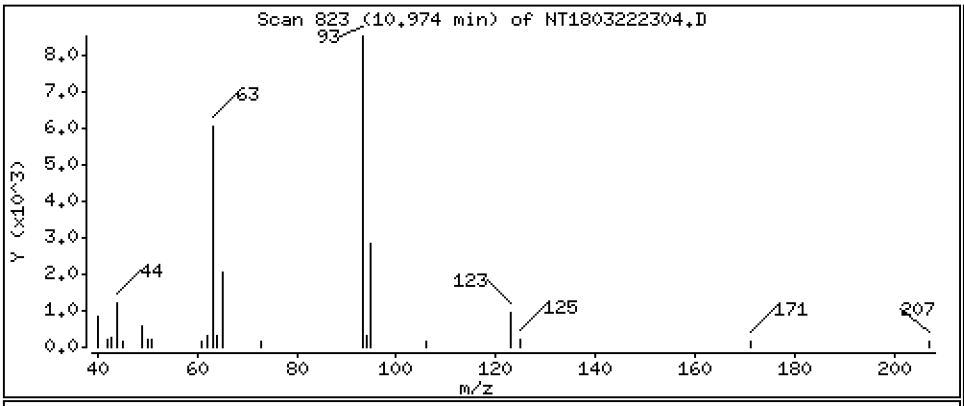
Operator: VTS

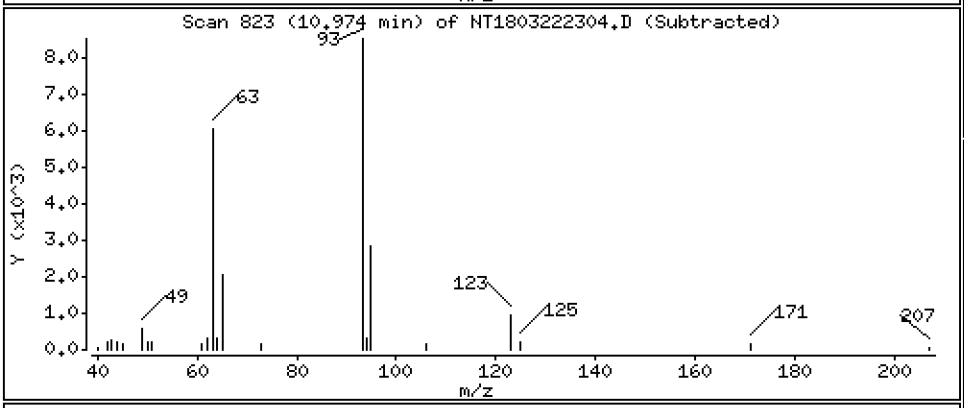
Column phase: ZB-5msi

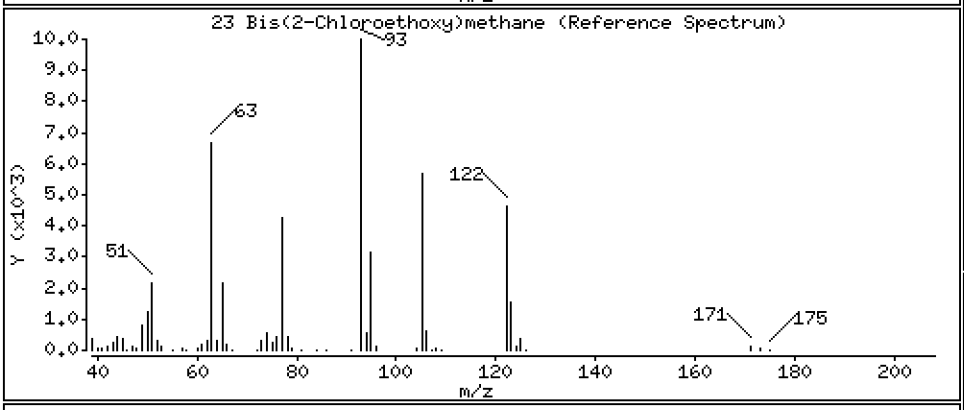
Column diameter: 0.25

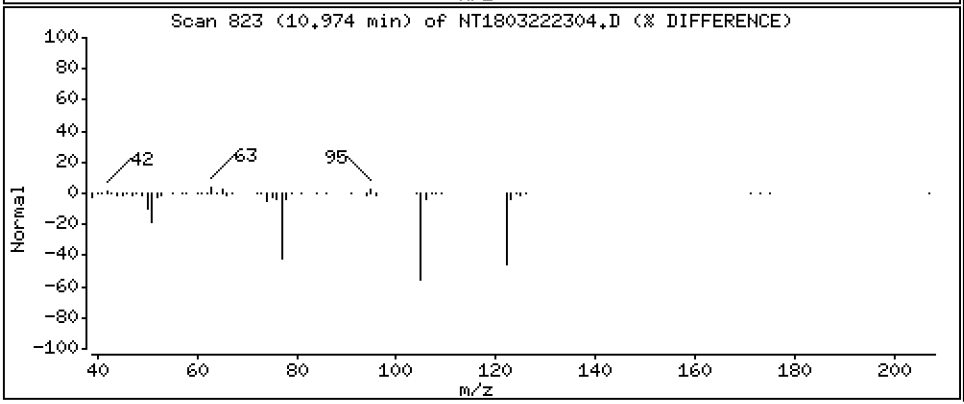
23 Bis(2-Chloroethoxy)methane

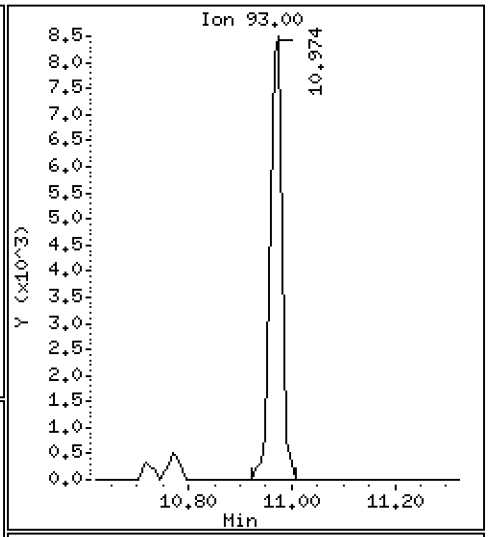
Concentration: 0.1817 ug/mL

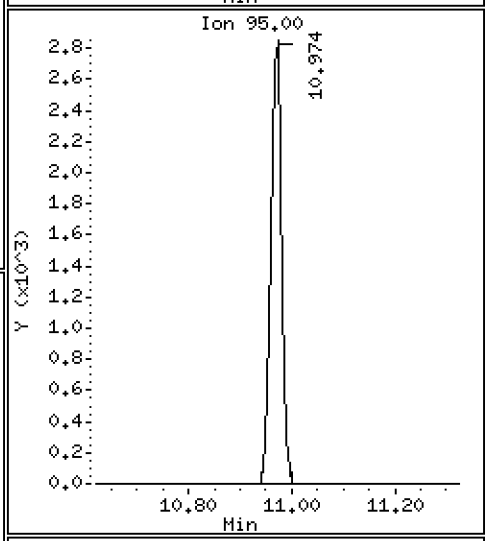


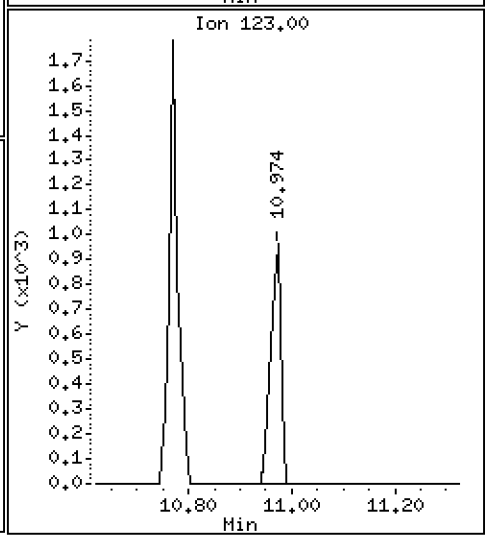












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

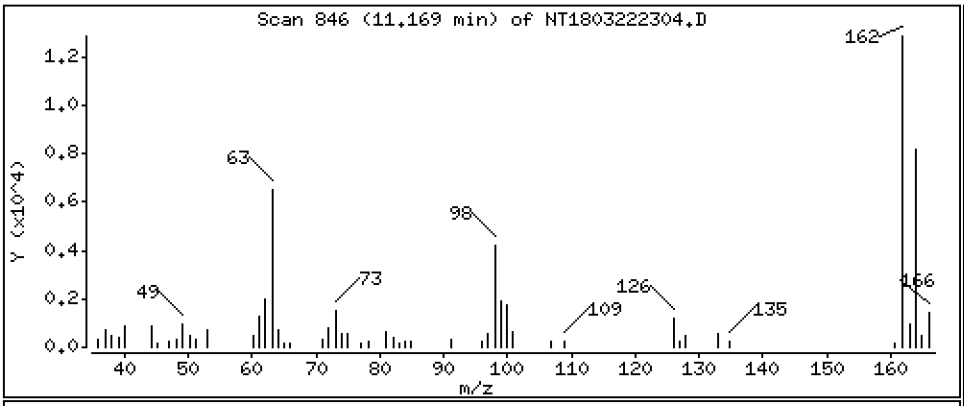
Operator: VTS

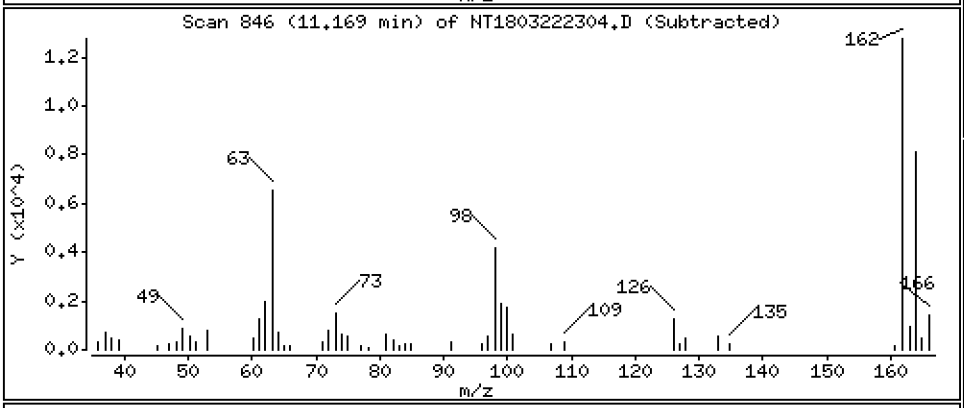
Column phase: ZB-5msi

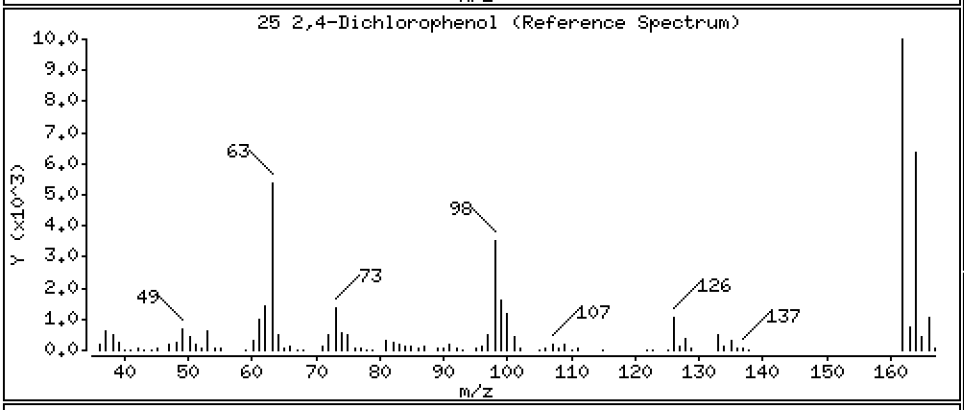
Column diameter: 0.25

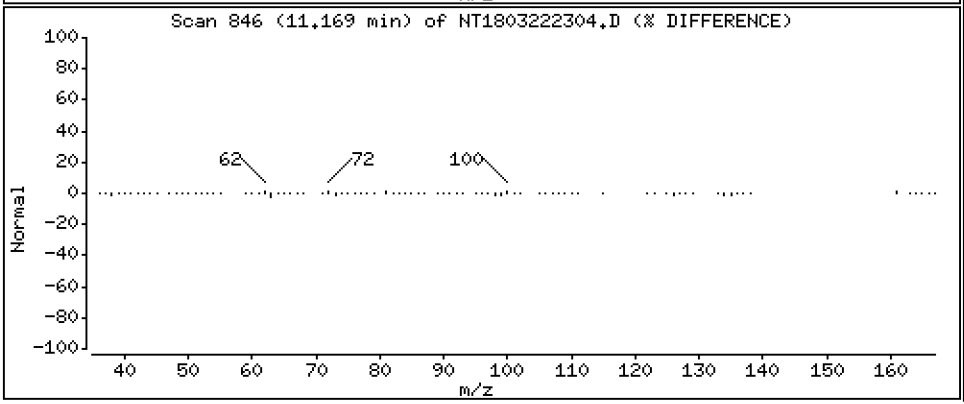
25 2,4-Dichlorophenol

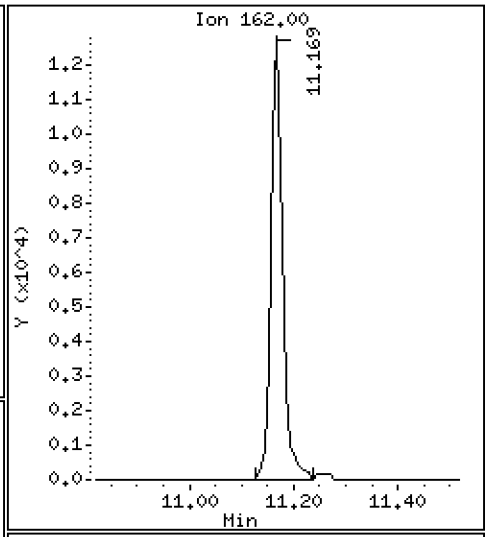
Concentration: 0.2784 ug/mL

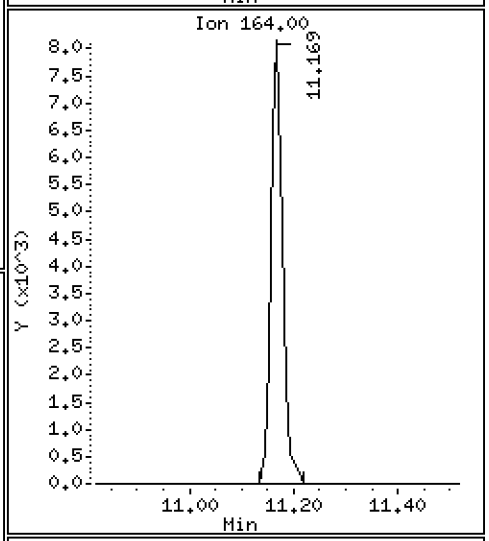


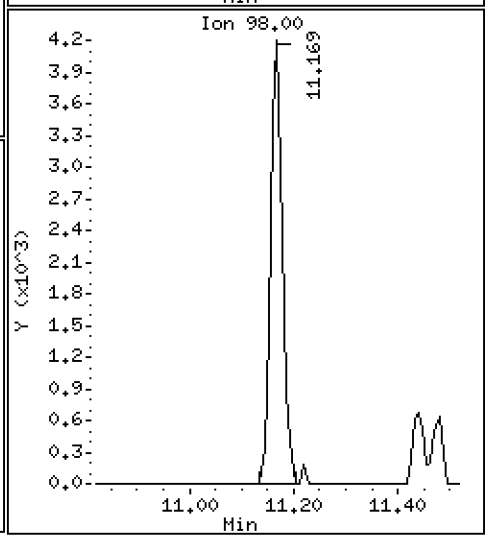












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

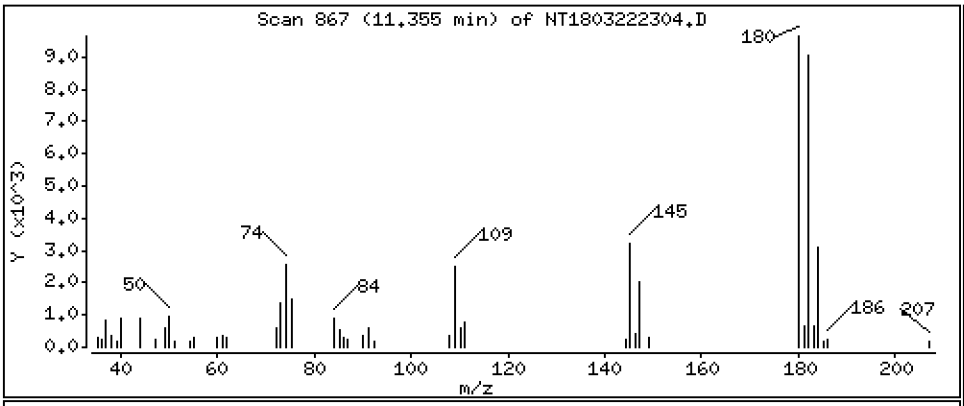
Operator: VTS

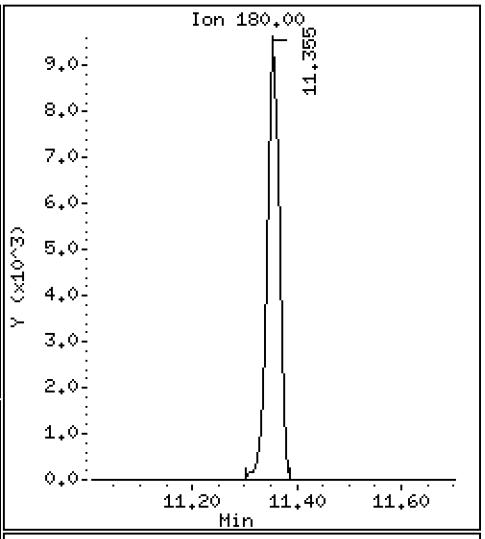
Column phase: ZB-5msi

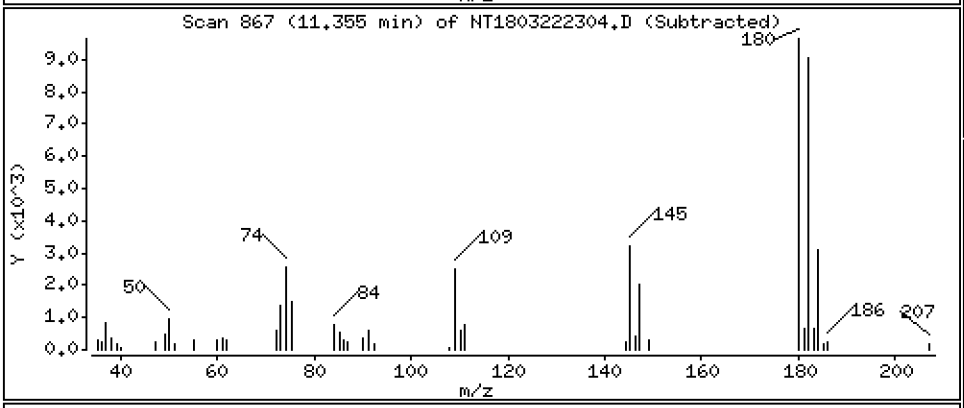
Column diameter: 0.25

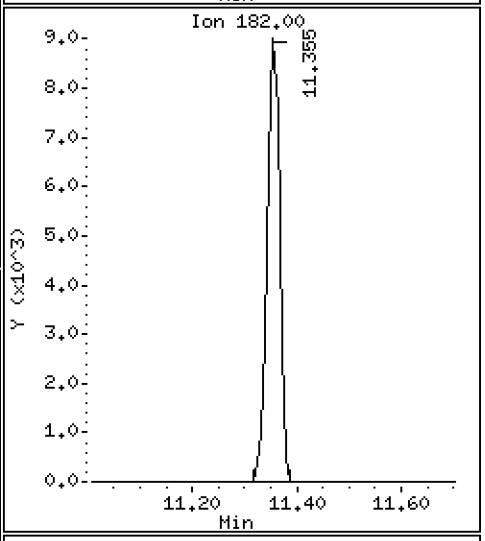
26 1,2,4-Trichlorobenzene

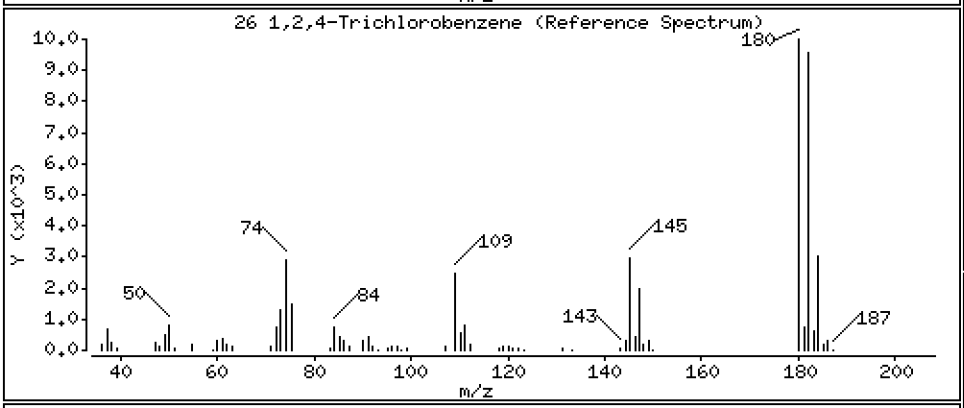
Concentration: 0.1928 ug/mL

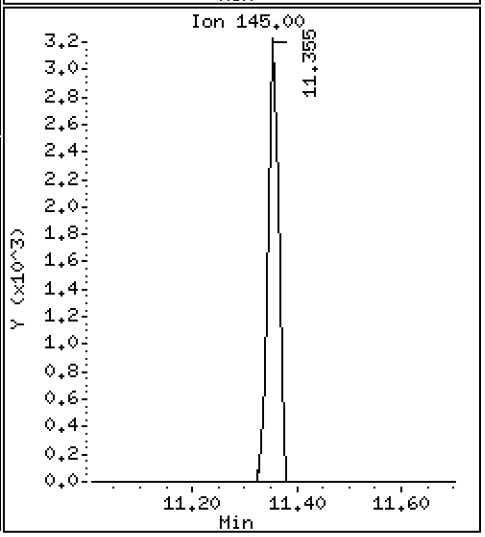


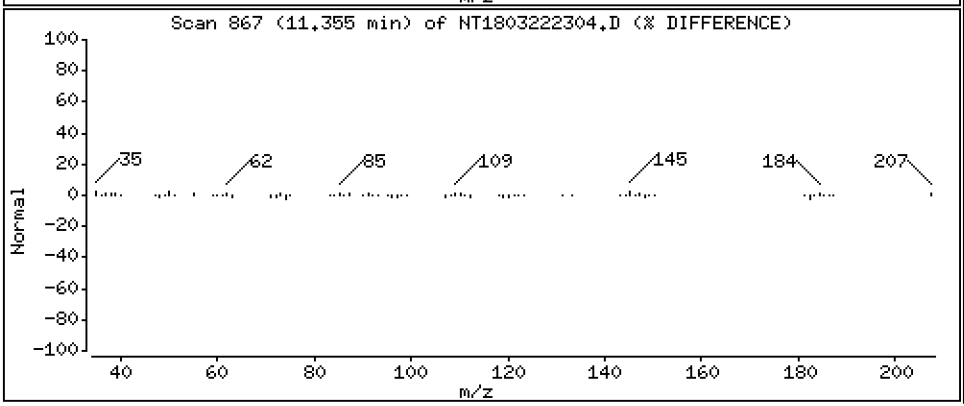












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

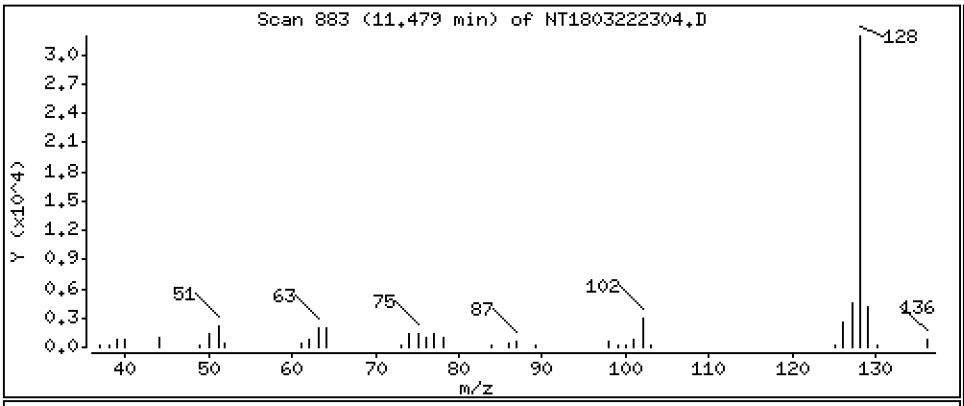
Operator: VTS

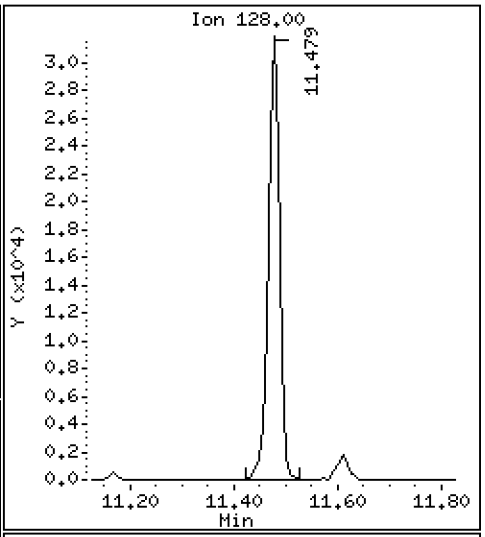
Column phase: ZB-5msi

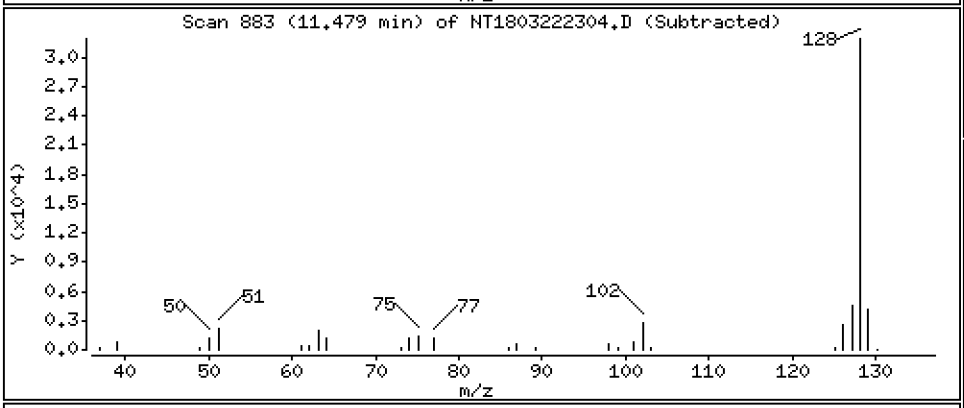
Column diameter: 0.25

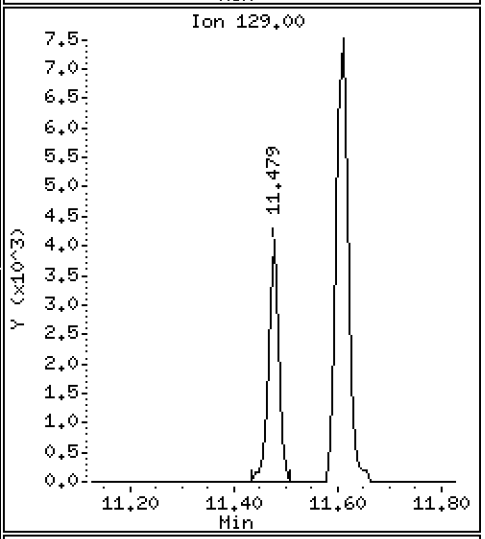
28 Naphthalene

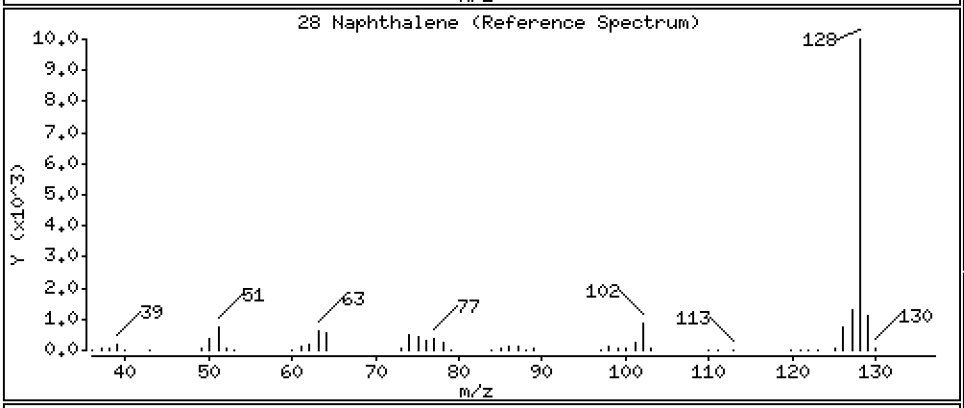
Concentration: 0.1928 ug/mL

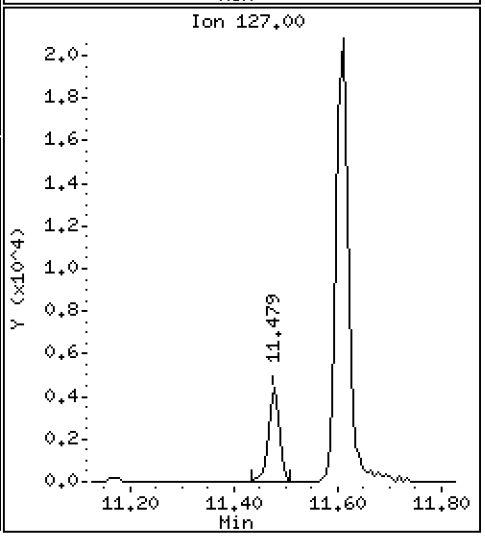


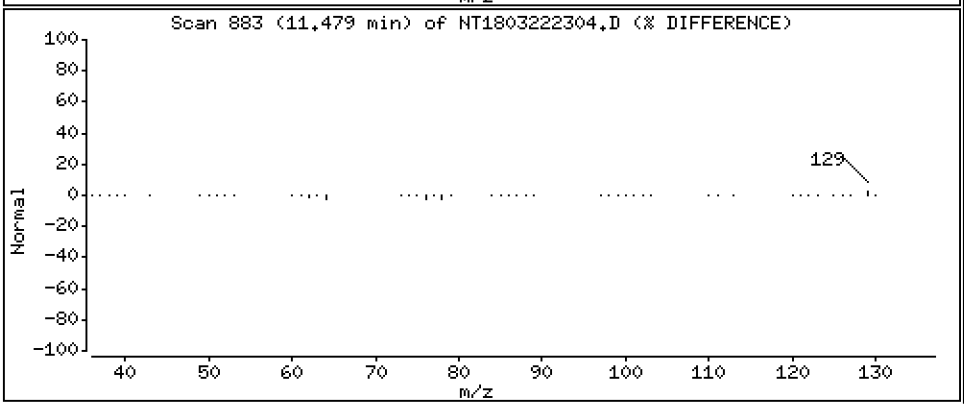












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

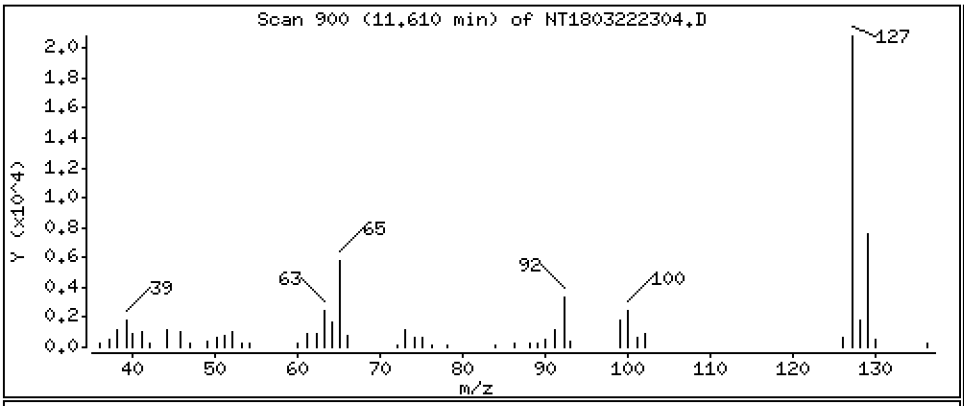
Operator: VTS

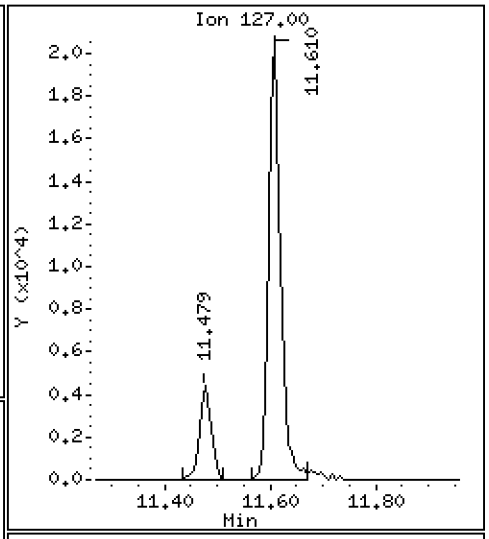
Column phase: ZB-5msi

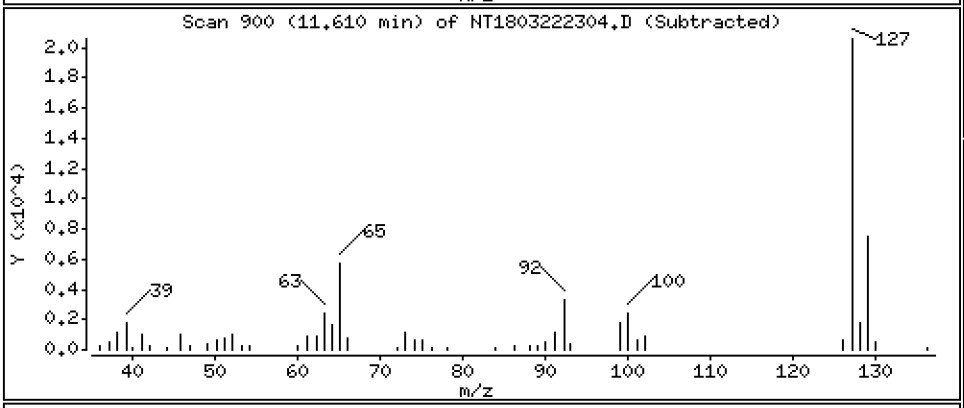
Column diameter: 0.25

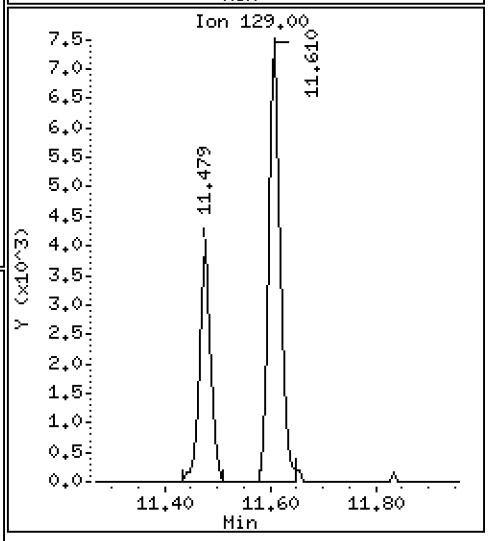
29 4-Chloroaniline

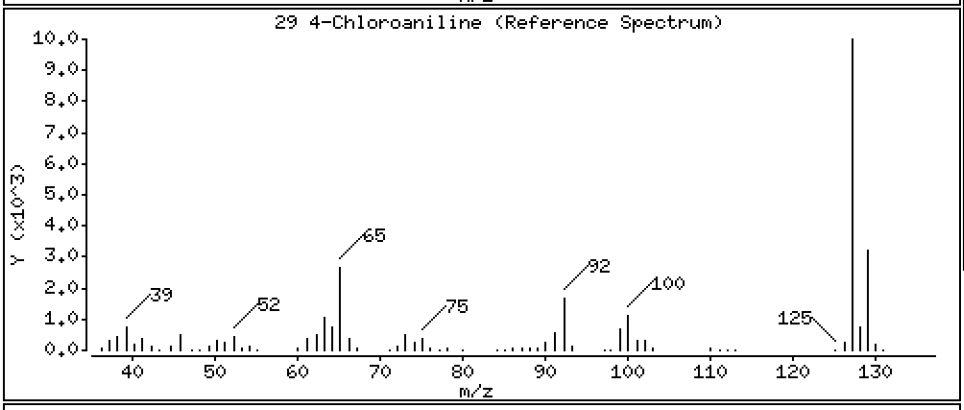
Concentration: 0.3227 ug/mL

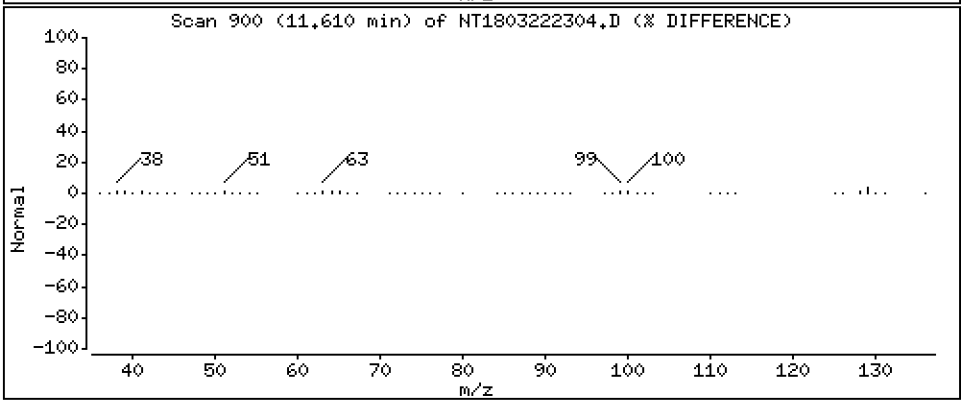












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

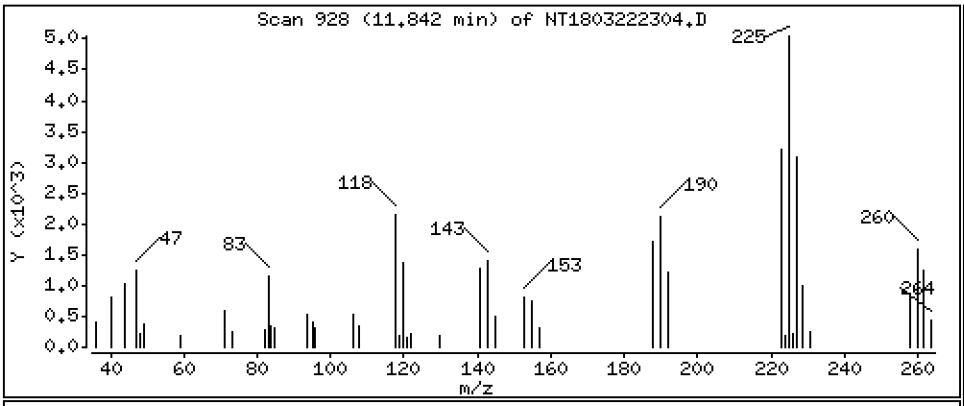
Operator: VTS

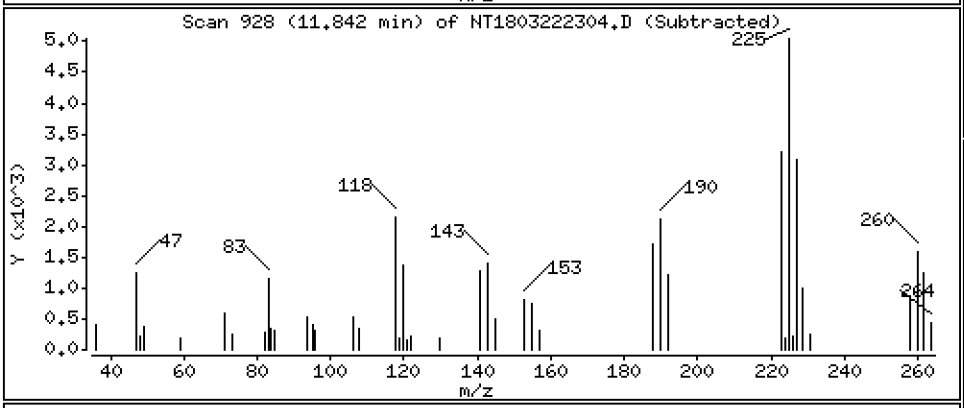
Column phase: ZB-5msi

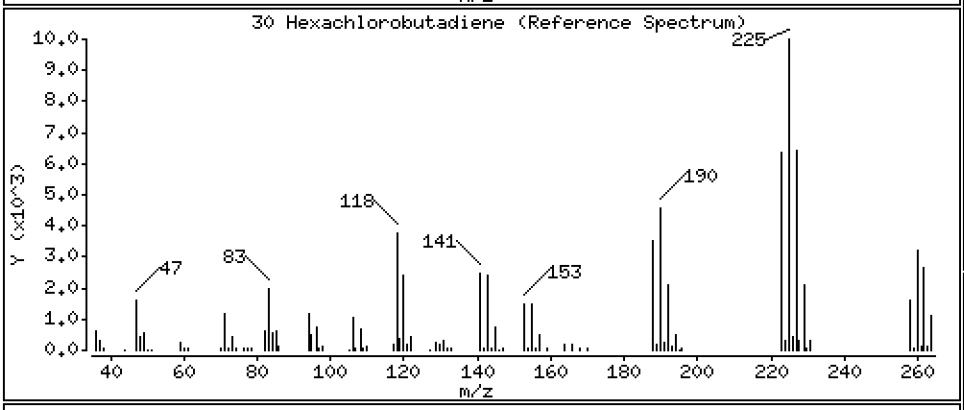
Column diameter: 0.25

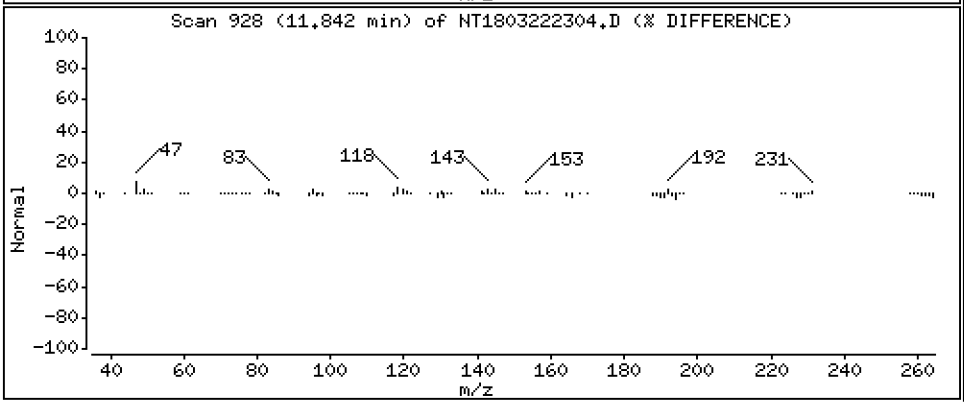
30 Hexachlorobutadiene

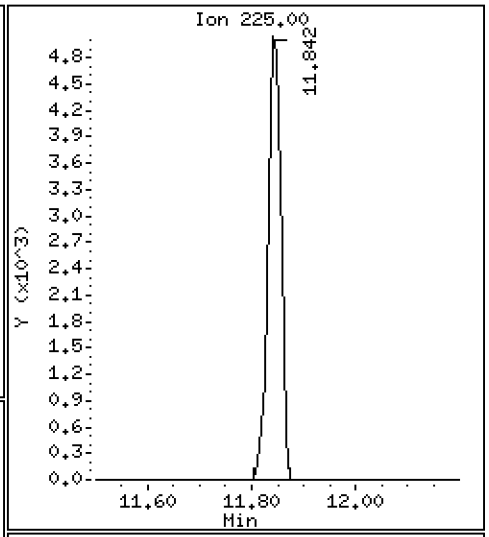
Concentration: 0.1959 ug/mL

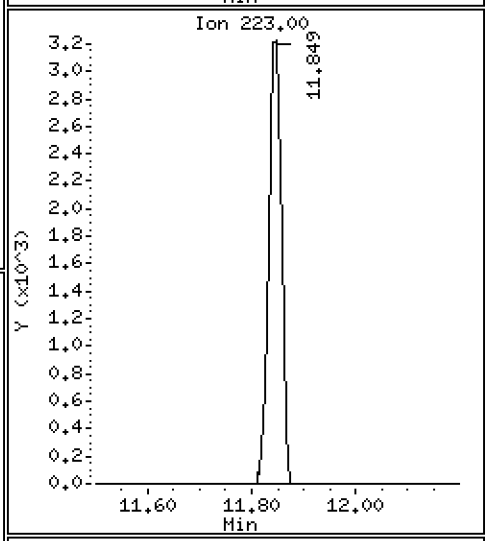


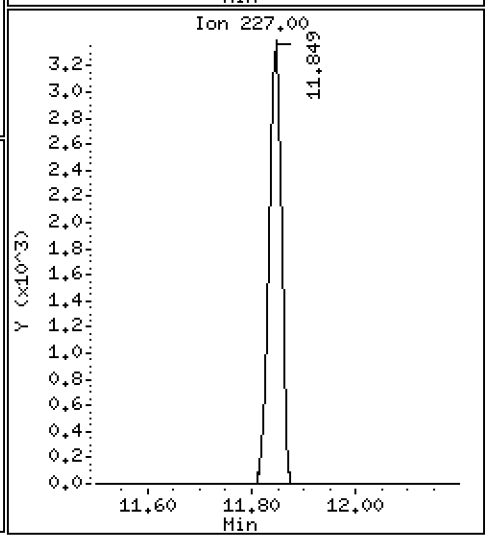












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

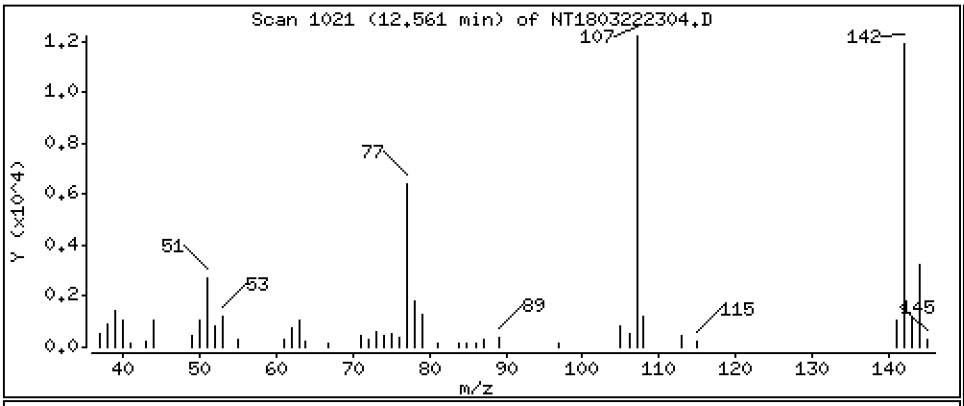
Operator: VTS

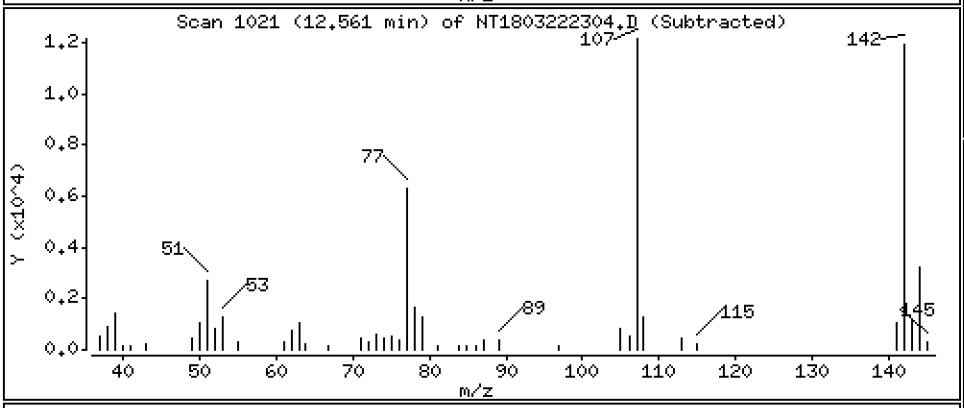
Column phase: ZB-5msi

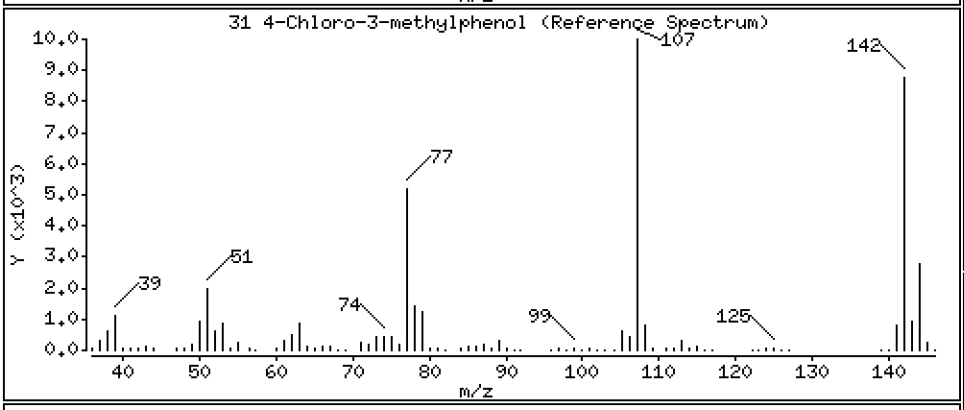
Column diameter: 0.25

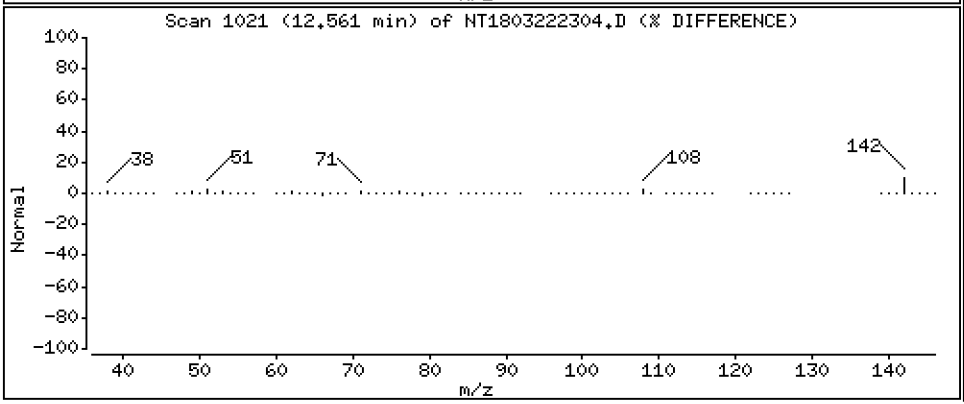
31 4-Chloro-3-methylphenol

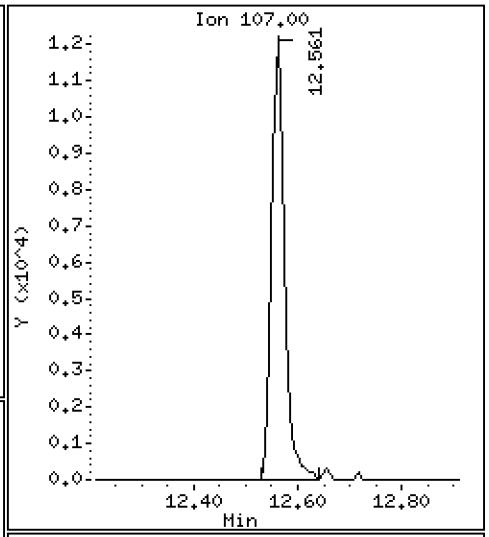
Concentration: 0.3005 ug/mL

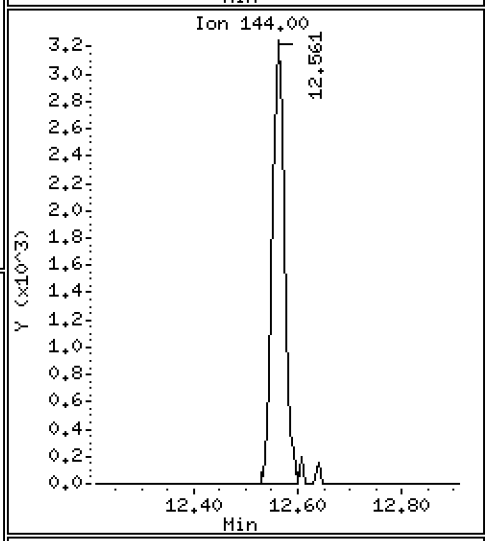


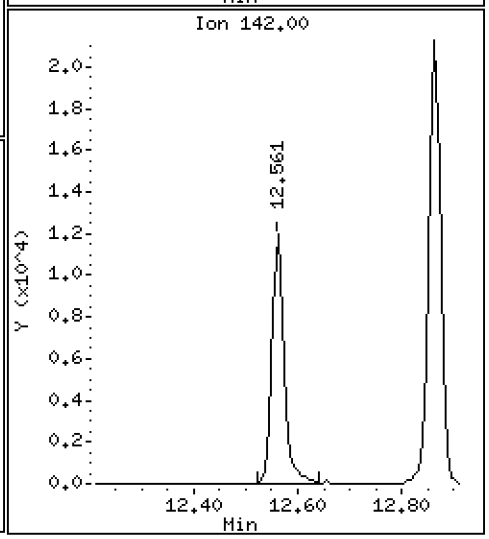












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

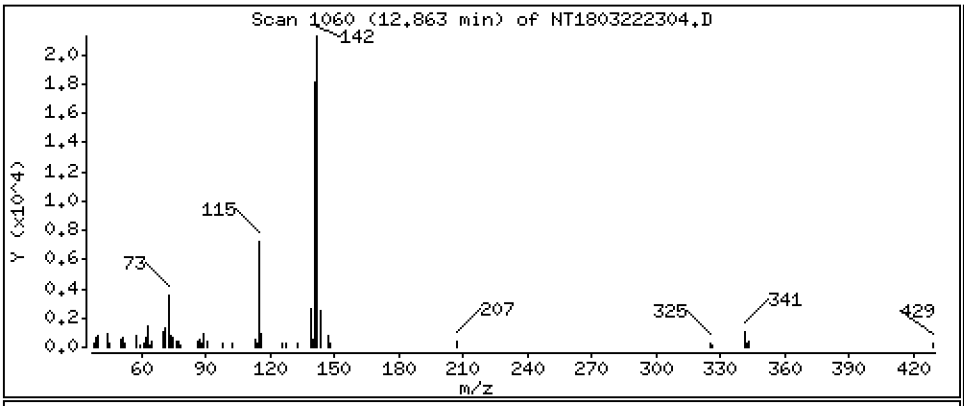
Operator: VTS

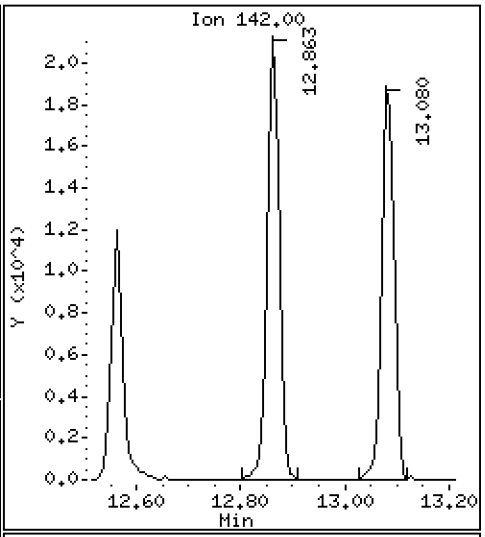
Column phase: ZB-5msi

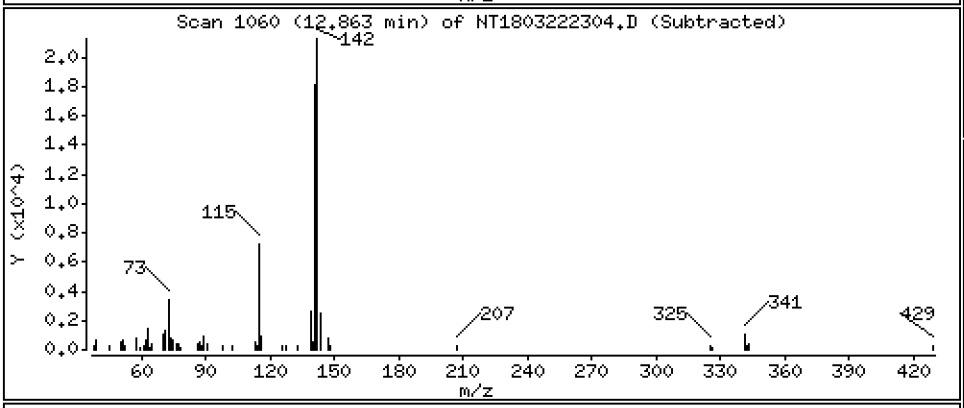
Column diameter: 0.25

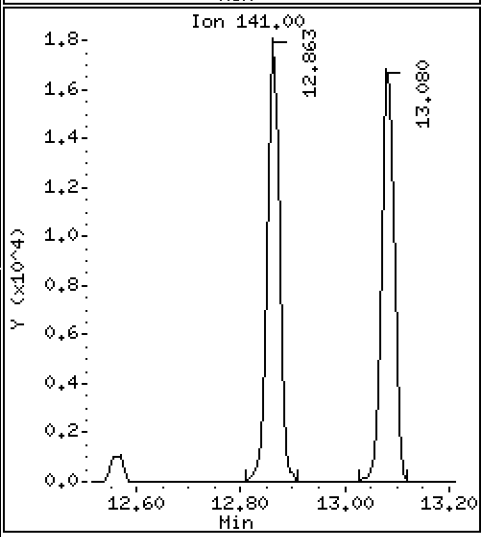
32 2-Methylnaphthalene

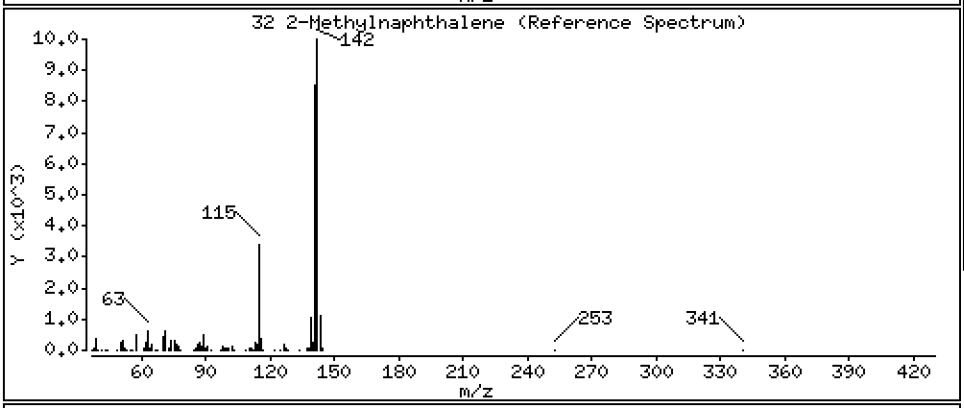
Concentration: 0.1891 ug/mL

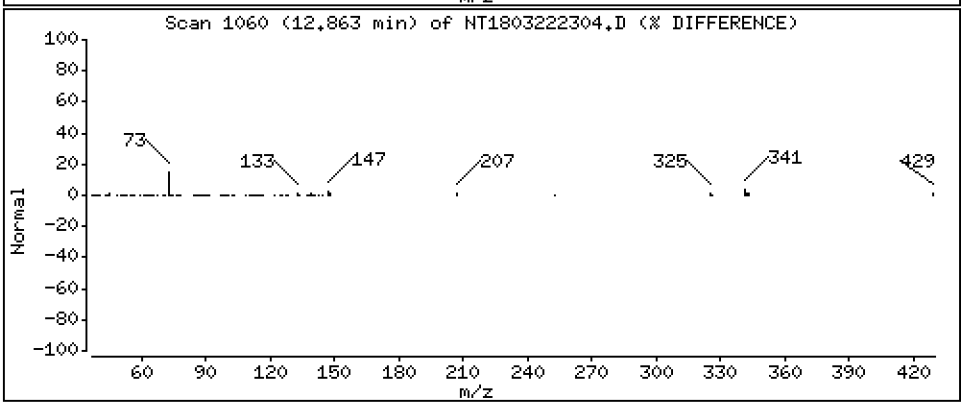












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

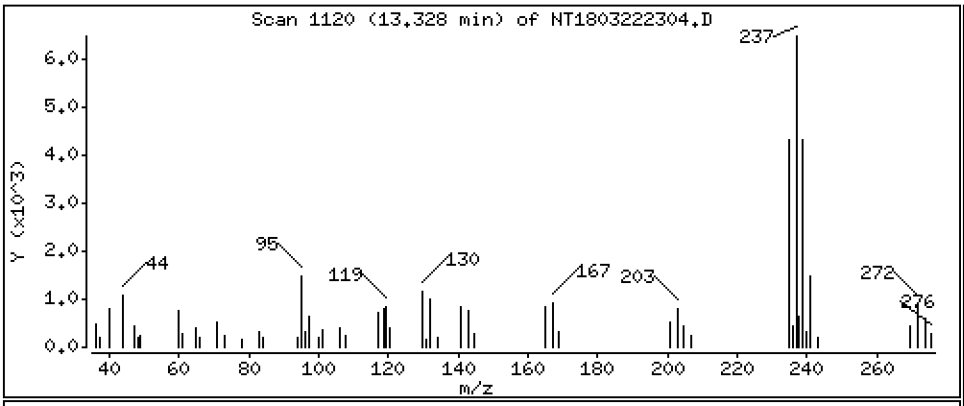
Operator: VTS

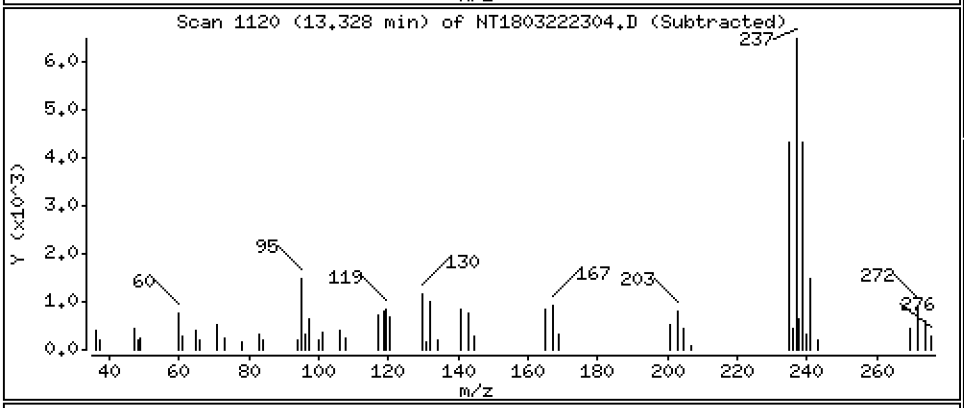
Column phase: ZB-5msi

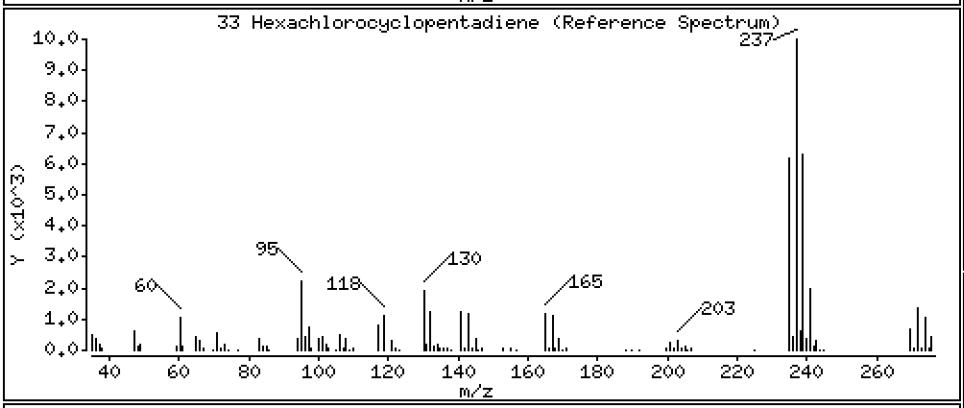
Column diameter: 0.25

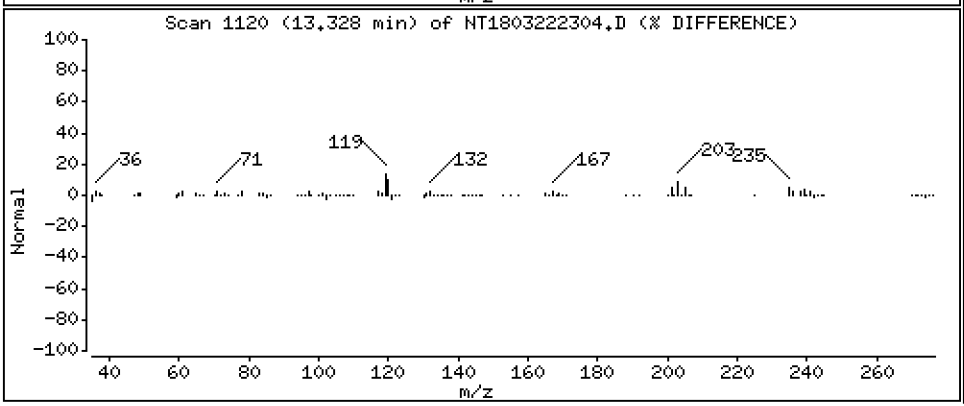
33 Hexachlorocyclopentadiene

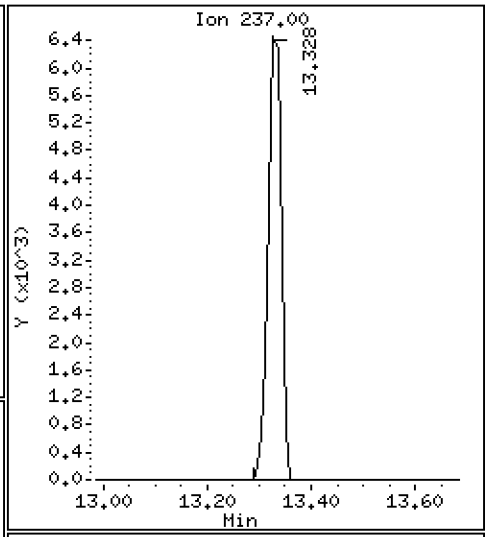
Concentration: 0.2456 ug/mL

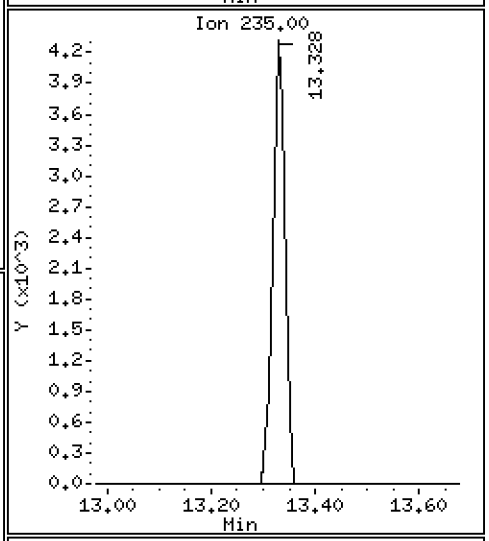


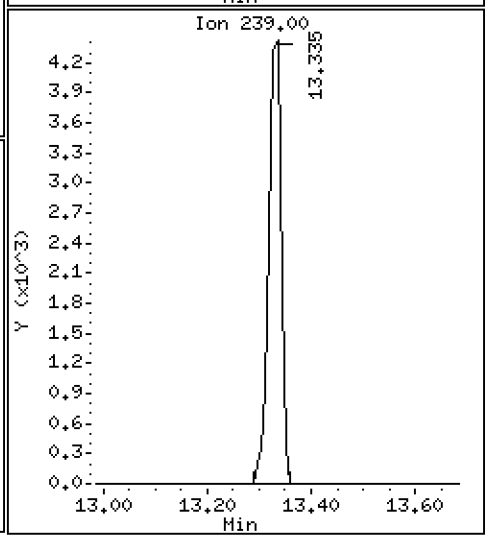












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

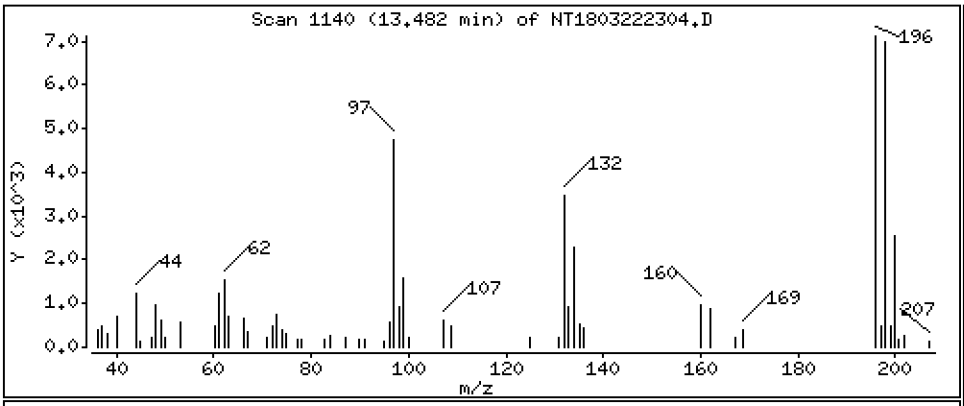
Operator: VTS

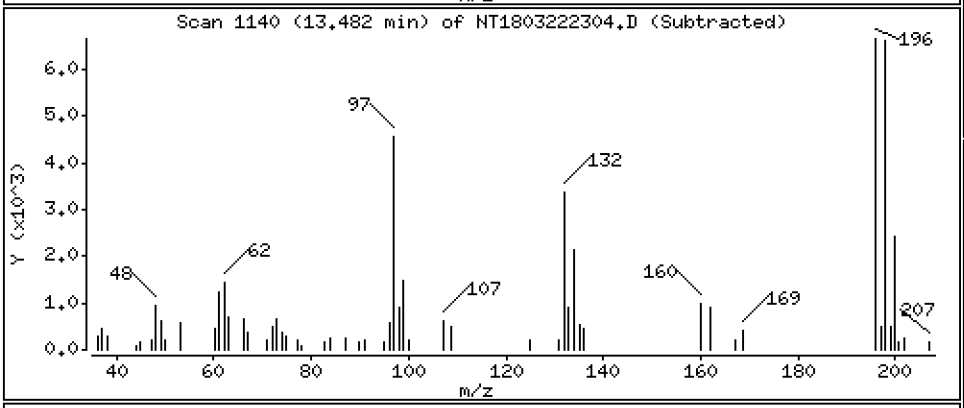
Column phase: ZB-5msi

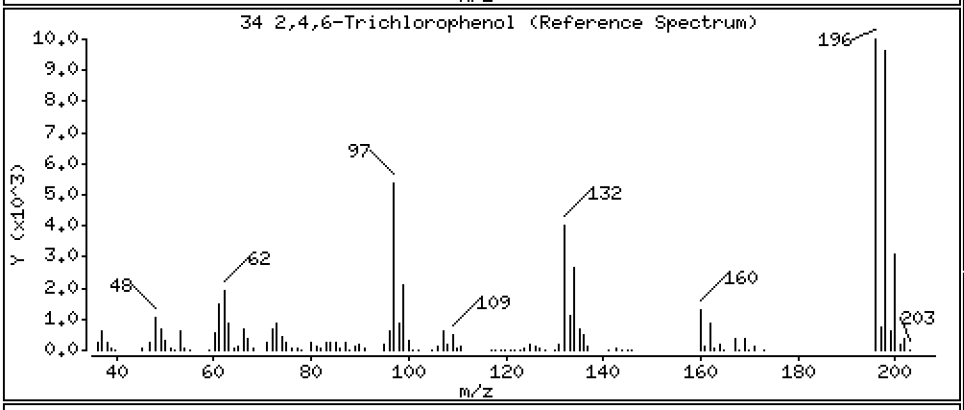
Column diameter: 0.25

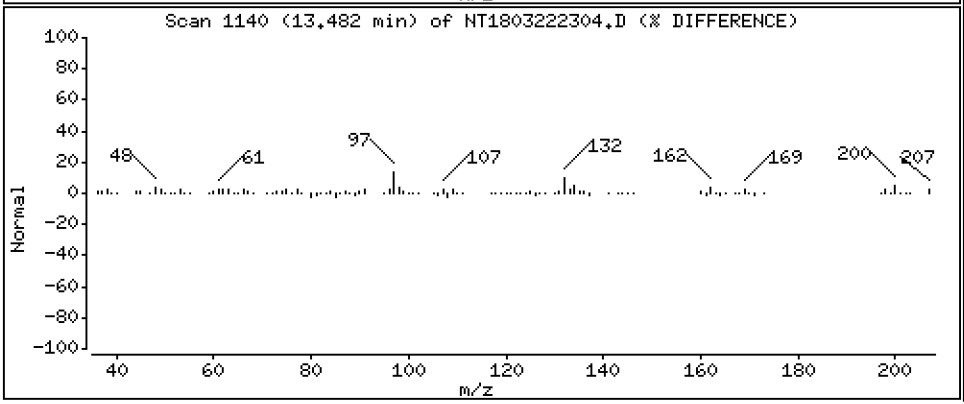
34 2,4,6-Trichlorophenol

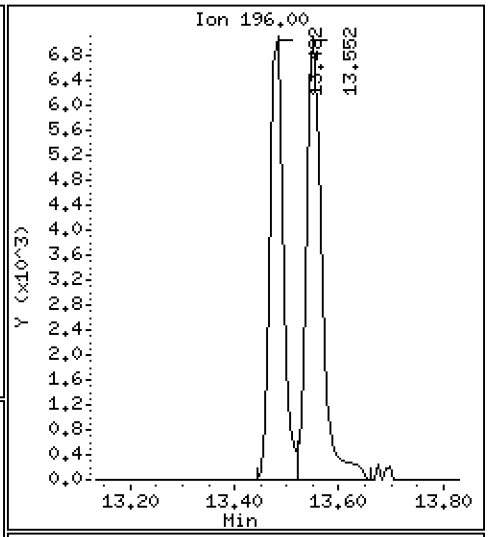
Concentration: 0.2639 ug/mL

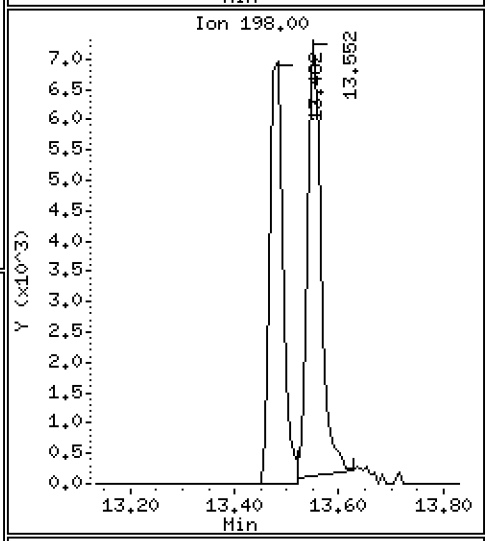


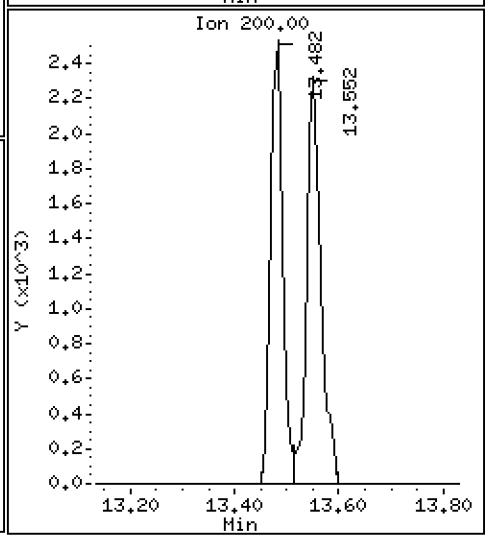












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

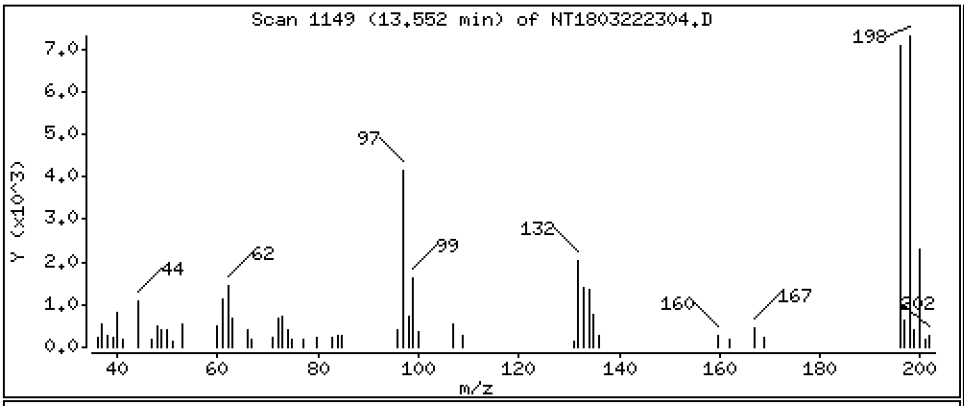
Operator: VTS

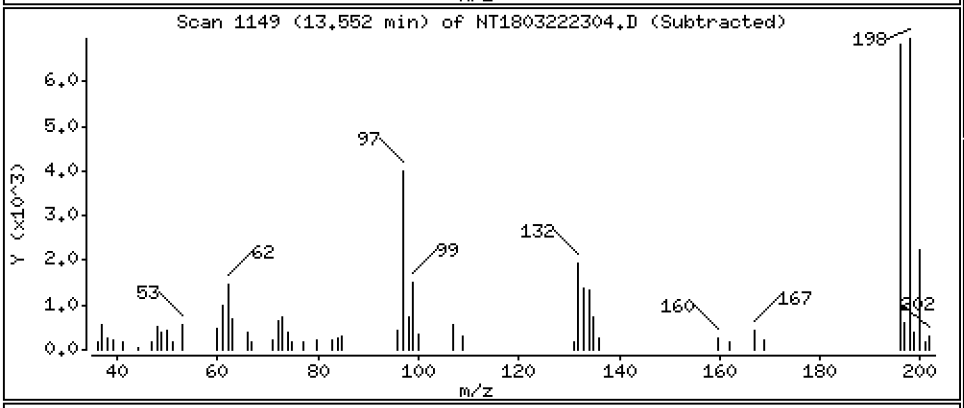
Column phase: ZB-5msi

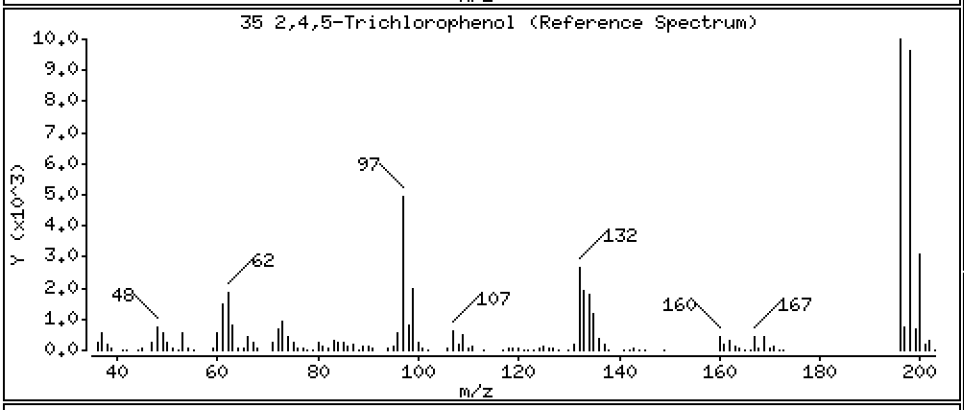
Column diameter: 0.25

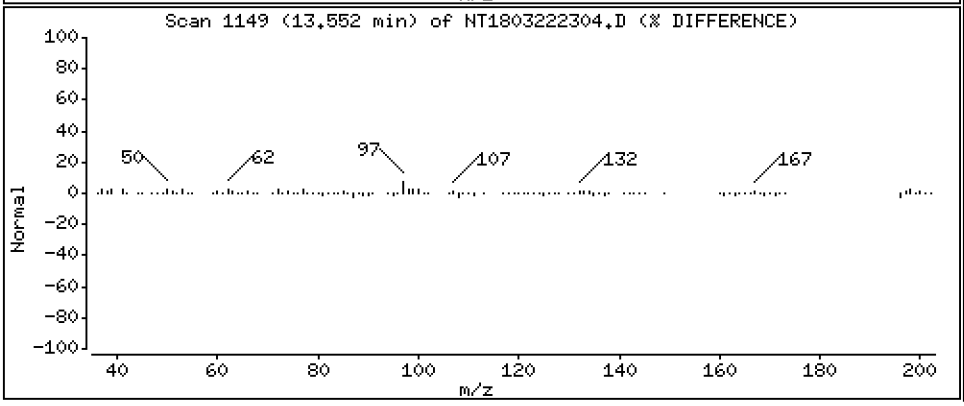
35 2,4,5-Trichlorophenol

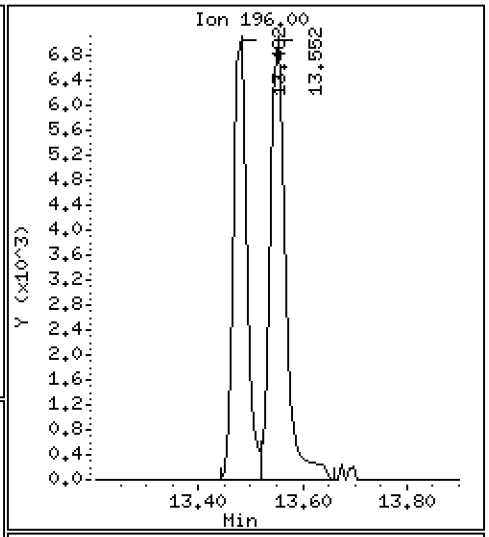
Concentration: 0.2831 ug/mL

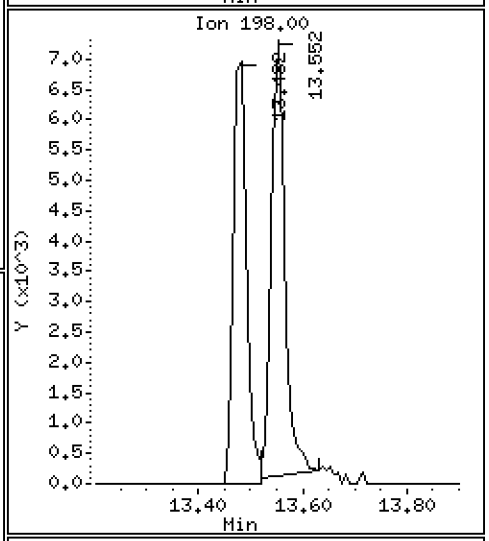


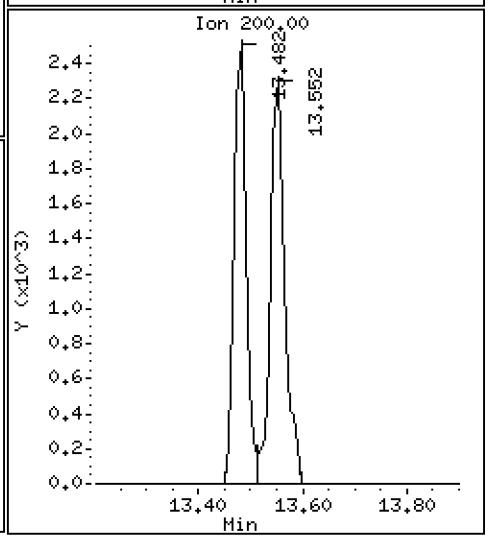












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

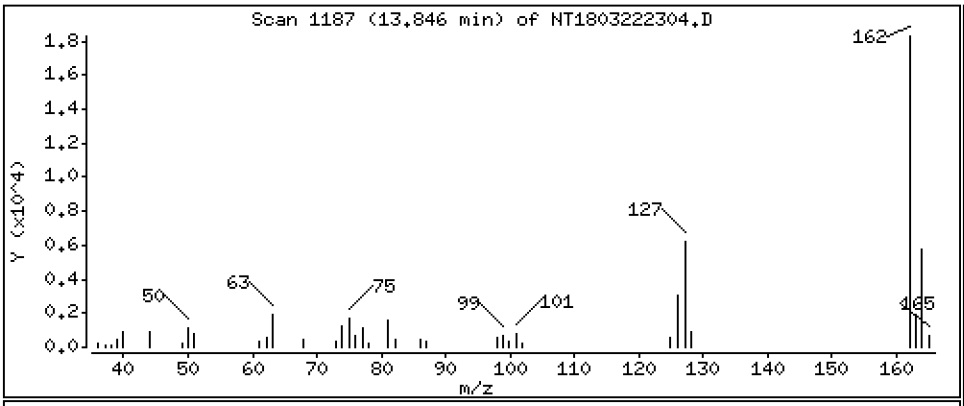
Operator: VTS

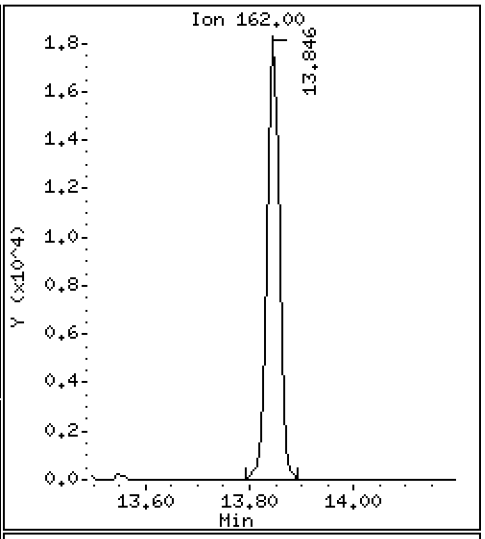
Column phase: ZB-5msi

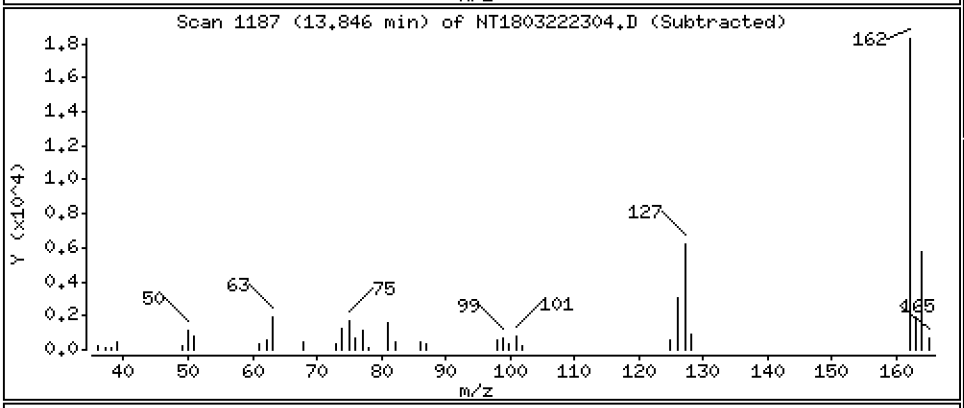
Column diameter: 0.25

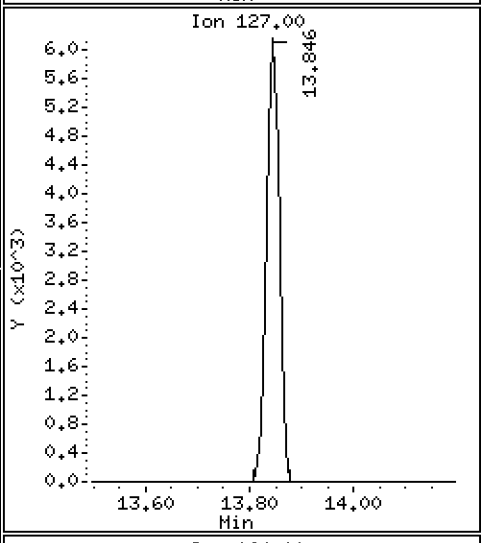
37 2-Chloronaphthalene

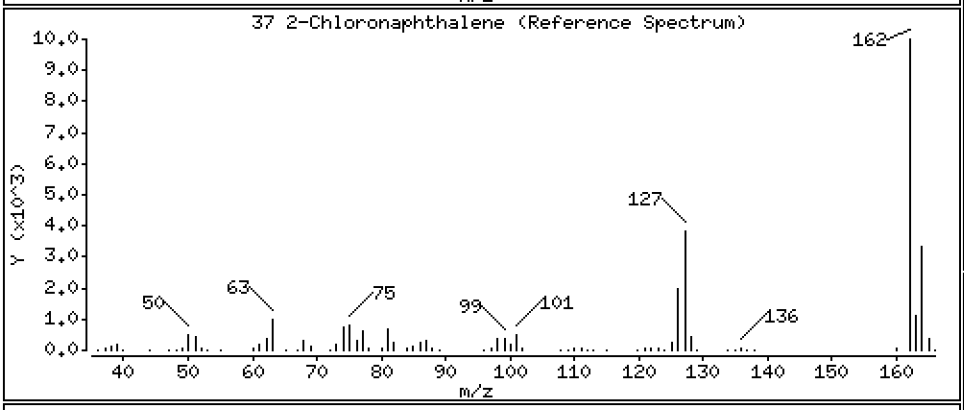
Concentration: 0.1935 ug/mL

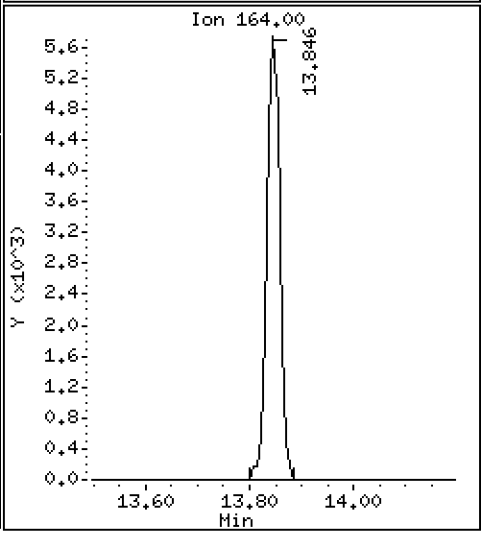


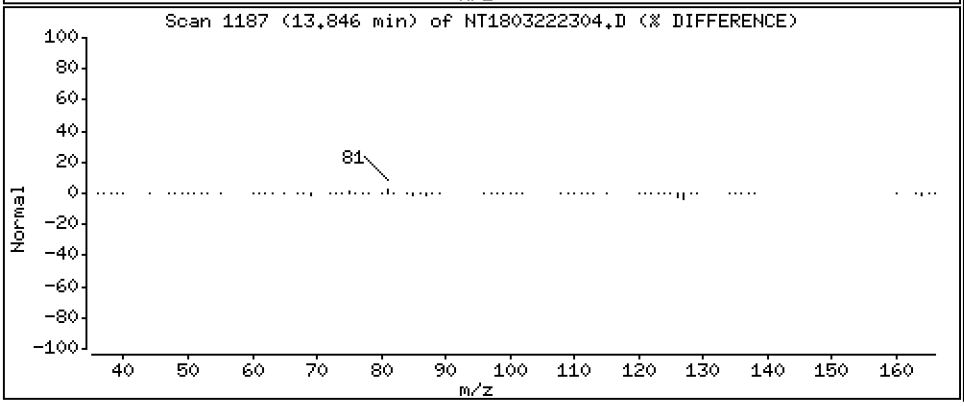












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

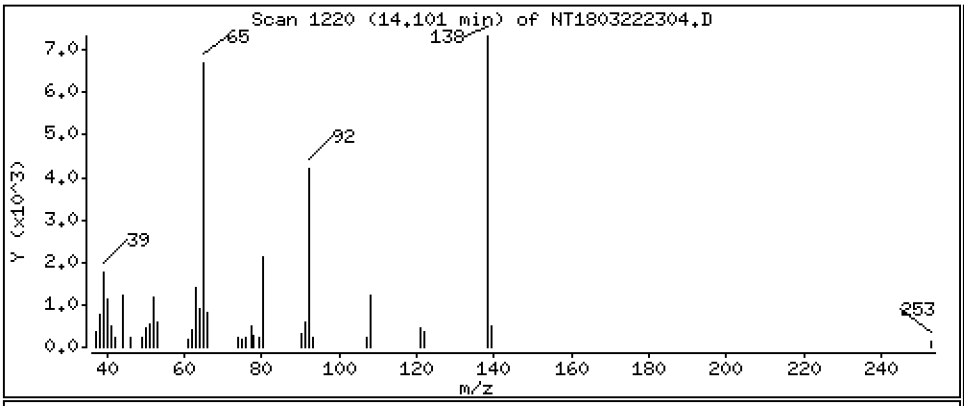
Operator: VTS

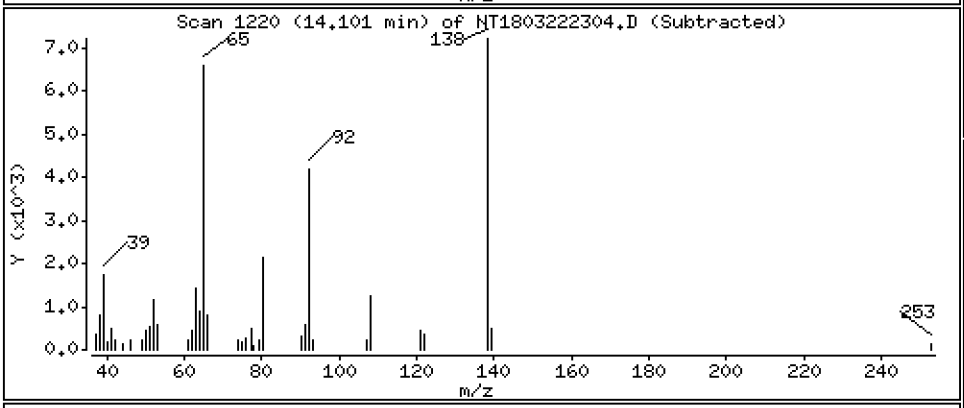
Column phase: ZB-5msi

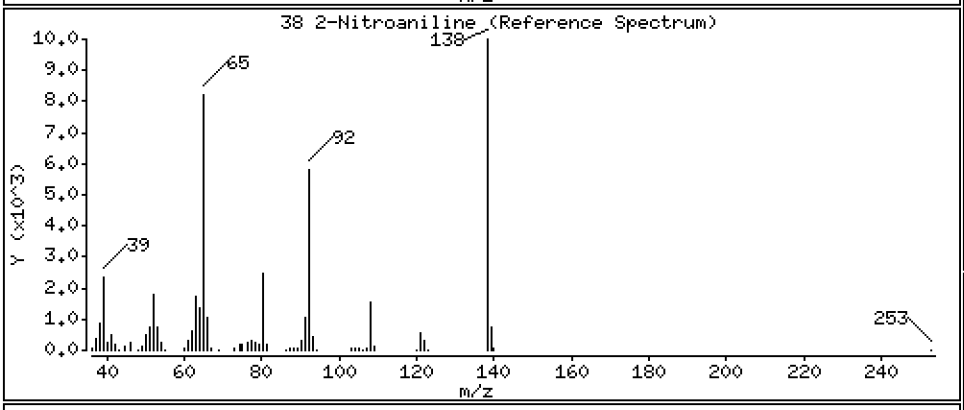
Column diameter: 0.25

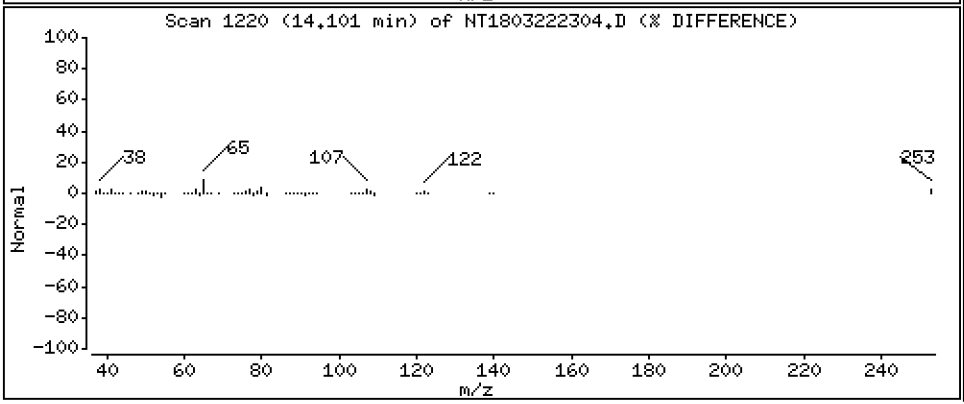
38 2-Nitroaniline

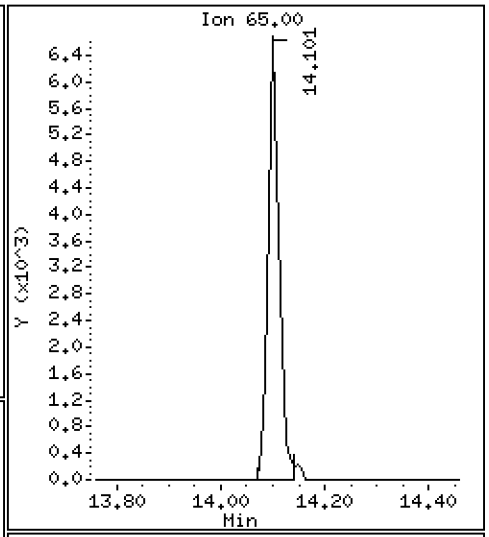
Concentration: 0.2494 ug/mL

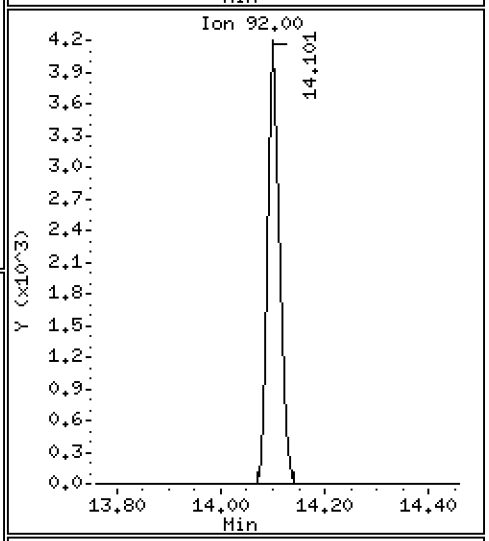


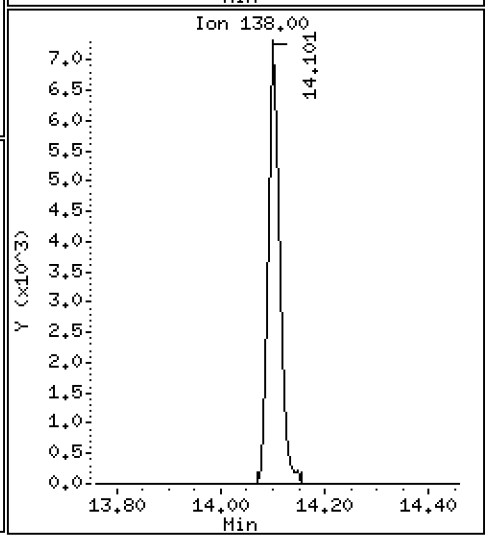












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

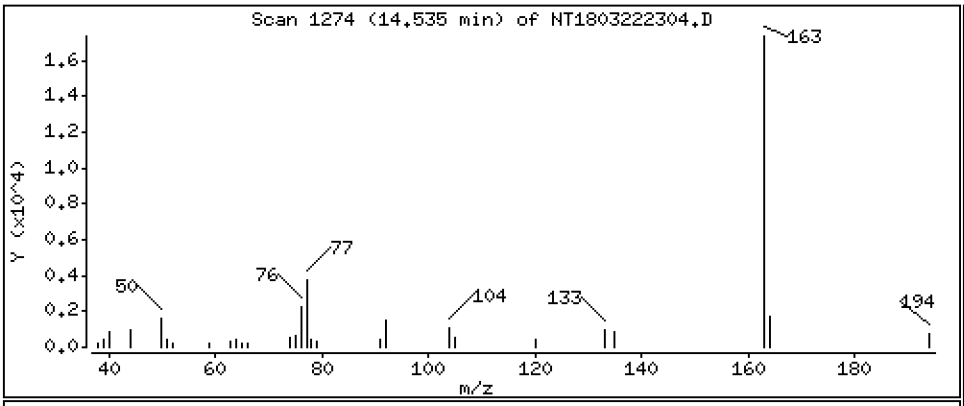
Operator: VTS

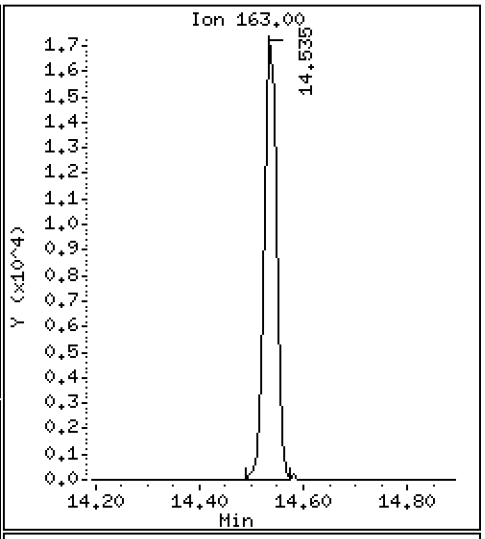
Column phase: ZB-5msi

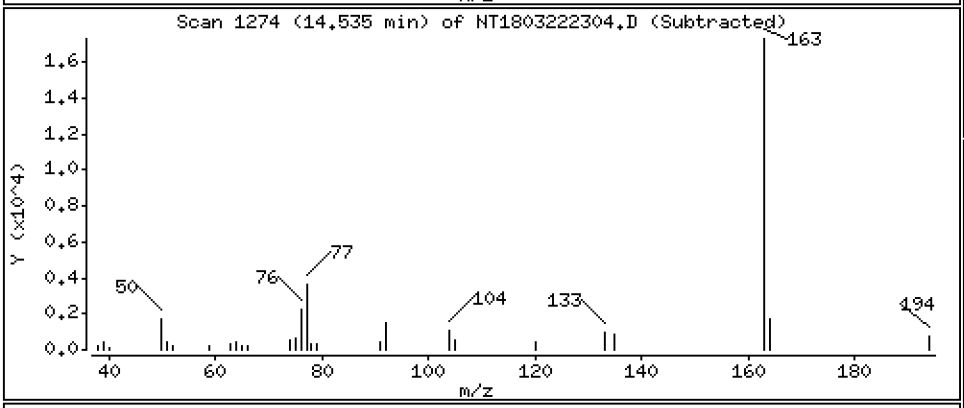
Column diameter: 0.25

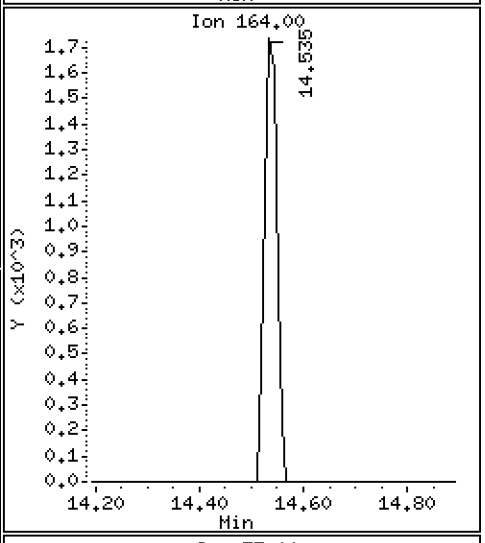
39 Dimethylphthalate

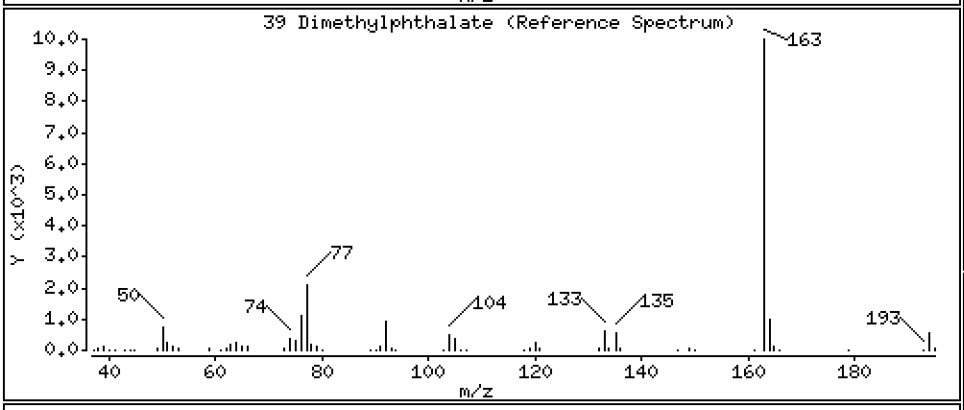
Concentration: 0.1760 ug/mL

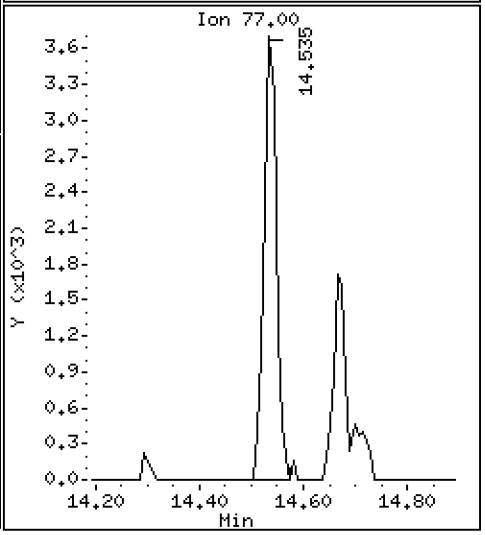


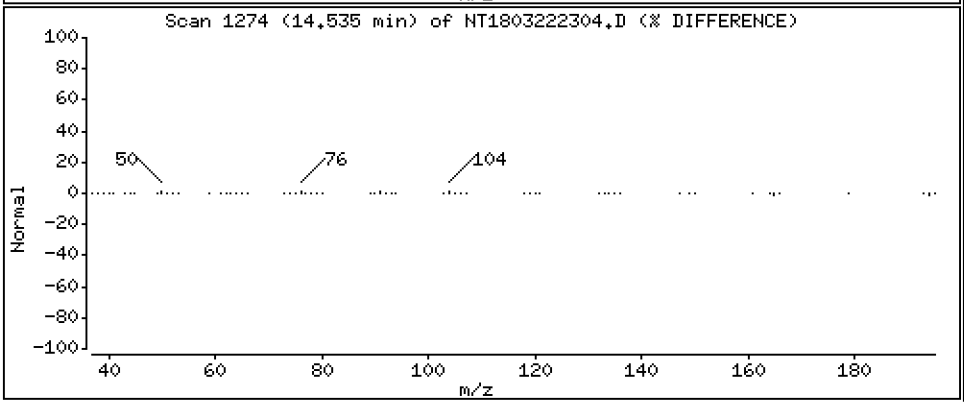












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

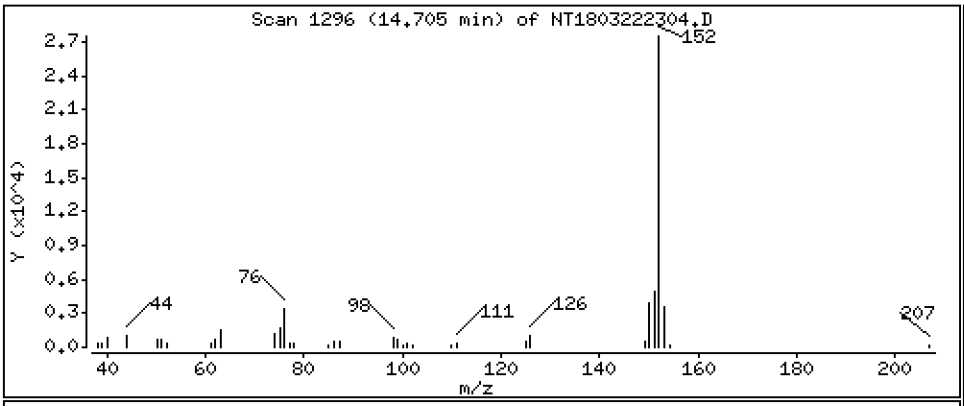
Operator: VTS

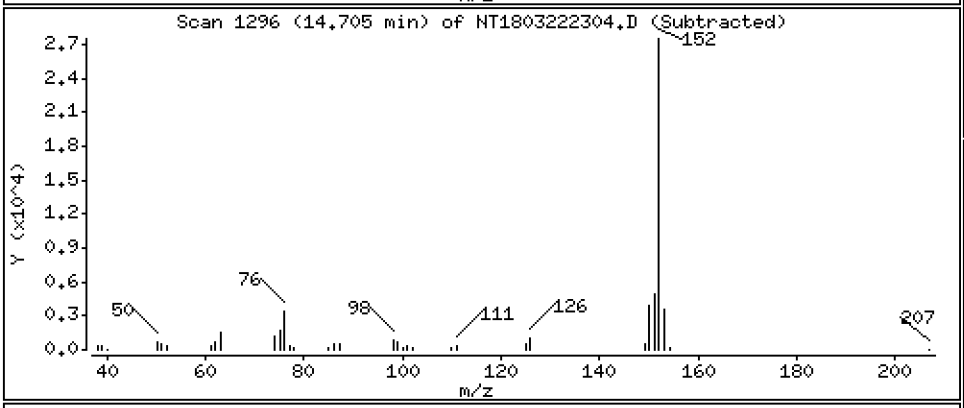
Column phase: ZB-5msi

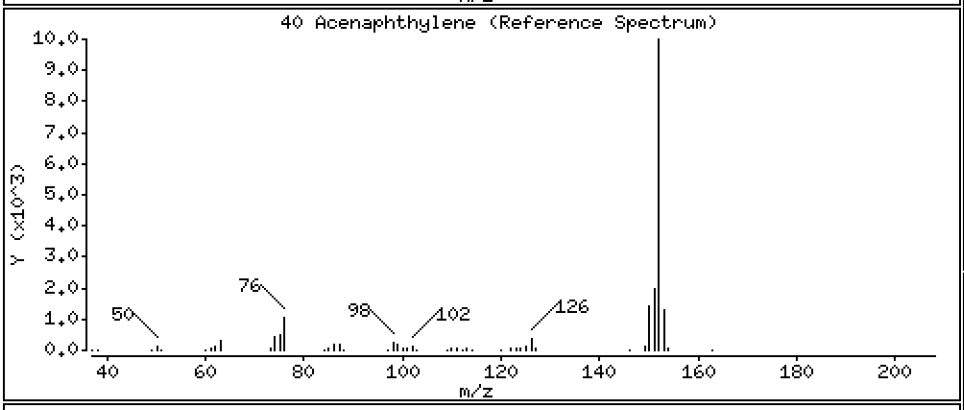
Column diameter: 0.25

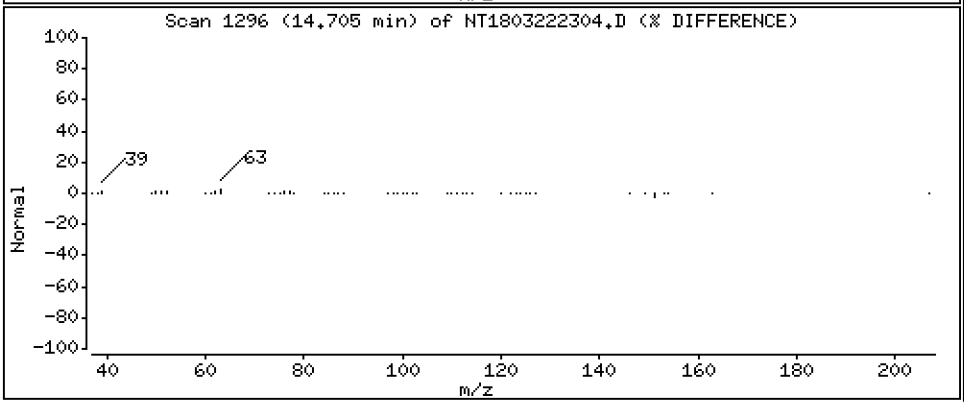
40 Acenaphthylene

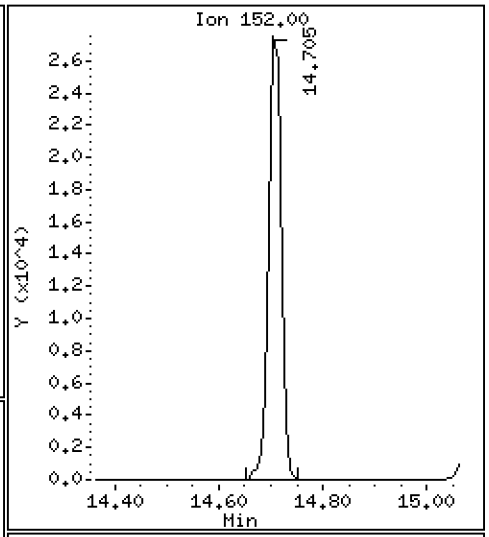
Concentration: 0.1766 ug/mL

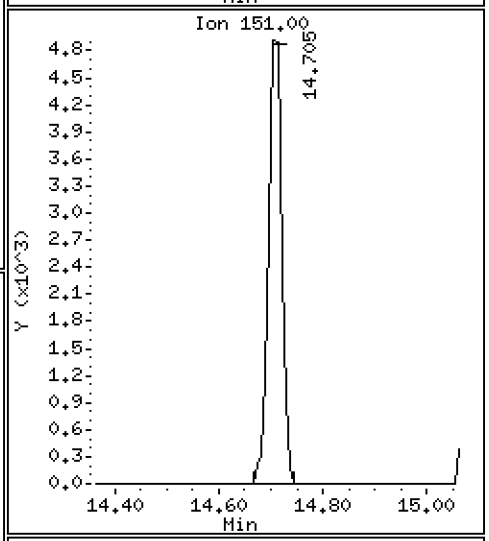


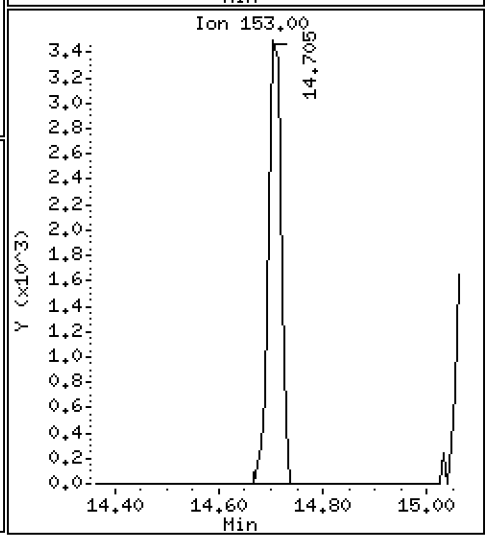












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

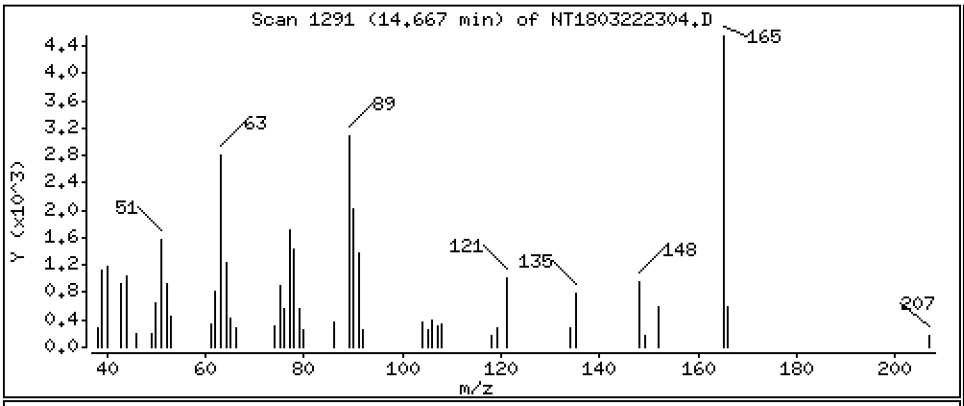
Operator: VTS

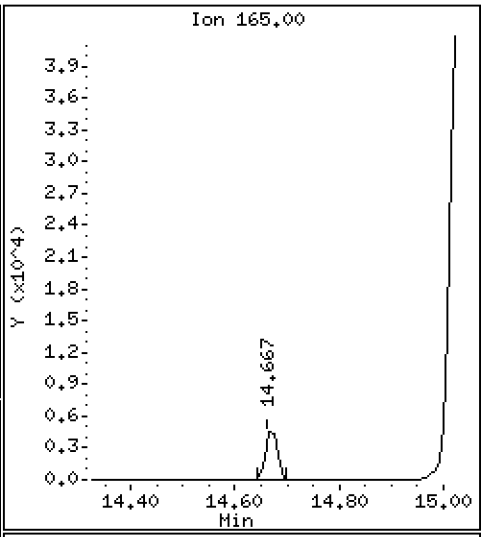
Column phase: ZB-5msi

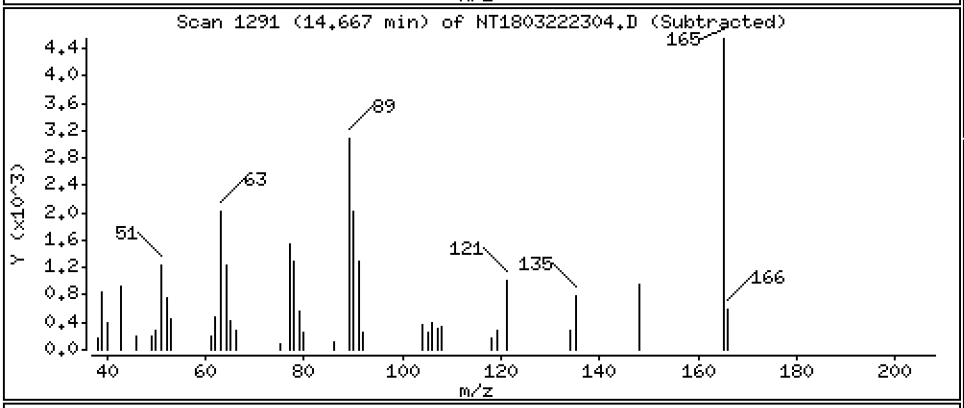
Column diameter: 0.25

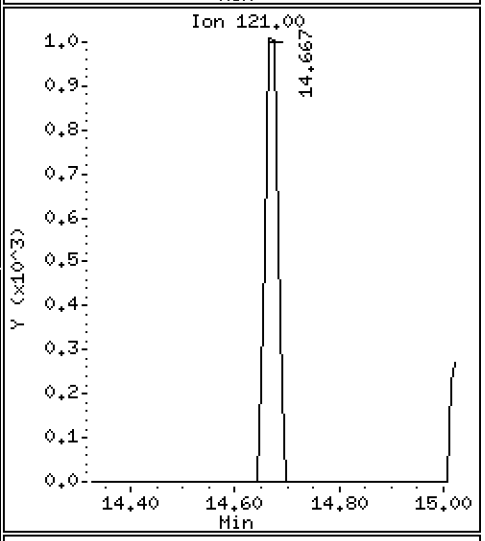
41 2,6-Dinitrotoluene

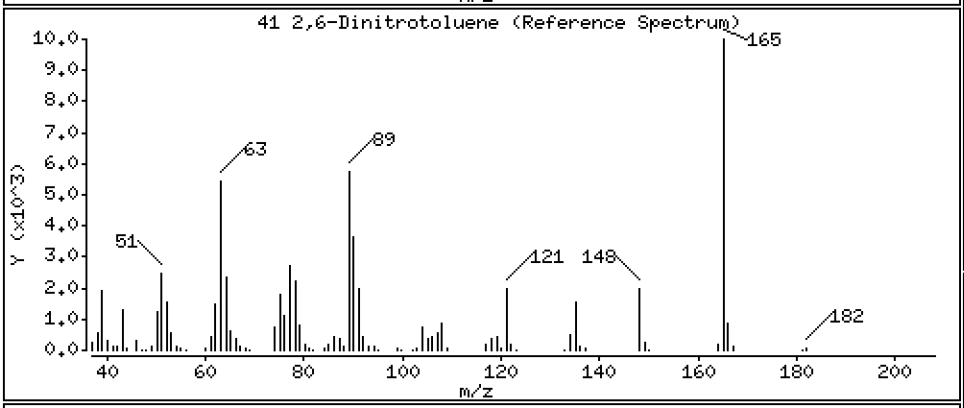
Concentration: 0.1981 ug/mL

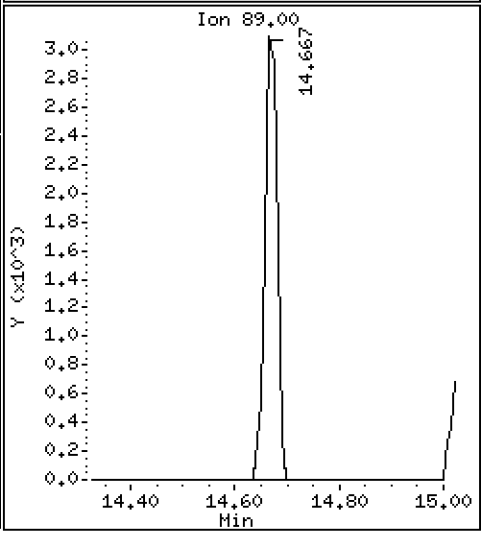


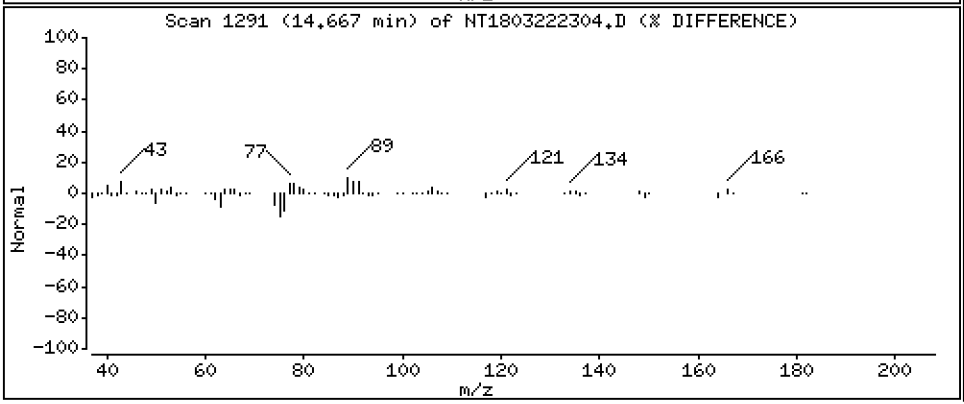












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

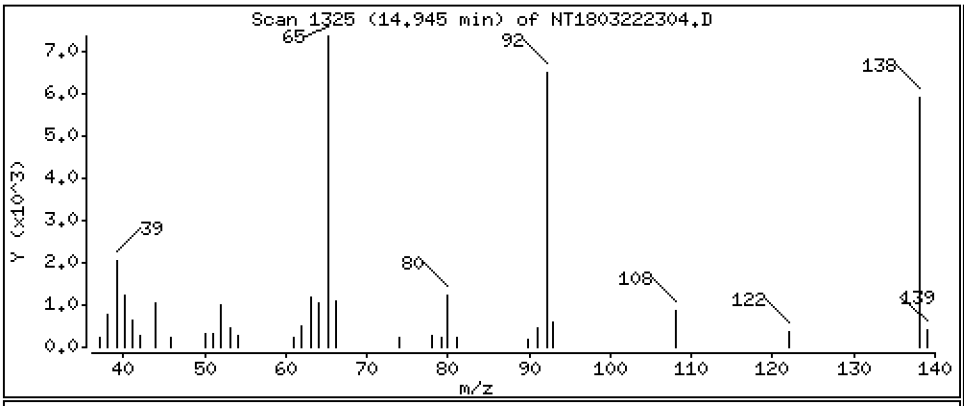
Operator: VTS

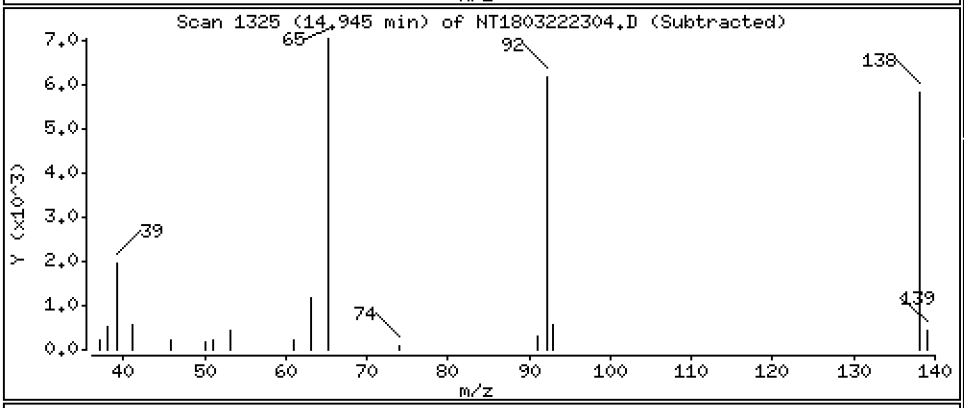
Column phase: ZB-5msi

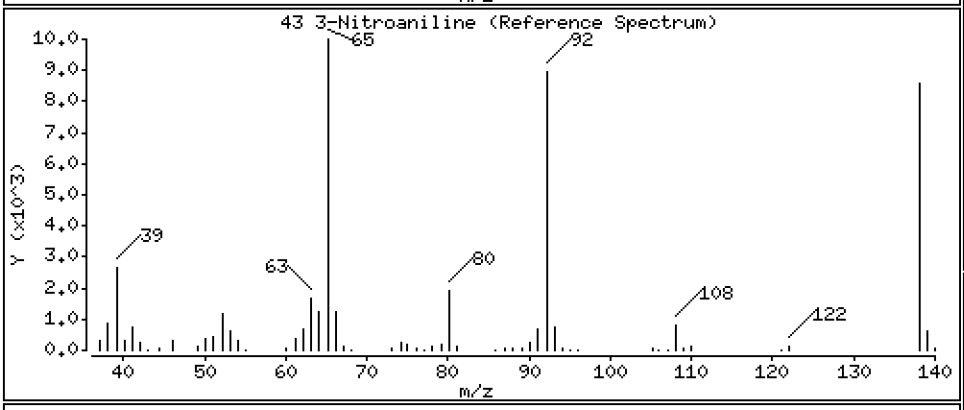
Column diameter: 0.25

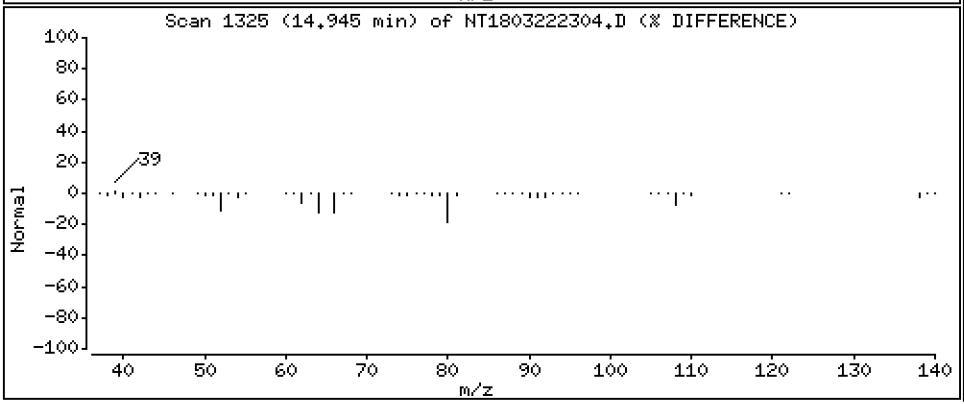
43 3-Nitroaniline

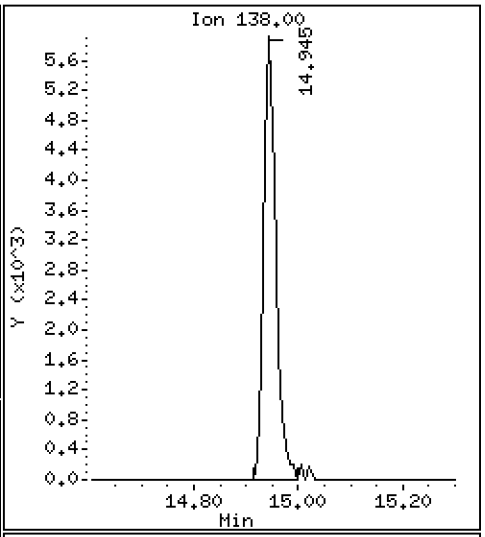
Concentration: 0.2351 ug/mL

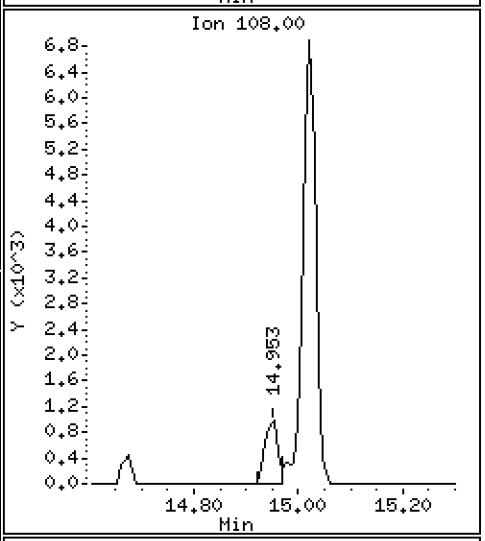


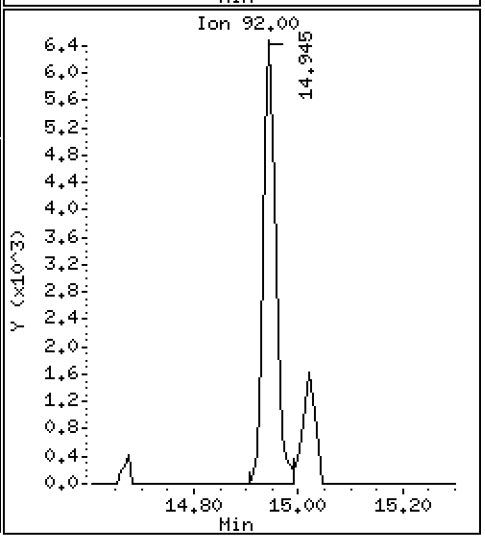












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

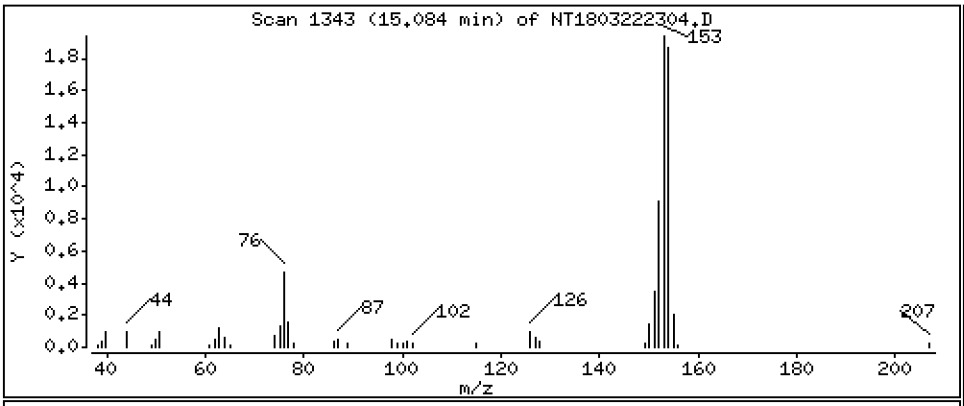
Operator: VTS

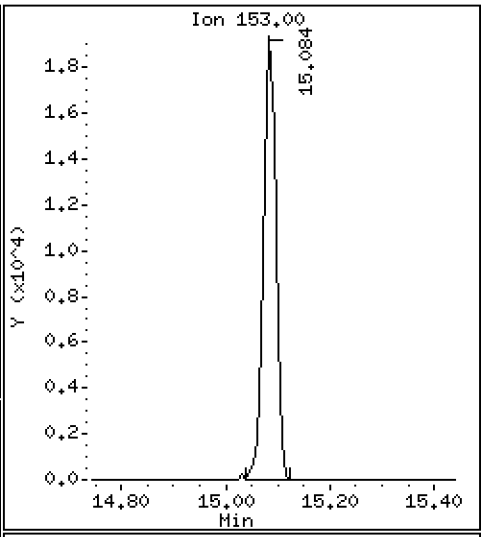
Column phase: ZB-5msi

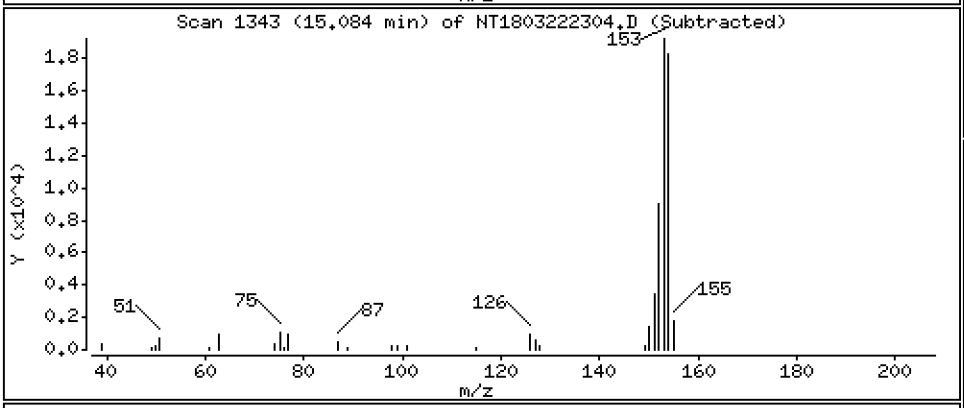
Column diameter: 0.25

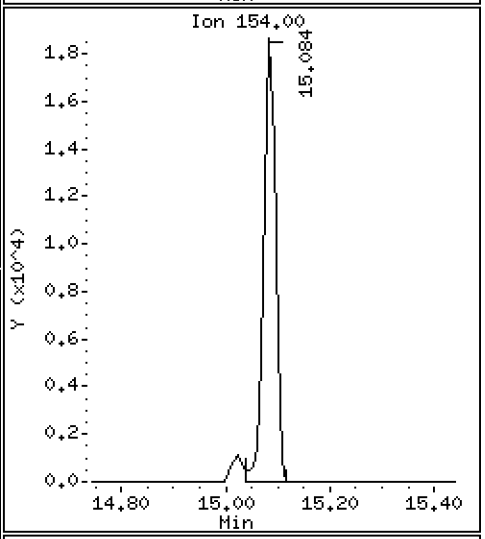
44 Acenaphthene

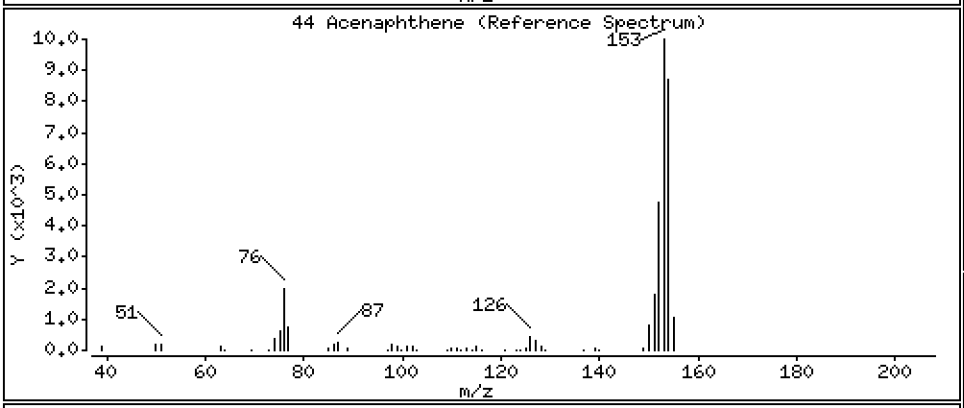
Concentration: 0.1922 ug/mL

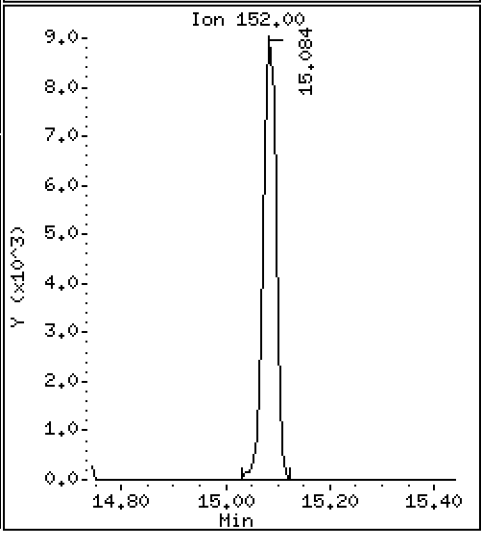


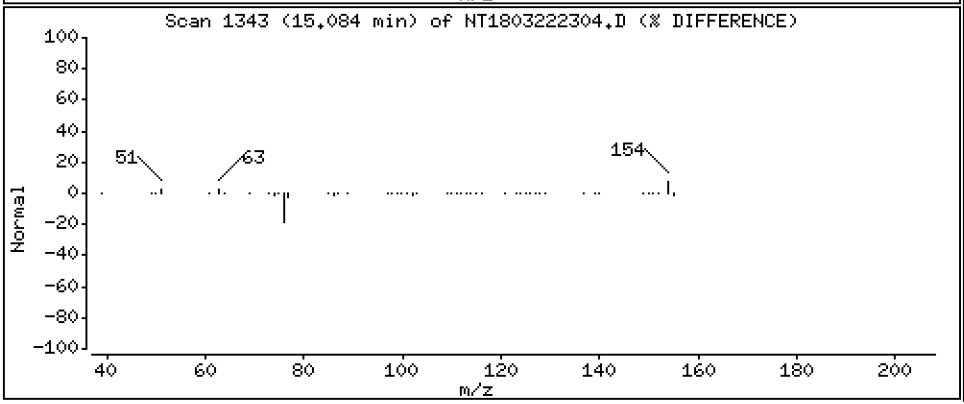












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

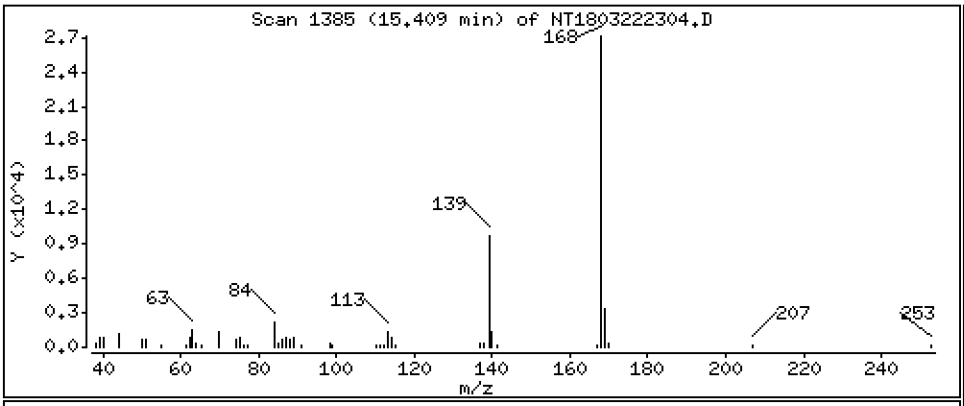
Operator: VTS

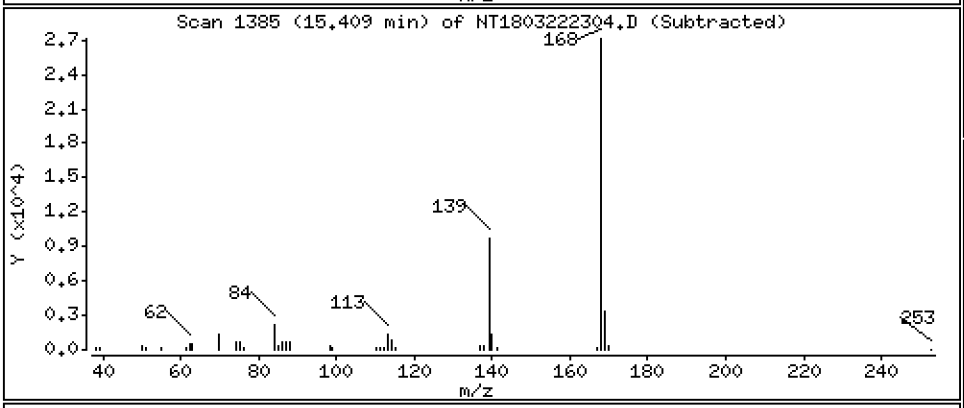
Column phase: ZB-5msi

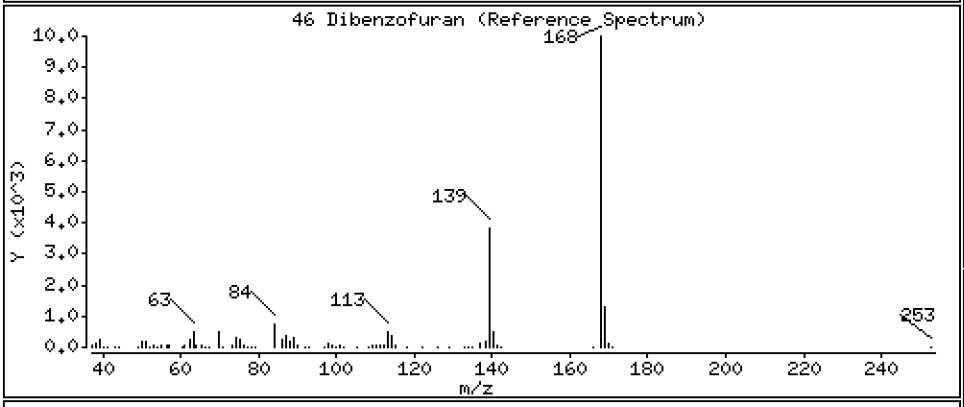
Column diameter: 0.25

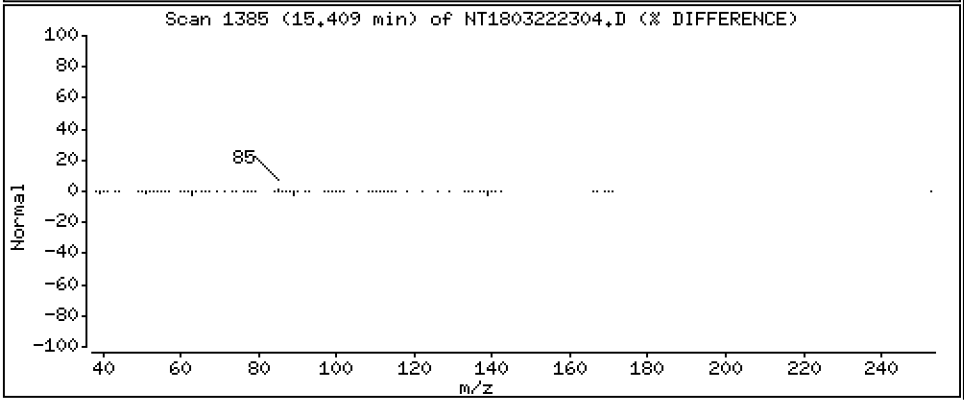
46 Dibenzofuran

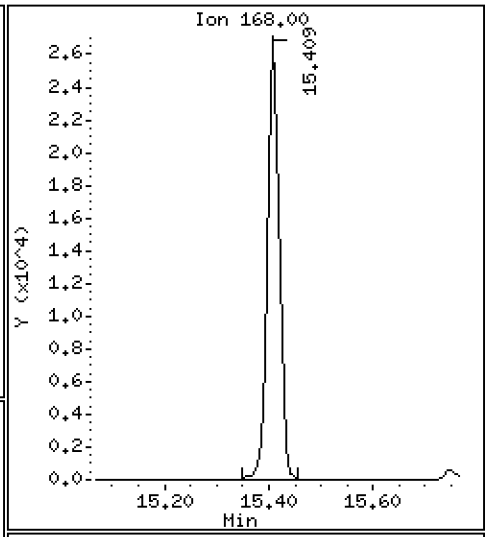
Concentration: 0.1924 ug/mL

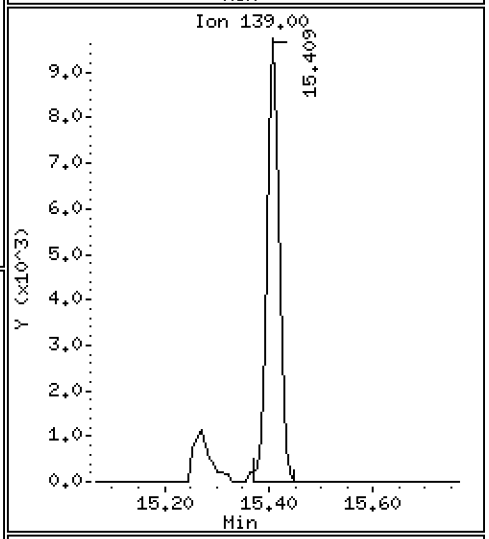


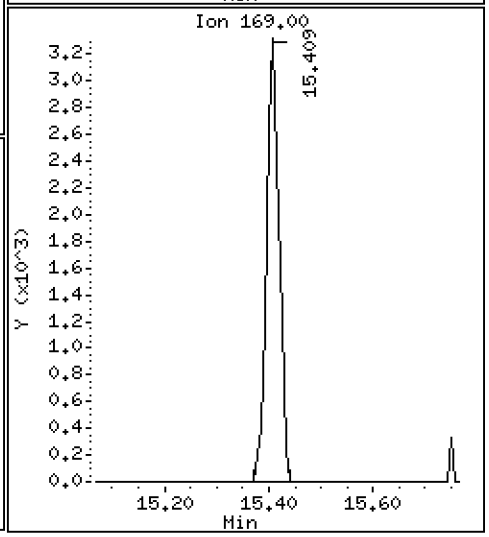












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

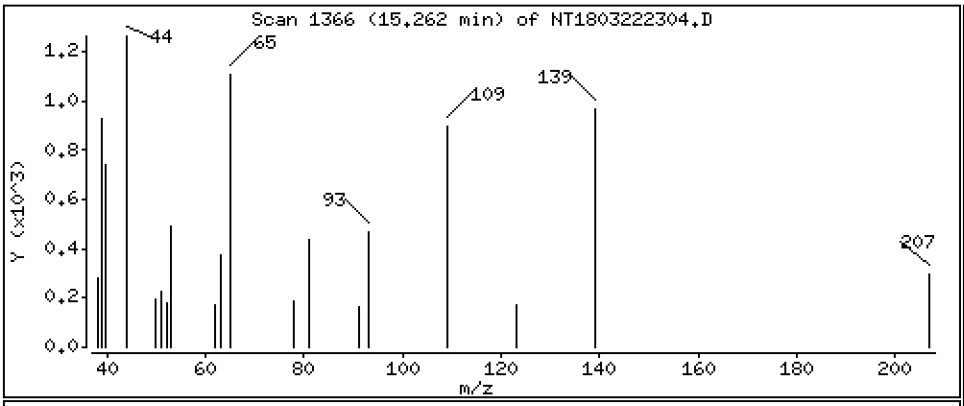
Operator: VTS

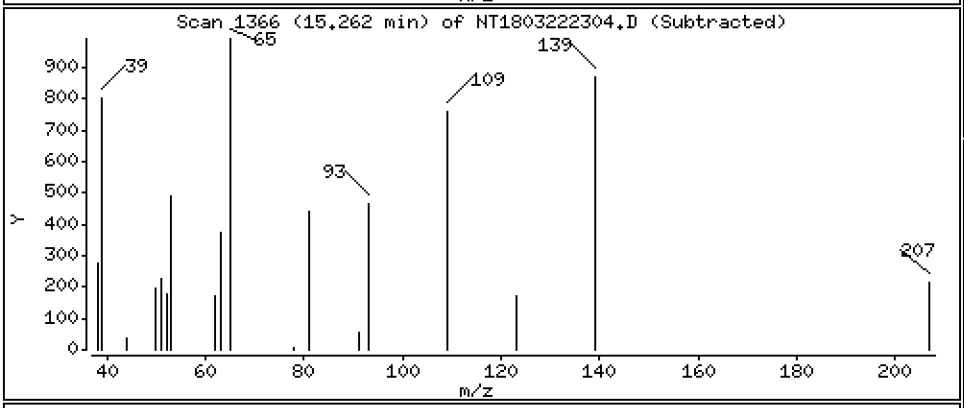
Column phase: ZB-5msi

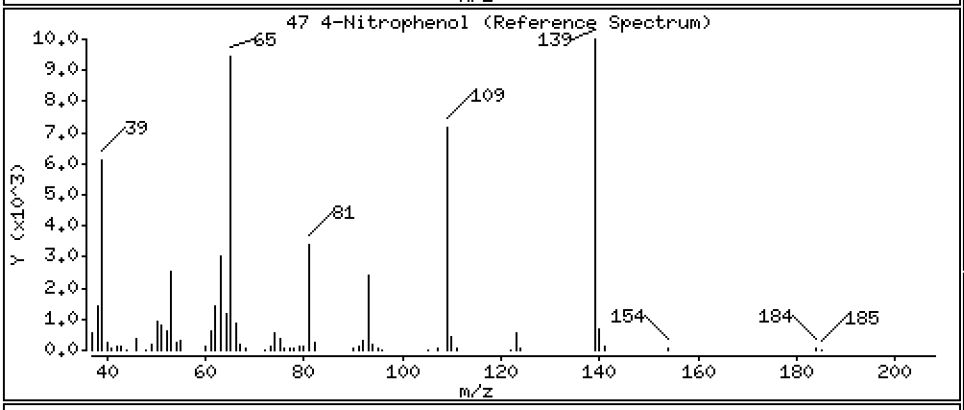
Column diameter: 0.25

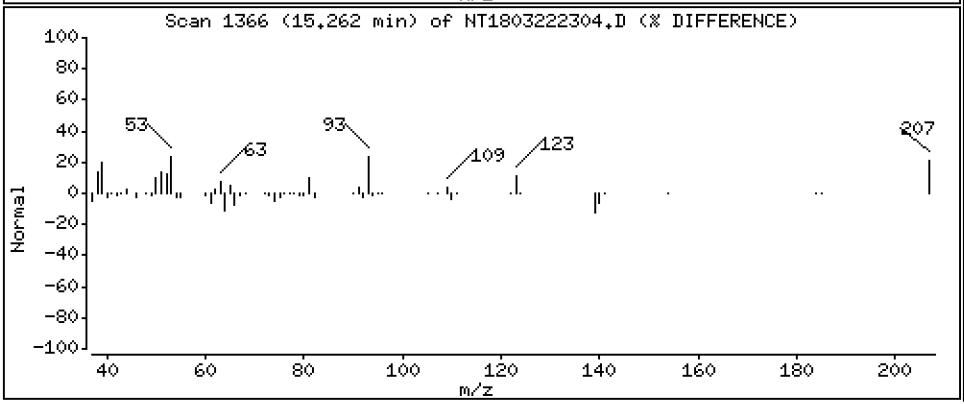
47 4-Nitrophenol

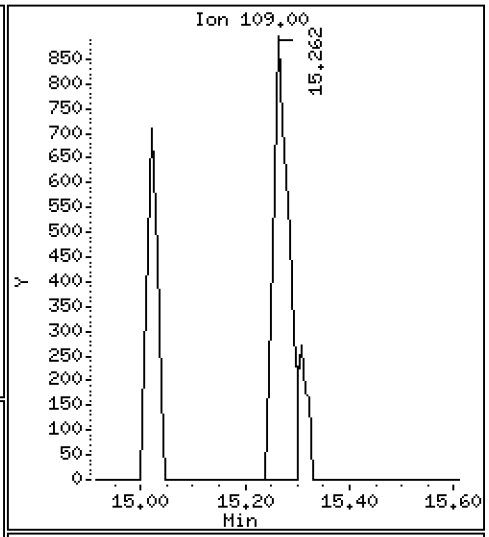
Concentration: 0.08786 ug/mL

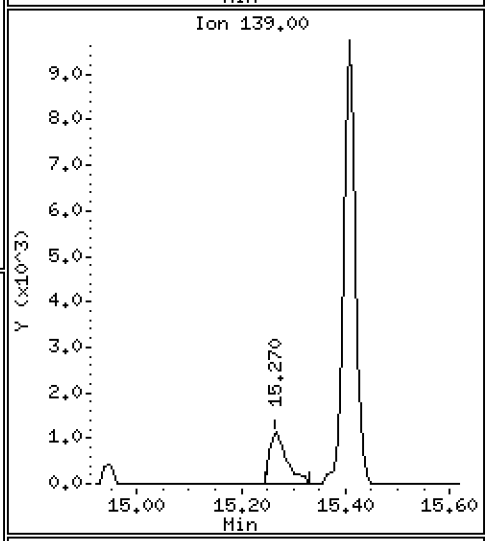


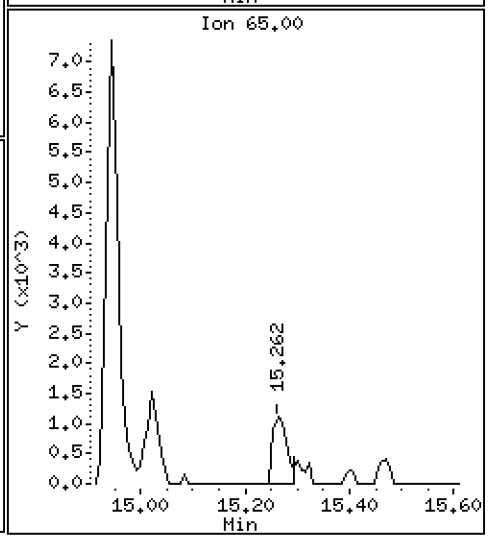












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

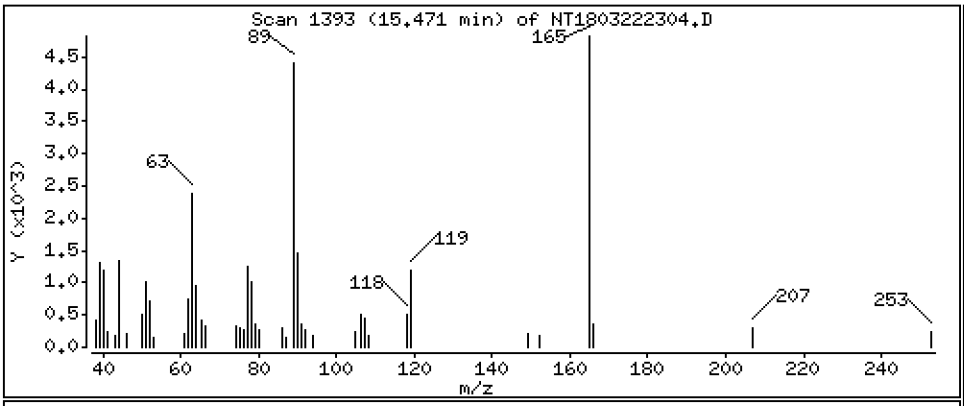
Operator: VTS

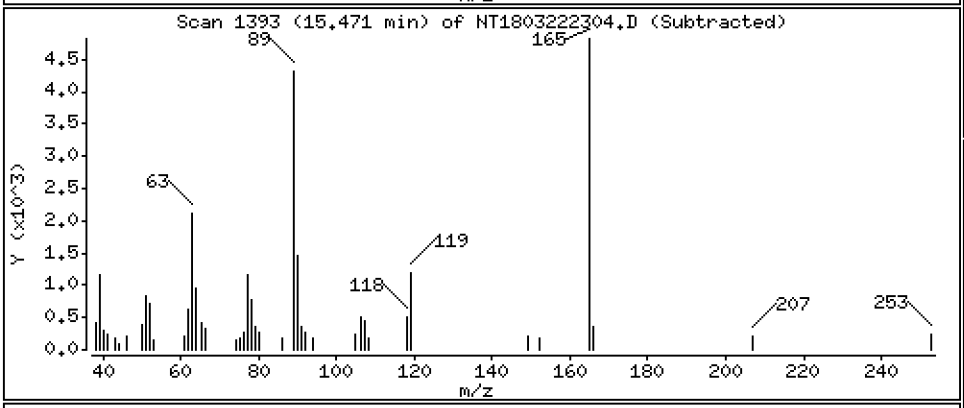
Column phase: ZB-5msi

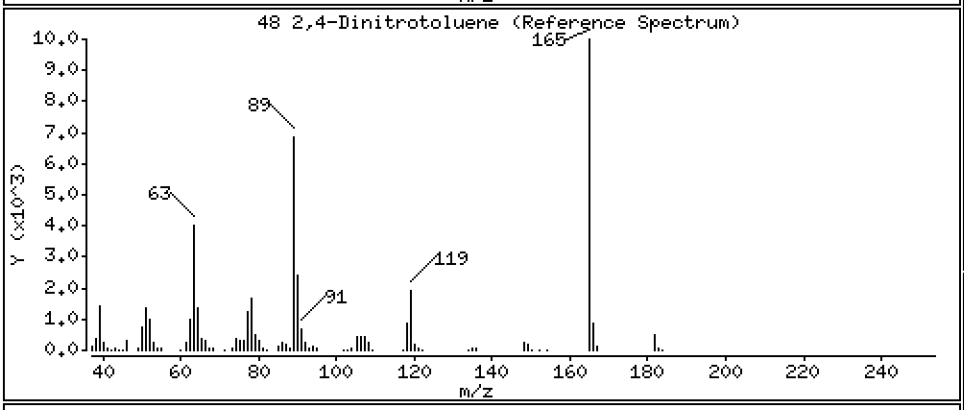
Column diameter: 0.25

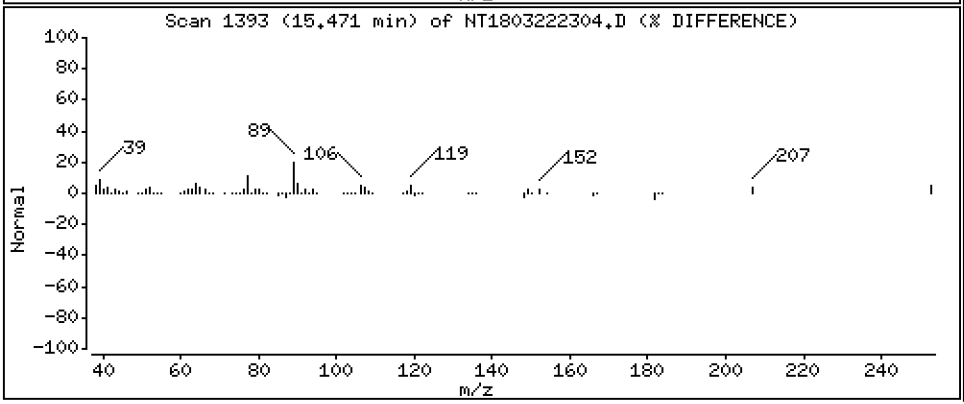
48 2,4-Dinitrotoluene

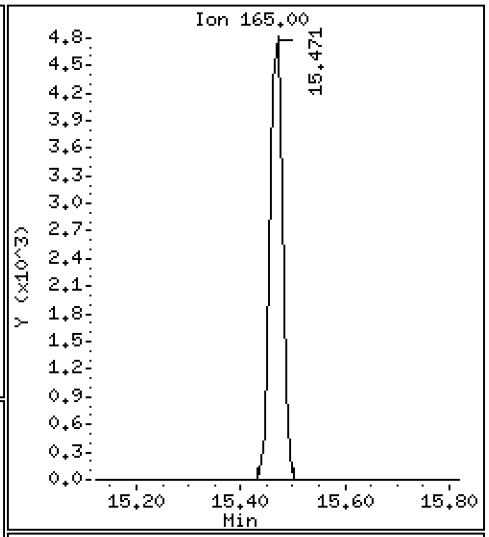
Concentration: 0.1711 ug/mL

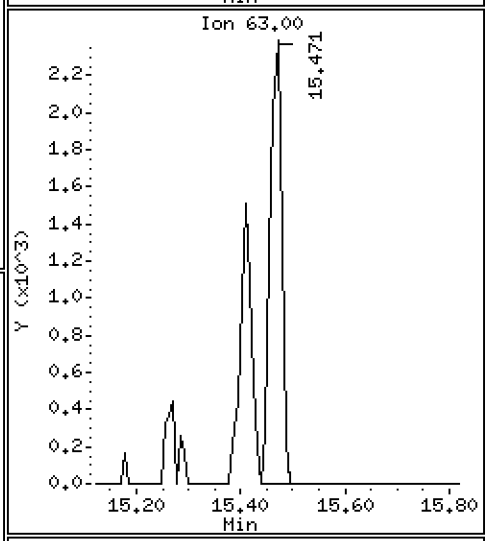


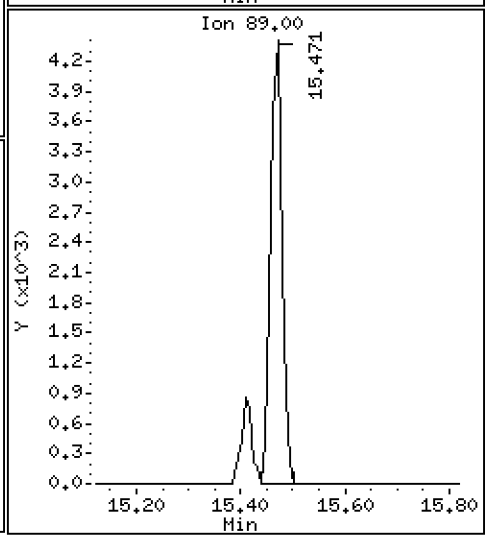












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

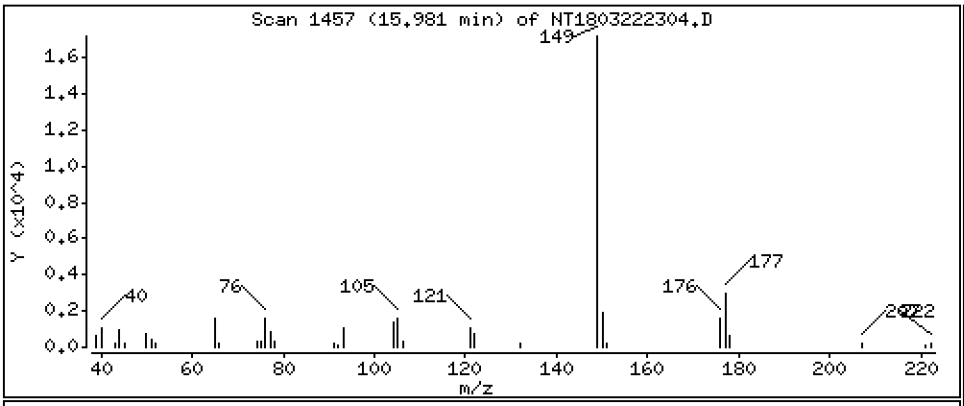
Operator: VTS

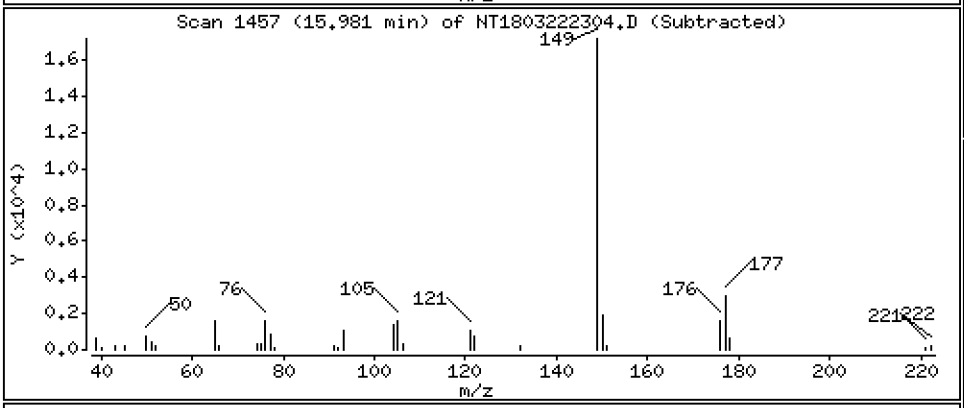
Column phase: ZB-5msi

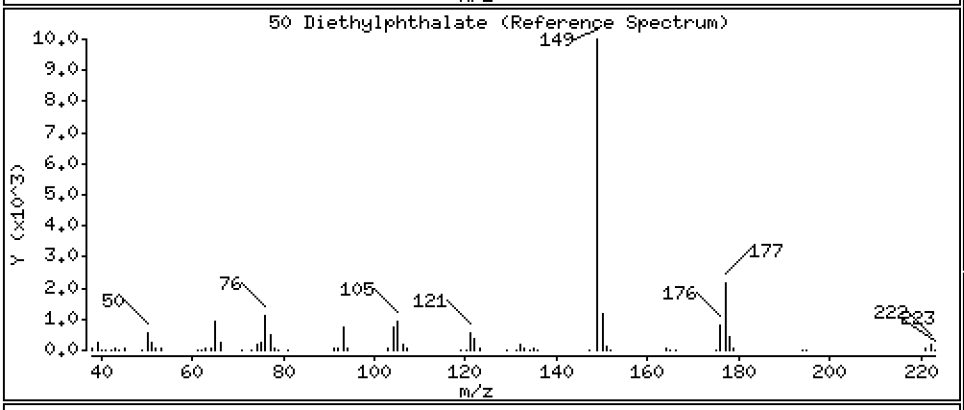
Column diameter: 0.25

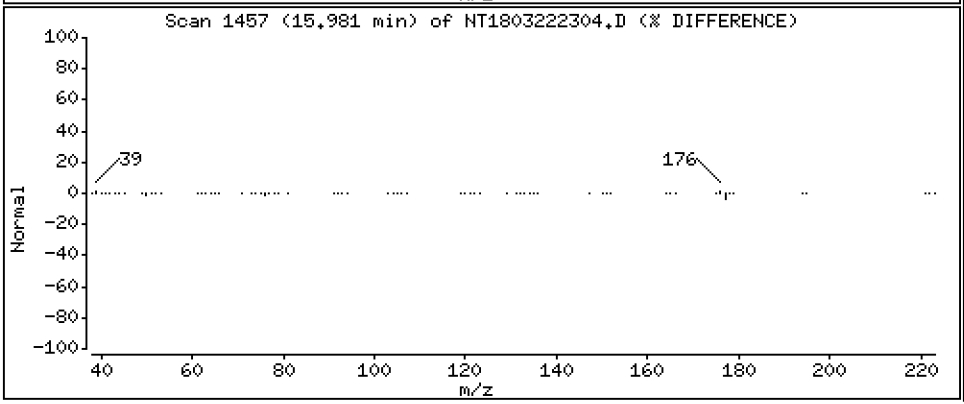
50 Diethylphthalate

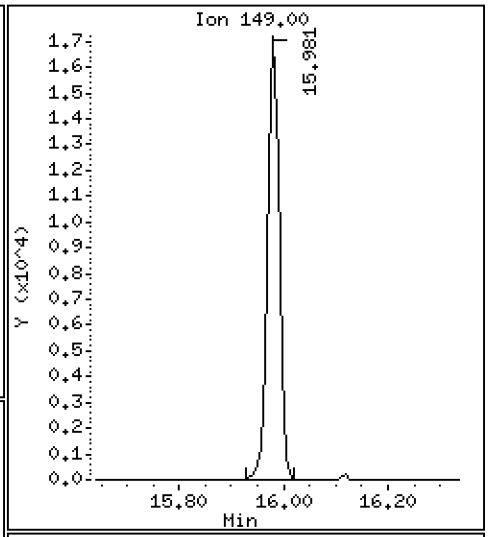
Concentration: 0.1634 ug/mL

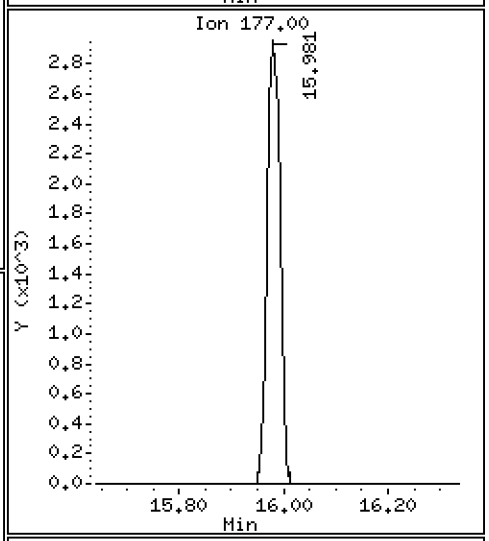


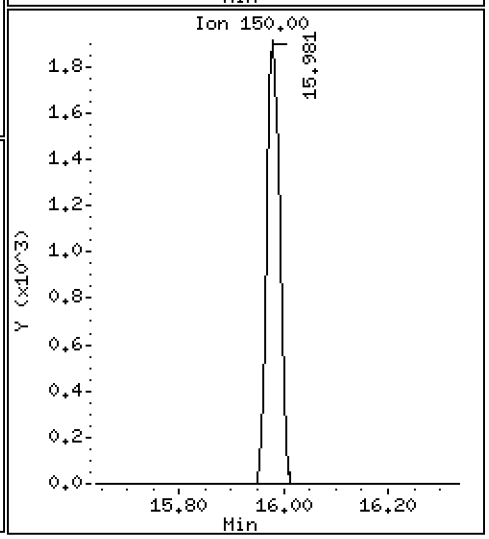












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

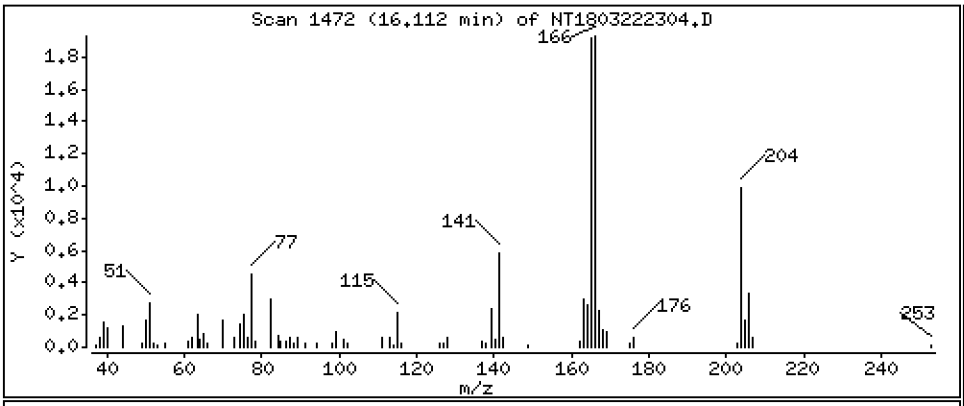
Operator: VTS

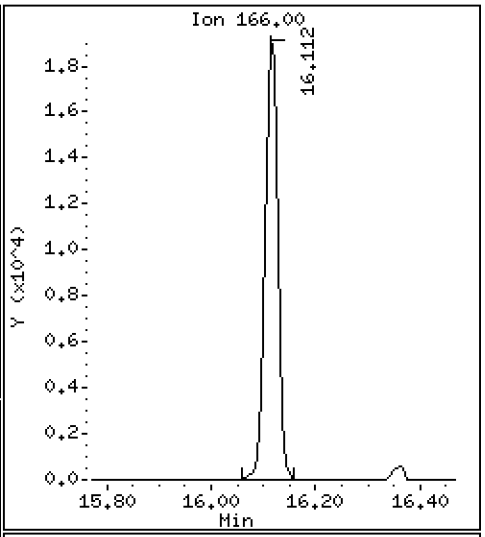
Column phase: ZB-5msi

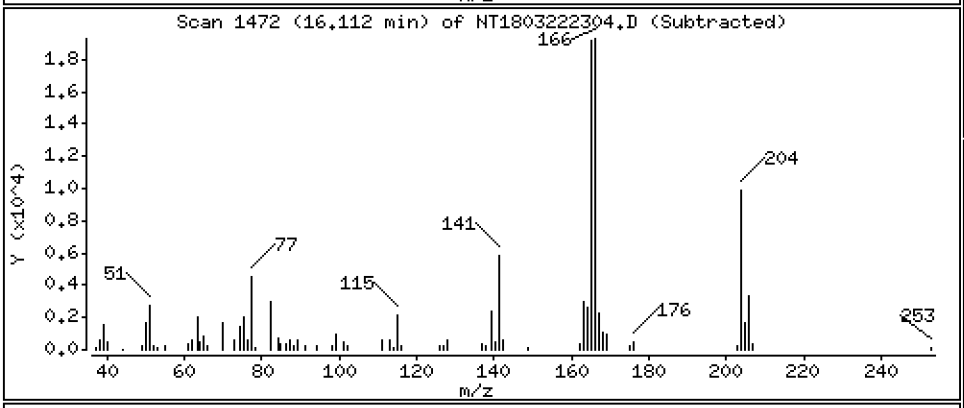
Column diameter: 0.25

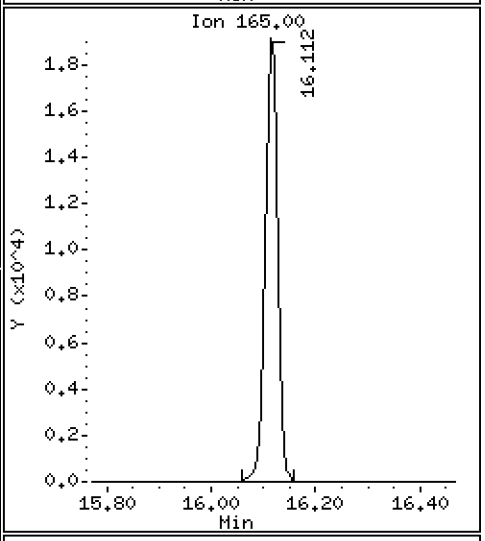
49 Fluorene

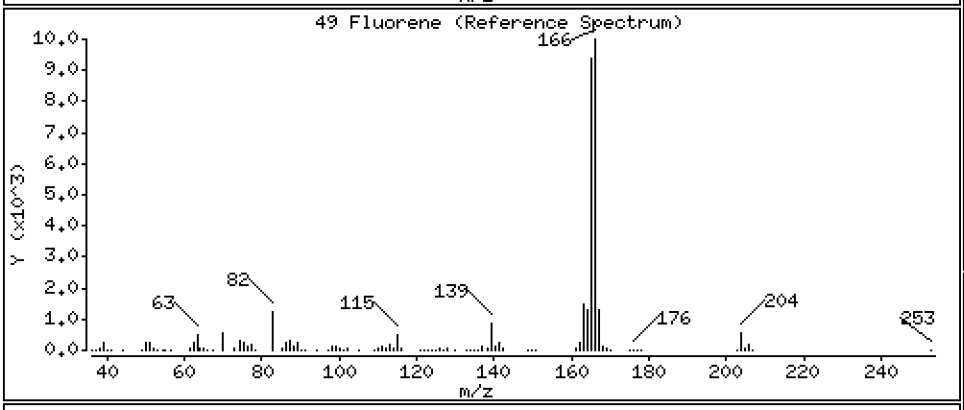
Concentration: 0.1865 ug/mL

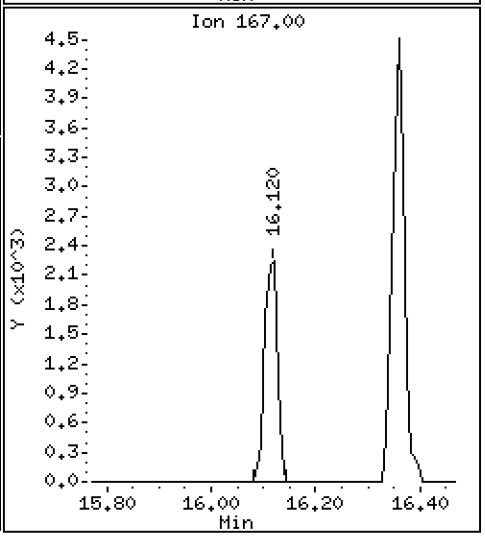


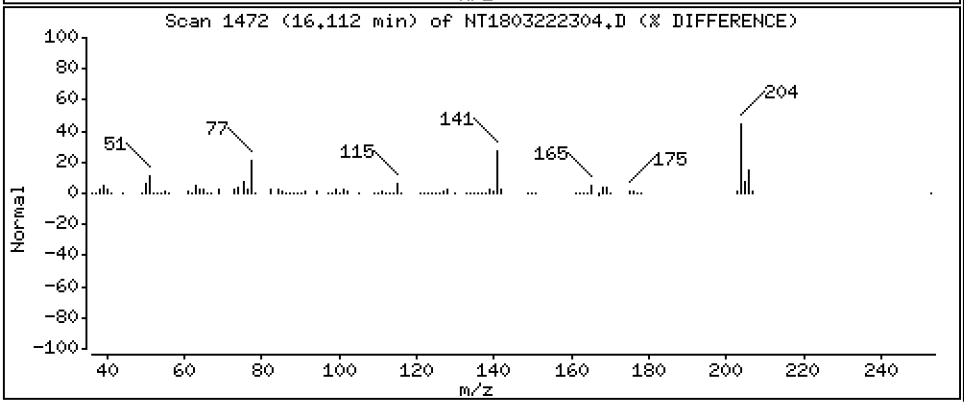












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

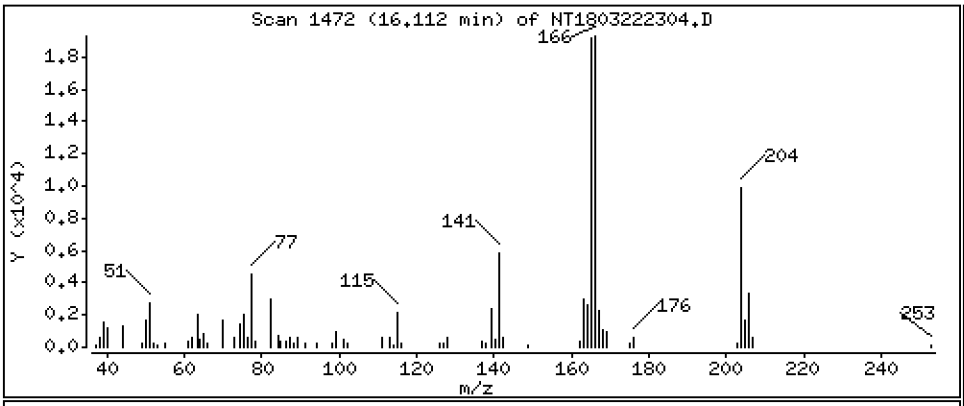
Operator: VTS

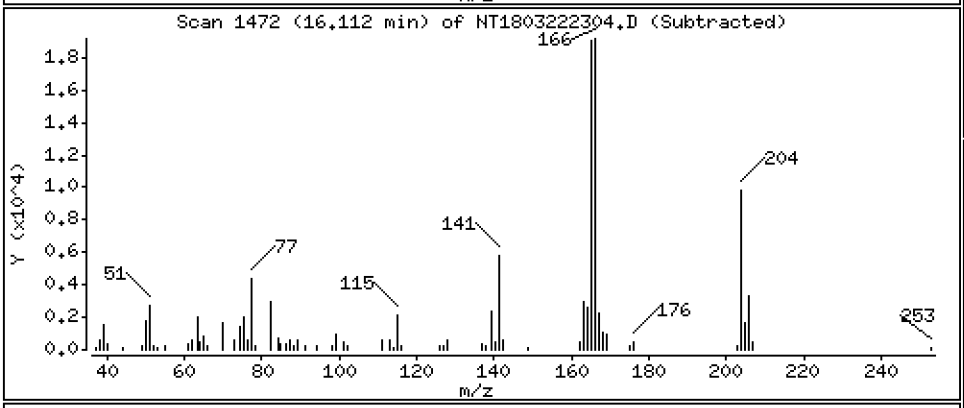
Column phase: ZB-5msi

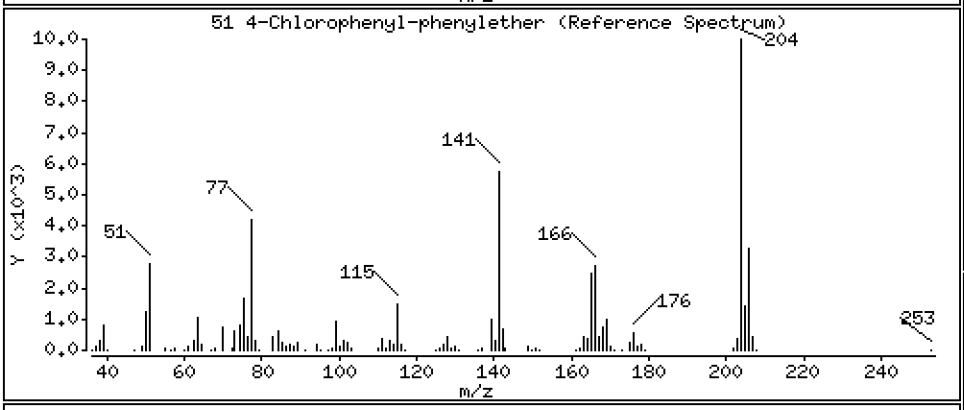
Column diameter: 0.25

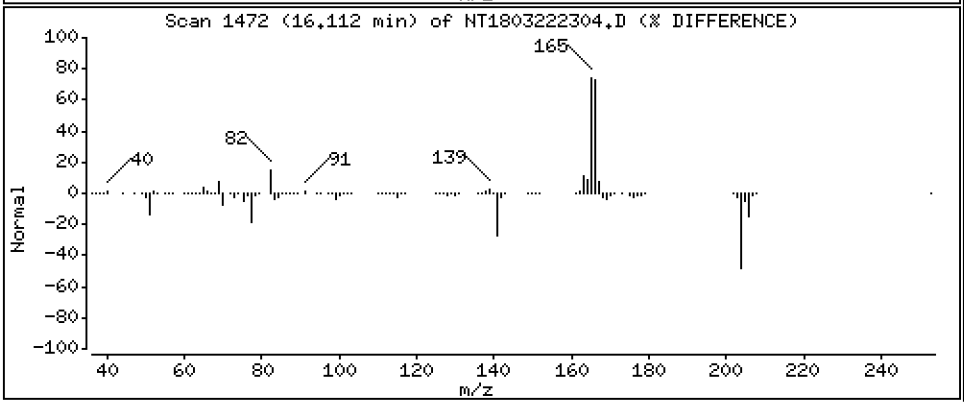
51 4-Chlorophenyl-phenylether

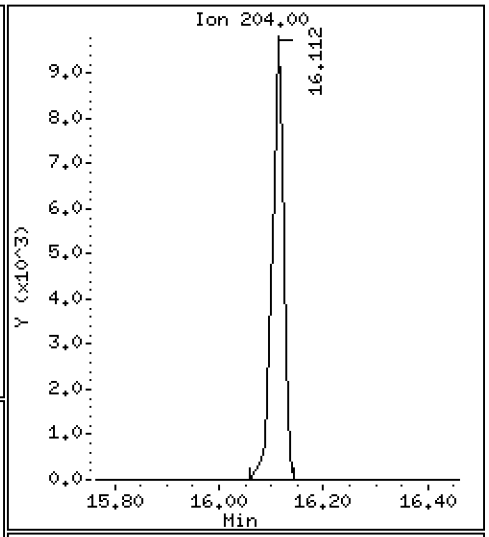
Concentration: 0.2029 ug/mL

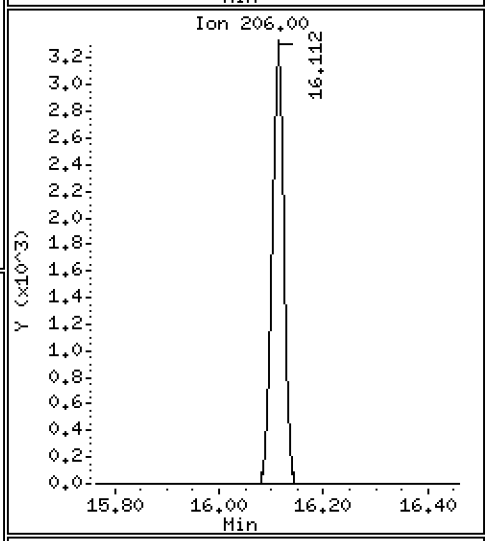


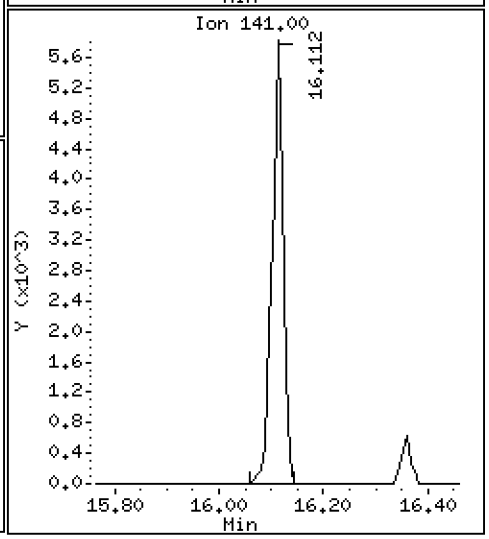












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

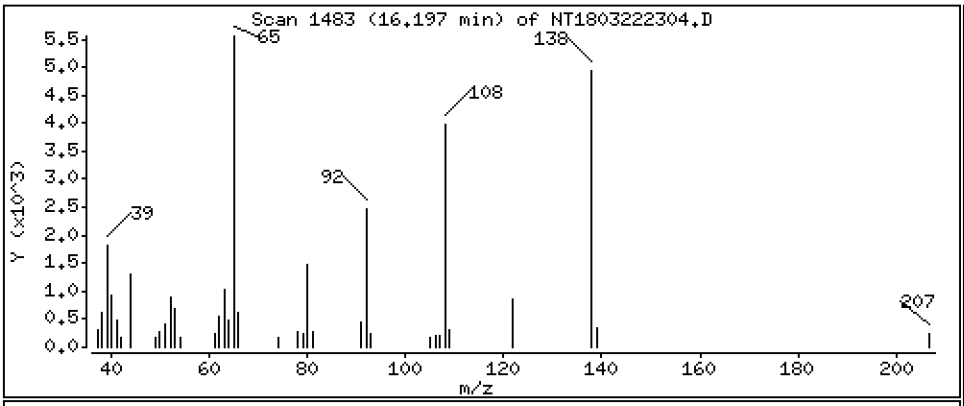
Operator: VTS

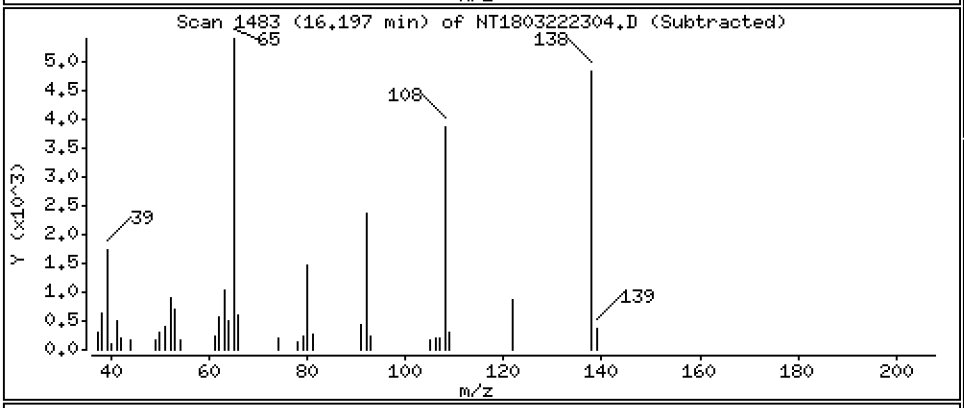
Column phase: ZB-5msi

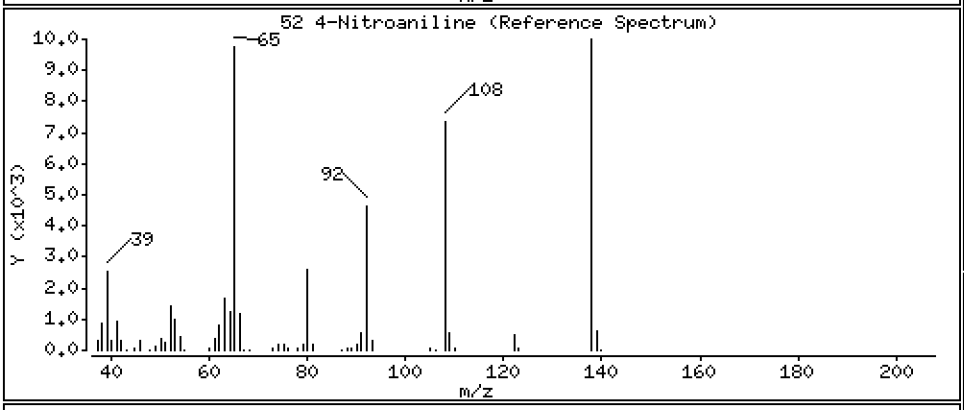
Column diameter: 0.25

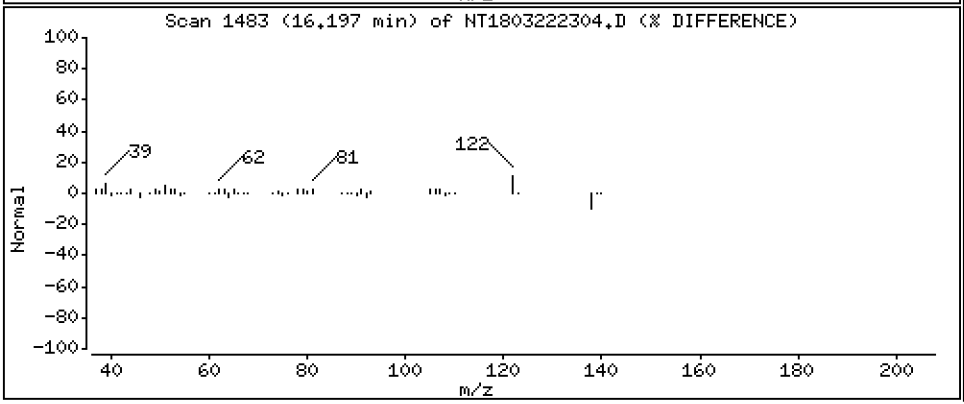
52 4-Nitroaniline

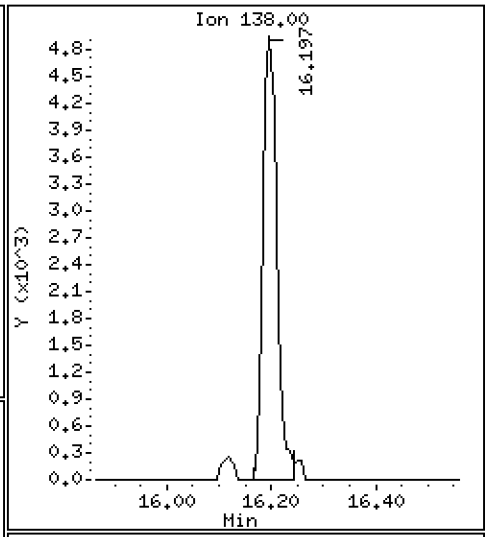
Concentration: 0.2261 ug/mL

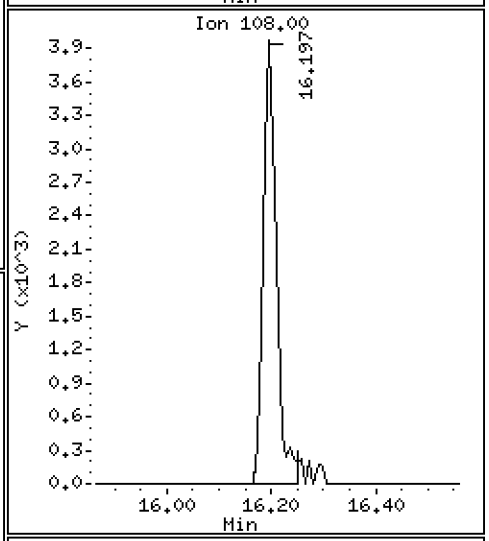


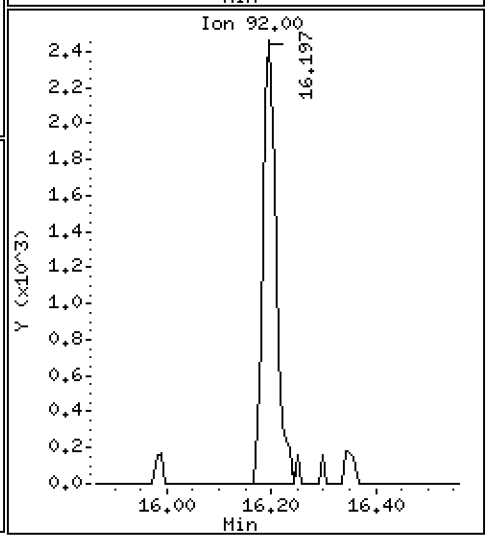












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

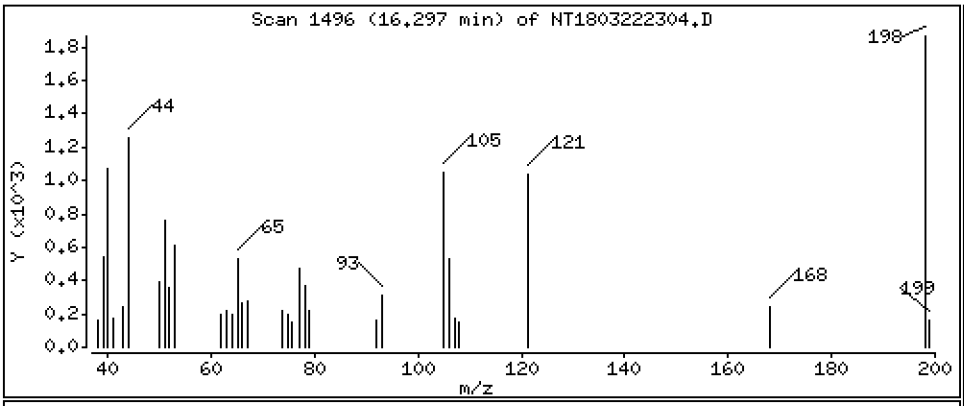
Operator: VTS

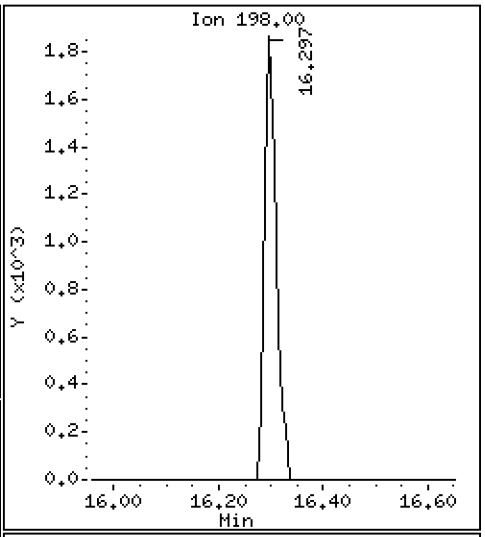
Column phase: ZB-5msi

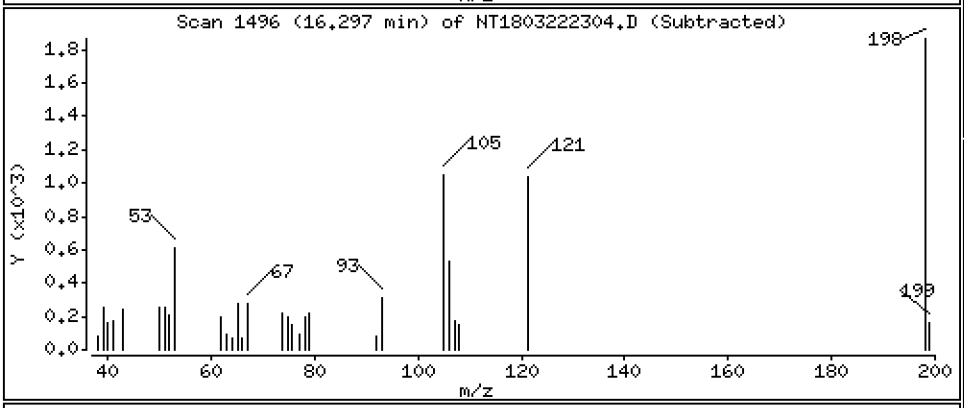
Column diameter: 0.25

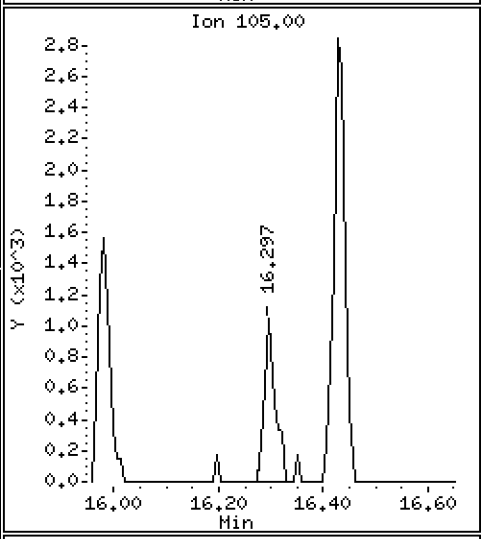
53 4,6-Dinitro-2-methylphenol

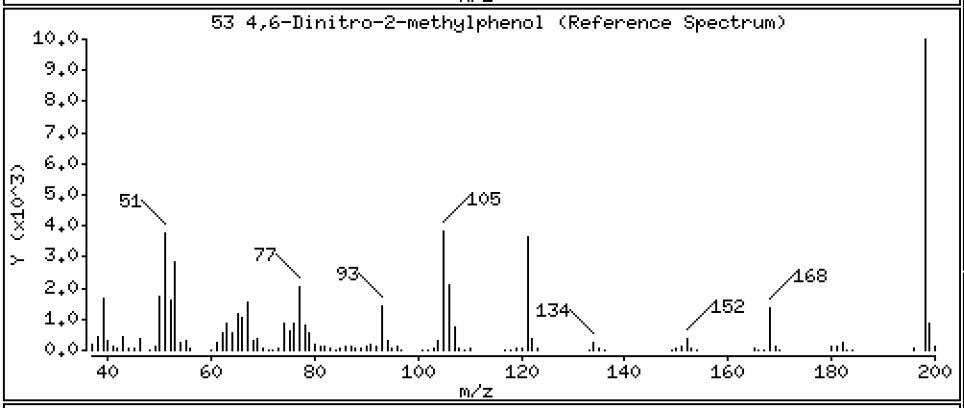
Concentration: 0.1111 ug/mL

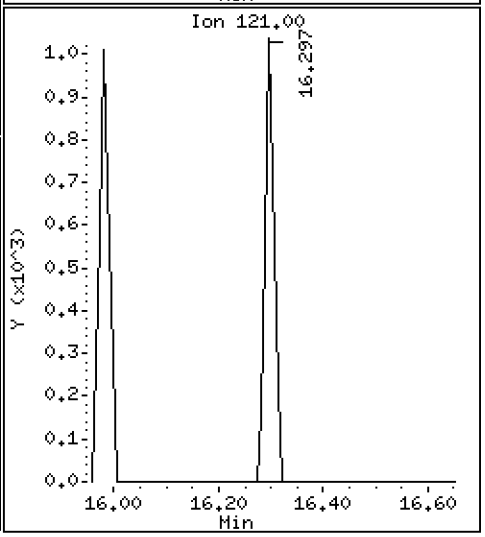


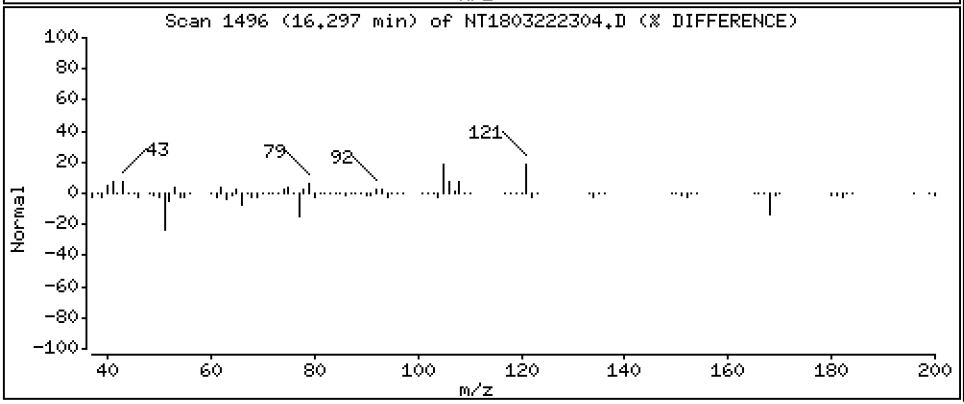












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

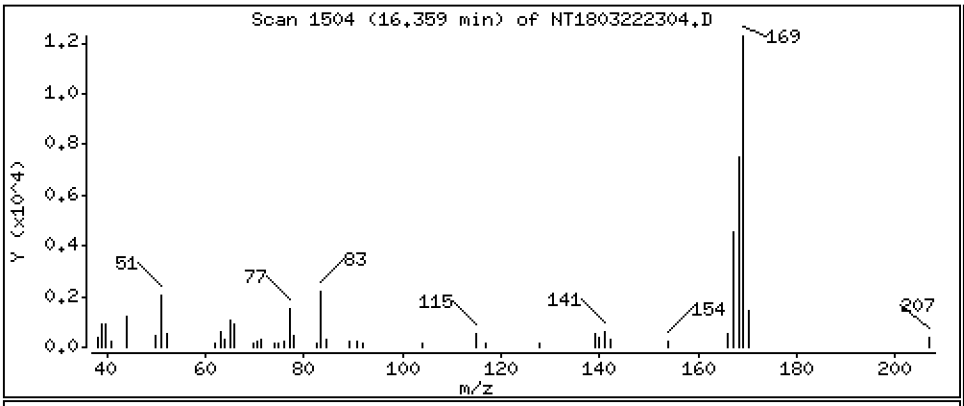
Operator: VTS

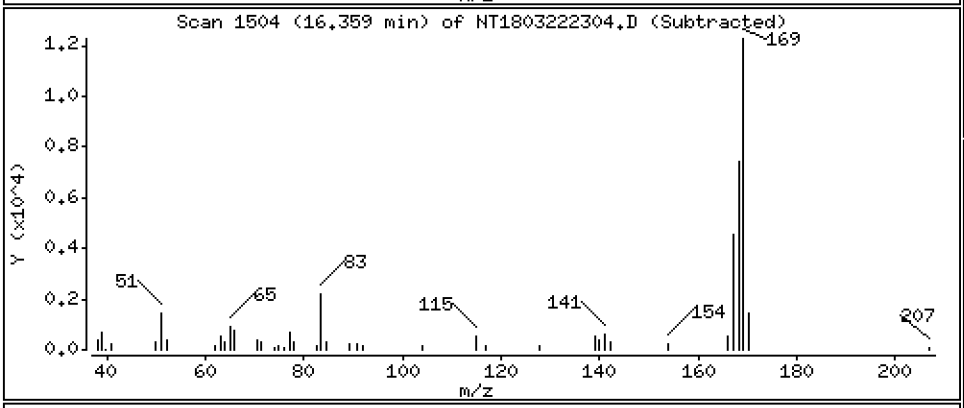
Column phase: ZB-5msi

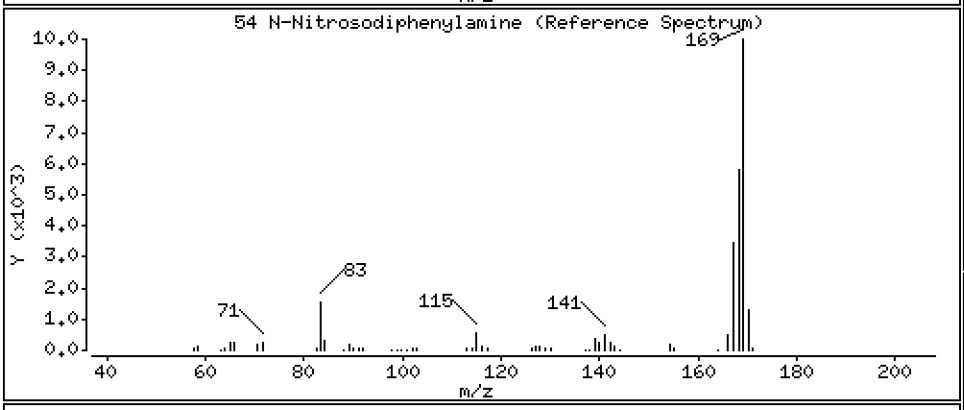
Column diameter: 0.25

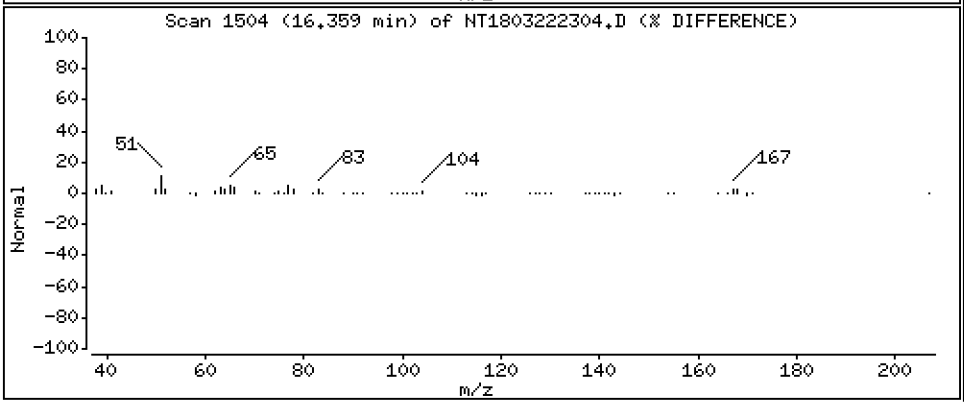
54 N-Nitrosodiphenylamine

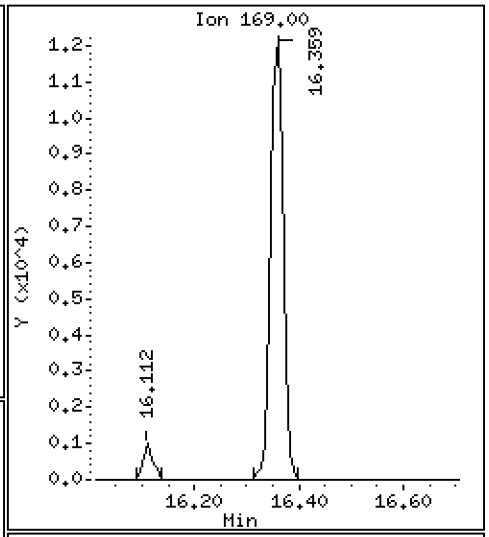
Concentration: 0.1740 ug/mL

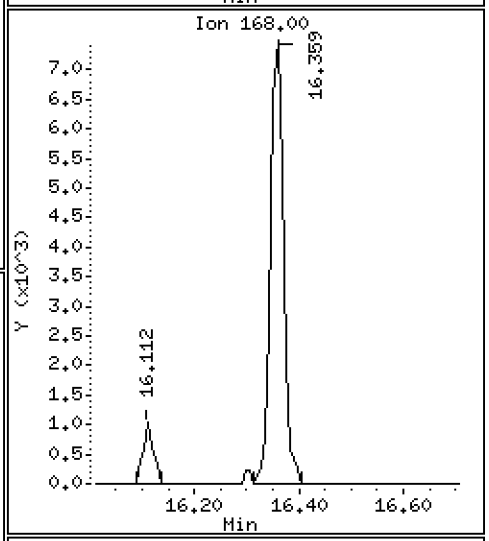


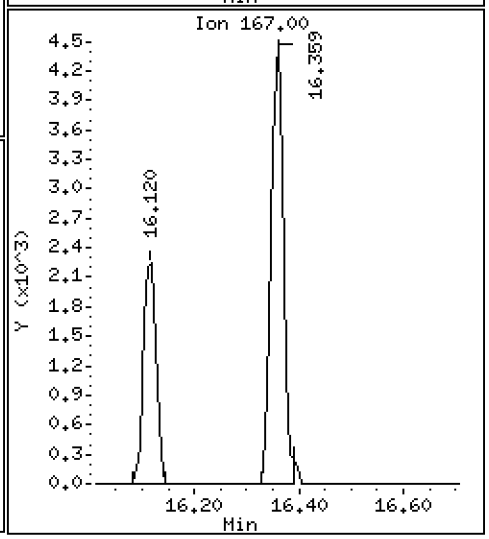












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

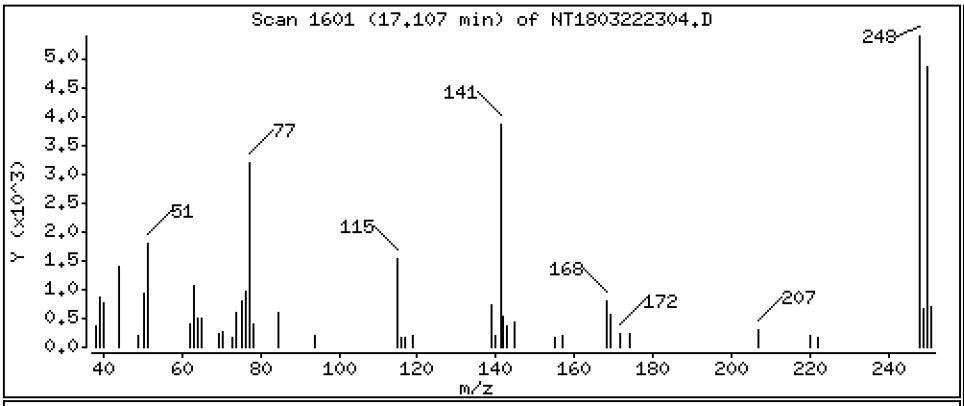
Operator: VTS

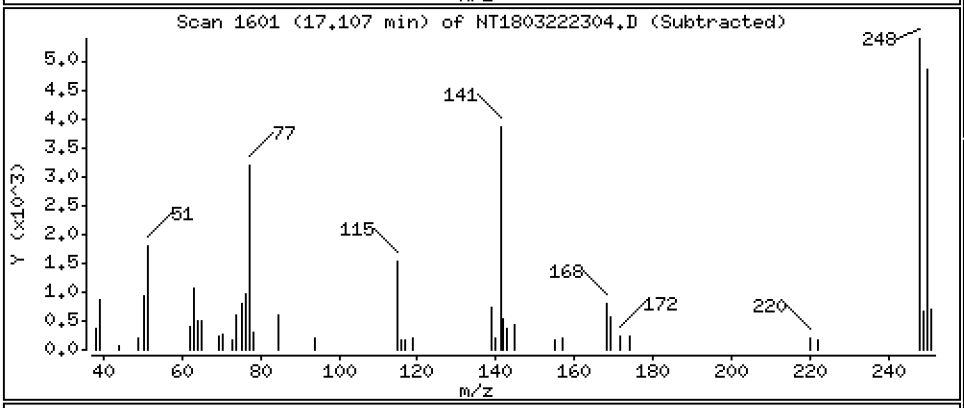
Column phase: ZB-5msi

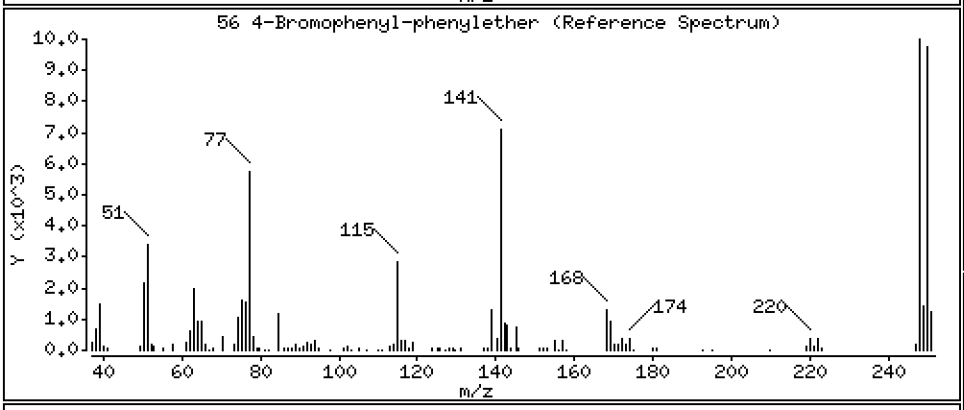
Column diameter: 0.25

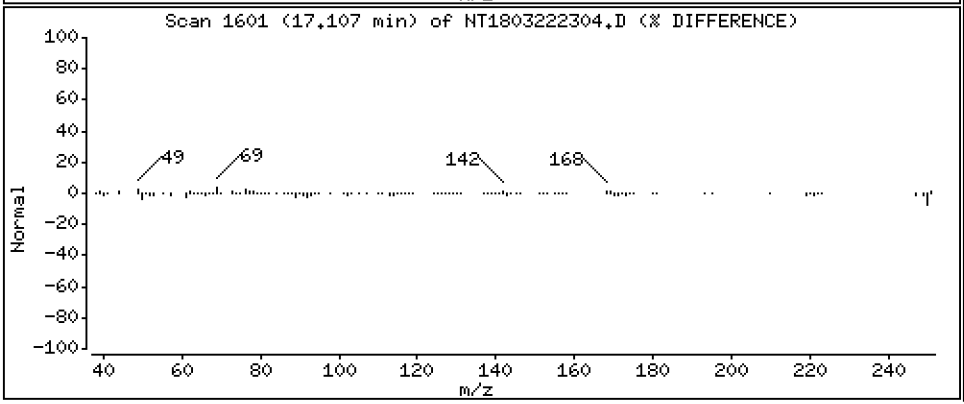
56 4-Bromophenyl-phenylether

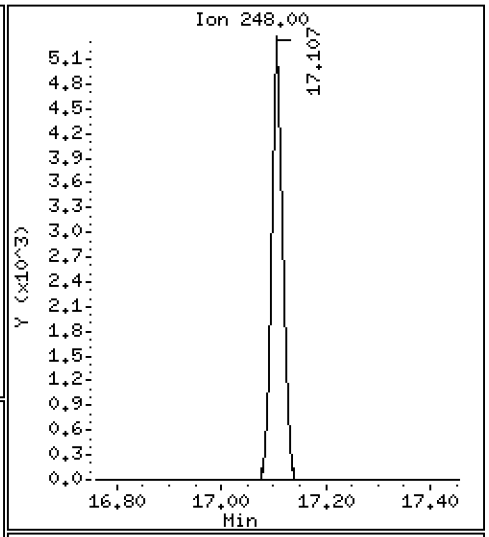
Concentration: 0.1707 ug/mL

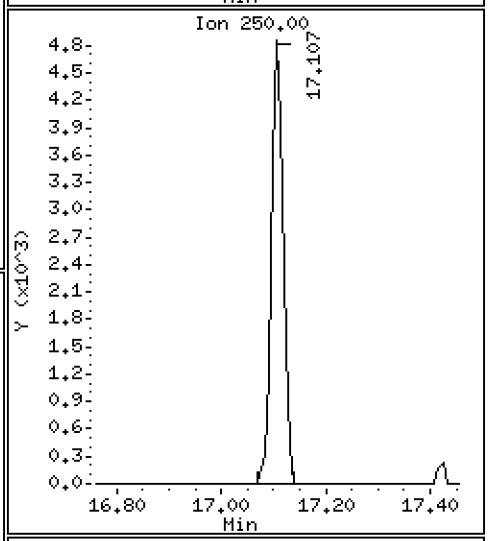


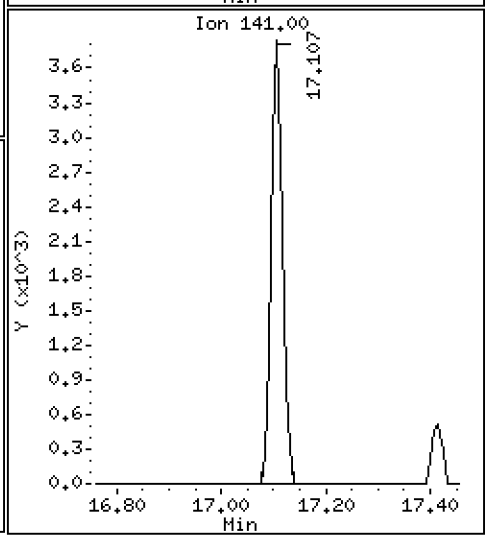












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

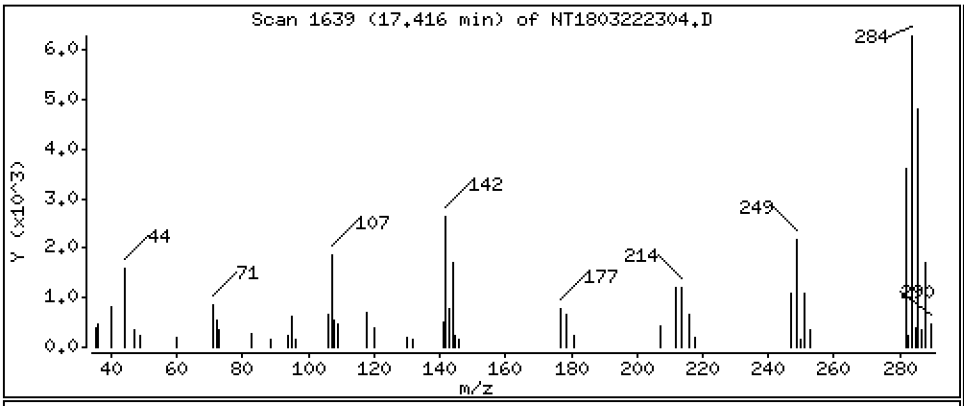
Operator: VTS

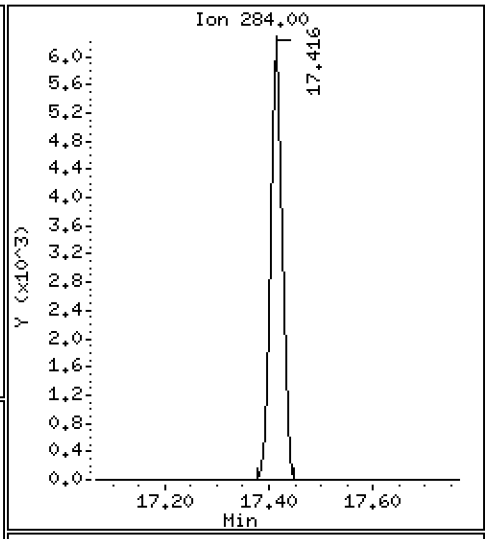
Column phase: ZB-5msi

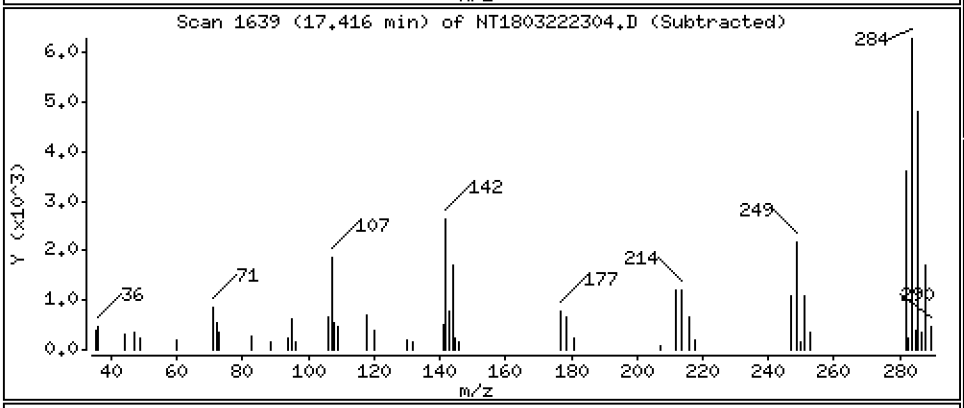
Column diameter: 0.25

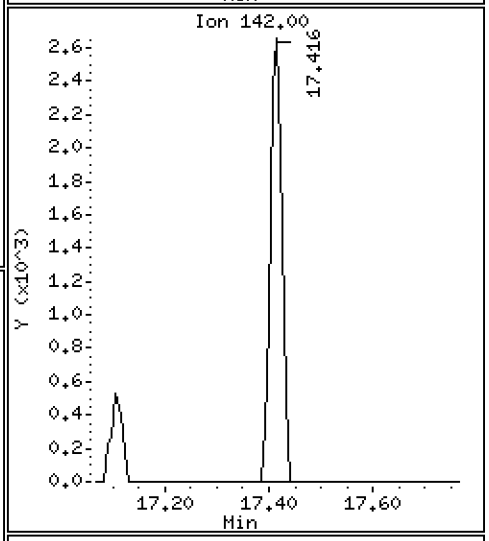
57 Hexachlorobenzene

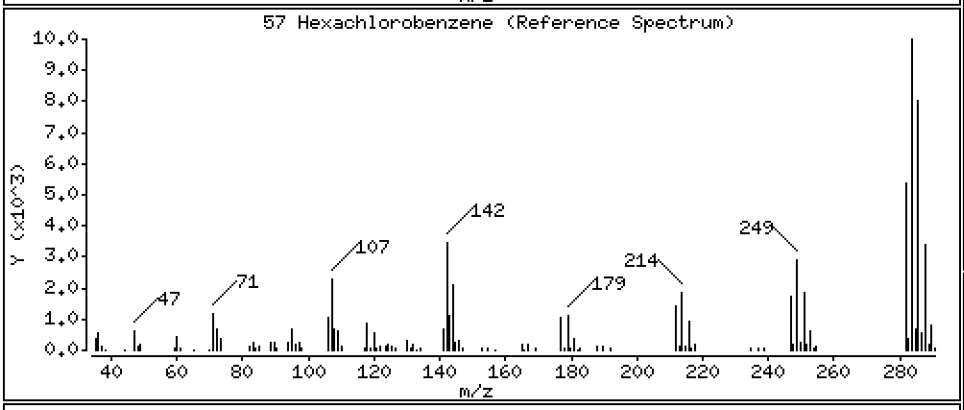
Concentration: 0.1908 ug/mL

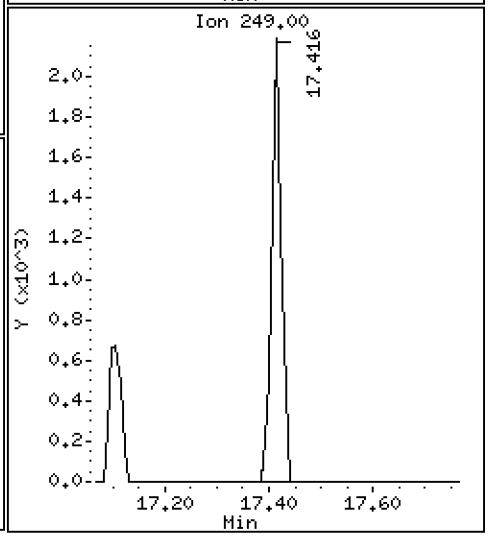


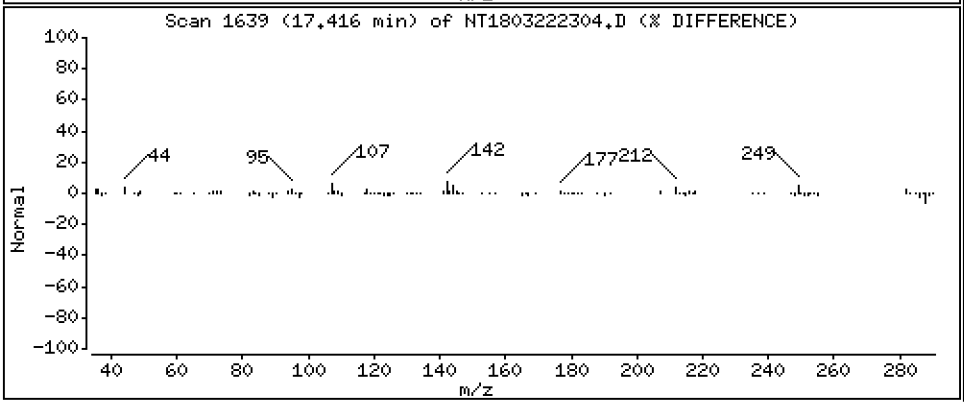












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

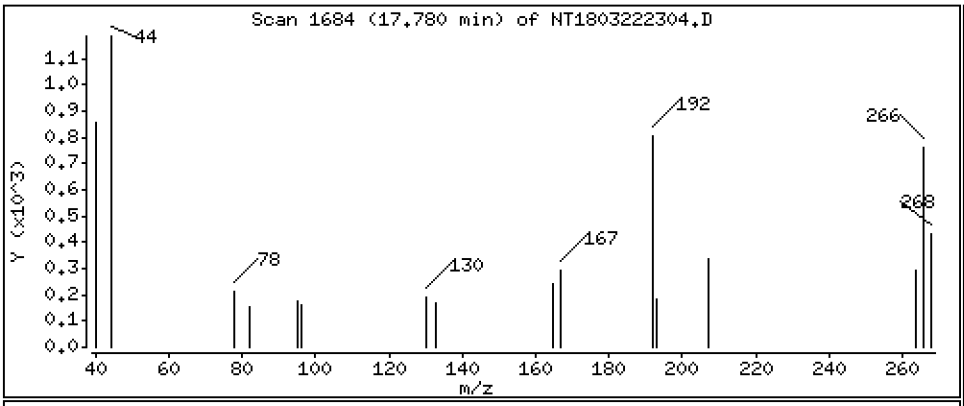
Operator: VTS

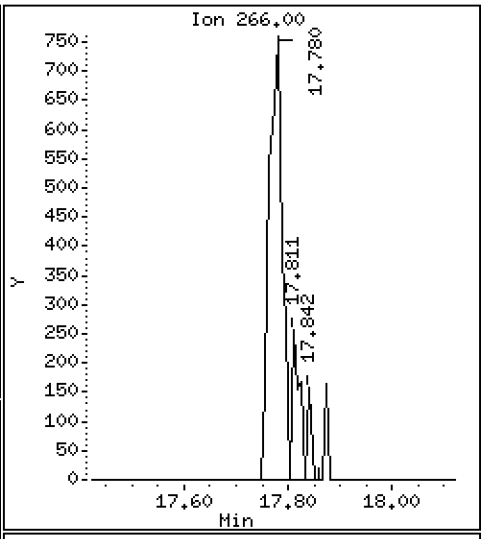
Column phase: ZB-5msi

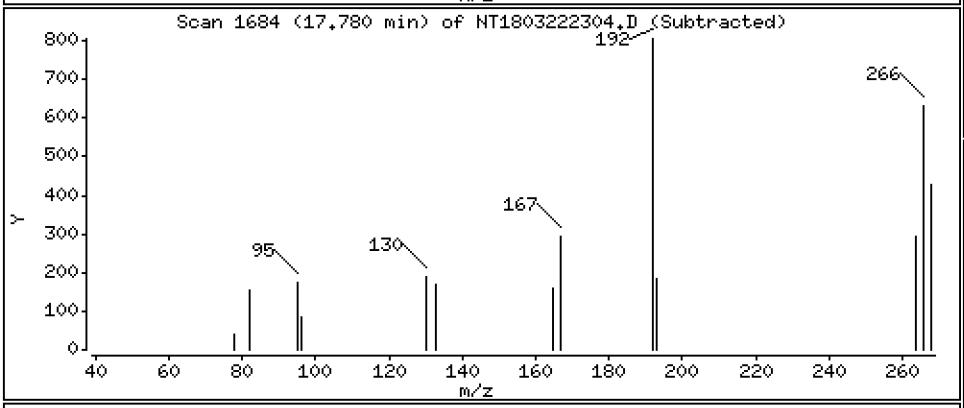
Column diameter: 0.25

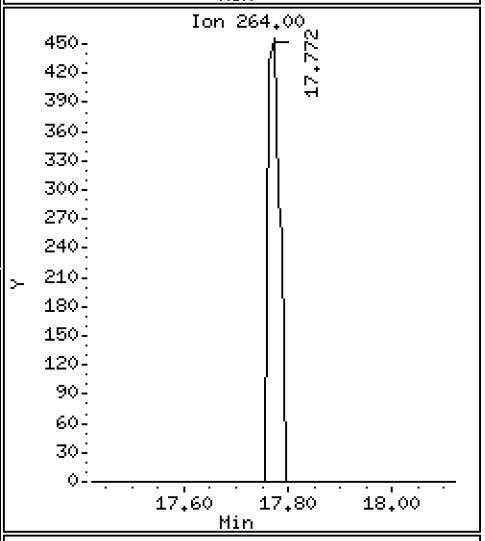
58 Pentachlorophenol

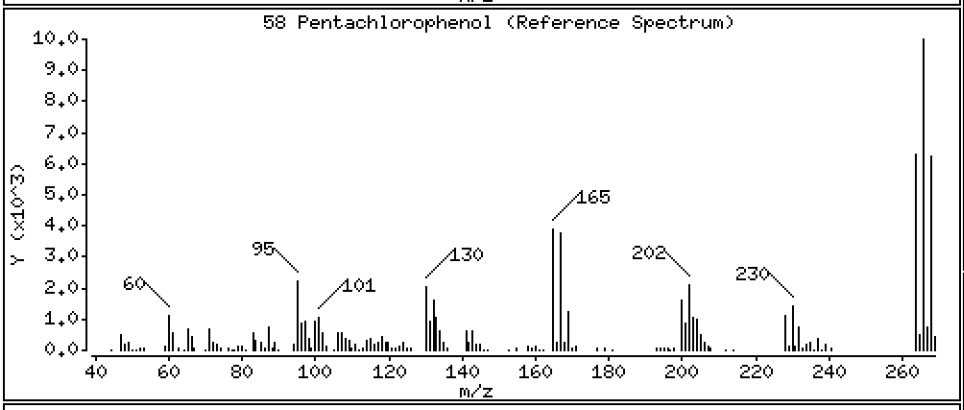
Concentration: 0.04350 ug/mL

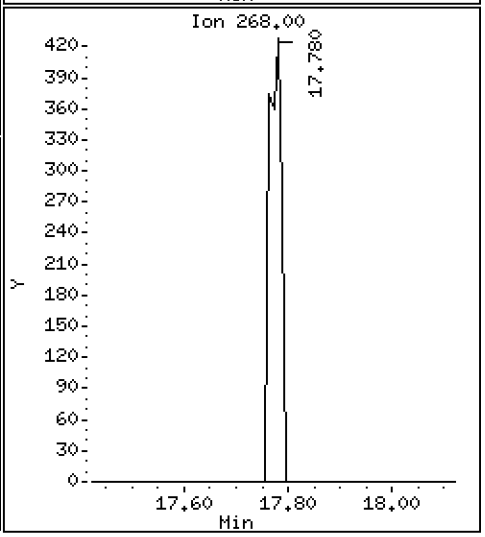


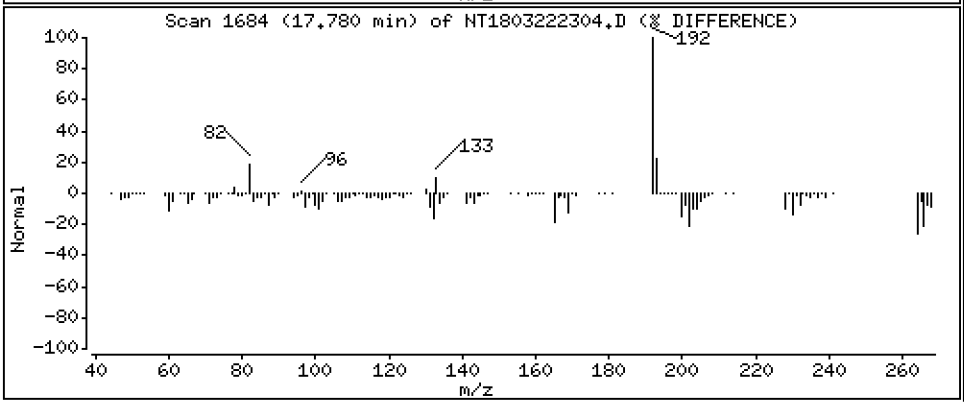












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

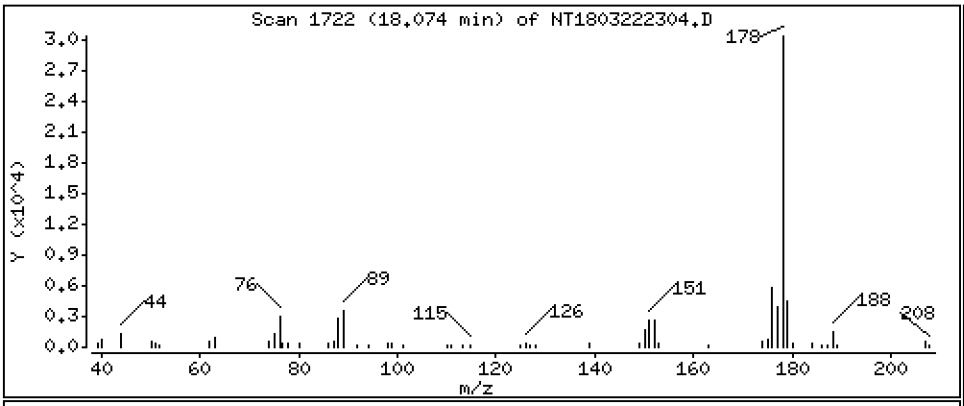
Operator: VTS

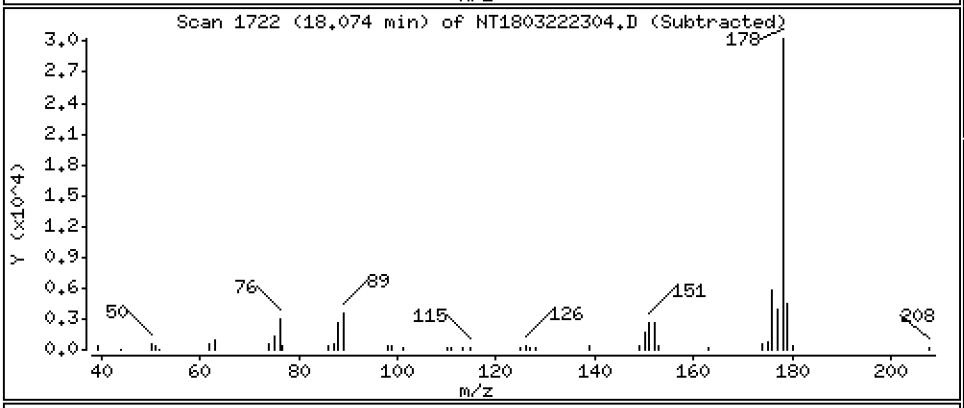
Column phase: ZB-5msi

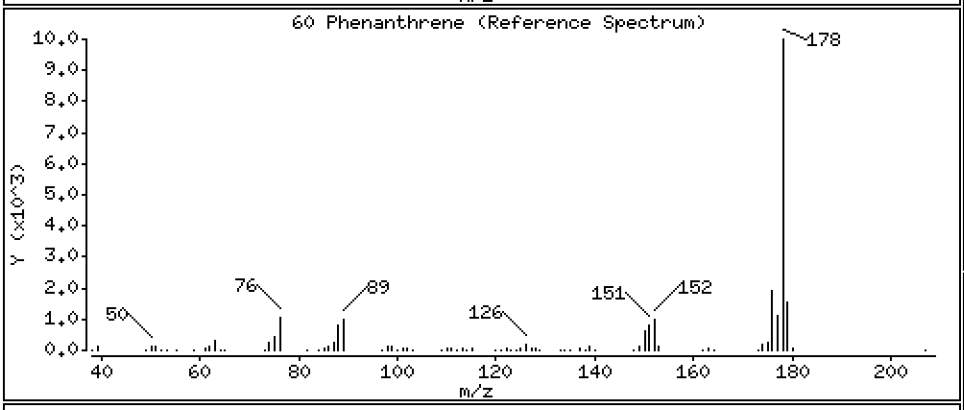
Column diameter: 0.25

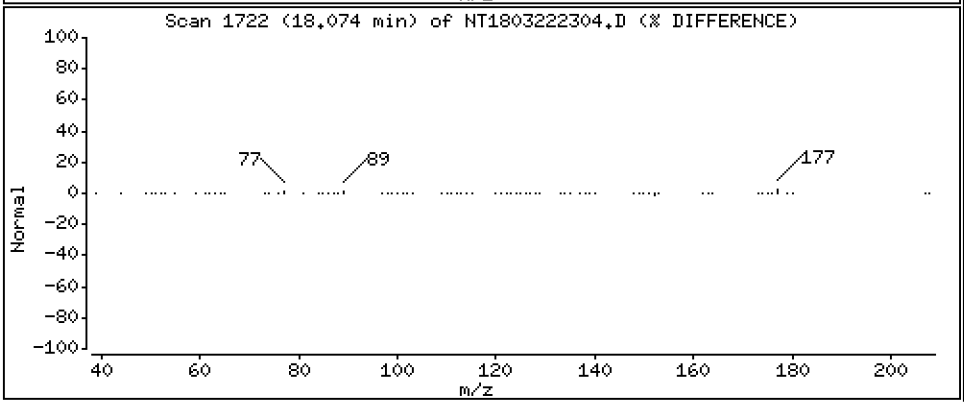
60 Phenanthrene

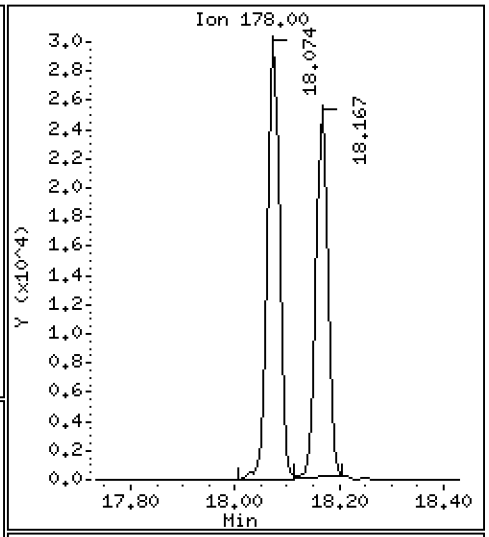
Concentration: 0.1944 ug/mL

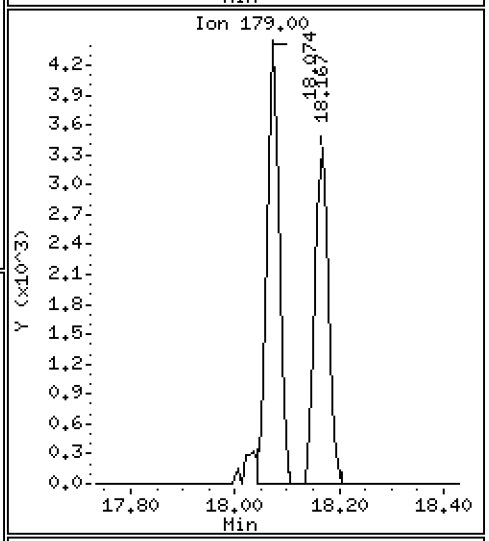


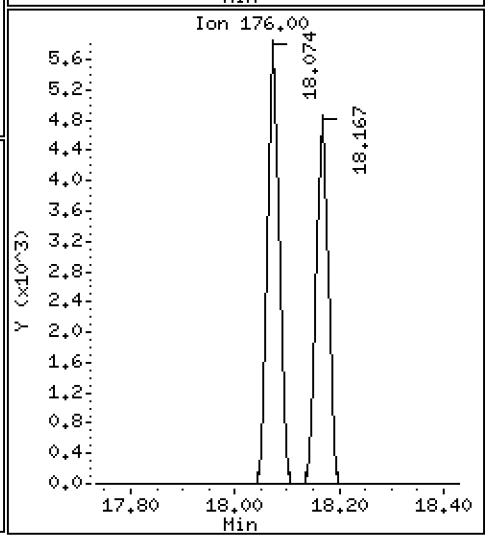












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

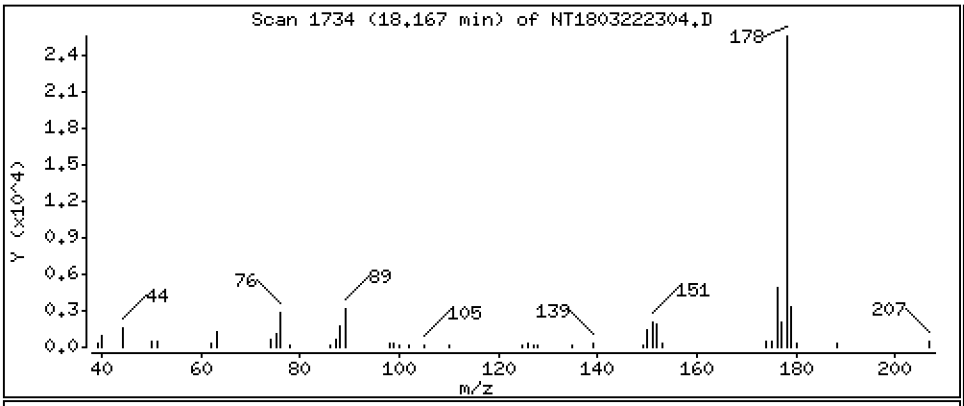
Operator: VTS

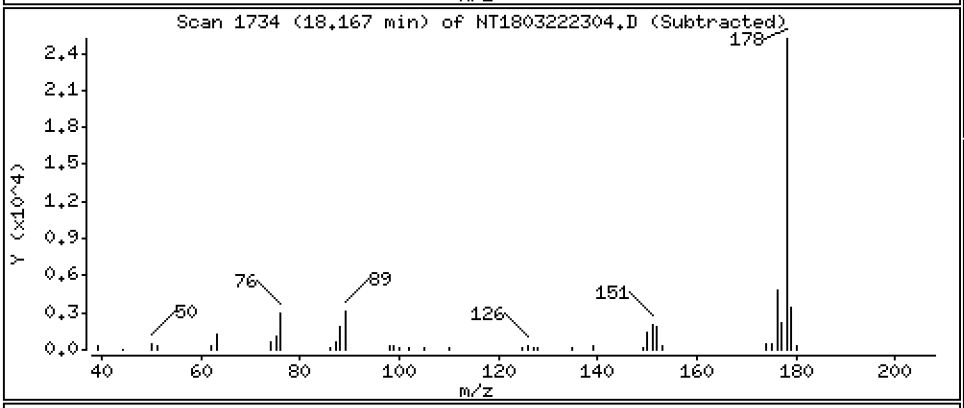
Column phase: ZB-5msi

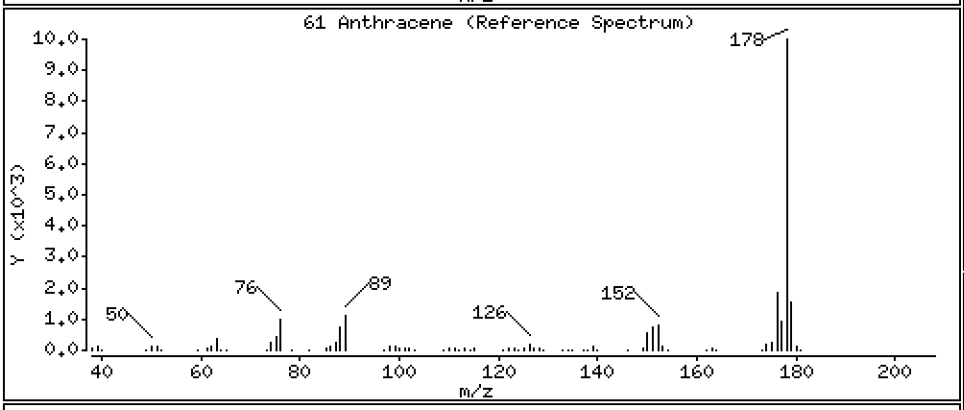
Column diameter: 0.25

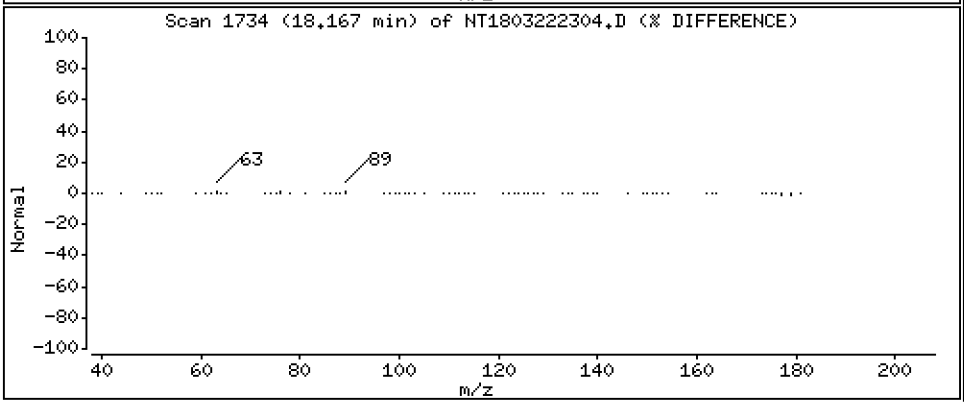
61 Anthracene

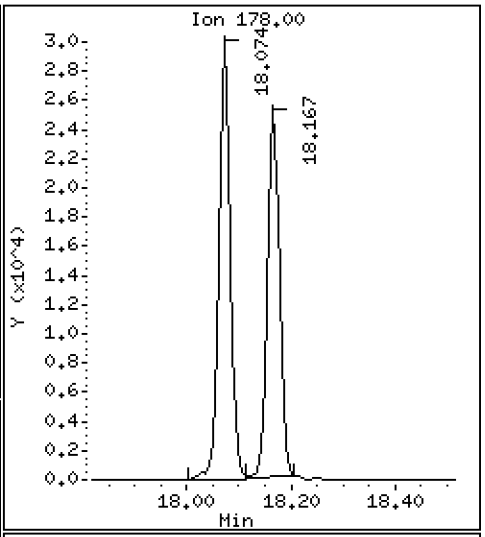
Concentration: 0.1657 ug/mL

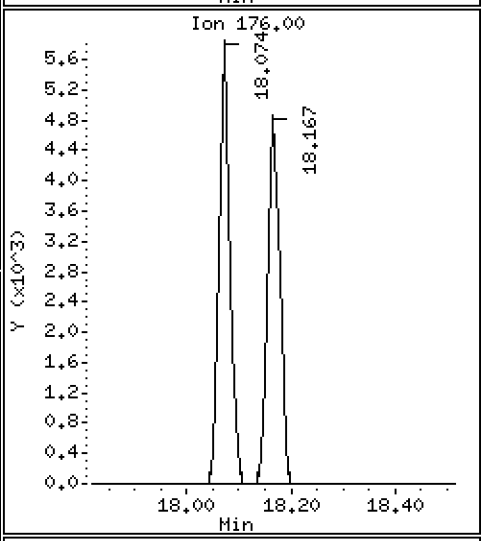


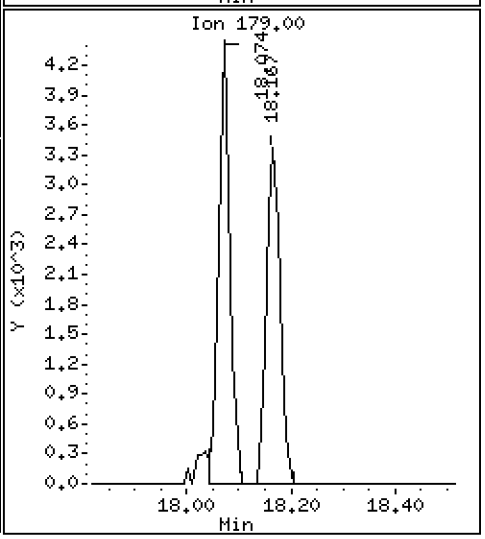












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

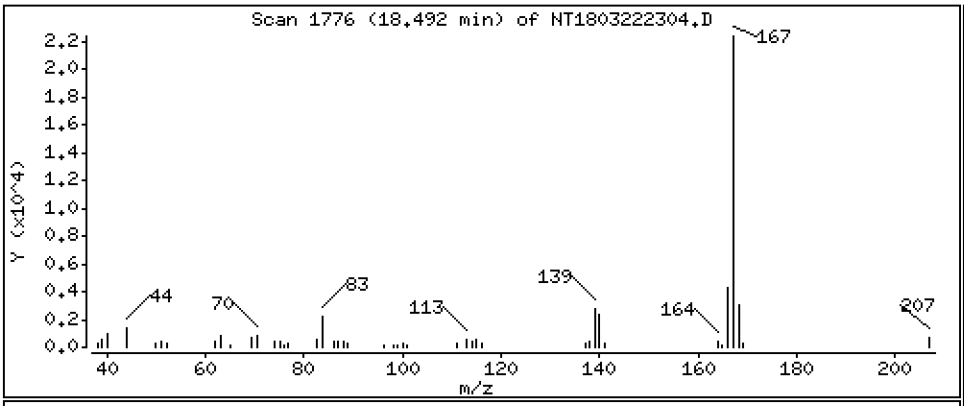
Operator: VTS

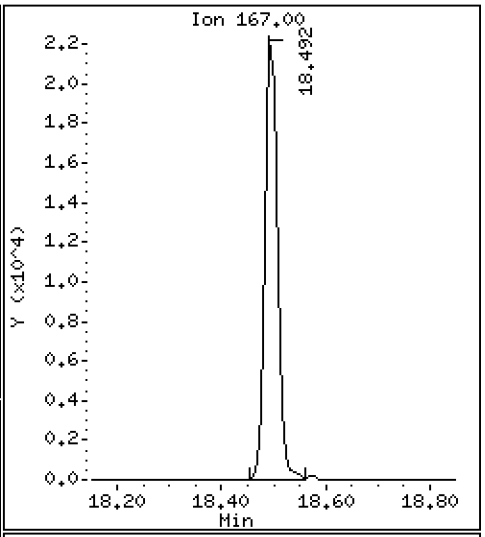
Column phase: ZB-5msi

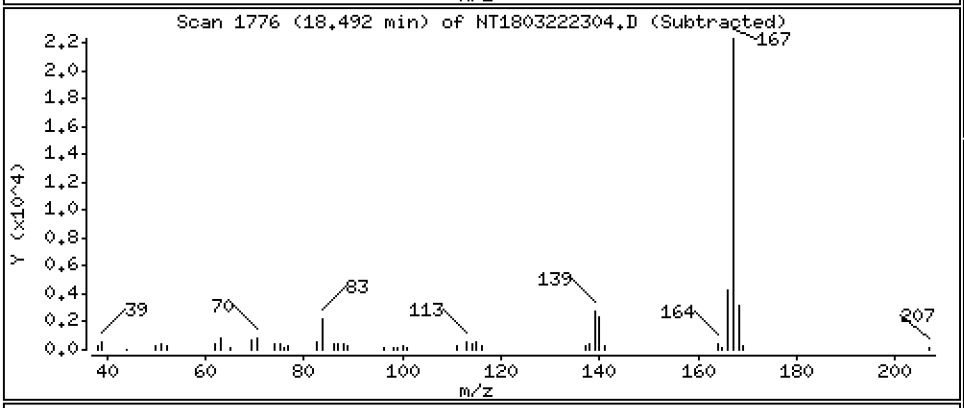
Column diameter: 0.25

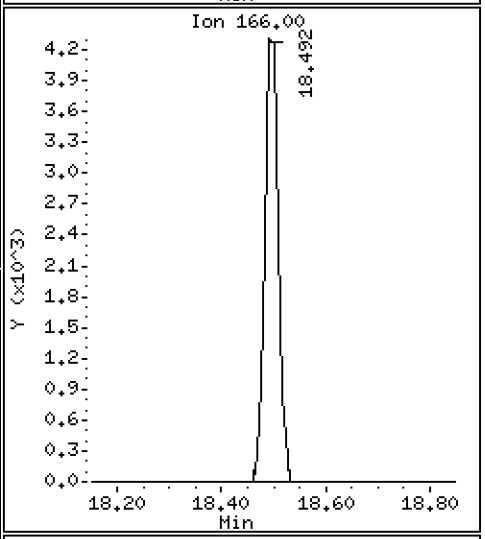
62 Carbazole

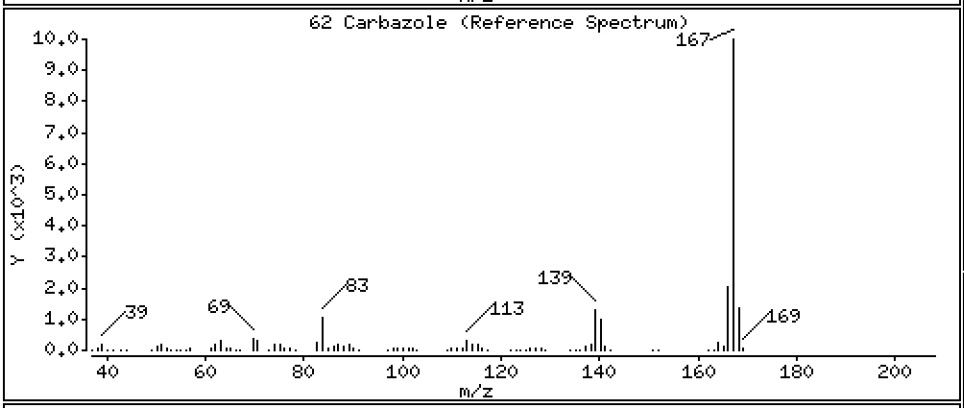
Concentration: 0.1741 ug/mL

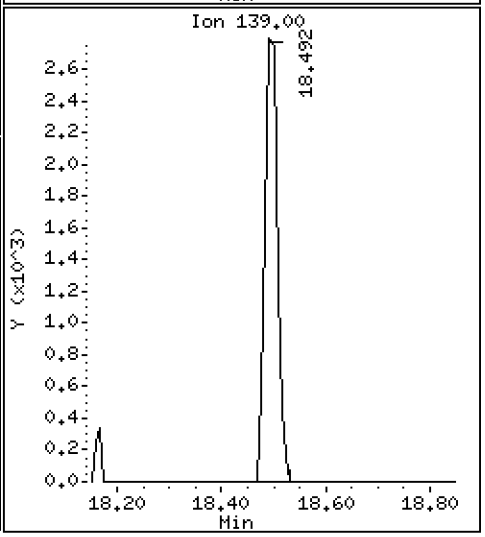


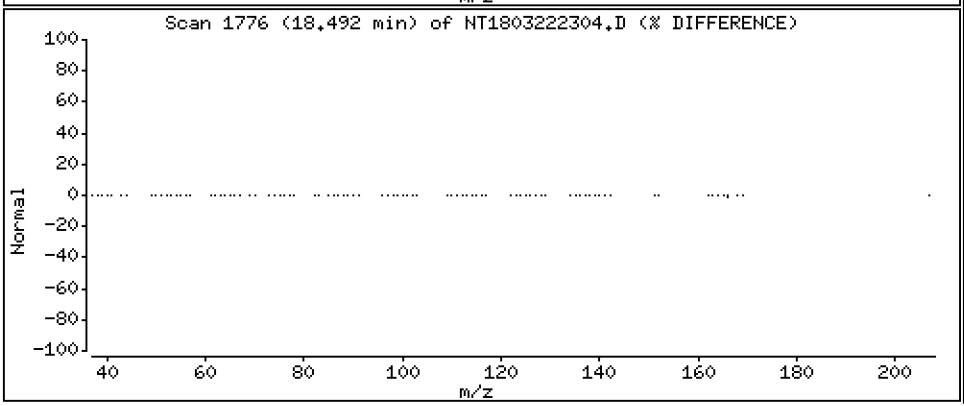












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

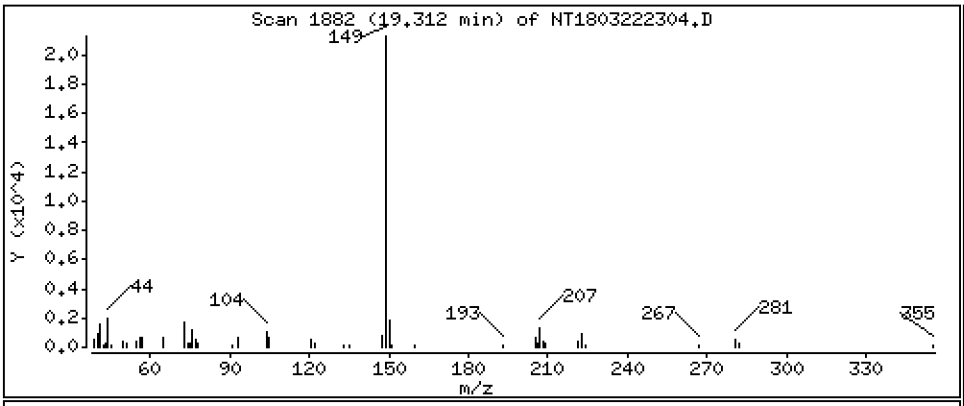
Operator: VTS

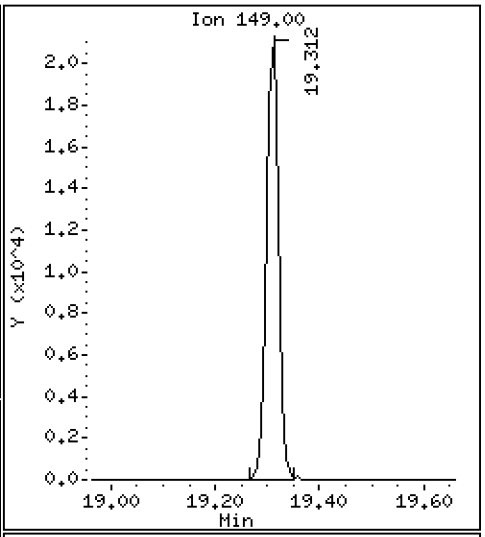
Column phase: ZB-5msi

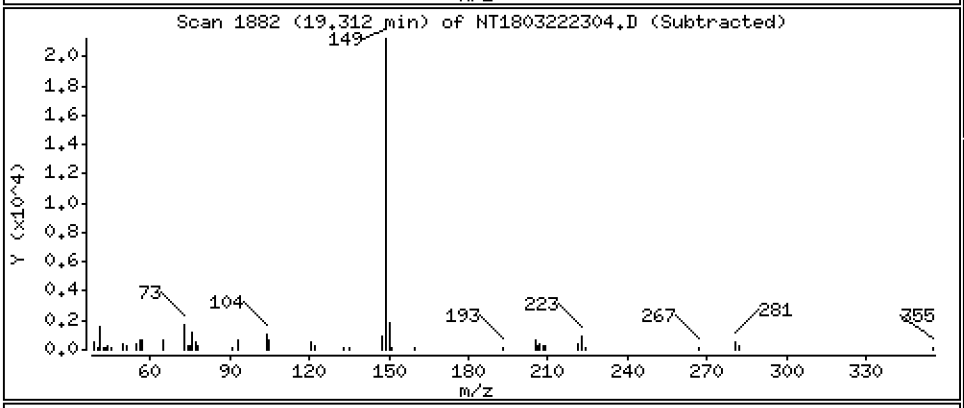
Column diameter: 0.25

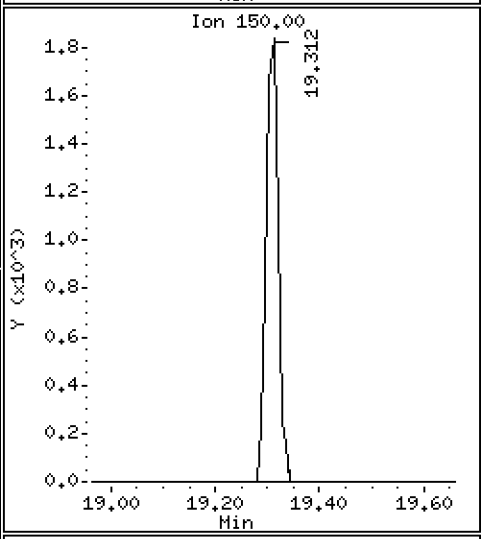
63 Di-n-butylphthalate

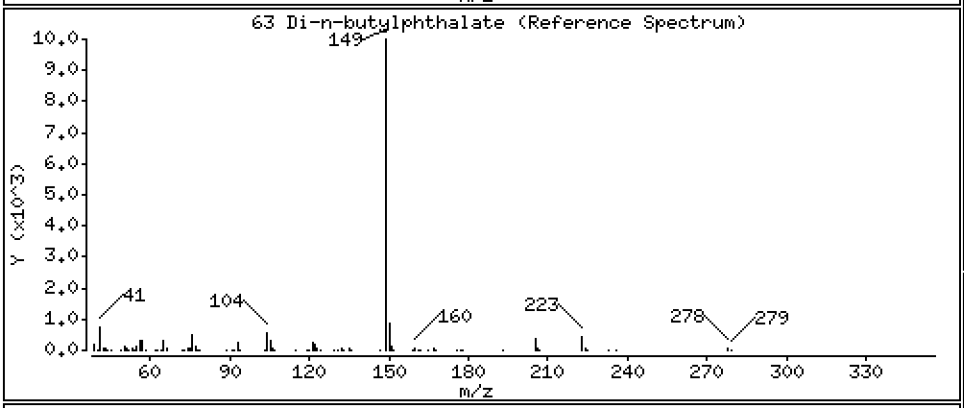
Concentration: 0.1199 ug/mL

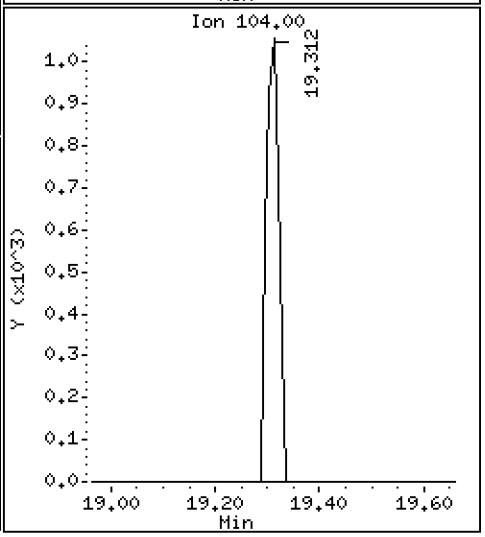


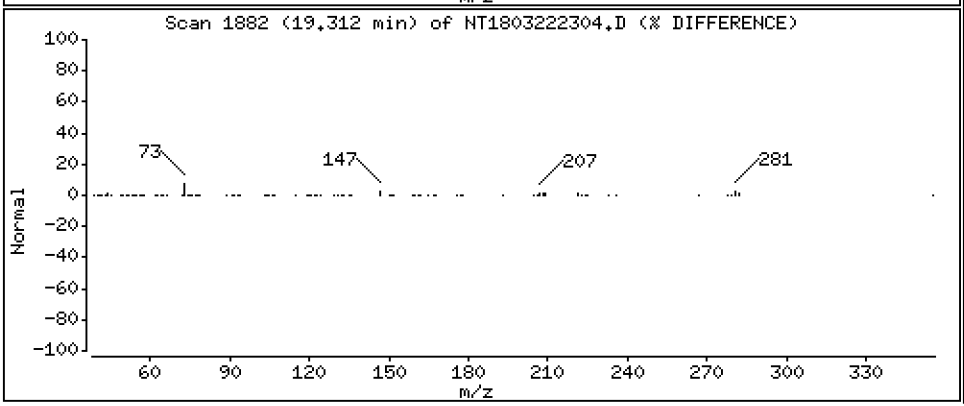












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

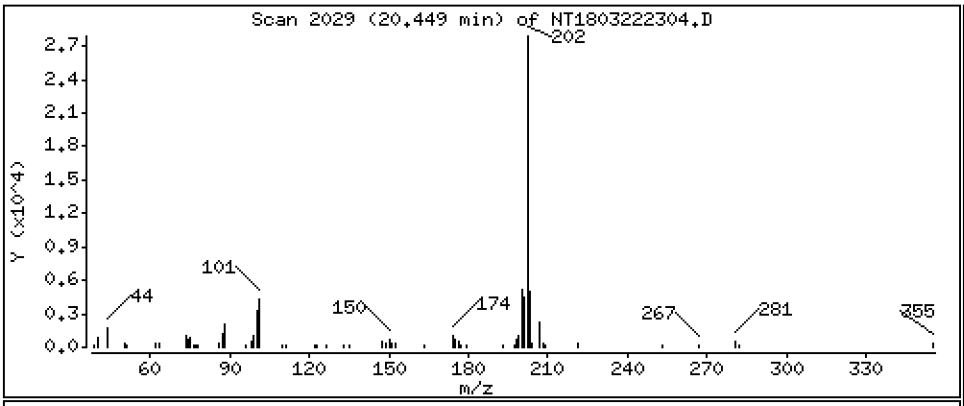
Operator: VTS

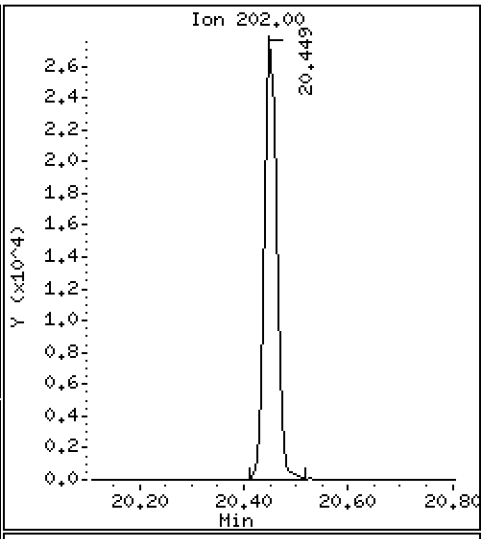
Column phase: ZB-5msi

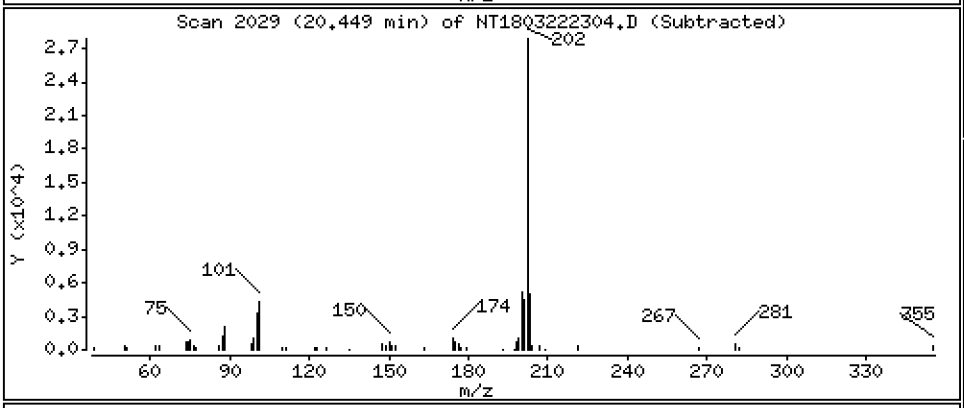
Column diameter: 0.25

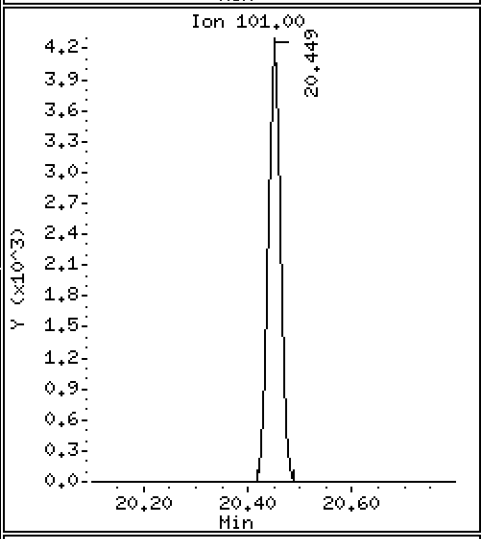
64 Fluoranthene

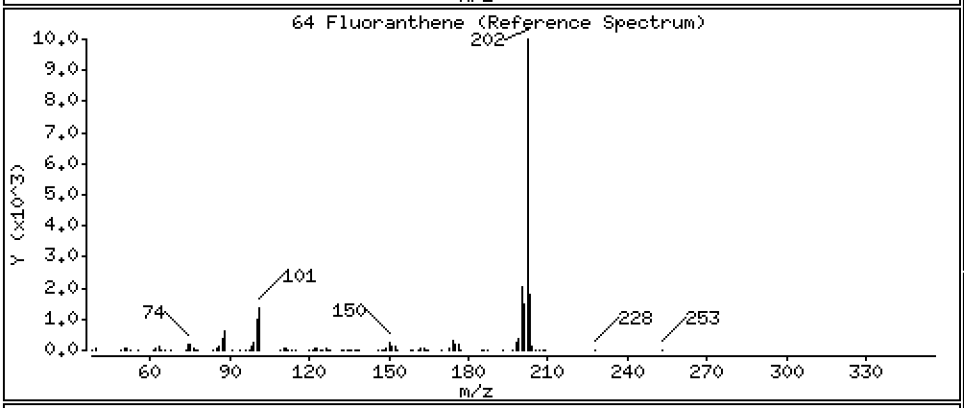
Concentration: 0.1717 ug/mL

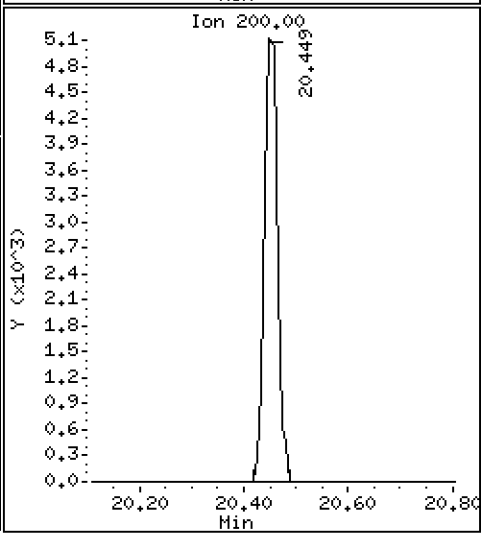


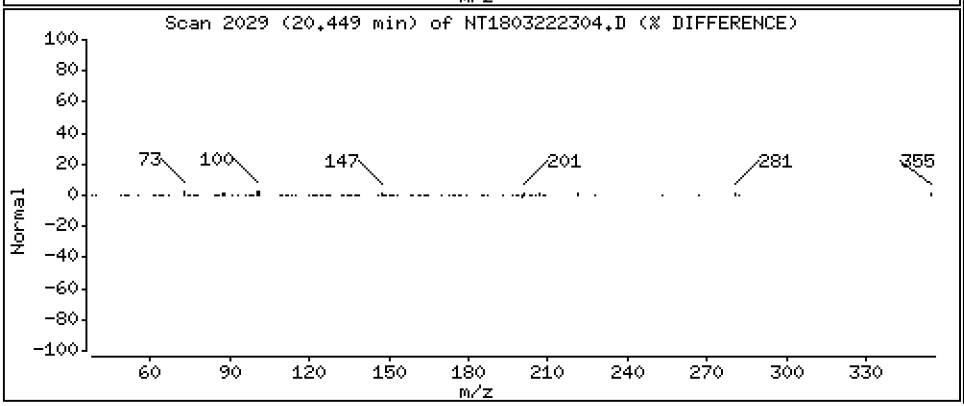












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

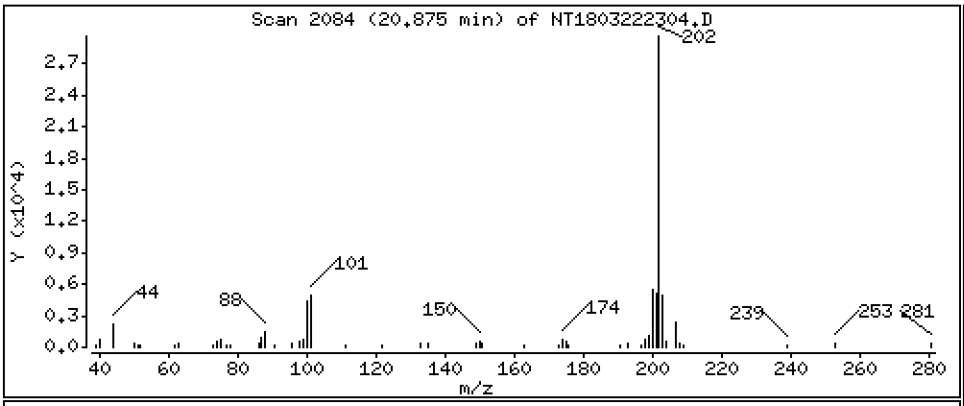
Operator: VTS

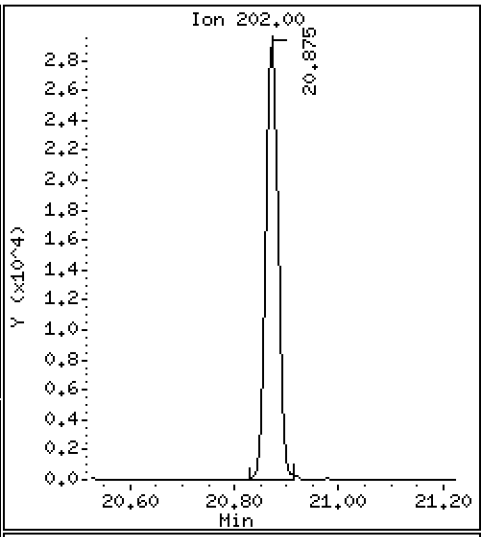
Column phase: ZB-5msi

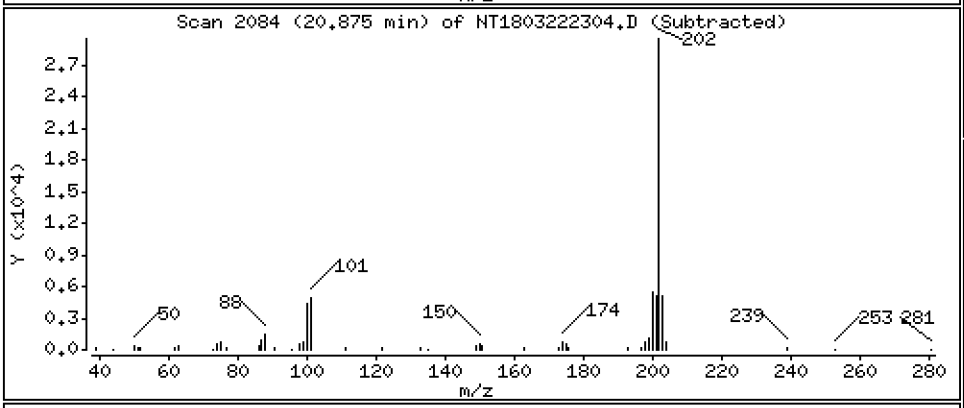
Column diameter: 0.25

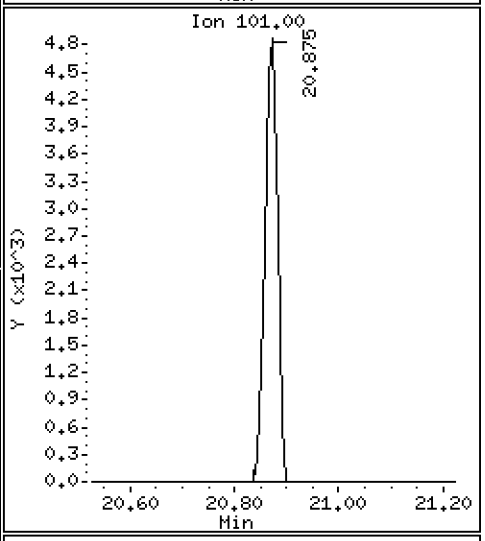
65 Pyrene

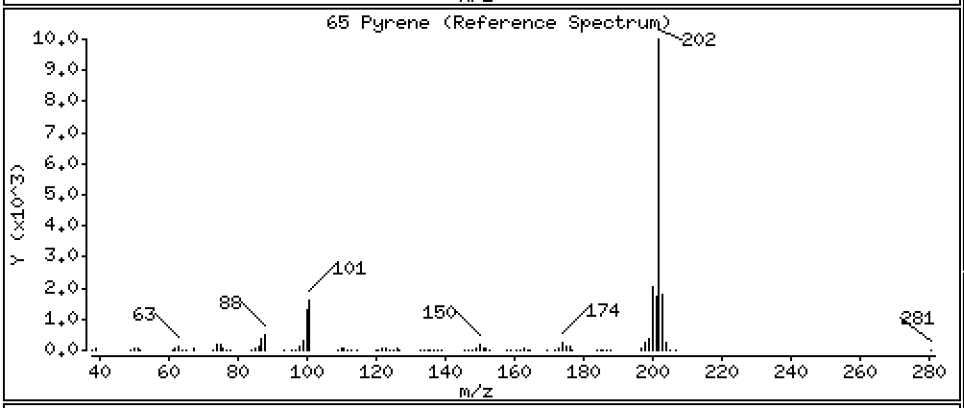
Concentration: 0.1736 ug/mL

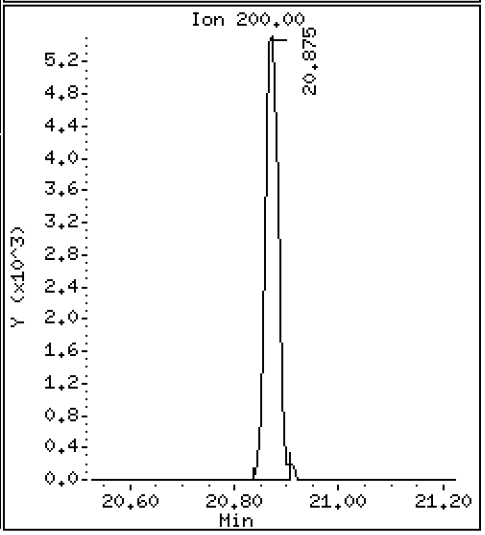


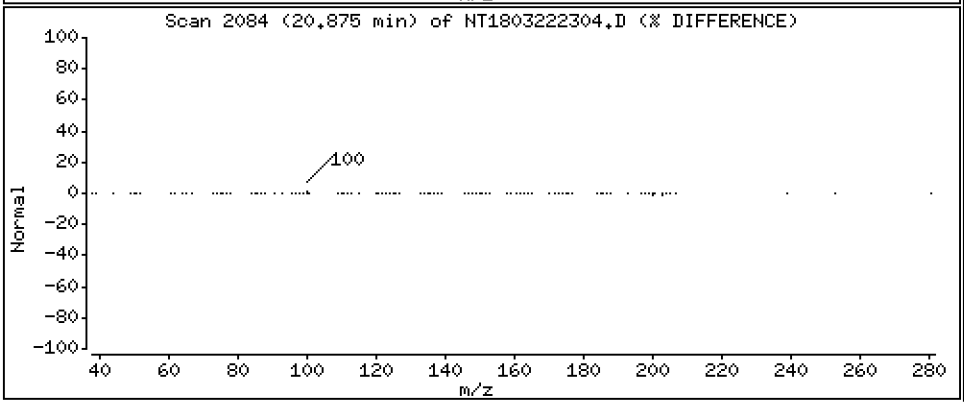












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

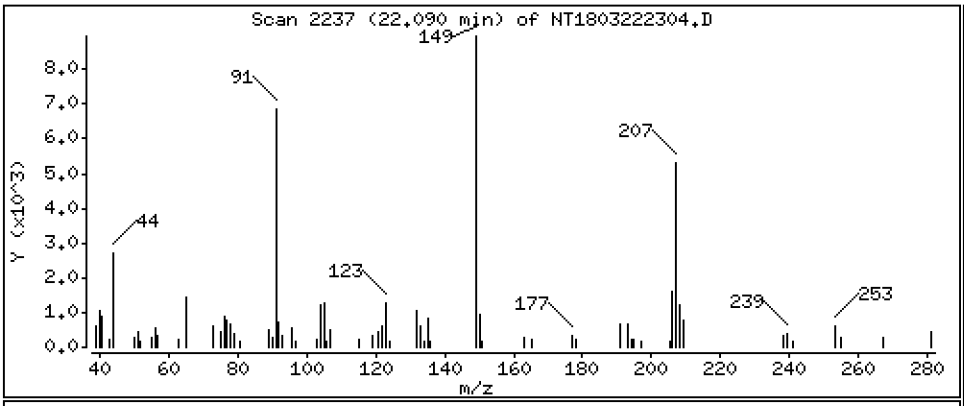
Operator: VTS

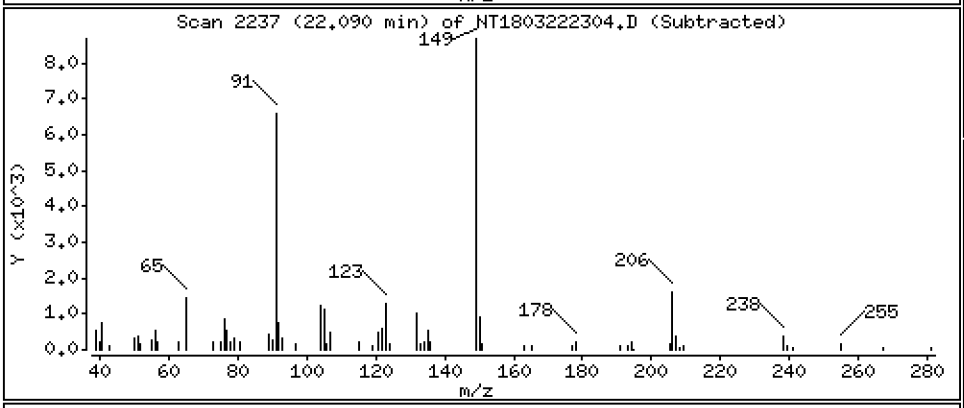
Column phase: ZB-5msi

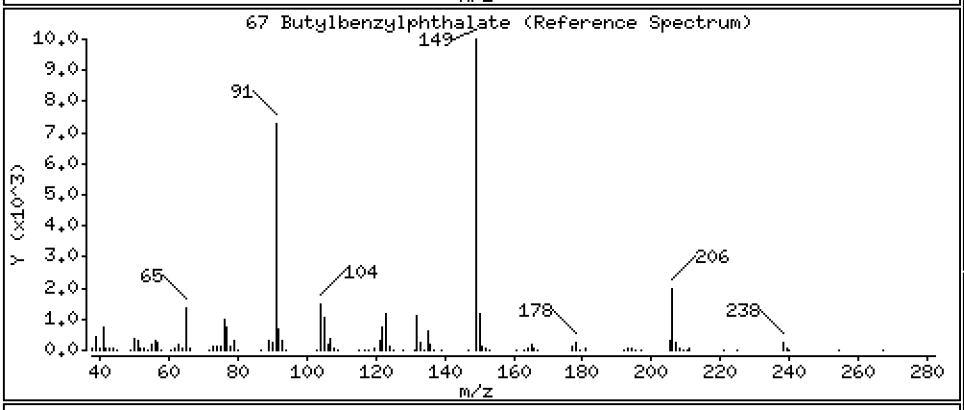
Column diameter: 0.25

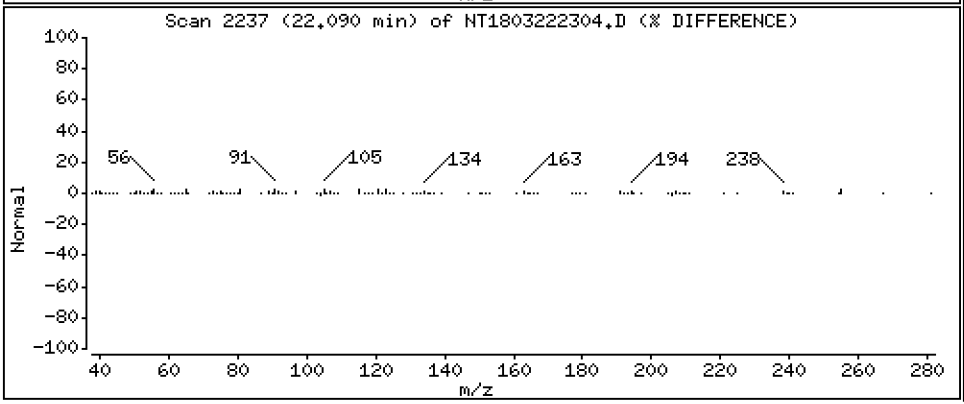
67 Butylbenzylphthalate

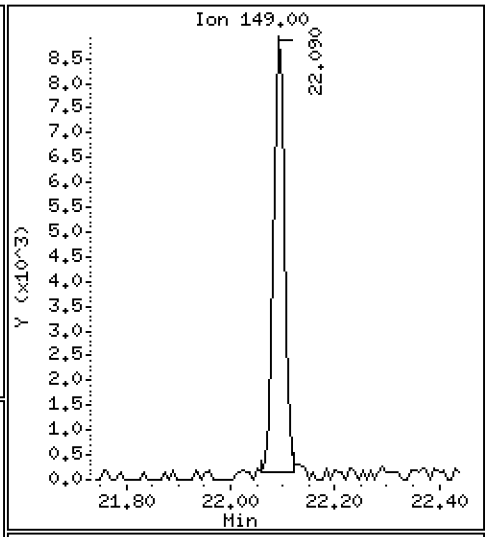
Concentration: 0.1055 ug/mL

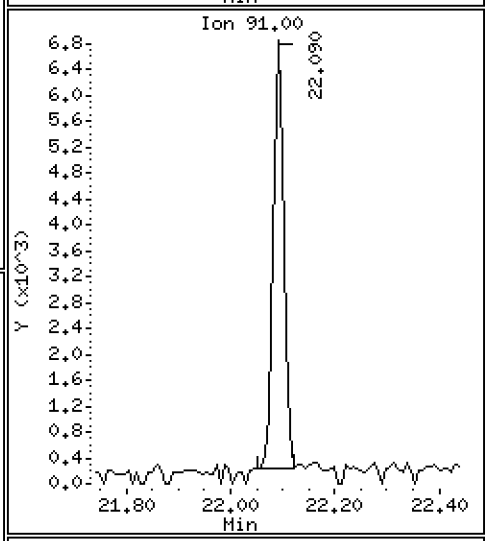


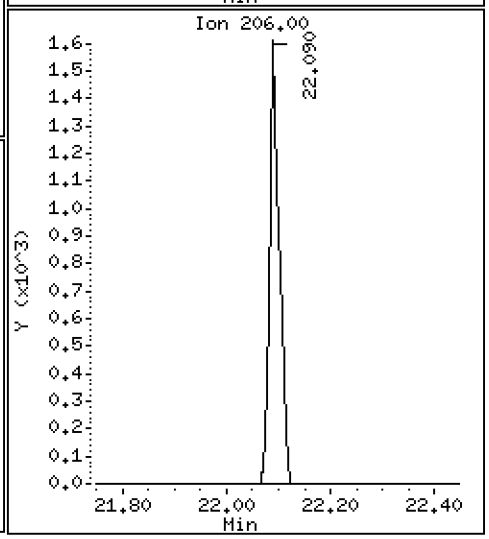












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

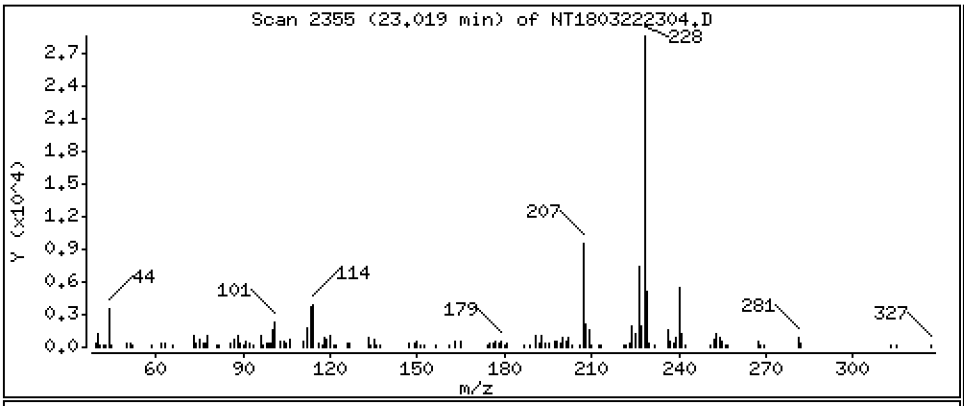
Operator: VTS

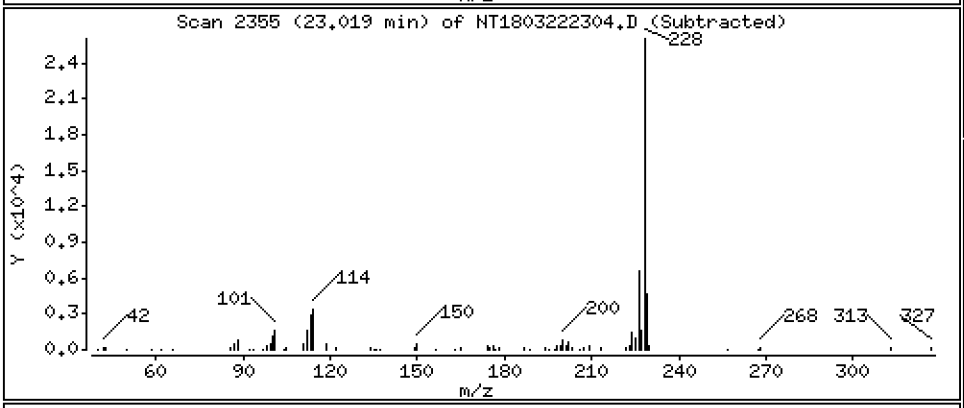
Column phase: ZB-5msi

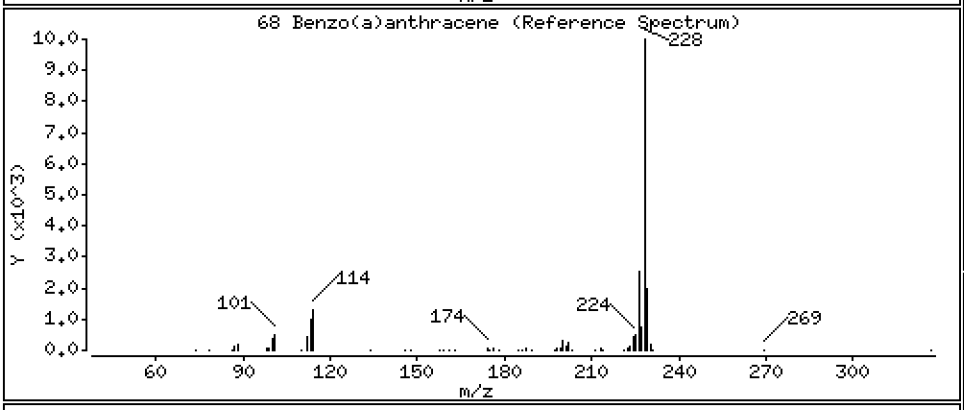
Column diameter: 0.25

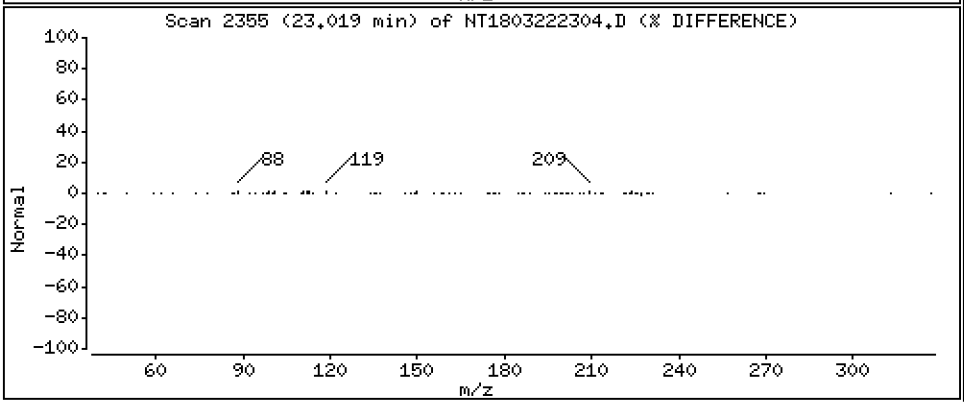
68 Benzo(a)anthracene

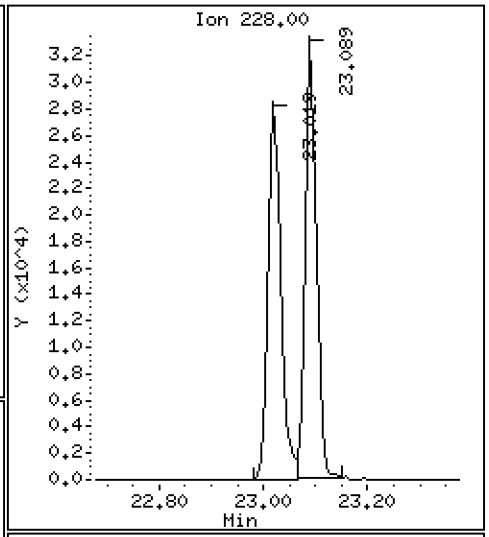
Concentration: 0.1870 ug/mL

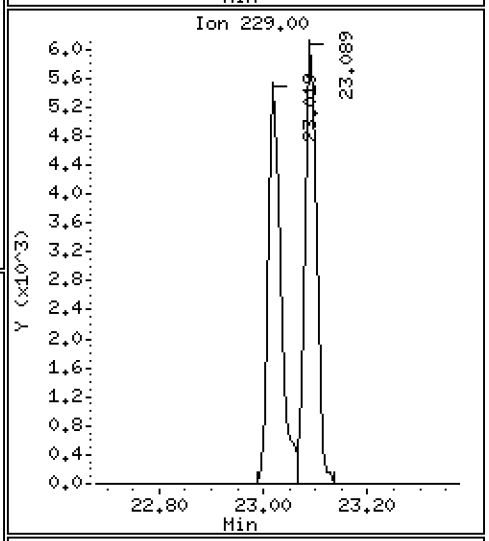


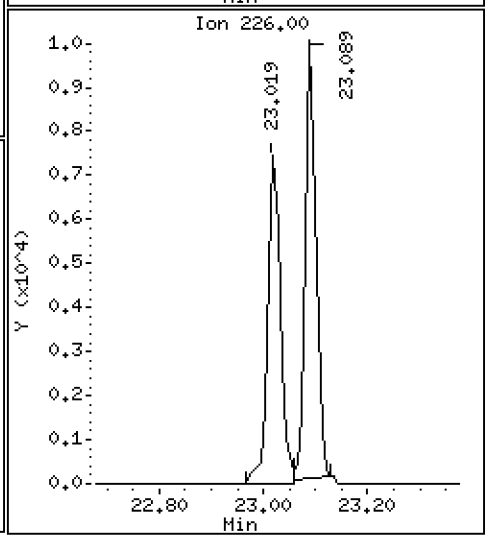












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

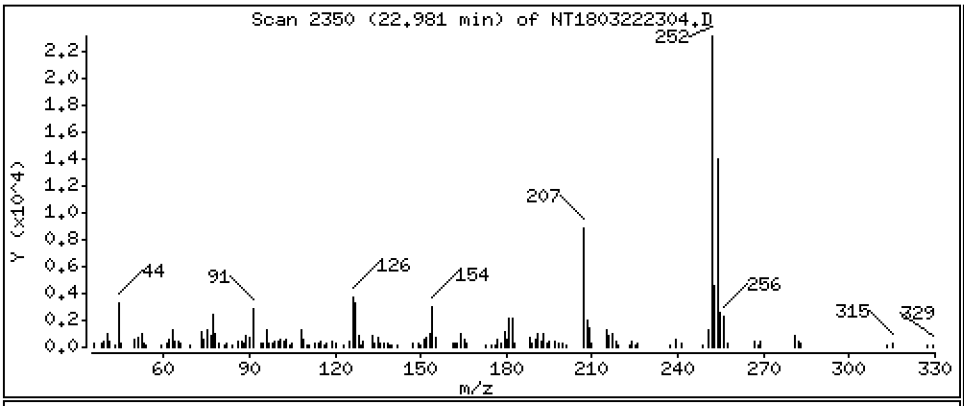
Operator: VTS

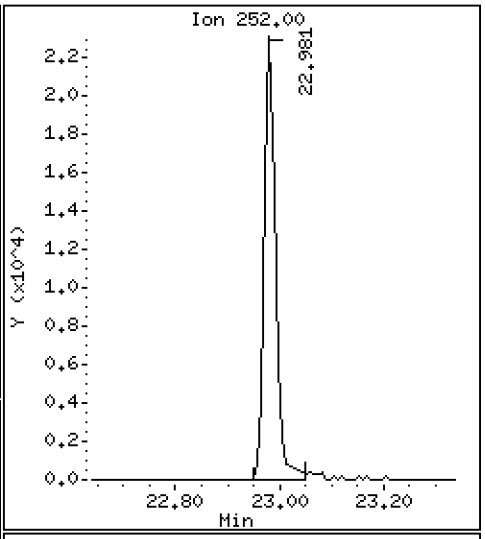
Column phase: ZB-5msi

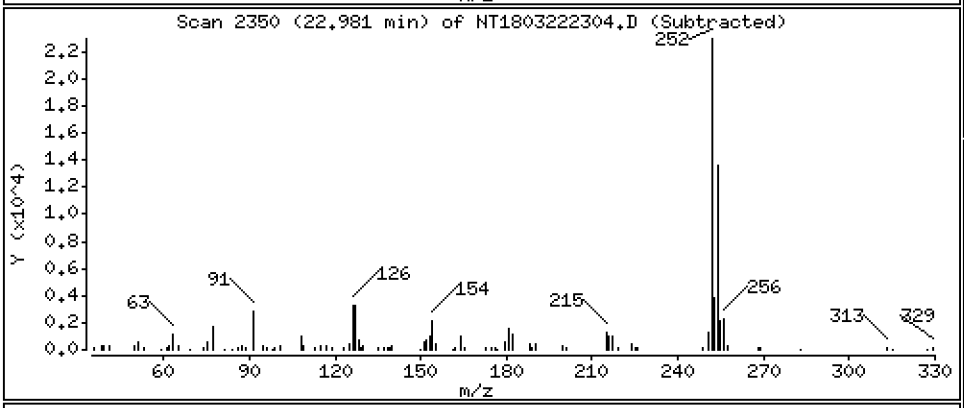
Column diameter: 0.25

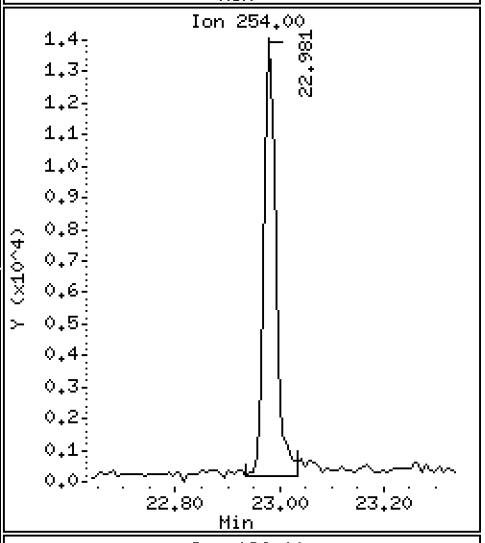
70 3,3'-Dichlorobenzidine

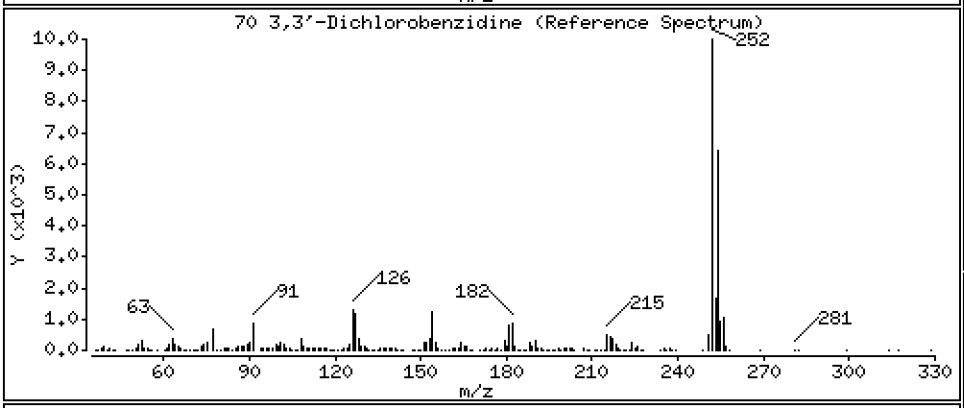
Concentration: 0.3667 ug/mL

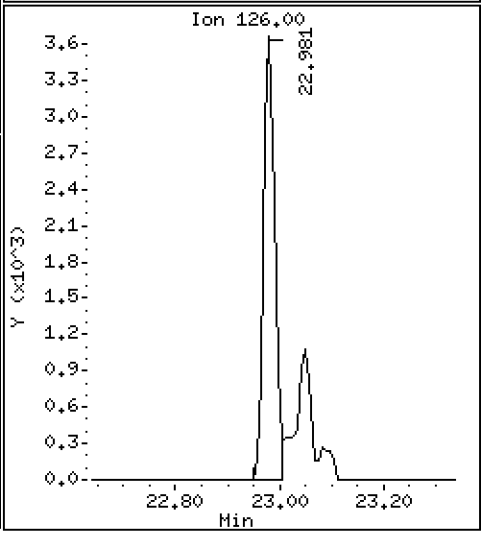


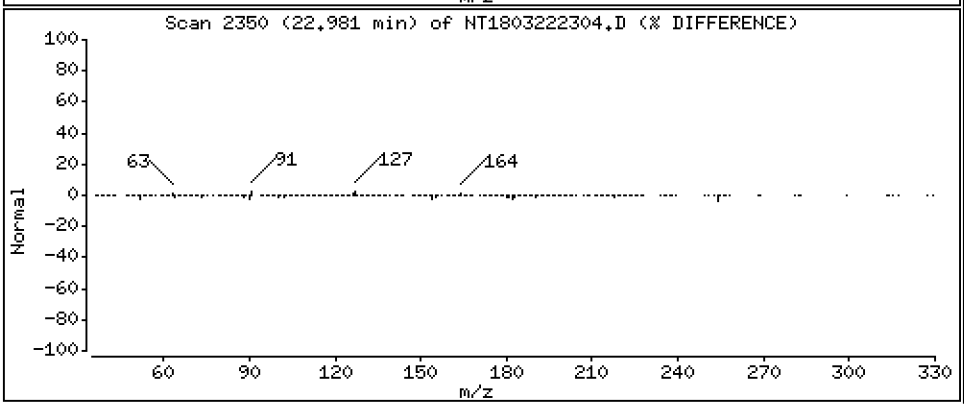












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

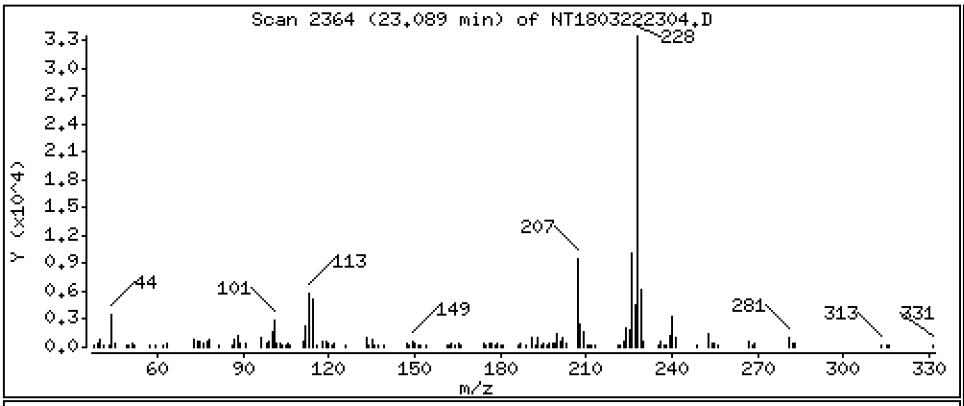
Operator: VTS

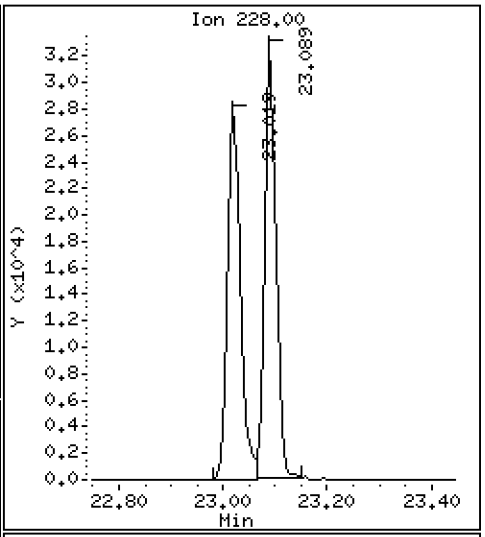
Column phase: ZB-5msi

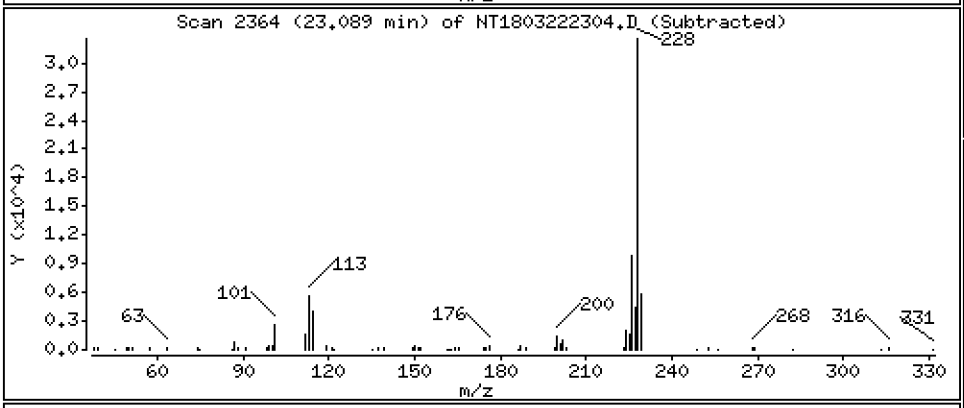
Column diameter: 0.25

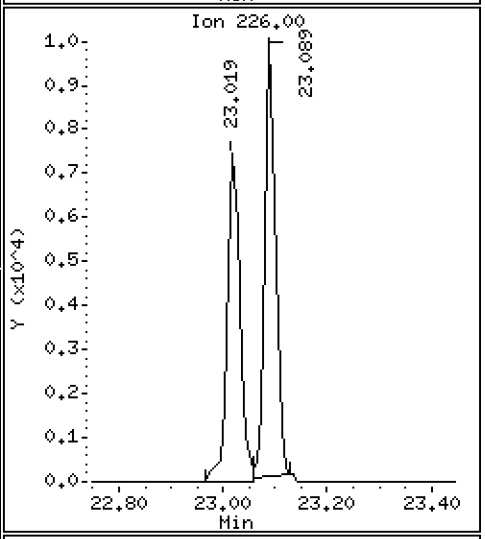
71 Chrysene

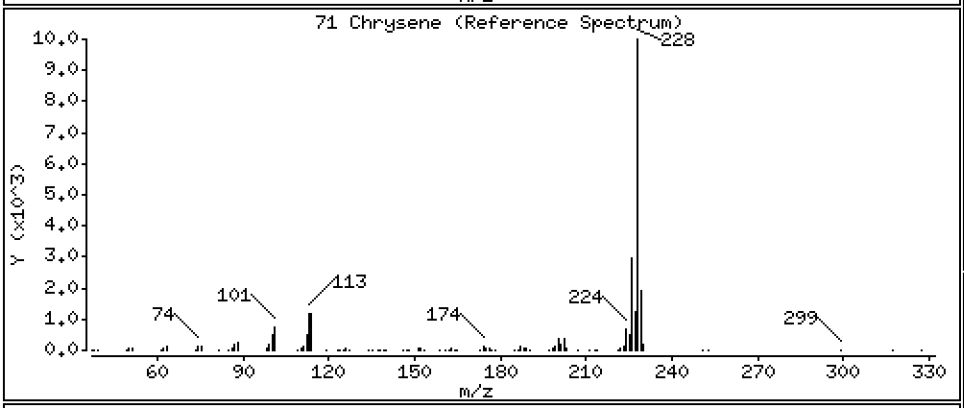
Concentration: 0.1847 ug/mL

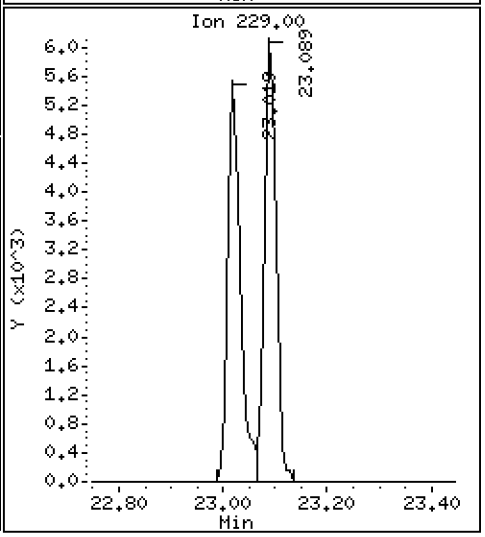


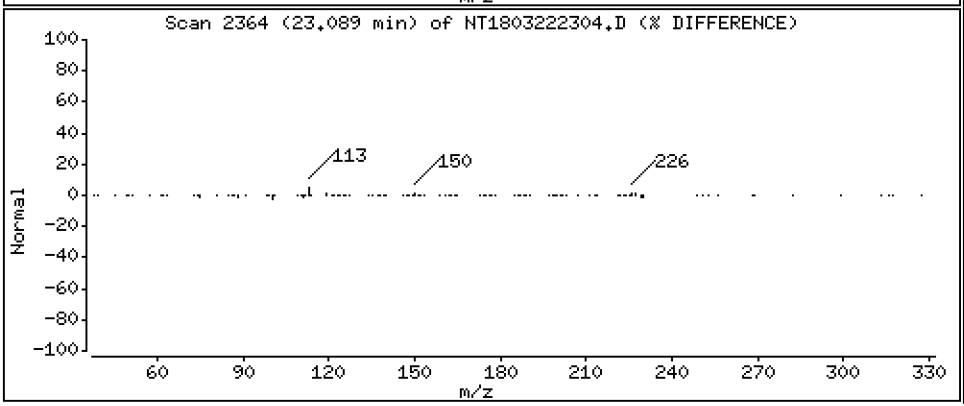












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

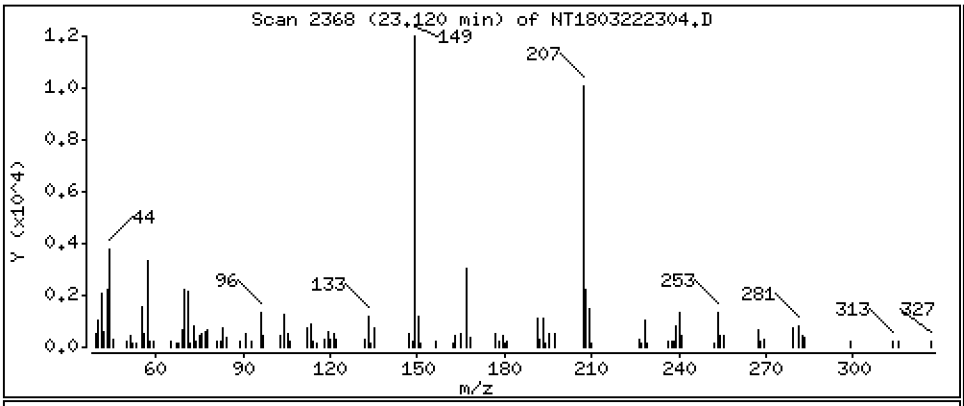
Operator: VTS

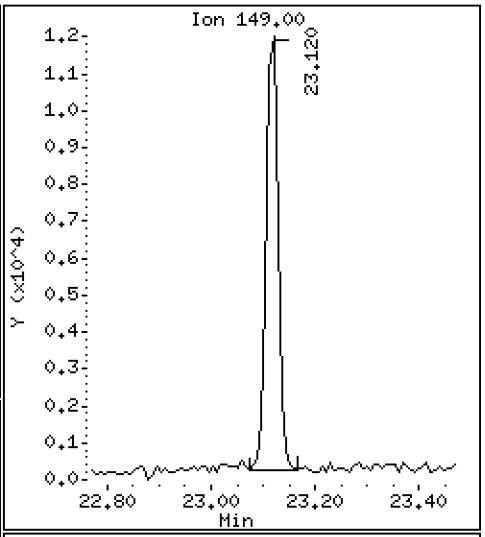
Column phase: ZB-5msi

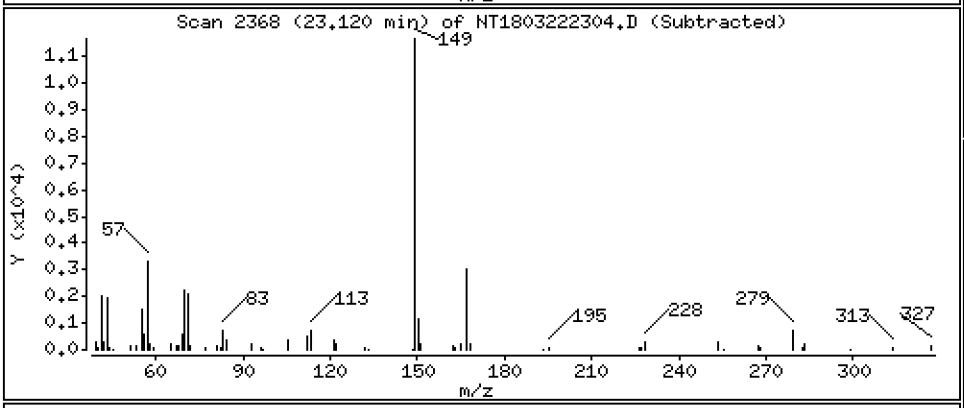
Column diameter: 0.25

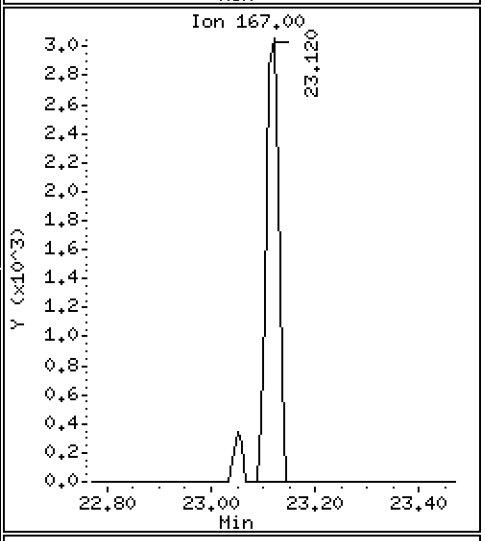
72 bis(2-Ethylhexyl)phthalate

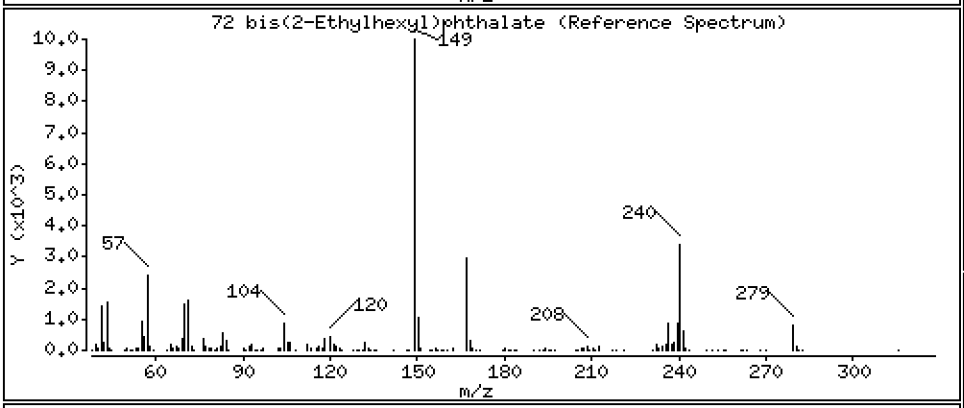
Concentration: 0.1083 ug/mL

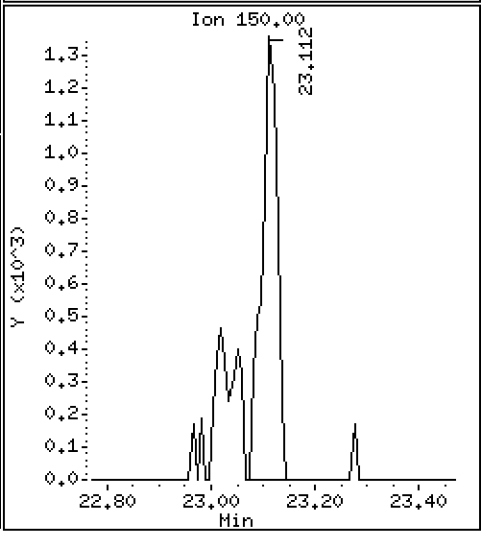


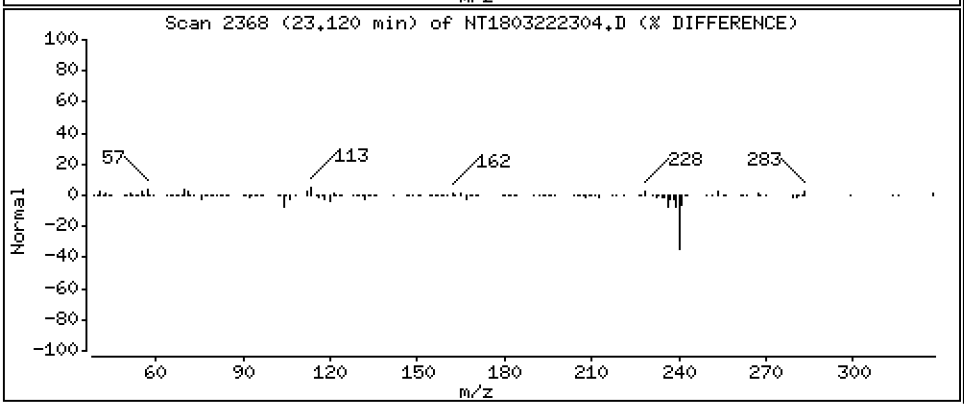












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

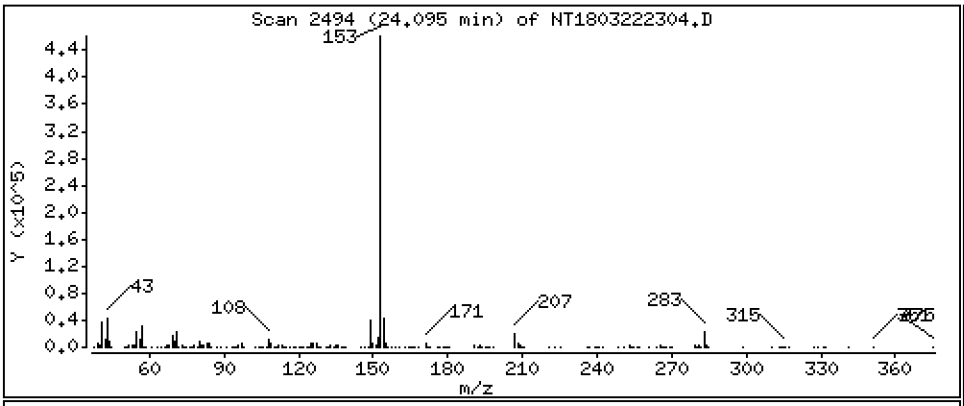
Operator: VTS

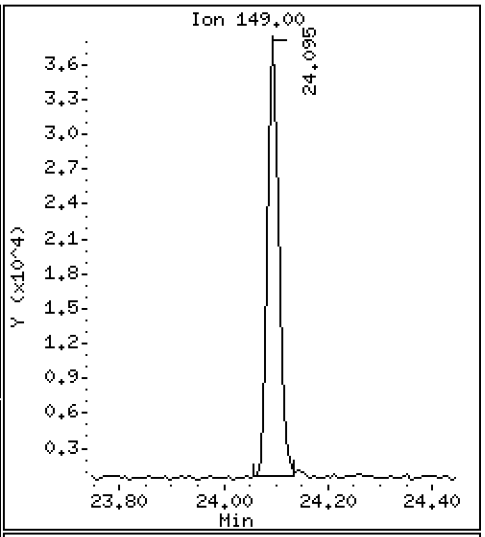
Column phase: ZB-5msi

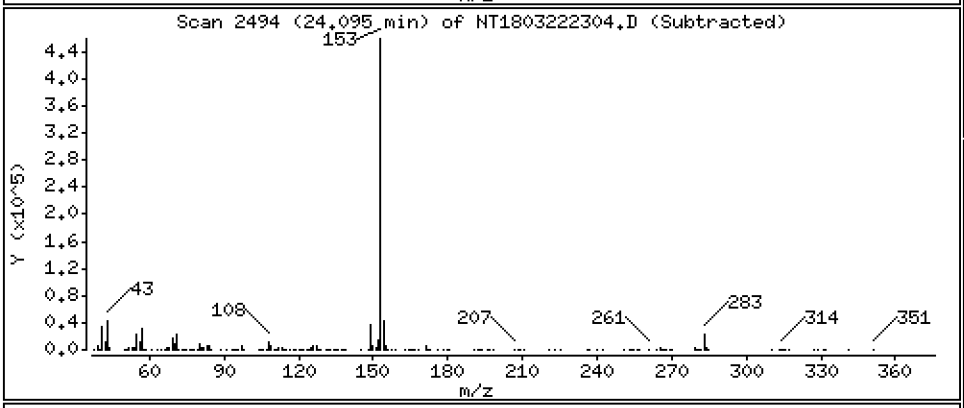
Column diameter: 0.25

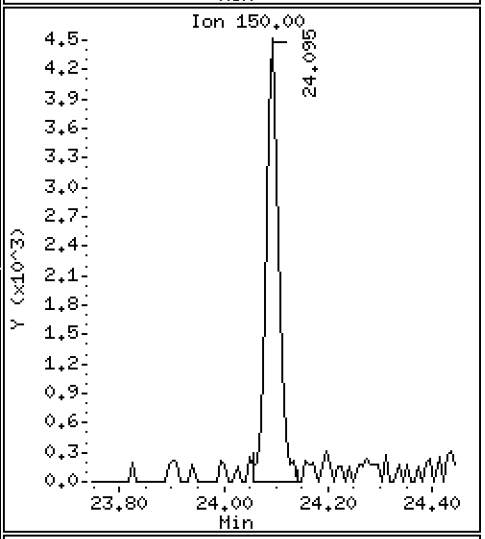
73 Di-n-octylphthalate

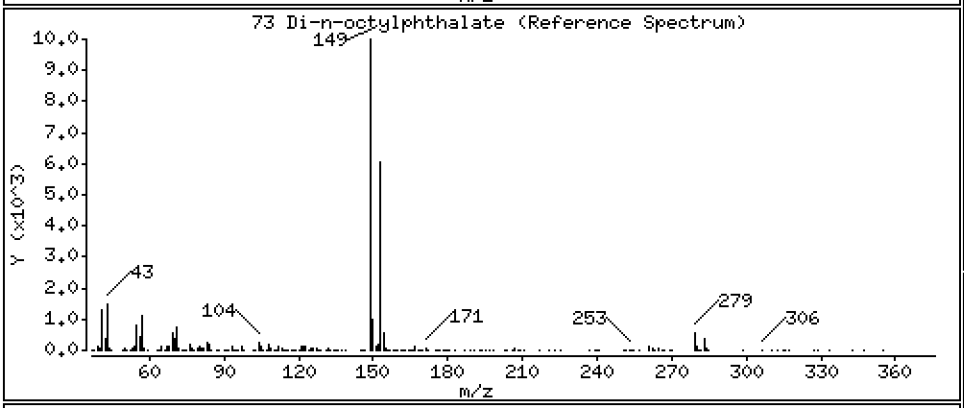
Concentration: 0.1935 ug/mL

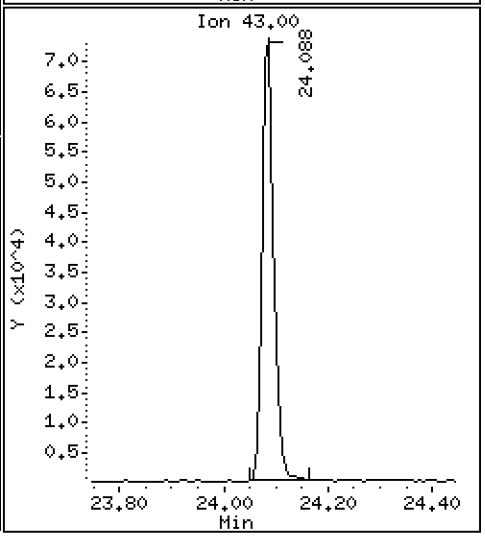


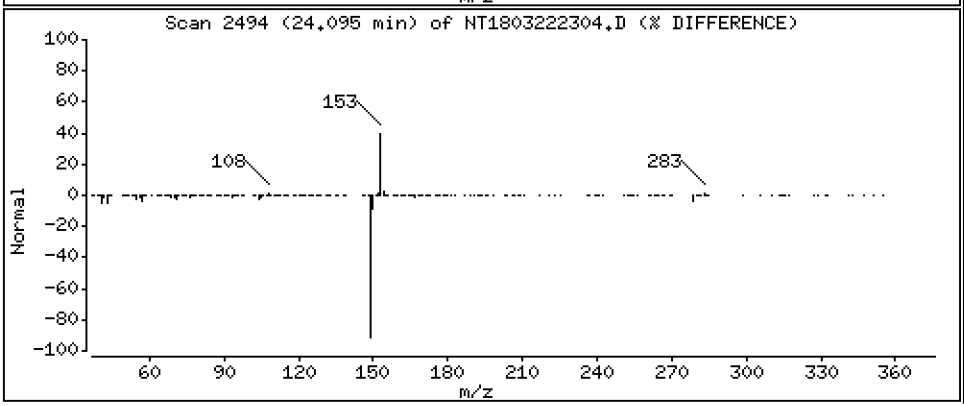












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

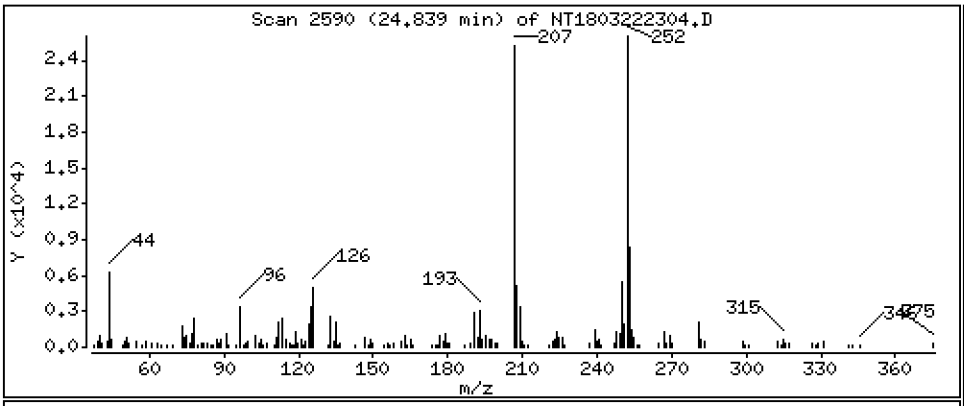
Operator: VTS

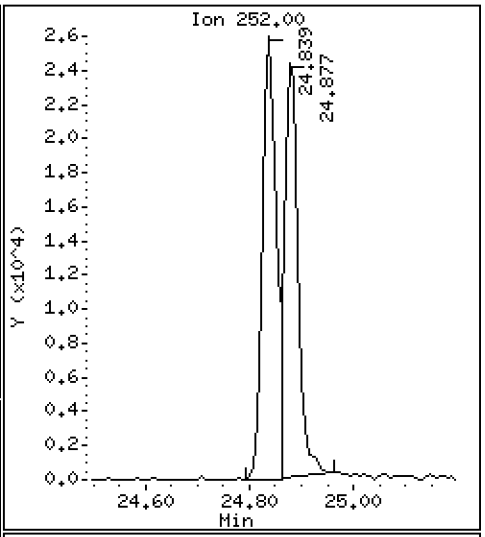
Column phase: ZB-5msi

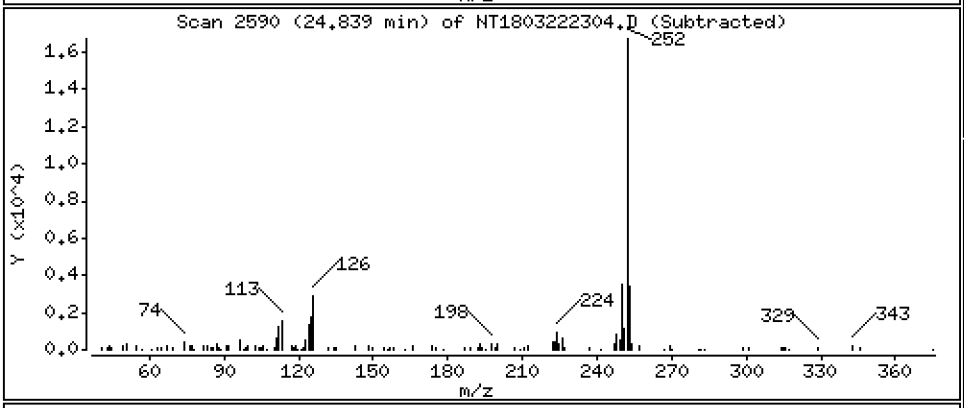
Column diameter: 0.25

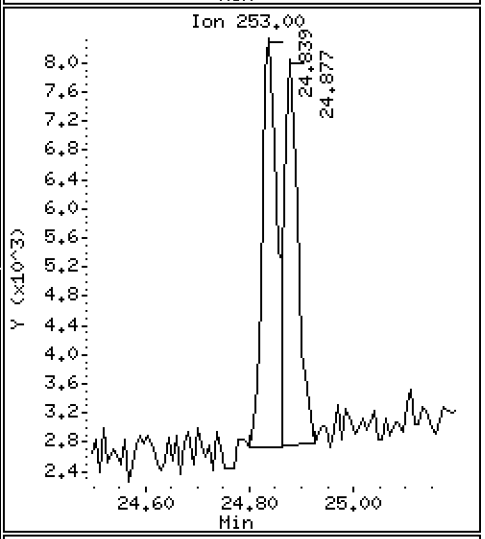
74 Benzo(b)fluoranthene

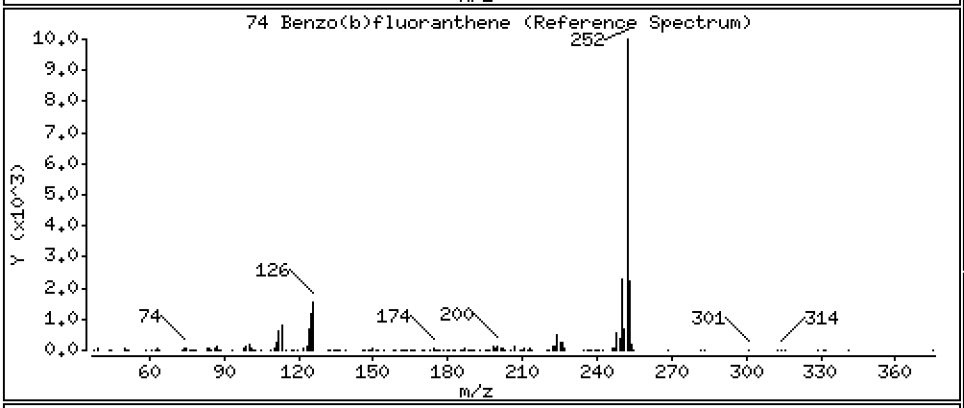
Concentration: 0.1932 ug/mL

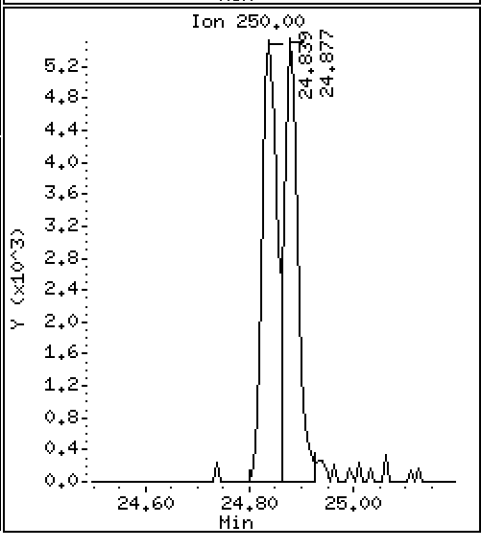


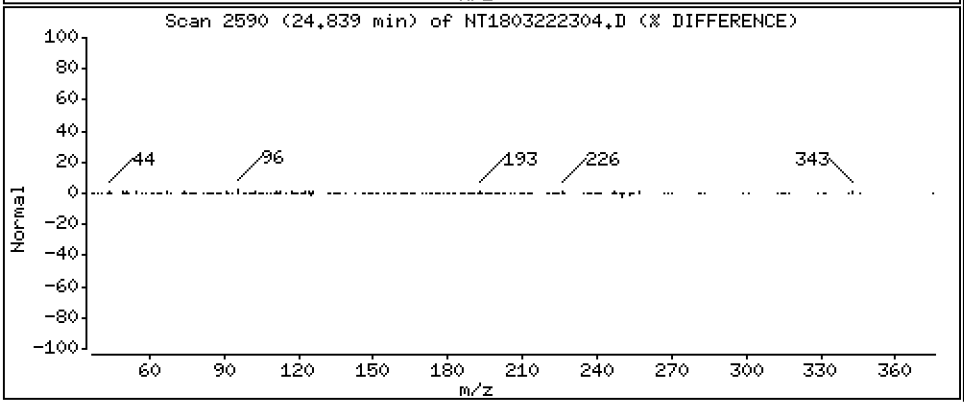












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

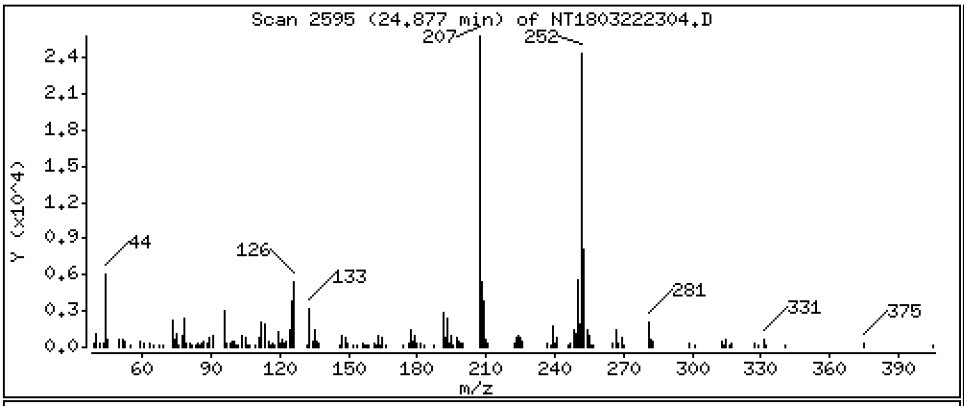
Operator: VTS

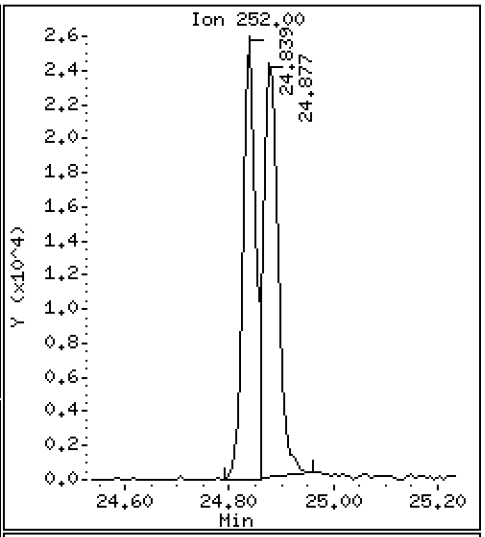
Column phase: ZB-5msi

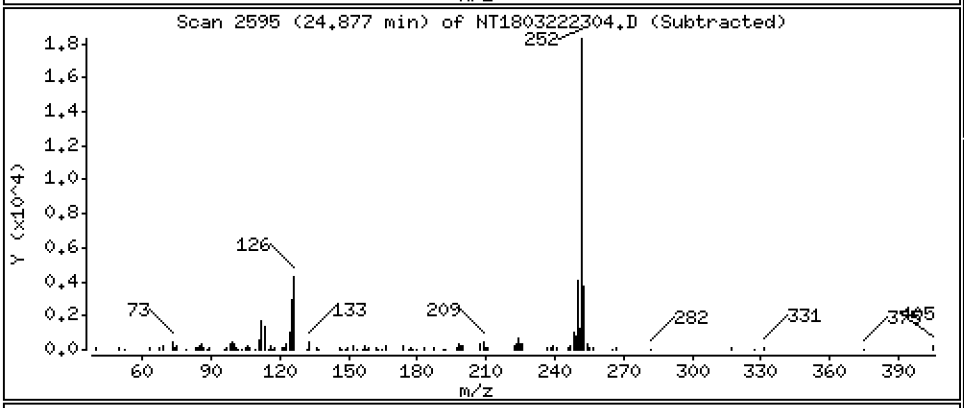
Column diameter: 0.25

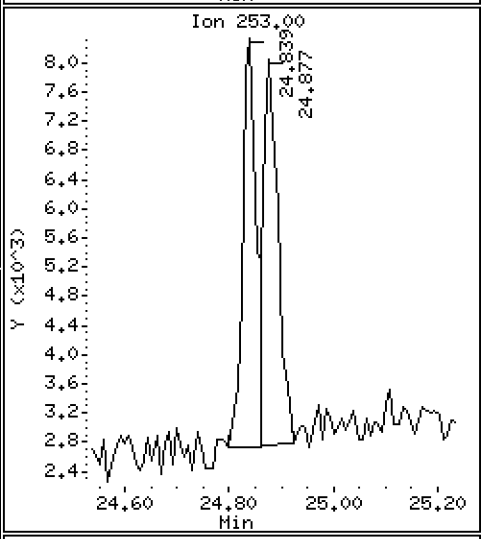
75 Benzo(k)fluoranthene

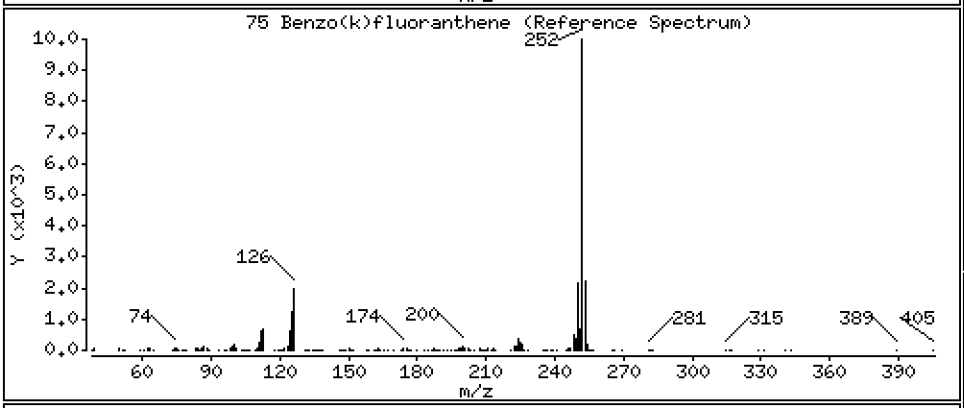
Concentration: 0.1709 ug/mL

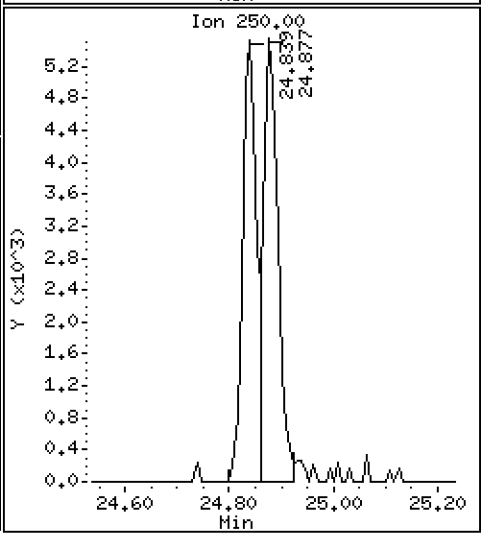


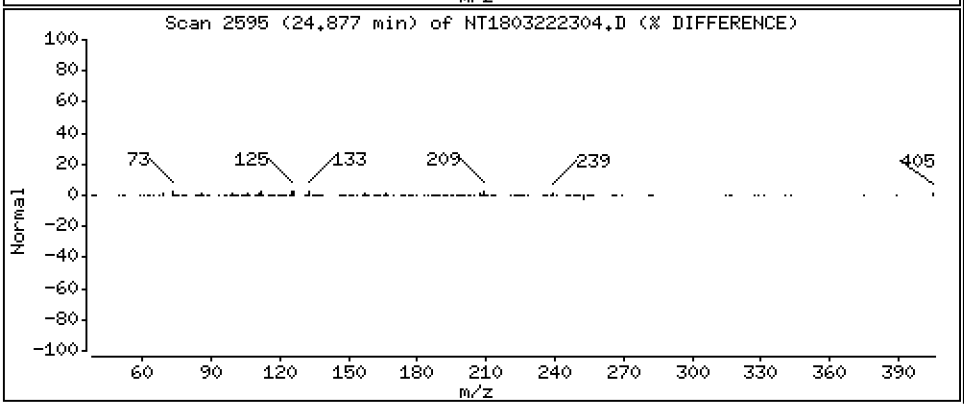












Date : 22-MAR-2023 19:17

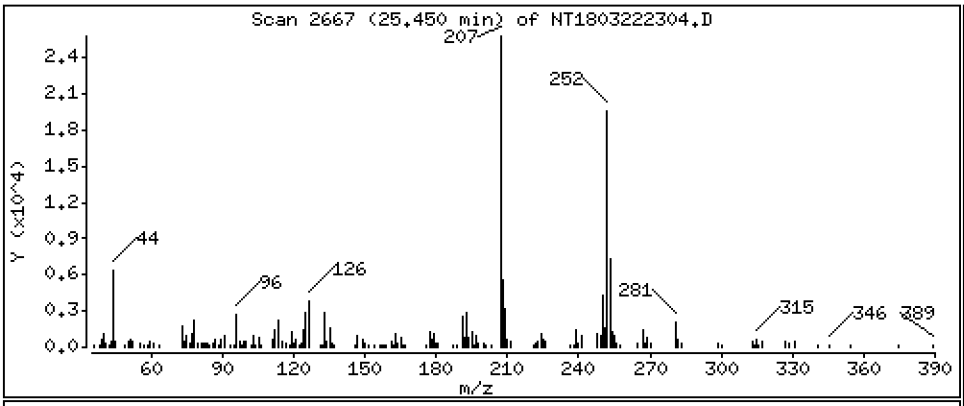
Client ID: Instrument: nt18.i

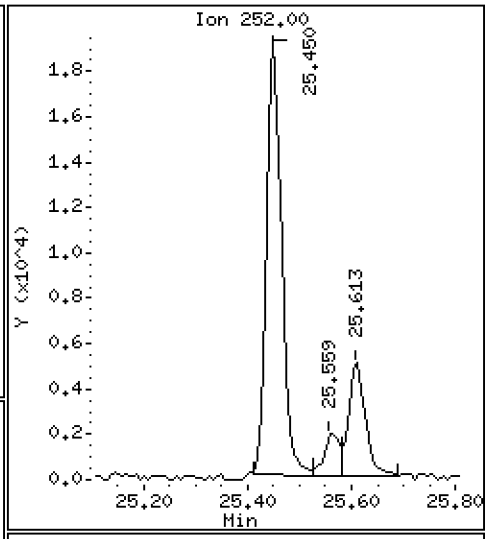
Sample Info: SLD0051-LCV1

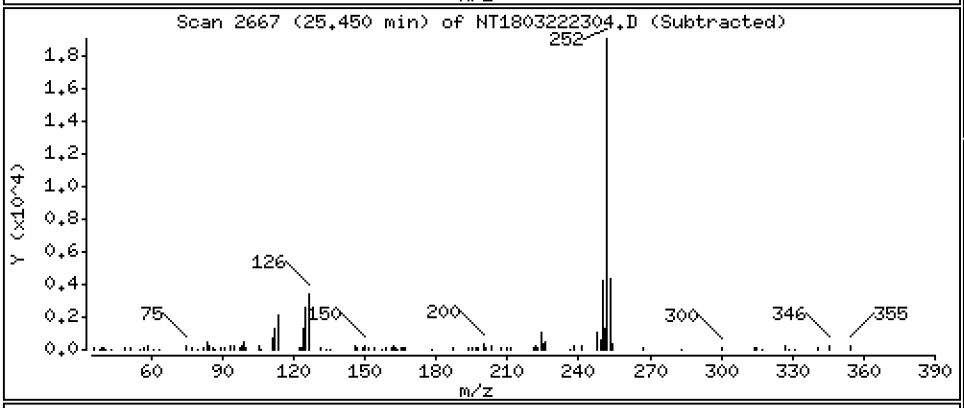
Operator: VTS

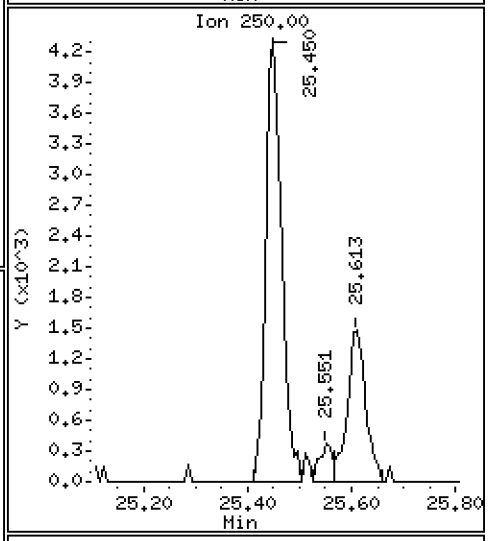
Column phase: ZB-5msi Column diameter: 0.25

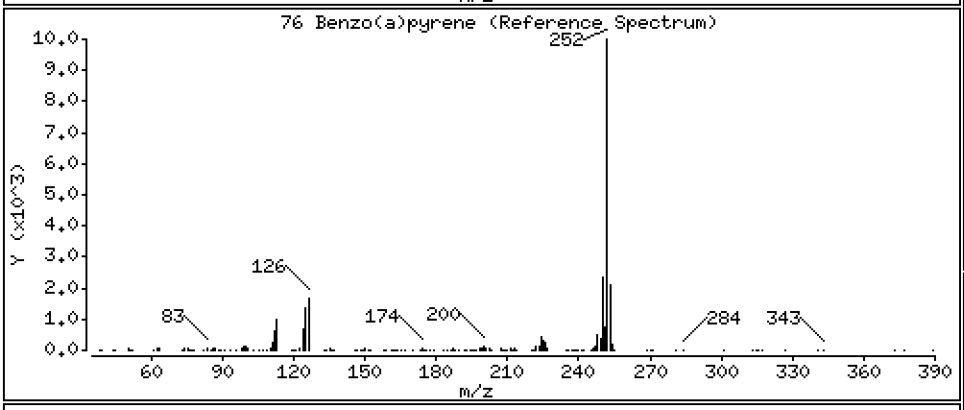
76 Benzo(a)pyrene Concentration: 0.1520 ug/mL

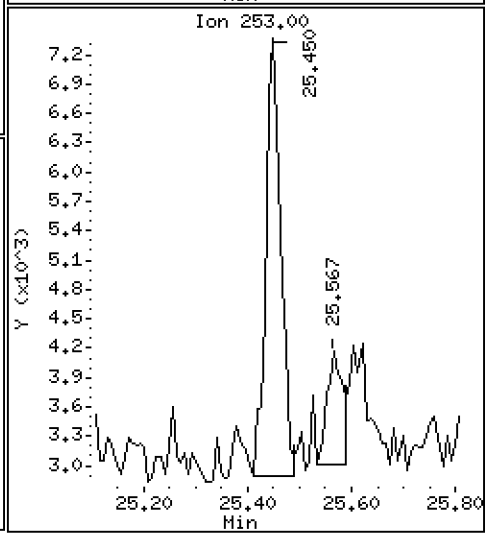


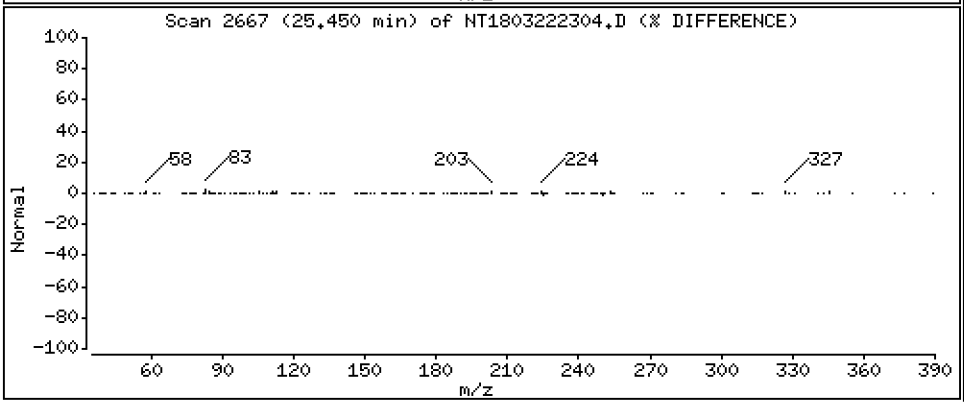












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

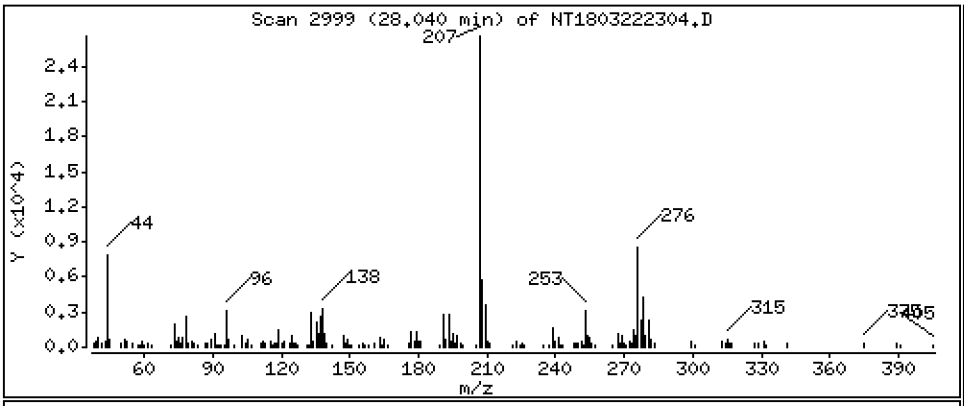
Operator: VTS

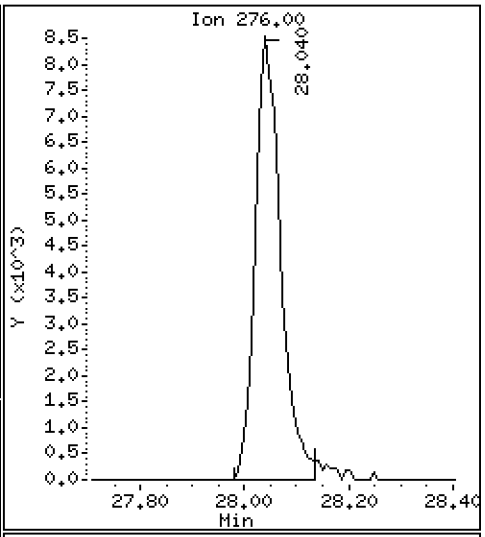
Column phase: ZB-5msi

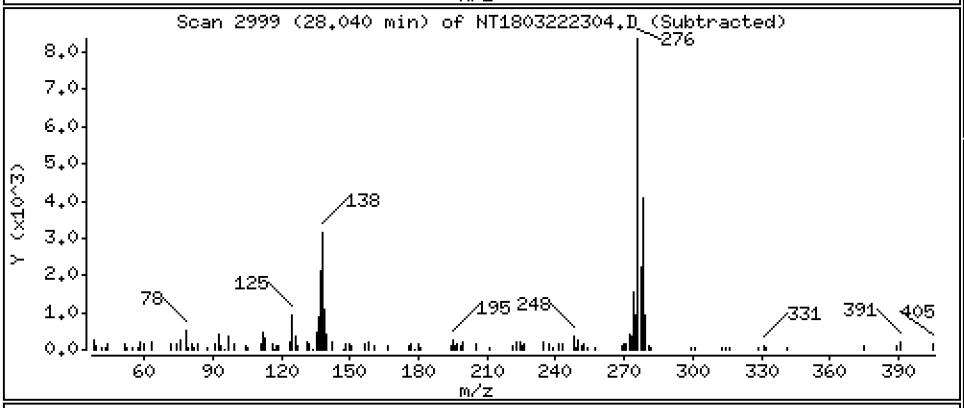
Column diameter: 0.25

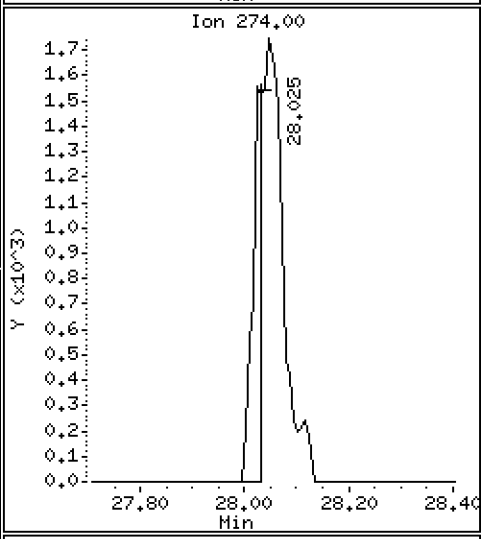
78 Indeno(1,2,3-cd)pyrene

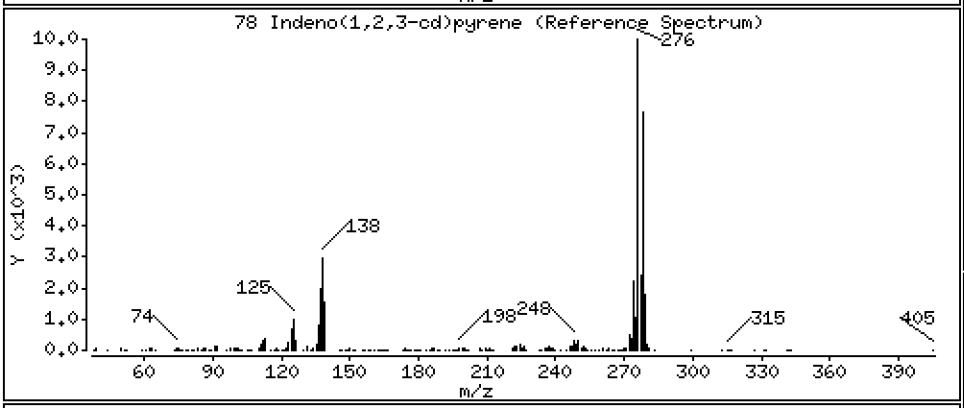
Concentration: 0.09384 ug/mL

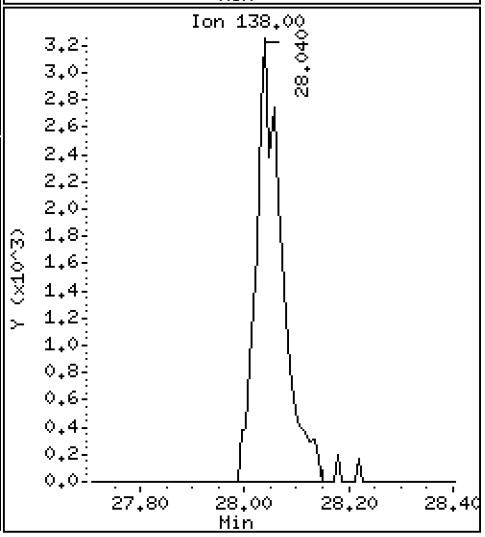


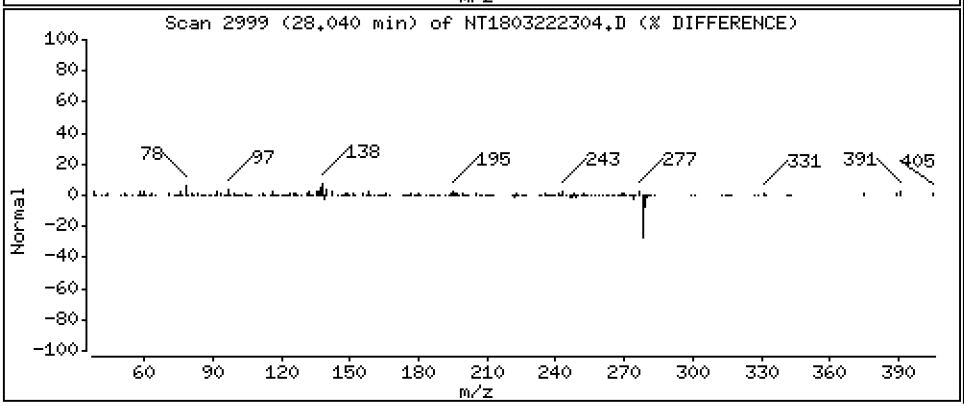












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

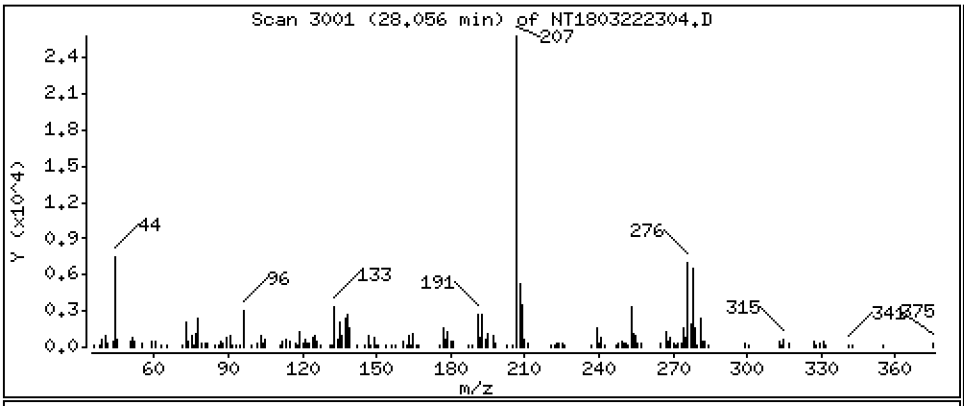
Operator: VTS

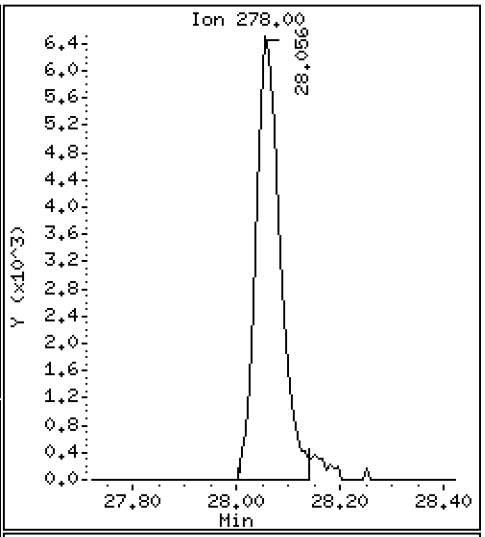
Column phase: ZB-5msi

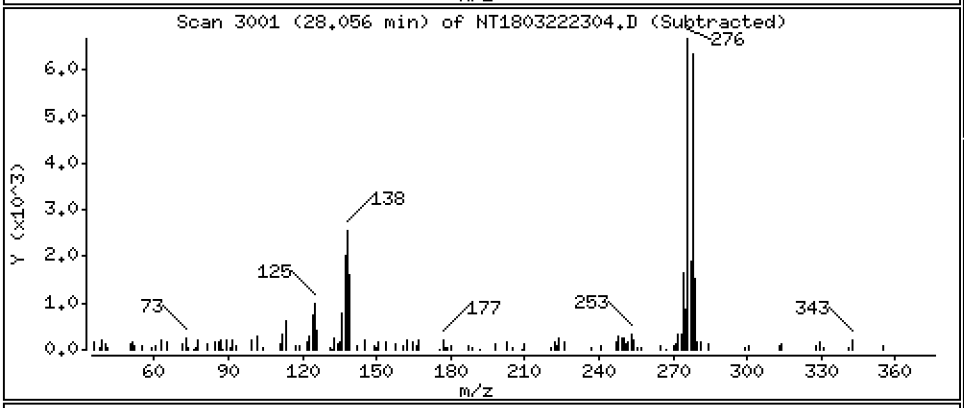
Column diameter: 0.25

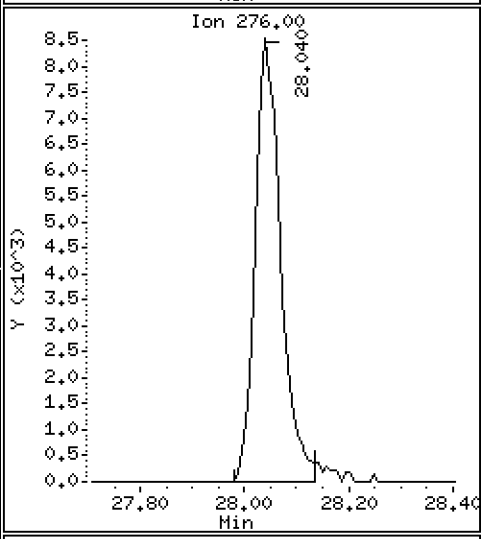
79 Dibenzo(a,h)anthracene

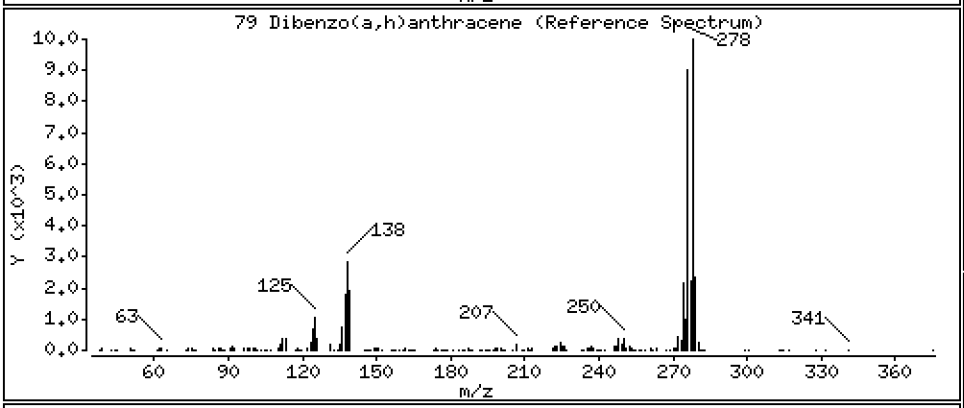
Concentration: 0.08319 ug/mL

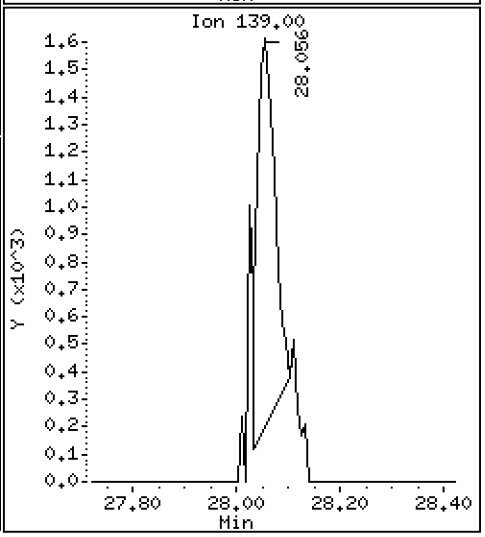


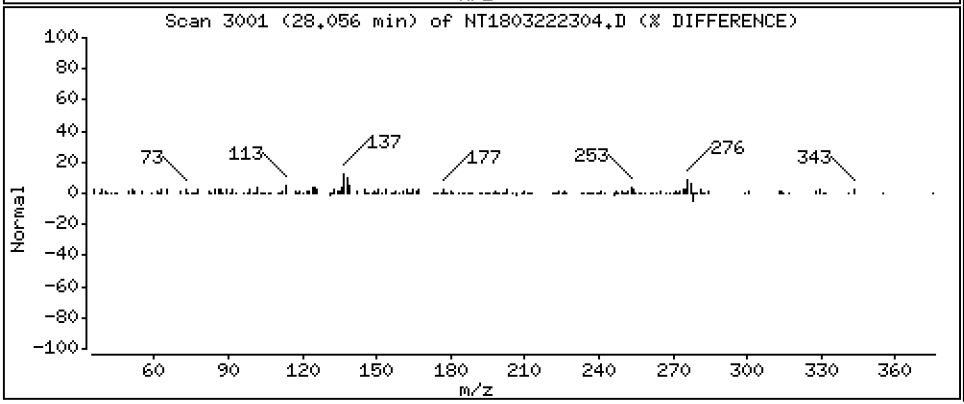












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

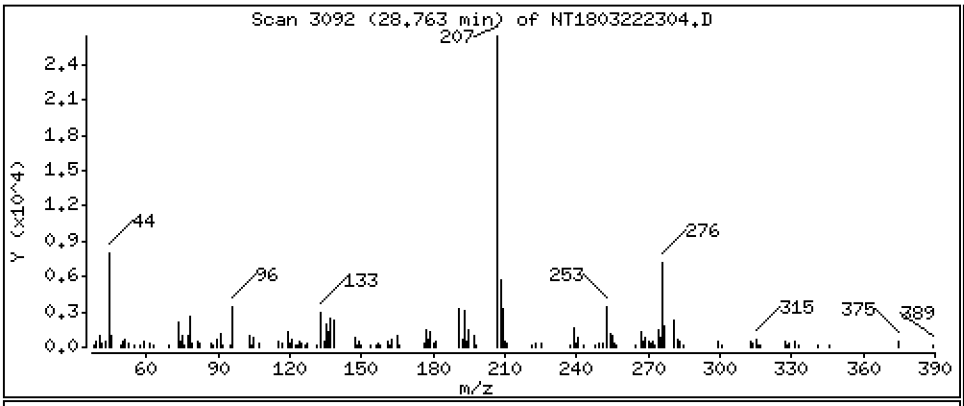
Operator: VTS

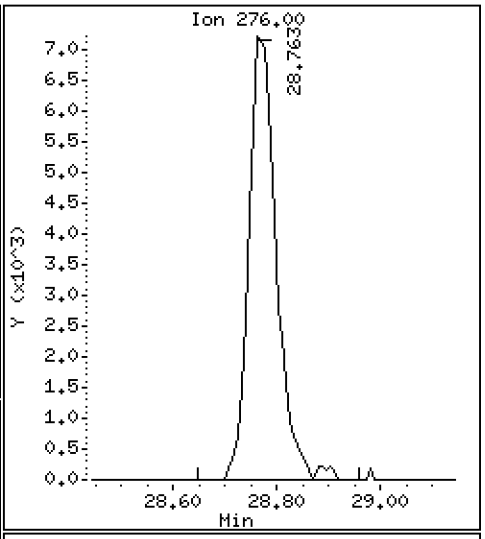
Column phase: ZB-5msi

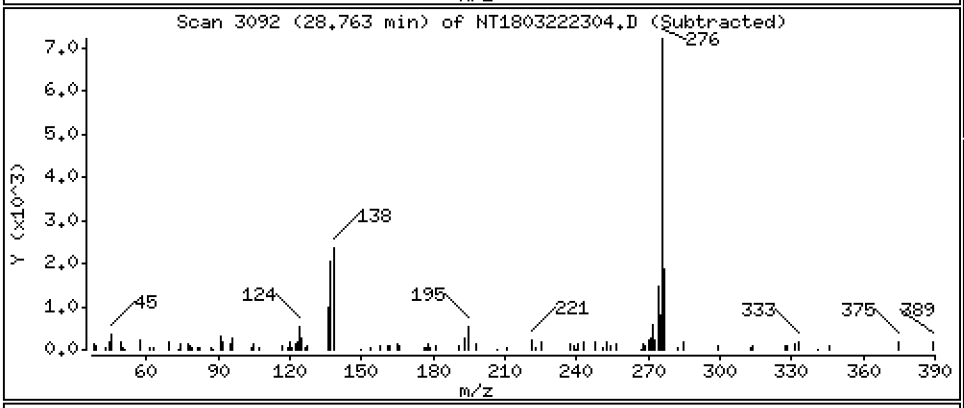
Column diameter: 0.25

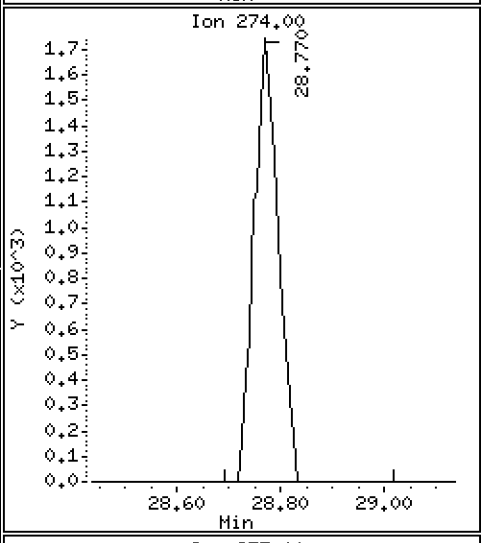
80 Benzo(g,h,i)perylene

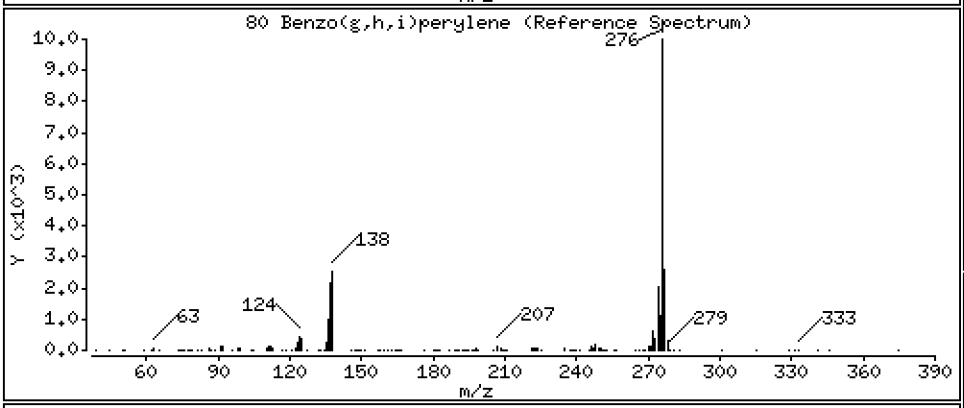
Concentration: 0.1096 ug/mL

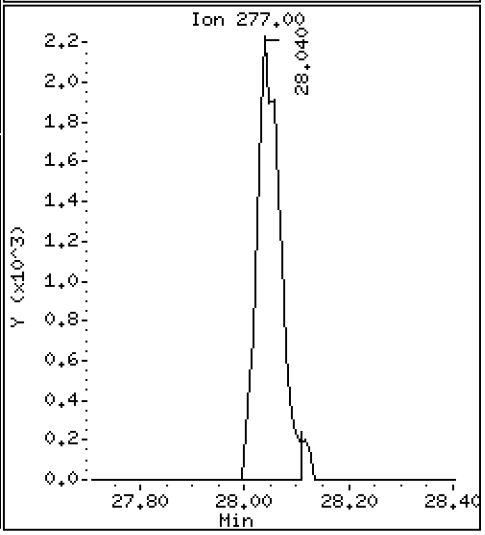


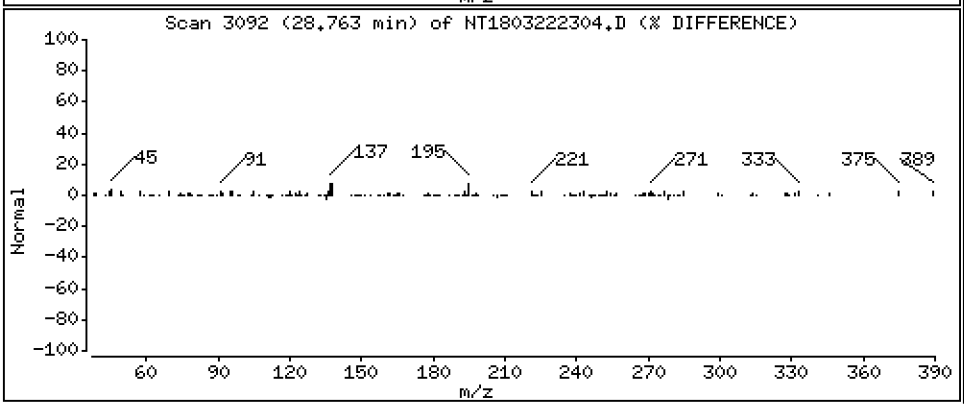












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

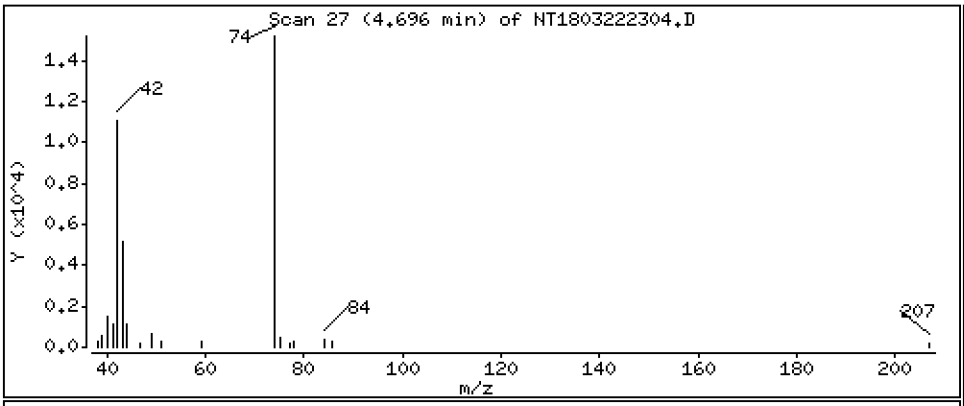
Operator: VTS

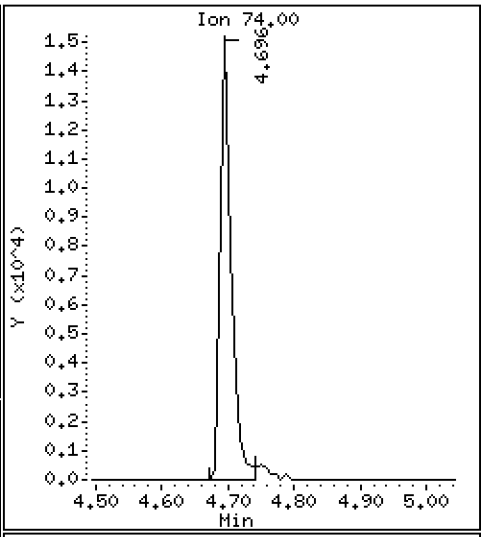
Column phase: ZB-5msi

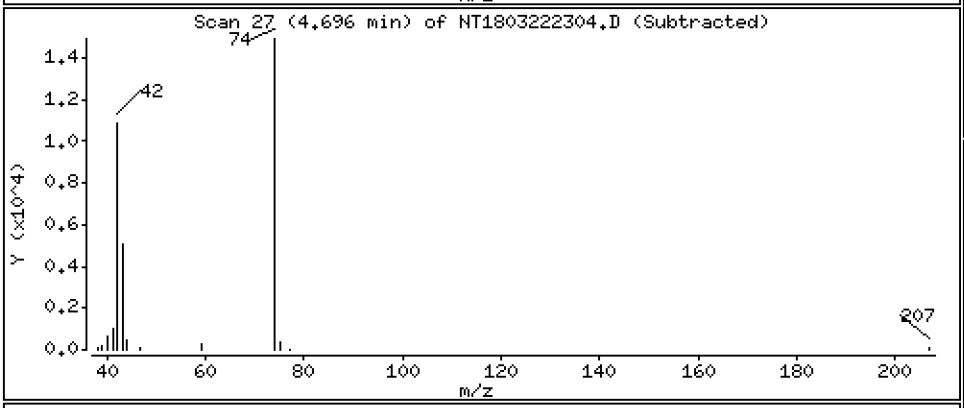
Column diameter: 0.25

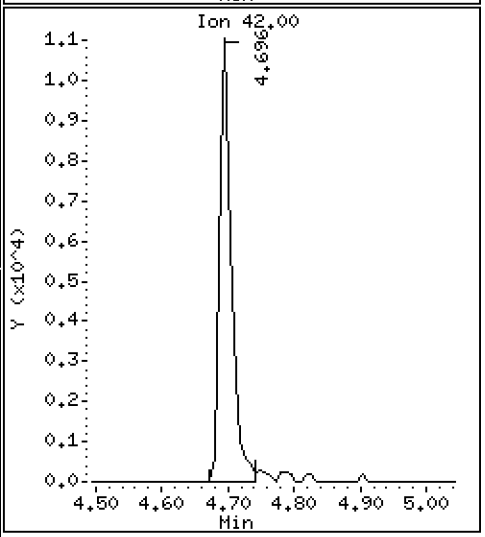
90 N-Nitrosodimethylamine

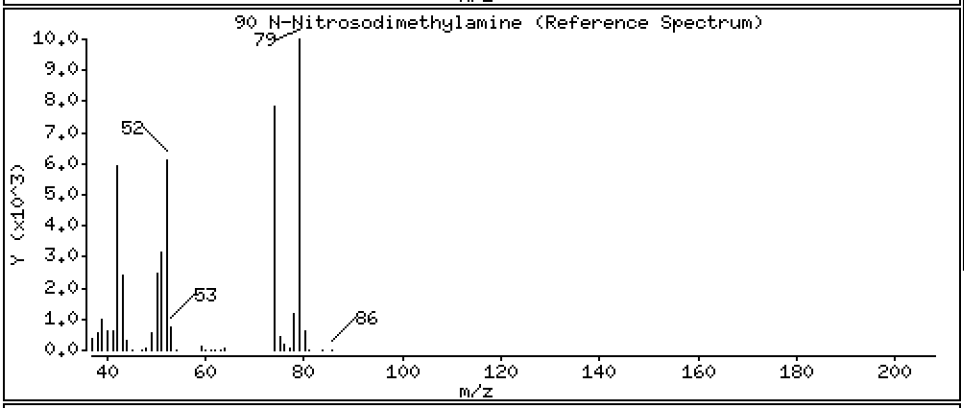
Concentration: 0.3668 ug/mL

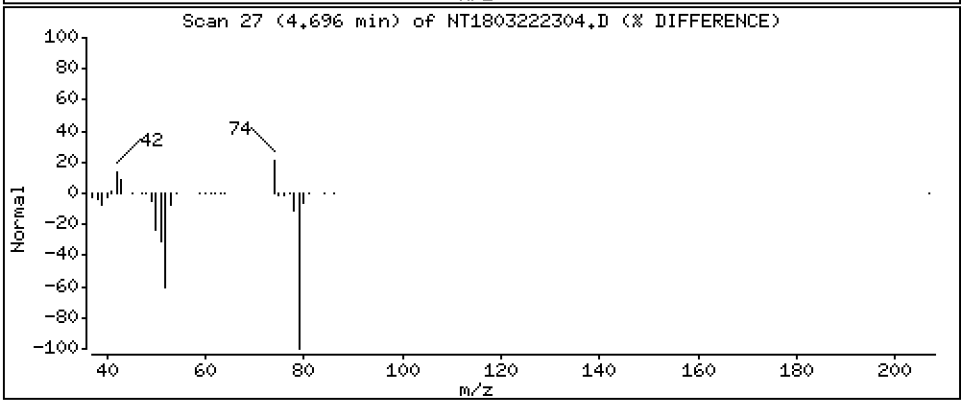












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

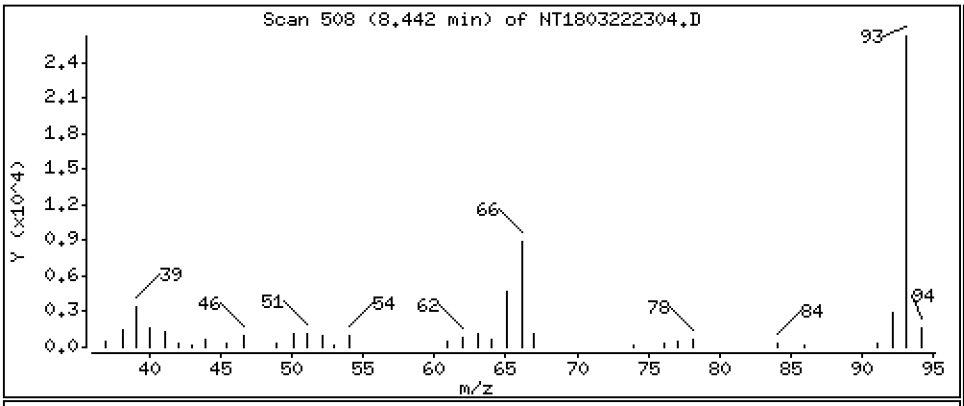
Operator: VTS

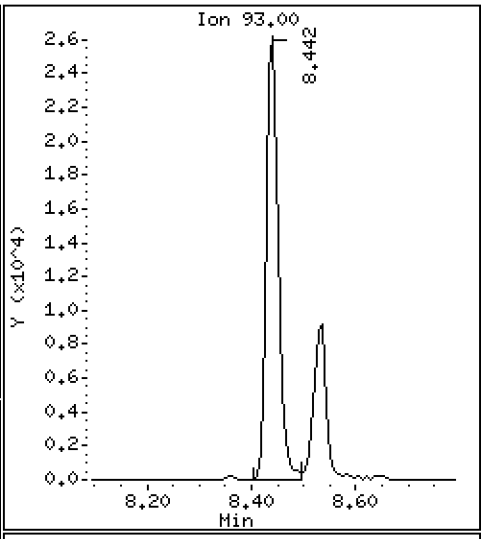
Column phase: ZB-5msi

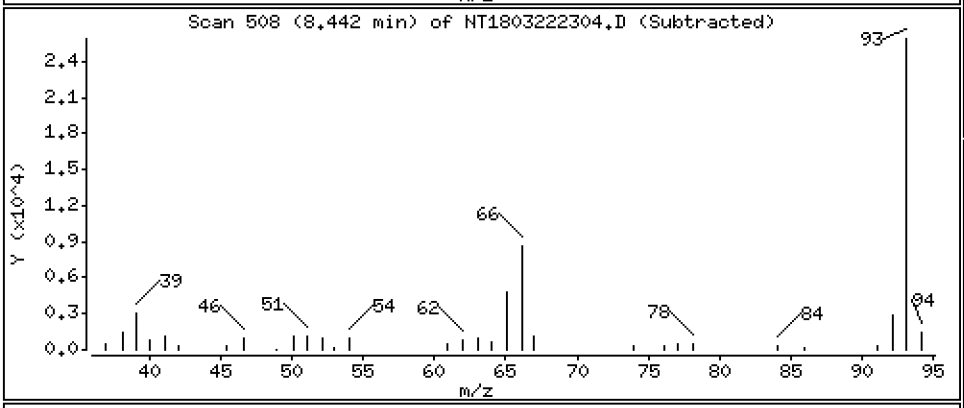
Column diameter: 0.25

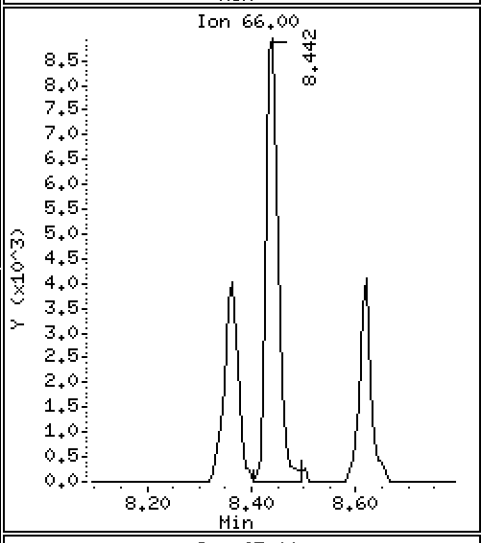
91 Aniline

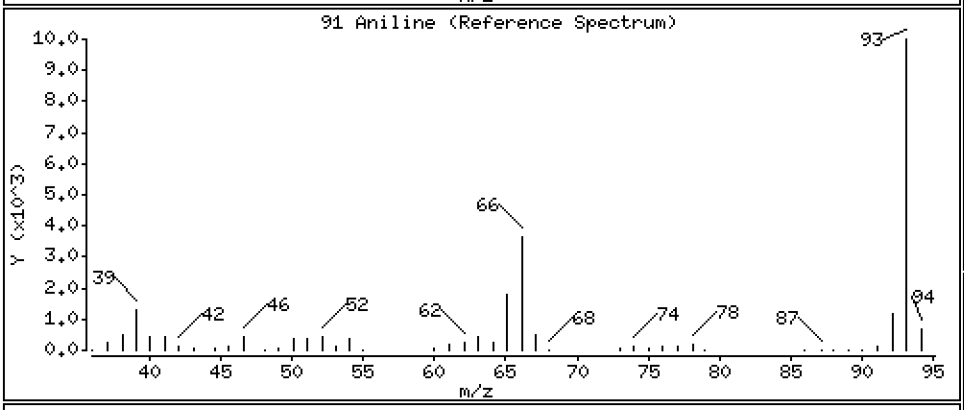
Concentration: 0.3501 ug/mL

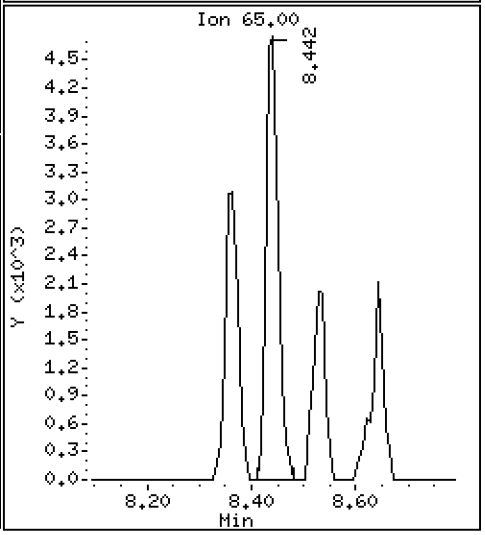


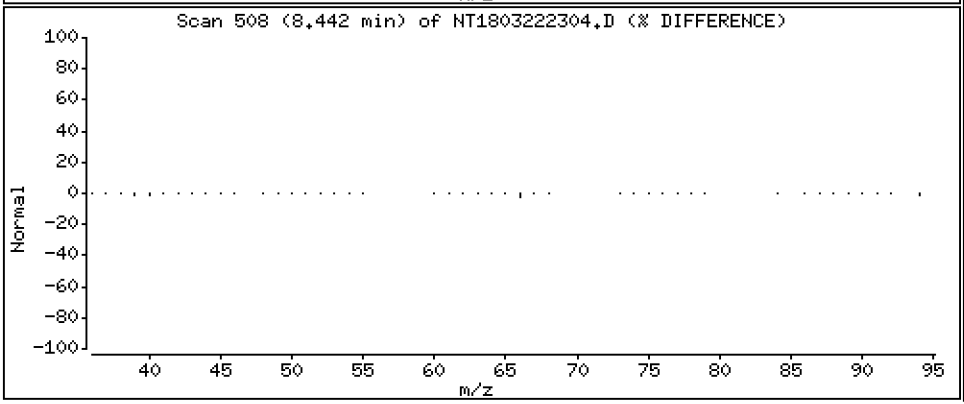












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

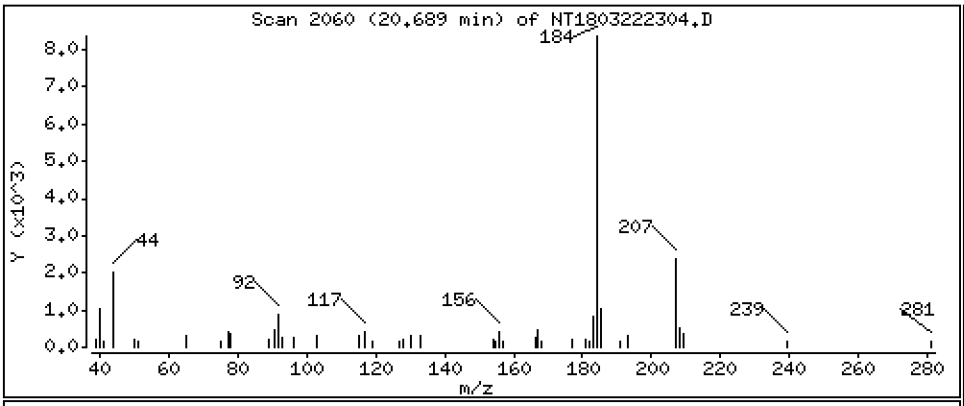
Operator: VTS

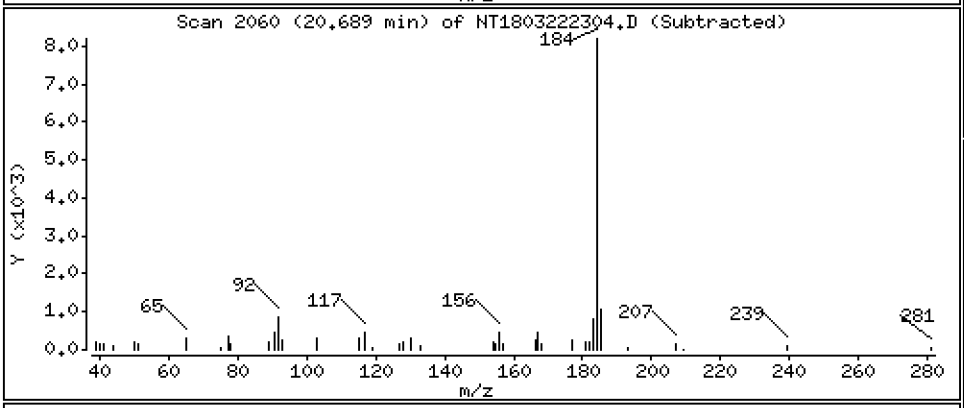
Column phase: ZB-5msi

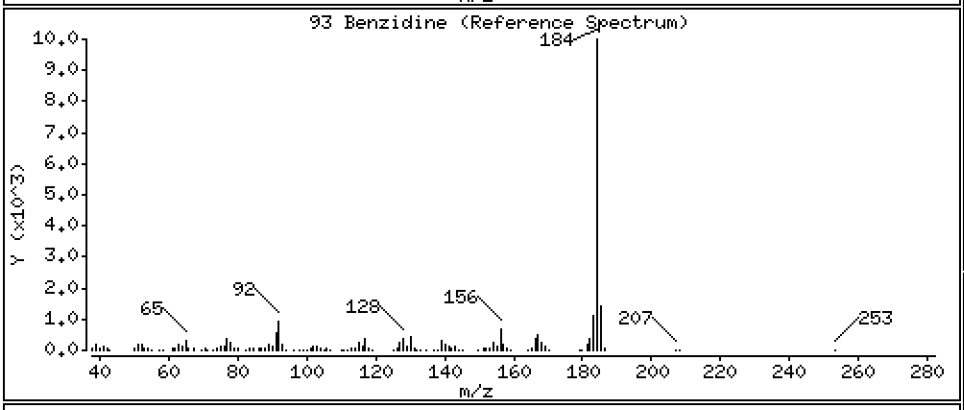
Column diameter: 0.25

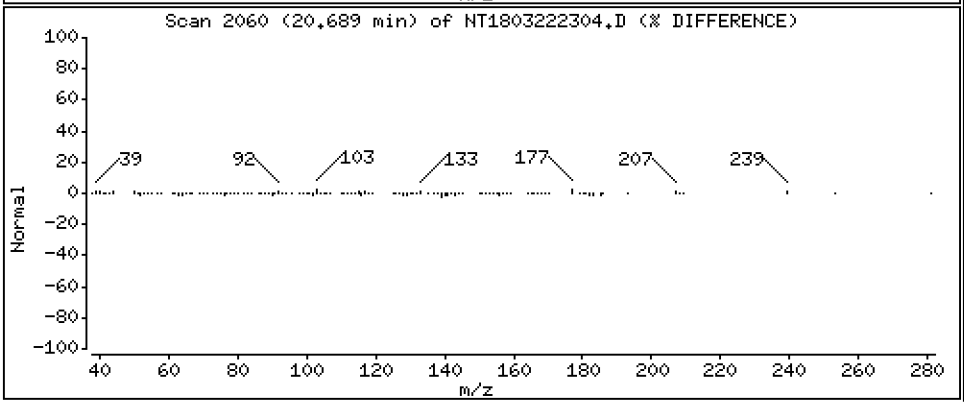
93 Benzidine

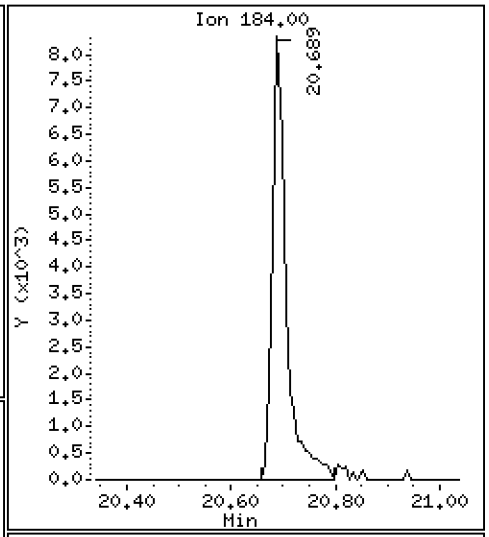
Concentration: 0.1382 ug/mL

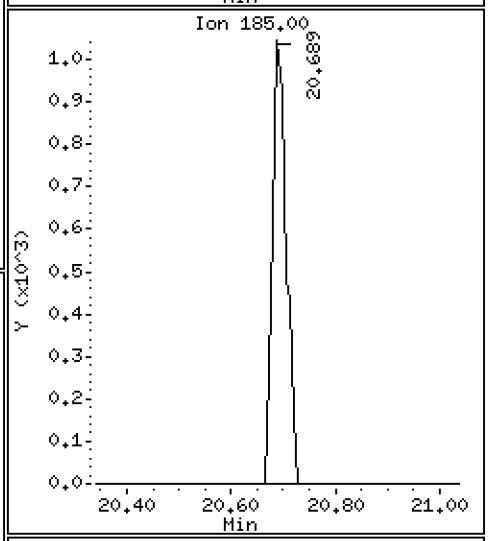


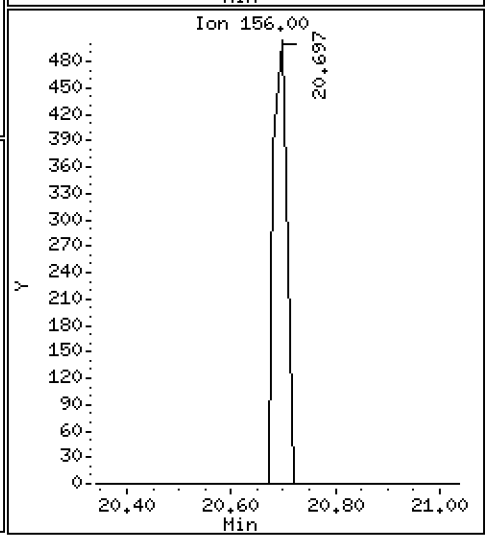












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

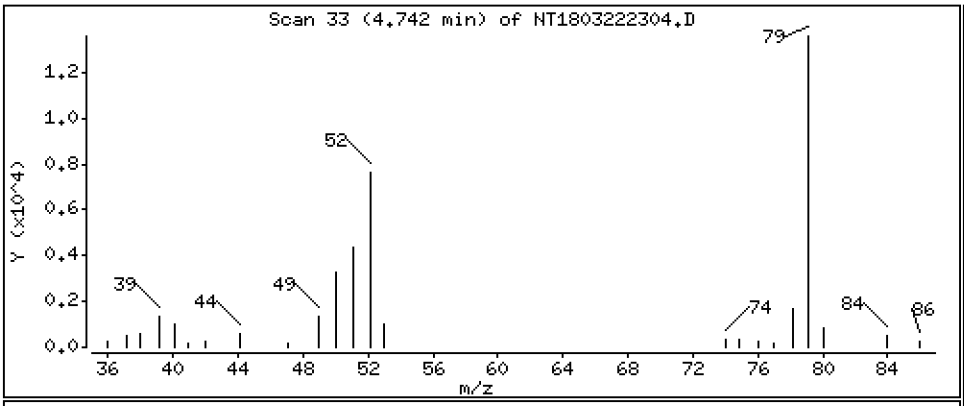
Operator: VTS

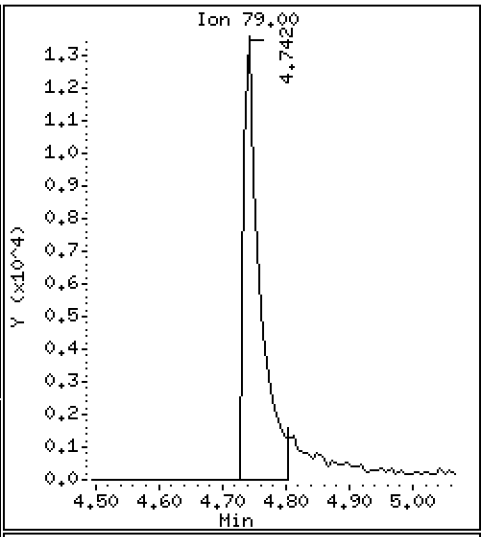
Column phase: ZB-5msi

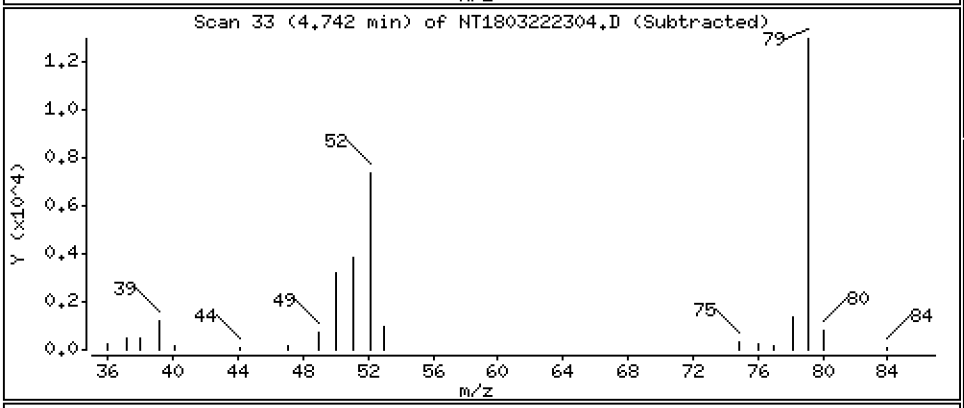
Column diameter: 0.25

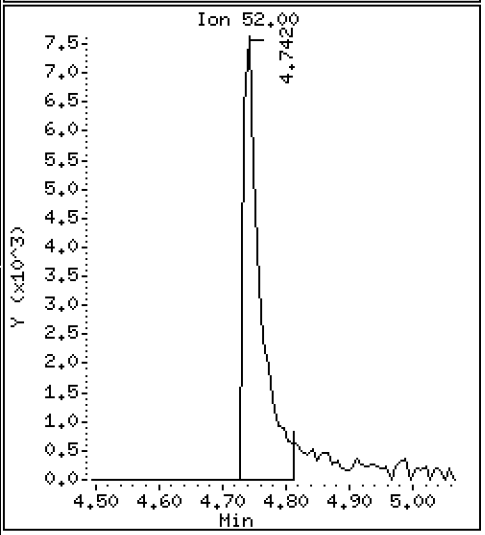
103 Pyridine

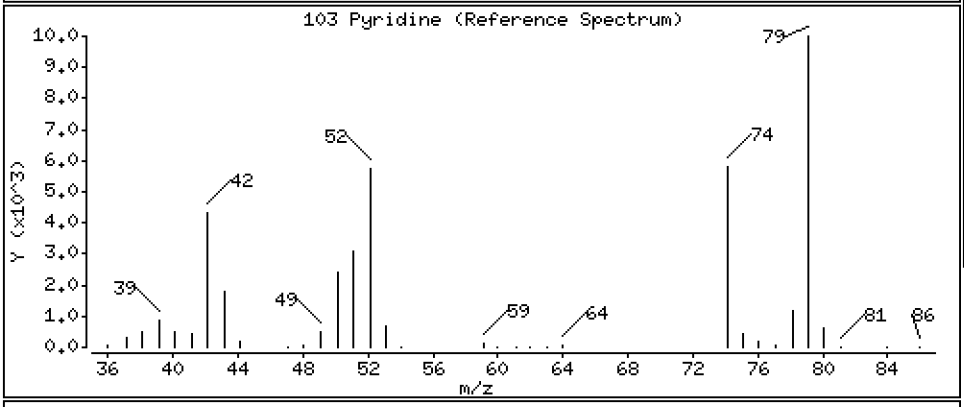
Concentration: 0.3041 ug/mL

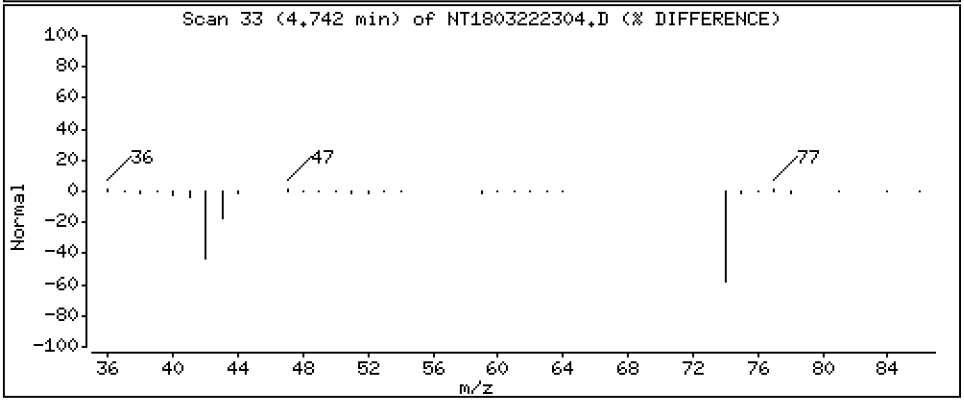












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

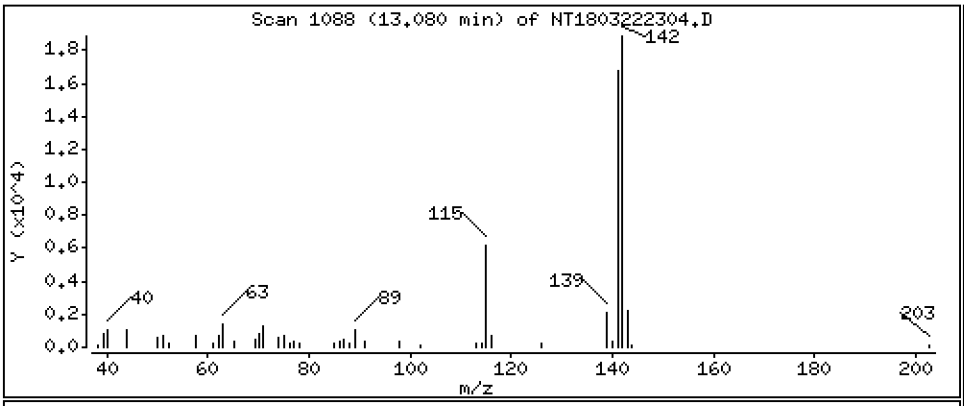
Operator: VTS

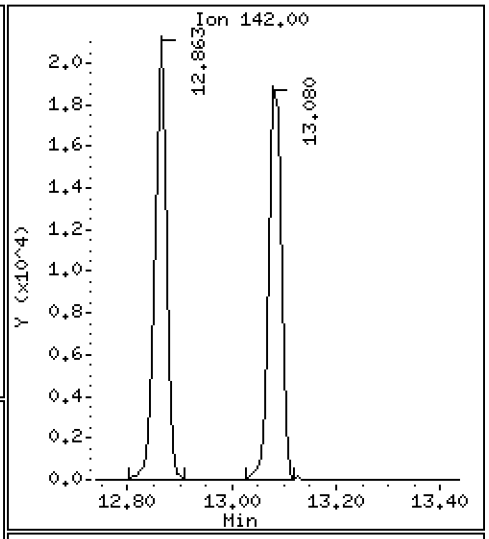
Column phase: ZB-5msi

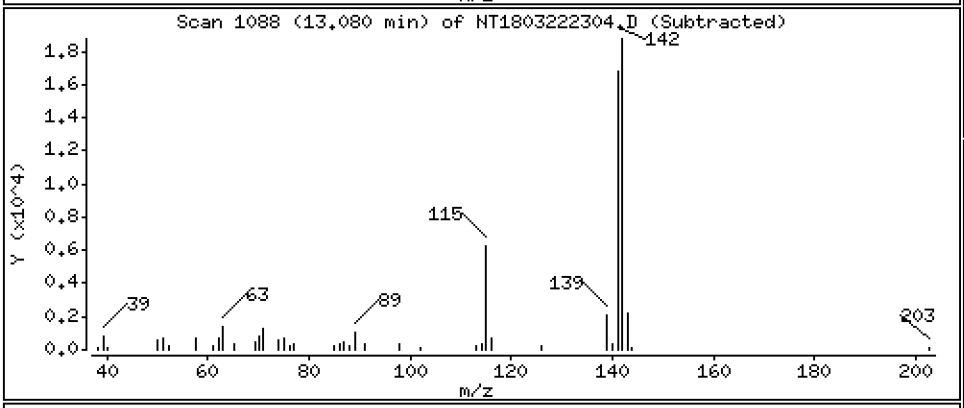
Column diameter: 0.25

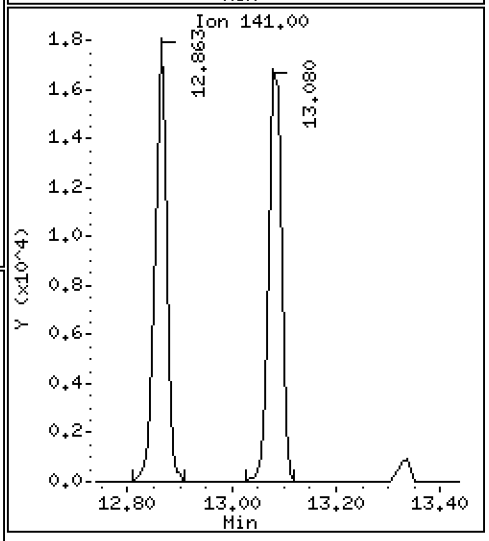
105 1-methylnaphthalene

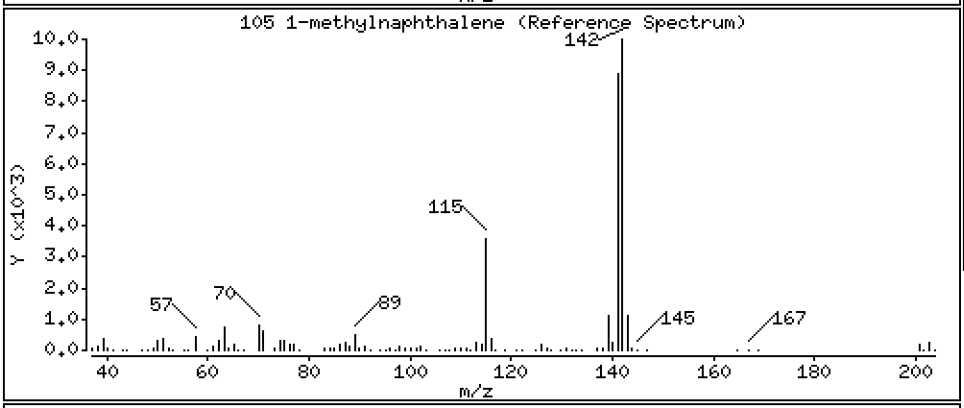
Concentration: 0.1940 ug/mL

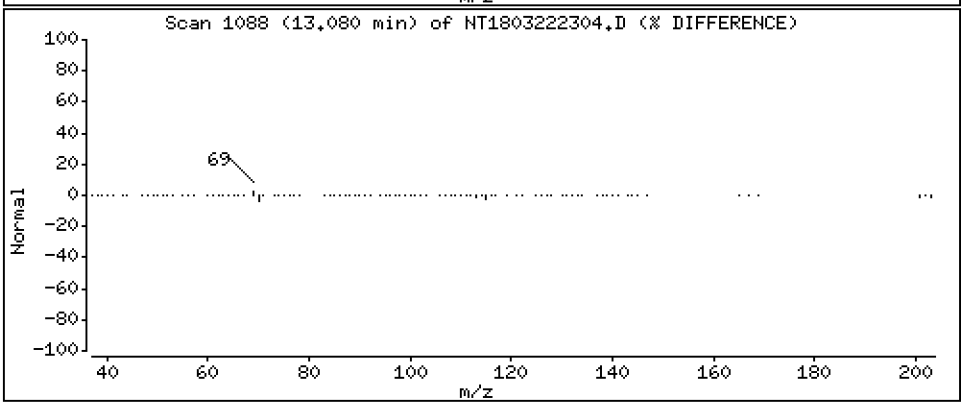












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

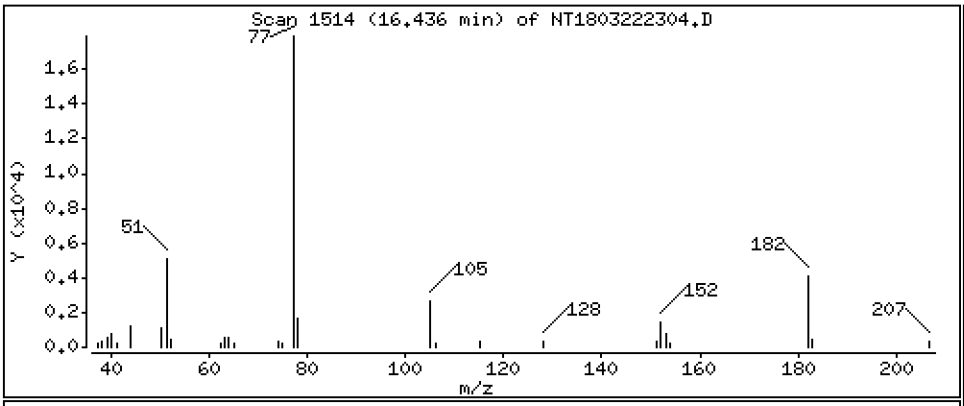
Operator: VTS

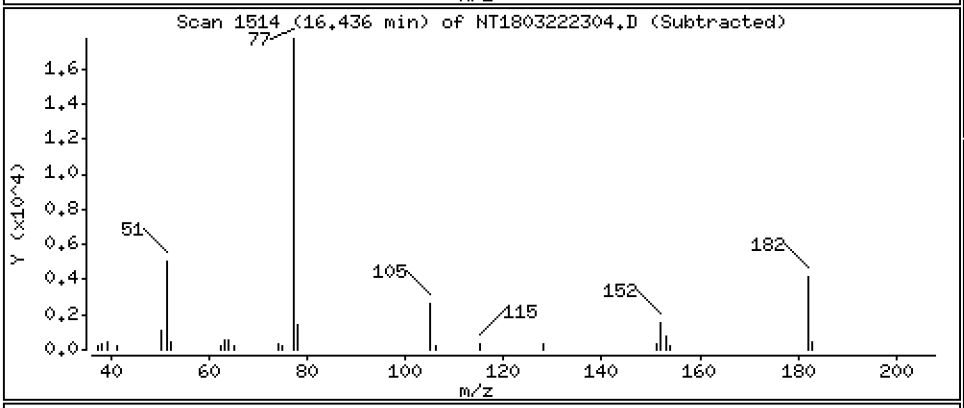
Column phase: ZB-5msi

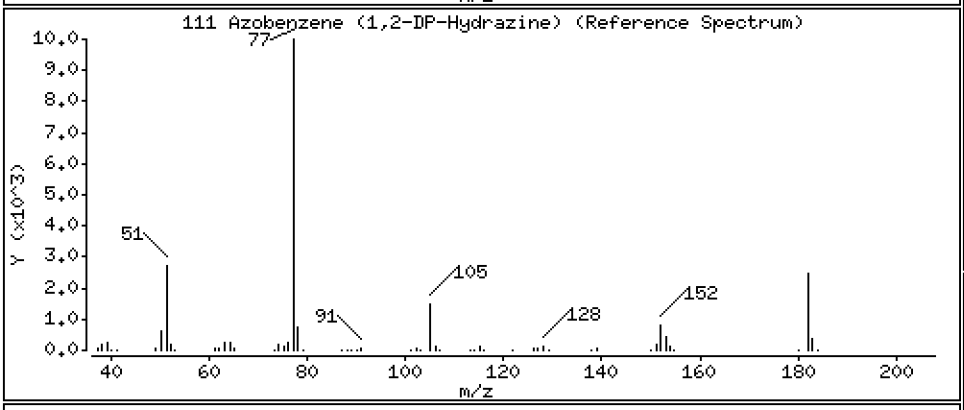
Column diameter: 0.25

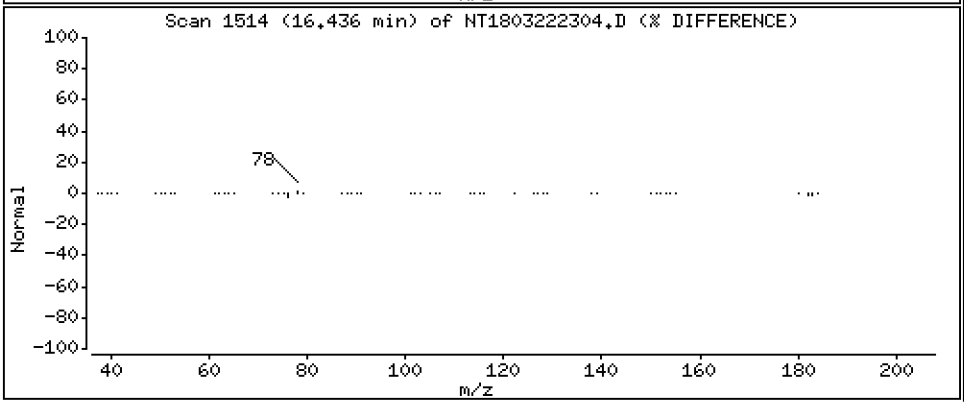
111 Azobenzene (1,2-DP-Hydrazine)

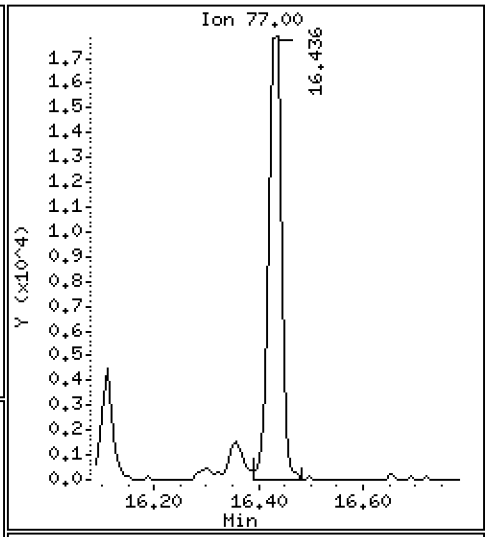
Concentration: 0.1723 ug/mL

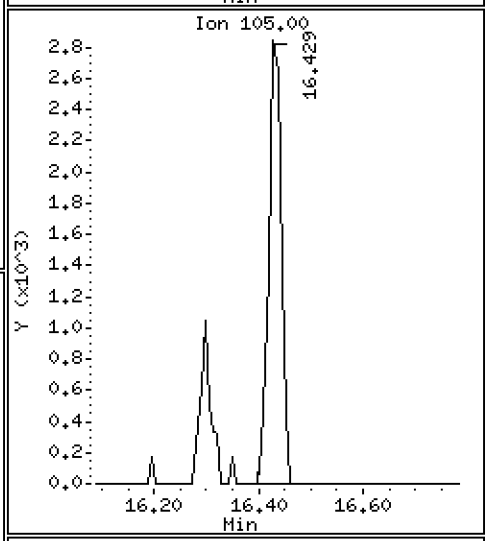


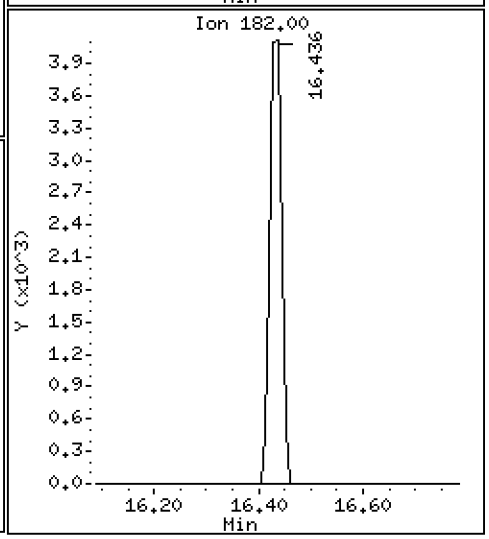












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

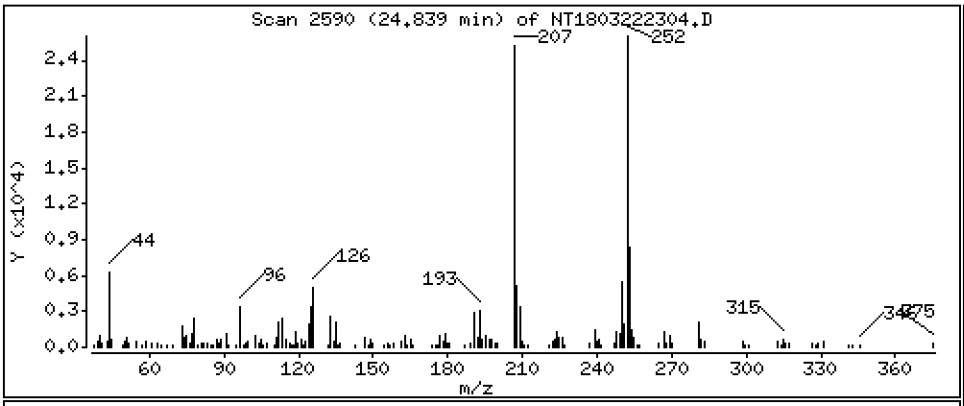
Operator: VTS

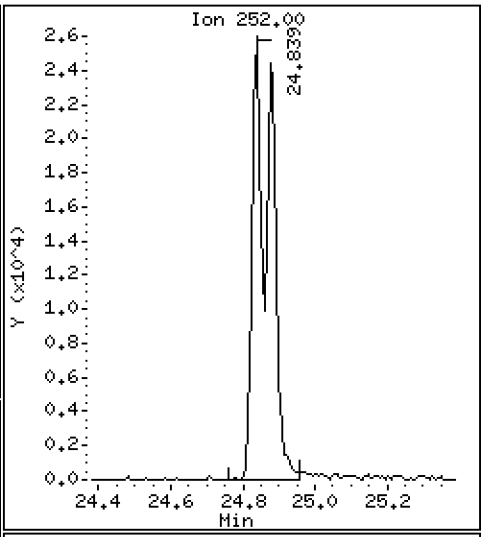
Column phase: ZB-5msi

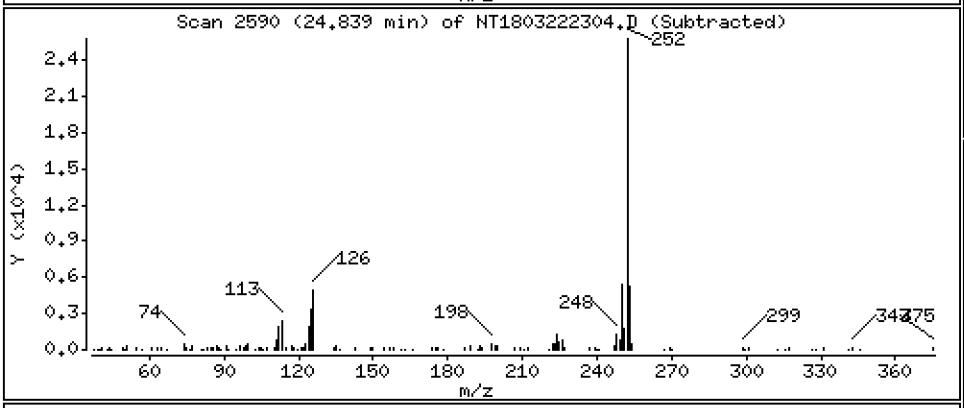
Column diameter: 0.25

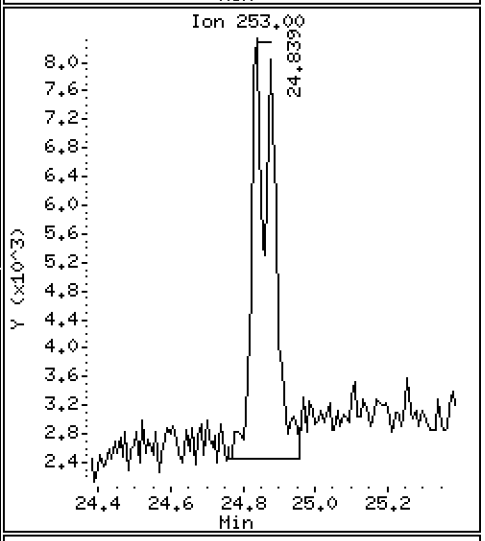
187 Total Benzofluoranthenes

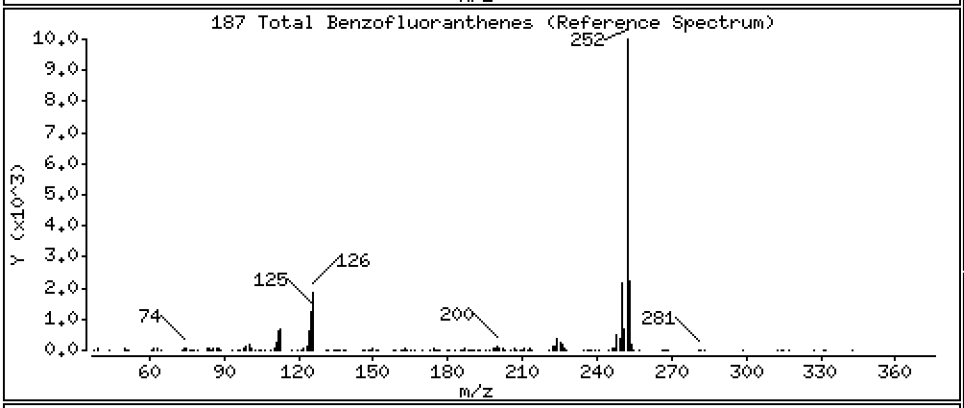
Concentration: 0.3689 ug/mL

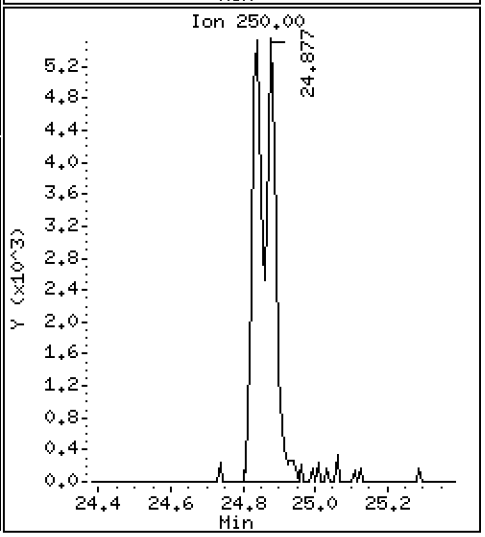


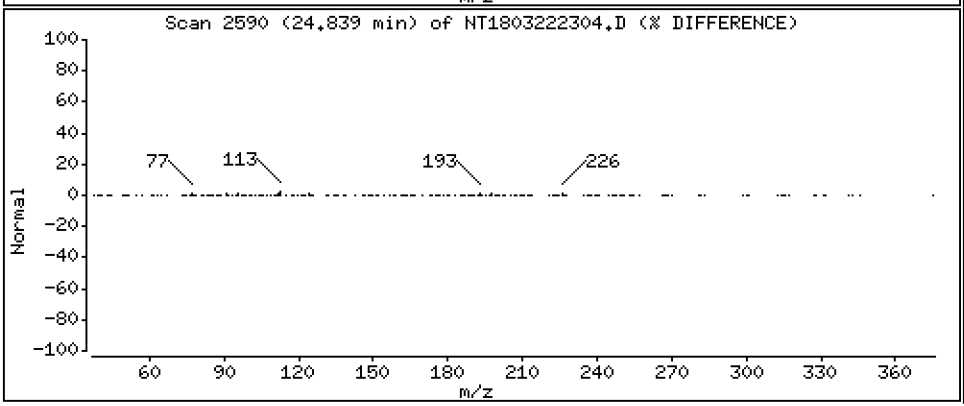












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

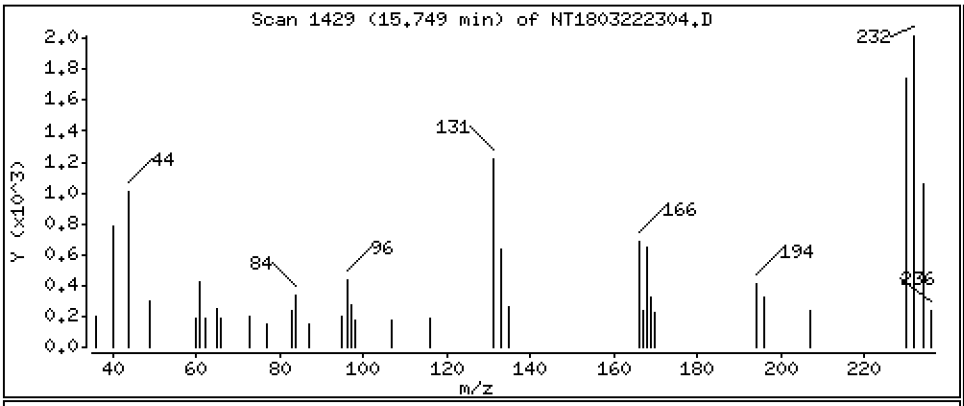
Operator: VTS

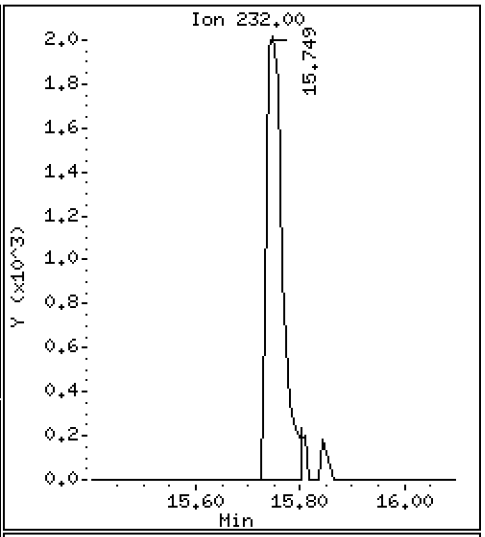
Column phase: ZB-5msi

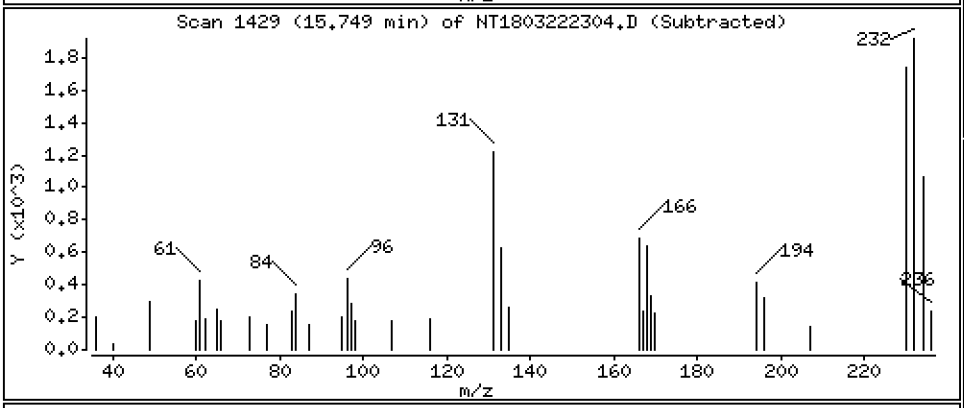
Column diameter: 0.25

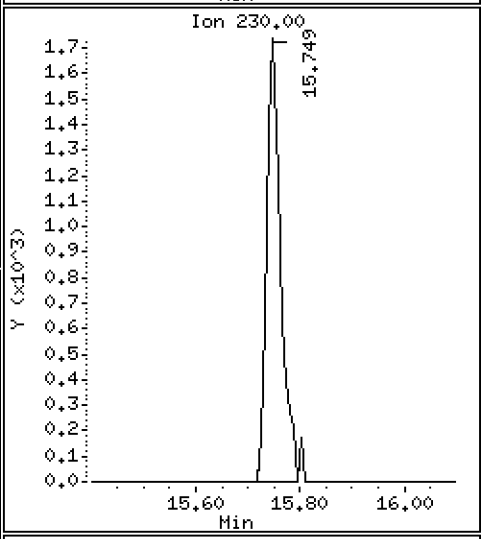
120 2,3,4,6-Tetrachlorophenol

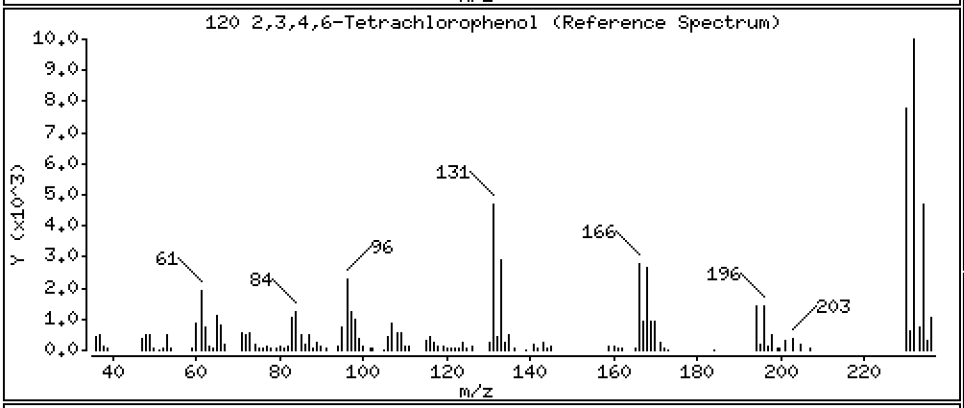
Concentration: 0.07577 ug/mL

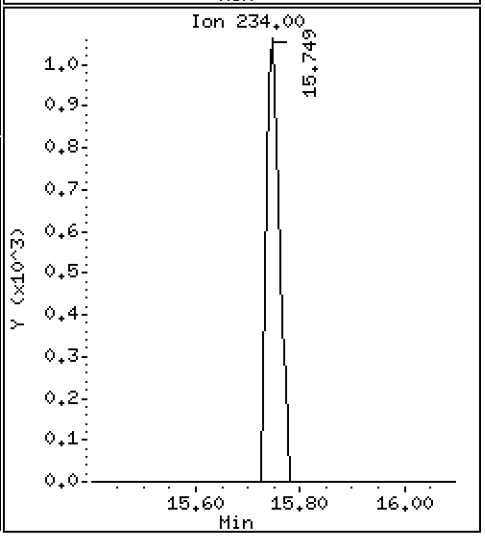


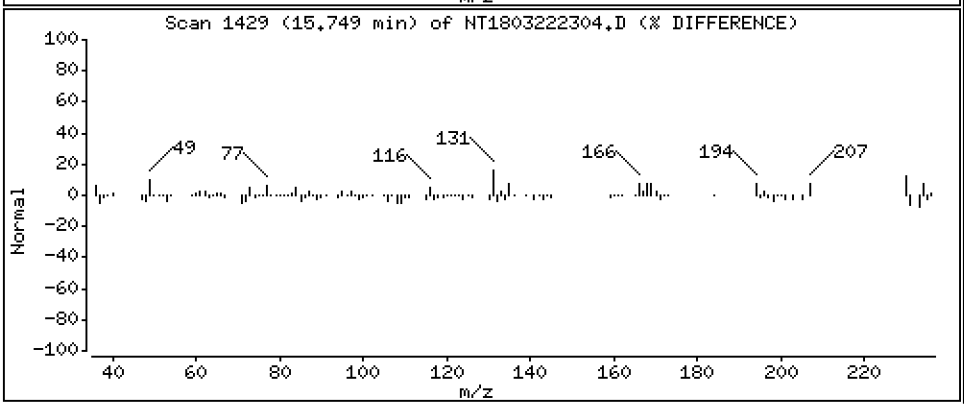












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D
Lab Smp Id: SLD0051-LCV1
Inj Date : 22-MAR-2023 19:17
Operator : VTS Inst ID: nt18.i
Smp Info : SLD0051-LCV1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230322.b\ABN.m
Meth Date : 04-Apr-2023 14:27 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 15:18 Cal File: NT1803192302.D
Als bottle: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: DEENAY-201905

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.781	6.773	(0.755)	19185	0.24071	0.2407
$	2 Phenol-d5	99	8.341	8.341	(0.929)	24989	0.25379	0.2538
	3 Phenol	94	8.364	8.364	(0.931)	18948	0.17997	0.1800
$	5 2-Chlorophenol-d4	132	8.619	8.619	(0.960)	21362	0.25029	0.2503
	4 Bis(2-Chloroethyl)ether	93	8.534	8.534	(0.950)	13628	0.18703	0.1870
	6 2-Chlorophenol	128	8.643	8.642	(0.962)	15854	0.17611	0.1761
	7 1,3-Dichlorobenzene	146	8.913	8.913	(0.992)	18402	0.19253	0.1925
*	8 1,4-Dichlorobenzene-d4	152	8.983	8.983	(1.000)	258537	4.00000	
	9 1,4-Dichlorobenzene	146	9.006	9.006	(1.003)	18483	0.19322	0.1932
$	10 1,2-Dichlorobenzene-d4	152	9.332	9.332	(1.039)	12160	0.19417	0.1942
	12 1,2-Dichlorobenzene	146	9.363	9.363	(1.042)	18621	0.19754	0.1975
	11 Benzyl alcohol	108	9.247	9.247	(1.029)	6701	0.13640	0.1364
	14 2,2'-oxybis(1-Chloropropane)	121	9.550	9.550	(1.063)	4127	0.18595	0.1859
	13 2-Methylphenol	108	9.472	9.472	(1.054)	13426	0.16801	0.1680
	17 Hexachloroethane	117	9.953	9.945	(1.108)	7271	0.19412	0.1941
	16 N-Nitroso-di-n-propylamine	70	9.798	9.806	(1.091)	9491	0.16678	0.1668
	15 4-Methylphenol	108	9.736	9.736	(1.084)	13669	0.16472	0.1647
$	18 Nitrobenzene-d5	82	10.062	10.062	(0.880)	13372	0.16912	0.1691
	19 Nitrobenzene	77	10.093	10.093	(0.882)	13795	0.17747	0.1775
	20 Isophorone	82	10.535	10.543	(0.921)	16957	0.15975	0.1598
	21 2-Nitrophenol	139	10.719	10.719	(0.937)	4309	0.09420	0.09420
	22 2,4-Dimethylphenol	107	10.770	10.778	(0.941)	27457	0.35136	0.3514
	23 Bis(2-Chloroethoxy)methane	93	10.973	10.973	(0.959)	13944	0.18175	0.1817
	24 Benzoic acid	105	Compound Not Detected.					
	25 2,4-Dichlorophenol	162	11.169	11.169	(0.976)	20027	0.27845	0.2784
	26 1,2,4-Trichlorobenzene	180	11.355	11.355	(0.993)	14539	0.19282	0.1928
*	27 Naphthalene-d8	136	11.440	11.439	(1.000)	959211	4.00000	
	28 Naphthalene	128	11.478	11.478	(1.003)	50189	0.19282	0.1928
	29 4-Chloroaniline	127	11.609	11.609	(1.015)	32319	0.32270	0.3227
	30 Hexachlorobutadiene	225	11.841	11.849	(1.035)	8399	0.19589	0.1959
	31 4-Chloro-3-methylphenol	107	12.561	12.561	(1.098)	19906	0.30051	0.3005
	32 2-Methylnaphthalene	142	12.863	12.863	(1.124)	32052	0.18908	0.1891(H)
	33 Hexachlorocyclopentadiene	237	13.327	13.335	(0.887)	10822	0.24556	0.2456

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
34	2,4,6-Trichlorophenol	196	13.482	13.482	(0.897)	12020	0.26385	0.2639
35	2,4,5-Trichlorophenol	196	13.552	13.551	(0.902)	14099	0.28314	0.2831
$ 36	2-Fluorobiphenyl	172	13.644	13.644	(0.908)	35203	0.19303	0.1930
37	2-Chloronaphthalene	162	13.846	13.846	(0.922)	28148	0.19348	0.1935
38	2-Nitroaniline	65	14.101	14.109	(0.939)	9510	0.24944	0.2494
39	Dimethylphthalate	163	14.534	14.542	(0.968)	26702	0.17596	0.1760
40	Acenaphthylene	152	14.705	14.712	(0.979)	43764	0.17665	0.1766
41	2,6-Dinitrotoluene	165	14.666	14.674	(0.976)	6753	0.19808	0.1981
* 42	Acenaphthene-d10	164	15.022	15.022	(1.000)	509271	4.00000	
43	3-Nitroaniline	138	14.945	14.952	(0.995)	9117	0.23512	0.2351
44	Acenaphthene	153	15.084	15.091	(1.004)	30138	0.19219	0.1922
45	2,4-Dinitrophenol	184	Compound Not Detected.					
46	Dibenzofuran	168	15.408	15.416	(1.026)	41457	0.19243	0.1924
47	4-Nitrophenol	109	15.262	15.261	(1.016)	1806	0.08786	0.08786
48	2,4-Dinitrotoluene	165	15.470	15.470	(1.030)	7654	0.17108	0.1711
50	Diethylphthalate	149	15.981	15.988	(1.064)	25123	0.16340	0.1634
49	Fluorene	166	16.112	16.120	(1.073)	36464	0.18646	0.1865
51	4-Chlorophenyl-phenylether	204	16.112	16.112	(1.073)	17607	0.20286	0.2029
52	4-Nitroaniline	138	16.197	16.212	(1.078)	8730	0.22610	0.2261
53	4,6-Dinitro-2-methylphenol	198	16.297	16.305	(0.904)	2732	0.11113	0.1111
54	N-Nitrosodiphenylamine	169	16.359	16.359	(0.907)	19438	0.17404	0.1740
$ 55	2,4,6-Tribromophenol	330	16.644	16.644	(1.108)	2868	0.12942	0.1294
56	4-Bromophenyl-phenylether	248	17.107	17.107	(0.949)	7563	0.17071	0.1707
57	Hexachlorobenzene	284	17.416	17.415	(0.966)	9482	0.19081	0.1908
58	Pentachlorophenol	266	17.779	17.772	(0.986)	1274	0.04350	0.04350
* 59	Phenanthrene-d10	188	18.027	18.035	(1.000)	876764	4.00000	
60	Phenanthrene	178	18.073	18.081	(1.003)	46517	0.19436	0.1944
61	Anthracene	178	18.166	18.166	(1.008)	37818	0.16573	0.1657
62	Carbazole	167	18.491	18.499	(1.026)	34974	0.17405	0.1741
63	Di-n-butylphthalate	149	19.311	19.311	(1.071)	31958	0.11987	0.1199
64	Fluoranthene	202	20.449	20.456	(0.887)	43087	0.17166	0.1717
65	Pyrene	202	20.874	20.874	(0.906)	45921	0.17358	0.1736
$ 66	Terphenyl-d14	244	21.168	21.168	(0.918)	33981	0.17271	0.1727
67	Butylbenzylphthalate	149	22.090	22.090	(0.958)	12073	0.10549	0.1055
68	Benzo(a)anthracene	228	23.019	23.027	(0.999)	46080	0.18695	0.1870
* 69	Chrysene-d12	240	23.050	23.050	(1.000)	787665	4.00000	
70	3,3'-Dichlorobenzidine	252	22.980	22.988	(0.997)	32581	0.36672	0.3667
71	Chrysene	228	23.089	23.096	(1.002)	47057	0.18469	0.1847
72	bis(2-Ethylhexyl)phthalate	149	23.120	23.119	(0.960)	17891	0.10826	0.1083
* 134	Di-n-octylphthalate-d4	153	24.087	24.087	(1.000)	1123312	4.00000	
73	Di-n-octylphthalate	149	24.095	24.095	(1.000)	53471	0.19347	0.1935
74	Benzo(b)fluoranthene	252	24.838	24.846	(0.972)	47851	0.19322	0.1932
75	Benzo(k)fluoranthene	252	24.877	24.885	(0.973)	46539	0.17086	0.1709
76	Benzo(a)pyrene	252	25.450	25.458	(0.996)	37630	0.15202	0.1520
* 77	Perylene-d12	264	25.558	25.566	(1.000)	889586	4.00000	
78	Indeno(1,2,3-cd)pyrene	276	28.040	28.055	(1.097)	28971	0.09384	0.09384
79	Dibenzo(a,h)anthracene	278	28.055	28.071	(1.098)	21171	0.08319	0.08319
80	Benzo(g,h,i)perylene	276	28.762	28.793	(1.125)	26990	0.10956	0.1096(M)
90	N-Nitrosodimethylamine	74	4.695	4.695	(0.523)	18072	0.36676	0.3668
91	Aniline	93	8.442	8.442	(0.940)	39635	0.35008	0.3501
93	Benzidine	184	20.689	20.688	(0.898)	14753	0.13822	0.1382
103	Pyridine	79	4.742	4.718	(0.528)	24742	0.30406	0.3041
105	1-methylnaphthalene	142	13.079	13.087	(1.143)	30188	0.19399	0.1940
111	Azobenzene (1,2-DP-Hydrazine)	77	16.436	16.436	(1.094)	29032	0.17230	0.1723

						CONCENTRATIONS	
	QUANT SIG					ON-COLUMN	FINAL
Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/mL)	(ug/mL)
187 Total Benzofluoranthenes	252	24.838	24.885	(0.972)	91544	0.36885	0.3689
120 2,3,4,6-Tetrachlorophenol	232	15.748	15.748	(1.048)	4223	0.07577	0.07577

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222304.D
Lab Smp Id: SLD0051-LCV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322.b\ABN.m
Misc Info:

Calibration Date: 22-MAR-2023
Calibration Time: 17:55
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	259918	129959	519836	258537	-0.53
27 Naphthalene-d8	969410	484705	1938820	959211	-1.05
42 Acenaphthene-d10	510287	255144	1020574	509271	-0.20
59 Phenanthrene-d10	882628	441314	1765256	876764	-0.66
69 Chrysene-d12	800073	400037	1600146	787665	-1.55
134 Di-n-octylphthala	1258607	629304	2517214	1123312	-10.75
77 Perylene-d12	911909	455955	1823818	889586	-2.45

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	0.00
42 Acenaphthene-d10	15.02	14.52	15.52	15.02	0.00
59 Phenanthrene-d10	18.04	17.54	18.54	18.03	-0.04
69 Chrysene-d12	23.05	22.55	23.55	23.05	0.00
134 Di-n-octylphthala	24.09	23.59	24.59	24.09	0.00
77 Perylene-d12	25.57	25.07	26.07	25.56	-0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222304.D

Lab ID: SLD0051-LCV1
nt18.i, ABN.m, 22-MAR-2023 19:17

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

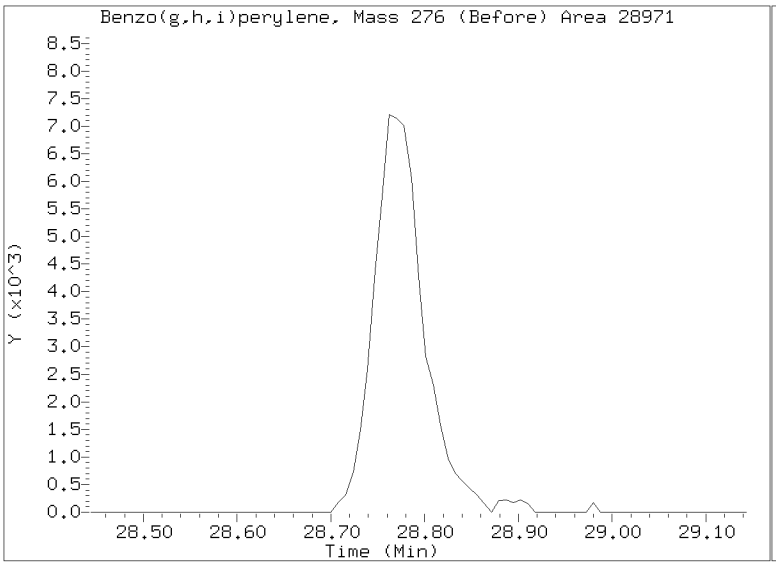
RRT check based on Ccal File: NT1803222302.D

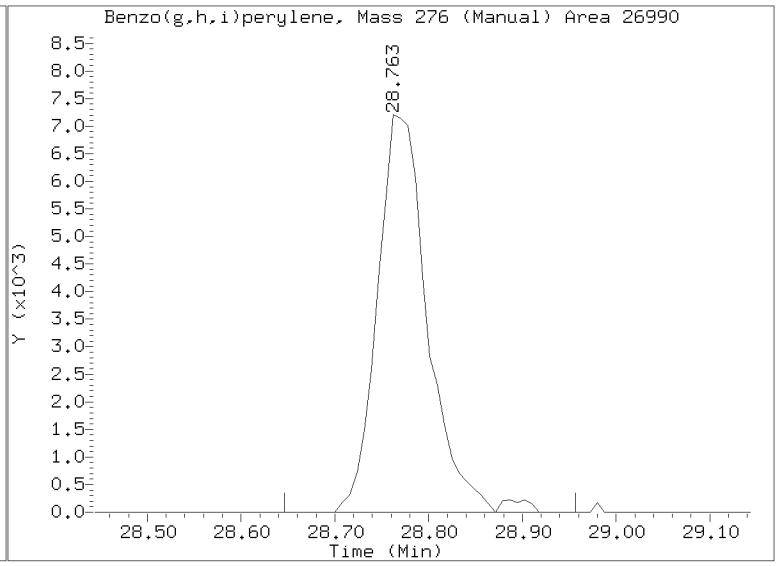
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230322.b/NT1803222304.D
Injection Date: 22-MAR-2023 19:17
Lab ID:SLD0051-LCV1 Client ID:
Report Date: 04/04/2023 14:28





APPROVED

By Deenay Dunmore at 2:44 pm, Apr 04, 2023

LOW-CONCENTRATION CALIBRATION VERIFICATION

EPA 8270E

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GC00085
Laboratory ID: SLD0056-LCV1
Sequence: SLD0056
Standard ID: K011105

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DRIFT	QC LIMIT
Phenol	0.20000	0.2	-12.9	50.00
4-Methylphenol	0.20000	0.2	-13.2	50.00
Naphthalene	0.20000	0.2	-1.6	50.00
2-Methylnaphthalene	0.20000	0.2	-2.1	50.00
Acenaphthylene	0.20000	0.2	-8.1	50.00
Dimethylphthalate	0.20000	0.2	-11.2	50.00
Acenaphthene	0.20000	0.2	1.1	50.00
Dibenzofuran	0.20000	0.2	-3.4	50.00
Fluorene	0.20000	0.2	-2.8	50.00
Phenanthrene	0.20000	0.2	-2.2	50.00
Anthracene	0.20000	0.2	-9.2	50.00
Fluoranthene	0.20000	0.2	-17.6	50.00
Pyrene	0.20000	0.2	-14.2	50.00
Butylbenzylphthalate	0.20000	0.2	-22.5	50.00
Benzo(a)anthracene	0.20000	0.2	0.05	50.00
Chrysene	0.20000	0.2	0.05	50.00
bis(2-Ethylhexyl)phthalate	0.20000	0.1	-28.5	50.00
Benzofluoranthenes, Total	0.40000	0.4	11.0	50.00
Benzo(a)pyrene	0.20000	0.2	-6.9	50.00
Indeno(1,2,3-cd)pyrene	0.20000	0.06	-70.7 *	50.00
Dibenzo(a,h)anthracene	0.20000	0.05	-73.1 *	50.00
Benzo(g,h,i)perylene	0.20000	0.05	-77.3 *	50.00
2-Fluorophenol	0.30000	0.268	-10.6	50.00
Phenol-d5	0.30000	0.265	-11.6	50.00
2-Chlorophenol-d4	0.30000	0.273	-9.1	50.00
1,2-Dichlorobenzene-d4	0.20000	0.200	-0.2	50.00
Nitrobenzene-d5	0.20000	0.193	-3.4	50.00
2-Fluorobiphenyl	0.20000	0.196	-2.0	50.00
2,4,6-Tribromophenol	0.30000	0.225	-24.9	50.00

LOW-CONCENTRATION CALIBRATION VERIFICATION

EPA 8270E

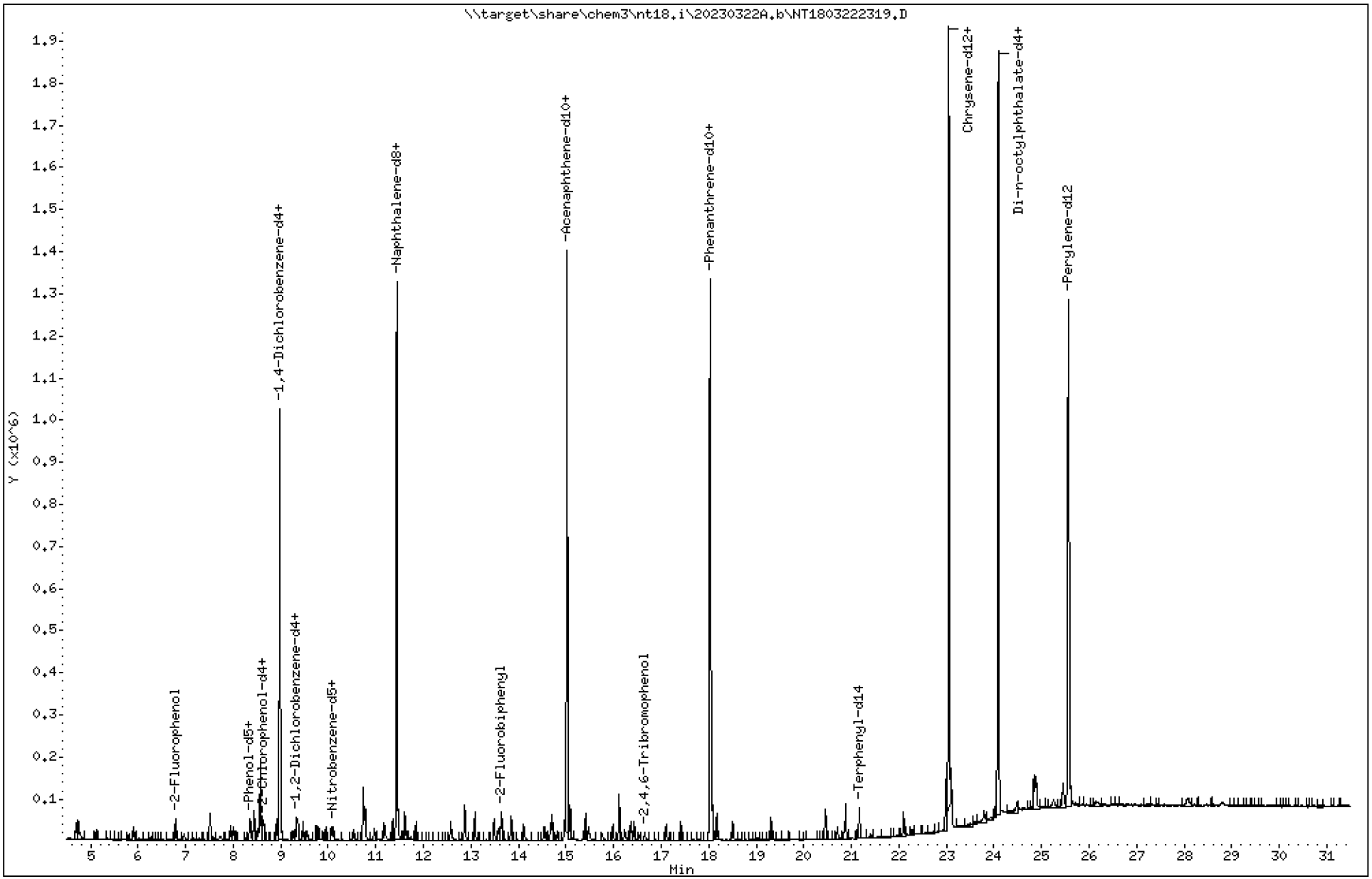
Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GC00085
Laboratory ID: SLD0056-LCV1
Sequence: SLD0056
Standard ID: K011105

p-Terphenyl-d14	0.20000	0.166	-17.0	50.00

* Values outside of QC limits

Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D
Date : 23-MAR-2023 05:25
Client ID:
Sample Info: SLD0056-LCV1

Instrument: nt18.i
Operator: VTS
Column phase: ZB-5msi
Column diameter: 0.25



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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

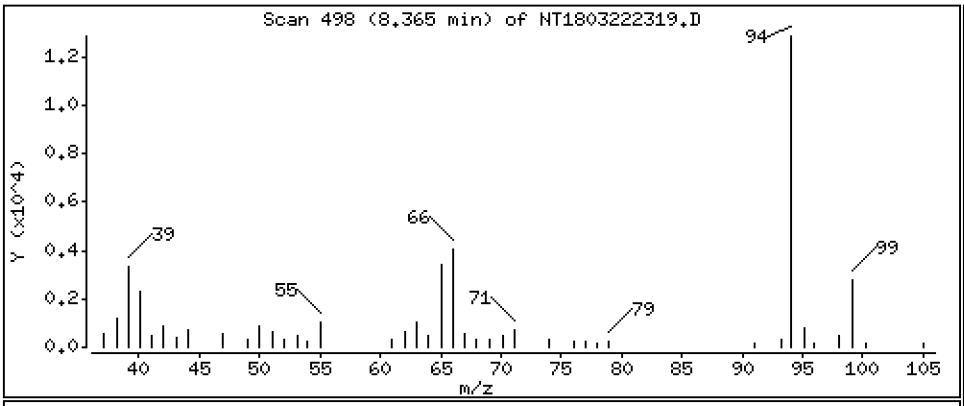
Operator: VTS

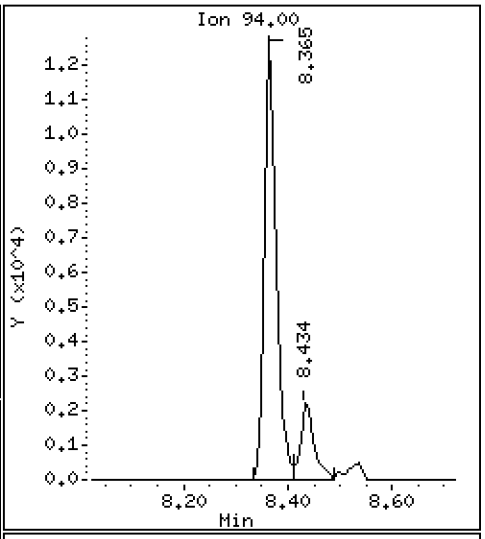
Column phase: ZB-5msi

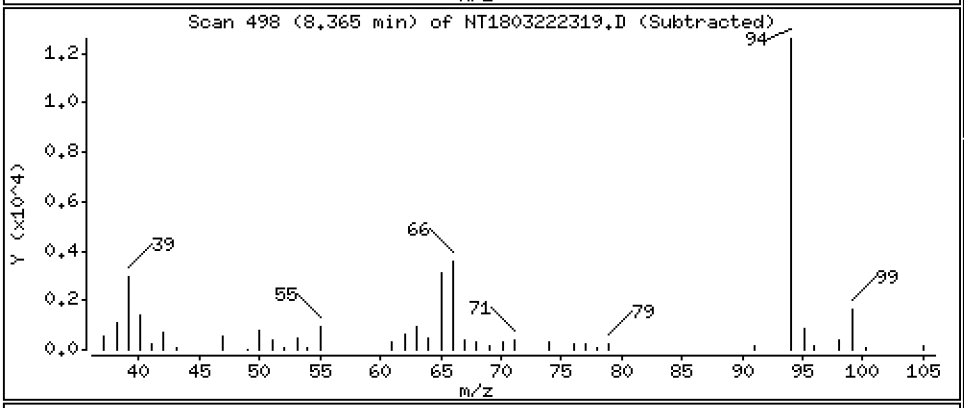
Column diameter: 0.25

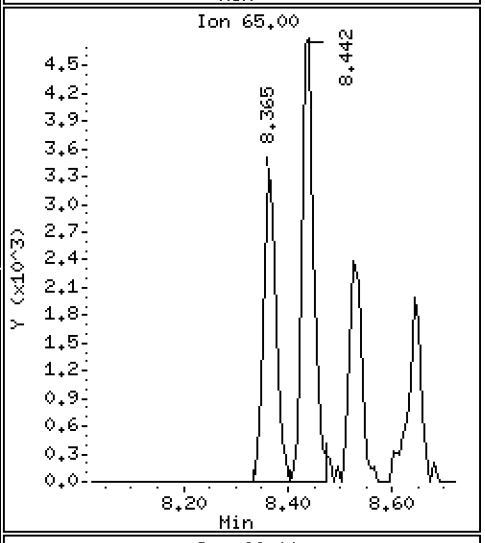
3 Phenol

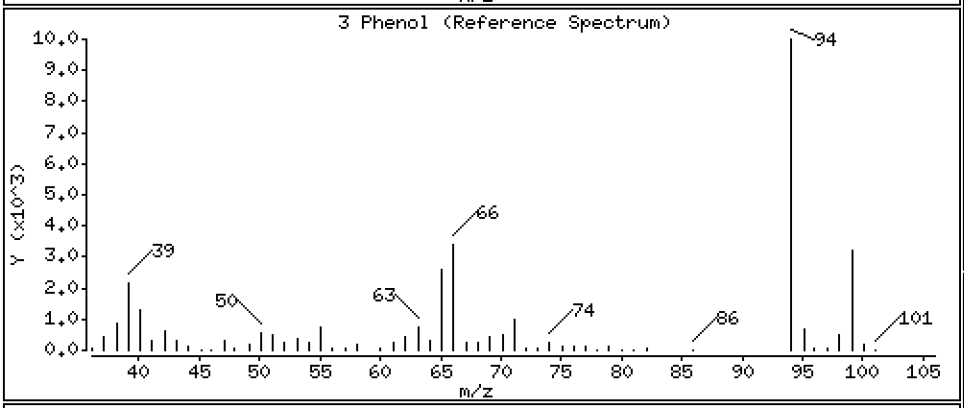
Concentration: 0.1742 ug/mL

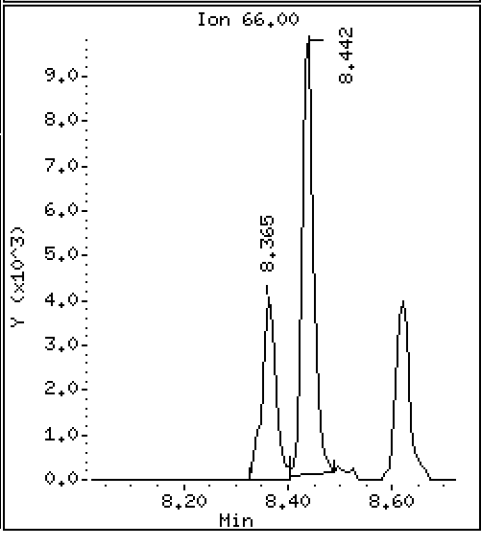


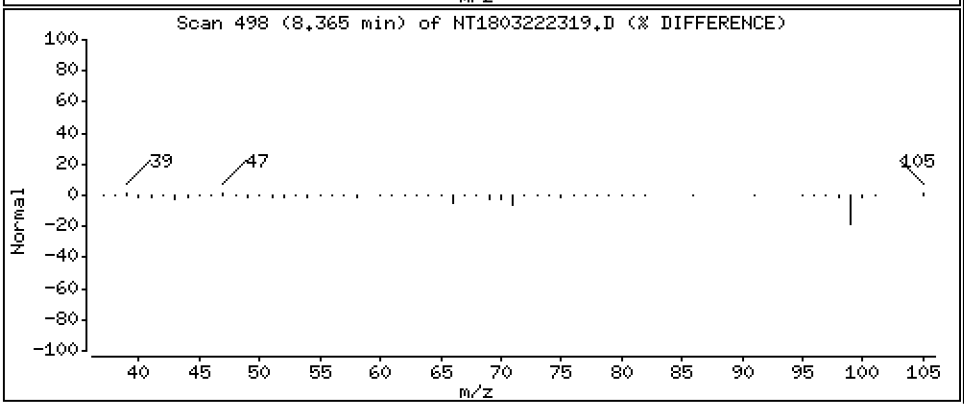












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D

Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

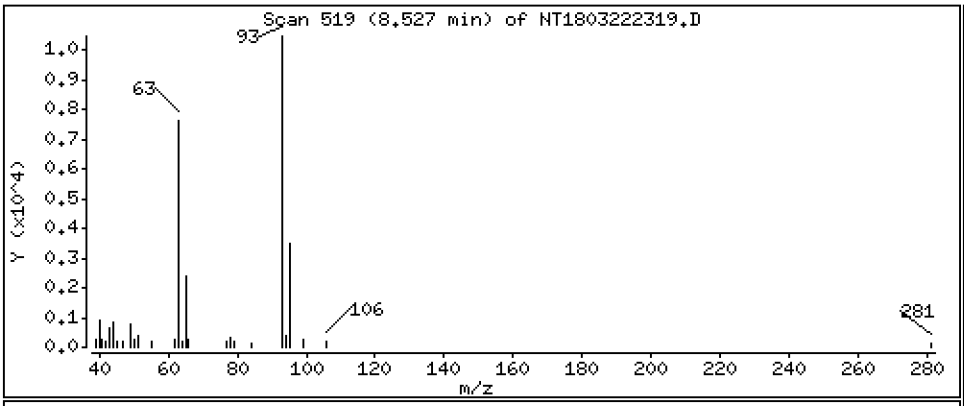
Operator: VTS

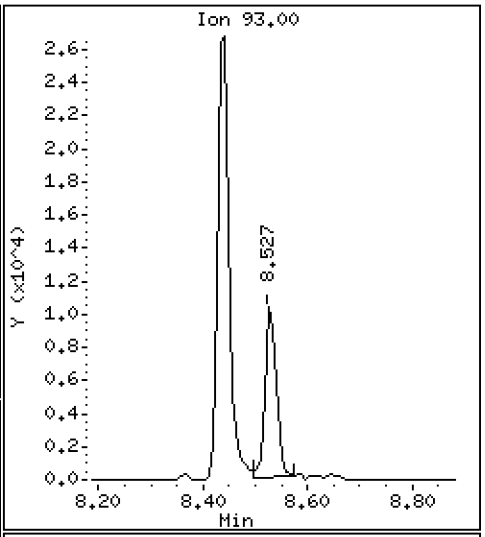
Column phase: ZB-5msi

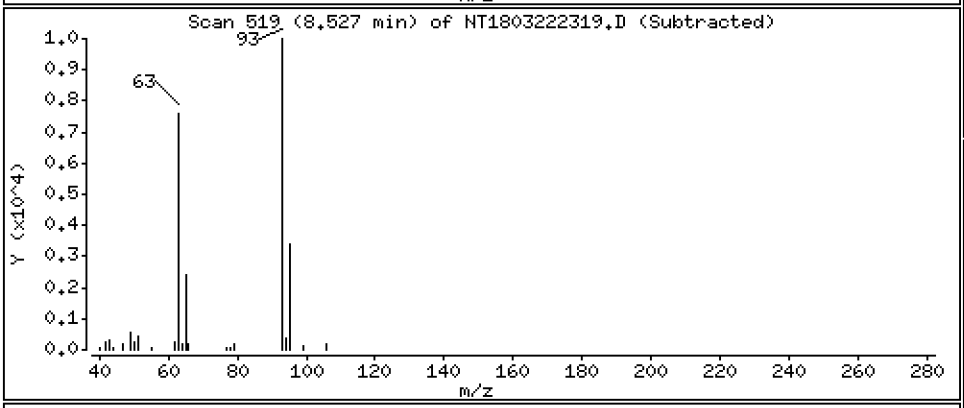
Column diameter: 0.25

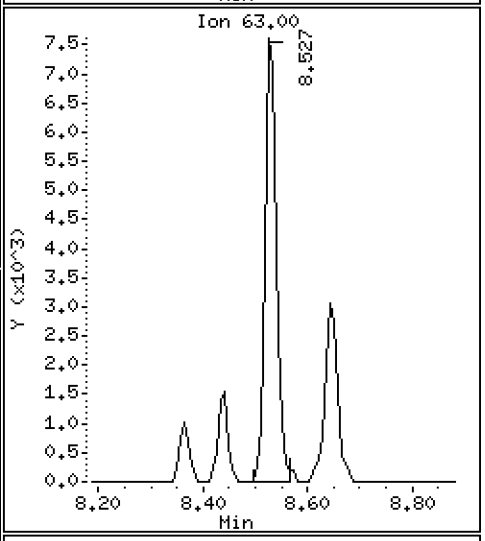
4 Bis(2-Chloroethyl)ether

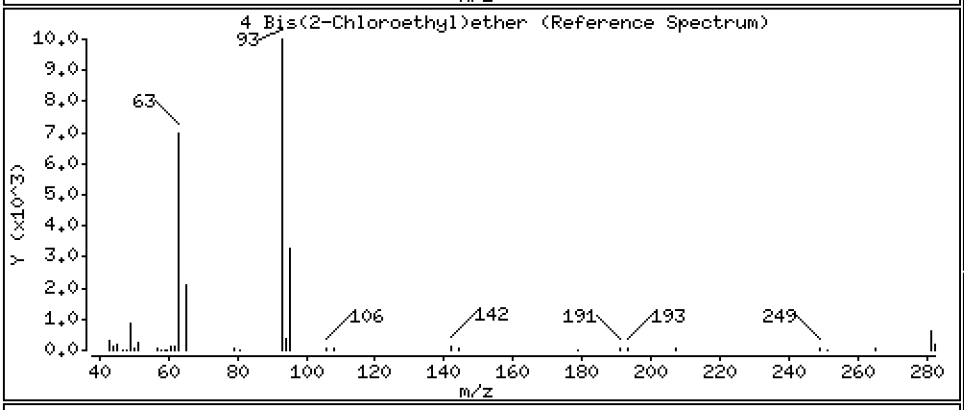
Concentration: 0.1876 ug/mL

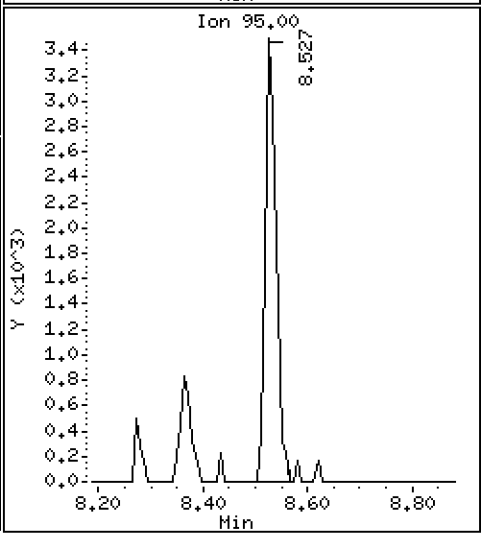


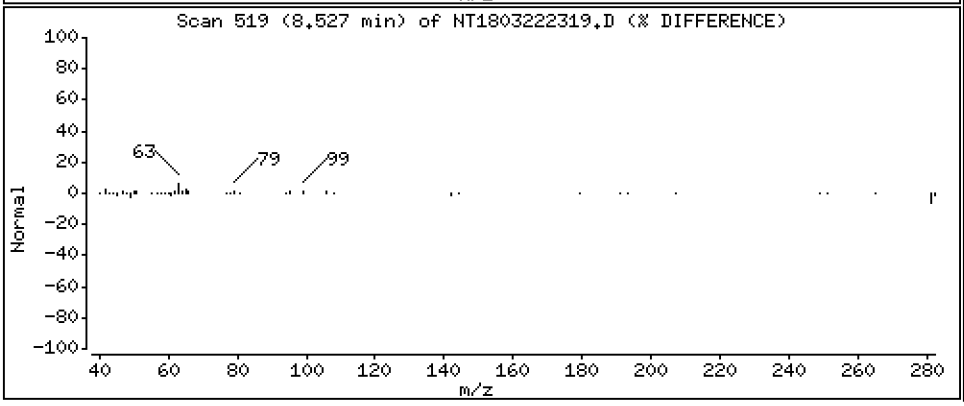












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D

Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

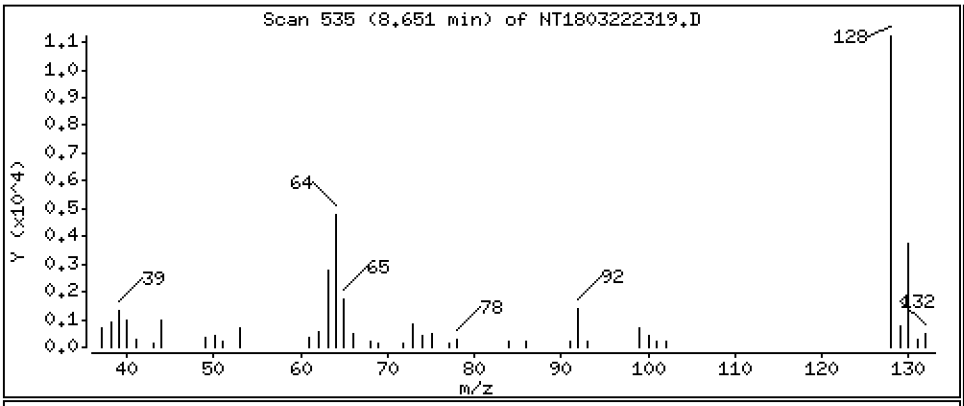
Operator: VTS

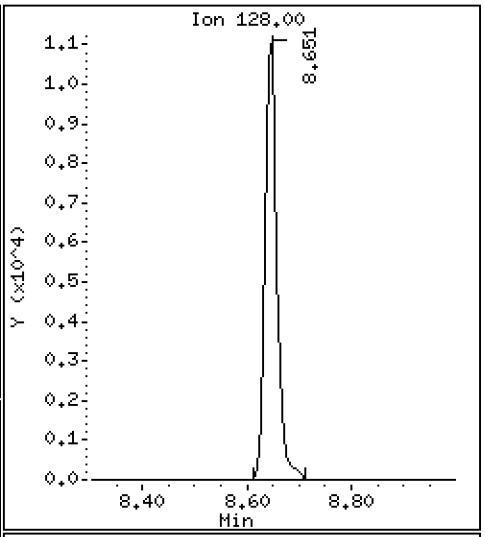
Column phase: ZB-5msi

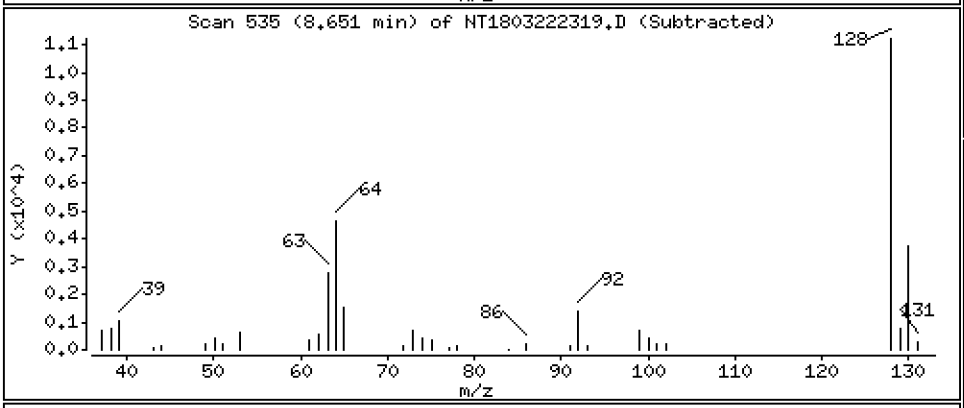
Column diameter: 0.25

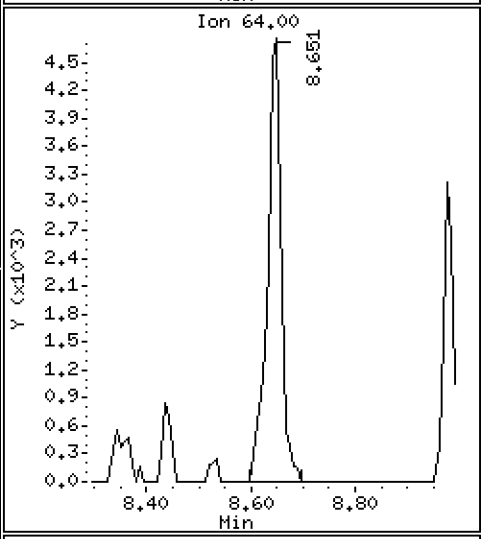
6 2-Chlorophenol

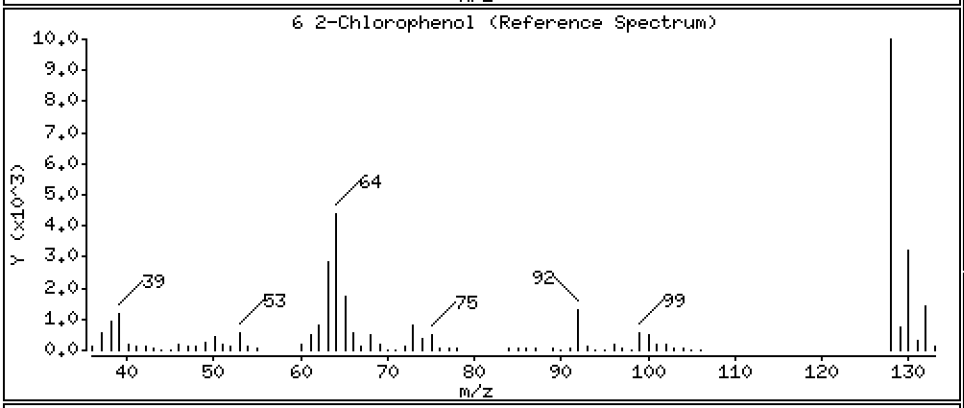
Concentration: 0.1853 ug/mL

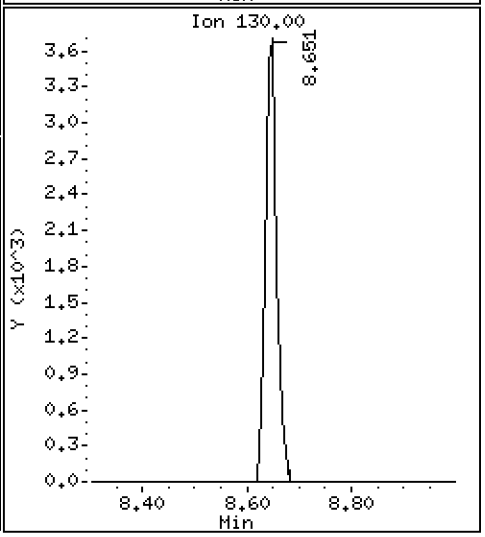


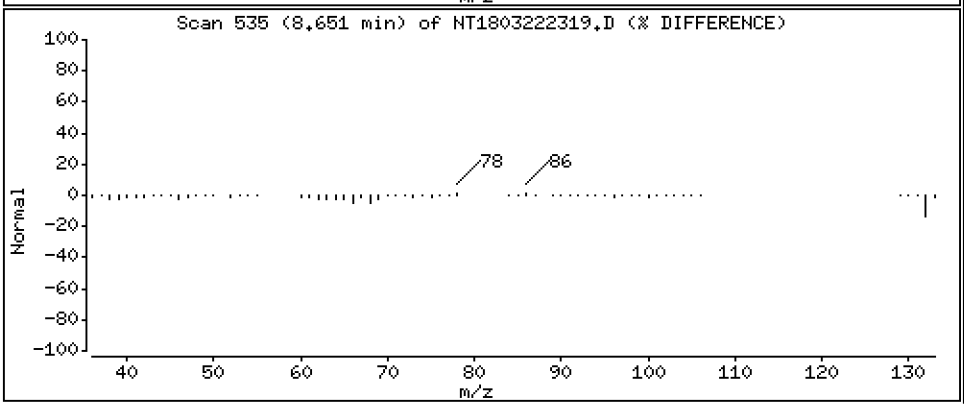












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

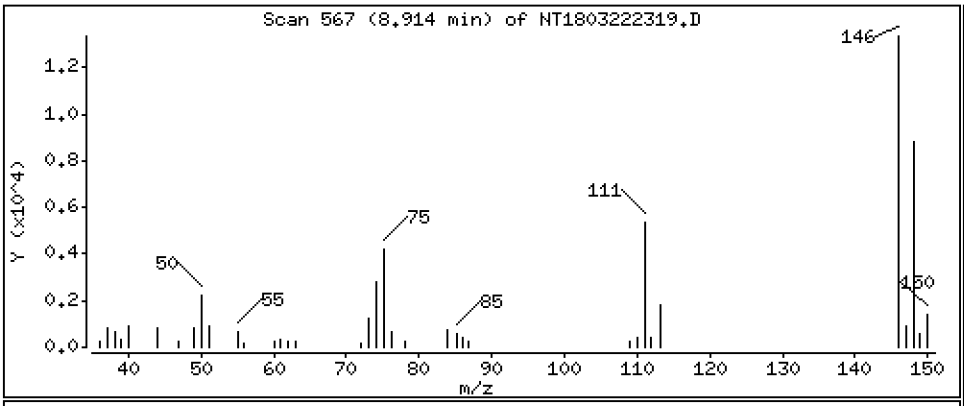
Operator: VTS

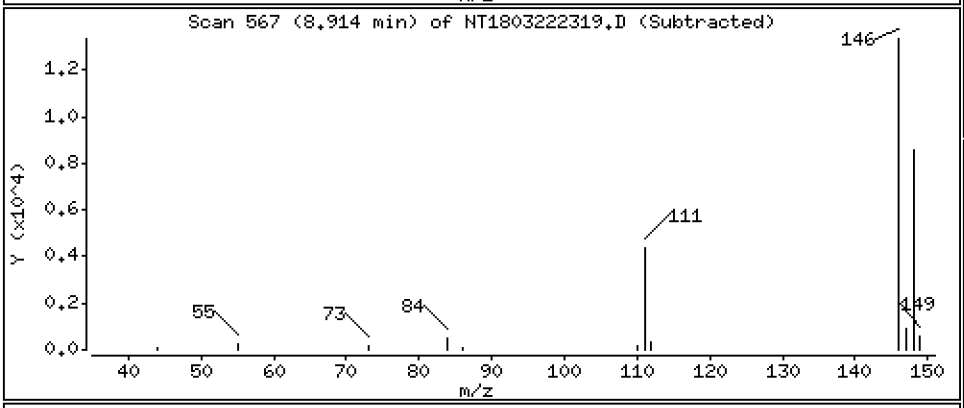
Column phase: ZB-5msi

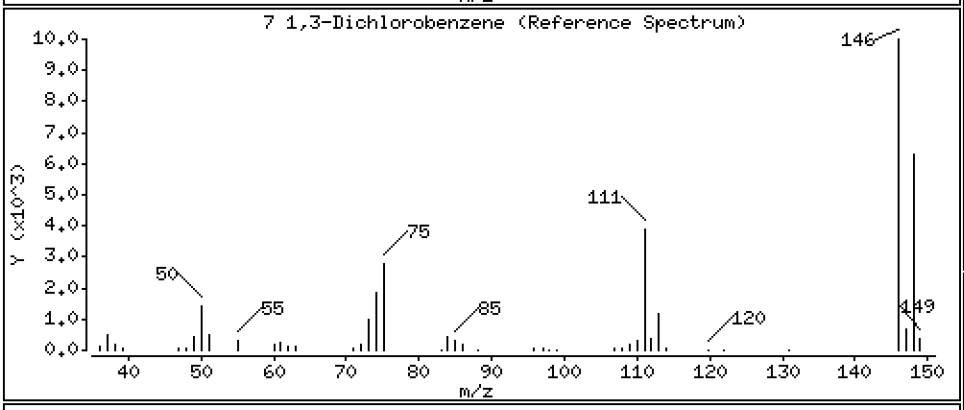
Column diameter: 0.25

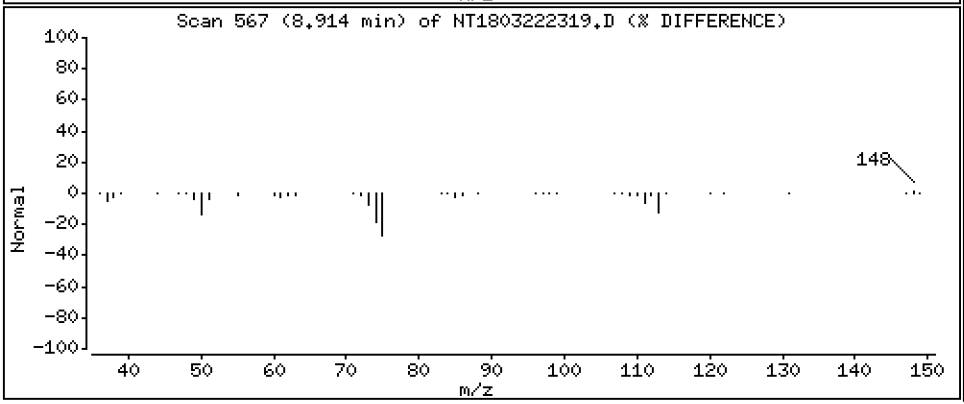
7 1,3-Dichlorobenzene

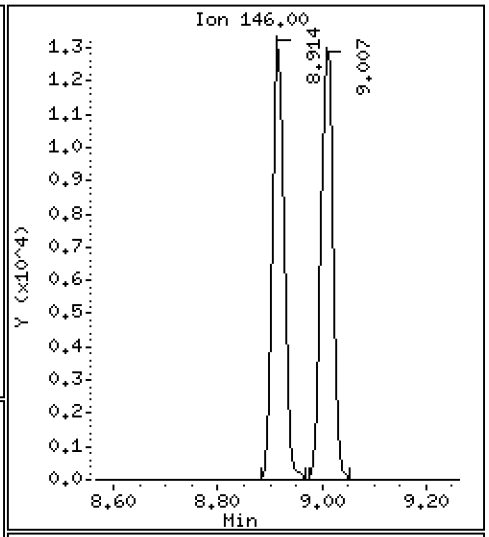
Concentration: 0.1962 ug/mL

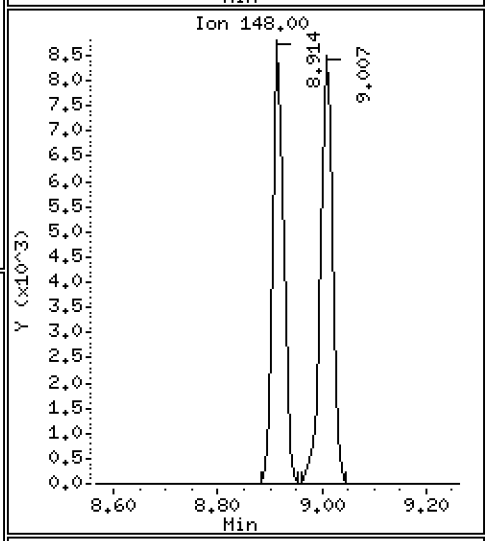


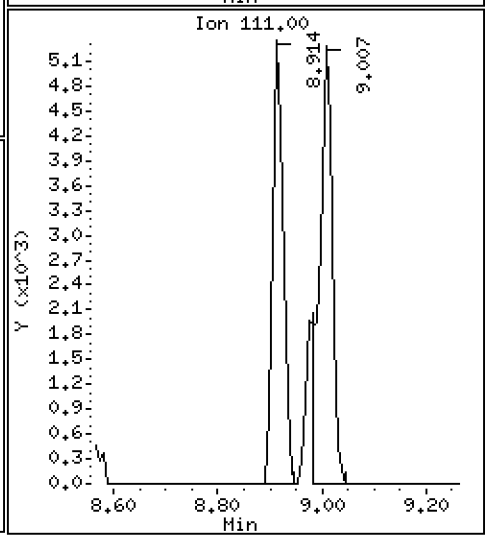












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

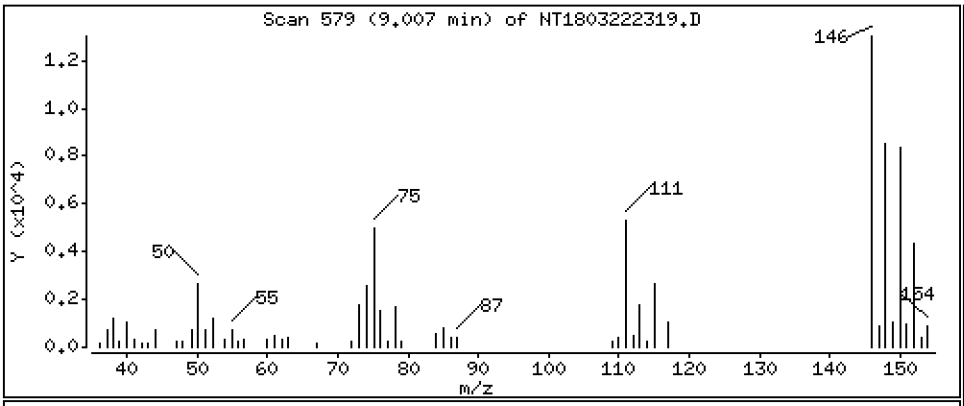
Operator: VTS

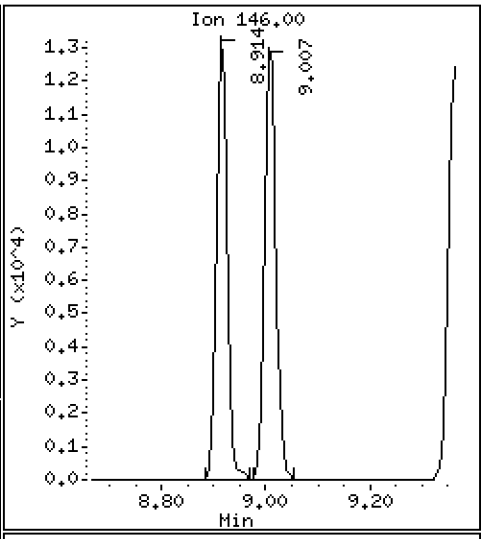
Column phase: ZB-5msi

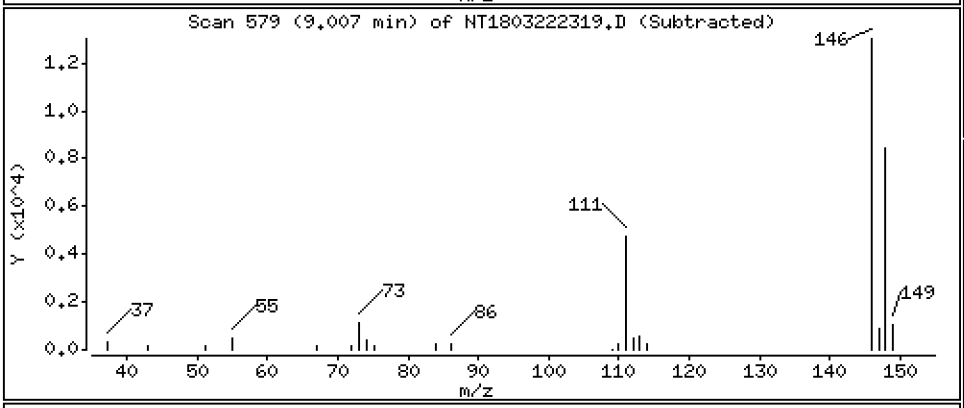
Column diameter: 0.25

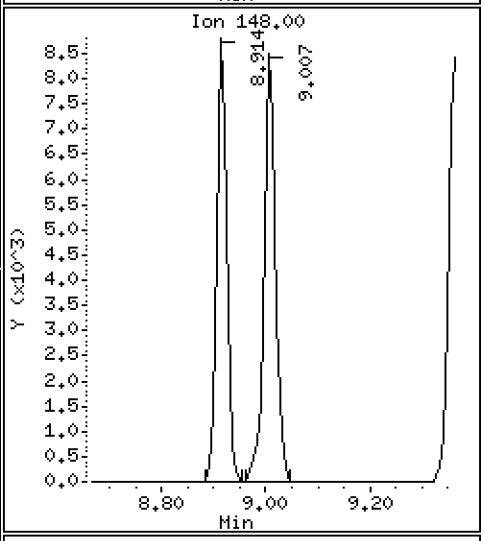
9 1,4-Dichlorobenzene

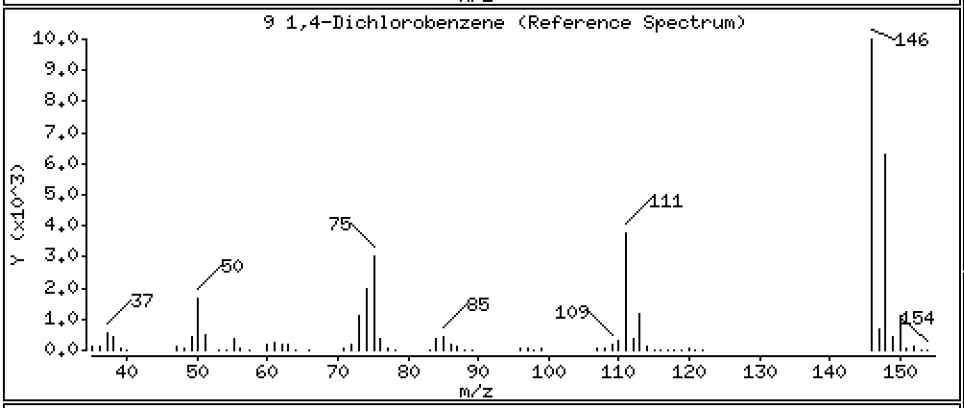
Concentration: 0.1965 ug/mL

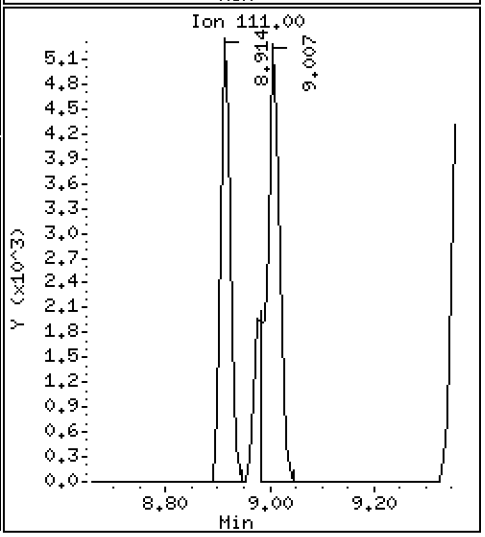


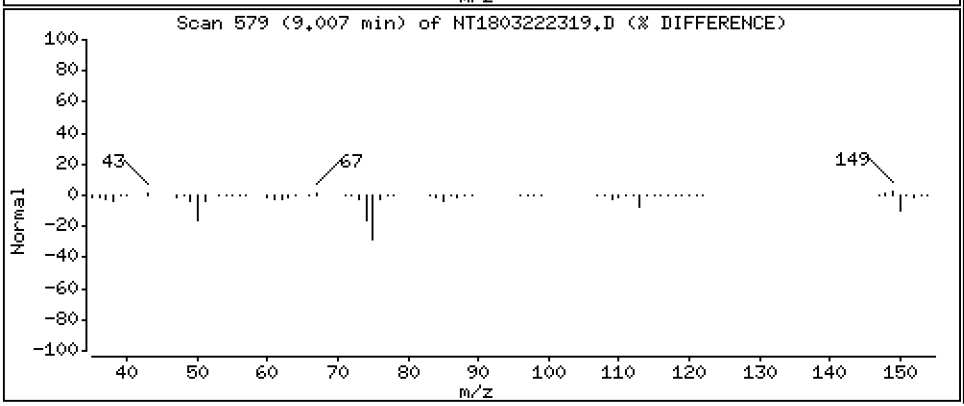












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

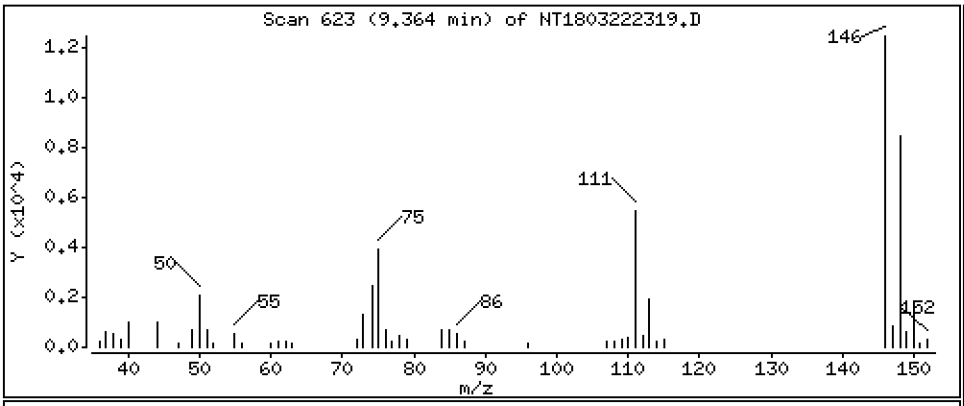
Operator: VTS

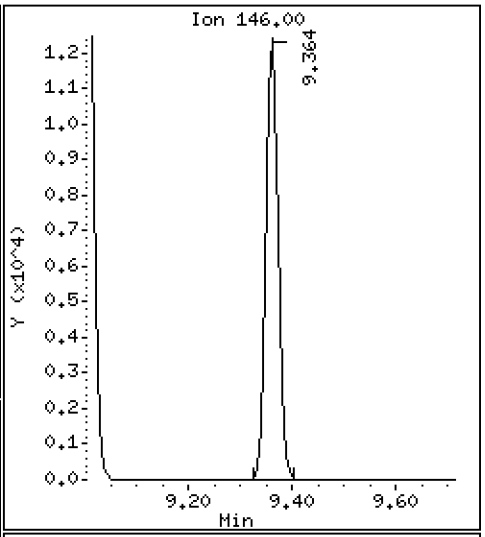
Column phase: ZB-5msi

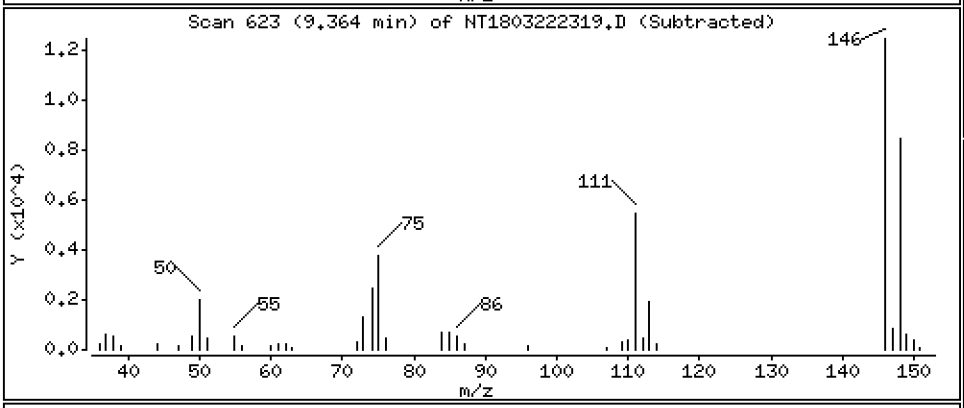
Column diameter: 0.25

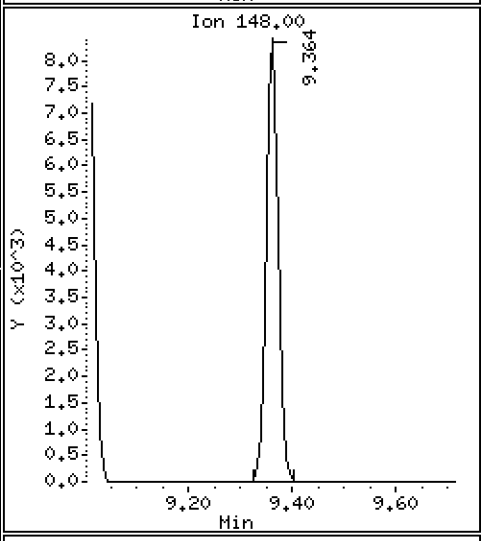
12 1,2-Dichlorobenzene

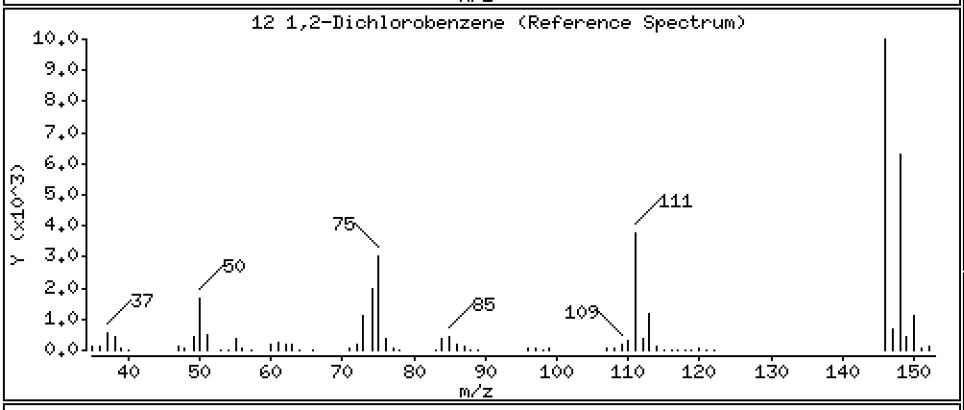
Concentration: 0.1925 ug/mL

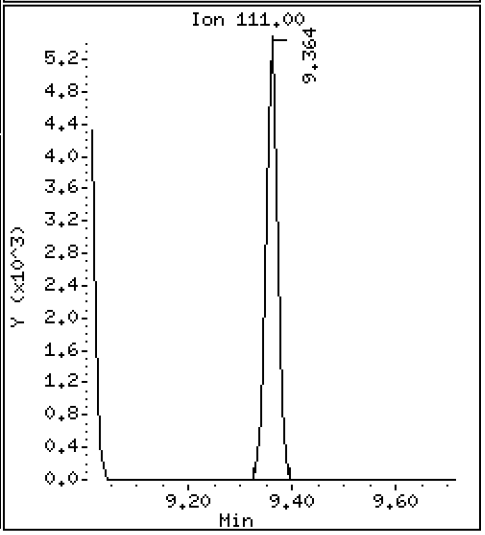


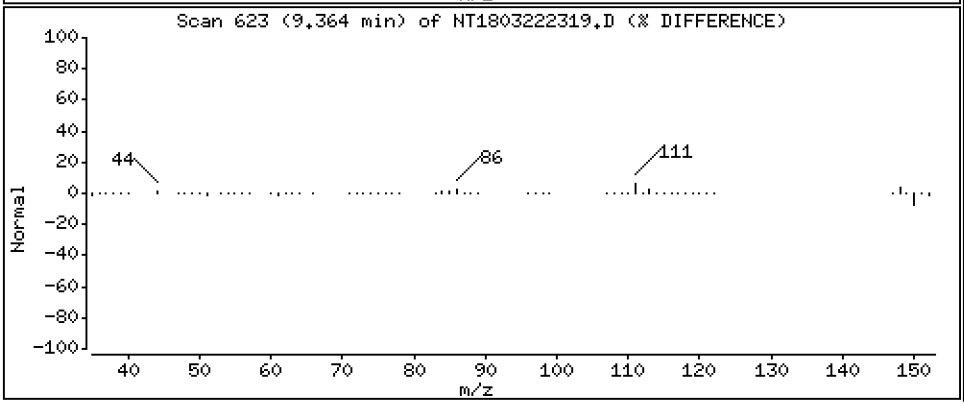












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

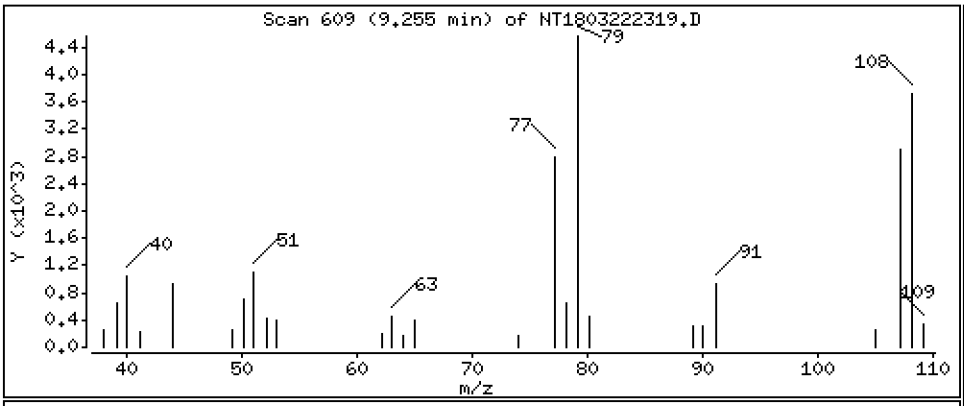
Operator: VTS

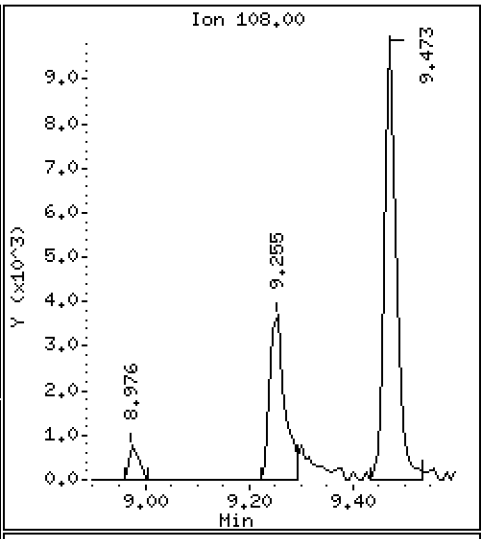
Column phase: ZB-5msi

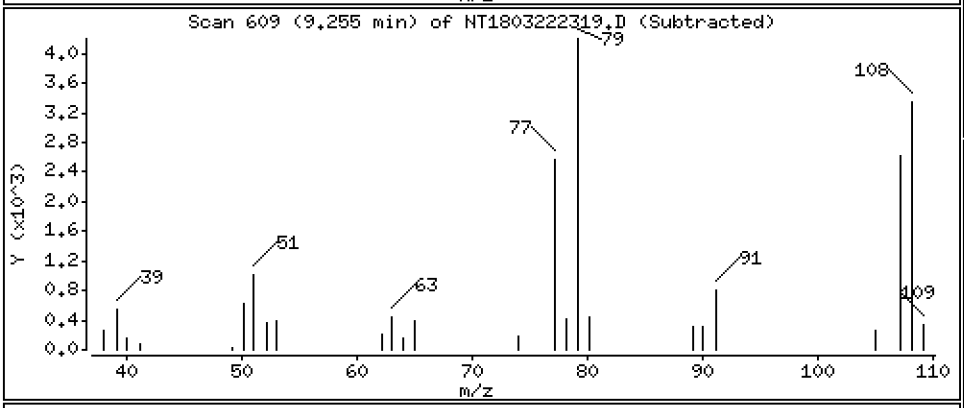
Column diameter: 0.25

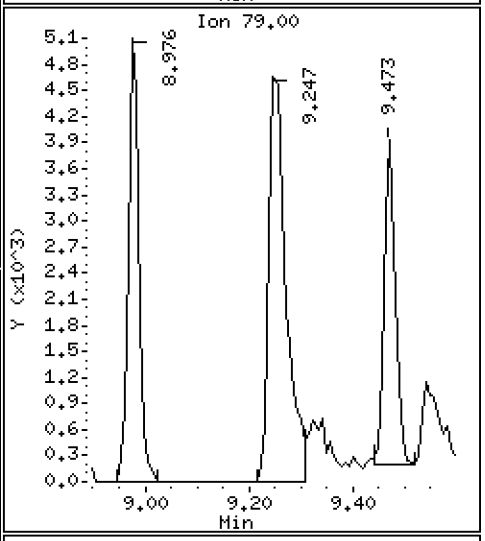
11 Benzyl alcohol

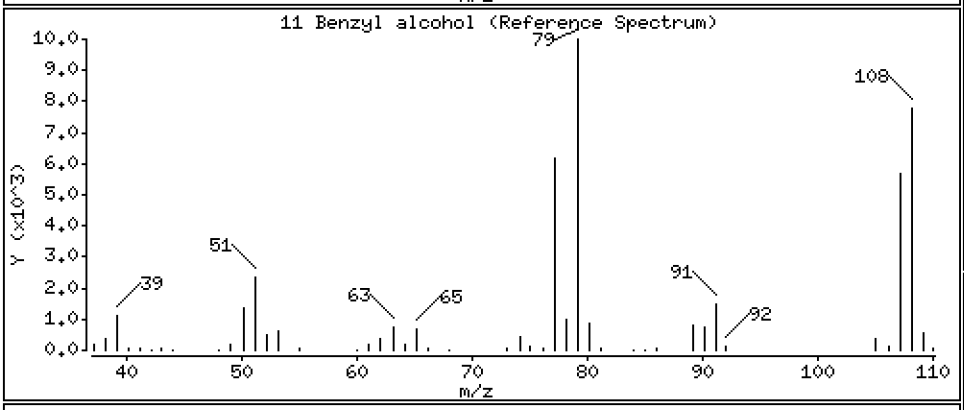
Concentration: 0.1369 ug/mL

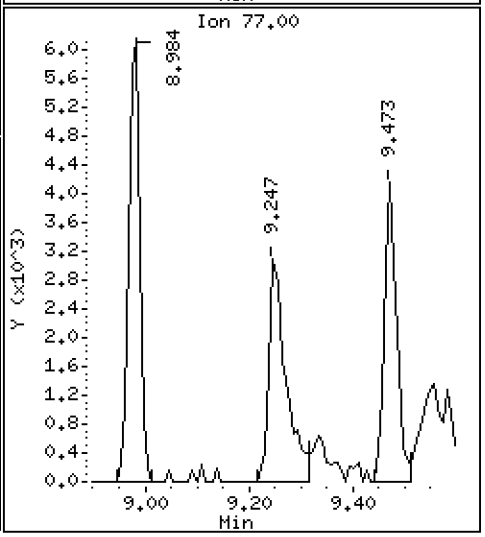


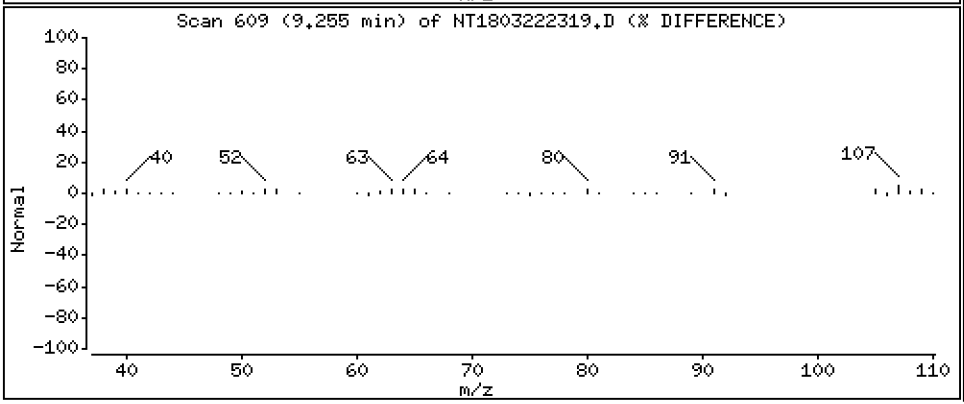












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

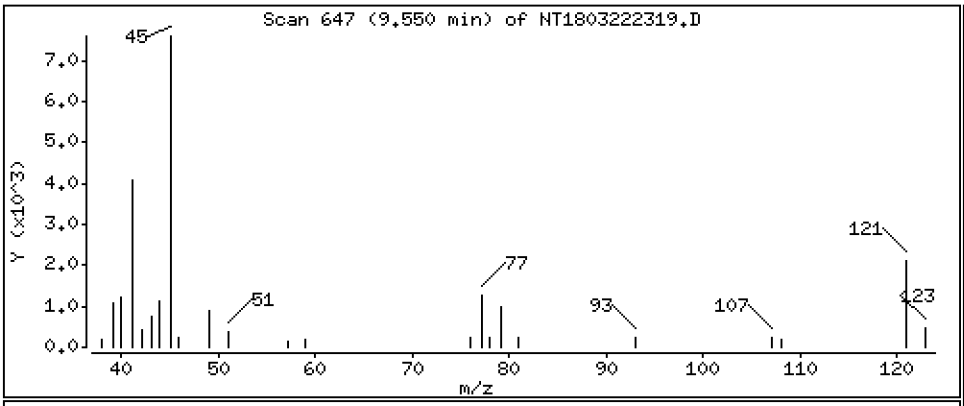
Operator: VTS

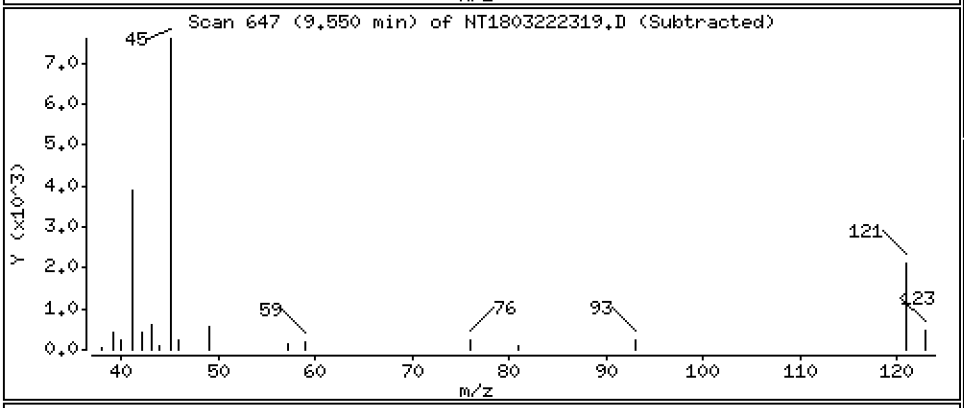
Column phase: ZB-5msi

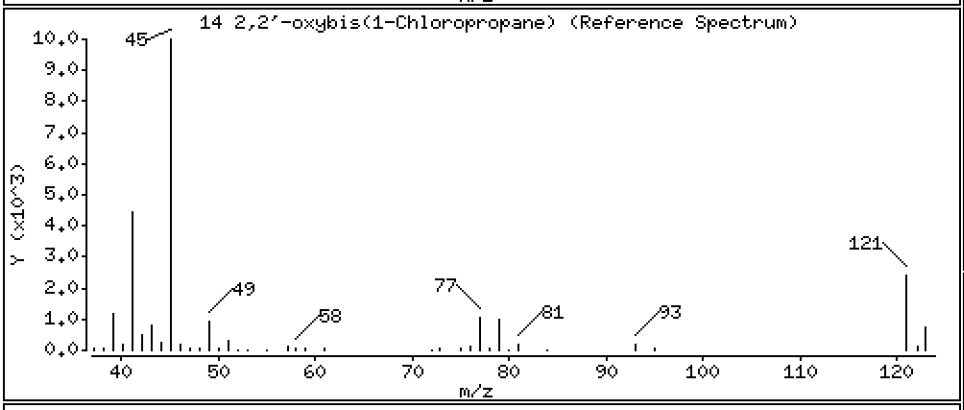
Column diameter: 0.25

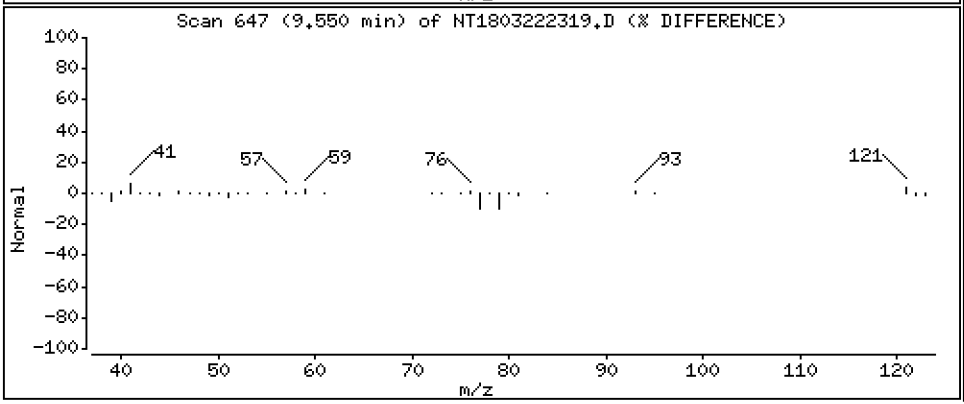
14 2,2'-oxybis(1-Chloropropane)

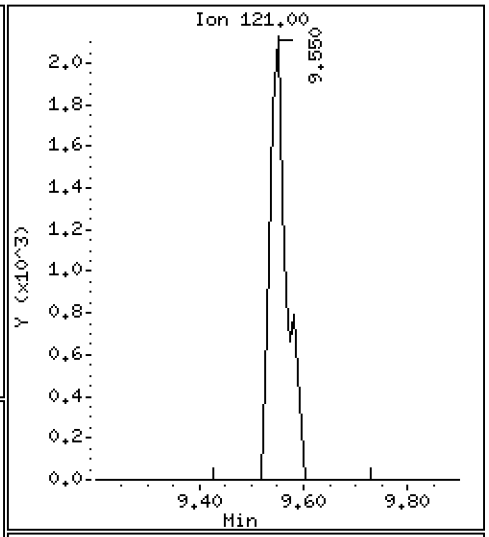
Concentration: 0.2060 ug/mL

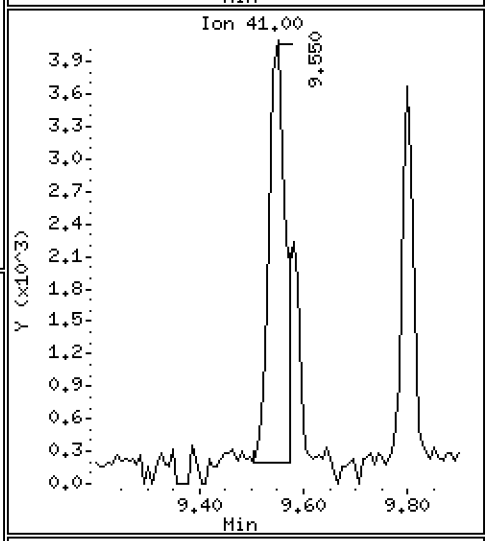


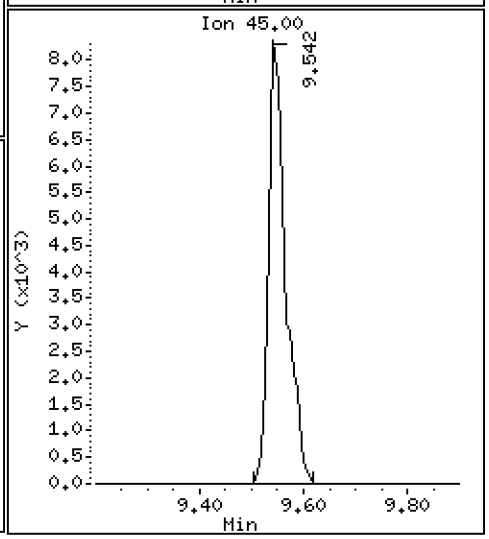












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

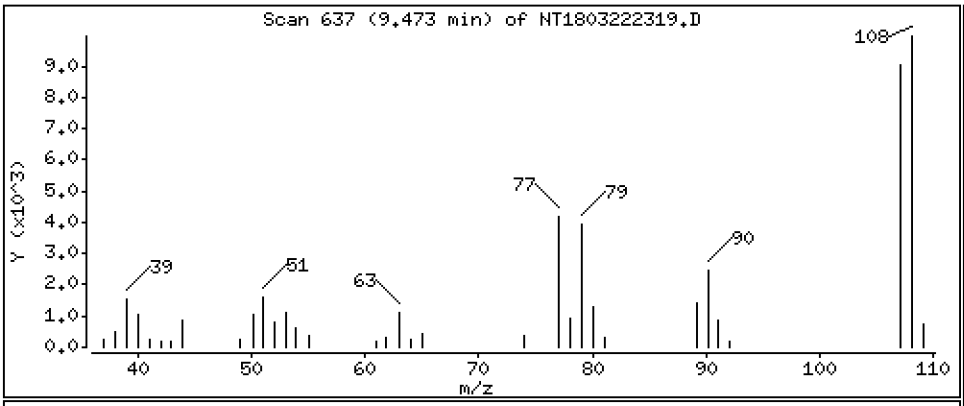
Operator: VTS

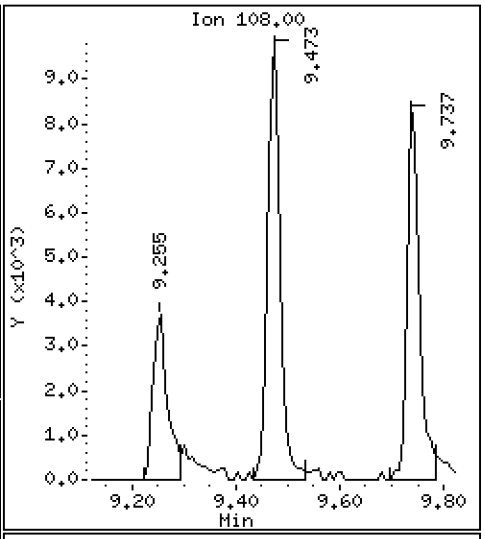
Column phase: ZB-5msi

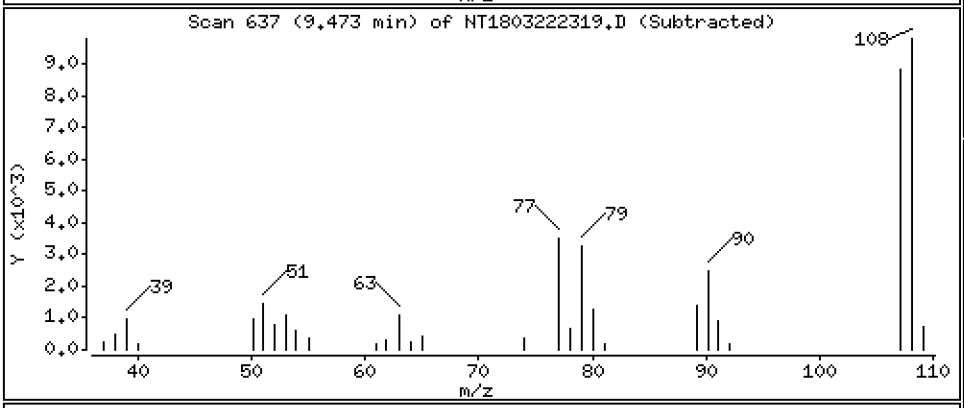
Column diameter: 0.25

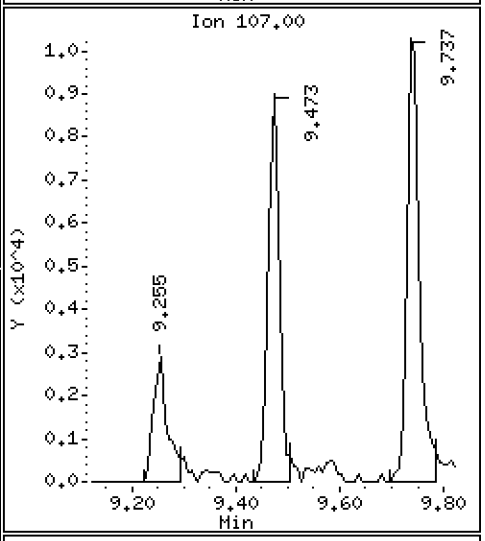
13 2-Methylphenol

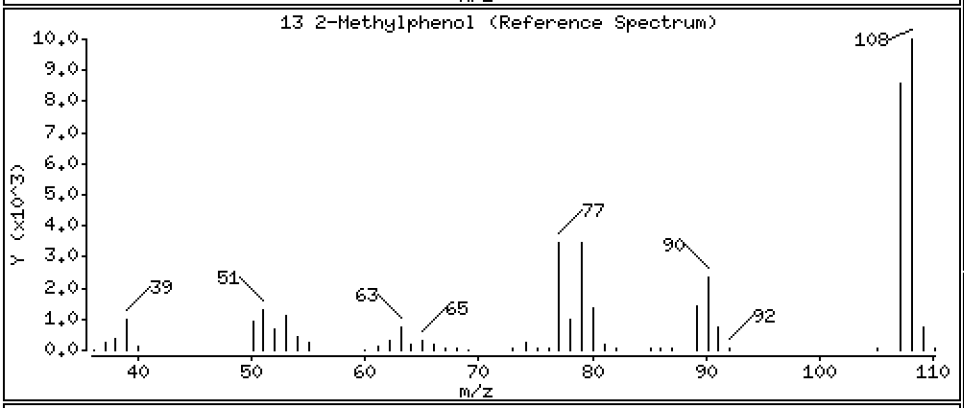
Concentration: 0.1826 ug/mL

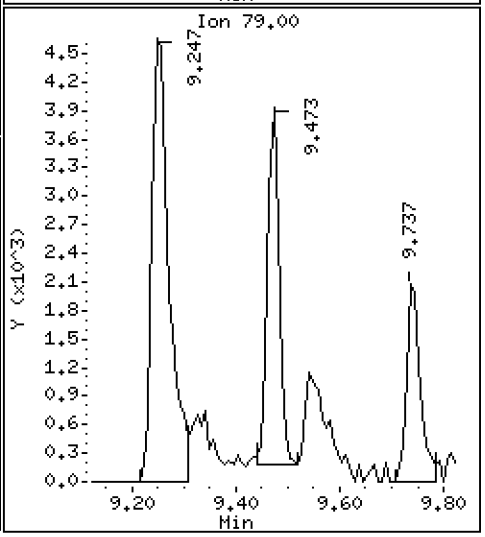


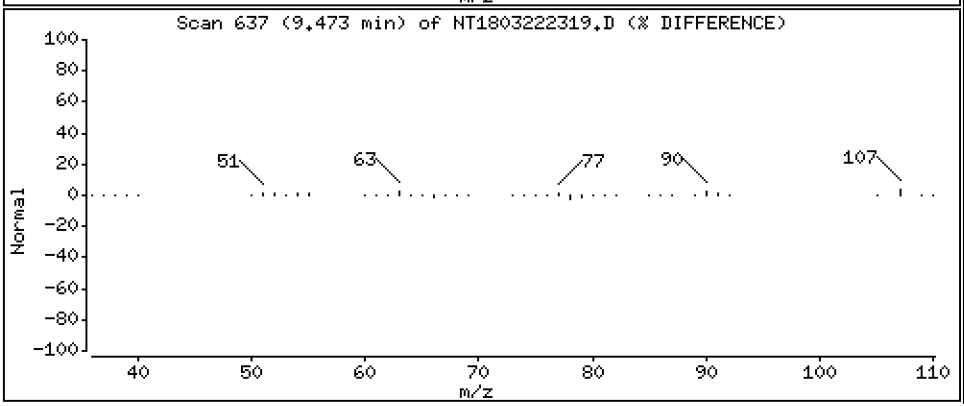












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D

Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

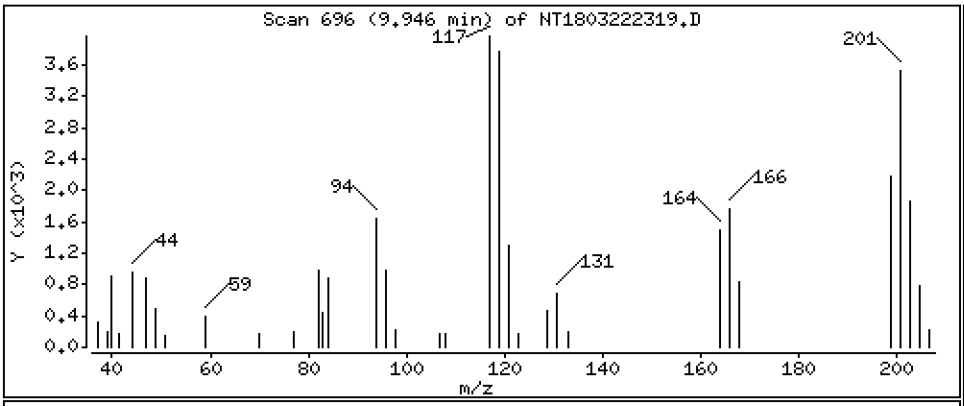
Operator: VTS

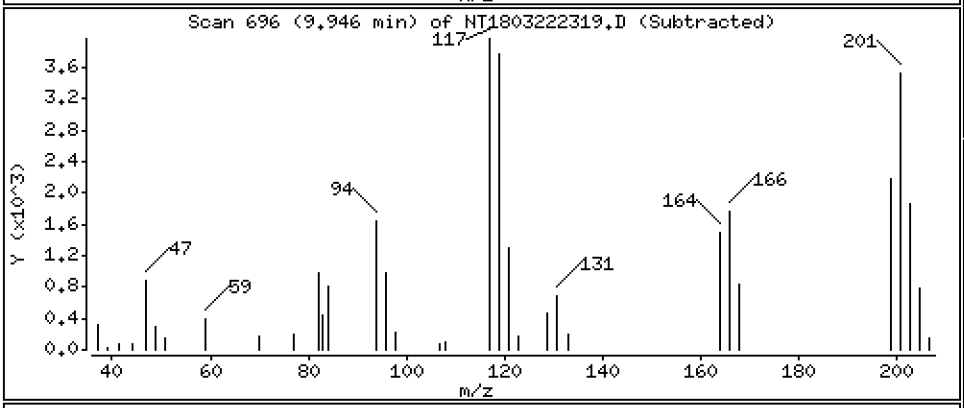
Column phase: ZB-5msi

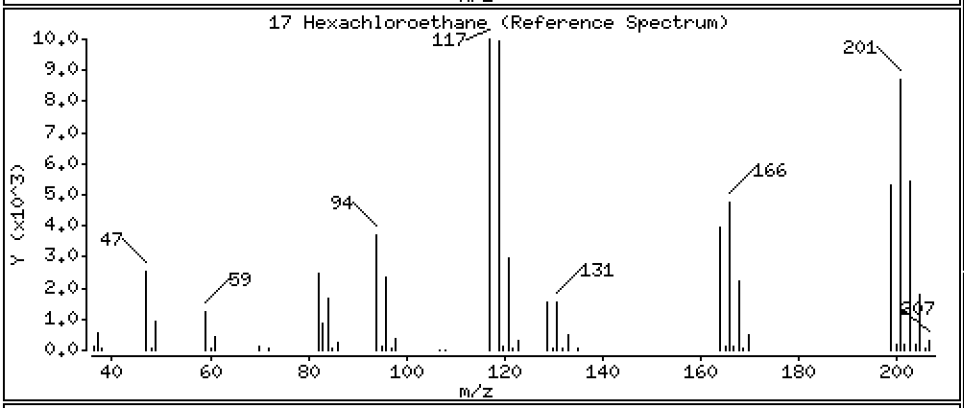
Column diameter: 0.25

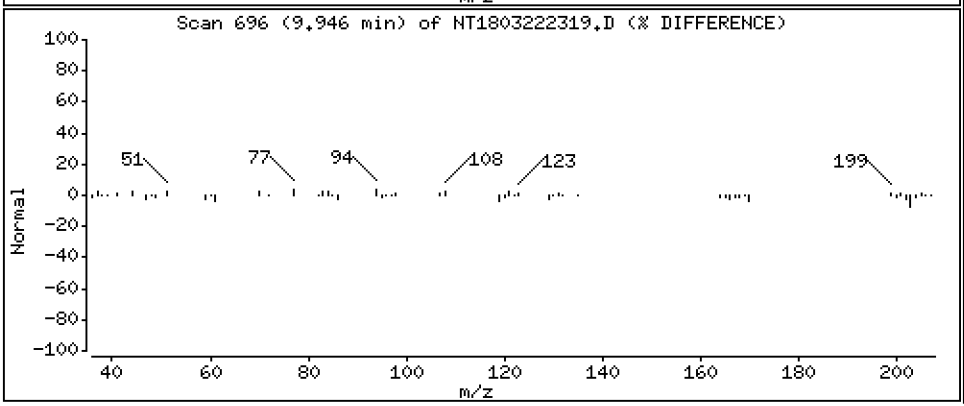
17 Hexachloroethane

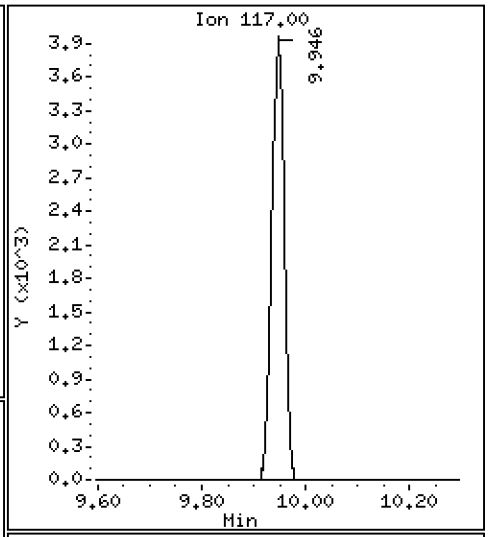
Concentration: 0.1556 ug/mL

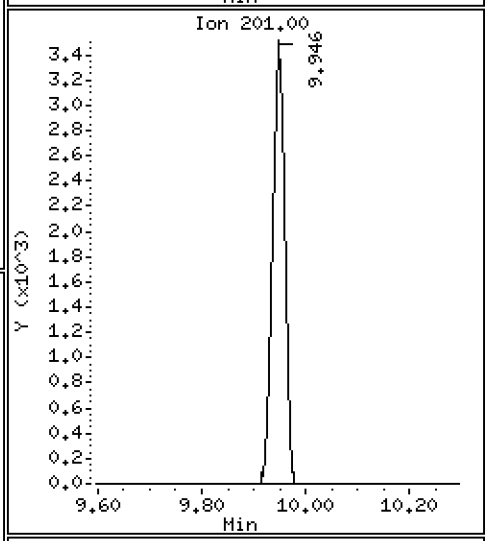


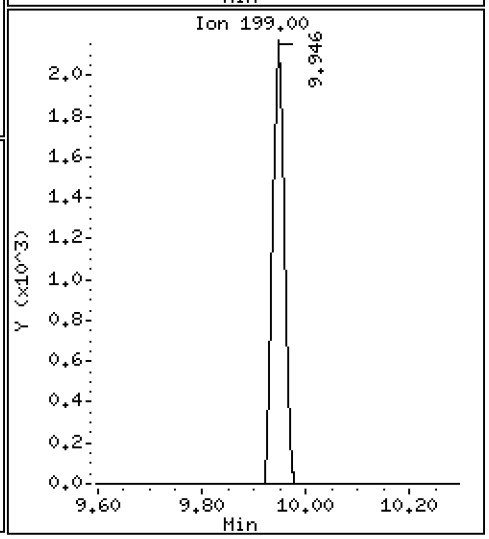












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

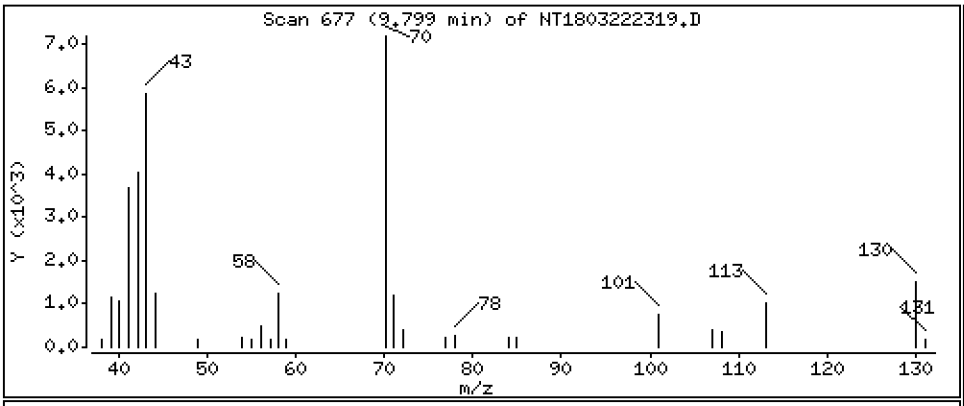
Operator: VTS

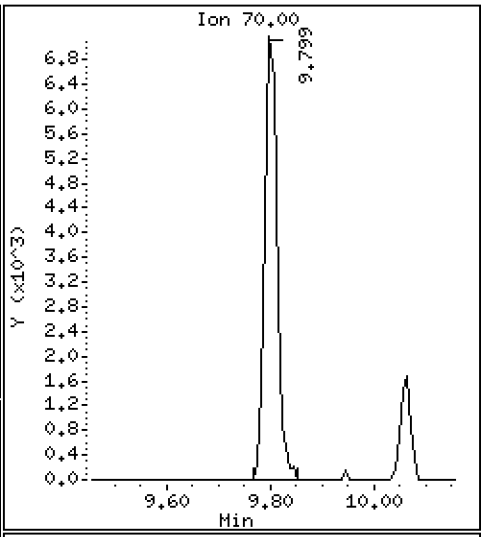
Column phase: ZB-5msi

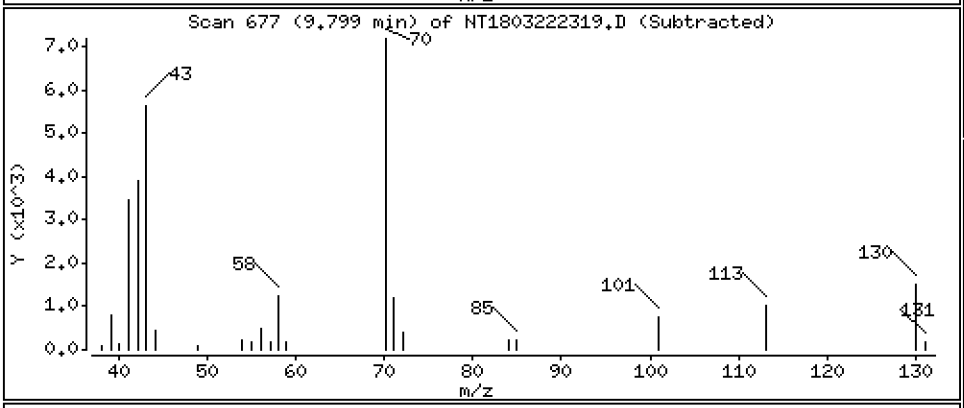
Column diameter: 0.25

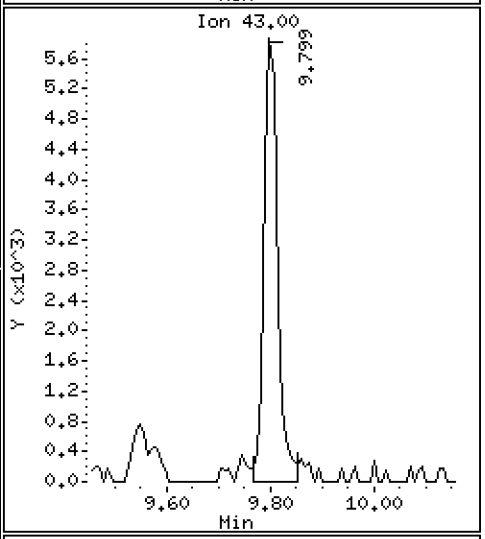
16 N-Nitroso-di-n-propylamine

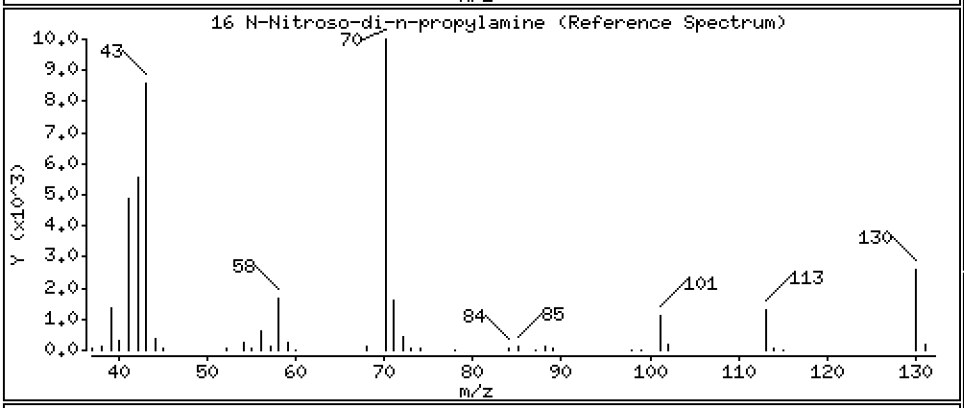
Concentration: 0.1867 ug/mL

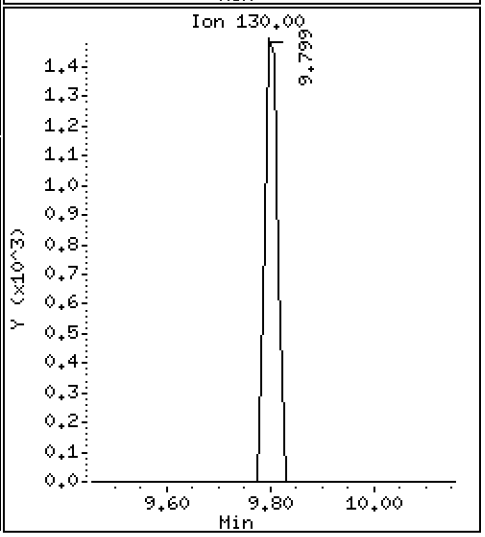


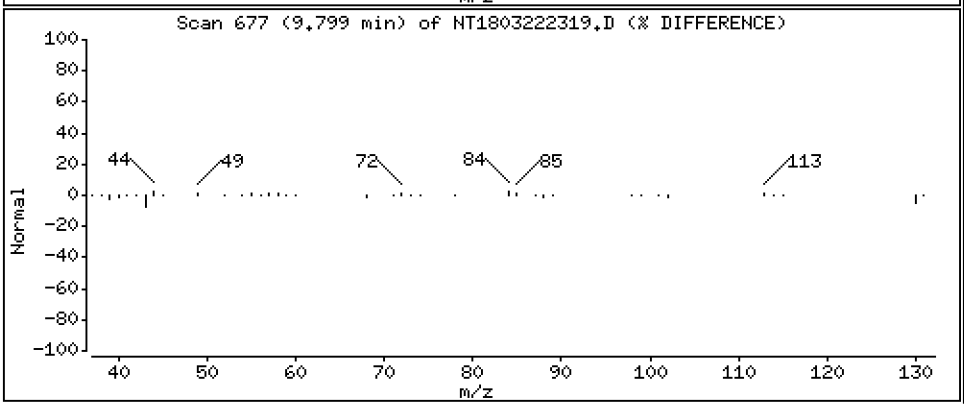












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

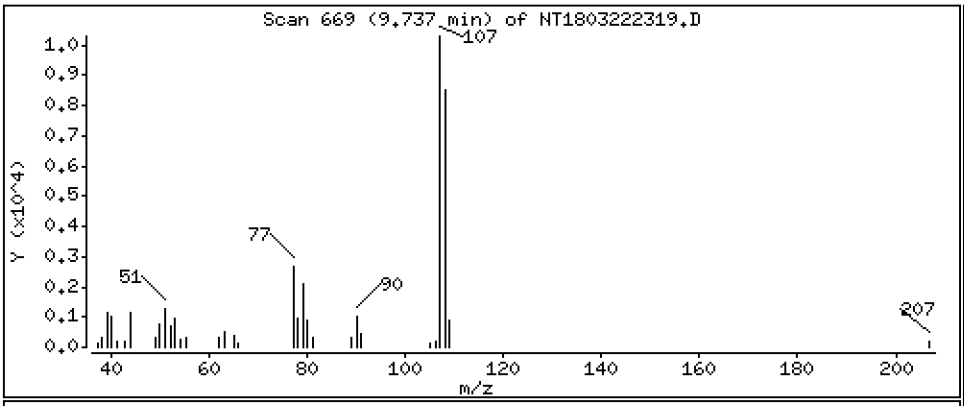
Operator: VTS

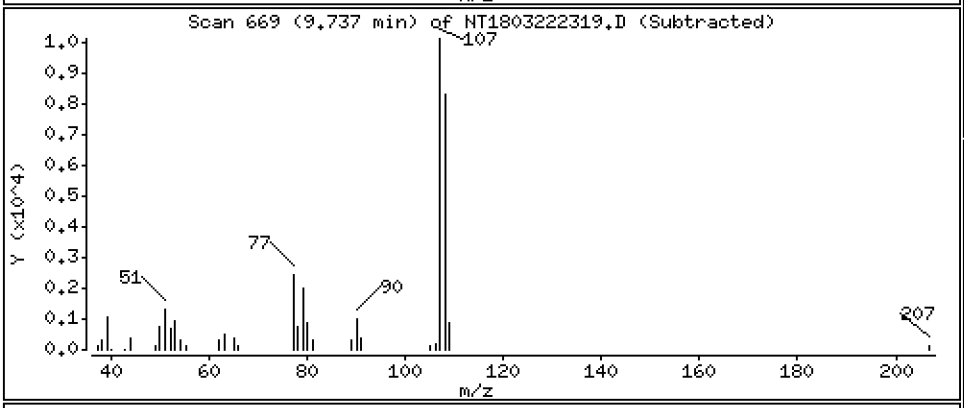
Column phase: ZB-5msi

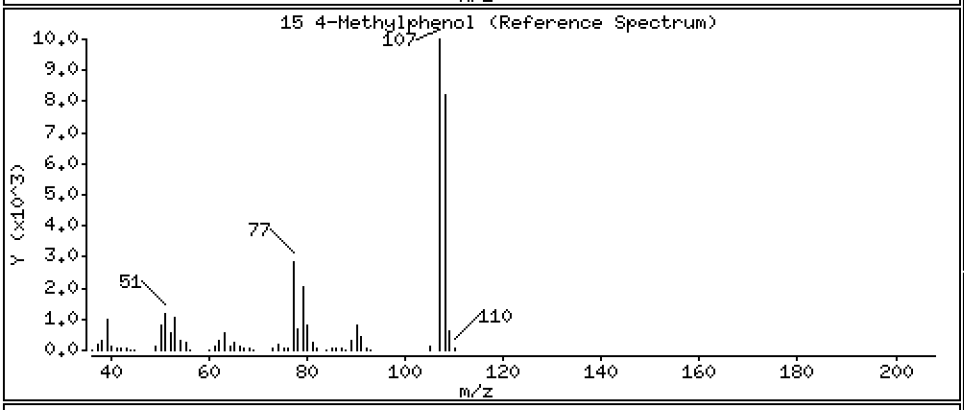
Column diameter: 0.25

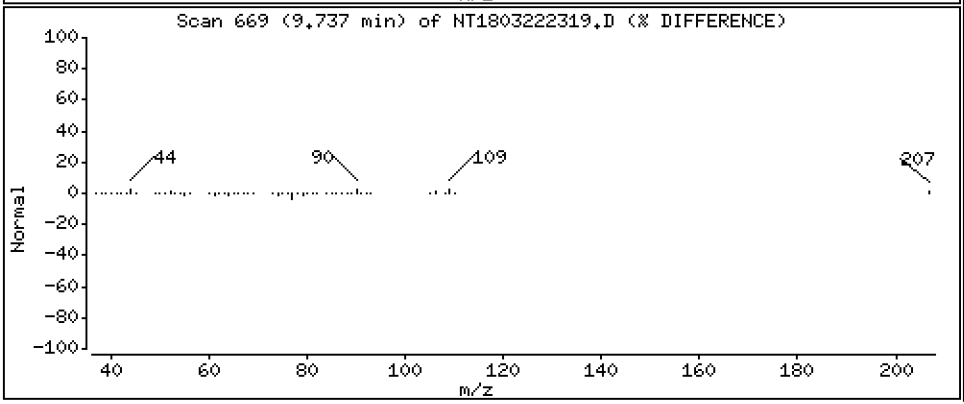
15 4-Methylphenol

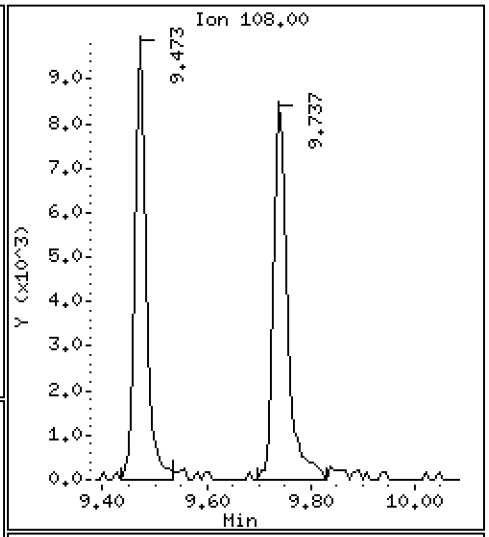
Concentration: 0.1735 ug/mL

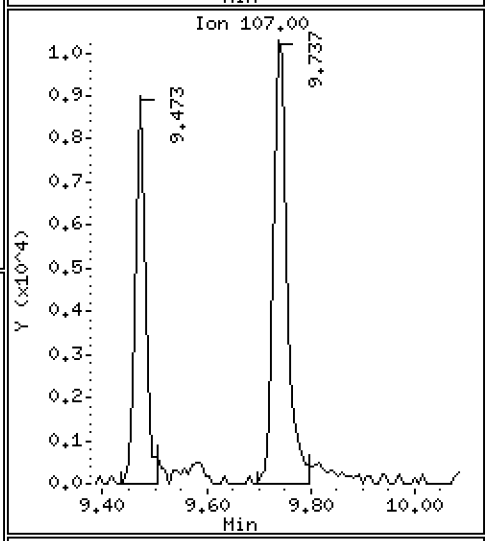


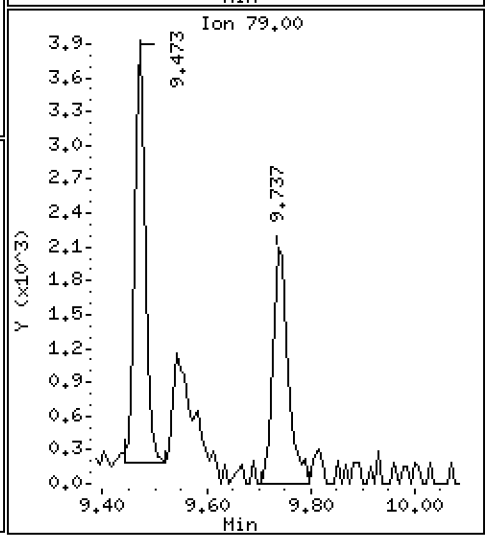












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

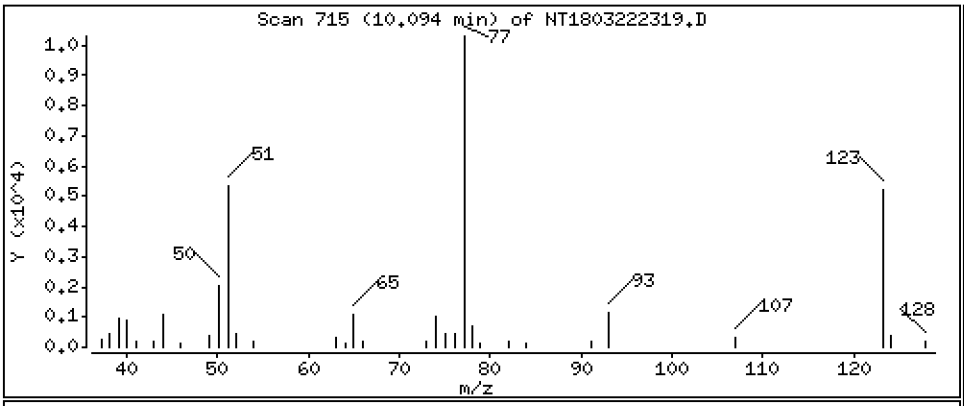
Operator: VTS

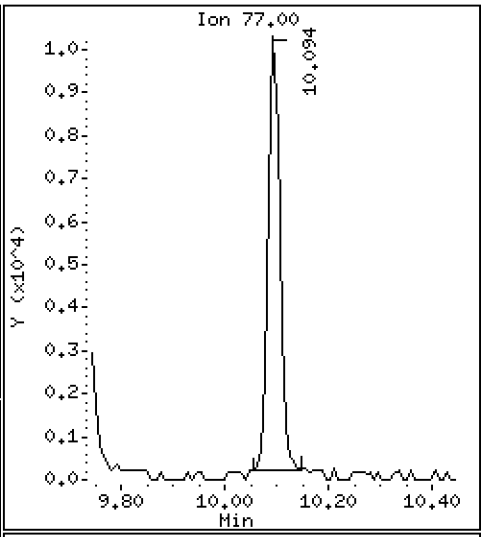
Column phase: ZB-5msi

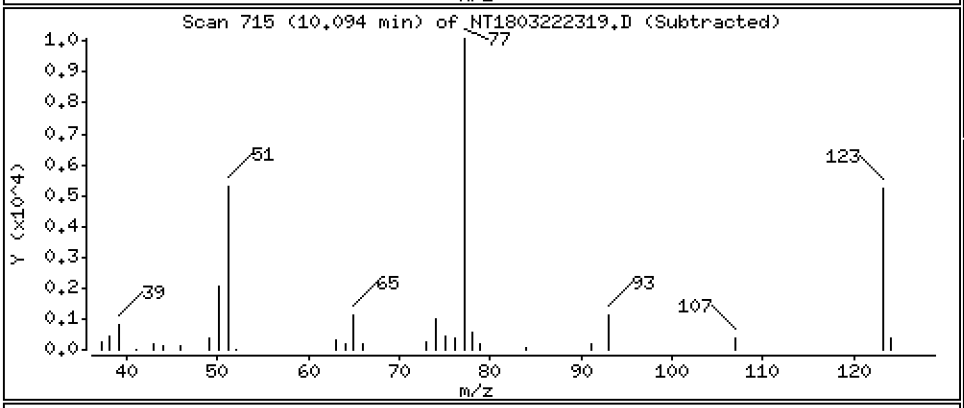
Column diameter: 0.25

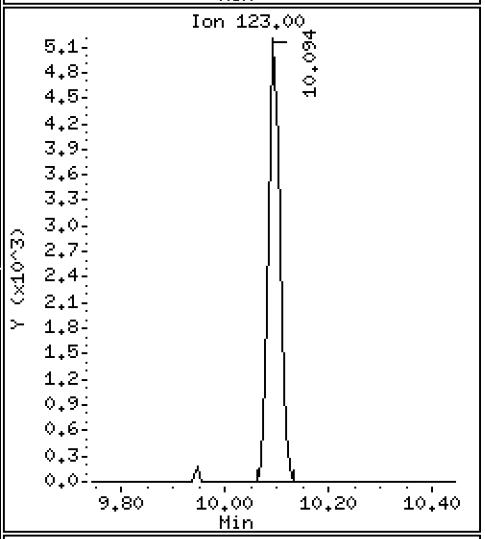
19 Nitrobenzene

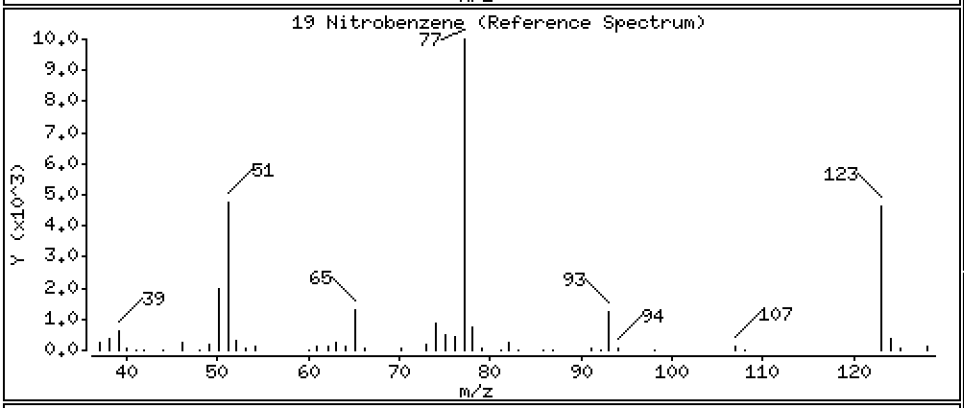
Concentration: 0.1825 ug/mL

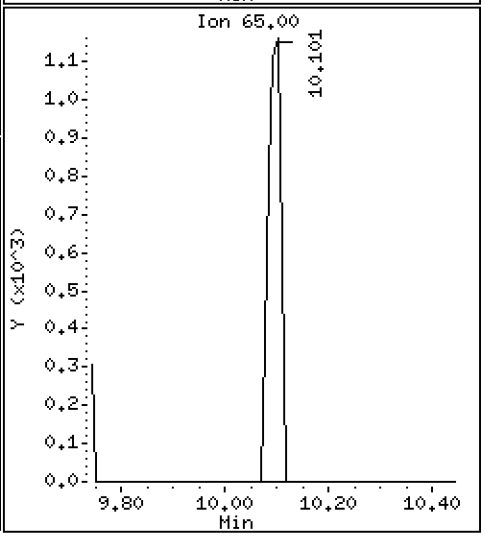


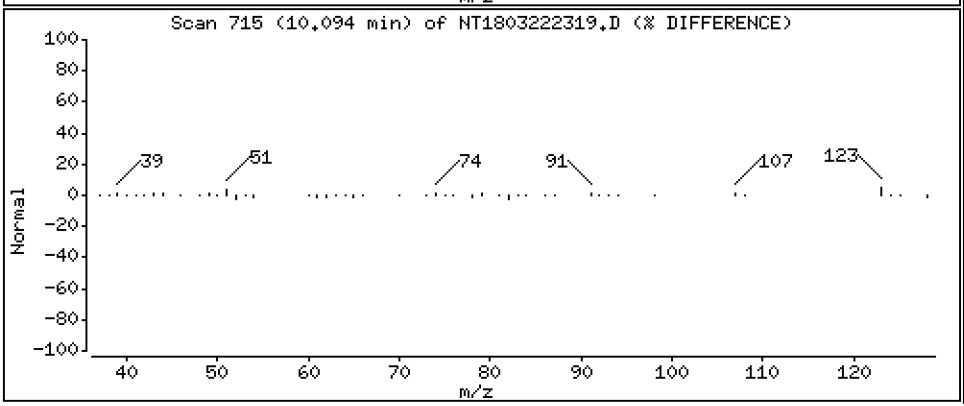












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

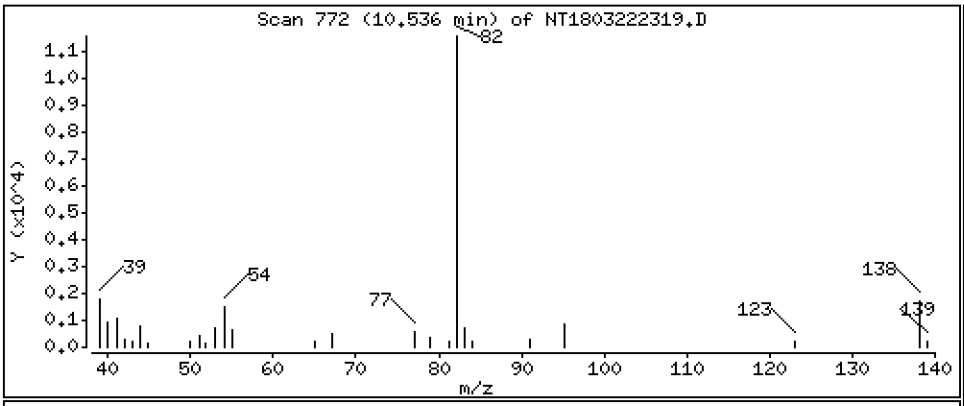
Operator: VTS

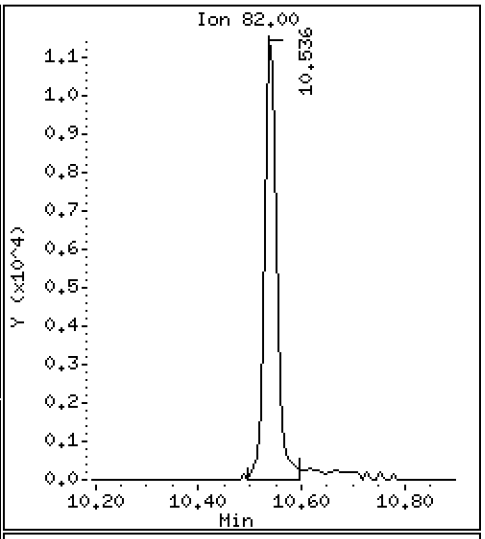
Column phase: ZB-5msi

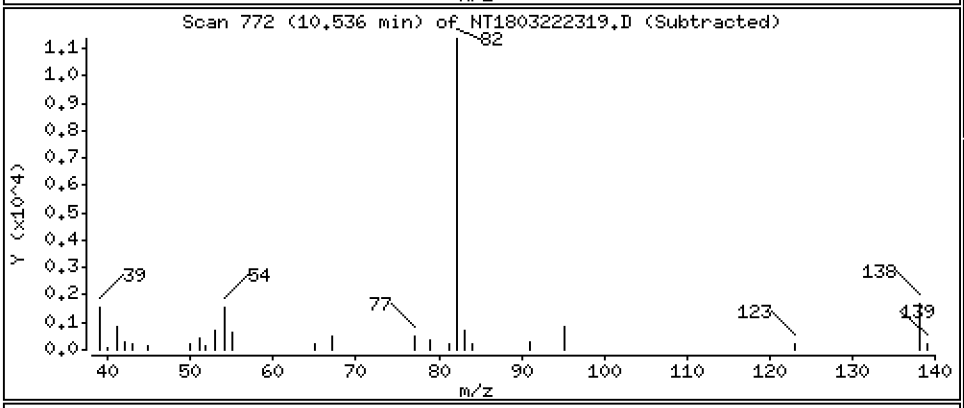
Column diameter: 0.25

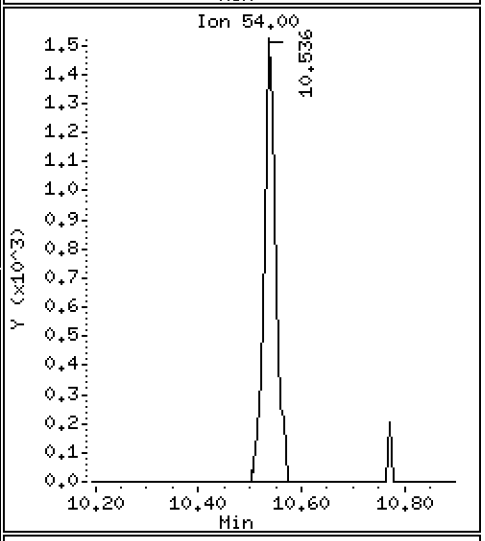
20 Isophorone

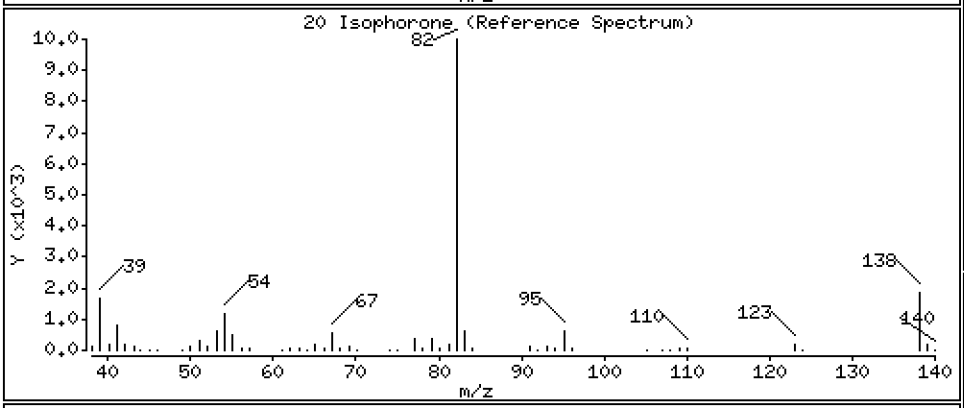
Concentration: 0.1782 ug/mL

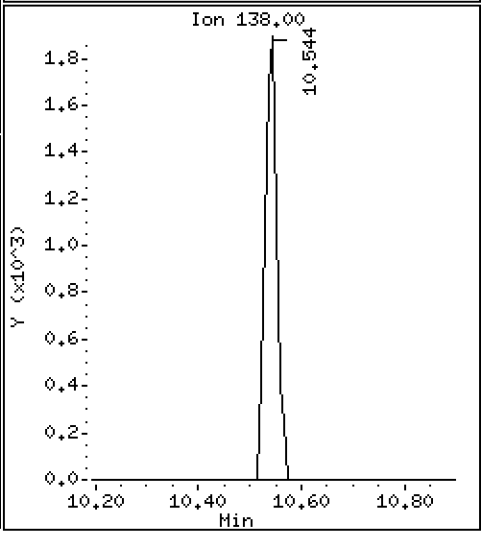


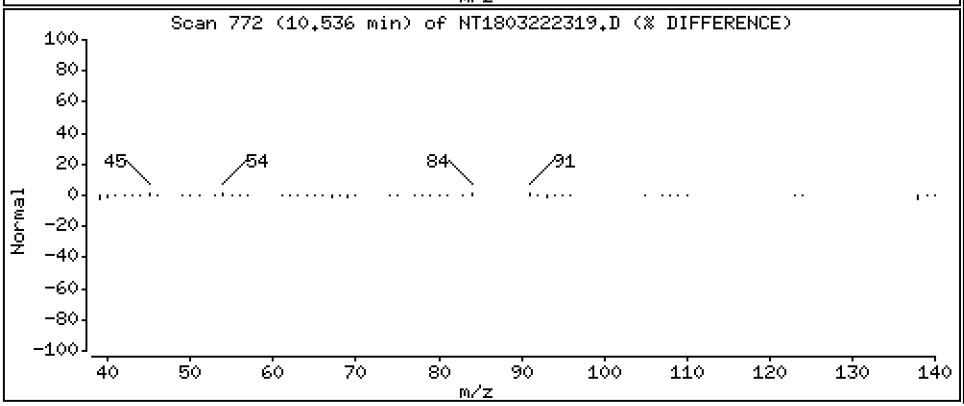












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

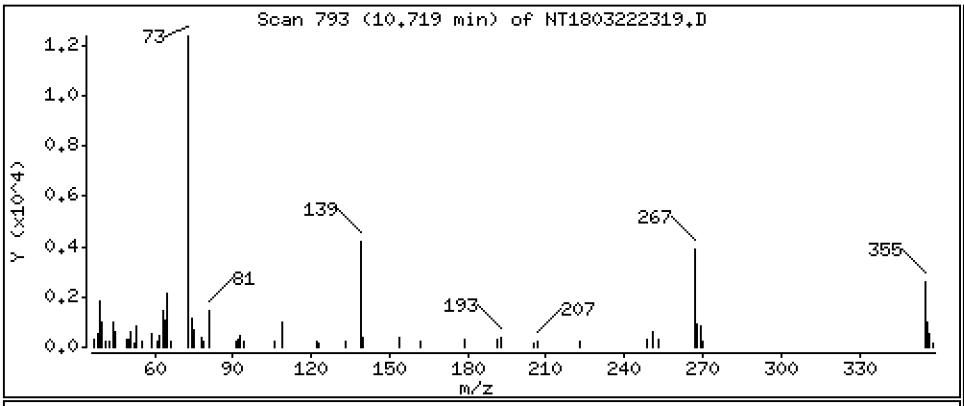
Operator: VTS

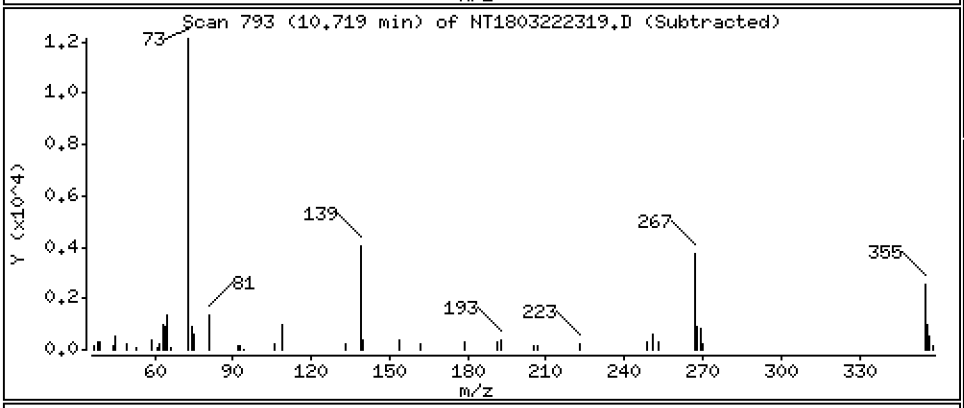
Column phase: ZB-5msi

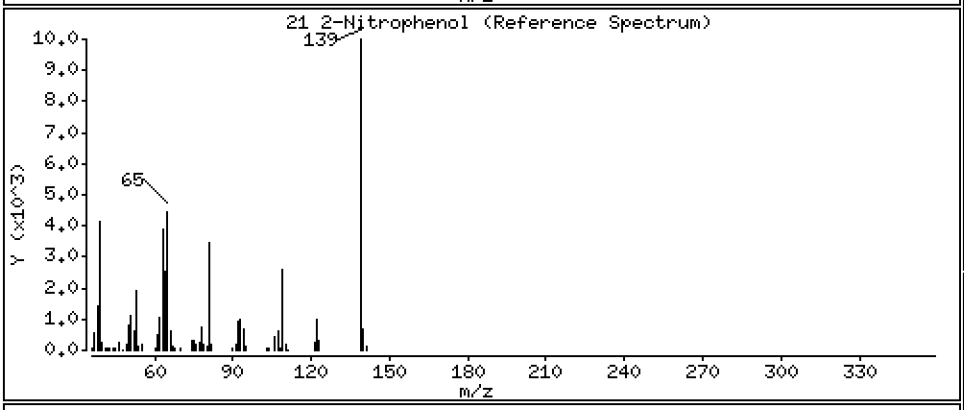
Column diameter: 0.25

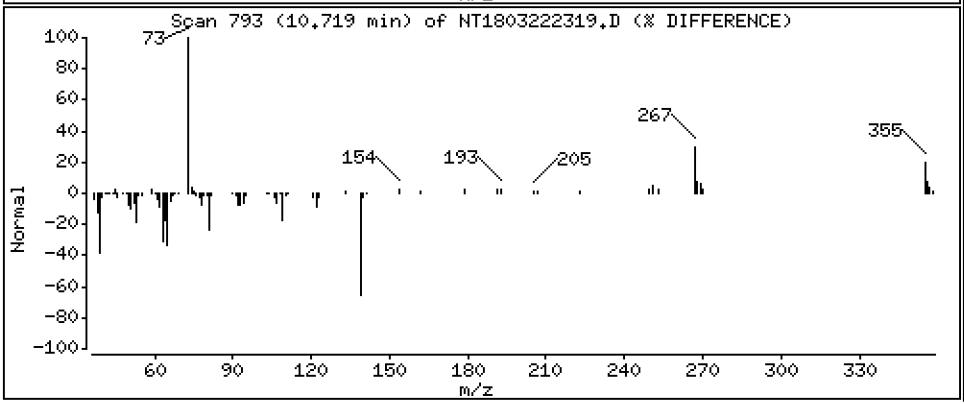
21 2-Nitrophenol

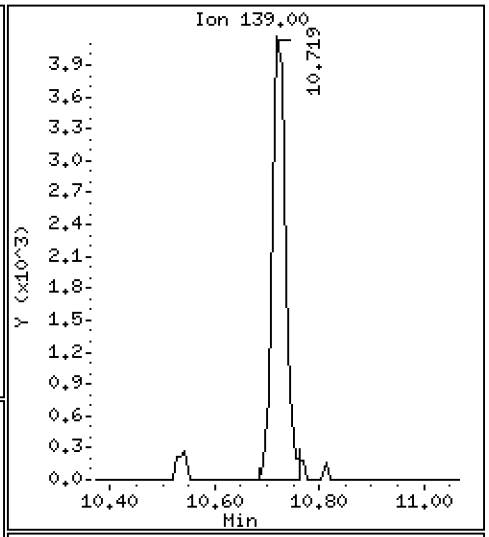
Concentration: 0.1554 ug/mL

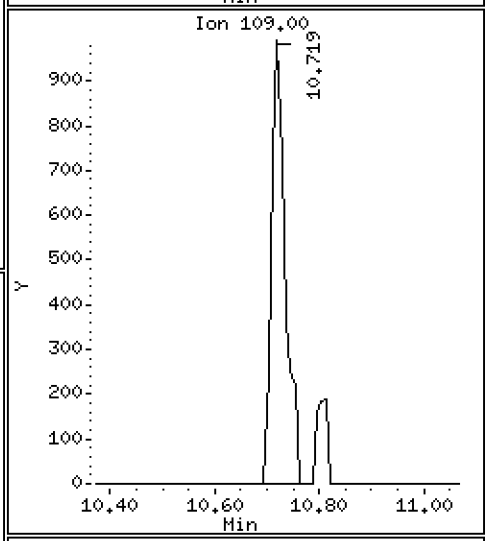


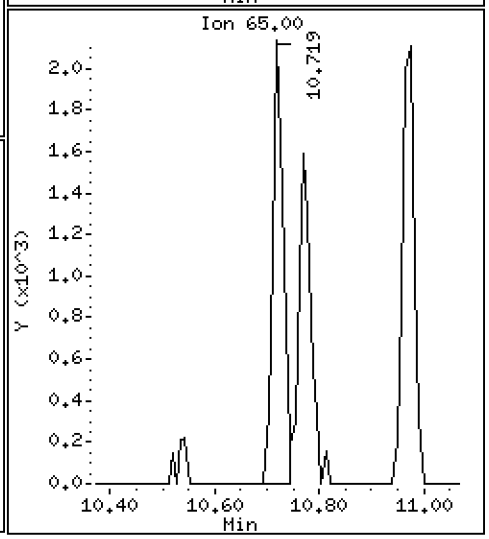












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

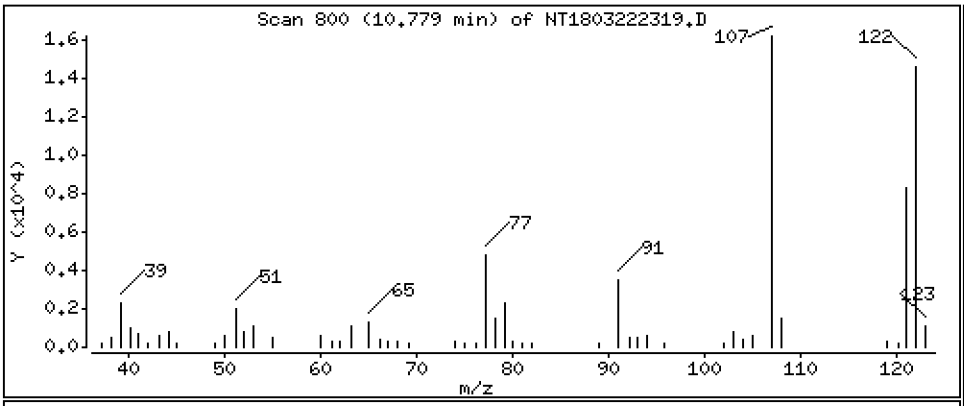
Operator: VTS

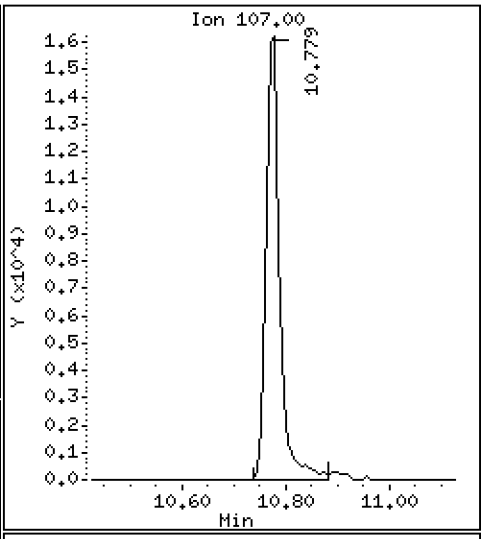
Column phase: ZB-5msi

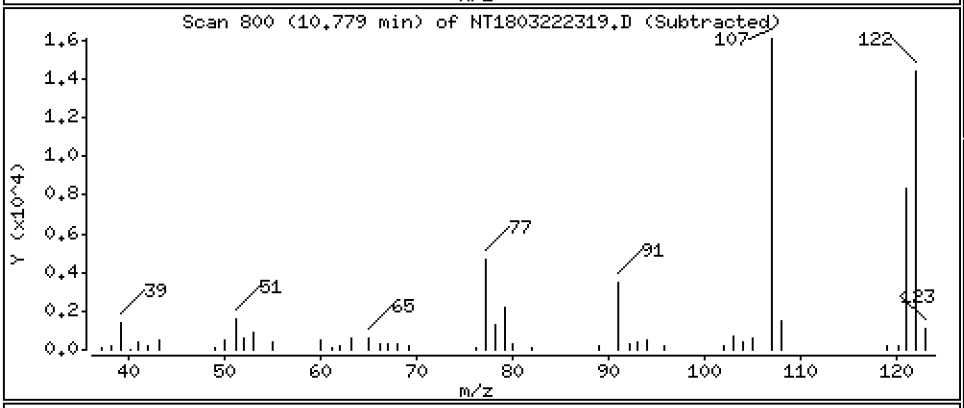
Column diameter: 0.25

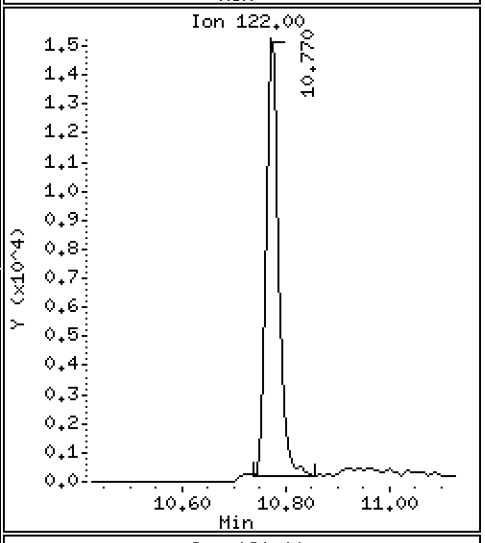
22 2,4-Dimethylphenol

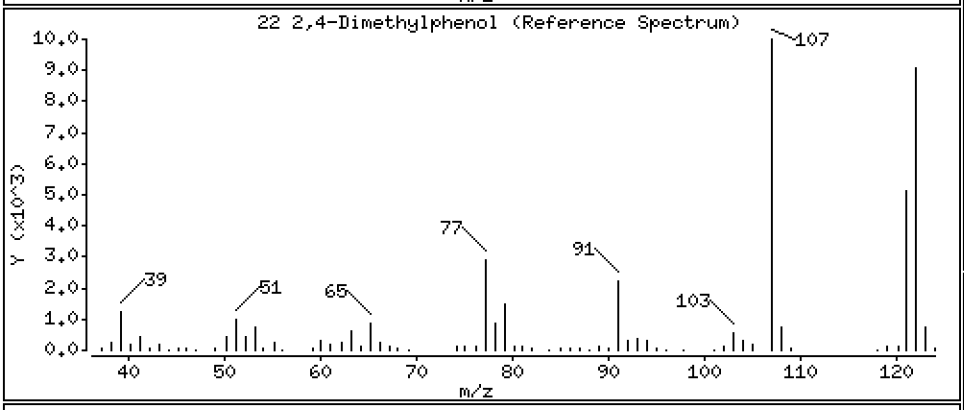
Concentration: 0.3595 ug/mL

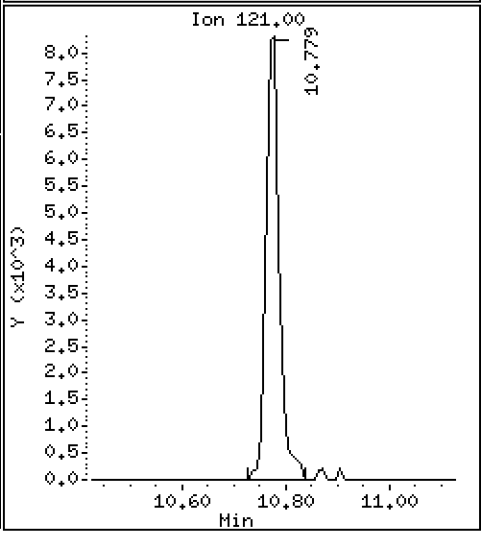


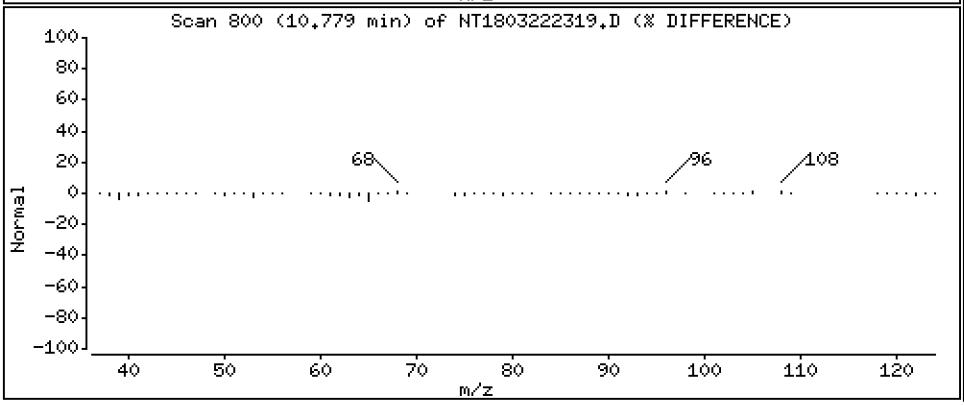












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D

Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

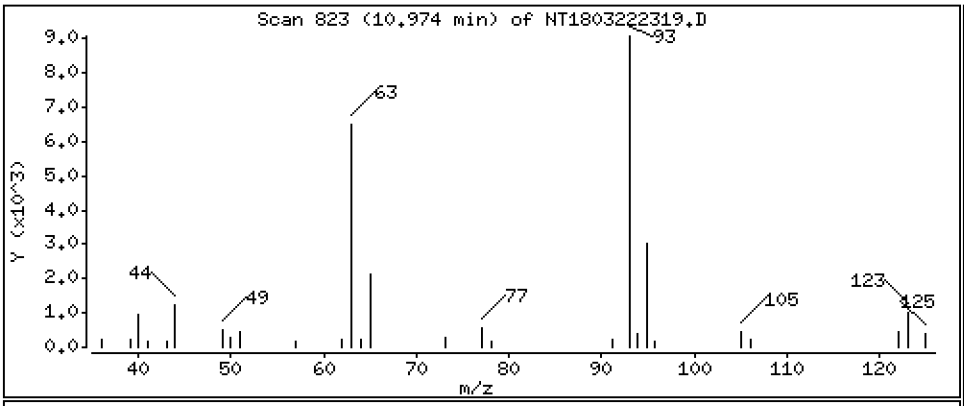
Operator: VTS

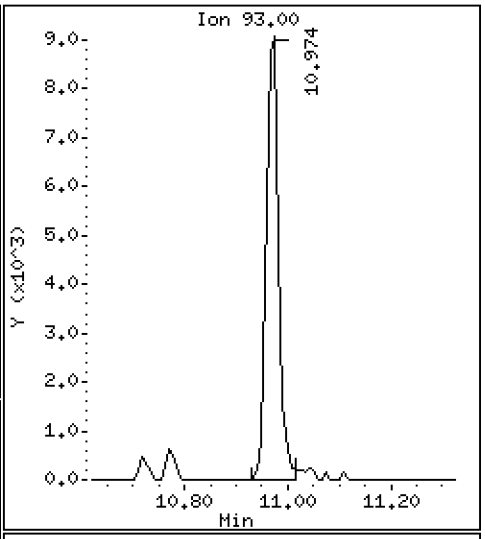
Column phase: ZB-5msi

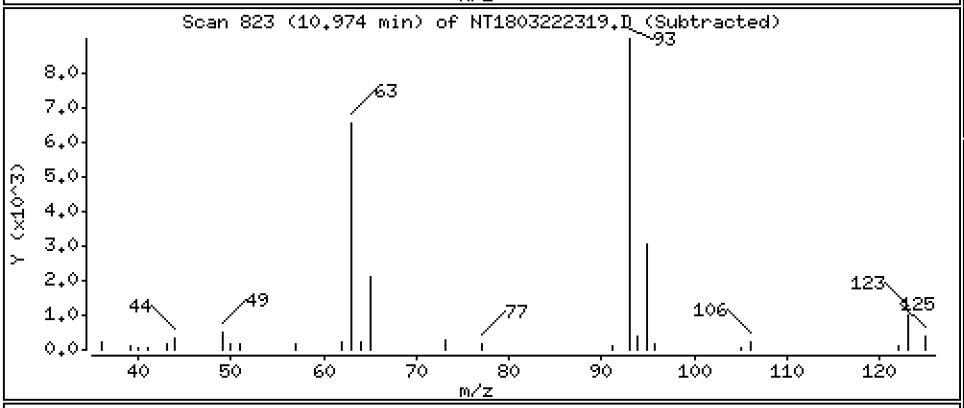
Column diameter: 0.25

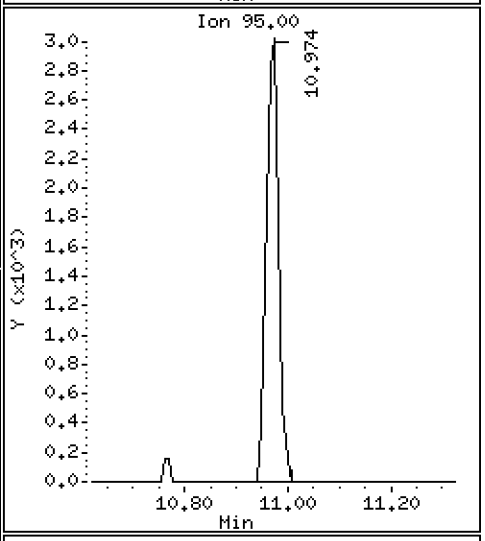
23 Bis(2-Chloroethoxy)methane

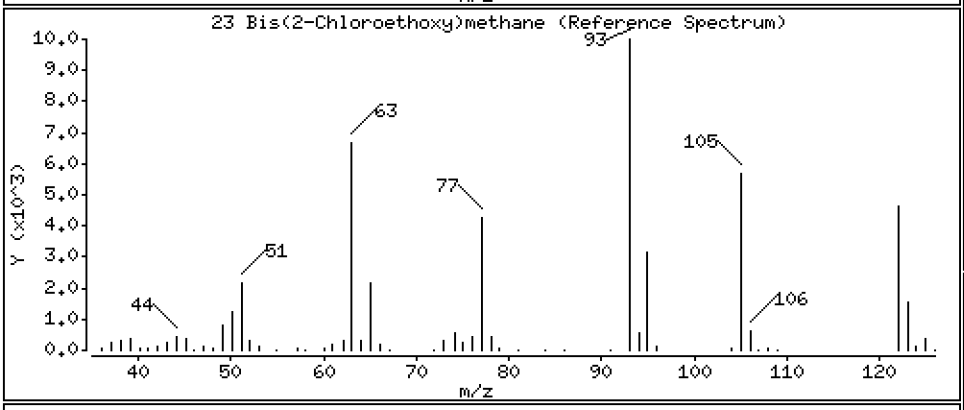
Concentration: 0.1905 ug/mL

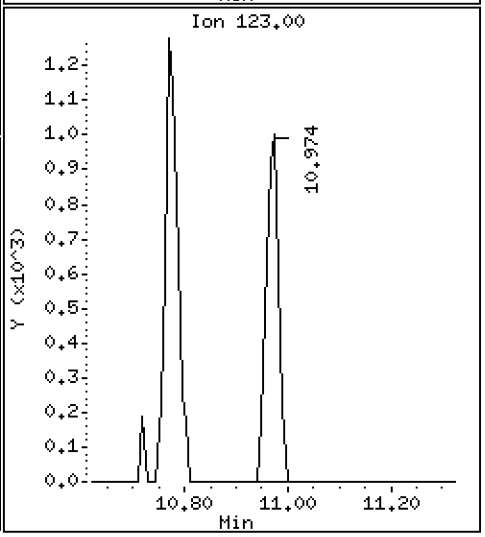


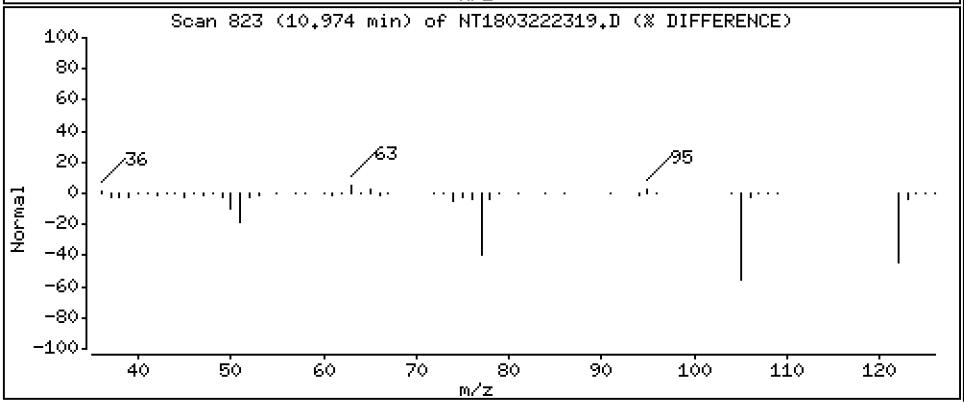












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

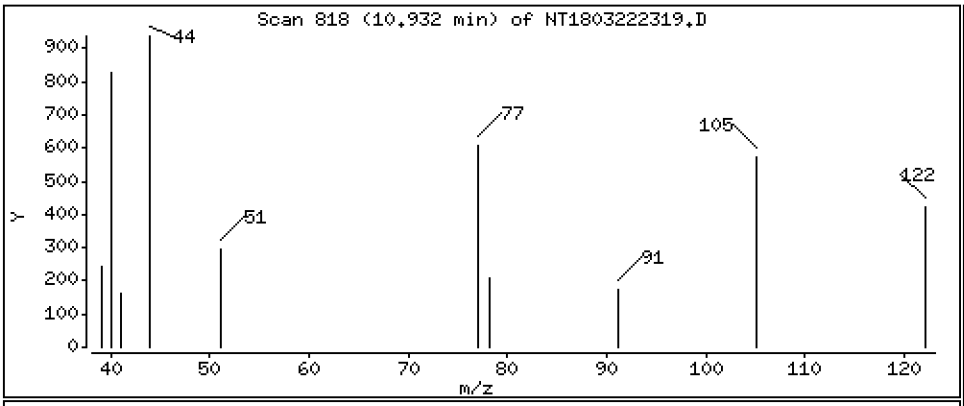
Operator: VTS

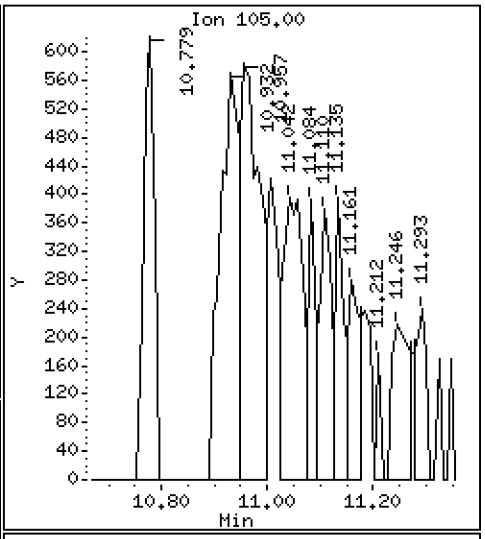
Column phase: ZB-5msi

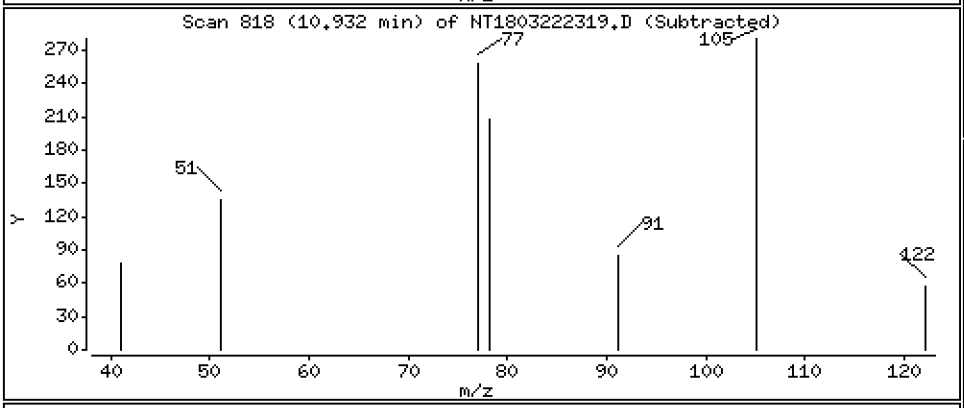
Column diameter: 0.25

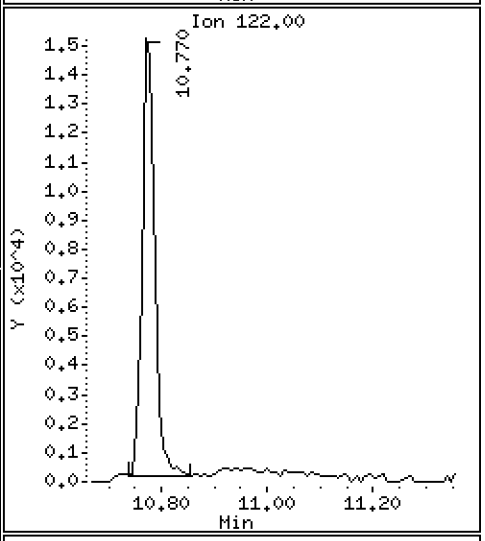
24 Benzoic acid

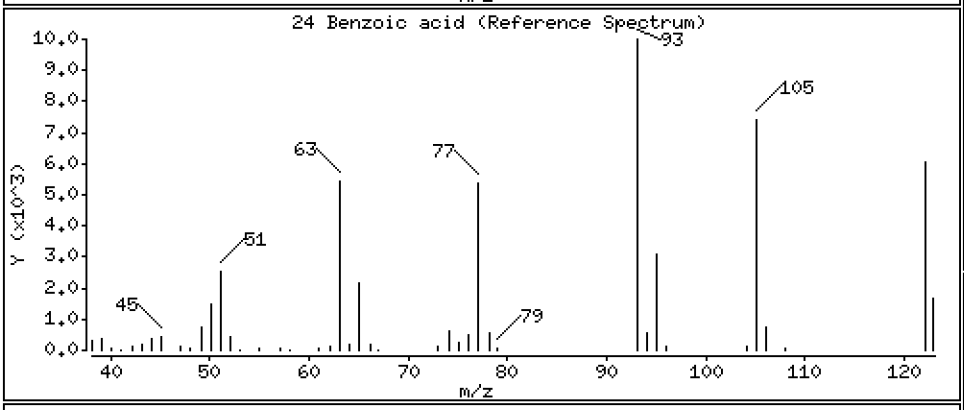
Concentration: 0.02552 ug/mL

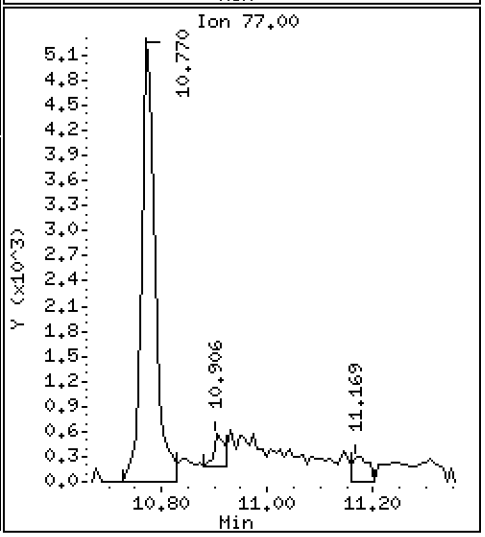


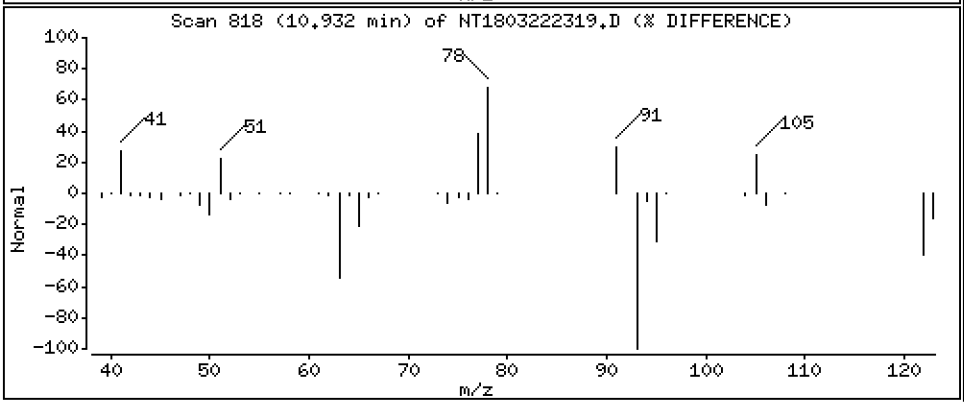












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

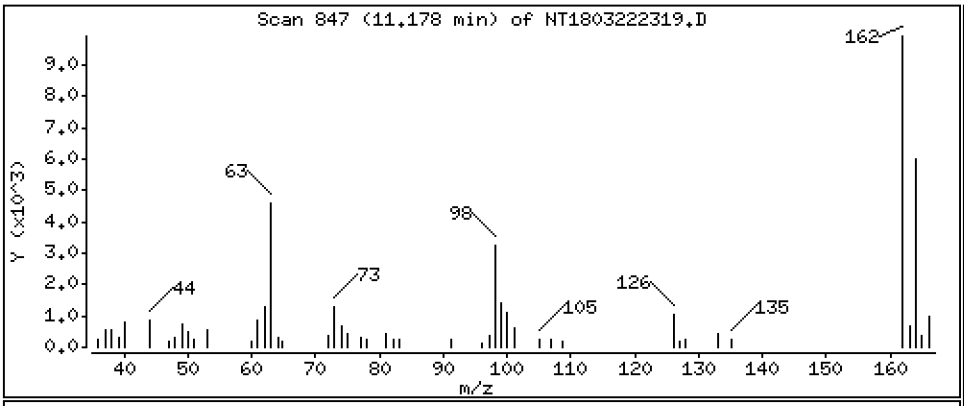
Operator: VTS

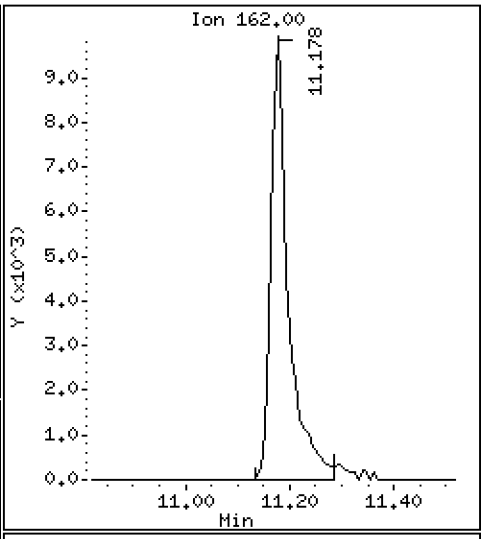
Column phase: ZB-5msi

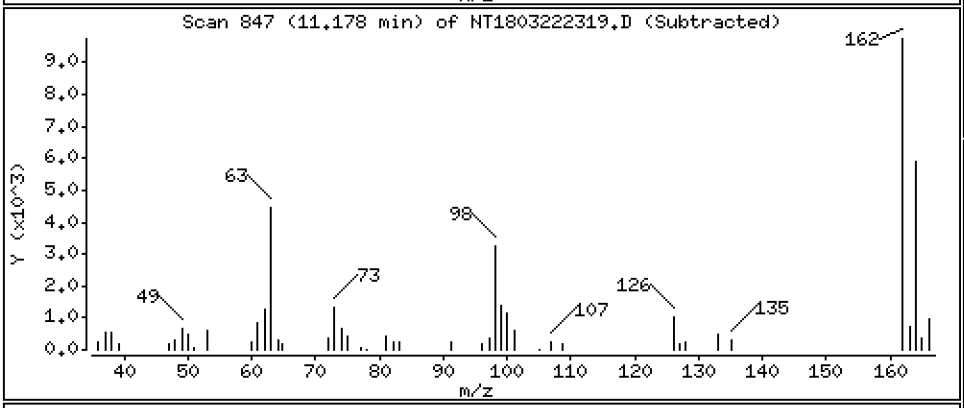
Column diameter: 0.25

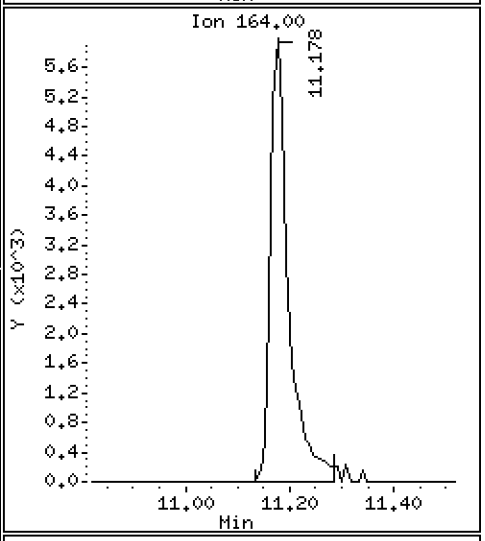
25 2,4-Dichlorophenol

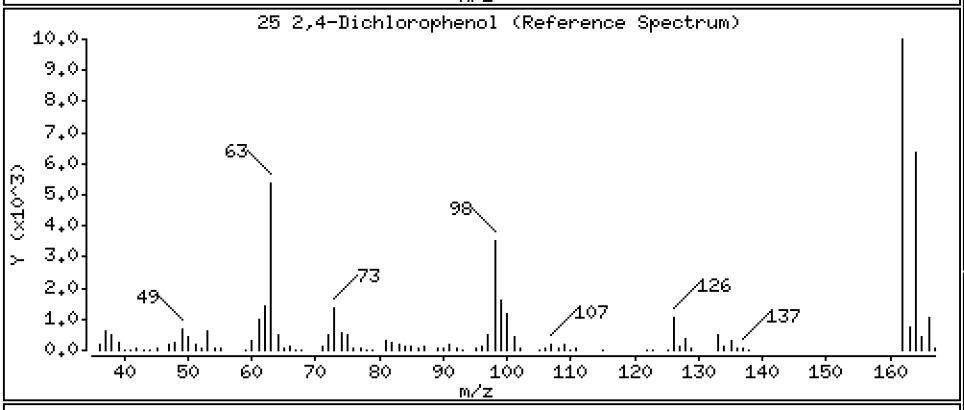
Concentration: 0.3313 ug/mL

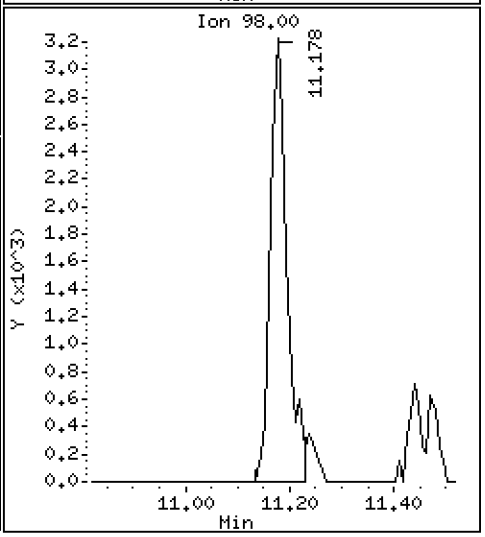


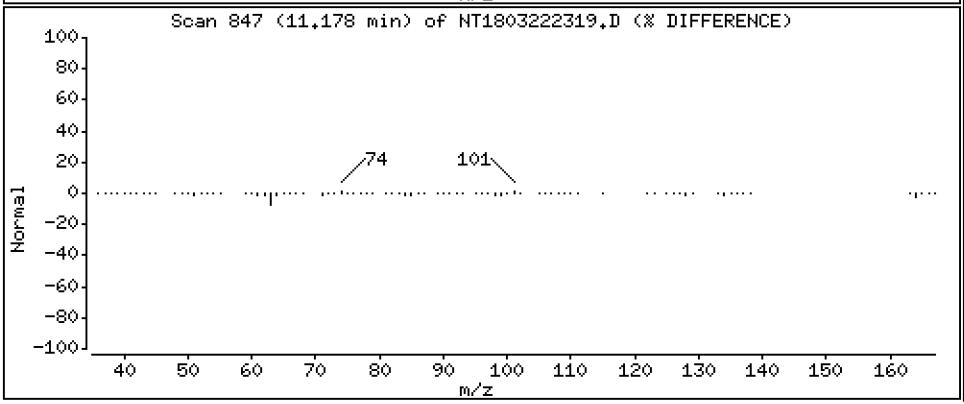












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

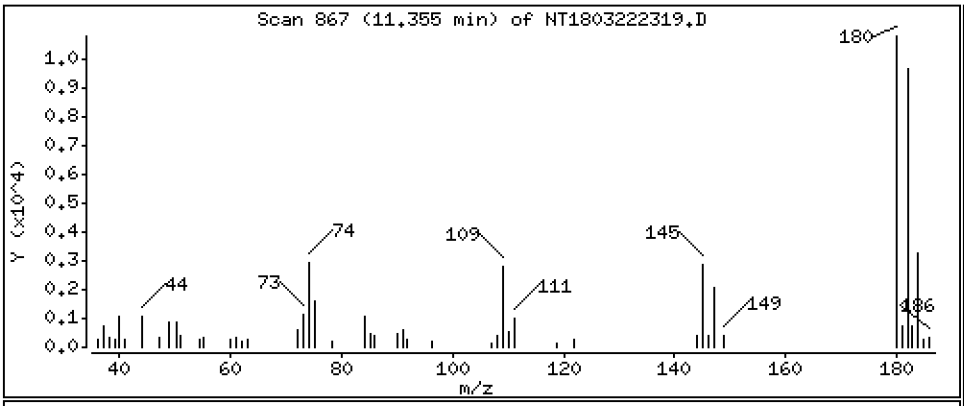
Operator: VTS

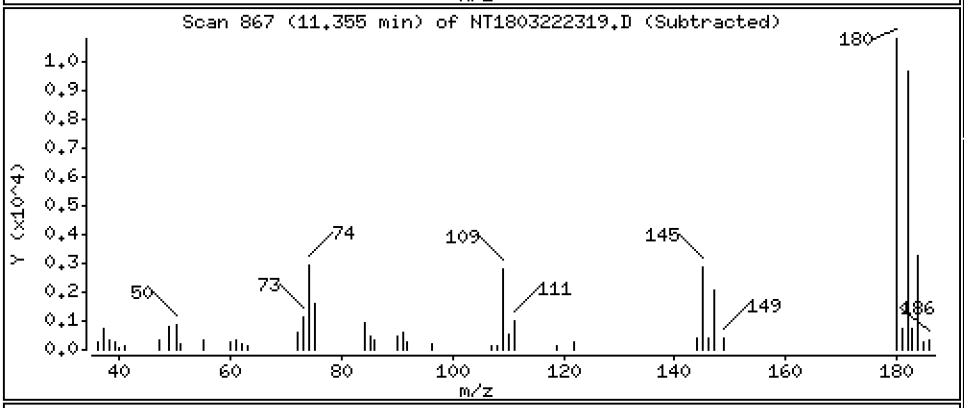
Column phase: ZB-5msi

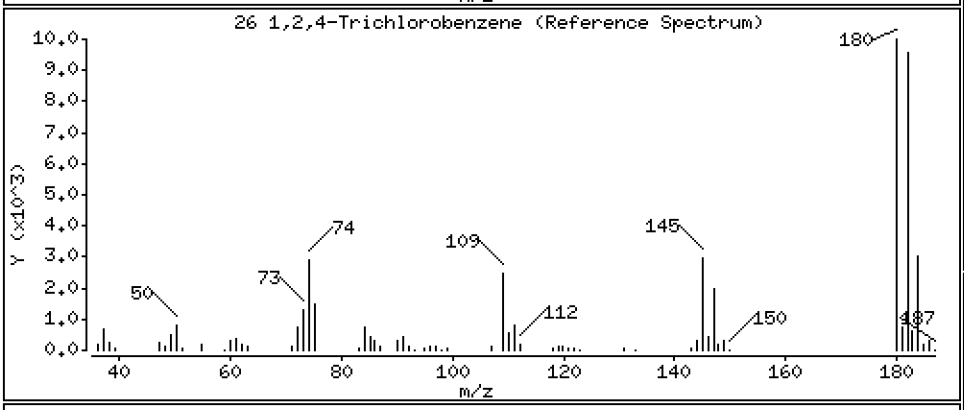
Column diameter: 0.25

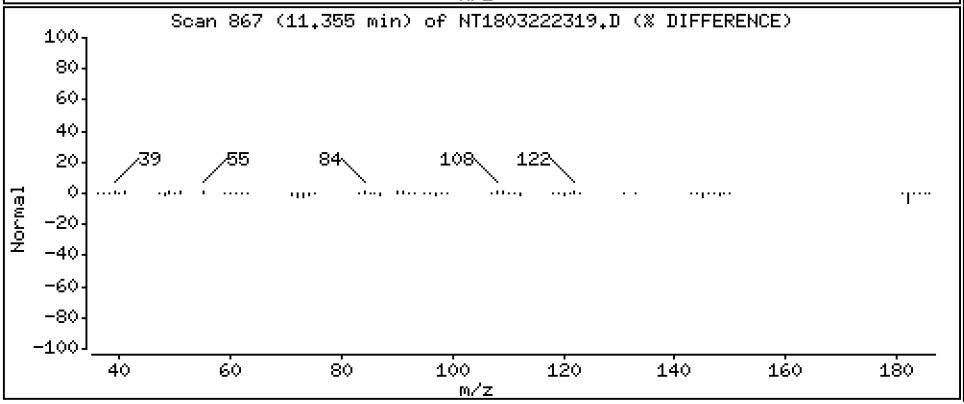
26 1,2,4-Trichlorobenzene

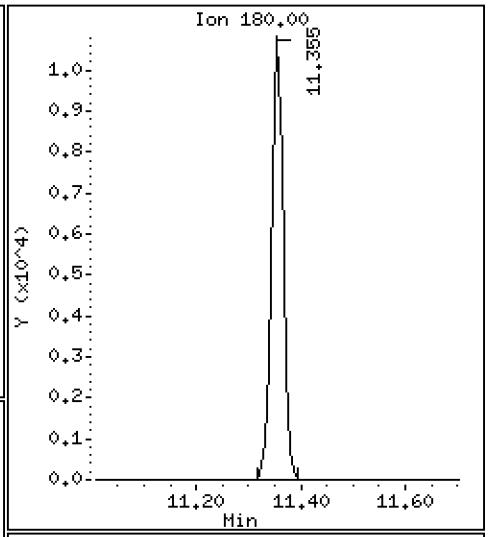
Concentration: 0.1960 ug/mL

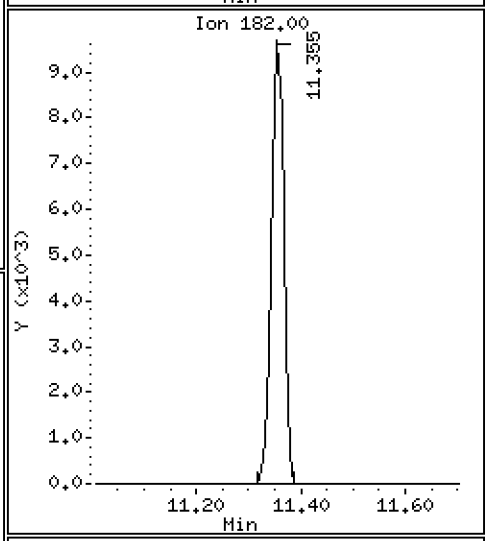


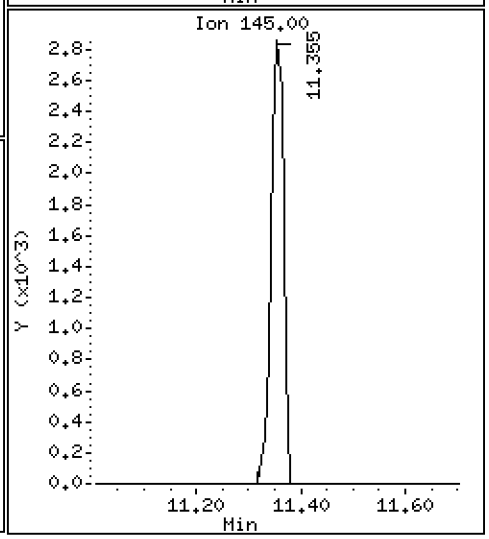












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

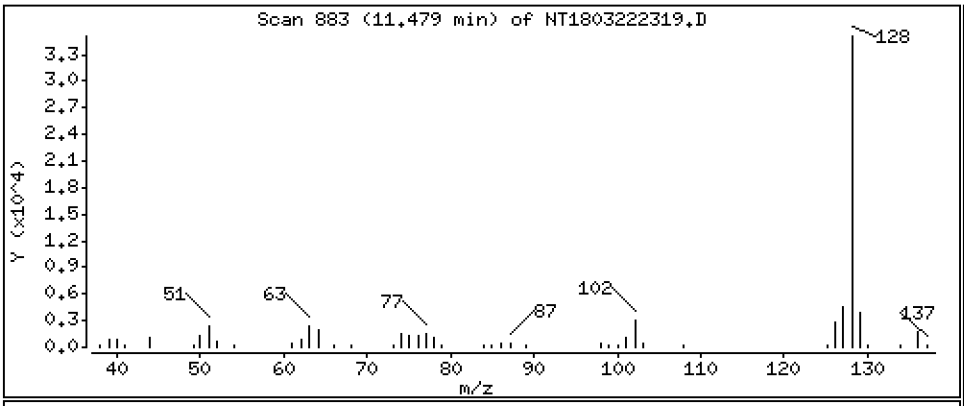
Operator: VTS

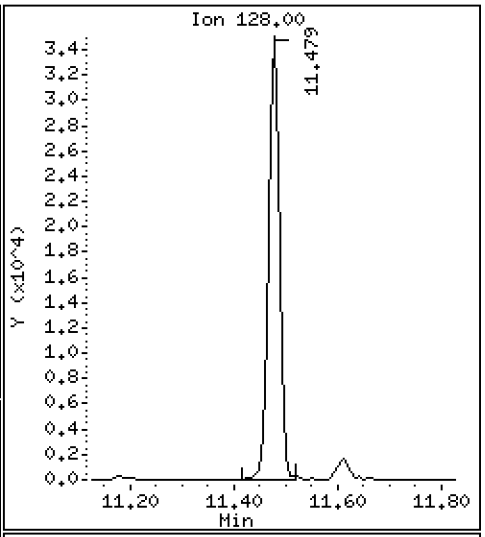
Column phase: ZB-5msi

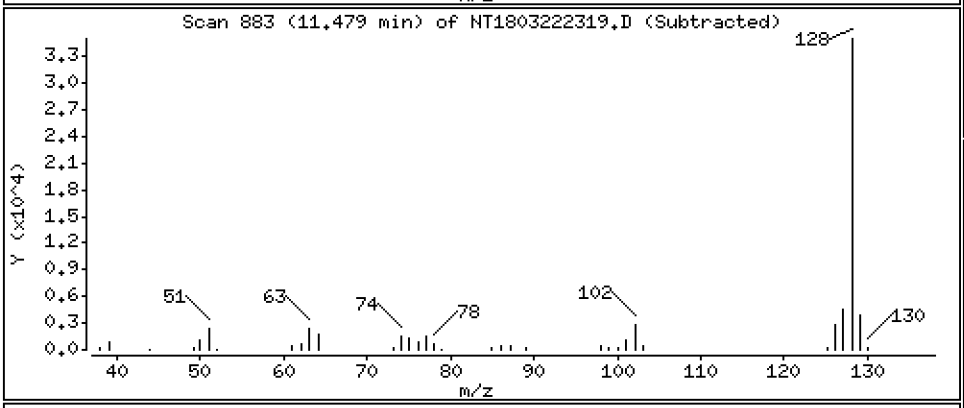
Column diameter: 0.25

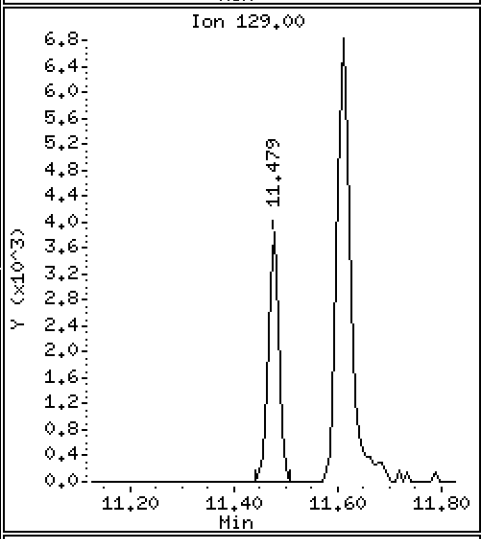
28 Naphthalene

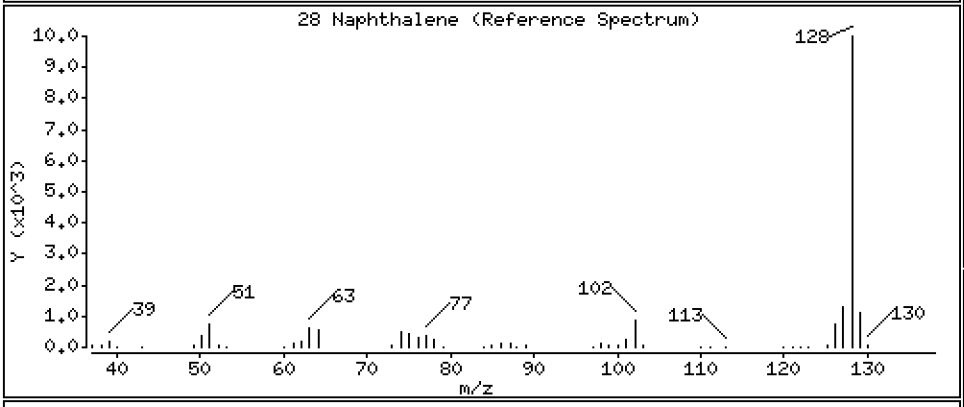
Concentration: 0.1968 ug/mL

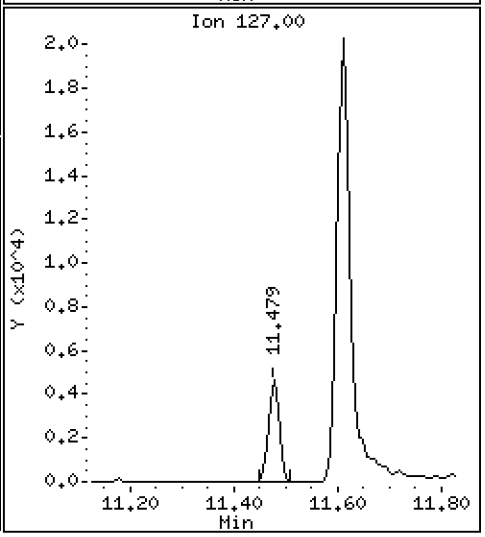


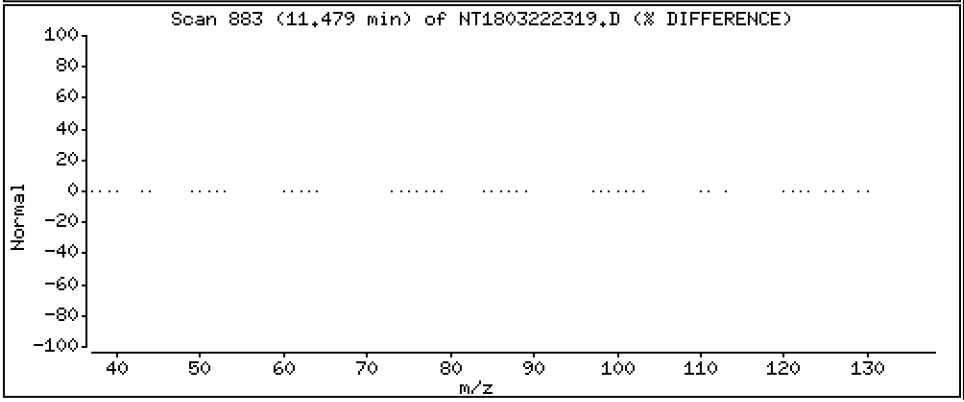












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

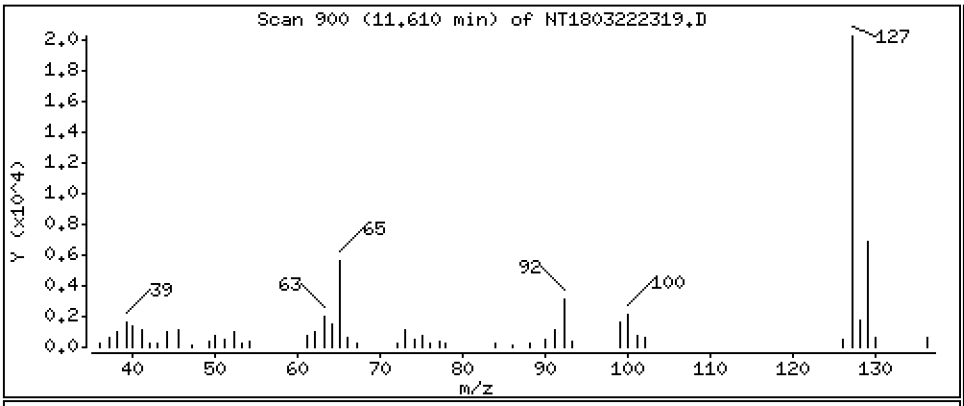
Operator: VTS

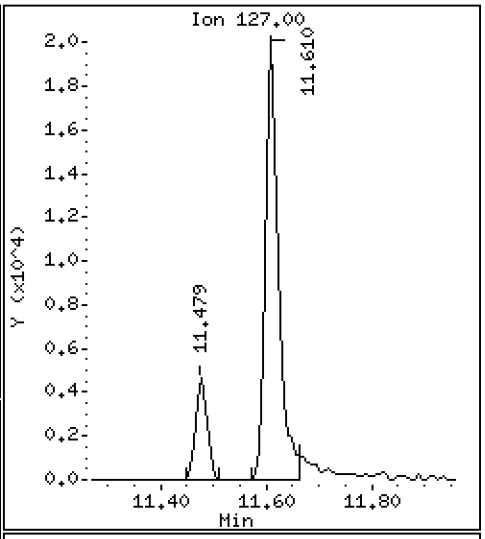
Column phase: ZB-5msi

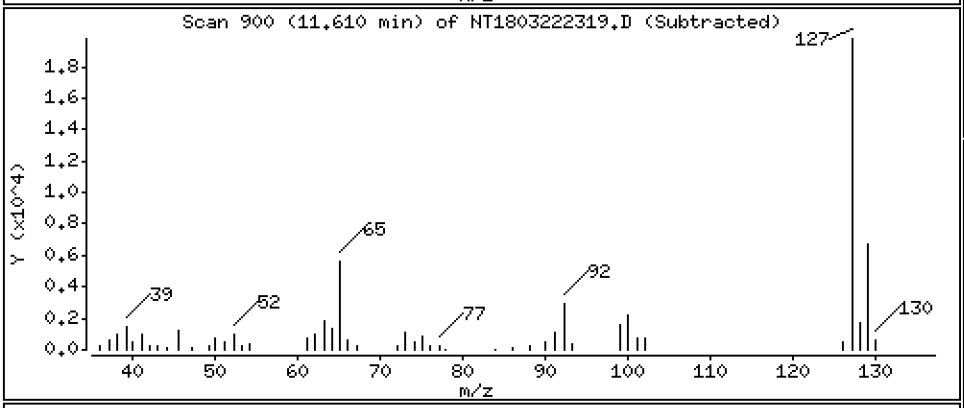
Column diameter: 0.25

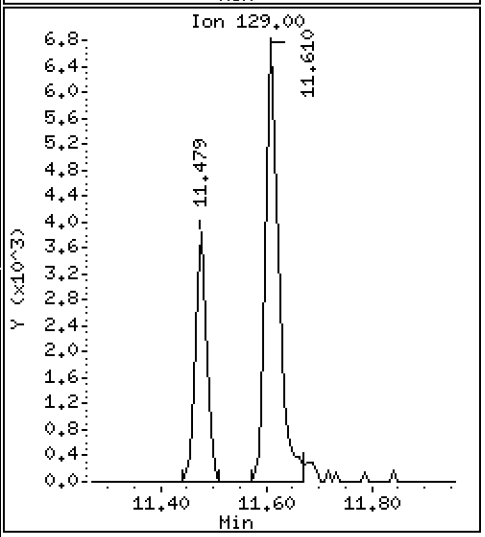
29 4-Chloroaniline

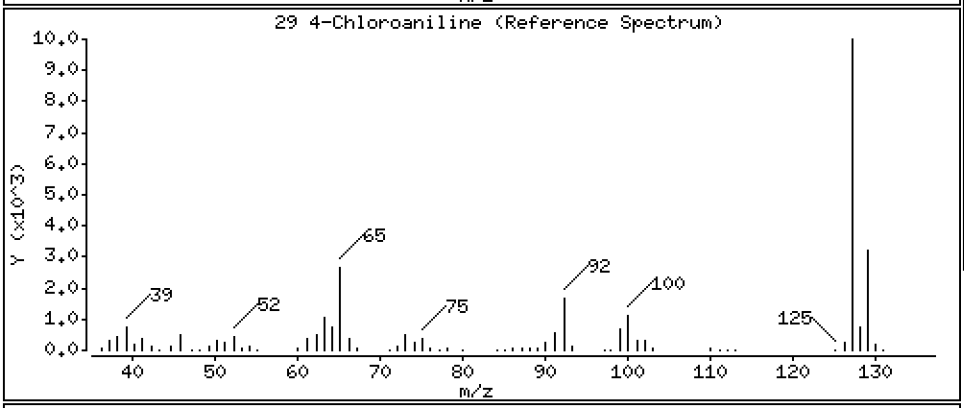
Concentration: 0.3244 ug/mL

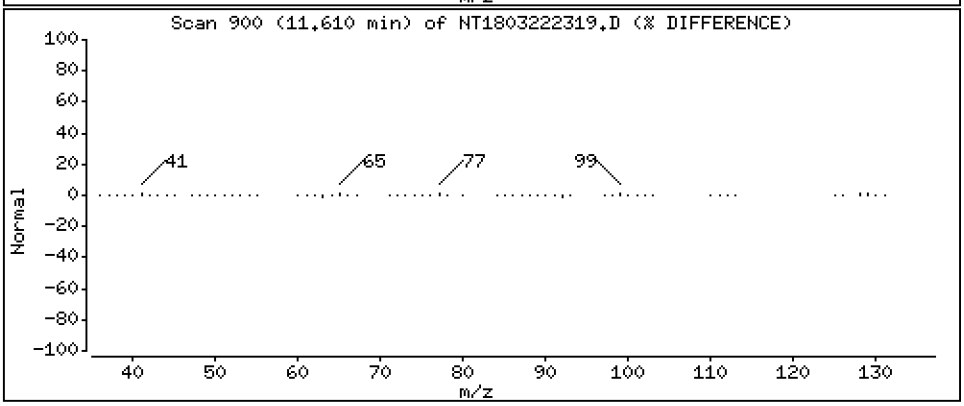












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

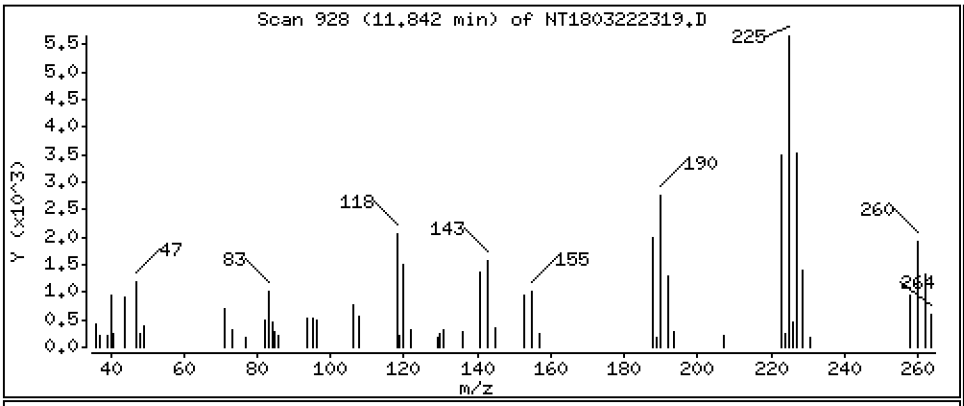
Operator: VTS

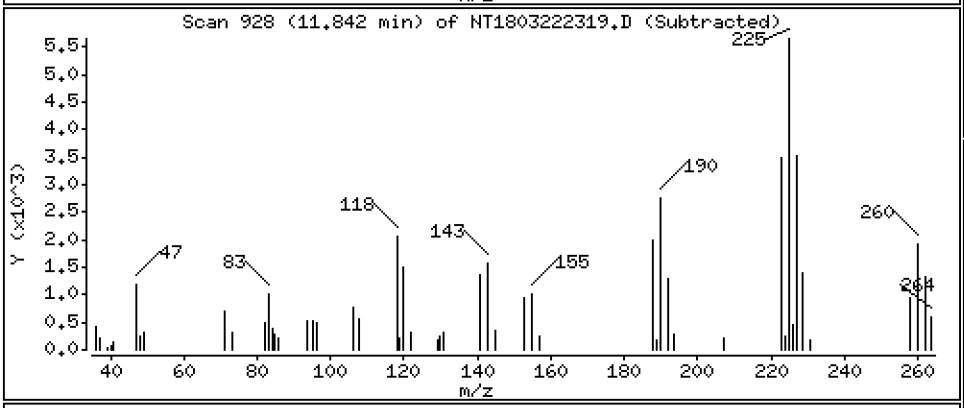
Column phase: ZB-5msi

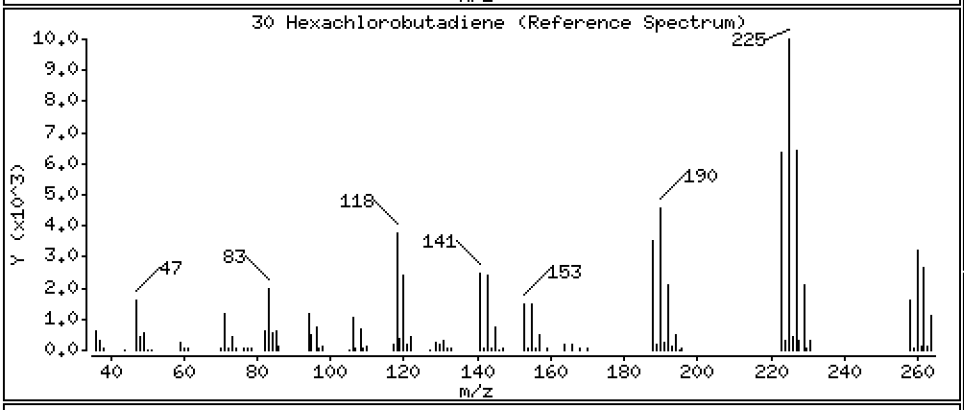
Column diameter: 0.25

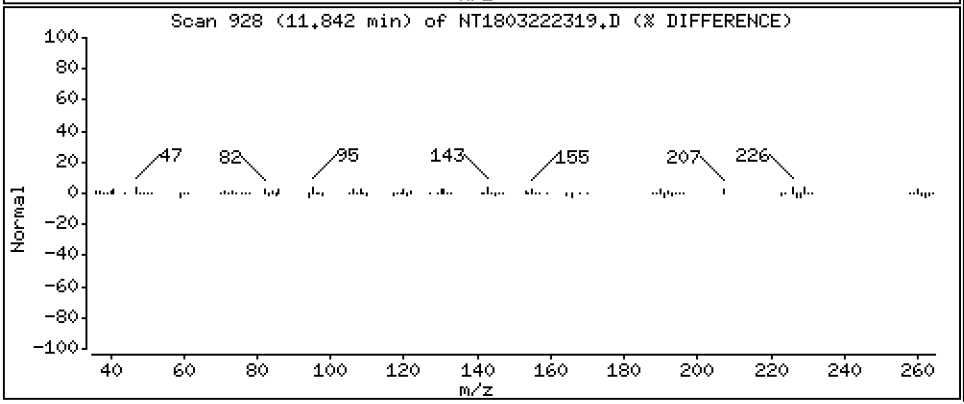
30 Hexachlorobutadiene

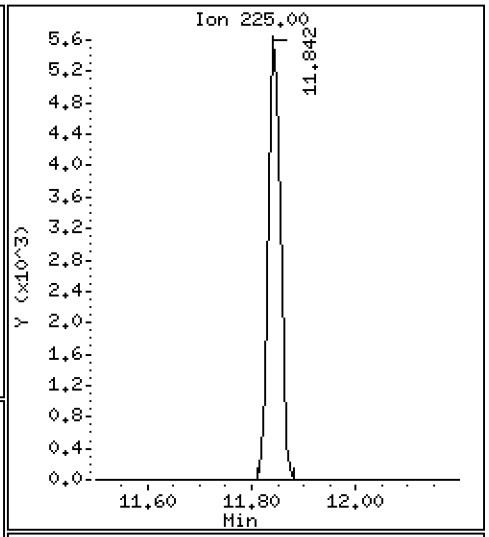
Concentration: 0.1959 ug/mL

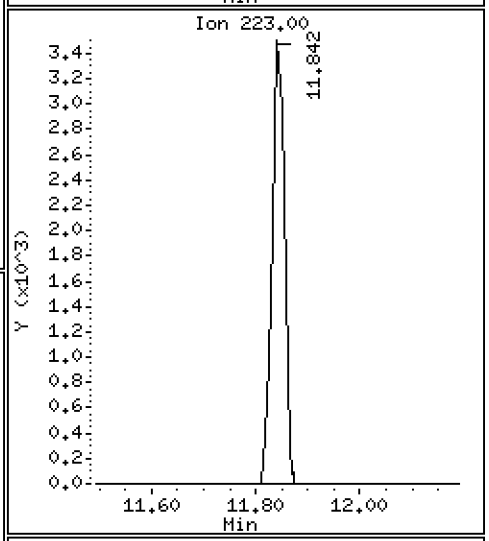


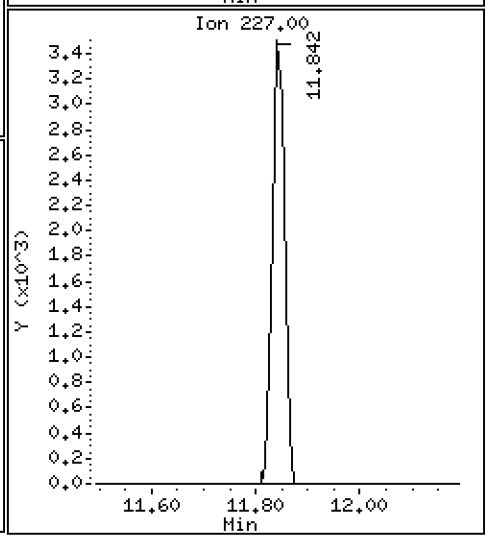












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D

Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

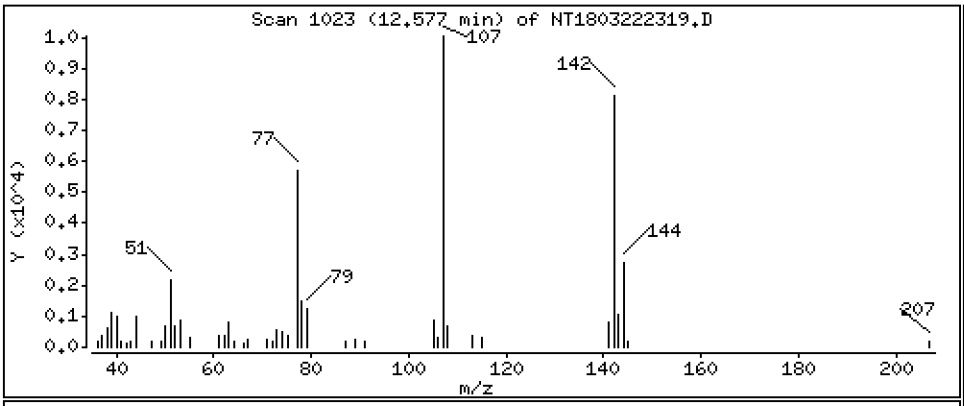
Operator: VTS

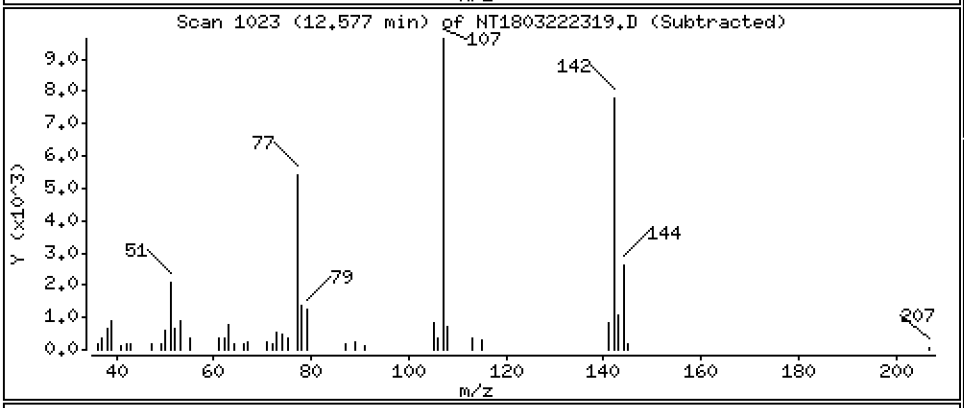
Column phase: ZB-5msi

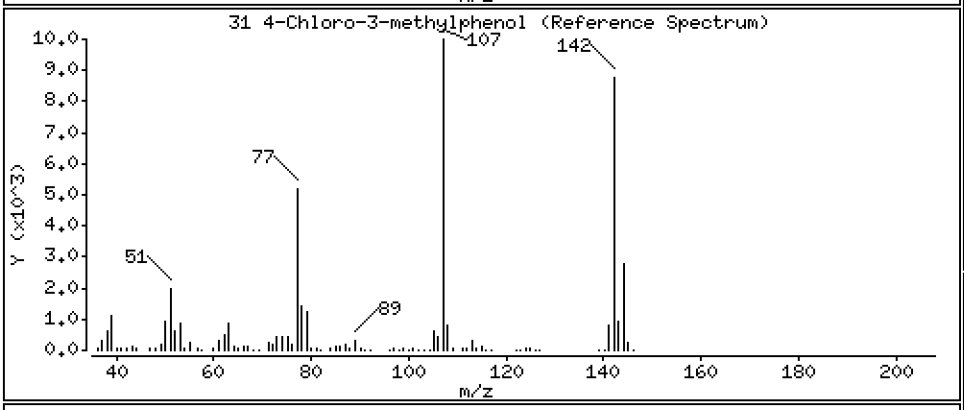
Column diameter: 0.25

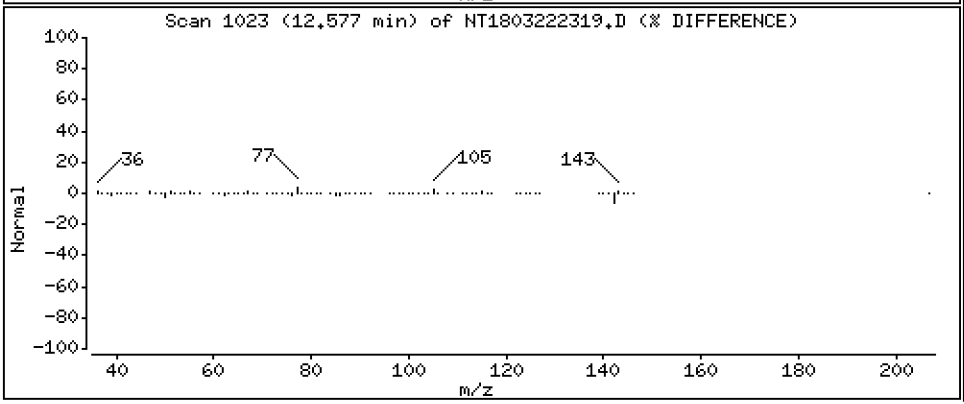
31 4-Chloro-3-methylphenol

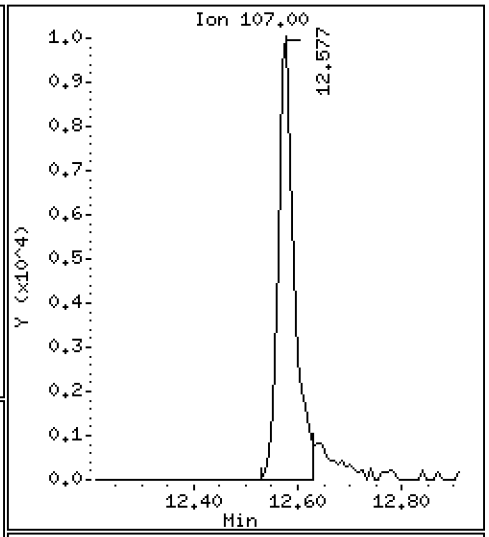
Concentration: 0.3141 ug/mL

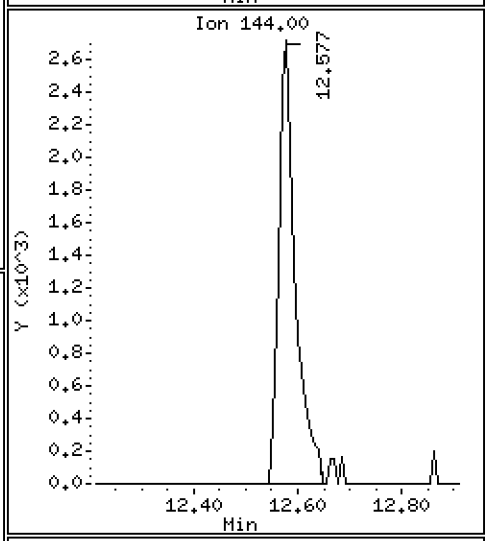


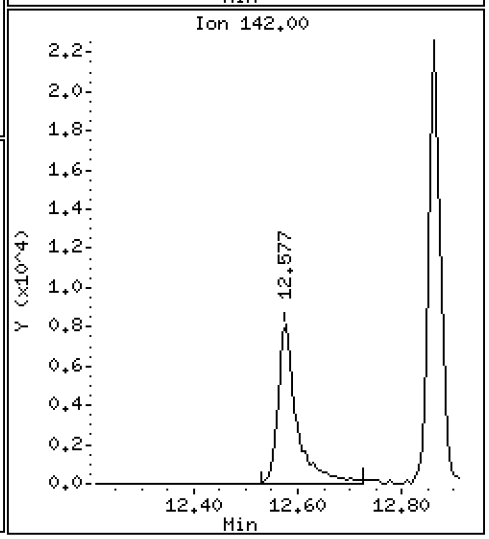












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

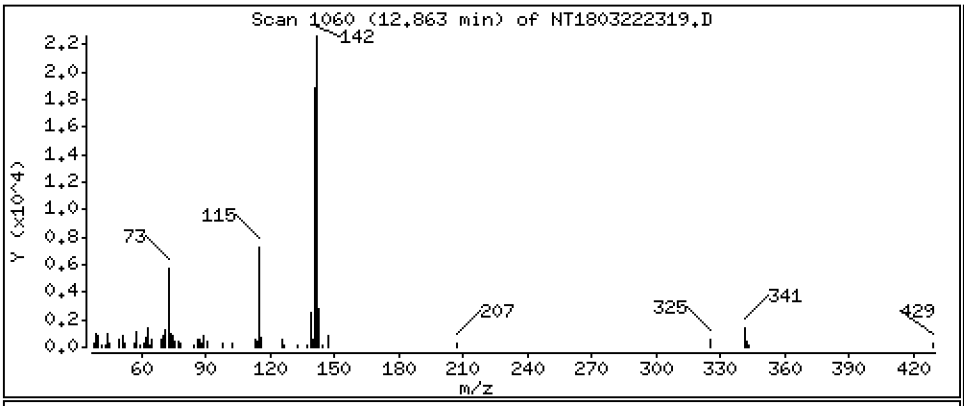
Operator: VTS

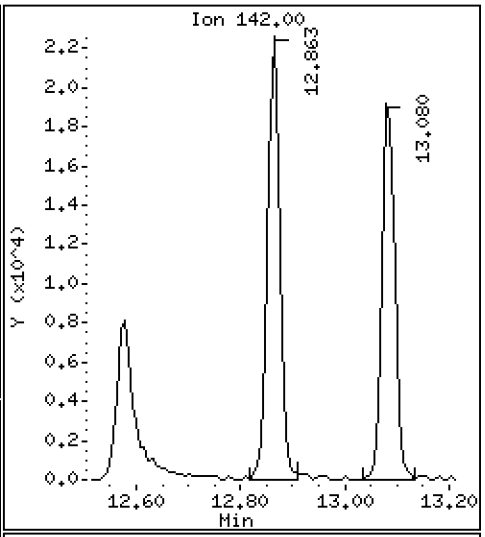
Column phase: ZB-5msi

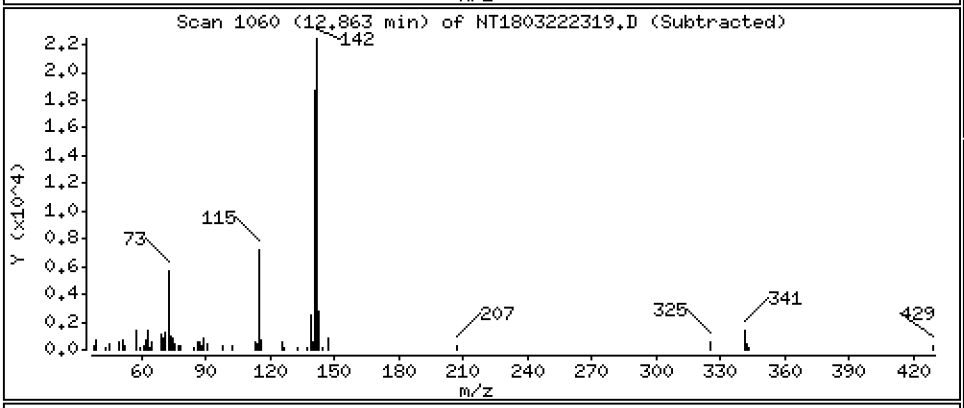
Column diameter: 0.25

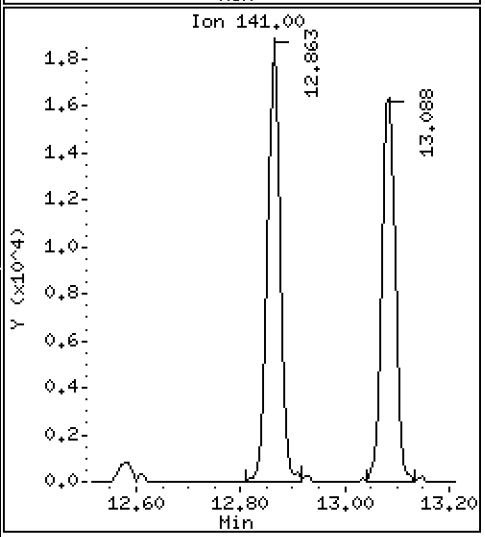
32 2-Methylnaphthalene

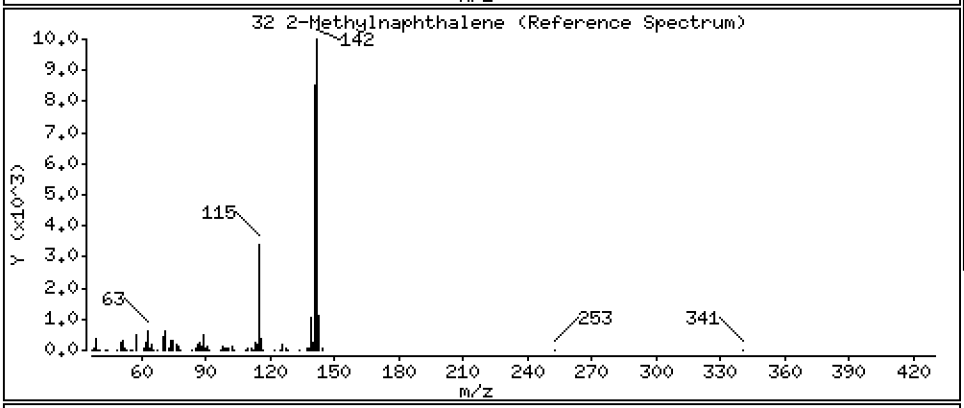
Concentration: 0.1959 ug/mL

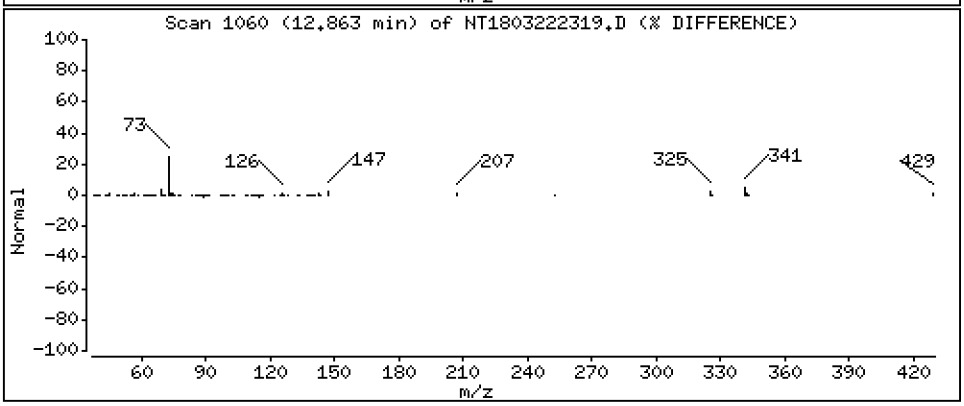












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D

Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

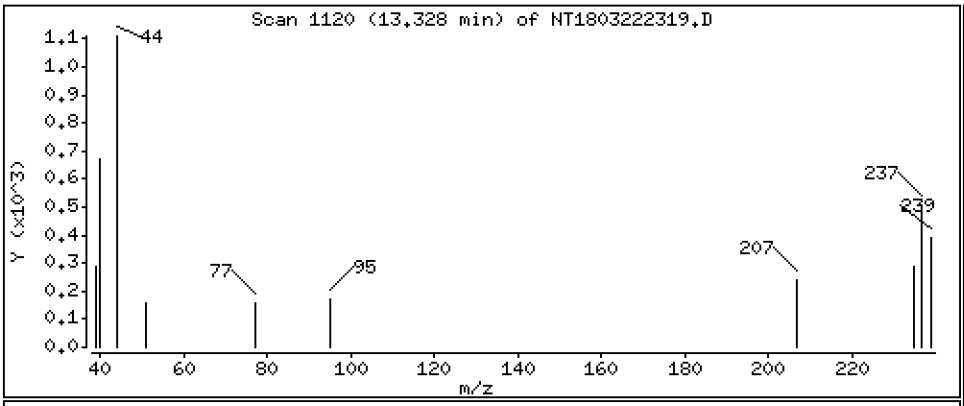
Operator: VTS

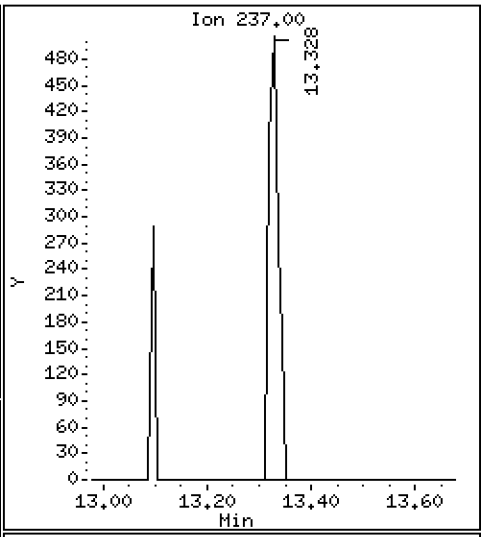
Column phase: ZB-5msi

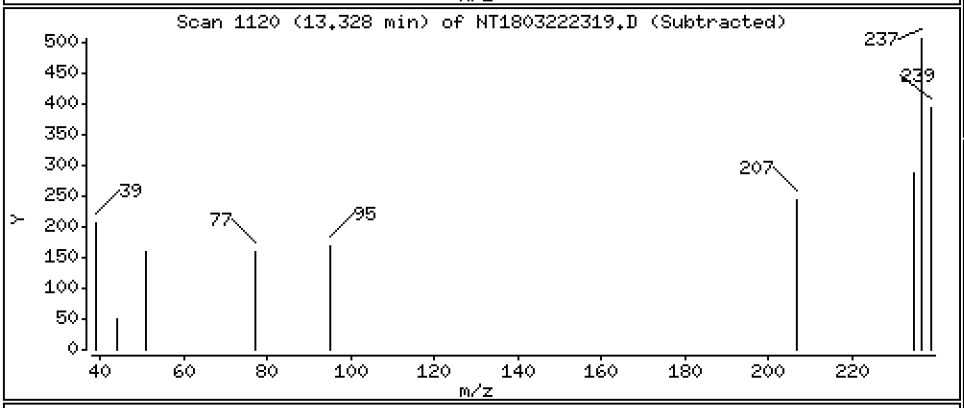
Column diameter: 0.25

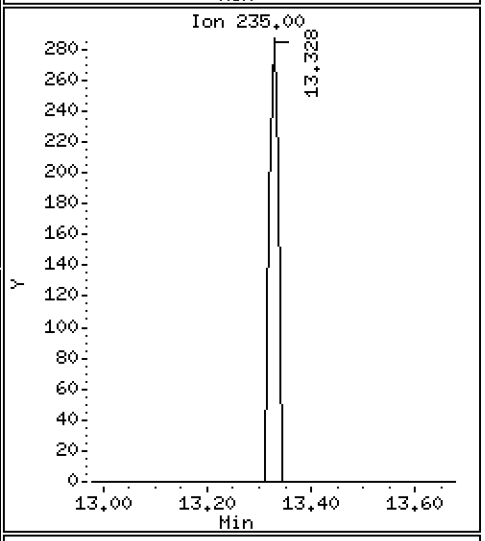
33 Hexachlorocyclopentadiene

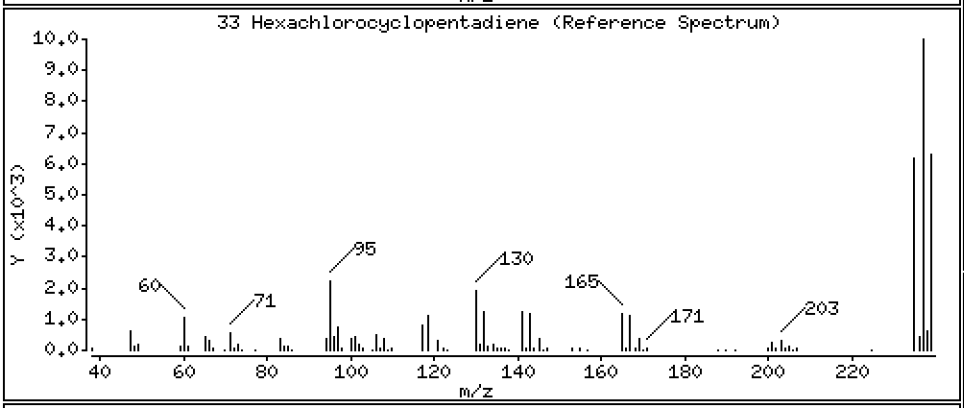
Concentration: 0.01360 ug/mL

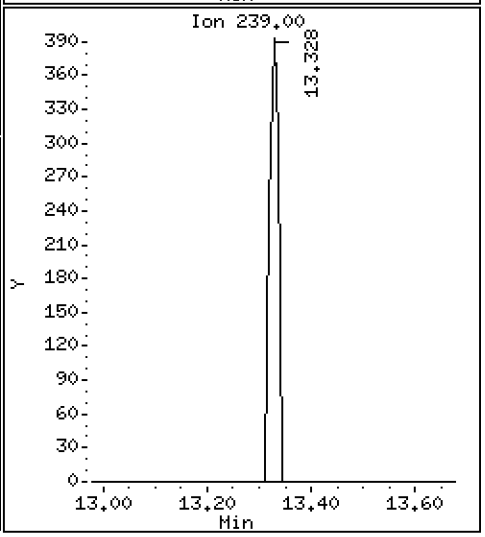


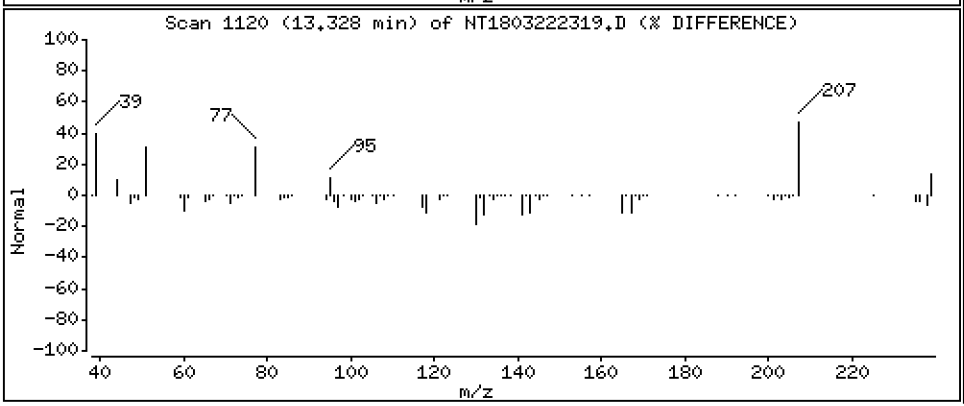












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

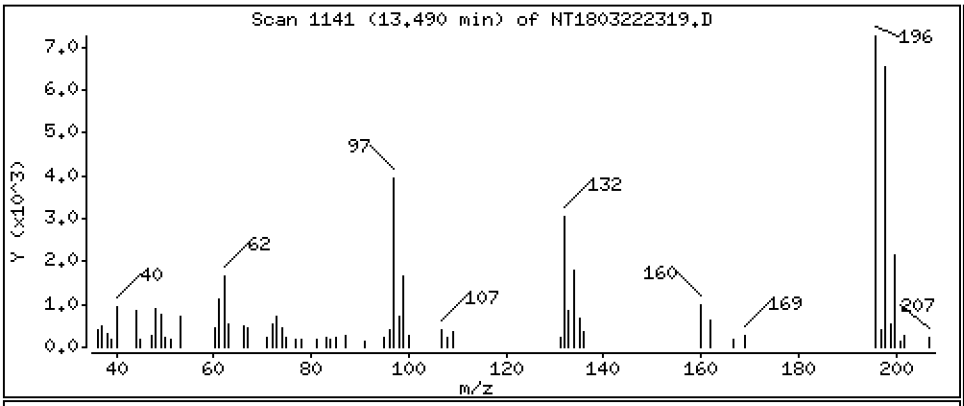
Operator: VTS

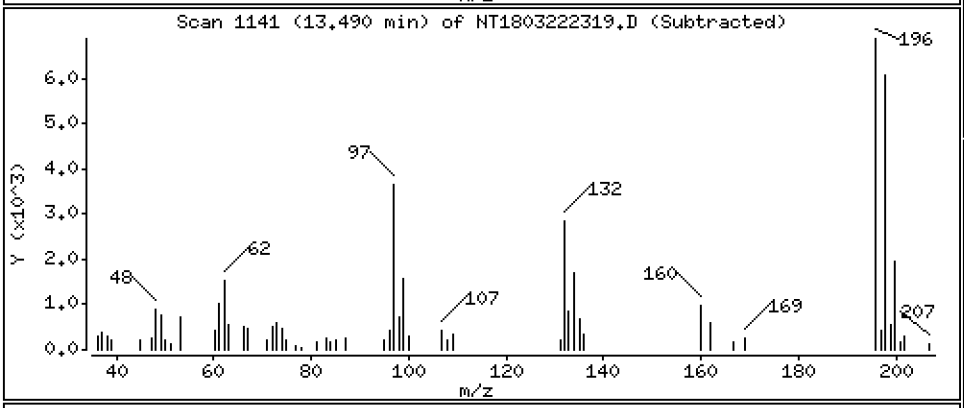
Column phase: ZB-5msi

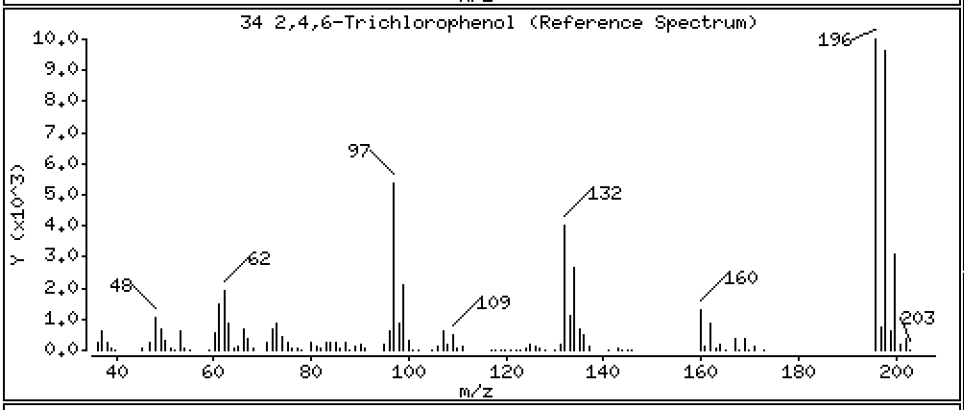
Column diameter: 0.25

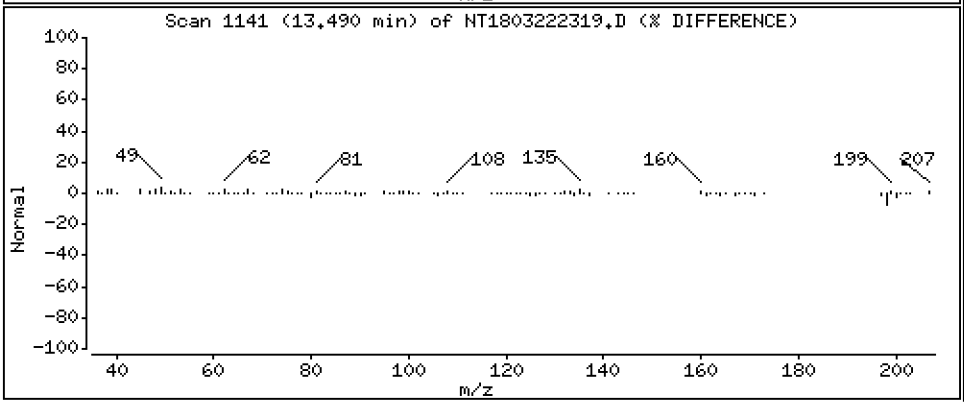
34 2,4,6-Trichlorophenol

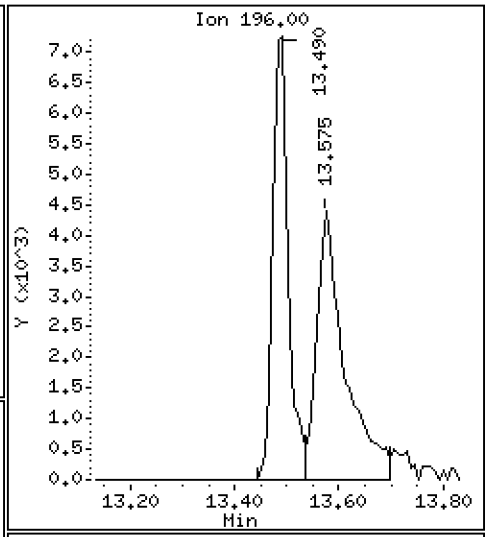
Concentration: 0.3142 ug/mL

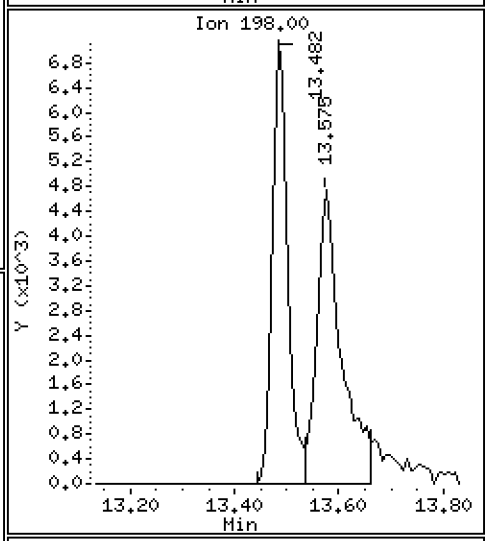


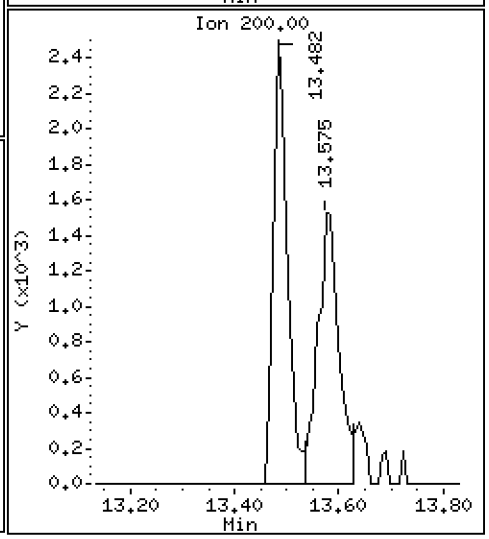












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

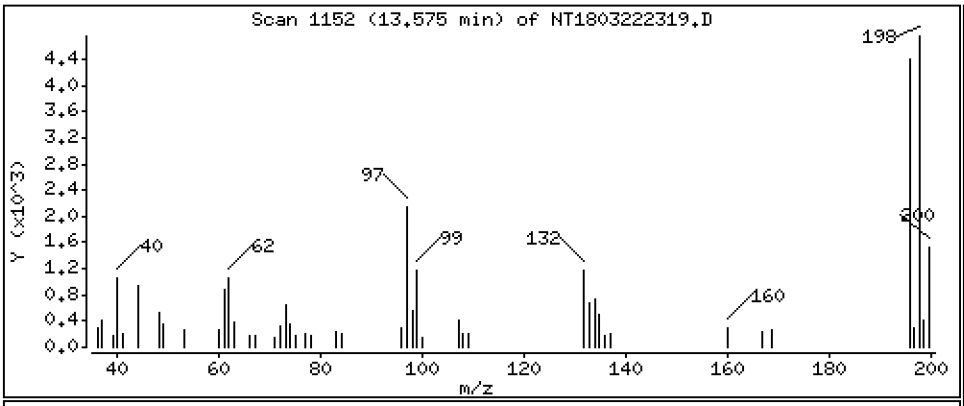
Operator: VTS

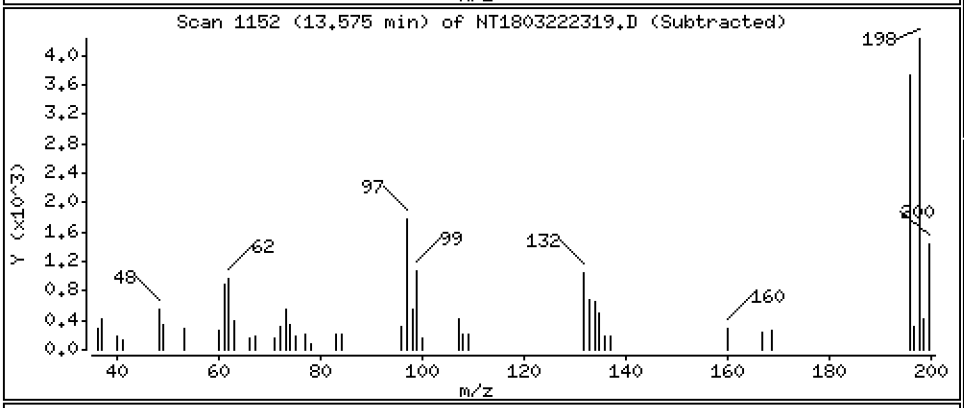
Column phase: ZB-5msi

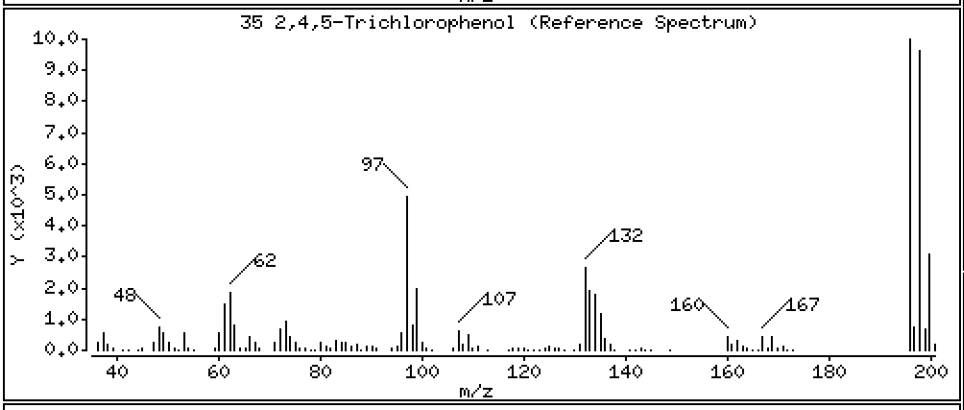
Column diameter: 0.25

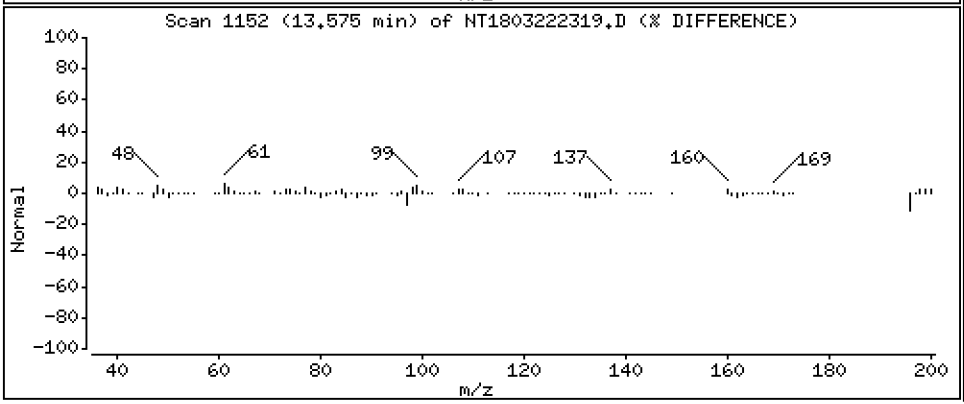
35 2,4,5-Trichlorophenol

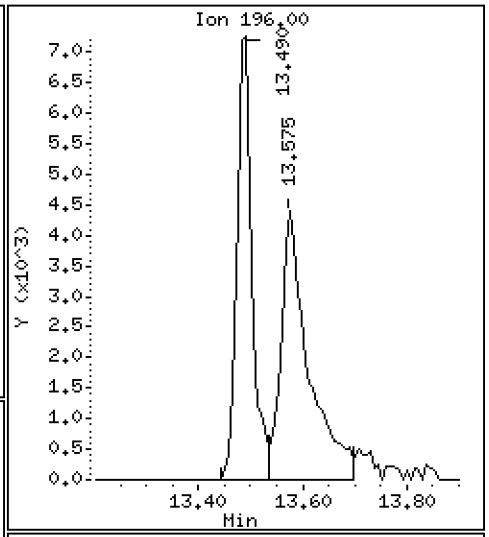
Concentration: 0.3215 ug/mL

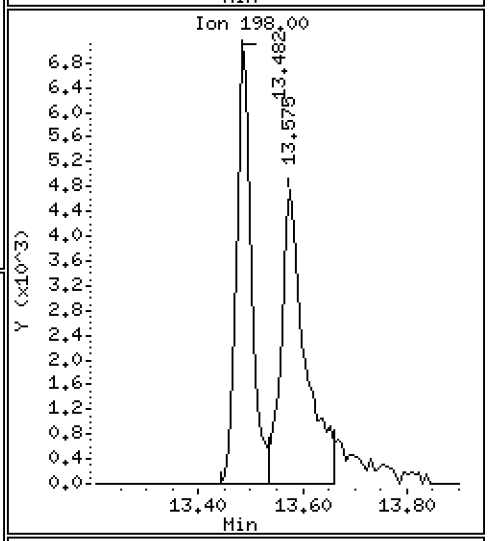


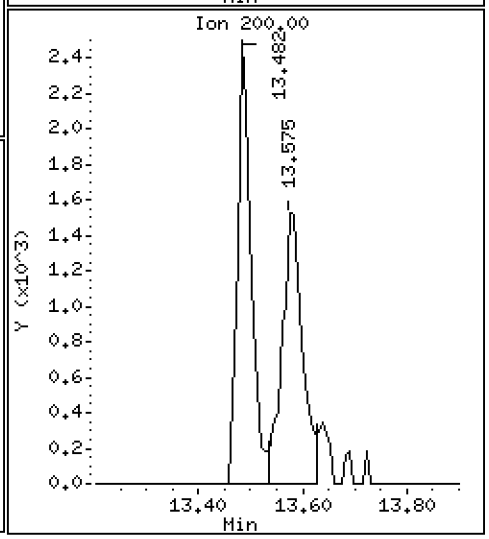












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

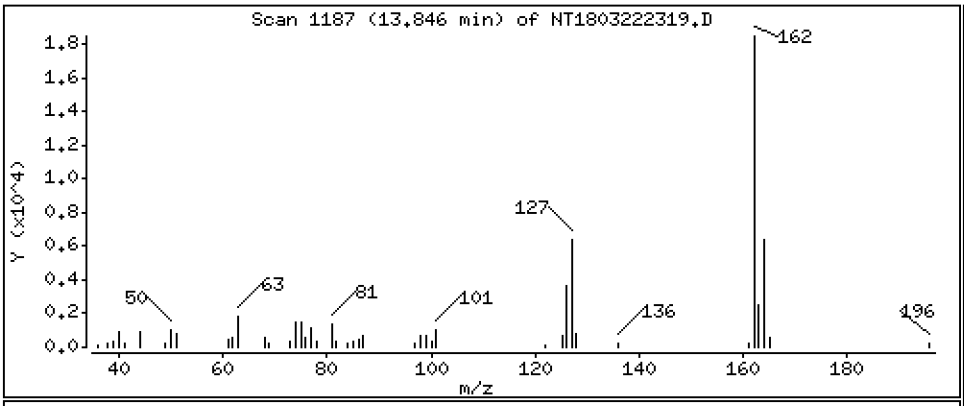
Operator: VTS

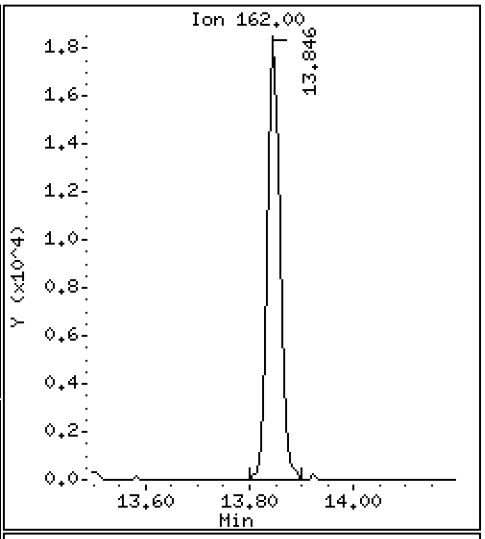
Column phase: ZB-5msi

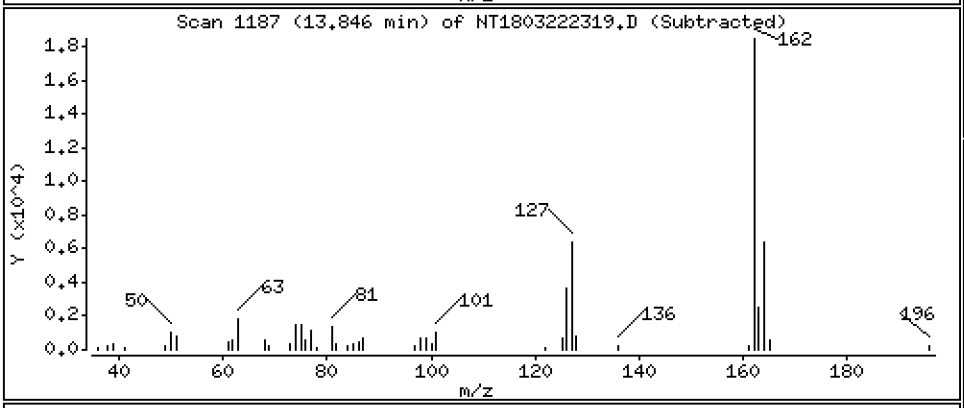
Column diameter: 0.25

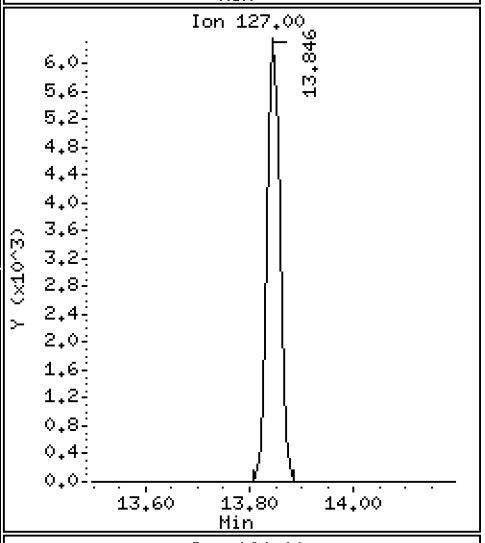
37 2-Chloronaphthalene

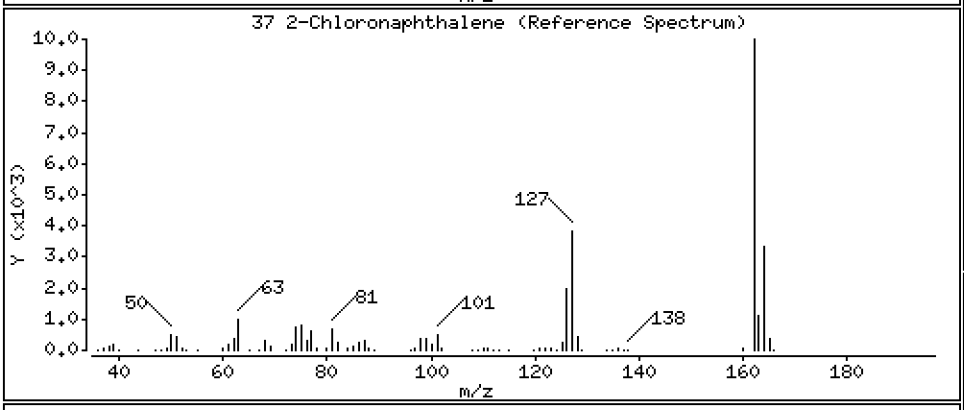
Concentration: 0.1961 ug/mL

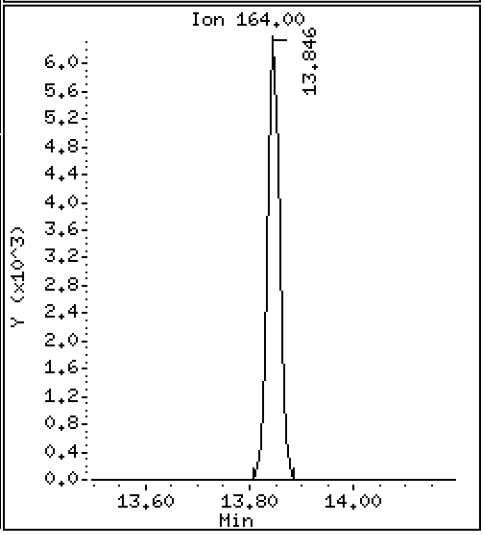


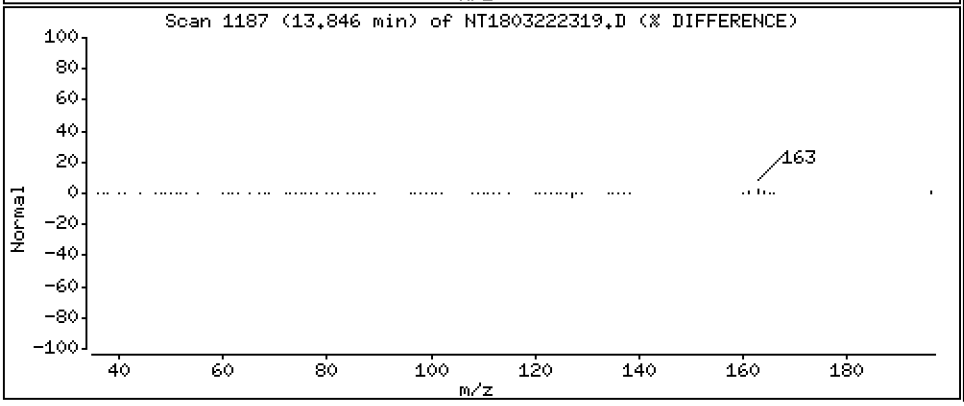












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

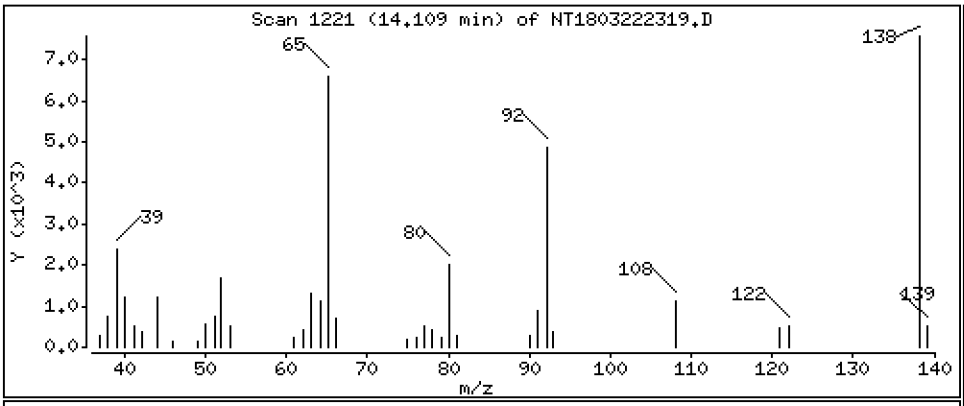
Operator: VTS

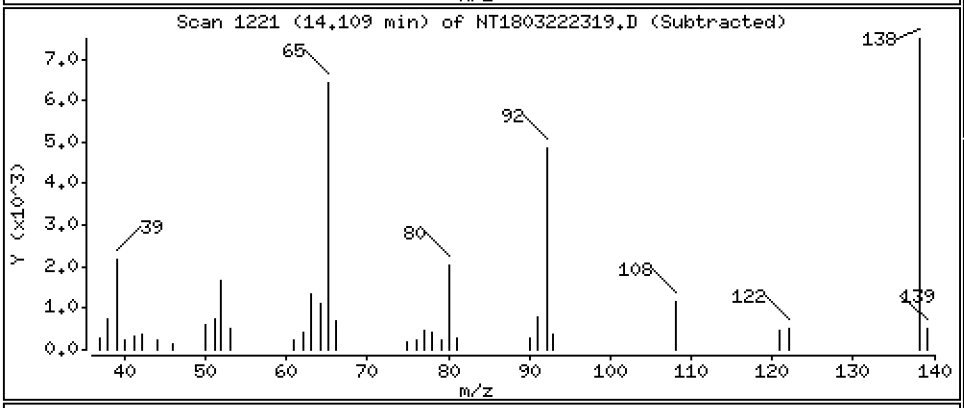
Column phase: ZB-5msi

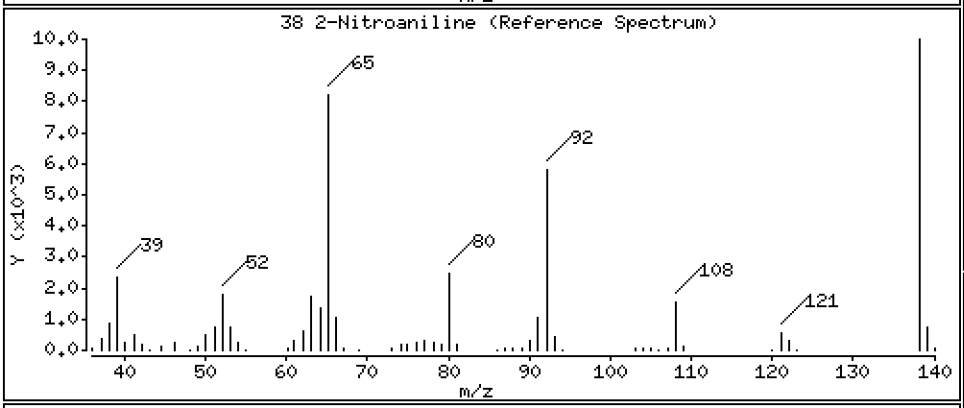
Column diameter: 0.25

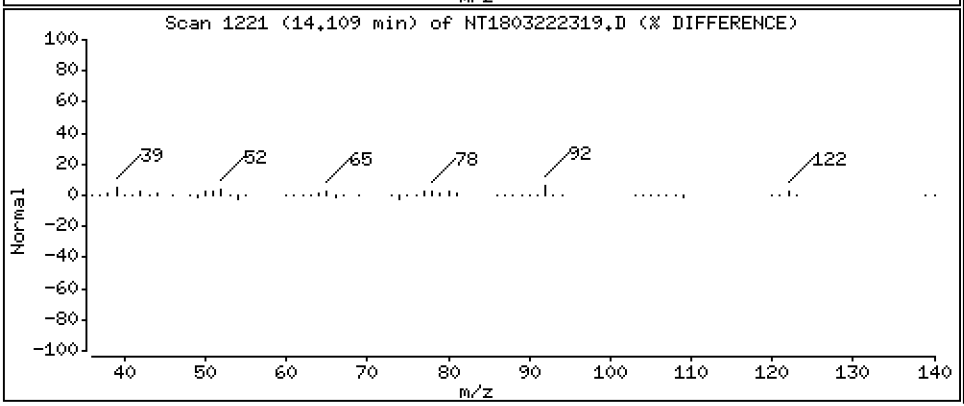
38 2-Nitroaniline

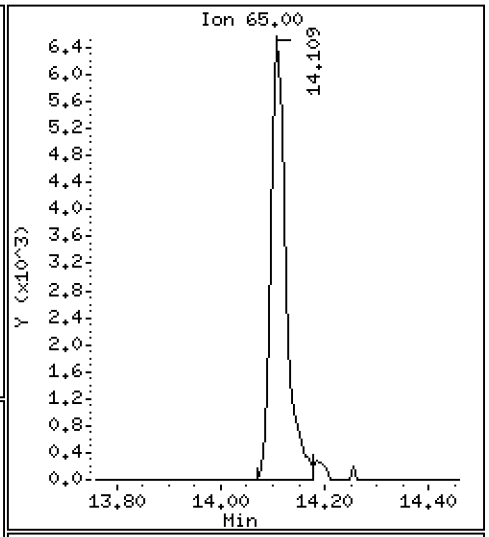
Concentration: 0.3258 ug/mL

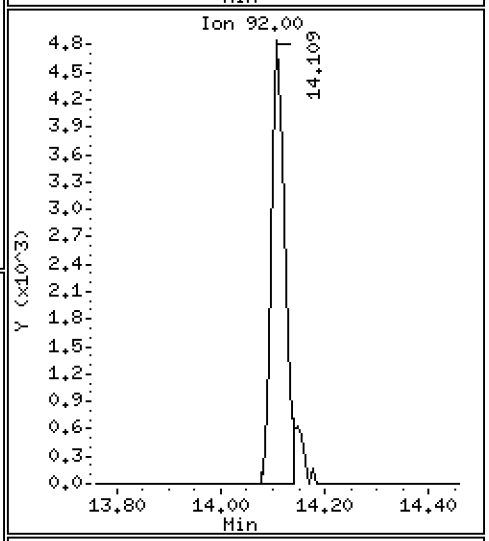


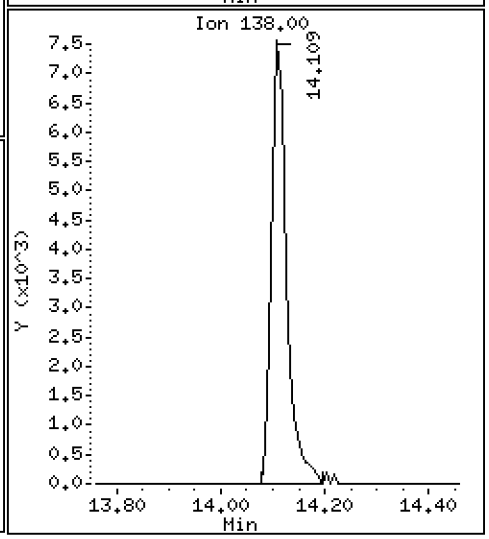












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

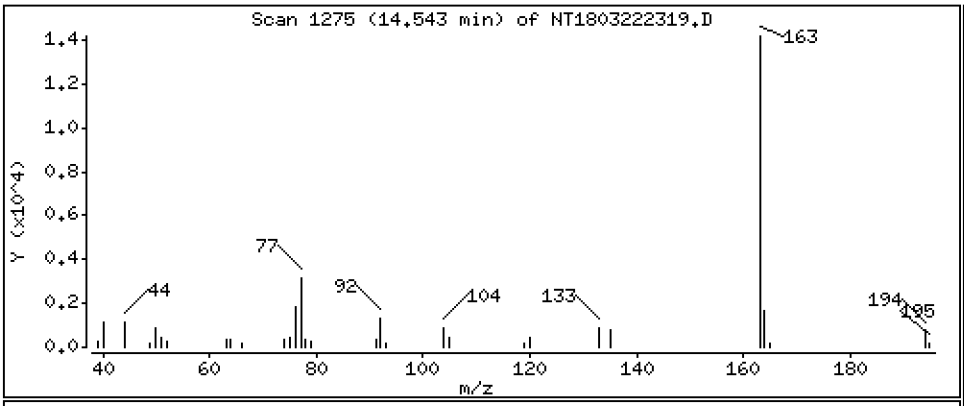
Operator: VTS

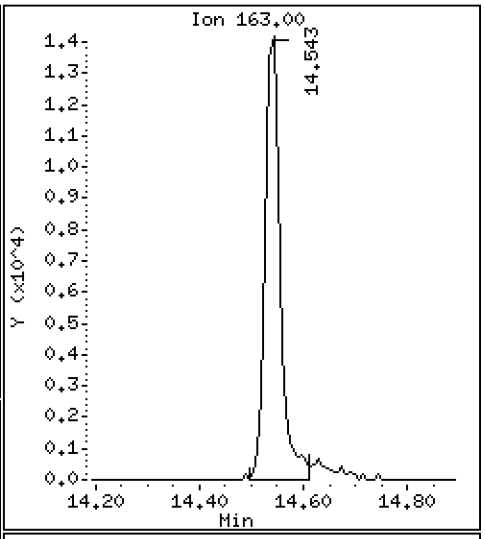
Column phase: ZB-5msi

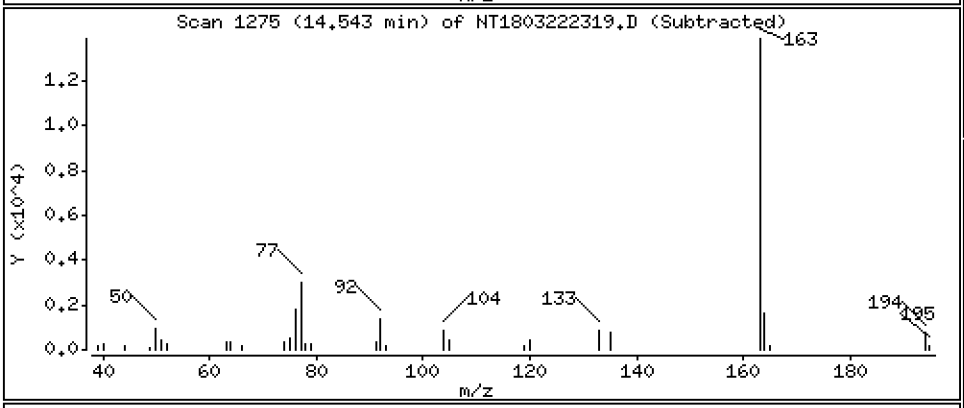
Column diameter: 0.25

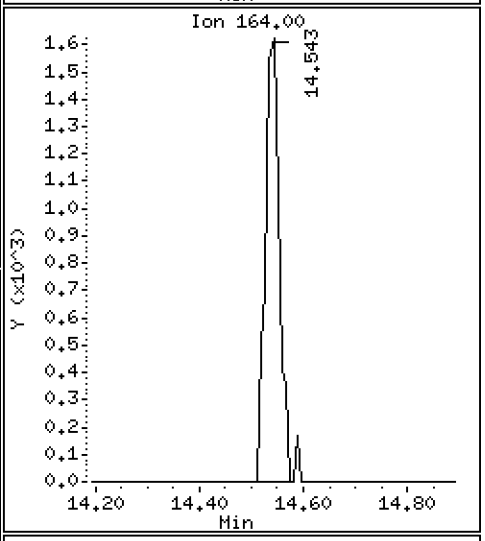
39 Dimethylphthalate

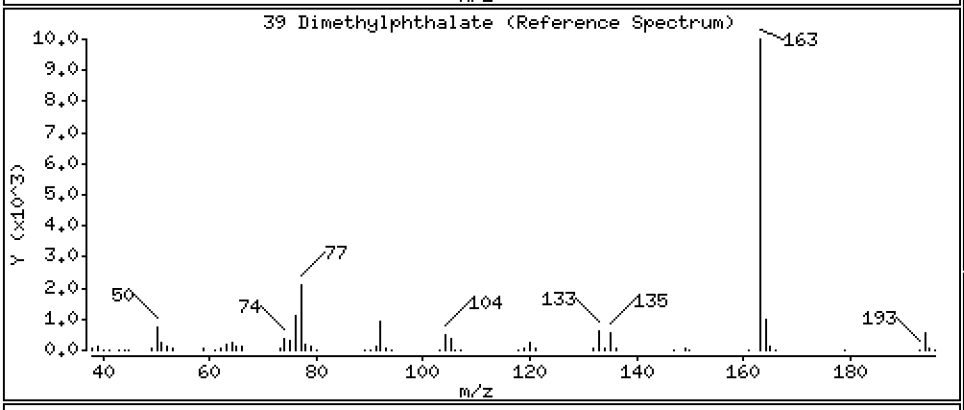
Concentration: 0.1777 ug/mL

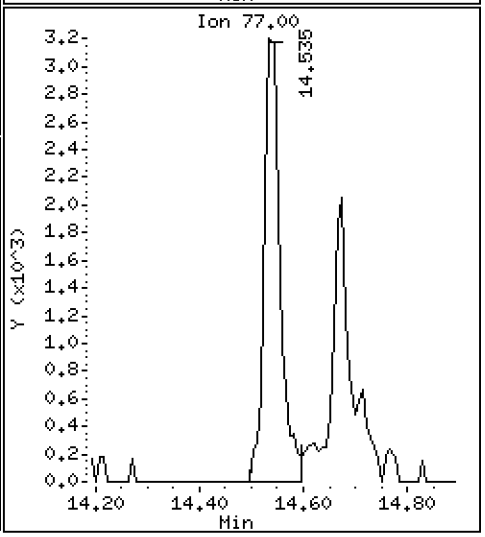


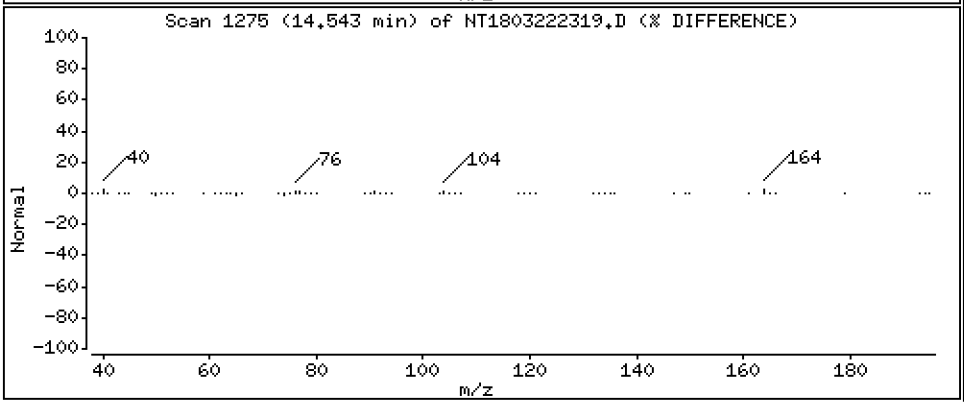












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

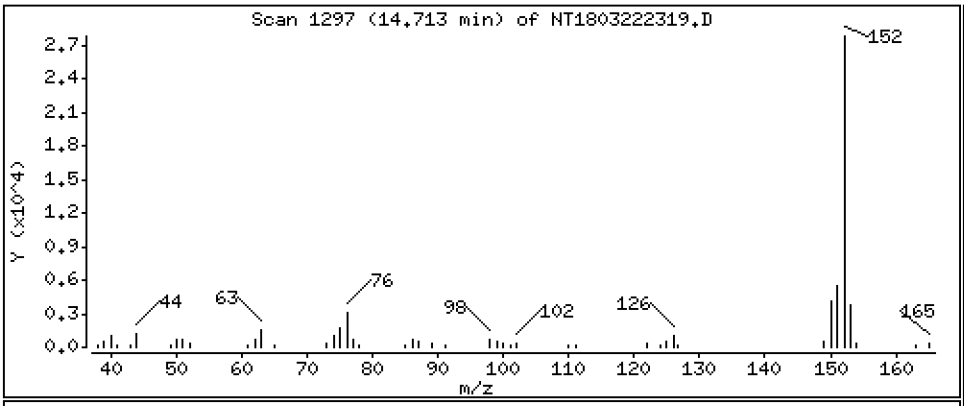
Operator: VTS

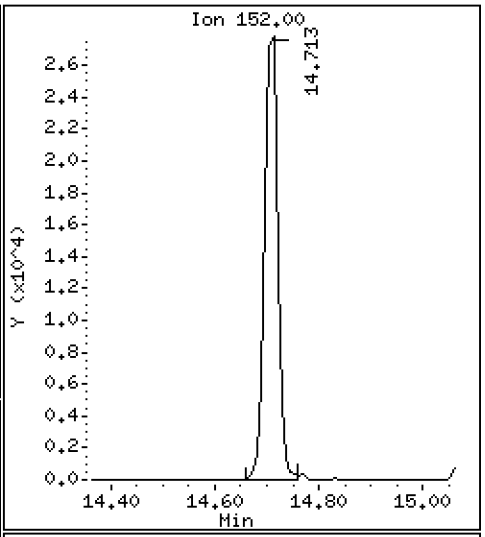
Column phase: ZB-5msi

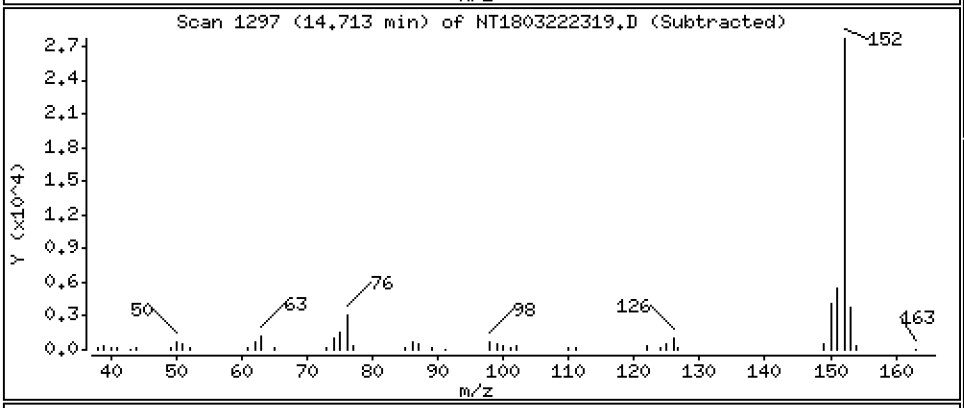
Column diameter: 0.25

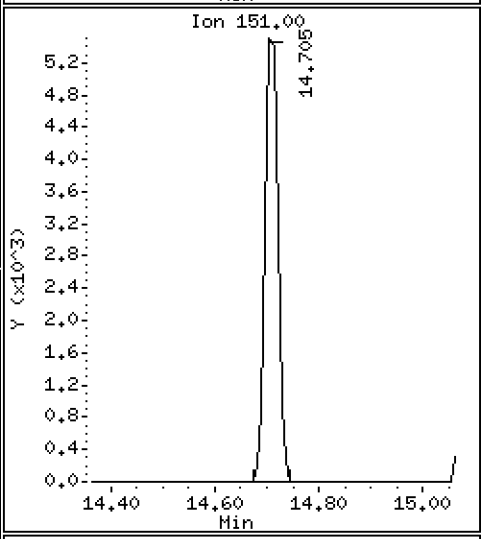
40 Acenaphthylene

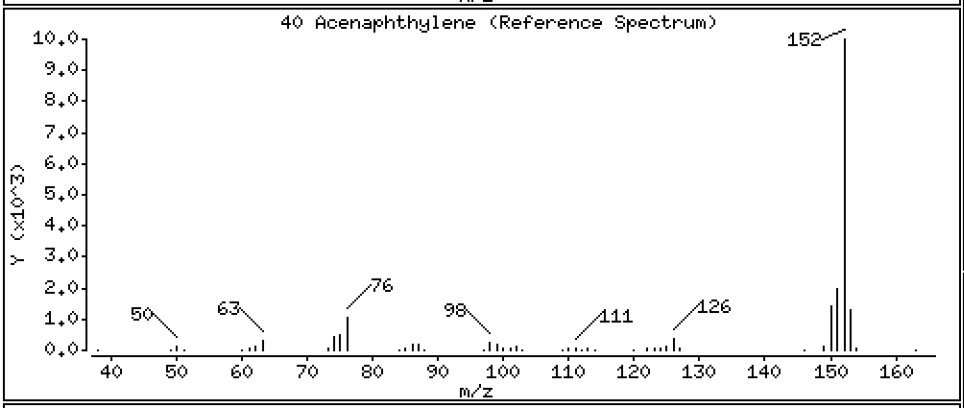
Concentration: 0.1838 ug/mL

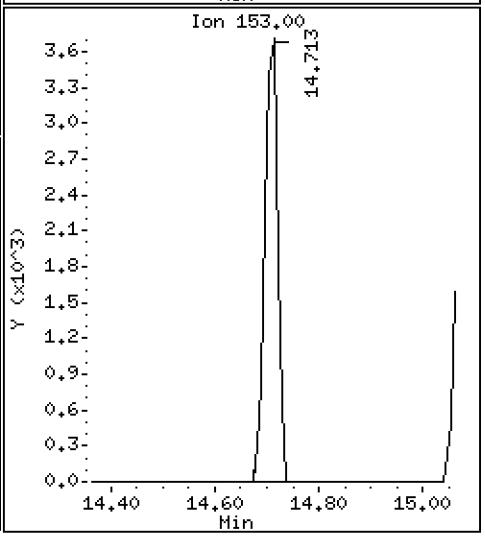


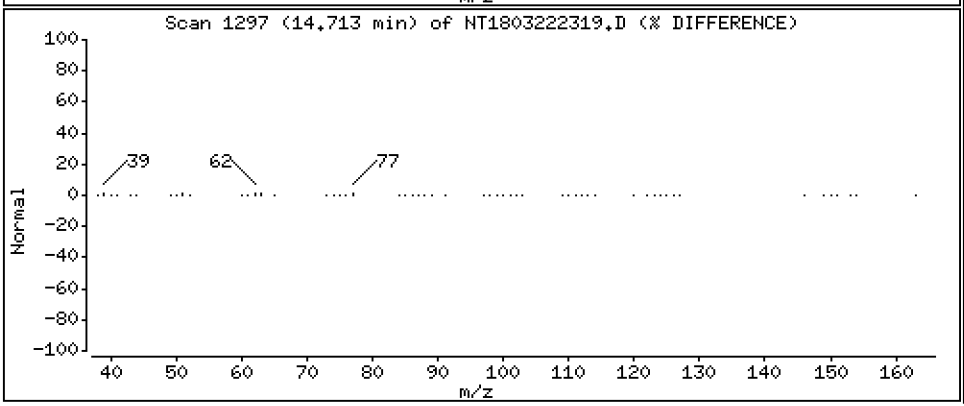












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

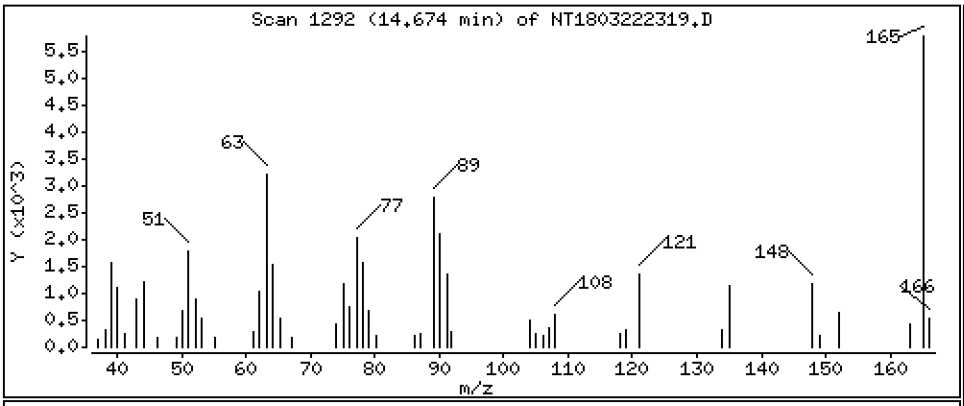
Operator: VTS

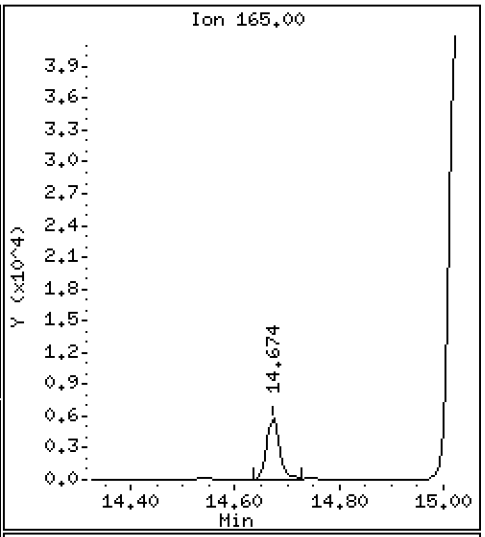
Column phase: ZB-5msi

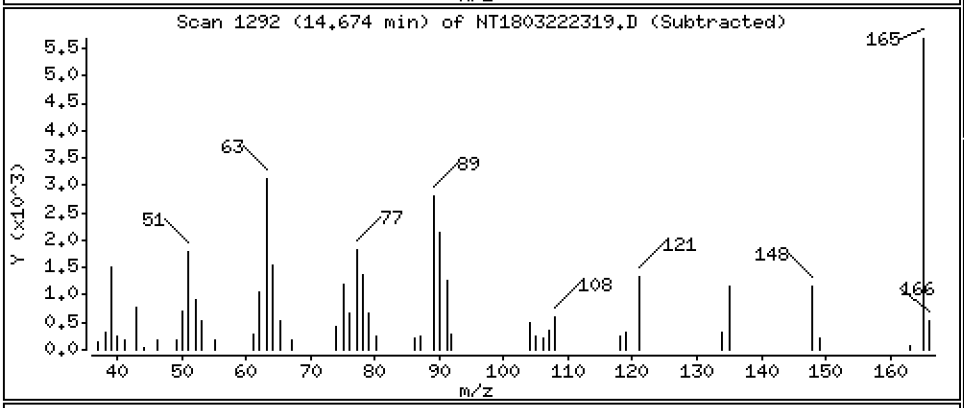
Column diameter: 0.25

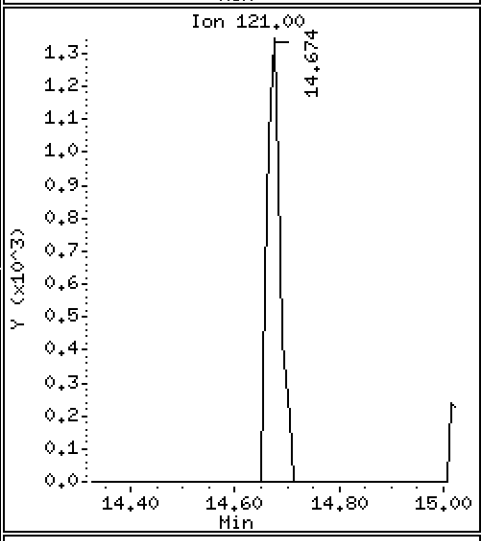
41 2,6-Dinitrotoluene

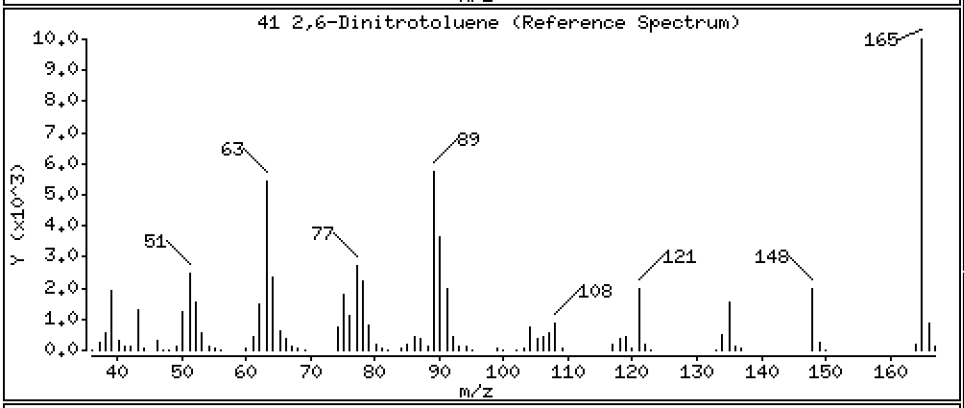
Concentration: 0.2723 ug/mL

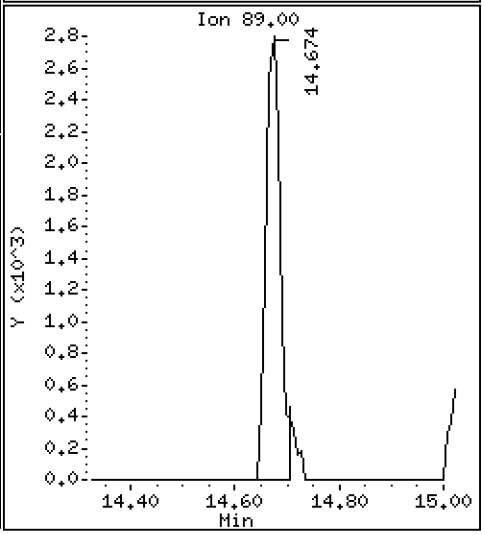


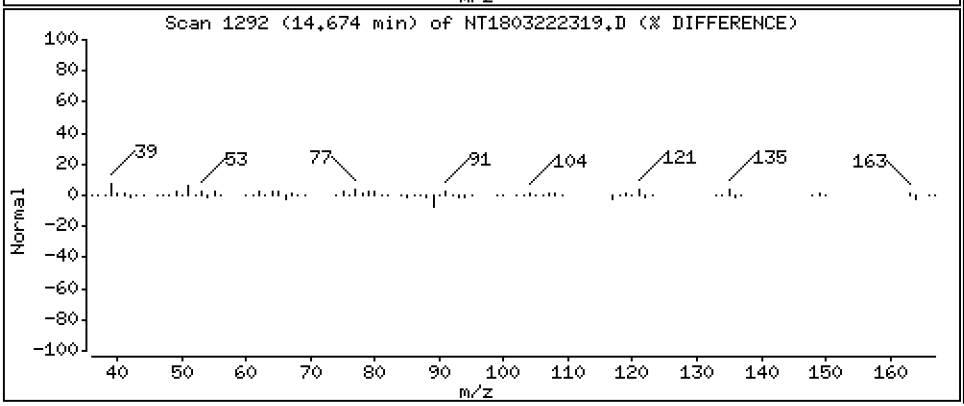












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

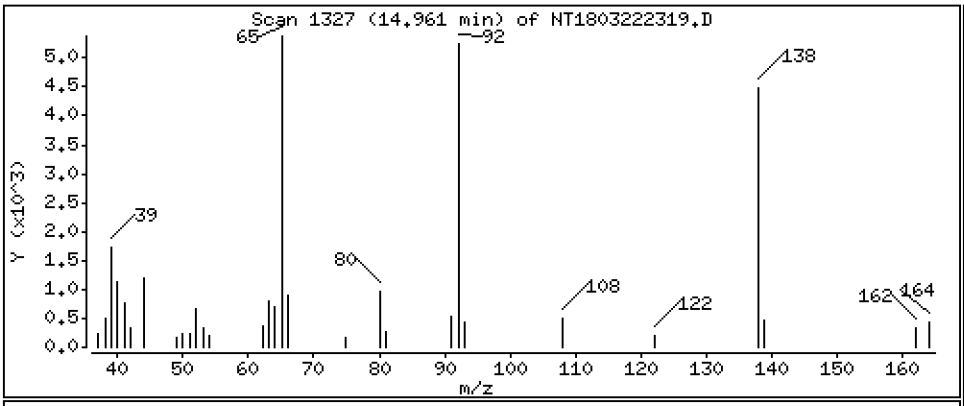
Operator: VTS

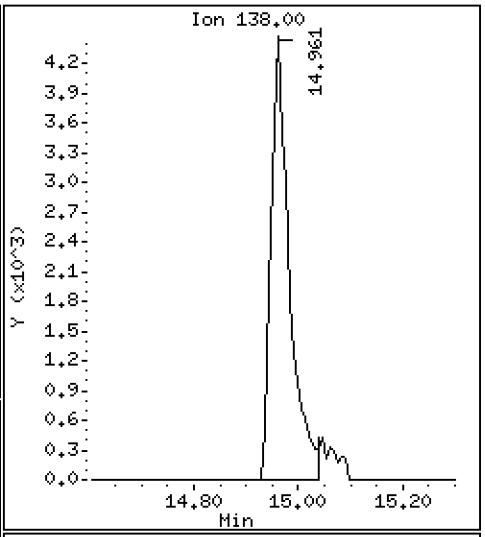
Column phase: ZB-5msi

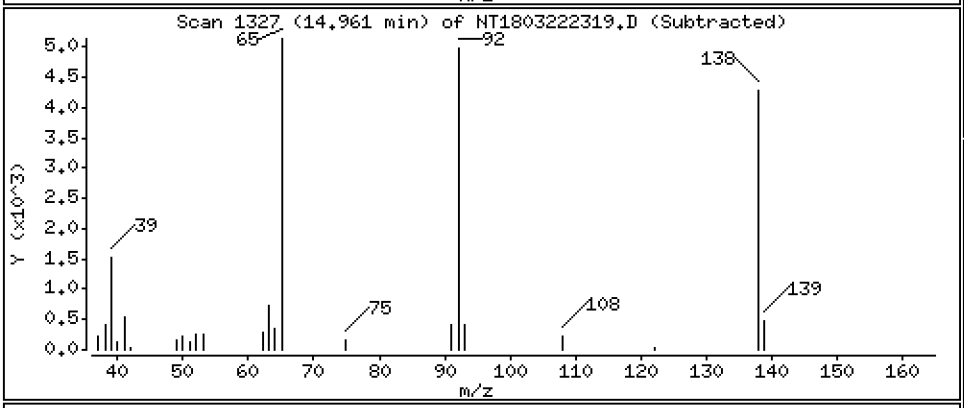
Column diameter: 0.25

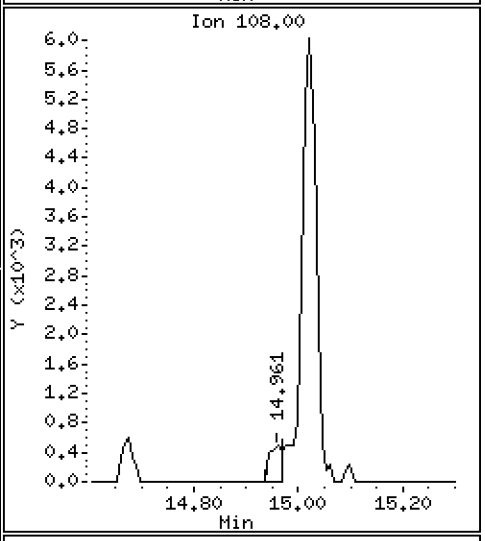
43 3-Nitroaniline

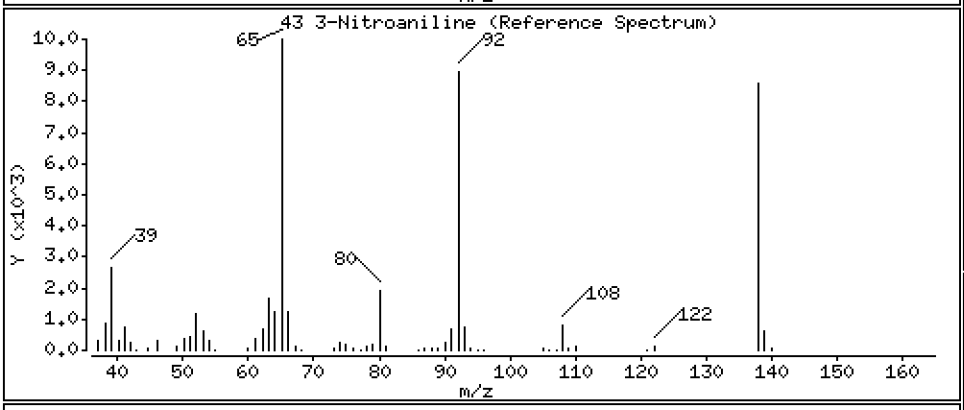
Concentration: 0.2739 ug/mL

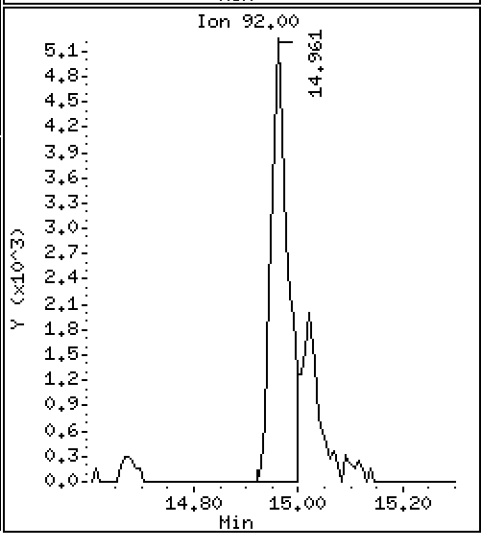


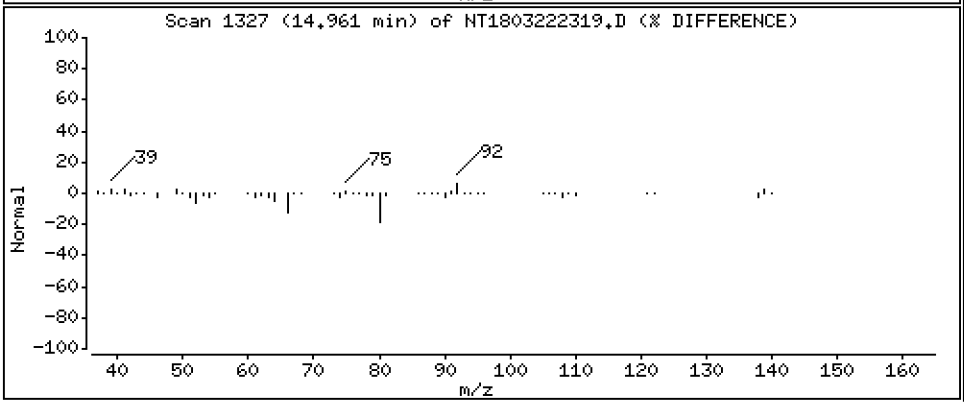












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

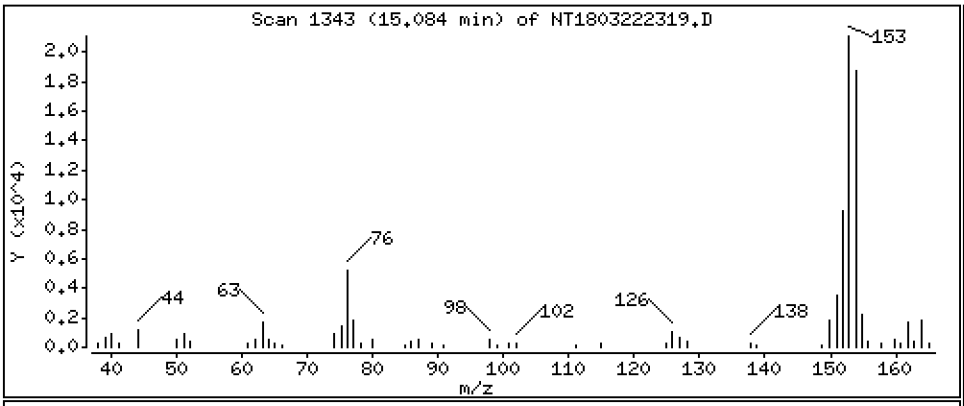
Operator: VTS

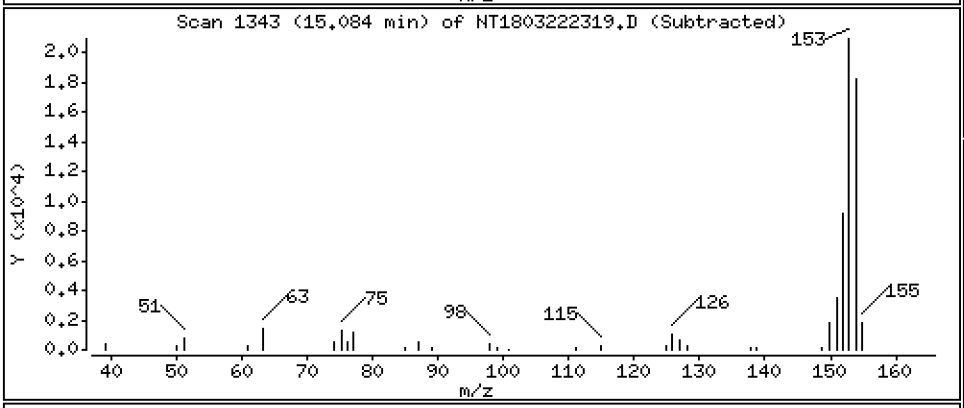
Column phase: ZB-5msi

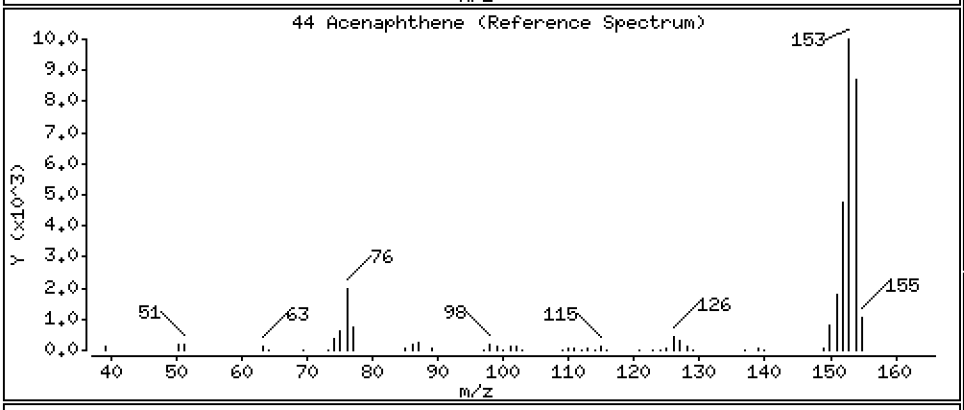
Column diameter: 0.25

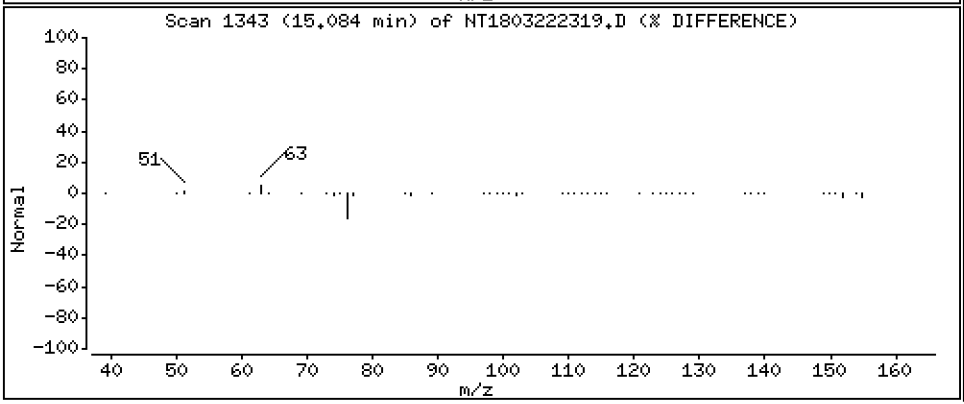
44 Acenaphthene

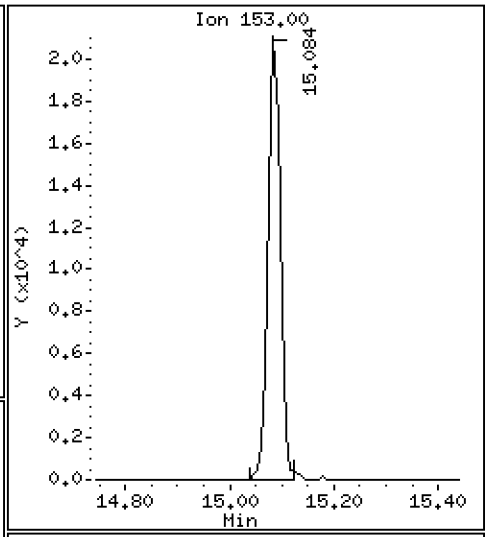
Concentration: 0.2022 ug/mL

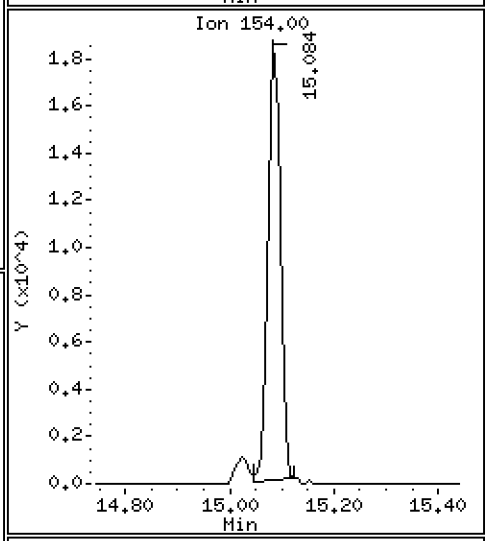


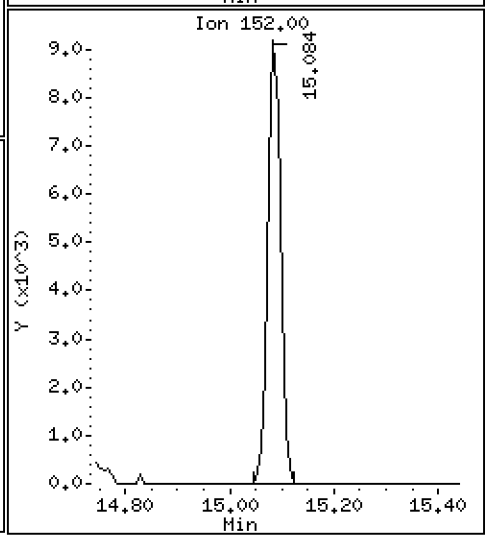












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

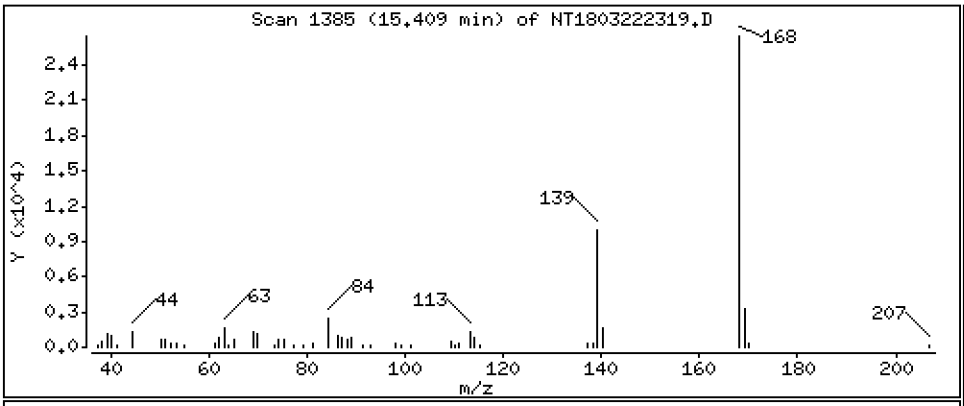
Operator: VTS

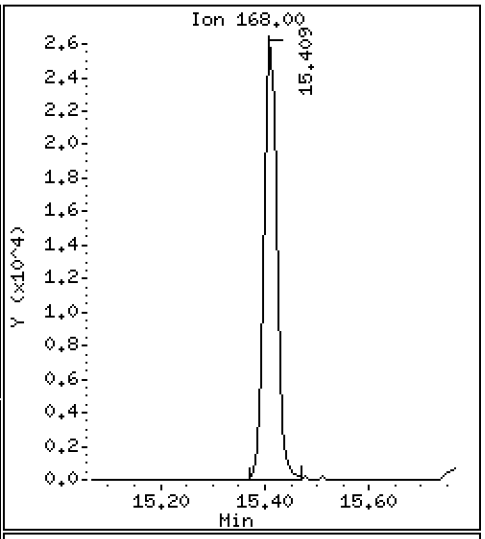
Column phase: ZB-5msi

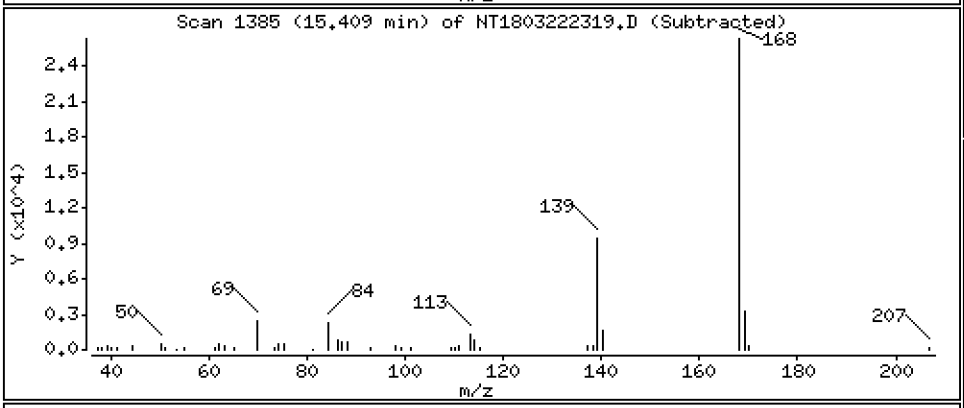
Column diameter: 0.25

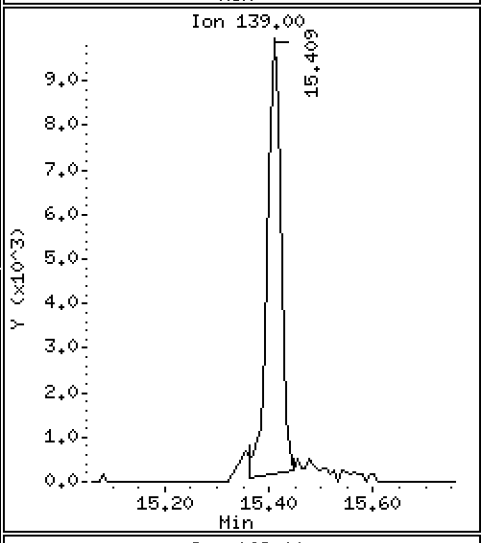
46 Dibenzofuran

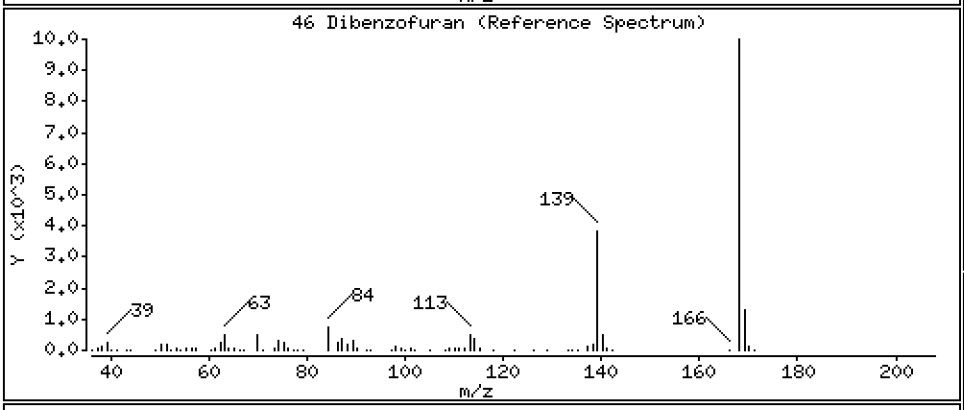
Concentration: 0.1931 ug/mL

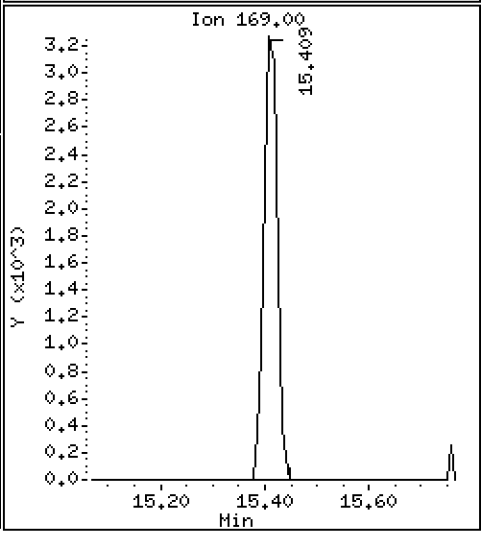


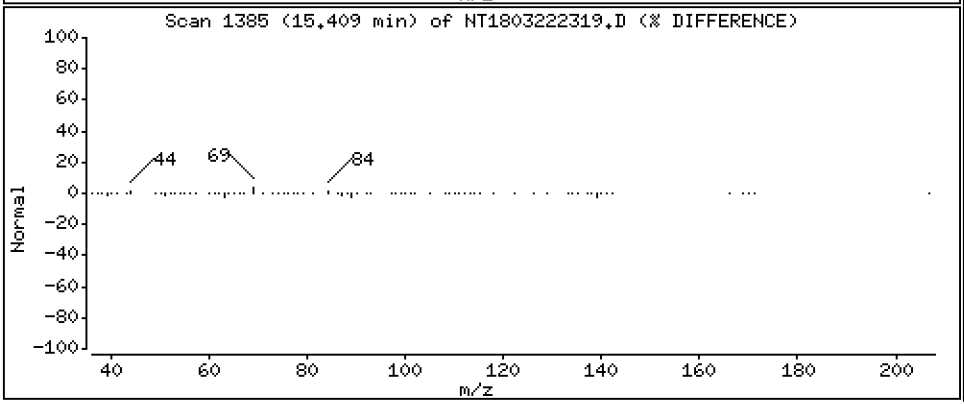












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

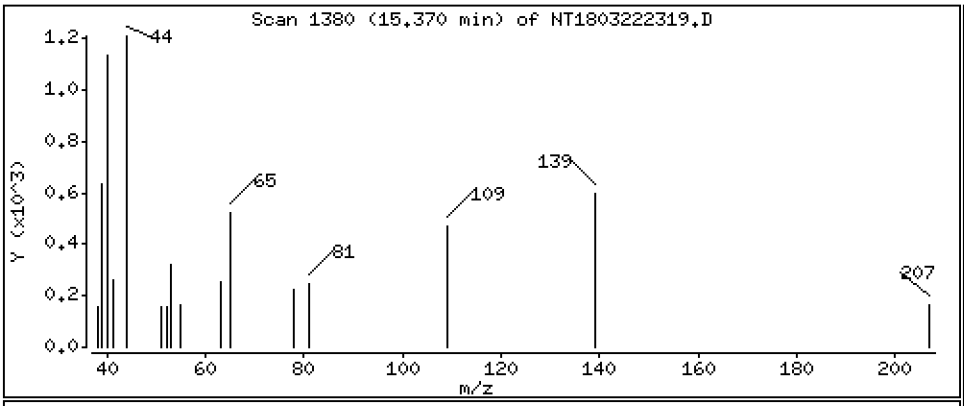
Operator: VTS

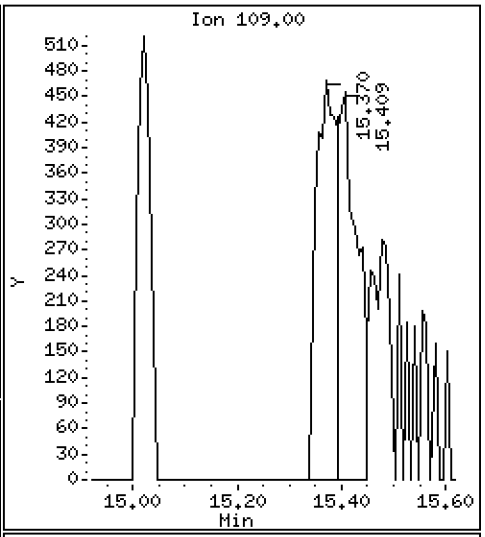
Column phase: ZB-5msi

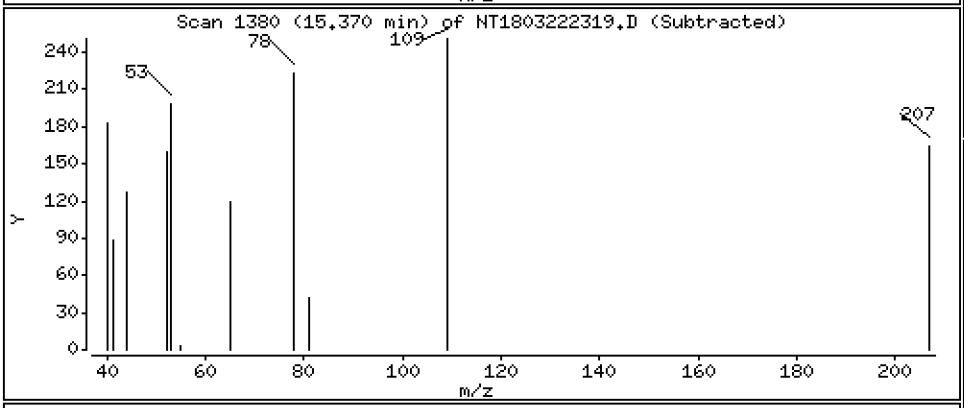
Column diameter: 0.25

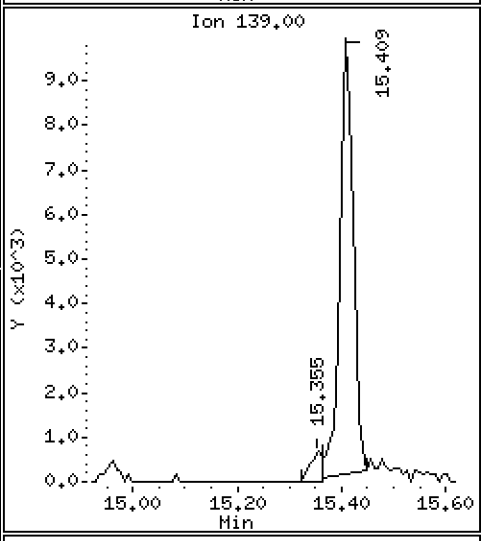
47 4-Nitrophenol

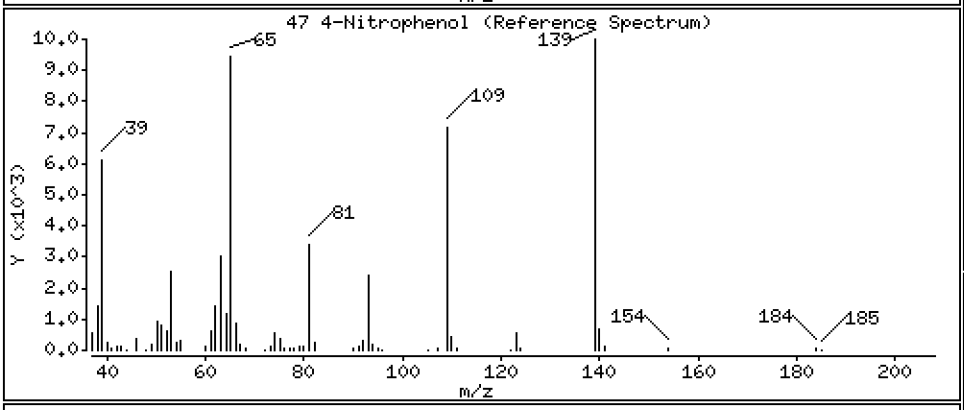
Concentration: 0.06304 ug/mL

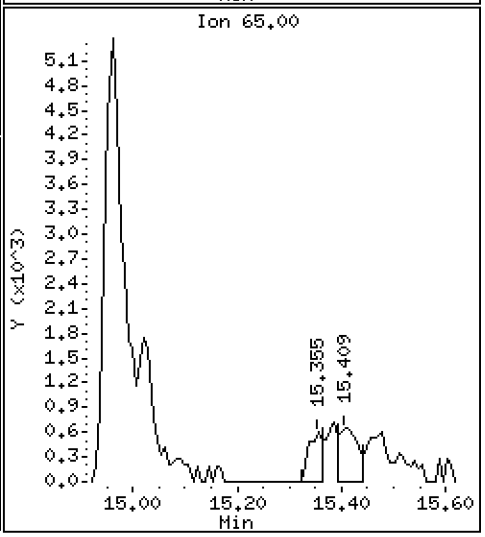


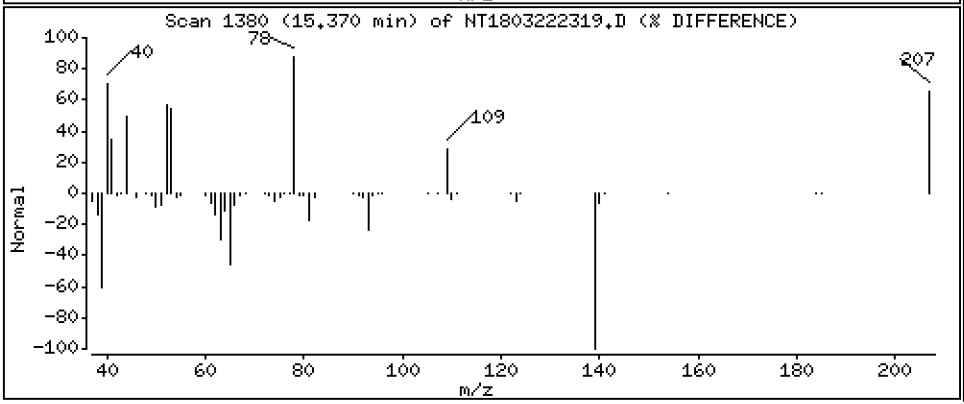












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D

Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

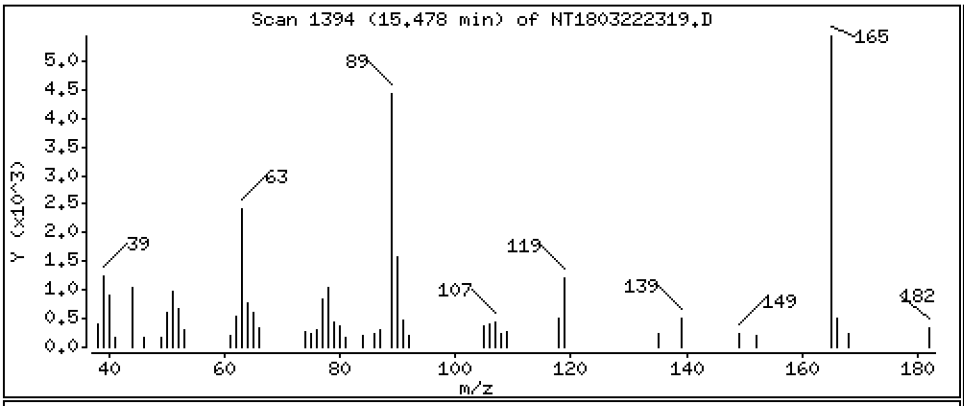
Operator: VTS

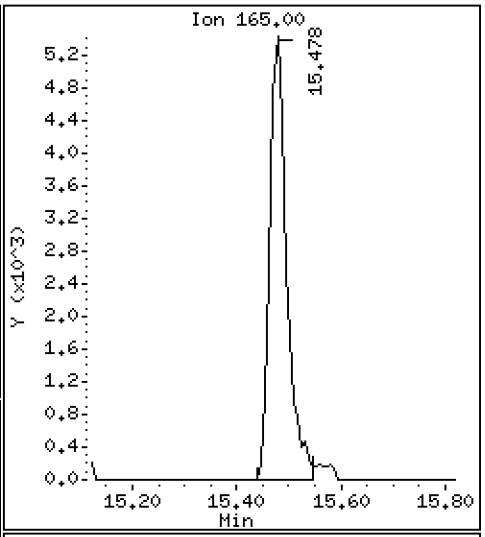
Column phase: ZB-5msi

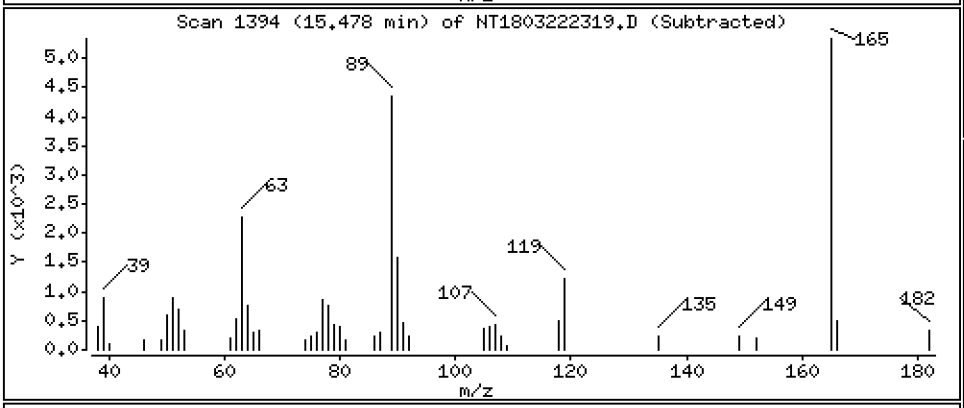
Column diameter: 0.25

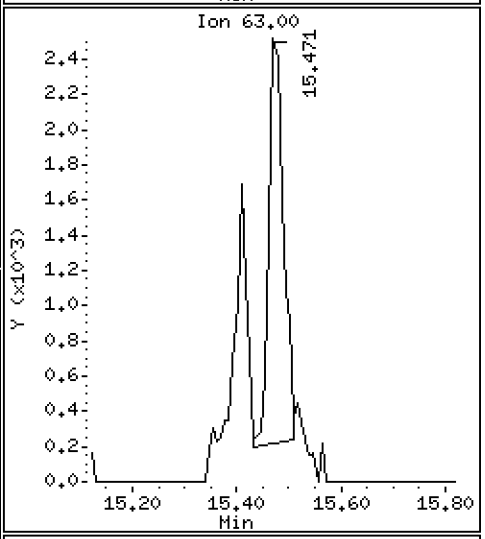
48 2,4-Dinitrotoluene

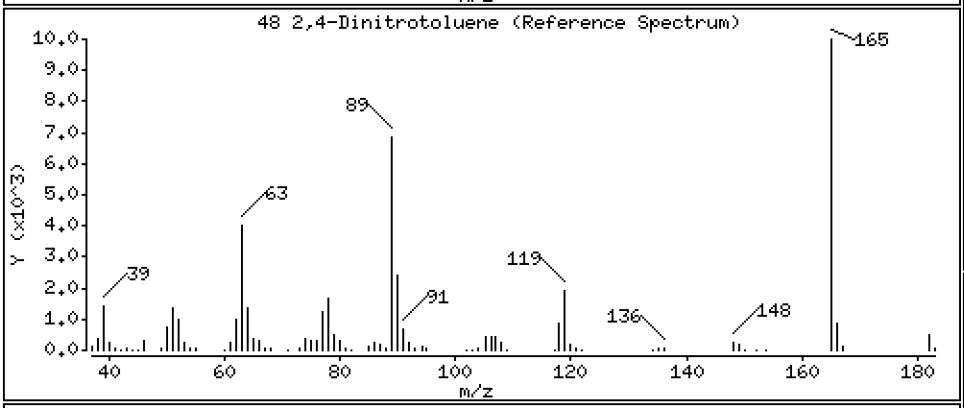
Concentration: 0.2597 ug/mL

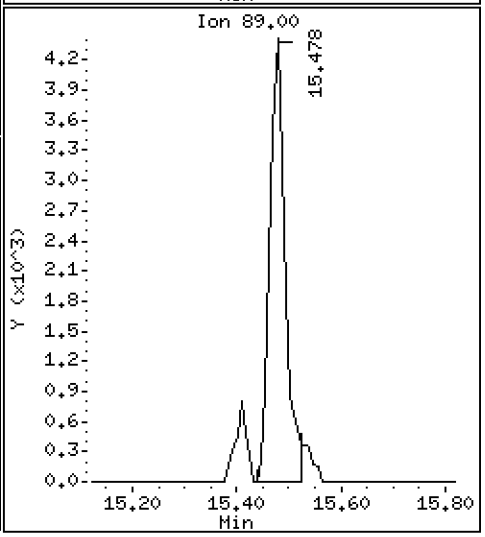


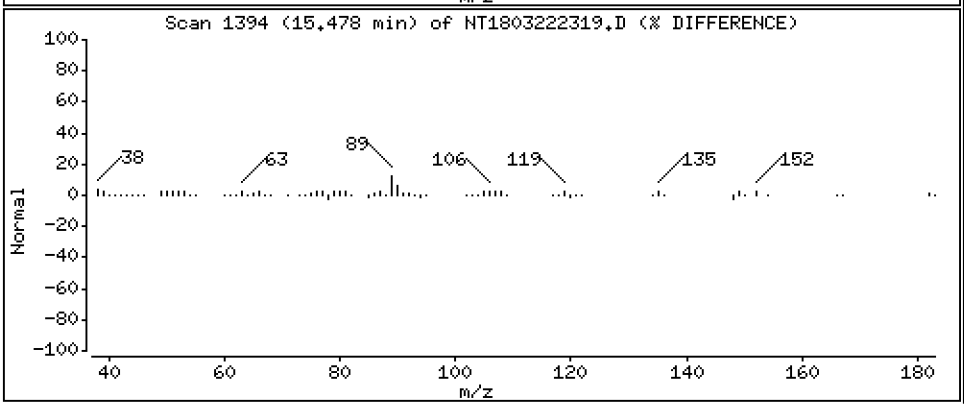












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

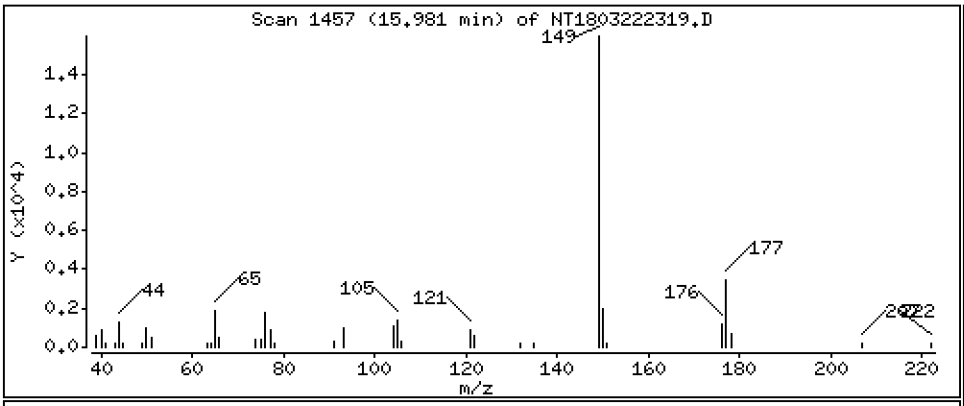
Operator: VTS

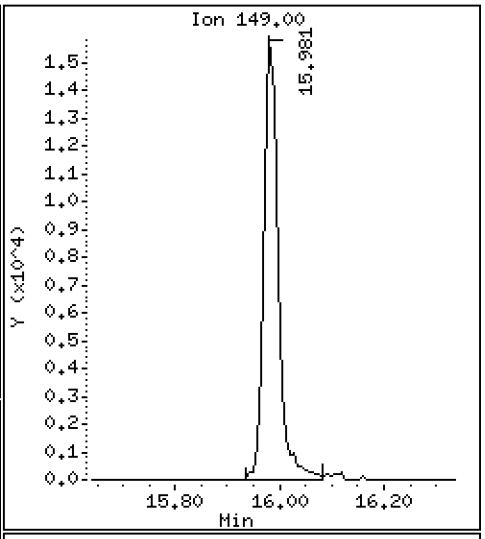
Column phase: ZB-5msi

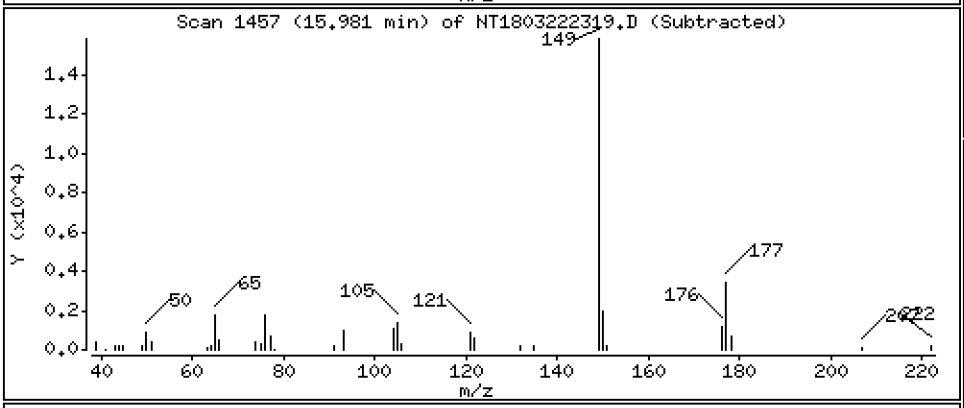
Column diameter: 0.25

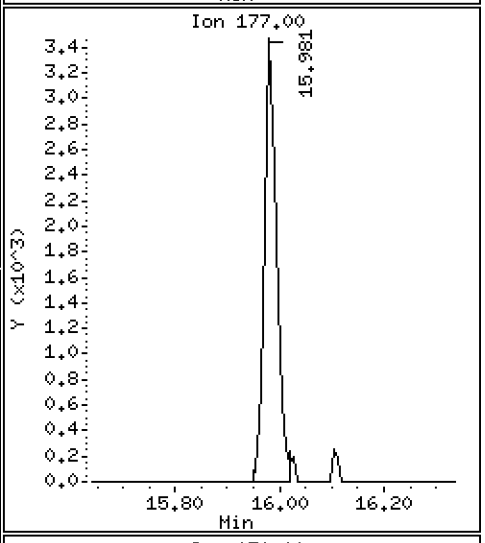
50 Diethylphthalate

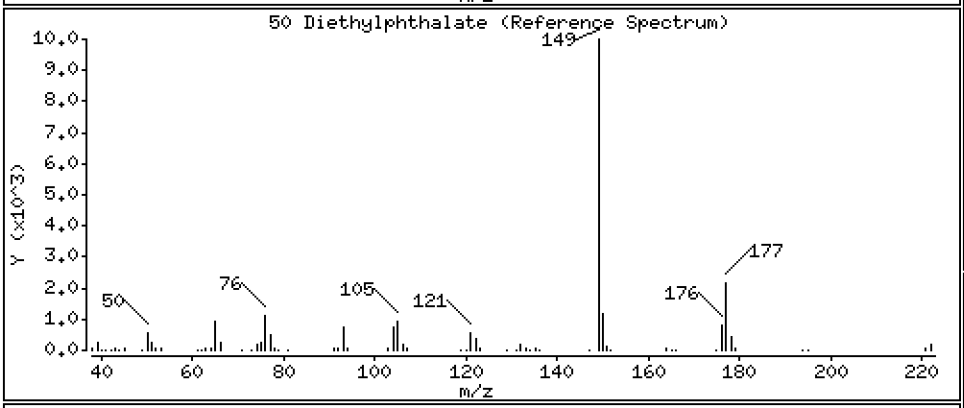
Concentration: 0.2044 ug/mL

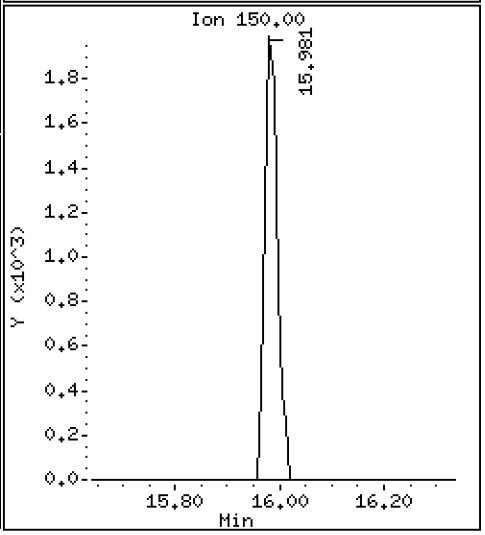


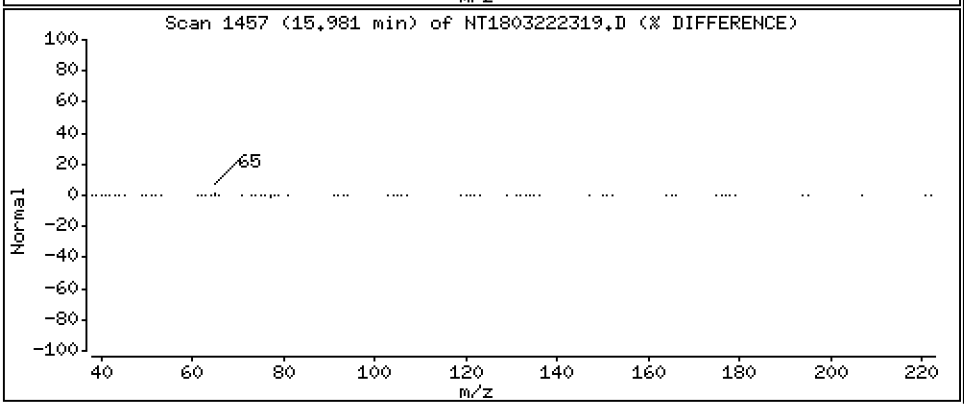












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

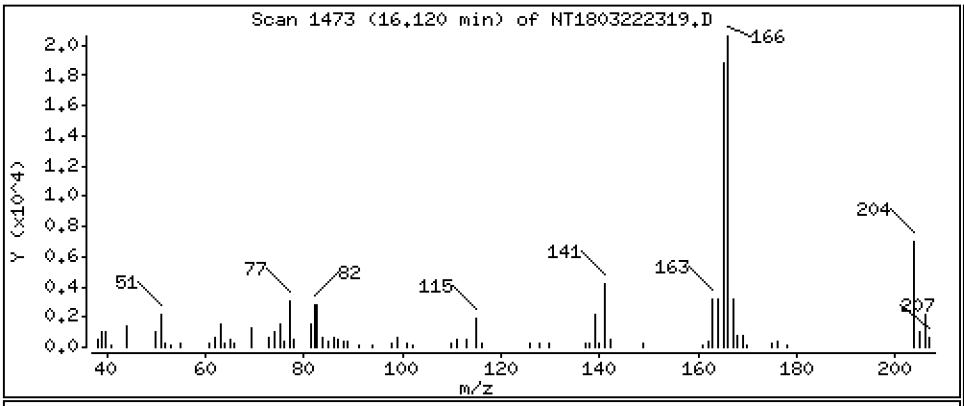
Operator: VTS

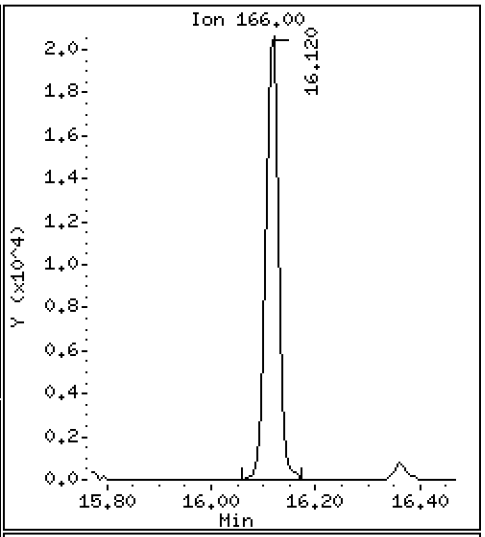
Column phase: ZB-5msi

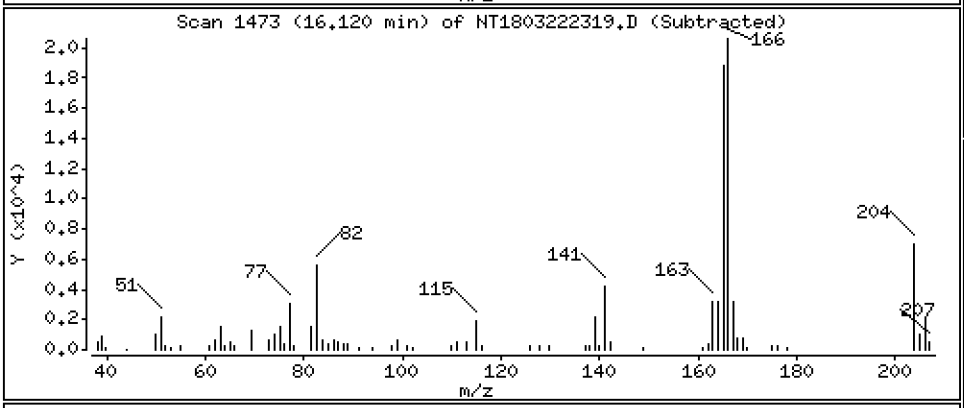
Column diameter: 0.25

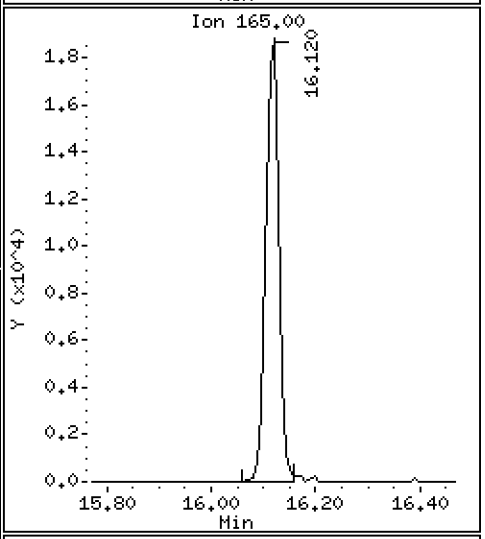
49 Fluorene

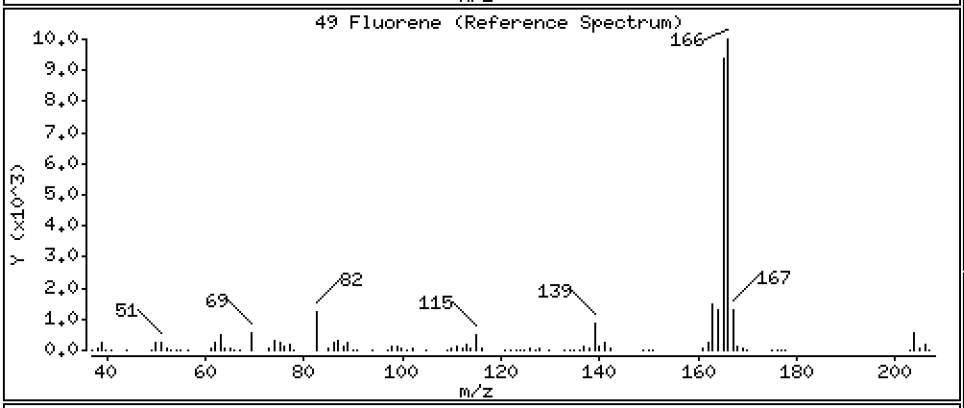
Concentration: 0.1945 ug/mL

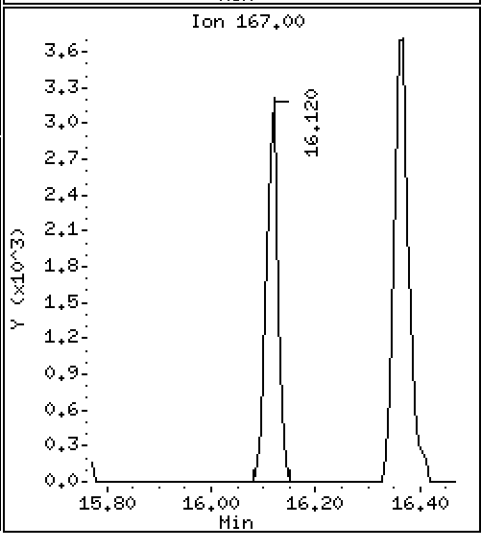


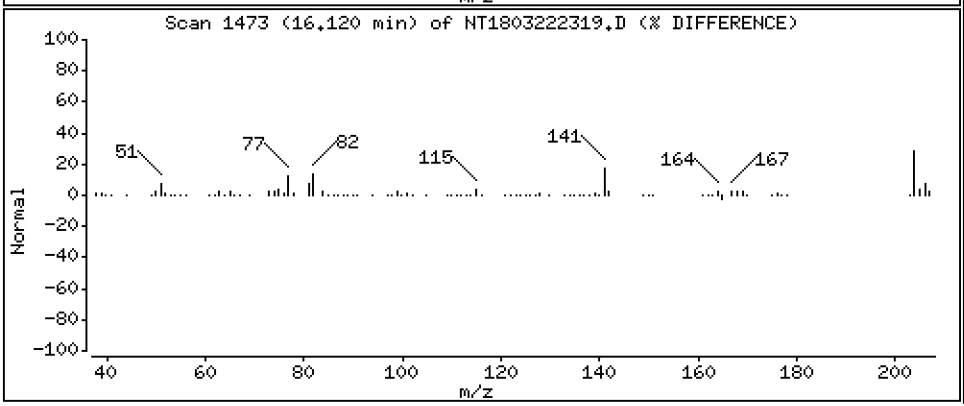












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

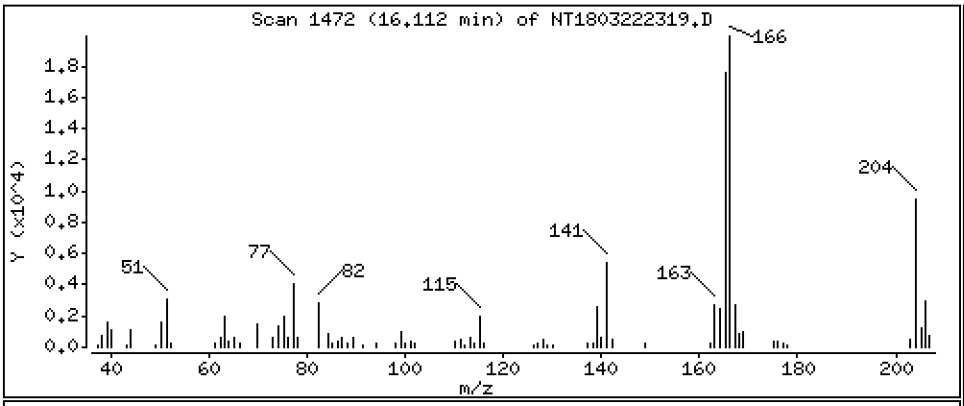
Operator: VTS

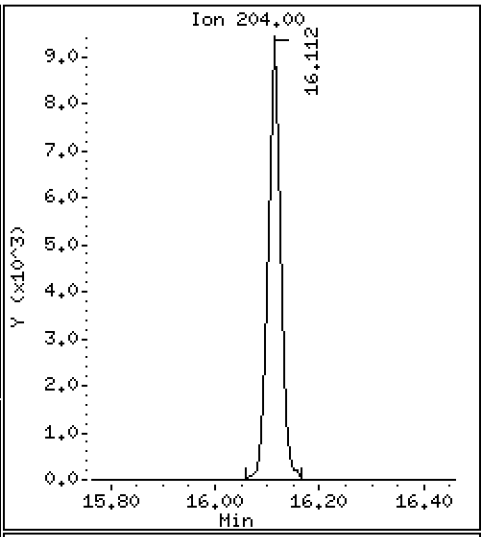
Column phase: ZB-5msi

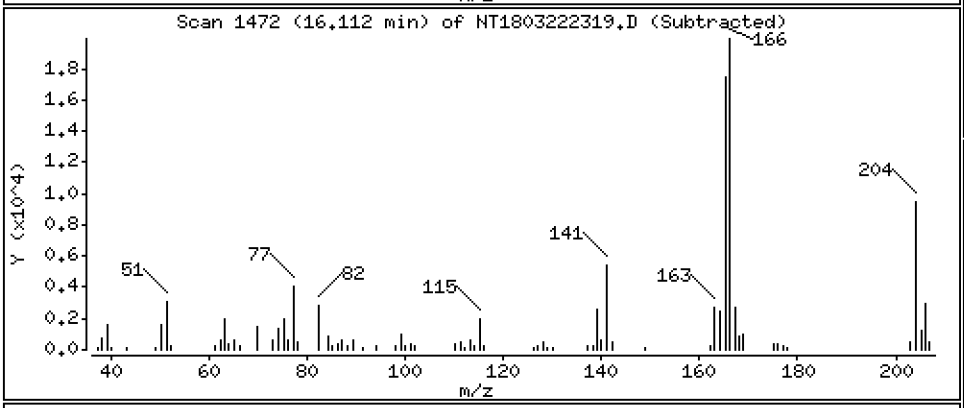
Column diameter: 0.25

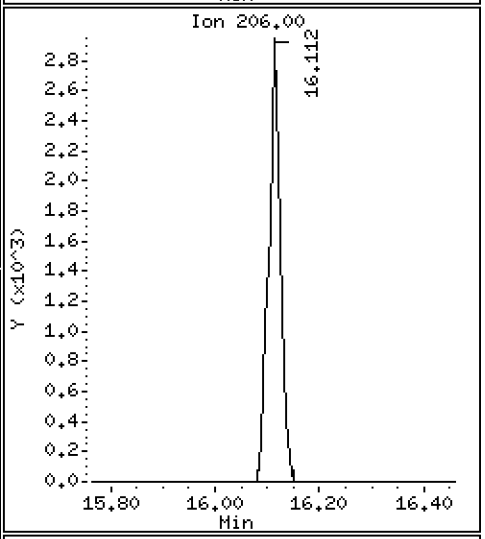
51 4-Chlorophenyl-phenylether

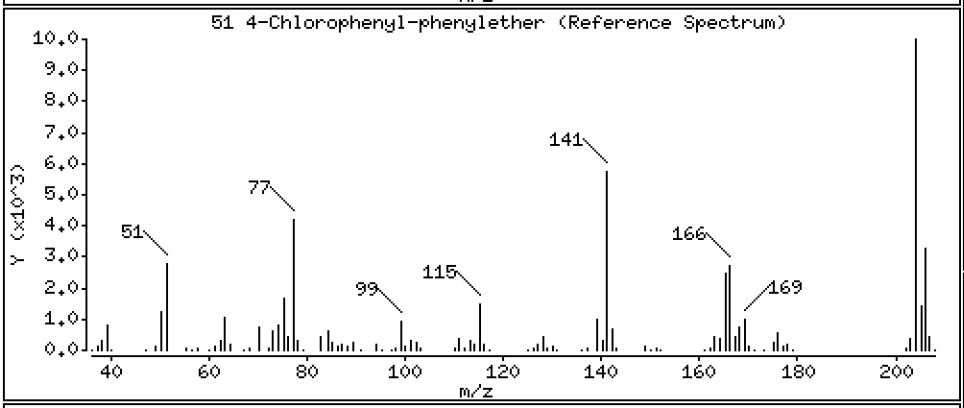
Concentration: 0.1991 ug/mL

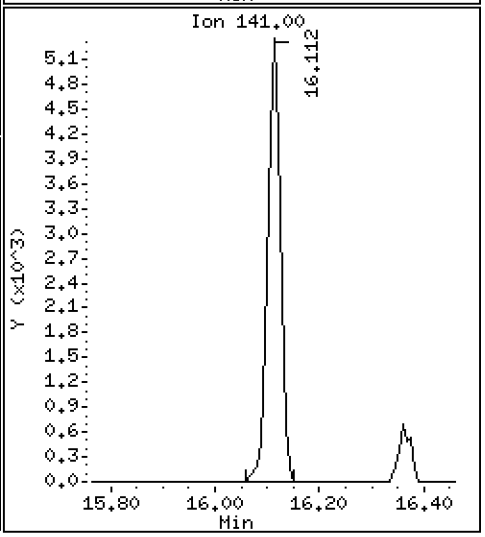


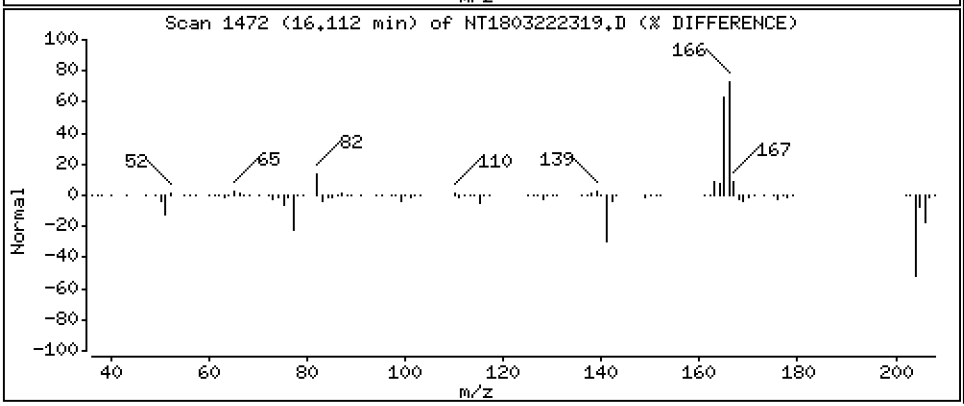












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

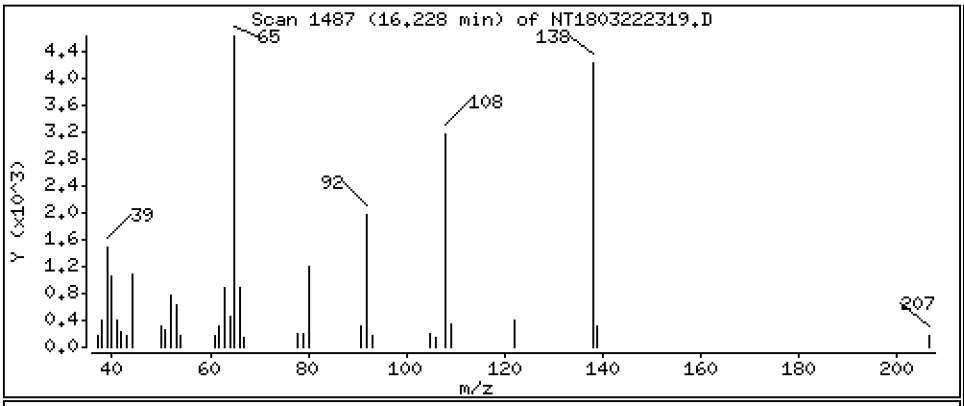
Operator: VTS

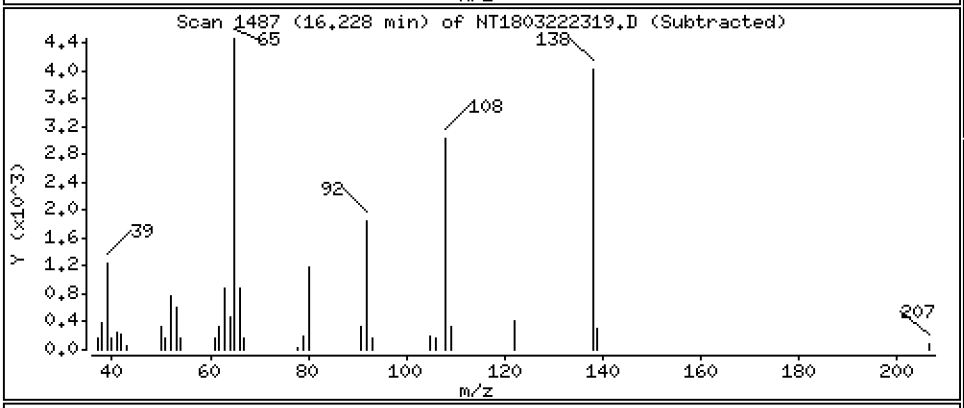
Column phase: ZB-5msi

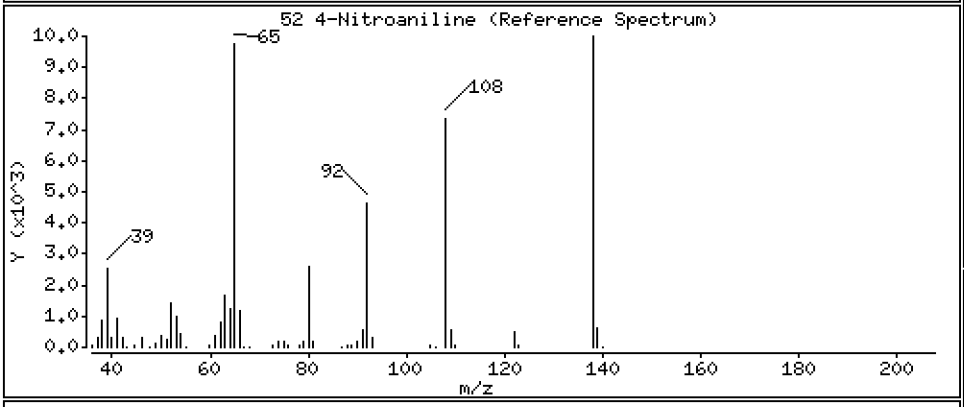
Column diameter: 0.25

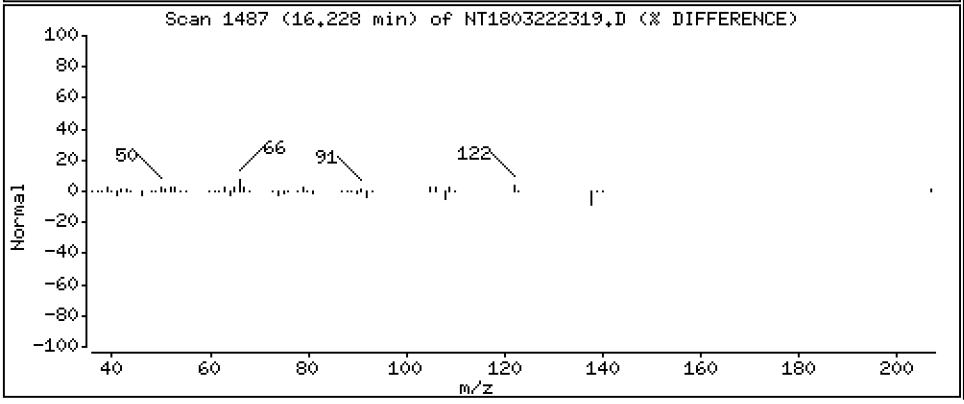
52 4-Nitroaniline

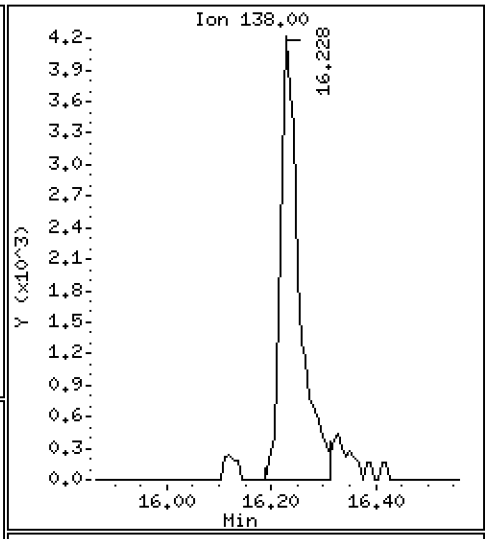
Concentration: 0.2787 ug/mL

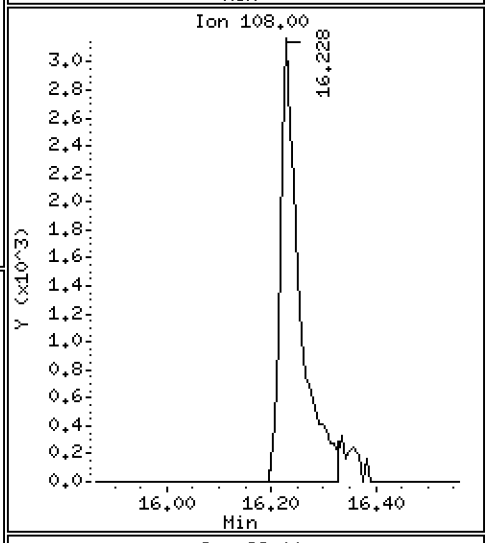


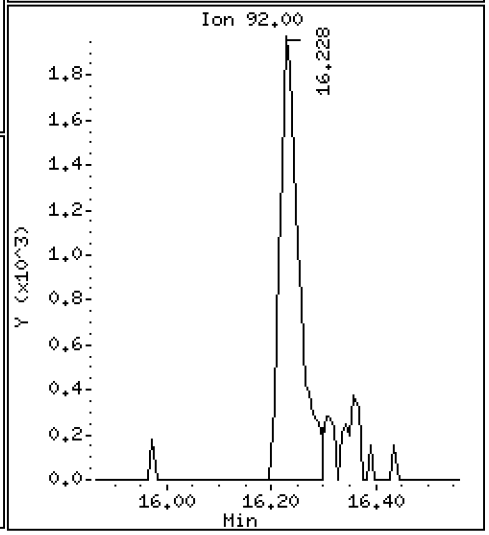












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

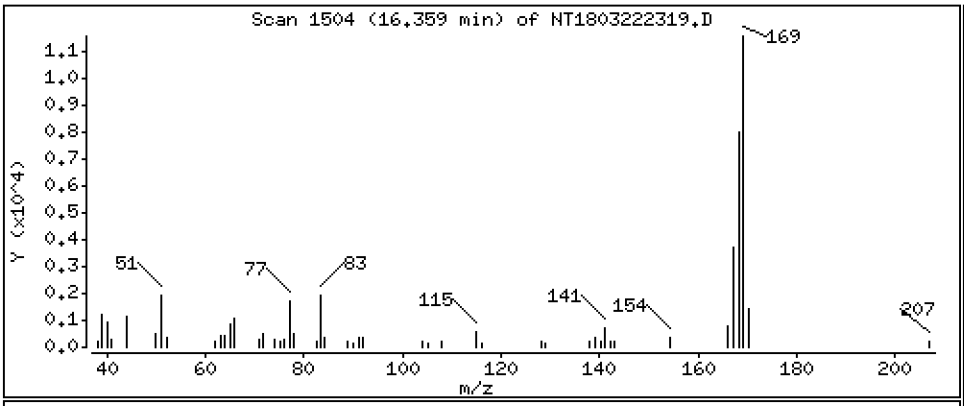
Operator: VTS

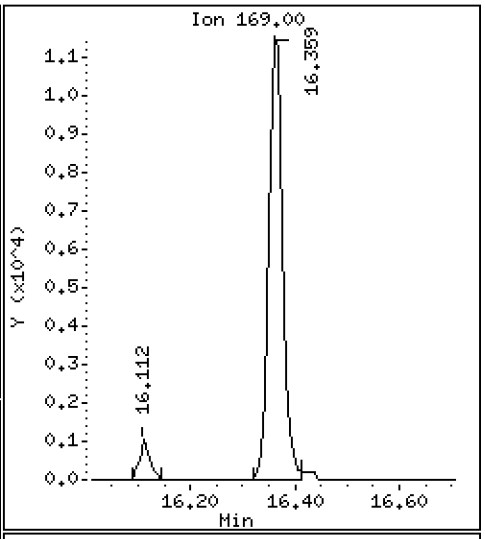
Column phase: ZB-5msi

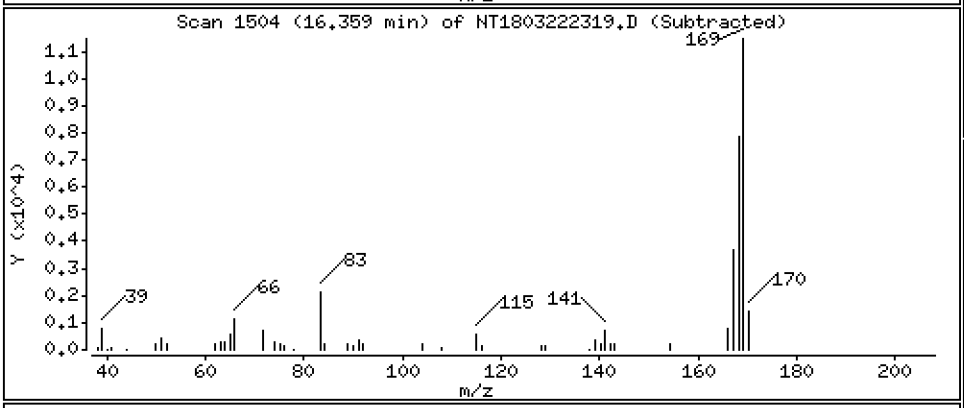
Column diameter: 0.25

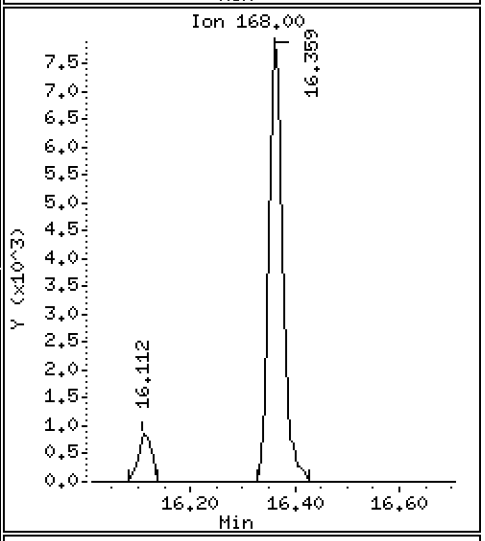
54 N-Nitrosodiphenylamine

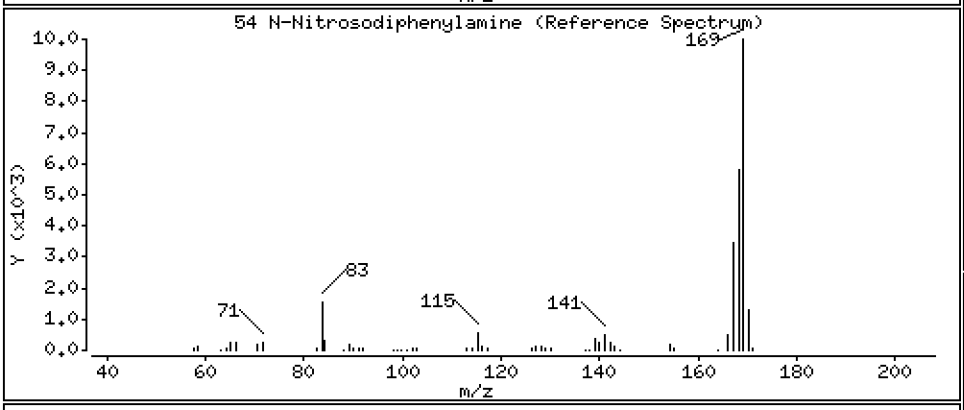
Concentration: 0.1783 ug/mL

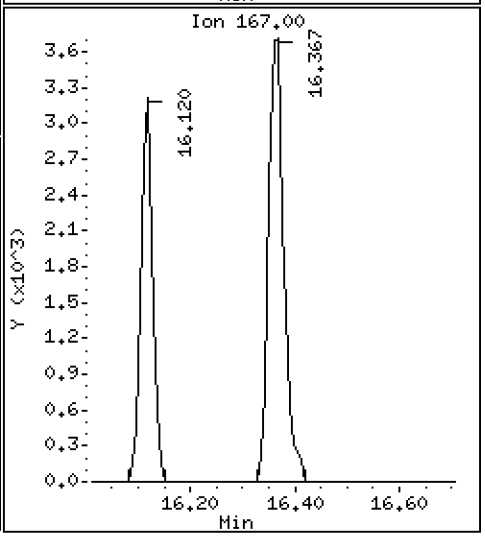


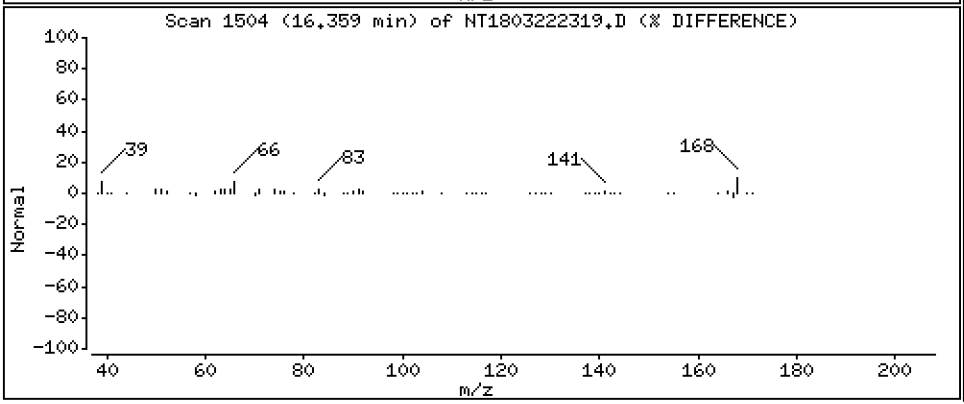












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

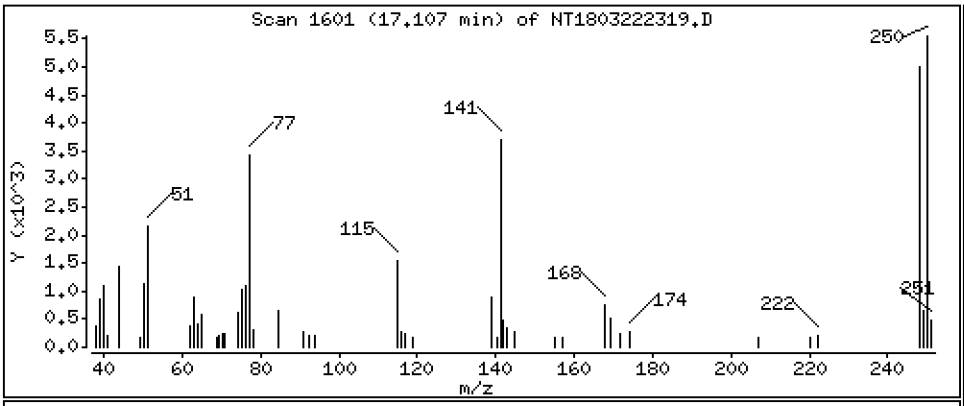
Operator: VTS

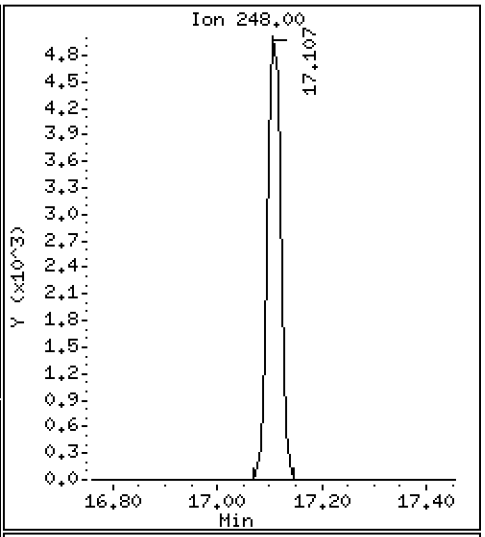
Column phase: ZB-5msi

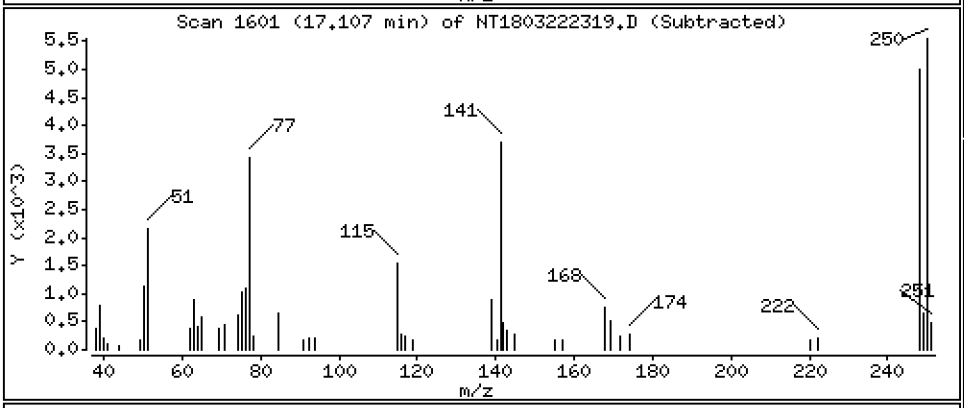
Column diameter: 0.25

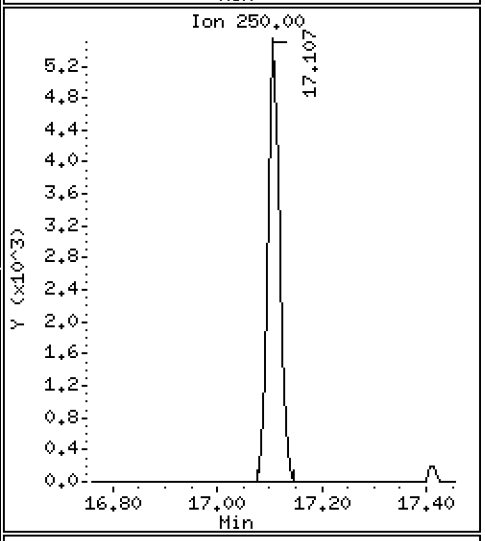
56 4-Bromophenyl-phenylether

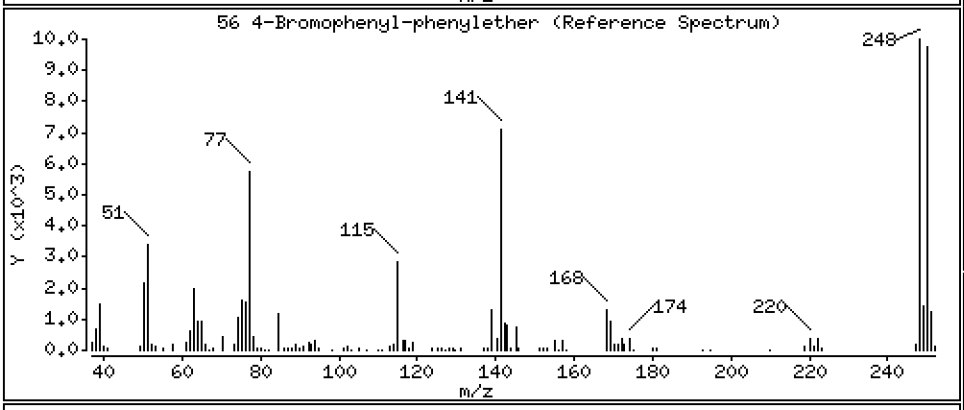
Concentration: 0.1856 ug/mL

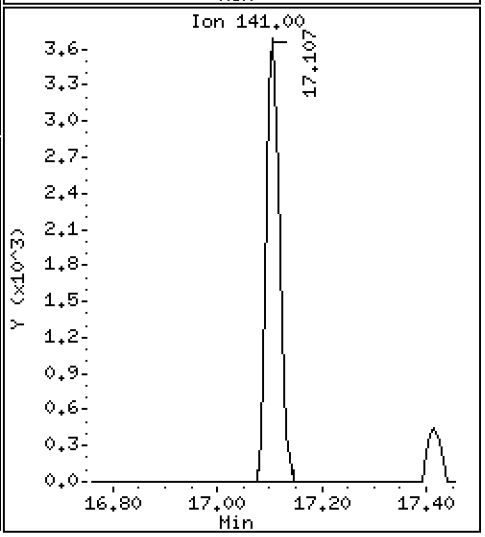


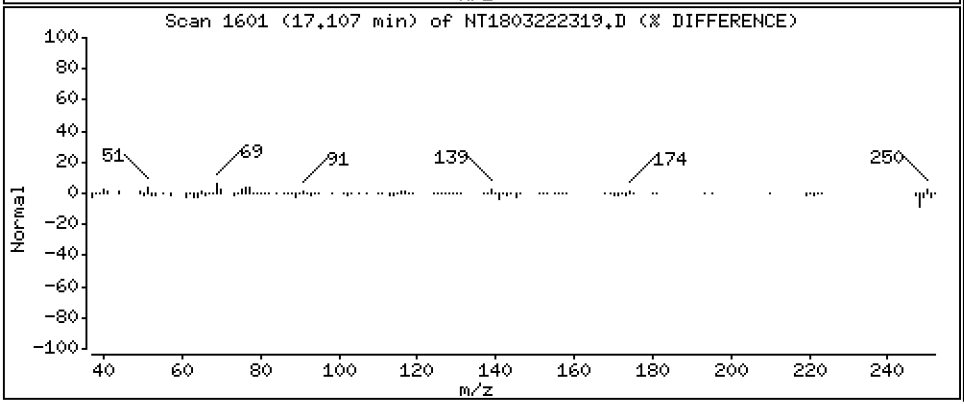












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D

Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

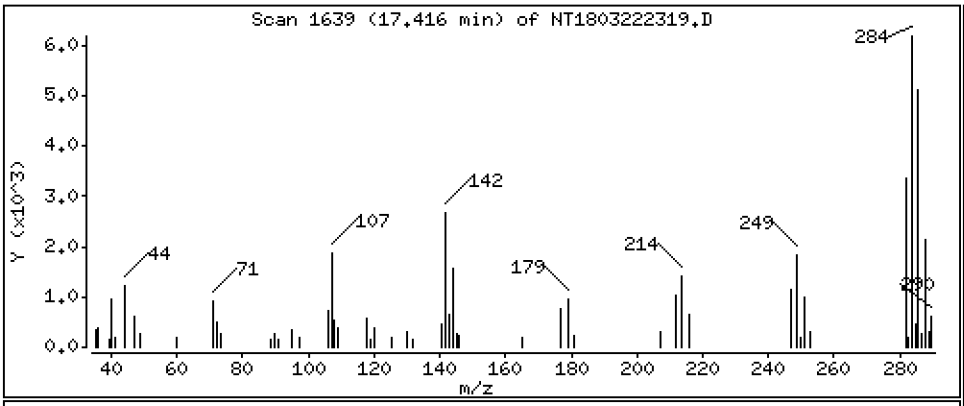
Operator: VTS

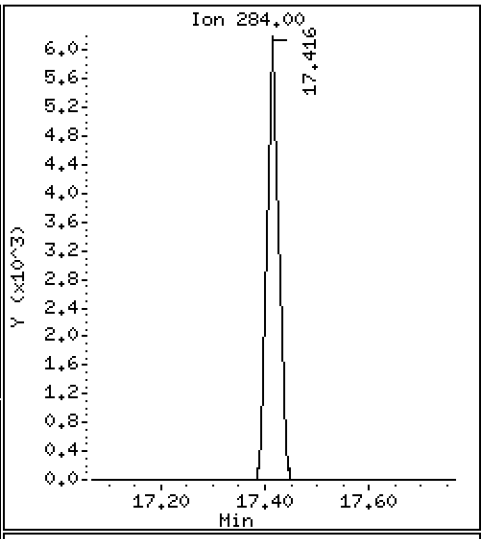
Column phase: ZB-5msi

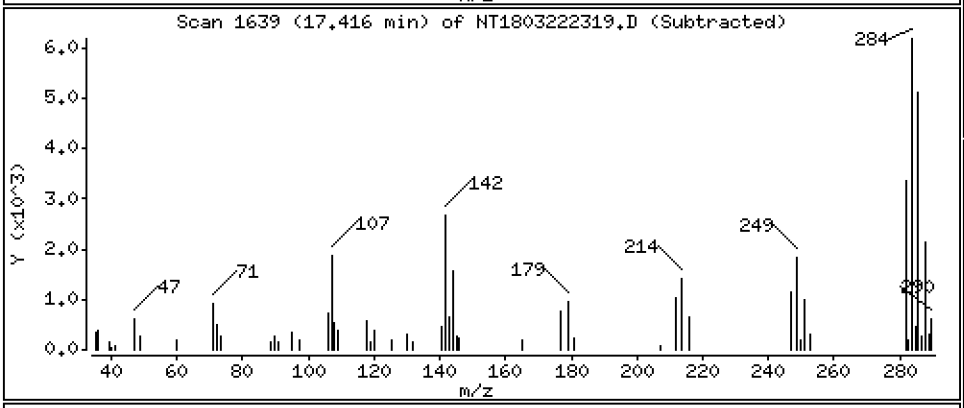
Column diameter: 0.25

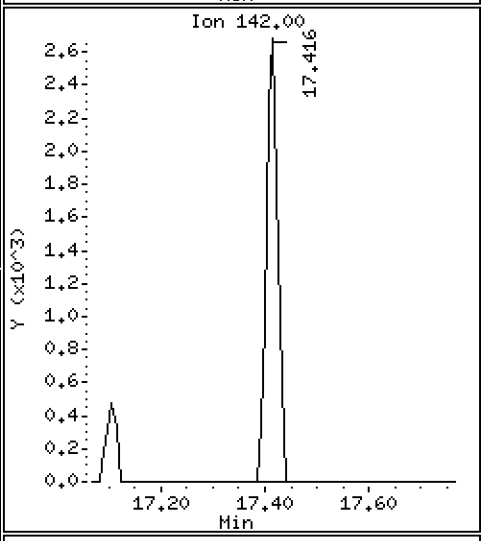
57 Hexachlorobenzene

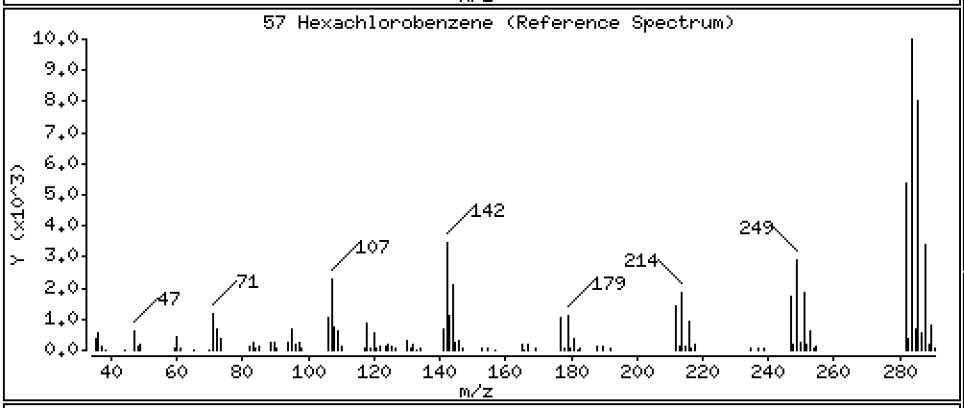
Concentration: 0.1851 ug/mL

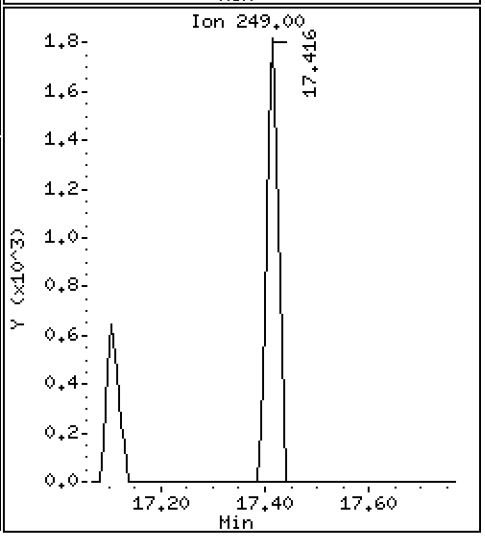


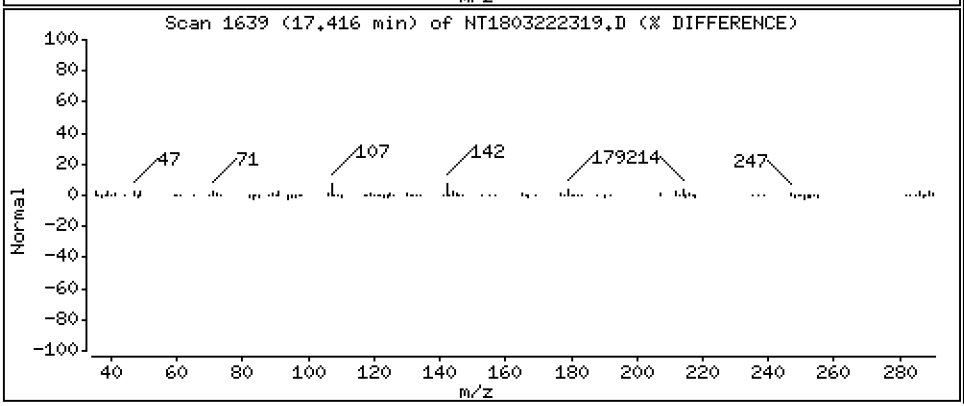












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

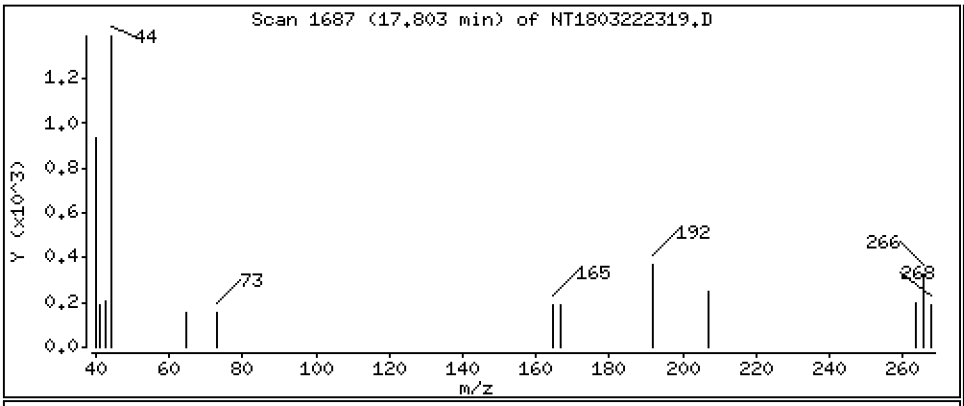
Operator: VTS

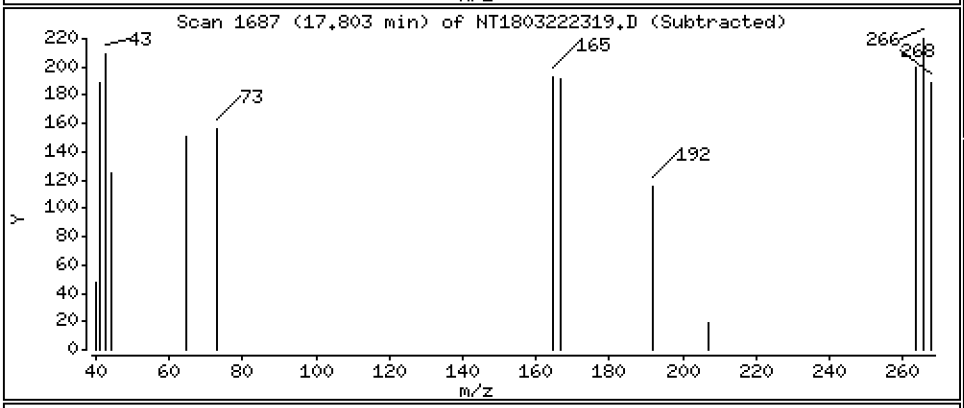
Column phase: ZB-5msi

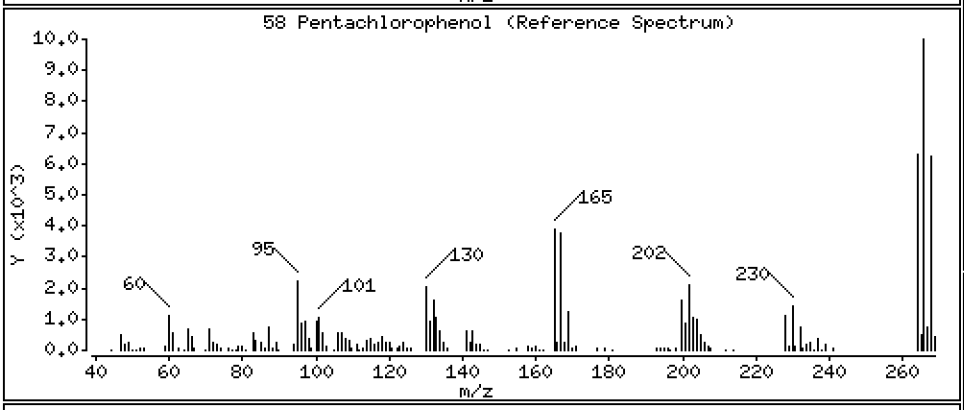
Column diameter: 0.25

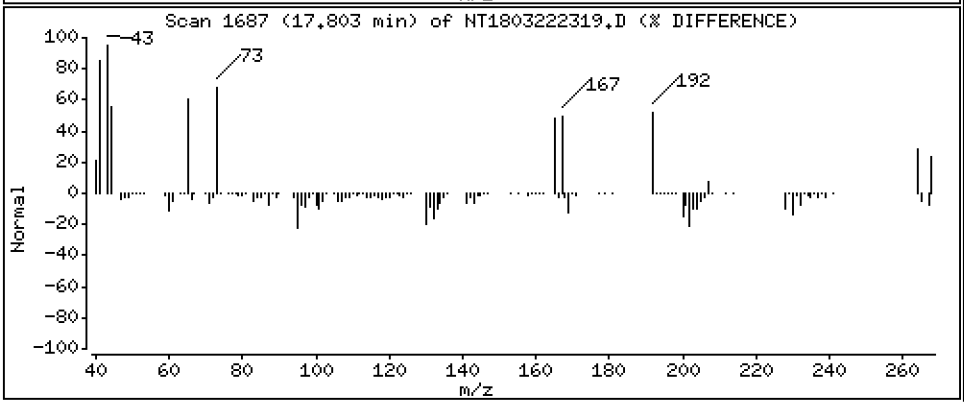
58 Pentachlorophenol

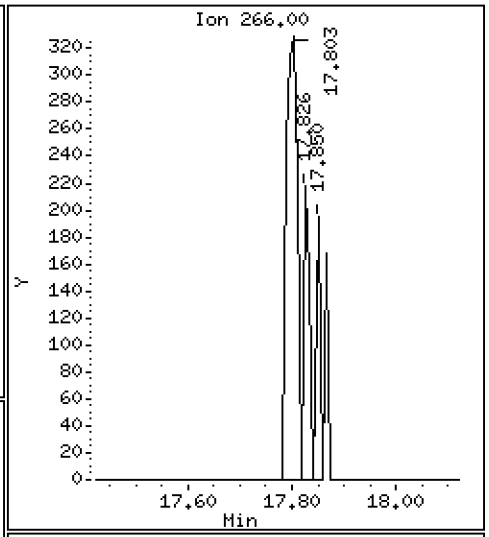
Concentration: 0.01729 ug/mL

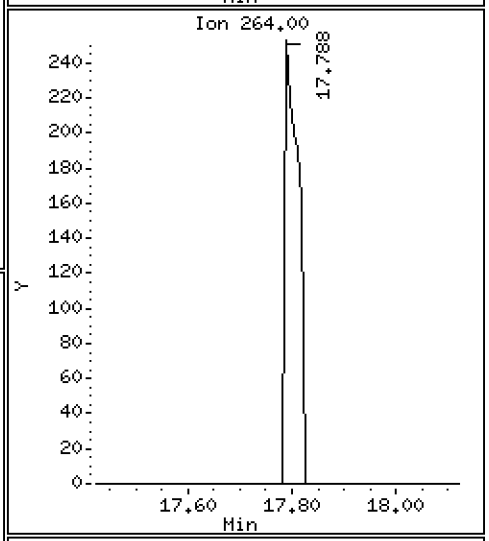


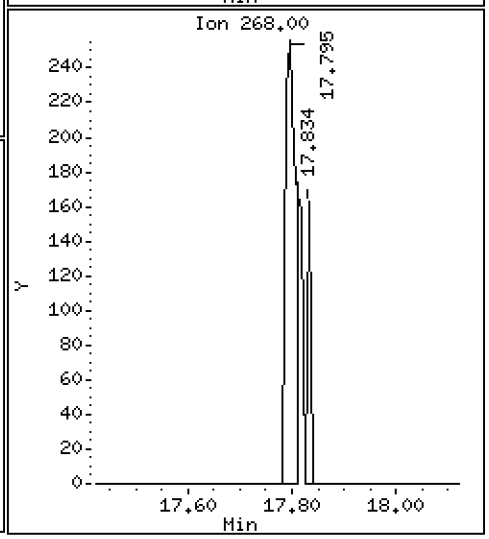












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

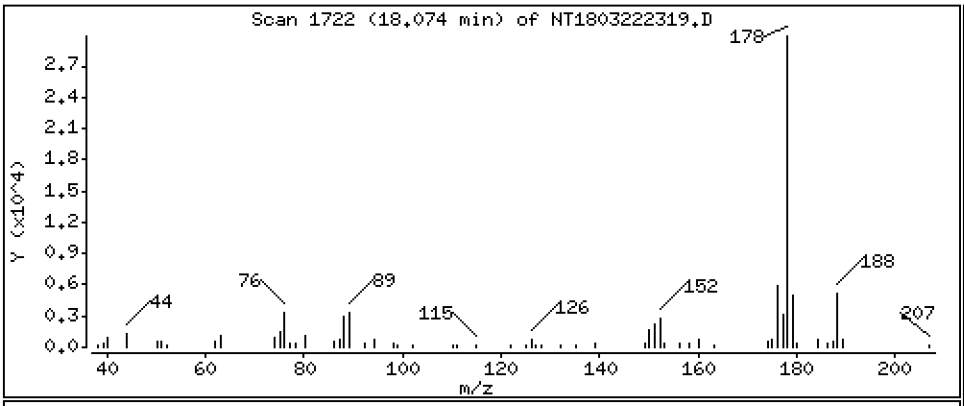
Operator: VTS

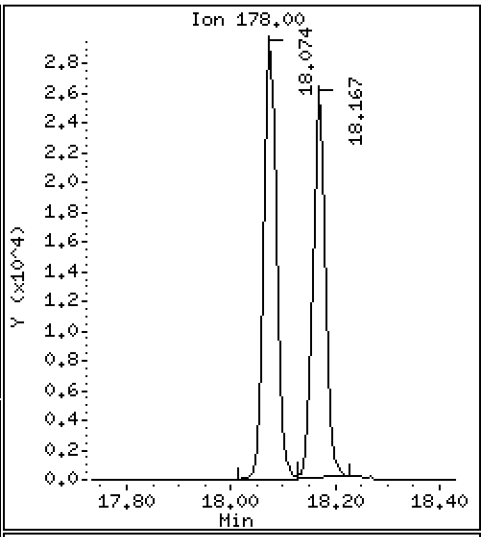
Column phase: ZB-5msi

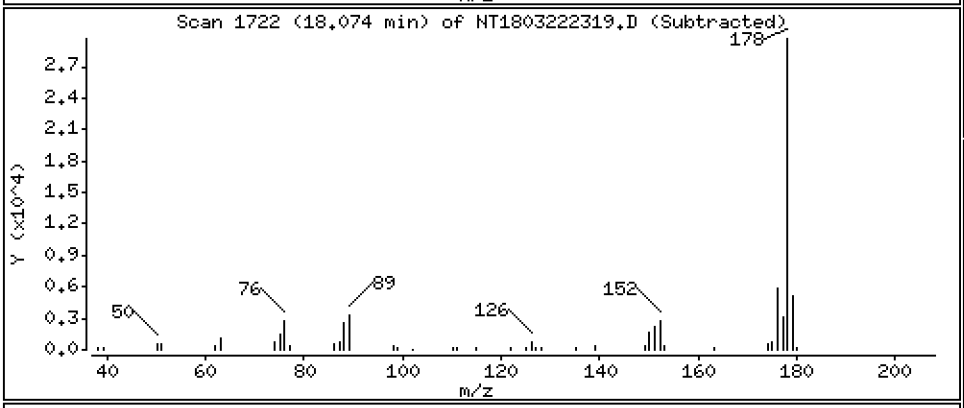
Column diameter: 0.25

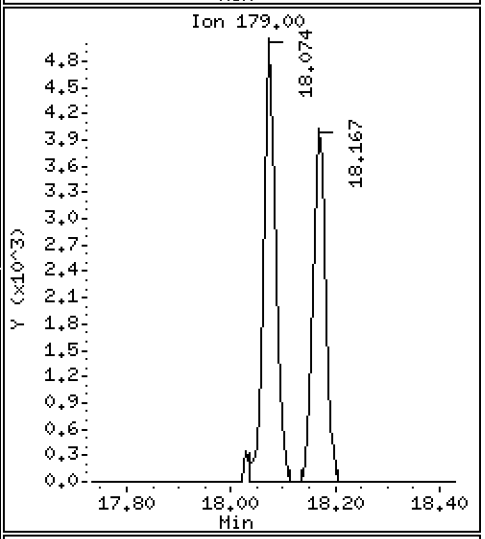
60 Phenanthrene

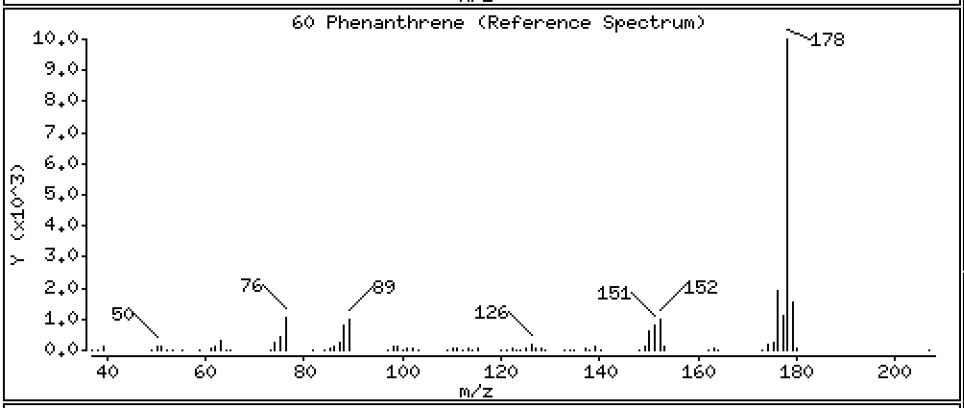
Concentration: 0.1957 ug/mL

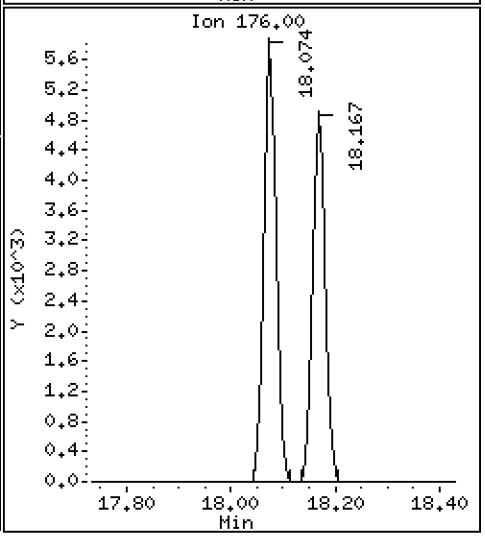


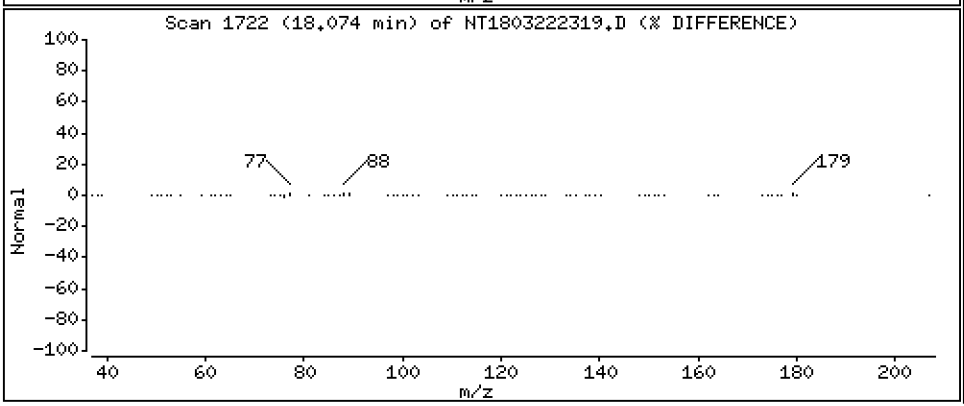












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

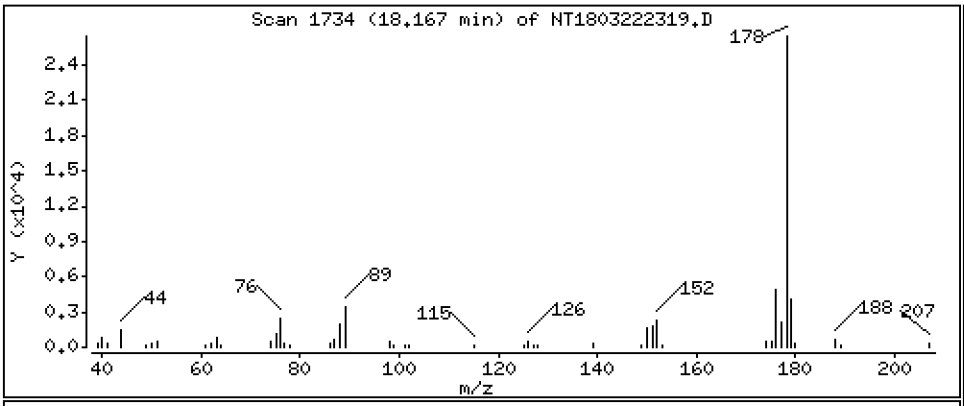
Operator: VTS

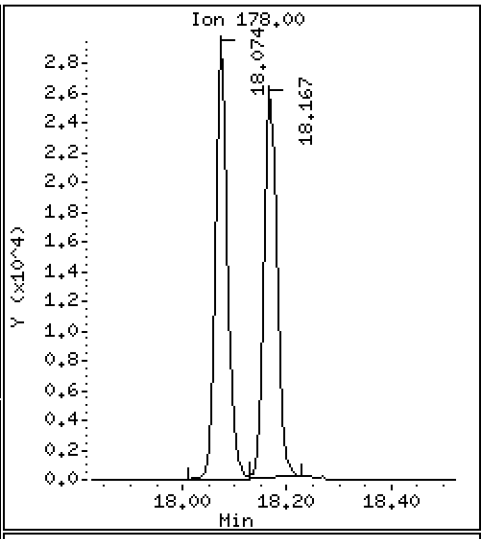
Column phase: ZB-5msi

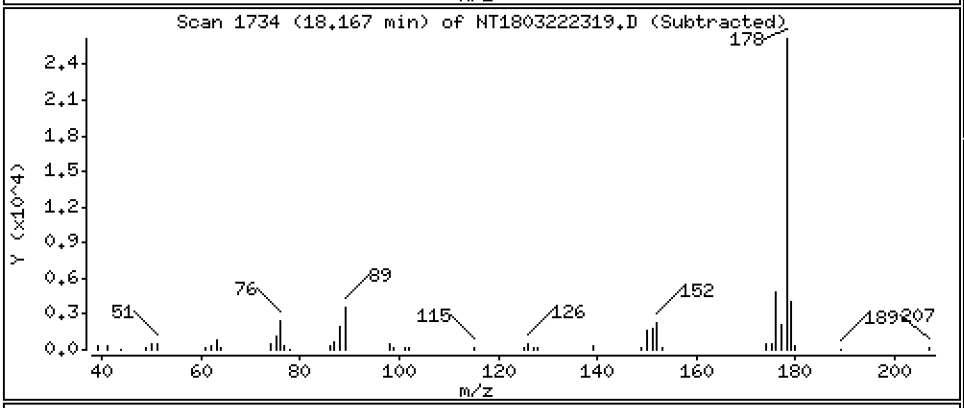
Column diameter: 0.25

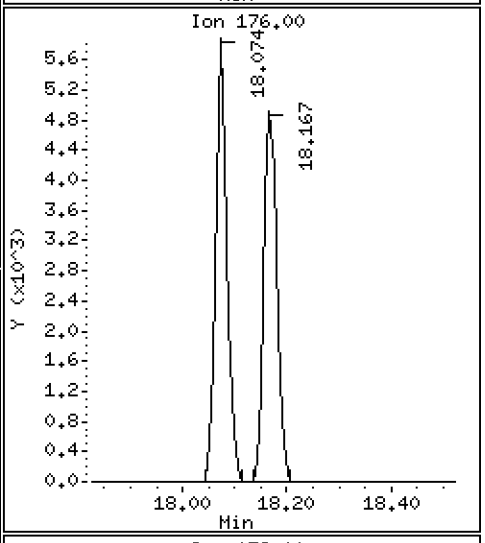
61 Anthracene

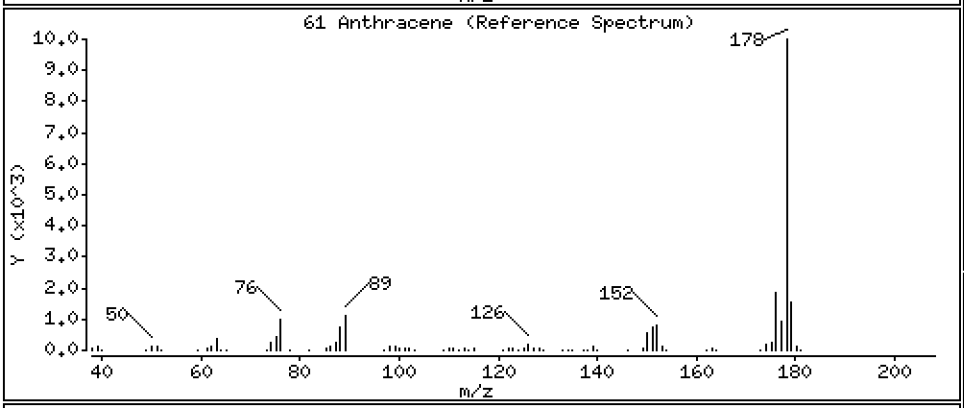
Concentration: 0.1816 ug/mL

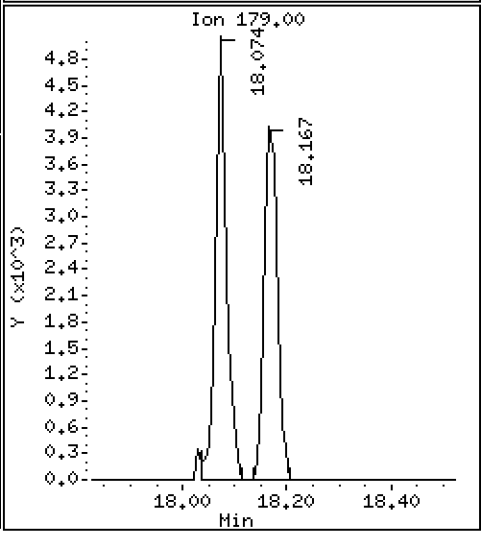


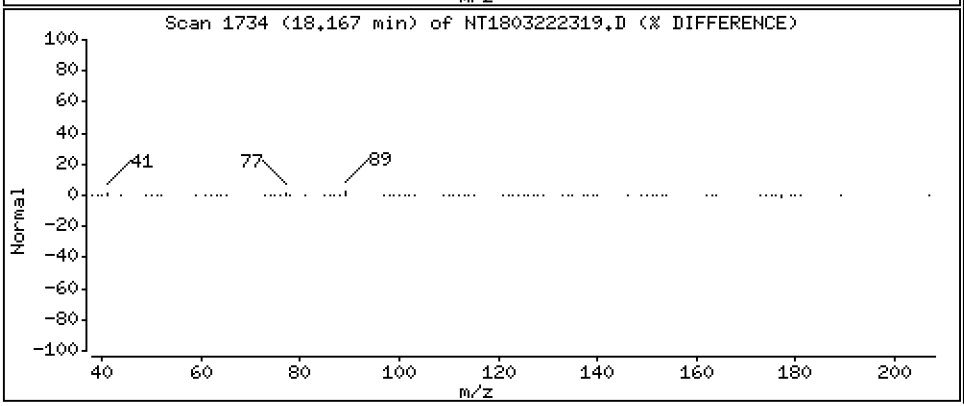












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

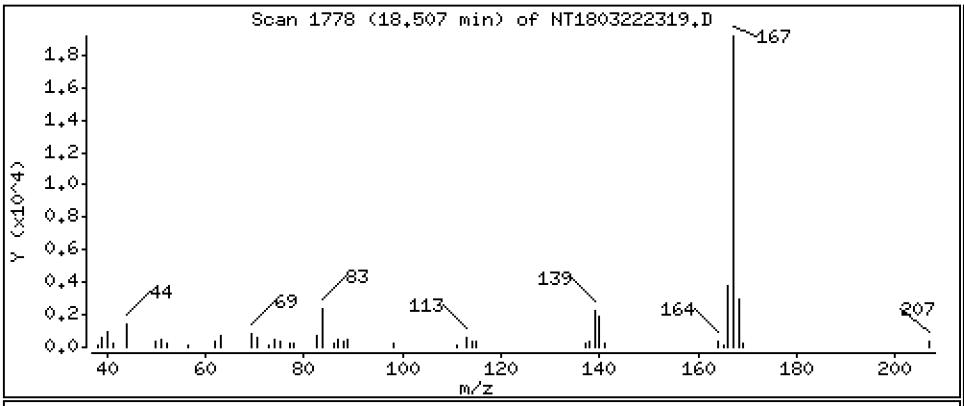
Operator: VTS

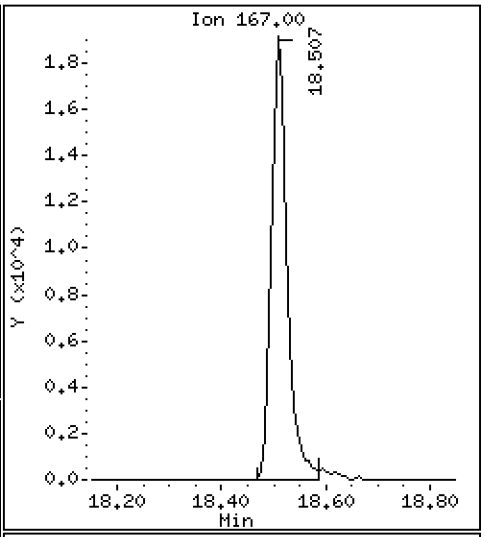
Column phase: ZB-5msi

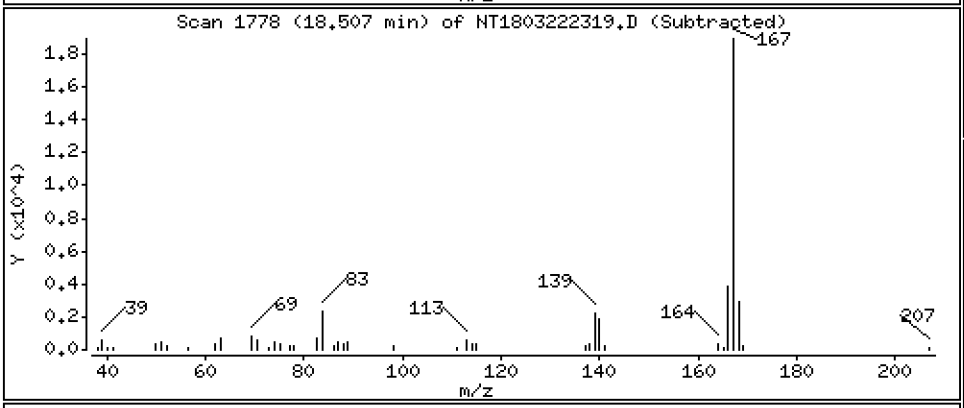
Column diameter: 0.25

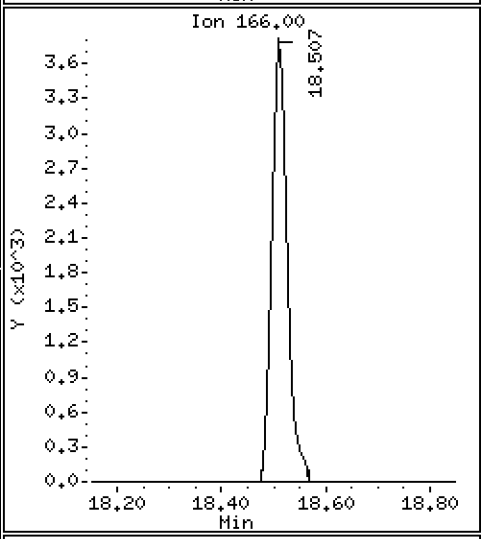
62 Carbazole

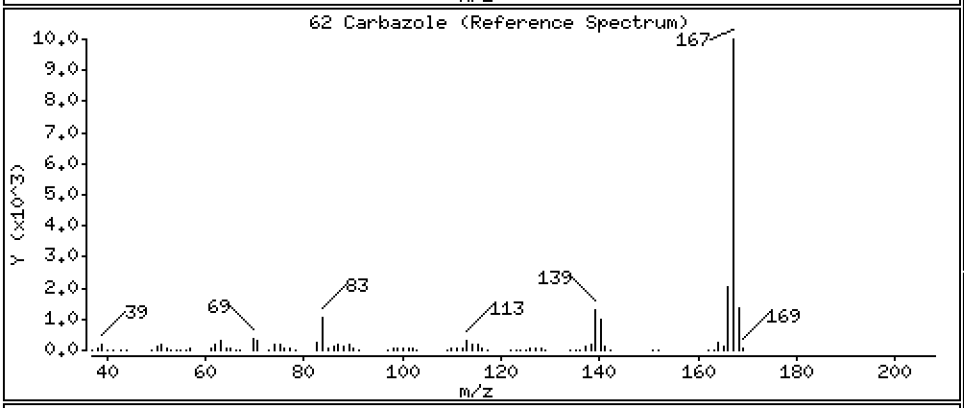
Concentration: 0.1936 ug/mL

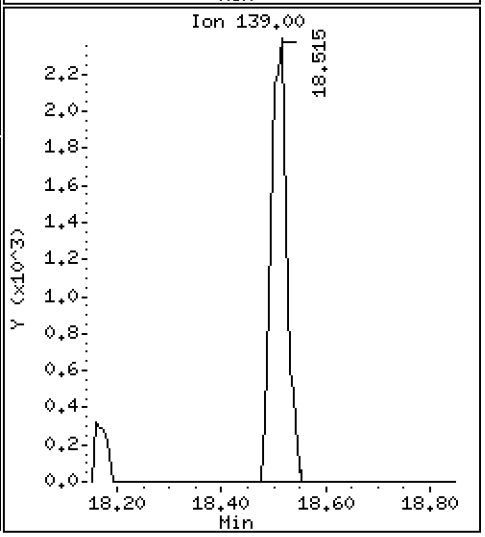


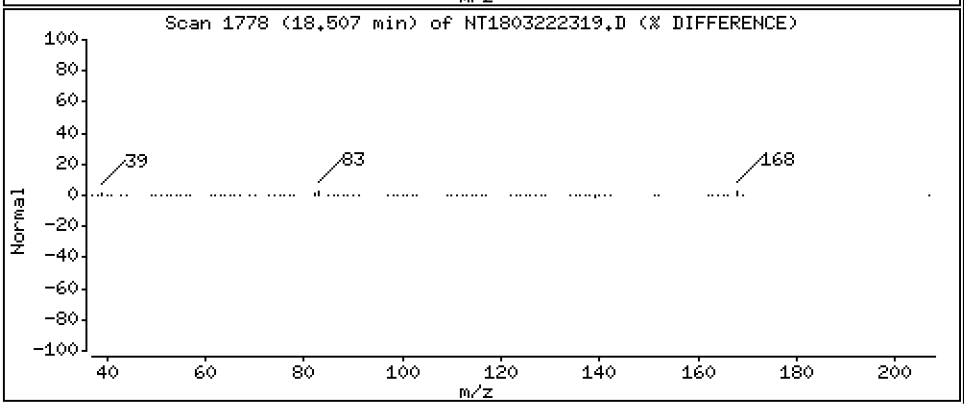












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

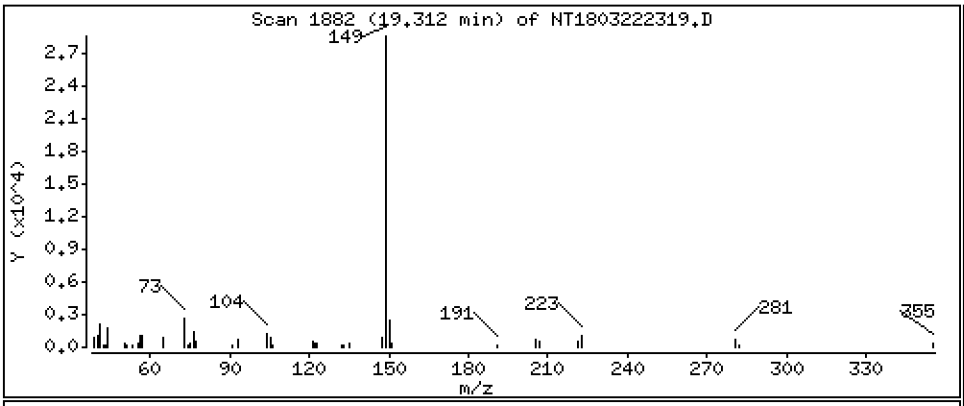
Operator: VTS

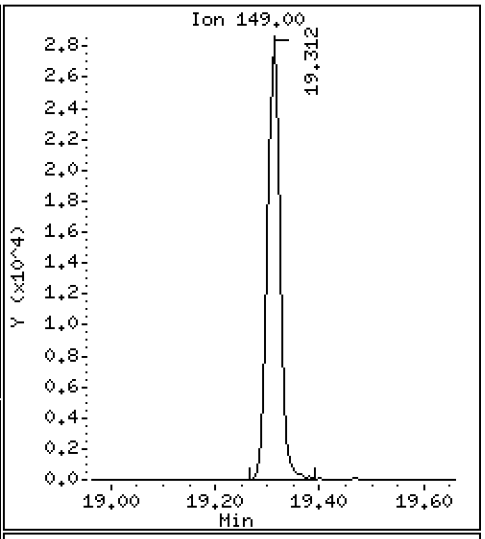
Column phase: ZB-5msi

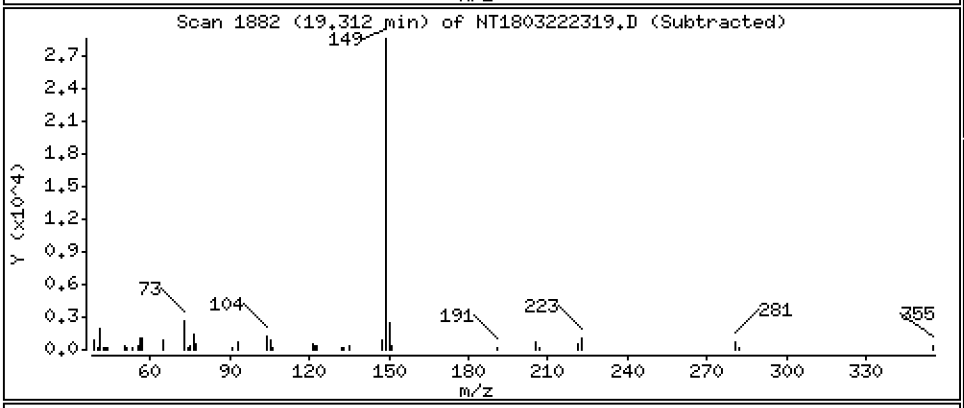
Column diameter: 0.25

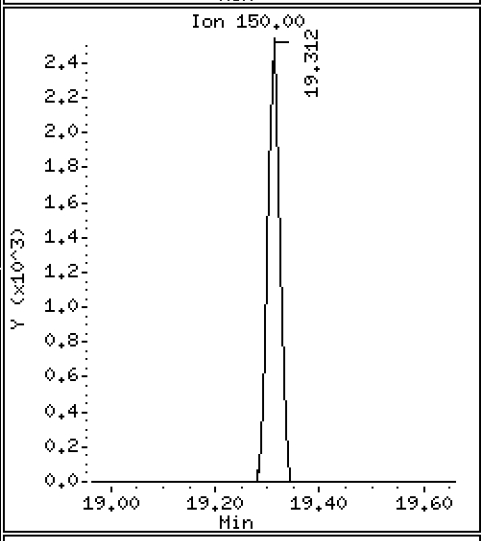
63 Di-n-butylphthalate

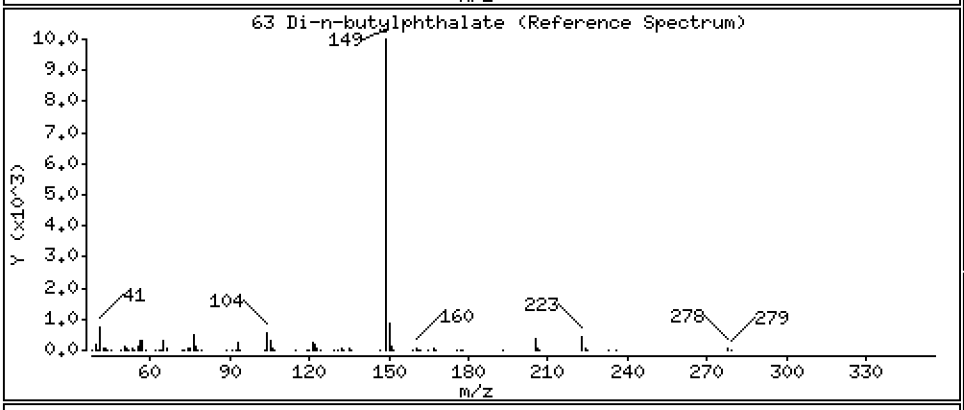
Concentration: 0.1660 ug/mL

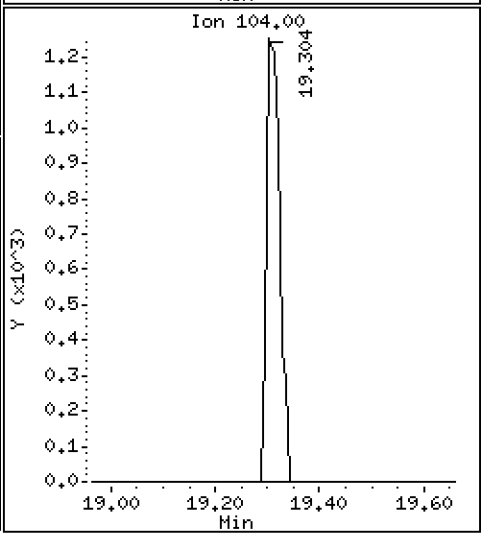


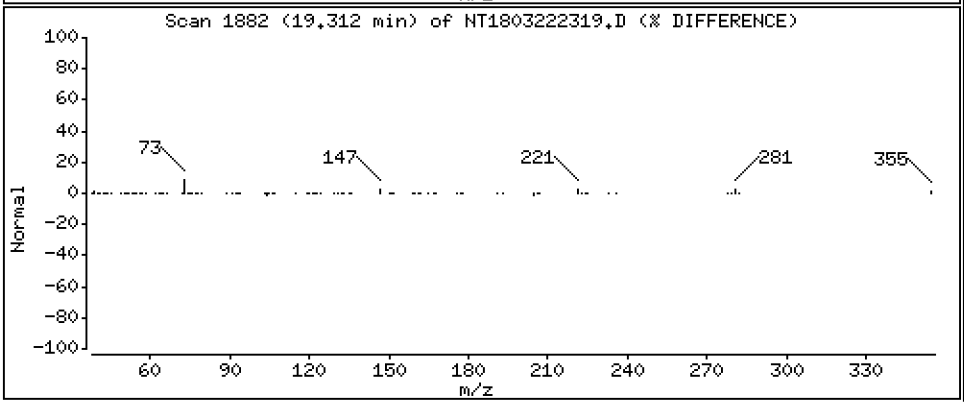












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

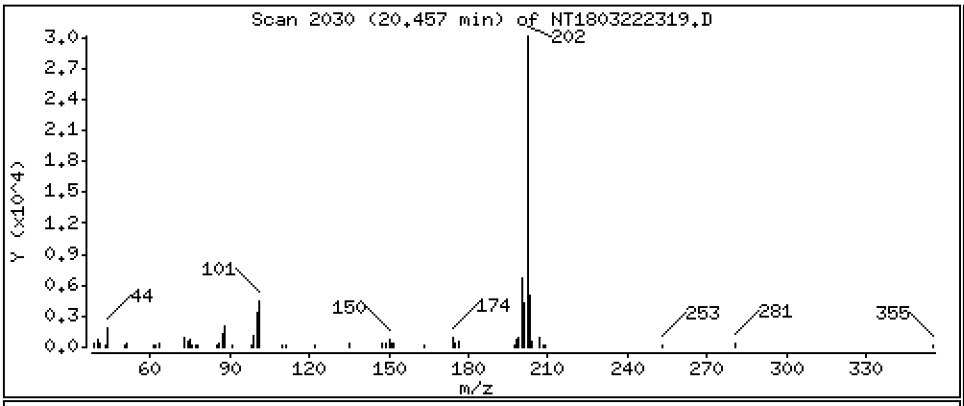
Operator: VTS

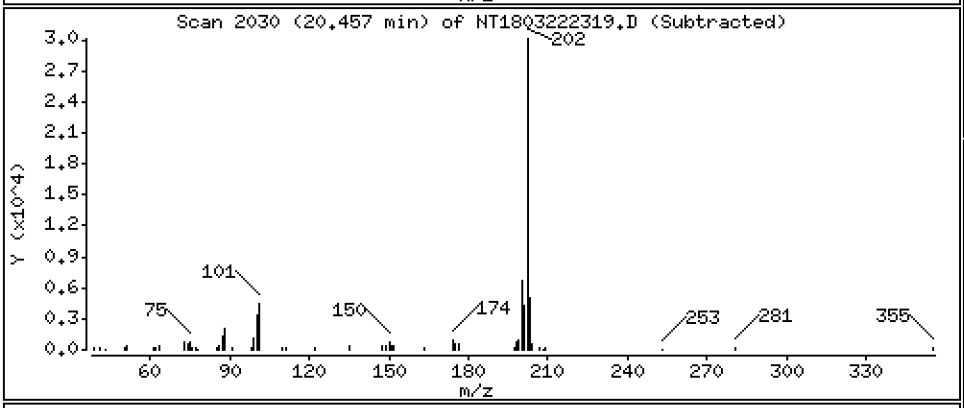
Column phase: ZB-5msi

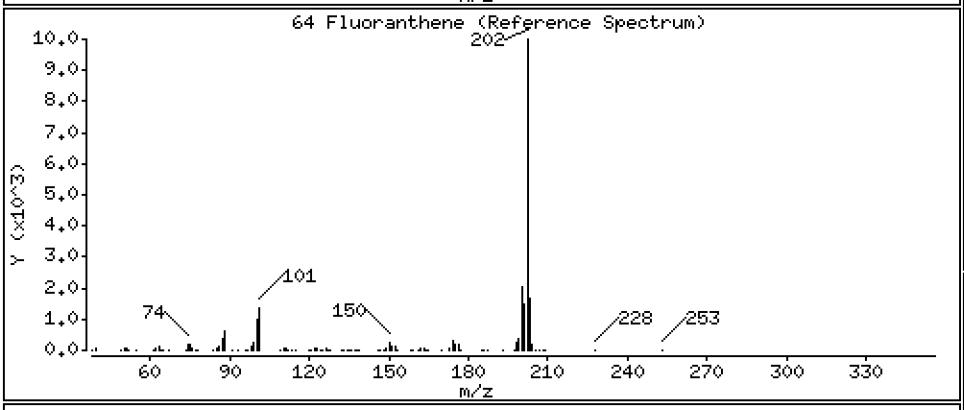
Column diameter: 0.25

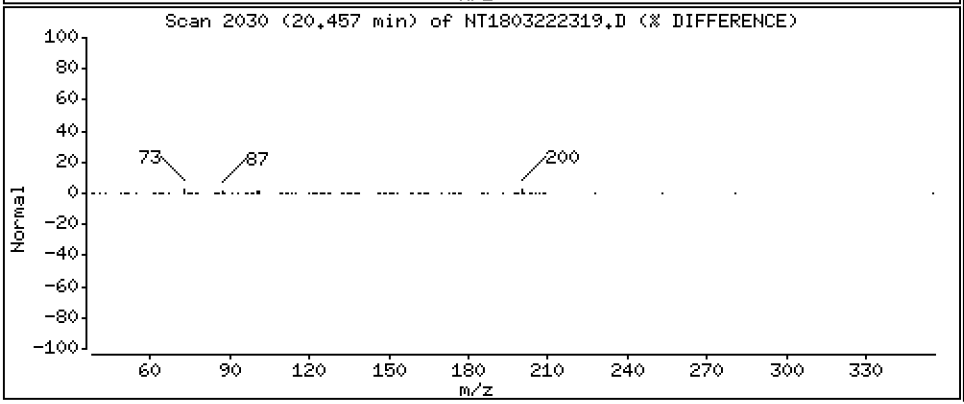
64 Fluoranthene

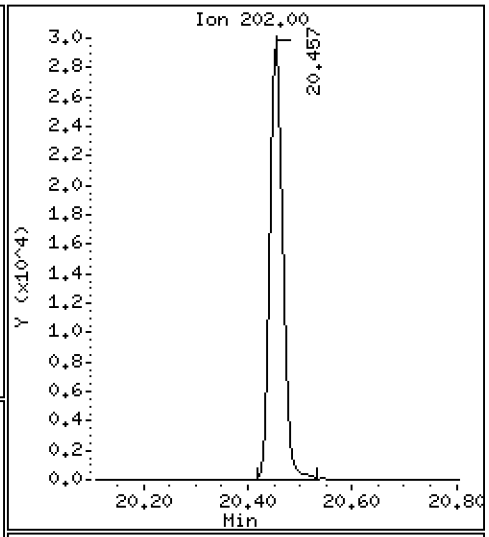
Concentration: 0.1648 ug/mL

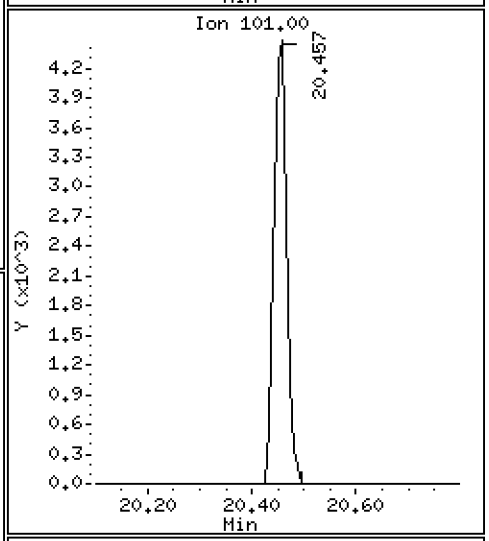


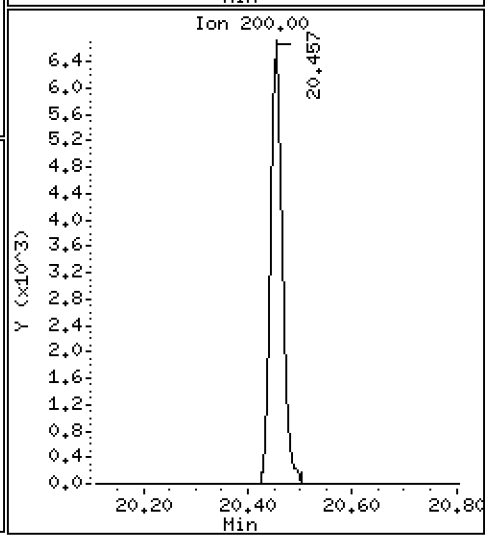












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D

Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

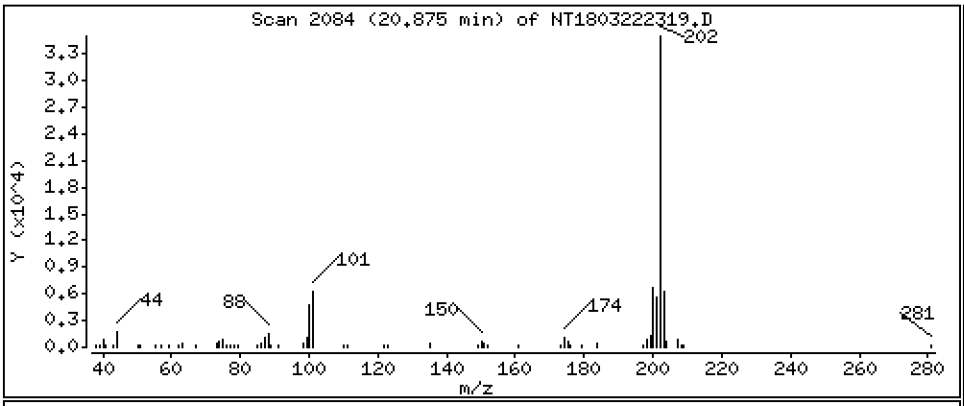
Operator: VTS

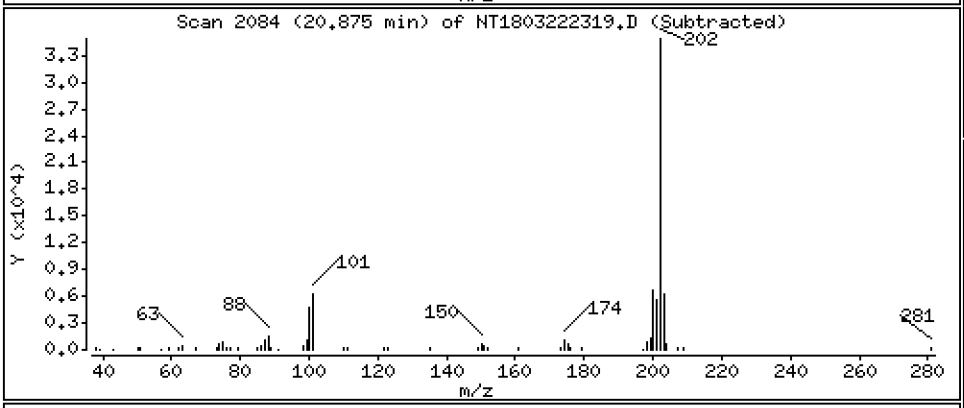
Column phase: ZB-5msi

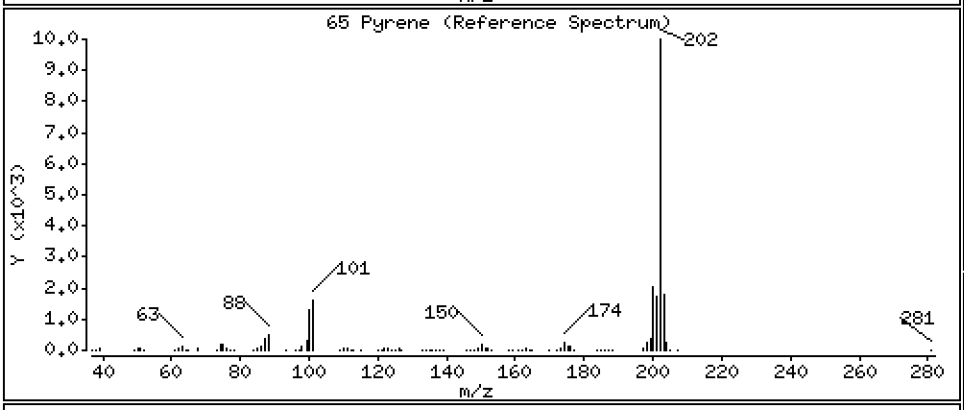
Column diameter: 0.25

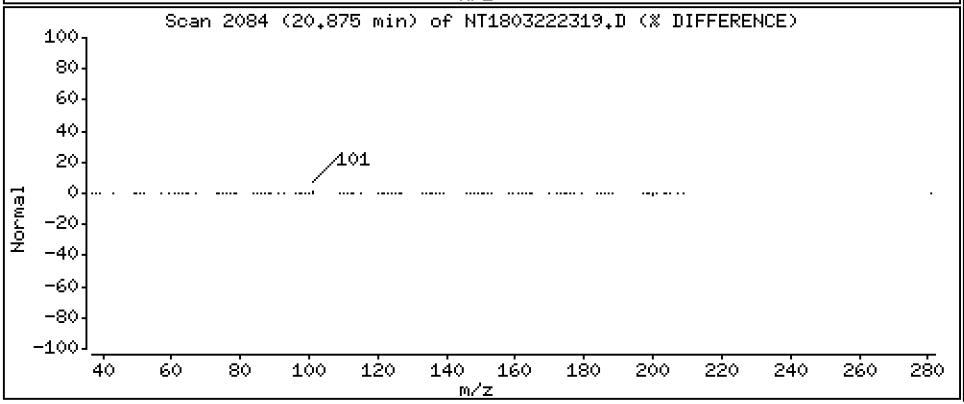
65 Pyrene

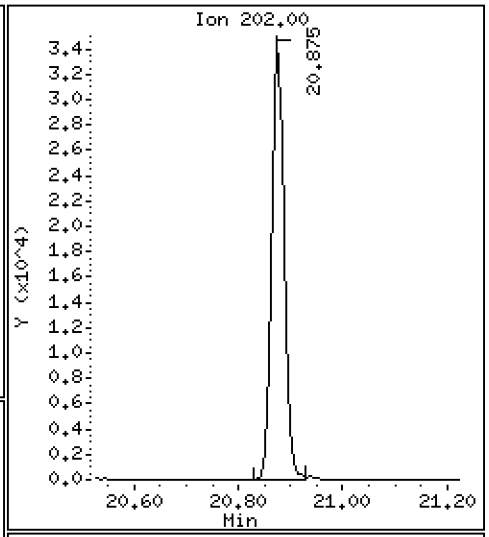
Concentration: 0.1716 ug/mL

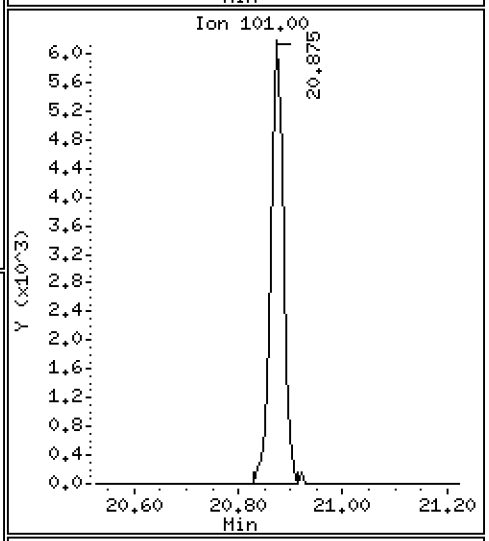


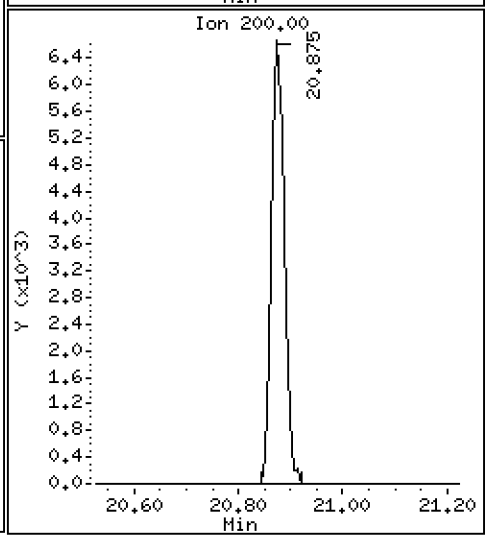












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

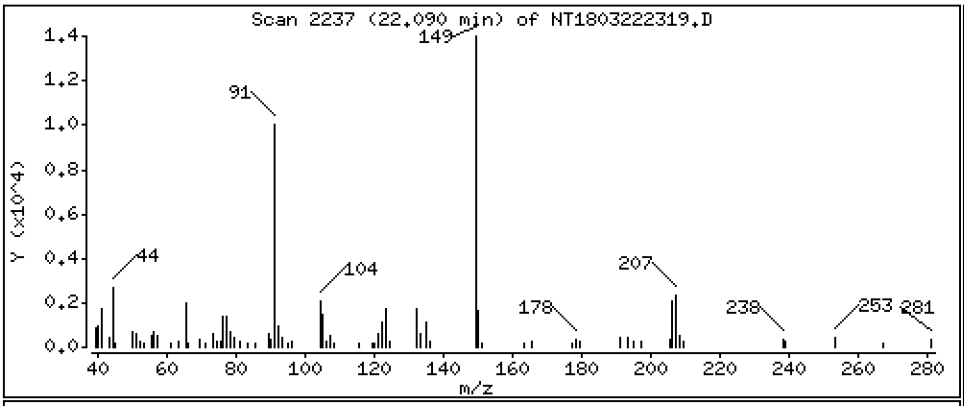
Operator: VTS

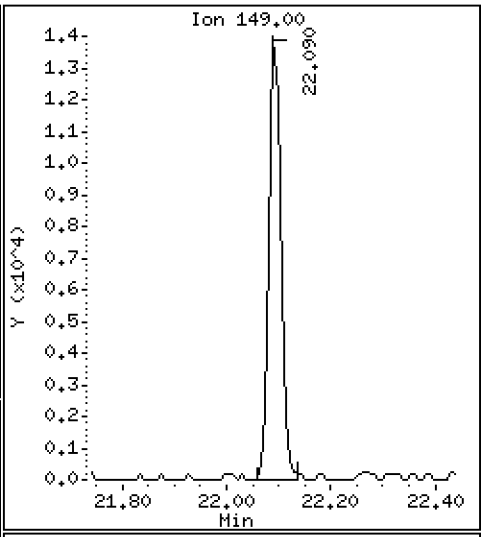
Column phase: ZB-5msi

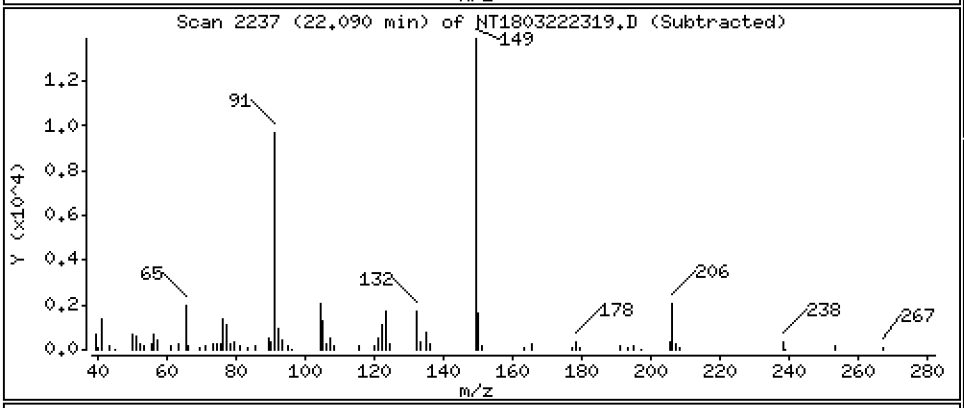
Column diameter: 0.25

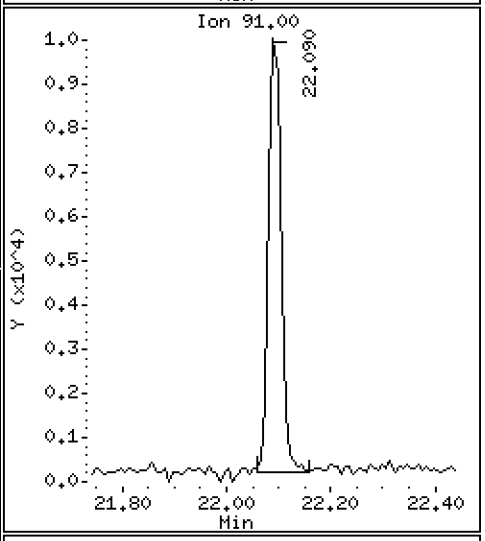
67 Butylbenzylphthalate

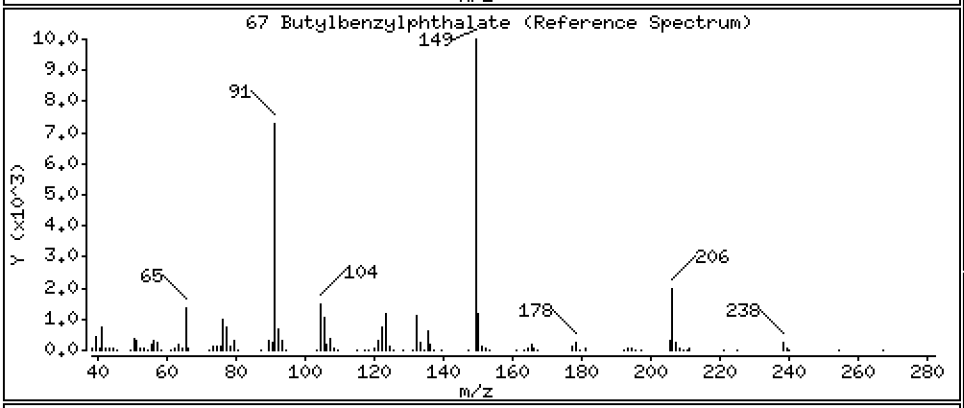
Concentration: 0.1550 ug/mL

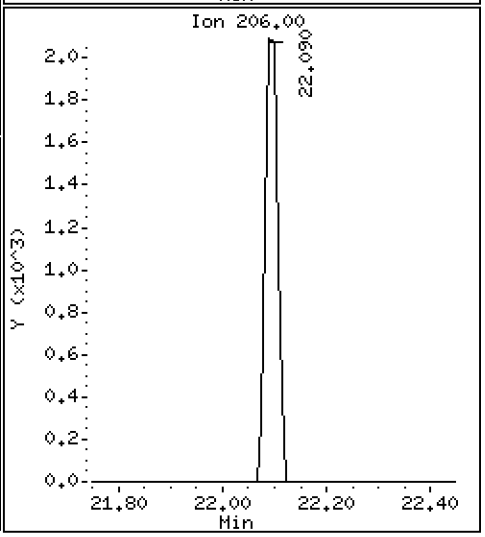


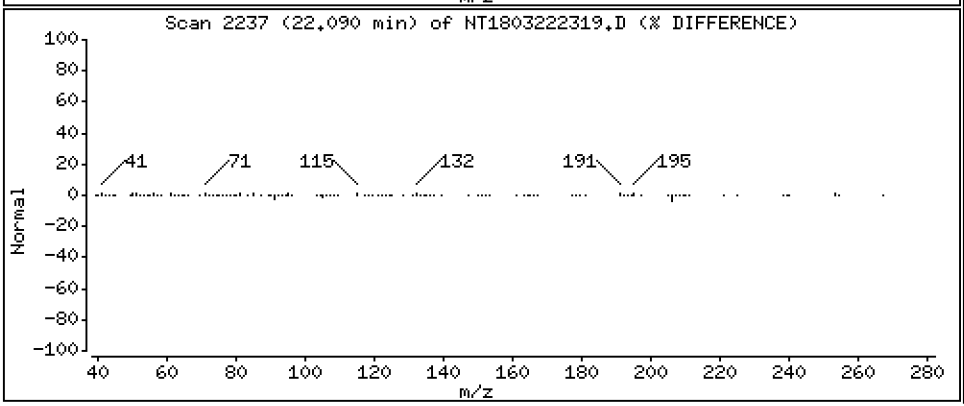












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D

Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

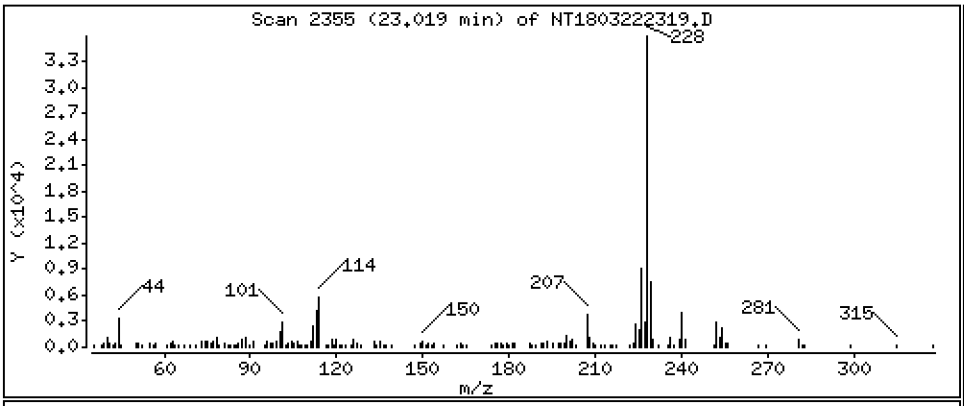
Operator: VTS

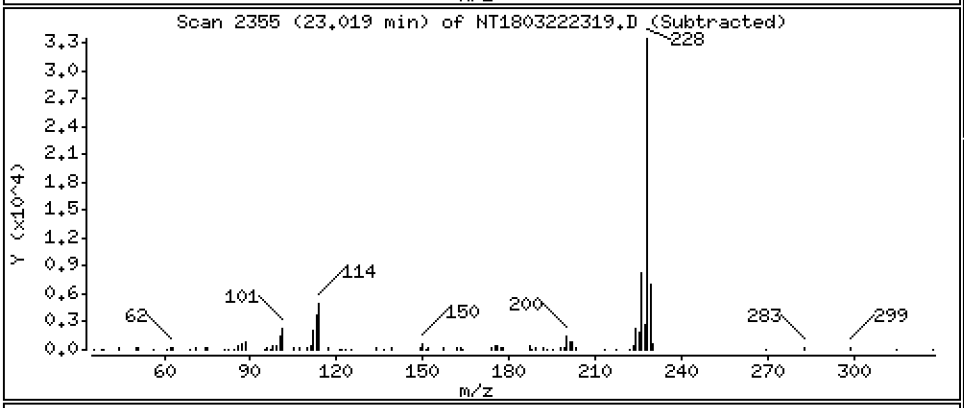
Column phase: ZB-5msi

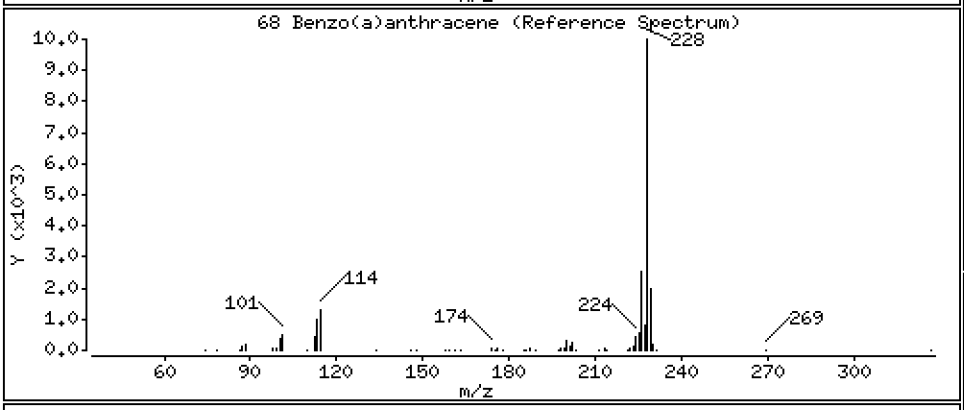
Column diameter: 0.25

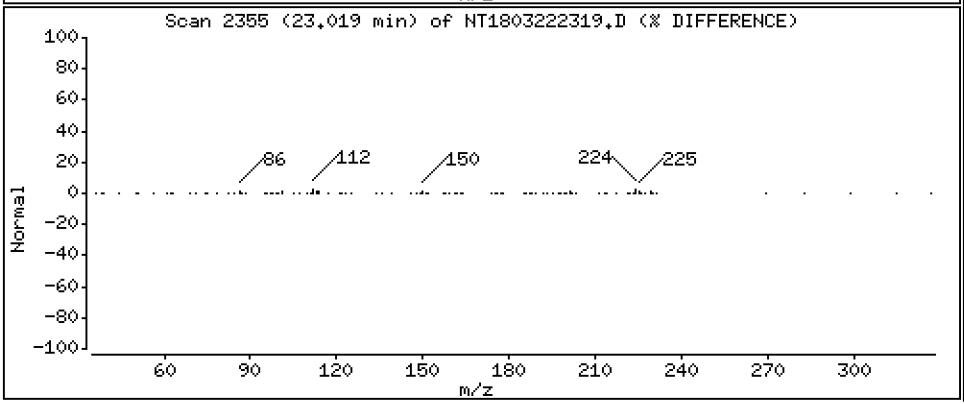
68 Benzo(a)anthracene

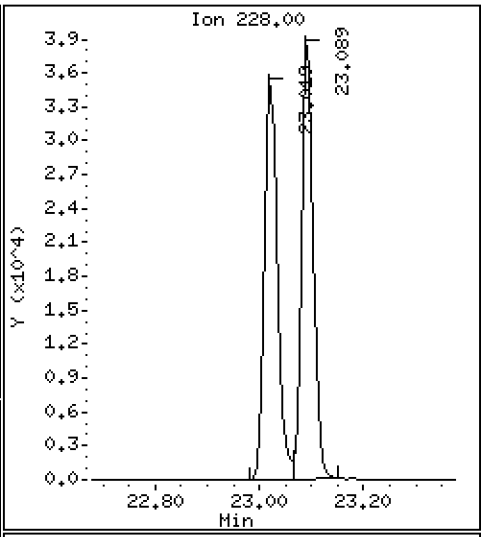
Concentration: 0.2001 ug/mL

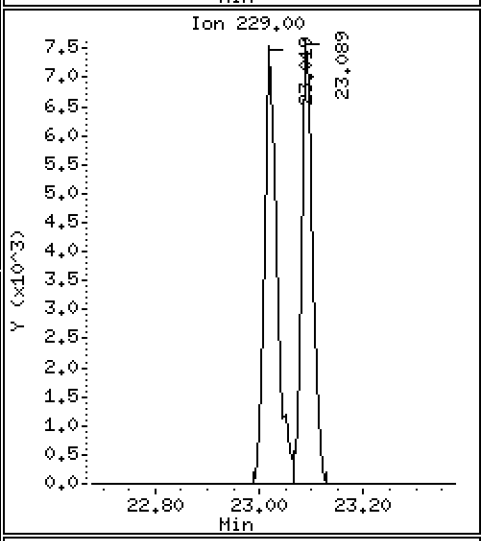


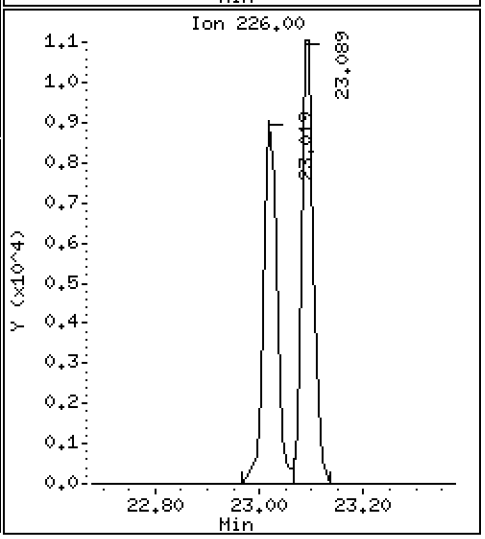












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

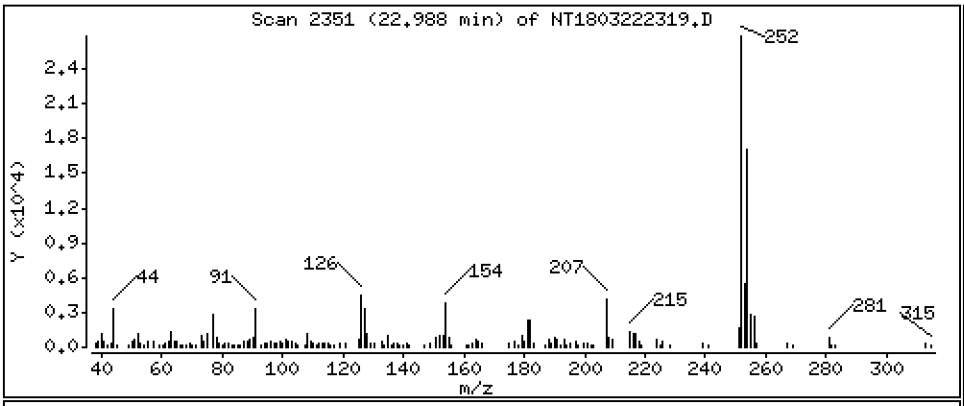
Operator: VTS

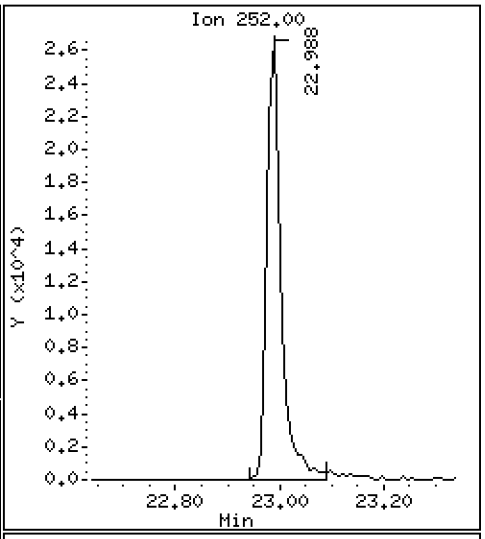
Column phase: ZB-5msi

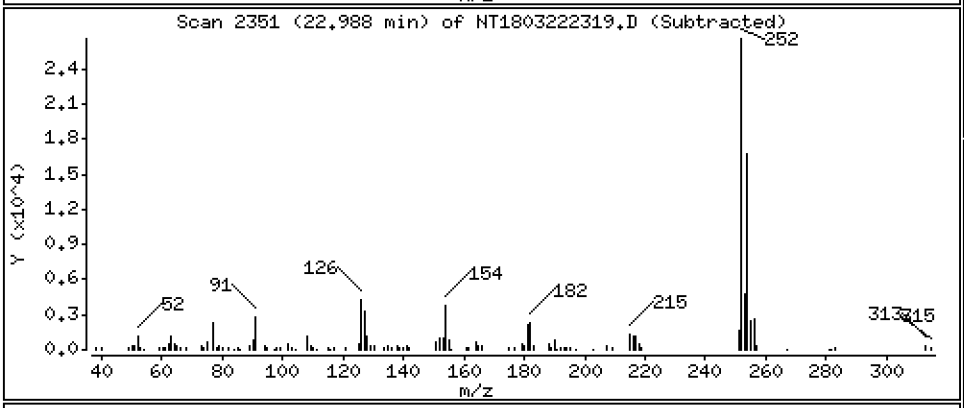
Column diameter: 0.25

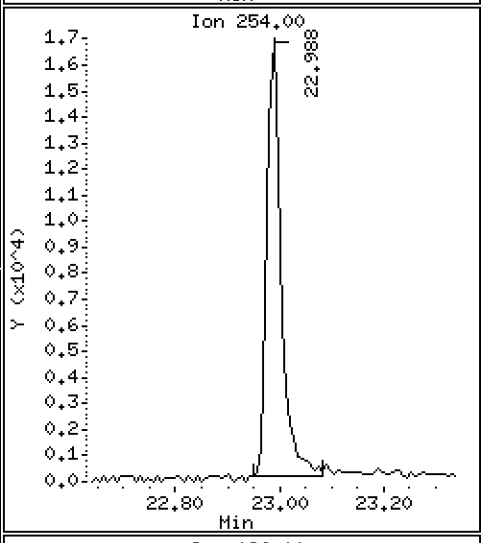
70 3,3'-Dichlorobenzidine

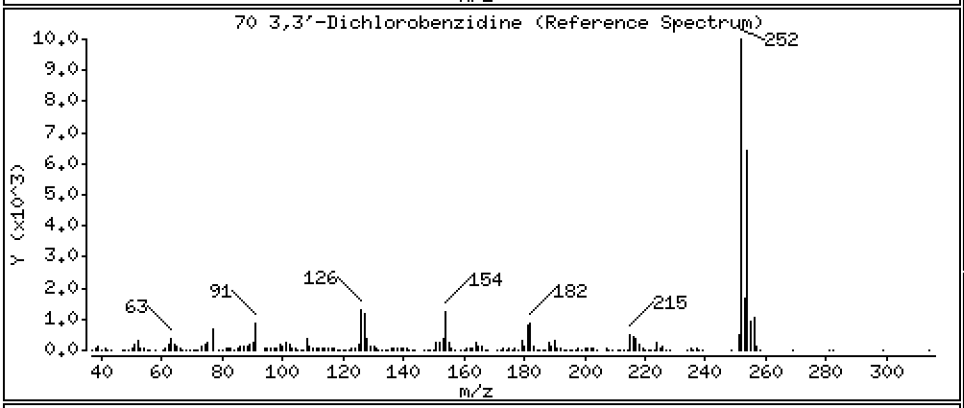
Concentration: 0.4635 ug/mL

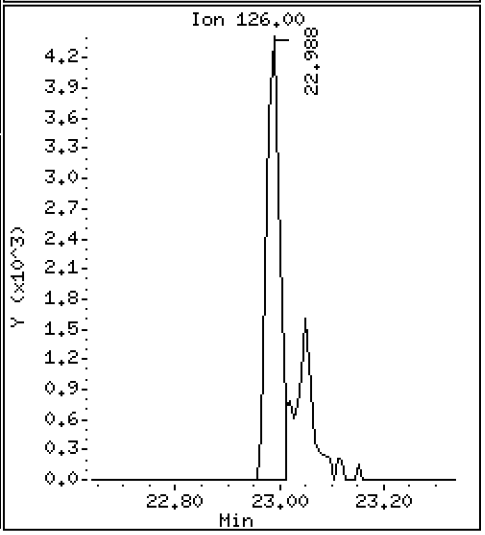


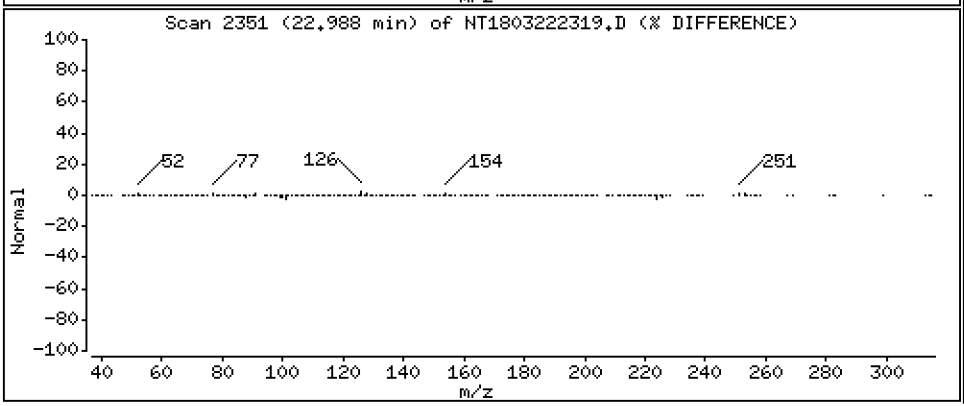












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

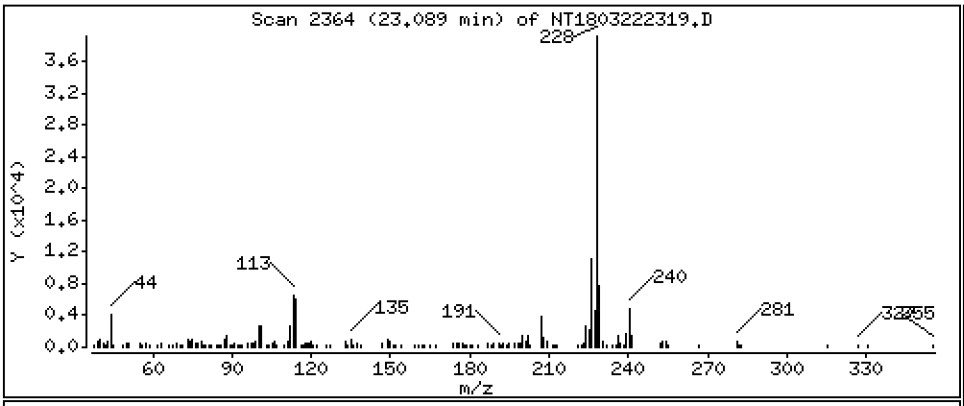
Operator: VTS

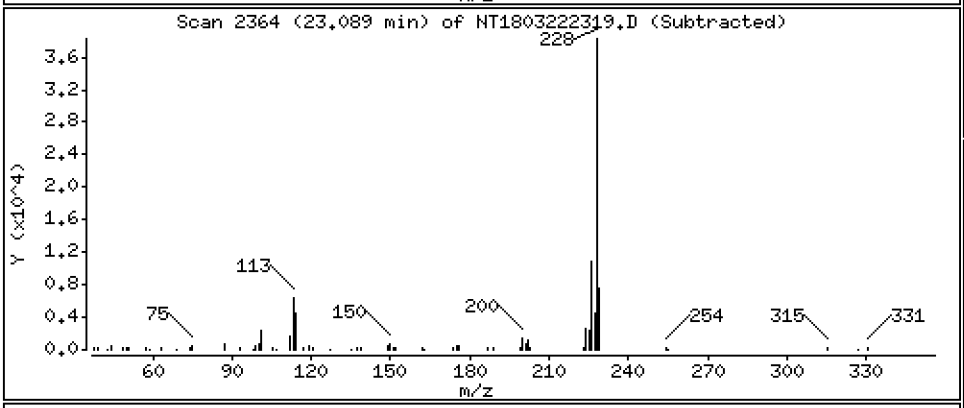
Column phase: ZB-5msi

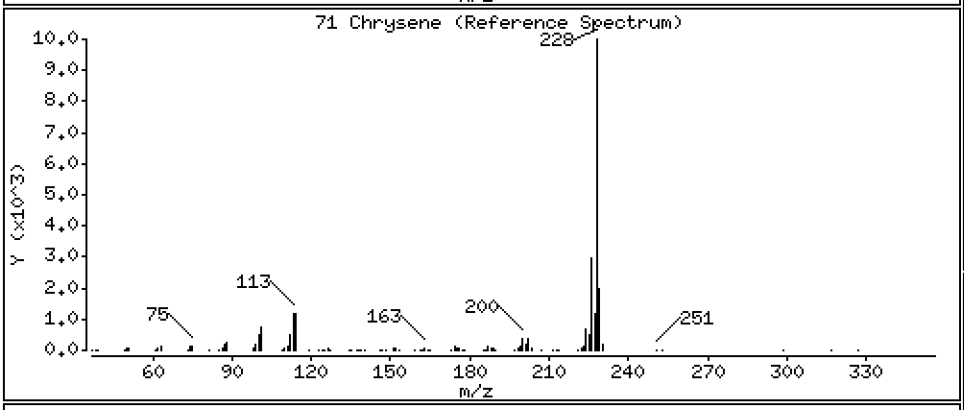
Column diameter: 0.25

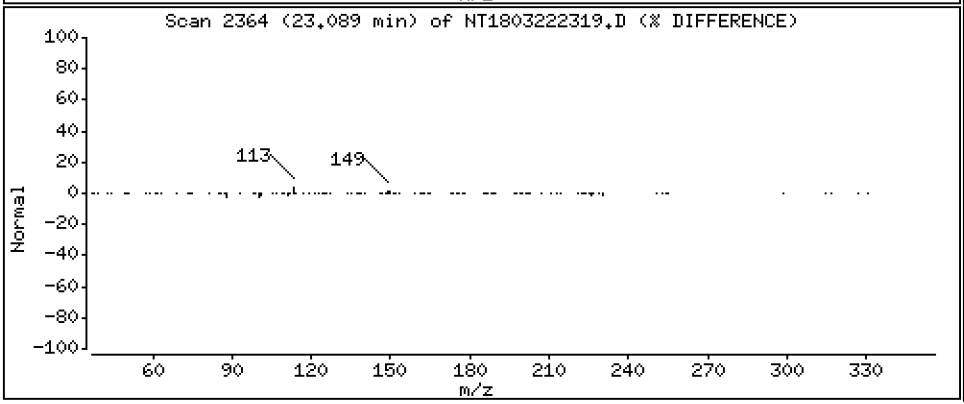
71 Chrysene

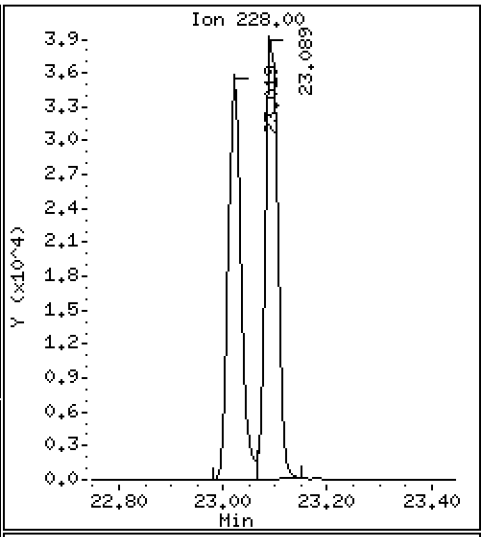
Concentration: 0.2001 ug/mL

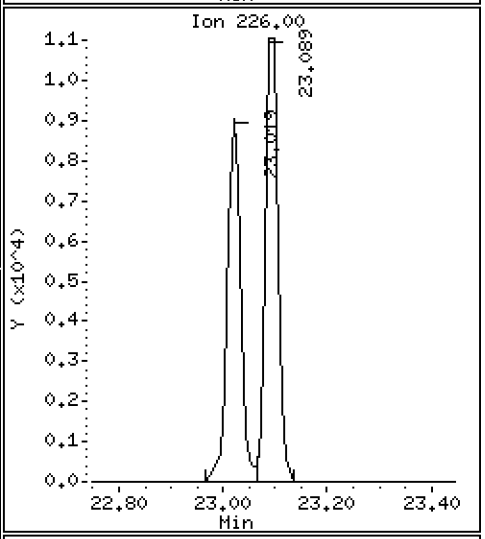


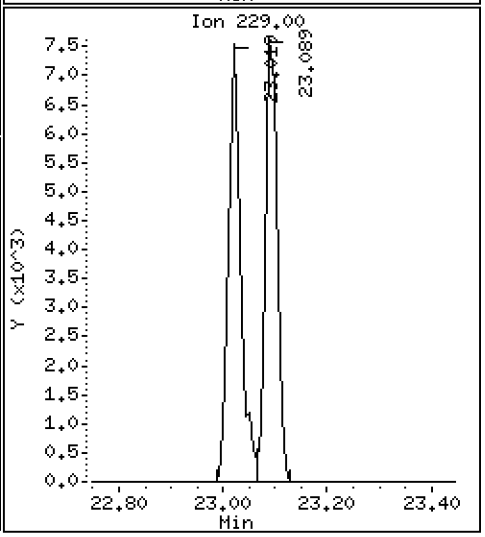












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

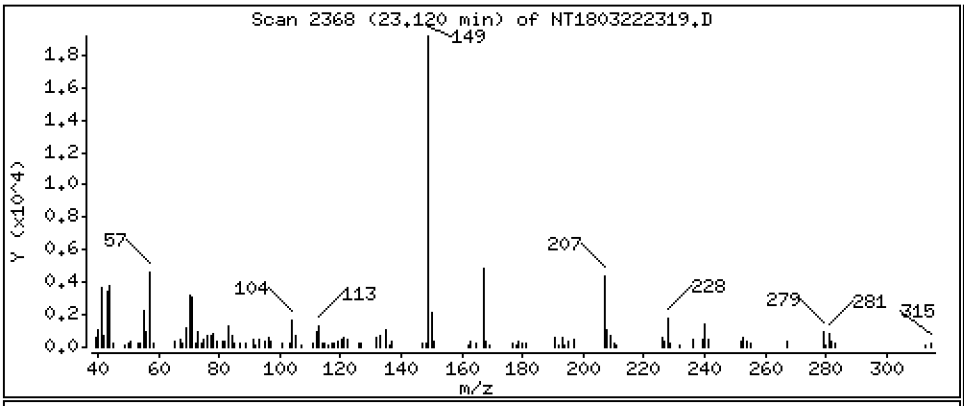
Operator: VTS

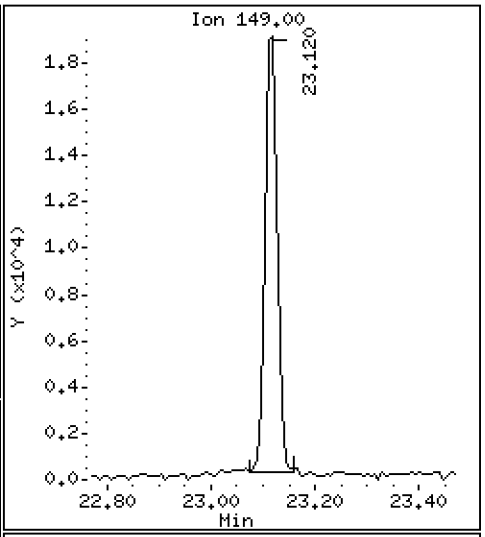
Column phase: ZB-5msi

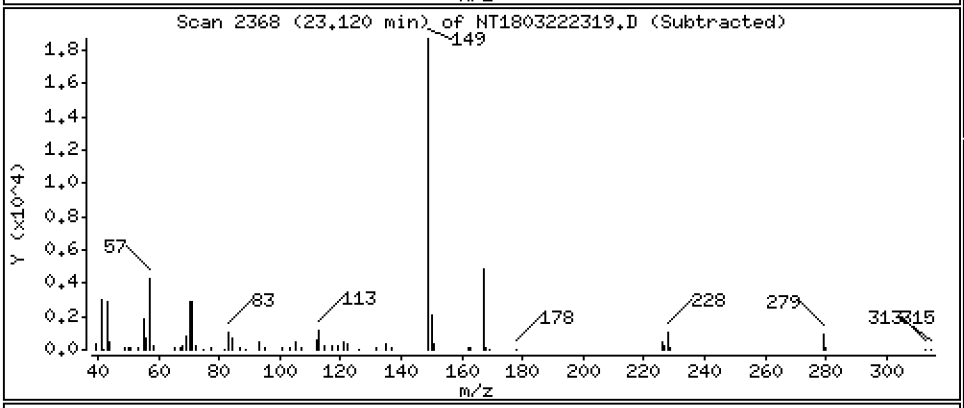
Column diameter: 0.25

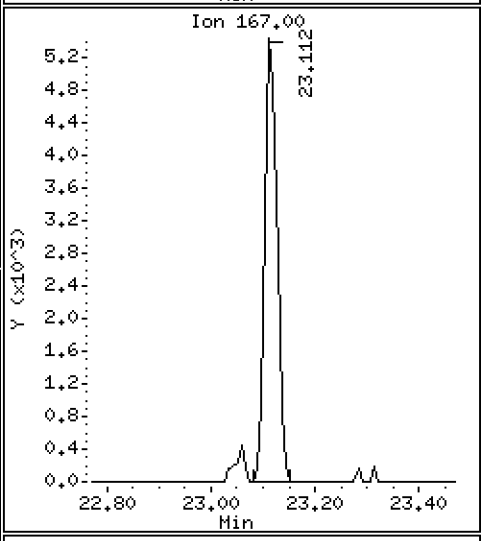
72 bis(2-Ethylhexyl)phthalate

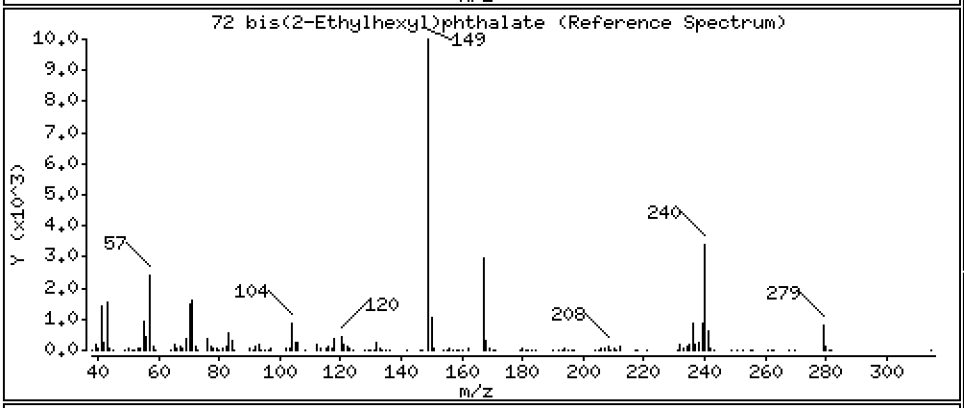
Concentration: 0.1431 ug/mL

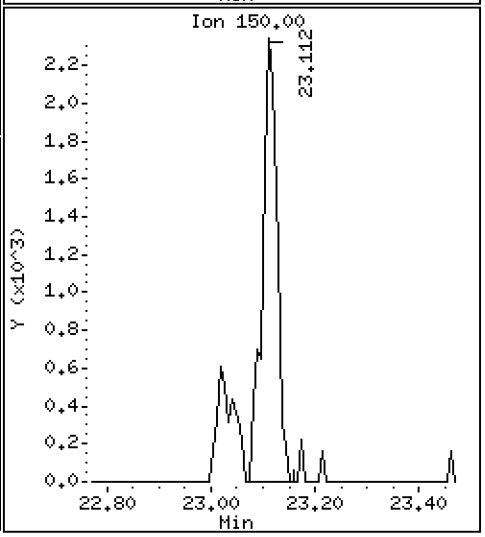


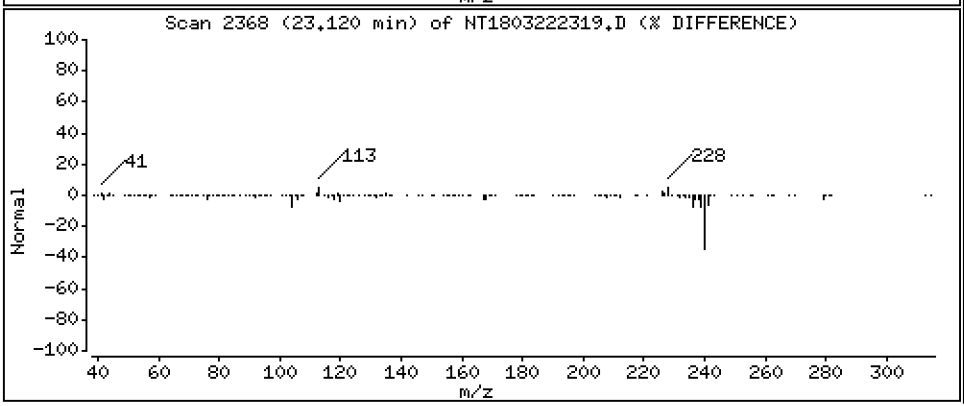












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

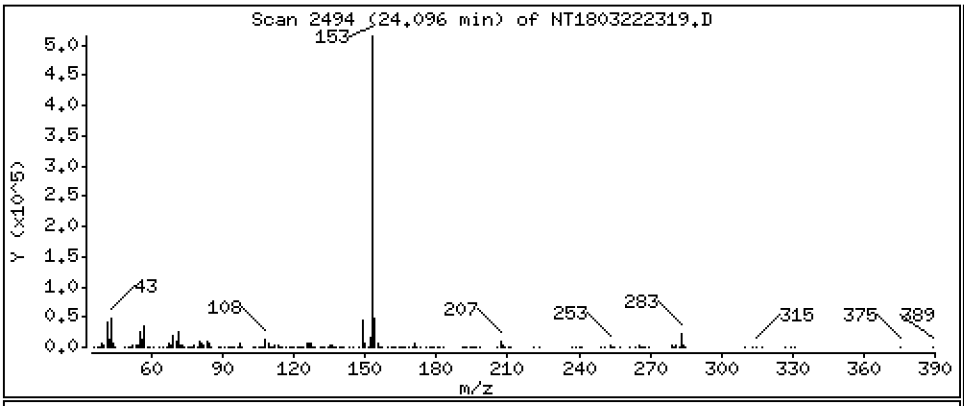
Operator: VTS

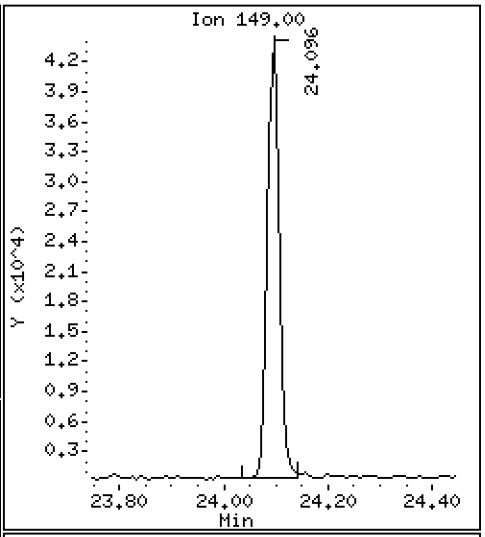
Column phase: ZB-5msi

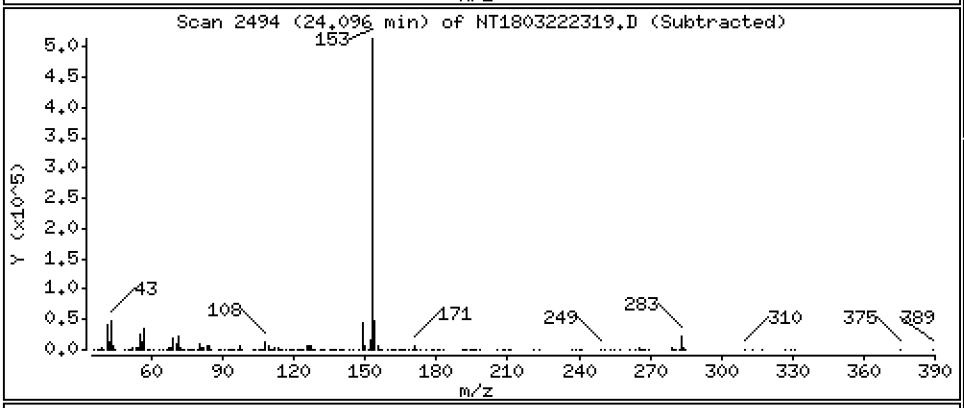
Column diameter: 0.25

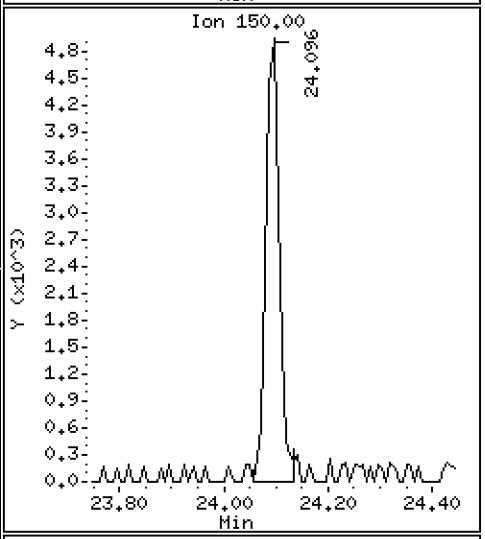
73 Di-n-octylphthalate

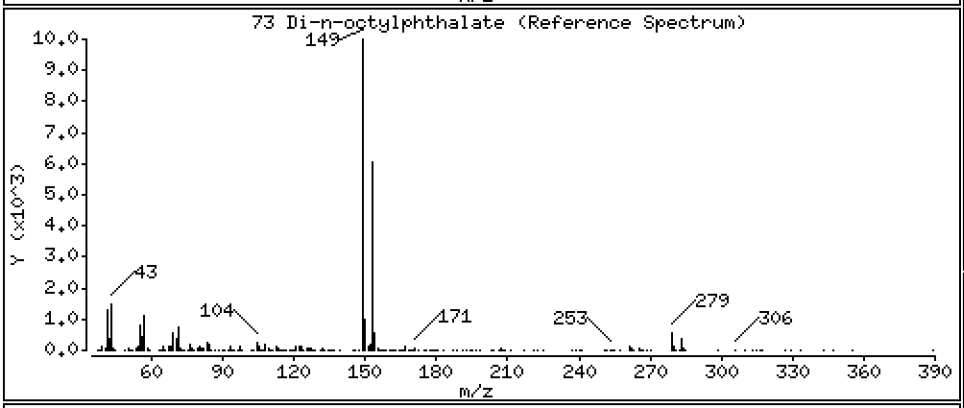
Concentration: 0.1921 ug/mL

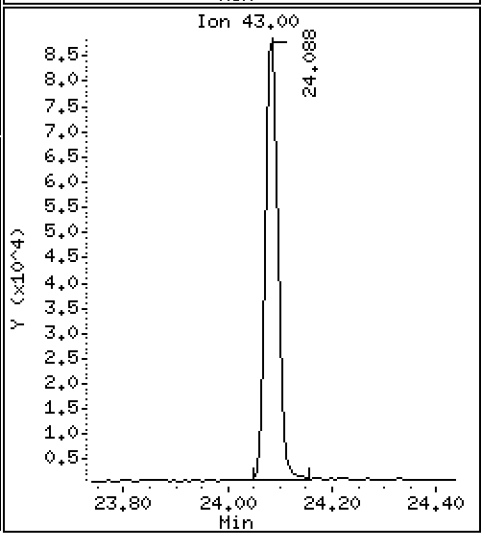


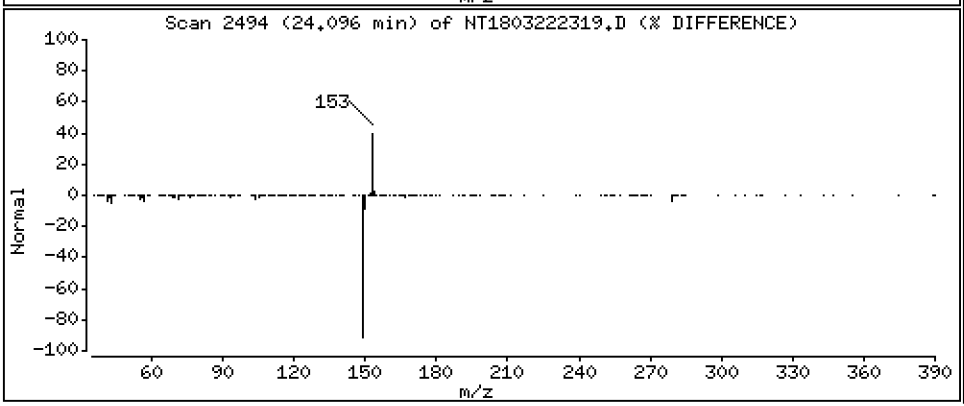












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

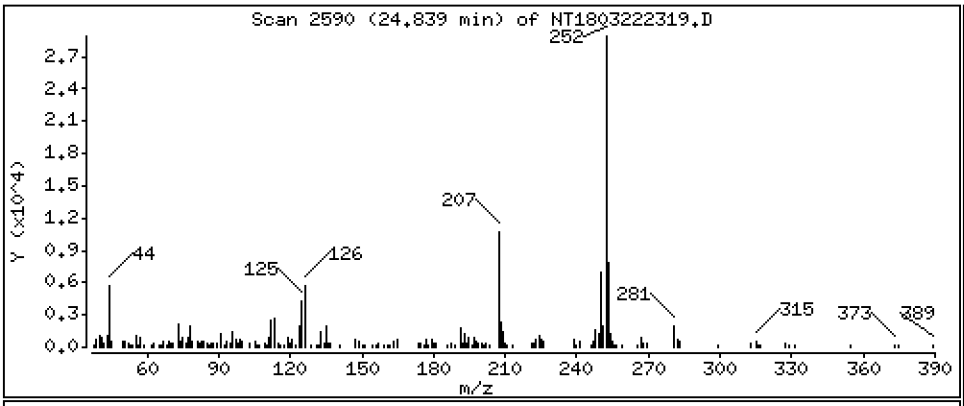
Operator: VTS

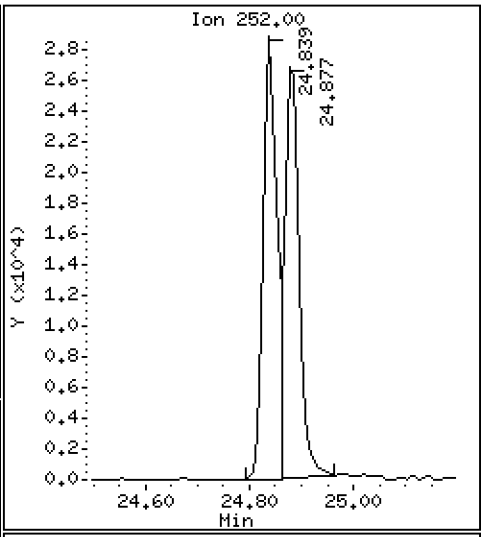
Column phase: ZB-5msi

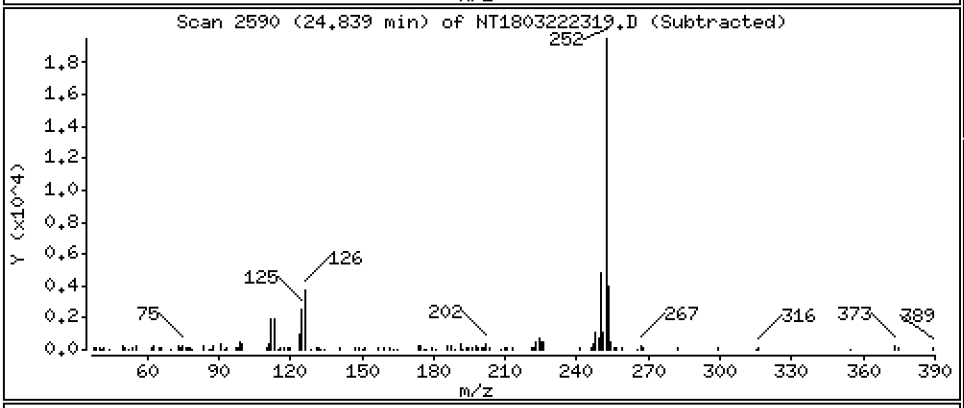
Column diameter: 0.25

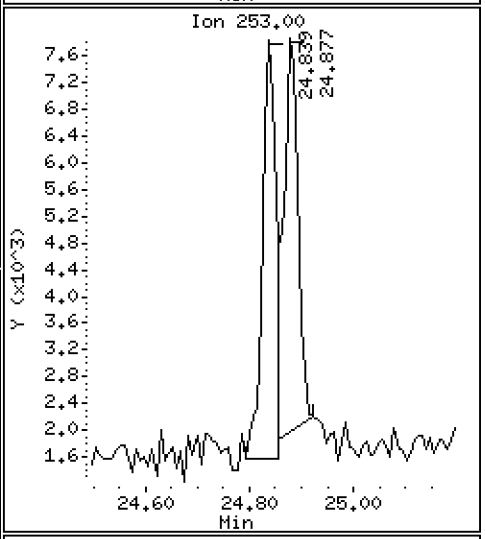
74 Benzo(b)fluoranthene

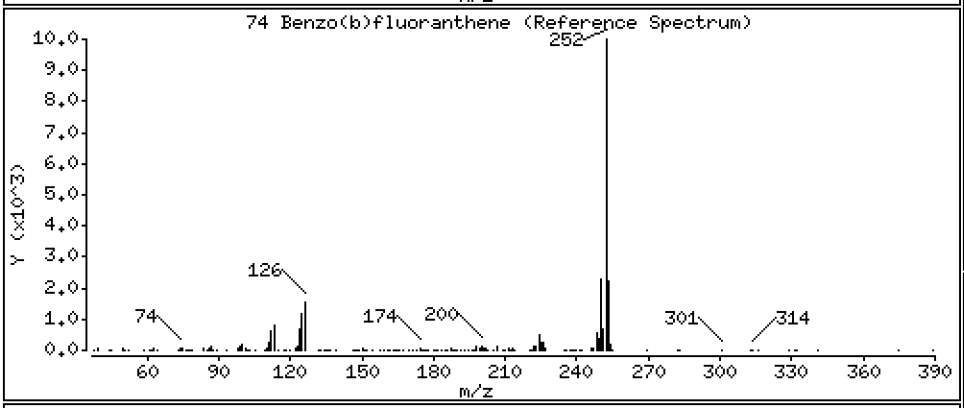
Concentration: 0.2287 ug/mL

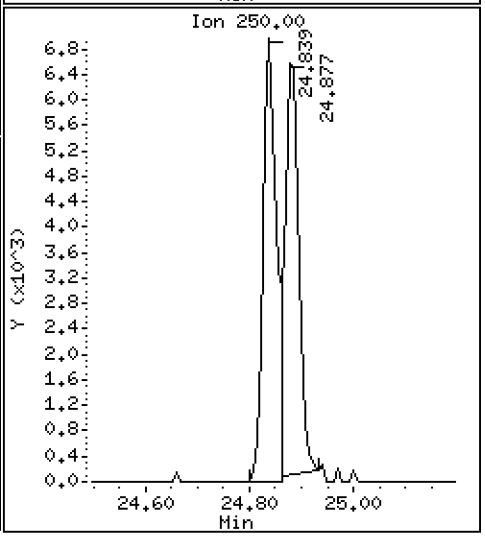


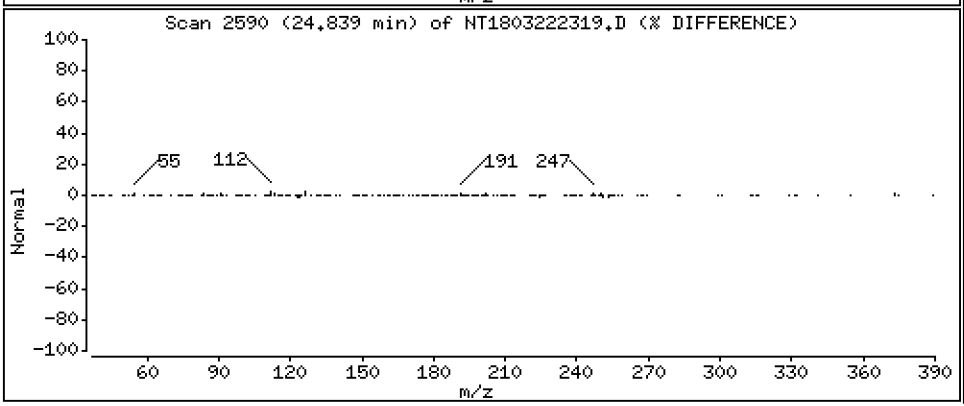












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

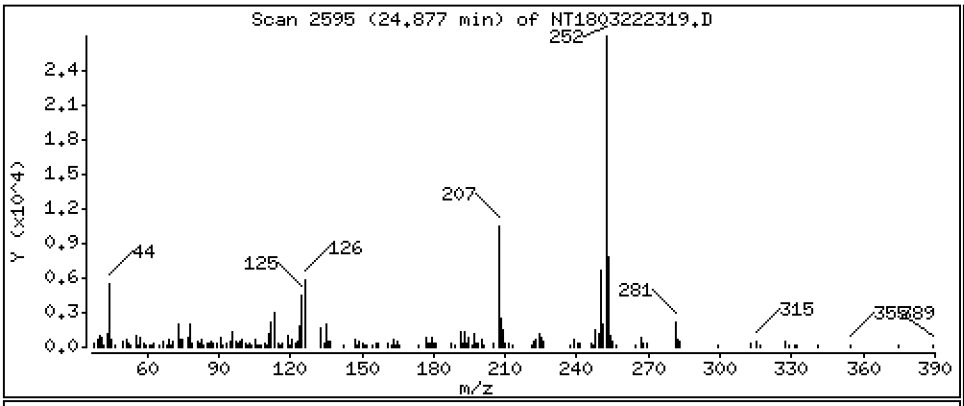
Operator: VTS

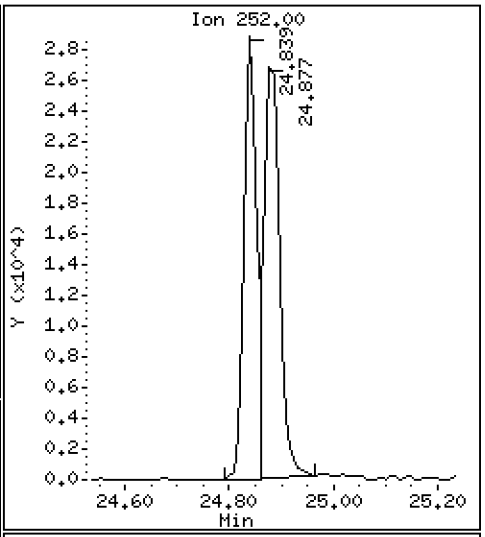
Column phase: ZB-5msi

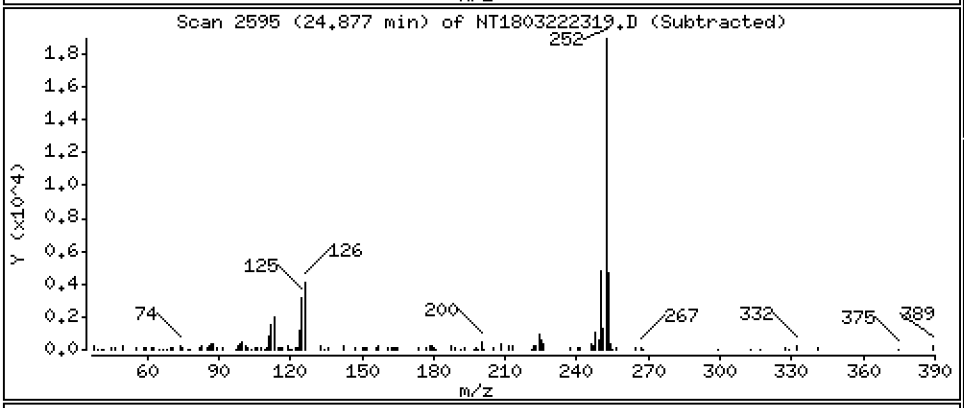
Column diameter: 0.25

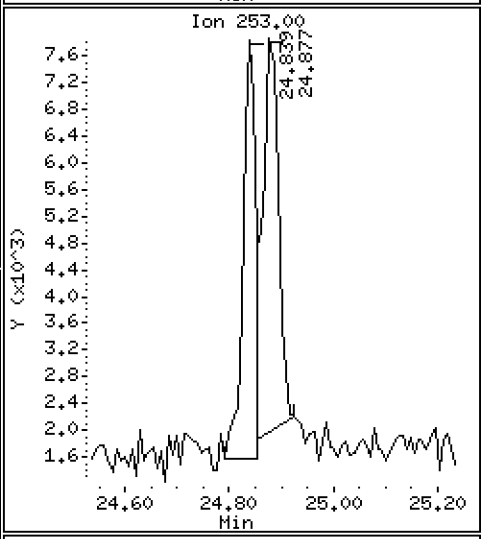
75 Benzo(k)fluoranthene

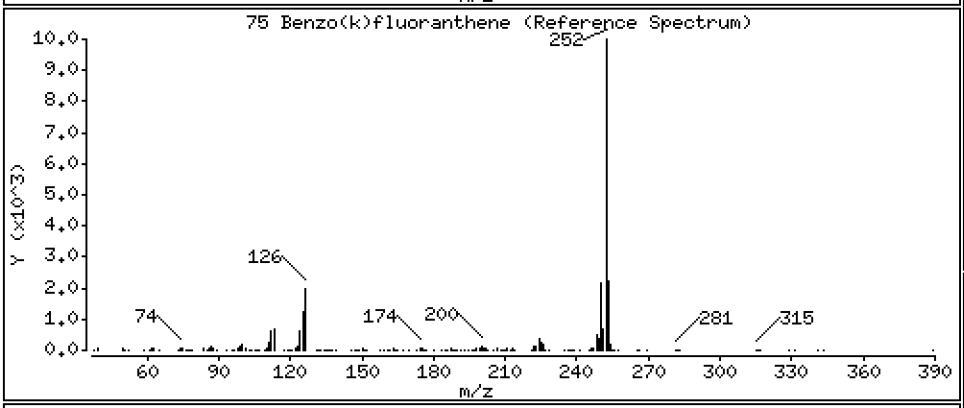
Concentration: 0.2142 ug/mL

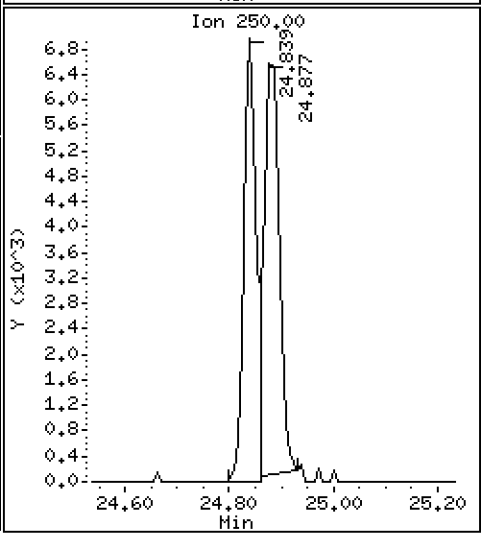


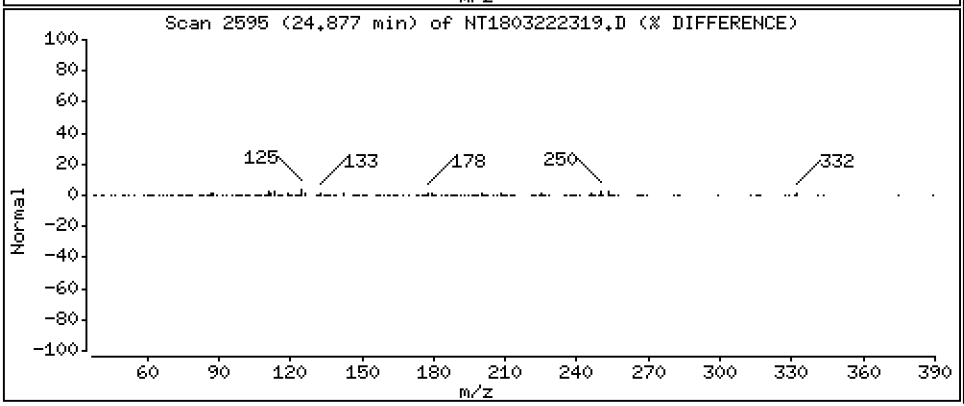












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

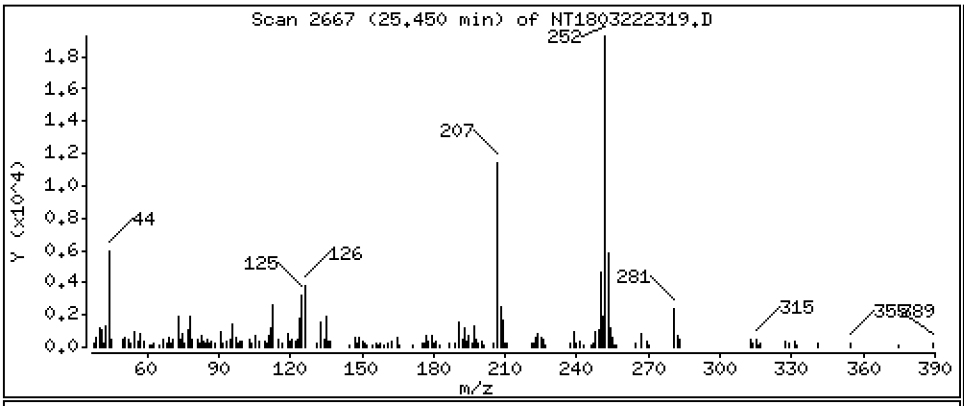
Operator: VTS

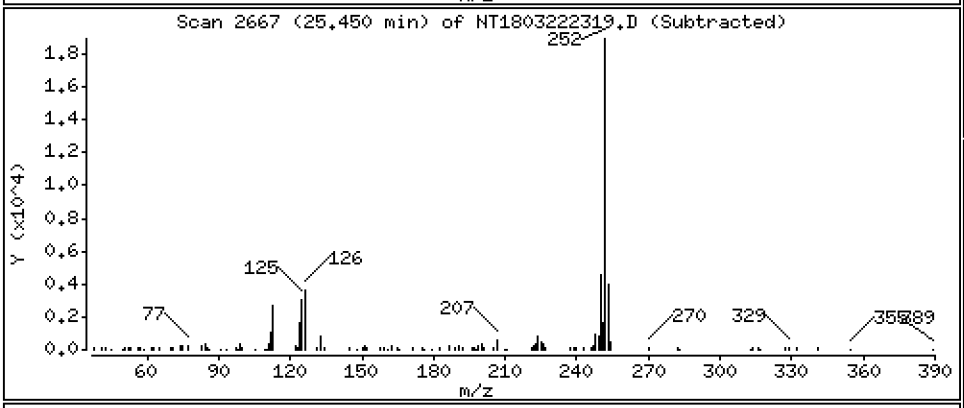
Column phase: ZB-5msi

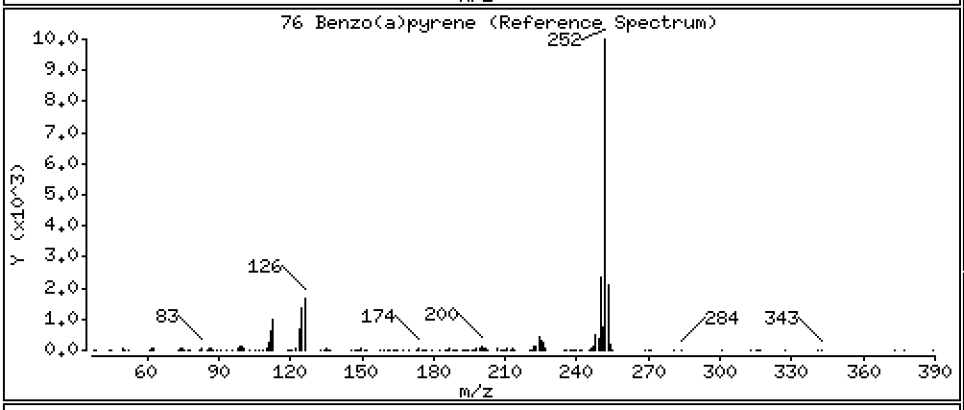
Column diameter: 0.25

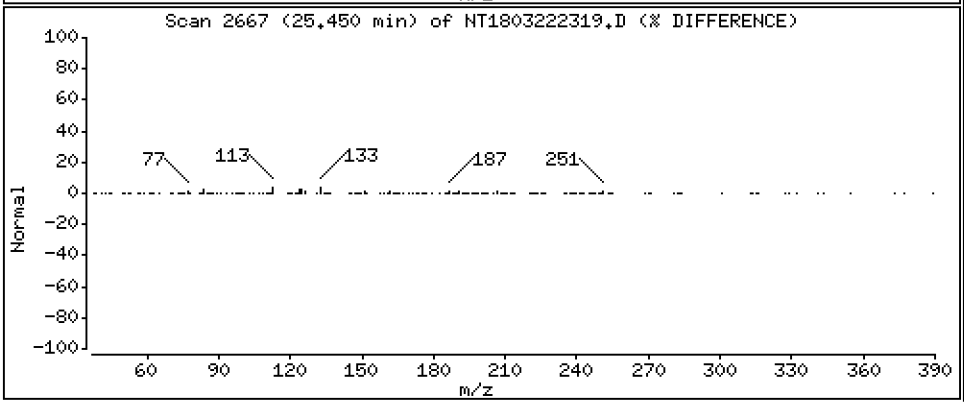
76 Benzo(a)pyrene

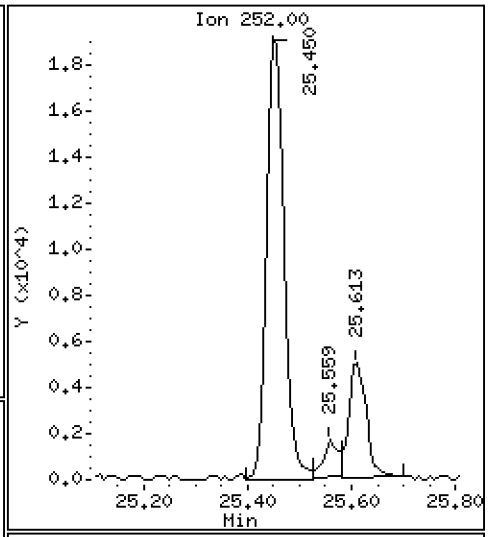
Concentration: 0.1862 ug/mL

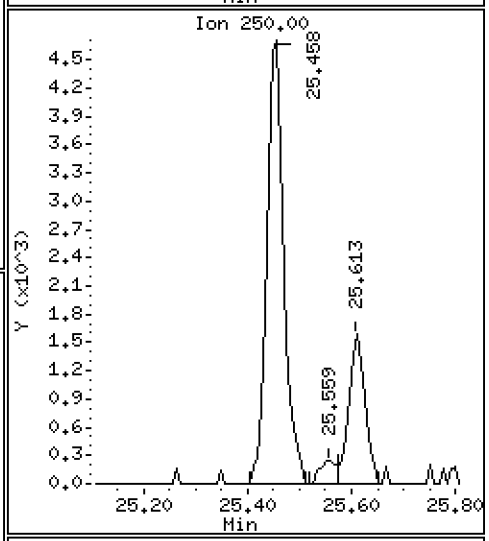


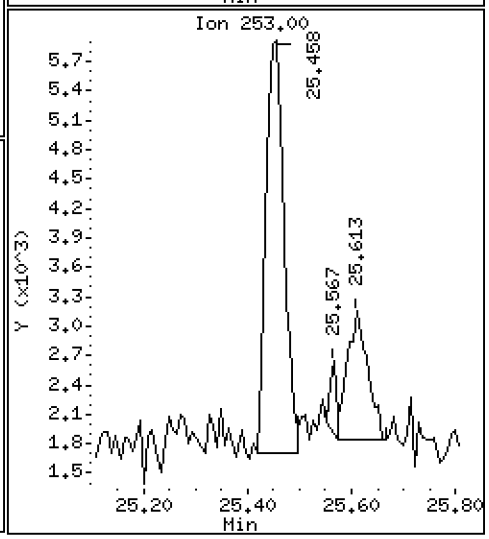












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

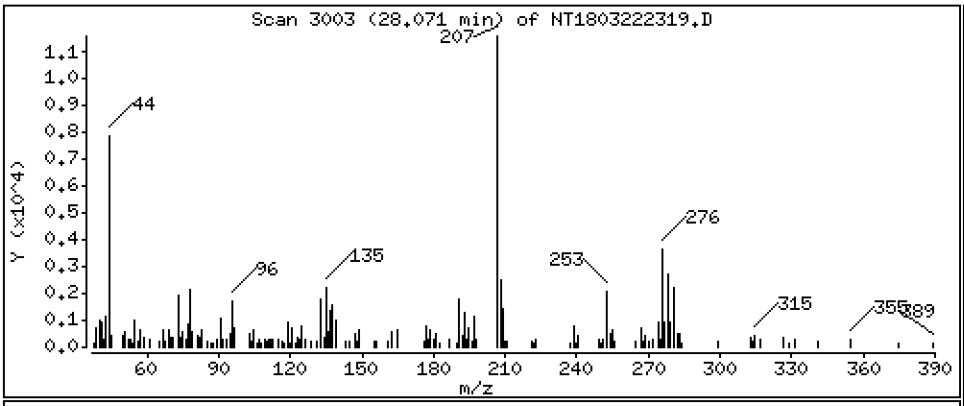
Operator: VTS

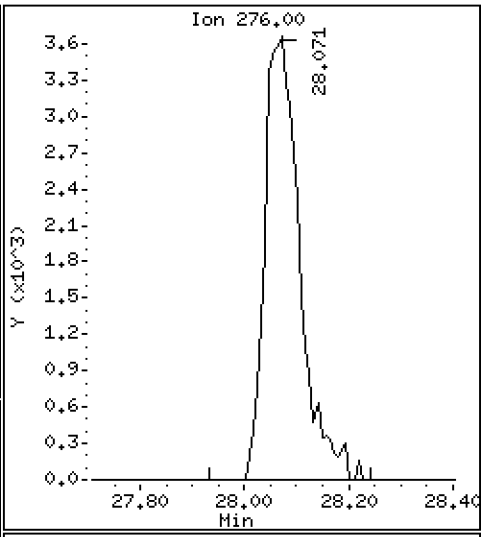
Column phase: ZB-5msi

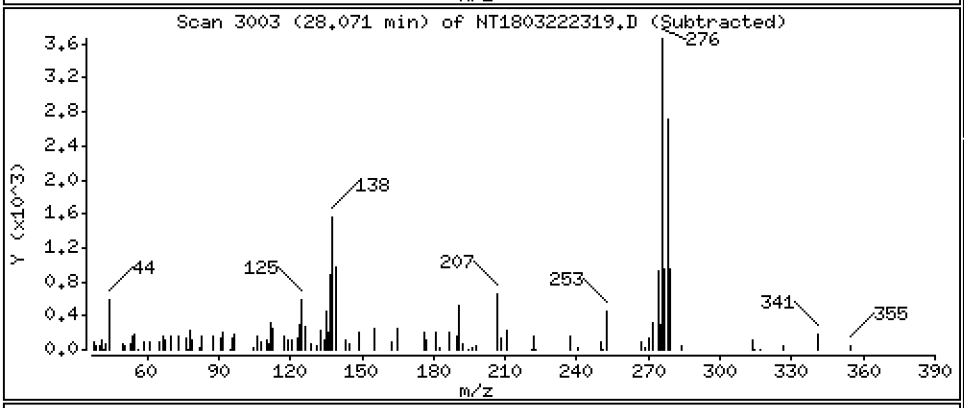
Column diameter: 0.25

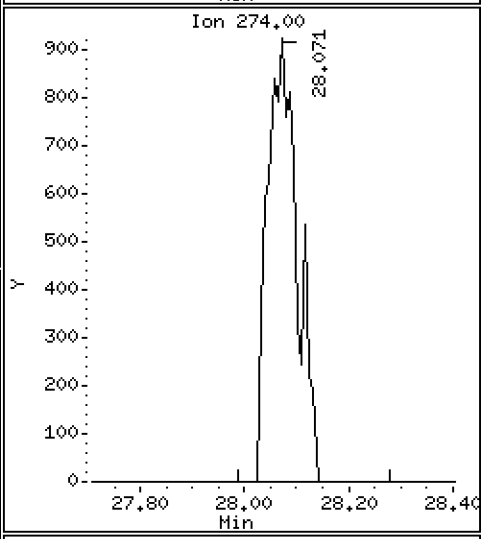
78 Indeno(1,2,3-cd)pyrene

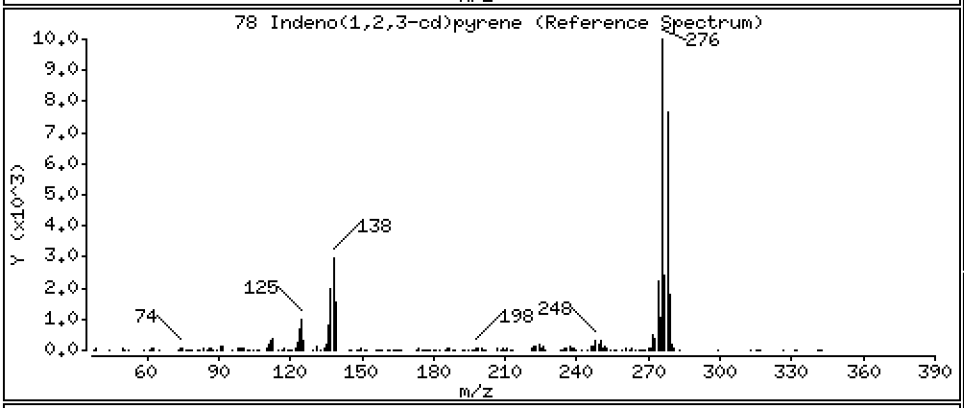
Concentration: 0.05868 ug/mL

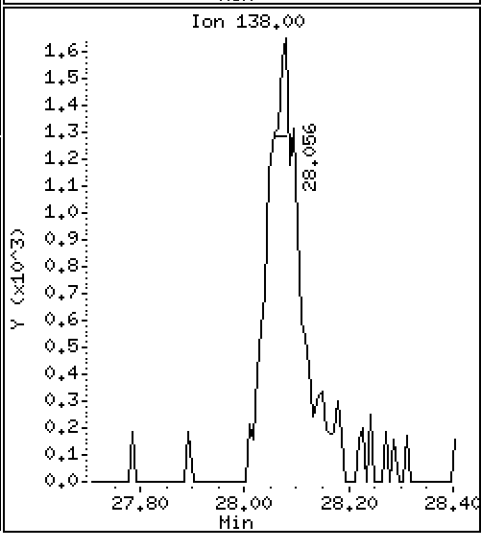


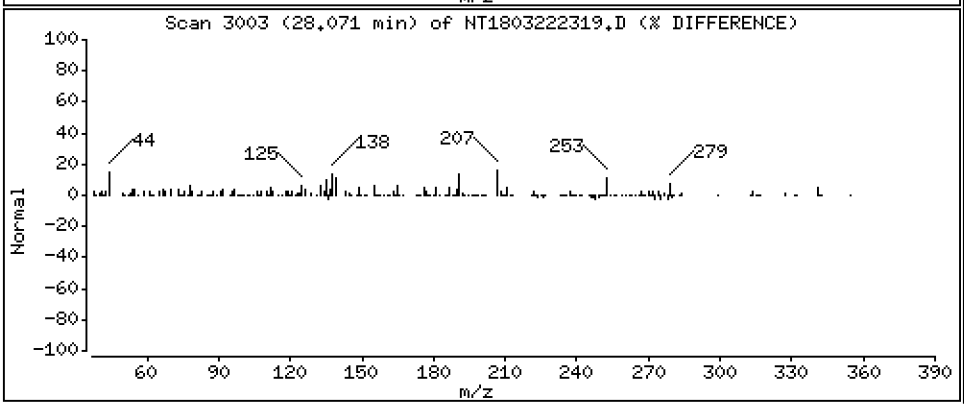












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

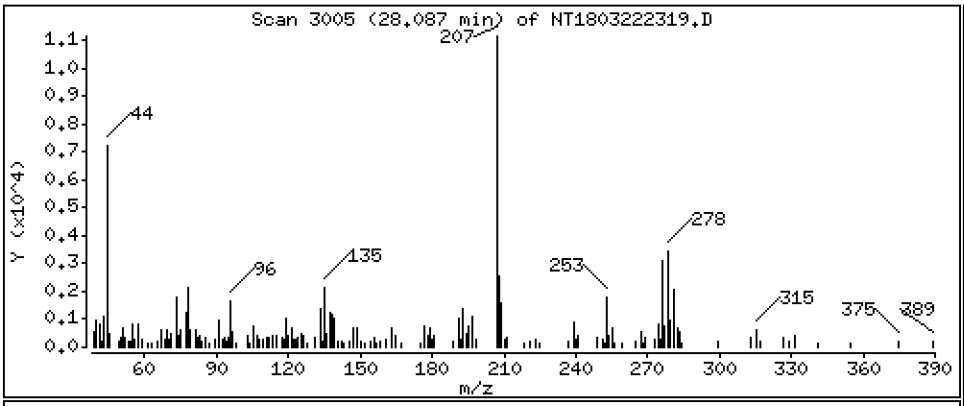
Operator: VTS

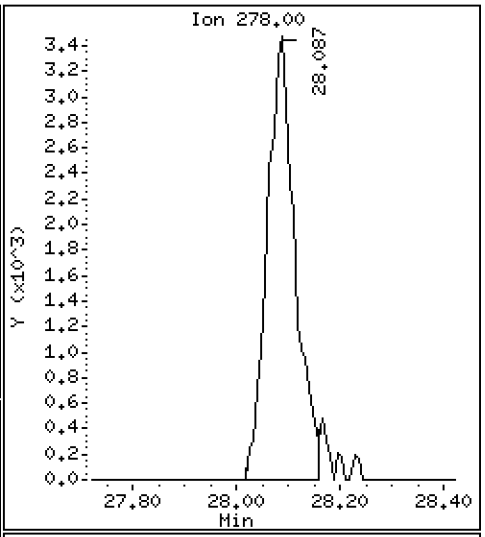
Column phase: ZB-5msi

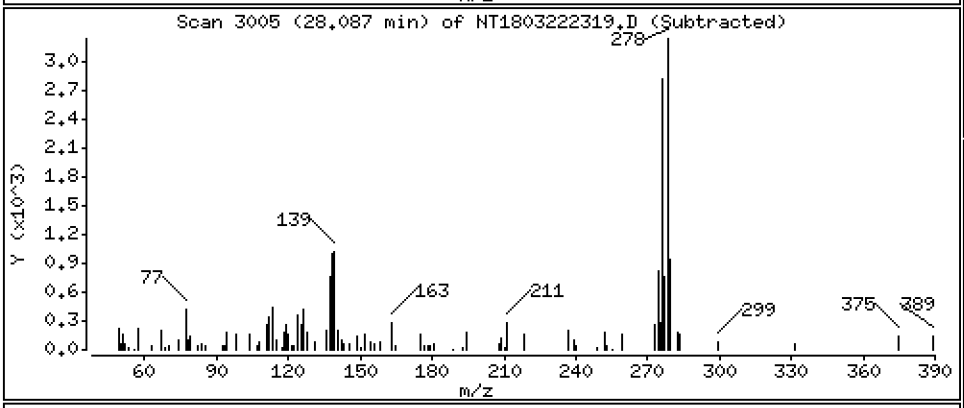
Column diameter: 0.25

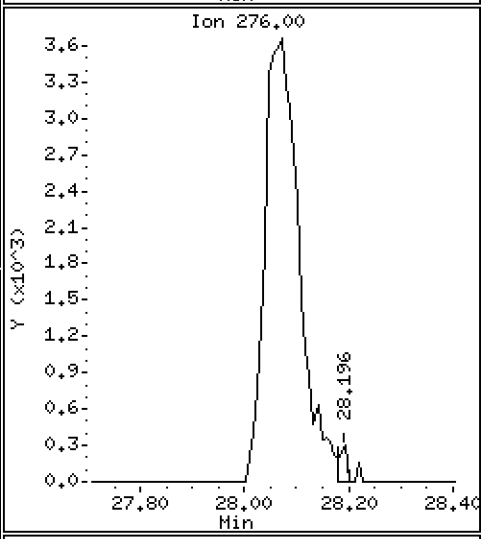
79 Dibenzo(a,h)anthracene

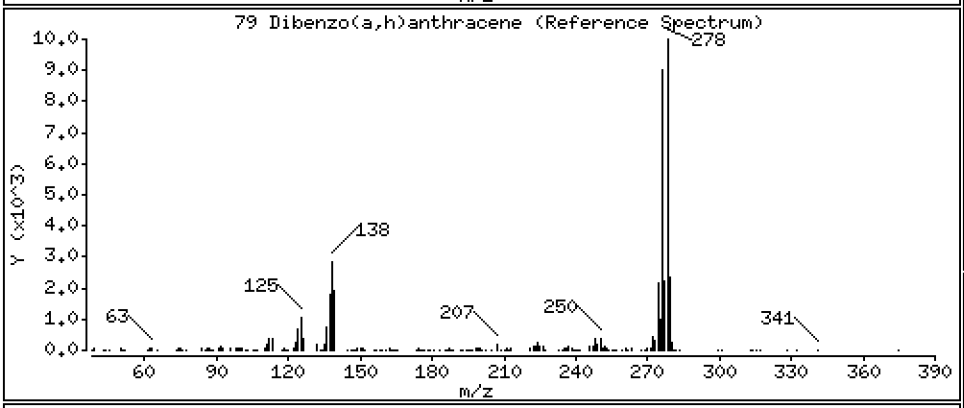
Concentration: 0.05373 ug/mL

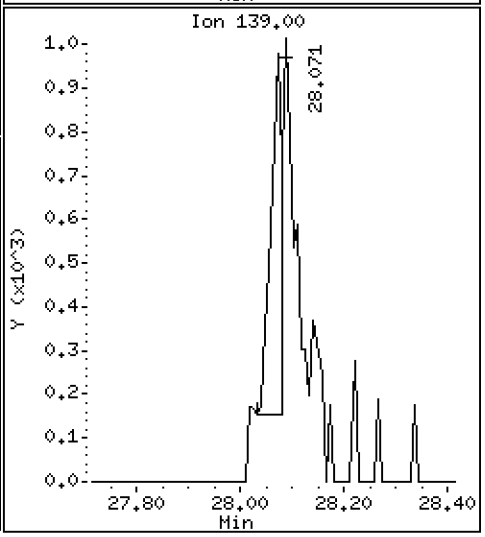


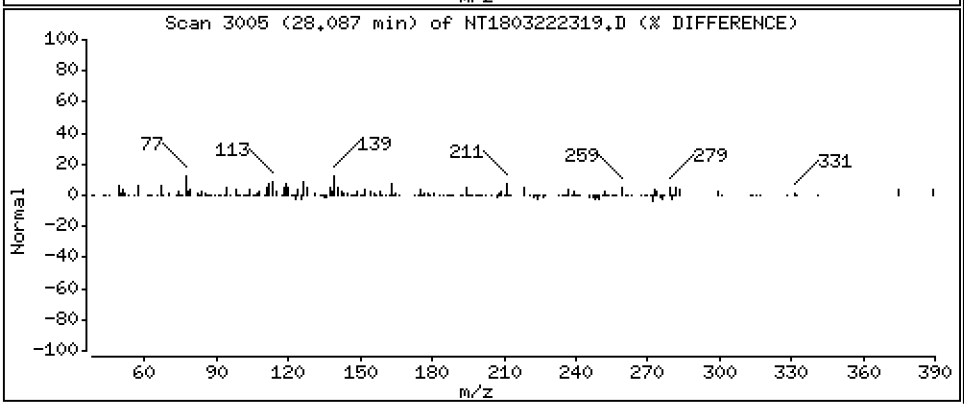












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

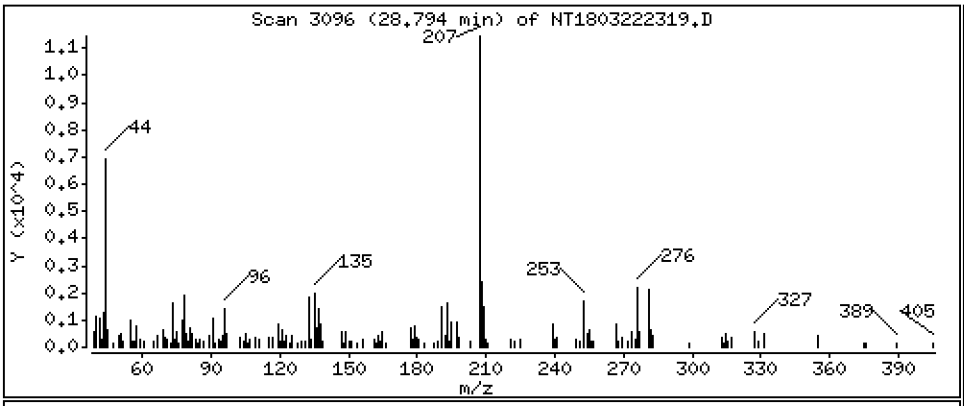
Operator: VTS

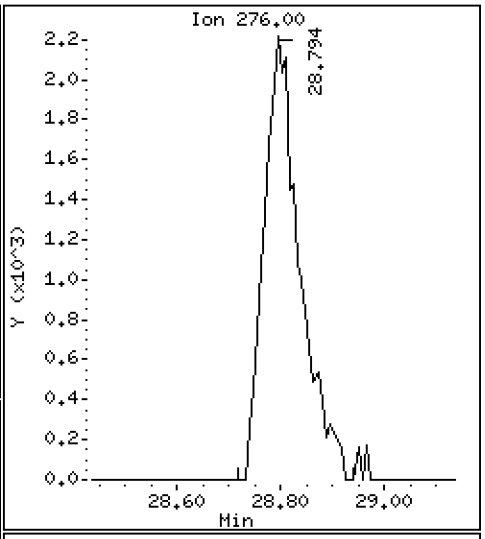
Column phase: ZB-5msi

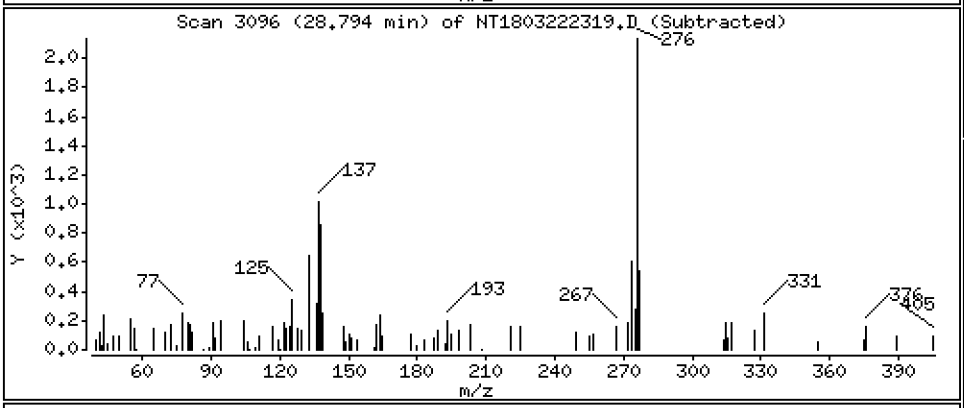
Column diameter: 0.25

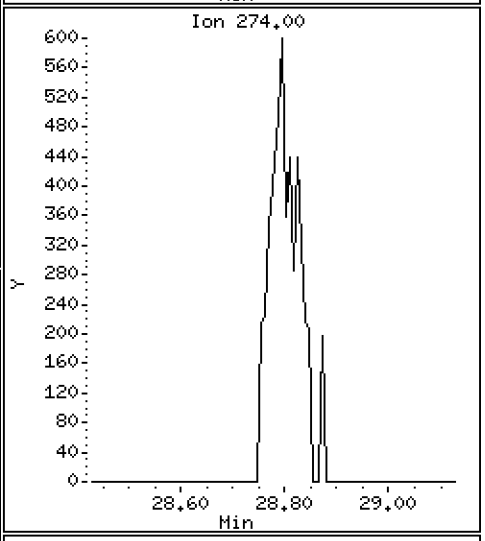
80 Benzo(g,h,i)perylene

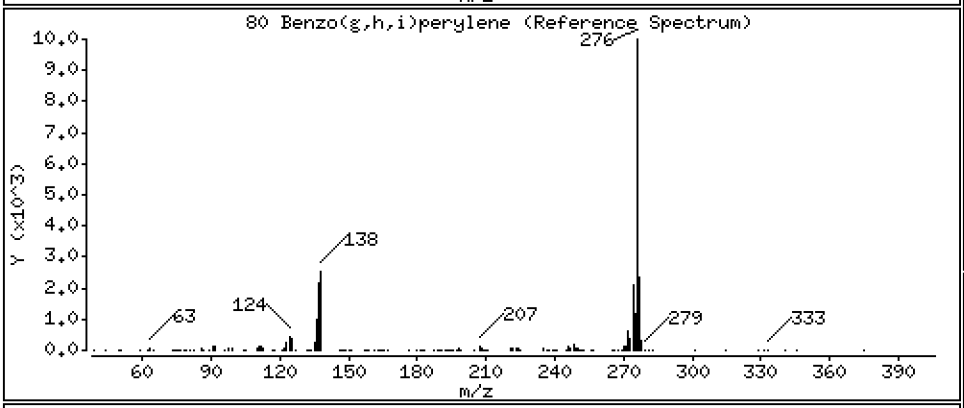
Concentration: 0.04538 ug/mL

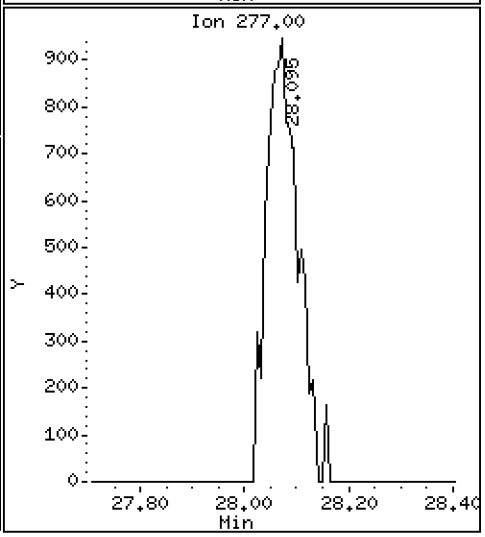


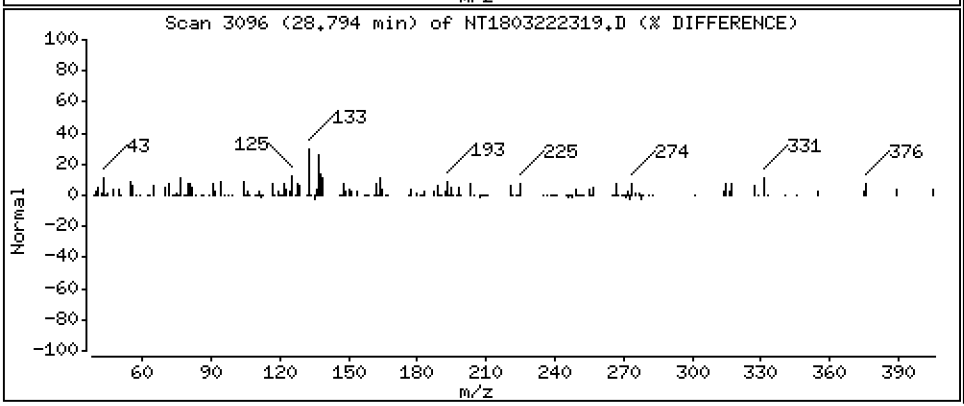












Date : 23-MAR-2023 05:25

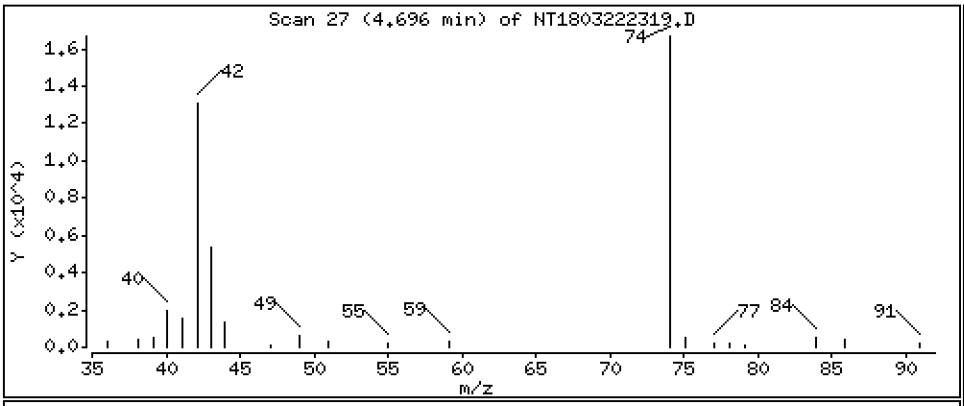
Client ID: Instrument: nt18.i

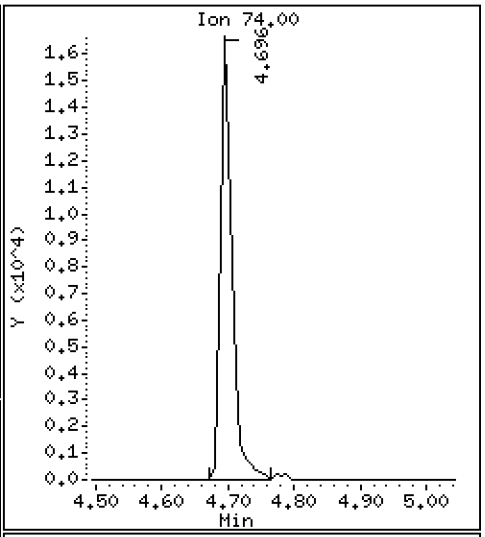
Sample Info: SLD0056-LCV1

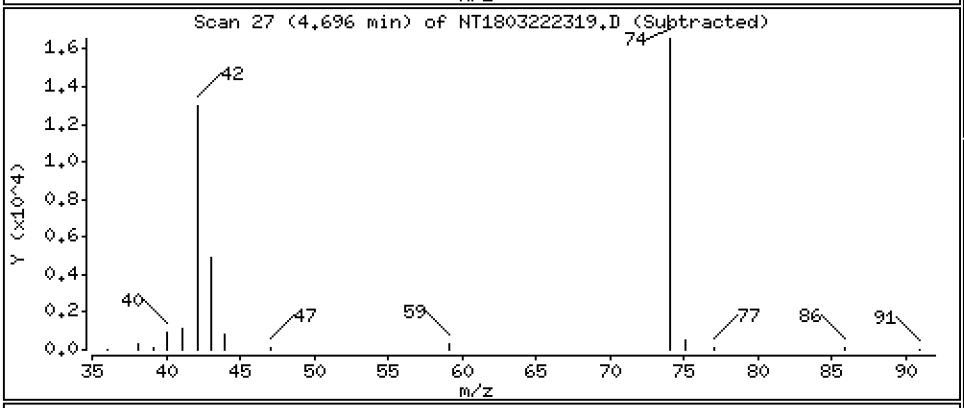
Operator: VTS

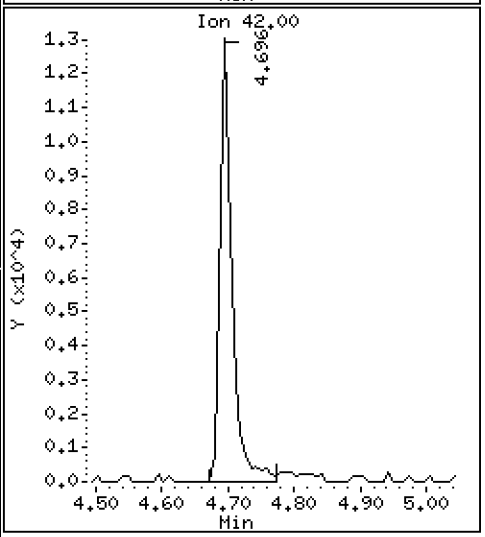
Column phase: ZB-5msi Column diameter: 0.25

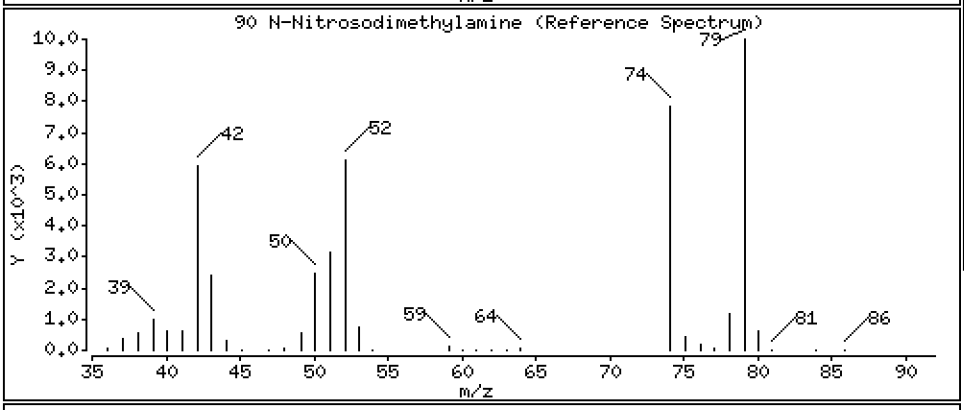
90 N-Nitrosodimethylamine Concentration: 0.3907 ug/mL

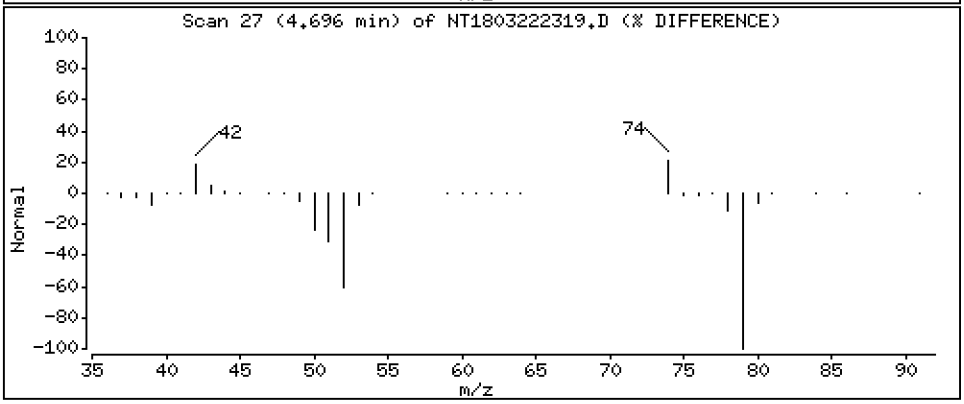












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

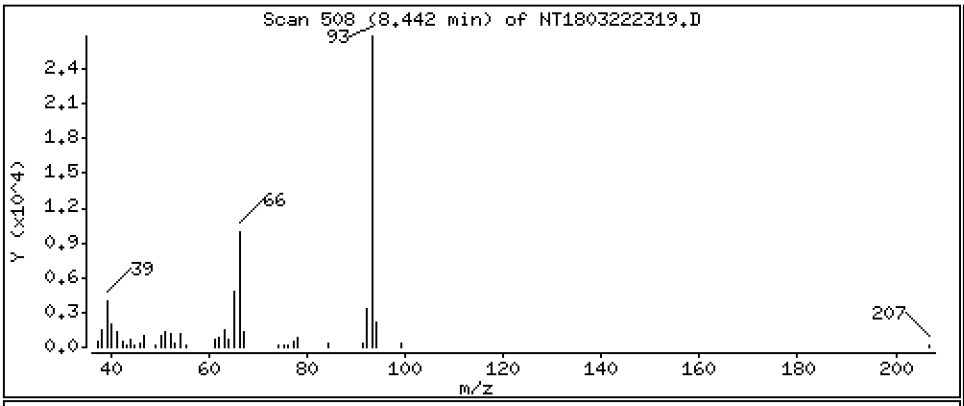
Operator: VTS

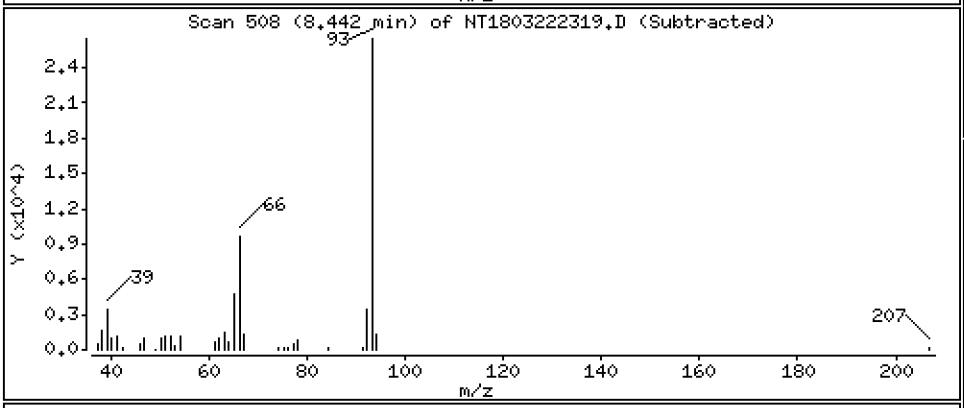
Column phase: ZB-5msi

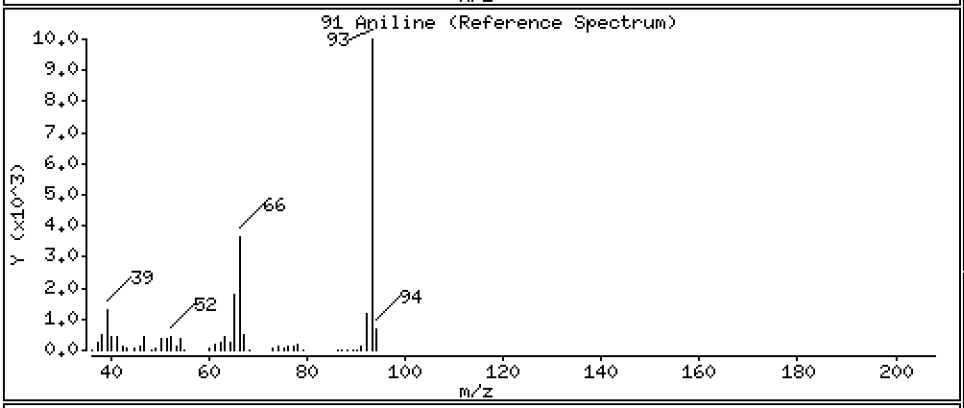
Column diameter: 0.25

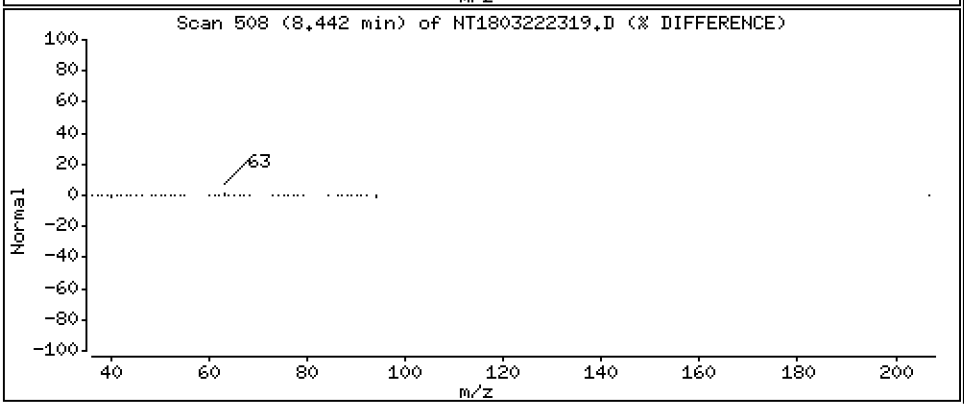
91 Aniline

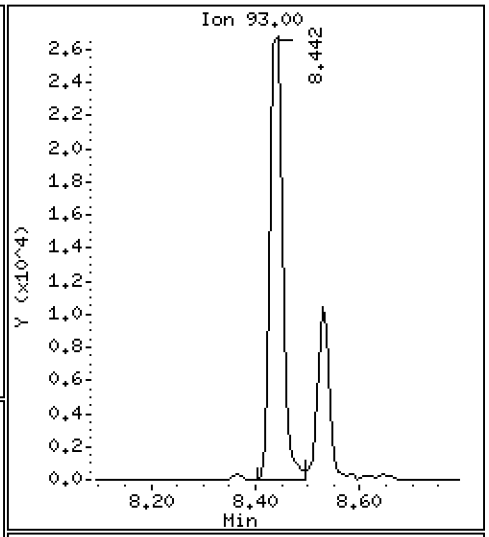
Concentration: 0.3559 ug/mL

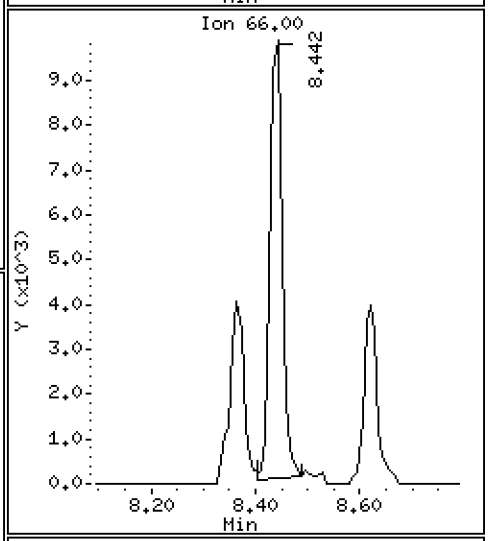


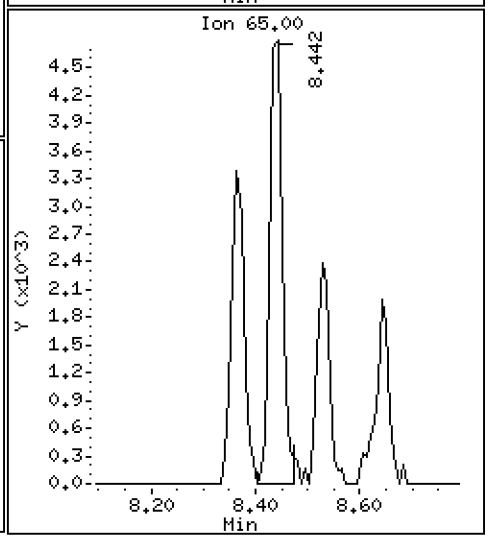












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D

Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

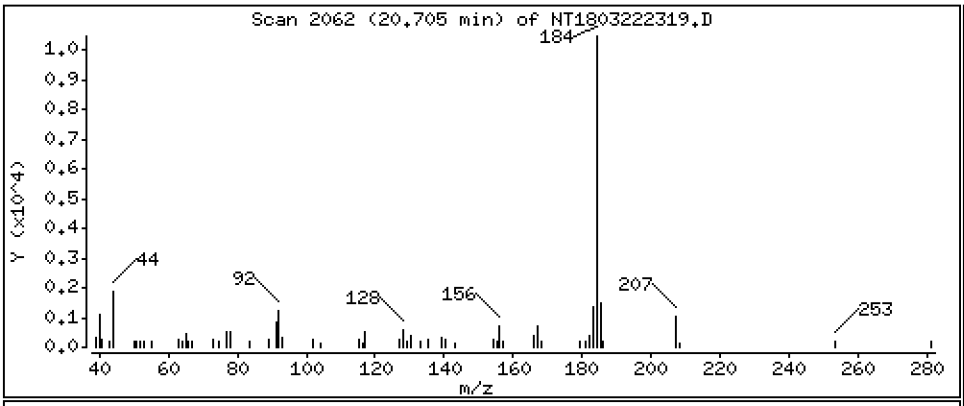
Operator: VTS

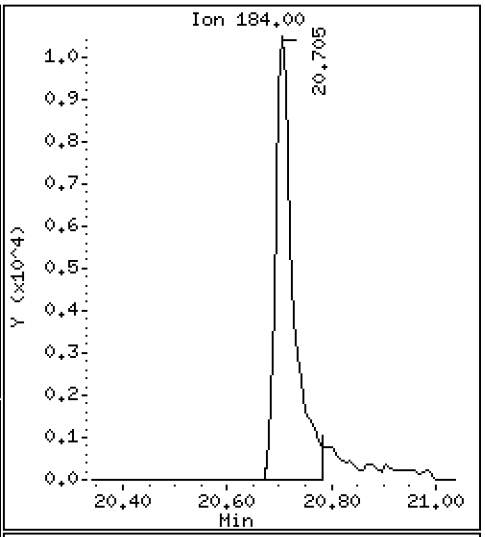
Column phase: ZB-5msi

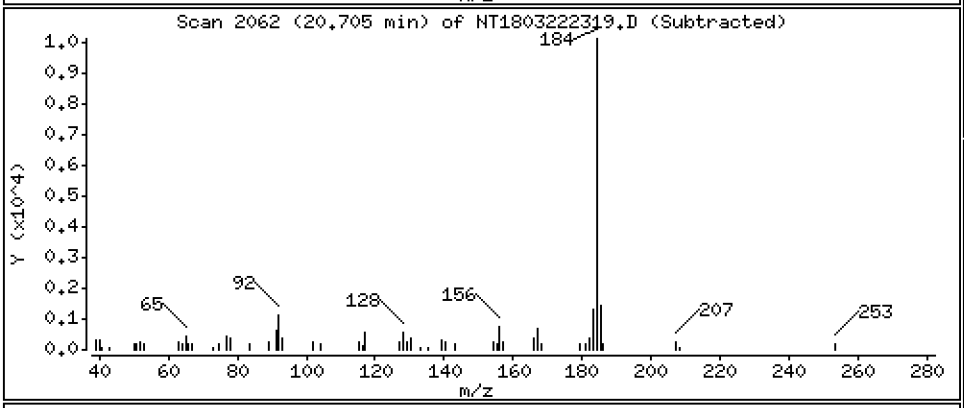
Column diameter: 0.25

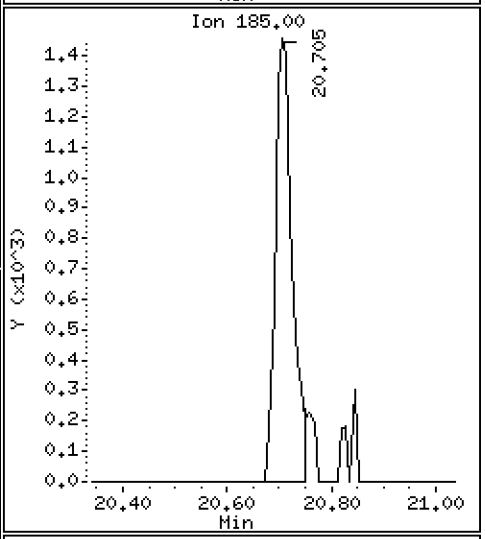
93 Benzidine

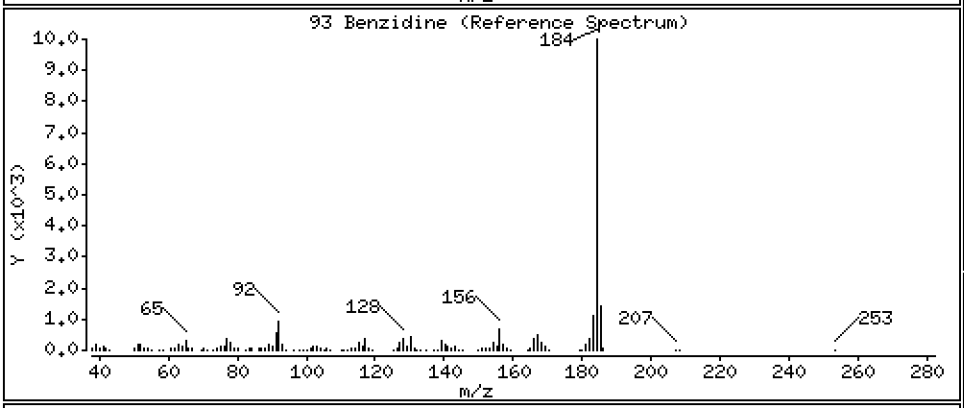
Concentration: 0.2018 ug/mL

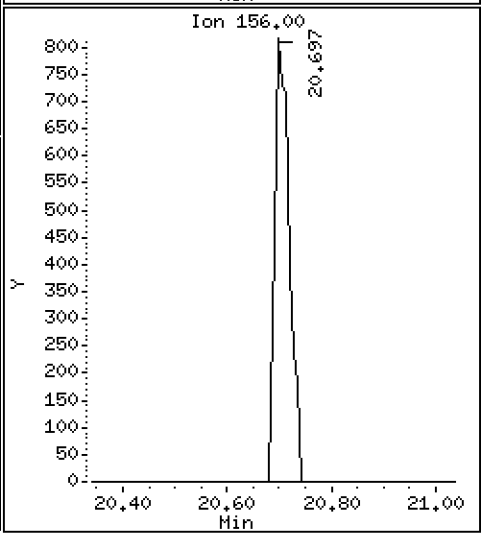


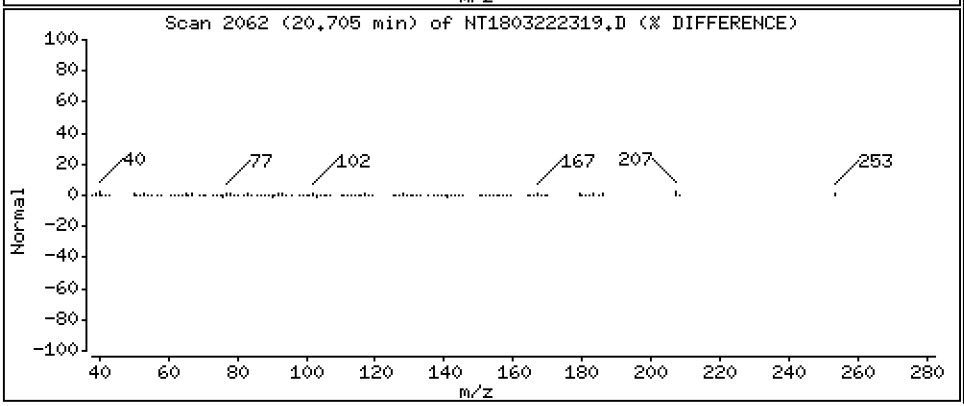












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

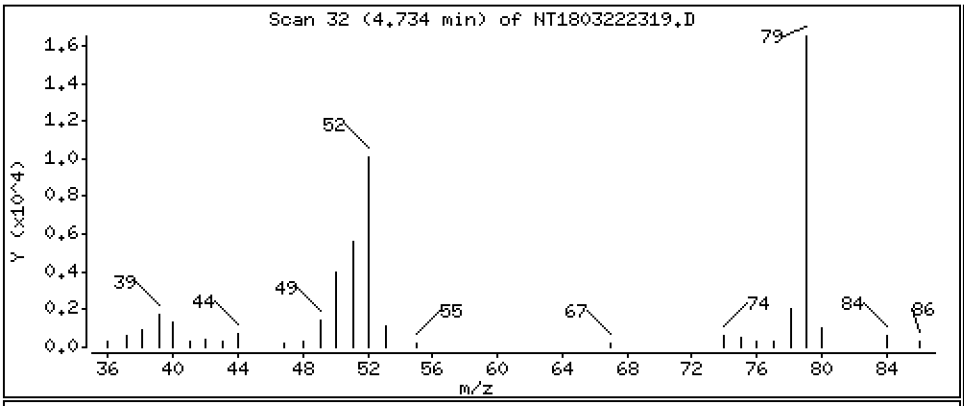
Operator: VTS

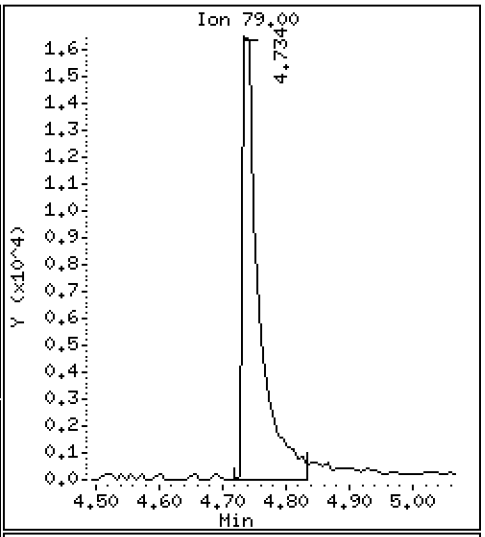
Column phase: ZB-5msi

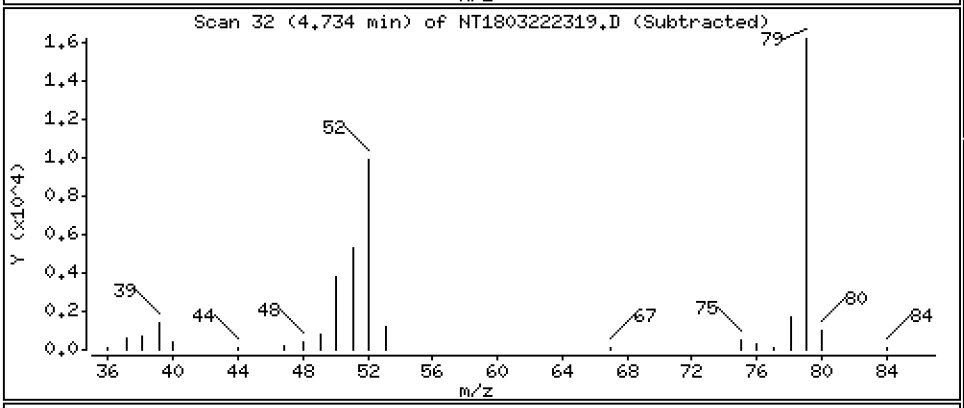
Column diameter: 0.25

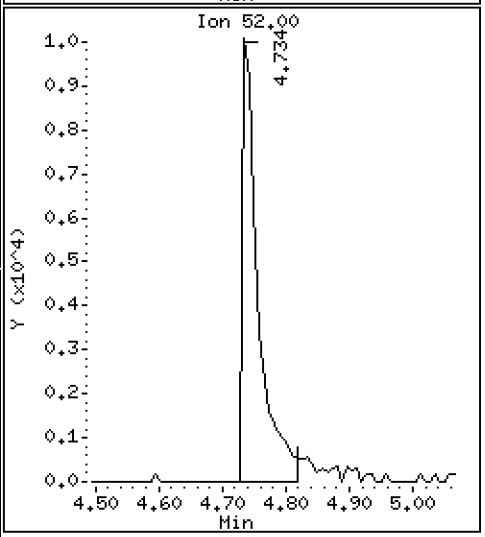
103 Pyridine

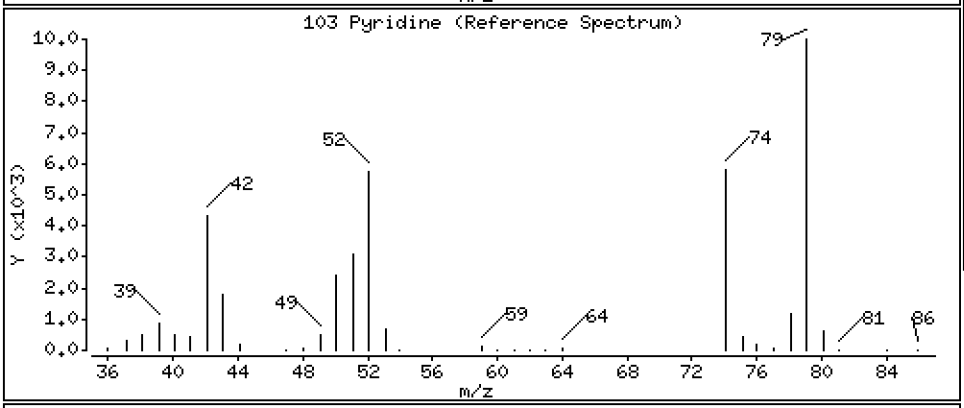
Concentration: 0.3563 ug/mL

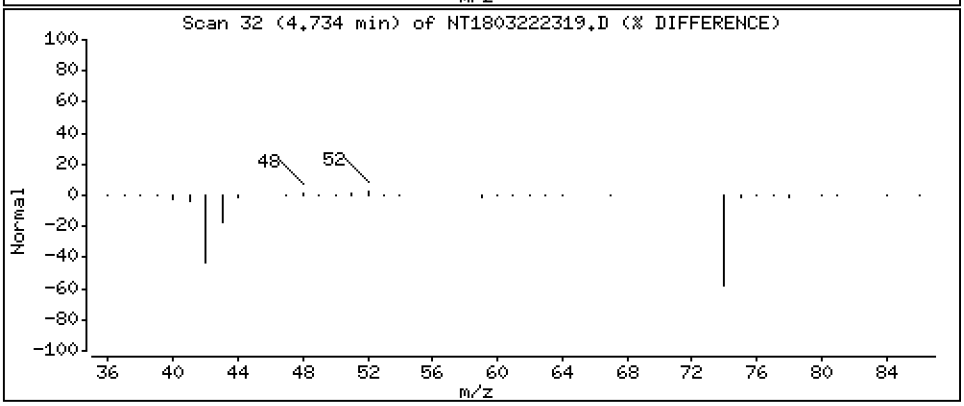












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D

Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

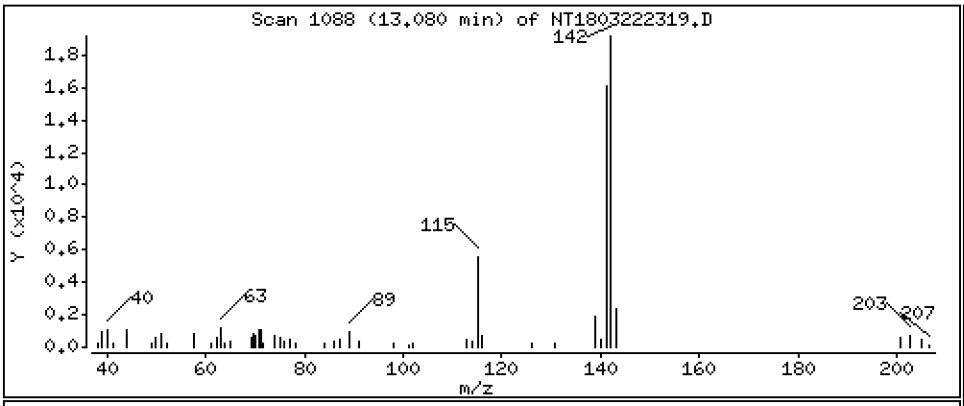
Operator: VTS

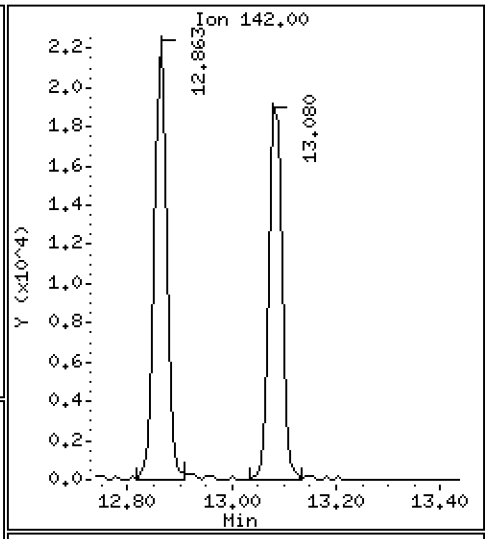
Column phase: ZB-5msi

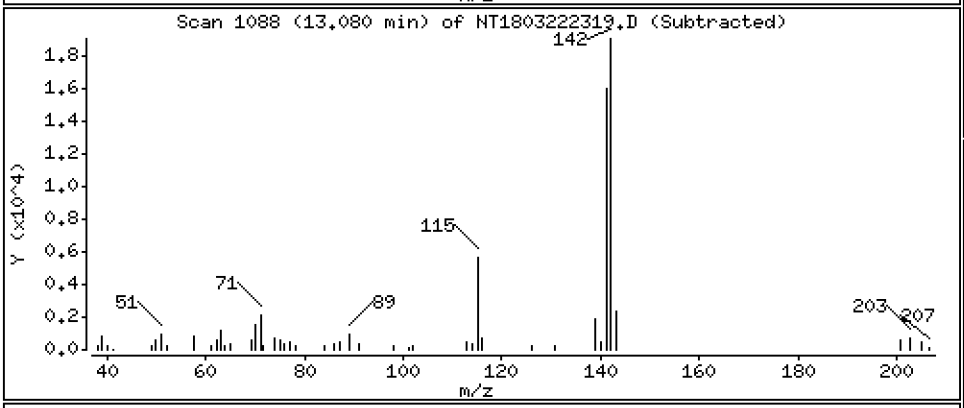
Column diameter: 0.25

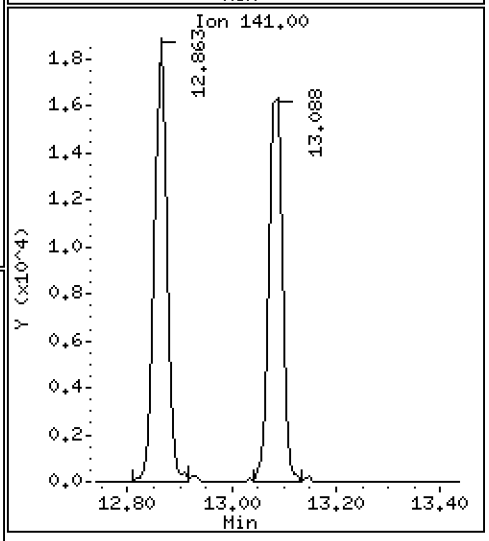
105 1-methylnaphthalene

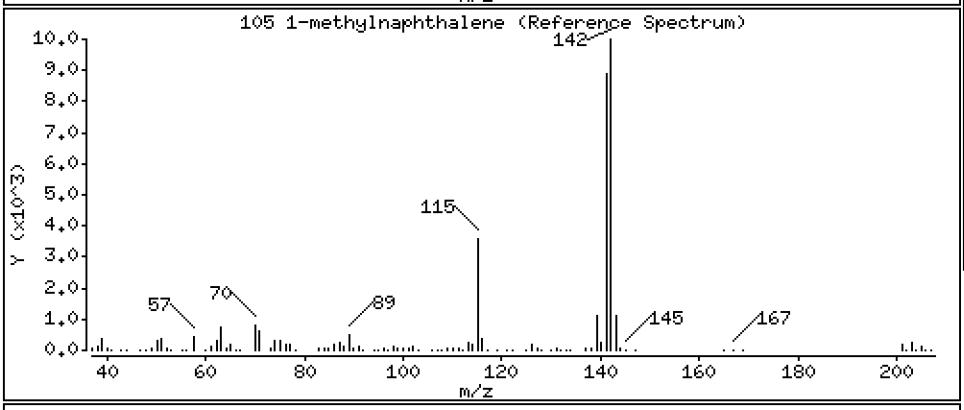
Concentration: 0.1945 ug/mL

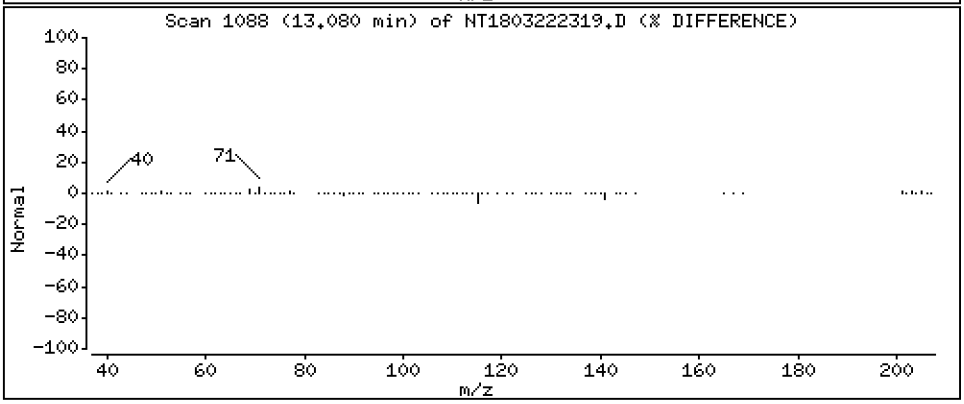












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

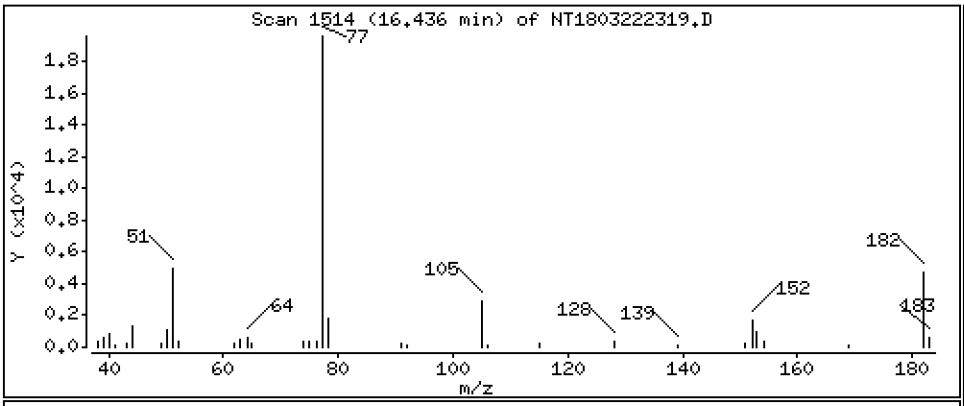
Operator: VTS

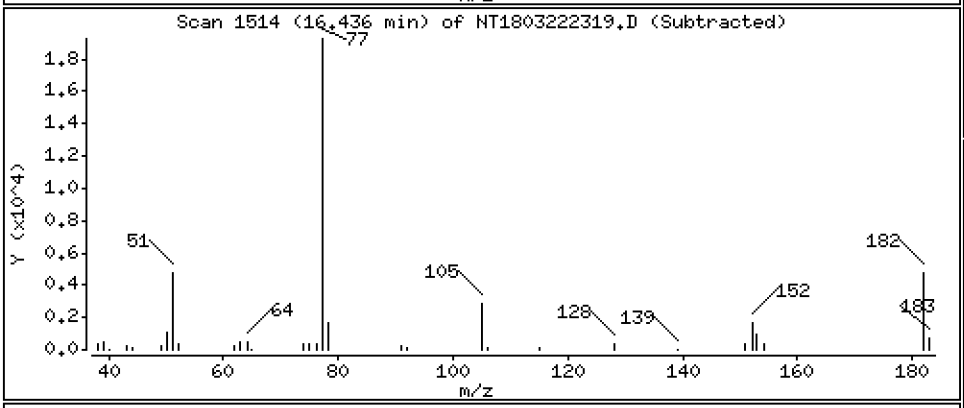
Column phase: ZB-5msi

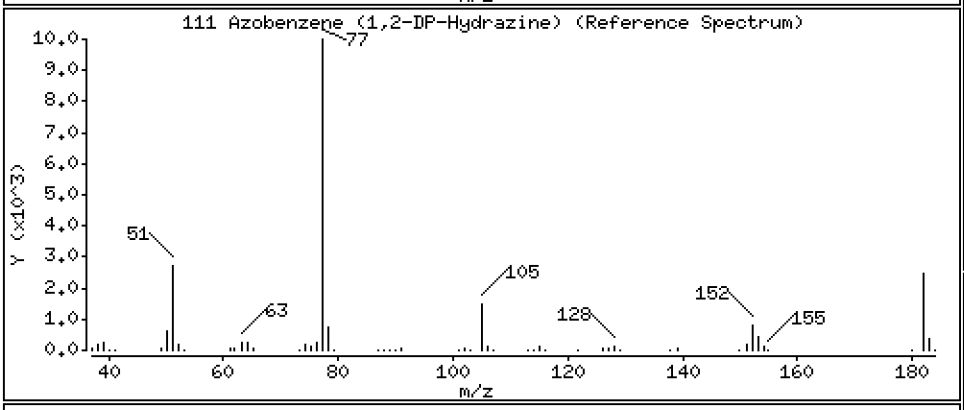
Column diameter: 0.25

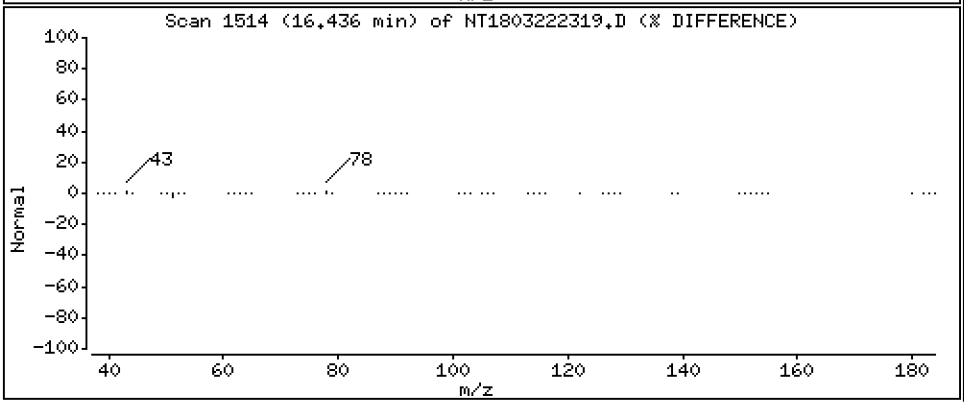
111 Azobenzene (1,2-DP-Hydrazine)

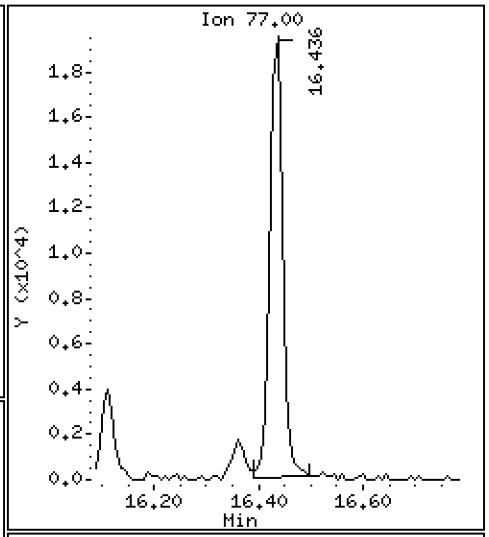
Concentration: 0.1839 ug/mL

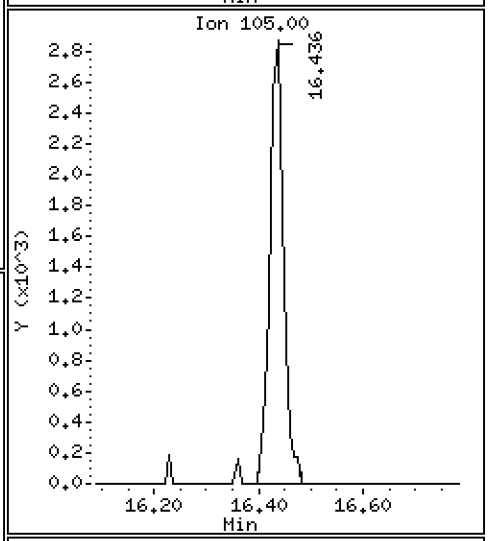


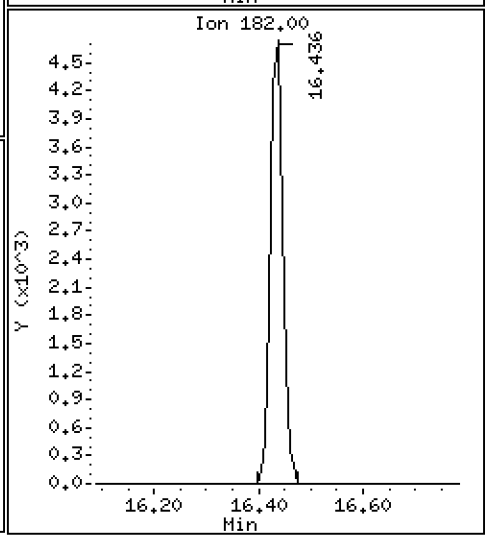












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

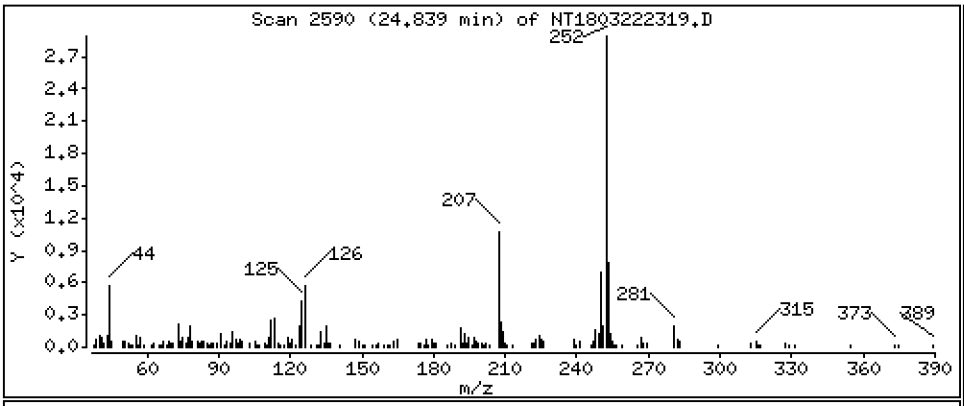
Operator: VTS

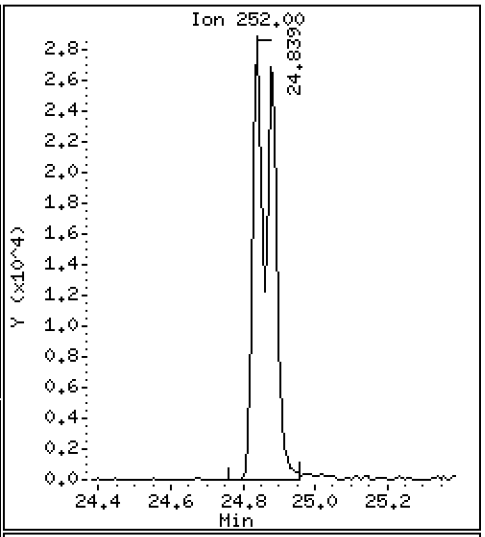
Column phase: ZB-5msi

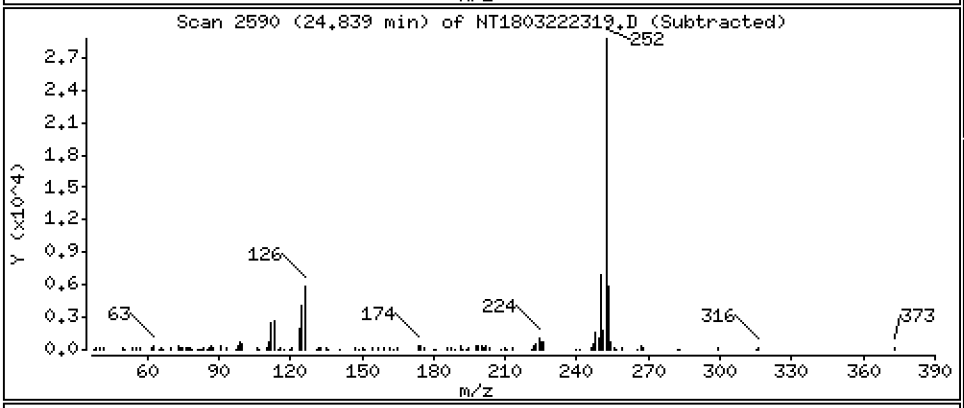
Column diameter: 0.25

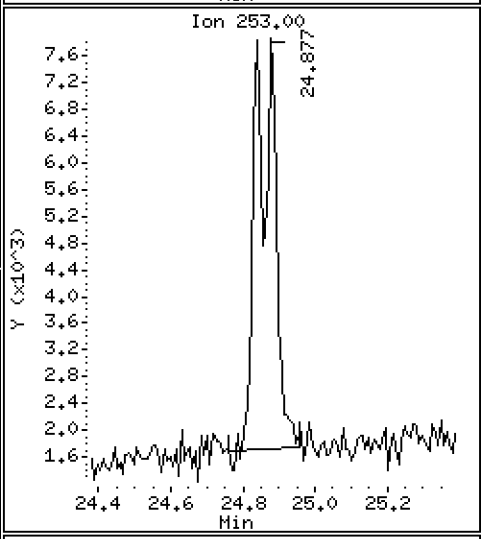
187 Total Benzofluoranthenes

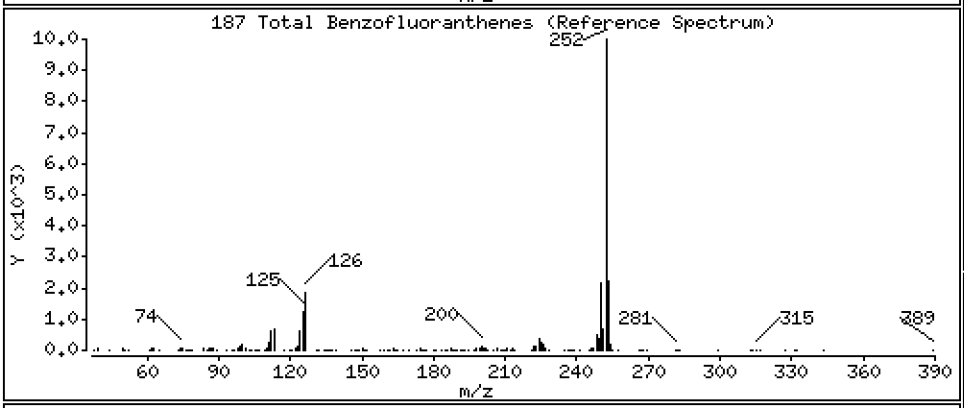
Concentration: 0.4441 ug/mL

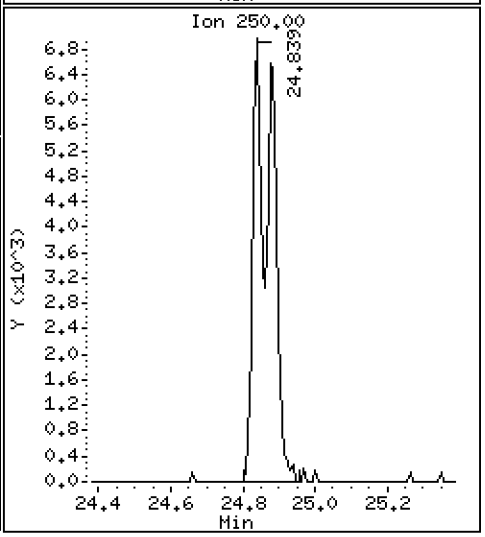


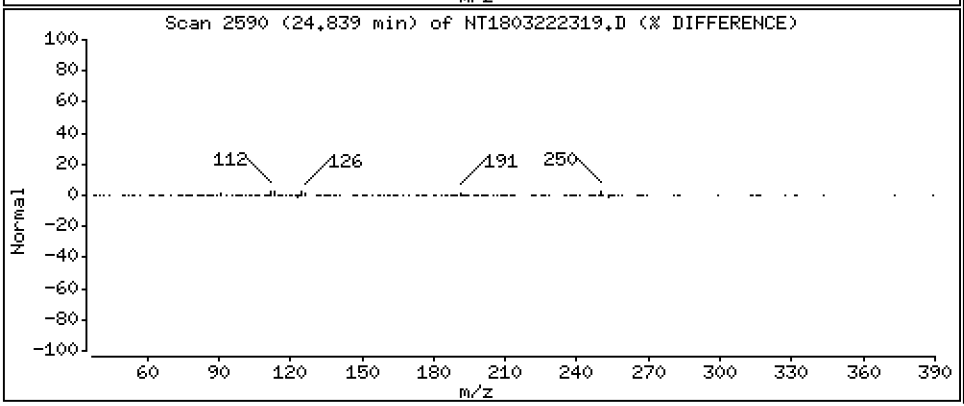












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D

Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

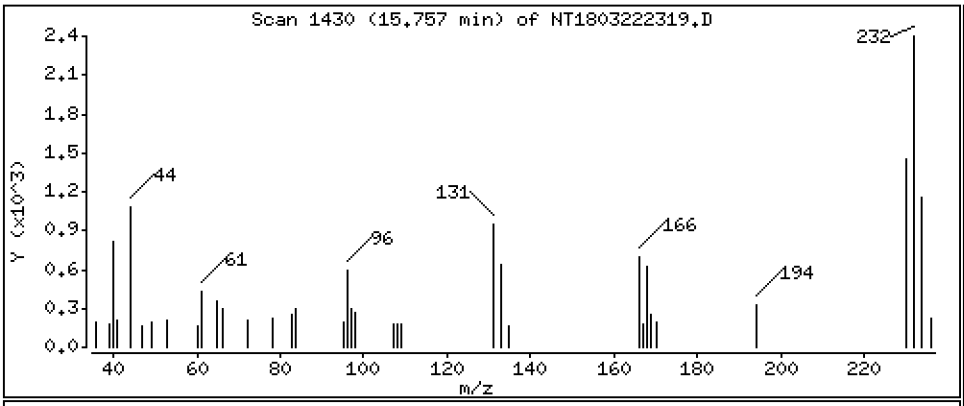
Operator: VTS

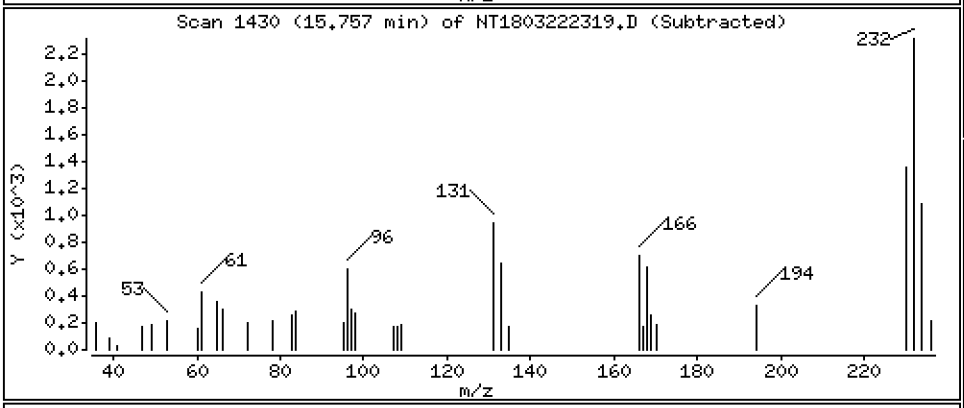
Column phase: ZB-5msi

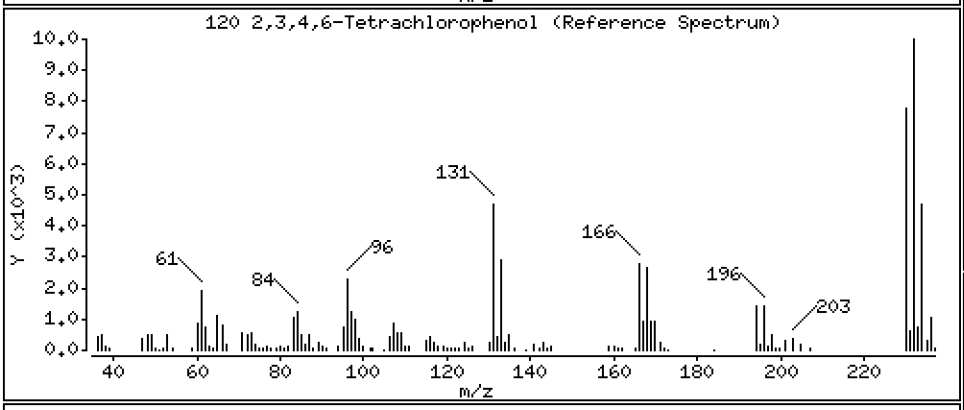
Column diameter: 0.25

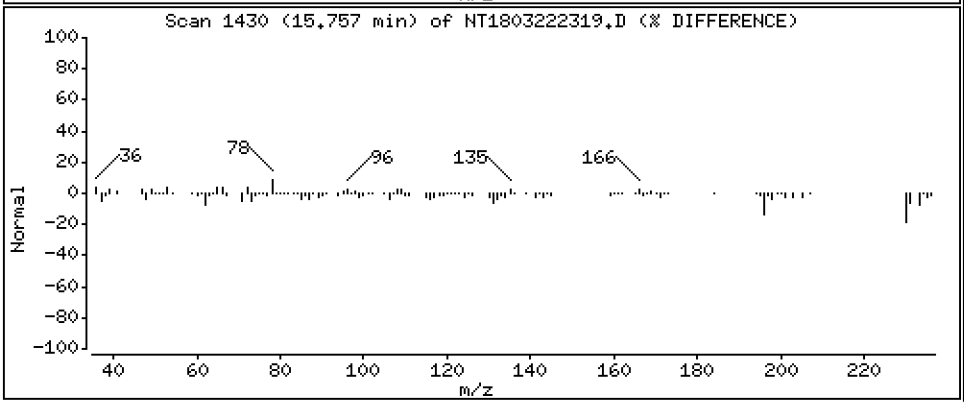
120 2,3,4,6-Tetrachlorophenol

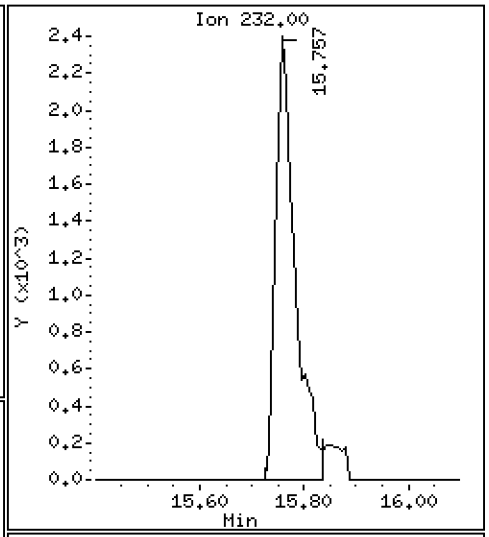
Concentration: 0.1069 ug/mL

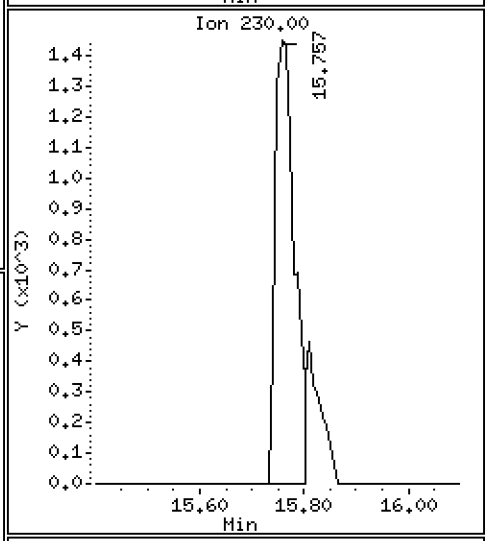


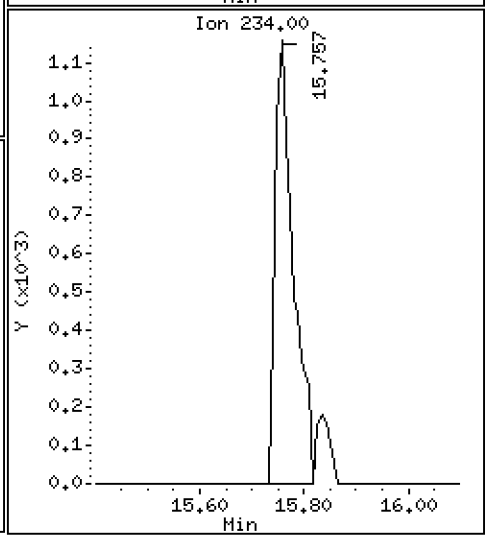












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D
Lab Smp Id: SLD0056-LCV1
Inj Date : 23-MAR-2023 05:25
Operator : VTS Inst ID: nt18.i
Smp Info : SLD0056-LCV1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230322A.b\ABN.m
Meth Date : 04-Apr-2023 16:12 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 15:18 Cal File: NT1803192302.D
Als bottle: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: DEENAY-201905

							CONCENTRATIONS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.781	6.781	(0.755)	22751	0.26830	0.2683
$	2 Phenol-d5	99	8.341	8.349	(0.929)	27796	0.26534	0.2653
	3 Phenol	94	8.365	8.372	(0.931)	19514	0.17421	0.1742
$	5 2-Chlorophenol-d4	132	8.619	8.619	(0.960)	24768	0.27276	0.2728
	4 Bis(2-Chloroethyl)ether	93	8.527	8.534	(0.949)	14546	0.18763	0.1876
	6 2-Chlorophenol	128	8.650	8.650	(0.963)	17752	0.18534	0.1853
	7 1,3-Dichlorobenzene	146	8.913	8.913	(0.992)	19952	0.19620	0.1962
*	8 1,4-Dichlorobenzene-d4	152	8.983	8.983	(1.000)	275063	4.00000	
	9 1,4-Dichlorobenzene	146	9.006	9.014	(1.003)	19999	0.19651	0.1965
$	10 1,2-Dichlorobenzene-d4	152	9.332	9.332	(1.039)	13298	0.19958	0.1996
	12 1,2-Dichlorobenzene	146	9.363	9.363	(1.042)	19303	0.19248	0.1925
	11 Benzyl alcohol	108	9.255	9.247	(1.030)	7157	0.13693	0.1369
	14 2,2'-oxybis(1-Chloropropane)	121	9.550	9.550	(1.063)	4864	0.20599	0.2060(M)
	13 2-Methylphenol	108	9.472	9.472	(1.054)	15527	0.18263	0.1826
	17 Hexachloroethane	117	9.946	9.945	(1.107)	6202	0.15563	0.1556
	16 N-Nitroso-di-n-propylamine	70	9.798	9.806	(1.091)	11301	0.18665	0.1867
	15 4-Methylphenol	108	9.736	9.736	(1.084)	15321	0.17354	0.1735
$	18 Nitrobenzene-d5	82	10.062	10.062	(0.880)	16081	0.19324	0.1932
	19 Nitrobenzene	77	10.093	10.093	(0.882)	14933	0.18253	0.1825
	20 Isophorone	82	10.535	10.543	(0.921)	19908	0.17820	0.1782
	21 2-Nitrophenol	139	10.719	10.719	(0.937)	7484	0.15543	0.1554
	22 2,4-Dimethylphenol	107	10.778	10.778	(0.942)	29568	0.35951	0.3595
	23 Bis(2-Chloroethoxy)methane	93	10.973	10.973	(0.959)	15384	0.19052	0.1905
	24 Benzoic acid	105	10.931	11.007	(0.956)	1480	0.02552	0.02552
	25 2,4-Dichlorophenol	162	11.177	11.169	(0.977)	25079	0.33130	0.3313
	26 1,2,4-Trichlorobenzene	180	11.355	11.355	(0.993)	15556	0.19602	0.1960
*	27 Naphthalene-d8	136	11.440	11.439	(1.000)	1009553	4.00000	
	28 Naphthalene	128	11.478	11.478	(1.003)	53925	0.19684	0.1968
	29 4-Chloroaniline	127	11.609	11.609	(1.015)	34190	0.32436	0.3244
	30 Hexachlorobutadiene	225	11.841	11.849	(1.035)	8839	0.19587	0.1959
	31 4-Chloro-3-methylphenol	107	12.576	12.561	(1.099)	21898	0.31410	0.3141
	32 2-Methylnaphthalene	142	12.863	12.863	(1.124)	34949	0.19589	0.1959(H)
	33 Hexachlorocyclopentadiene	237	13.327	13.327	(0.887)	615	0.01360	0.01360

		QUANT SIG					CONCENTRATIONS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.490	13.482	(0.898)	14691	0.31419	0.3142
	35 2,4,5-Trichlorophenol	196	13.575	13.551	(0.904)	16432	0.32150	0.3215
$	36 2-Fluorobiphenyl	172	13.644	13.644	(0.908)	36677	0.19594	0.1959
	37 2-Chloronaphthalene	162	13.846	13.846	(0.922)	29288	0.19613	0.1961
	38 2-Nitroaniline	65	14.109	14.109	(0.939)	12750	0.32582	0.3258
	39 Dimethylphthalate	163	14.542	14.542	(0.968)	27677	0.17769	0.1777
	40 Acenaphthylene	152	14.713	14.712	(0.979)	46749	0.18384	0.1838
	41 2,6-Dinitrotoluene	165	14.674	14.674	(0.977)	9531	0.27234	0.2723
*	42 Acenaphthene-d10	164	15.022	15.022	(1.000)	522716	4.00000	
	43 3-Nitroaniline	138	14.960	14.952	(0.996)	10900	0.27388	0.2739
	44 Acenaphthene	153	15.084	15.091	(1.004)	32545	0.20220	0.2022
	45 2,4-Dinitrophenol	184	Compound Not Detected.					
	46 Dibenzofuran	168	15.408	15.416	(1.026)	42708	0.19314	0.1931
	47 4-Nitrophenol	109	15.370	15.269	(1.023)	1330	0.06304	0.06304
	48 2,4-Dinitrotoluene	165	15.478	15.470	(1.030)	11929	0.25974	0.2597
	50 Diethylphthalate	149	15.981	15.988	(1.064)	32255	0.20438	0.2044
	49 Fluorene	166	16.120	16.120	(1.073)	39036	0.19448	0.1945
	51 4-Chlorophenyl-phenylether	204	16.112	16.112	(1.073)	17737	0.19910	0.1991
	52 4-Nitroaniline	138	16.228	16.212	(1.080)	11047	0.27871	0.2787
	53 4,6-Dinitro-2-methylphenol	198	Compound Not Detected.					
	54 N-Nitrosodiphenylamine	169	16.359	16.359	(0.907)	20370	0.17826	0.1783
$	55 2,4,6-Tribromophenol	330	16.659	16.644	(1.109)	5126	0.22524	0.2252
	56 4-Bromophenyl-phenylether	248	17.107	17.107	(0.949)	8411	0.18556	0.1856
	57 Hexachlorobenzene	284	17.416	17.415	(0.966)	9412	0.18512	0.1851
	58 Pentachlorophenol	266	17.803	17.772	(0.988)	518	0.01729	0.01729
*	59 Phenanthrene-d10	188	18.027	18.035	(1.000)	897066	4.00000	
	60 Phenanthrene	178	18.073	18.081	(1.003)	47910	0.19565	0.1957
	61 Anthracene	178	18.166	18.174	(1.008)	42391	0.18157	0.1816
	62 Carbazole	167	18.507	18.499	(1.027)	39801	0.19359	0.1936
	63 Di-n-butylphthalate	149	19.311	19.311	(1.071)	45270	0.16596	0.1660
	64 Fluoranthene	202	20.456	20.456	(0.887)	48820	0.16485	0.1648
	65 Pyrene	202	20.874	20.874	(0.906)	53571	0.17163	0.1716
$	66 Terphenyl-d14	244	21.168	21.168	(0.918)	38555	0.16608	0.1661
	67 Butylbenzylphthalate	149	22.090	22.090	(0.958)	20929	0.15501	0.1550
	68 Benzo(a)anthracene	228	23.019	23.027	(0.999)	58190	0.20009	0.2001
*	69 Chrysene-d12	240	23.050	23.058	(1.000)	929348	4.00000	
	70 3,3'-Dichlorobenzidine	252	22.988	22.988	(0.997)	48582	0.46346	0.4635
	71 Chrysene	228	23.089	23.096	(1.002)	60151	0.20009	0.2001
	72 bis(2-Ethylhexyl)phthalate	149	23.120	23.119	(0.960)	29454	0.14310	0.1431
*	134 Di-n-octylphthalate-d4	153	24.087	24.087	(1.000)	1399366	4.00000	
	73 Di-n-octylphthalate	149	24.095	24.095	(1.000)	66148	0.19213	0.1921
	74 Benzo(b)fluoranthene	252	24.838	24.846	(0.972)	53763	0.22875	0.2287
	75 Benzo(k)fluoranthene	252	24.877	24.885	(0.973)	55378	0.21422	0.2142
	76 Benzo(a)pyrene	252	25.450	25.458	(0.995)	43735	0.18617	0.1862
*	77 Perylene-d12	264	25.566	25.566	(1.000)	844268	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	28.071	28.055	(1.098)	17190	0.05868	0.05868(M)
	79 Dibenzo(a,h)anthracene	278	28.086	28.071	(1.099)	12975	0.05373	0.05373
	80 Benzo(g,h,i)perylene	276	28.793	28.785	(1.126)	10608	0.04538	0.04538(M)
	90 N-Nitrosodimethylamine	74	4.695	4.695	(0.523)	20482	0.39070	0.3907
	91 Aniline	93	8.442	8.442	(0.940)	42865	0.35586	0.3559
	93 Benzidine	184	20.704	20.688	(0.898)	25416	0.20182	0.2018
	103 Pyridine	79	4.734	4.718	(0.527)	30847	0.35631	0.3563
	105 1-methylnaphthalene	142	13.079	13.087	(1.143)	31852	0.19448	0.1945
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.436	16.436	(1.094)	31799	0.18387	0.1839

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187 Total Benzofluoranthenes	252	24.838	24.885	(0.972)	104608	0.44412	0.4441
120 2,3,4,6-Tetrachlorophenol	232	15.756	15.748	(1.049)	6117	0.10694	0.1069

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222319.D
Lab Smp Id: SLD0056-LCV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322A.b\ABN.m
Misc Info:

Calibration Date: 23-MAR-2023
Calibration Time: 04:05
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	278642	139321	557284	275063	-1.28
27 Naphthalene-d8	1051761	525881	2103522	1009553	-4.01
42 Acenaphthene-d10	539174	269587	1078348	522716	-3.05
59 Phenanthrene-d10	918099	459050	1836198	897066	-2.29
69 Chrysene-d12	992695	496348	1985390	929348	-6.38
134 Di-n-octylphthala	1524263	762132	3048526	1399366	-8.19
77 Perylene-d12	955797	477899	1911594	844268	-11.67

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	0.00
42 Acenaphthene-d10	15.02	14.52	15.52	15.02	0.00
59 Phenanthrene-d10	18.04	17.54	18.54	18.03	-0.04
69 Chrysene-d12	23.06	22.56	23.56	23.05	-0.03
134 Di-n-octylphthala	24.09	23.59	24.59	24.09	0.00
77 Perylene-d12	25.57	25.07	26.07	25.57	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222319.D

Lab ID: SLD0056-LCV1
nt18.i, ABN.m, 23-MAR-2023 05:25

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.956	0.962	-0.0067	Benzoic acid
1.023	1.016	0.0067	4-Nitrophenol

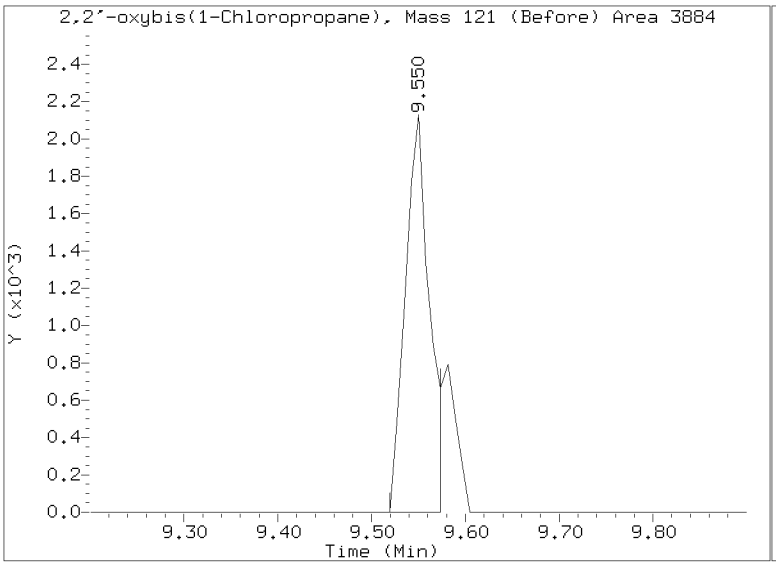
RRT check based on Ccal File: NT1803222317A.D

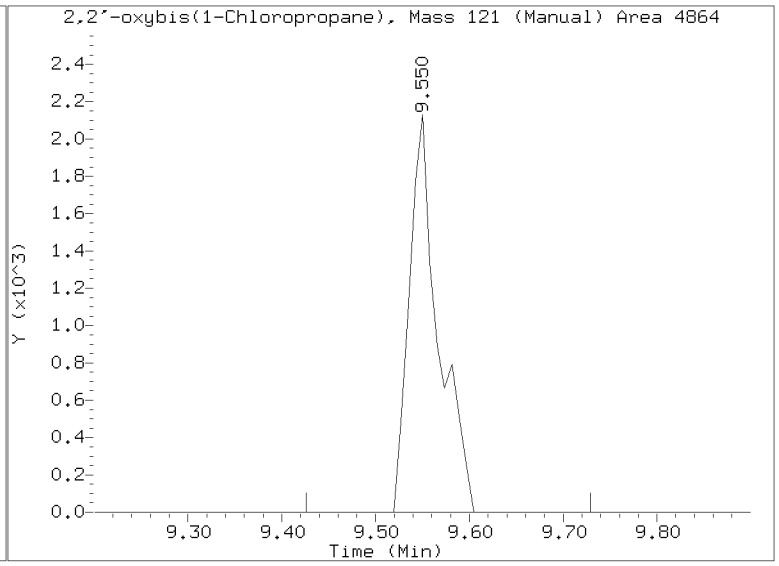
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

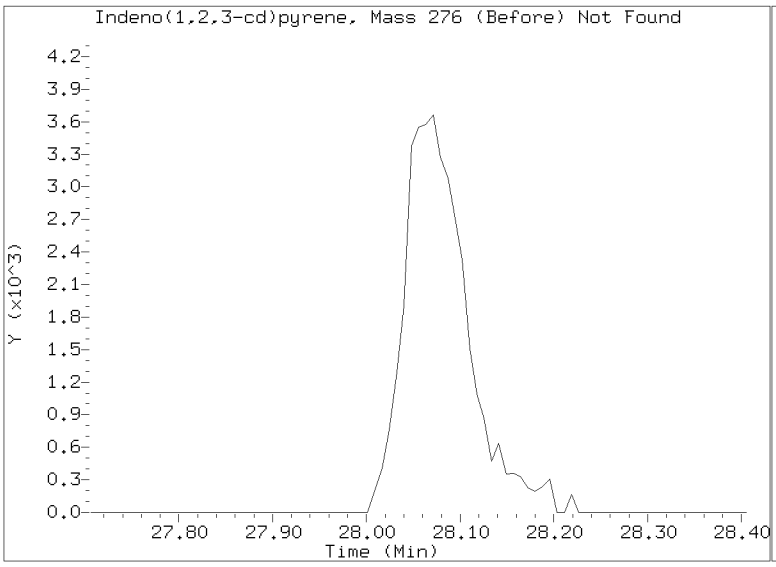
* Only compounds listed in the work order have been verified by the analyst *

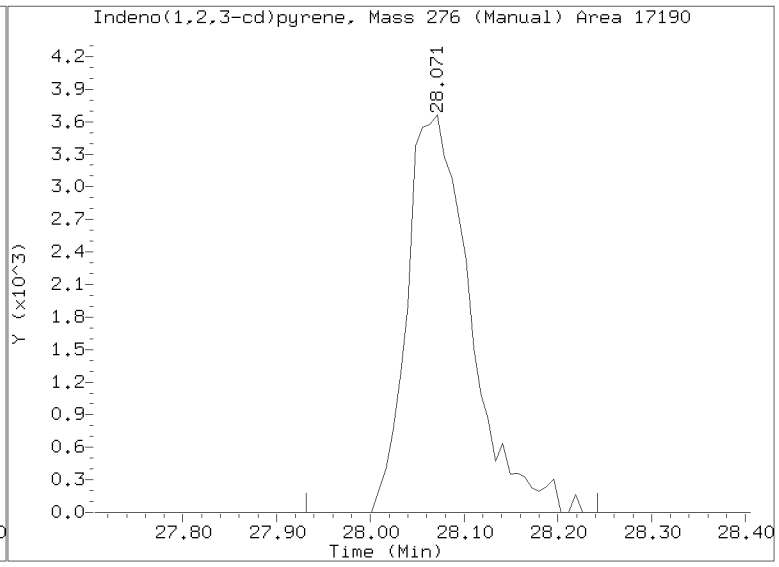
Quant Ion Manual Peak Adjustment Report

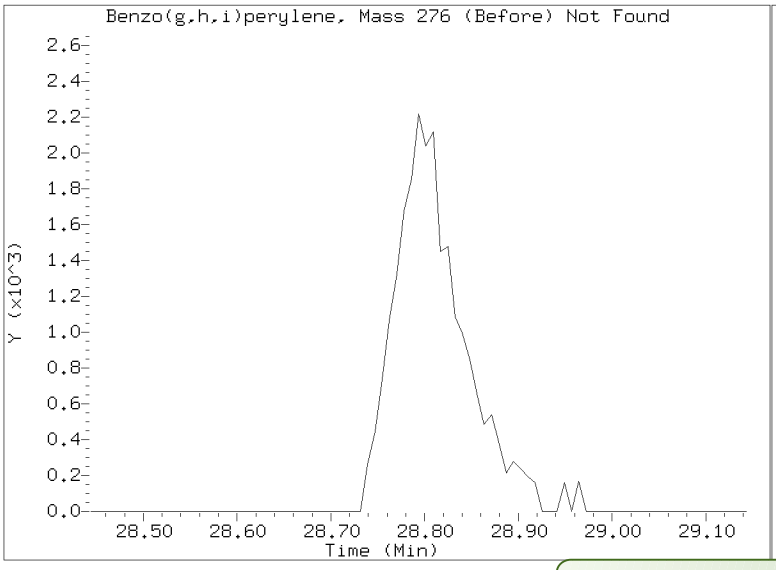
Datafile: //target/share/chem3/nt18.i/20230322A.b/NT1803222319.D
Injection Date: 23-MAR-2023 05:25
Lab ID:SLD0056-LCV1 Client ID:
Report Date: 04/05/2023 08:39

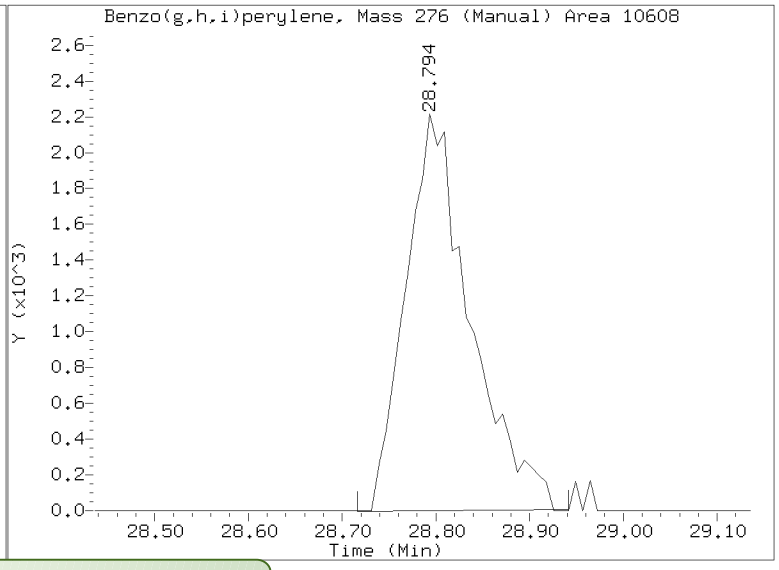












APPROVED
By Deenay Dunmore at 8:45 am, Apr 05, 2023

Analytical Resources, LLC
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK
EPA 8270E

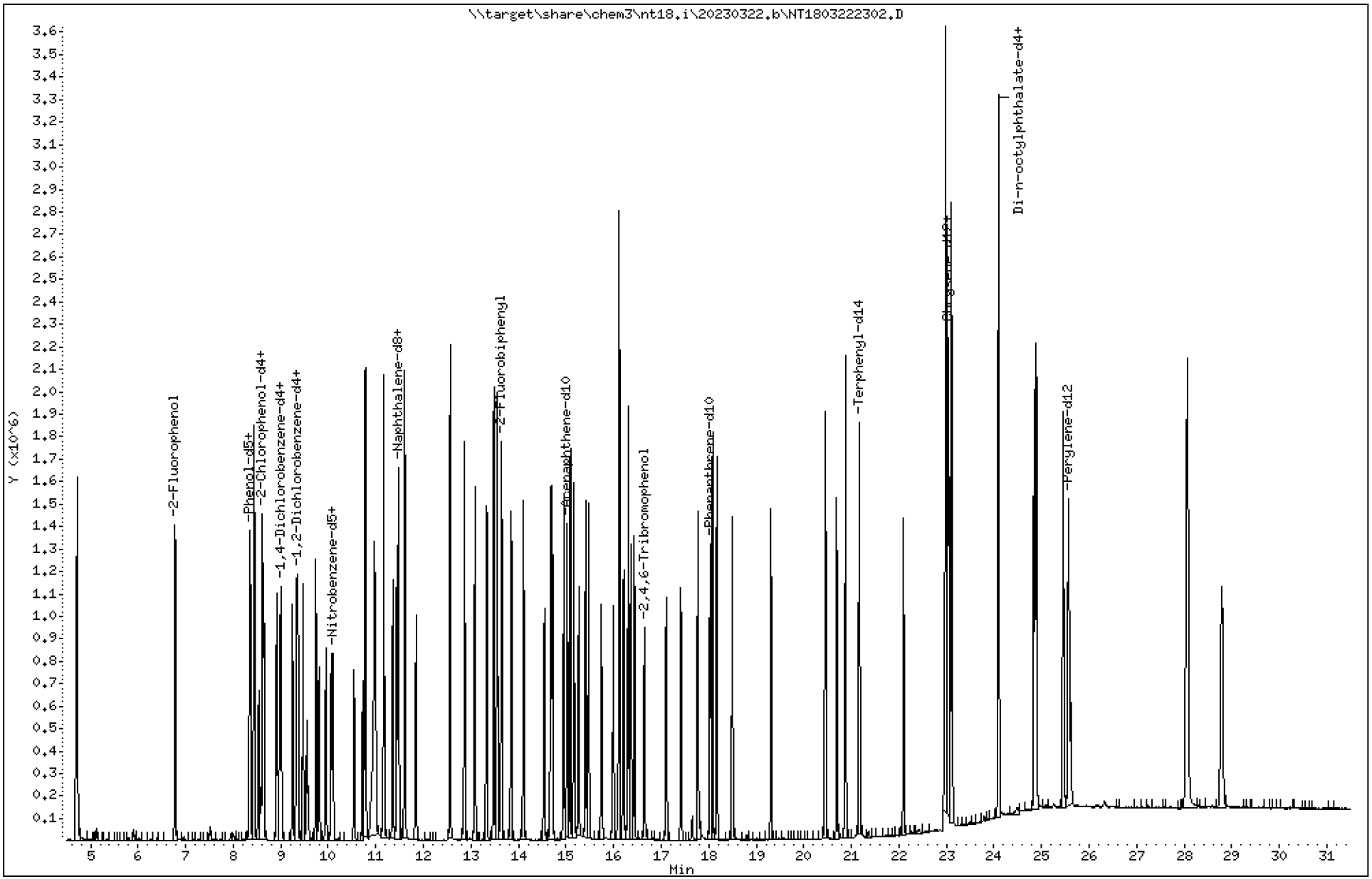
Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	NT18	Calibration:	GC00085
Lab File ID:	NT1803222302.D	Calibration Date:	03/19/2023
Sequence:	SLD0051	Injection Date:	03/22/23
Lab Sample ID:	SLD0051-ICV1	Injection Time:	17:55
Sequence Name:	Initial Cal Check		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Phenol	A	5.0000	4.9	1.6289550	1.6008800		-1.7	+/-20
4-Methylphenol	A	5.0000	5.0	1.2838700	1.2846820		0.06	+/-20
Naphthalene	A	5.0000	4.8	1.0854510	1.0408290		-4.1	+/-20
2-Methylnaphthalene	A	5.0000	4.9	0.7068922	0.6859620		-3.0	+/-20
Acenaphthylene	A	5.0000	5.0	1.9458850	1.9515670		0.3	+/-20
Dimethylphthalate	A	5.0000	4.9	1.1919090	1.1686730		-1.9	+/-20
Acenaphthene	A	5.0000	4.9	1.2316760	1.2034550		-2.3	+/-20
Dibenzofuran	A	5.0000	4.9	1.6920980	1.6696780		-1.3	+/-20
Fluorene	A	5.0000	5.1	1.5359950	1.5686090		2.1	+/-20
Phenanthrene	A	5.0000	4.9	1.0918970	1.0712210		-1.9	+/-20
Anthracene	A	5.0000	5.1	1.0410500	1.0709560		2.9	+/-20
Fluoranthene	A	5.0000	4.8	1.2746530	1.2274900		-3.7	+/-20
Pyrene	A	5.0000	4.8	1.3434640	1.2911880		-3.9	+/-20
Butylbenzylphthalate	A	5.0000	4.7	0.4580611	0.5427055		-5.7	+/-20
Benzo(a)anthracene	A	5.0000	5.1	1.2517140	1.2762520		2.0	+/-20
Chrysene	A	5.0000	5.1	1.2939090	1.3113850		1.4	+/-20
bis(2-Ethylhexyl)phthalate	A	5.0000	4.6	0.4872329	0.5328456		-7.7	+/-20
Benzofluoranthenes, Total	A	10.000	10.3	1.1159550	1.1519730		3.2	+/-20
Benzo(a)pyrene	A	5.0000	4.8	0.9981810	1.0729830		-3.7	+/-20
Indeno(1,2,3-cd)pyrene	A	5.0000	4.5	1.2089080	1.2802840		-9.5	+/-20
Dibenzo(a,h)anthracene	A	5.0000	4.5	1.0105360	1.0607480		-9.8	+/-20
Benzo(g,h,i)perylene	A	5.0000	4.5	0.9990967	1.0186160		-9.5	+/-20
2-Fluorophenol	A	7.5000	7.44	1.2331380	1.2228640		-0.8	+/-20
Phenol-d5	A	7.5000	7.52	1.5233940	1.5279240		0.3	+/-20
2-Chlorophenol-d4	A	7.5000	7.58	1.3205030	1.3349850		1.1	+/-20
1,2-Dichlorobenzene-d4	A	5.0000	4.76	0.9689252	0.9232604		-4.7	+/-20
Nitrobenzene-d5	A	5.0000	5.23	0.3297186	0.3445271		4.5	+/-20
2-Fluorobiphenyl	A	5.0000	4.92	1.4323940	1.4096300		-1.6	+/-20
2,4,6-Tribromophenol	A	7.5000	7.42	0.1658543	0.1793730		-1.0	+/-20
p-Terphenyl-d14	A	5.0000	4.86	0.9991659	0.9701245		-2.9	+/-20

* Values outside of QC limits

Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222302.D
Date : 22-MAR-2023 17:55
Client ID:
Sample Info: SLD0051-ICV1

Instrument: nt18.i
Operator: VTS
Column phase: ZB-5msi
Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230322.b\NT1803222302.D
Lab Smp Id: SLD0051-ICV1
Inj Date : 22-MAR-2023 17:55
Operator : VTS Inst ID: nt18.i
Smp Info : SLD0051-ICV1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230322.b\ABN.m
Meth Date : 04-Apr-2023 14:27 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 15:18 Cal File: NT1803192302.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: DEENAY-201905

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1 2-Fluorophenol	112	6.773	6.773	(0.754)	595958	7.50000	7.438
$	2 Phenol-d5	99	8.341	8.341	(0.929)	744628	7.50000	7.522
	3 Phenol	94	8.364	8.364	(0.931)	520122	5.00000	4.914
$	5 2-Chlorophenol-d4	132	8.619	8.619	(0.960)	650600	7.50000	7.582
	4 Bis(2-Chloroethyl)ether	93	8.534	8.534	(0.950)	351916	5.00000	4.804
	6 2-Chlorophenol	128	8.642	8.642	(0.962)	443167	5.00000	4.897
	7 1,3-Dichlorobenzene	146	8.913	8.913	(0.992)	460189	5.00000	4.789
*	8 1,4-Dichlorobenzene-d4	152	8.983	8.983	(1.000)	259918	4.00000	
	9 1,4-Dichlorobenzene	146	9.006	9.006	(1.003)	458713	5.00000	4.770
$	10 1,2-Dichlorobenzene-d4	152	9.332	9.332	(1.039)	299965	5.00000	4.764
	12 1,2-Dichlorobenzene	146	9.363	9.363	(1.042)	447375	5.00000	4.721
	11 Benzyl alcohol	108	9.247	9.247	(1.029)	261850	5.00000	5.302
	14 2,2'-oxybis(1-Chloropropane)	121	9.550	9.550	(1.063)	86509	5.00000	3.877
	13 2-Methylphenol	108	9.472	9.472	(1.054)	393083	5.00000	4.893
	17 Hexachloroethane	117	9.945	9.945	(1.107)	185992	5.00000	4.939
	16 N-Nitroso-di-n-propylamine	70	9.806	9.806	(1.092)	280520	5.00000	4.903
	15 4-Methylphenol	108	9.736	9.736	(1.084)	417390	5.00000	5.003
$	18 Nitrobenzene-d5	82	10.062	10.062	(0.880)	417485	5.00000	5.225
	19 Nitrobenzene	77	10.093	10.093	(0.882)	404802	5.00000	5.153
	20 Isophorone	82	10.543	10.543	(0.922)	540743	5.00000	5.041
	21 2-Nitrophenol	139	10.719	10.719	(0.937)	235941	5.00000	5.049
	22 2,4-Dimethylphenol	107	10.778	10.778	(0.942)	741602	10.0000	9.390
	23 Bis(2-Chloroethoxy)methane	93	10.973	10.973	(0.959)	380587	5.00000	4.908
	24 Benzoic acid	105	10.999	10.999	(0.961)	901688	20.0000	15.82
	25 2,4-Dichlorophenol	162	11.169	11.169	(0.976)	732337	10.0000	10.08
	26 1,2,4-Trichlorobenzene	180	11.355	11.355	(0.993)	366858	5.00000	4.814
*	27 Naphthalene-d8	136	11.439	11.439	(1.000)	969410	4.00000	
	28 Naphthalene	128	11.478	11.478	(1.003)	1261237	5.00000	4.794
	29 4-Chloroaniline	127	11.609	11.609	(1.015)	991511	10.0000	9.796
	30 Hexachlorobutadiene	225	11.849	11.849	(1.036)	209672	5.00000	4.839
	31 4-Chloro-3-methylphenol	107	12.561	12.561	(1.098)	676073	10.0000	10.10
	32 2-Methylnaphthalene	142	12.863	12.863	(1.124)	831223	5.00000	4.852(H)
	33 Hexachlorocyclopentadiene	237	13.335	13.335	(0.888)	426453	10.0000	9.657

		QUANT SIG					AMOUNTS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.482	13.482	(0.897)	476549	10.0000	10.44
	35 2,4,5-Trichlorophenol	196	13.551	13.551	(0.902)	515901	10.0000	10.34
$	36 2-Fluorobiphenyl	172	13.644	13.644	(0.908)	899145	5.00000	4.921
	37 2-Chloronaphthalene	162	13.846	13.846	(0.922)	717318	5.00000	4.921
	38 2-Nitroaniline	65	14.109	14.109	(0.939)	400474	10.0000	10.48
	39 Dimethylphthalate	163	14.542	14.542	(0.968)	745448	5.00000	4.903
	40 Acenaphthylene	152	14.712	14.712	(0.979)	1244824	5.00000	5.015
	41 2,6-Dinitrotoluene	165	14.674	14.674	(0.977)	331138	10.0000	9.545
*	42 Acenaphthene-d10	164	15.022	15.022	(1.000)	510287	4.00000	
	43 3-Nitroaniline	138	14.952	14.952	(0.995)	409809	10.0000	10.55
	44 Acenaphthene	153	15.091	15.091	(1.005)	767634	5.00000	4.885
	45 2,4-Dinitrophenol	184	15.161	15.161	(1.009)	347870	20.0000	16.77
	46 Dibenzofuran	168	15.416	15.416	(1.026)	1065019	5.00000	4.934
	47 4-Nitrophenol	109	15.261	15.261	(1.016)	192286	10.0000	9.289
	48 2,4-Dinitrotoluene	165	15.470	15.470	(1.030)	454611	10.0000	9.946
	50 Diethylphthalate	149	15.988	15.988	(1.064)	731017	5.00000	4.745
	49 Fluorene	166	16.120	16.120	(1.073)	1000551	5.00000	5.106
	51 4-Chlorophenyl-phenylether	204	16.112	16.112	(1.073)	442441	5.00000	5.087
	52 4-Nitroaniline	138	16.212	16.212	(1.079)	396963	10.0000	9.986
	53 4,6-Dinitro-2-methylphenol	198	16.305	16.305	(0.904)	479256	20.0000	18.71
	54 N-Nitrosodiphenylamine	169	16.359	16.359	(0.907)	552192	5.00000	4.911
$	55 2,4,6-Tribromophenol	330	16.644	16.644	(1.108)	171622	7.50000	7.423
	56 4-Bromophenyl-phenylether	248	17.107	17.107	(0.949)	224448	5.00000	5.033
	57 Hexachlorobenzene	284	17.415	17.415	(0.966)	245801	5.00000	4.914
	58 Pentachlorophenol	266	17.772	17.772	(0.985)	289286	10.0000	9.407
*	59 Phenanthrene-d10	188	18.035	18.035	(1.000)	882628	4.00000	
	60 Phenanthrene	178	18.081	18.081	(1.003)	1181862	5.00000	4.905
	61 Anthracene	178	18.166	18.166	(1.007)	1181570	5.00000	5.144
	62 Carbazole	167	18.499	18.499	(1.026)	1069314	5.00000	5.286
	63 Di-n-butylphthalate	149	19.311	19.311	(1.071)	1256220	5.00000	4.695
	64 Fluoranthene	202	20.456	20.456	(0.887)	1227602	5.00000	4.815
	65 Pyrene	202	20.874	20.874	(0.906)	1291306	5.00000	4.805
$	66 Terphenyl-d14	244	21.168	21.168	(0.918)	970213	5.00000	4.855
	67 Butylbenzylphthalate	149	22.090	22.090	(0.958)	542755	5.00000	4.716
	68 Benzo(a)anthracene	228	23.027	23.027	(0.999)	1276368	5.00000	5.098
*	69 Chrysene-d12	240	23.050	23.050	(1.000)	800073	4.00000	
	70 3,3'-Dichlorobenzidine	252	22.988	22.988	(0.997)	1253185	15.0000	13.92
	71 Chrysene	228	23.096	23.096	(1.002)	1311505	5.00000	5.068
	72 bis(2-Ethylhexyl)phthalate	149	23.119	23.119	(0.960)	838304	5.00000	4.613
*	134 Di-n-octylphthalate-d4	153	24.087	24.087	(1.000)	1258607	4.00000	
	73 Di-n-octylphthalate	149	24.095	24.095	(1.000)	1496809	5.00000	4.834
	74 Benzo(b)fluoranthene	252	24.846	24.846	(0.972)	1289552	5.00000	5.080
	75 Benzo(k)fluoranthene	252	24.885	24.885	(0.973)	1474988	5.00000	5.282
	76 Benzo(a)pyrene	252	25.458	25.458	(0.996)	1223078	5.00000	4.817
*	77 Perylene-d12	264	25.566	25.566	(1.000)	911909	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	28.055	28.055	(1.097)	1459378	5.00000	4.526
	79 Dibenzo(a,h)anthracene	278	28.071	28.071	(1.098)	1209132	5.00000	4.512
	80 Benzo(g,h,i)perylene	276	28.793	28.793	(1.126)	1161106	5.00000	4.527(M)
	90 N-Nitrosodimethylamine	74	4.695	4.695	(0.523)	473662	10.0000	9.562
	91 Aniline	93	8.442	8.442	(0.940)	1101746	10.0000	9.680
	93 Benzidine	184	20.688	20.688	(0.898)	830480	10.0000	7.660
	103 Pyridine	79	4.718	4.718	(0.525)	806896	10.0000	9.863
	105 1-methylnaphthalene	142	13.087	13.087	(1.144)	769873	5.00000	4.895
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.436	16.436	(1.094)	844274	5.00000	5.001

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187 Total Benzofluoranthenes	252	24.885	24.885	(0.973)	2626237	10.0000	10.32
120 2,3,4,6-Tetrachlorophenol	232	15.748	15.748	(1.048)	234421	5.00000	4.198

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222302.D
Lab Smp Id: SLD0051-ICV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322.b\ABN.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 16:40
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	259918	129959	519836	259918	0.00
27 Naphthalene-d8	969410	484705	1938820	969410	0.00
42 Acenaphthene-d10	510287	255144	1020574	510287	0.00
59 Phenanthrene-d10	882628	441314	1765256	882628	0.00
69 Chrysene-d12	800073	400037	1600146	800073	0.00
134 Di-n-octylphthala	1258607	629304	2517214	1258607	0.00
77 Perylene-d12	911909	455955	1823818	911909	0.00

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	0.00
42 Acenaphthene-d10	15.02	14.52	15.52	15.02	0.00
59 Phenanthrene-d10	18.04	17.54	18.54	18.04	0.00
69 Chrysene-d12	23.05	22.55	23.55	23.05	0.00
134 Di-n-octylphthala	24.09	23.59	24.59	24.09	0.00
77 Perylene-d12	25.57	25.07	26.07	25.57	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222302.D

Lab ID: SLD0051-ICV1
nt18.i, ABN.m, 22-MAR-2023 17:55

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

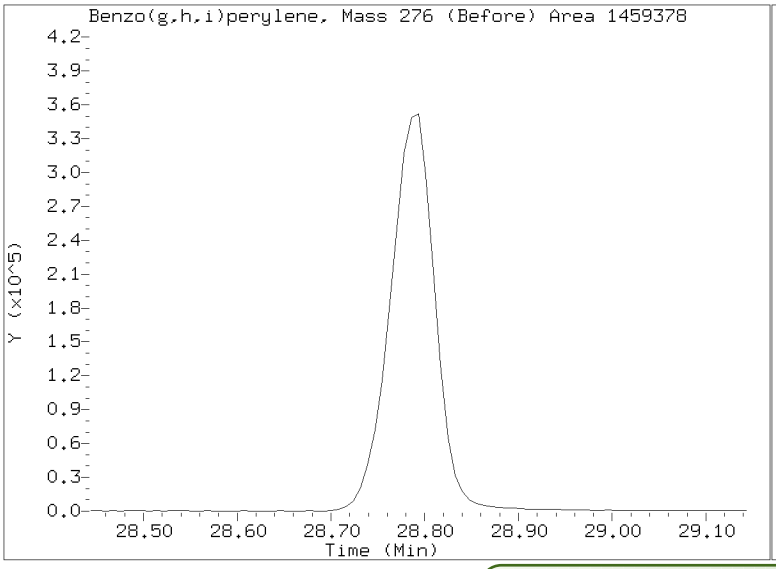
No RRT check. Ccal file.

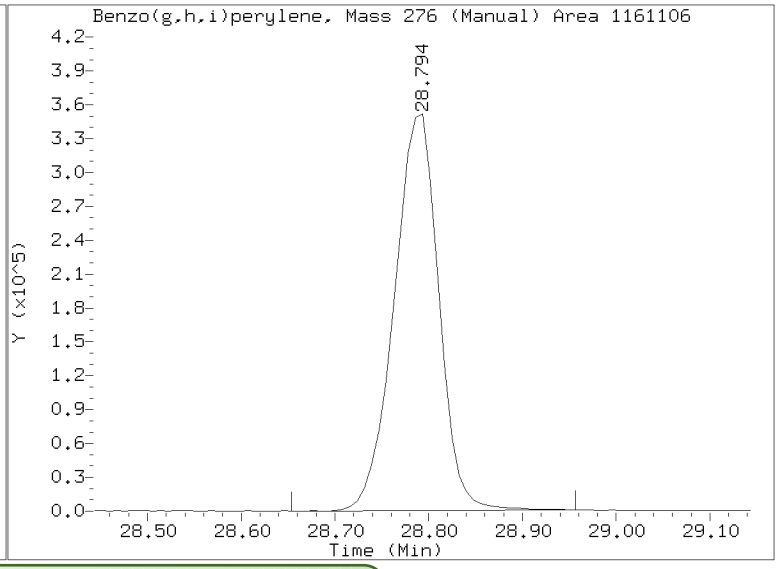
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230322.b/NT1803222302.D
Injection Date: 22-MAR-2023 17:55
Lab ID:SLD0051-ICV1 Client ID:
Report Date: 04/04/2023 14:28





APPROVED

By Deenay Dunmore at 2:44 pm, Apr 04, 2023

Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt18.i\20230322.b

Instrument: nt18.i Date: 22-MAR-2023 Method: ABN.m

INITIAL CAL: 19-MAR-2023

Compound	%RSD or R^2
NO Q-FLAGS	

ICV CAL: NT1803222302.D 22-MAR-2023 17:55

Compound	%D
2,2′-oxybis(1-Chloropropane)	-22.46
Benzoic acid	-20.9
Benzidine	-23.40

Analytical Resources, LLC
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK
EPA 8270E

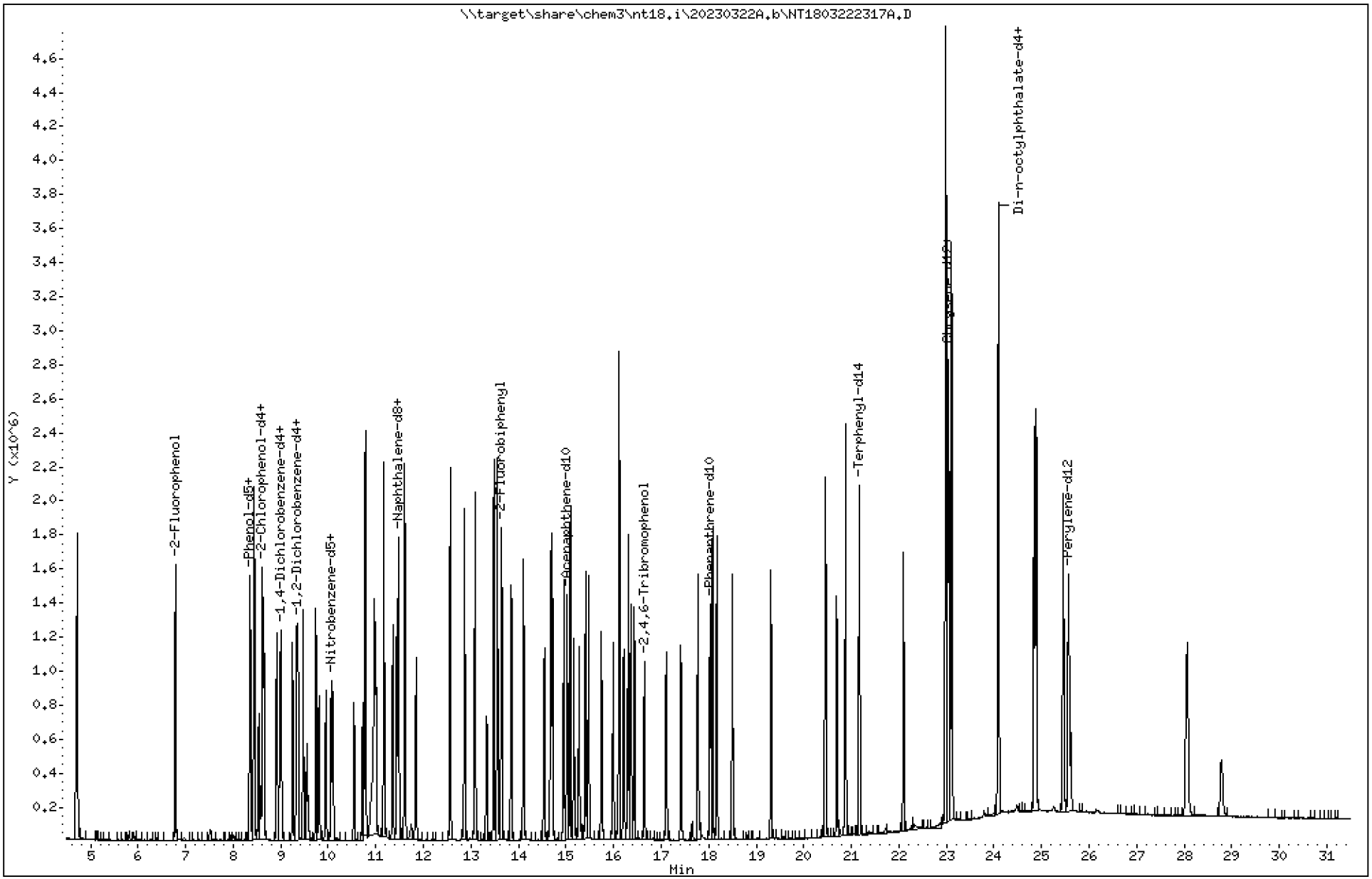
Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	NT18	Calibration:	GC00085
Lab File ID:	NT1803222317A.D	Calibration Date:	03/19/2023
Sequence:	SLD0056	Injection Date:	03/23/23
Lab Sample ID:	SLD0056-ICV1	Injection Time:	04:05
Sequence Name:	Initial Cal Check		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF		
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT	
Phenol	A	5.0000	5.0	1.6289550	1.6258280		-0.2	+/-20	
4-Methylphenol	A	5.0000	5.1	1.2838700	1.3001860		1.3	+/-20	
Naphthalene	A	5.0000	4.8	1.0854510	1.0440310		-3.8	+/-20	
2-Methylnaphthalene	A	5.0000	4.9	0.7068922	0.6889626		-2.5	+/-20	
Acenaphthylene	A	5.0000	5.1	1.9458850	1.9807040		1.8	+/-20	
Dimethylphthalate	A	5.0000	5.1	1.1919090	1.2067530		1.2	+/-20	
Acenaphthene	A	5.0000	4.9	1.2316760	1.2164870		-1.2	+/-20	
Dibenzofuran	A	5.0000	4.9	1.6920980	1.6710580		-1.2	+/-20	
Fluorene	A	5.0000	5.2	1.5359950	1.5849270		3.2	+/-20	
Phenanthrene	A	5.0000	4.8	1.0918970	1.0558620		-3.3	+/-20	
Anthracene	A	5.0000	5.2	1.0410500	1.0802990		3.8	+/-20	
Fluoranthene	A	5.0000	4.3	1.2746530	1.0911960		-14.4	+/-20	
Pyrene	A	5.0000	4.3	1.3434640	1.1495270		-14.4	+/-20	
Butylbenzylphthalate	A	5.0000	4.4	0.4580611	0.5100467		-11.4	+/-20	
Benzo(a)anthracene	A	5.0000	5.0	1.2517140	1.2637370		1.0	+/-20	
Chrysene	A	5.0000	4.9	1.2939090	1.2584560		-2.7	+/-20	
bis(2-Ethylhexyl)phthalate	A	5.0000	4.4	0.4872329	0.5055259		-12.6	+/-20	
Benzofluoranthenes, Total	A	10.000	11.2	1.1159550	1.2525360		12.2	+/-20	
Benzo(a)pyrene	A	5.0000	5.0	0.9981810	1.1180910		0.4	+/-20	
Indeno(1,2,3-cd)pyrene	A	5.0000	2.3	1.2089080	0.6409152		-54.2	+/-20	*
Dibenzo(a,h)anthracene	A	5.0000	2.5	1.0105360	0.5690539		-51.0	+/-20	*
Benzo(g,h,i)perylene	A	5.0000	1.6	0.9990967	0.3588477		-67.8	+/-20	*
2-Fluorophenol	A	7.5000	7.75	1.2331380	1.2739900		3.3	+/-20	
Phenol-d5	A	7.5000	7.68	1.5233940	1.5599960		2.4	+/-20	
2-Chlorophenol-d4	A	7.5000	7.84	1.3205030	1.3795690		4.5	+/-20	
1,2-Dichlorobenzene-d4	A	5.0000	4.81	0.9689252	0.9313198		-3.9	+/-20	
Nitrobenzene-d5	A	5.0000	5.44	0.3297186	0.3584282		8.7	+/-20	
2-Fluorobiphenyl	A	5.0000	4.98	1.4323940	1.4251180		-0.5	+/-20	
2,4,6-Tribromophenol	A	7.5000	7.83	0.1658543	0.1897085		4.4	+/-20	
p-Terphenyl-d14	A	5.0000	4.34	0.9991659	0.8664341		-13.3	+/-20	

* Values outside of QC limits

Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222317A.D
Date : 23-MAR-2023 04:05
Client ID:
Sample Info: SLD0056-ICV1

Instrument: nt18.i
Operator: VTS
Column phase: ZB-5msi
Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230322A.b\NT1803222317A.D
Lab Smp Id: SLD0056-ICV1
Inj Date : 23-MAR-2023 04:05
Operator : VTS Inst ID: nt18.i
Smp Info : SLD0056-ICV1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230322A.b\ABN.m
Meth Date : 04-Apr-2023 16:12 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 15:18 Cal File: NT1803192302.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: DEENAY-201905

							AMOUNTS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1 2-Fluorophenol	112	6.781	6.781	(0.755)	665601	7.50000	7.748
$	2 Phenol-d5	99	8.349	8.349	(0.929)	815026	7.50000	7.680
	3 Phenol	94	8.372	8.372	(0.932)	566280	5.00000	4.990
$	5 2-Chlorophenol-d4	132	8.619	8.619	(0.960)	720761	7.50000	7.835
	4 Bis(2-Chloroethyl)ether	93	8.534	8.534	(0.950)	383736	5.00000	4.886
	6 2-Chlorophenol	128	8.650	8.650	(0.963)	491423	5.00000	5.065
	7 1,3-Dichlorobenzene	146	8.913	8.913	(0.992)	498642	5.00000	4.841
*	8 1,4-Dichlorobenzene-d4	152	8.983	8.983	(1.000)	278642	4.00000	
	9 1,4-Dichlorobenzene	146	9.014	9.014	(1.003)	502126	5.00000	4.871
$	10 1,2-Dichlorobenzene-d4	152	9.332	9.332	(1.039)	324381	5.00000	4.806
	12 1,2-Dichlorobenzene	146	9.363	9.363	(1.042)	489182	5.00000	4.815
	11 Benzyl alcohol	108	9.247	9.247	(1.029)	290586	5.00000	5.488
	14 2,2'-oxybis(1-Chloropropane)	121	9.550	9.550	(1.063)	112334	5.00000	4.696(M)
	13 2-Methylphenol	108	9.472	9.472	(1.054)	431902	5.00000	5.015
	17 Hexachloroethane	117	9.945	9.945	(1.107)	187869	5.00000	4.654
	16 N-Nitroso-di-n-propylamine	70	9.806	9.806	(1.092)	305905	5.00000	4.988
	15 4-Methylphenol	108	9.736	9.736	(1.084)	452858	5.00000	5.064
$	18 Nitrobenzene-d5	82	10.062	10.062	(0.880)	471226	5.00000	5.435
	19 Nitrobenzene	77	10.093	10.093	(0.882)	440799	5.00000	5.172
	20 Isophorone	82	10.543	10.543	(0.922)	586297	5.00000	5.037
	21 2-Nitrophenol	139	10.719	10.719	(0.937)	286930	5.00000	5.652
	22 2,4-Dimethylphenol	107	10.778	10.778	(0.942)	801863	10.0000	9.358
	23 Bis(2-Chloroethoxy)methane	93	10.973	10.973	(0.959)	411759	5.00000	4.895
	24 Benzoic acid	105	11.007	11.007	(0.962)	1151580	20.0000	18.54
	25 2,4-Dichlorophenol	162	11.169	11.169	(0.976)	812150	10.0000	10.30
	26 1,2,4-Trichlorobenzene	180	11.355	11.355	(0.993)	393823	5.00000	4.763
*	27 Naphthalene-d8	136	11.439	11.439	(1.000)	1051761	4.00000	
	28 Naphthalene	128	11.478	11.478	(1.003)	1372589	5.00000	4.809
	29 4-Chloroaniline	127	11.609	11.609	(1.015)	1134273	10.0000	10.33
	30 Hexachlorobutadiene	225	11.849	11.849	(1.036)	219812	5.00000	4.676
	31 4-Chloro-3-methylphenol	107	12.561	12.561	(1.098)	727431	10.0000	10.02
	32 2-Methylnaphthalene	142	12.863	12.863	(1.124)	905780	5.00000	4.873(H)
	33 Hexachlorocyclopentadiene	237	13.327	13.327	(0.887)	201002	10.0000	4.308

		QUANT SIG					AMOUNTS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.482	13.482	(0.897)	518566	10.0000	10.75
	35 2,4,5-Trichlorophenol	196	13.551	13.551	(0.902)	558436	10.0000	10.59
$	36 2-Fluorobiphenyl	172	13.644	13.644	(0.908)	960483	5.00000	4.975
	37 2-Chloronaphthalene	162	13.846	13.846	(0.922)	759348	5.00000	4.930
	38 2-Nitroaniline	65	14.109	14.109	(0.939)	432612	10.0000	10.72
	39 Dimethylphthalate	163	14.542	14.542	(0.968)	813312	5.00000	5.062
	40 Acenaphthylene	152	14.712	14.712	(0.979)	1334930	5.00000	5.089
	41 2,6-Dinitrotoluene	165	14.674	14.674	(0.977)	372893	10.0000	10.16
*	42 Acenaphthene-d10	164	15.022	15.022	(1.000)	539174	4.00000	
	43 3-Nitroaniline	138	14.952	14.952	(0.995)	437582	10.0000	10.66
	44 Acenaphthene	153	15.091	15.091	(1.005)	819873	5.00000	4.938
	45 2,4-Dinitrophenol	184	15.161	15.161	(1.009)	278570	20.0000	12.83
	46 Dibenzofuran	168	15.416	15.416	(1.026)	1126239	5.00000	4.938
	47 4-Nitrophenol	109	15.269	15.269	(1.016)	206901	10.0000	9.459
	48 2,4-Dinitrotoluene	165	15.470	15.470	(1.030)	488978	10.0000	10.12
	50 Diethylphthalate	149	15.988	15.988	(1.064)	788733	5.00000	4.845
	49 Fluorene	166	16.120	16.120	(1.073)	1068189	5.00000	5.159
	51 4-Chlorophenyl-phenylether	204	16.112	16.112	(1.073)	482596	5.00000	5.252
	52 4-Nitroaniline	138	16.212	16.212	(1.079)	405530	10.0000	9.664
	53 4,6-Dinitro-2-methylphenol	198	16.305	16.305	(0.904)	437542	20.0000	16.49
	54 N-Nitrosodiphenylamine	169	16.359	16.359	(0.907)	582558	5.00000	4.981
$	55 2,4,6-Tribromophenol	330	16.644	16.644	(1.108)	191786	7.50000	7.832
	56 4-Bromophenyl-phenylether	248	17.107	17.107	(0.949)	234575	5.00000	5.056
	57 Hexachlorobenzene	284	17.415	17.415	(0.966)	260147	5.00000	4.999
	58 Pentachlorophenol	266	17.772	17.772	(0.985)	320186	10.0000	9.982
*	59 Phenanthrene-d10	188	18.035	18.035	(1.000)	918099	4.00000	
	60 Phenanthrene	178	18.081	18.081	(1.003)	1211732	5.00000	4.835
	61 Anthracene	178	18.174	18.174	(1.008)	1239777	5.00000	5.189
	62 Carbazole	167	18.499	18.499	(1.026)	1140266	5.00000	5.419
	63 Di-n-butylphthalate	149	19.311	19.311	(1.071)	1379466	5.00000	4.957
	64 Fluoranthene	202	20.456	20.456	(0.887)	1354031	5.00000	4.280
	65 Pyrene	202	20.874	20.874	(0.905)	1426412	5.00000	4.278
$	66 Terphenyl-d14	244	21.168	21.168	(0.918)	1075131	5.00000	4.336
	67 Butylbenzylphthalate	149	22.090	22.090	(0.958)	632901	5.00000	4.430
	68 Benzo(a)anthracene	228	23.027	23.027	(0.999)	1568132	5.00000	5.048
*	69 Chrysene-d12	240	23.058	23.058	(1.000)	992695	4.00000	
	70 3,3'-Dichlorobenzidine	252	22.988	22.988	(0.997)	1601247	15.0000	14.34
	71 Chrysene	228	23.096	23.096	(1.002)	1561579	5.00000	4.863
	72 bis(2-Ethylhexyl)phthalate	149	23.119	23.119	(0.960)	963193	5.00000	4.372
*	134 Di-n-octylphthalate-d4	153	24.087	24.087	(1.000)	1524263	4.00000	
	73 Di-n-octylphthalate	149	24.095	24.095	(1.000)	1758544	5.00000	4.689
	74 Benzo(b)fluoranthene	252	24.846	24.846	(0.972)	1633943	5.00000	6.141
	75 Benzo(k)fluoranthene	252	24.885	24.885	(0.973)	1528376	5.00000	5.222
	76 Benzo(a)pyrene	252	25.458	25.458	(0.996)	1335835	5.00000	5.019
*	77 Perylene-d12	264	25.566	25.566	(1.000)	955797	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	28.055	28.055	(1.097)	765731	5.00000	2.288
	79 Dibenzo(a,h)anthracene	278	28.071	28.071	(1.098)	679875	5.00000	2.452
	80 Benzo(g,h,i)perylene	276	28.785	28.785	(1.126)	428732	5.00000	1.611(M)
	90 N-Nitrosodimethylamine	74	4.695	4.695	(0.523)	508998	10.0000	9.585
	91 Aniline	93	8.442	8.442	(0.940)	1206233	10.0000	9.885
	93 Benzidine	184	20.688	20.688	(0.897)	854392	10.0000	6.352
	103 Pyridine	79	4.718	4.718	(0.525)	872072	10.0000	9.944
	105 1-methylnaphthalene	142	13.087	13.087	(1.144)	820107	5.00000	4.806
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.436	16.436	(1.094)	887133	5.00000	4.973

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187 Total Benzofluoranthenes	252	24.885	24.885	(0.973)	2992925	10.0000	11.22
120 2,3,4,6-Tetrachlorophenol	232	15.748	15.748	(1.048)	259943	5.00000	4.406

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222317A.D
Lab Smp Id: SLD0056-ICV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322A.b\ABN.m
Misc Info:

Calibration Date: 22-MAR-2023
Calibration Time: 17:55
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	278642	139321	557284	278642	0.00
27 Naphthalene-d8	1051761	525881	2103522	1051761	0.00
42 Acenaphthene-d10	539174	269587	1078348	539174	0.00
59 Phenanthrene-d10	918099	459050	1836198	918099	0.00
69 Chrysene-d12	992695	496348	1985390	992695	0.00
134 Di-n-octylphthala	1524263	762132	3048526	1524263	0.00
77 Perylene-d12	955797	477899	1911594	955797	0.00

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	0.00
42 Acenaphthene-d10	15.02	14.52	15.52	15.02	0.00
59 Phenanthrene-d10	18.04	17.54	18.54	18.04	0.00
69 Chrysene-d12	23.06	22.56	23.56	23.06	0.00
134 Di-n-octylphthala	24.09	23.59	24.59	24.09	0.00
77 Perylene-d12	25.57	25.07	26.07	25.57	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222317A.D

Lab ID: SLD0056-ICV1
nt18.i, ABN.m, 23-MAR-2023 04:05

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

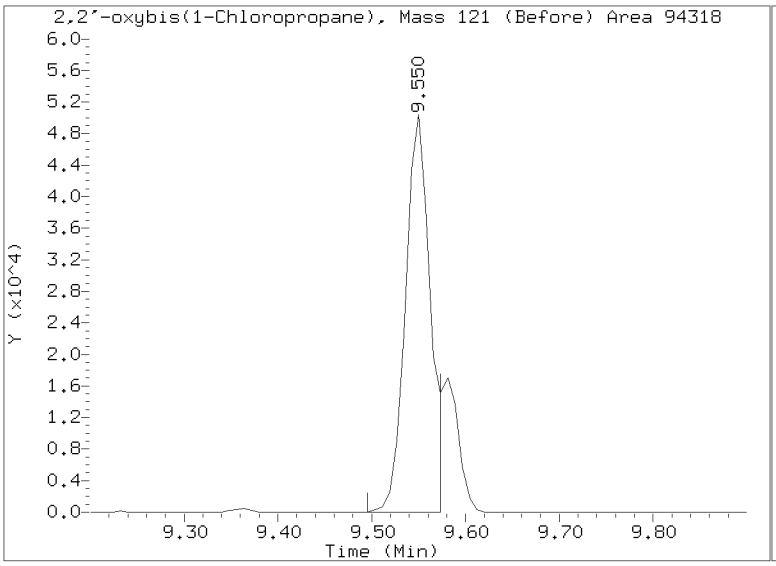
No RRT check. Ccal file.

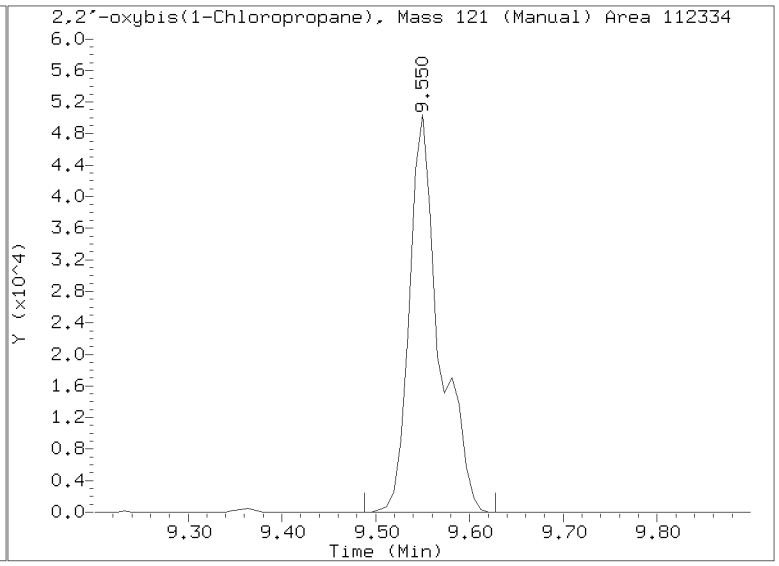
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

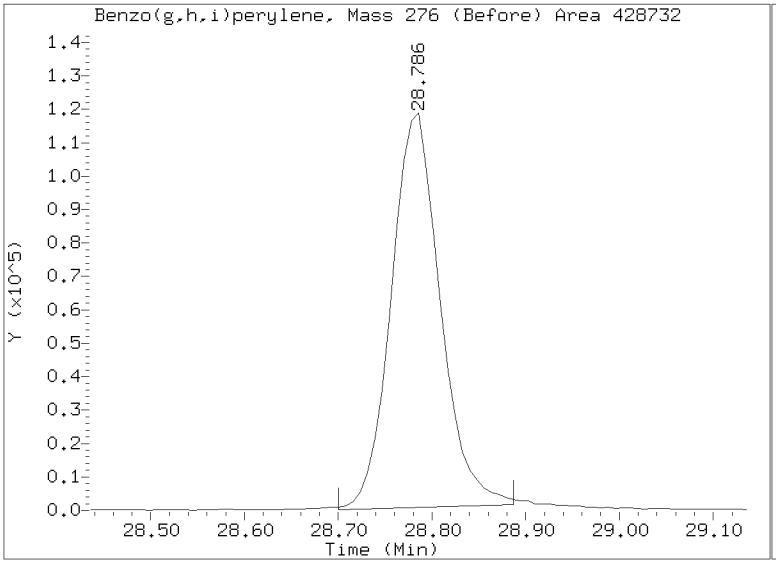
* Only compounds listed in the work order have been verified by the analyst *

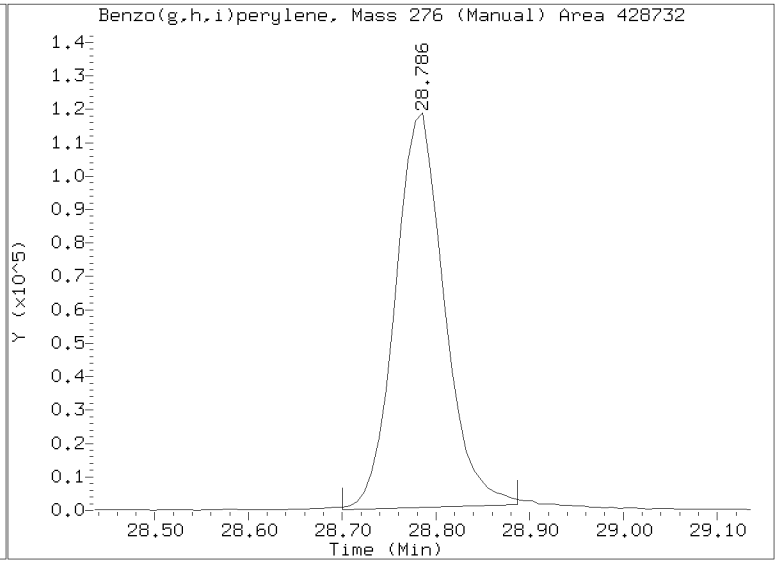
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230322A.b/NT1803222317A.D
Injection Date: 23-MAR-2023 04:05
Lab ID:SLD0056-ICV1 Client ID:
Report Date: 04/05/2023 08:38









APPROVED

By Deenay Dunmore at 8:44 am, Apr 05, 2023

Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt18.i\20230322A.b

Instrument: nt18.i Date: 23-MAR-2023 Method: ABN.m

INITIAL CAL: 19-MAR-2023

Compound	%RSD or R^2
NO Q-FLAGS	

ICV CAL: NT1803222317A.D 23-MAR-2023 04:05

Compound	%D
Hexachlorocyclopentadiene	-56.92
2,4-Dinitrophenol	-35.8
Benzo(b)fluoranthene	22.82
Indeno(1,2,3-cd)pyrene	-54.2
Dibenzo(a,h)anthracene	-51.0
Benzo(g,h,i)perylene	-67.8
Benzidine	-36.48

Analytical Resources, LLC
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	NT18	Calibration:	GC00085
Lab File ID:	NT1803192311.D	Calibration Date:	03/19/2023
Sequence:	SLC0502	Injection Date:	03/19/23
Lab Sample ID:	SLC0502-SCV1	Injection Time:	21:26
Sequence Name:	SCV 5.0		

		CONC. (ug/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT	
Phenol	A	5.0000	4.4	1.6289550	1.4178770		-13.0	+/-20	
bis(2-chloroethyl) ether	A	5.0000	5.3	1.1273570	1.1858820		5.2	+/-20	
2-Chlorophenol	A	5.0000	4.5	1.3928260	1.2460960		-10.5	+/-20	
1,3-Dichlorobenzene	A	5.0000	5.0	1.4787990	1.4815110		0.2	+/-20	
1,4-Dichlorobenzene	A	5.0000	5.1	1.4799530	1.5010570		1.4	+/-20	
1,2-Dichlorobenzene	A	5.0000	4.9	1.4584020	1.4340250		-1.7	+/-20	
Benzyl Alcohol	A	5.0000	5.2	0.7601008	0.7909149		4.1	+/-20	
2,2'-Oxybis(1-chloropropane)	A	5.0000	5.5	0.3433853	0.3807962		10.9	+/-20	
2-Methylphenol	A	5.0000	4.2	1.2363800	1.0479050		-15.2	+/-20	
Hexachloroethane	A	5.0000	5.2	0.5795168	0.5985107		3.3	+/-20	
N-Nitroso-di-n-Propylamine	A	5.0000	5.2	0.8804713	0.9221538		4.7	+/-20	
4-Methylphenol	A	5.0000	4.5	1.2838700	1.1509180		-10.4	+/-20	
Nitrobenzene	A	5.0000	5.0	0.3241460	0.3260139		0.6	+/-20	
Isophorone	A	5.0000	7.9	0.4426412	0.7014342		58.5	+/-20	*
2-Nitrophenol	A	5.0000	3.7	0.1499814	0.1441390		-25.0	+/-20	*
2,4-Dimethylphenol	A	5.0000	3.7	0.3258711	0.2428407		-25.5	+/-20	*
Bis(2-Chloroethoxy)methane	A	5.0000	5.9	0.3199376	0.3750874		17.2	+/-20	
2,4-Dichlorophenol	A	5.0000	5.0	0.2999277	0.2987544		-0.4	+/-20	
1,2,4-Trichlorobenzene	A	5.0000	4.9	0.3144335	0.3055087		-2.8	+/-20	
Naphthalene	A	5.0000	4.9	1.0854510	1.0582870		-2.5	+/-20	
Benzoic acid	A	10.000	6.4	0.1836366	0.1489194		-35.8	+/-20	*
4-Chloroaniline	A	5.0000	3.9	0.4176459	0.3255255		-22.1	+/-20	*
Hexachlorobutadiene	A	5.0000	5.0	0.1787964	0.1799884		0.7	+/-20	
4-Chloro-3-Methylphenol	A	5.0000	4.7	0.2762292	0.2601436		-5.8	+/-20	
2-Methylnaphthalene	A	5.0000	4.8	0.7068922	0.6809758		-3.7	+/-20	
Hexachlorocyclopentadiene	A	5.0000	5.1	0.3461522	0.3500317		1.1	+/-20	
2,4,6-Trichlorophenol	A	5.0000	4.6	0.3578119	0.3277885		-8.4	+/-20	
2,4,5-Trichlorophenol	A	5.0000	4.5	0.3911103	0.3541775		-9.4	+/-20	
2-Chloronaphthalene	A	5.0000	4.9	1.1426970	1.1163280		-2.3	+/-20	
2-Nitroaniline	A	5.0000	4.8	0.2994480	0.2881602		-3.8	+/-20	
Acenaphthylene	A	5.0000	4.9	1.9458850	1.9157160		-1.6	+/-20	
Dimethylphthalate	A	5.0000	5.1	1.1919090	1.2169140		2.1	+/-20	
2,6-Dinitrotoluene	A	5.0000	4.9	0.2464946	0.2621267		-2.9	+/-20	

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	NT18	Calibration:	GC00085
Lab File ID:	NT1803192311.D	Calibration Date:	03/19/2023
Sequence:	SLC0502	Injection Date:	03/19/23
Lab Sample ID:	SLC0502-SCV1	Injection Time:	21:26
Sequence Name:	SCV 5.0		

		CONC. (ug/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT	
Acenaphthene	A	5.0000	4.8	1.2316760	1.1928260		-3.2	+/-20	
3-Nitroaniline	A	5.0000	5.2	0.3045543	0.3137062		3.0	+/-20	
2,4-Dinitrophenol	A	5.0000	1.9	0.1225012	0.0592686		-62.3	+/-20	*
Dibenzofuran	A	5.0000	4.8	1.6920980	1.6094600		-4.9	+/-20	
4-Nitrophenol	A	5.0000	4.1	0.1457450	0.1335664		-17.4	+/-20	
2,4-Dinitrotoluene	A	5.0000	4.5	0.3283906	0.3175484		-10.4	+/-20	
Fluorene	A	5.0000	5.0	1.5359950	1.5484130		0.8	+/-20	
4-Chlorophenylphenyl ether	A	5.0000	5.4	0.6817075	0.7359377		8.0	+/-20	
Diethyl phthalate	A	5.0000	5.0	1.2076560	1.2126410		0.4	+/-20	
4-Nitroaniline	A	5.0000	4.3	0.2667759	0.2651416		-13.5	+/-20	
4,6-Dinitro-2-methylphenol	A	5.0000	3.1	0.0934400	0.0696374		-38.2	+/-20	*
N-Nitrosodiphenylamine	A	5.0000	5.1	0.5095308	0.5173714		1.5	+/-20	
4-Bromophenyl phenyl ether	A	5.0000	5.3	0.2021180	0.2156464		6.7	+/-20	
Hexachlorobenzene	A	5.0000	4.9	0.2267122	0.2221549		-2.0	+/-20	
Pentachlorophenol	A	5.0000	3.8	0.1183408	0.1032765		-24.0	+/-20	*
Phenanthrene	A	5.0000	4.8	1.0918970	1.0536680		-3.5	+/-20	
Anthracene	A	5.0000	4.3	1.0410500	0.8890616		-14.6	+/-20	
Carbazole	A	5.0000	4.7	0.9167310	0.8578652		-6.4	+/-20	
Di-n-Butylphthalate	A	5.0000	4.8	1.0376220	1.1733900		-3.2	+/-20	
Fluoranthene	A	5.0000	5.2	1.2746530	1.3288490		4.3	+/-20	
Pyrene	A	5.0000	5.0	1.3434640	1.3516240		0.6	+/-20	
Butylbenzylphthalate	A	5.0000	4.8	0.4580611	0.5512898		-4.2	+/-20	
Benzo(a)anthracene	A	5.0000	5.0	1.2517140	1.2402940		-0.9	+/-20	
3,3'-Dichlorobenzidine	A	10.000	9.3	0.3827465	0.4183877		-7.1	+/-20	
Chrysene	A	5.0000	4.8	1.2939090	1.2458990		-3.7	+/-20	
bis(2-Ethylhexyl)phthalate	A	5.0000	5.0	0.4872329	0.5770225		0.07	+/-20	
Di-n-Octylphthalate	A	5.0000	5.1	0.9841400	1.0135550		3.0	+/-20	
Benzofluoranthenes, Total	A	10.000	10.0	1.1159550	1.1176810		0.2	+/-20	
Benzo(a)pyrene	A	5.0000	4.7	0.9981810	1.0408140		-6.5	+/-20	
Indeno(1,2,3-cd)pyrene	A	5.0000	4.6	1.2089080	1.2880030		-8.9	+/-20	
Dibenzo(a,h)anthracene	A	5.0000	4.5	1.0105360	1.0683780		-9.1	+/-20	
Benzo(g,h,i)perylene	A	5.0000	5.7	0.9990967	1.2880030		14.0	+/-20	
1-Methylnaphthalene	A	5.0000	5.1	0.6489179	0.6612954		1.9	+/-20	

* Values outside of QC limits

Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

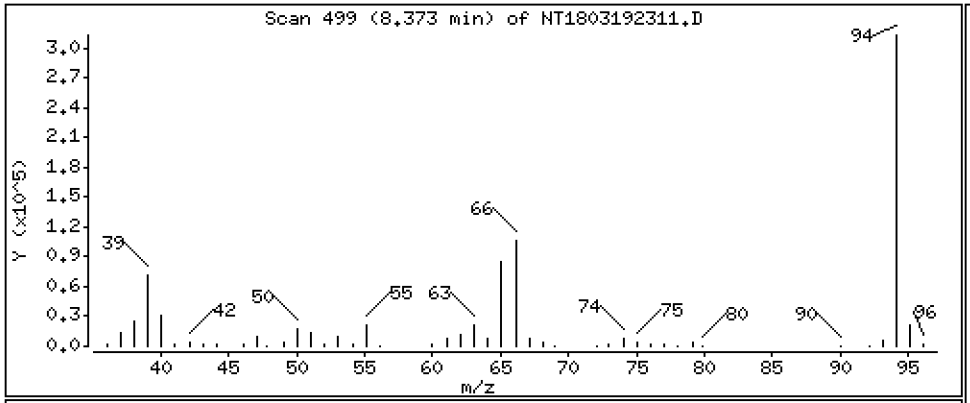
Operator: VTS

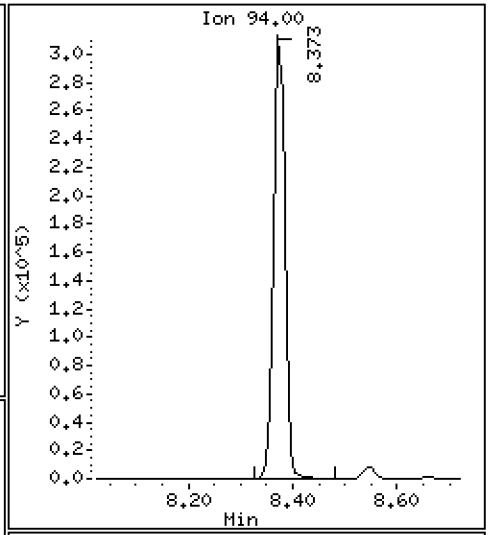
Column phase: ZB-5msi

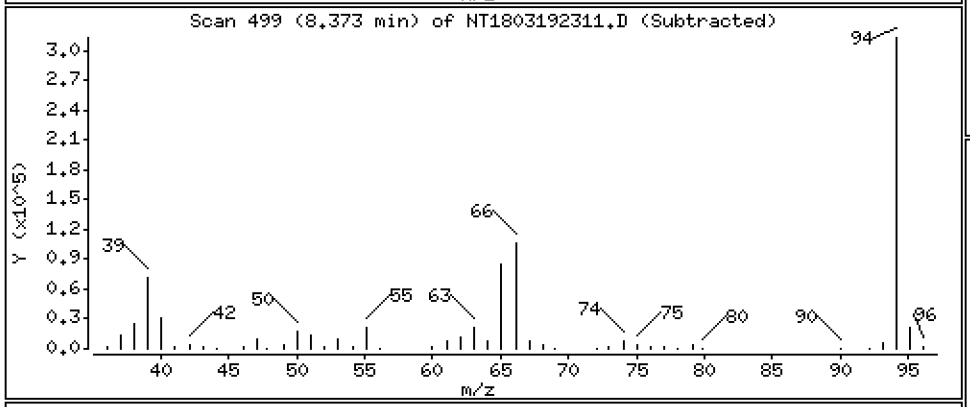
Column diameter: 0.25

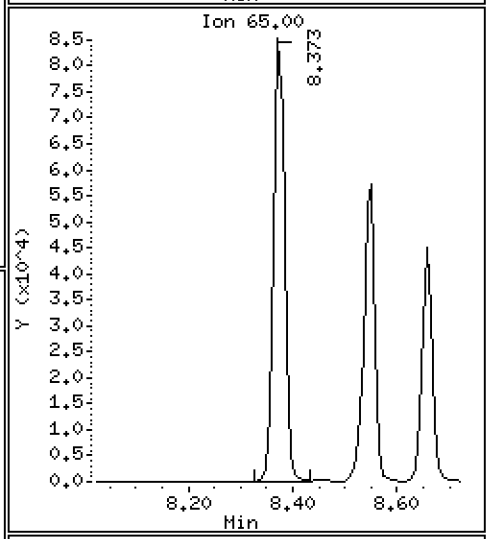
3 Phenol

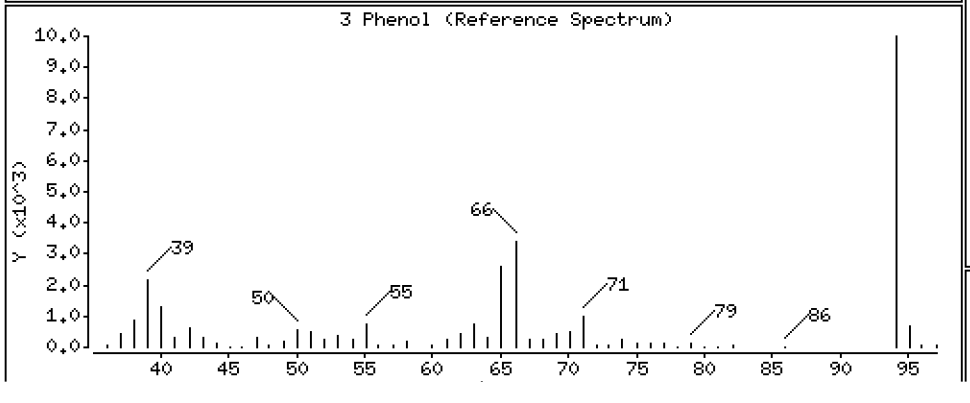
Concentration: 4.352 ug/mL

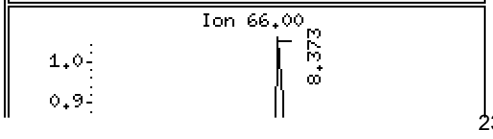












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

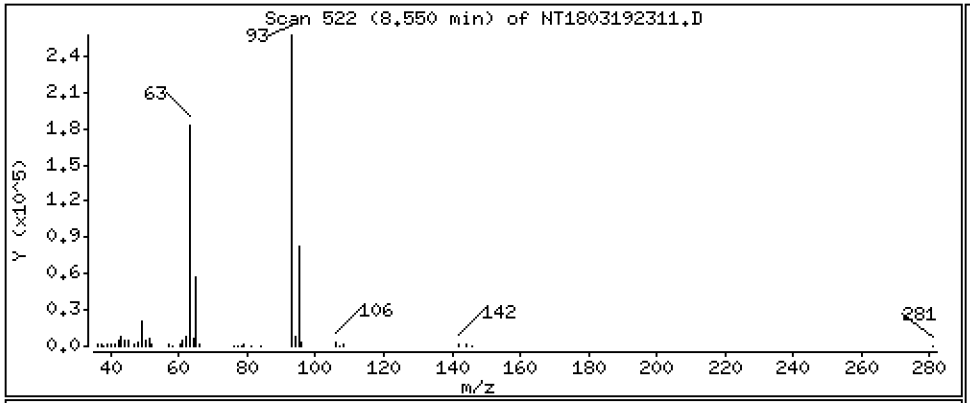
Operator: VTS

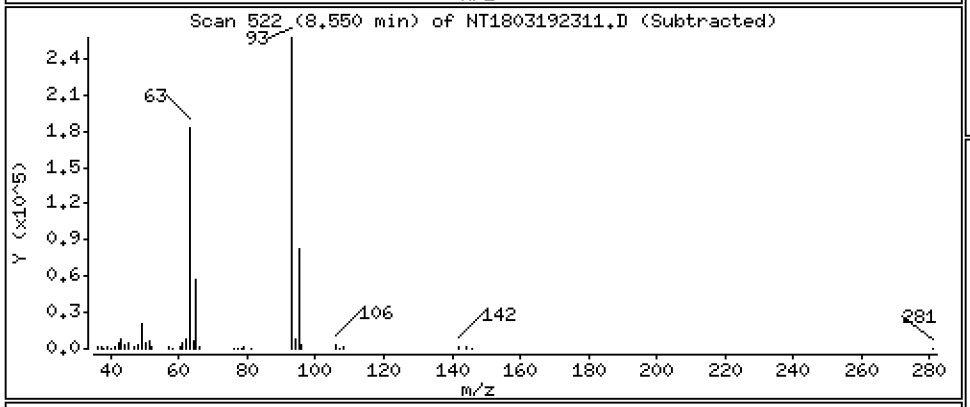
Column phase: ZB-5msi

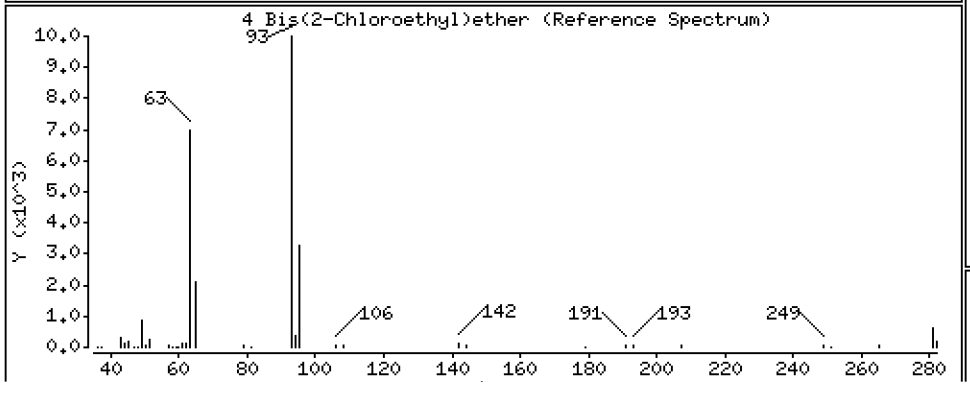
Column diameter: 0.25

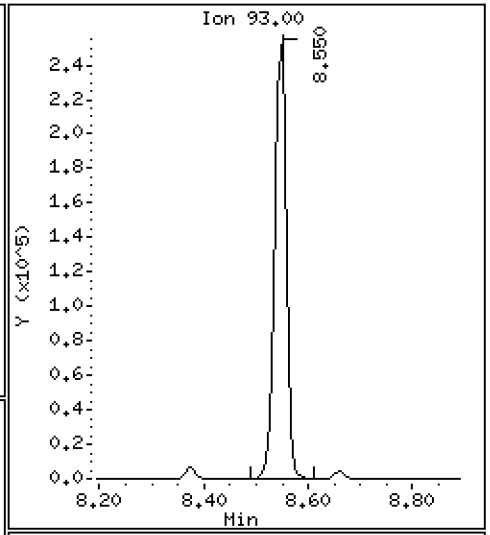
4 Bis(2-Chloroethyl)ether

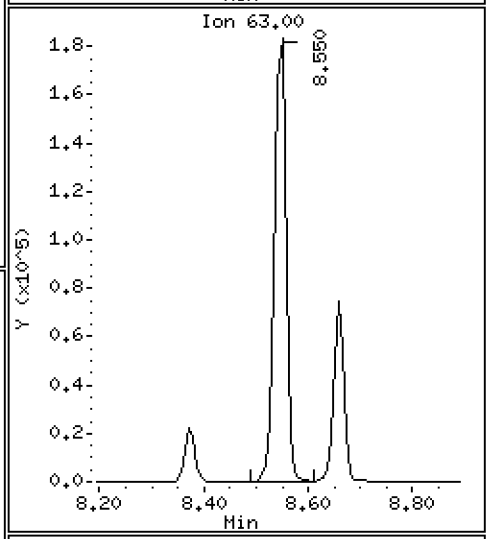
Concentration: 5.260 ug/mL

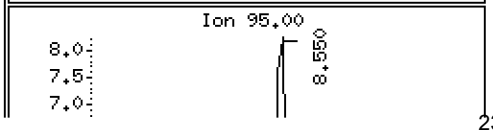












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

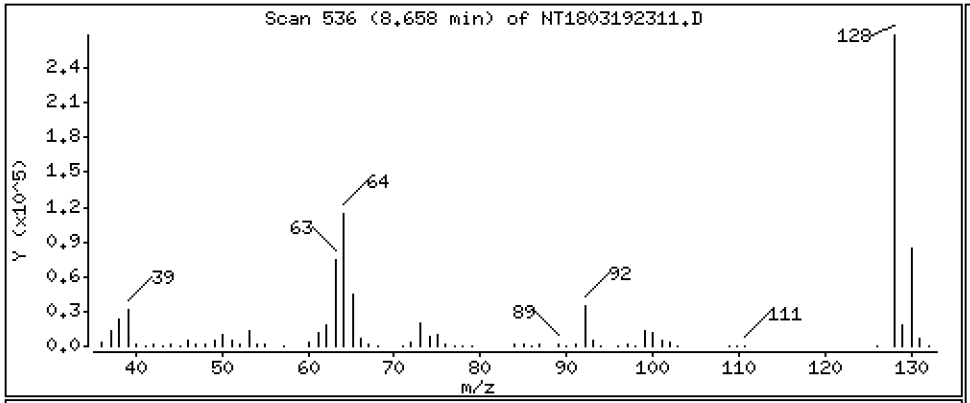
Operator: VTS

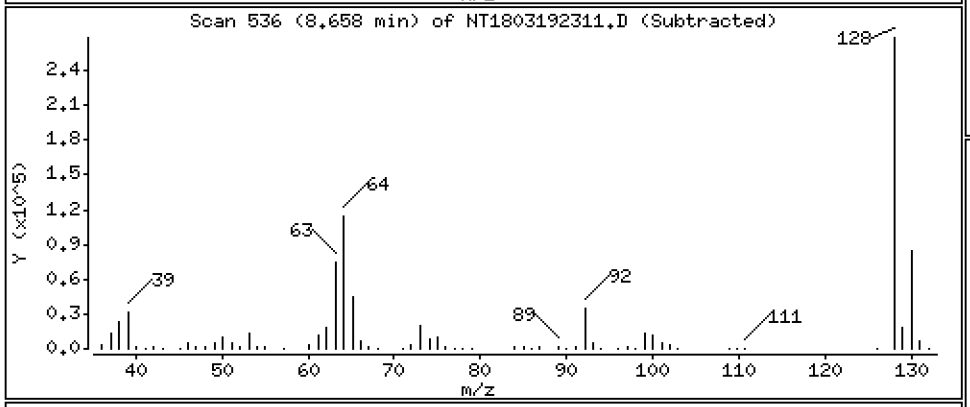
Column phase: ZB-5msi

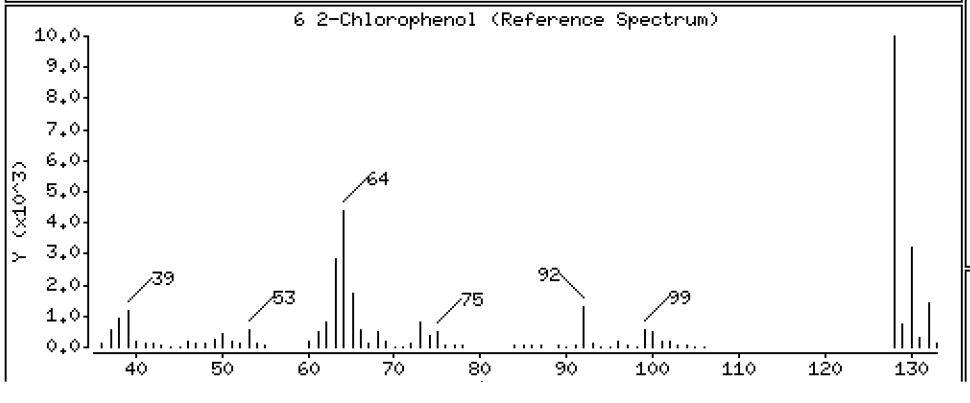
Column diameter: 0.25

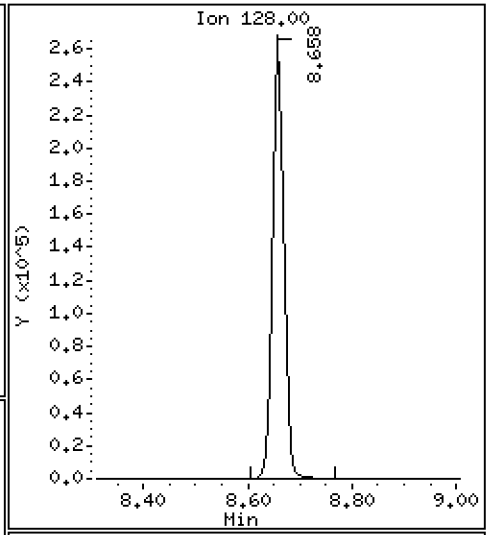
6 2-Chlorophenol

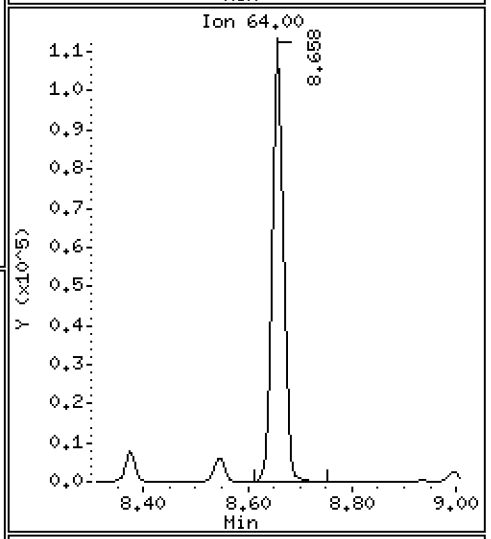
Concentration: 4.473 ug/mL

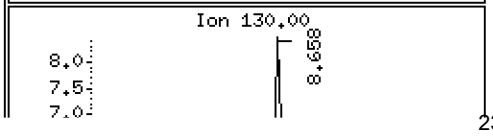












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

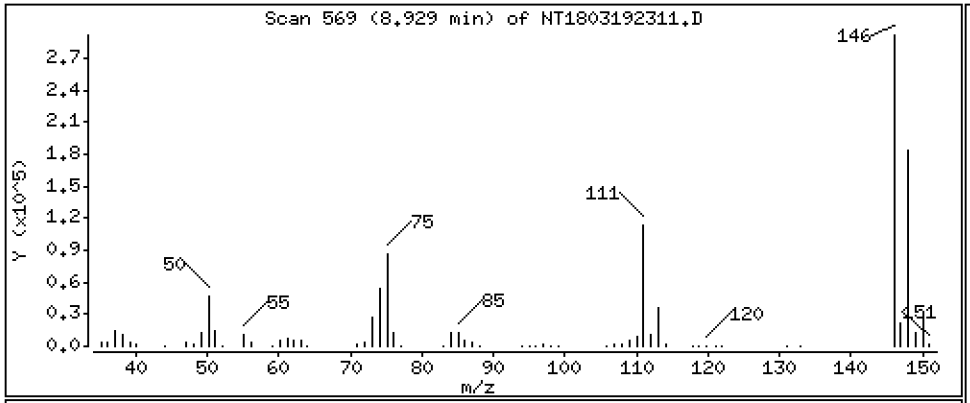
Operator: VTS

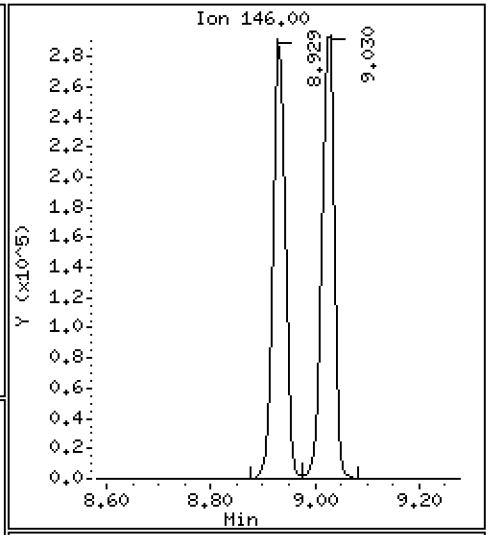
Column phase: ZB-5msi

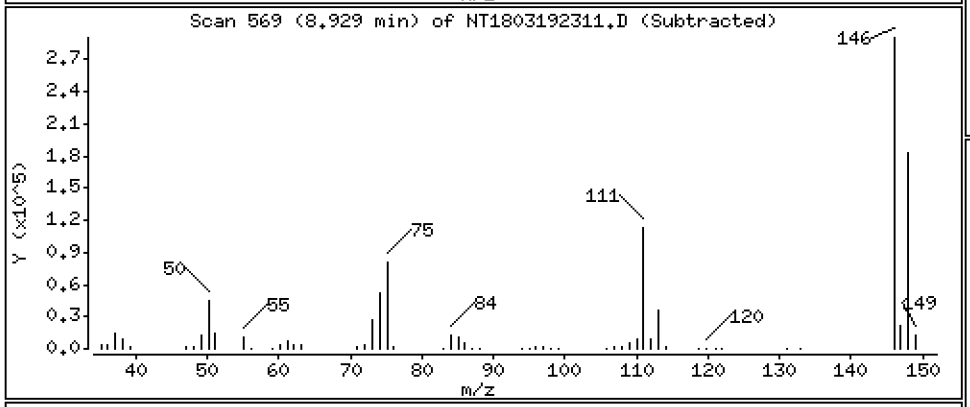
Column diameter: 0.25

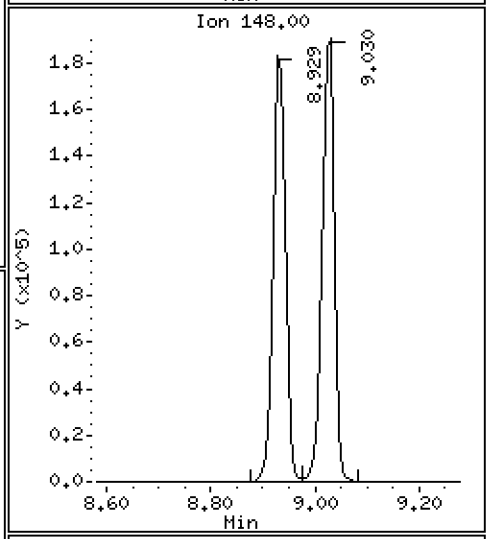
7 1,3-Dichlorobenzene

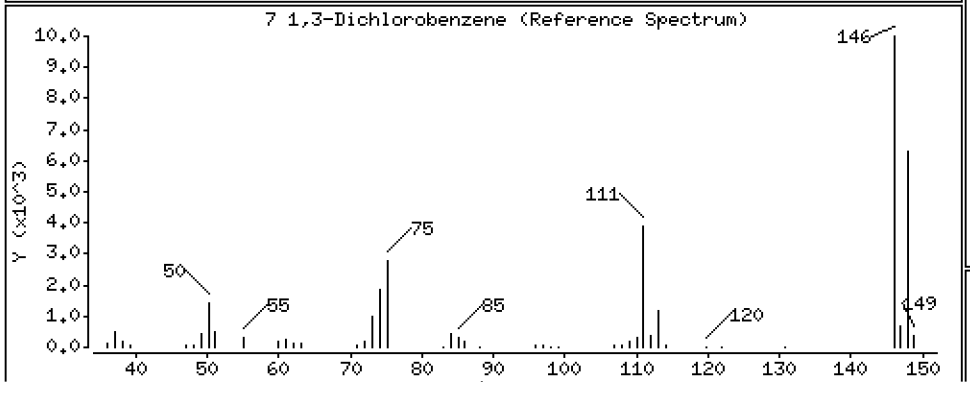
Concentration: 5.009 ug/mL

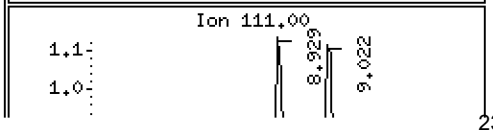












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

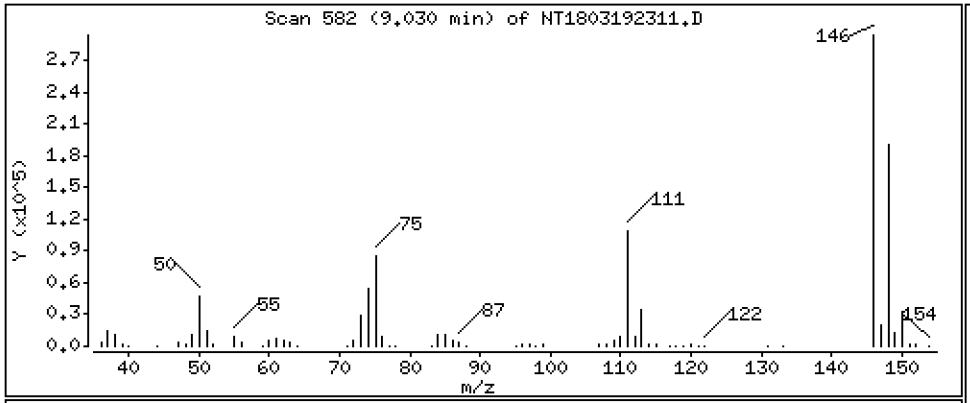
Operator: VTS

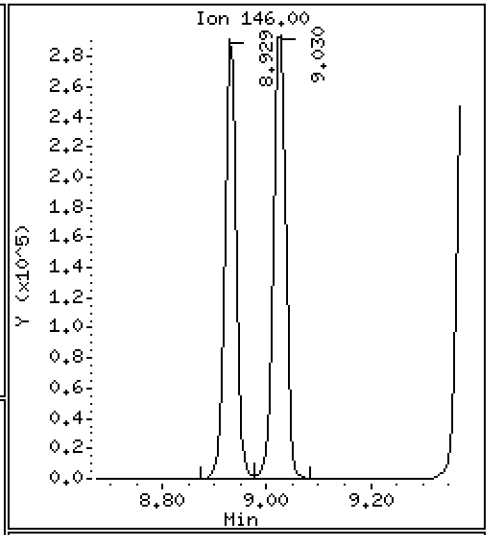
Column phase: ZB-5msi

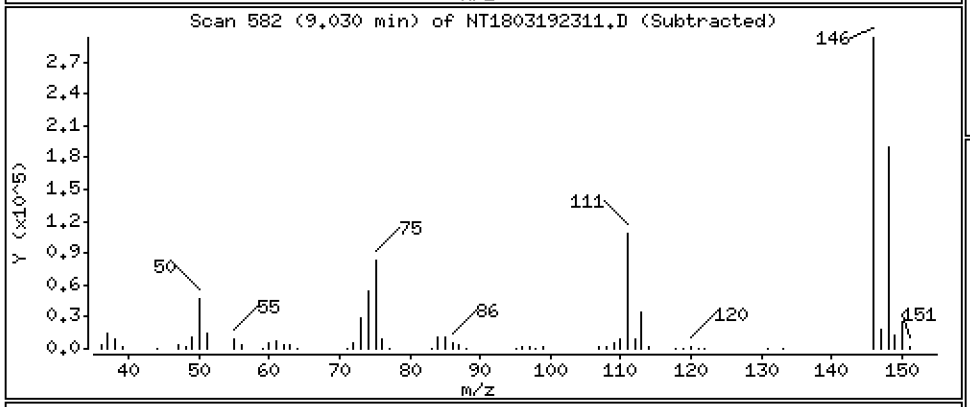
Column diameter: 0.25

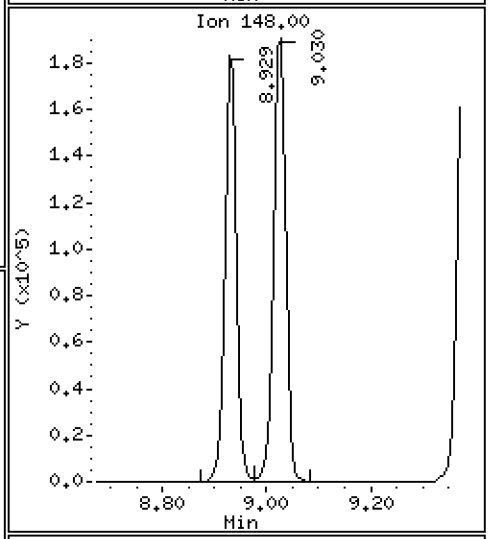
9 1,4-Dichlorobenzene

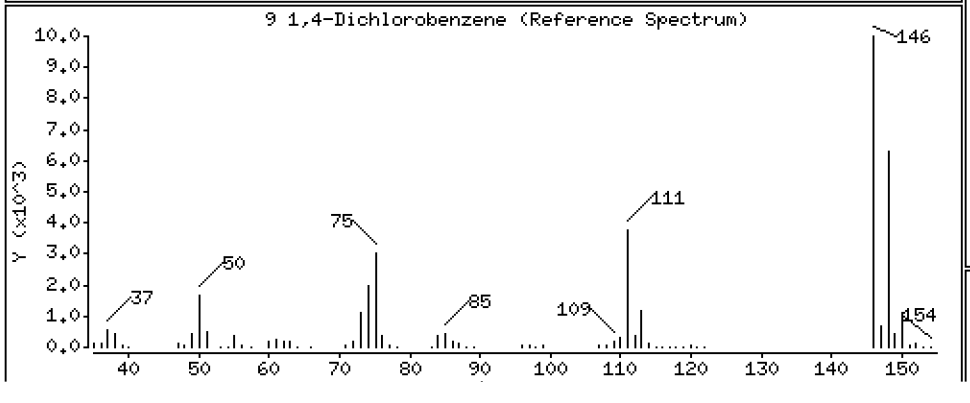
Concentration: 5.071 ug/mL

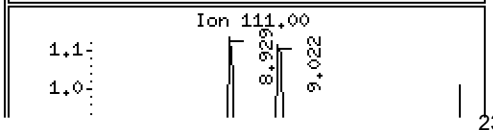












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

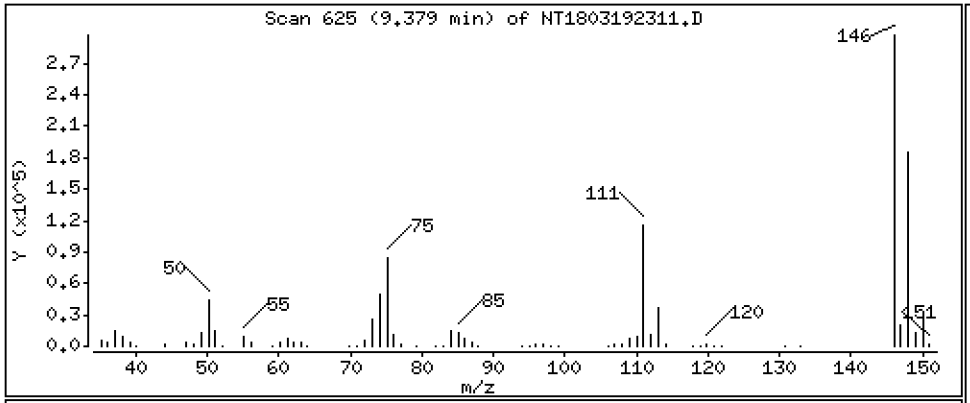
Operator: VTS

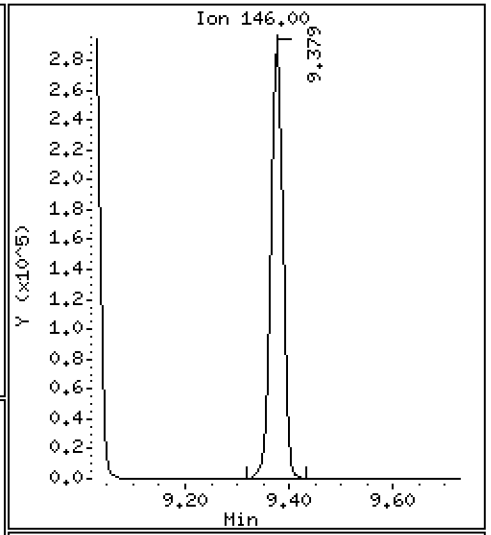
Column phase: ZB-5msi

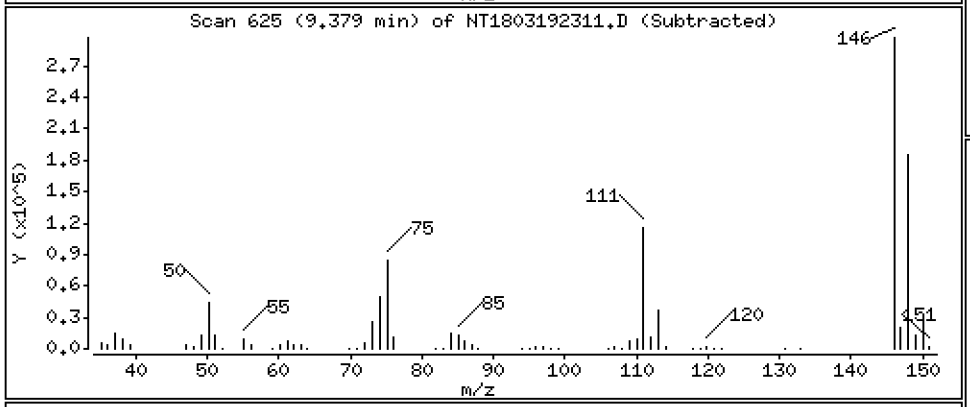
Column diameter: 0.25

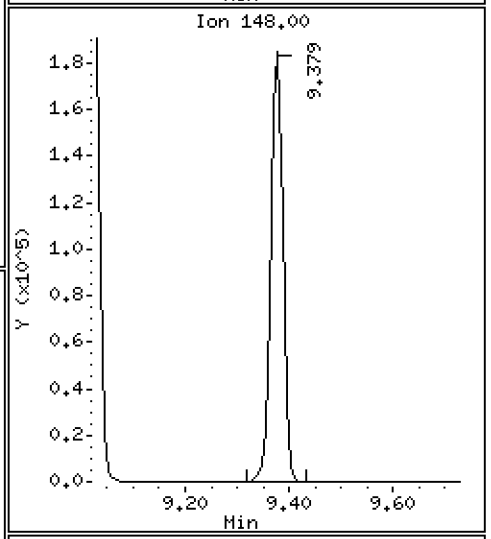
12 1,2-Dichlorobenzene

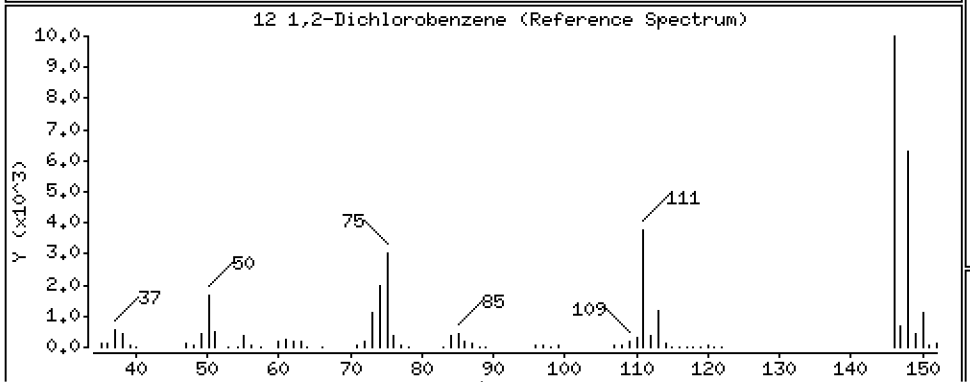
Concentration: 4.916 ug/mL

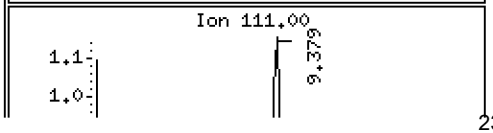












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

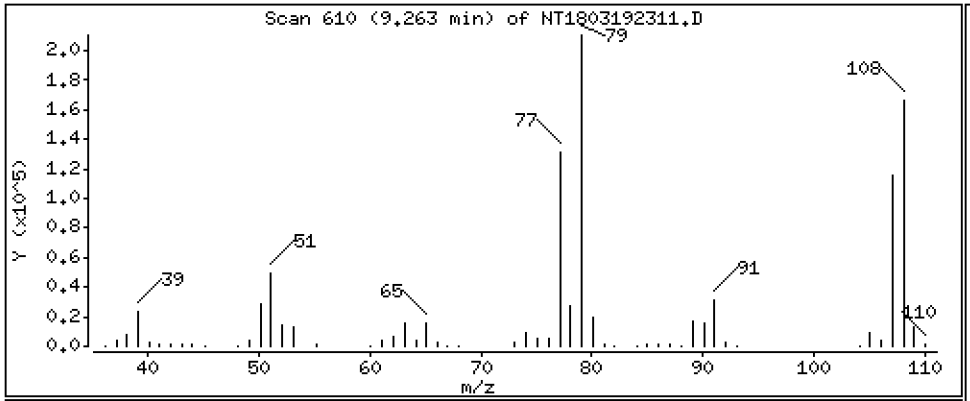
Operator: VTS

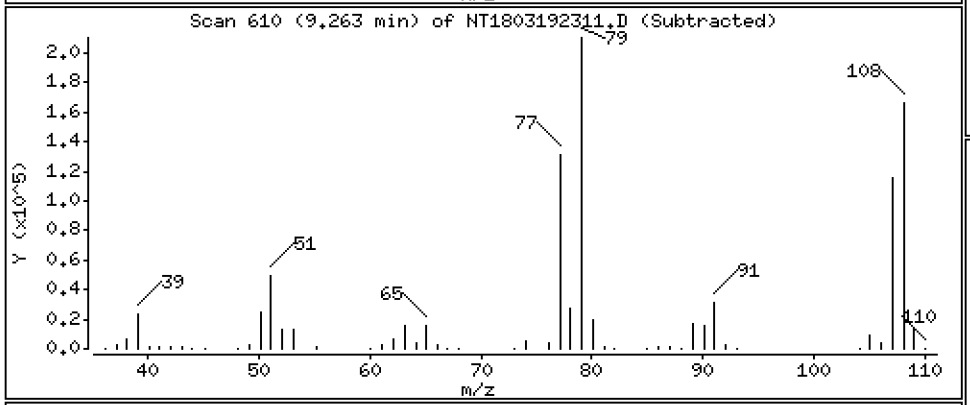
Column phase: ZB-5msi

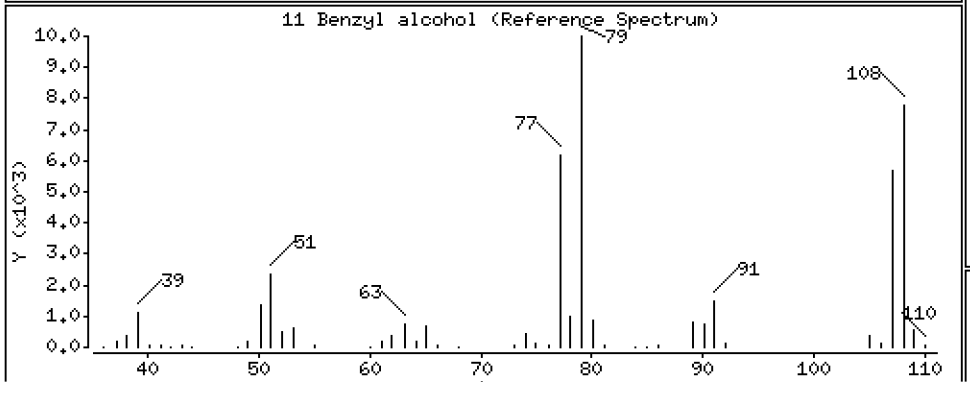
Column diameter: 0.25

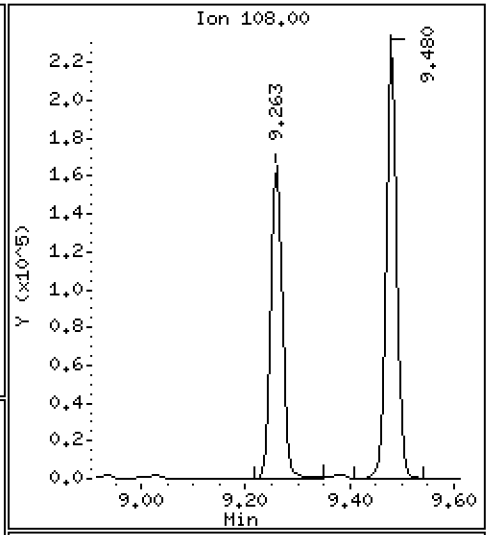
11 Benzyl alcohol

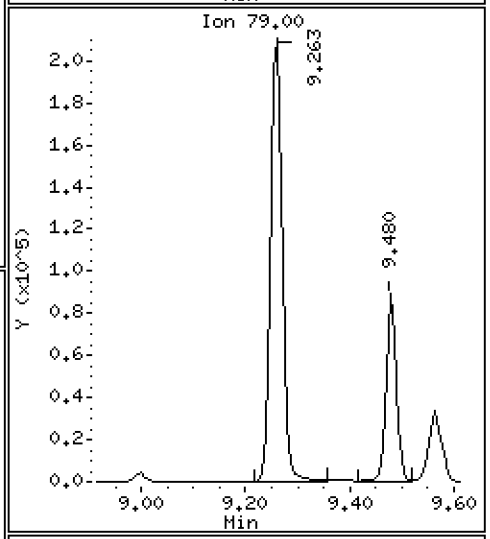
Concentration: 5.203 ug/mL

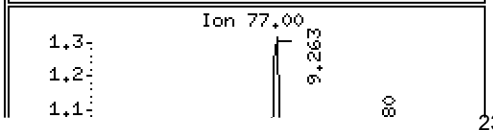












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

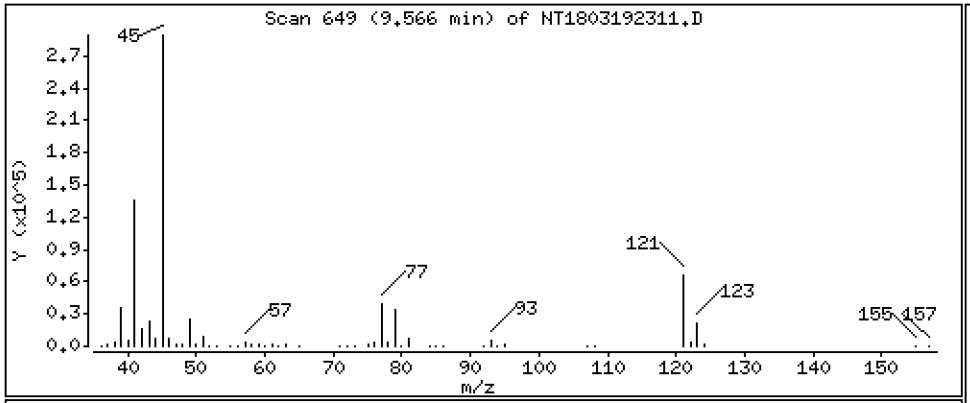
Operator: VTS

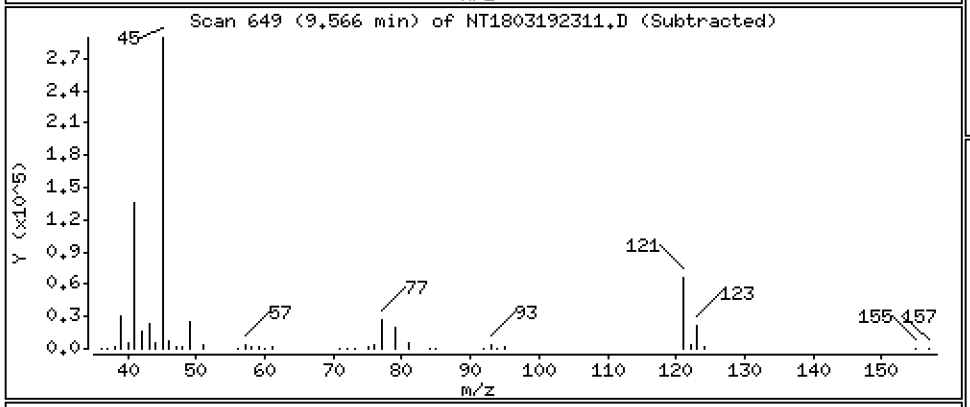
Column phase: ZB-5msi

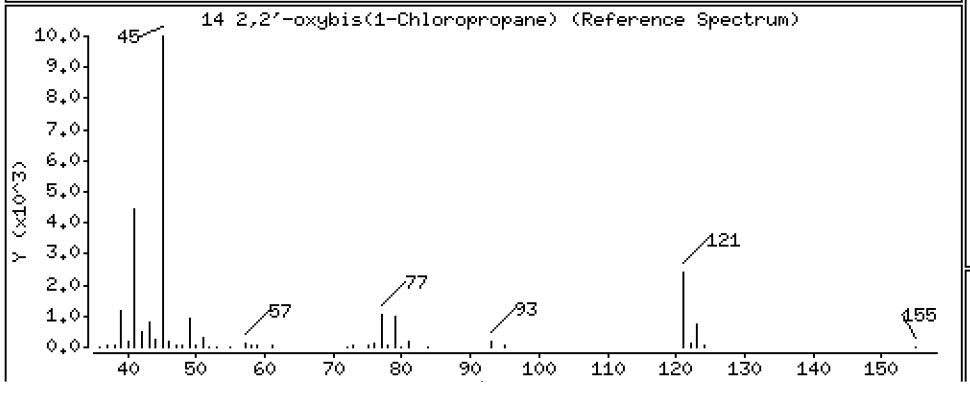
Column diameter: 0.25

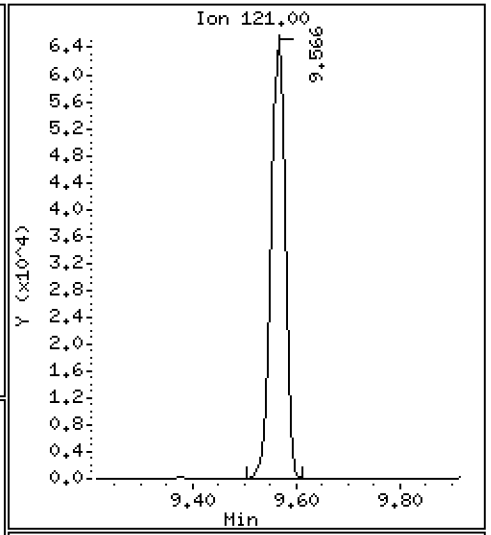
14 2,2'-oxybis(1-Chloropropane)

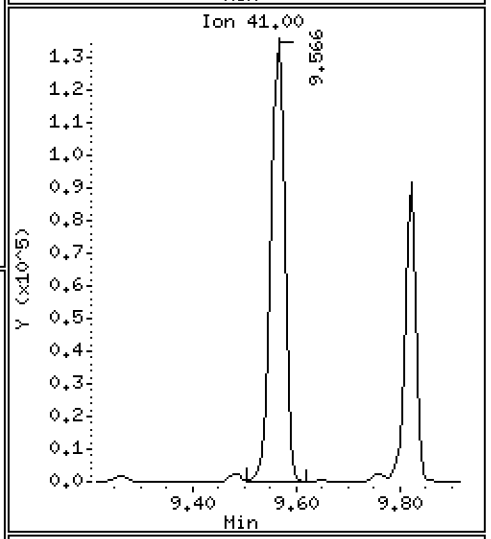
Concentration: 5.545 ug/mL

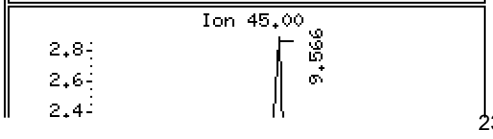












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

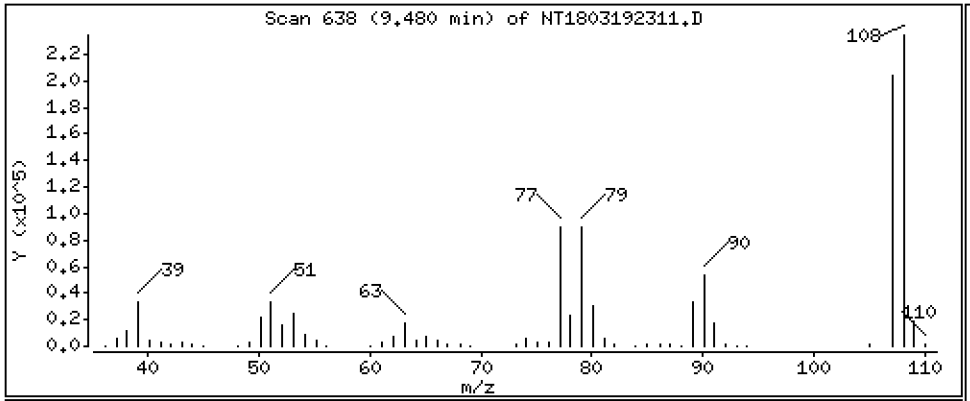
Operator: VTS

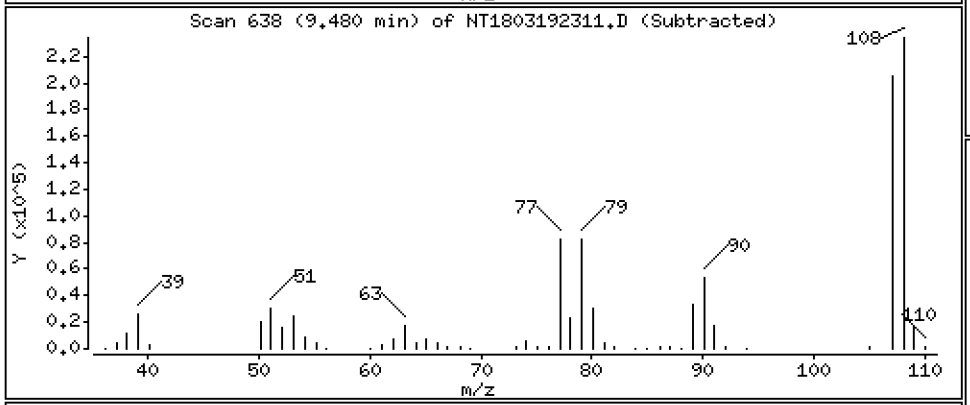
Column phase: ZB-5msi

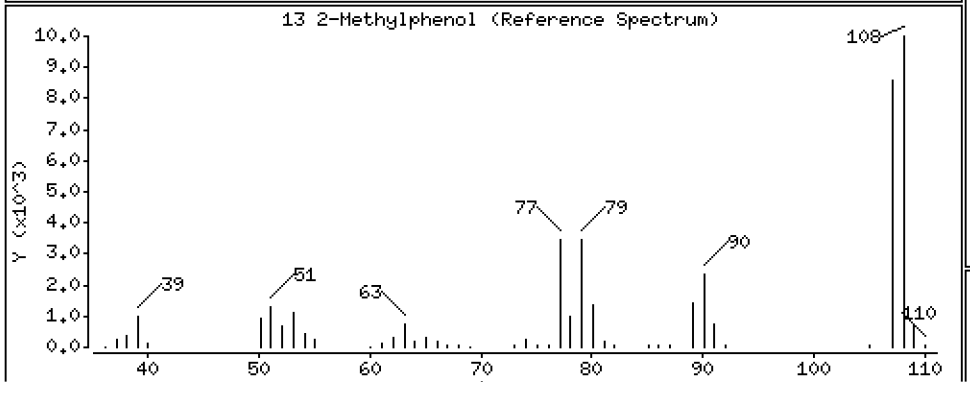
Column diameter: 0.25

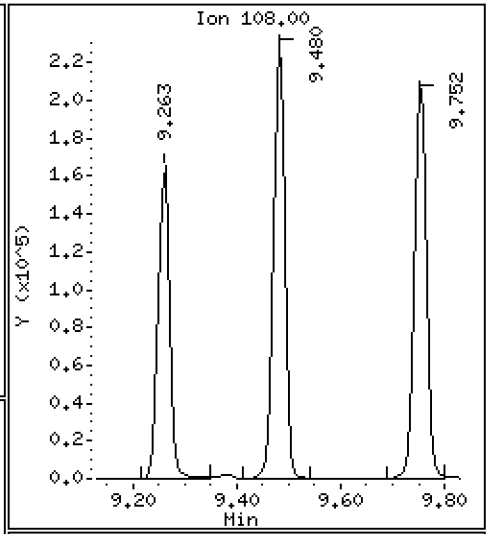
13 2-Methylphenol

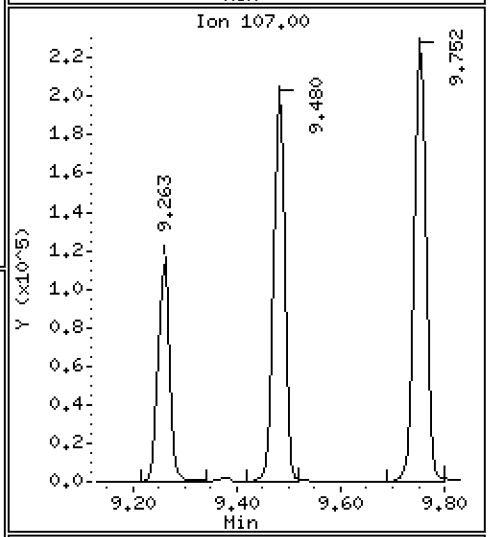
Concentration: 4.238 ug/mL

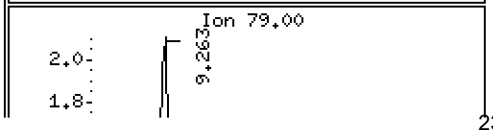












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

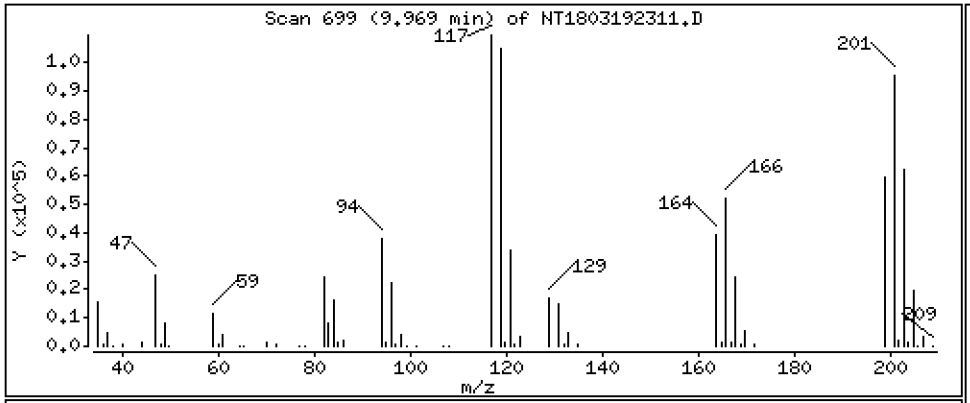
Operator: VTS

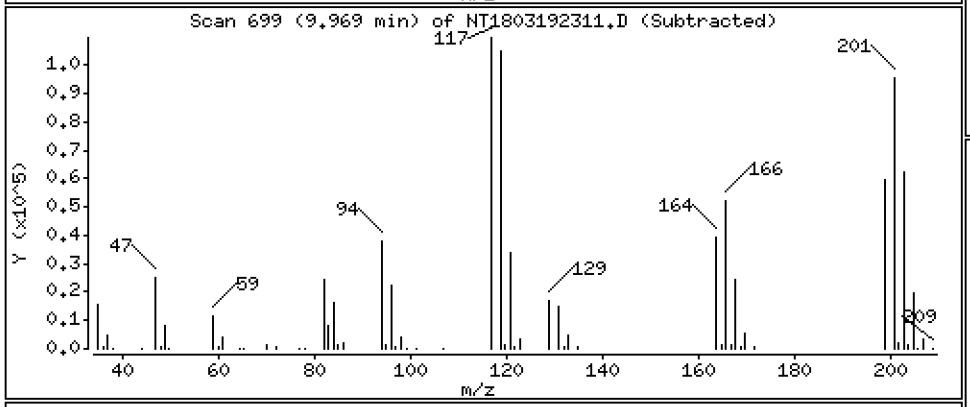
Column phase: ZB-5msi

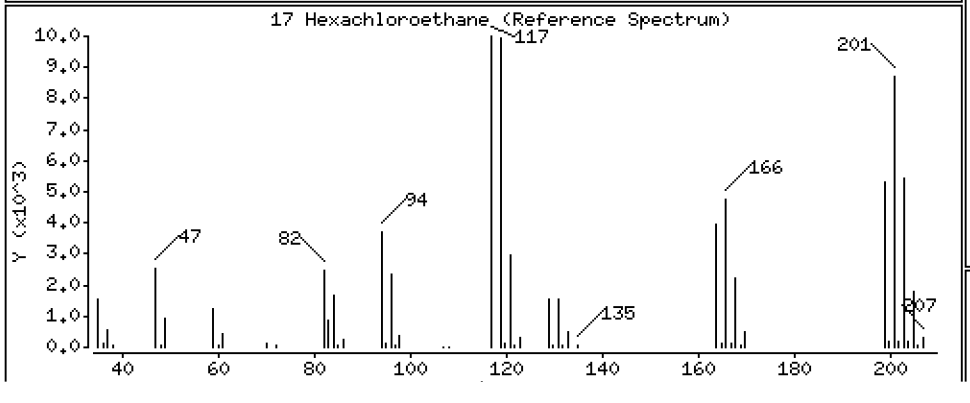
Column diameter: 0.25

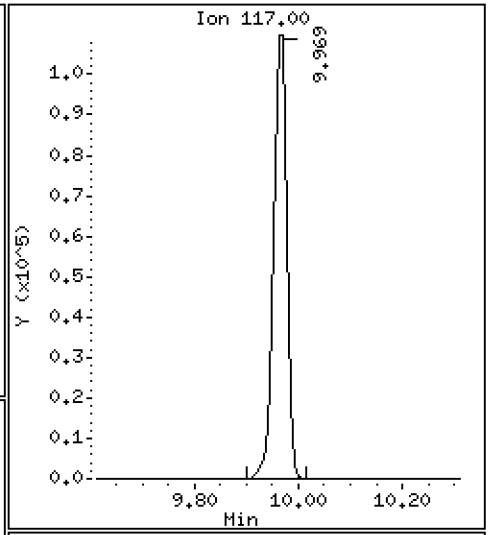
17 Hexachloroethane

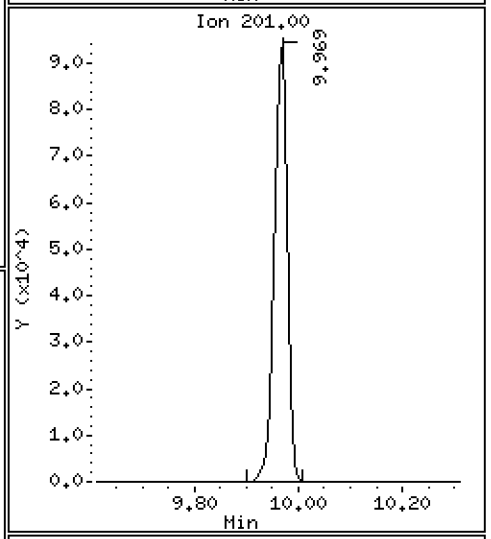
Concentration: 5.164 ug/mL

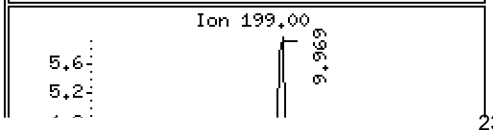












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

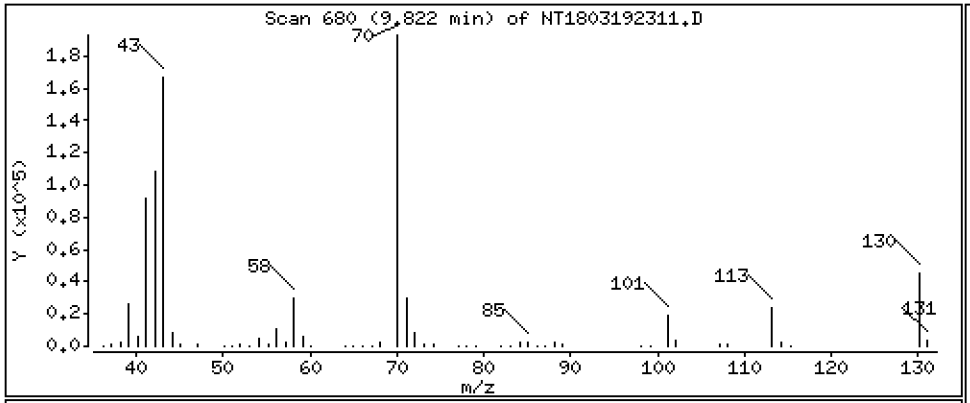
Operator: VTS

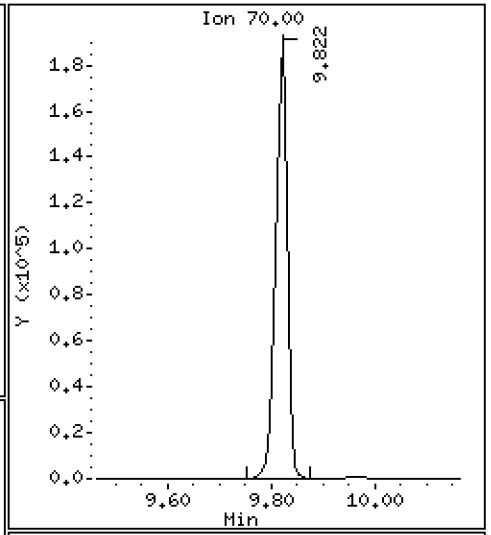
Column phase: ZB-5msi

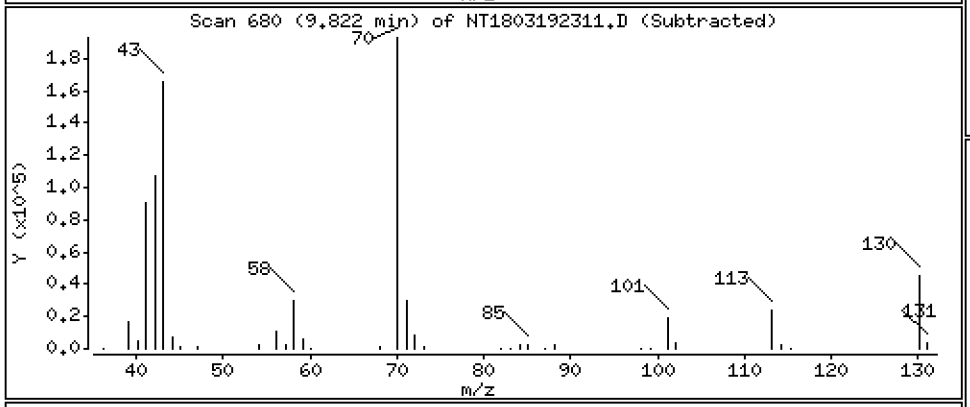
Column diameter: 0.25

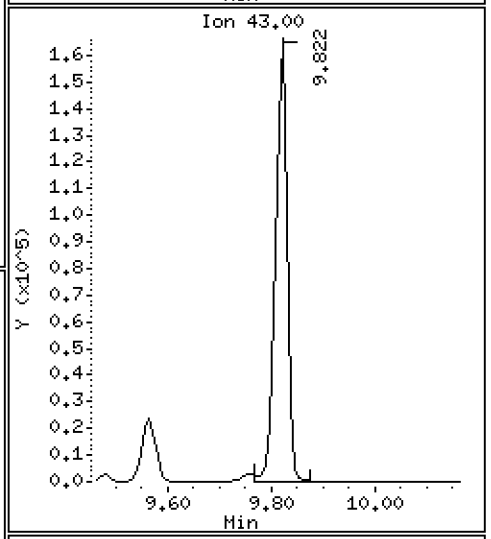
16 N-Nitroso-di-n-propylamine

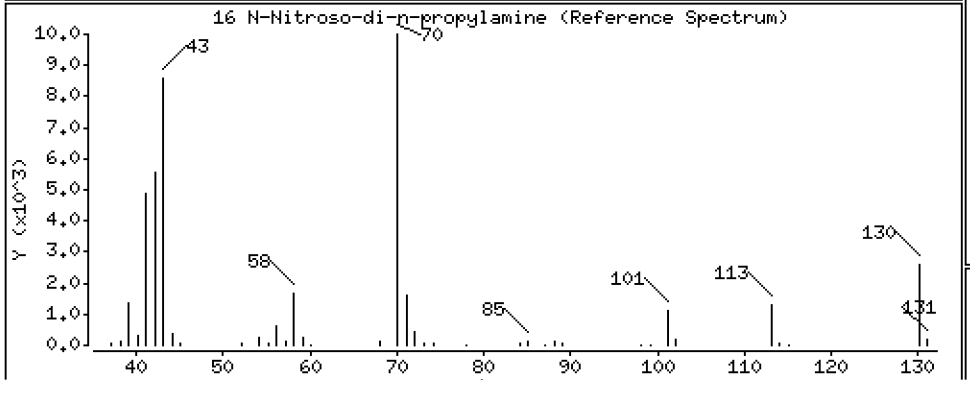
Concentration: 5.237 ug/mL

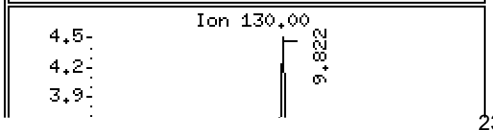












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

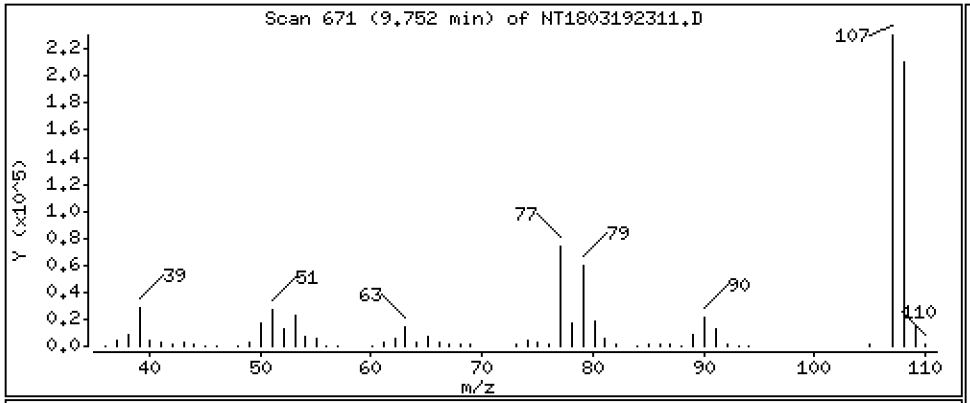
Operator: VTS

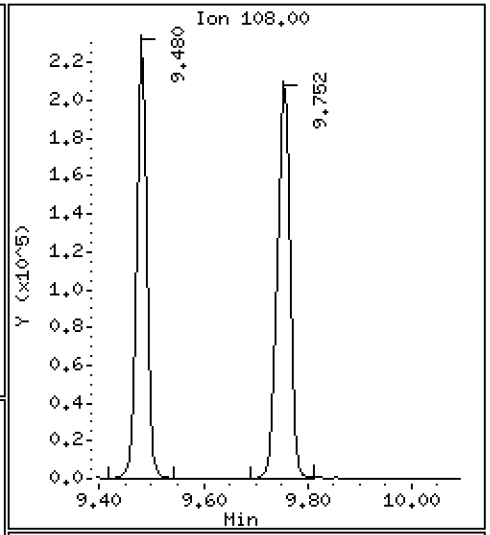
Column phase: ZB-5msi

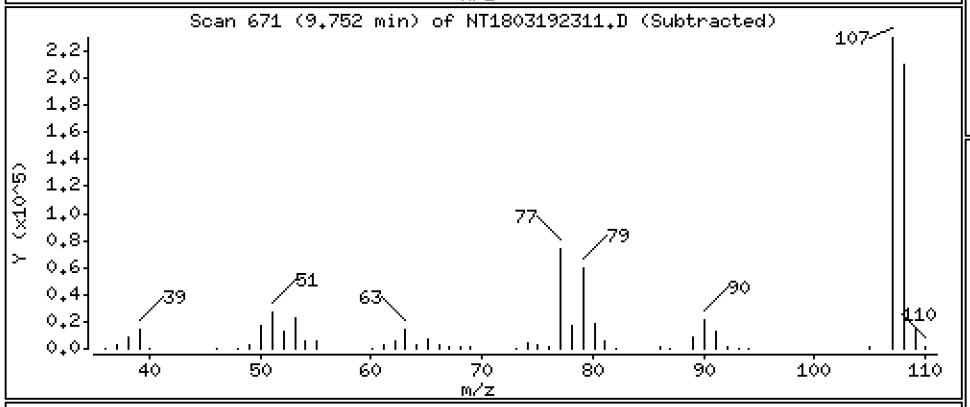
Column diameter: 0.25

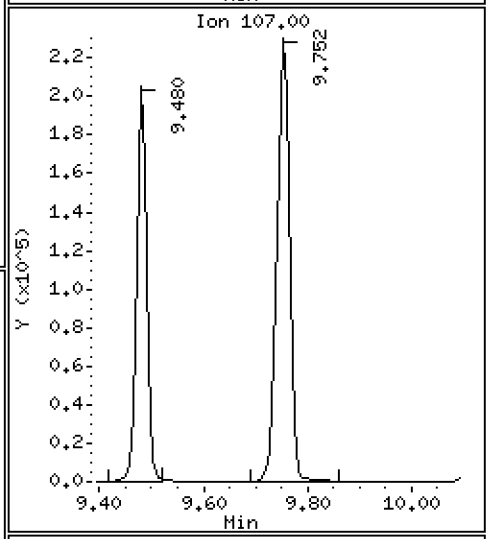
15 4-Methylphenol

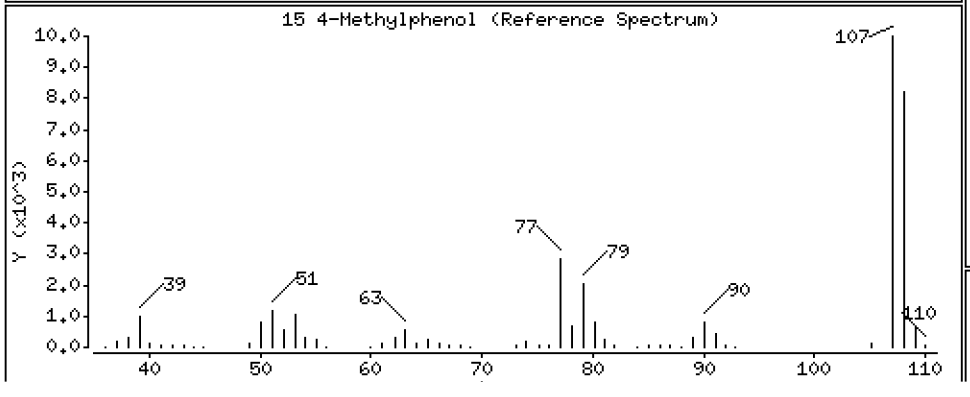
Concentration: 4.482 ug/mL

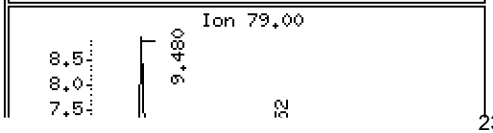












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

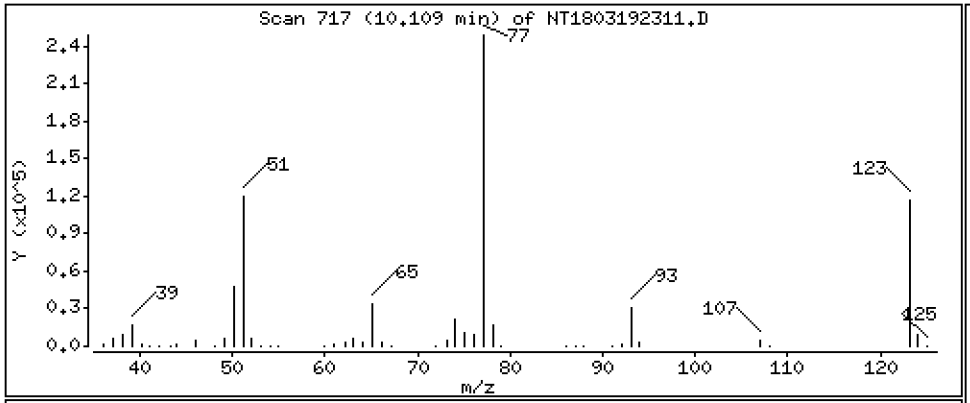
Operator: VTS

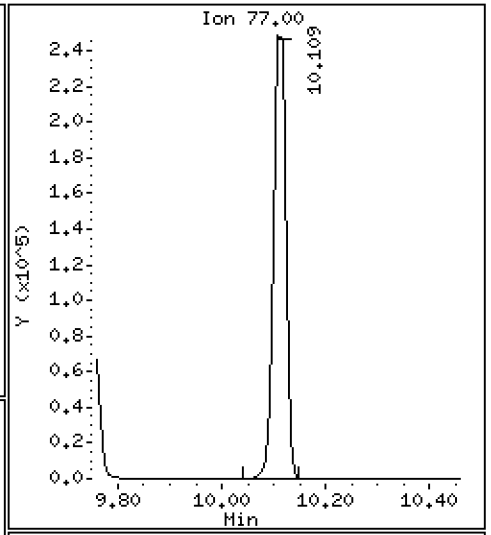
Column phase: ZB-5msi

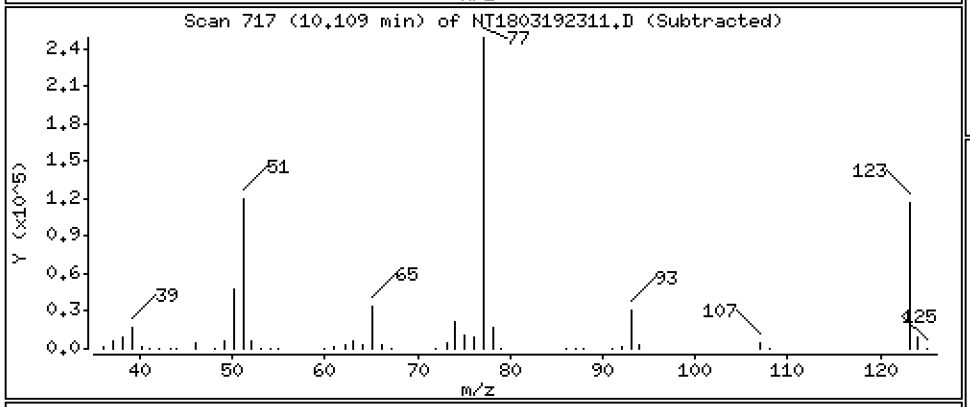
Column diameter: 0.25

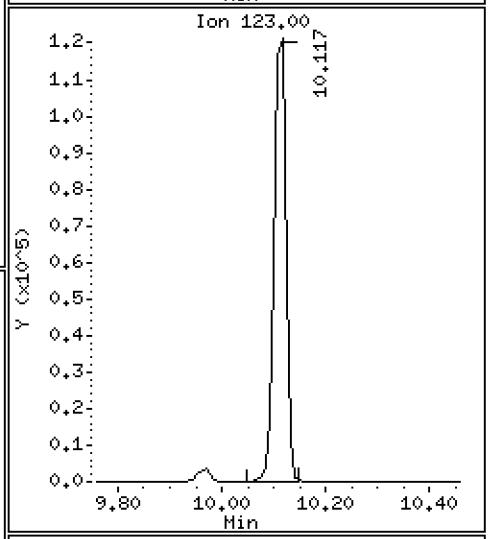
19 Nitrobenzene

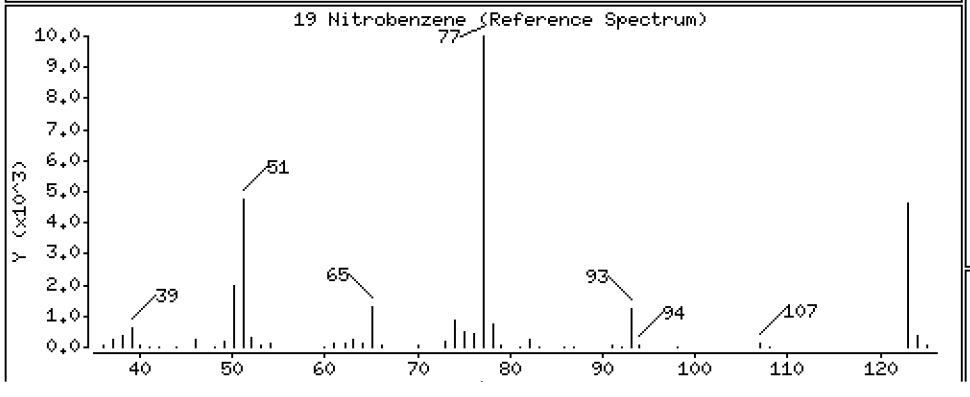
Concentration: 5.029 ug/mL

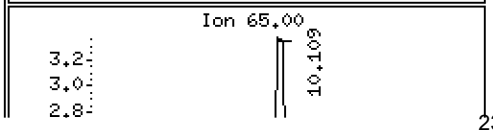












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

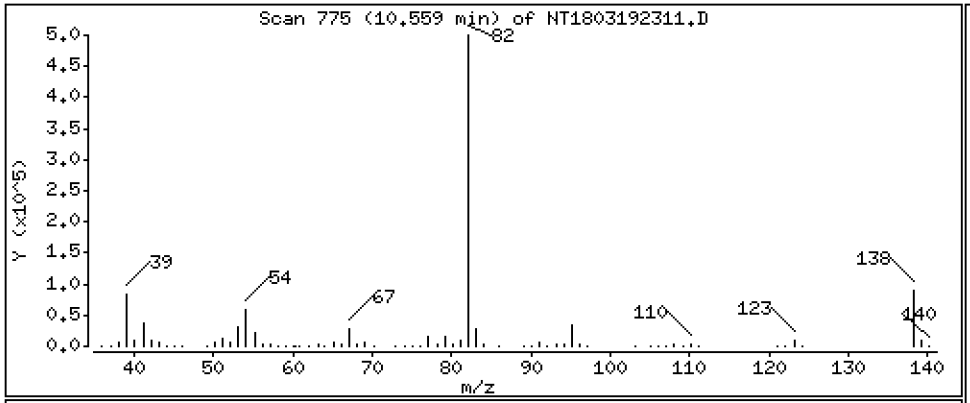
Operator: VTS

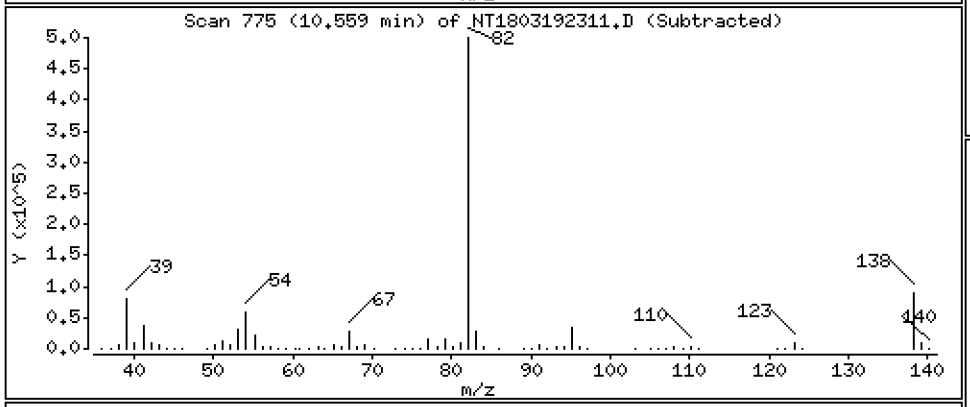
Column phase: ZB-5msi

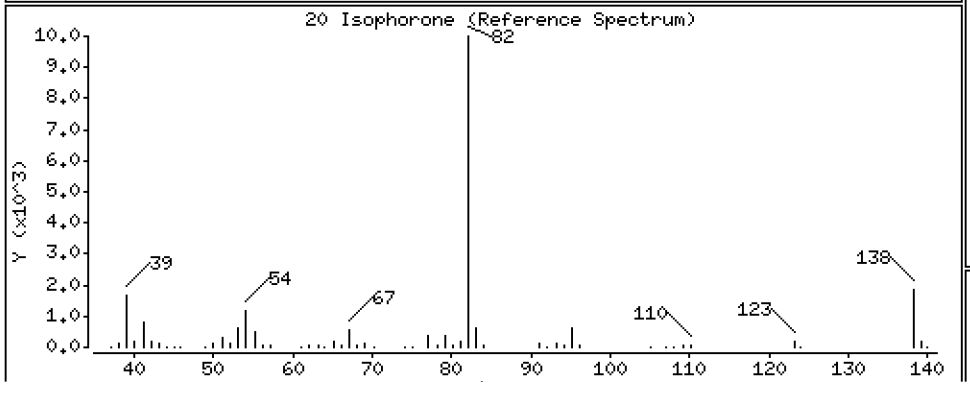
Column diameter: 0.25

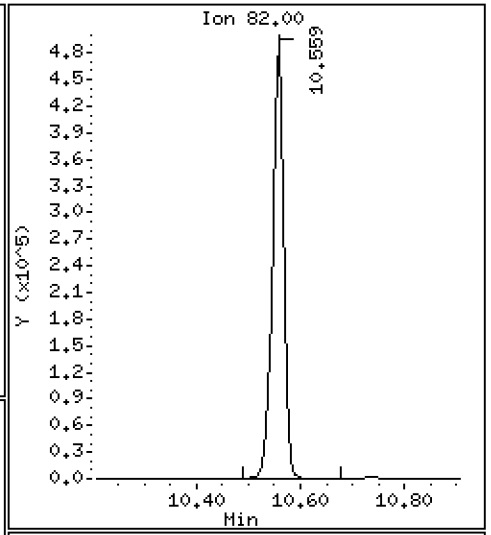
20 Isophorone

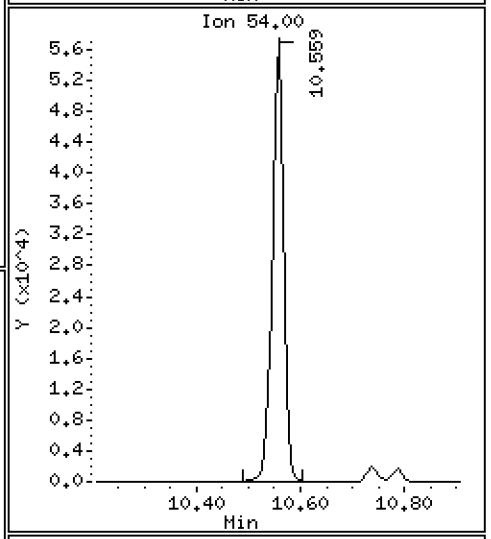
Concentration: 7.923 ug/mL

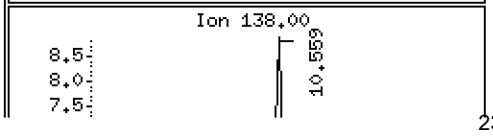












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

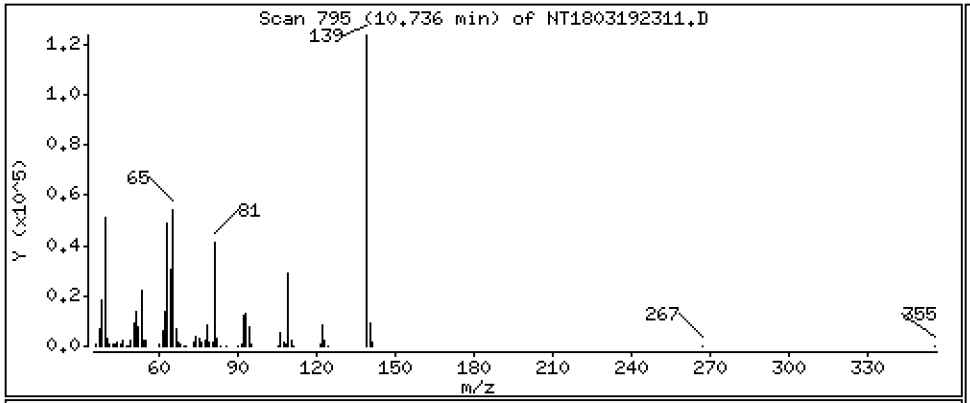
Operator: VTS

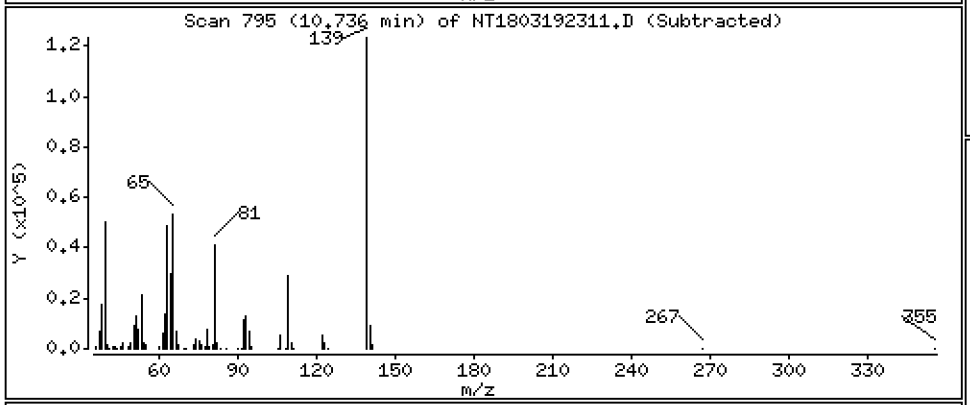
Column phase: ZB-5msi

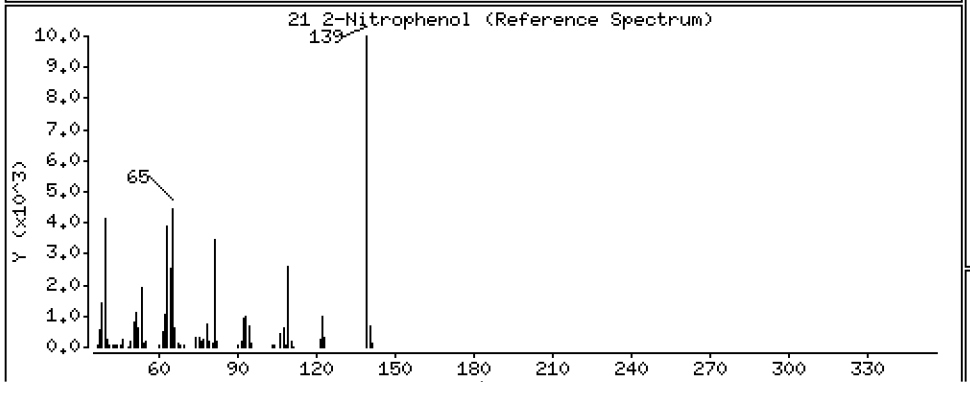
Column diameter: 0.25

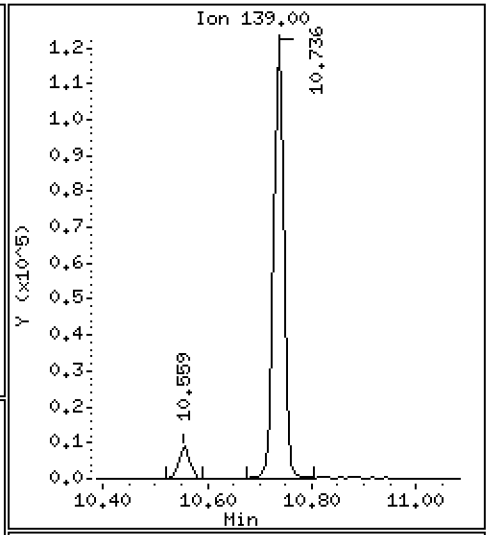
21 2-Nitrophenol

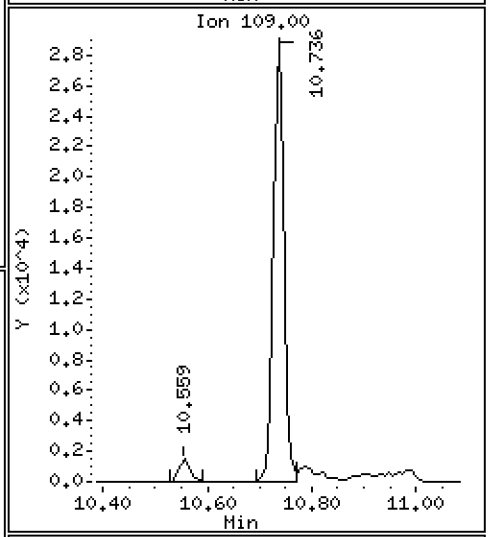
Concentration: 3.748 ug/mL

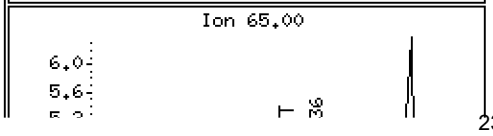












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

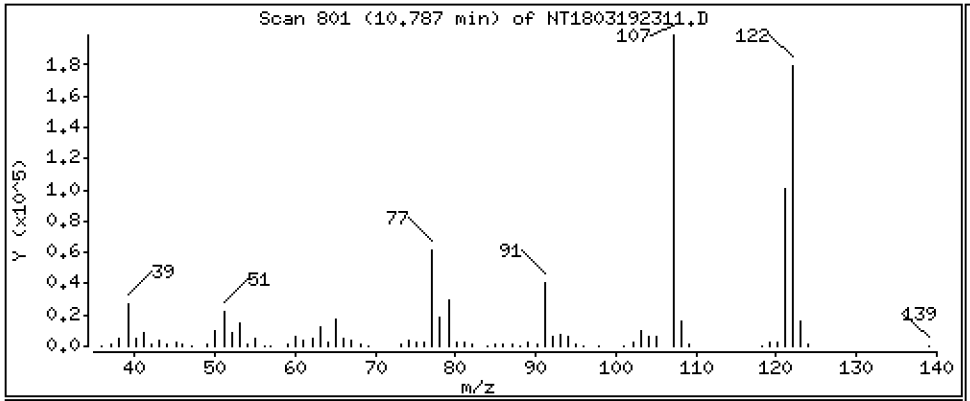
Operator: VTS

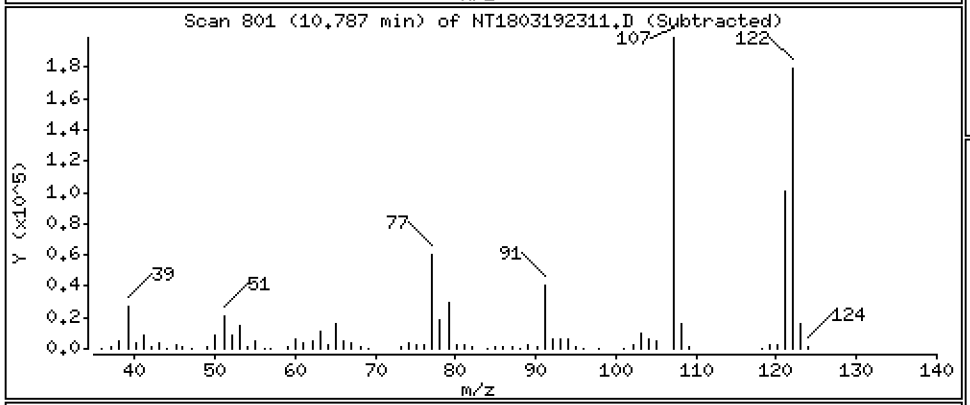
Column phase: ZB-5msi

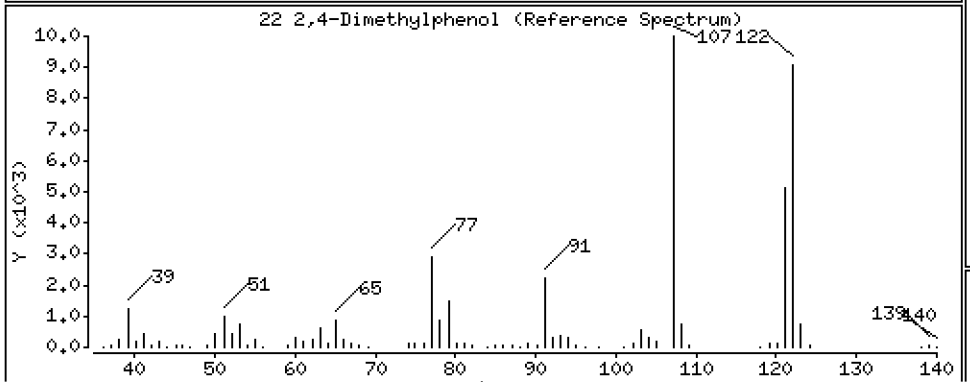
Column diameter: 0.25

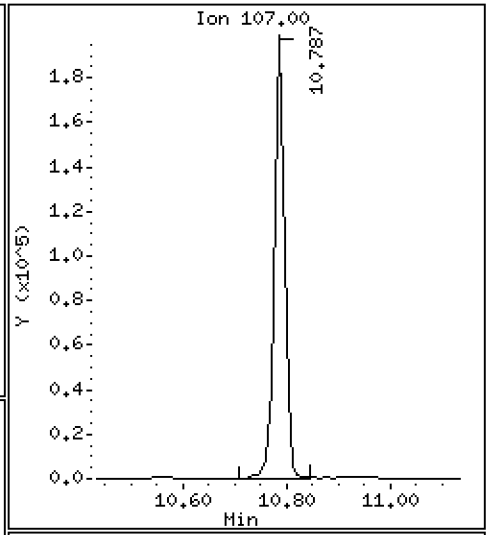
22 2,4-Dimethylphenol

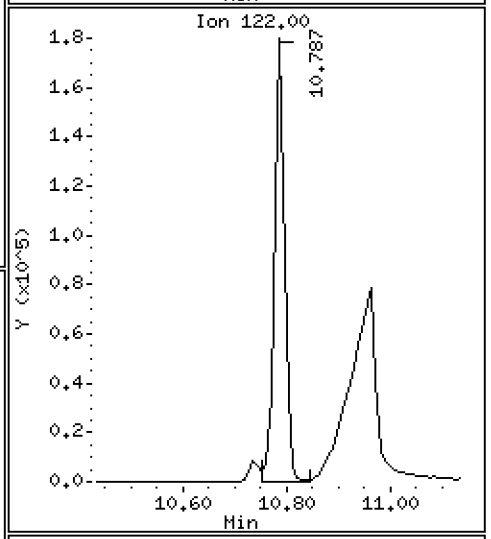
Concentration: 3.726 ug/mL

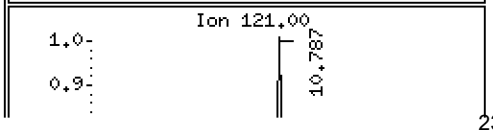












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

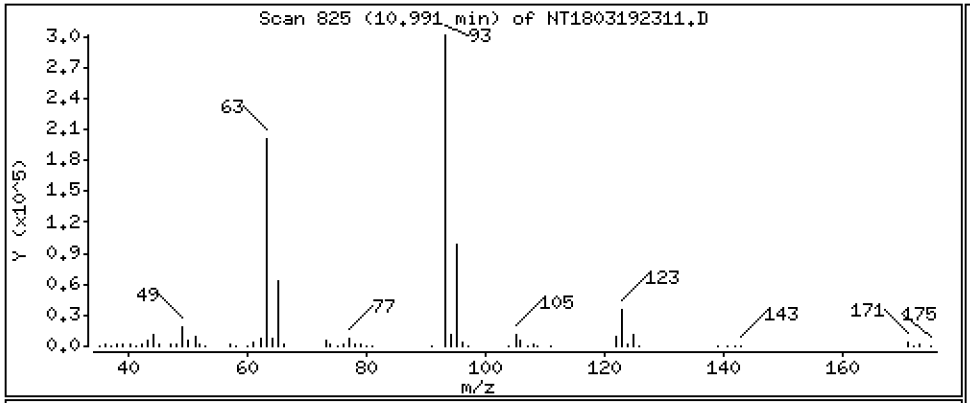
Operator: VTS

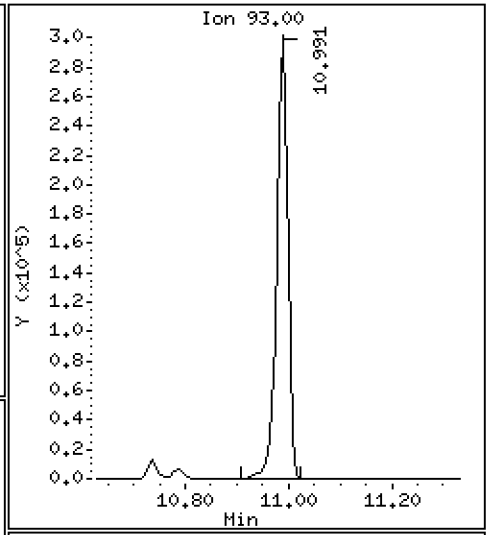
Column phase: ZB-5msi

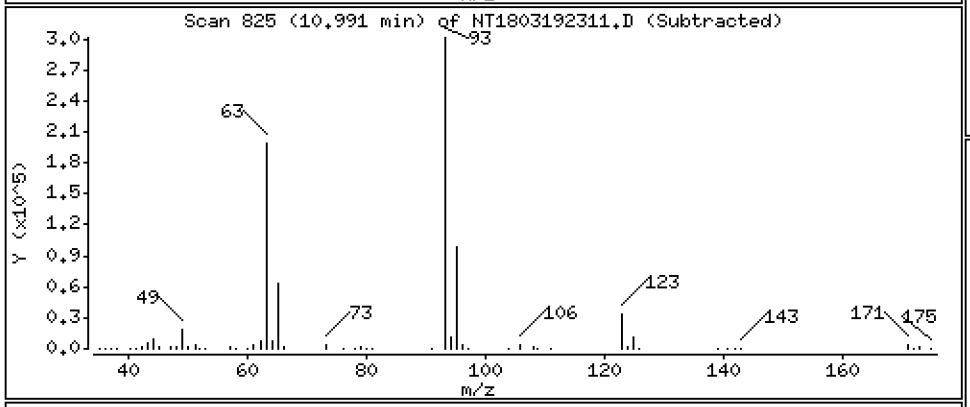
Column diameter: 0.25

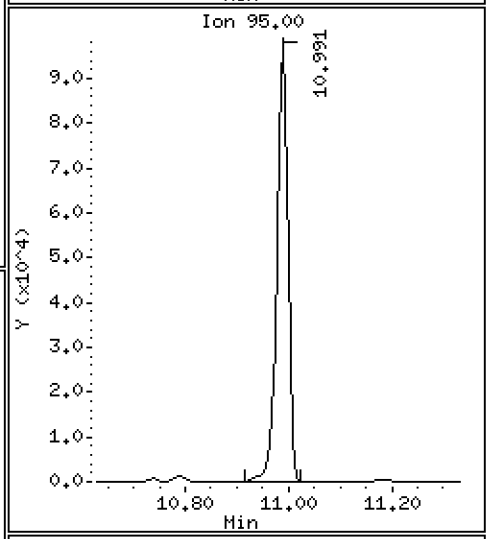
23 Bis(2-Chloroethoxy)methane

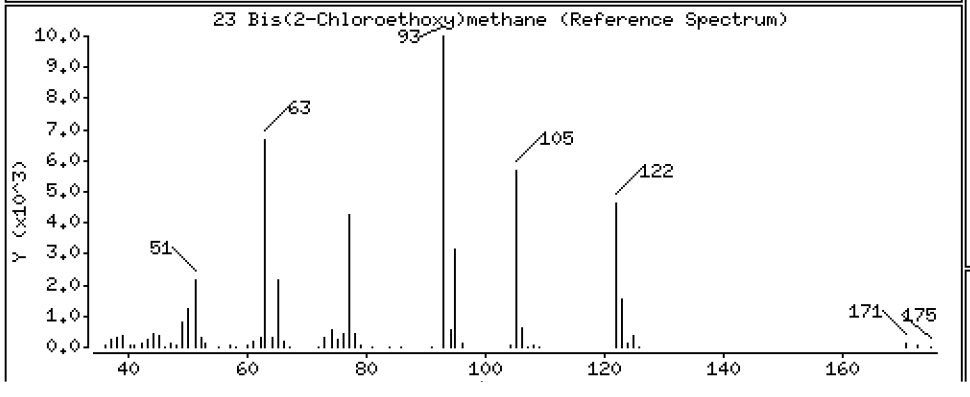
Concentration: 5.862 ug/mL

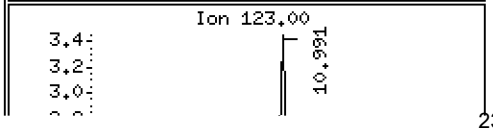












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

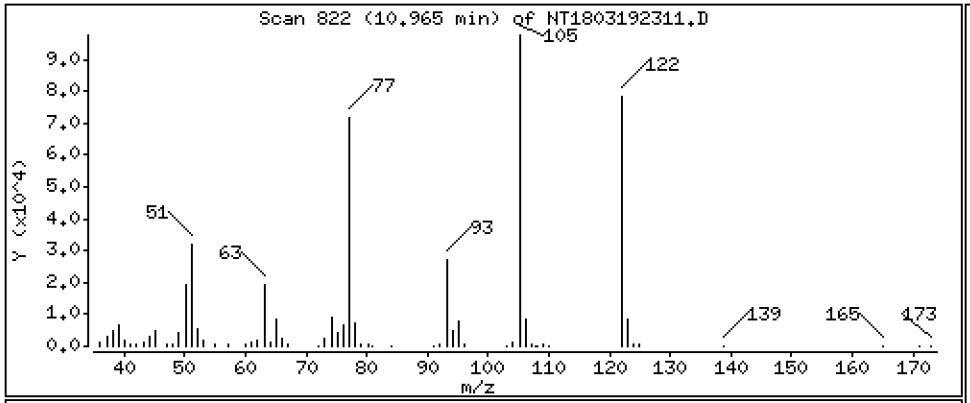
Operator: VTS

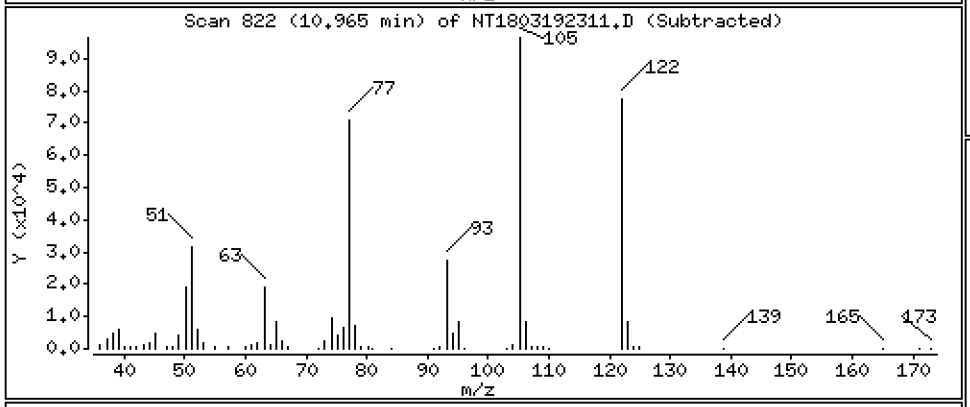
Column phase: ZB-5msi

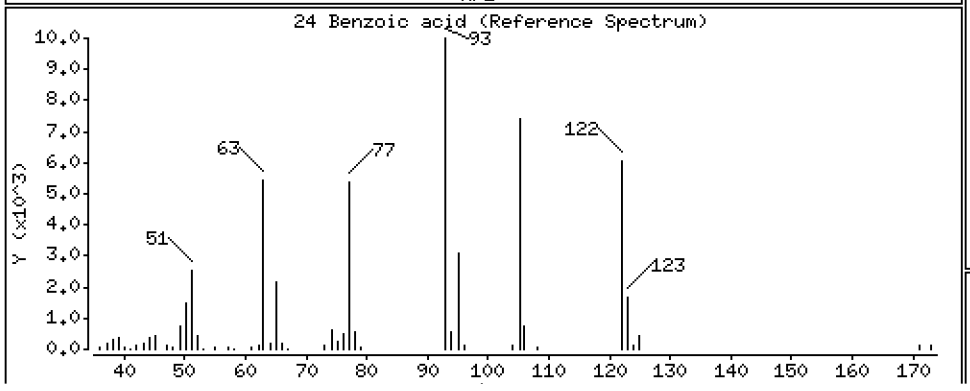
Column diameter: 0.25

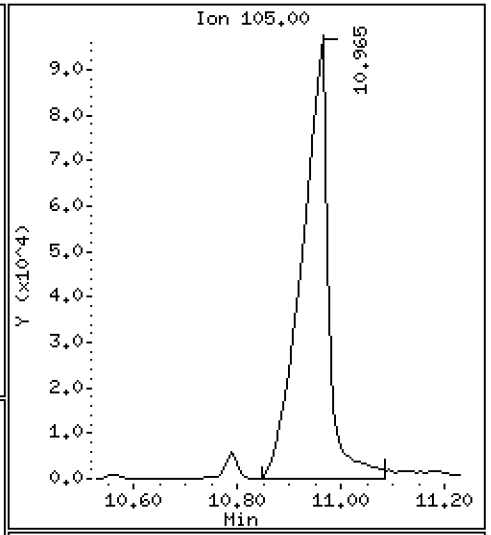
24 Benzoic acid

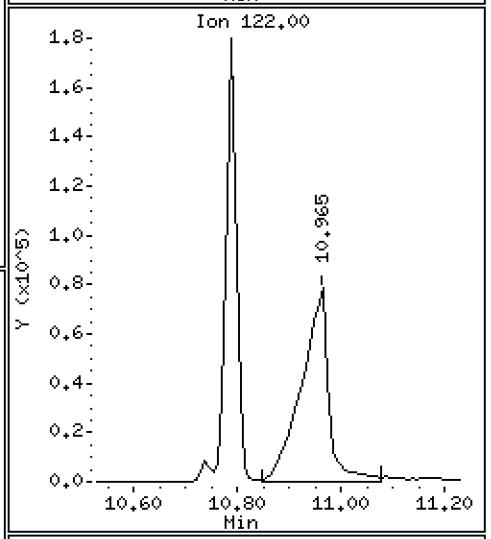
Concentration: 6.422 ug/mL

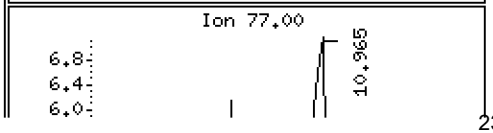












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

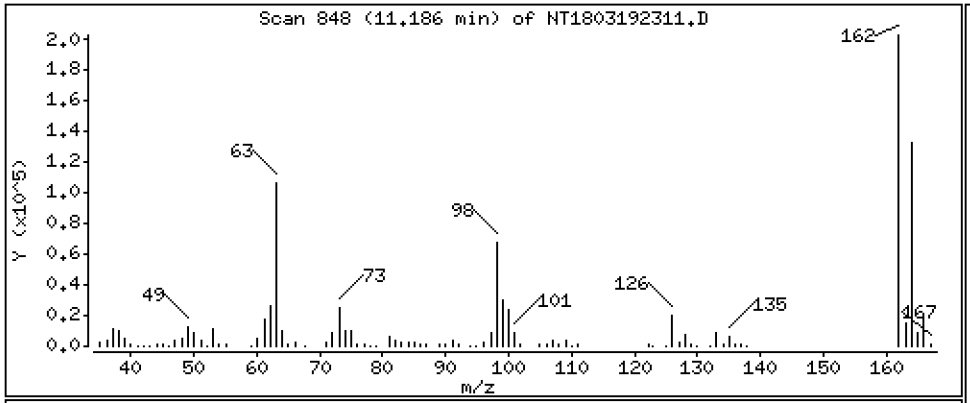
Operator: VTS

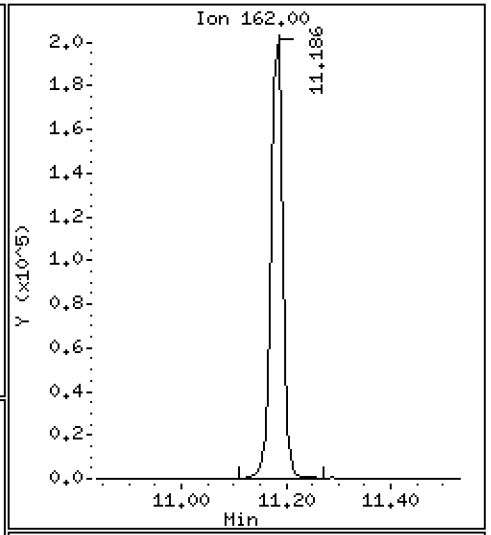
Column phase: ZB-5msi

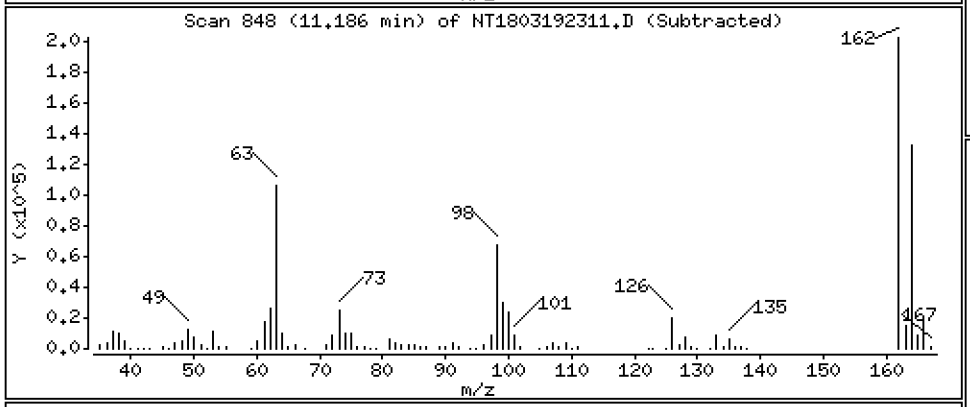
Column diameter: 0.25

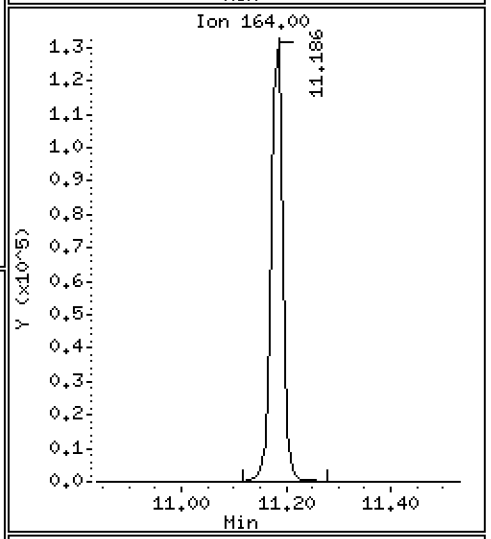
25 2,4-Dichlorophenol

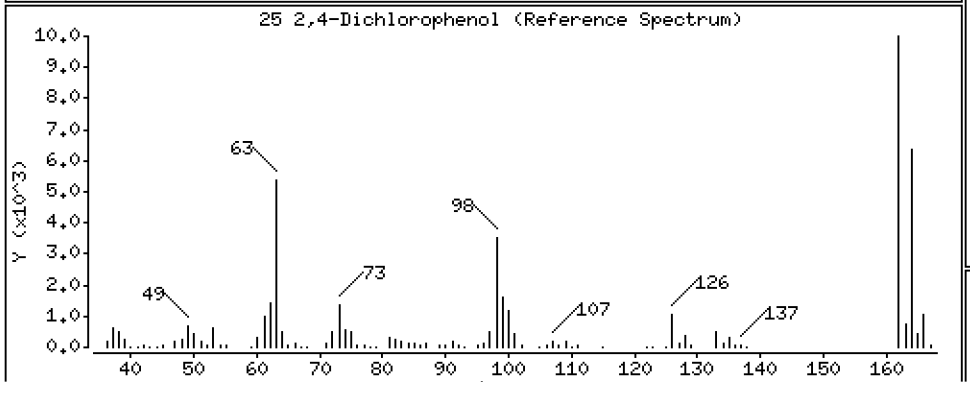
Concentration: 4.980 ug/mL

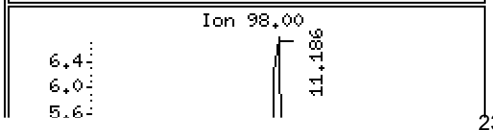












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

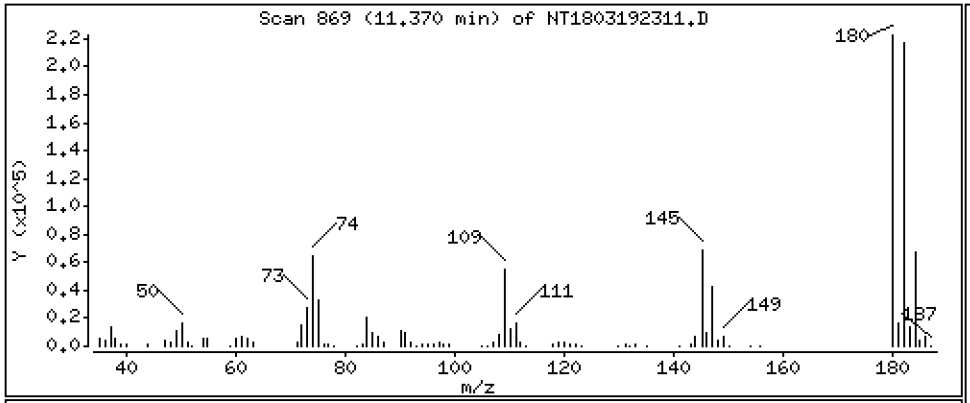
Operator: VTS

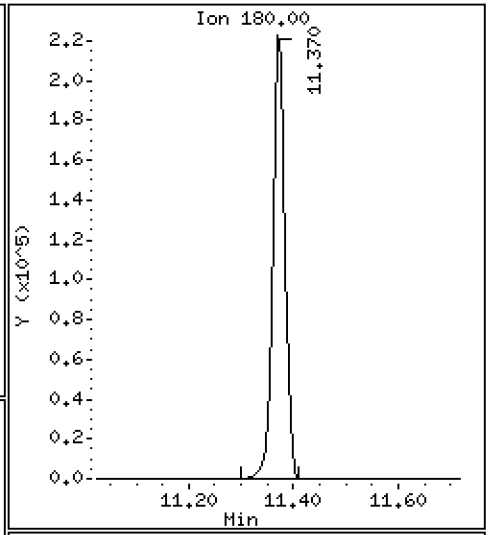
Column phase: ZB-5msi

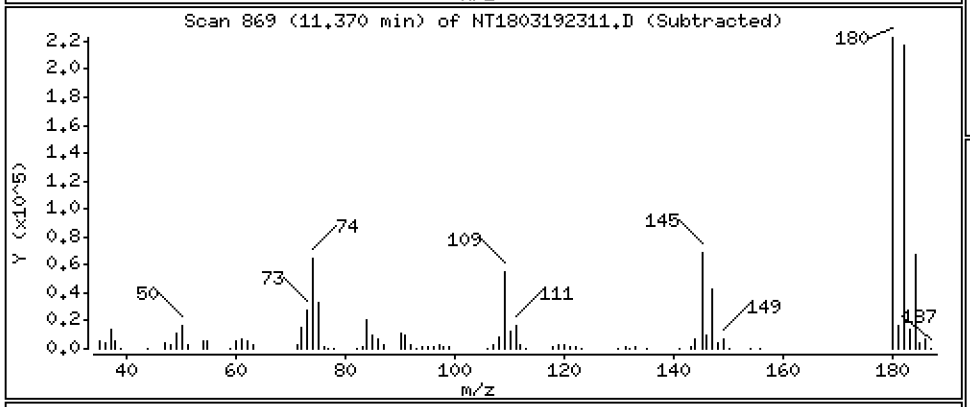
Column diameter: 0.25

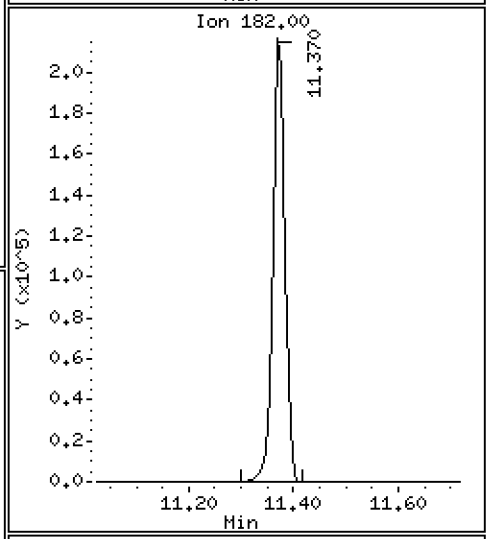
26 1,2,4-Trichlorobenzene

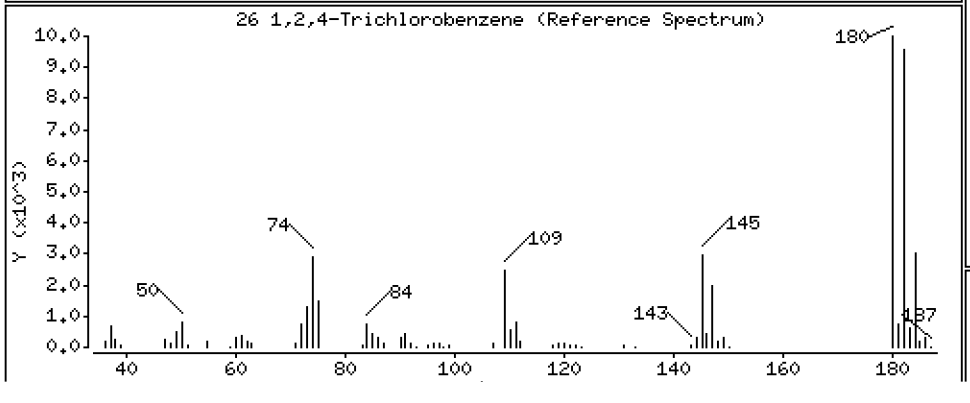
Concentration: 4.858 ug/mL

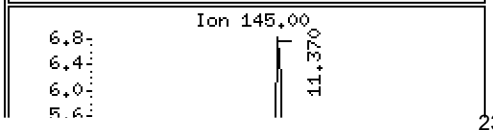












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

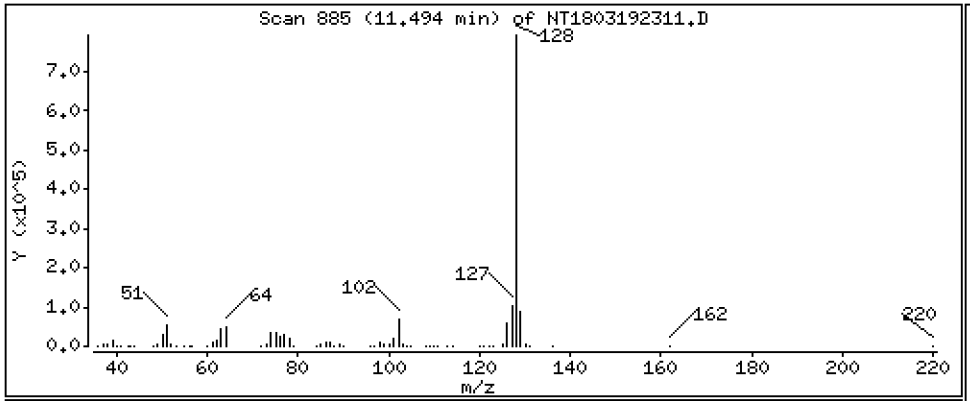
Operator: VTS

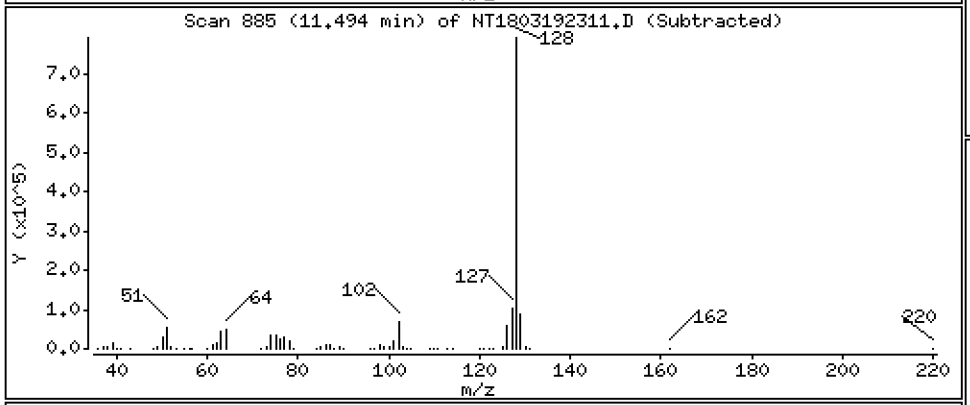
Column phase: ZB-5msi

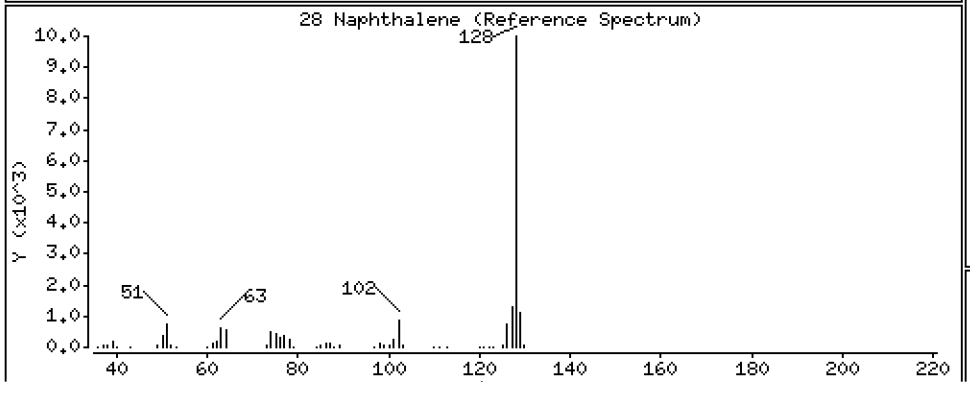
Column diameter: 0.25

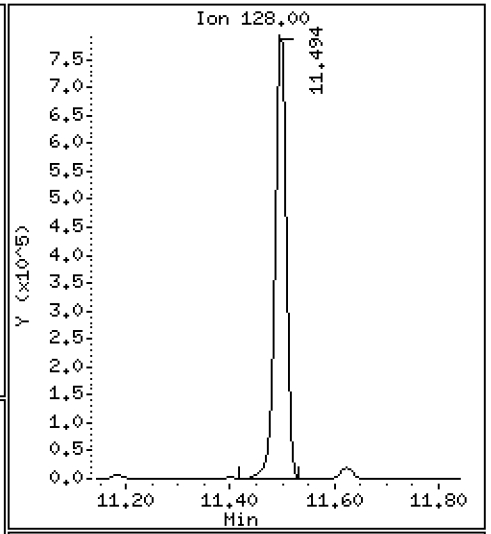
28 Naphthalene

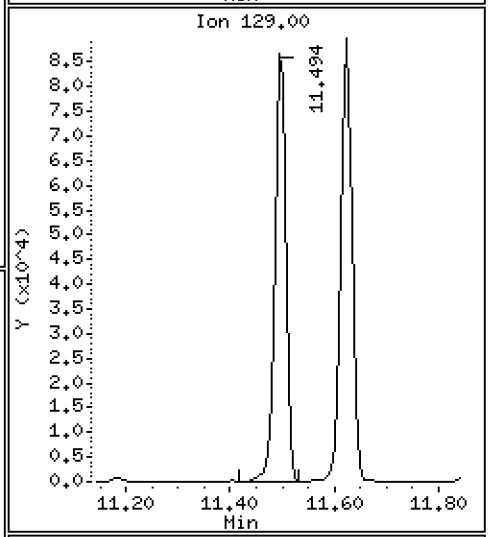
Concentration: 4.875 ug/mL

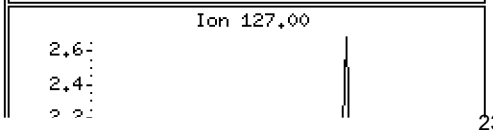












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

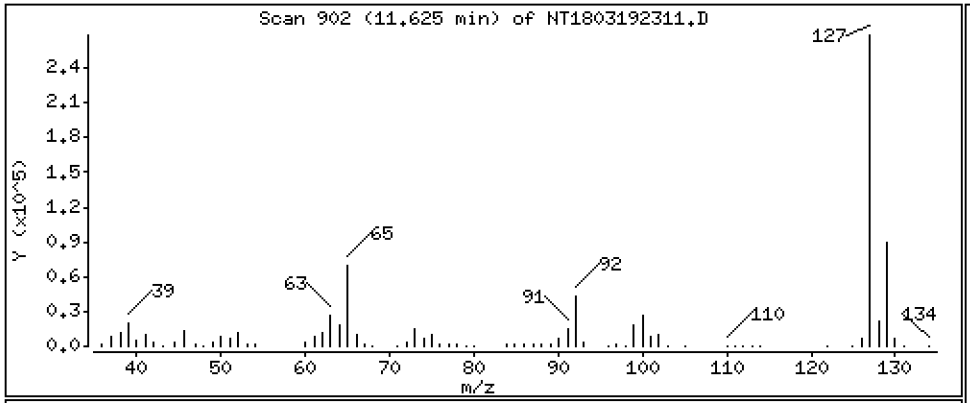
Operator: VTS

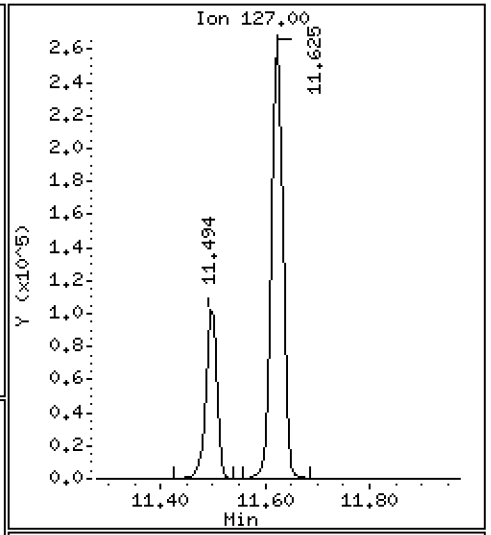
Column phase: ZB-5msi

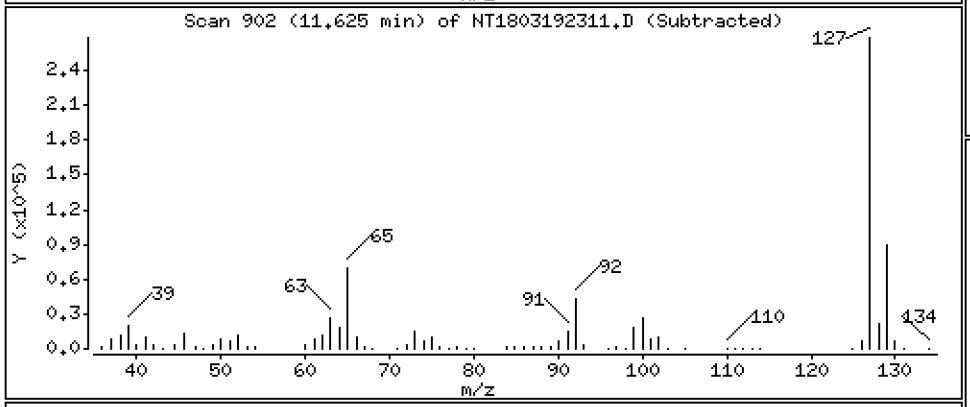
Column diameter: 0.25

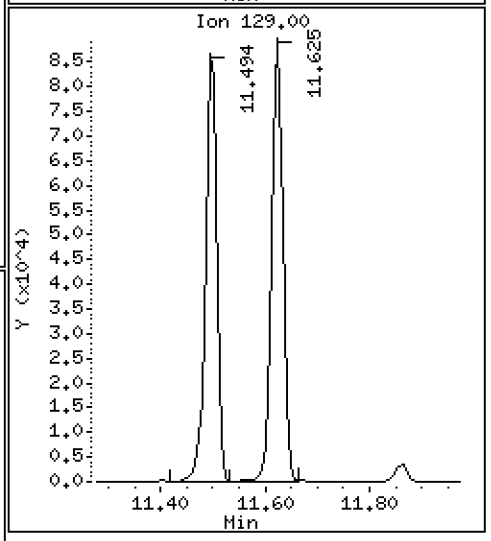
29 4-Chloroaniline

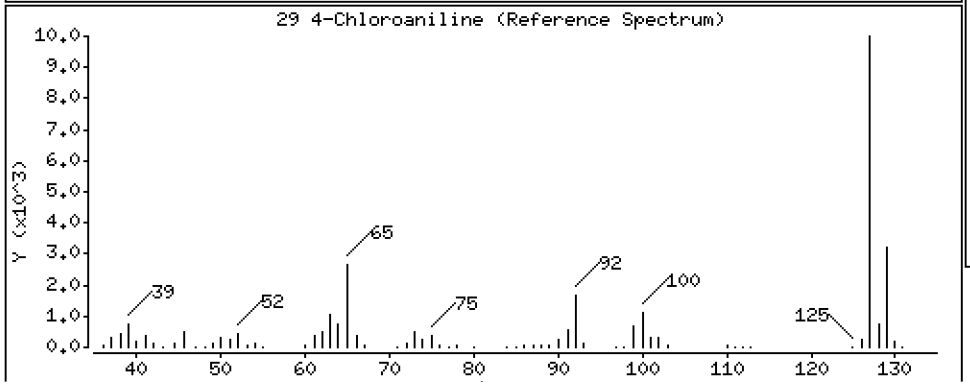
Concentration: 3.897 ug/mL











Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

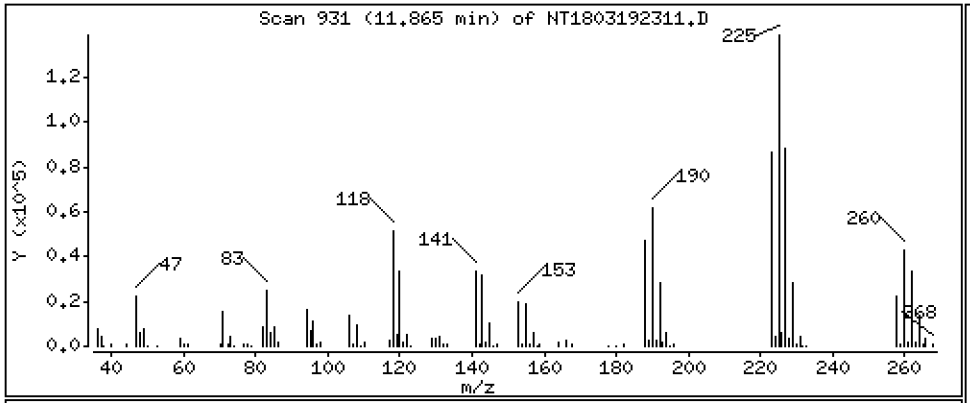
Operator: VTS

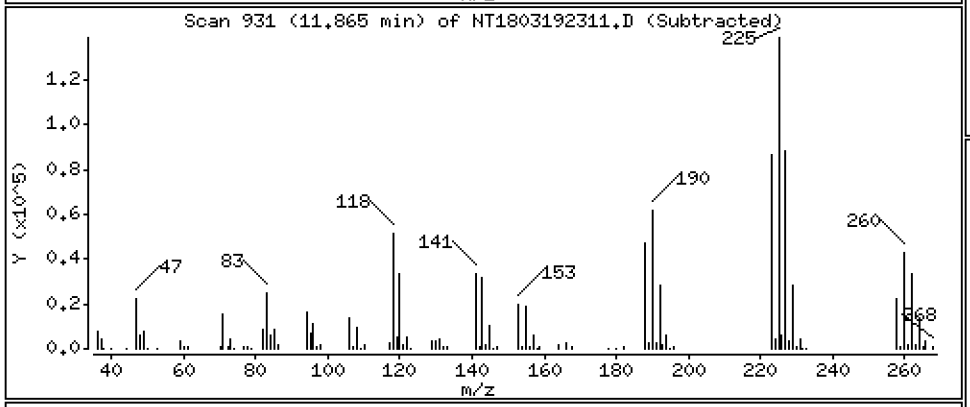
Column phase: ZB-5msi

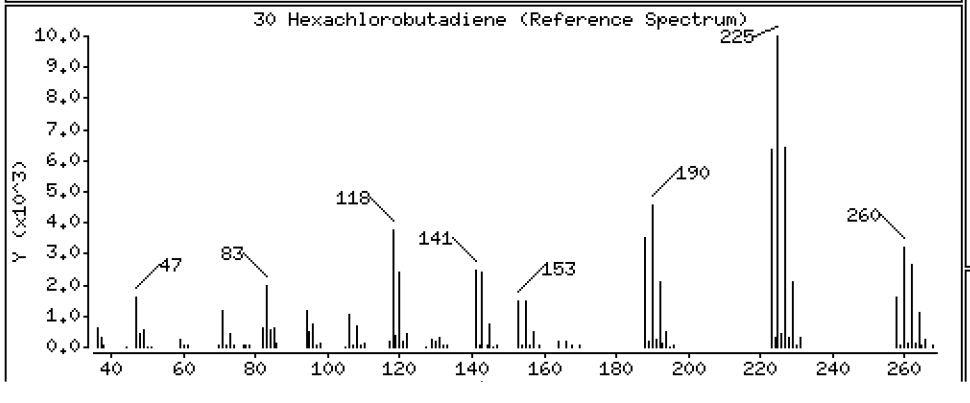
Column diameter: 0.25

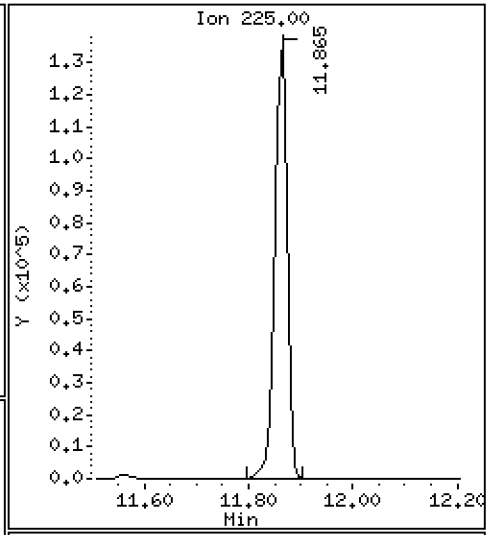
30 Hexachlorobutadiene

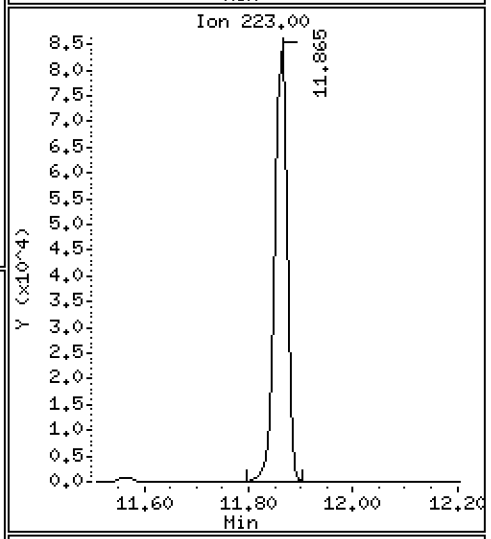
Concentration: 5.033 ug/mL

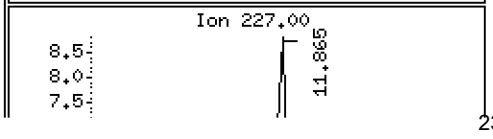












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

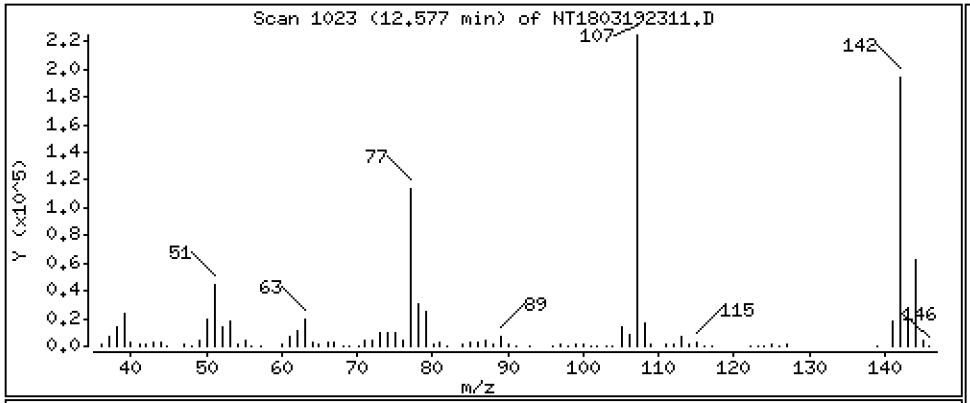
Operator: VTS

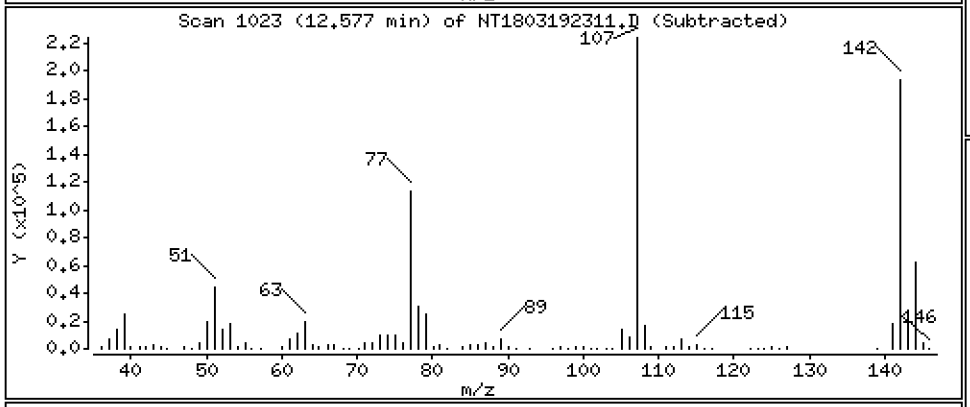
Column phase: ZB-5msi

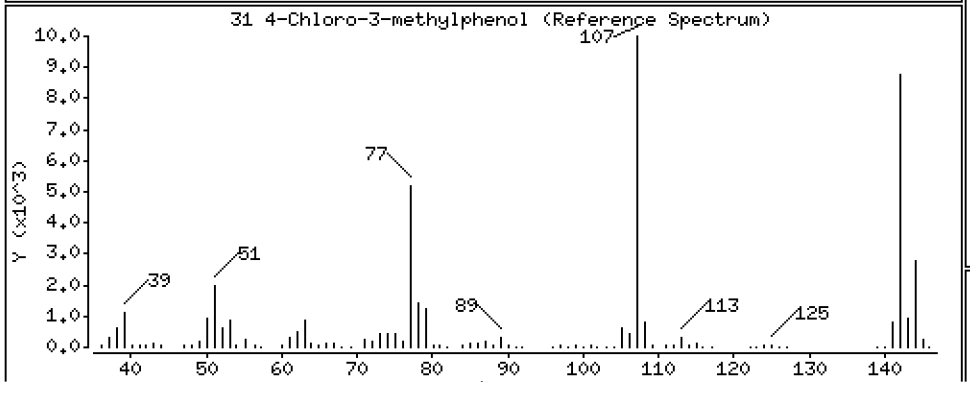
Column diameter: 0.25

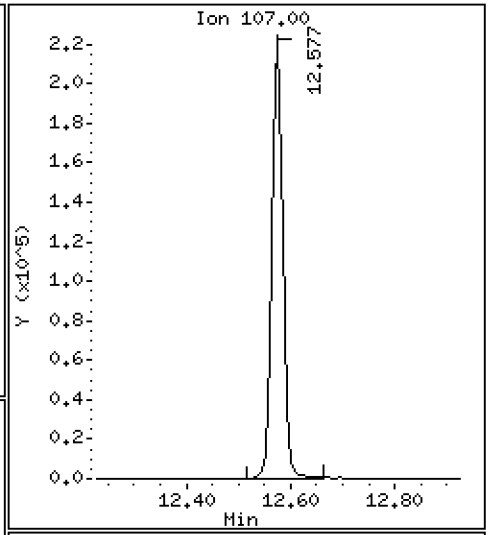
31 4-Chloro-3-methylphenol

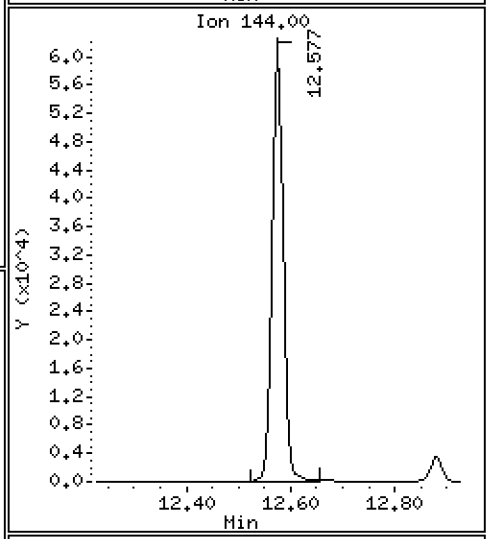
Concentration: 4.709 ug/mL

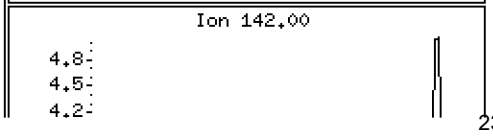












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

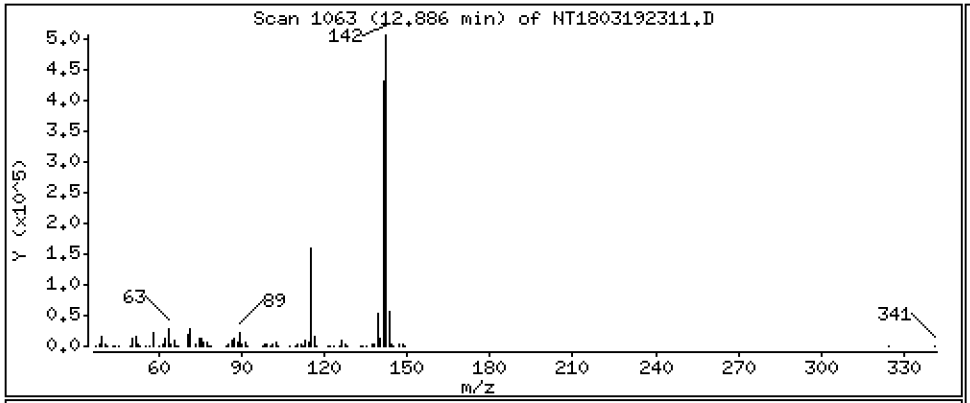
Operator: VTS

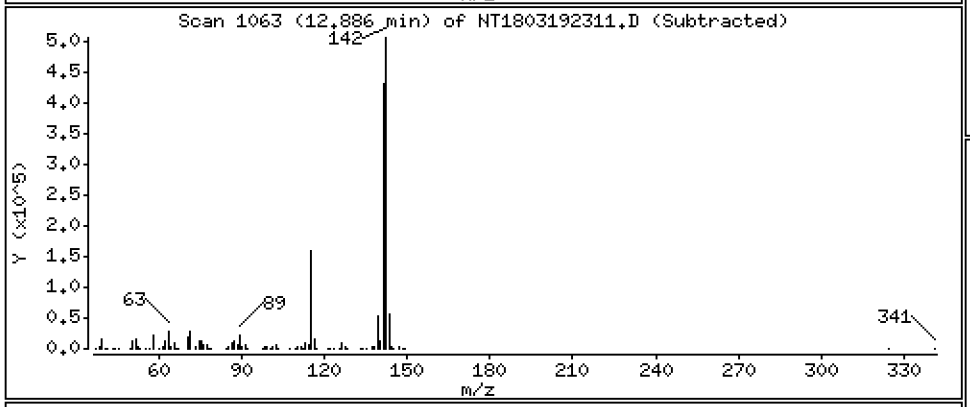
Column phase: ZB-5msi

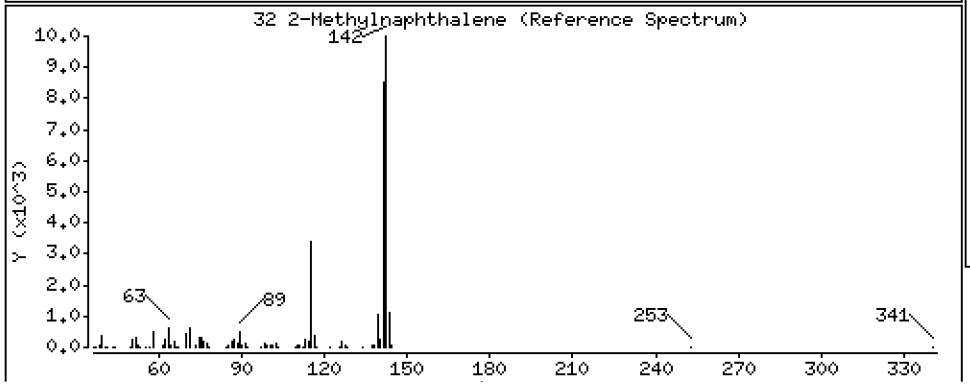
Column diameter: 0.25

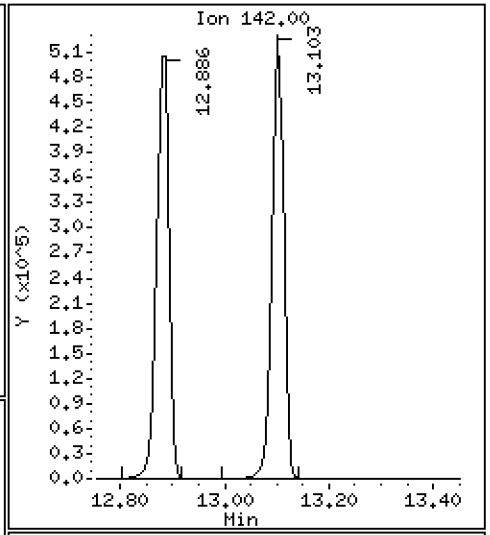
32 2-Methylnaphthalene

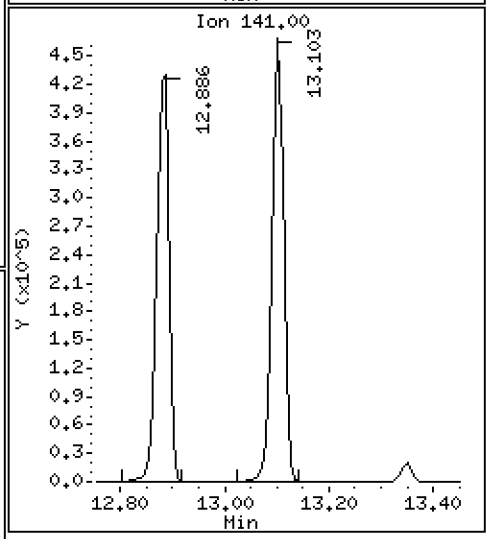
Concentration: 5.247 ug/mL











Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

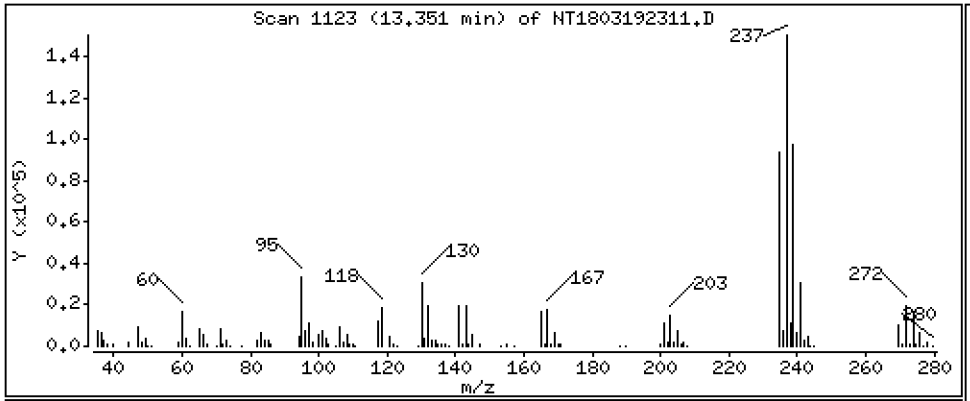
Operator: VTS

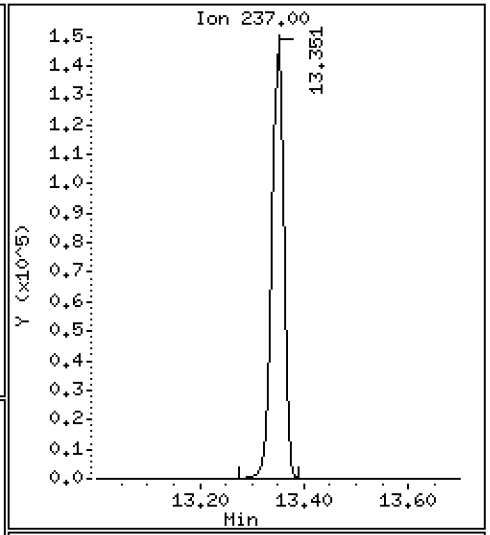
Column phase: ZB-5msi

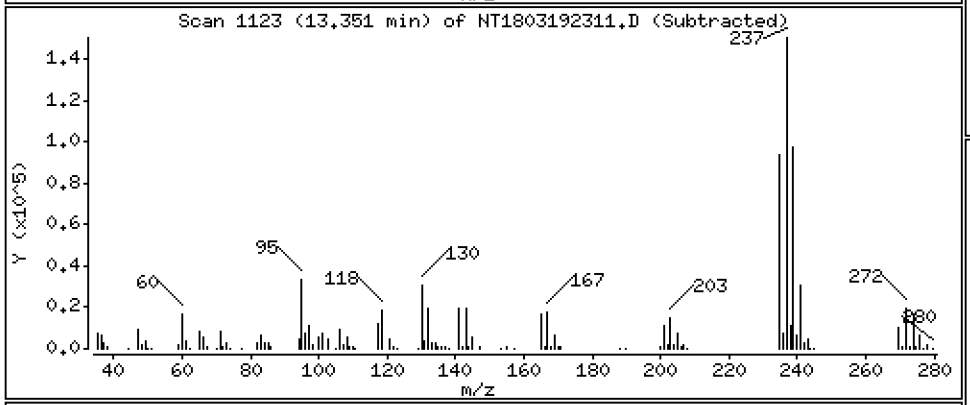
Column diameter: 0.25

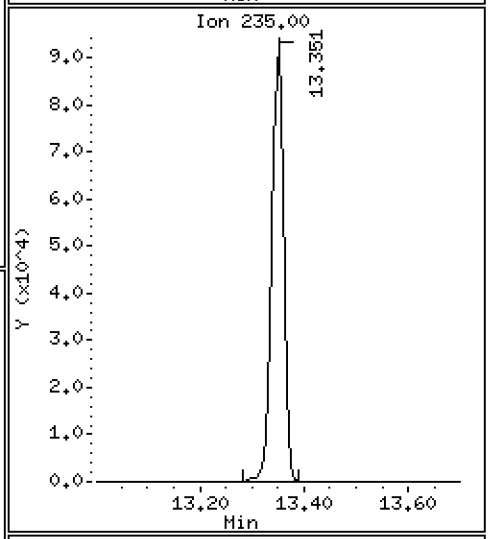
33 Hexachlorocyclopentadiene

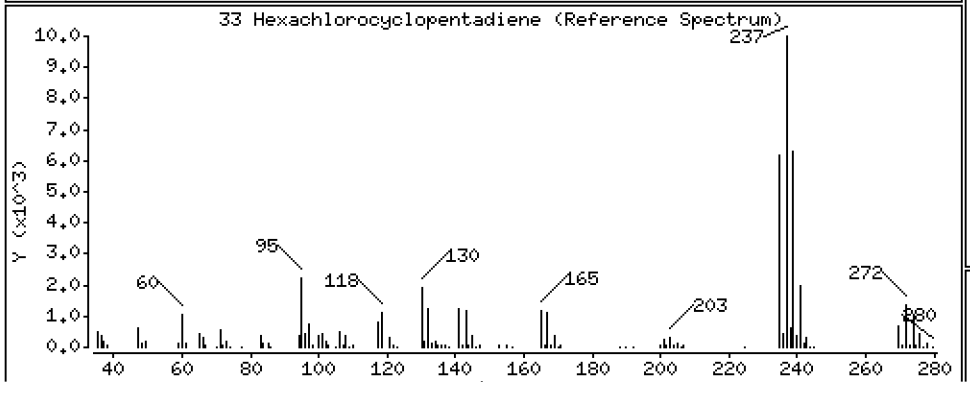
Concentration: 5.056 ug/mL

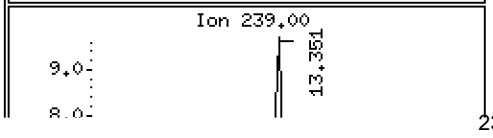












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

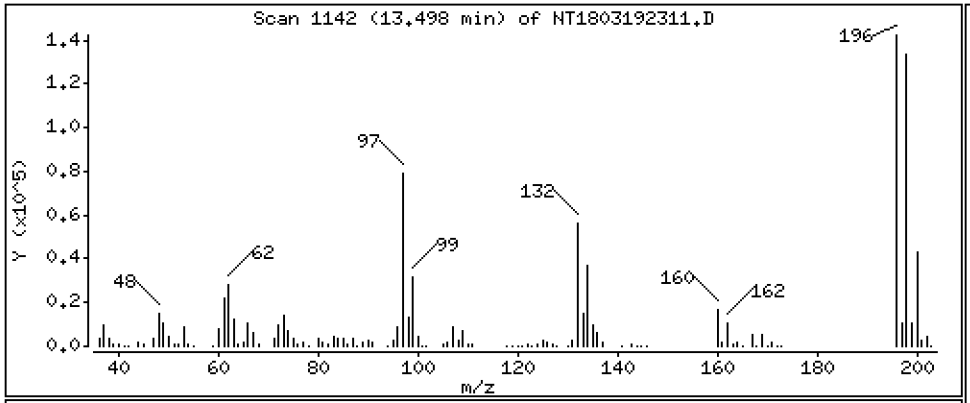
Operator: VTS

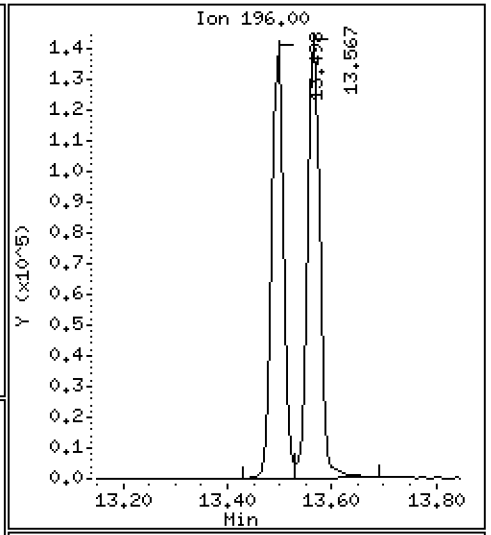
Column phase: ZB-5msi

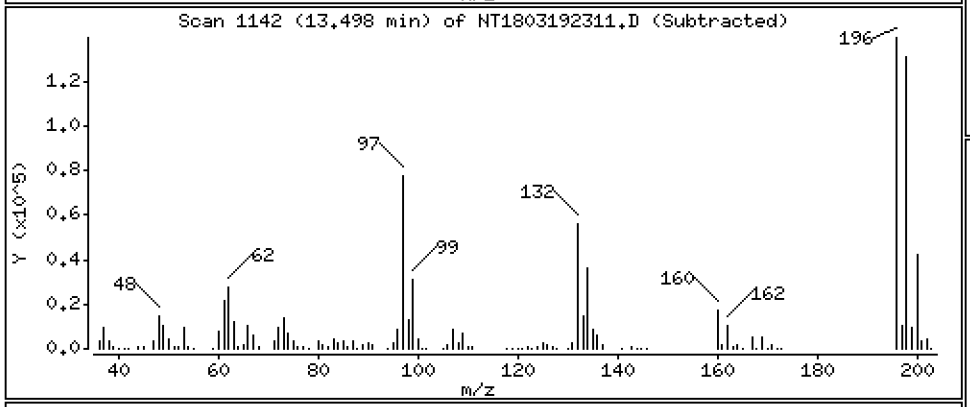
Column diameter: 0.25

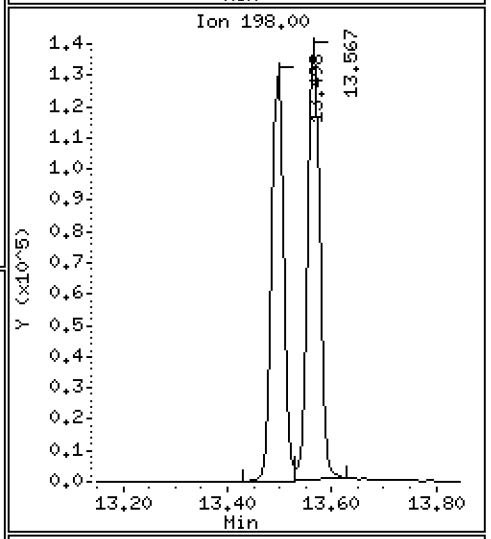
34 2,4,6-Trichlorophenol

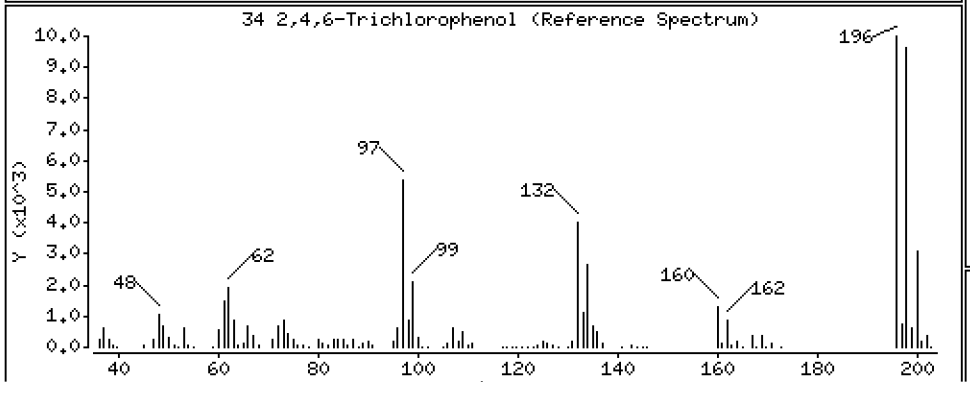
Concentration: 4.580 ug/mL

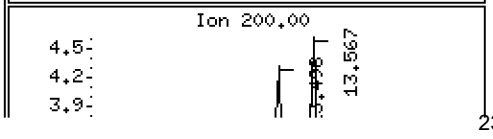












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

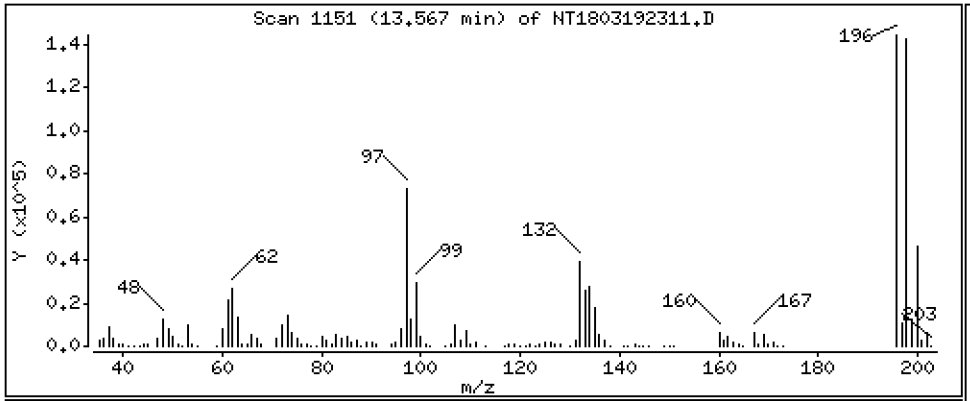
Operator: VTS

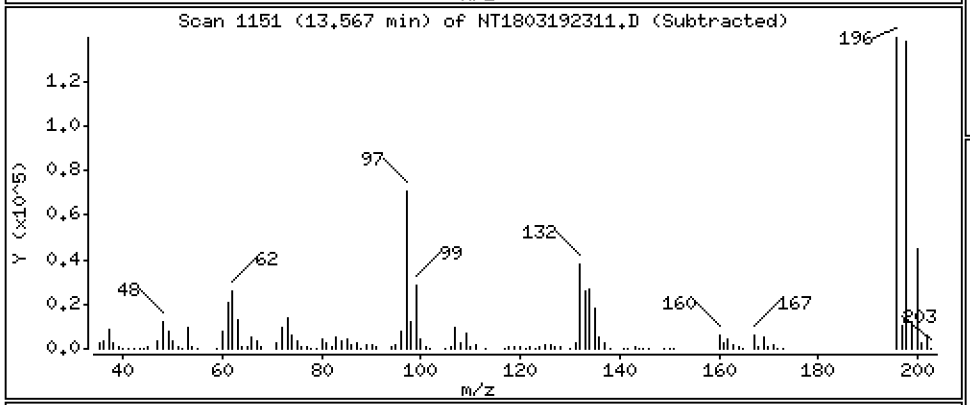
Column phase: ZB-5msi

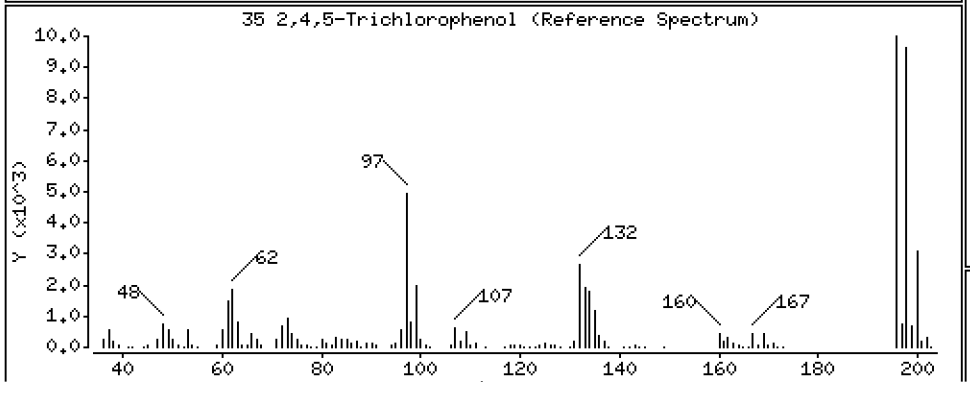
Column diameter: 0.25

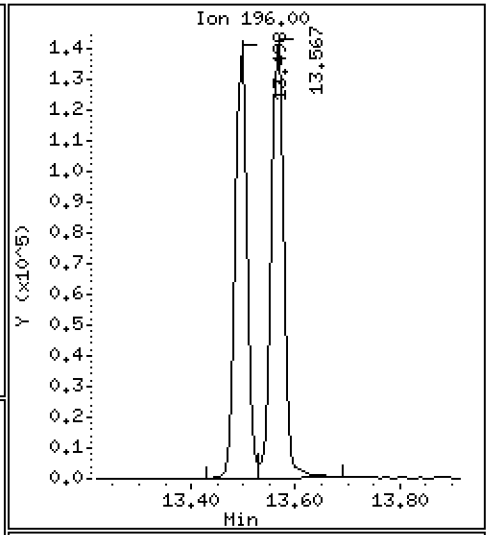
35 2,4,5-Trichlorophenol

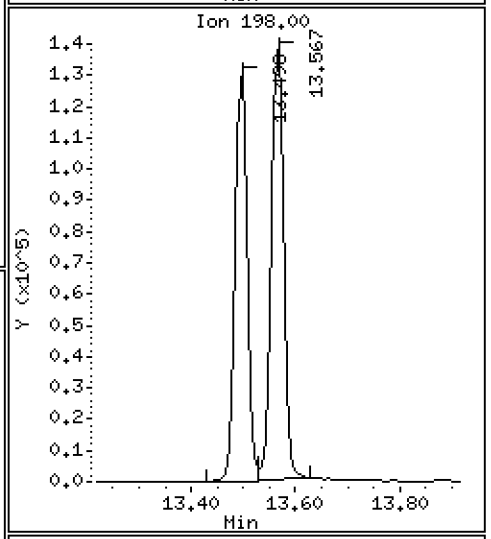
Concentration: 4.528 ug/mL

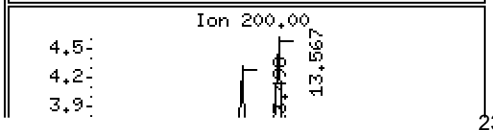












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

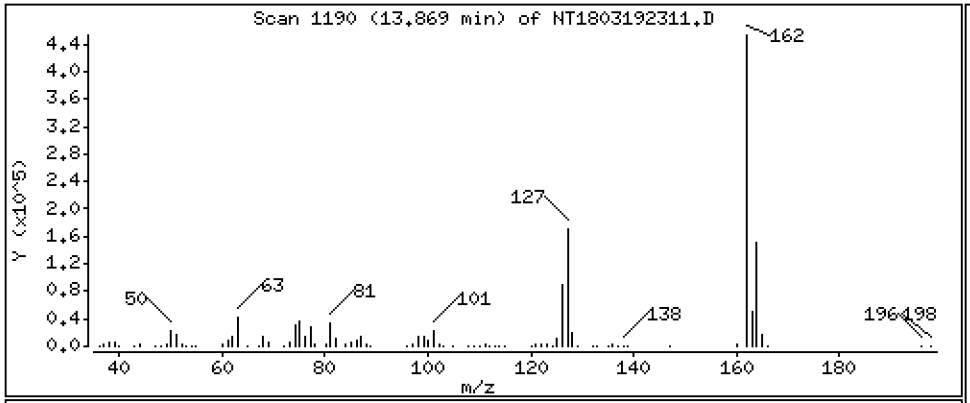
Operator: VTS

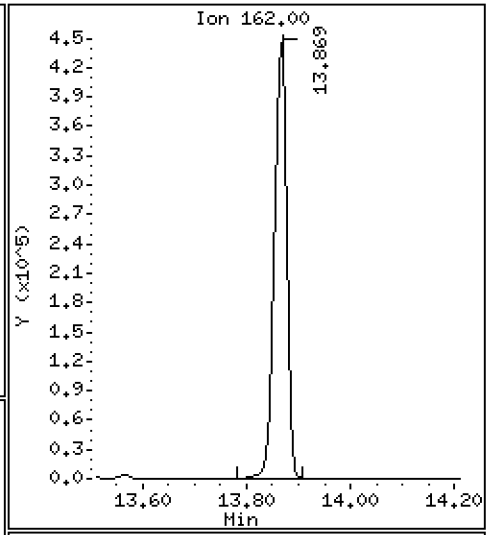
Column phase: ZB-5msi

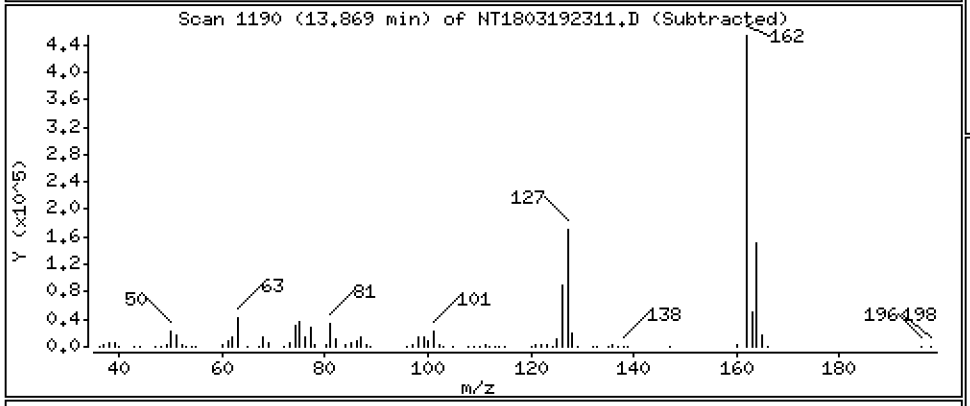
Column diameter: 0.25

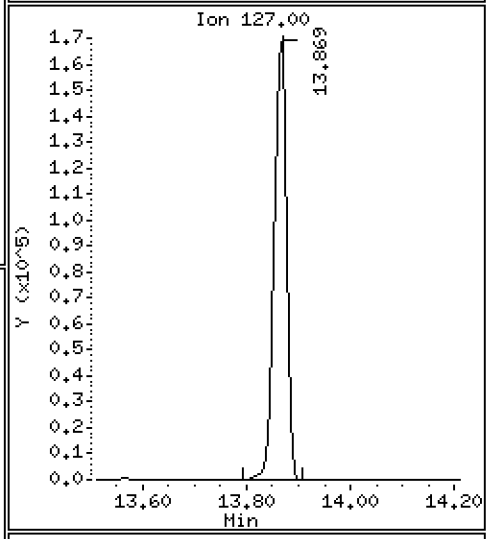
37 2-Chloronaphthalene

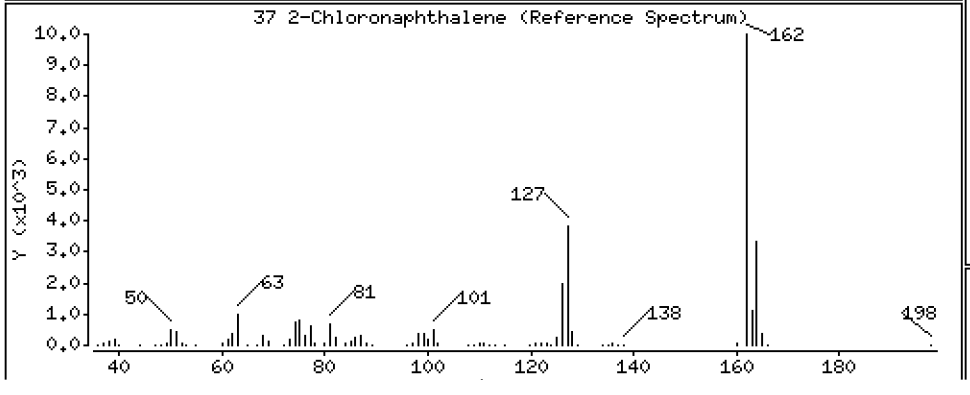
Concentration: 4.885 ug/mL

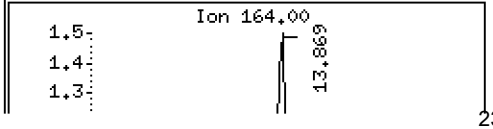












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

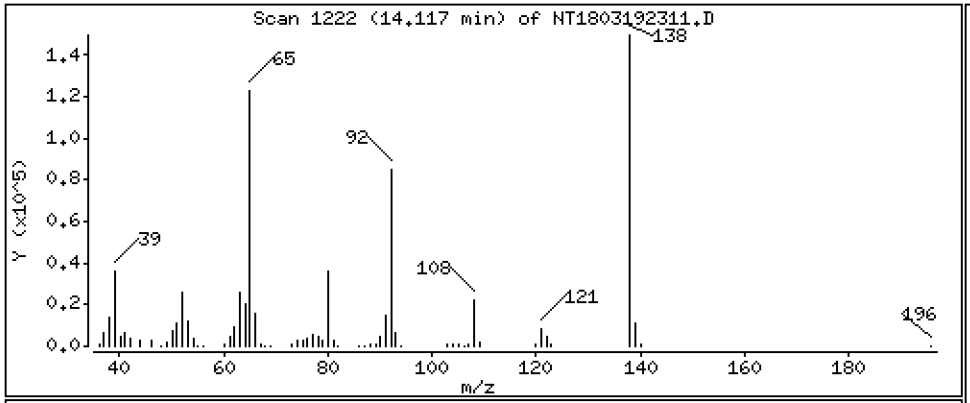
Operator: VTS

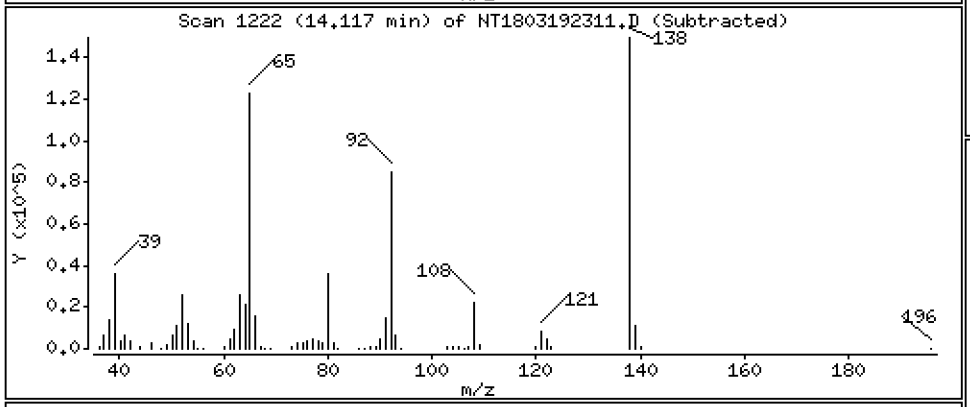
Column phase: ZB-5msi

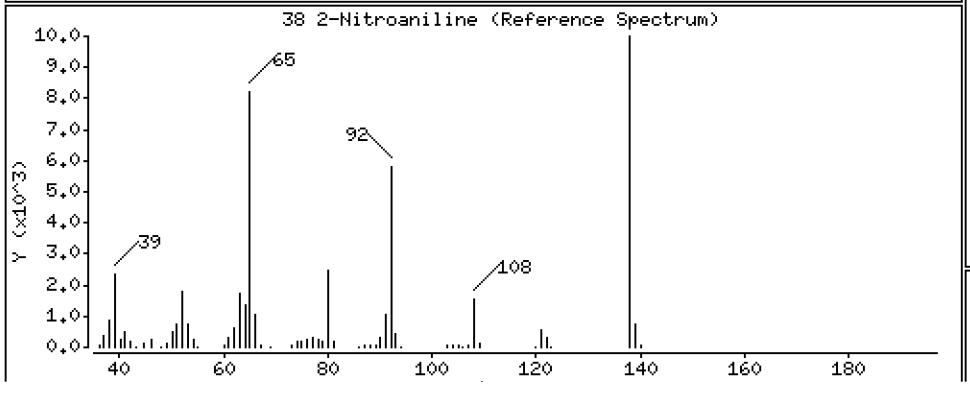
Column diameter: 0.25

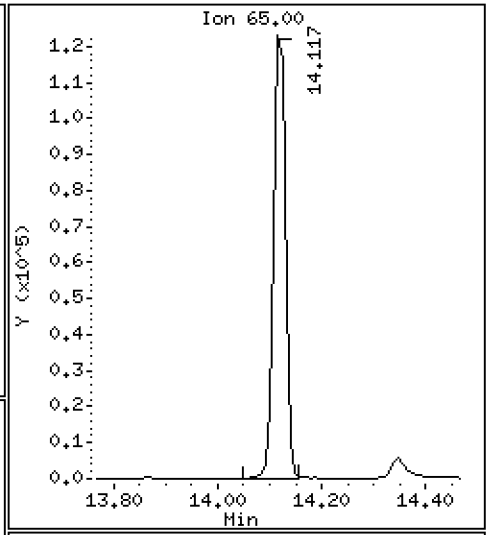
38 2-Nitroaniline

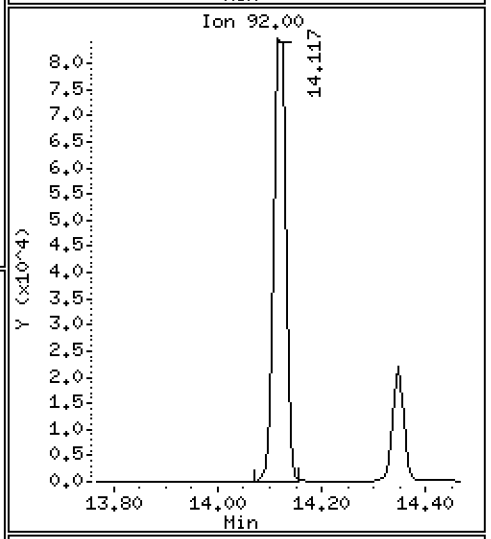
Concentration: 4.812 ug/mL

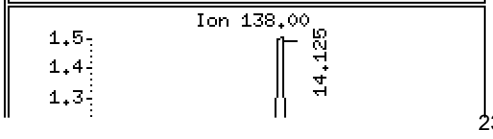












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

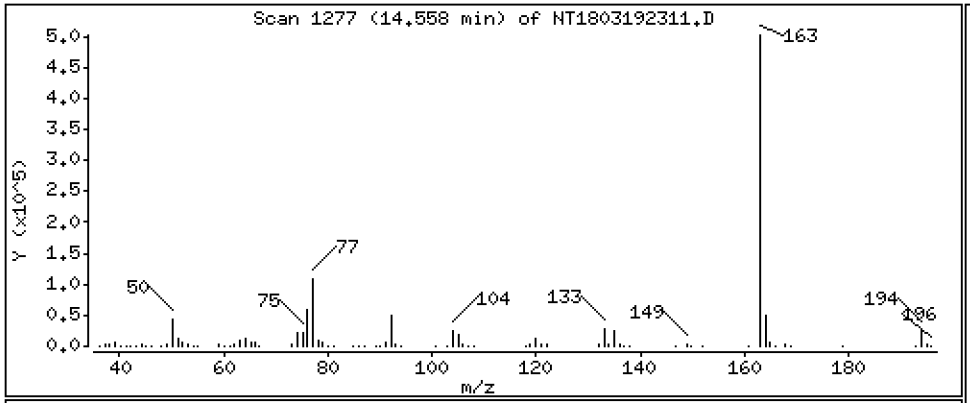
Operator: VTS

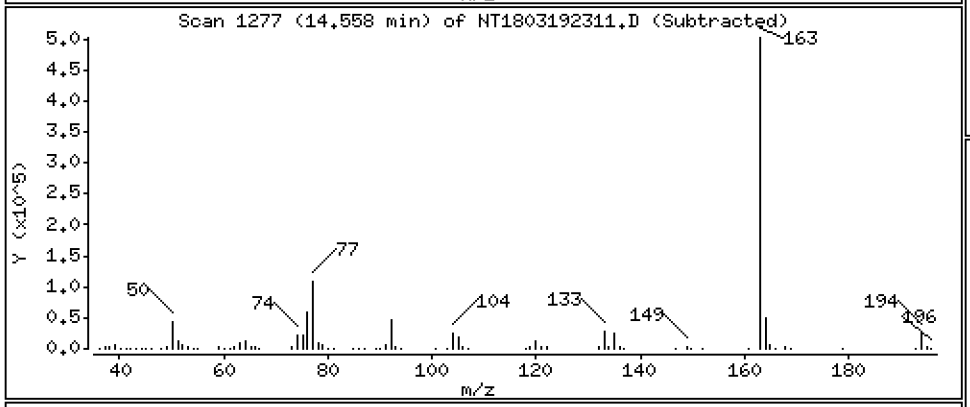
Column phase: ZB-5msi

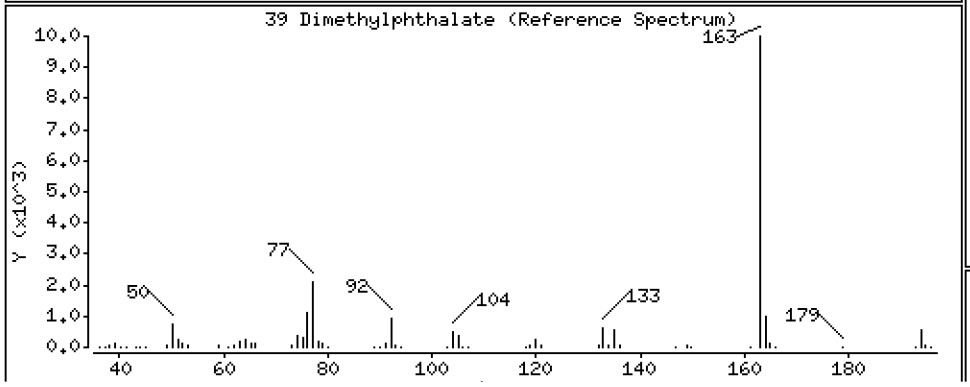
Column diameter: 0.25

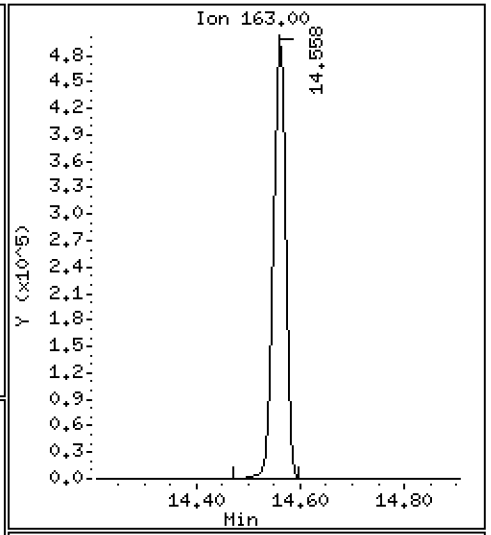
39 Dimethylphthalate

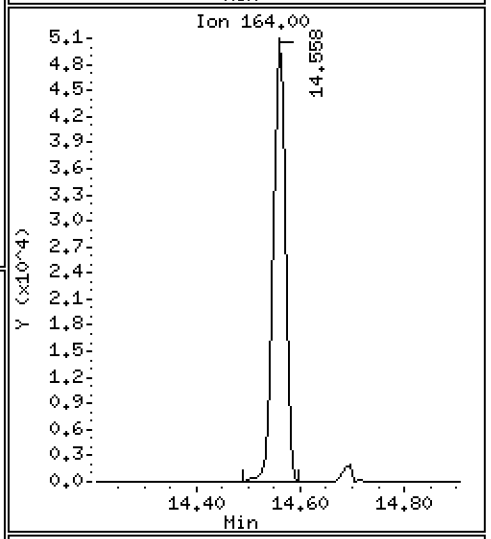
Concentration: 5.105 ug/mL

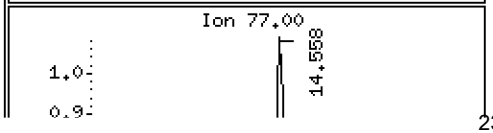












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

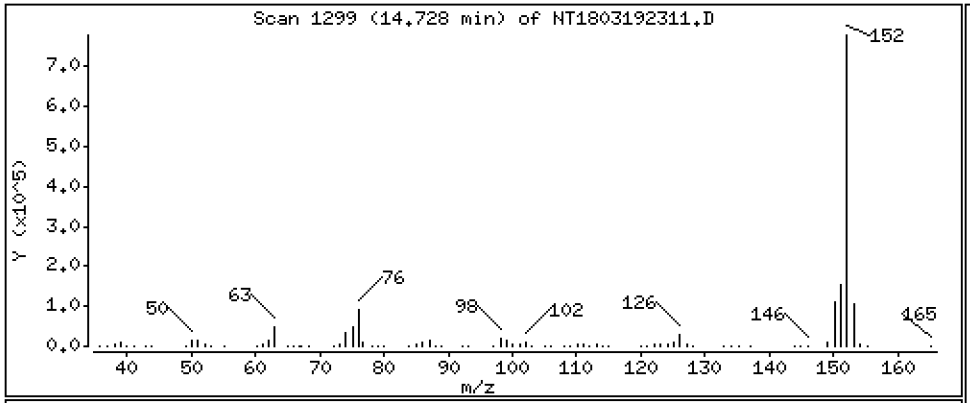
Operator: VTS

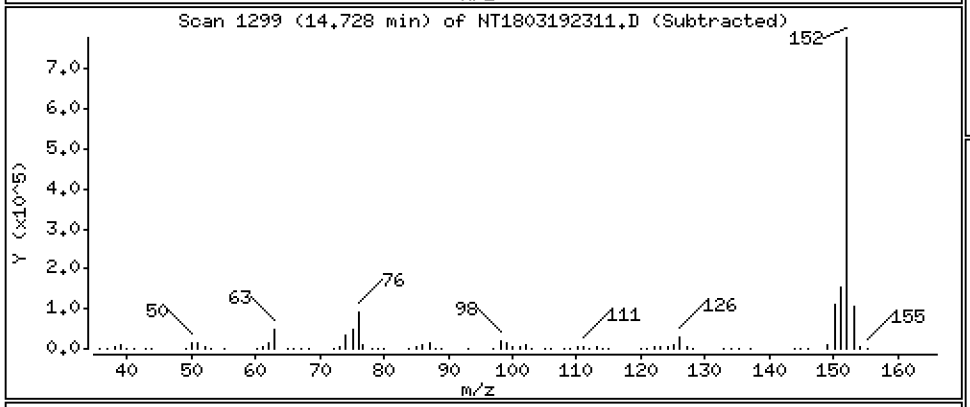
Column phase: ZB-5msi

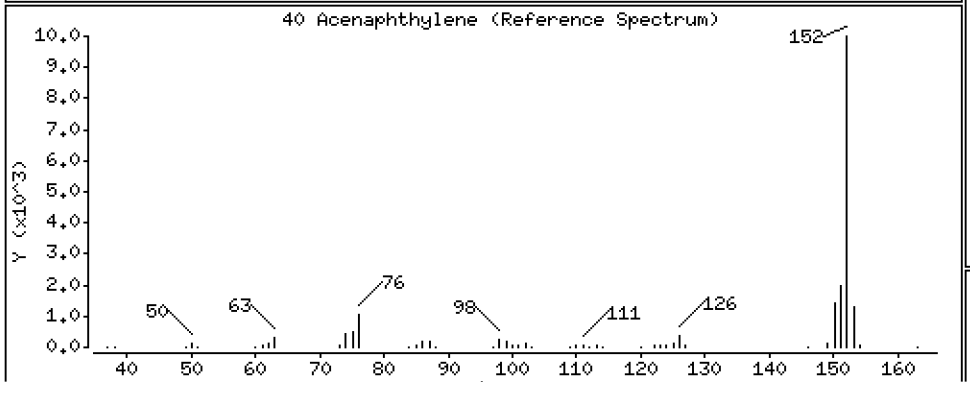
Column diameter: 0.25

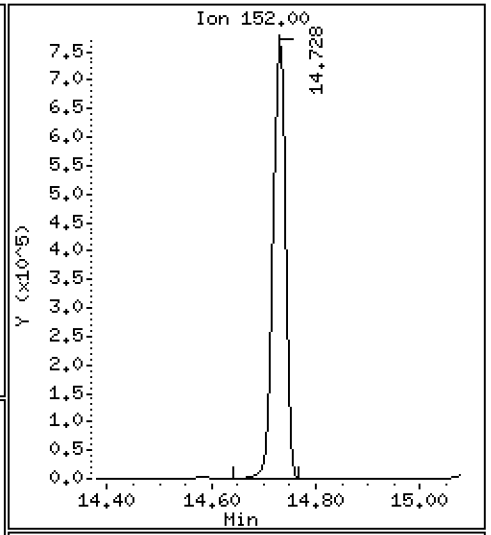
40 Acenaphthylene

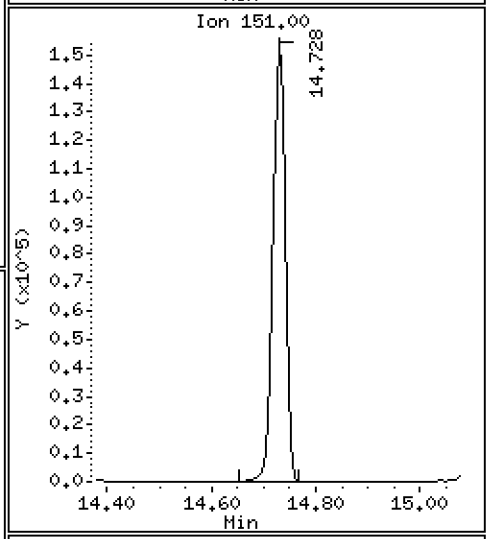
Concentration: 4.922 ug/mL

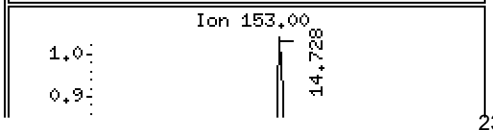












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

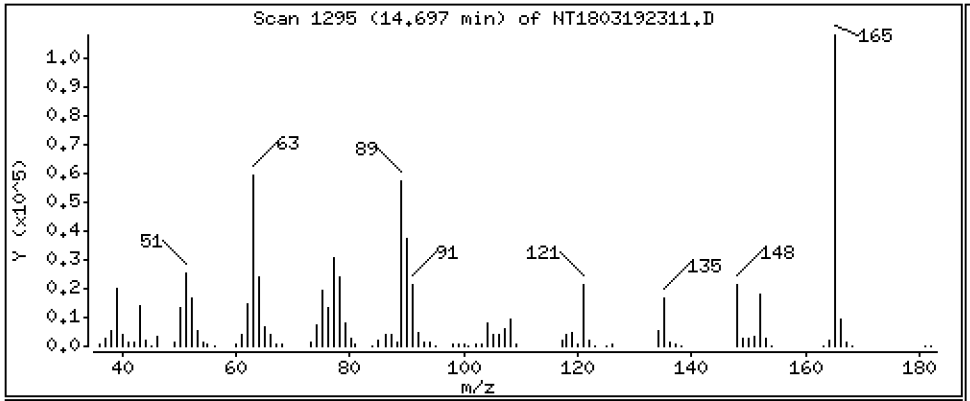
Operator: VTS

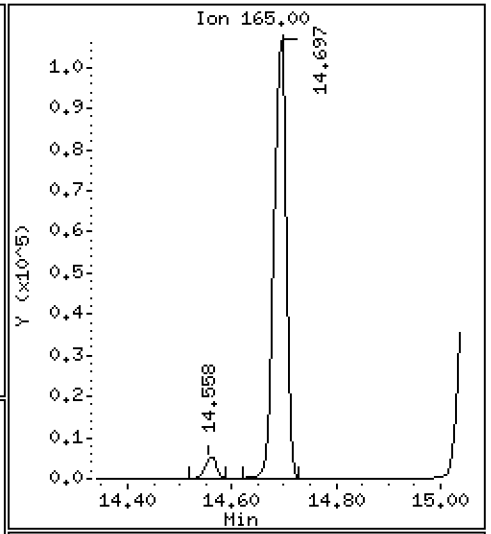
Column phase: ZB-5msi

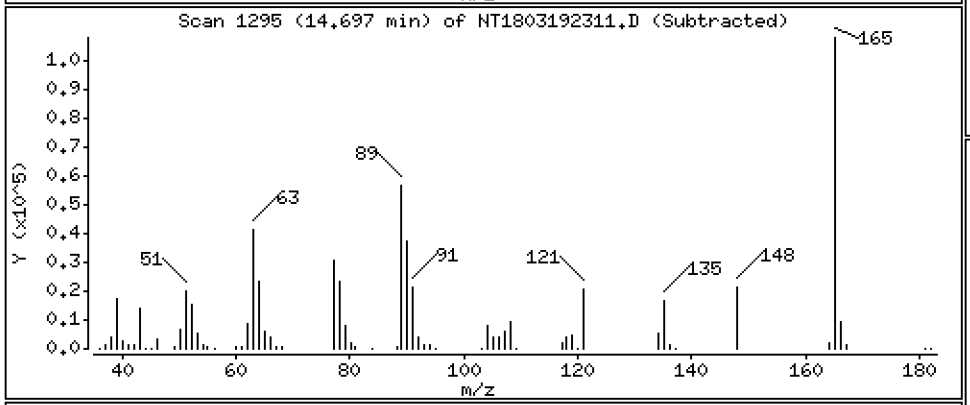
Column diameter: 0.25

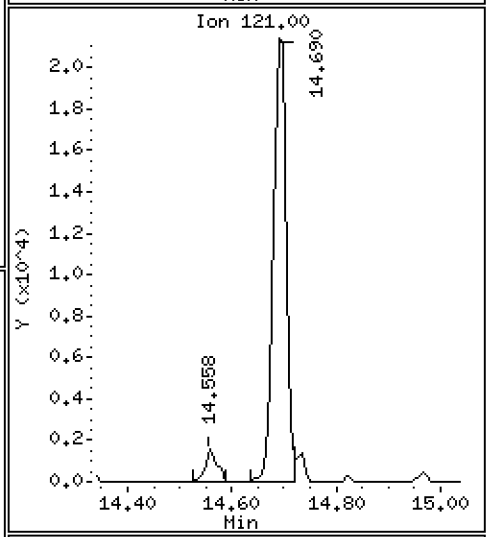
41 2,6-Dinitrotoluene

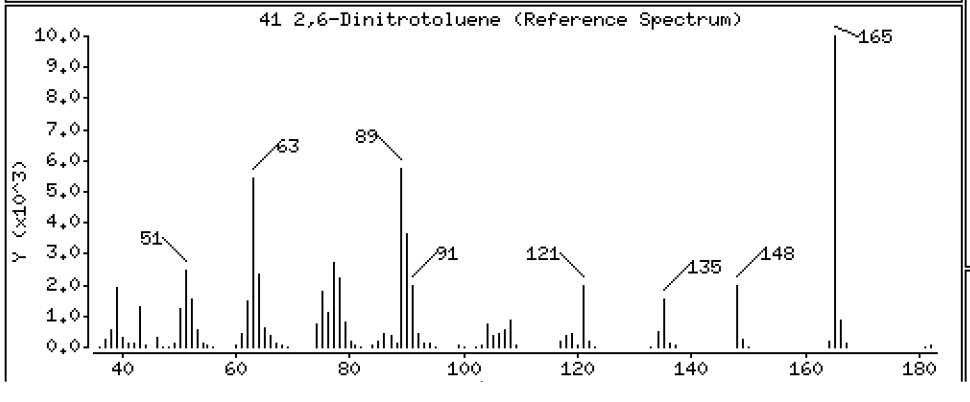
Concentration: 4.857 ug/mL

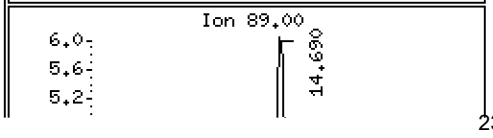












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

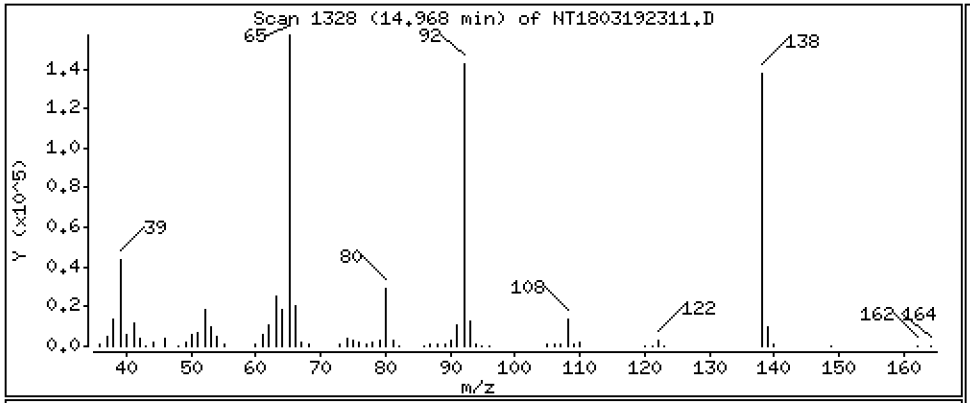
Operator: VTS

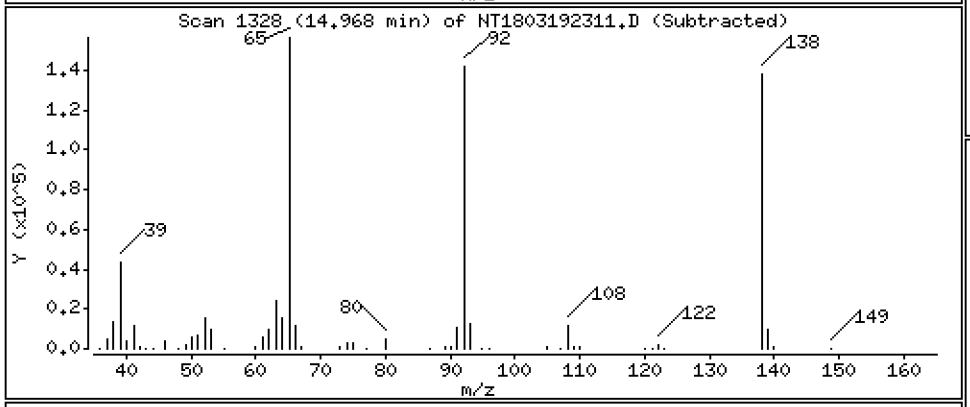
Column phase: ZB-5msi

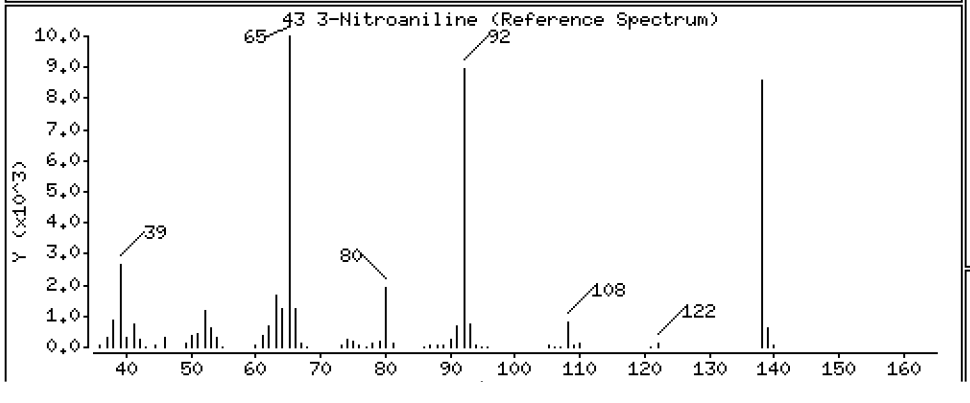
Column diameter: 0.25

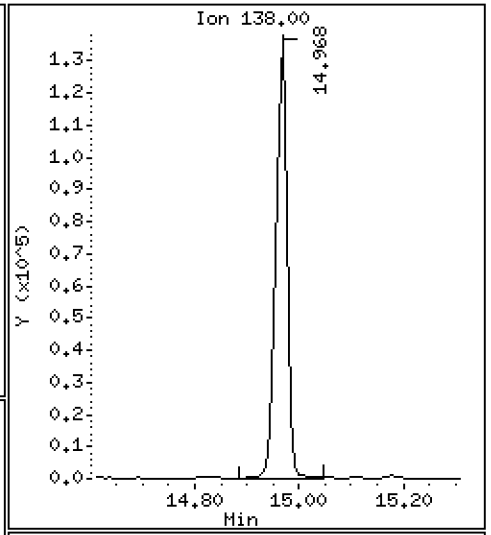
43 3-Nitroaniline

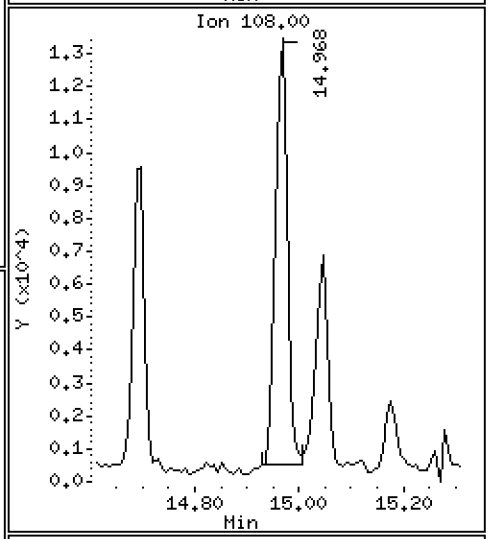
Concentration: 5.150 ug/mL

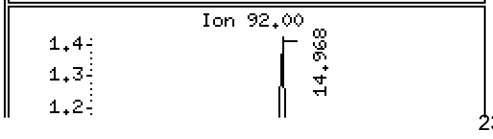












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

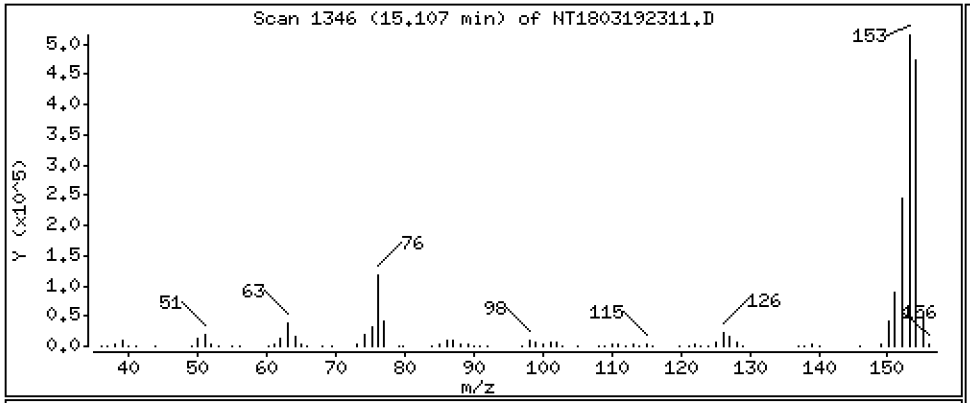
Operator: VTS

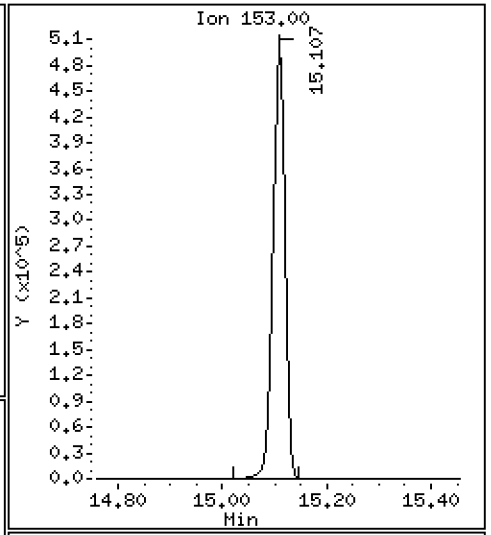
Column phase: ZB-5msi

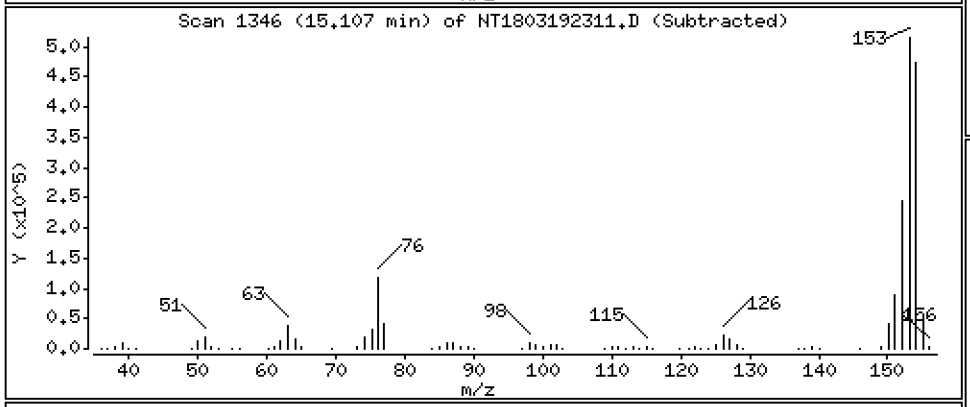
Column diameter: 0.25

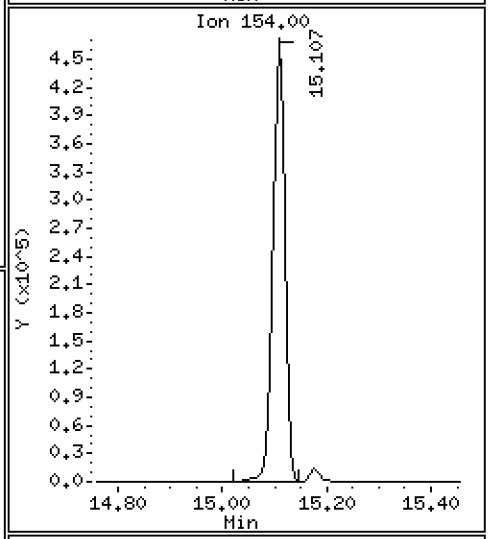
44 Acenaphthene

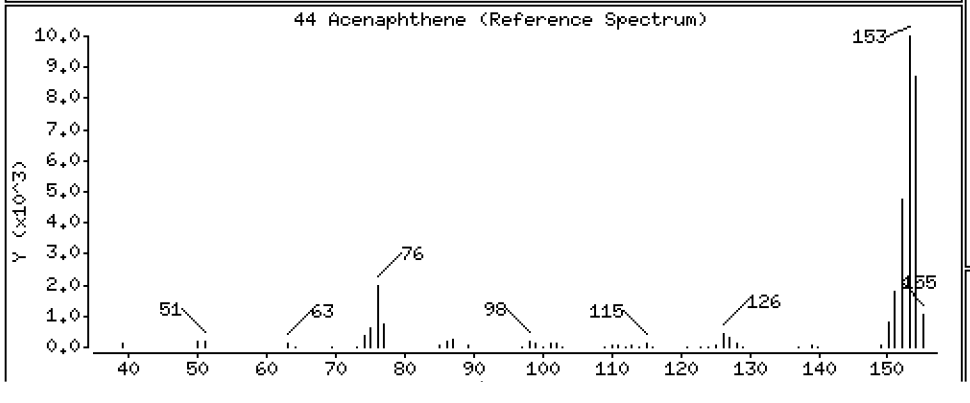
Concentration: 4.842 ug/mL

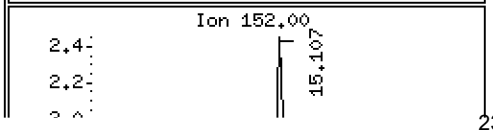












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

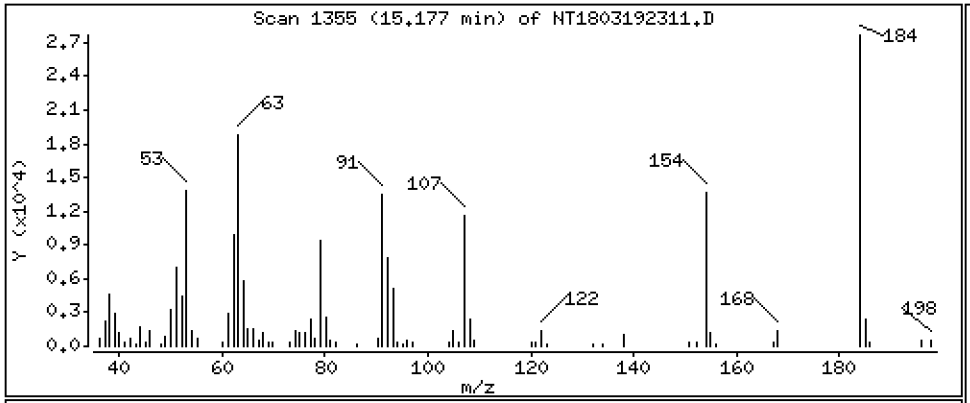
Operator: VTS

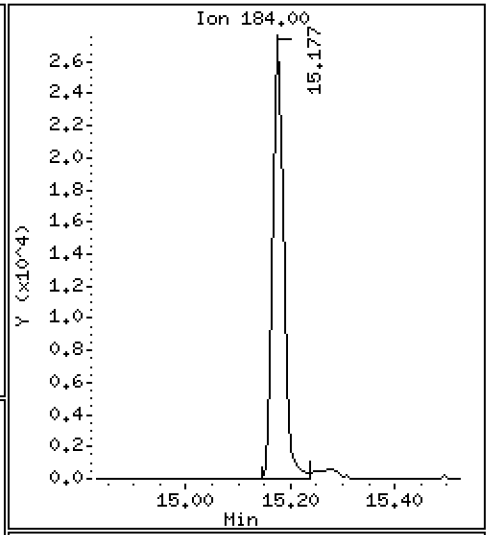
Column phase: ZB-5msi

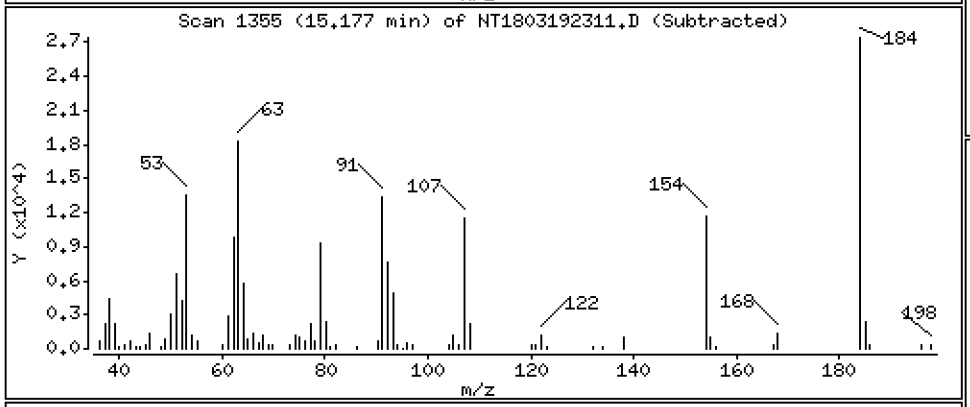
Column diameter: 0.25

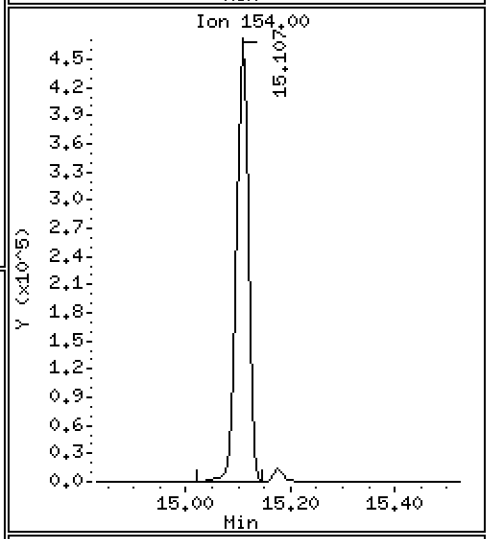
45 2,4-Dinitrophenol

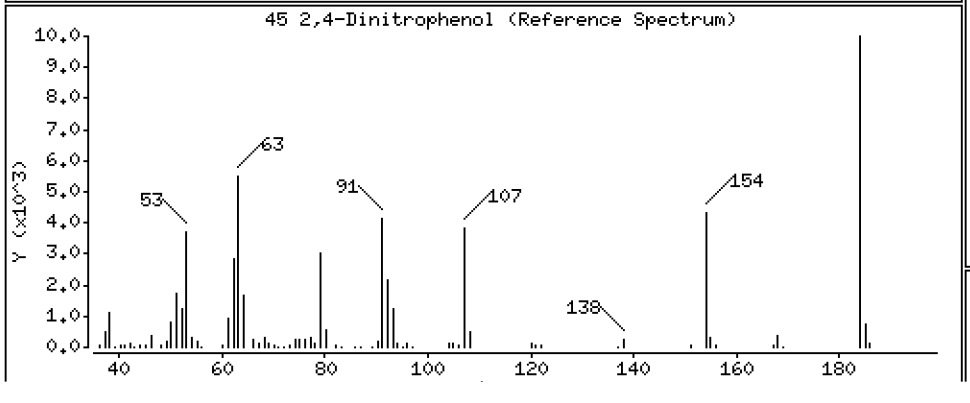
Concentration: 1.887 ug/mL

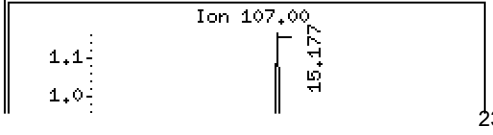












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

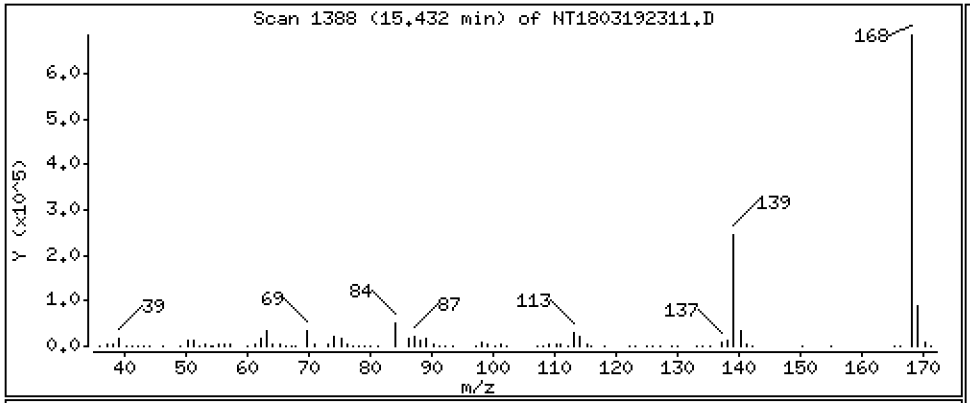
Operator: VTS

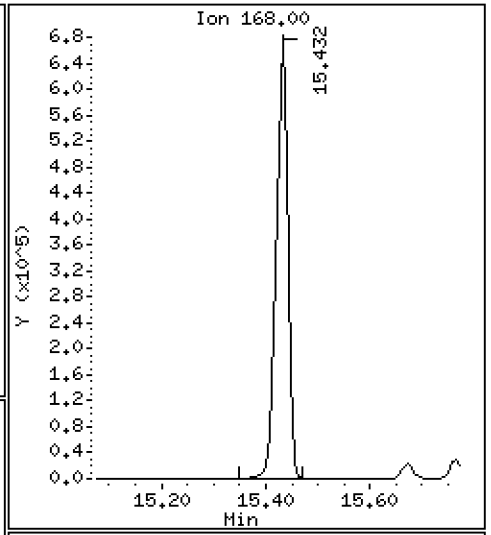
Column phase: ZB-5msi

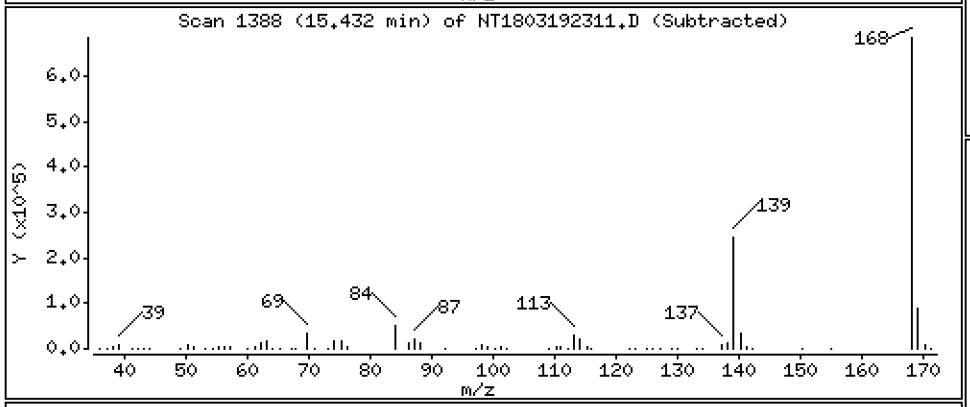
Column diameter: 0.25

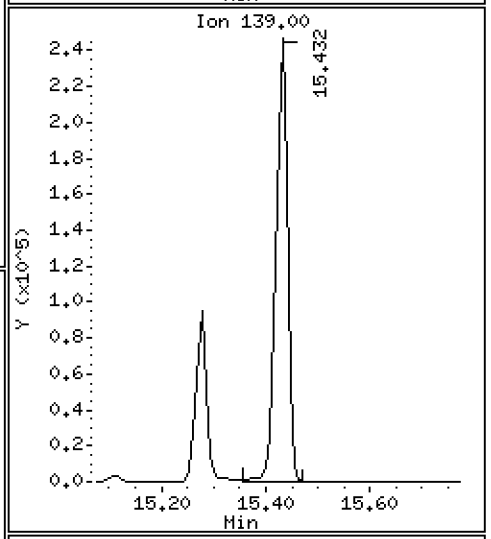
46 Dibenzofuran

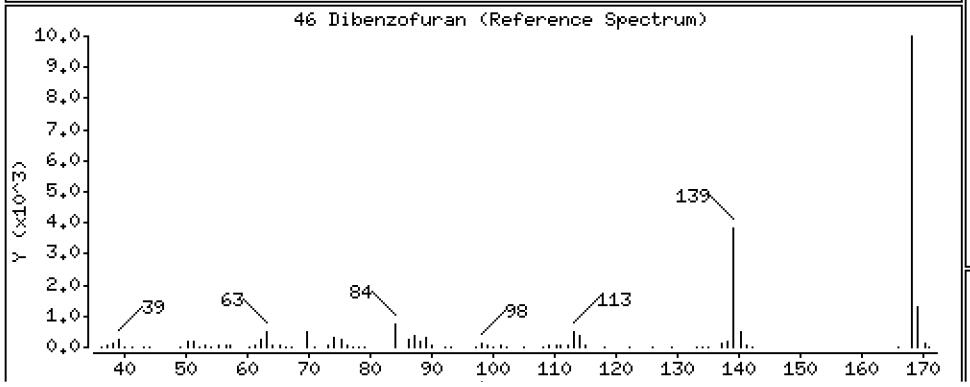
Concentration: 4.756 ug/mL

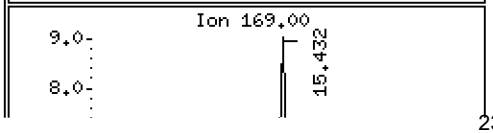












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

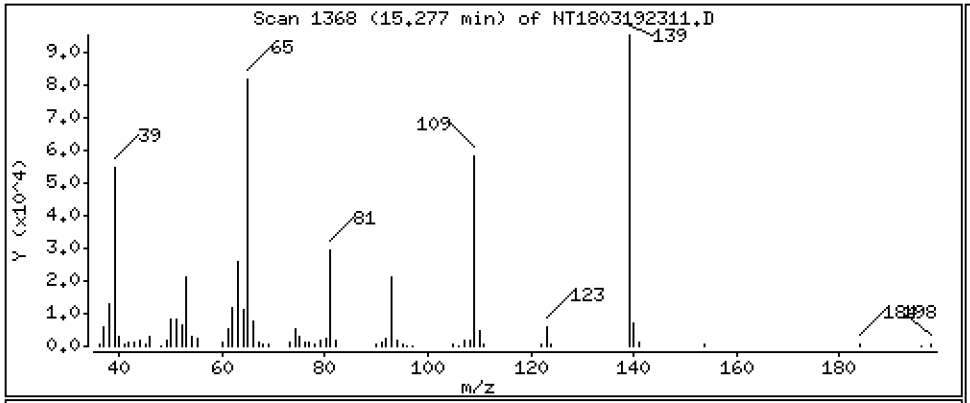
Operator: VTS

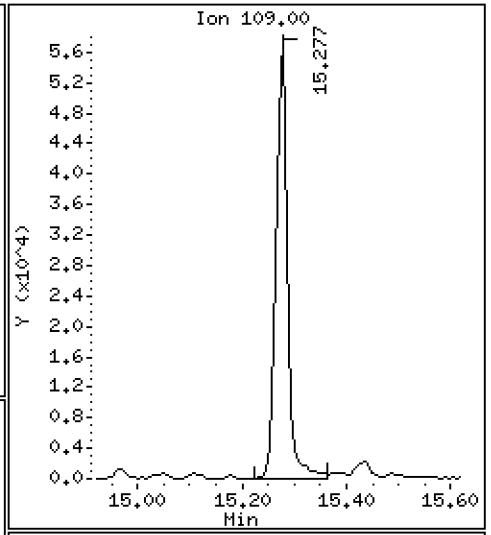
Column phase: ZB-5msi

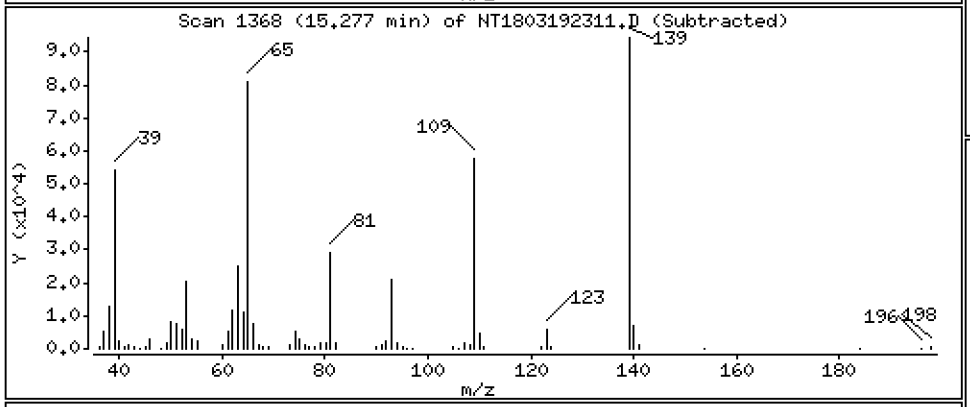
Column diameter: 0.25

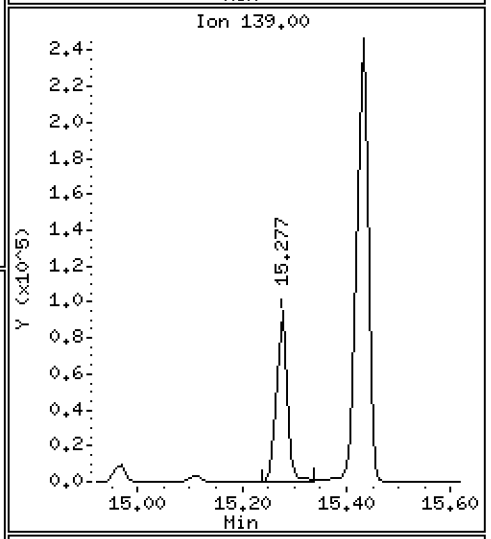
47 4-Nitrophenol

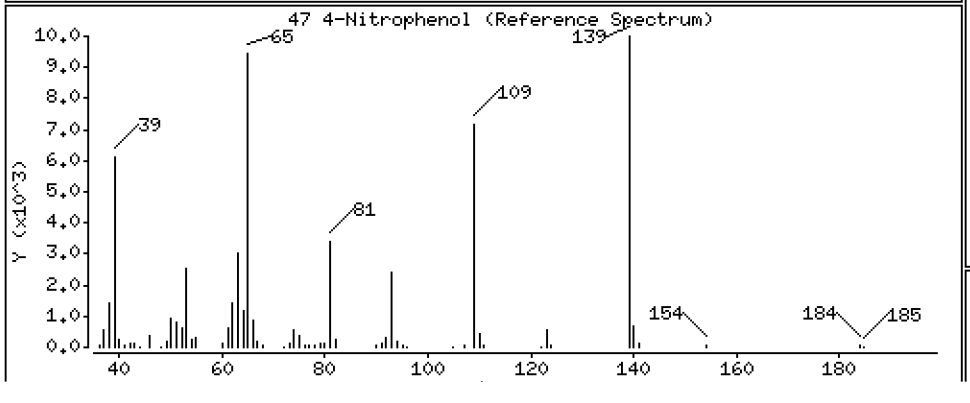
Concentration: 4.128 ug/mL











Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

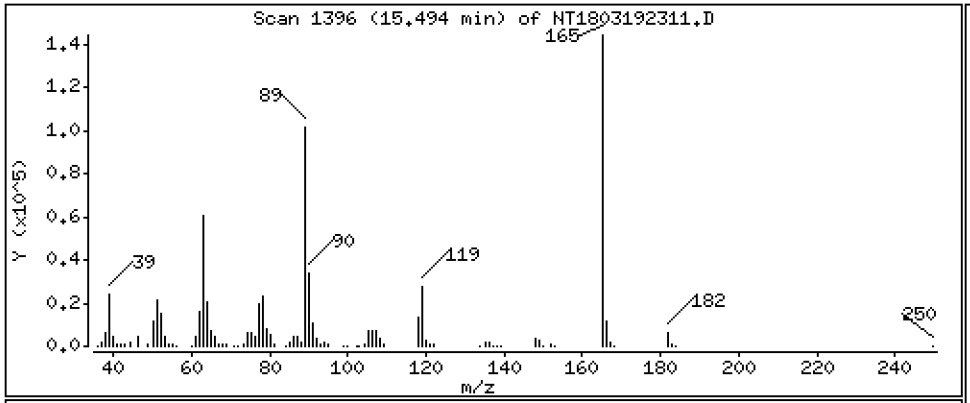
Operator: VTS

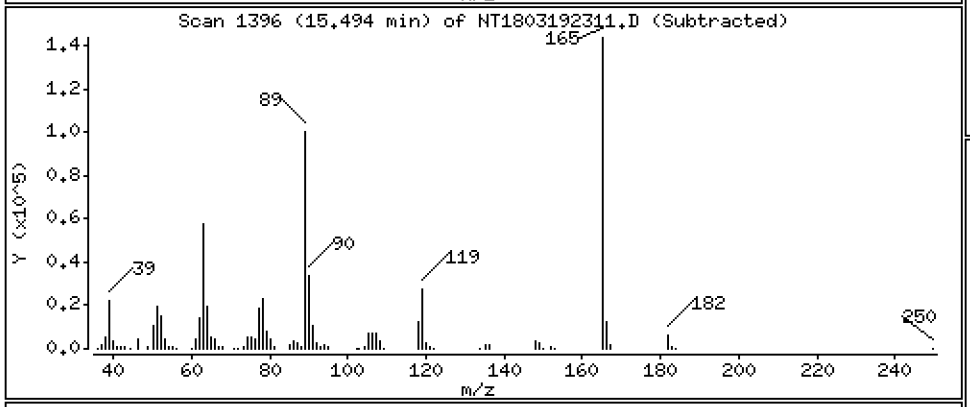
Column phase: ZB-5msi

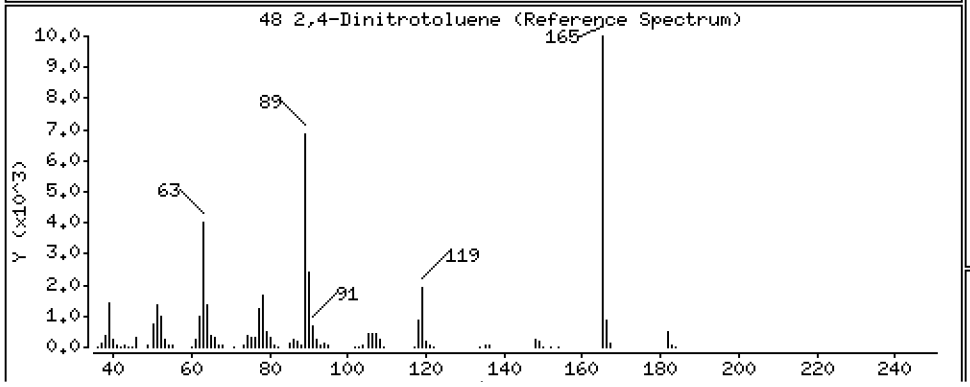
Column diameter: 0.25

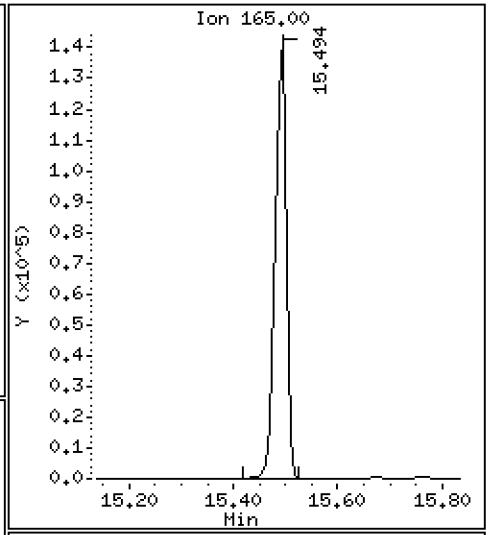
48 2,4-Dinitrotoluene

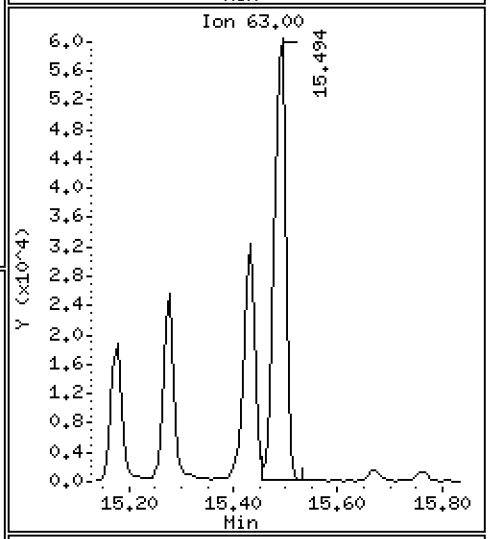
Concentration: 4.481 ug/mL

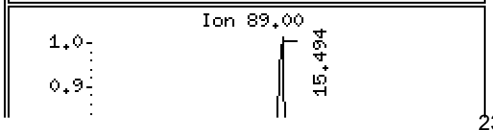












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

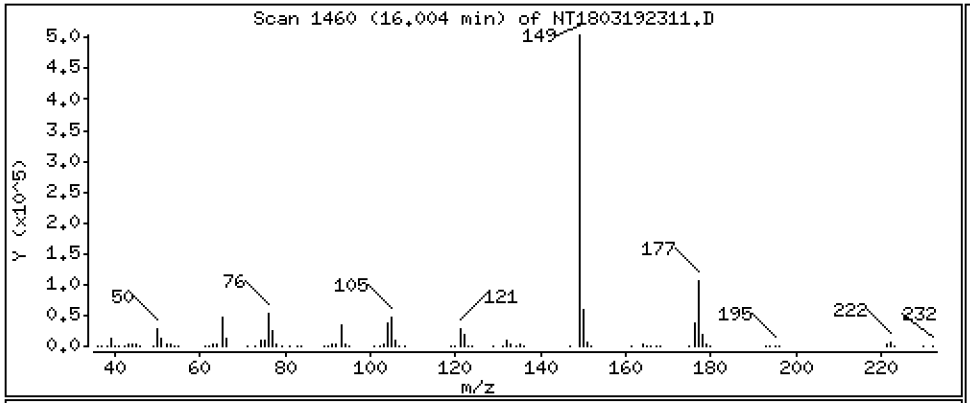
Operator: VTS

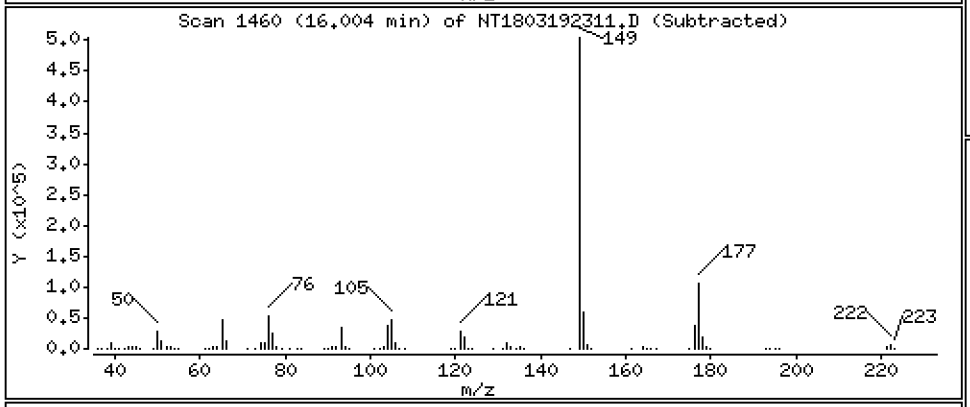
Column phase: ZB-5msi

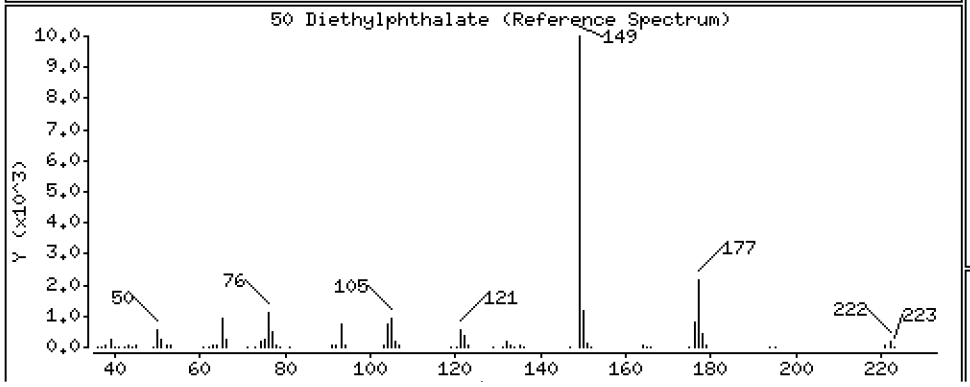
Column diameter: 0.25

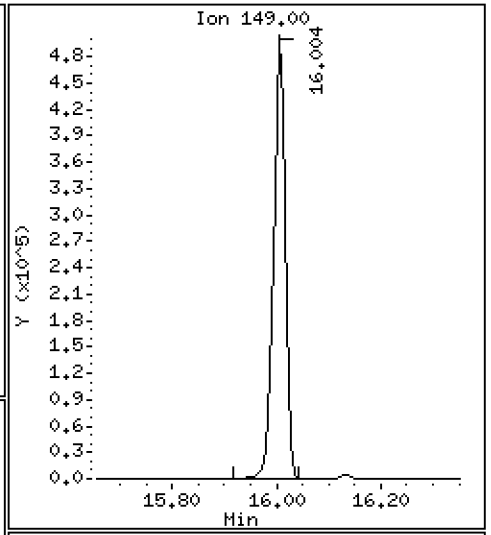
50 Diethylphthalate

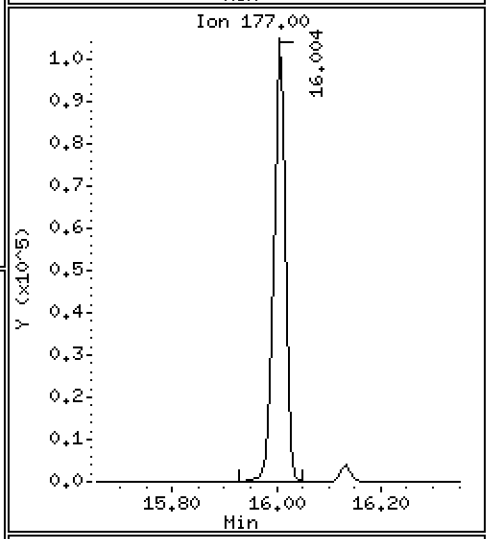
Concentration: 5.021 ug/mL

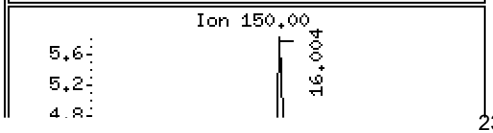












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

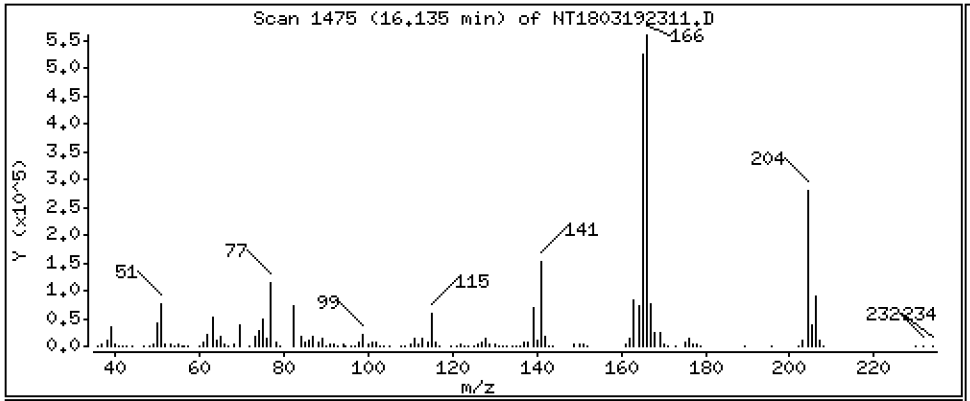
Operator: VTS

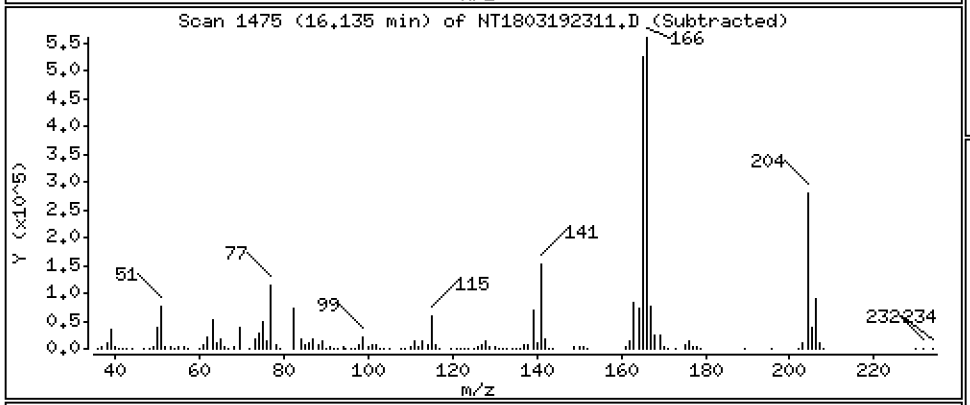
Column phase: ZB-5msi

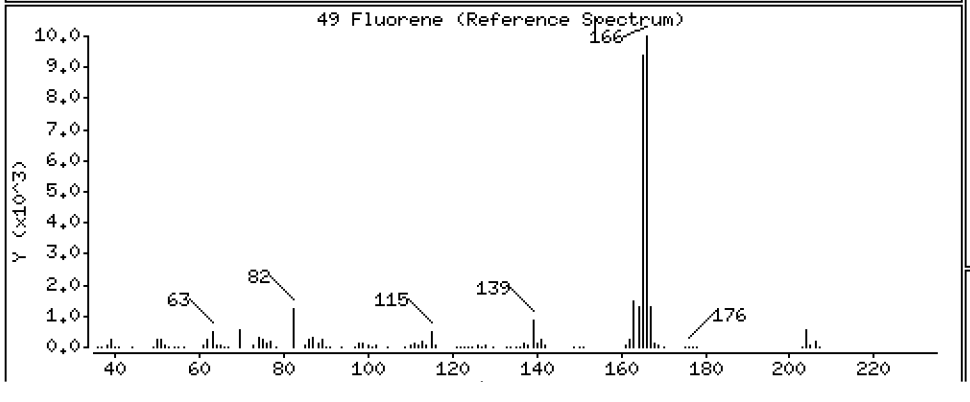
Column diameter: 0.25

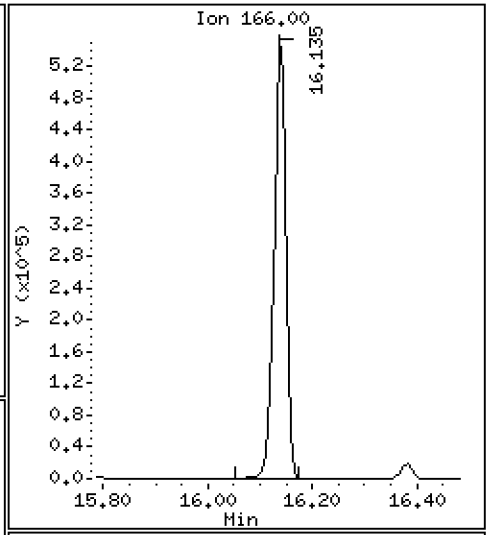
49 Fluorene

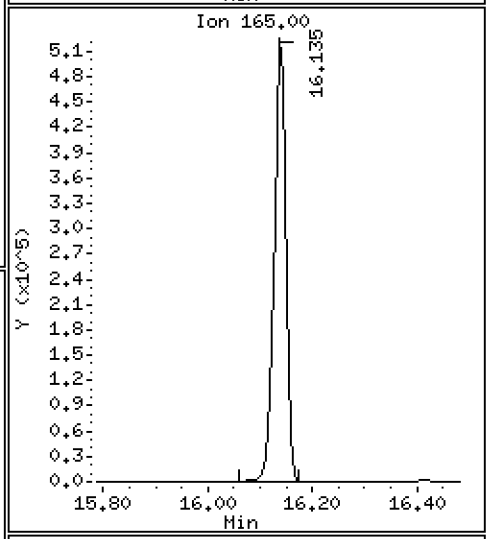
Concentration: 5.040 ug/mL











Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

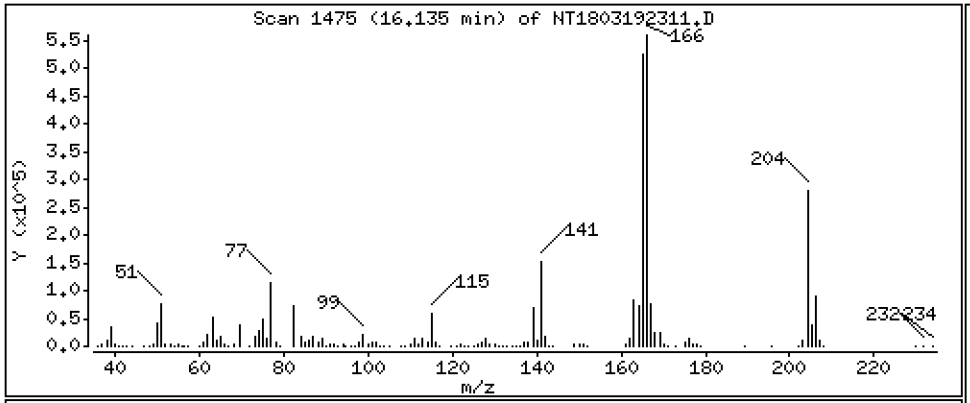
Operator: VTS

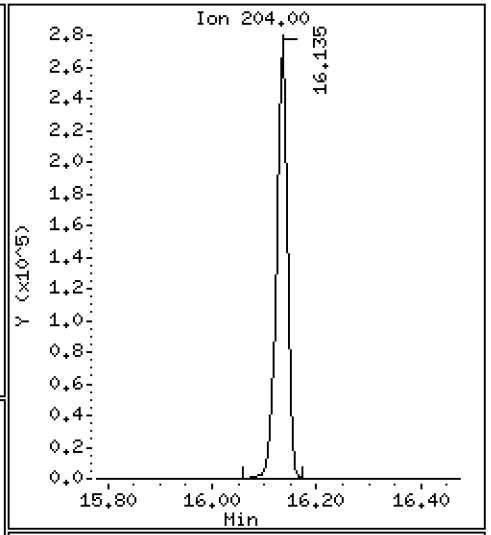
Column phase: ZB-5msi

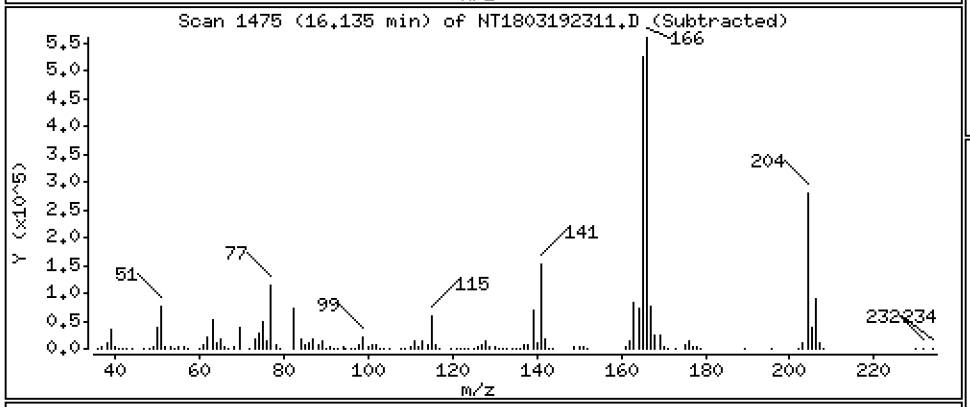
Column diameter: 0.25

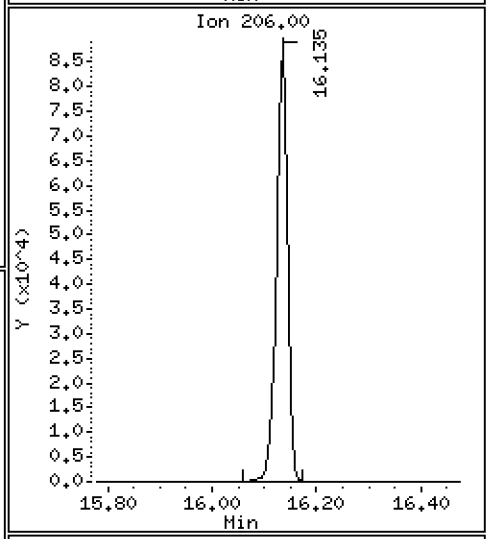
51 4-Chlorophenyl-phenylether

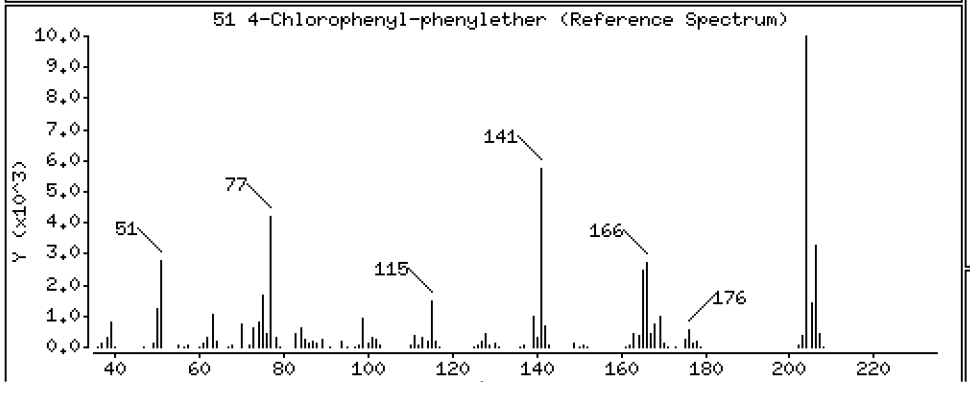
Concentration: 5.398 ug/mL

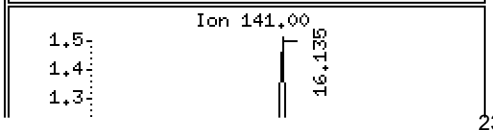












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

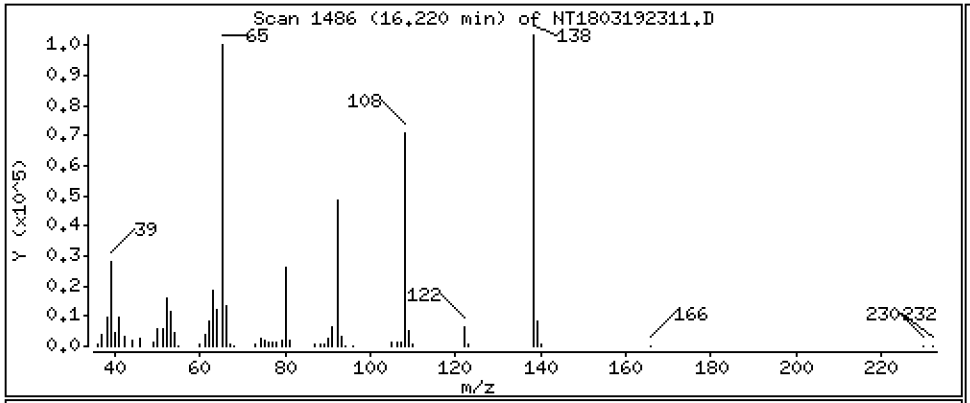
Operator: VTS

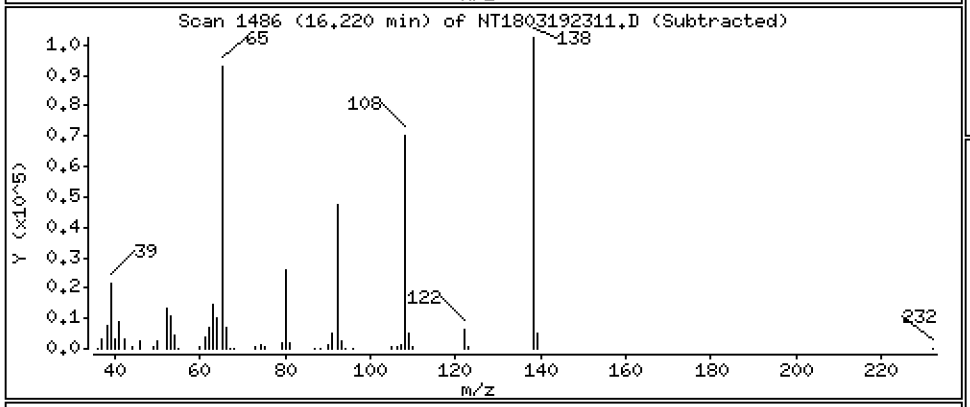
Column phase: ZB-5msi

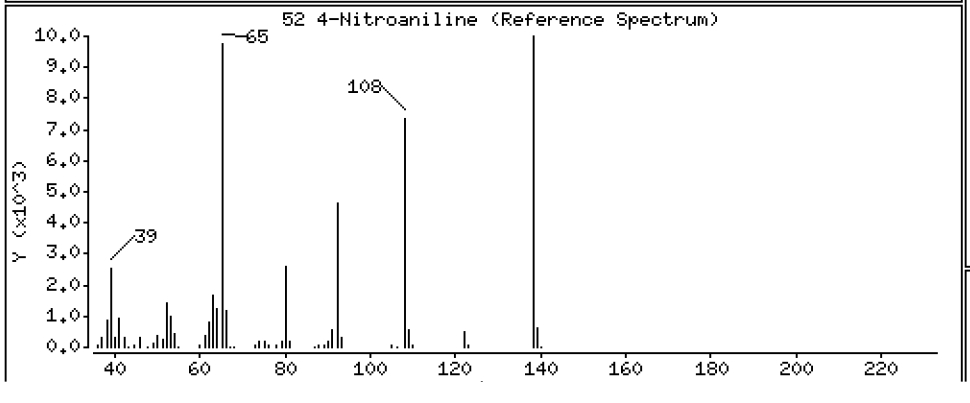
Column diameter: 0.25

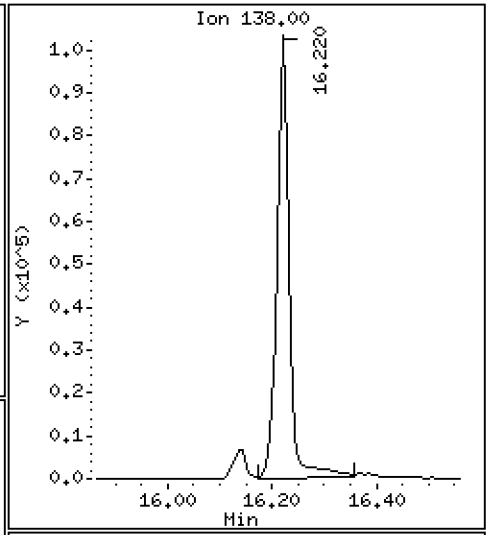
52 4-Nitroaniline

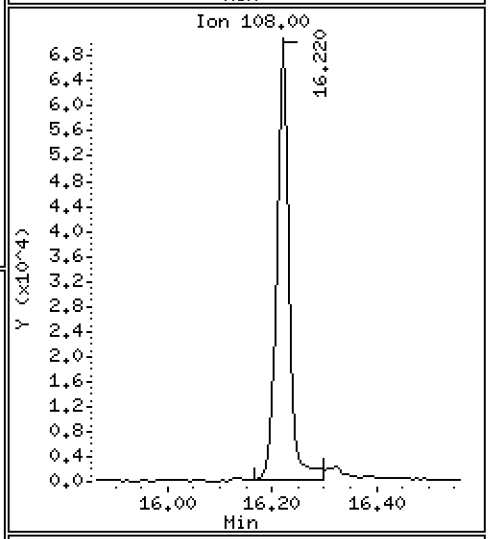
Concentration: 4.323 ug/mL

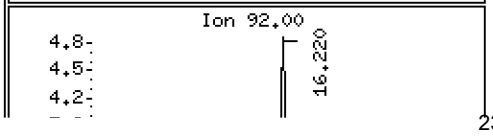












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

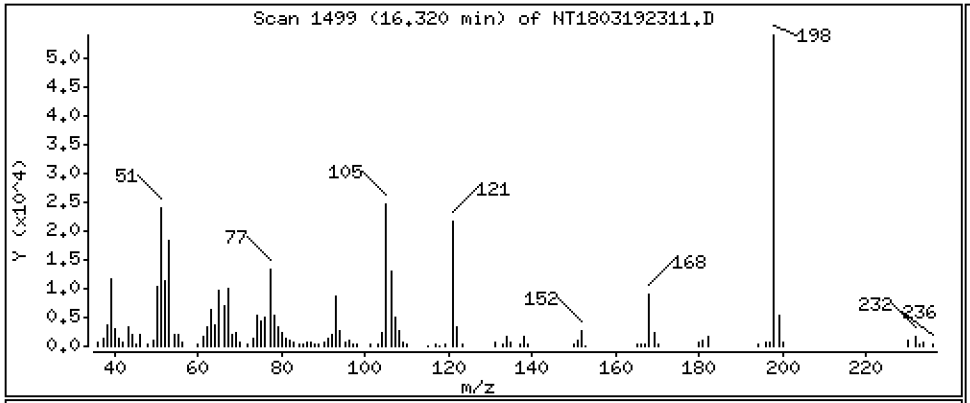
Operator: VTS

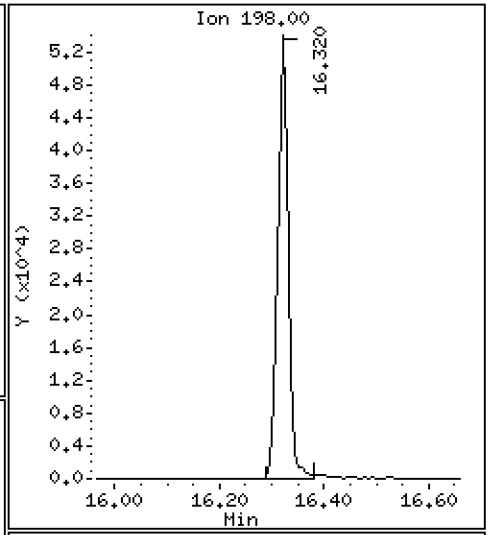
Column phase: ZB-5msi

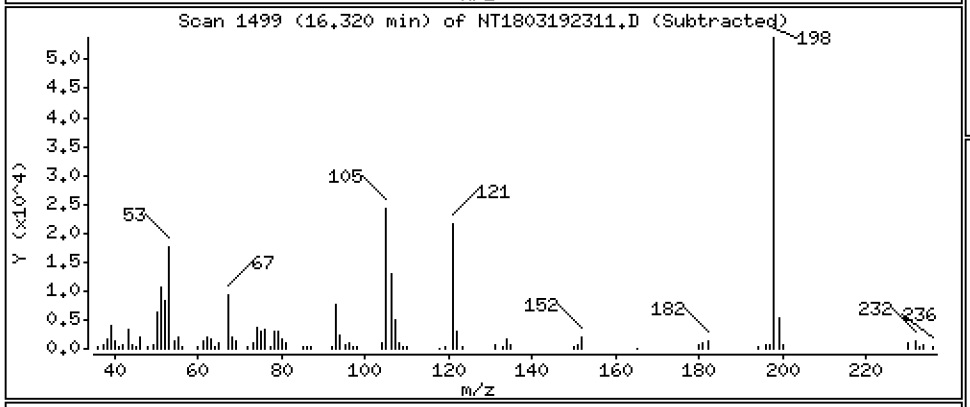
Column diameter: 0.25

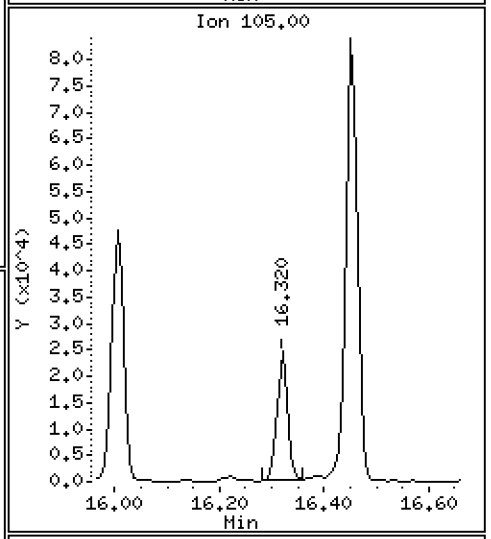
53 4,6-Dinitro-2-methylphenol

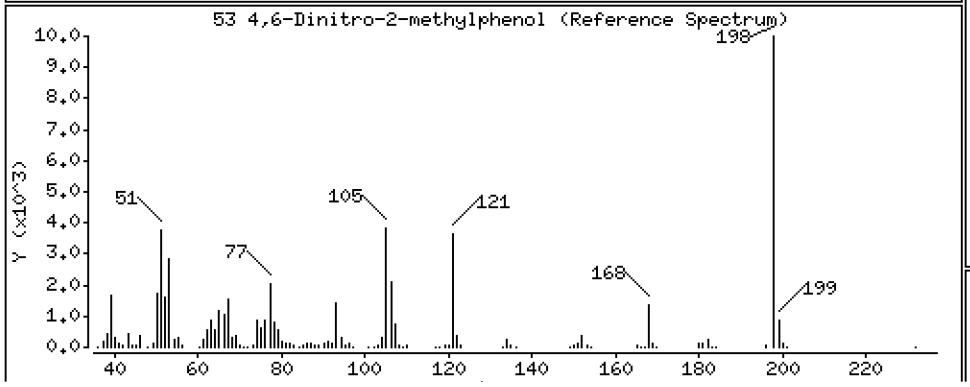
Concentration: 3.088 ug/mL

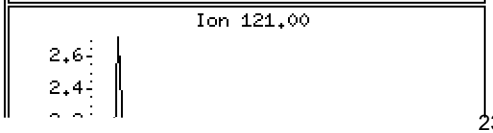












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

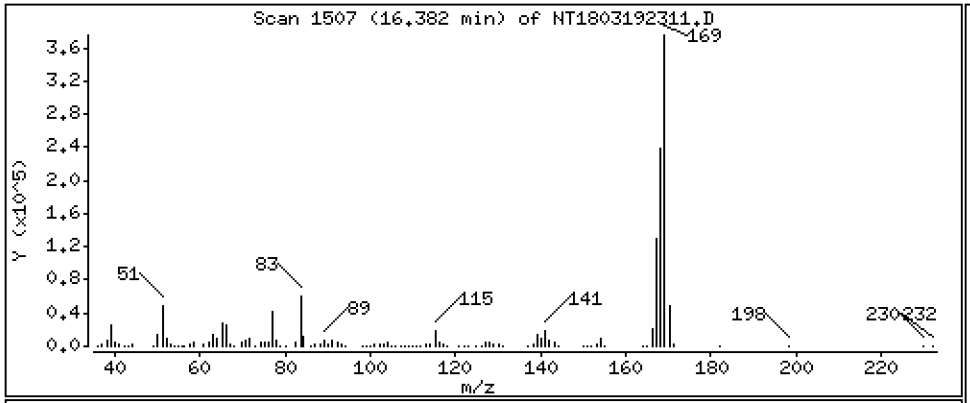
Operator: VTS

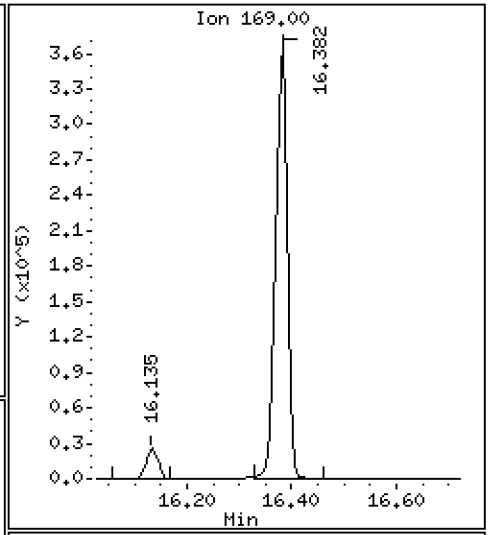
Column phase: ZB-5msi

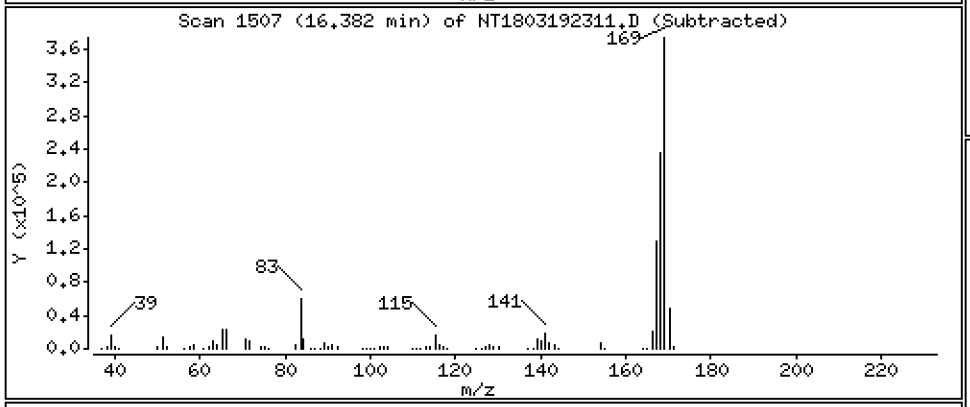
Column diameter: 0.25

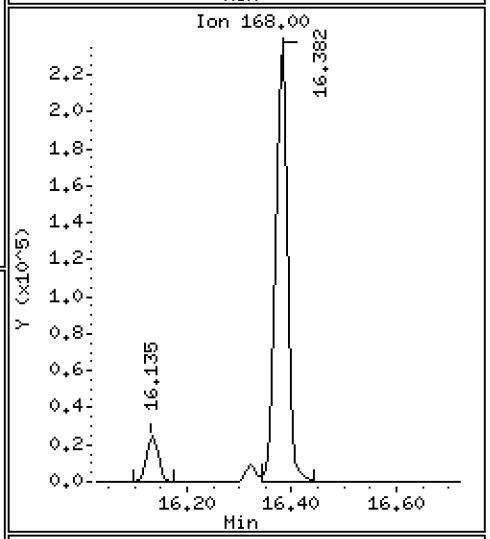
54 N-Nitrosodiphenylamine

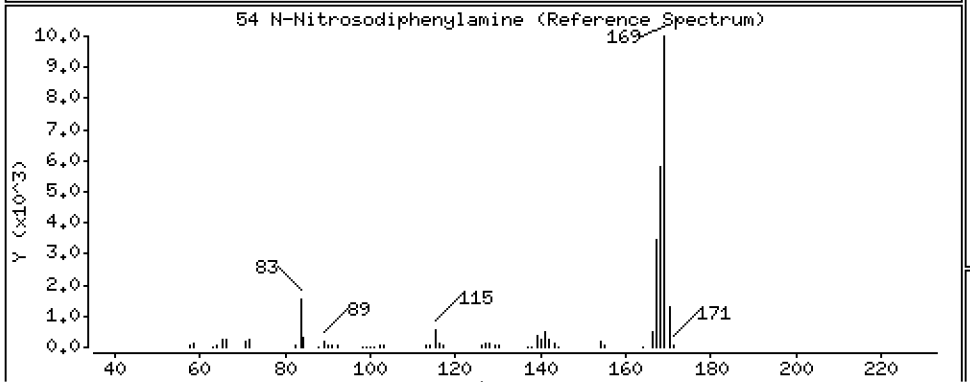
Concentration: 5.077 ug/mL

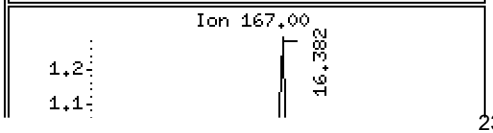












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

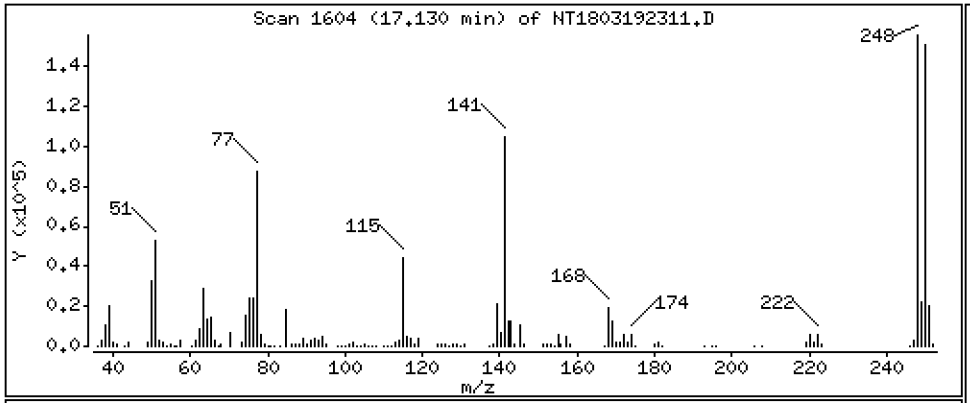
Operator: VTS

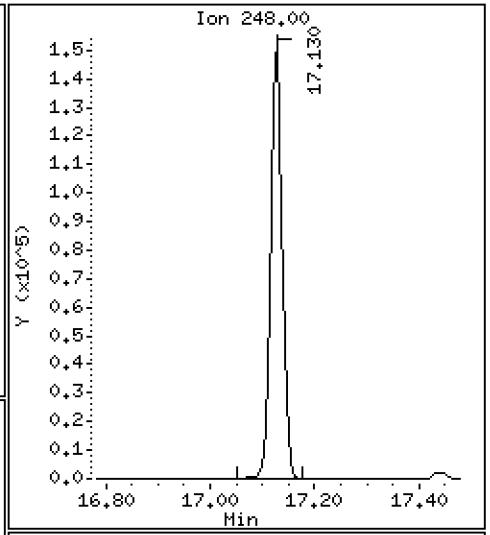
Column phase: ZB-5msi

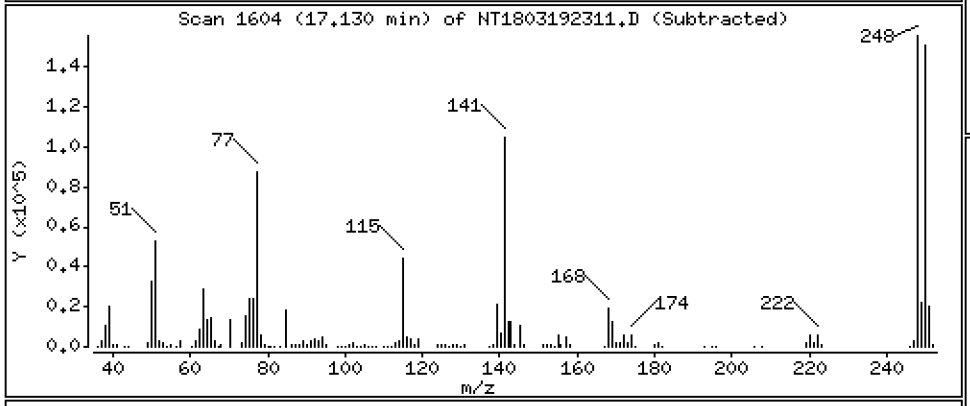
Column diameter: 0.25

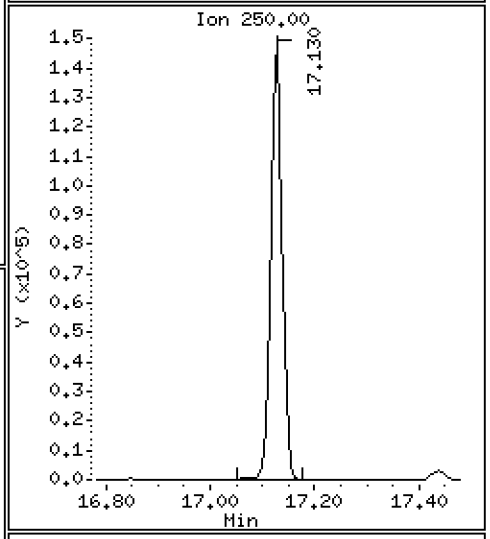
56 4-Bromophenyl-phenylether

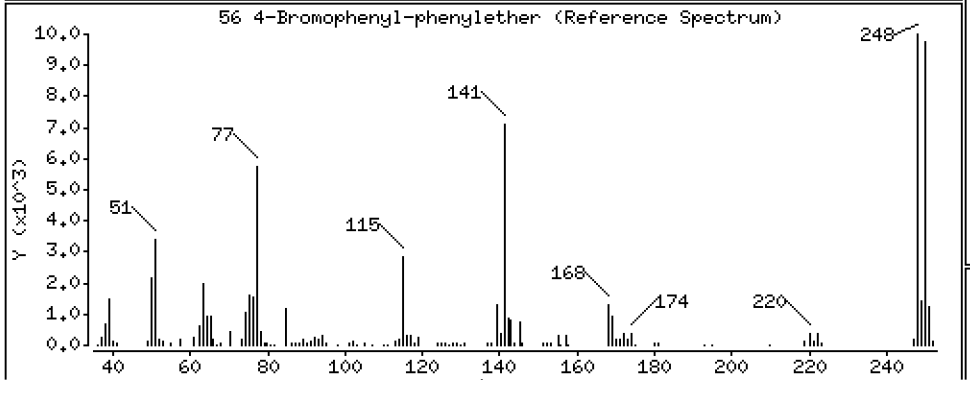
Concentration: 5.335 ug/mL

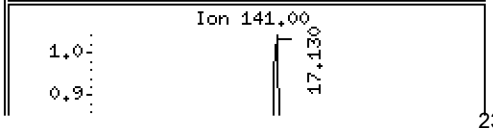












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

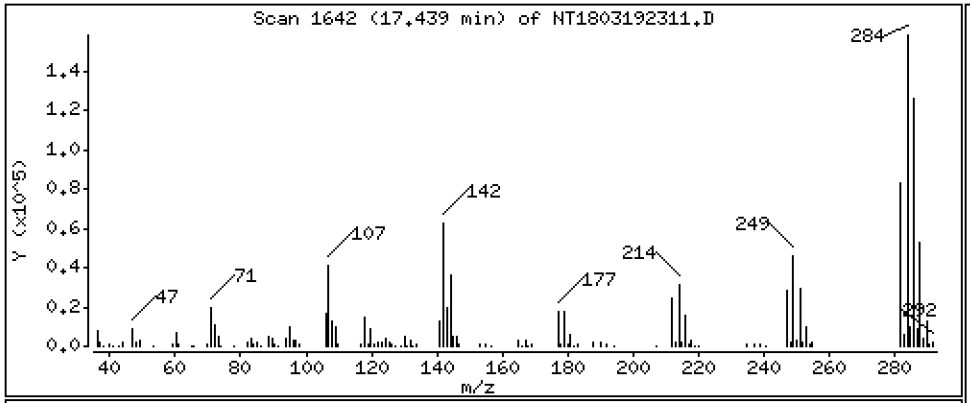
Operator: VTS

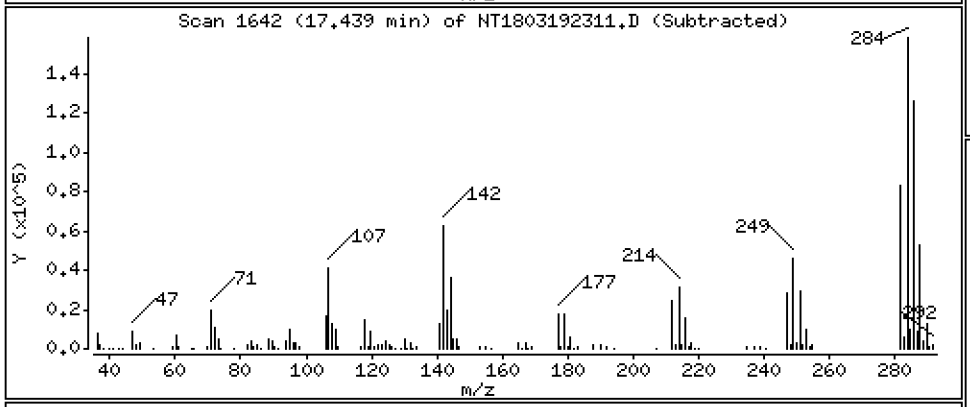
Column phase: ZB-5msi

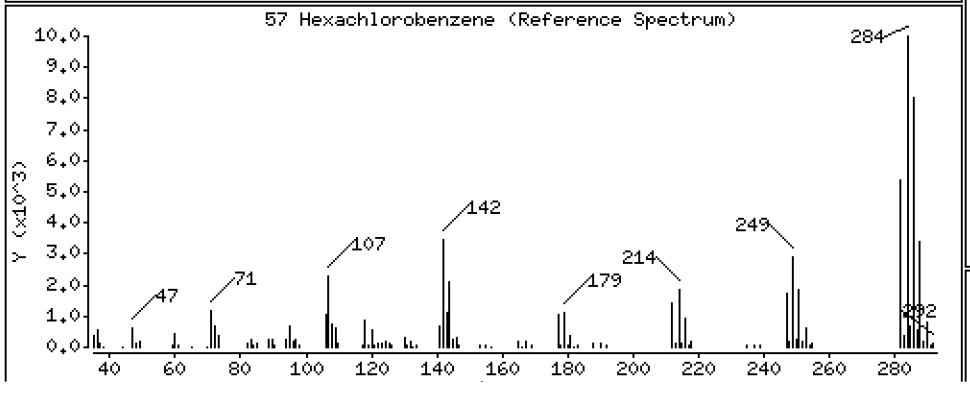
Column diameter: 0.25

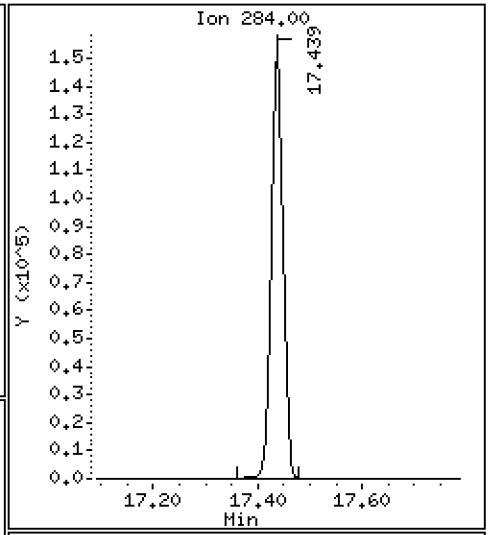
57 Hexachlorobenzene

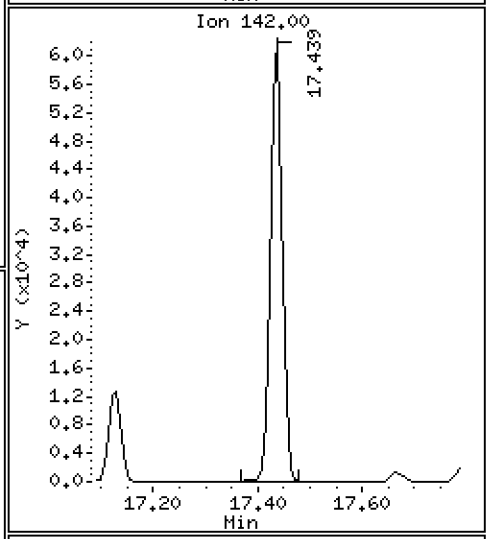
Concentration: 4.899 ug/mL

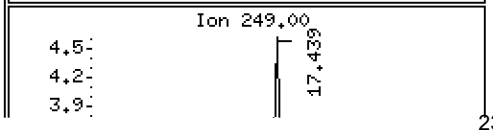












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

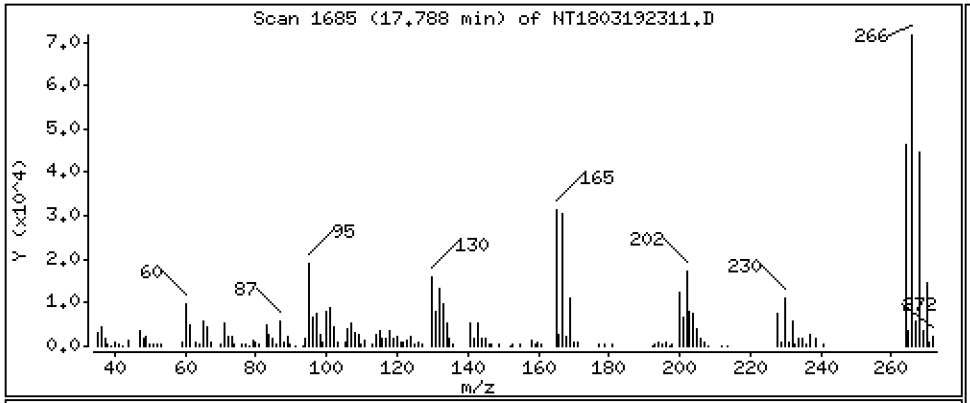
Operator: VTS

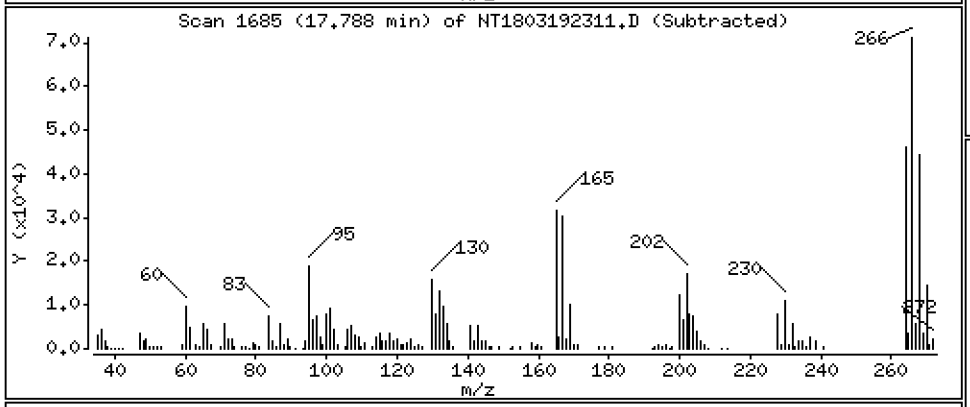
Column phase: ZB-5msi

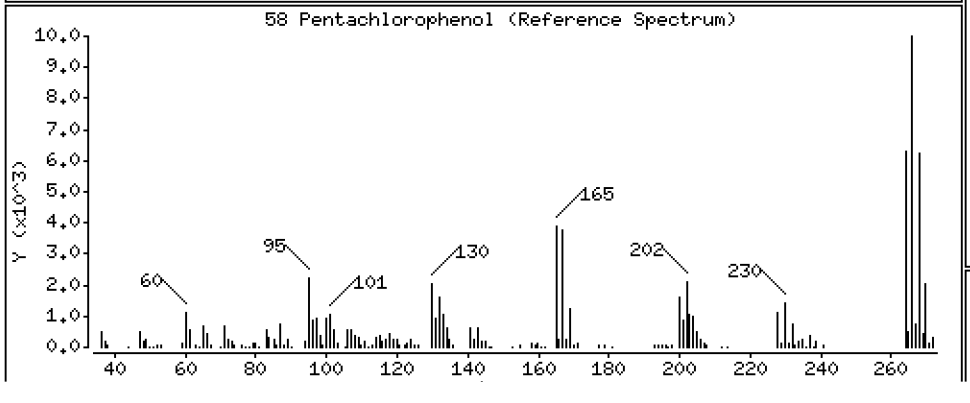
Column diameter: 0.25

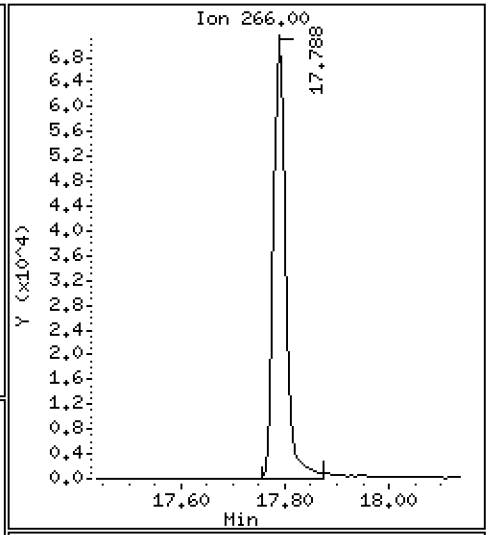
58 Pentachlorophenol

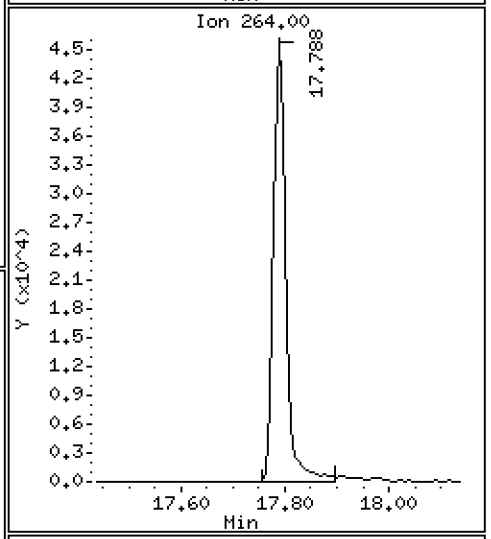
Concentration: 3.802 ug/mL

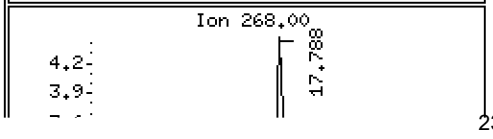












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

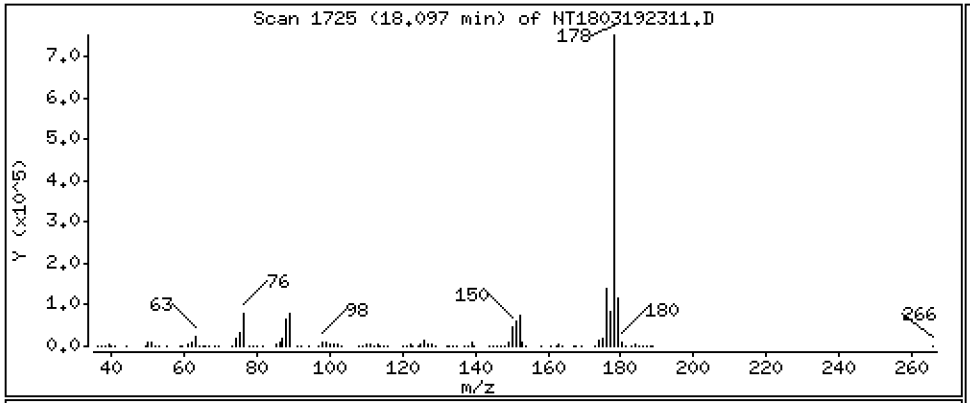
Operator: VTS

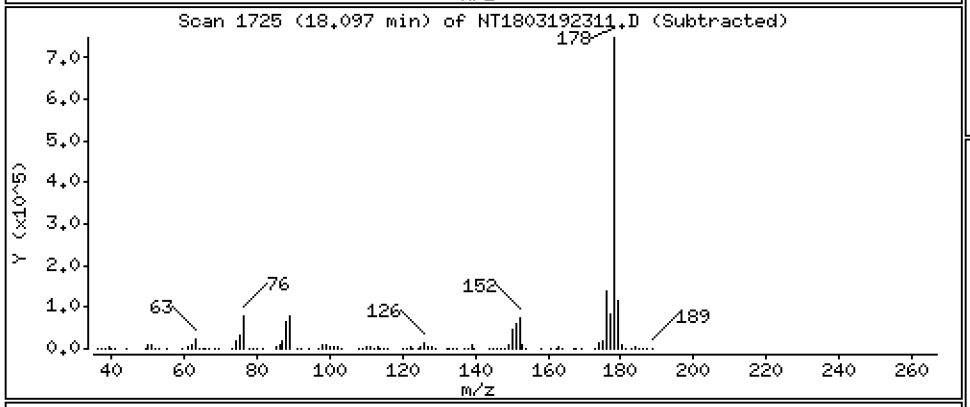
Column phase: ZB-5msi

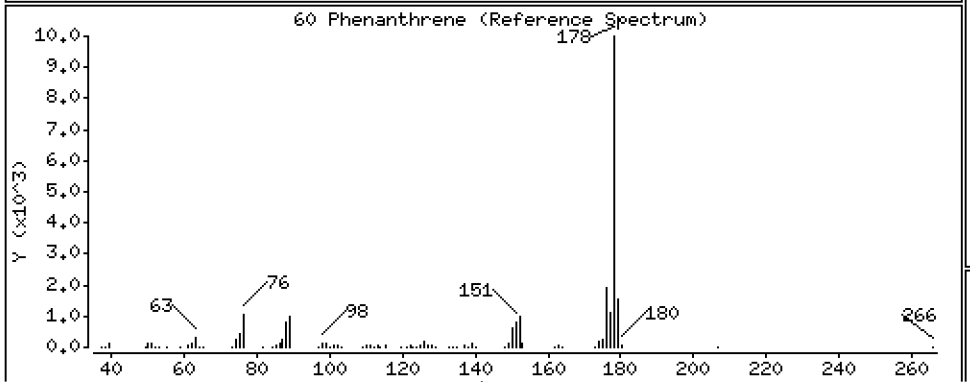
Column diameter: 0.25

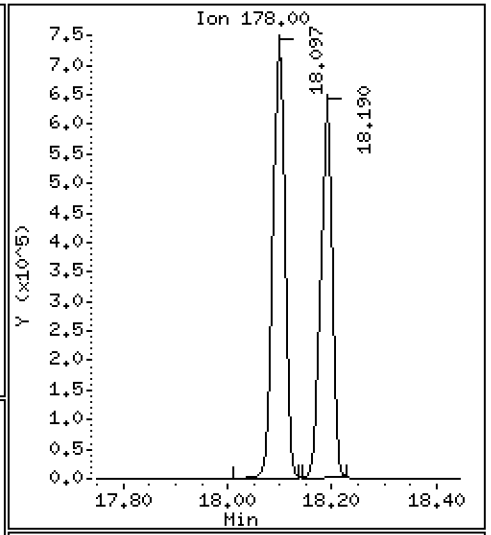
60 Phenanthrene

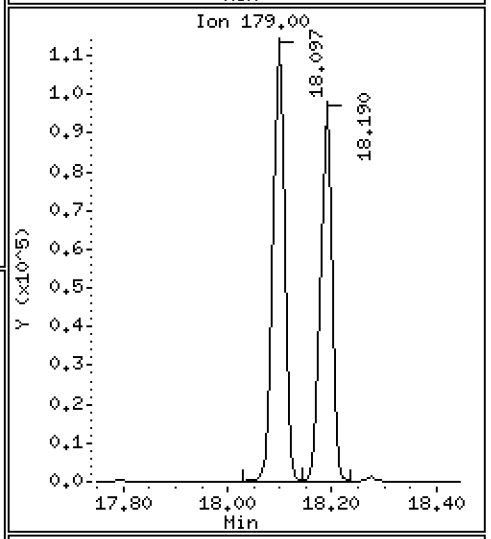
Concentration: 4.825 ug/mL

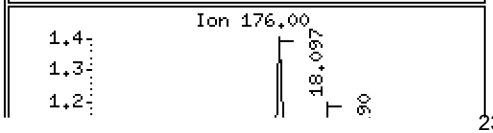












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

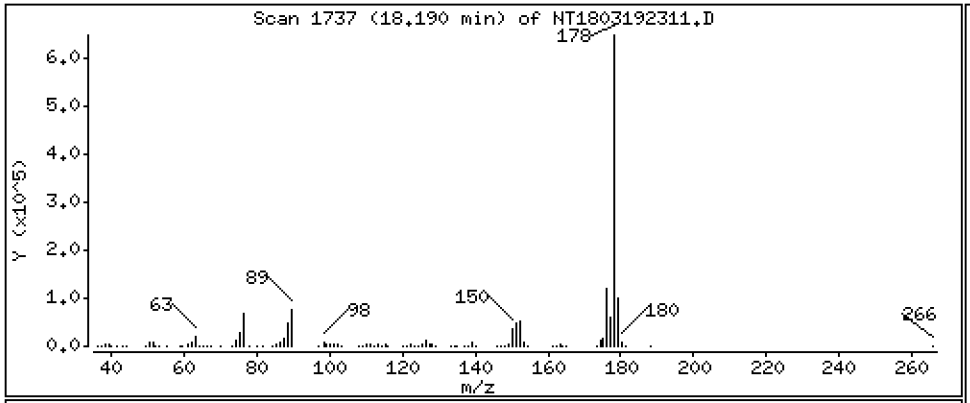
Operator: VTS

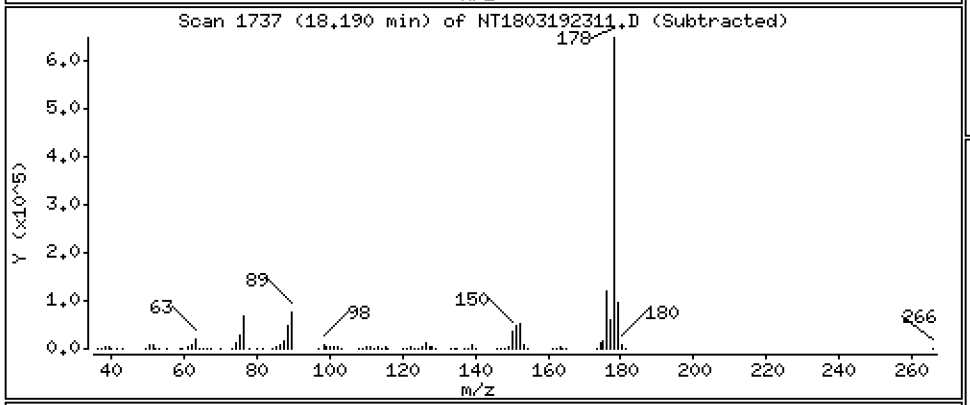
Column phase: ZB-5msi

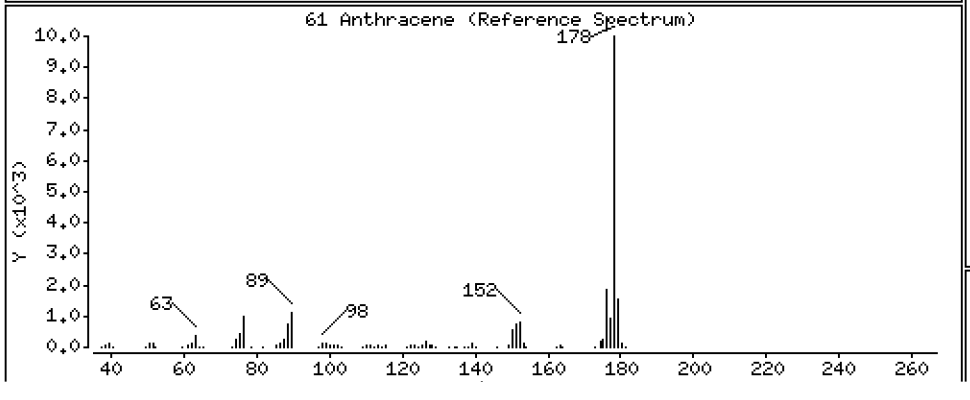
Column diameter: 0.25

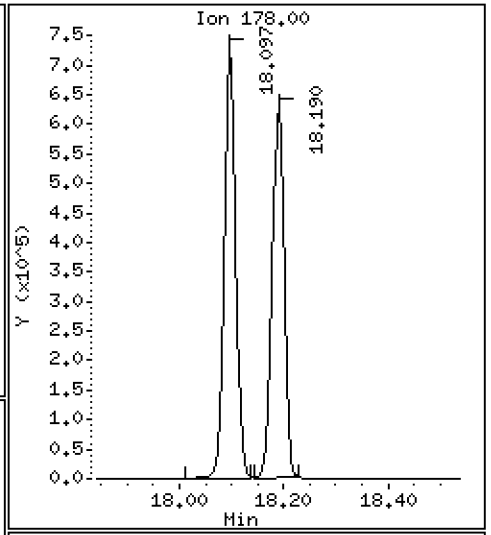
61 Anthracene

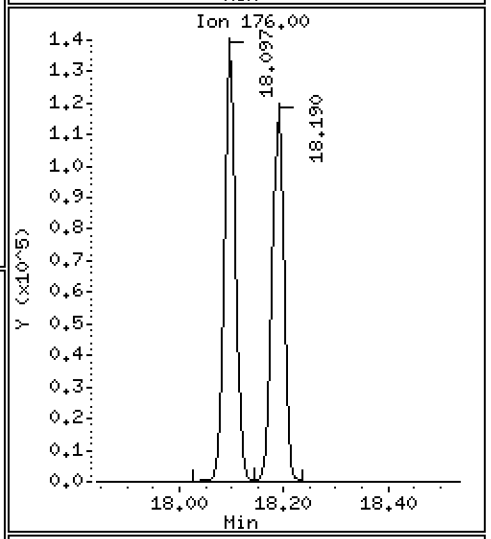
Concentration: 4.270 ug/mL

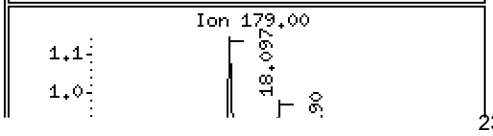












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

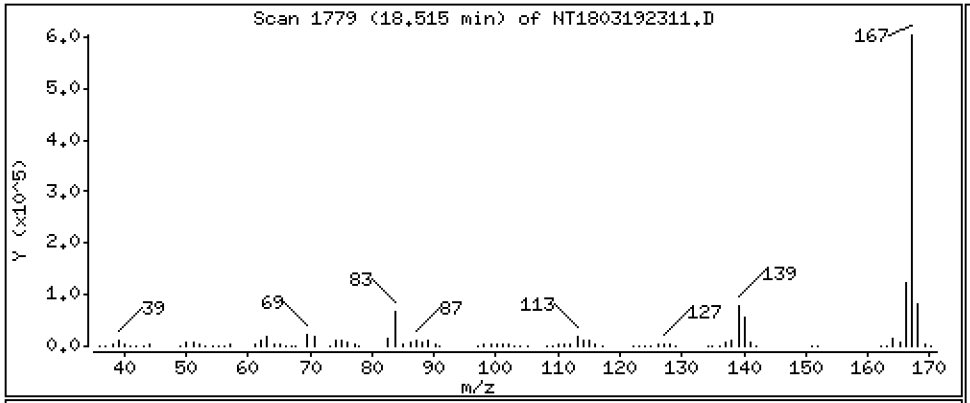
Operator: VTS

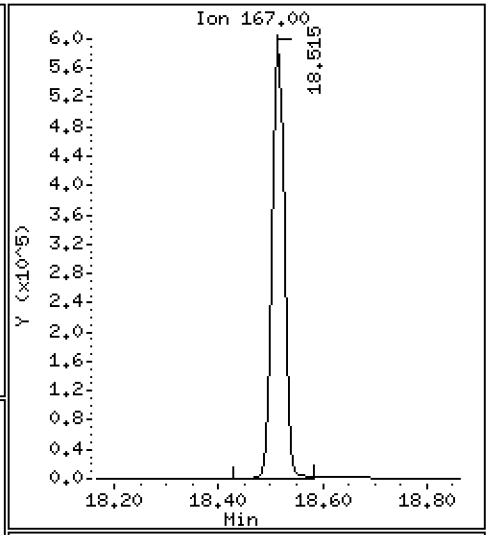
Column phase: ZB-5msi

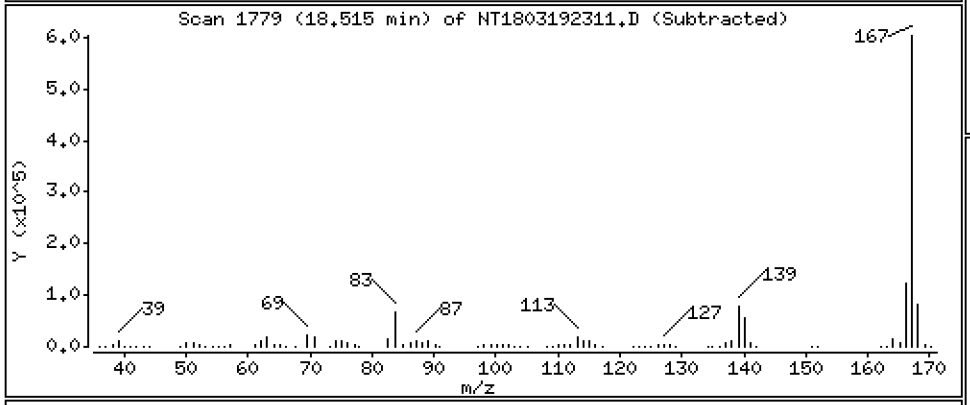
Column diameter: 0.25

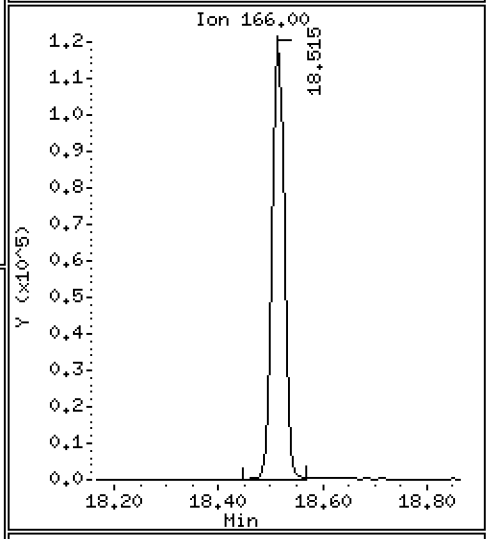
62 Carbazole

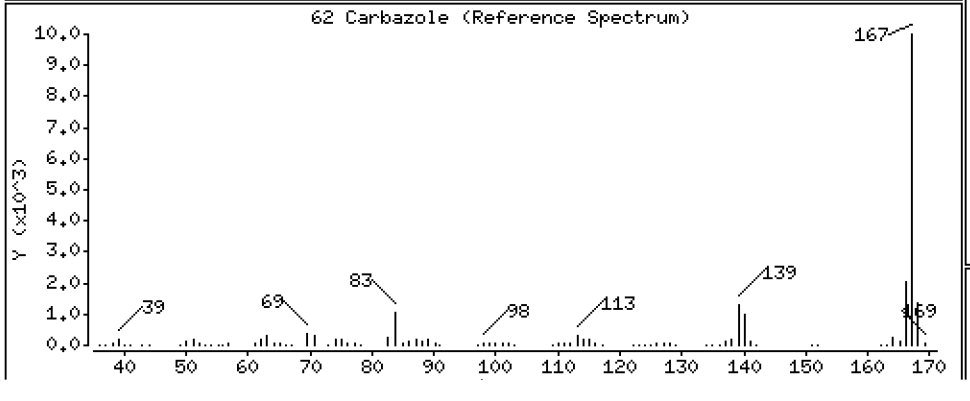
Concentration: 4.679 ug/mL

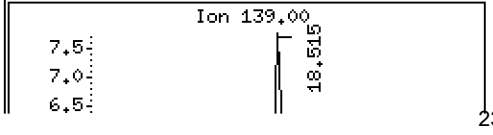












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

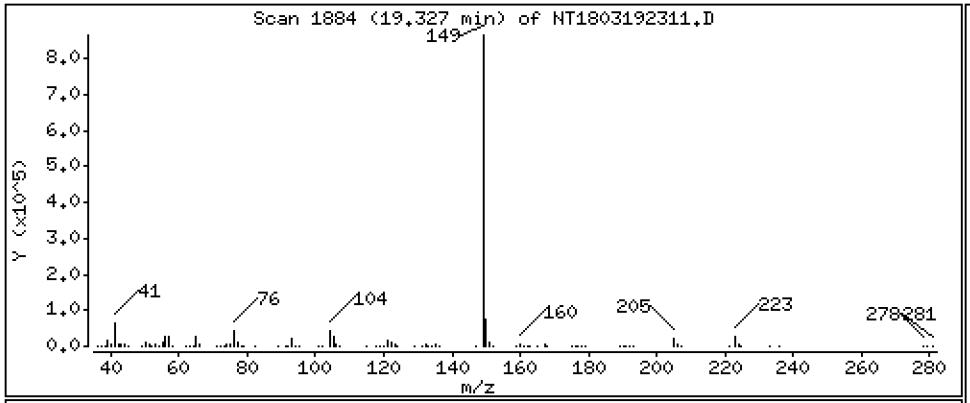
Operator: VTS

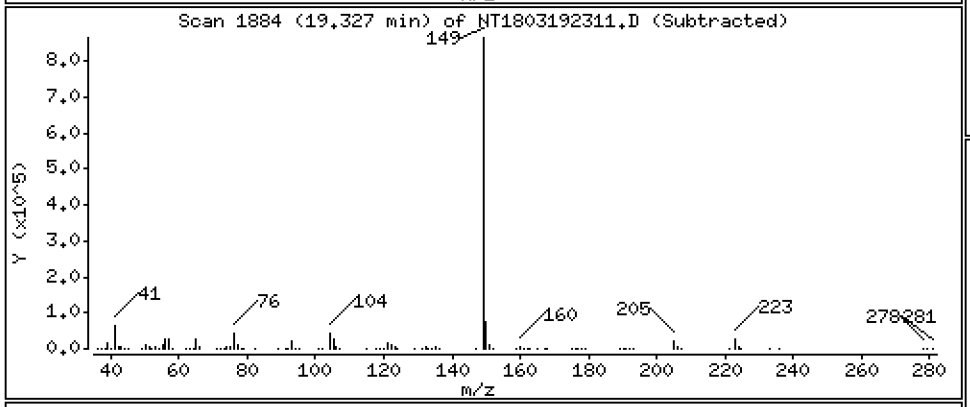
Column phase: ZB-5msi

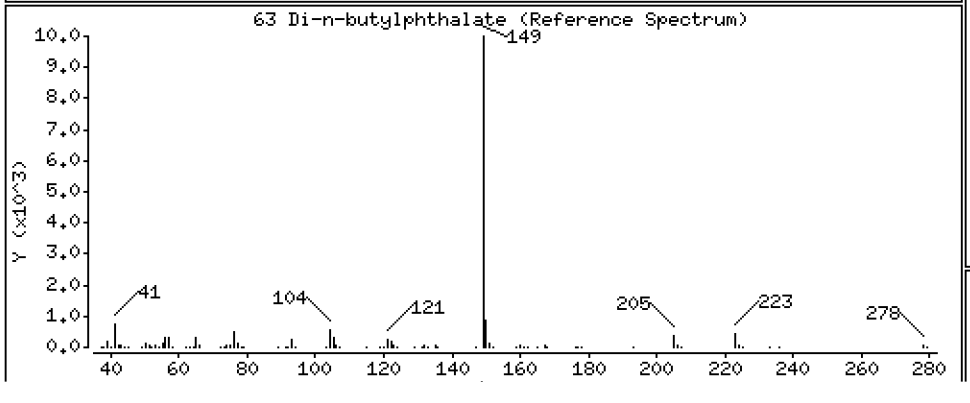
Column diameter: 0.25

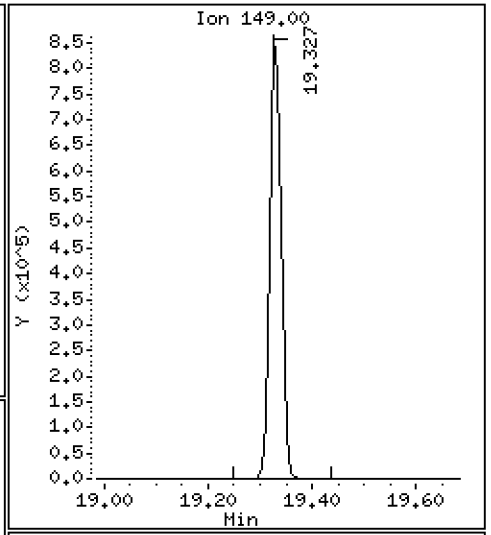
63 Di-n-butylphthalate

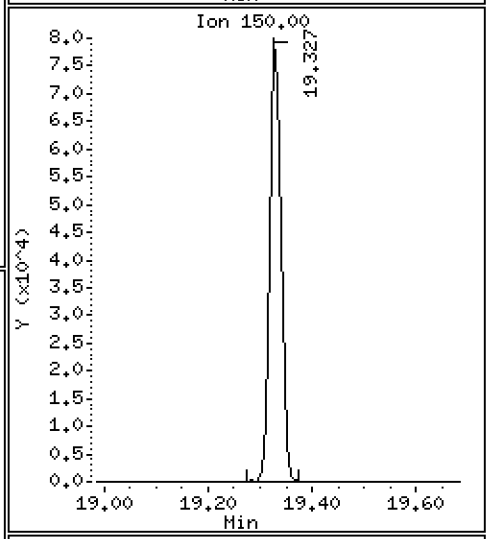
Concentration: 4.839 ug/mL

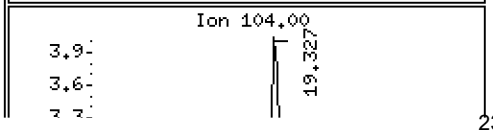












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

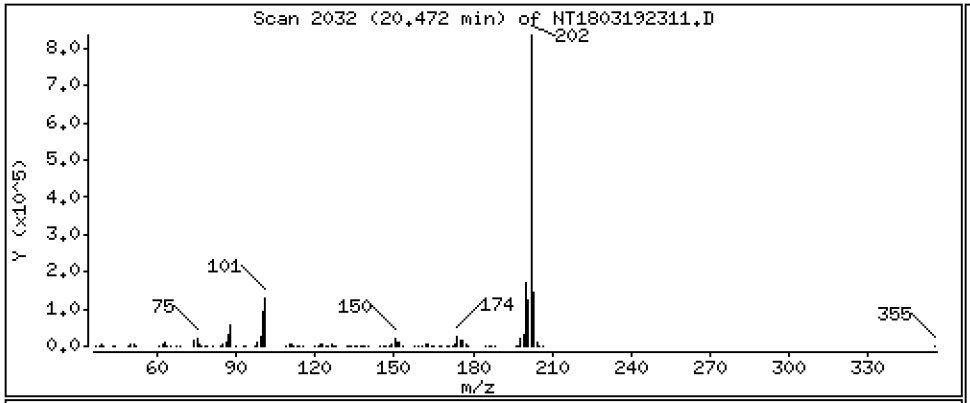
Operator: VTS

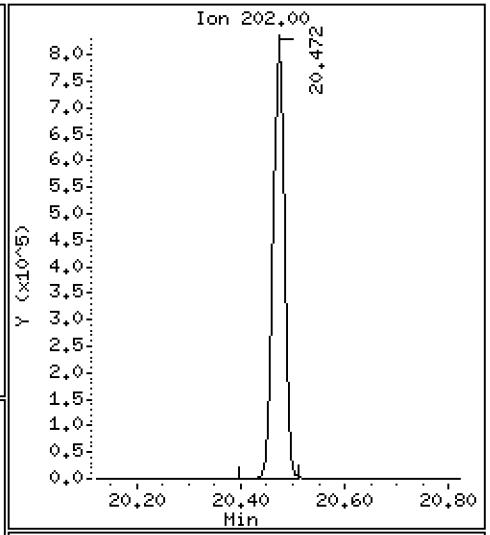
Column phase: ZB-5msi

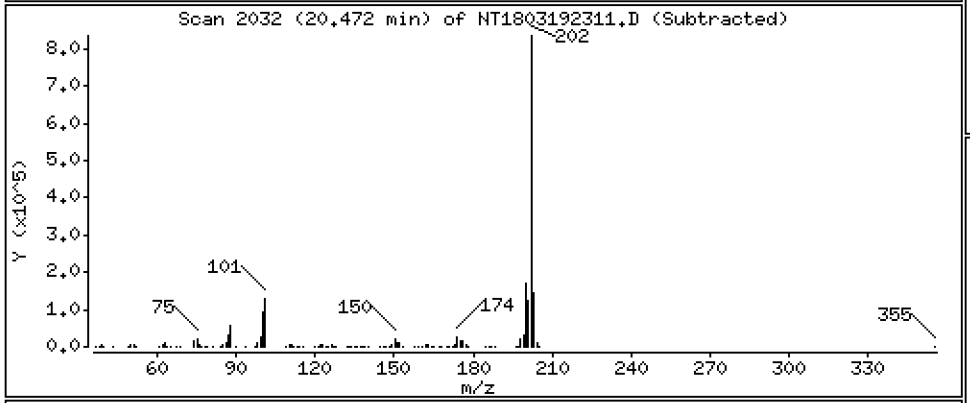
Column diameter: 0.25

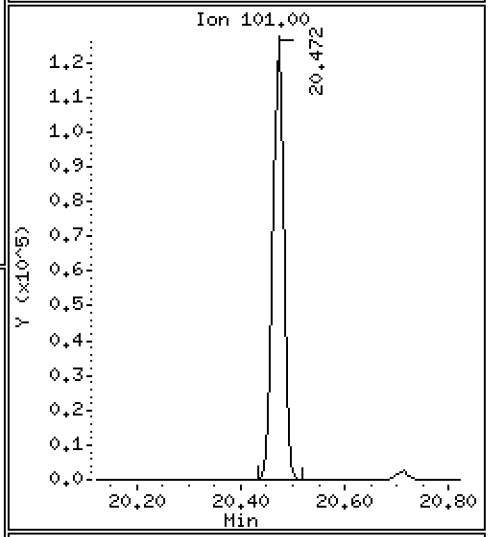
64 Fluoranthene

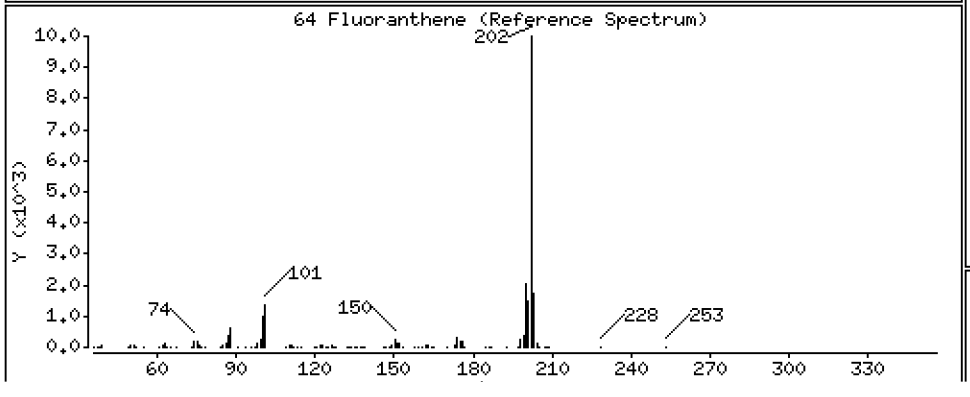
Concentration: 5.213 ug/mL

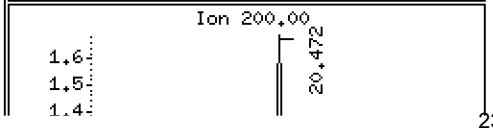












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

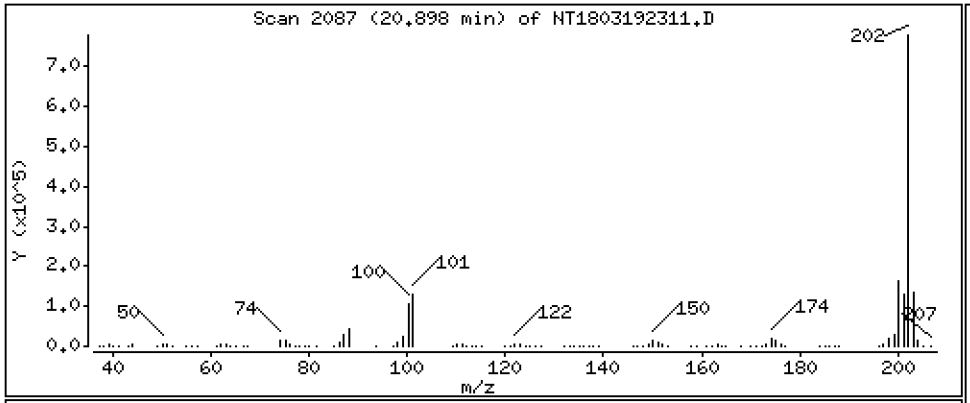
Operator: VTS

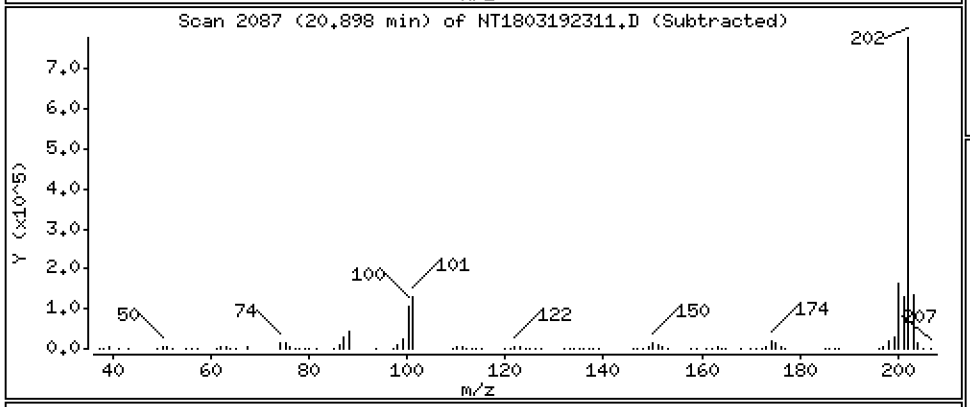
Column phase: ZB-5msi

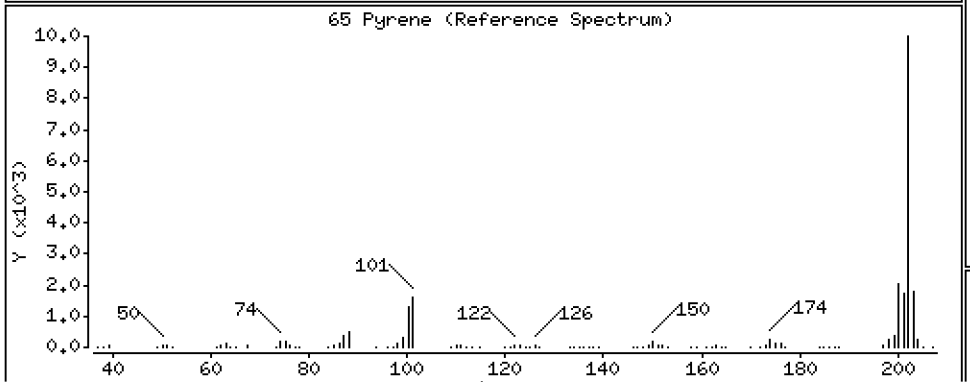
Column diameter: 0.25

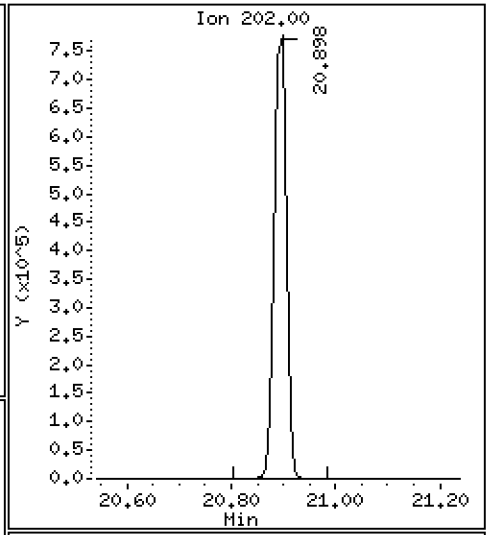
65 Pyrene

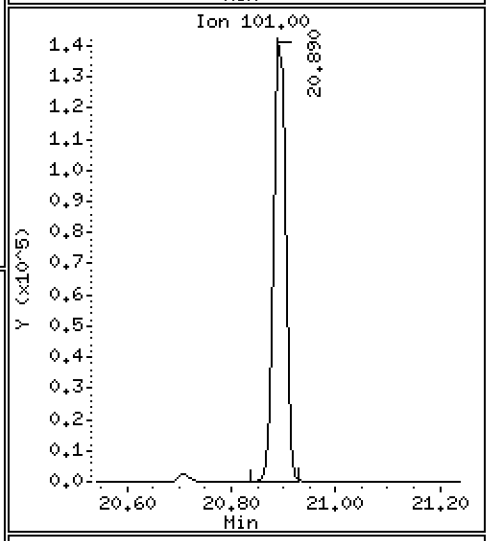
Concentration: 5.030 ug/mL

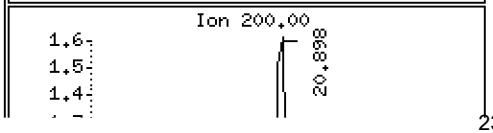












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

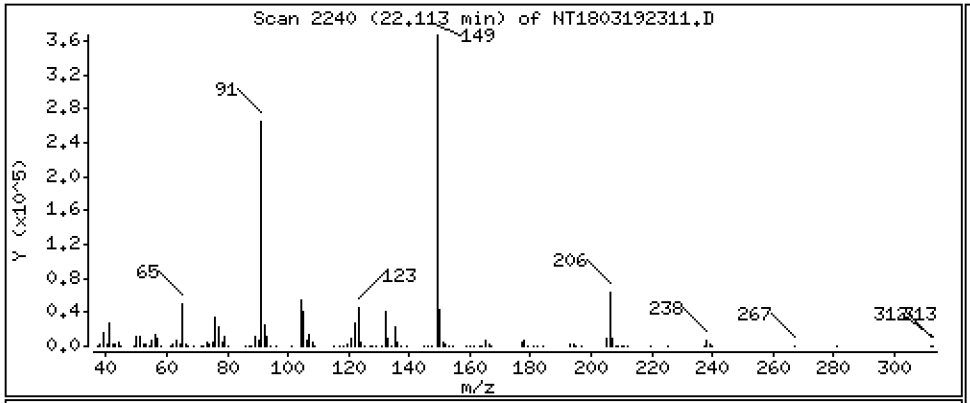
Operator: VTS

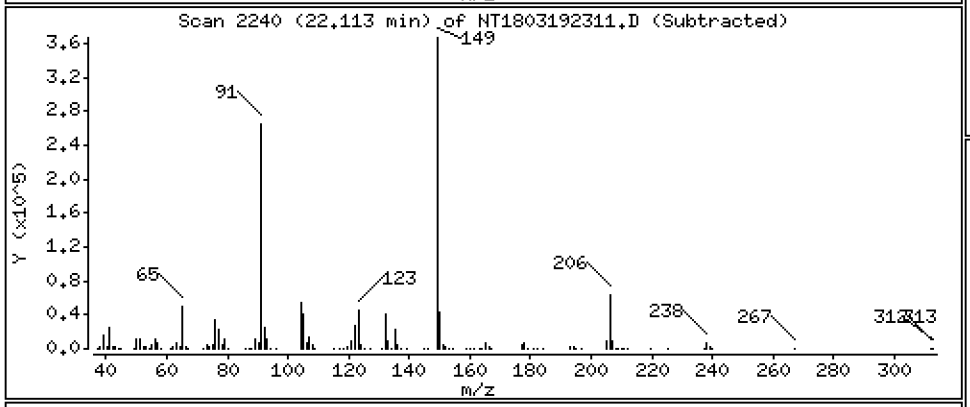
Column phase: ZB-5msi

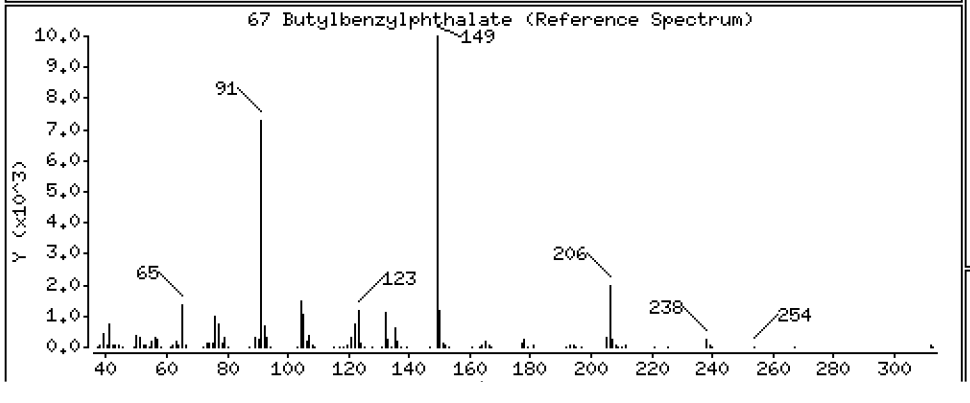
Column diameter: 0.25

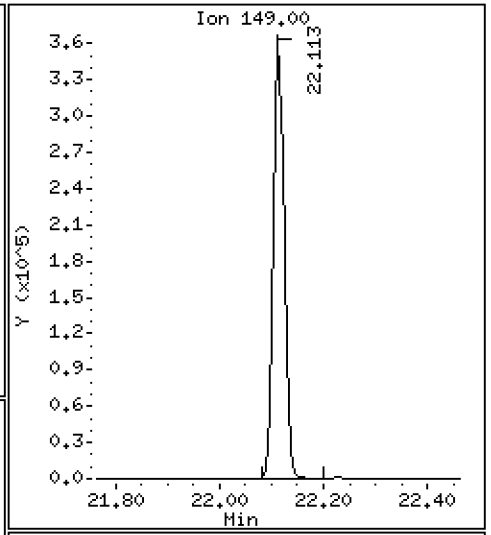
67 Butylbenzylphthalate

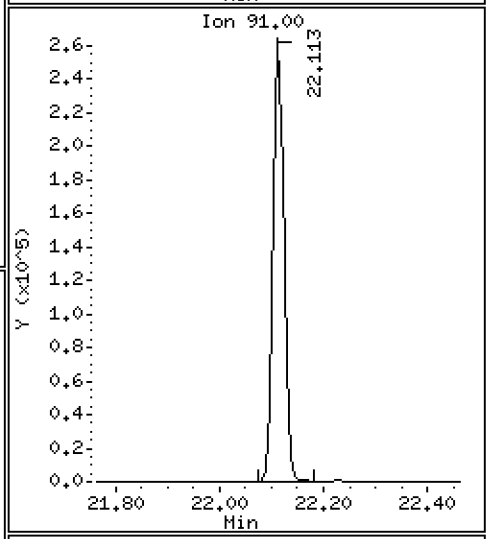
Concentration: 4.792 ug/mL

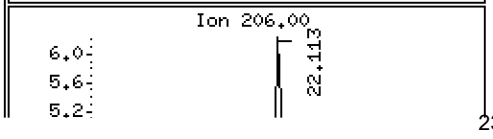












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

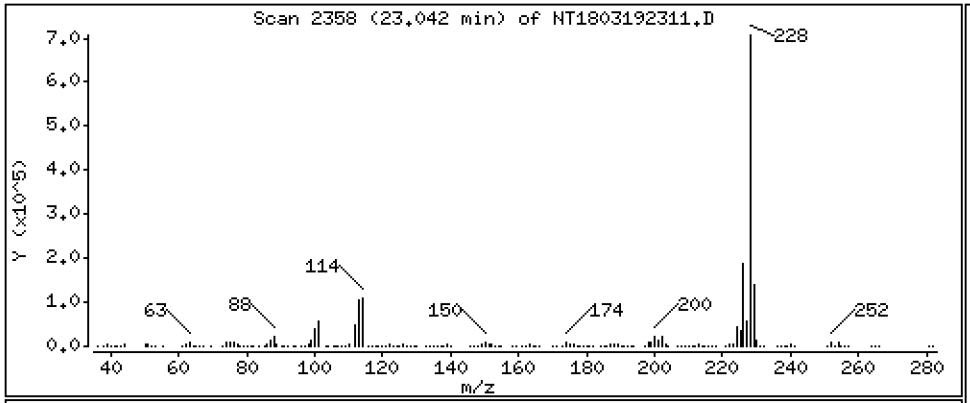
Operator: VTS

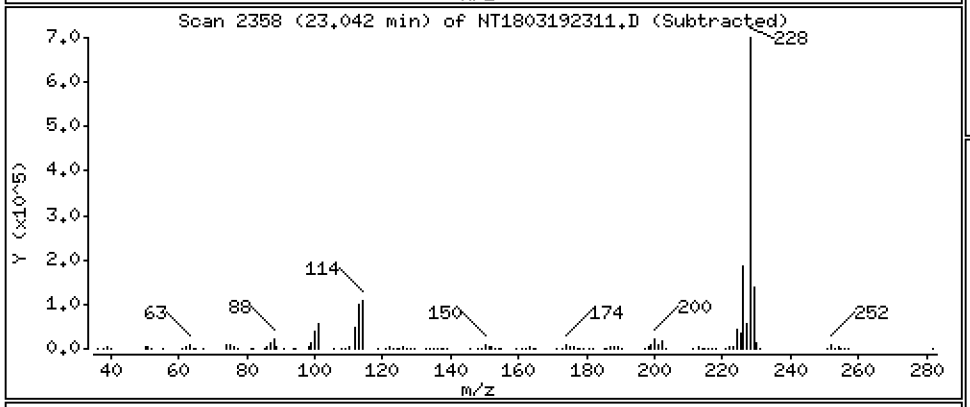
Column phase: ZB-5msi

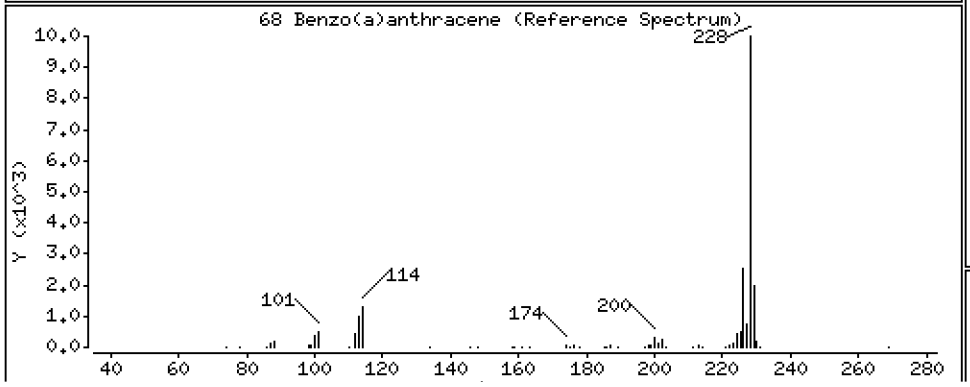
Column diameter: 0.25

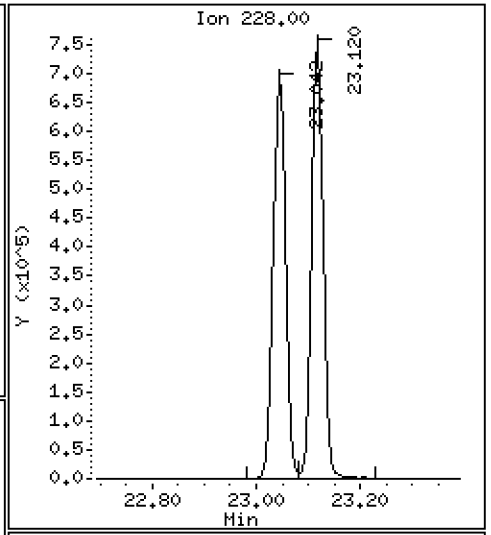
68 Benzo(a)anthracene

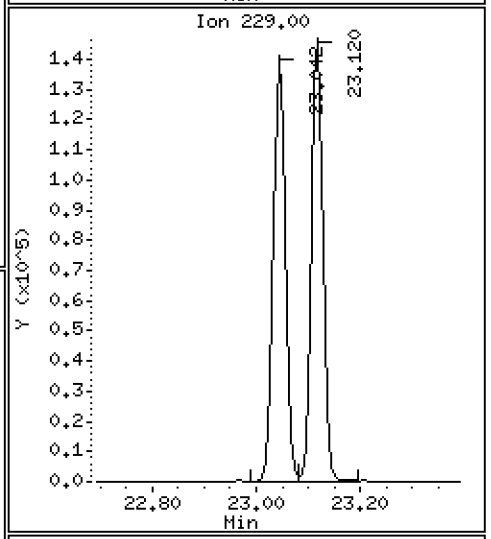
Concentration: 4.954 ug/mL

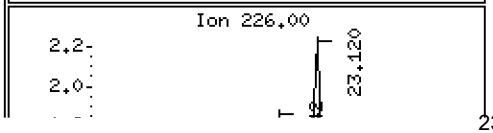












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

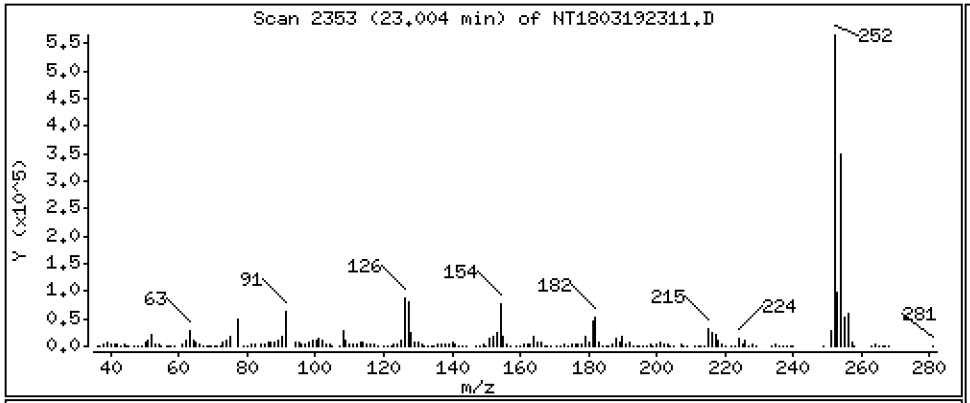
Operator: VTS

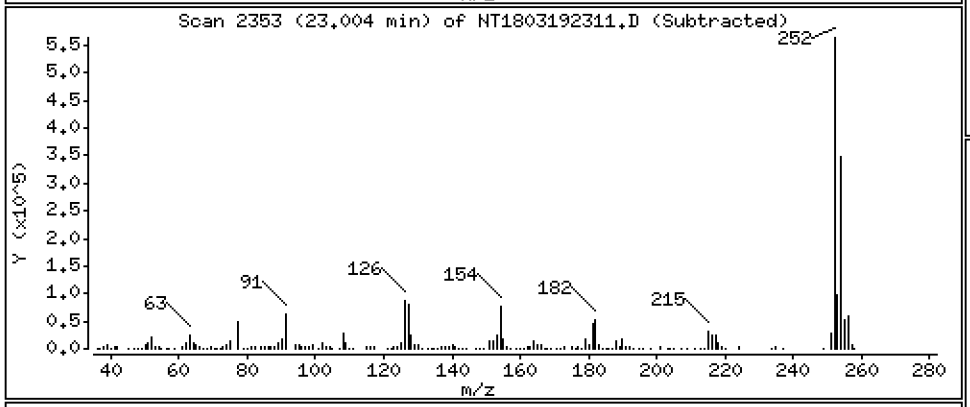
Column phase: ZB-5msi

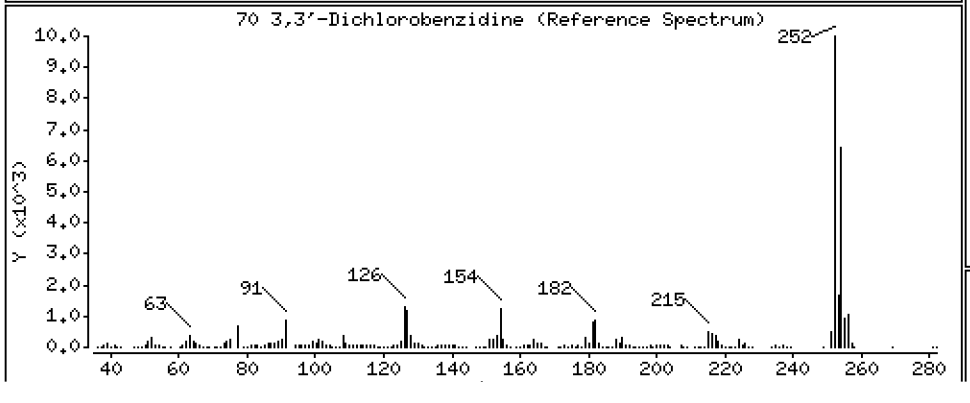
Column diameter: 0.25

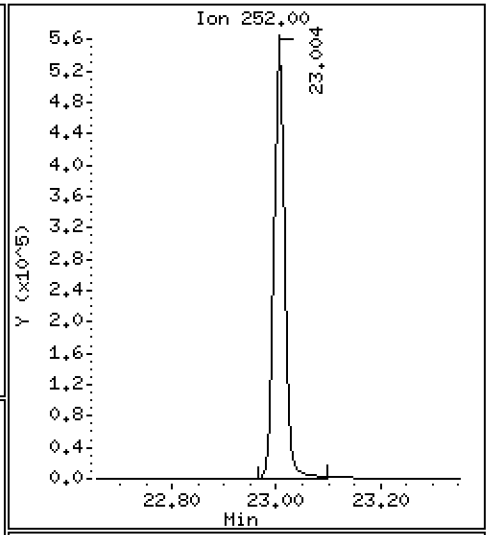
70 3,3'-Dichlorobenzidine

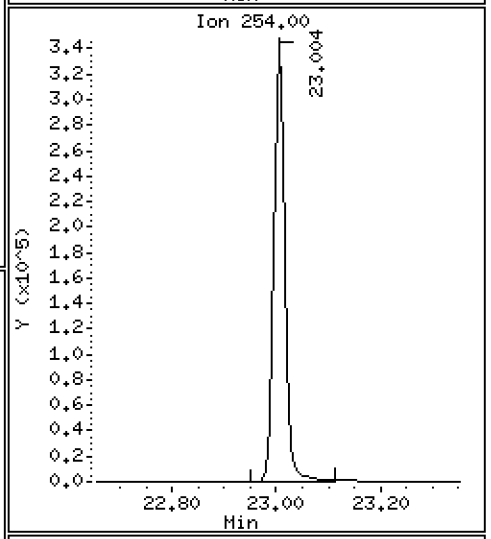
Concentration: 9.289 ug/mL

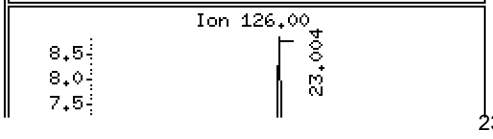












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

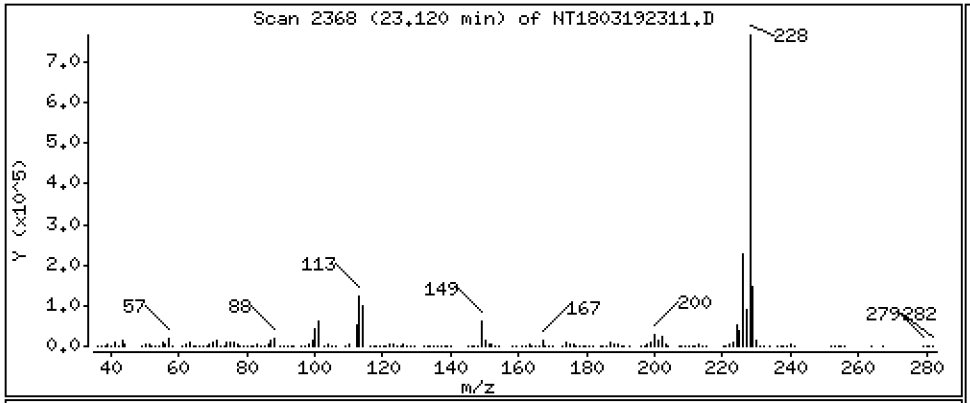
Operator: VTS

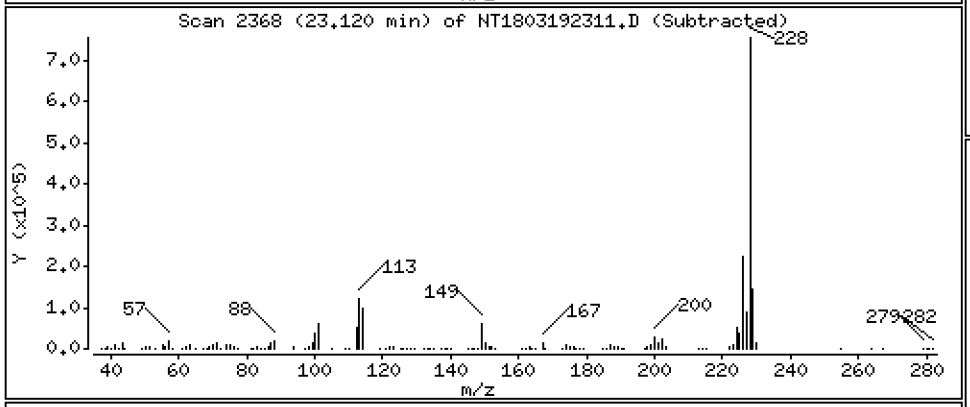
Column phase: ZB-5msi

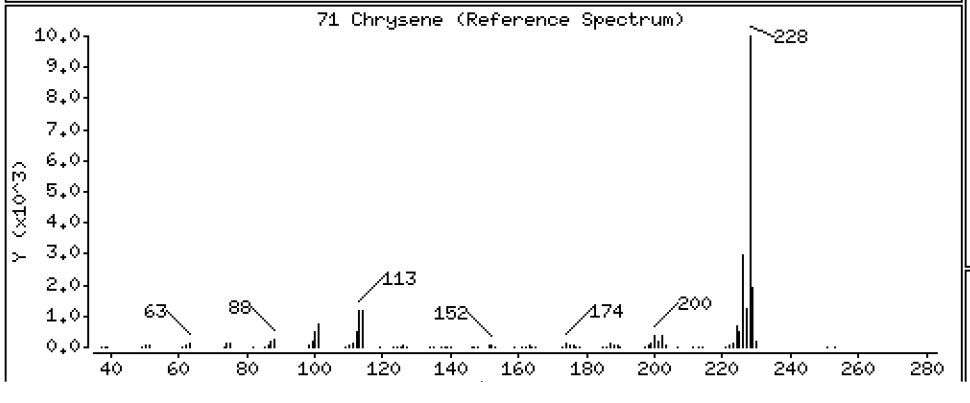
Column diameter: 0.25

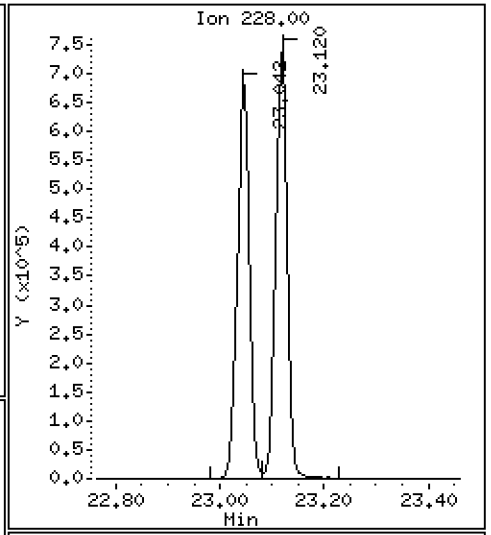
71 Chrysene

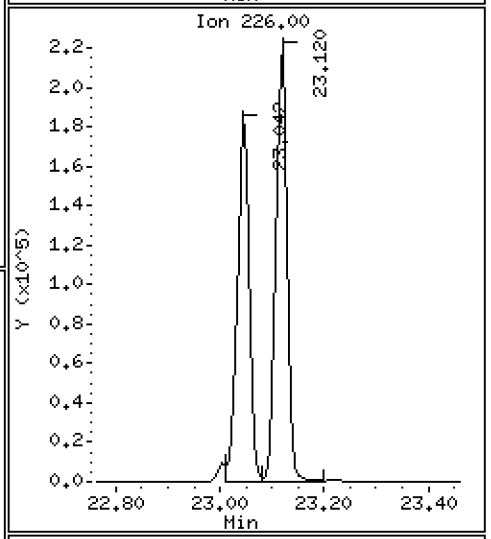
Concentration: 4.814 ug/mL

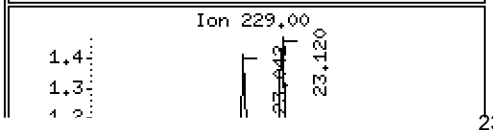












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

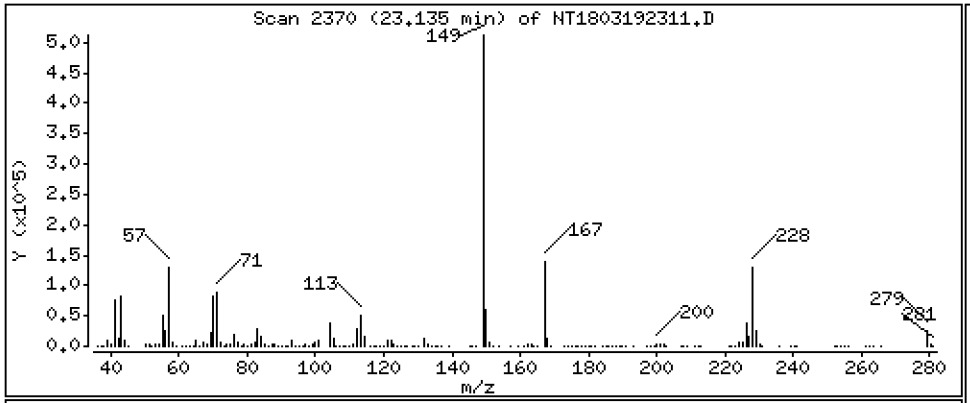
Operator: VTS

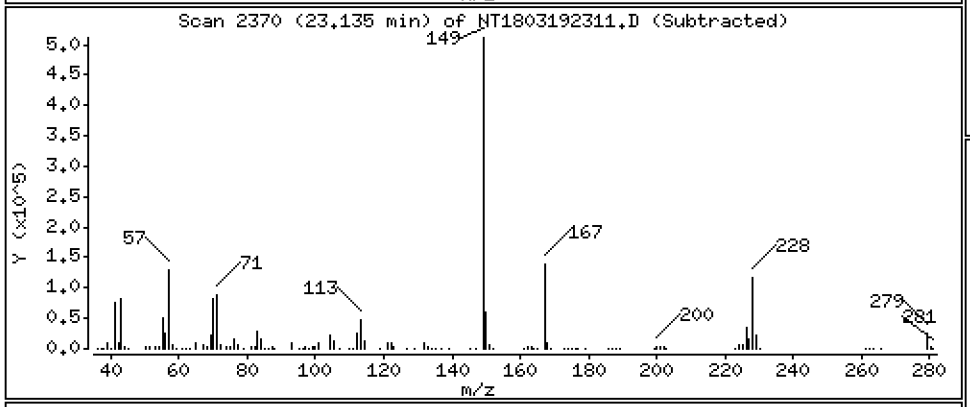
Column phase: ZB-5msi

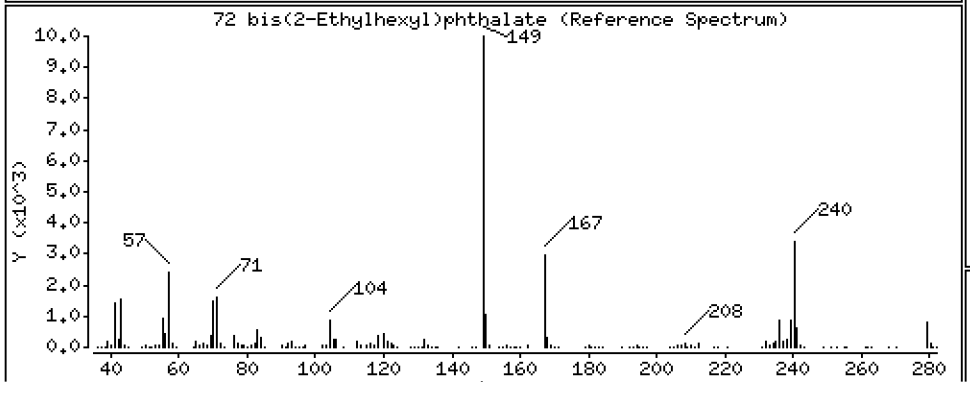
Column diameter: 0.25

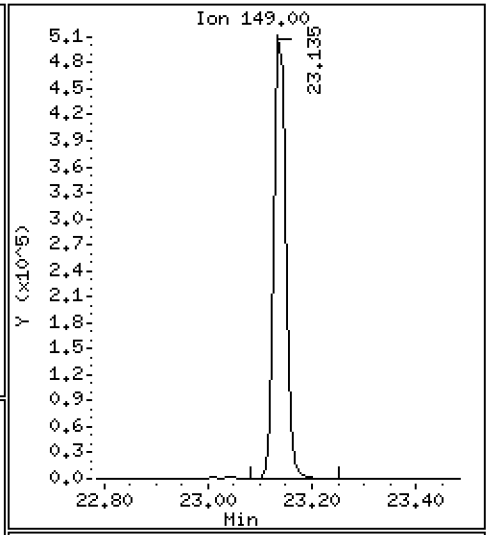
72 bis(2-Ethylhexyl)phthalate

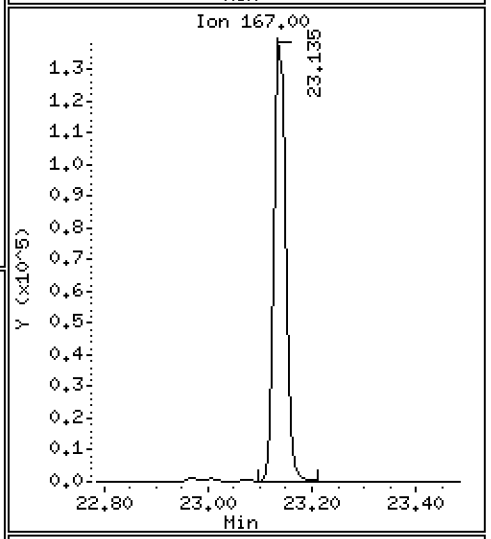
Concentration: 5.003 ug/mL

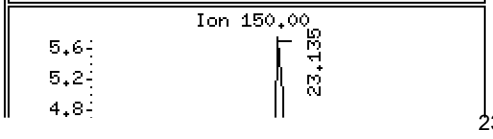












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

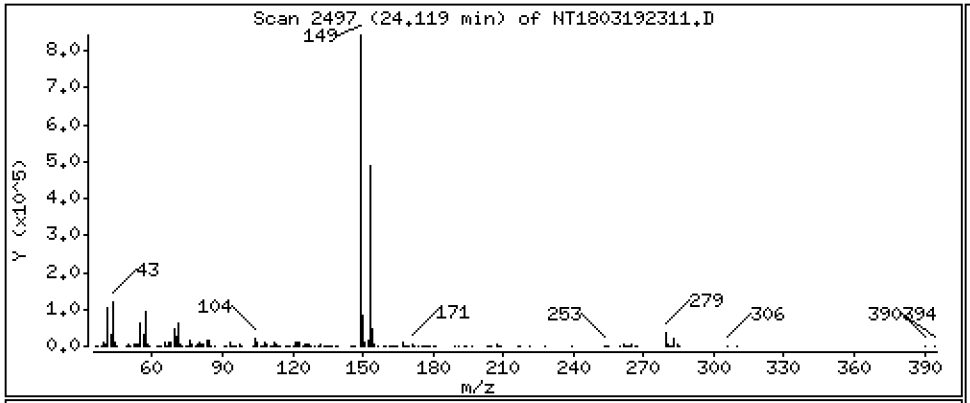
Operator: VTS

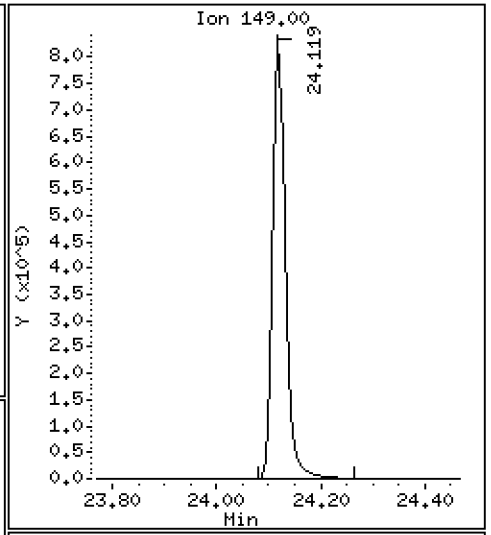
Column phase: ZB-5msi

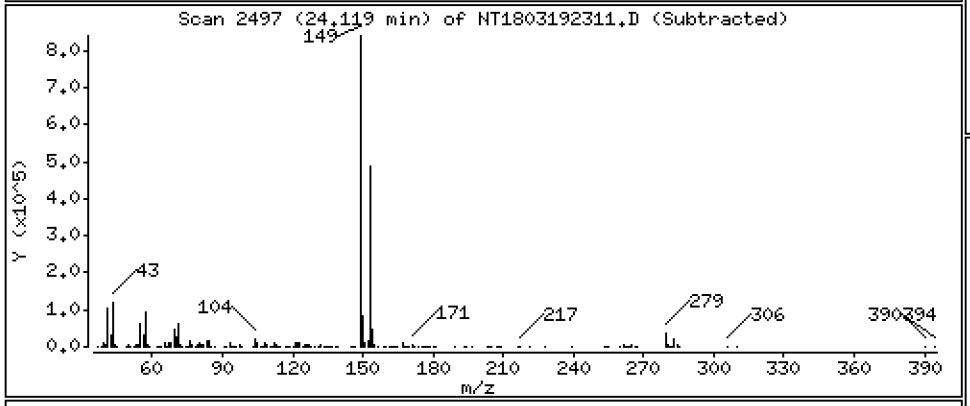
Column diameter: 0.25

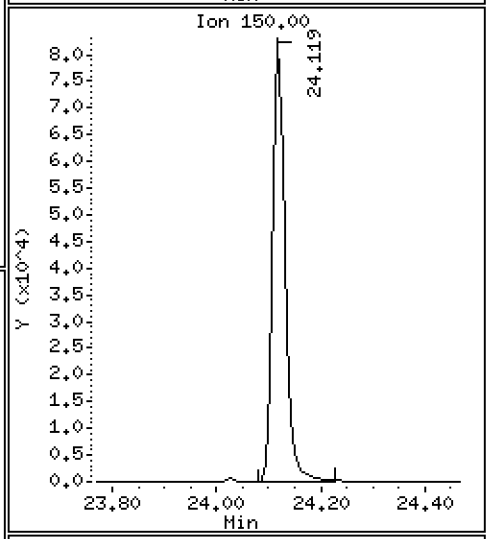
73 Di-n-octylphthalate

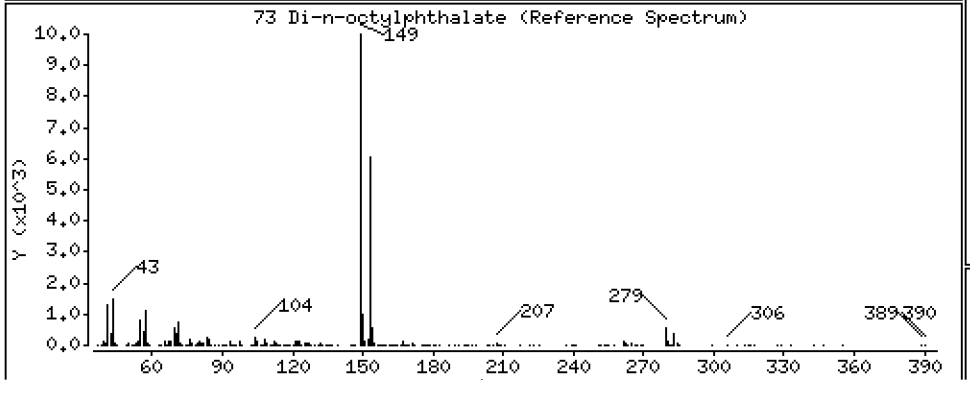
Concentration: 5.149 ug/mL

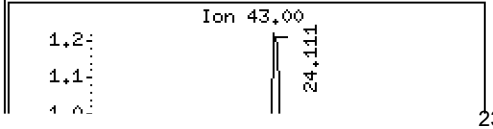












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

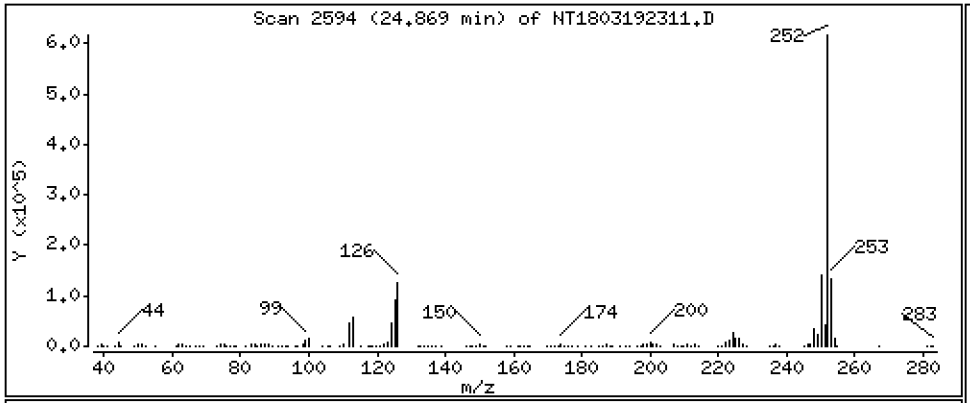
Operator: VTS

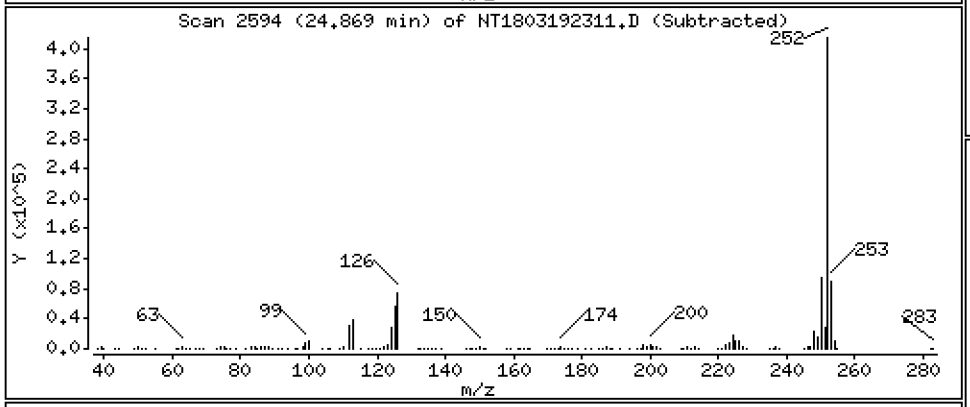
Column phase: ZB-5msi

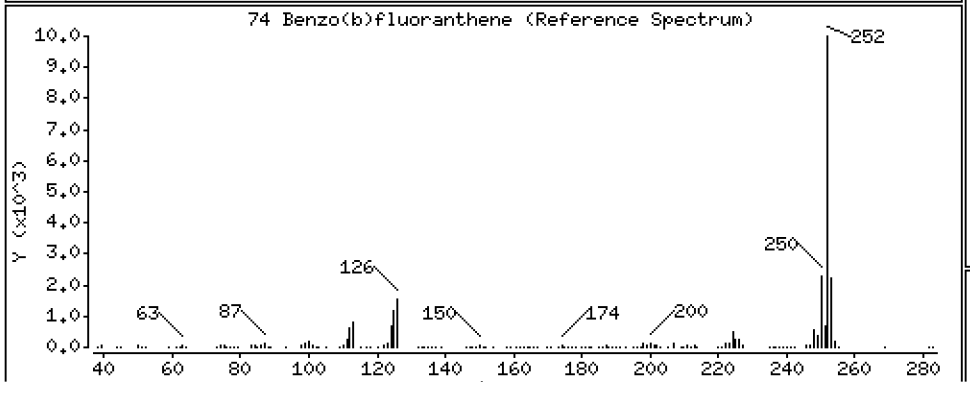
Column diameter: 0.25

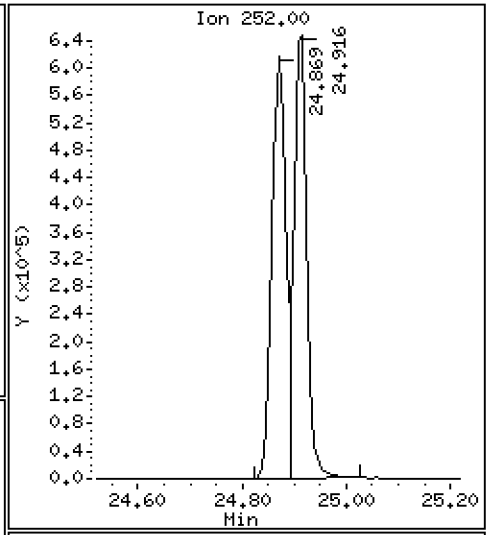
74 Benzo(b)fluoranthene

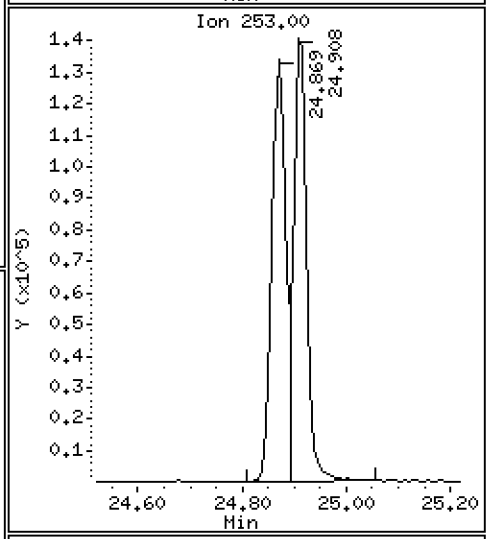
Concentration: 5.172 ug/mL

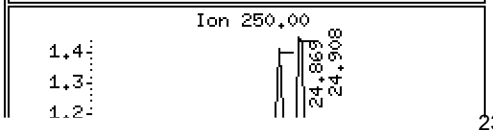












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

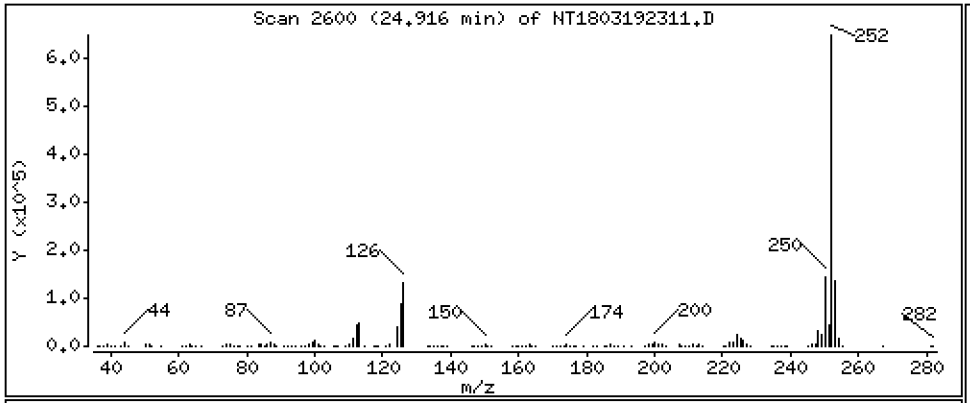
Operator: VTS

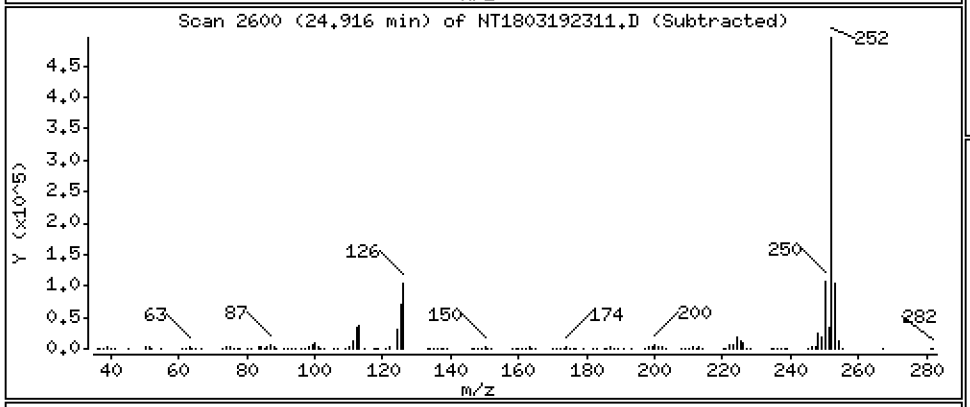
Column phase: ZB-5msi

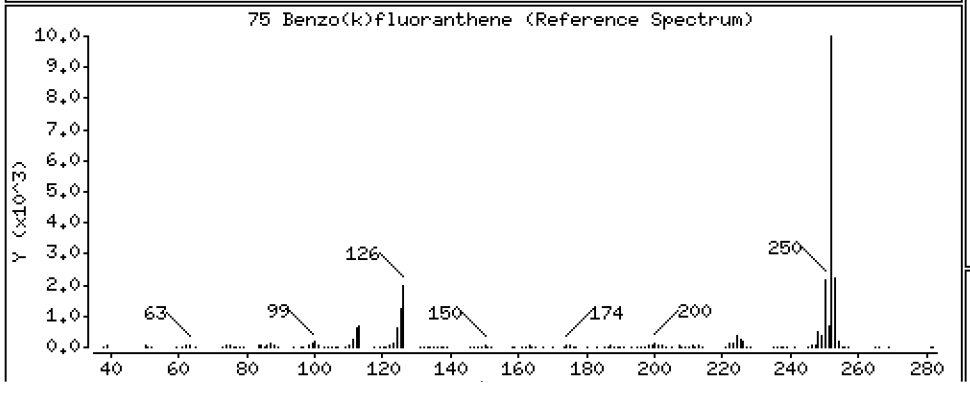
Column diameter: 0.25

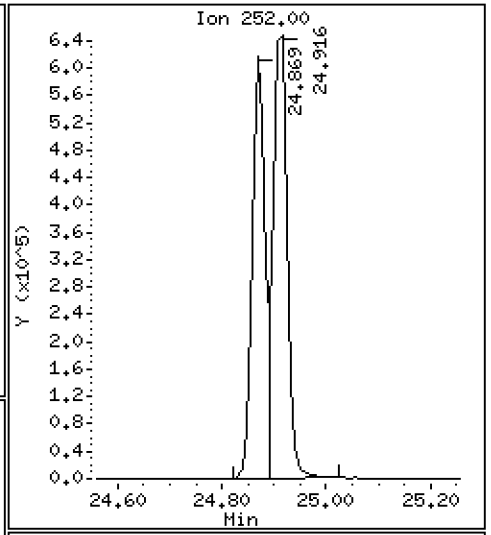
75 Benzo(k)fluoranthene

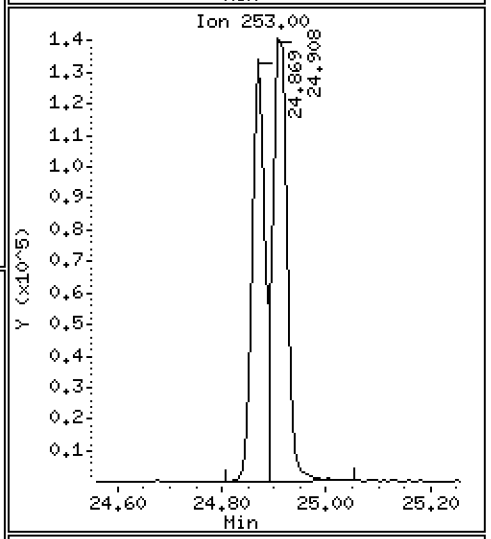
Concentration: 4.854 ug/mL

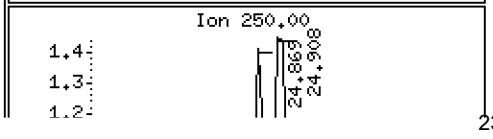












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

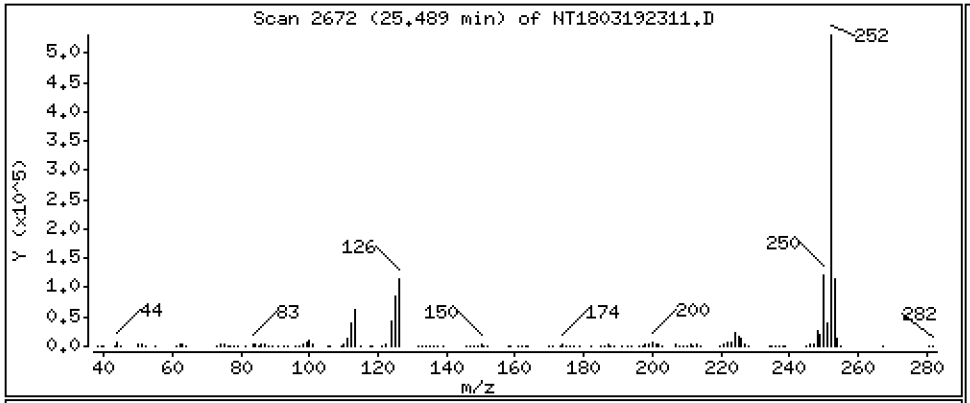
Operator: VTS

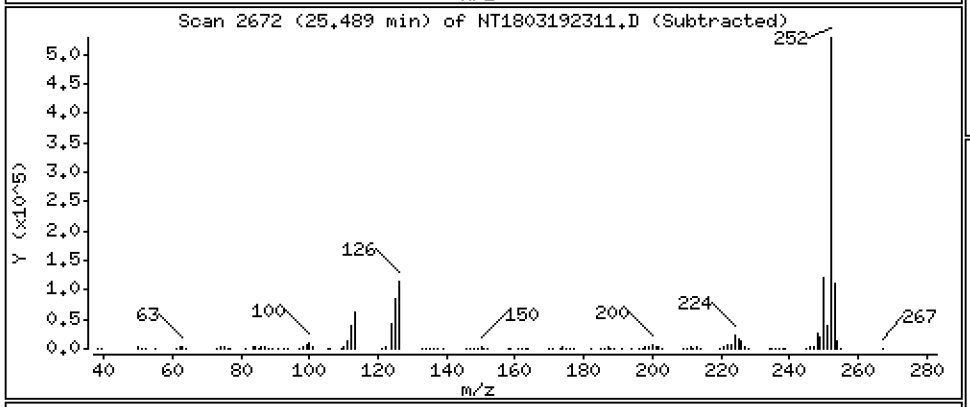
Column phase: ZB-5msi

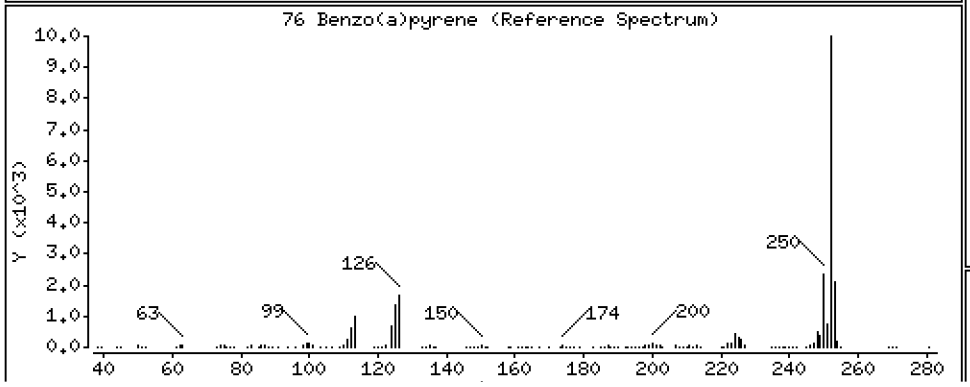
Column diameter: 0.25

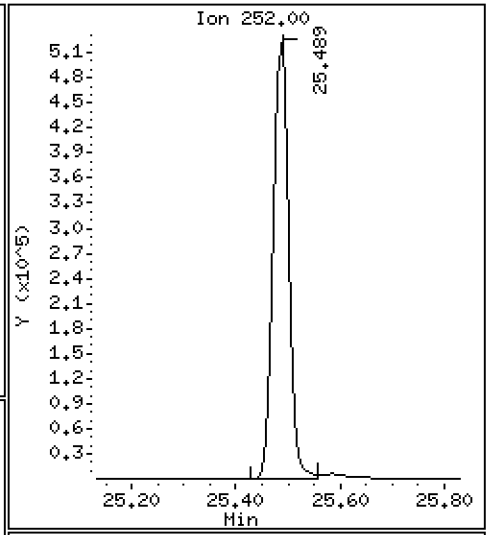
76 Benzo(a)pyrene

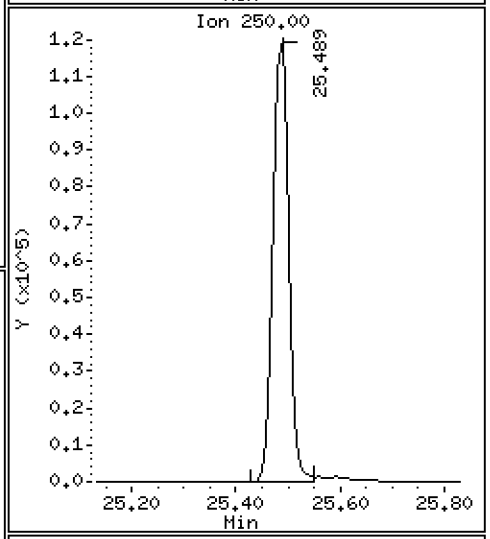
Concentration: 4.673 ug/mL

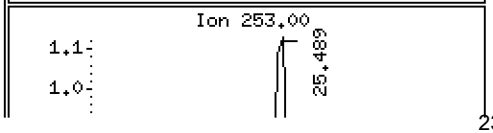












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

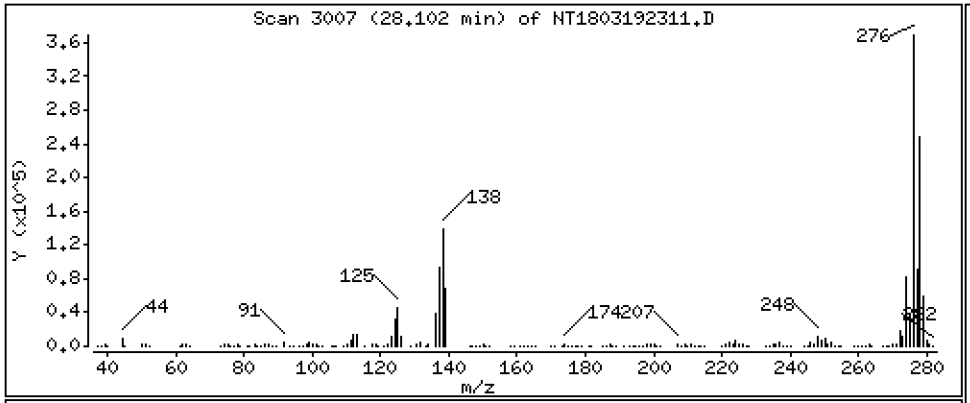
Operator: VTS

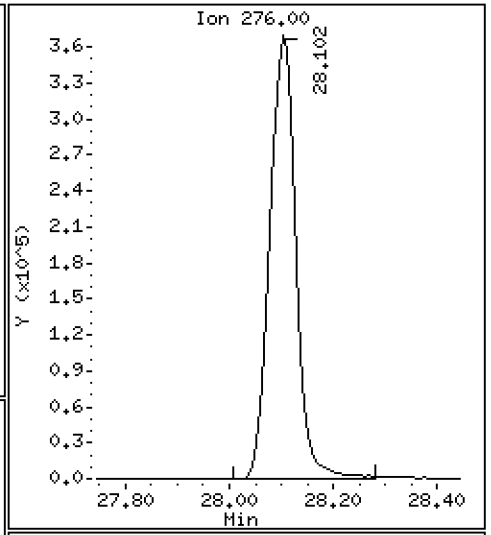
Column phase: ZB-5msi

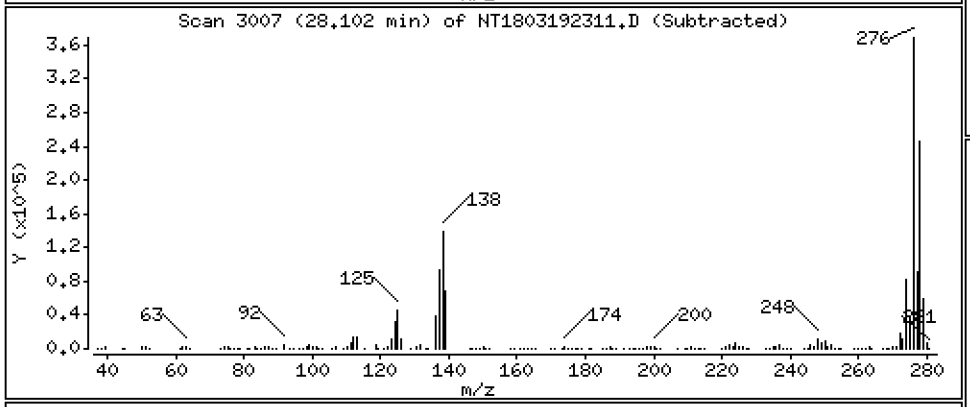
Column diameter: 0.25

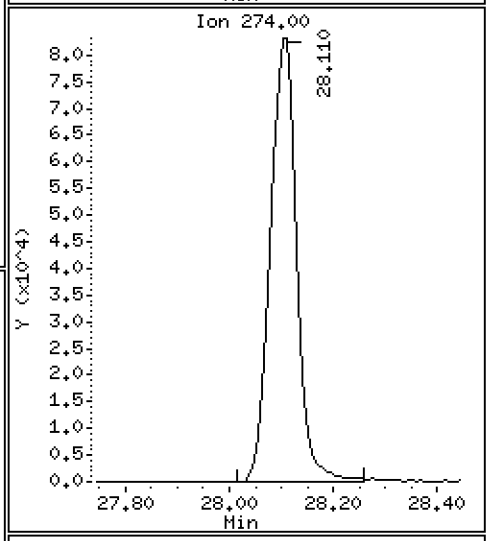
78 Indeno(1,2,3-cd)pyrene

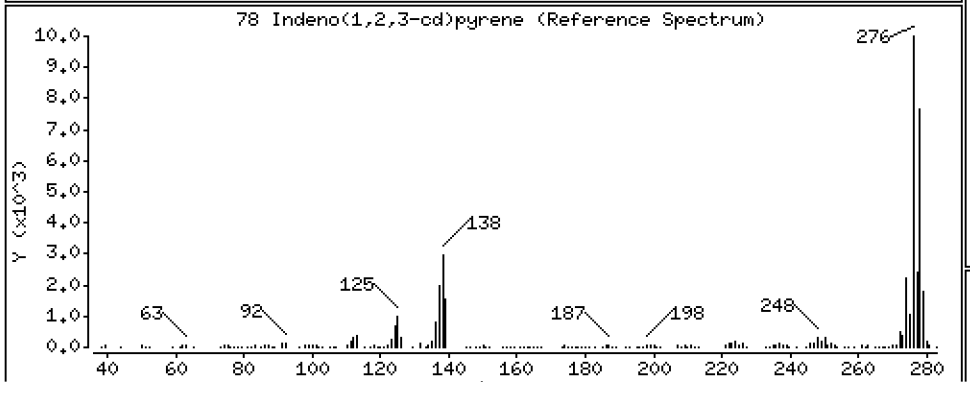
Concentration: 4.553 ug/mL











Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

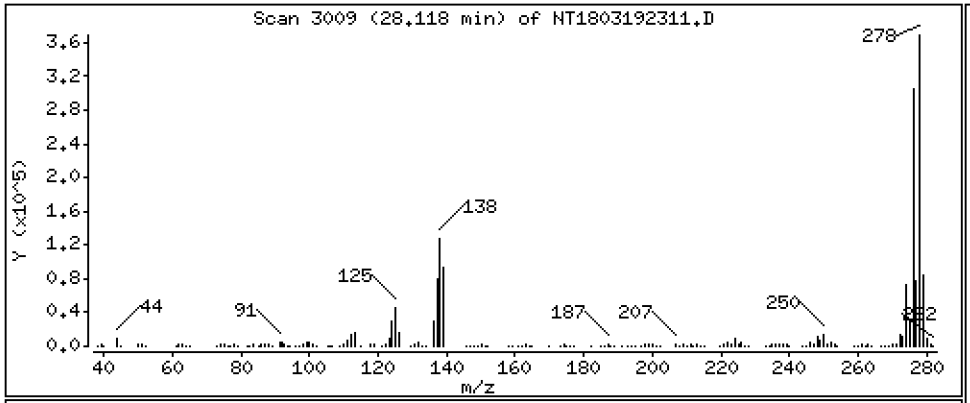
Operator: VTS

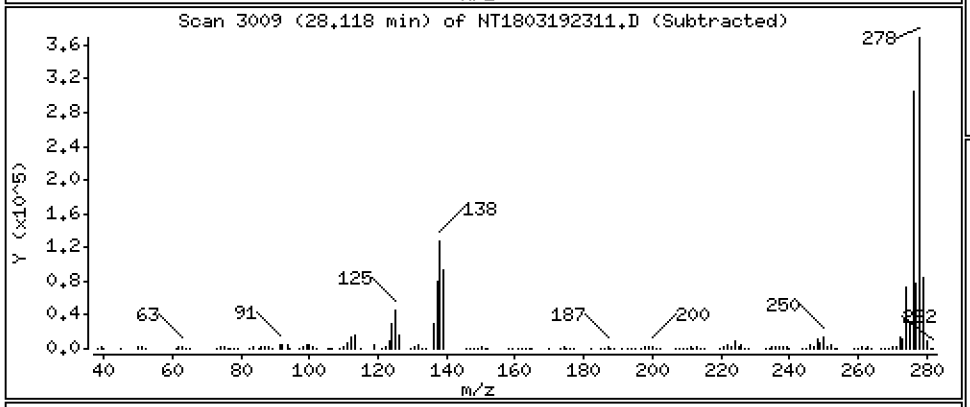
Column phase: ZB-5msi

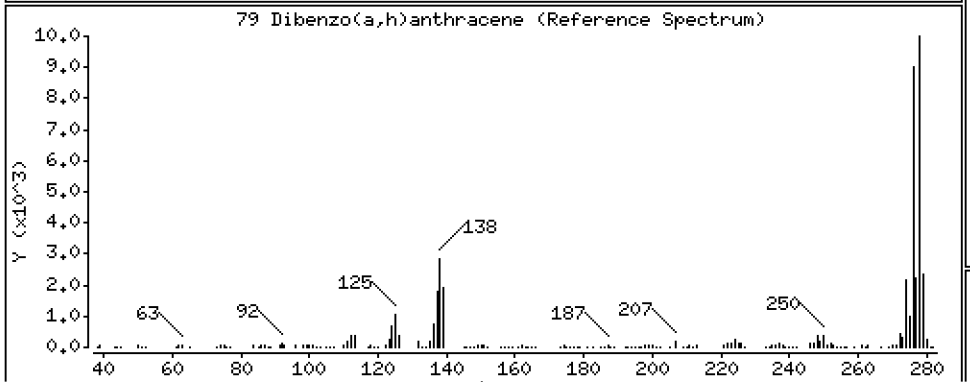
Column diameter: 0.25

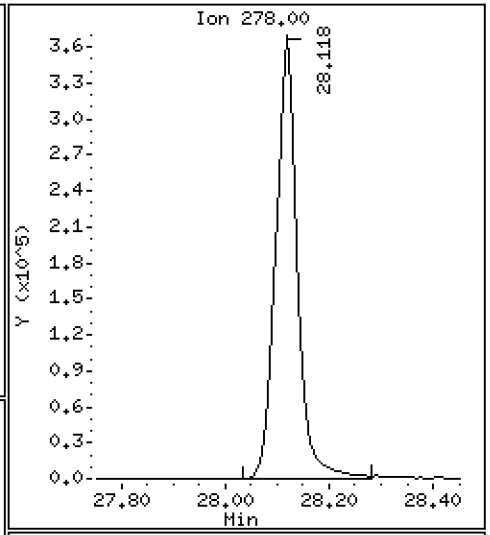
79 Dibenzo(a,h)anthracene

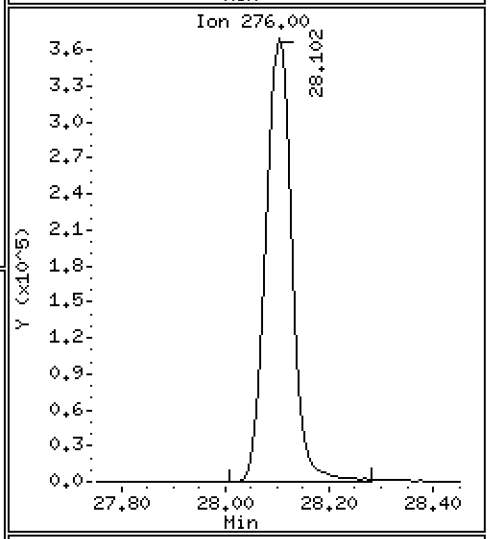
Concentration: 4.544 ug/mL

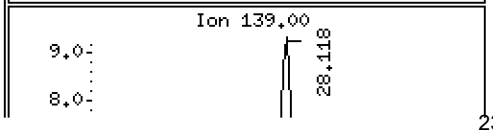












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

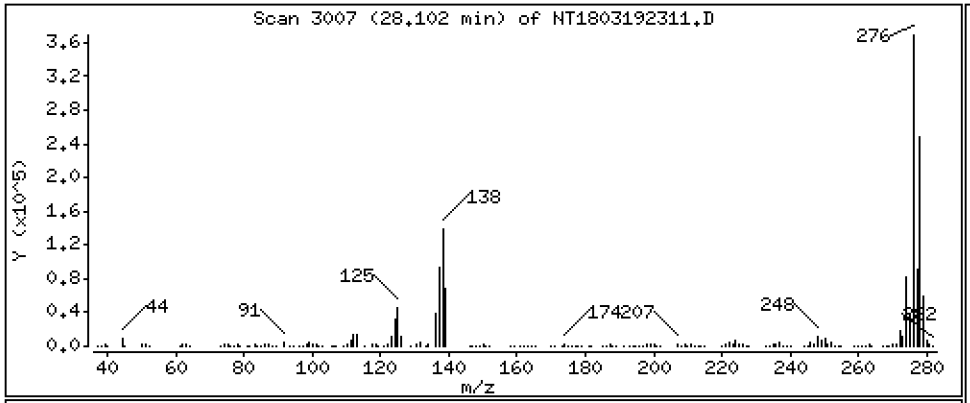
Operator: VTS

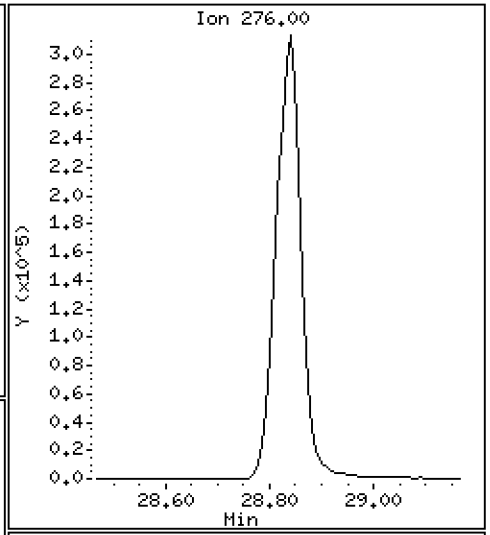
Column phase: ZB-5msi

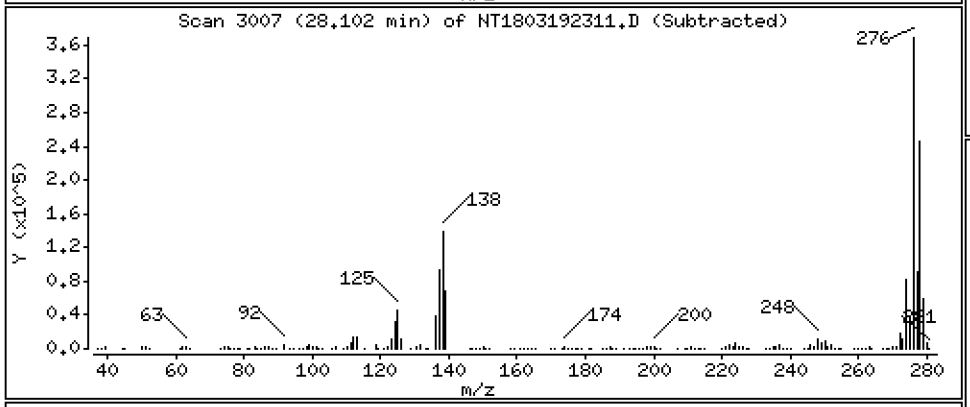
Column diameter: 0.25

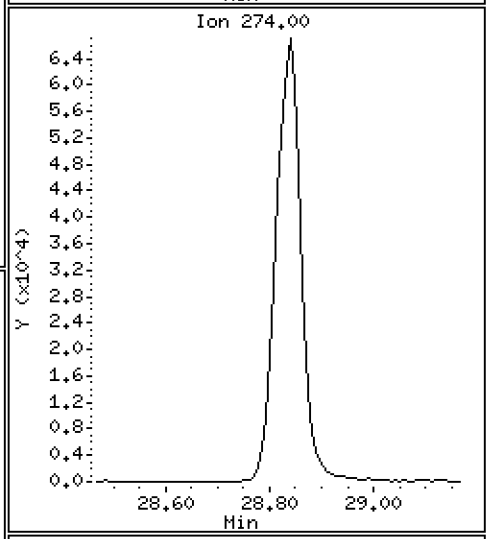
80 Benzo(g,h,i)perylene

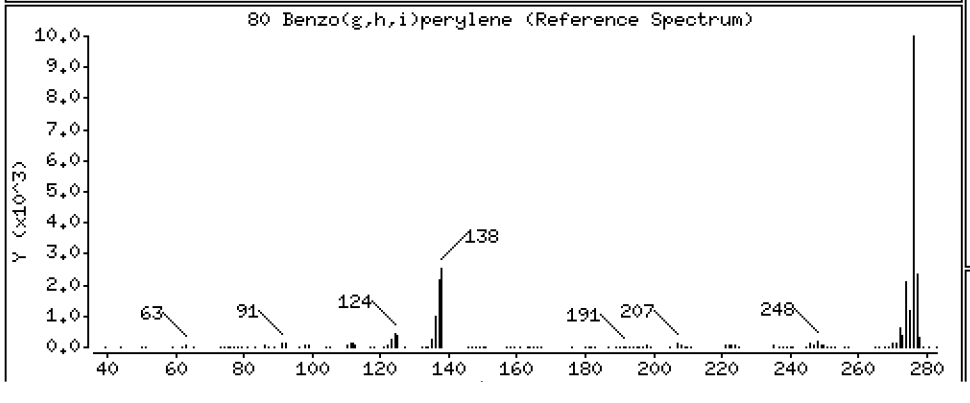
Concentration: 5.700 ug/mL

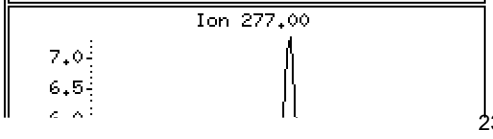












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

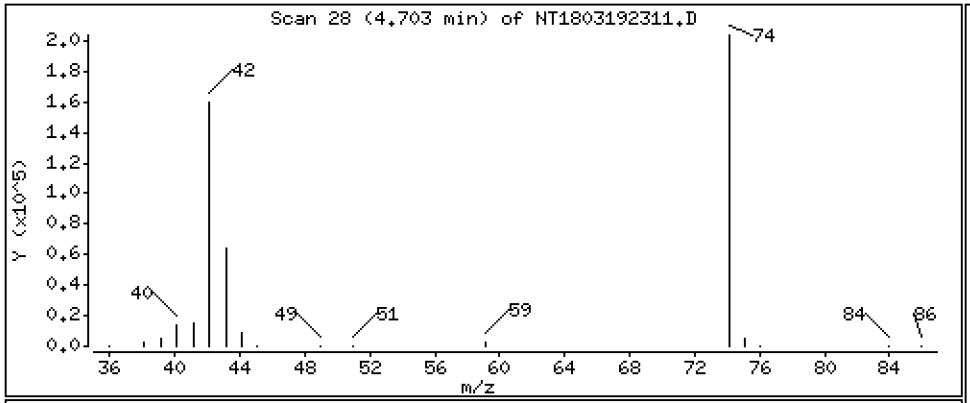
Operator: VTS

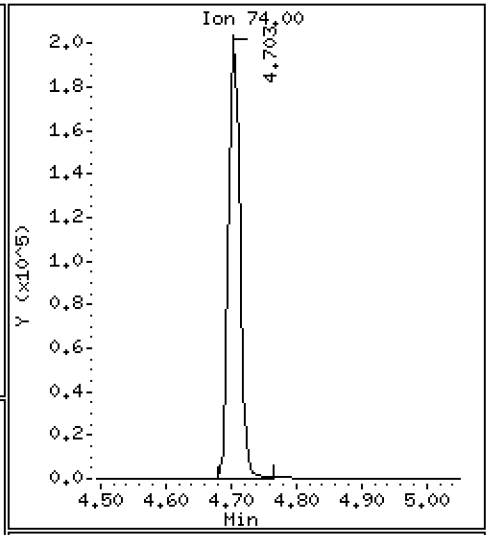
Column phase: ZB-5msi

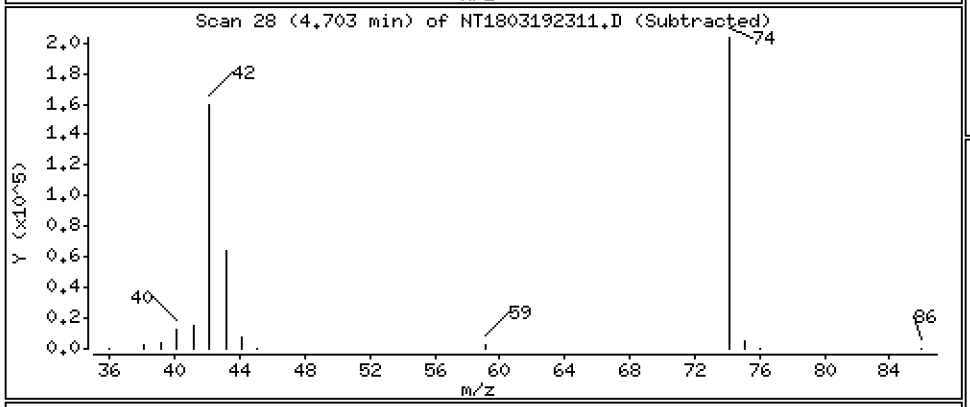
Column diameter: 0.25

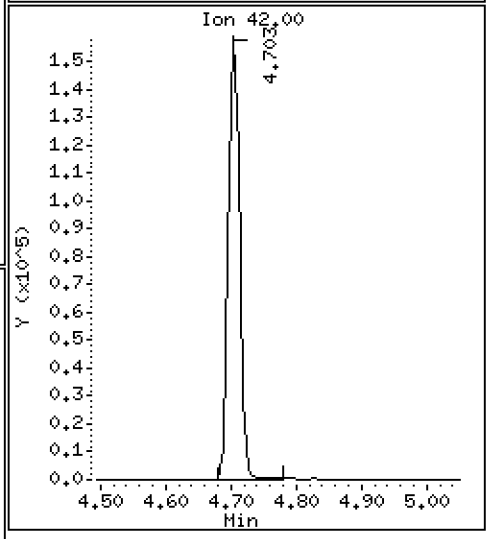
90 N-Nitrosodimethylamine

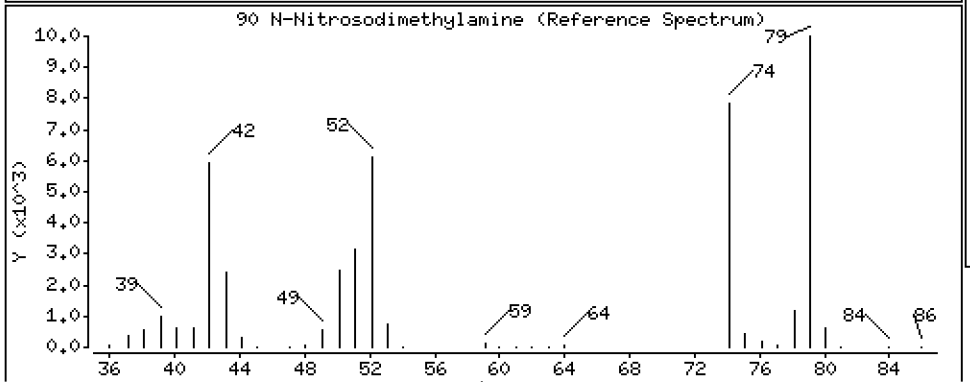
Concentration: 5.136 ug/mL











Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

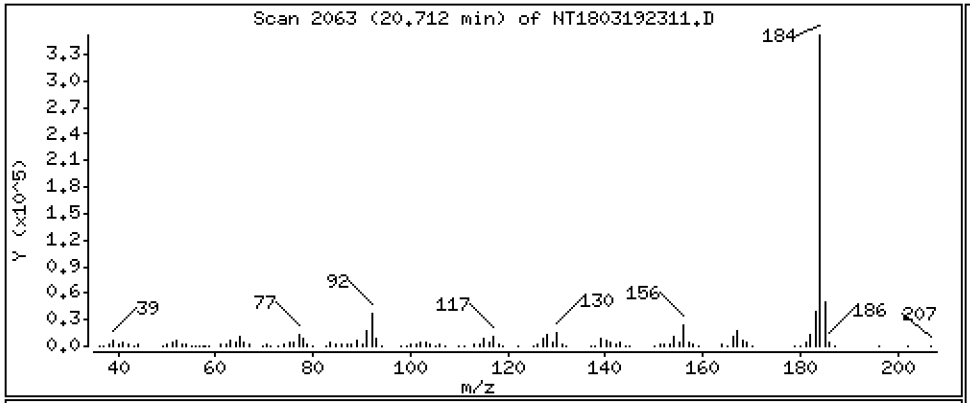
Operator: VTS

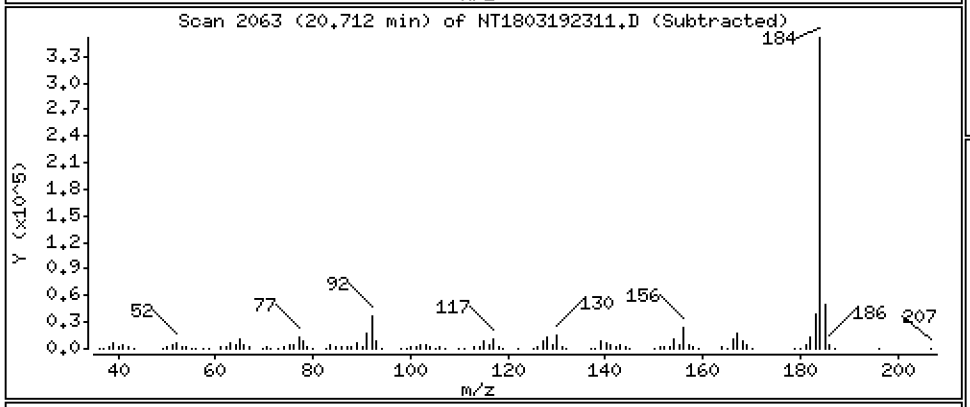
Column phase: ZB-5msi

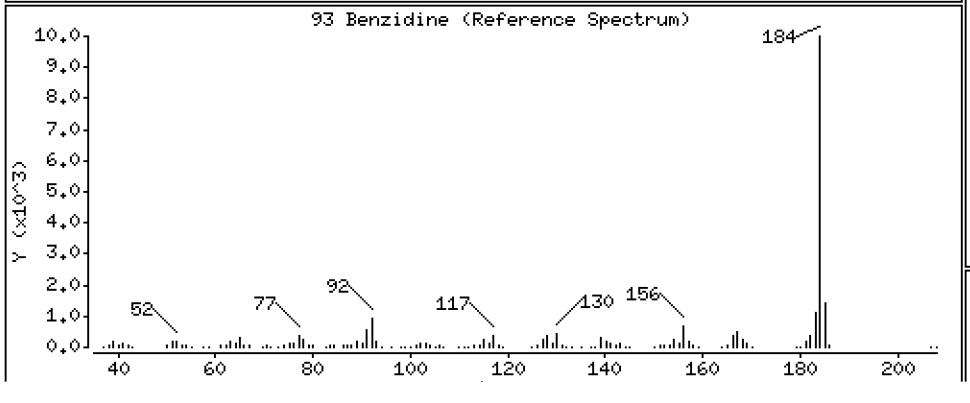
Column diameter: 0.25

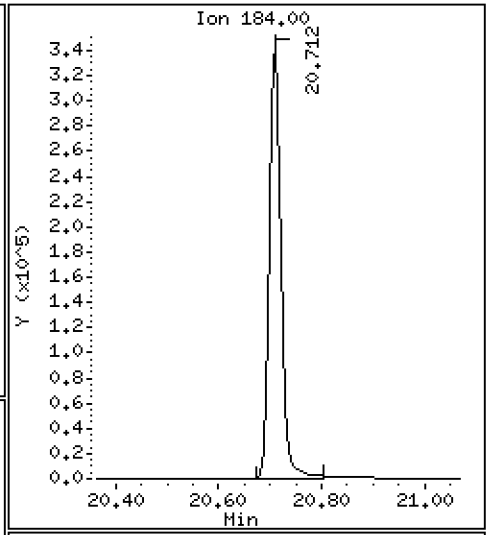
93 Benzidine

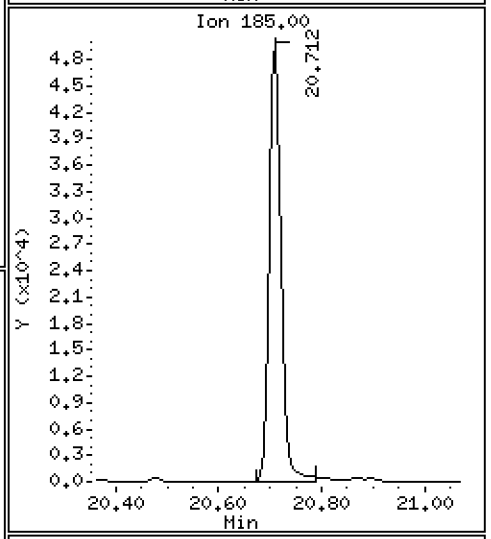
Concentration: 5.266 ug/mL

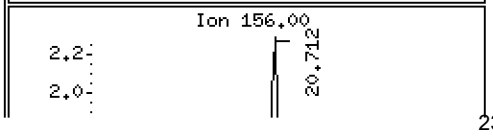












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

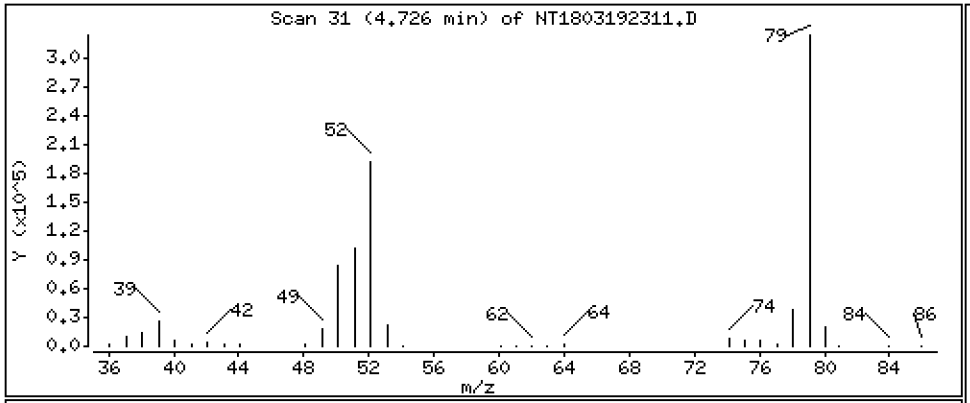
Operator: VTS

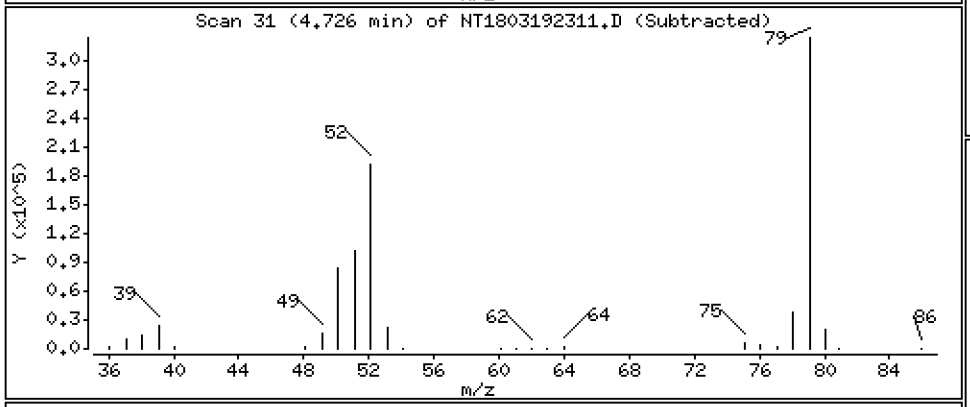
Column phase: ZB-5msi

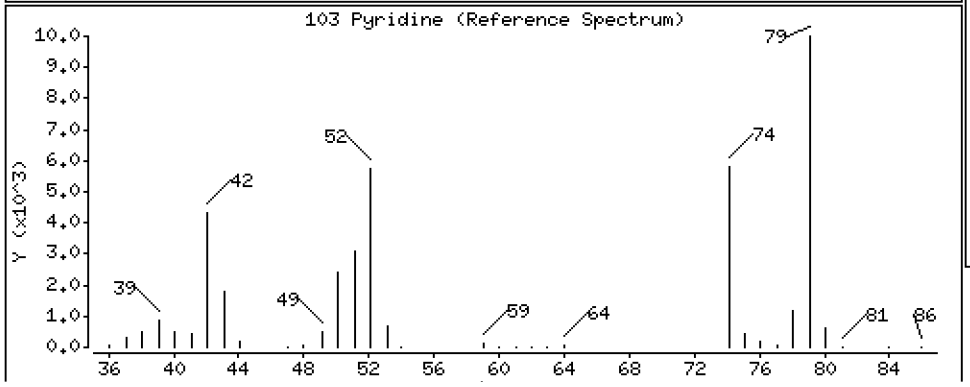
Column diameter: 0.25

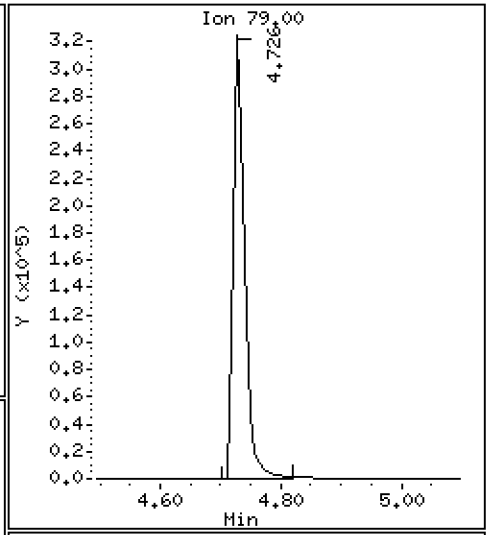
103 Pyridine

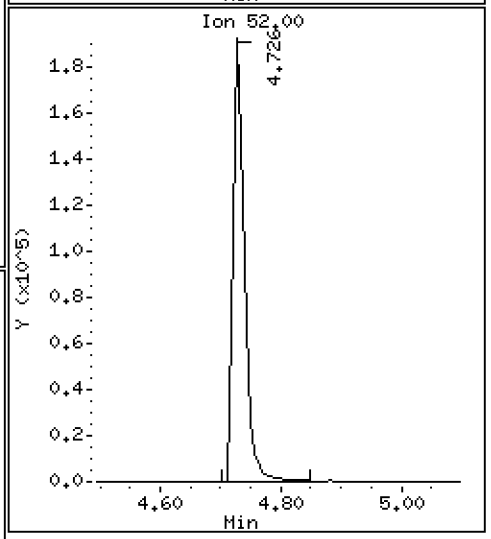
Concentration: 5.323 ug/mL











Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

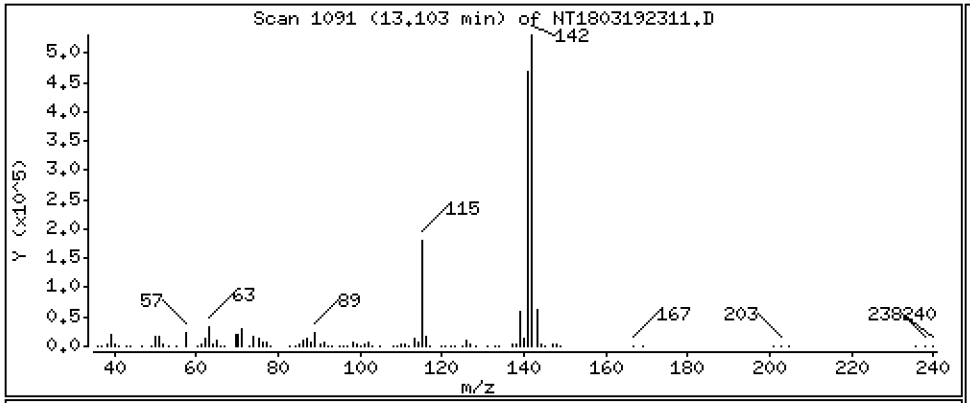
Operator: VTS

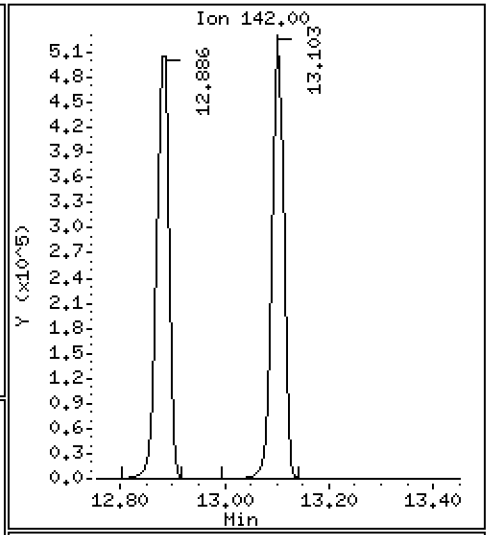
Column phase: ZB-5msi

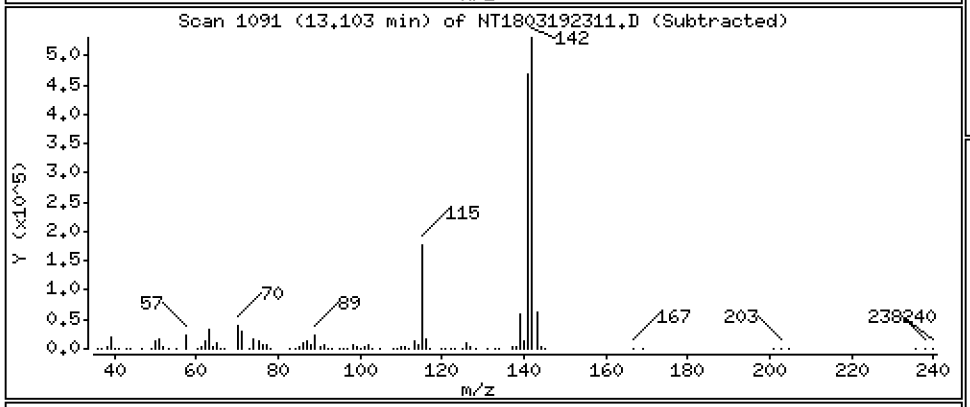
Column diameter: 0.25

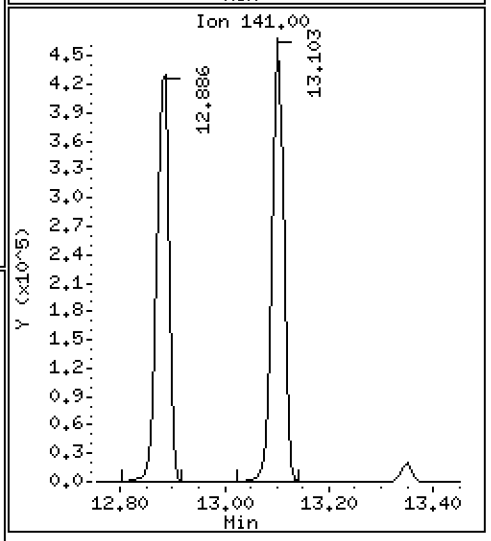
105 1-methylnaphthalene

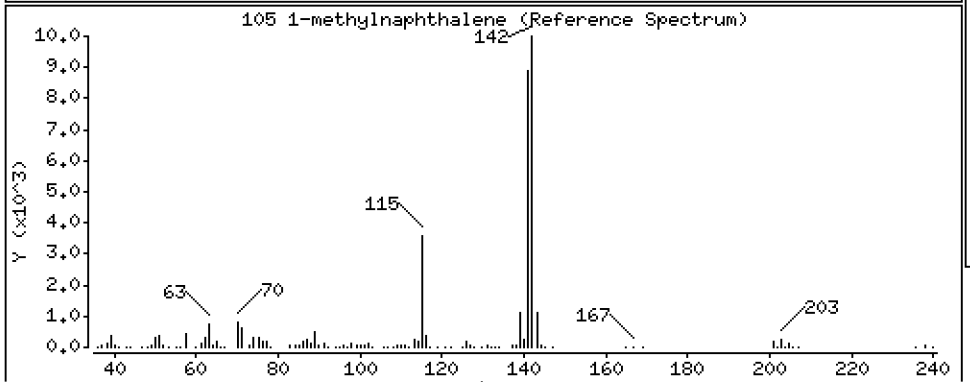
Concentration: 5.095 ug/mL











Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

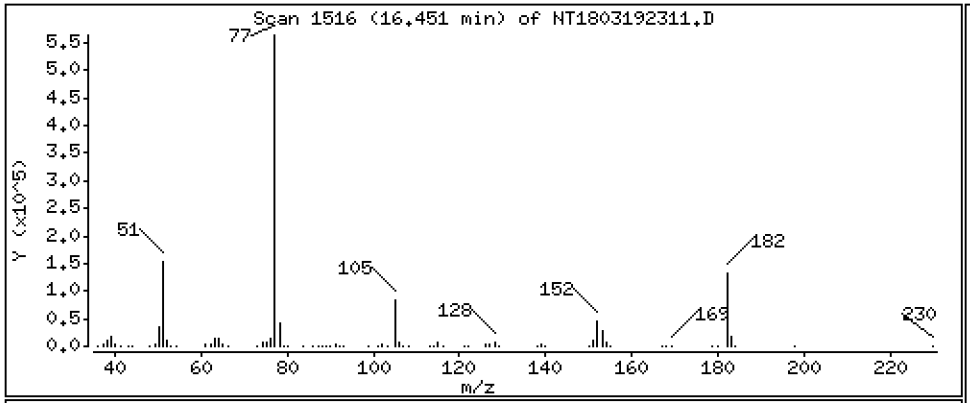
Operator: VTS

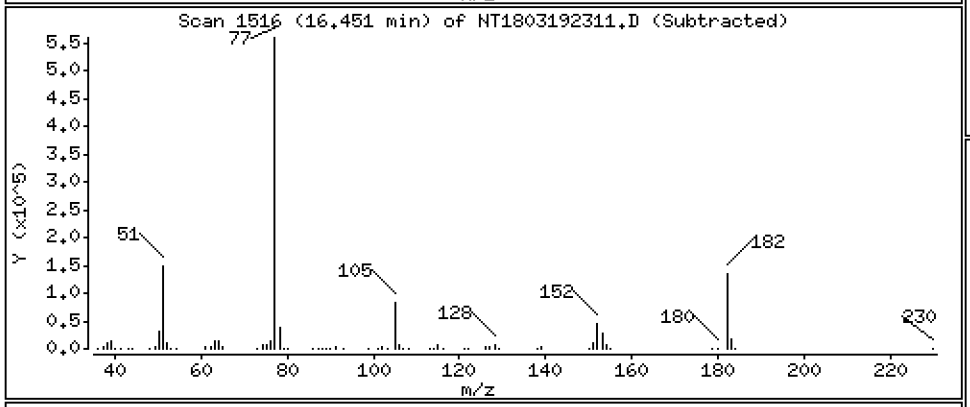
Column phase: ZB-5msi

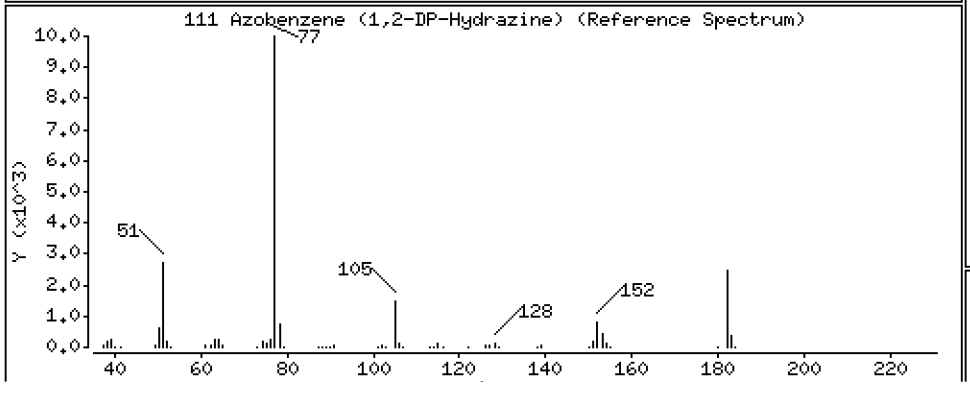
Column diameter: 0.25

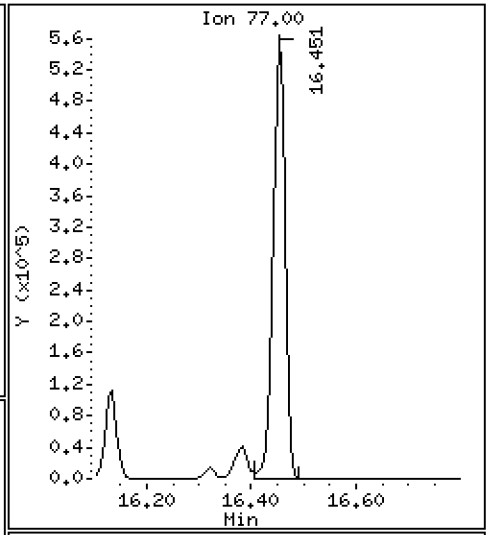
111 Azobenzene (1,2-DP-Hydrazine)

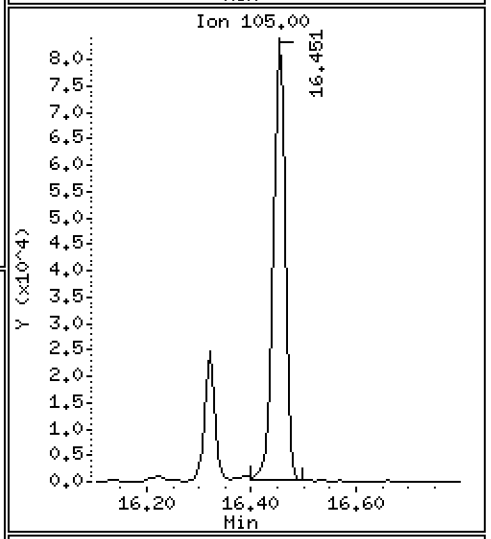
Concentration: 4.957 ug/mL

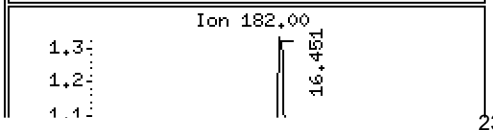












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

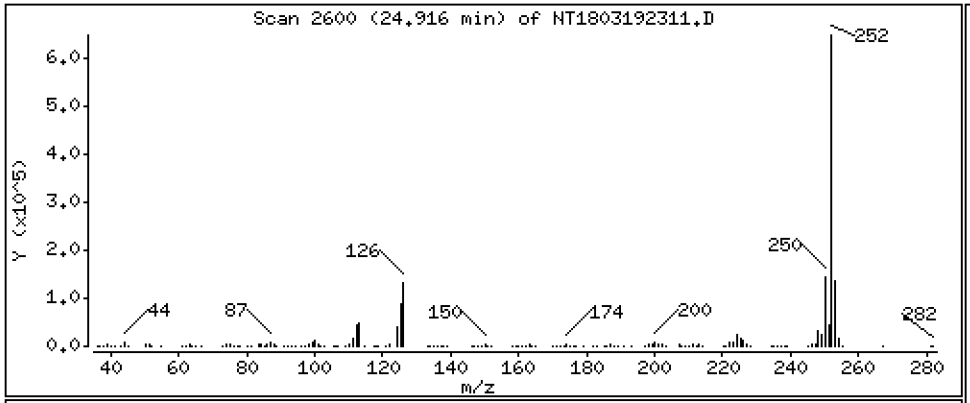
Operator: VTS

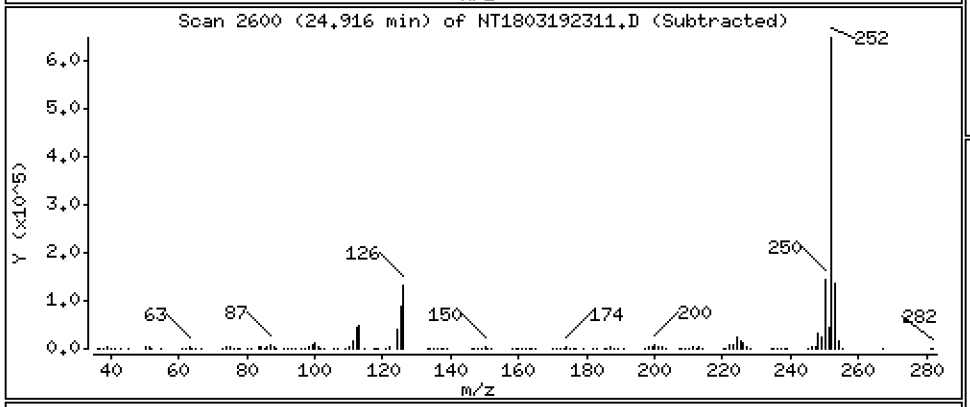
Column phase: ZB-5msi

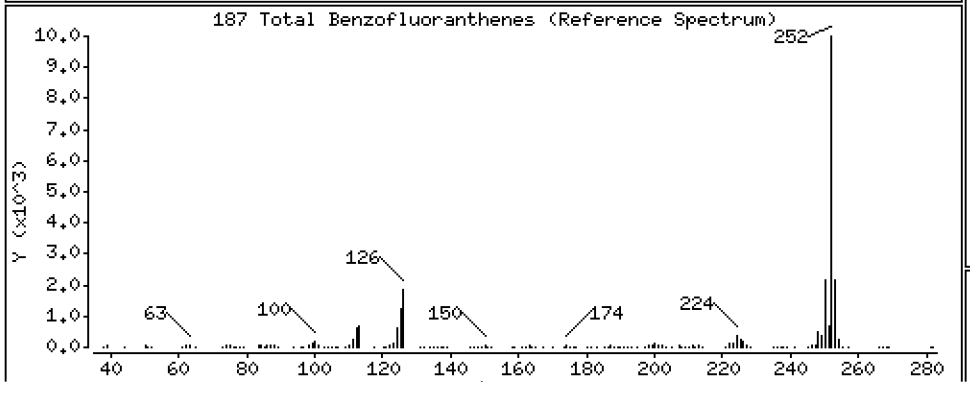
Column diameter: 0.25

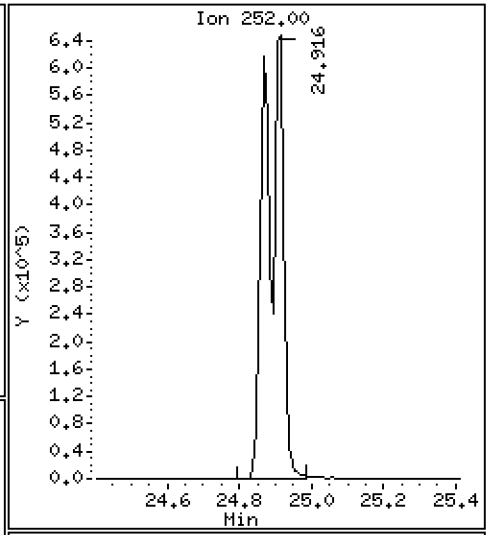
187 Total Benzofluoranthenes

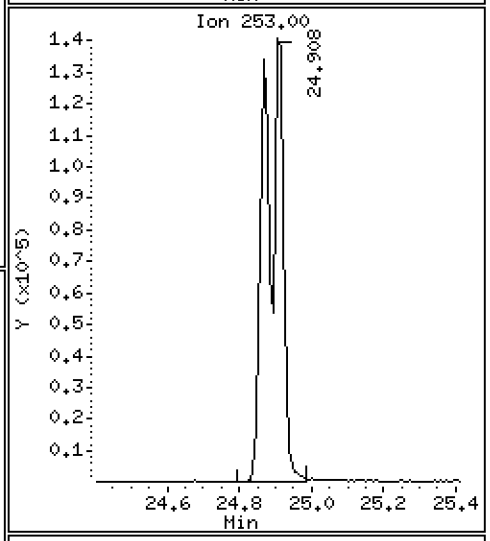
Concentration: 10.02 ug/mL

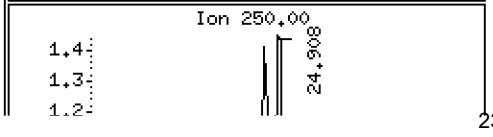












Data File: \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: scv

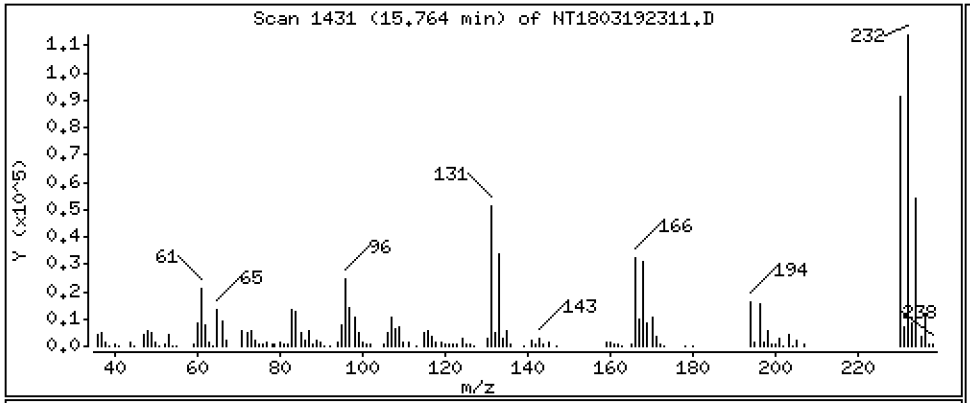
Operator: VTS

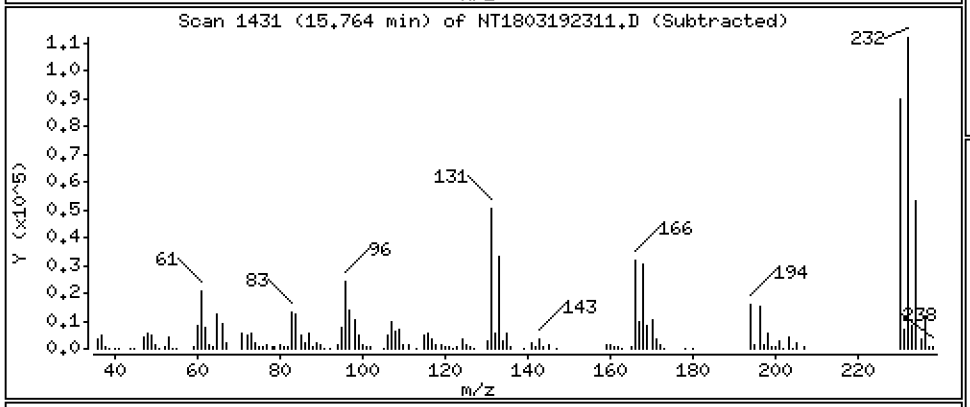
Column phase: ZB-5msi

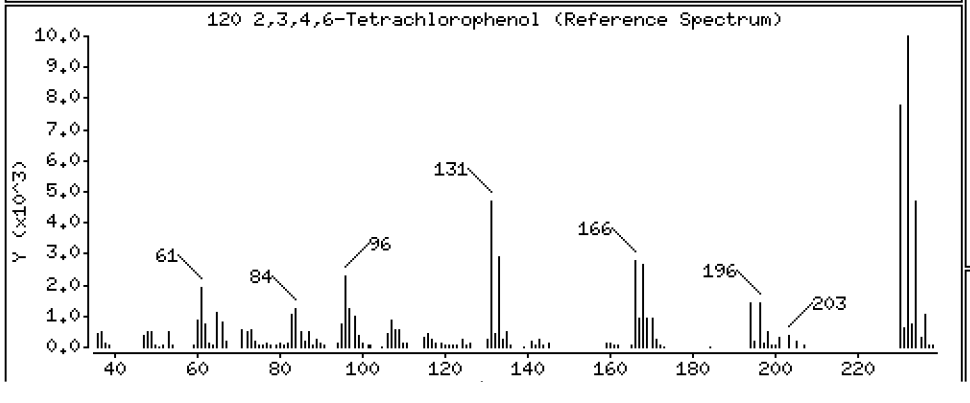
Column diameter: 0.25

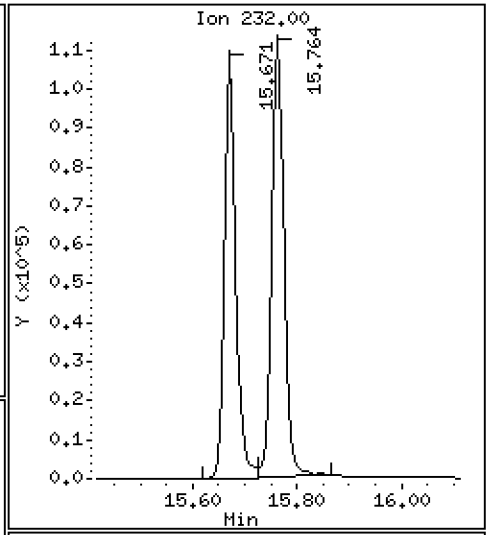
120 2,3,4,6-Tetrachlorophenol

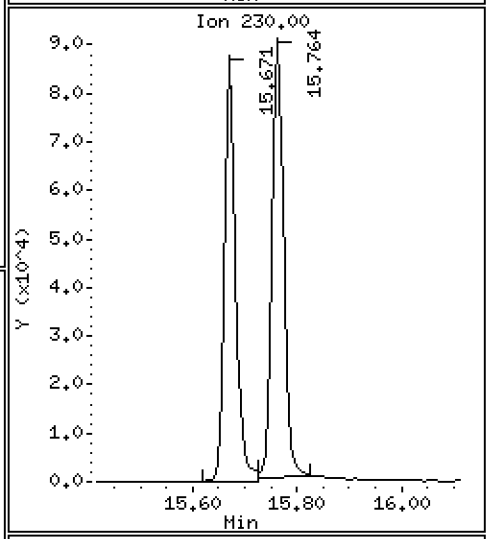
Concentration: 3.470 ug/mL

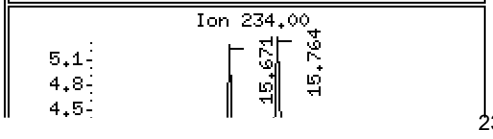












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230319.b\NT1803192311.D
Lab Smp Id: SLC0502-SCV1
Inj Date : 19-MAR-2023 21:26
Operator : VTS Inst ID: nt18.i
Smp Info : scv
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230319.b\ABN.m
Meth Date : 01-Apr-2023 07:54 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 19:24 Cal File: NT1803192308.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: ORGDATA102

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$ 1	2-Fluorophenol	112	Compound Not Detected.					
$ 2	Phenol-d5	99	Compound Not Detected.					
3	Phenol	94	8.372	8.372	(0.930)	441043	4.35211	4.352
$ 5	2-Chlorophenol-d4	132	Compound Not Detected.					
4	Bis(2-Chloroethyl)ether	93	8.550	8.542	(0.950)	368879	5.25957	5.260
6	2-Chlorophenol	128	8.658	8.658	(0.962)	387609	4.47327	4.473
7	1,3-Dichlorobenzene	146	8.929	8.929	(0.992)	460837	5.00917	5.009
* 8	1,4-Dichlorobenzene-d4	152	8.998	8.999	(1.000)	248847	4.00000	
9	1,4-Dichlorobenzene	146	9.029	9.022	(1.003)	466917	5.07130	5.071
$ 10	1,2-Dichlorobenzene-d4	152	Compound Not Detected.					
12	1,2-Dichlorobenzene	146	9.379	9.379	(1.042)	446066	4.91643	4.916
11	Benzyl alcohol	108	9.262	9.262	(1.029)	246021	5.20270	5.203
14	2,2'-oxybis(1-Chloropropane)	121	9.565	9.565	(1.063)	118450	5.54474	5.545
13	2-Methylphenol	108	9.480	9.480	(1.053)	325960	4.23779	4.238
17	Hexachloroethane	117	9.969	9.961	(1.108)	186172	5.16388	5.164
16	N-Nitroso-di-n-propylamine	70	9.821	9.814	(1.091)	286844	5.23671	5.237
15	4-Methylphenol	108	9.751	9.744	(1.084)	358003	4.48222	4.482
$ 18	Nitrobenzene-d5	82	Compound Not Detected.					

	19	Nitrobenzene	77	10.108	10.109	(0.882)	383821	5.02881	5.029
	20	Isophorone	82	10.558	10.559	(0.922)	825809	7.92328	7.923
	21	2-Nitrophenol	139	10.736	10.736	(0.937)	169697	3.74842	3.748
	22	2,4-Dimethylphenol	107	10.787	10.787	(0.942)	285900	3.72602	3.726
	23	Bis(2-Chloroethoxy)methane	93	10.990	10.982	(0.959)	441596	5.86188	5.862
	24	Benzoic acid	105	10.965	10.880	(0.957)	350650	6.42179	6.422
	25	2,4-Dichlorophenol	162	11.185	11.186	(0.976)	351728	4.98044	4.980
	26	1,2,4-Trichlorobenzene	180	11.370	11.370	(0.993)	359680	4.85808	4.858
*	27	Naphthalene-d8	136	11.455	11.455	(1.000)	941852	4.00000	
	28	Naphthalene	128	11.493	11.494	(1.003)	1245937	4.87487	4.875
	29	4-Chloroaniline	127	11.625	11.625	(1.015)	383246	3.89715	3.897
	30	Hexachlorobutadiene	225	11.864	11.857	(1.036)	211903	5.03333	5.033
	31	4-Chloro-3-methylphenol	107	12.576	12.576	(1.098)	306271	4.70884	4.709
	32	2-Methylnaphthalene	142	12.886	13.103	(1.125)	801723	5.24701	5.247(H)
	33	Hexachlorocyclopentadiene	237	13.350	13.350	(0.887)	222562	5.05604	5.056

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.497	13.497	(0.897)	208419	4.58046	4.580
	35 2,4,5-Trichlorophenol	196	13.567	13.567	(0.902)	225198	4.52785	4.528
$	36 2-Fluorobiphenyl	172	Compound Not Detected.					
	37 2-Chloronaphthalene	162	13.869	13.861	(0.922)	709799	4.88462	4.885
	38 2-Nitroaniline	65	14.116	14.116	(0.938)	183222	4.81152	4.812
	39 Dimethylphthalate	163	14.557	14.558	(0.968)	773755	5.10490	5.105
	40 Acenaphthylene	152	14.728	14.728	(0.979)	1218077	4.92248	4.922
	41 2,6-Dinitrotoluene	165	14.697	14.689	(0.977)	166669	4.85742	4.857
*	42 Acenaphthene-d10	164	15.045	15.045	(1.000)	508667	4.00000	
	43 3-Nitroaniline	138	14.968	14.960	(0.995)	199465	5.15025	5.150
	44 Acenaphthene	153	15.107	15.107	(1.004)	758439	4.84229	4.842
	45 2,4-Dinitrophenol	184	15.176	15.176	(1.009)	37685	1.88731	1.887
	46 Dibenzofuran	168	15.431	15.424	(1.026)	1023349	4.75581	4.756
	47 4-Nitrophenol	109	15.277	15.269	(1.015)	84926	4.12755	4.128
	48 2,4-Dinitrotoluene	165	15.493	15.486	(1.030)	201908	4.48058	4.481
	50 Diethylphthalate	149	16.004	16.004	(1.064)	771038	5.02064	5.021
	49 Fluorene	166	16.135	16.135	(1.072)	984533	5.04042	5.040
	51 4-Chlorophenyl-phenylether	204	16.135	16.127	(1.072)	467934	5.39775	5.398
	52 4-Nitroaniline	138	16.220	16.212	(1.078)	168586	4.32315	4.323
	53 4,6-Dinitro-2-methylphenol	198	16.320	16.312	(0.904)	74351	3.08813	3.088
	54 N-Nitrosodiphenylamine	169	16.382	16.374	(0.908)	552391	5.07694	5.077
$	55 2,4,6-Tribromophenol	330	Compound Not Detected.					
	56 4-Bromophenyl-phenylether	248	17.130	17.130	(0.949)	230243	5.33467	5.335
	57 Hexachlorobenzene	284	17.439	17.439	(0.966)	237192	4.89949	4.899
	58 Pentachlorophenol	266	17.787	17.787	(0.985)	110267	3.80234	3.802
*	59 Phenanthrene-d10	188	18.050	18.050	(1.000)	854150	4.00000	
	60 Phenanthrene	178	18.097	18.097	(1.003)	1124988	4.82494	4.825
	61 Anthracene	178	18.189	18.190	(1.008)	949240	4.27002	4.270
	62 Carbazole	167	18.514	18.514	(1.026)	915932	4.67894	4.679
	63 Di-n-butylphthalate	149	19.327	19.335	(1.071)	1252814	4.83870	4.839
	64 Fluoranthene	202	20.472	20.472	(0.887)	1169339	5.21259	5.213
	65 Pyrene	202	20.897	20.890	(0.906)	1189380	5.03037	5.030
$	66 Terphenyl-d14	244	Compound Not Detected.					
	67 Butylbenzylphthalate	149	22.113	22.113	(0.958)	485115	4.79167	4.792
	68 Benzo(a)anthracene	228	23.042	23.042	(0.999)	1091414	4.95439	4.954
*	69 Chrysene-d12	240	23.073	23.073	(1.000)	703971	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.003	23.003	(0.997)	736332	9.28906	9.289
	71 Chrysene	228	23.119	23.112	(1.002)	1096346	4.81448	4.814
	72 bis(2-Ethylhexyl)phthalate	149	23.135	23.135	(0.960)	758931	5.00338	5.003
*	134 Di-n-octylphthalate-d4	153	24.110	24.110	(1.000)	1052203	4.00000	

	73	Di-n-octylphthalate	149	24.118	24.118	(1.000)	1333082	5.14944	5.149
	74	Benzo(b)fluoranthene	252	24.869	24.869	(0.972)	1146645	5.17215	5.172
	75	Benzo(k)fluoranthene	252	24.915	24.908	(0.973)	1183533	4.85368	4.854
	76	Benzo(a)pyrene	252	25.488	25.481	(0.996)	1036082	4.67267	4.673
*	77	Perylene-d12	264	25.597	25.597	(1.000)	796363	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	28.102	28.094	(1.098)	1282147	4.55301	4.553
	79	Dibenzo(a,h)anthracene	278	28.117	28.102	(1.098)	1063521	4.54375	4.544
	80	Benzo(g,h,i)perylene	276	28.102	28.816	(1.098)	1282147	5.69990	5.700
	90	N-Nitrosodimethylamine	74	4.703	4.703	(0.523)	243602	5.13632	5.136(H)
	91	Aniline	93	Compound Not Detected.					
	93	Benzidine	184	20.712	20.712	(0.898)	502334	5.26600	5.266
	103	Pyridine	79	4.726	4.749	(0.525)	416943	5.32344	5.323
	105	1-methylnaphthalene	142	13.102	13.103	(1.144)	778553	5.09537	5.095
	111	Azobenzene (1,2-DP-Hydrazine)	77	16.451	16.451	(1.093)	834251	4.95703	4.957

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
187 Total Benzofluoranthenes	252	24.915	24.908	(0.973)	2225200	10.0155	10.02
120 2,3,4,6-Tetrachlorophenol	232	15.764	15.764	(1.048)	193132	3.46953	3.470

QC Flag Legend

H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192311.D
Lab Smp Id: SLC0502-SCV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230319.b\ABN.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 16:40
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	268611	134306	537222	248847	-7.36
27 Naphthalene-d8	1007141	503571	2014282	941852	-6.48
42 Acenaphthene-d10	531283	265642	1062566	508667	-4.26
59 Phenanthrene-d10	884709	442355	1769418	854150	-3.45
69 Chrysene-d12	727768	363884	1455536	703971	-3.27
134 Di-n-octylphthala	1108384	554192	2216768	1052203	-5.07
77 Perylene-d12	824431	412216	1648862	796363	-3.40

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	-0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	-0.00
42 Acenaphthene-d10	15.05	14.55	15.55	15.05	-0.00
59 Phenanthrene-d10	18.05	17.55	18.55	18.05	-0.00
69 Chrysene-d12	23.07	22.57	23.57	23.07	-0.00
134 Di-n-octylphthala	24.11	23.61	24.61	24.11	-0.00
77 Perylene-d12	25.60	25.10	26.10	25.60	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192311.D

Lab ID: SLC0502-SCV1
nt18.i, ABN.m, 19-MAR-2023 21:26

RT	CO-ELUTION COMPOUNDS
28.102	Benzo(g,h,i)perylene and Indeno(1,2,3-cd)pyrene

** FIRST SURROGATE NOT FOUND. ICAL Check not performed **

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.957	0.950	0.0074	Benzoic acid
1.125	1.144	-0.0189	2-Methylnaphthalene
1.098	1.126	-0.0279	Benzo(g,h,i)perylene

RRT check based on Ccal File: NT1803192308.D

On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	NT18	Calibration:	GC00085
Lab File ID:	NT1803222317.D	Calibration Date:	03/19/2023
Sequence:	SLD0051	Injection Date:	03/23/23
Lab Sample ID:	SLD0051-CCV1	Injection Time:	04:05
Sequence Name:	Calibration Check		

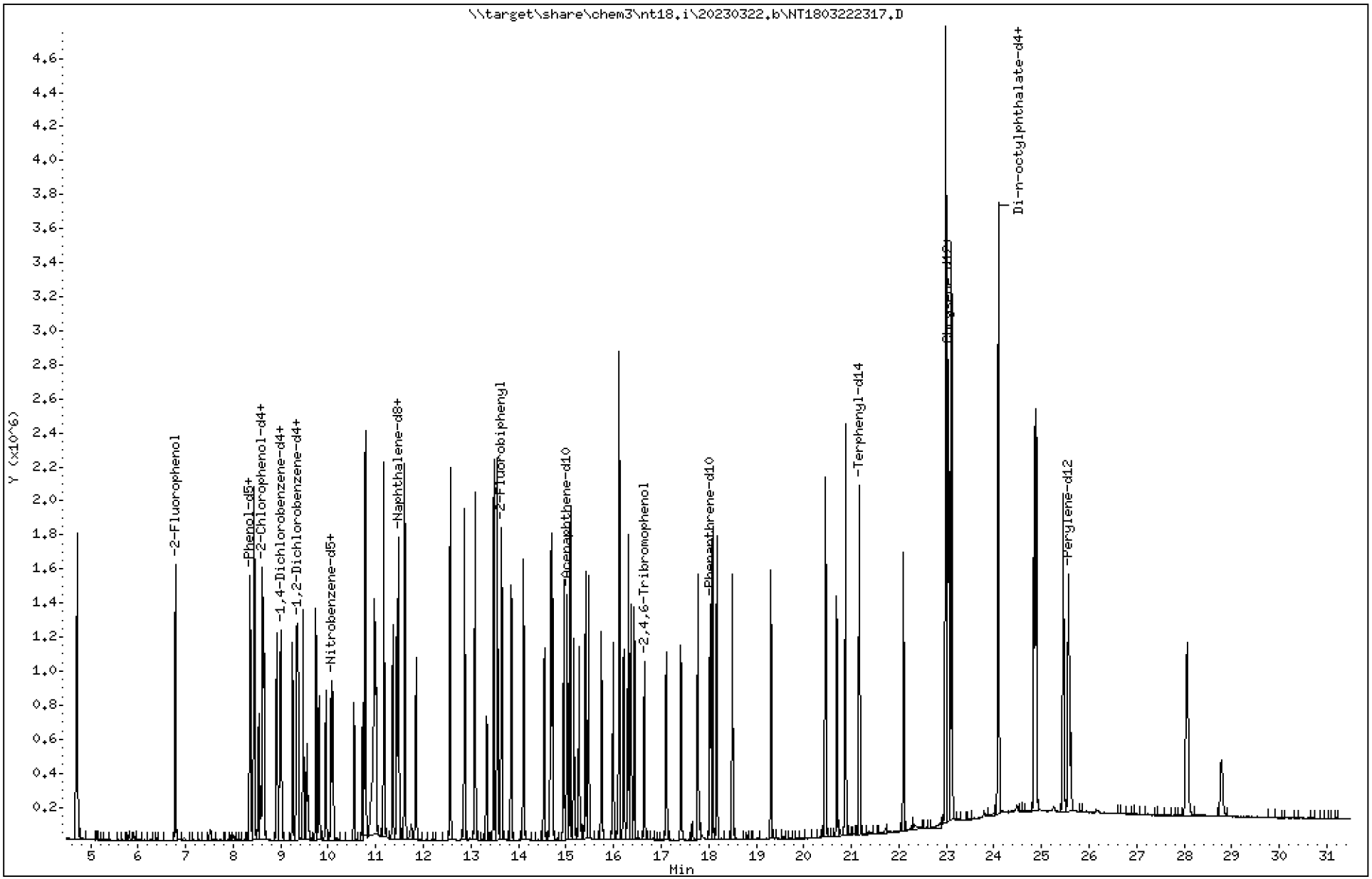
		CONC. (ug/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT	
Phenol	A	5.0000	5.0	1.6289550	1.6258280		-0.2	+/-50	
4-Methylphenol	A	5.0000	5.1	1.2838700	1.3001860		1.3	+/-50	
Naphthalene	A	5.0000	4.8	1.0854510	1.0440310		-3.8	+/-50	
2-Methylnaphthalene	A	5.0000	4.9	0.7068922	0.6889626		-2.5	+/-50	
Acenaphthylene	A	5.0000	5.1	1.9458850	1.9807040		1.8	+/-50	
Dimethylphthalate	A	5.0000	5.1	1.1919090	1.2067530		1.2	+/-50	
Acenaphthene	A	5.0000	4.9	1.2316760	1.2164870		-1.2	+/-50	
Dibenzofuran	A	5.0000	4.9	1.6920980	1.6710580		-1.2	+/-50	
Fluorene	A	5.0000	5.2	1.5359950	1.5849270		3.2	+/-50	
Phenanthrene	A	5.0000	4.8	1.0918970	1.0558620		-3.3	+/-50	
Anthracene	A	5.0000	5.2	1.0410500	1.0802990		3.8	+/-50	
Fluoranthene	A	5.0000	4.3	1.2746530	1.0911960		-14.4	+/-50	
Pyrene	A	5.0000	4.3	1.3434640	1.1495270		-14.4	+/-50	
Butylbenzylphthalate	A	5.0000	4.4	0.4580611	0.5100467		-11.4	+/-50	
Benzo(a)anthracene	A	5.0000	5.0	1.2517140	1.2637370		1.0	+/-50	
Chrysene	A	5.0000	4.9	1.2939090	1.2584560		-2.7	+/-50	
bis(2-Ethylhexyl)phthalate	A	5.0000	4.4	0.4872329	0.5055259		-12.6	+/-50	
Benzofluoranthenes, Total	A	10.000	11.2	1.1159550	1.2525360		12.2	+/-50	
Benzo(a)pyrene	A	5.0000	5.0	0.9981810	1.1180910		0.4	+/-50	
Indeno(1,2,3-cd)pyrene	A	5.0000	2.3	1.2089080	0.6409152		-54.2	+/-50	*
Dibenzo(a,h)anthracene	A	5.0000	2.5	1.0105360	0.5690539		-51.0	+/-50	*
Benzo(g,h,i)perylene	A	5.0000	1.6	0.9990967	0.3588477		-67.8	+/-50	*
2-Fluorophenol	A	7.5000	7.75	1.2331380	1.2739900		3.3	+/-50	
Phenol-d5	A	7.5000	7.68	1.5233940	1.5599960		2.4	+/-50	
2-Chlorophenol-d4	A	7.5000	7.84	1.3205030	1.3795690		4.5	+/-50	
1,2-Dichlorobenzene-d4	A	5.0000	4.81	0.9689252	0.9313198		-3.9	+/-50	
Nitrobenzene-d5	A	5.0000	5.44	0.3297186	0.3584282		8.7	+/-50	
2-Fluorobiphenyl	A	5.0000	4.97	1.4323940	1.4251180		-0.5	+/-50	
2,4,6-Tribromophenol	A	7.5000	7.83	0.1658543	0.1897085		4.4	+/-50	
p-Terphenyl-d14	A	5.0000	4.34	0.9991659	0.8664341		-13.3	+/-50	

* Values outside of QC limits

* Values outside of QC limits

Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222317.D
Date : 23-MAR-2023 04:05
Client ID:
Sample Info: SLD0051-CCV1

Instrument: nt18.i
Operator: VTS
Column phase: ZB-5msi
Column diameter: 0.25



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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

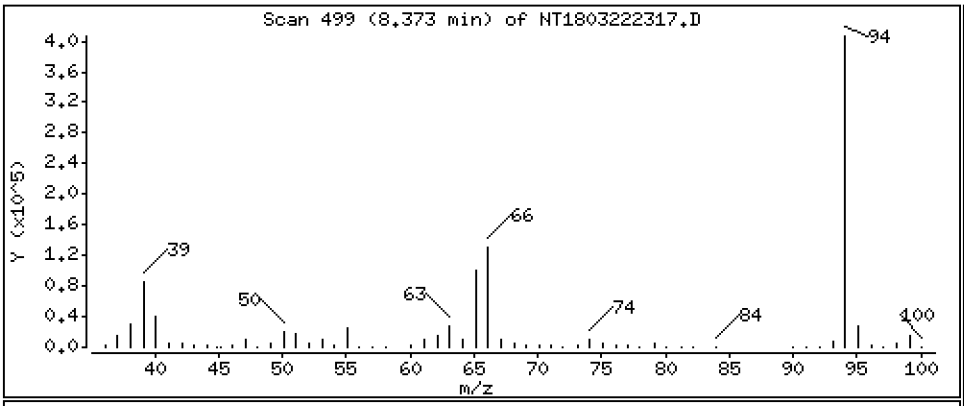
Operator: VTS

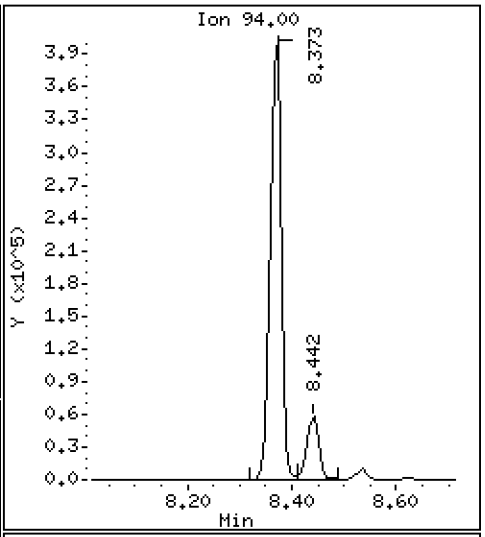
Column phase: ZB-5msi

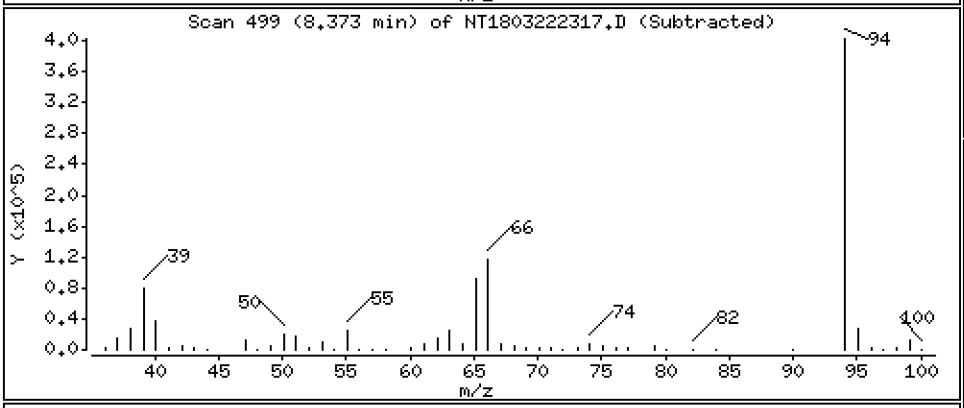
Column diameter: 0.25

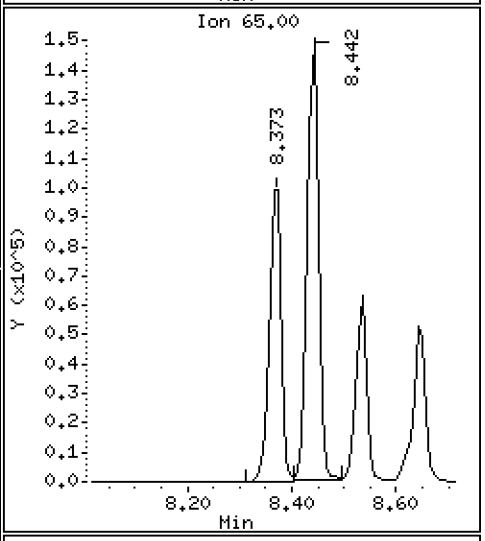
3 Phenol

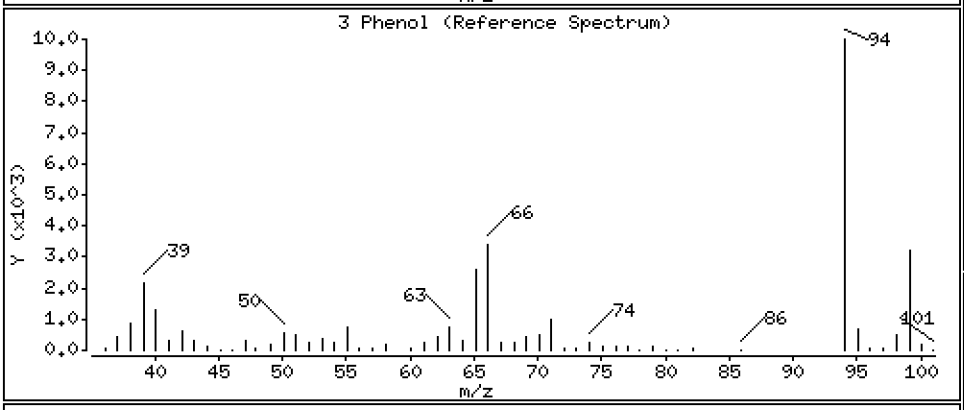
Concentration: 4.990 ug/mL

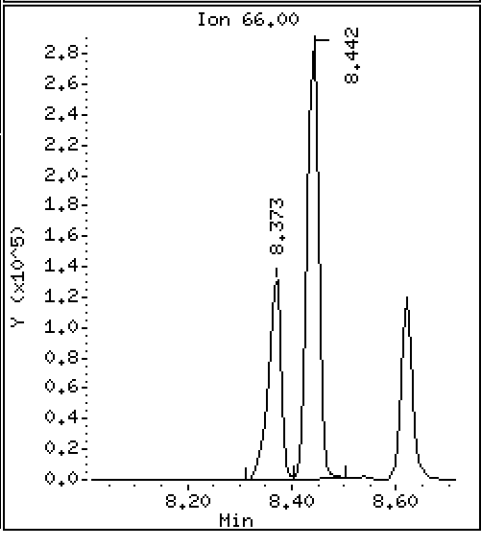


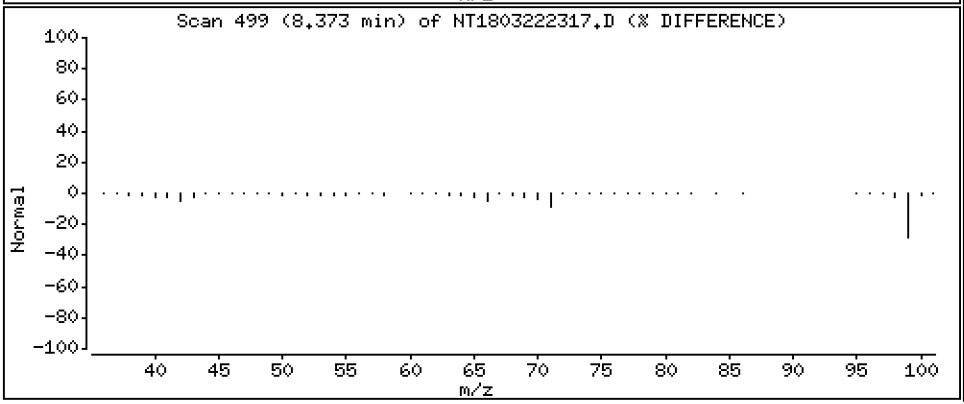












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

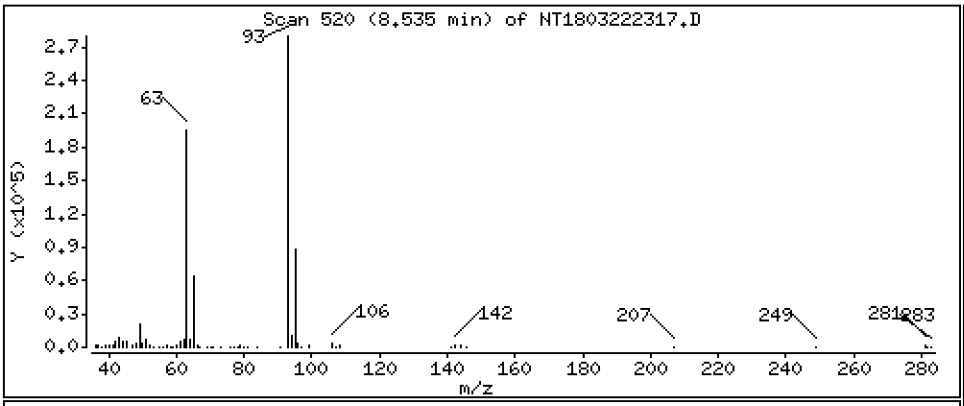
Operator: VTS

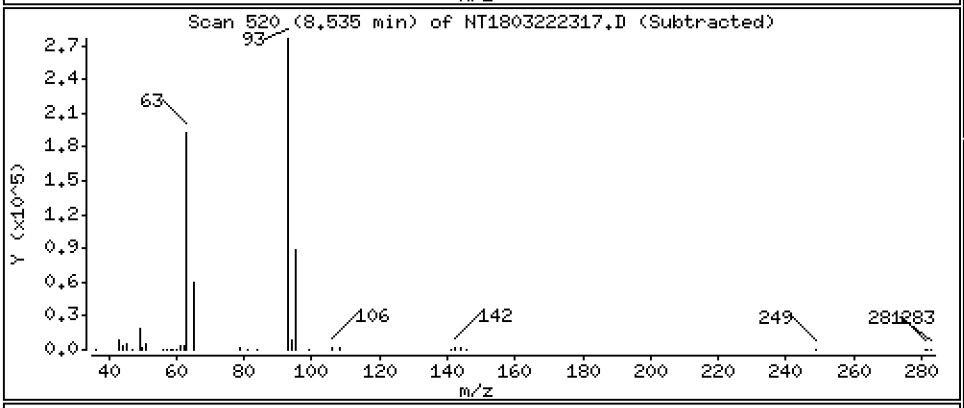
Column phase: ZB-5msi

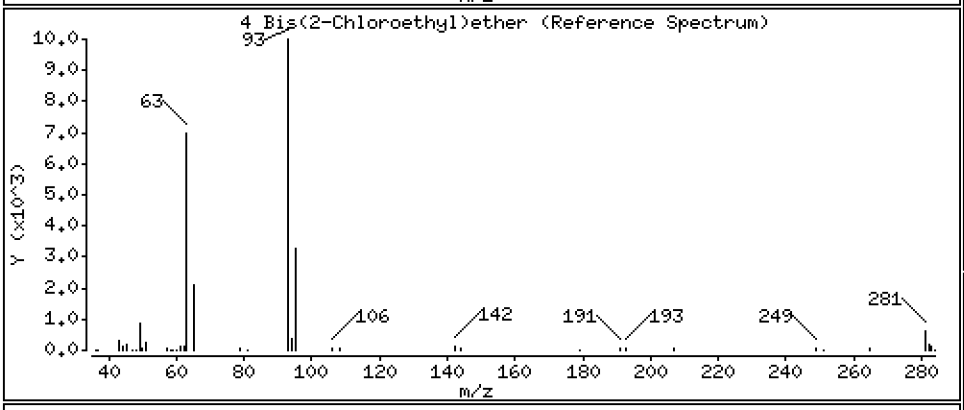
Column diameter: 0.25

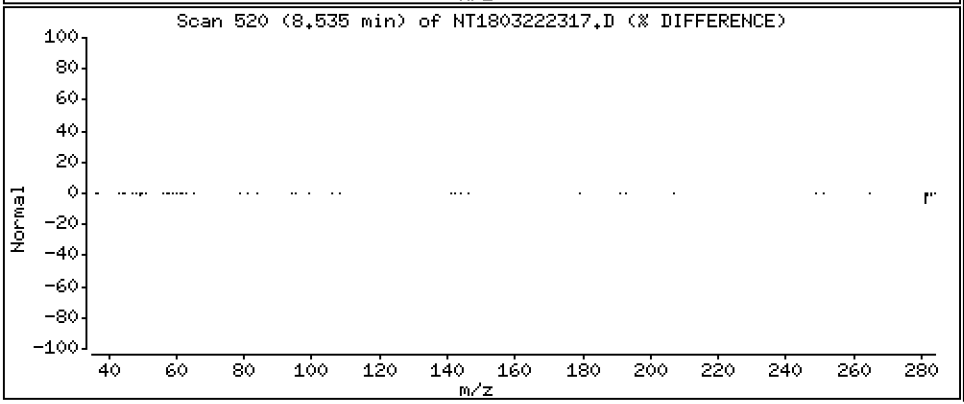
4 Bis(2-Chloroethyl)ether

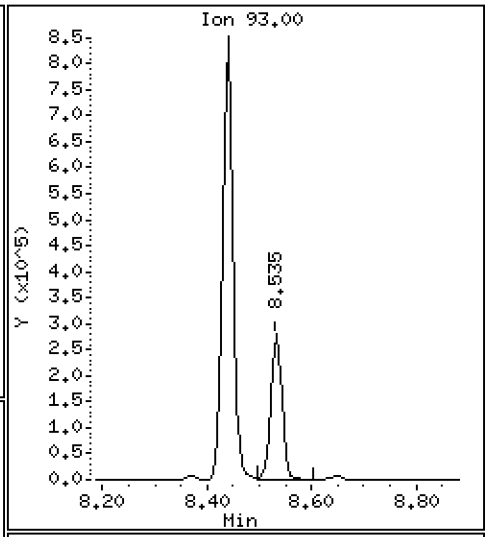
Concentration: 4.886 ug/mL

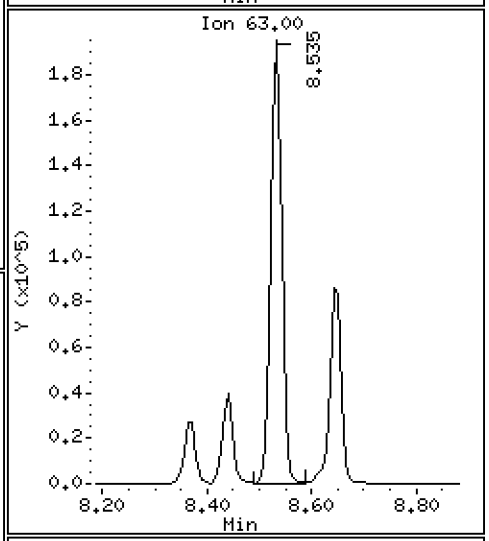


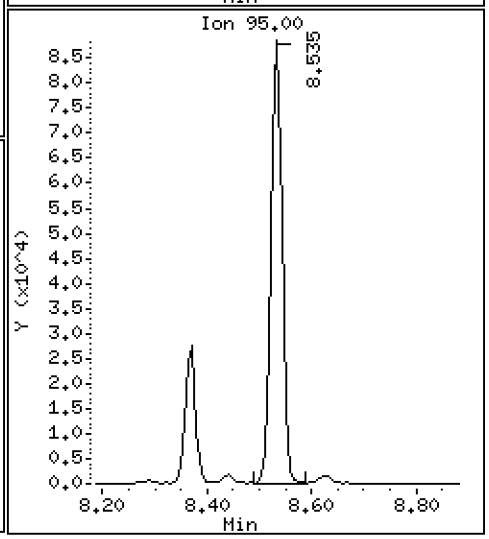












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

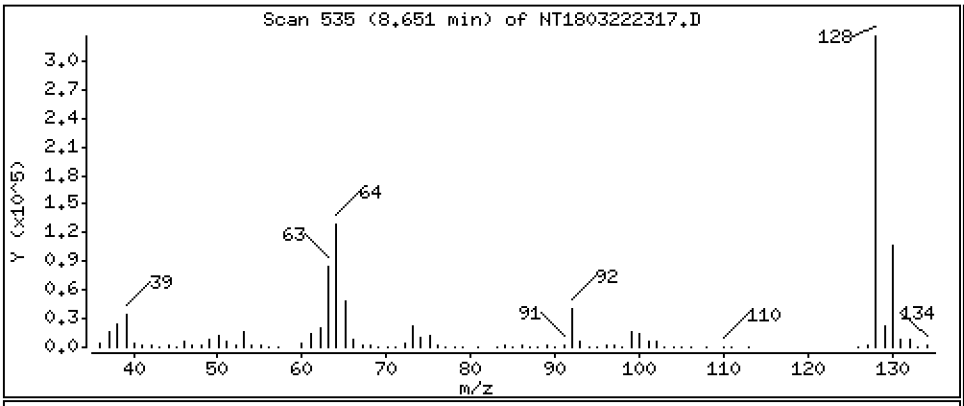
Operator: VTS

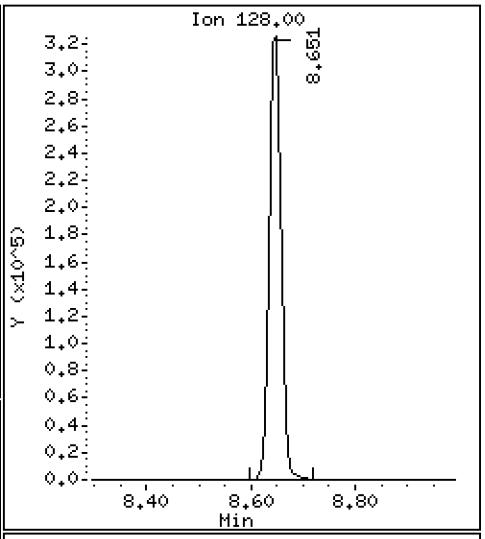
Column phase: ZB-5msi

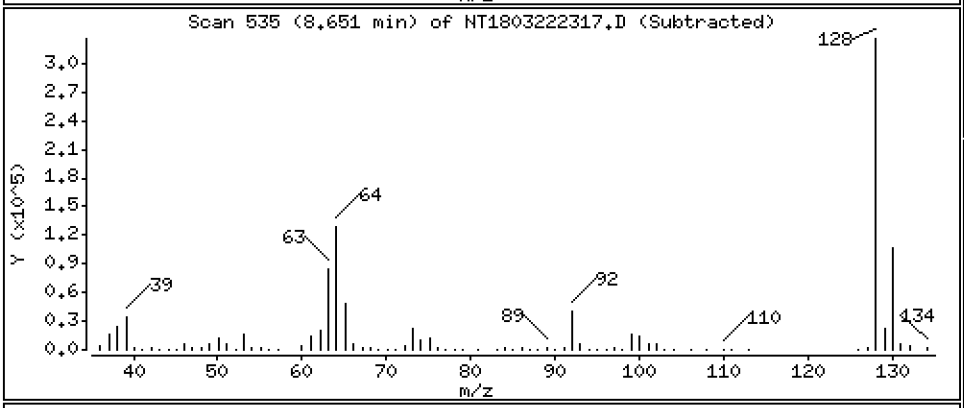
Column diameter: 0.25

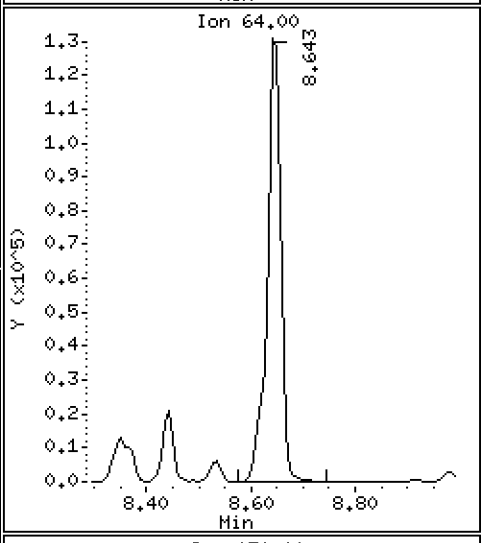
6 2-Chlorophenol

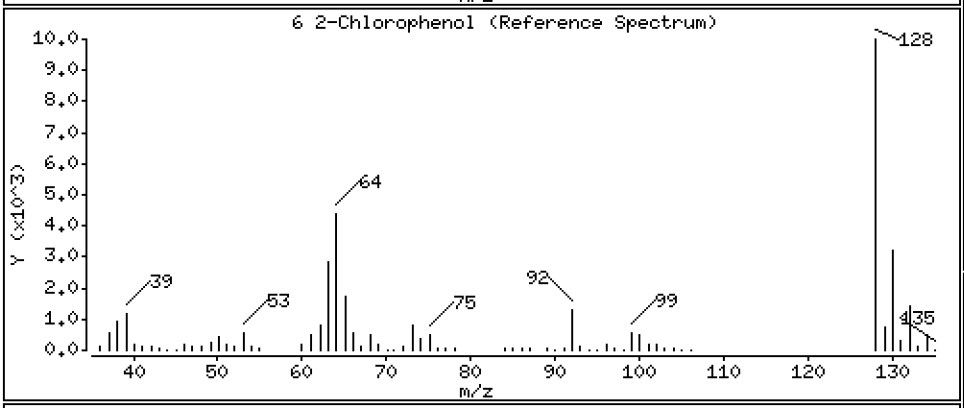
Concentration: 5.065 ug/mL

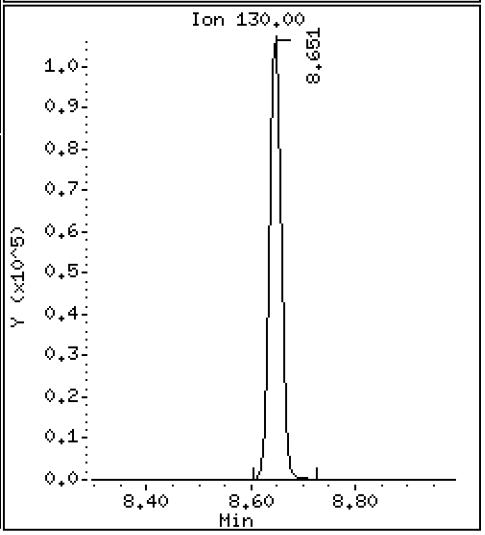


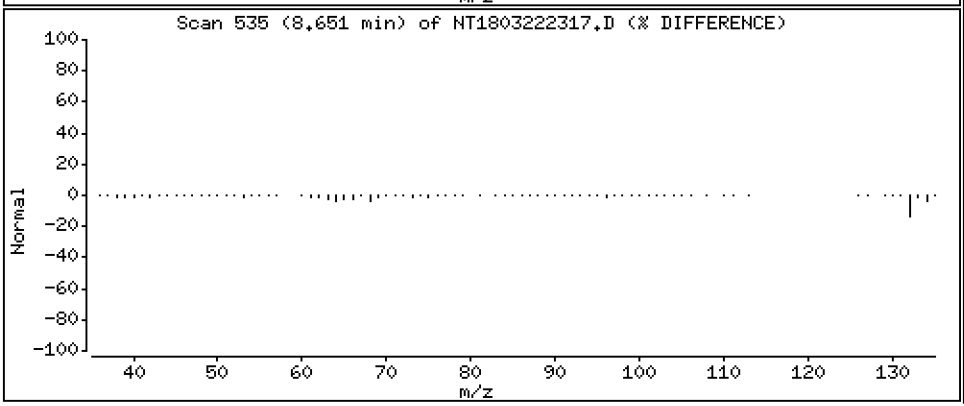












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

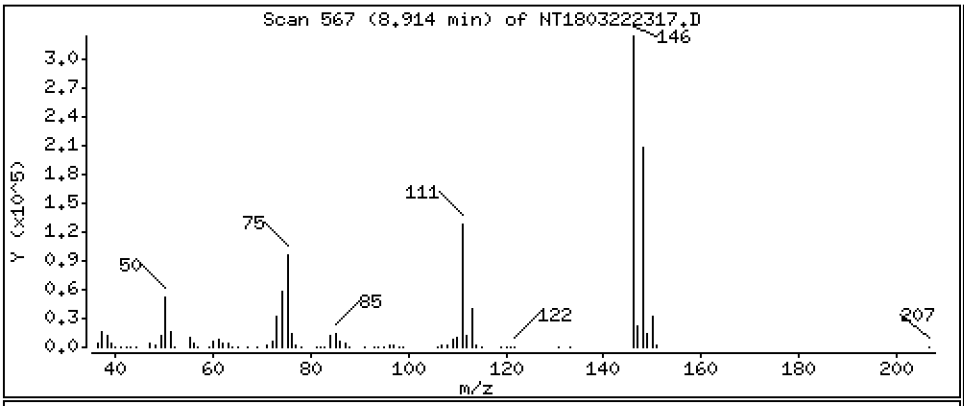
Operator: VTS

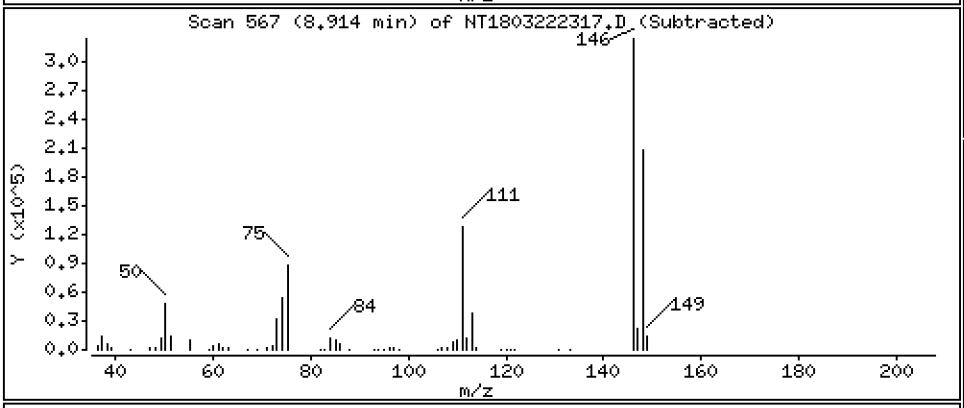
Column phase: ZB-5msi

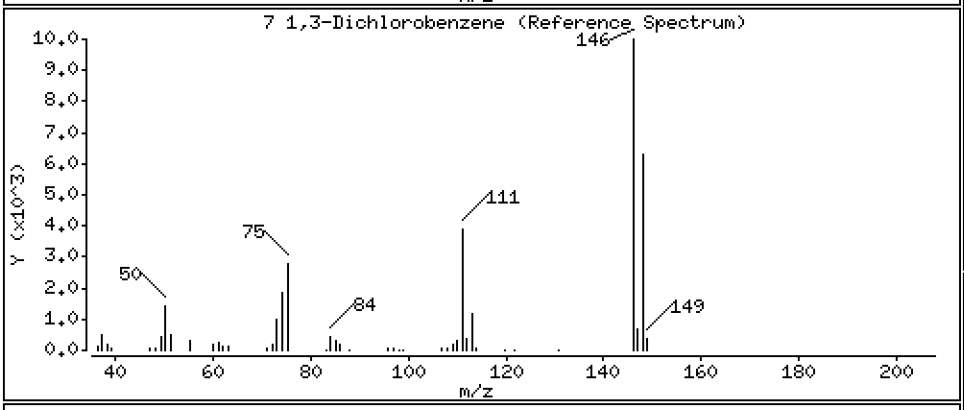
Column diameter: 0.25

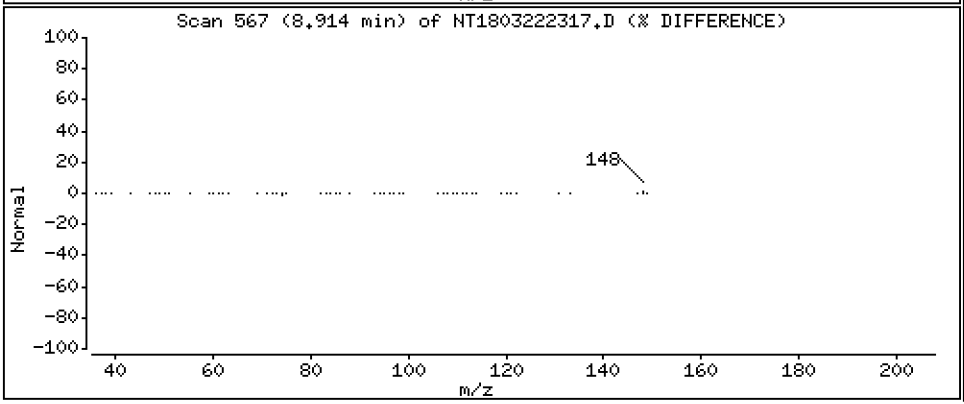
7 1,3-Dichlorobenzene

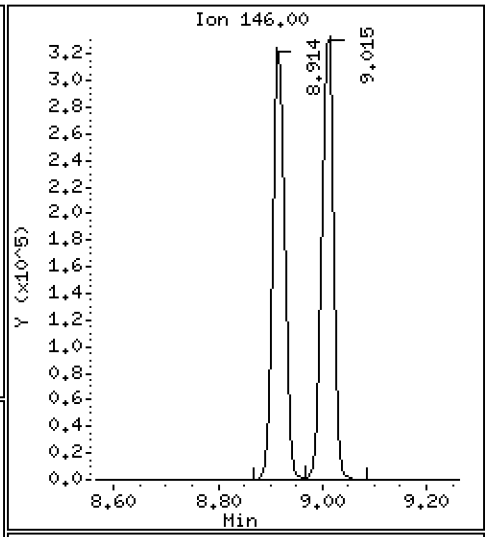
Concentration: 4.841 ug/mL

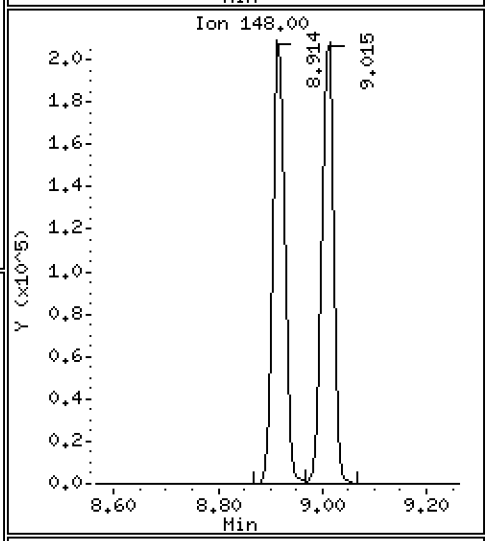


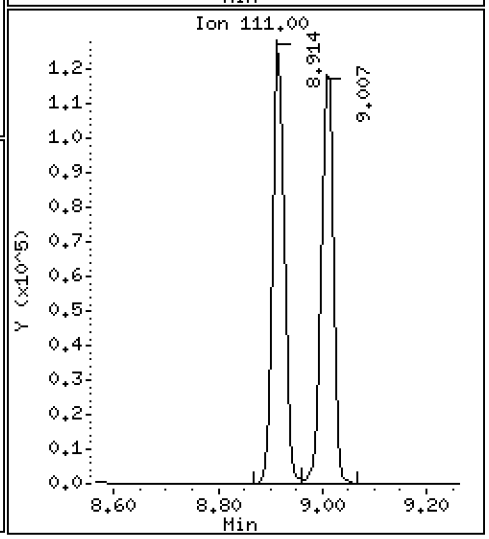












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

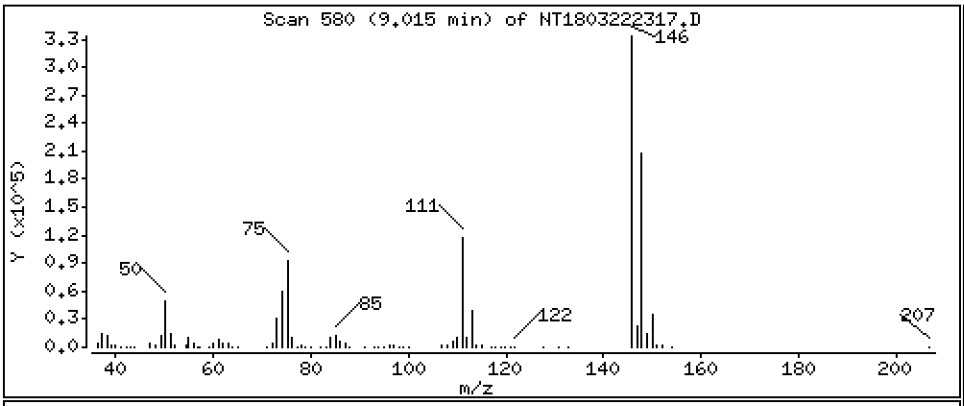
Operator: VTS

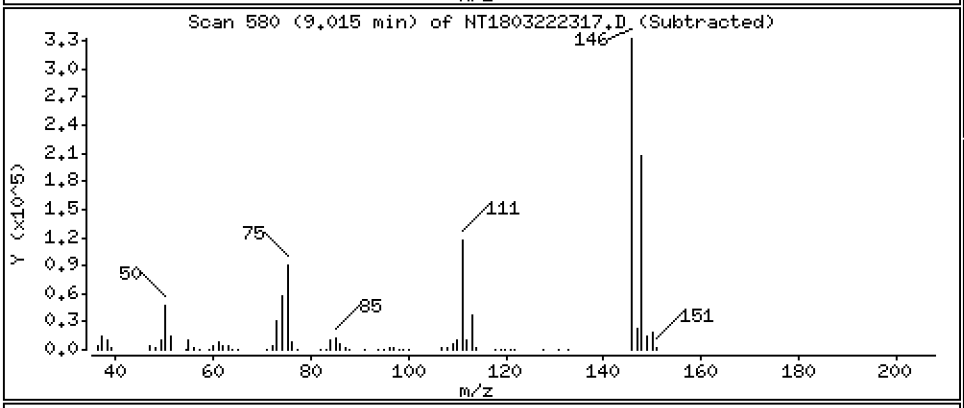
Column phase: ZB-5msi

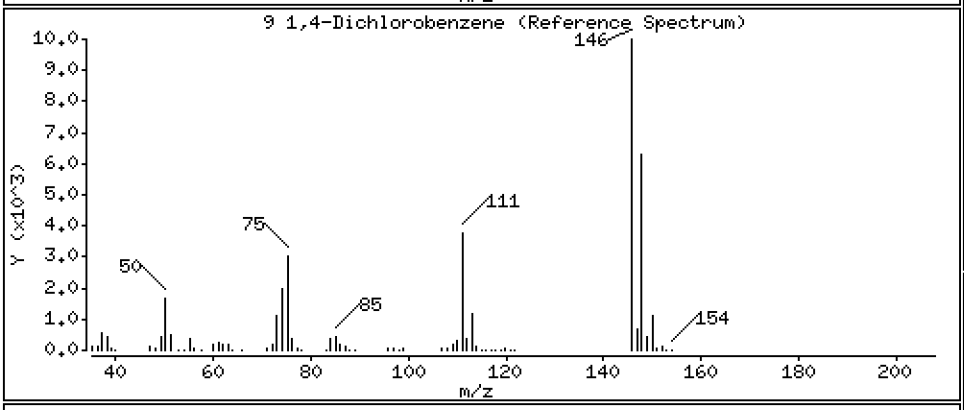
Column diameter: 0.25

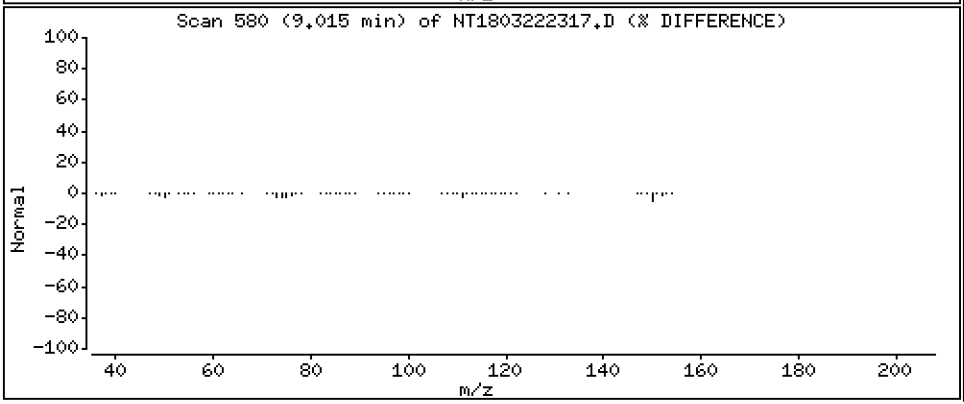
9 1,4-Dichlorobenzene

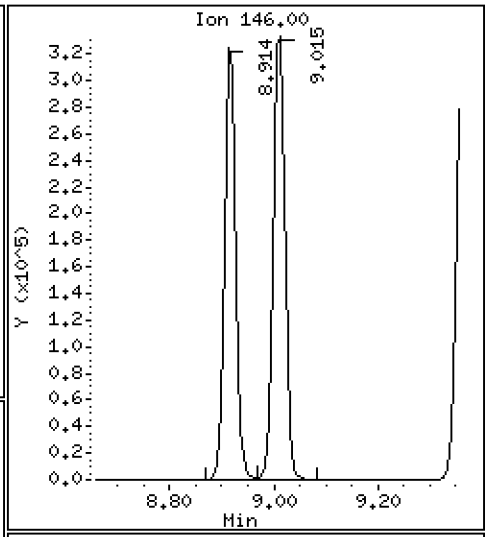
Concentration: 4.871 ug/mL

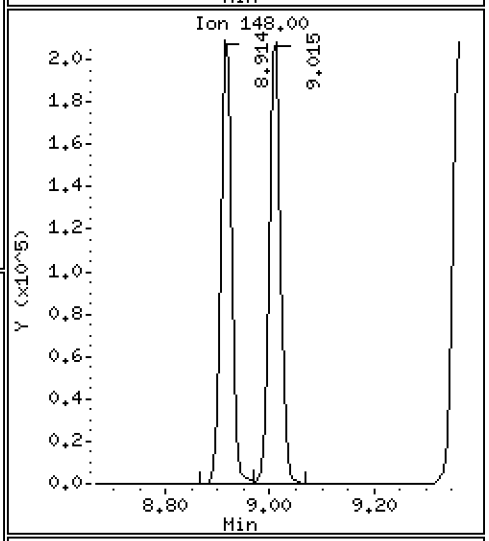


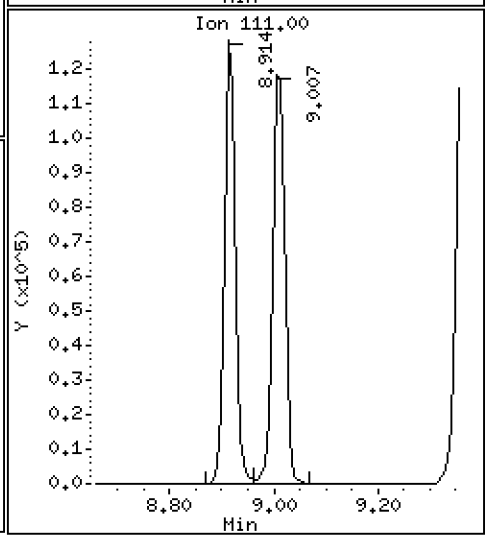












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

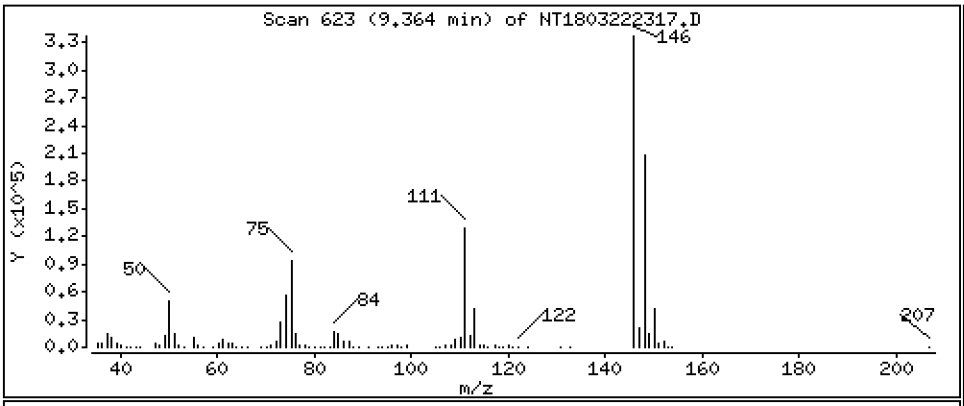
Operator: VTS

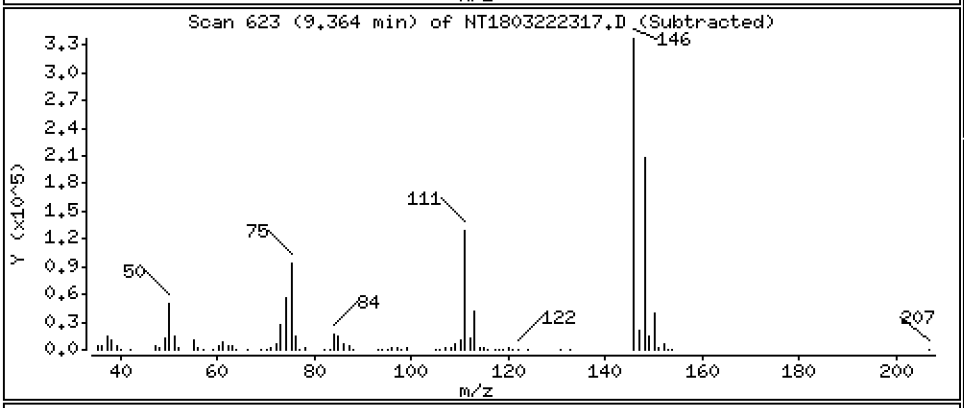
Column phase: ZB-5msi

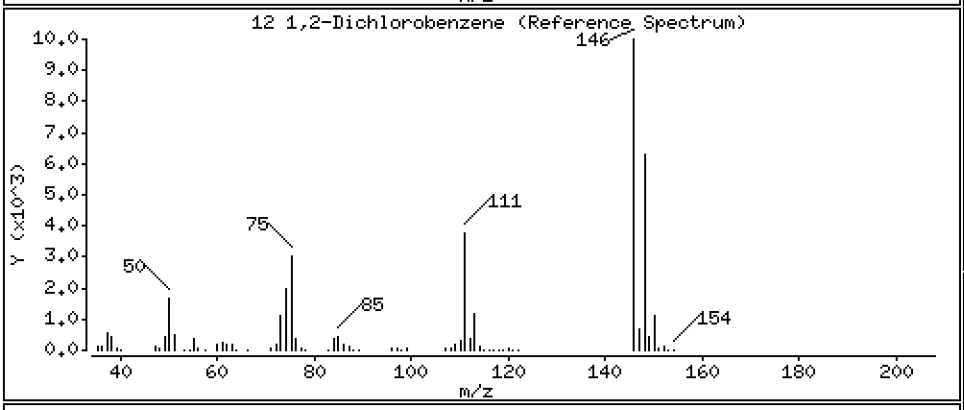
Column diameter: 0.25

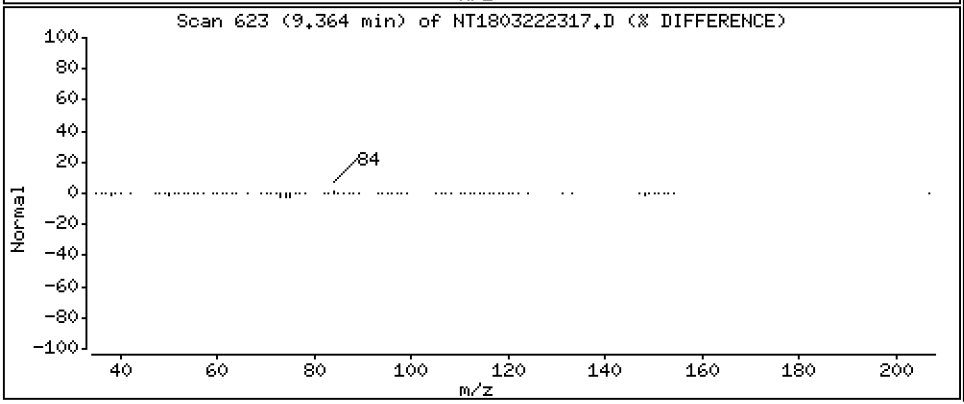
12 1,2-Dichlorobenzene

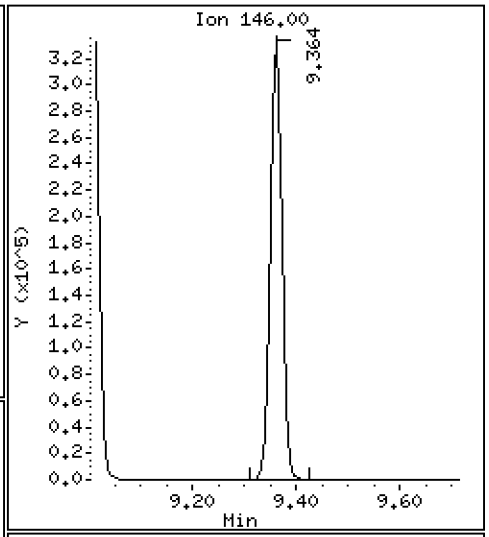
Concentration: 4.815 ug/mL

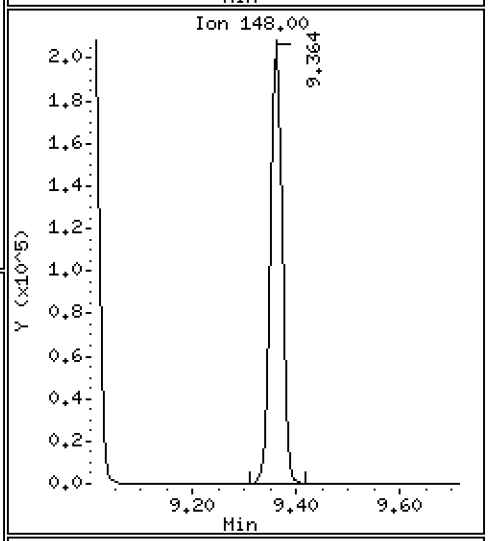


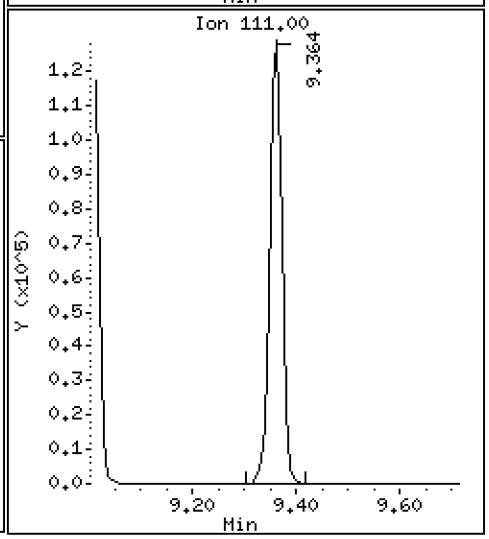












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

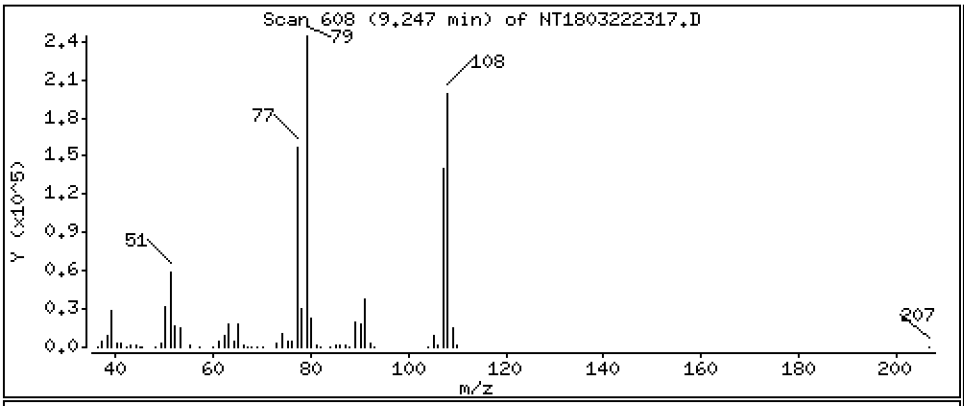
Operator: VTS

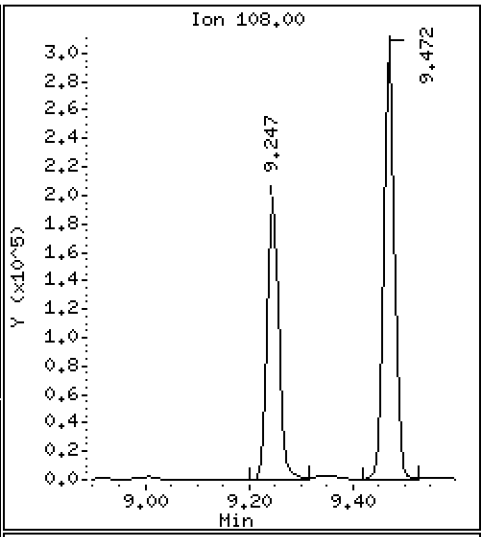
Column phase: ZB-5msi

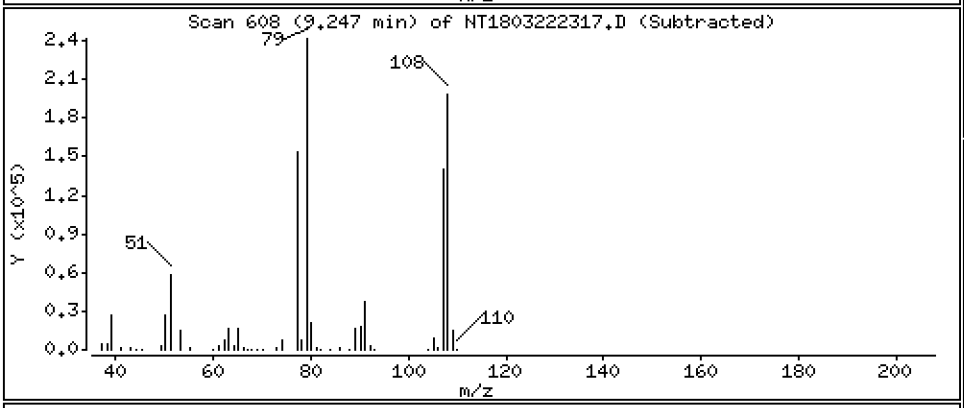
Column diameter: 0.25

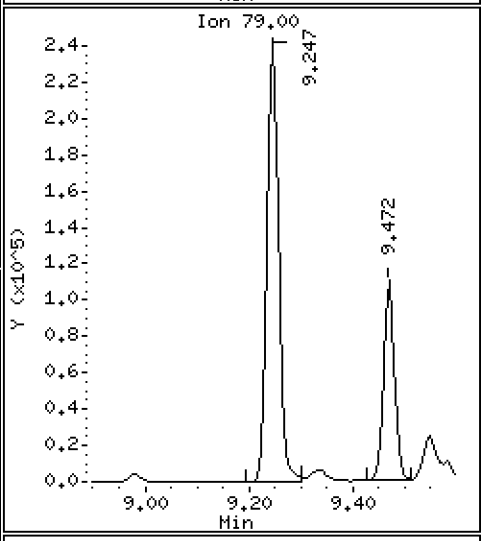
11 Benzyl alcohol

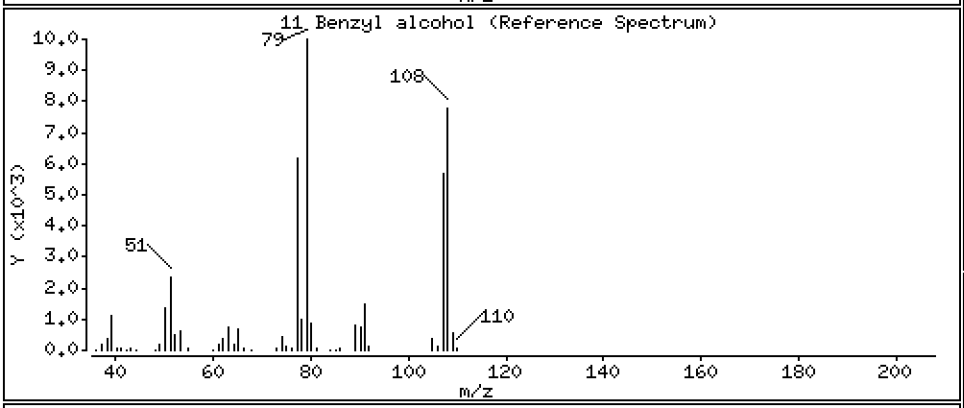
Concentration: 5.488 ug/mL

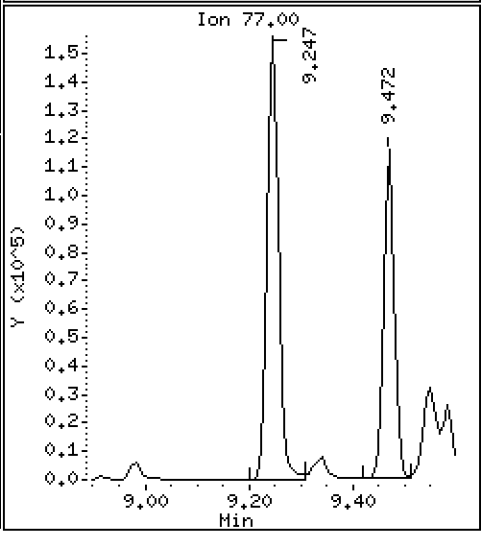


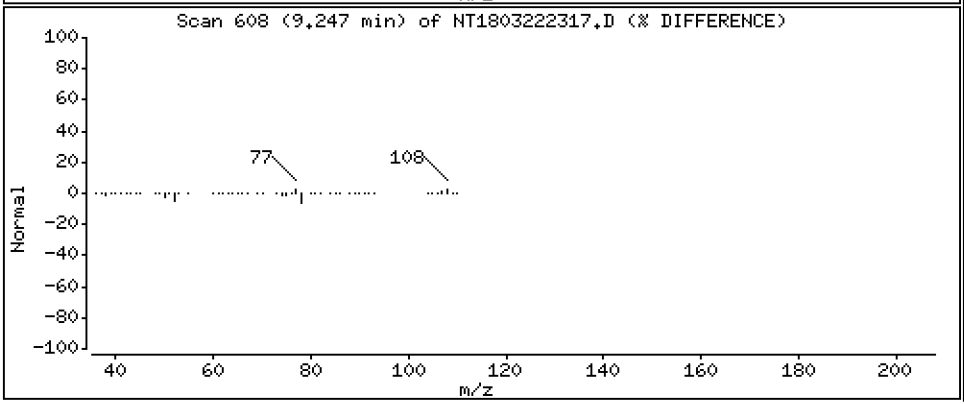












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

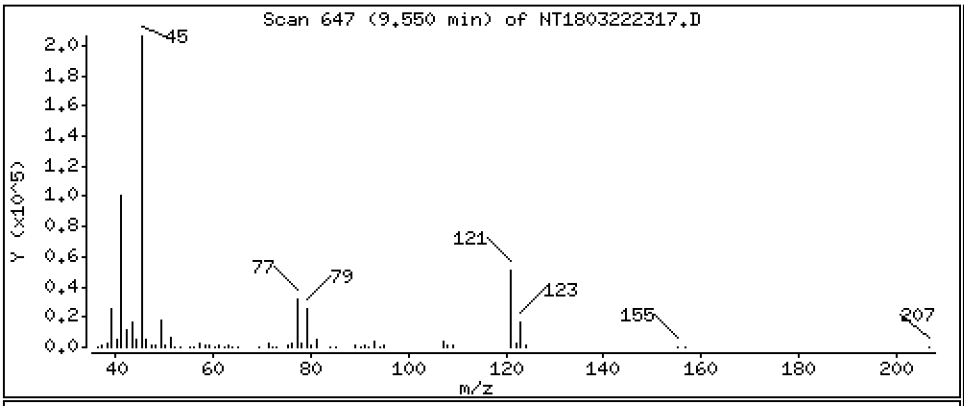
Operator: VTS

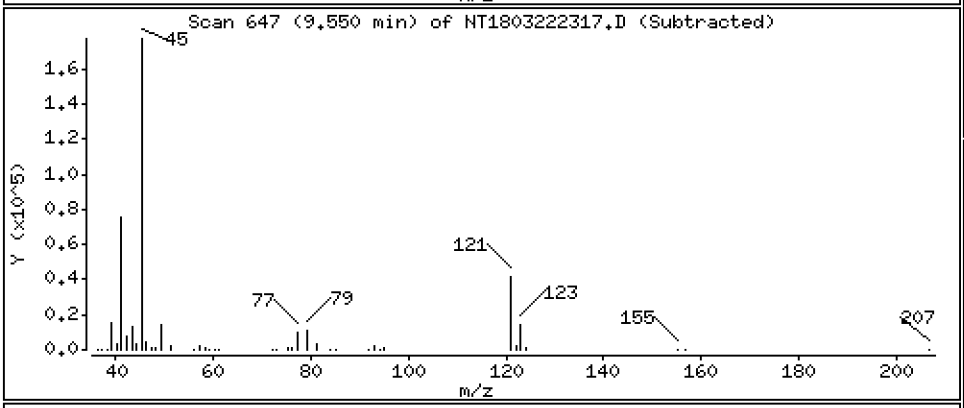
Column phase: ZB-5msi

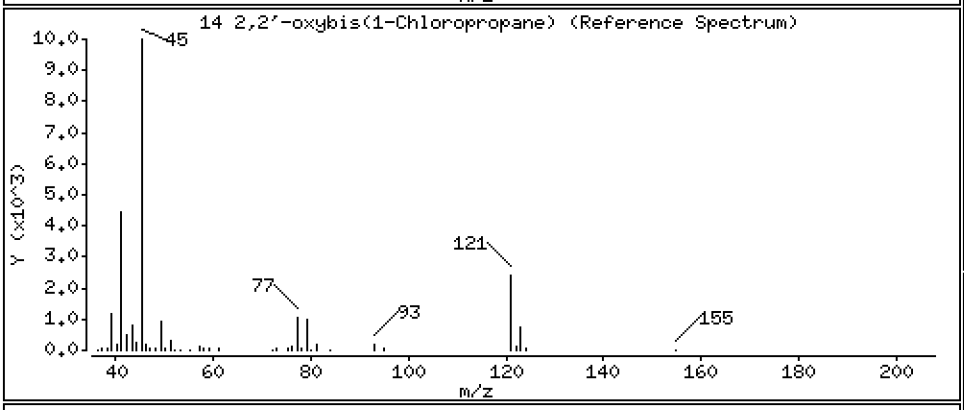
Column diameter: 0.25

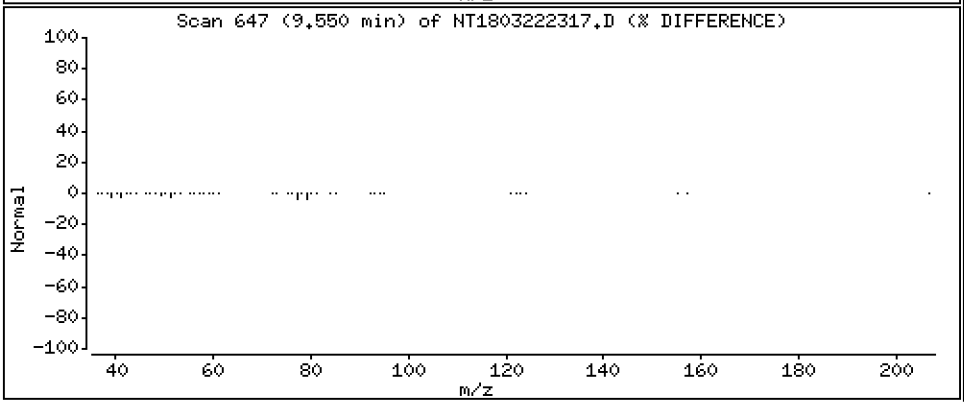
14 2,2'-oxybis(1-Chloropropane)

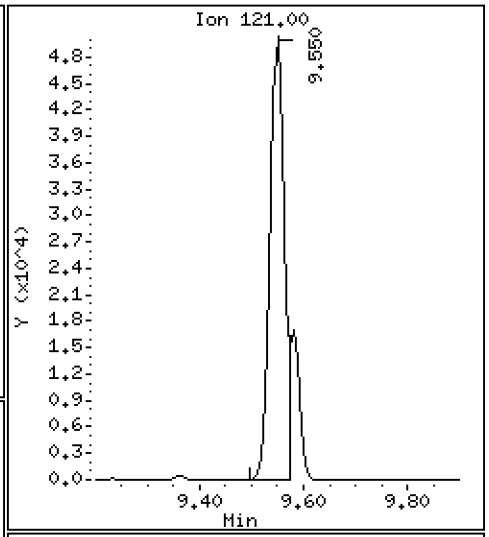
Concentration: 3.943 ug/mL

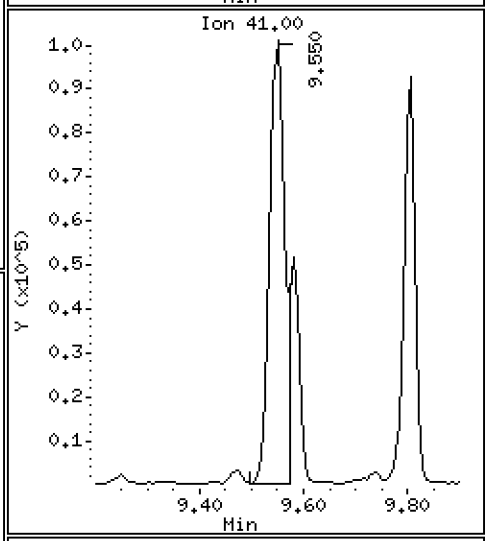


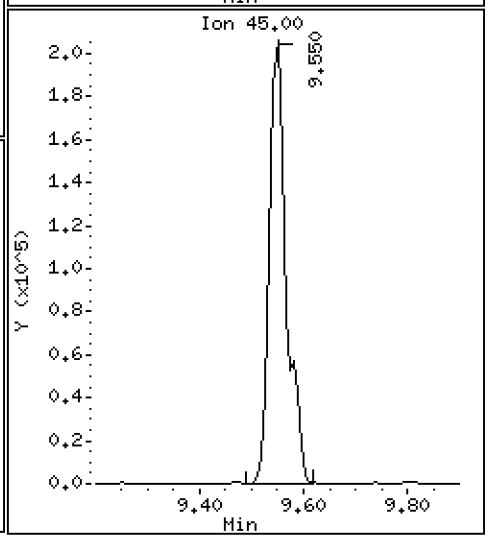












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

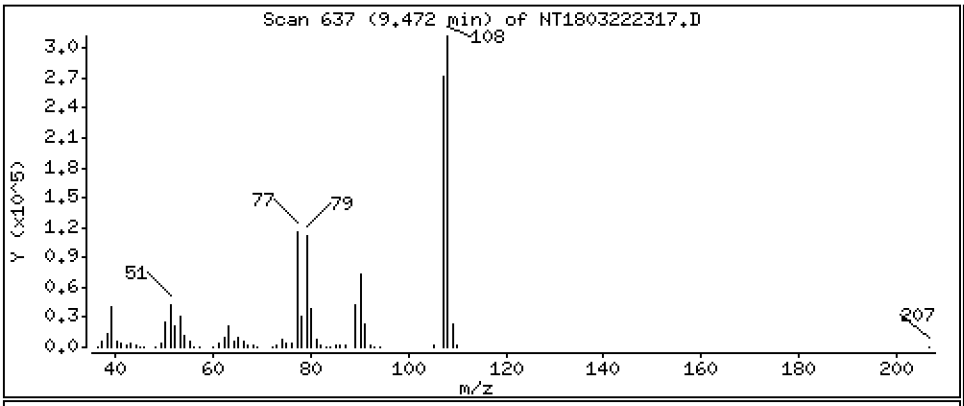
Operator: VTS

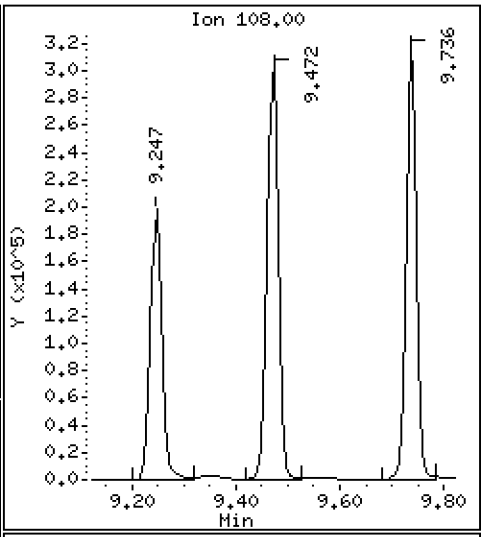
Column phase: ZB-5msi

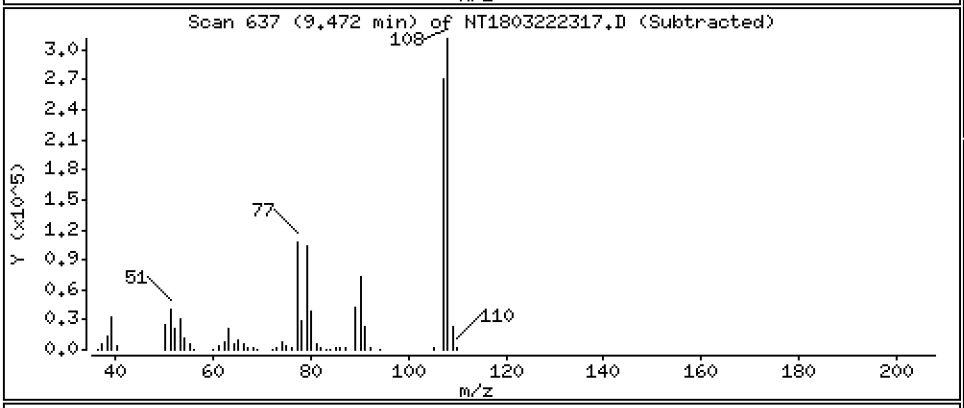
Column diameter: 0.25

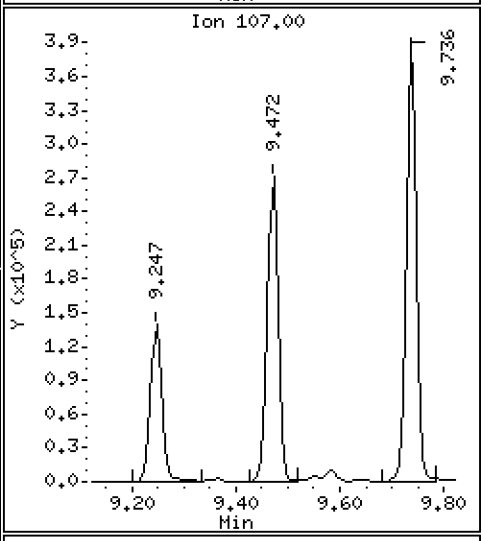
13 2-Methylphenol

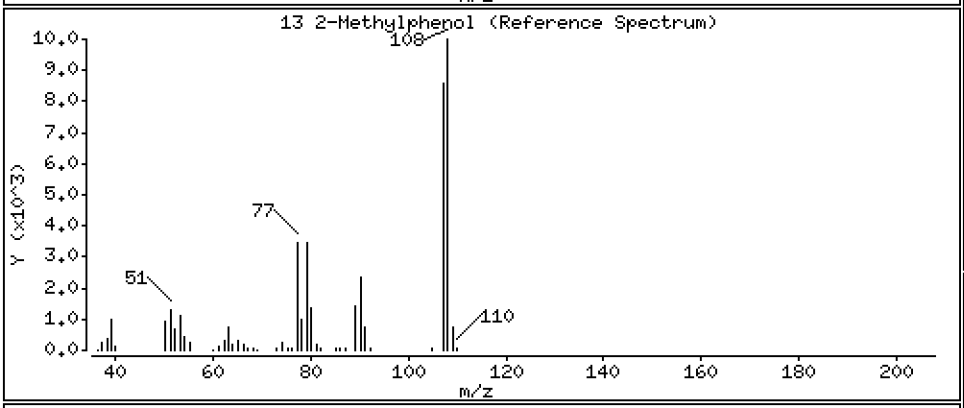
Concentration: 5.015 ug/mL

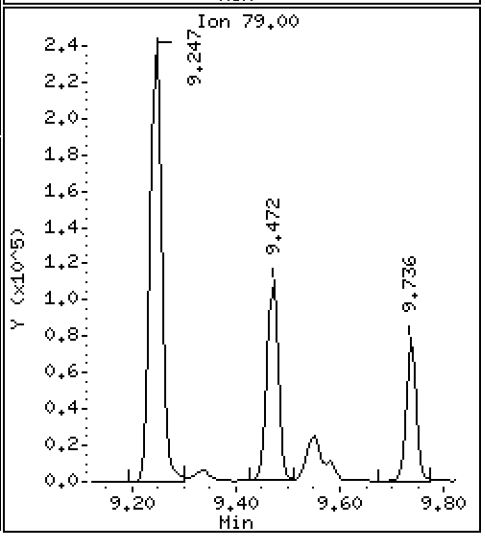


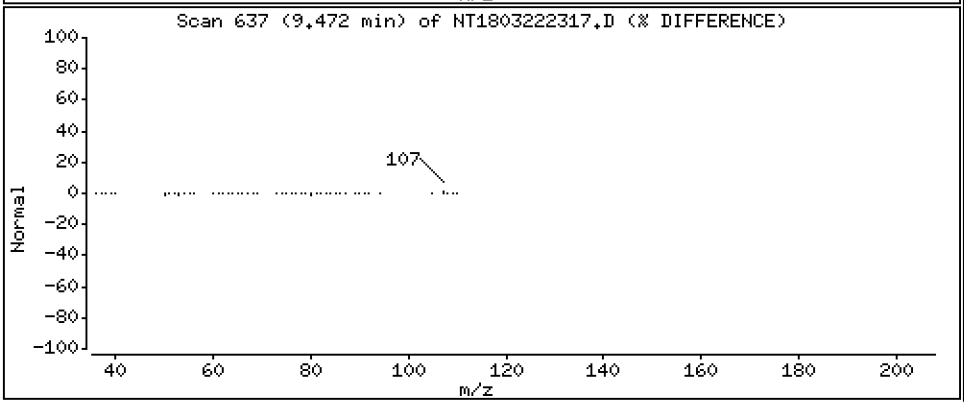












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222317.D

Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

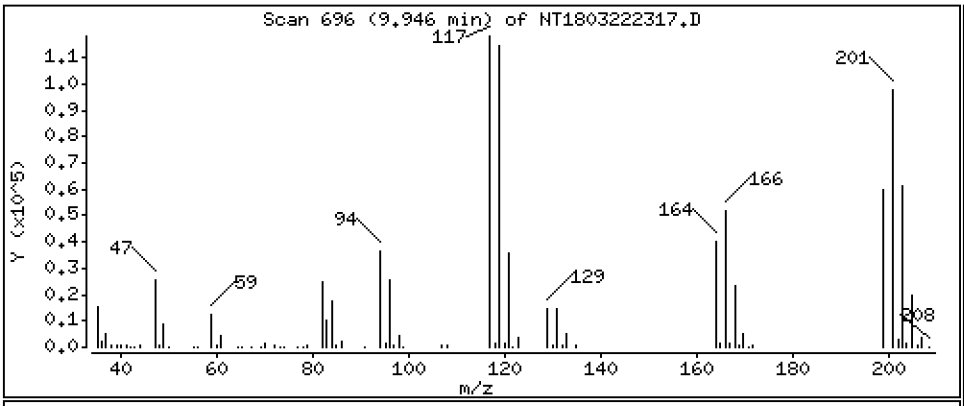
Operator: VTS

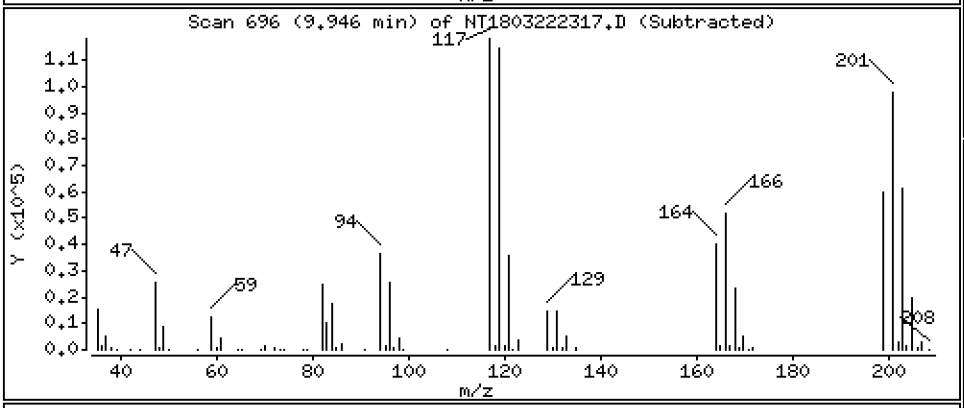
Column phase: ZB-5msi

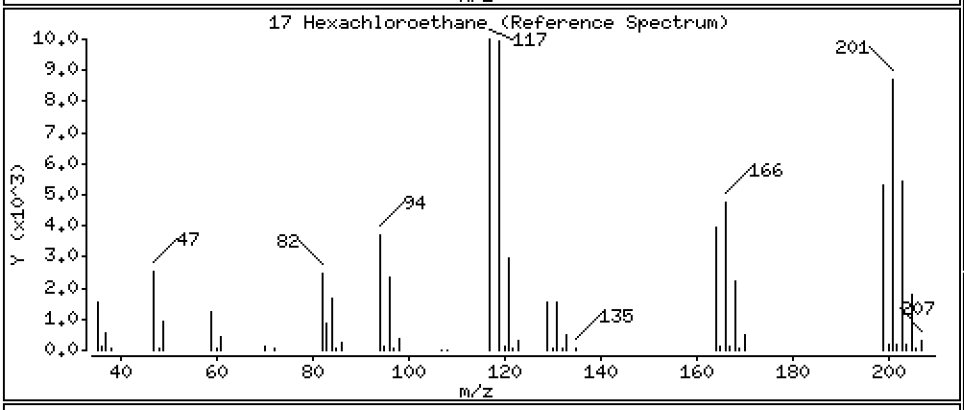
Column diameter: 0.25

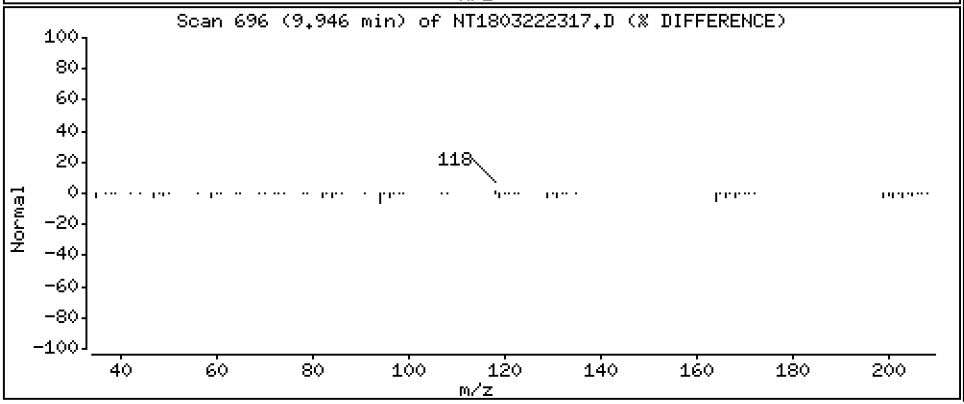
17 Hexachloroethane

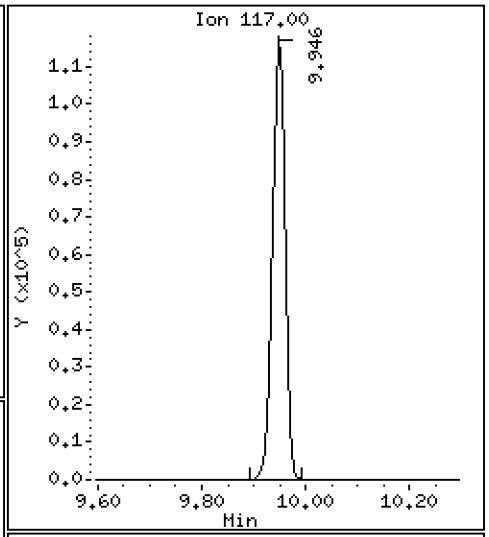
Concentration: 4.654 ug/mL

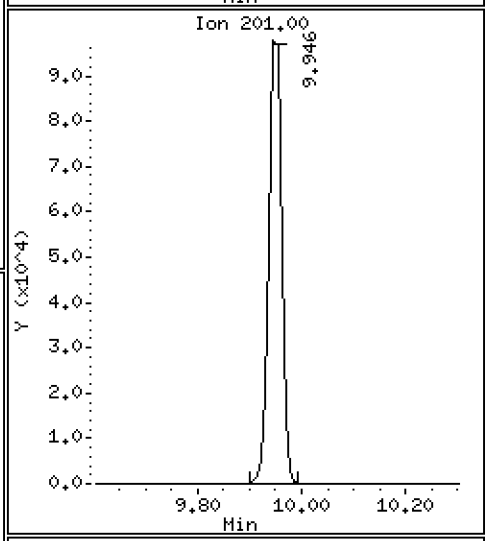


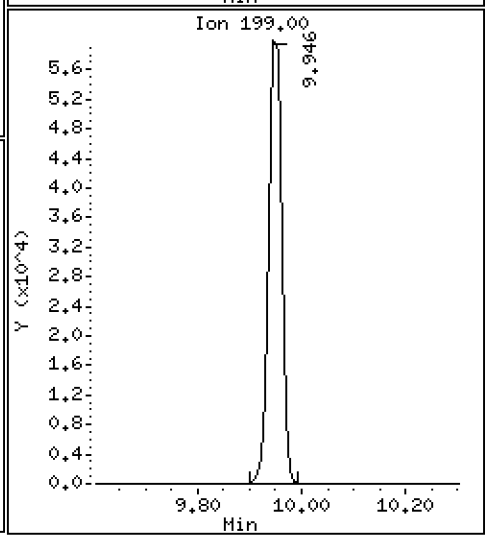












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

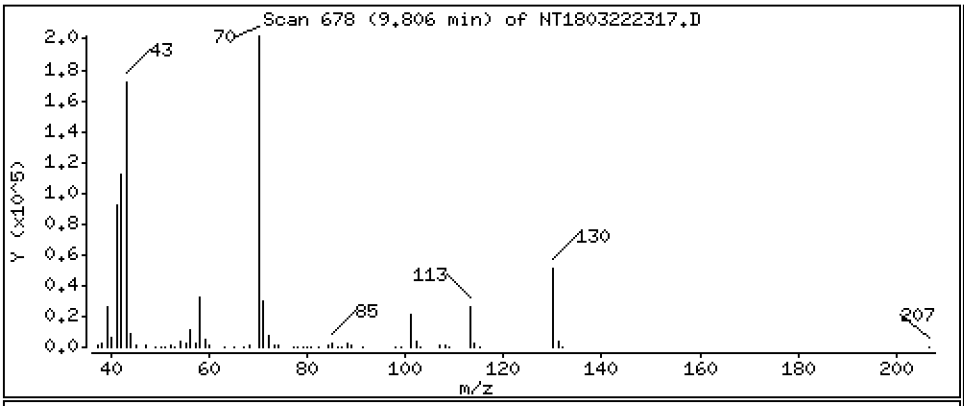
Operator: VTS

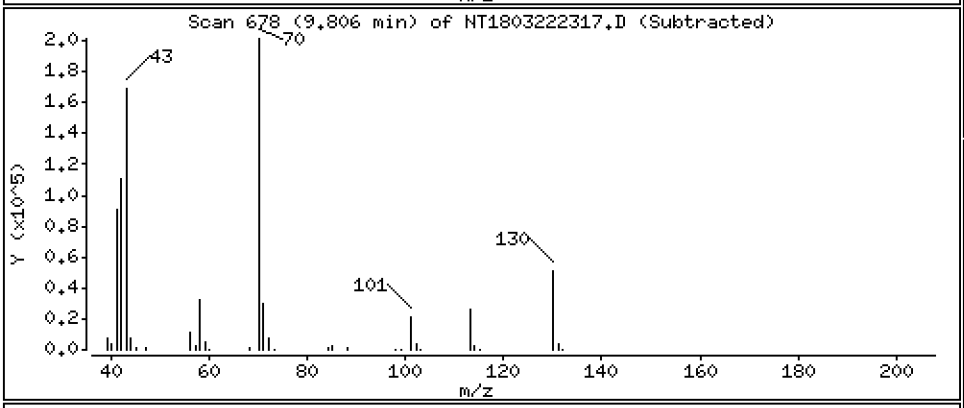
Column phase: ZB-5msi

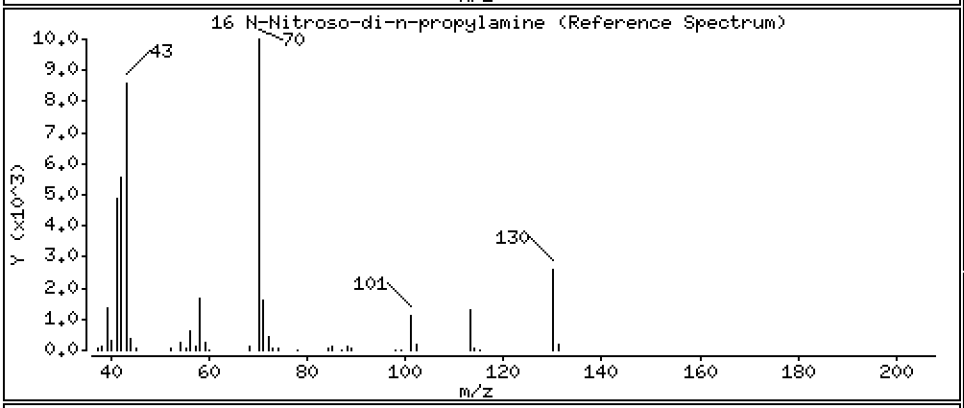
Column diameter: 0.25

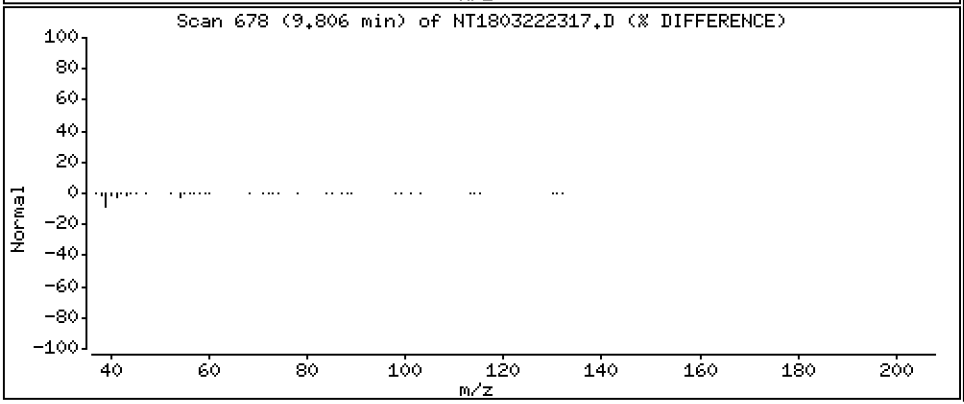
16 N-Nitroso-di-n-propylamine

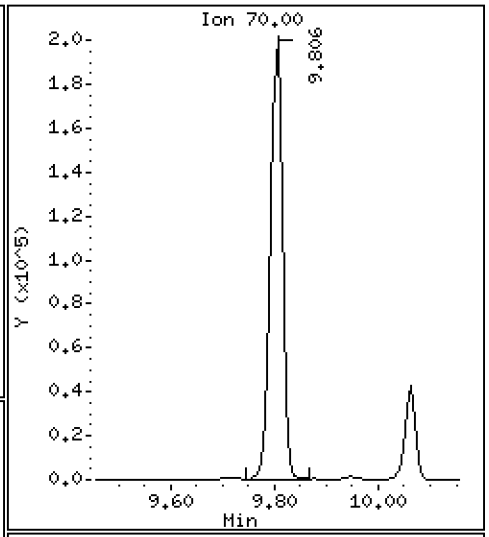
Concentration: 4.988 ug/mL

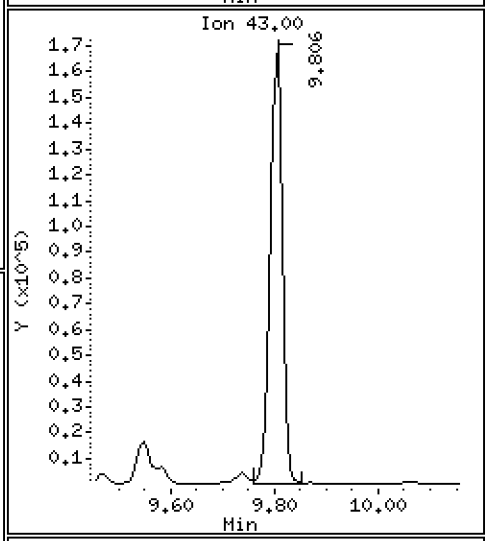


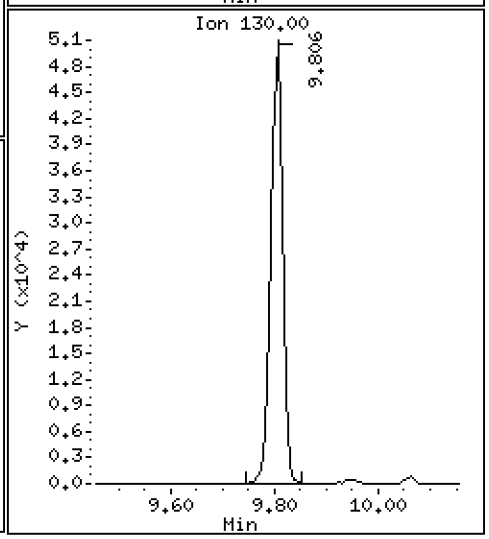












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

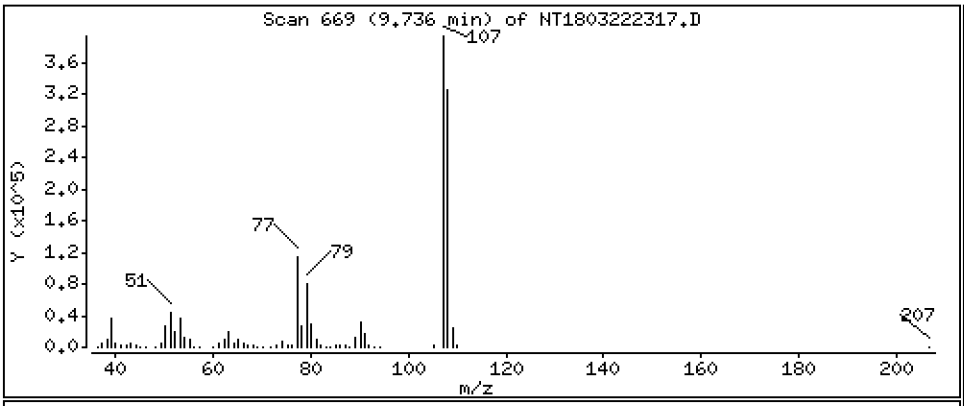
Operator: VTS

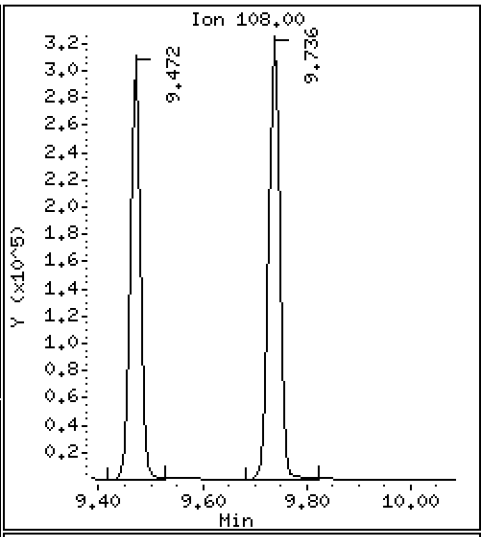
Column phase: ZB-5msi

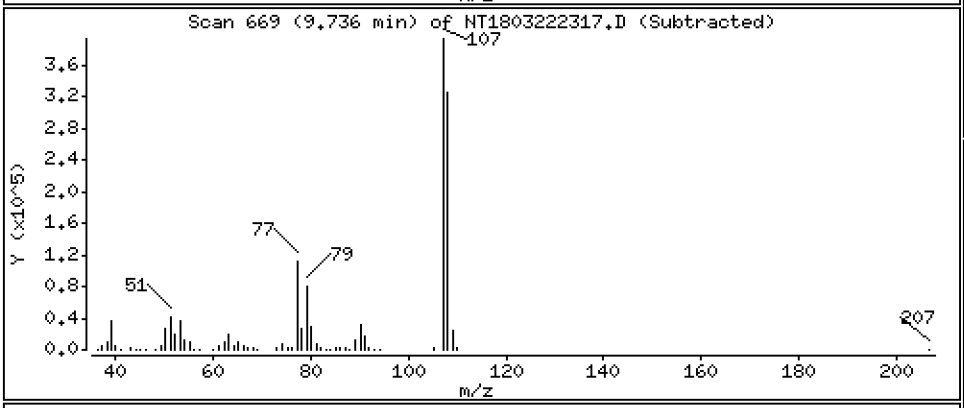
Column diameter: 0.25

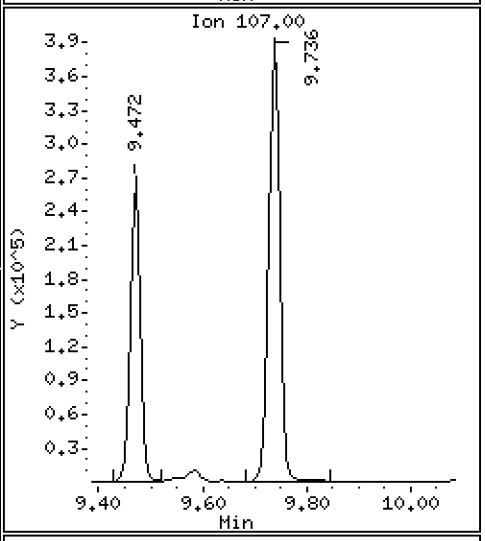
15 4-Methylphenol

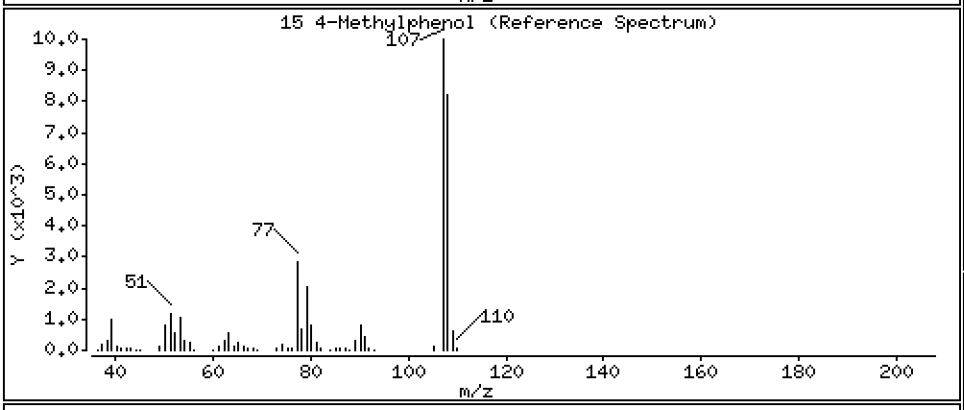
Concentration: 5.064 ug/mL

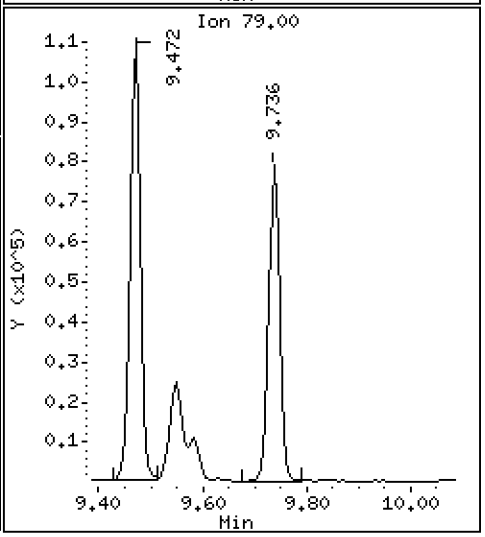


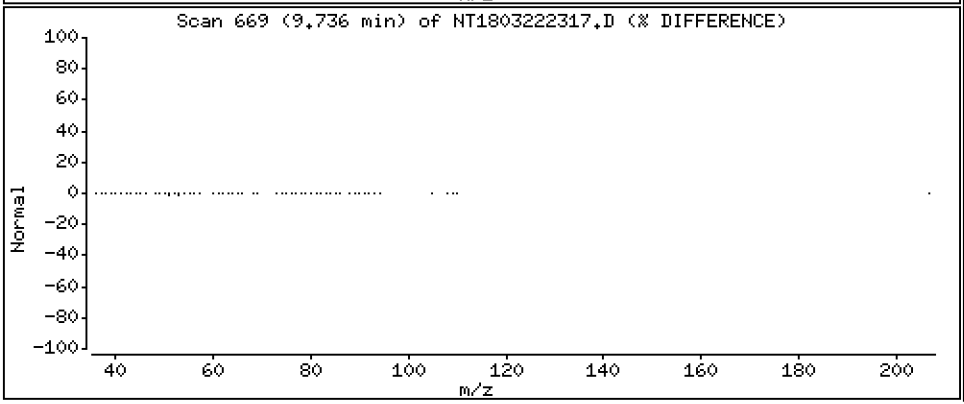












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

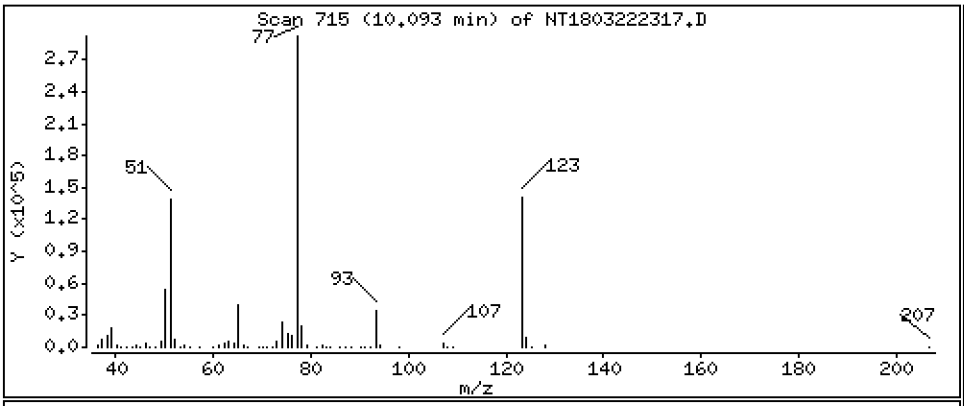
Operator: VTS

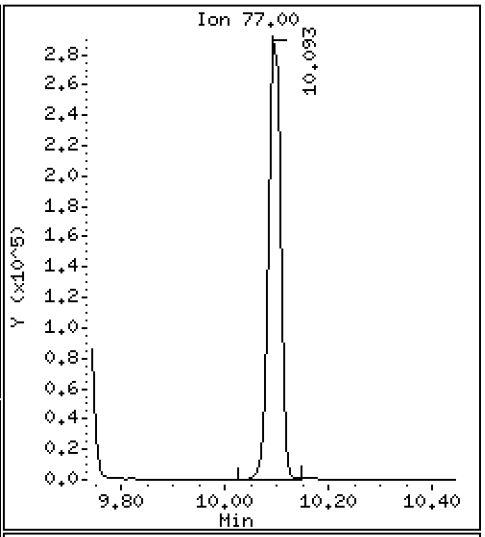
Column phase: ZB-5msi

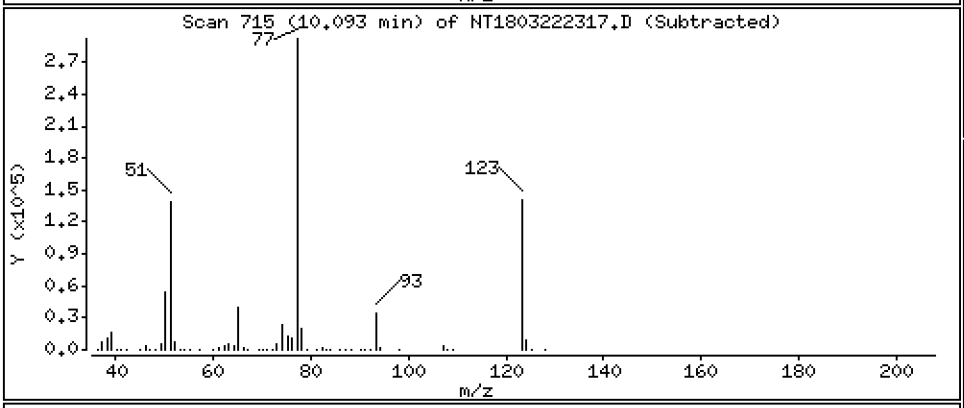
Column diameter: 0.25

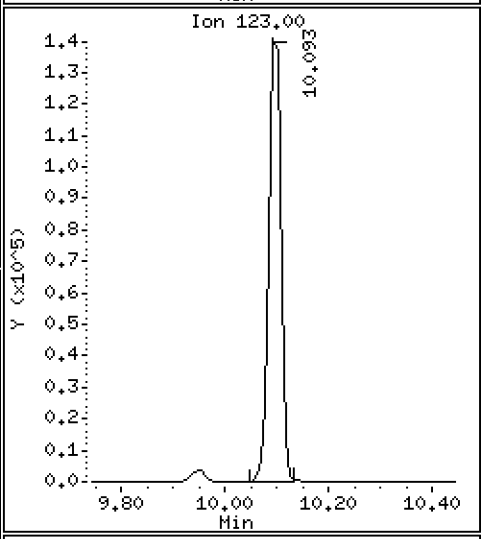
19 Nitrobenzene

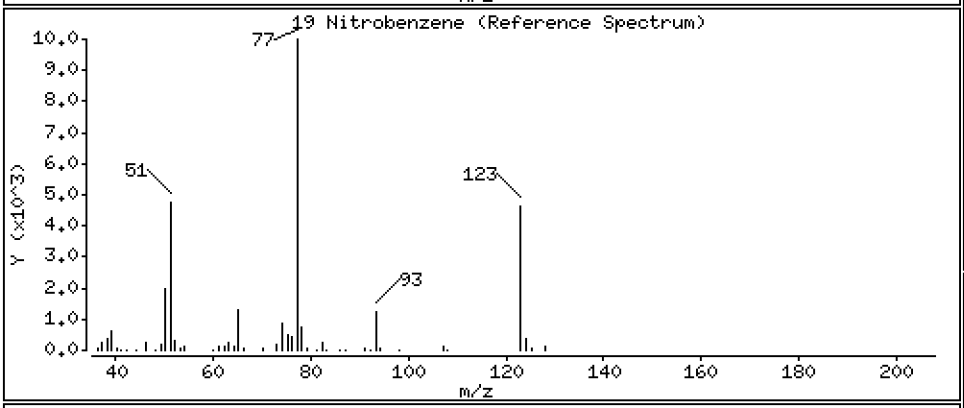
Concentration: 5.172 ug/mL

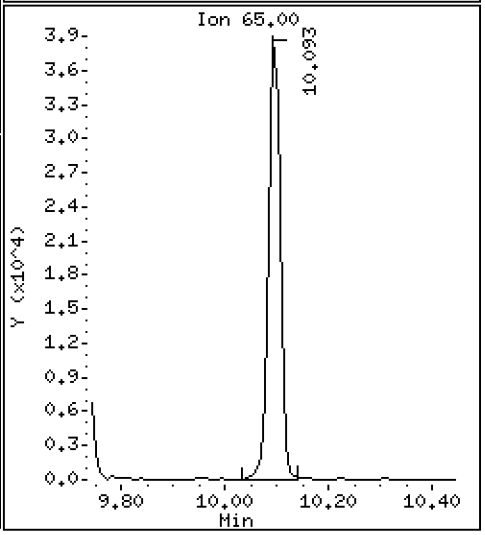


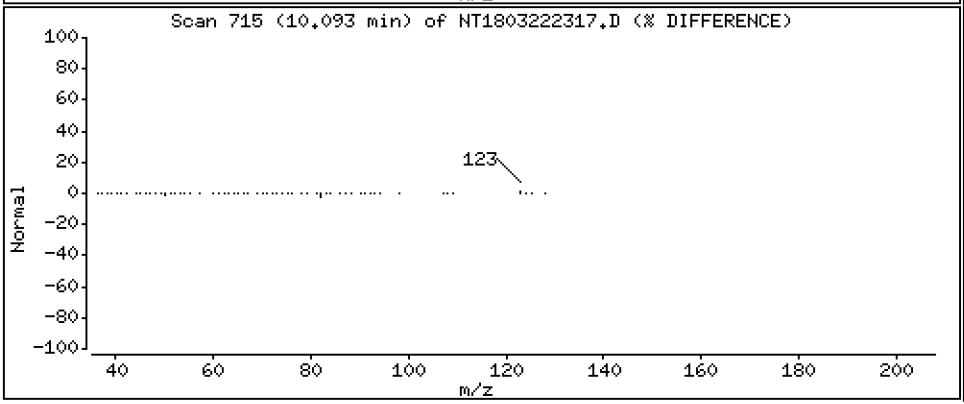












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

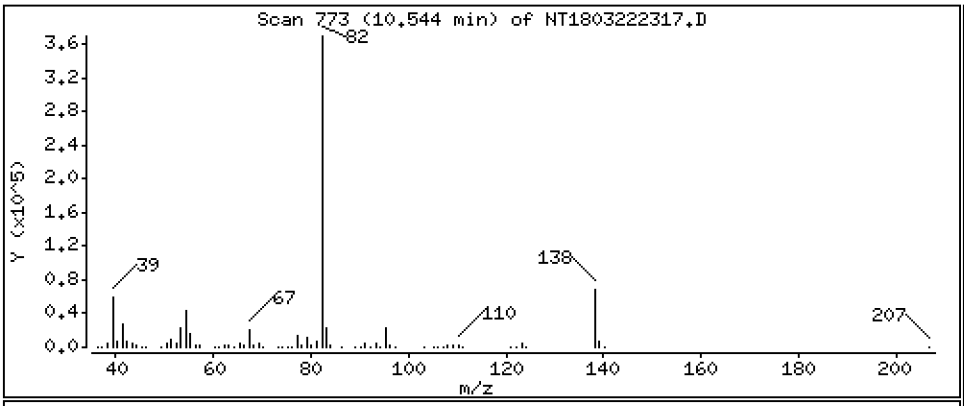
Operator: VTS

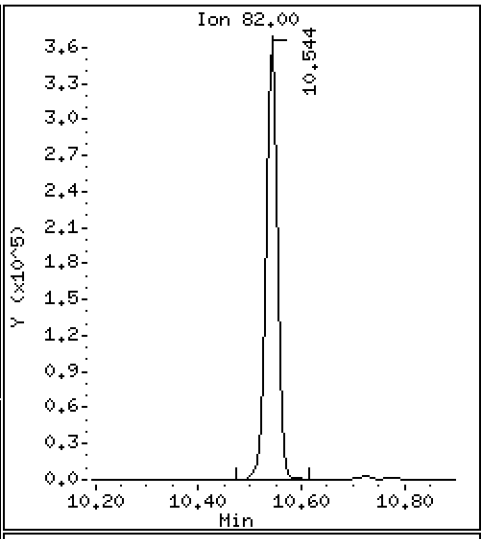
Column phase: ZB-5msi

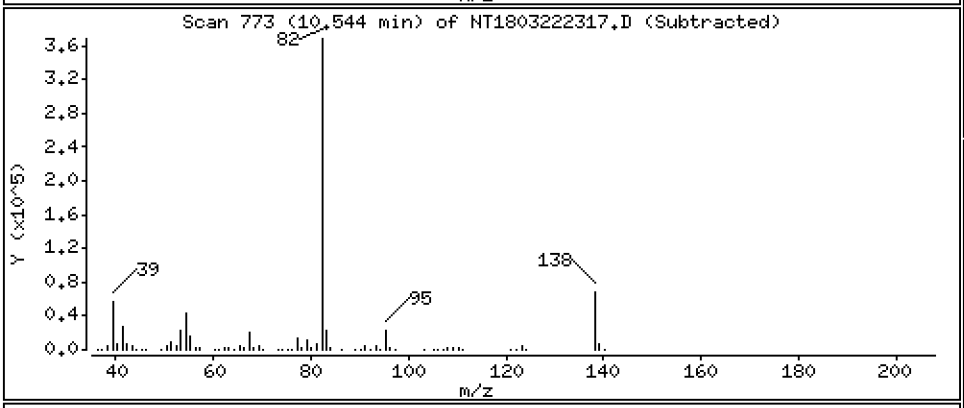
Column diameter: 0.25

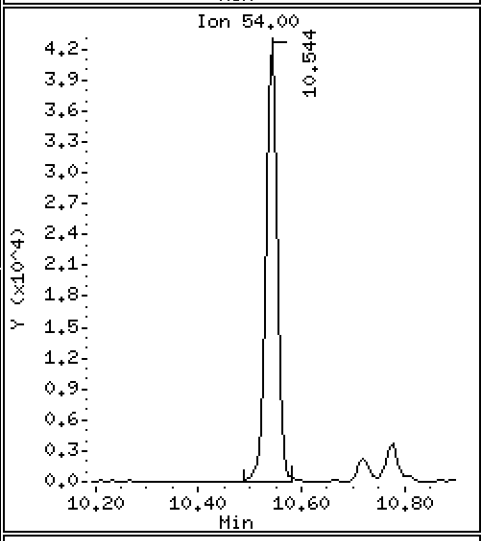
20 Isophorone

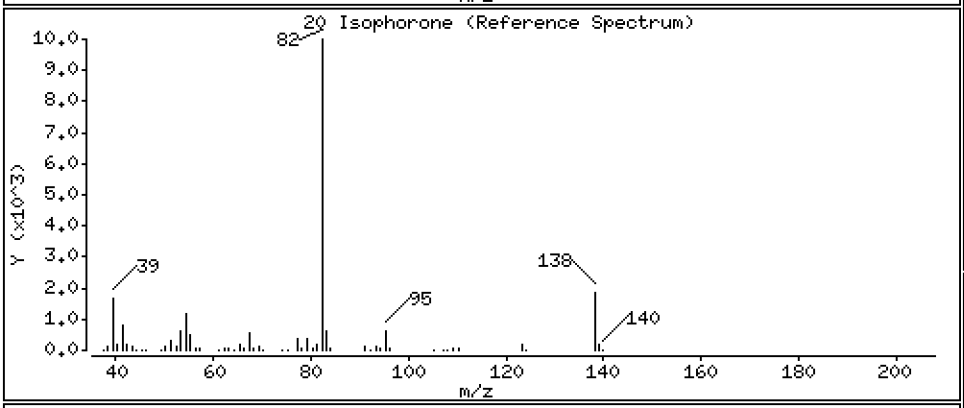
Concentration: 5.037 ug/mL

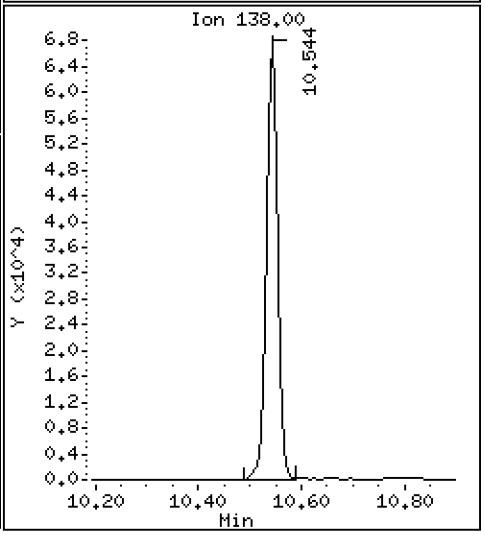


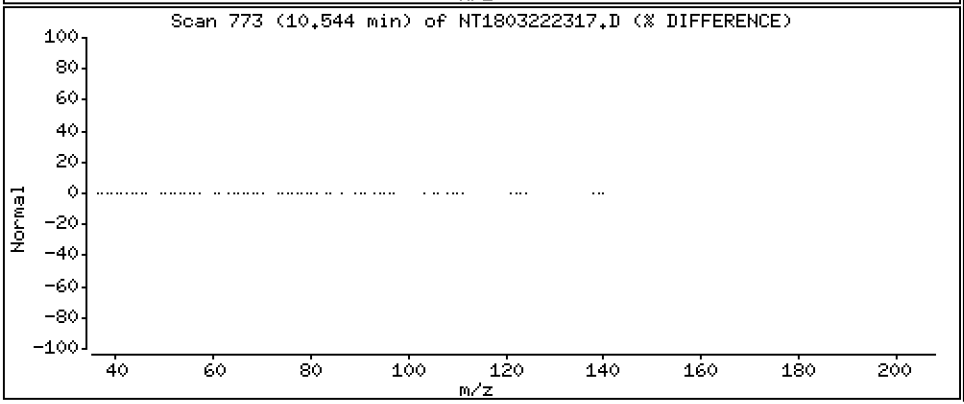












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

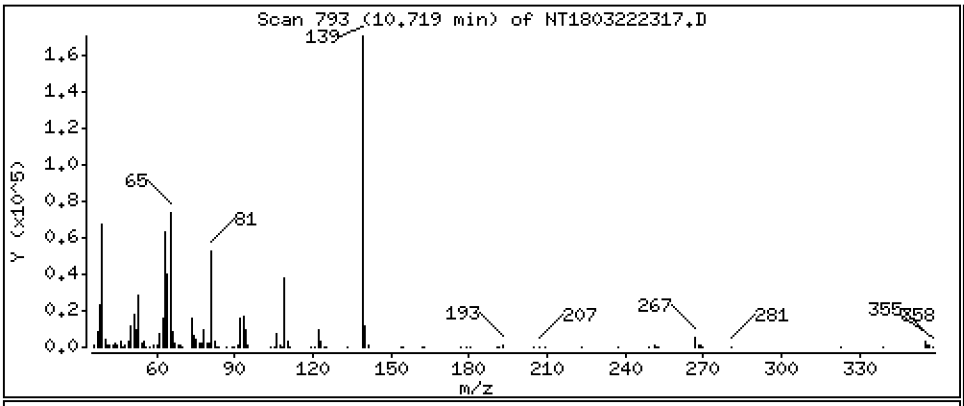
Operator: VTS

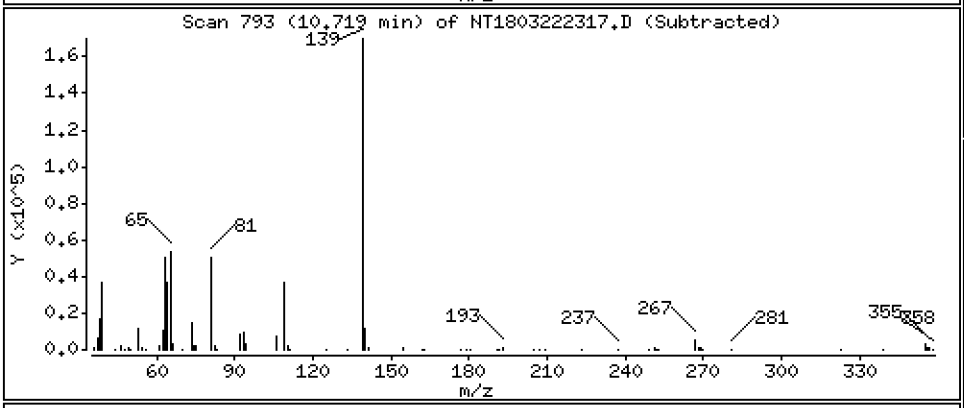
Column phase: ZB-5msi

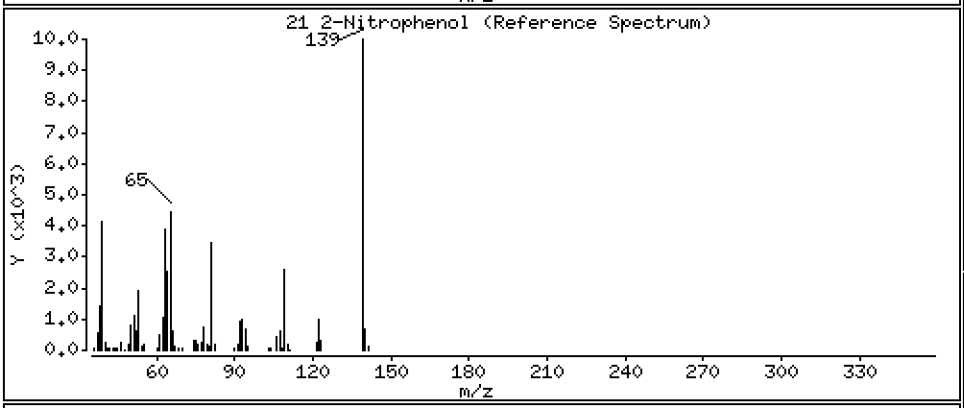
Column diameter: 0.25

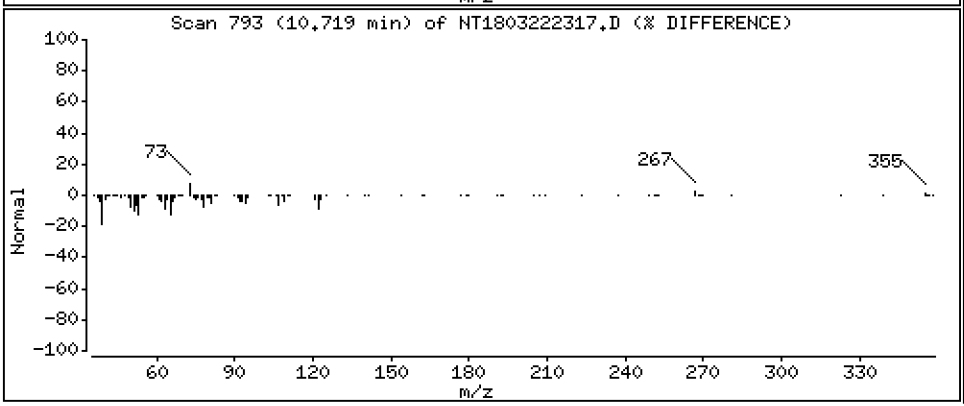
21 2-Nitrophenol

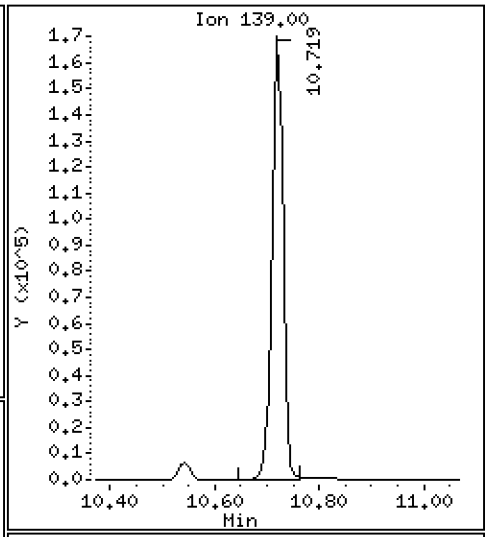
Concentration: 5.652 ug/mL

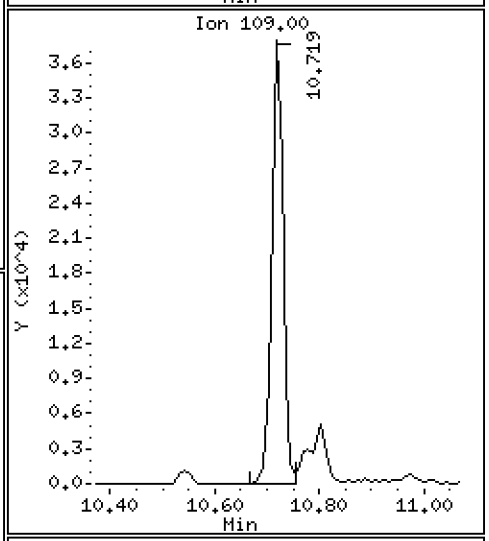


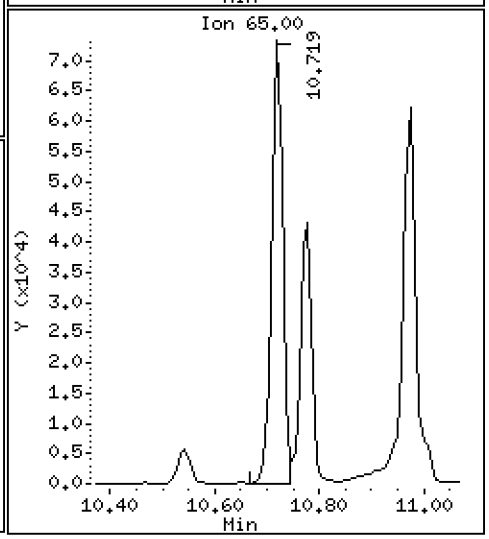












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

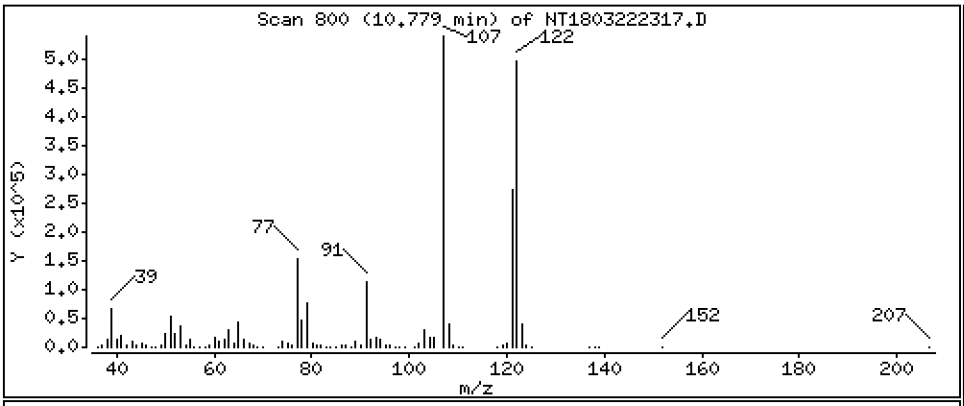
Operator: VTS

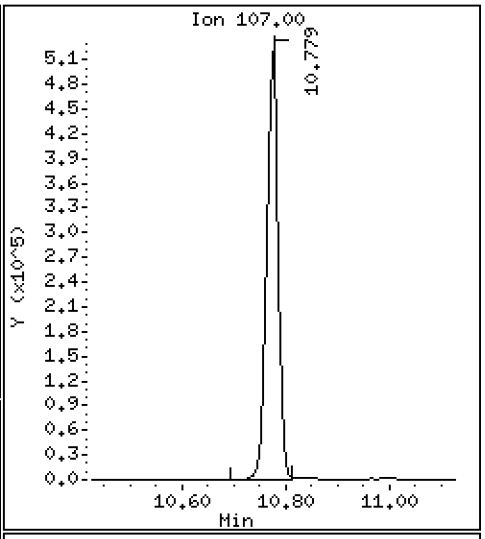
Column phase: ZB-5msi

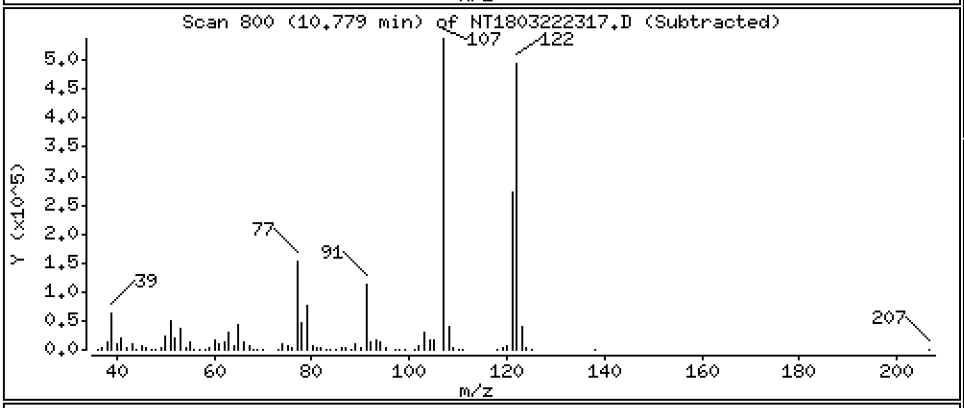
Column diameter: 0.25

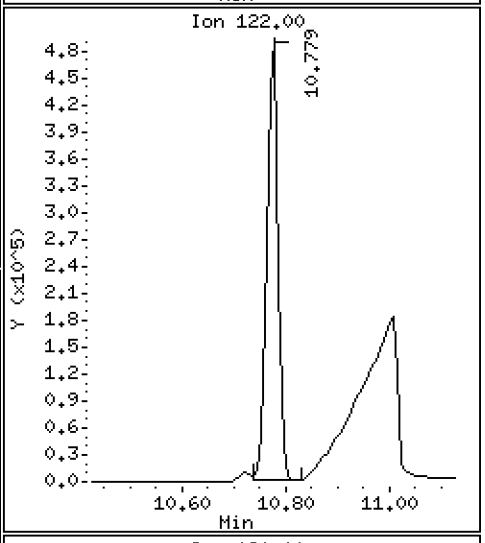
22 2,4-Dimethylphenol

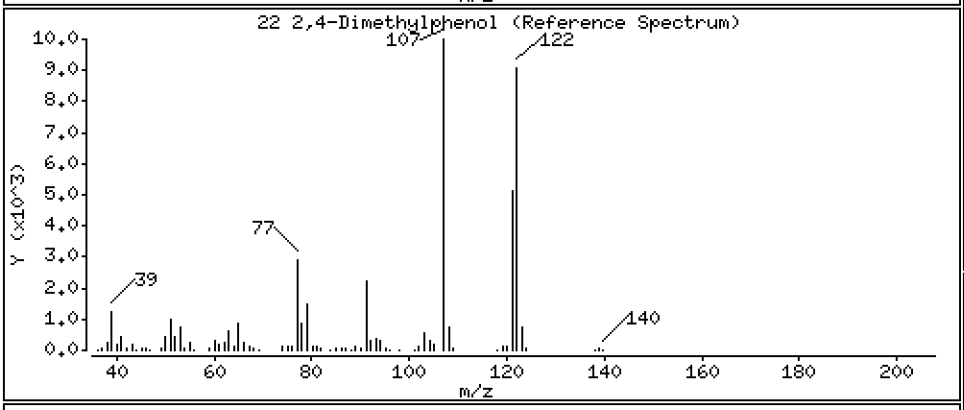
Concentration: 9.358 ug/mL

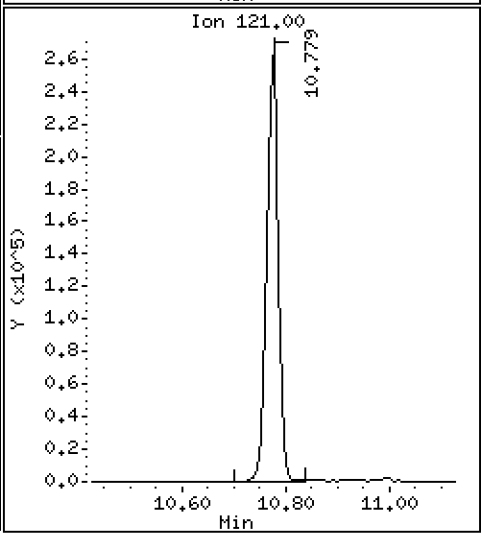


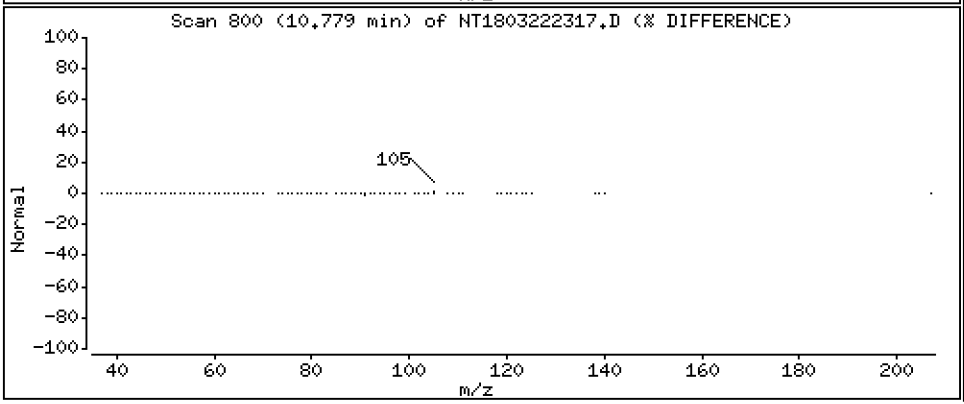












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222317.D

Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

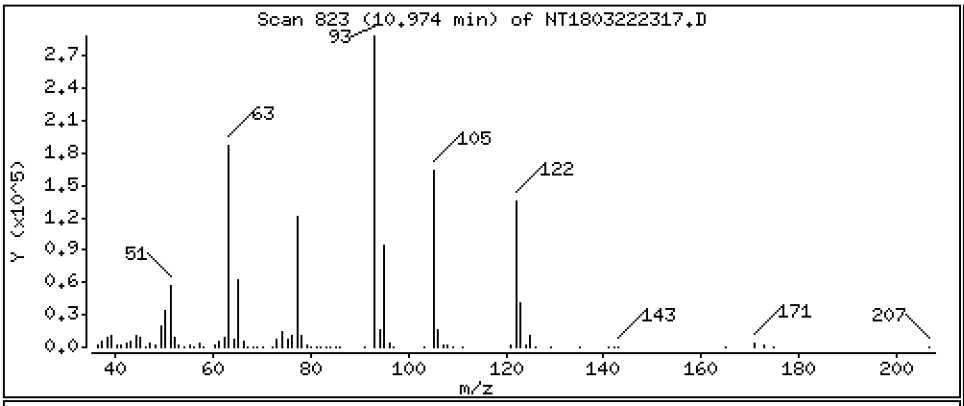
Operator: VTS

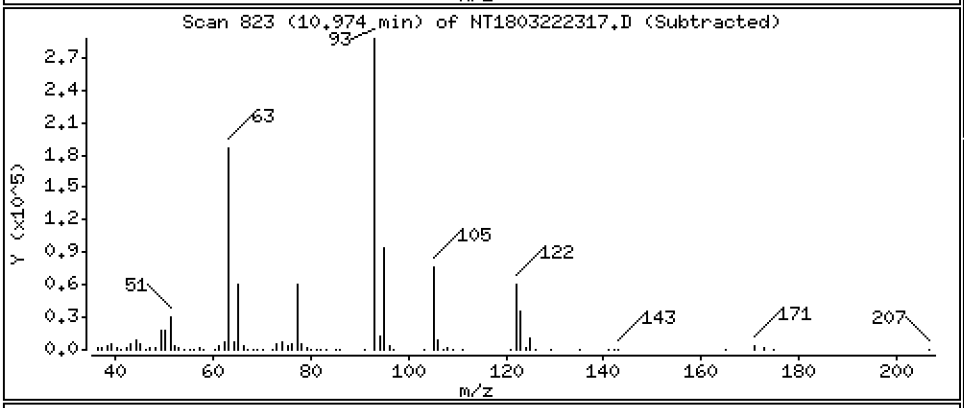
Column phase: ZB-5msi

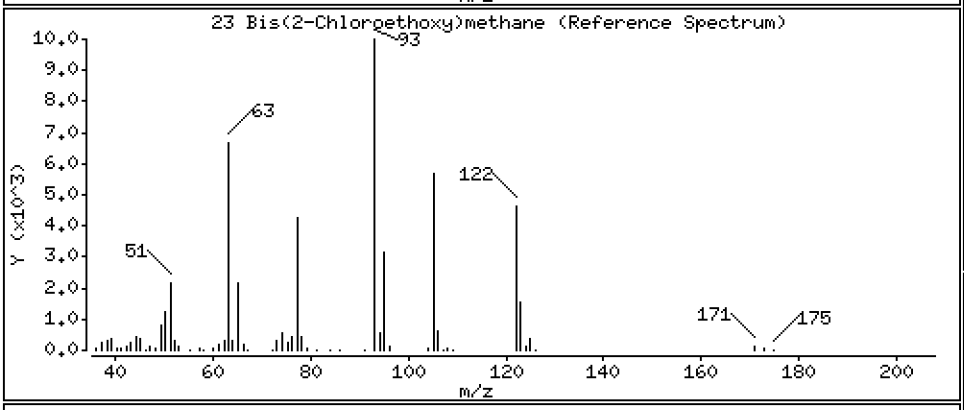
Column diameter: 0.25

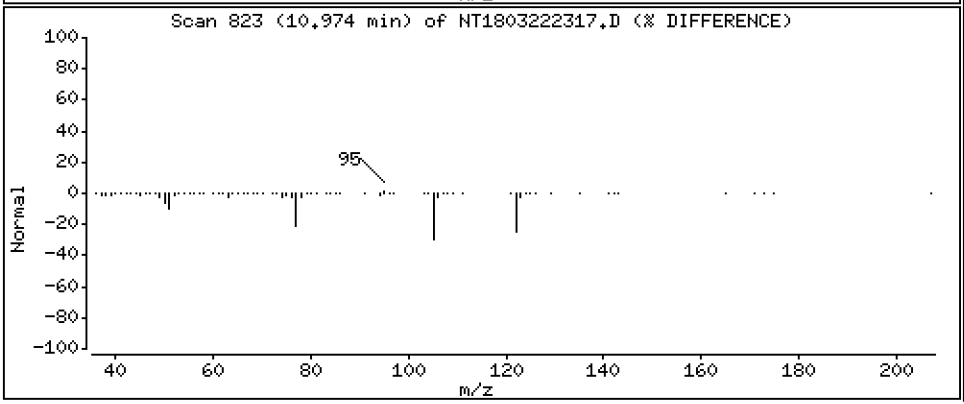
23 Bis(2-Chloroethoxy)methane

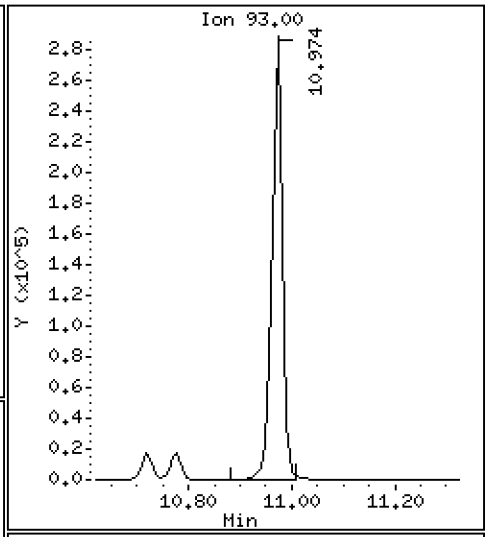
Concentration: 4.895 ug/mL

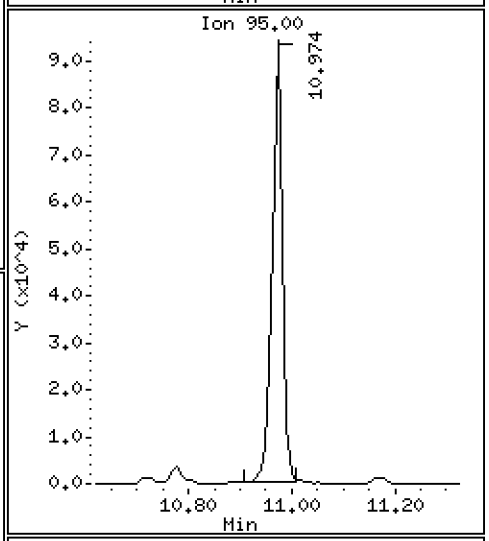


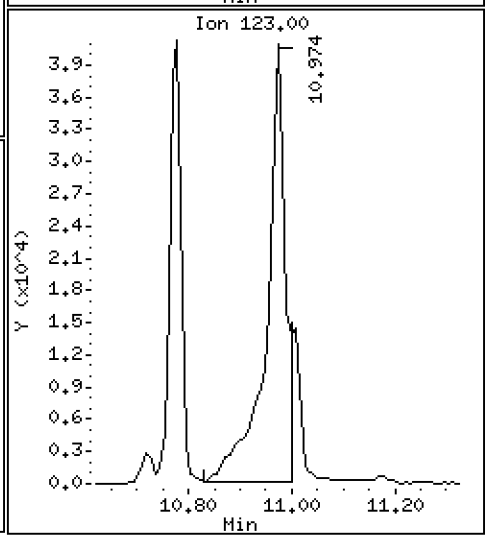












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

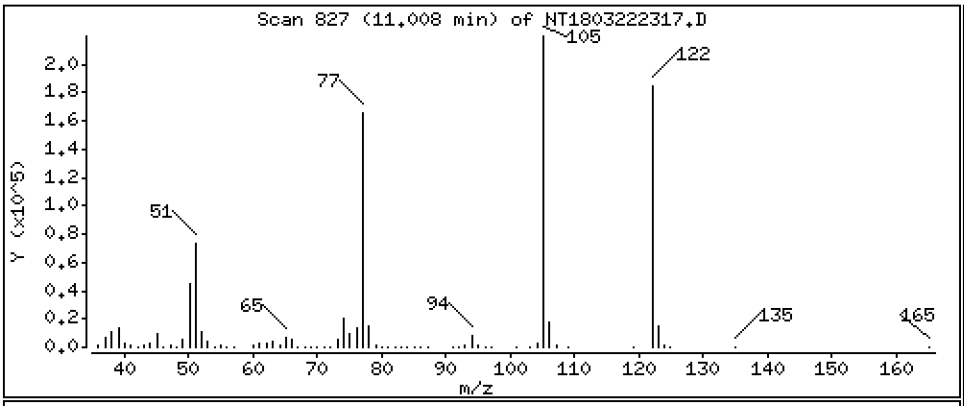
Operator: VTS

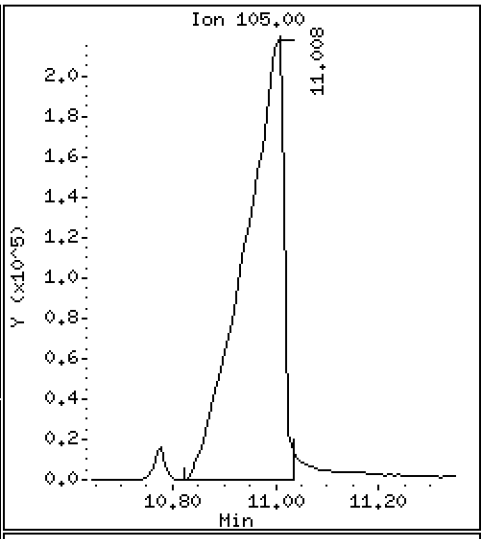
Column phase: ZB-5msi

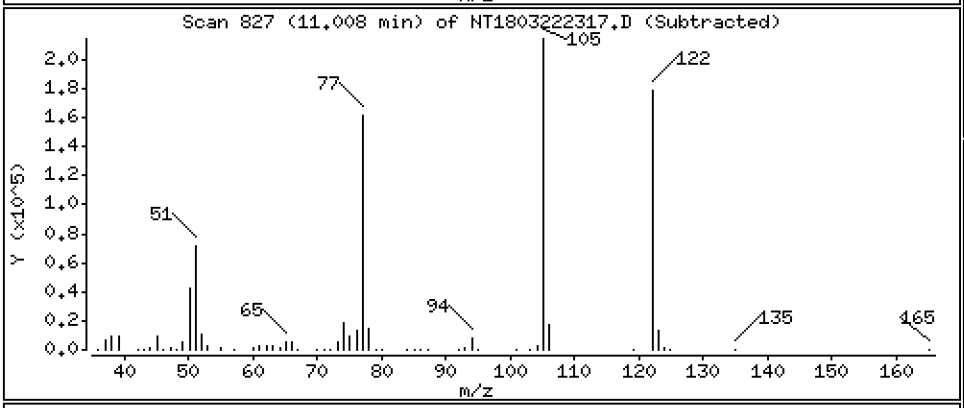
Column diameter: 0.25

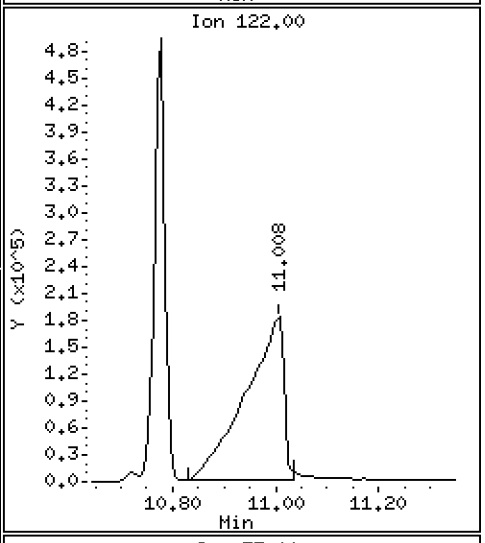
24 Benzoic acid

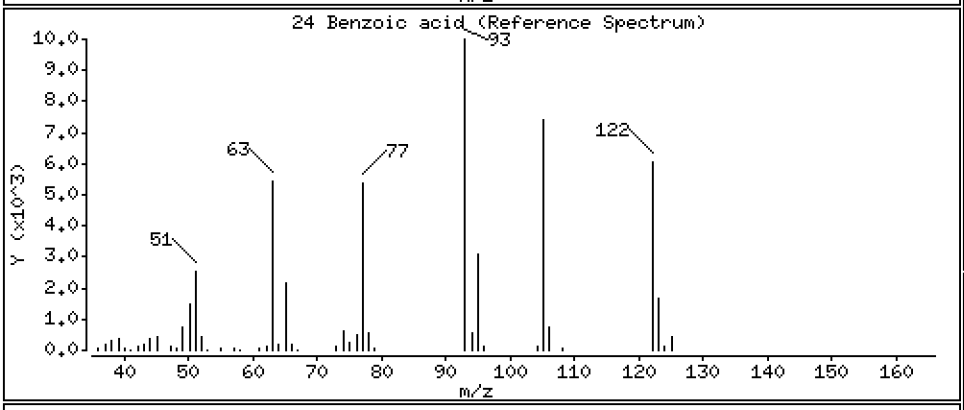
Concentration: 18.54 ug/mL

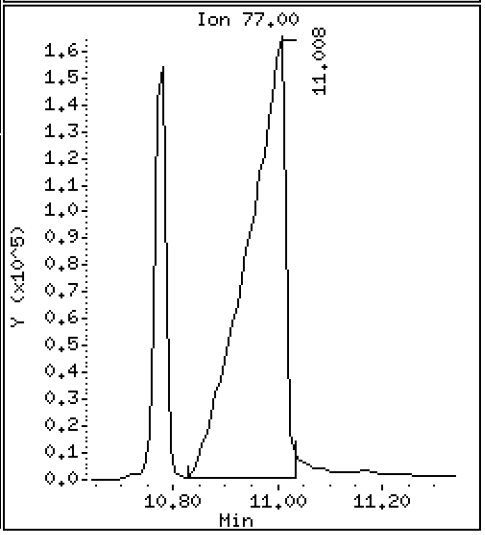


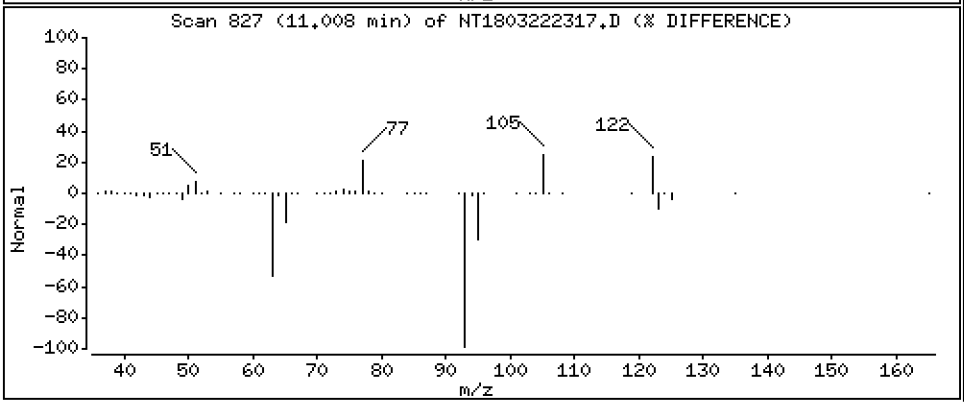












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

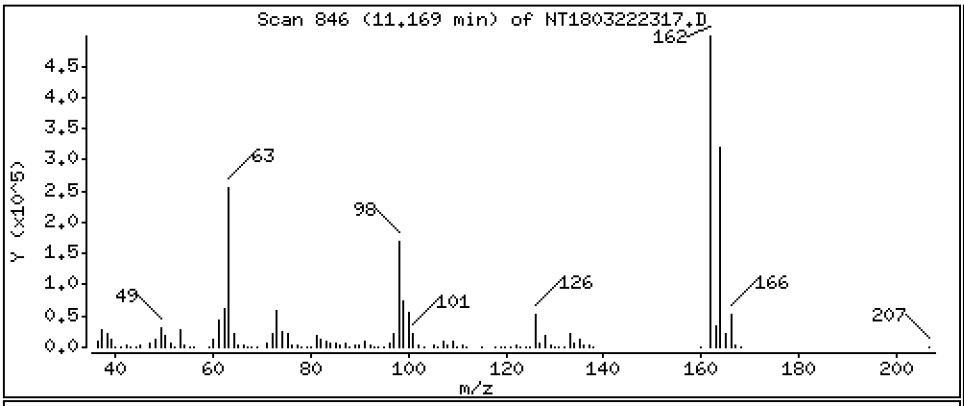
Operator: VTS

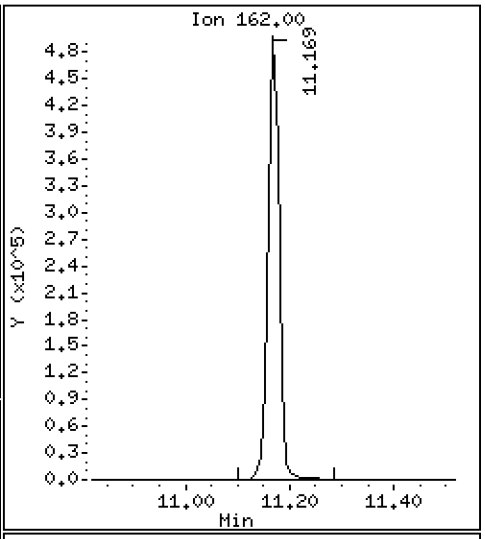
Column phase: ZB-5msi

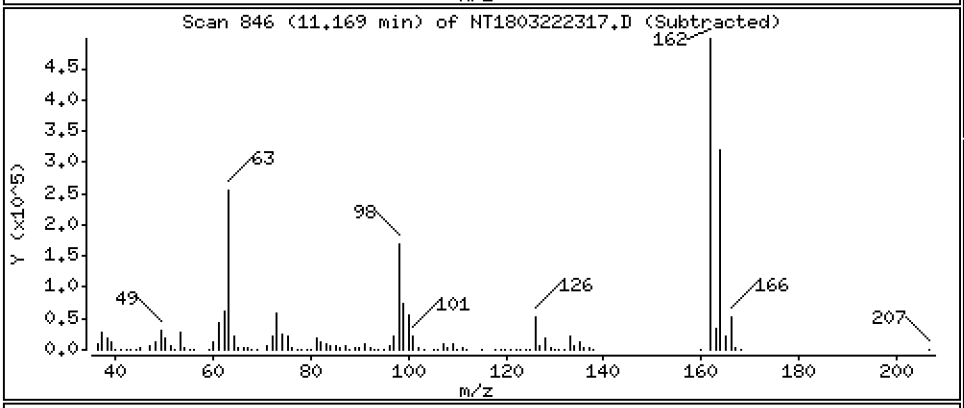
Column diameter: 0.25

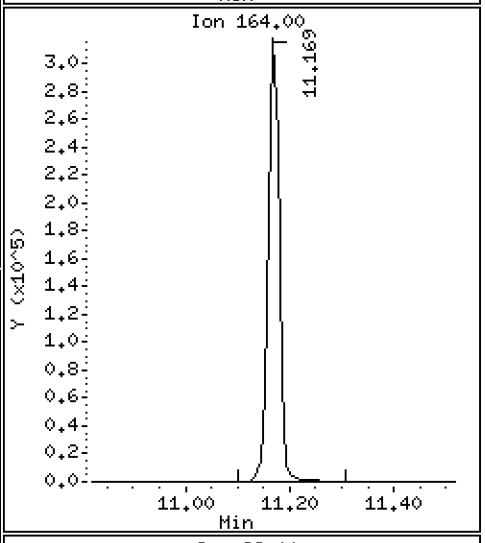
25 2,4-Dichlorophenol

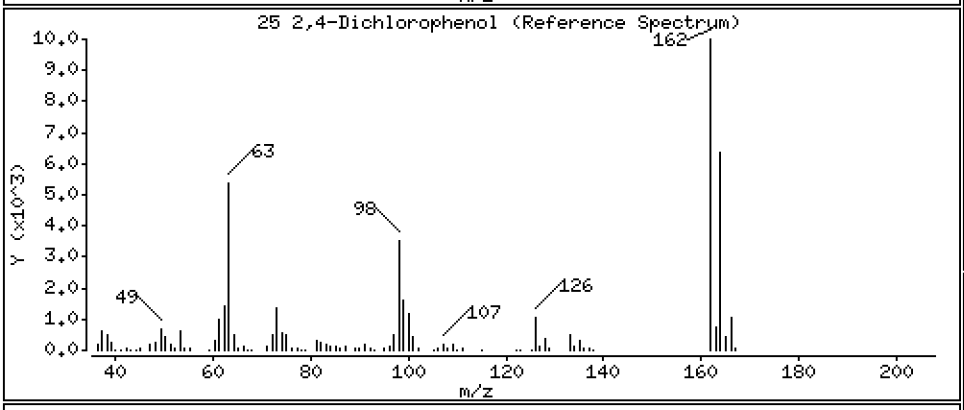
Concentration: 10.30 ug/mL

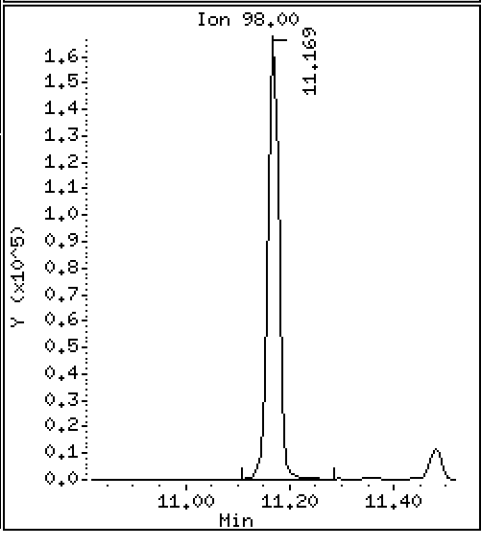


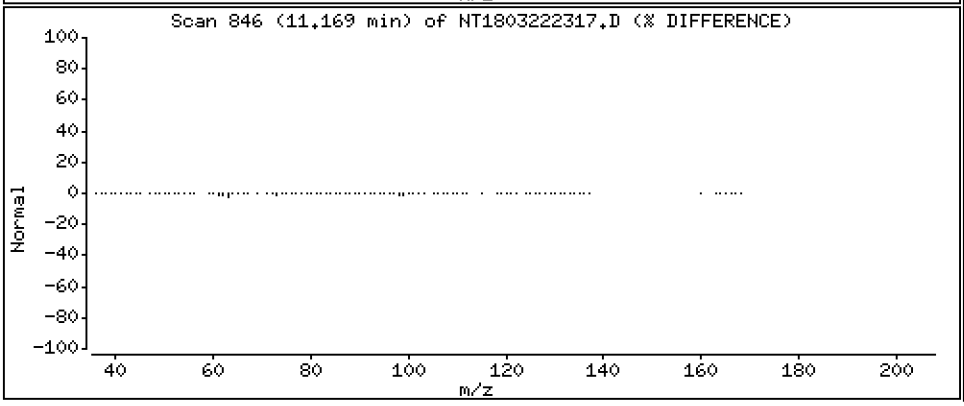












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

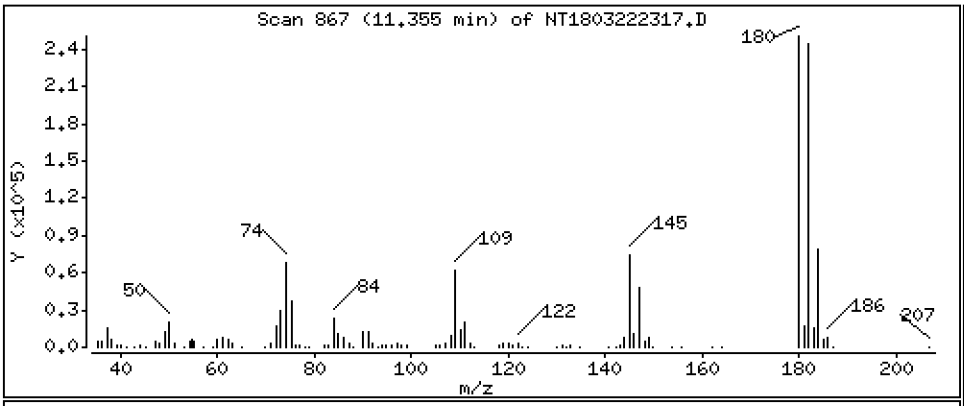
Operator: VTS

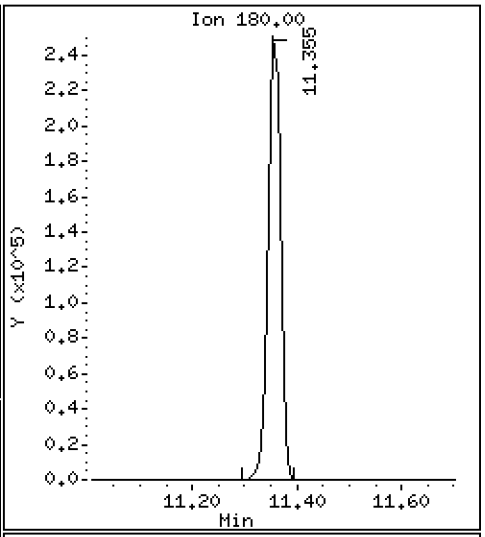
Column phase: ZB-5msi

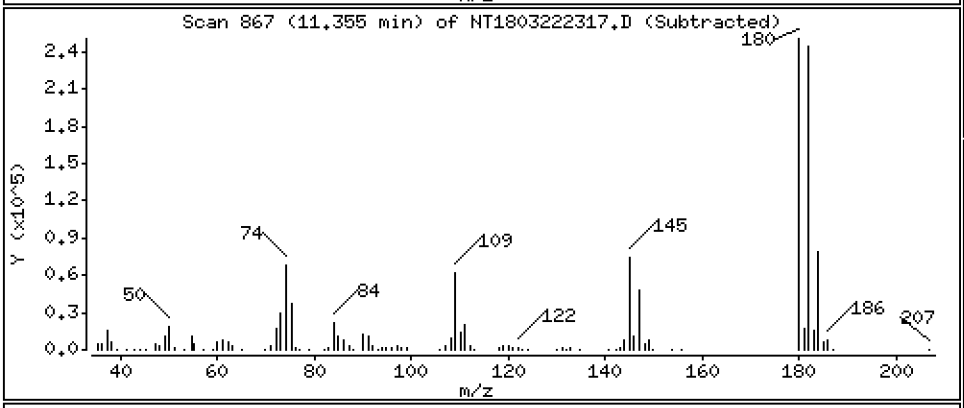
Column diameter: 0.25

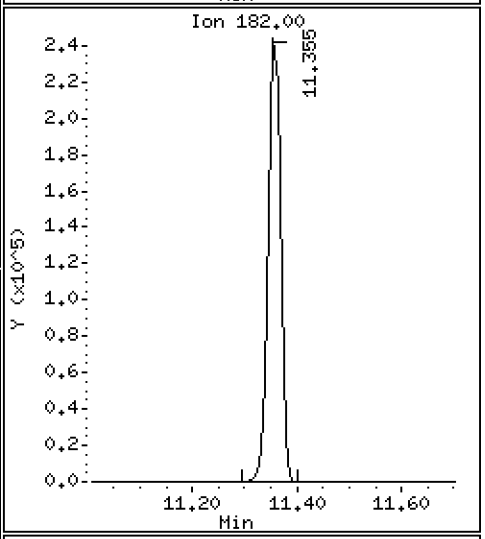
26 1,2,4-Trichlorobenzene

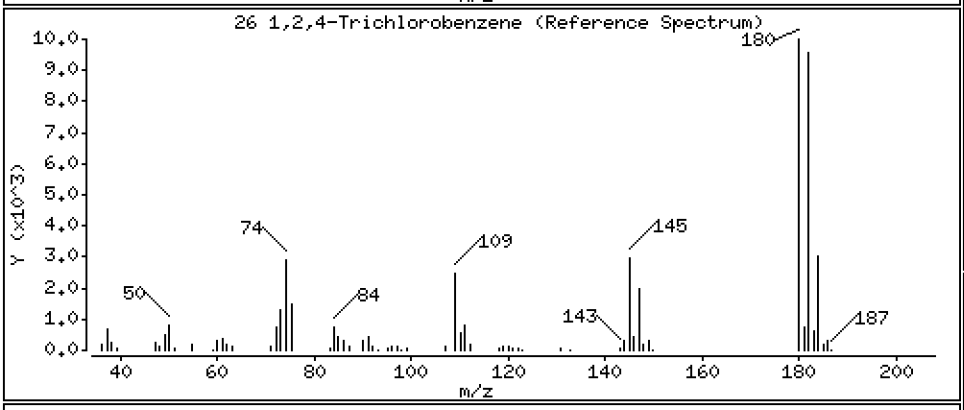
Concentration: 4.763 ug/mL

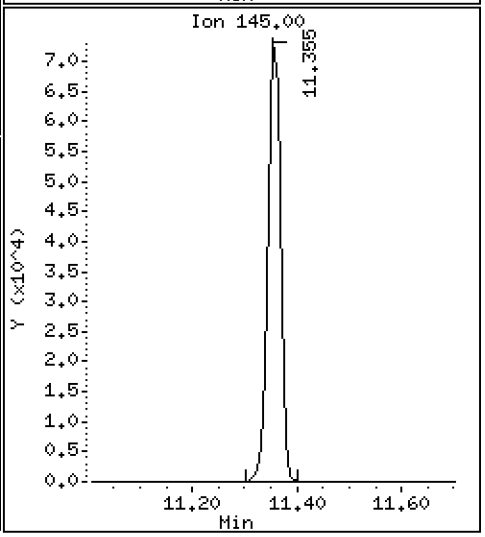


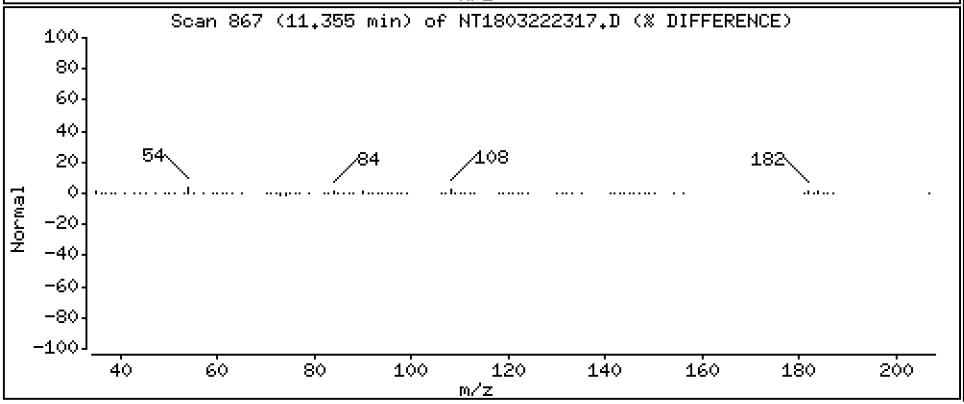












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

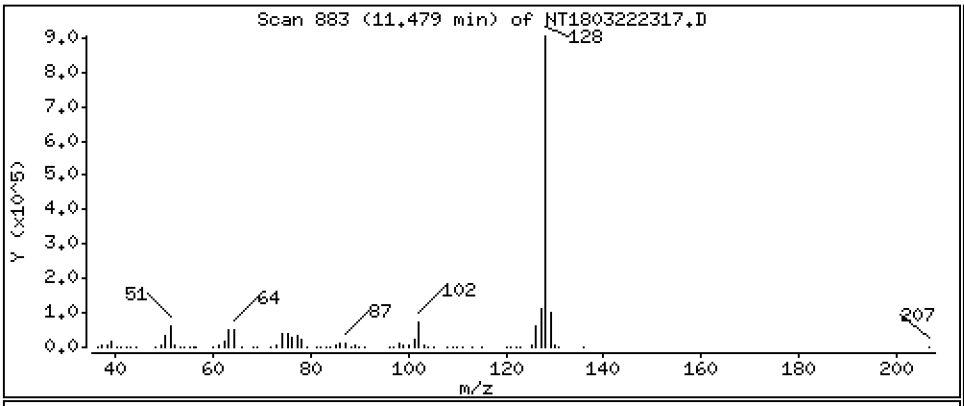
Operator: VTS

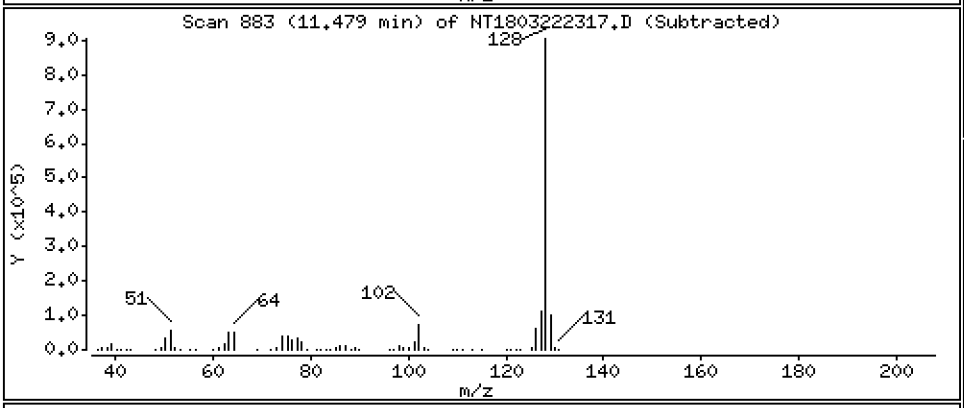
Column phase: ZB-5msi

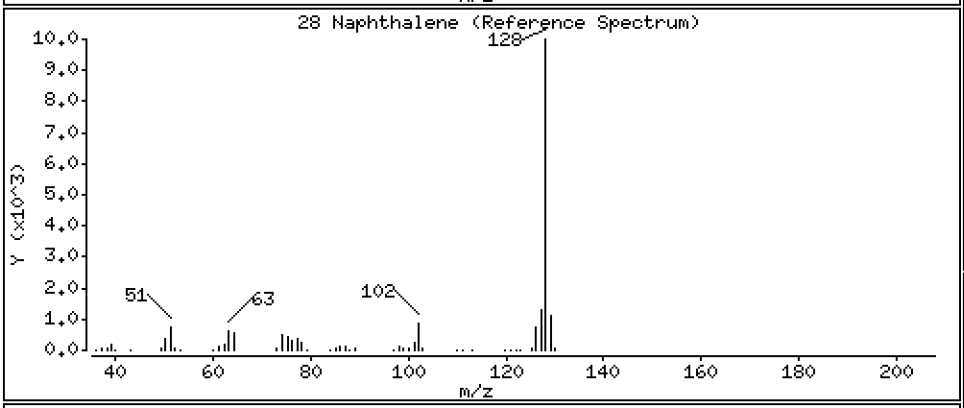
Column diameter: 0.25

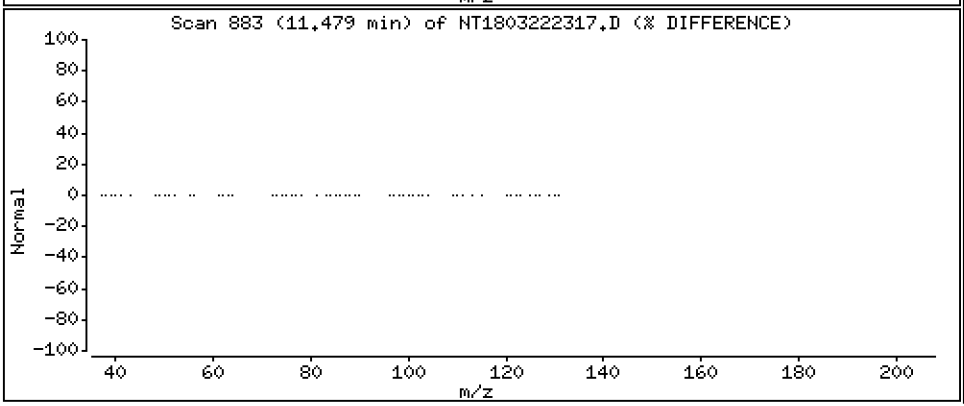
28 Naphthalene

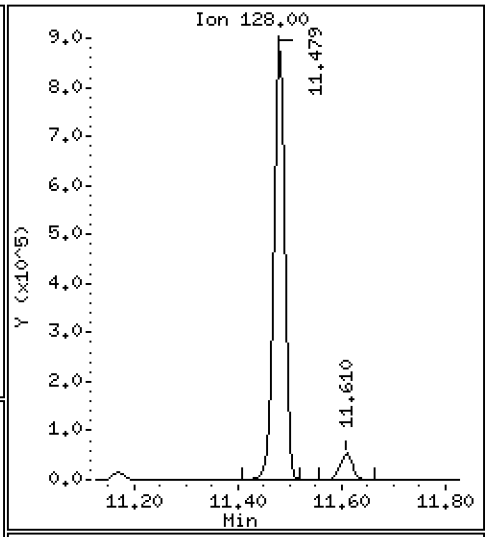
Concentration: 4.809 ug/mL

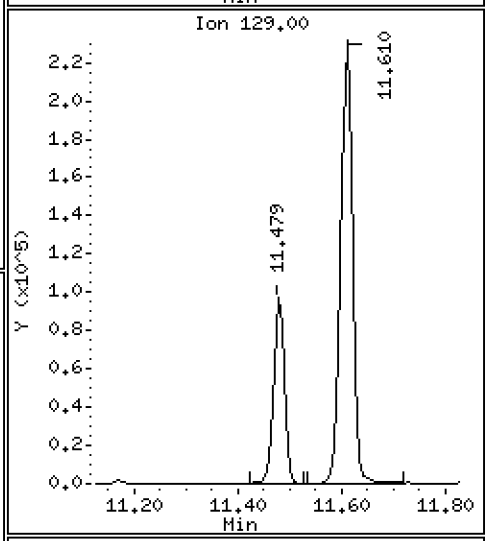


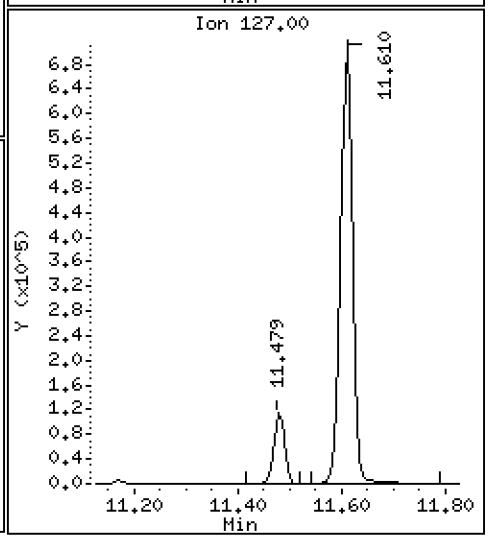












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

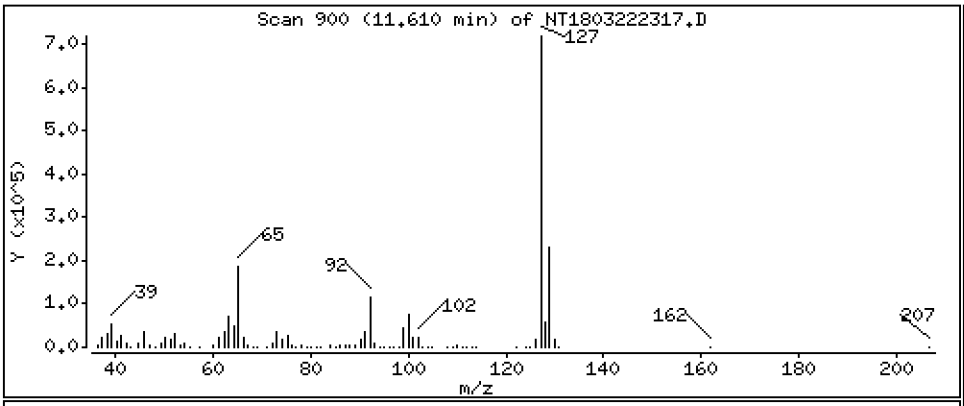
Operator: VTS

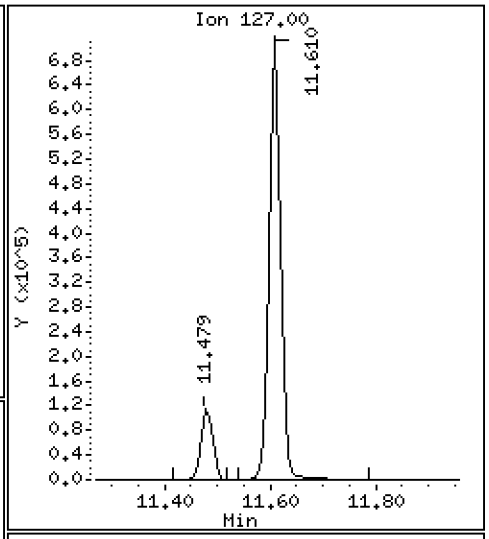
Column phase: ZB-5msi

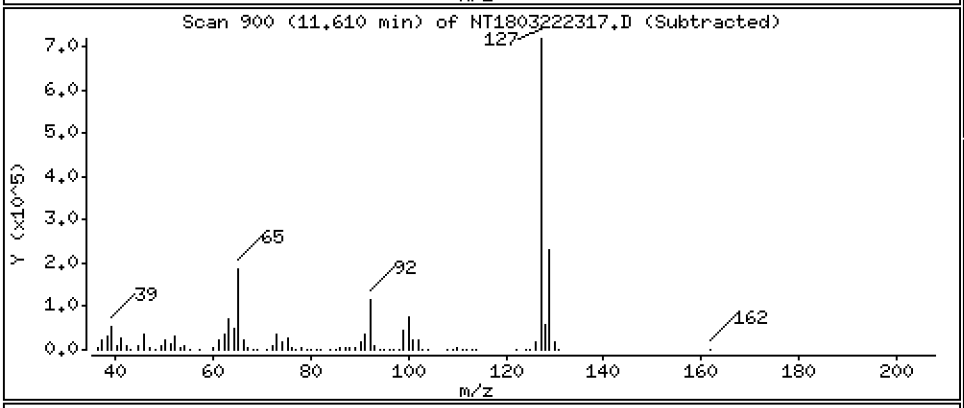
Column diameter: 0.25

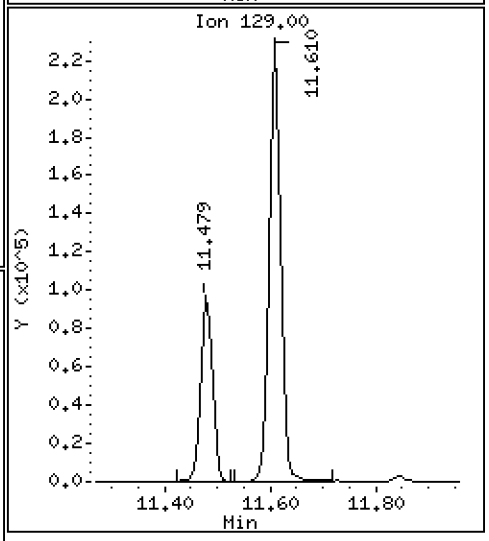
29 4-Chloroaniline

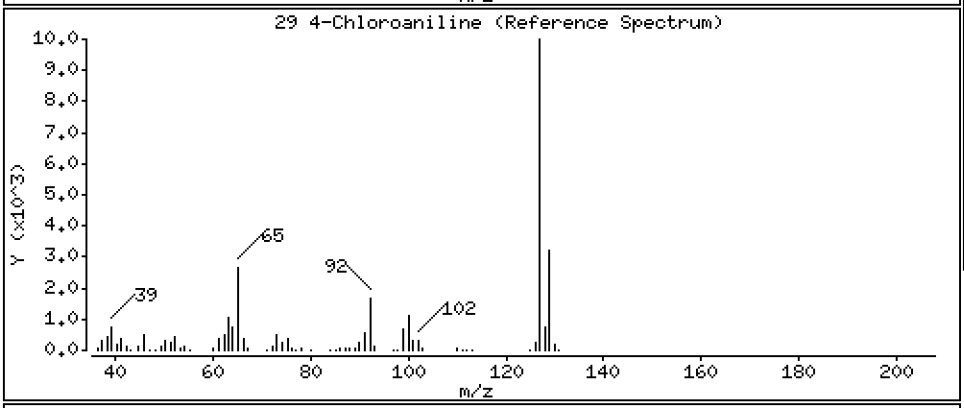
Concentration: 10.33 ug/mL

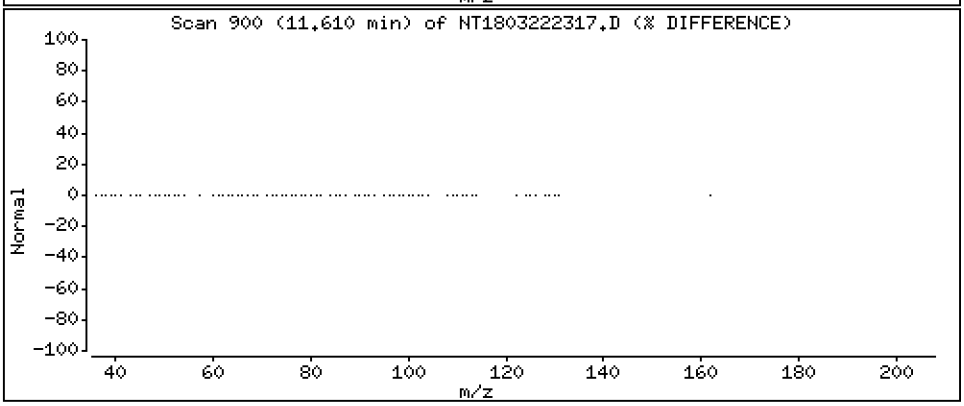












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222317.D

Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

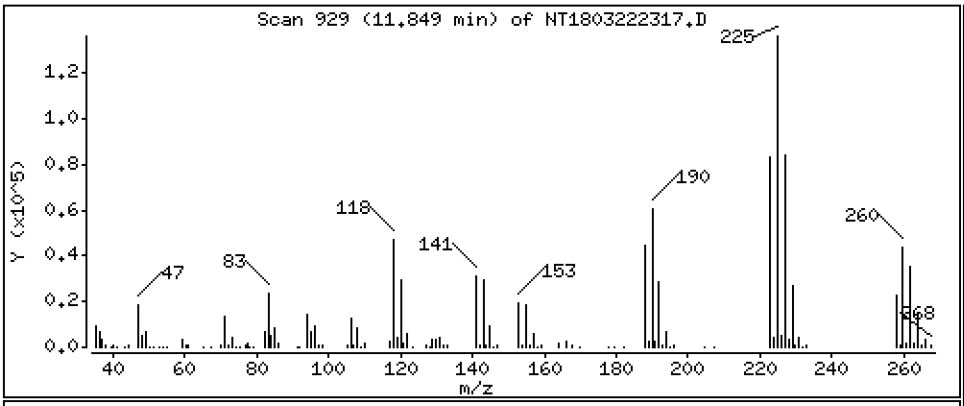
Operator: VTS

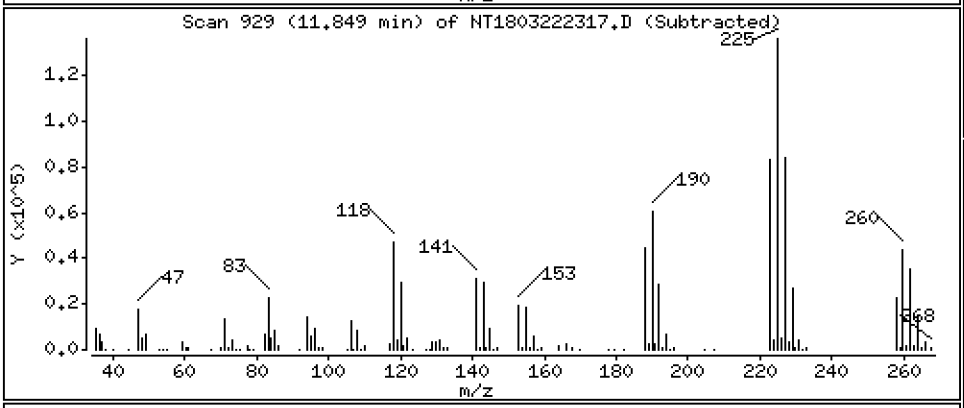
Column phase: ZB-5msi

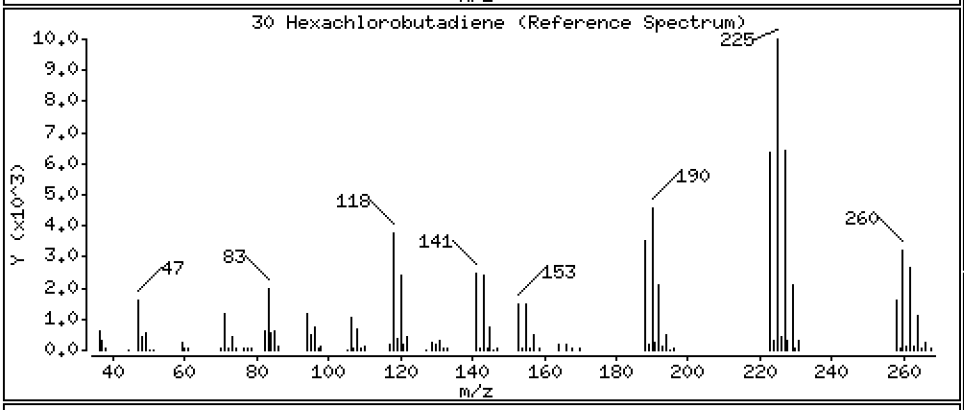
Column diameter: 0.25

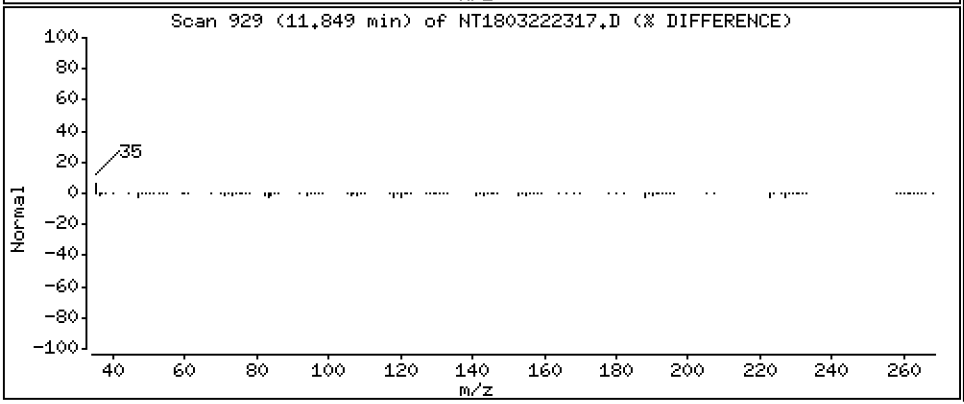
30 Hexachlorobutadiene

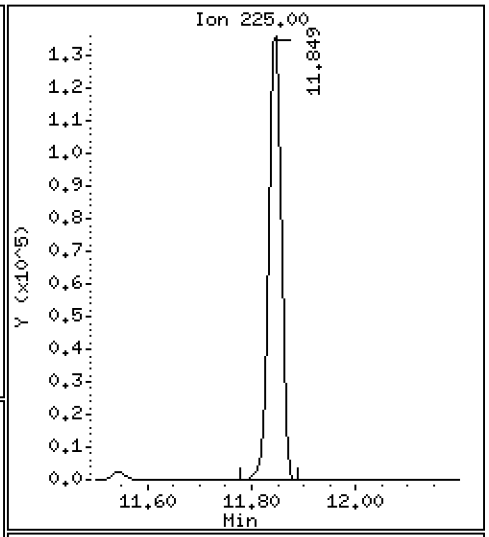
Concentration: 4.676 ug/mL

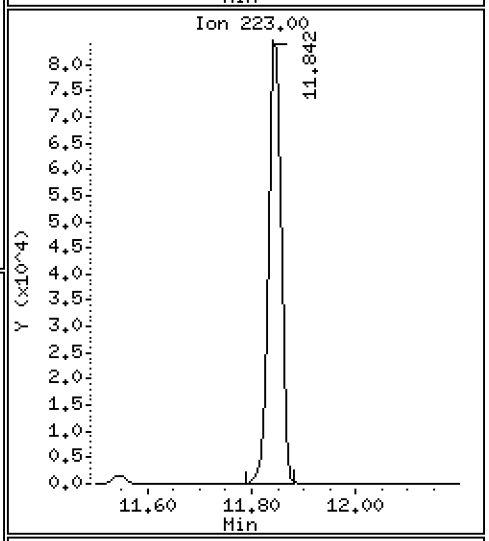


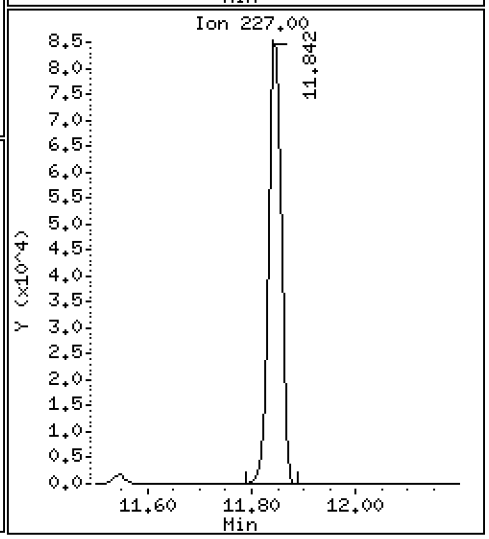












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222317.D

Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

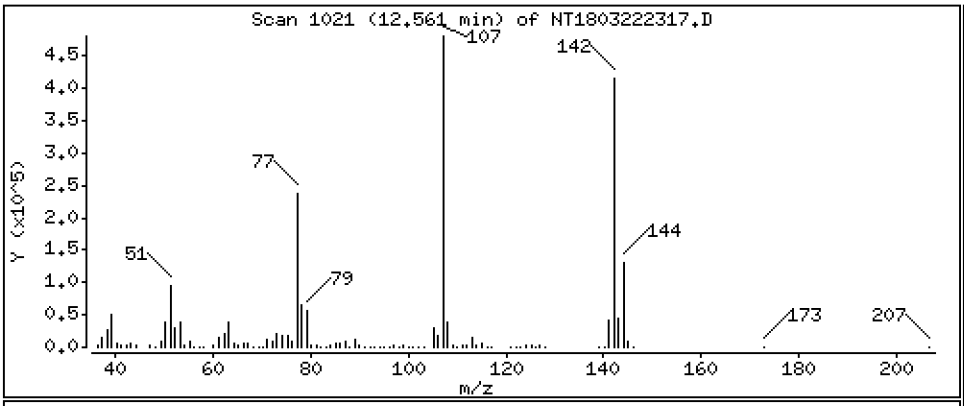
Operator: VTS

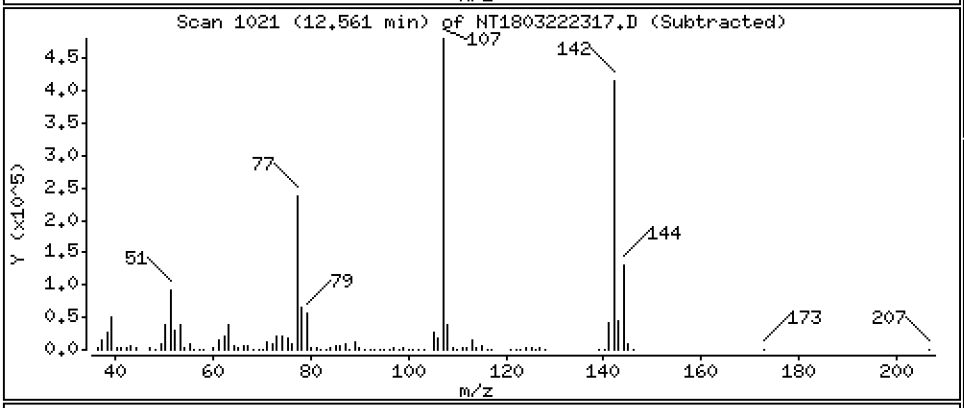
Column phase: ZB-5msi

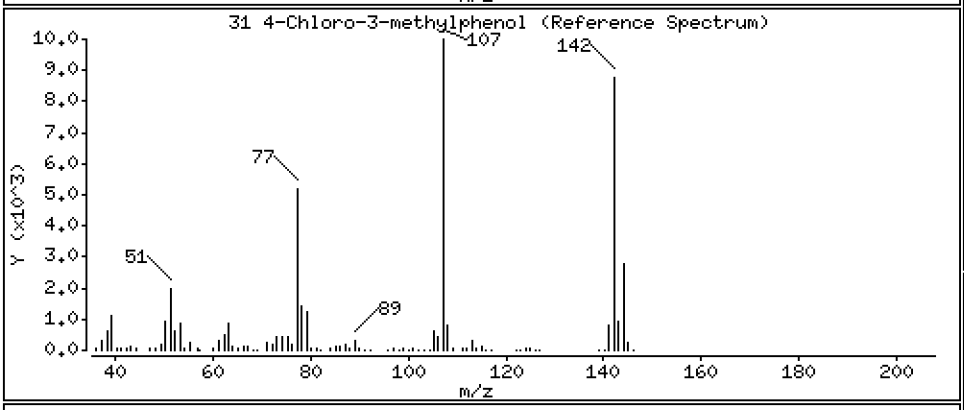
Column diameter: 0.25

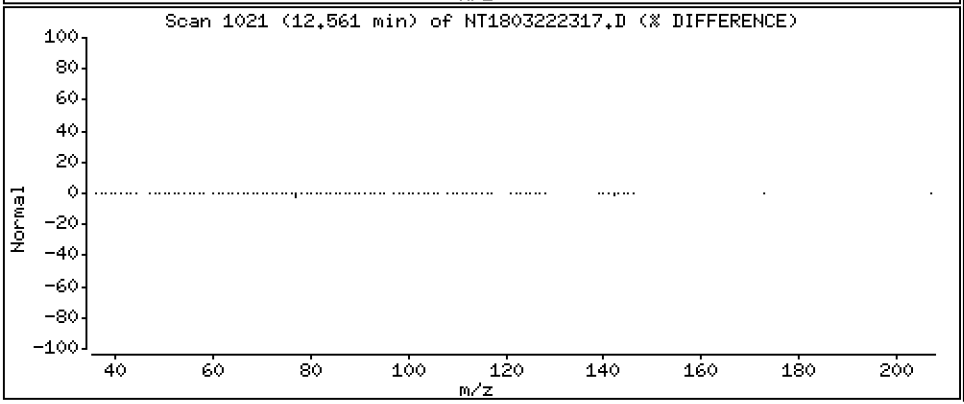
31 4-Chloro-3-methylphenol

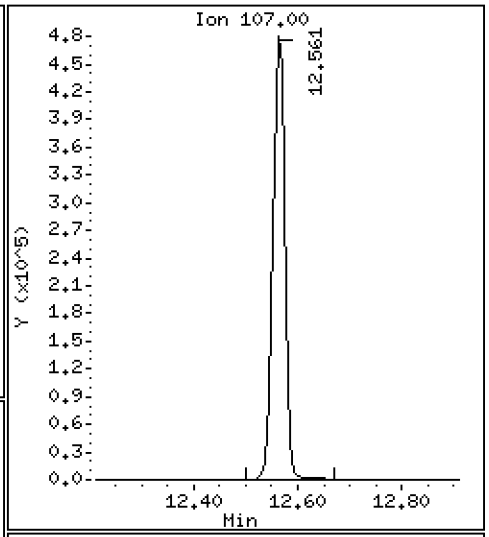
Concentration: 10.02 ug/mL

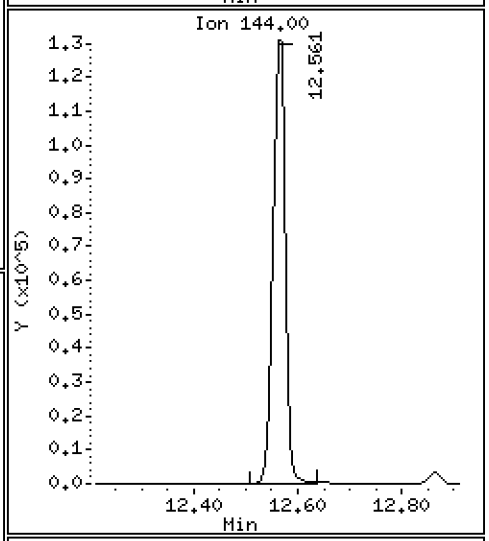


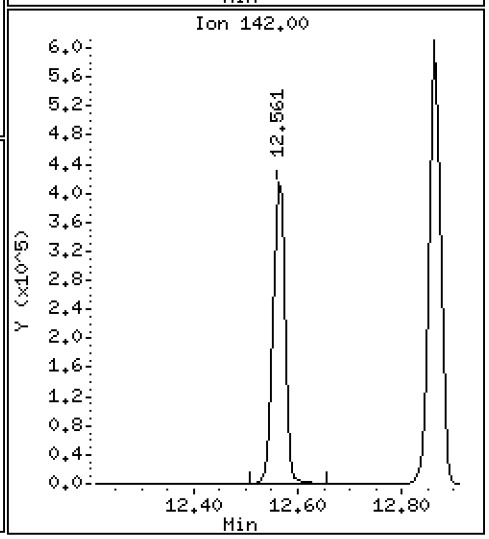












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

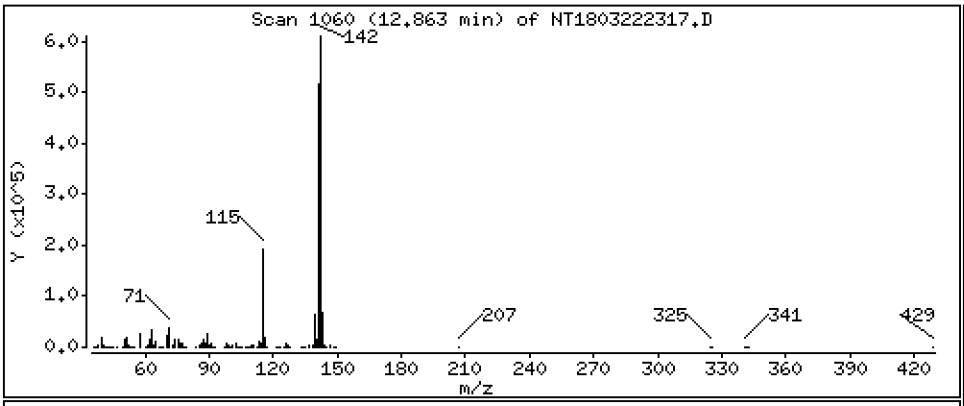
Operator: VTS

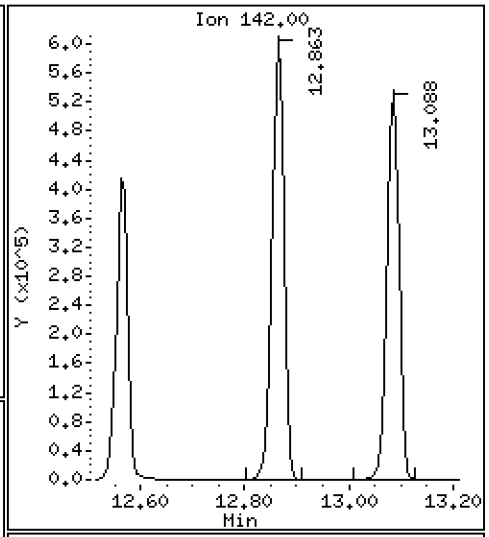
Column phase: ZB-5msi

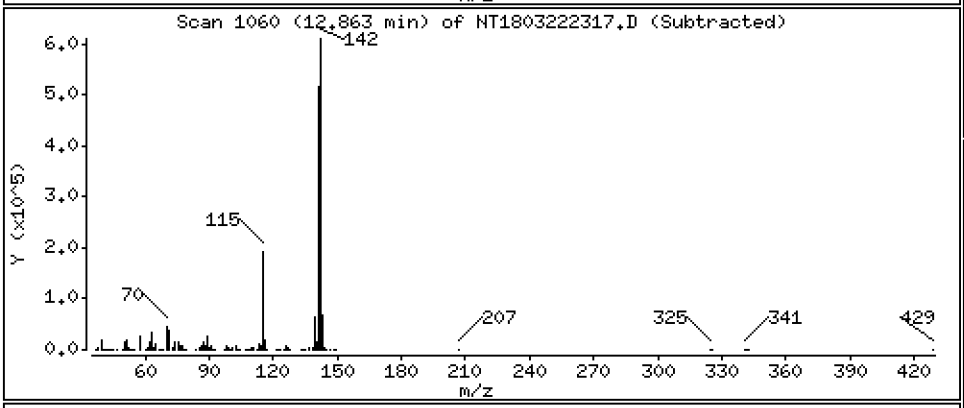
Column diameter: 0.25

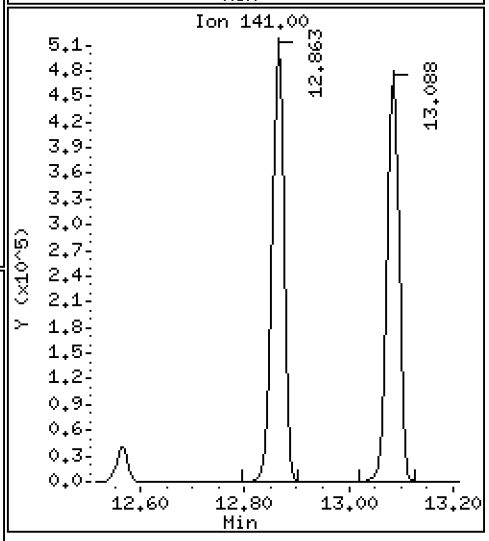
32 2-Methylnaphthalene

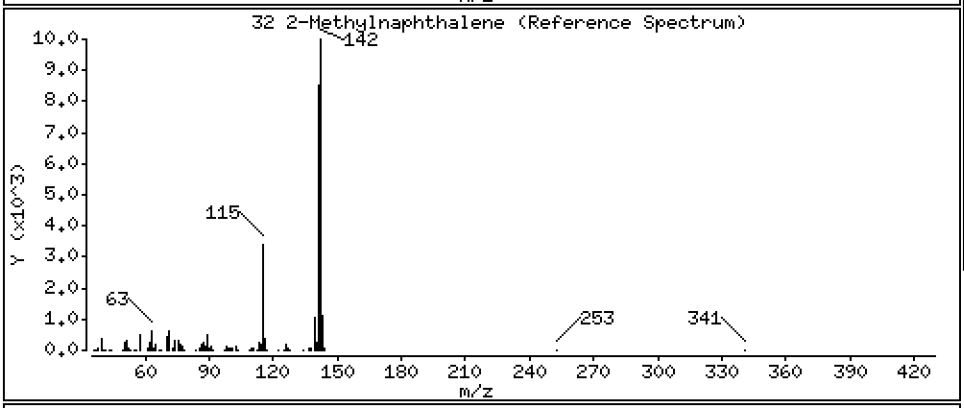
Concentration: 4.873 ug/mL

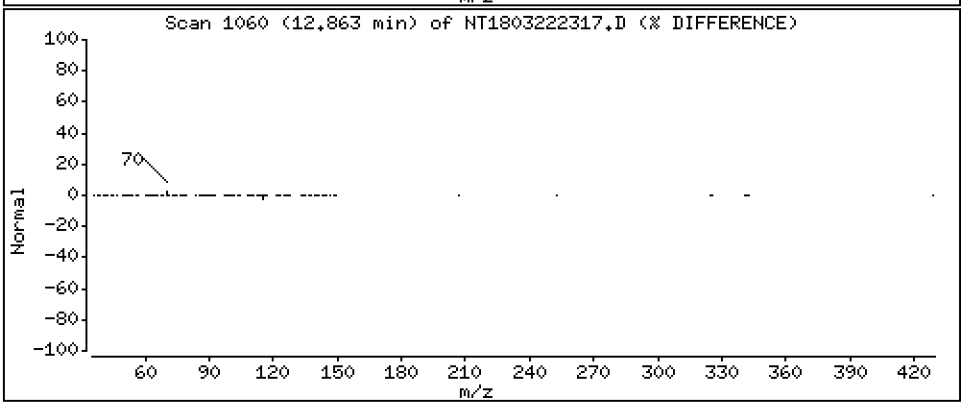












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222317.D

Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

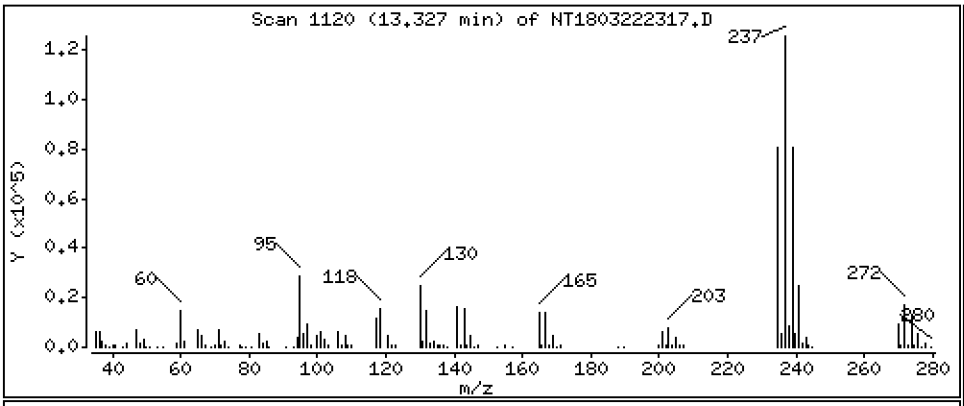
Operator: VTS

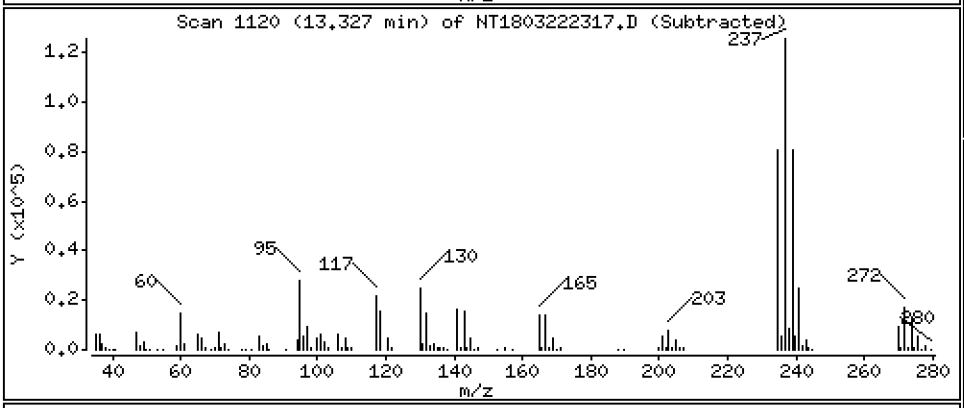
Column phase: ZB-5msi

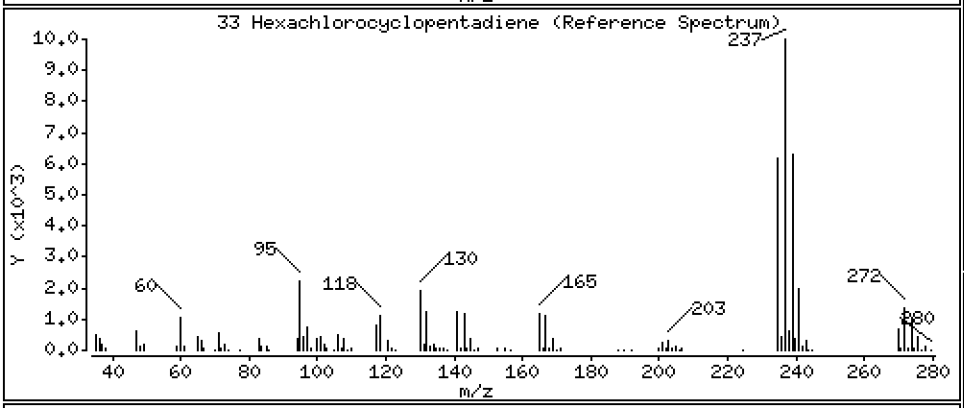
Column diameter: 0.25

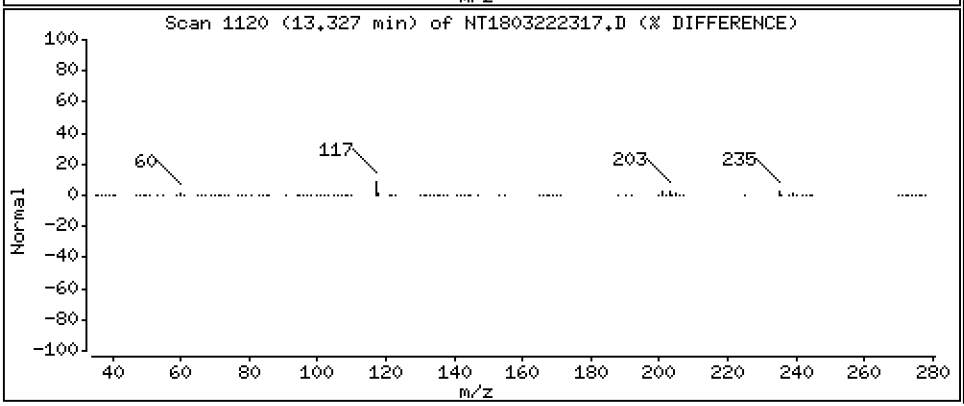
33 Hexachlorocyclopentadiene

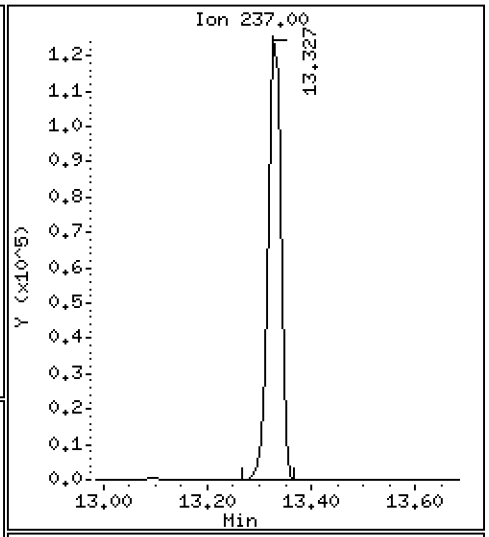
Concentration: 4.308 ug/mL

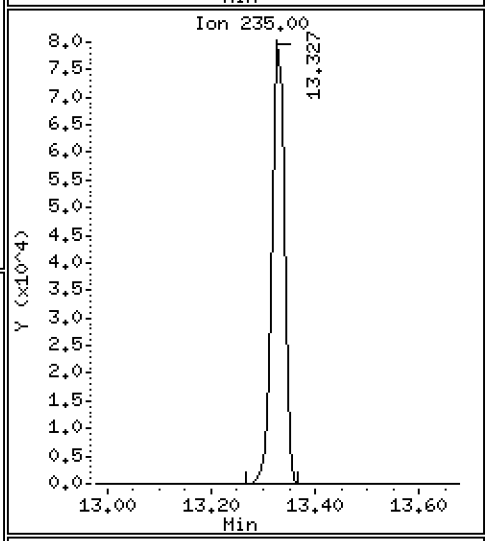


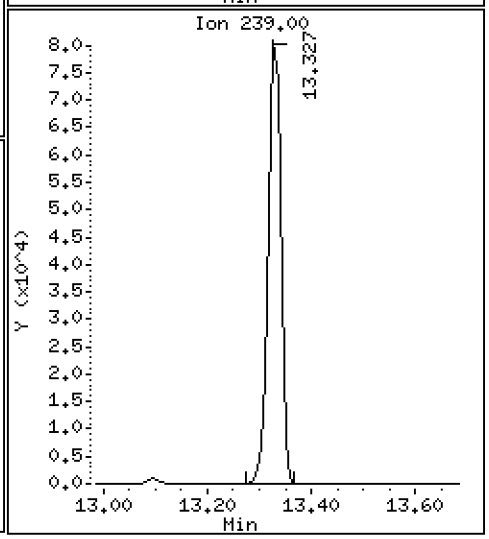












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

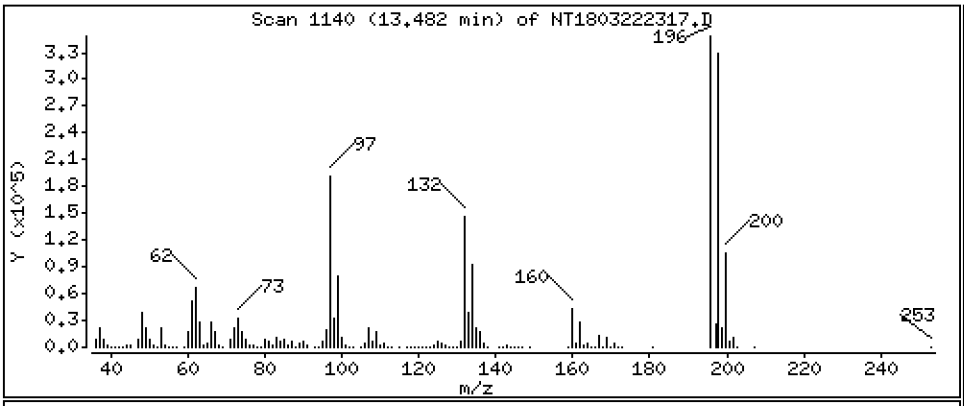
Operator: VTS

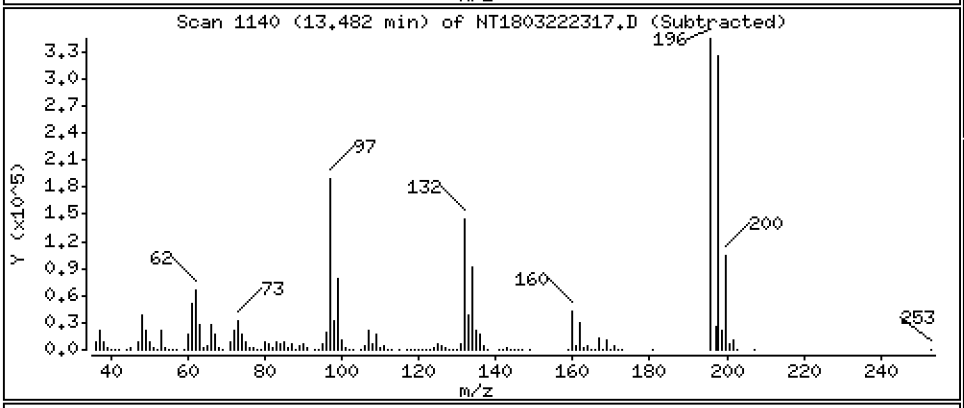
Column phase: ZB-5msi

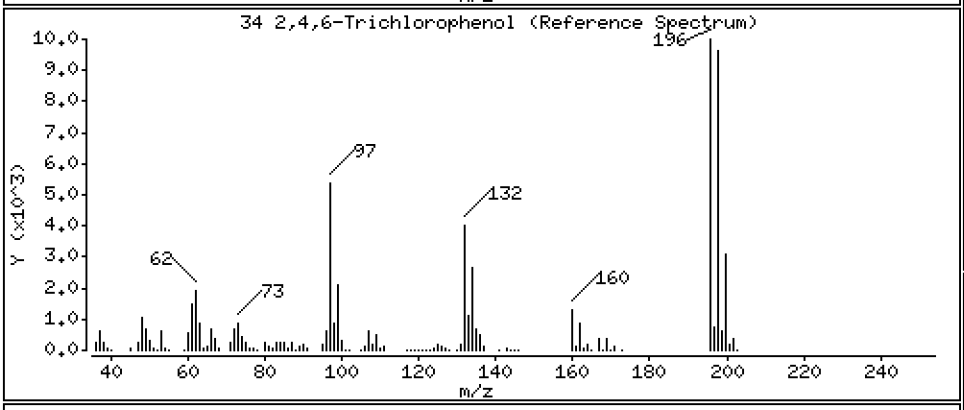
Column diameter: 0.25

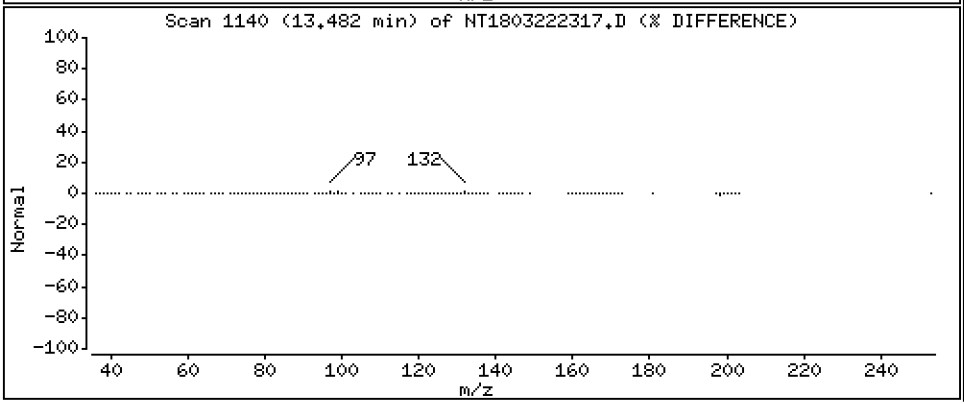
34 2,4,6-Trichlorophenol

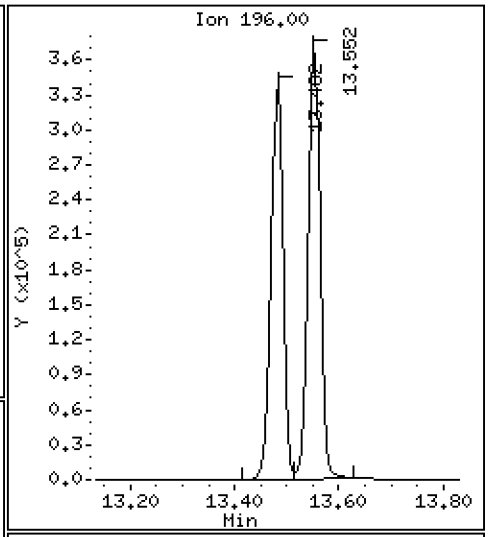
Concentration: 10.75 ug/mL

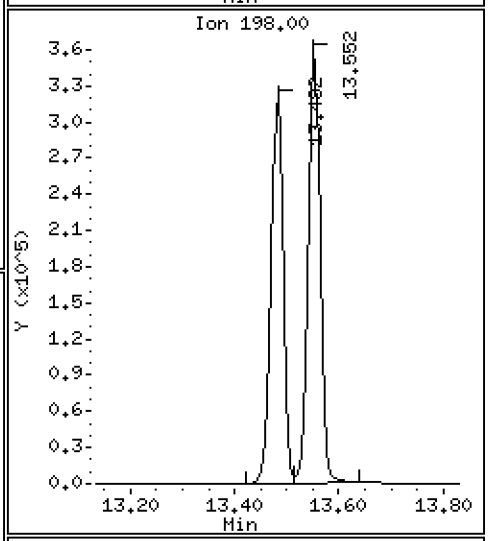


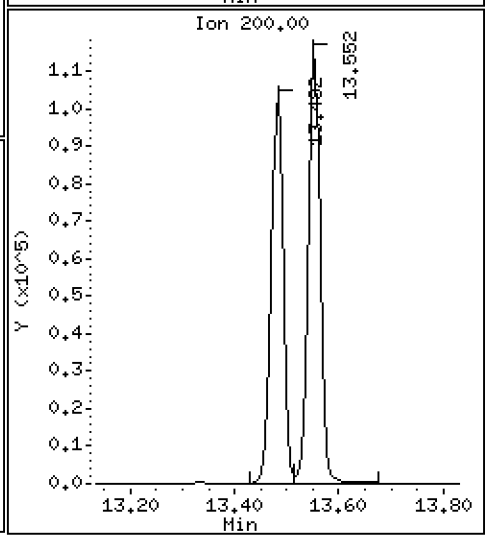












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

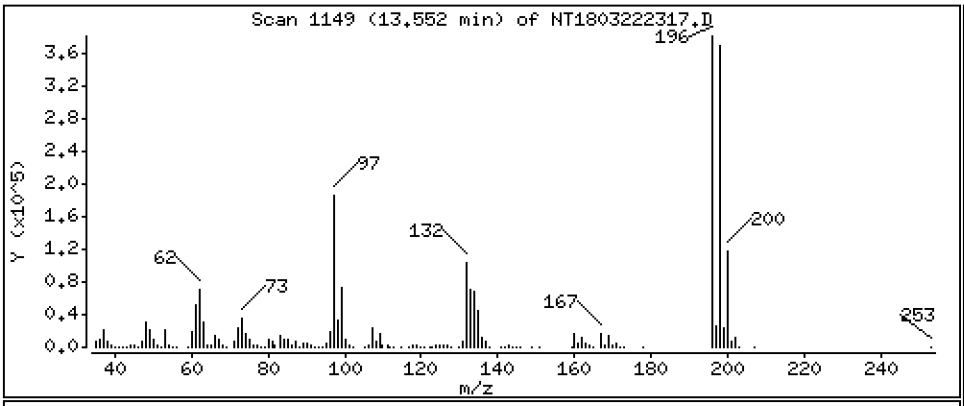
Operator: VTS

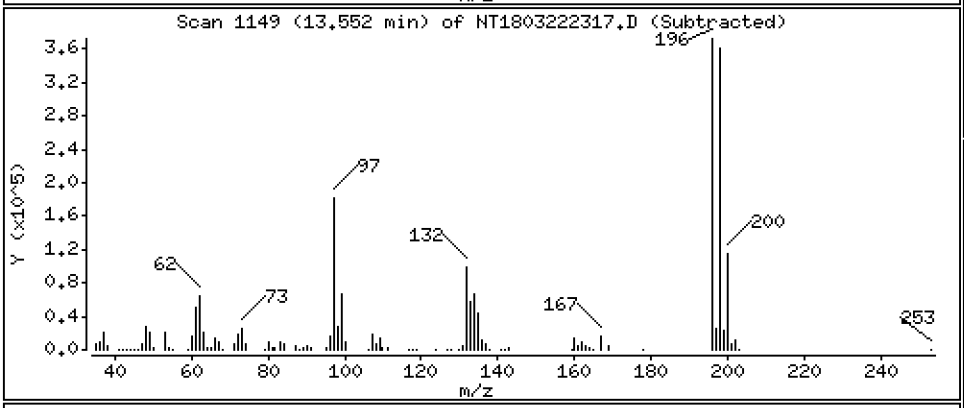
Column phase: ZB-5msi

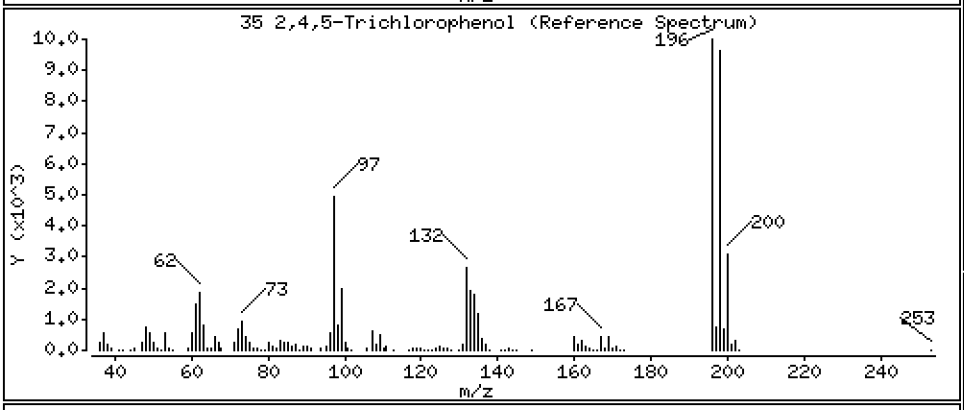
Column diameter: 0.25

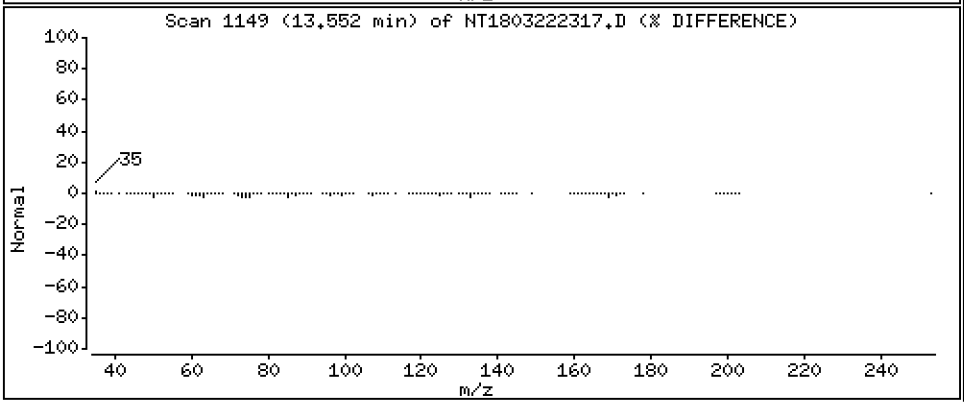
35 2,4,5-Trichlorophenol

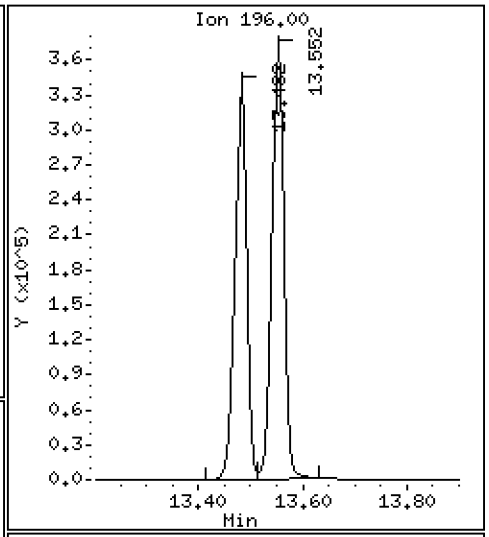
Concentration: 10.59 ug/mL

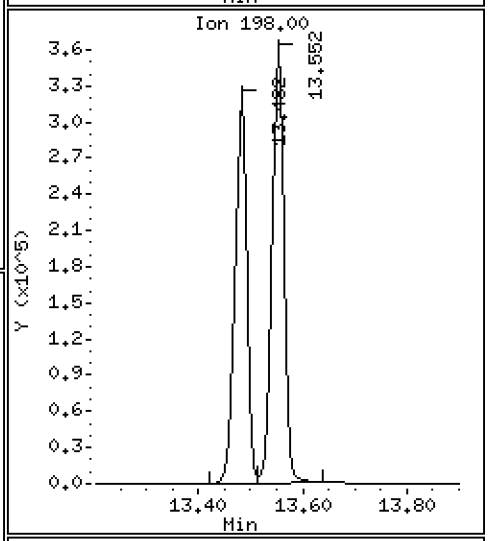


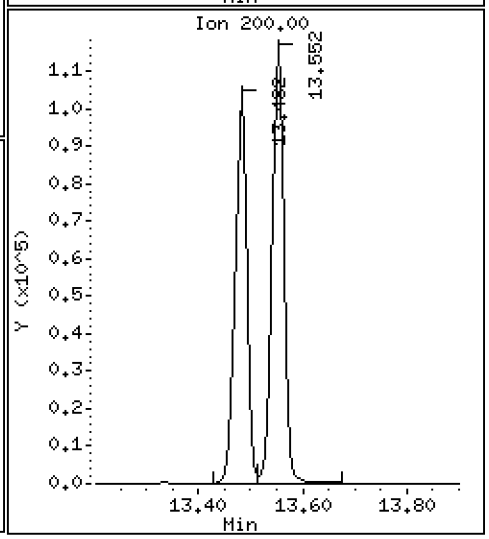












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

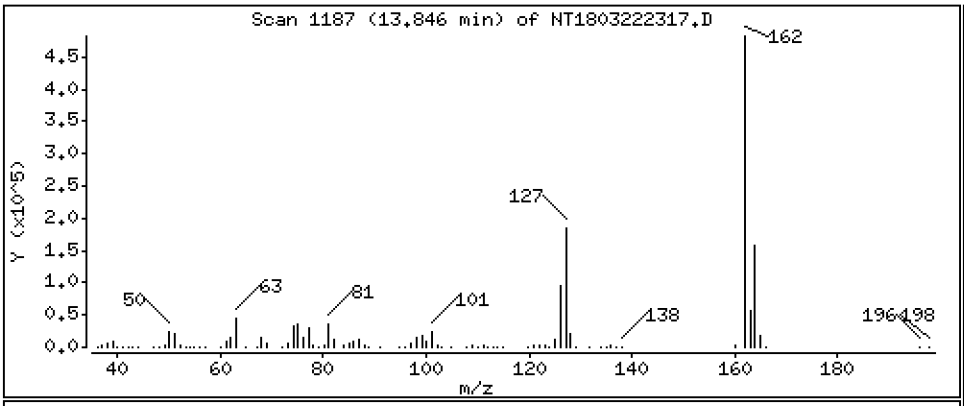
Operator: VTS

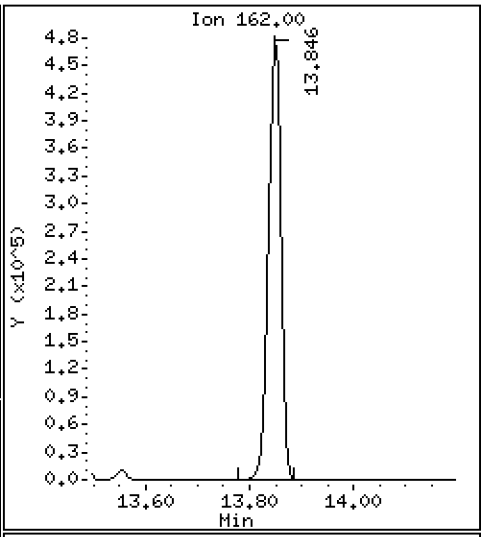
Column phase: ZB-5msi

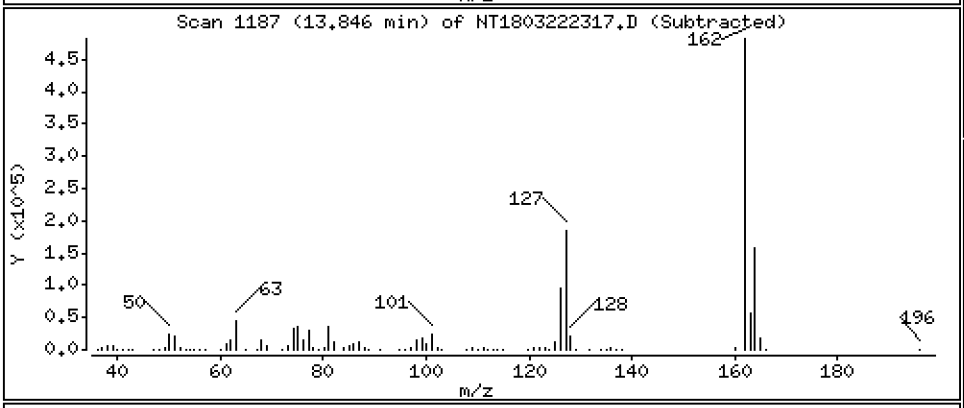
Column diameter: 0.25

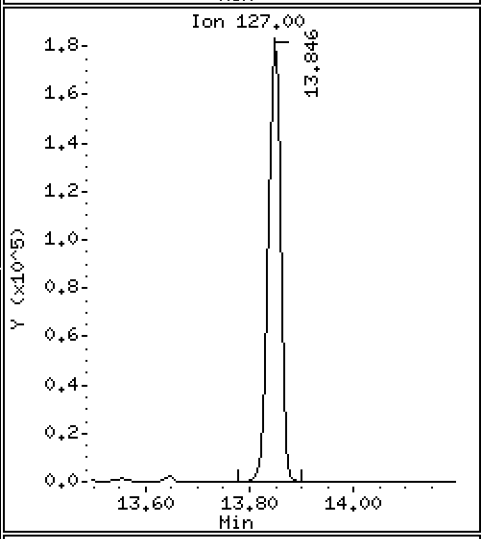
37 2-Chloronaphthalene

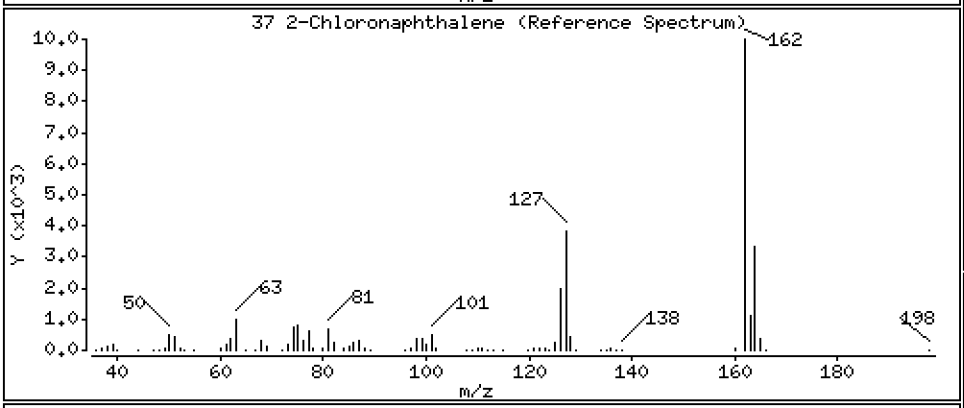
Concentration: 4.930 ug/mL

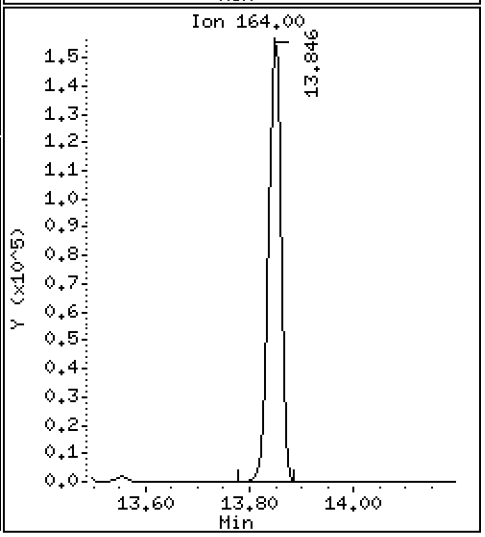


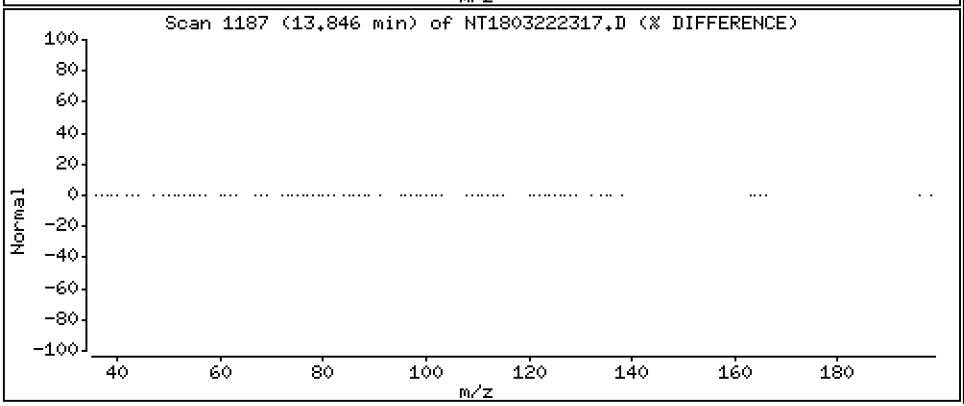












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

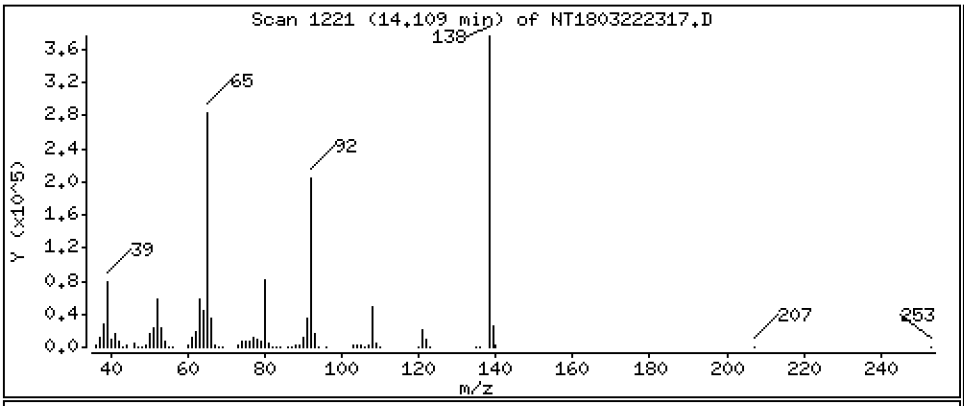
Operator: VTS

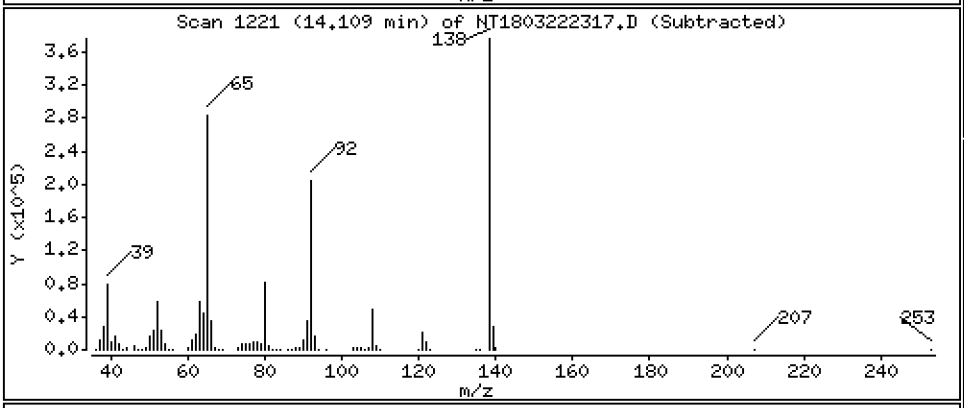
Column phase: ZB-5msi

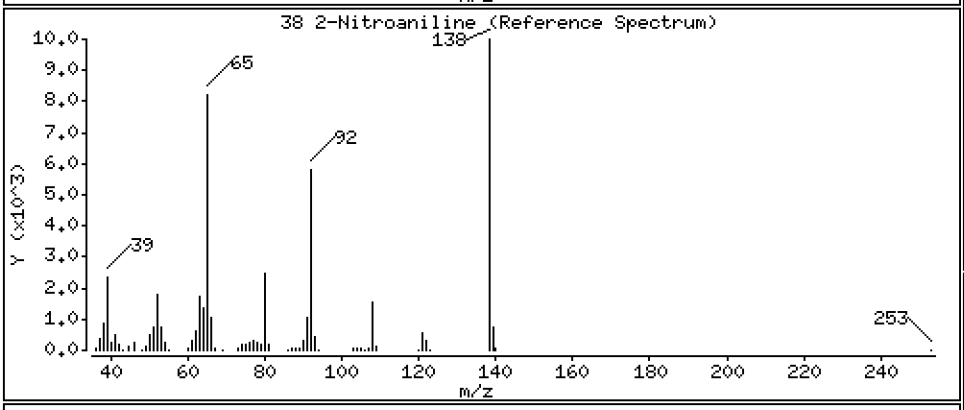
Column diameter: 0.25

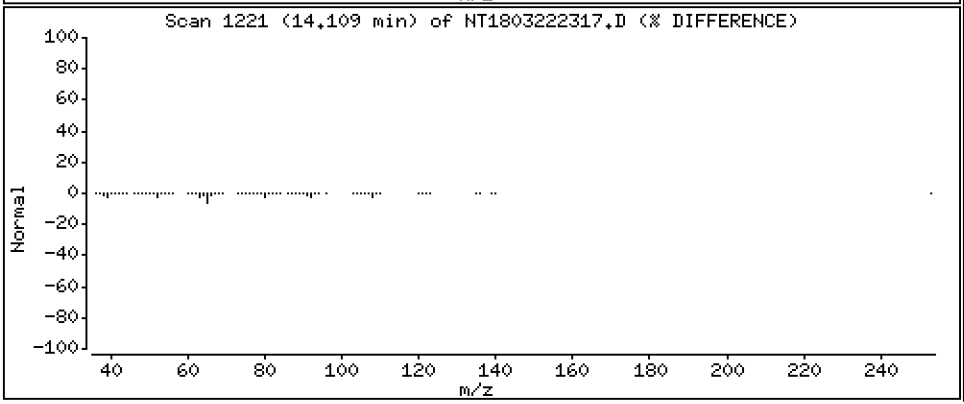
38 2-Nitroaniline

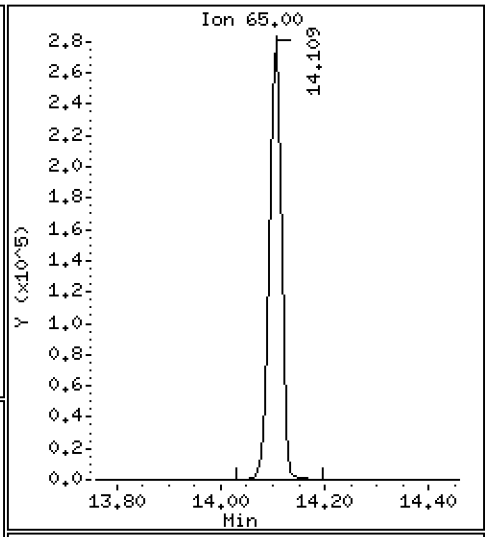
Concentration: 10.72 ug/mL

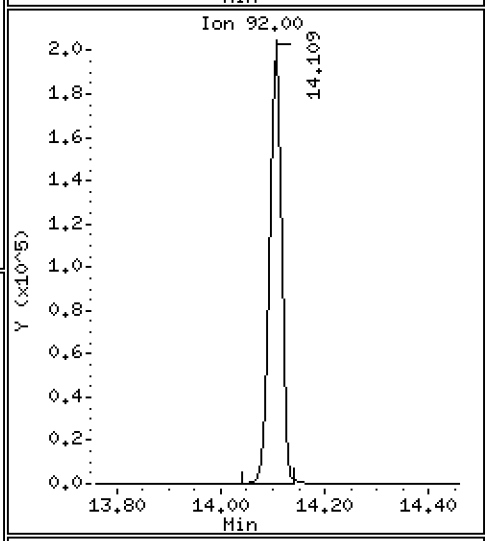


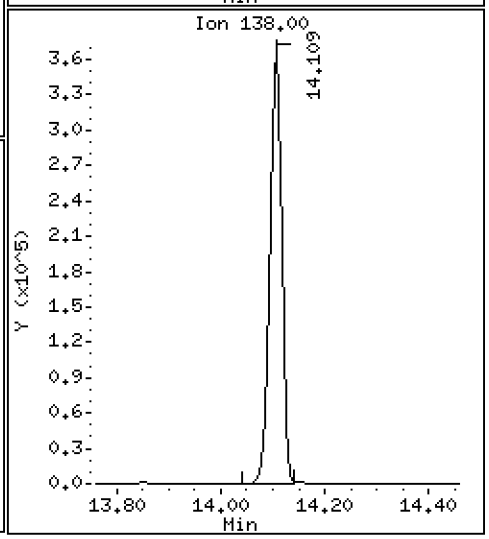












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222317.D

Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

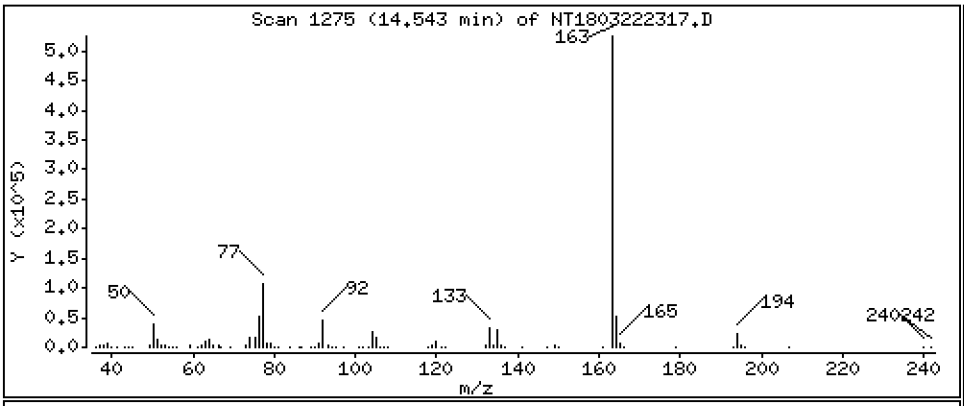
Operator: VTS

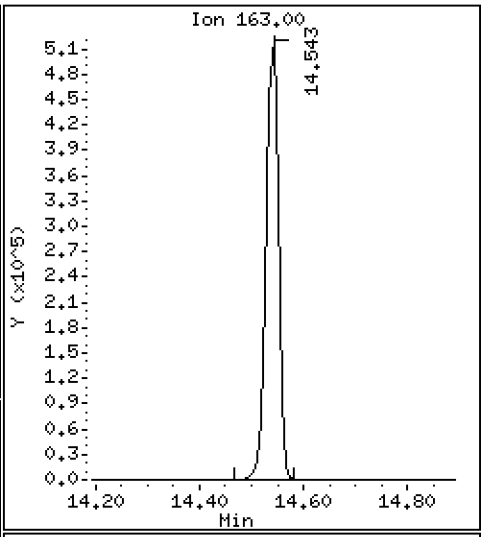
Column phase: ZB-5msi

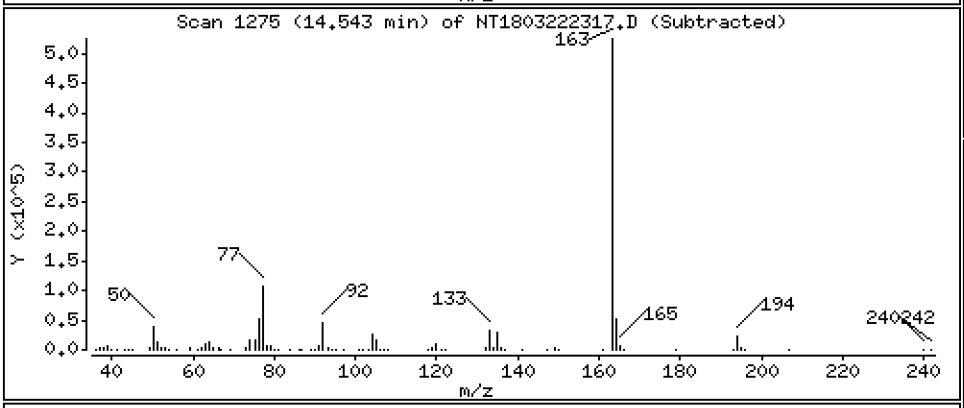
Column diameter: 0.25

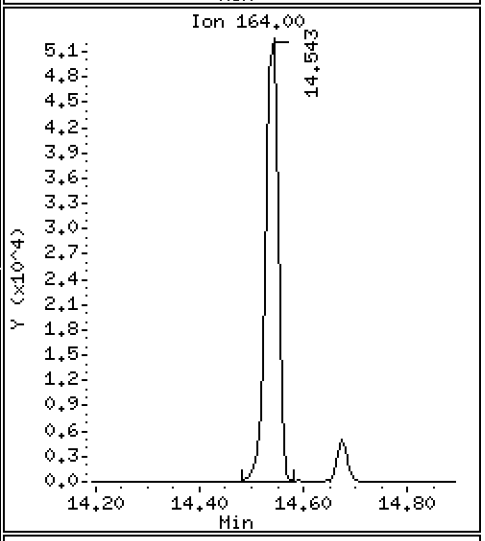
39 Dimethylphthalate

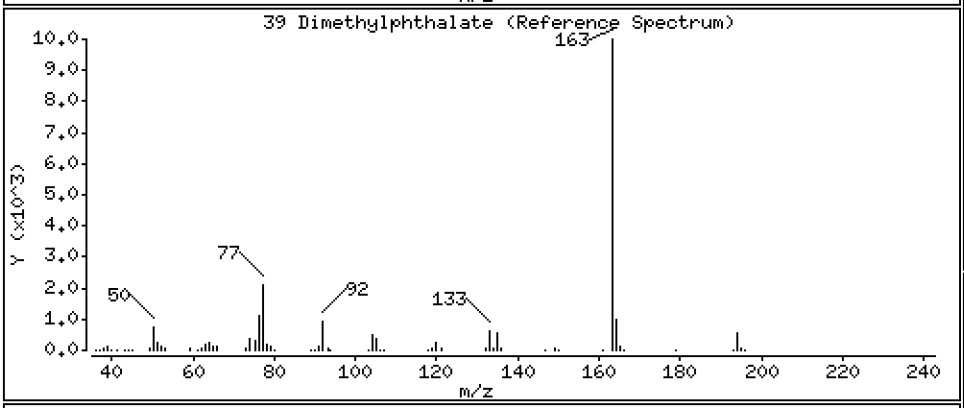
Concentration: 5.062 ug/mL

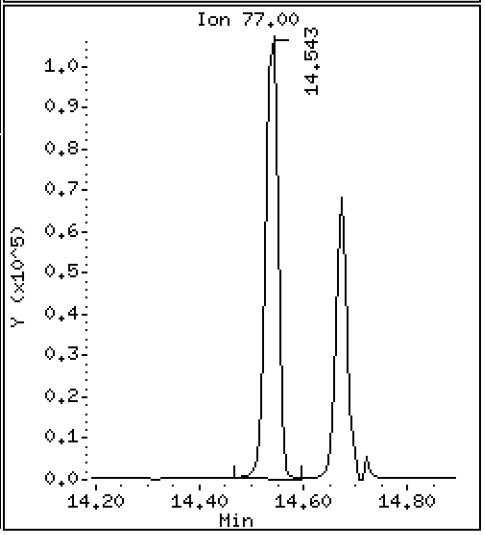


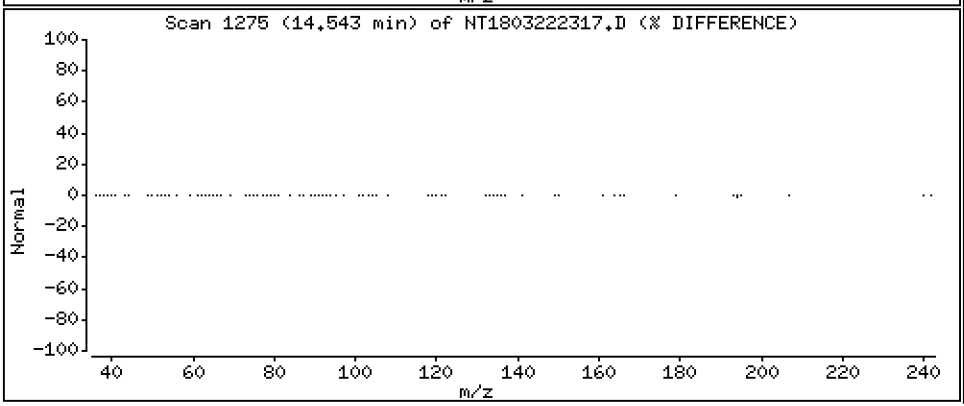












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

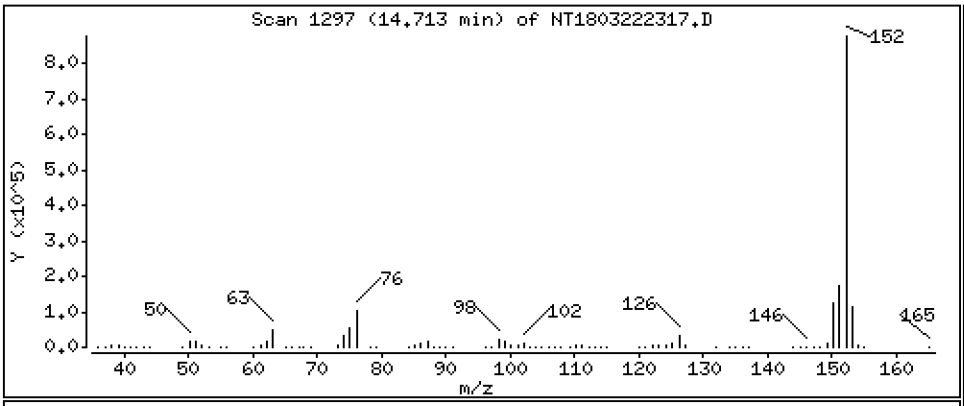
Operator: VTS

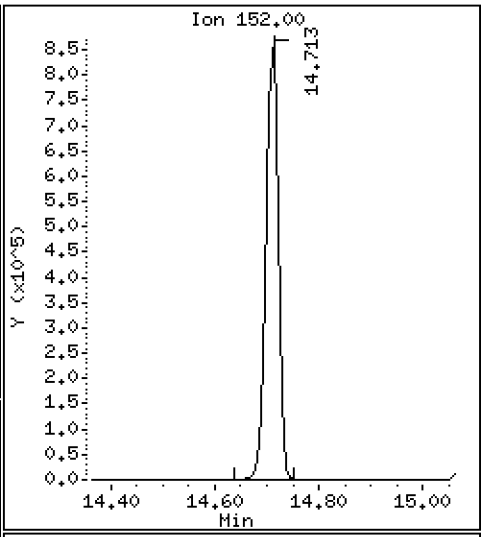
Column phase: ZB-5msi

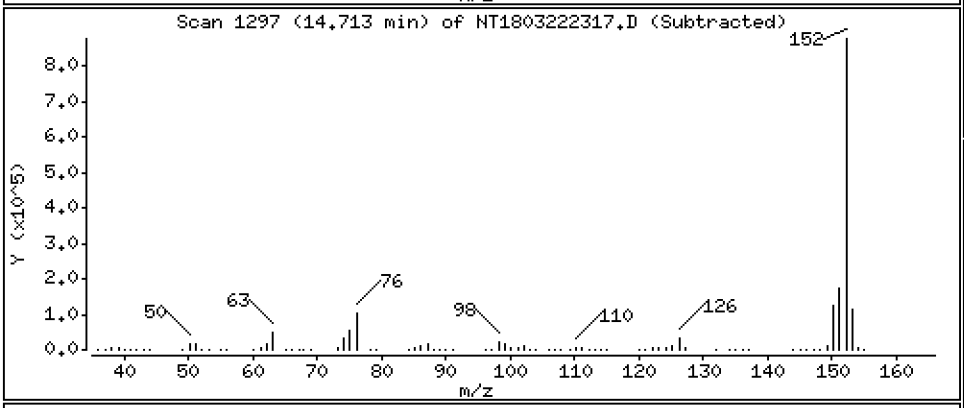
Column diameter: 0.25

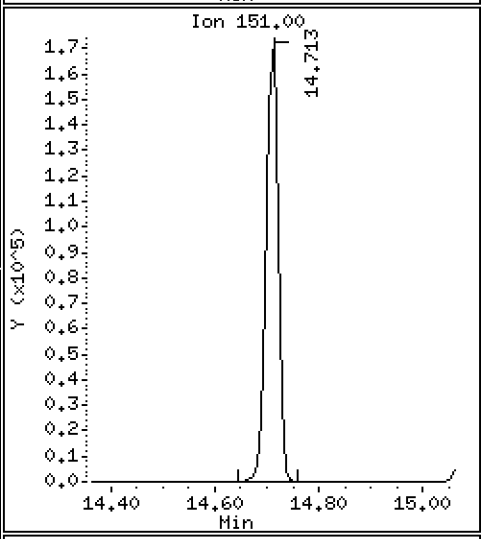
40 Acenaphthylene

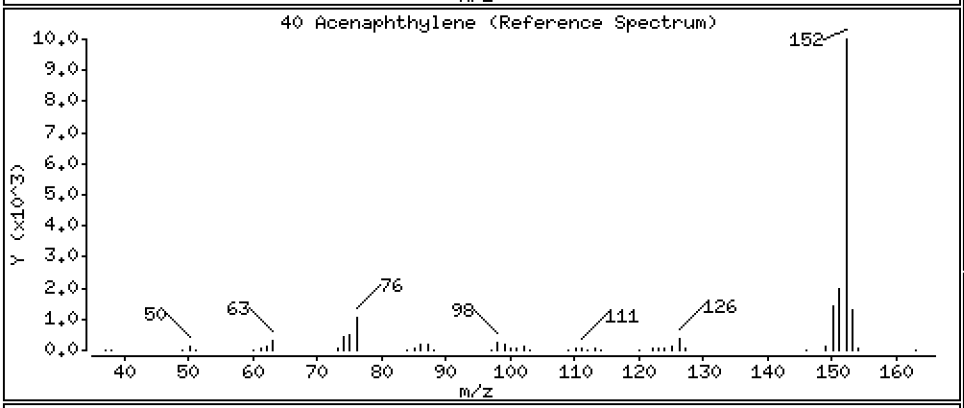
Concentration: 5.089 ug/mL

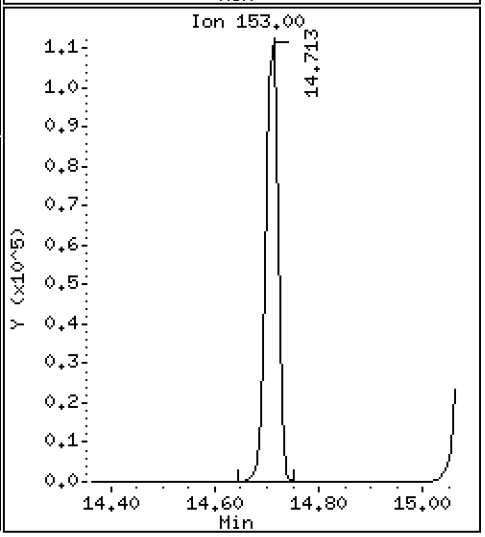


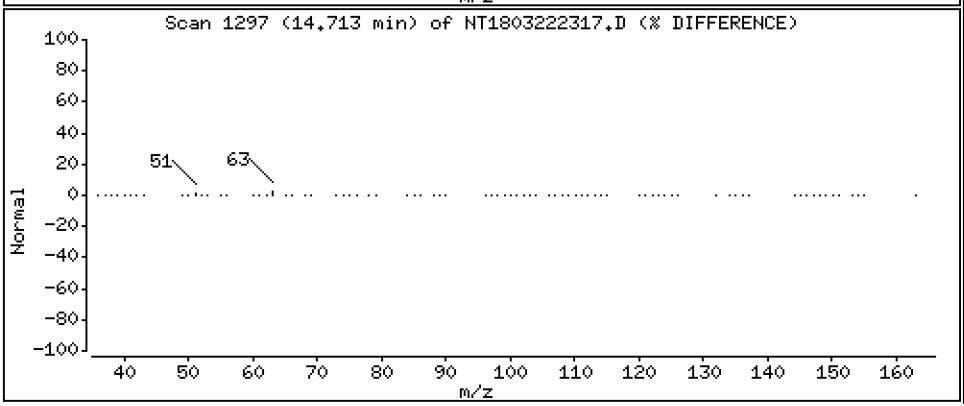












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

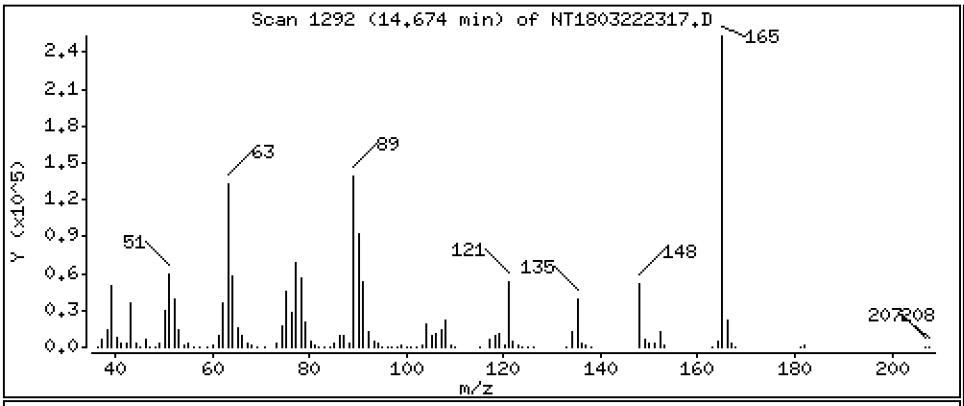
Operator: VTS

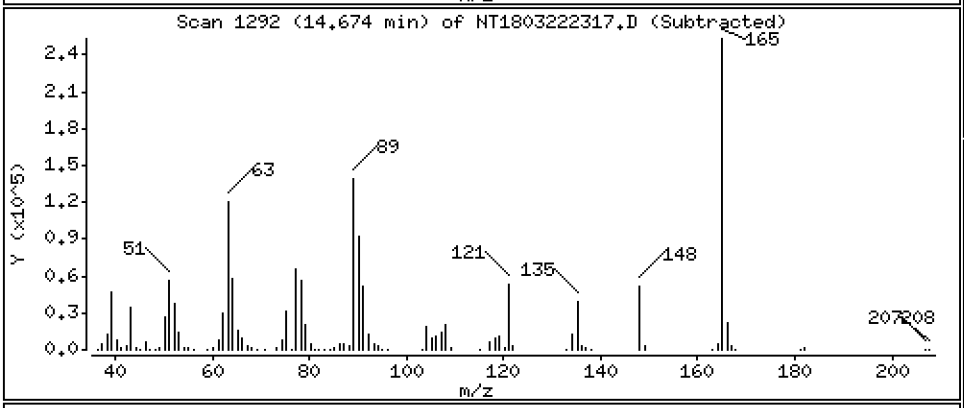
Column phase: ZB-5msi

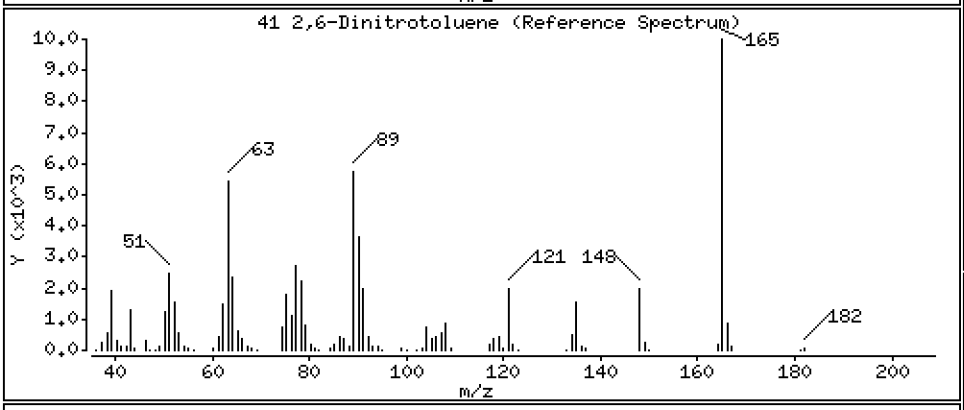
Column diameter: 0.25

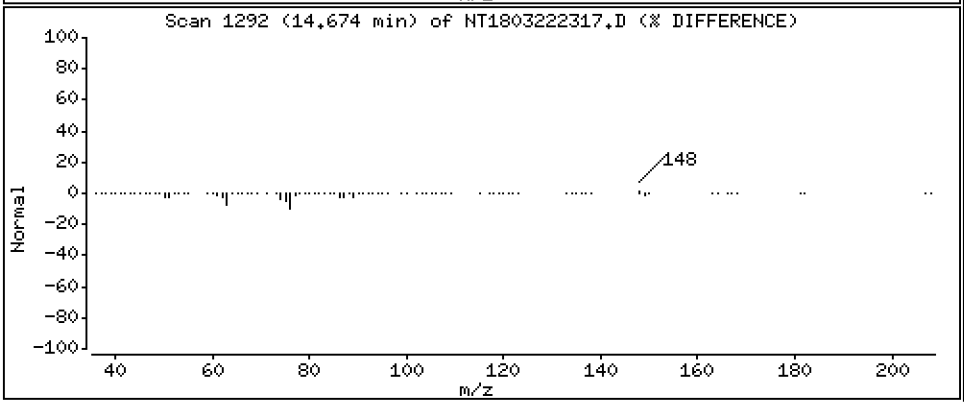
41 2,6-Dinitrotoluene

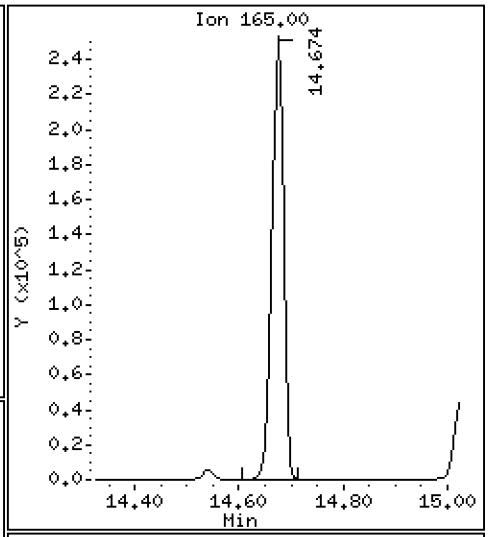
Concentration: 10.16 ug/mL

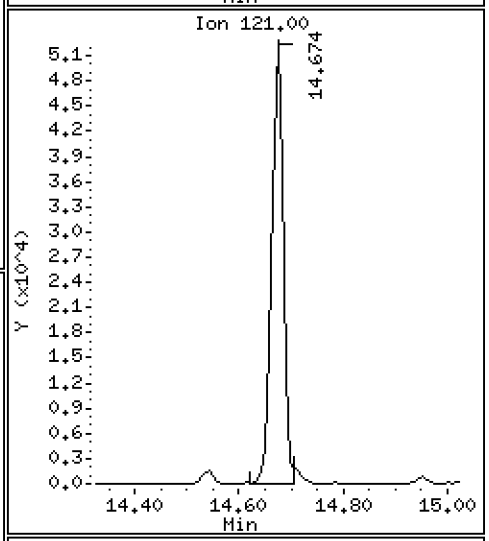


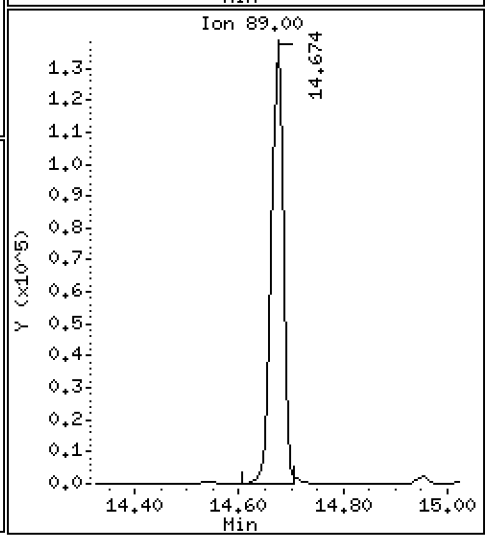












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

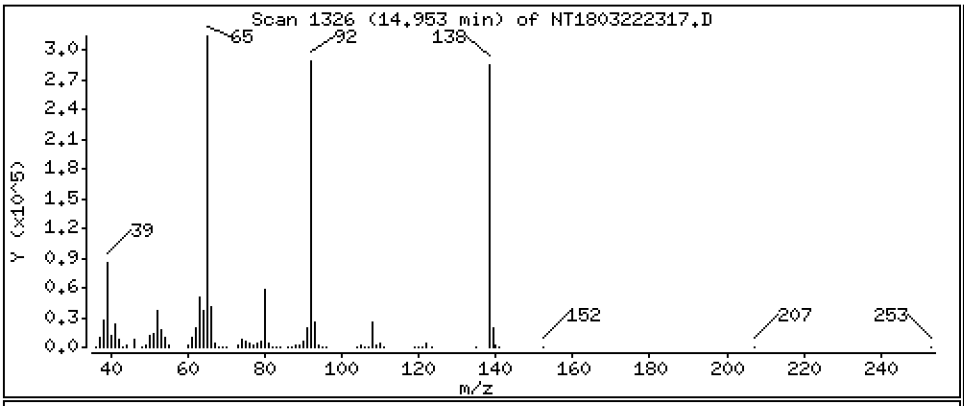
Operator: VTS

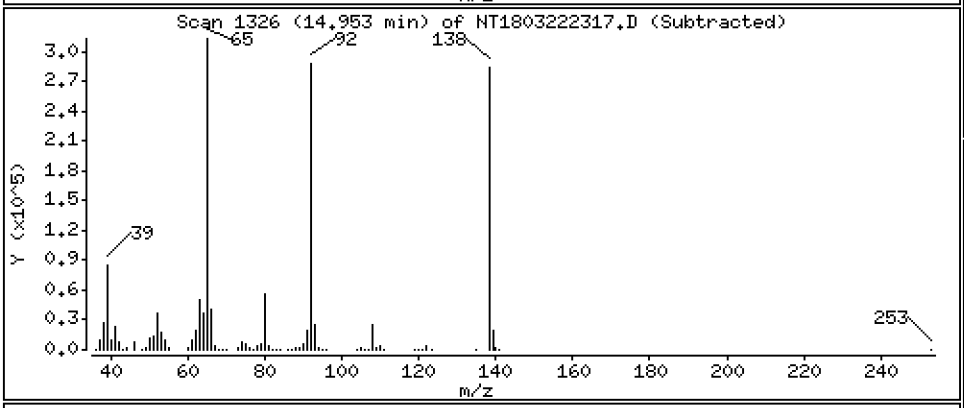
Column phase: ZB-5msi

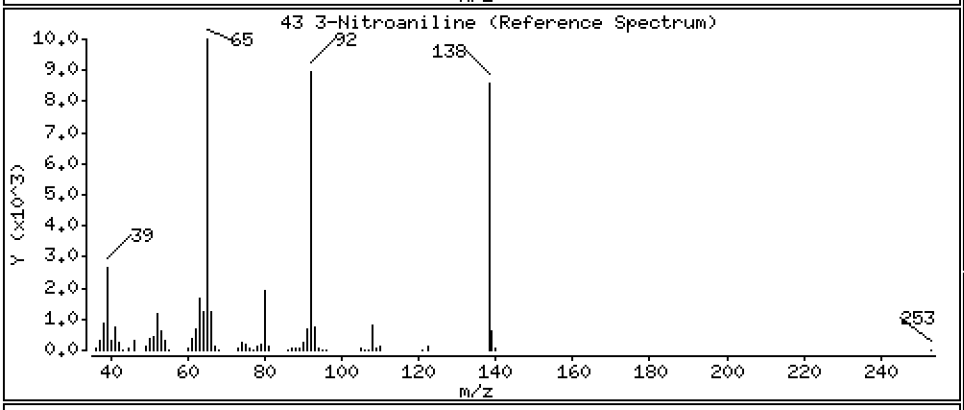
Column diameter: 0.25

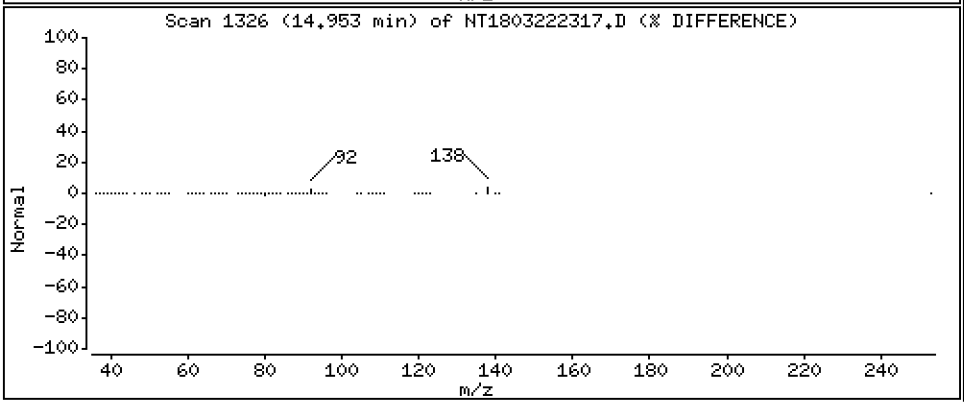
43 3-Nitroaniline

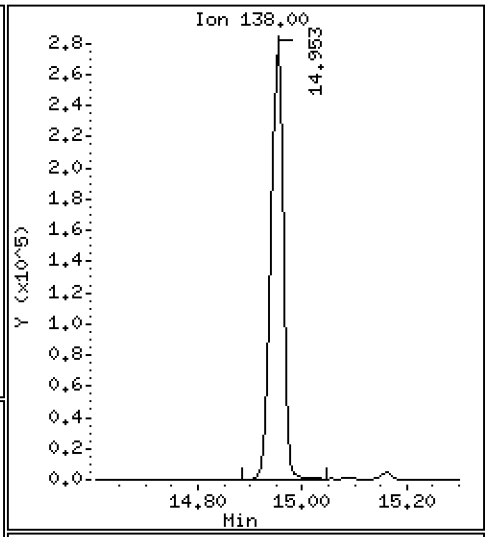
Concentration: 10.66 ug/mL

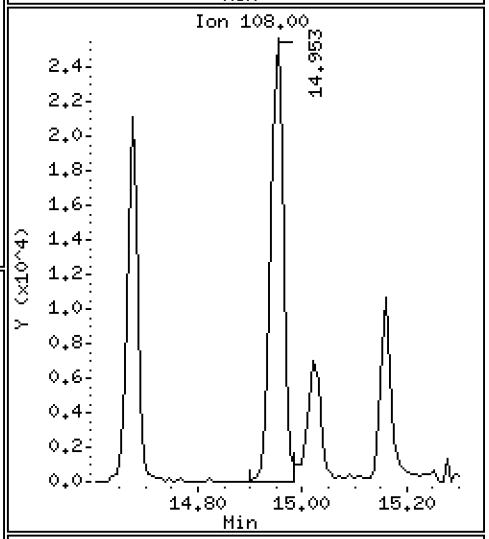


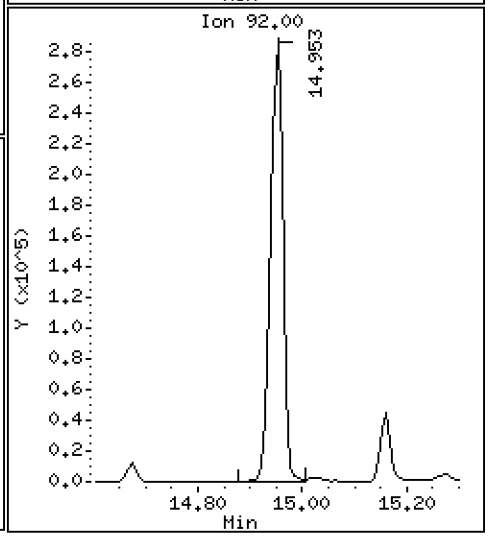












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

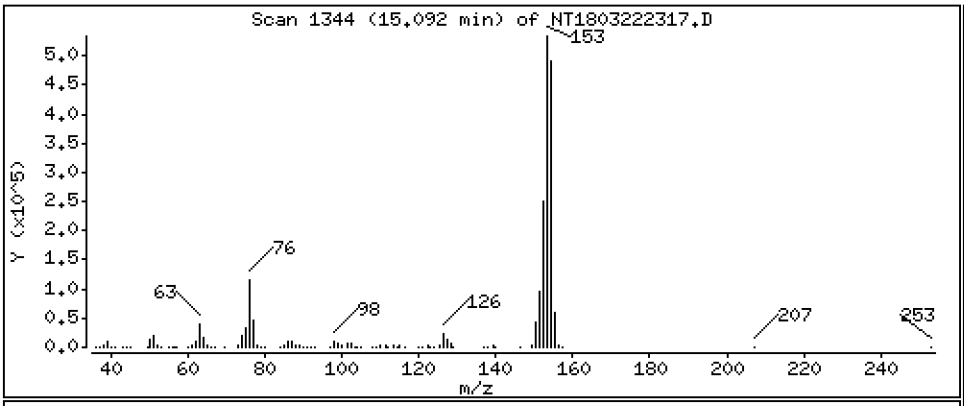
Operator: VTS

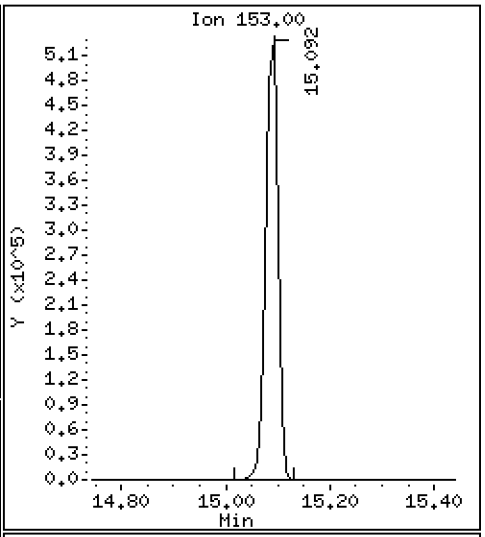
Column phase: ZB-5msi

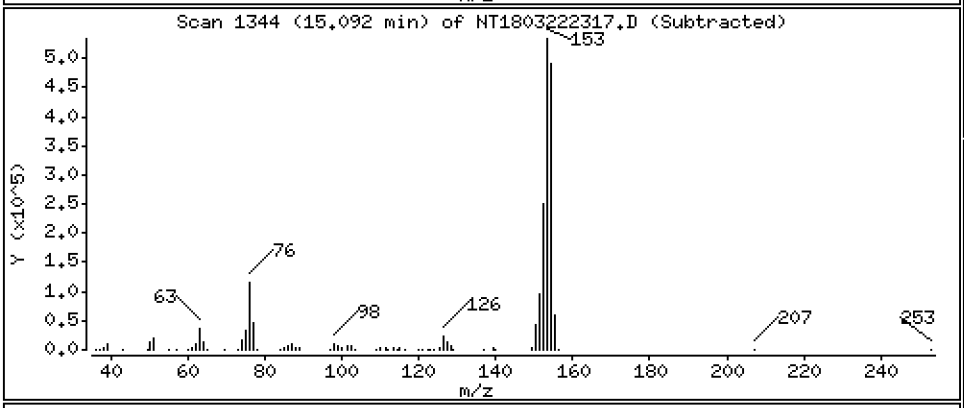
Column diameter: 0.25

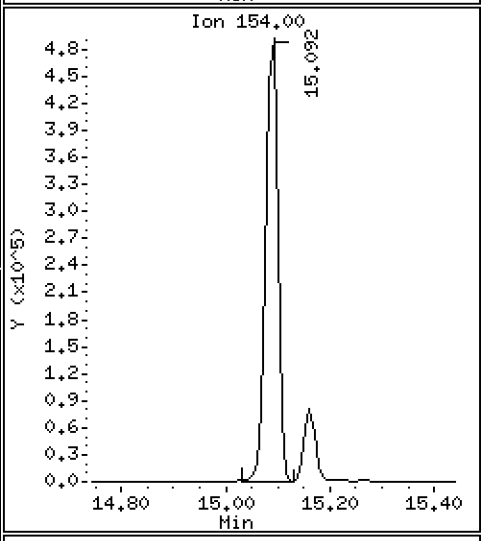
44 Acenaphthene

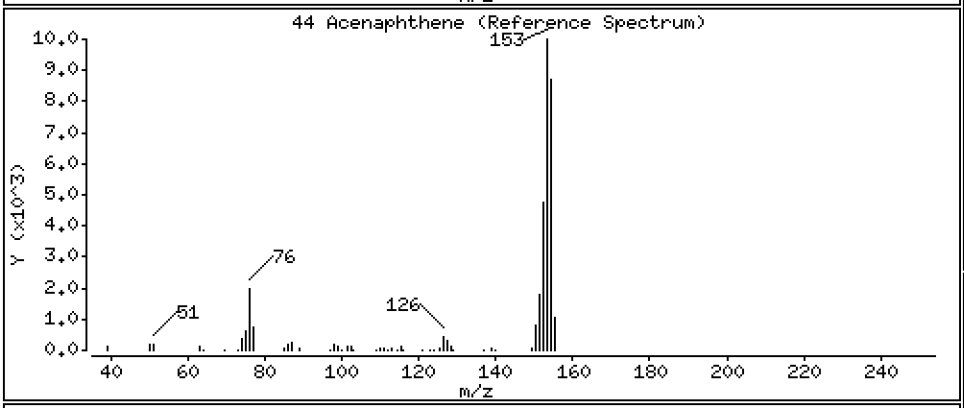
Concentration: 4.938 ug/mL

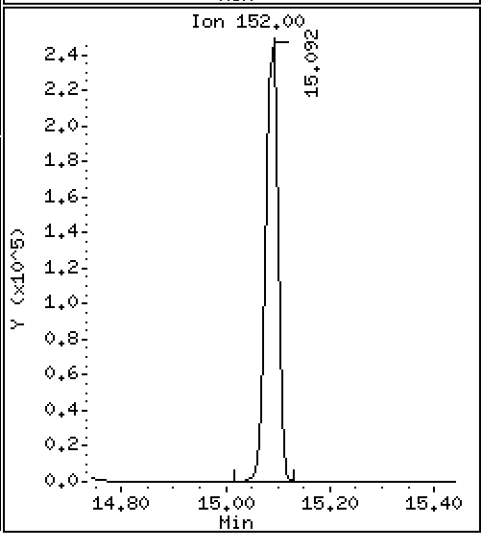


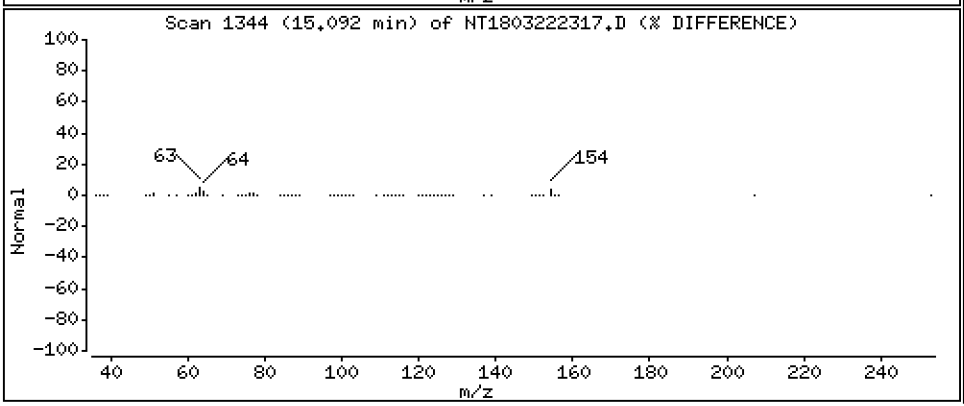












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

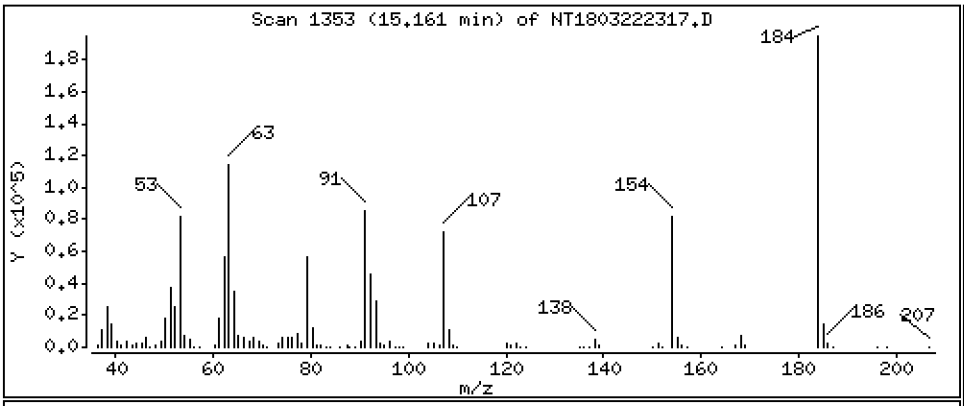
Operator: VTS

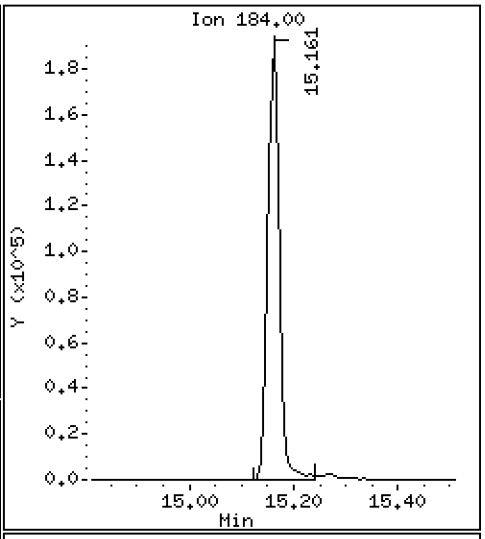
Column phase: ZB-5msi

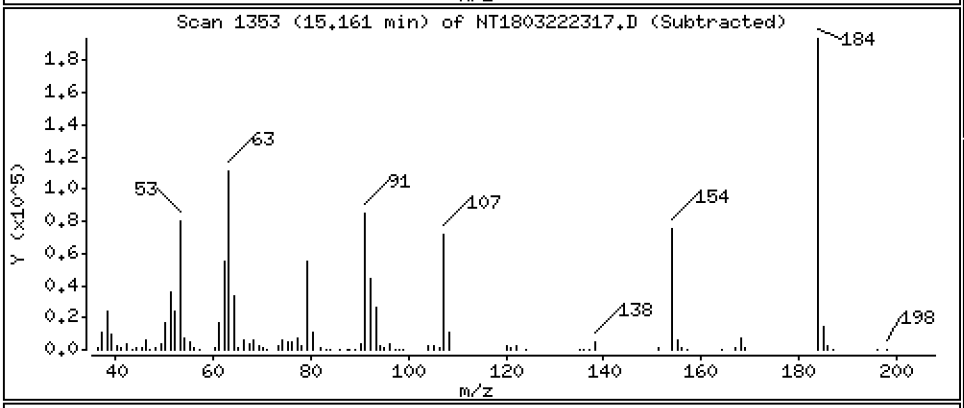
Column diameter: 0.25

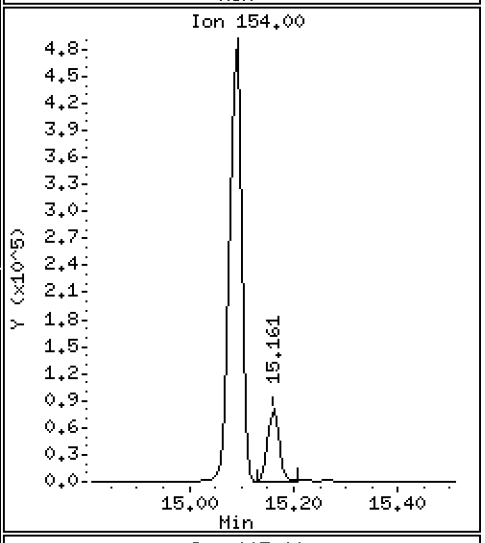
45 2,4-Dinitrophenol

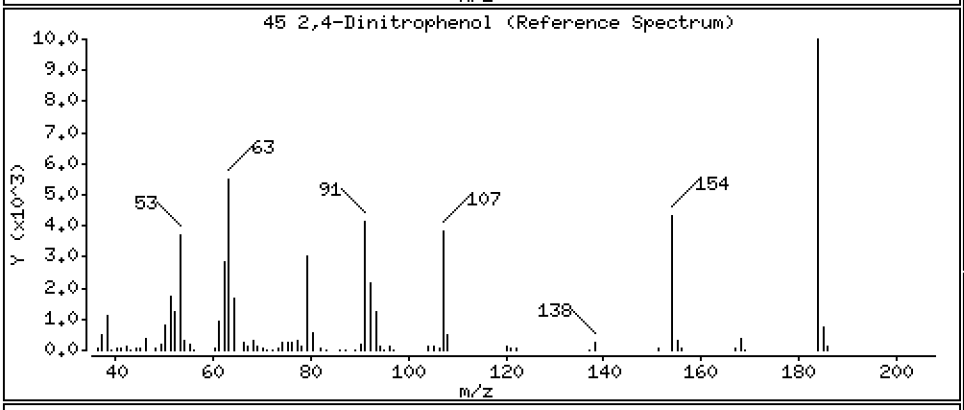
Concentration: 12.83 ug/mL

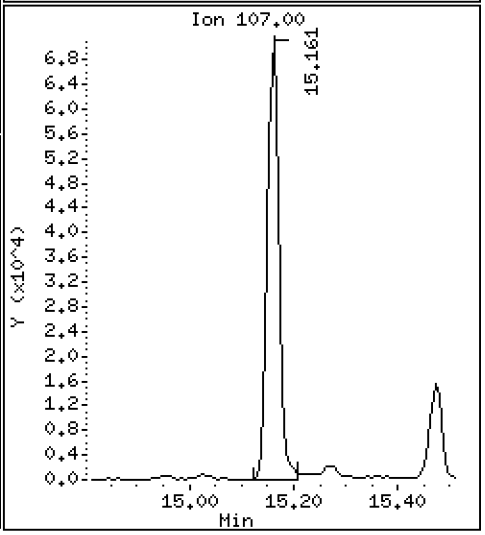


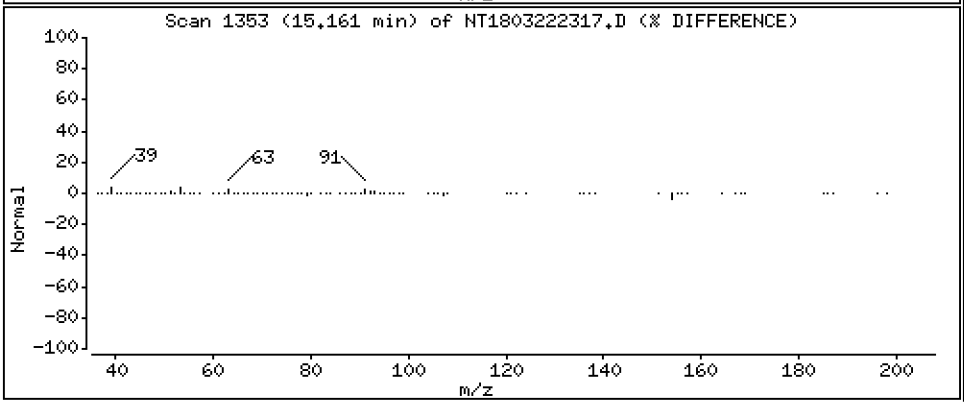












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

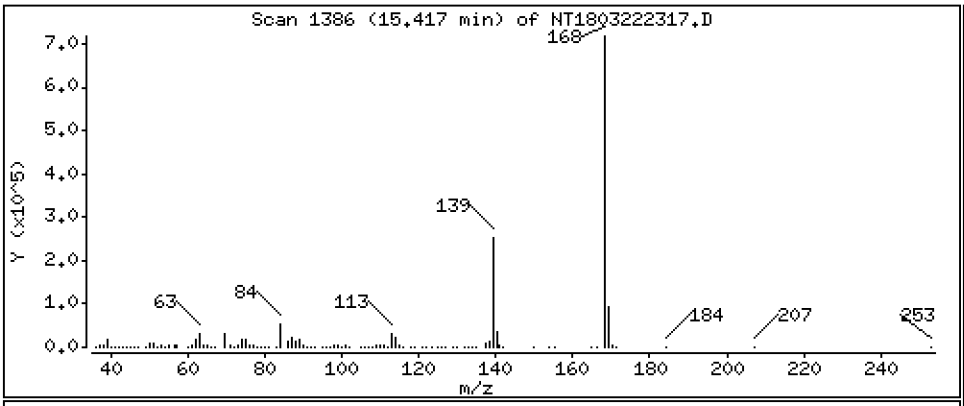
Operator: VTS

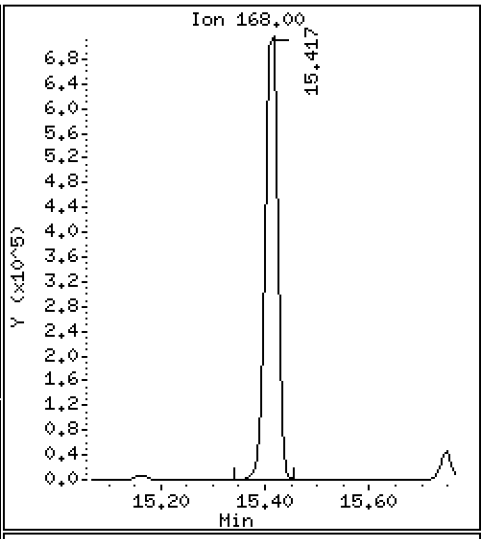
Column phase: ZB-5msi

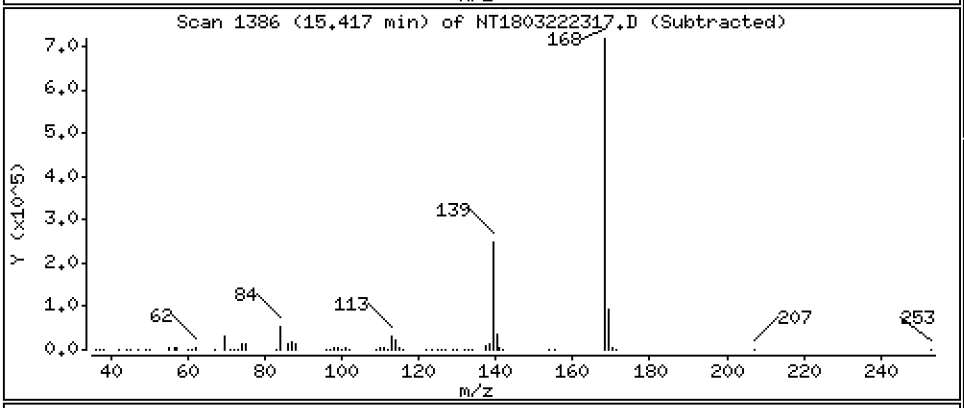
Column diameter: 0.25

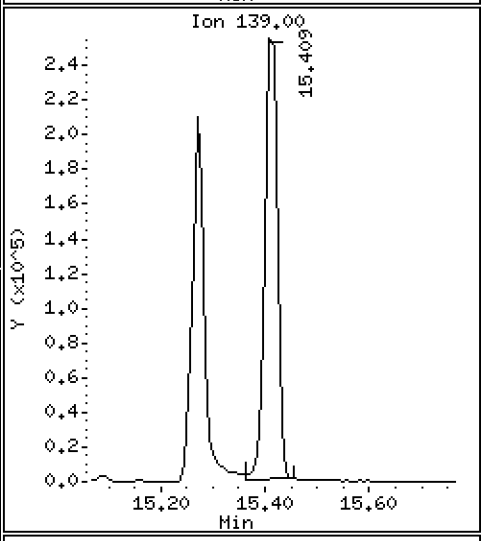
46 Dibenzofuran

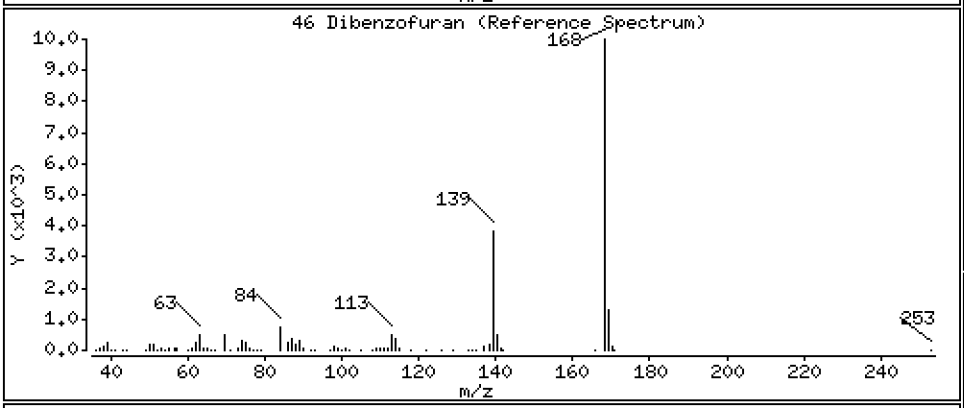
Concentration: 4.938 ug/mL

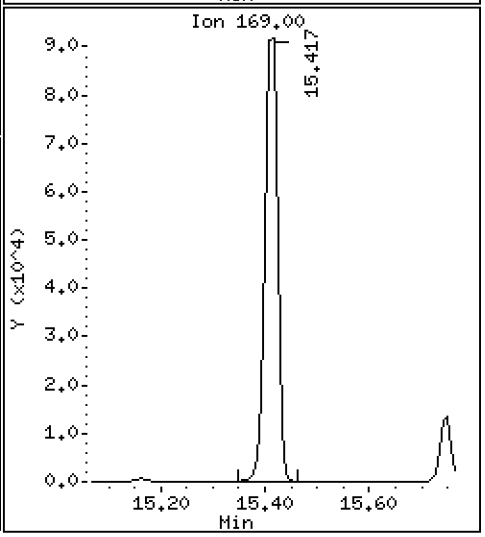


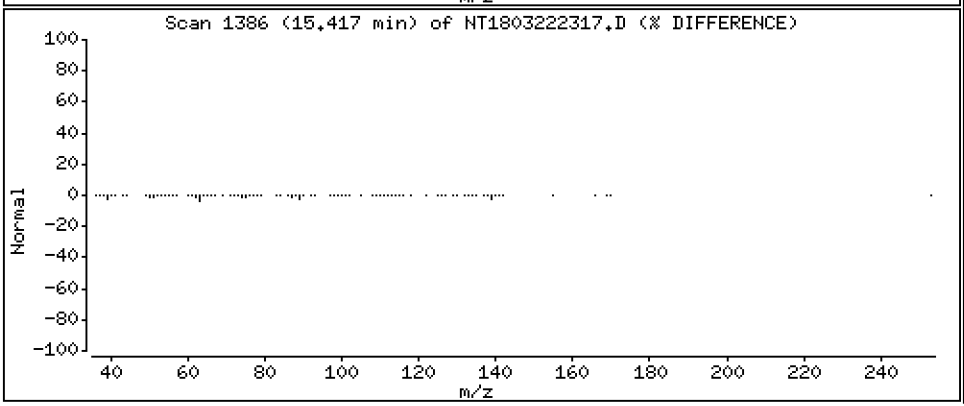












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222317.D

Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

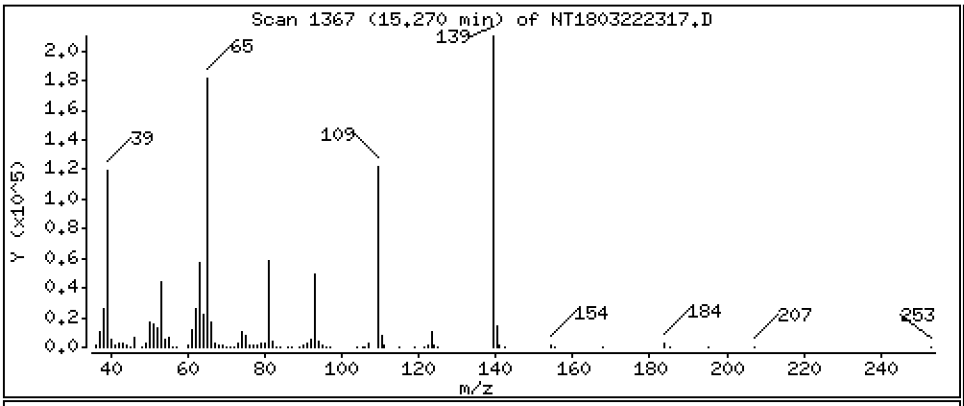
Operator: VTS

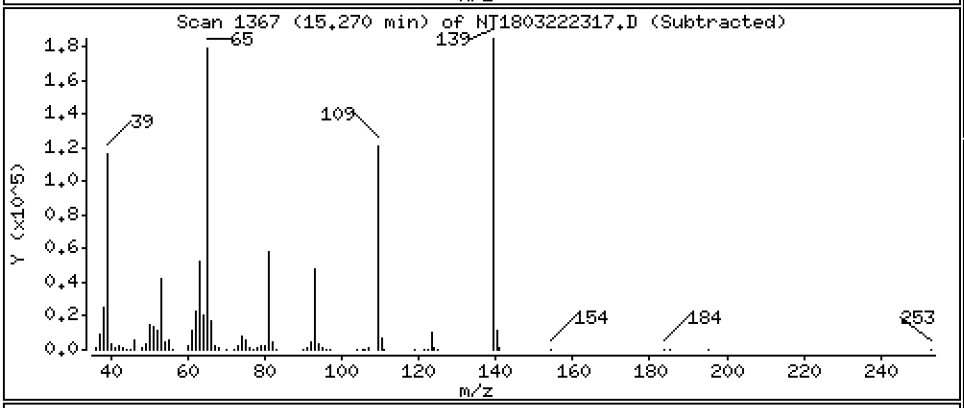
Column phase: ZB-5msi

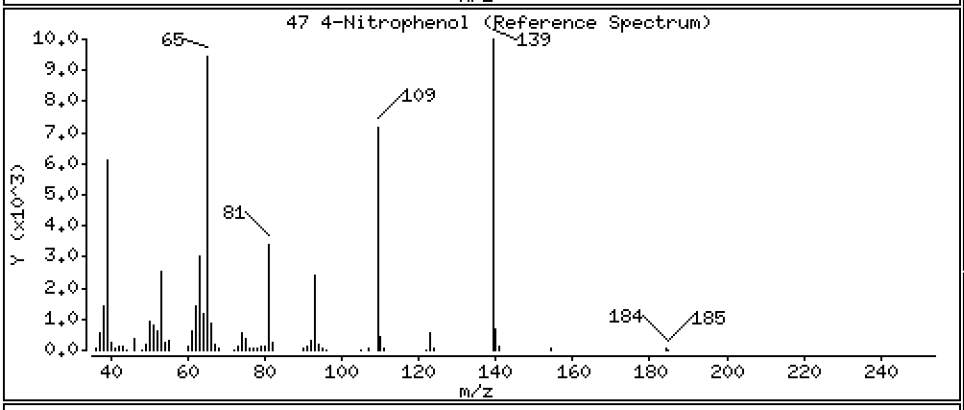
Column diameter: 0.25

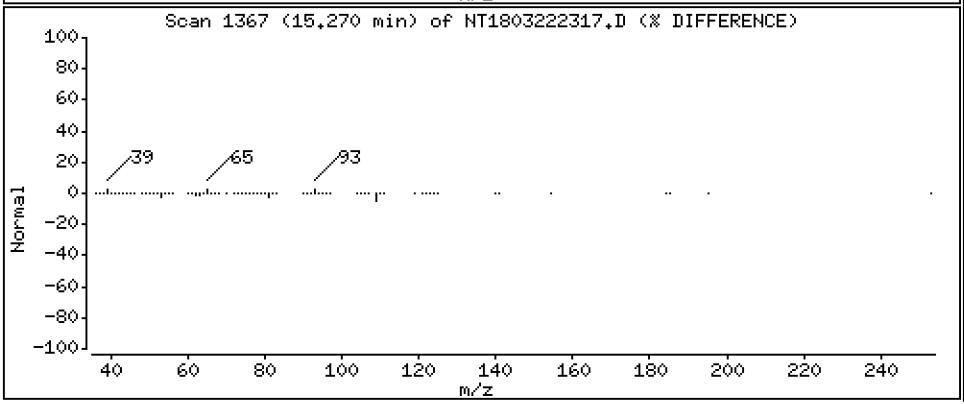
47 4-Nitrophenol

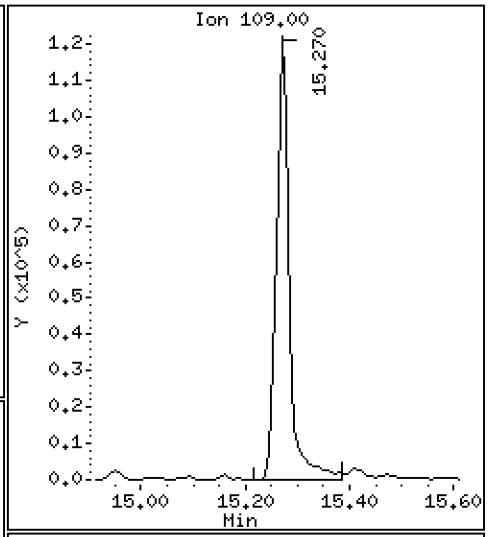
Concentration: 9.459 ug/mL

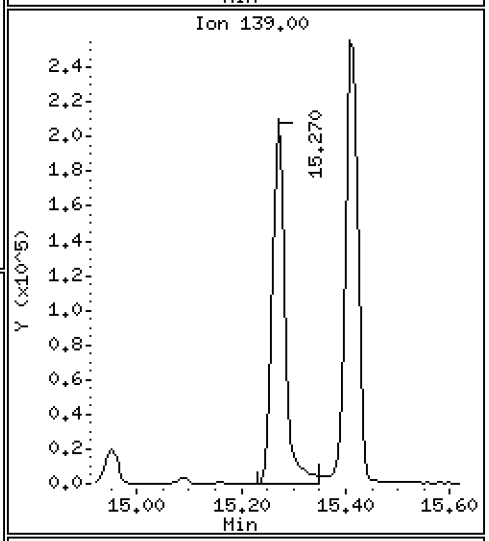


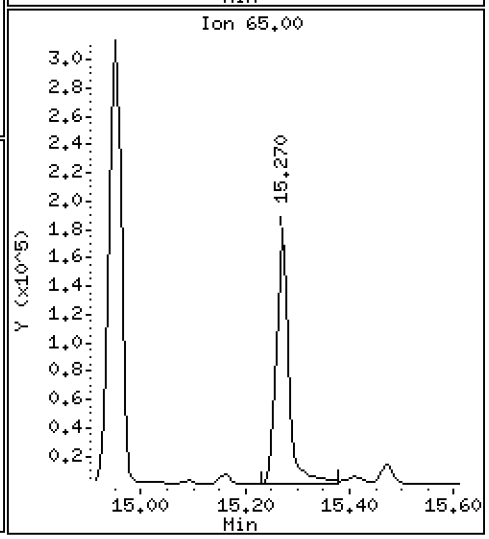












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

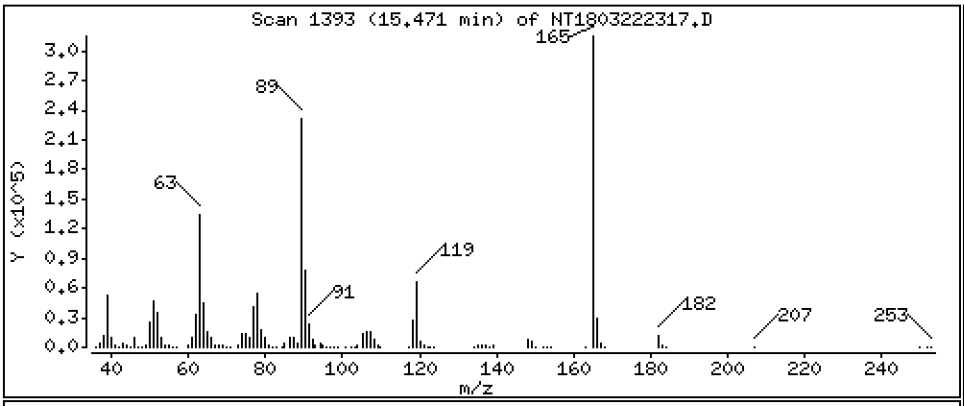
Operator: VTS

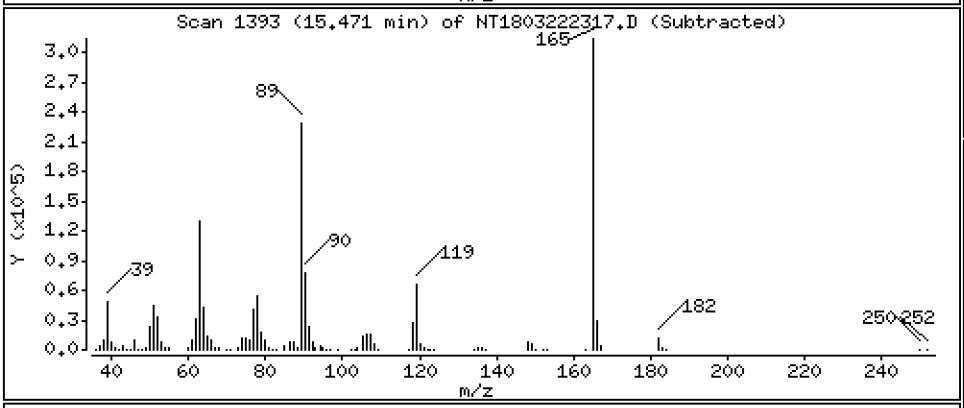
Column phase: ZB-5msi

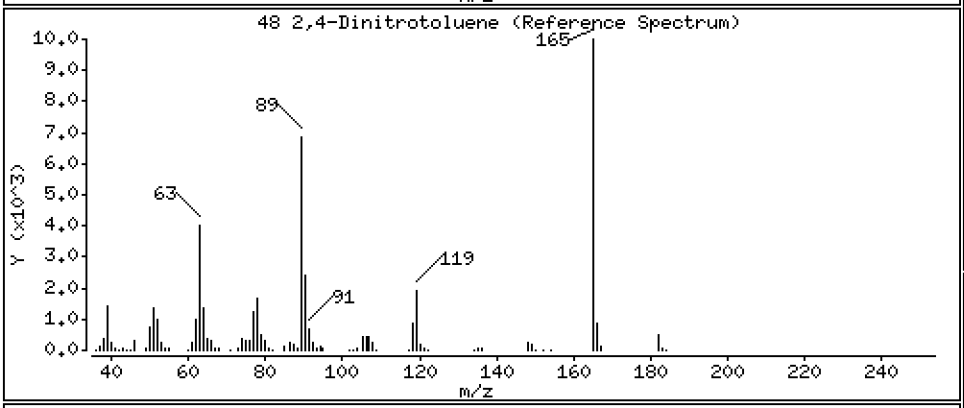
Column diameter: 0.25

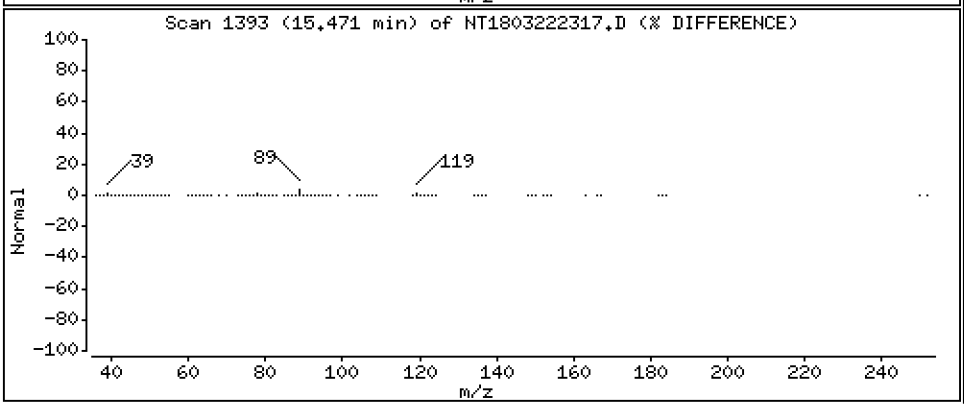
48 2,4-Dinitrotoluene

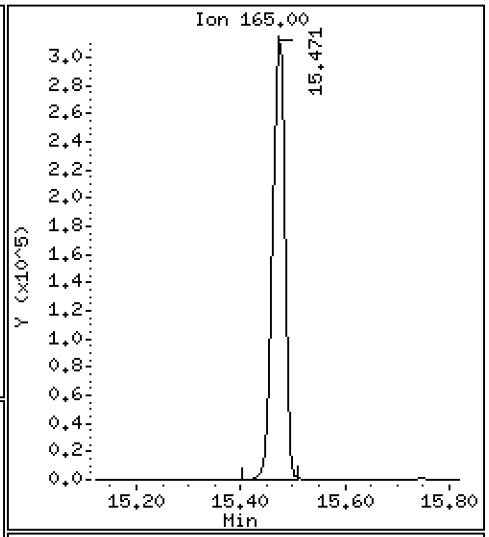
Concentration: 10.12 ug/mL

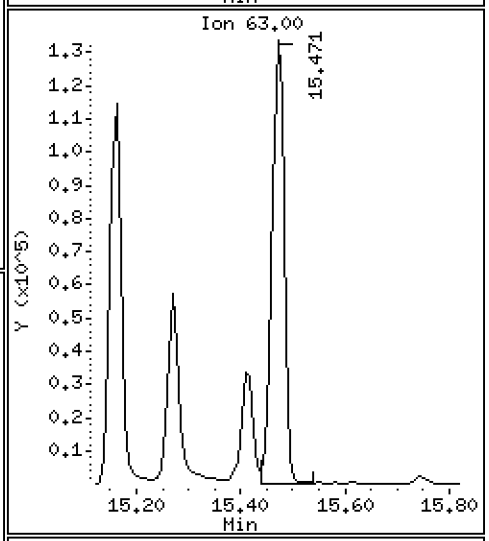


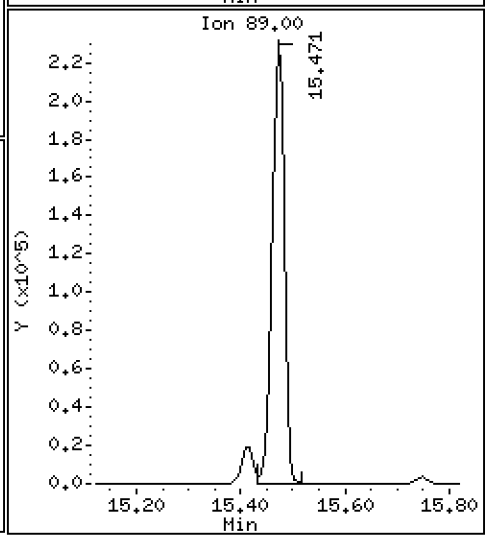












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

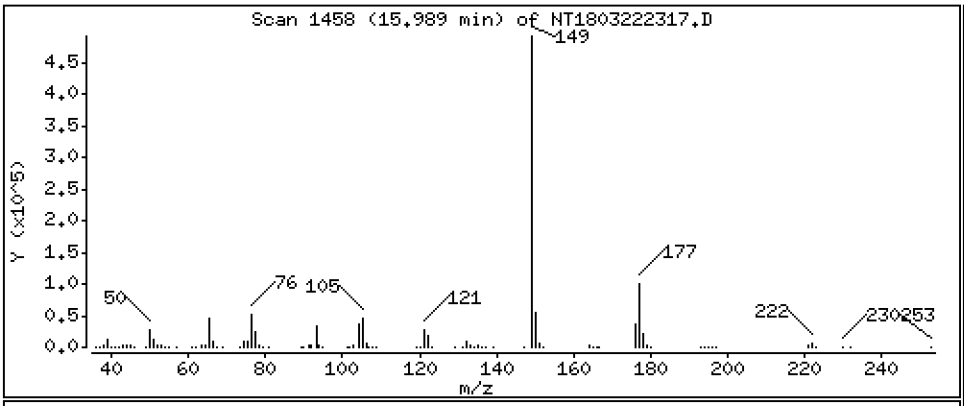
Operator: VTS

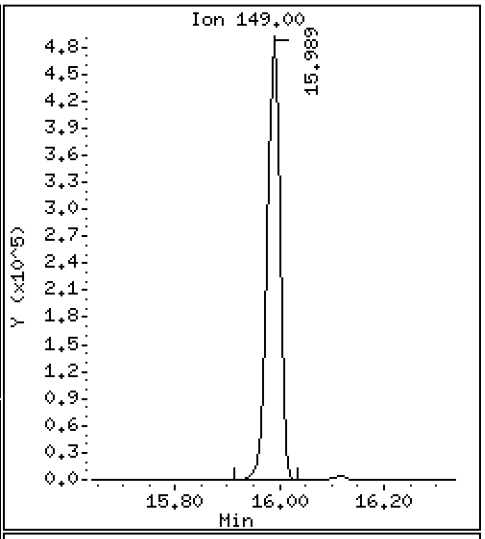
Column phase: ZB-5msi

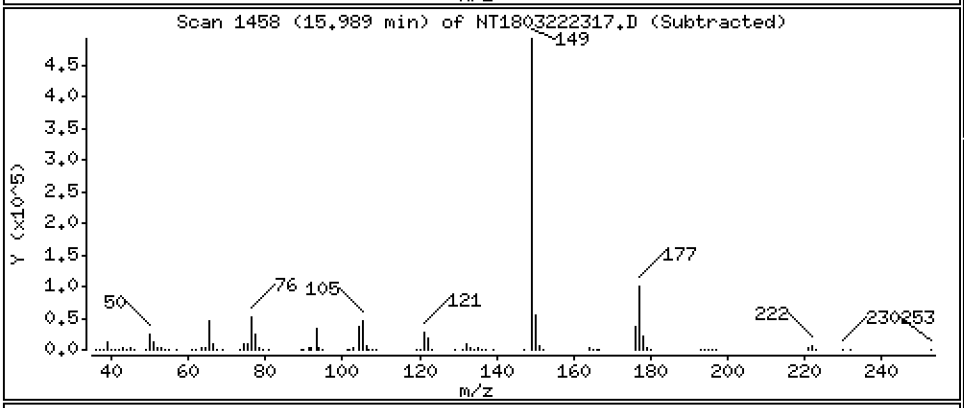
Column diameter: 0.25

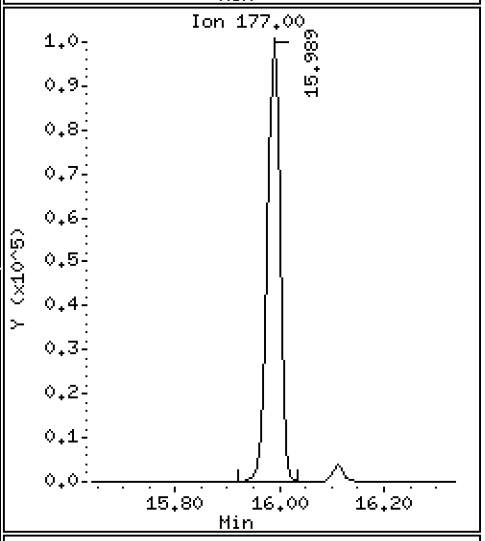
50 Diethylphthalate

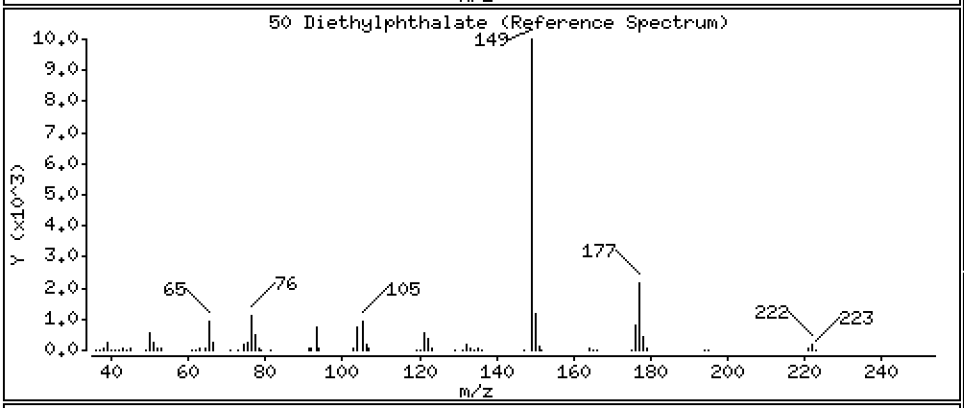
Concentration: 4.845 ug/mL

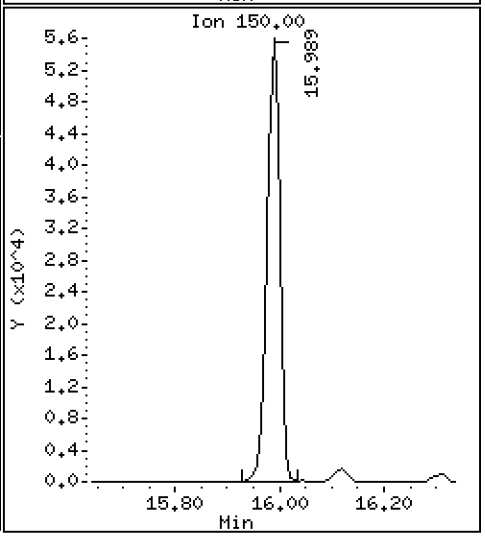


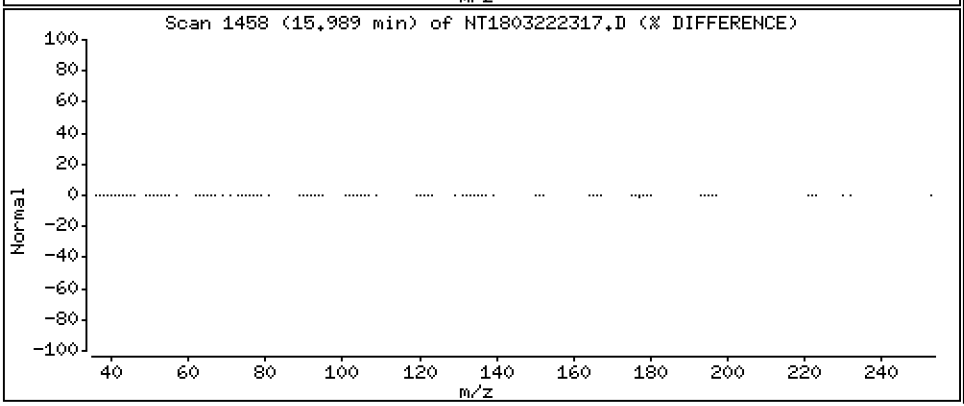












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

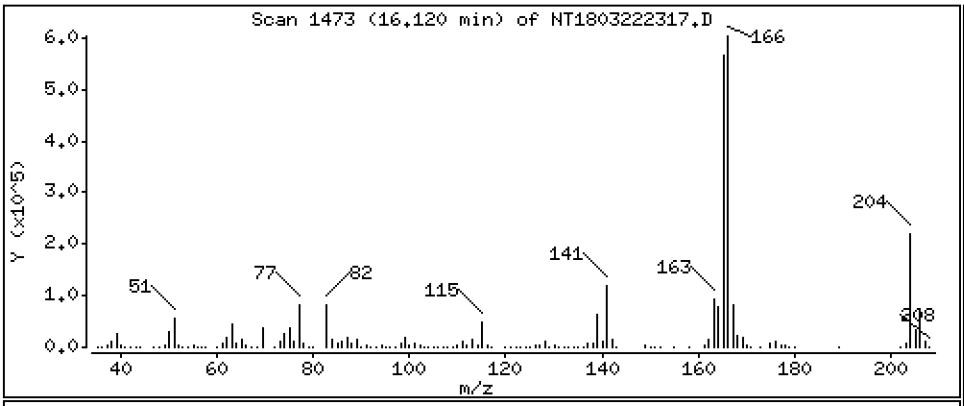
Operator: VTS

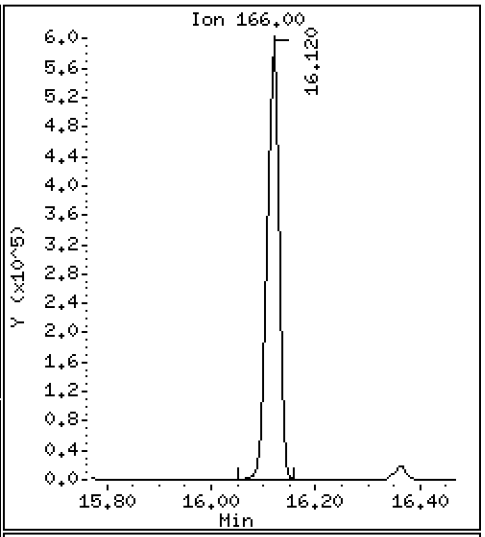
Column phase: ZB-5msi

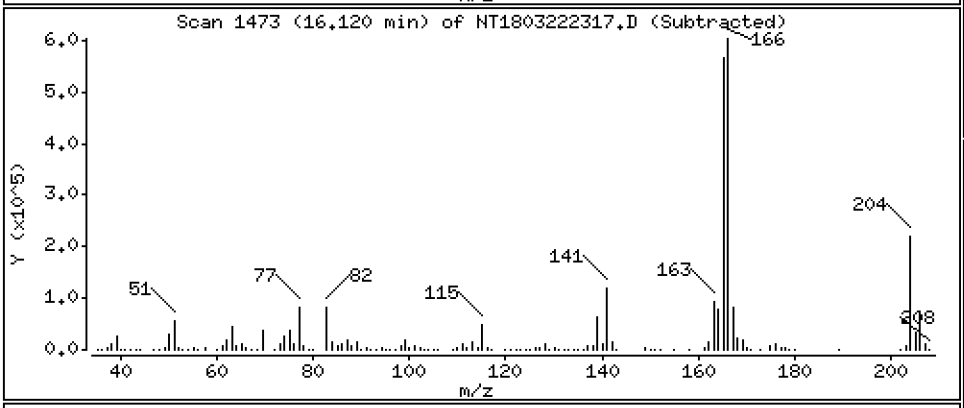
Column diameter: 0.25

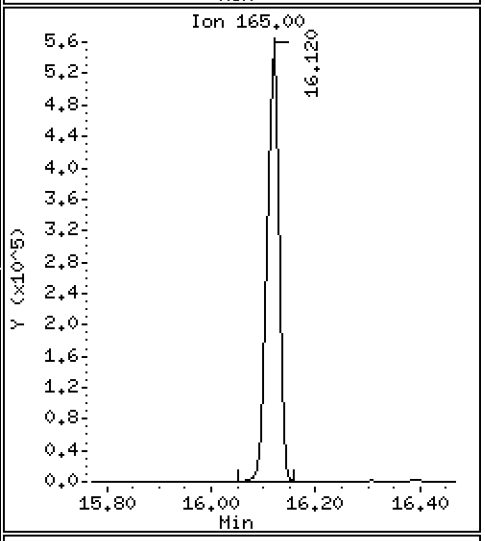
49 Fluorene

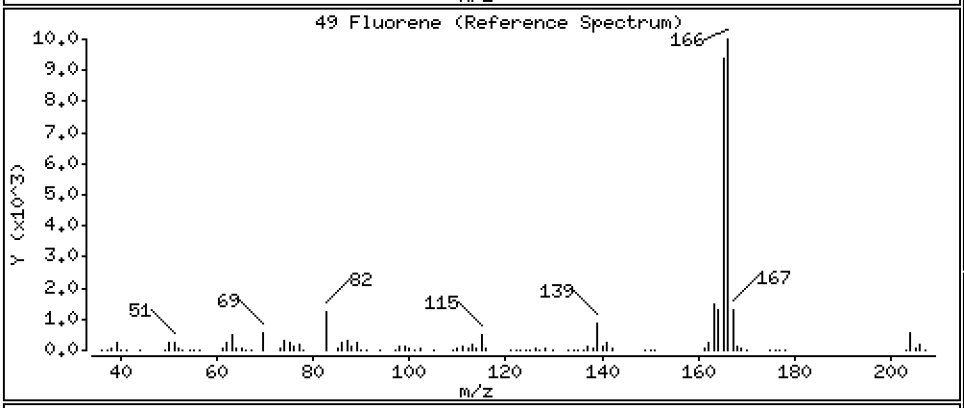
Concentration: 5.159 ug/mL

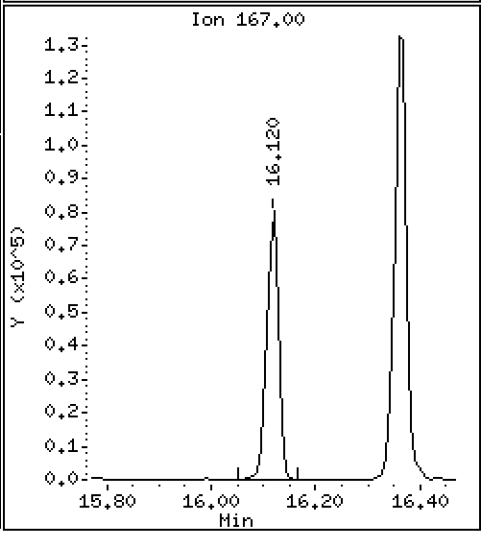


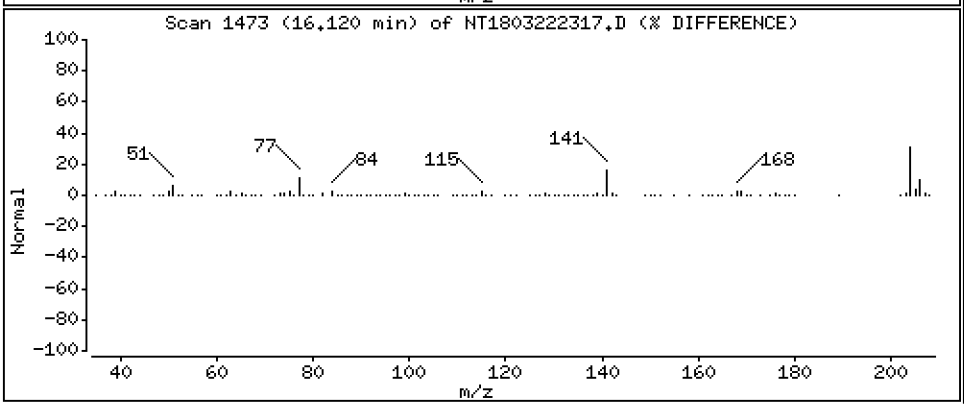












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

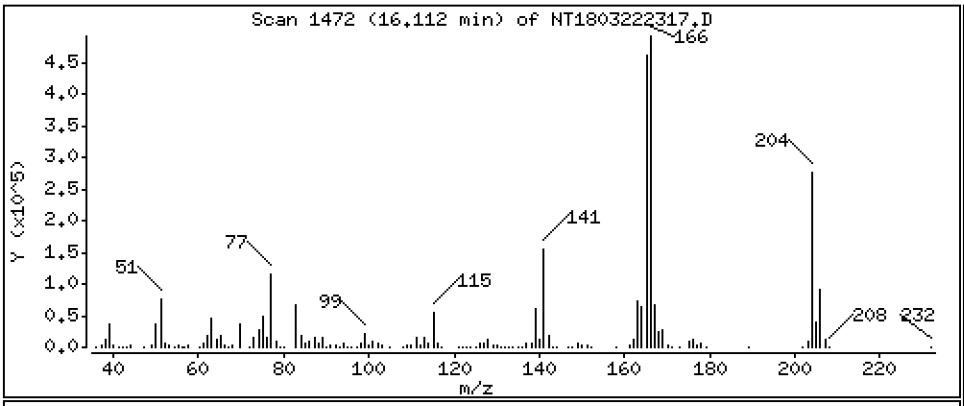
Operator: VTS

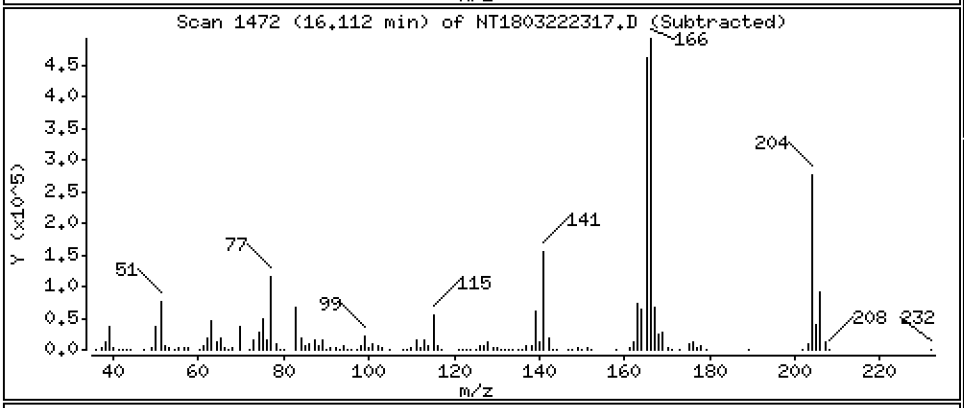
Column phase: ZB-5msi

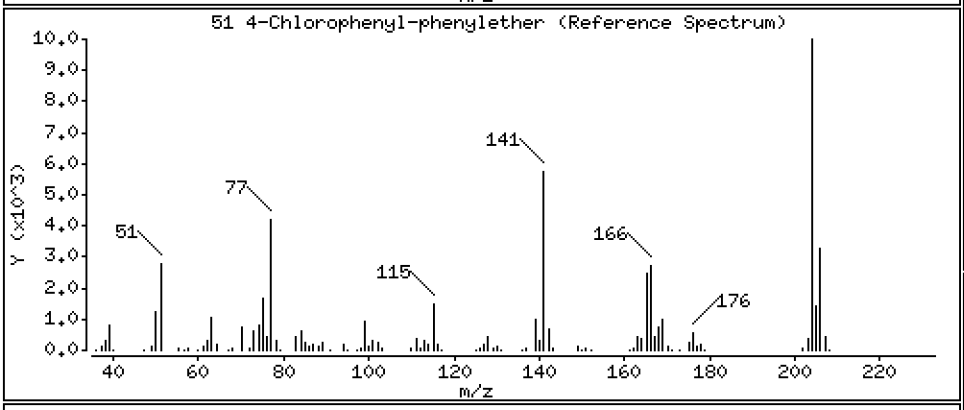
Column diameter: 0.25

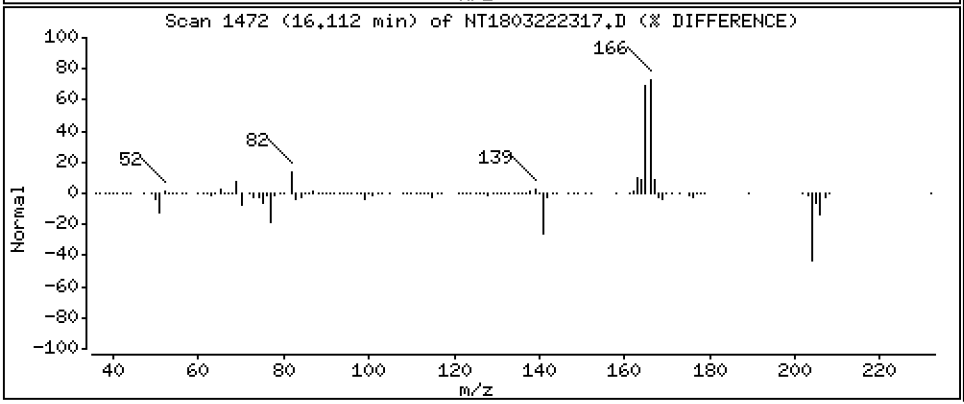
51 4-Chlorophenyl-phenylether

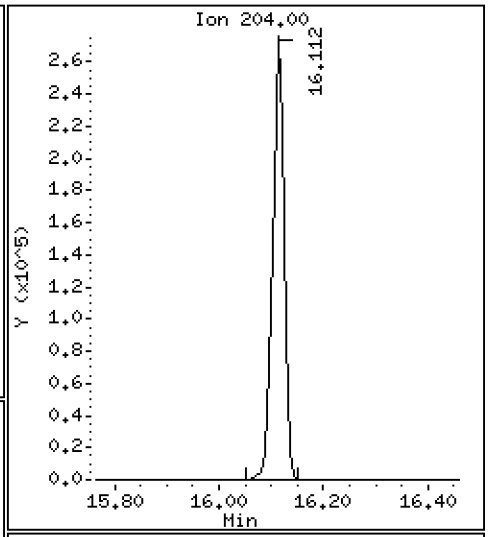
Concentration: 5.252 ug/mL

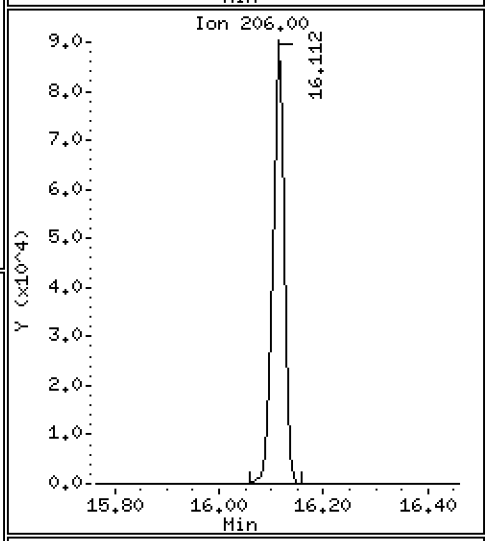


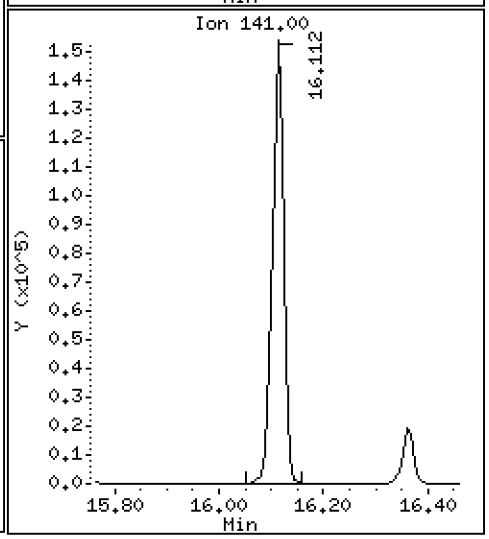












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

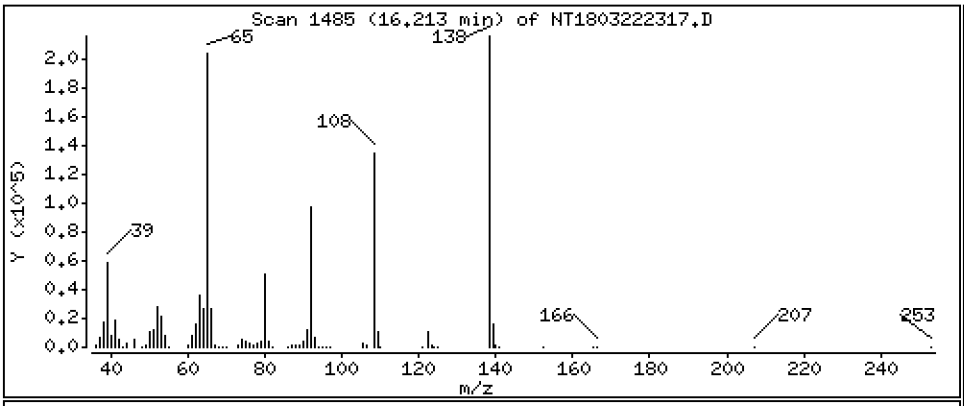
Operator: VTS

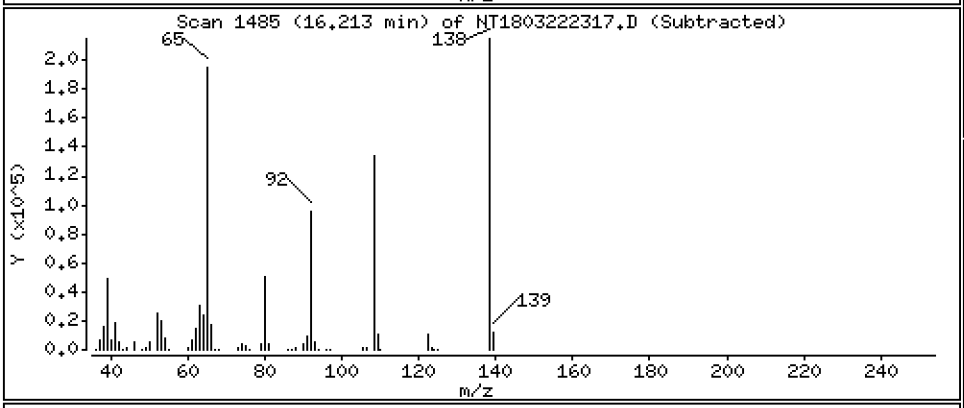
Column phase: ZB-5msi

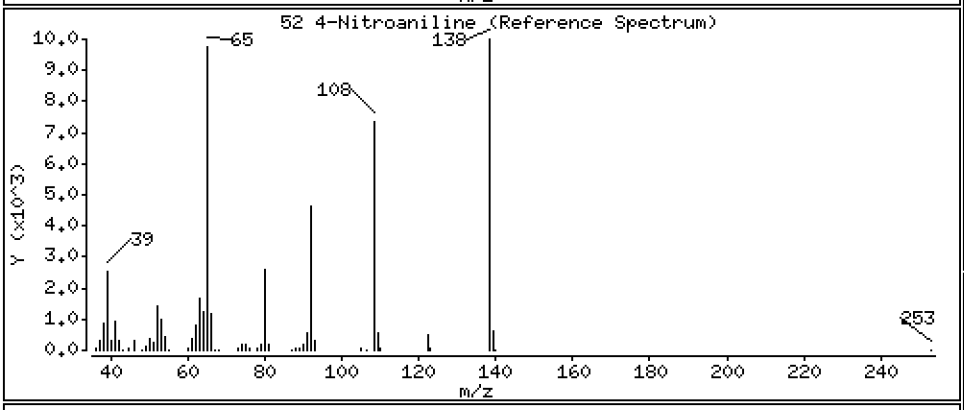
Column diameter: 0.25

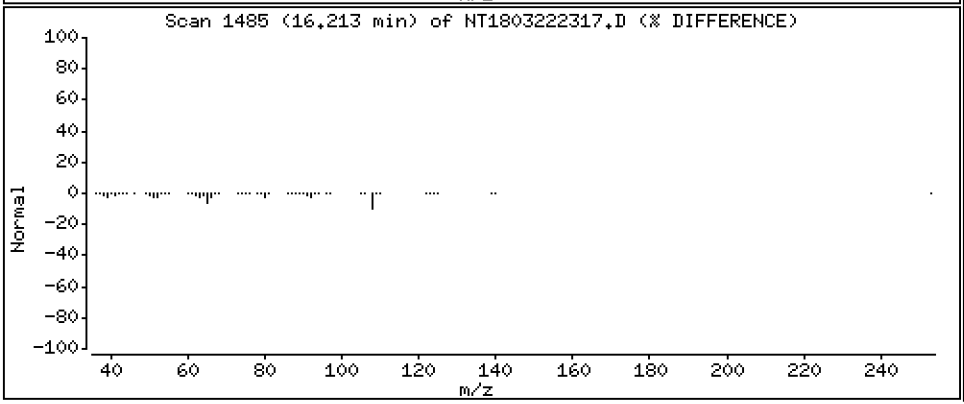
52 4-Nitroaniline

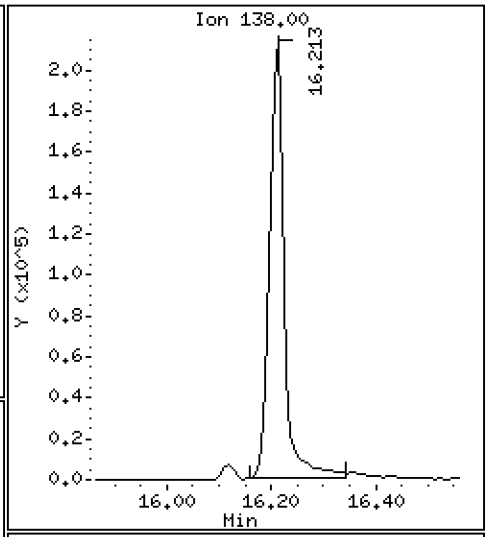
Concentration: 9.664 ug/mL

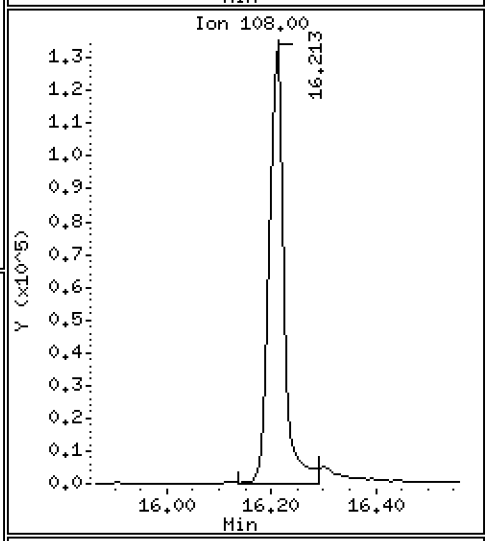


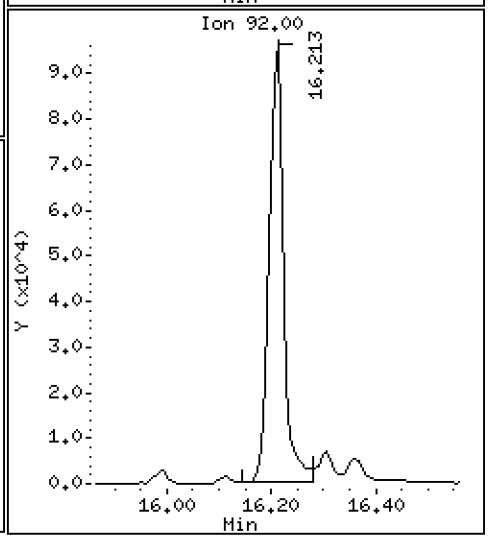












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

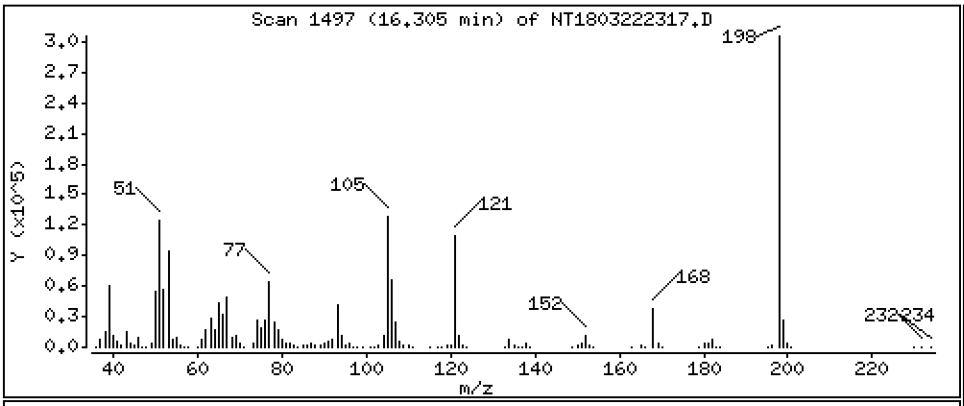
Operator: VTS

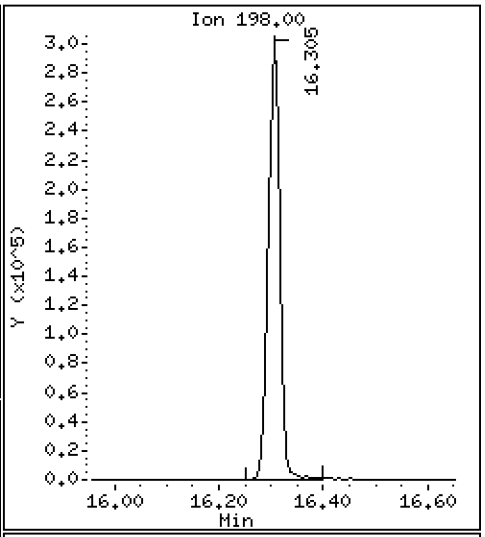
Column phase: ZB-5msi

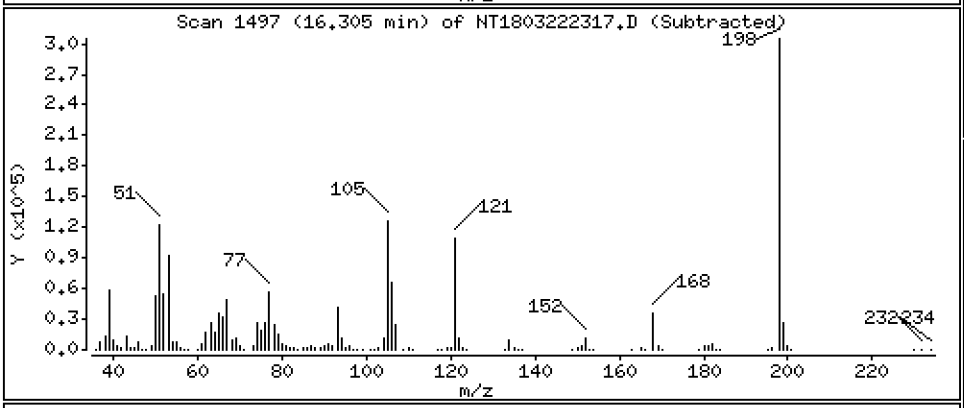
Column diameter: 0.25

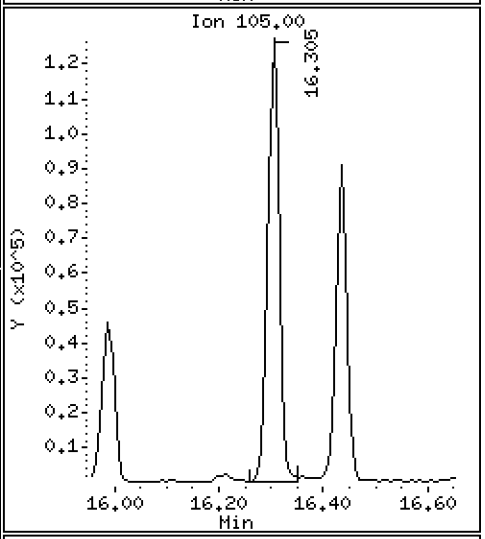
53 4,6-Dinitro-2-methylphenol

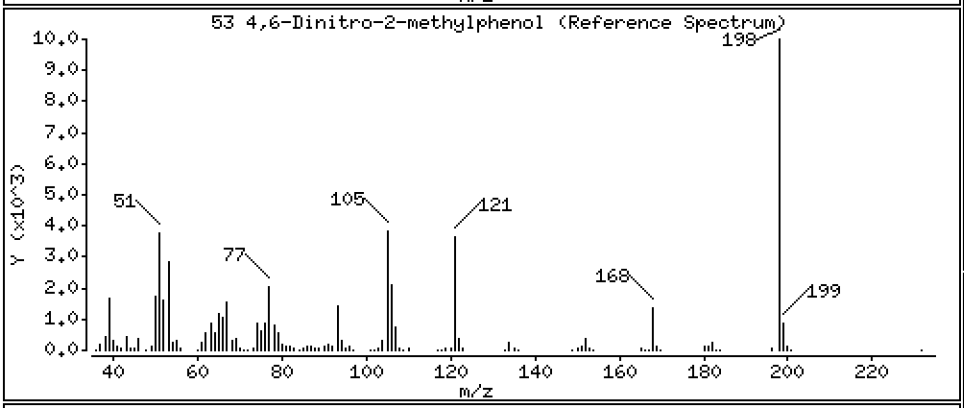
Concentration: 16.49 ug/mL

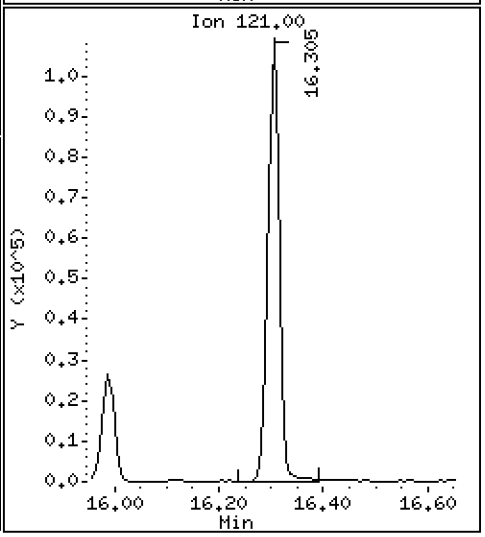


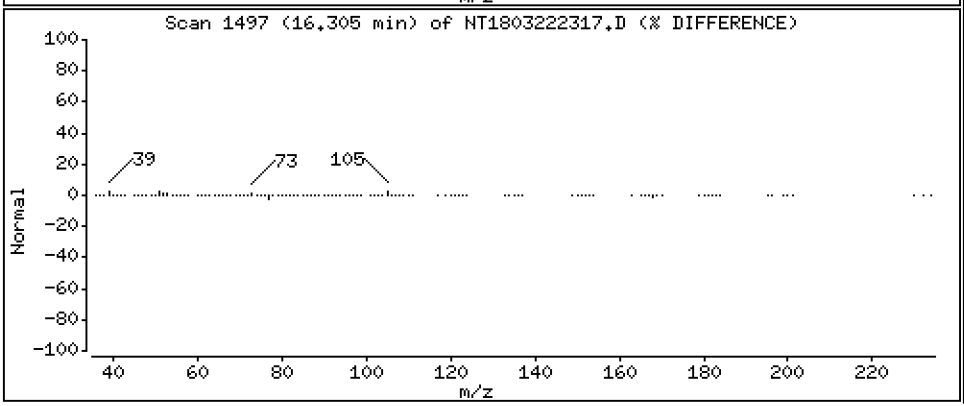












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222317.D

Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

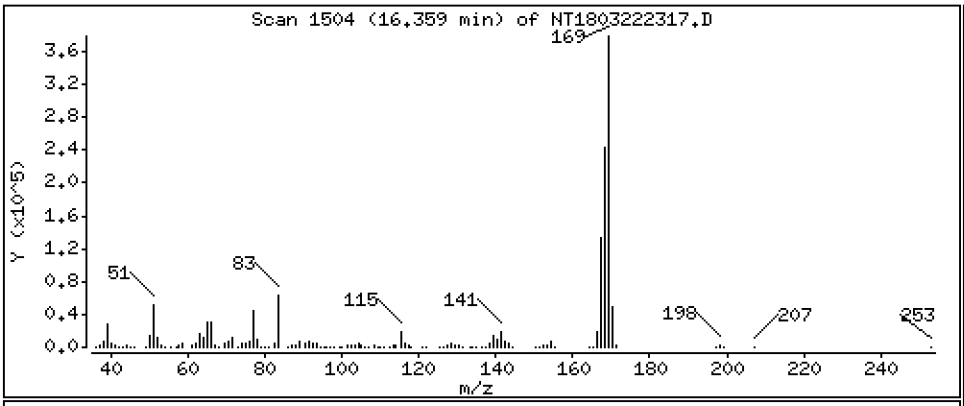
Operator: VTS

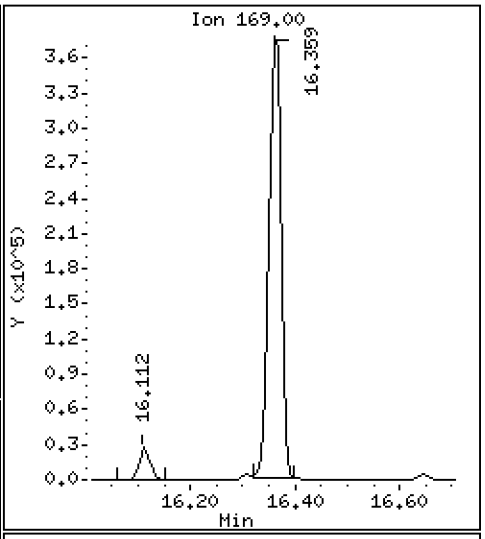
Column phase: ZB-5msi

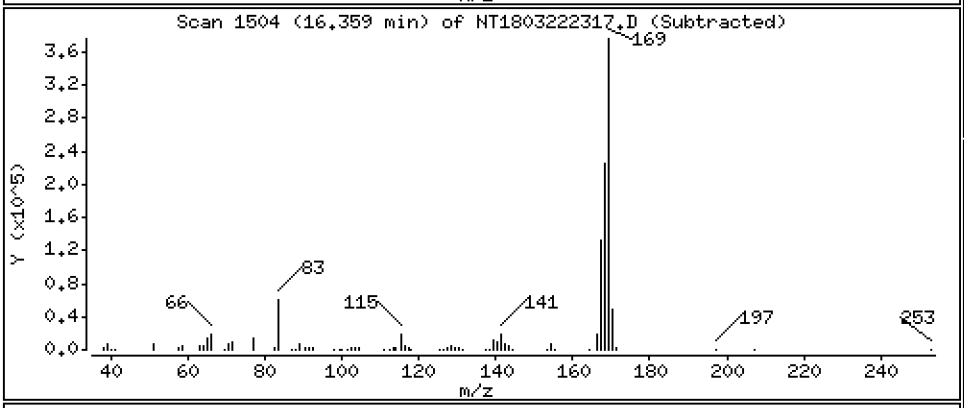
Column diameter: 0.25

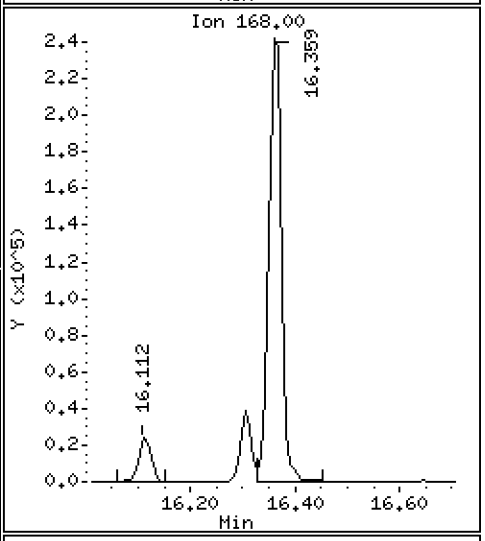
54 N-Nitrosodiphenylamine

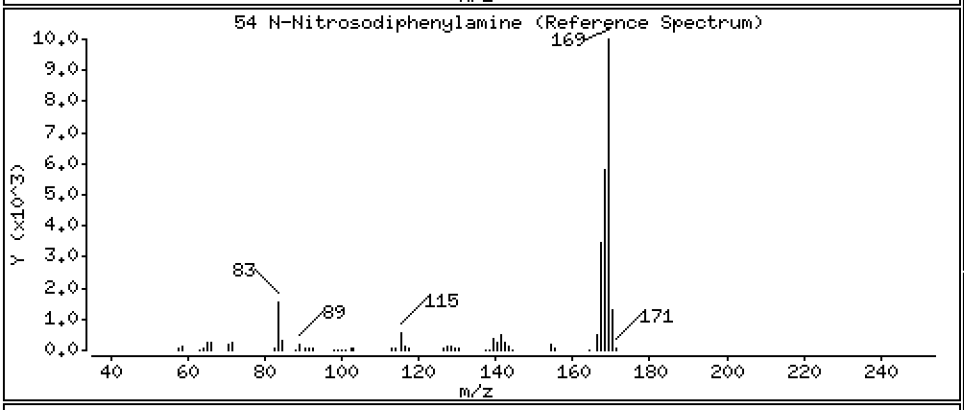
Concentration: 4.981 ug/mL

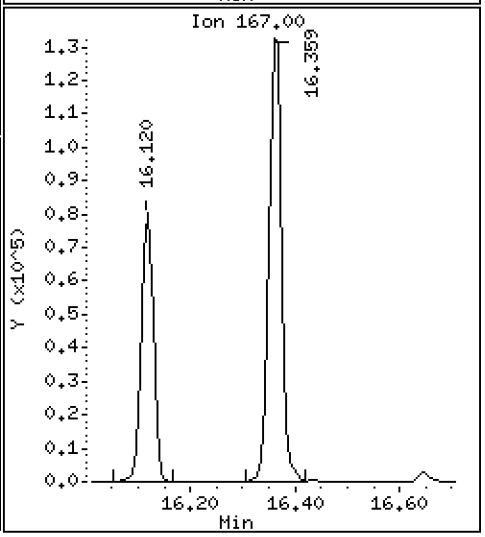


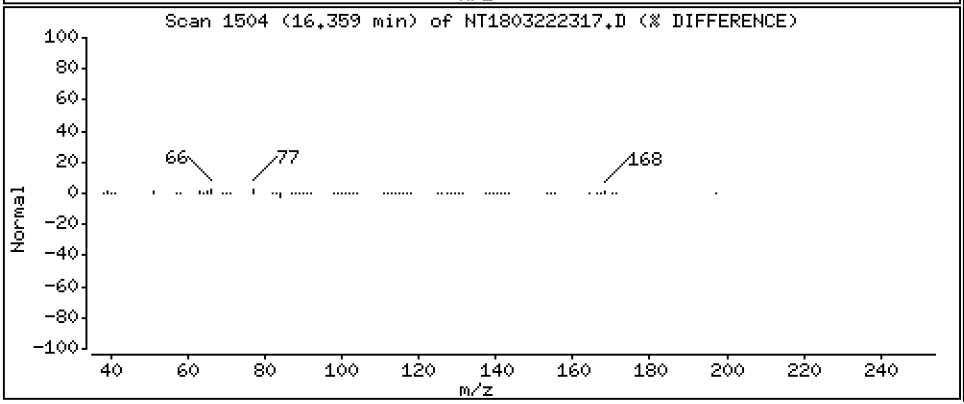












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

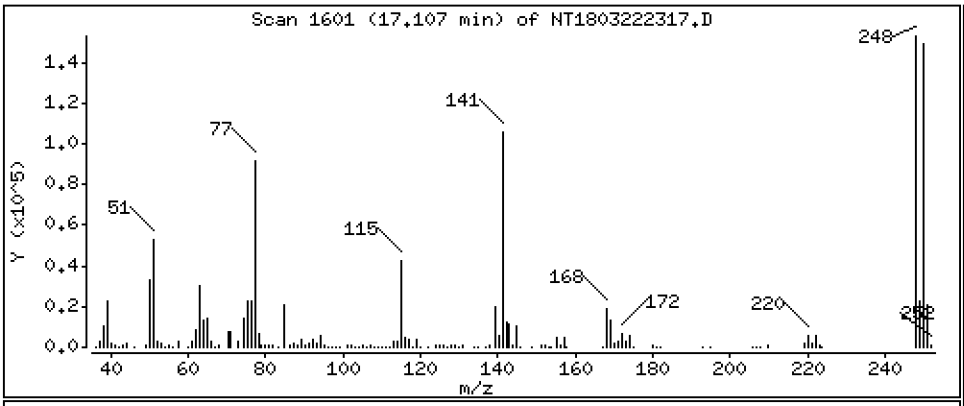
Operator: VTS

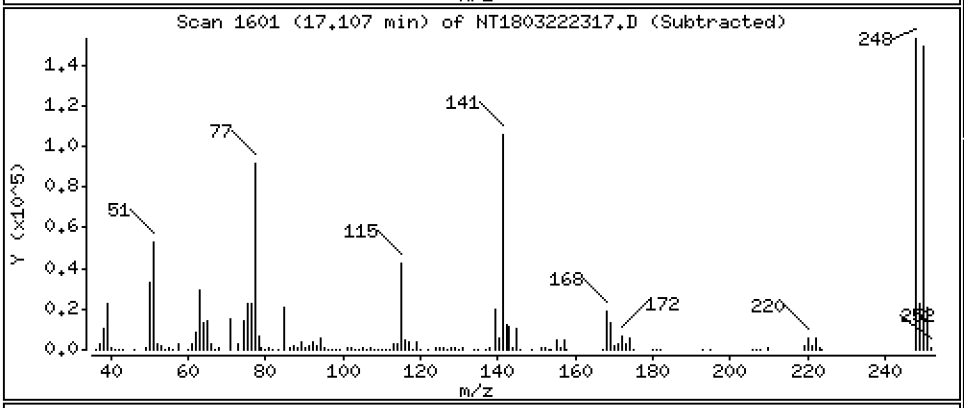
Column phase: ZB-5msi

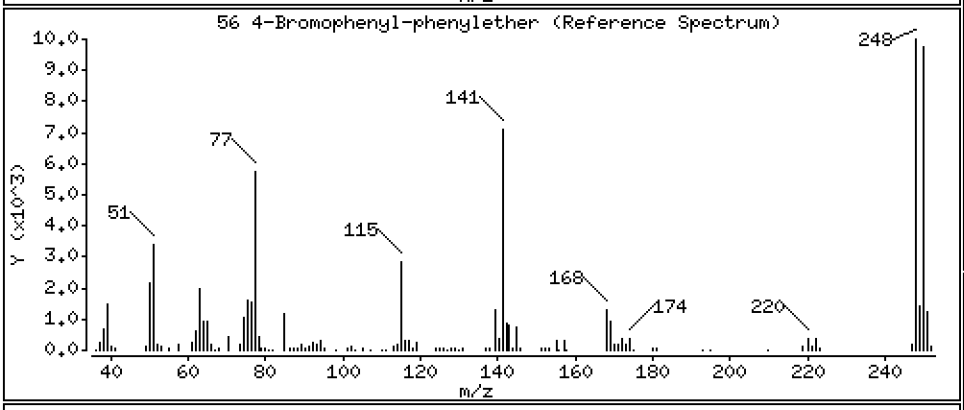
Column diameter: 0.25

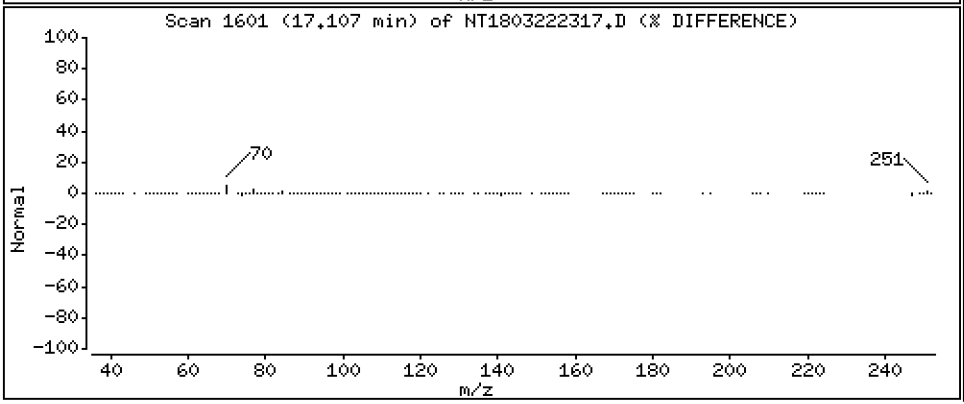
56 4-Bromophenyl-phenylether

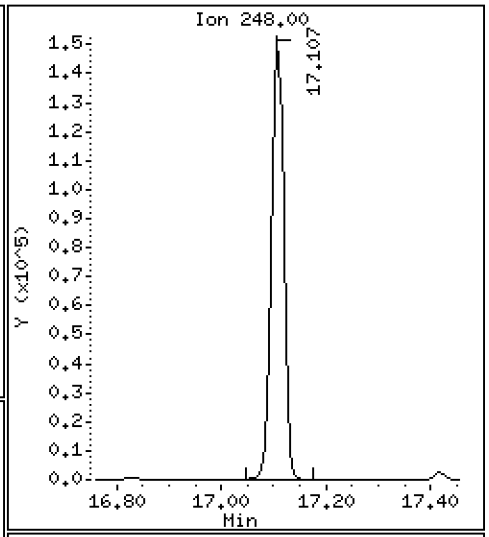
Concentration: 5.056 ug/mL

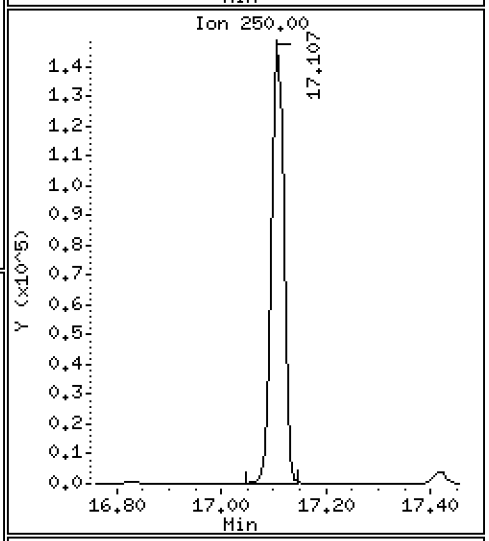


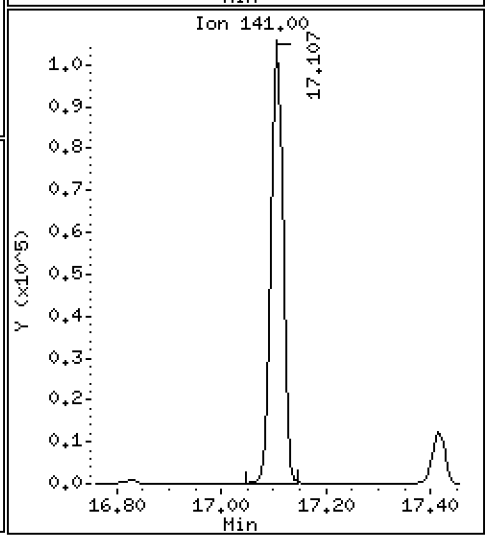












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

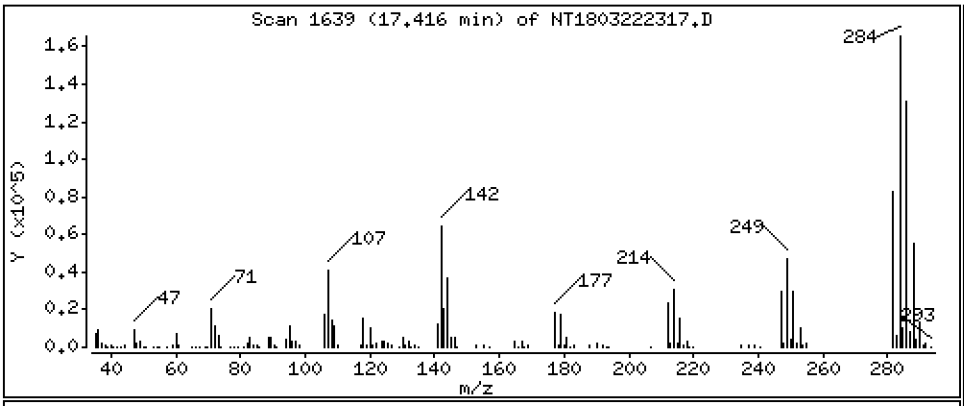
Operator: VTS

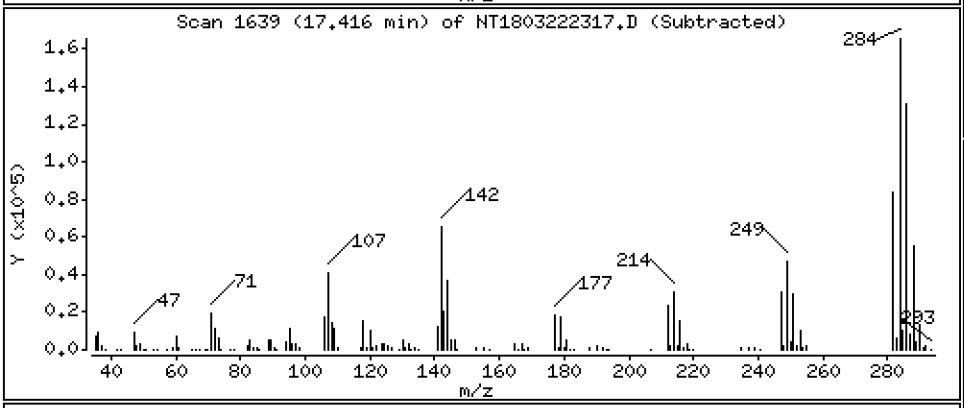
Column phase: ZB-5msi

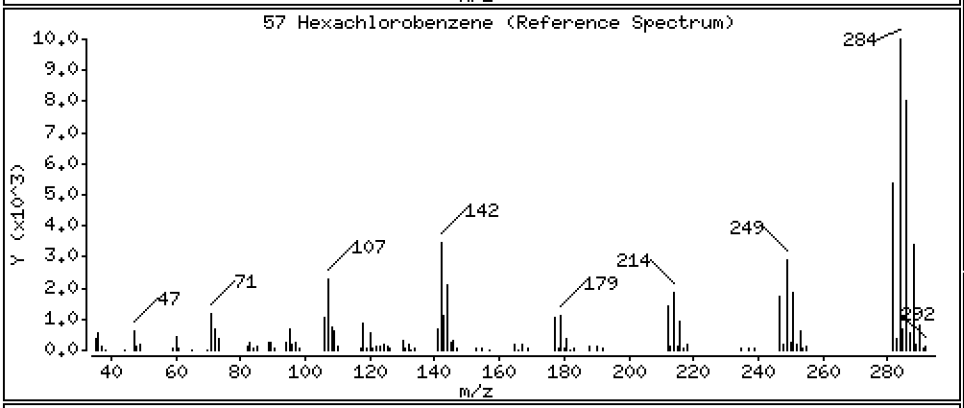
Column diameter: 0.25

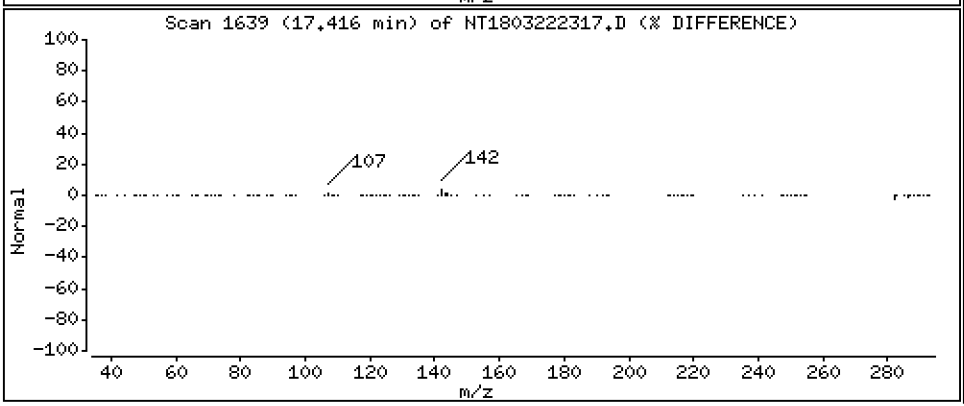
57 Hexachlorobenzene

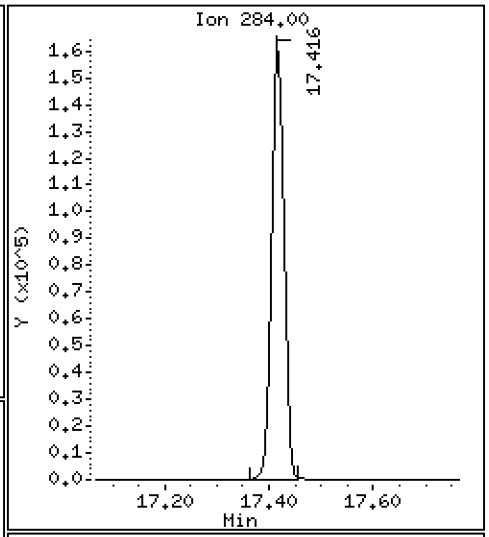
Concentration: 4.999 ug/mL

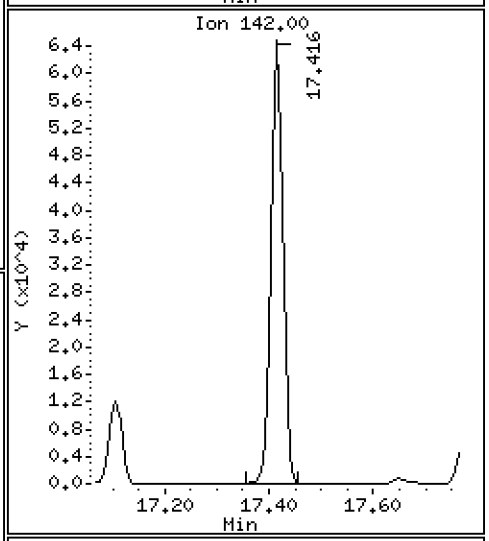


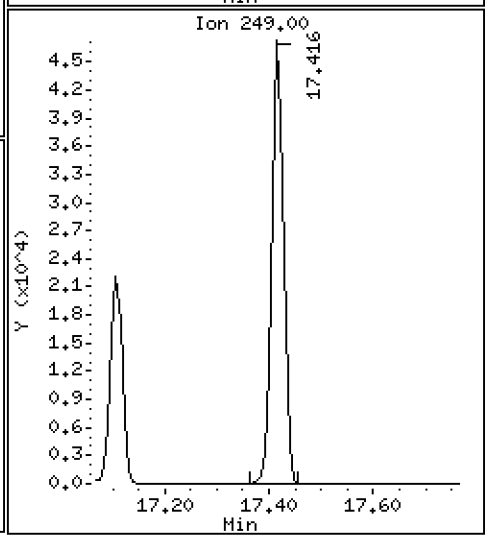












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

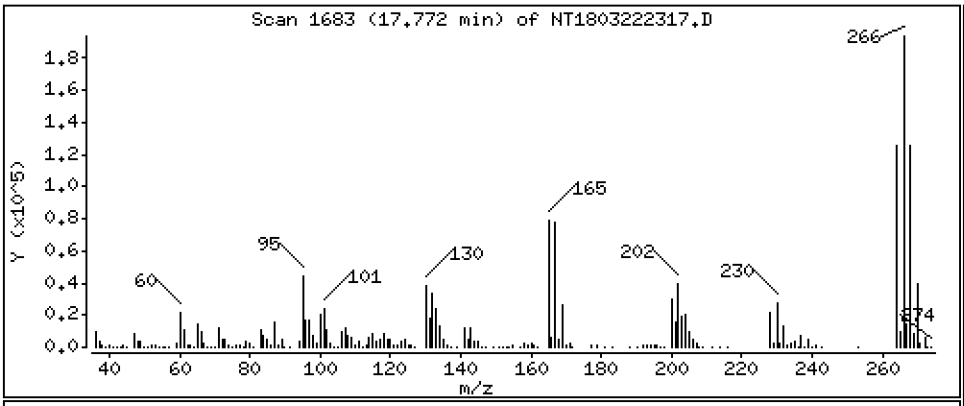
Operator: VTS

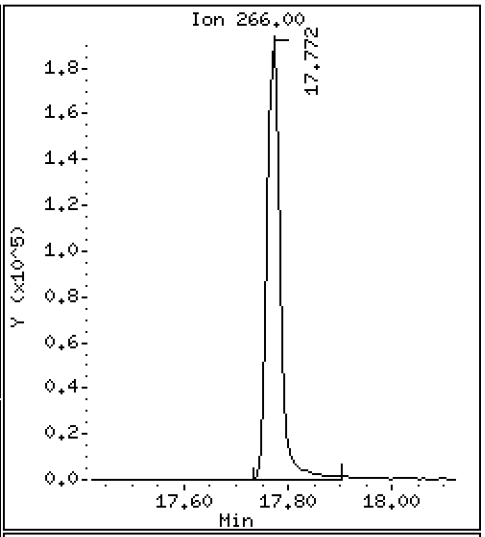
Column phase: ZB-5msi

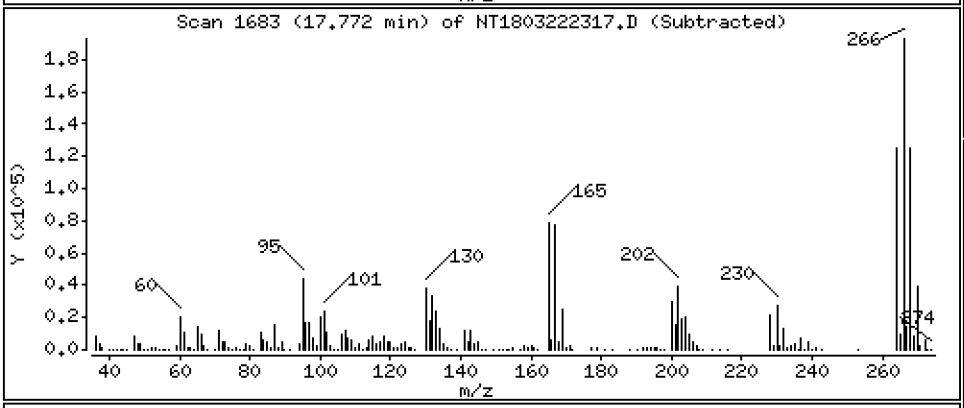
Column diameter: 0.25

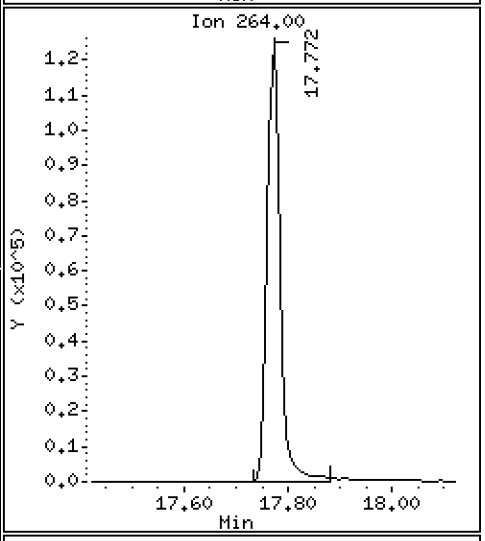
58 Pentachlorophenol

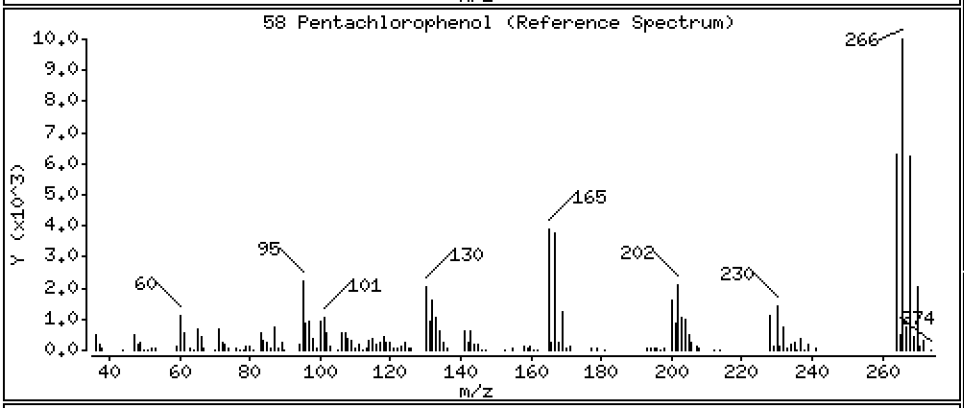
Concentration: 9.982 ug/mL

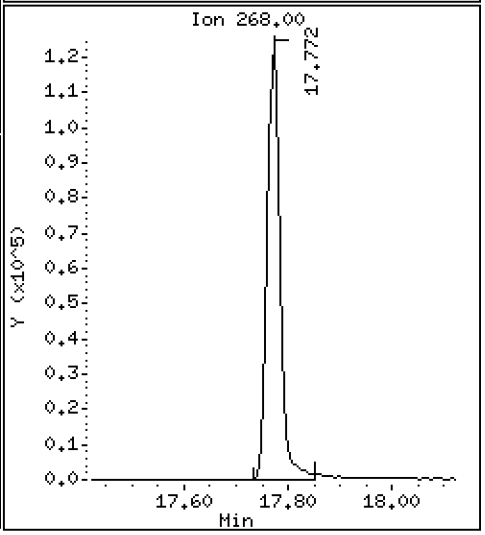


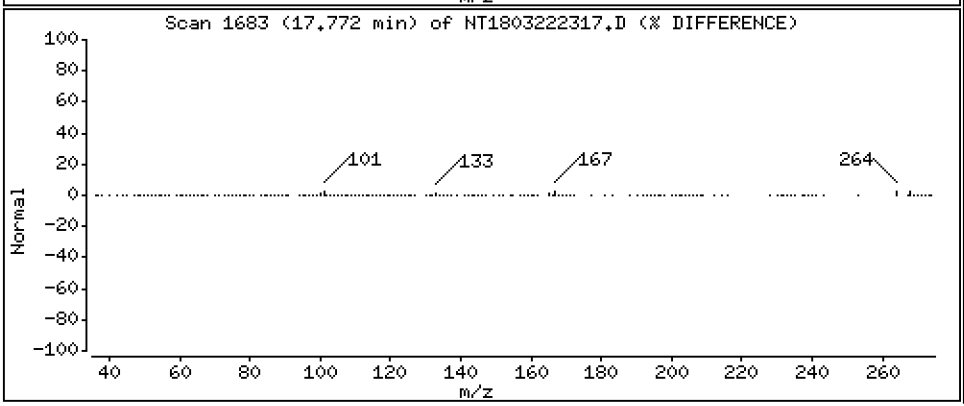












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

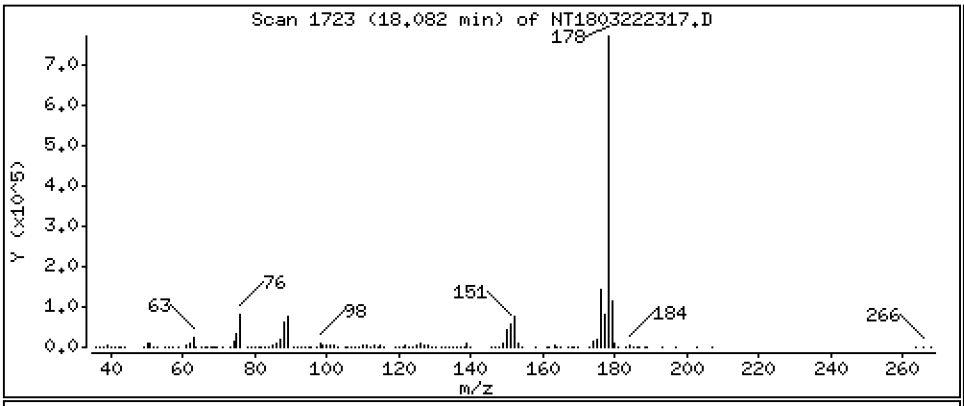
Operator: VTS

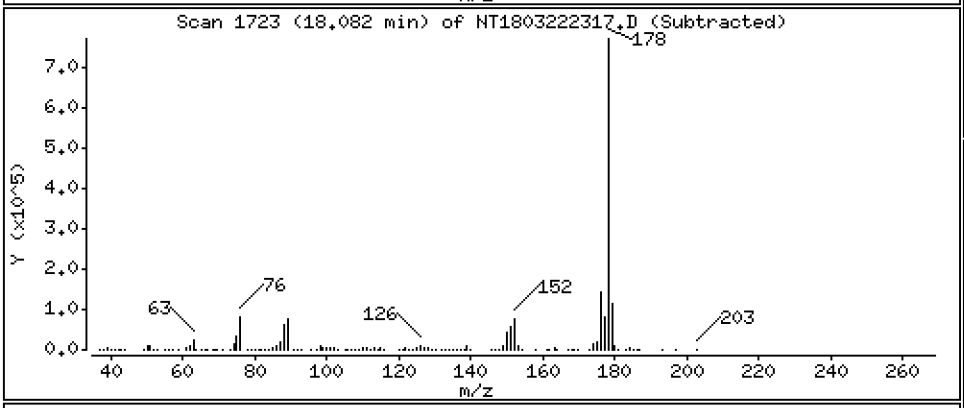
Column phase: ZB-5msi

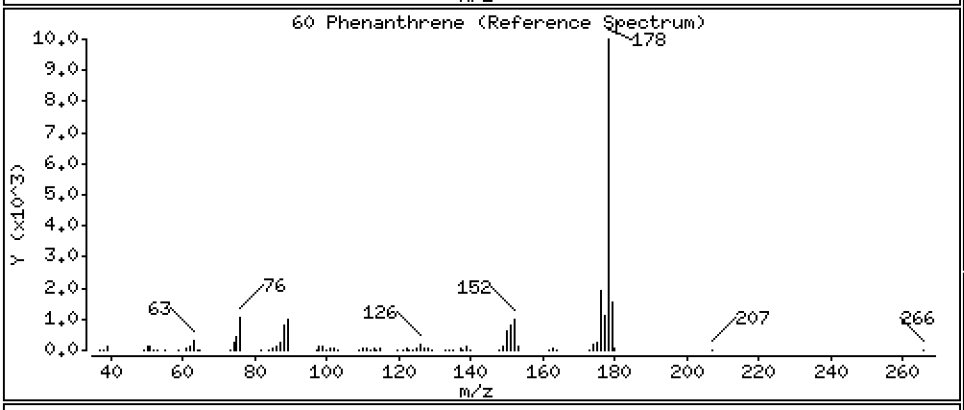
Column diameter: 0.25

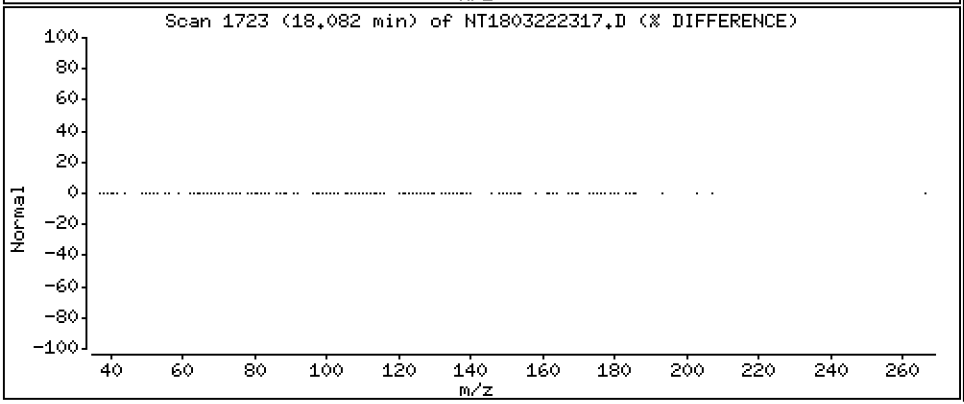
60 Phenanthrene

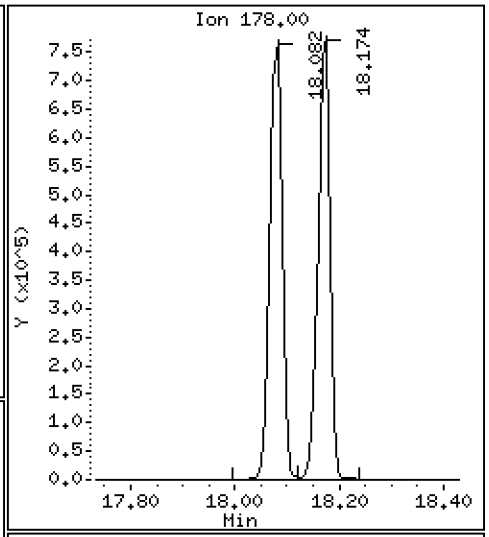
Concentration: 4.835 ug/mL

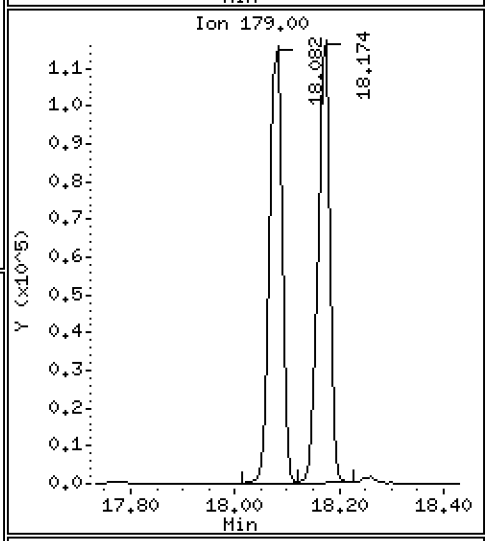


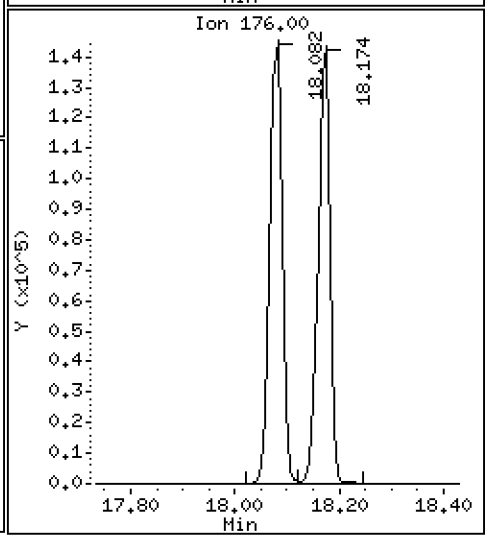












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

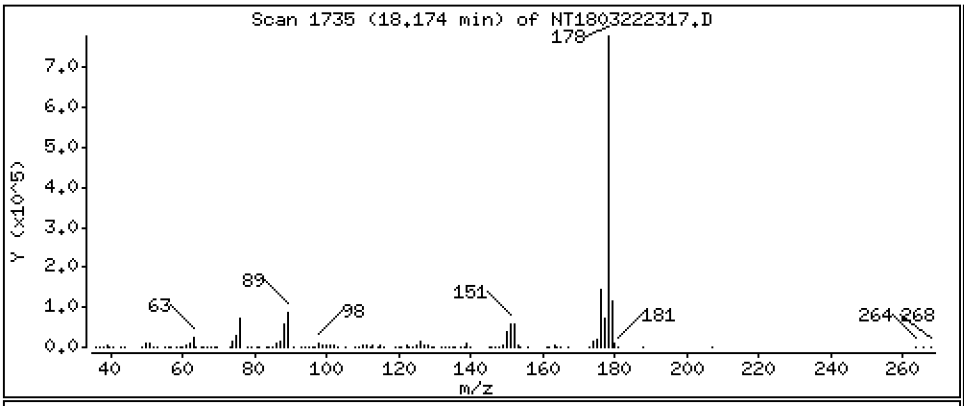
Operator: VTS

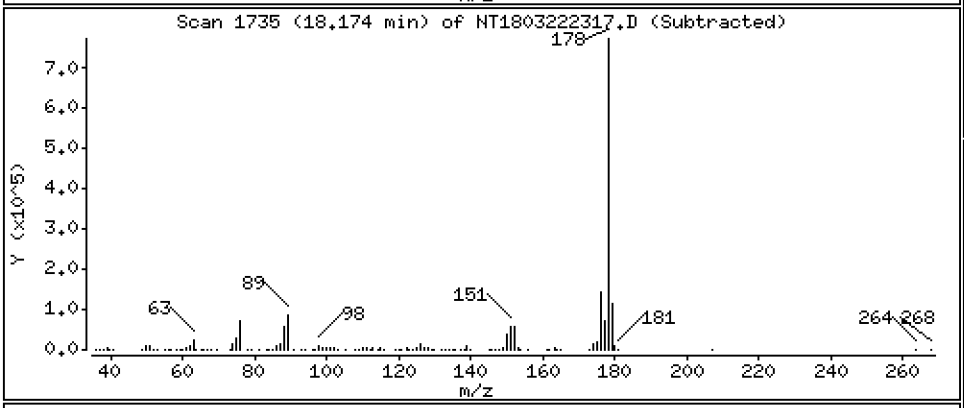
Column phase: ZB-5msi

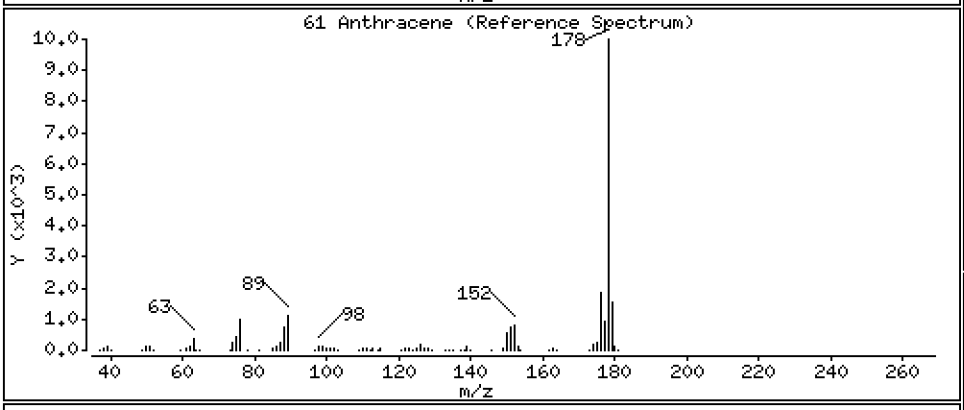
Column diameter: 0.25

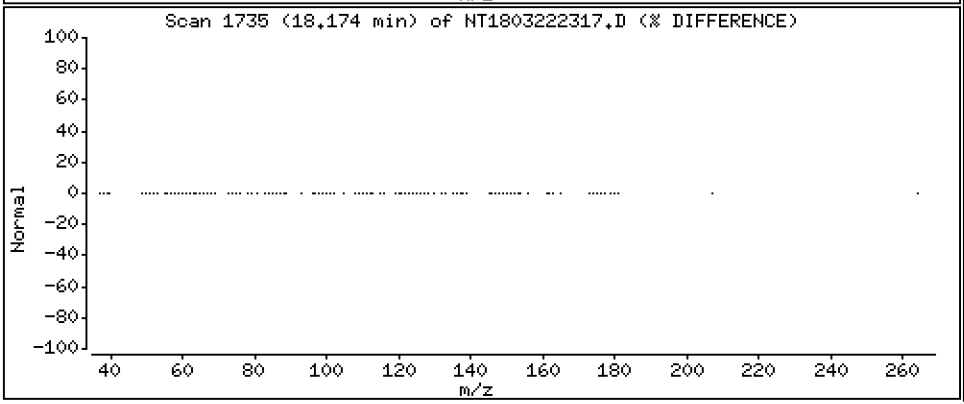
61 Anthracene

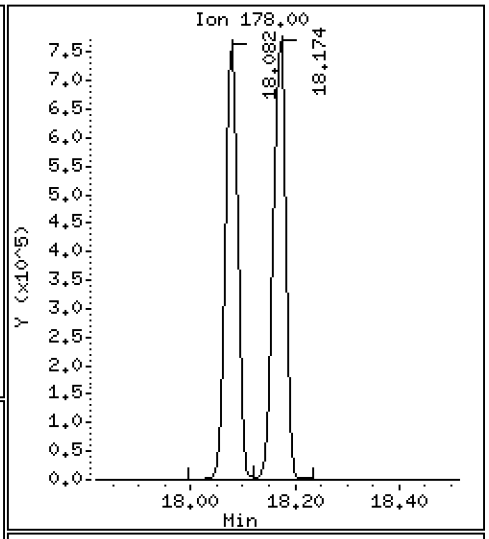
Concentration: 5.189 ug/mL

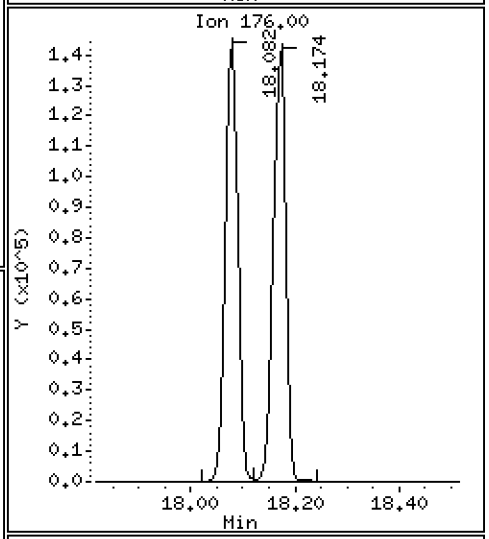


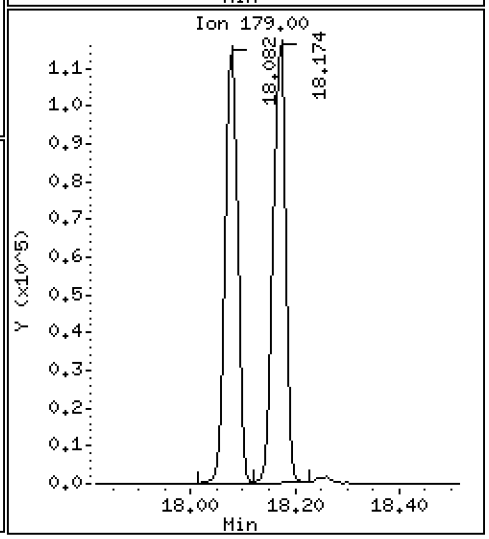












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

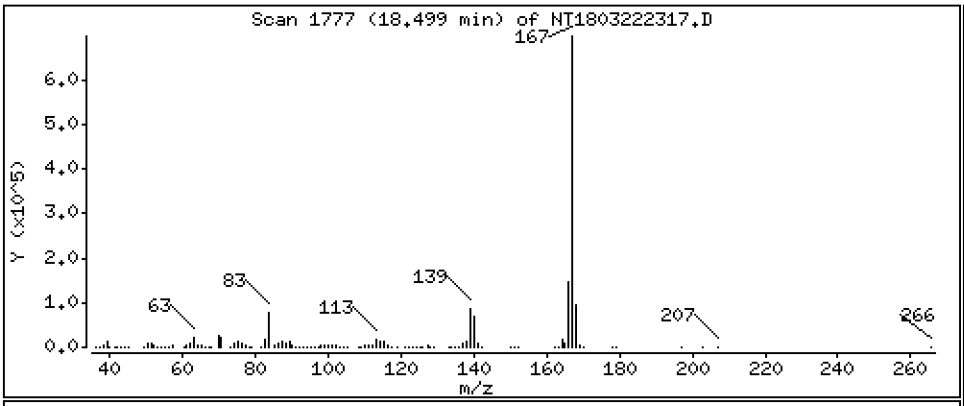
Operator: VTS

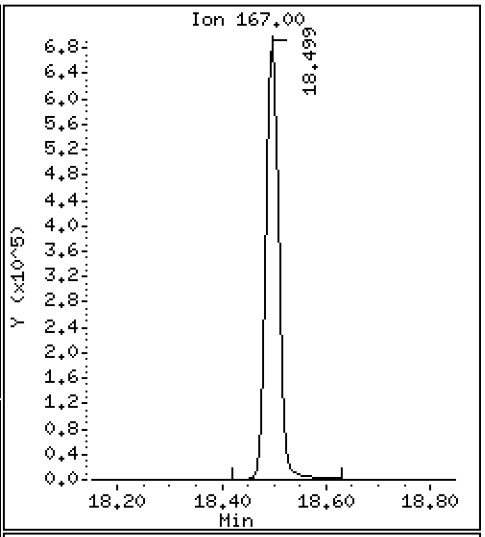
Column phase: ZB-5msi

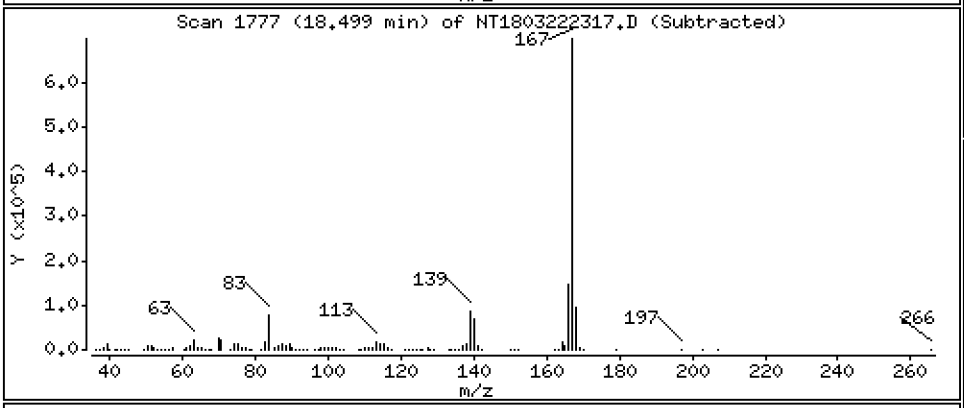
Column diameter: 0.25

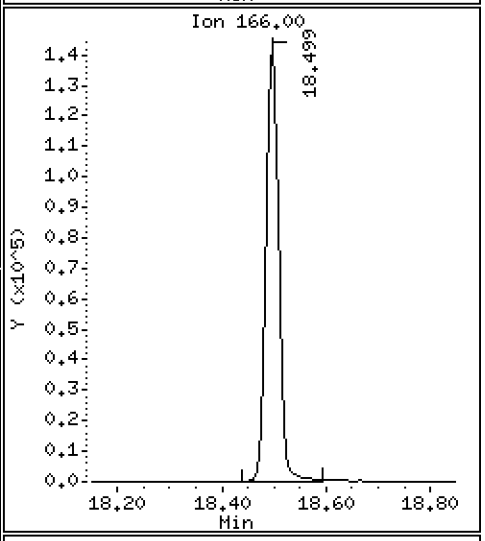
62 Carbazole

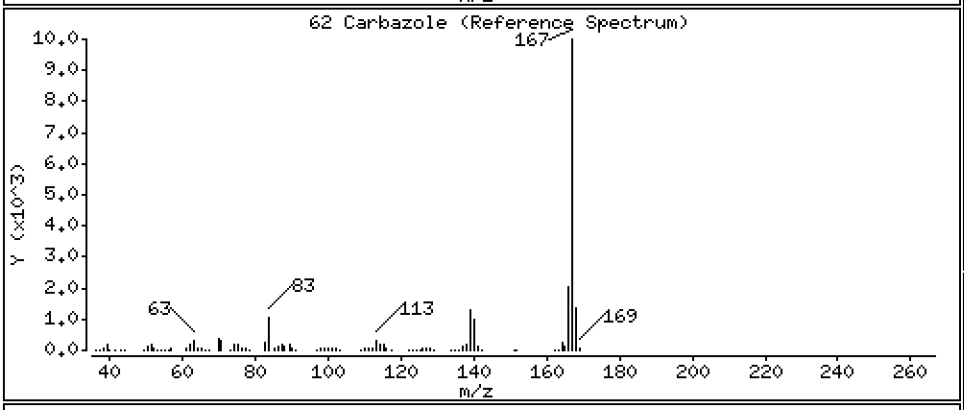
Concentration: 5.419 ug/mL

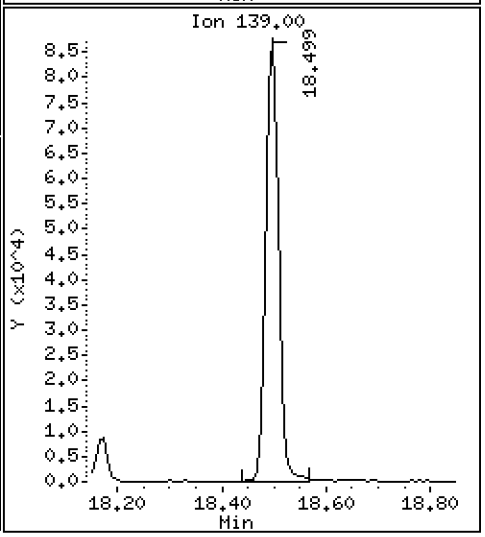


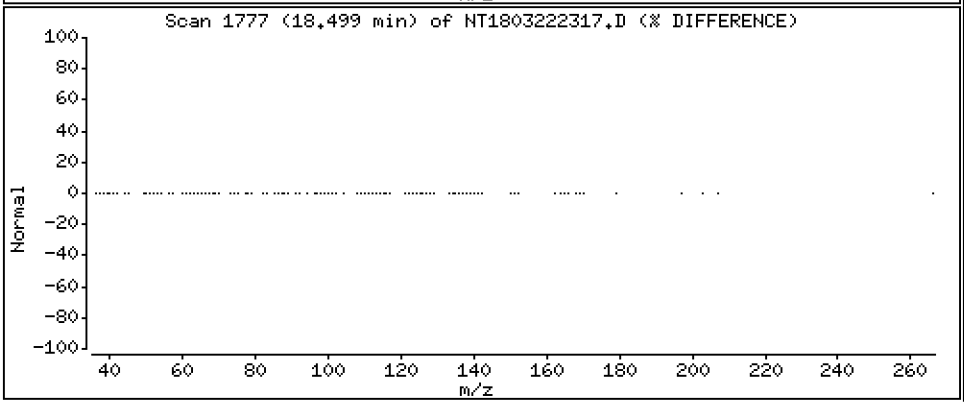












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222317.D

Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

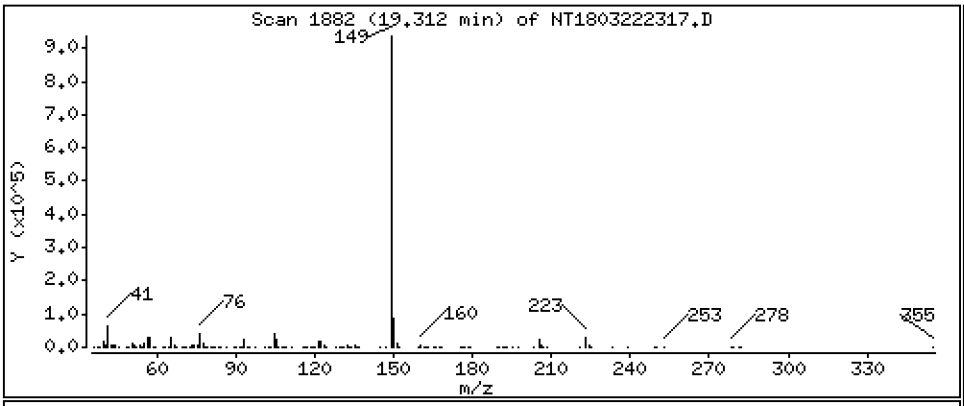
Operator: VTS

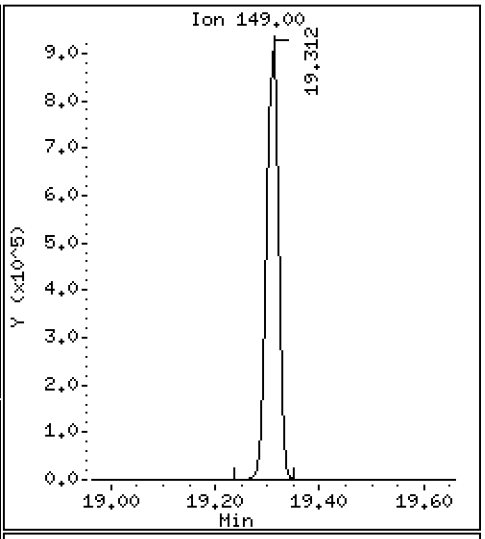
Column phase: ZB-5msi

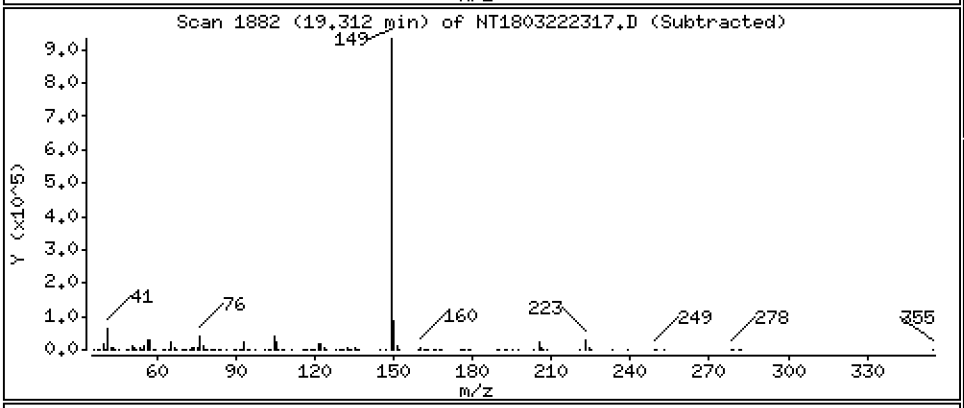
Column diameter: 0.25

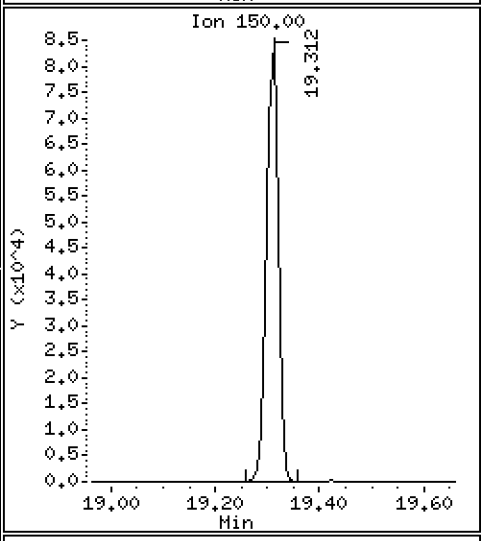
63 Di-n-butylphthalate

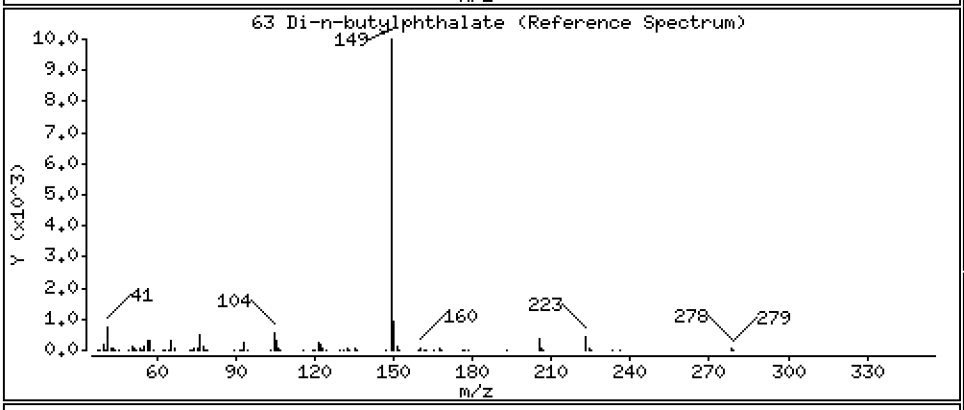
Concentration: 4.957 ug/mL

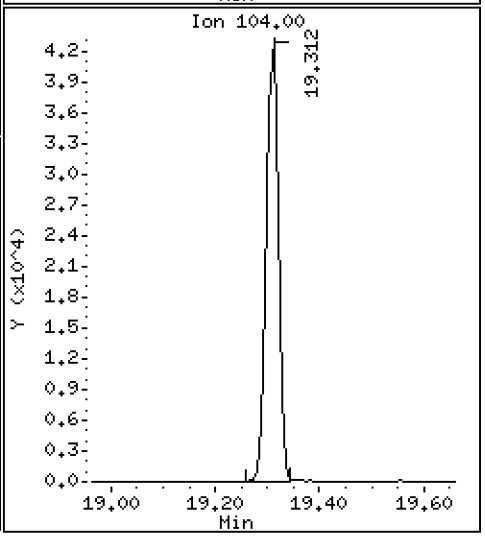


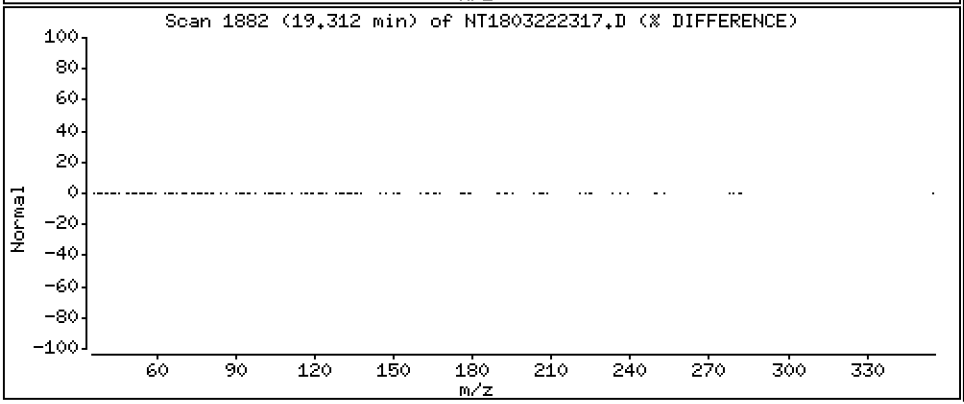












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

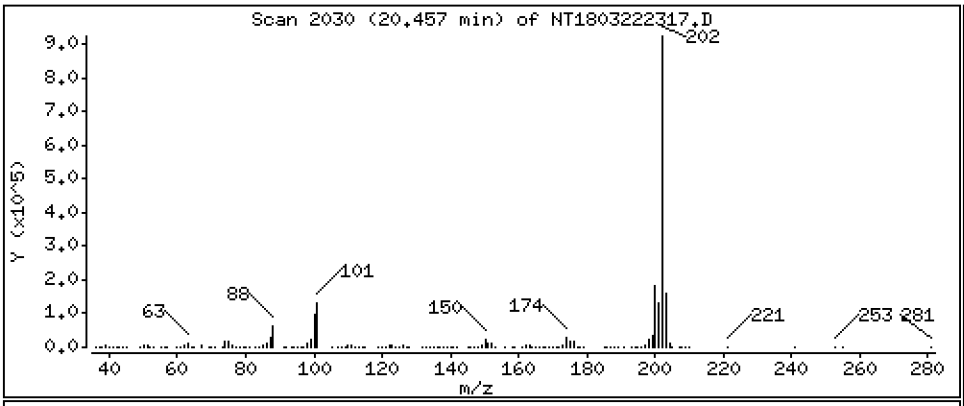
Operator: VTS

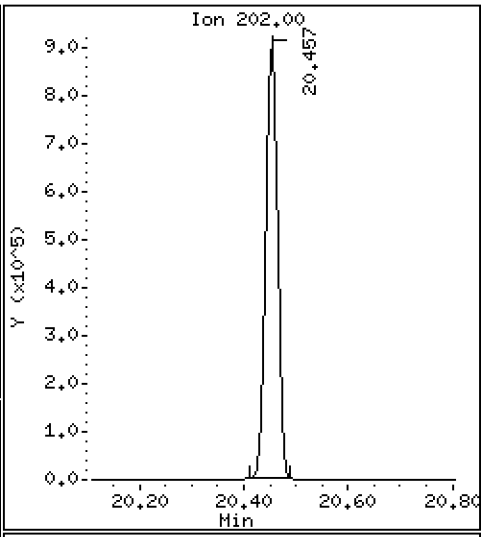
Column phase: ZB-5msi

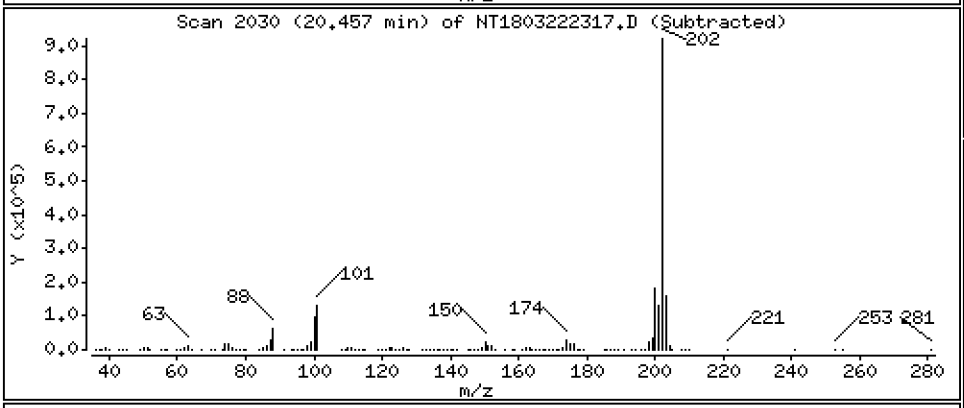
Column diameter: 0.25

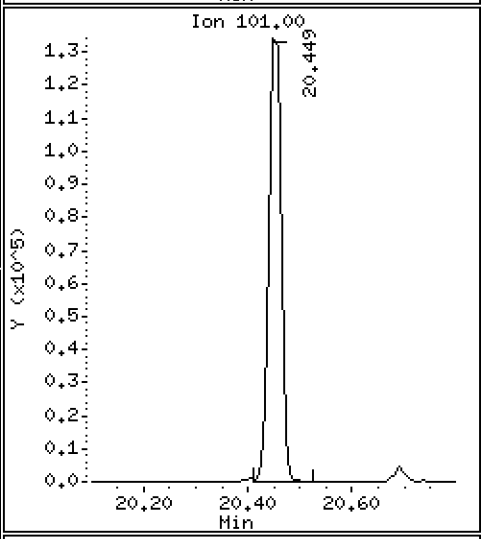
64 Fluoranthene

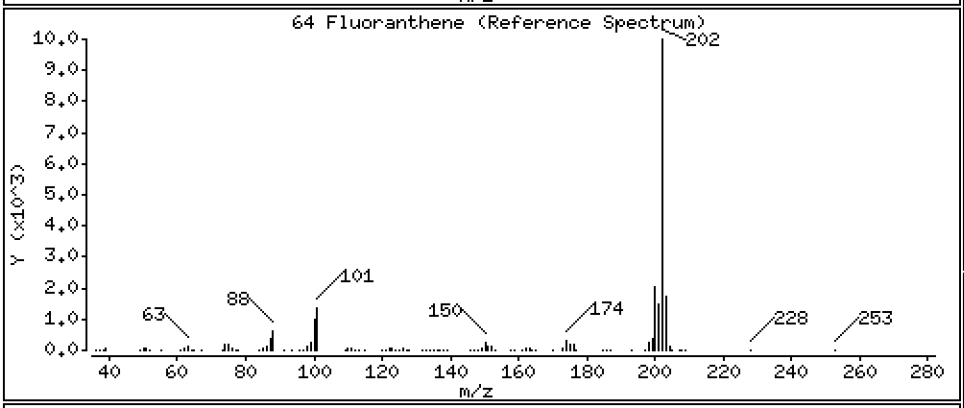
Concentration: 4.280 ug/mL

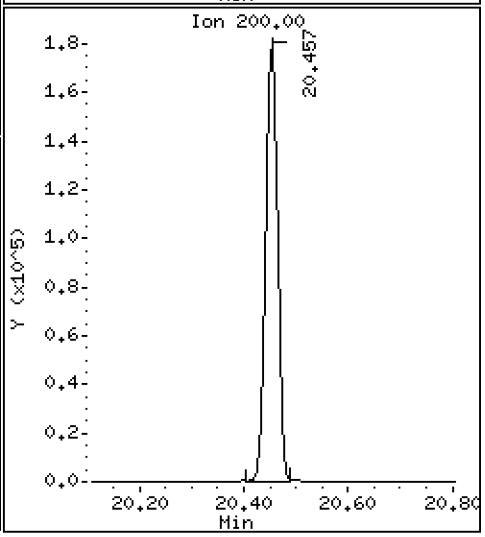


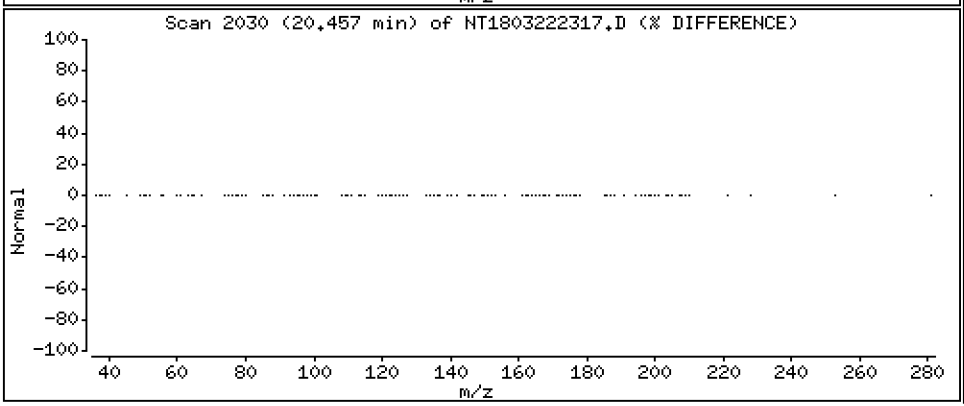












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

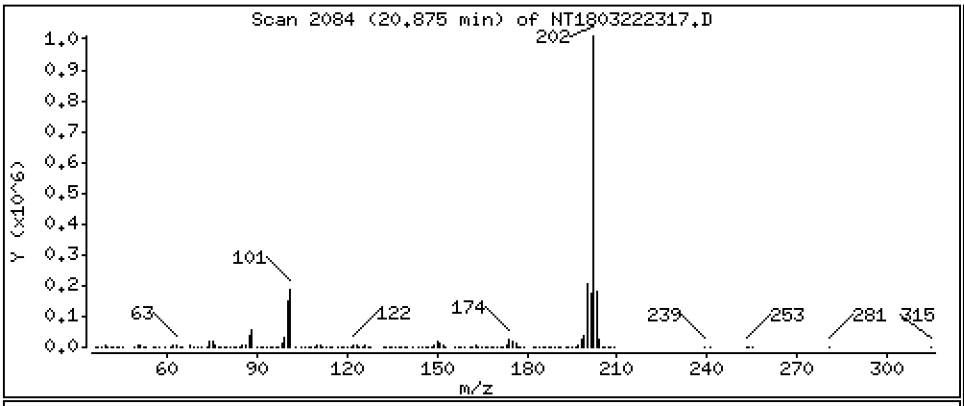
Operator: VTS

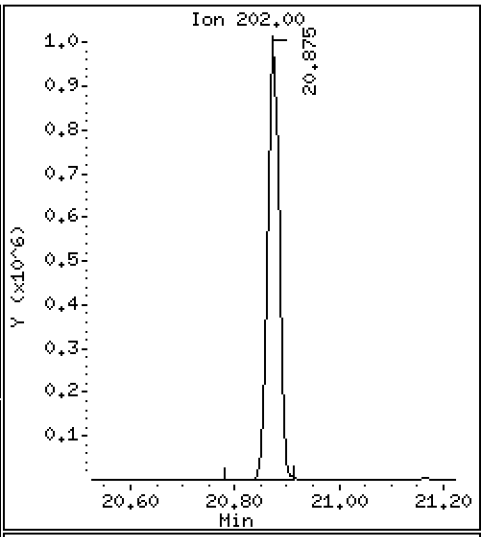
Column phase: ZB-5msi

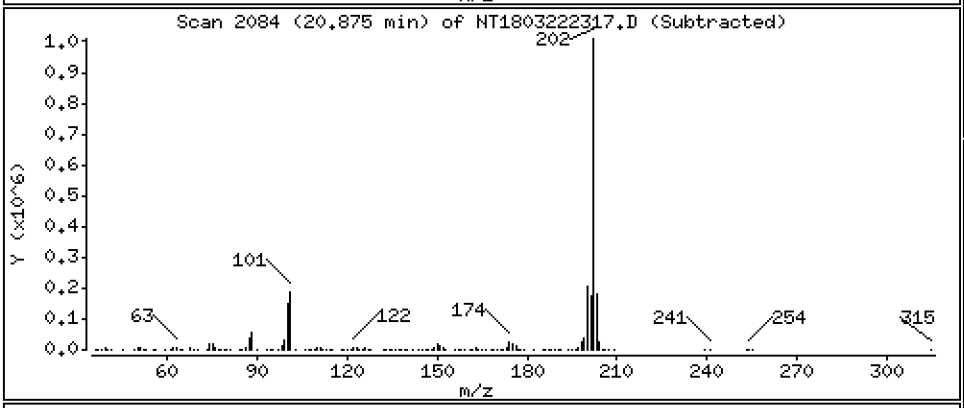
Column diameter: 0.25

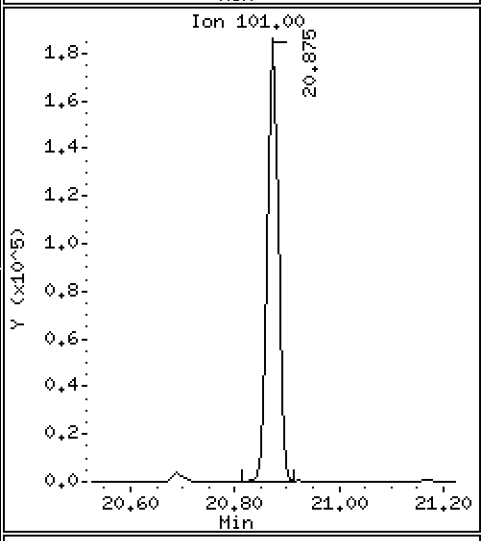
65 Pyrene

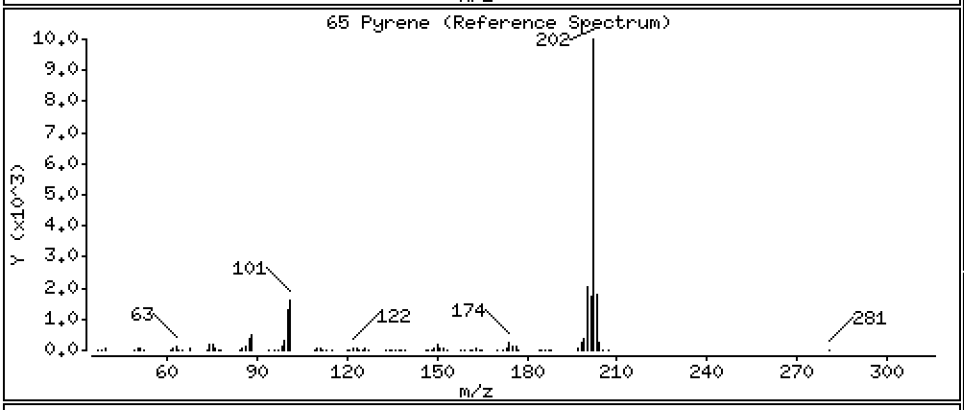
Concentration: 4.278 ug/mL

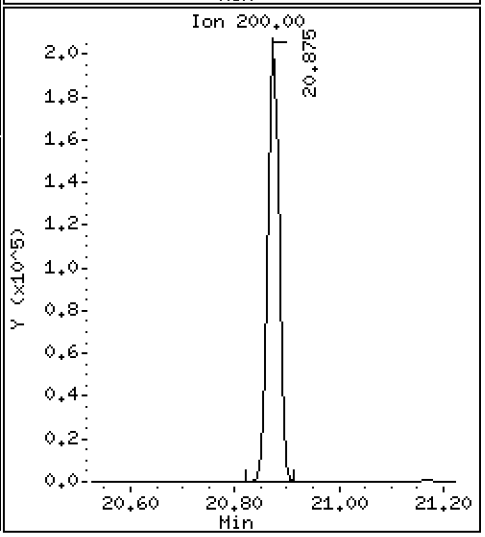


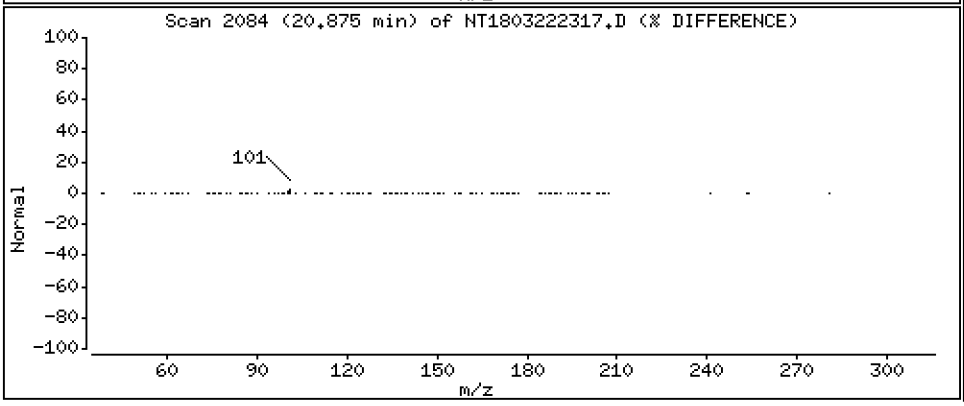












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

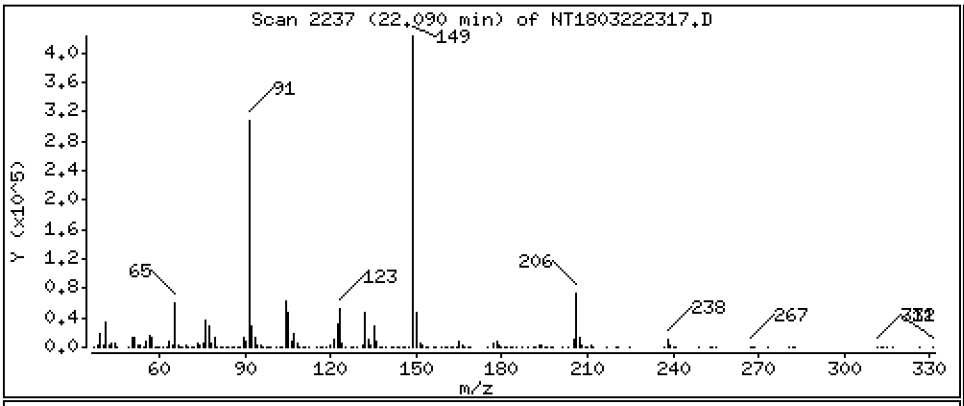
Operator: VTS

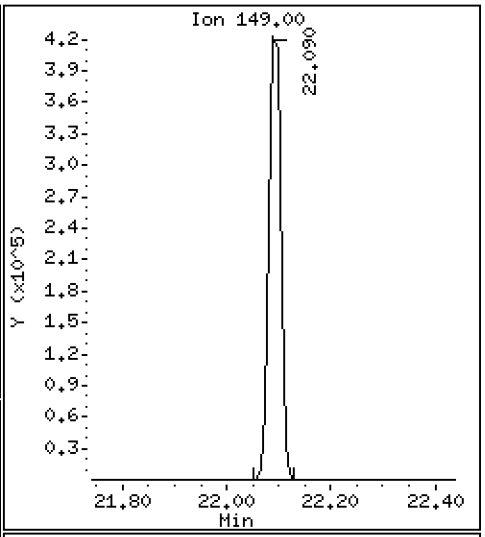
Column phase: ZB-5msi

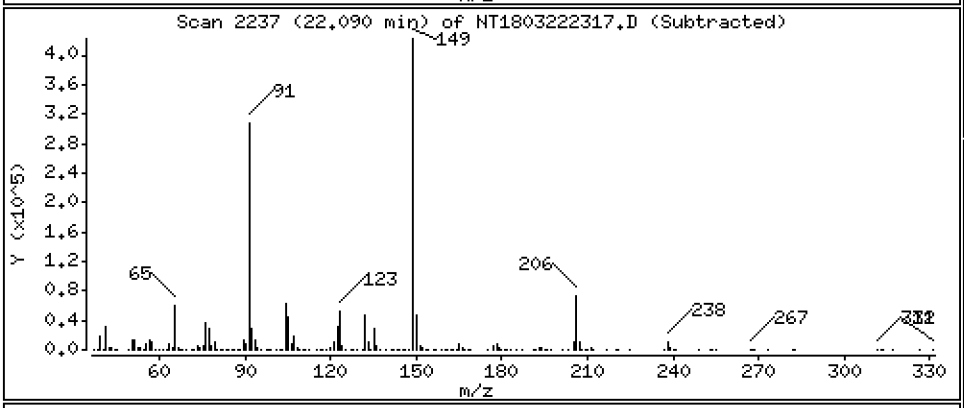
Column diameter: 0.25

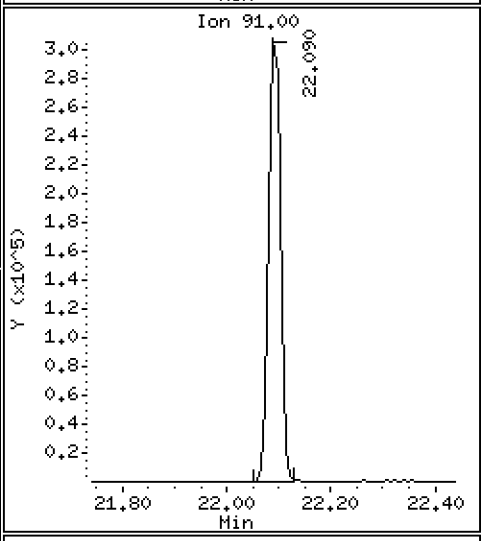
67 Butylbenzylphthalate

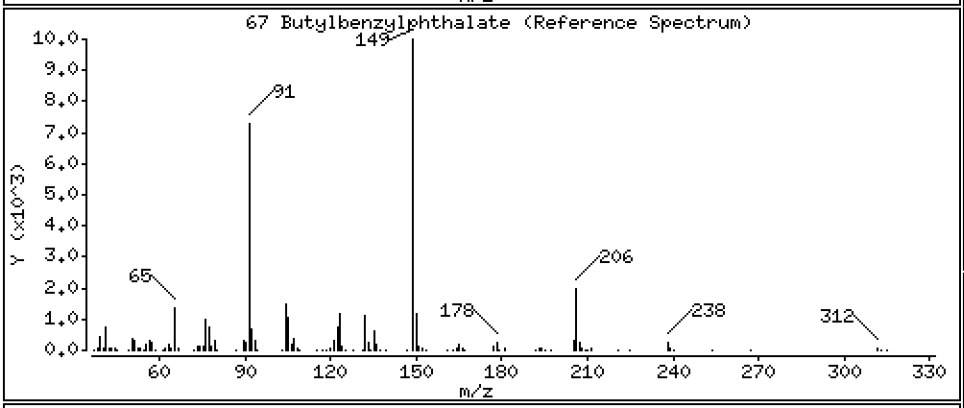
Concentration: 4.430 ug/mL

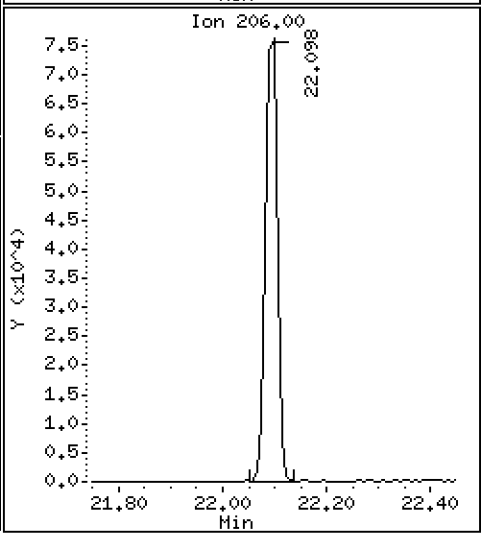


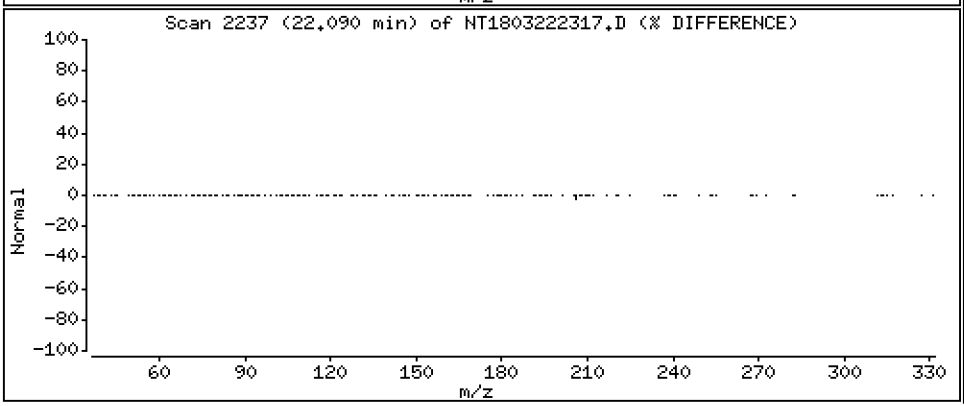












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

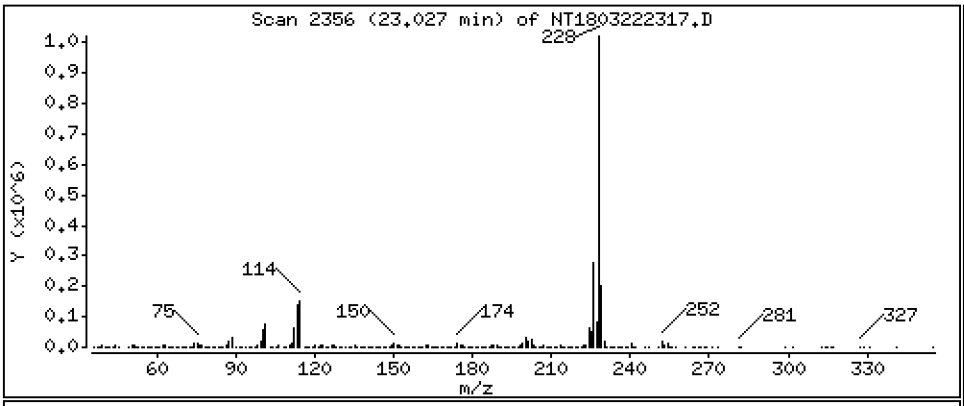
Operator: VTS

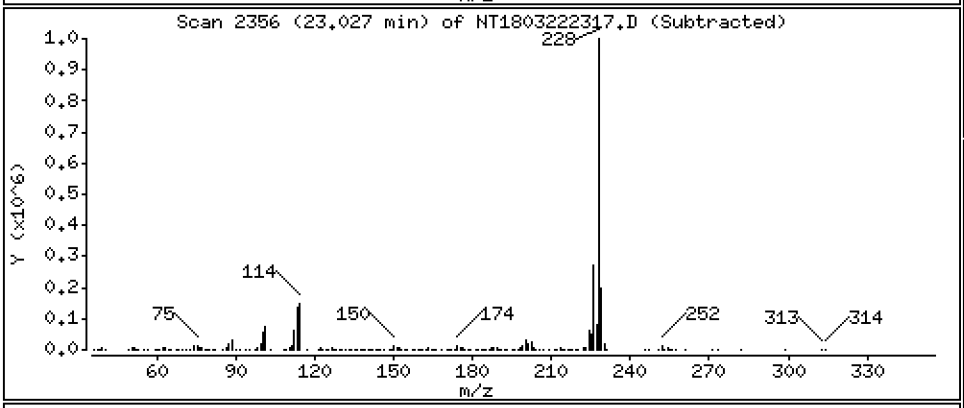
Column phase: ZB-5msi

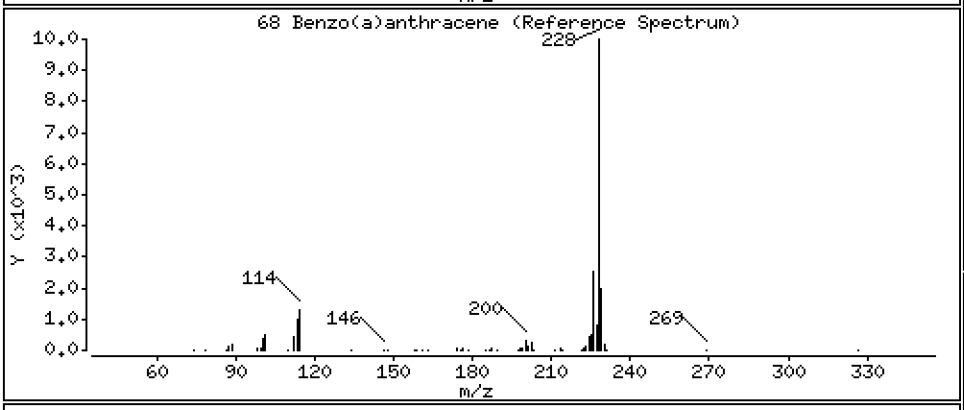
Column diameter: 0.25

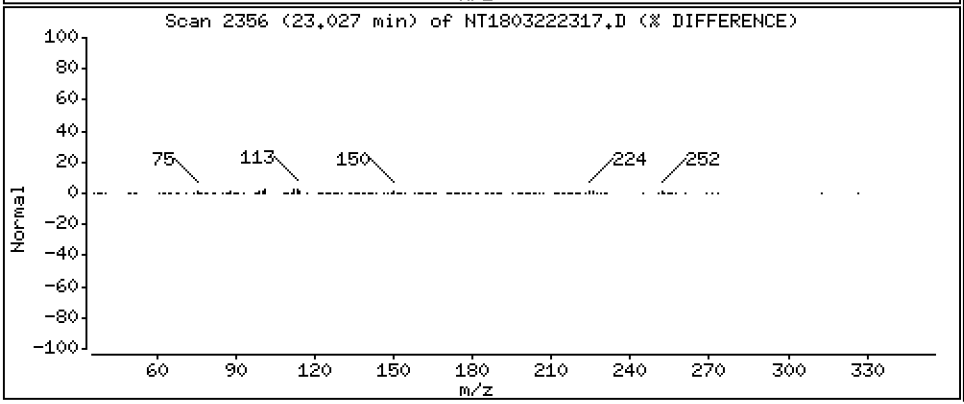
68 Benzo(a)anthracene

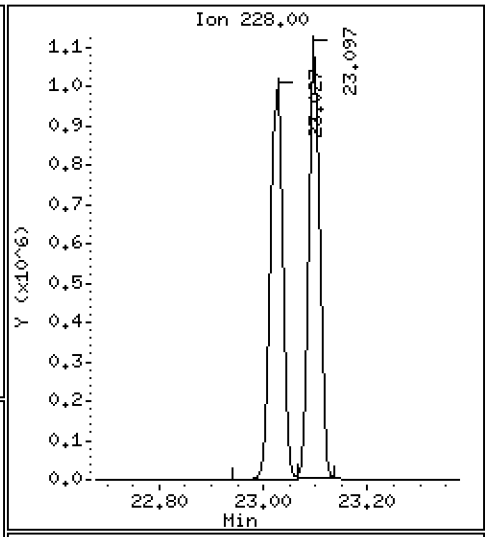
Concentration: 5.048 ug/mL

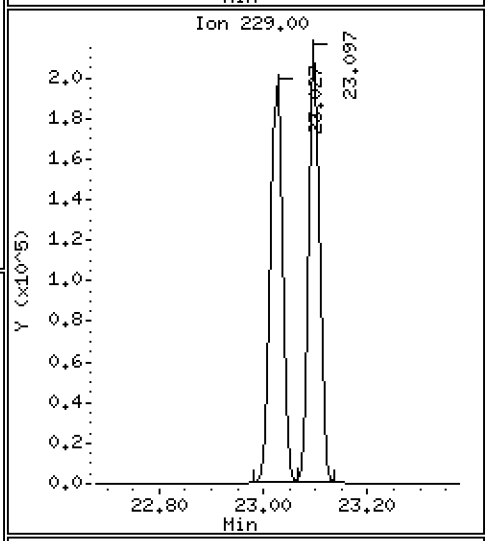


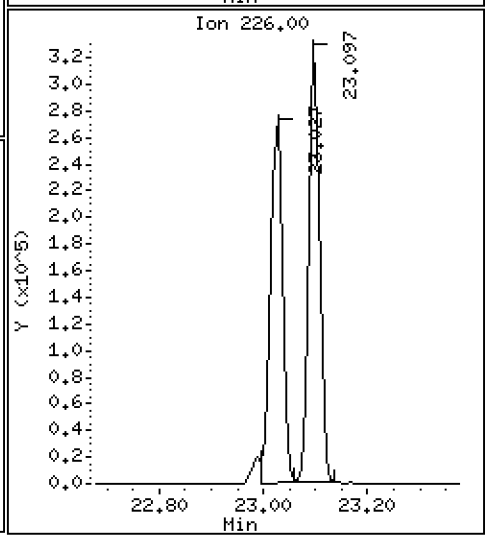












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

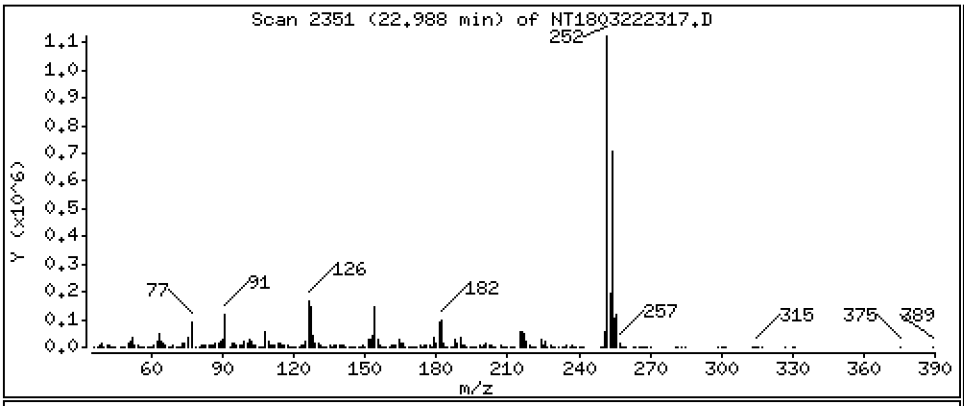
Operator: VTS

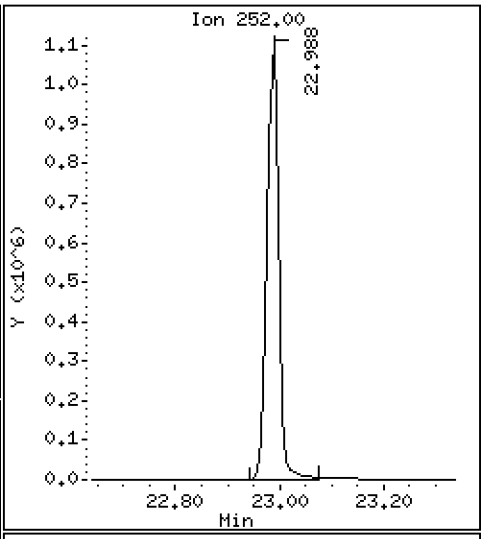
Column phase: ZB-5msi

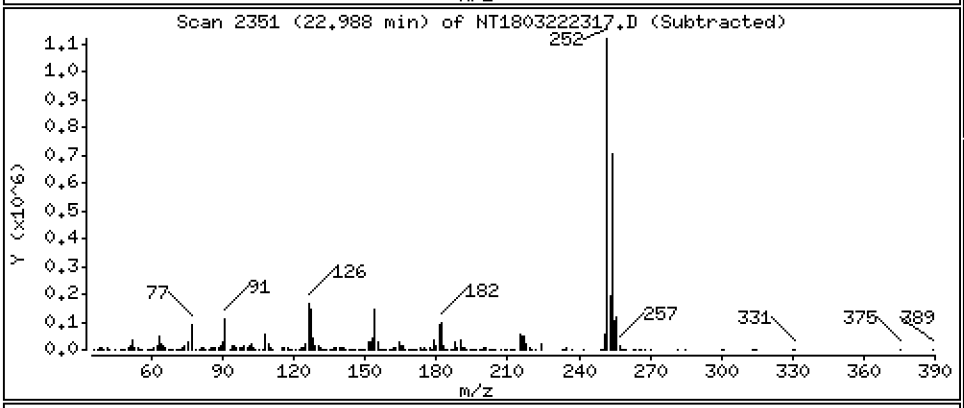
Column diameter: 0.25

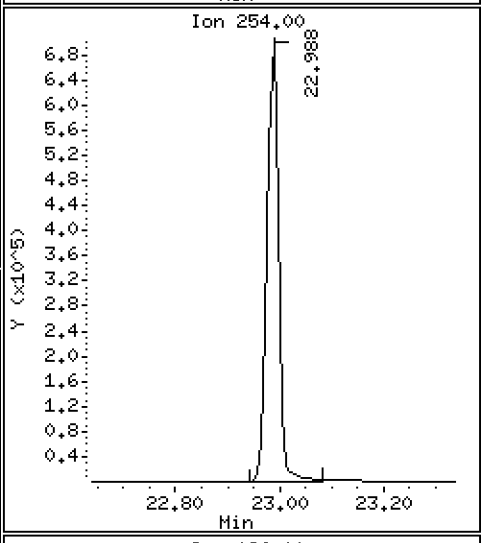
70 3,3'-Dichlorobenzidine

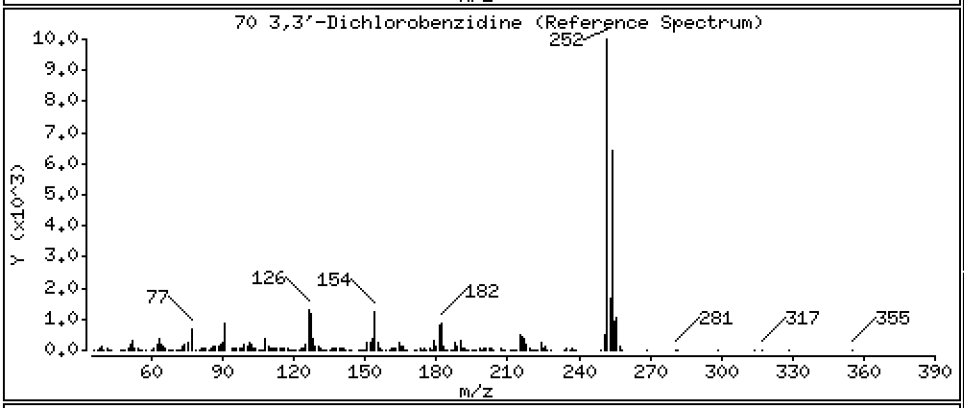
Concentration: 14.34 ug/mL

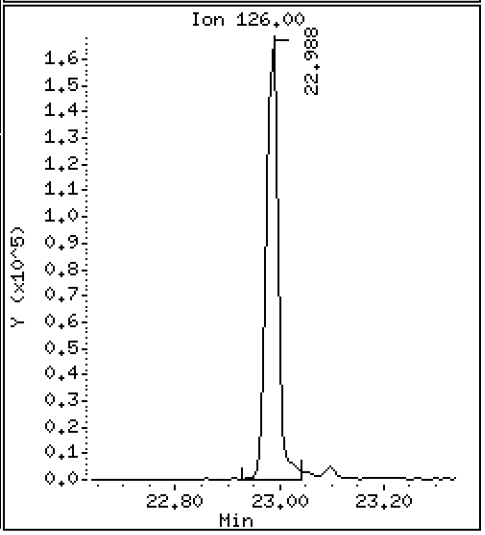


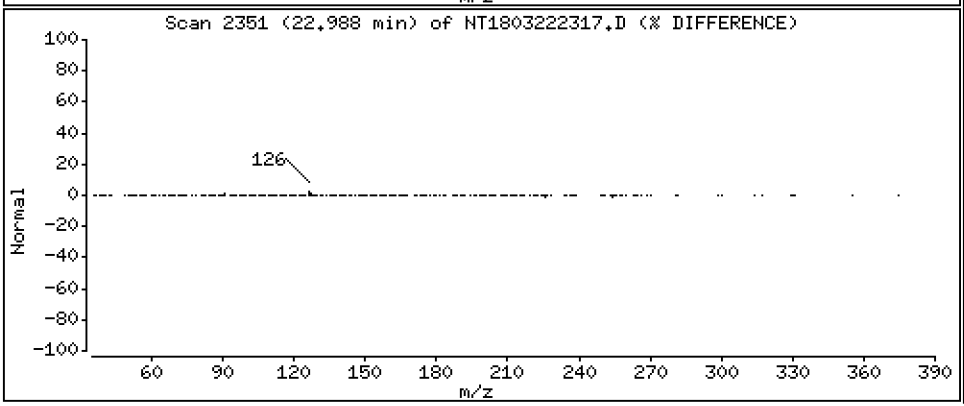












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

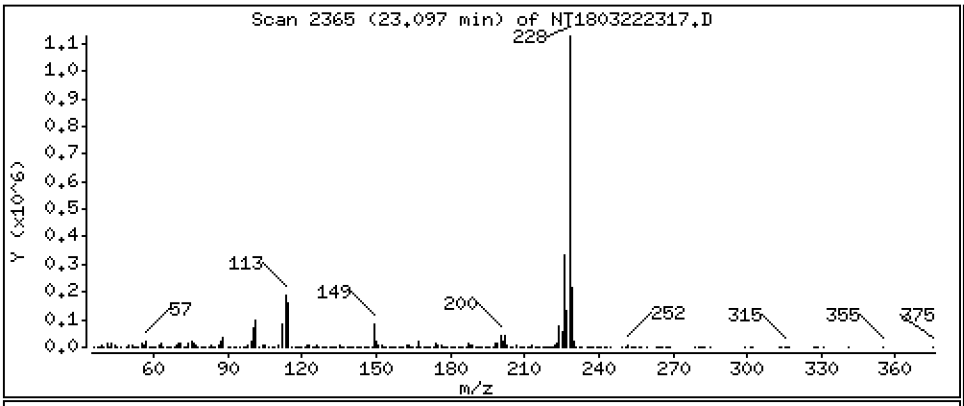
Operator: VTS

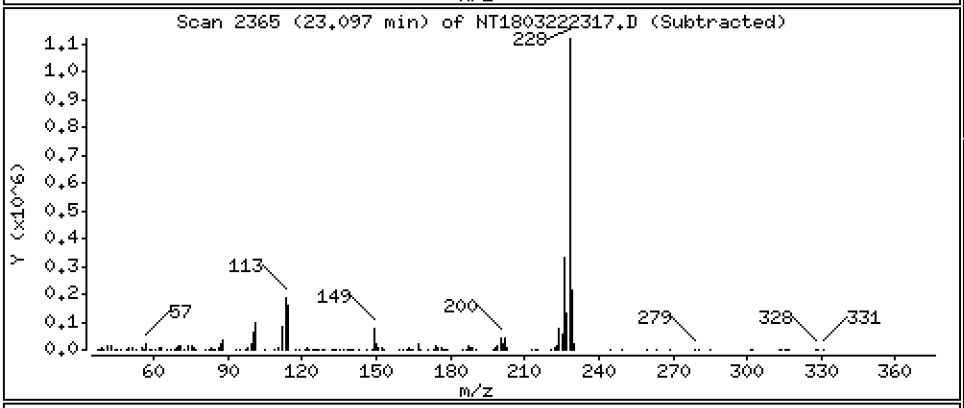
Column phase: ZB-5msi

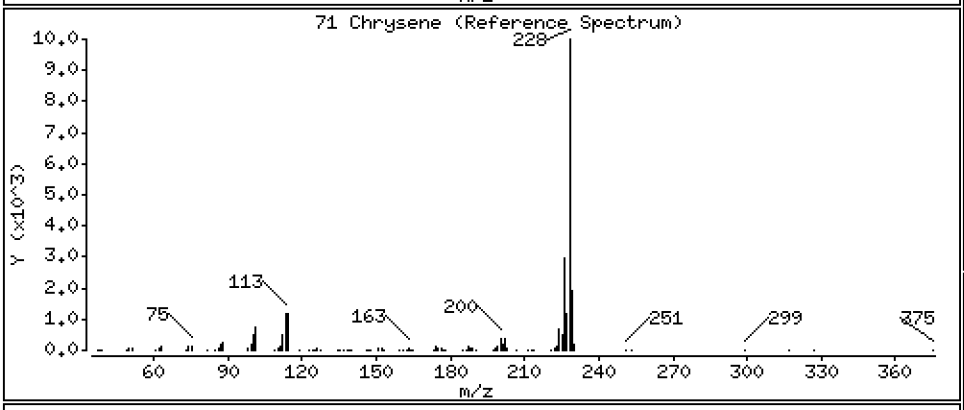
Column diameter: 0.25

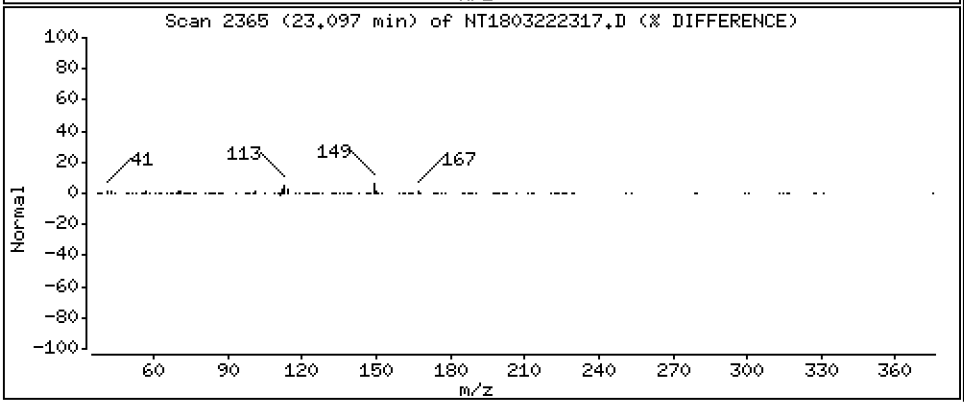
71 Chrysene

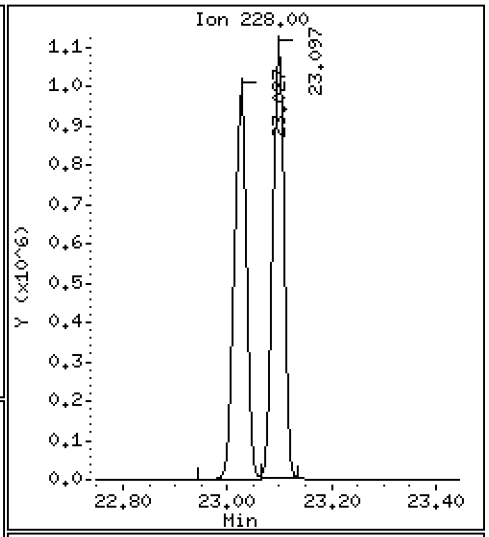
Concentration: 4.863 ug/mL

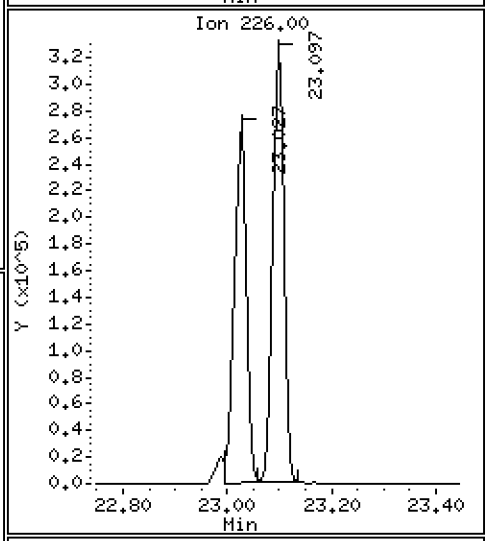


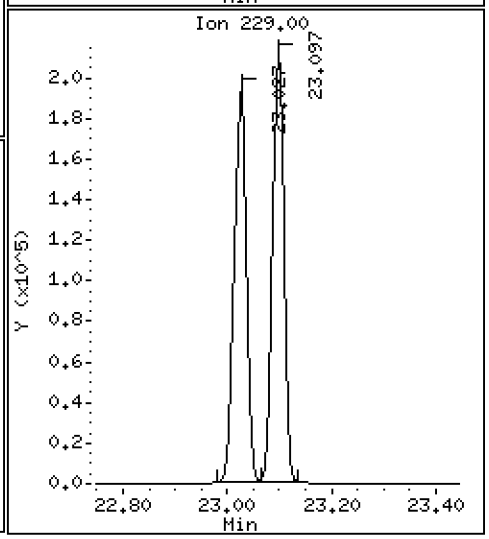












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222317.D

Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

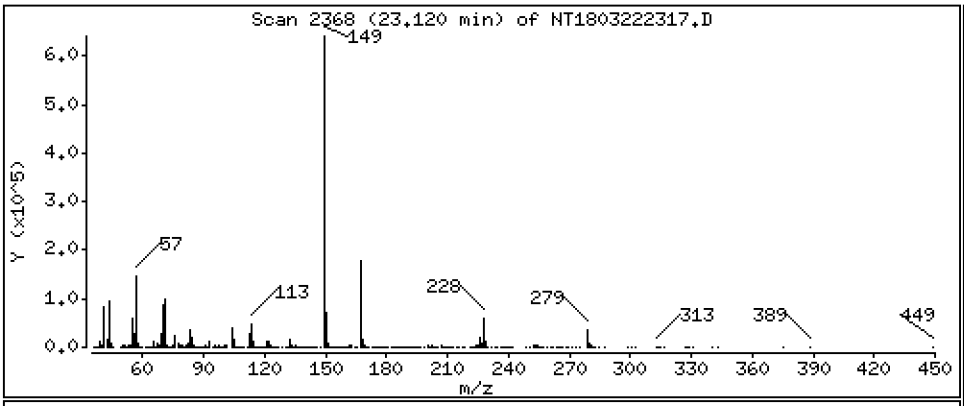
Operator: VTS

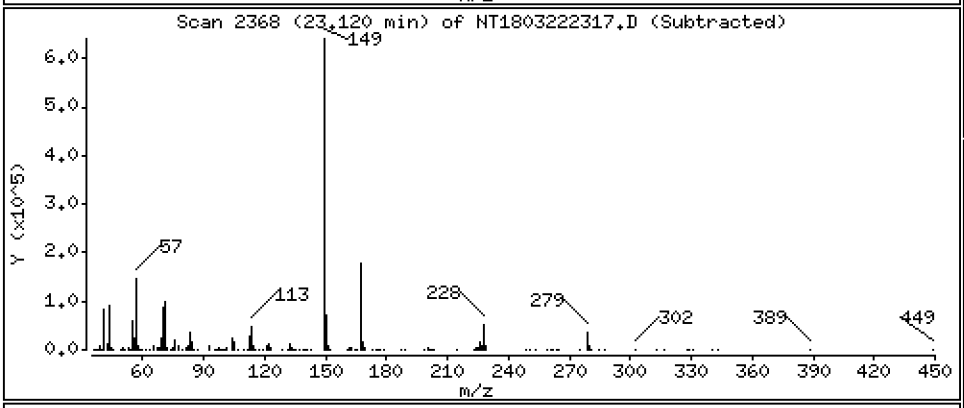
Column phase: ZB-5msi

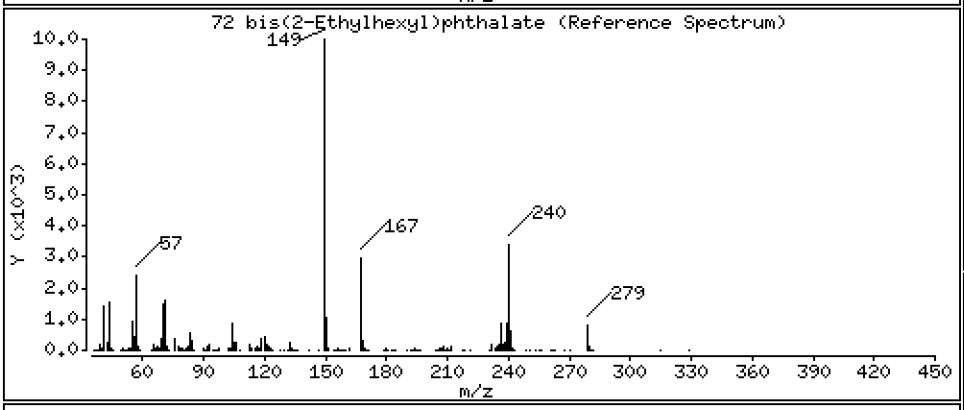
Column diameter: 0.25

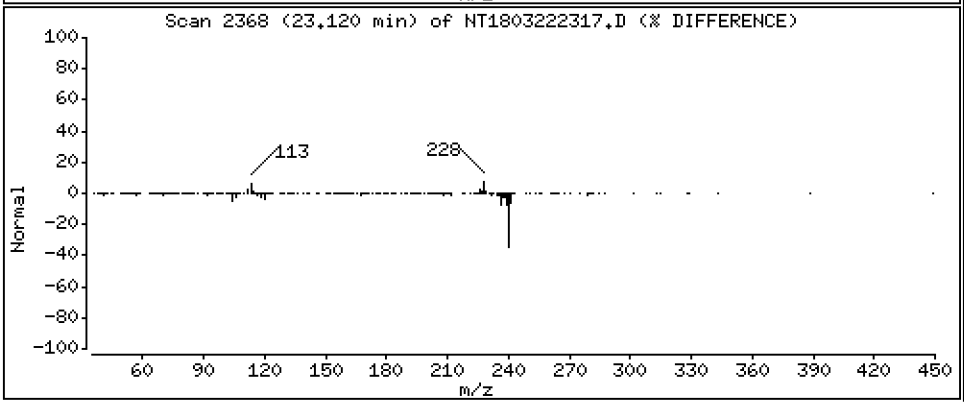
72 bis(2-Ethylhexyl)phthalate

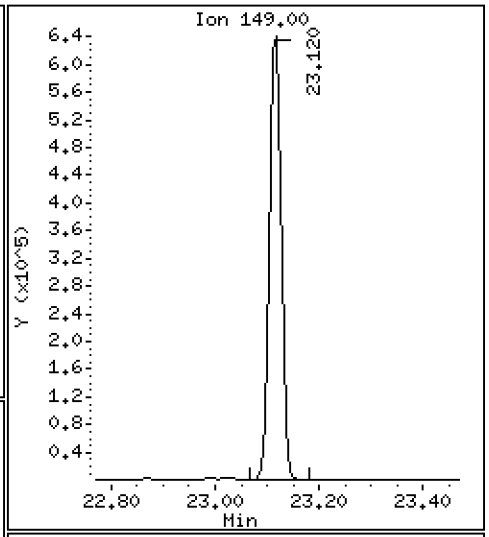
Concentration: 4.372 ug/mL

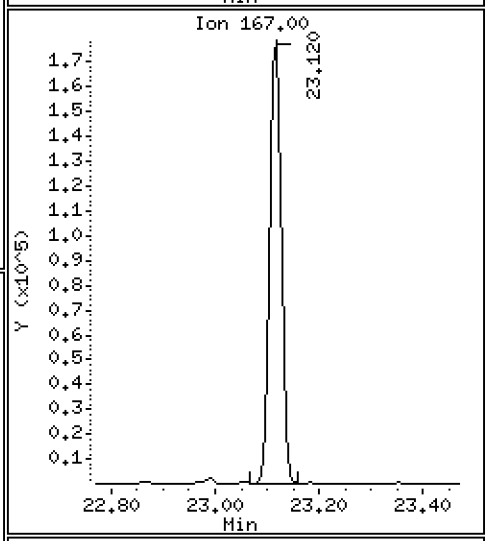


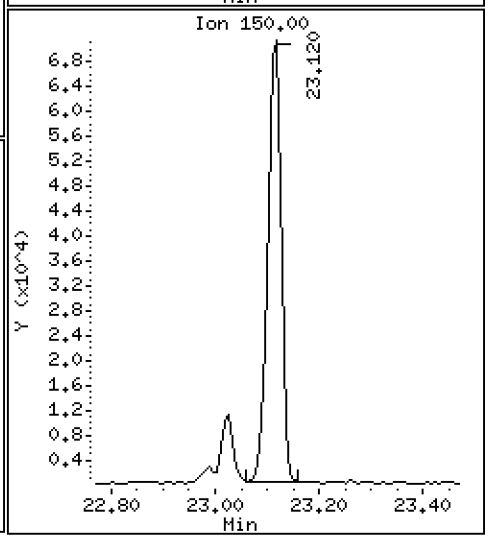












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

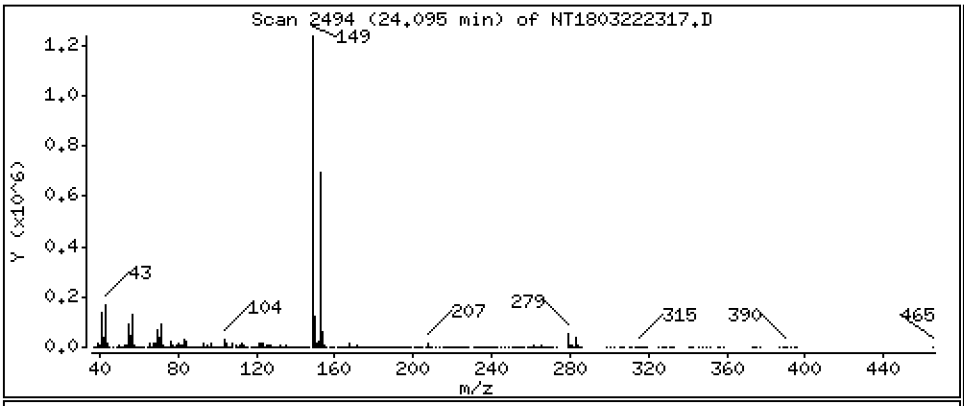
Operator: VTS

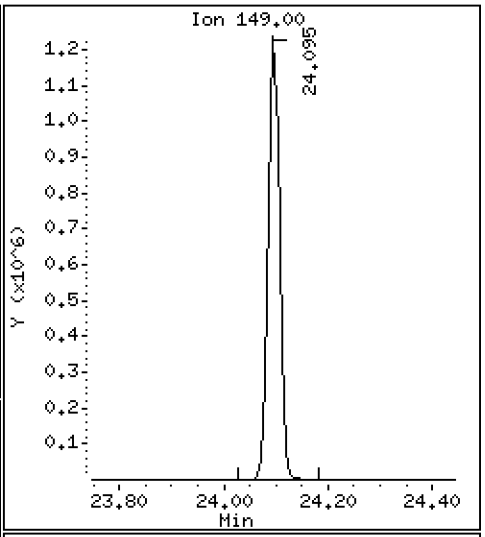
Column phase: ZB-5msi

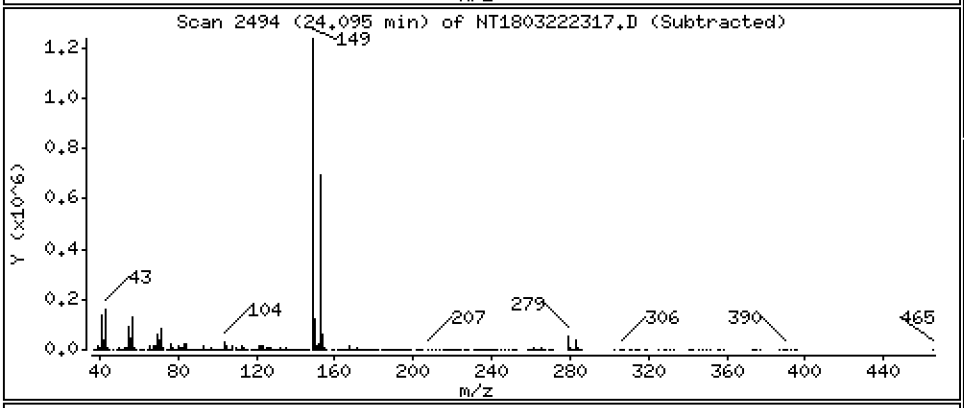
Column diameter: 0.25

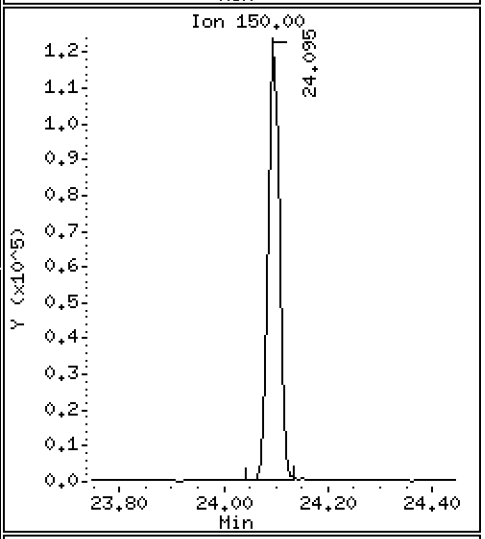
73 Di-n-octylphthalate

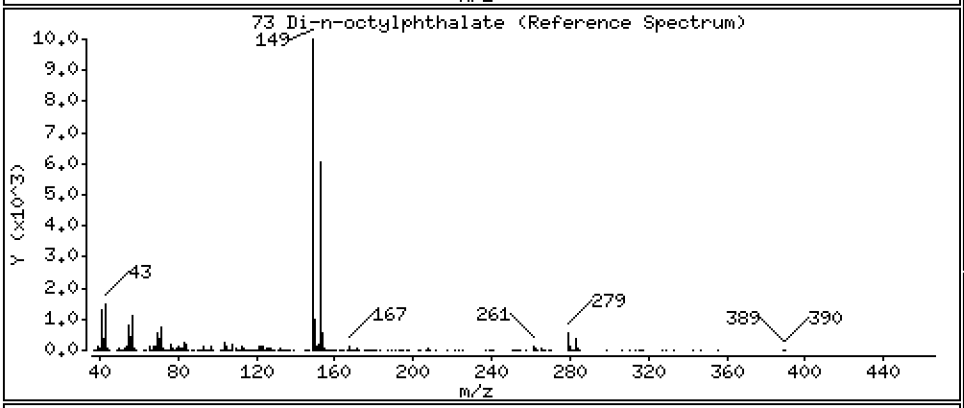
Concentration: 4.689 ug/mL

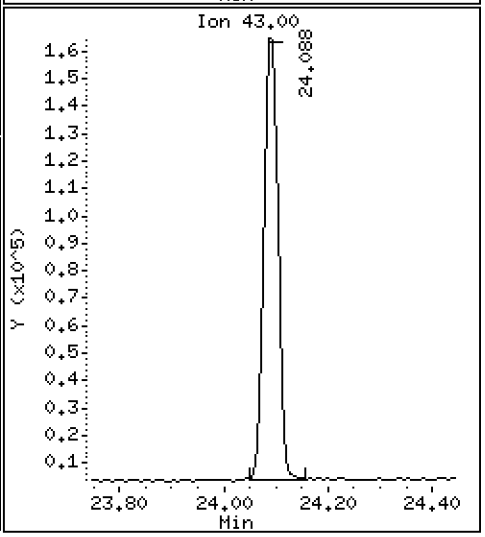


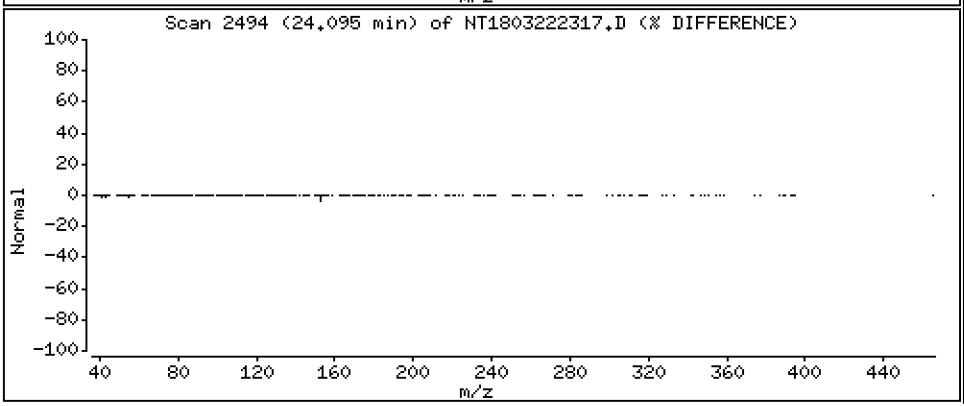












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

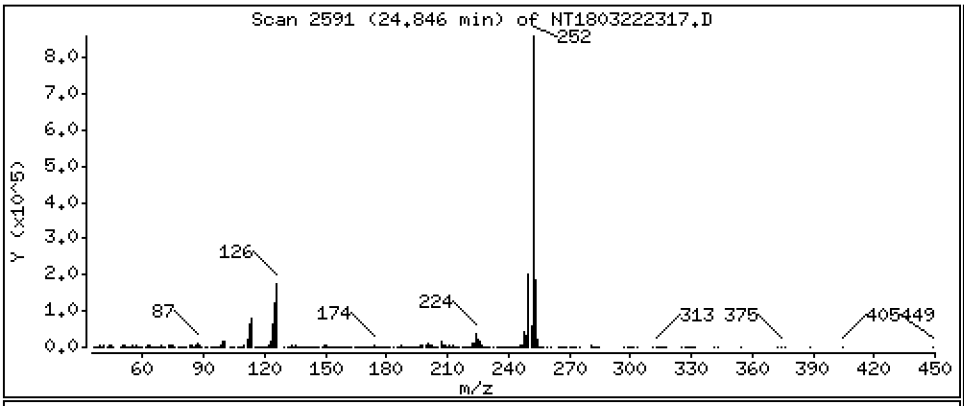
Operator: VTS

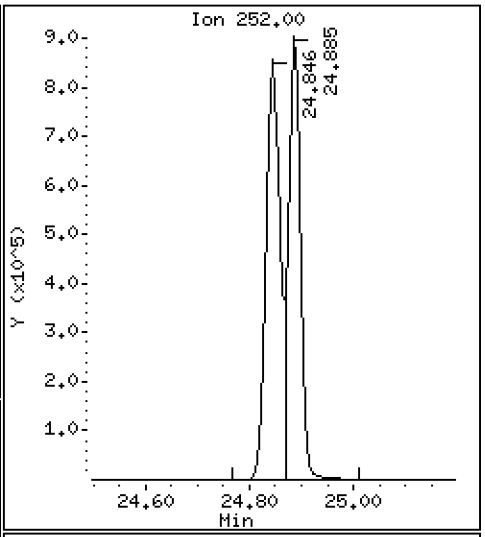
Column phase: ZB-5msi

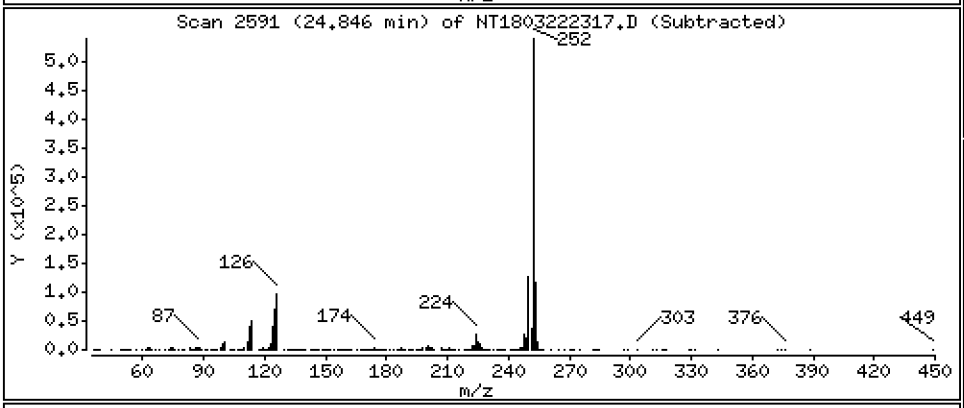
Column diameter: 0.25

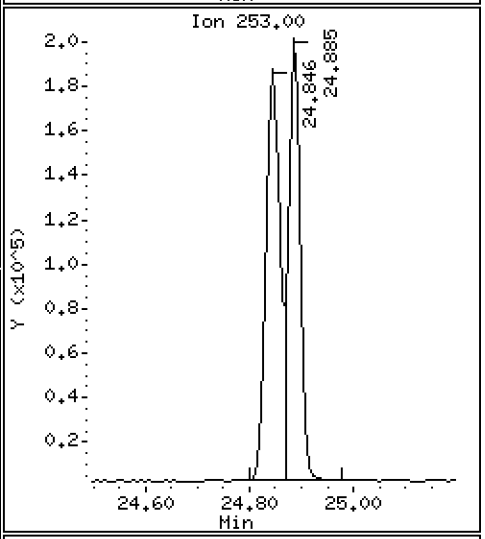
74 Benzo(b)fluoranthene

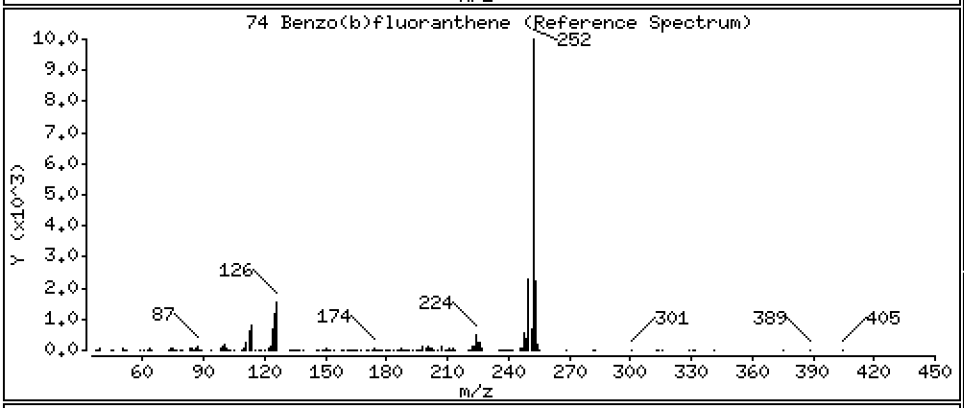
Concentration: 6.141 ug/mL

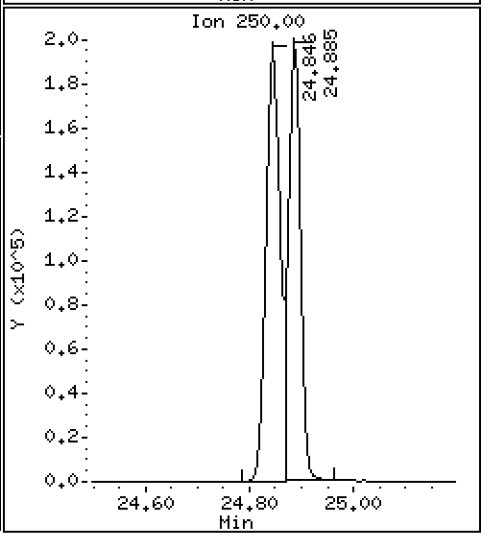


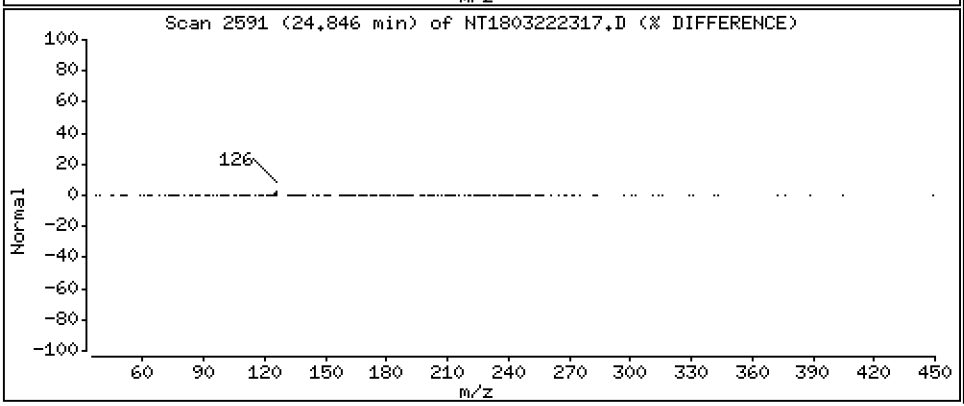












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

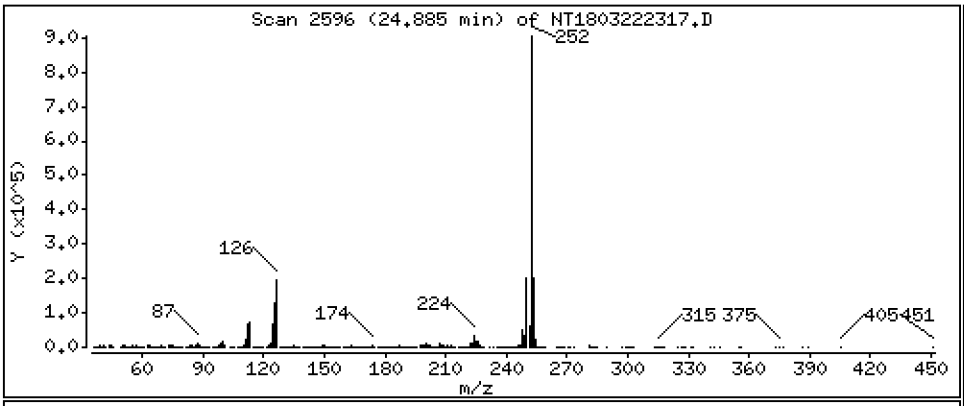
Operator: VTS

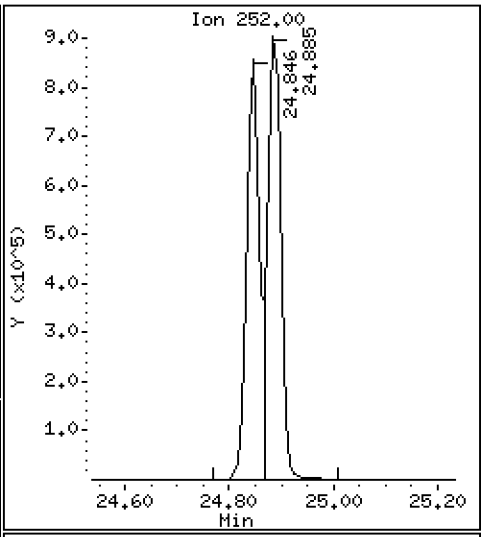
Column phase: ZB-5msi

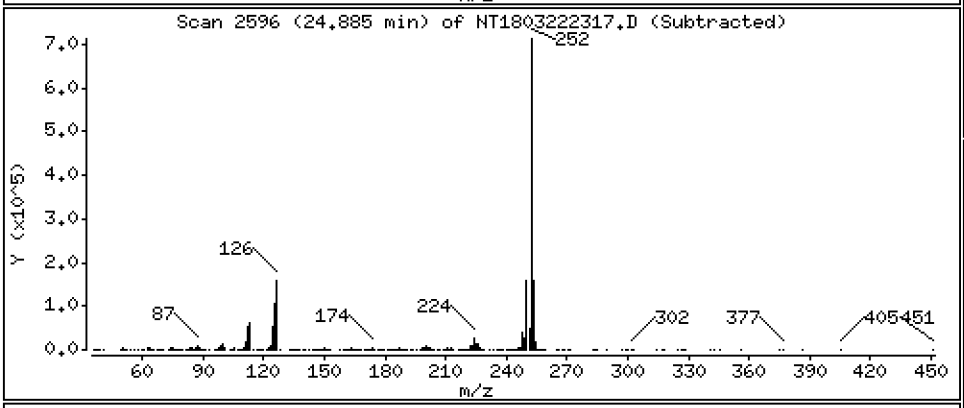
Column diameter: 0.25

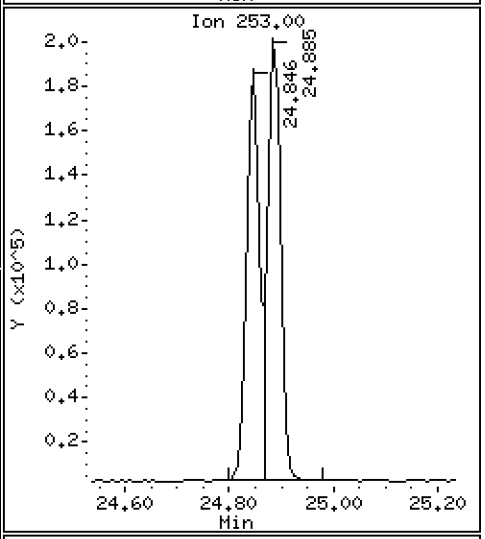
75 Benzo(k)fluoranthene

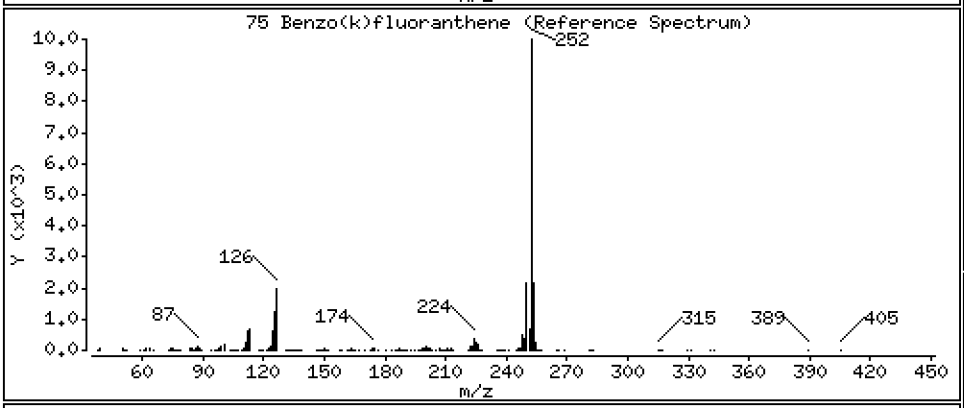
Concentration: 5.222 ug/mL

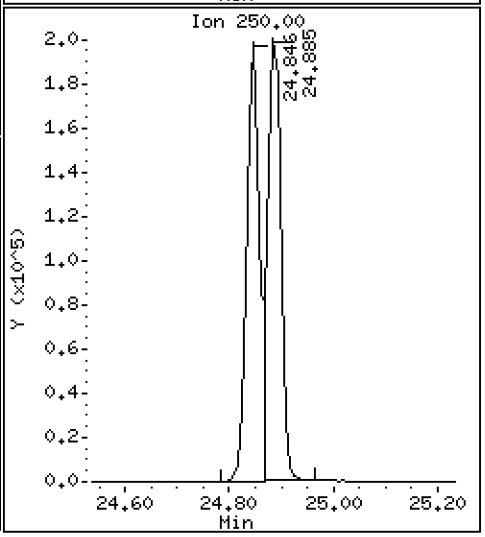


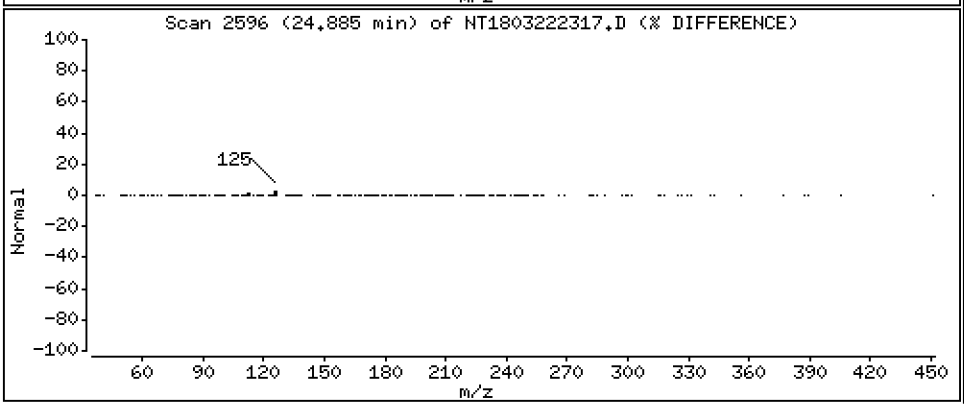












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

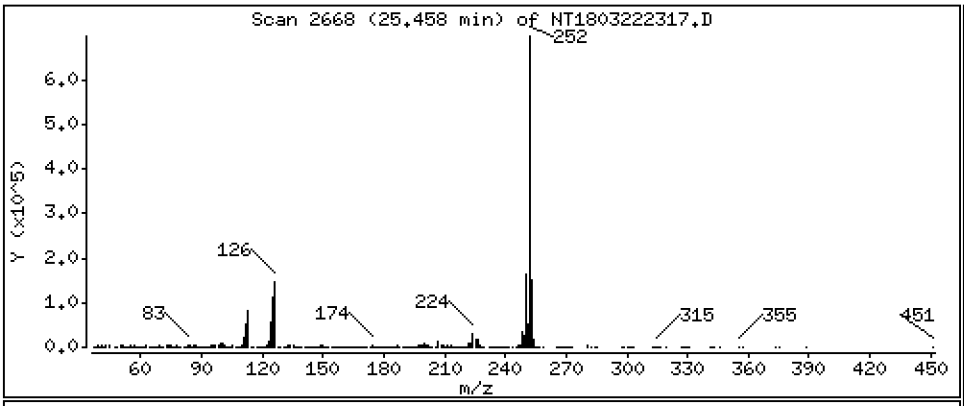
Operator: VTS

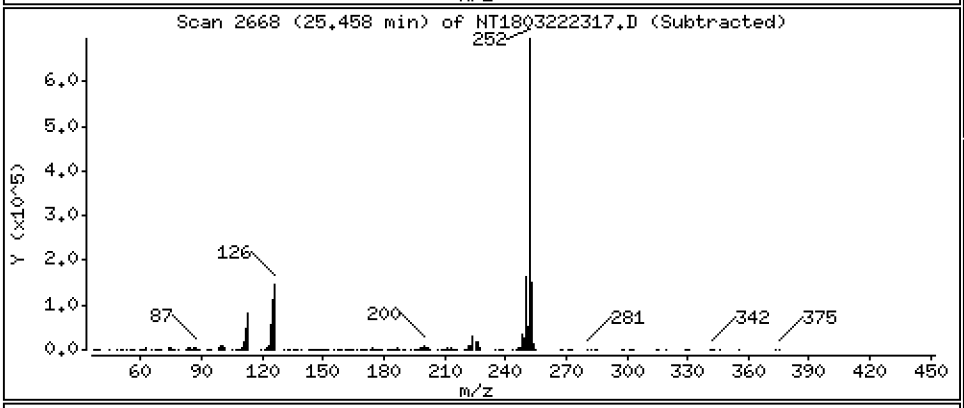
Column phase: ZB-5msi

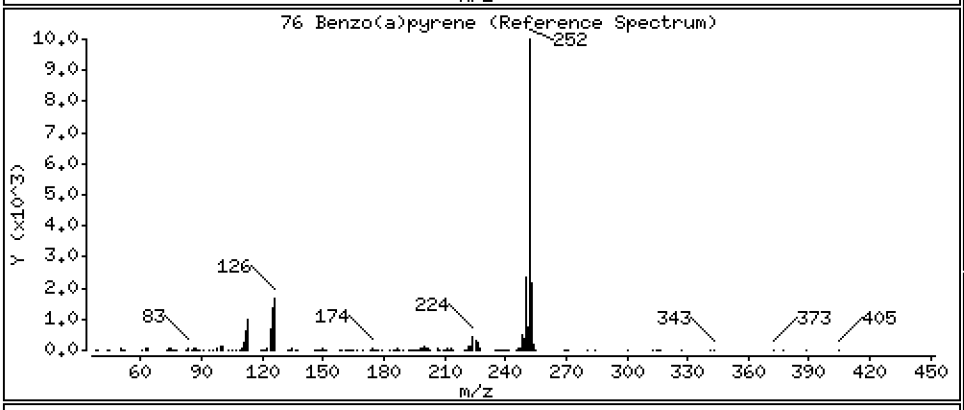
Column diameter: 0.25

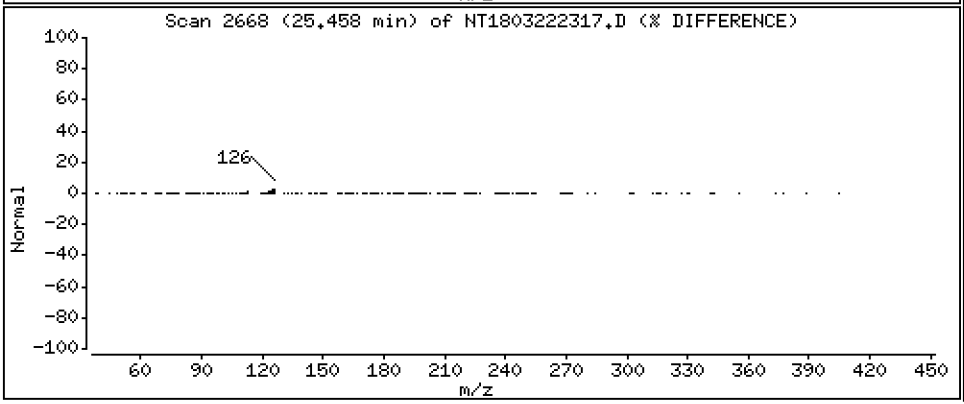
76 Benzo(a)pyrene

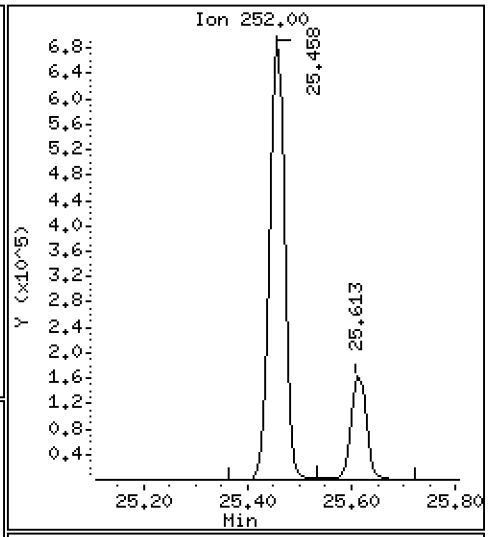
Concentration: 5.019 ug/mL

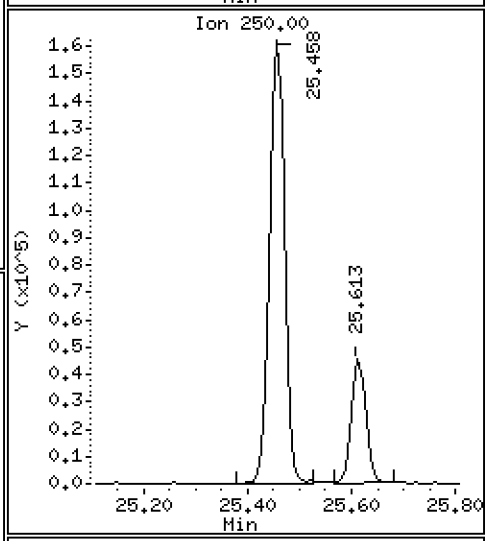


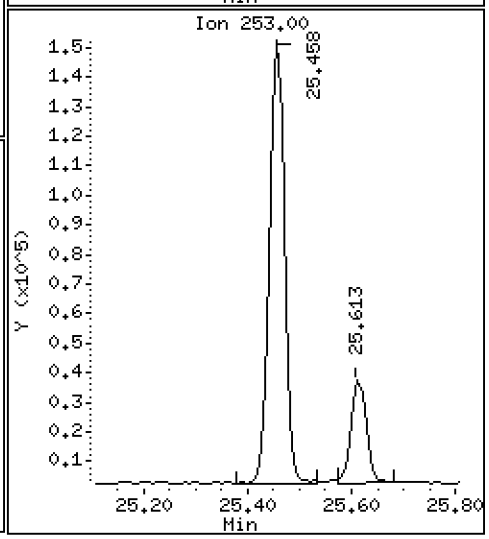












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

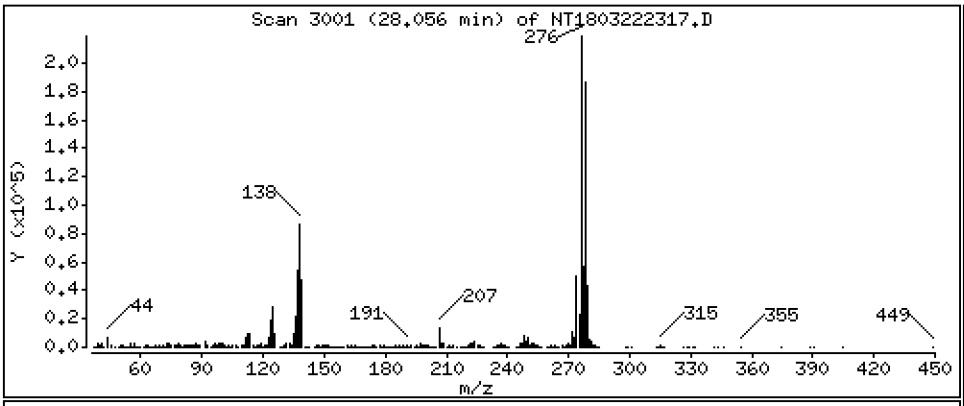
Operator: VTS

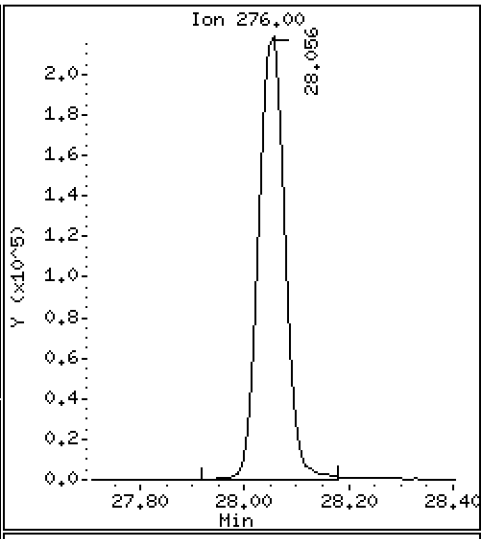
Column phase: ZB-5msi

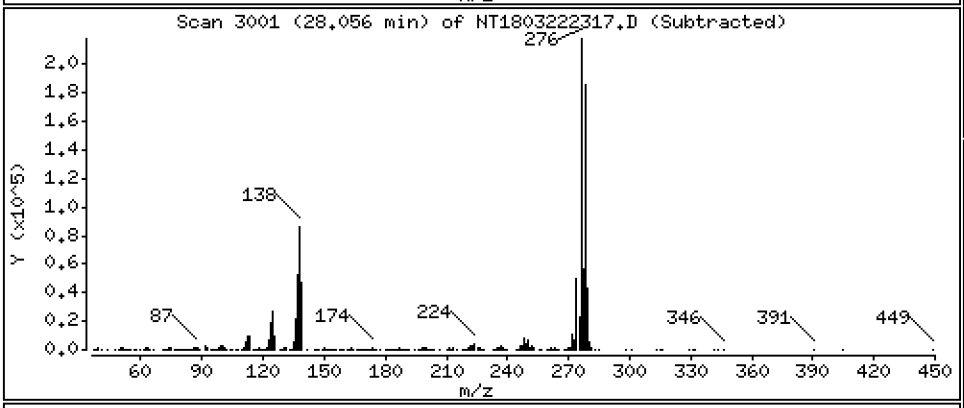
Column diameter: 0.25

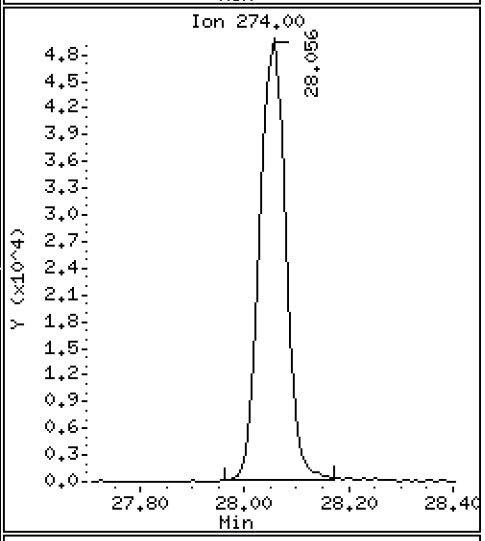
78 Indeno(1,2,3-cd)pyrene

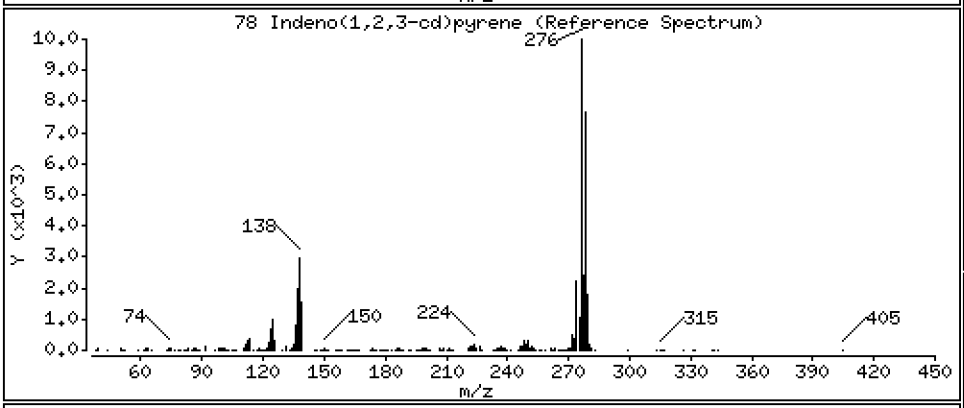
Concentration: 2.288 ug/mL

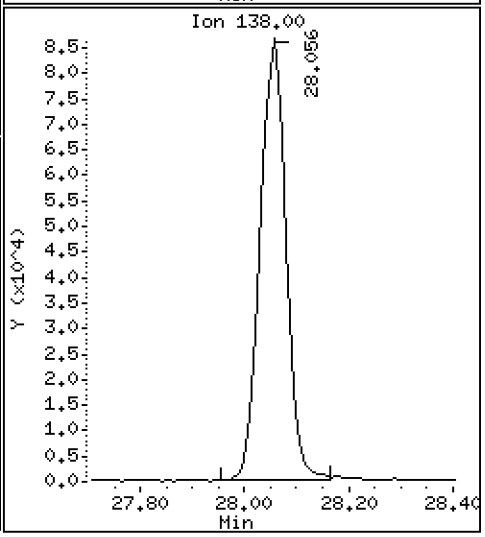


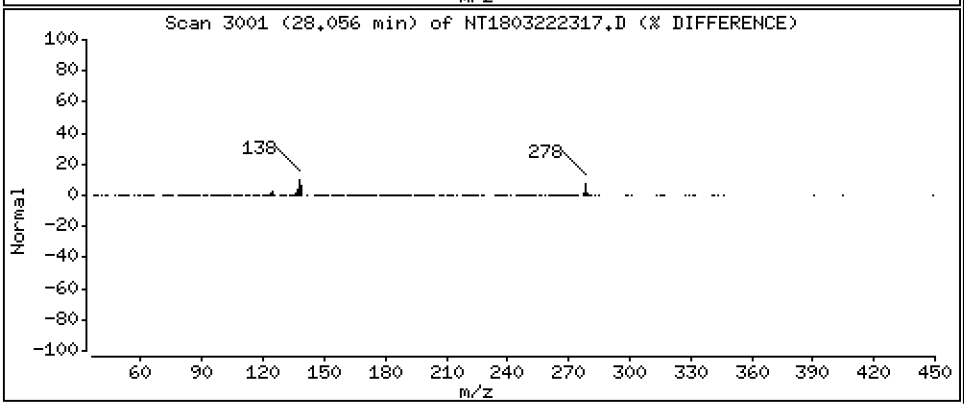












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Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

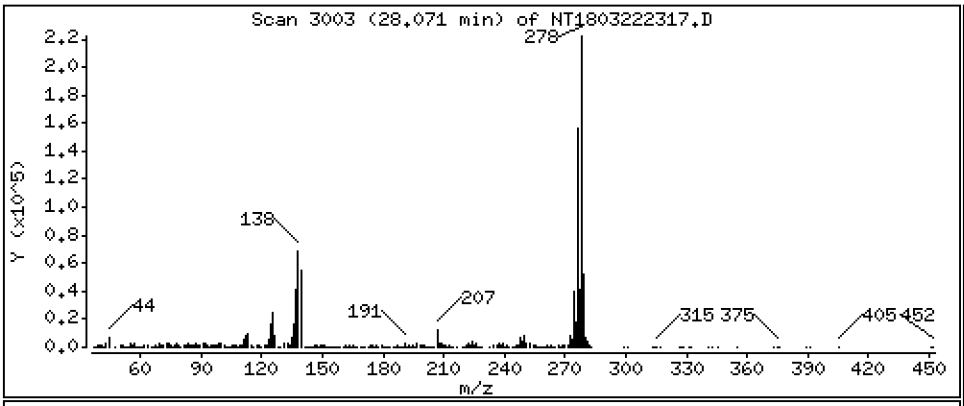
Operator: VTS

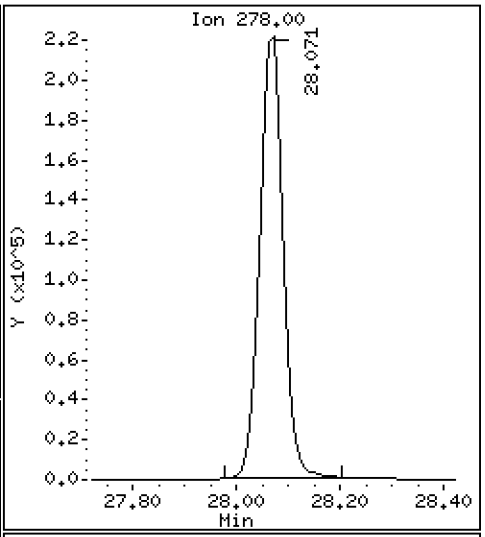
Column phase: ZB-5msi

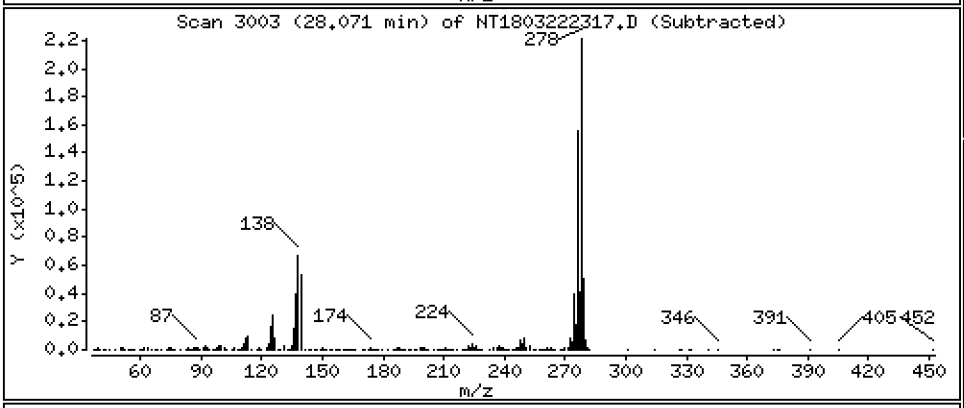
Column diameter: 0.25

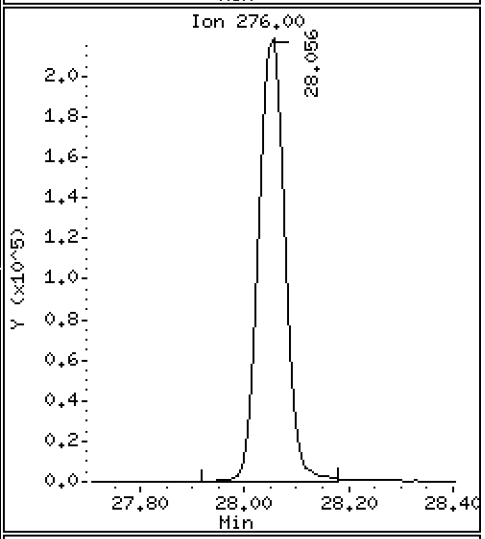
79 Dibenzo(a,h)anthracene

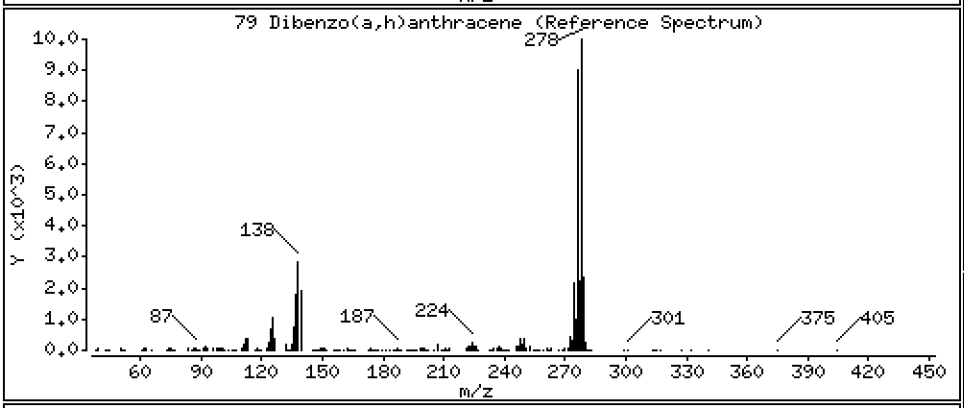
Concentration: 2.452 ug/mL

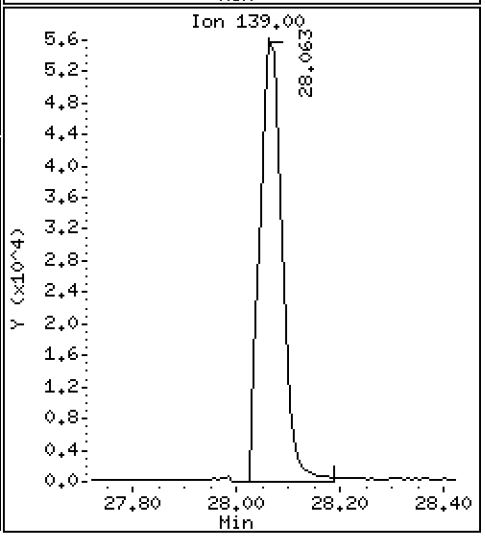


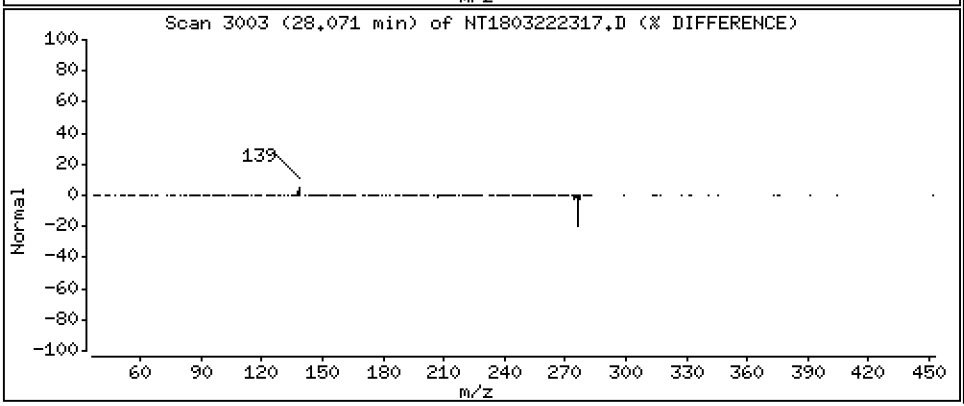












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222317.D

Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

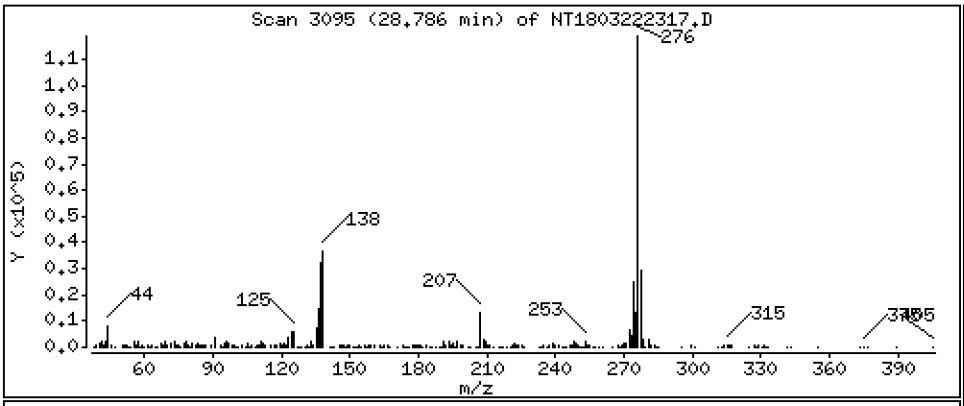
Operator: VTS

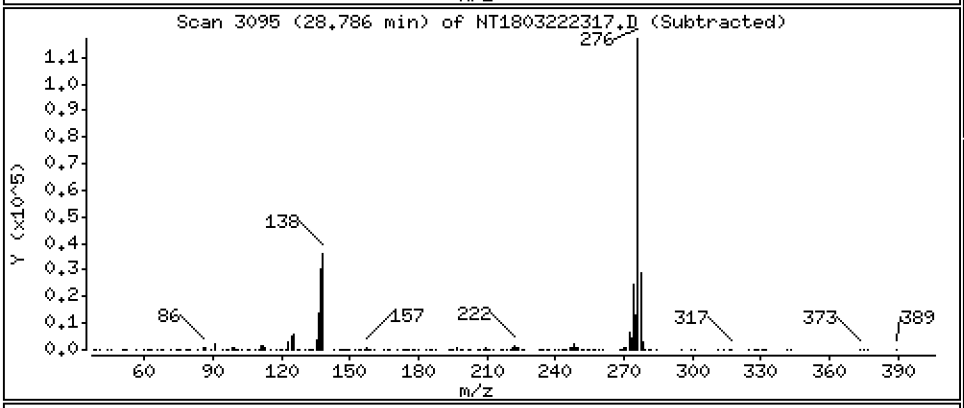
Column phase: ZB-5msi

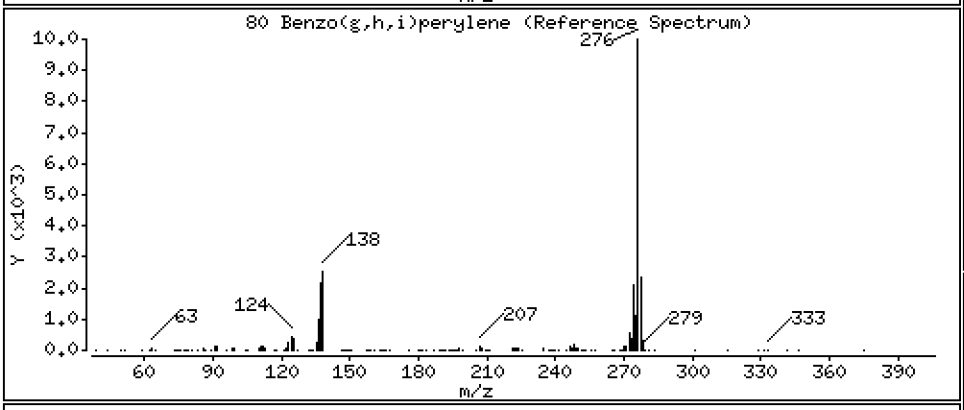
Column diameter: 0.25

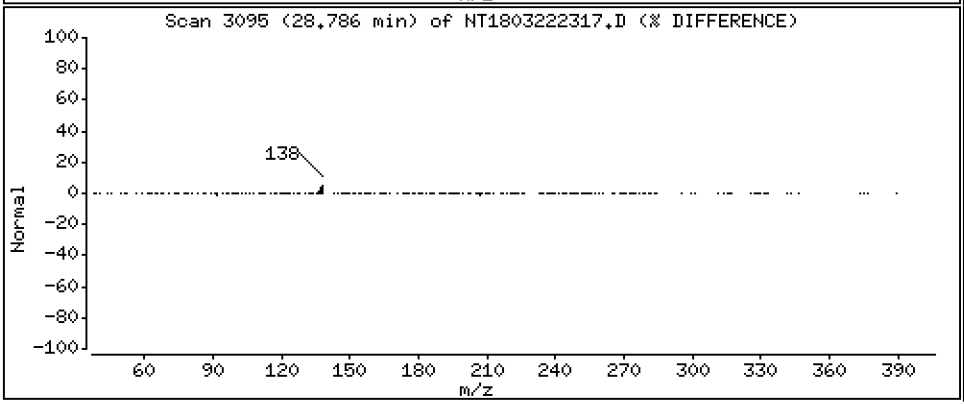
80 Benzo(g,h,i)perylene

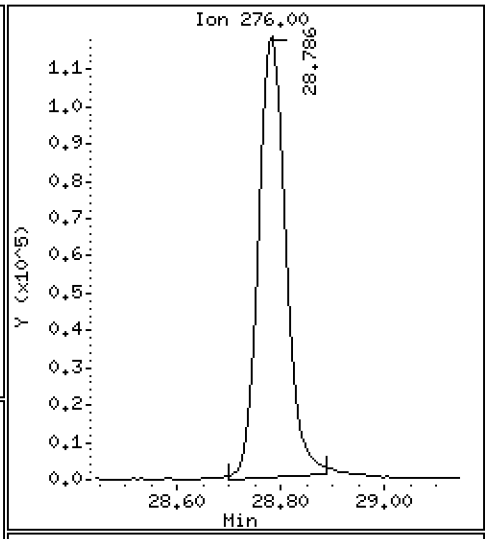
Concentration: 1.611 ug/mL

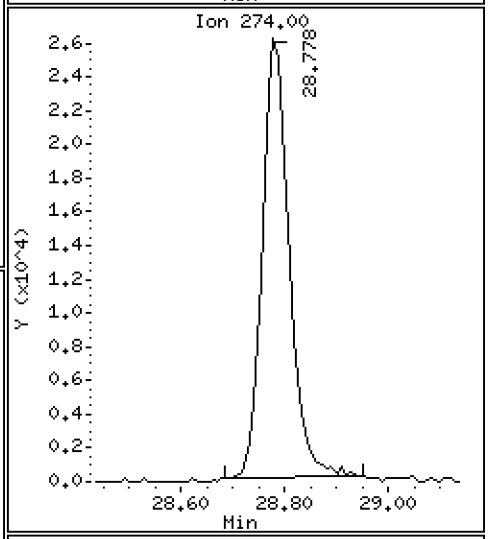


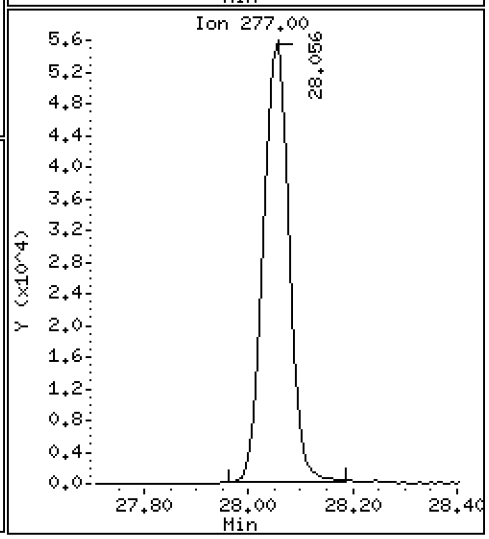












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222317.D

Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

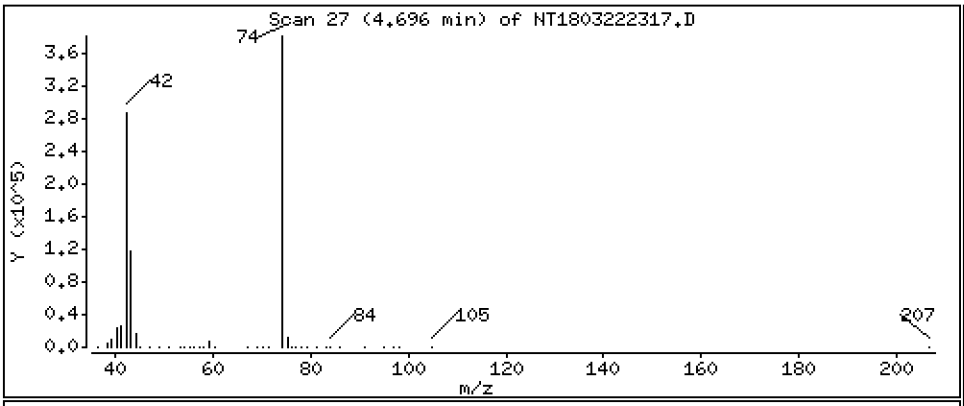
Operator: VTS

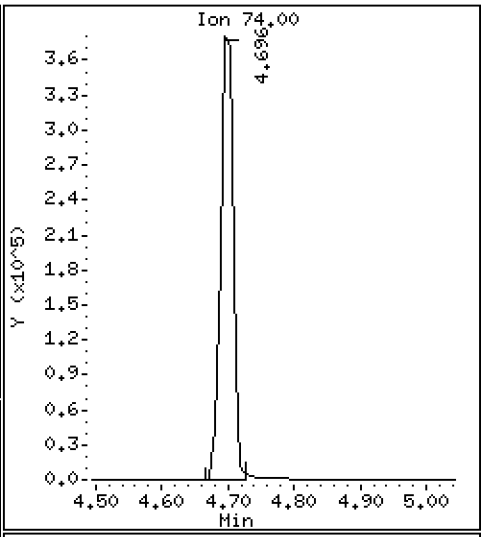
Column phase: ZB-5msi

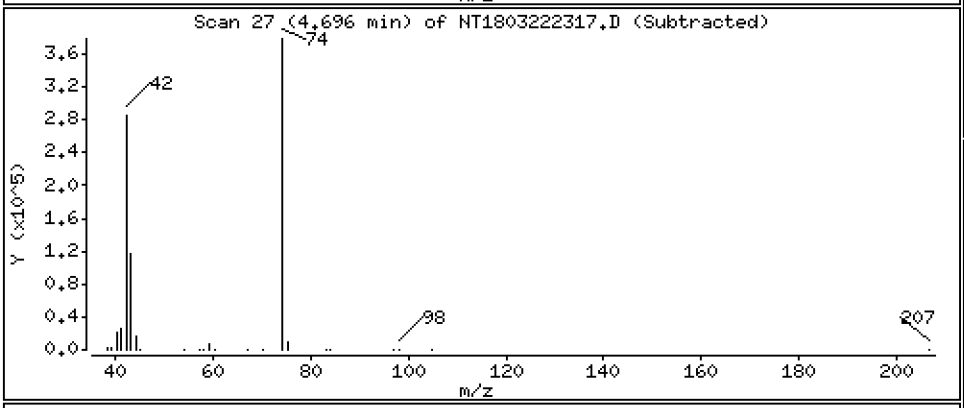
Column diameter: 0.25

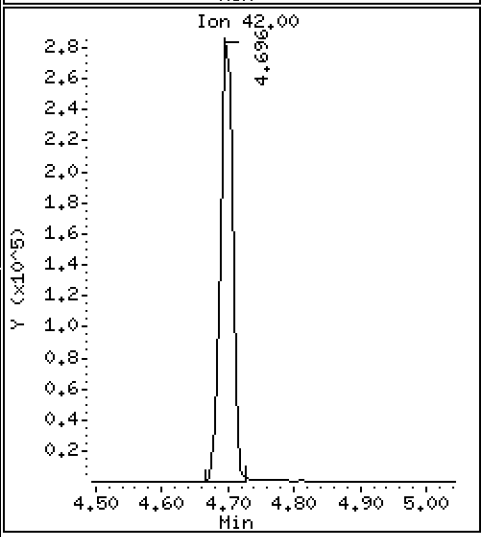
90 N-Nitrosodimethylamine

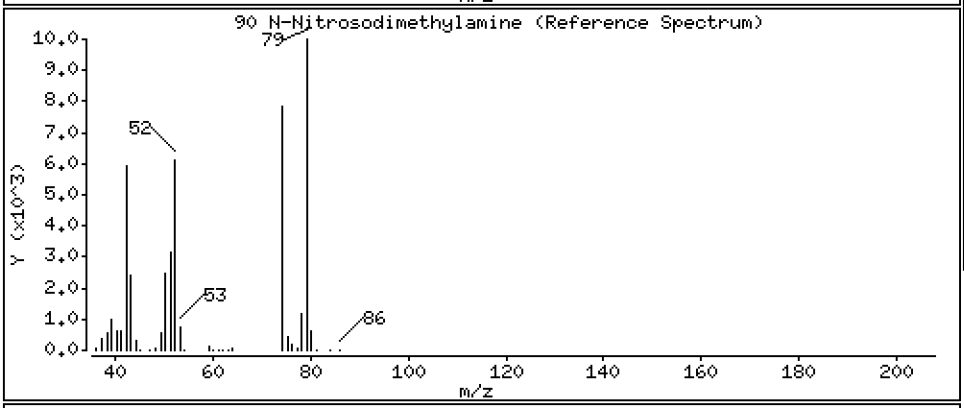
Concentration: 9.585 ug/mL

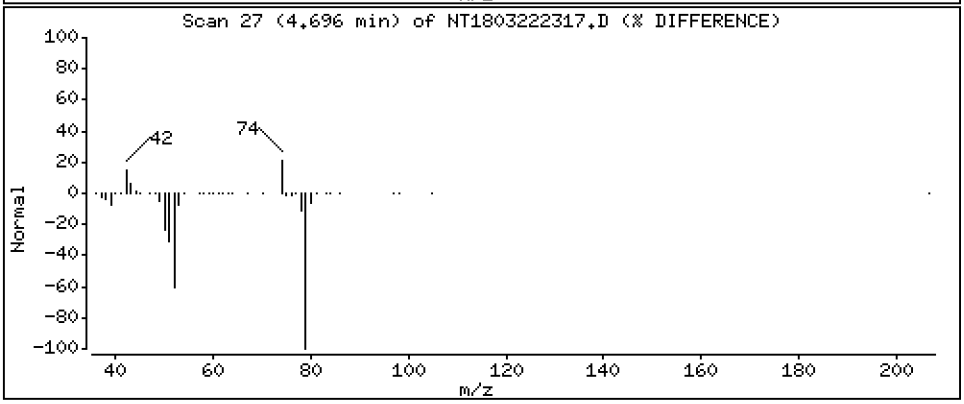












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222317.D

Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

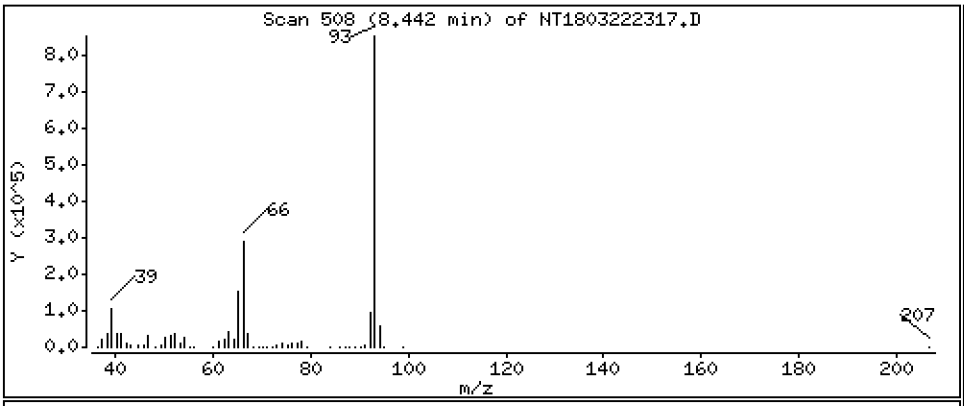
Operator: VTS

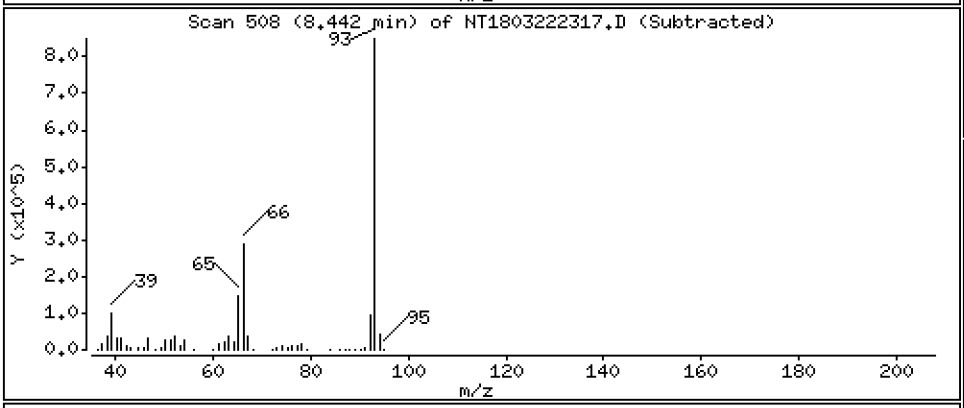
Column phase: ZB-5msi

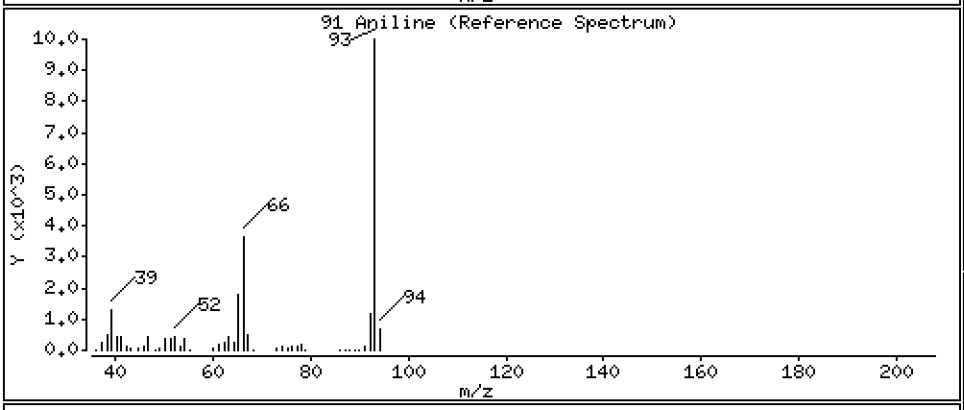
Column diameter: 0.25

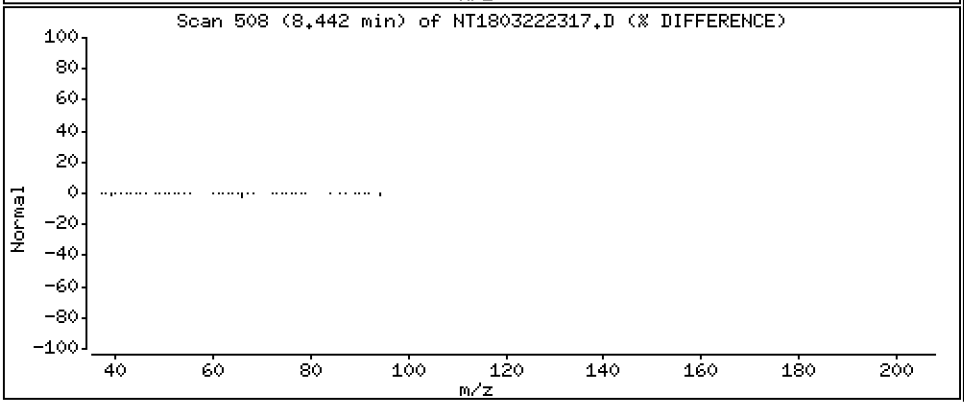
91 Aniline

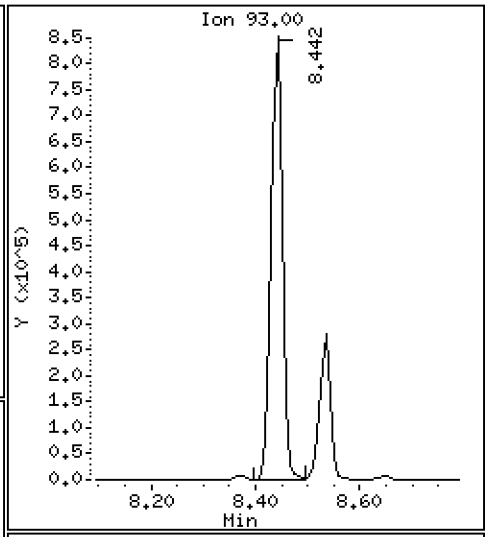
Concentration: 9.885 ug/mL

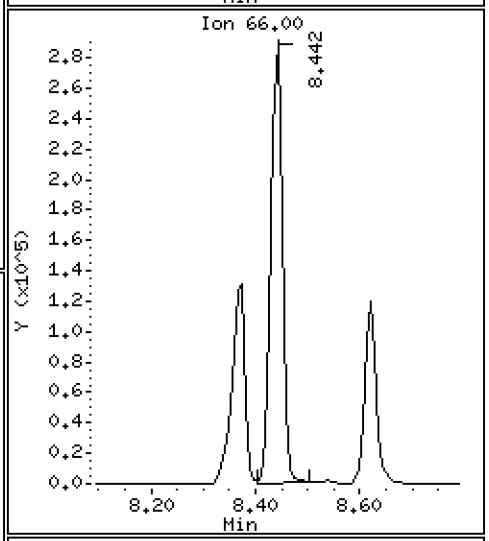


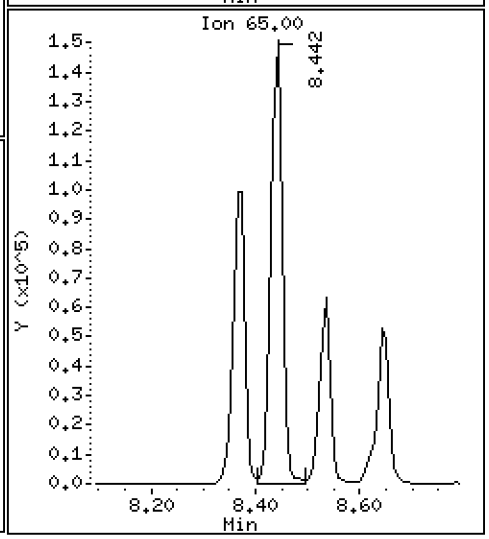












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222317.D

Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

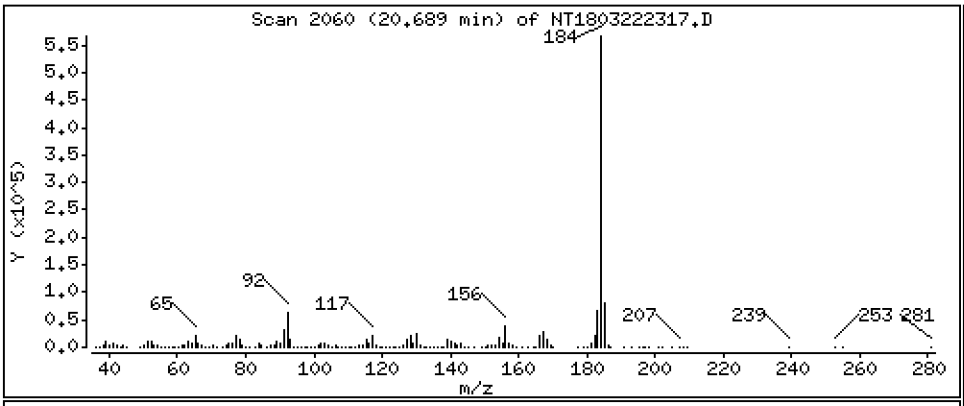
Operator: VTS

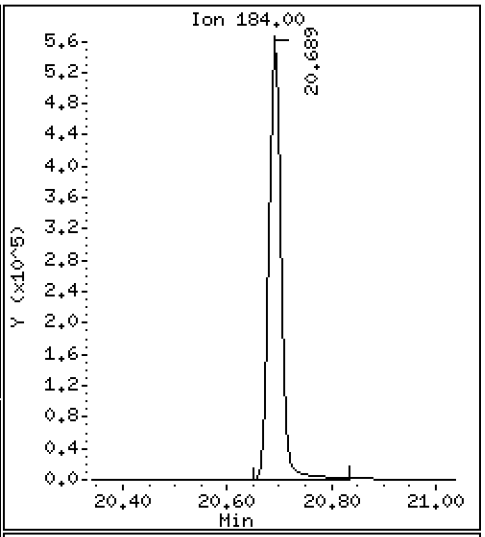
Column phase: ZB-5msi

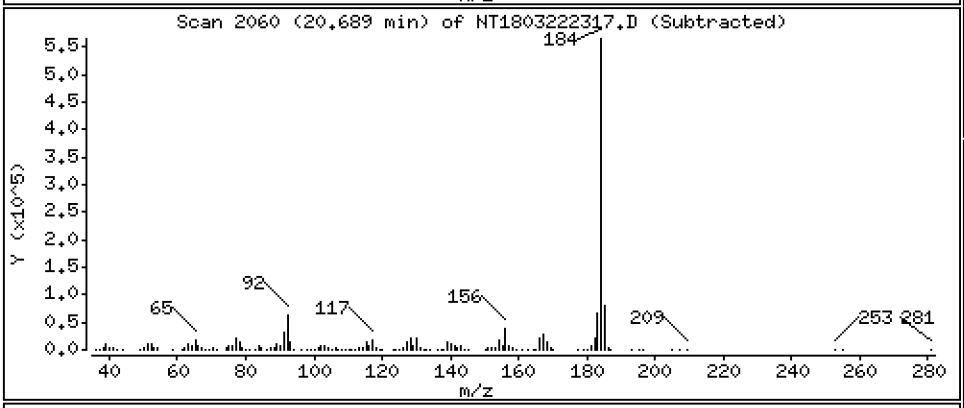
Column diameter: 0.25

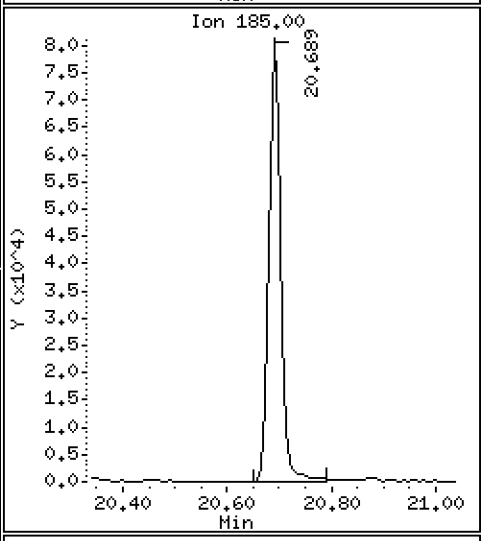
93 Benzidine

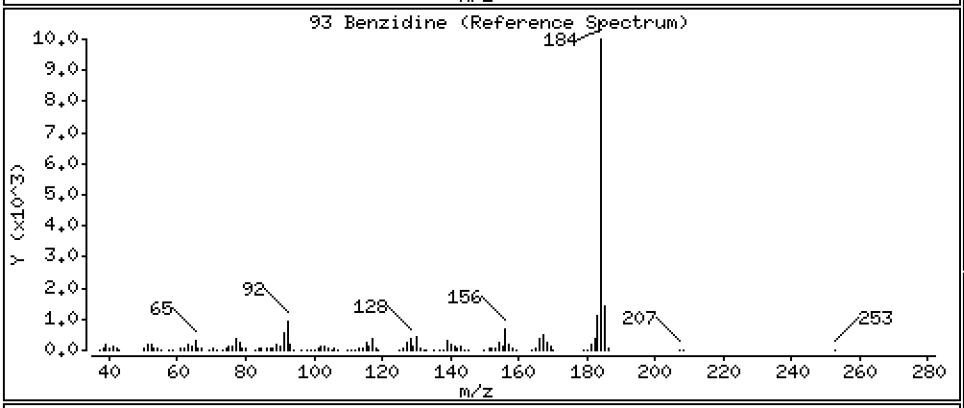
Concentration: 6.352 ug/mL

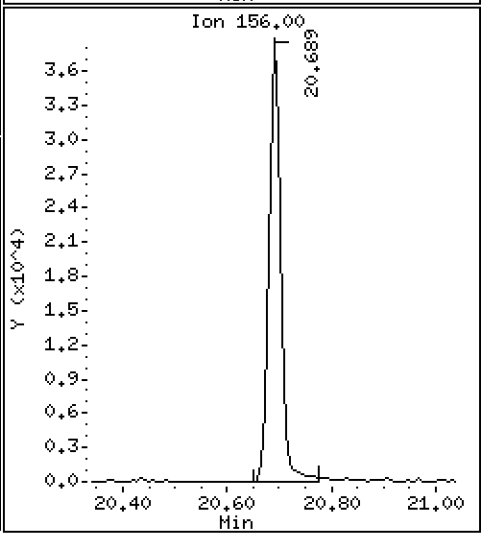


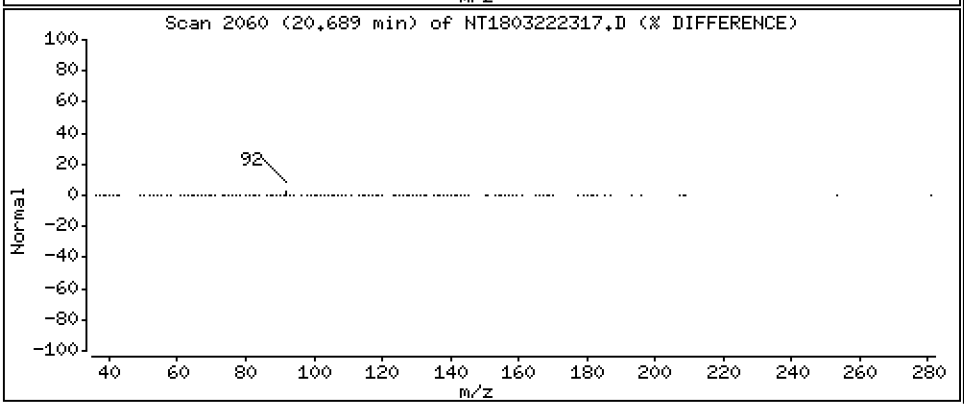












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222317.D

Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

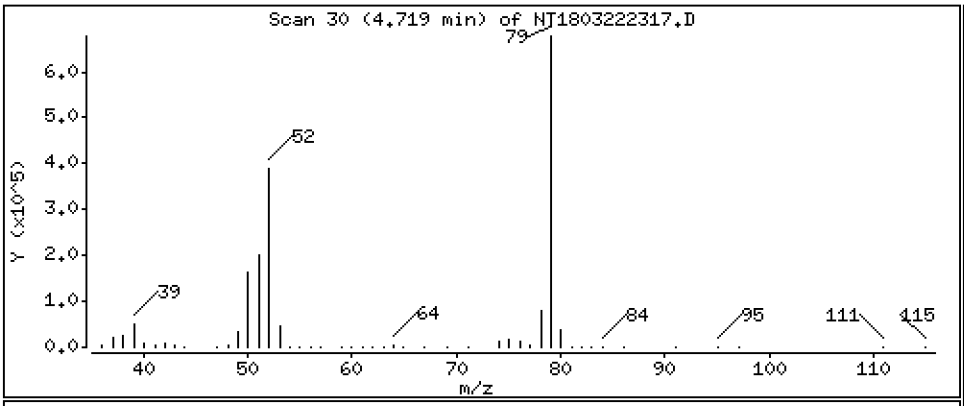
Operator: VTS

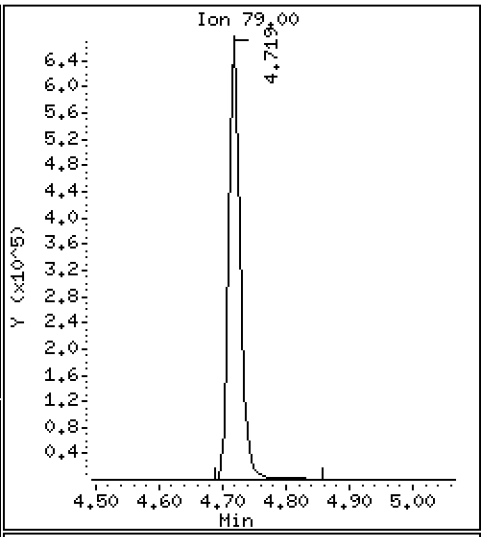
Column phase: ZB-5msi

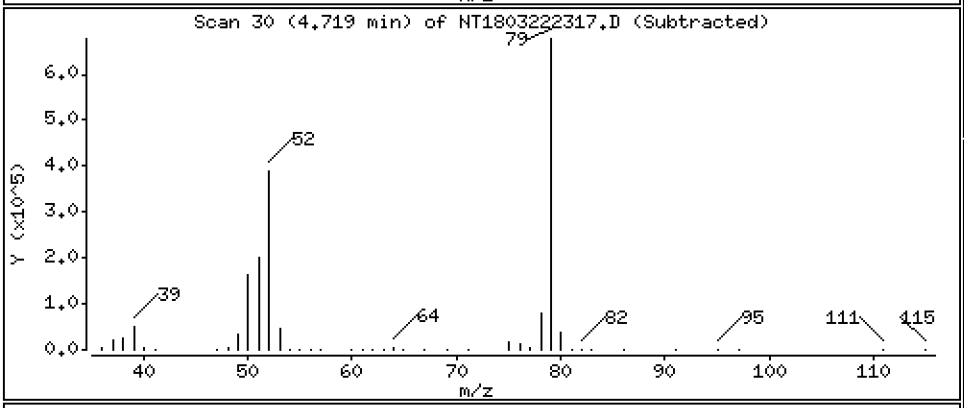
Column diameter: 0.25

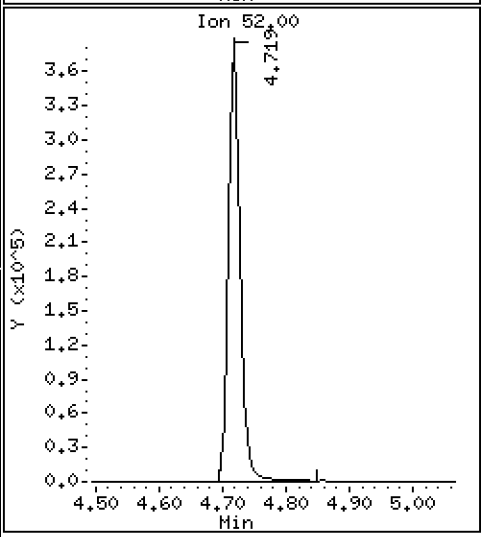
103 Pyridine

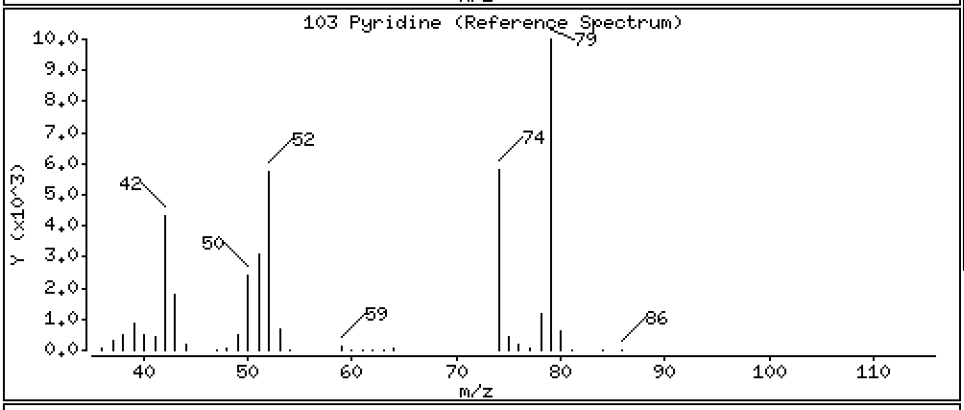
Concentration: 9.944 ug/mL

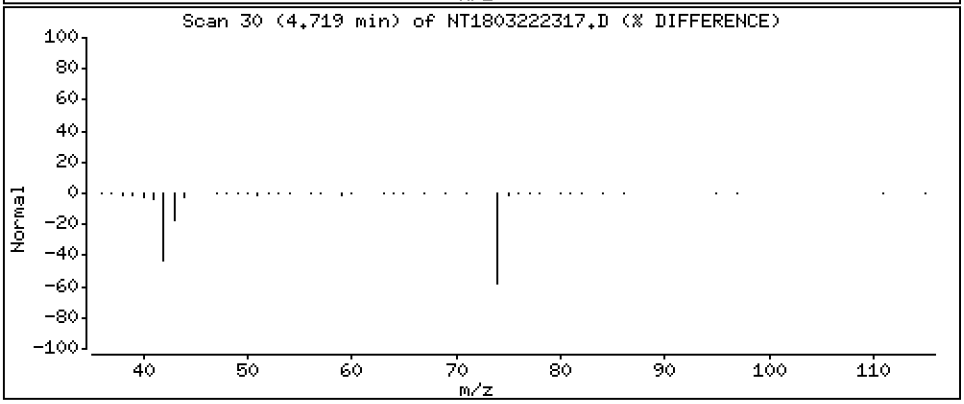












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222317.D

Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

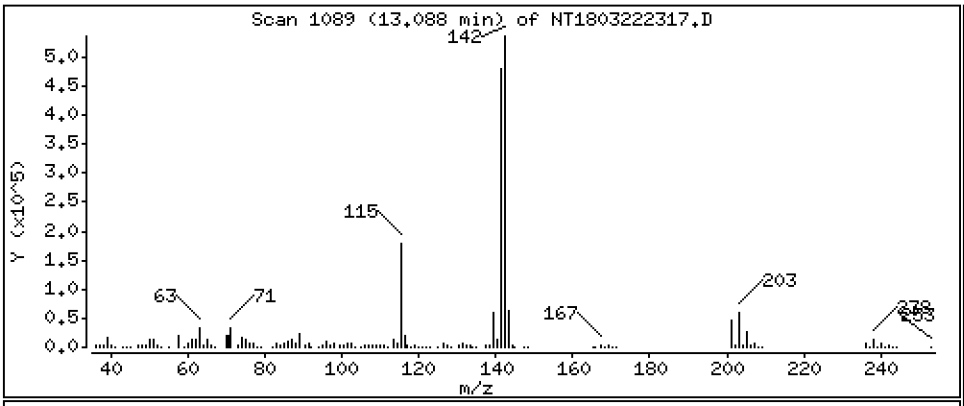
Operator: VTS

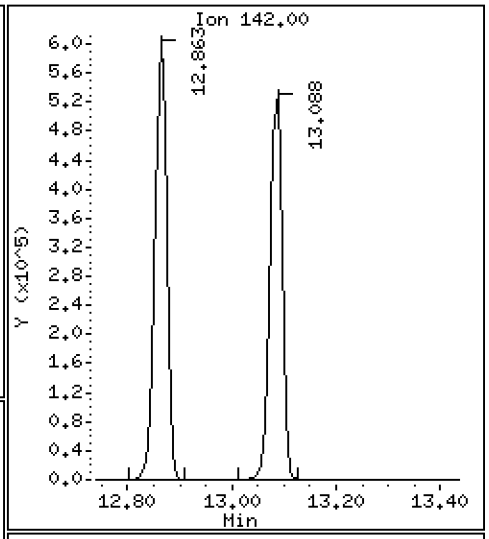
Column phase: ZB-5msi

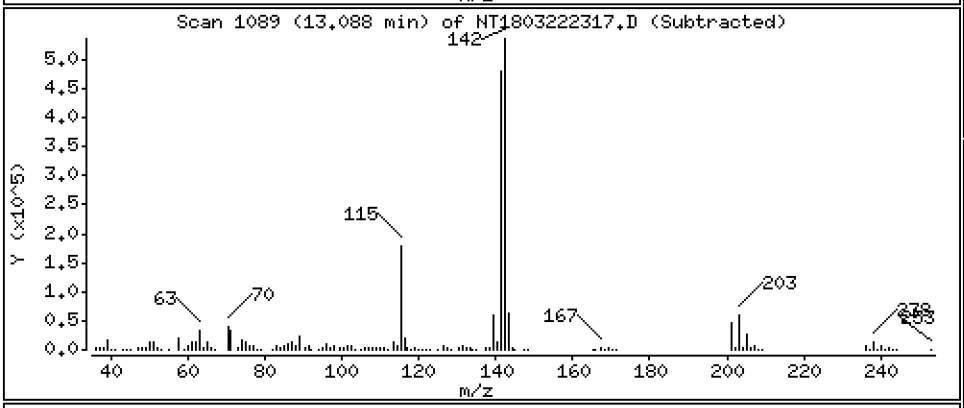
Column diameter: 0.25

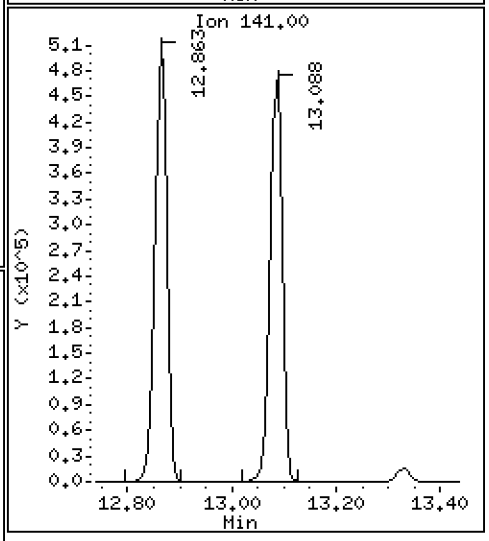
105 1-methylnaphthalene

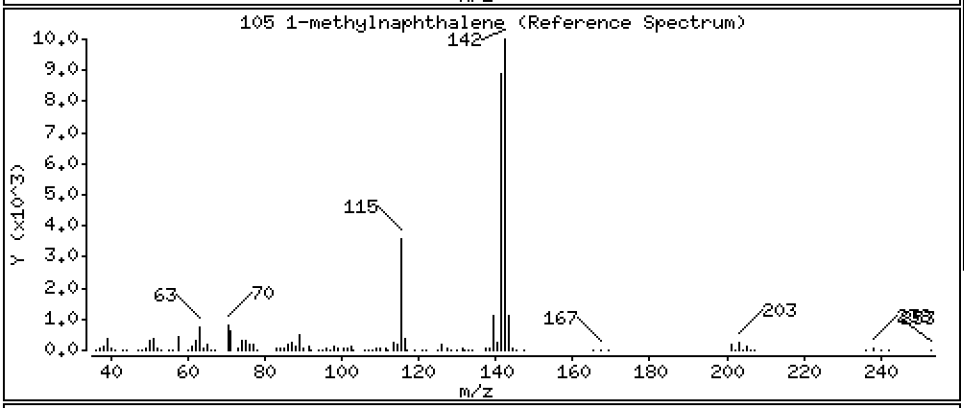
Concentration: 4.806 ug/mL

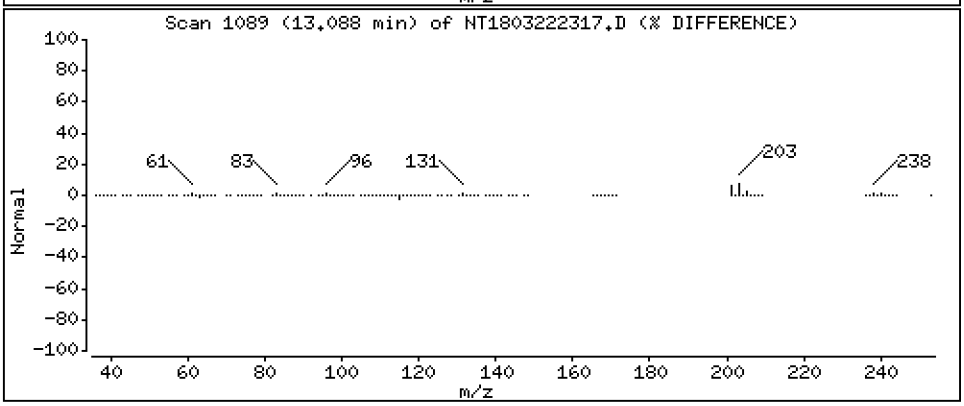












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222317.D

Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

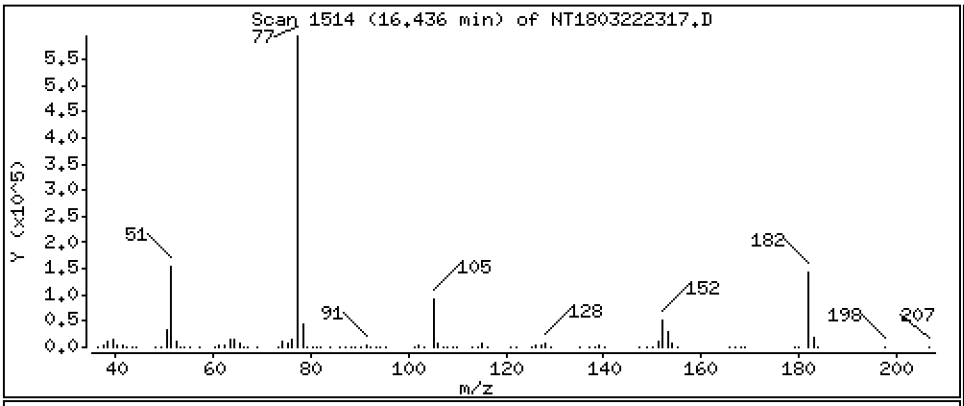
Operator: VTS

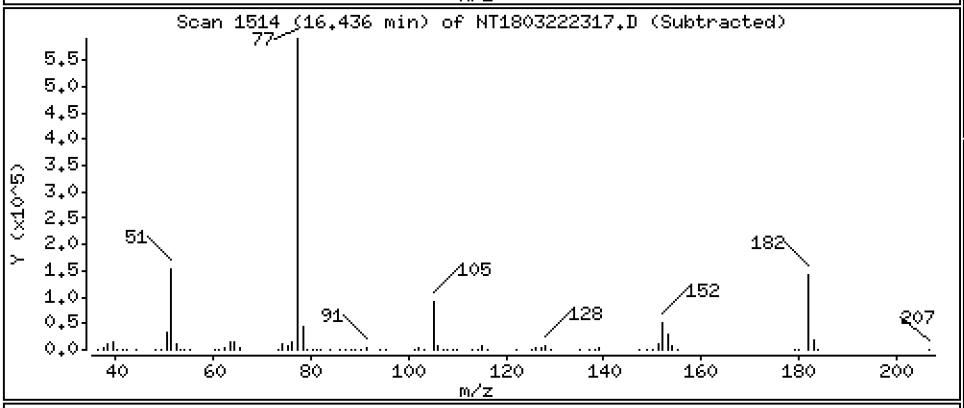
Column phase: ZB-5msi

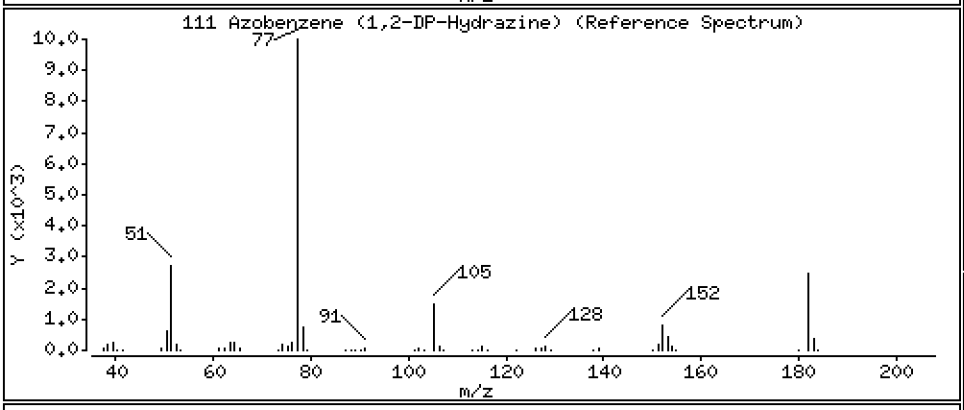
Column diameter: 0.25

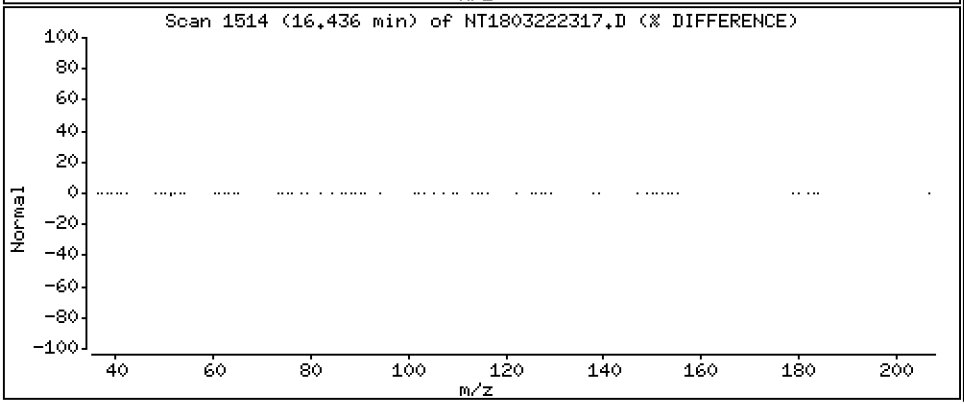
111 Azobenzene (1,2-DP-Hydrazine)

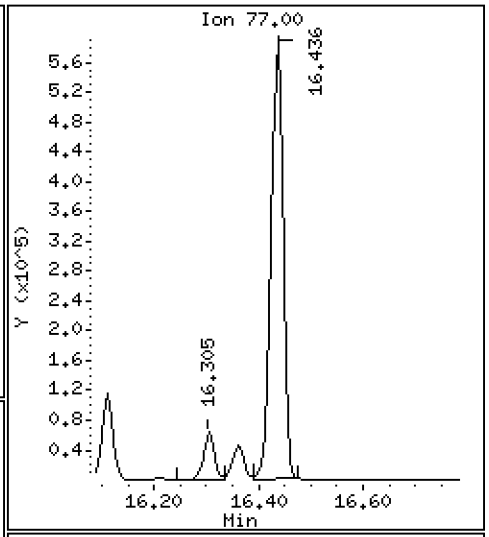
Concentration: 4.973 ug/mL

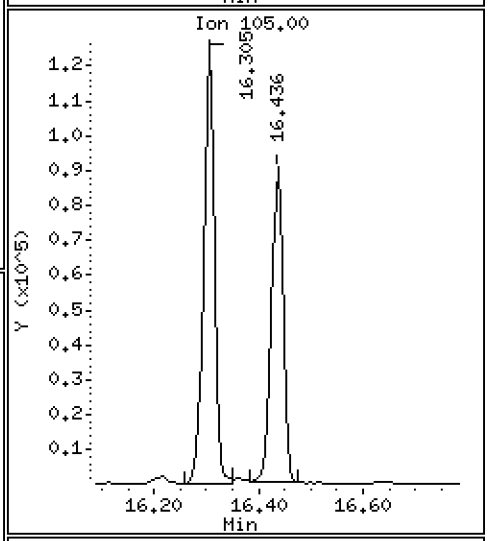


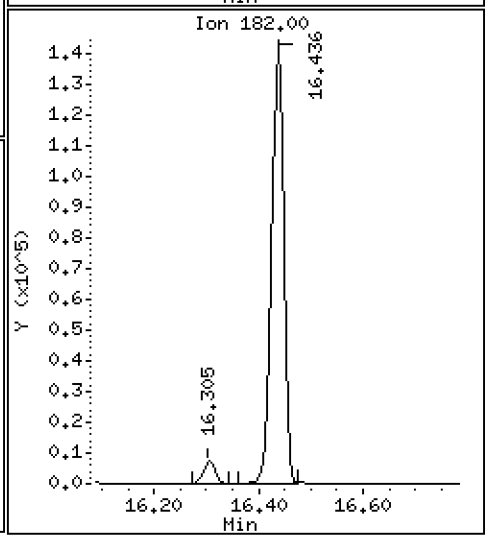












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222317.D

Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

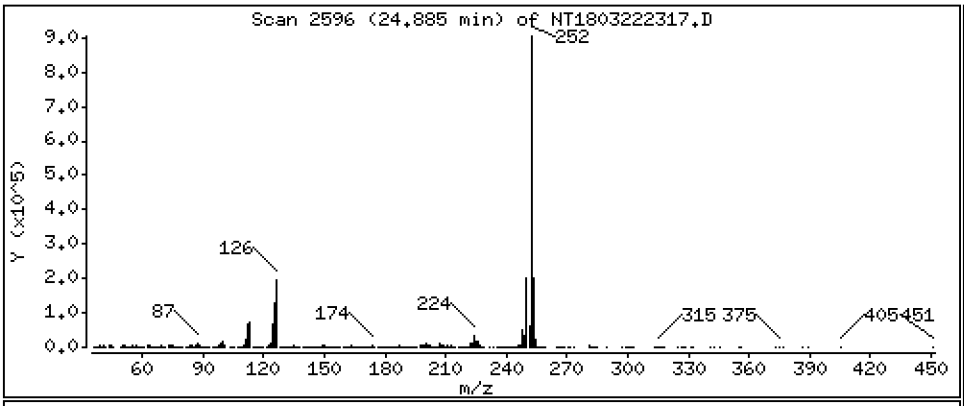
Operator: VTS

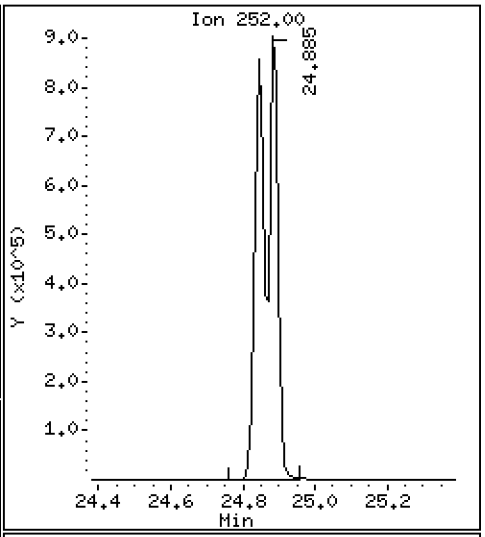
Column phase: ZB-5msi

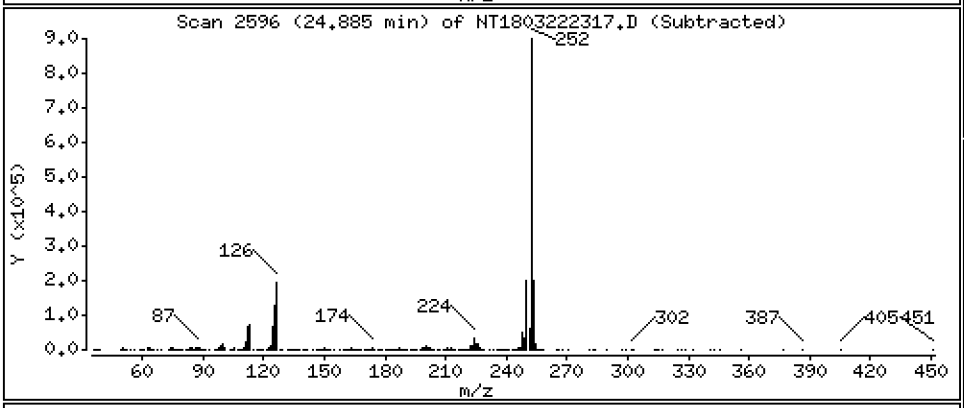
Column diameter: 0.25

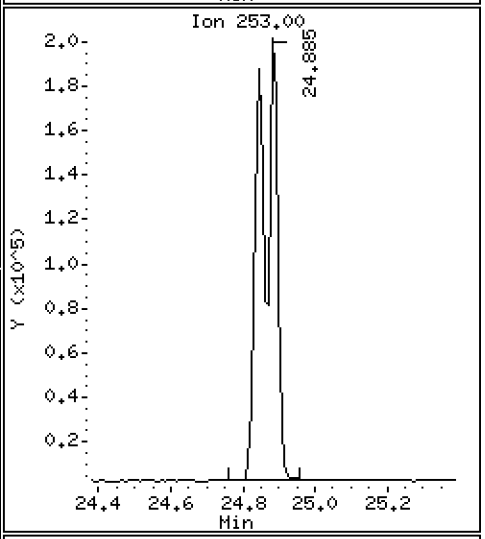
187 Total Benzofluoranthenes

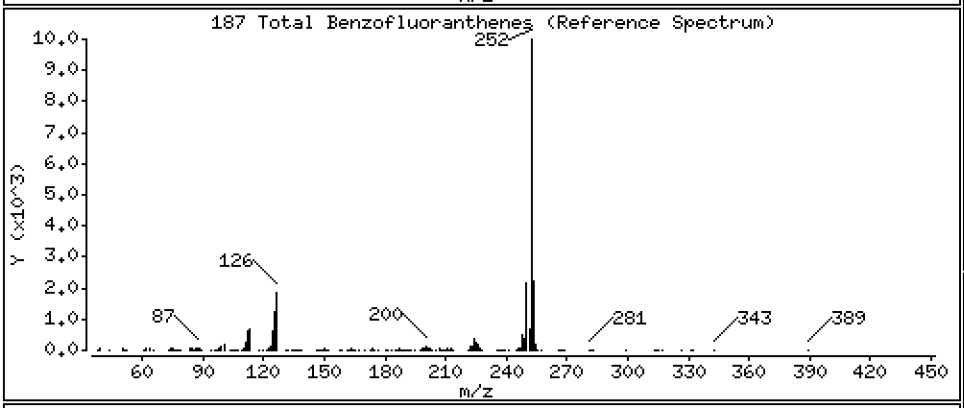
Concentration: 11.22 ug/mL

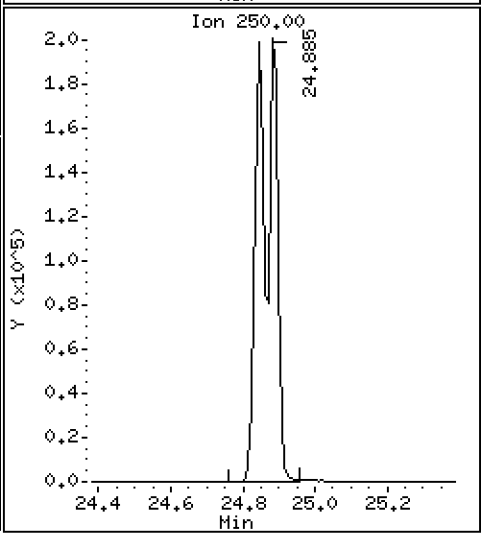


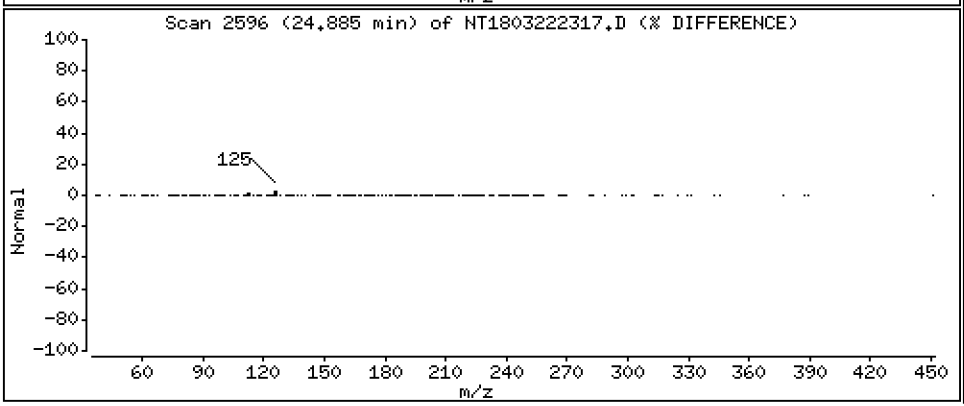












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222317.D

Date : 23-MAR-2023 04:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-CCV1

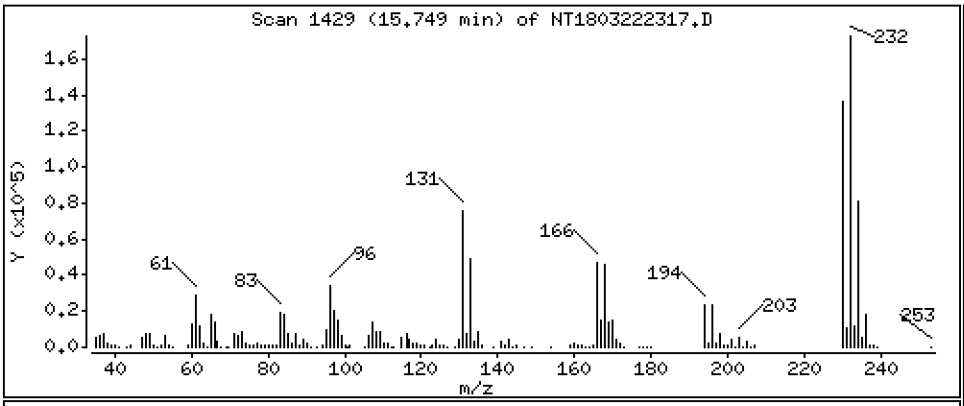
Operator: VTS

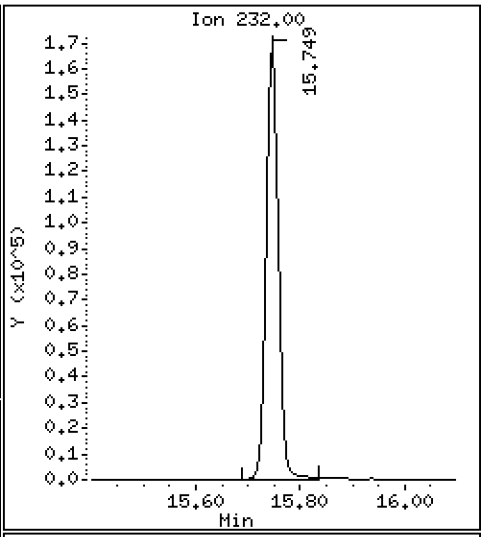
Column phase: ZB-5msi

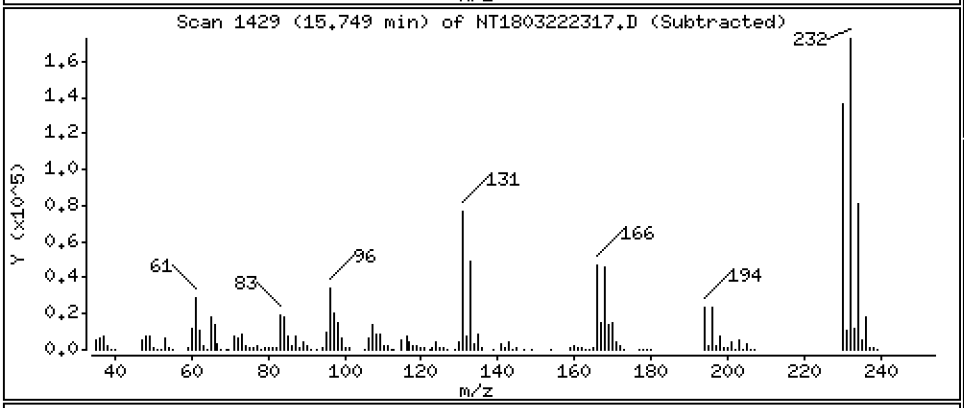
Column diameter: 0.25

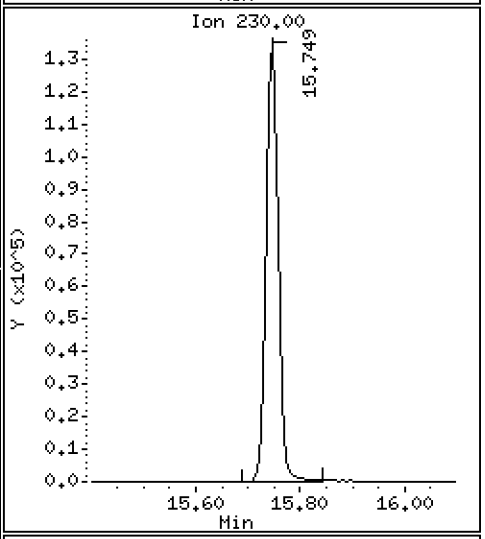
120 2,3,4,6-Tetrachlorophenol

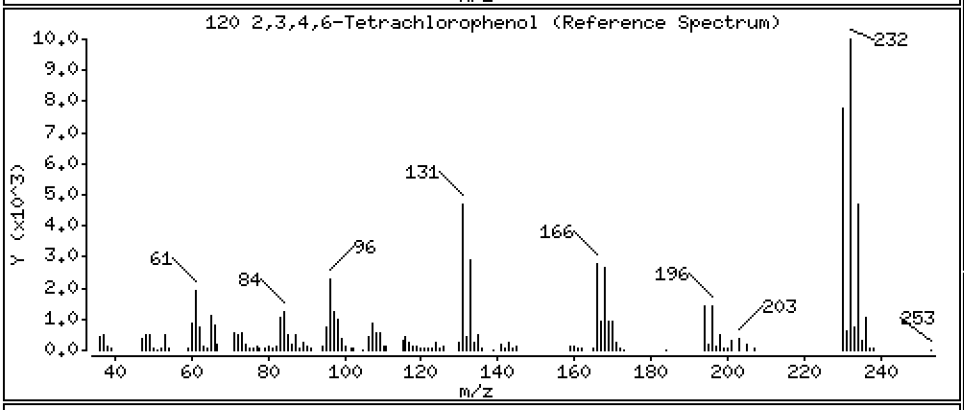
Concentration: 4.406 ug/mL

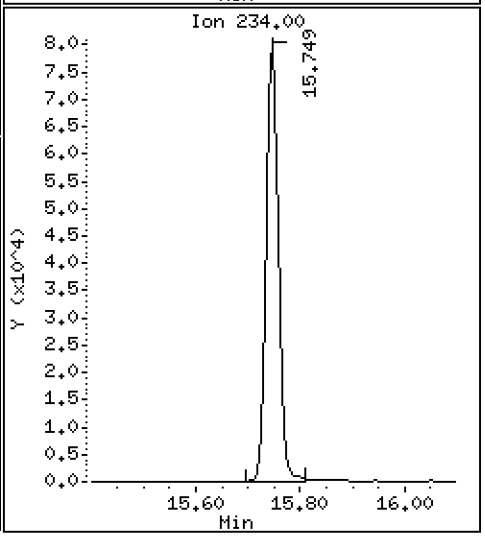


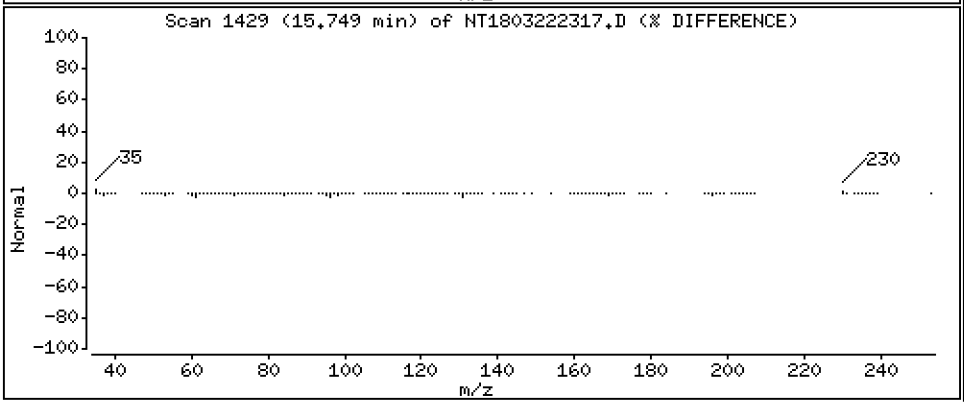












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230322.b\NT1803222317.D
Lab Smp Id: SLD0051-CCV1
Inj Date : 23-MAR-2023 04:05
Operator : VTS Inst ID: nt18.i
Smp Info : SLD0051-CCV1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230322.b\ABN.m
Meth Date : 04-Apr-2023 14:27 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 15:18 Cal File: NT1803192302.D
Als bottle: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: DEENAY-201905

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.781	6.773	(0.755)	665601	7.74846	7.748
$	2 Phenol-d5	99	8.349	8.341	(0.929)	815026	7.68020	7.680
	3 Phenol	94	8.372	8.364	(0.932)	566280	4.99040	4.990
$	5 2-Chlorophenol-d4	132	8.619	8.619	(0.960)	720761	7.83547	7.835
	4 Bis(2-Chloroethyl)ether	93	8.534	8.534	(0.950)	383736	4.88635	4.886
	6 2-Chlorophenol	128	8.650	8.642	(0.963)	491423	5.06491	5.065
	7 1,3-Dichlorobenzene	146	8.913	8.913	(0.992)	498642	4.84053	4.841
*	8 1,4-Dichlorobenzene-d4	152	8.983	8.983	(1.000)	278642	4.00000	
	9 1,4-Dichlorobenzene	146	9.014	9.006	(1.003)	502126	4.87055	4.871
$	10 1,2-Dichlorobenzene-d4	152	9.332	9.332	(1.039)	324381	4.80594	4.806
	12 1,2-Dichlorobenzene	146	9.363	9.363	(1.042)	489182	4.81511	4.815
	11 Benzyl alcohol	108	9.247	9.247	(1.029)	290586	5.48804	5.488
	14 2,2'-oxybis(1-Chloropropane)	121	9.550	9.550	(1.063)	94318	3.94300	3.943
	13 2-Methylphenol	108	9.472	9.472	(1.054)	431902	5.01472	5.015
	17 Hexachloroethane	117	9.945	9.945	(1.107)	187869	4.65374	4.654
	16 N-Nitroso-di-n-propylamine	70	9.806	9.806	(1.092)	305905	4.98752	4.988
	15 4-Methylphenol	108	9.736	9.736	(1.084)	452858	5.06354	5.064
$	18 Nitrobenzene-d5	82	10.062	10.062	(0.880)	471226	5.43537	5.435
	19 Nitrobenzene	77	10.093	10.093	(0.882)	440799	5.17181	5.172
	20 Isophorone	82	10.543	10.543	(0.922)	586297	5.03743	5.037
	21 2-Nitrophenol	139	10.719	10.719	(0.937)	286930	5.65197	5.652
	22 2,4-Dimethylphenol	107	10.778	10.778	(0.942)	801863	9.35831	9.358
	23 Bis(2-Chloroethoxy)methane	93	10.973	10.973	(0.959)	411759	4.89464	4.895
	24 Benzoic acid	105	11.007	10.999	(0.962)	1151580	18.5441	18.54
	25 2,4-Dichlorophenol	162	11.169	11.169	(0.976)	812150	10.2982	10.30
	26 1,2,4-Trichlorobenzene	180	11.355	11.355	(0.993)	393823	4.76338	4.763
*	27 Naphthalene-d8	136	11.439	11.439	(1.000)	1051761	4.00000	
	28 Naphthalene	128	11.478	11.478	(1.003)	1372589	4.80920	4.809
	29 4-Chloroaniline	127	11.609	11.609	(1.015)	1134273	10.3289	10.33
	30 Hexachlorobutadiene	225	11.849	11.849	(1.036)	219812	4.67558	4.676
	31 4-Chloro-3-methylphenol	107	12.561	12.561	(1.098)	727431	10.0153	10.02
	32 2-Methylnaphthalene	142	12.863	12.863	(1.124)	905780	4.87318	4.873(H)
	33 Hexachlorocyclopentadiene	237	13.327	13.335	(0.887)	201002	4.30789	4.308

			QUANT SIG					CONCENTRATIONS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
	34	2,4,6-Trichlorophenol	196	13.482	13.482	(0.897)	518566	10.7518	10.75
	35	2,4,5-Trichlorophenol	196	13.551	13.551	(0.902)	558436	10.5927	10.59
$	36	2-Fluorobiphenyl	172	13.644	13.644	(0.908)	960483	4.97460	4.975
	37	2-Chloronaphthalene	162	13.846	13.846	(0.922)	759348	4.92993	4.930
	38	2-Nitroaniline	65	14.109	14.109	(0.939)	432612	10.7179	10.72
	39	Dimethylphthalate	163	14.542	14.542	(0.968)	813312	5.06227	5.062
	40	Acenaphthylene	152	14.712	14.712	(0.979)	1334930	5.08947	5.089
	41	2,6-Dinitrotoluene	165	14.674	14.674	(0.977)	372893	10.1620	10.16
*	42	Acenaphthene-d10	164	15.022	15.022	(1.000)	539174	4.00000	
	43	3-Nitroaniline	138	14.952	14.952	(0.995)	437582	10.6592	10.66
	44	Acenaphthene	153	15.091	15.091	(1.005)	819873	4.93834	4.938
	45	2,4-Dinitrophenol	184	15.161	15.161	(1.009)	278570	12.8331	12.83
	46	Dibenzofuran	168	15.416	15.416	(1.026)	1126239	4.93783	4.938
	47	4-Nitrophenol	109	15.269	15.261	(1.016)	206901	9.45908	9.459
	48	2,4-Dinitrotoluene	165	15.470	15.470	(1.030)	488978	10.1215	10.12
	50	Diethylphthalate	149	15.988	15.988	(1.064)	788733	4.84527	4.845
	49	Fluorene	166	16.120	16.120	(1.073)	1068189	5.15928	5.159
	51	4-Chlorophenyl-phenylether	204	16.112	16.112	(1.073)	482596	5.25190	5.252
	52	4-Nitroaniline	138	16.212	16.212	(1.079)	405530	9.66408	9.664
	53	4,6-Dinitro-2-methylphenol	198	16.305	16.305	(0.904)	437542	16.4891	16.49
	54	N-Nitrosodiphenylamine	169	16.359	16.359	(0.907)	582558	4.98126	4.981
$	55	2,4,6-Tribromophenol	330	16.644	16.644	(1.108)	191786	7.83154	7.832
	56	4-Bromophenyl-phenylether	248	17.107	17.107	(0.949)	234575	5.05647	5.056
	57	Hexachlorobenzene	284	17.415	17.415	(0.966)	260147	4.99936	4.999
	58	Pentachlorophenol	266	17.772	17.772	(0.985)	320186	9.98200	9.982
*	59	Phenanthrene-d10	188	18.035	18.035	(1.000)	918099	4.00000	
	60	Phenanthrene	178	18.081	18.081	(1.003)	1211732	4.83499	4.835
	61	Anthracene	178	18.174	18.166	(1.008)	1239777	5.18851	5.189
	62	Carbazole	167	18.499	18.499	(1.026)	1140266	5.41919	5.419
	63	Di-n-butylphthalate	149	19.311	19.311	(1.071)	1379466	4.95715	4.957
	64	Fluoranthene	202	20.456	20.456	(0.887)	1354031	4.28037	4.280
	65	Pyrene	202	20.874	20.874	(0.905)	1426412	4.27822	4.278
$	66	Terphenyl-d14	244	21.168	21.168	(0.918)	1075131	4.33579	4.336
	67	Butylbenzylphthalate	149	22.090	22.090	(0.958)	632901	4.42974	4.430
	68	Benzo(a)anthracene	228	23.027	23.027	(0.999)	1568132	5.04803	5.048
*	69	Chrysene-d12	240	23.058	23.050	(1.000)	992695	4.00000	
	70	3,3'-Dichlorobenzidine	252	22.988	22.988	(0.997)	1601247	14.3389	14.34
	71	Chrysene	228	23.096	23.096	(1.002)	1561579	4.86300	4.863
	72	bis(2-Ethylhexyl)phthalate	149	23.119	23.119	(0.960)	963193	4.37228	4.372
*	134	Di-n-octylphthalate-d4	153	24.087	24.087	(1.000)	1524263	4.00000	
	73	Di-n-octylphthalate	149	24.095	24.095	(1.000)	1758544	4.68917	4.689
	74	Benzo(b)fluoranthene	252	24.846	24.846	(0.972)	1633943	6.14079	6.141
	75	Benzo(k)fluoranthene	252	24.885	24.885	(0.973)	1528376	5.22235	5.222
	76	Benzo(a)pyrene	252	25.458	25.458	(0.996)	1335835	5.01934	5.019
*	77	Perylene-d12	264	25.566	25.566	(1.000)	955797	4.00000	
	78	Indeno(1,2,3-cd)pyrene	276	28.055	28.055	(1.097)	765731	2.28758	2.288
	79	Dibenzo(a,h)anthracene	278	28.071	28.071	(1.098)	679875	2.45165	2.452
	80	Benzo(g,h,i)perylene	276	28.785	28.793	(1.126)	428732	1.61133	1.611(M)
	90	N-Nitrosodimethylamine	74	4.695	4.695	(0.523)	508998	9.58457	9.585
	91	Aniline	93	8.442	8.442	(0.940)	1206233	9.88541	9.885
	93	Benzidine	184	20.688	20.688	(0.897)	854392	6.35161	6.352
	103	Pyridine	79	4.718	4.718	(0.525)	872072	9.94383	9.944
	105	1-methylnaphthalene	142	13.087	13.087	(1.144)	820107	4.80644	4.806
	111	Azobenzene (1,2-DP-Hydrazine)	77	16.436	16.436	(1.094)	887133	4.97299	4.973

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187 Total Benzofluoranthenes	252	24.885	24.885	(0.973)	2992925	11.2239	11.22
120 2,3,4,6-Tetrachlorophenol	232	15.748	15.748	(1.048)	259943	4.40554	4.406

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222317.D
Lab Smp Id: SLD0051-CCV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322.b\ABN.m
Misc Info:

Calibration Date: 22-MAR-2023
Calibration Time: 17:55
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	259918	129959	519836	278642	7.20
27 Naphthalene-d8	969410	484705	1938820	1051761	8.49
42 Acenaphthene-d10	510287	255144	1020574	539174	5.66
59 Phenanthrene-d10	882628	441314	1765256	918099	4.02
69 Chrysene-d12	800073	400037	1600146	992695	24.08
134 Di-n-octylphthala	1258607	629304	2517214	1524263	21.11
77 Perylene-d12	911909	455955	1823818	955797	4.81

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	0.00
42 Acenaphthene-d10	15.02	14.52	15.52	15.02	0.00
59 Phenanthrene-d10	18.04	17.54	18.54	18.04	-0.00
69 Chrysene-d12	23.05	22.55	23.55	23.06	0.03
134 Di-n-octylphthala	24.09	23.59	24.59	24.09	0.00
77 Perylene-d12	25.57	25.07	26.07	25.57	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222317.D

Lab ID: SLD0051-CCV1
nt18.i, ABN.m, 23-MAR-2023 04:05

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

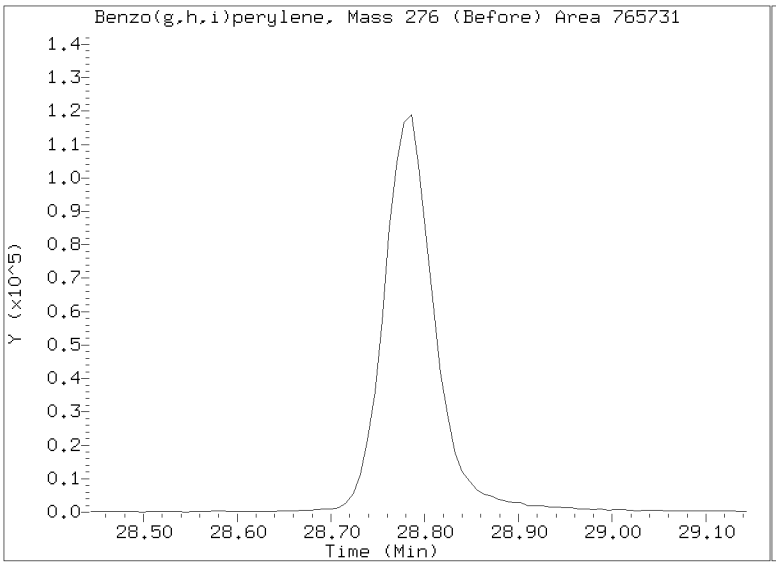
RRT check based on Ccal File: NT1803222302.D

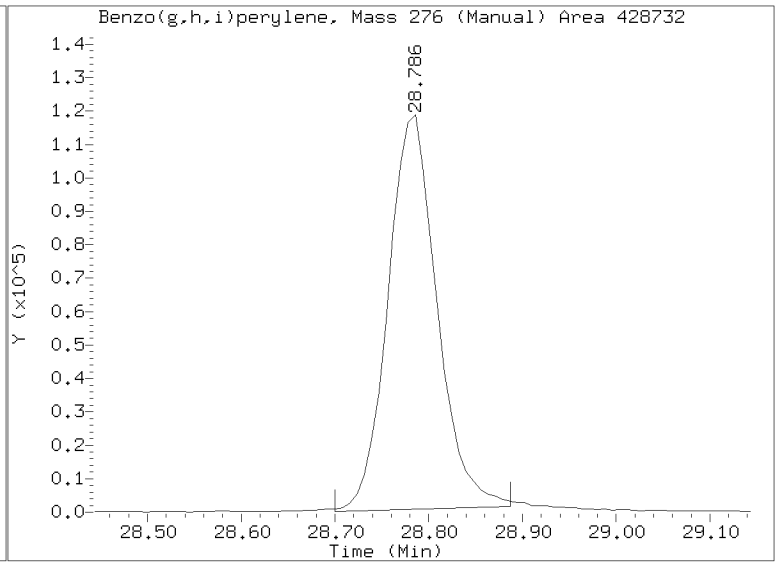
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230322.b/NT1803222317.D
Injection Date: 23-MAR-2023 04:05
Lab ID:SLD0051-CCV1 Client ID:
Report Date: 04/04/2023 14:29





APPROVED

By Deenay Dunmore at 2:45 pm, Apr 04, 2023

Analytical Resources, LLC
Analytical Chemists and Consultants

LOW-CONCENTRATION CONTINUING CALIBRATION CHECK

EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	NT18	Calibration:	GC00085
Lab File ID:	NT1803222304.D	Calibration Date:	03/19/2023
Sequence:	SLD0051	Injection Date:	03/22/23
Lab Sample ID:	SLD0051-LCV1	Injection Time:	19:17
Sequence Name:	ABN 0.2		

		CONC. (ug/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT	
Phenol	A	0.20000	0.2	1.6289550	1.4657860		-10.0	+/-50	
4-Methylphenol	A	0.20000	0.2	1.2838700	1.0574120		-17.6	+/-50	
Naphthalene	A	0.20000	0.2	1.0854510	1.0464640		-3.6	+/-50	
2-Methylnaphthalene	A	0.20000	0.2	0.7068922	0.6682993		-5.5	+/-50	
Acenaphthylene	A	0.20000	0.2	1.9458850	1.7186920		-11.7	+/-50	
Dimethylphthalate	A	0.20000	0.2	1.1919090	1.0486360		-12.0	+/-50	
Acenaphthene	A	0.20000	0.2	1.2316760	1.1835740		-3.9	+/-50	
Dibenzofuran	A	0.20000	0.2	1.6920980	1.6280920		-3.8	+/-50	
Fluorene	A	0.20000	0.2	1.5359950	1.4320080		-6.8	+/-50	
Phenanthrene	A	0.20000	0.2	1.0918970	1.0611070		-2.8	+/-50	
Anthracene	A	0.20000	0.2	1.0410500	0.8626723		-17.1	+/-50	
Fluoranthene	A	0.20000	0.2	1.2746530	1.0940440		-14.2	+/-50	
Pyrene	A	0.20000	0.2	1.3434640	1.1660030		-13.2	+/-50	
Butylbenzylphthalate	A	0.20000	0.1	0.4580611	0.3065516		-47.3	+/-50	
Benzo(a)anthracene	A	0.20000	0.2	1.2517140	1.1700410		-6.5	+/-50	
Chrysene	A	0.20000	0.2	1.2939090	1.1948480		-7.7	+/-50	
bis(2-Ethylhexyl)phthalate	A	0.20000	0.1	0.4872329	0.3185402		-45.9	+/-50	
Benzofluoranthenes, Total	A	0.40000	0.4	1.1159550	1.0290630		-7.8	+/-50	
Benzo(a)pyrene	A	0.20000	0.2	0.9981810	0.8460115		-24.0	+/-50	
Indeno(1,2,3-cd)pyrene	A	0.20000	0.09	1.2089080	0.6513367		-53.1	+/-50	*
Dibenzo(a,h)anthracene	A	0.20000	0.08	1.0105360	0.4759742		-58.4	+/-50	*
Benzo(g,h,i)perylene	A	0.20000	0.1	0.9990967	0.6067991		-45.2	+/-50	
2-Fluorophenol	A	0.30000	0.241	1.2331380	0.9894135		-19.8	+/-50	
Phenol-d5	A	0.30000	0.254	1.5233940	1.2887390		-15.4	+/-50	
2-Chlorophenol-d4	A	0.30000	0.250	1.3205030	1.1016860		-16.6	+/-50	
1,2-Dichlorobenzene-d4	A	0.20000	0.194	0.9689252	0.9406777		-2.9	+/-50	
Nitrobenzene-d5	A	0.20000	0.169	0.3297186	0.2788125		-15.4	+/-50	
2-Fluorobiphenyl	A	0.20000	0.193	1.4323940	1.3824860		-3.5	+/-50	
2,4,6-Tribromophenol	A	0.30000	0.129	0.1658543	0.0750877		-56.9	+/-50	*
p-Terphenyl-d14	A	0.20000	0.173	0.9991659	0.8628287		-13.6	+/-50	

* Values outside of QC limits

Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Page 1

Date : 22-MAR-2023 19:17

Client ID:

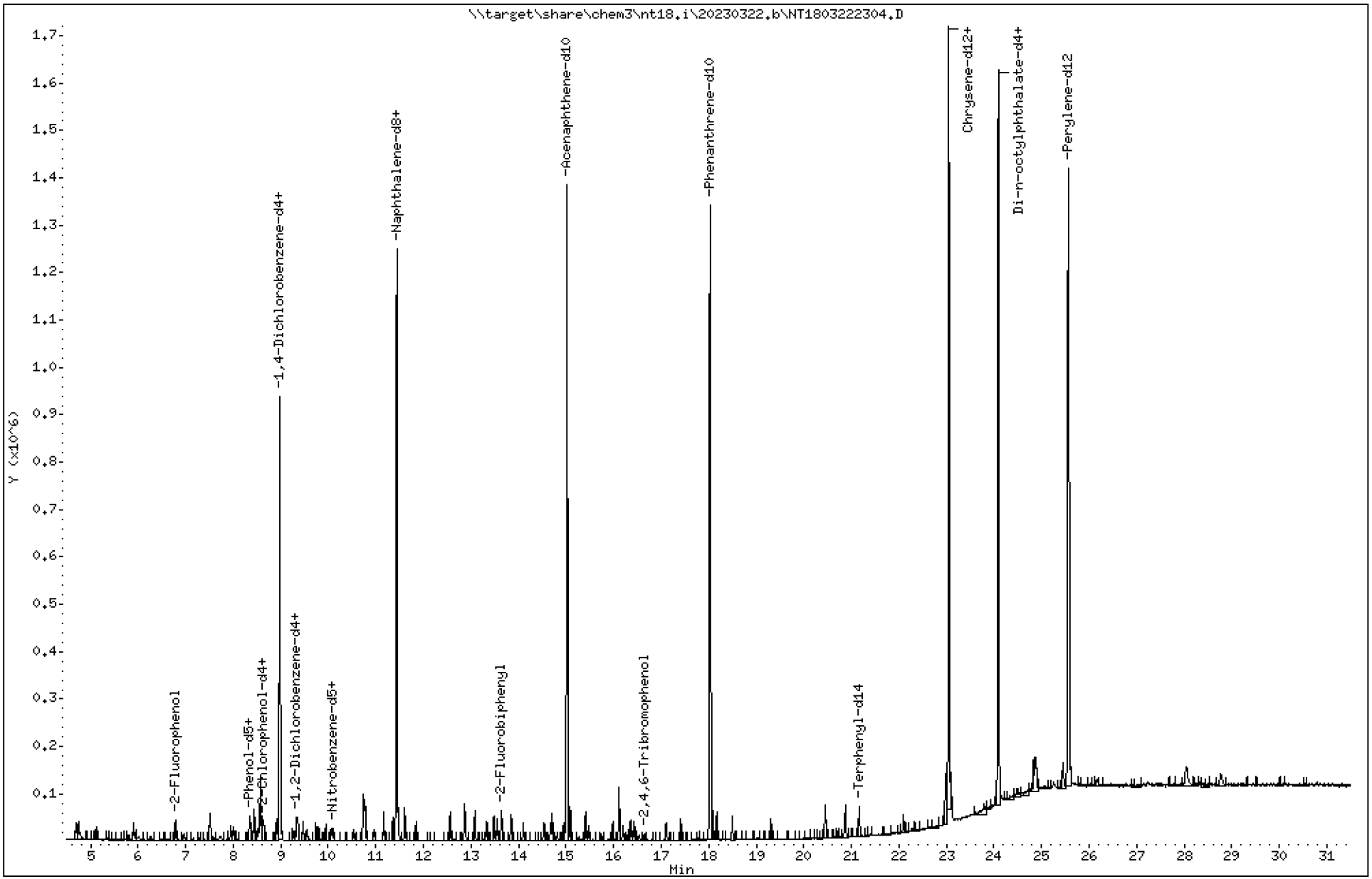
Instrument: nt18.i

Sample Info: SLD0051-LCV1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

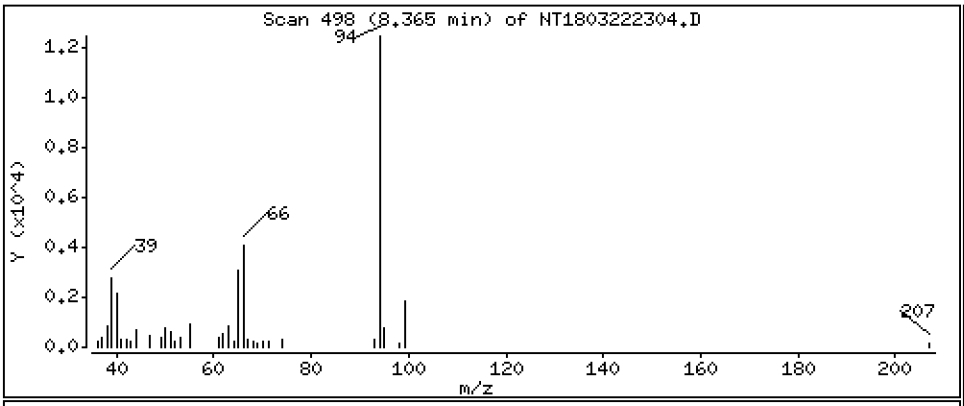
Operator: VTS

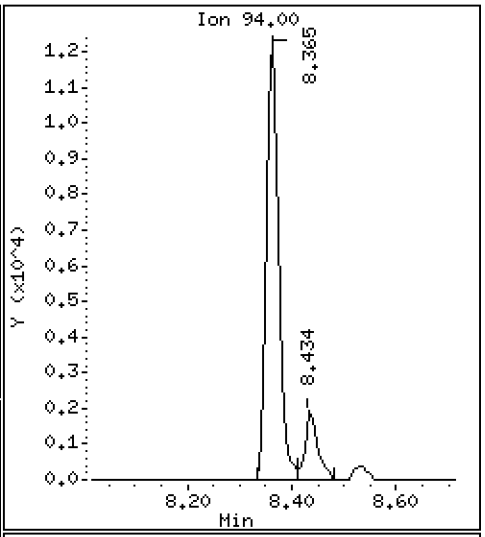
Column phase: ZB-5msi

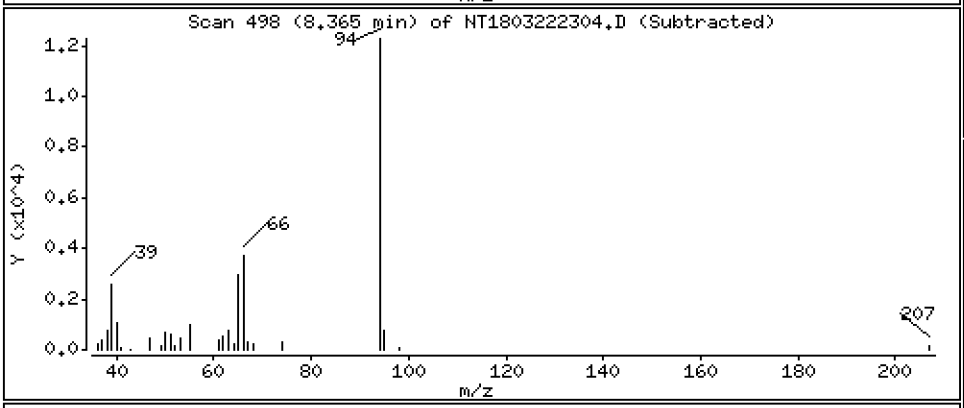
Column diameter: 0.25

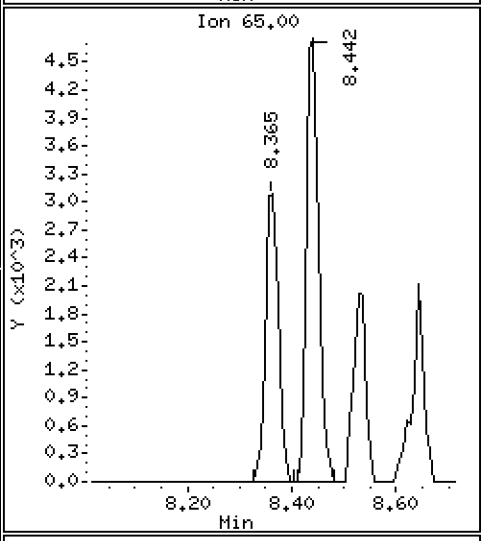
3 Phenol

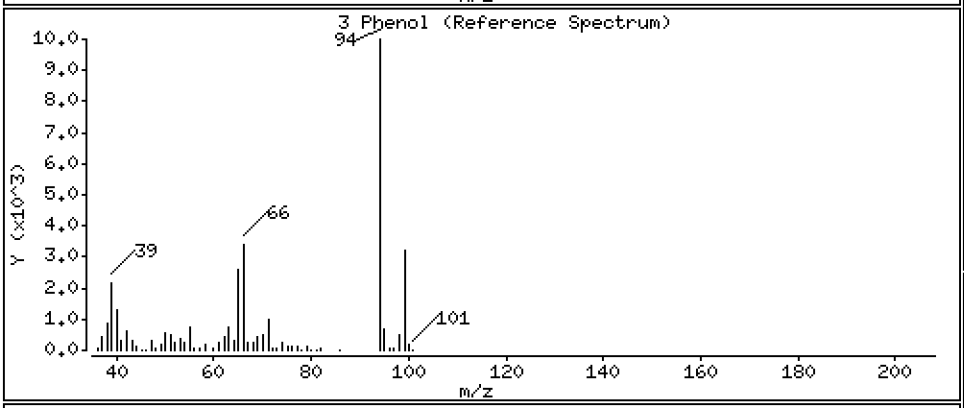
Concentration: 0.1800 ug/mL

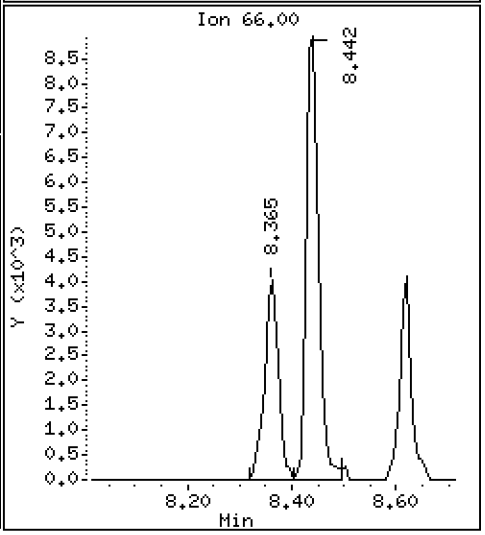


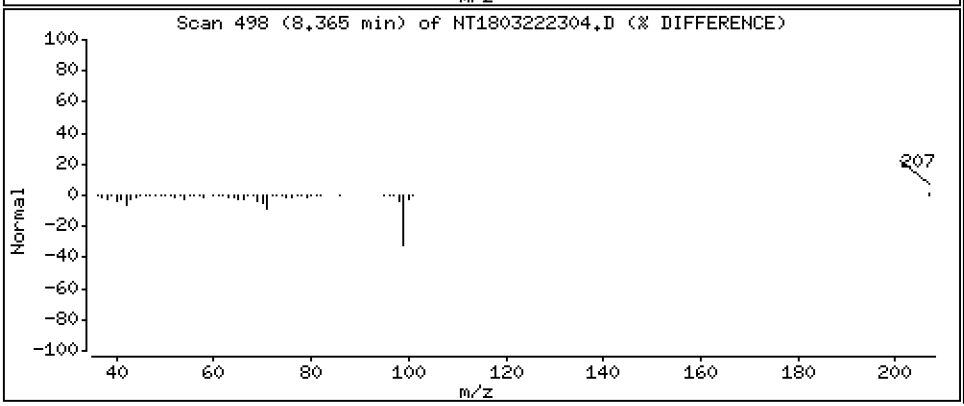












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

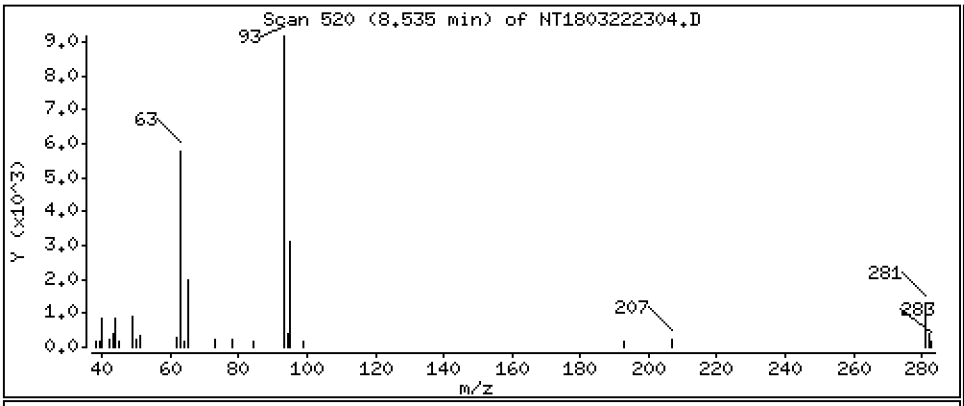
Operator: VTS

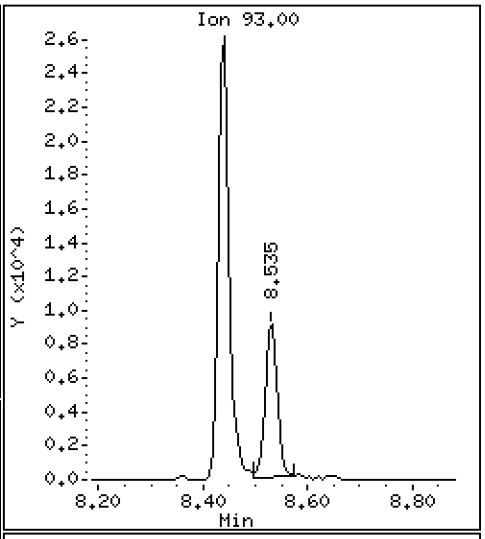
Column phase: ZB-5msi

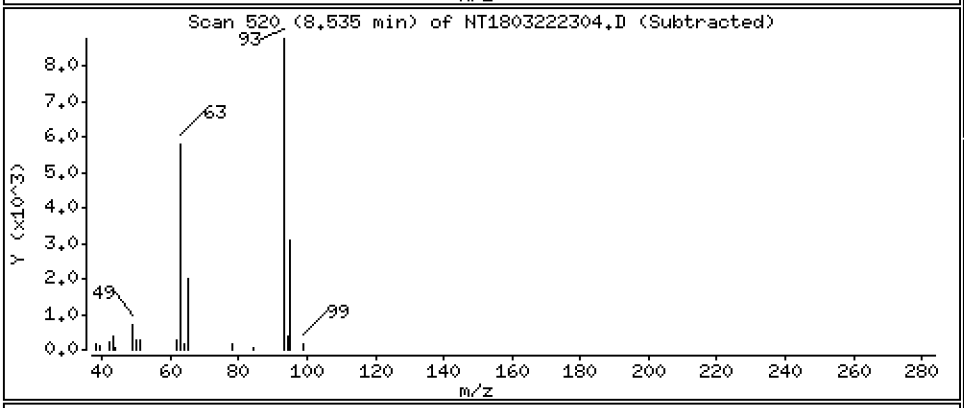
Column diameter: 0.25

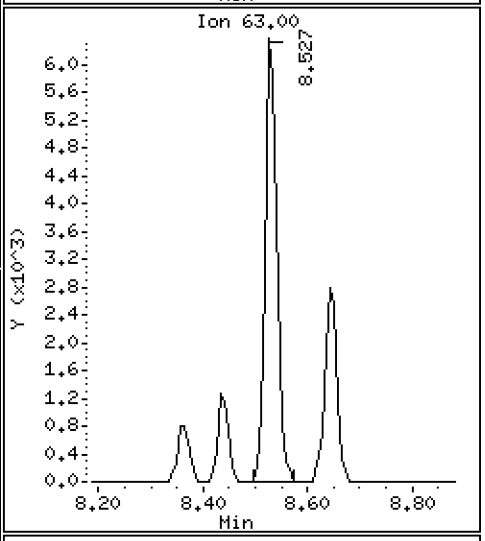
4 Bis(2-Chloroethyl)ether

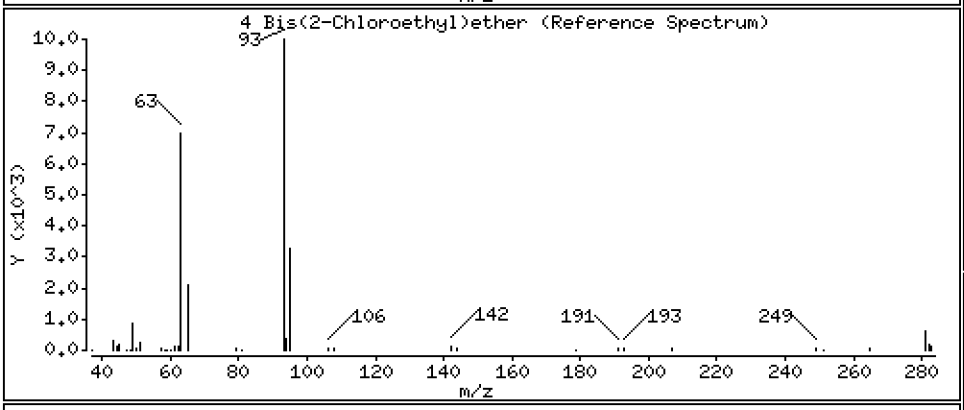
Concentration: 0.1870 ug/mL

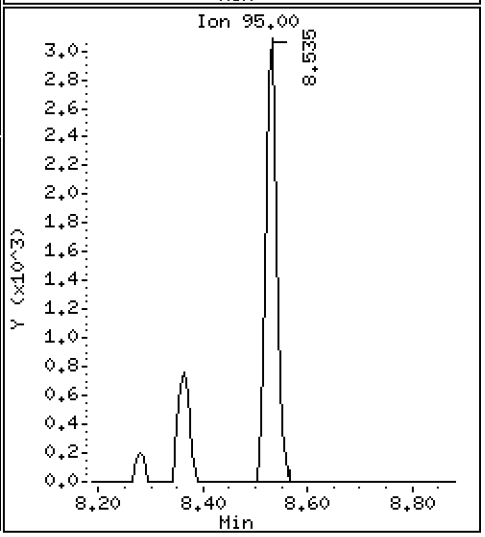


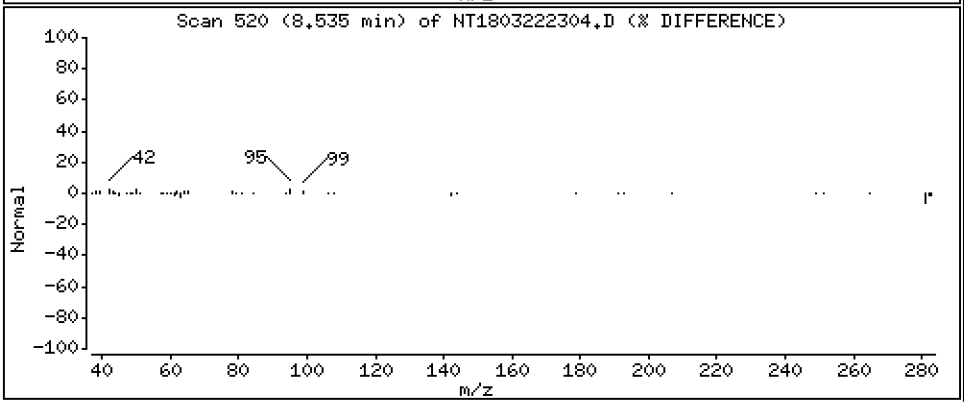












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

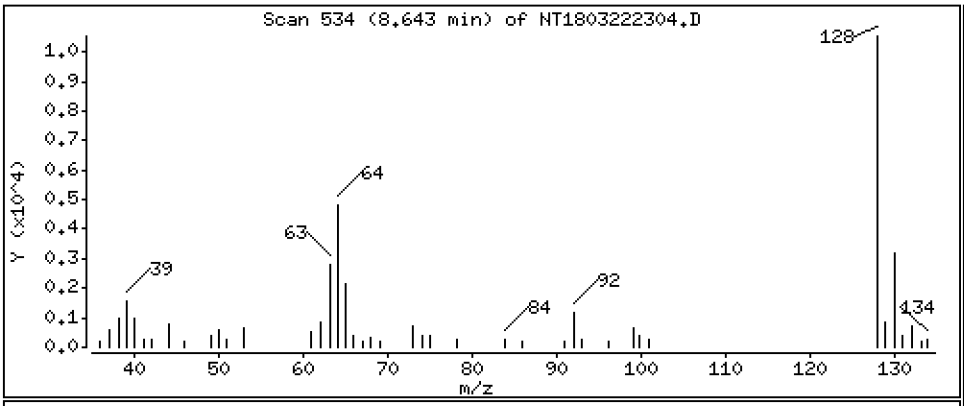
Operator: VTS

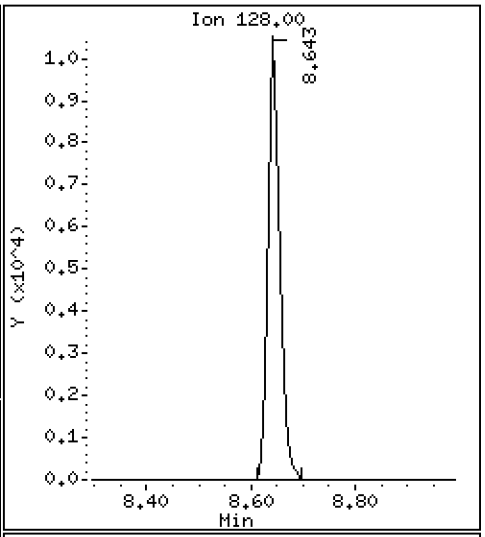
Column phase: ZB-5msi

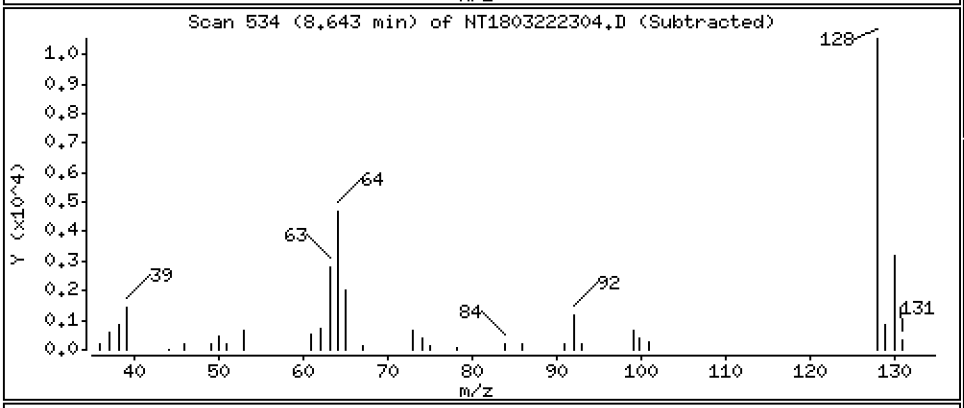
Column diameter: 0.25

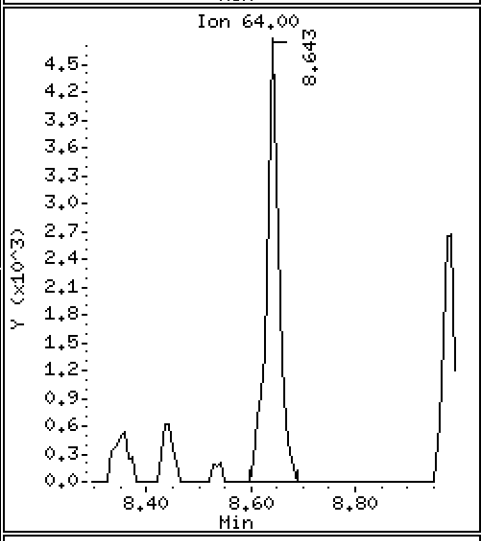
6 2-Chlorophenol

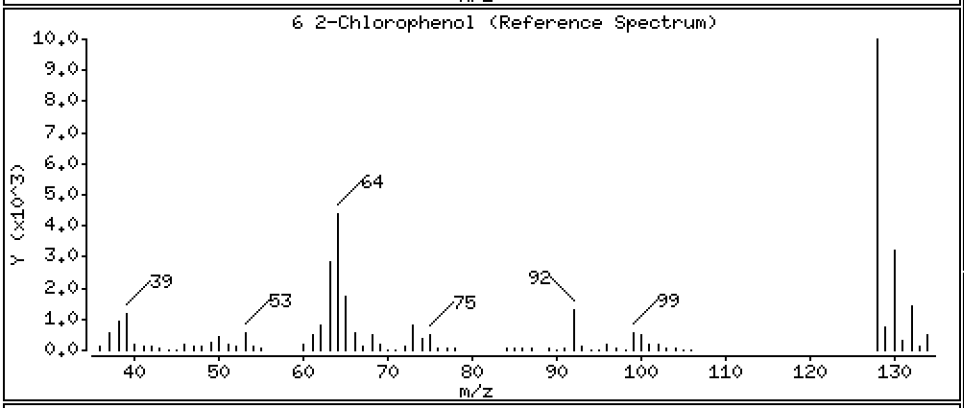
Concentration: 0.1761 ug/mL

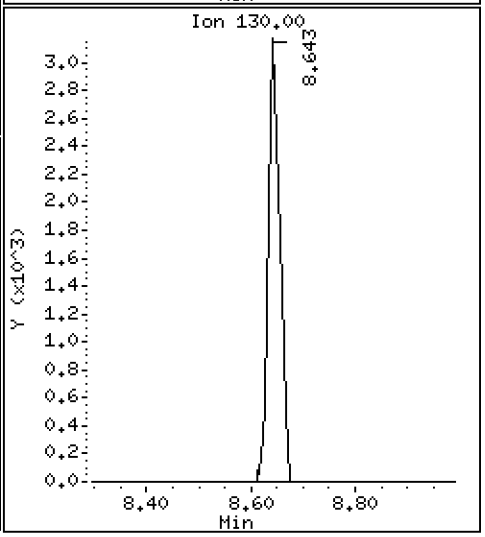


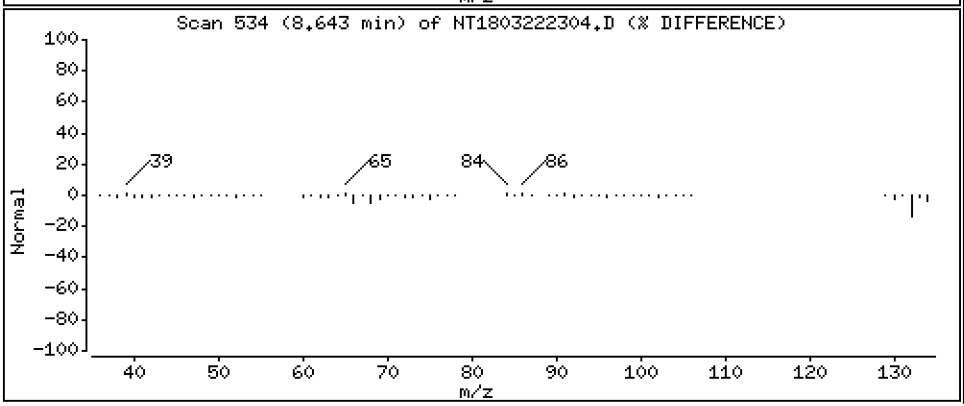












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

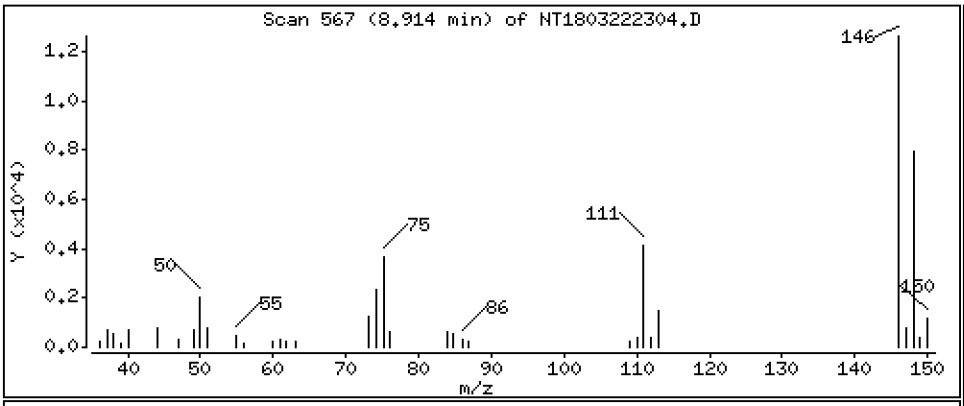
Operator: VTS

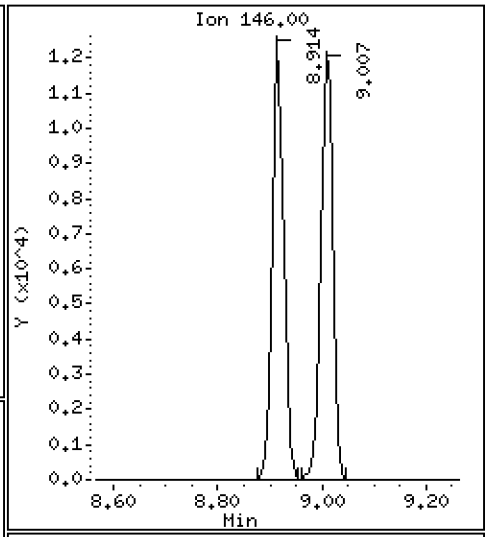
Column phase: ZB-5msi

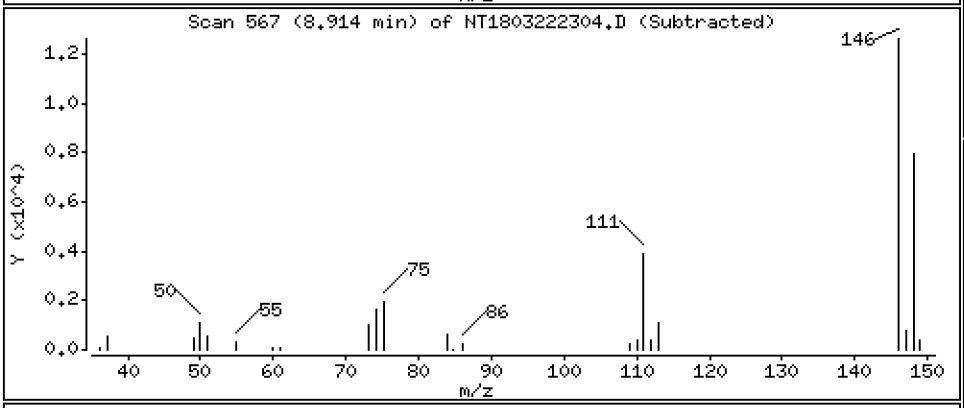
Column diameter: 0.25

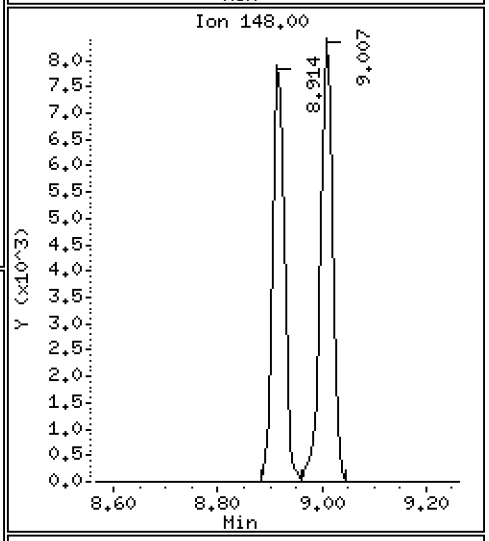
7 1,3-Dichlorobenzene

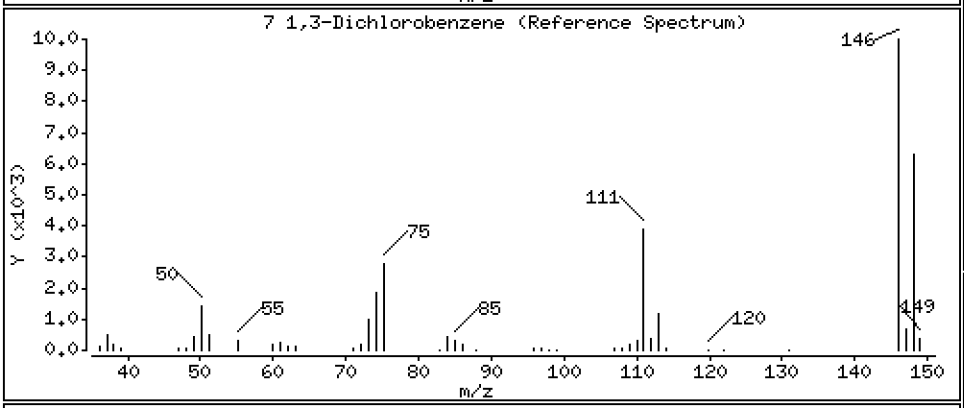
Concentration: 0.1925 ug/mL

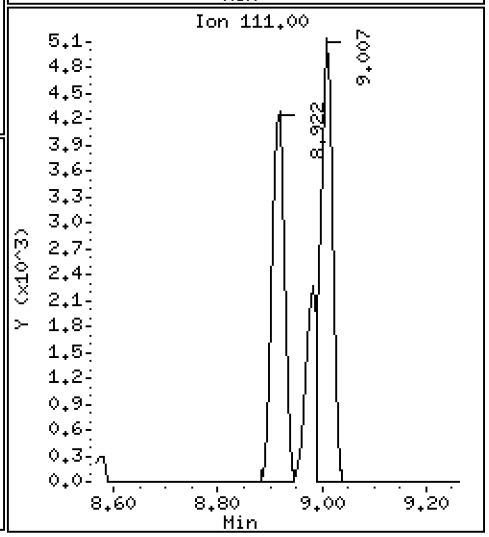


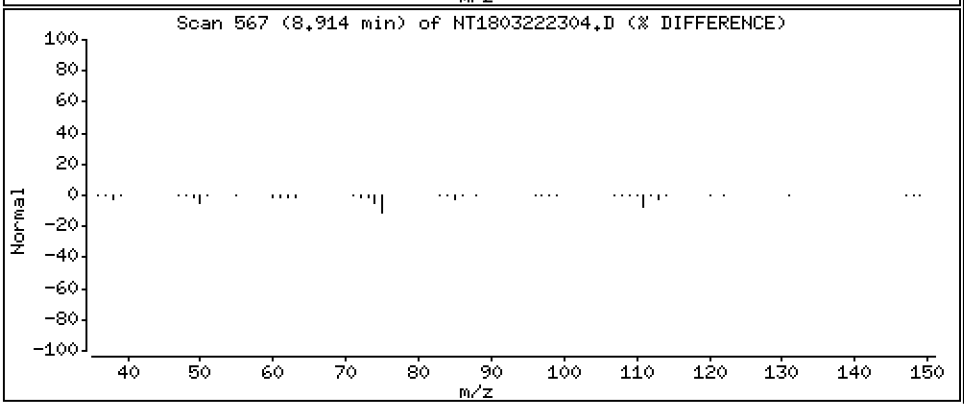












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

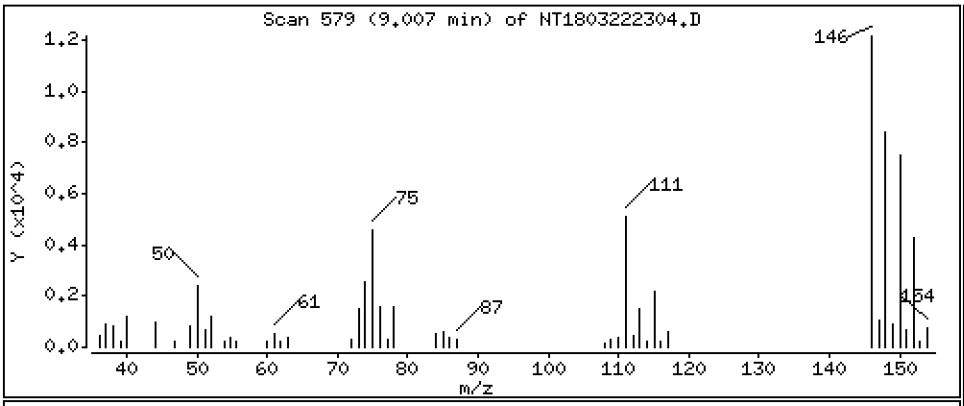
Operator: VTS

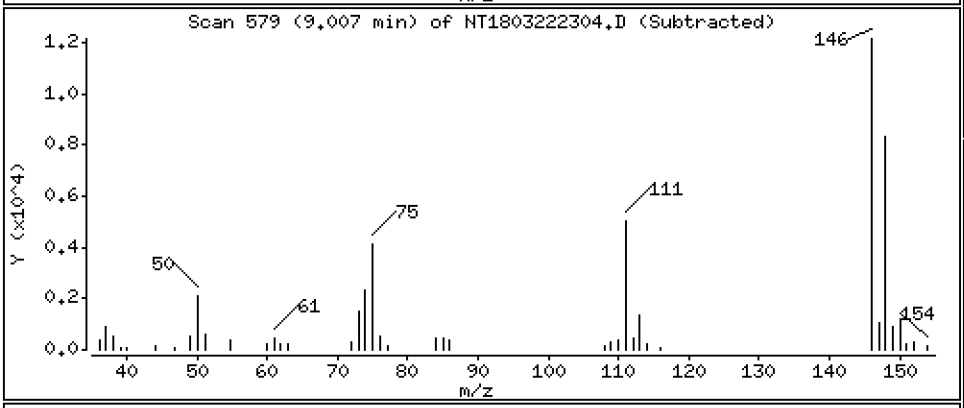
Column phase: ZB-5msi

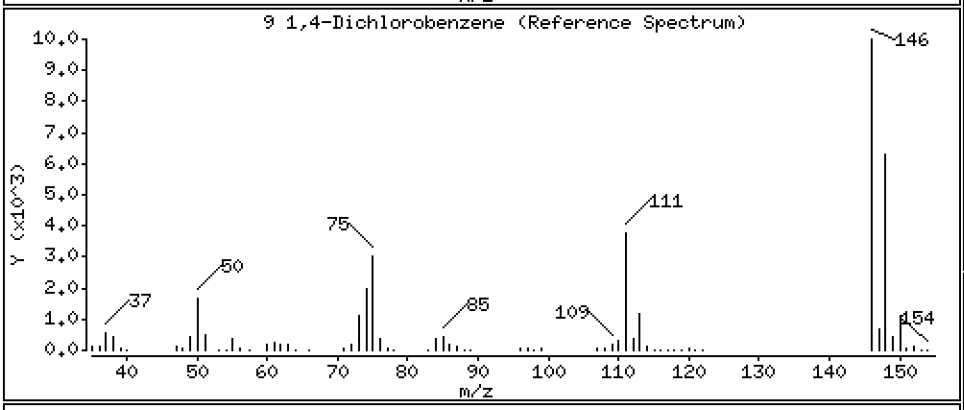
Column diameter: 0.25

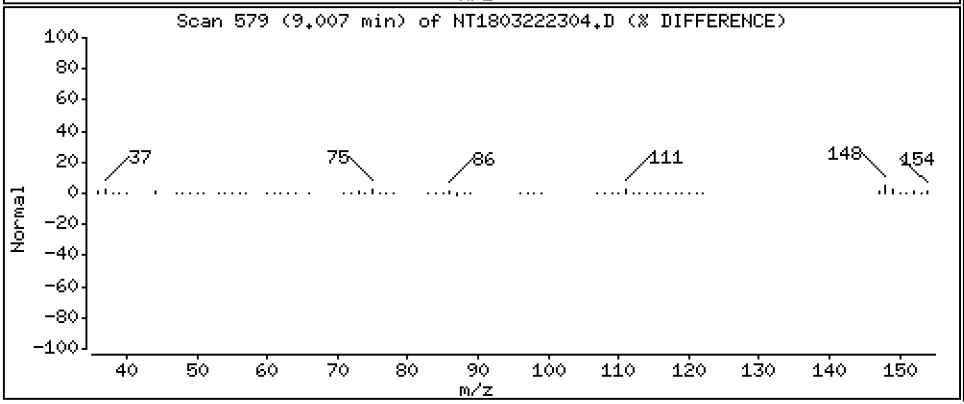
9 1,4-Dichlorobenzene

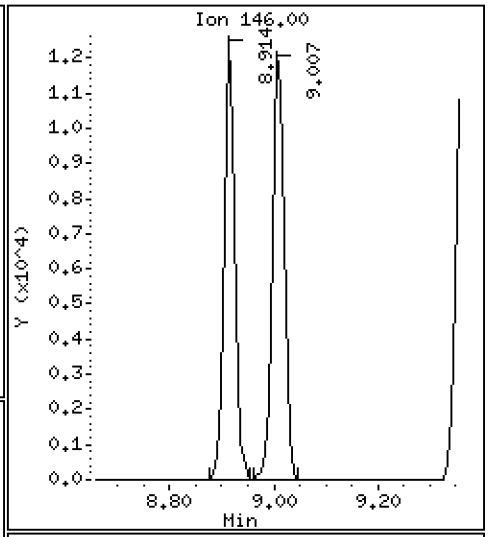
Concentration: 0.1932 ug/mL

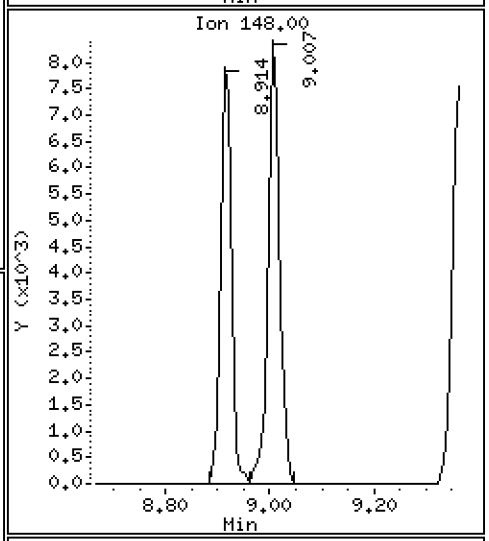


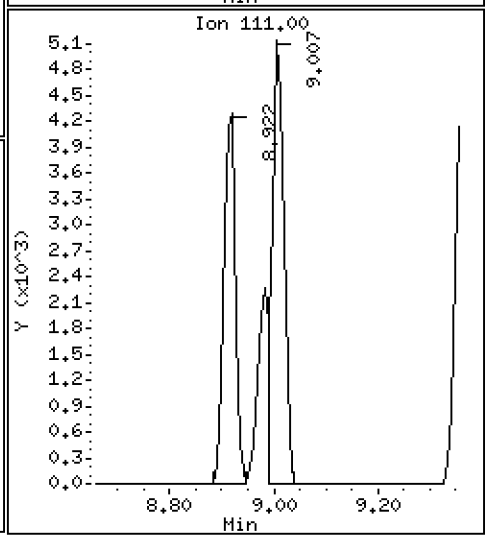












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

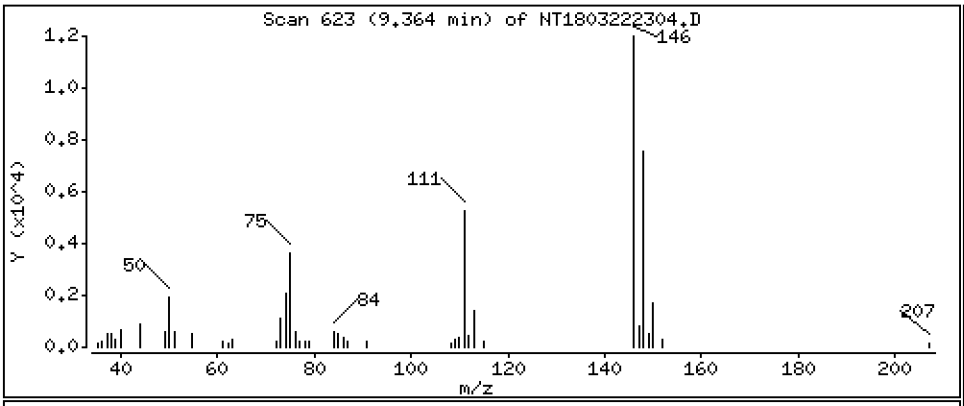
Operator: VTS

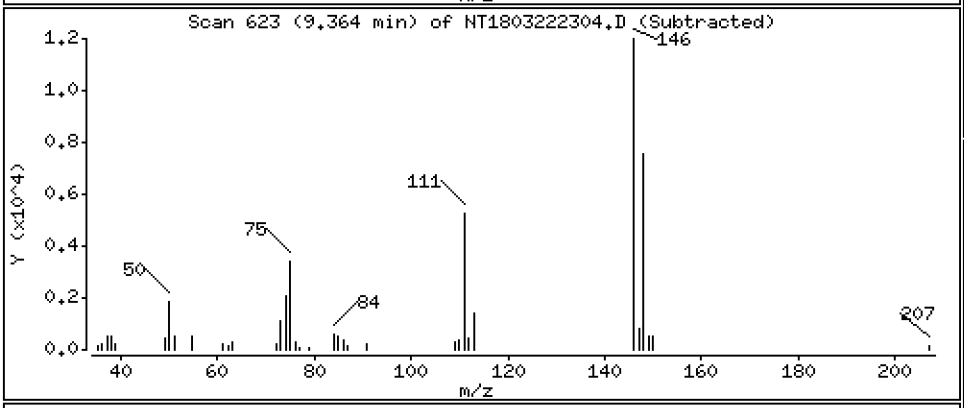
Column phase: ZB-5msi

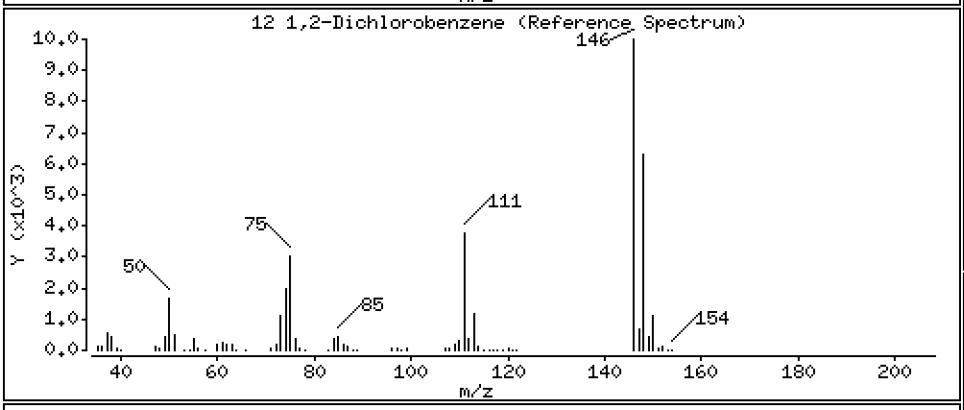
Column diameter: 0.25

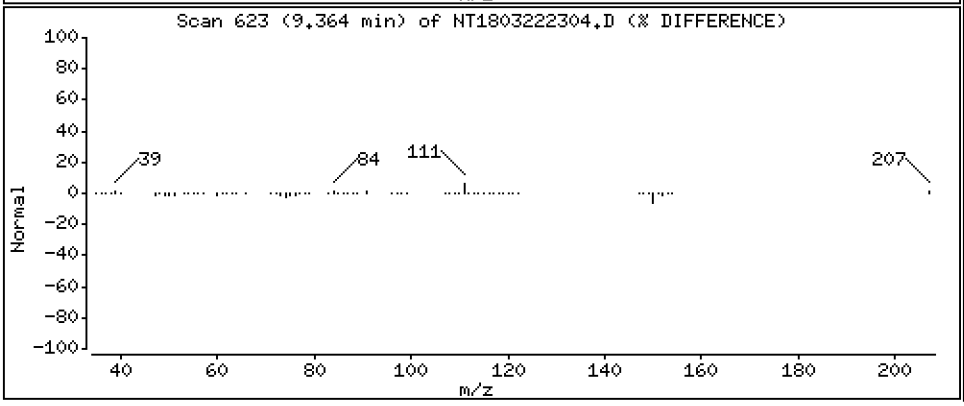
12 1,2-Dichlorobenzene

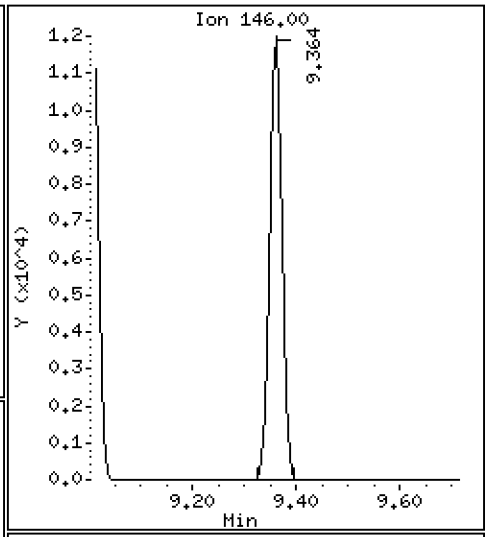
Concentration: 0.1975 ug/mL

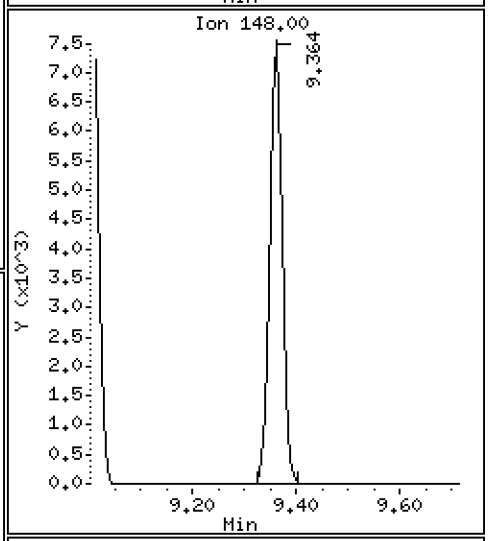


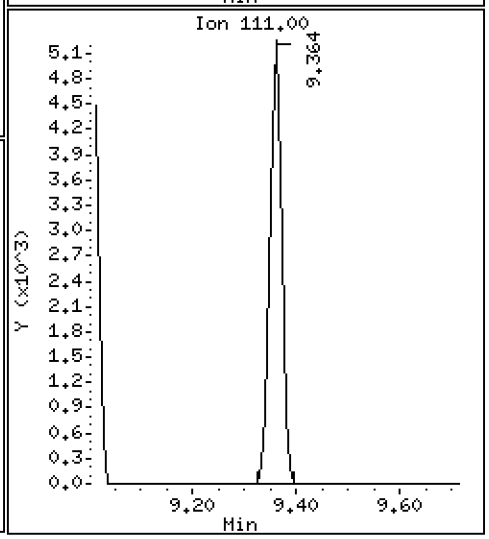












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

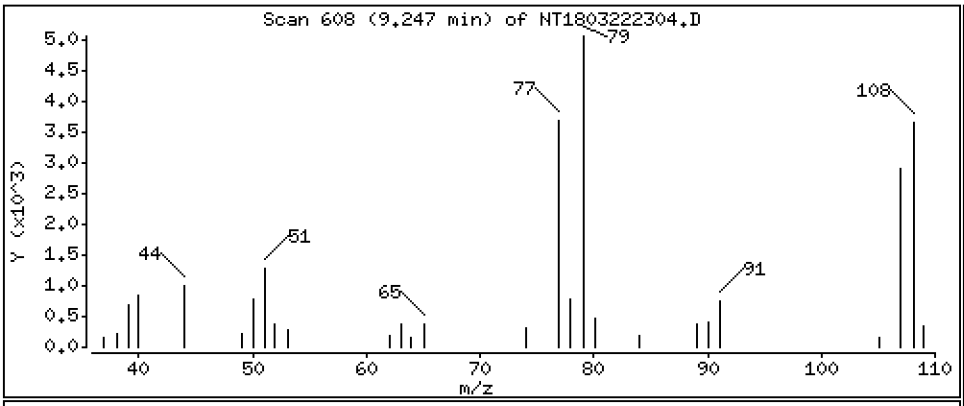
Operator: VTS

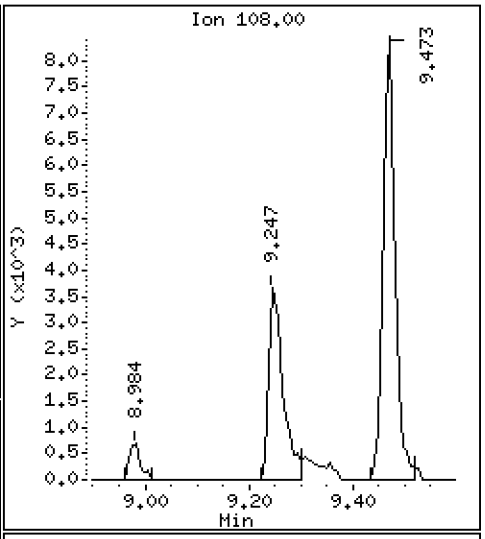
Column phase: ZB-5msi

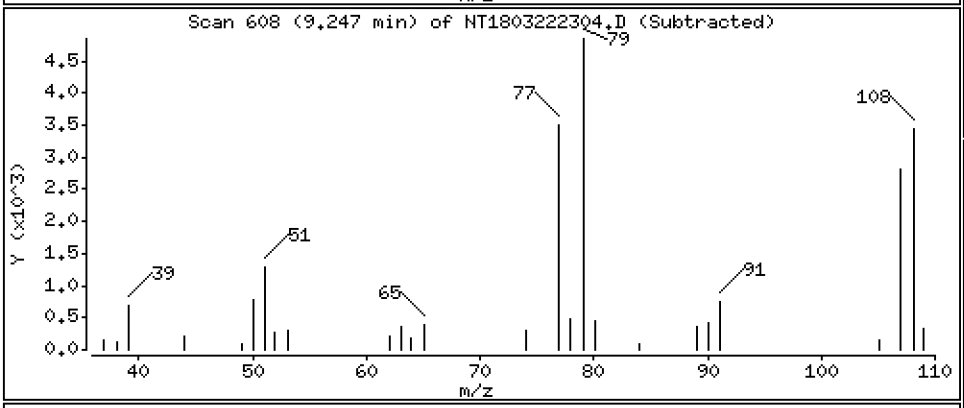
Column diameter: 0.25

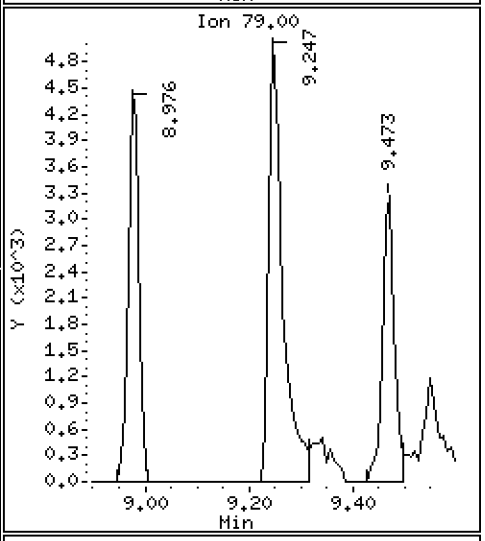
11 Benzyl alcohol

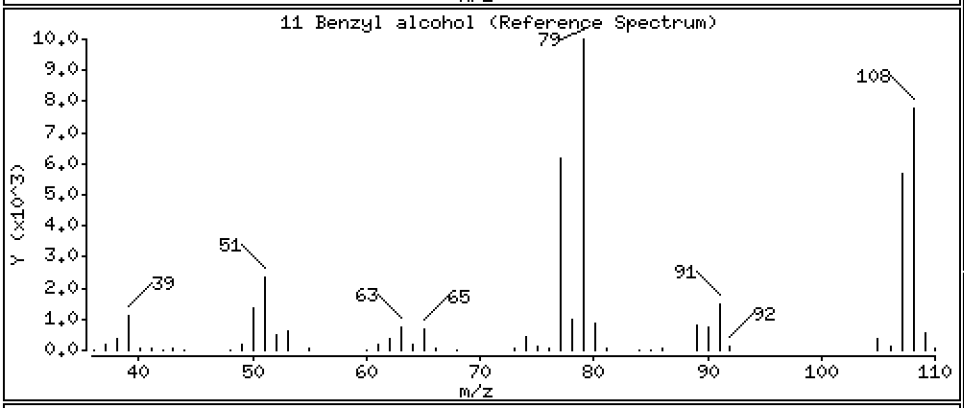
Concentration: 0.1364 ug/mL

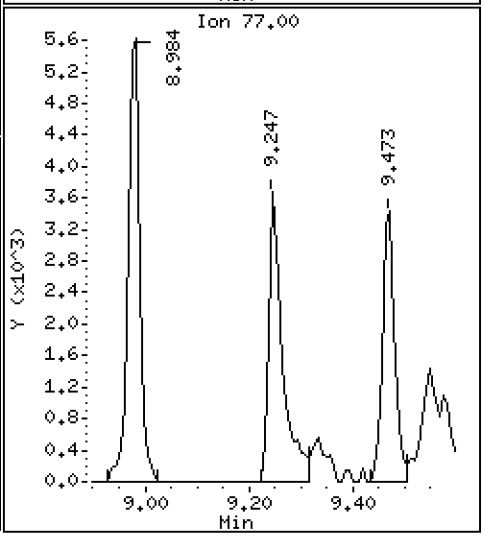


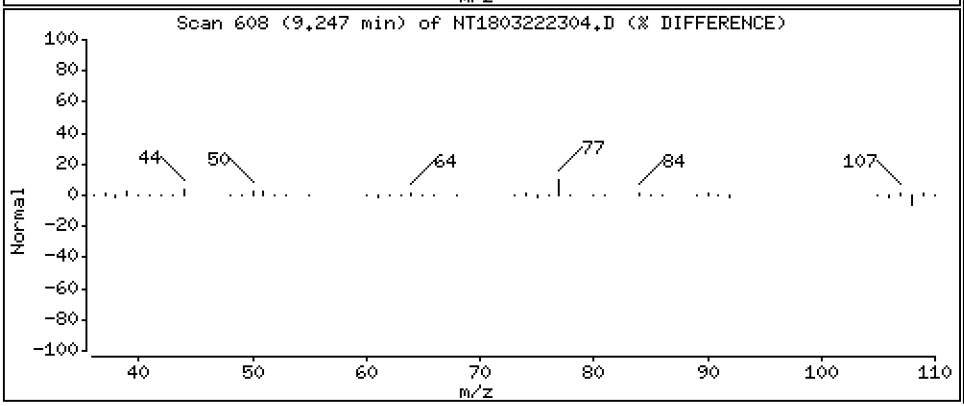












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

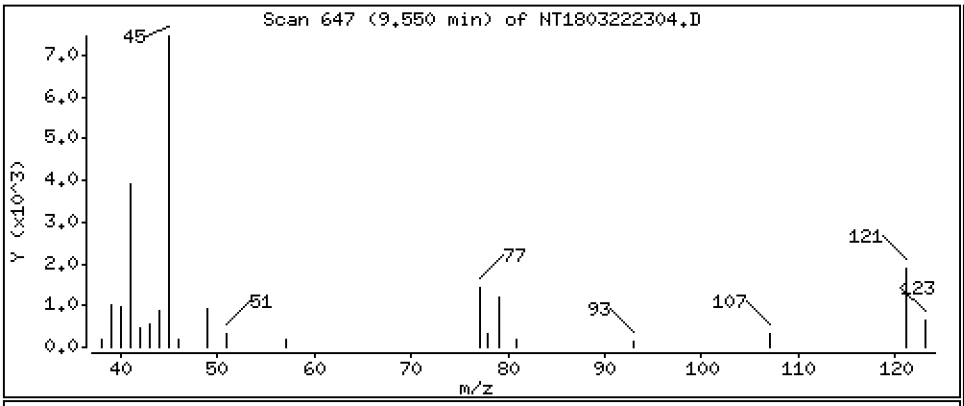
Operator: VTS

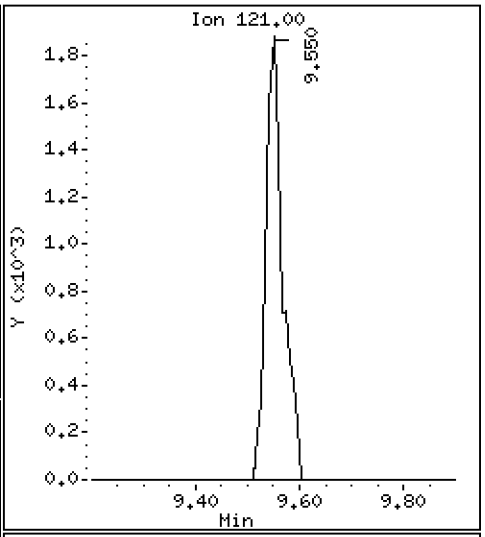
Column phase: ZB-5msi

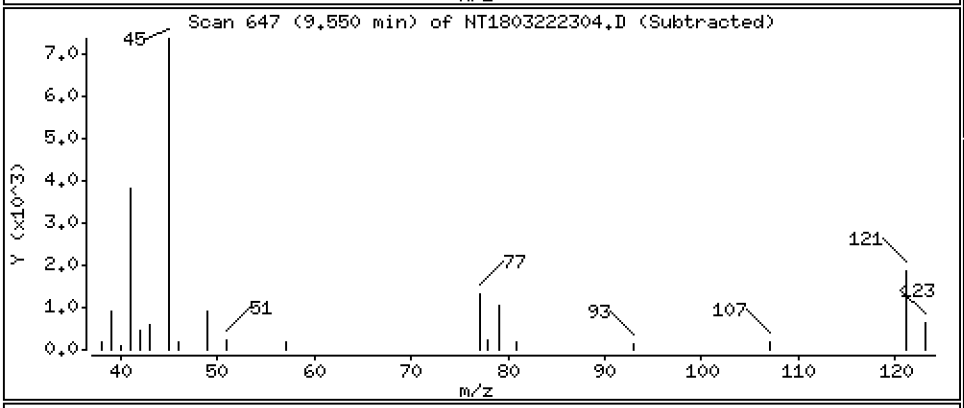
Column diameter: 0.25

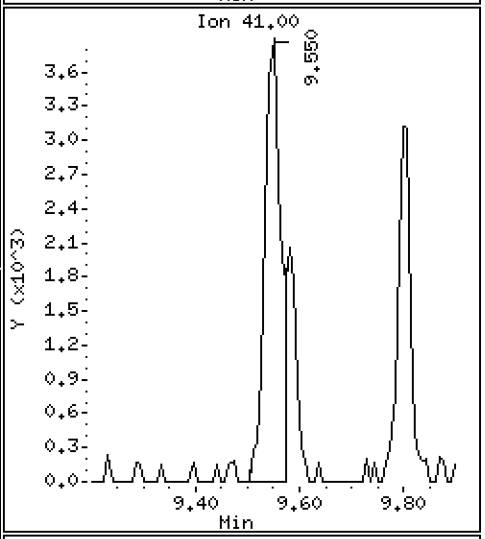
14 2,2'-oxybis(1-Chloropropane)

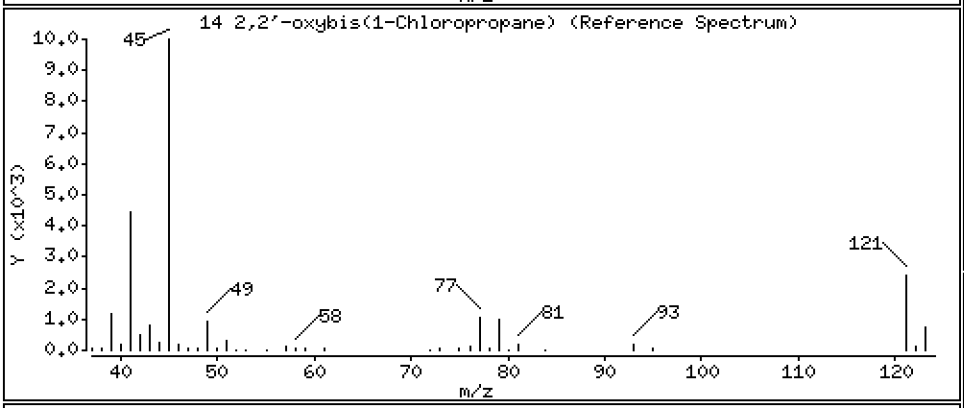
Concentration: 0.1859 ug/mL

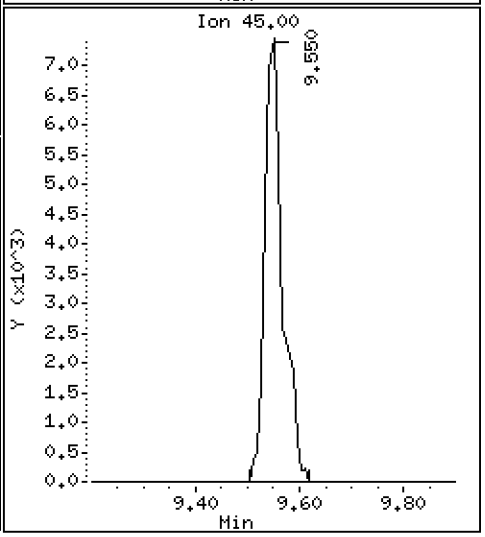


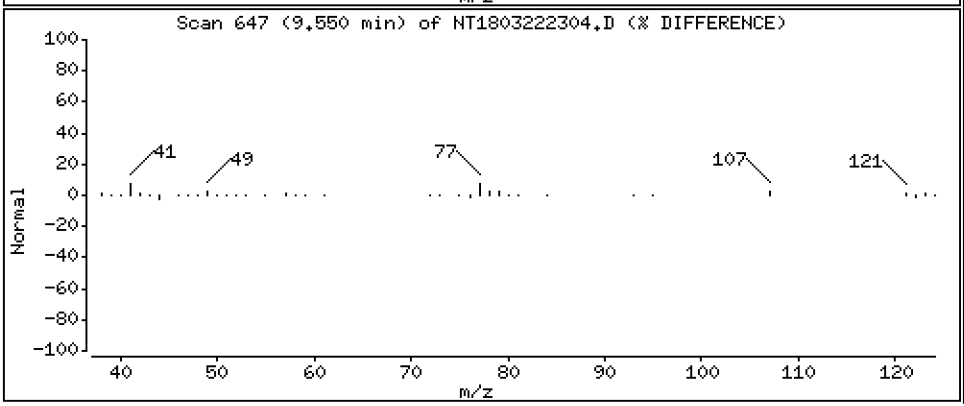












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

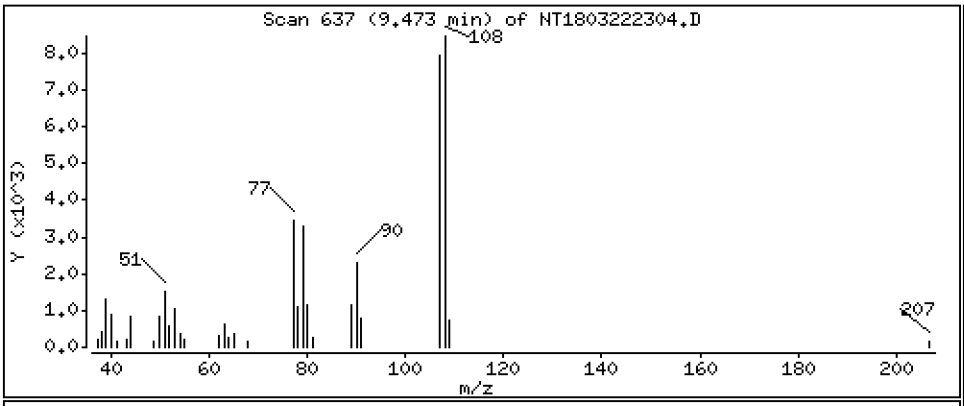
Operator: VTS

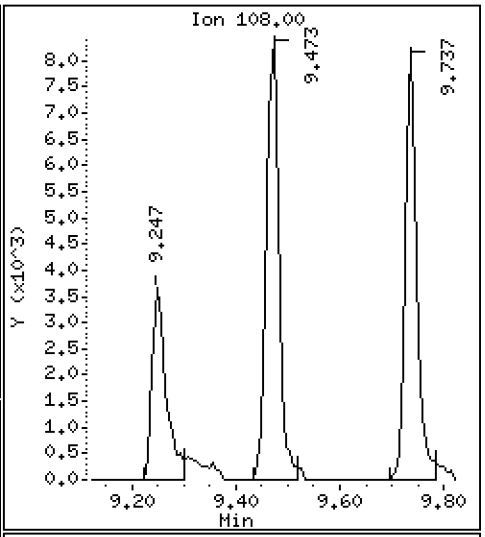
Column phase: ZB-5msi

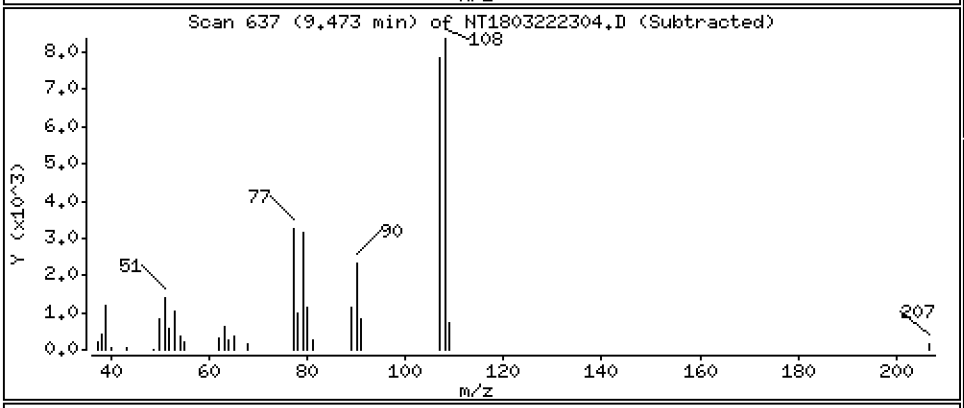
Column diameter: 0.25

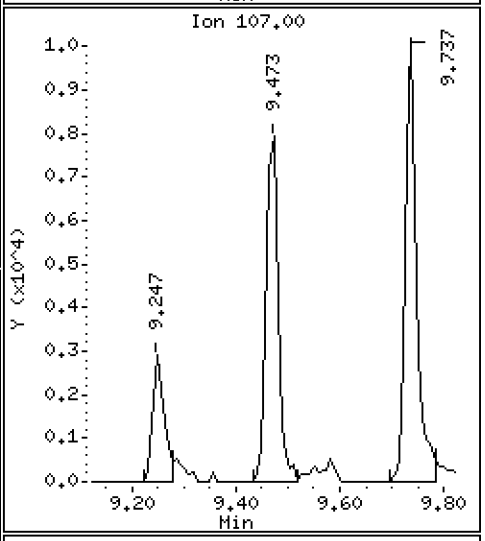
13 2-Methylphenol

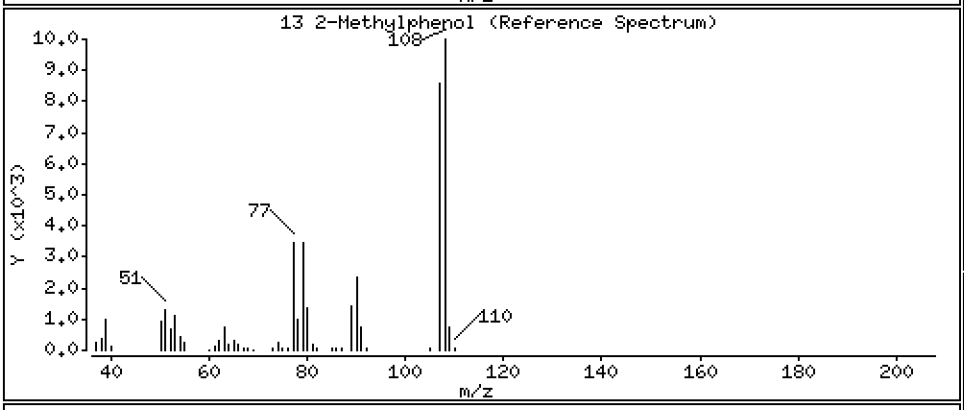
Concentration: 0.1680 ug/mL

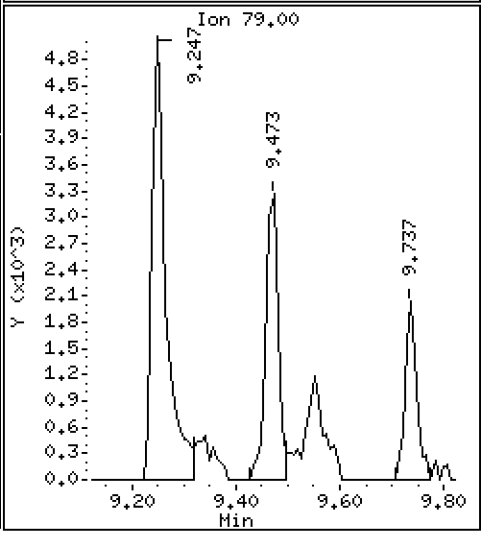


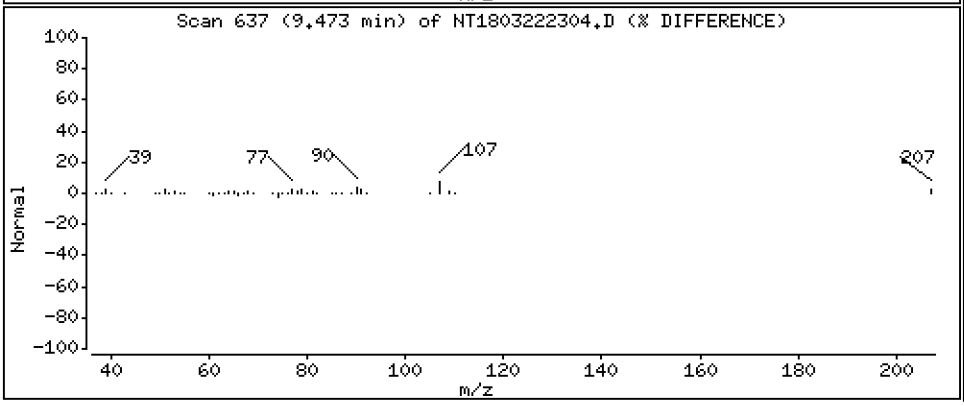












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

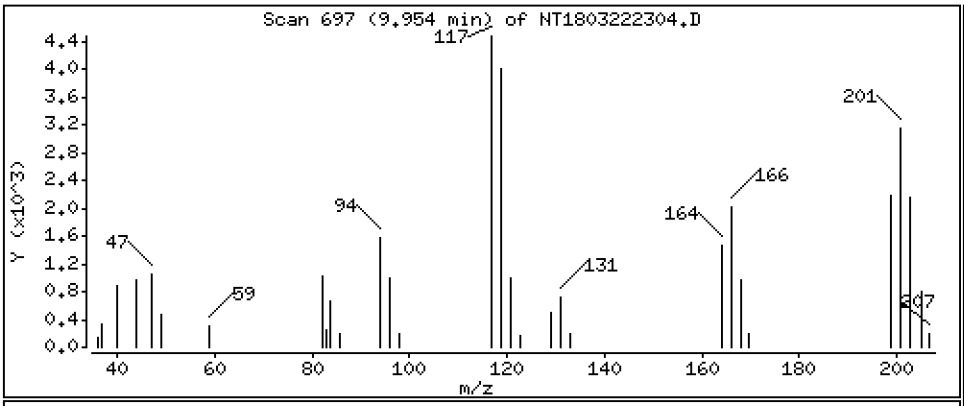
Operator: VTS

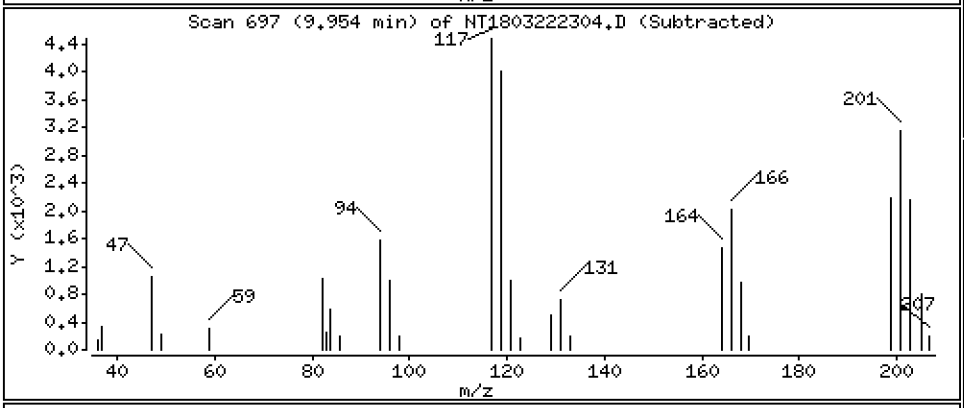
Column phase: ZB-5msi

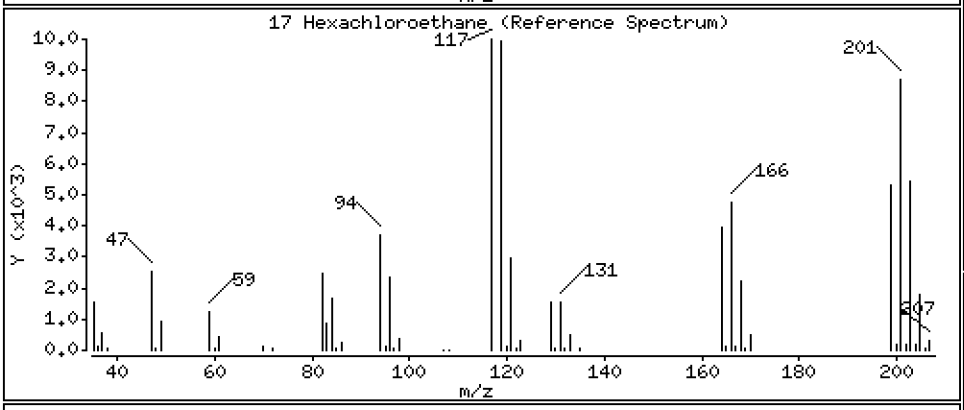
Column diameter: 0.25

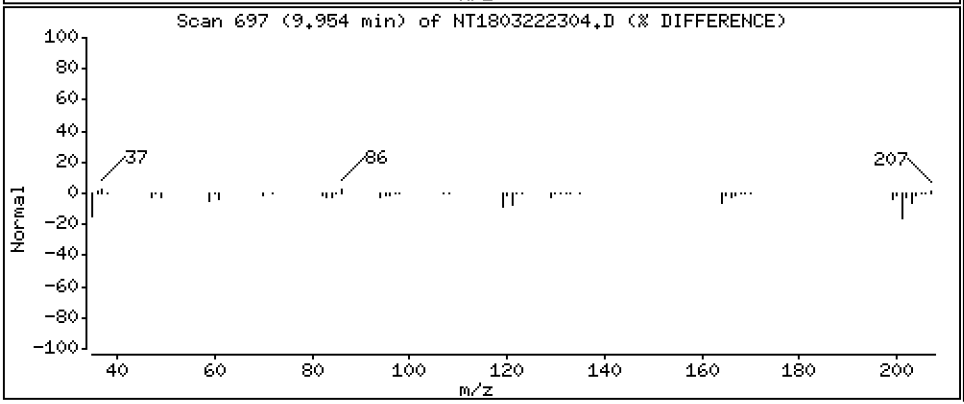
17 Hexachloroethane

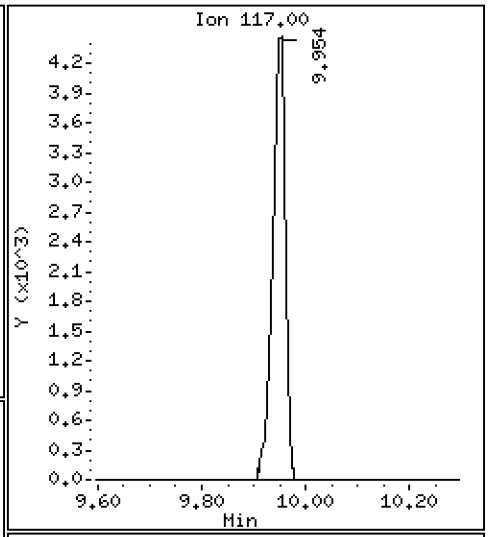
Concentration: 0.1941 ug/mL

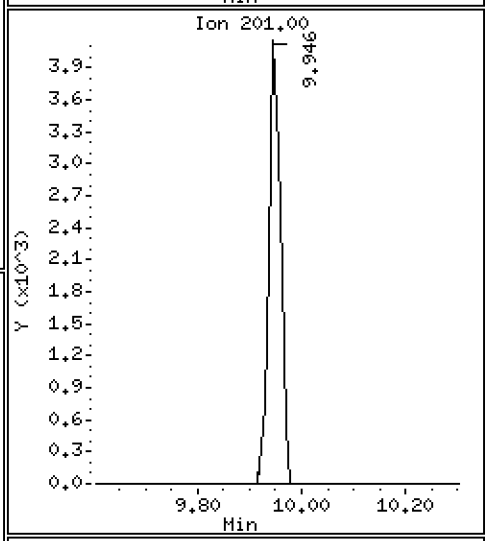


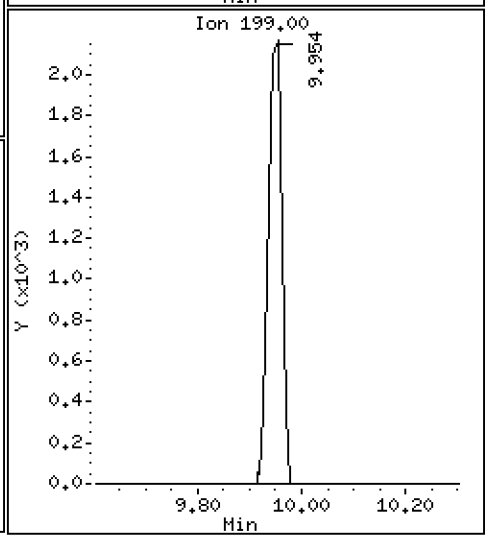












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

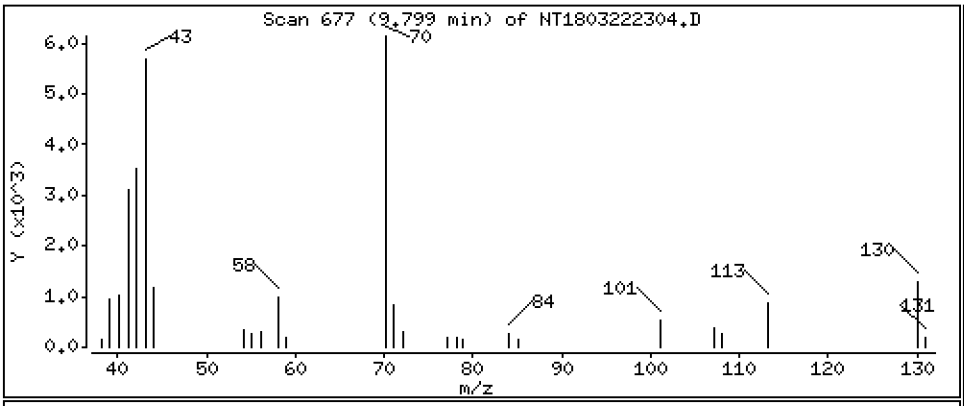
Operator: VTS

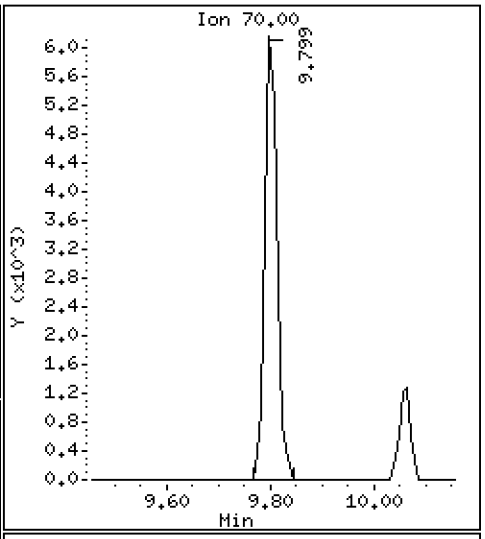
Column phase: ZB-5msi

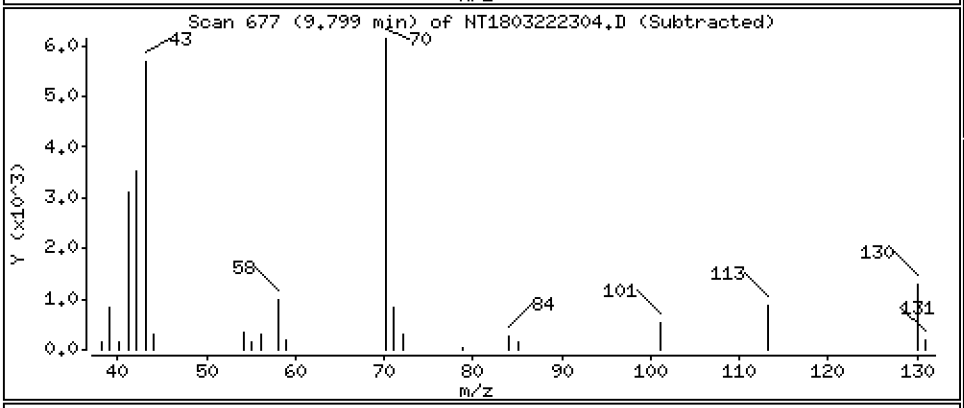
Column diameter: 0.25

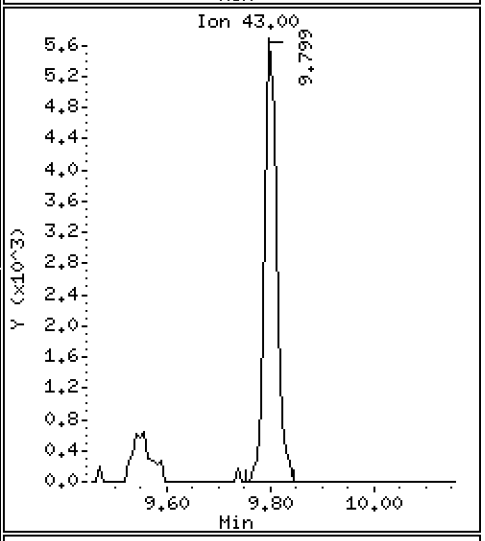
16 N-Nitroso-di-n-propylamine

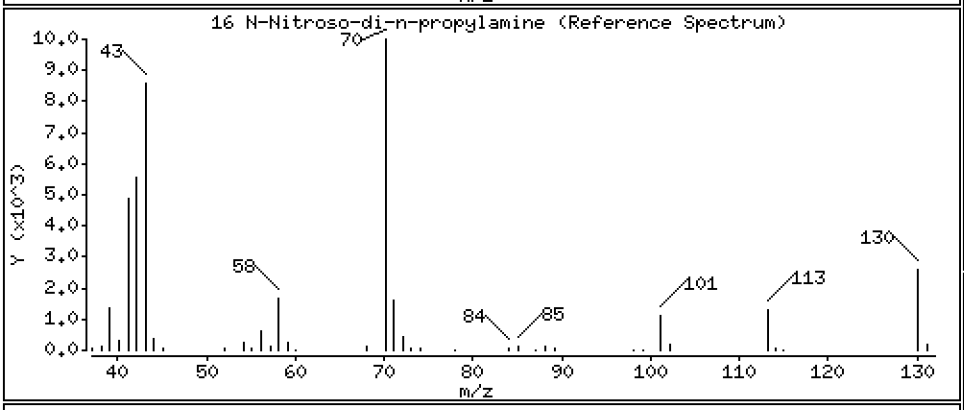
Concentration: 0.1668 ug/mL

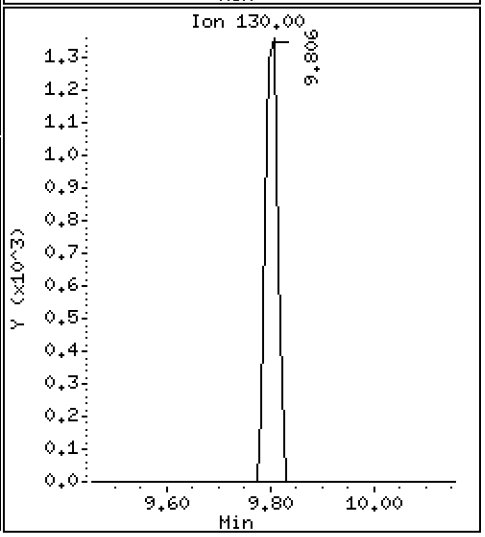


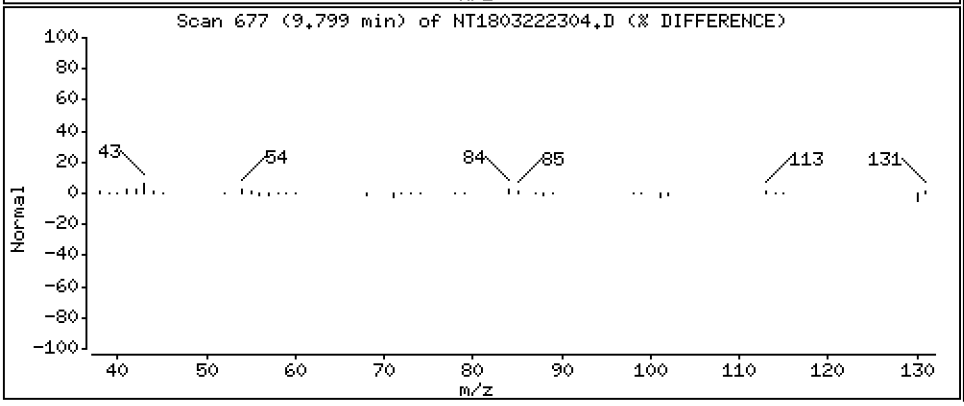












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

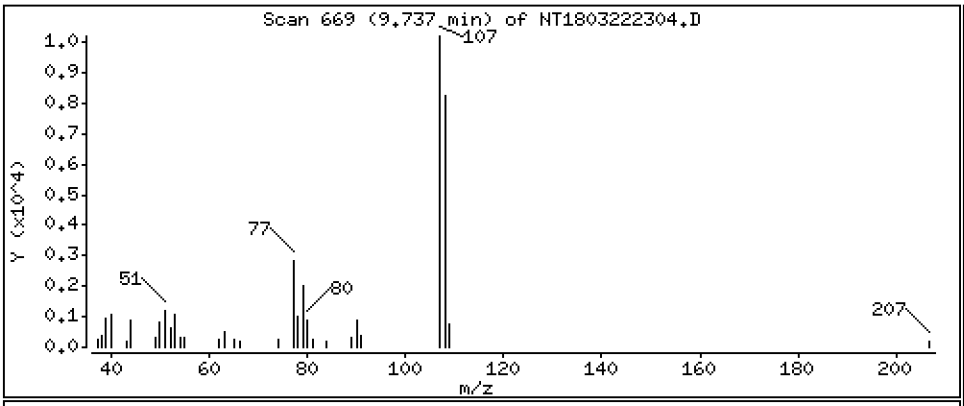
Operator: VTS

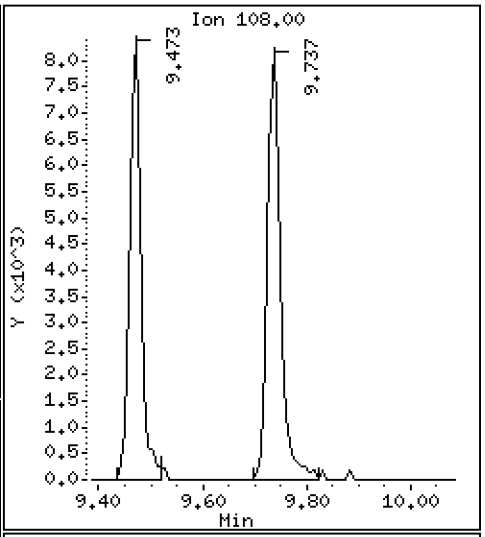
Column phase: ZB-5msi

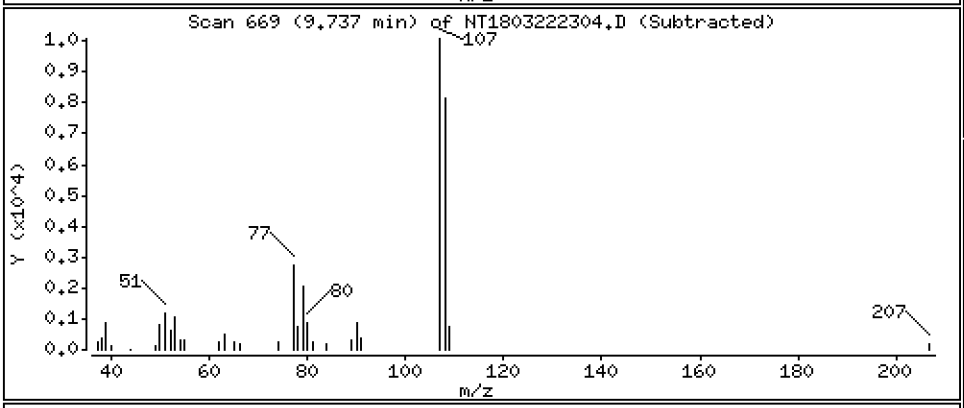
Column diameter: 0.25

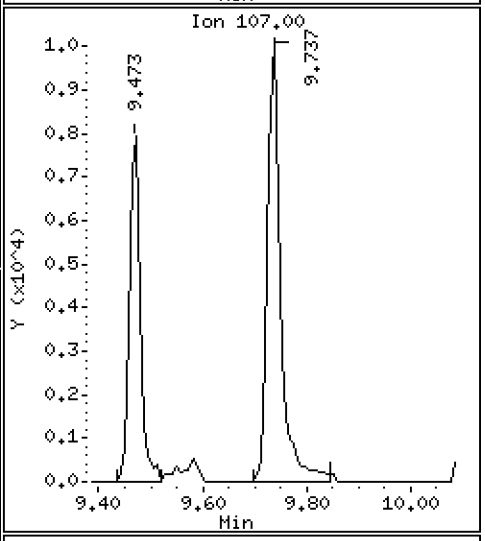
15 4-Methylphenol

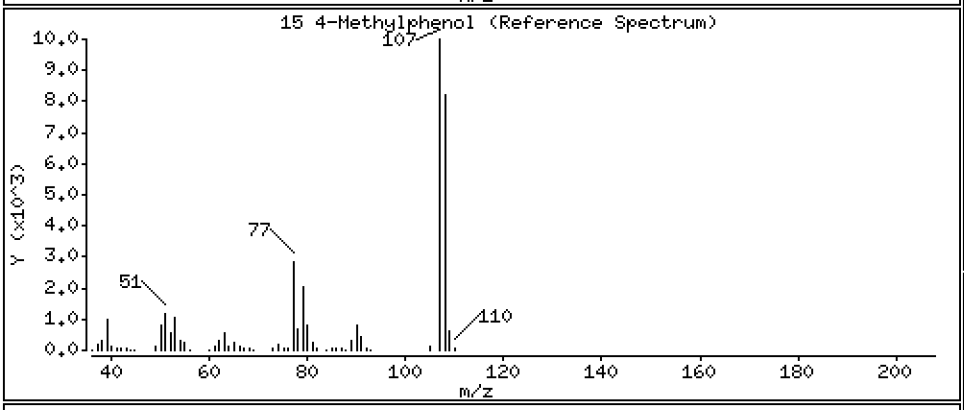
Concentration: 0.1647 ug/mL

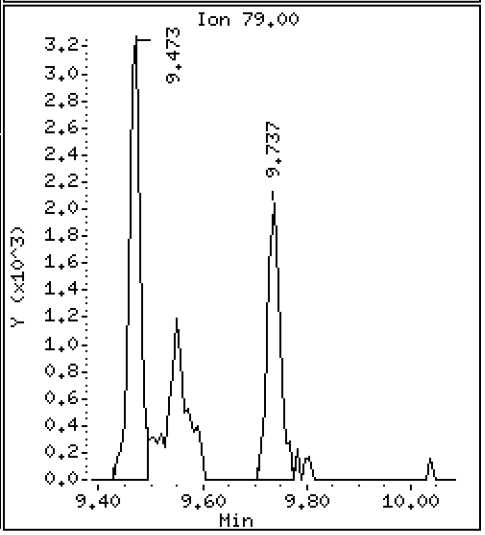


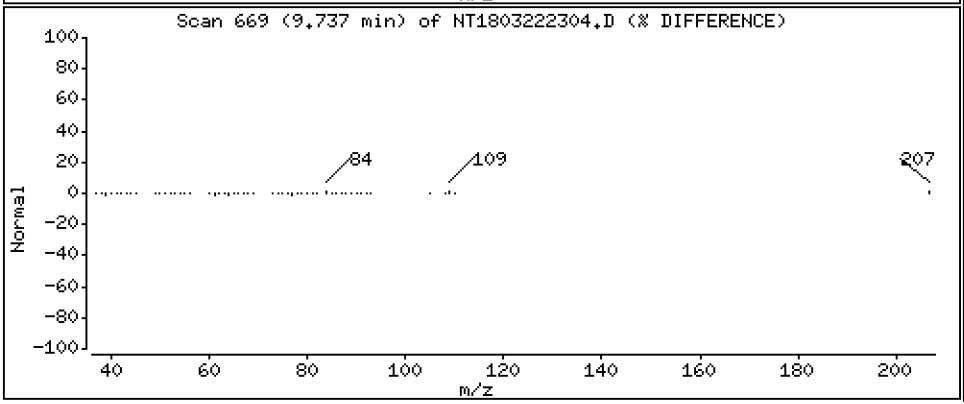












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

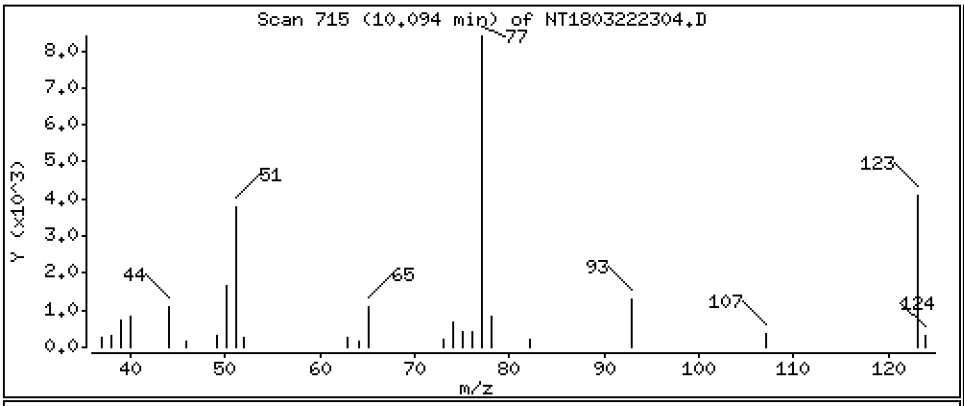
Operator: VTS

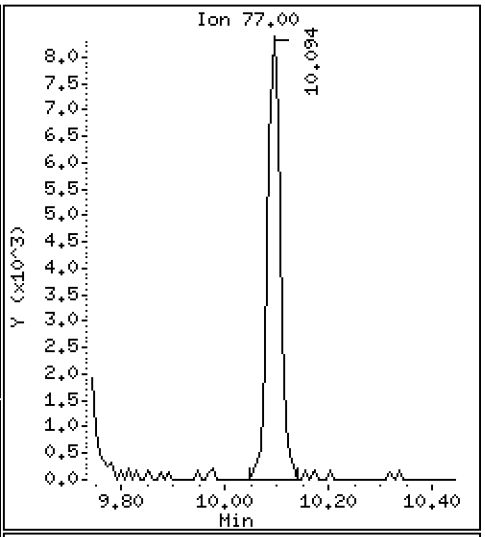
Column phase: ZB-5msi

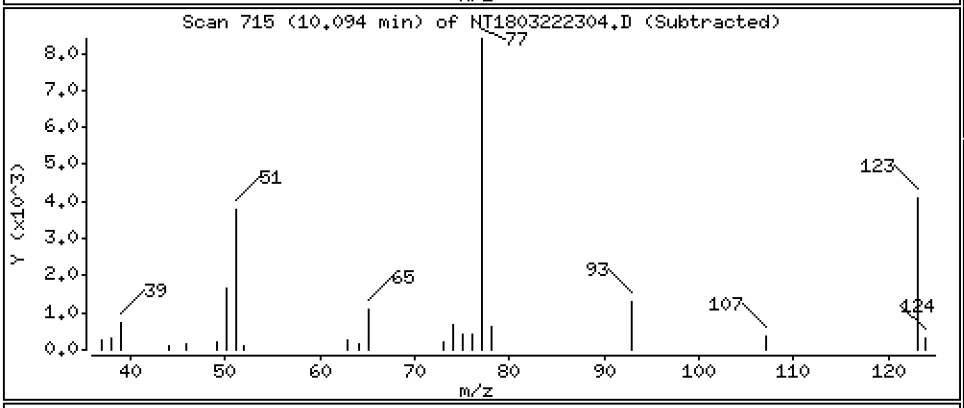
Column diameter: 0.25

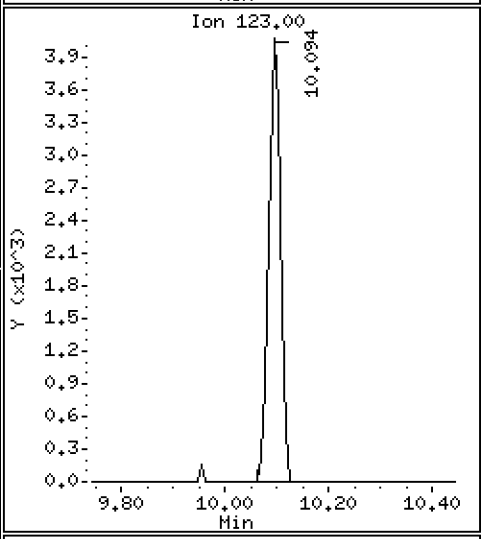
19 Nitrobenzene

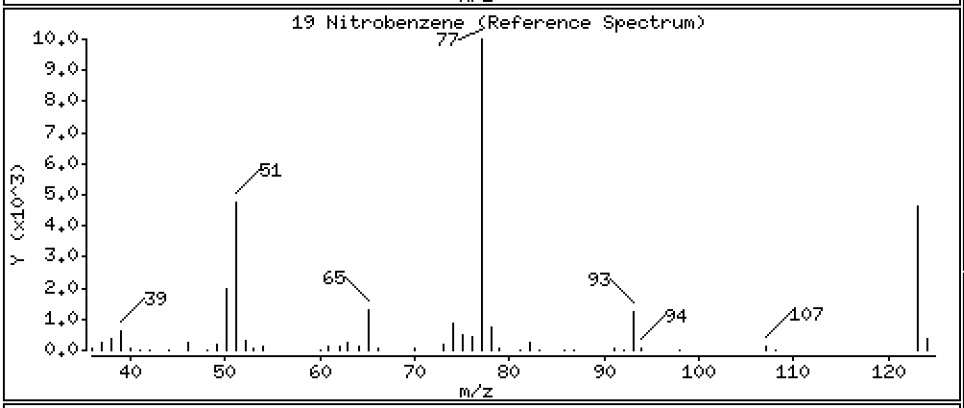
Concentration: 0.1775 ug/mL

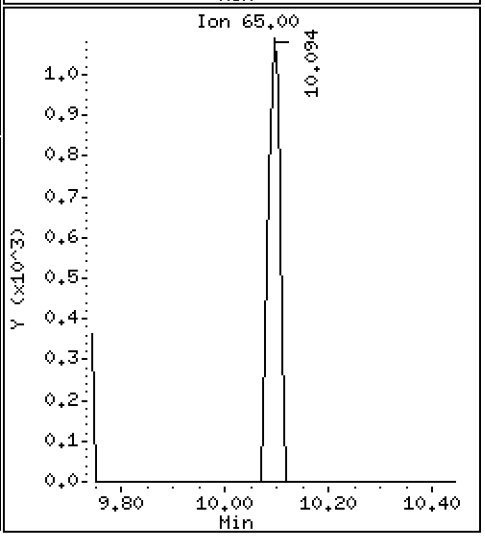


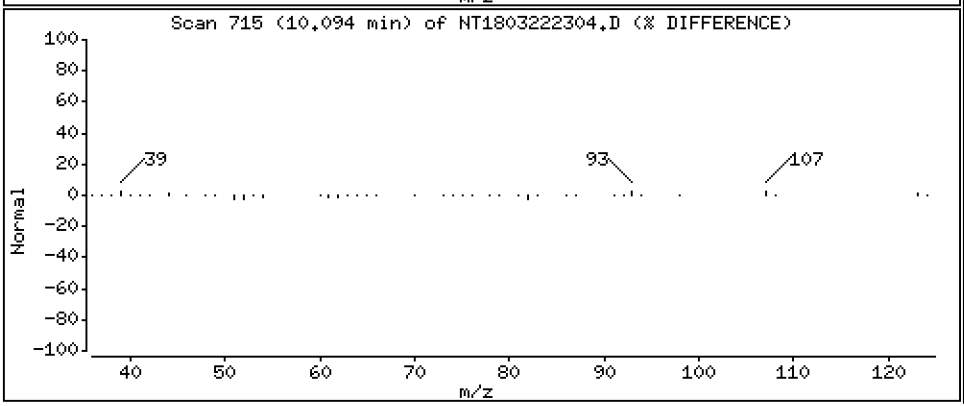












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

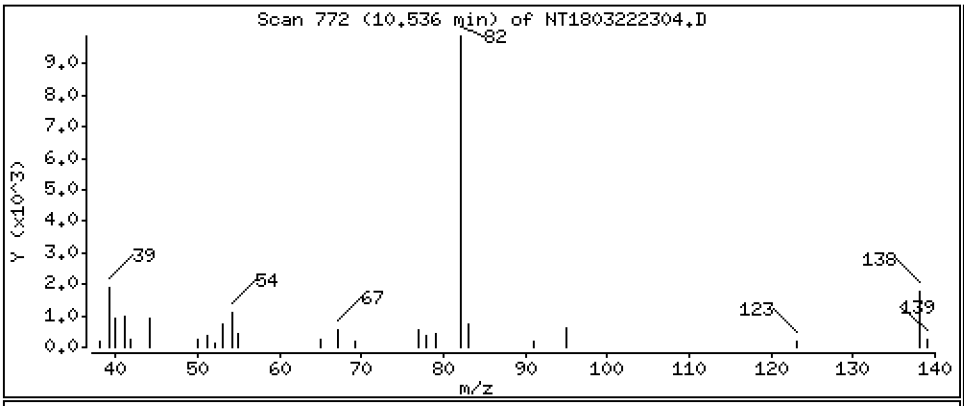
Operator: VTS

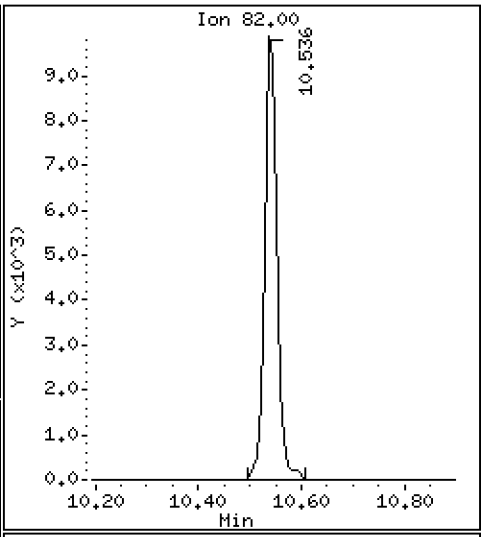
Column phase: ZB-5msi

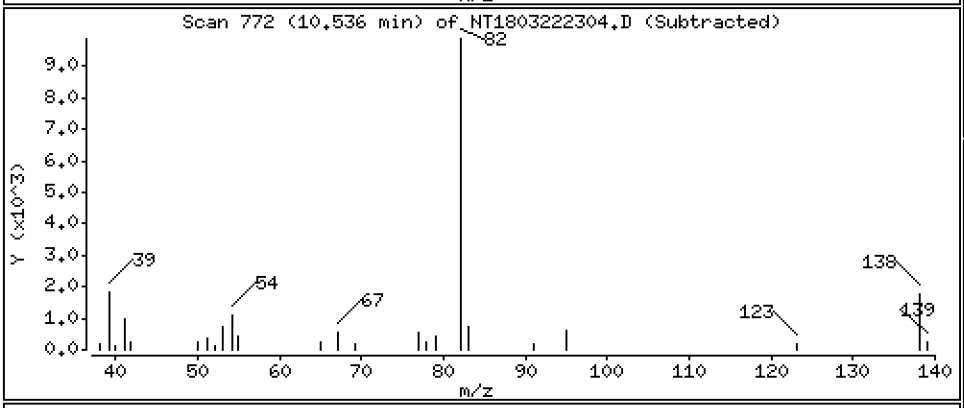
Column diameter: 0.25

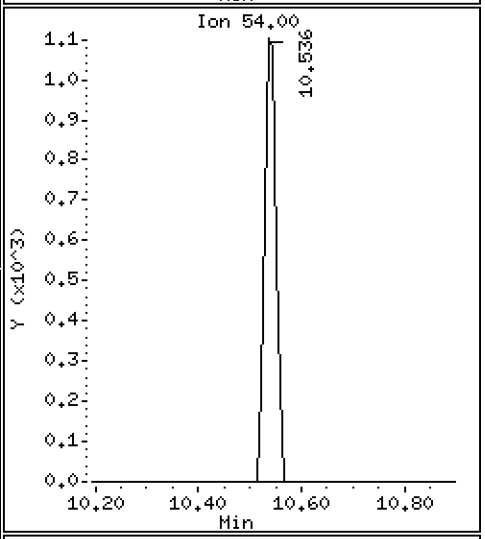
20 Isophorone

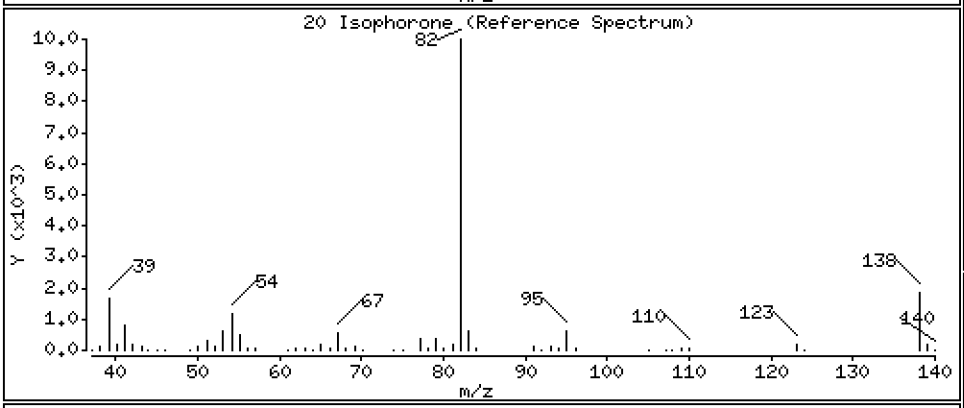
Concentration: 0.1598 ug/mL

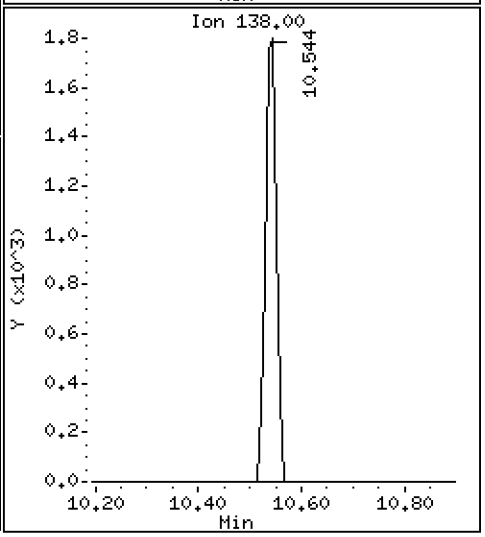


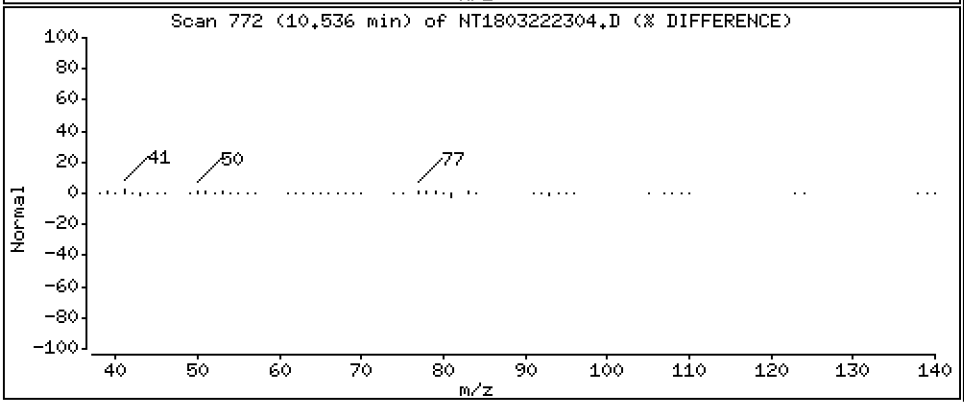












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

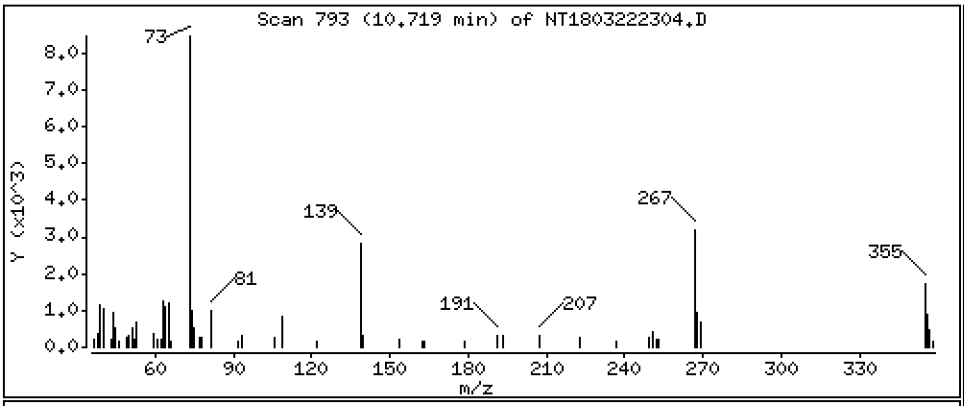
Operator: VTS

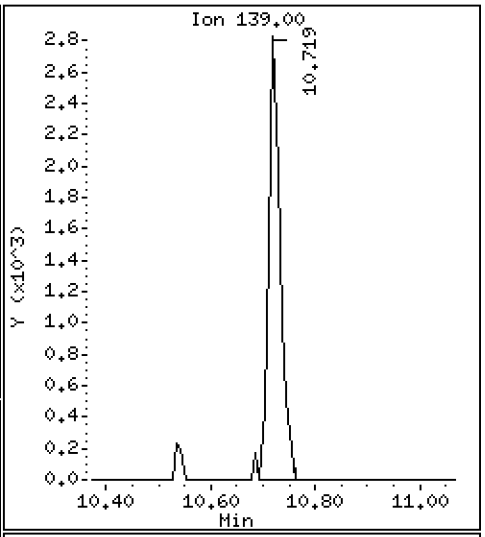
Column phase: ZB-5msi

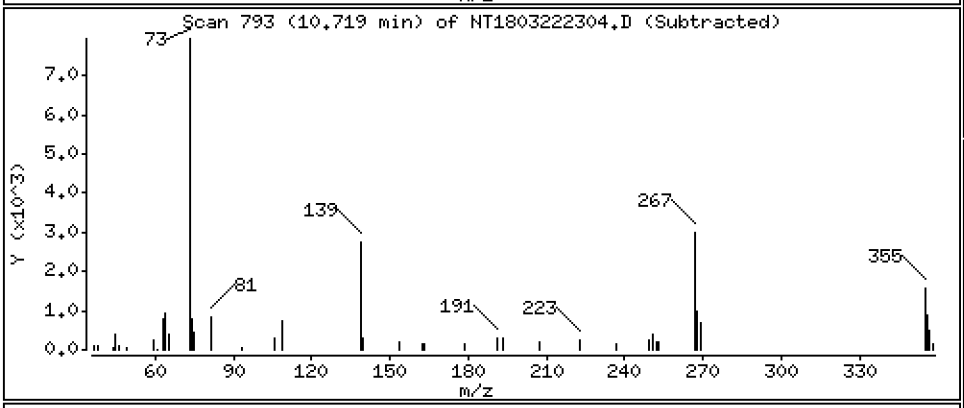
Column diameter: 0.25

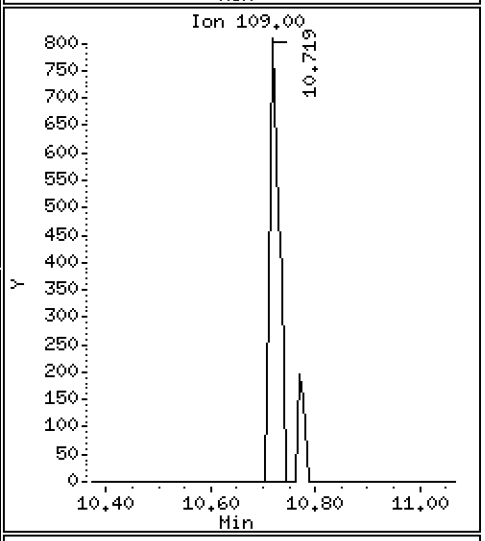
21 2-Nitrophenol

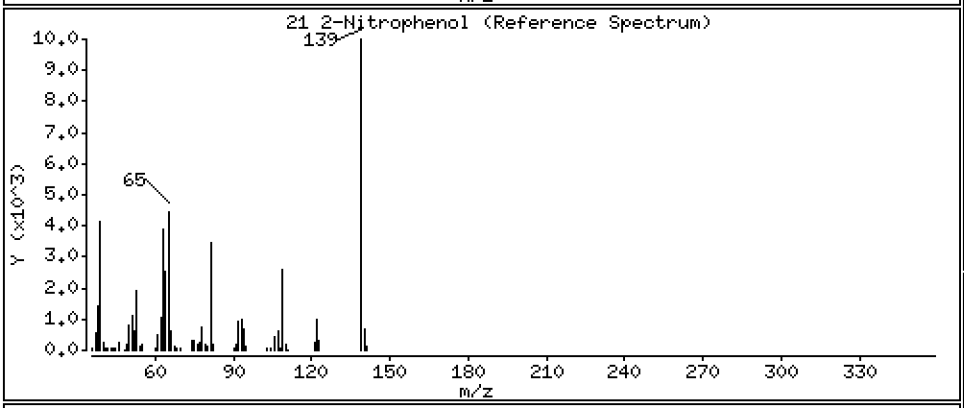
Concentration: 0.09420 ug/mL

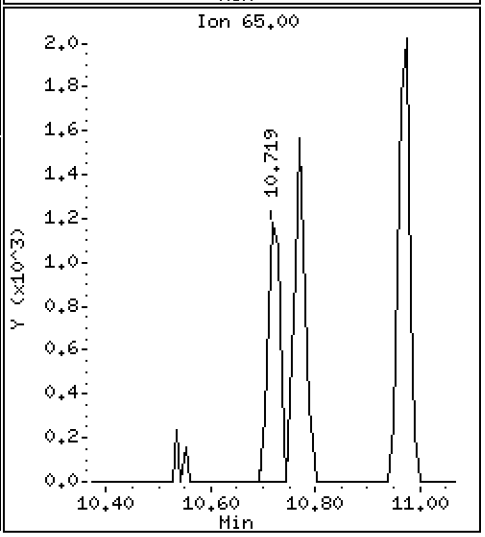


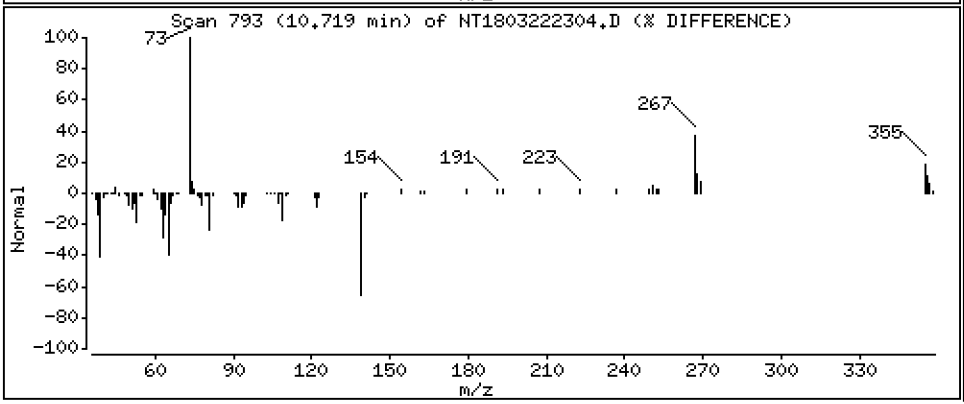












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

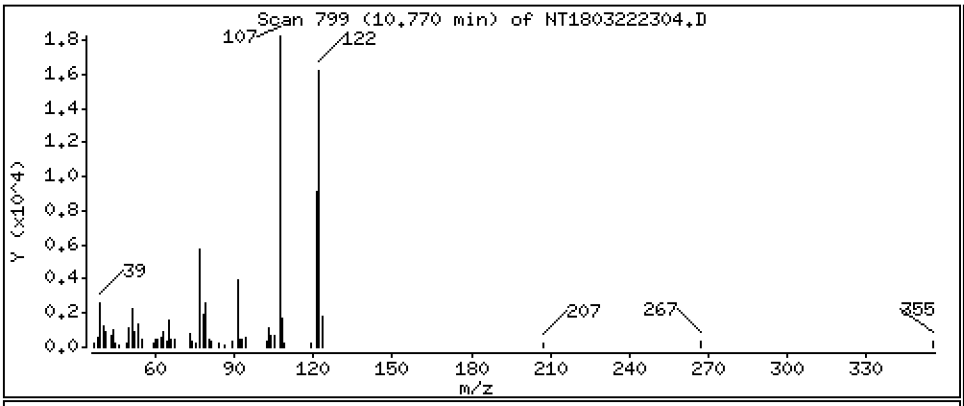
Operator: VTS

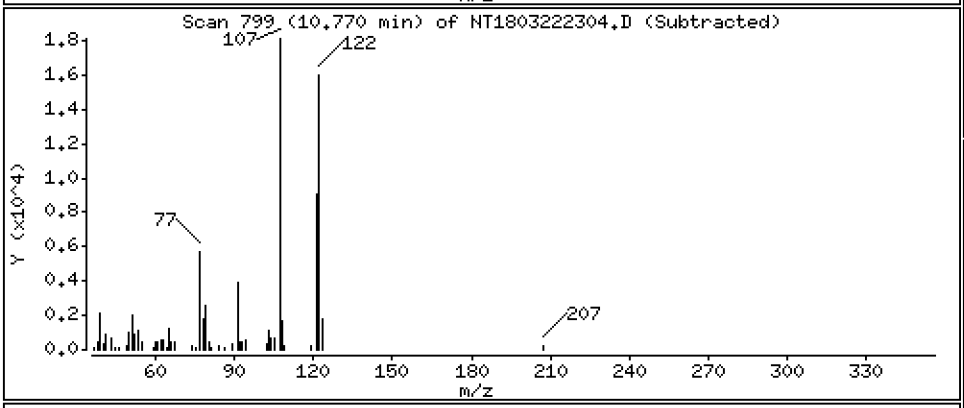
Column phase: ZB-5msi

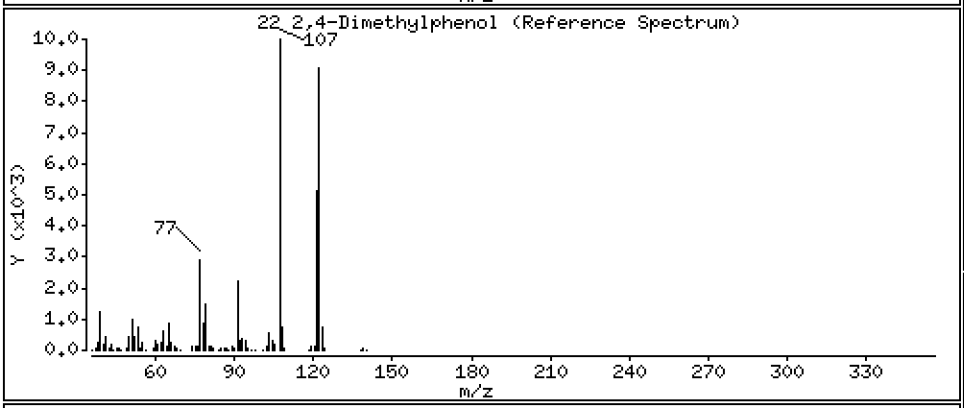
Column diameter: 0.25

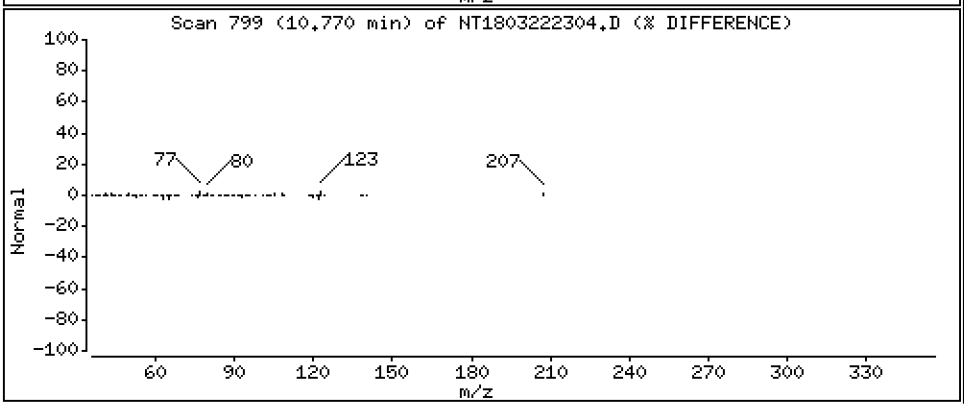
22 2,4-Dimethylphenol

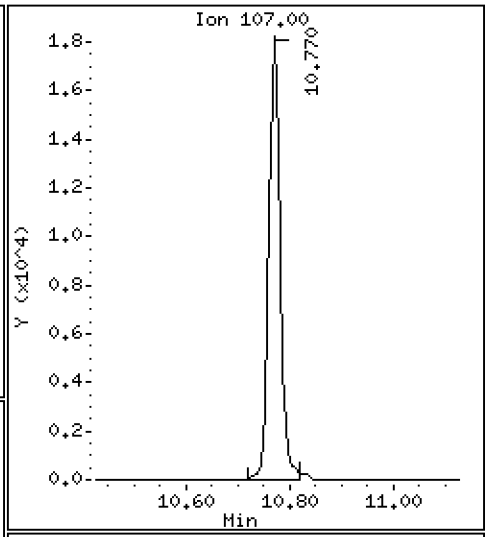
Concentration: 0.3514 ug/mL

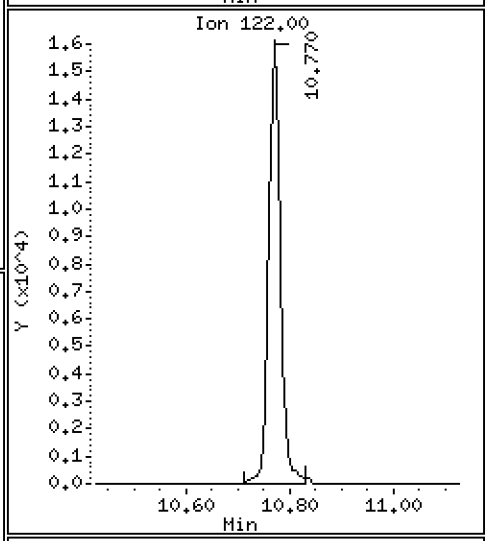


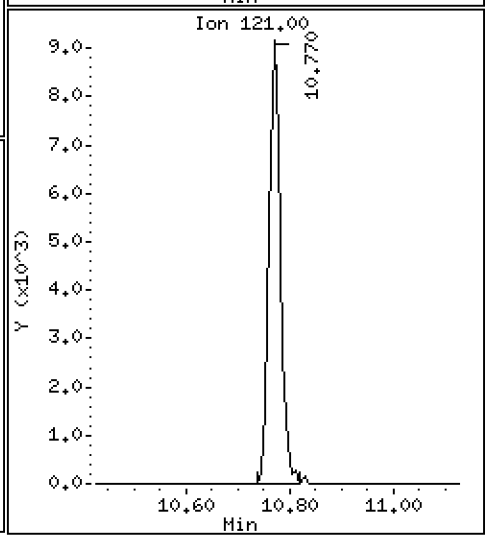












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

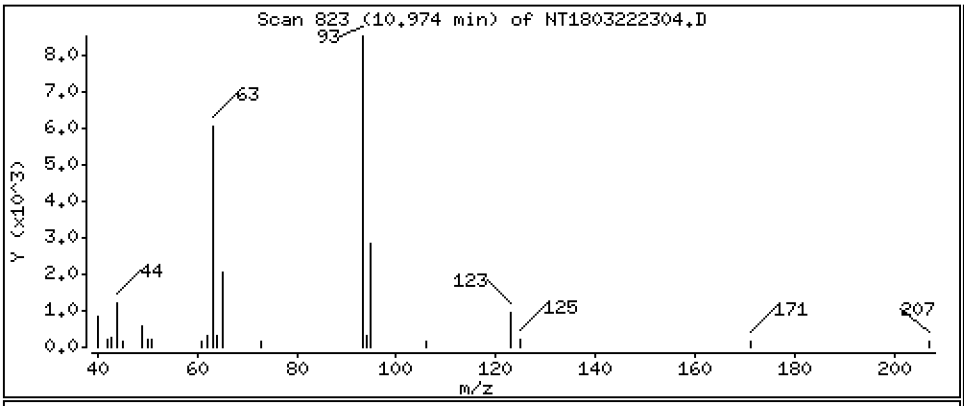
Operator: VTS

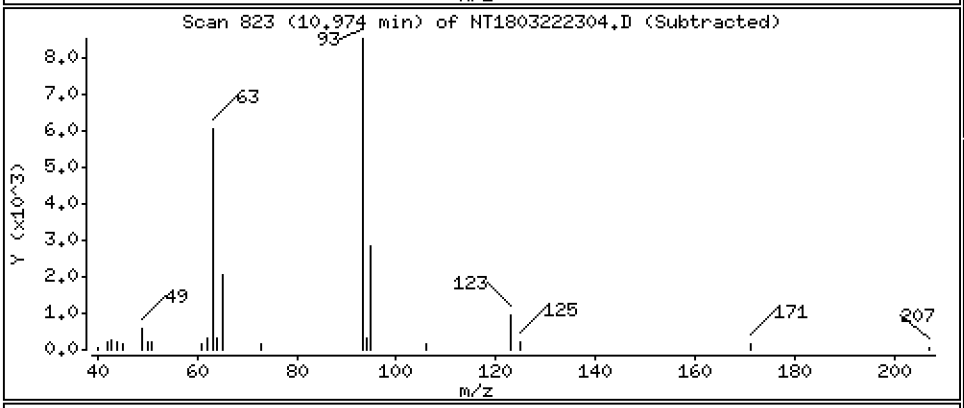
Column phase: ZB-5msi

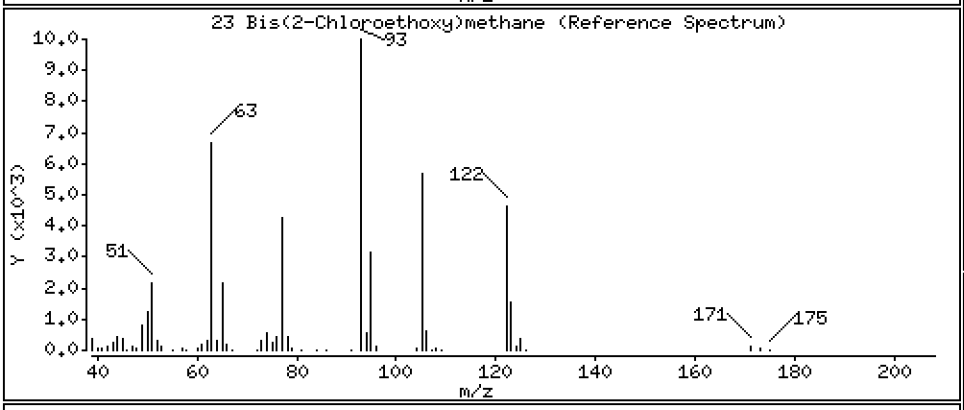
Column diameter: 0.25

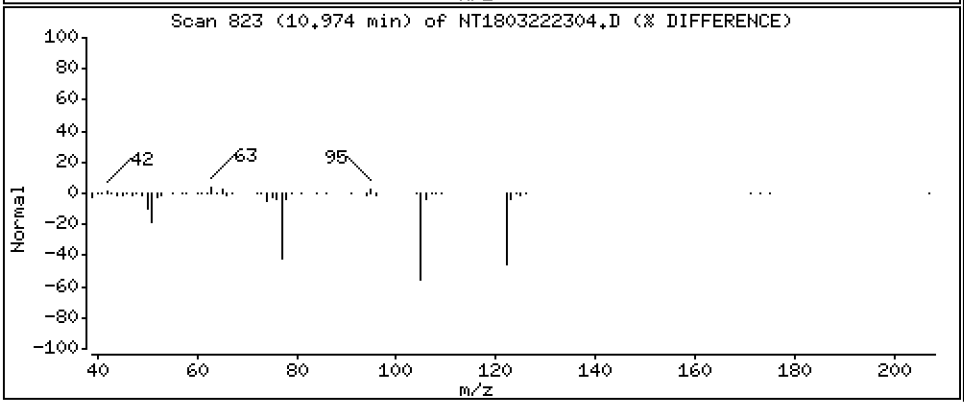
23 Bis(2-Chloroethoxy)methane

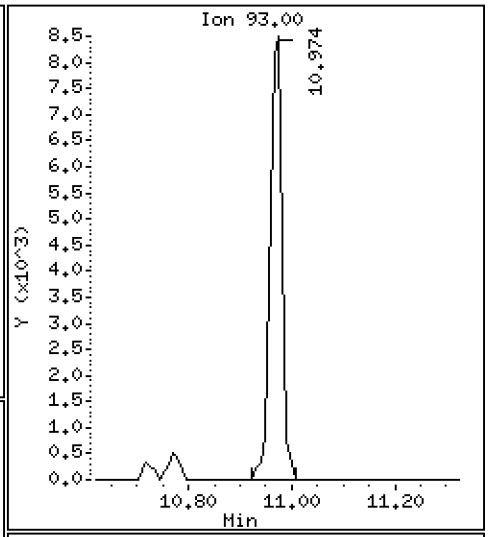
Concentration: 0.1817 ug/mL

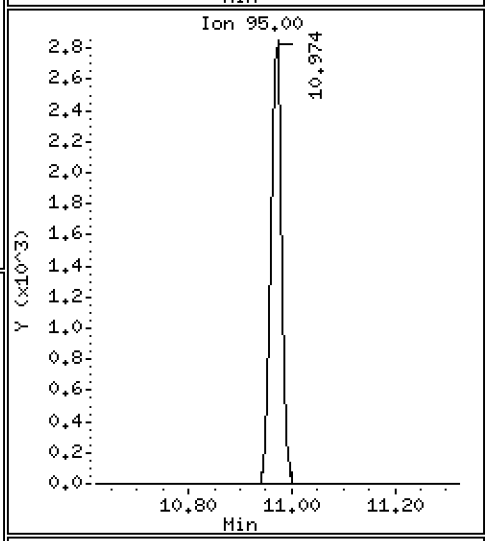


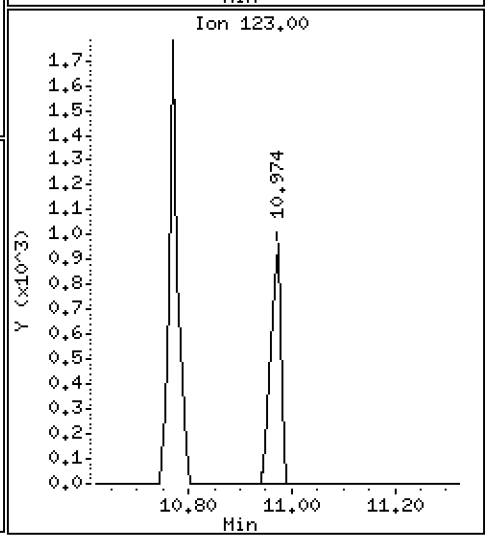












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

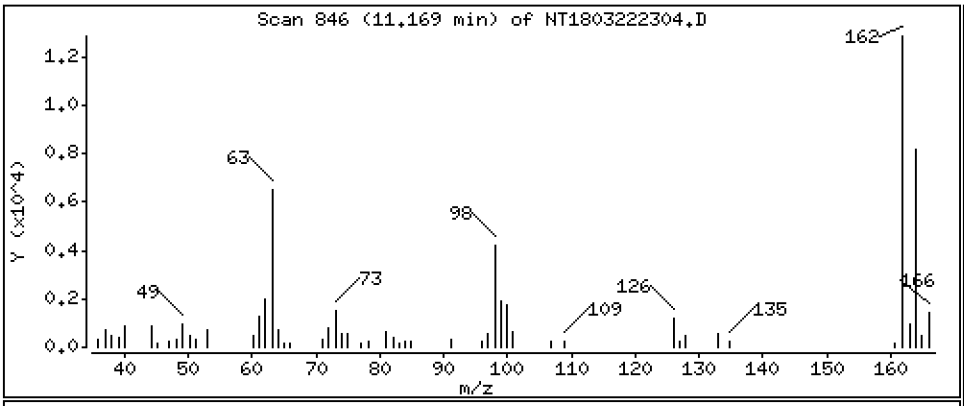
Operator: VTS

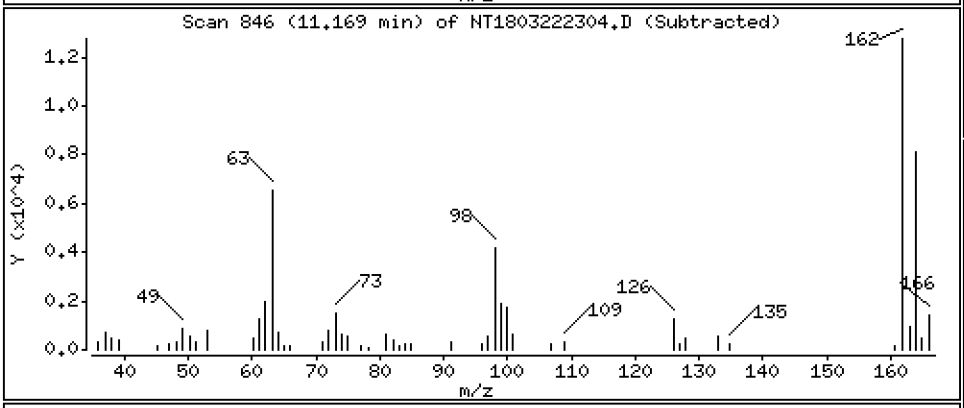
Column phase: ZB-5msi

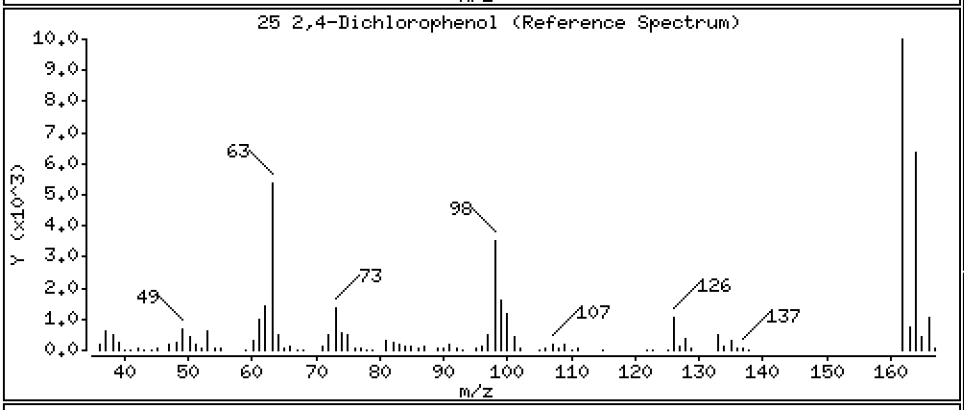
Column diameter: 0.25

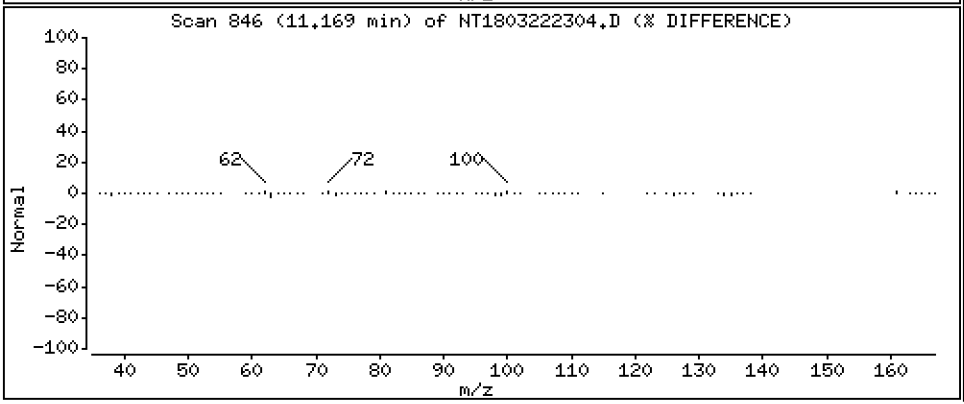
25 2,4-Dichlorophenol

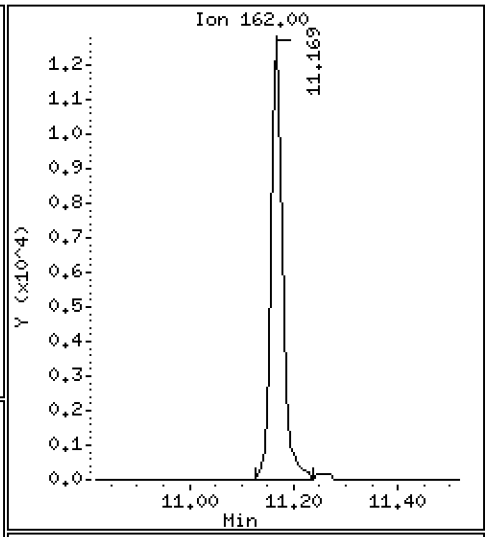
Concentration: 0.2784 ug/mL

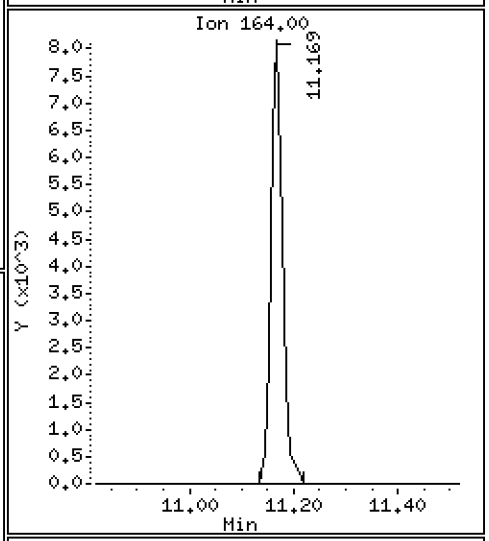


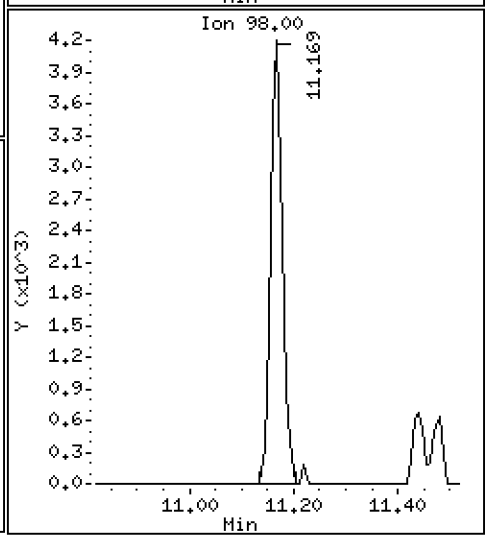












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

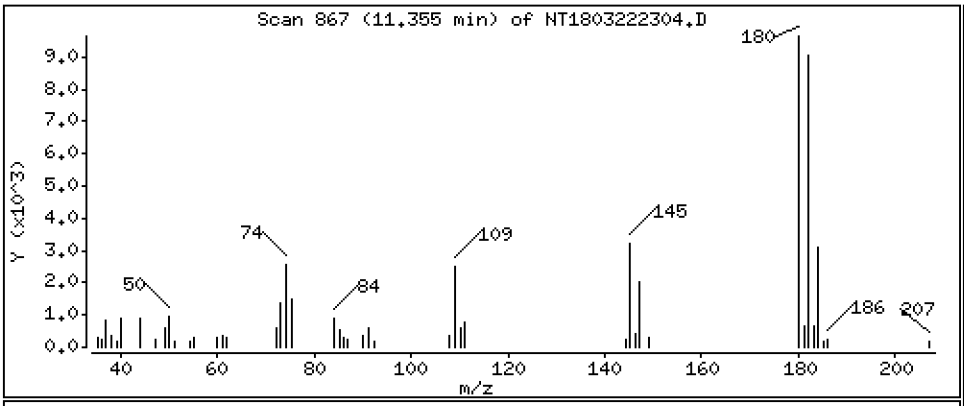
Operator: VTS

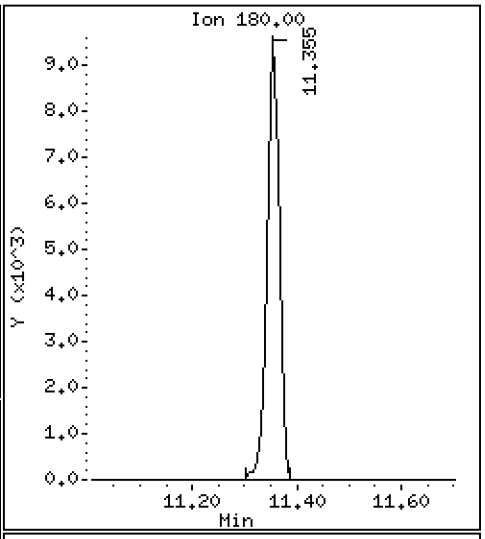
Column phase: ZB-5msi

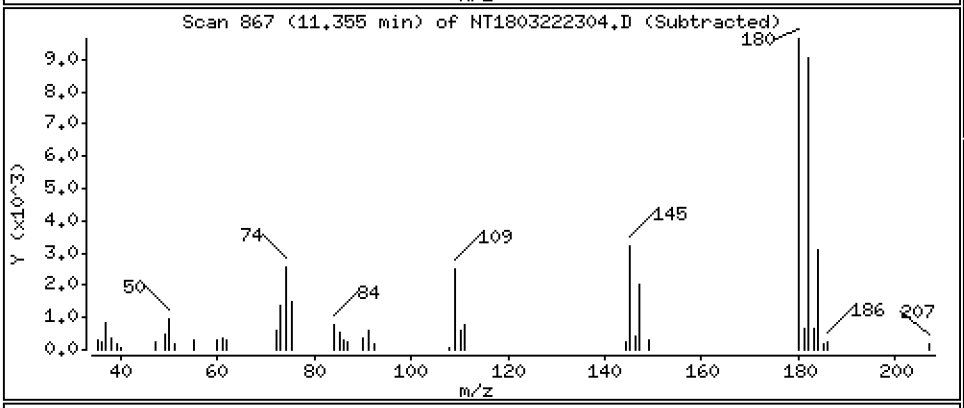
Column diameter: 0.25

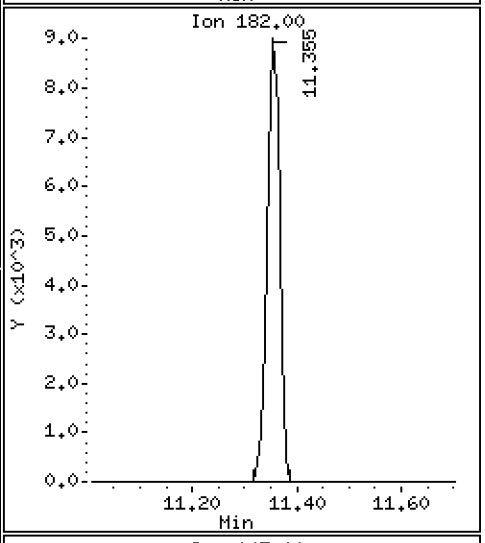
26 1,2,4-Trichlorobenzene

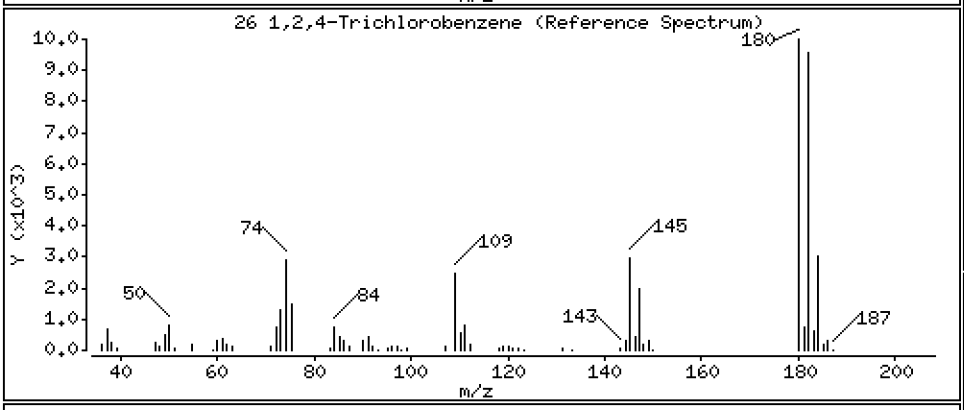
Concentration: 0.1928 ug/mL

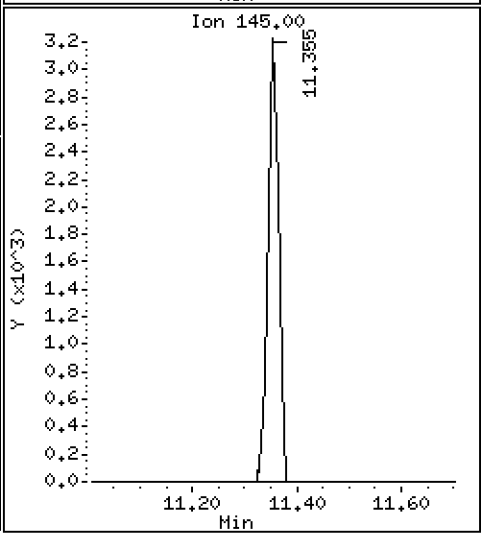


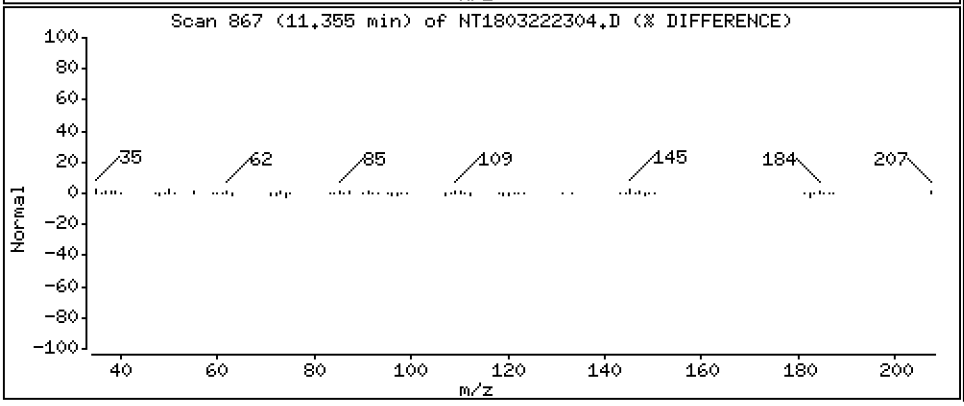












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

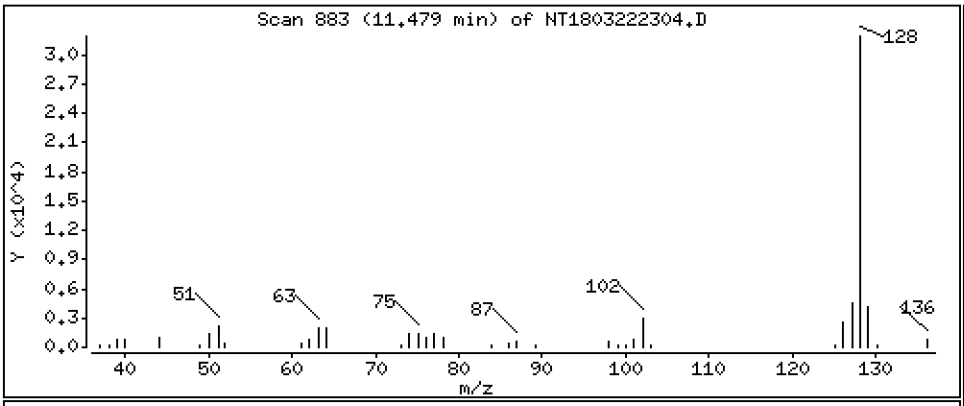
Operator: VTS

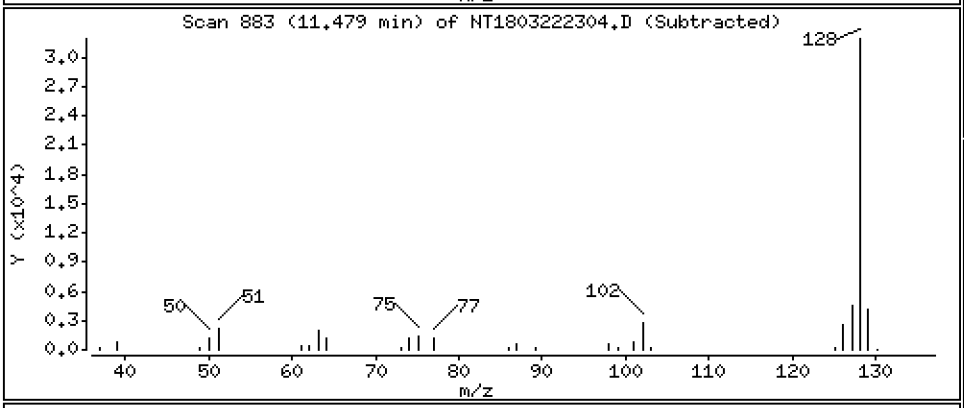
Column phase: ZB-5msi

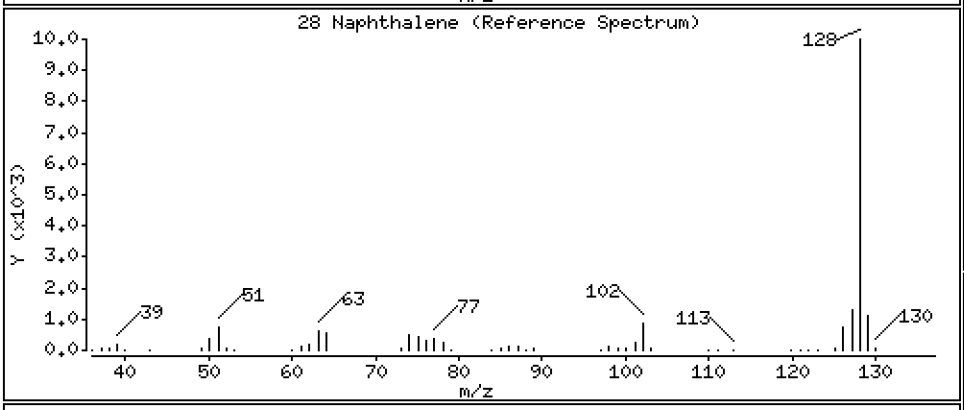
Column diameter: 0.25

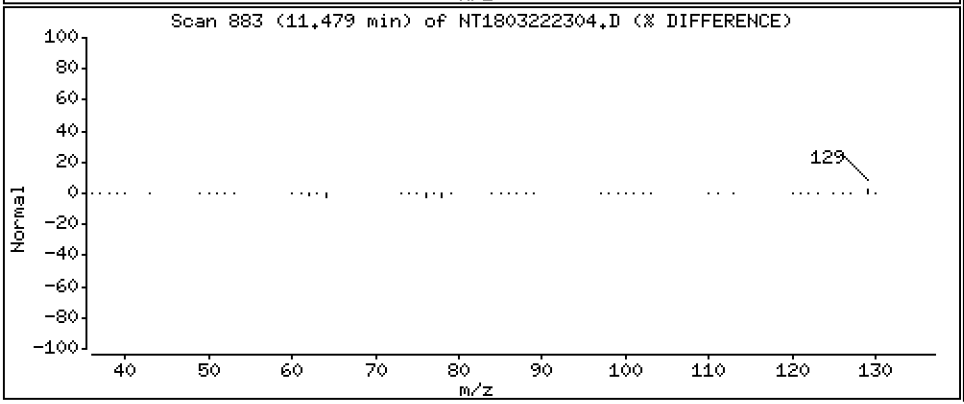
28 Naphthalene

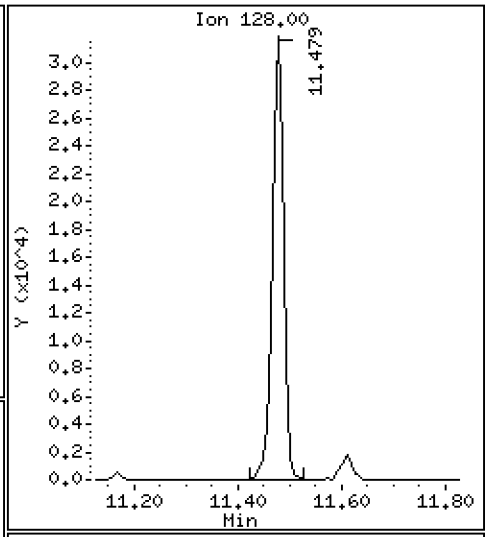
Concentration: 0.1928 ug/mL

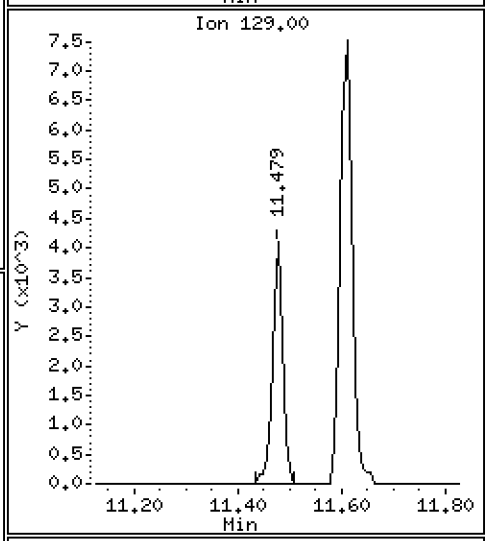


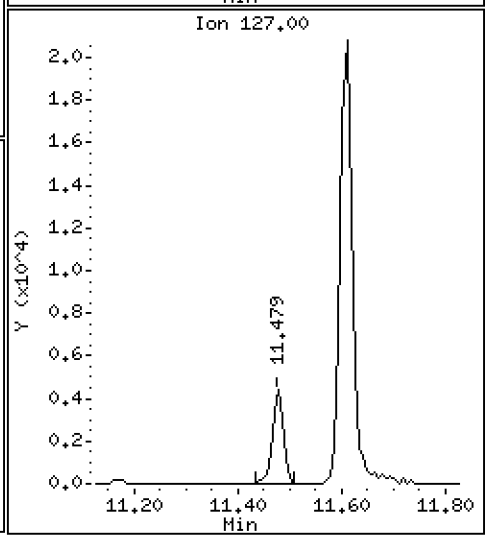












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

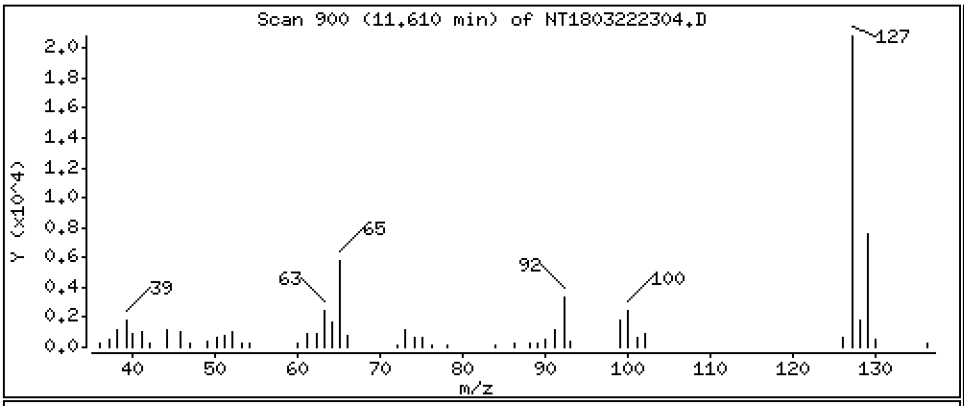
Operator: VTS

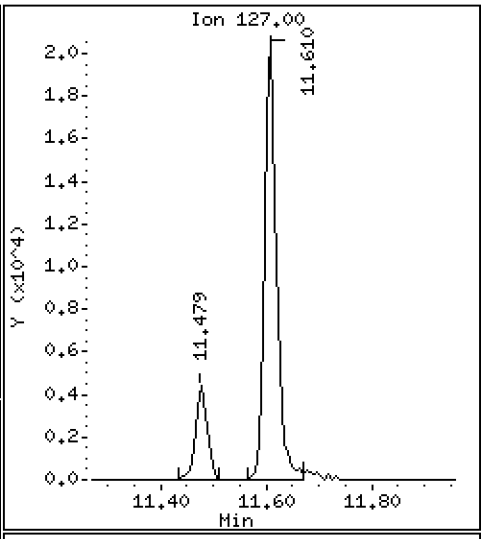
Column phase: ZB-5msi

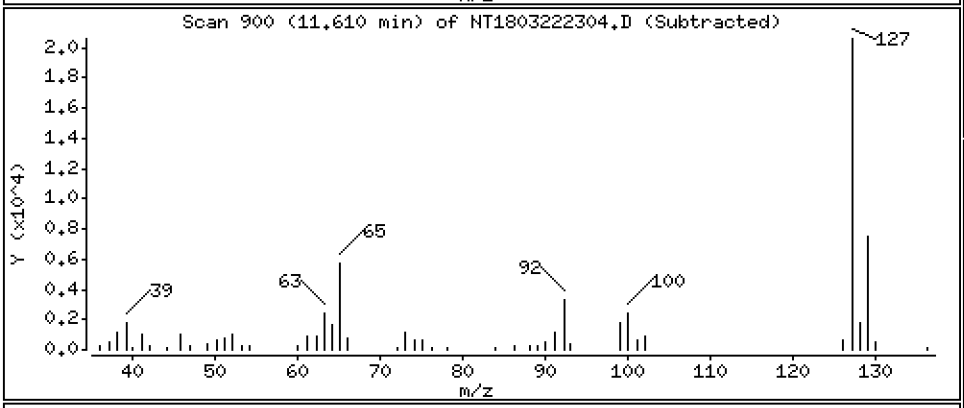
Column diameter: 0.25

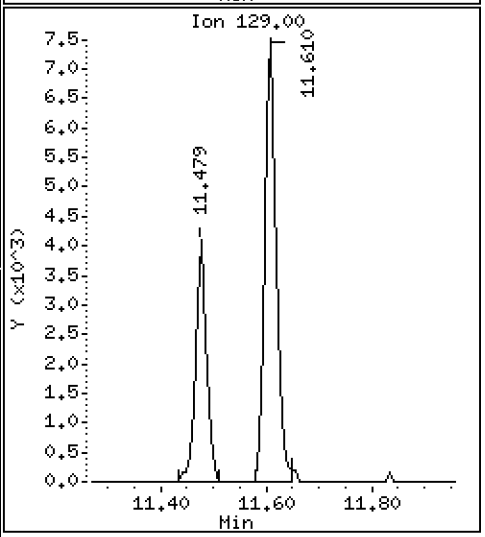
29 4-Chloroaniline

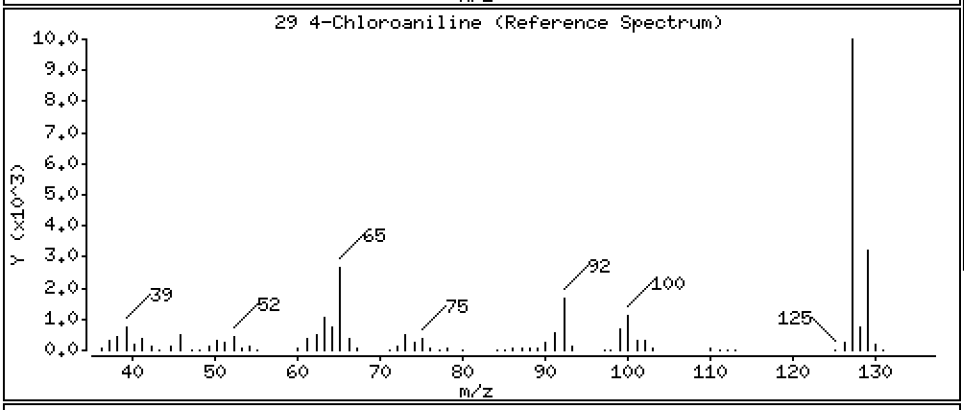
Concentration: 0.3227 ug/mL

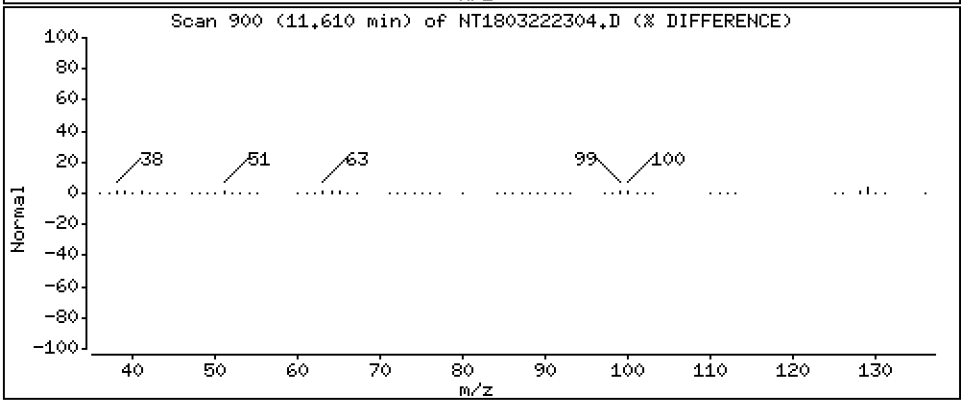












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

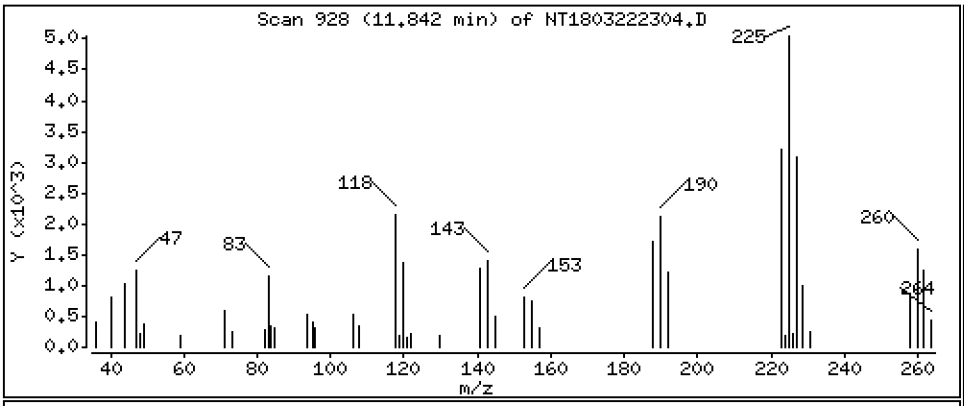
Operator: VTS

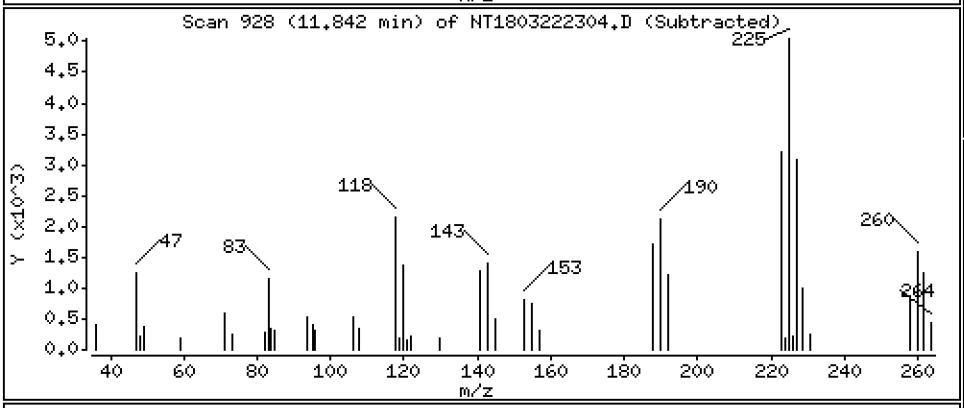
Column phase: ZB-5msi

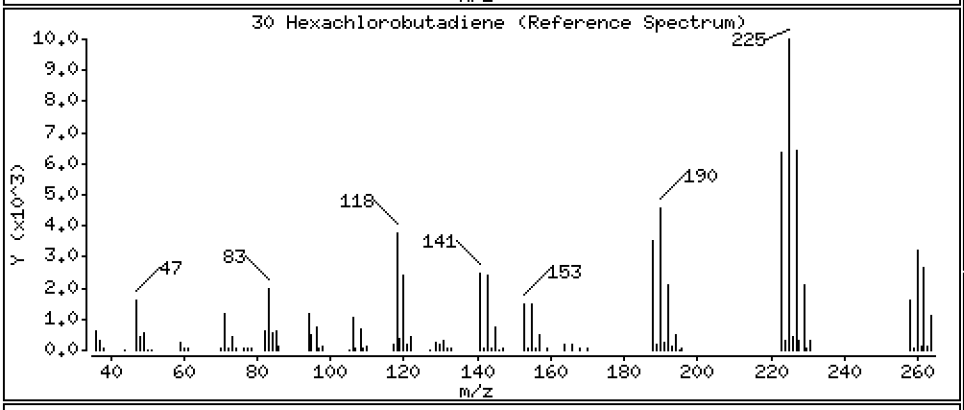
Column diameter: 0.25

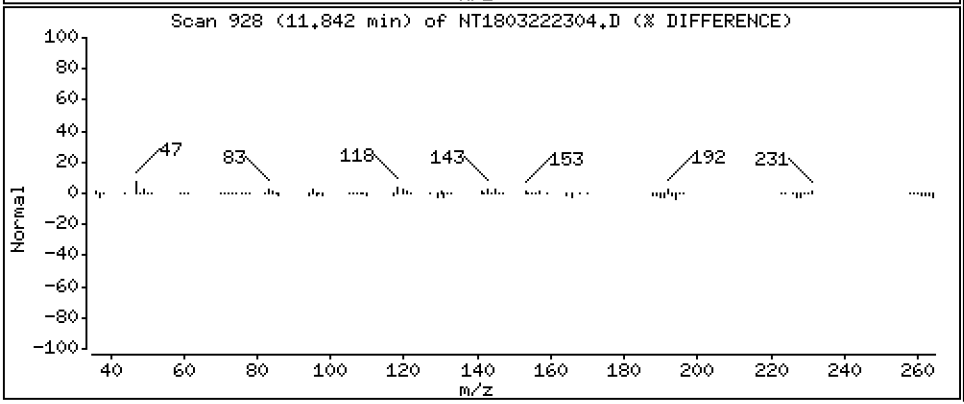
30 Hexachlorobutadiene

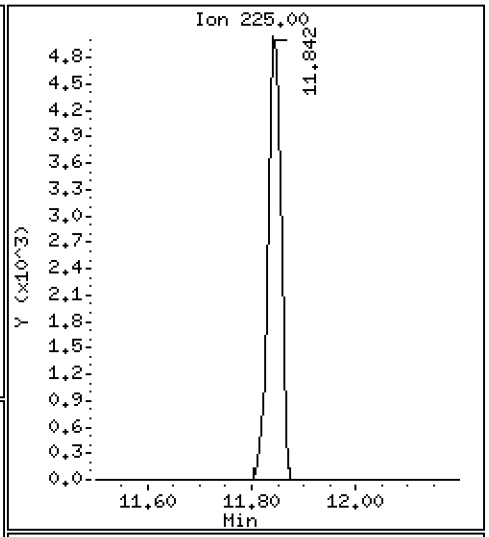
Concentration: 0.1959 ug/mL

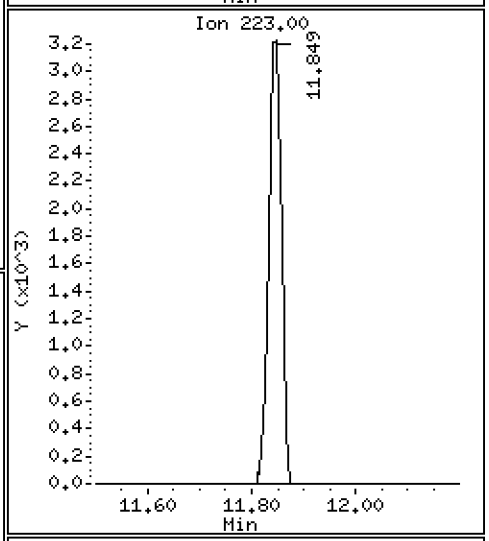


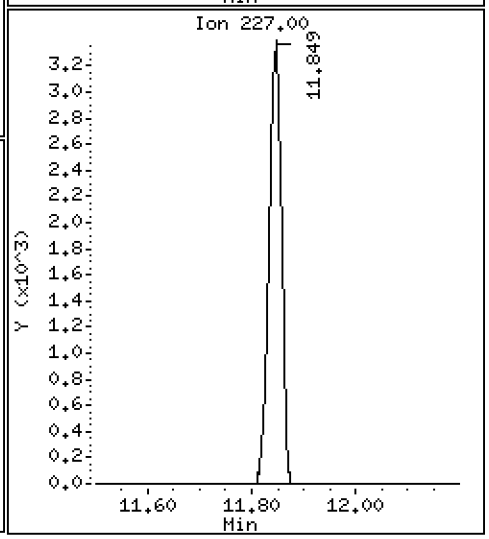












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

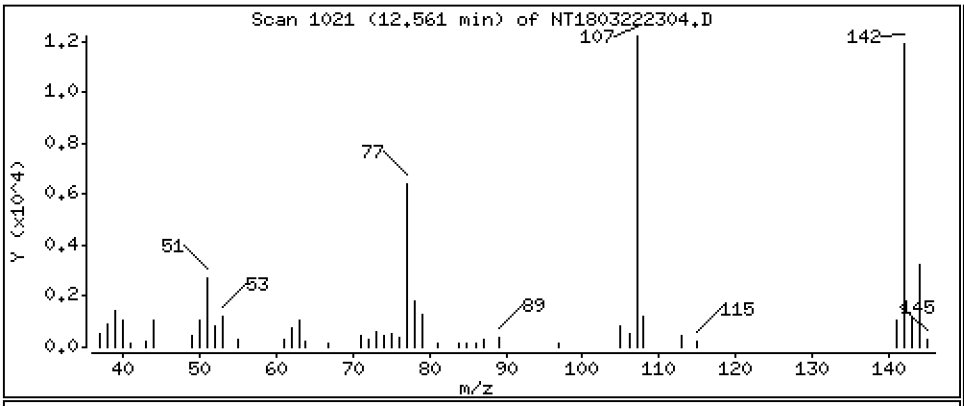
Operator: VTS

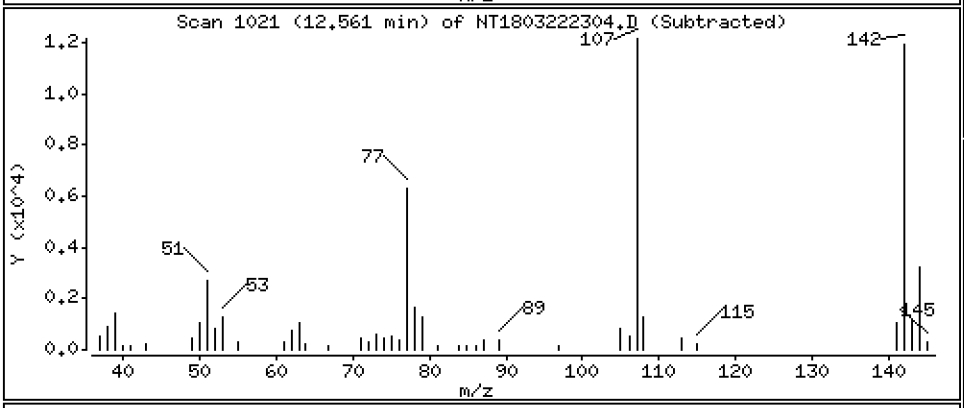
Column phase: ZB-5msi

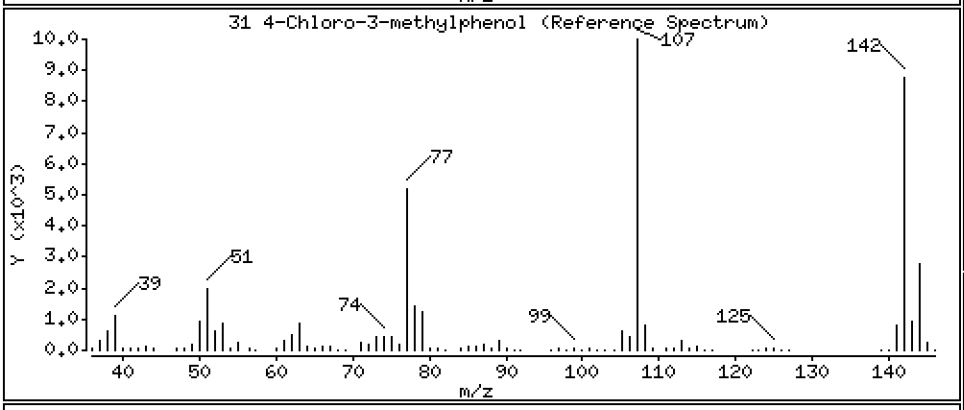
Column diameter: 0.25

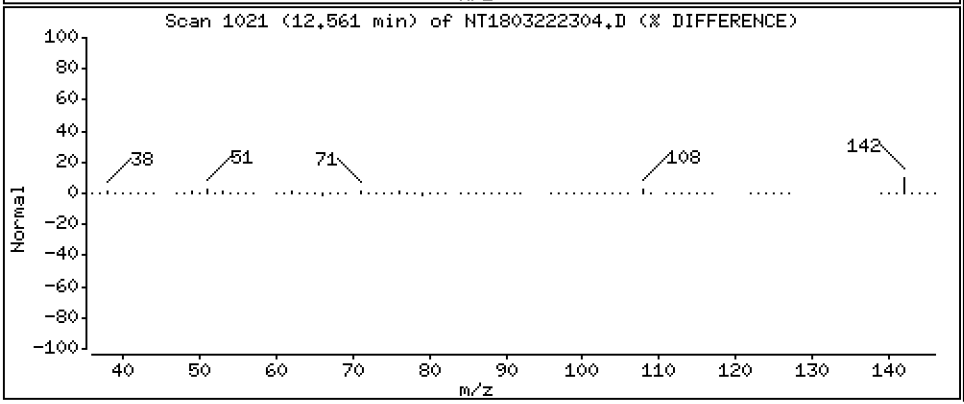
31 4-Chloro-3-methylphenol

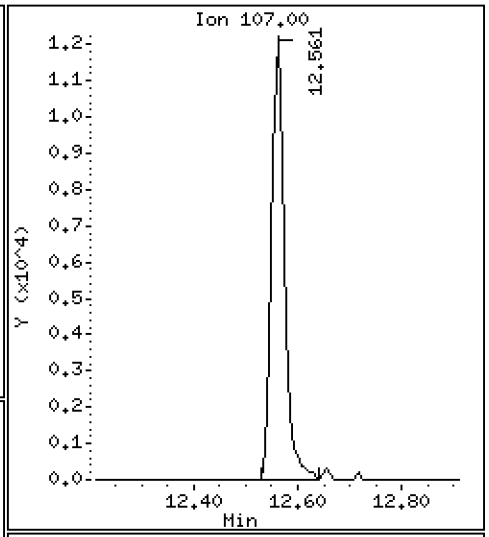
Concentration: 0.3005 ug/mL

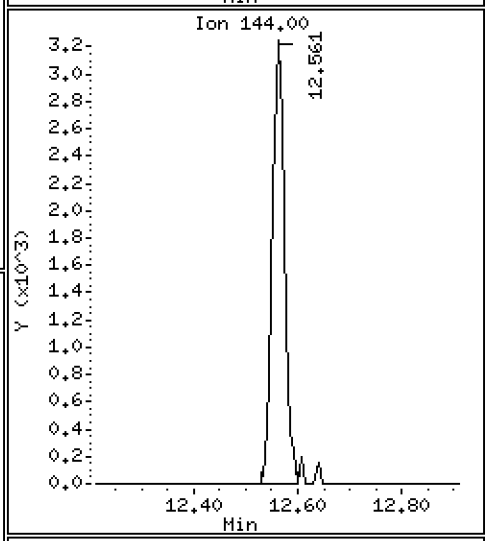


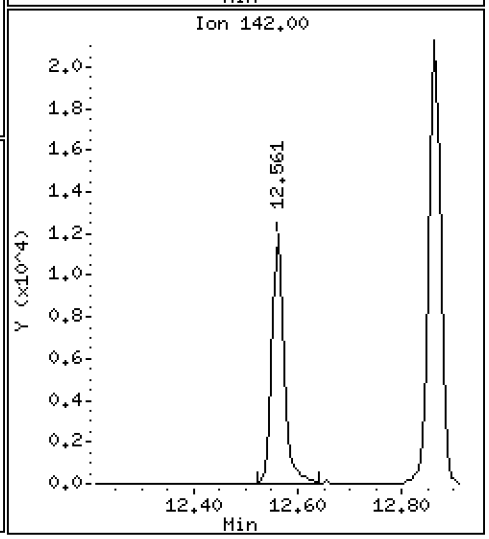












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

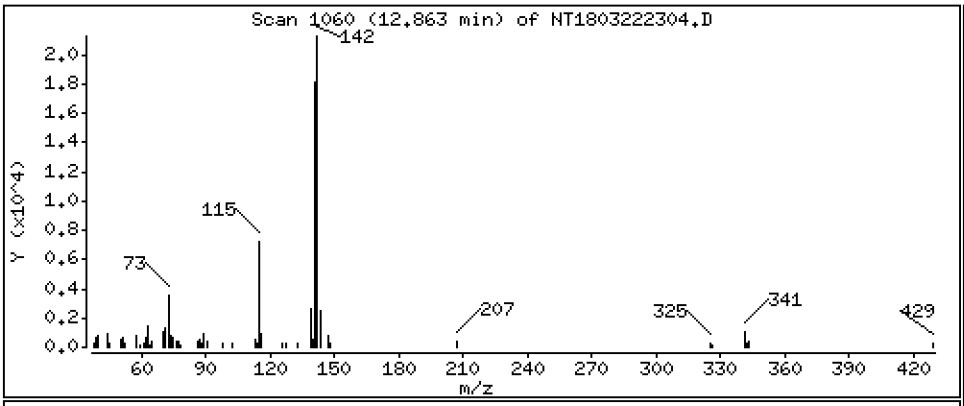
Operator: VTS

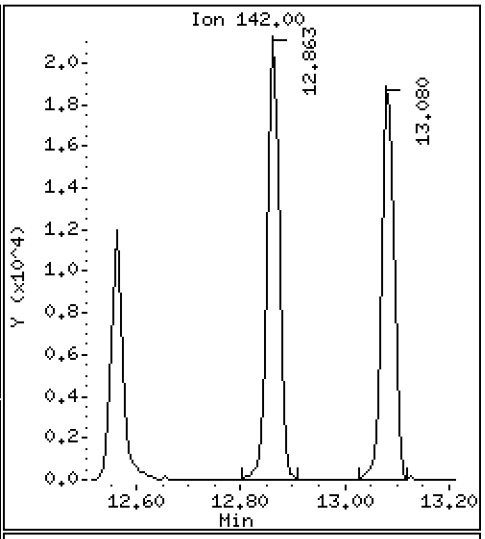
Column phase: ZB-5msi

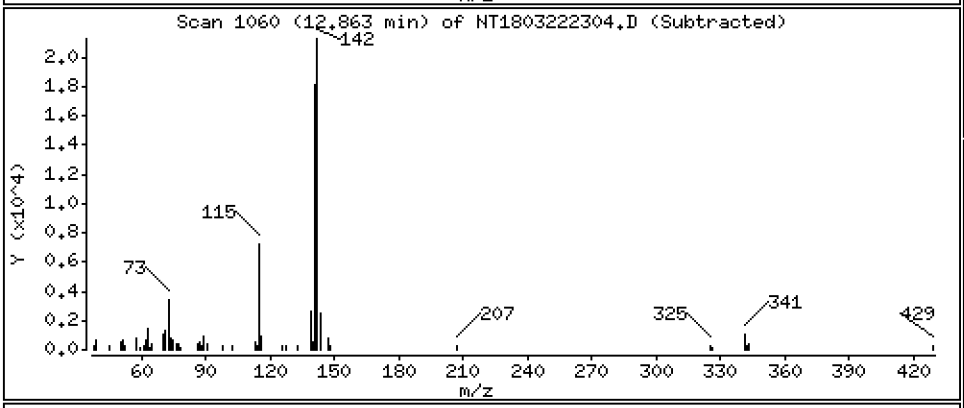
Column diameter: 0.25

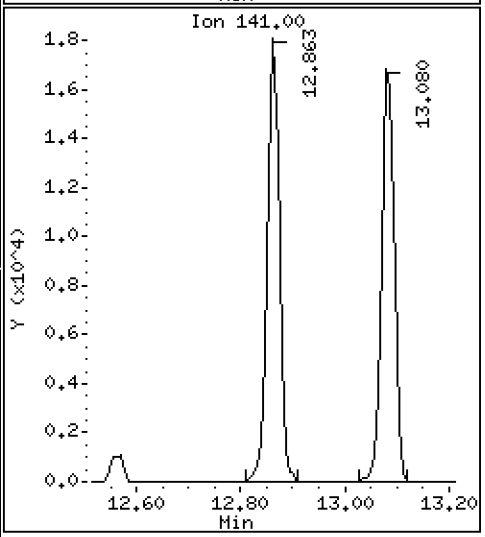
32 2-Methylnaphthalene

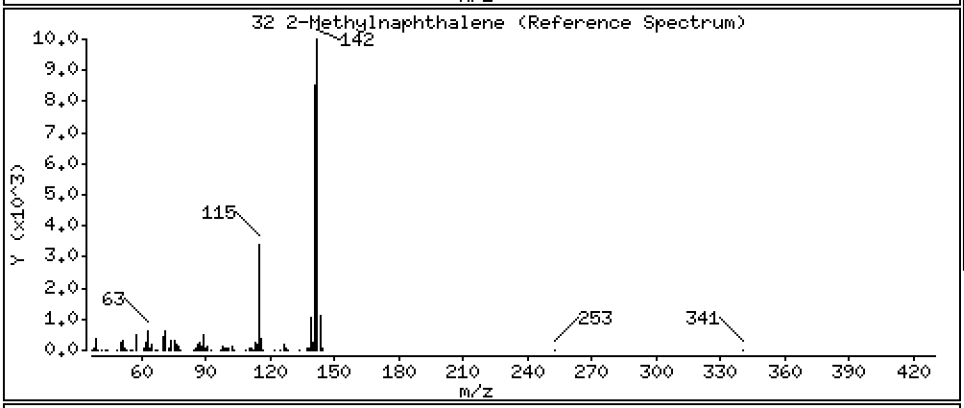
Concentration: 0.1891 ug/mL

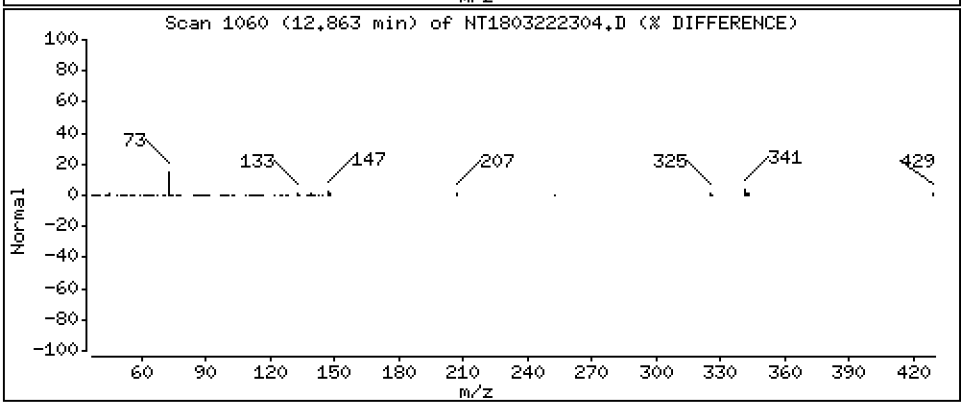












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

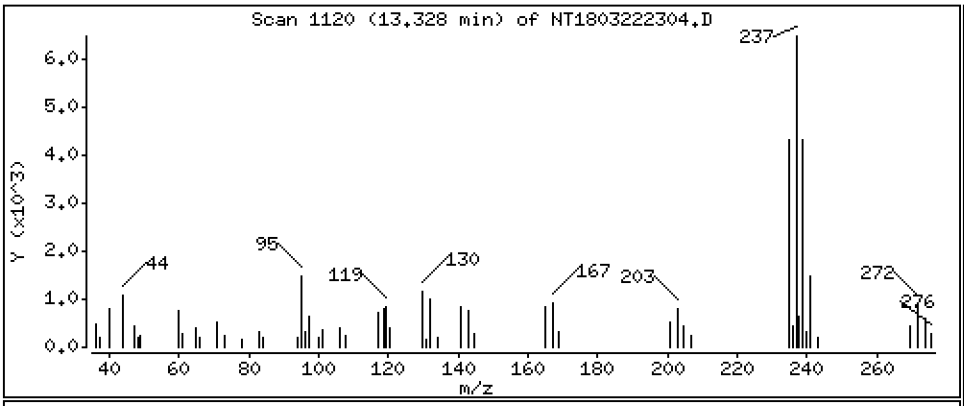
Operator: VTS

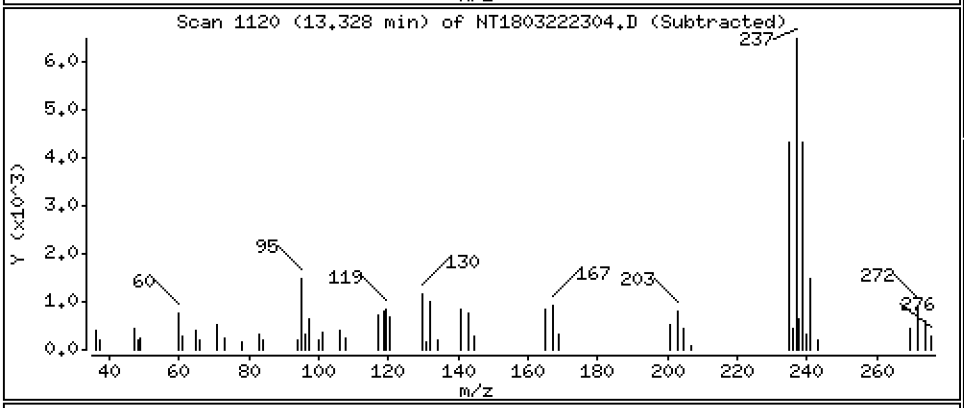
Column phase: ZB-5msi

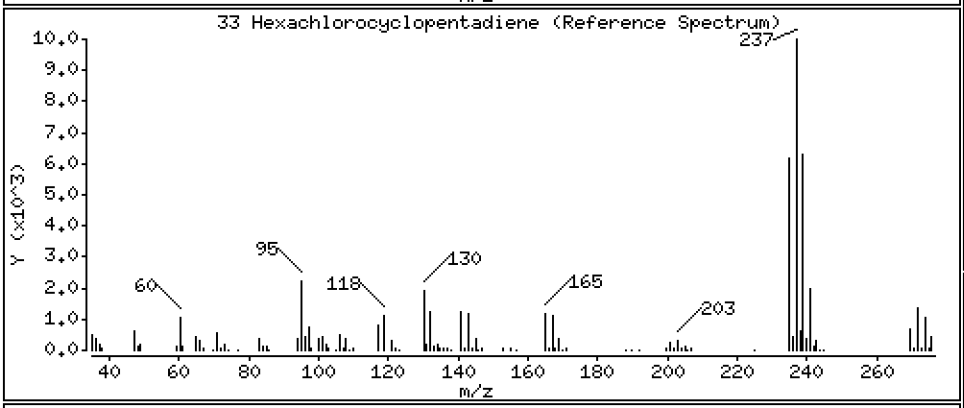
Column diameter: 0.25

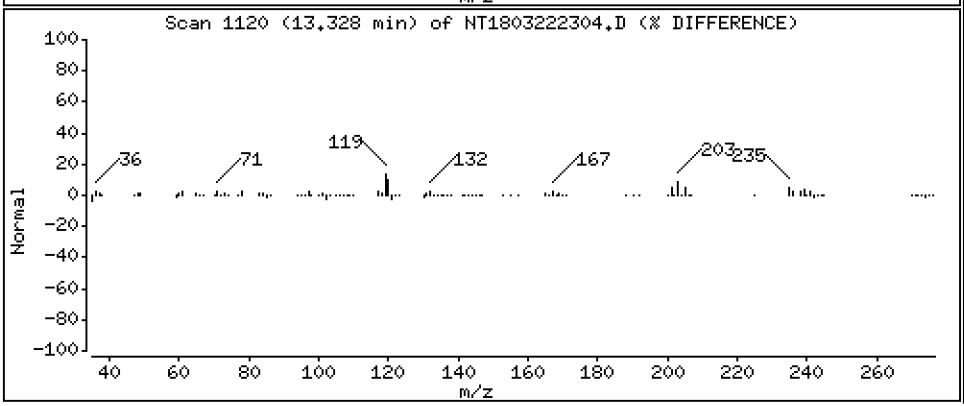
33 Hexachlorocyclopentadiene

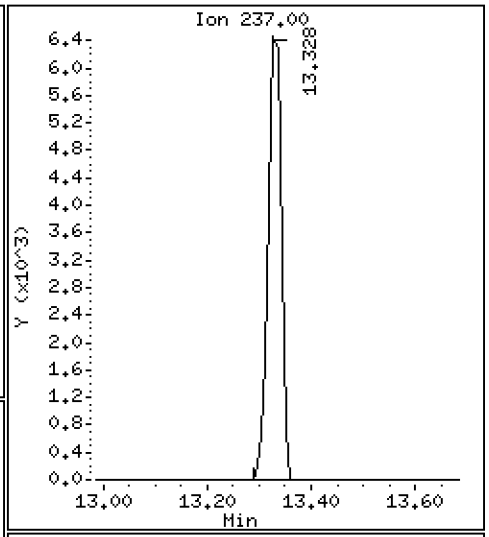
Concentration: 0.2456 ug/mL

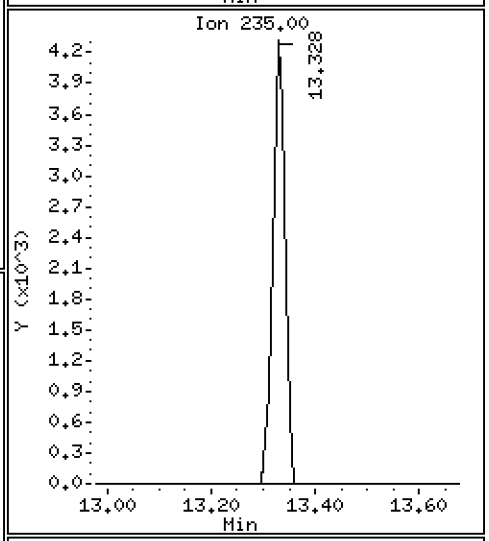


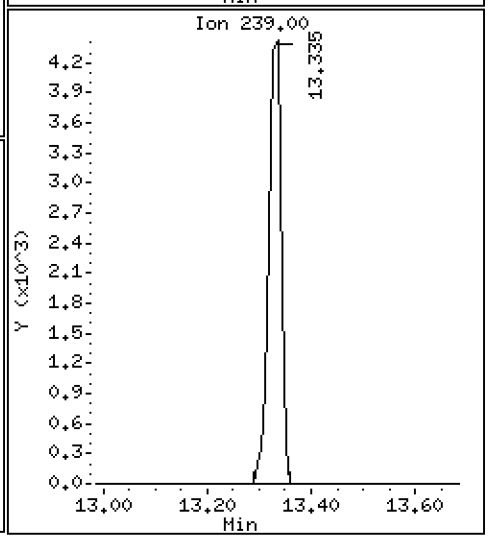












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

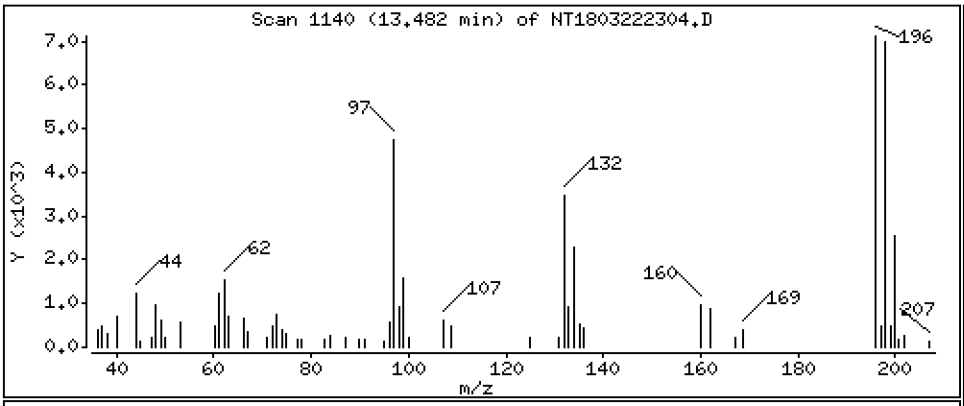
Operator: VTS

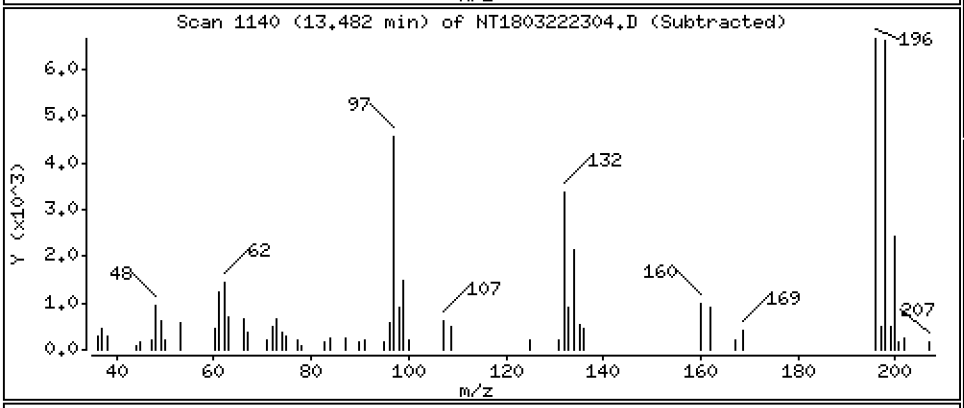
Column phase: ZB-5msi

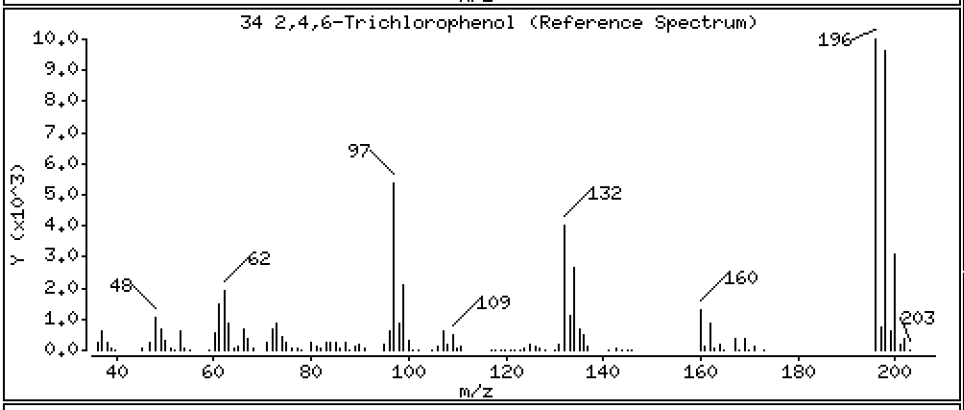
Column diameter: 0.25

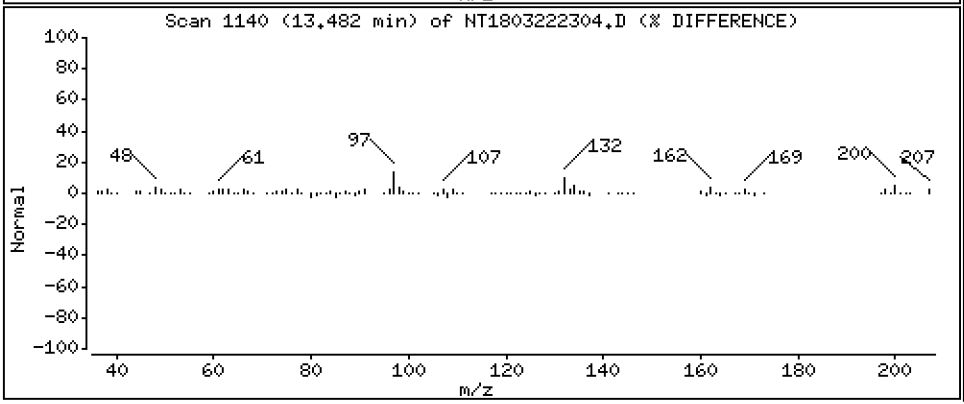
34 2,4,6-Trichlorophenol

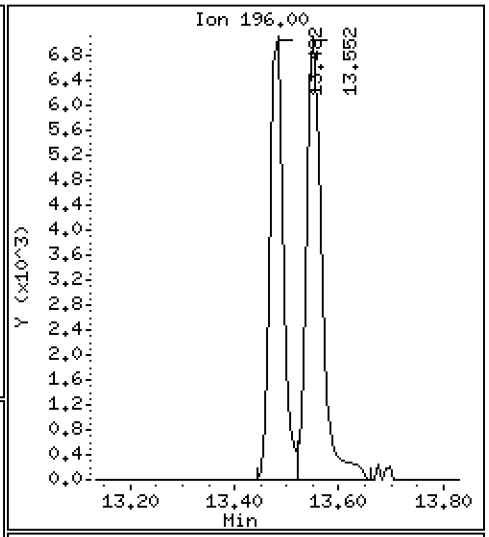
Concentration: 0.2639 ug/mL

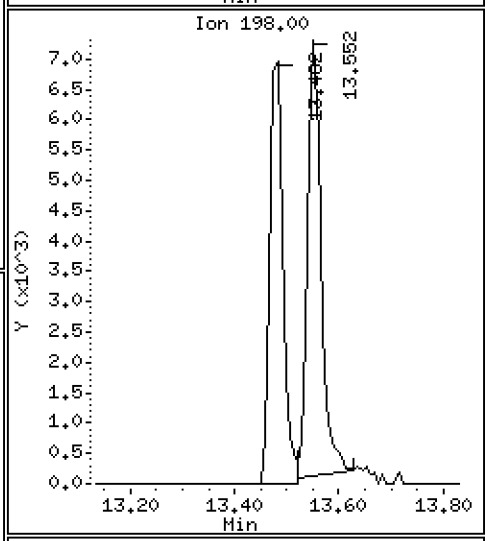


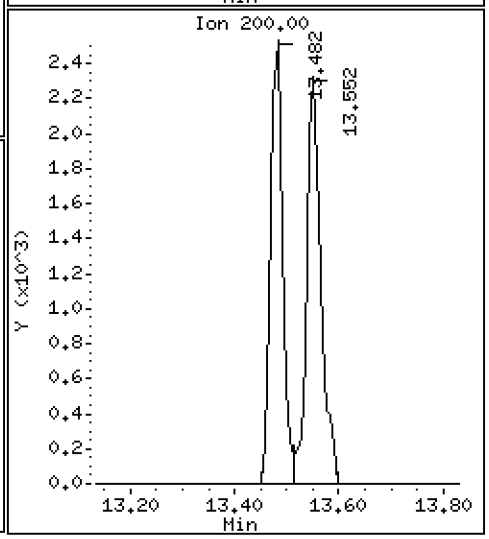












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

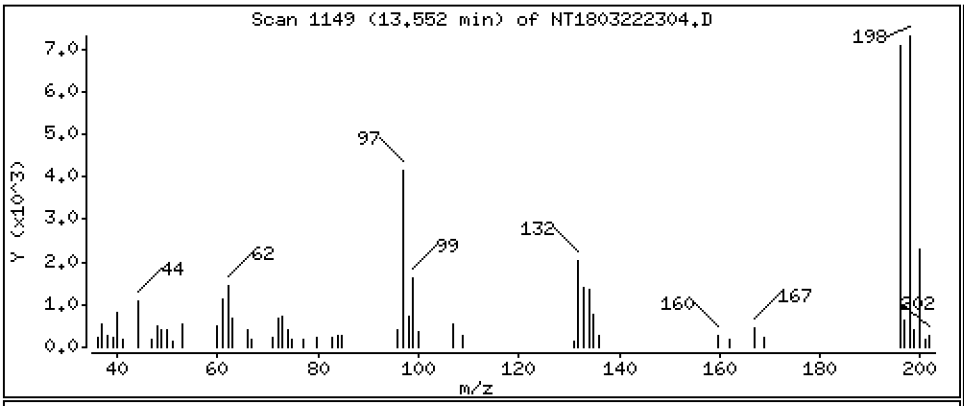
Operator: VTS

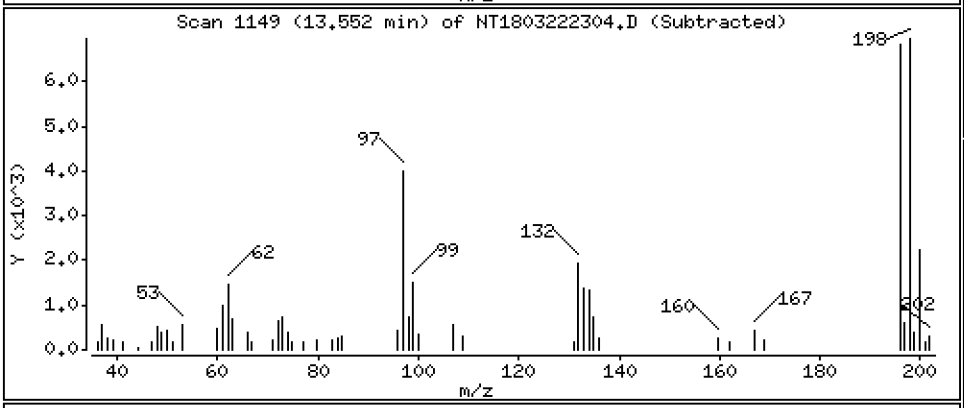
Column phase: ZB-5msi

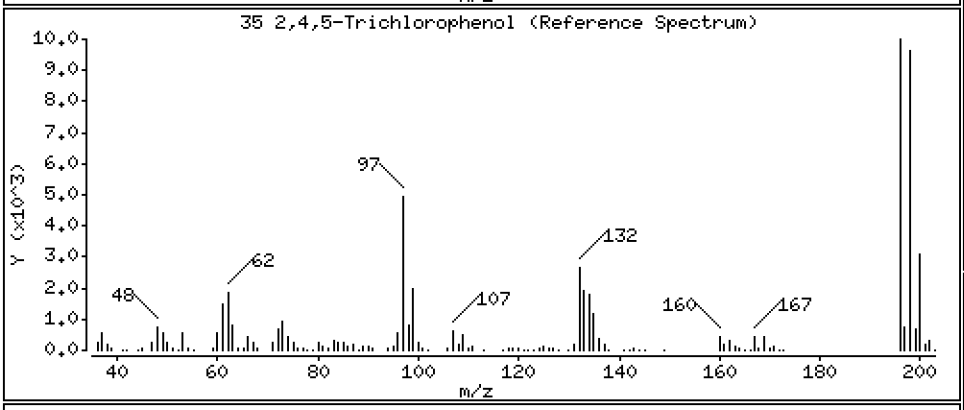
Column diameter: 0.25

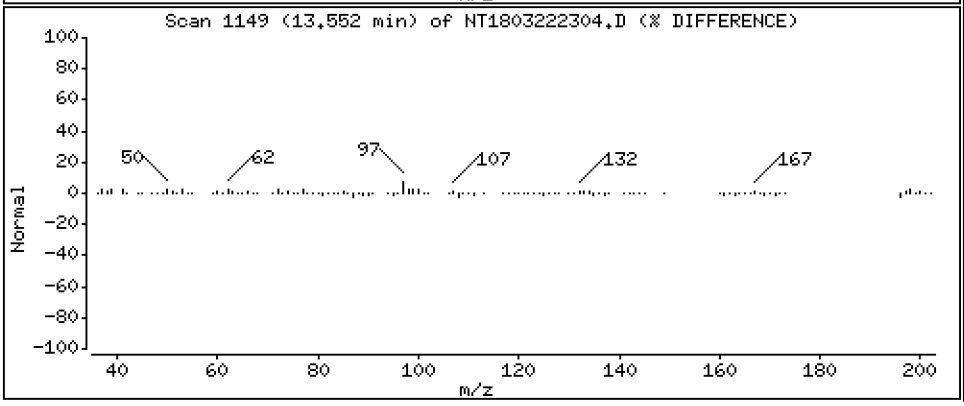
35 2,4,5-Trichlorophenol

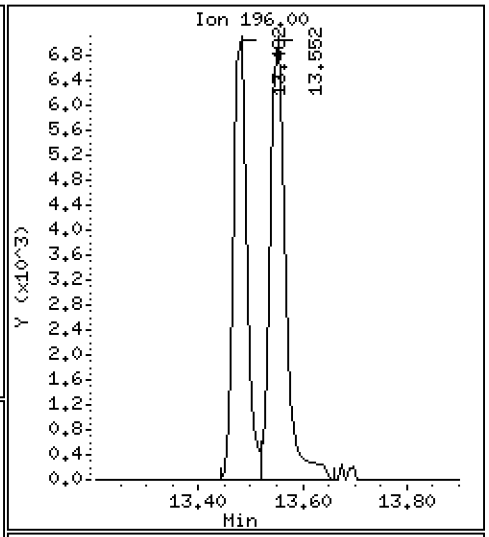
Concentration: 0.2831 ug/mL

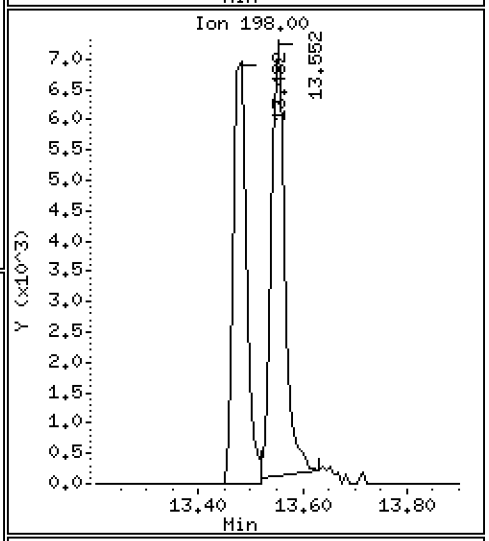


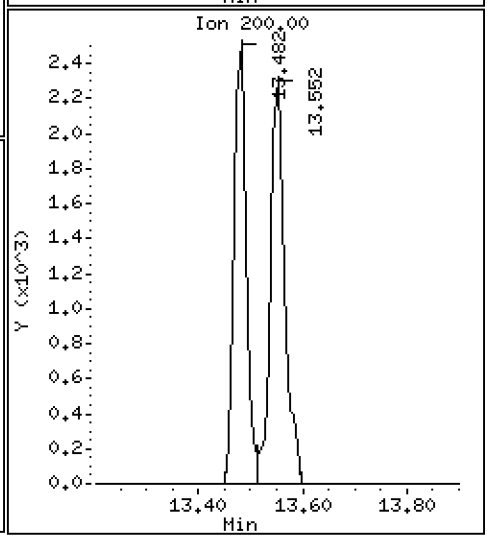












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

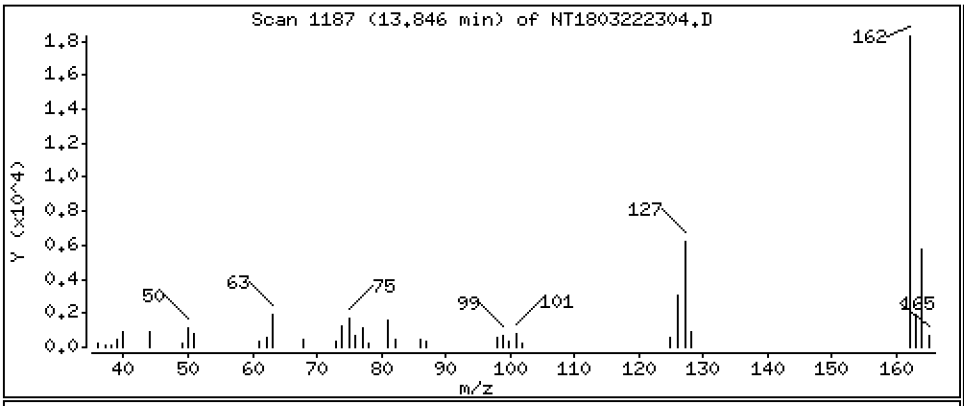
Operator: VTS

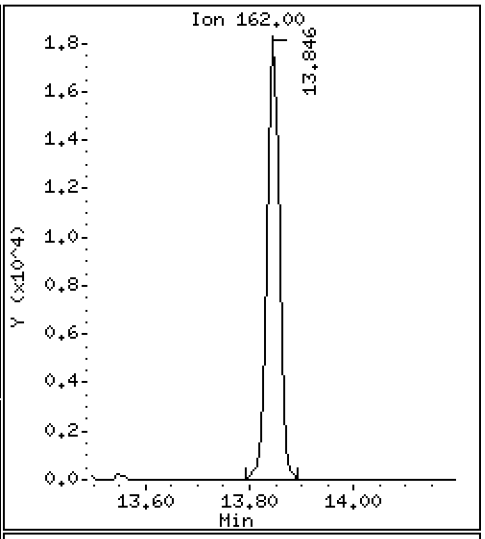
Column phase: ZB-5msi

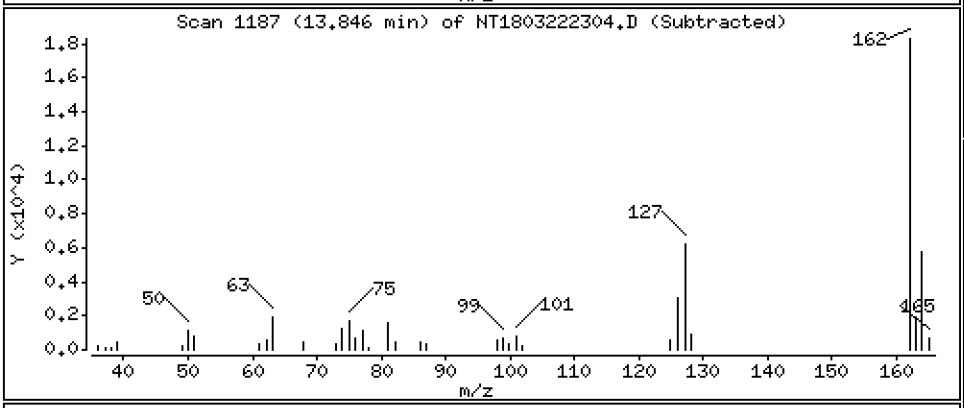
Column diameter: 0.25

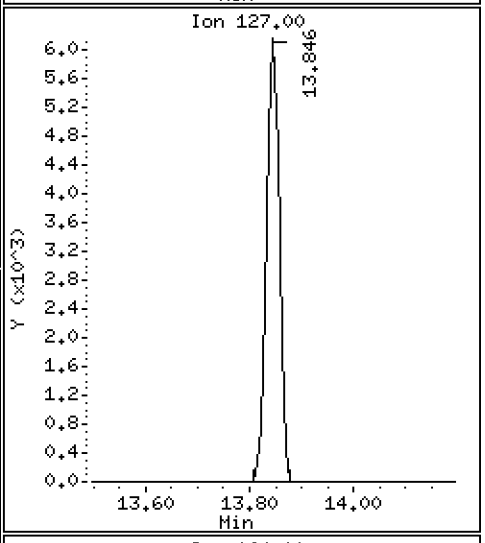
37 2-Chloronaphthalene

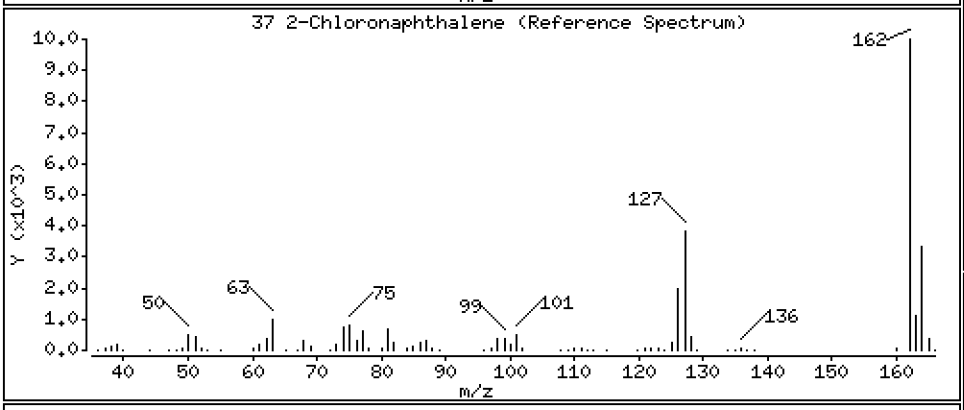
Concentration: 0.1935 ug/mL

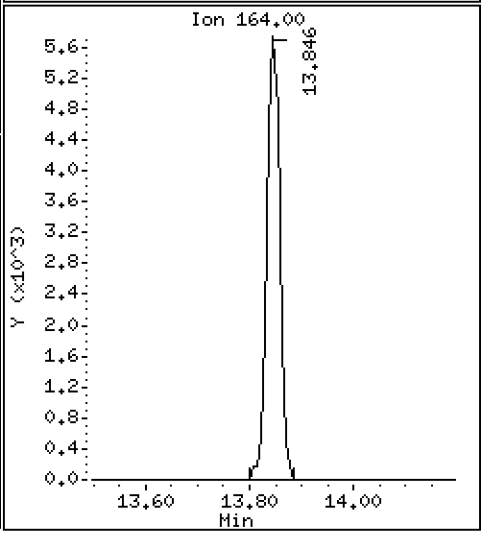


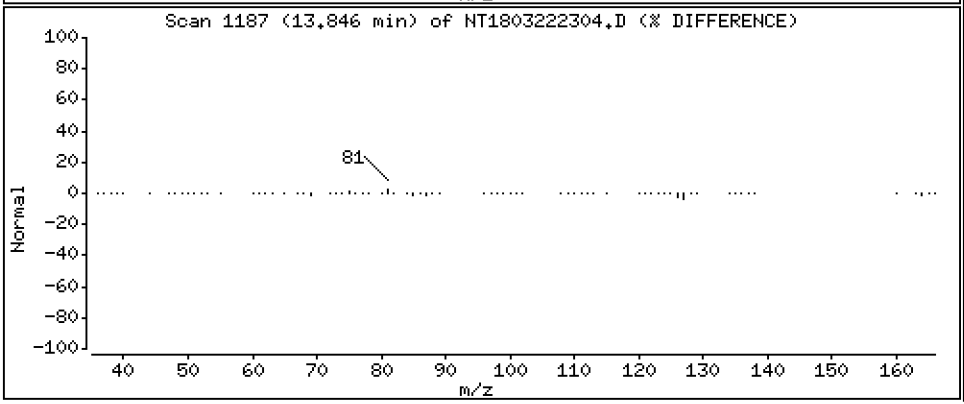












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

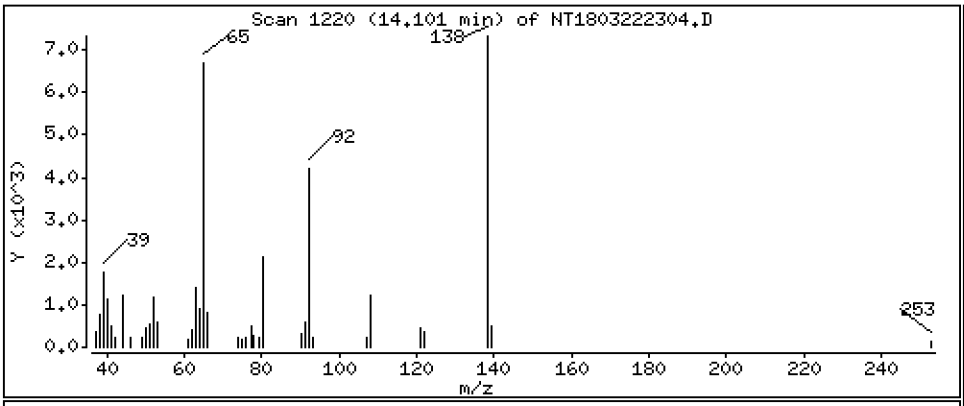
Operator: VTS

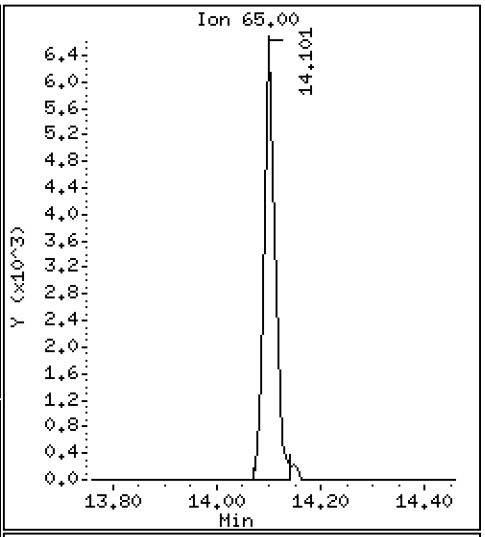
Column phase: ZB-5msi

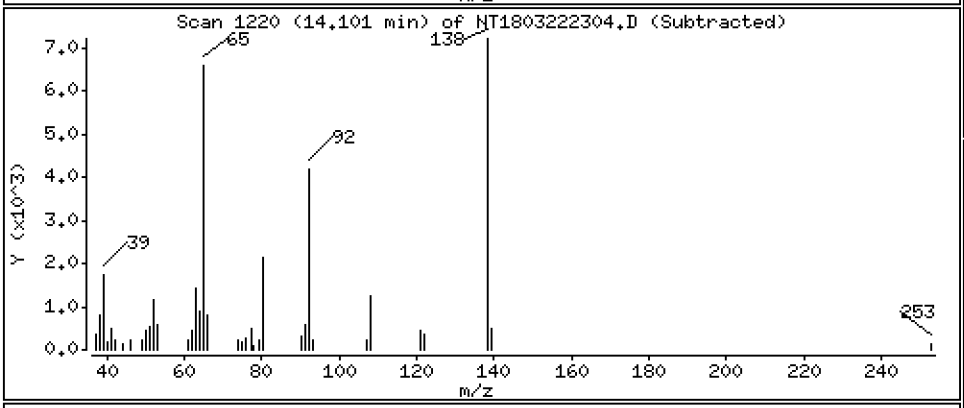
Column diameter: 0.25

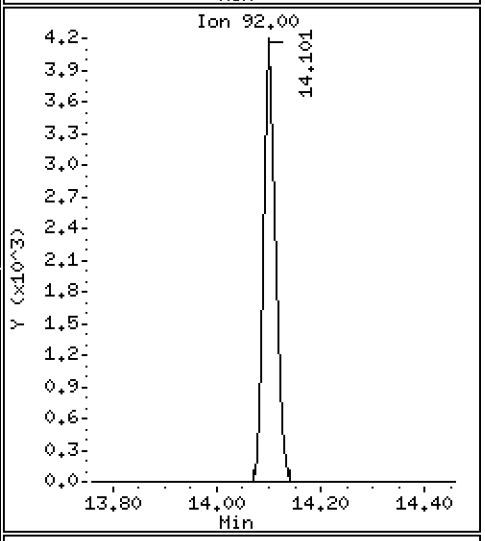
38 2-Nitroaniline

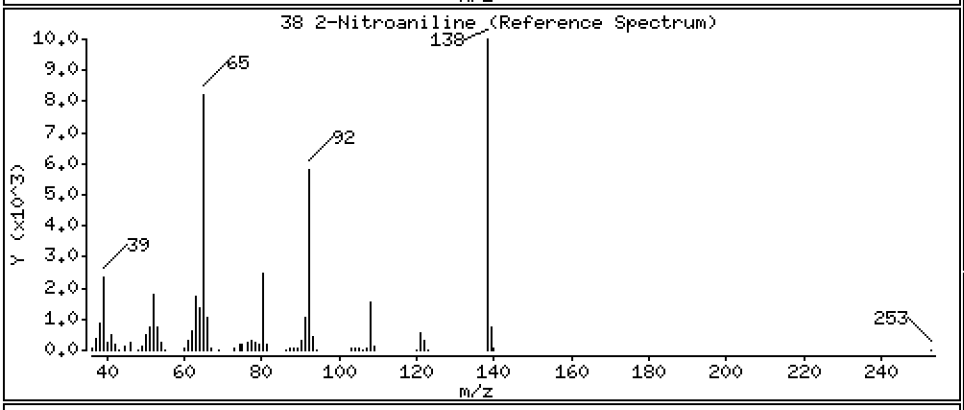
Concentration: 0.2494 ug/mL

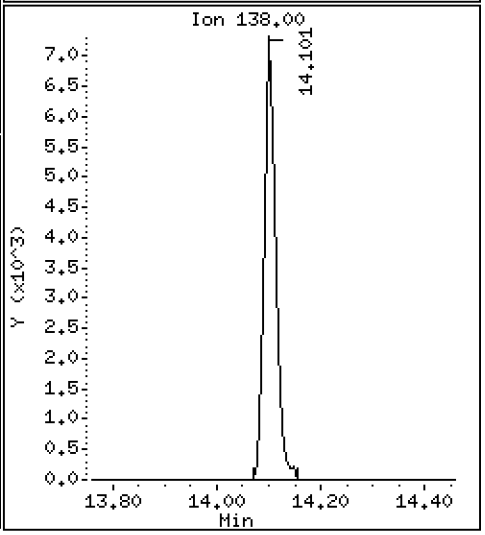


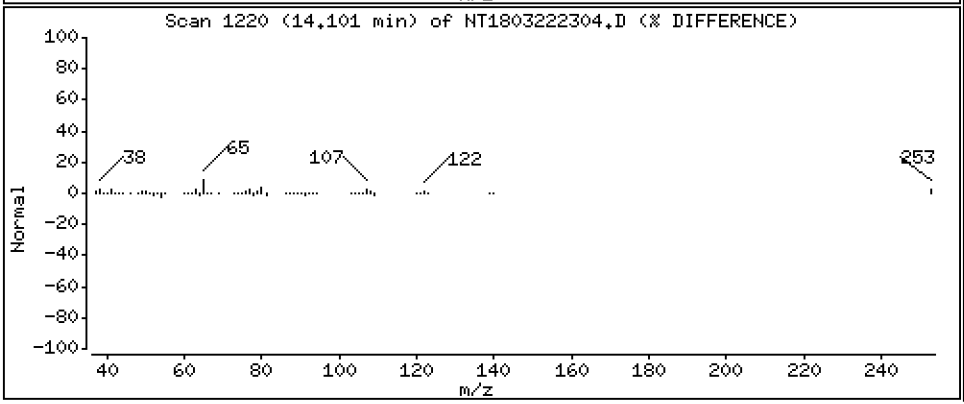












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

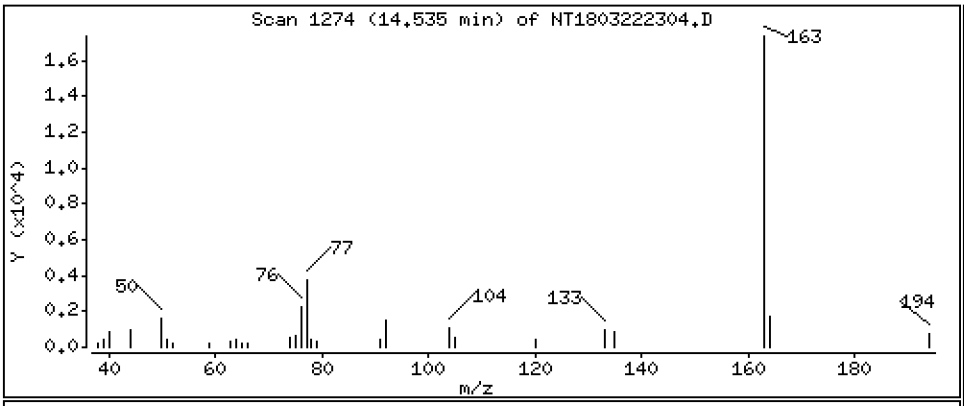
Operator: VTS

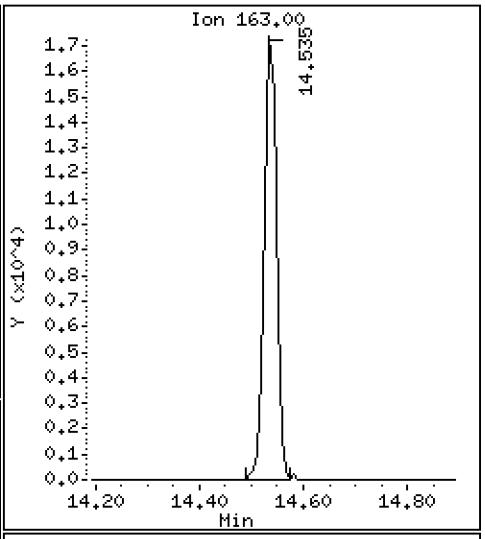
Column phase: ZB-5msi

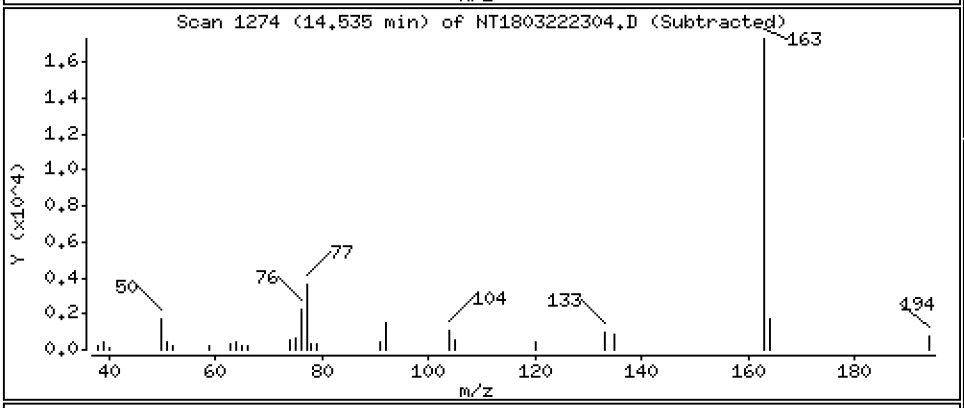
Column diameter: 0.25

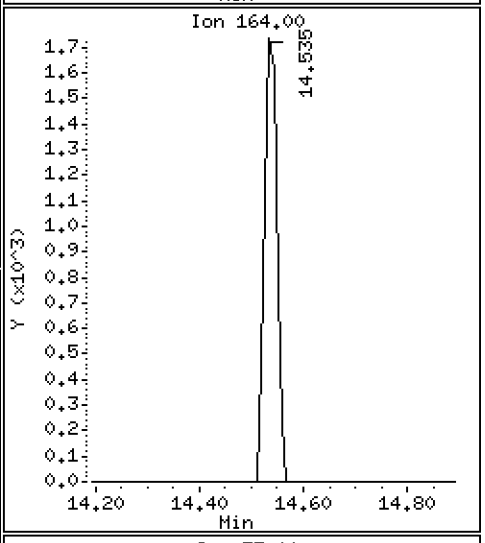
39 Dimethylphthalate

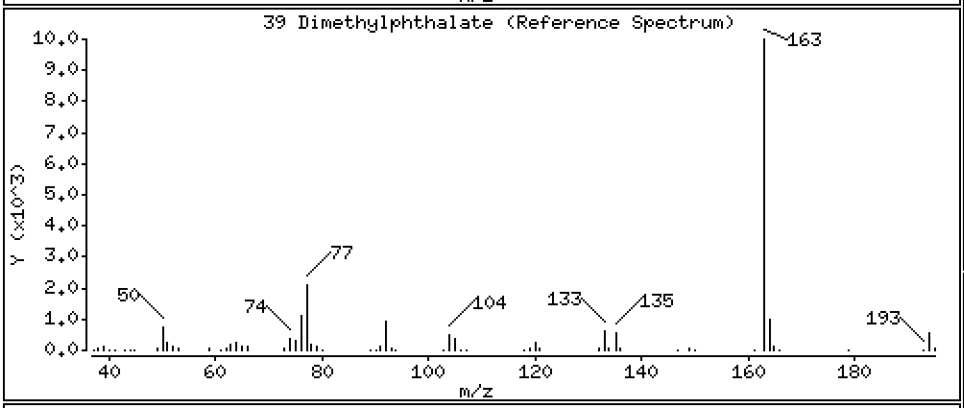
Concentration: 0.1760 ug/mL

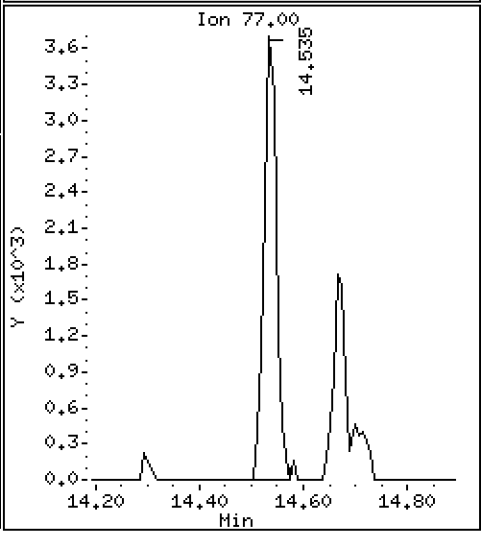


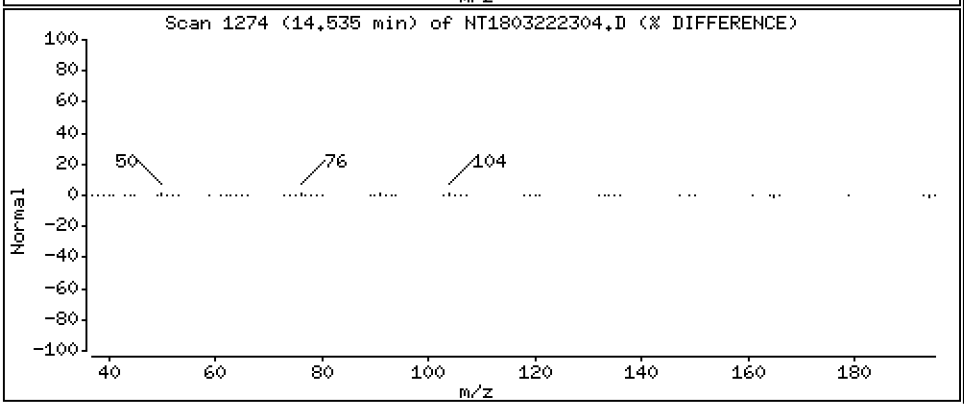












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

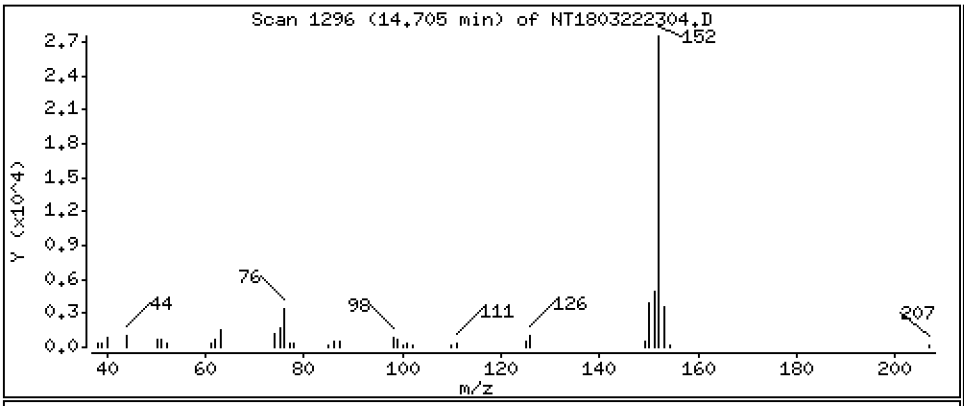
Operator: VTS

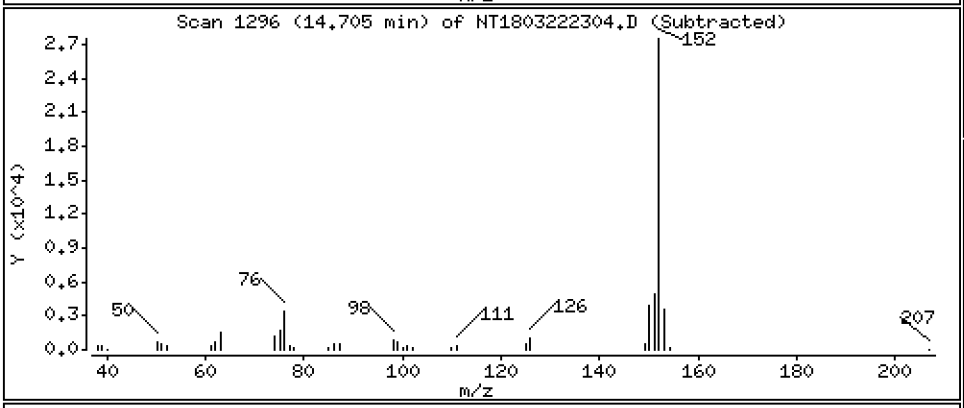
Column phase: ZB-5msi

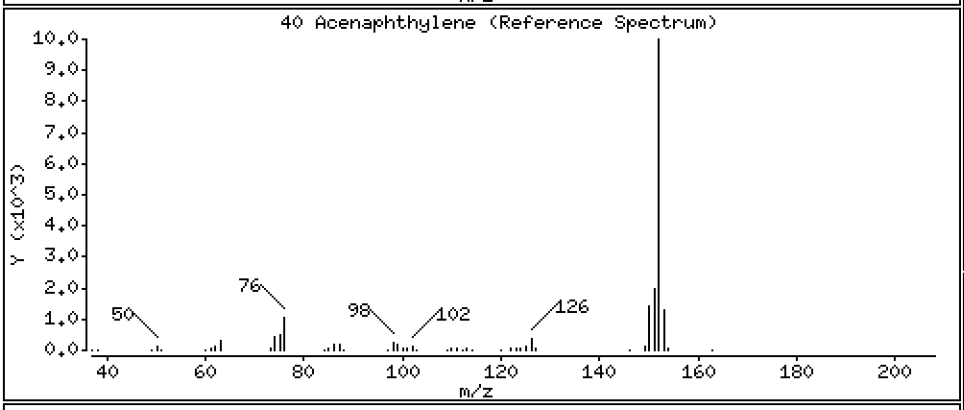
Column diameter: 0.25

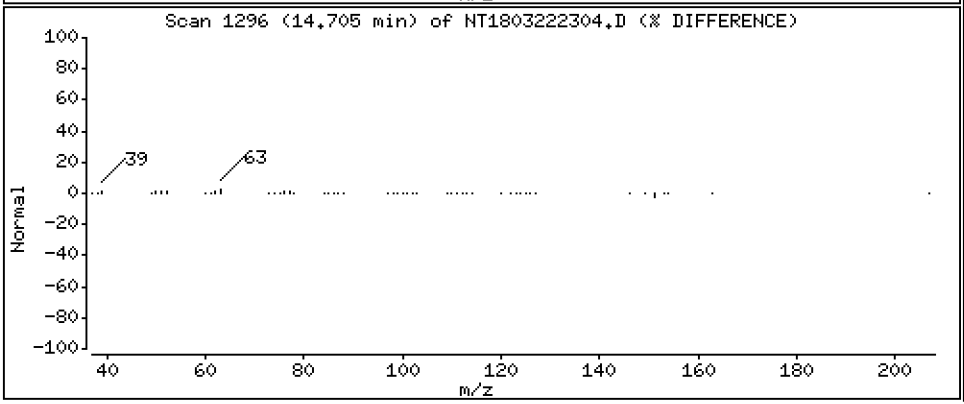
40 Acenaphthylene

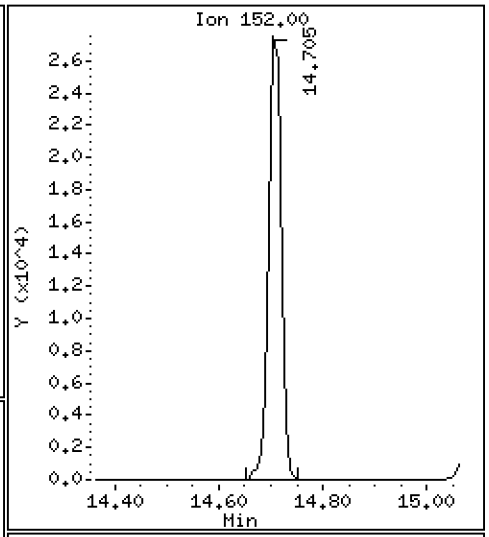
Concentration: 0.1766 ug/mL

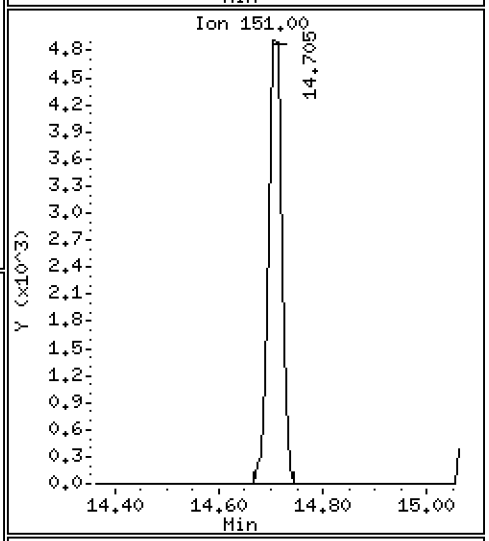


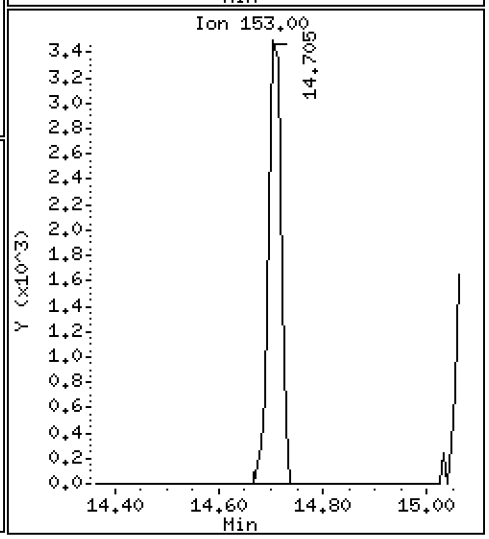












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

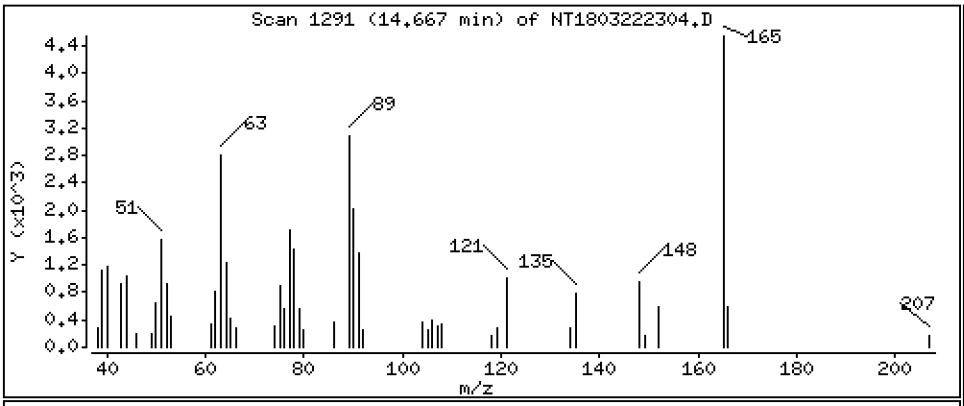
Operator: VTS

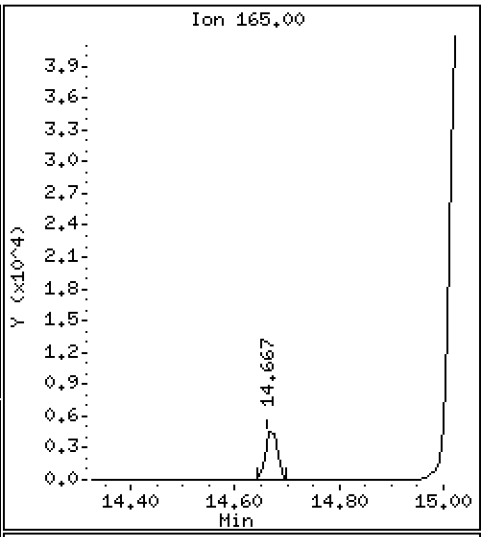
Column phase: ZB-5msi

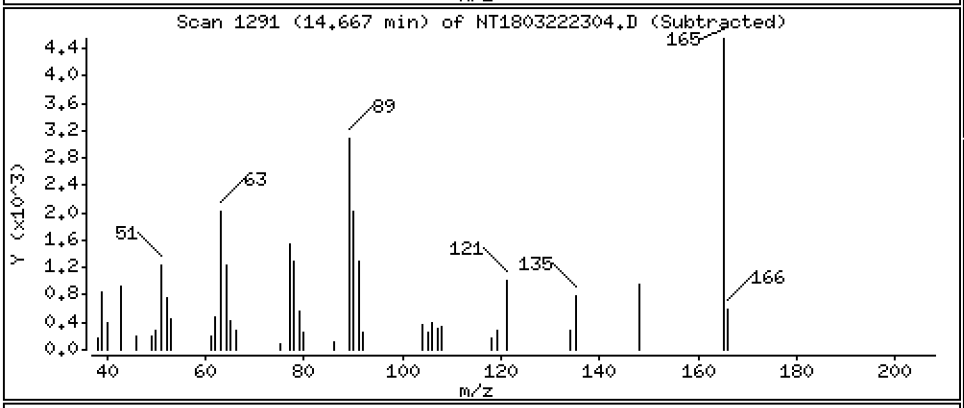
Column diameter: 0.25

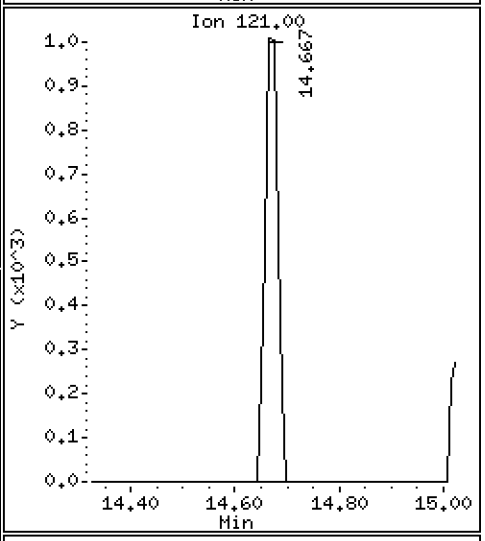
41 2,6-Dinitrotoluene

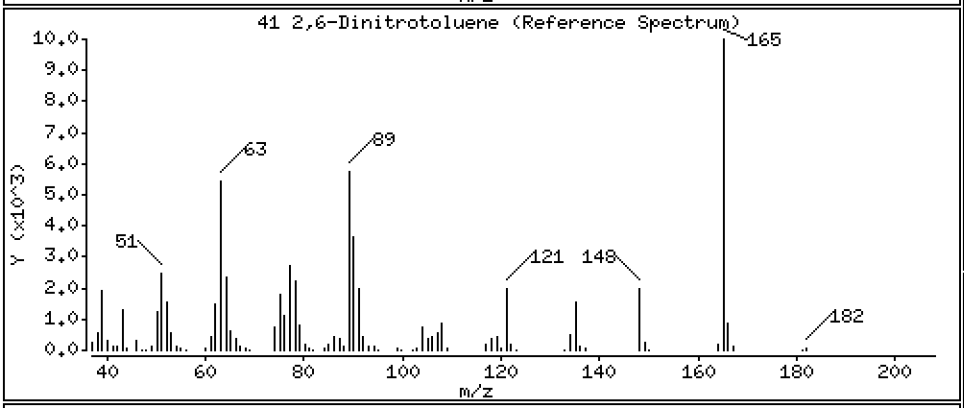
Concentration: 0.1981 ug/mL

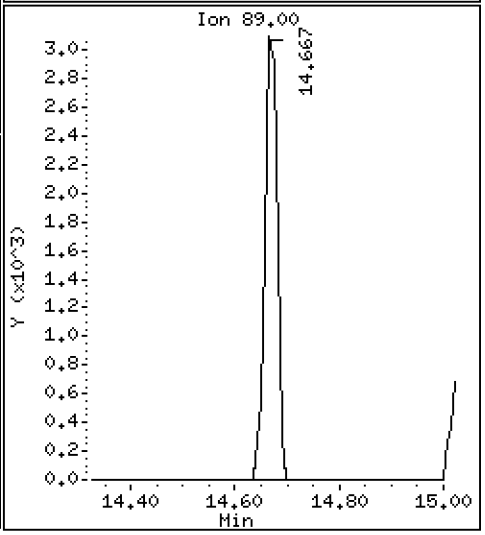


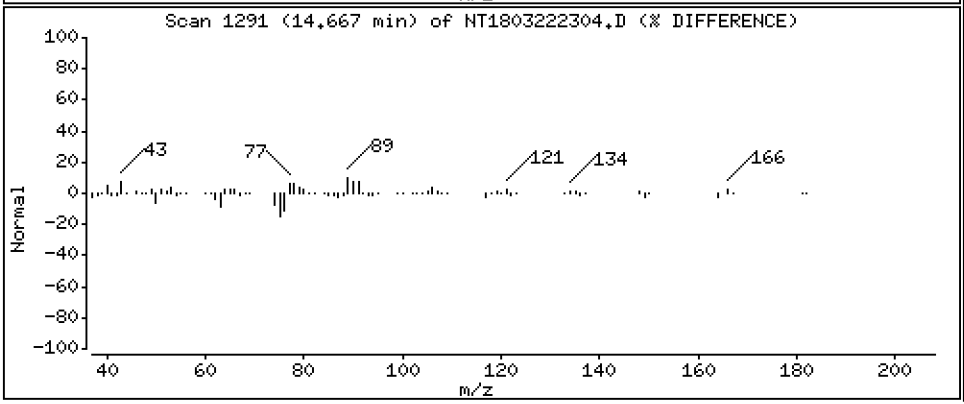












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

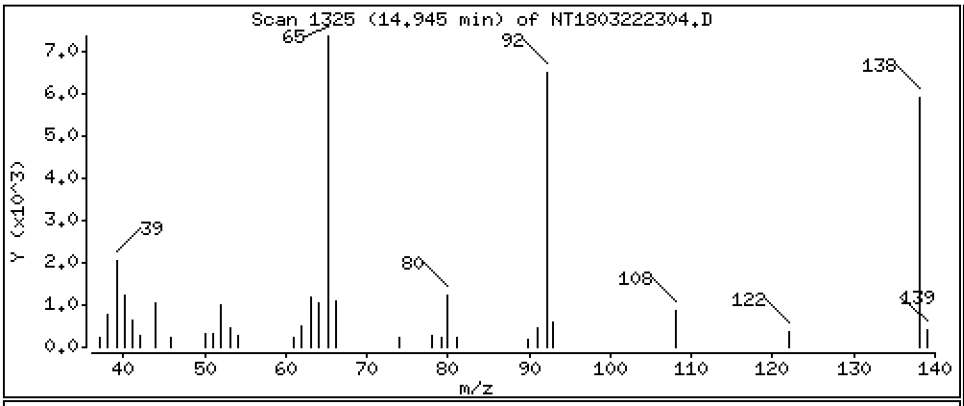
Operator: VTS

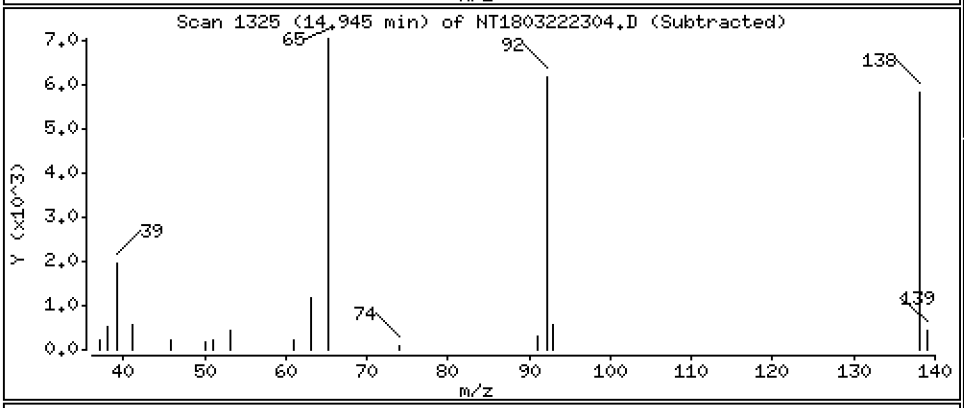
Column phase: ZB-5msi

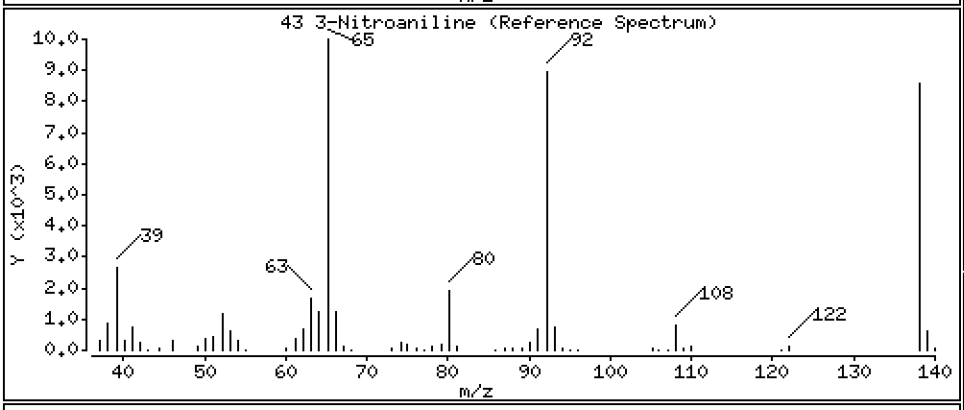
Column diameter: 0.25

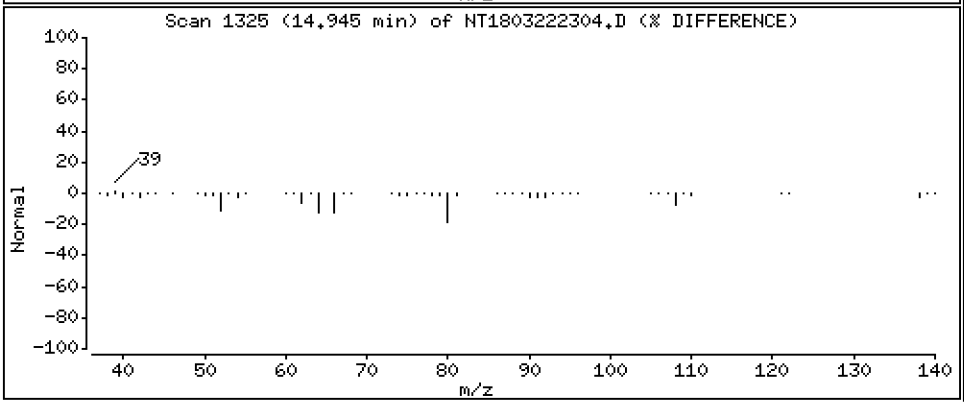
43 3-Nitroaniline

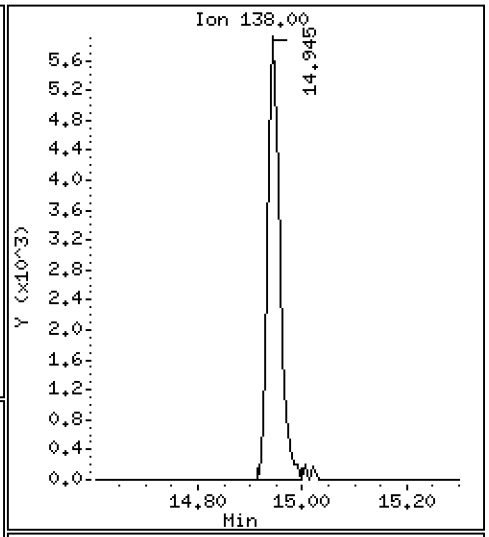
Concentration: 0.2351 ug/mL

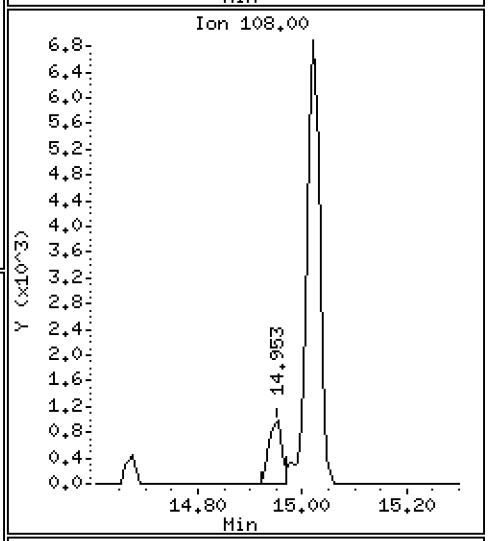


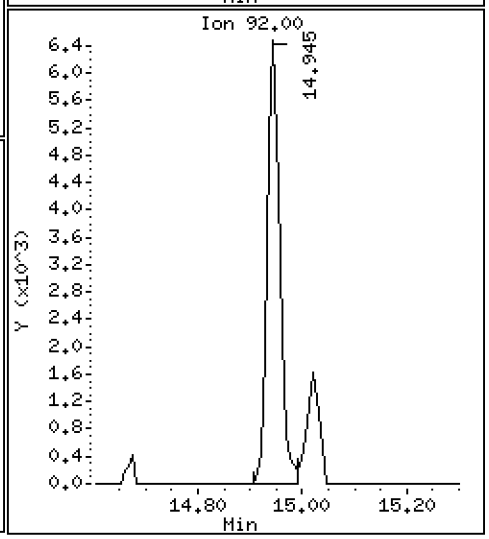












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

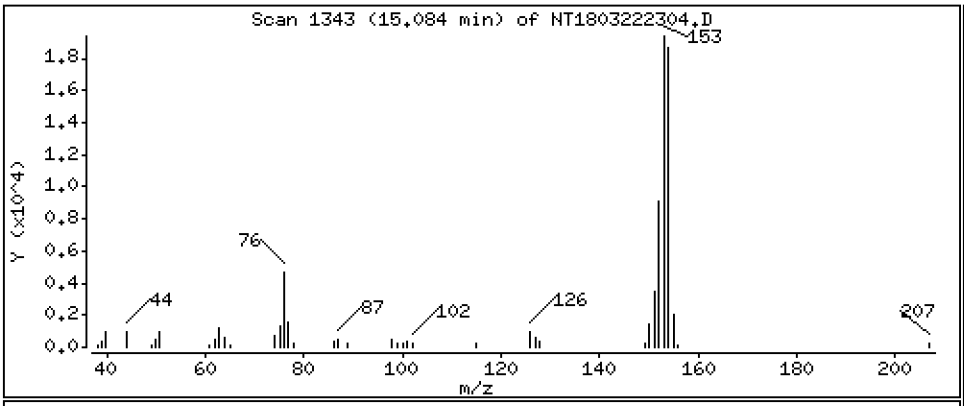
Operator: VTS

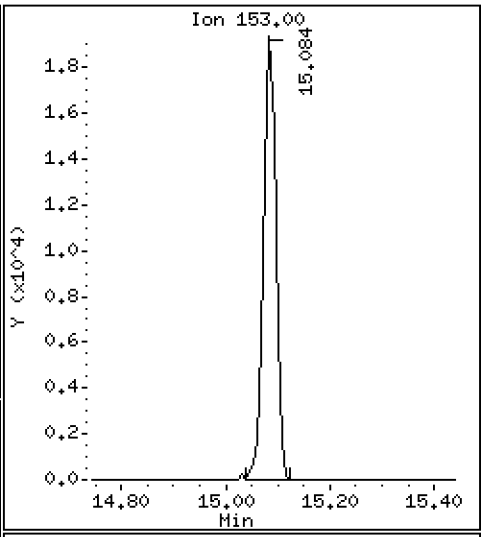
Column phase: ZB-5msi

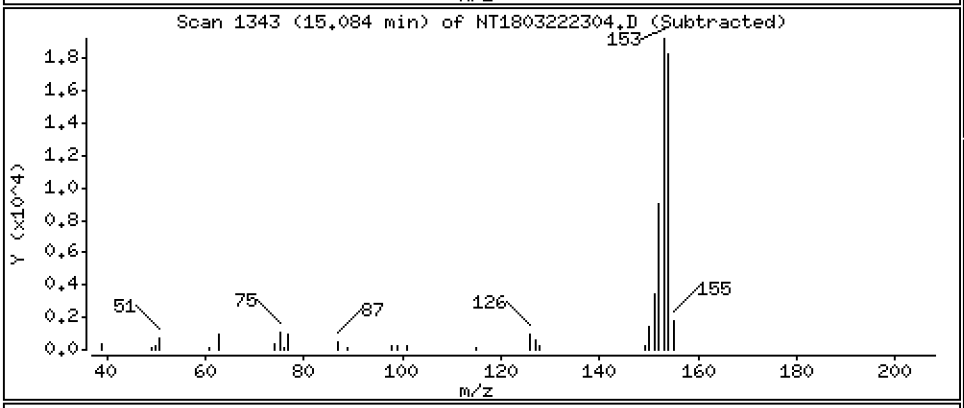
Column diameter: 0.25

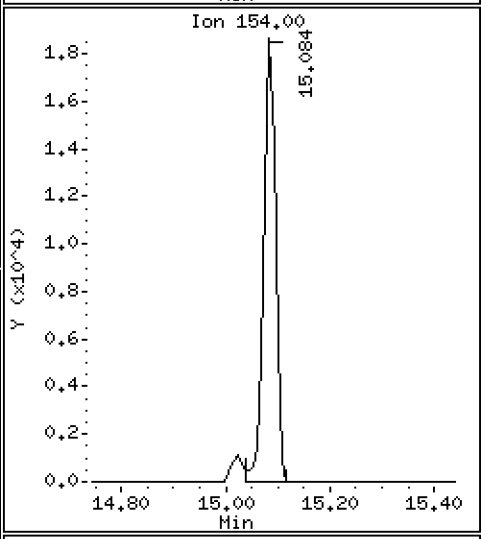
44 Acenaphthene

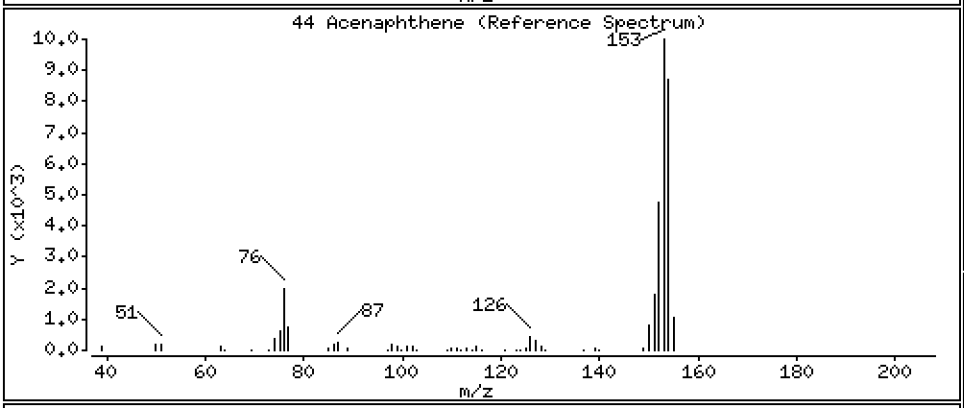
Concentration: 0.1922 ug/mL

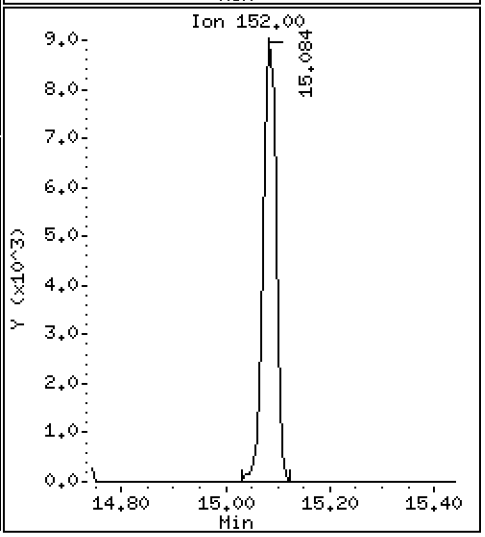


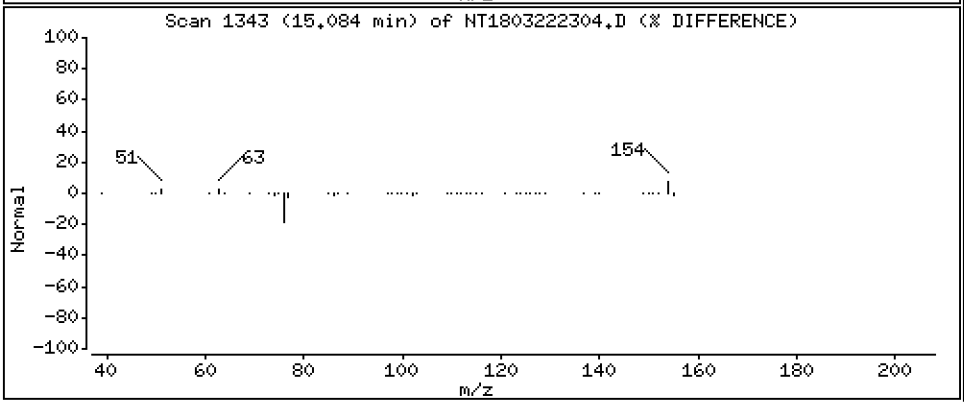












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

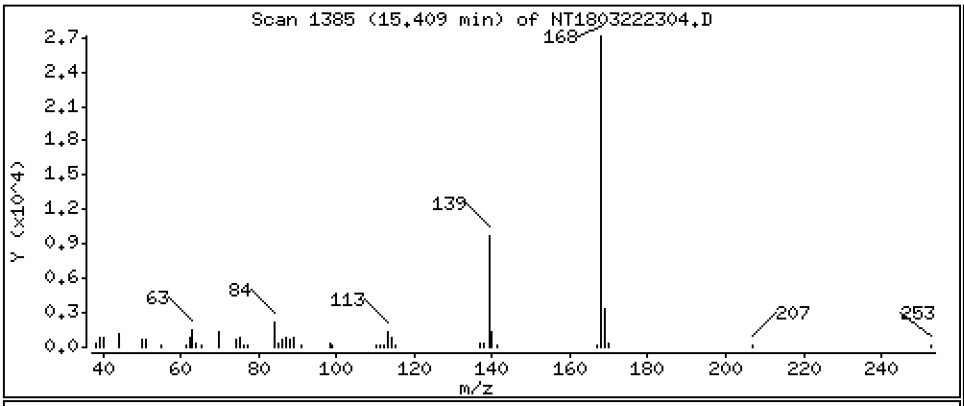
Operator: VTS

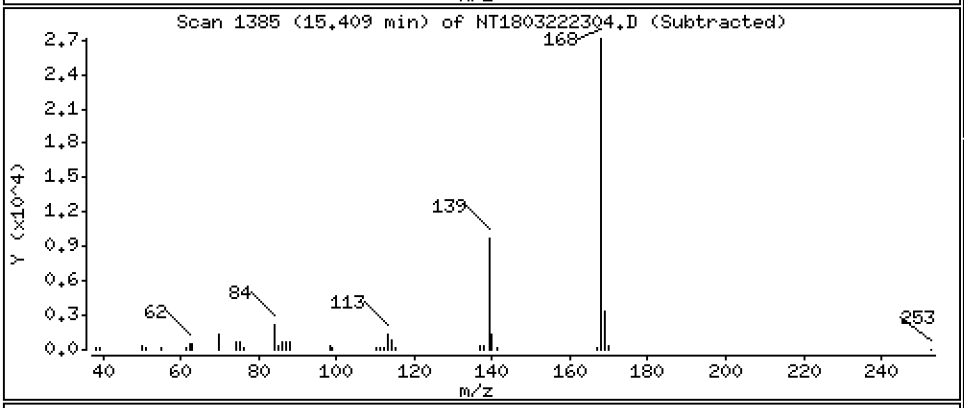
Column phase: ZB-5msi

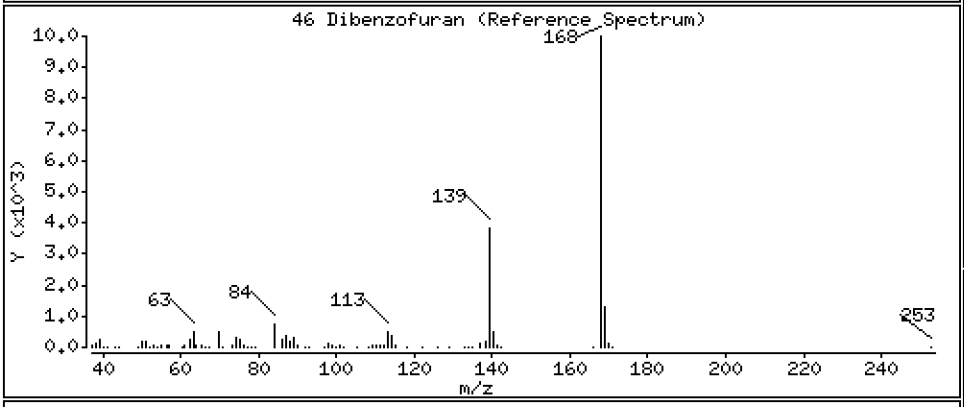
Column diameter: 0.25

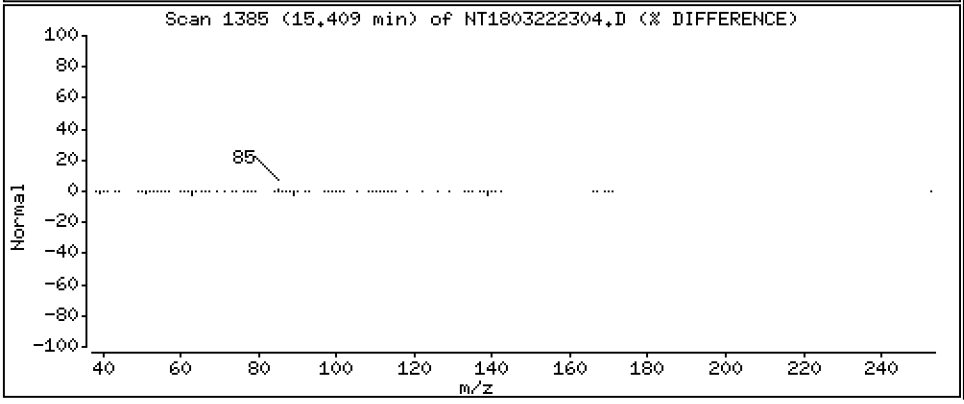
46 Dibenzofuran

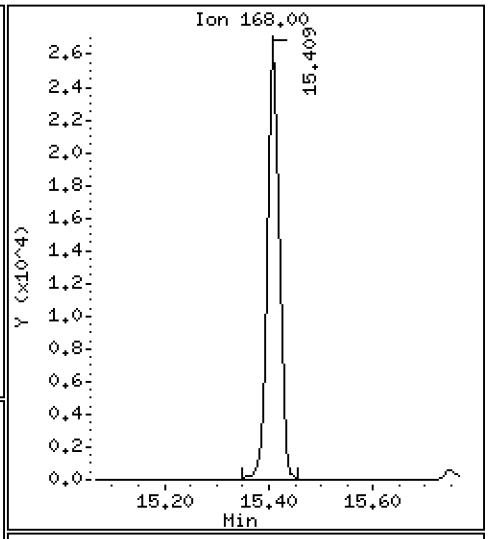
Concentration: 0.1924 ug/mL

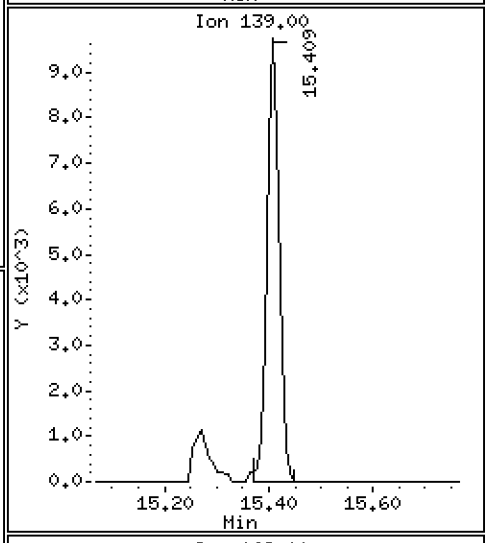


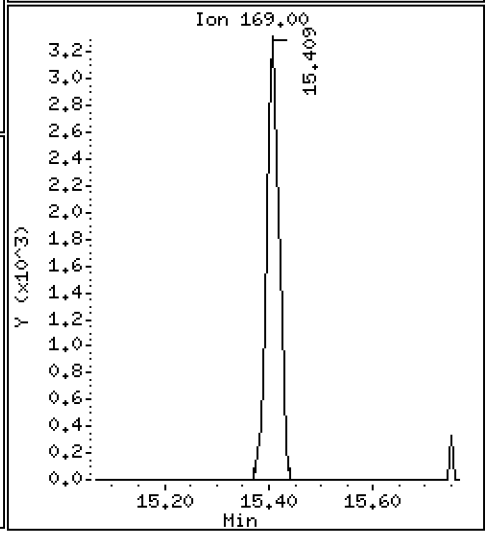












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

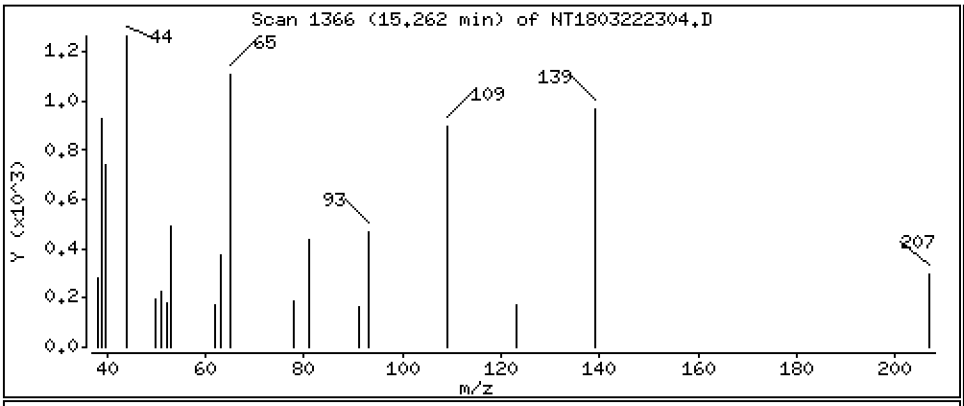
Operator: VTS

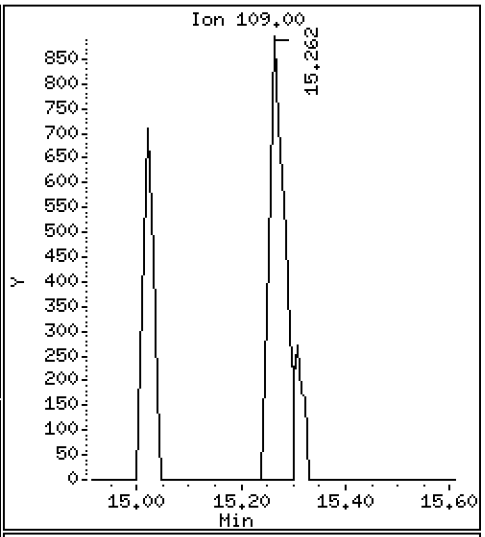
Column phase: ZB-5msi

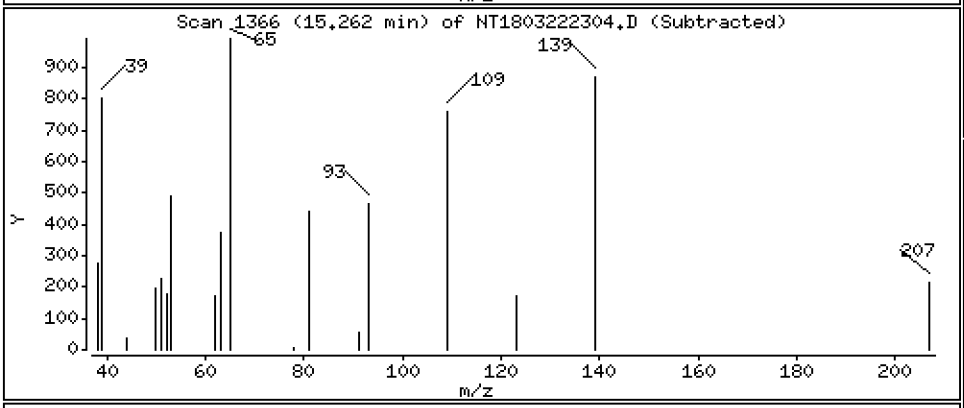
Column diameter: 0.25

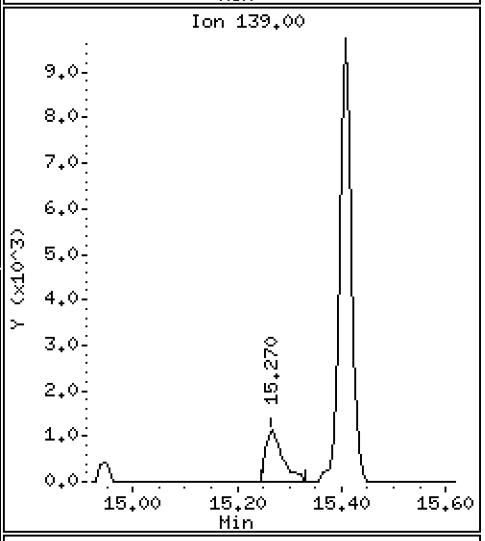
47 4-Nitrophenol

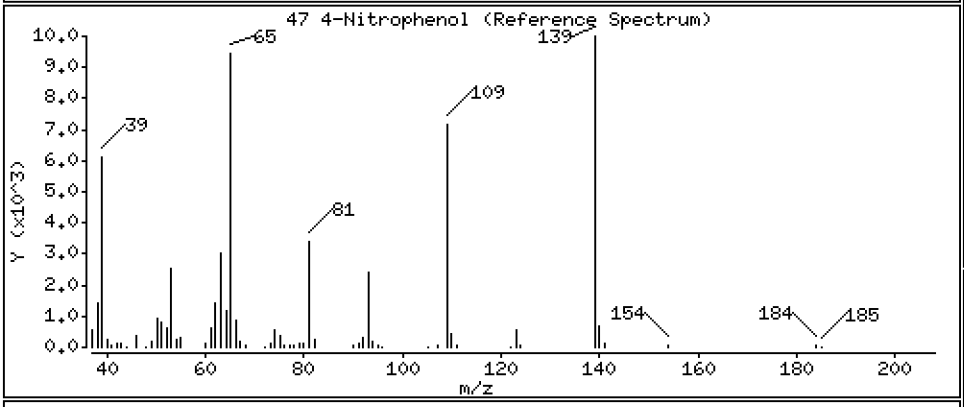
Concentration: 0.08786 ug/mL

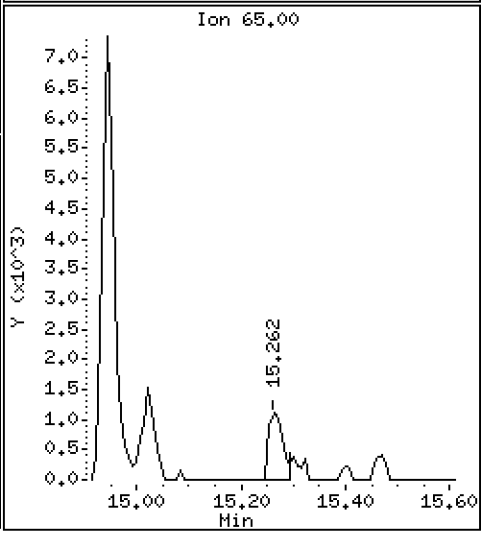


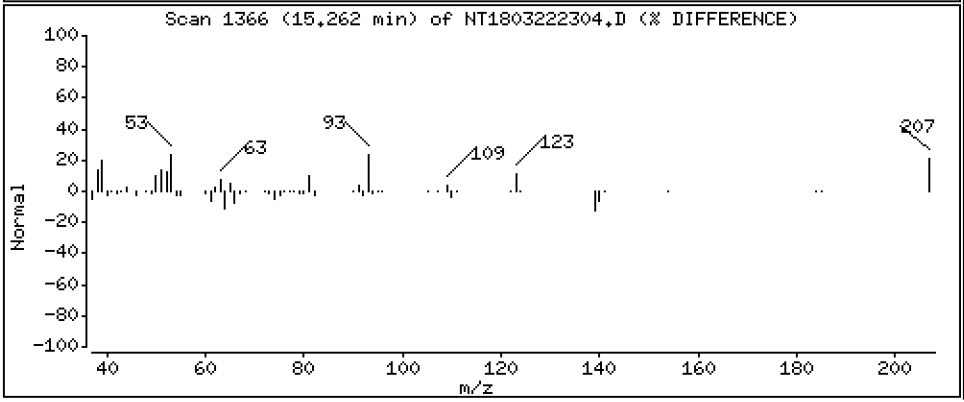












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

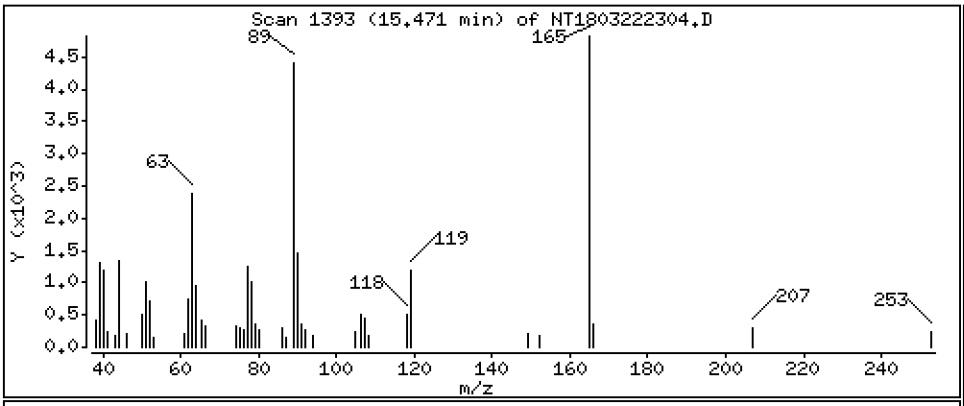
Operator: VTS

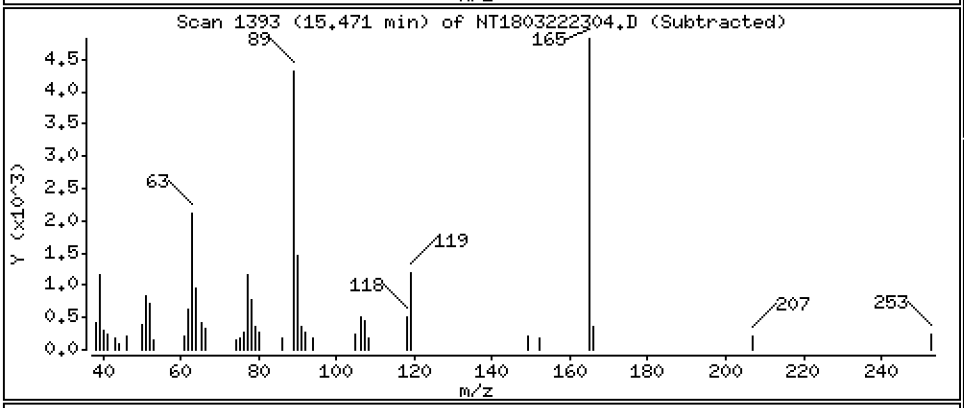
Column phase: ZB-5msi

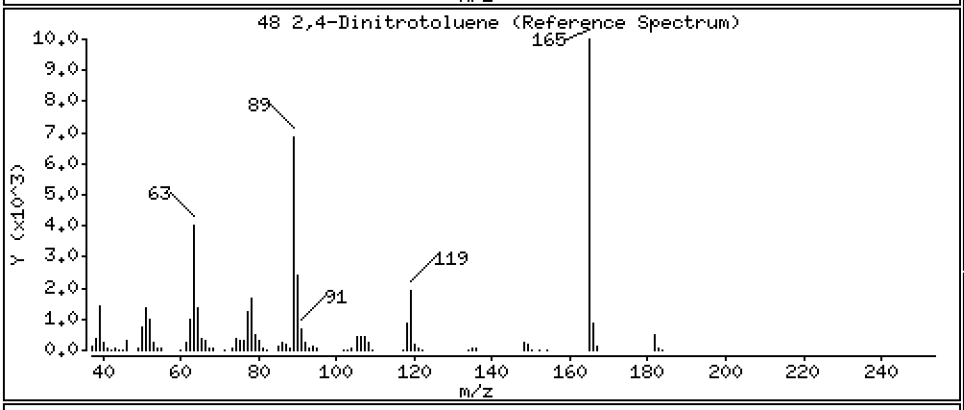
Column diameter: 0.25

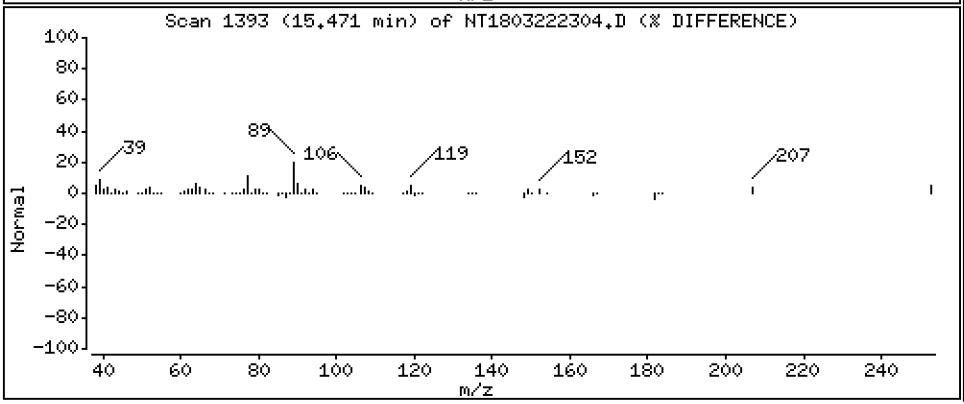
48 2,4-Dinitrotoluene

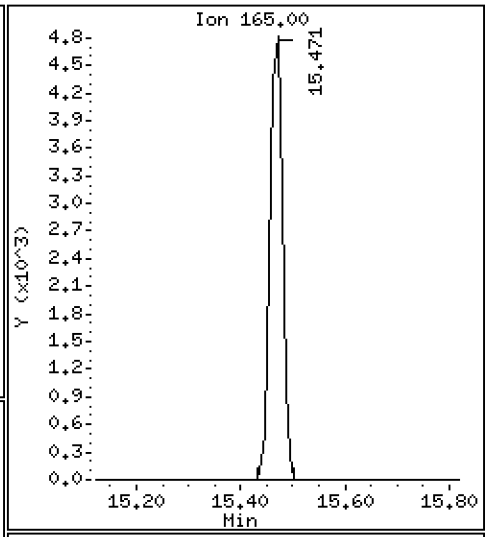
Concentration: 0.1711 ug/mL

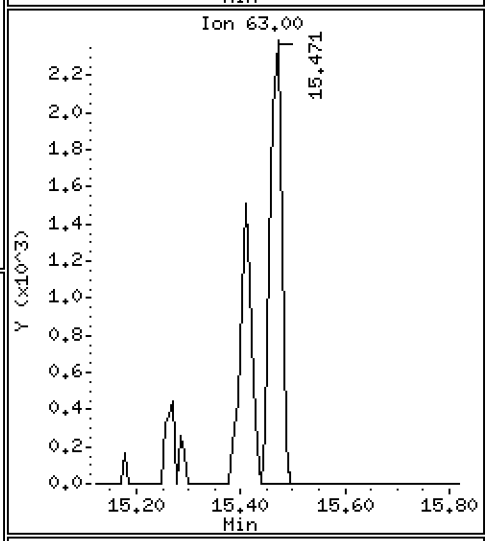


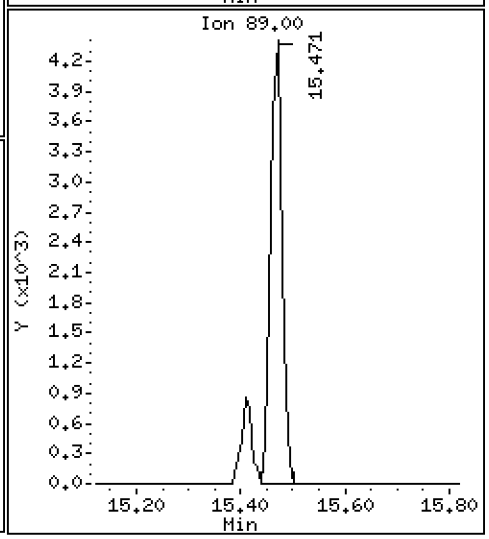












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

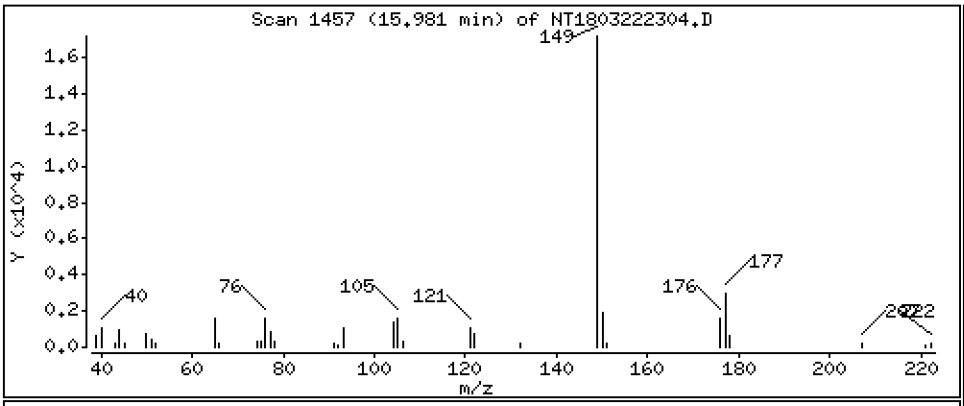
Operator: VTS

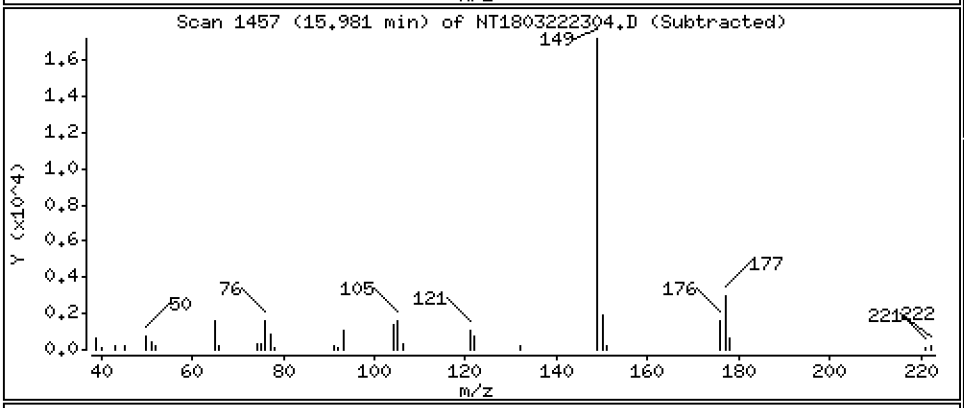
Column phase: ZB-5msi

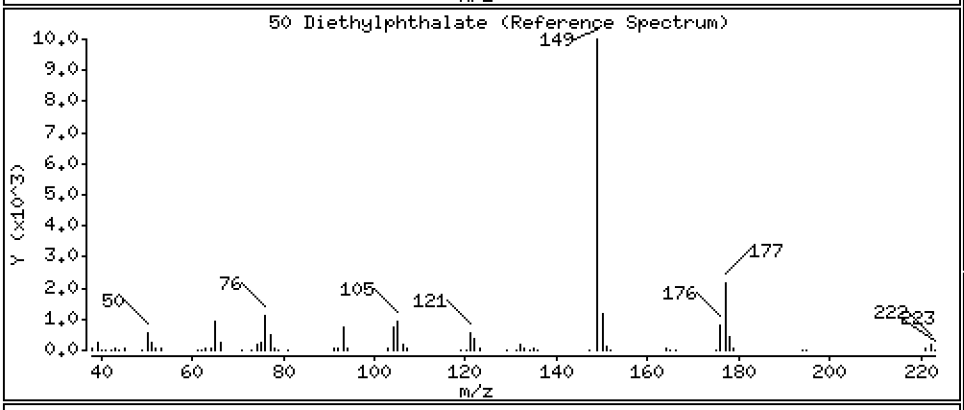
Column diameter: 0.25

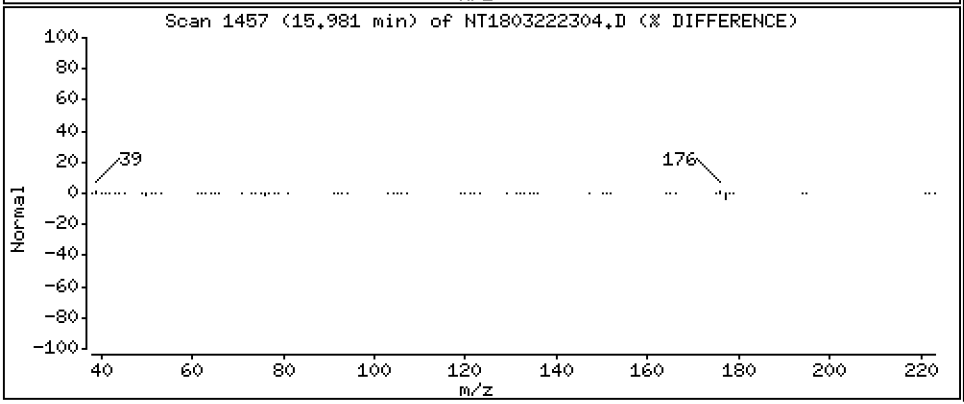
50 Diethylphthalate

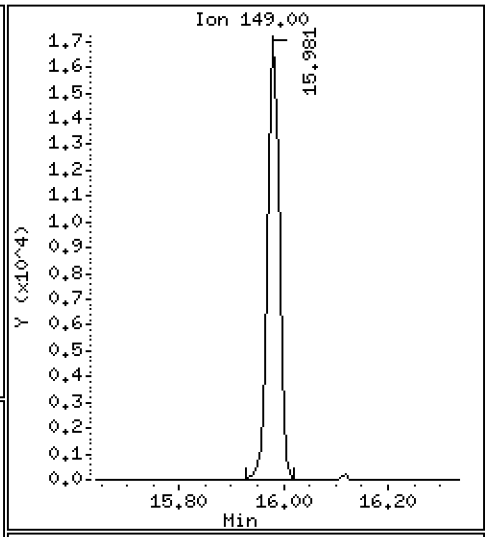
Concentration: 0.1634 ug/mL

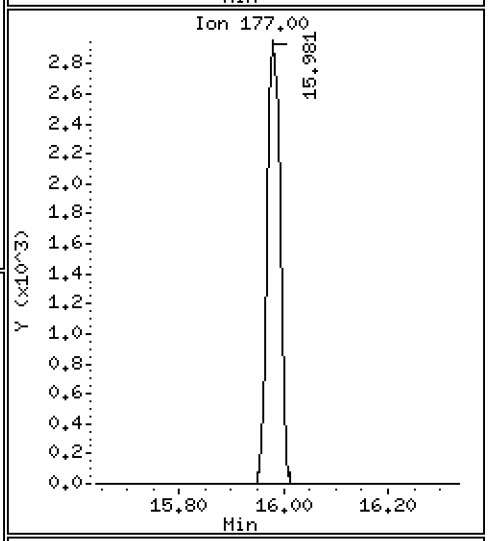


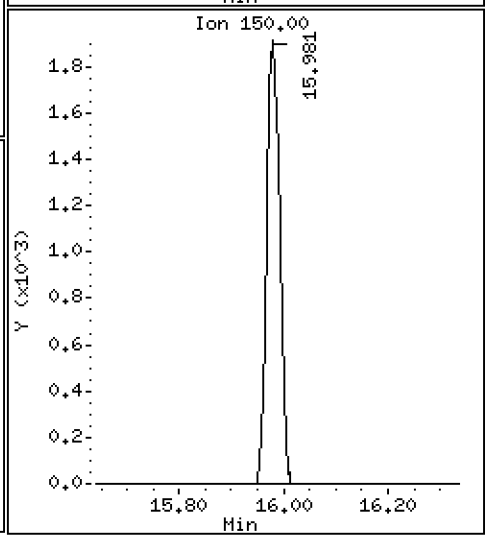












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

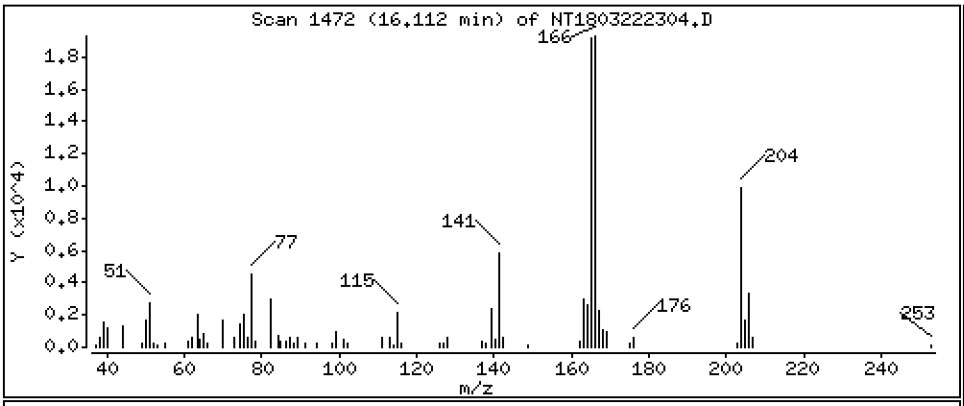
Operator: VTS

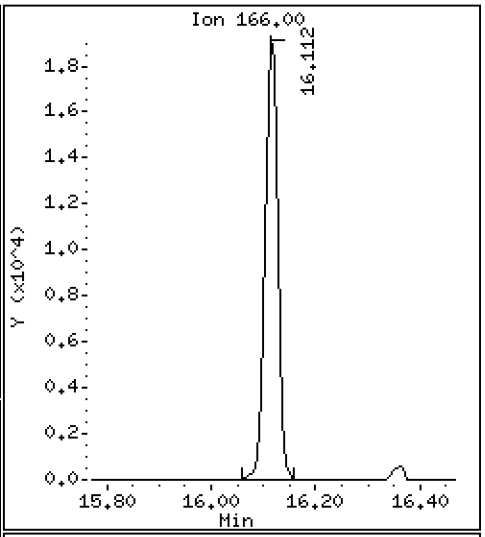
Column phase: ZB-5msi

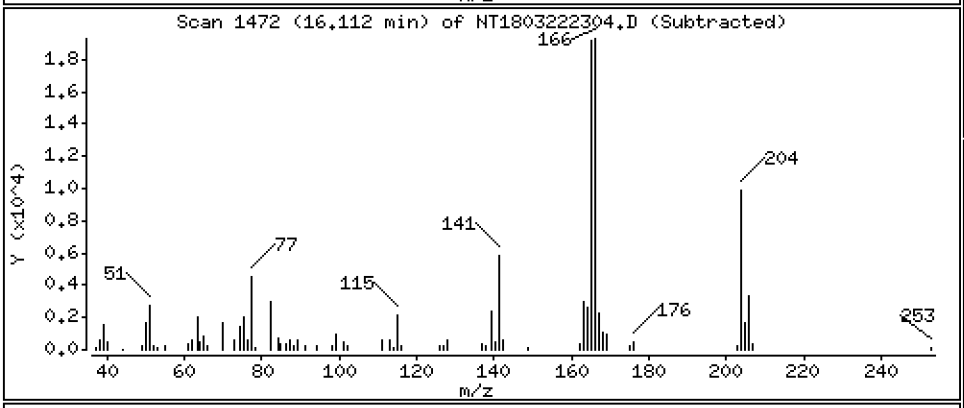
Column diameter: 0.25

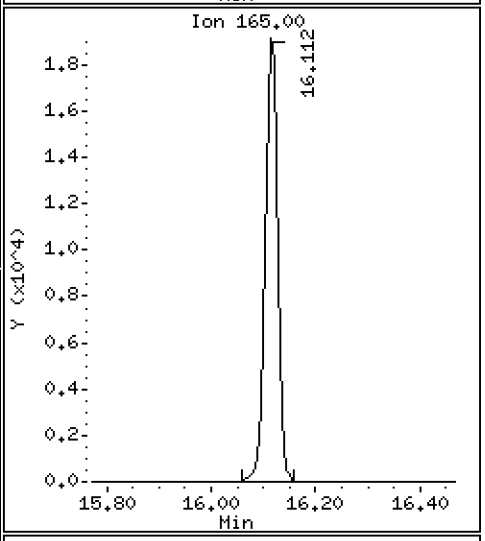
49 Fluorene

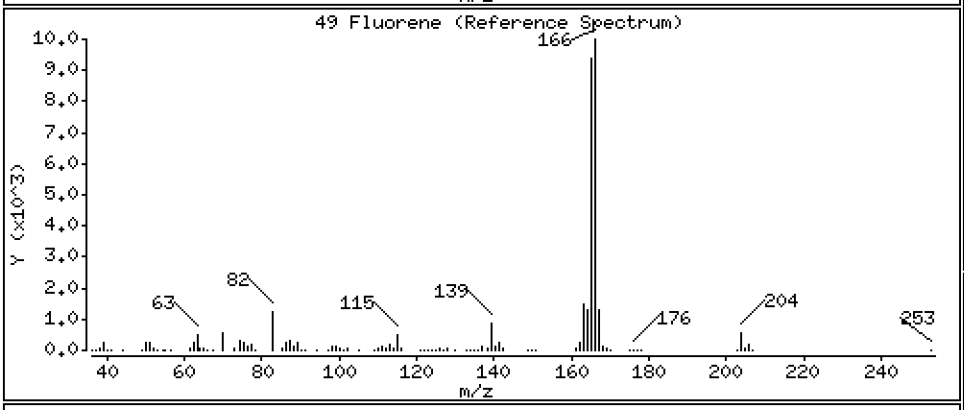
Concentration: 0.1865 ug/mL

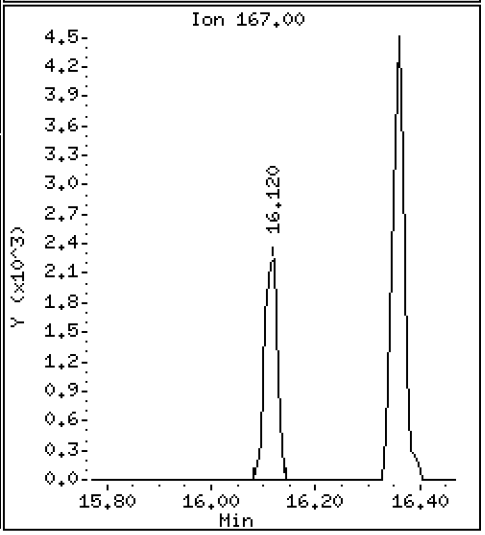


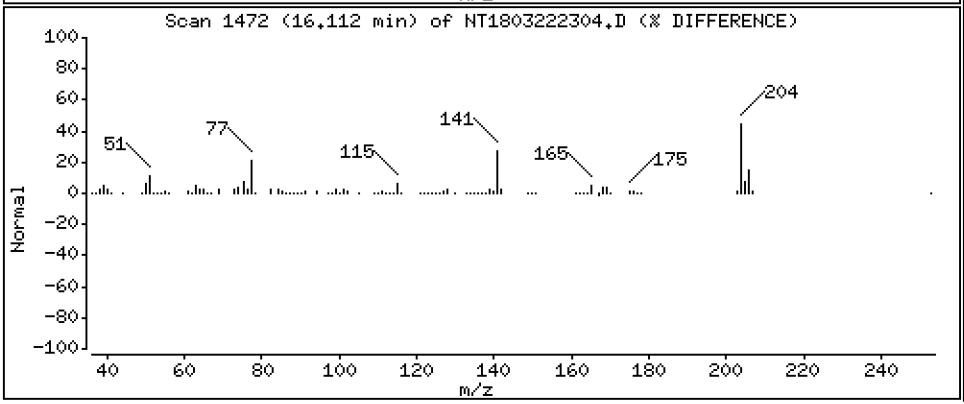












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

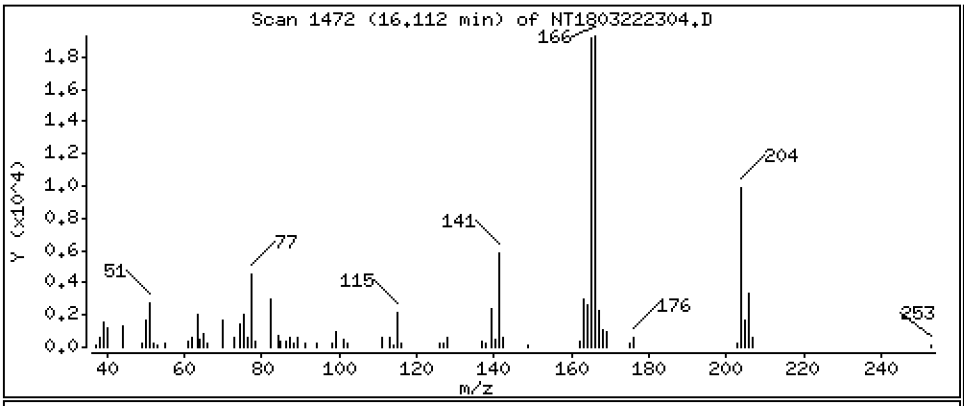
Operator: VTS

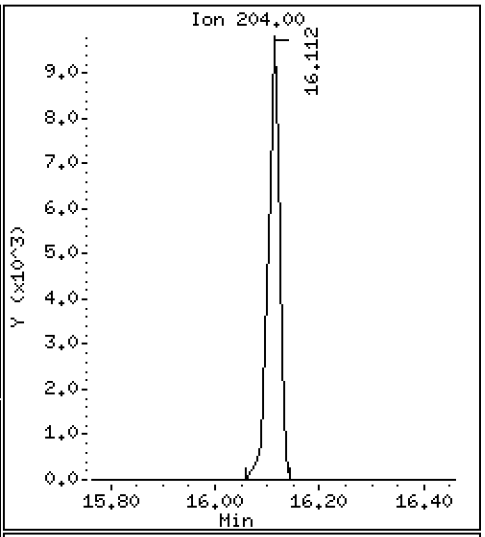
Column phase: ZB-5msi

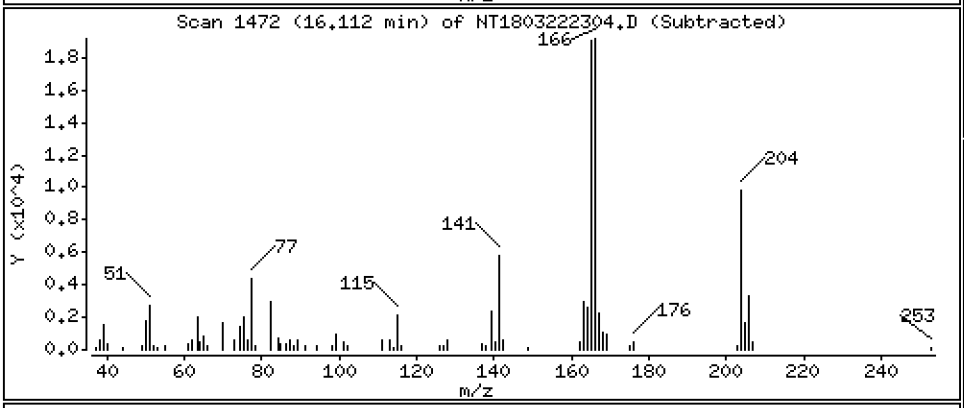
Column diameter: 0.25

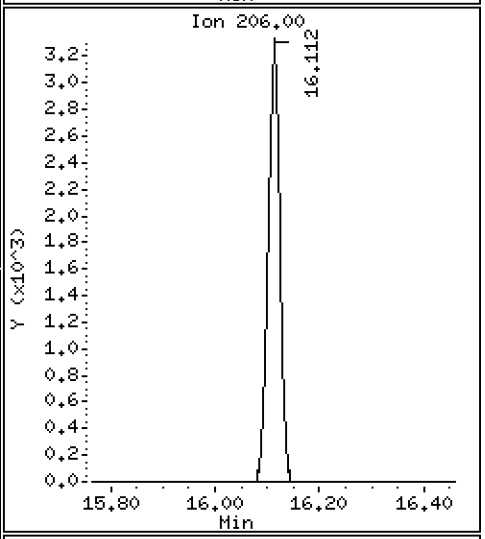
51 4-Chlorophenyl-phenylether

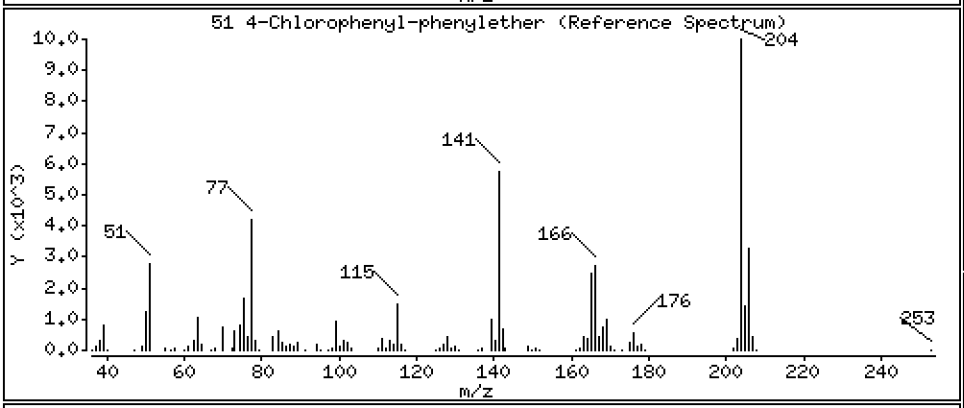
Concentration: 0.2029 ug/mL

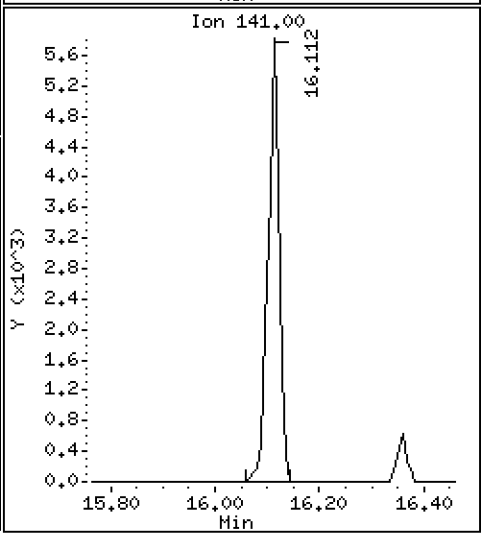


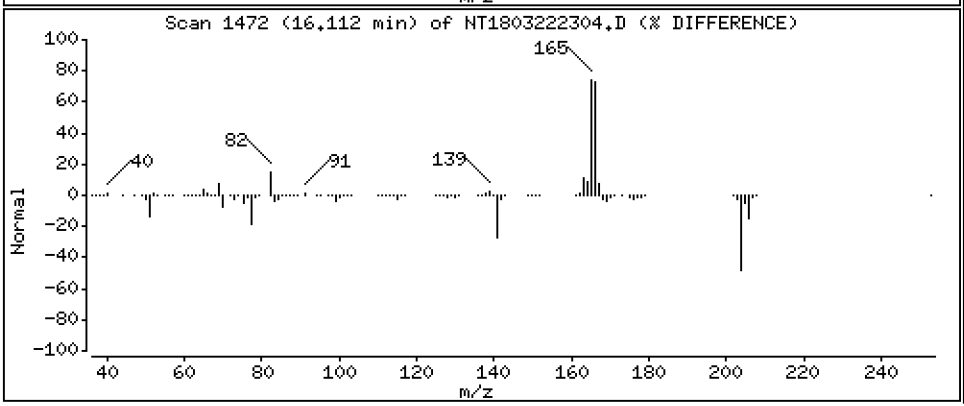












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

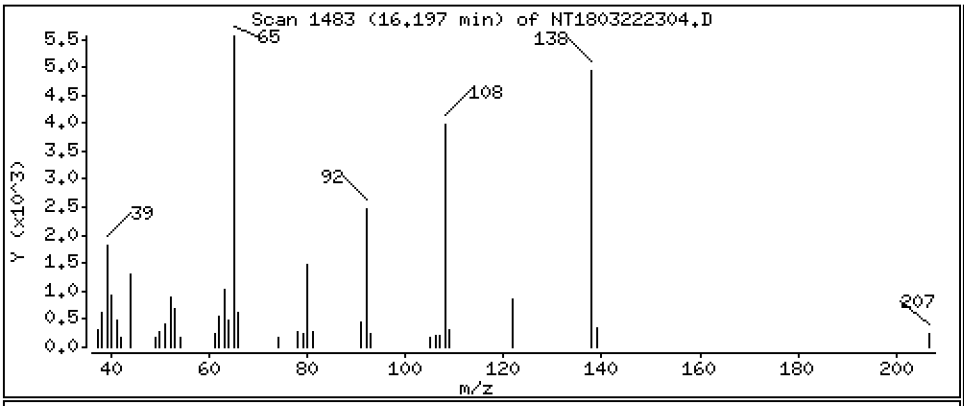
Operator: VTS

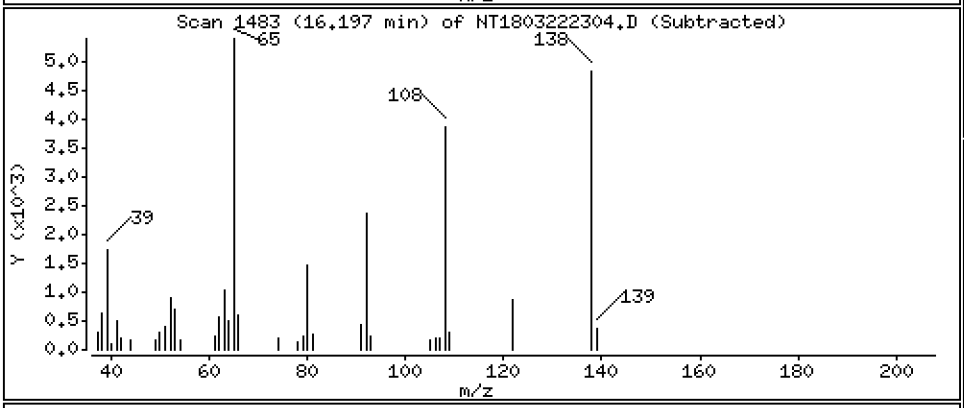
Column phase: ZB-5msi

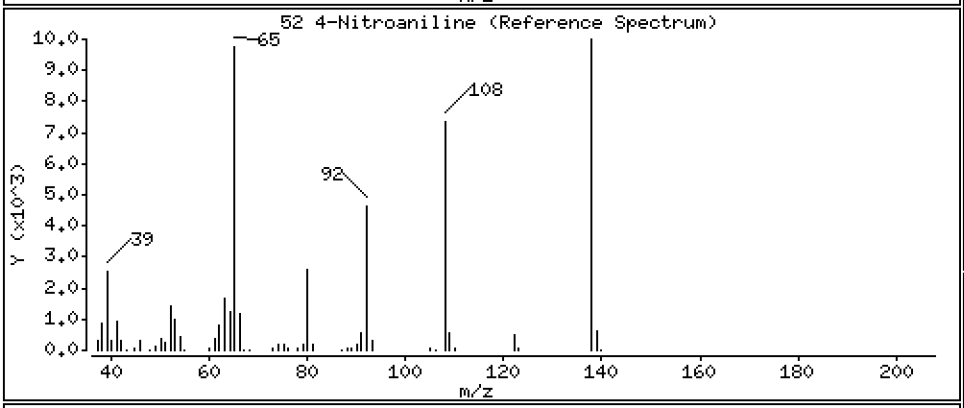
Column diameter: 0.25

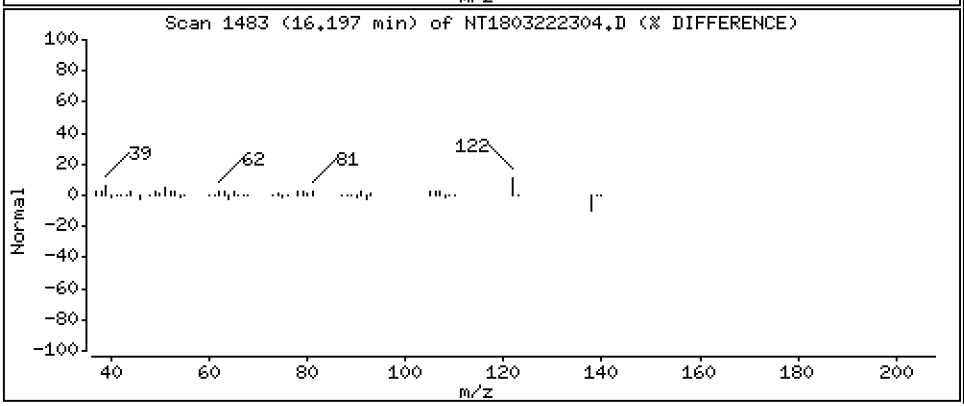
52 4-Nitroaniline

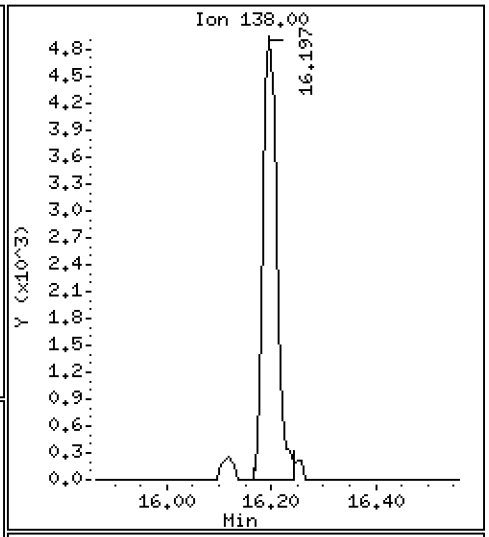
Concentration: 0.2261 ug/mL

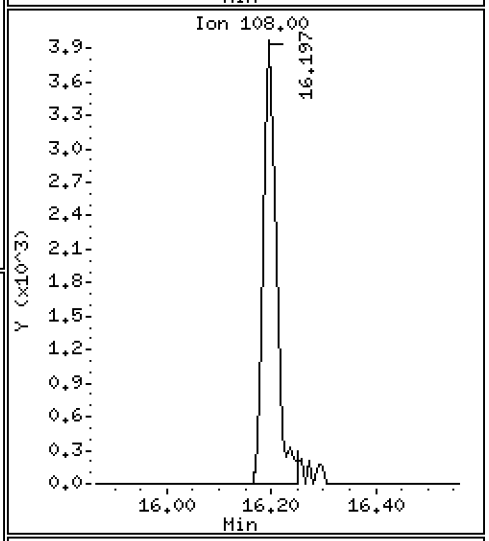


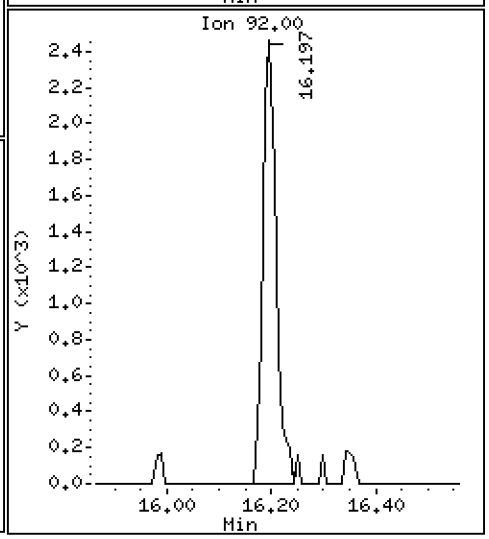












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

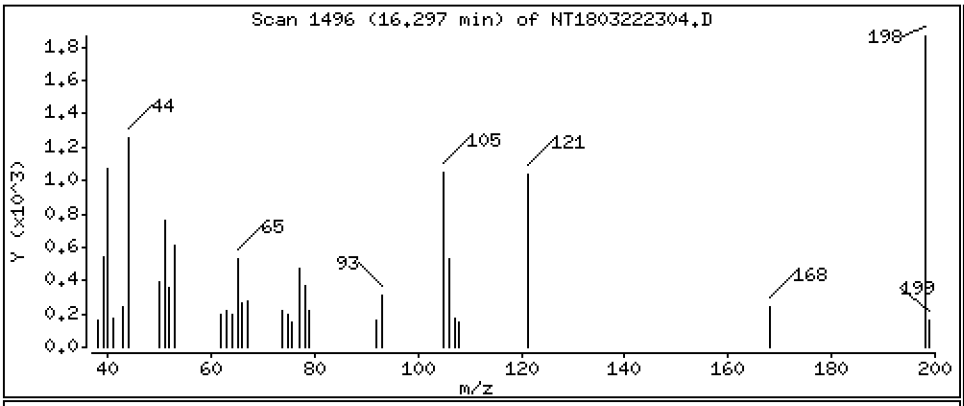
Operator: VTS

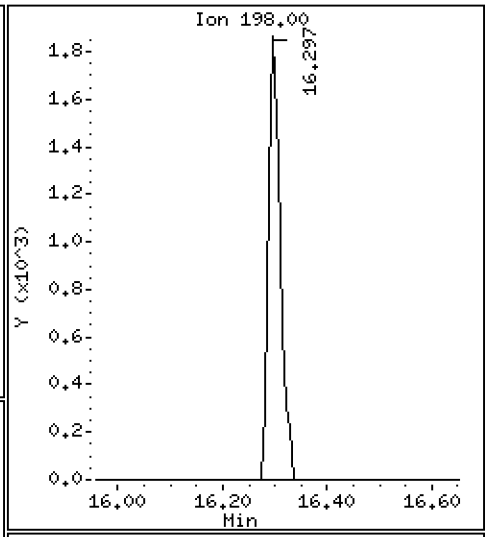
Column phase: ZB-5msi

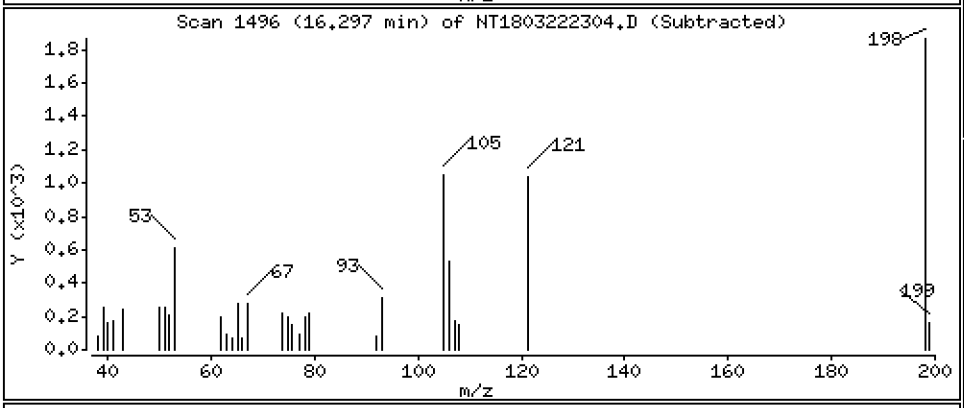
Column diameter: 0.25

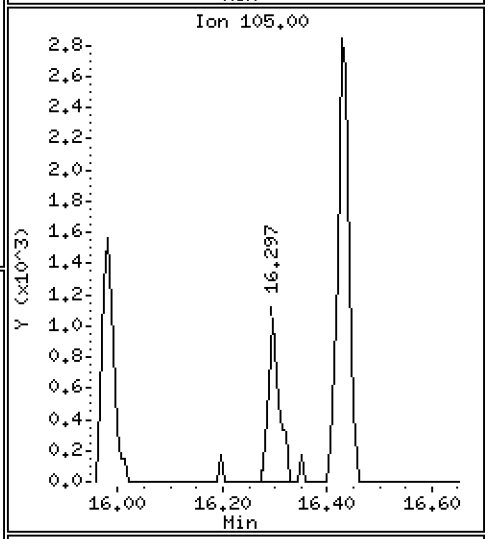
53 4,6-Dinitro-2-methylphenol

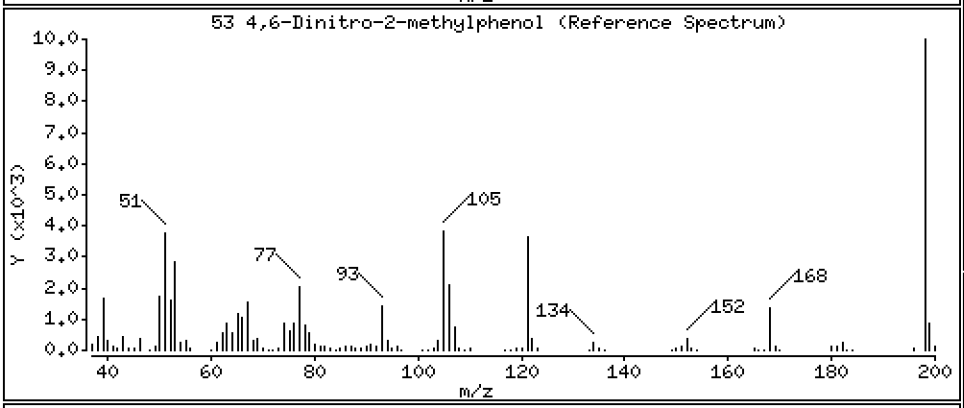
Concentration: 0.1111 ug/mL

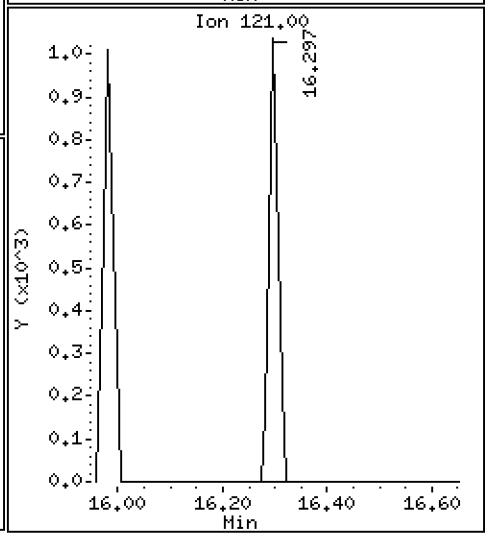


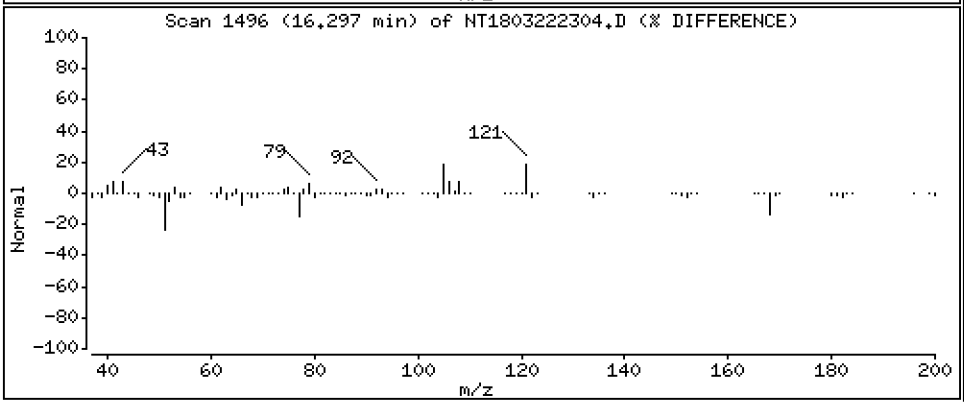












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

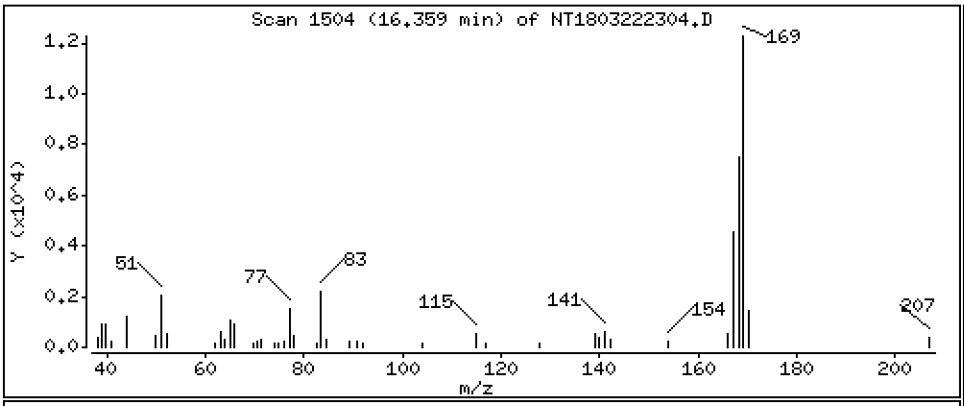
Operator: VTS

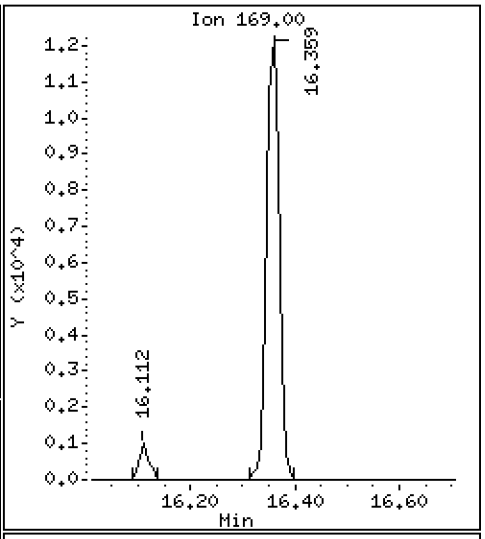
Column phase: ZB-5msi

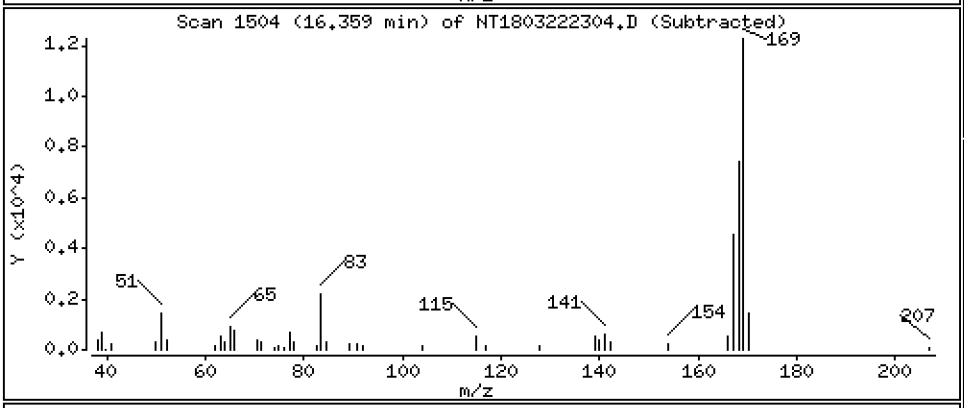
Column diameter: 0.25

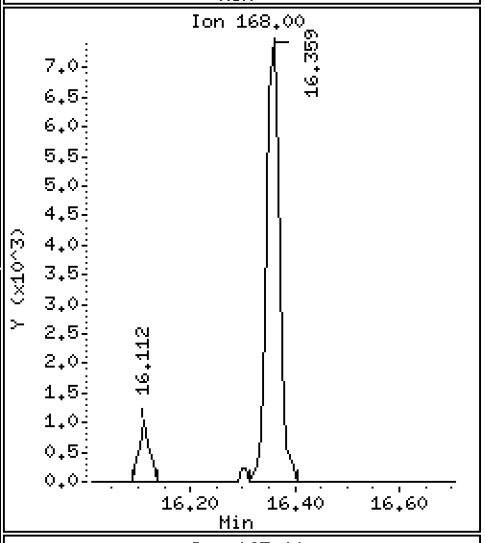
54 N-Nitrosodiphenylamine

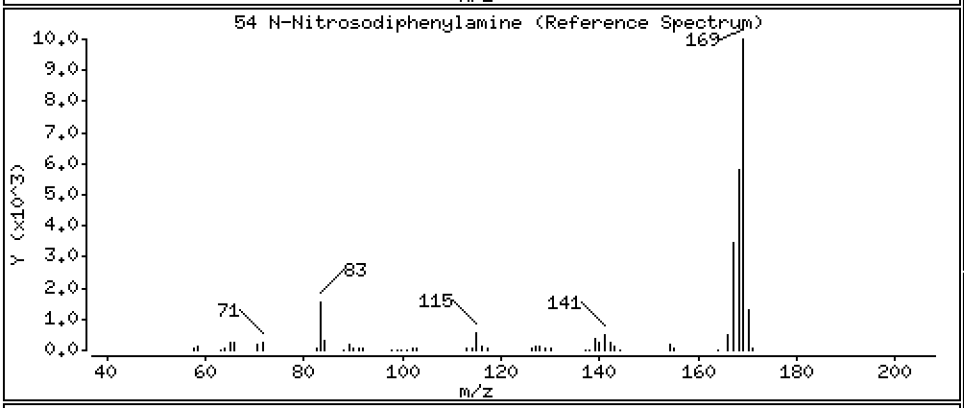
Concentration: 0.1740 ug/mL

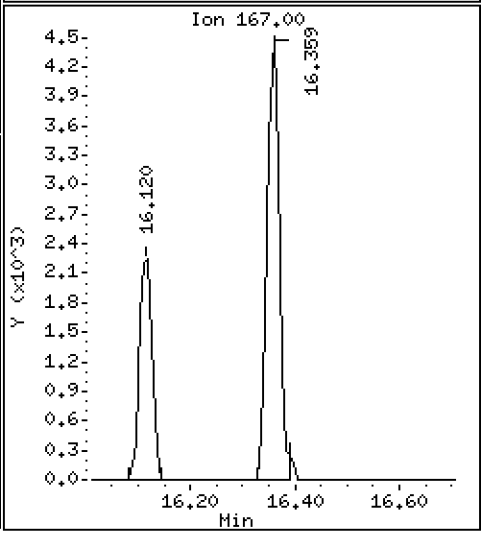


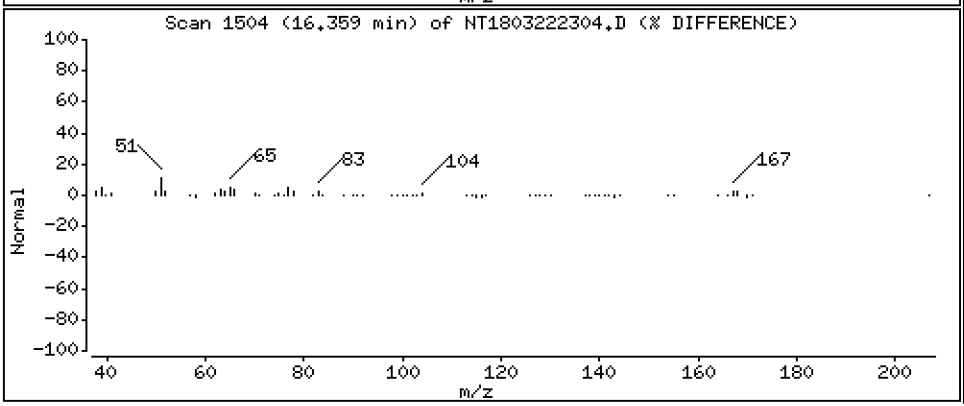












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

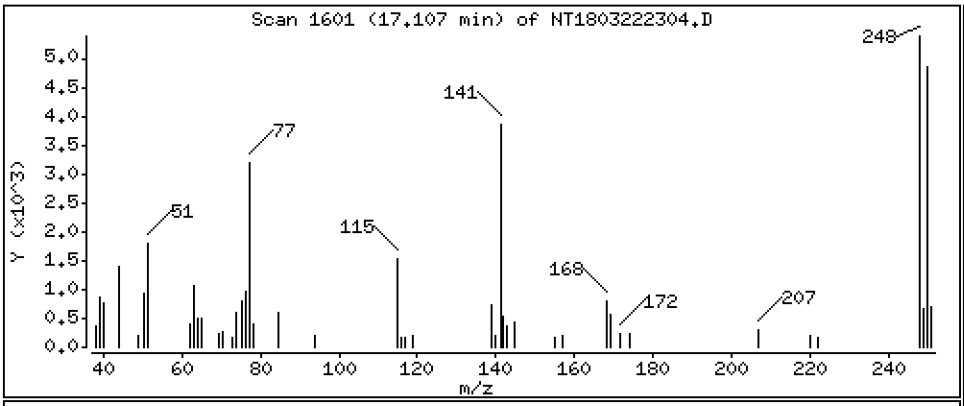
Operator: VTS

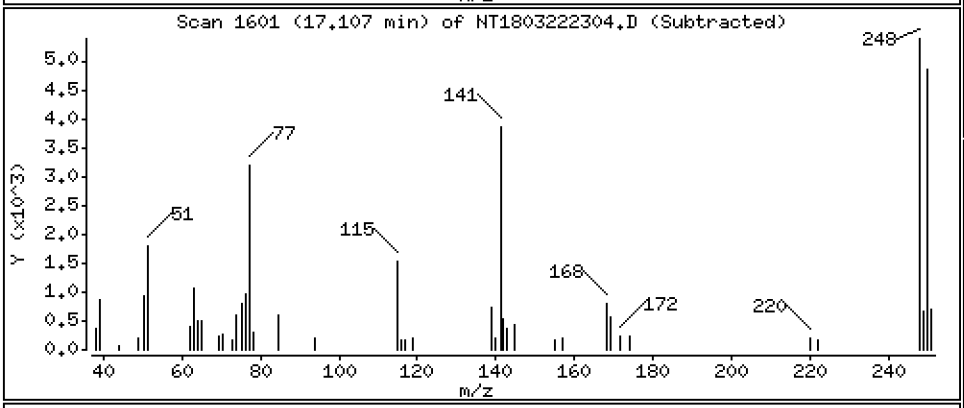
Column phase: ZB-5msi

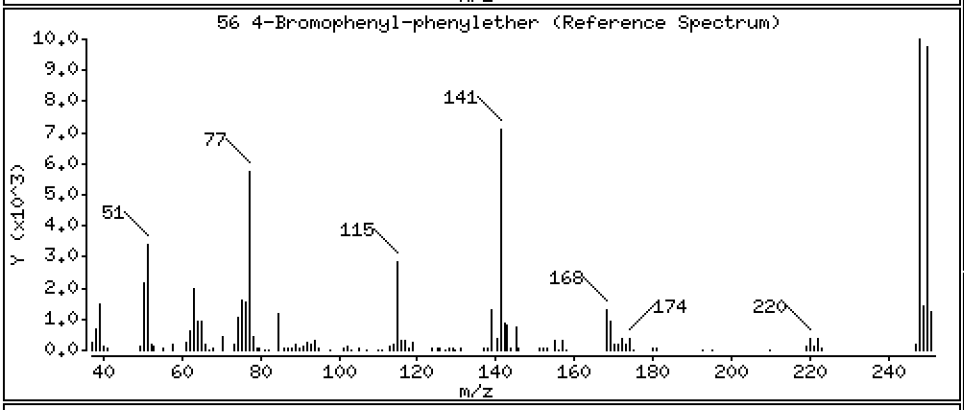
Column diameter: 0.25

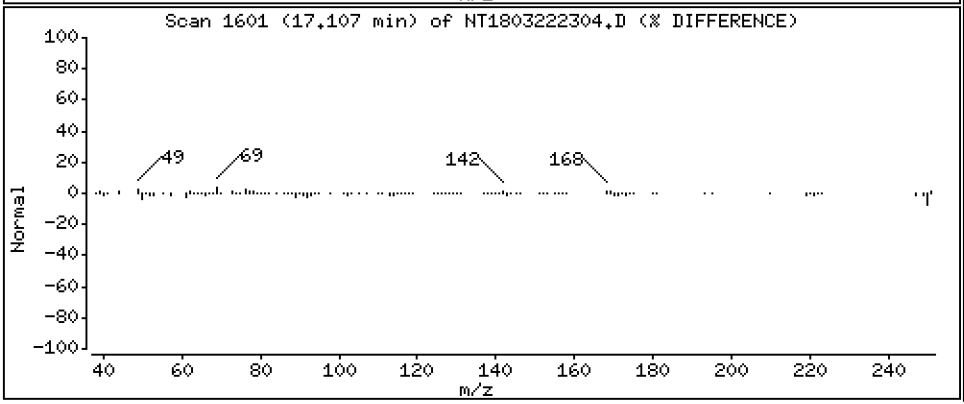
56 4-Bromophenyl-phenylether

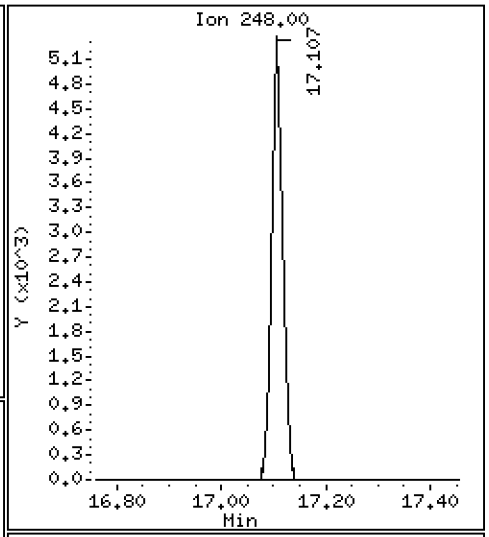
Concentration: 0.1707 ug/mL

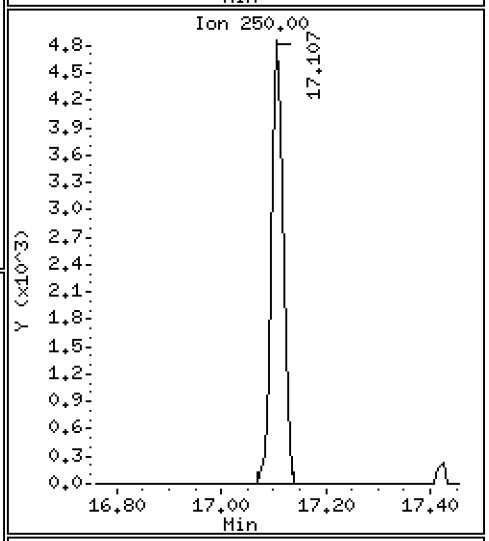


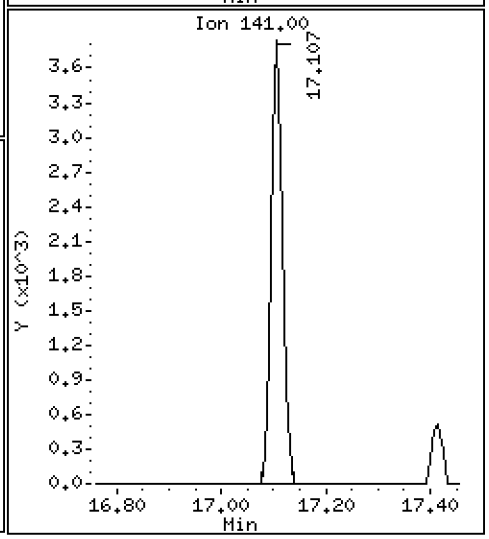












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

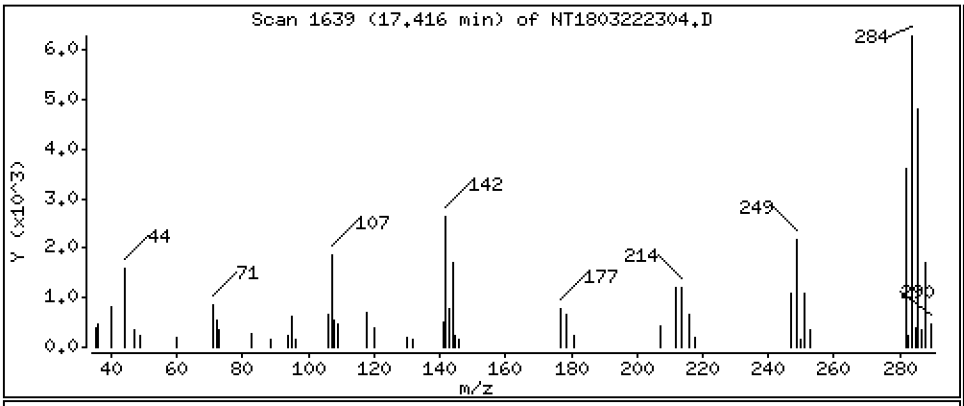
Operator: VTS

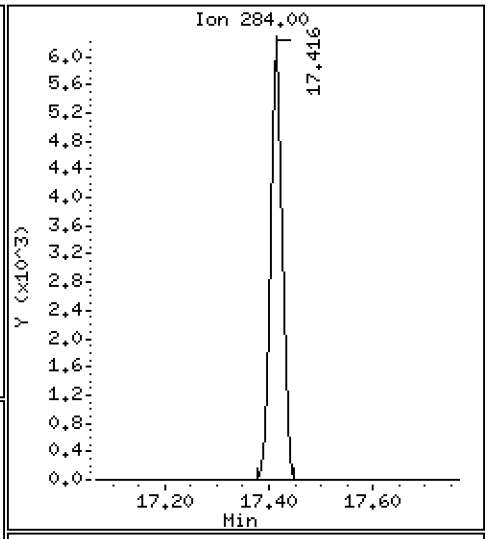
Column phase: ZB-5msi

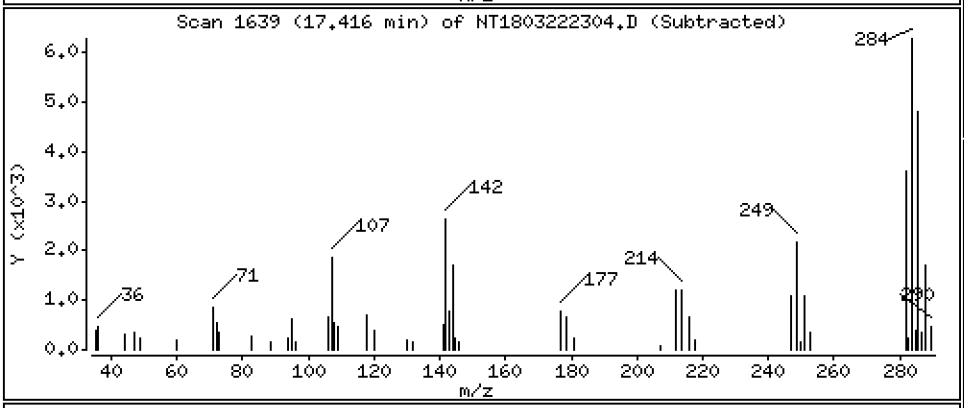
Column diameter: 0.25

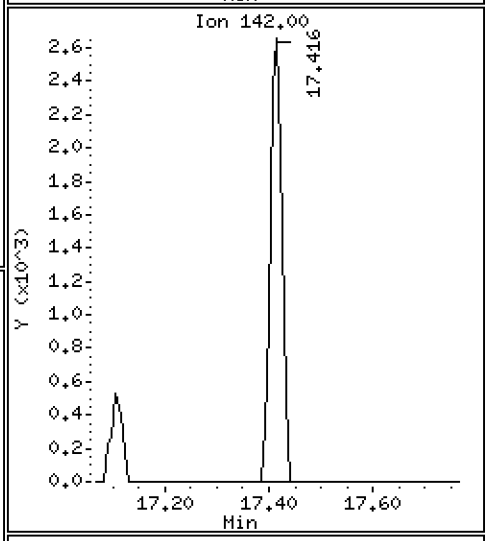
57 Hexachlorobenzene

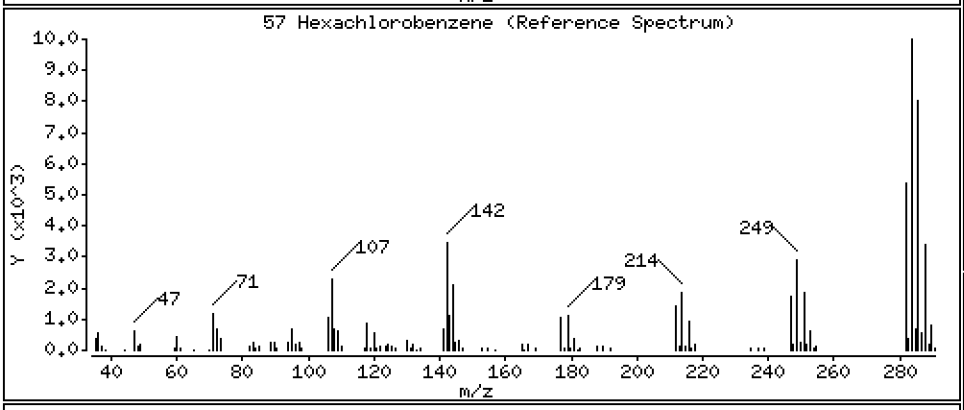
Concentration: 0.1908 ug/mL

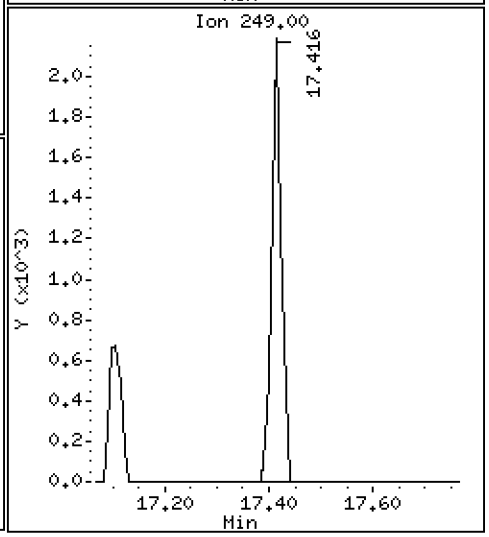


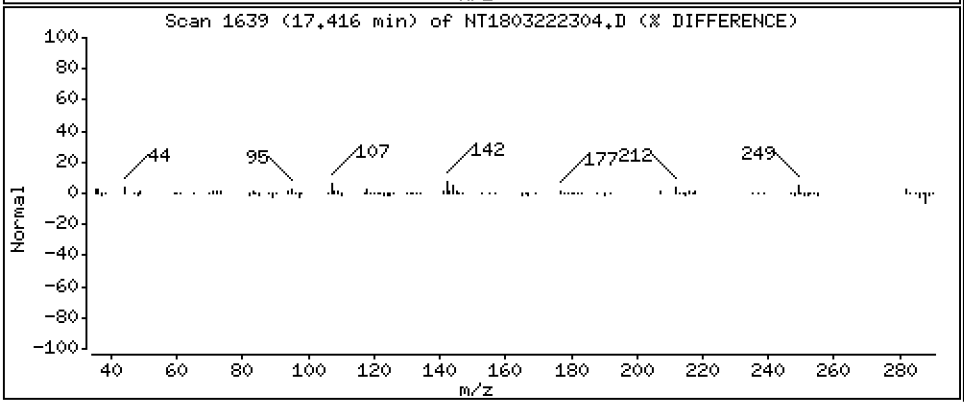












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

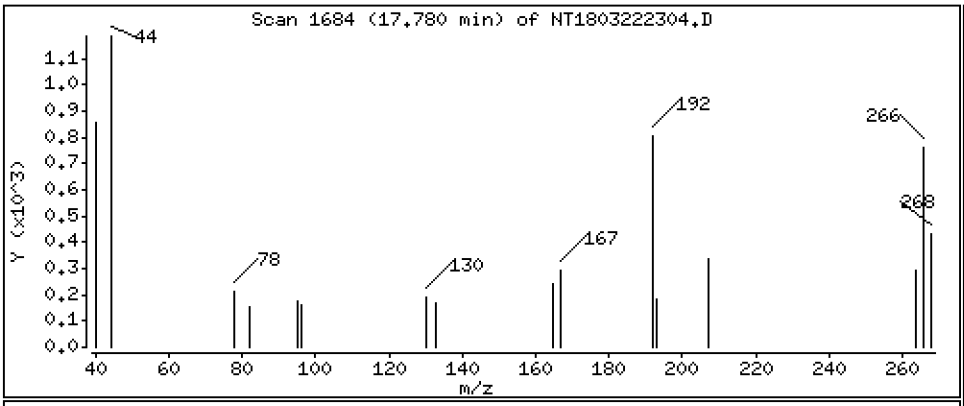
Operator: VTS

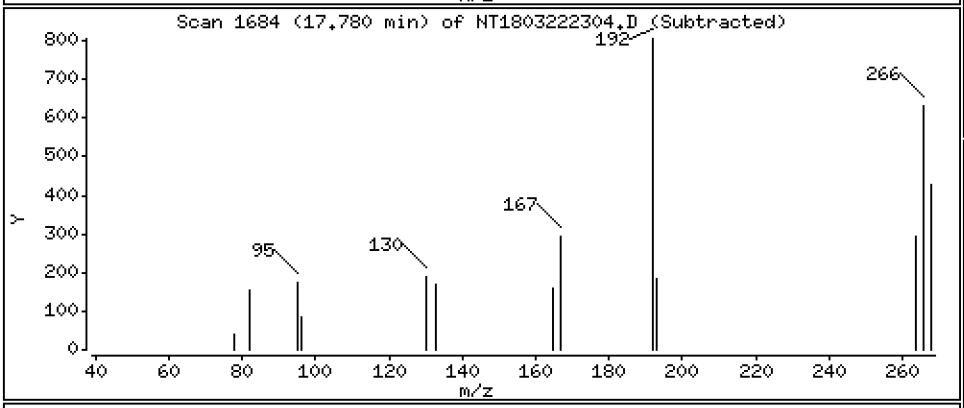
Column phase: ZB-5msi

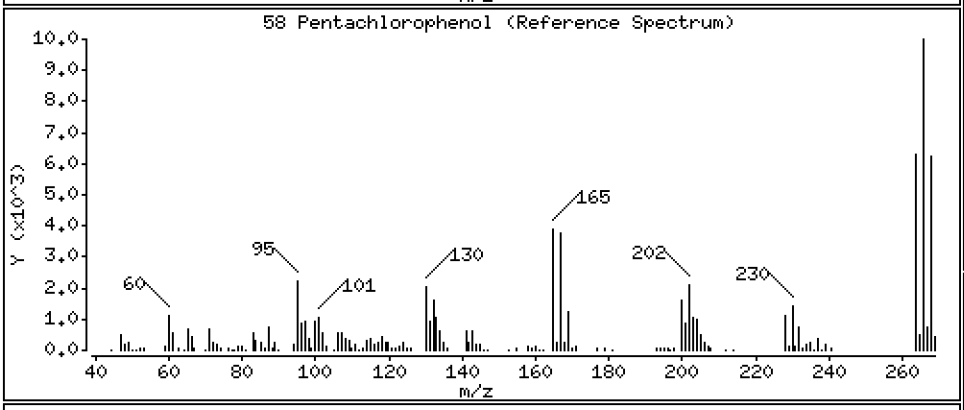
Column diameter: 0.25

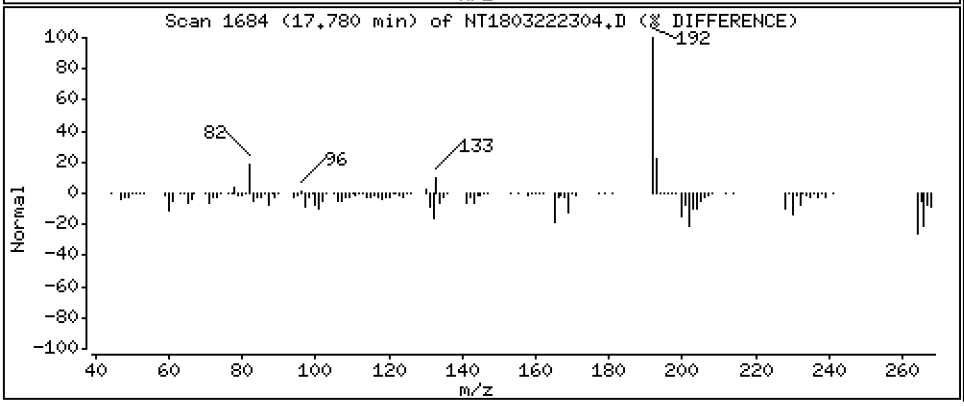
58 Pentachlorophenol

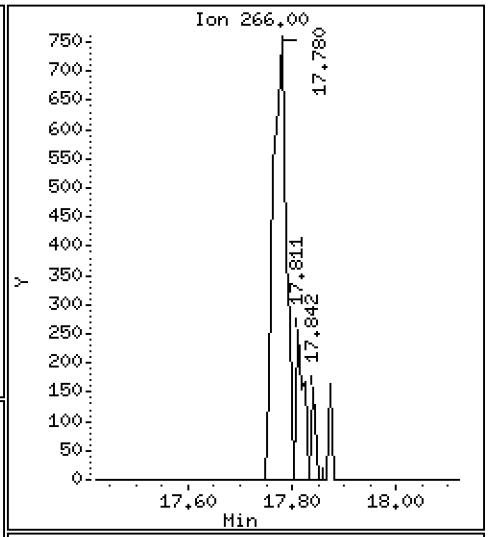
Concentration: 0.04350 ug/mL

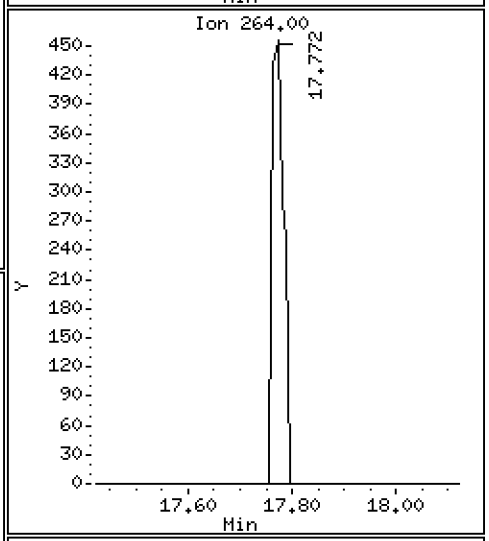


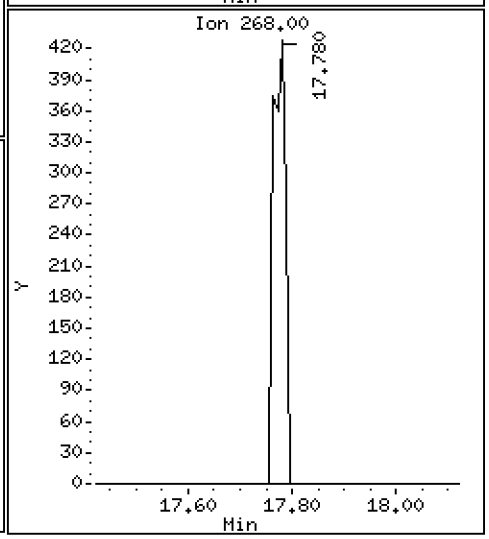












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

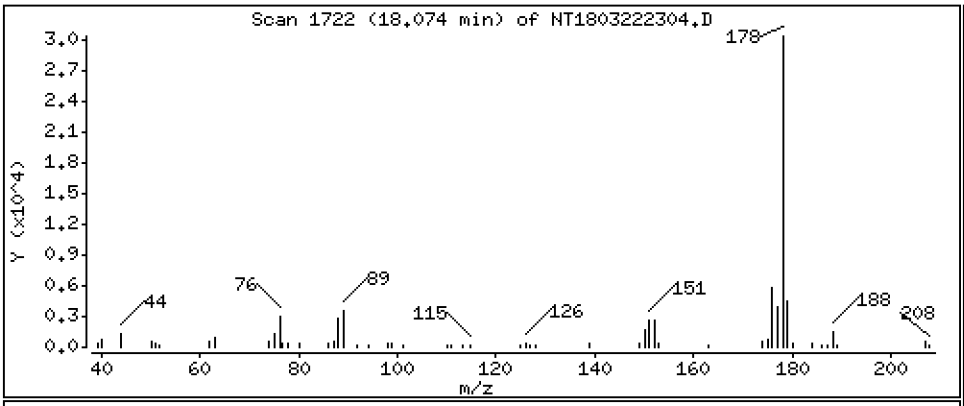
Operator: VTS

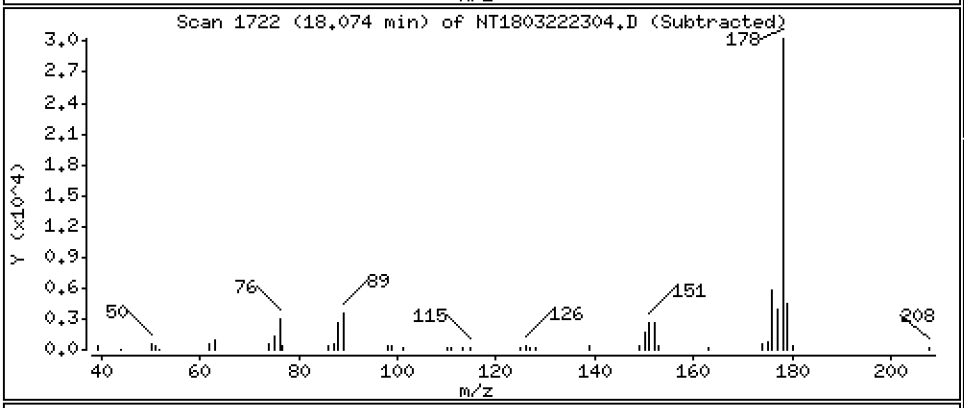
Column phase: ZB-5msi

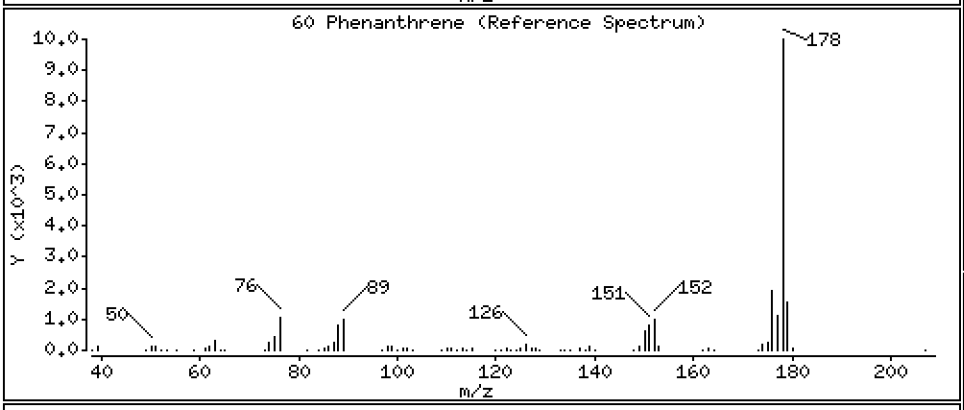
Column diameter: 0.25

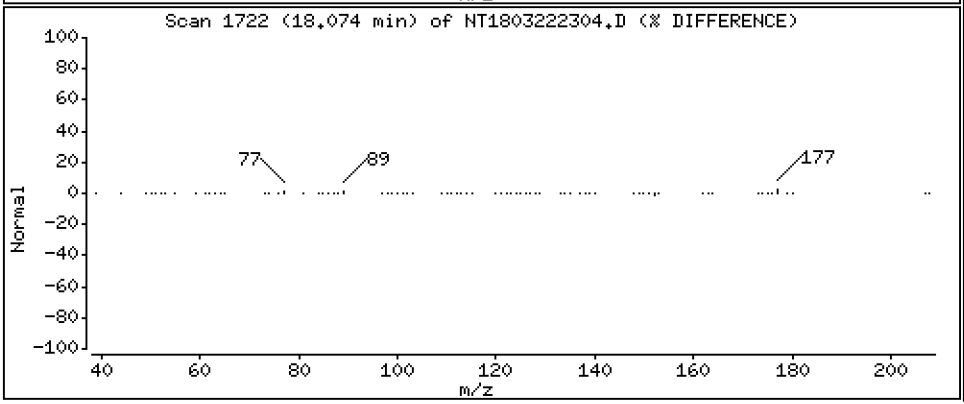
60 Phenanthrene

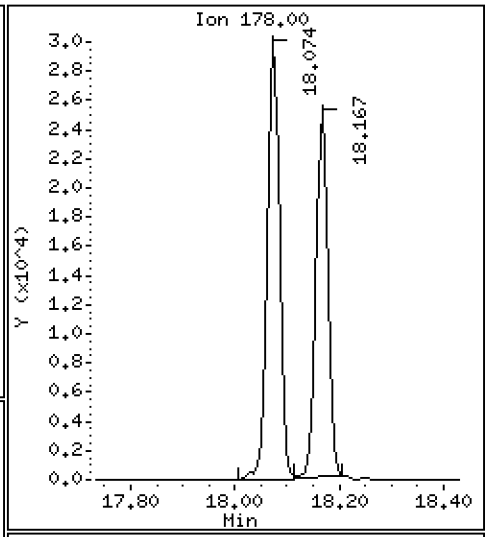
Concentration: 0.1944 ug/mL

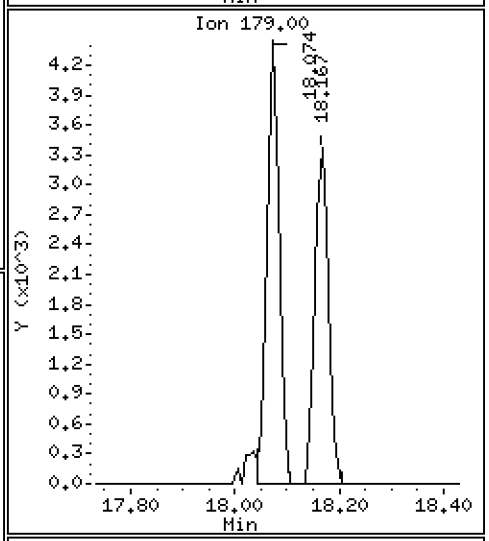


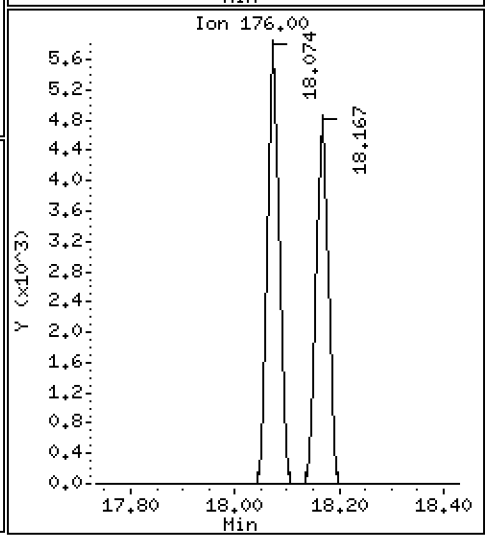












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

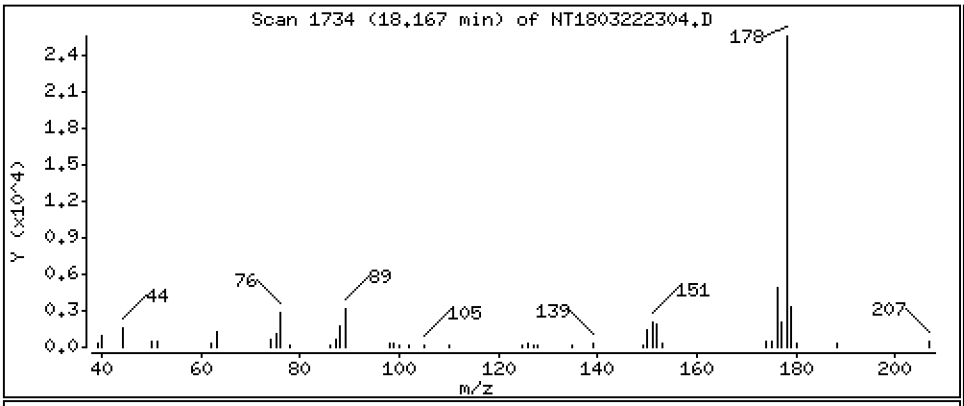
Operator: VTS

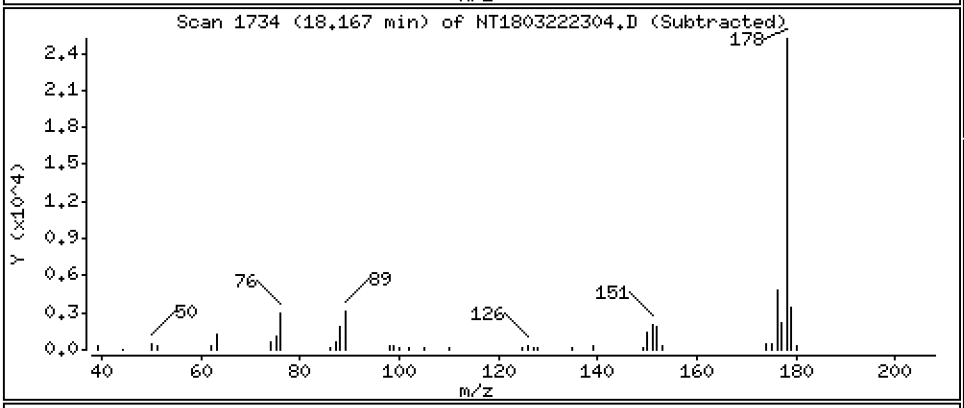
Column phase: ZB-5msi

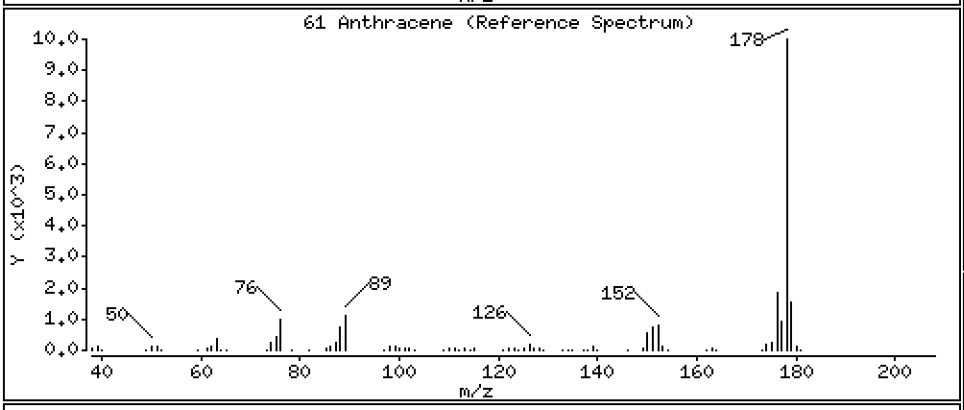
Column diameter: 0.25

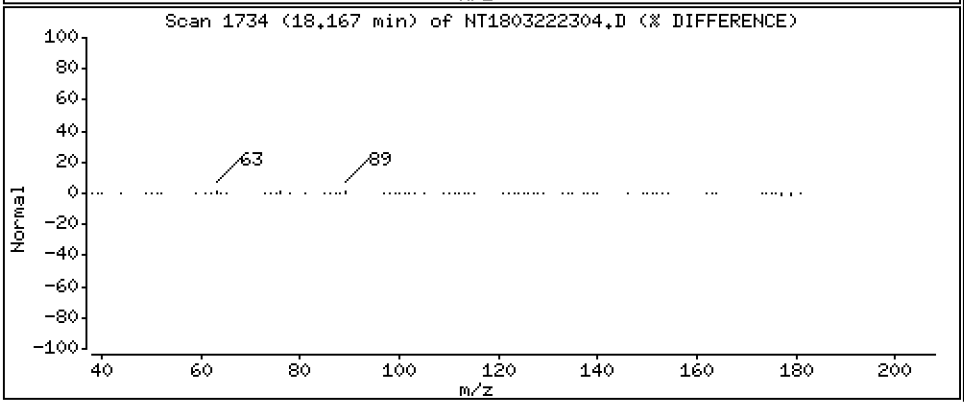
61 Anthracene

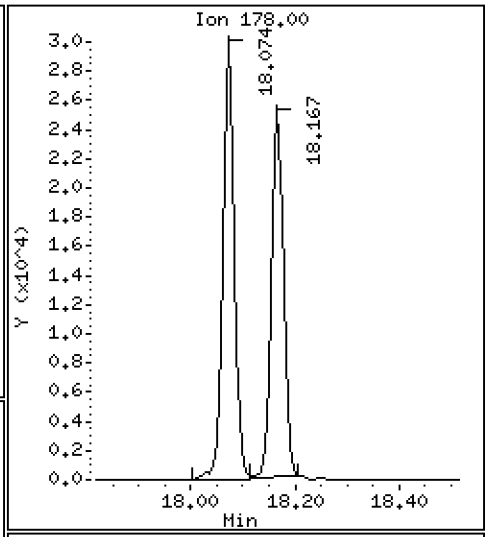
Concentration: 0.1657 ug/mL

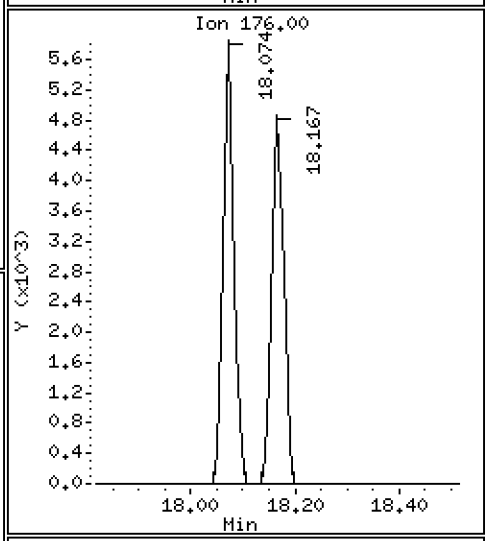


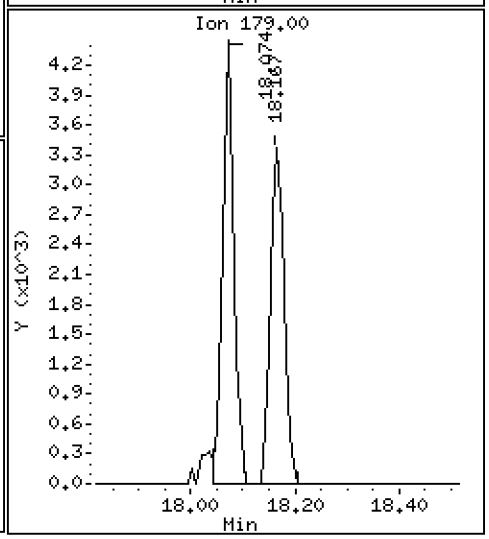












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

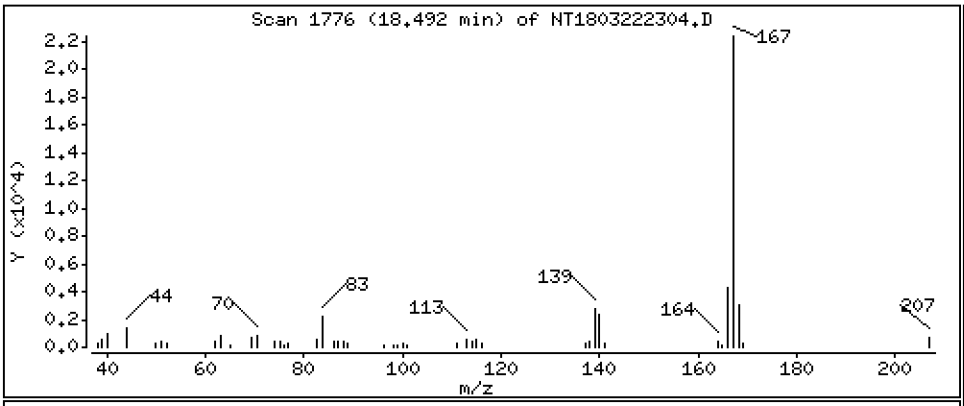
Operator: VTS

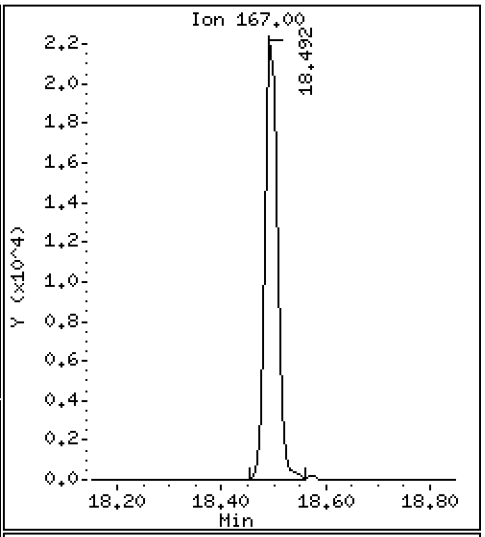
Column phase: ZB-5msi

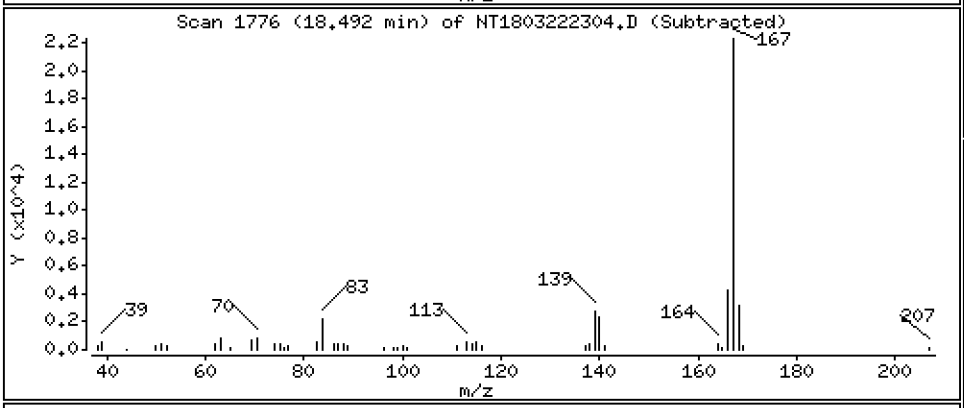
Column diameter: 0.25

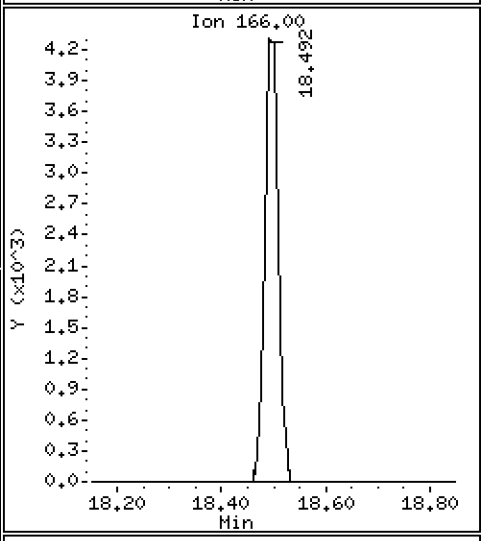
62 Carbazole

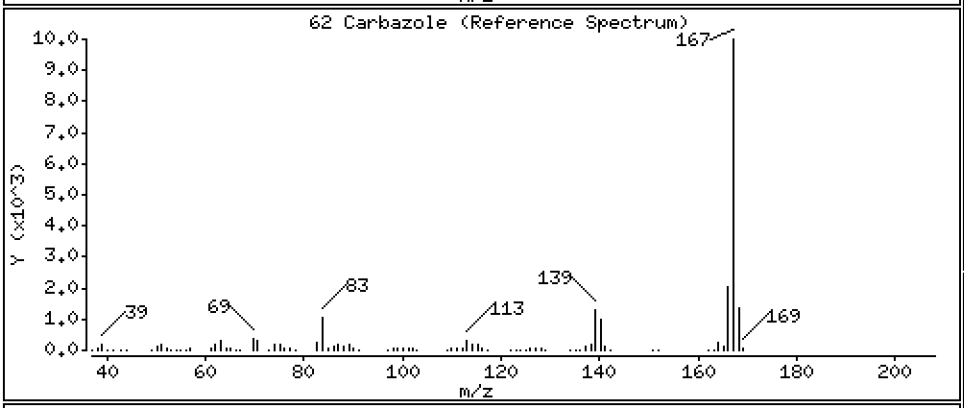
Concentration: 0.1741 ug/mL

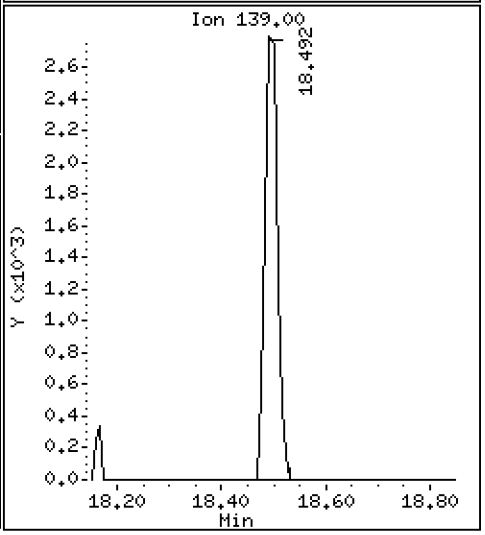


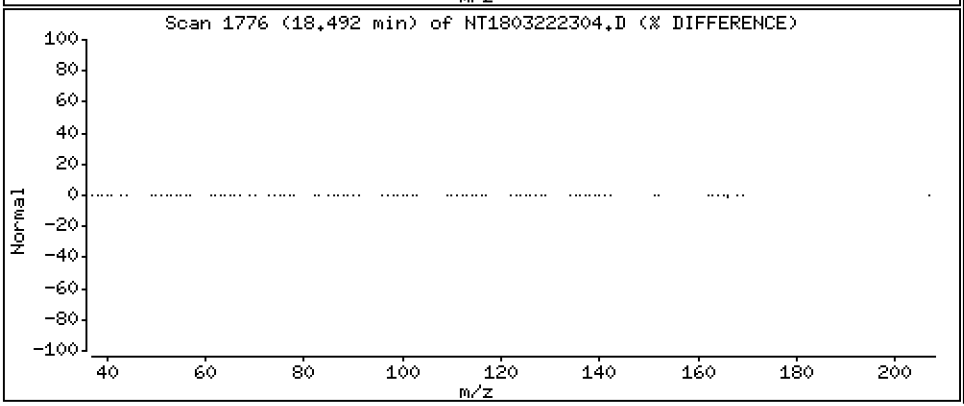












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

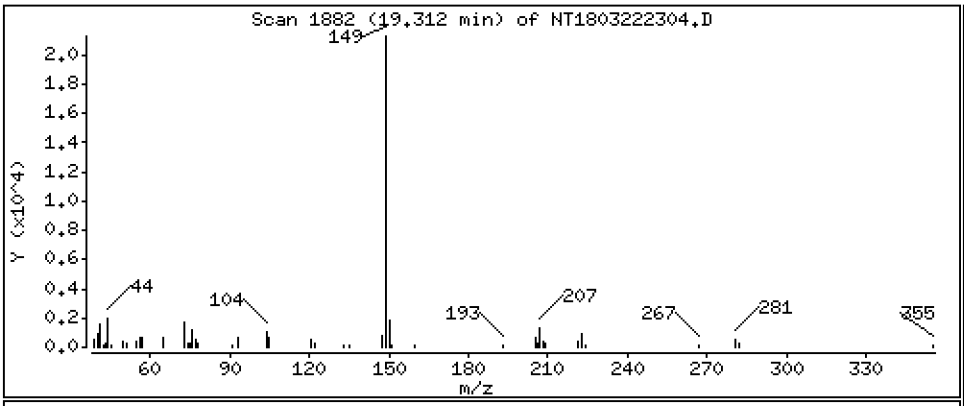
Operator: VTS

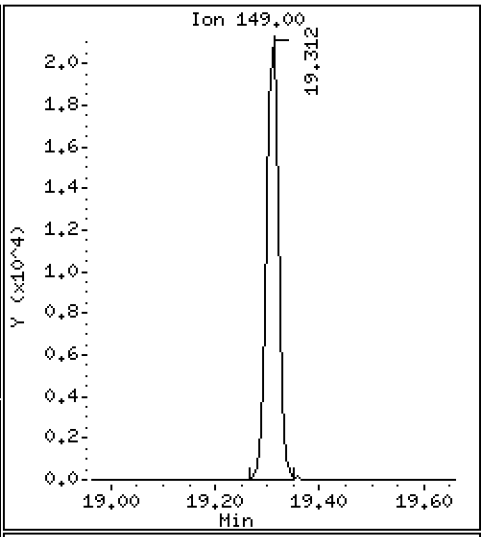
Column phase: ZB-5msi

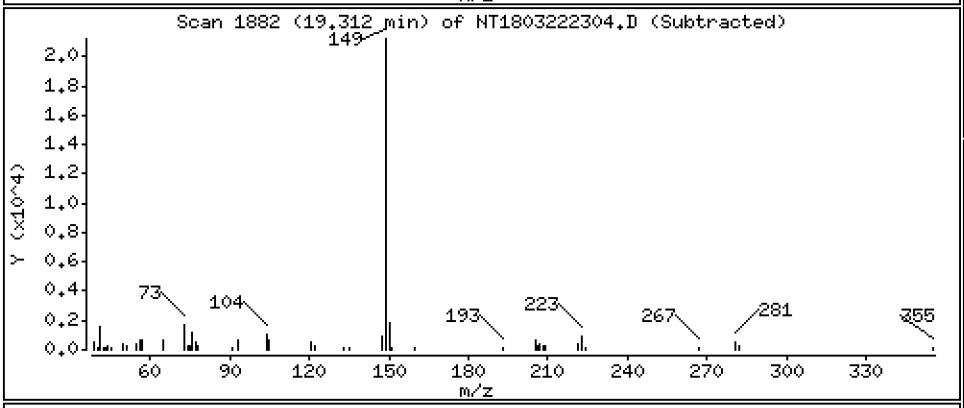
Column diameter: 0.25

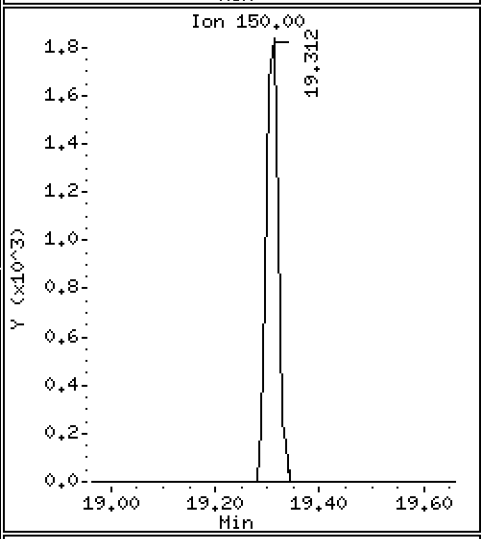
63 Di-n-butylphthalate

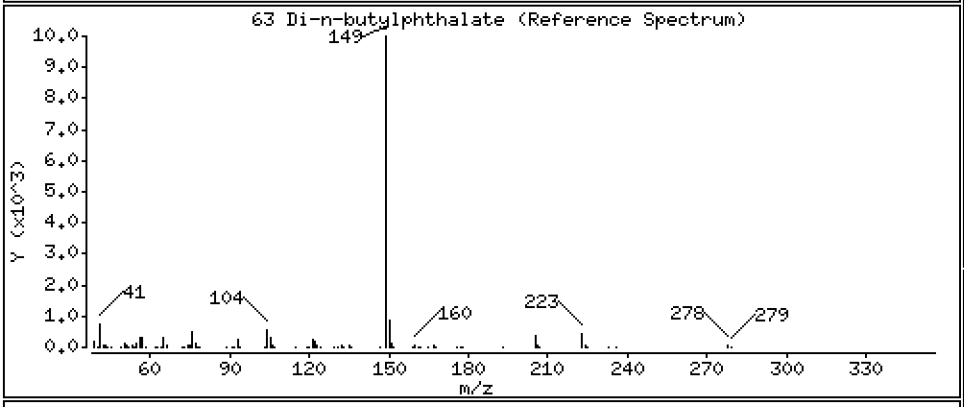
Concentration: 0.1199 ug/mL

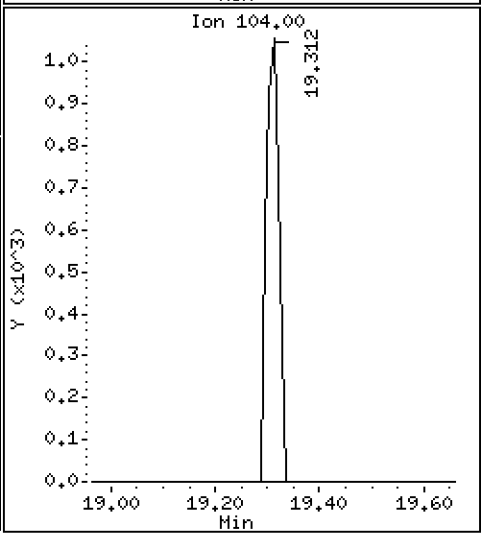


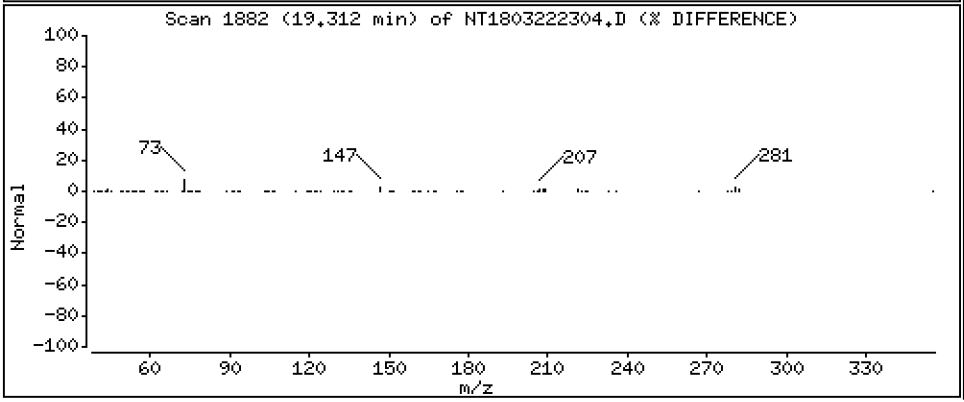












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

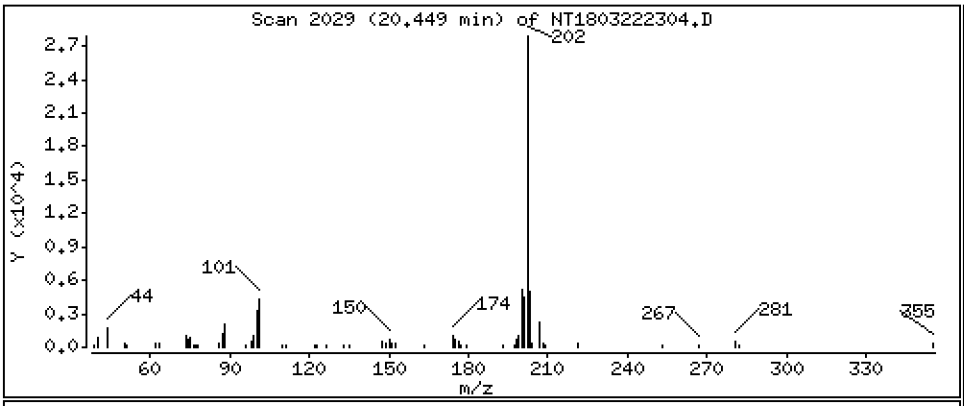
Operator: VTS

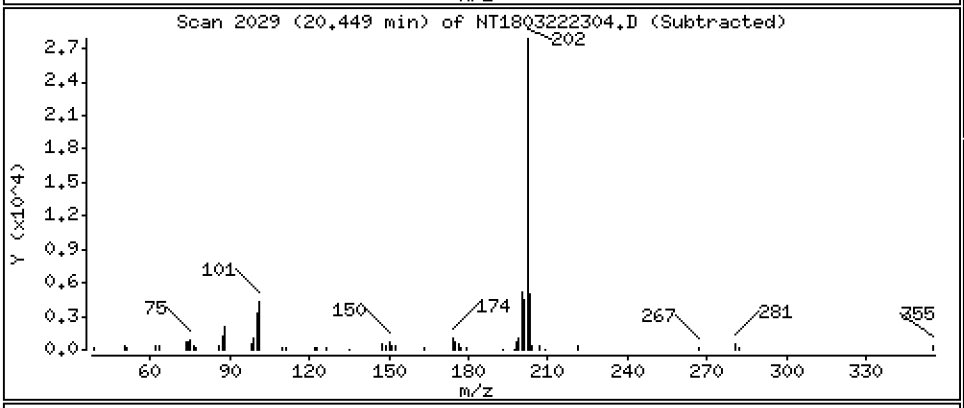
Column phase: ZB-5msi

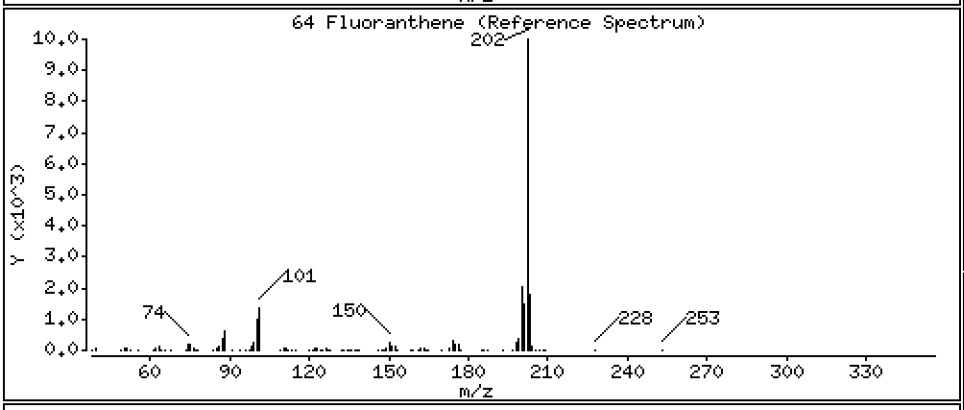
Column diameter: 0.25

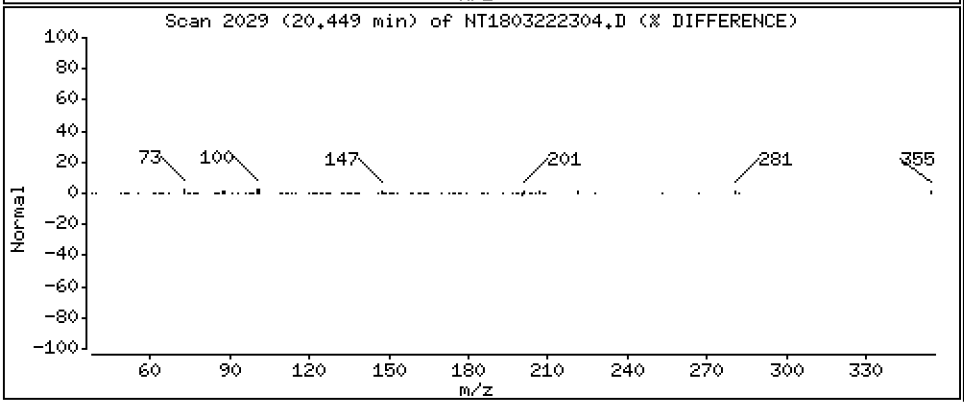
64 Fluoranthene

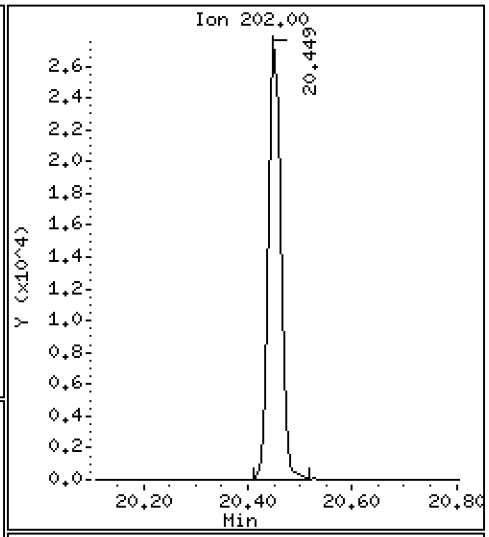
Concentration: 0.1717 ug/mL

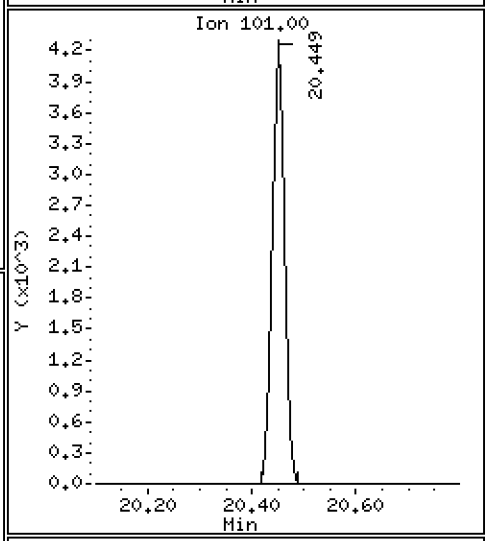


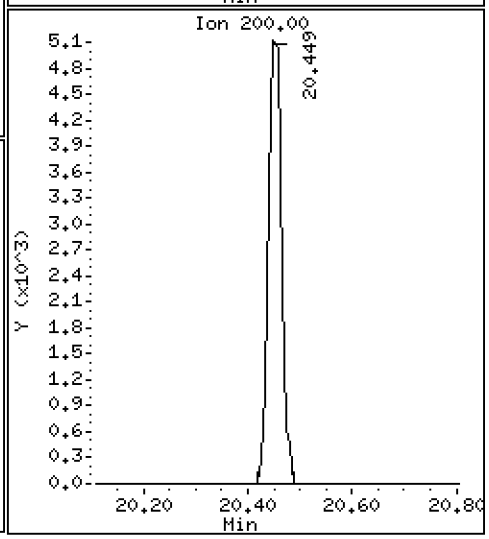












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

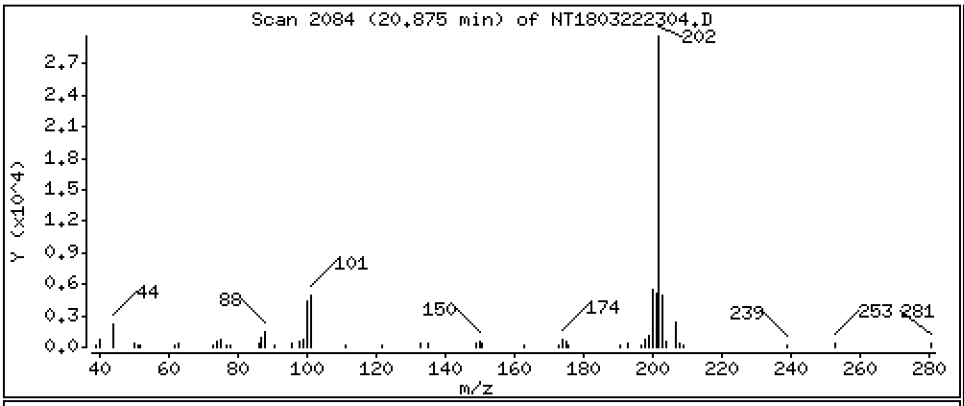
Operator: VTS

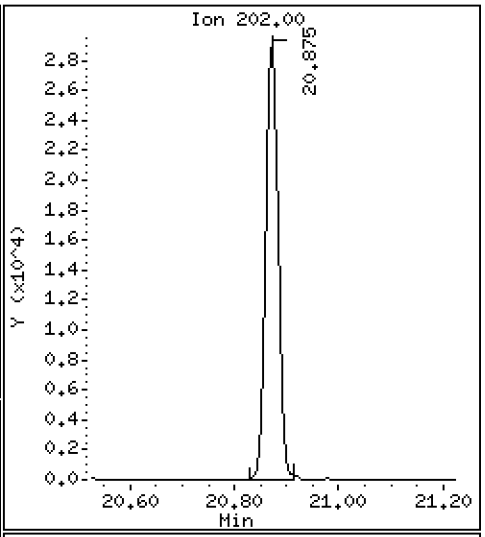
Column phase: ZB-5msi

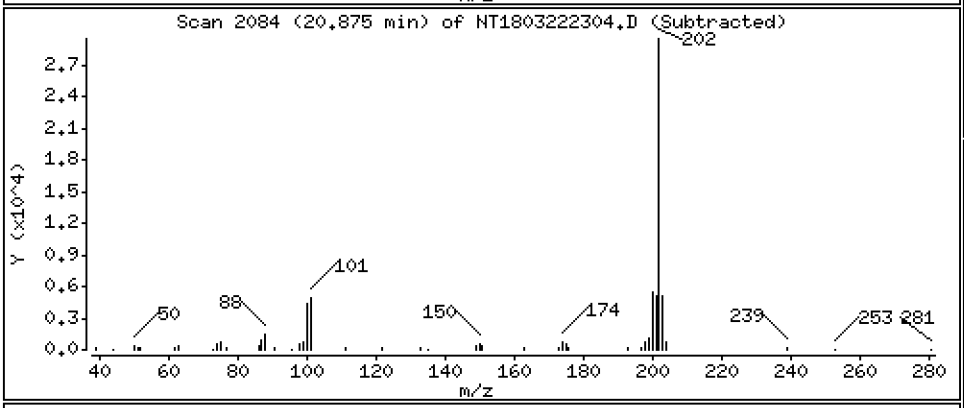
Column diameter: 0.25

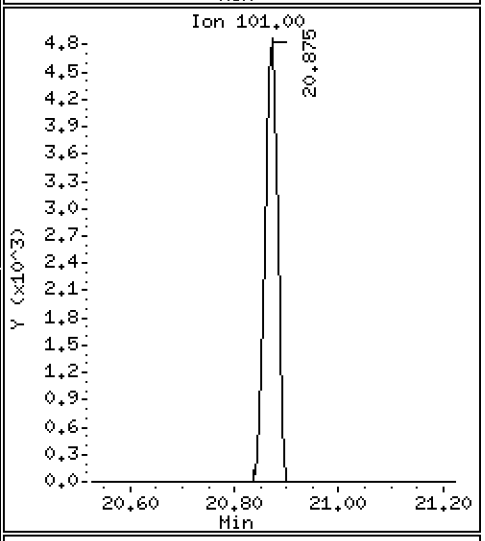
65 Pyrene

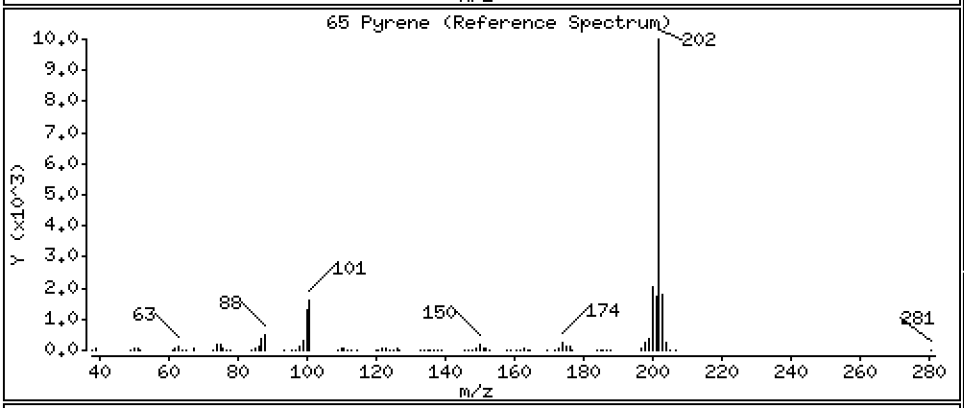
Concentration: 0.1736 ug/mL

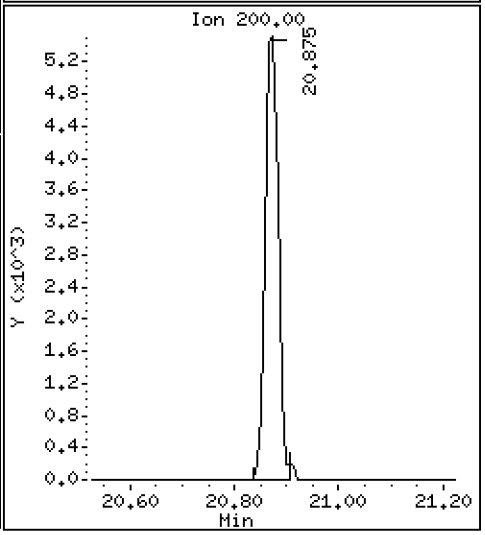


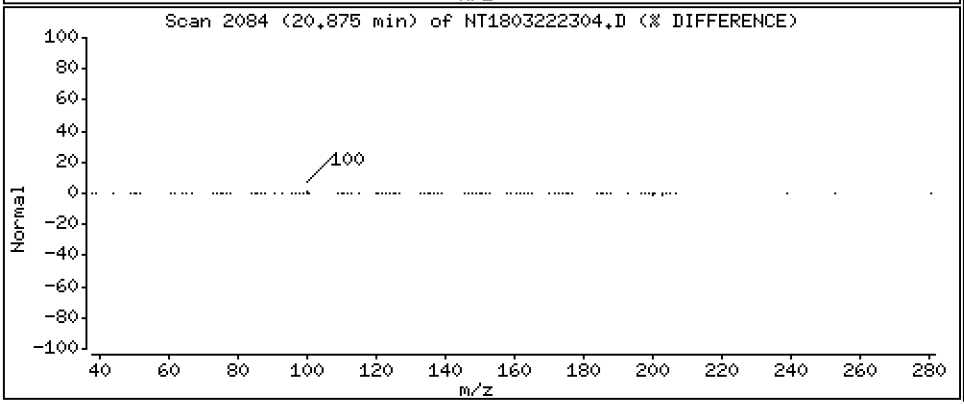












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

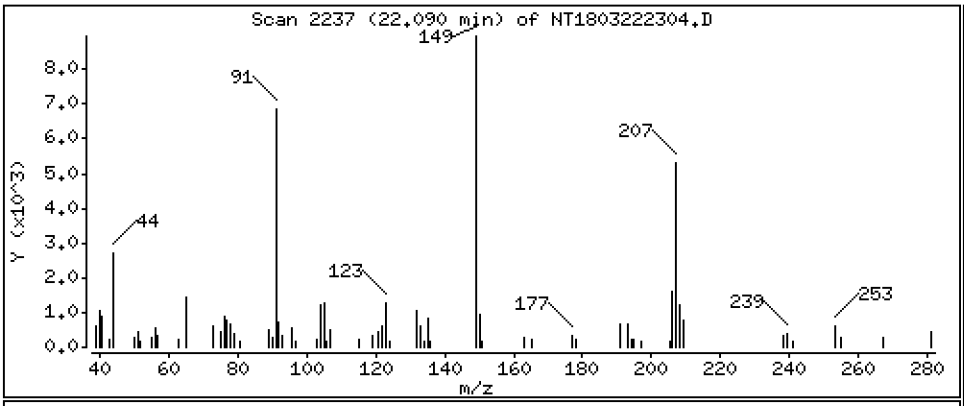
Operator: VTS

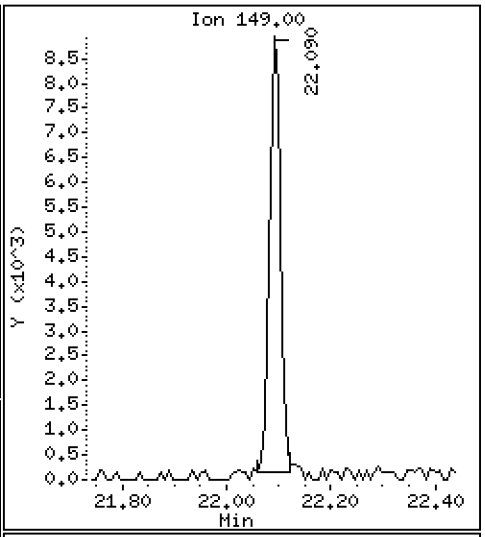
Column phase: ZB-5msi

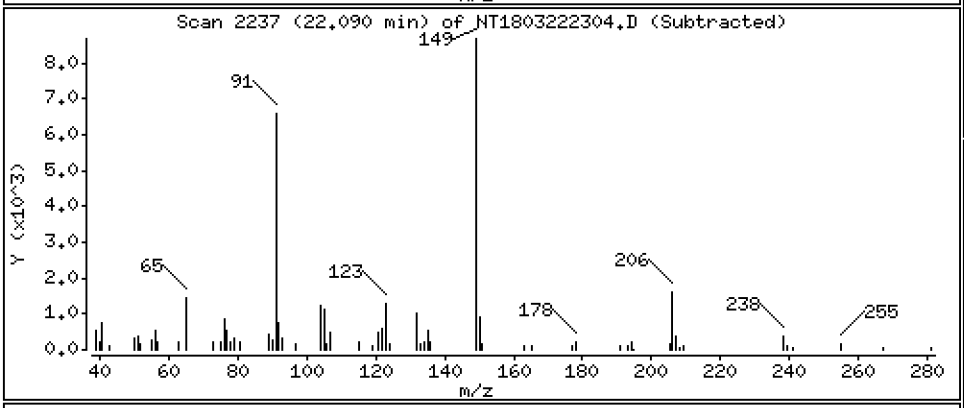
Column diameter: 0.25

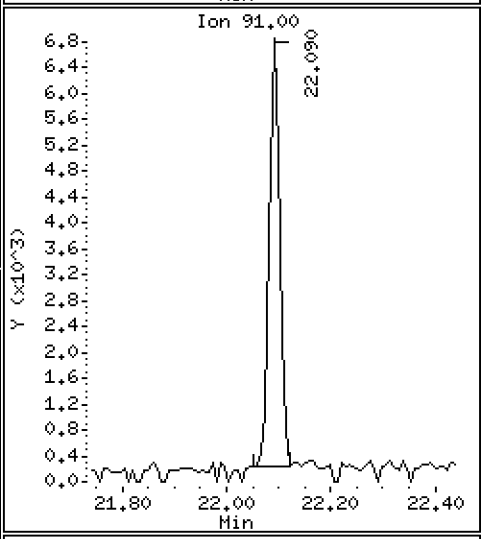
67 Butylbenzylphthalate

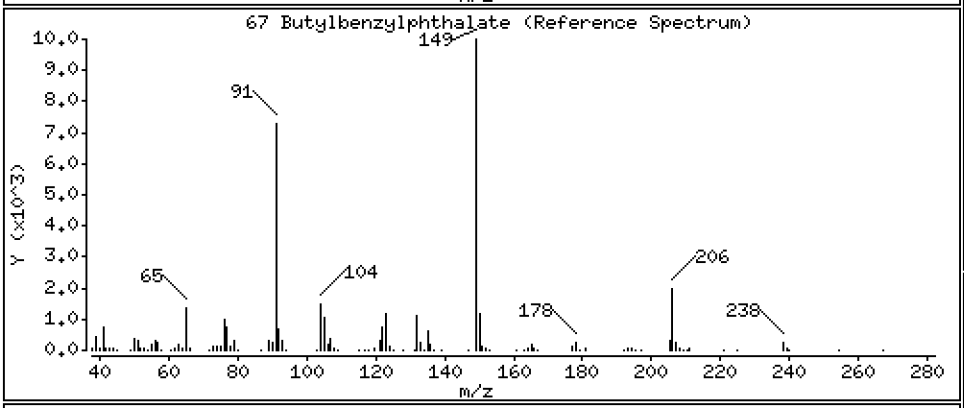
Concentration: 0.1055 ug/mL

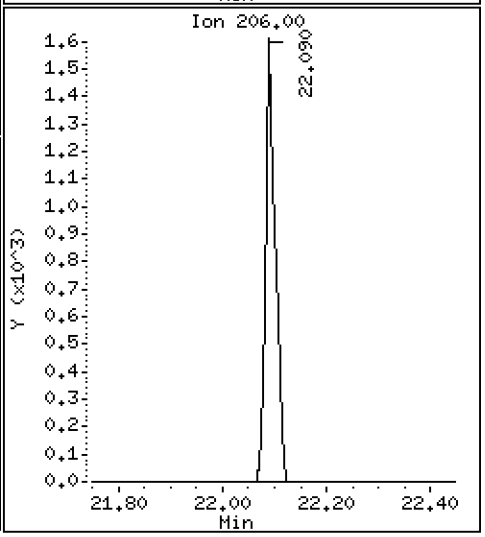


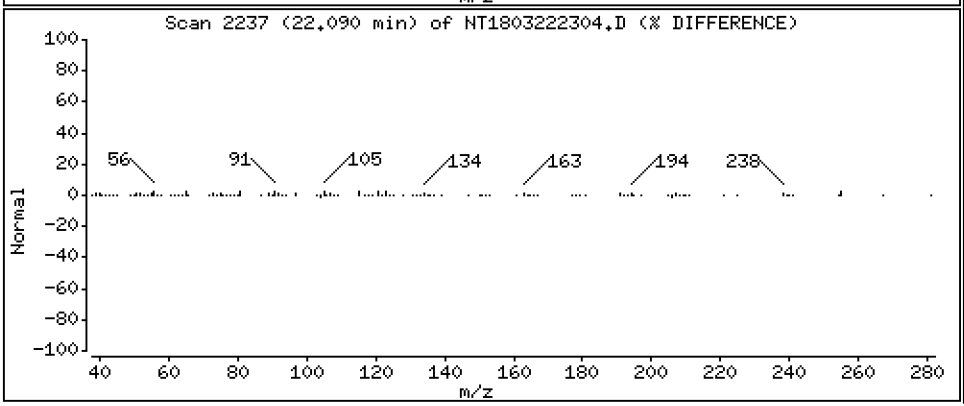












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

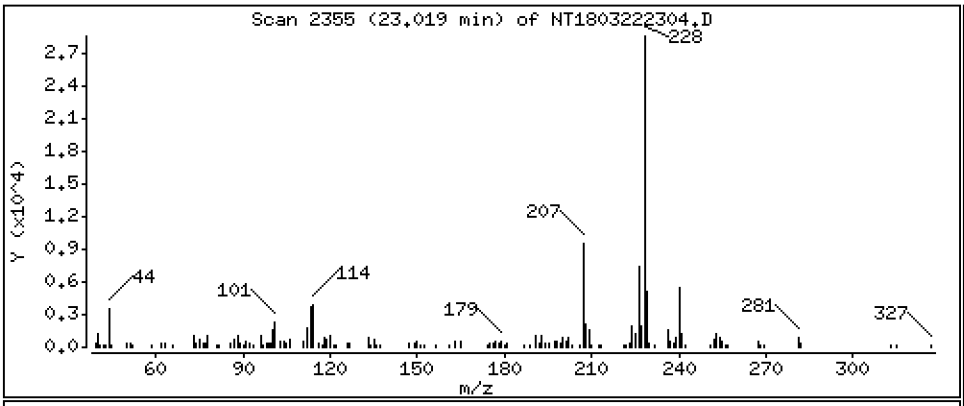
Operator: VTS

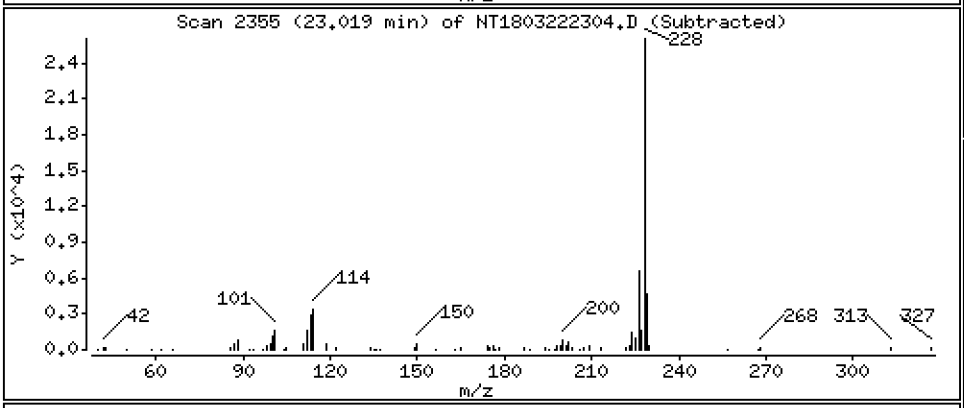
Column phase: ZB-5msi

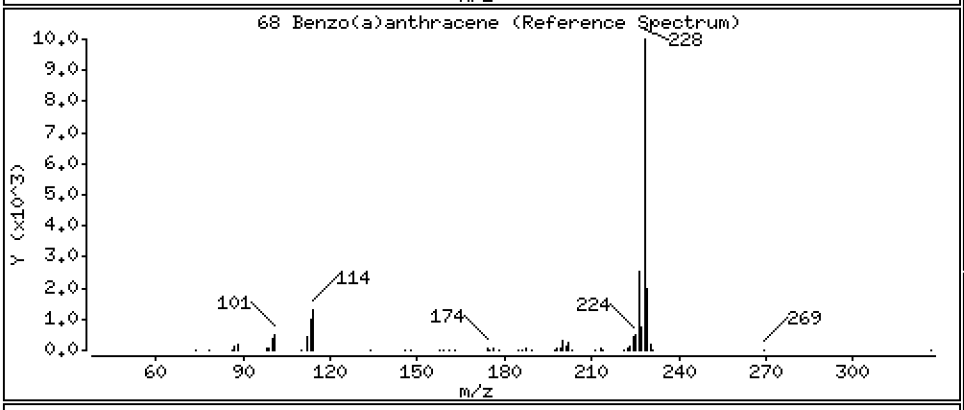
Column diameter: 0.25

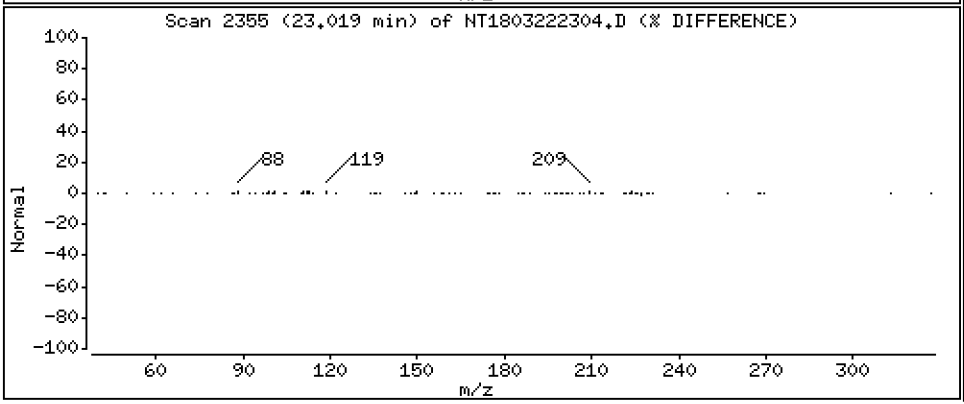
68 Benzo(a)anthracene

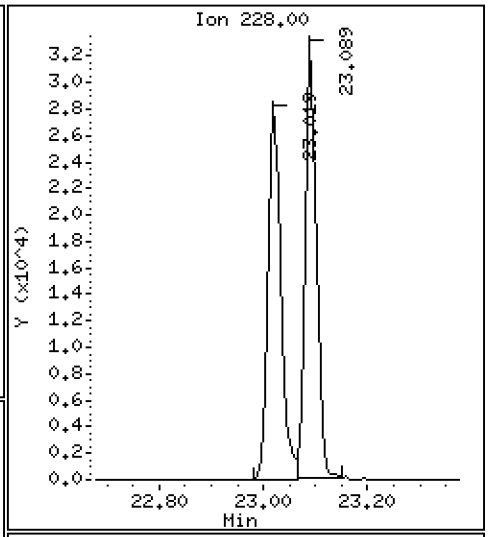
Concentration: 0.1870 ug/mL

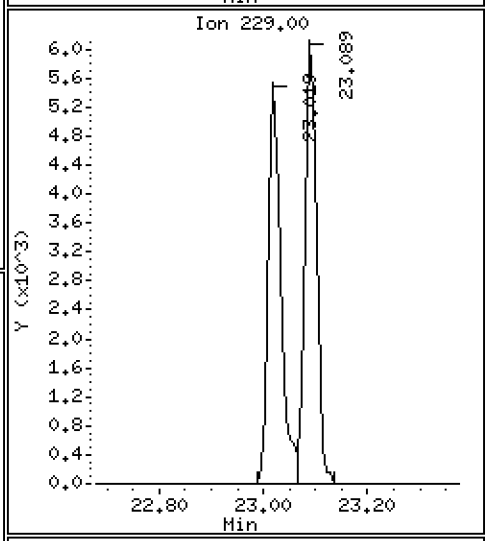


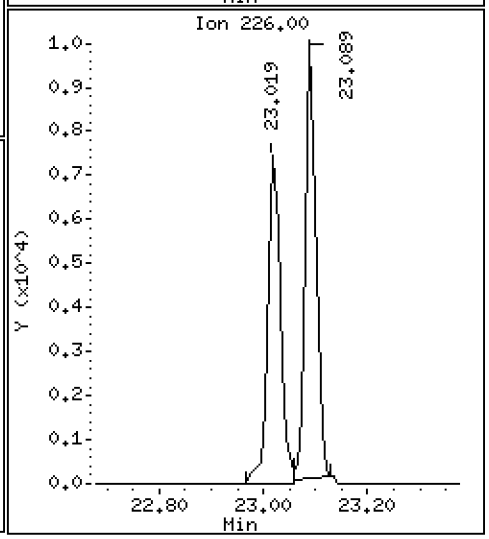












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

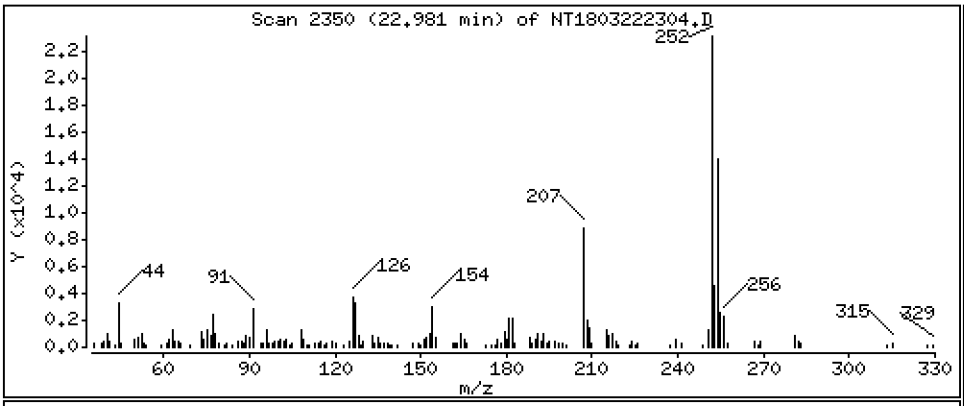
Operator: VTS

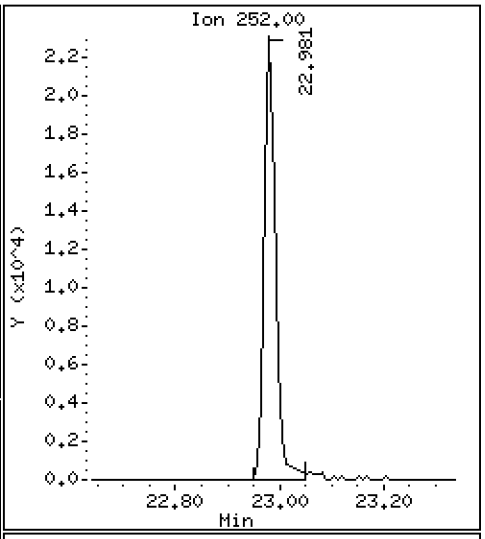
Column phase: ZB-5msi

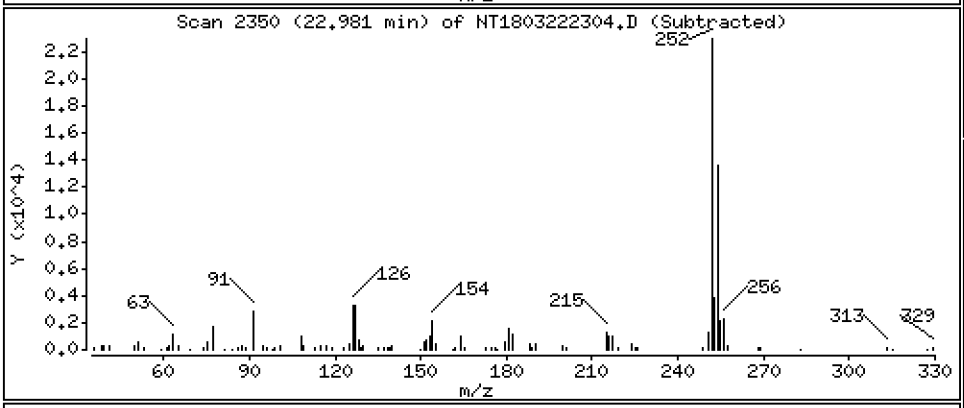
Column diameter: 0.25

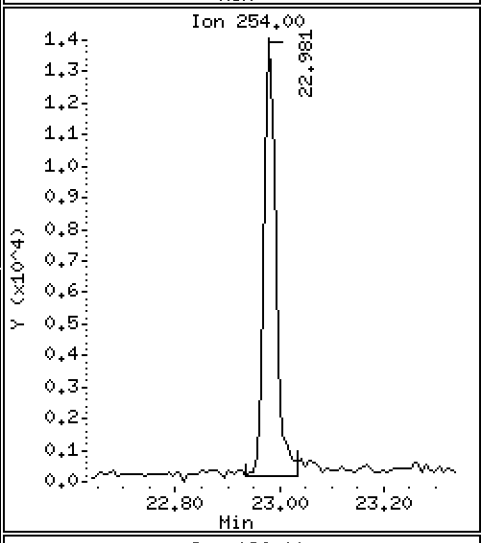
70 3,3'-Dichlorobenzidine

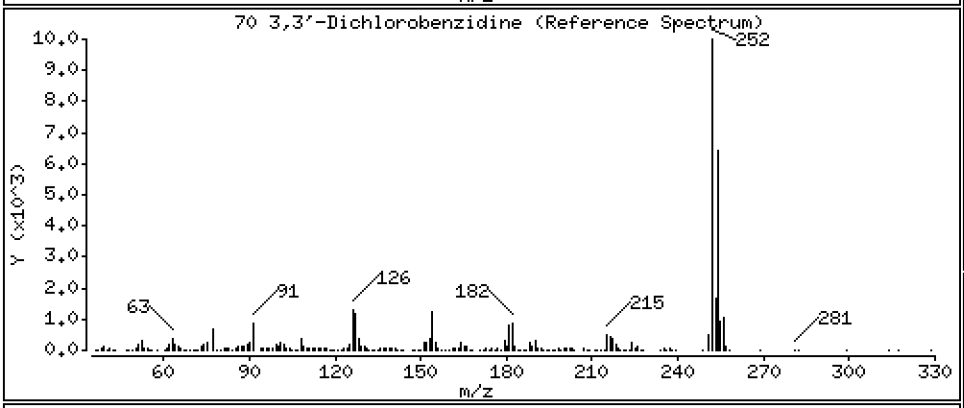
Concentration: 0.3667 ug/mL

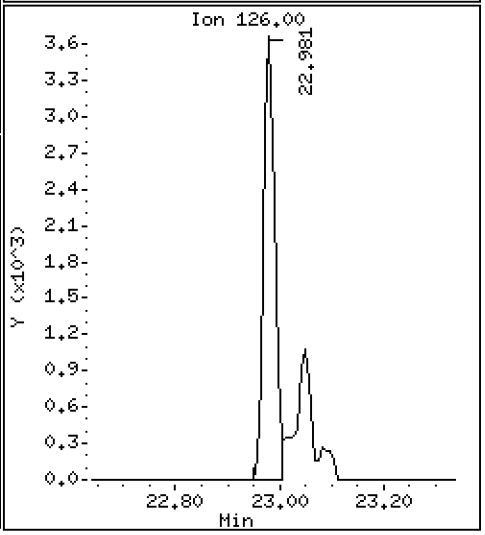


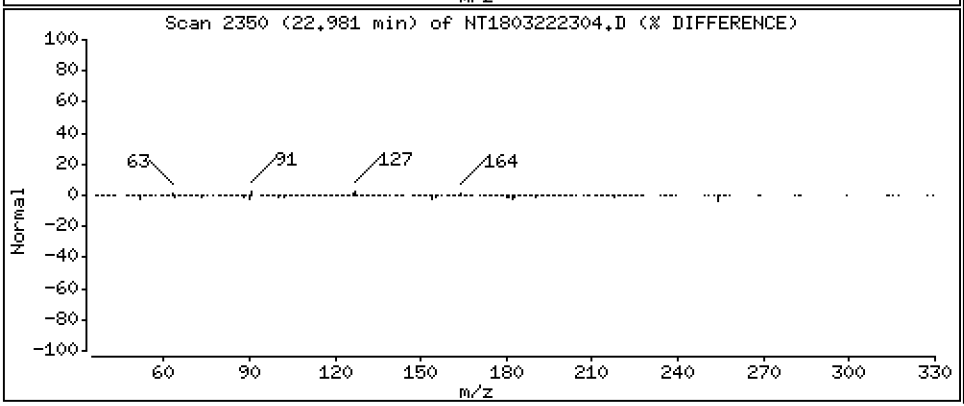












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

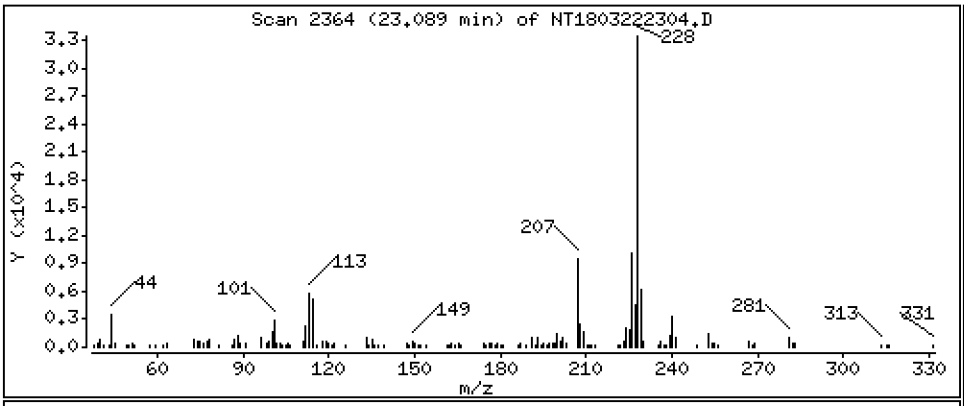
Operator: VTS

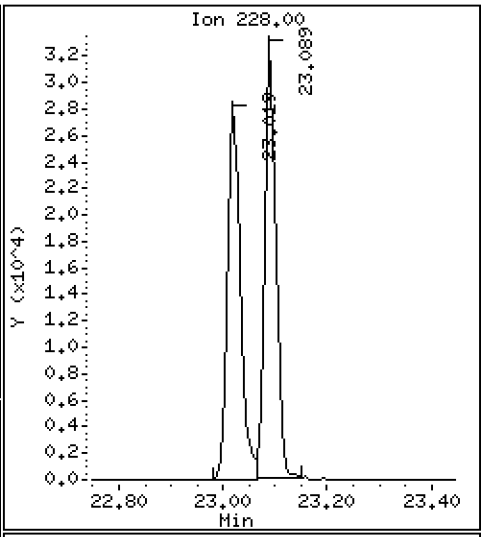
Column phase: ZB-5msi

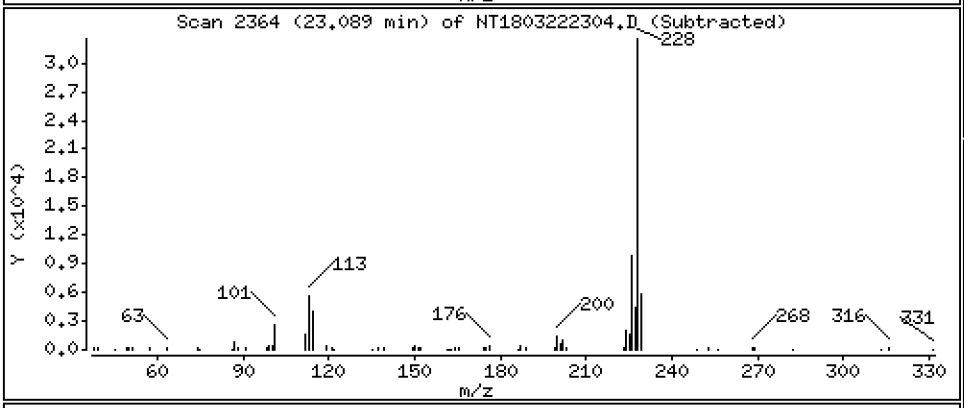
Column diameter: 0.25

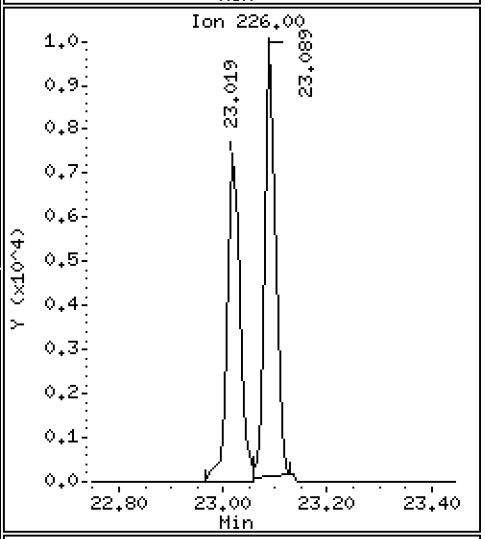
71 Chrysene

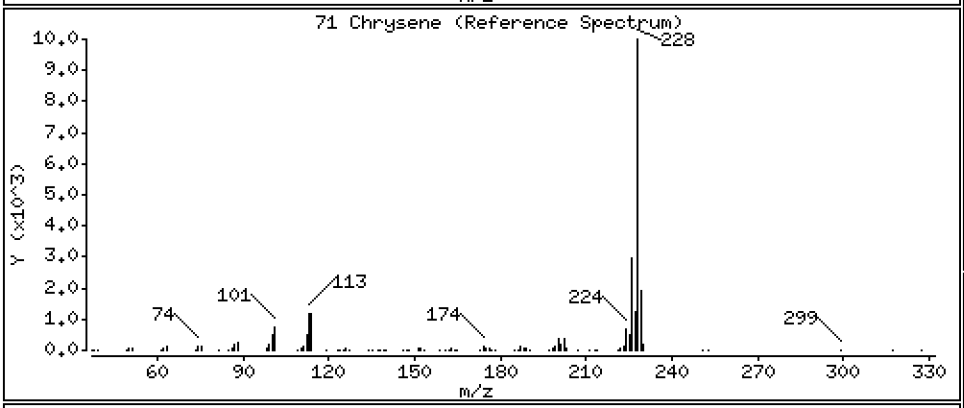
Concentration: 0.1847 ug/mL

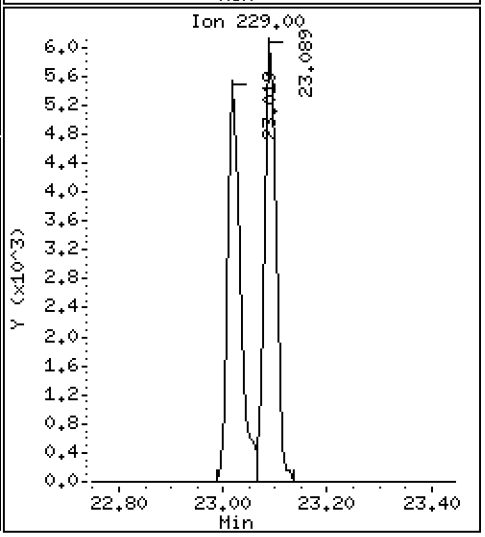


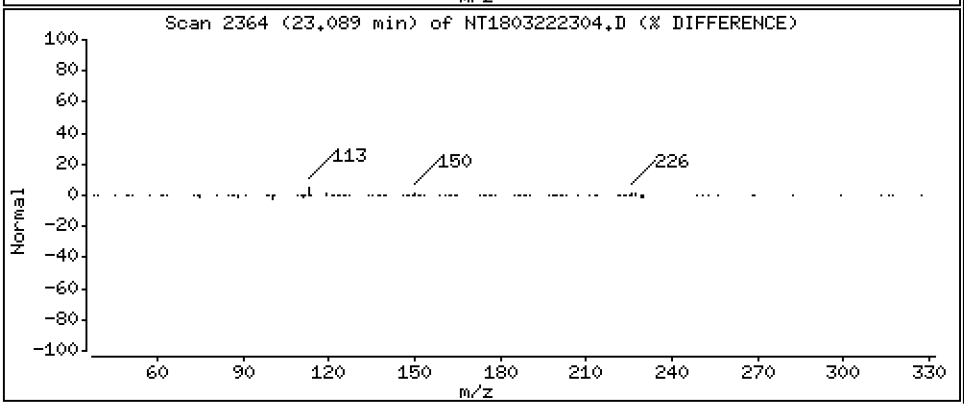












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

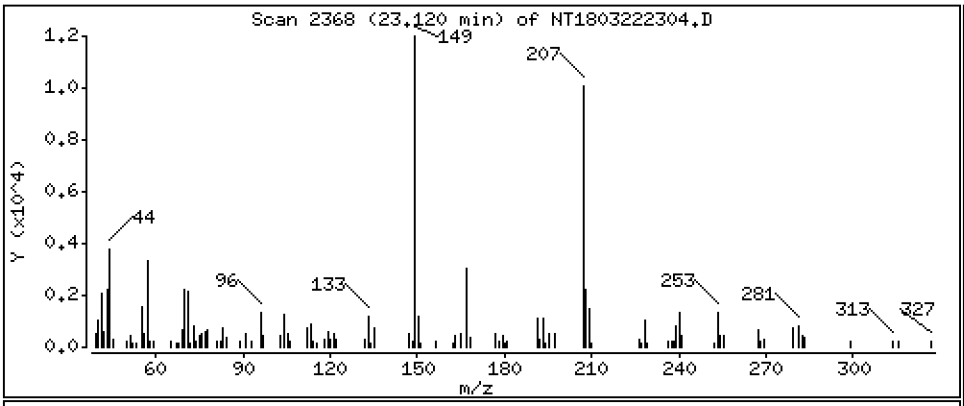
Operator: VTS

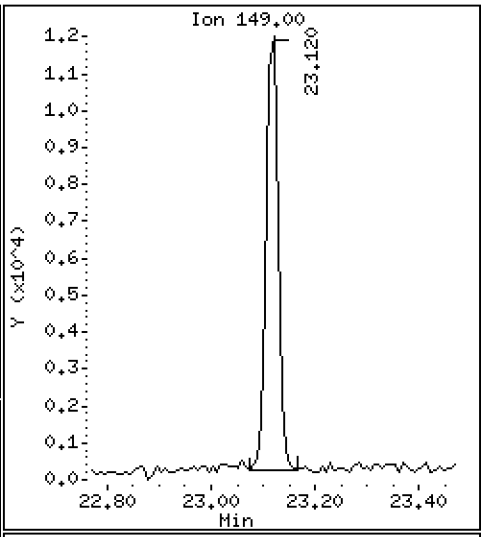
Column phase: ZB-5msi

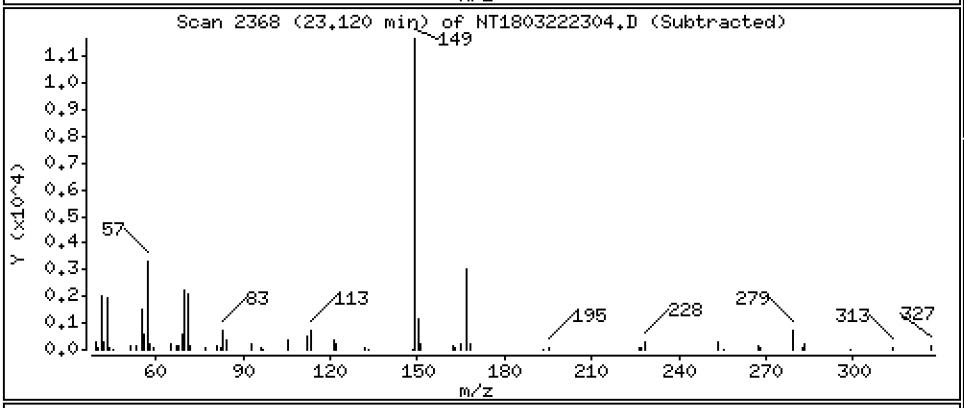
Column diameter: 0.25

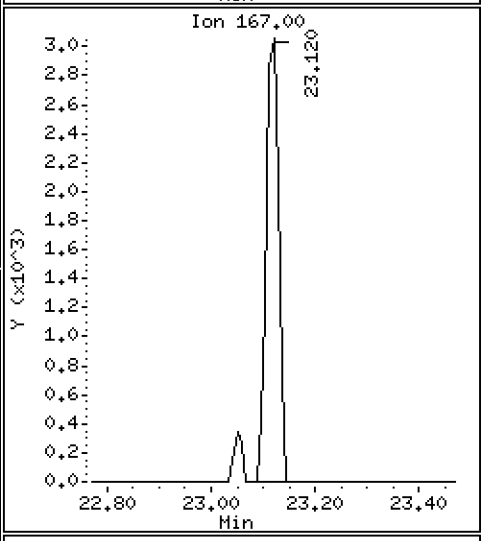
72 bis(2-Ethylhexyl)phthalate

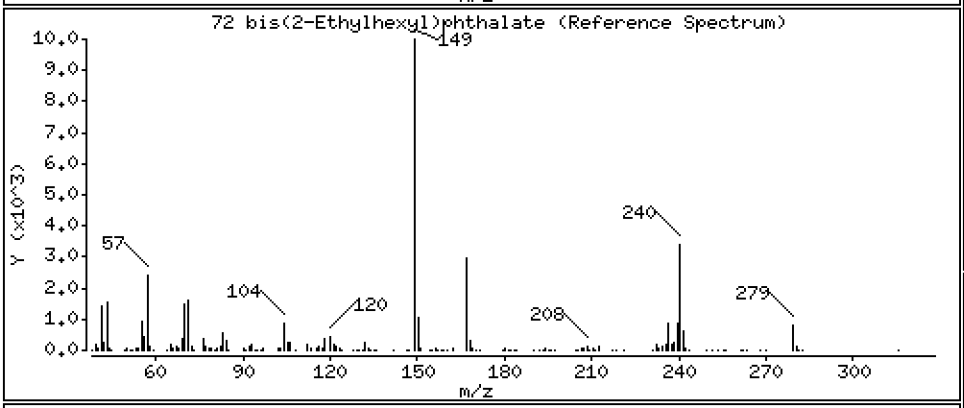
Concentration: 0.1083 ug/mL

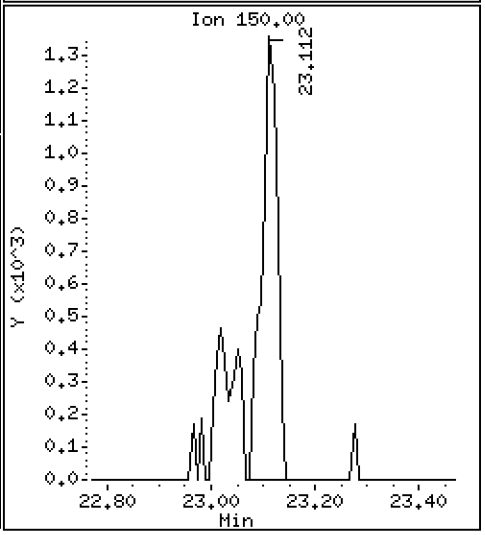


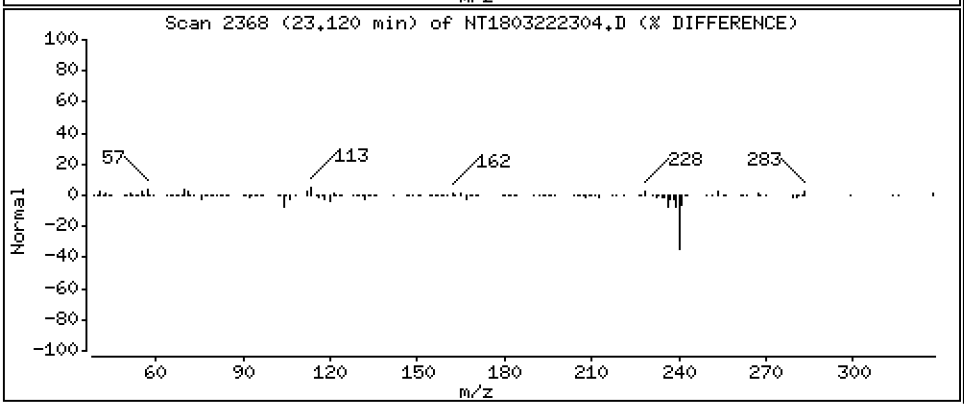












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

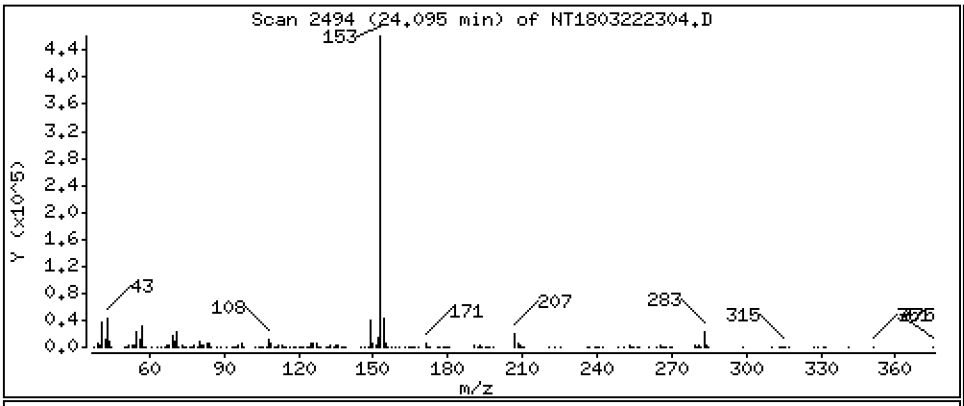
Operator: VTS

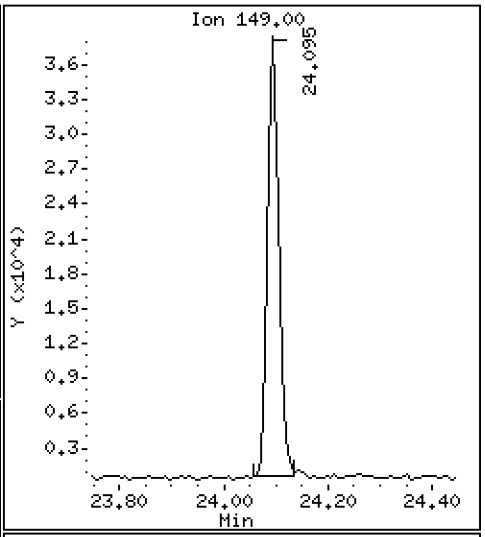
Column phase: ZB-5msi

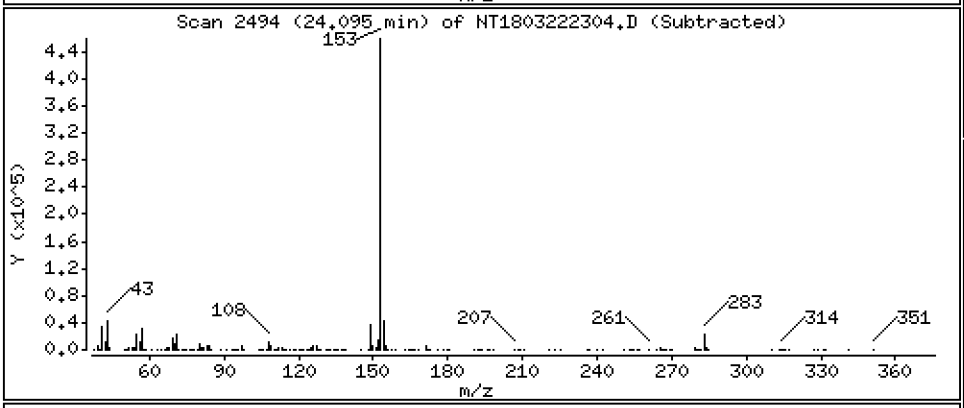
Column diameter: 0.25

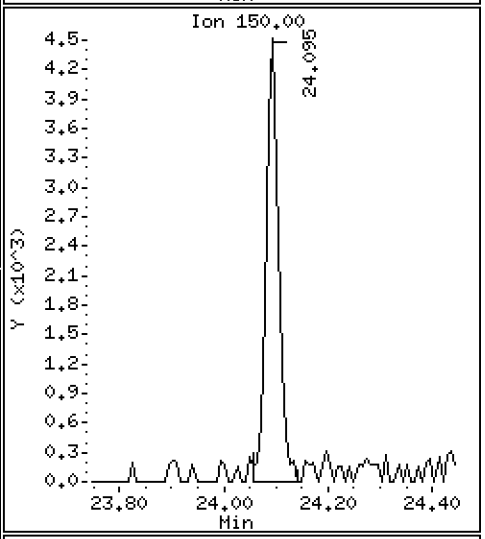
73 Di-n-octylphthalate

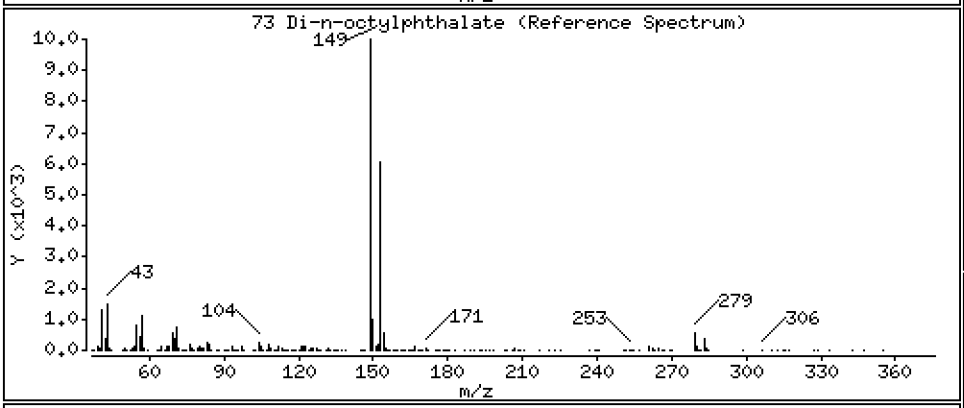
Concentration: 0.1935 ug/mL

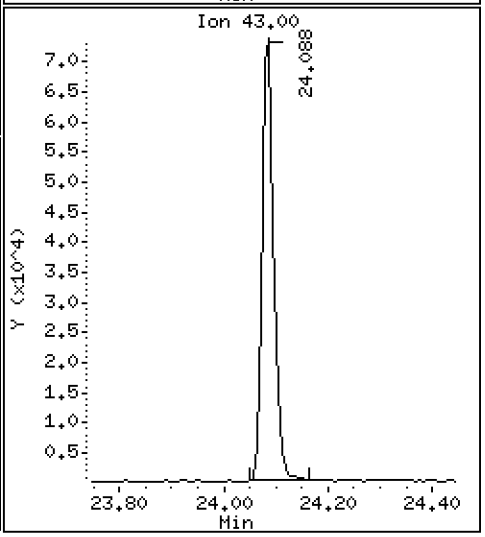


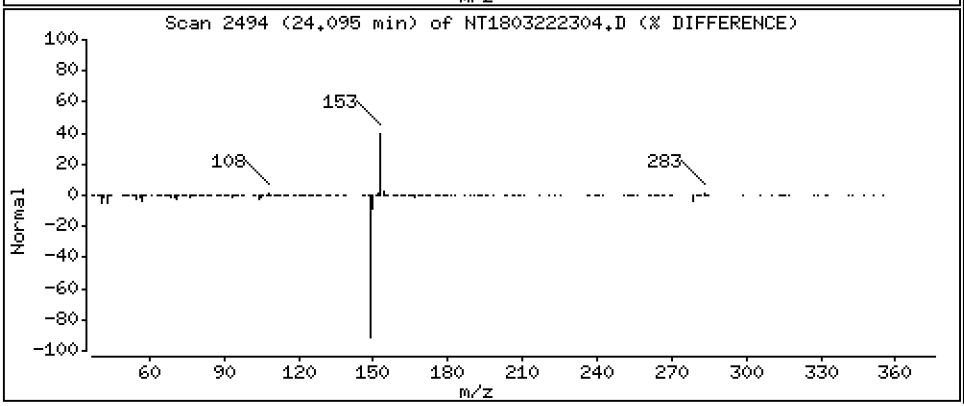












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

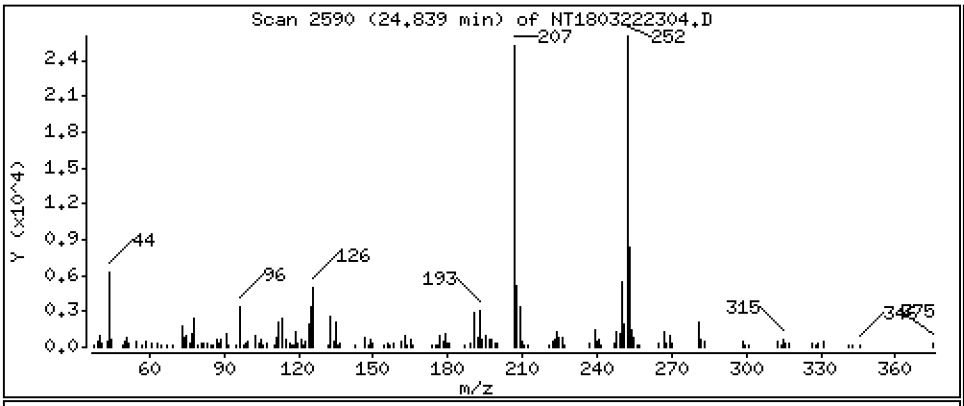
Operator: VTS

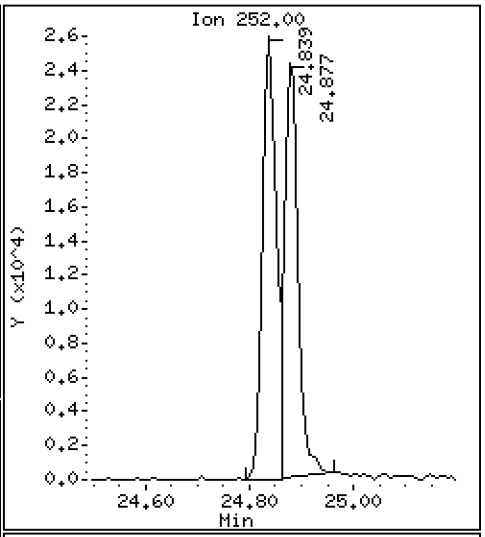
Column phase: ZB-5msi

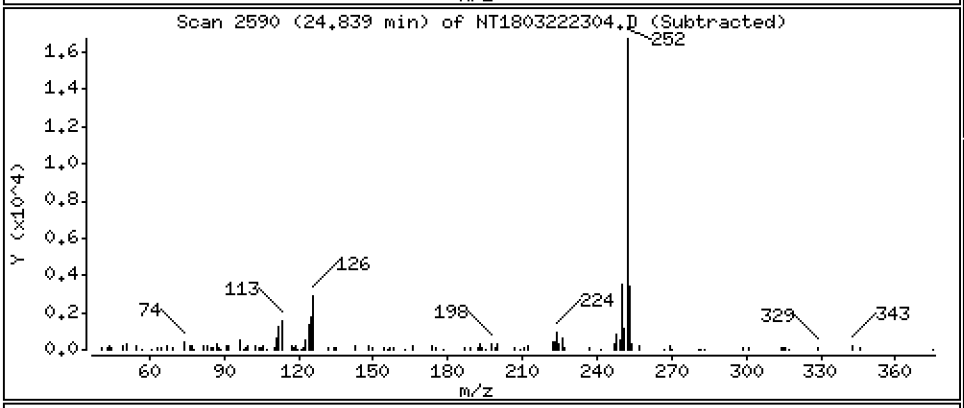
Column diameter: 0.25

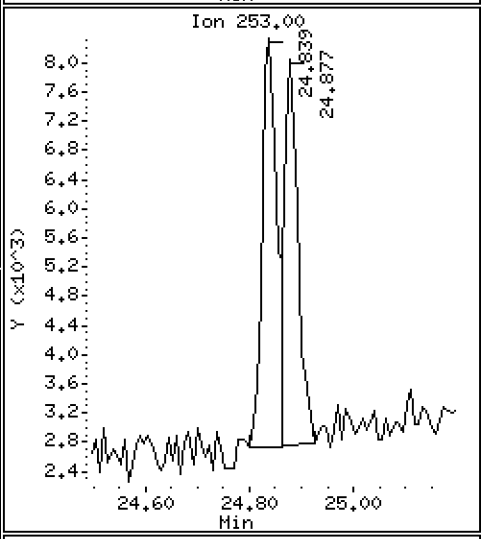
74 Benzo(b)fluoranthene

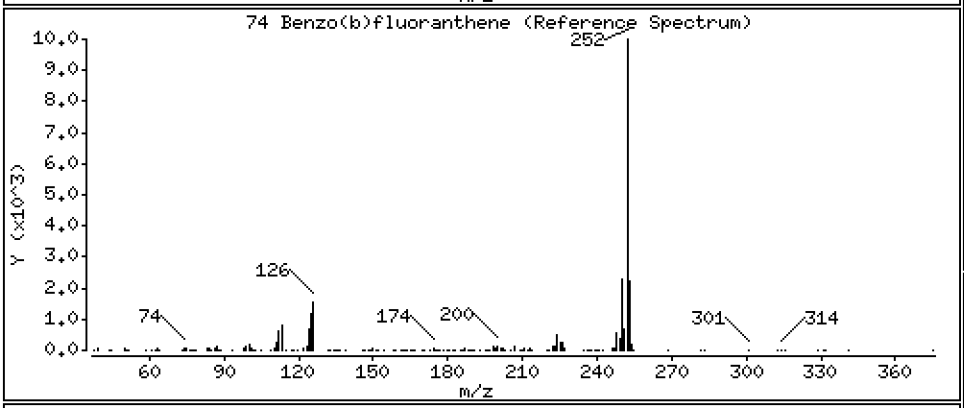
Concentration: 0.1932 ug/mL

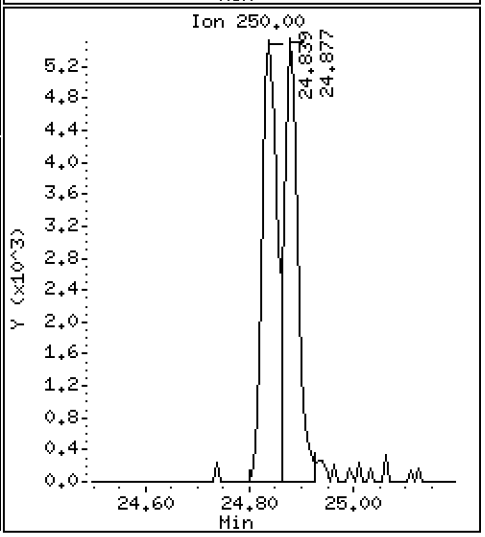


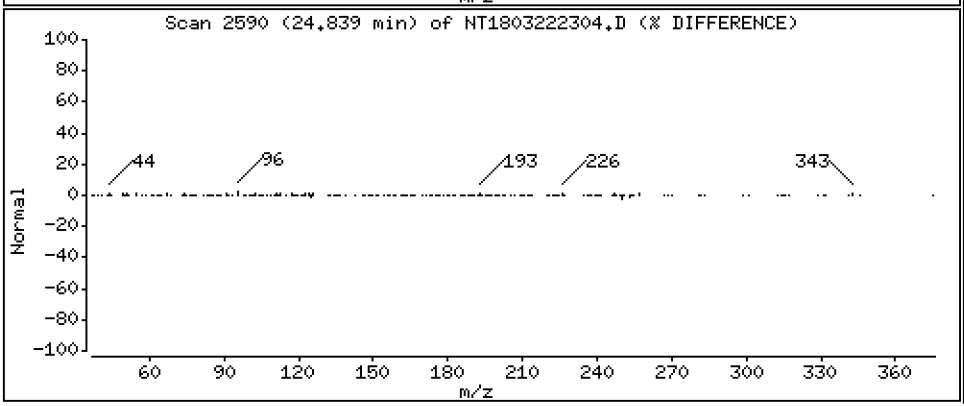












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

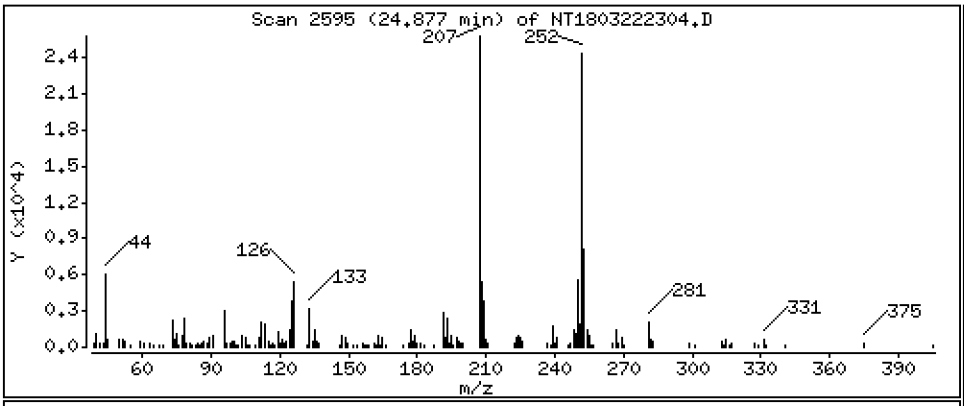
Operator: VTS

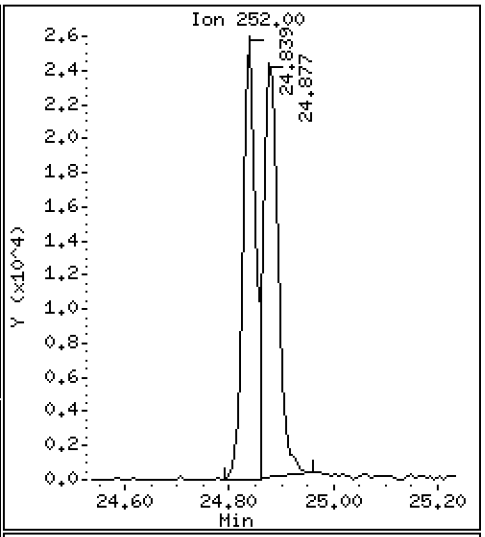
Column phase: ZB-5msi

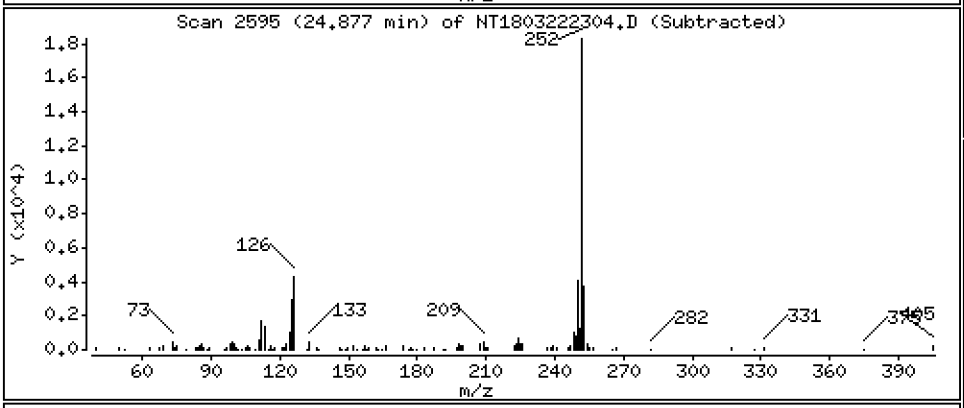
Column diameter: 0.25

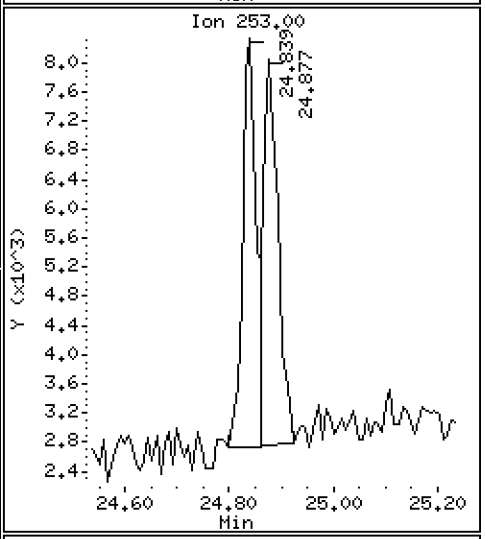
75 Benzo(k)fluoranthene

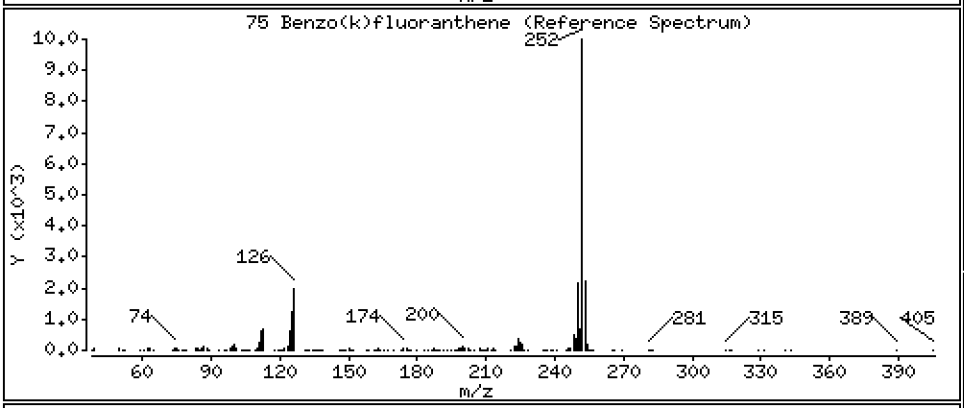
Concentration: 0.1709 ug/mL

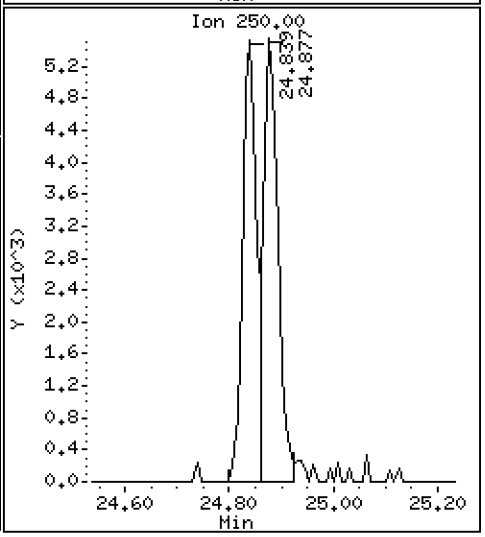


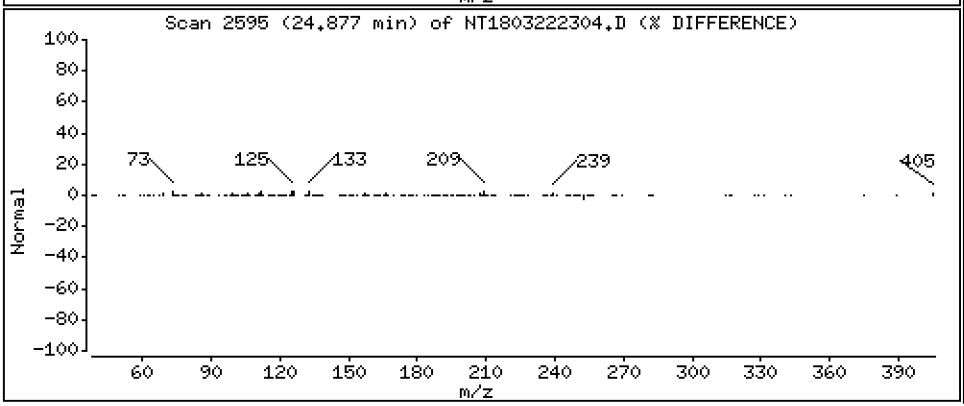












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

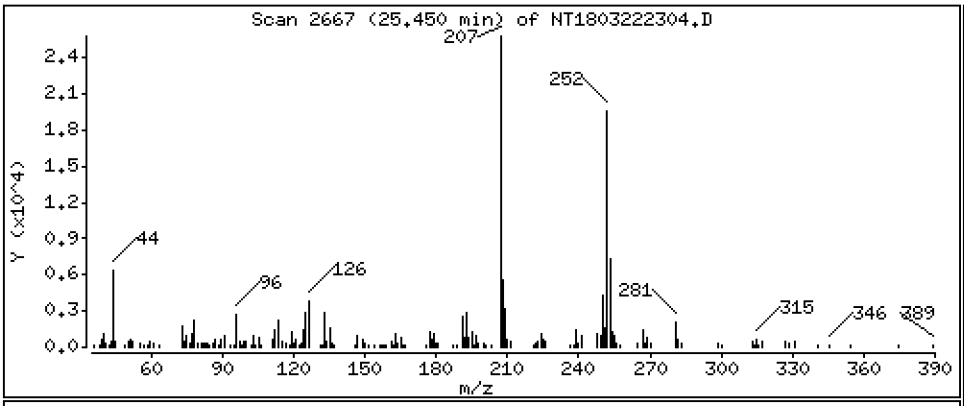
Operator: VTS

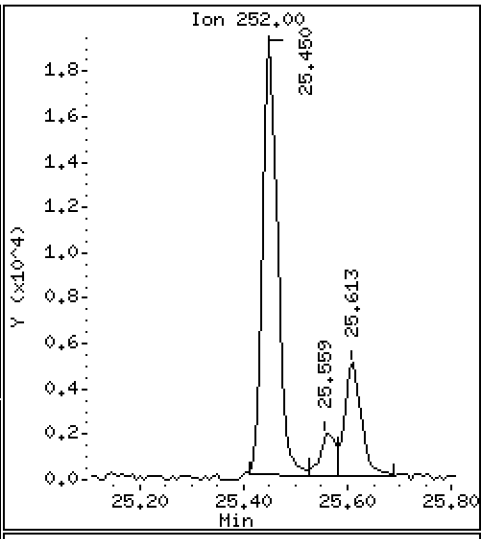
Column phase: ZB-5msi

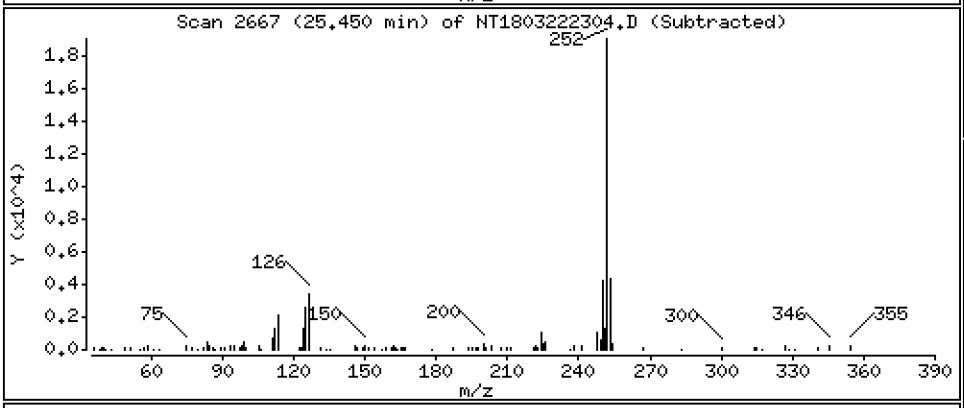
Column diameter: 0.25

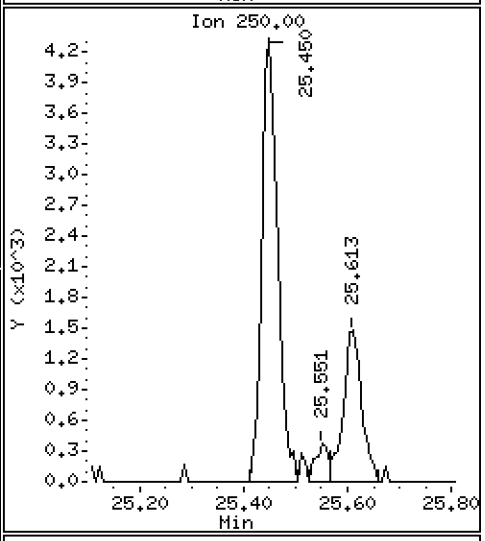
76 Benzo(a)pyrene

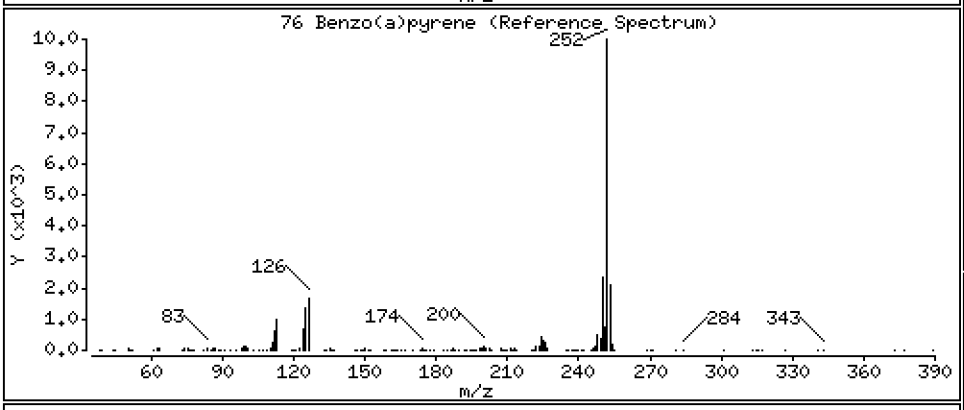
Concentration: 0.1520 ug/mL

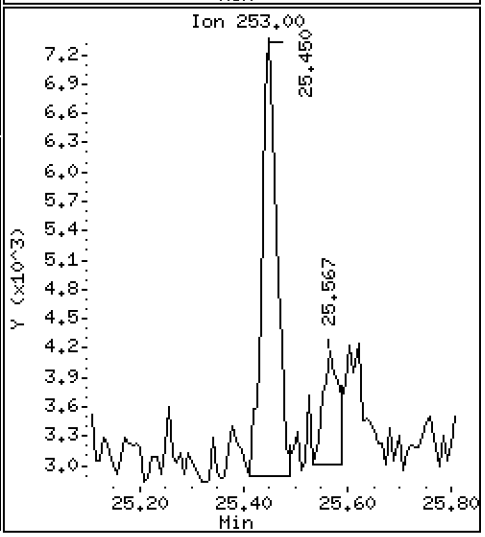


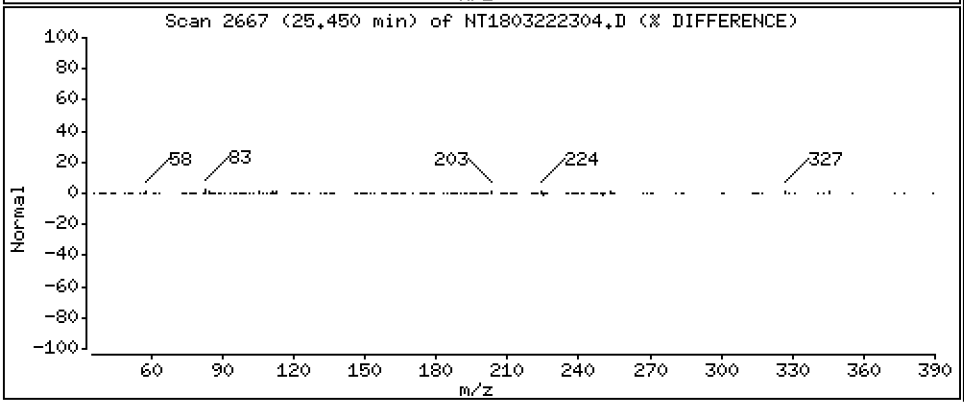












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

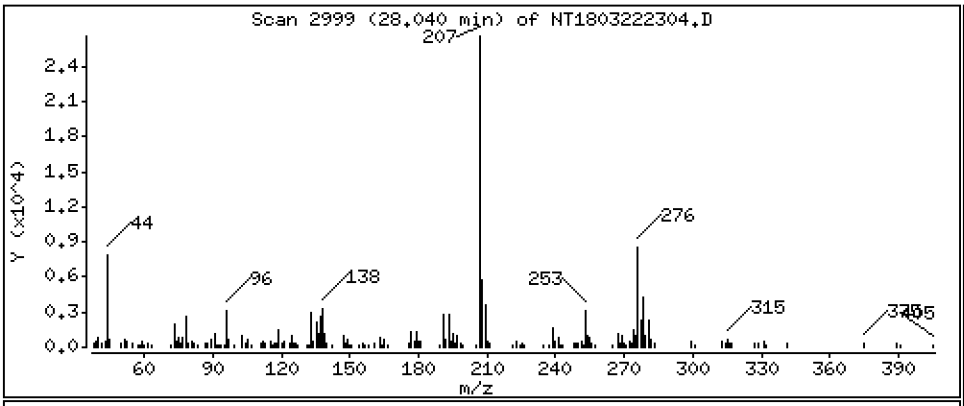
Operator: VTS

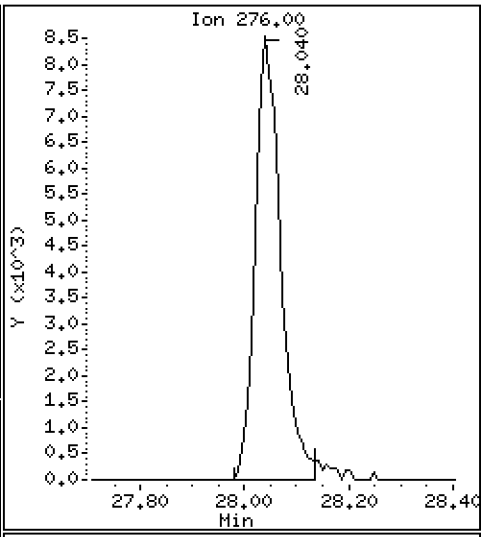
Column phase: ZB-5msi

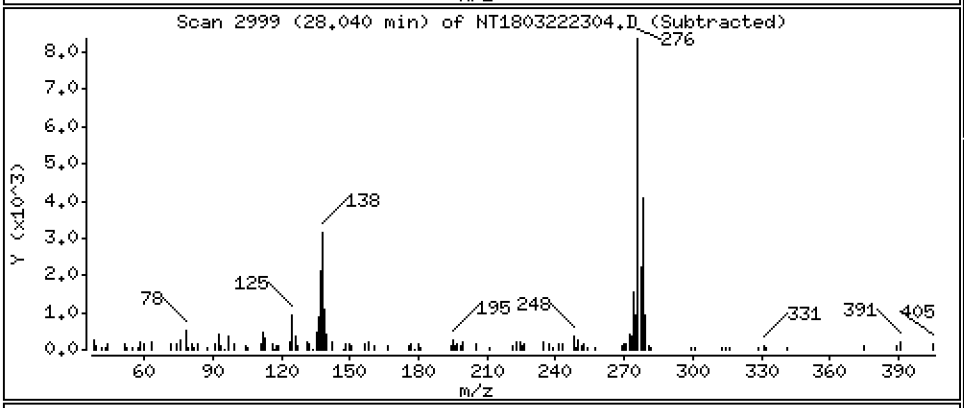
Column diameter: 0.25

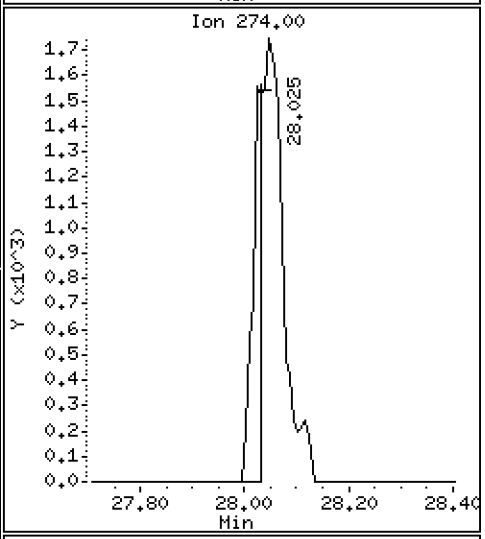
78 Indeno(1,2,3-cd)pyrene

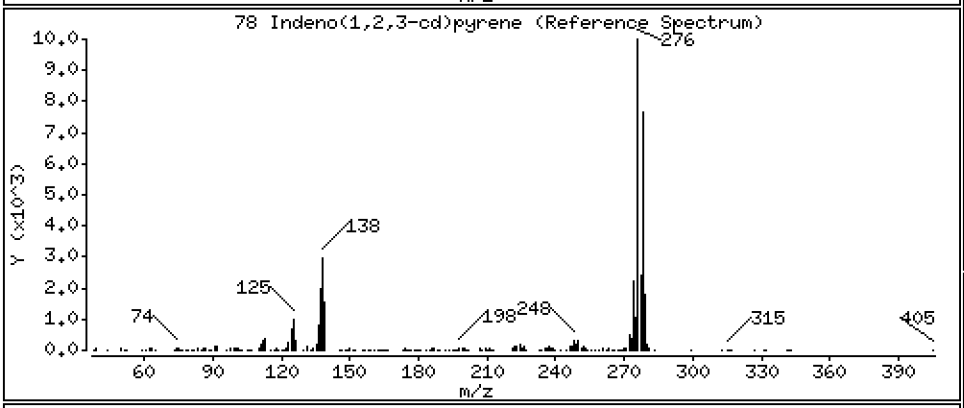
Concentration: 0.09384 ug/mL

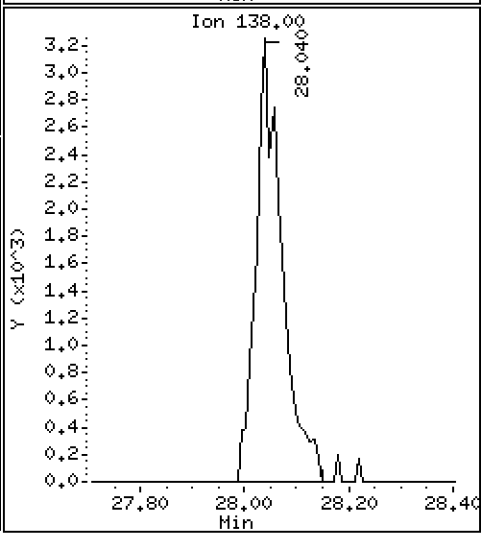


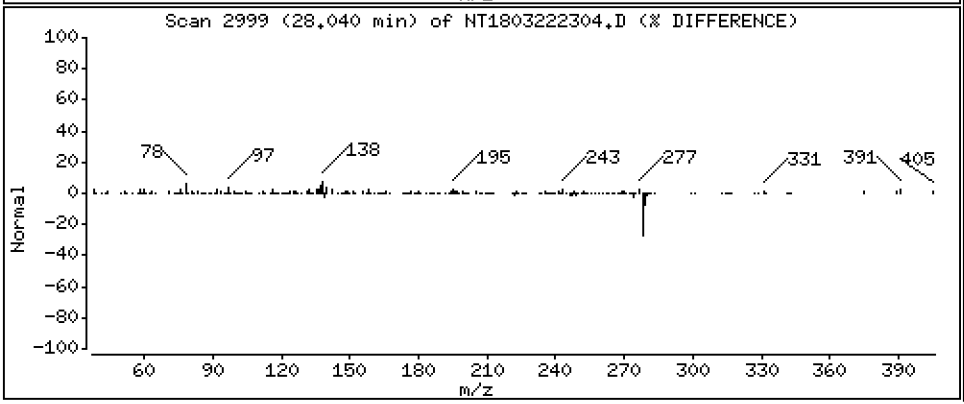












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

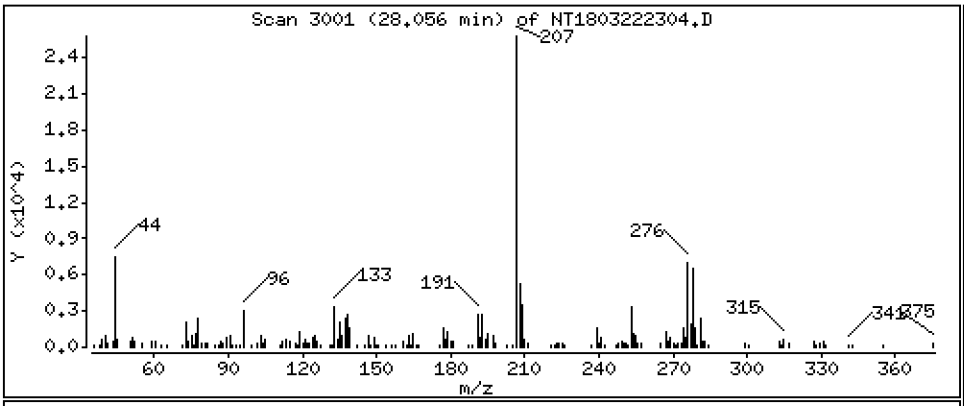
Operator: VTS

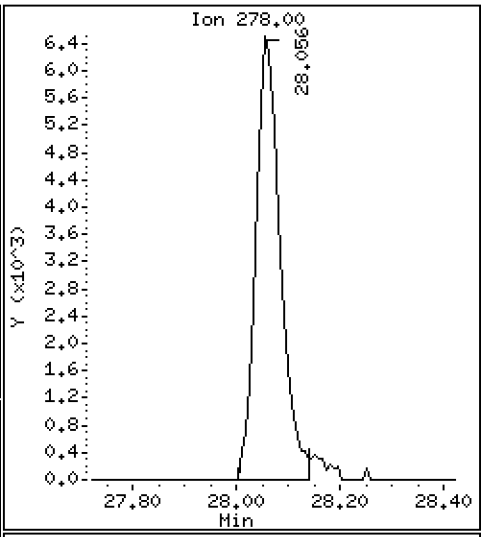
Column phase: ZB-5msi

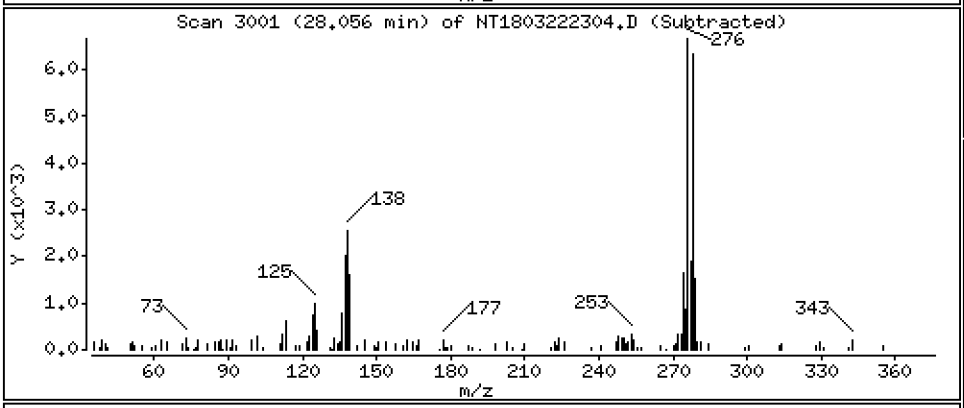
Column diameter: 0.25

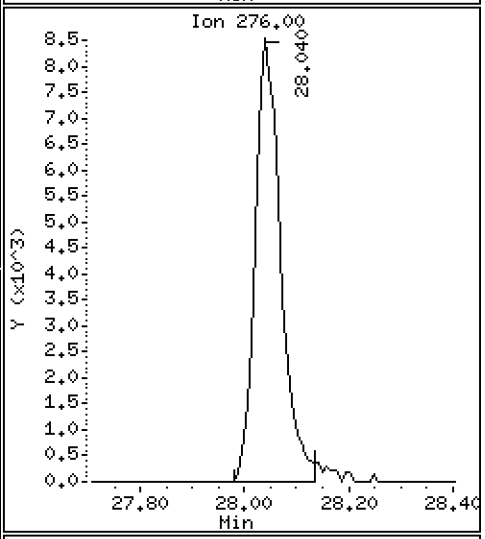
79 Dibenzo(a,h)anthracene

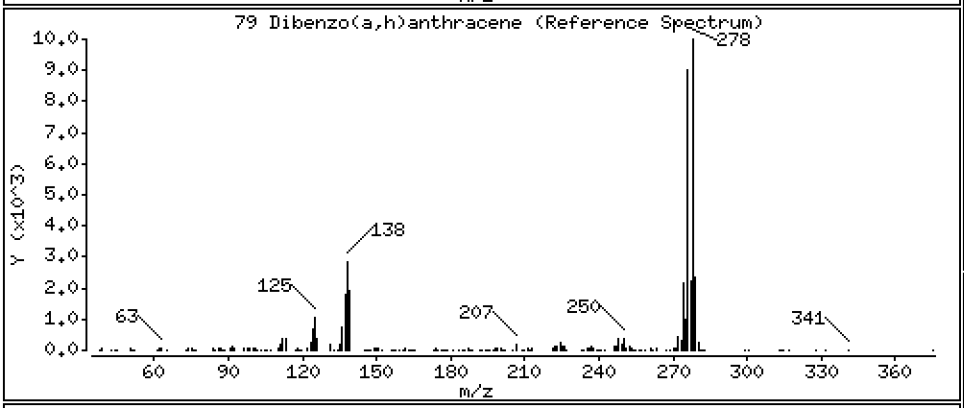
Concentration: 0.08319 ug/mL

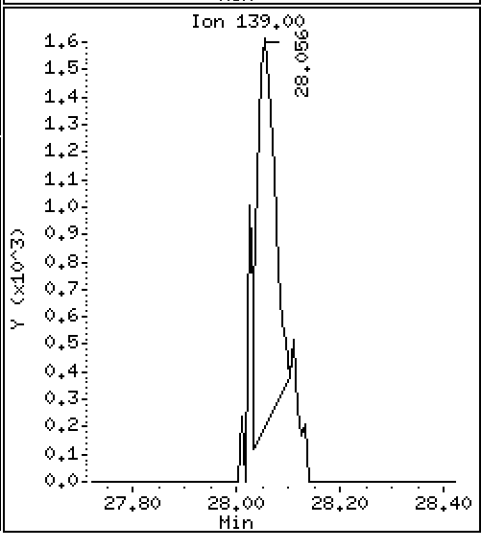


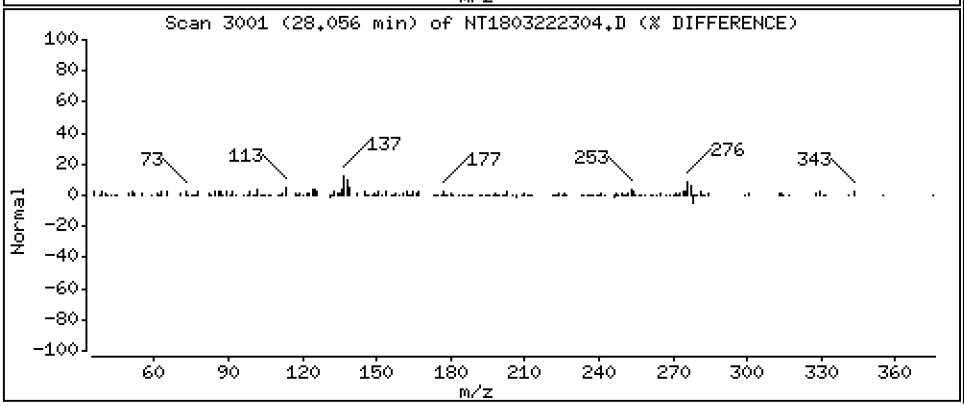












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

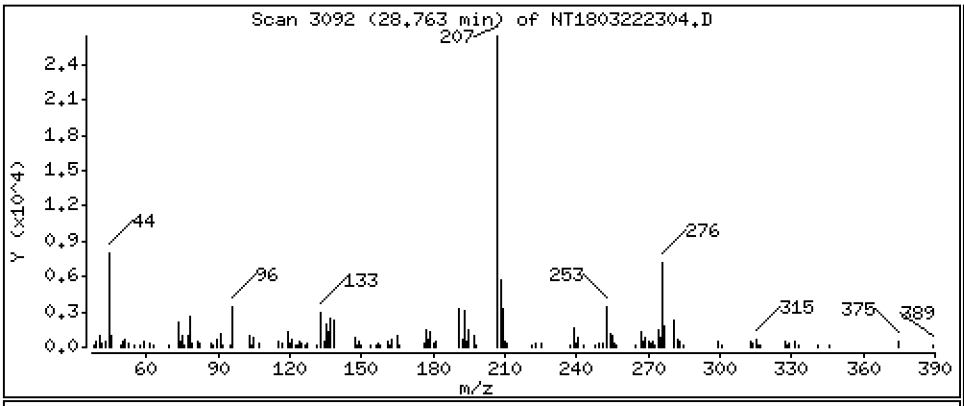
Operator: VTS

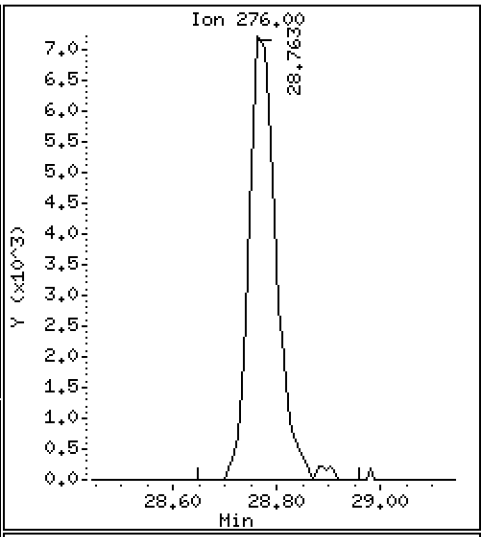
Column phase: ZB-5msi

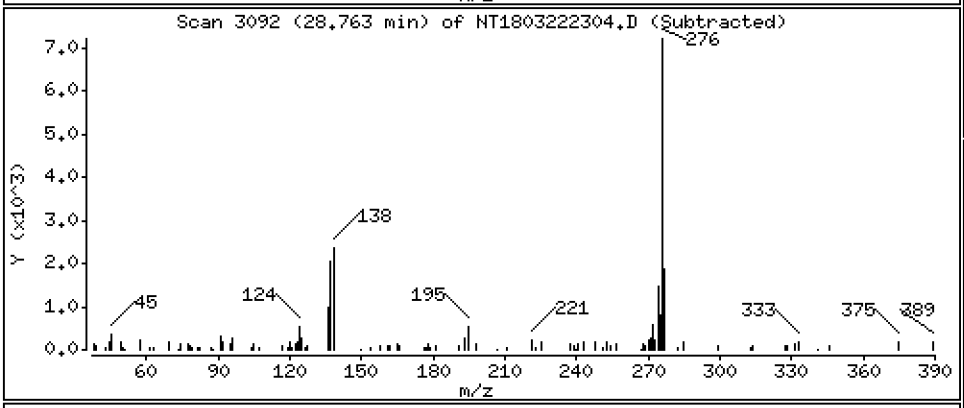
Column diameter: 0.25

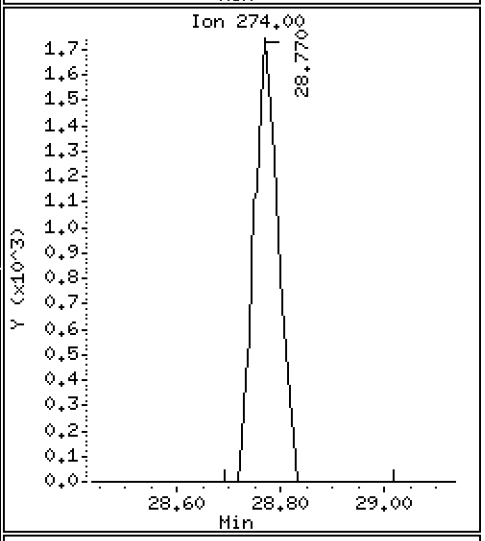
80 Benzo(g,h,i)perylene

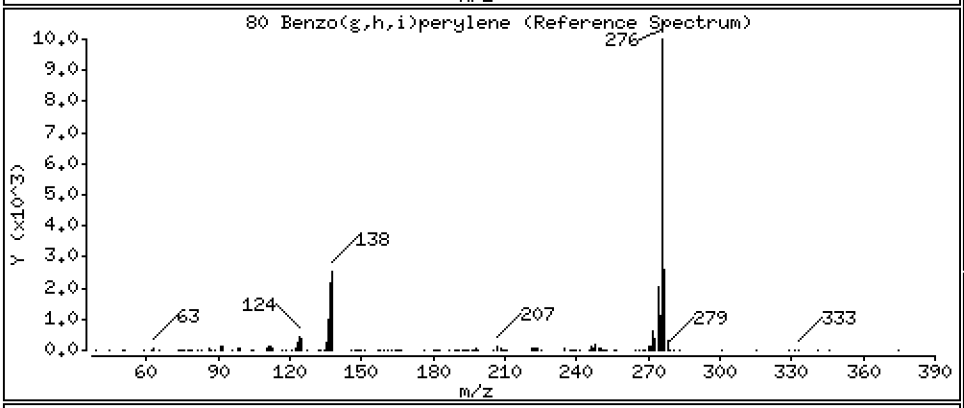
Concentration: 0.1096 ug/mL

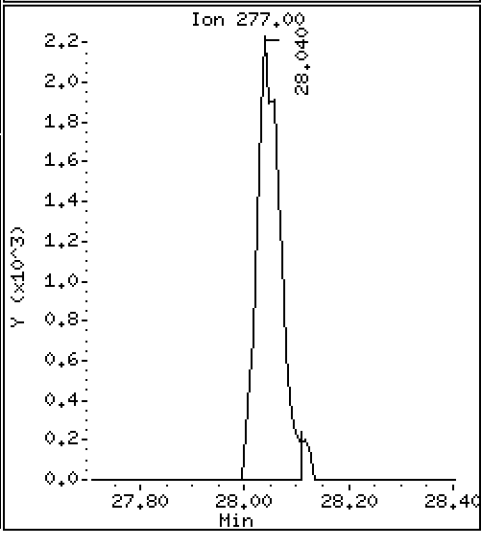


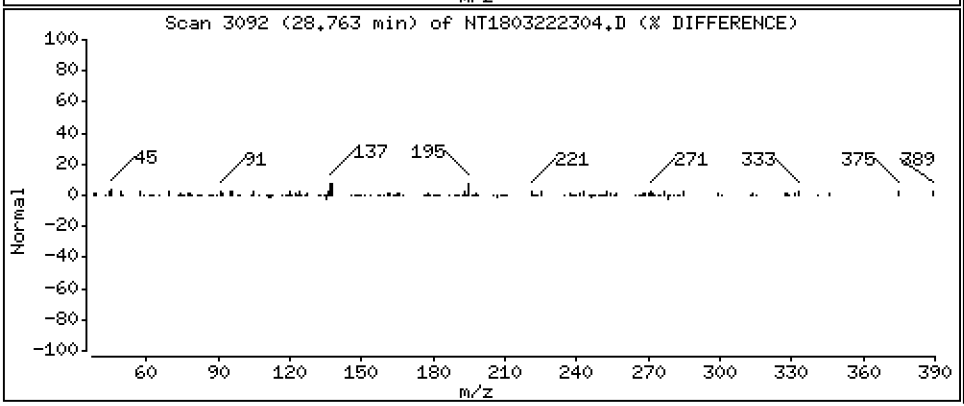












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

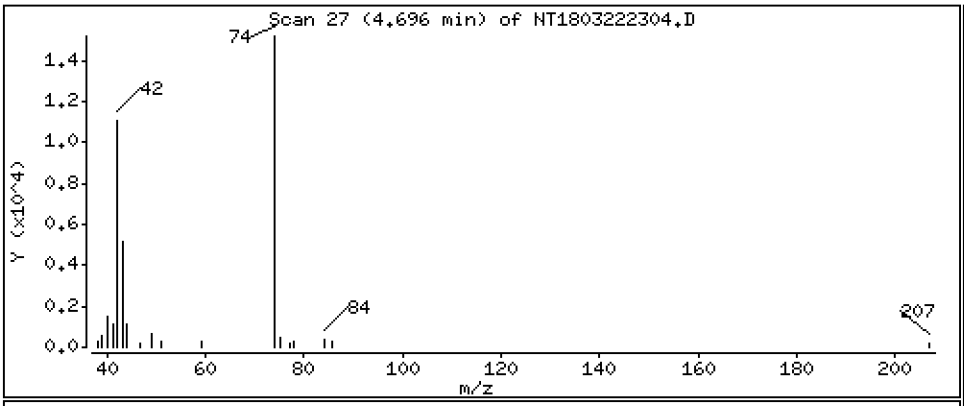
Operator: VTS

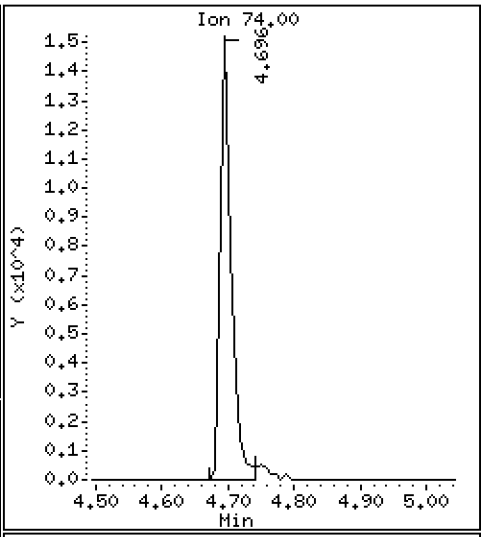
Column phase: ZB-5msi

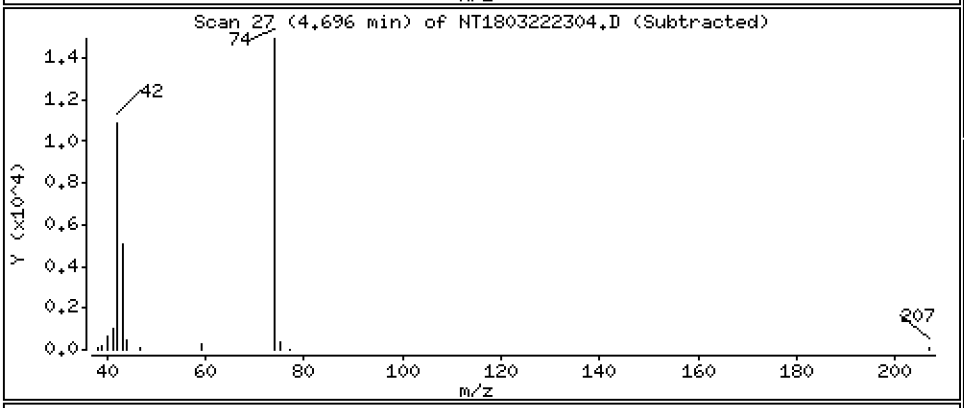
Column diameter: 0.25

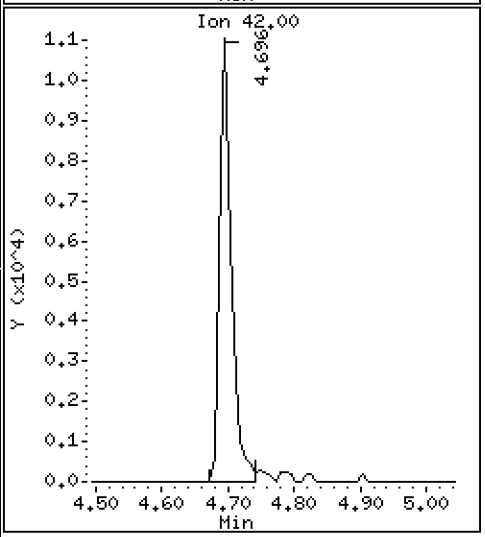
90 N-Nitrosodimethylamine

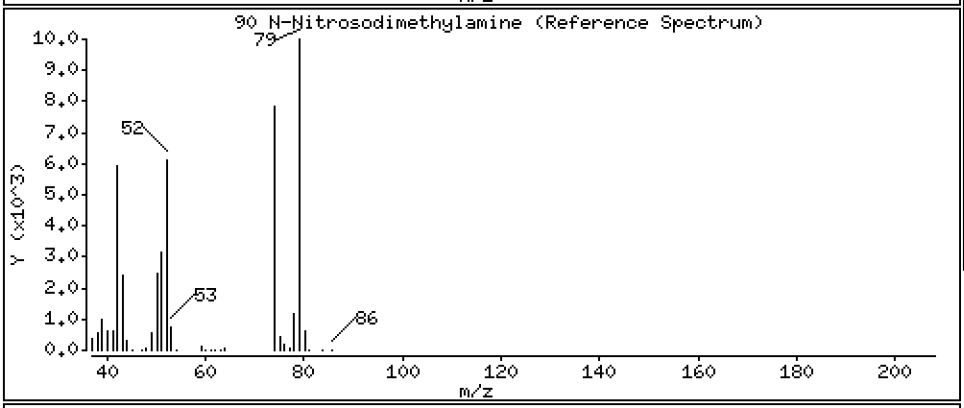
Concentration: 0.3668 ug/mL

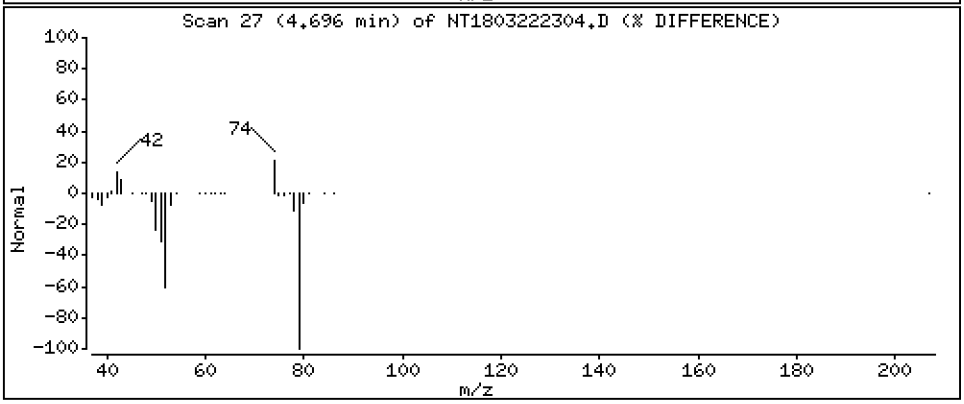












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

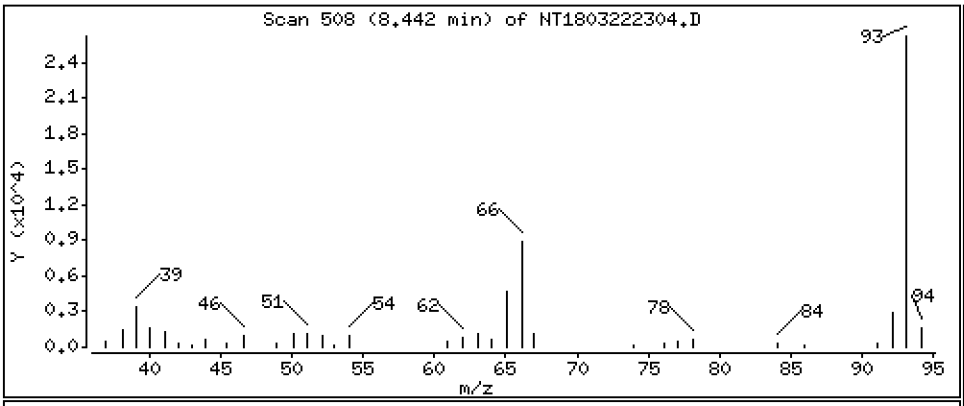
Operator: VTS

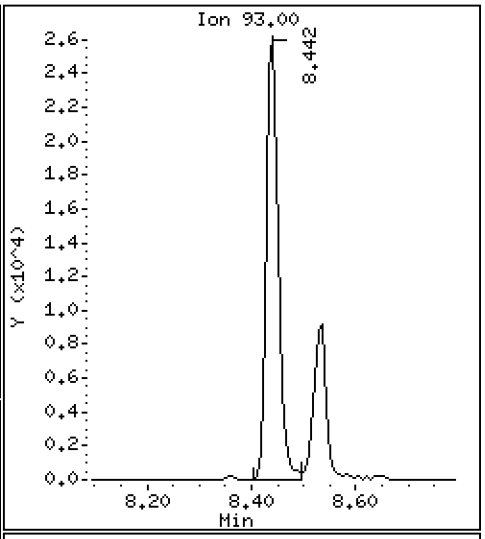
Column phase: ZB-5msi

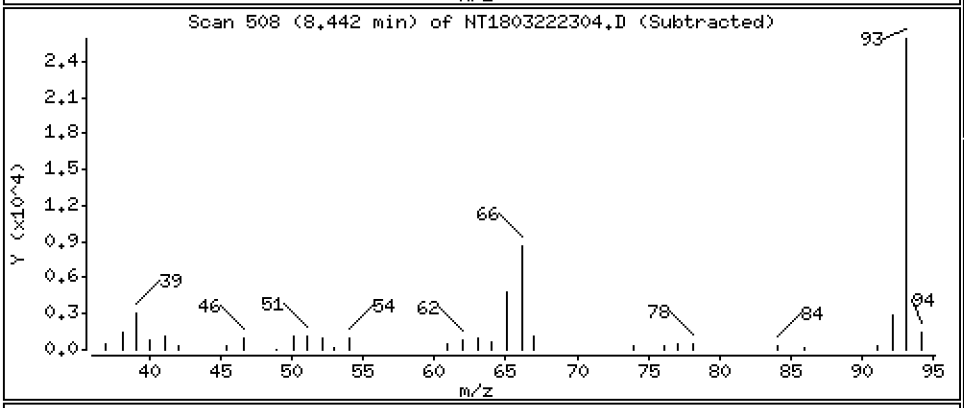
Column diameter: 0.25

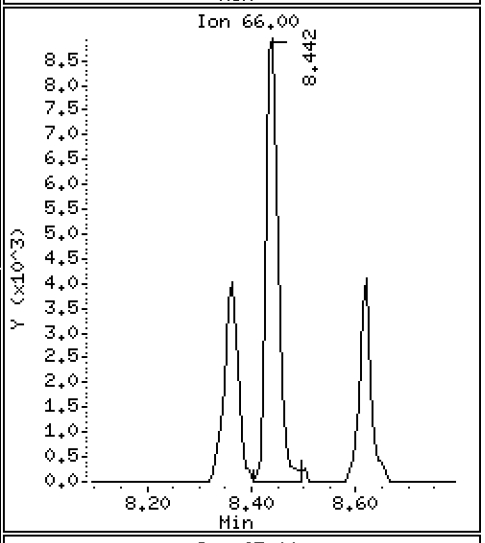
91 Aniline

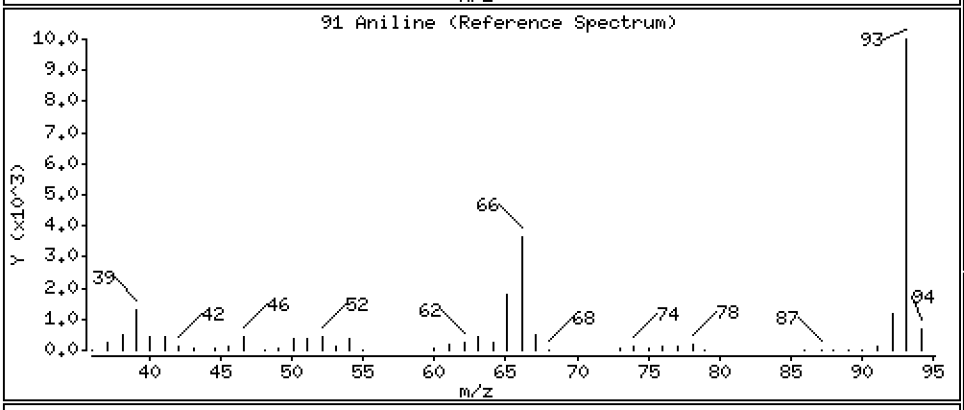
Concentration: 0.3501 ug/mL

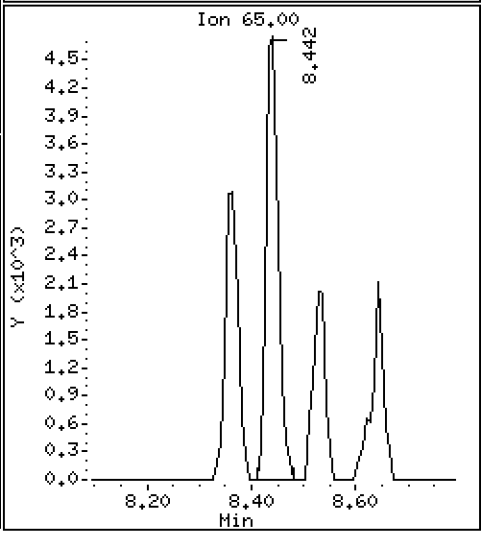


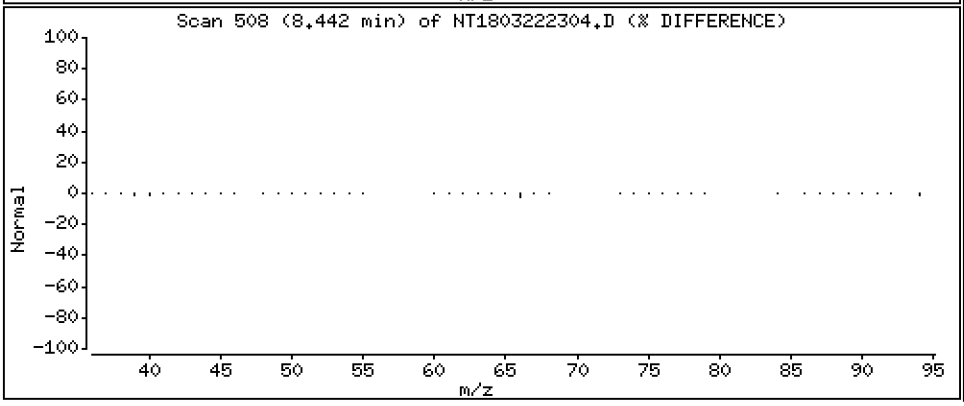












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

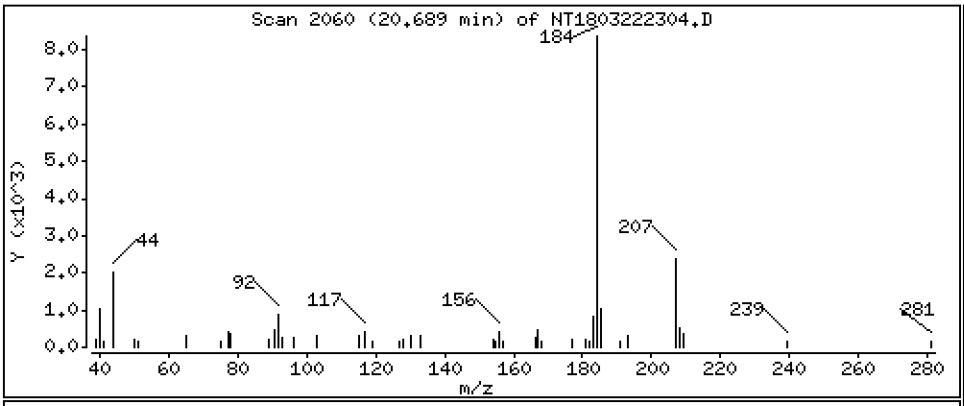
Operator: VTS

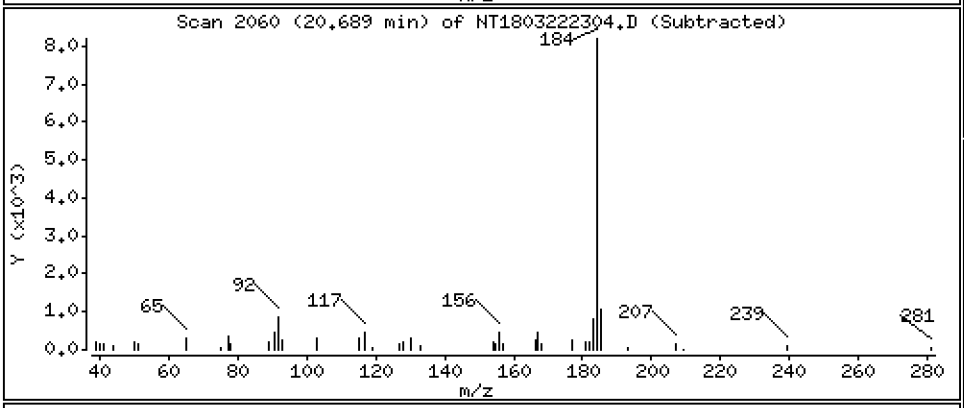
Column phase: ZB-5msi

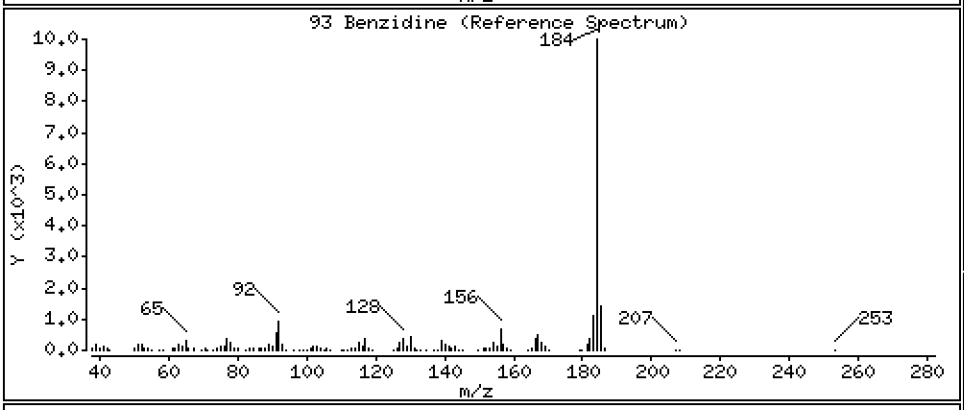
Column diameter: 0.25

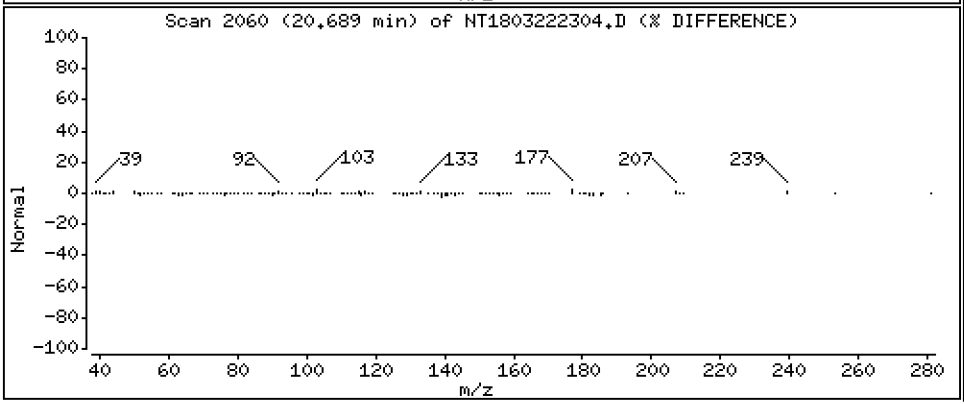
93 Benzidine

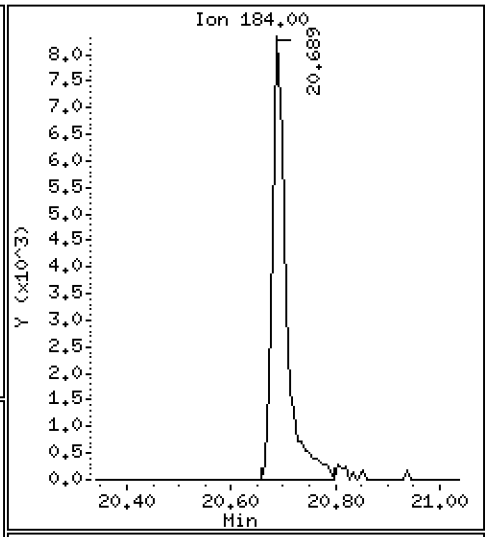
Concentration: 0.1382 ug/mL

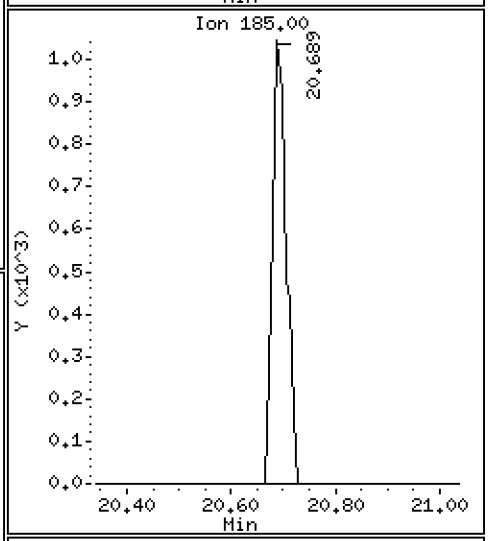


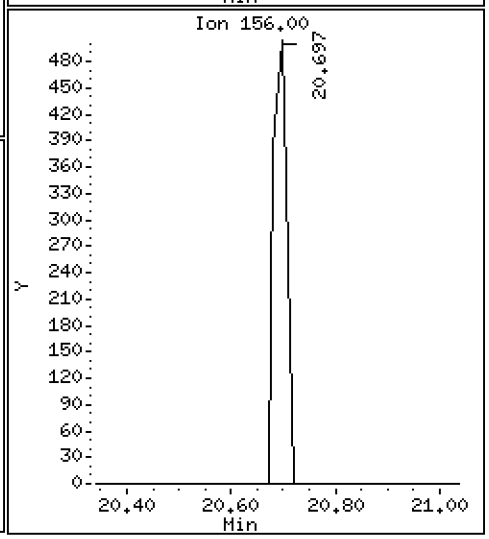












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

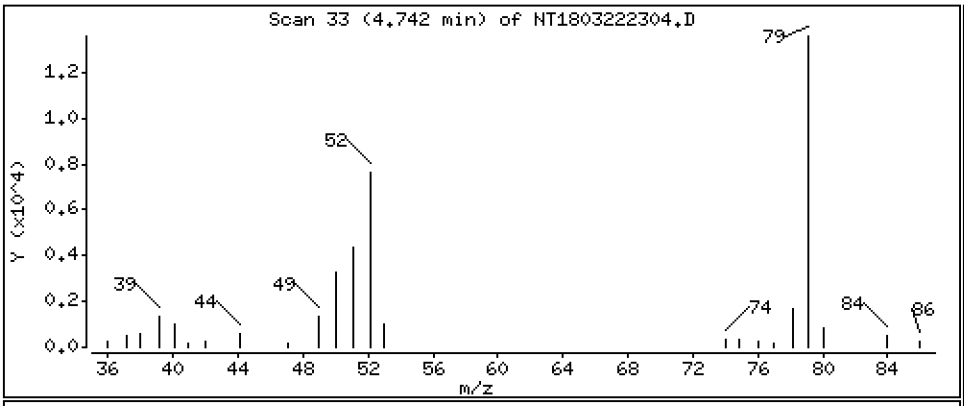
Operator: VTS

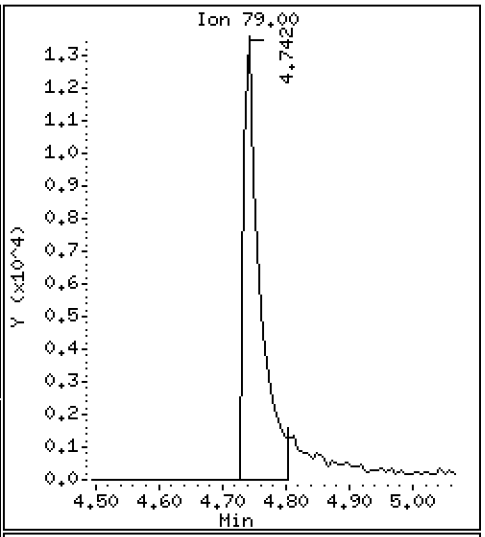
Column phase: ZB-5msi

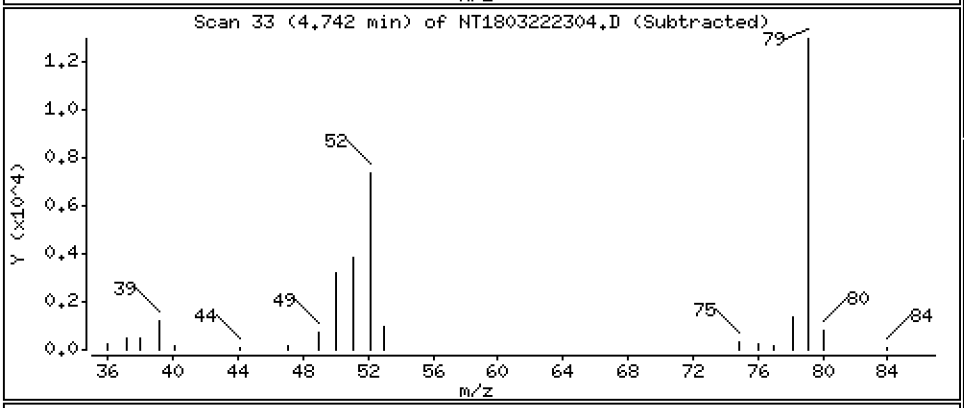
Column diameter: 0.25

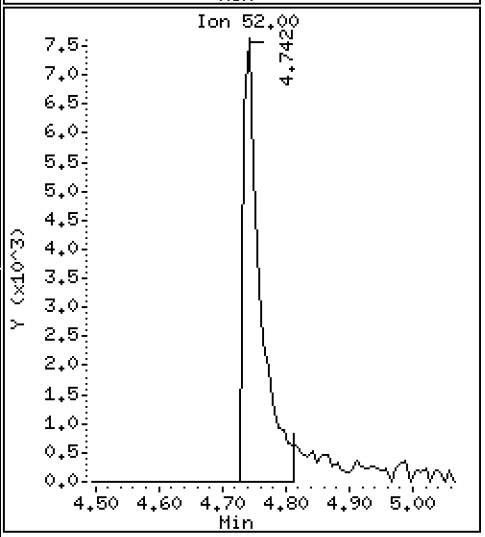
103 Pyridine

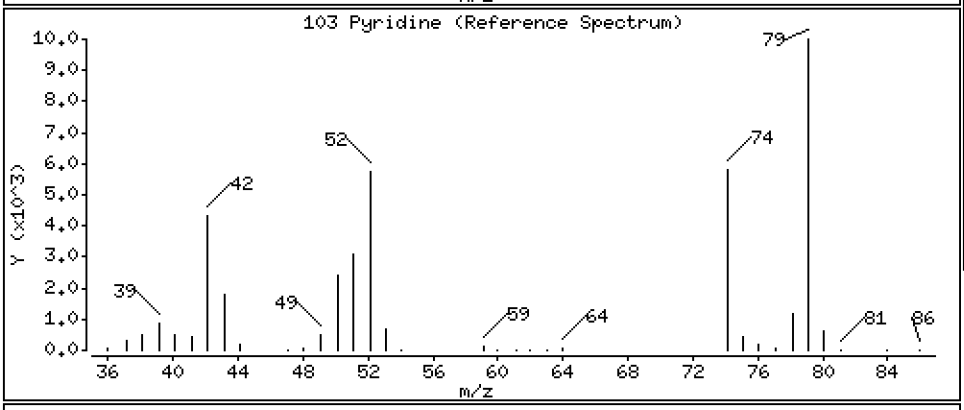
Concentration: 0.3041 ug/mL

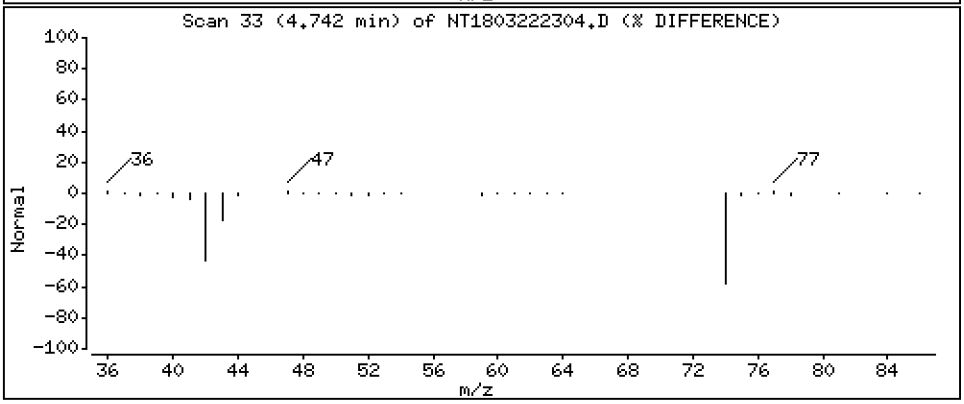












Data File: \\target\share\chem3\nt18.i\20230322.b\NT1803222304.D

Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

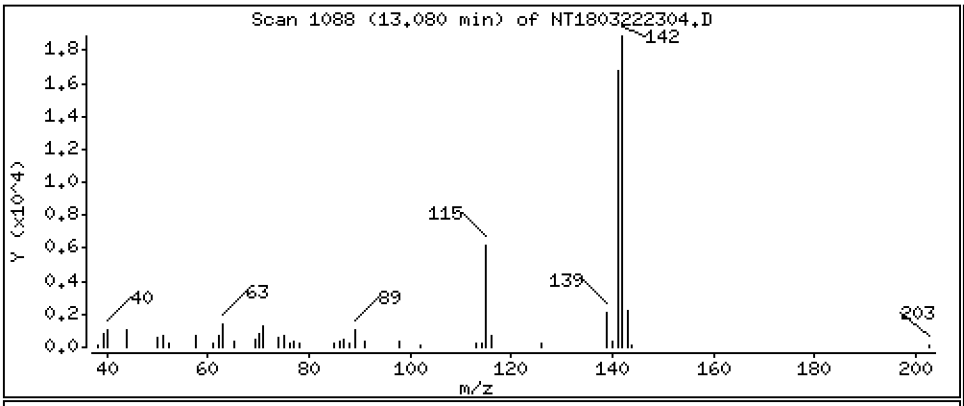
Operator: VTS

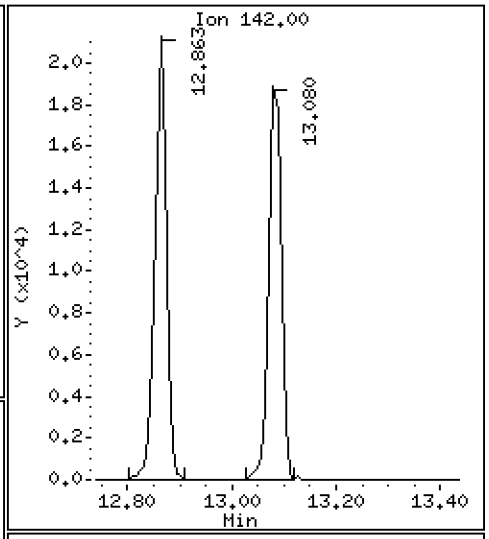
Column phase: ZB-5msi

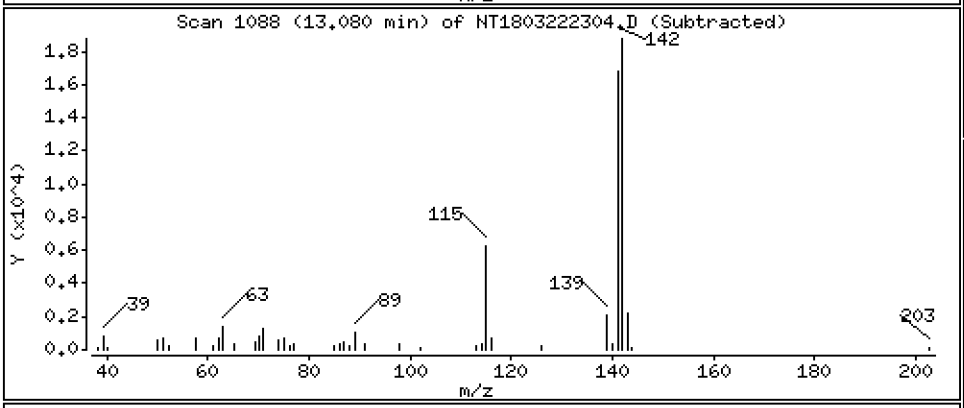
Column diameter: 0.25

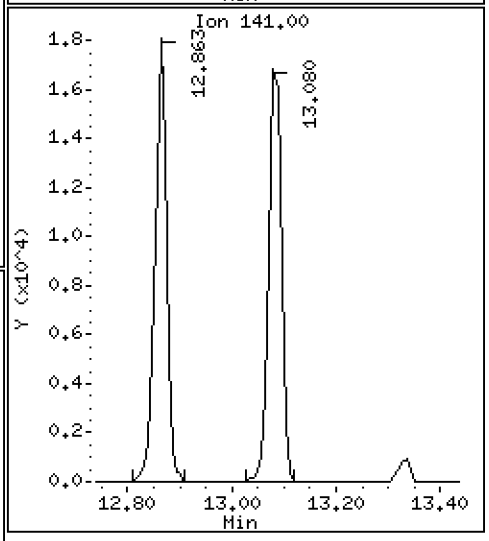
105 1-methylnaphthalene

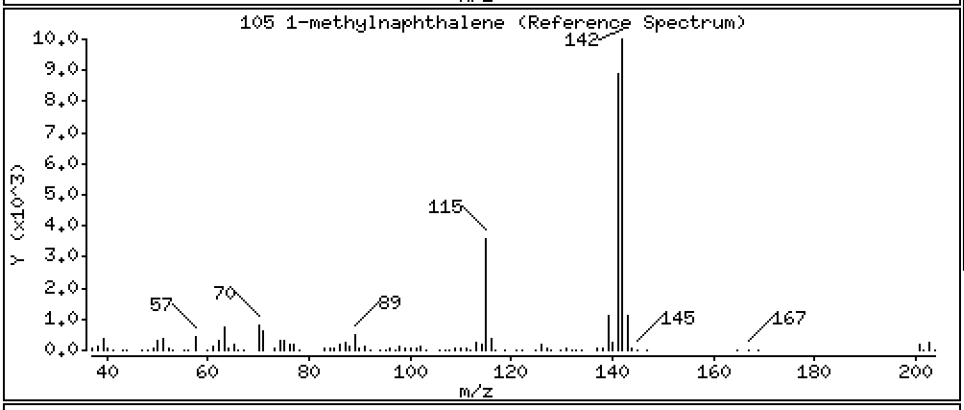
Concentration: 0.1940 ug/mL

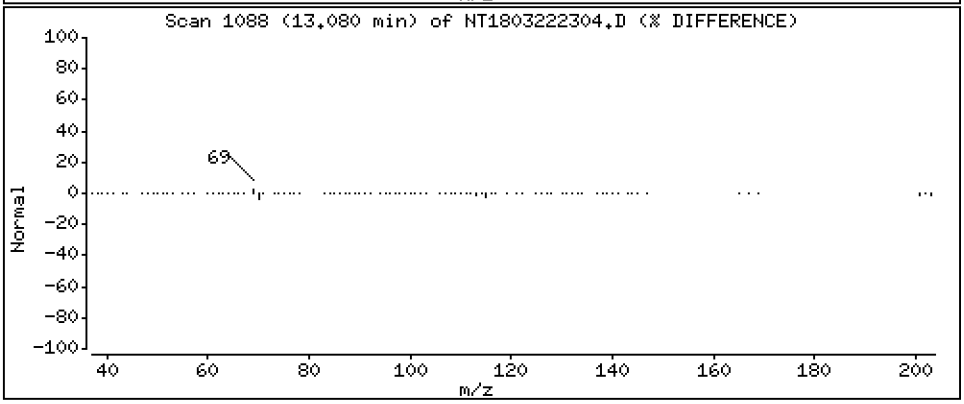












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

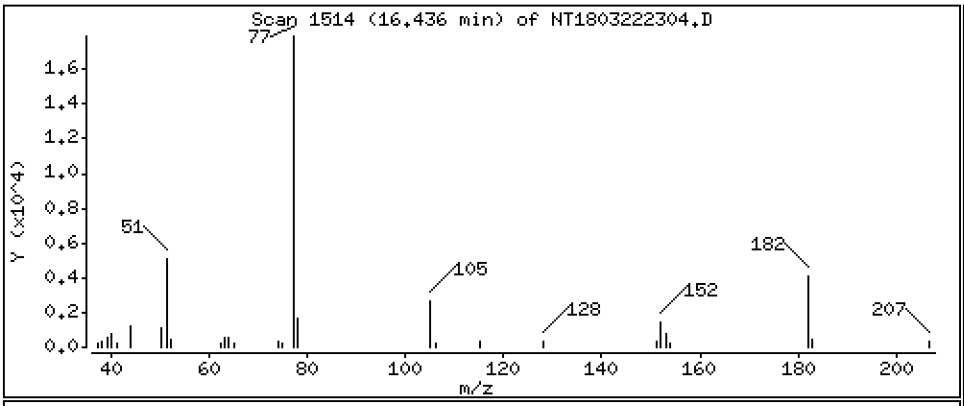
Operator: VTS

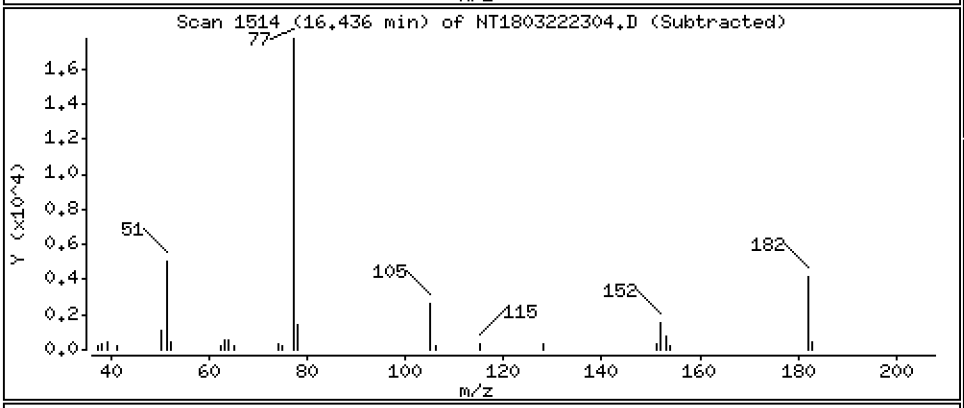
Column phase: ZB-5msi

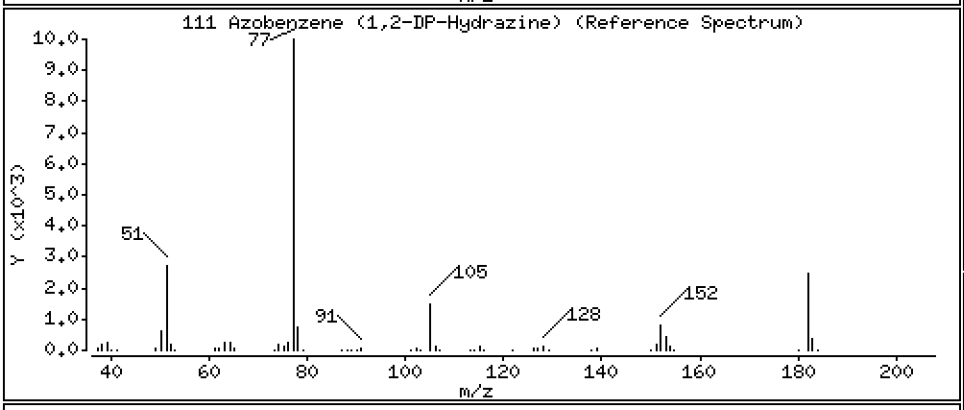
Column diameter: 0.25

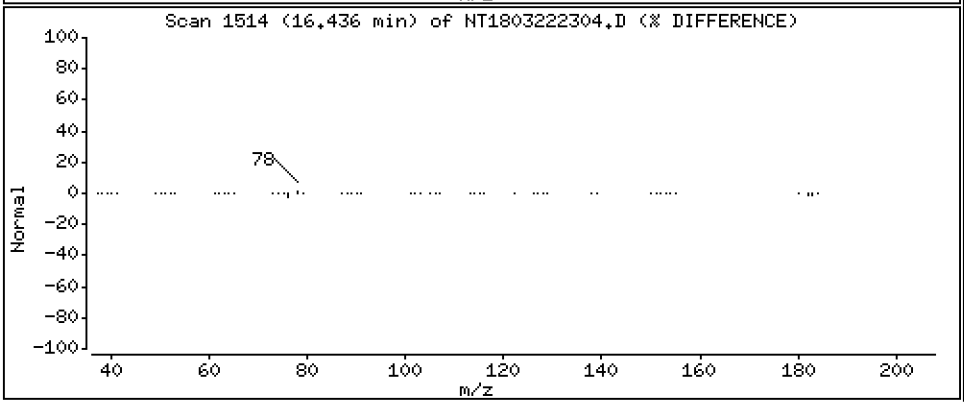
111 Azobenzene (1,2-DP-Hydrazine)

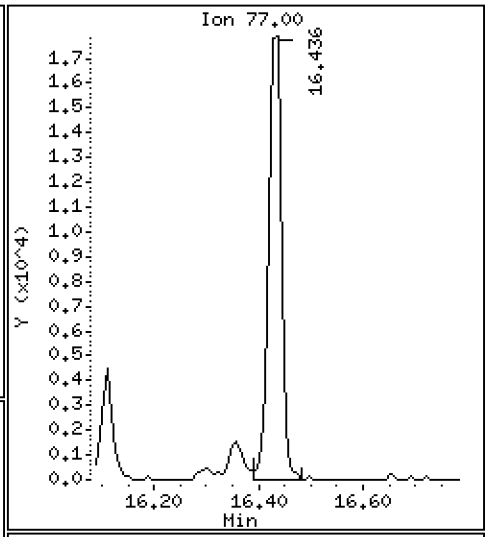
Concentration: 0.1723 ug/mL

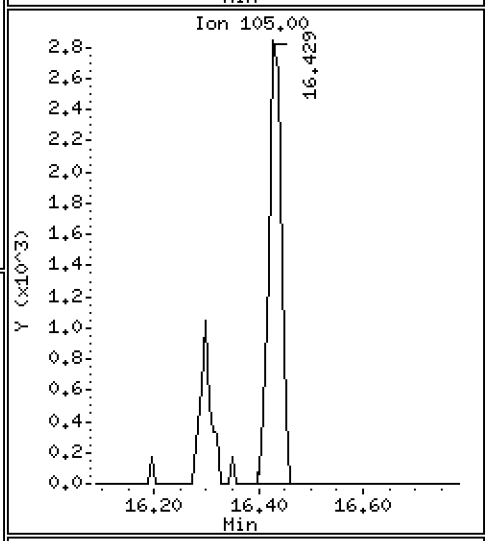


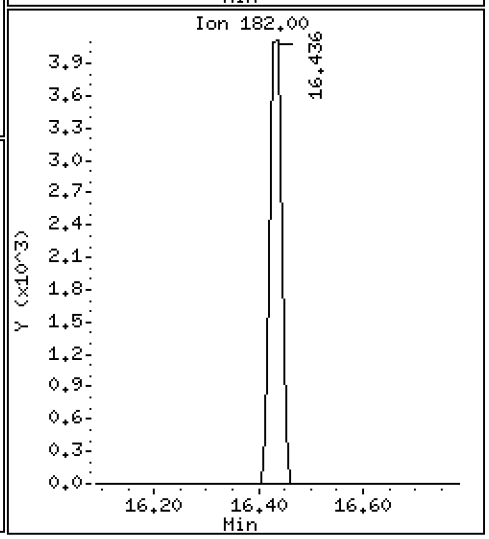












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

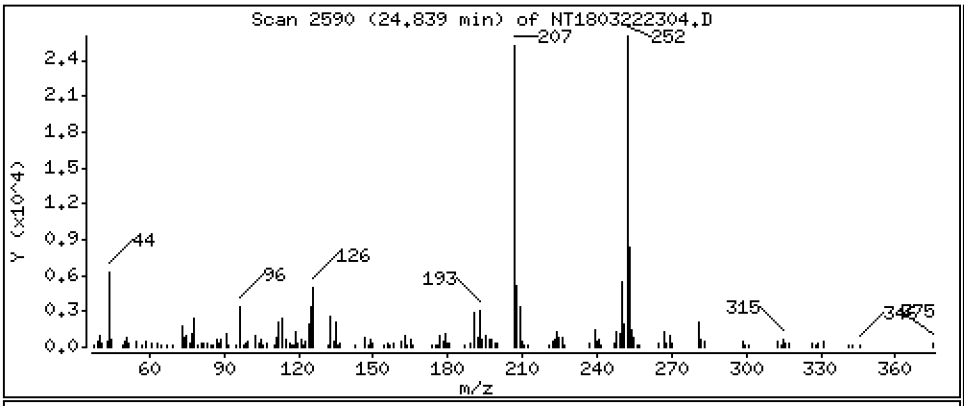
Operator: VTS

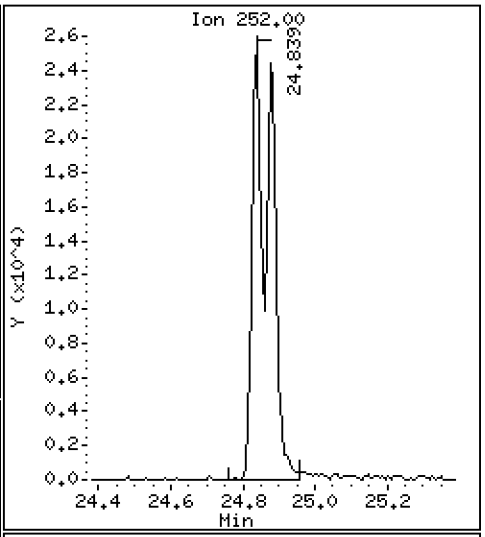
Column phase: ZB-5msi

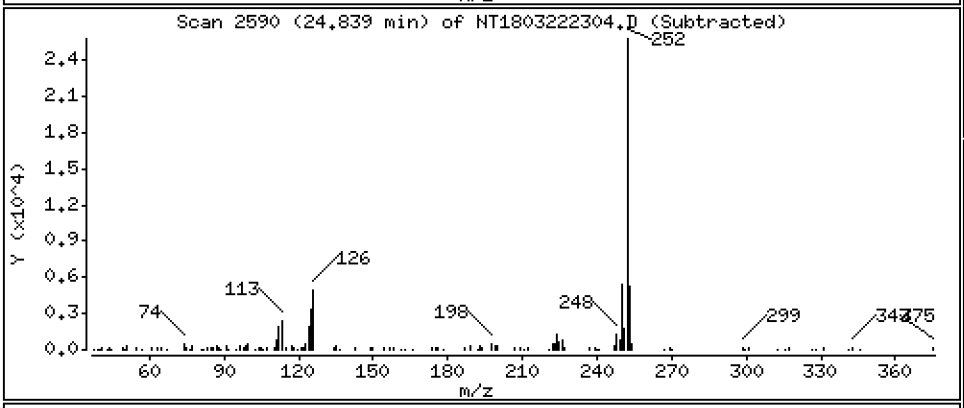
Column diameter: 0.25

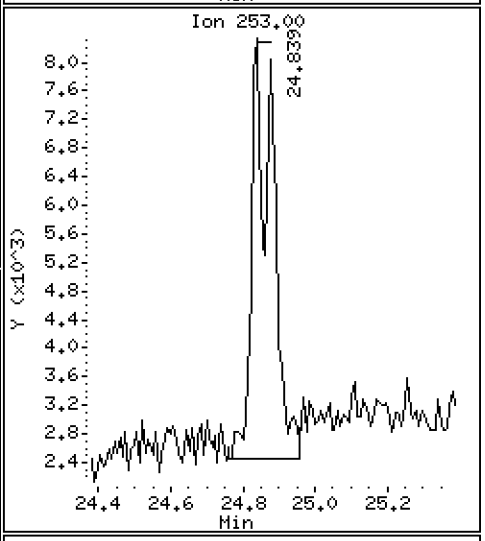
187 Total Benzofluoranthenes

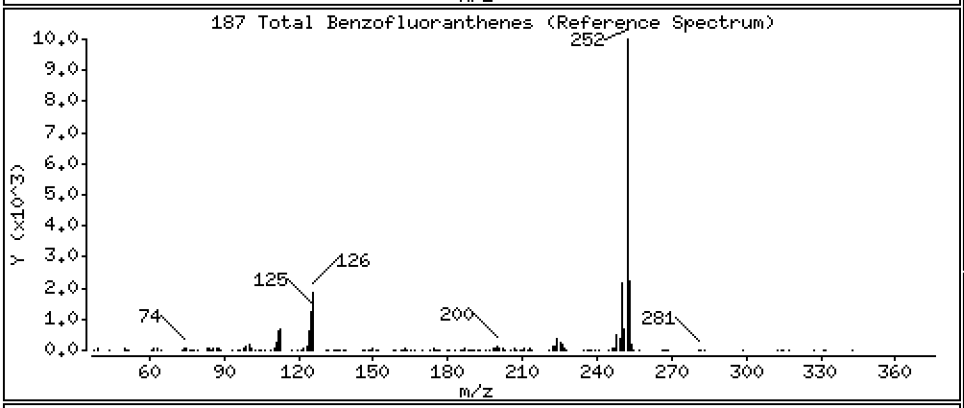
Concentration: 0.3689 ug/mL

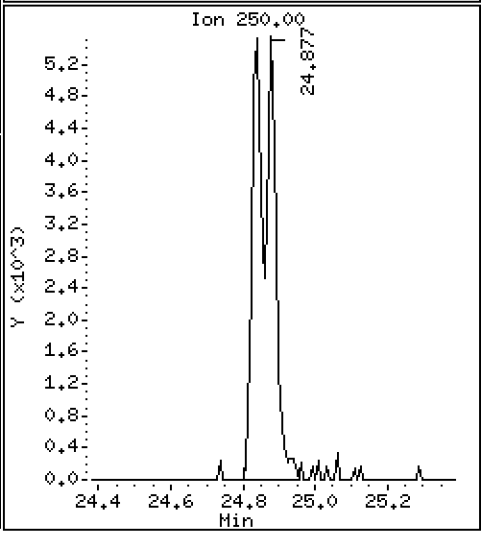


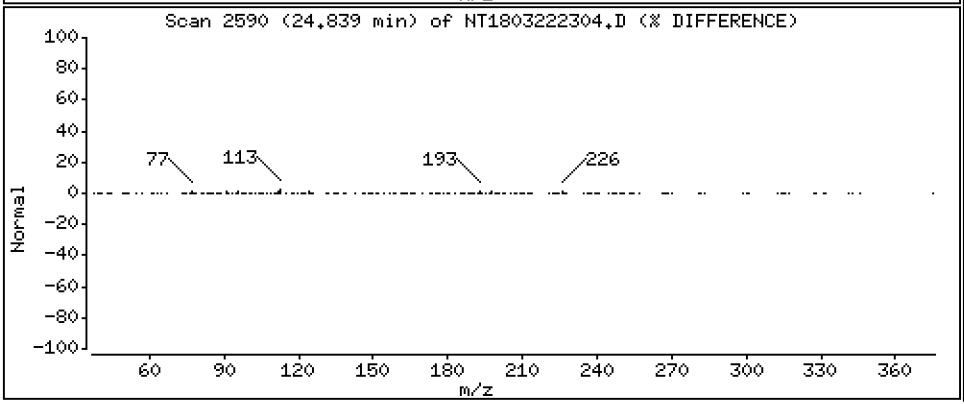












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Date : 22-MAR-2023 19:17

Client ID:

Instrument: nt18.i

Sample Info: SLD0051-LCV1

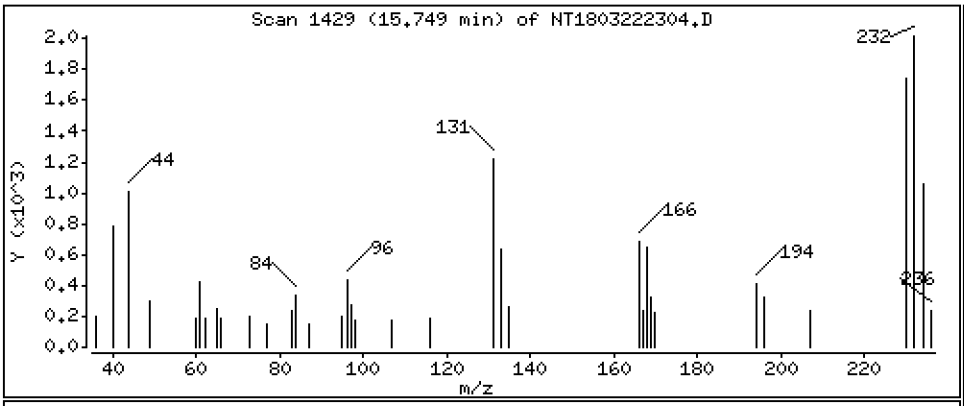
Operator: VTS

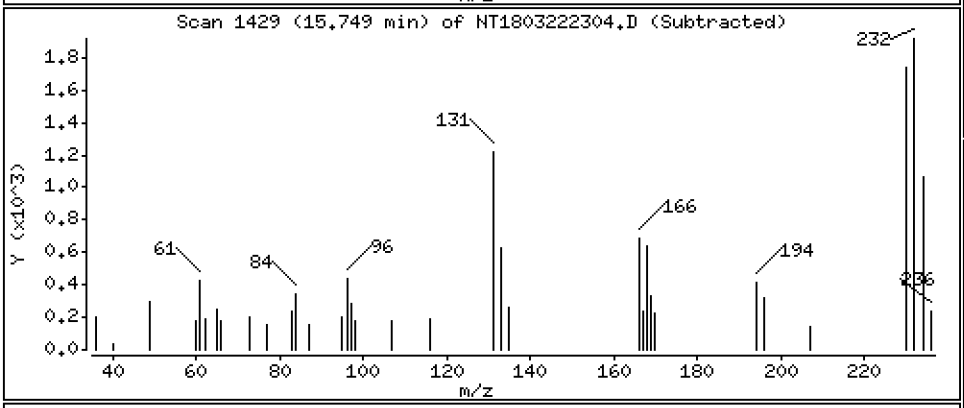
Column phase: ZB-5msi

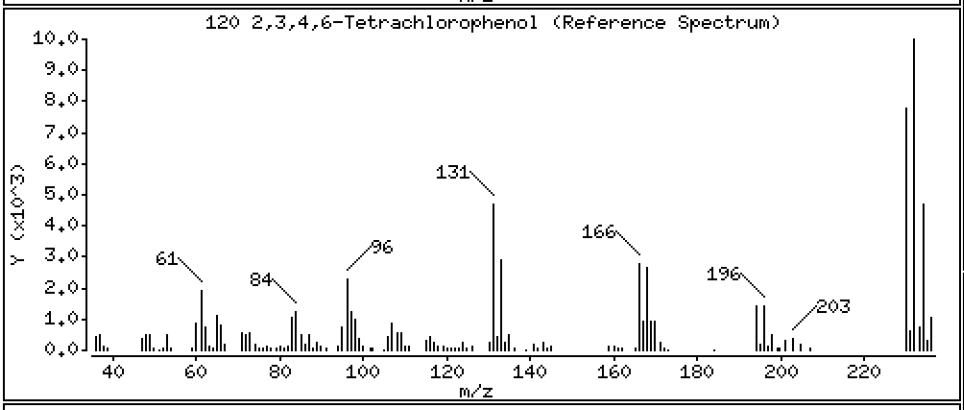
Column diameter: 0.25

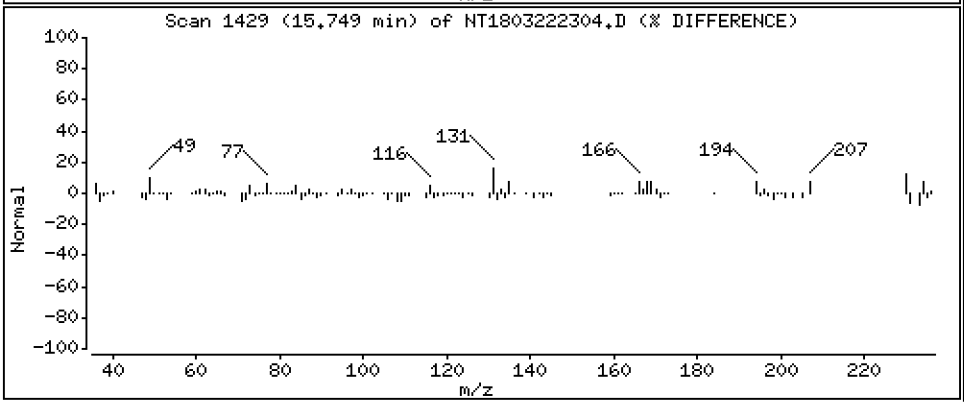
120 2,3,4,6-Tetrachlorophenol

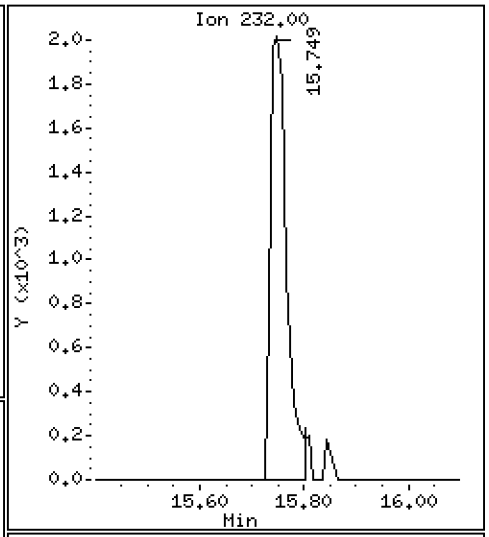
Concentration: 0.07577 ug/mL

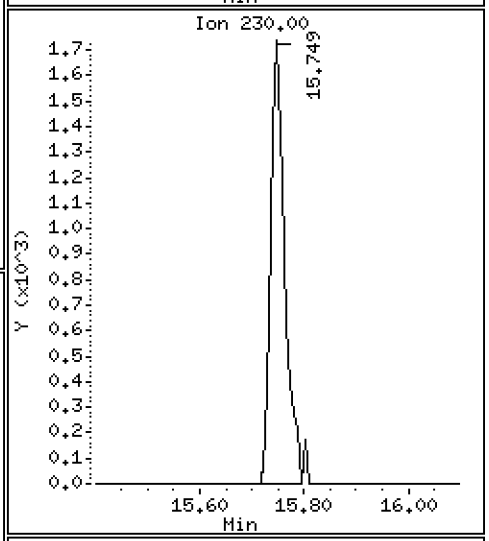


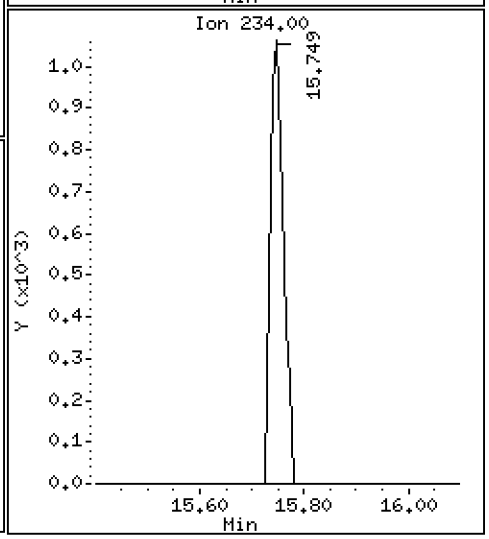












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

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Inj Date : 22-MAR-2023 19:17
Operator : VTS Inst ID: nt18.i
Smp Info : SLD0051-LCV1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230322.b\ABN.m
Meth Date : 04-Apr-2023 14:27 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 15:18 Cal File: NT1803192302.D
Als bottle: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: DEENAY-201905

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.781	6.773	(0.755)	19185	0.24071	0.2407
$	2 Phenol-d5	99	8.341	8.341	(0.929)	24989	0.25379	0.2538
	3 Phenol	94	8.364	8.364	(0.931)	18948	0.17997	0.1800
$	5 2-Chlorophenol-d4	132	8.619	8.619	(0.960)	21362	0.25029	0.2503
	4 Bis(2-Chloroethyl)ether	93	8.534	8.534	(0.950)	13628	0.18703	0.1870
	6 2-Chlorophenol	128	8.643	8.642	(0.962)	15854	0.17611	0.1761
	7 1,3-Dichlorobenzene	146	8.913	8.913	(0.992)	18402	0.19253	0.1925
*	8 1,4-Dichlorobenzene-d4	152	8.983	8.983	(1.000)	258537	4.00000	
	9 1,4-Dichlorobenzene	146	9.006	9.006	(1.003)	18483	0.19322	0.1932
$	10 1,2-Dichlorobenzene-d4	152	9.332	9.332	(1.039)	12160	0.19417	0.1942
	12 1,2-Dichlorobenzene	146	9.363	9.363	(1.042)	18621	0.19754	0.1975
	11 Benzyl alcohol	108	9.247	9.247	(1.029)	6701	0.13640	0.1364
	14 2,2'-oxybis(1-Chloropropane)	121	9.550	9.550	(1.063)	4127	0.18595	0.1859
	13 2-Methylphenol	108	9.472	9.472	(1.054)	13426	0.16801	0.1680
	17 Hexachloroethane	117	9.953	9.945	(1.108)	7271	0.19412	0.1941
	16 N-Nitroso-di-n-propylamine	70	9.798	9.806	(1.091)	9491	0.16678	0.1668
	15 4-Methylphenol	108	9.736	9.736	(1.084)	13669	0.16472	0.1647
$	18 Nitrobenzene-d5	82	10.062	10.062	(0.880)	13372	0.16912	0.1691
	19 Nitrobenzene	77	10.093	10.093	(0.882)	13795	0.17747	0.1775
	20 Isophorone	82	10.535	10.543	(0.921)	16957	0.15975	0.1598
	21 2-Nitrophenol	139	10.719	10.719	(0.937)	4309	0.09420	0.09420
	22 2,4-Dimethylphenol	107	10.770	10.778	(0.941)	27457	0.35136	0.3514
	23 Bis(2-Chloroethoxy)methane	93	10.973	10.973	(0.959)	13944	0.18175	0.1817
	24 Benzoic acid	105	Compound Not Detected.					
	25 2,4-Dichlorophenol	162	11.169	11.169	(0.976)	20027	0.27845	0.2784
	26 1,2,4-Trichlorobenzene	180	11.355	11.355	(0.993)	14539	0.19282	0.1928
*	27 Naphthalene-d8	136	11.440	11.439	(1.000)	959211	4.00000	
	28 Naphthalene	128	11.478	11.478	(1.003)	50189	0.19282	0.1928
	29 4-Chloroaniline	127	11.609	11.609	(1.015)	32319	0.32270	0.3227
	30 Hexachlorobutadiene	225	11.841	11.849	(1.035)	8399	0.19589	0.1959
	31 4-Chloro-3-methylphenol	107	12.561	12.561	(1.098)	19906	0.30051	0.3005
	32 2-Methylnaphthalene	142	12.863	12.863	(1.124)	32052	0.18908	0.1891(H)
	33 Hexachlorocyclopentadiene	237	13.327	13.335	(0.887)	10822	0.24556	0.2456

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
34	2,4,6-Trichlorophenol	196	13.482	13.482	(0.897)	12020	0.26385	0.2639
35	2,4,5-Trichlorophenol	196	13.552	13.551	(0.902)	14099	0.28314	0.2831
$ 36	2-Fluorobiphenyl	172	13.644	13.644	(0.908)	35203	0.19303	0.1930
37	2-Chloronaphthalene	162	13.846	13.846	(0.922)	28148	0.19348	0.1935
38	2-Nitroaniline	65	14.101	14.109	(0.939)	9510	0.24944	0.2494
39	Dimethylphthalate	163	14.534	14.542	(0.968)	26702	0.17596	0.1760
40	Acenaphthylene	152	14.705	14.712	(0.979)	43764	0.17665	0.1766
41	2,6-Dinitrotoluene	165	14.666	14.674	(0.976)	6753	0.19808	0.1981
* 42	Acenaphthene-d10	164	15.022	15.022	(1.000)	509271	4.00000	
43	3-Nitroaniline	138	14.945	14.952	(0.995)	9117	0.23512	0.2351
44	Acenaphthene	153	15.084	15.091	(1.004)	30138	0.19219	0.1922
45	2,4-Dinitrophenol	184	Compound Not Detected.					
46	Dibenzofuran	168	15.408	15.416	(1.026)	41457	0.19243	0.1924
47	4-Nitrophenol	109	15.262	15.261	(1.016)	1806	0.08786	0.08786
48	2,4-Dinitrotoluene	165	15.470	15.470	(1.030)	7654	0.17108	0.1711
50	Diethylphthalate	149	15.981	15.988	(1.064)	25123	0.16340	0.1634
49	Fluorene	166	16.112	16.120	(1.073)	36464	0.18646	0.1865
51	4-Chlorophenyl-phenylether	204	16.112	16.112	(1.073)	17607	0.20286	0.2029
52	4-Nitroaniline	138	16.197	16.212	(1.078)	8730	0.22610	0.2261
53	4,6-Dinitro-2-methylphenol	198	16.297	16.305	(0.904)	2732	0.11113	0.1111
54	N-Nitrosodiphenylamine	169	16.359	16.359	(0.907)	19438	0.17404	0.1740
$ 55	2,4,6-Tribromophenol	330	16.644	16.644	(1.108)	2868	0.12942	0.1294
56	4-Bromophenyl-phenylether	248	17.107	17.107	(0.949)	7563	0.17071	0.1707
57	Hexachlorobenzene	284	17.416	17.415	(0.966)	9482	0.19081	0.1908
58	Pentachlorophenol	266	17.779	17.772	(0.986)	1274	0.04350	0.04350
* 59	Phenanthrene-d10	188	18.027	18.035	(1.000)	876764	4.00000	
60	Phenanthrene	178	18.073	18.081	(1.003)	46517	0.19436	0.1944
61	Anthracene	178	18.166	18.166	(1.008)	37818	0.16573	0.1657
62	Carbazole	167	18.491	18.499	(1.026)	34974	0.17405	0.1741
63	Di-n-butylphthalate	149	19.311	19.311	(1.071)	31958	0.11987	0.1199
64	Fluoranthene	202	20.449	20.456	(0.887)	43087	0.17166	0.1717
65	Pyrene	202	20.874	20.874	(0.906)	45921	0.17358	0.1736
$ 66	Terphenyl-d14	244	21.168	21.168	(0.918)	33981	0.17271	0.1727
67	Butylbenzylphthalate	149	22.090	22.090	(0.958)	12073	0.10549	0.1055
68	Benzo(a)anthracene	228	23.019	23.027	(0.999)	46080	0.18695	0.1870
* 69	Chrysene-d12	240	23.050	23.050	(1.000)	787665	4.00000	
70	3,3'-Dichlorobenzidine	252	22.980	22.988	(0.997)	32581	0.36672	0.3667
71	Chrysene	228	23.089	23.096	(1.002)	47057	0.18469	0.1847
72	bis(2-Ethylhexyl)phthalate	149	23.120	23.119	(0.960)	17891	0.10826	0.1083
* 134	Di-n-octylphthalate-d4	153	24.087	24.087	(1.000)	1123312	4.00000	
73	Di-n-octylphthalate	149	24.095	24.095	(1.000)	53471	0.19347	0.1935
74	Benzo(b)fluoranthene	252	24.838	24.846	(0.972)	47851	0.19322	0.1932
75	Benzo(k)fluoranthene	252	24.877	24.885	(0.973)	46539	0.17086	0.1709
76	Benzo(a)pyrene	252	25.450	25.458	(0.996)	37630	0.15202	0.1520
* 77	Perylene-d12	264	25.558	25.566	(1.000)	889586	4.00000	
78	Indeno(1,2,3-cd)pyrene	276	28.040	28.055	(1.097)	28971	0.09384	0.09384
79	Dibenzo(a,h)anthracene	278	28.055	28.071	(1.098)	21171	0.08319	0.08319
80	Benzo(g,h,i)perylene	276	28.762	28.793	(1.125)	26990	0.10956	0.1096(M)
90	N-Nitrosodimethylamine	74	4.695	4.695	(0.523)	18072	0.36676	0.3668
91	Aniline	93	8.442	8.442	(0.940)	39635	0.35008	0.3501
93	Benzidine	184	20.689	20.688	(0.898)	14753	0.13822	0.1382
103	Pyridine	79	4.742	4.718	(0.528)	24742	0.30406	0.3041
105	1-methylnaphthalene	142	13.079	13.087	(1.143)	30188	0.19399	0.1940
111	Azobenzene (1,2-DP-Hydrazine)	77	16.436	16.436	(1.094)	29032	0.17230	0.1723

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187 Total Benzofluoranthenes	252	24.838	24.885	(0.972)	91544	0.36885	0.3689
120 2,3,4,6-Tetrachlorophenol	232	15.748	15.748	(1.048)	4223	0.07577	0.07577

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222304.D
Lab Smp Id: SLD0051-LCV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322.b\ABN.m
Misc Info:

Calibration Date: 22-MAR-2023
Calibration Time: 17:55
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	259918	129959	519836	258537	-0.53
27 Naphthalene-d8	969410	484705	1938820	959211	-1.05
42 Acenaphthene-d10	510287	255144	1020574	509271	-0.20
59 Phenanthrene-d10	882628	441314	1765256	876764	-0.66
69 Chrysene-d12	800073	400037	1600146	787665	-1.55
134 Di-n-octylphthala	1258607	629304	2517214	1123312	-10.75
77 Perylene-d12	911909	455955	1823818	889586	-2.45

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	0.00
42 Acenaphthene-d10	15.02	14.52	15.52	15.02	0.00
59 Phenanthrene-d10	18.04	17.54	18.54	18.03	-0.04
69 Chrysene-d12	23.05	22.55	23.55	23.05	0.00
134 Di-n-octylphthala	24.09	23.59	24.59	24.09	0.00
77 Perylene-d12	25.57	25.07	26.07	25.56	-0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222304.D

Lab ID: SLD0051-LCV1
nt18.i, ABN.m, 22-MAR-2023 19:17

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

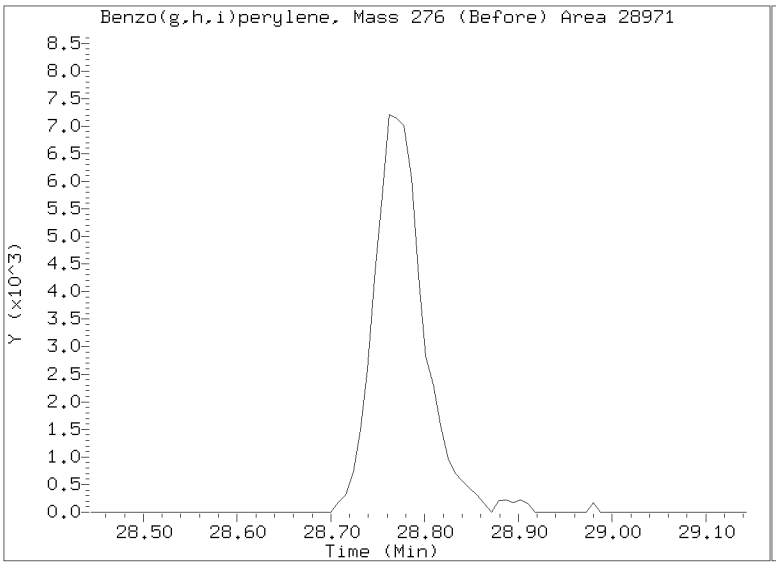
RRT check based on Ccal File: NT1803222302.D

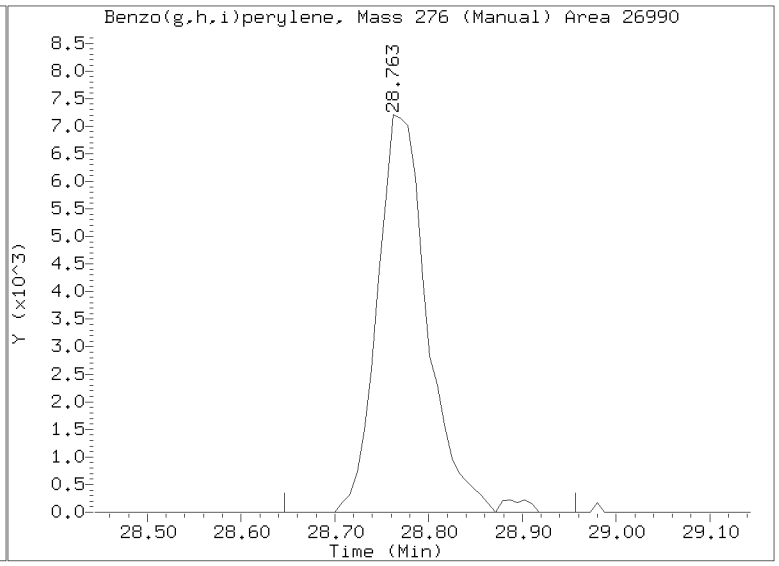
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230322.b/NT1803222304.D
Injection Date: 22-MAR-2023 19:17
Lab ID:SLD0051-LCV1 Client ID:
Report Date: 04/04/2023 14:28





APPROVED

By Deenay Dunmore at 2:44 pm, Apr 04, 2023

Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	NT18	Calibration:	GC00085
Lab File ID:	NT1803222325.D	Calibration Date:	03/19/2023
Sequence:	SLD0056	Injection Date:	03/23/23
Lab Sample ID:	SLD0056-CCV1	Injection Time:	09:27
Sequence Name:	Calibration Check		

		CONC. (ug/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT	
Phenol	A	5.0000	4.9	1.6289550	1.6045590		-1.5	+/-50	
4-Methylphenol	A	5.0000	5.0	1.2838700	1.2889440		0.4	+/-50	
Naphthalene	A	5.0000	4.8	1.0854510	1.0466870		-3.6	+/-50	
2-Methylnaphthalene	A	5.0000	4.8	0.7068922	0.6814742		-3.6	+/-50	
Acenaphthylene	A	5.0000	5.5	1.9458850	2.1518010		10.6	+/-50	
Dimethylphthalate	A	5.0000	5.0	1.1919090	1.2016990		0.8	+/-50	
Acenaphthene	A	5.0000	4.9	1.2316760	1.2149880		-1.4	+/-50	
Dibenzofuran	A	5.0000	4.9	1.6920980	1.6626090		-1.7	+/-50	
Fluorene	A	5.0000	5.2	1.5359950	1.6095980		4.8	+/-50	
Phenanthrene	A	5.0000	4.9	1.0918970	1.0755120		-1.5	+/-50	
Anthracene	A	5.0000	5.2	1.0410500	1.0760400		3.4	+/-50	
Fluoranthene	A	5.0000	4.3	1.2746530	1.1082900		-13.1	+/-50	
Pyrene	A	5.0000	4.4	1.3434640	1.1784820		-12.3	+/-50	
Butylbenzylphthalate	A	5.0000	4.5	0.4580611	0.5208496		-9.5	+/-50	
Benzo(a)anthracene	A	5.0000	5.1	1.2517140	1.2686490		1.4	+/-50	
Chrysene	A	5.0000	4.9	1.2939090	1.2674080		-2.0	+/-50	
bis(2-Ethylhexyl)phthalate	A	5.0000	4.4	0.4872329	0.5132329		-11.2	+/-50	
Benzofluoranthenes, Total	A	10.000	12.5	1.1159550	1.3902520		24.6	+/-50	
Benzo(a)pyrene	A	5.0000	5.1	0.9981810	1.1368300		2.1	+/-50	
Indeno(1,2,3-cd)pyrene	A	5.0000	1.6	1.2089080	0.4477448		-67.9	+/-50	*
Dibenzo(a,h)anthracene	A	5.0000	1.7	1.0105360	0.4003988		-65.3	+/-50	*
Benzo(g,h,i)perylene	A	5.0000	1.1	0.9990967	0.2501905		-77.5	+/-50	*
2-Fluorophenol	A	7.5000	7.55	1.2331380	1.2420080		0.7	+/-50	
Phenol-d5	A	7.5000	7.53	1.5233940	1.5287230		0.3	+/-50	
2-Chlorophenol-d4	A	7.5000	7.69	1.3205030	1.3537990		2.5	+/-50	
1,2-Dichlorobenzene-d4	A	5.0000	4.75	0.9689252	0.9206923		-5.0	+/-50	
Nitrobenzene-d5	A	5.0000	5.43	0.3297186	0.3578433		8.5	+/-50	
2-Fluorobiphenyl	A	5.0000	4.96	1.4323940	1.4221300		-0.7	+/-50	
2,4,6-Tribromophenol	A	7.5000	7.94	0.1658543	0.1924967		5.9	+/-50	
p-Terphenyl-d14	A	5.0000	4.38	0.9991659	0.8746674		-12.5	+/-50	

* Values outside of QC limits

* Values outside of QC limits

Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222325.D
Date : 23-MAR-2023 09:27
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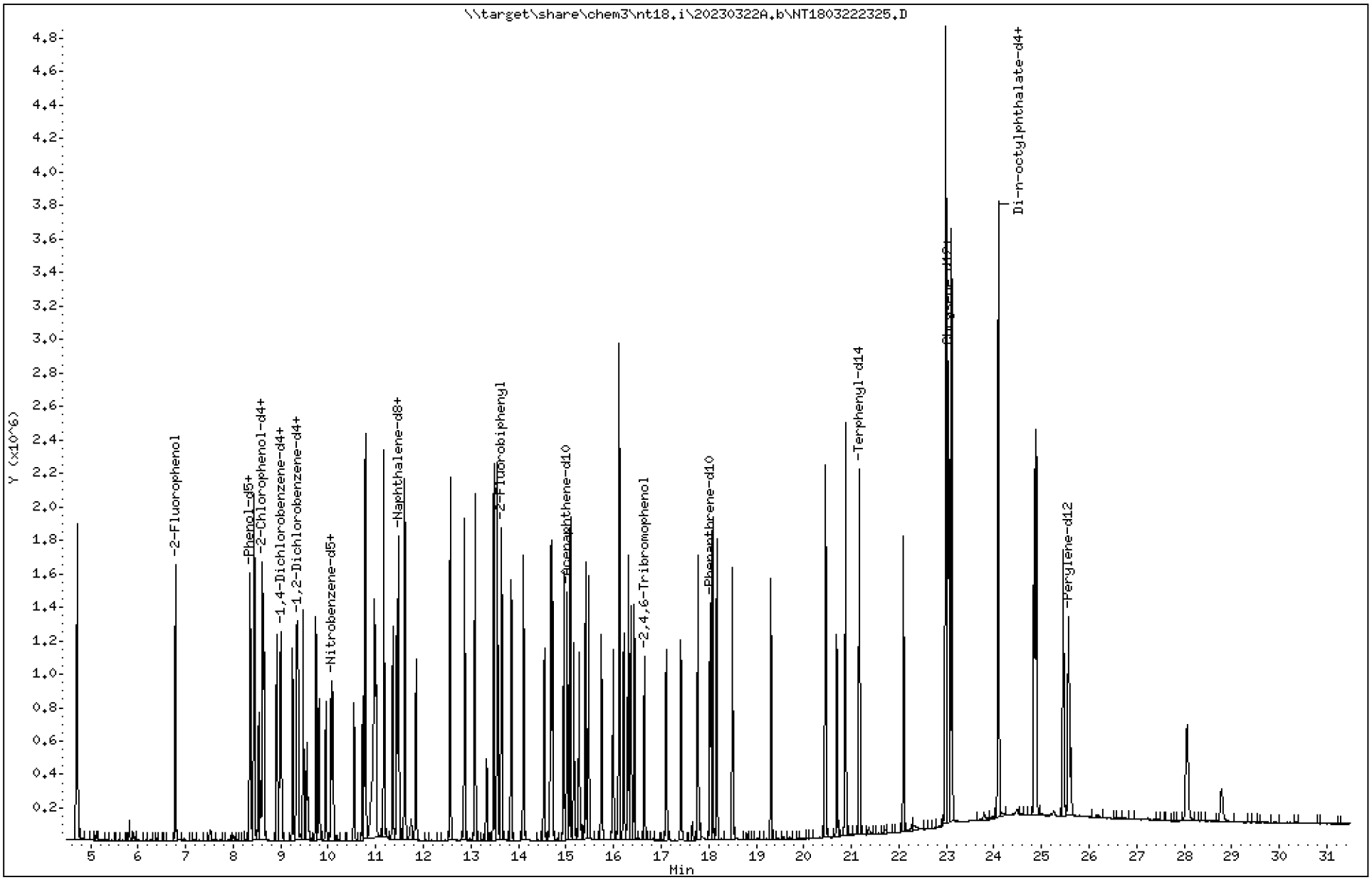
Sample Info: SLD0056-CCV1

Instrument: nt18.i
Operator: VTS
Column phase: ZB-5msi
Column diameter: 0.25



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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

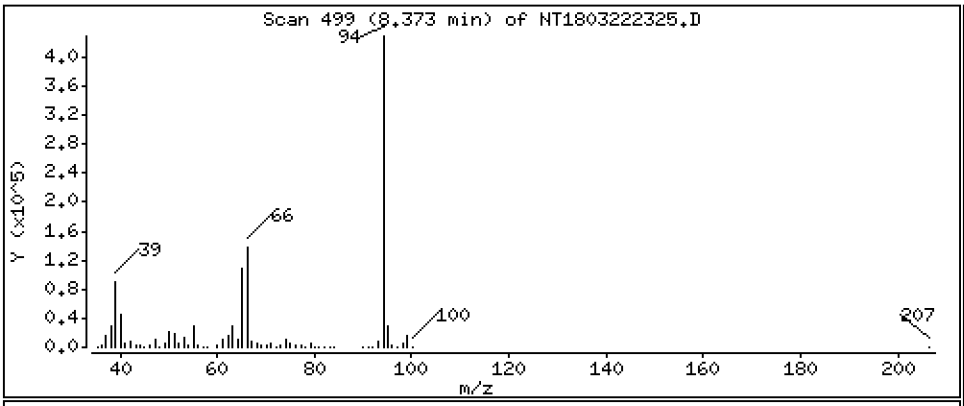
Operator: VTS

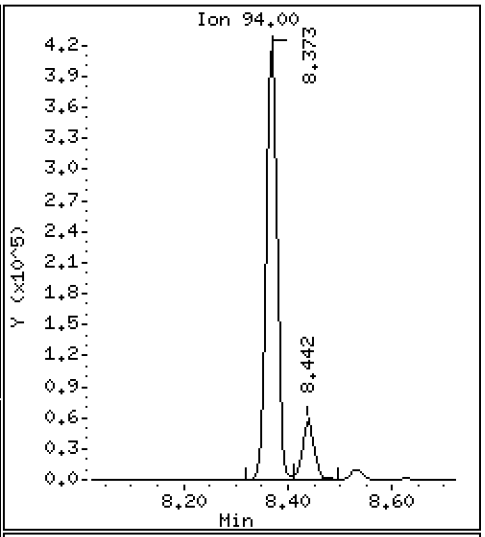
Column phase: ZB-5msi

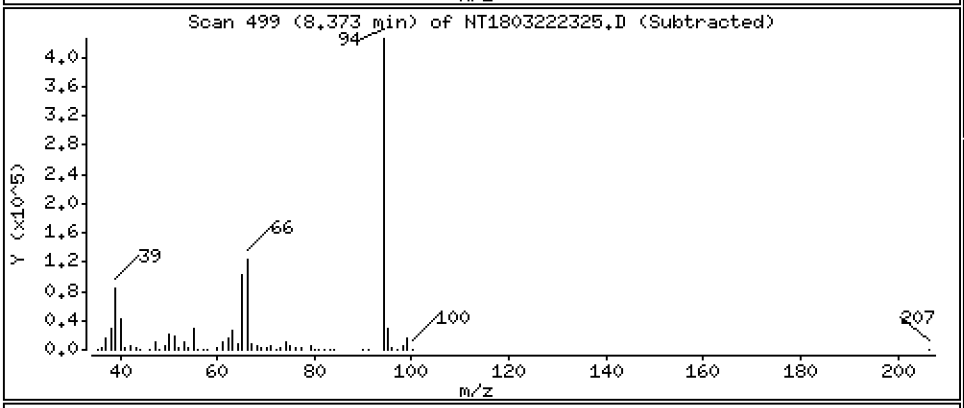
Column diameter: 0.25

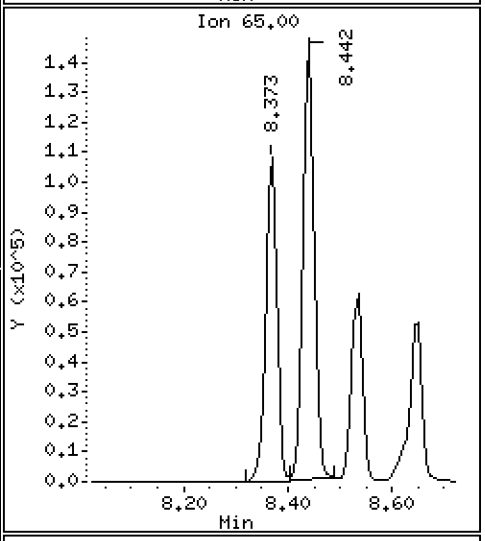
3 Phenol

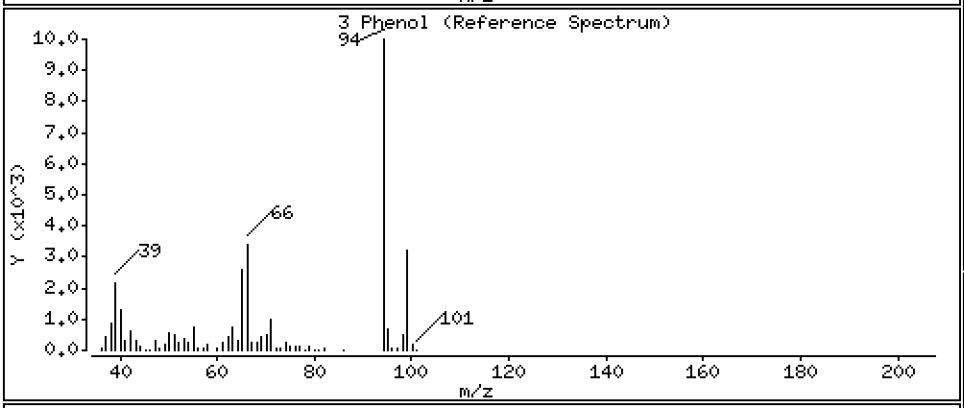
Concentration: 4.925 ug/mL

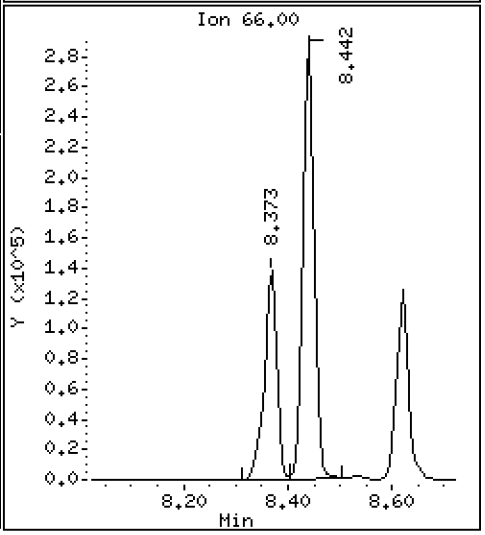


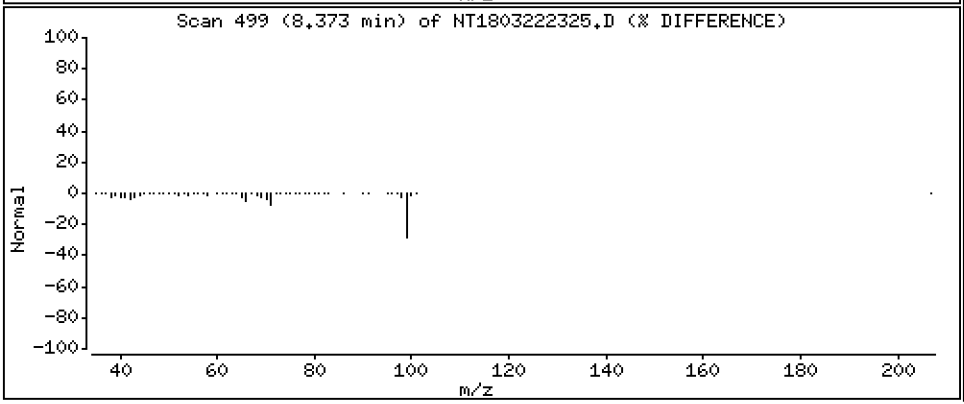












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

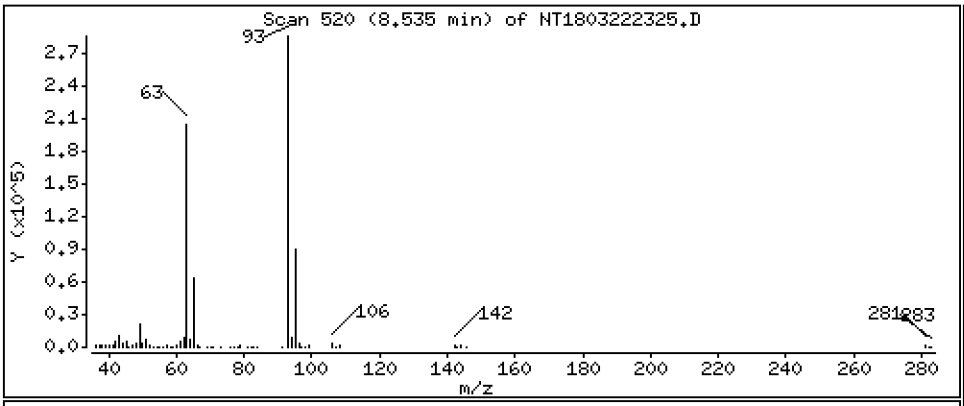
Operator: VTS

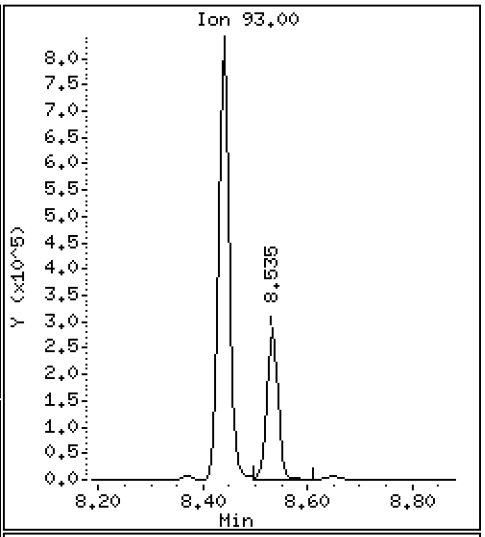
Column phase: ZB-5msi

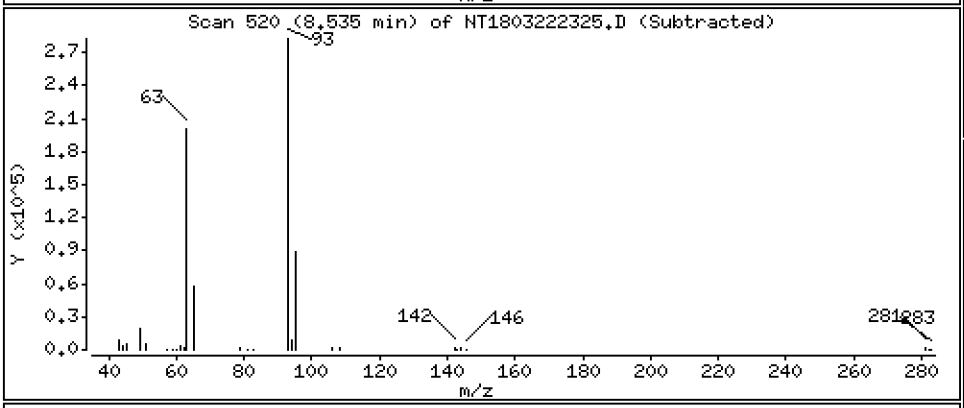
Column diameter: 0.25

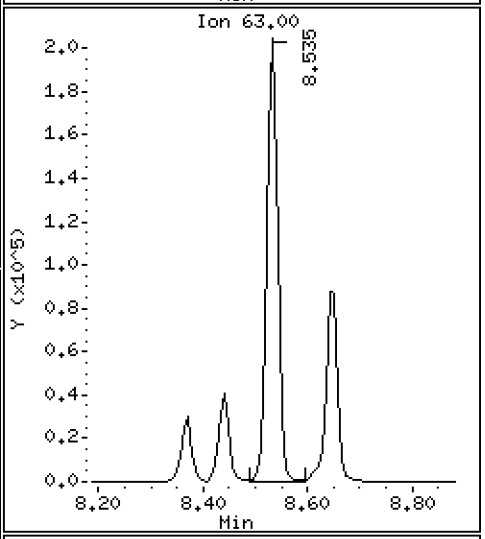
4 Bis(2-Chloroethyl)ether

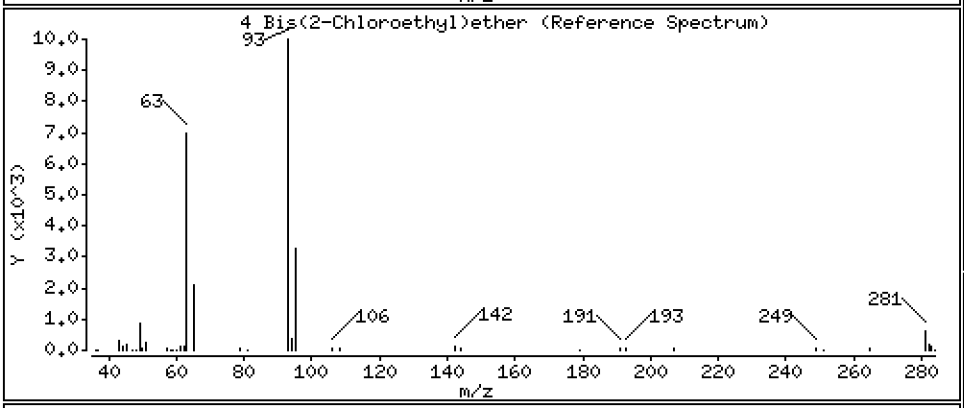
Concentration: 4.816 ug/mL

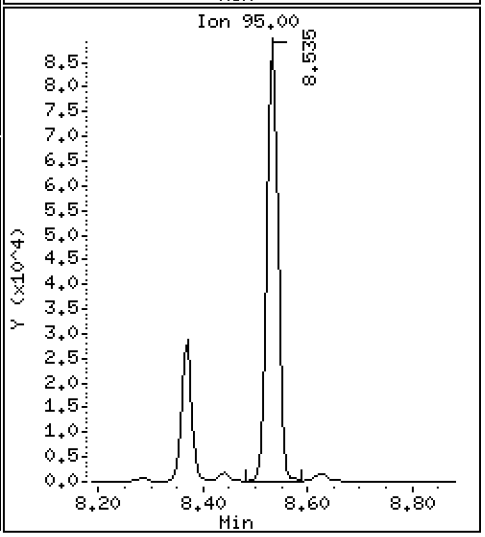


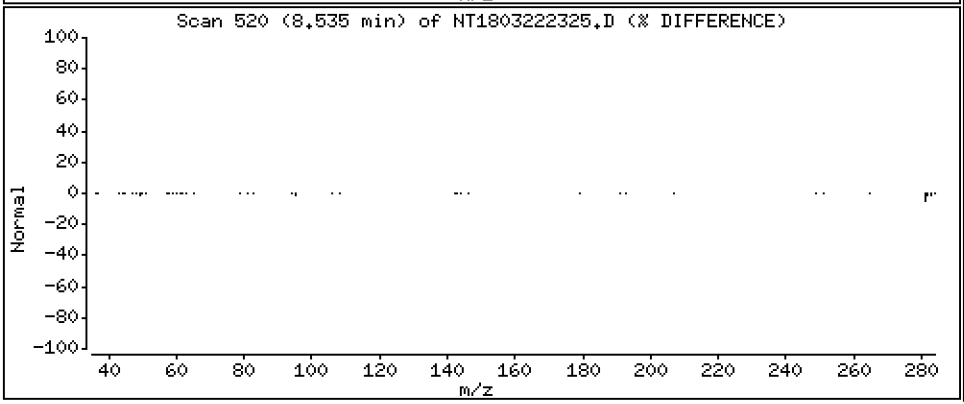












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

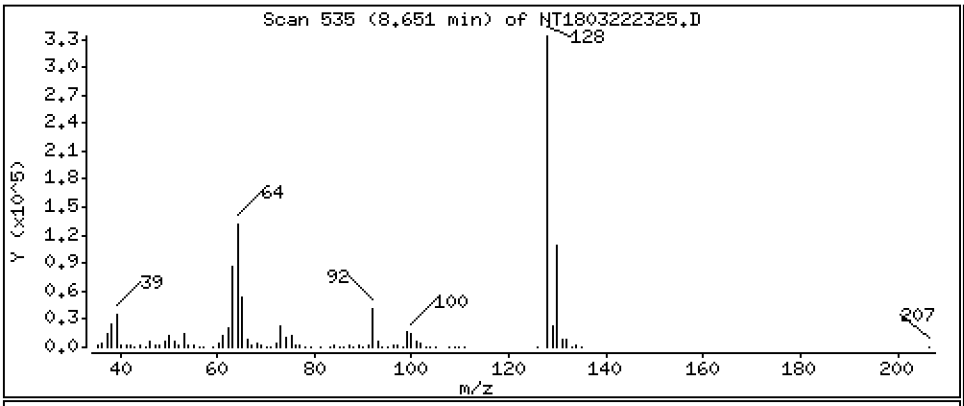
Operator: VTS

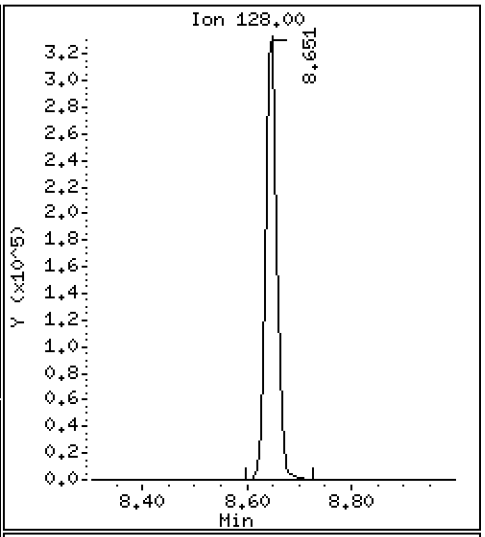
Column phase: ZB-5msi

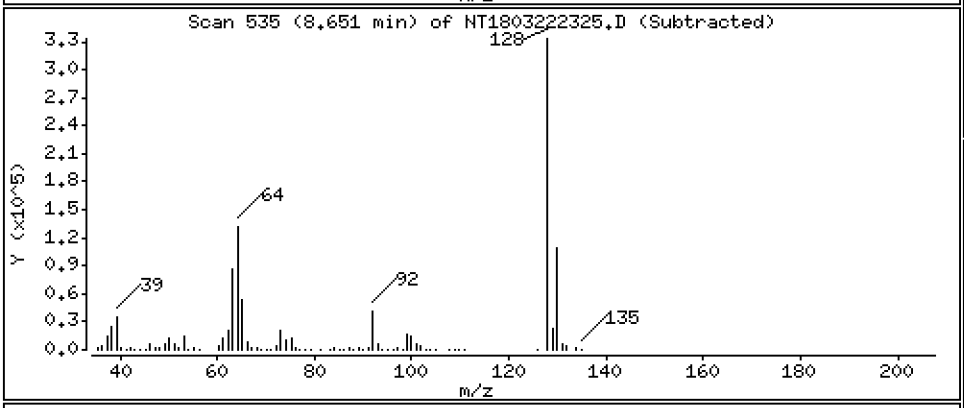
Column diameter: 0.25

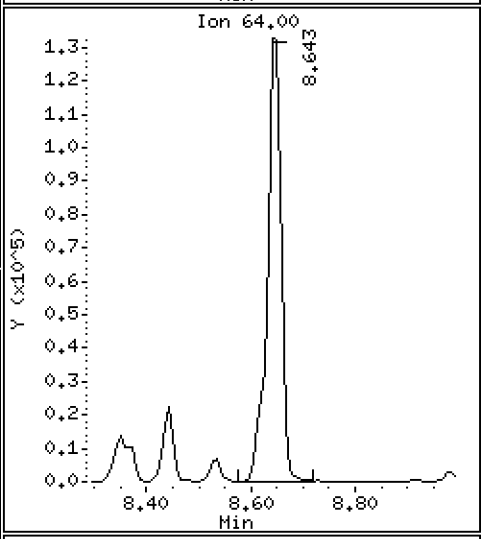
6 2-Chlorophenol

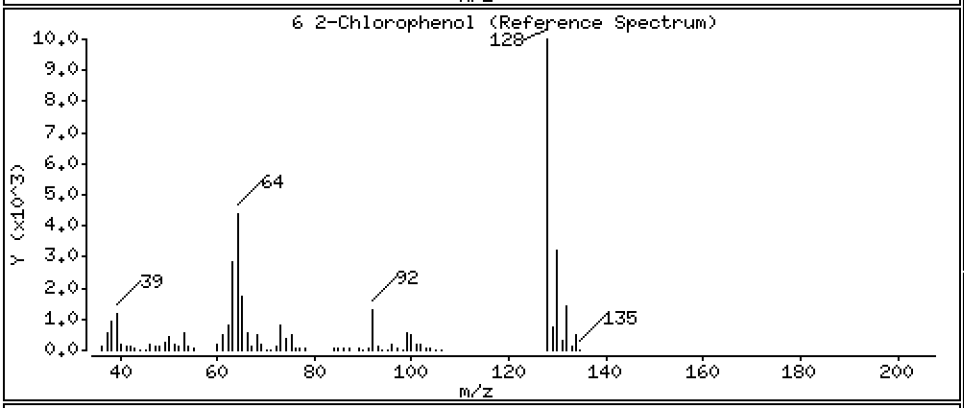
Concentration: 4.986 ug/mL

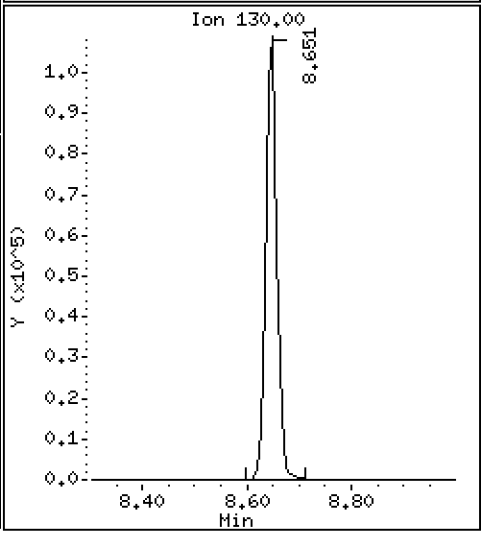


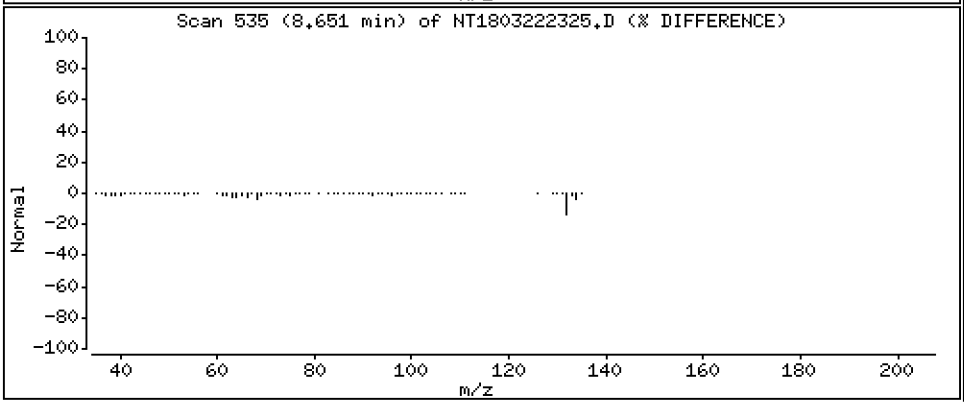












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222325.D

Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

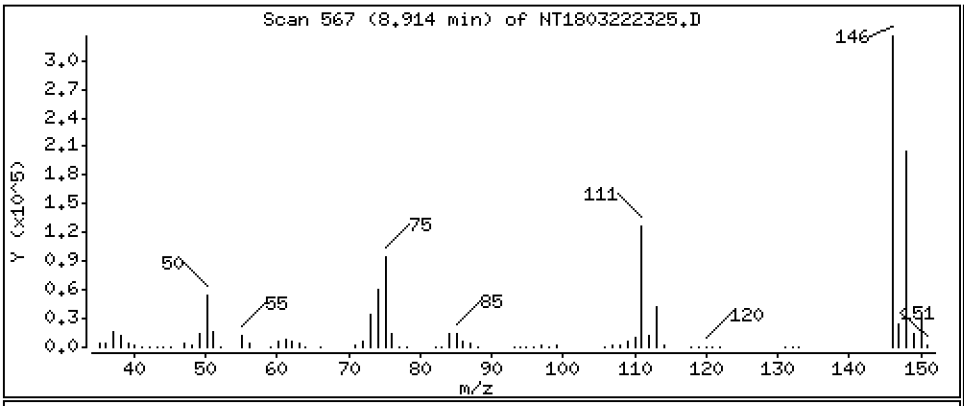
Operator: VTS

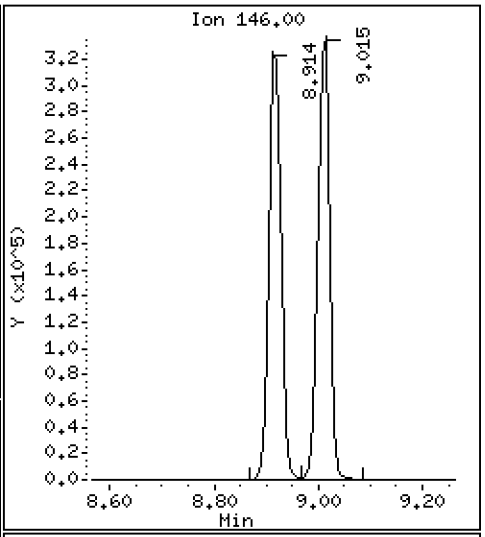
Column phase: ZB-5msi

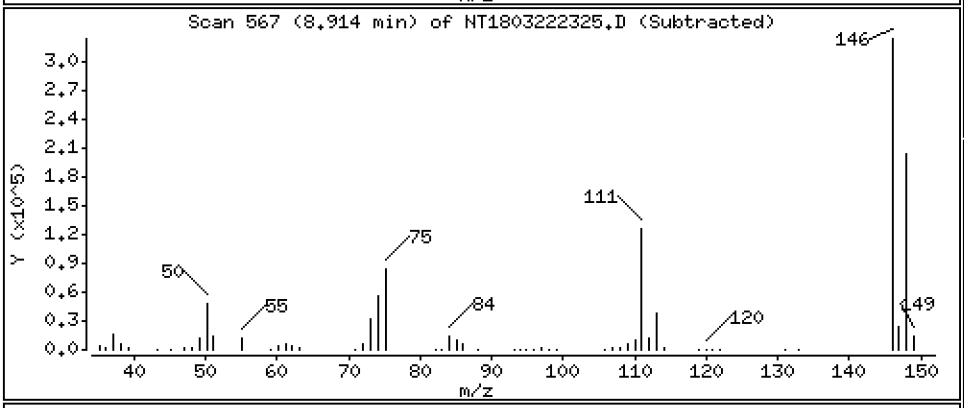
Column diameter: 0.25

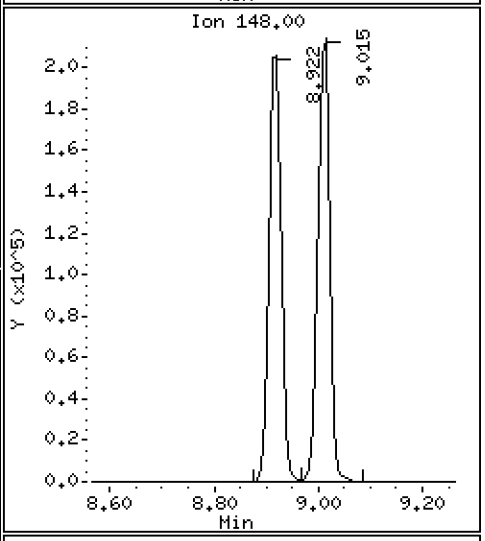
7 1,3-Dichlorobenzene

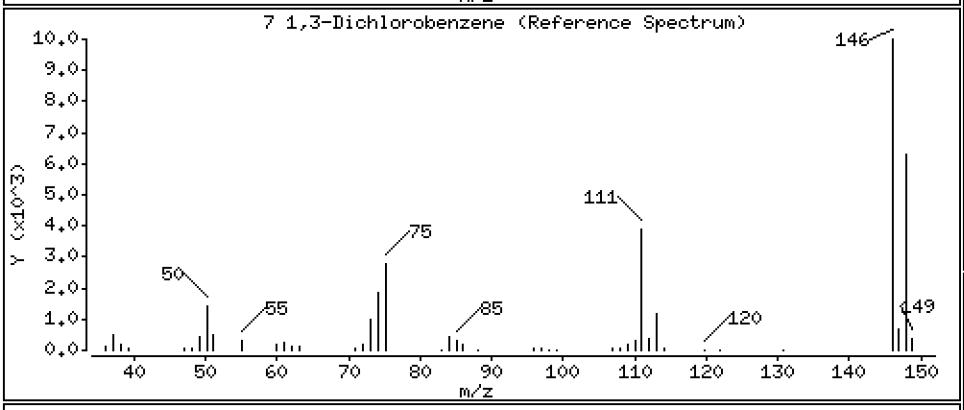
Concentration: 4.762 ug/mL

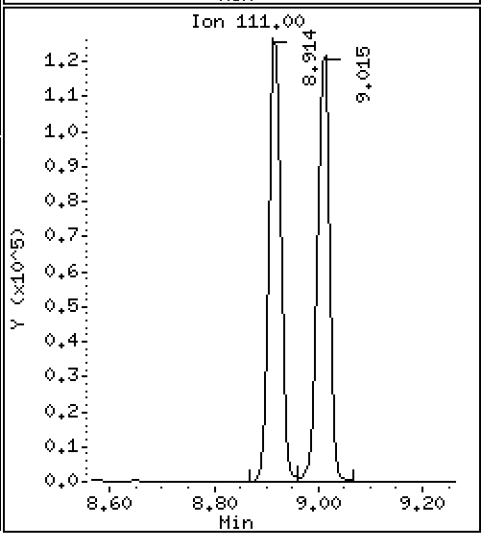


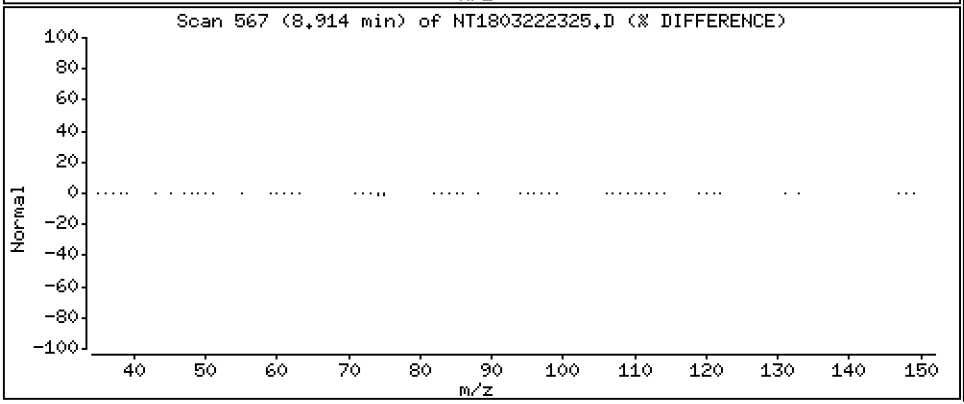












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222325.D

Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

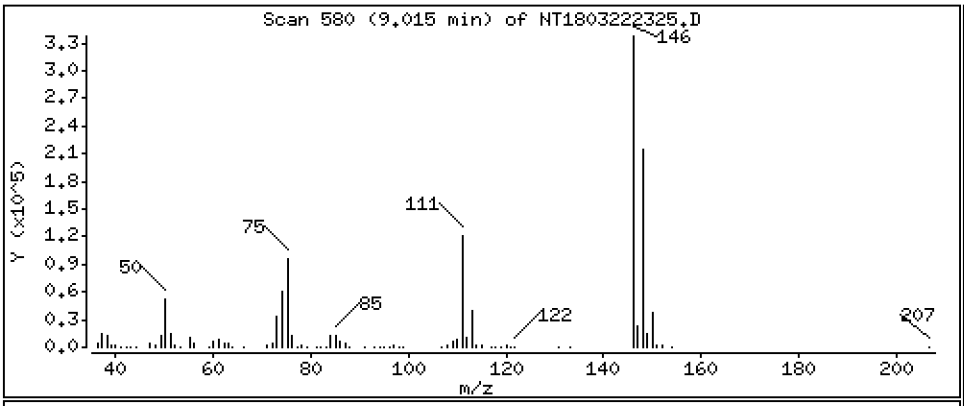
Operator: VTS

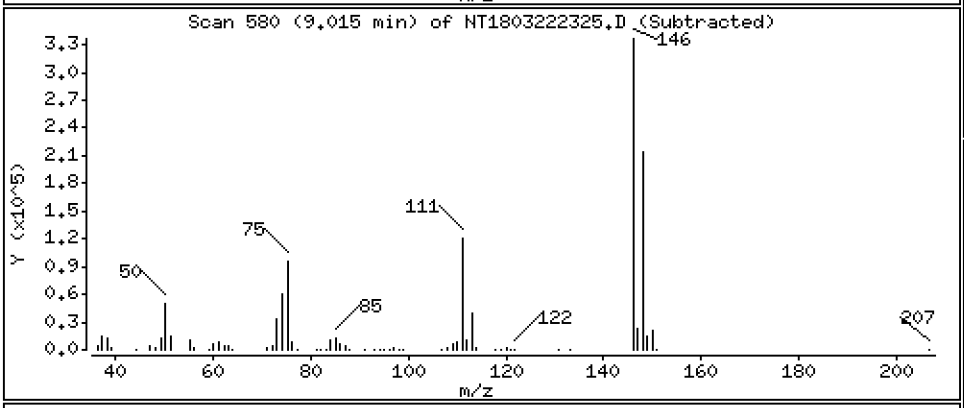
Column phase: ZB-5msi

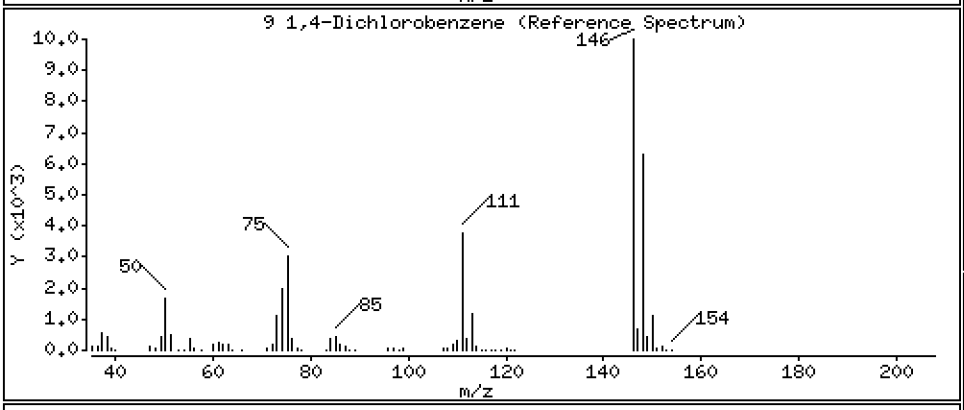
Column diameter: 0.25

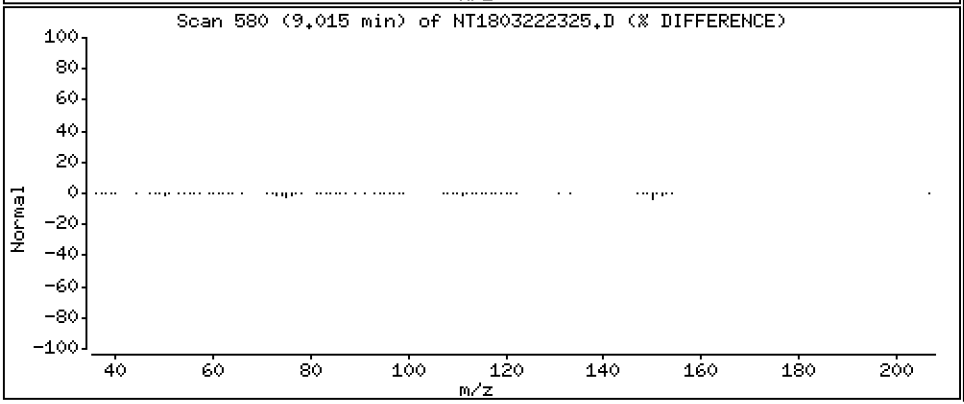
9 1,4-Dichlorobenzene

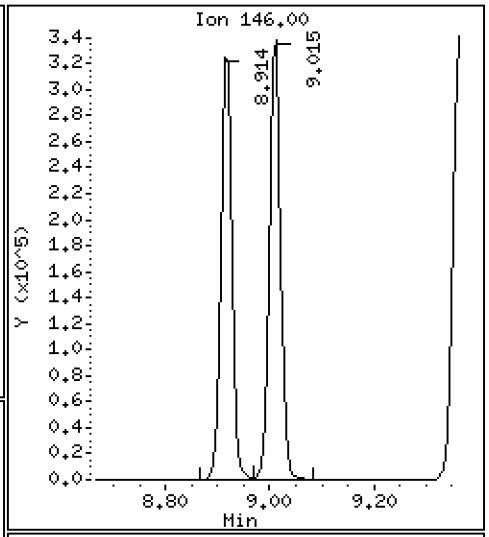
Concentration: 4.758 ug/mL

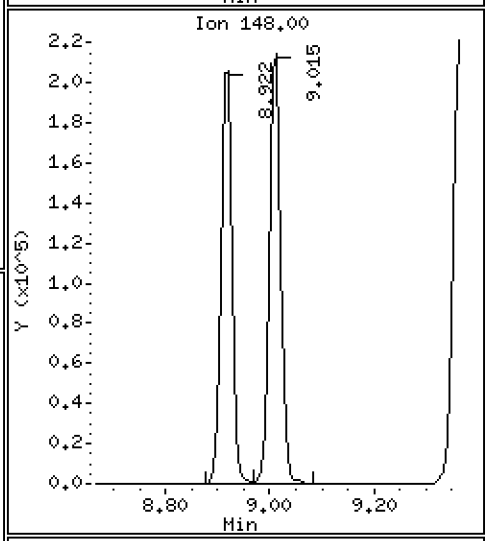


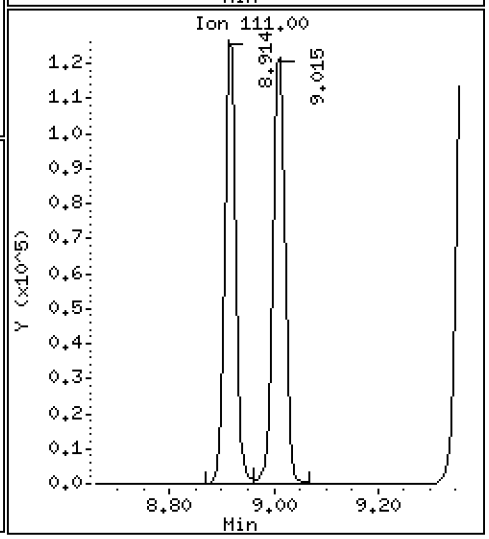












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

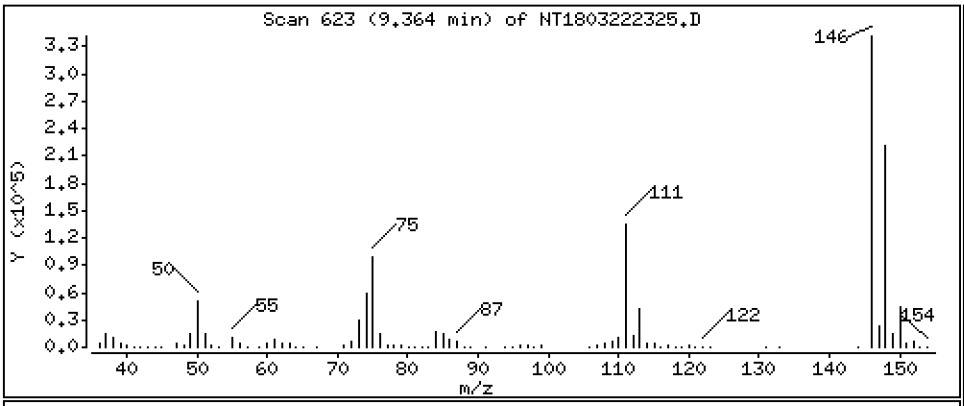
Operator: VTS

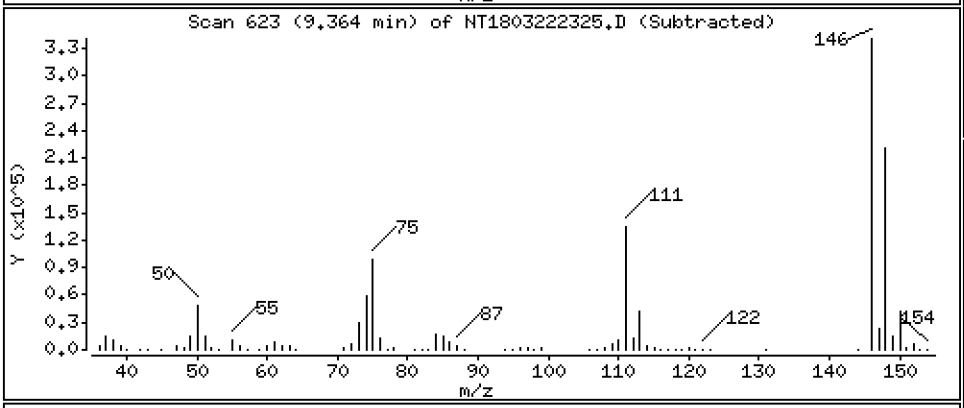
Column phase: ZB-5msi

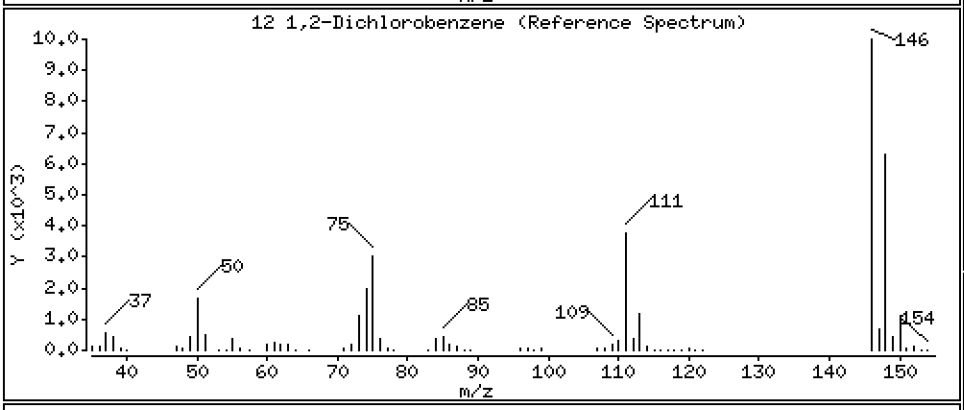
Column diameter: 0.25

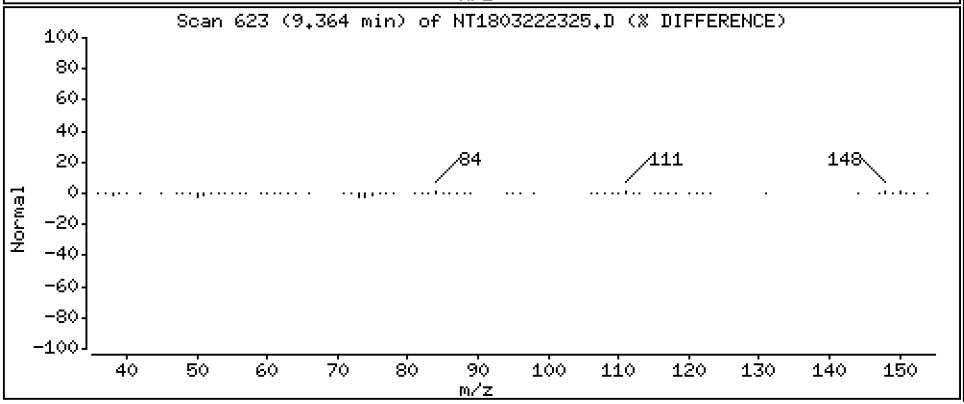
12 1,2-Dichlorobenzene

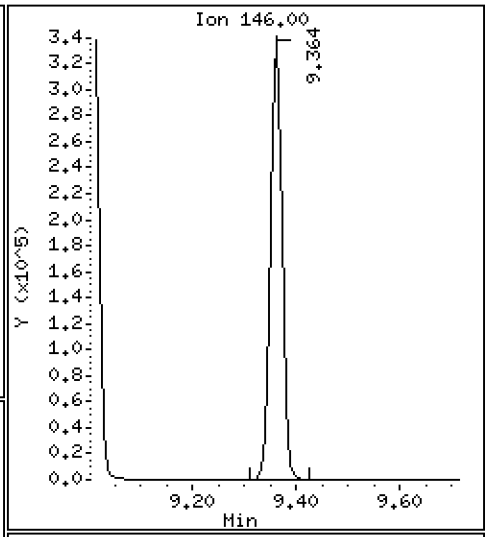
Concentration: 4.690 ug/mL

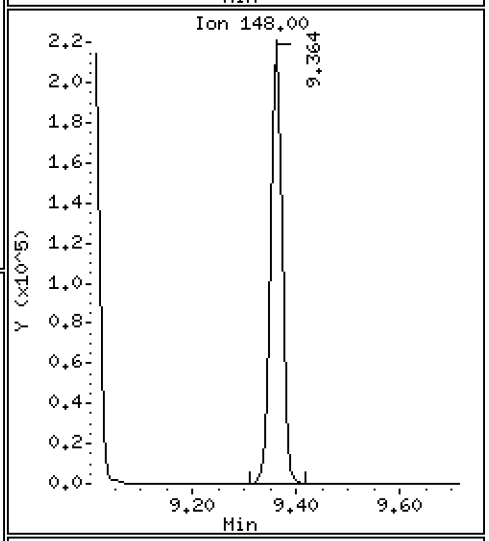


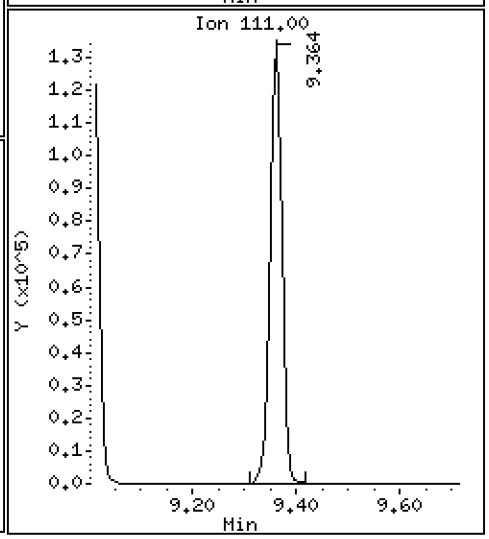












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

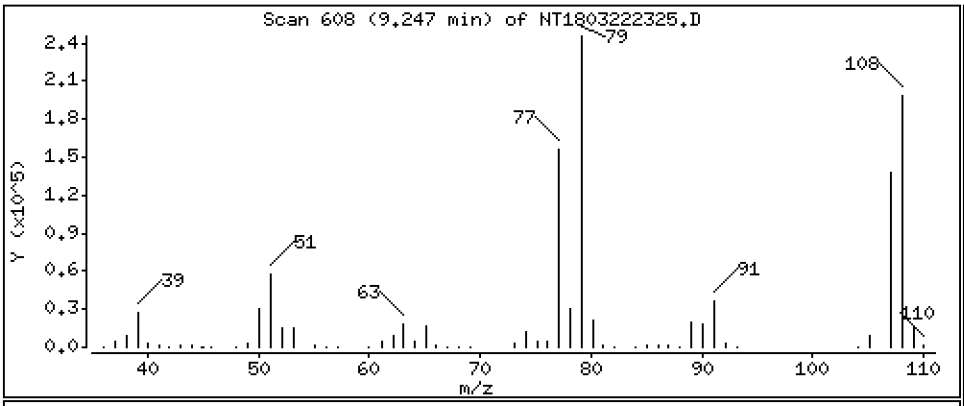
Operator: VTS

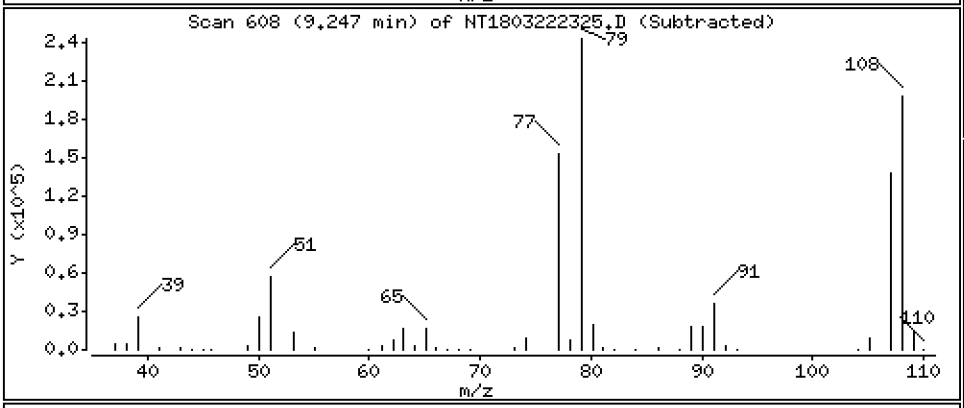
Column phase: ZB-5msi

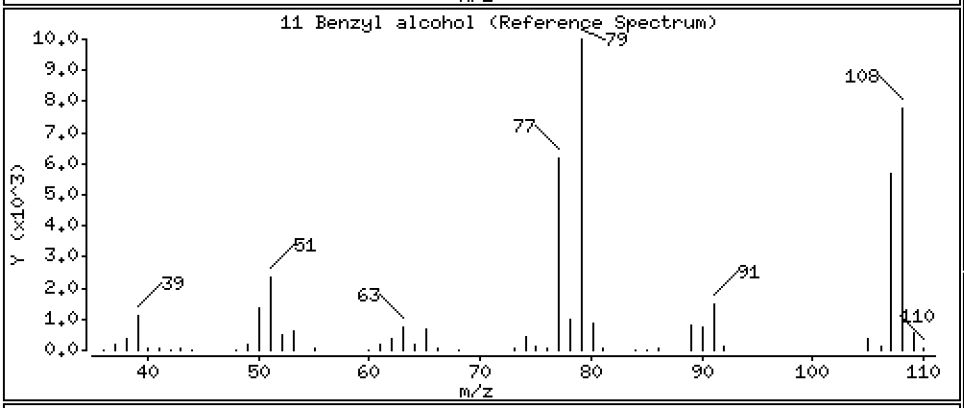
Column diameter: 0.25

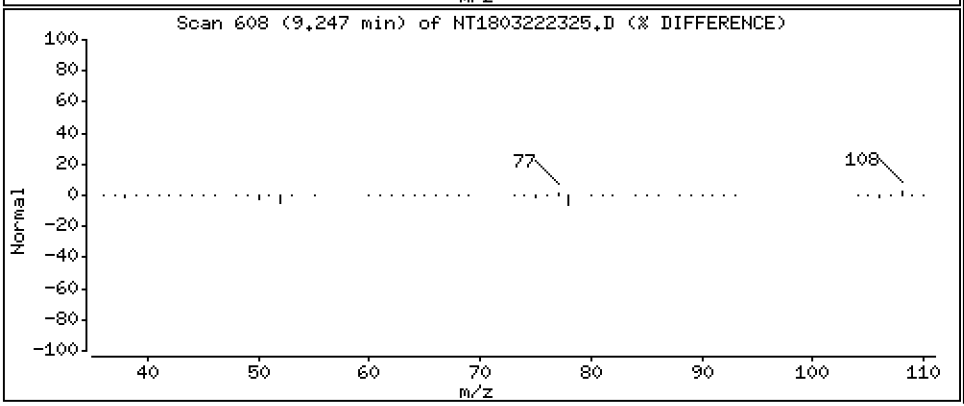
11 Benzyl alcohol

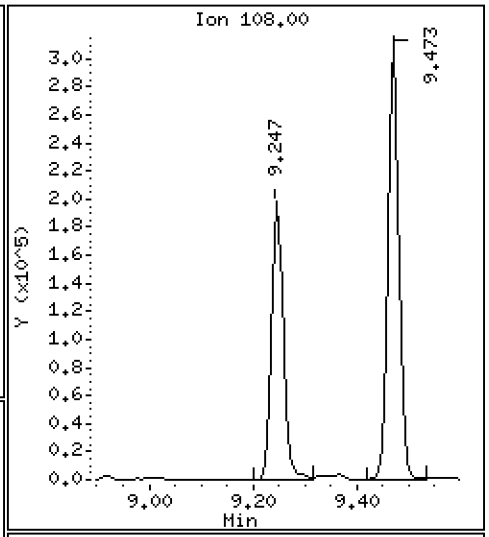
Concentration: 5.356 ug/mL

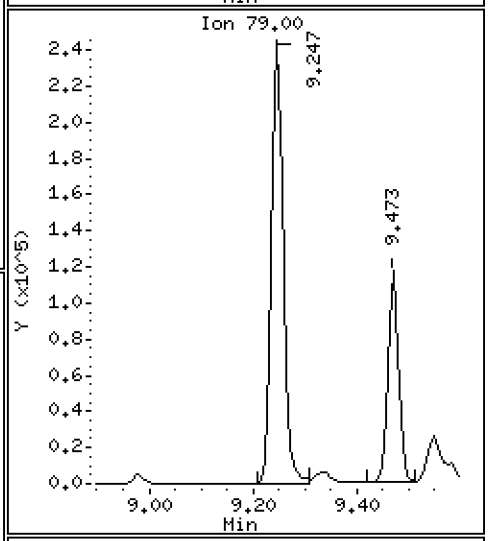


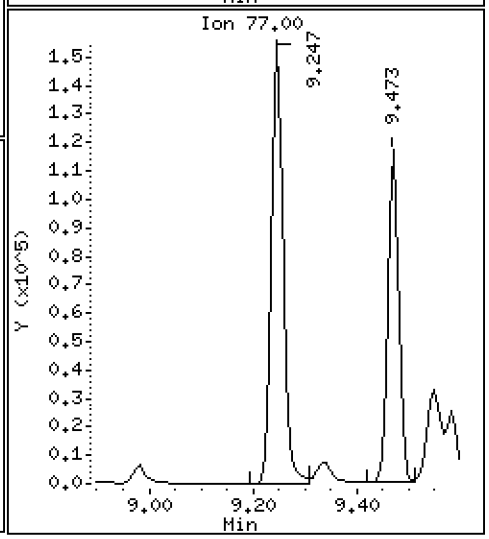












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

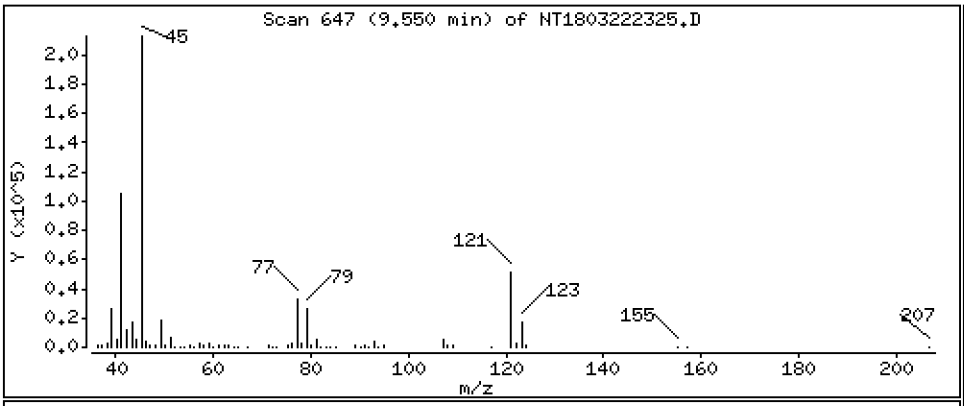
Operator: VTS

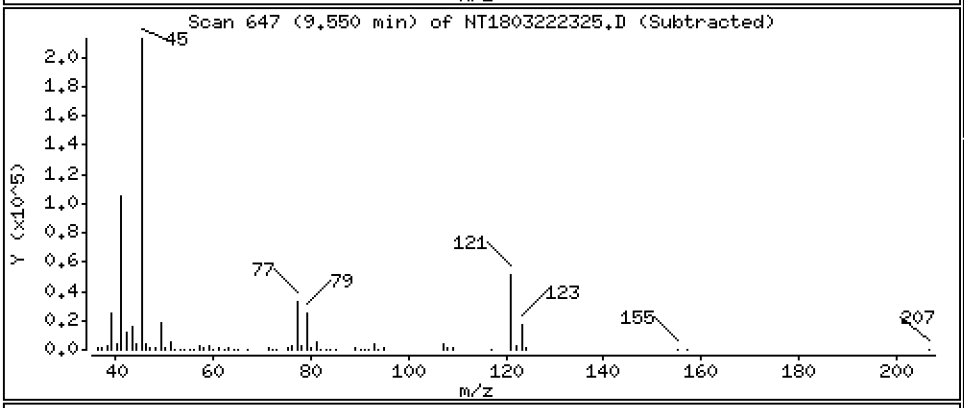
Column phase: ZB-5msi

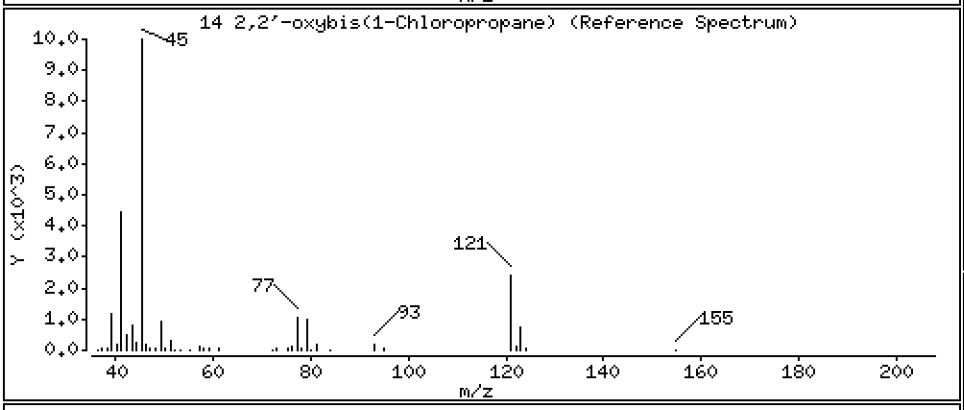
Column diameter: 0.25

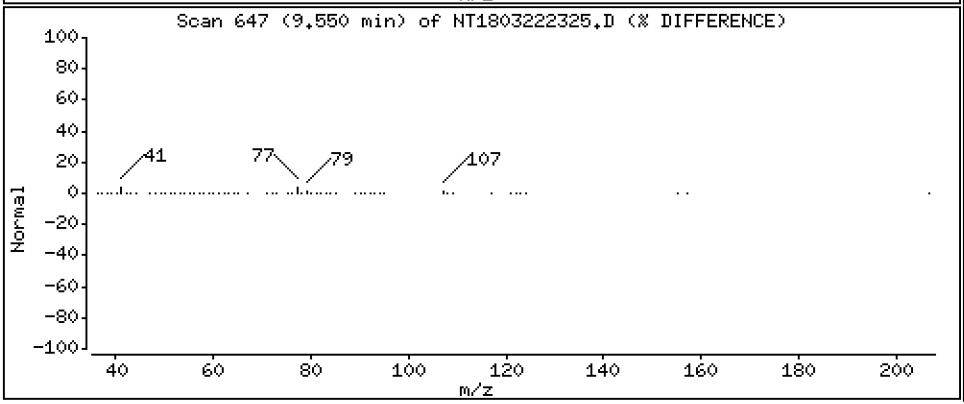
14 2,2'-oxybis(1-Chloropropane)

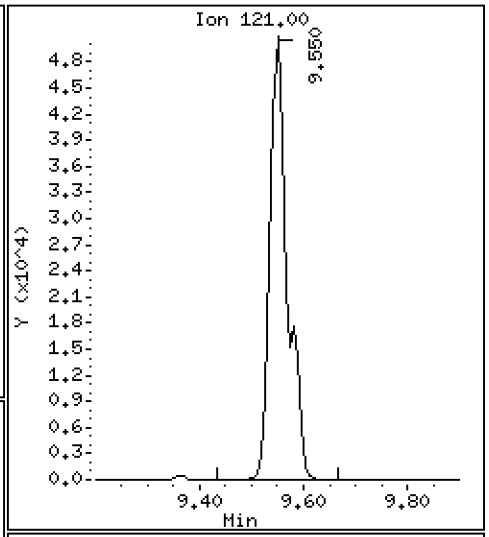
Concentration: 4.994 ug/mL

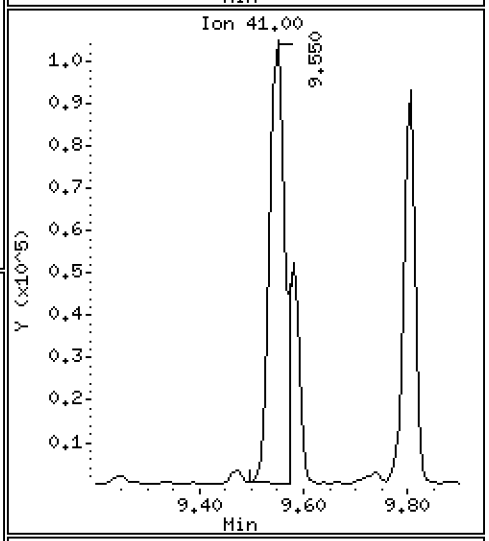


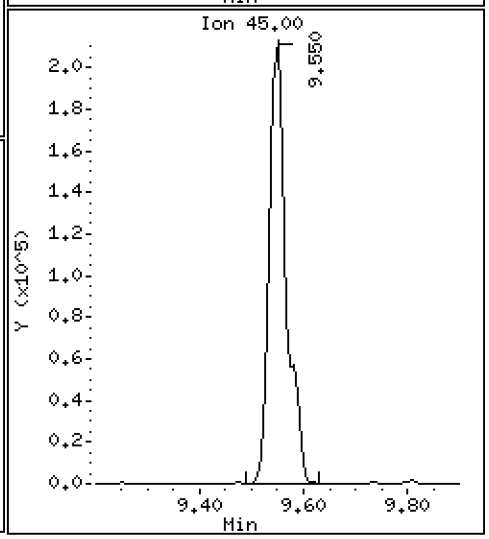












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

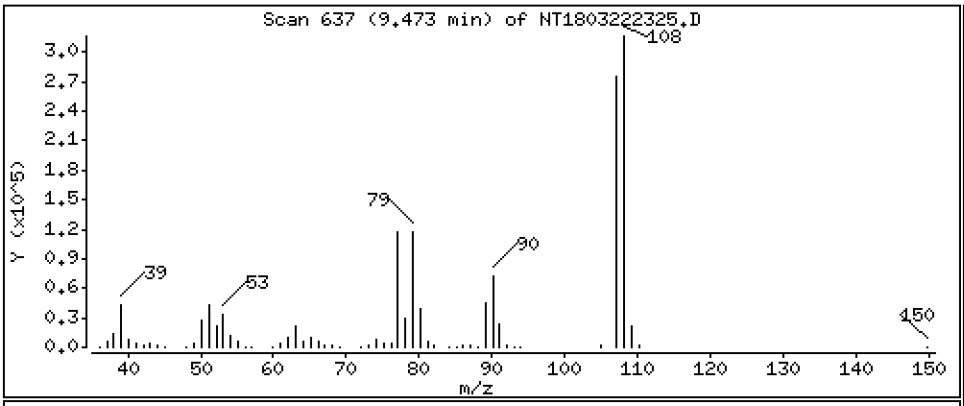
Operator: VTS

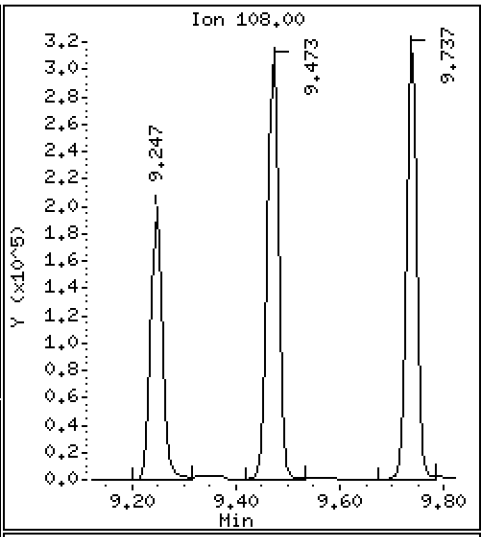
Column phase: ZB-5msi

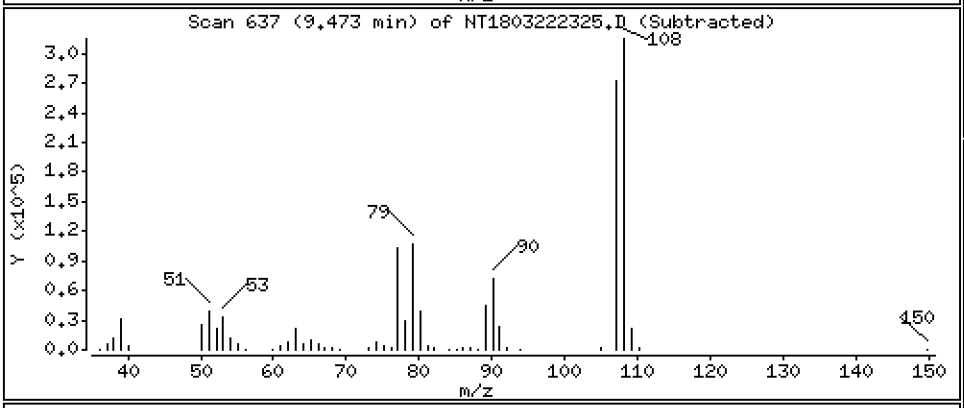
Column diameter: 0.25

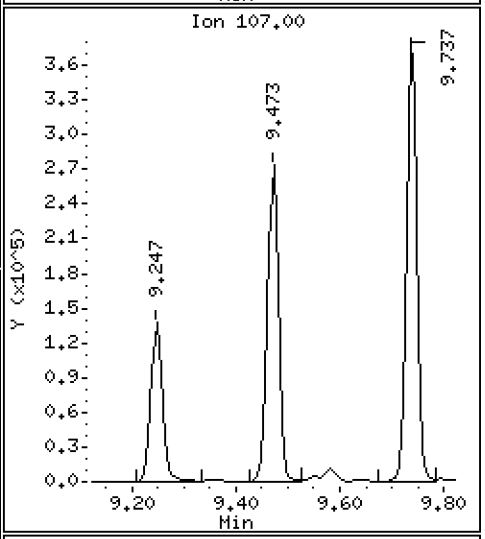
13 2-Methylphenol

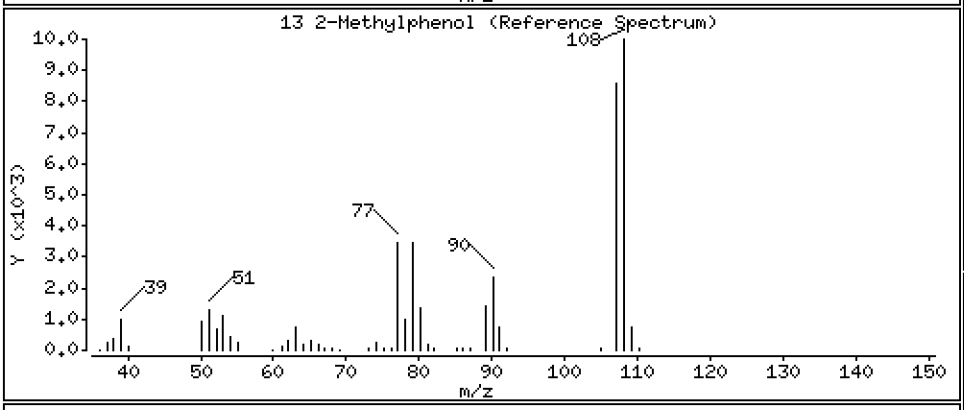
Concentration: 4.955 ug/mL

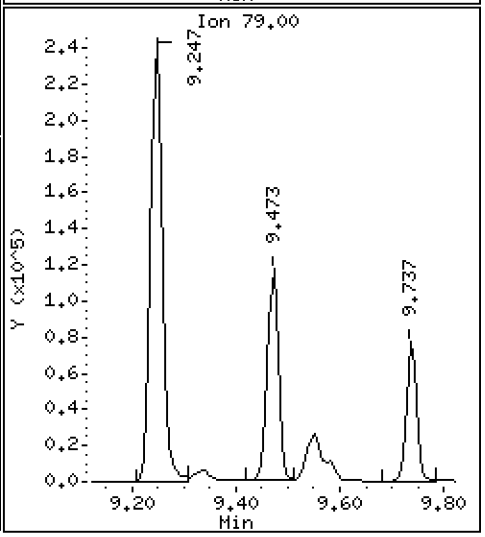


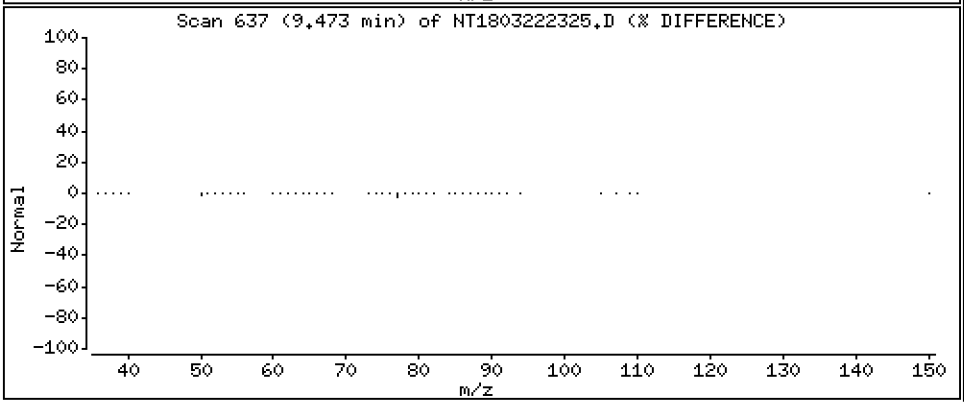












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

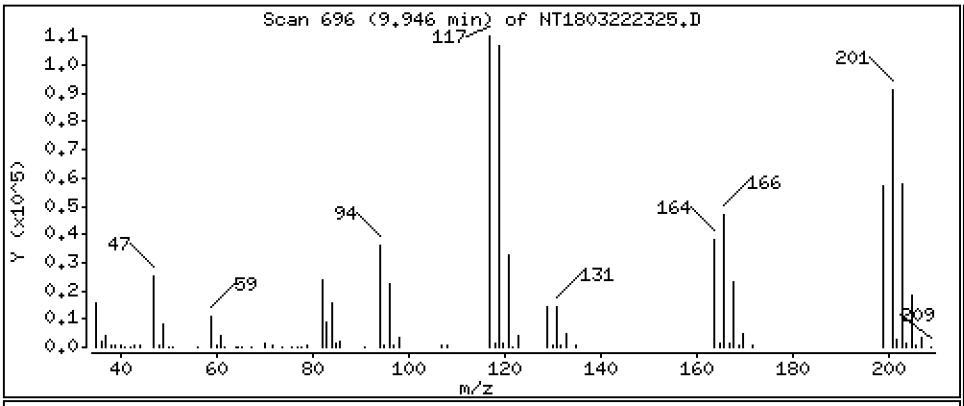
Operator: VTS

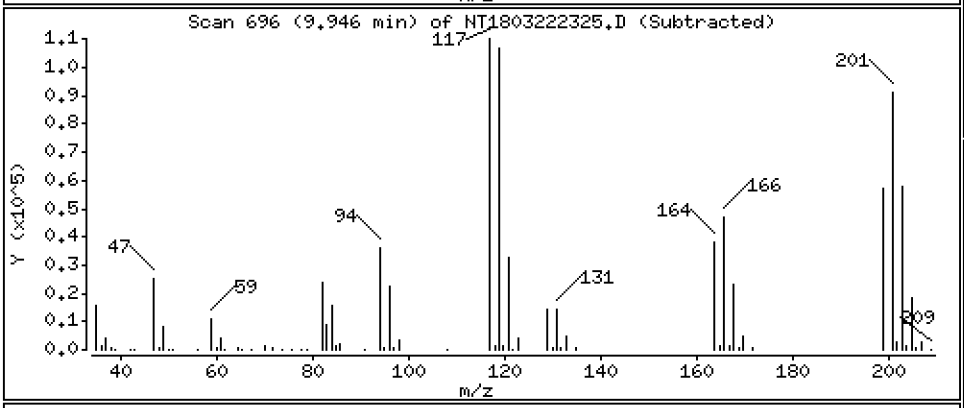
Column phase: ZB-5msi

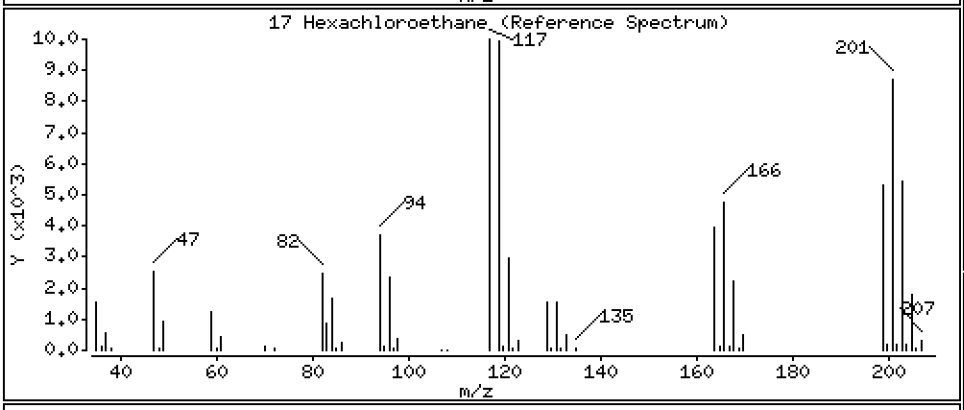
Column diameter: 0.25

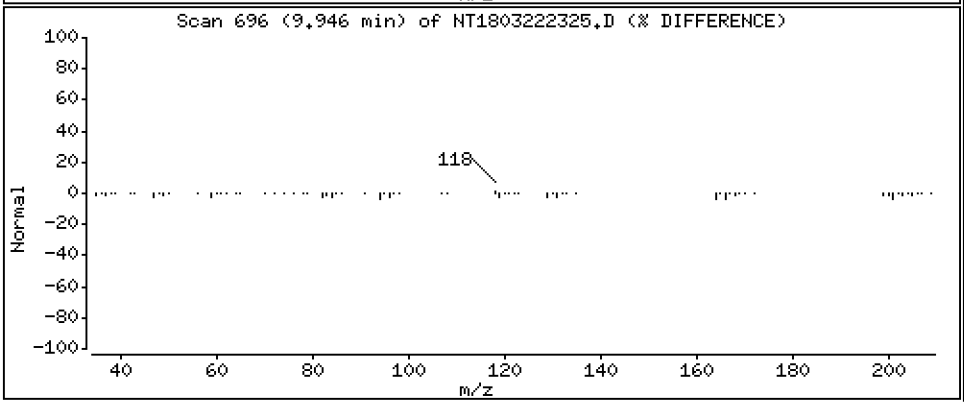
17 Hexachloroethane

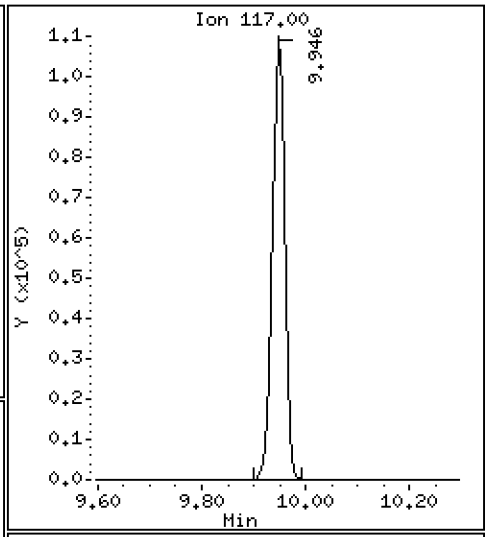
Concentration: 4.111 ug/mL

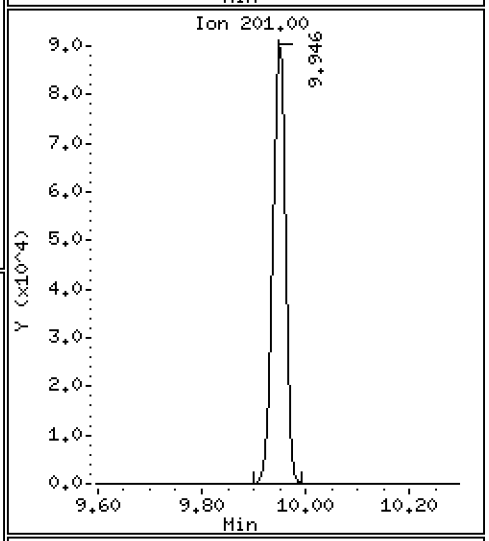


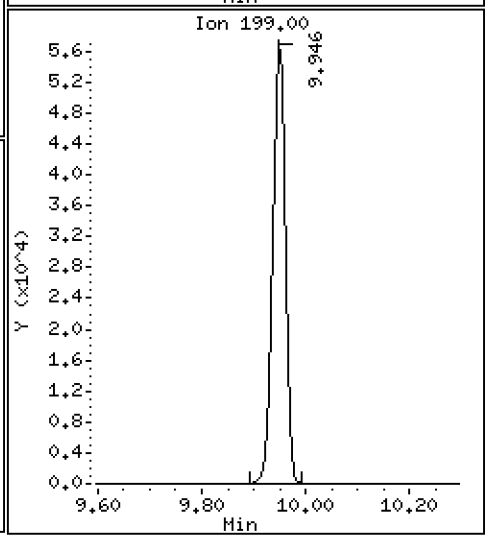












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

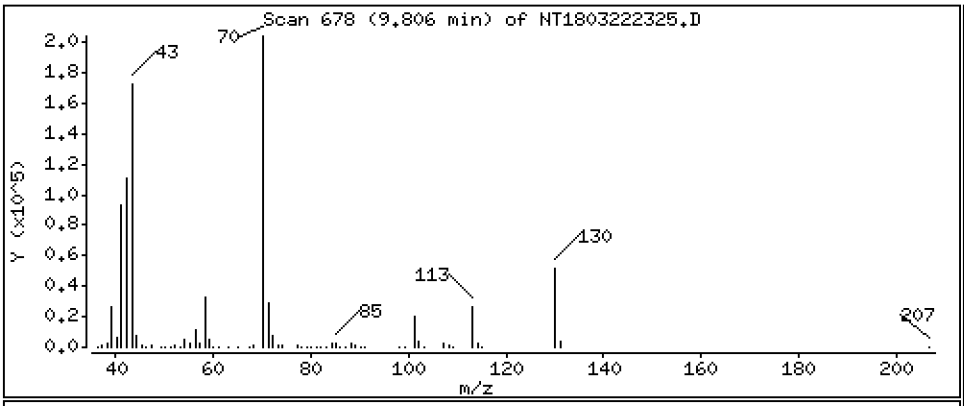
Operator: VTS

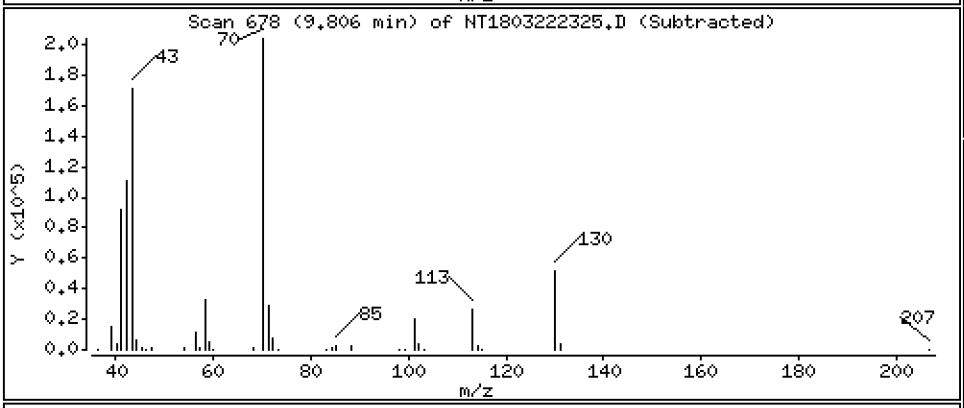
Column phase: ZB-5msi

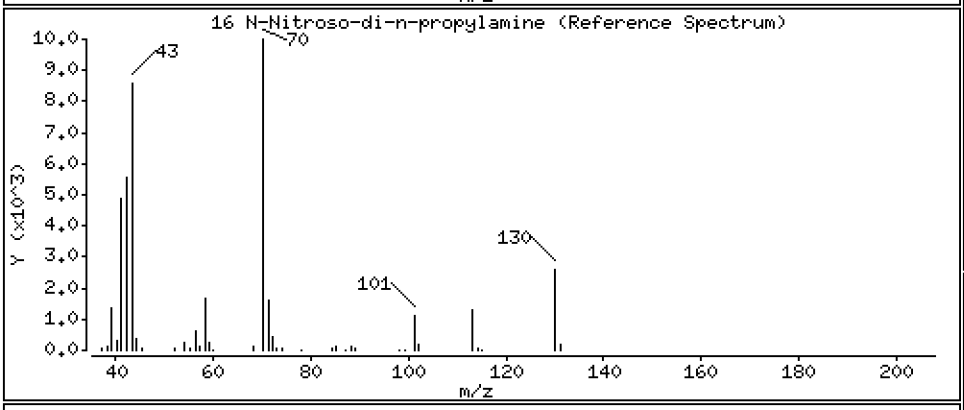
Column diameter: 0.25

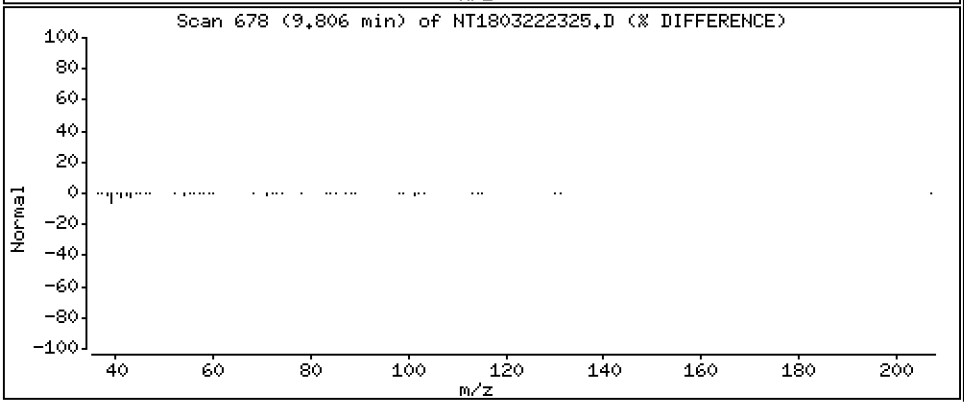
16 N-Nitroso-di-n-propylamine

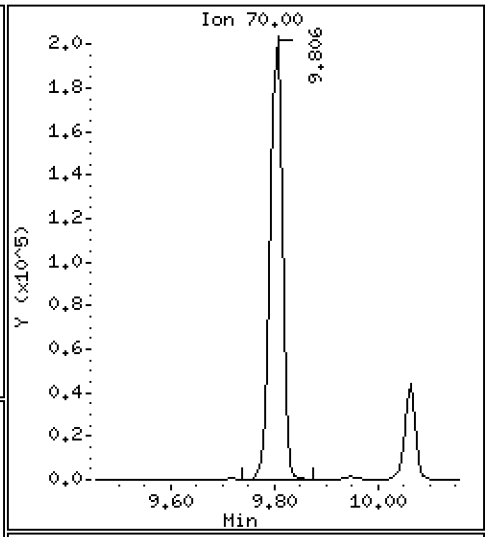
Concentration: 4.949 ug/mL

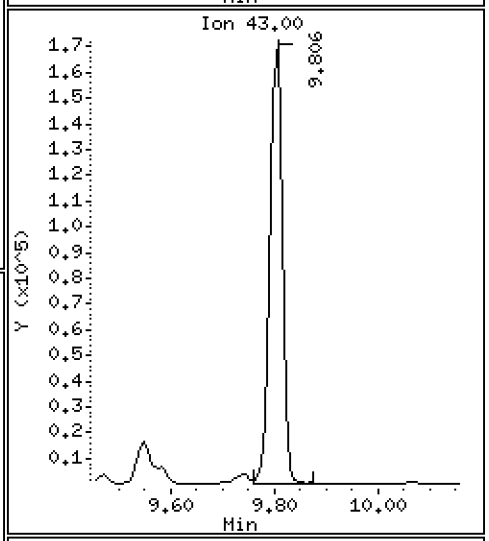


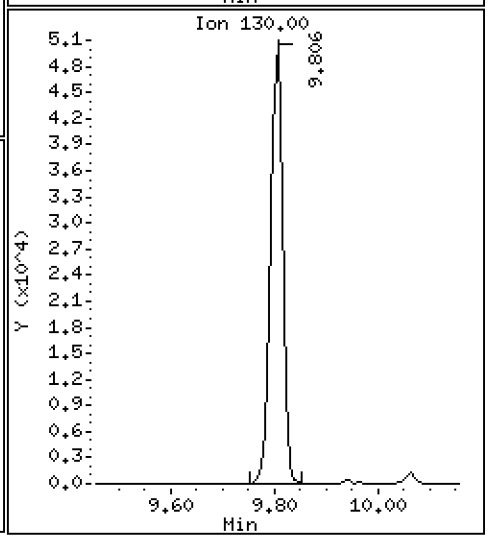












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

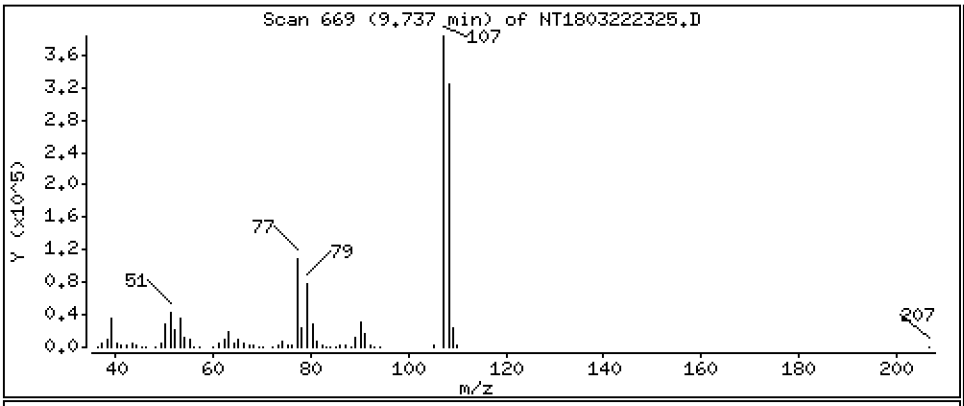
Operator: VTS

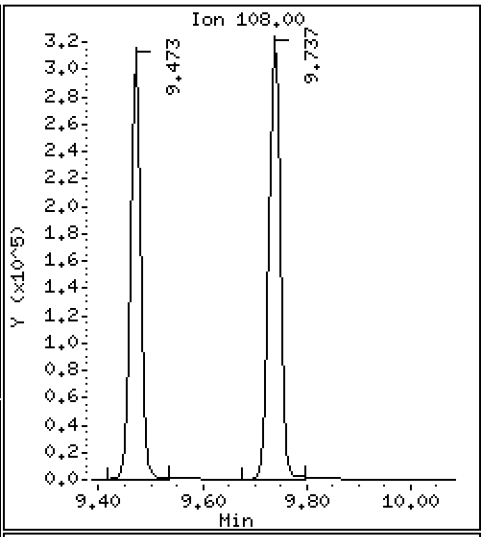
Column phase: ZB-5msi

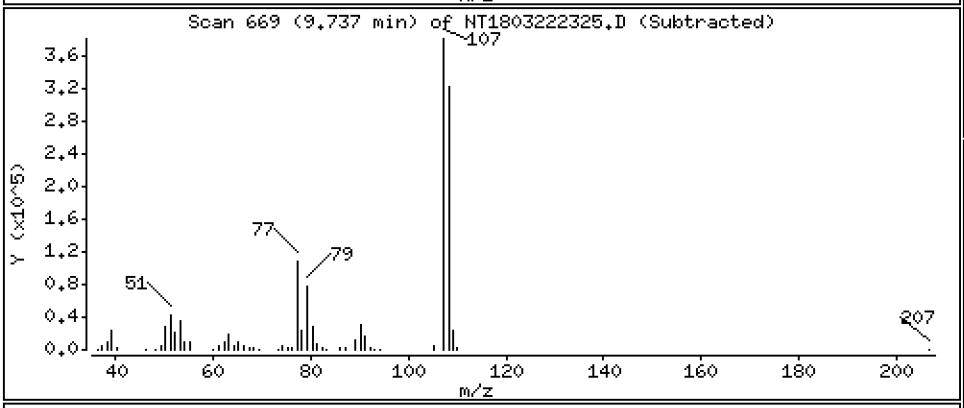
Column diameter: 0.25

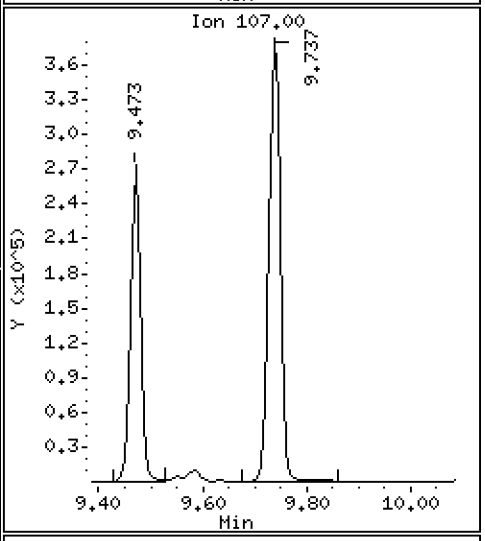
15 4-Methylphenol

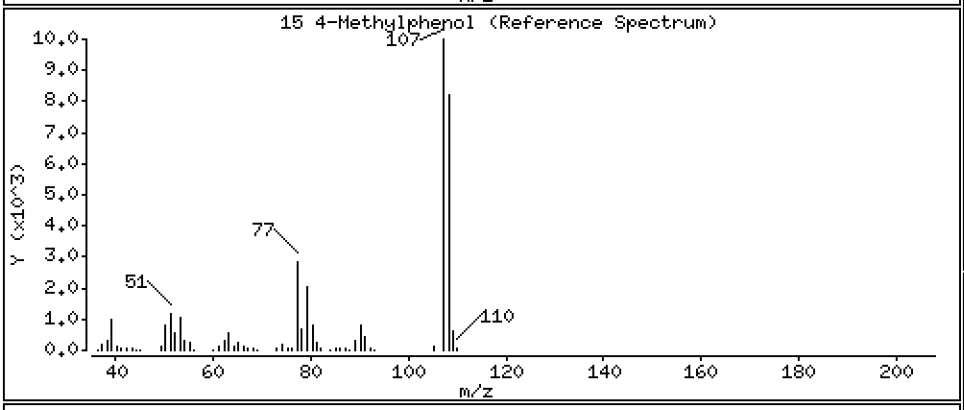
Concentration: 5.020 ug/mL

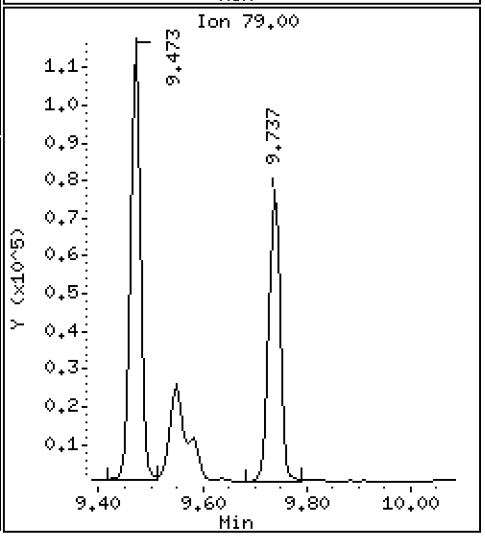


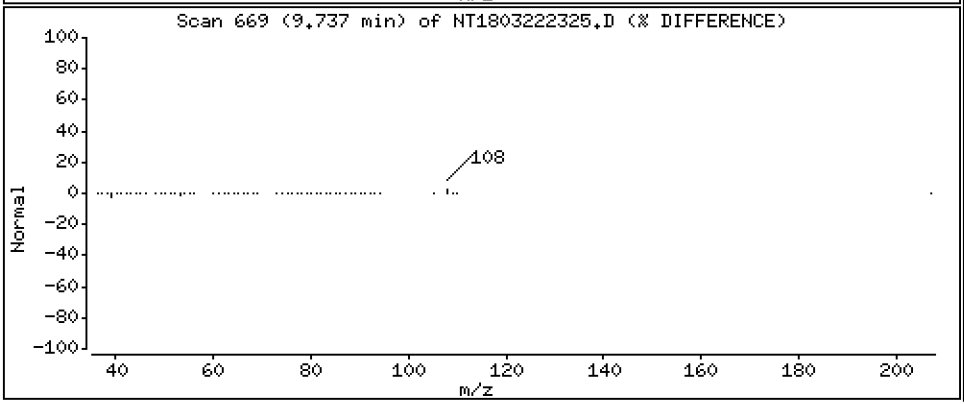












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222325.D

Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

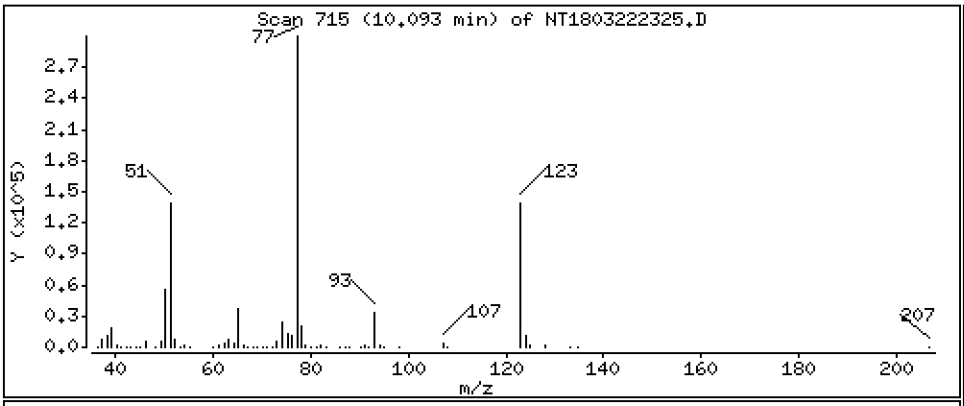
Operator: VTS

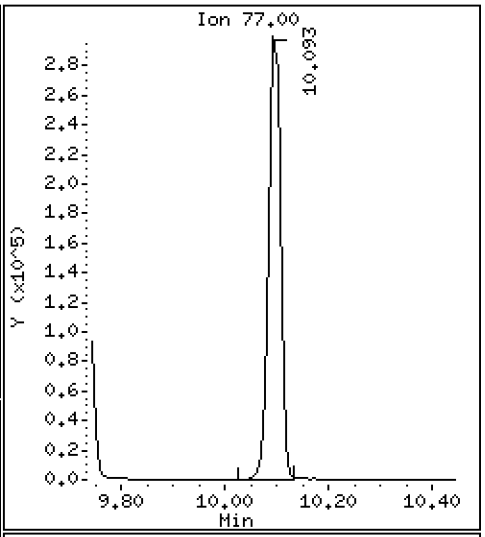
Column phase: ZB-5msi

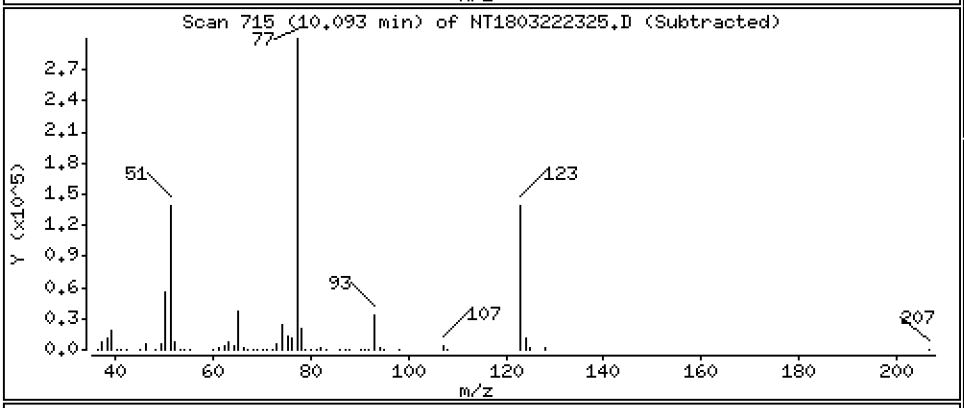
Column diameter: 0.25

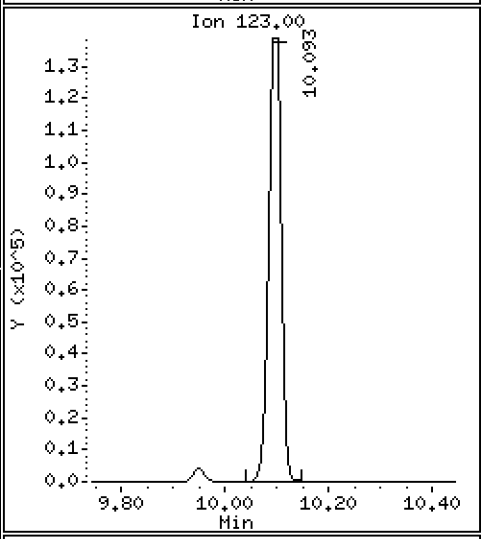
19 Nitrobenzene

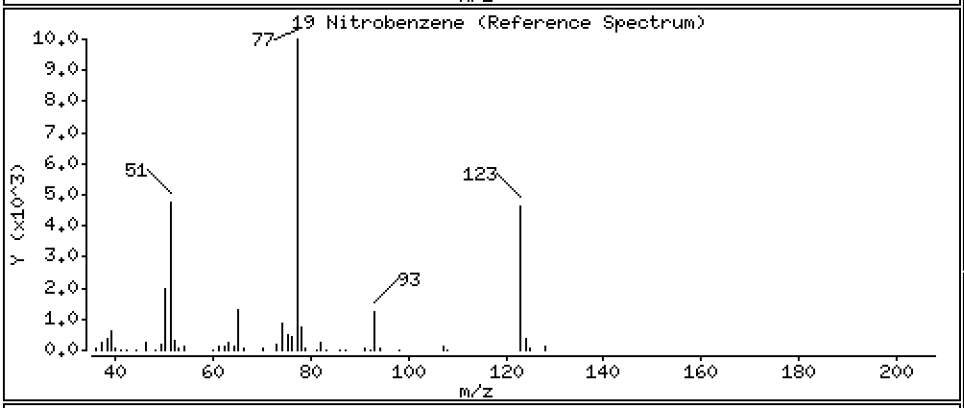
Concentration: 5.194 ug/mL

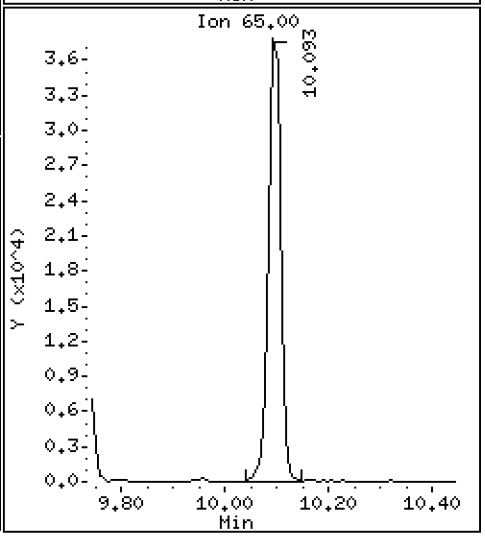


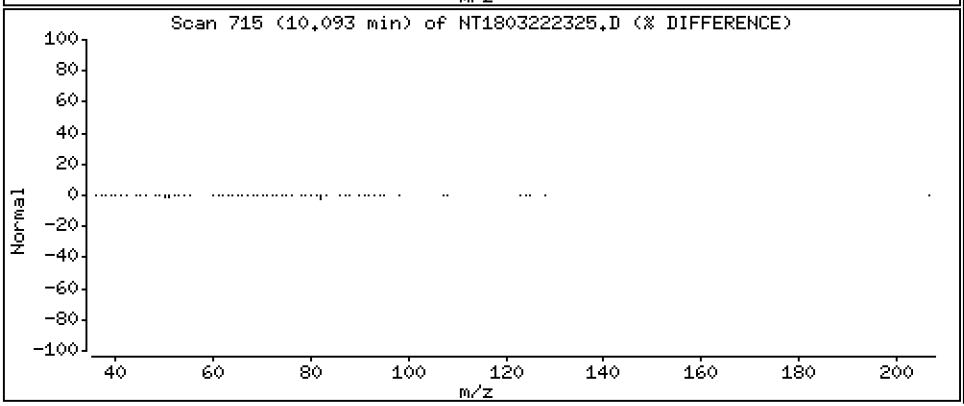












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

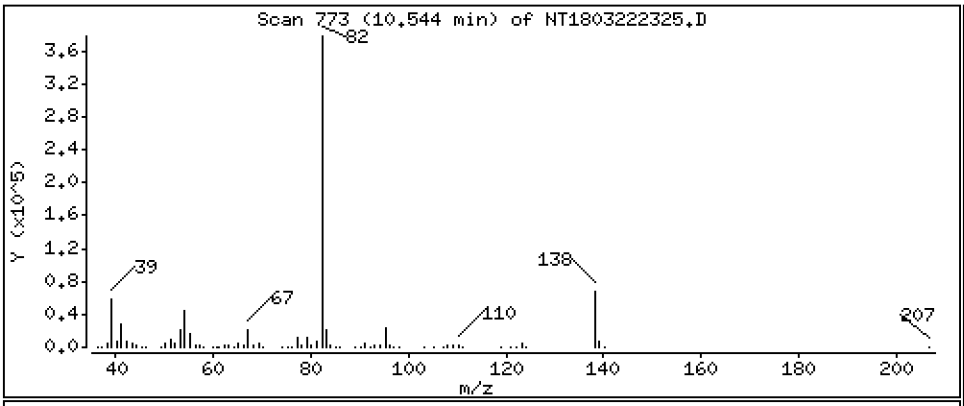
Operator: VTS

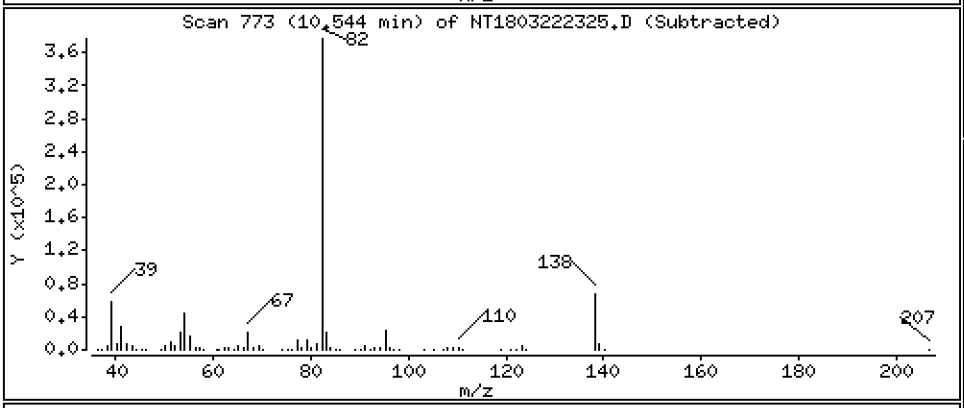
Column phase: ZB-5msi

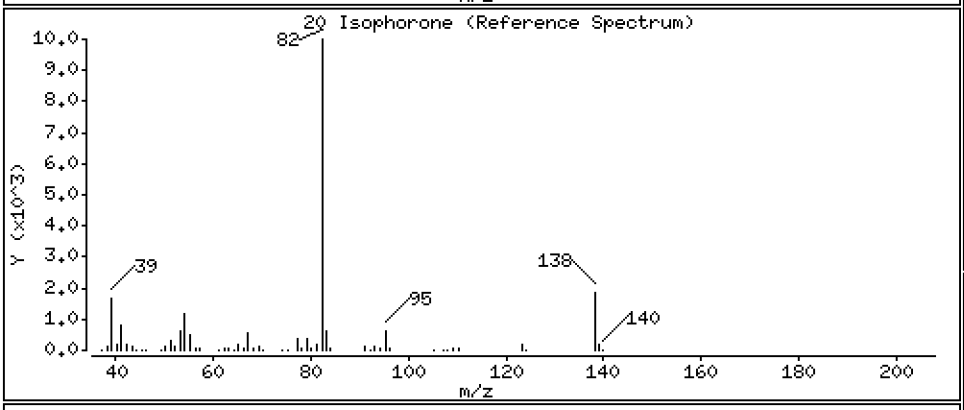
Column diameter: 0.25

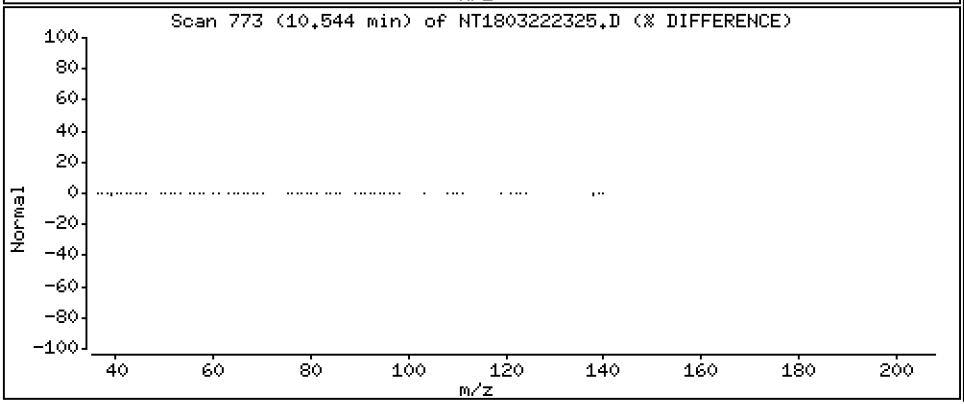
20 Isophorone

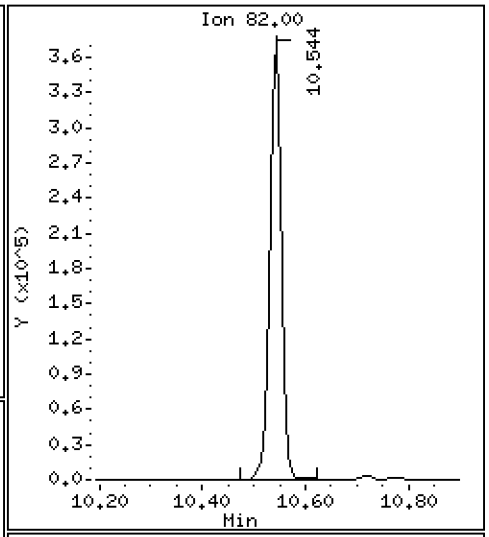
Concentration: 5.089 ug/mL

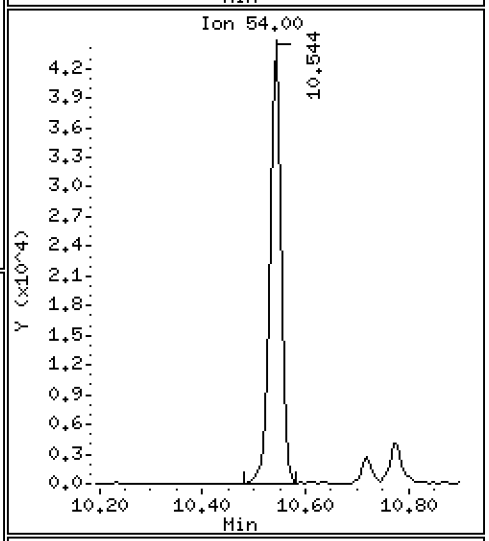


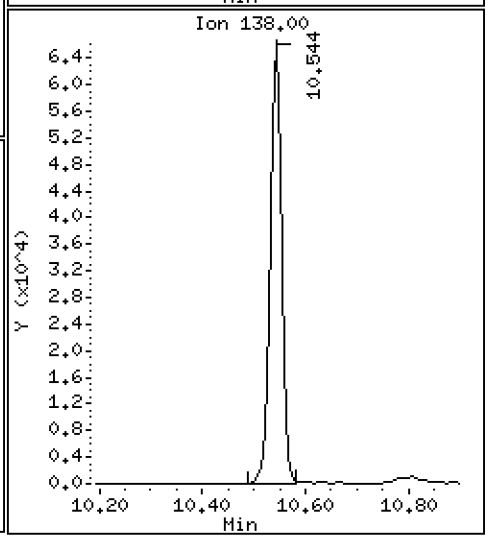












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

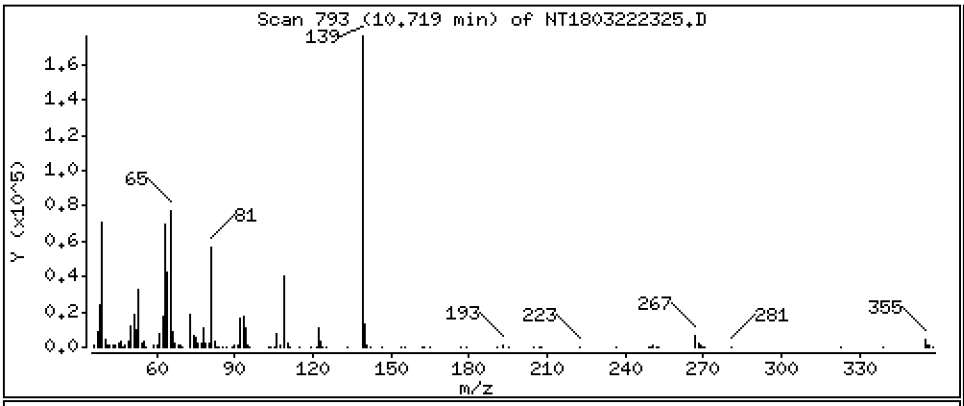
Operator: VTS

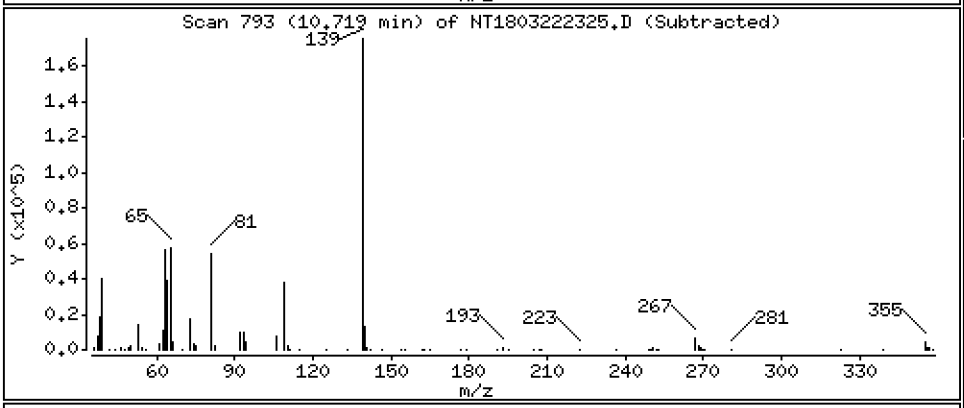
Column phase: ZB-5msi

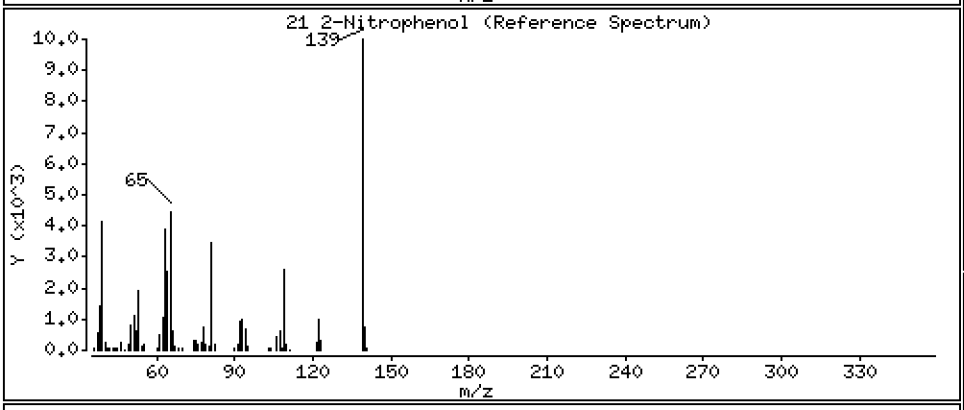
Column diameter: 0.25

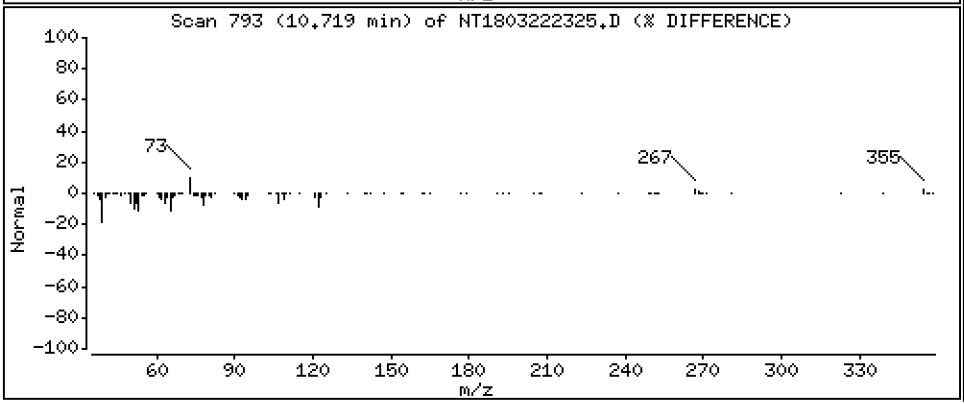
21 2-Nitrophenol

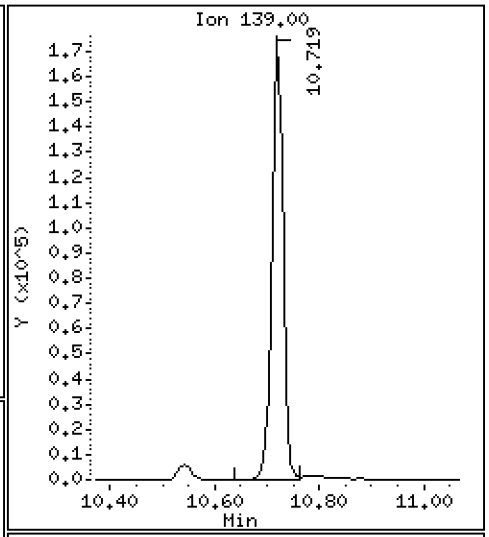
Concentration: 5.579 ug/mL

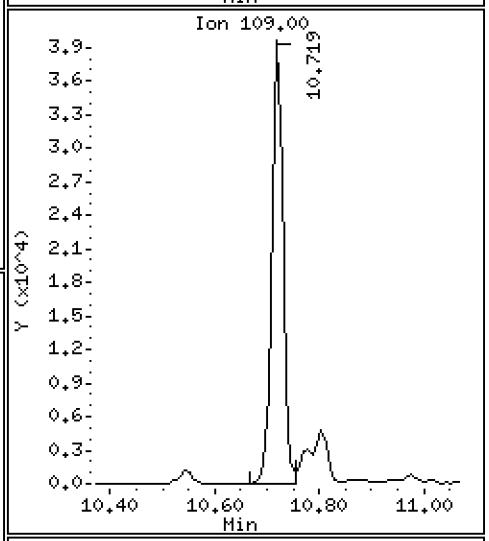


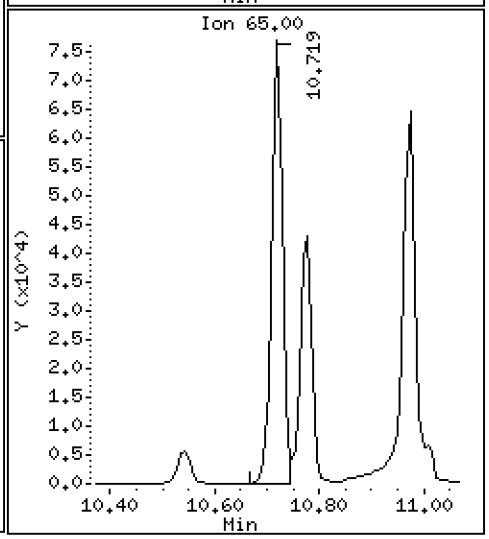












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

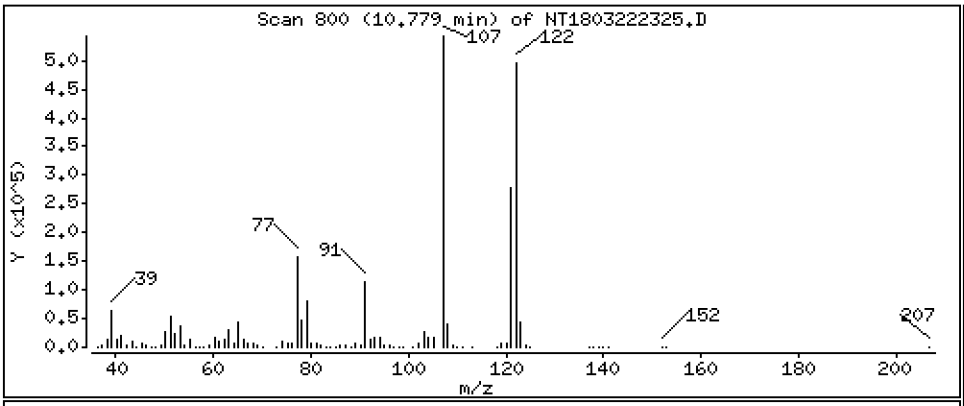
Operator: VTS

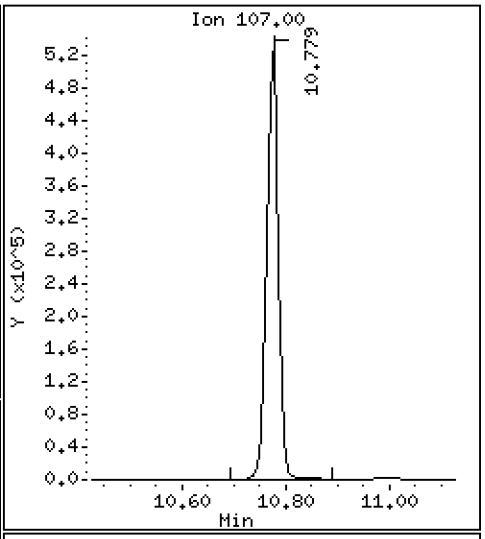
Column phase: ZB-5msi

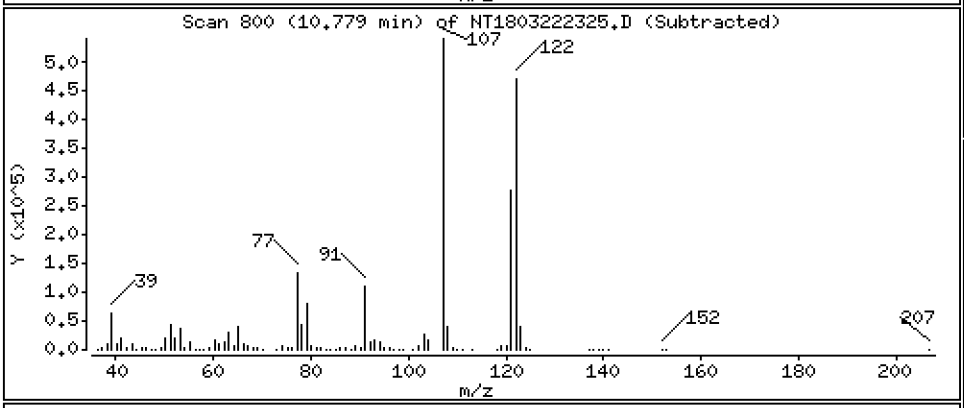
Column diameter: 0.25

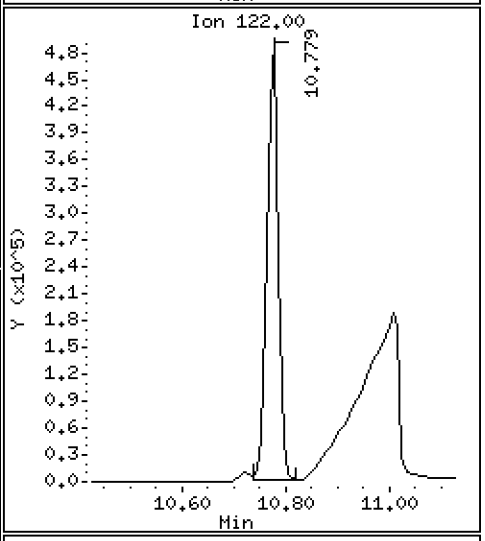
22 2,4-Dimethylphenol

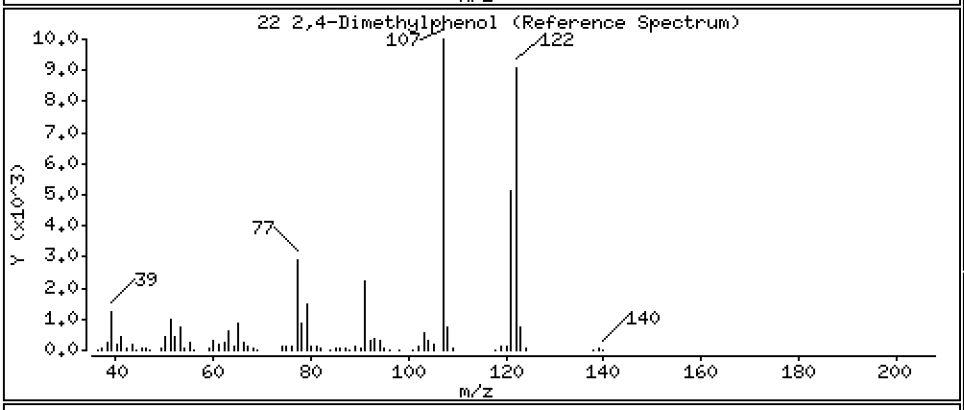
Concentration: 9.420 ug/mL

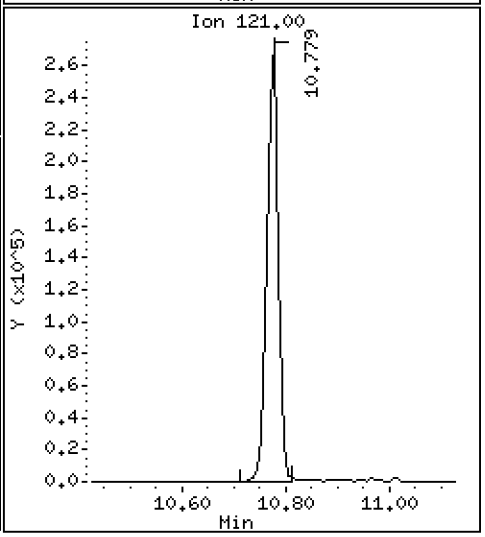


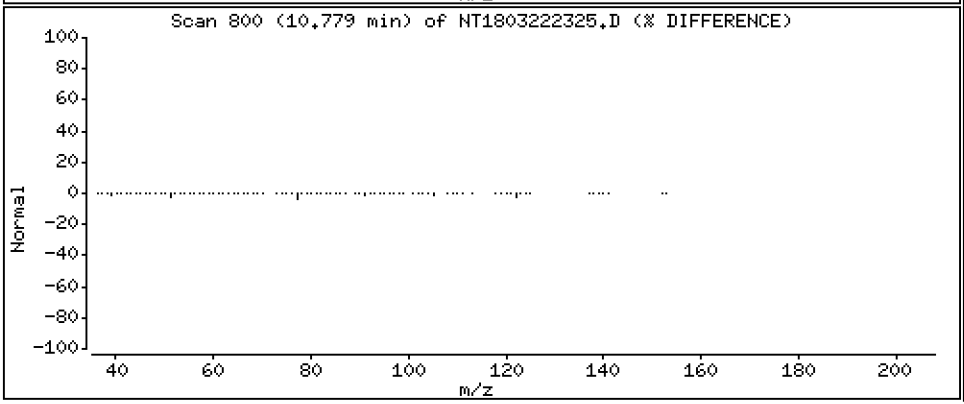












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

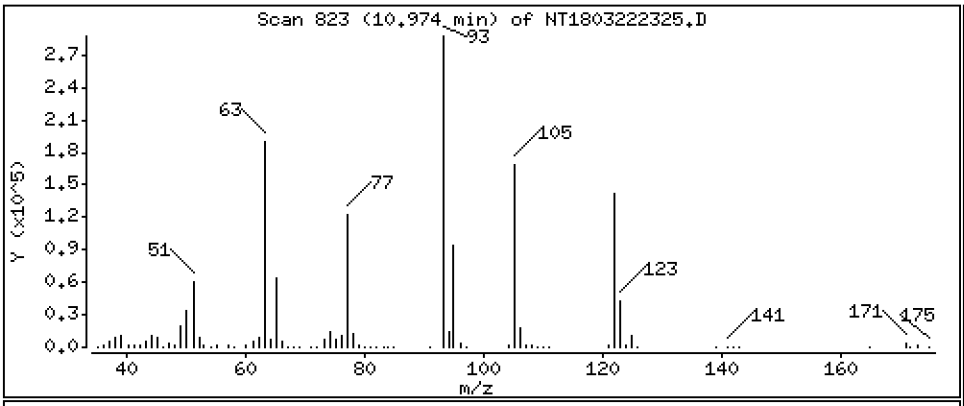
Operator: VTS

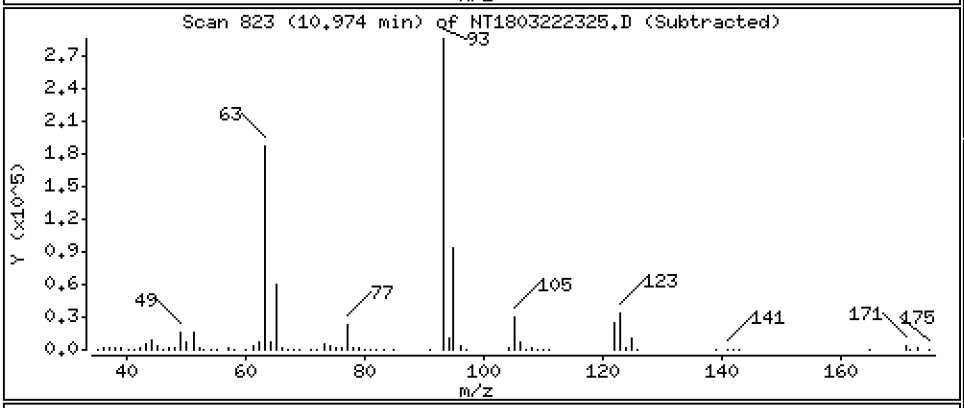
Column phase: ZB-5msi

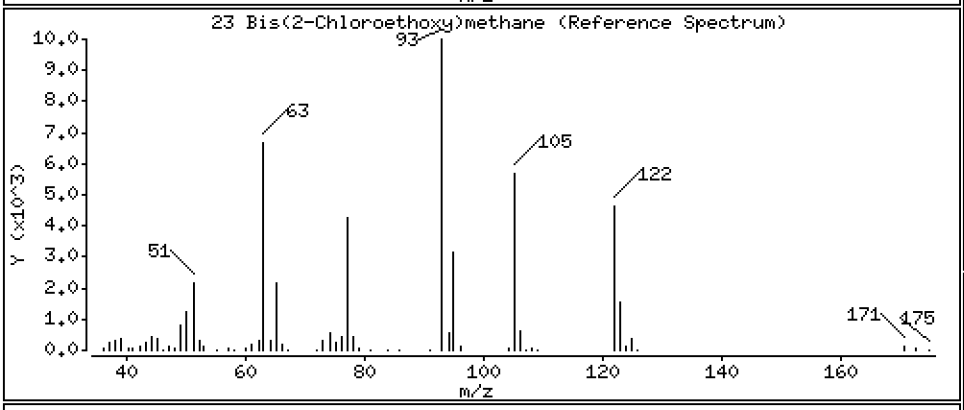
Column diameter: 0.25

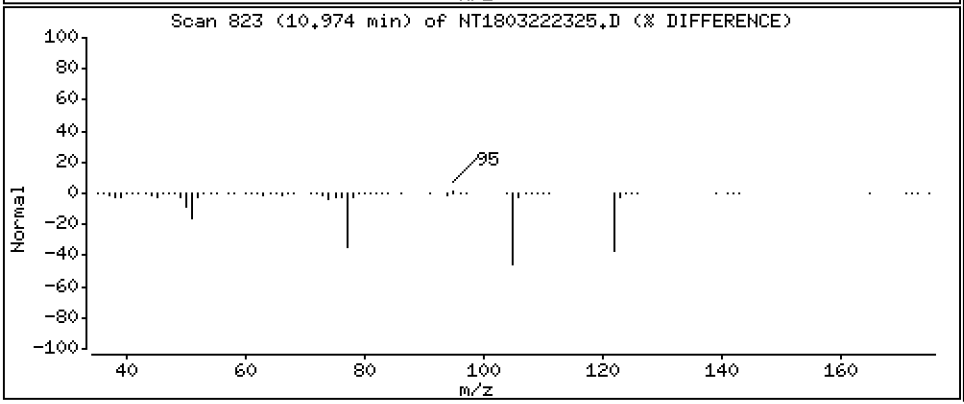
23 Bis(2-Chloroethoxy)methane

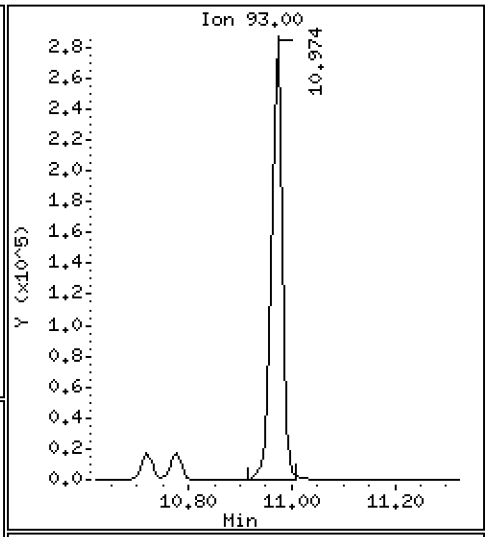
Concentration: 4.954 ug/mL

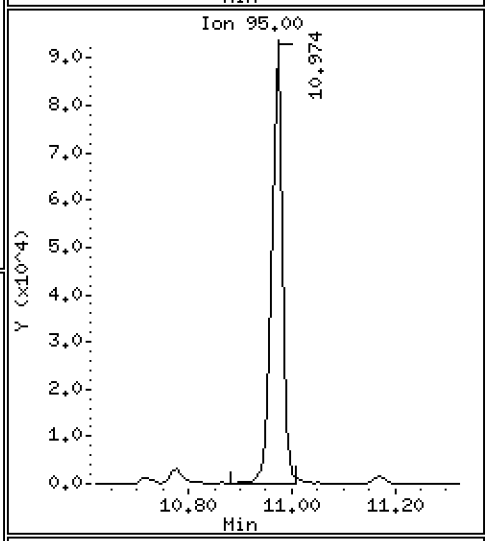


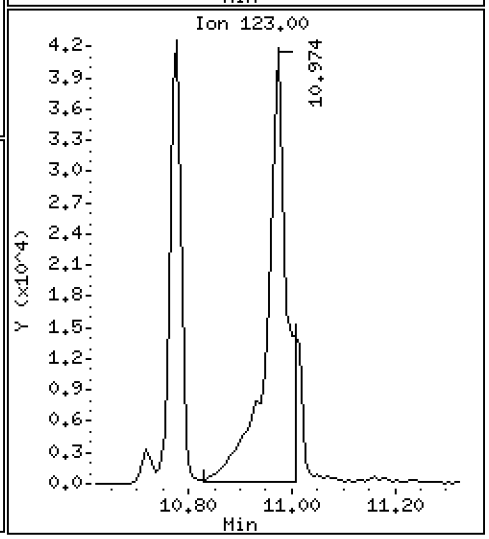












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

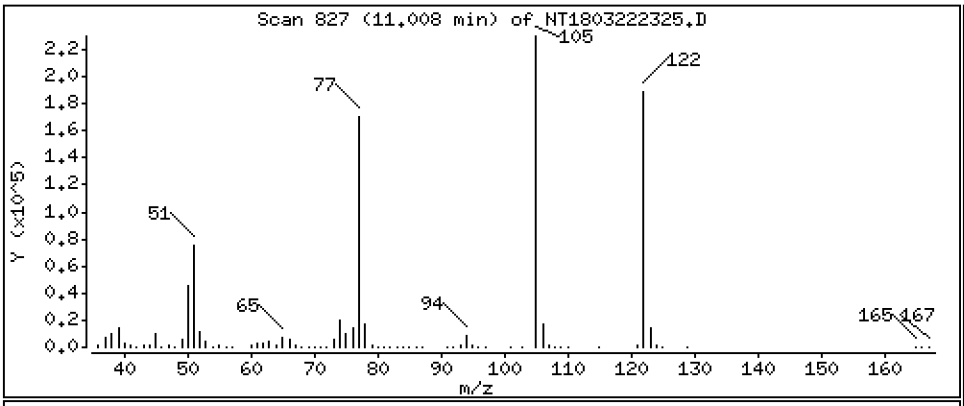
Operator: VTS

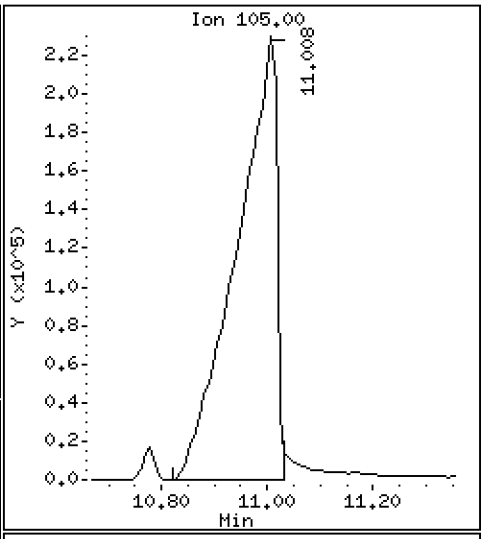
Column phase: ZB-5msi

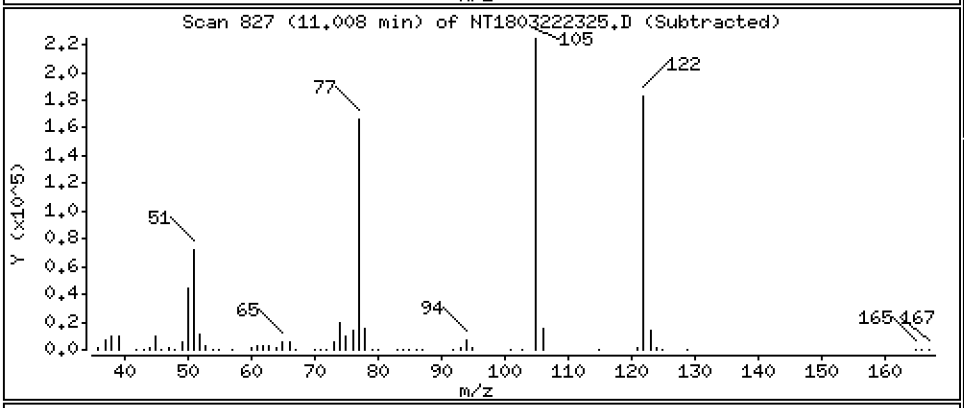
Column diameter: 0.25

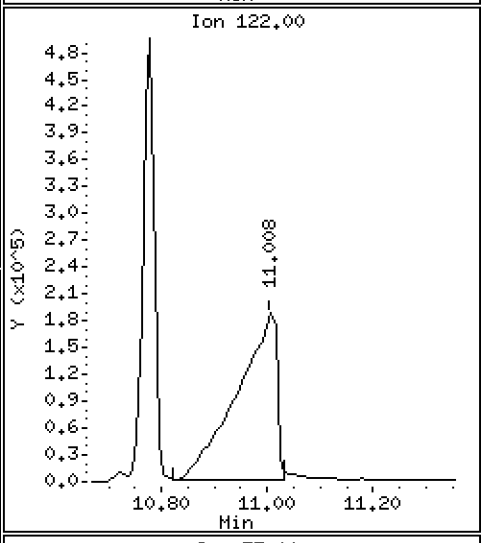
24 Benzoic acid

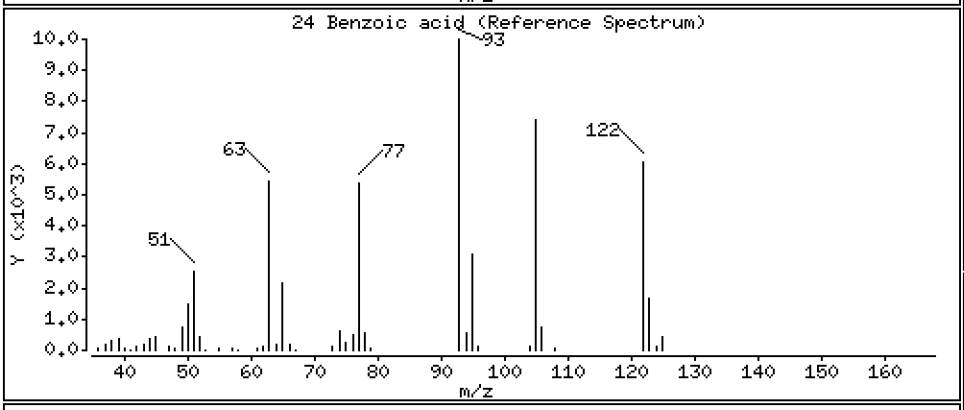
Concentration: 19.05 ug/mL

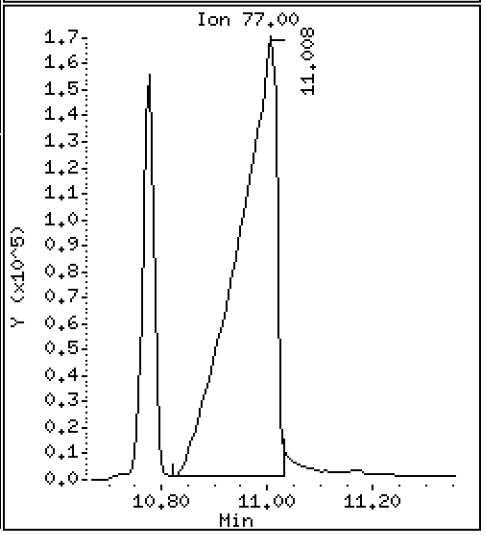


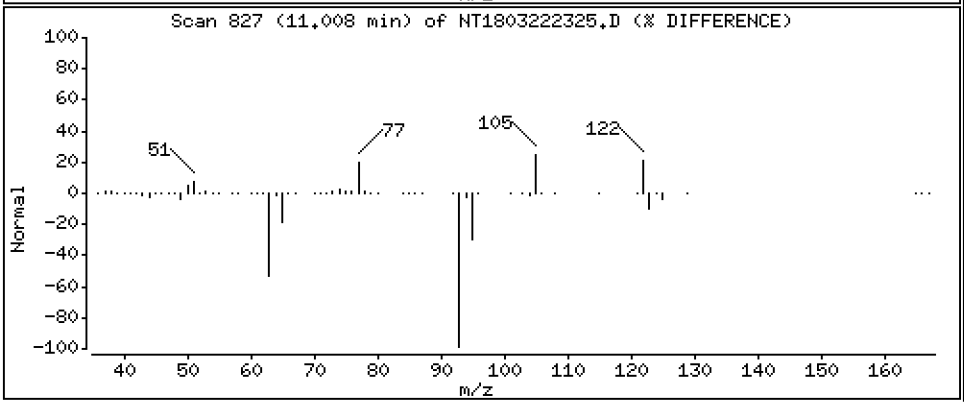












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

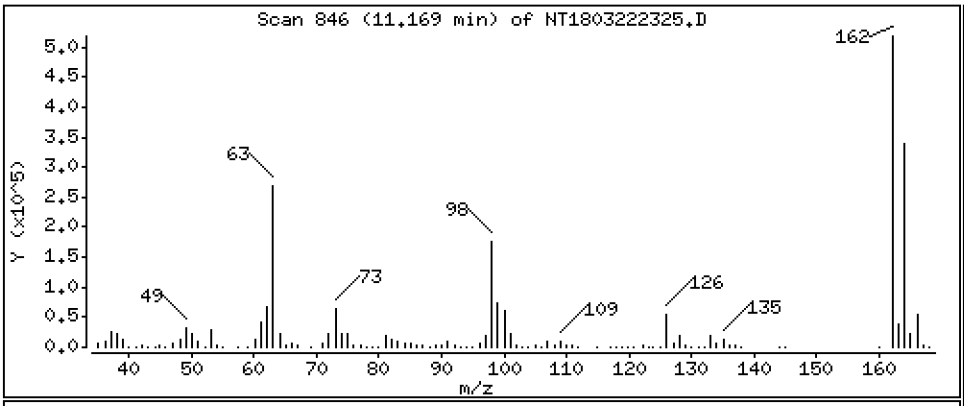
Operator: VTS

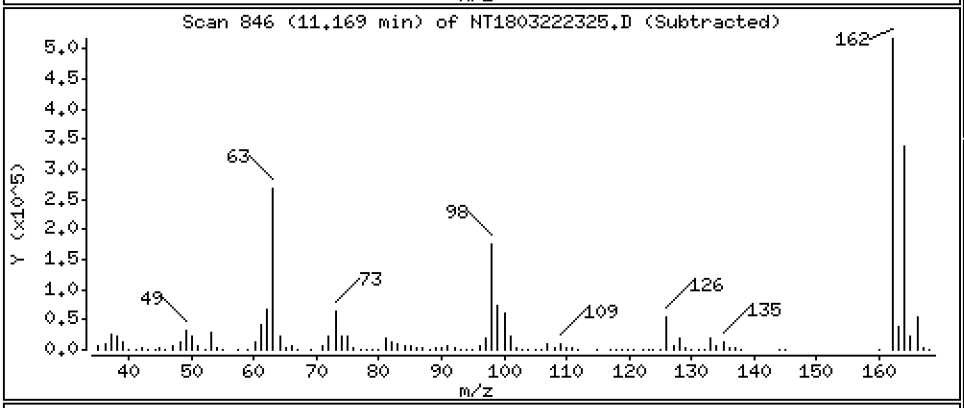
Column phase: ZB-5msi

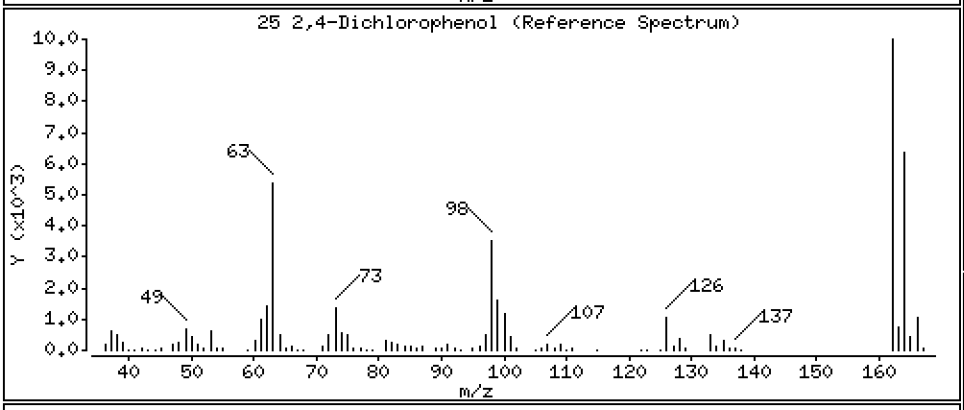
Column diameter: 0.25

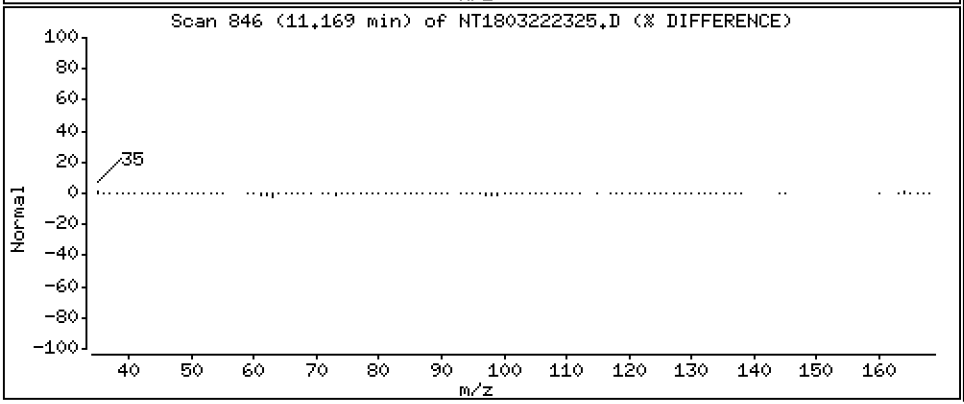
25 2,4-Dichlorophenol

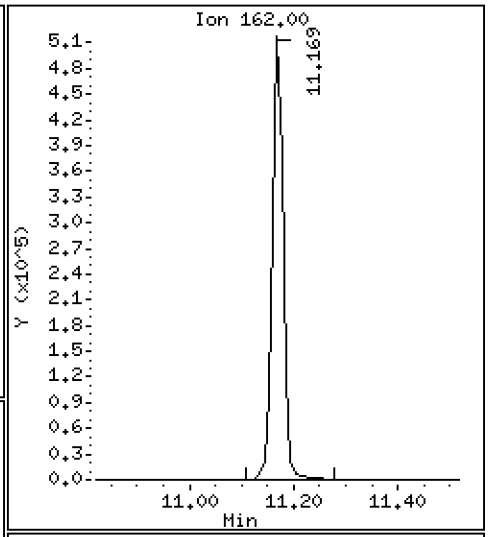
Concentration: 10.37 ug/mL

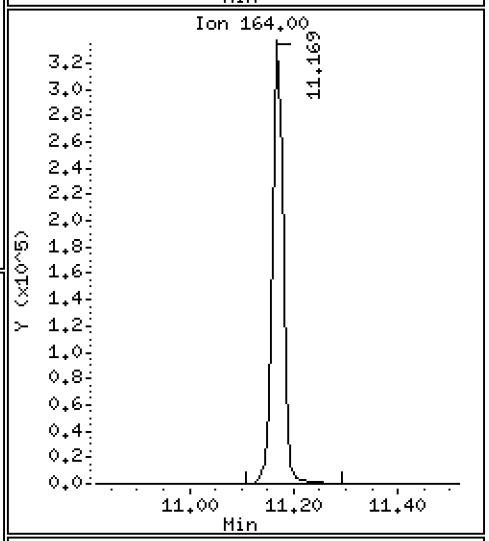


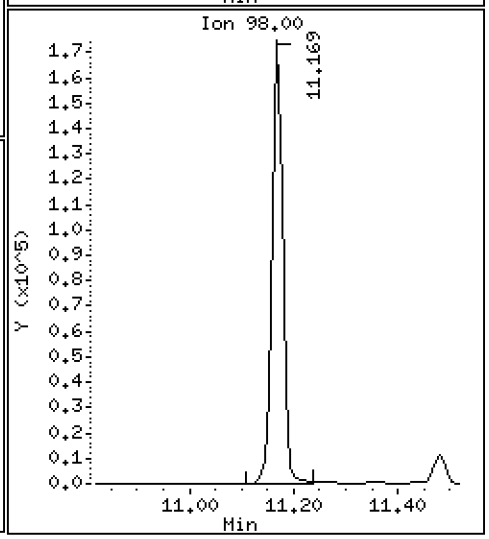












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222325.D

Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

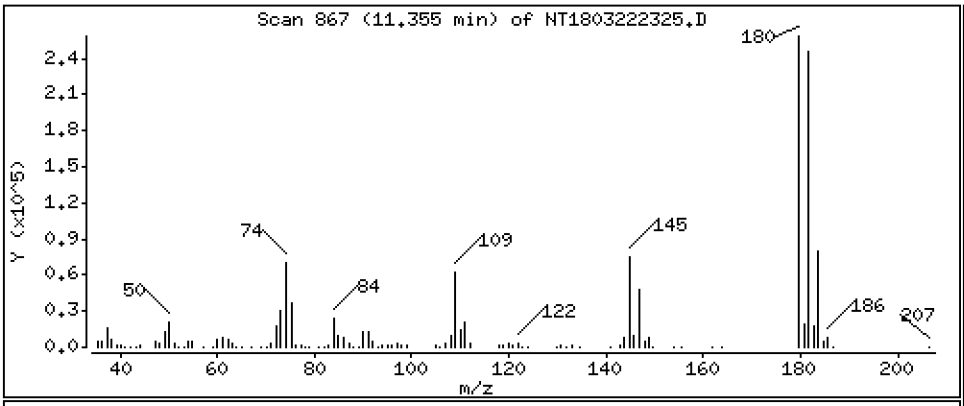
Operator: VTS

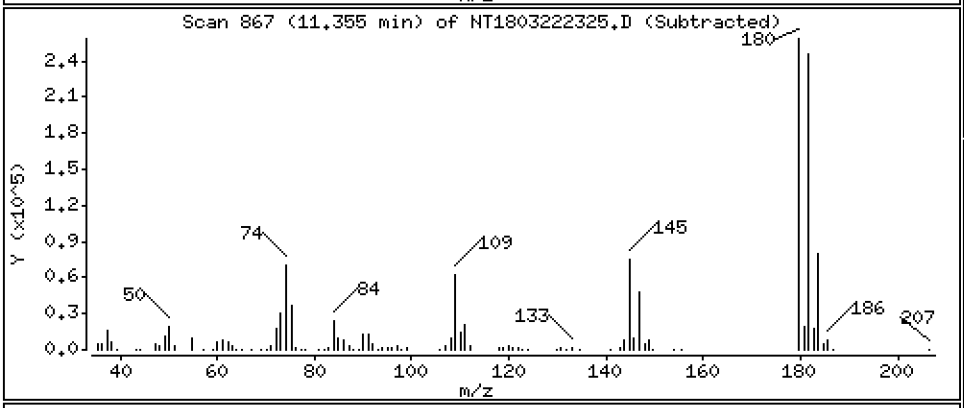
Column phase: ZB-5msi

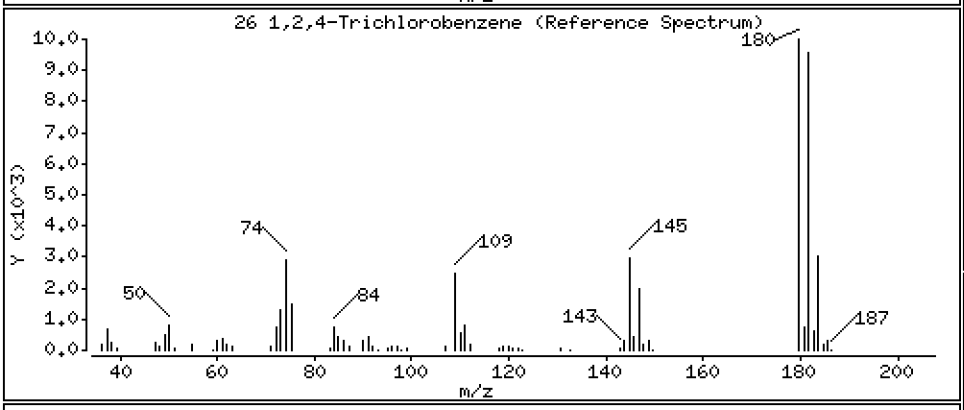
Column diameter: 0.25

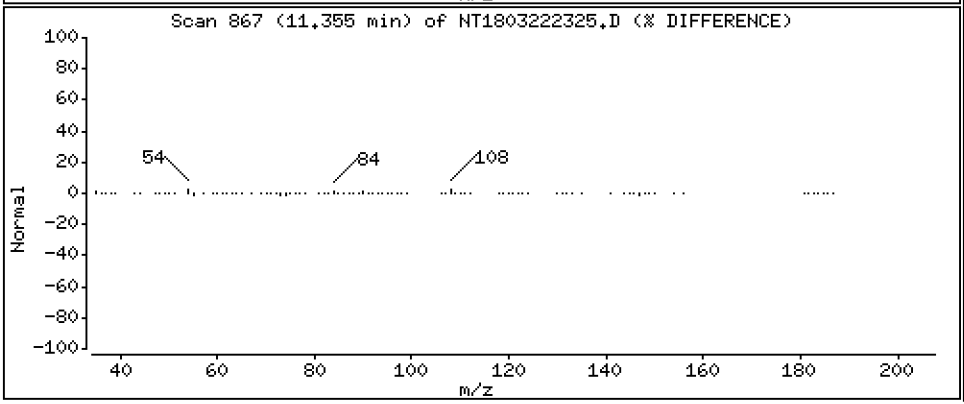
26 1,2,4-Trichlorobenzene

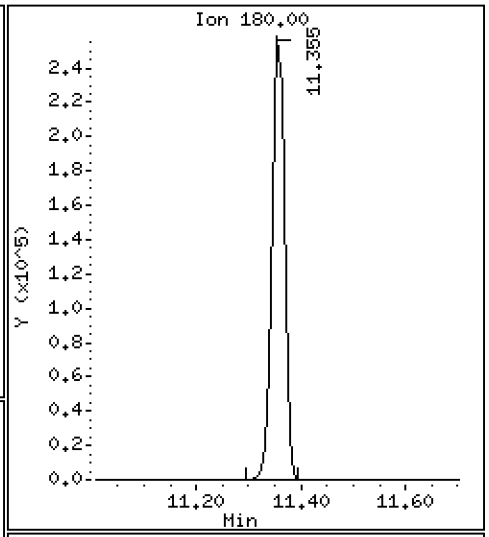
Concentration: 4.817 ug/mL

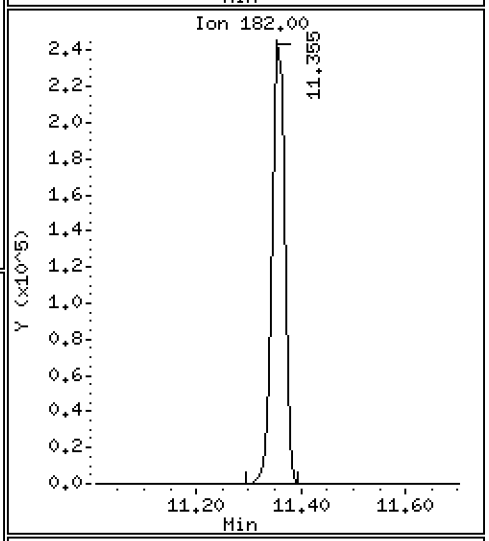


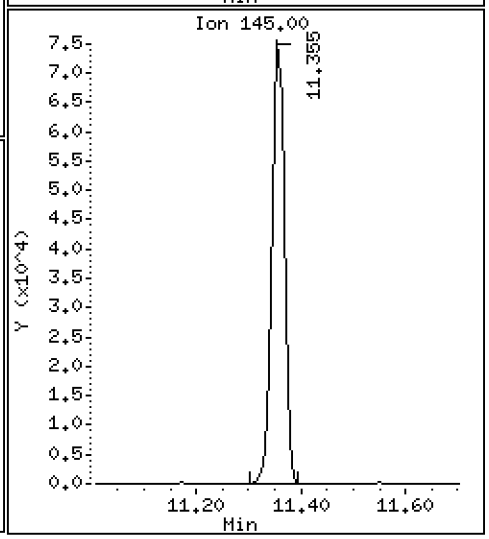












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

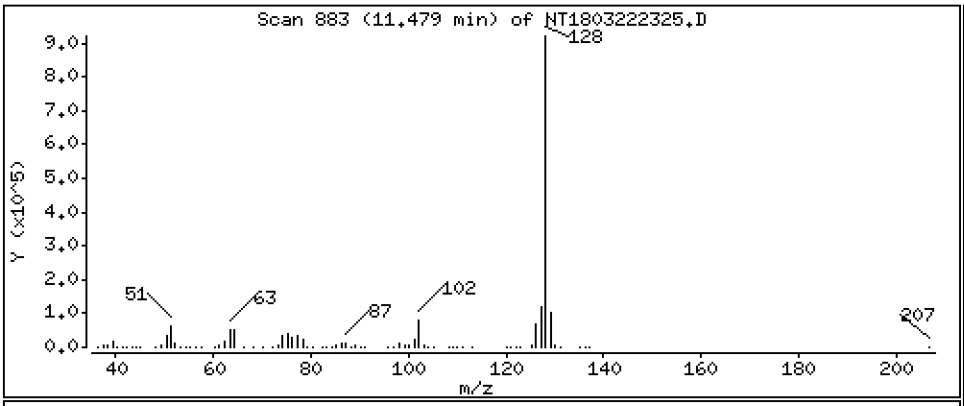
Operator: VTS

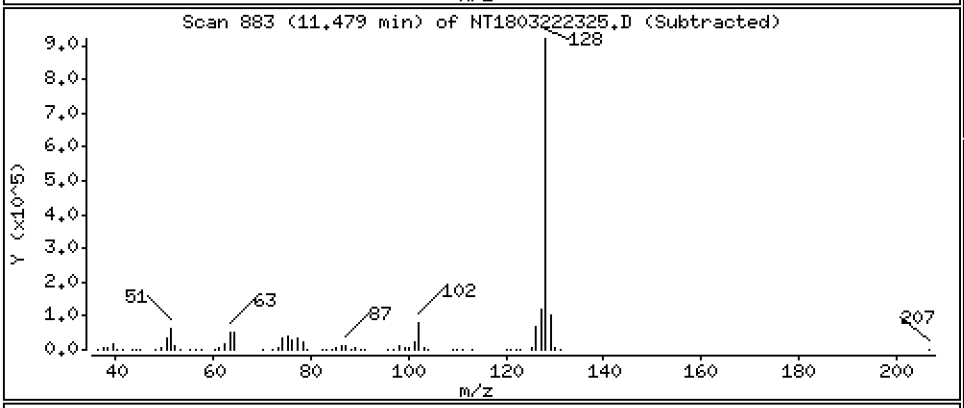
Column phase: ZB-5msi

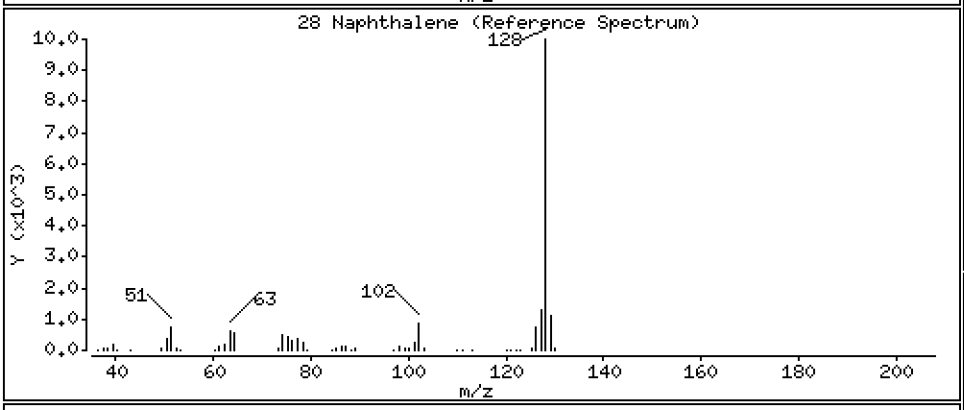
Column diameter: 0.25

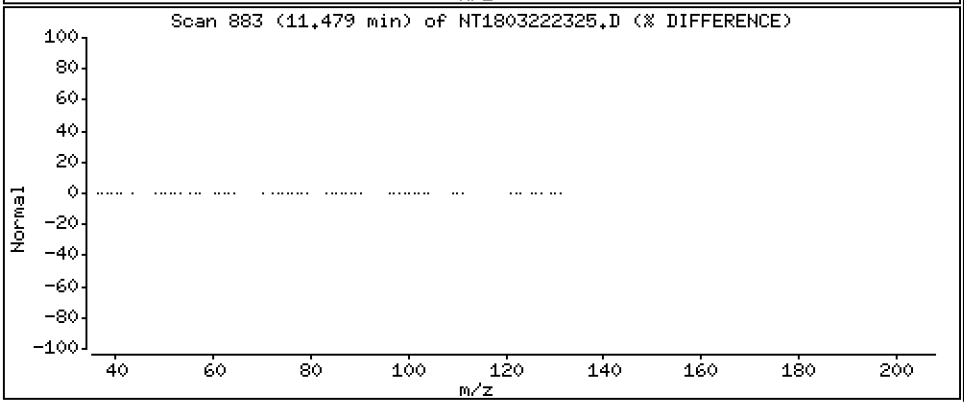
28 Naphthalene

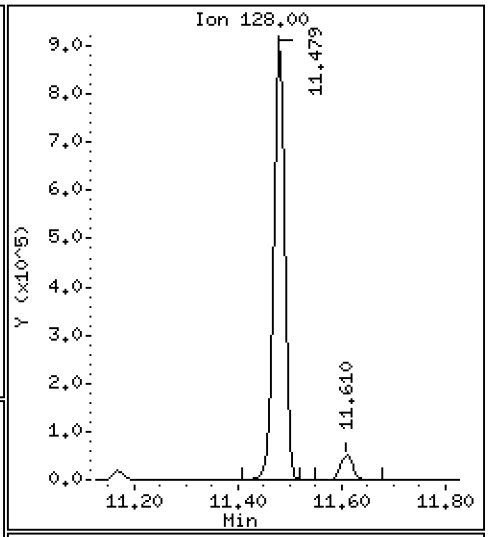
Concentration: 4.821 ug/mL

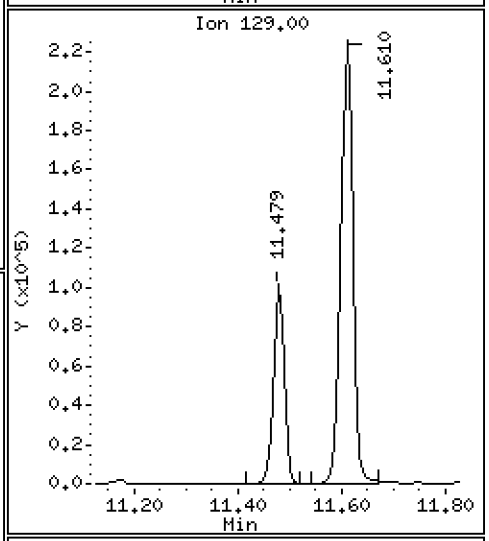


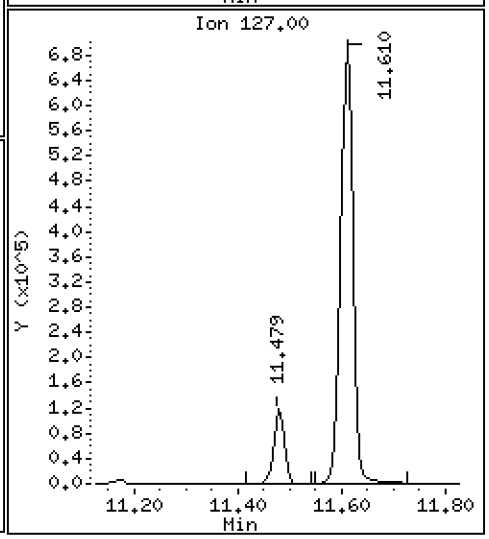












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222325.D

Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

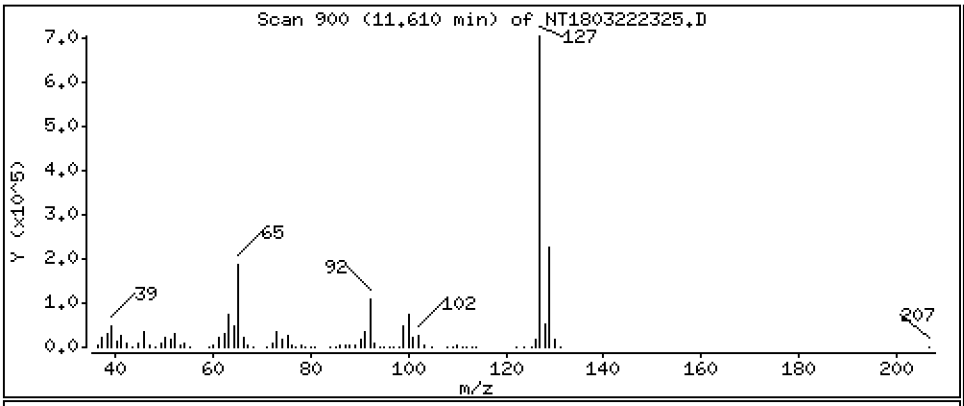
Operator: VTS

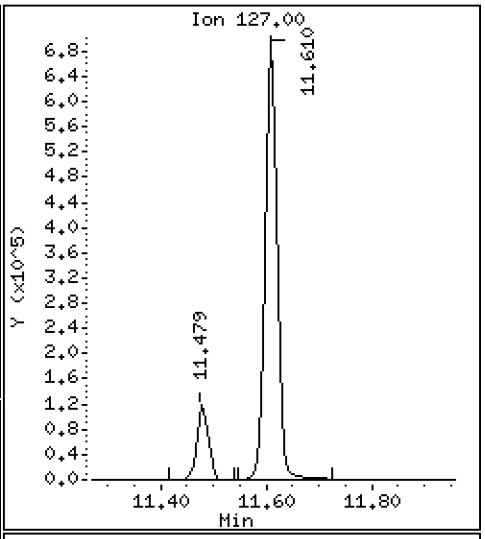
Column phase: ZB-5msi

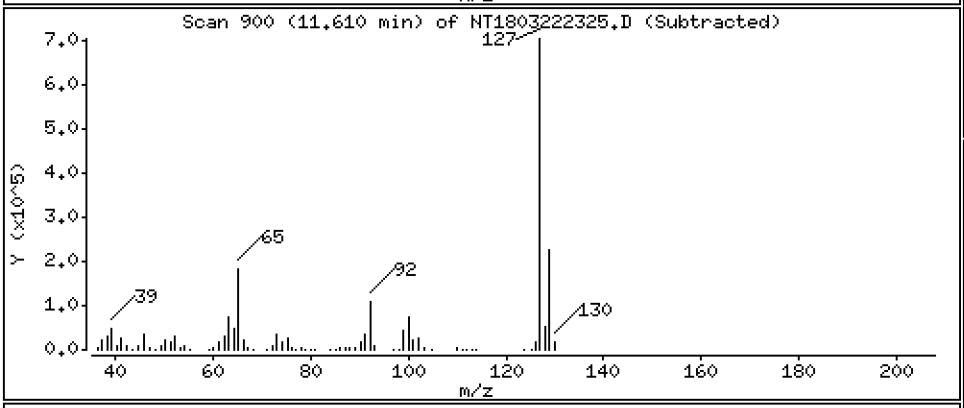
Column diameter: 0.25

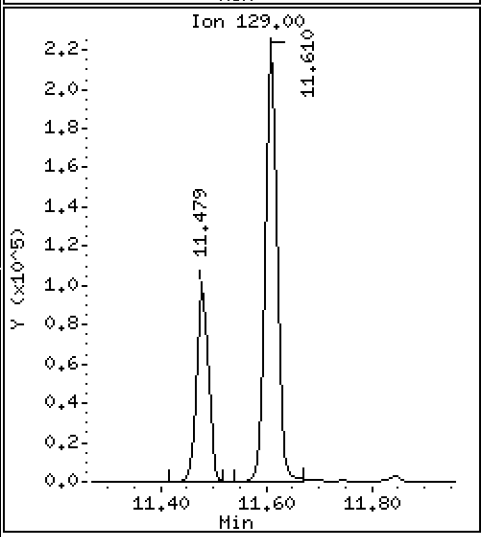
29 4-Chloroaniline

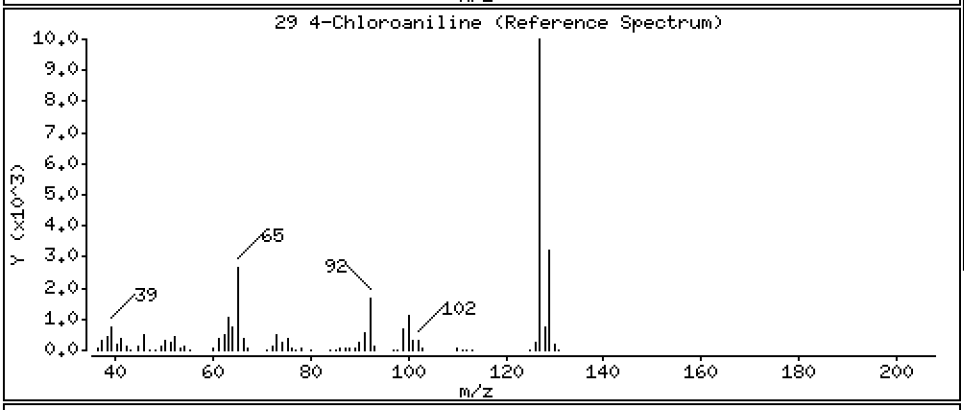
Concentration: 9.692 ug/mL

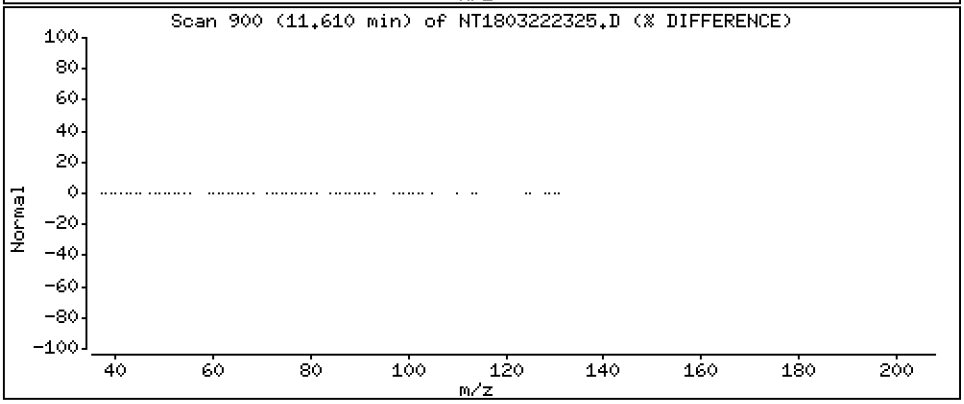












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222325.D

Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

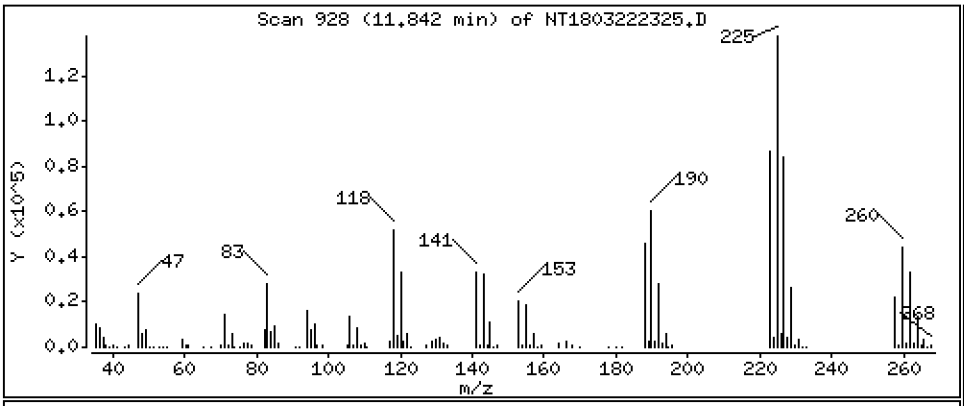
Operator: VTS

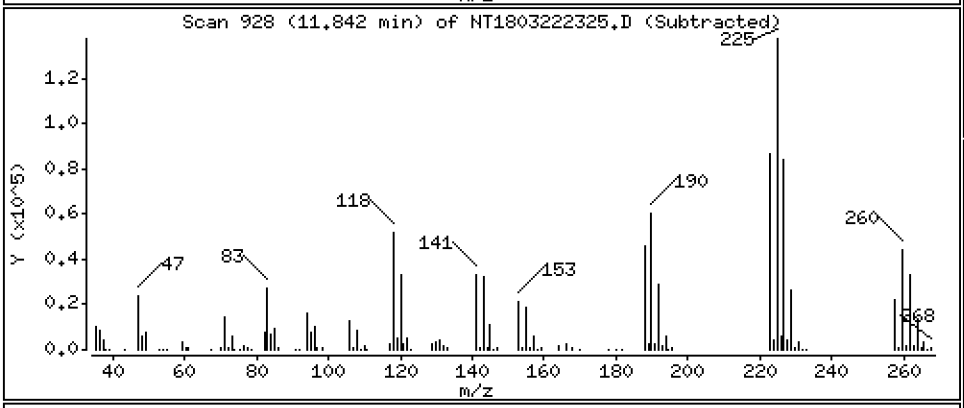
Column phase: ZB-5msi

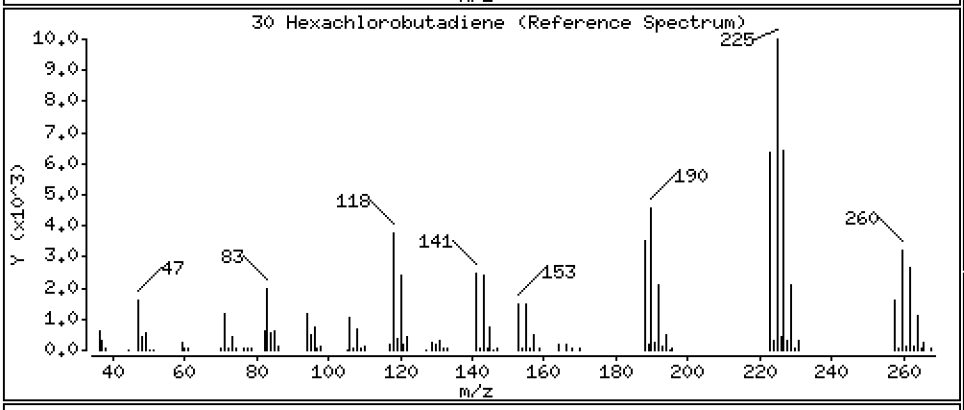
Column diameter: 0.25

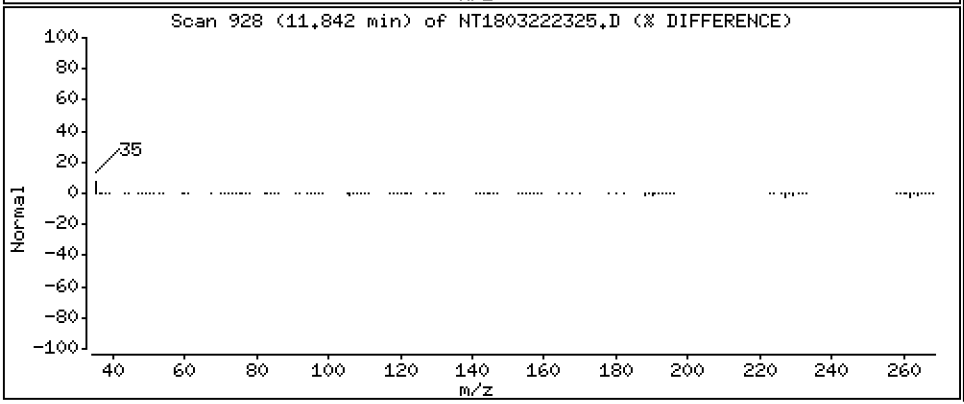
30 Hexachlorobutadiene

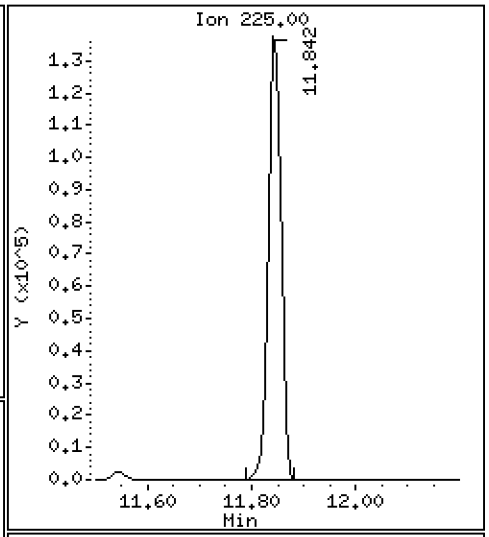
Concentration: 4.681 ug/mL

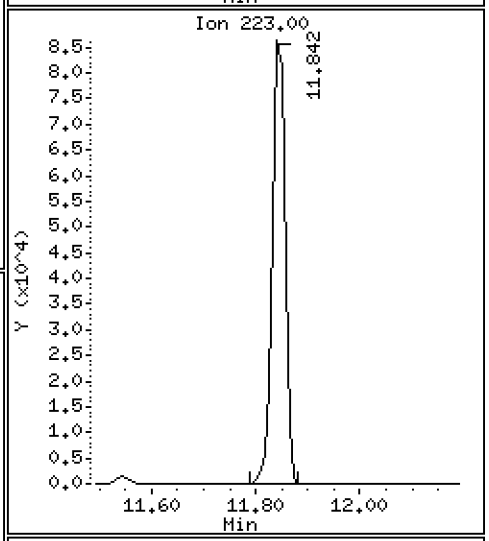


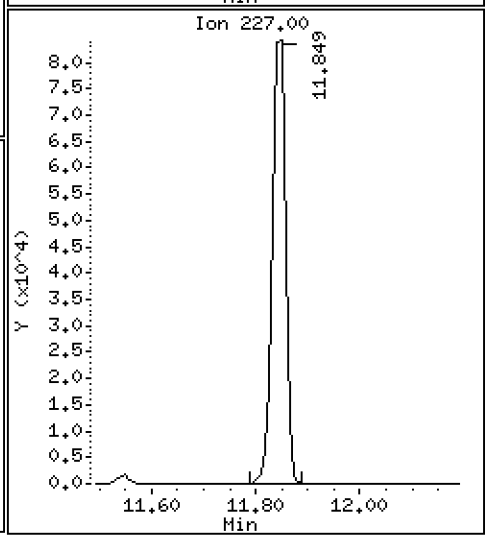












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

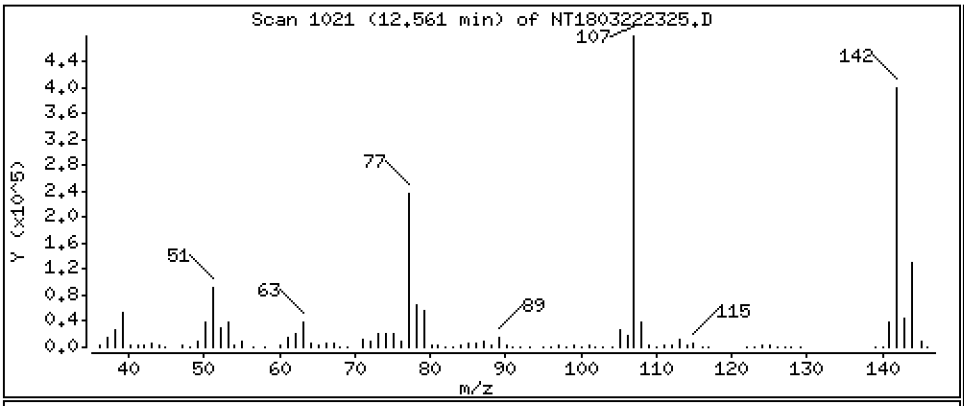
Operator: VTS

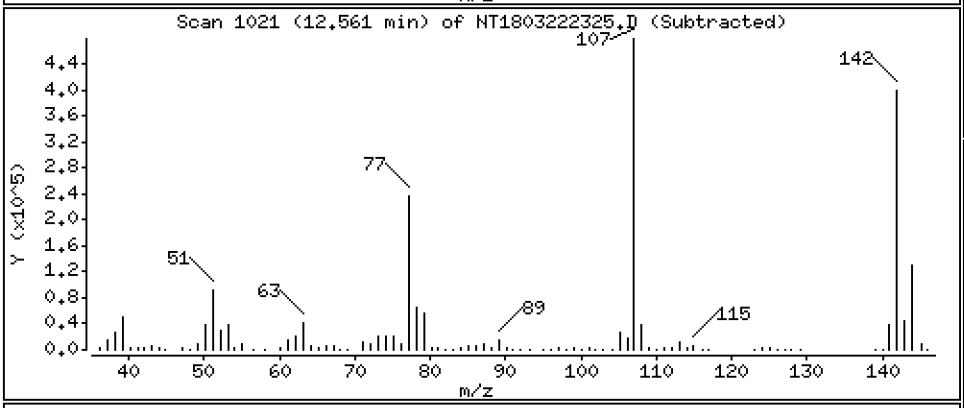
Column phase: ZB-5msi

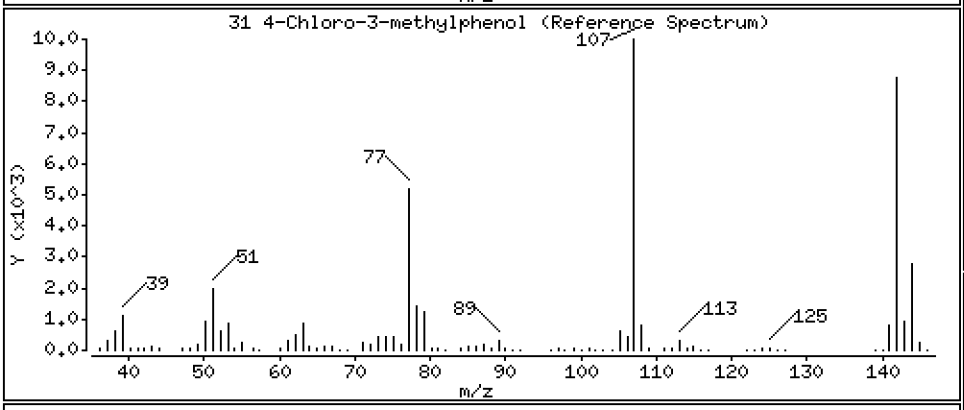
Column diameter: 0.25

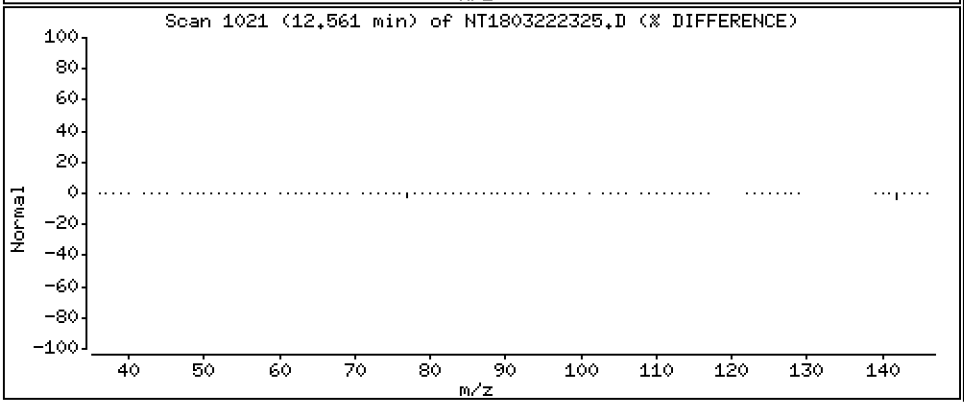
31 4-Chloro-3-methylphenol

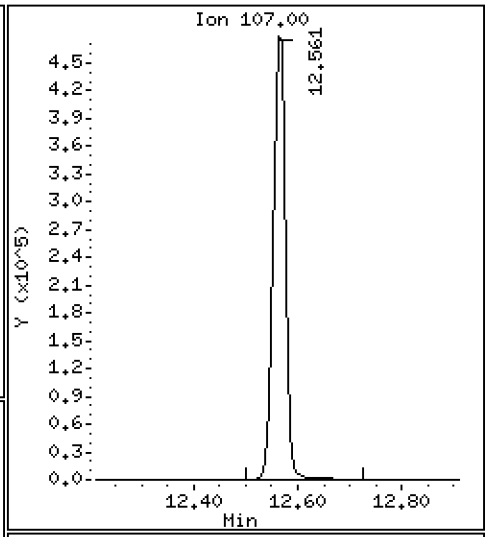
Concentration: 10.13 ug/mL

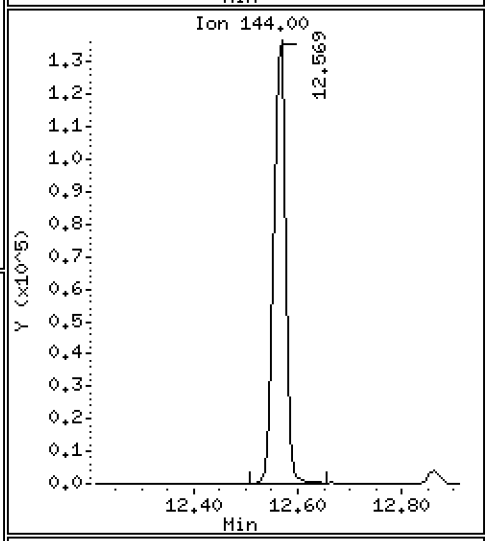


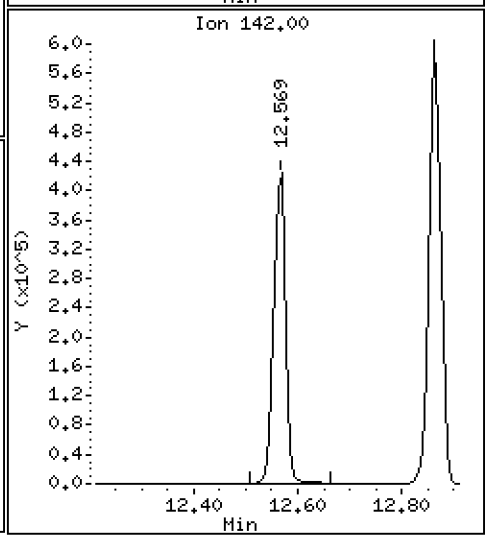












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

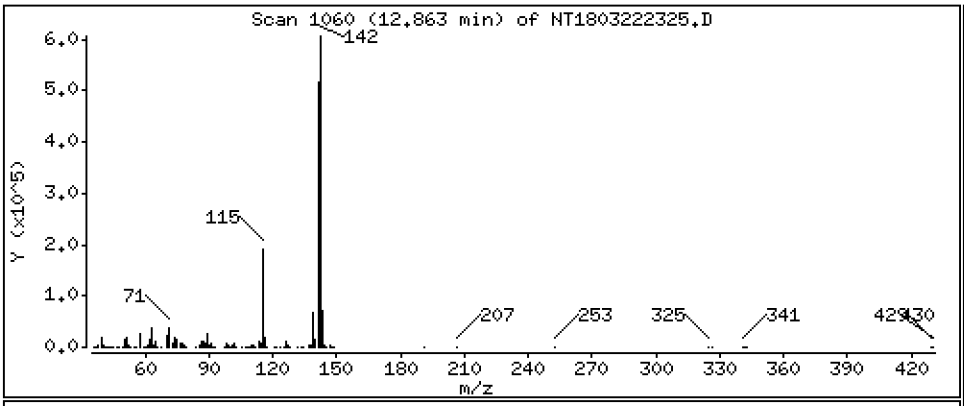
Operator: VTS

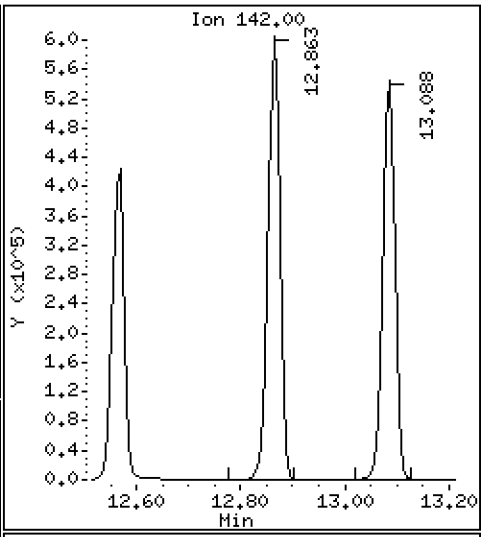
Column phase: ZB-5msi

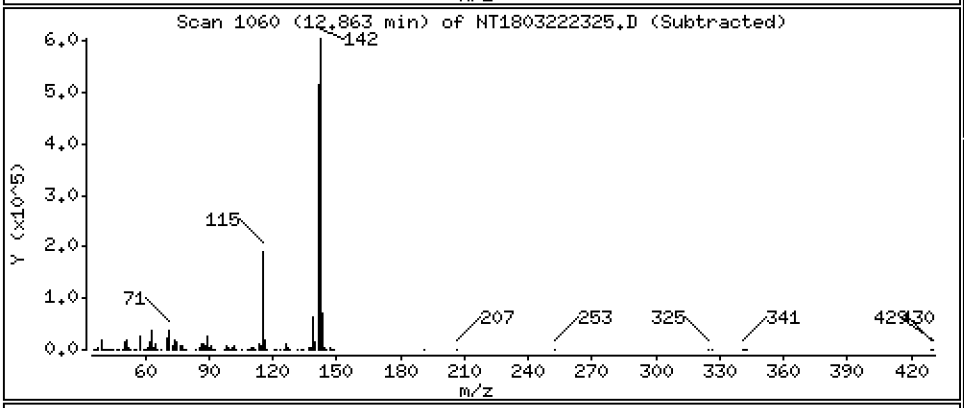
Column diameter: 0.25

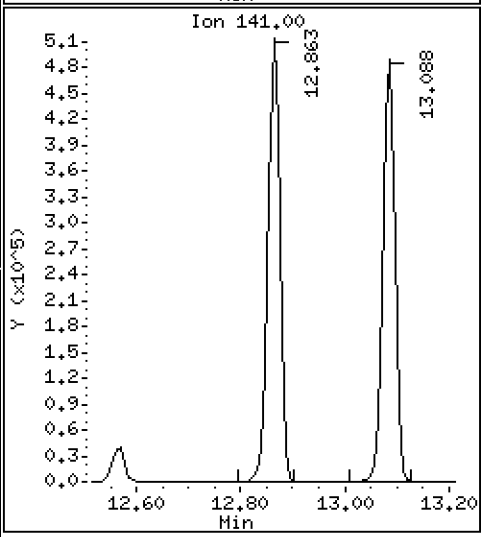
32 2-Methylnaphthalene

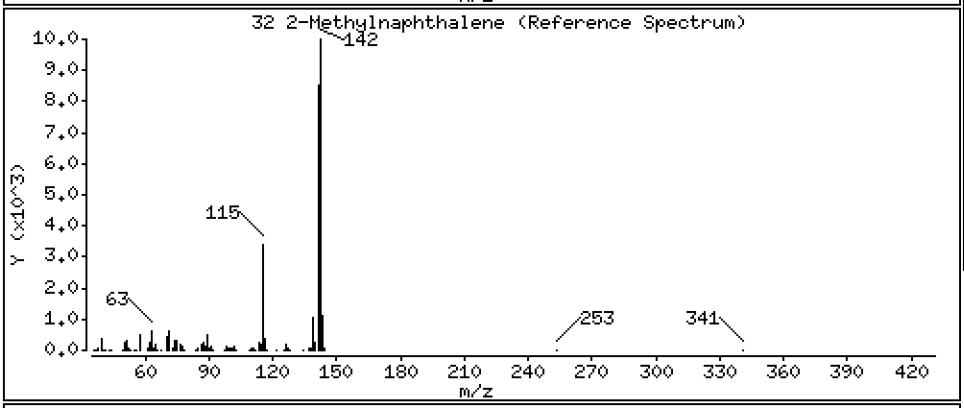
Concentration: 4.820 ug/mL

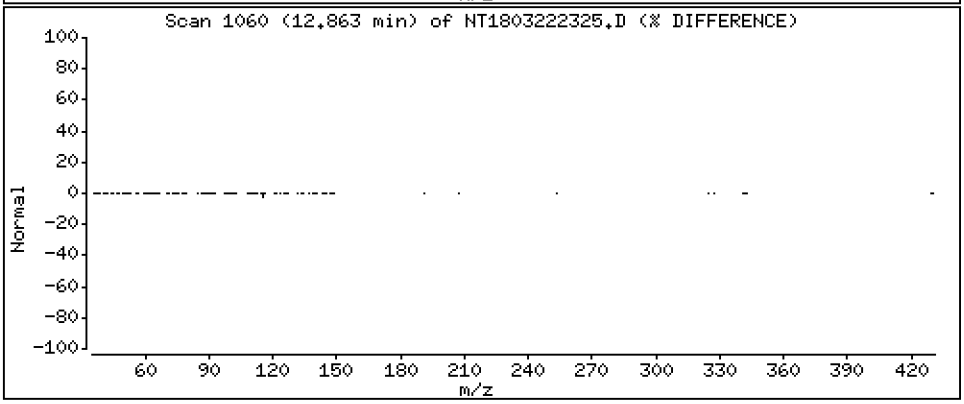












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222325.D

Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

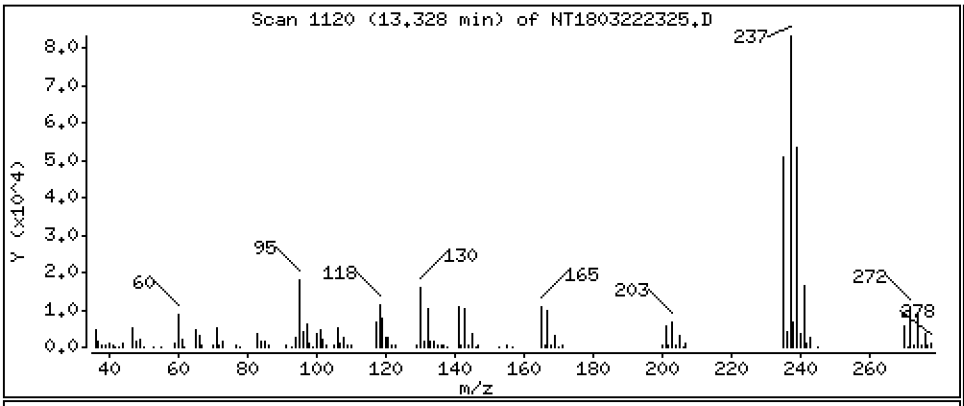
Operator: VTS

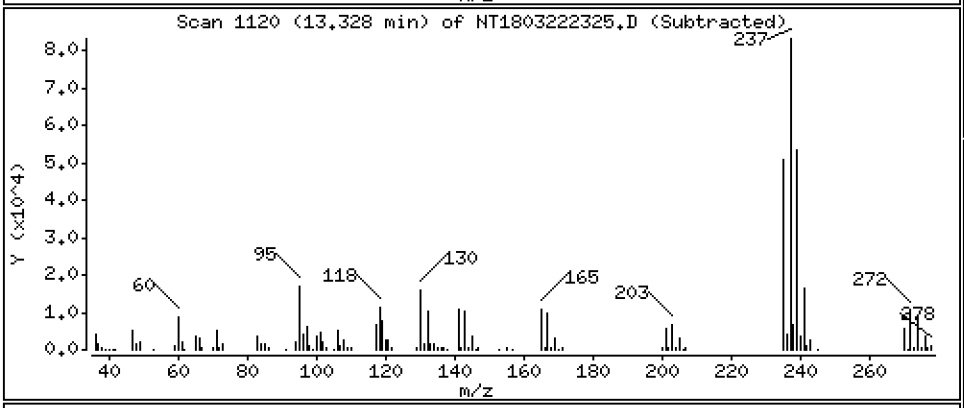
Column phase: ZB-5msi

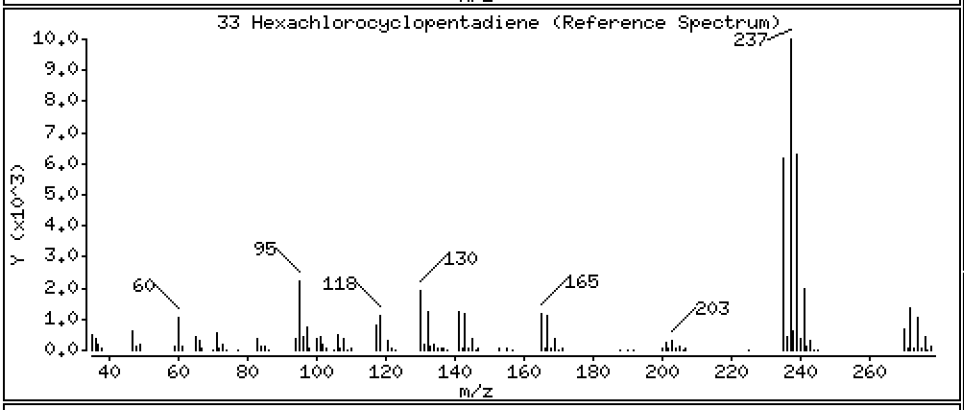
Column diameter: 0.25

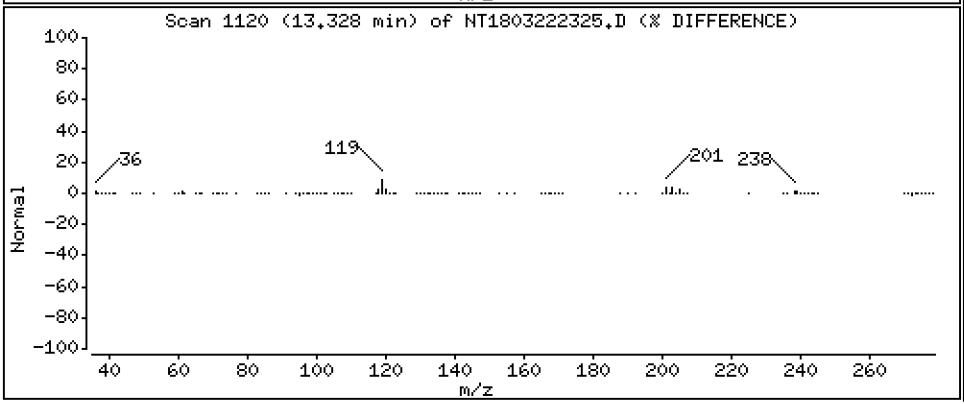
33 Hexachlorocyclopentadiene

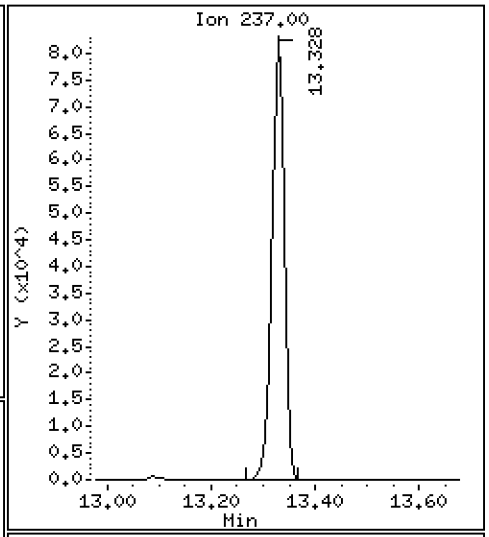
Concentration: 2.708 ug/mL

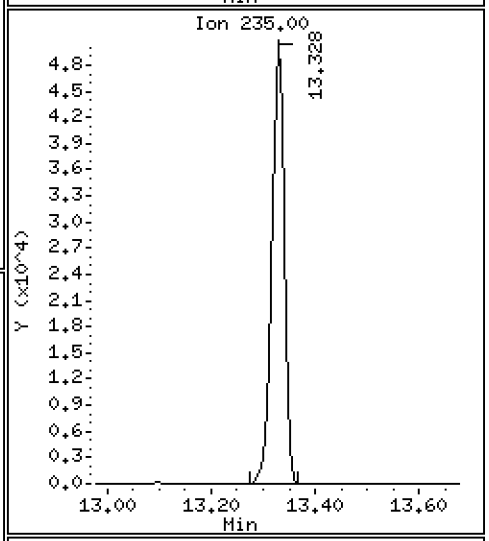


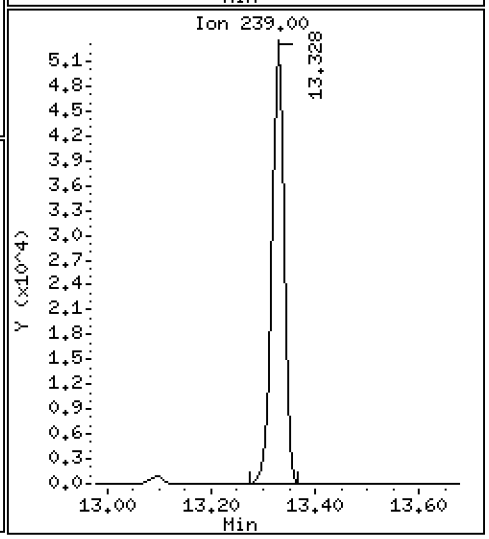












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222325.D

Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

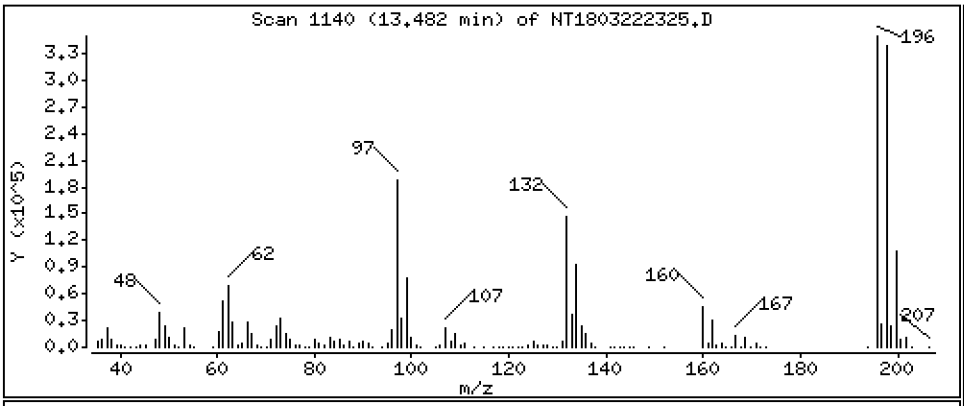
Operator: VTS

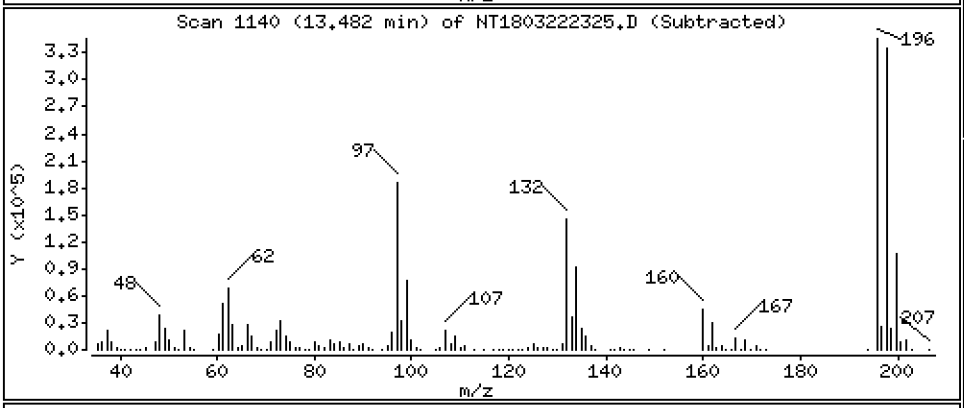
Column phase: ZB-5msi

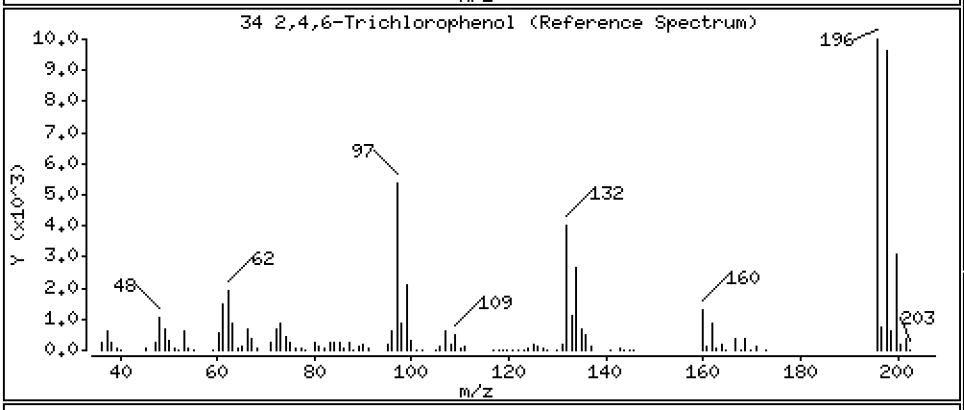
Column diameter: 0.25

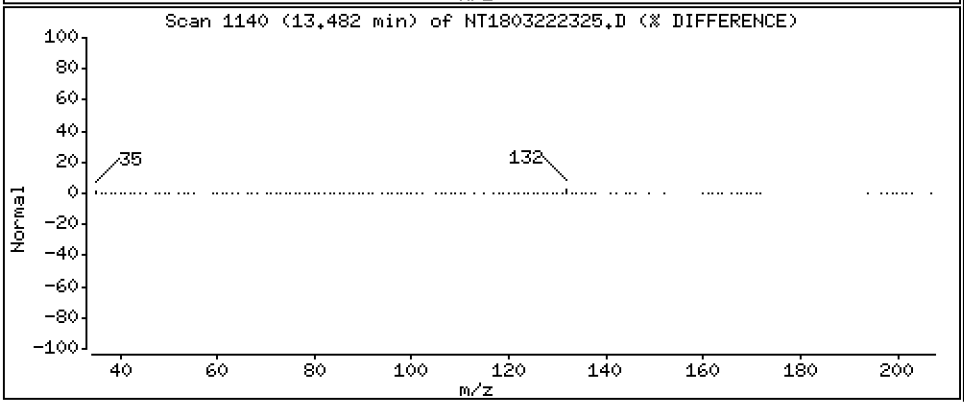
34 2,4,6-Trichlorophenol

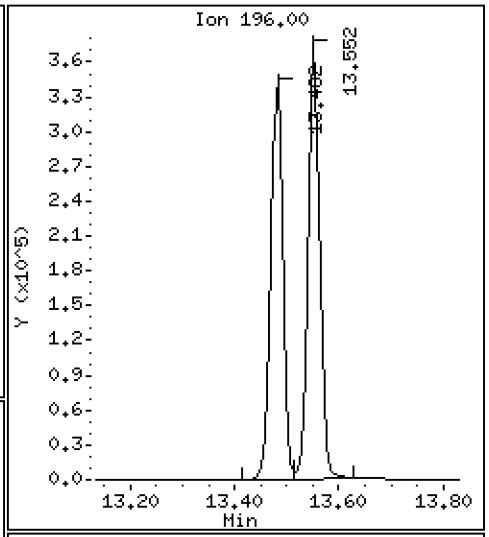
Concentration: 10.67 ug/mL

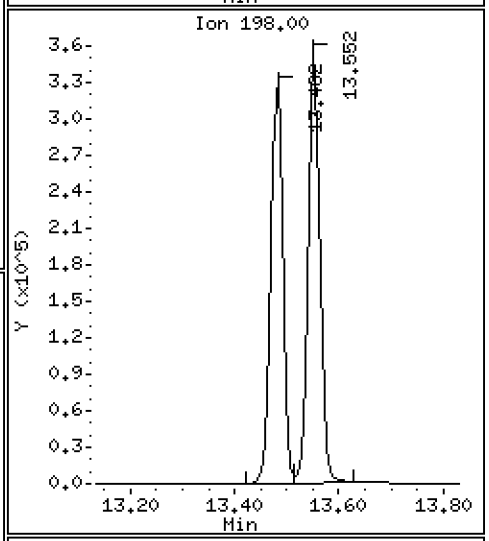


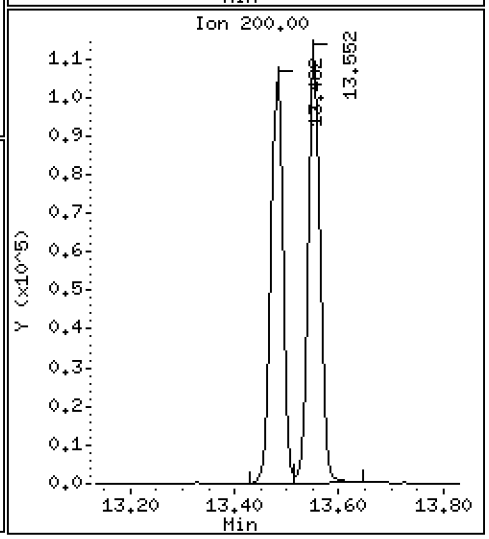












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

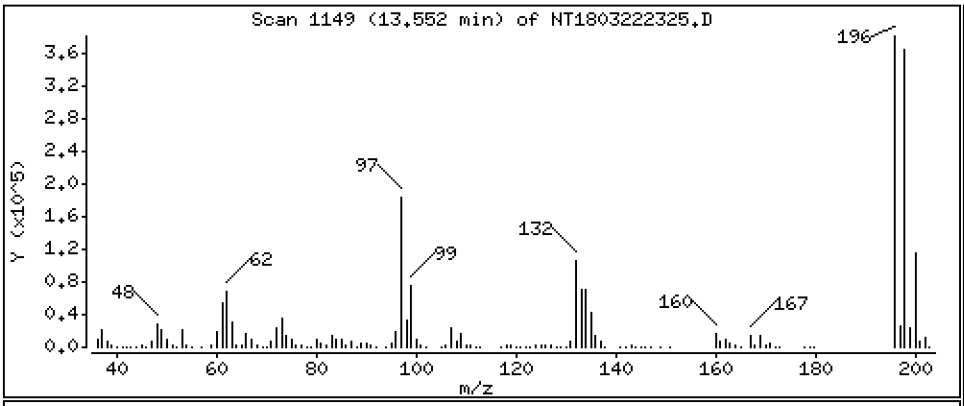
Operator: VTS

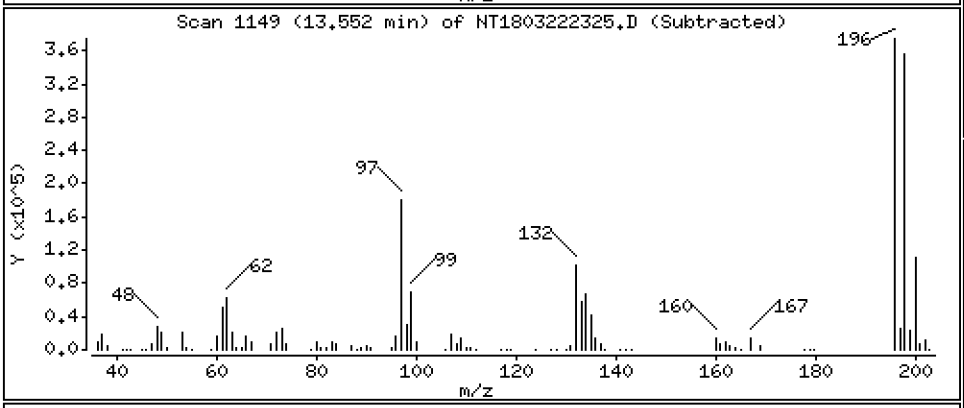
Column phase: ZB-5msi

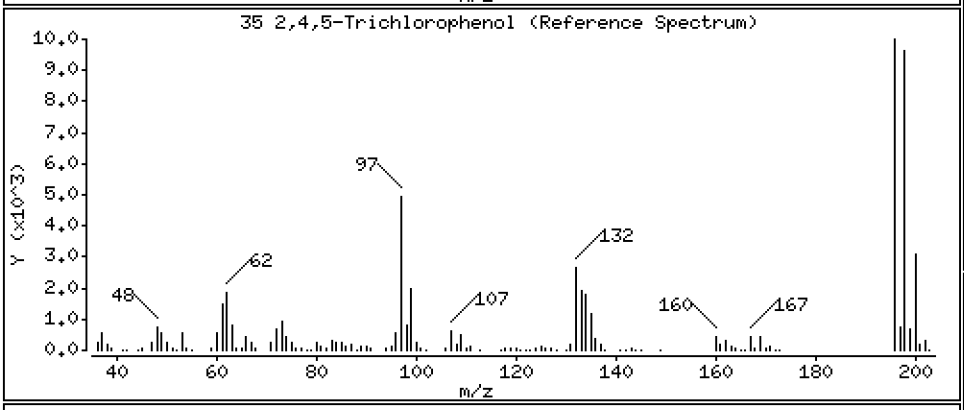
Column diameter: 0.25

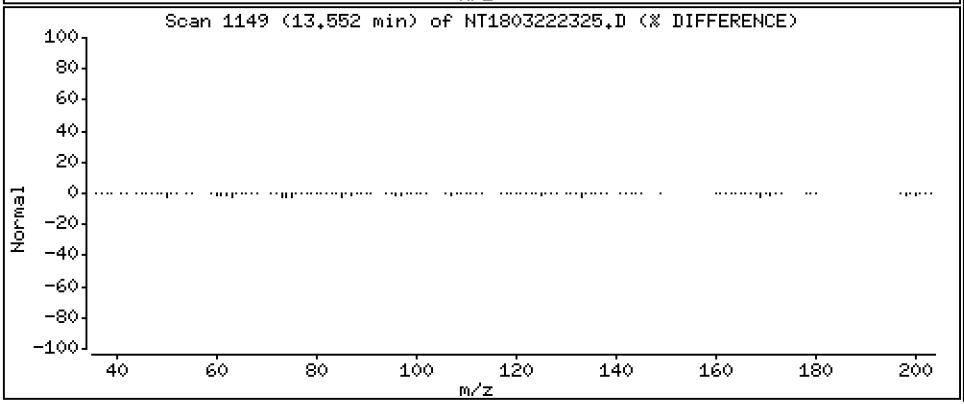
35 2,4,5-Trichlorophenol

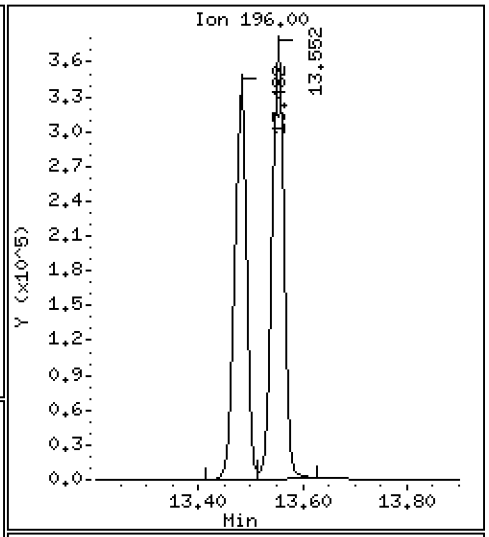
Concentration: 10.48 ug/mL

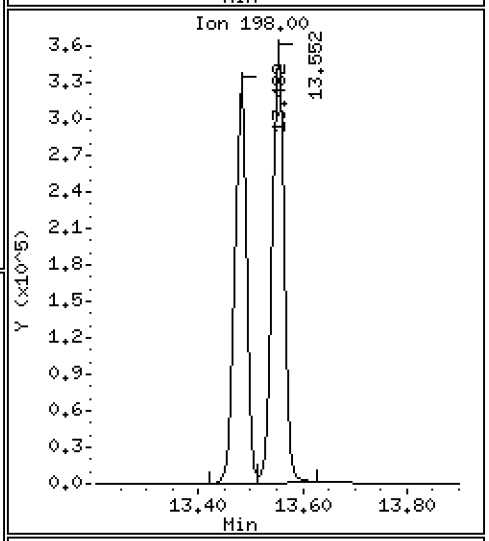


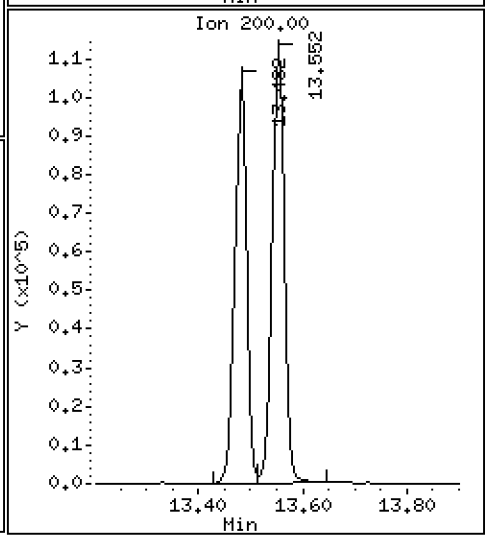












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

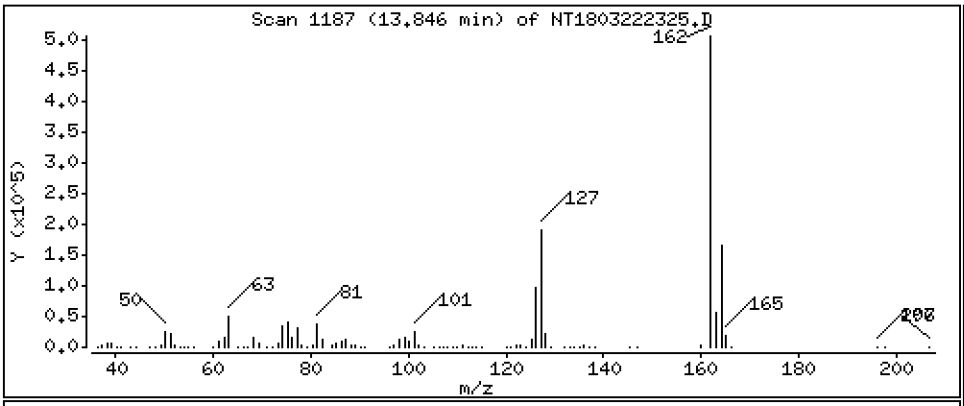
Operator: VTS

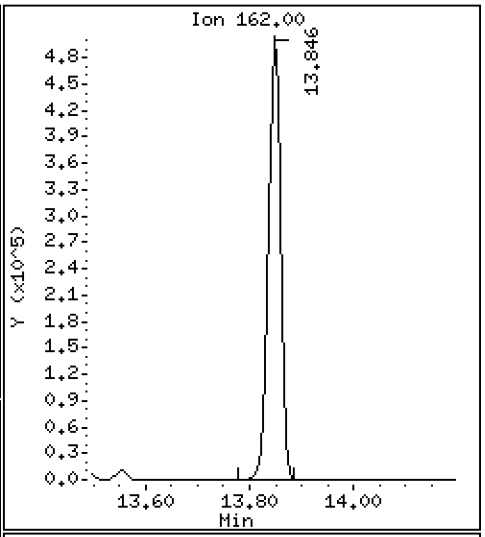
Column phase: ZB-5msi

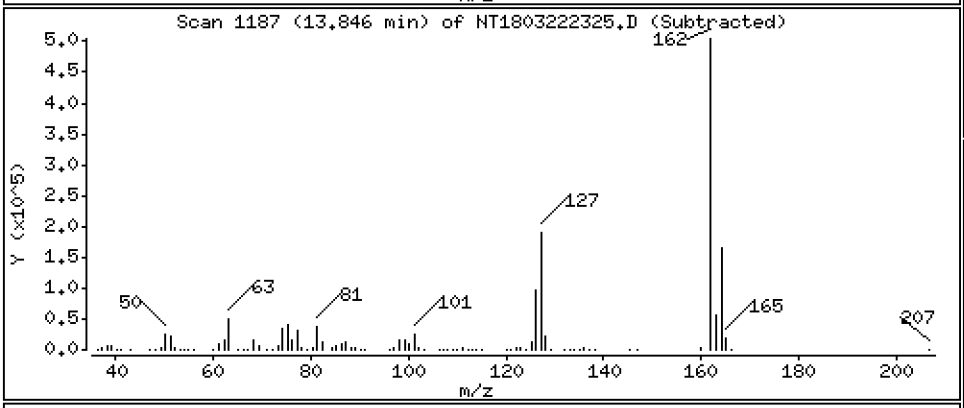
Column diameter: 0.25

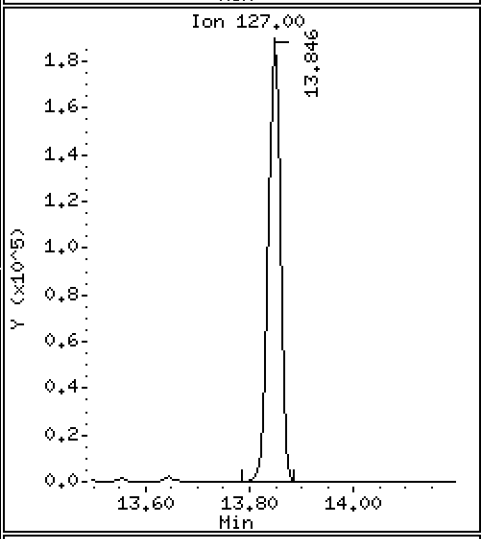
37 2-Chloronaphthalene

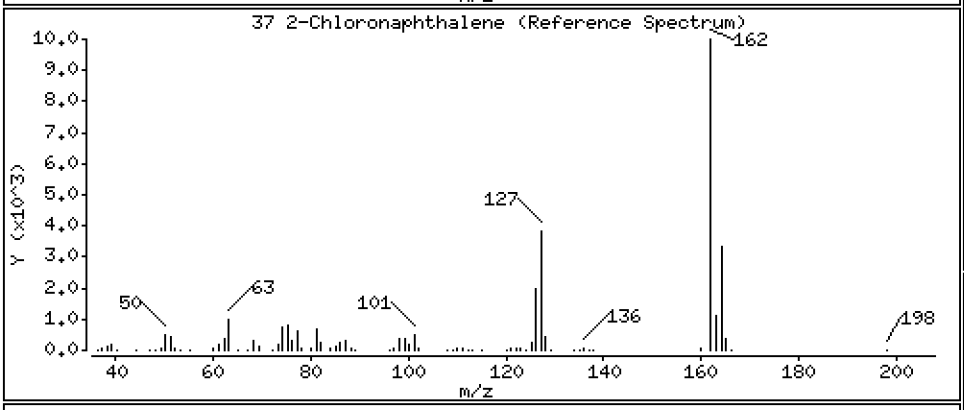
Concentration: 4.947 ug/mL

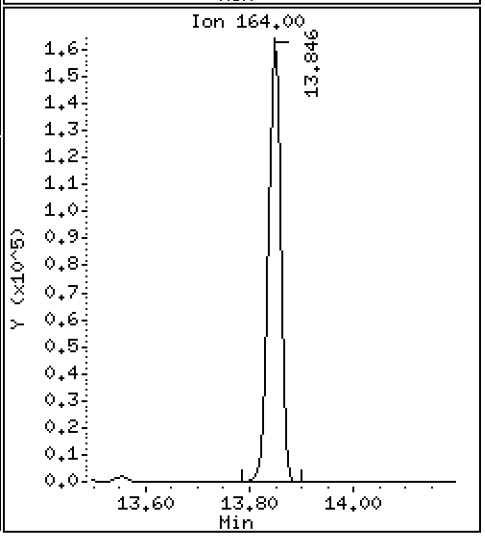


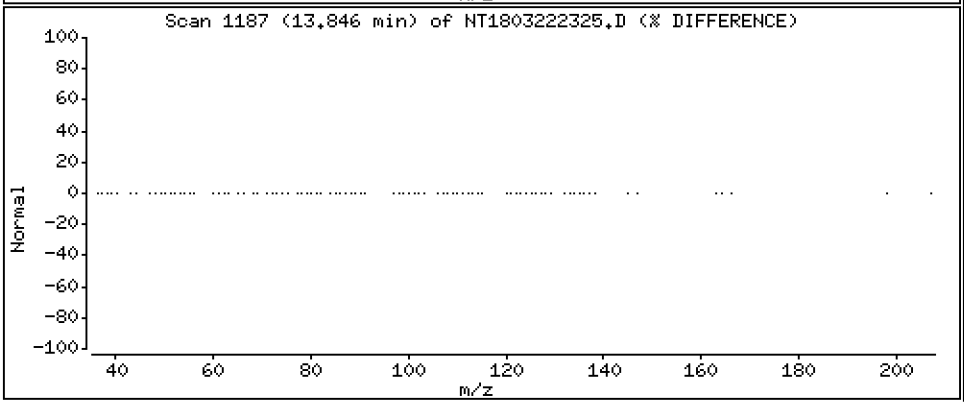












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

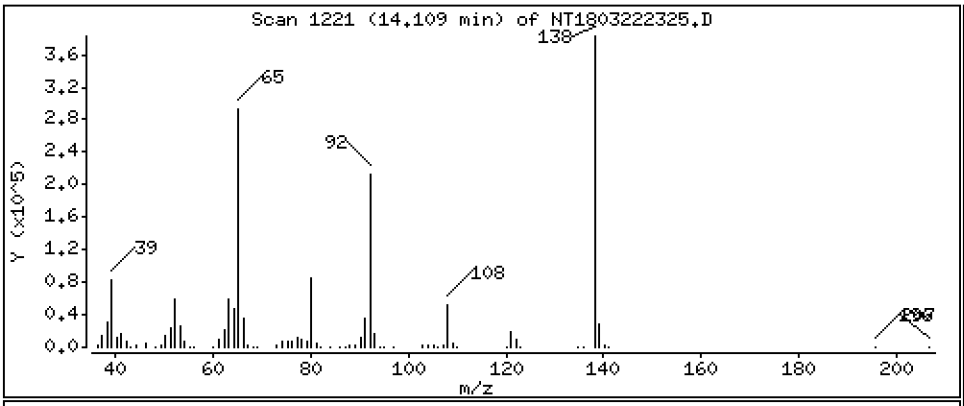
Operator: VTS

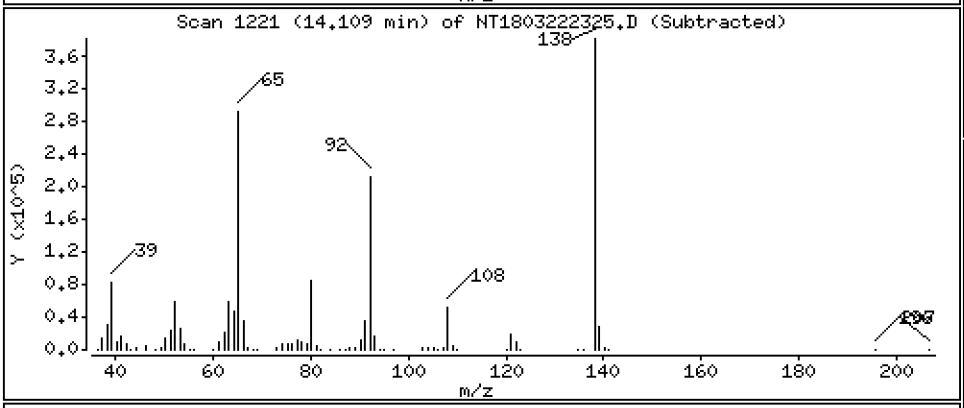
Column phase: ZB-5msi

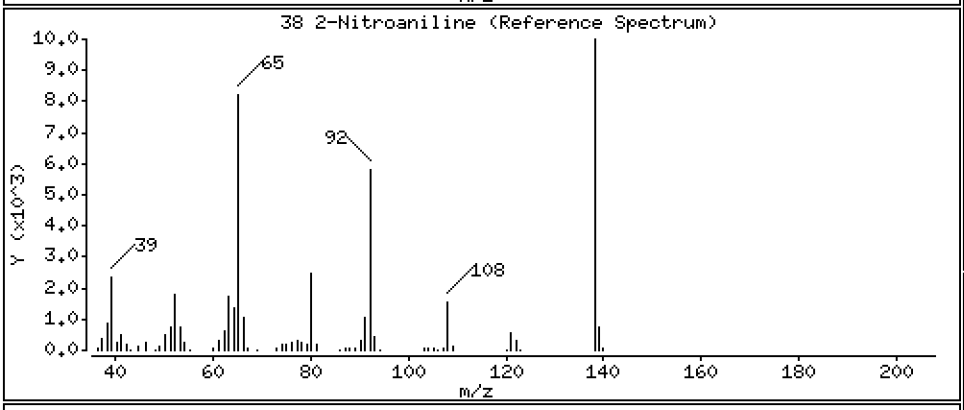
Column diameter: 0.25

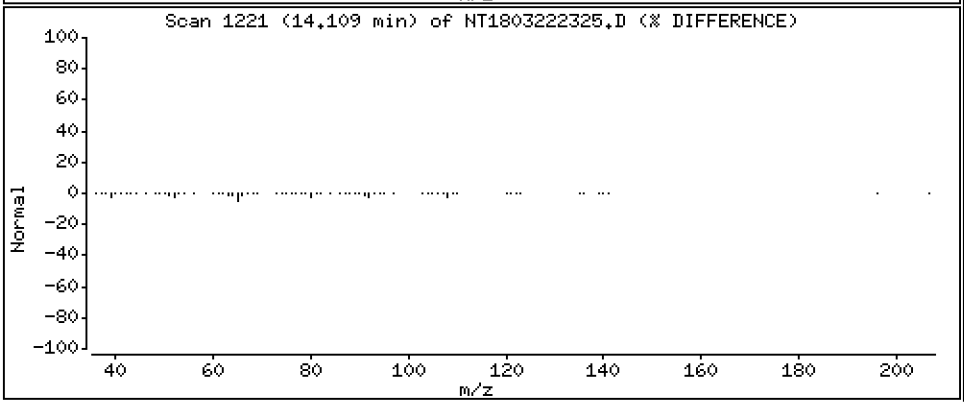
38 2-Nitroaniline

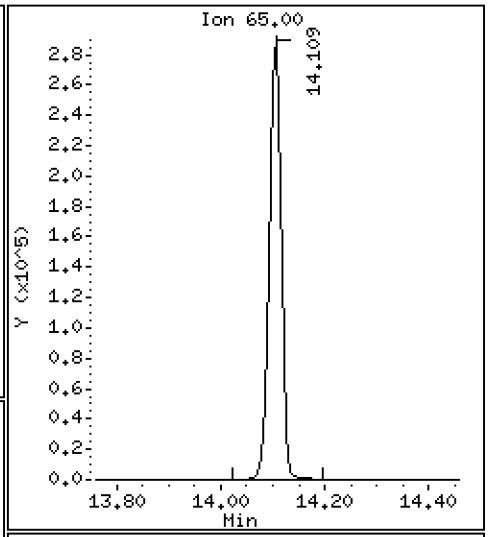
Concentration: 10.72 ug/mL

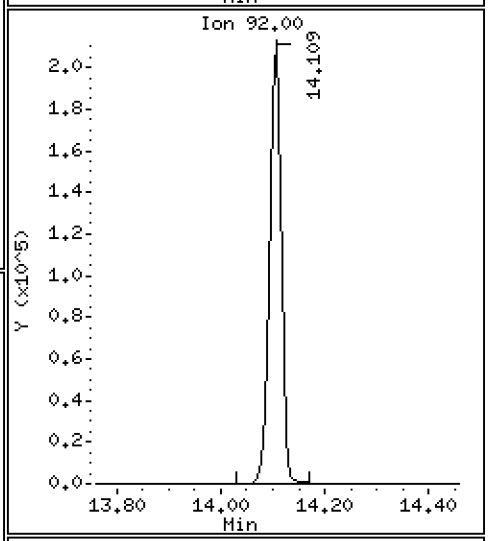


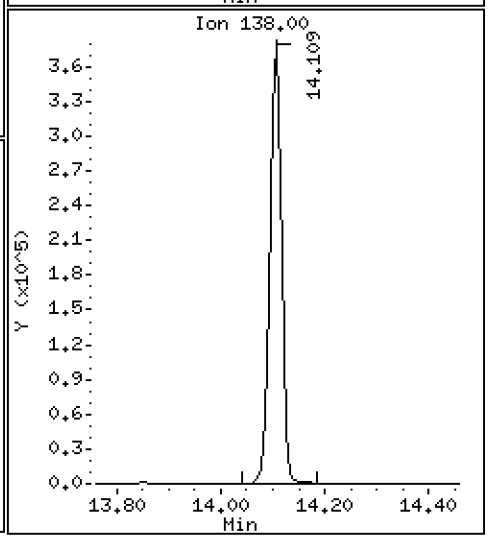












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

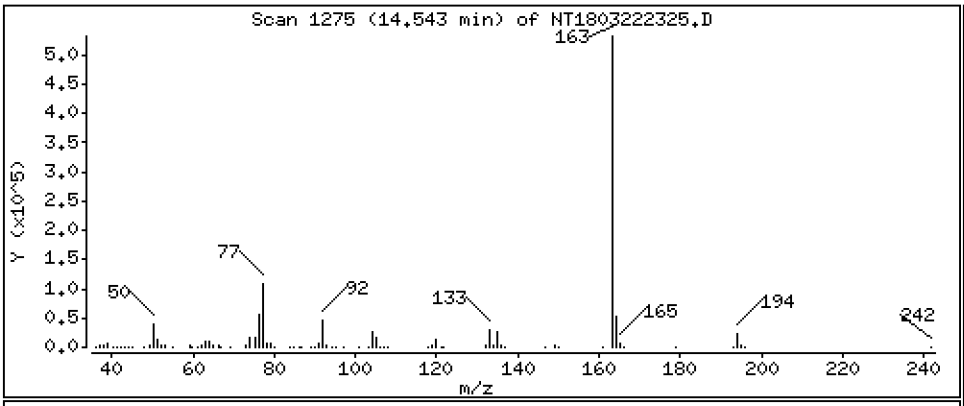
Operator: VTS

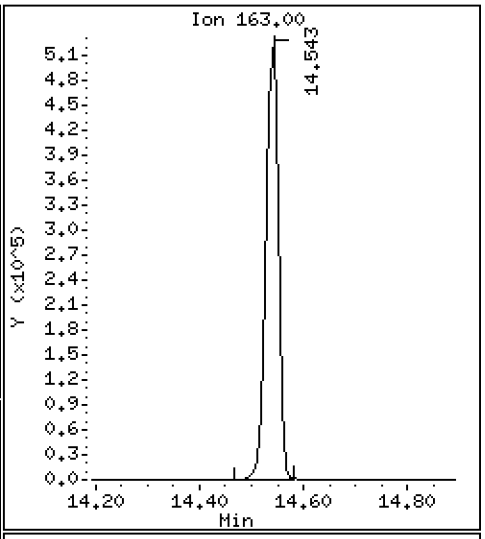
Column phase: ZB-5msi

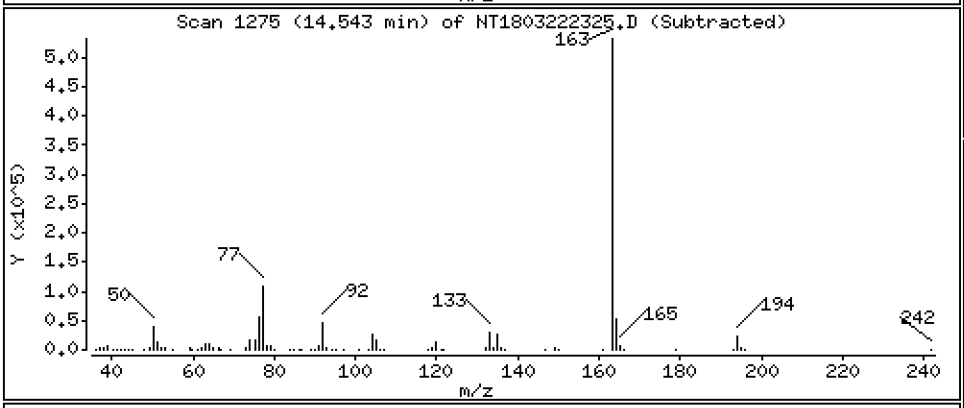
Column diameter: 0.25

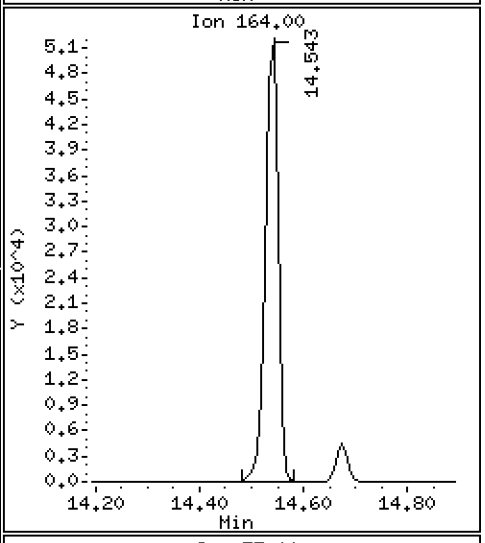
39 Dimethylphthalate

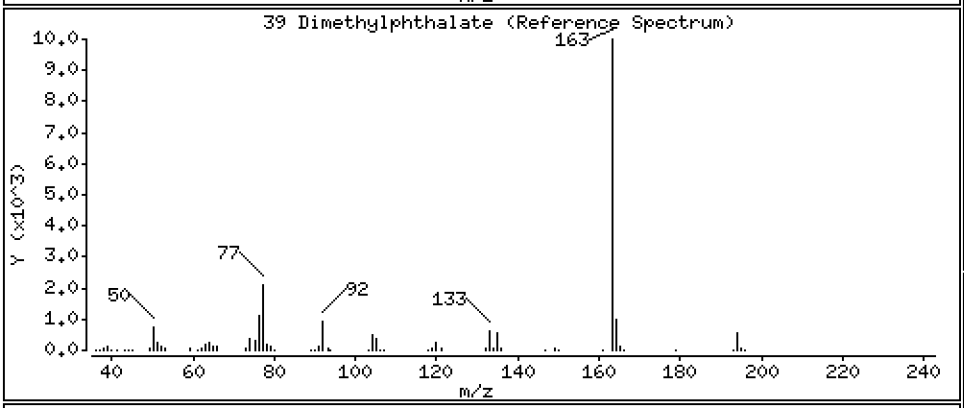
Concentration: 5.041 ug/mL

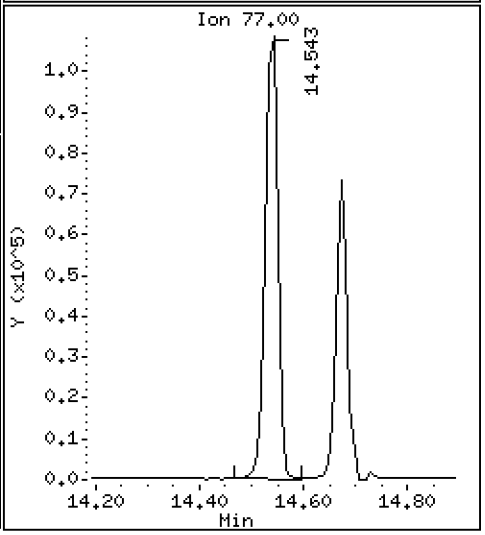


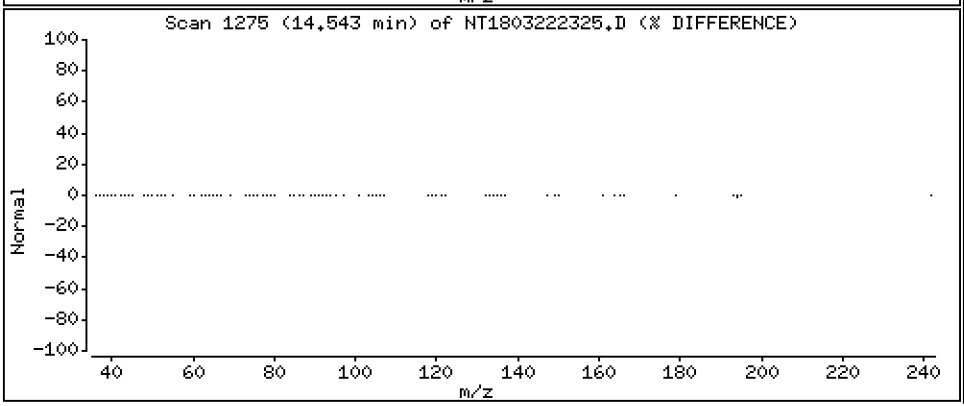












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

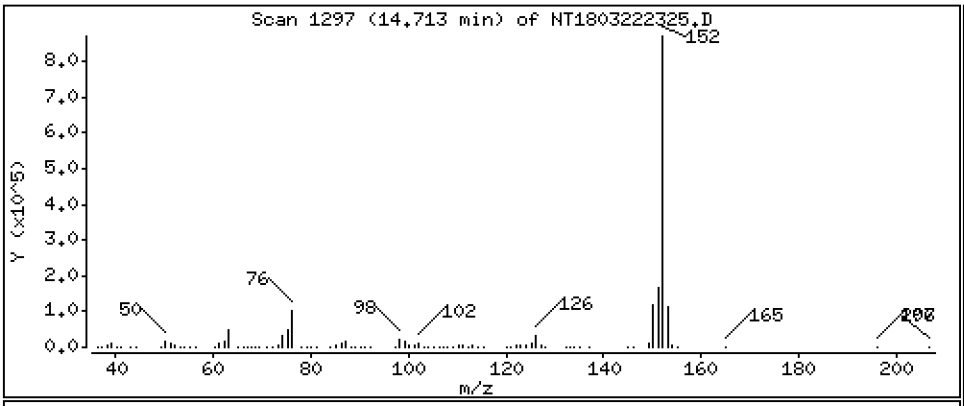
Operator: VTS

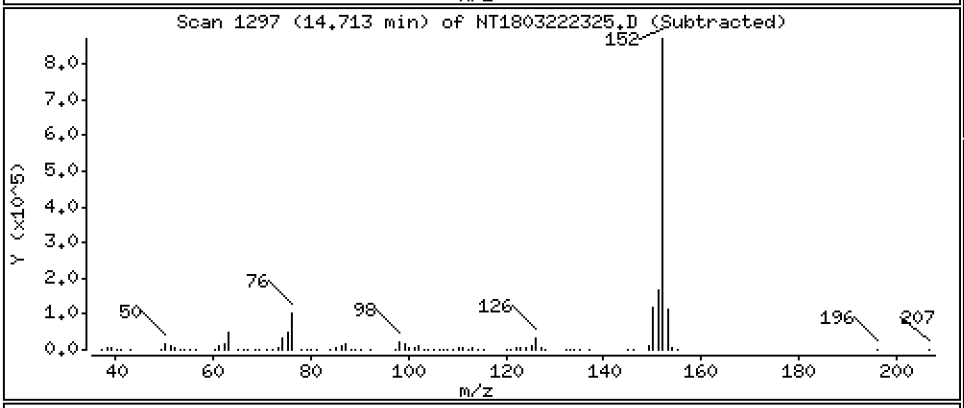
Column phase: ZB-5msi

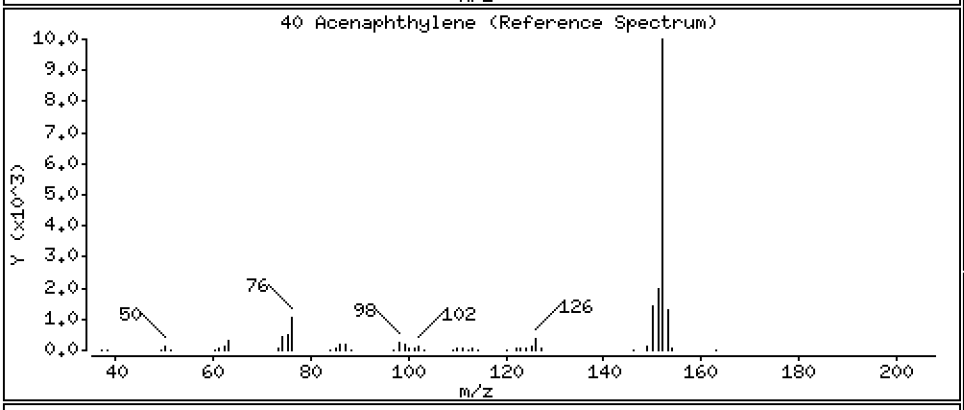
Column diameter: 0.25

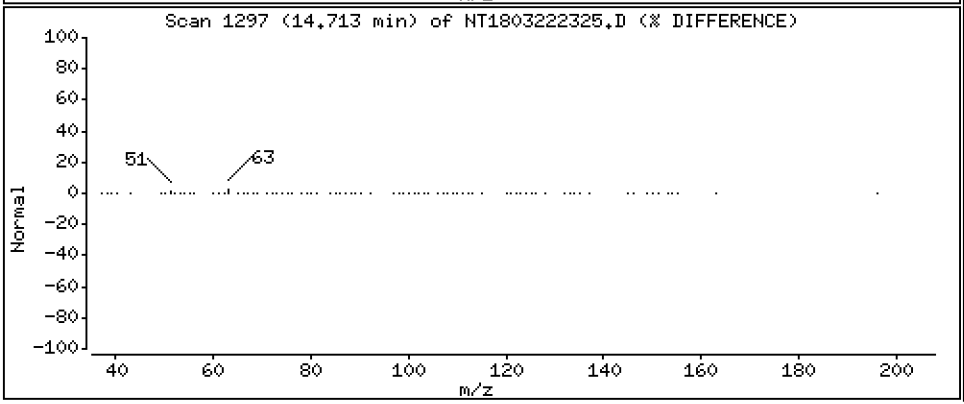
40 Acenaphthylene

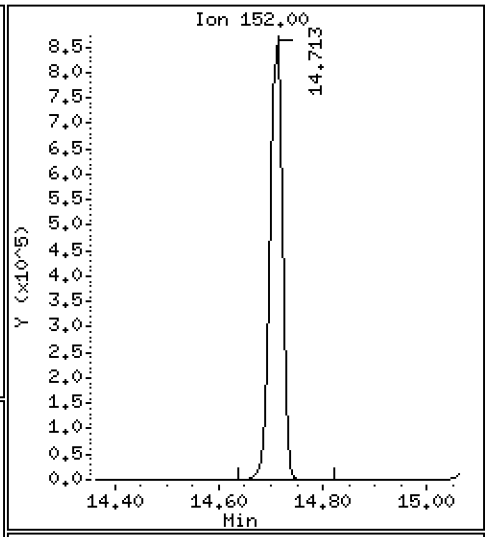
Concentration: 5.529 ug/mL

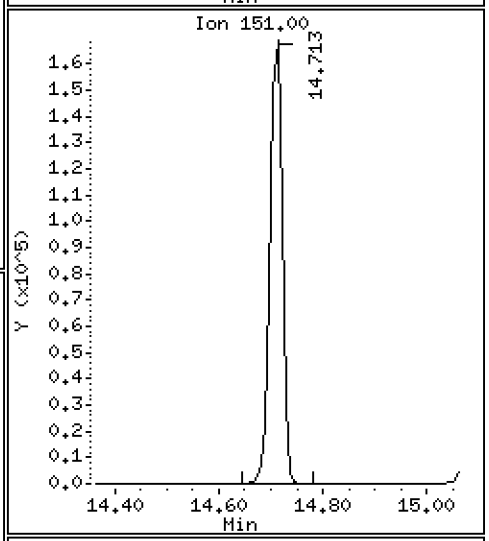


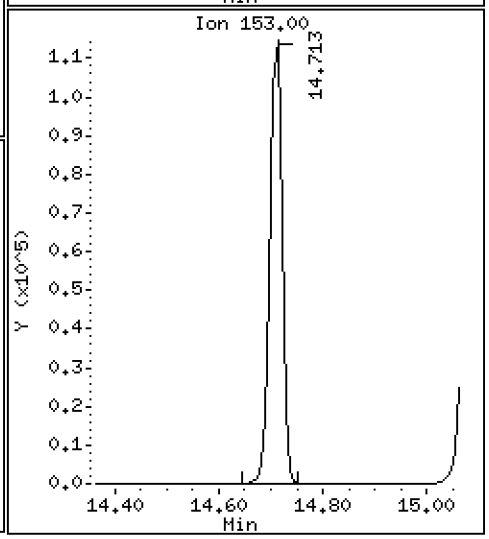












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

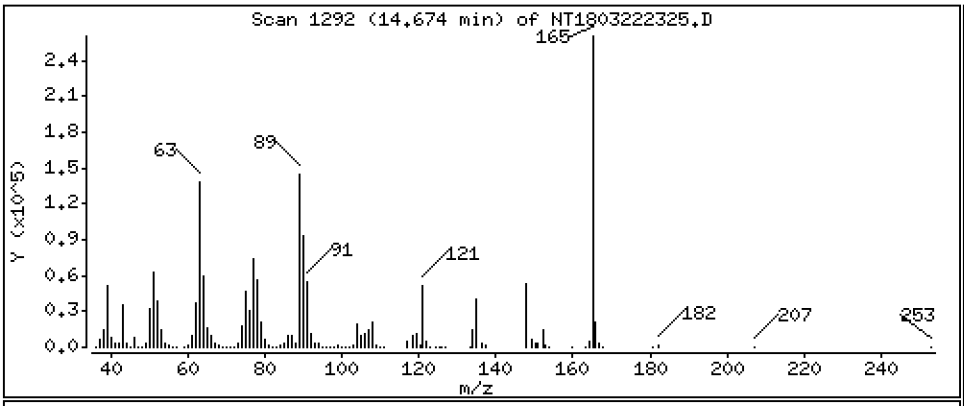
Operator: VTS

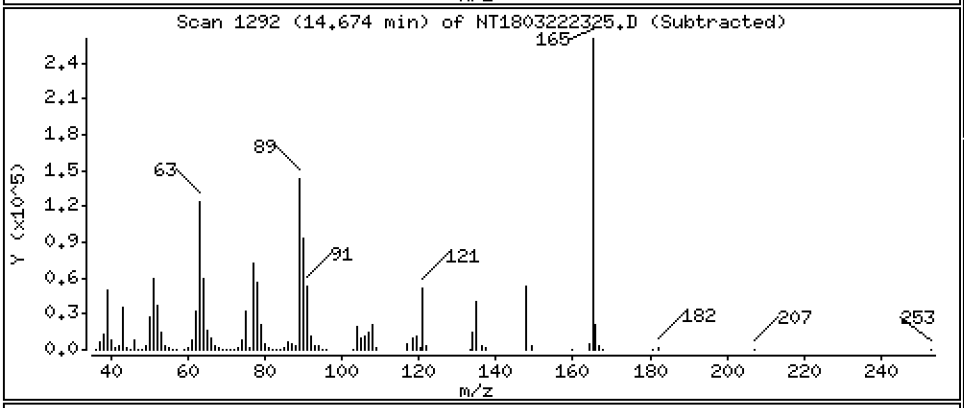
Column phase: ZB-5msi

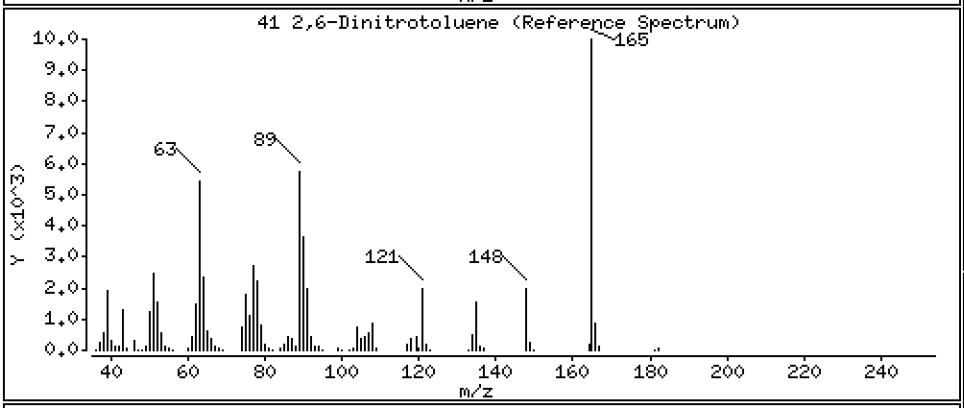
Column diameter: 0.25

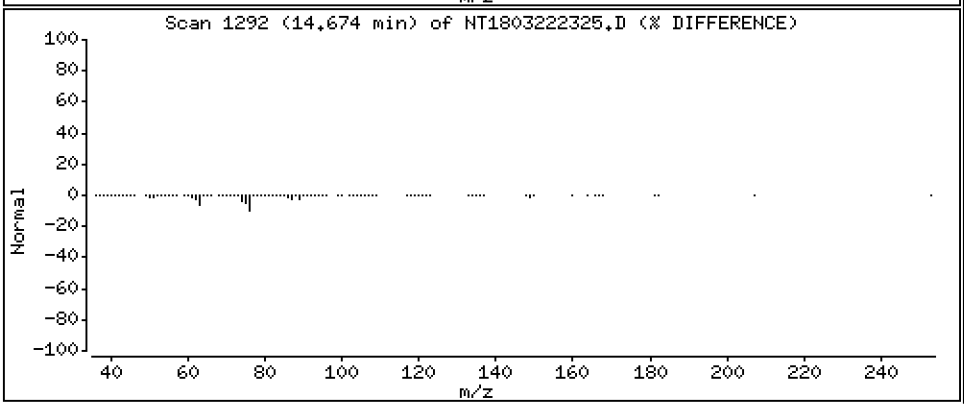
41 2,6-Dinitrotoluene

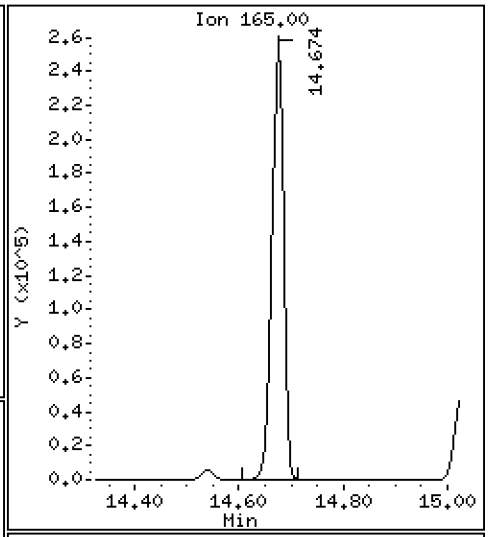
Concentration: 10.08 ug/mL

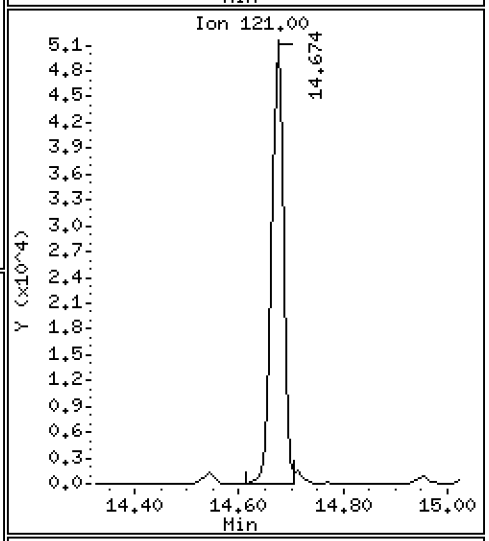


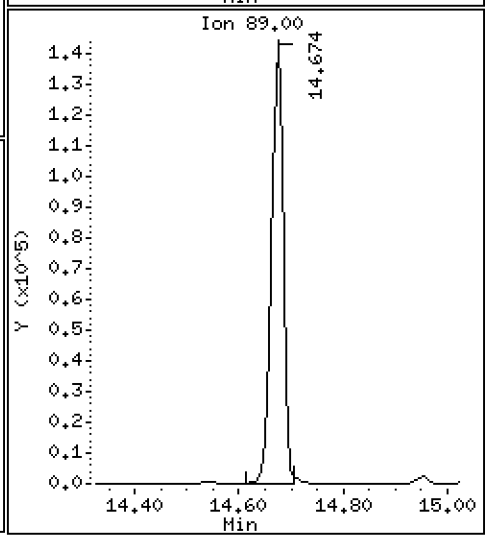












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222325.D

Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

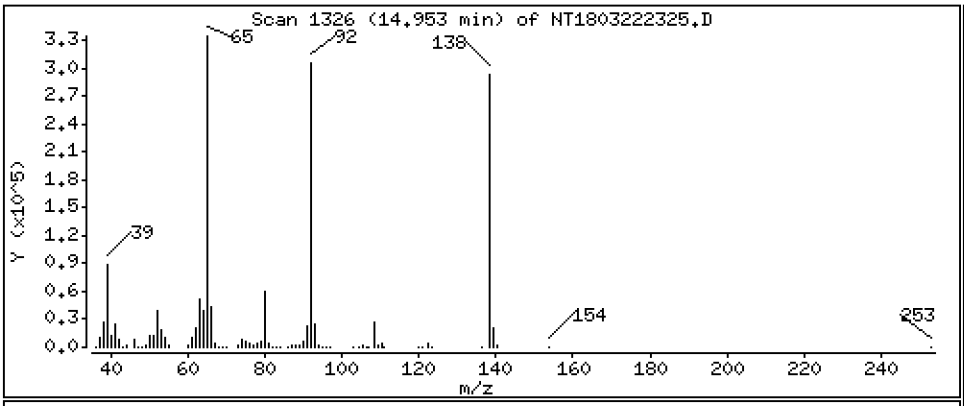
Operator: VTS

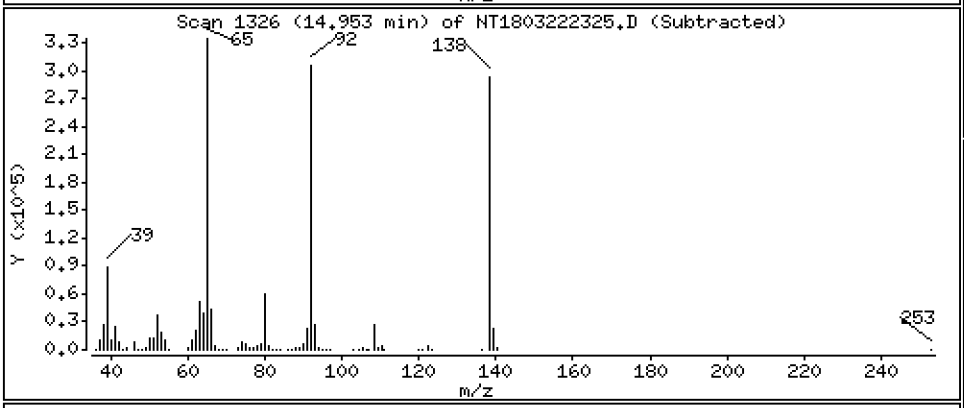
Column phase: ZB-5msi

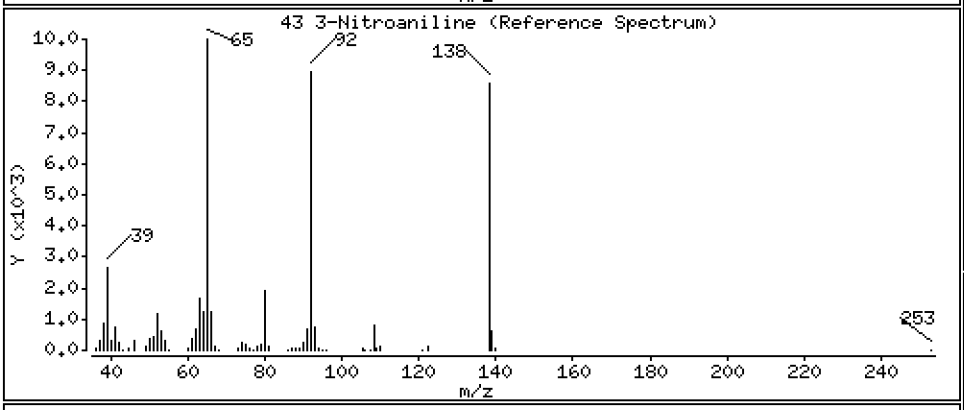
Column diameter: 0.25

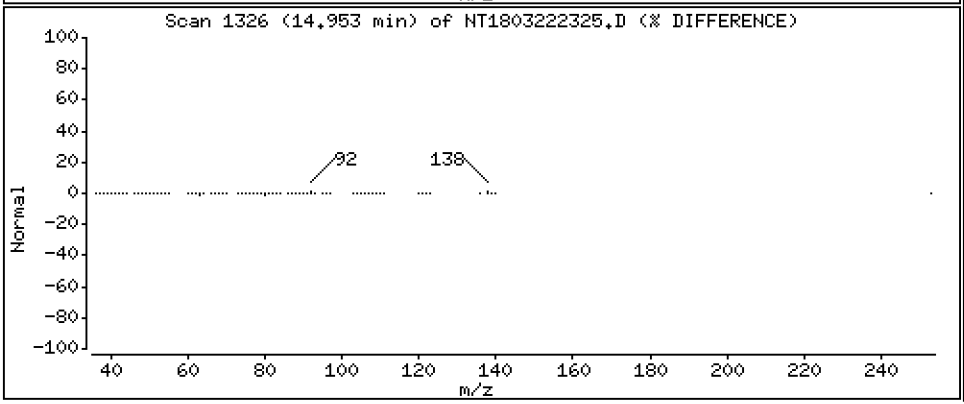
43 3-Nitroaniline

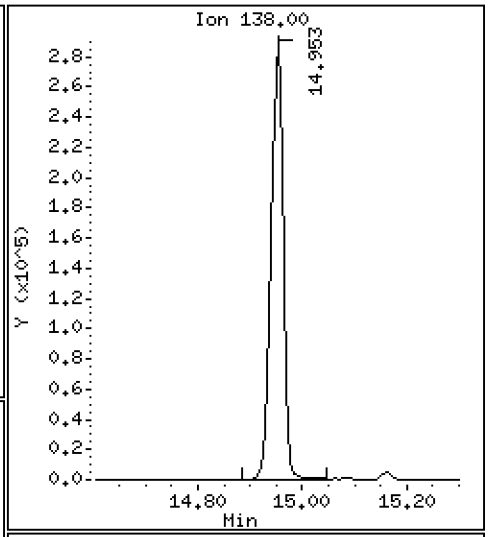
Concentration: 10.58 ug/mL

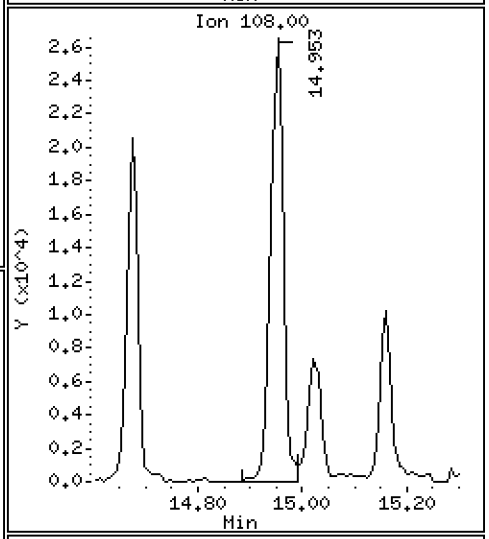


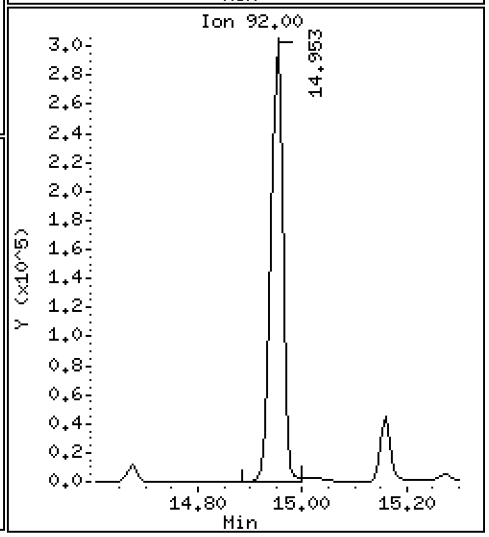












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

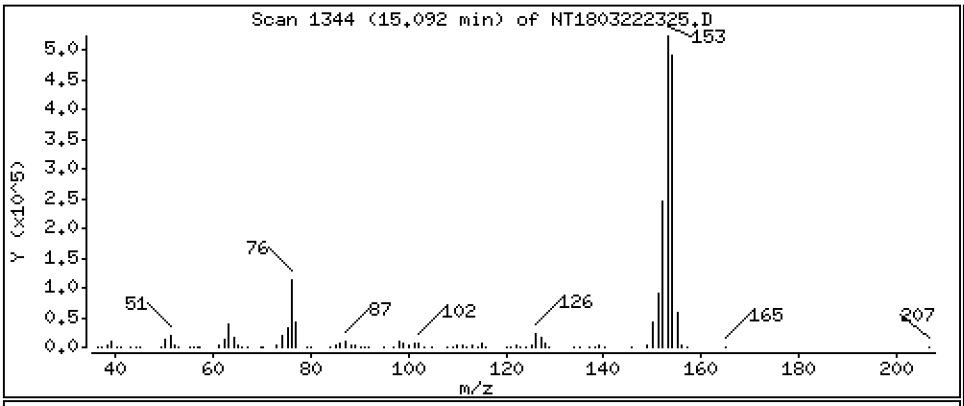
Operator: VTS

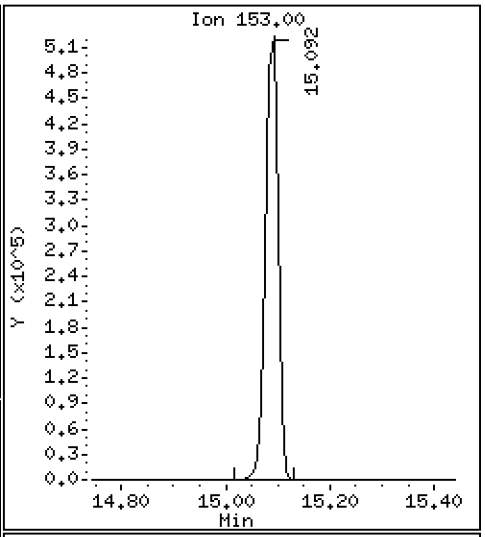
Column phase: ZB-5msi

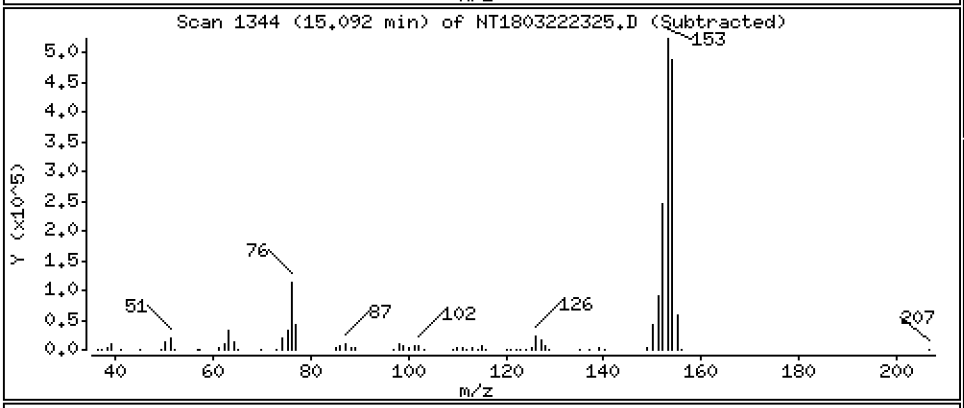
Column diameter: 0.25

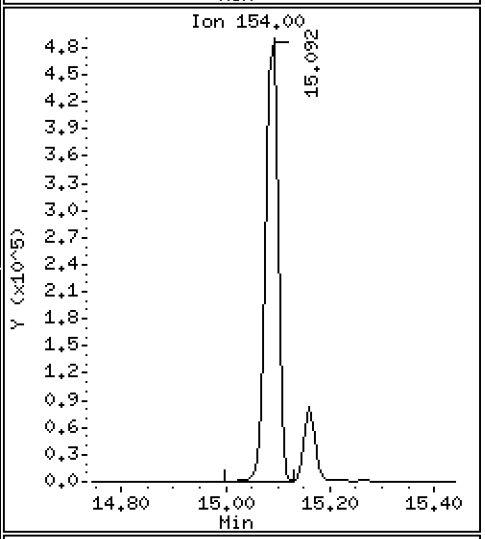
44 Acenaphthene

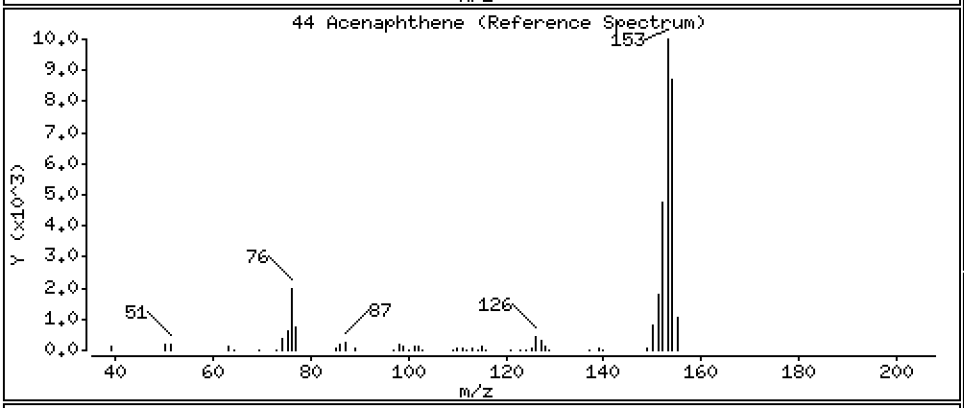
Concentration: 4.932 ug/mL

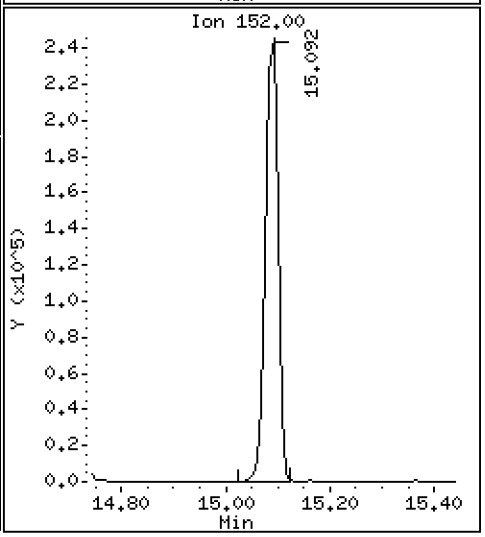


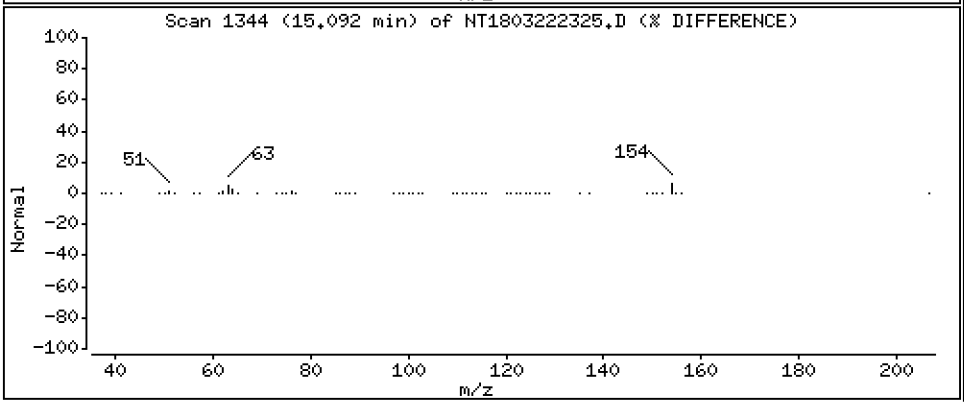












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

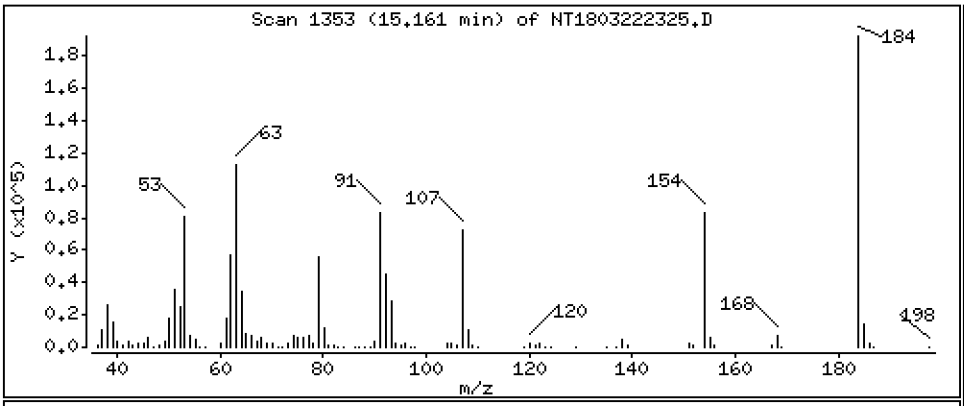
Operator: VTS

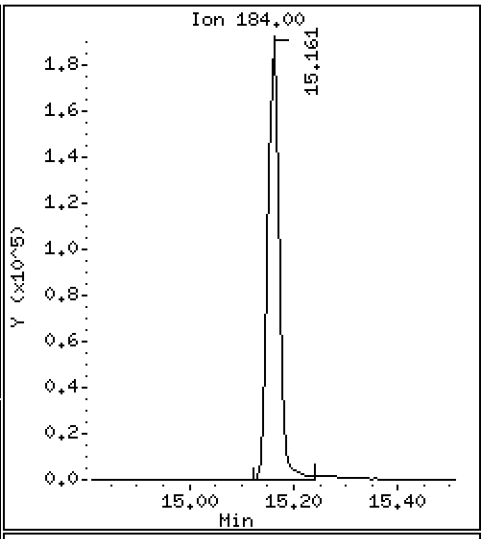
Column phase: ZB-5msi

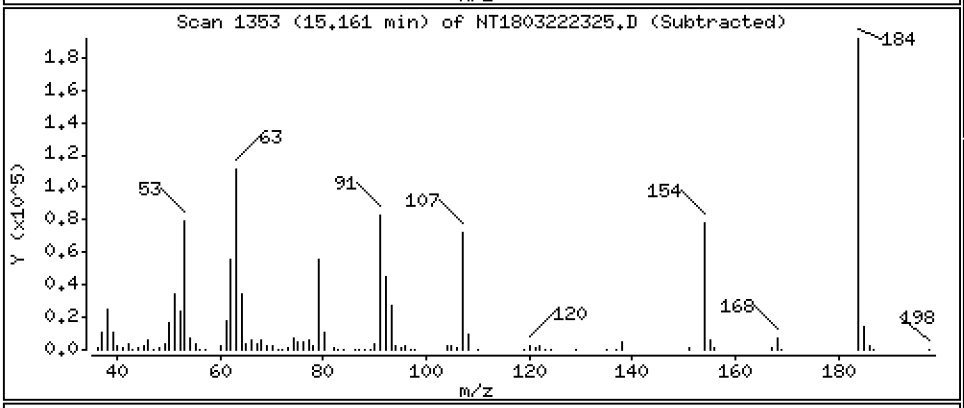
Column diameter: 0.25

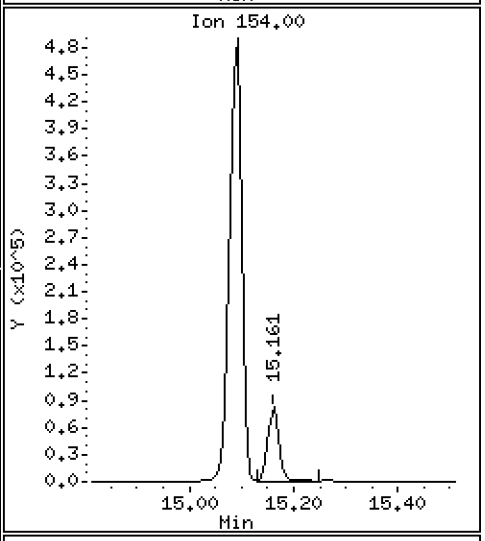
45 2,4-Dinitrophenol

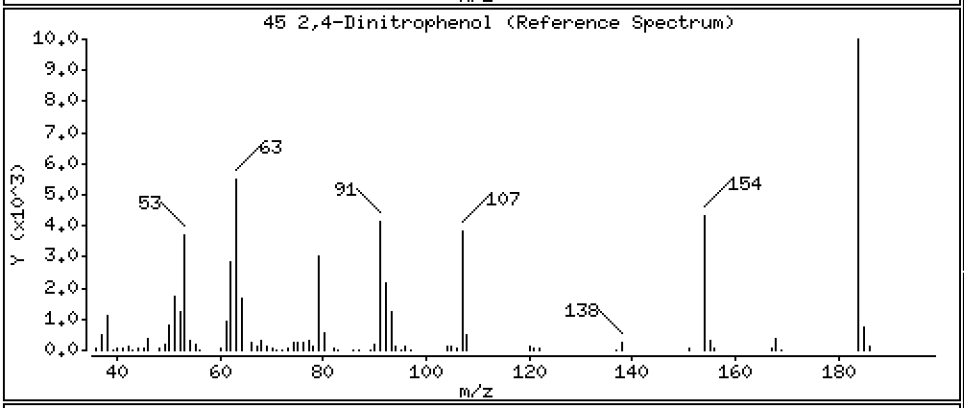
Concentration: 12.38 ug/mL

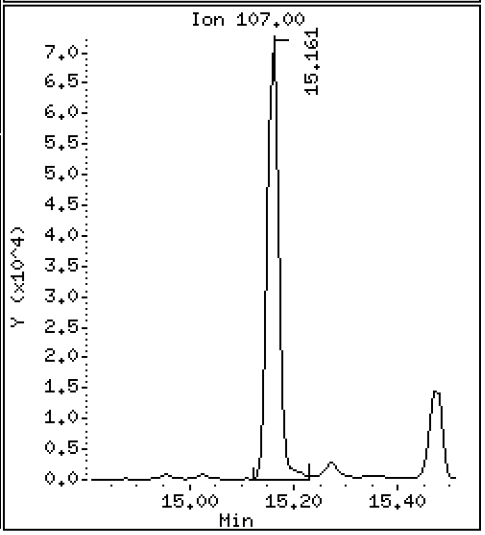


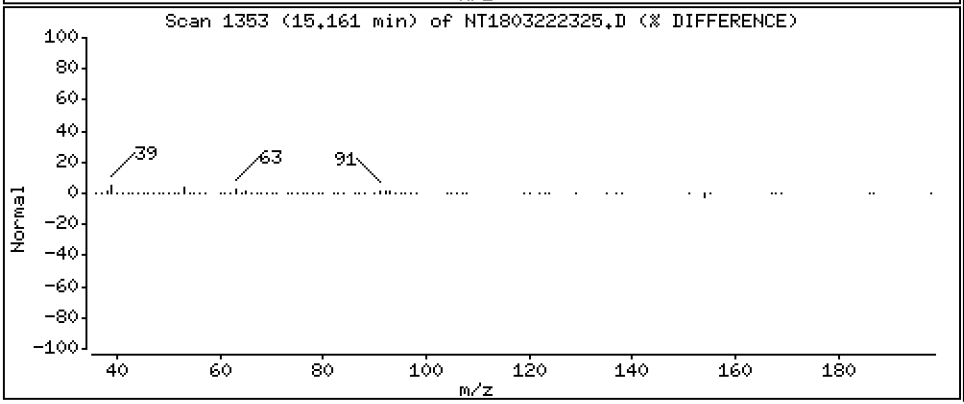












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

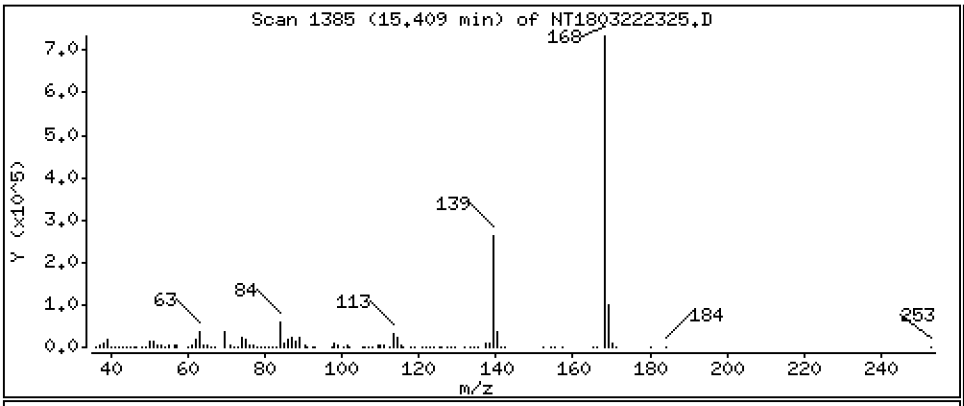
Operator: VTS

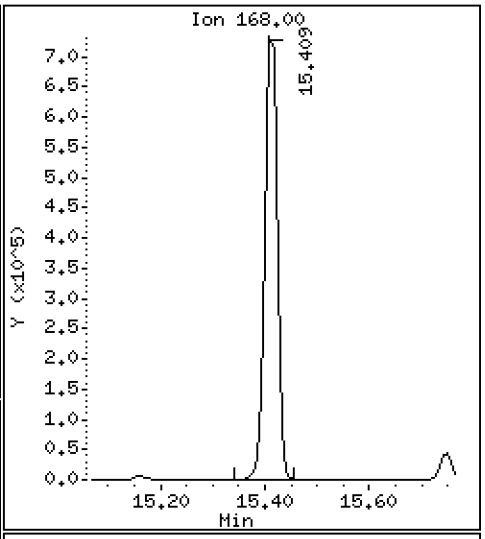
Column phase: ZB-5msi

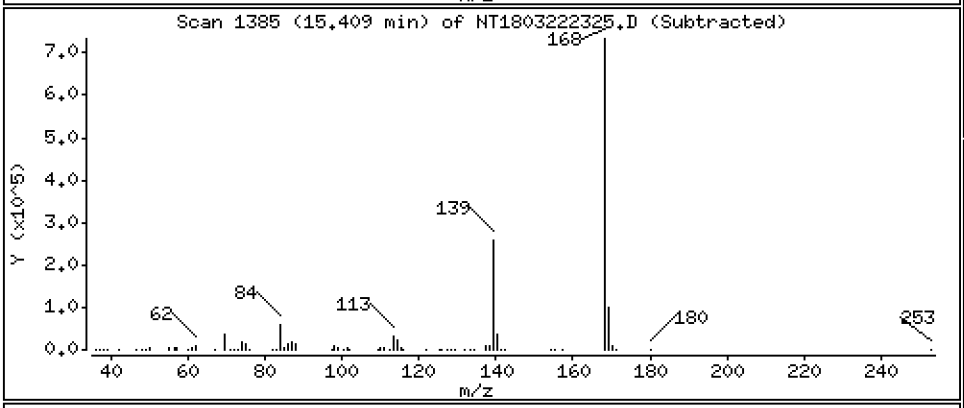
Column diameter: 0.25

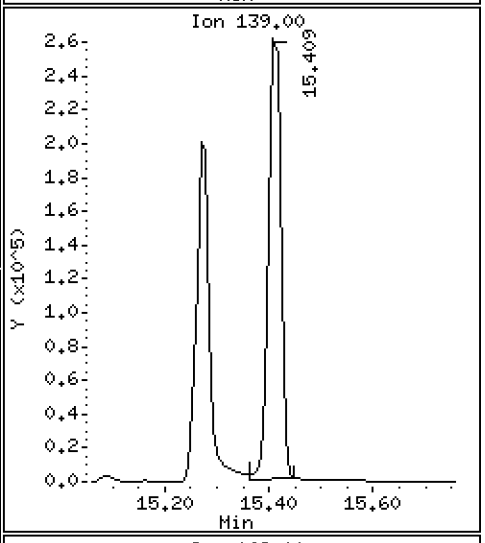
46 Dibenzofuran

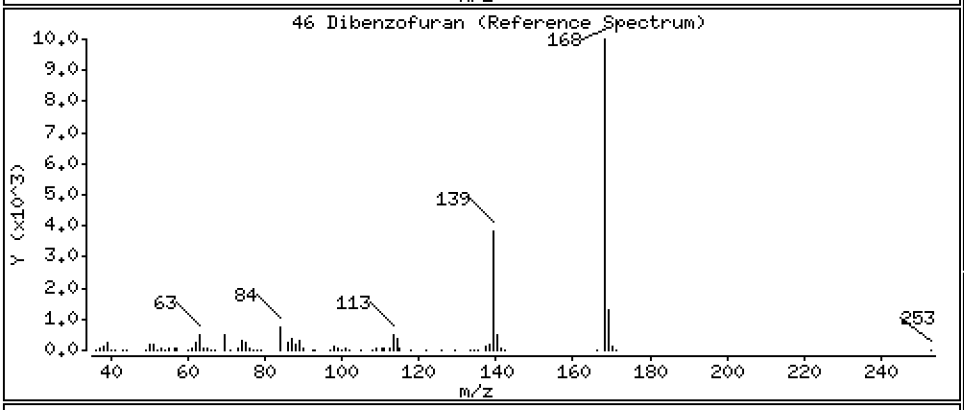
Concentration: 4.913 ug/mL

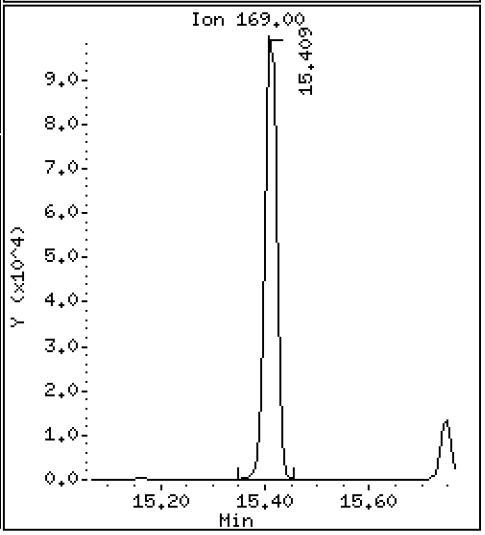


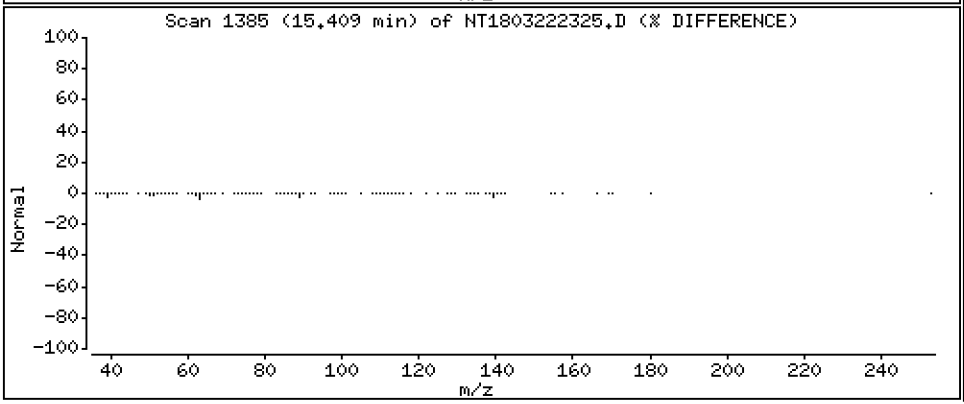












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

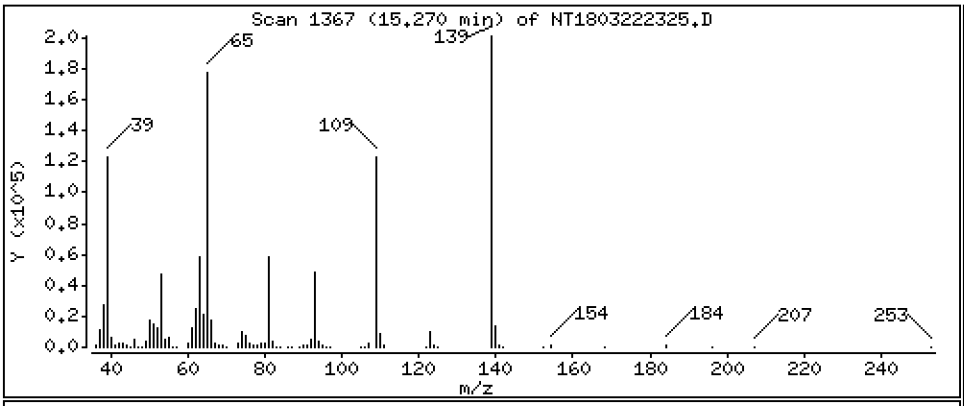
Operator: VTS

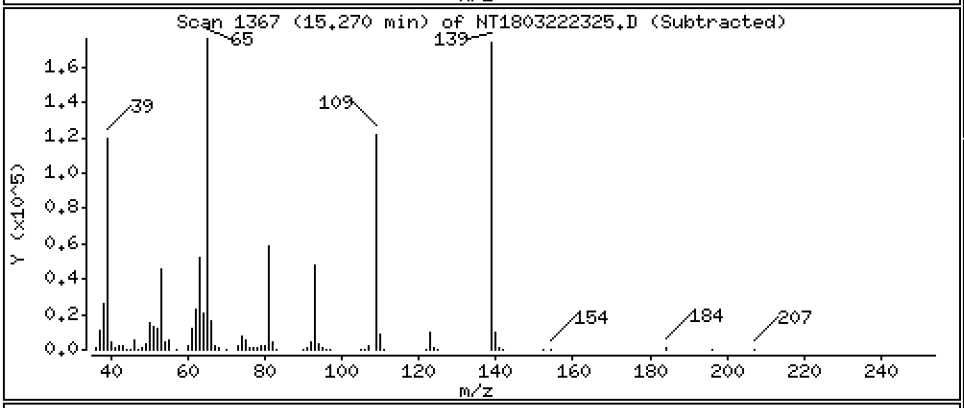
Column phase: ZB-5msi

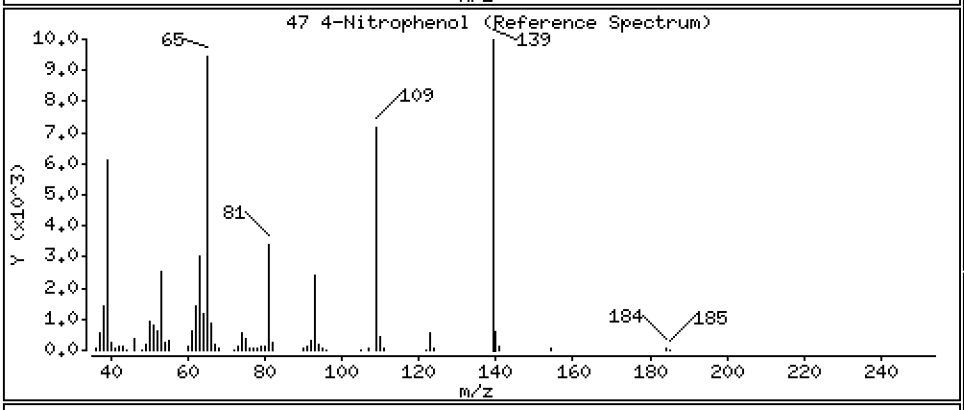
Column diameter: 0.25

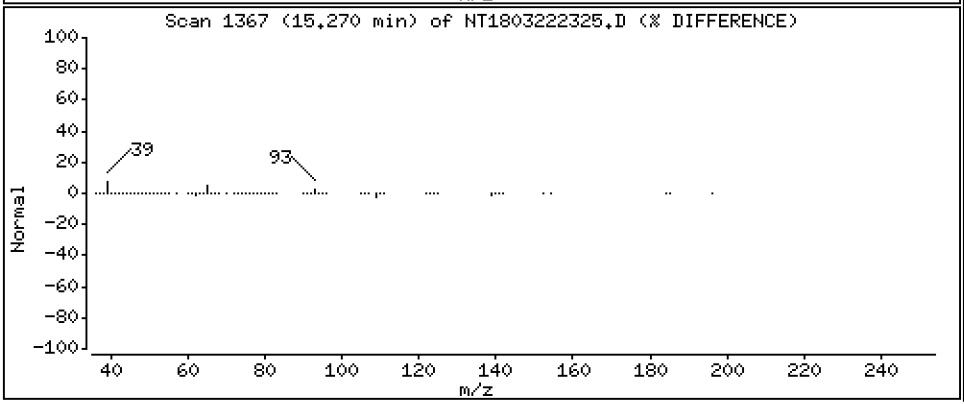
47 4-Nitrophenol

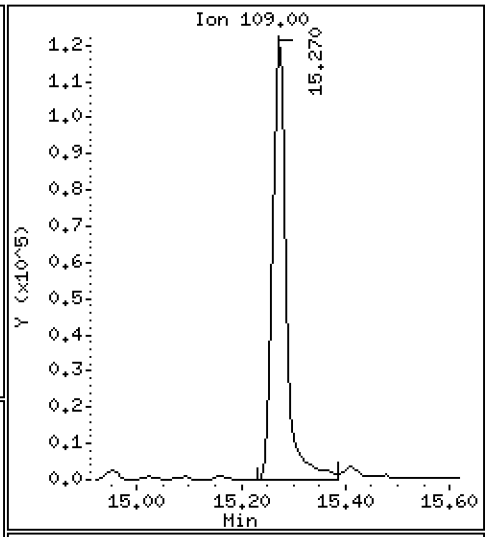
Concentration: 9.503 ug/mL

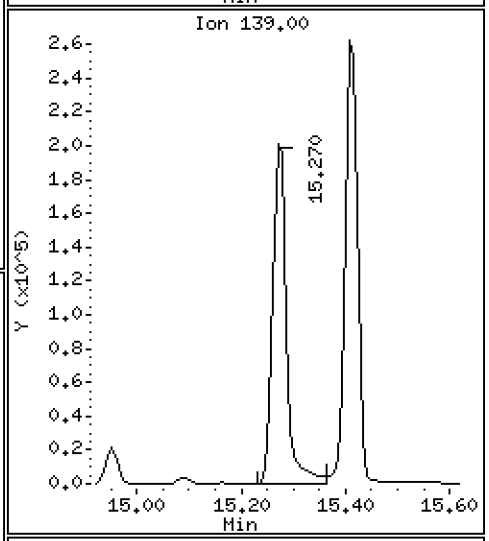


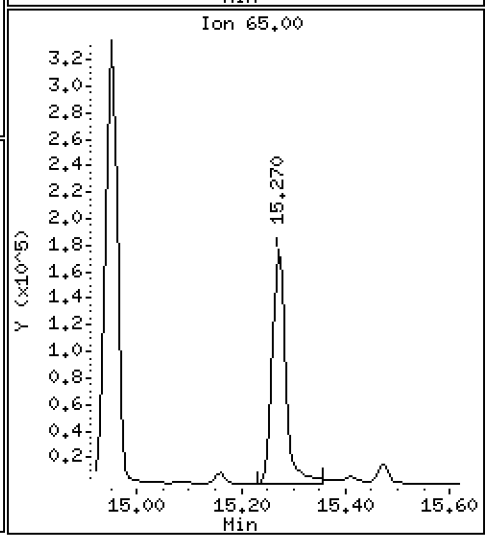












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

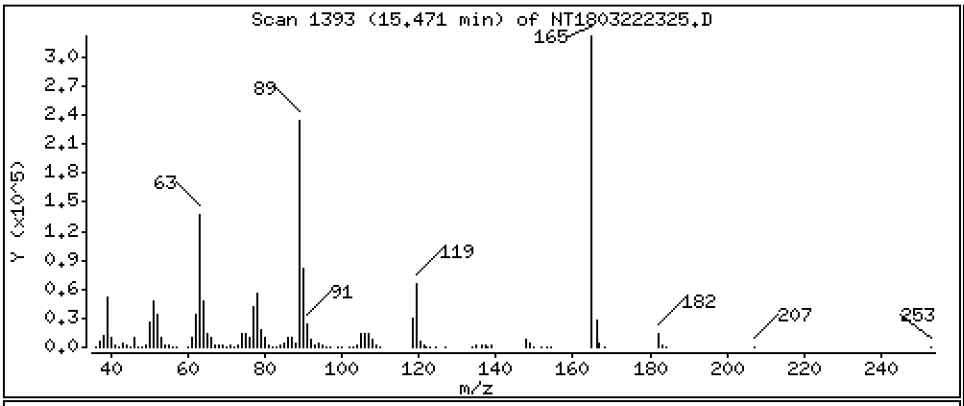
Operator: VTS

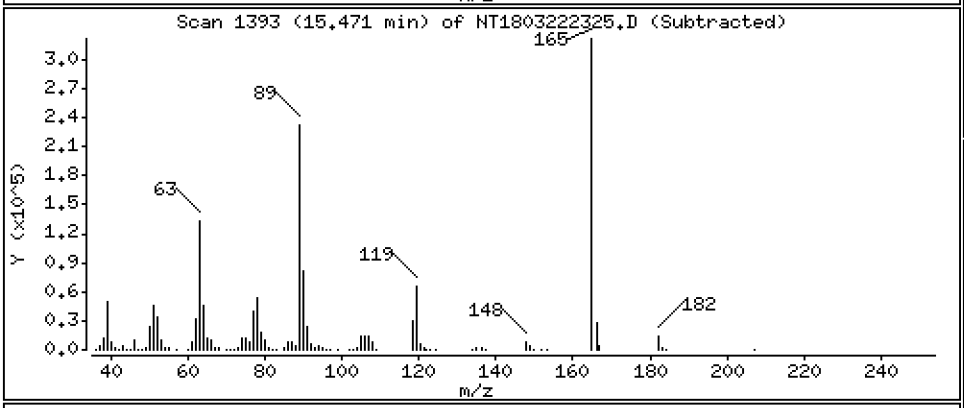
Column phase: ZB-5msi

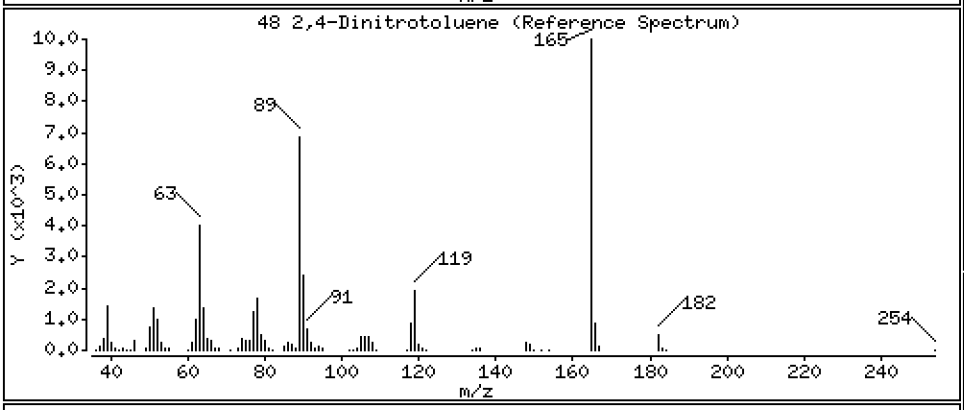
Column diameter: 0.25

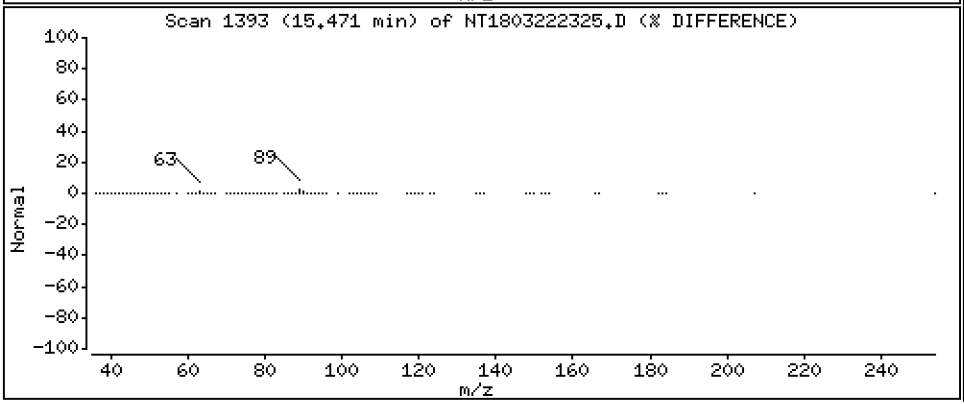
48 2,4-Dinitrotoluene

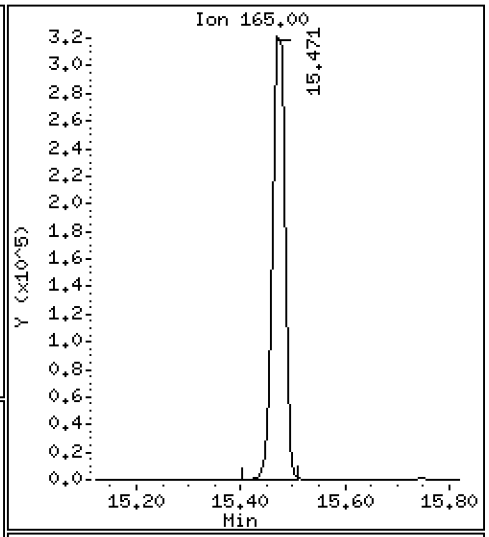
Concentration: 10.16 ug/mL

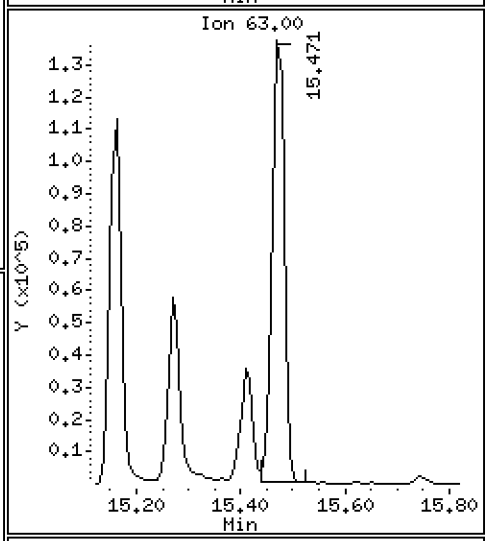


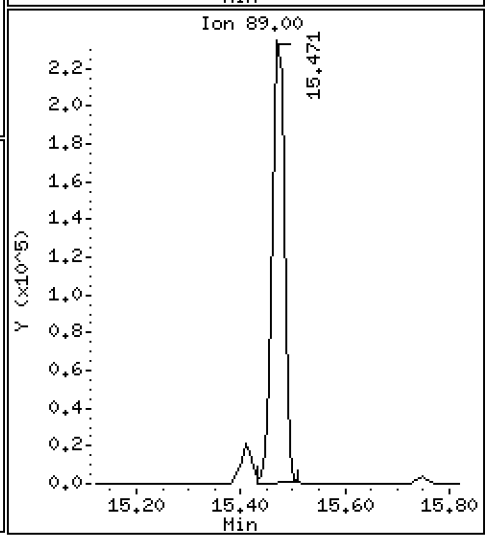












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

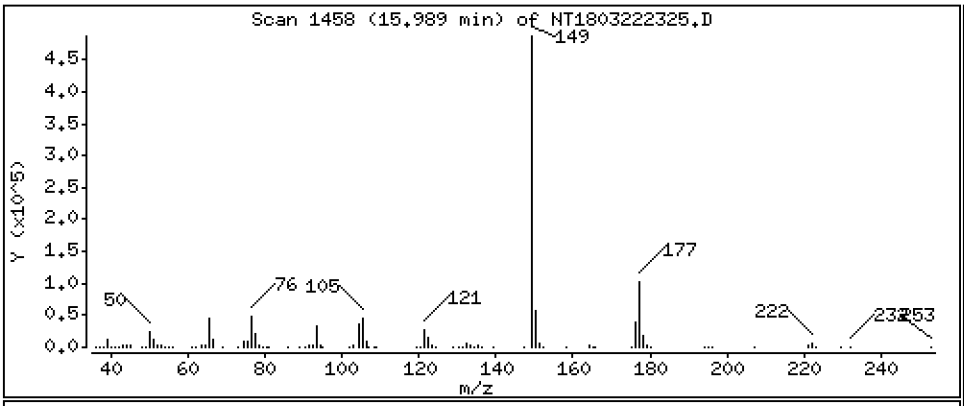
Operator: VTS

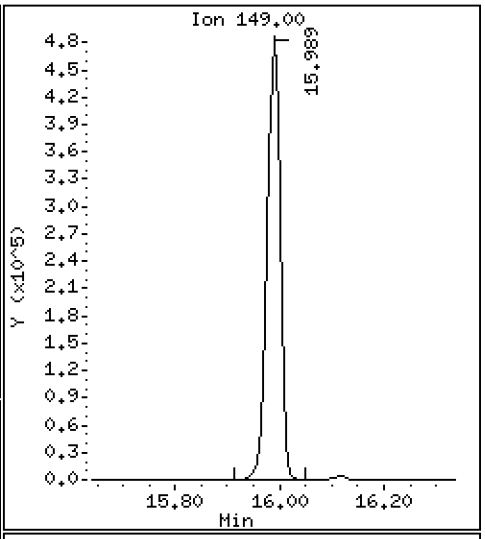
Column phase: ZB-5msi

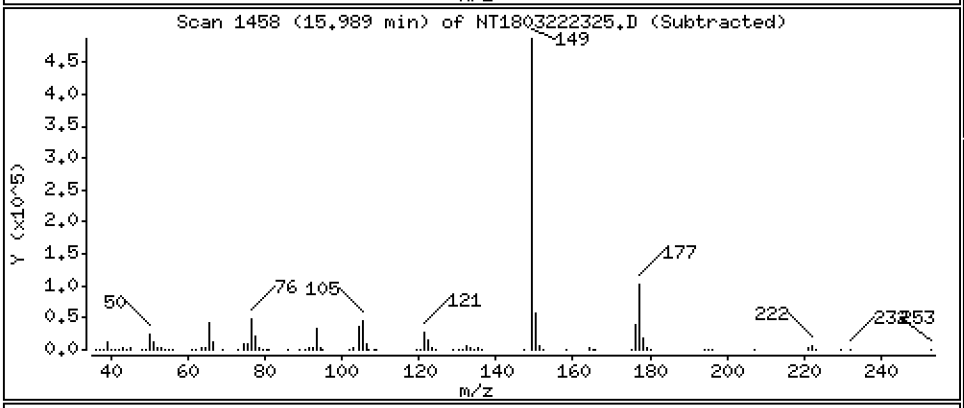
Column diameter: 0.25

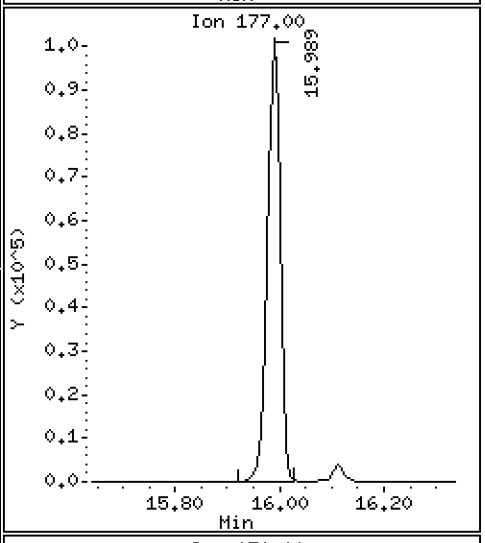
50 Diethylphthalate

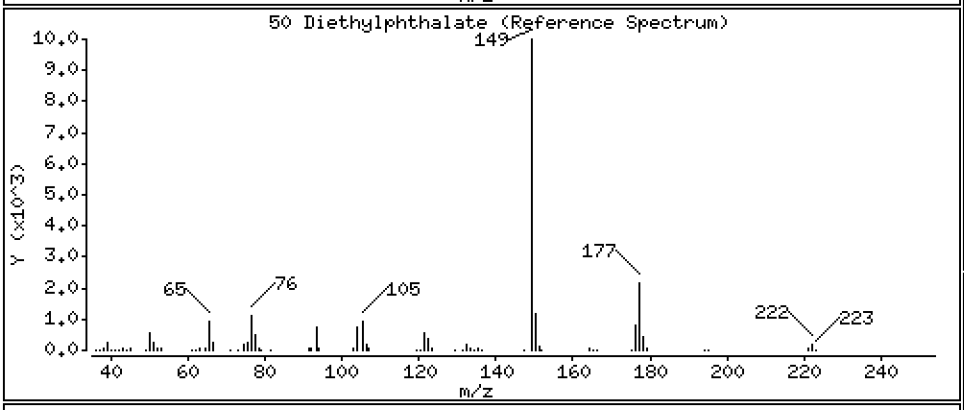
Concentration: 4.890 ug/mL

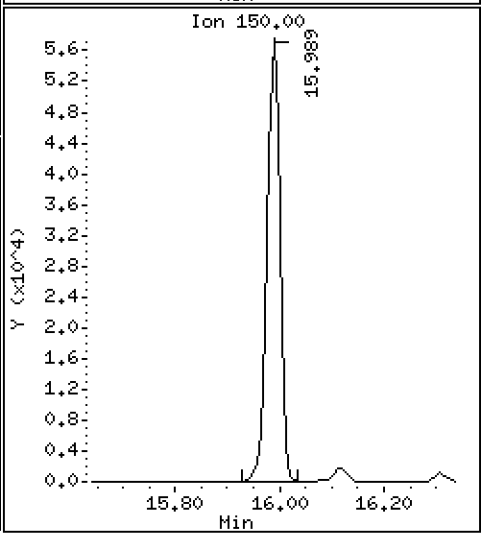


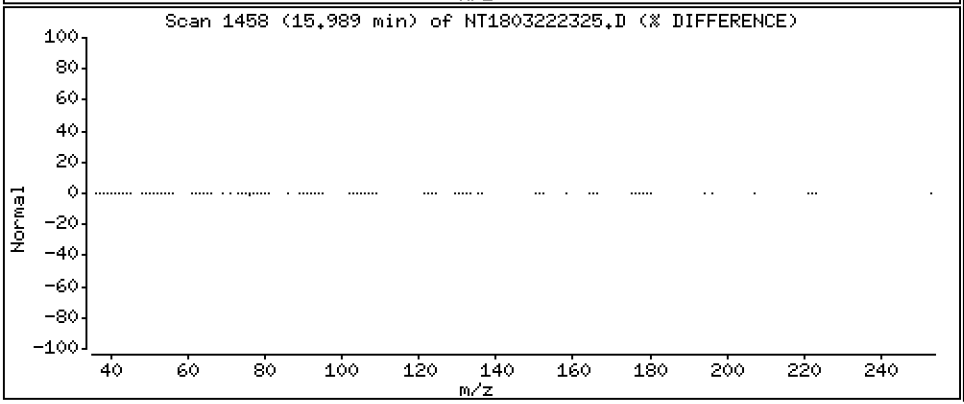












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222325.D

Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

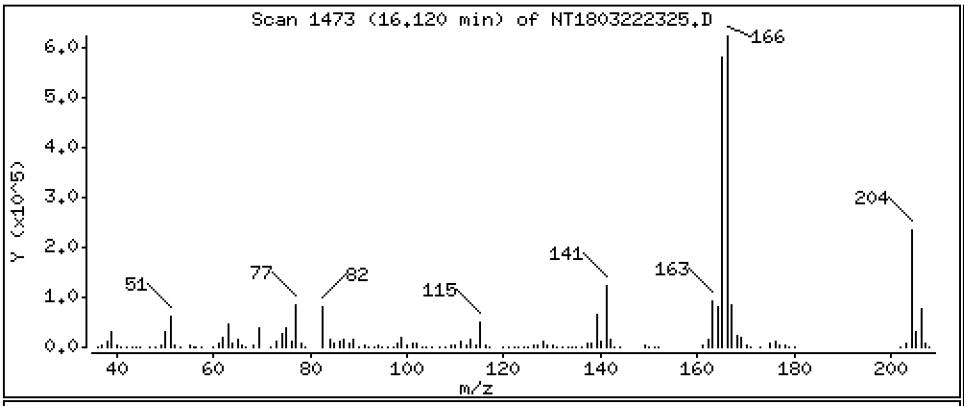
Operator: VTS

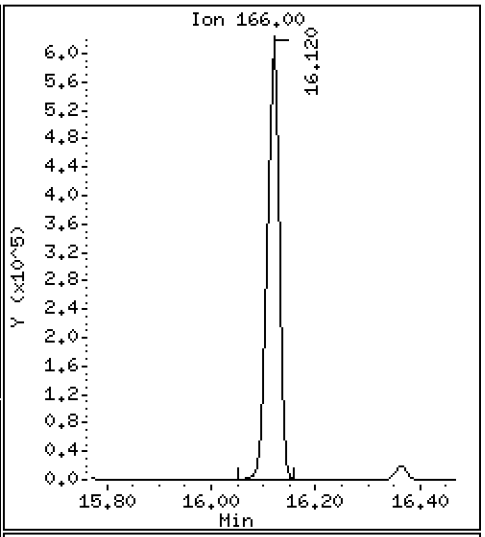
Column phase: ZB-5msi

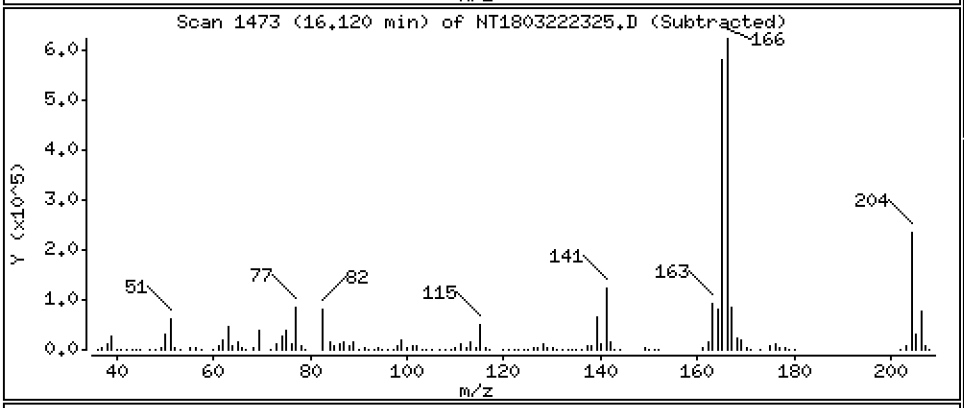
Column diameter: 0.25

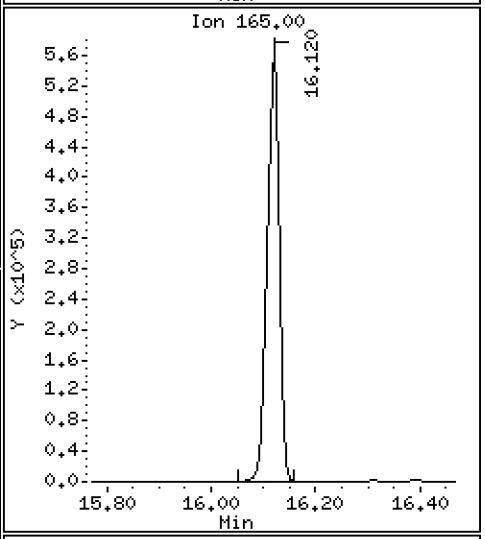
49 Fluorene

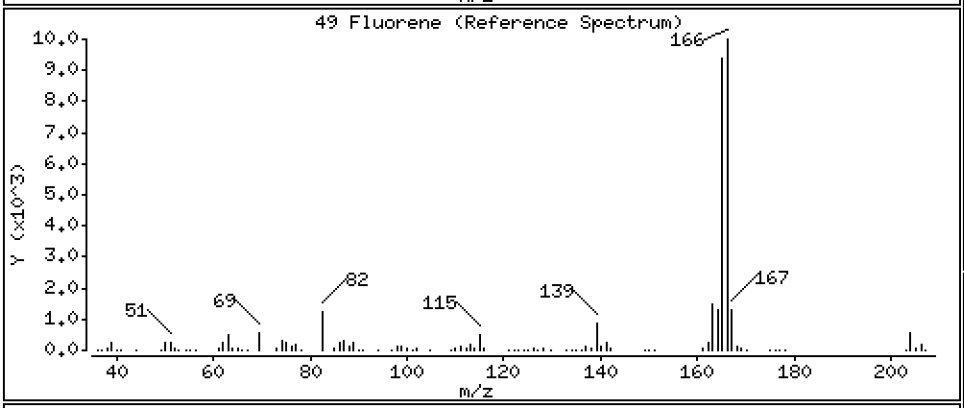
Concentration: 5.240 ug/mL

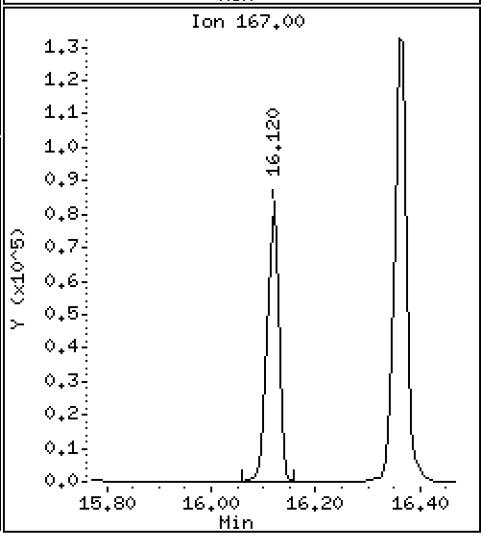


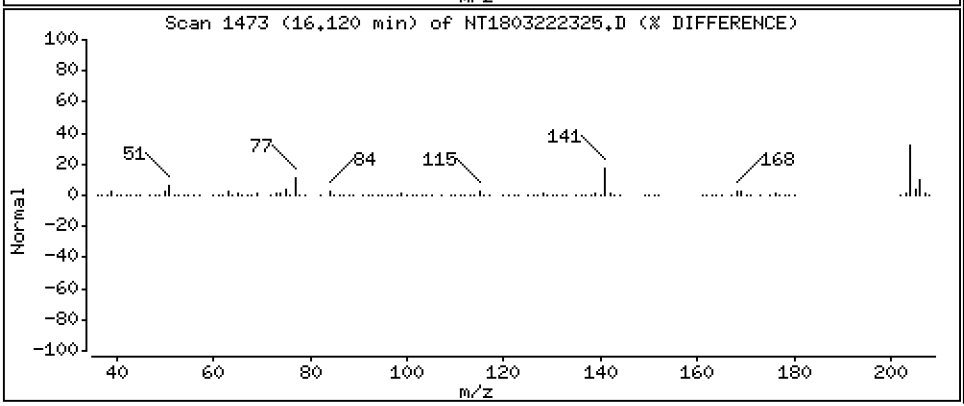












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

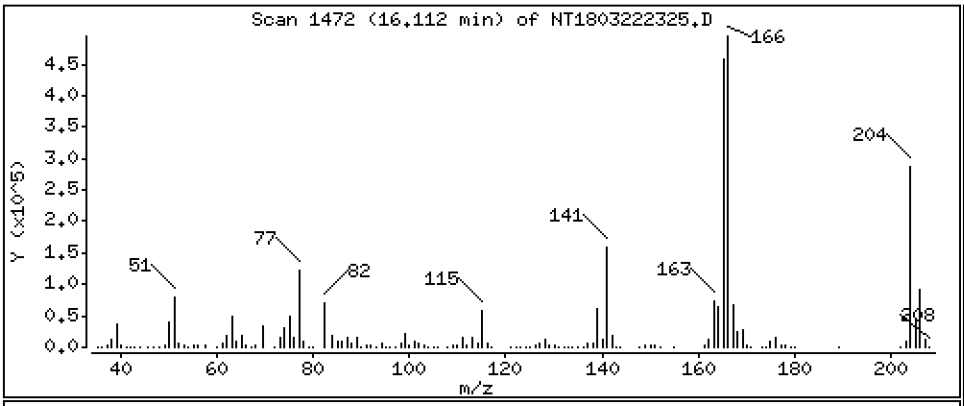
Operator: VTS

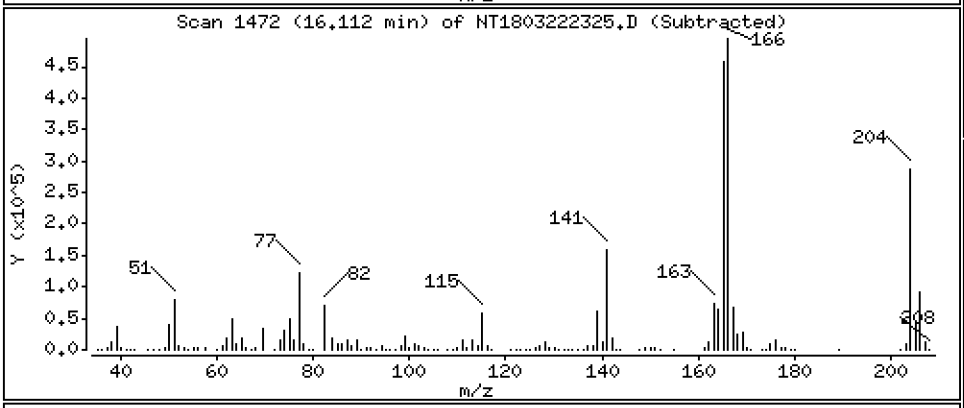
Column phase: ZB-5msi

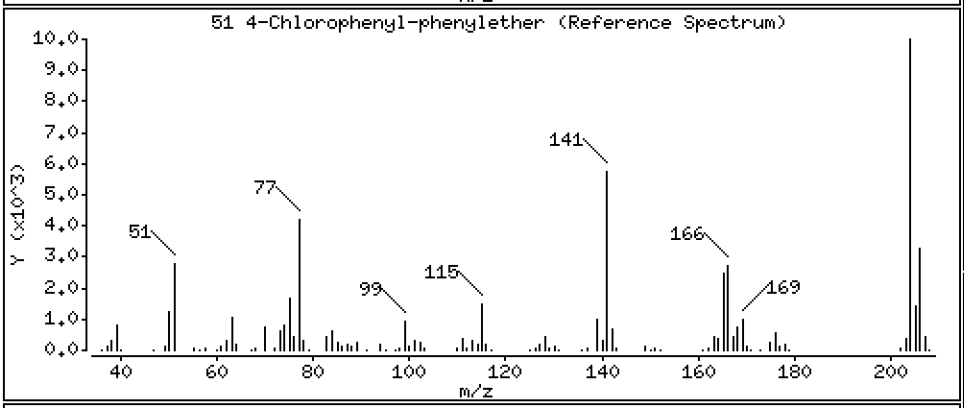
Column diameter: 0.25

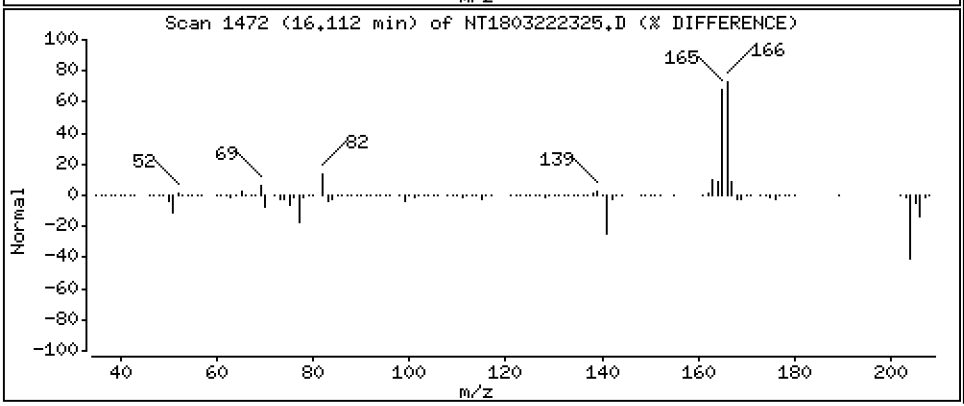
51 4-Chlorophenyl-phenylether

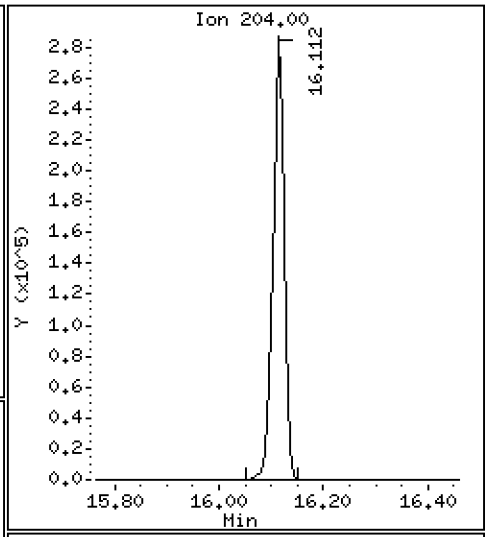
Concentration: 5.274 ug/mL

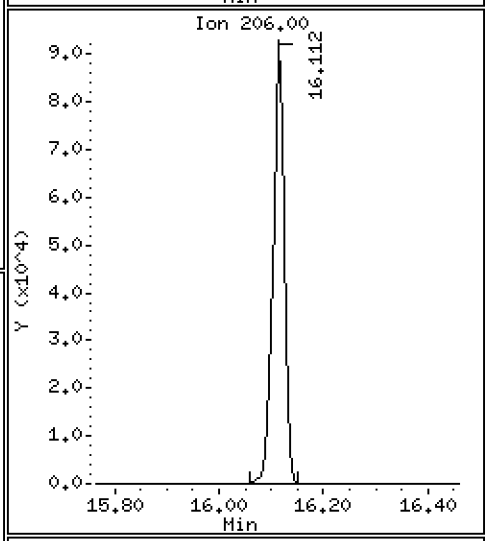


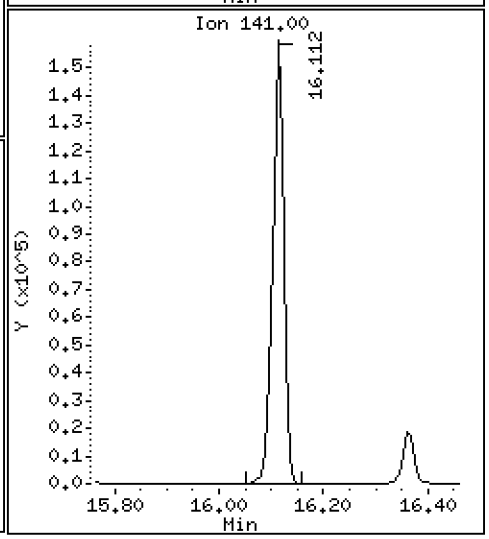












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222325.D

Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

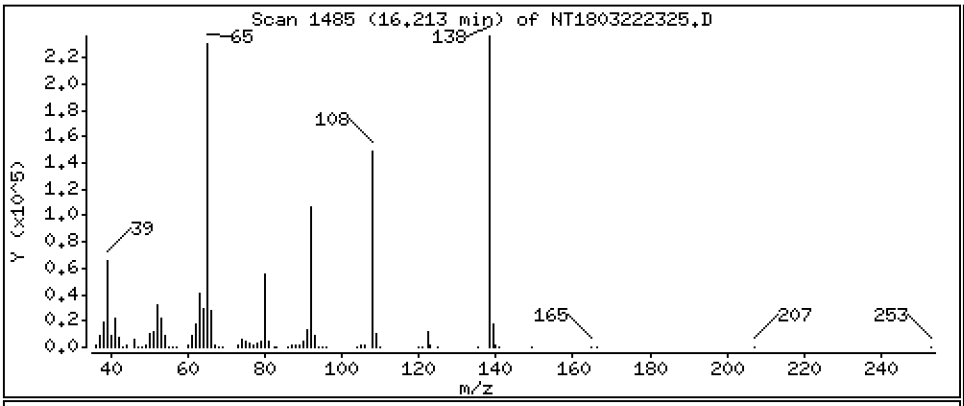
Operator: VTS

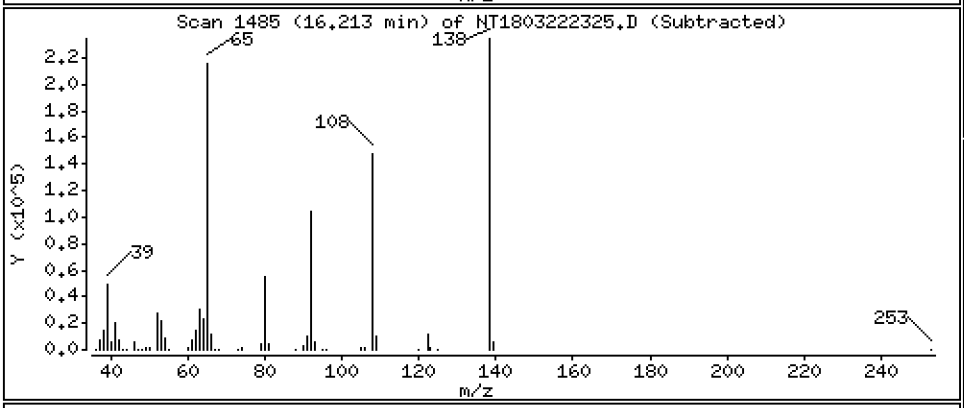
Column phase: ZB-5msi

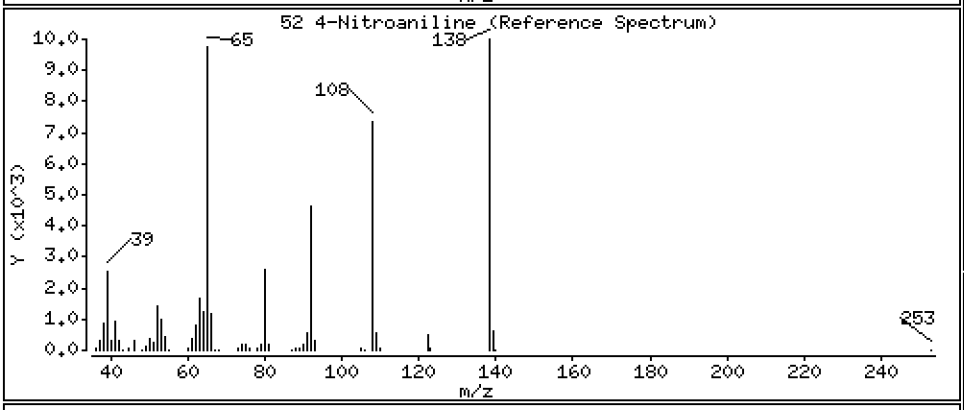
Column diameter: 0.25

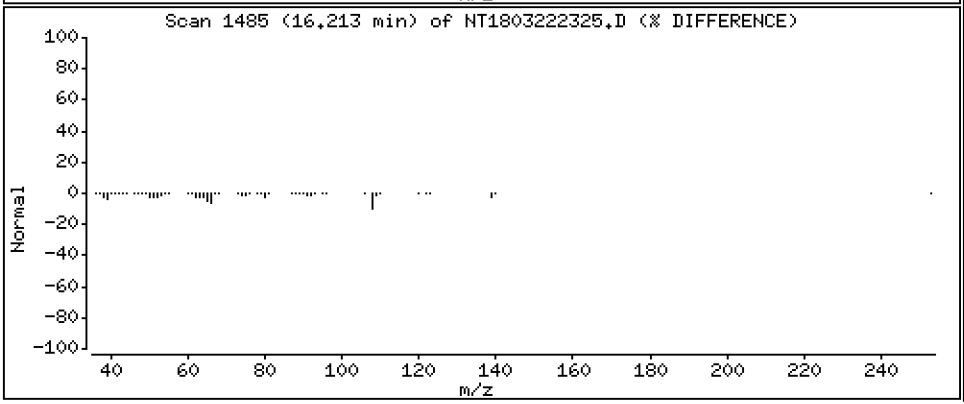
52 4-Nitroaniline

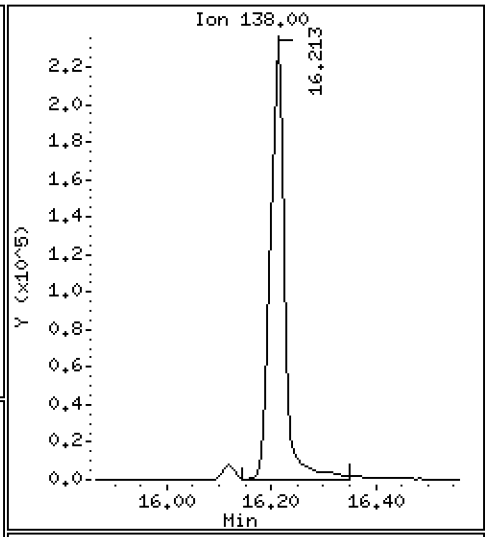
Concentration: 10.15 ug/mL

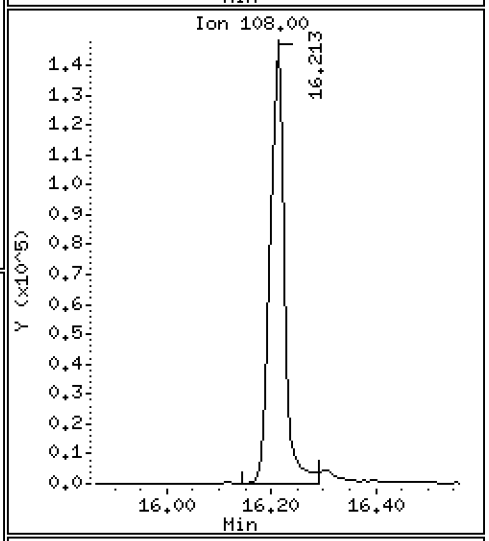


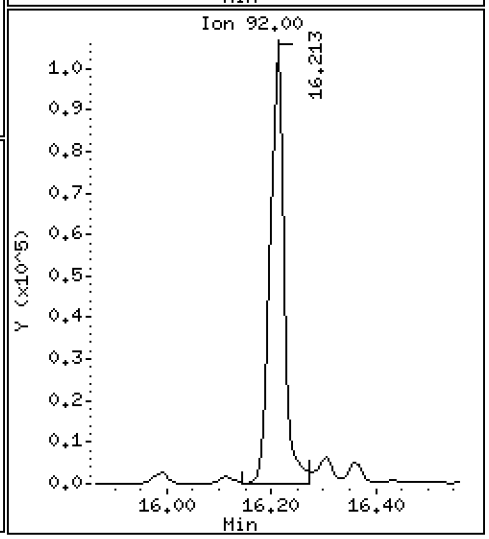












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

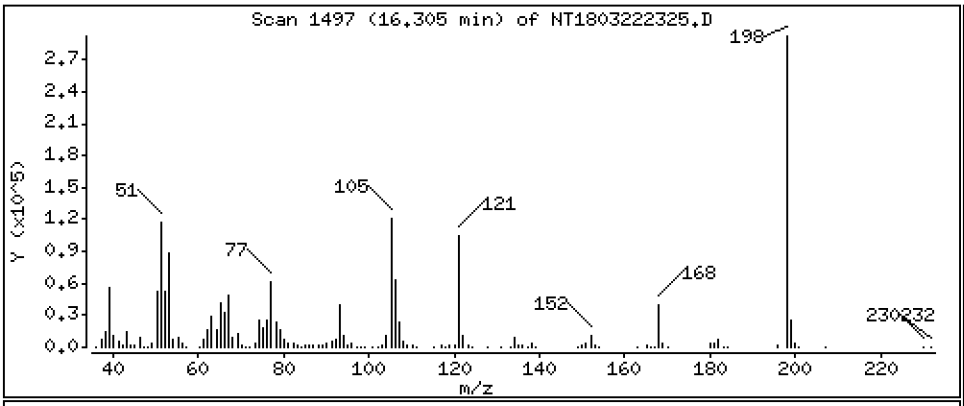
Operator: VTS

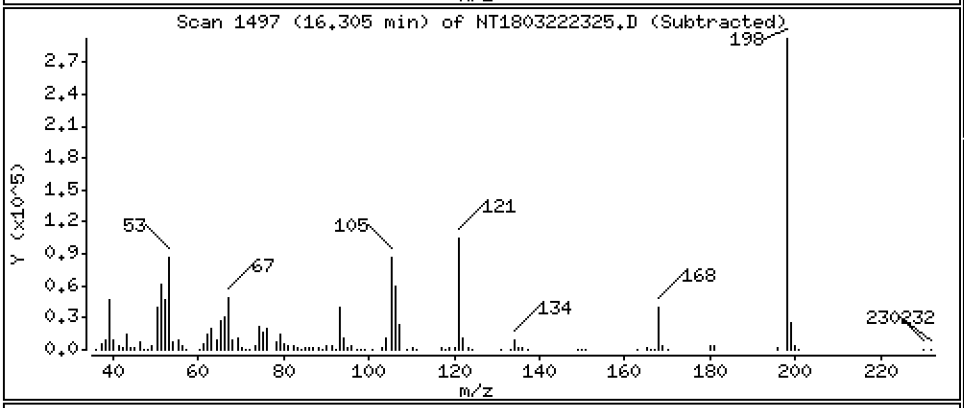
Column phase: ZB-5msi

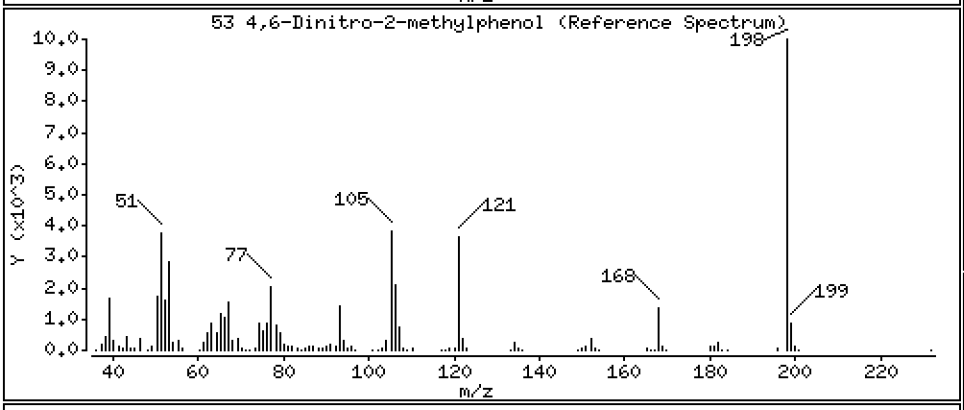
Column diameter: 0.25

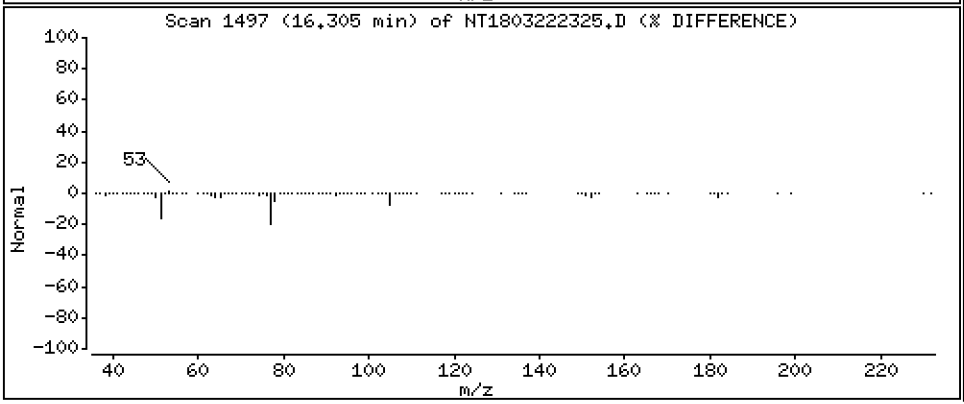
53 4,6-Dinitro-2-methylphenol

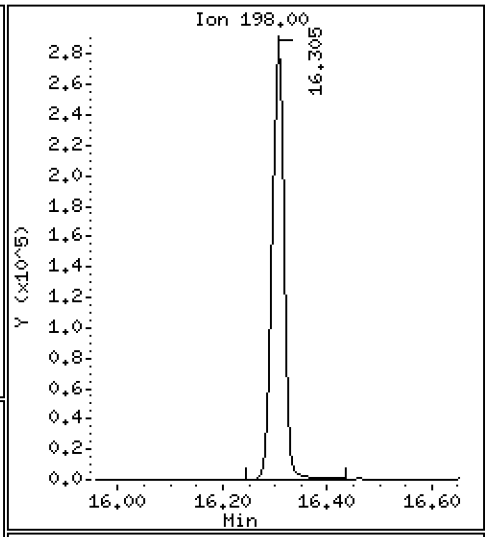
Concentration: 15.95 ug/mL

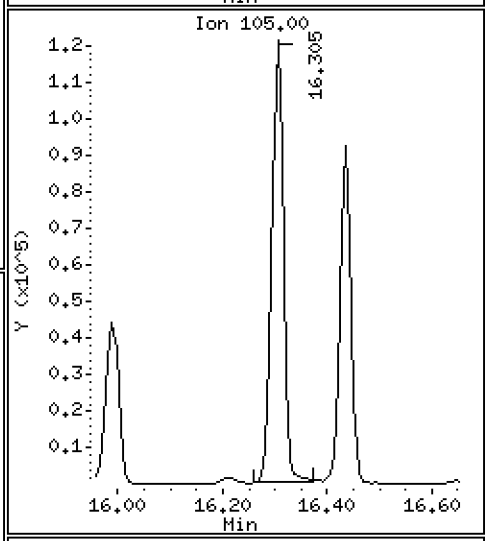


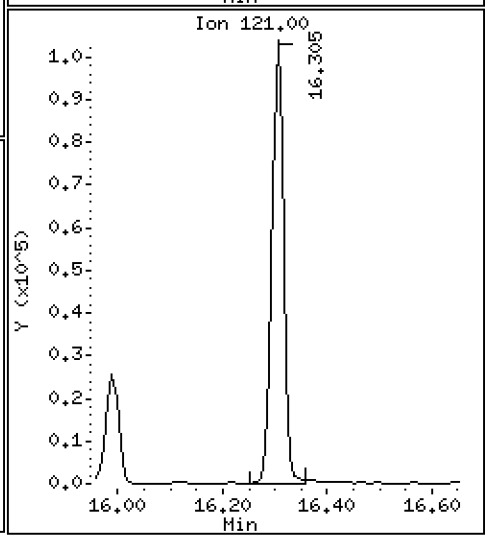












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

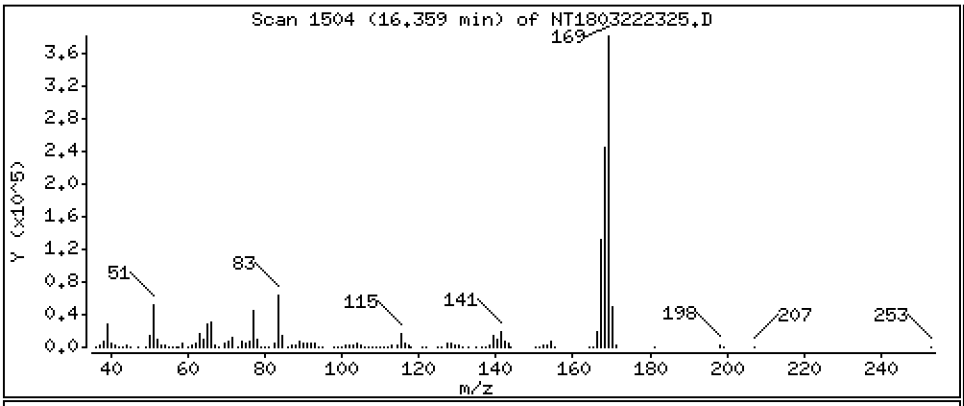
Operator: VTS

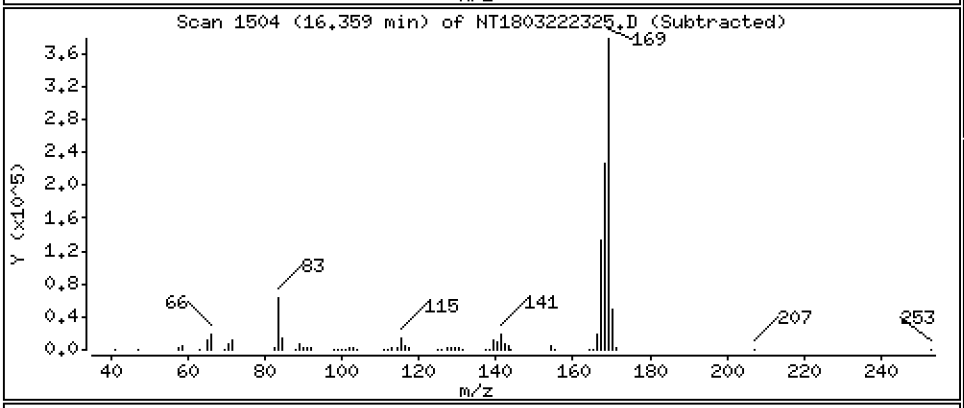
Column phase: ZB-5msi

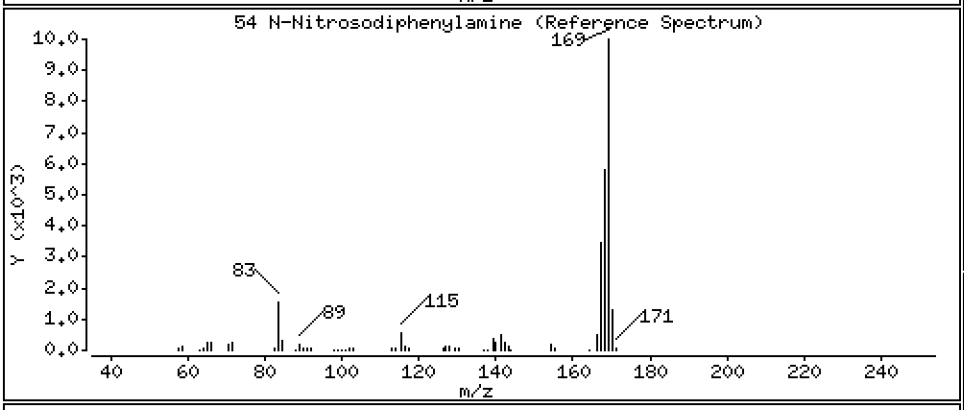
Column diameter: 0.25

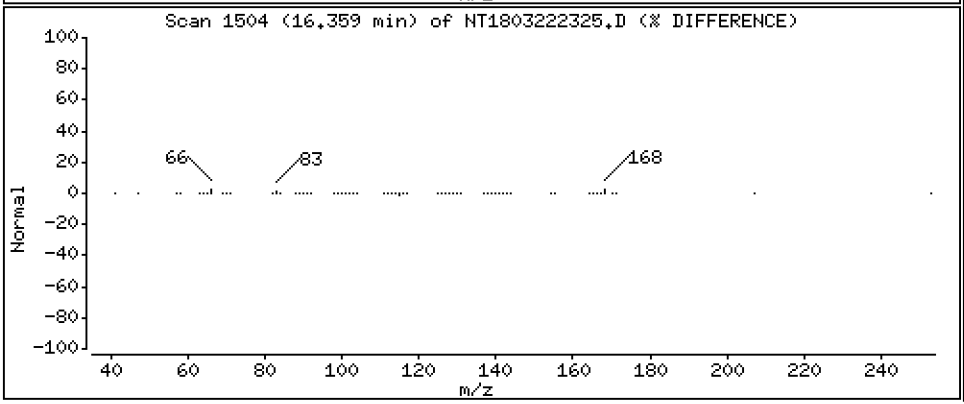
54 N-Nitrosodiphenylamine

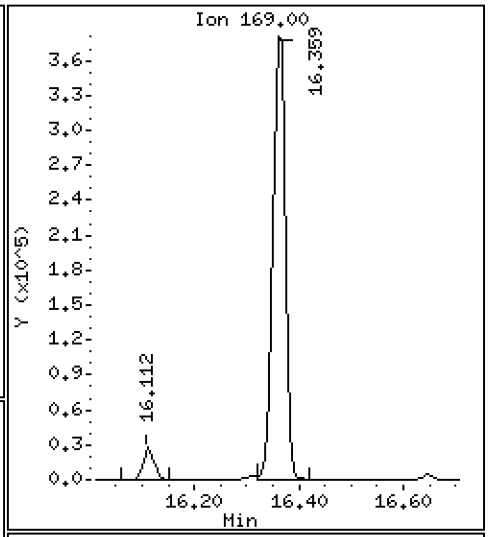
Concentration: 5.032 ug/mL

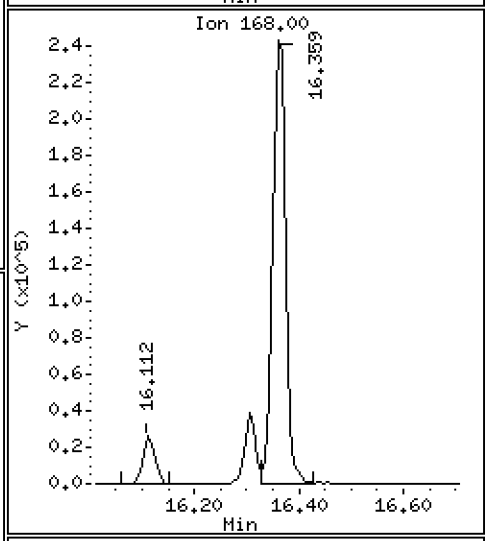


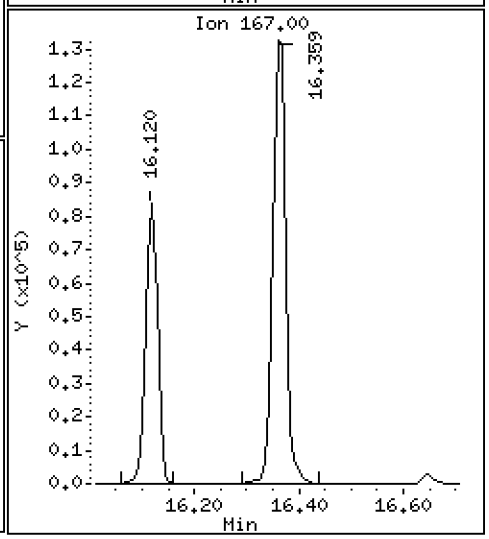












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

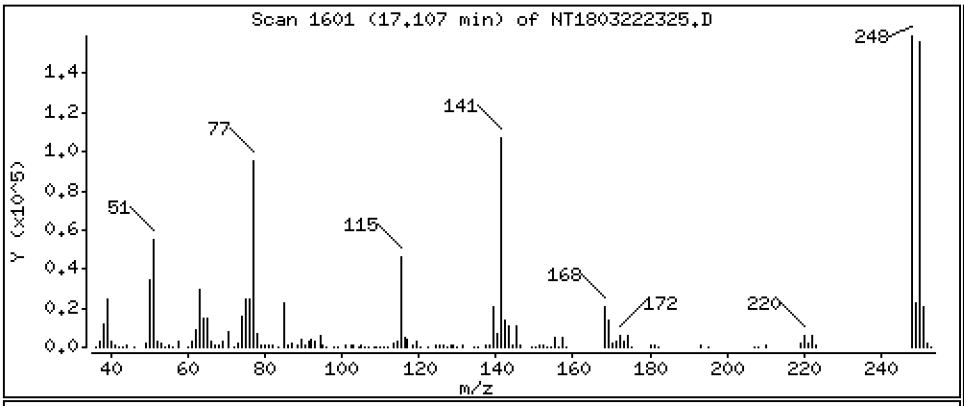
Operator: VTS

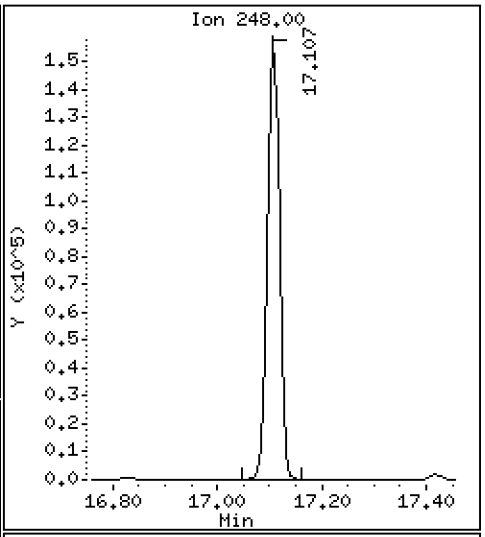
Column phase: ZB-5msi

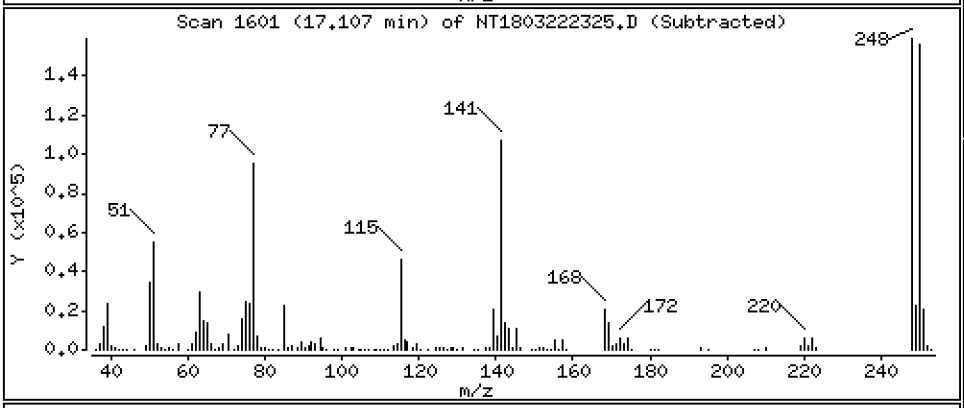
Column diameter: 0.25

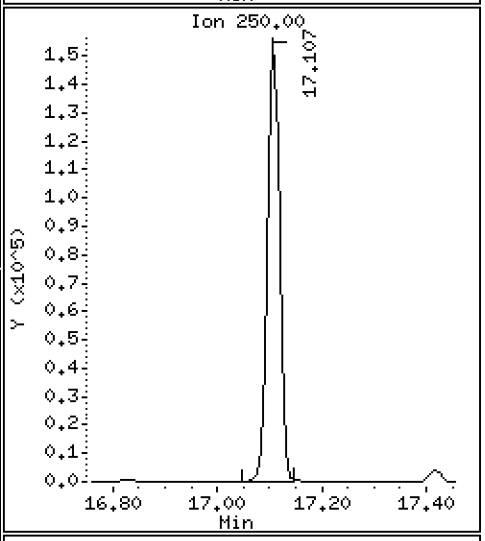
56 4-Bromophenyl-phenylether

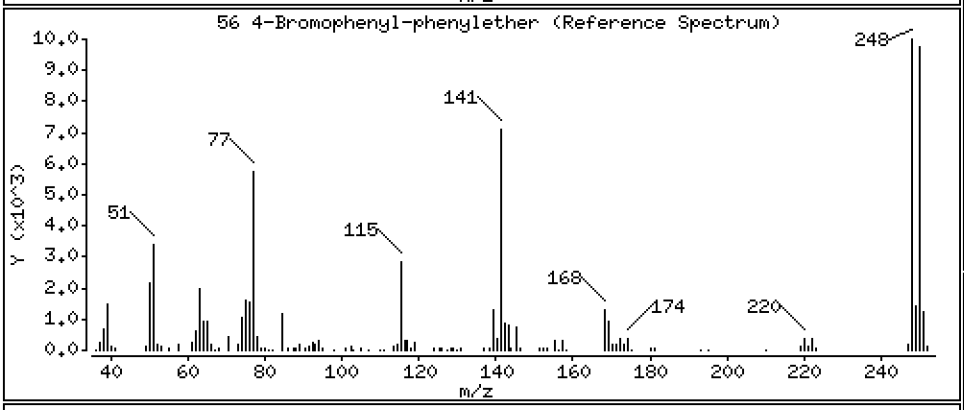
Concentration: 5.045 ug/mL

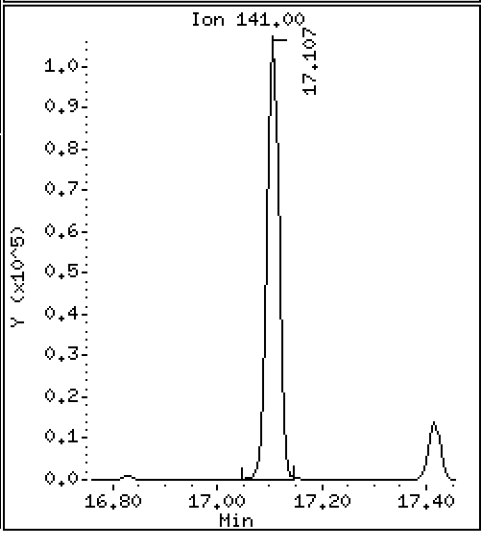


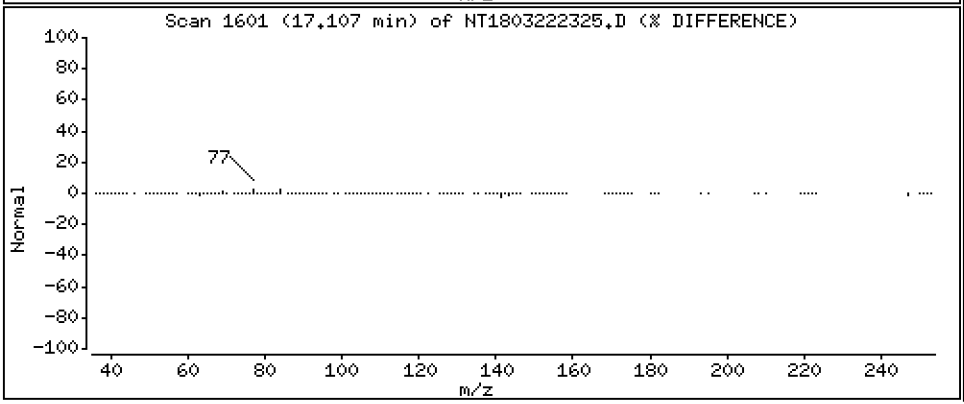












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

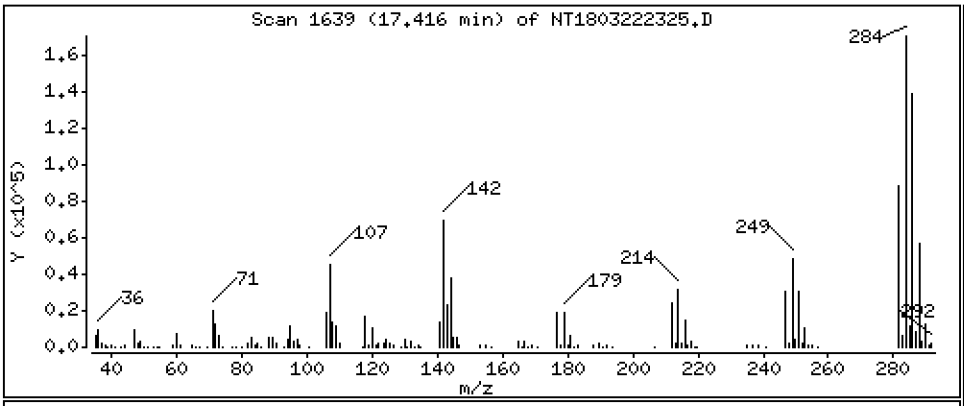
Operator: VTS

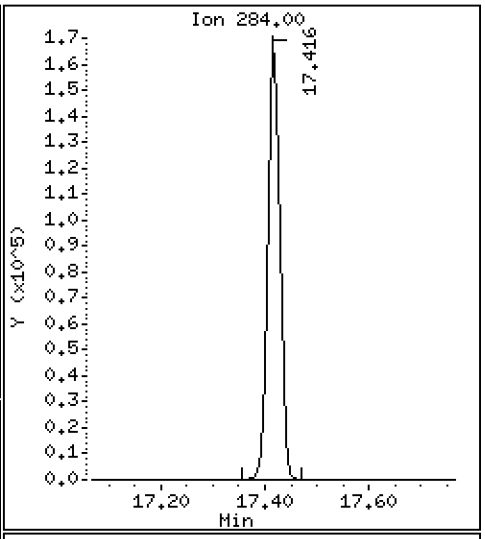
Column phase: ZB-5msi

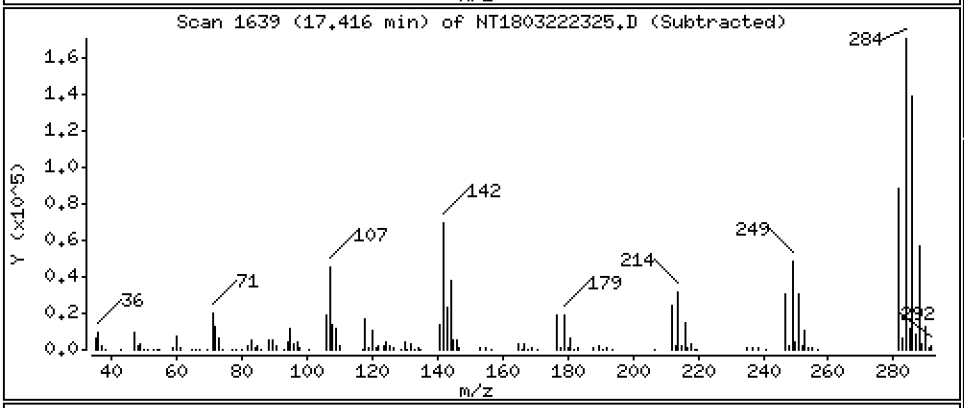
Column diameter: 0.25

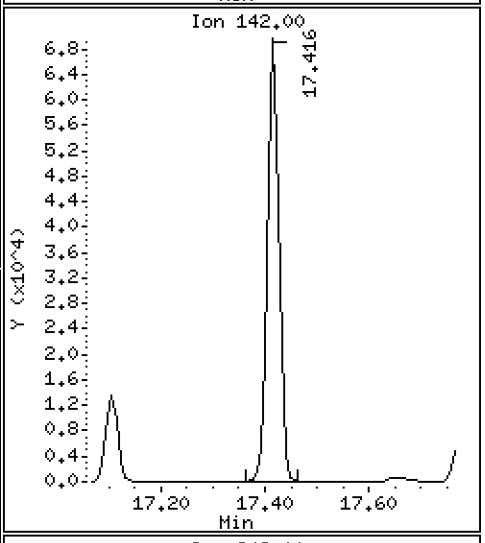
57 Hexachlorobenzene

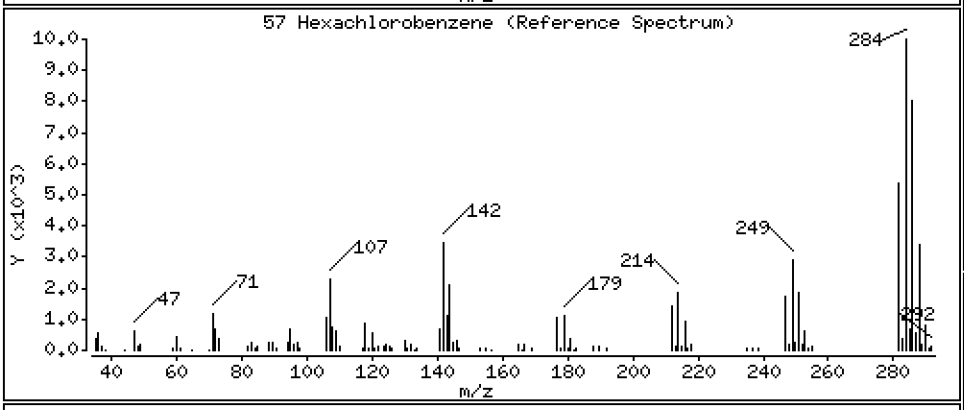
Concentration: 4.956 ug/mL

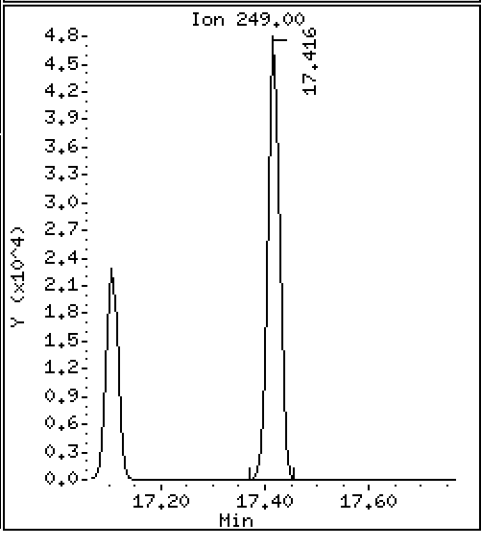


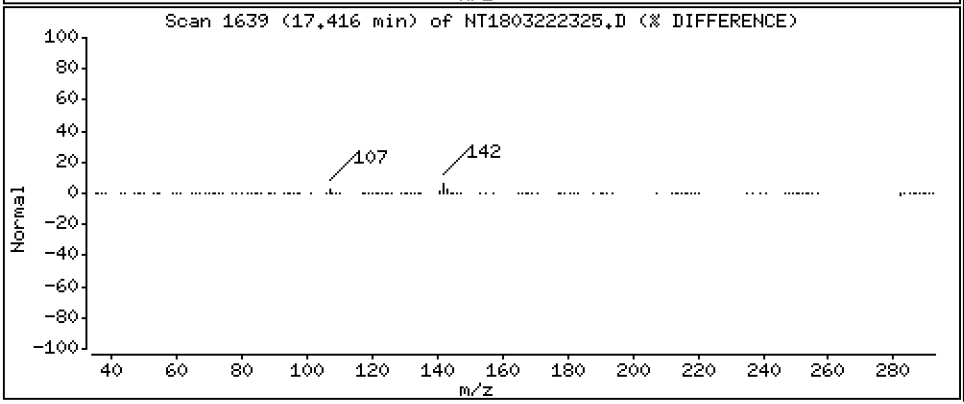












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222325.D

Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

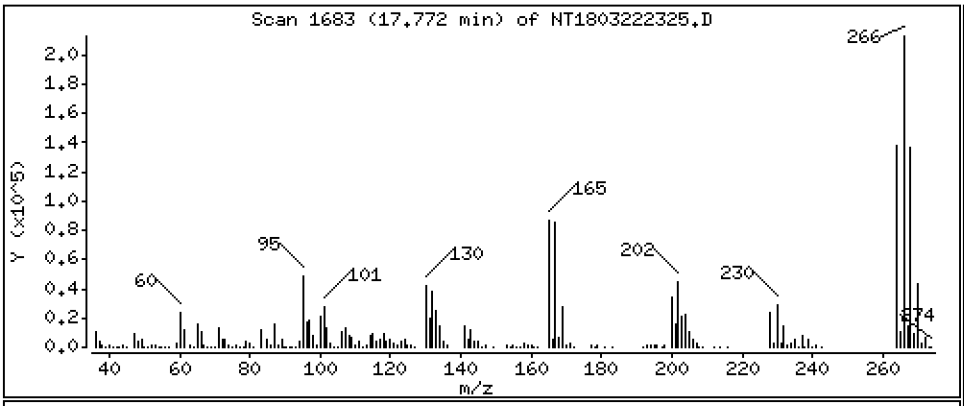
Operator: VTS

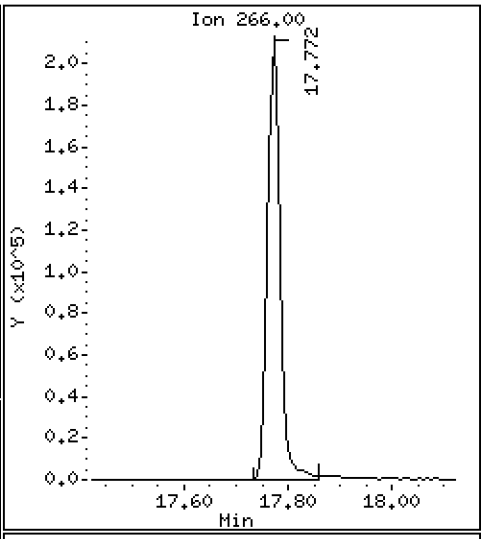
Column phase: ZB-5msi

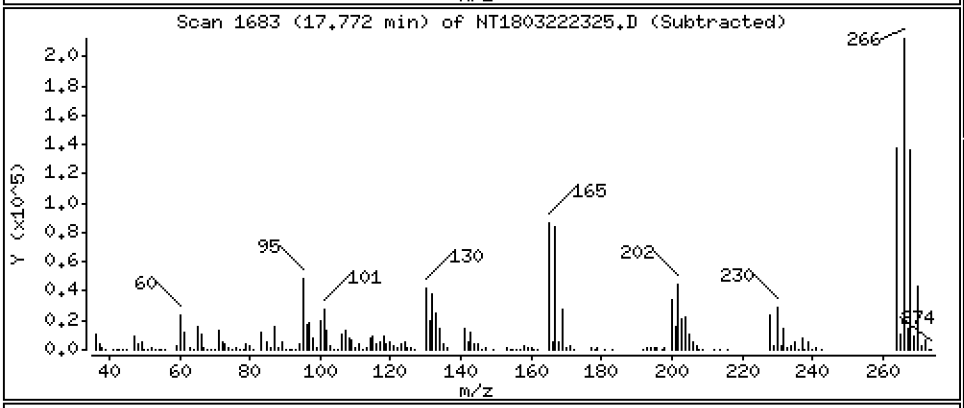
Column diameter: 0.25

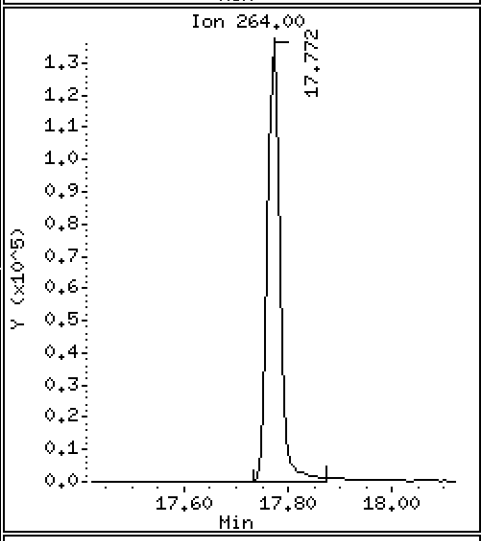
58 Pentachlorophenol

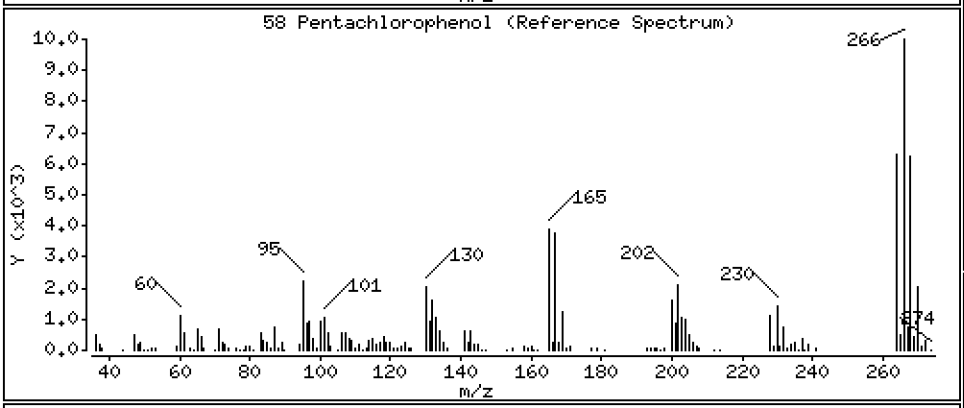
Concentration: 10.34 ug/mL

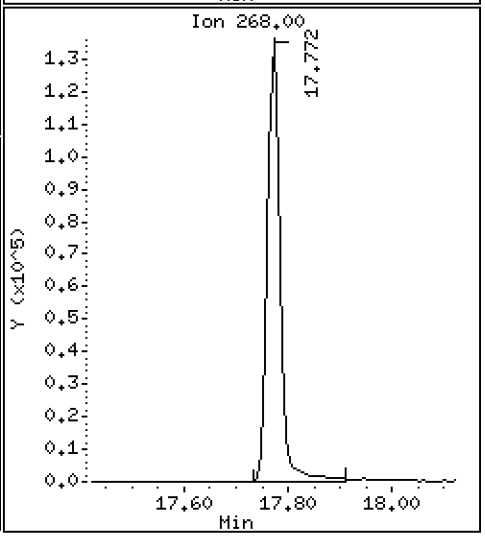


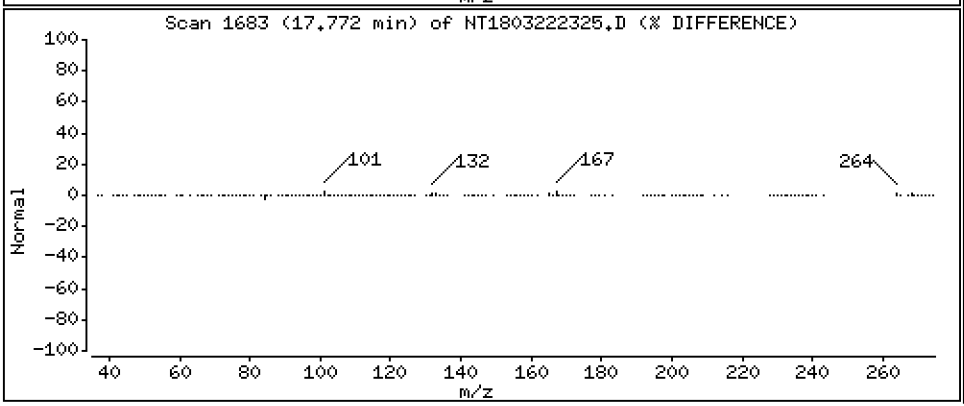












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

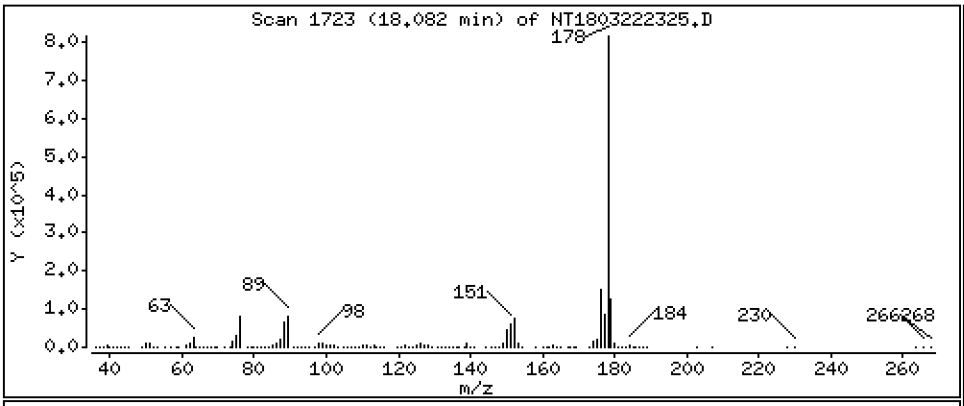
Operator: VTS

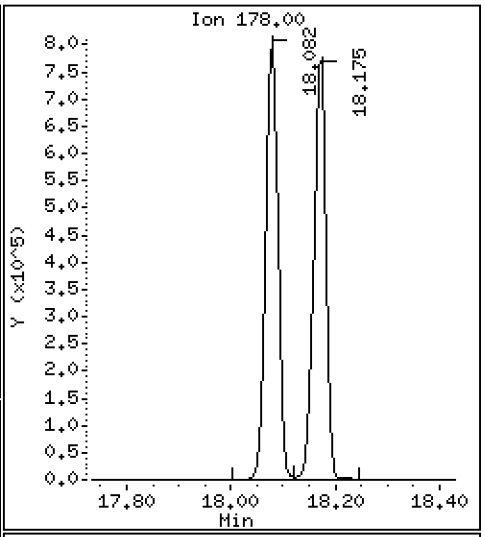
Column phase: ZB-5msi

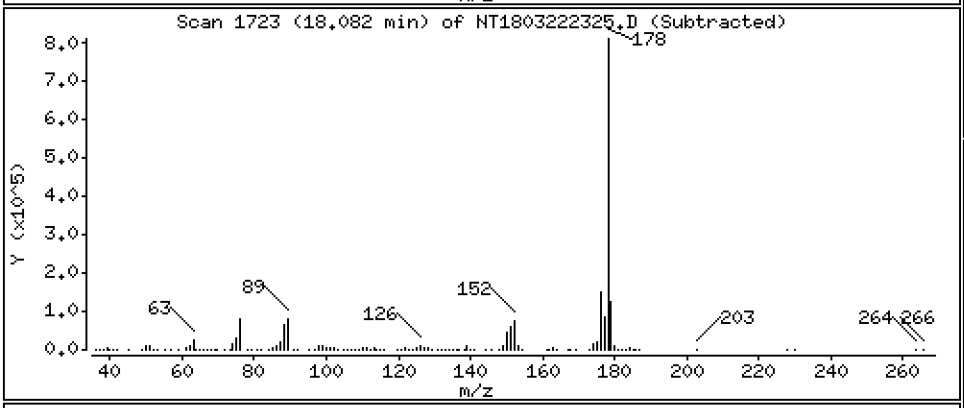
Column diameter: 0.25

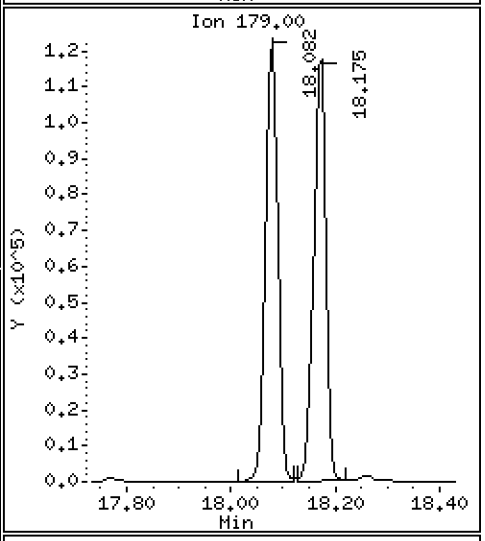
60 Phenanthrene

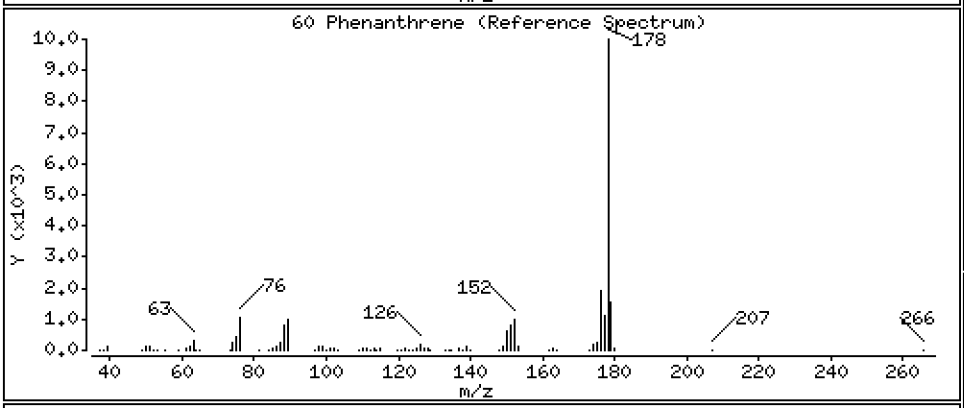
Concentration: 4.925 ug/mL

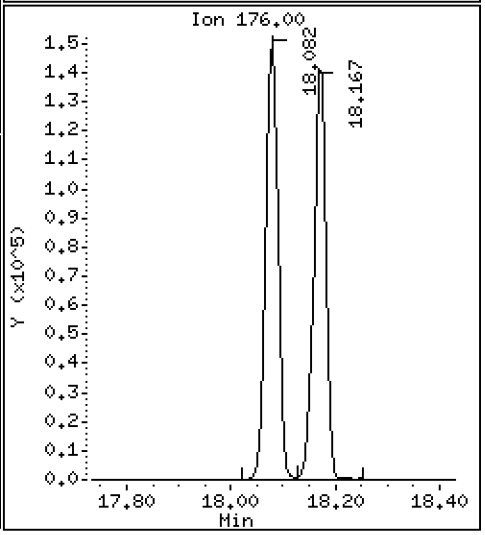


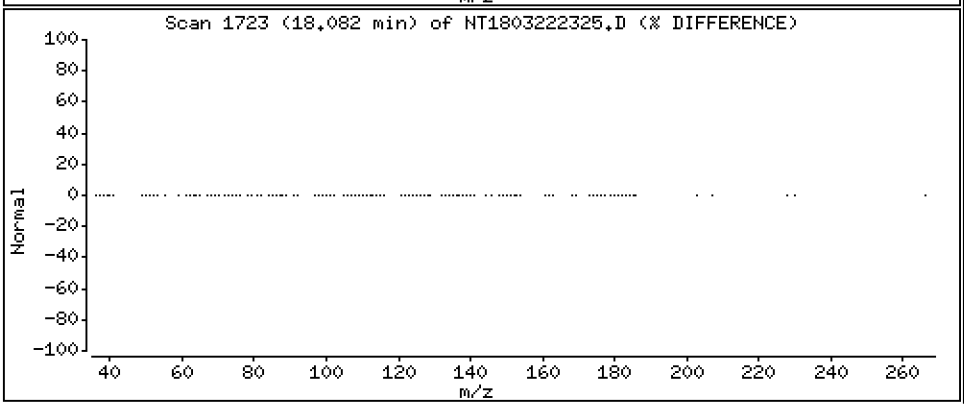












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222325.D

Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

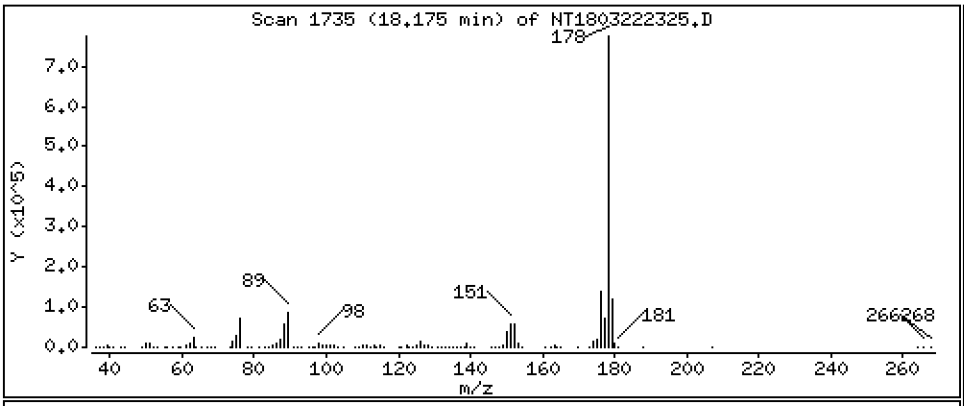
Operator: VTS

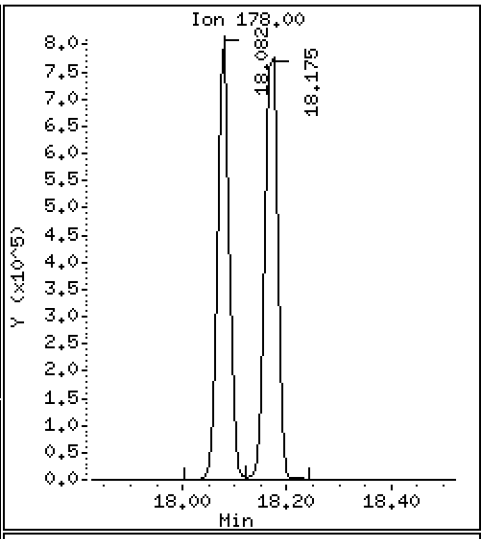
Column phase: ZB-5msi

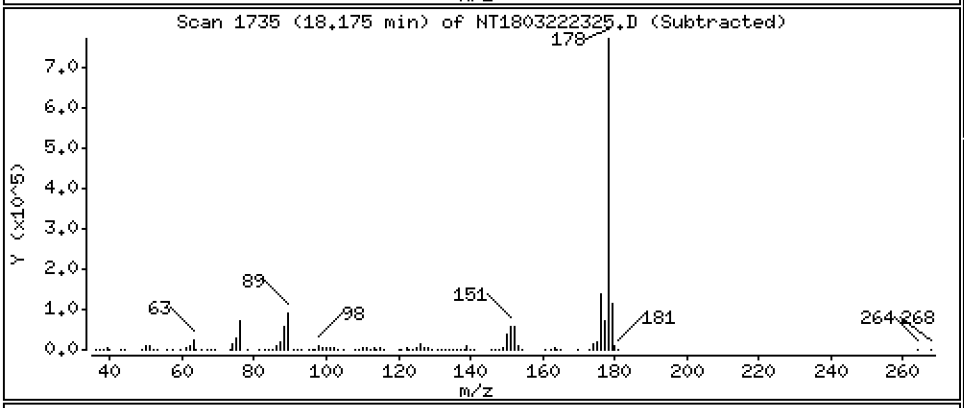
Column diameter: 0.25

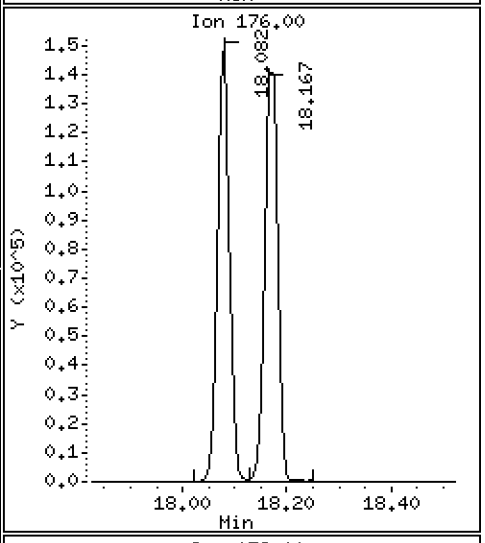
61 Anthracene

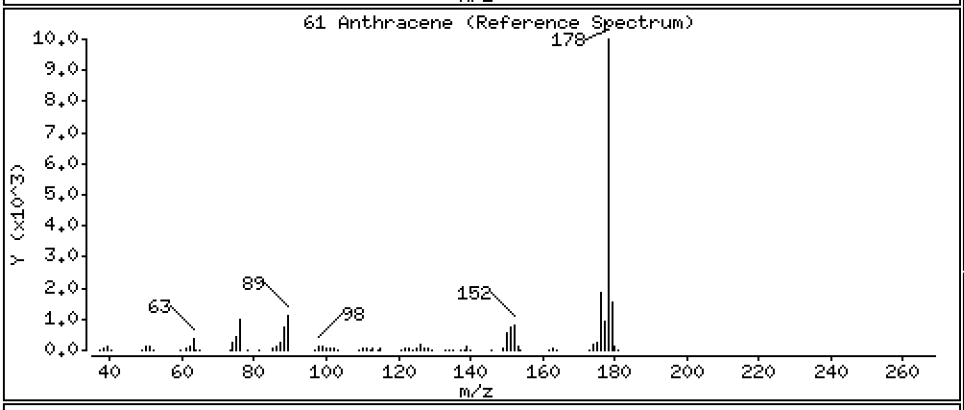
Concentration: 5.168 ug/mL

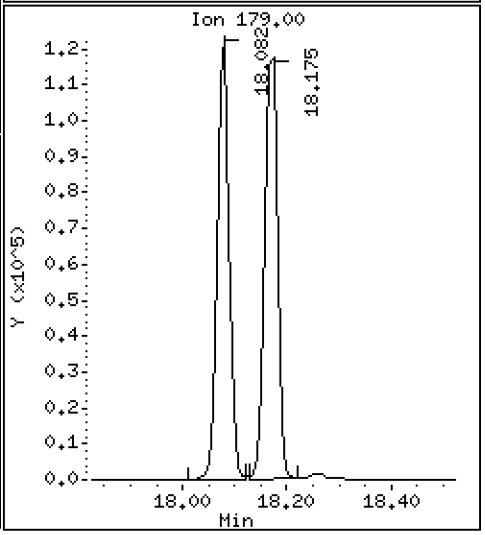


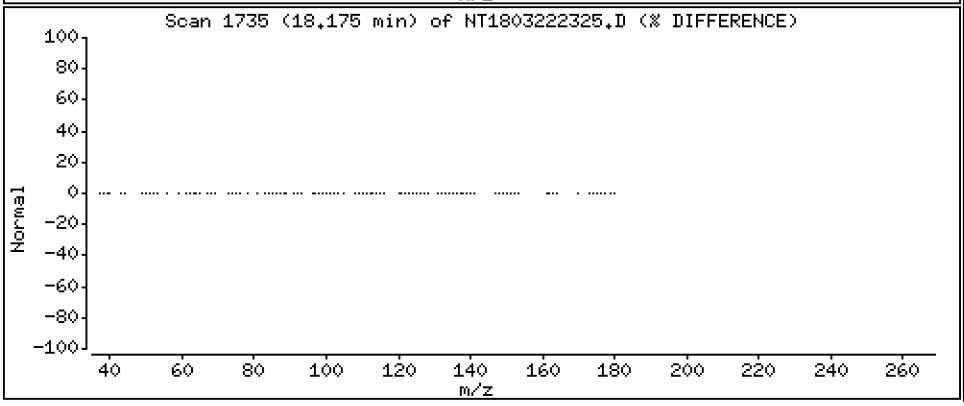












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222325.D

Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

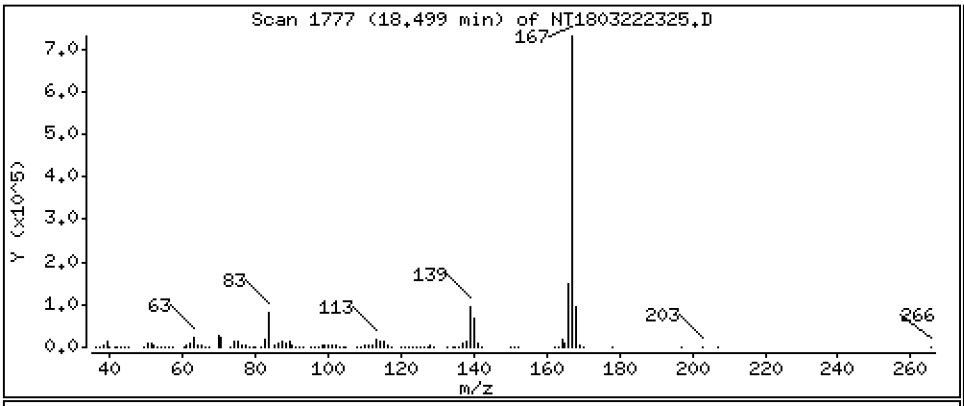
Operator: VTS

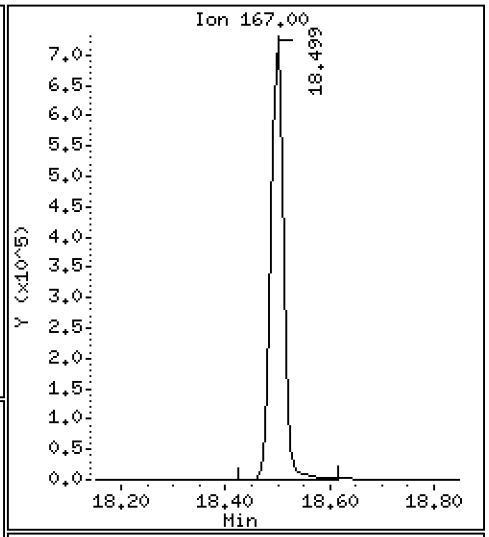
Column phase: ZB-5msi

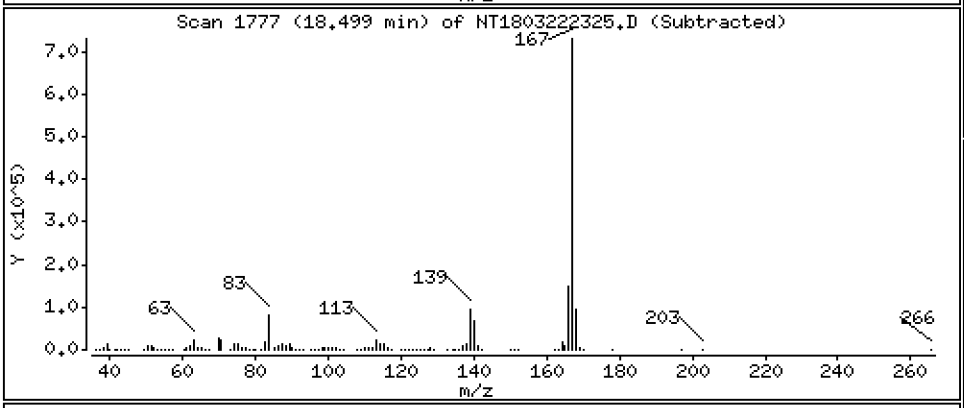
Column diameter: 0.25

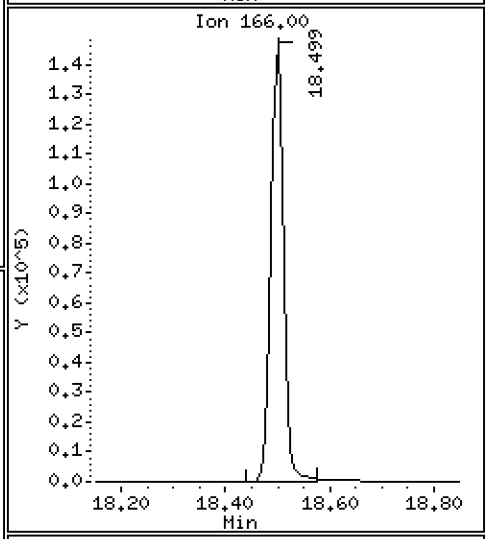
62 Carbazole

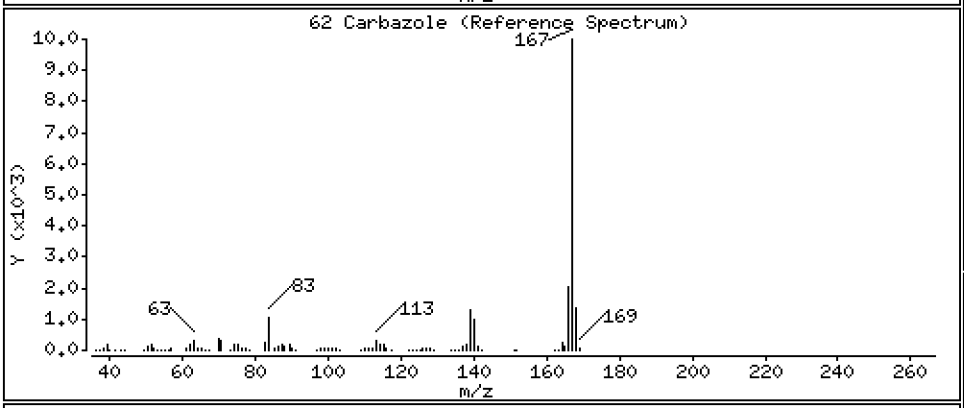
Concentration: 5.439 ug/mL

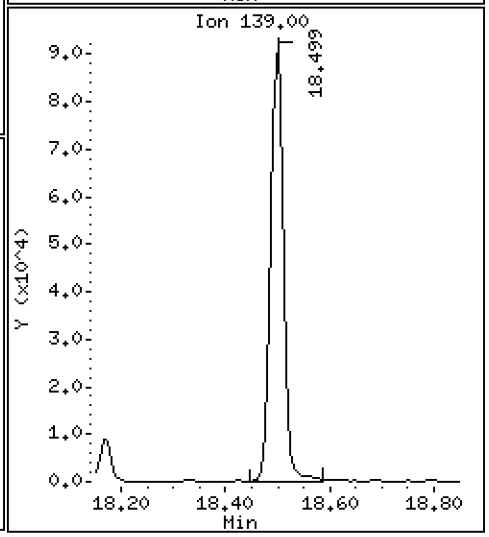


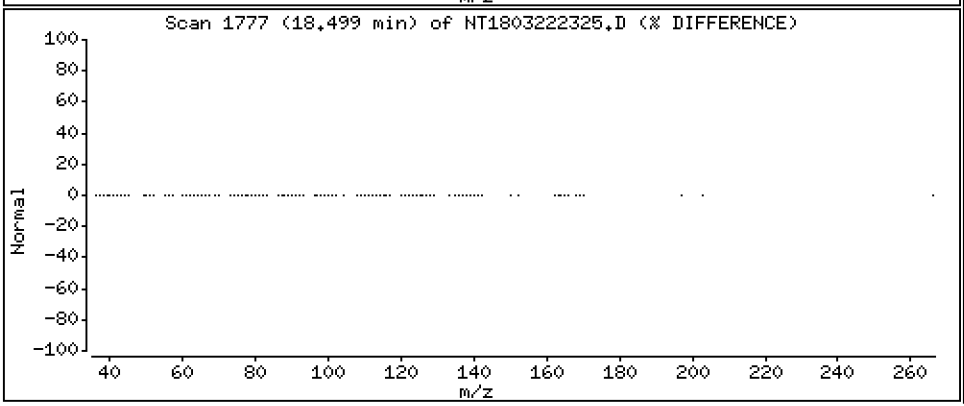












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

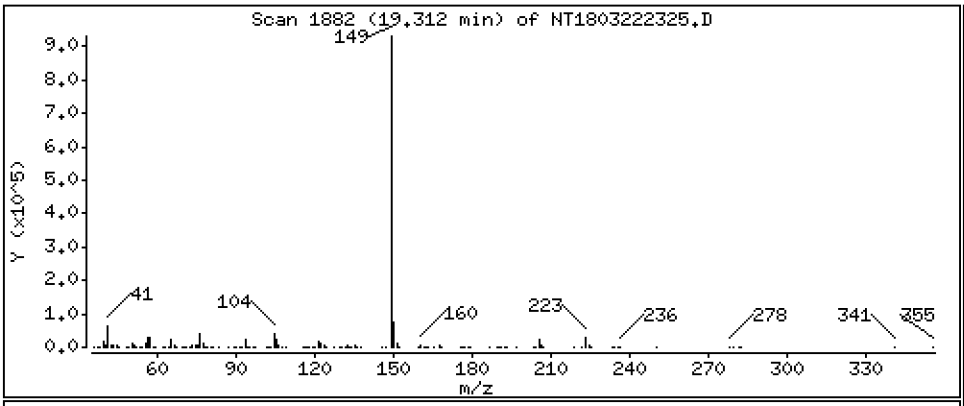
Operator: VTS

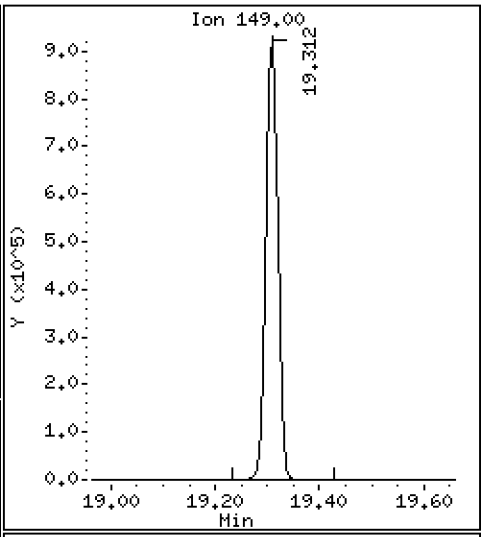
Column phase: ZB-5msi

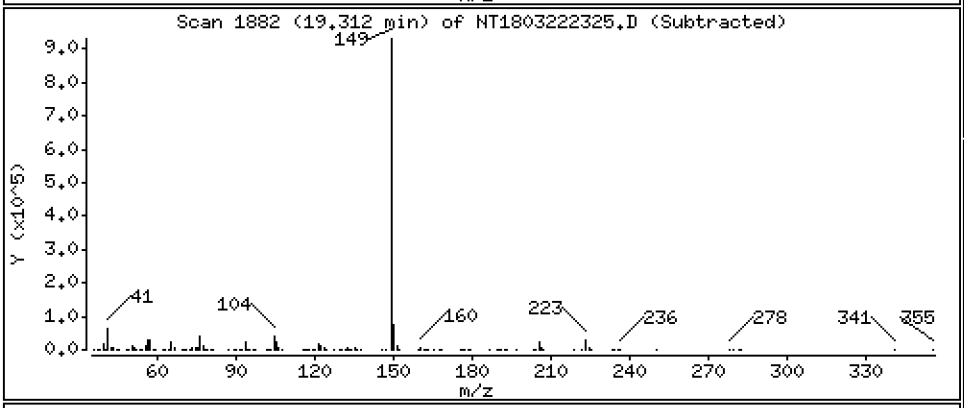
Column diameter: 0.25

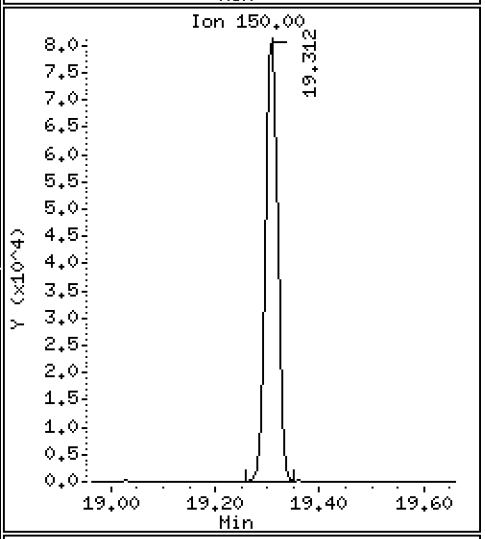
63 Di-n-butylphthalate

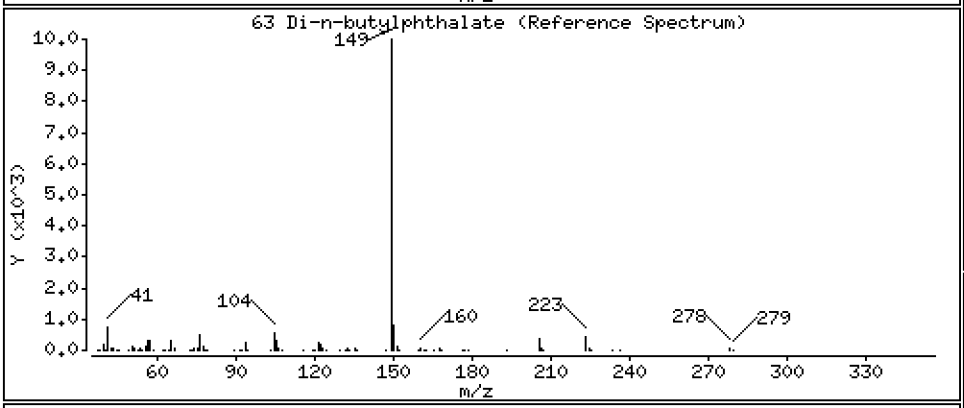
Concentration: 4.952 ug/mL

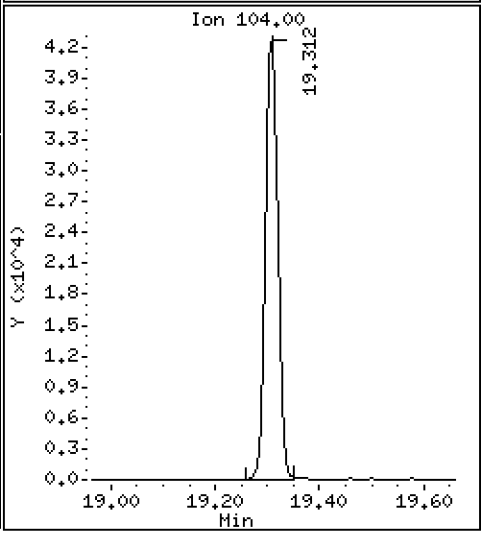


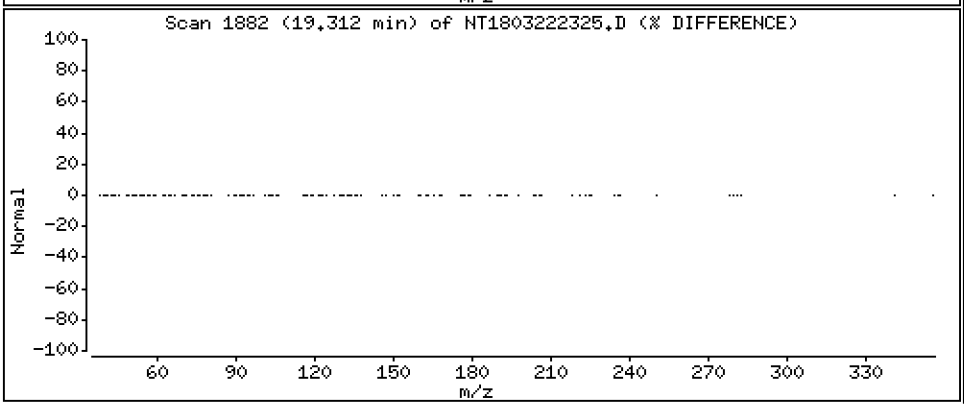












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

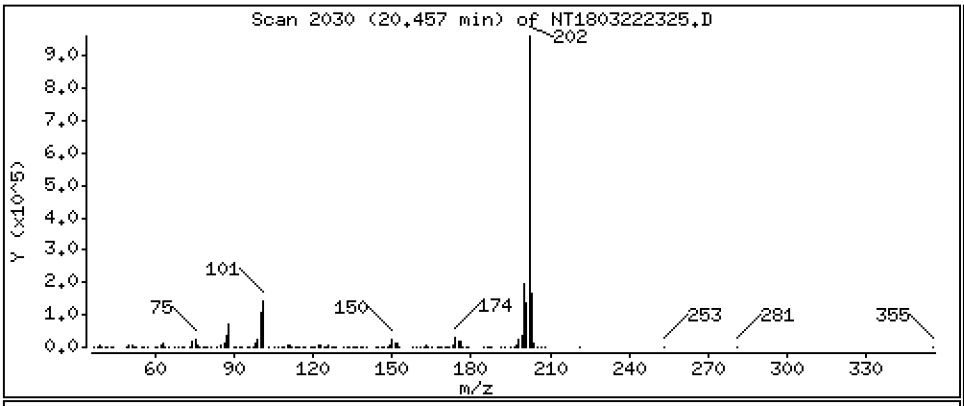
Operator: VTS

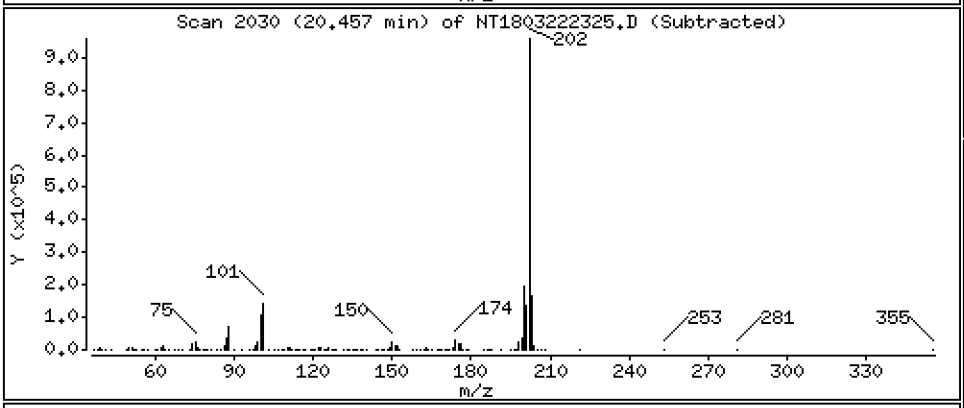
Column phase: ZB-5msi

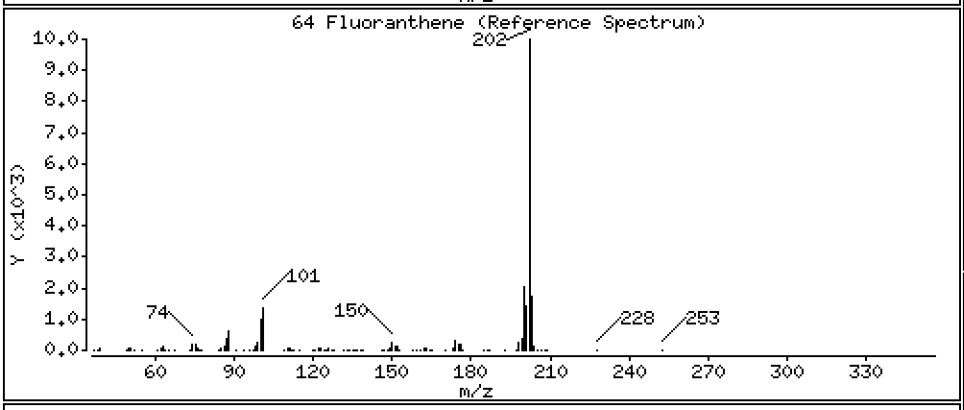
Column diameter: 0.25

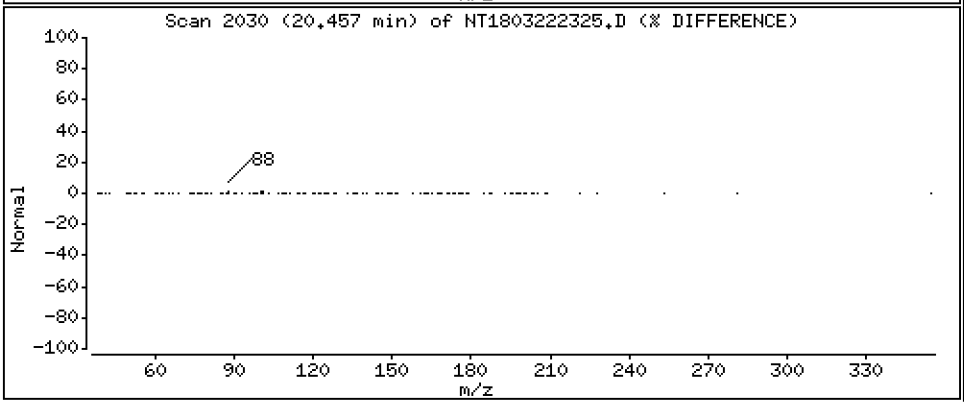
64 Fluoranthene

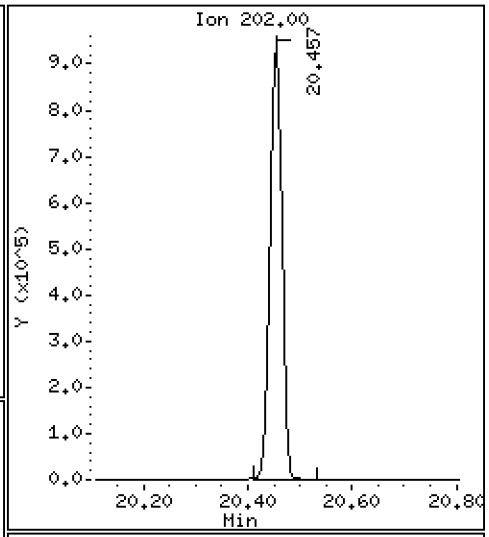
Concentration: 4.347 ug/mL

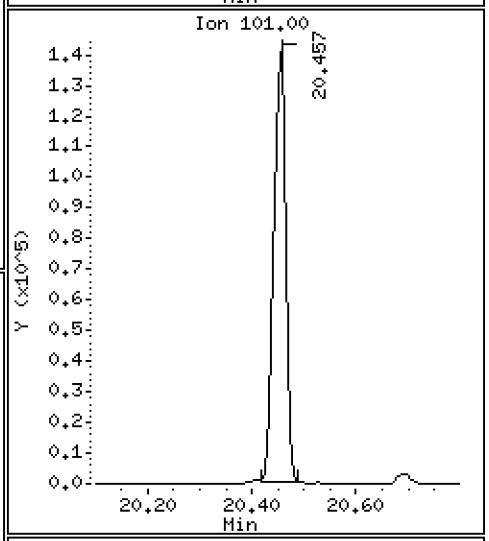


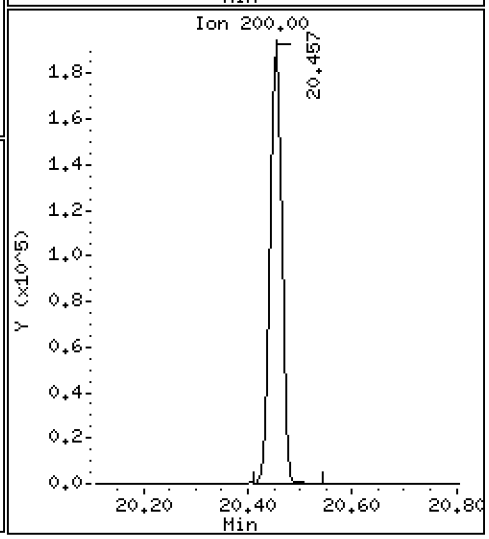












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

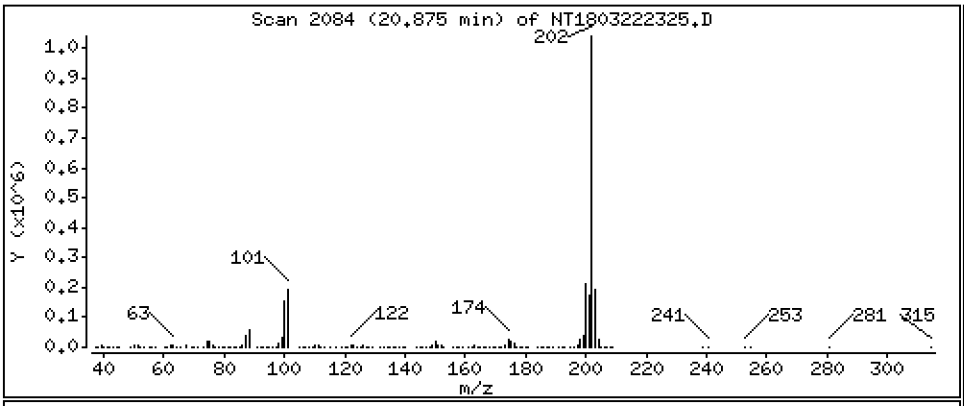
Operator: VTS

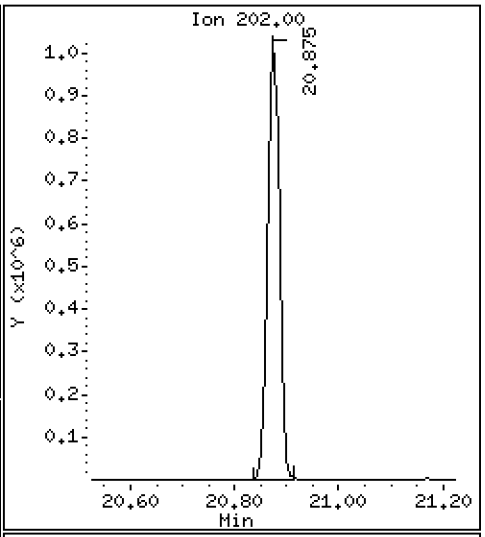
Column phase: ZB-5msi

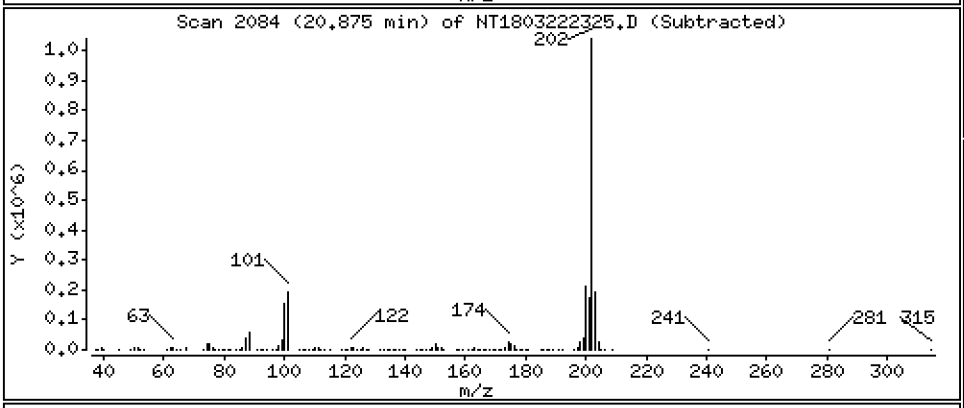
Column diameter: 0.25

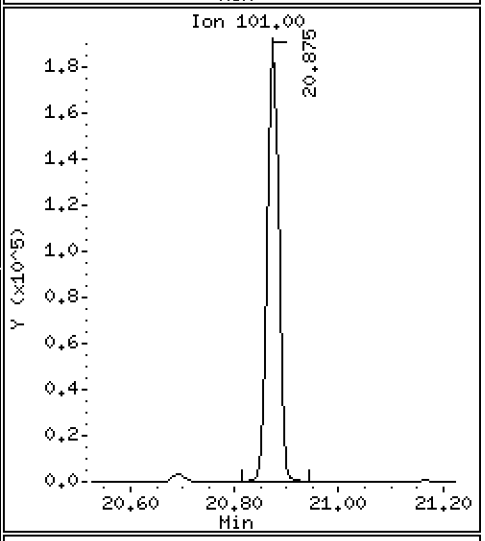
65 Pyrene

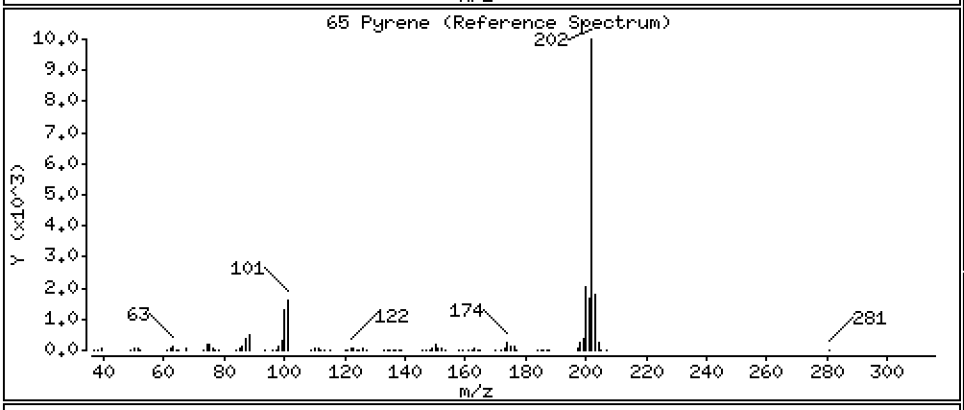
Concentration: 4.386 ug/mL

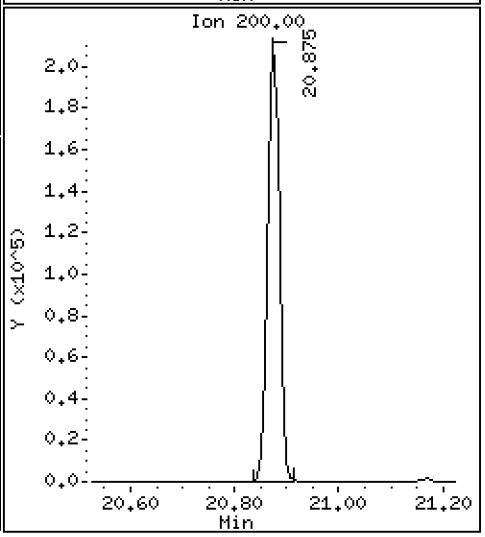


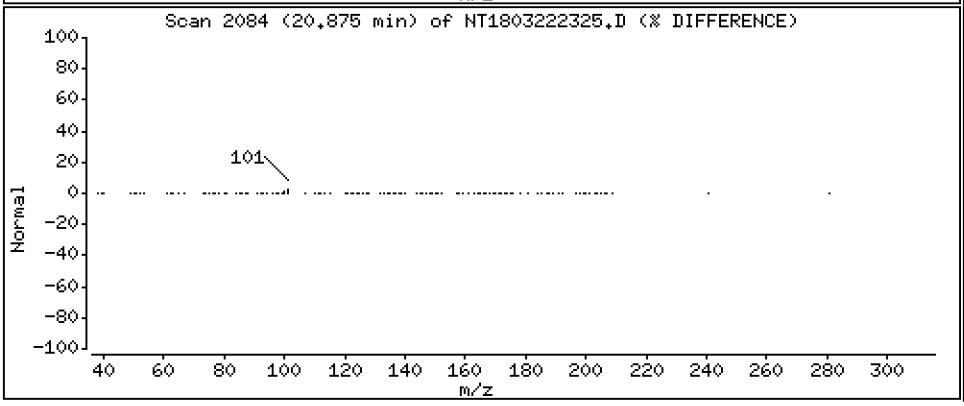












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222325.D

Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

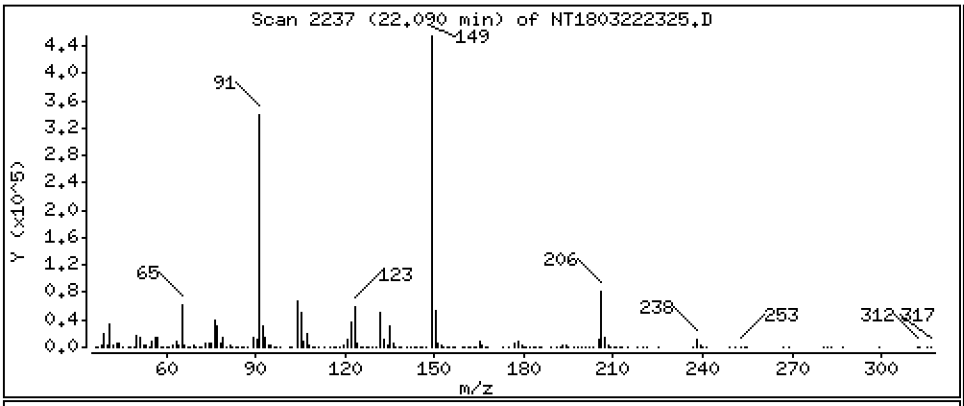
Operator: VTS

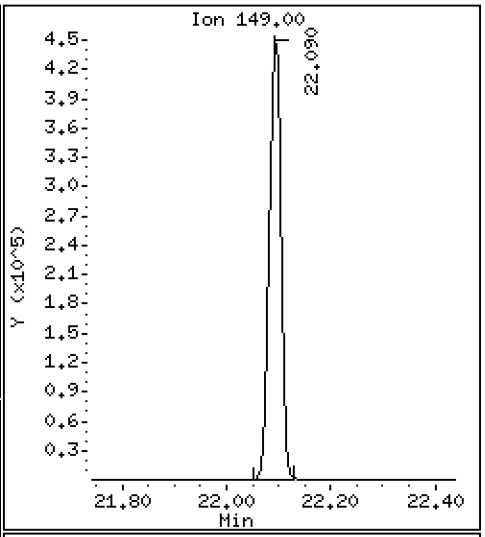
Column phase: ZB-5msi

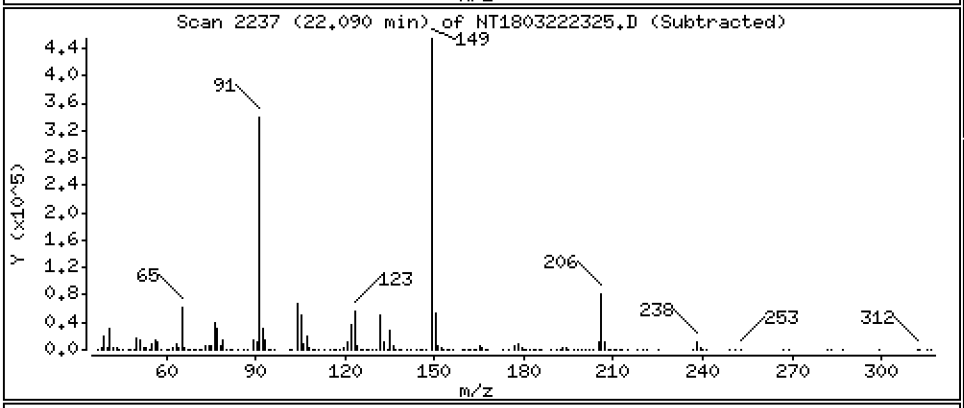
Column diameter: 0.25

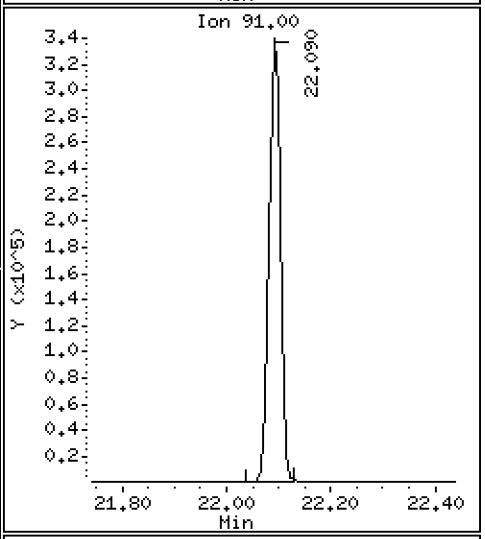
67 Butylbenzylphthalate

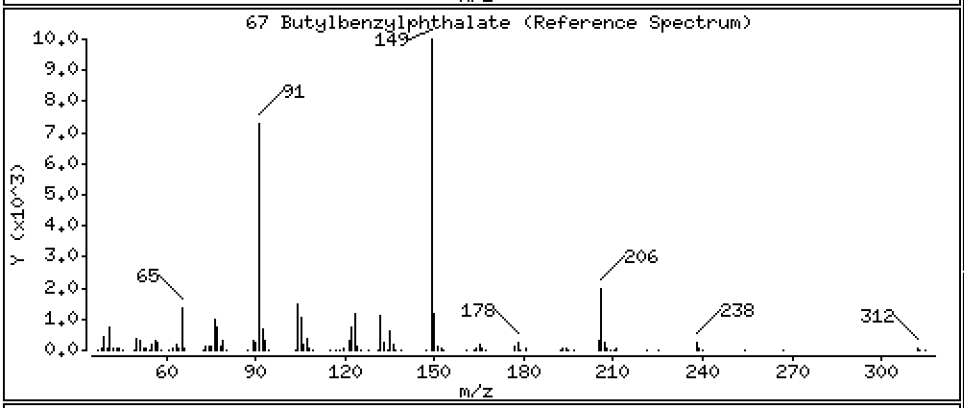
Concentration: 4.524 ug/mL

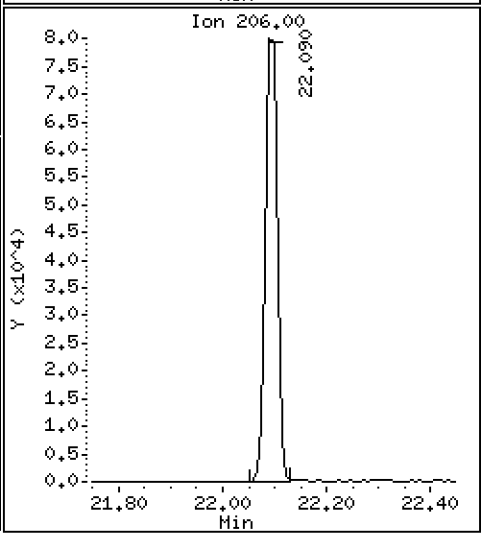


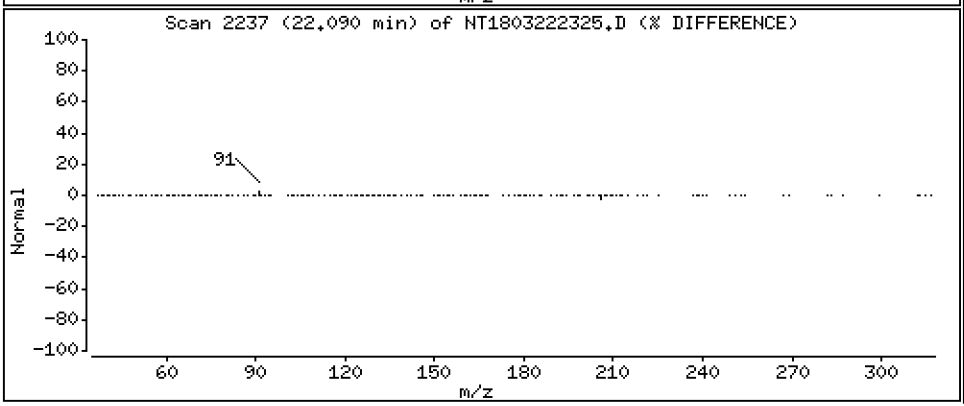












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

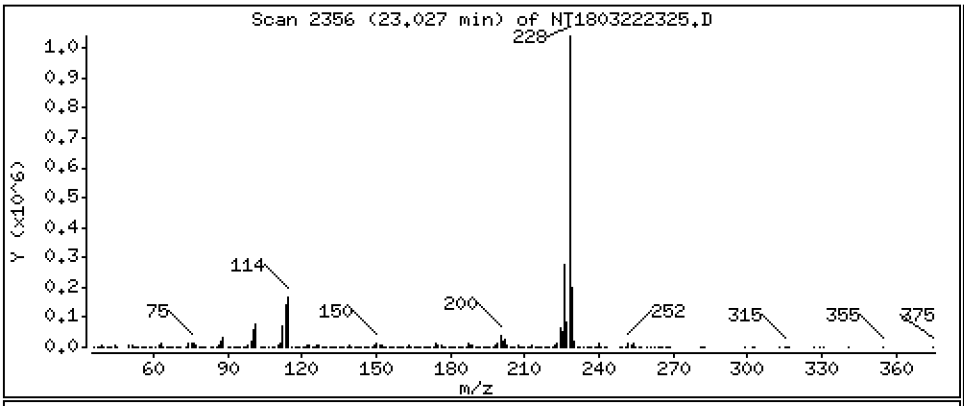
Operator: VTS

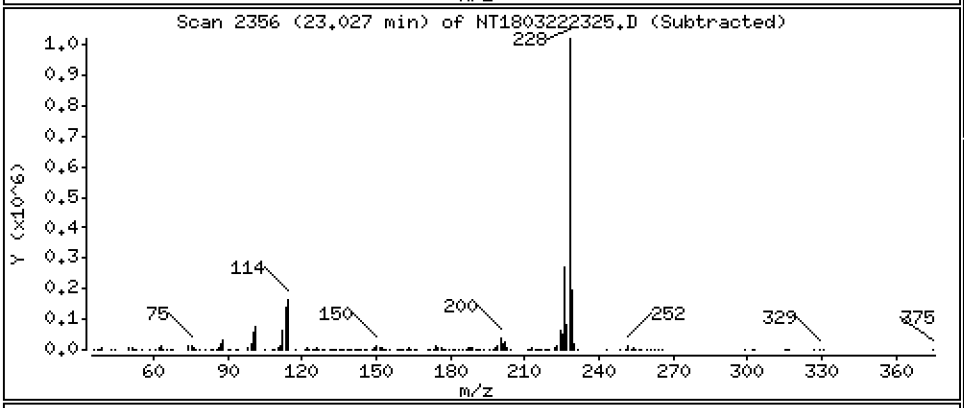
Column phase: ZB-5msi

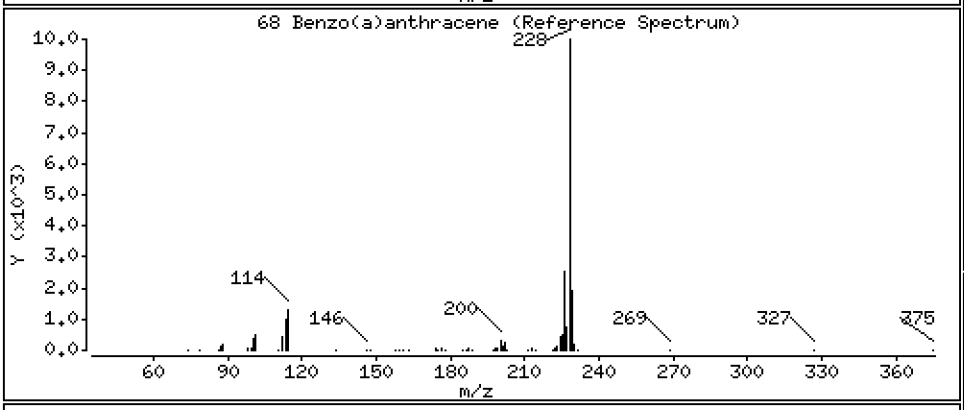
Column diameter: 0.25

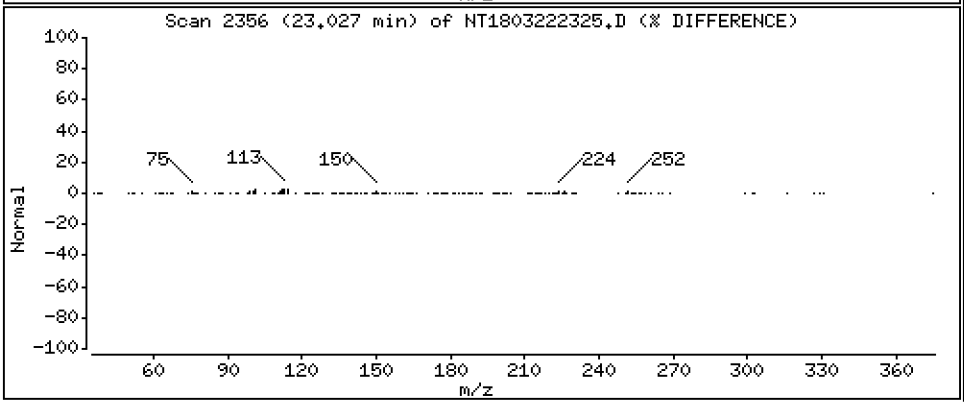
68 Benzo(a)anthracene

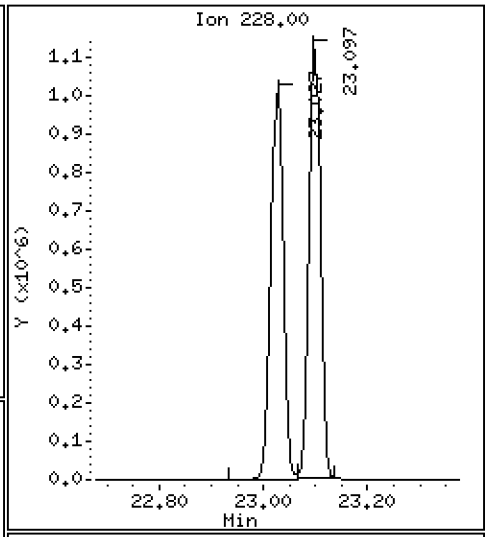
Concentration: 5.068 ug/mL

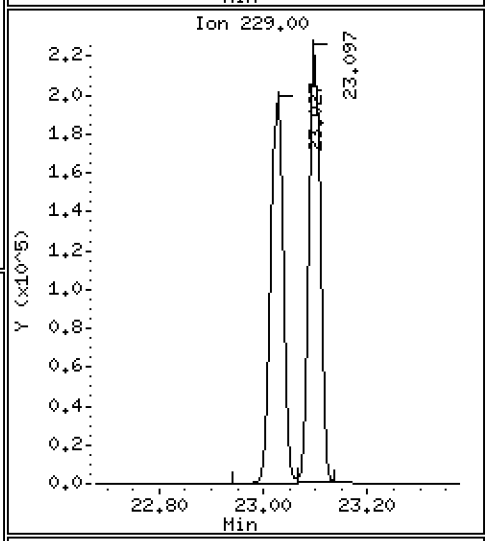


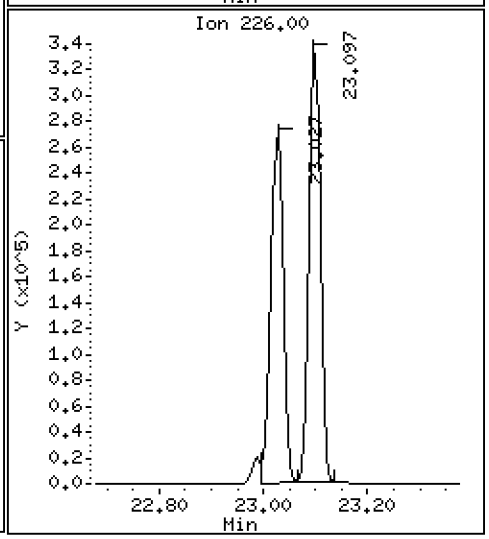












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222325.D

Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

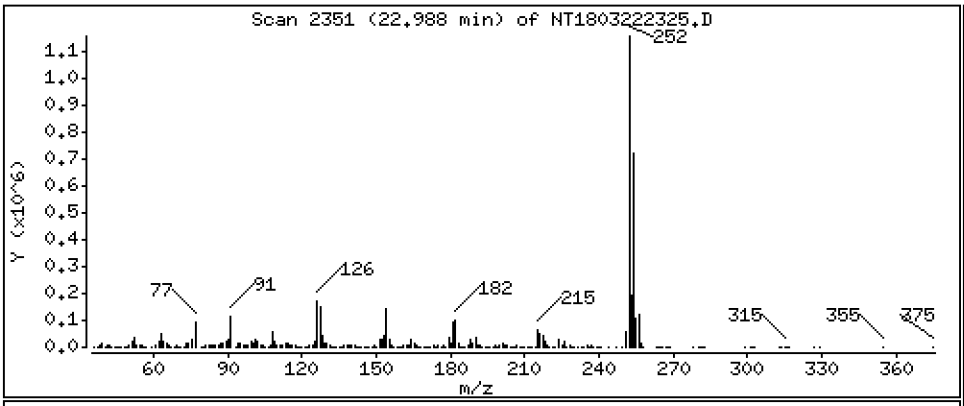
Operator: VTS

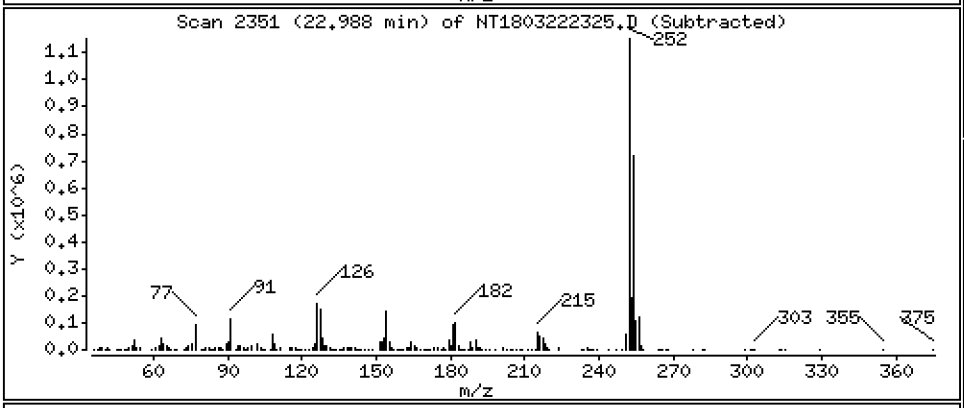
Column phase: ZB-5msi

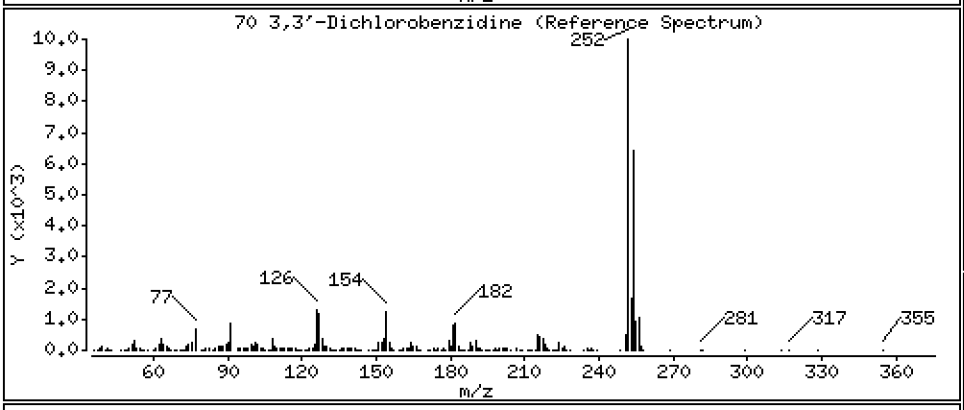
Column diameter: 0.25

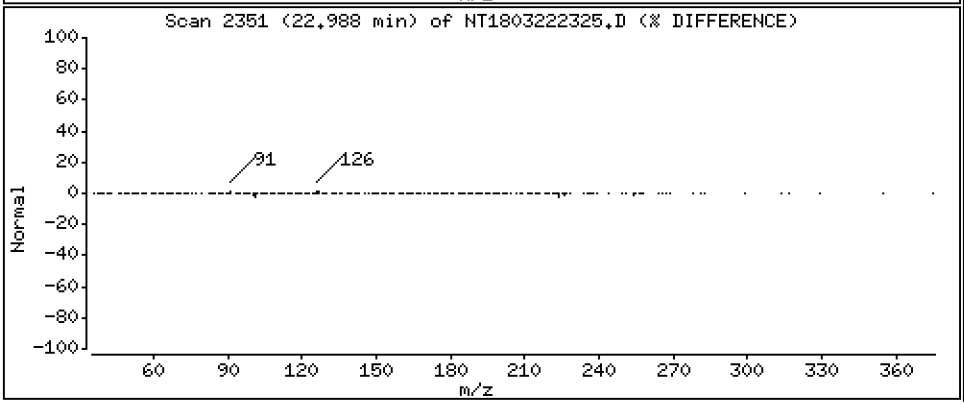
70 3,3'-Dichlorobenzidine

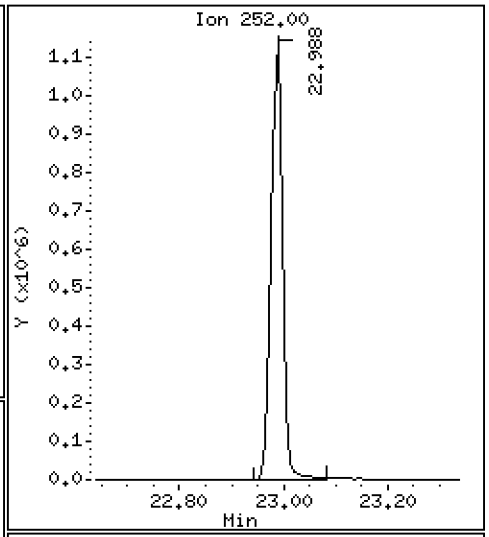
Concentration: 14.21 ug/mL

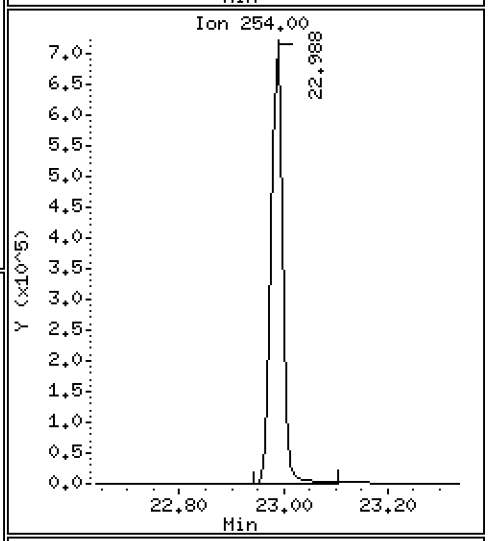


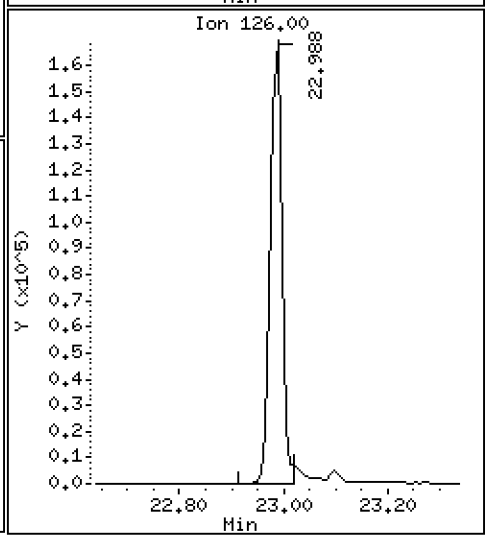












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

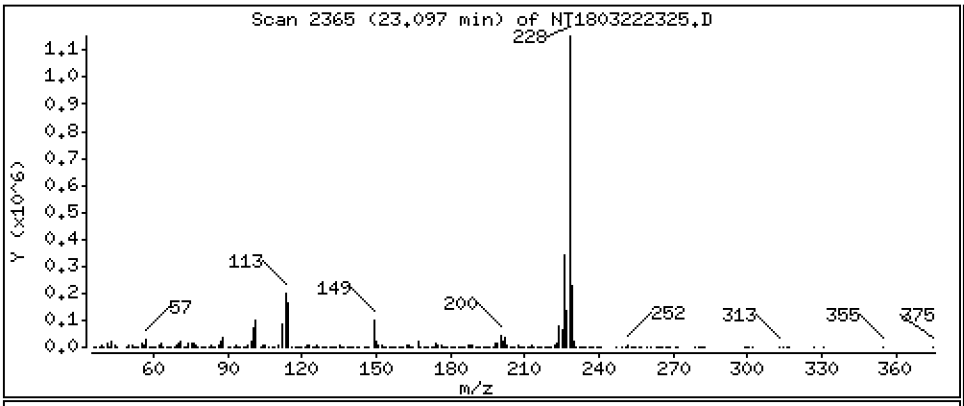
Operator: VTS

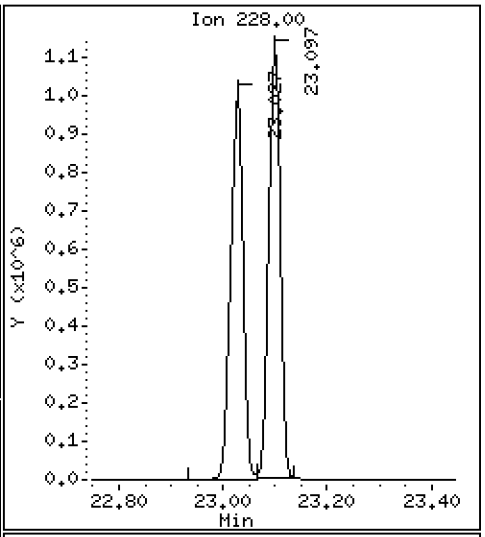
Column phase: ZB-5msi

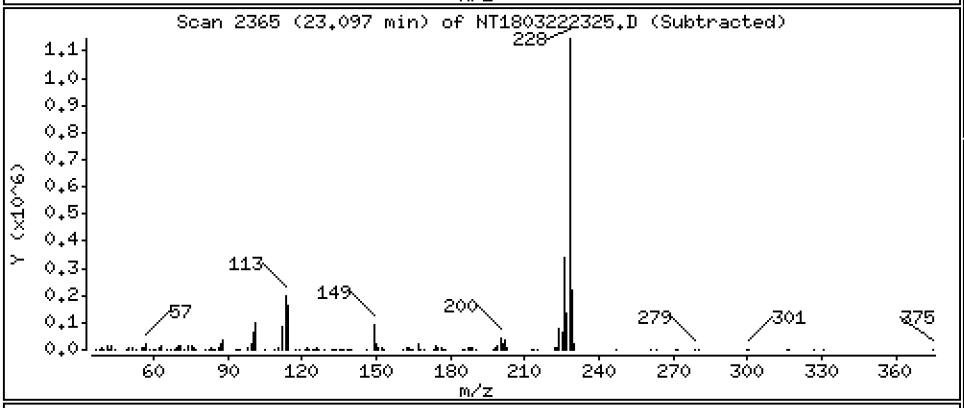
Column diameter: 0.25

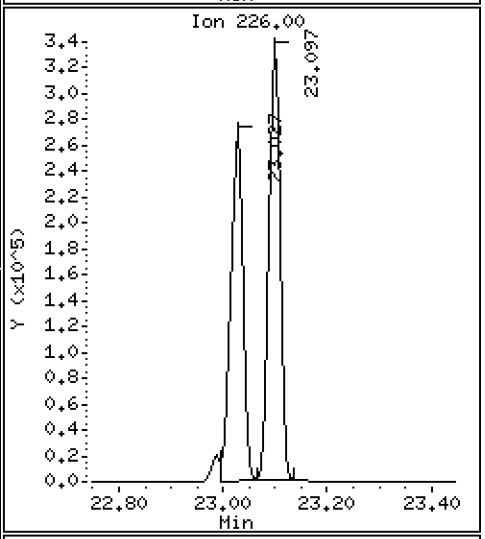
71 Chrysene

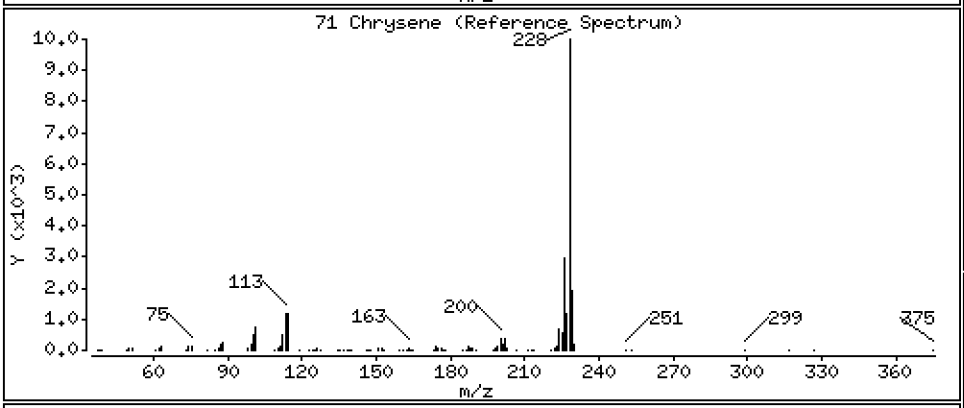
Concentration: 4.898 ug/mL

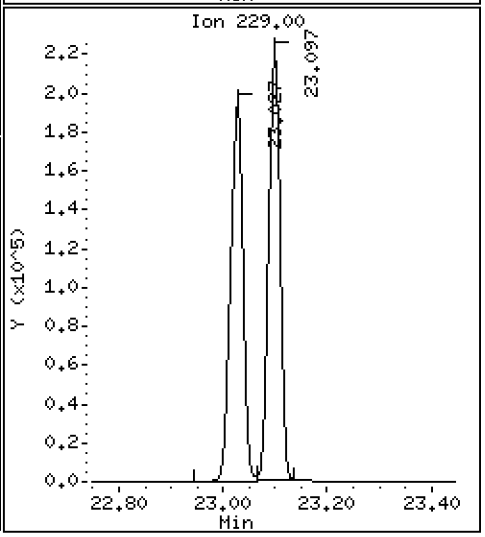


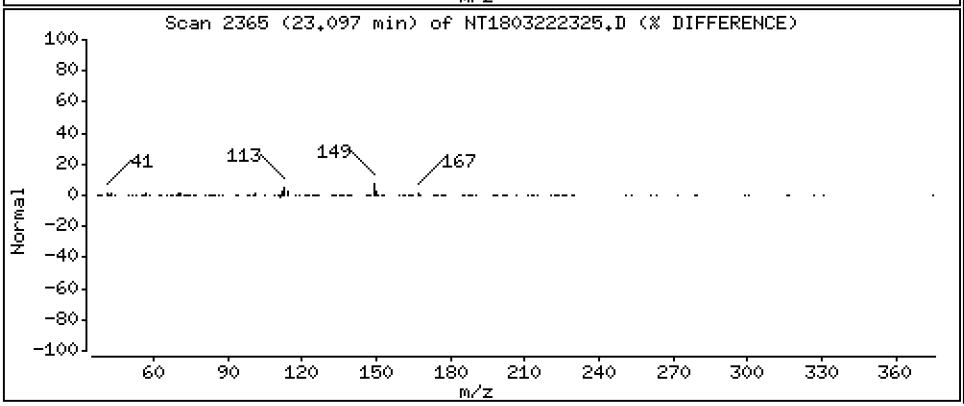












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

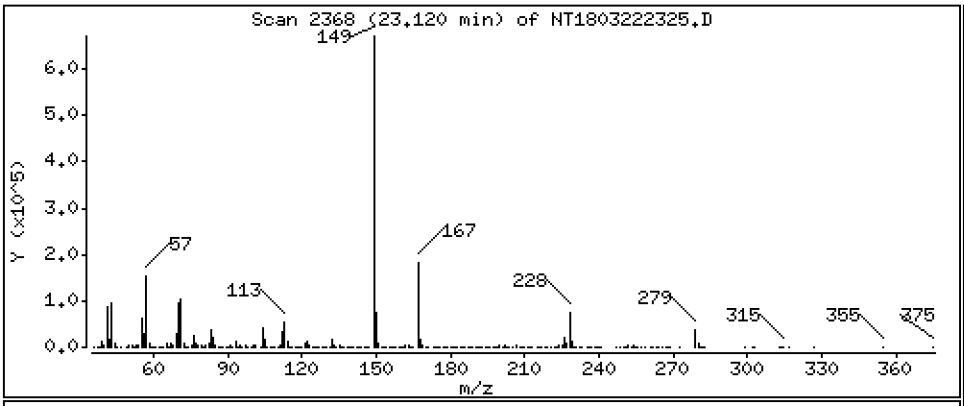
Operator: VTS

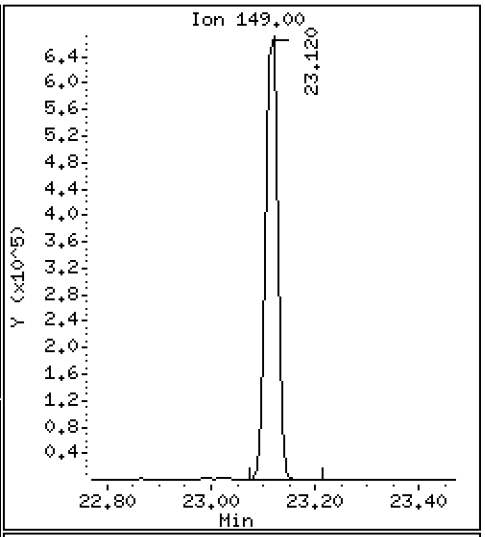
Column phase: ZB-5msi

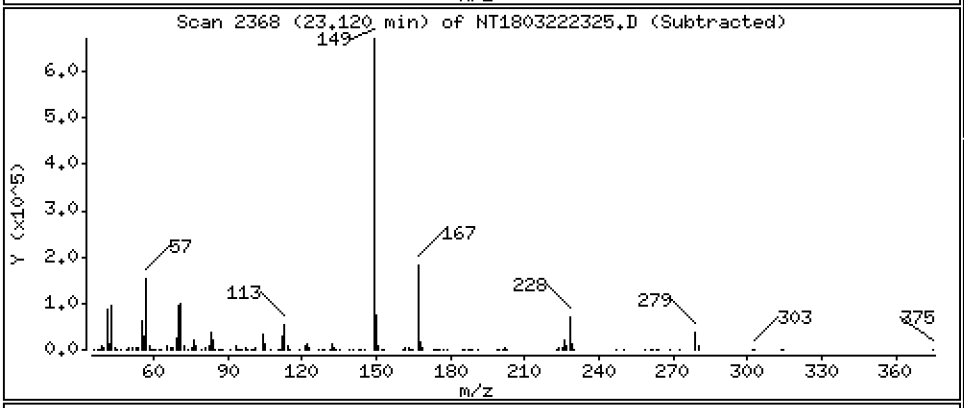
Column diameter: 0.25

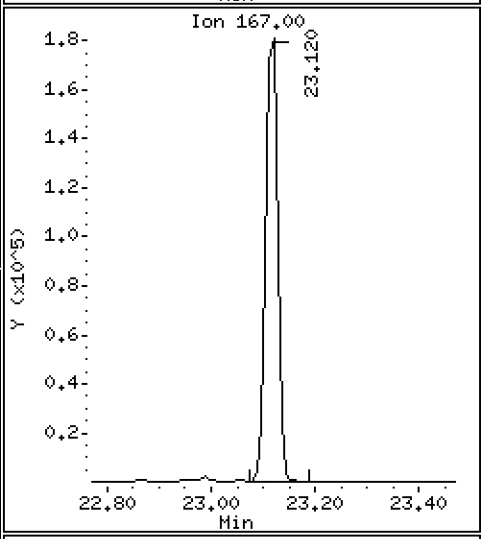
72 bis(2-Ethylhexyl)phthalate

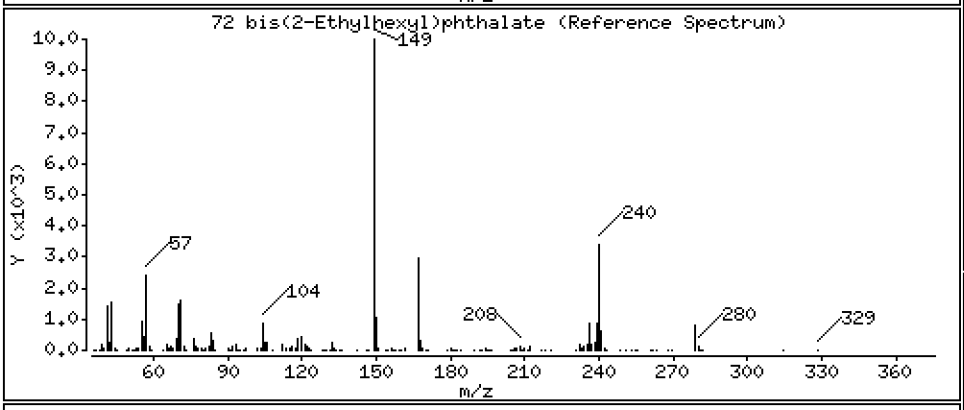
Concentration: 4.440 ug/mL

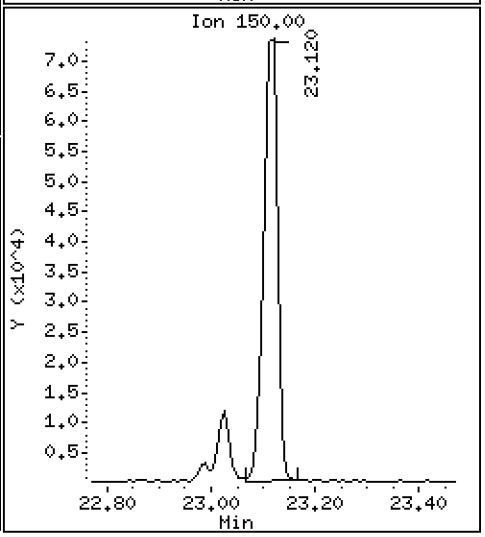


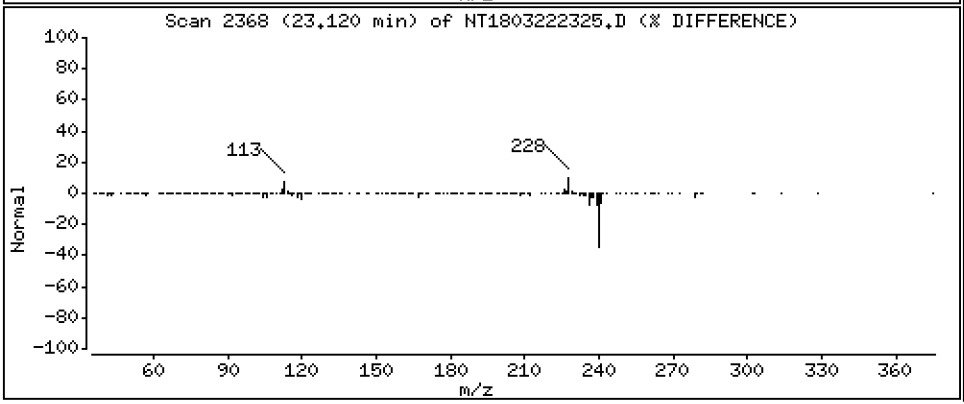












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

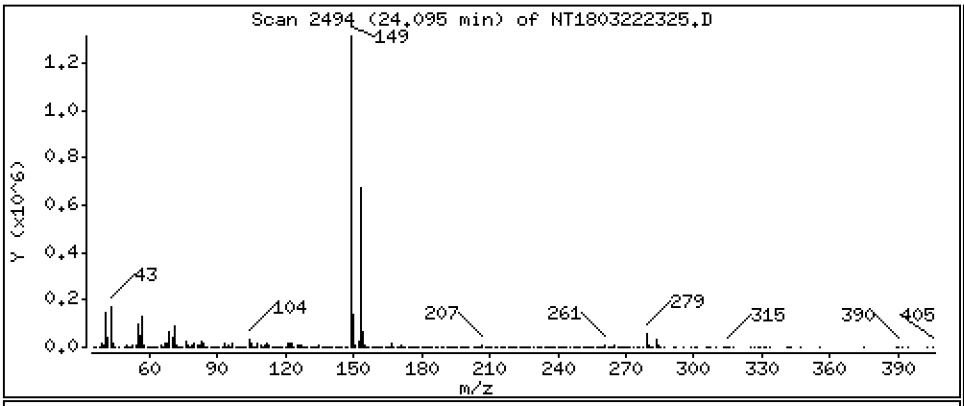
Operator: VTS

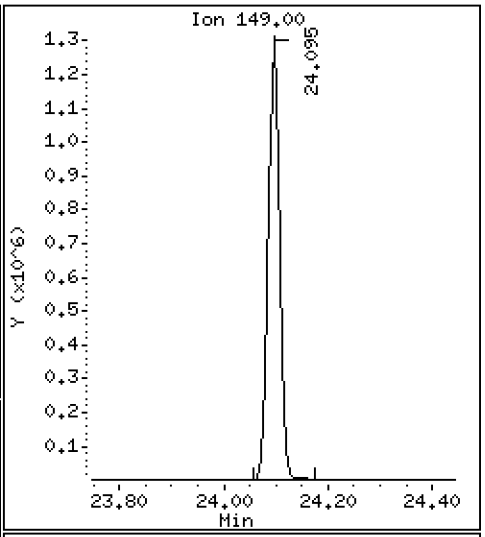
Column phase: ZB-5msi

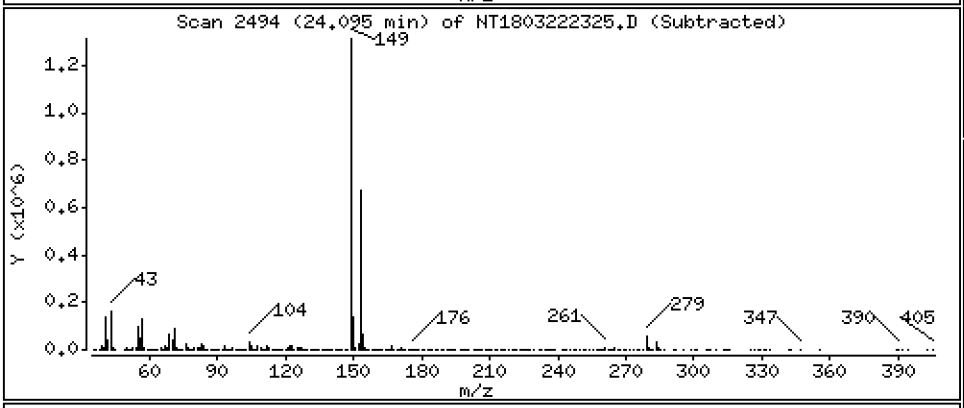
Column diameter: 0.25

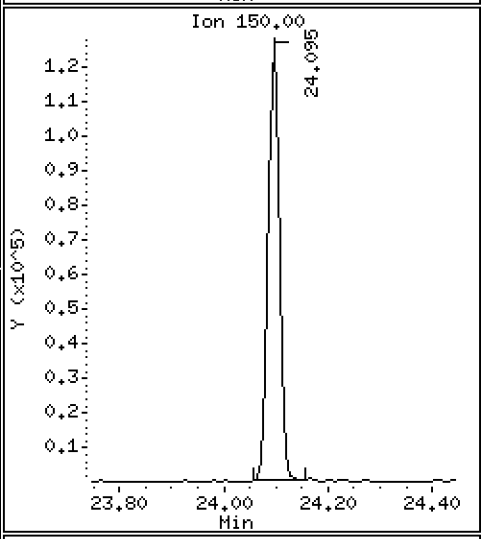
73 Di-n-octylphthalate

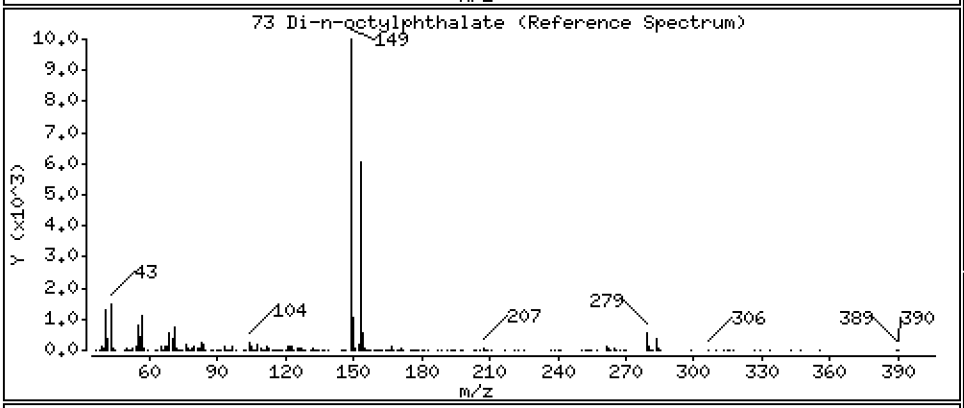
Concentration: 4.698 ug/mL

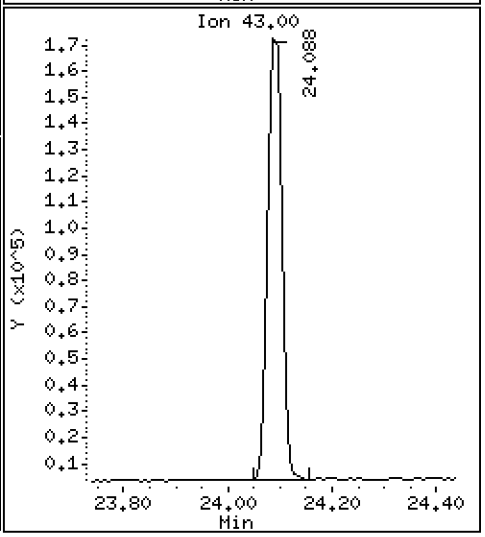


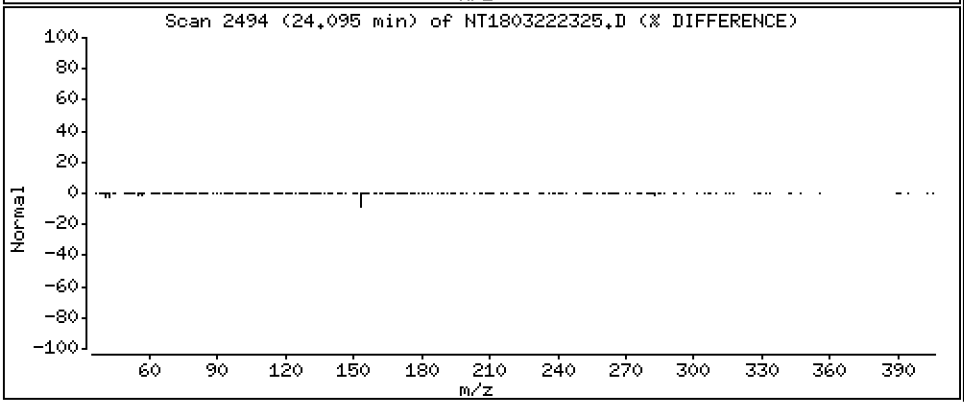












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

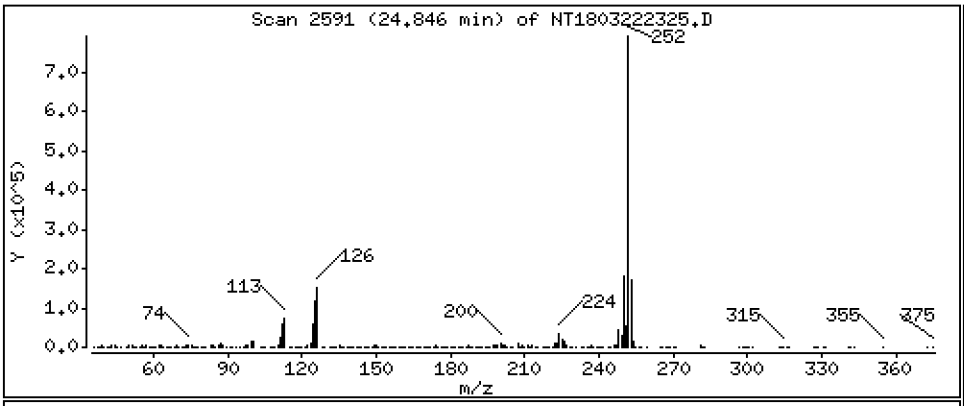
Operator: VTS

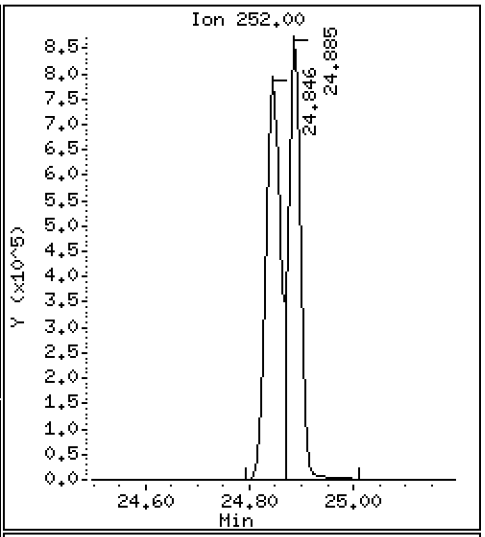
Column phase: ZB-5msi

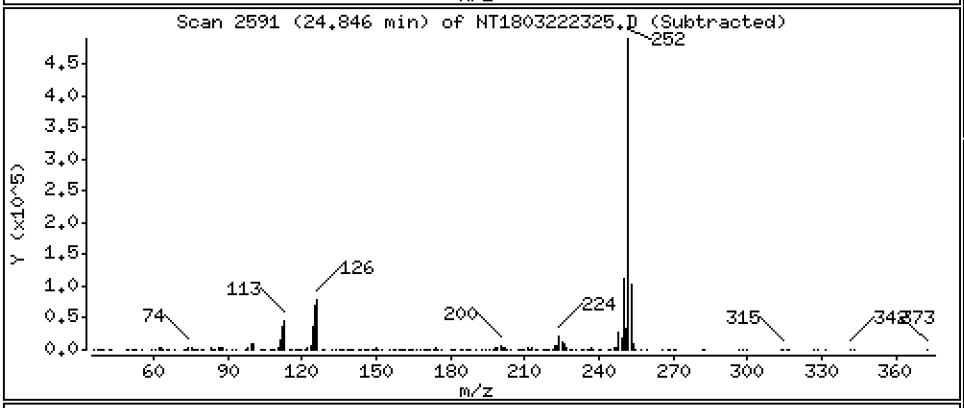
Column diameter: 0.25

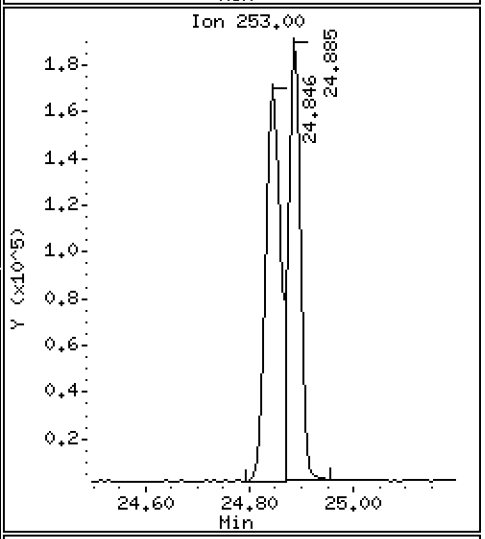
74 Benzo(b)fluoranthene

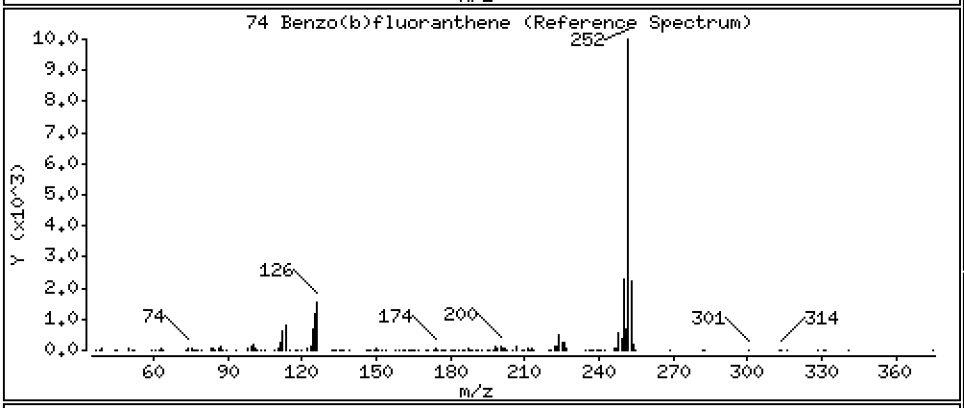
Concentration: 6.740 ug/mL

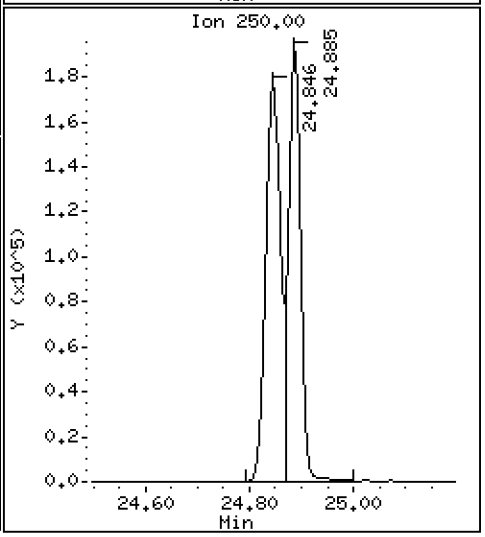


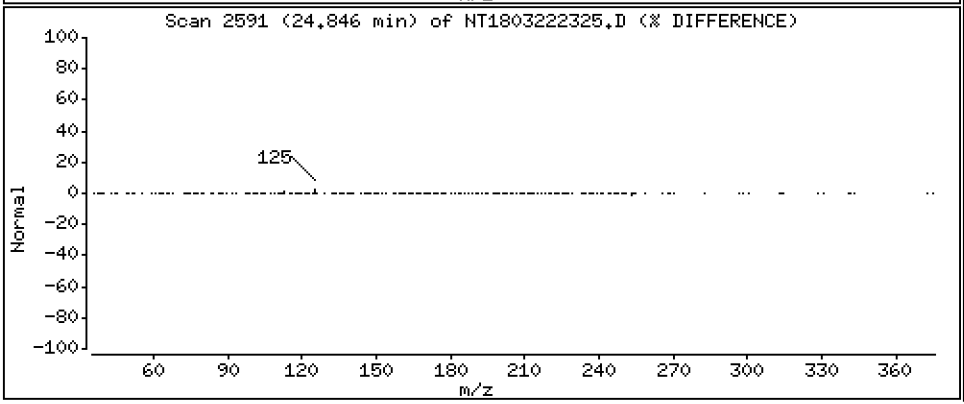












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222325.D

Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

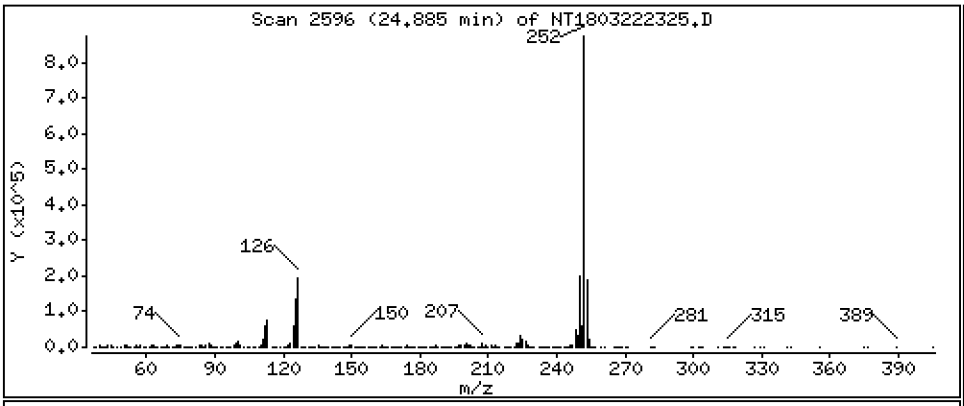
Operator: VTS

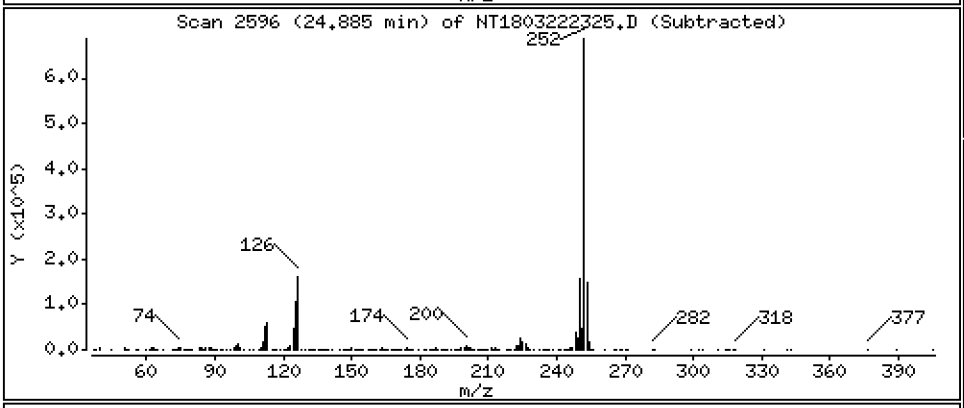
Column phase: ZB-5msi

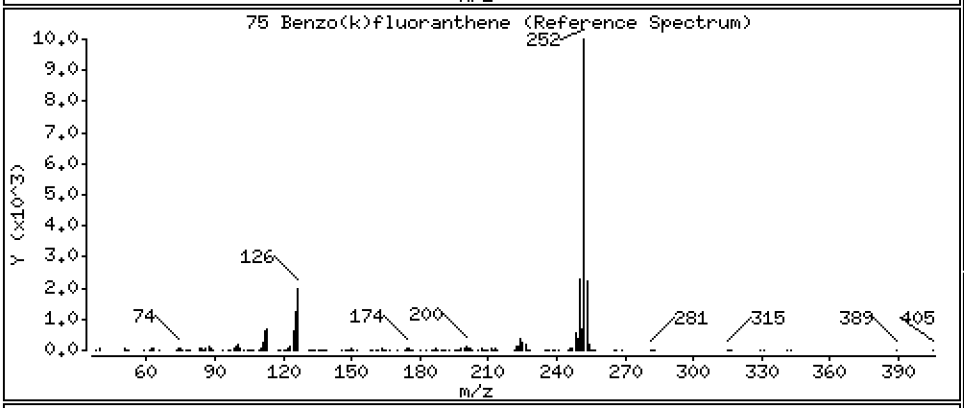
Column diameter: 0.25

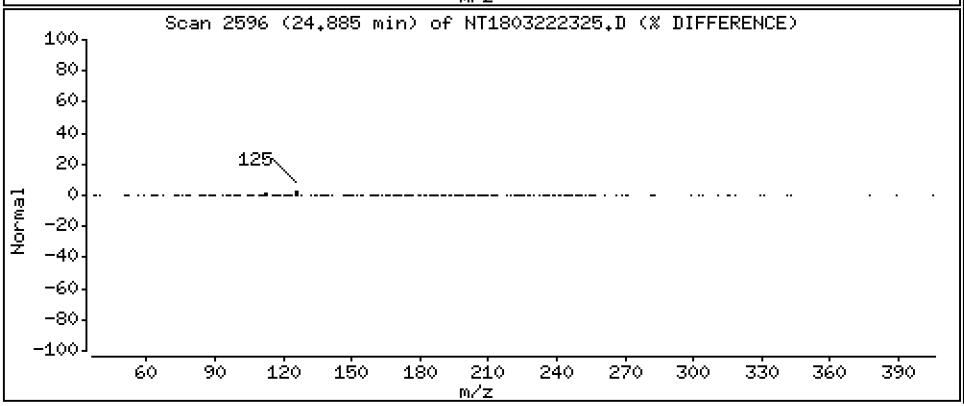
75 Benzo(k)fluoranthene

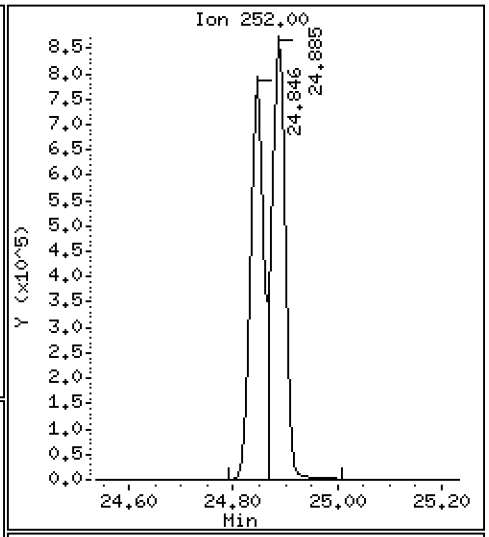
Concentration: 5.842 ug/mL

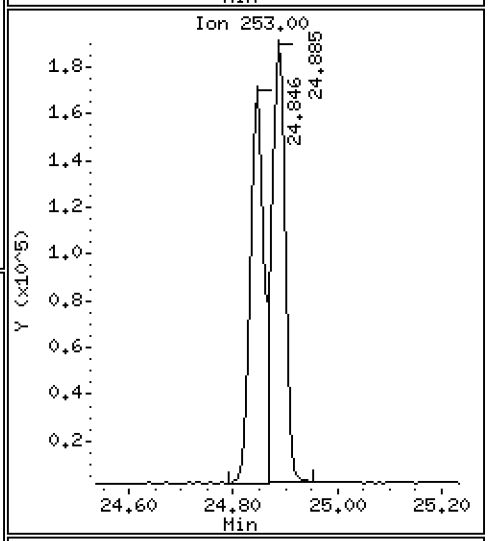


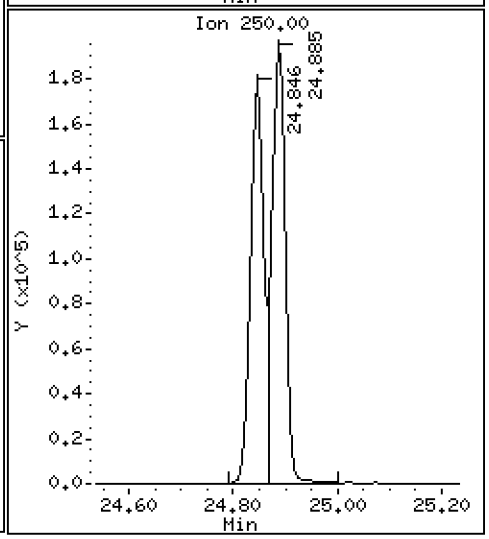












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

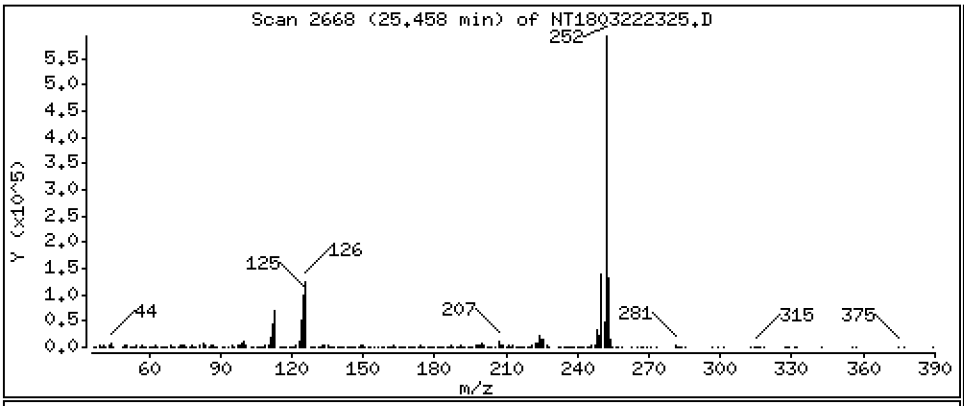
Operator: VTS

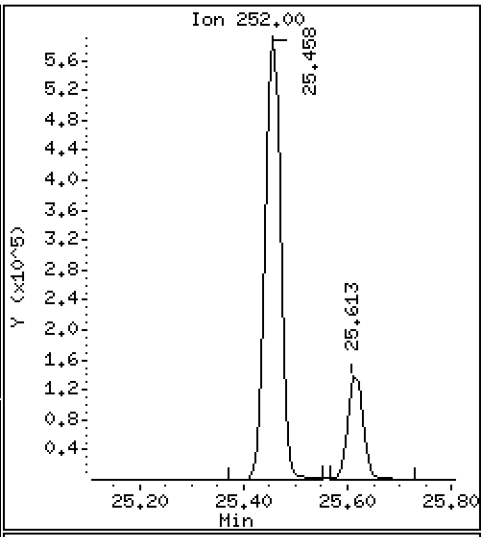
Column phase: ZB-5msi

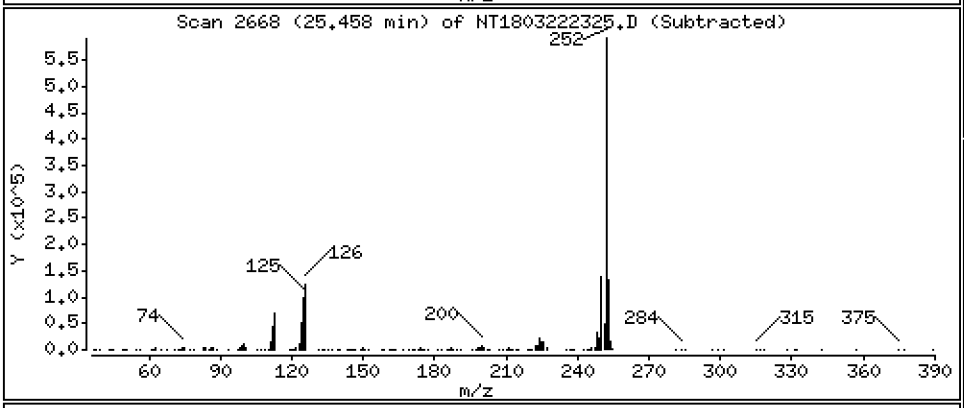
Column diameter: 0.25

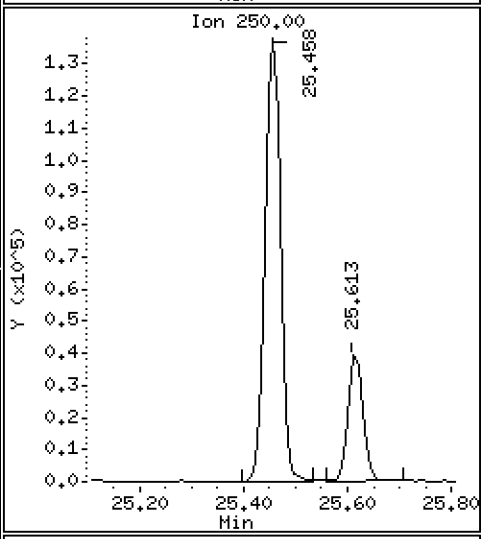
76 Benzo(a)pyrene

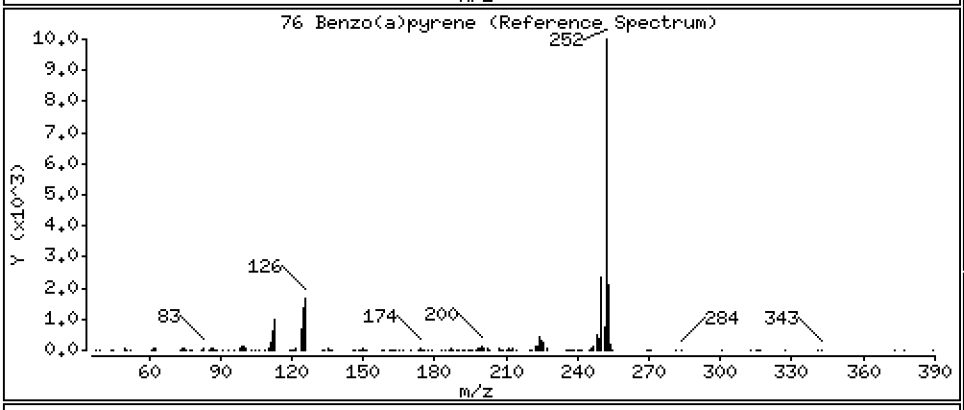
Concentration: 5.103 ug/mL

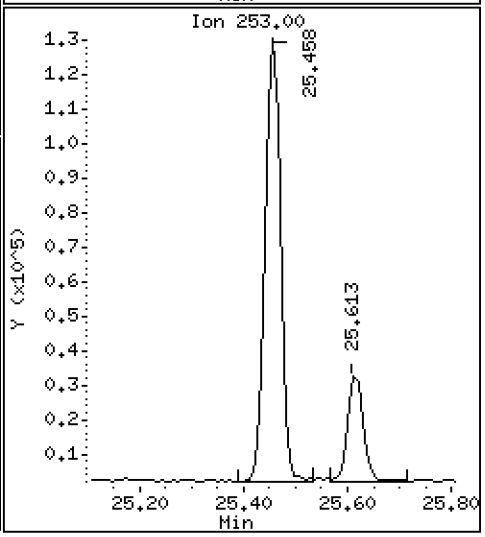


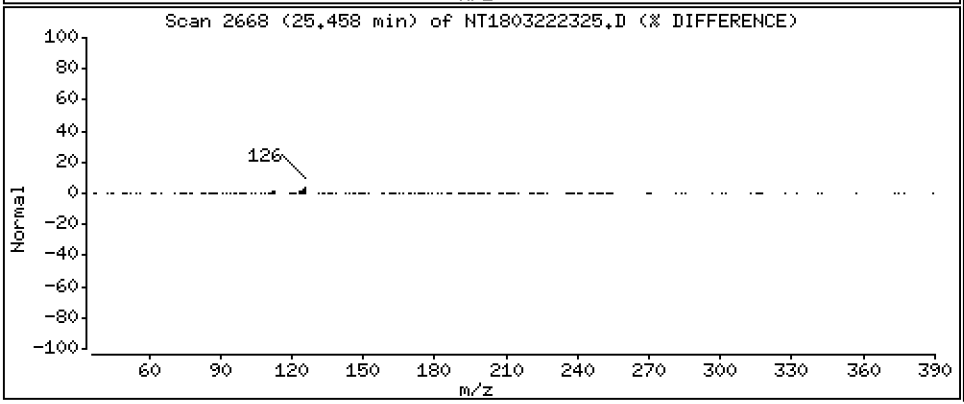












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

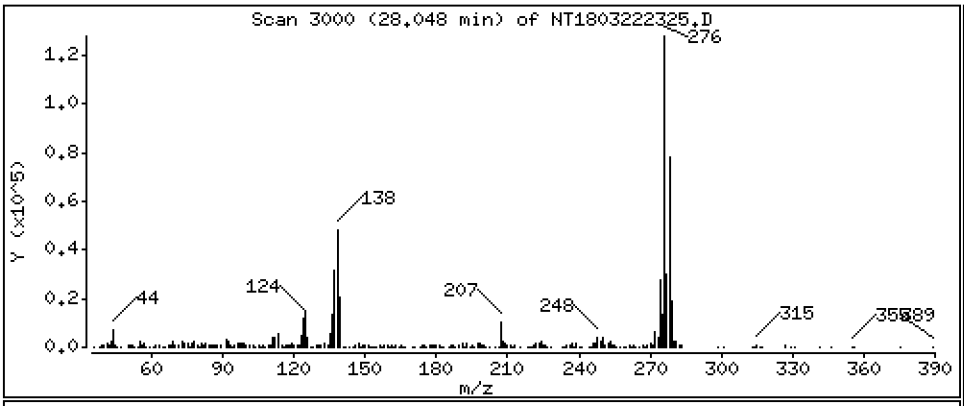
Operator: VTS

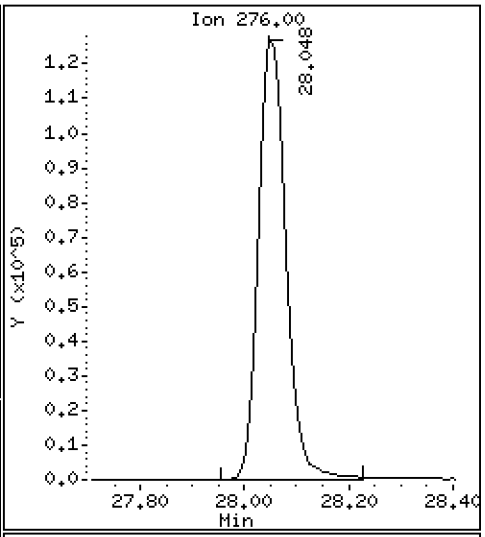
Column phase: ZB-5msi

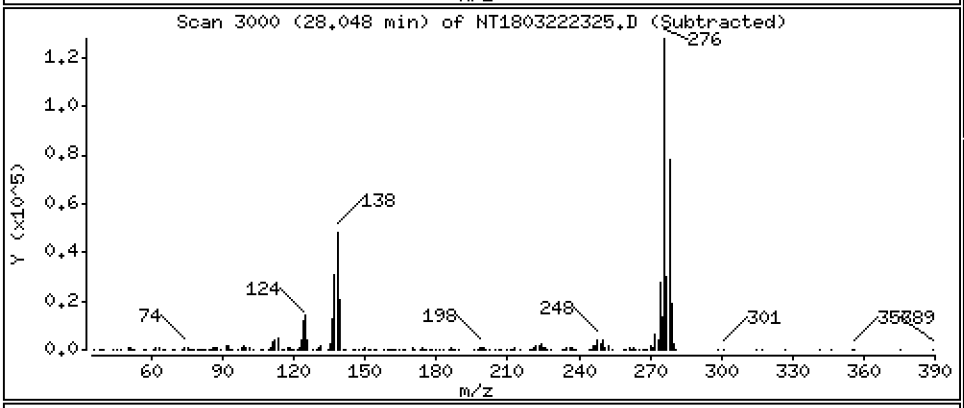
Column diameter: 0.25

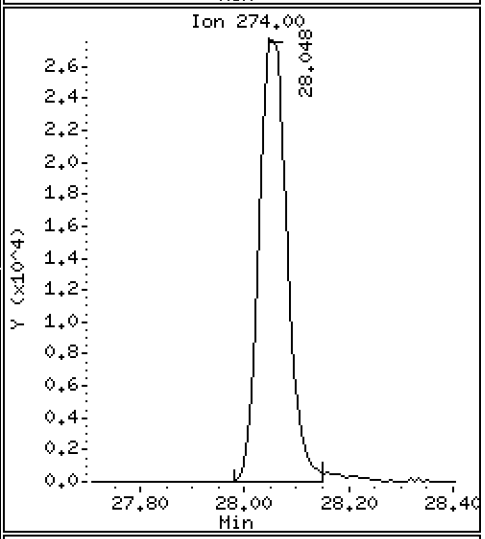
78 Indeno(1,2,3-cd)pyrene

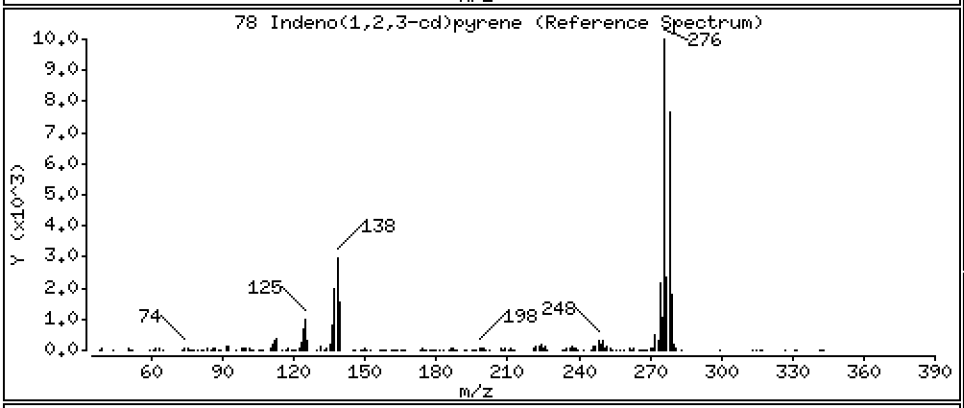
Concentration: 1.603 ug/mL

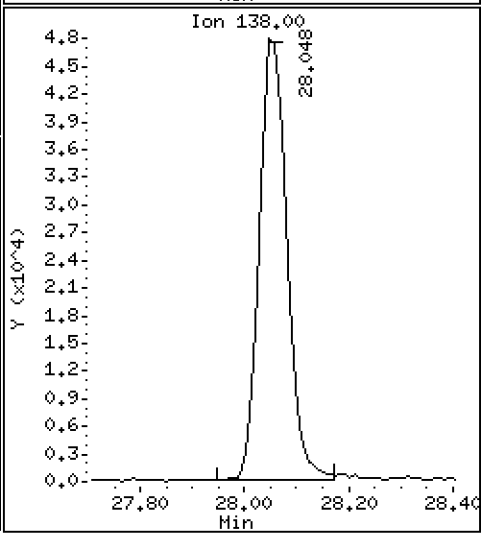


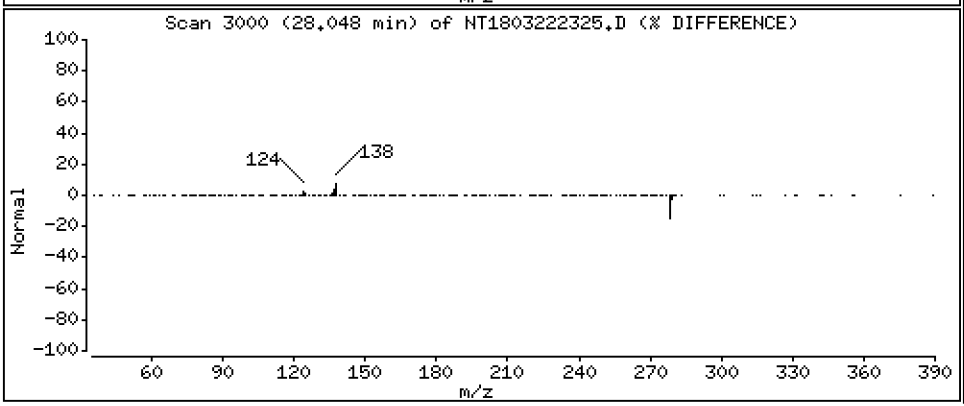












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

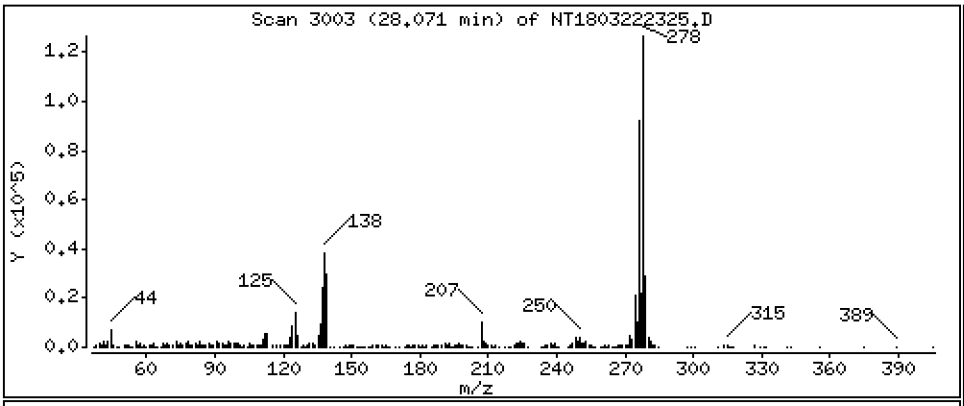
Operator: VTS

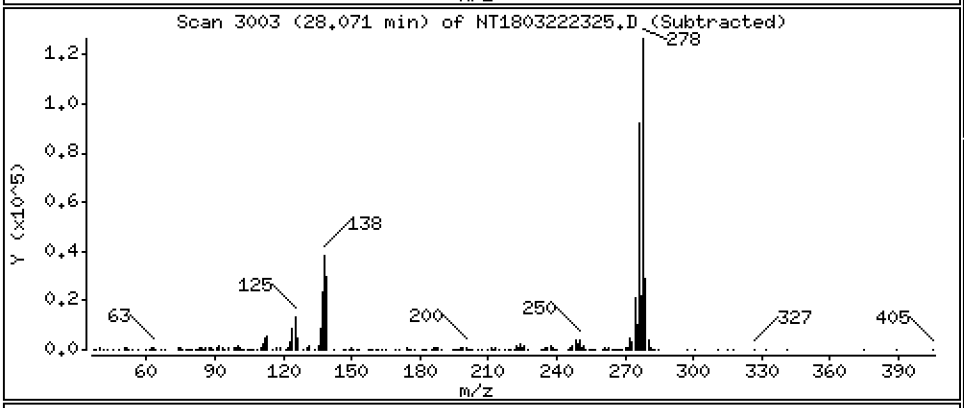
Column phase: ZB-5msi

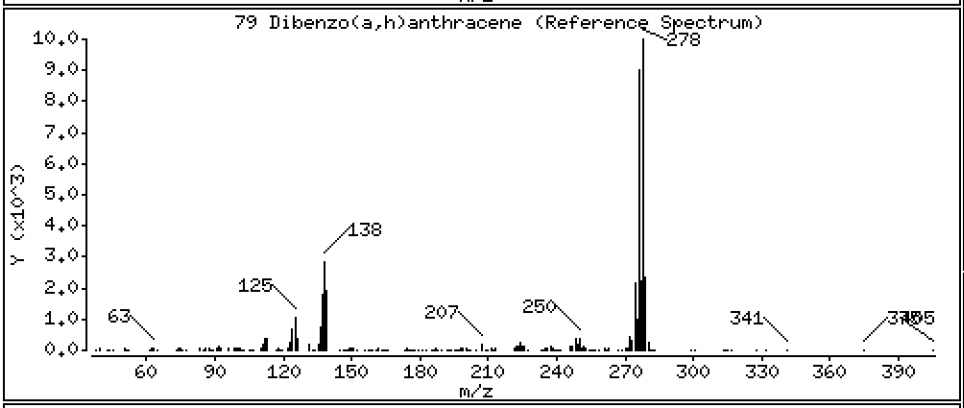
Column diameter: 0.25

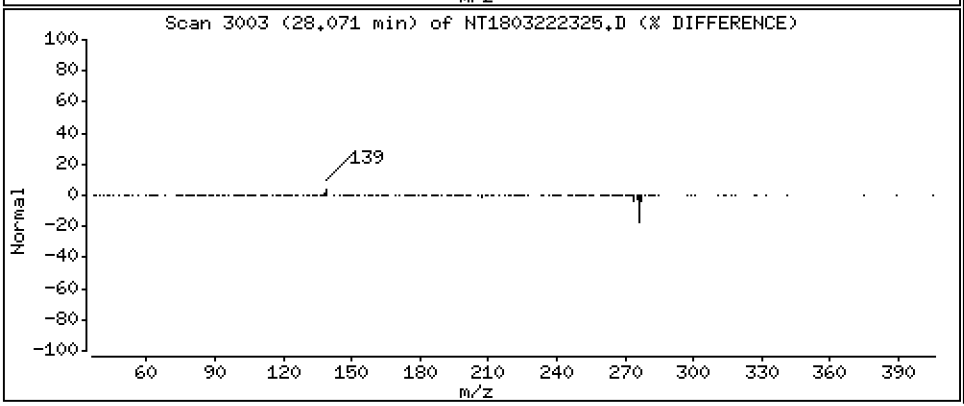
79 Dibenzo(a,h)anthracene

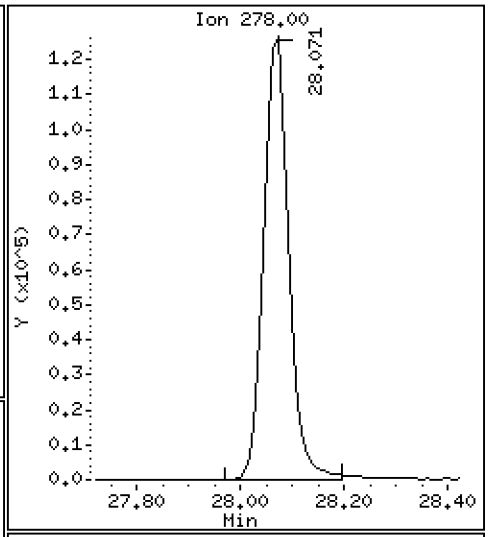
Concentration: 1.733 ug/mL

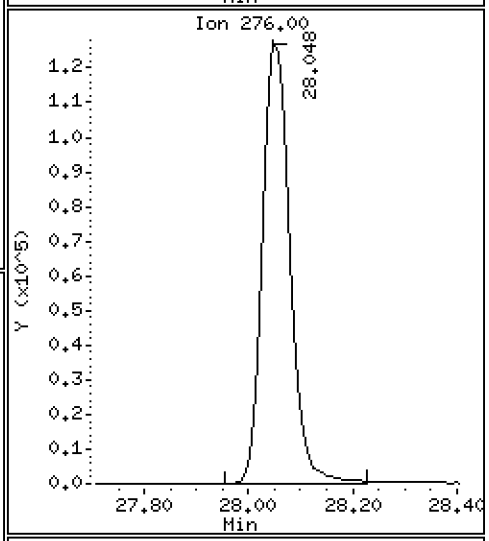


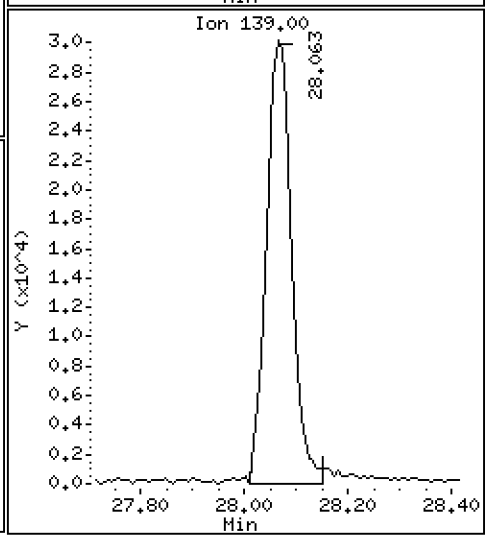












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

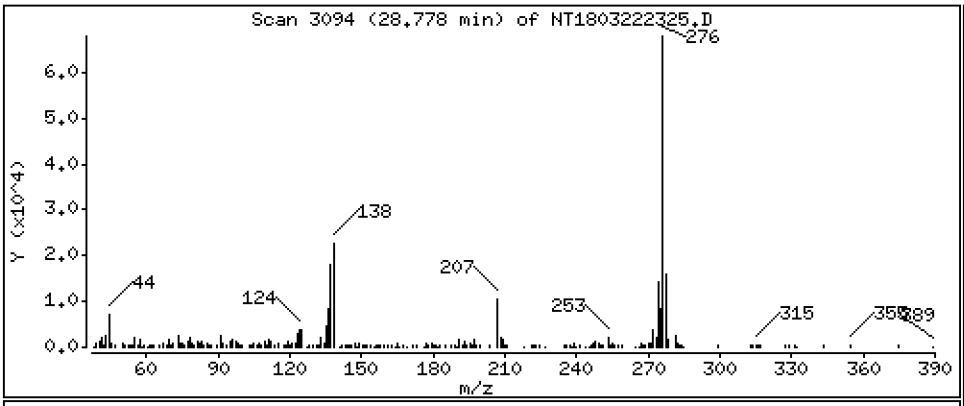
Operator: VTS

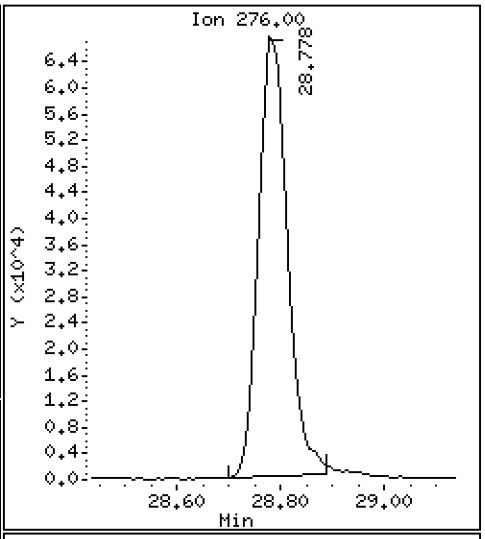
Column phase: ZB-5msi

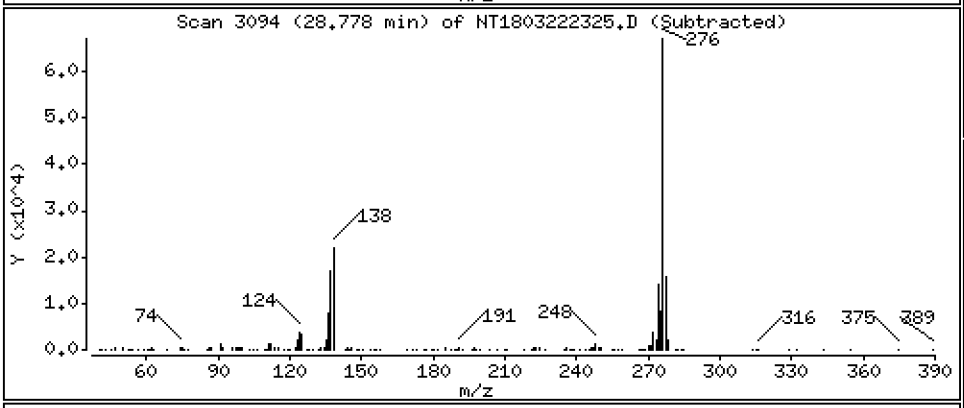
Column diameter: 0.25

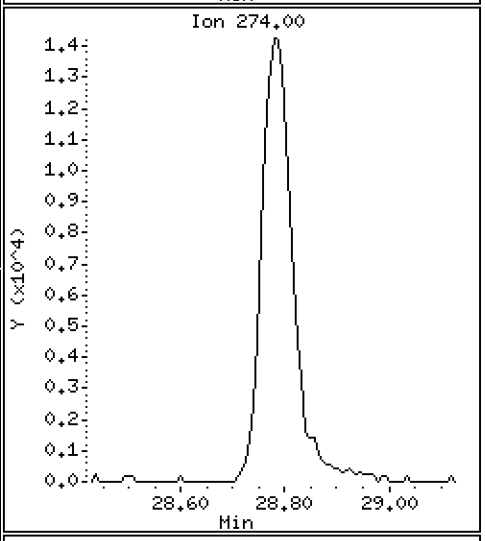
80 Benzo(g,h,i)perylene

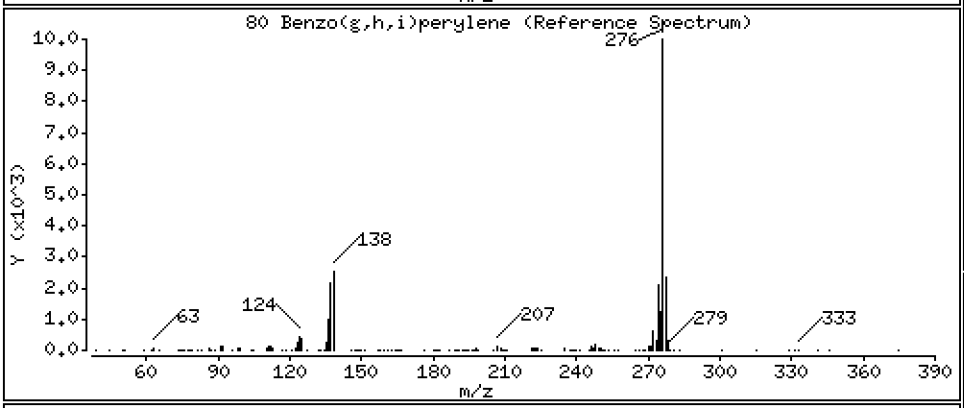
Concentration: 1.125 ug/mL

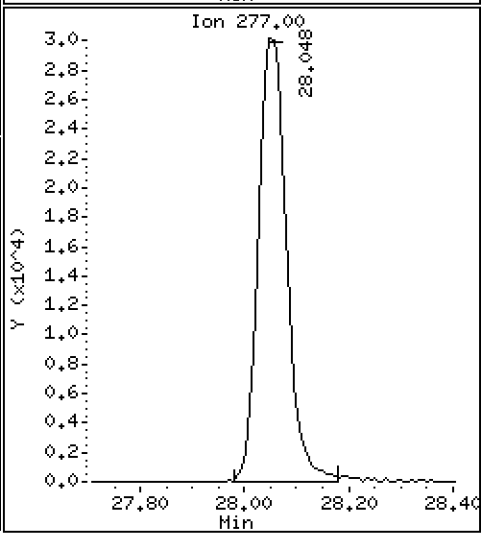


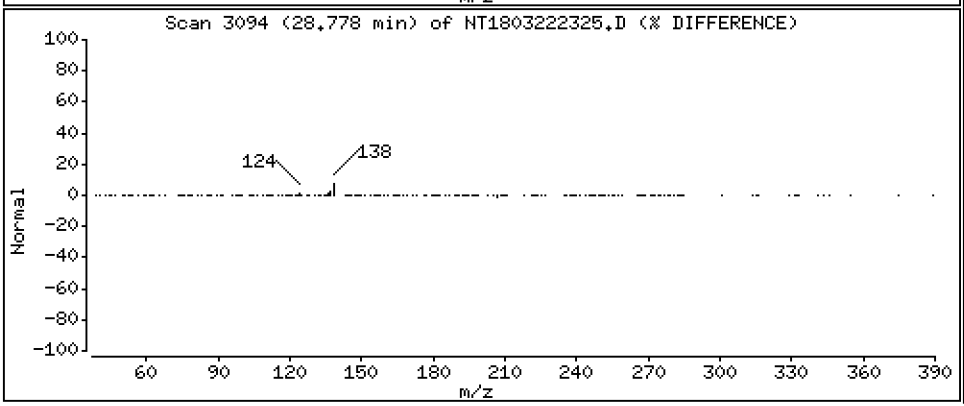












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

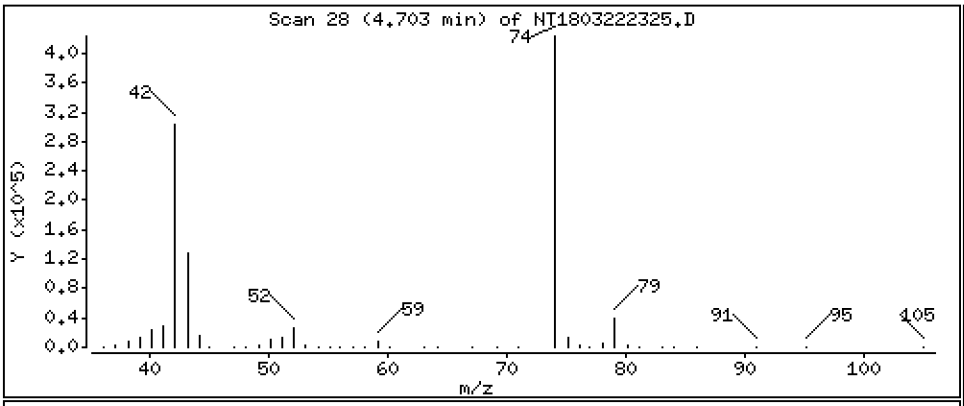
Operator: VTS

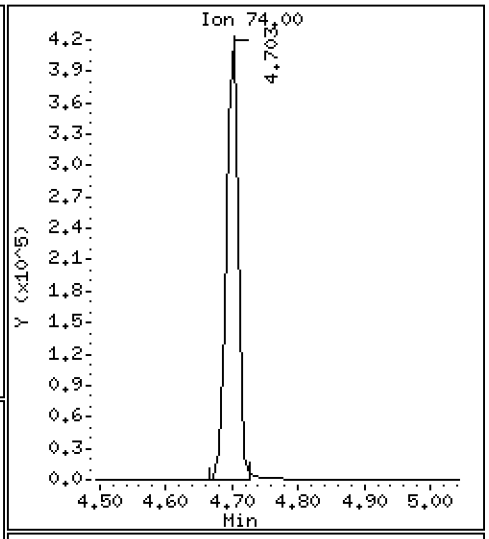
Column phase: ZB-5msi

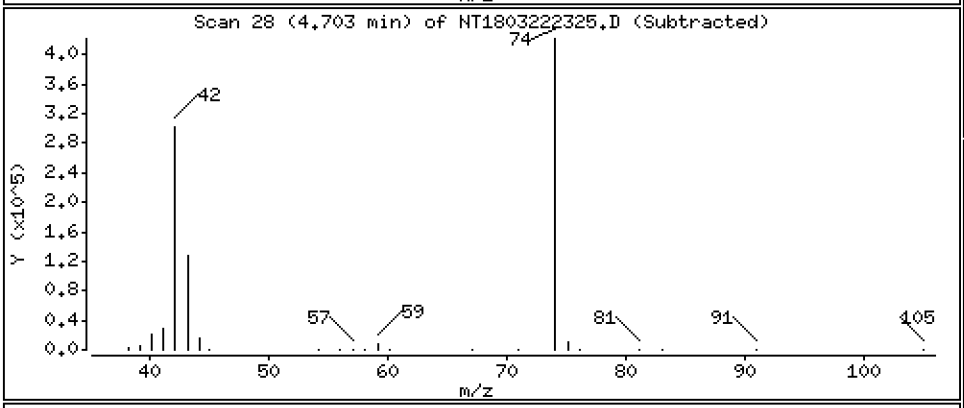
Column diameter: 0.25

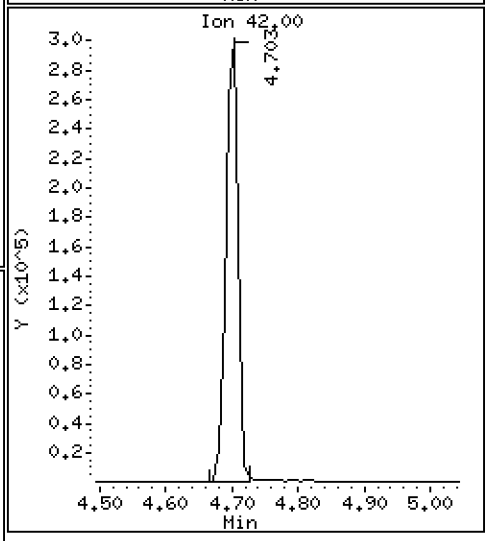
90 N-Nitrosodimethylamine

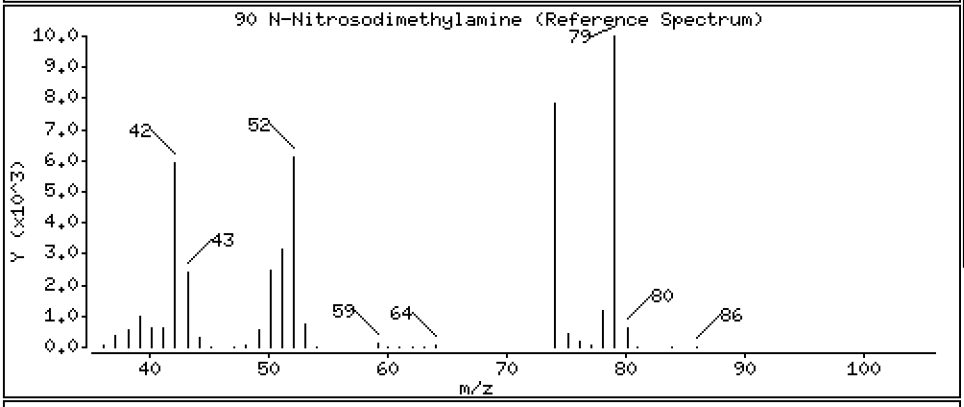
Concentration: 9.456 ug/mL

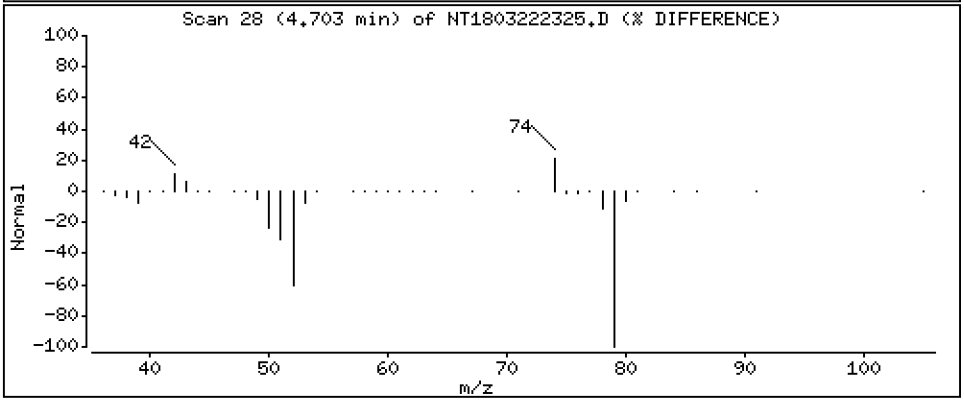












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

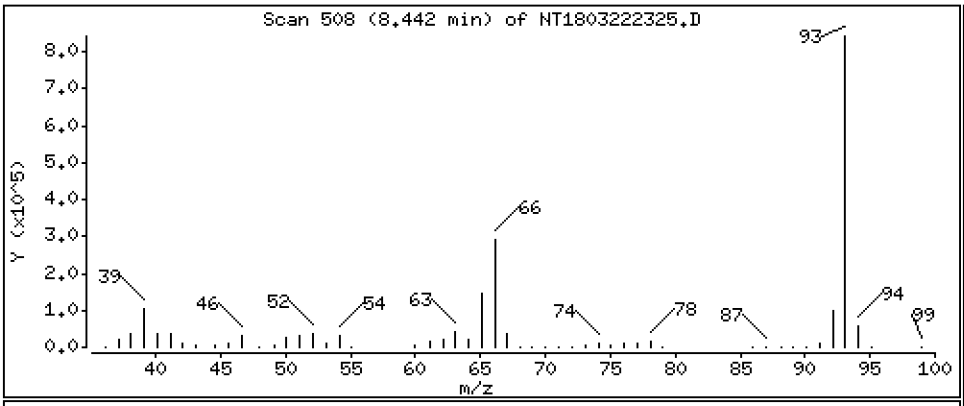
Operator: VTS

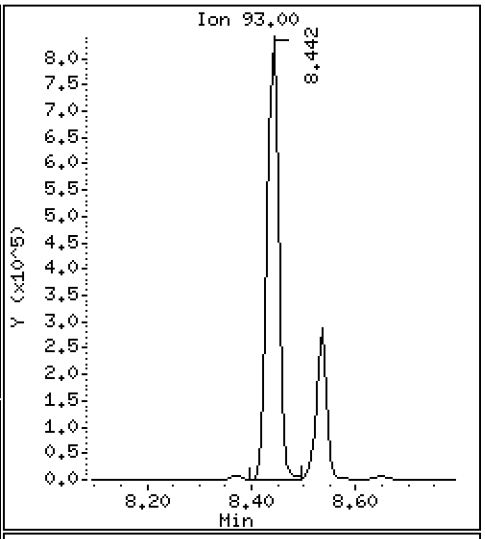
Column phase: ZB-5msi

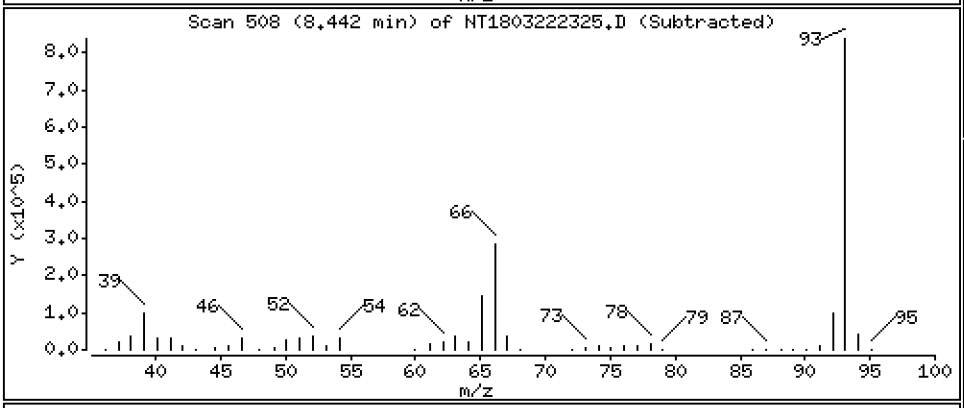
Column diameter: 0.25

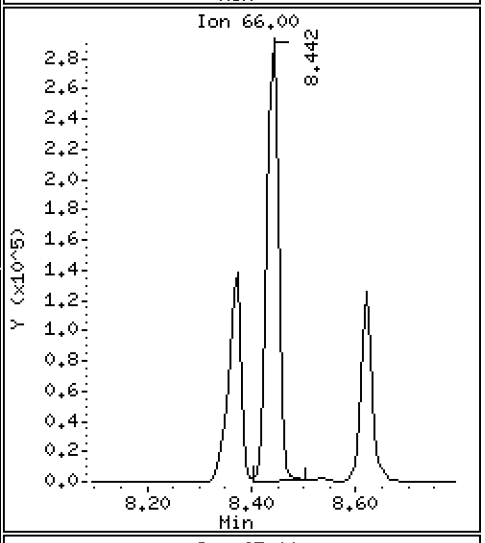
91 Aniline

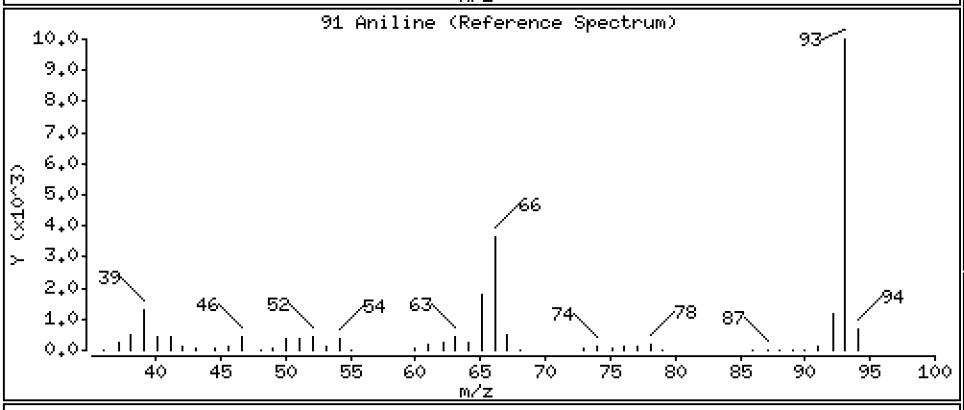
Concentration: 9.702 ug/mL

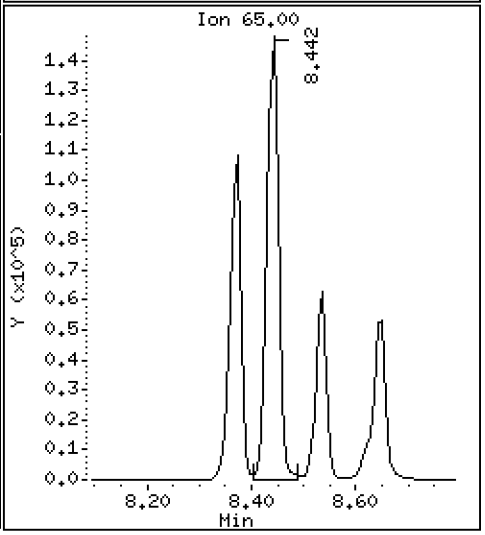


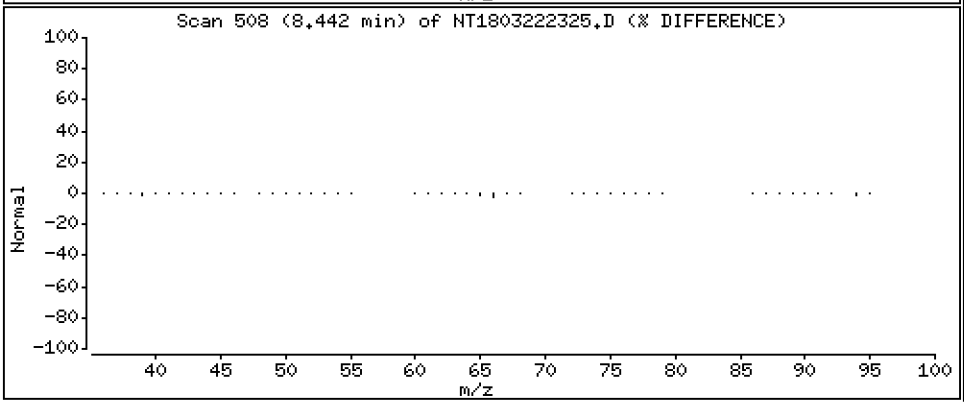












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222325.D

Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

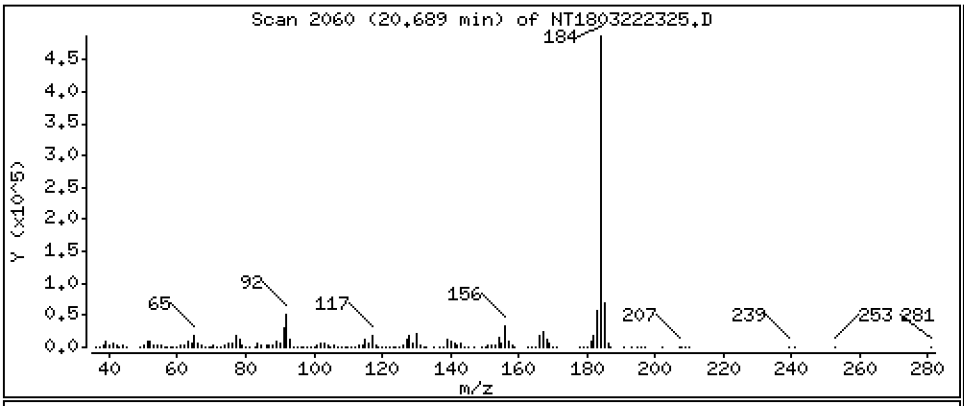
Operator: VTS

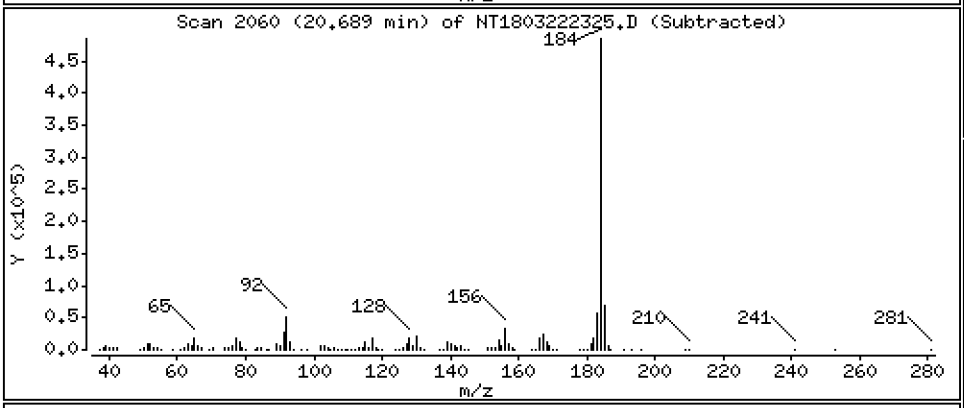
Column phase: ZB-5msi

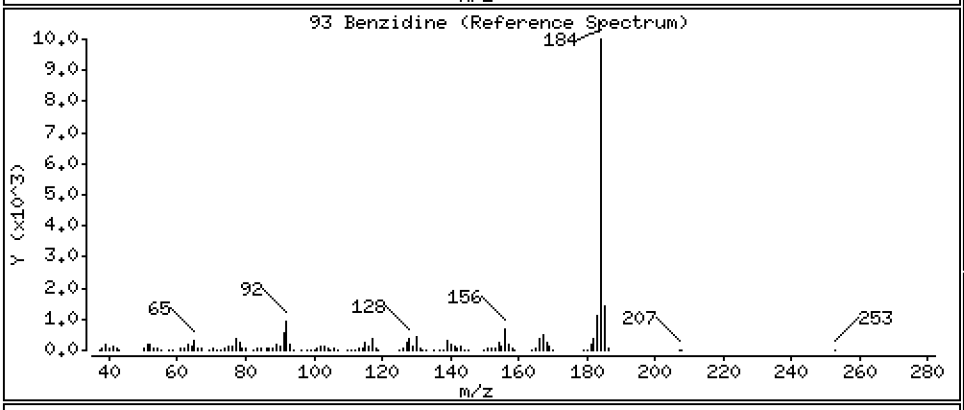
Column diameter: 0.25

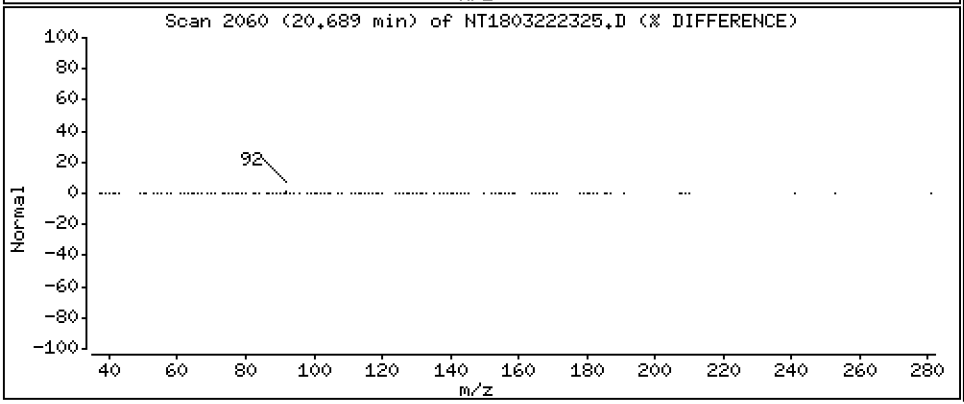
93 Benzidine

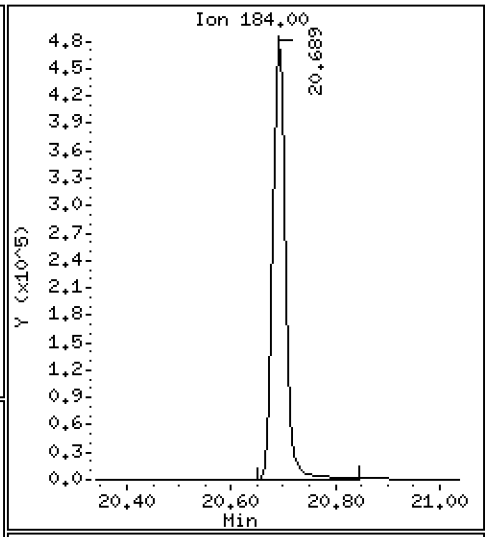
Concentration: 5.617 ug/mL

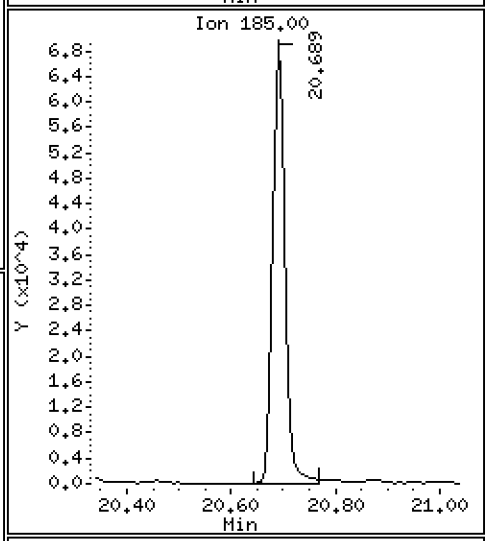


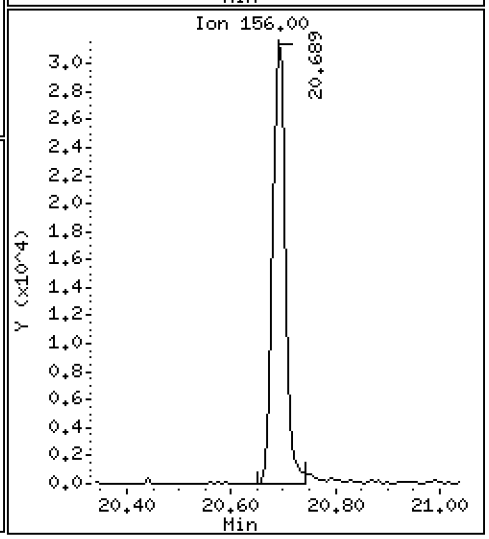












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

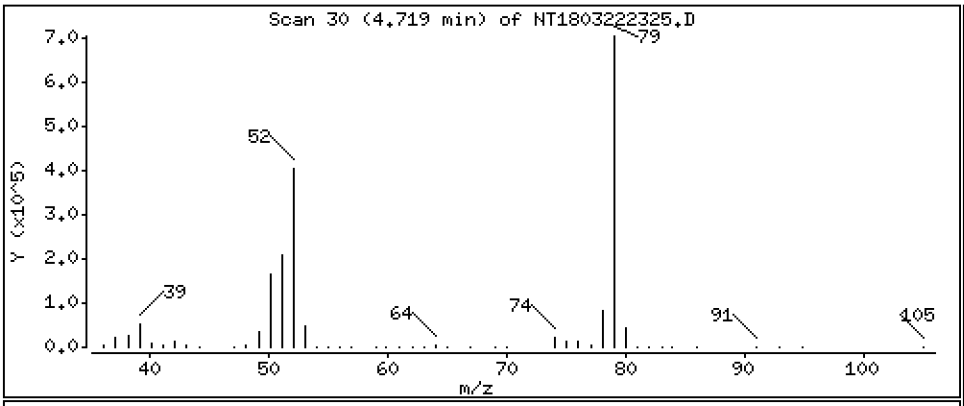
Operator: VTS

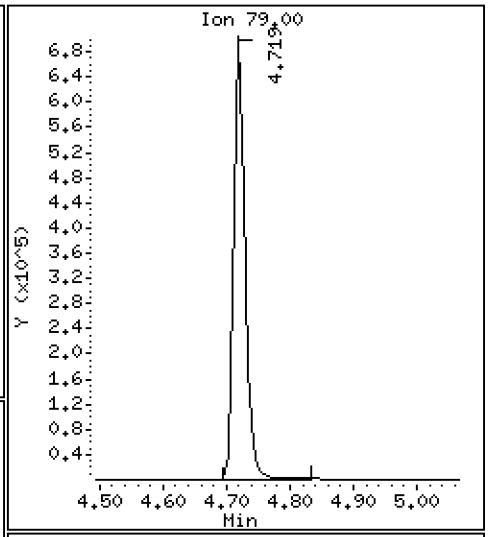
Column phase: ZB-5msi

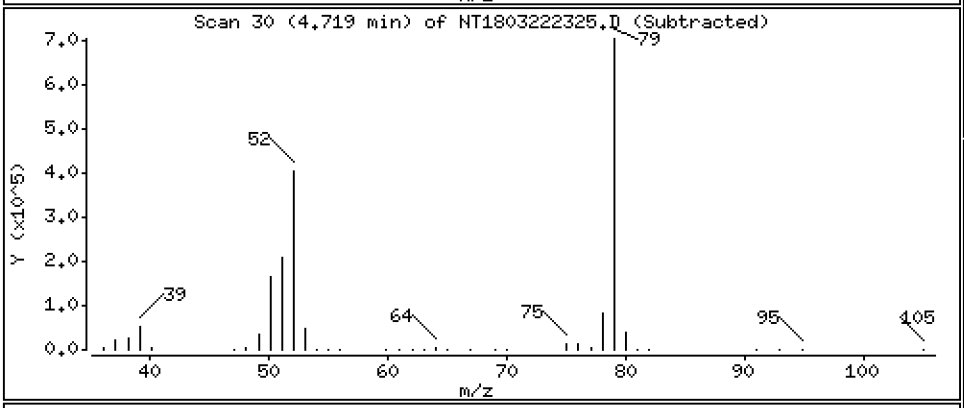
Column diameter: 0.25

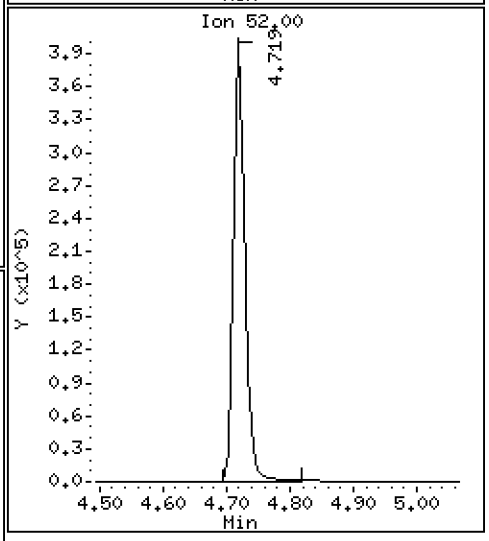
103 Pyridine

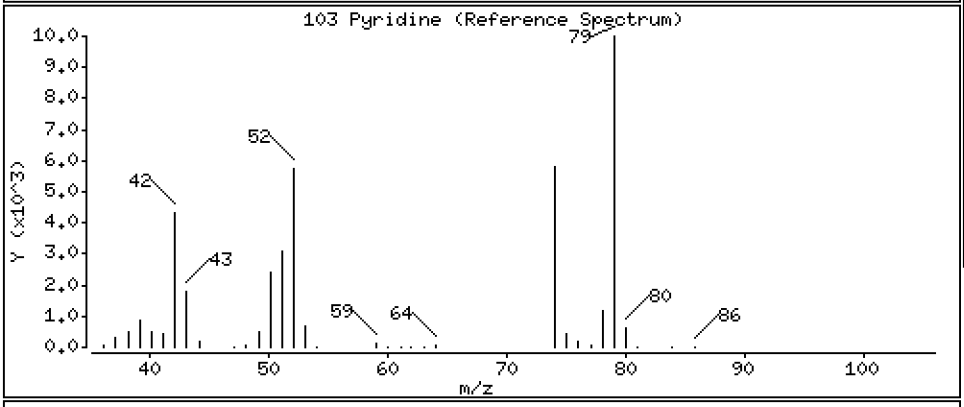
Concentration: 9.791 ug/mL

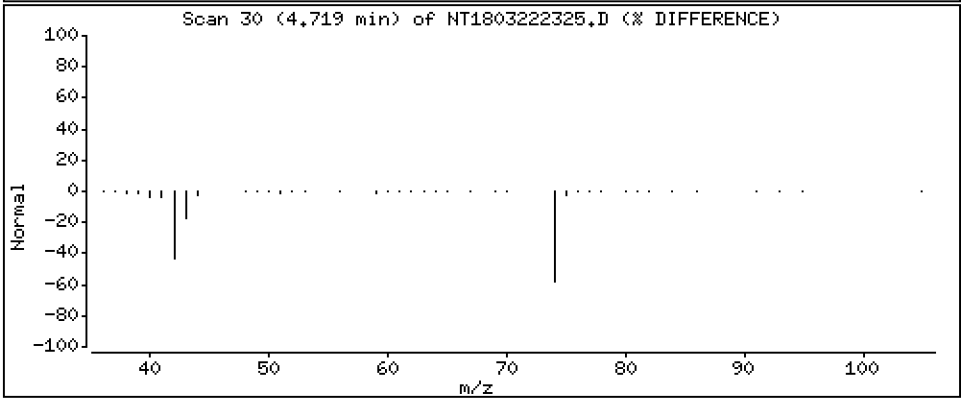












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222325.D

Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

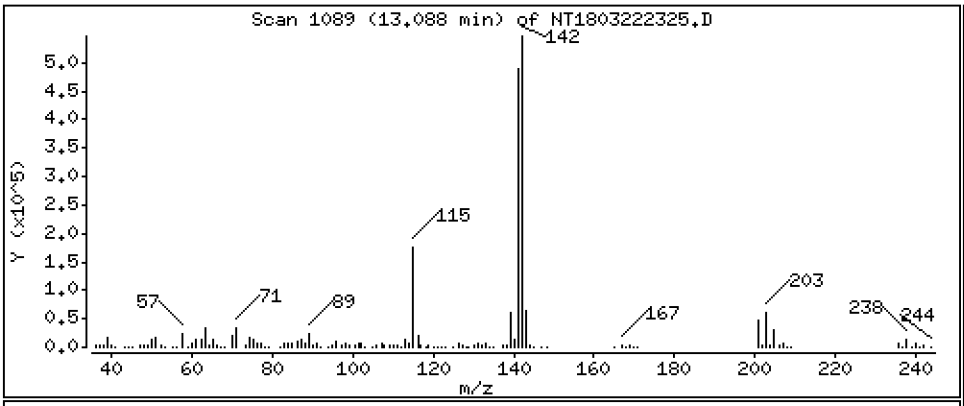
Operator: VTS

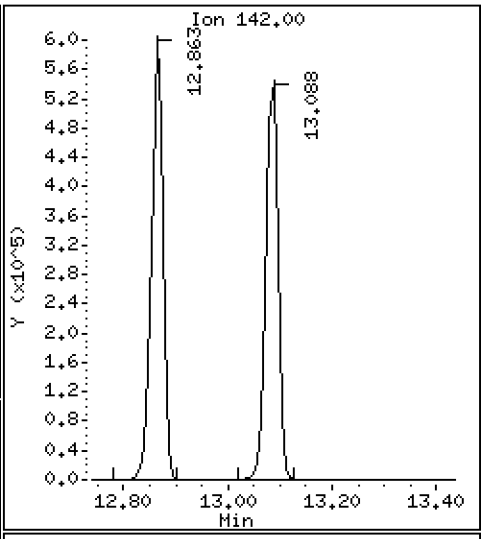
Column phase: ZB-5msi

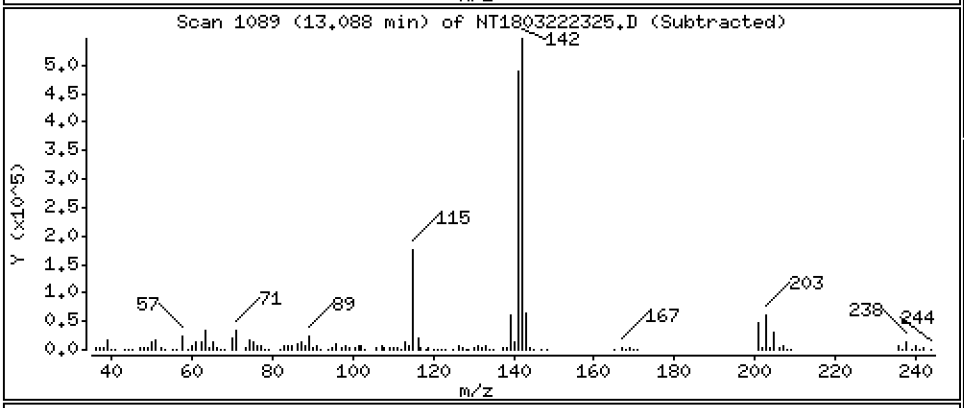
Column diameter: 0.25

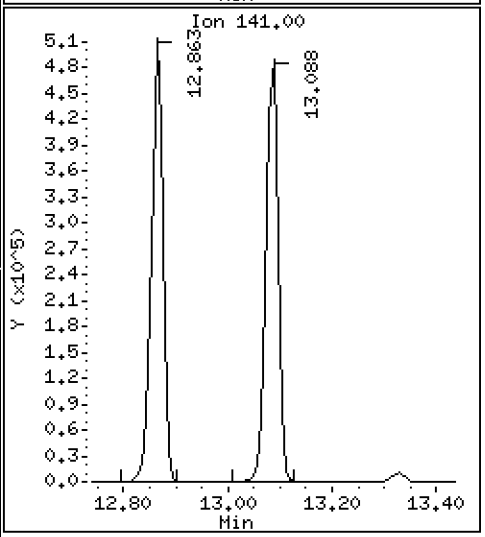
105 1-methylnaphthalene

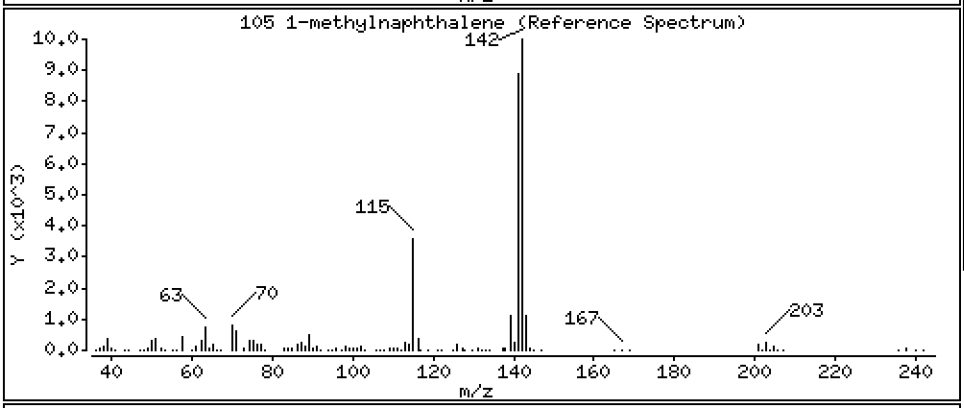
Concentration: 4.833 ug/mL

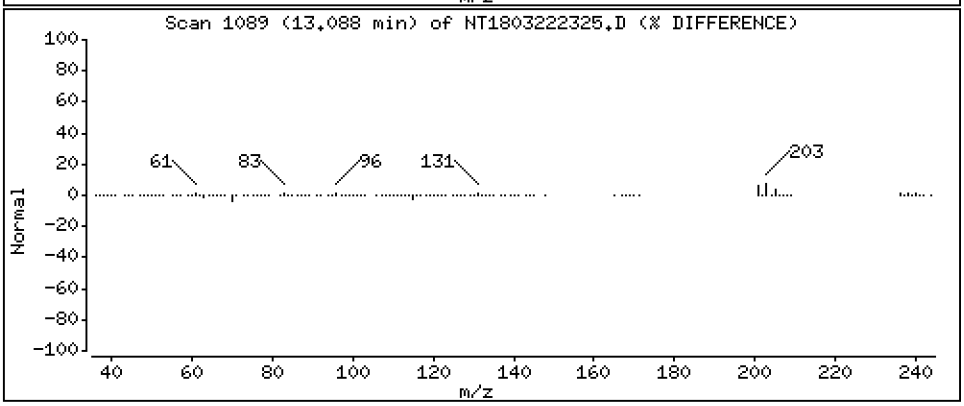












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

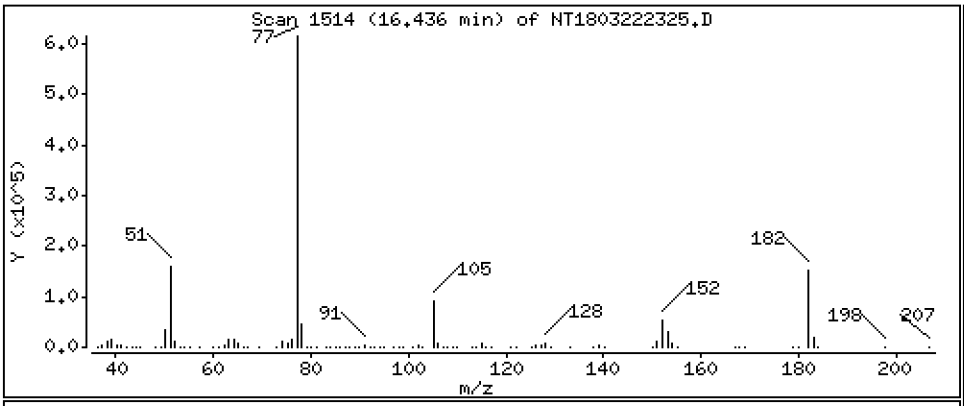
Operator: VTS

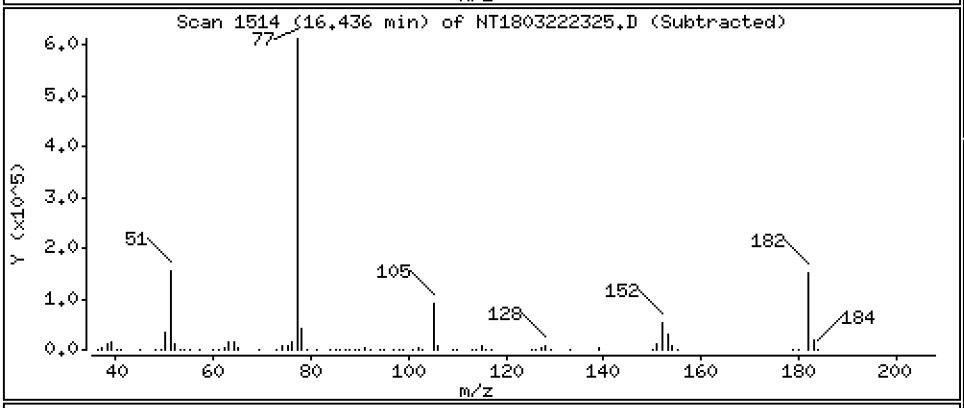
Column phase: ZB-5msi

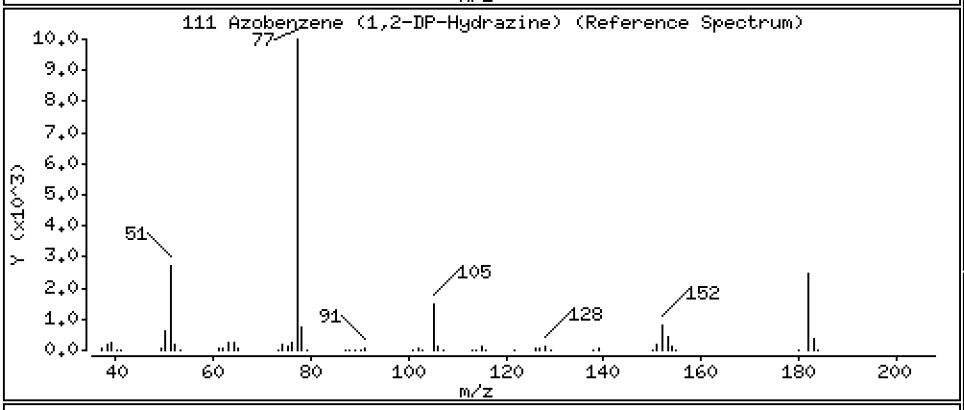
Column diameter: 0.25

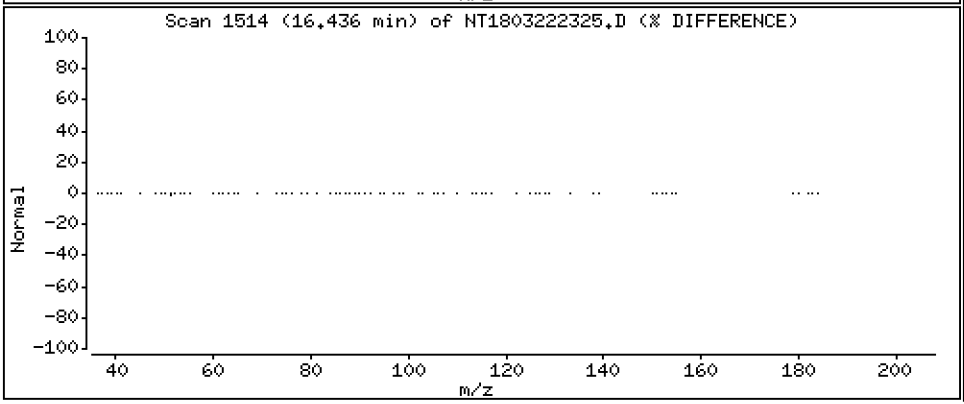
111 Azobenzene (1,2-DP-Hydrazine)

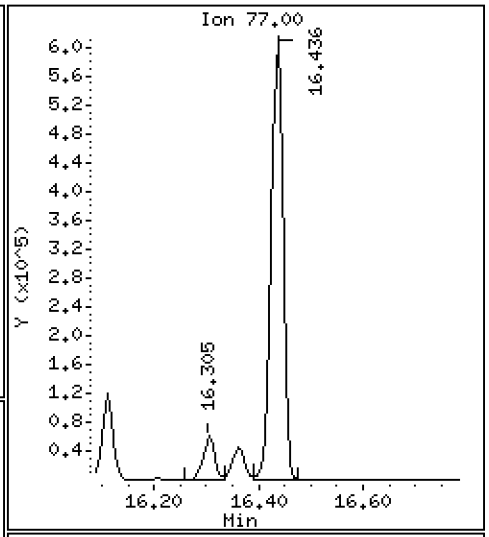
Concentration: 5.005 ug/mL

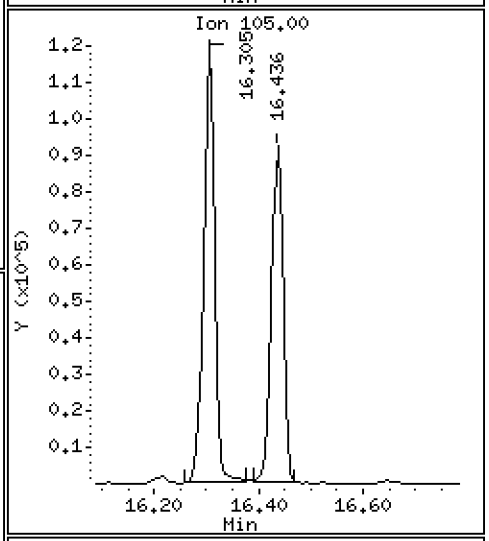


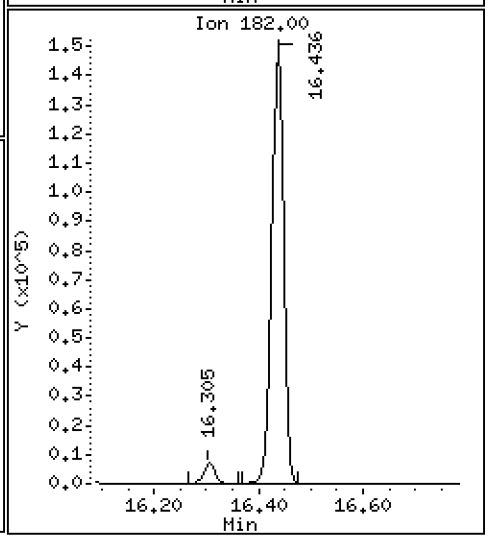












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

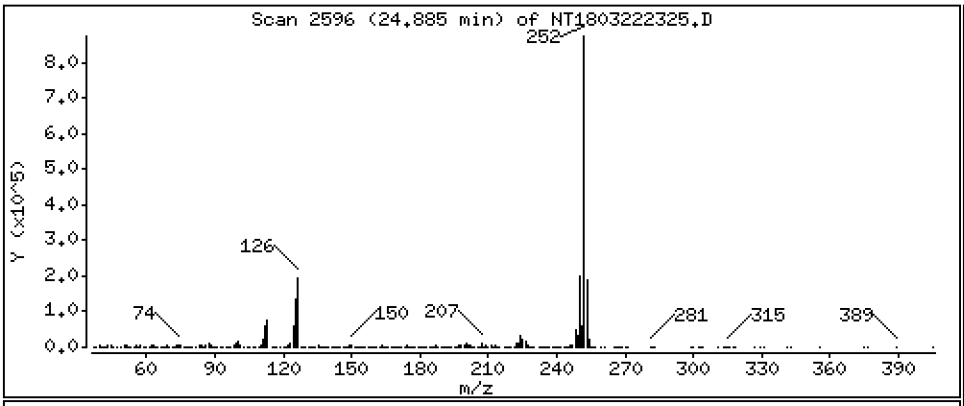
Operator: VTS

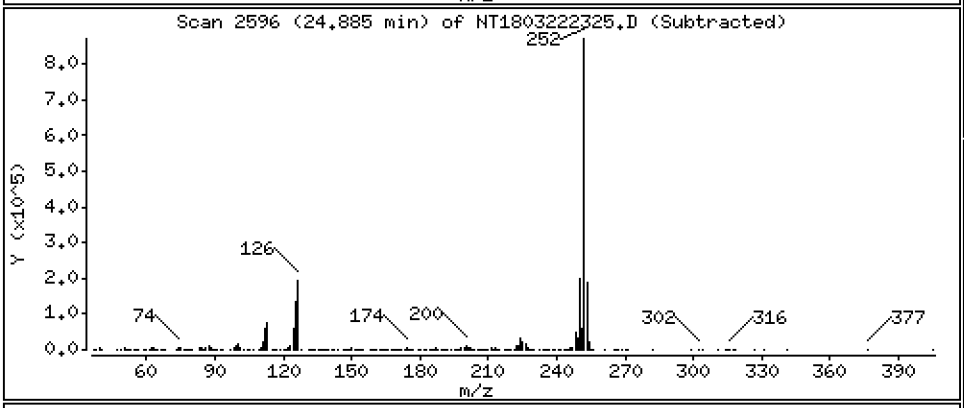
Column phase: ZB-5msi

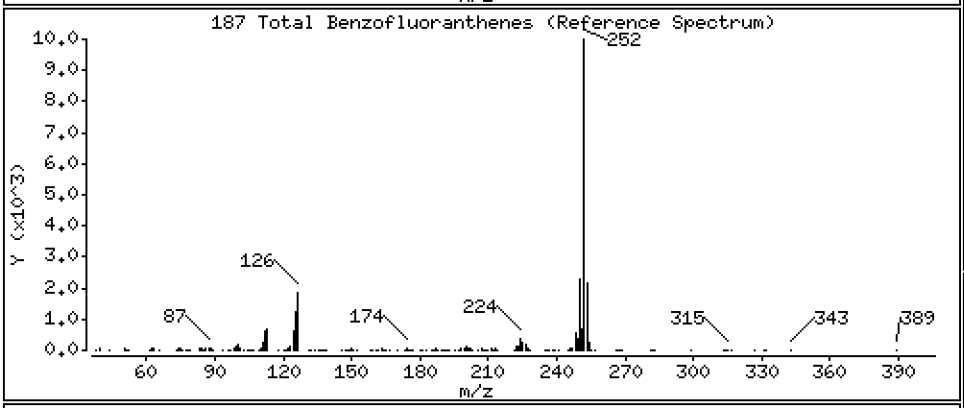
Column diameter: 0.25

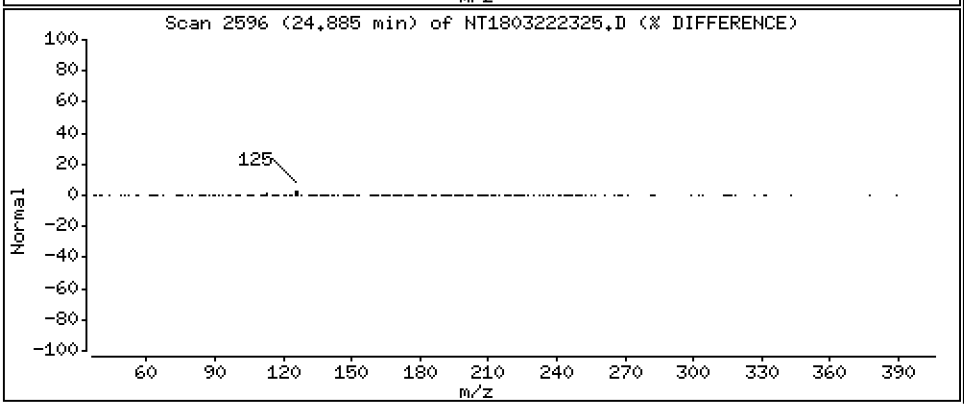
187 Total Benzofluoranthenes

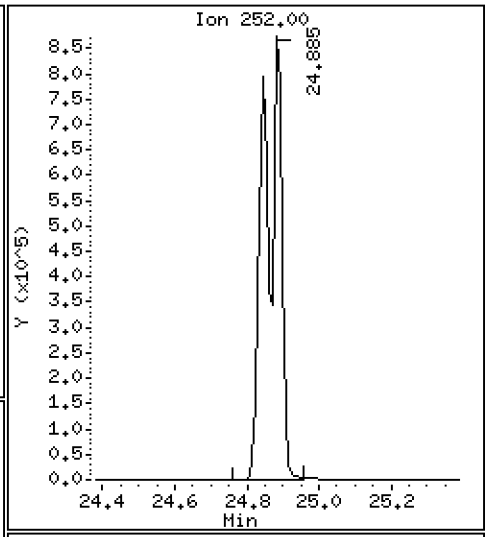
Concentration: 12.46 ug/mL

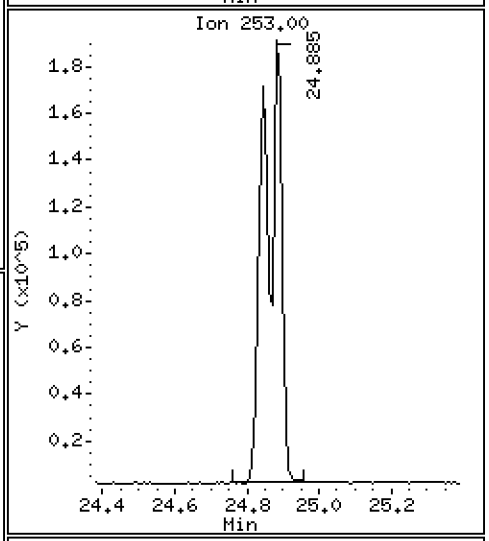


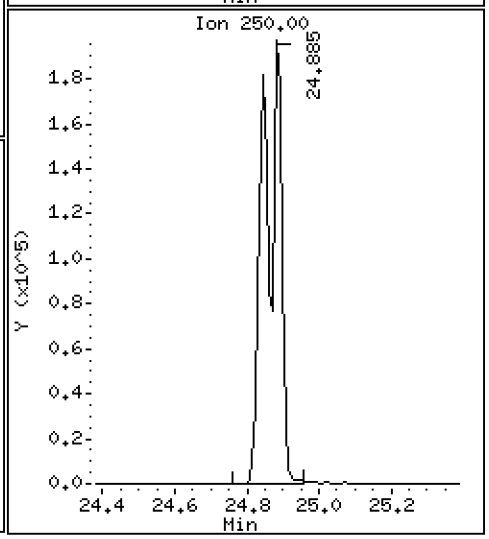












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Date : 23-MAR-2023 09:27

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-CCV1

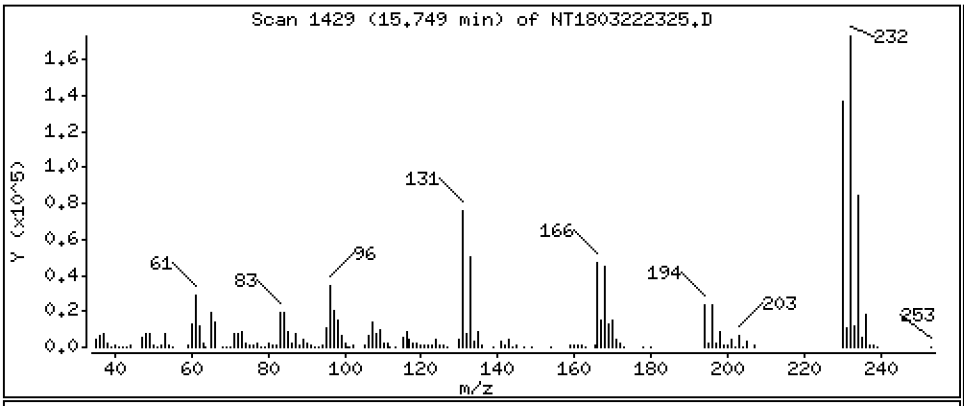
Operator: VTS

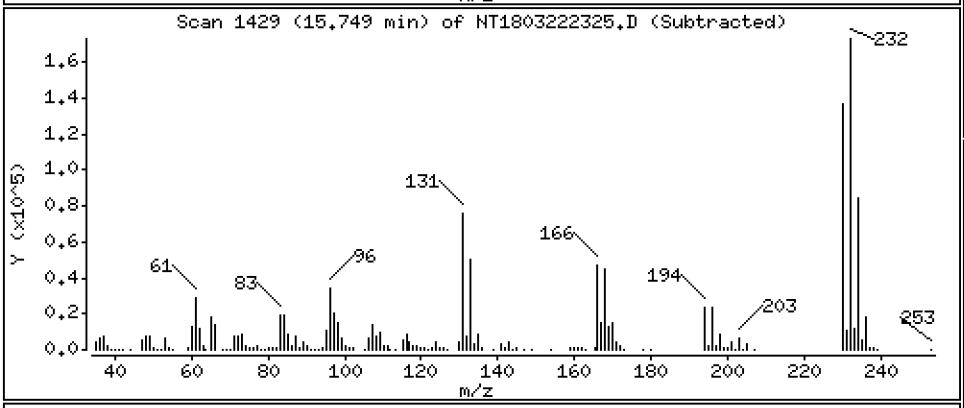
Column phase: ZB-5msi

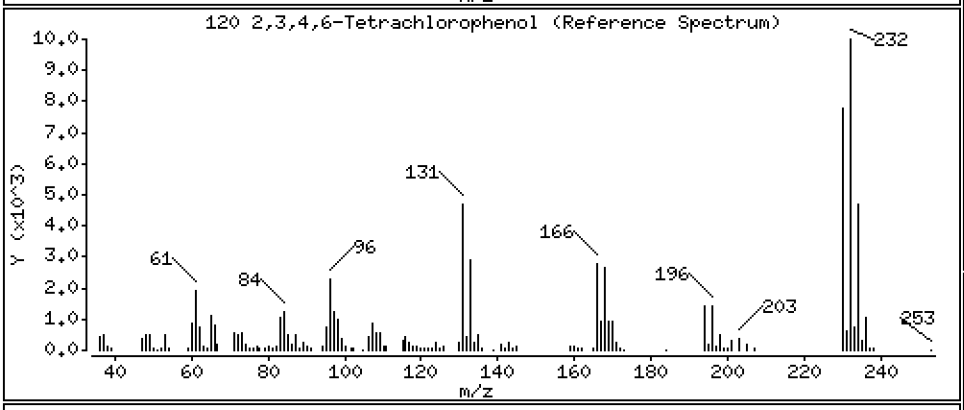
Column diameter: 0.25

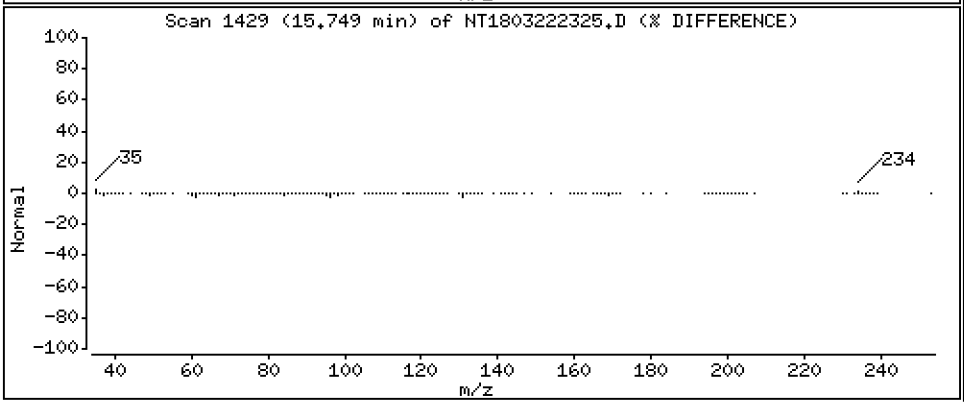
120 2,3,4,6-Tetrachlorophenol

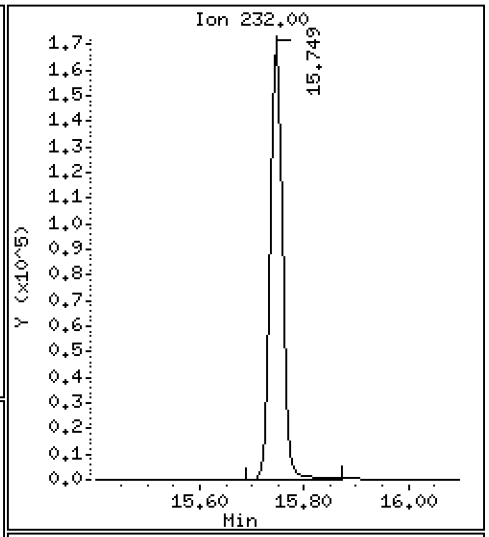
Concentration: 4.830 ug/mL

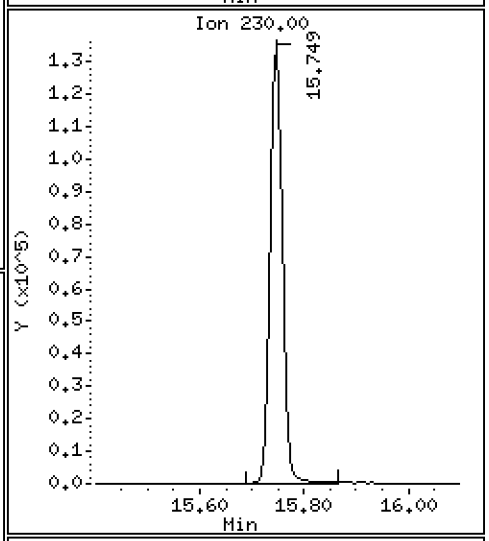


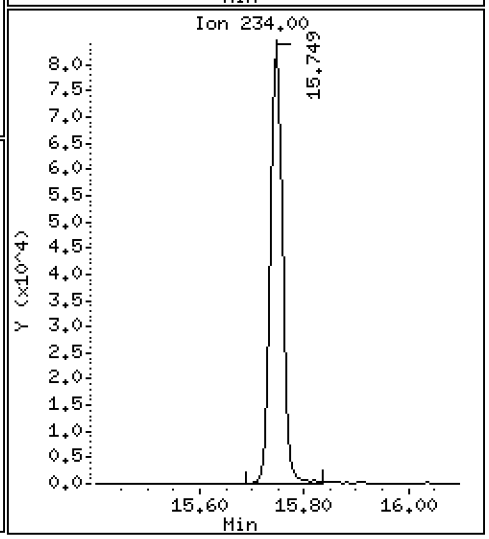












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230322A.b\NT1803222325.D
Lab Smp Id: SLD0056-CCV1
Inj Date : 23-MAR-2023 09:27
Operator : VTS Inst ID: nt18.i
Smp Info : SLD0056-CCV1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230322A.b\ABN.m
Meth Date : 04-Apr-2023 16:12 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 15:18 Cal File: NT1803192302.D
Als bottle: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: DEENAY-201905

							CONCENTRATIONS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.781	6.781	(0.755)	672240	7.55395	7.554
$	2 Phenol-d5	99	8.349	8.349	(0.929)	827425	7.52624	7.526
	3 Phenol	94	8.372	8.372	(0.932)	578981	4.92512	4.925
$	5 2-Chlorophenol-d4	132	8.619	8.619	(0.960)	732747	7.68911	7.689
	4 Bis(2-Chloroethyl)ether	93	8.534	8.534	(0.950)	391824	4.81605	4.816
	6 2-Chlorophenol	128	8.650	8.650	(0.963)	501155	4.98582	4.986
	7 1,3-Dichlorobenzene	146	8.913	8.913	(0.992)	508234	4.76229	4.762
*	8 1,4-Dichlorobenzene-d4	152	8.983	8.983	(1.000)	288668	4.00000	
	9 1,4-Dichlorobenzene	146	9.014	9.014	(1.003)	508170	4.75798	4.758
$	10 1,2-Dichlorobenzene-d4	152	9.332	9.332	(1.039)	332218	4.75110	4.751
	12 1,2-Dichlorobenzene	146	9.363	9.363	(1.042)	493572	4.68959	4.690
	11 Benzyl alcohol	108	9.247	9.247	(1.029)	293799	5.35600	5.356
	14 2,2'-oxybis(1-Chloropropane)	121	9.550	9.550	(1.063)	123766	4.99437	4.994(M)
	13 2-Methylphenol	108	9.472	9.472	(1.054)	442157	4.95548	4.955
	17 Hexachloroethane	117	9.946	9.945	(1.107)	171938	4.11119	4.111
	16 N-Nitroso-di-n-propylamine	70	9.806	9.806	(1.092)	314463	4.94898	4.949
	15 4-Methylphenol	108	9.736	9.736	(1.084)	465096	5.01976	5.020
$	18 Nitrobenzene-d5	82	10.062	10.062	(0.880)	479629	5.42650	5.426
	19 Nitrobenzene	77	10.093	10.093	(0.882)	451281	5.19354	5.194
	20 Isophorone	82	10.543	10.543	(0.922)	603809	5.08868	5.089
	21 2-Nitrophenol	139	10.719	10.719	(0.937)	288694	5.57887	5.579
	22 2,4-Dimethylphenol	107	10.778	10.778	(0.942)	822865	9.41977	9.420
	23 Bis(2-Chloroethoxy)methane	93	10.973	10.973	(0.959)	424903	4.95430	4.954
	24 Benzoic acid	105	11.007	11.007	(0.962)	1207150	19.0522	19.05
	25 2,4-Dichlorophenol	162	11.169	11.169	(0.976)	833791	10.3705	10.37
	26 1,2,4-Trichlorobenzene	180	11.355	11.355	(0.993)	406012	4.81690	4.817
*	27 Naphthalene-d8	136	11.440	11.439	(1.000)	1072266	4.00000	
	28 Naphthalene	128	11.478	11.478	(1.003)	1402909	4.82144	4.821
	29 4-Chloroaniline	127	11.609	11.609	(1.015)	1085091	9.69204	9.692
	30 Hexachlorobutadiene	225	11.841	11.849	(1.035)	224358	4.68102	4.681
	31 4-Chloro-3-methylphenol	107	12.561	12.561	(1.098)	749990	10.1285	10.13
	32 2-Methylnaphthalene	142	12.863	12.863	(1.124)	913402	4.82021	4.820(H)
	33 Hexachlorocyclopentadiene	237	13.327	13.327	(0.887)	128653	2.70849	2.708

		QUANT SIG					CONCENTRATIONS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.482	13.482	(0.897)	523766	10.6673	10.67
	35 2,4,5-Trichlorophenol	196	13.551	13.551	(0.902)	562398	10.4790	10.48
$	36 2-Fluorobiphenyl	172	13.644	13.644	(0.908)	975743	4.96417	4.964
	37 2-Chloronaphthalene	162	13.846	13.846	(0.922)	775686	4.94685	4.947
	38 2-Nitroaniline	65	14.109	14.109	(0.939)	440488	10.7198	10.72
	39 Dimethylphthalate	163	14.542	14.542	(0.968)	824502	5.04107	5.041
	40 Acenaphthylene	152	14.713	14.712	(0.979)	1476380	5.52911	5.529
	41 2,6-Dinitrotoluene	165	14.674	14.674	(0.977)	376475	10.0794	10.08
*	42 Acenaphthene-d10	164	15.022	15.022	(1.000)	548891	4.00000	
	43 3-Nitroaniline	138	14.952	14.952	(0.995)	442069	10.5779	10.58
	44 Acenaphthene	153	15.091	15.091	(1.005)	833620	4.93225	4.932
	45 2,4-Dinitrophenol	184	15.161	15.161	(1.009)	273389	12.3847	12.38
	46 Dibenzofuran	168	15.408	15.416	(1.026)	1140739	4.91286	4.913
	47 4-Nitrophenol	109	15.269	15.269	(1.016)	211615	9.50309	9.503
	48 2,4-Dinitrotoluene	165	15.470	15.470	(1.030)	499781	10.1612	10.16
	50 Diethylphthalate	149	15.988	15.988	(1.064)	810287	4.88956	4.890
	49 Fluorene	166	16.120	16.120	(1.073)	1104367	5.23959	5.240
	51 4-Chlorophenyl-phenylether	204	16.112	16.112	(1.073)	493364	5.27404	5.274
	52 4-Nitroaniline	138	16.212	16.212	(1.079)	434413	10.1547	10.15
	53 4,6-Dinitro-2-methylphenol	198	16.305	16.305	(0.904)	430656	15.9529	15.95
	54 N-Nitrosodiphenylamine	169	16.359	16.359	(0.907)	599285	5.03169	5.032
$	55 2,4,6-Tribromophenol	330	16.644	16.644	(1.108)	198112	7.94146	7.941
	56 4-Bromophenyl-phenylether	248	17.107	17.107	(0.949)	238327	5.04452	5.045
	57 Hexachlorobenzene	284	17.416	17.415	(0.966)	262618	4.95565	4.956
	58 Pentachlorophenol	266	17.772	17.772	(0.985)	338252	10.3368	10.34
*	59 Phenanthrene-d10	188	18.035	18.035	(1.000)	934994	4.00000	
	60 Phenanthrene	178	18.081	18.081	(1.003)	1256997	4.92497	4.925
	61 Anthracene	178	18.174	18.174	(1.008)	1257614	5.16805	5.168
	62 Carbazole	167	18.499	18.499	(1.026)	1165476	5.43892	5.439
	63 Di-n-butylphthalate	149	19.311	19.311	(1.071)	1403276	4.95157	4.952
	64 Fluoranthene	202	20.456	20.456	(0.887)	1414274	4.34742	4.347
	65 Pyrene	202	20.874	20.874	(0.905)	1503845	4.38598	4.386
$	66 Terphenyl-d14	244	21.168	21.168	(0.918)	1116151	4.37699	4.377
	67 Butylbenzylphthalate	149	22.090	22.090	(0.958)	664649	4.52448	4.524
	68 Benzo(a)anthracene	228	23.027	23.027	(0.999)	1618906	5.06765	5.068
*	69 Chrysene-d12	240	23.058	23.058	(1.000)	1020869	4.00000	
	70 3,3'-Dichlorobenzidine	252	22.988	22.988	(0.997)	1631429	14.2056	14.21
	71 Chrysene	228	23.096	23.096	(1.002)	1617322	4.89759	4.898
	72 bis(2-Ethylhexyl)phthalate	149	23.120	23.119	(0.960)	1017198	4.44015	4.440
*	134 Di-n-octylphthalate-d4	153	24.087	24.087	(1.000)	1585554	4.00000	
	73 Di-n-octylphthalate	149	24.095	24.095	(1.000)	1832529	4.69757	4.698
	74 Benzo(b)fluoranthene	252	24.846	24.846	(0.972)	1558304	6.73996	6.740
	75 Benzo(k)fluoranthene	252	24.885	24.885	(0.973)	1485500	5.84153	5.842
	76 Benzo(a)pyrene	252	25.458	25.458	(0.996)	1180194	5.10340	5.103
*	77 Perylene-d12	264	25.566	25.566	(1.000)	830516	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	28.047	28.055	(1.097)	464824	1.60269	1.603
	79 Dibenzo(a,h)anthracene	278	28.071	28.071	(1.098)	415672	1.73252	1.733
	80 Benzo(g,h,i)perylene	276	28.778	28.785	(1.126)	259734	1.12533	1.125(M)
	90 N-Nitrosodimethylamine	74	4.703	4.695	(0.524)	520257	9.45633	9.456
	91 Aniline	93	8.442	8.442	(0.940)	1226391	9.70153	9.702
	93 Benzidine	184	20.689	20.688	(0.897)	777081	5.61745	5.617
	103 Pyridine	79	4.718	4.718	(0.525)	889538	9.79070	9.791
	105 1-methylnaphthalene	142	13.087	13.087	(1.144)	840690	4.83285	4.833
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.436	16.436	(1.094)	908944	5.00506	5.005

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187 Total Benzofluoranthenes	252	24.885	24.885	(0.973)	2886566	12.4580	12.46
120 2,3,4,6-Tetrachlorophenol	232	15.748	15.748	(1.048)	290131	4.83012	4.830

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222325.D
Lab Smp Id: SLD0056-CCV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322A.b\ABN.m
Misc Info:

Calibration Date: 23-MAR-2023
Calibration Time: 04:05
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	278642	139321	557284	288668	3.60
27 Naphthalene-d8	1051761	525881	2103522	1072266	1.95
42 Acenaphthene-d10	539174	269587	1078348	548891	1.80
59 Phenanthrene-d10	918099	459050	1836198	934994	1.84
69 Chrysene-d12	992695	496348	1985390	1020869	2.84
134 Di-n-octylphthala	1524263	762132	3048526	1585554	4.02
77 Perylene-d12	955797	477899	1911594	830516	-13.11

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	0.00
42 Acenaphthene-d10	15.02	14.52	15.52	15.02	0.00
59 Phenanthrene-d10	18.04	17.54	18.54	18.04	0.00
69 Chrysene-d12	23.06	22.56	23.56	23.06	0.00
134 Di-n-octylphthala	24.09	23.59	24.59	24.09	0.00
77 Perylene-d12	25.57	25.07	26.07	25.57	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222325.D

Lab ID: SLD0056-CCV1
nt18.i, ABN.m, 23-MAR-2023 09:27

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

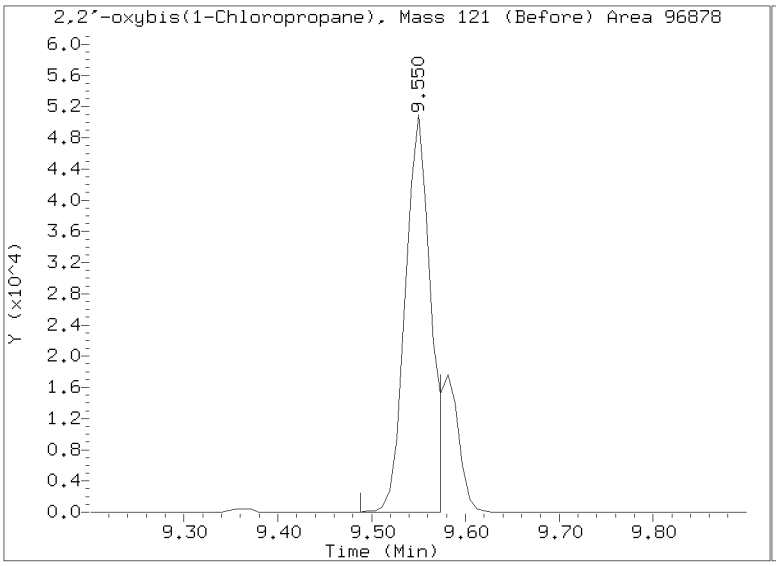
RRT check based on Ccal File: NT1803222317A.D

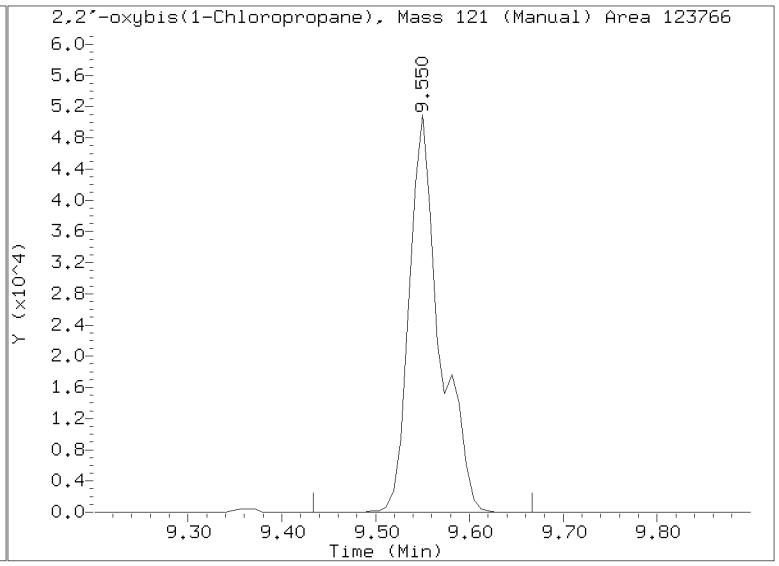
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

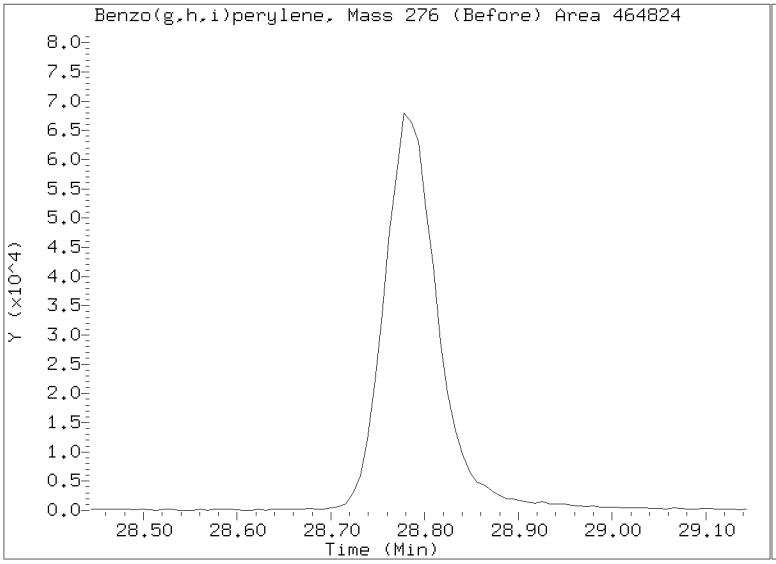
* Only compounds listed in the work order have been verified by the analyst *

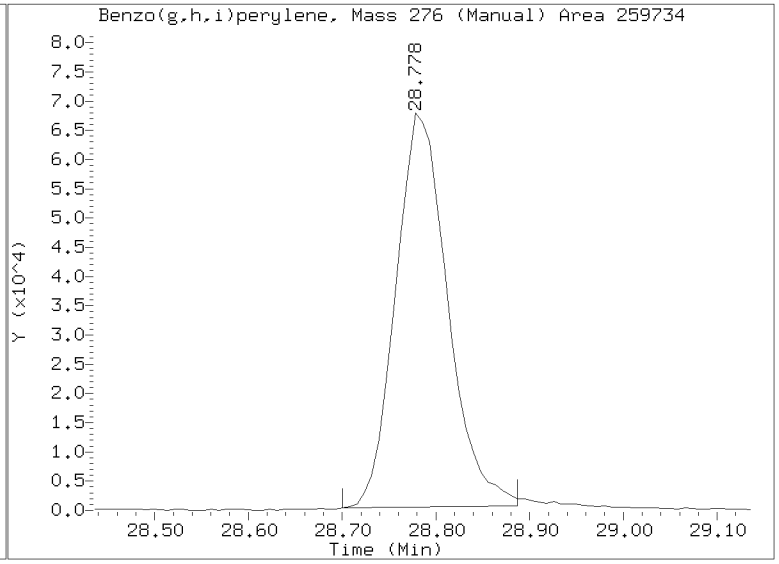
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230322A.b/NT1803222325.D
Injection Date: 23-MAR-2023 09:27
Lab ID:SLD0056-CCV1 Client ID:
Report Date: 04/05/2023 08:40









APPROVED

By Deenay Dunmore at 8:45 am, Apr 05, 2023

Analytical Resources, LLC
Analytical Chemists and Consultants

LOW-CONCENTRATION CONTINUING CALIBRATION CHECK

EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	NT18	Calibration:	GC00085
Lab File ID:	NT1803222319.D	Calibration Date:	03/19/2023
Sequence:	SLD0056	Injection Date:	03/23/23
Lab Sample ID:	SLD0056-LCV1	Injection Time:	05:25
Sequence Name:	ABN 0.2		

		CONC. (ug/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT	
Phenol	A	0.20000	0.2	1.6289550	1.4188750		-12.9	+/-50	
4-Methylphenol	A	0.20000	0.2	1.2838700	1.1139990		-13.2	+/-50	
Naphthalene	A	0.20000	0.2	1.0854510	1.0682950		-1.6	+/-50	
2-Methylnaphthalene	A	0.20000	0.2	0.7068922	0.6923658		-2.1	+/-50	
Acenaphthylene	A	0.20000	0.2	1.9458850	1.7886960		-8.1	+/-50	
Dimethylphthalate	A	0.20000	0.2	1.1919090	1.0589690		-11.2	+/-50	
Acenaphthene	A	0.20000	0.2	1.2316760	1.2452270		1.1	+/-50	
Dibenzofuran	A	0.20000	0.2	1.6920980	1.6340800		-3.4	+/-50	
Fluorene	A	0.20000	0.2	1.5359950	1.4935840		-2.8	+/-50	
Phenanthrene	A	0.20000	0.2	1.0918970	1.0681490		-2.2	+/-50	
Anthracene	A	0.20000	0.2	1.0410500	0.9451033		-9.2	+/-50	
Fluoranthene	A	0.20000	0.2	1.2746530	1.0506290		-17.6	+/-50	
Pyrene	A	0.20000	0.2	1.3434640	1.1528730		-14.2	+/-50	
Butylbenzylphthalate	A	0.20000	0.2	0.4580611	0.4504018		-22.5	+/-50	
Benzo(a)anthracene	A	0.20000	0.2	1.2517140	1.2522760		0.05	+/-50	
Chrysene	A	0.20000	0.2	1.2939090	1.2944770		0.05	+/-50	
bis(2-Ethylhexyl)phthalate	A	0.20000	0.1	0.4872329	0.4209621		-28.5	+/-50	
Benzofluoranthenes, Total	A	0.40000	0.4	1.1159550	1.2390380		11.0	+/-50	
Benzo(a)pyrene	A	0.20000	0.2	0.9981810	1.0360450		-6.9	+/-50	
Indeno(1,2,3-cd)pyrene	A	0.20000	0.06	1.2089080	0.4072167		-70.7	+/-50	*
Dibenzo(a,h)anthracene	A	0.20000	0.05	1.0105360	0.3073669		-73.1	+/-50	*
Benzo(g,h,i)perylene	A	0.20000	0.05	0.9990967	0.2512946		-77.3	+/-50	*
2-Fluorophenol	A	0.30000	0.268	1.2331380	1.1028260		-10.6	+/-50	
Phenol-d5	A	0.30000	0.265	1.5233940	1.3473760		-11.6	+/-50	
2-Chlorophenol-d4	A	0.30000	0.273	1.3205030	1.2005980		-9.1	+/-50	
1,2-Dichlorobenzene-d4	A	0.20000	0.200	0.9689252	0.9669058		-0.2	+/-50	
Nitrobenzene-d5	A	0.20000	0.193	0.3297186	0.3185766		-3.4	+/-50	
2-Fluorobiphenyl	A	0.20000	0.196	1.4323940	1.4033240		-2.0	+/-50	
2,4,6-Tribromophenol	A	0.30000	0.225	0.1658543	0.1307530		-24.9	+/-50	
p-Terphenyl-d14	A	0.20000	0.166	0.9991659	0.8297215		-17.0	+/-50	

* Values outside of QC limits

Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D

Page 1

Date : 23-MAR-2023 05:25

Client ID:

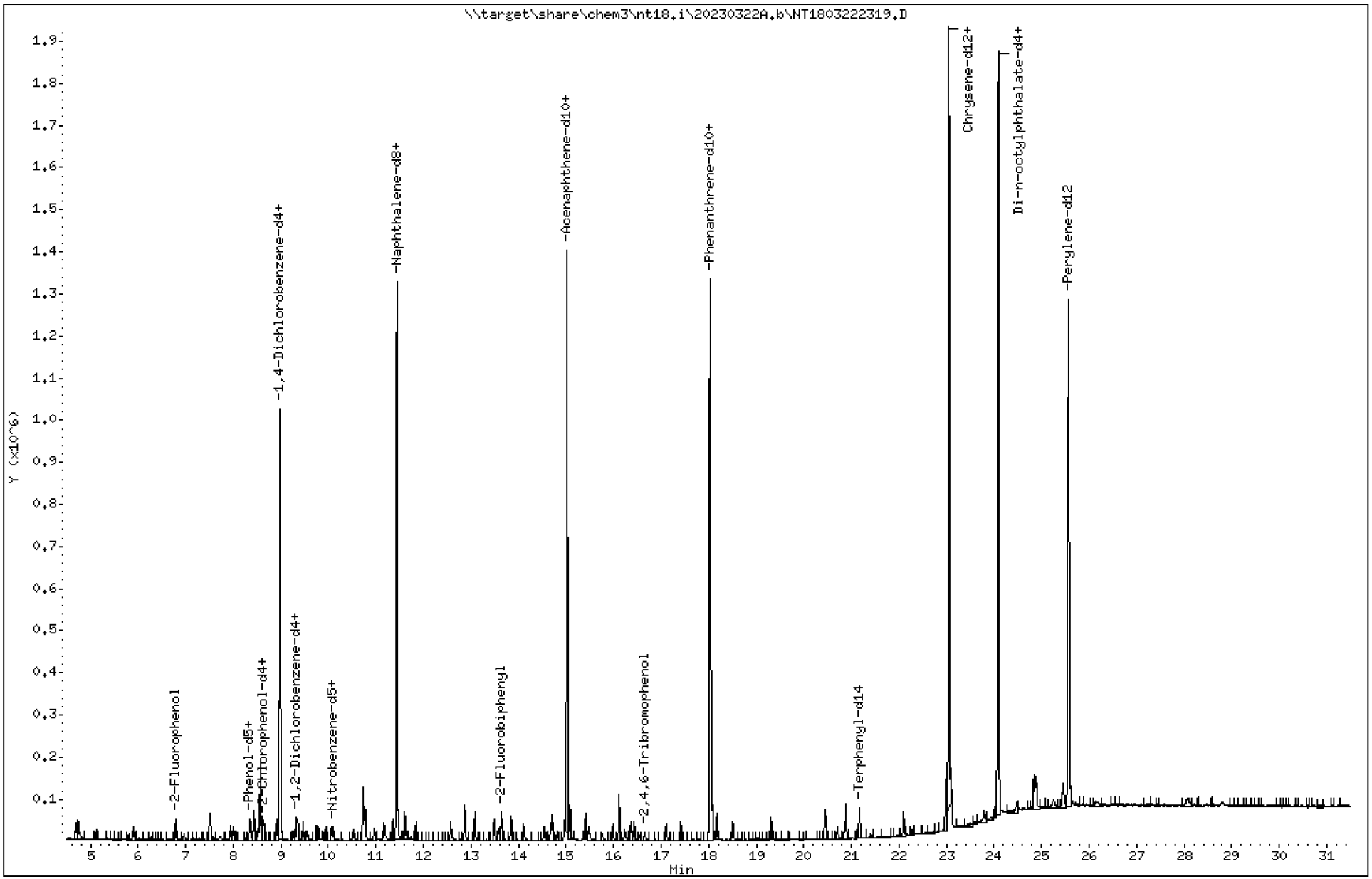
Instrument: nt18.i

Sample Info: SLD0056-LCV1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

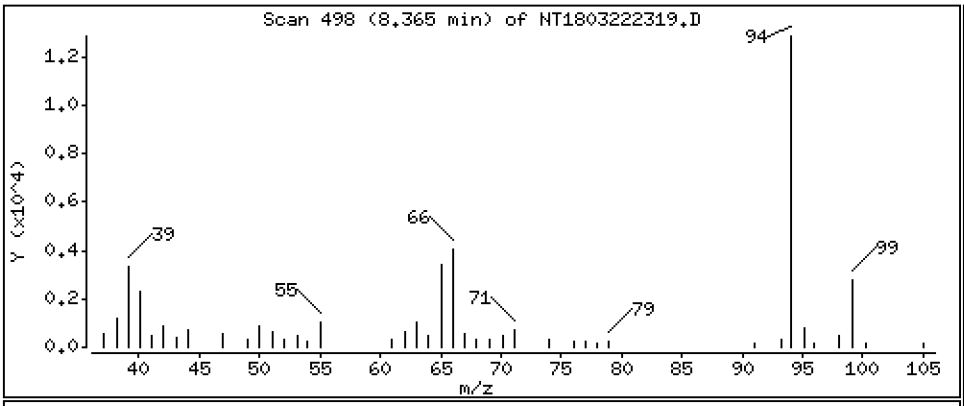
Operator: VTS

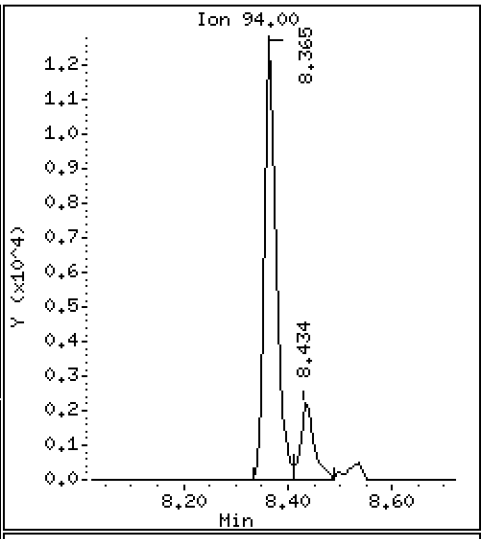
Column phase: ZB-5msi

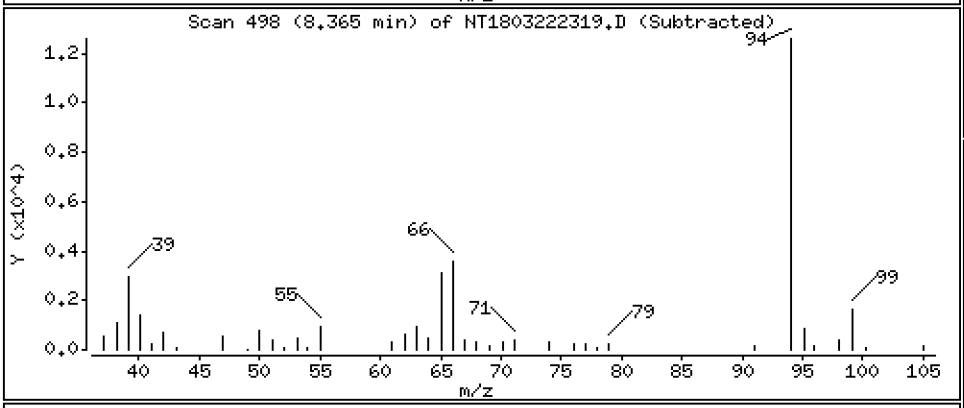
Column diameter: 0.25

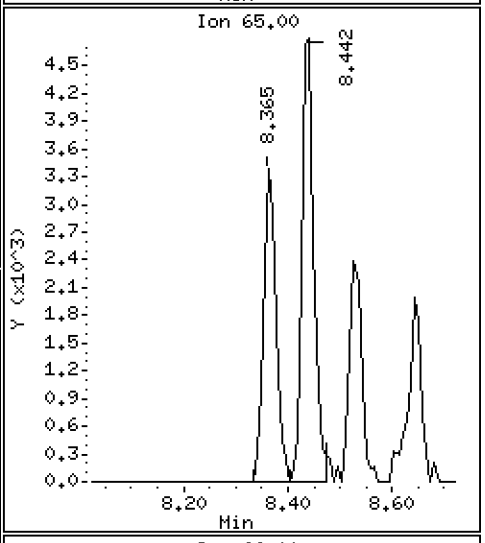
3 Phenol

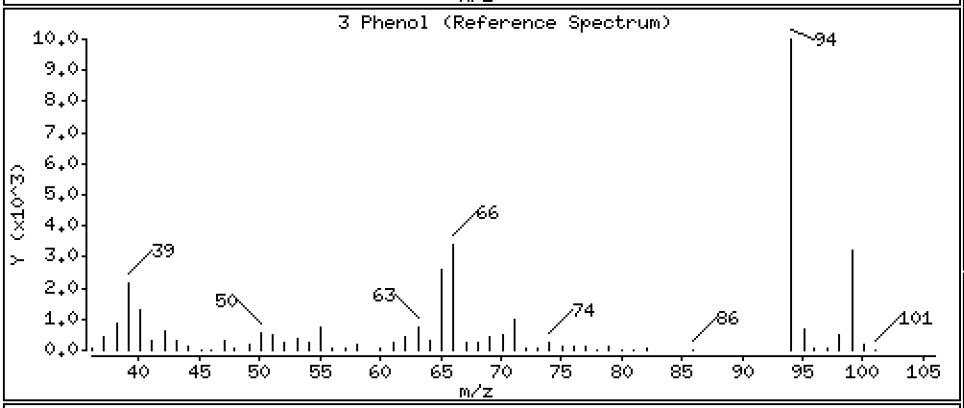
Concentration: 0.1742 ug/mL

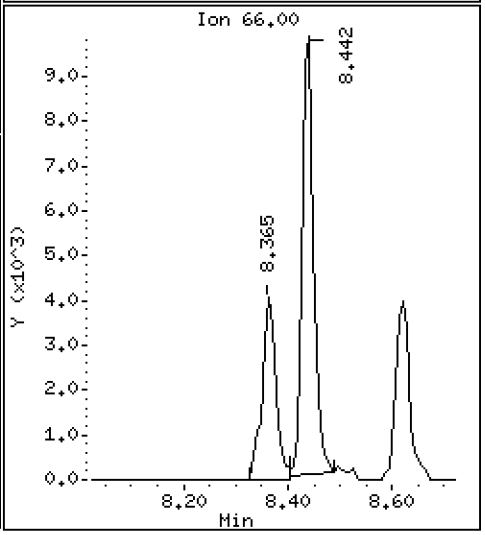


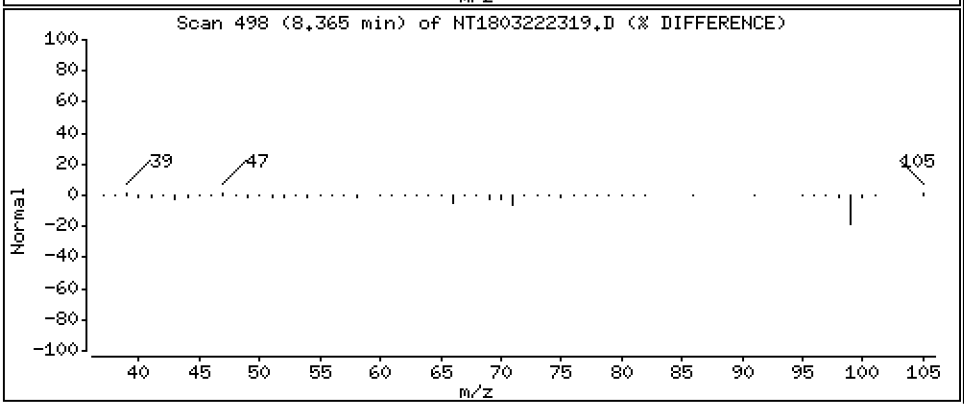












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

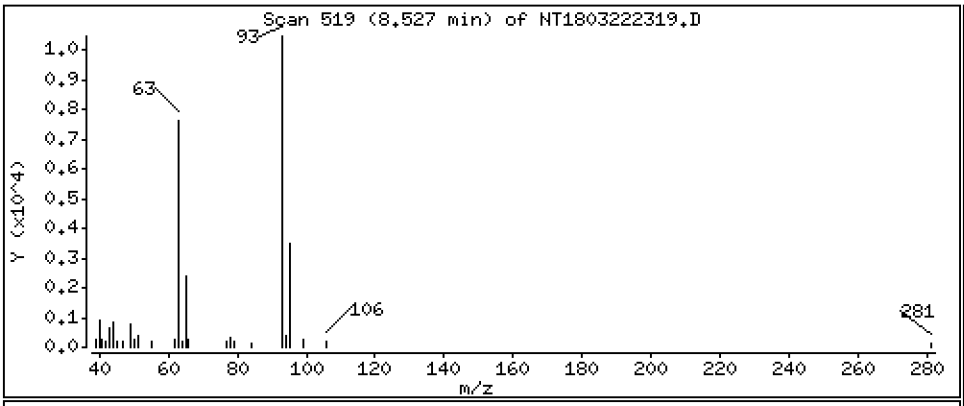
Operator: VTS

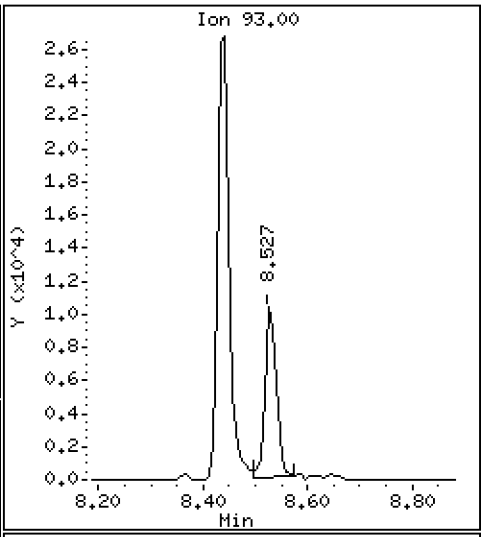
Column phase: ZB-5msi

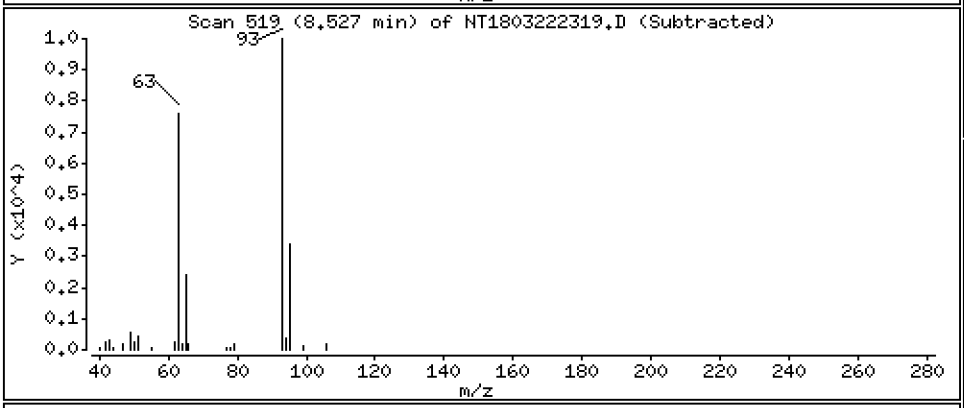
Column diameter: 0.25

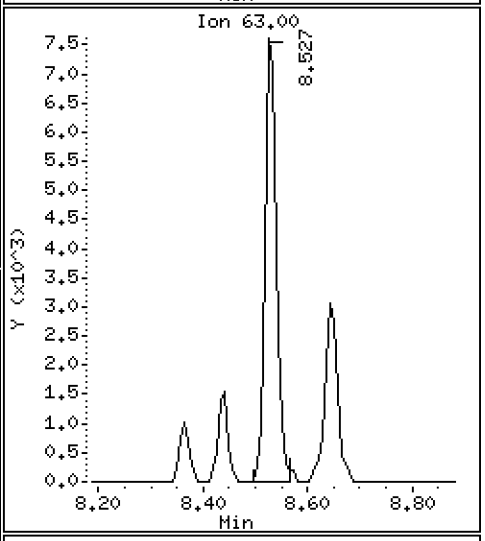
4 Bis(2-Chloroethyl)ether

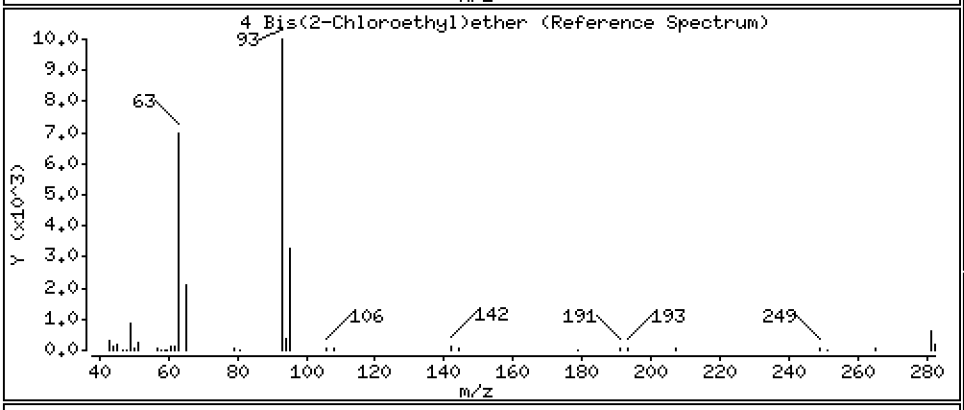
Concentration: 0.1876 ug/mL

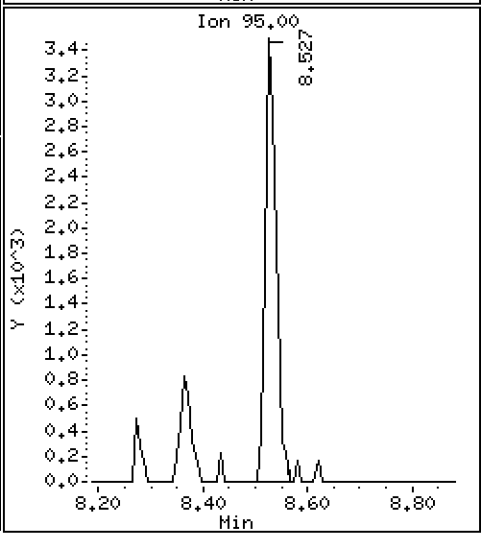


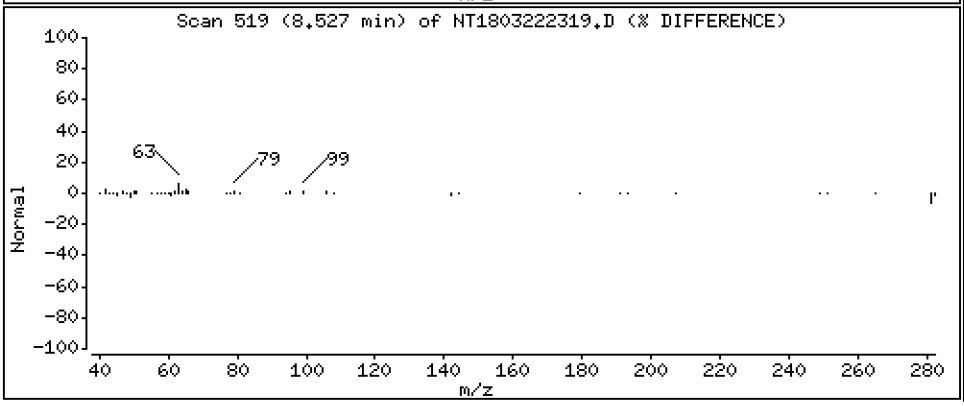












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

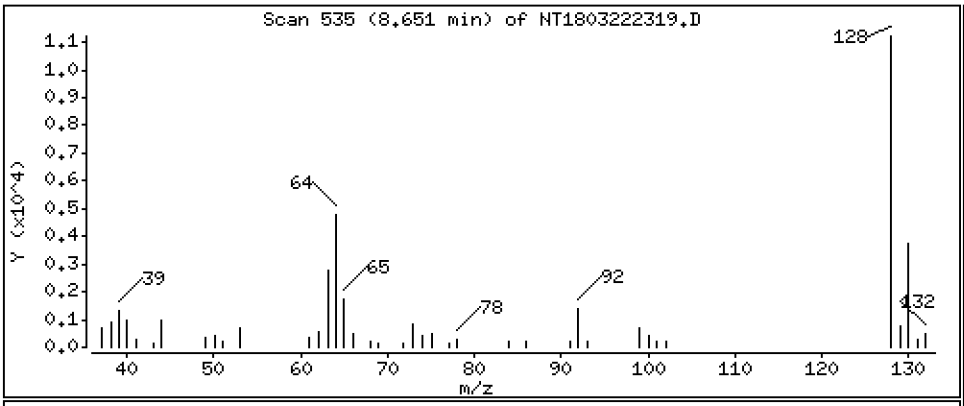
Operator: VTS

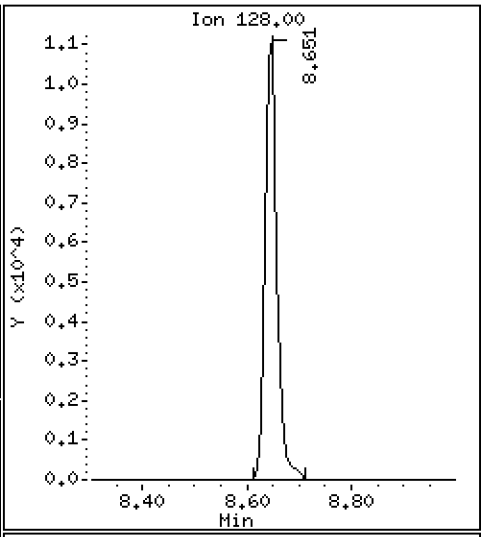
Column phase: ZB-5msi

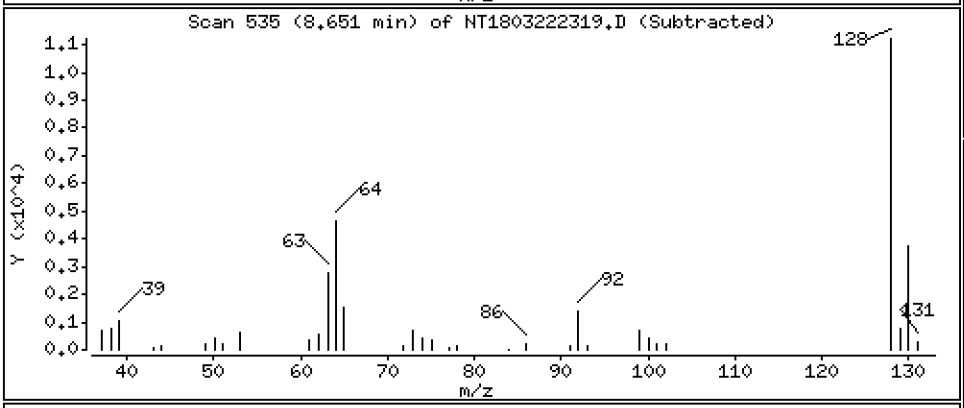
Column diameter: 0.25

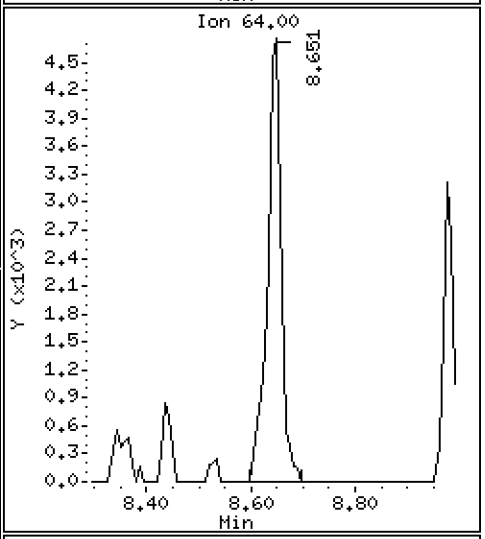
6 2-Chlorophenol

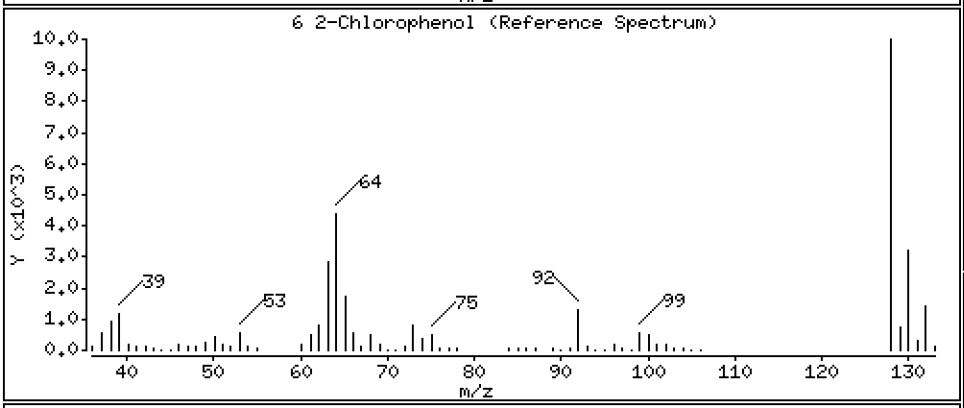
Concentration: 0.1853 ug/mL

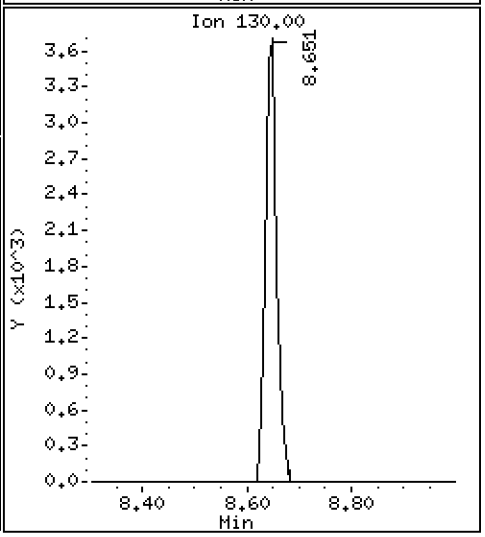


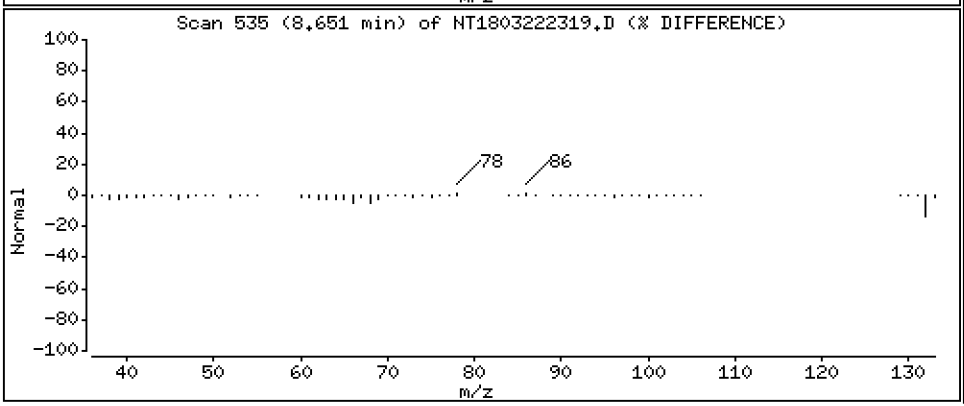












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

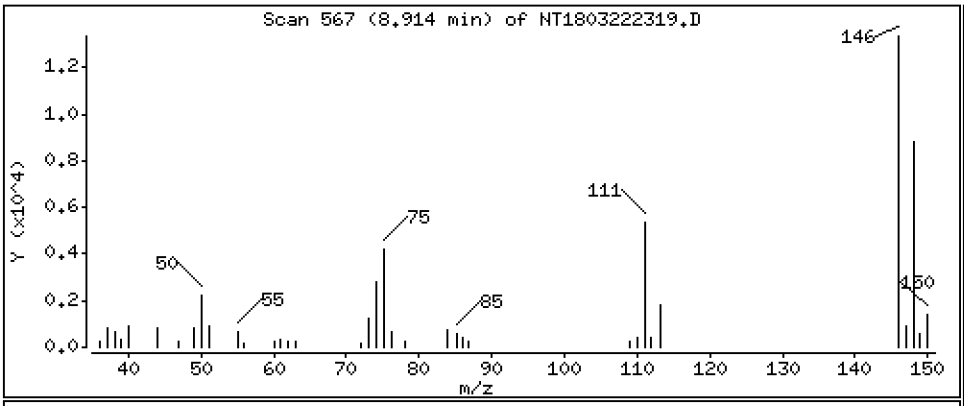
Operator: VTS

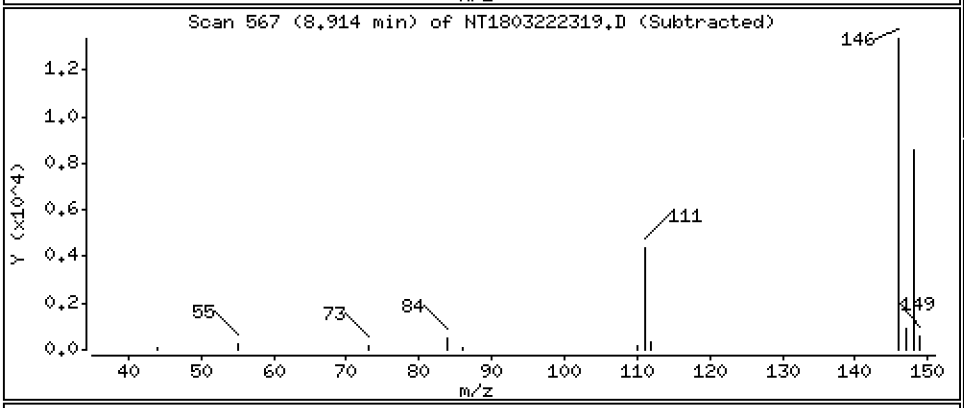
Column phase: ZB-5msi

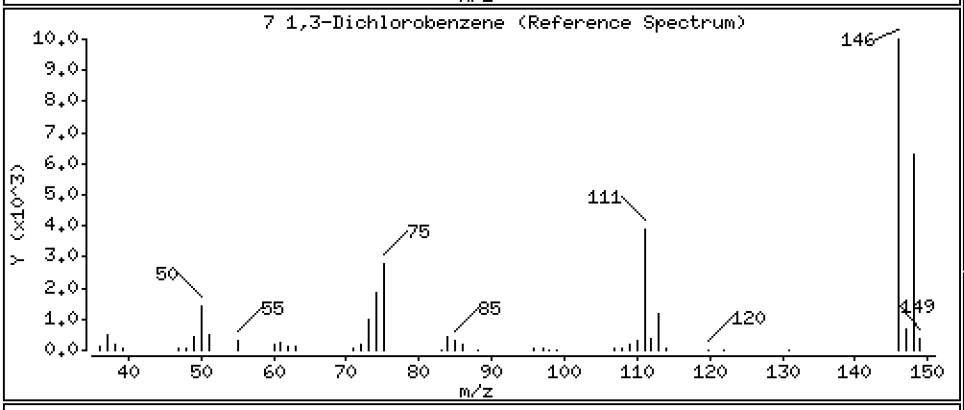
Column diameter: 0.25

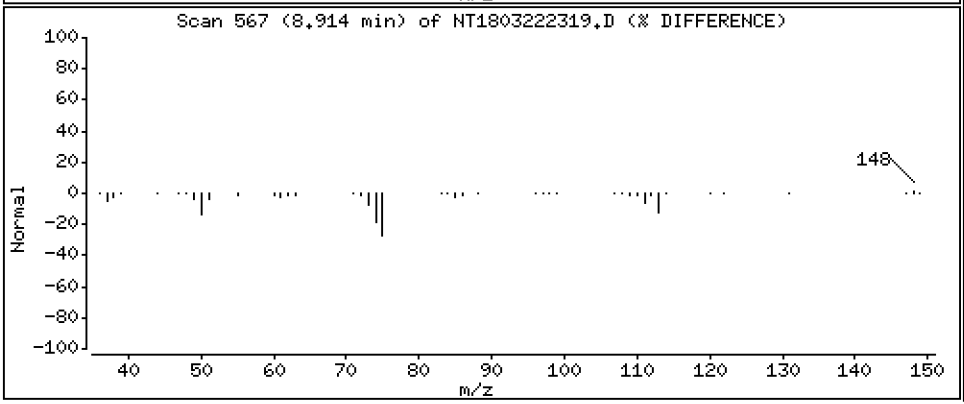
7 1,3-Dichlorobenzene

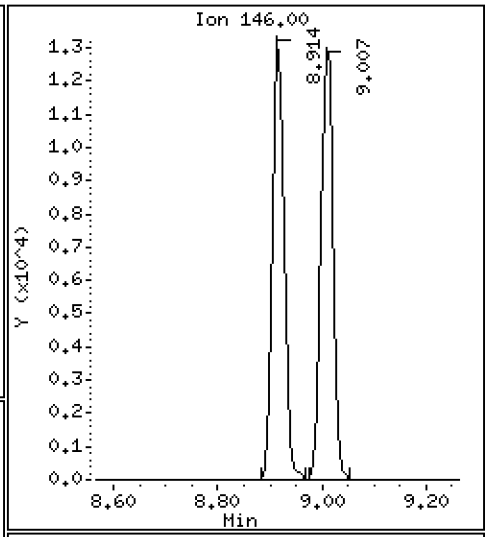
Concentration: 0.1962 ug/mL

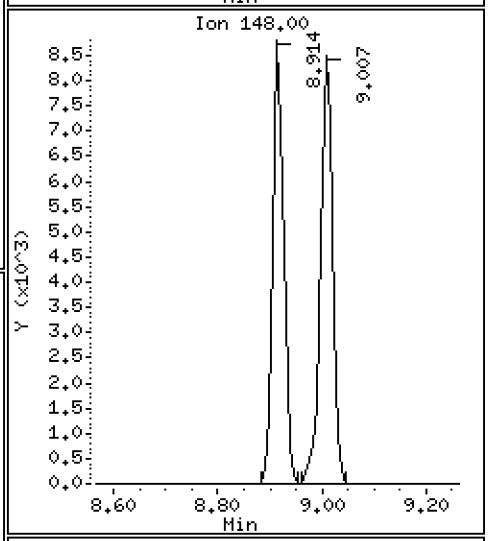


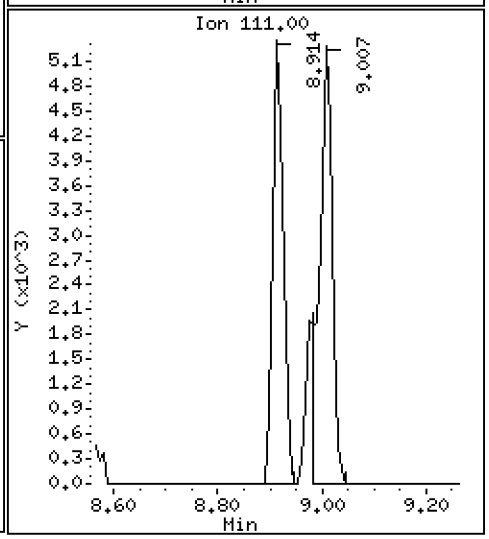












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

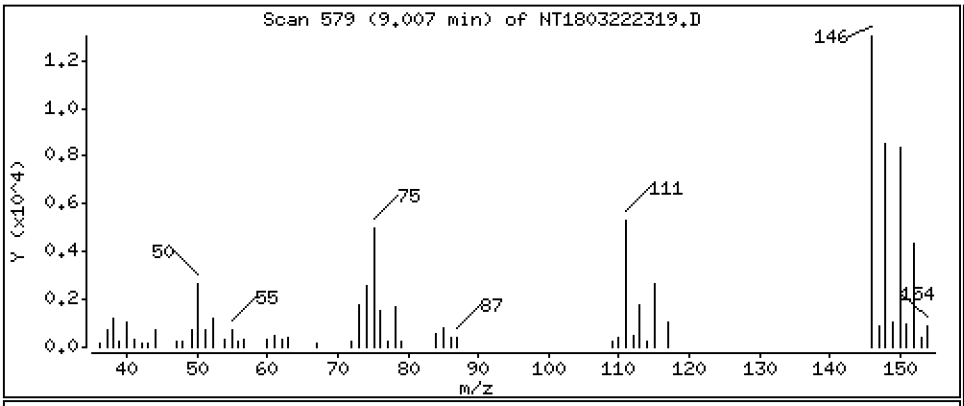
Operator: VTS

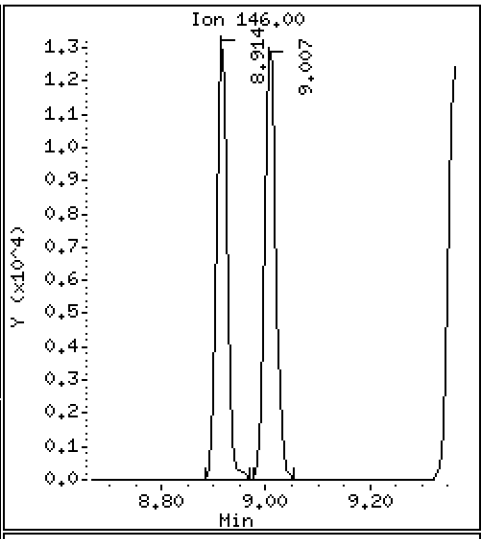
Column phase: ZB-5msi

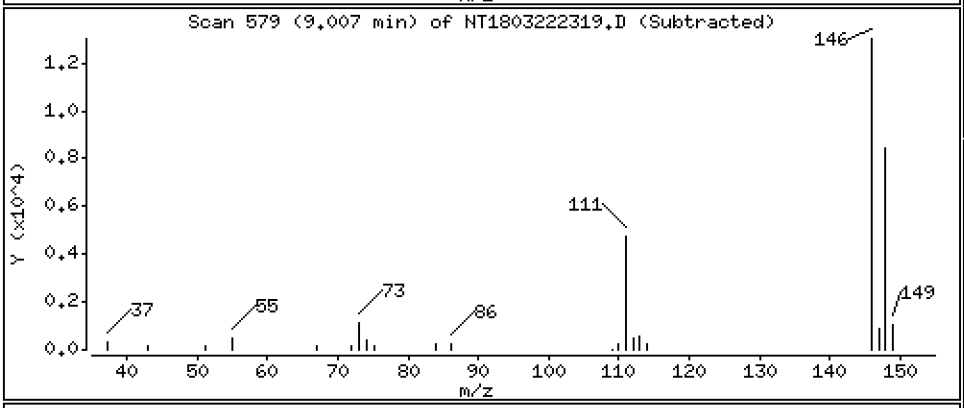
Column diameter: 0.25

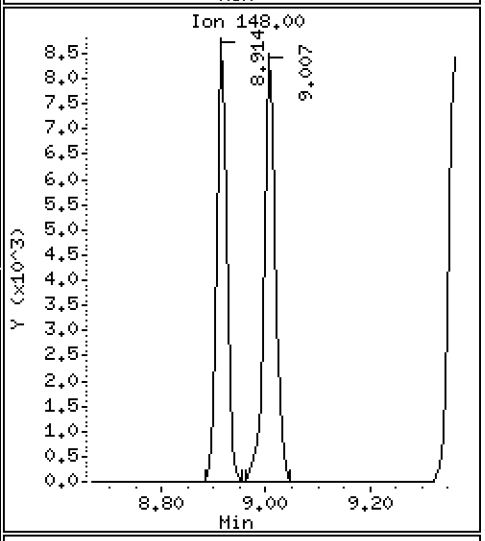
9 1,4-Dichlorobenzene

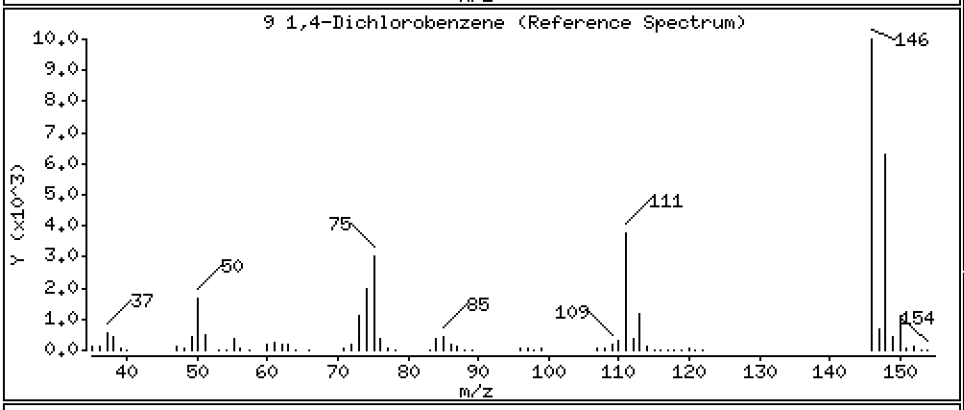
Concentration: 0.1965 ug/mL

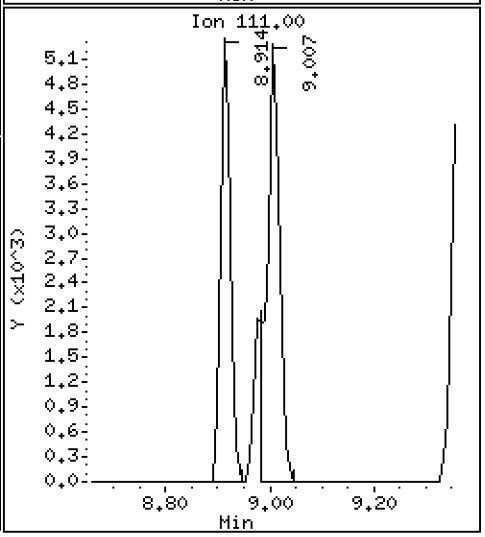


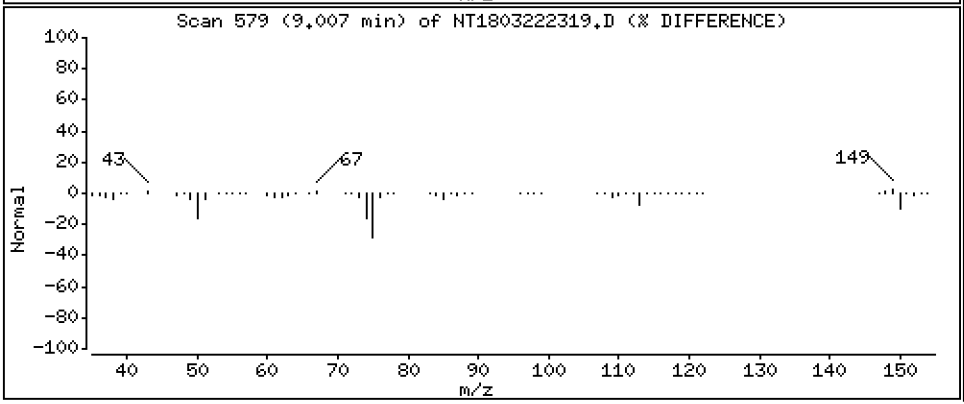












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

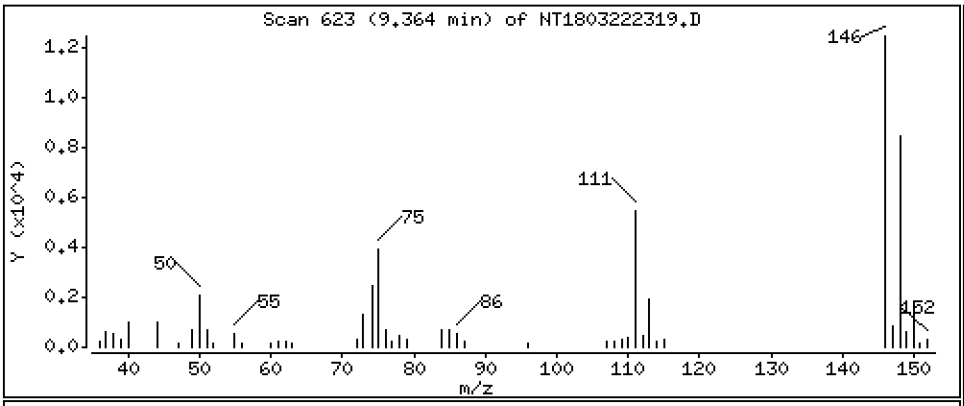
Operator: VTS

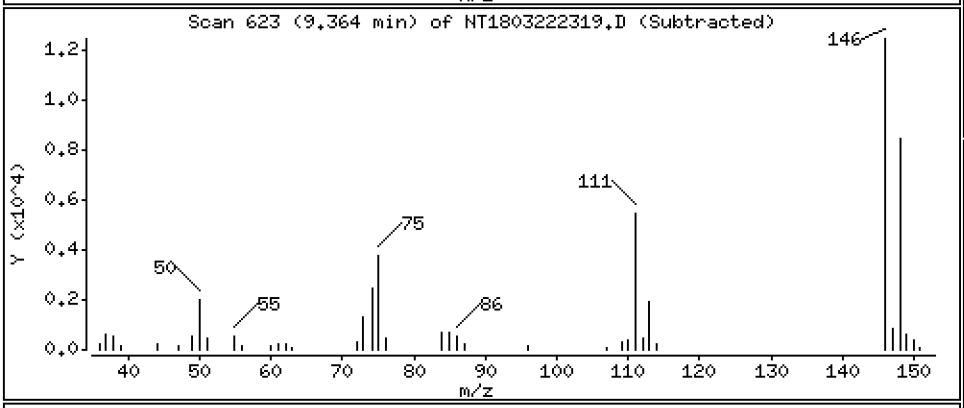
Column phase: ZB-5msi

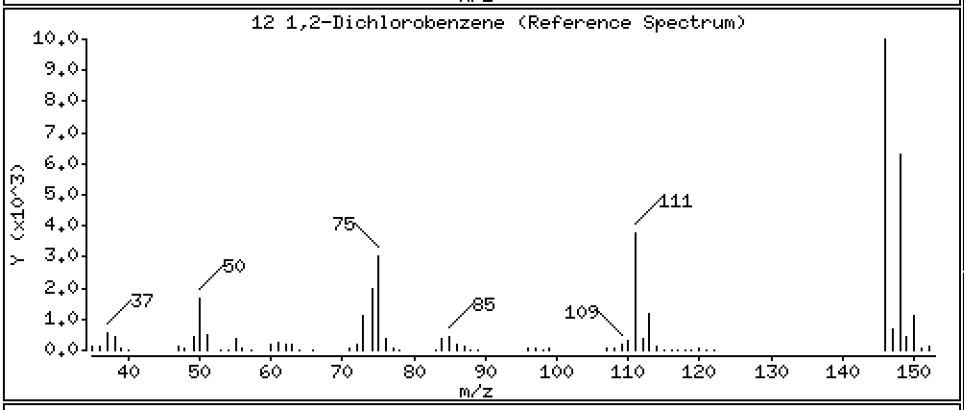
Column diameter: 0.25

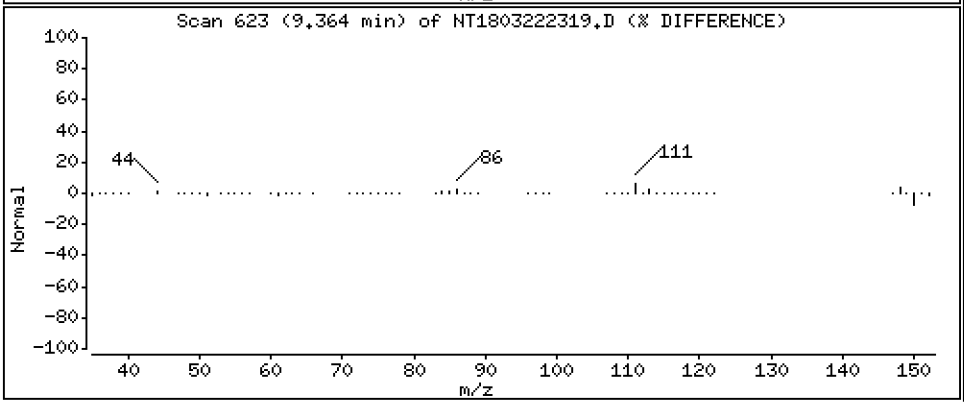
12 1,2-Dichlorobenzene

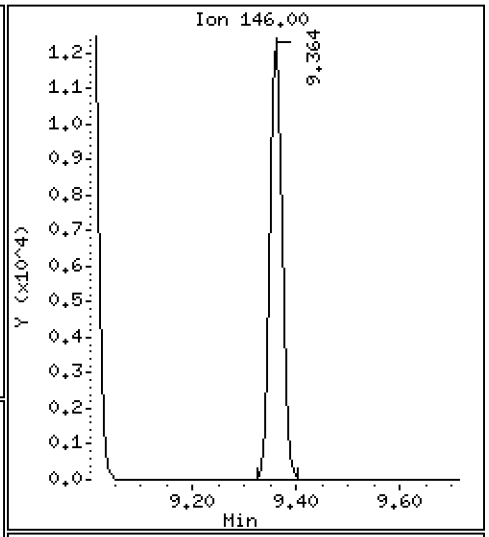
Concentration: 0.1925 ug/mL

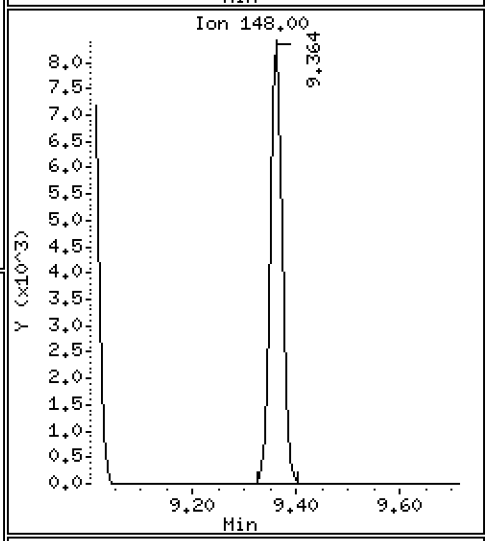


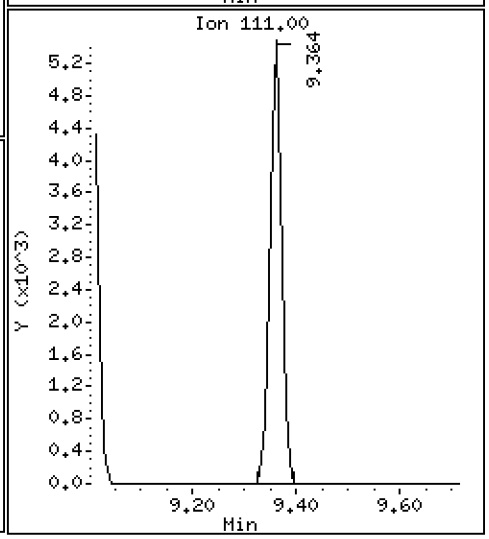












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

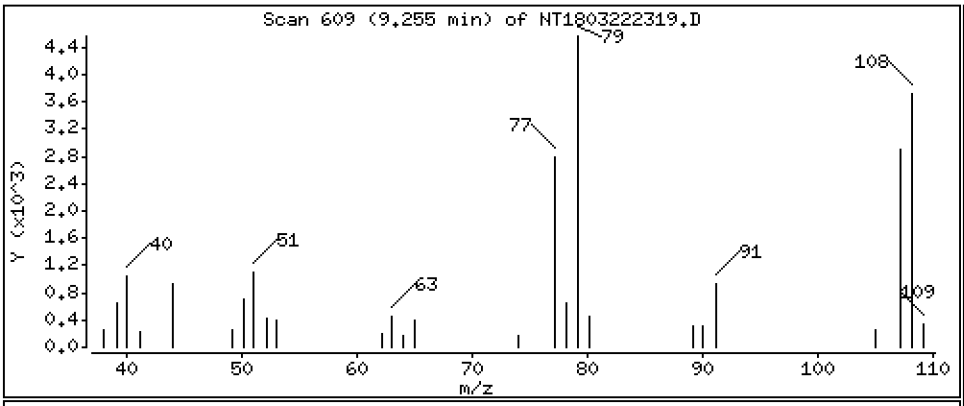
Operator: VTS

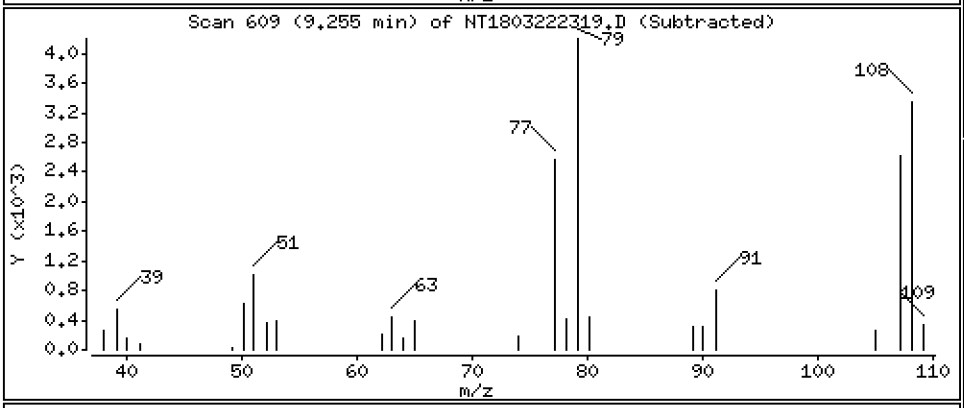
Column phase: ZB-5msi

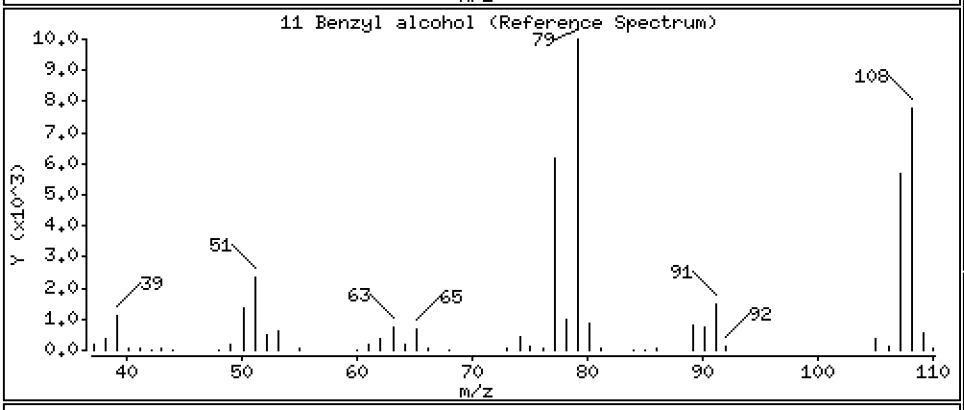
Column diameter: 0.25

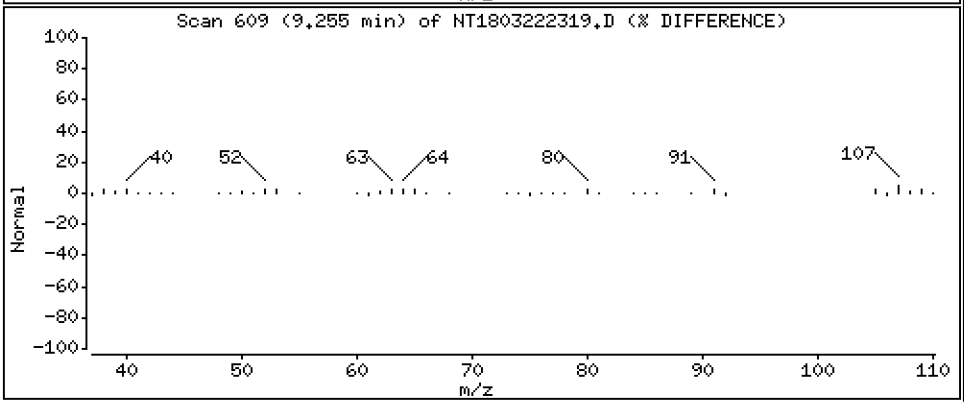
11 Benzyl alcohol

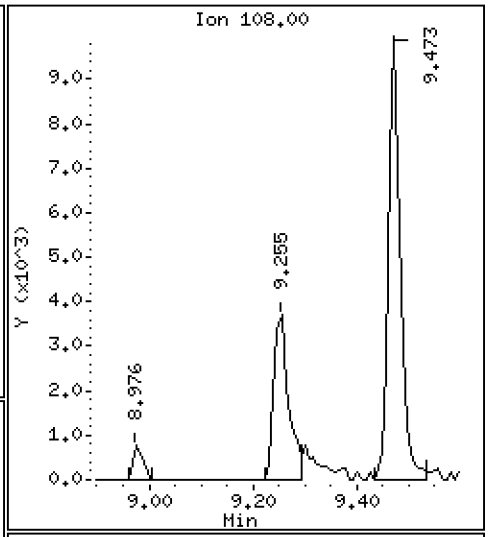
Concentration: 0.1369 ug/mL

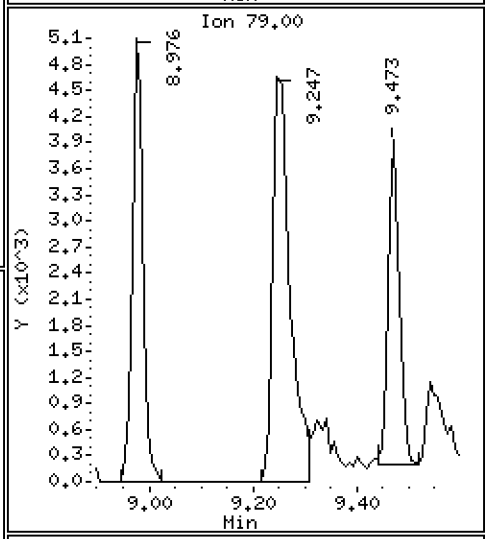


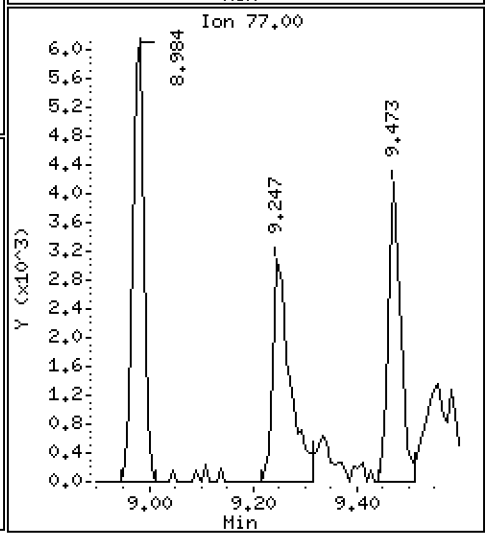












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

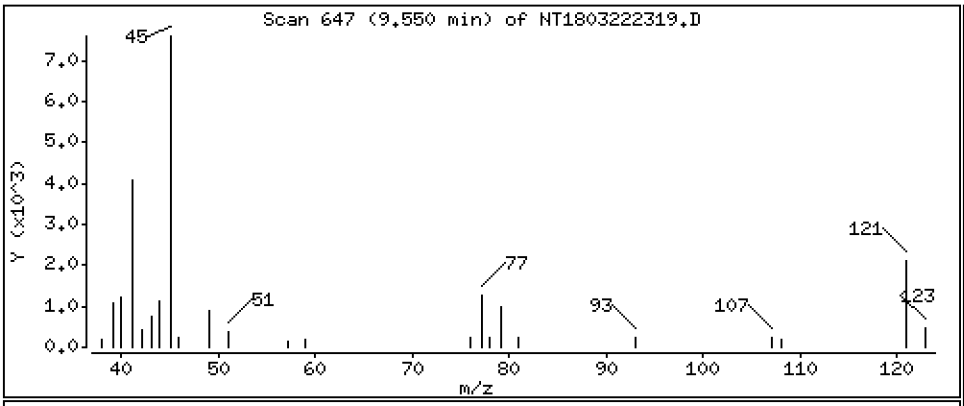
Operator: VTS

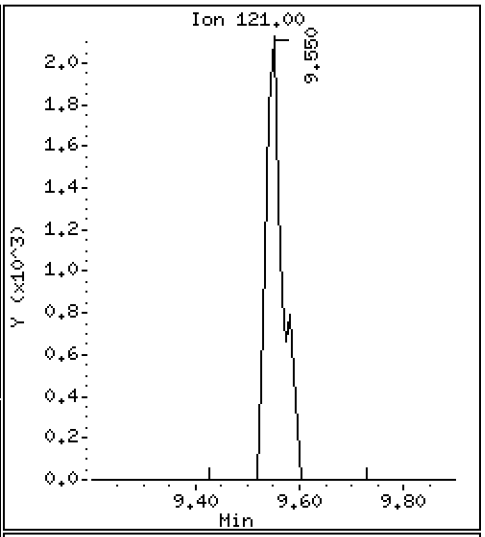
Column phase: ZB-5msi

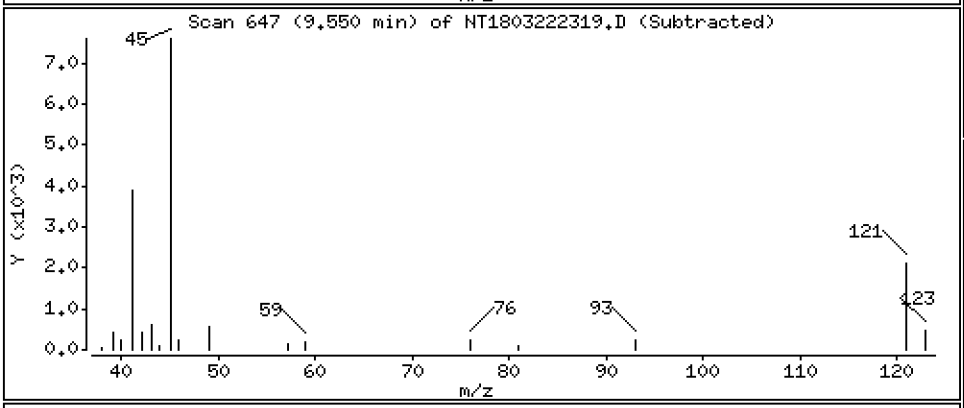
Column diameter: 0.25

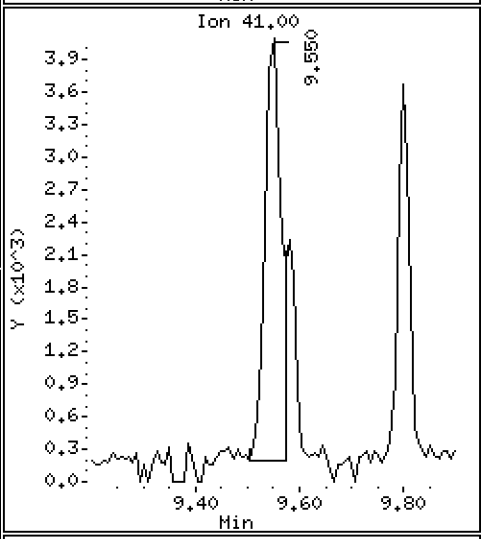
14 2,2'-oxybis(1-Chloropropane)

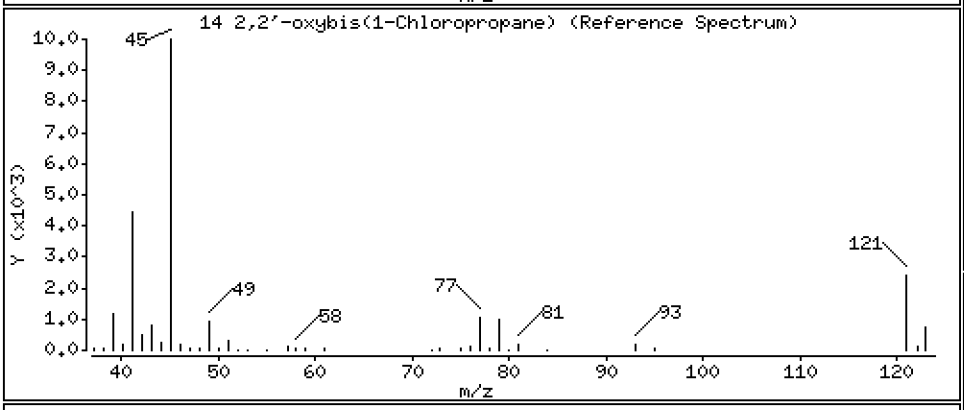
Concentration: 0.2060 ug/mL

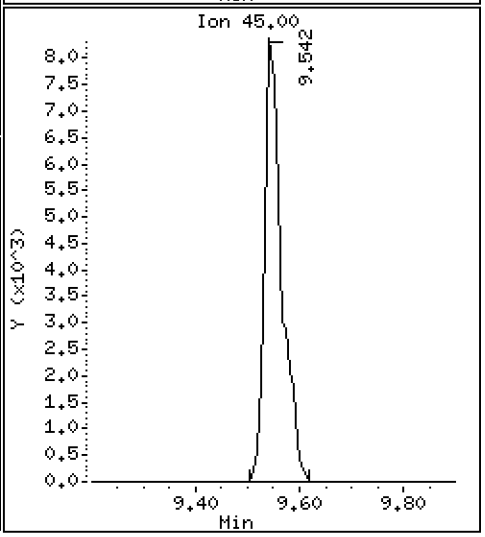


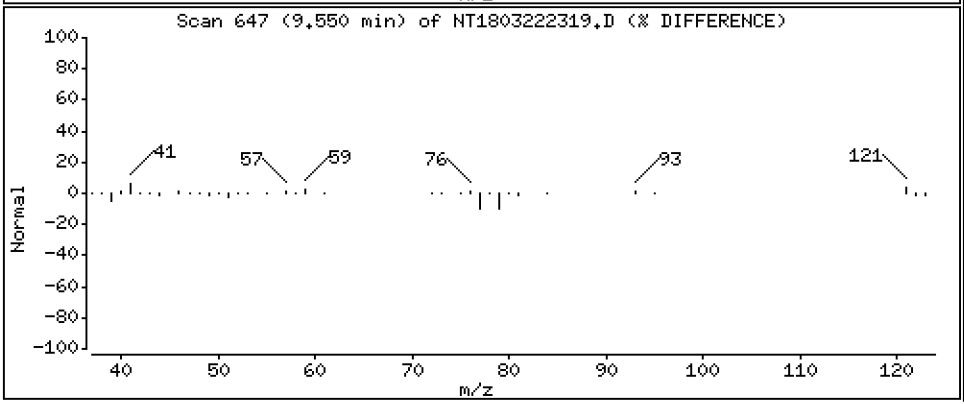












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

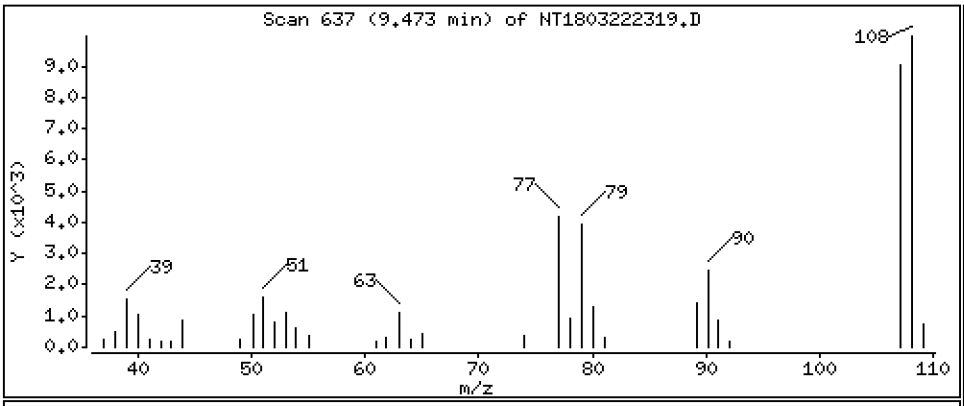
Operator: VTS

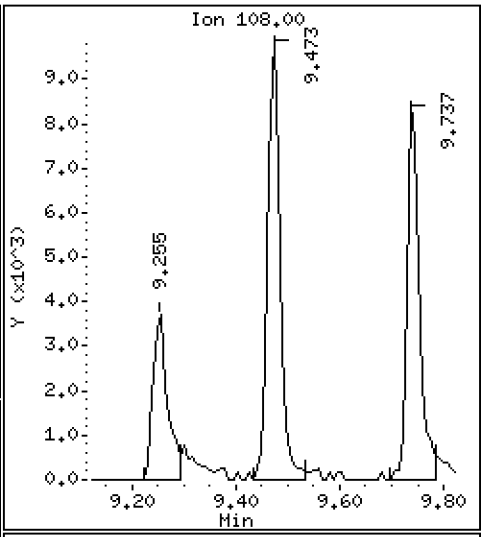
Column phase: ZB-5msi

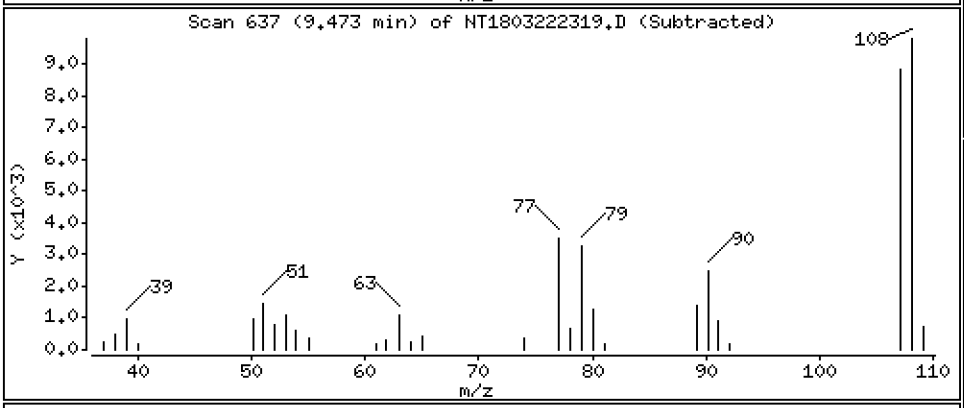
Column diameter: 0.25

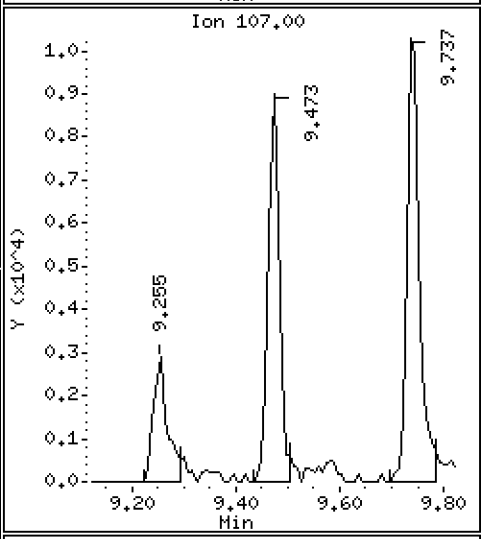
13 2-Methylphenol

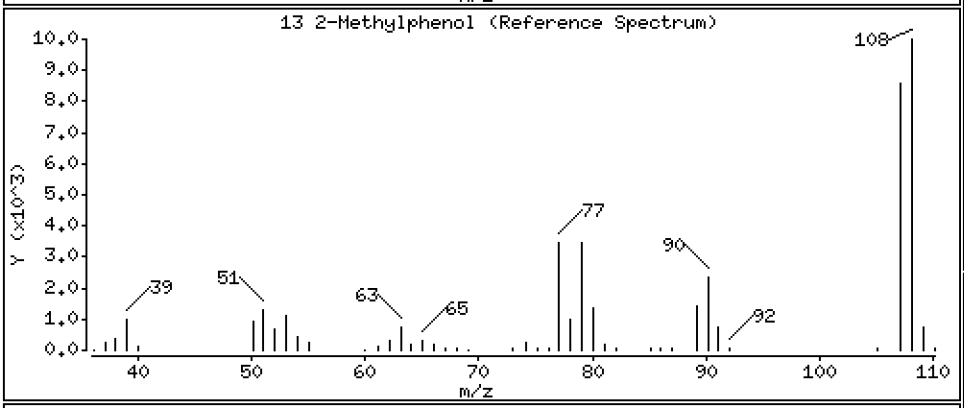
Concentration: 0.1826 ug/mL

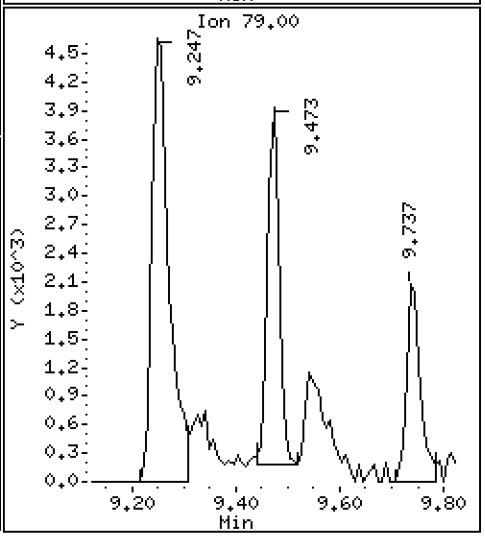


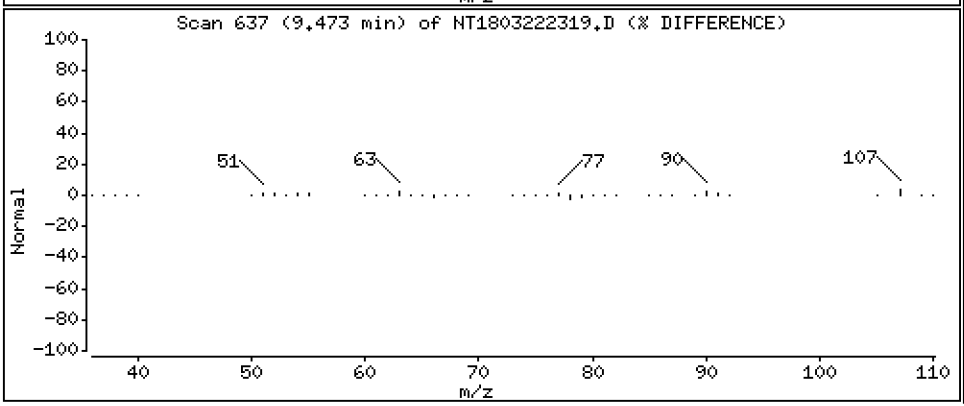












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D

Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

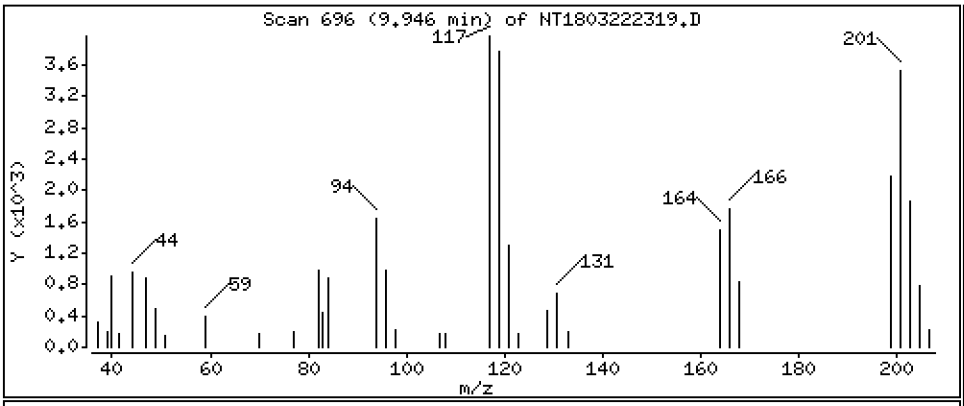
Operator: VTS

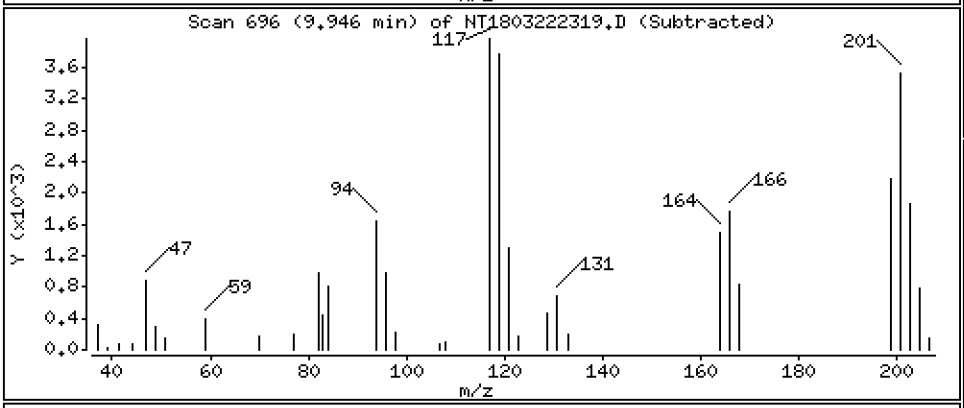
Column phase: ZB-5msi

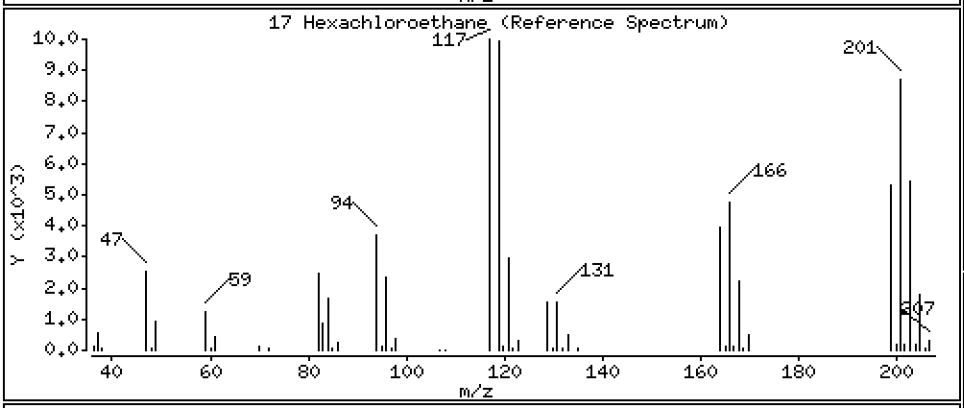
Column diameter: 0.25

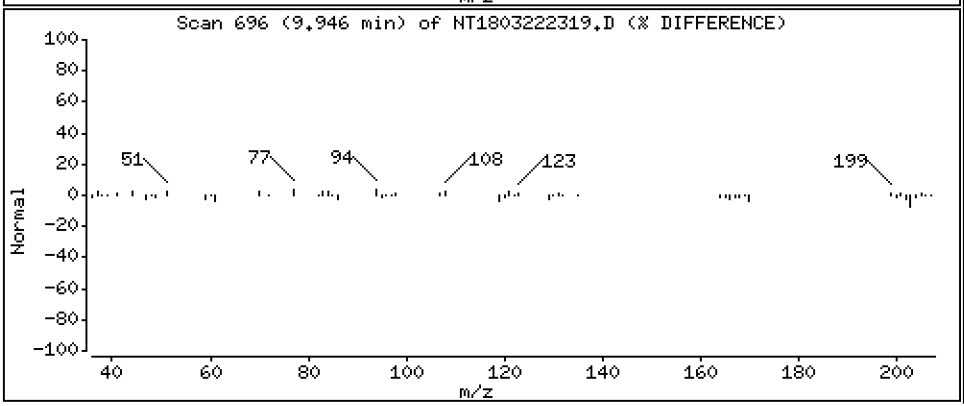
17 Hexachloroethane

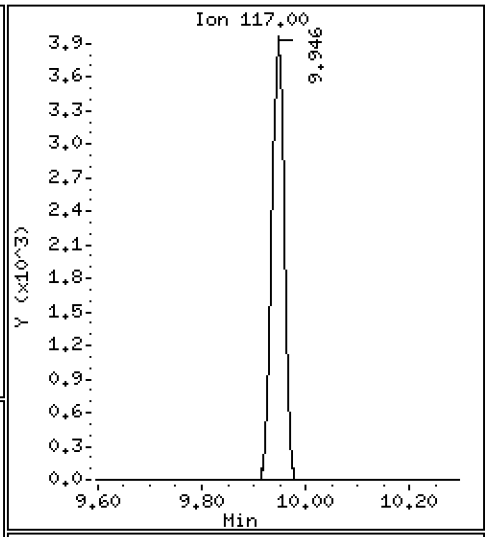
Concentration: 0.1556 ug/mL

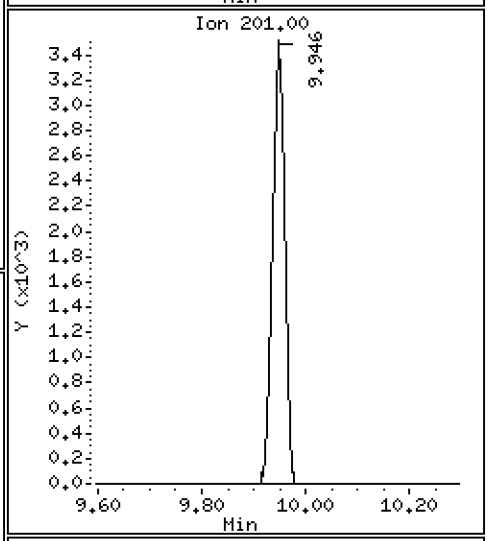


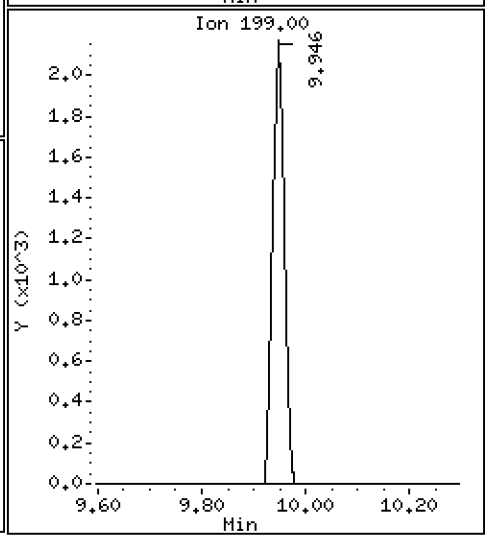












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

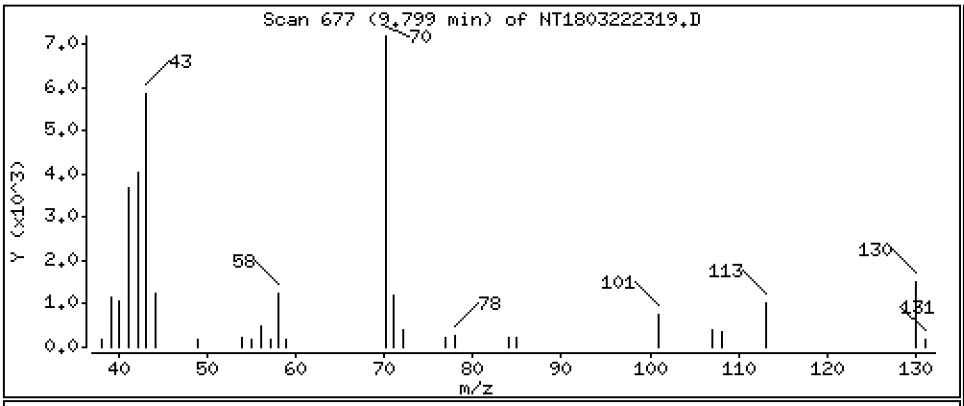
Operator: VTS

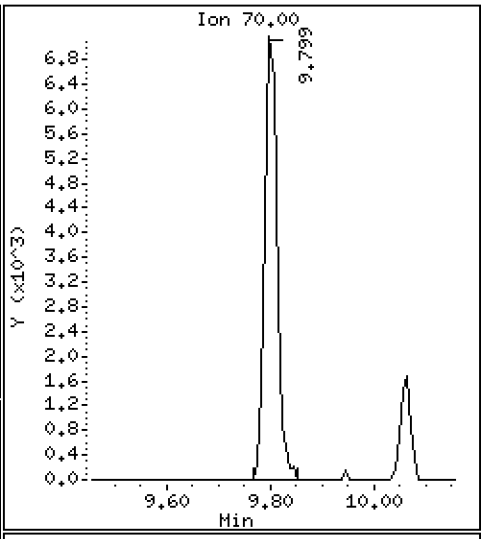
Column phase: ZB-5msi

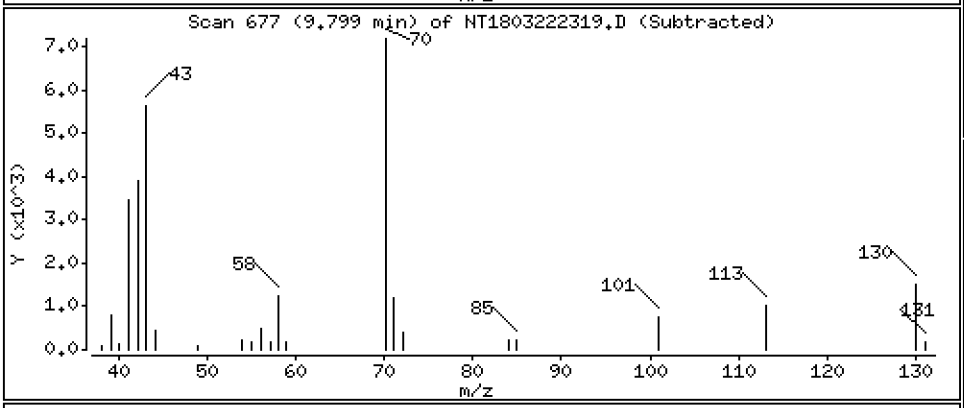
Column diameter: 0.25

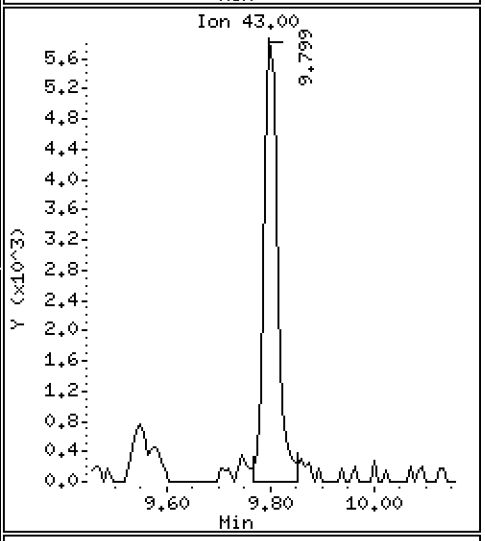
16 N-Nitroso-di-n-propylamine

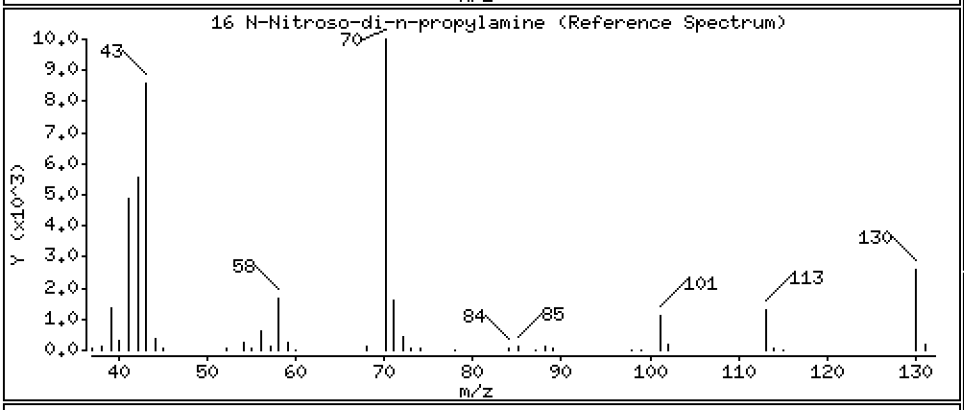
Concentration: 0.1867 ug/mL

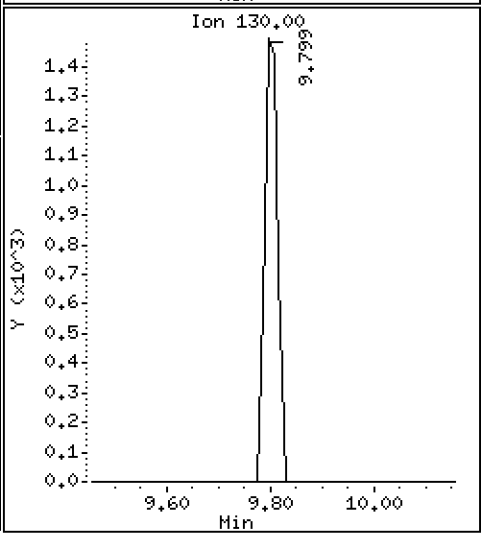


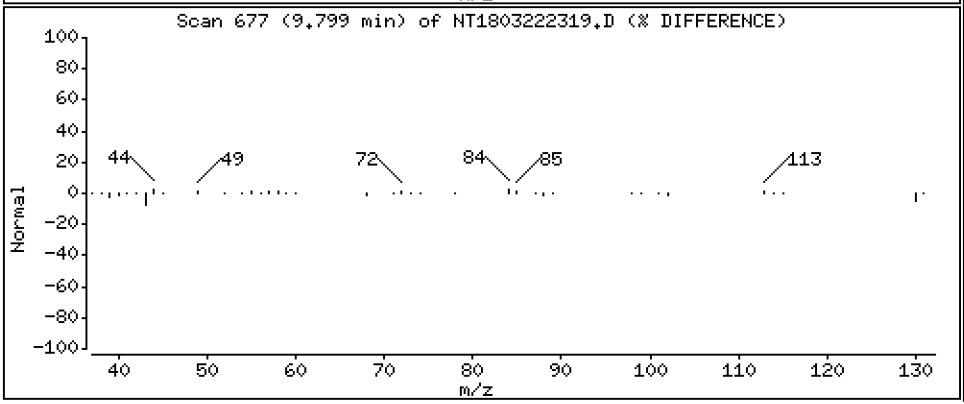












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

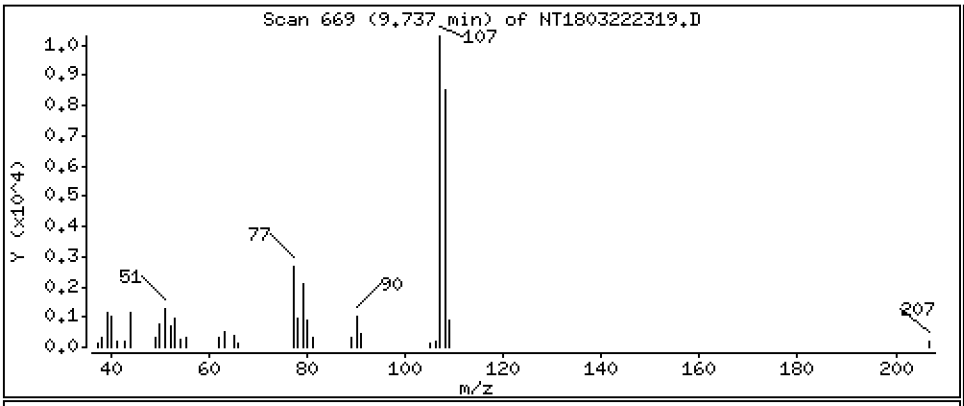
Operator: VTS

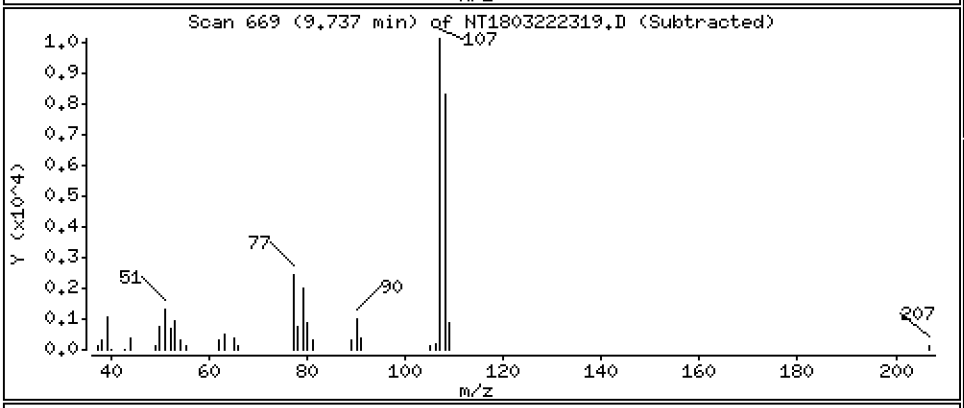
Column phase: ZB-5msi

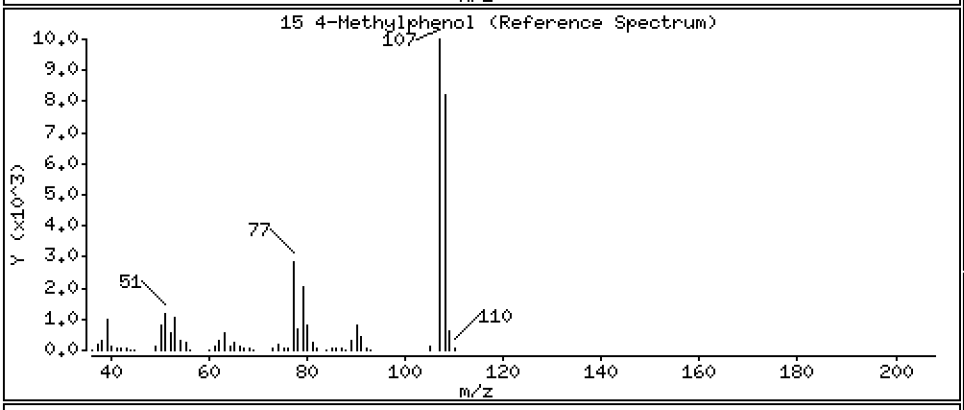
Column diameter: 0.25

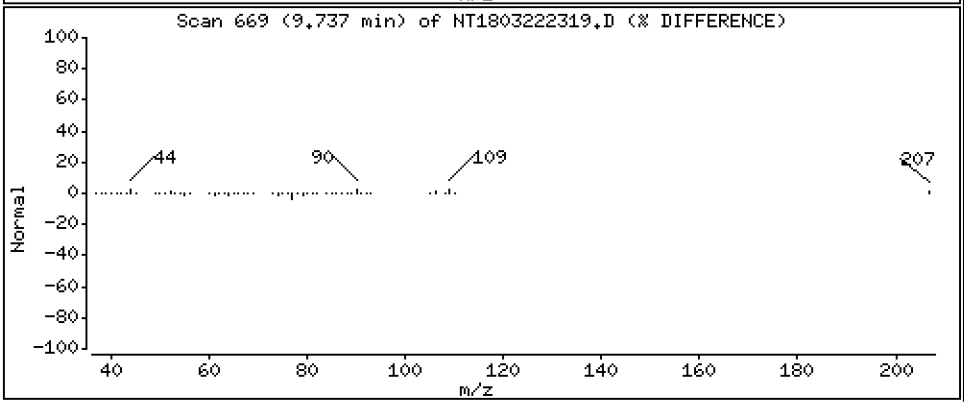
15 4-Methylphenol

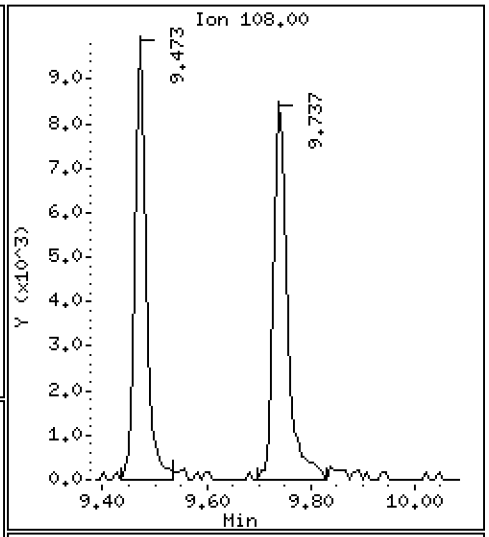
Concentration: 0.1735 ug/mL

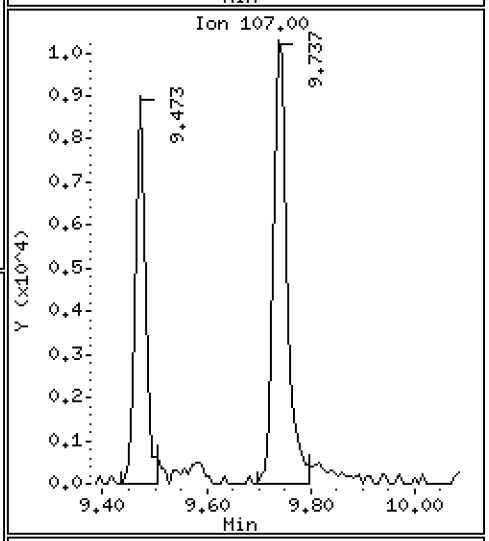


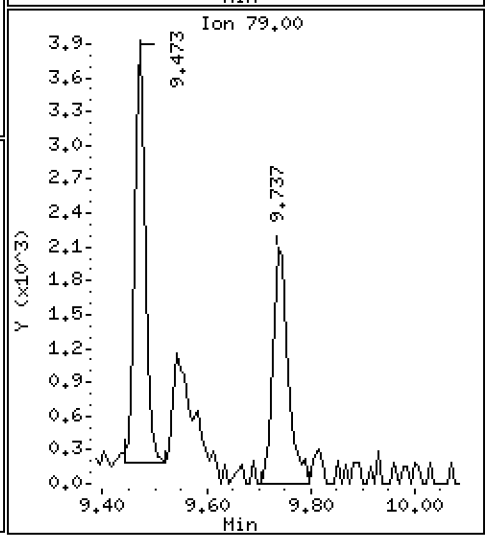












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

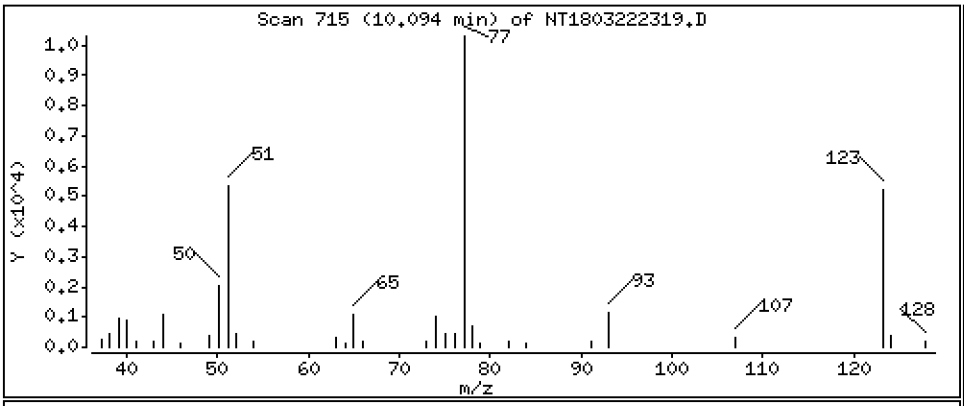
Operator: VTS

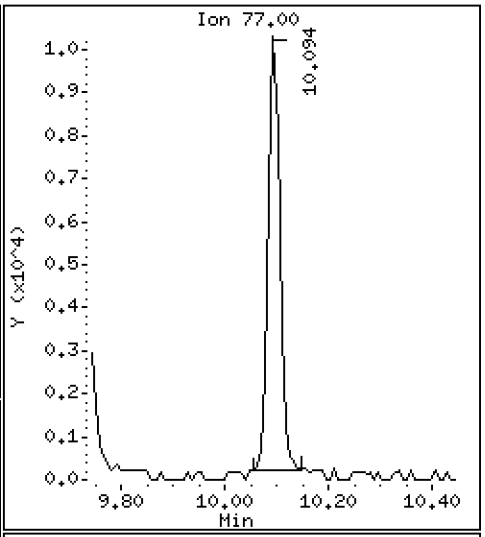
Column phase: ZB-5msi

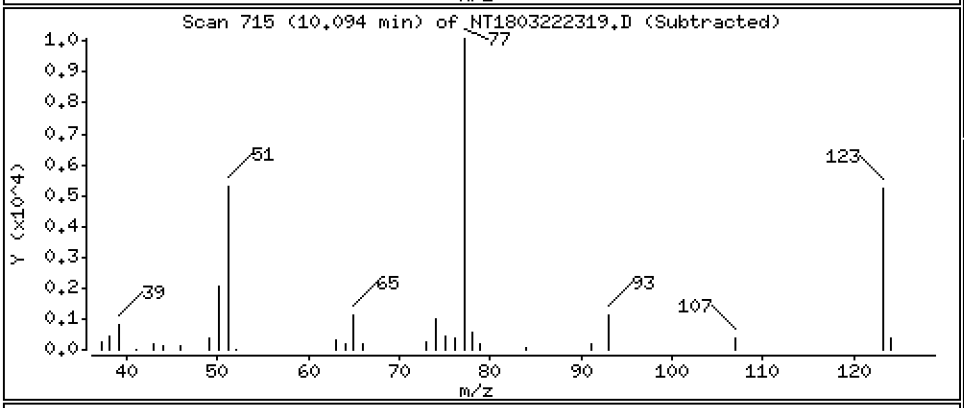
Column diameter: 0.25

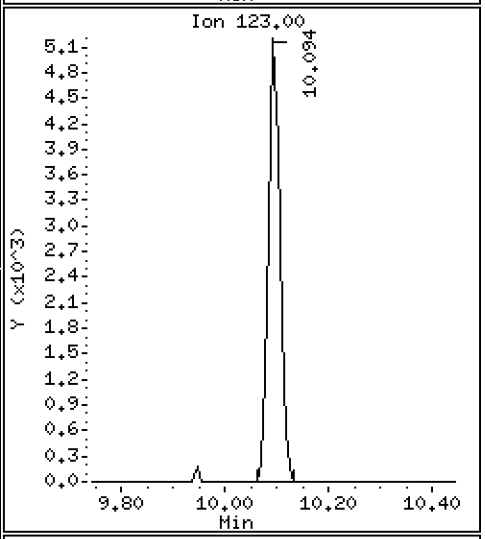
19 Nitrobenzene

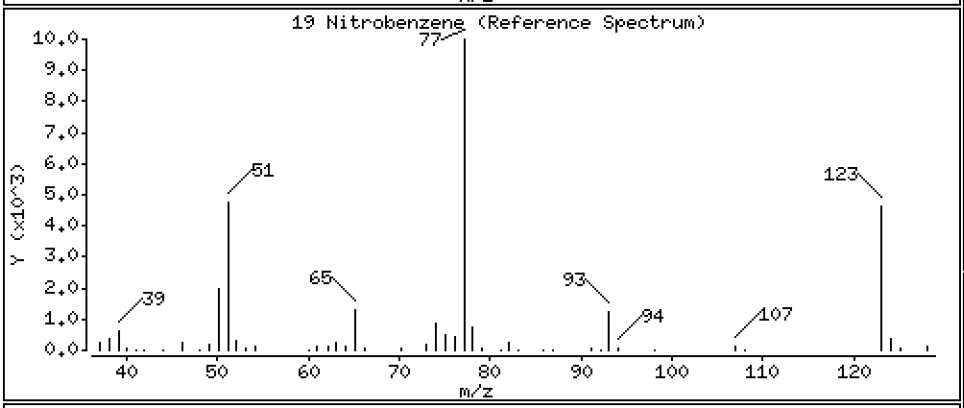
Concentration: 0.1825 ug/mL

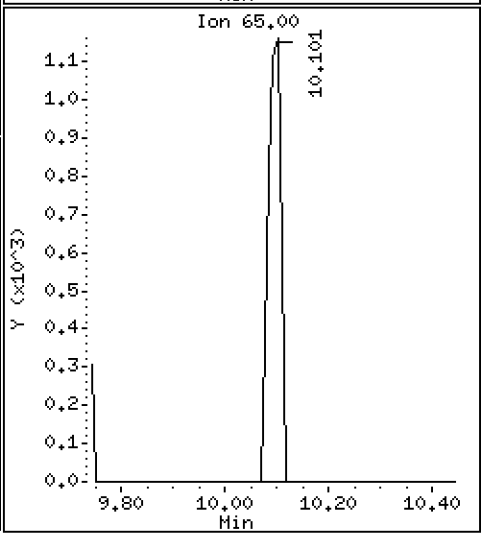


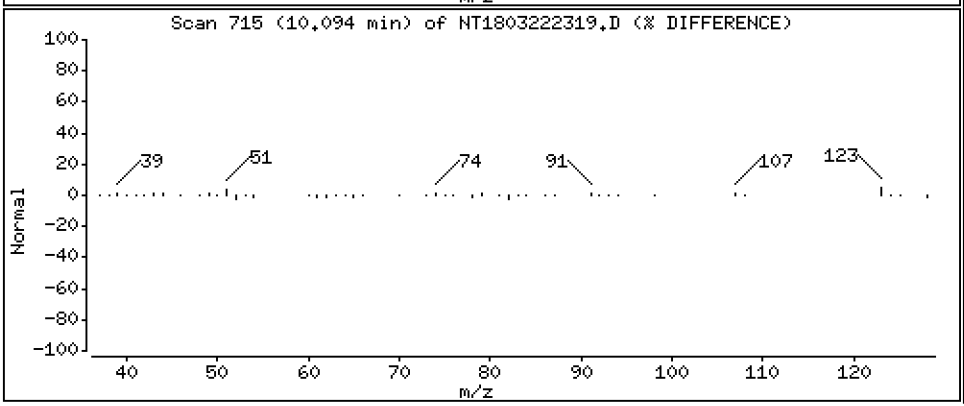












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

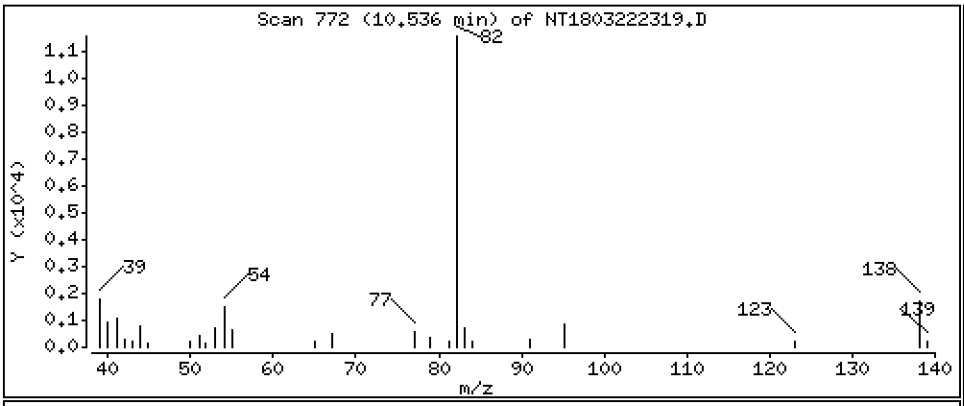
Operator: VTS

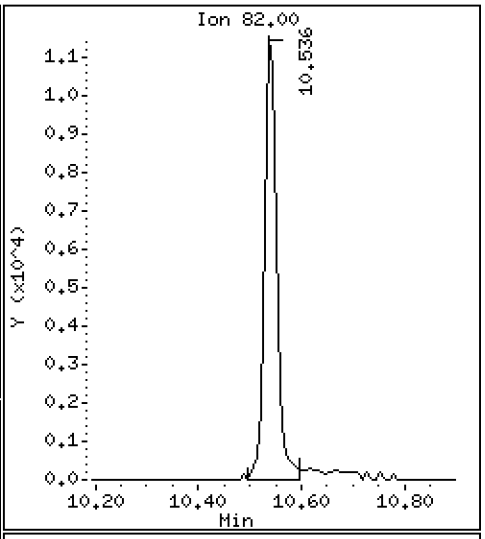
Column phase: ZB-5msi

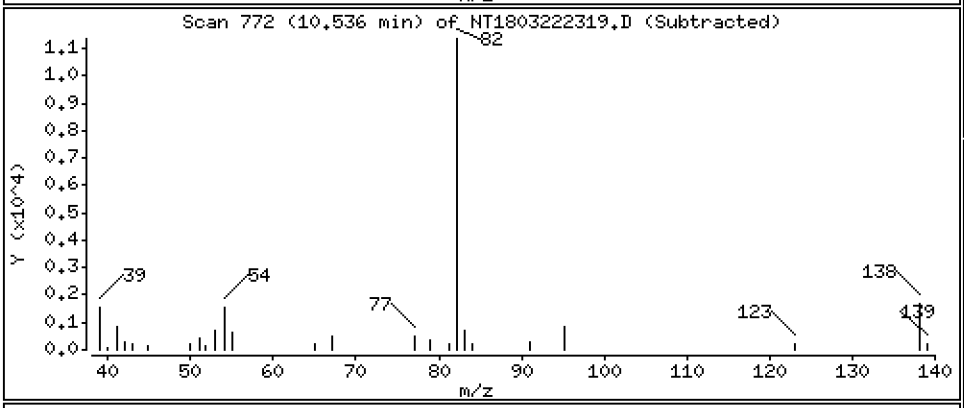
Column diameter: 0.25

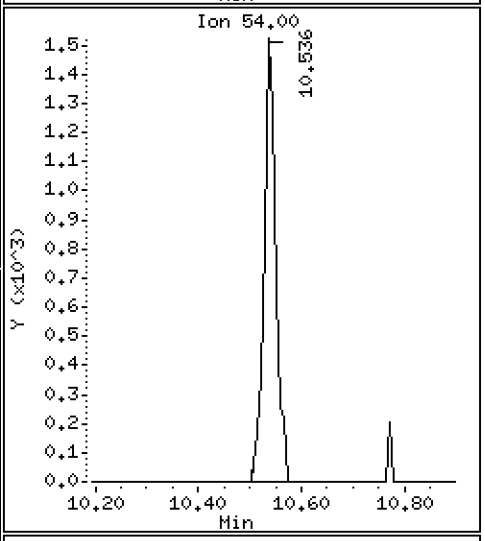
20 Isophorone

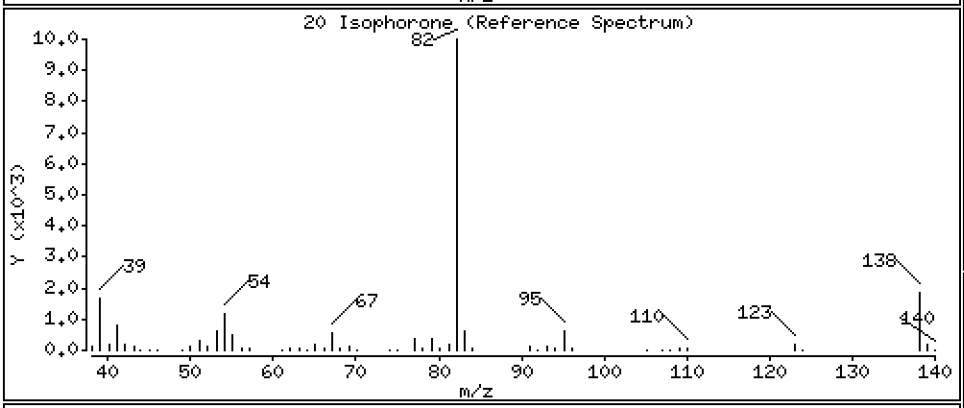
Concentration: 0.1782 ug/mL

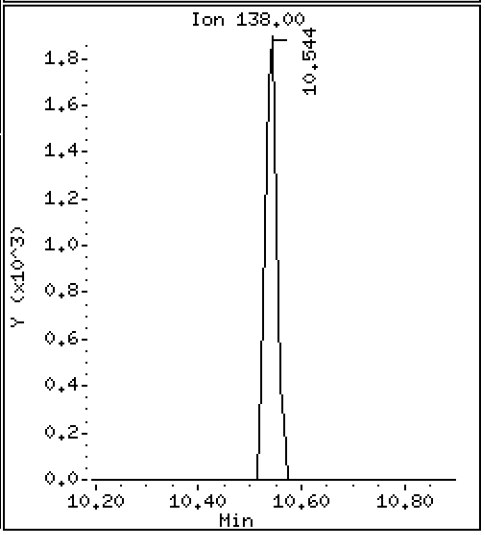


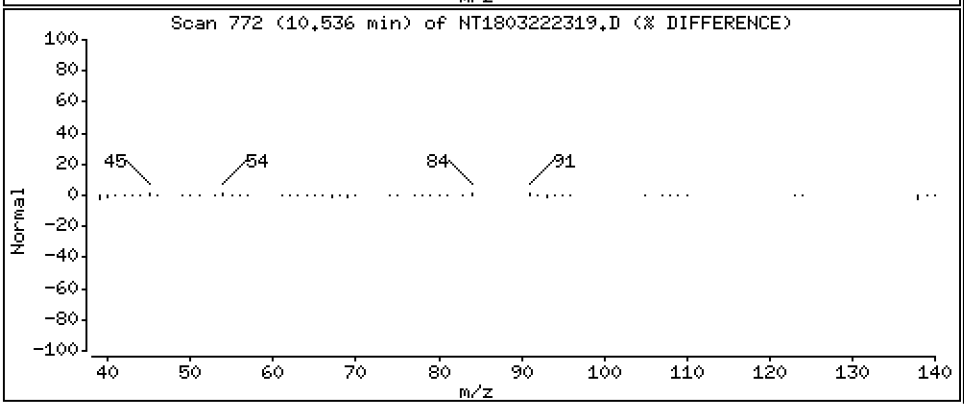












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

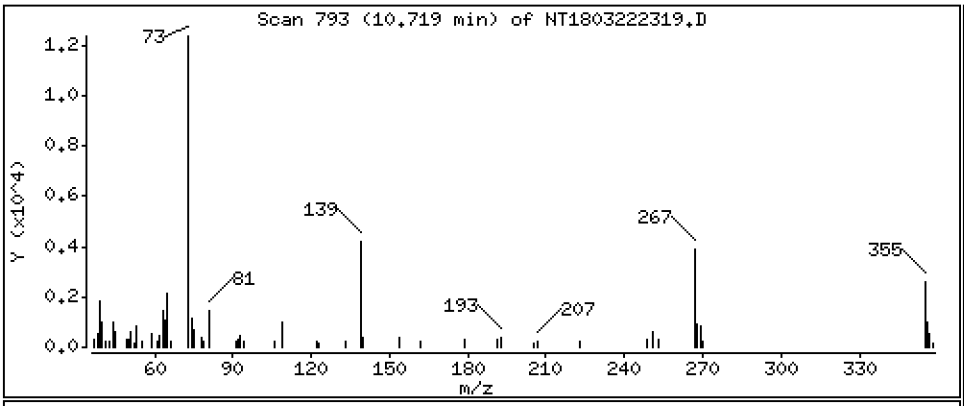
Operator: VTS

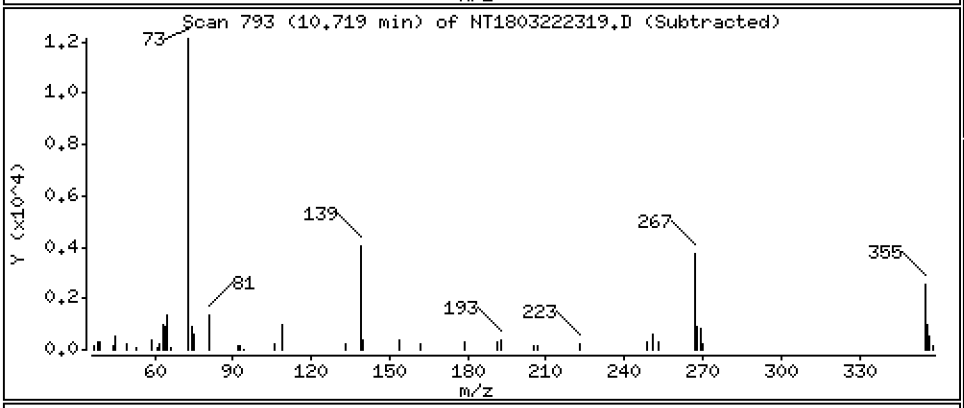
Column phase: ZB-5msi

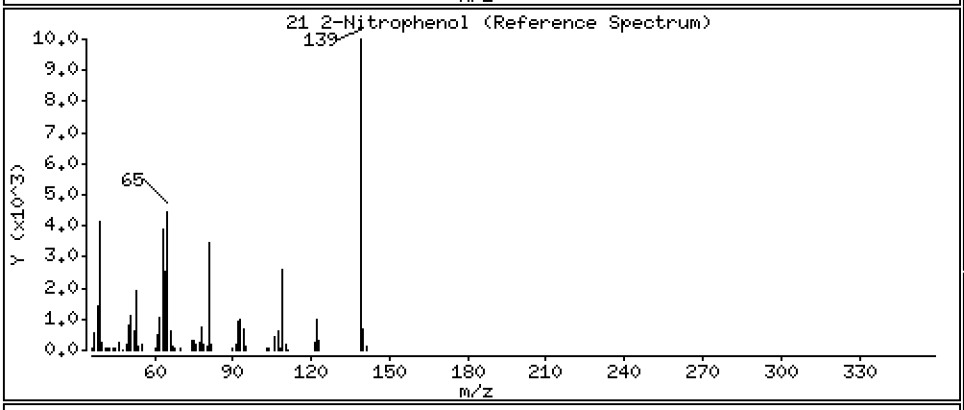
Column diameter: 0.25

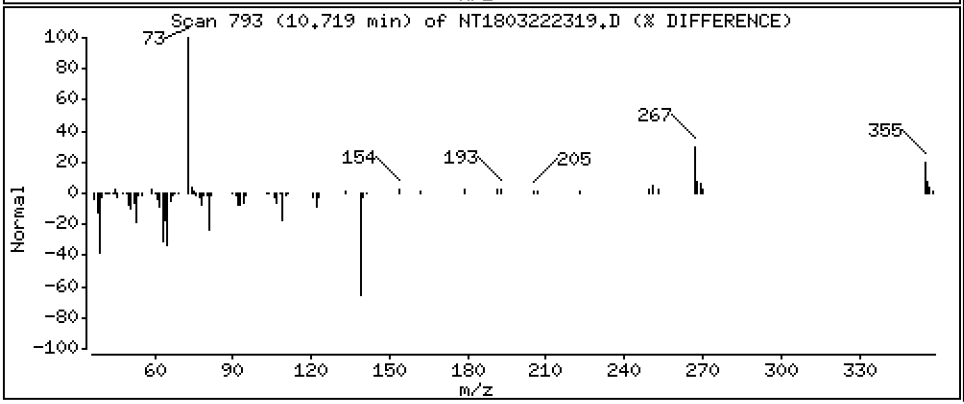
21 2-Nitrophenol

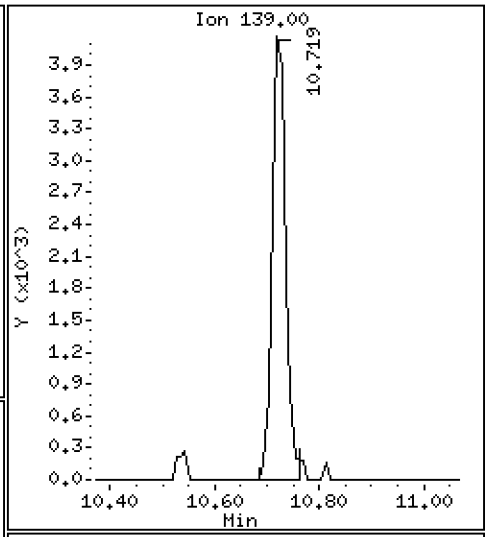
Concentration: 0.1554 ug/mL

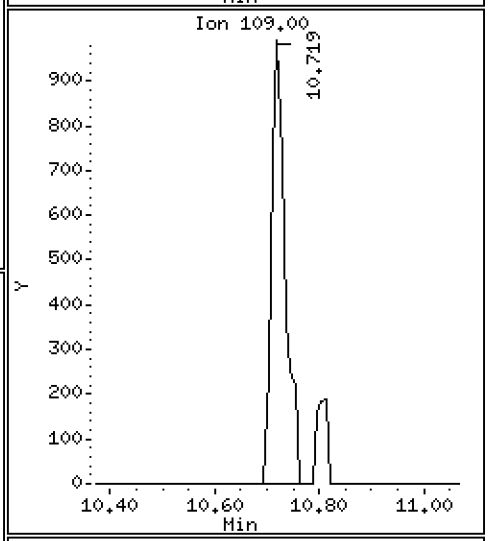


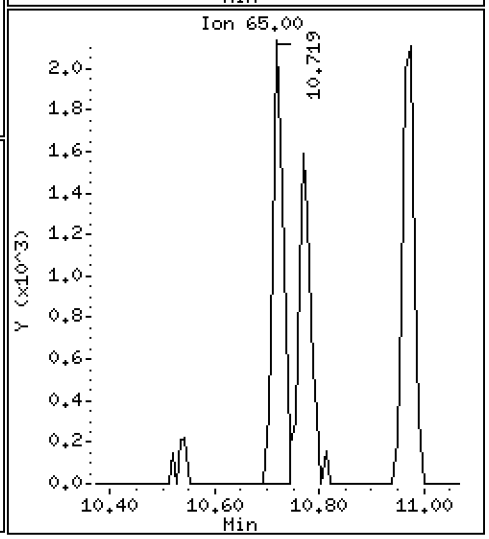












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

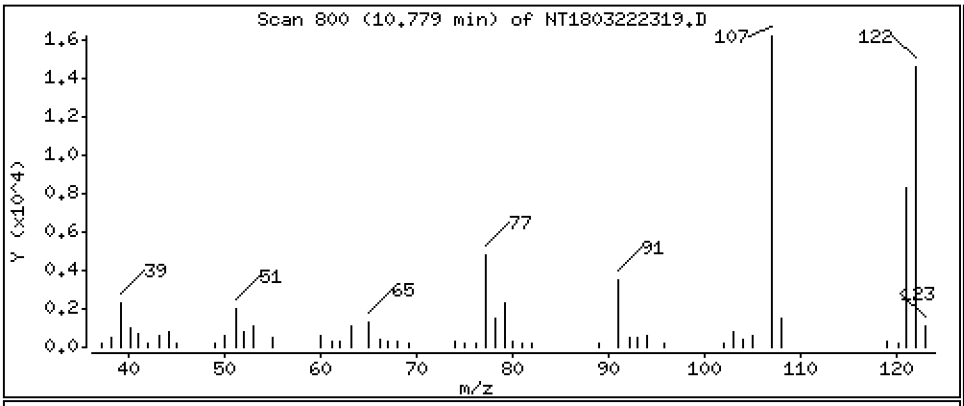
Operator: VTS

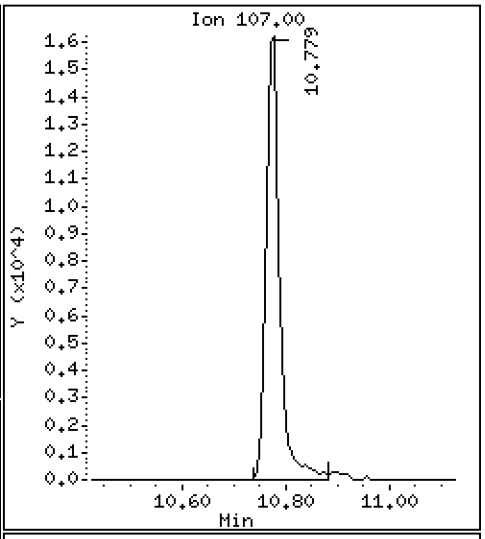
Column phase: ZB-5msi

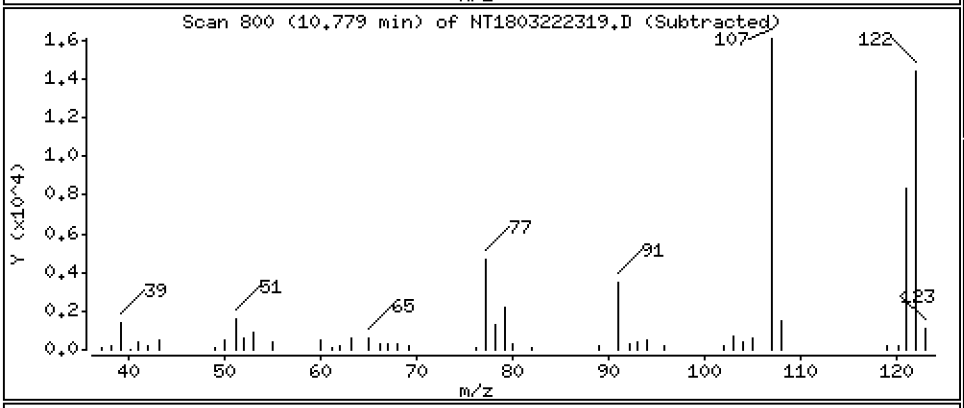
Column diameter: 0.25

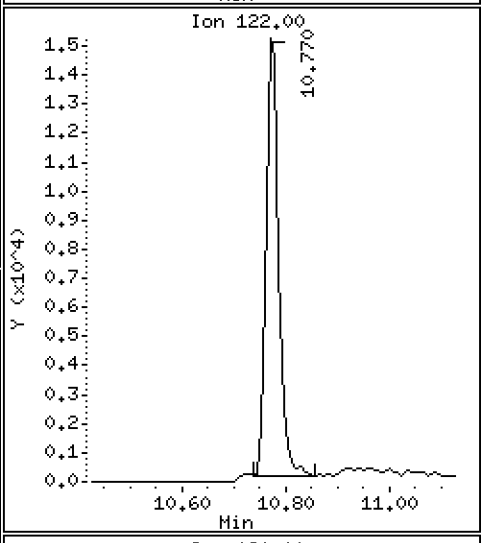
22 2,4-Dimethylphenol

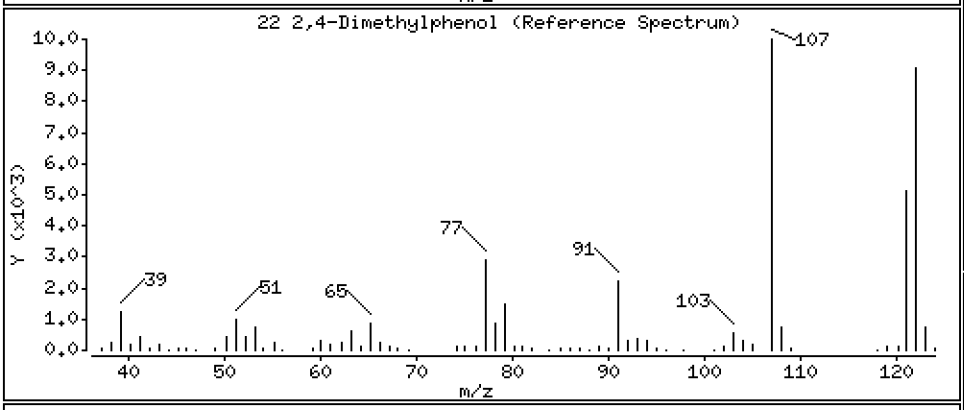
Concentration: 0.3595 ug/mL

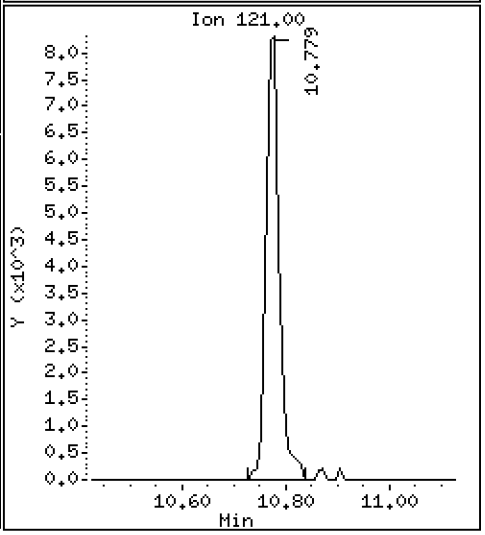


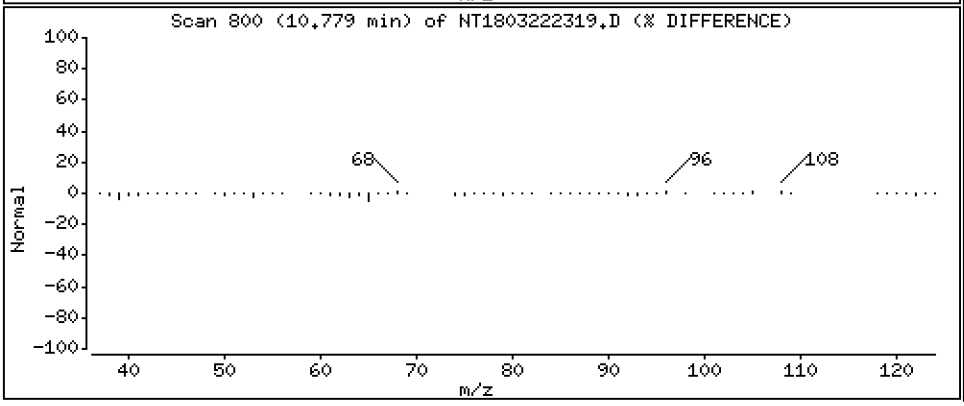












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D

Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

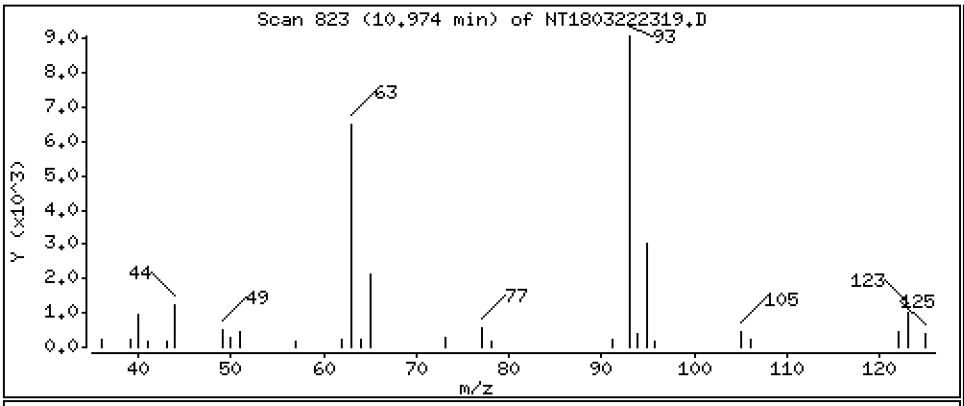
Operator: VTS

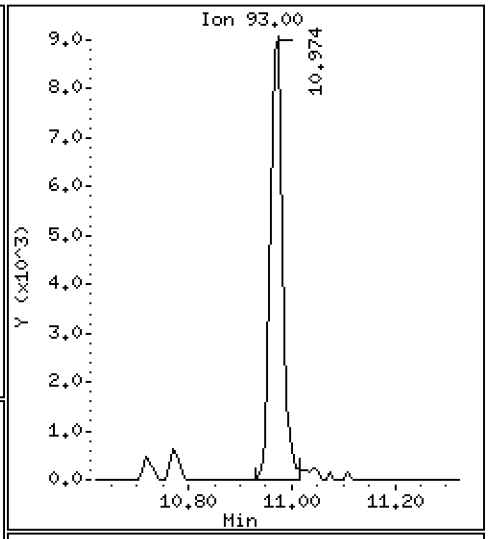
Column phase: ZB-5msi

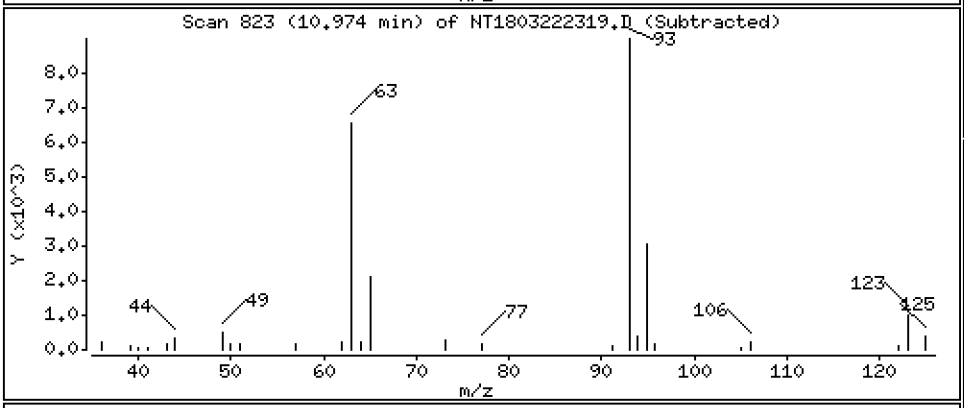
Column diameter: 0.25

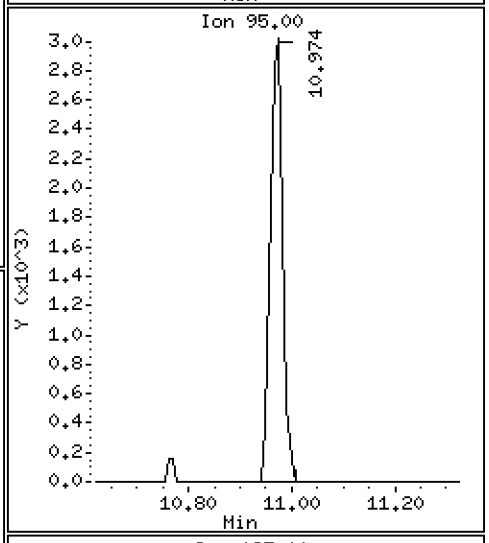
23 Bis(2-Chloroethoxy)methane

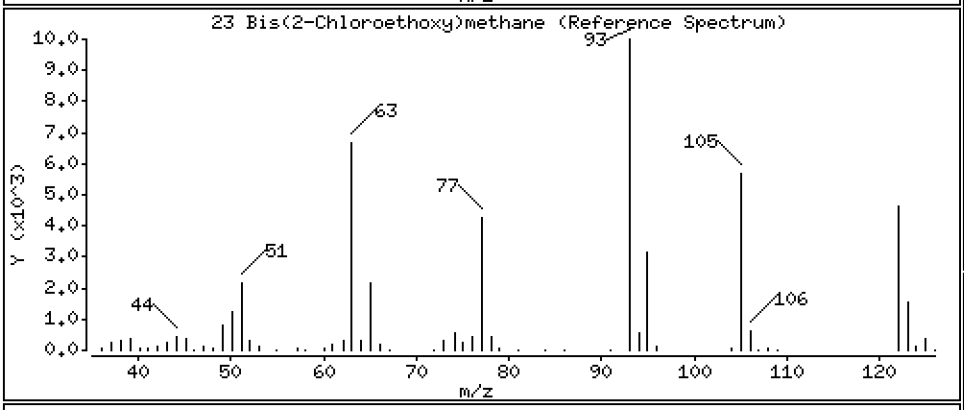
Concentration: 0.1905 ug/mL

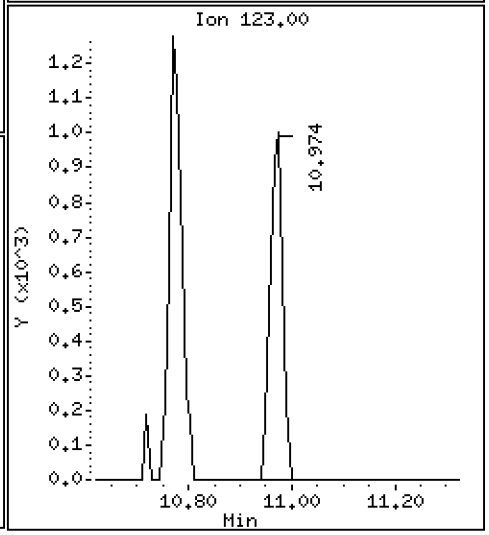


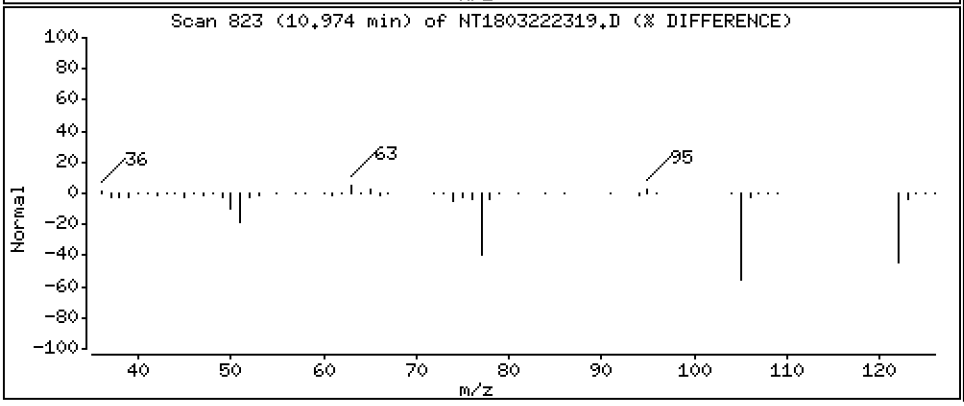












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

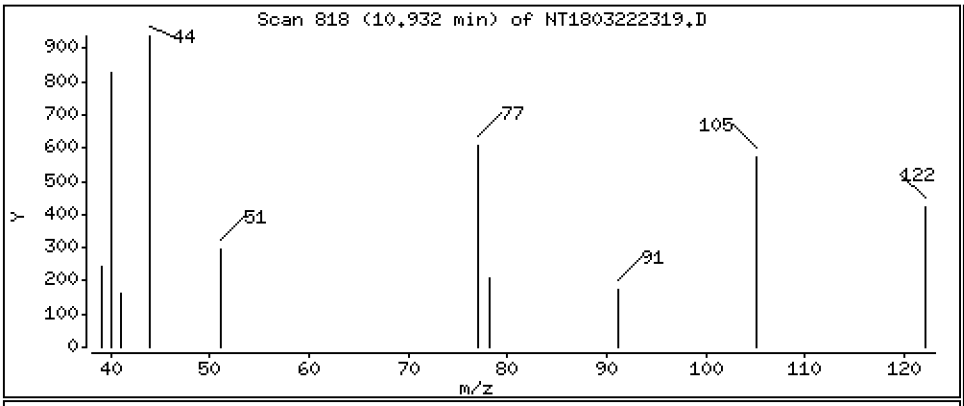
Operator: VTS

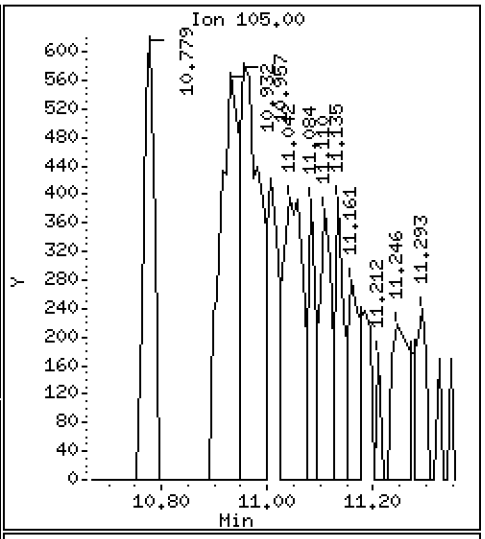
Column phase: ZB-5msi

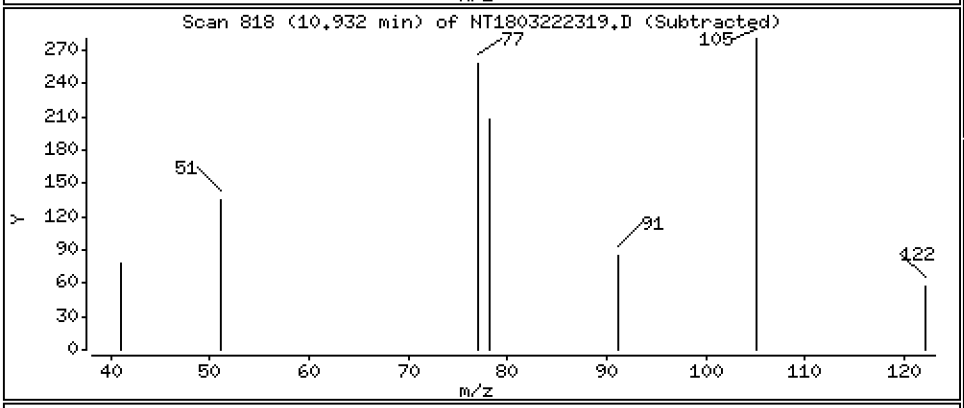
Column diameter: 0.25

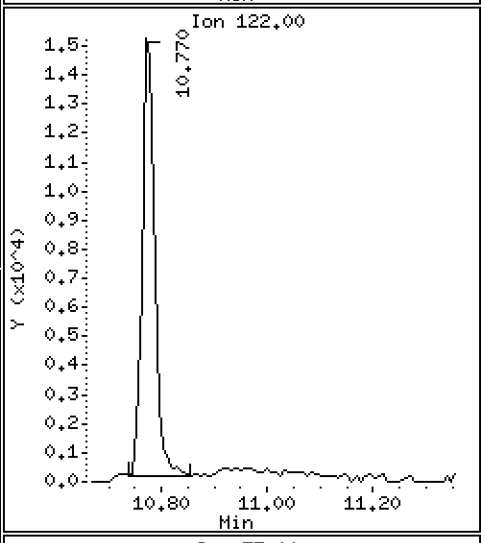
24 Benzoic acid

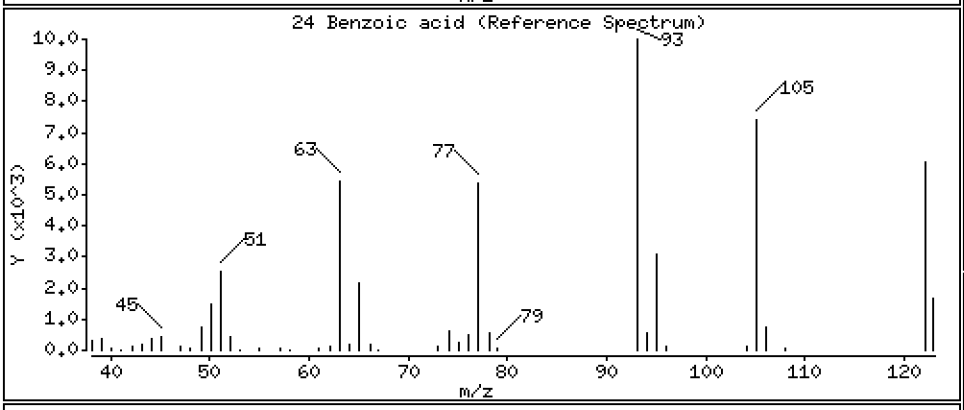
Concentration: 0.02552 ug/mL

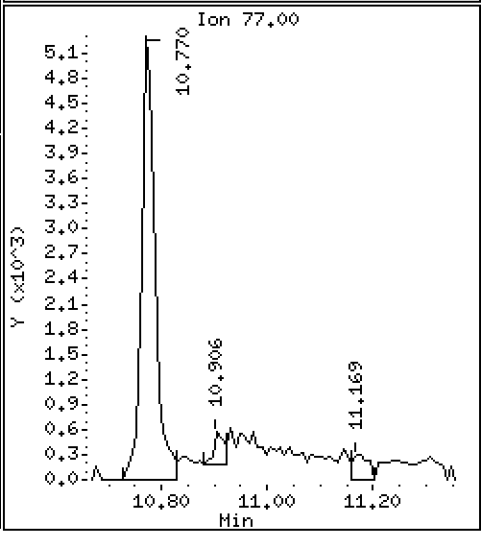


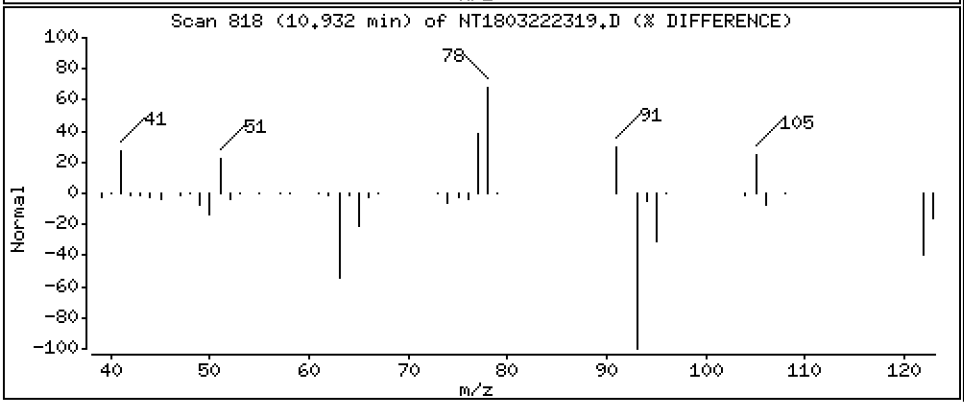












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

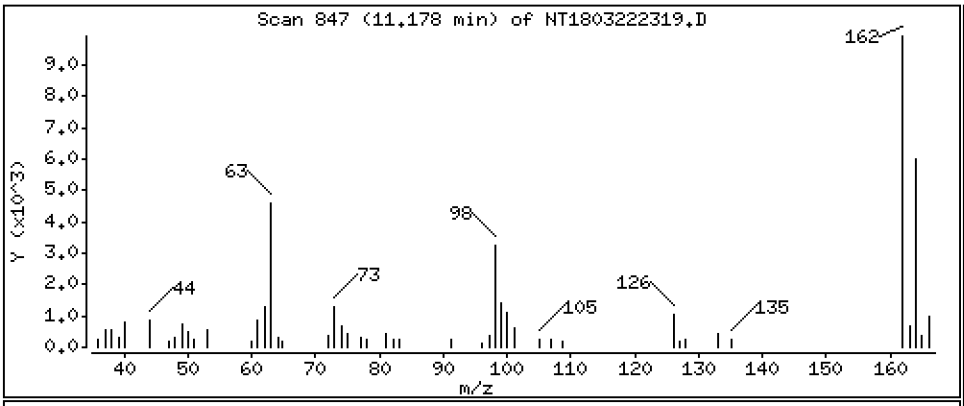
Operator: VTS

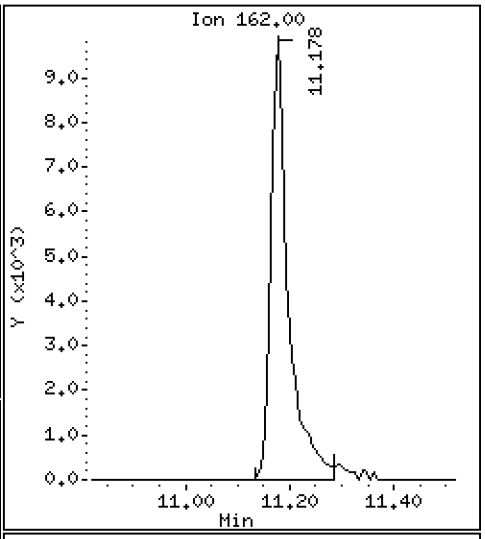
Column phase: ZB-5msi

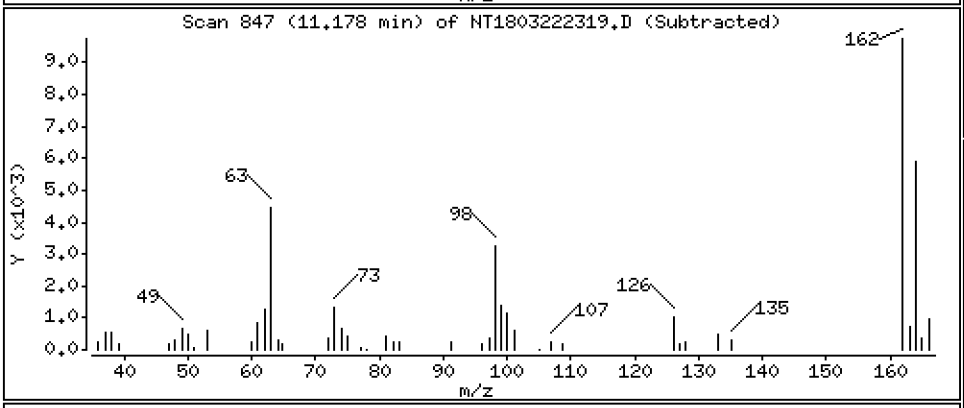
Column diameter: 0.25

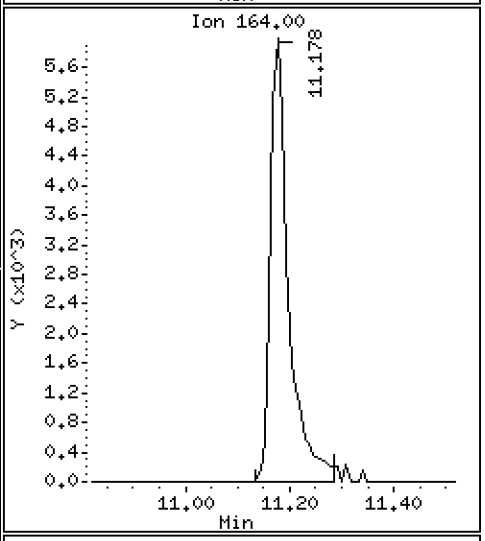
25 2,4-Dichlorophenol

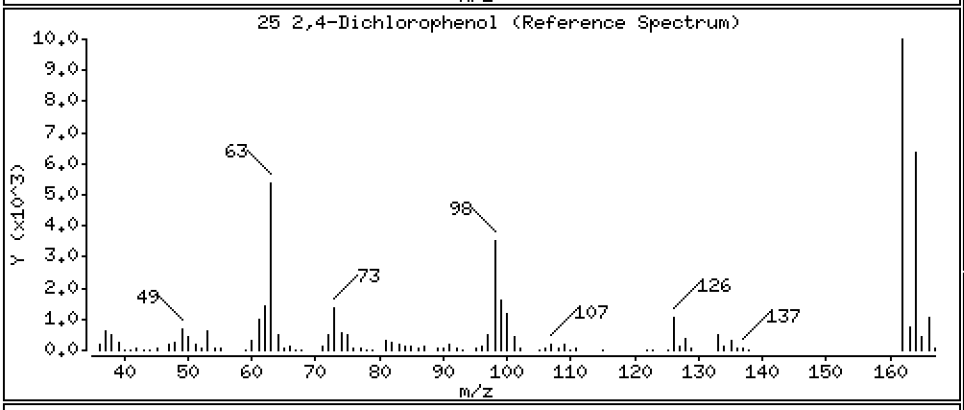
Concentration: 0.3313 ug/mL

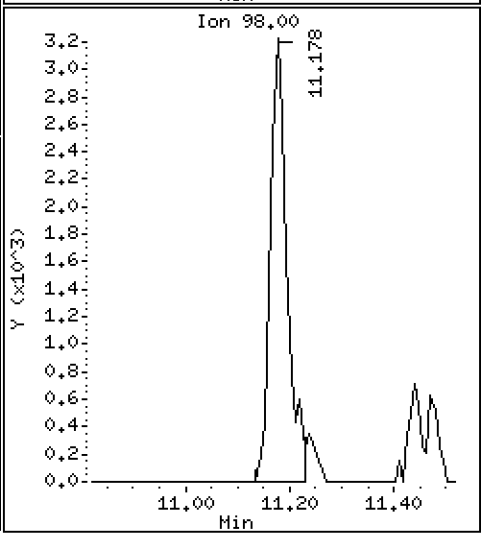


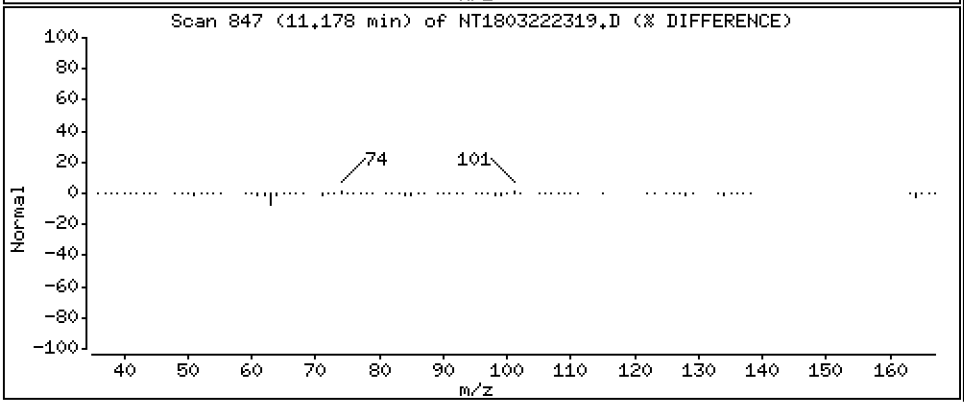












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

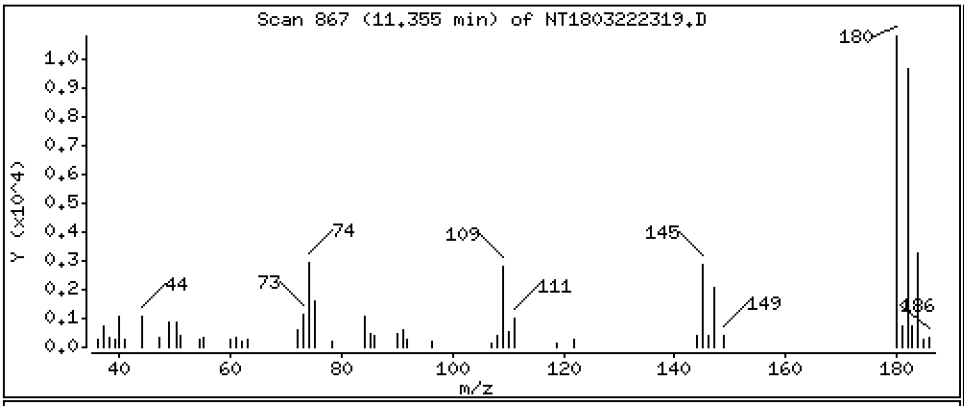
Operator: VTS

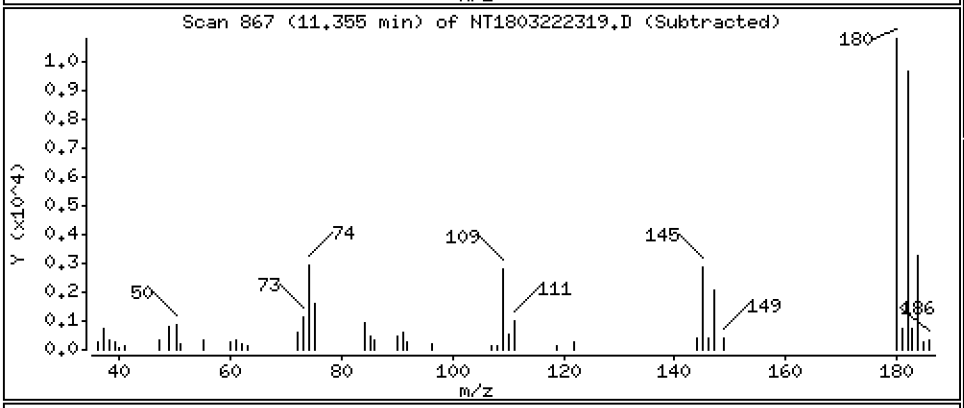
Column phase: ZB-5msi

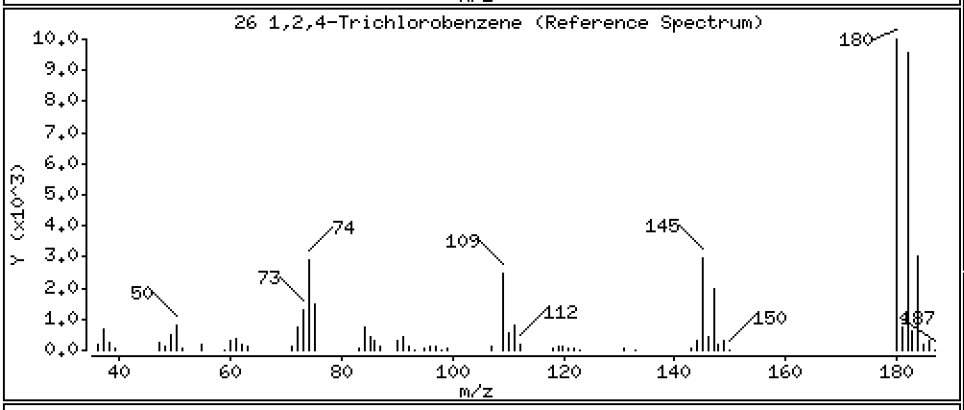
Column diameter: 0.25

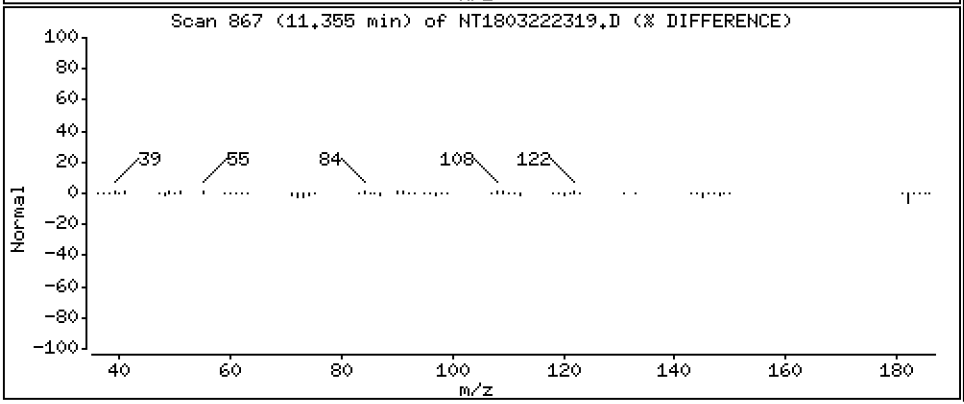
26 1,2,4-Trichlorobenzene

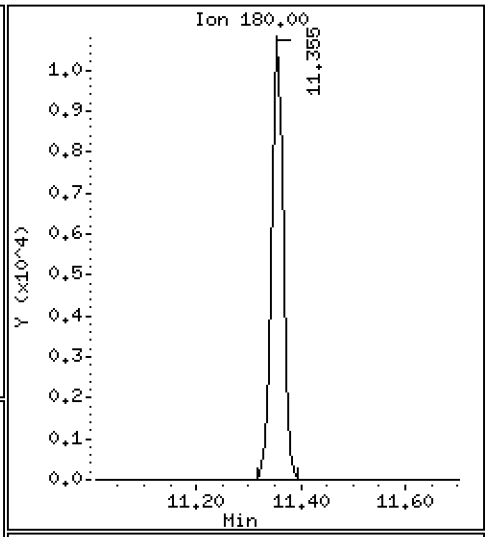
Concentration: 0.1960 ug/mL

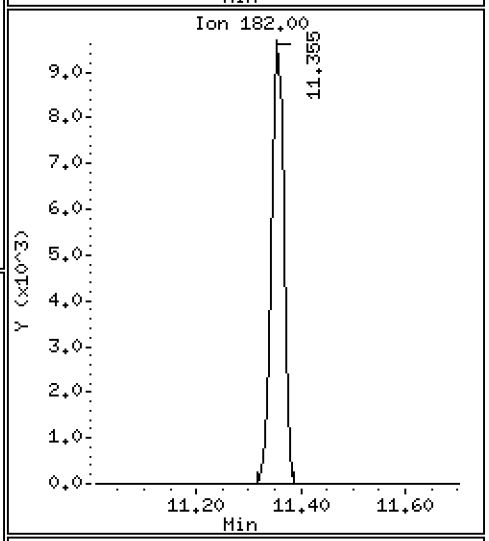


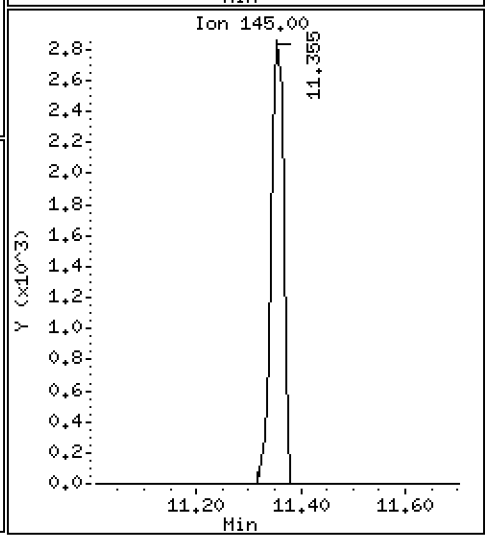












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

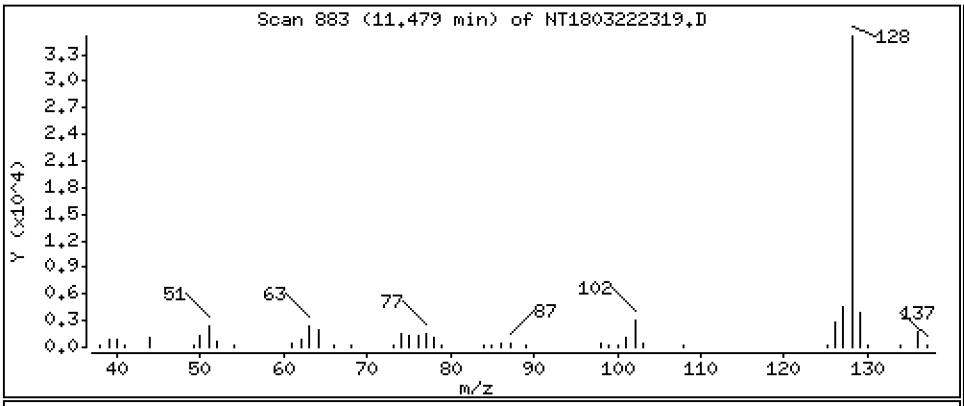
Operator: VTS

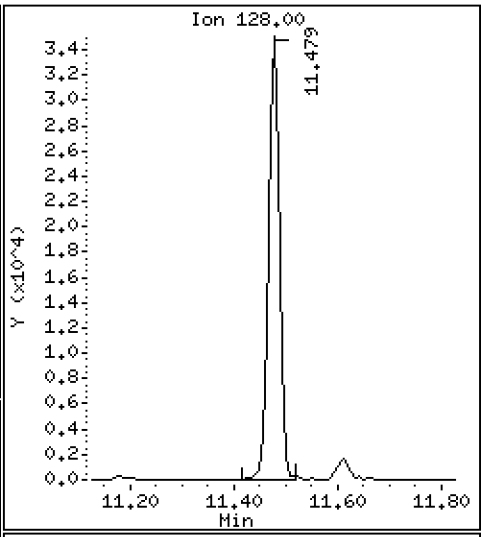
Column phase: ZB-5msi

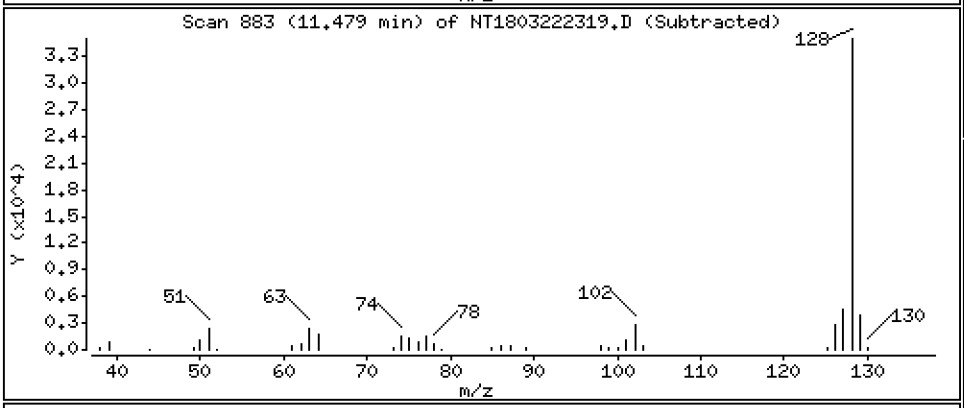
Column diameter: 0.25

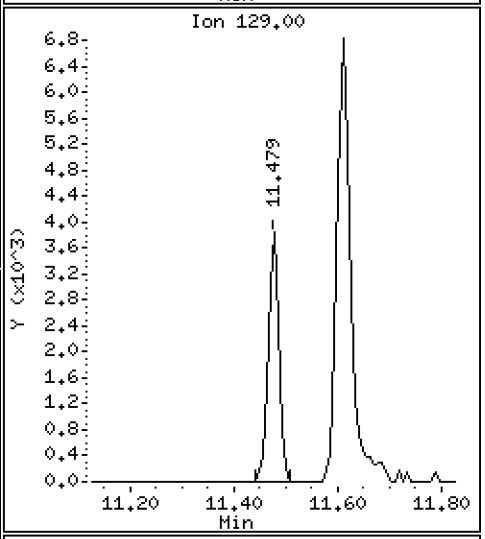
28 Naphthalene

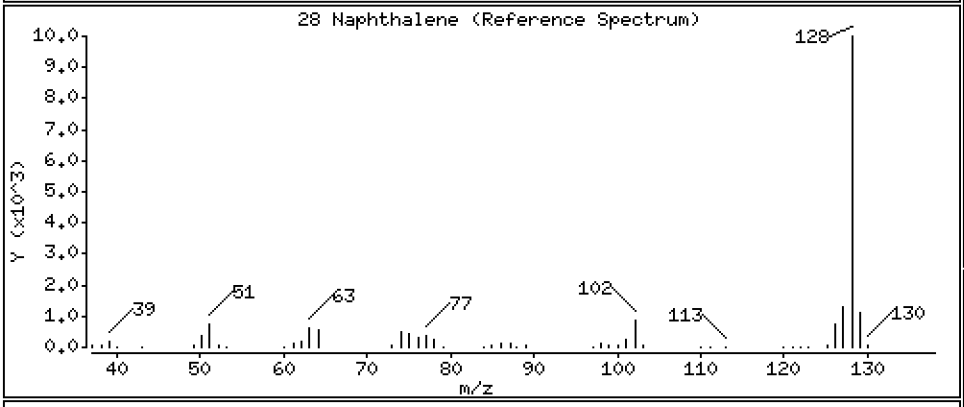
Concentration: 0.1968 ug/mL

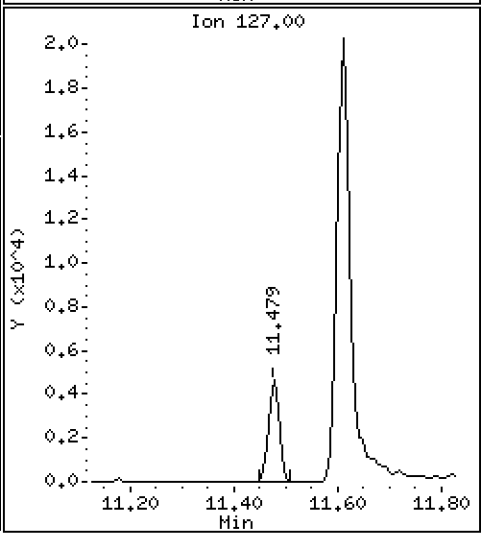


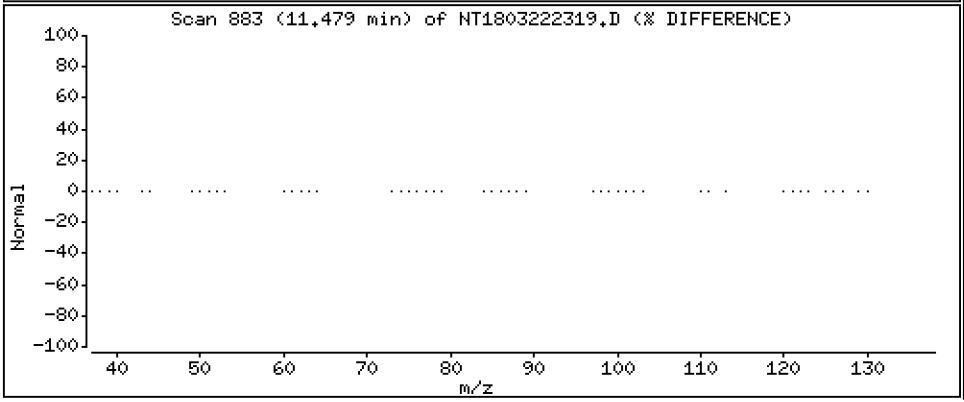












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

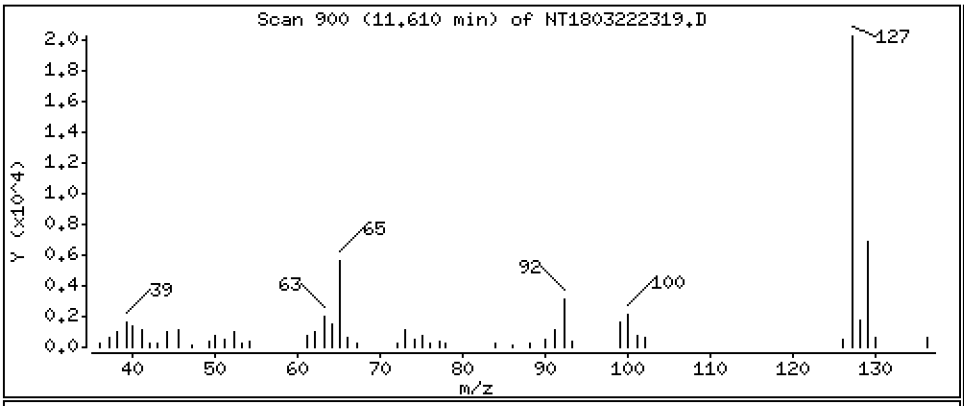
Operator: VTS

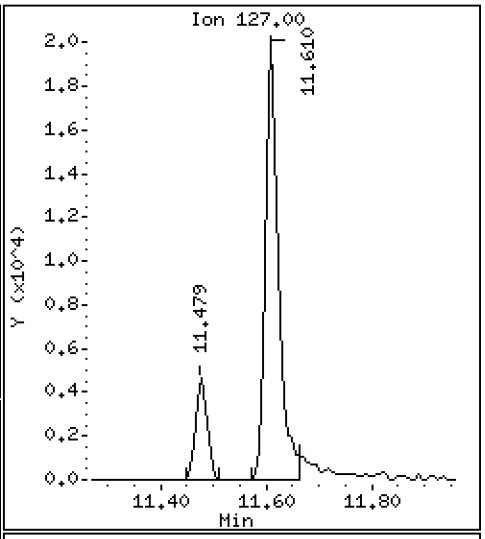
Column phase: ZB-5msi

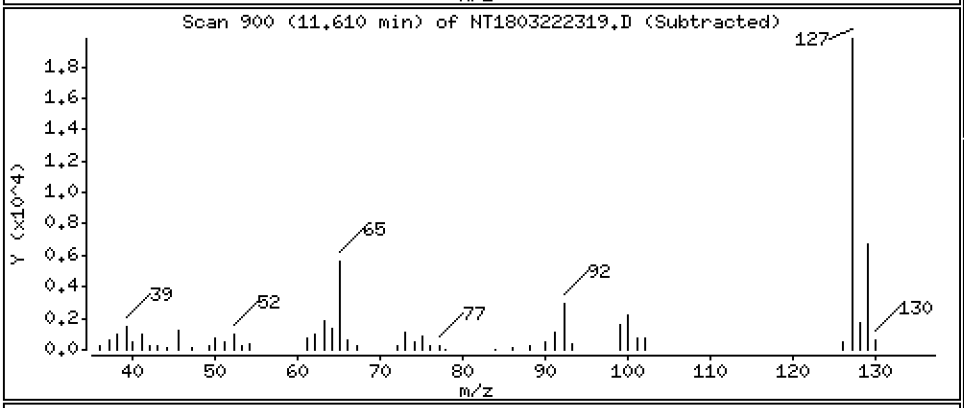
Column diameter: 0.25

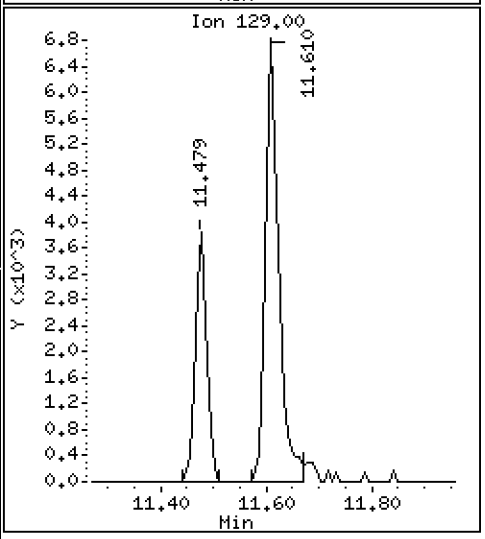
29 4-Chloroaniline

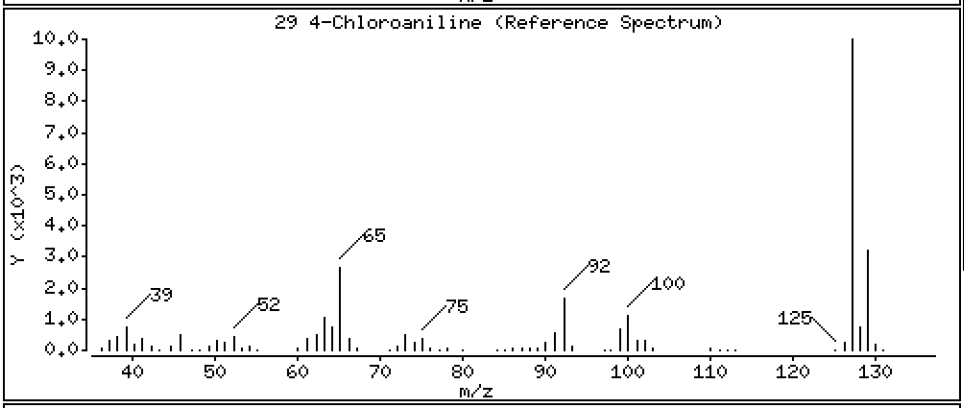
Concentration: 0.3244 ug/mL

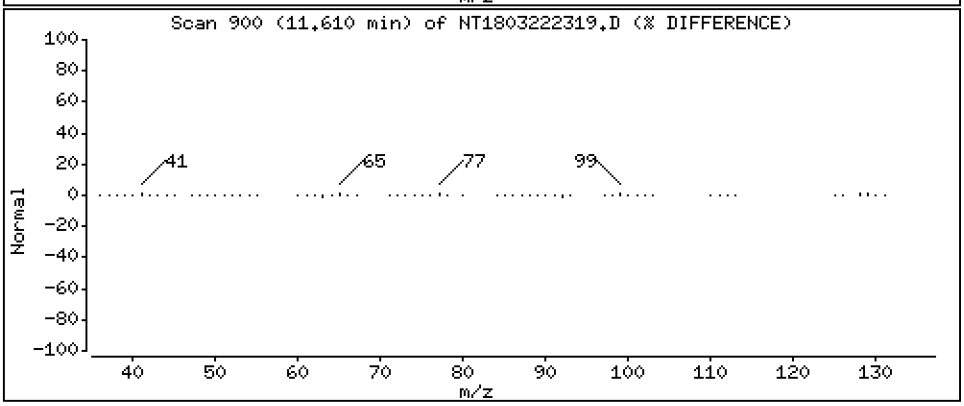












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

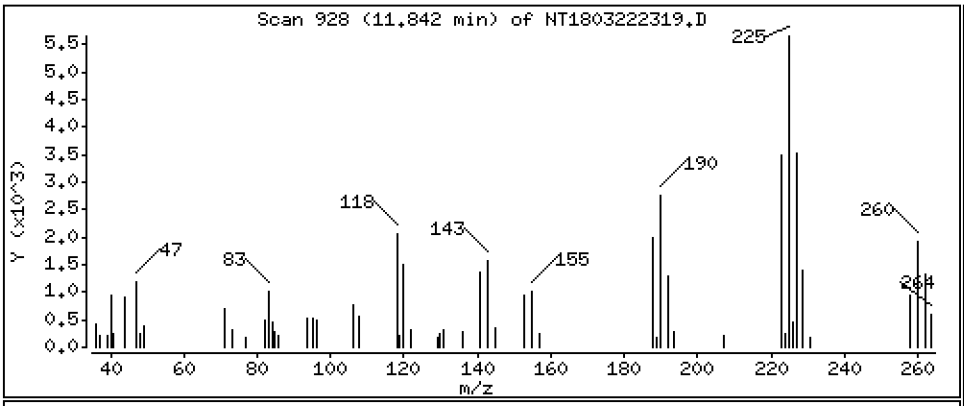
Operator: VTS

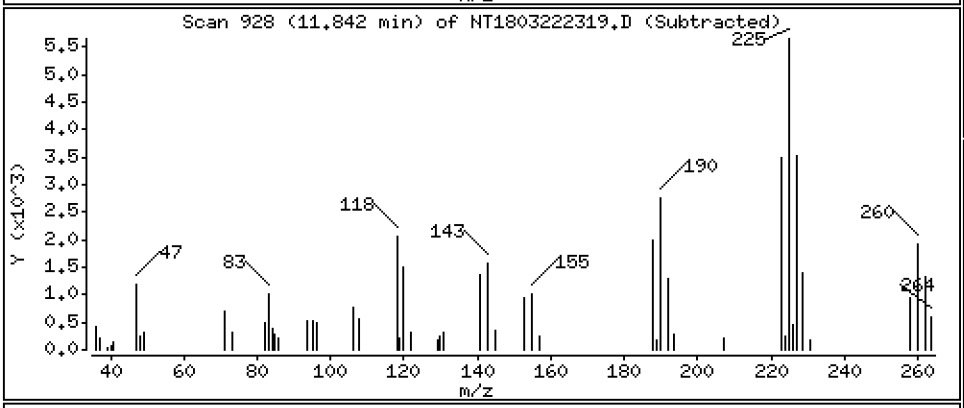
Column phase: ZB-5msi

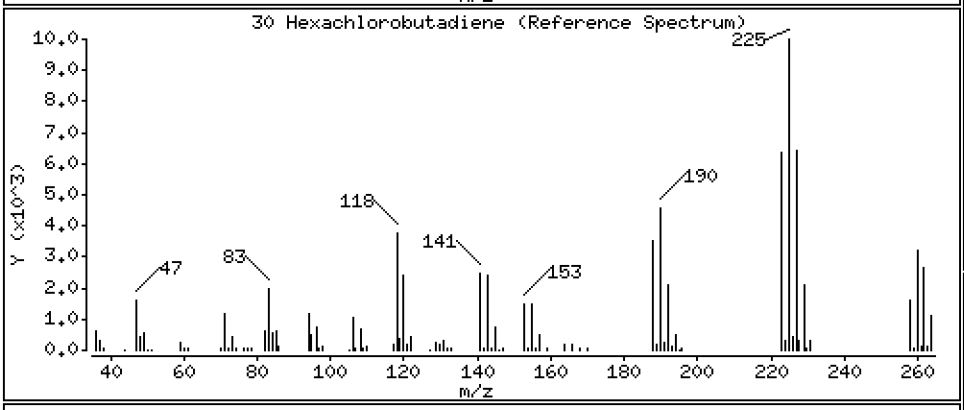
Column diameter: 0.25

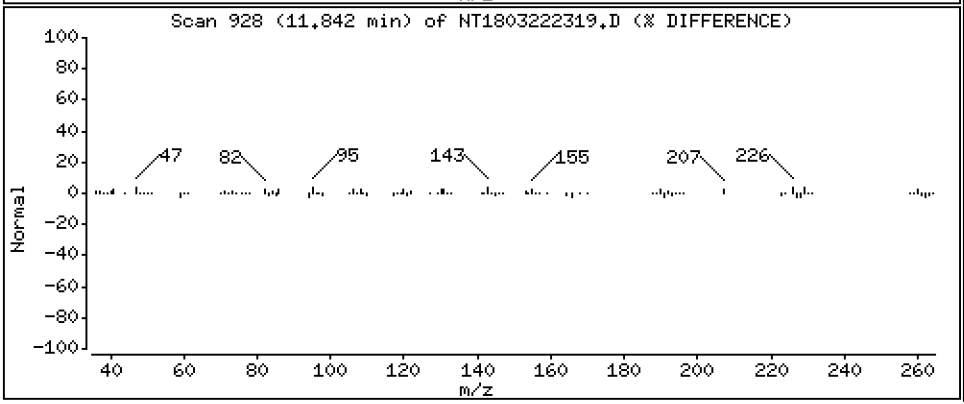
30 Hexachlorobutadiene

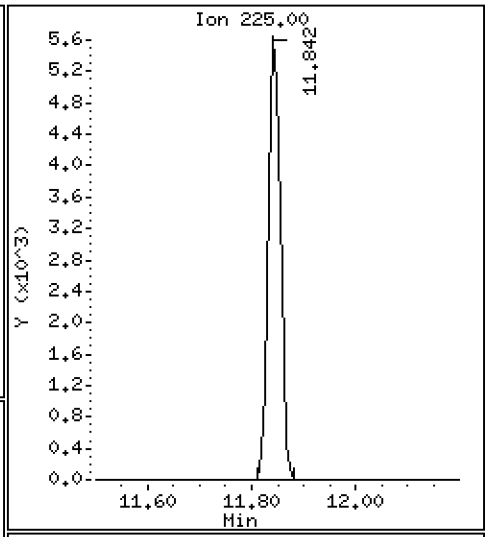
Concentration: 0.1959 ug/mL

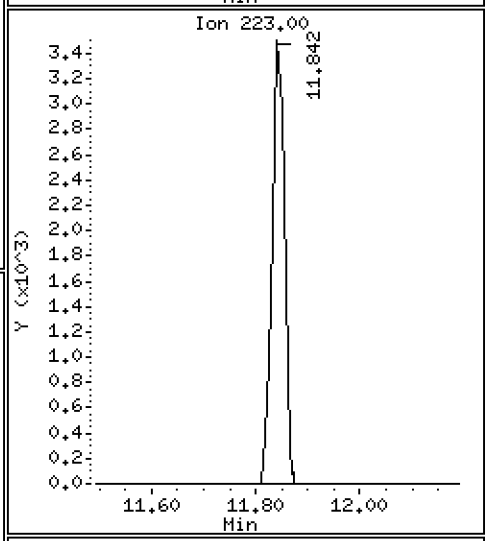


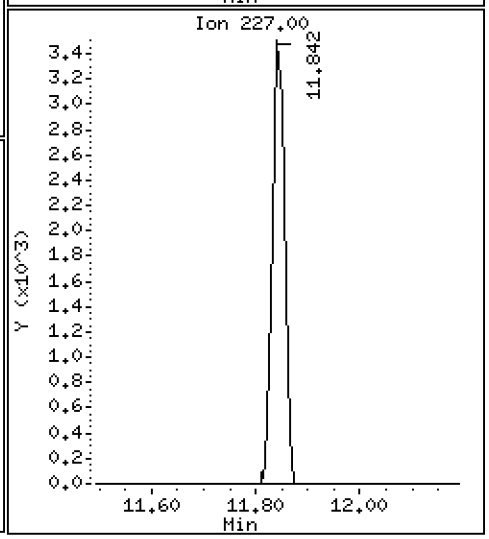












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D

Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

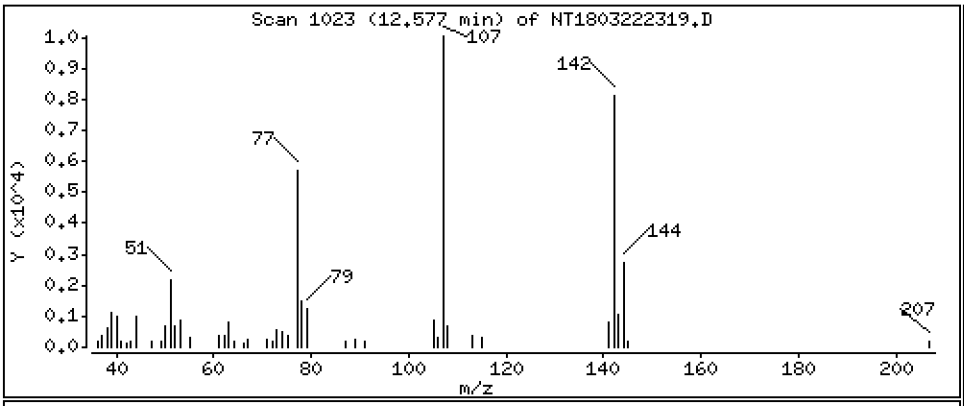
Operator: VTS

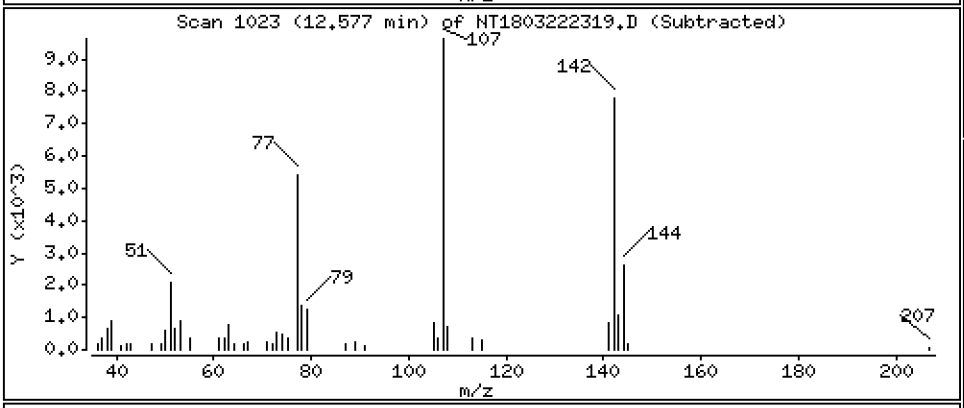
Column phase: ZB-5msi

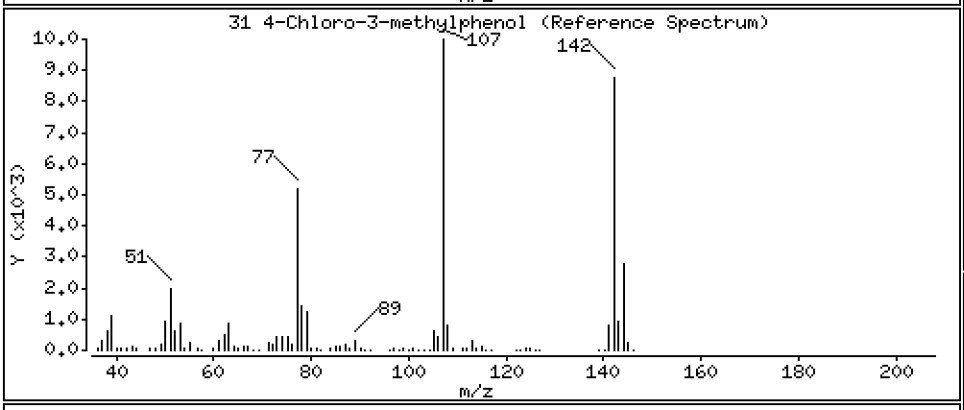
Column diameter: 0.25

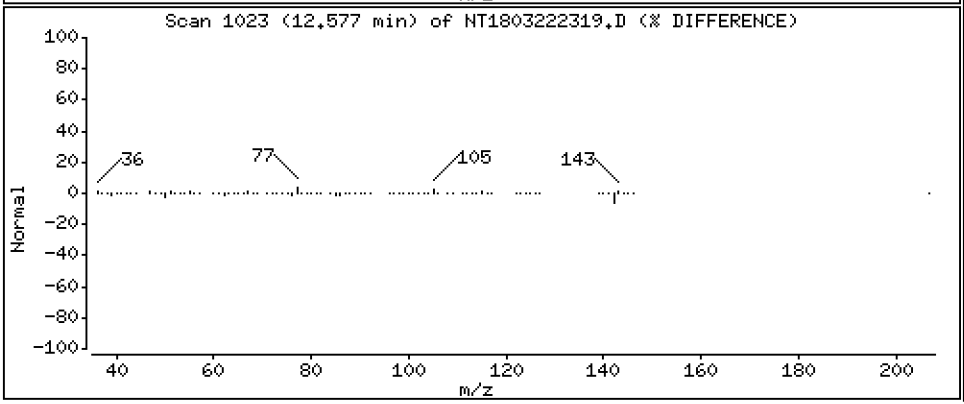
31 4-Chloro-3-methylphenol

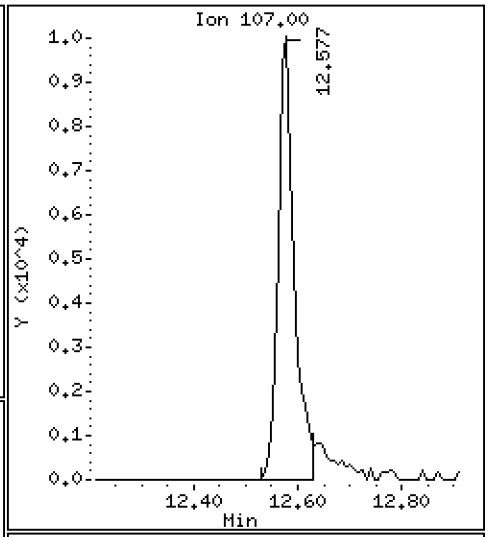
Concentration: 0.3141 ug/mL

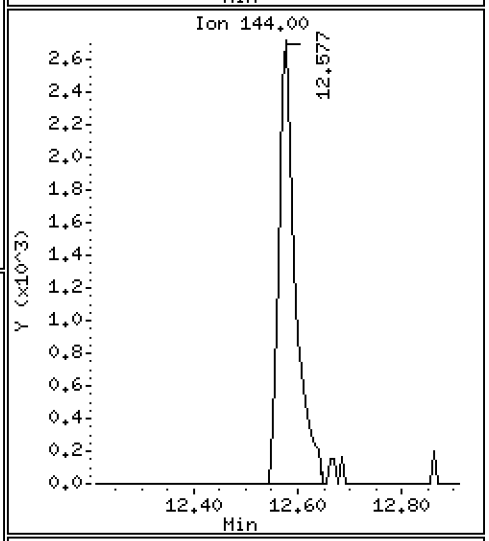


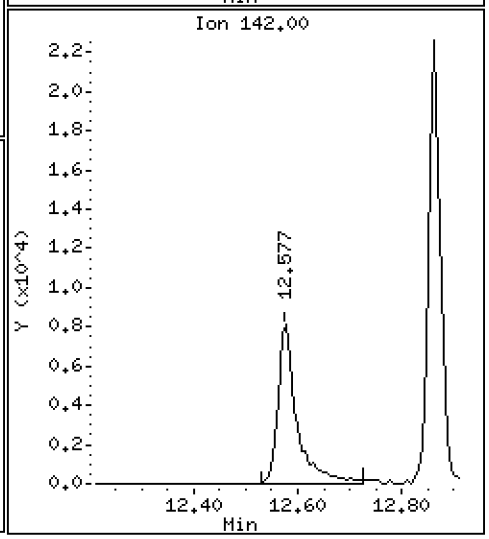












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

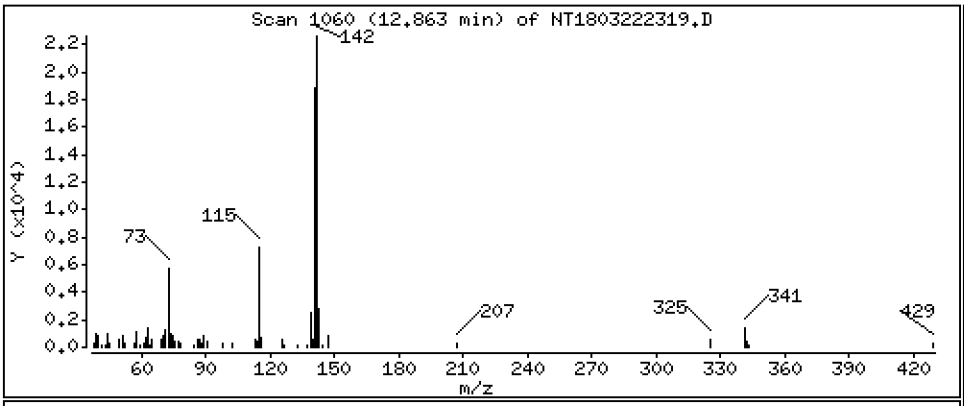
Operator: VTS

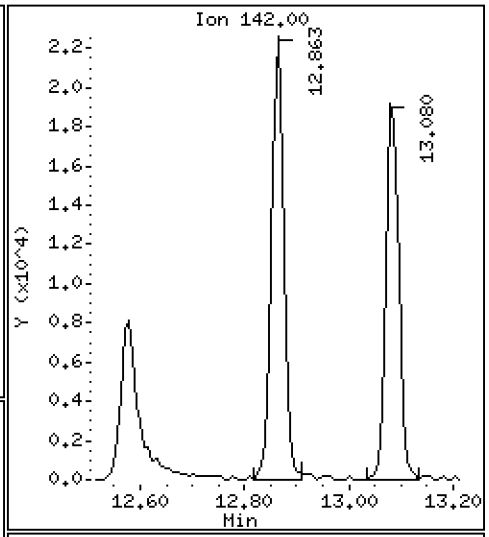
Column phase: ZB-5msi

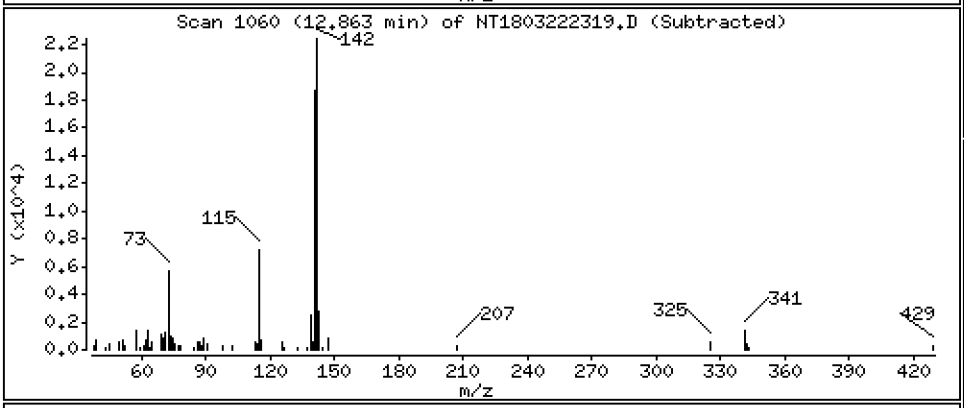
Column diameter: 0.25

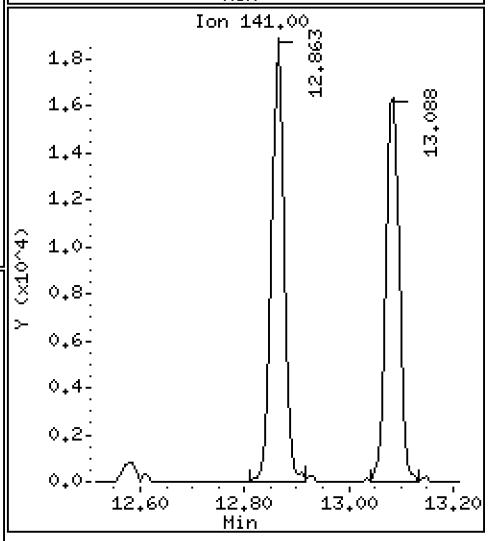
32 2-Methylnaphthalene

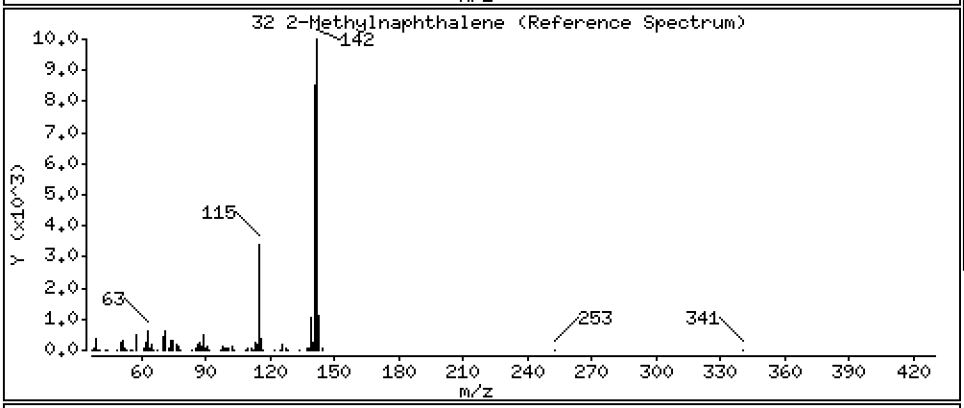
Concentration: 0.1959 ug/mL

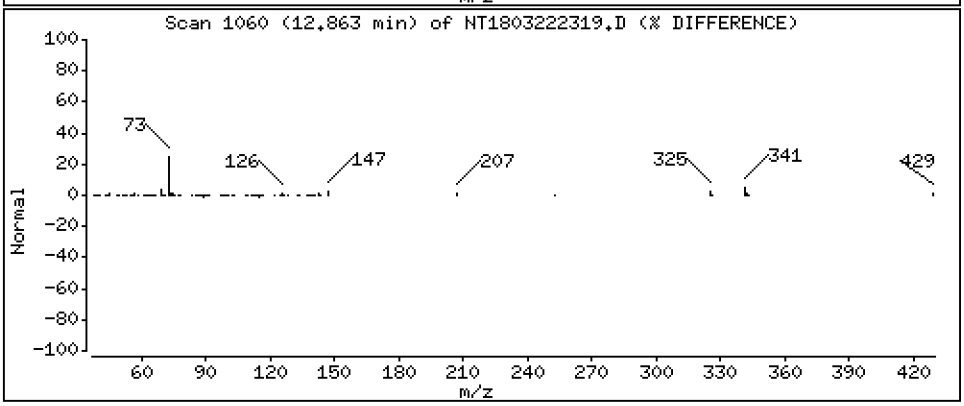












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

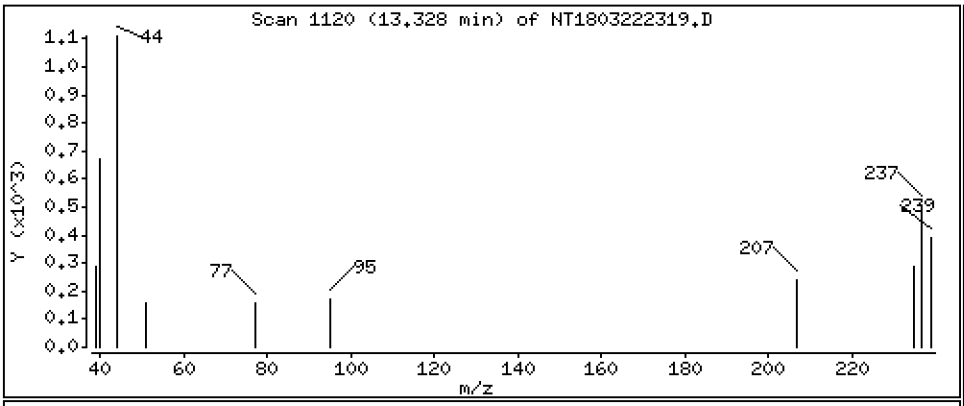
Operator: VTS

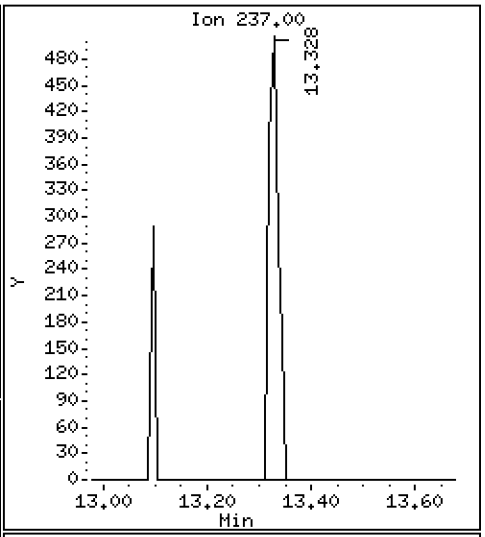
Column phase: ZB-5msi

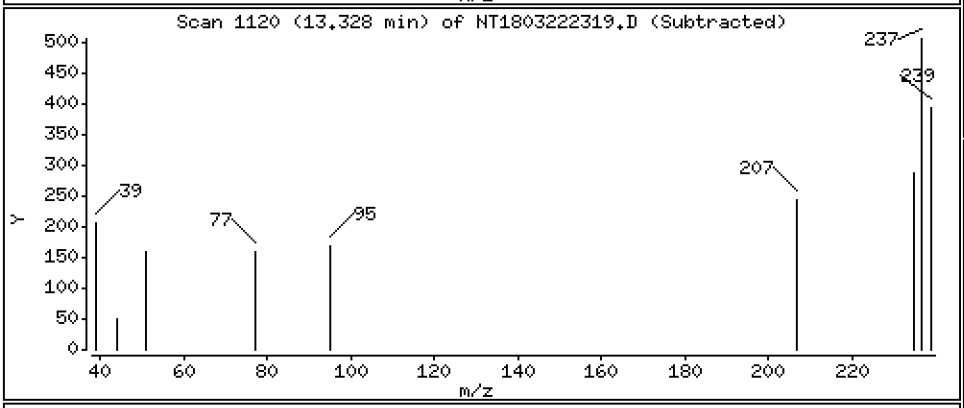
Column diameter: 0.25

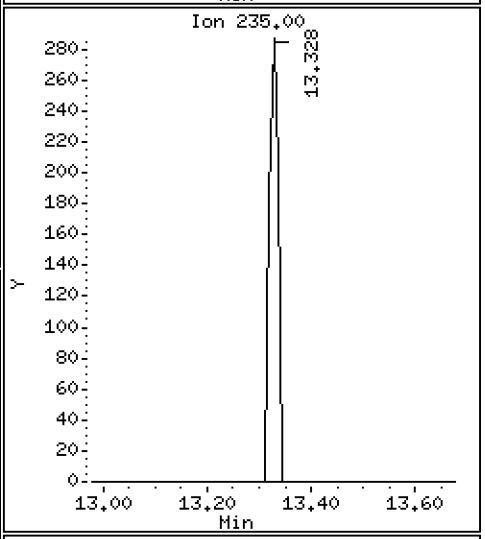
33 Hexachlorocyclopentadiene

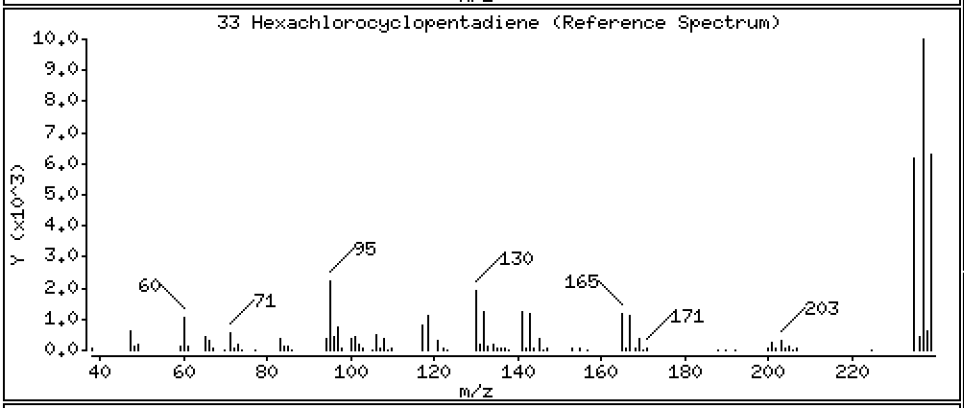
Concentration: 0.01360 ug/mL

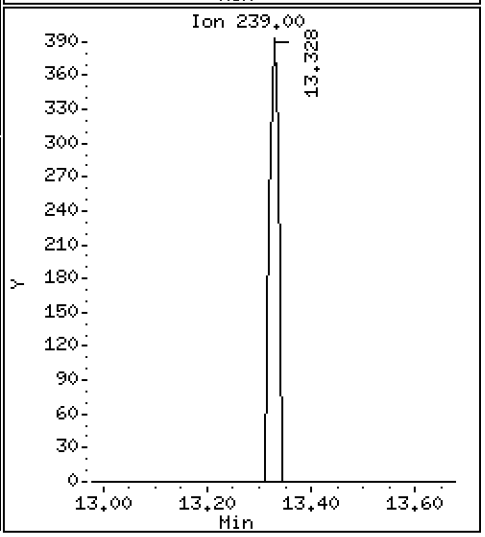


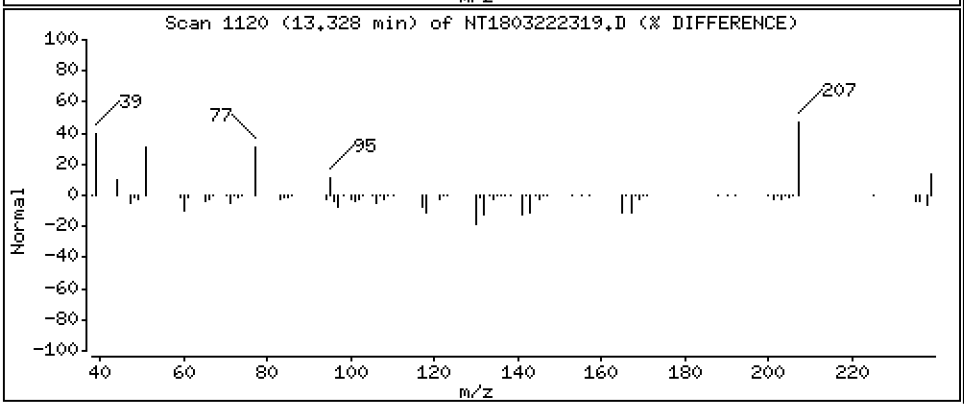












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

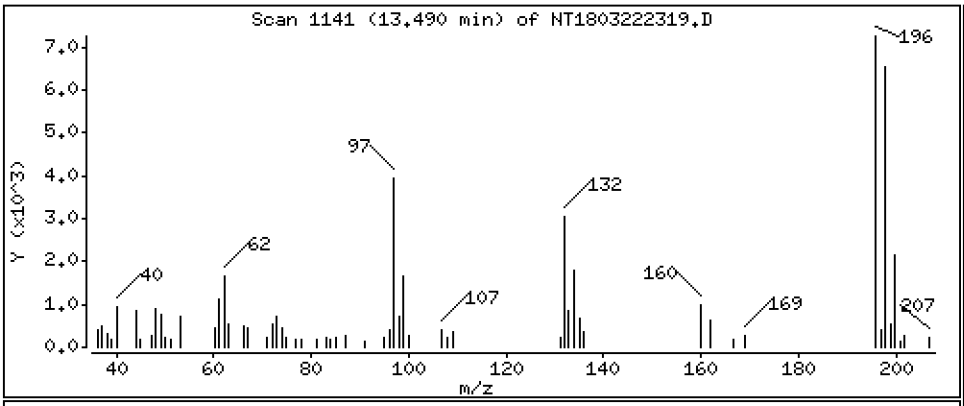
Operator: VTS

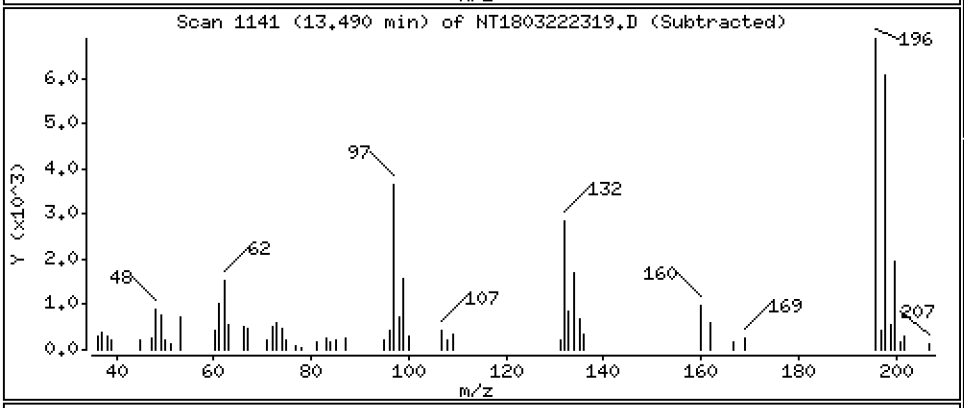
Column phase: ZB-5msi

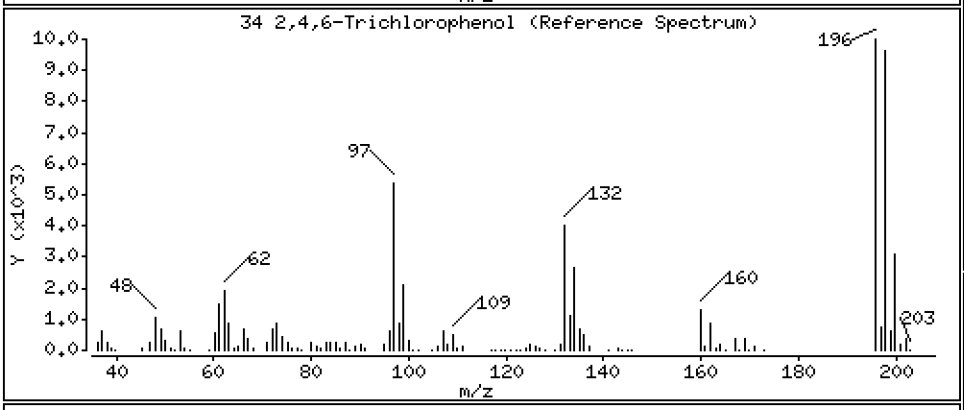
Column diameter: 0.25

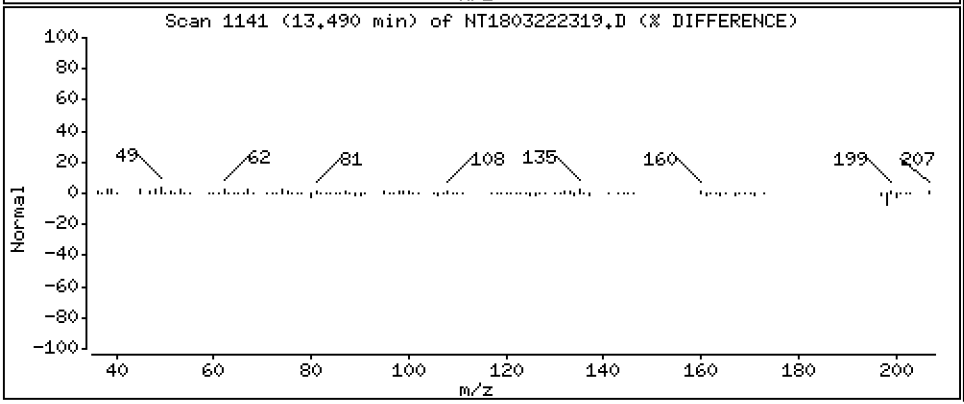
34 2,4,6-Trichlorophenol

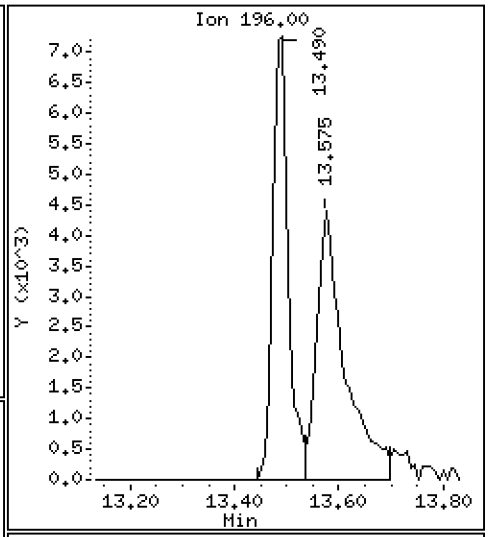
Concentration: 0.3142 ug/mL

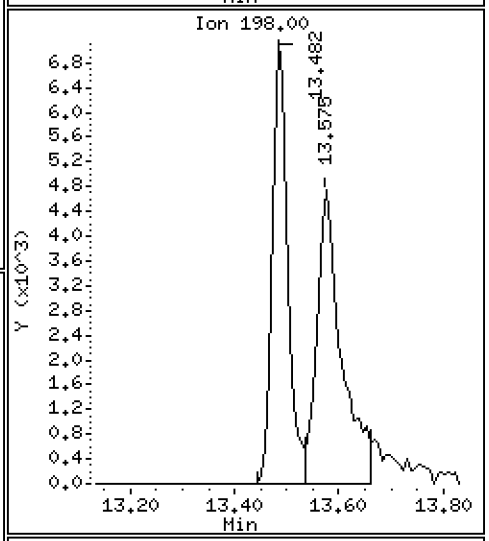


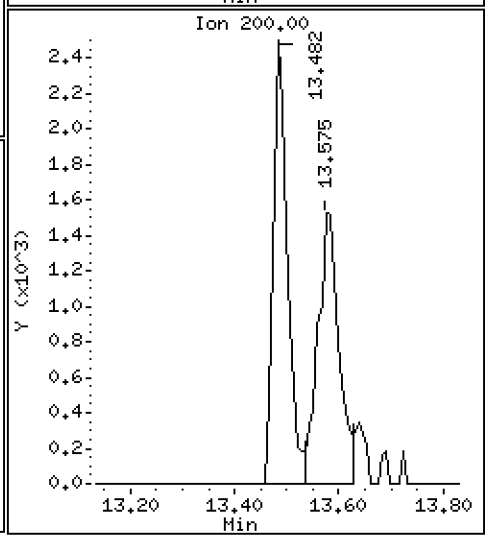












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

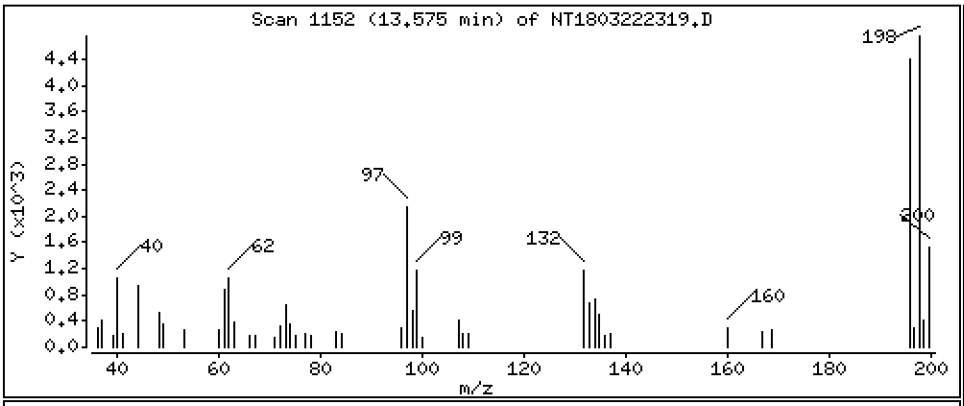
Operator: VTS

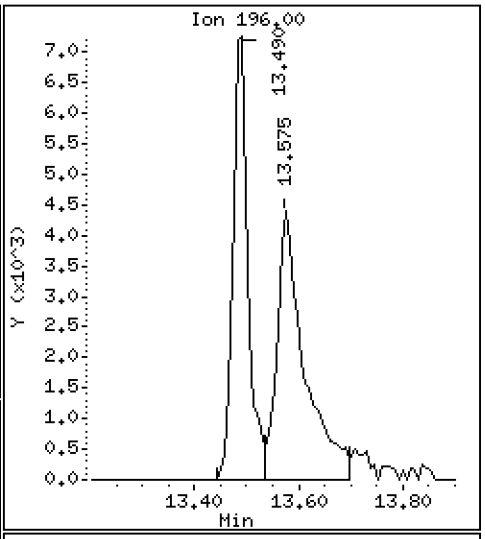
Column phase: ZB-5msi

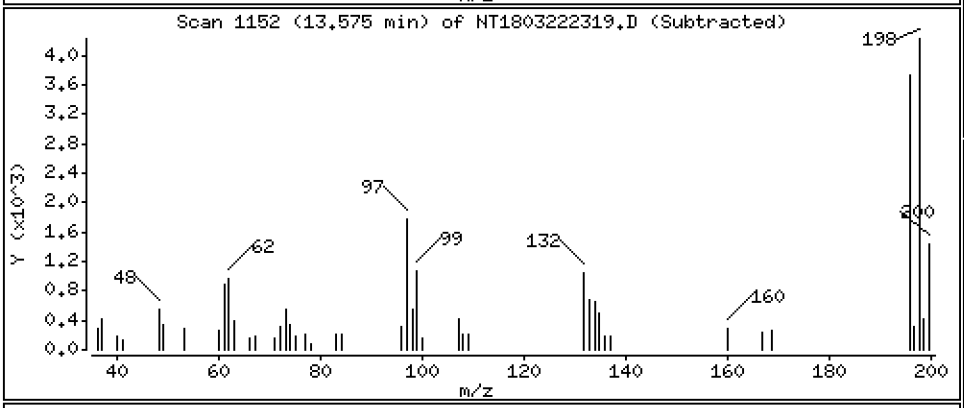
Column diameter: 0.25

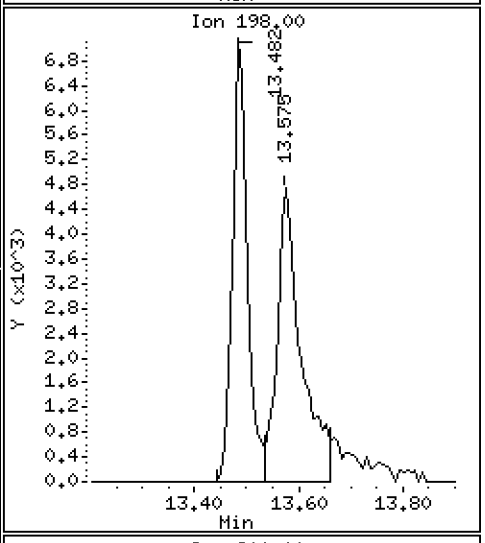
35 2,4,5-Trichlorophenol

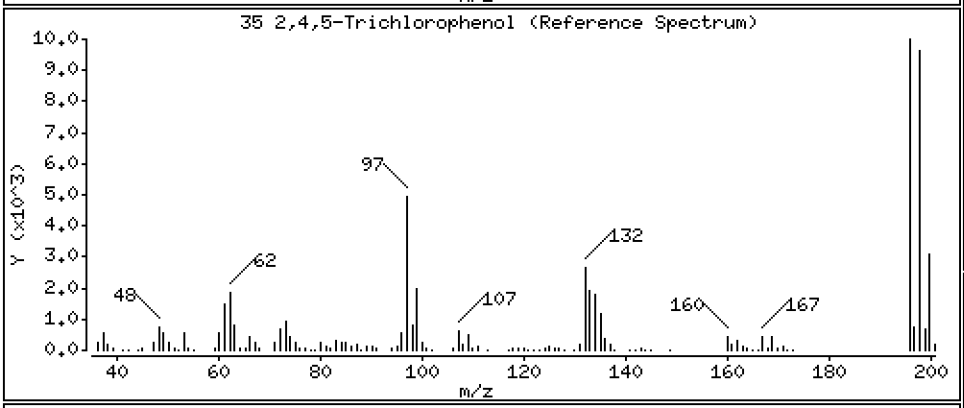
Concentration: 0.3215 ug/mL

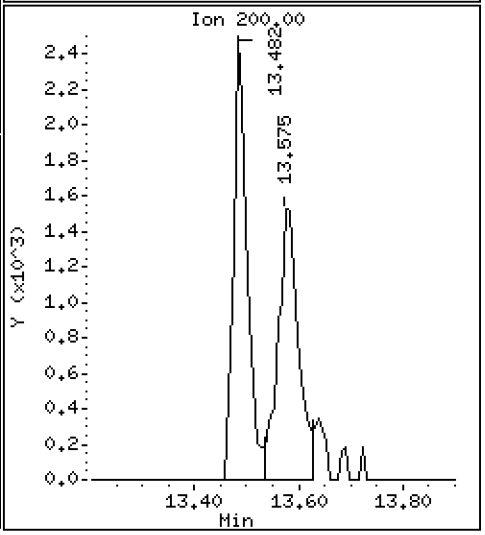


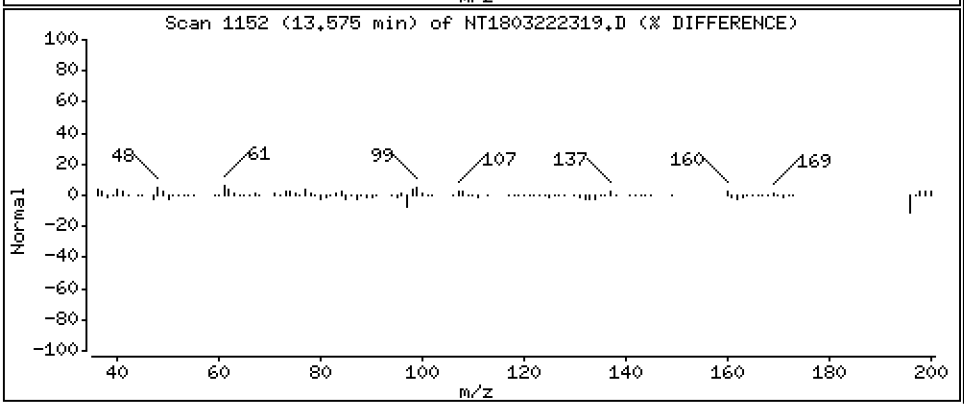












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

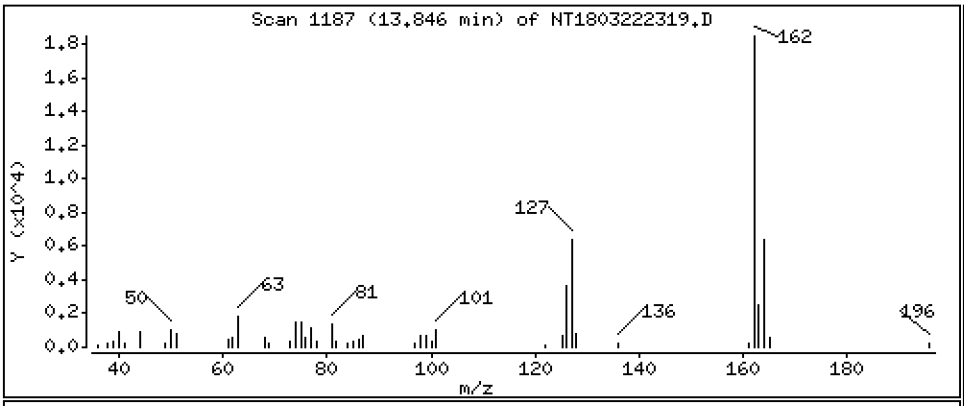
Operator: VTS

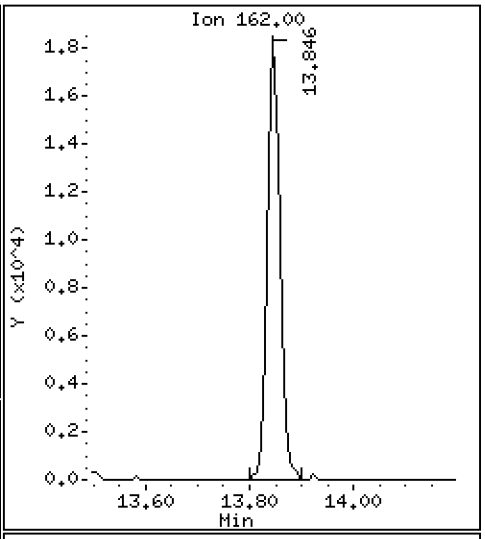
Column phase: ZB-5msi

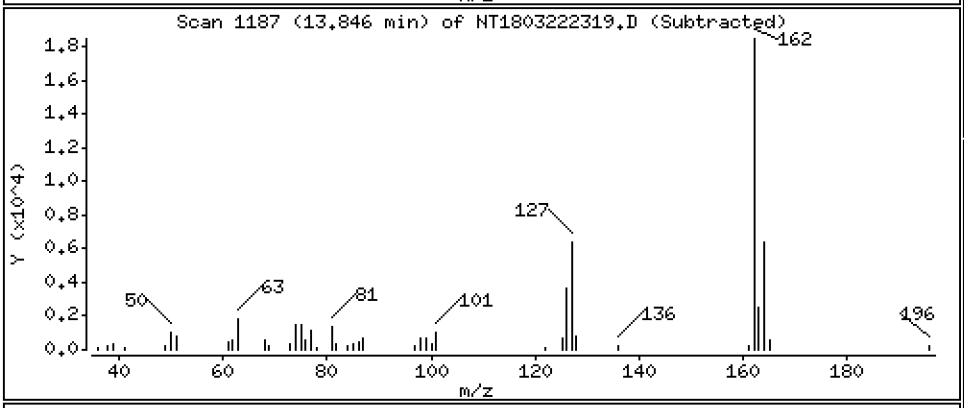
Column diameter: 0.25

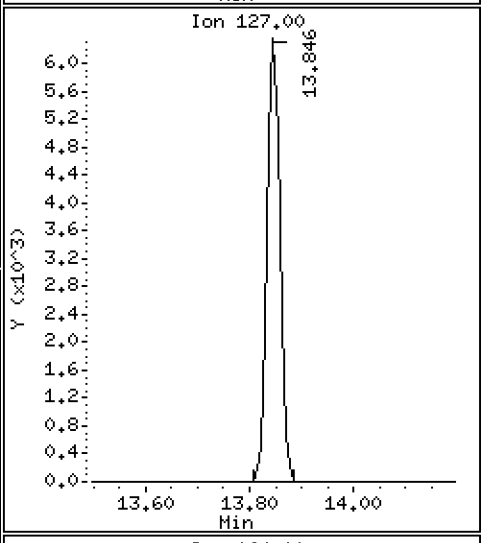
37 2-Chloronaphthalene

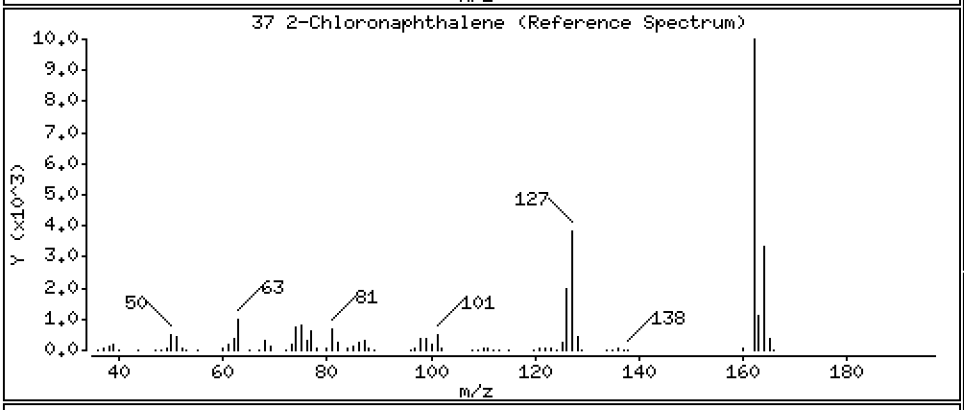
Concentration: 0.1961 ug/mL

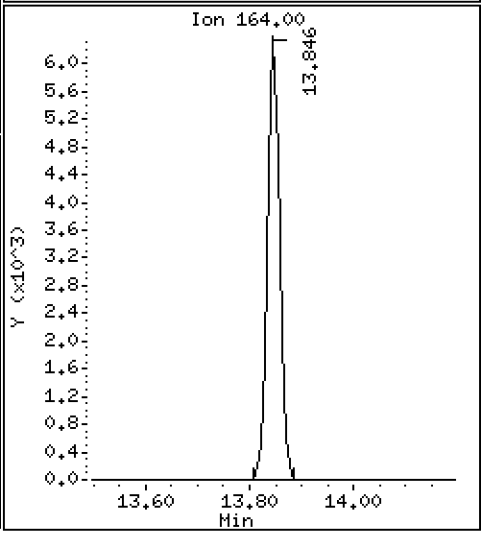


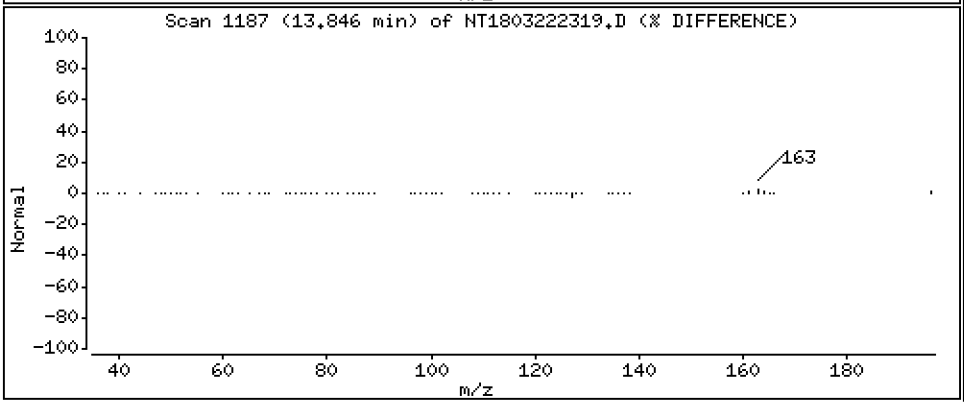












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

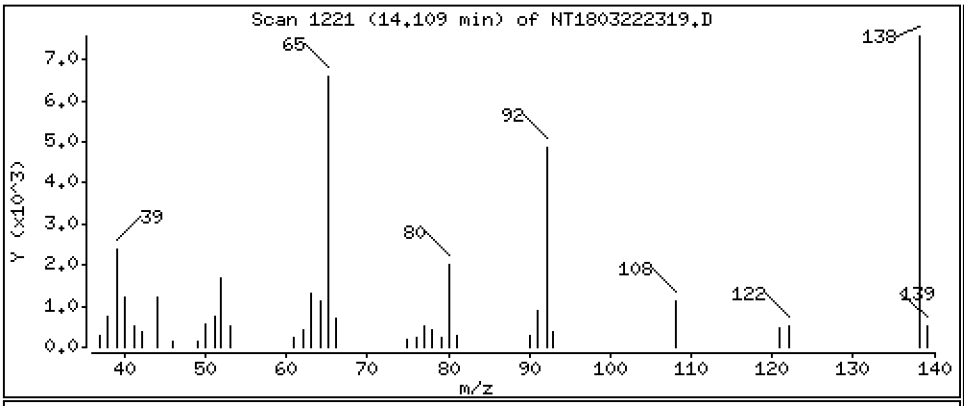
Operator: VTS

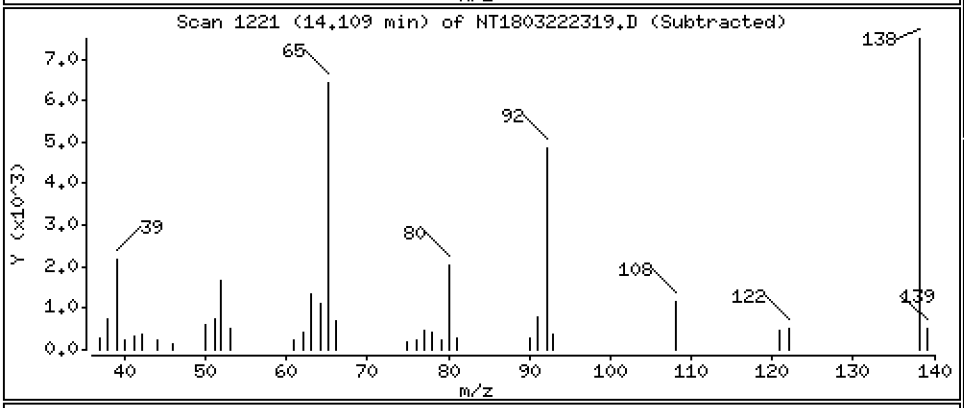
Column phase: ZB-5msi

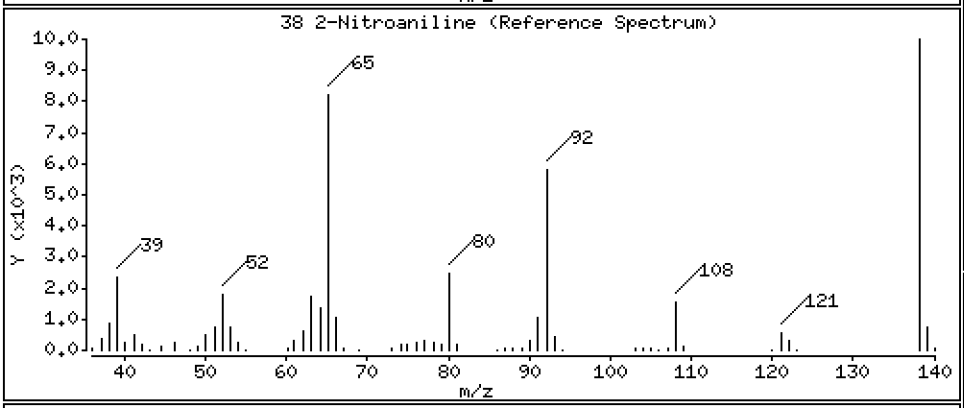
Column diameter: 0.25

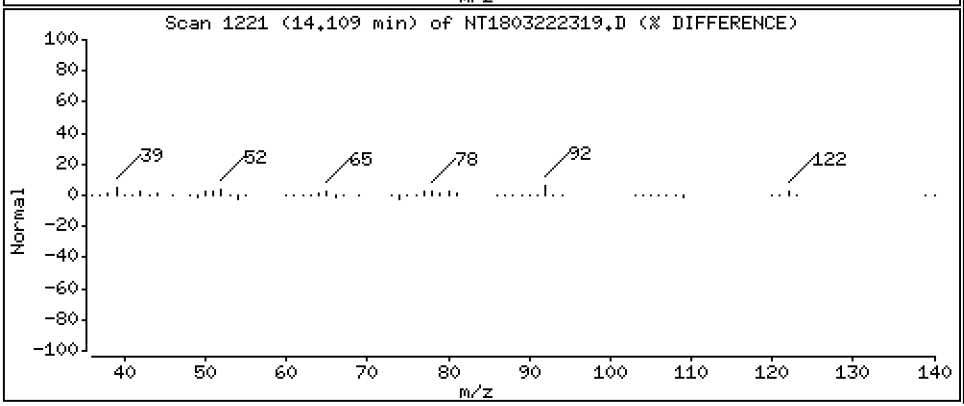
38 2-Nitroaniline

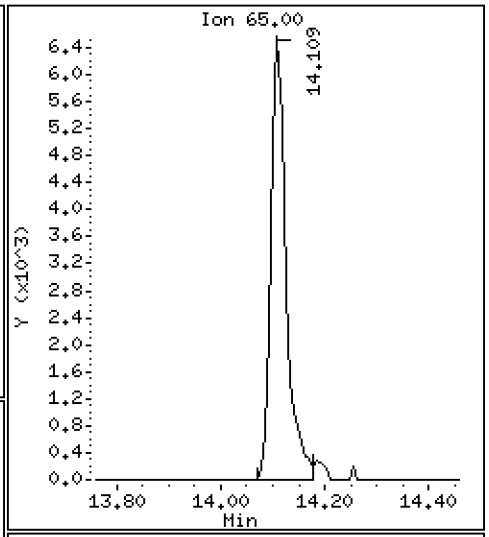
Concentration: 0.3258 ug/mL

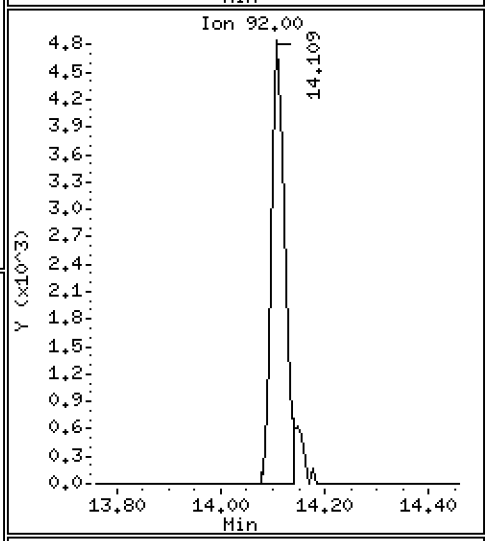


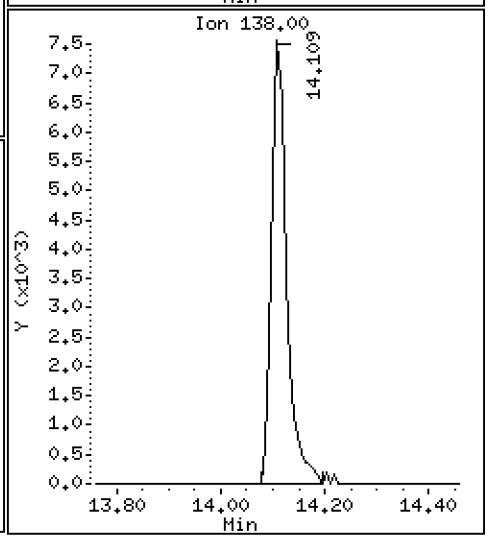












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D

Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

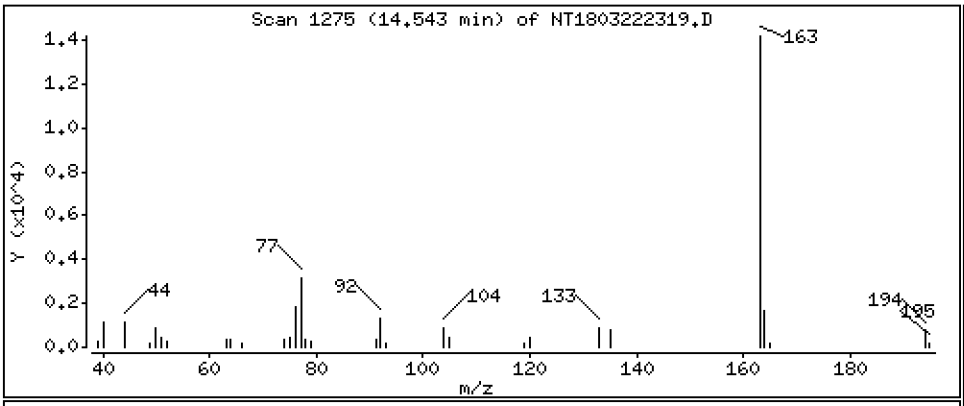
Operator: VTS

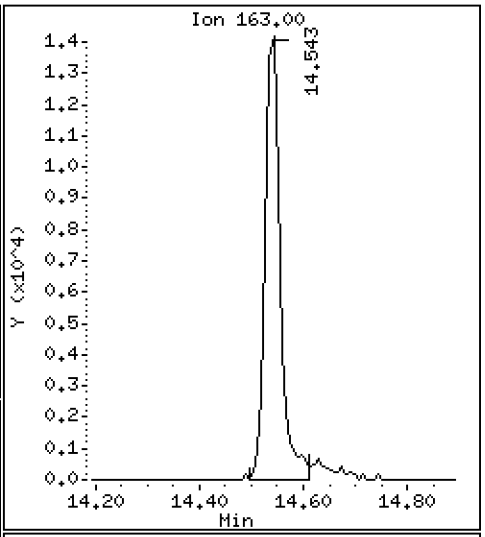
Column phase: ZB-5msi

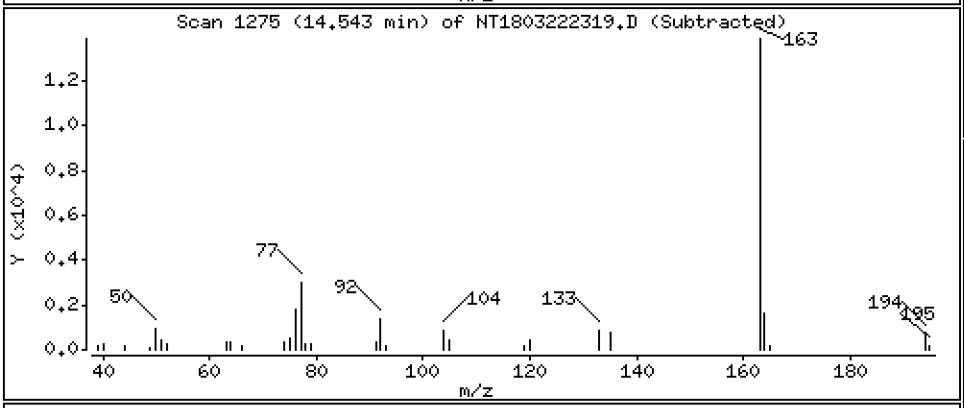
Column diameter: 0.25

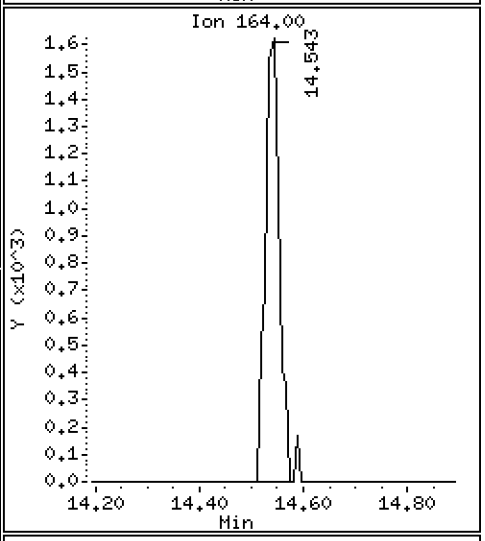
39 Dimethylphthalate

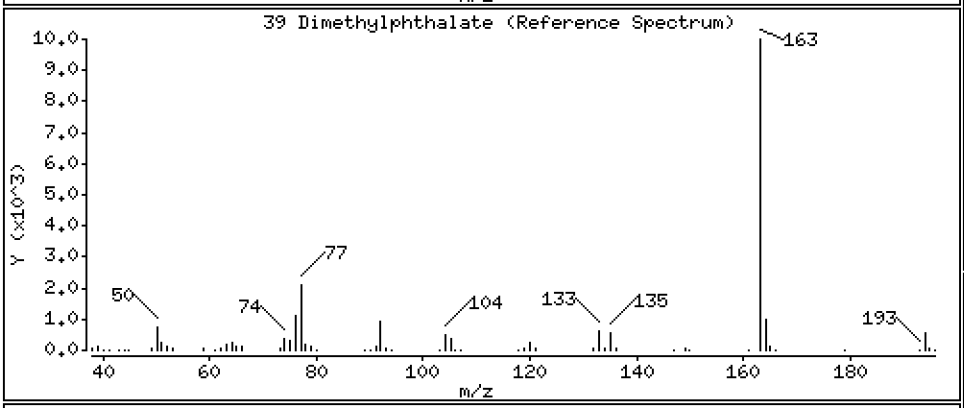
Concentration: 0.1777 ug/mL

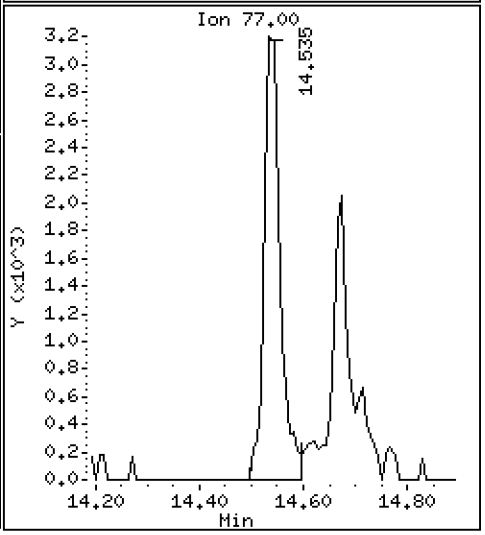


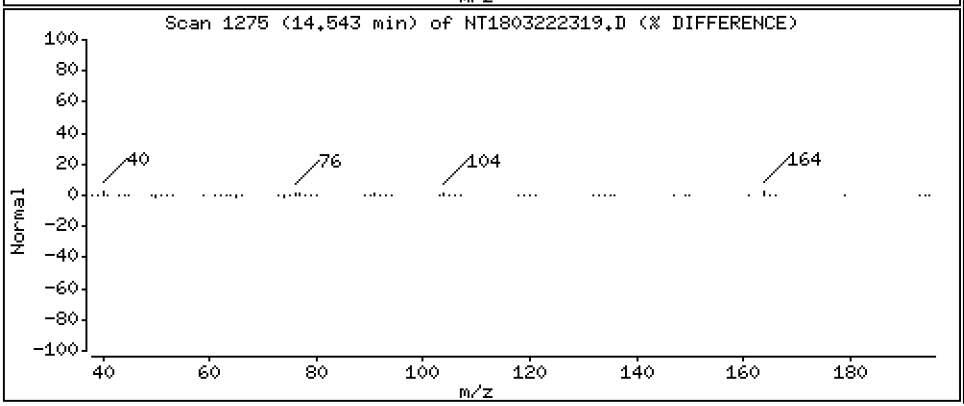












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

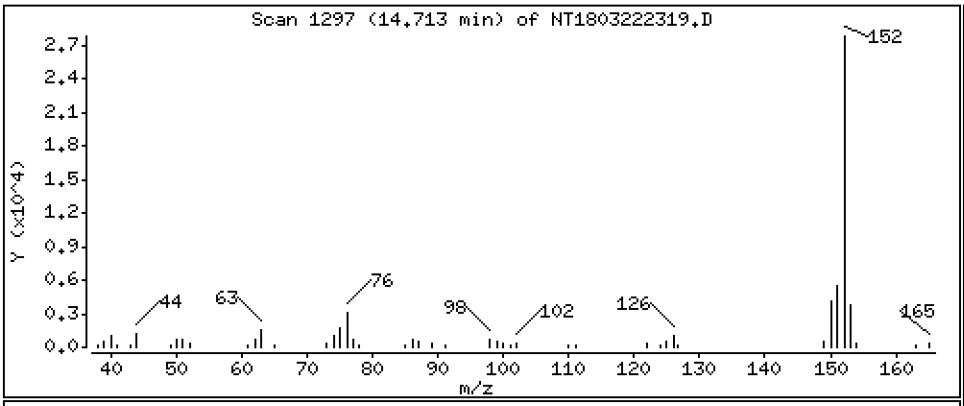
Operator: VTS

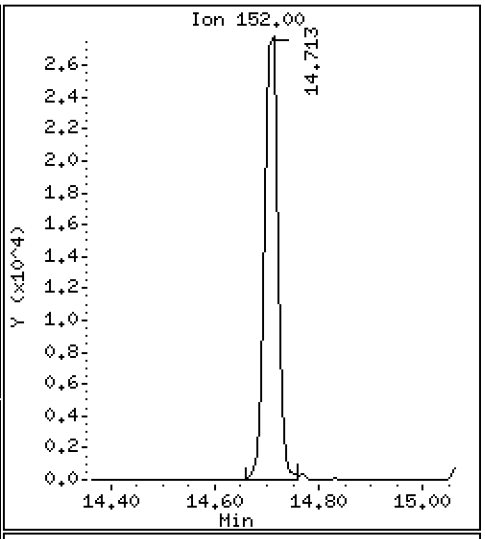
Column phase: ZB-5msi

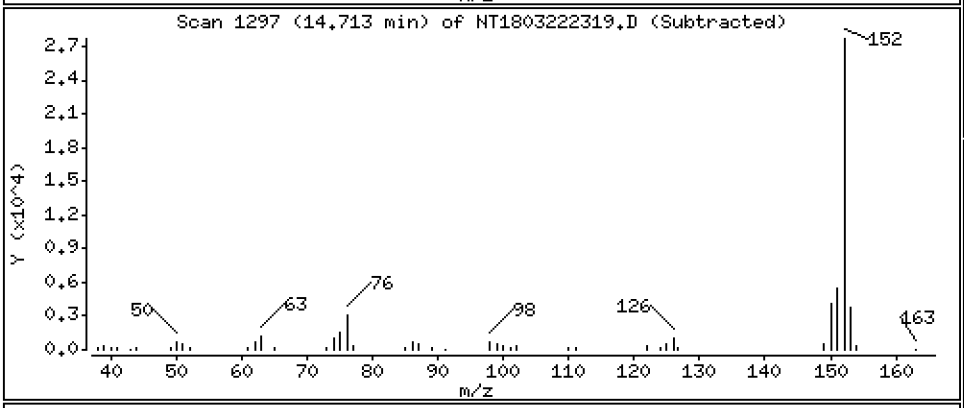
Column diameter: 0.25

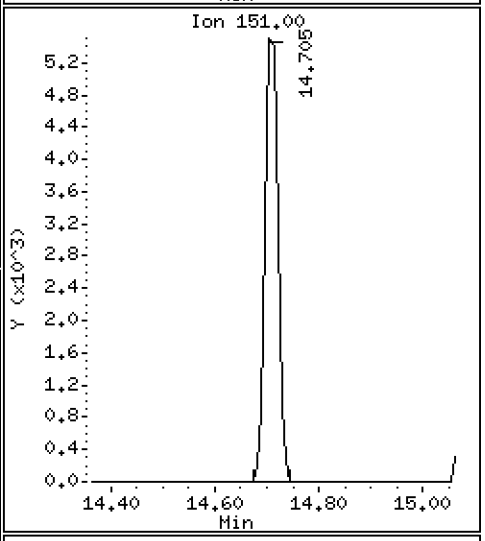
40 Acenaphthylene

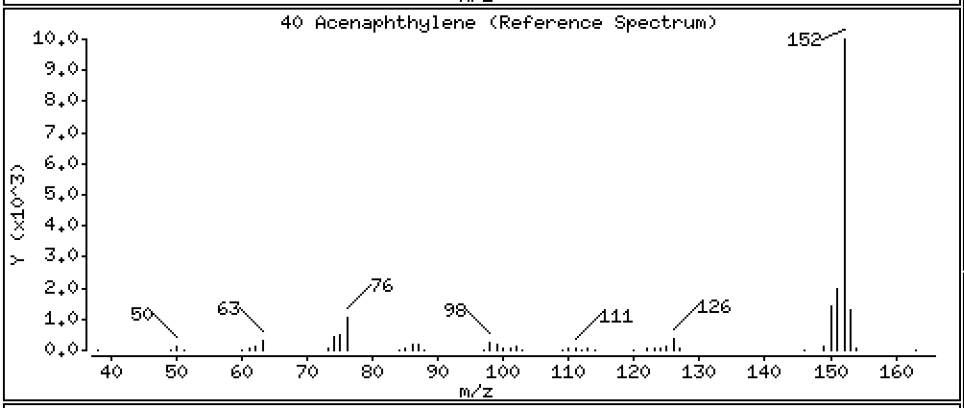
Concentration: 0.1838 ug/mL

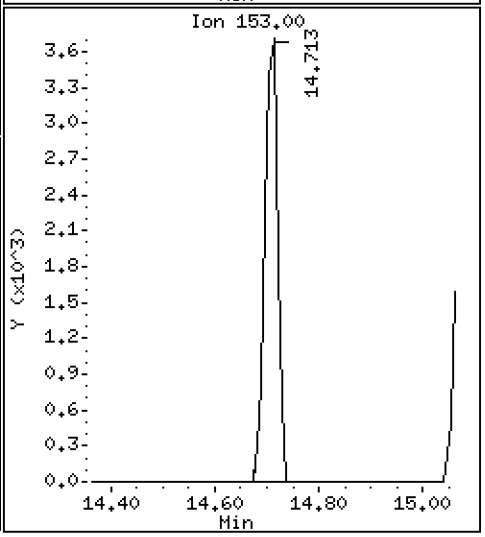


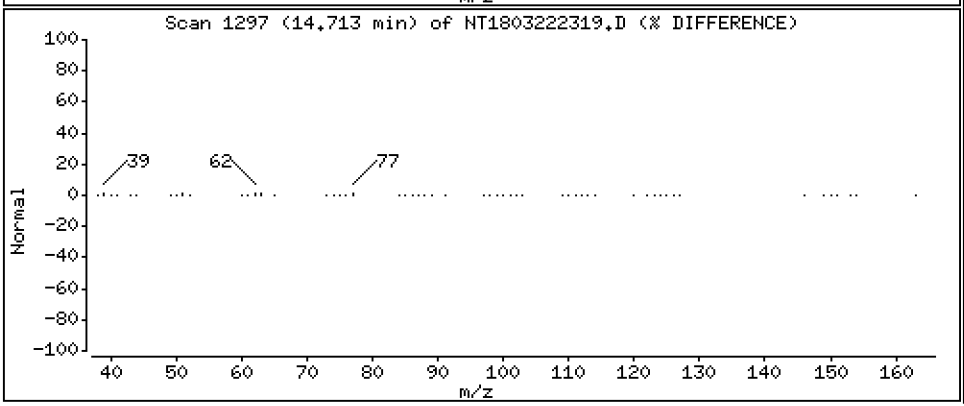












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

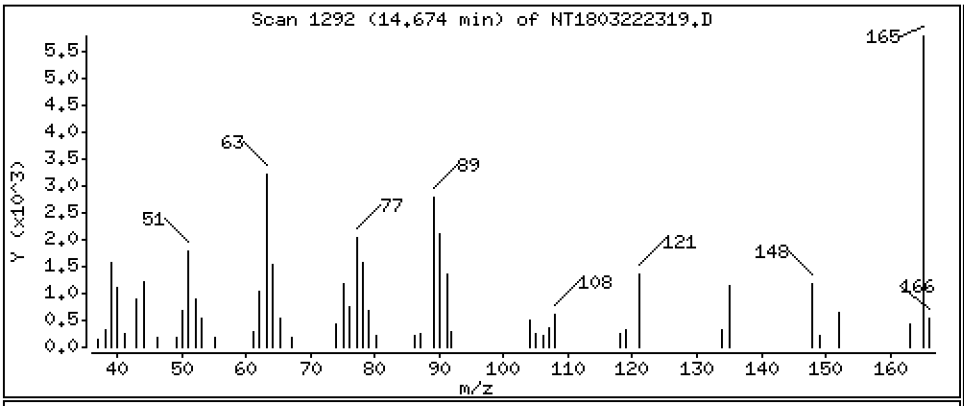
Operator: VTS

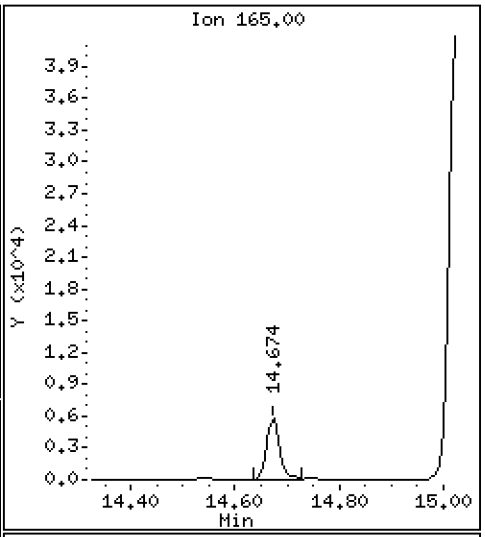
Column phase: ZB-5msi

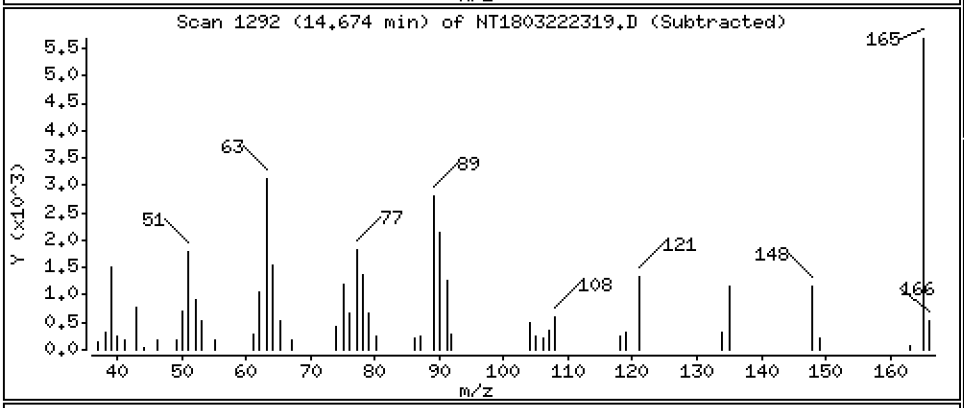
Column diameter: 0.25

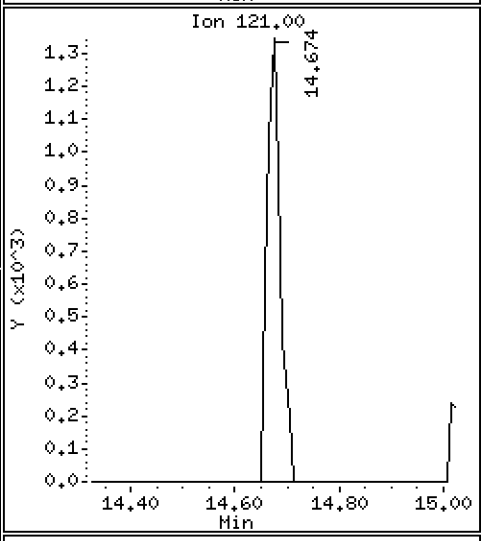
41 2,6-Dinitrotoluene

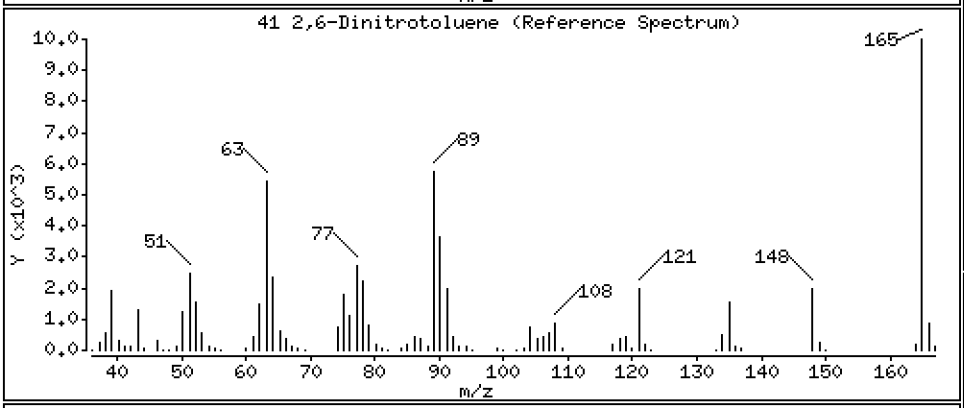
Concentration: 0.2723 ug/mL

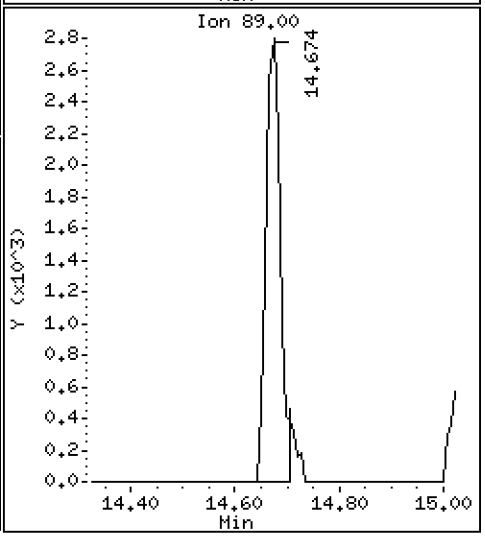


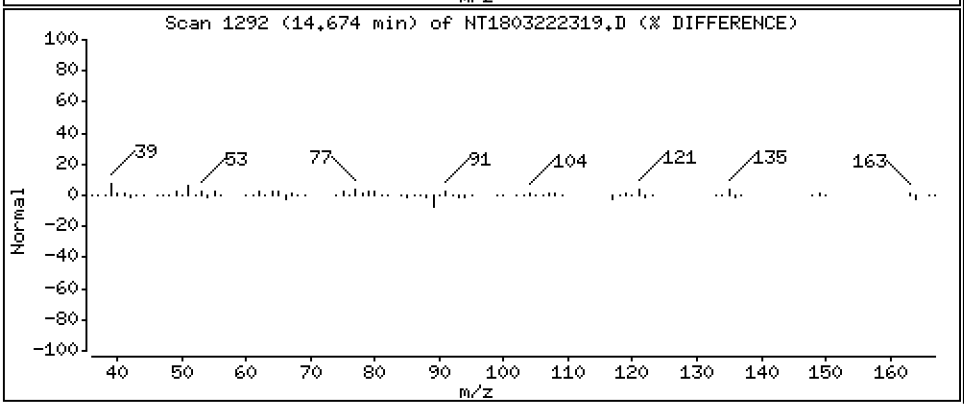












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

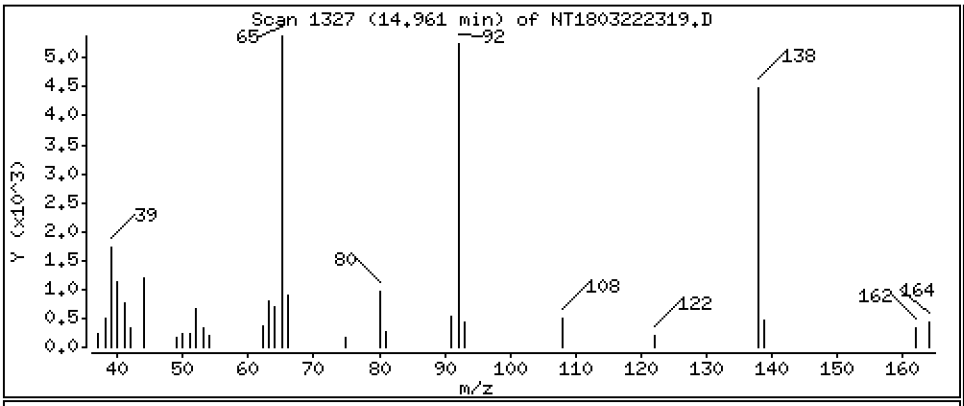
Operator: VTS

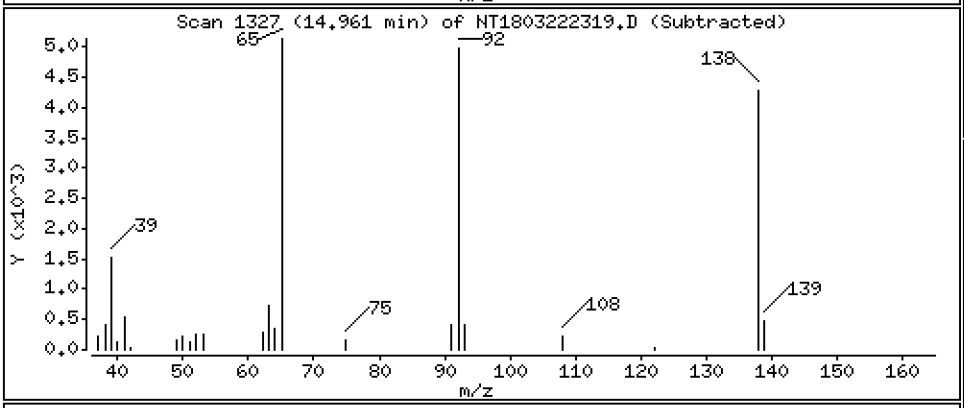
Column phase: ZB-5msi

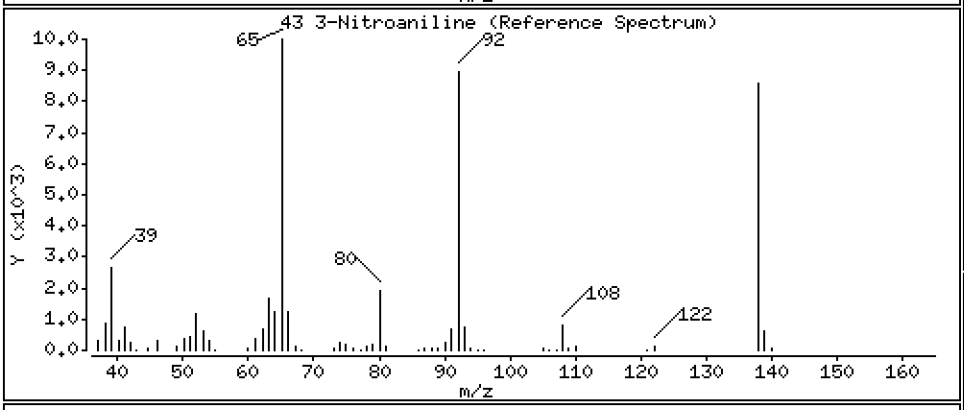
Column diameter: 0.25

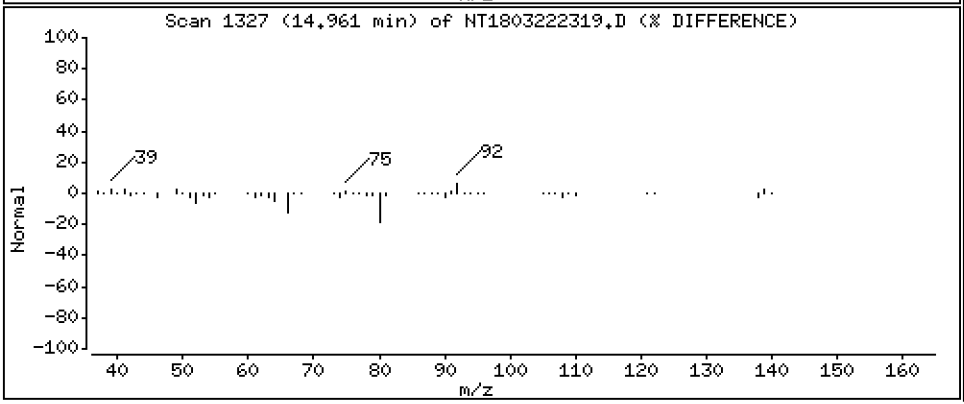
43 3-Nitroaniline

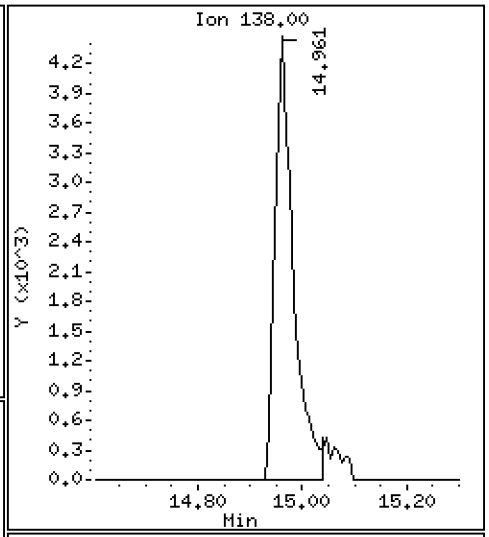
Concentration: 0.2739 ug/mL

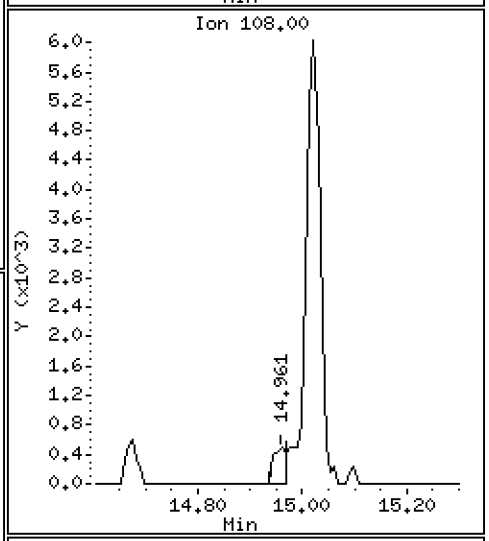


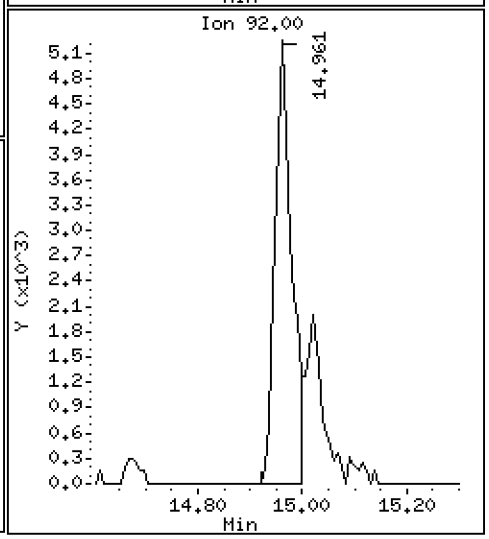












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

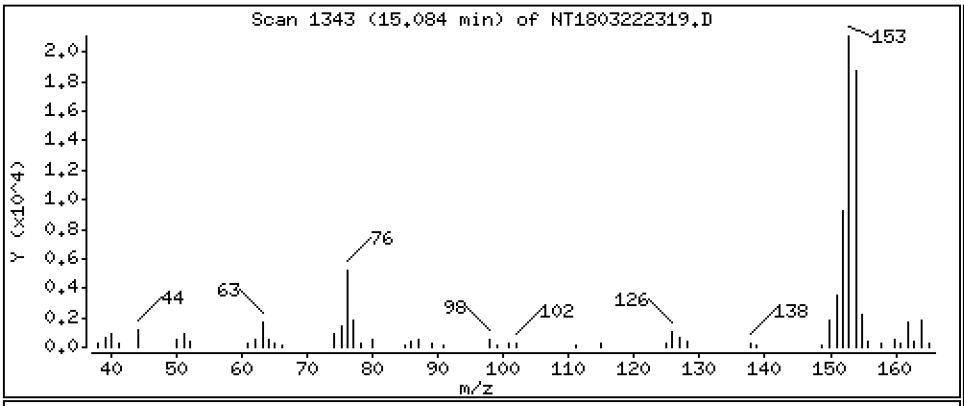
Operator: VTS

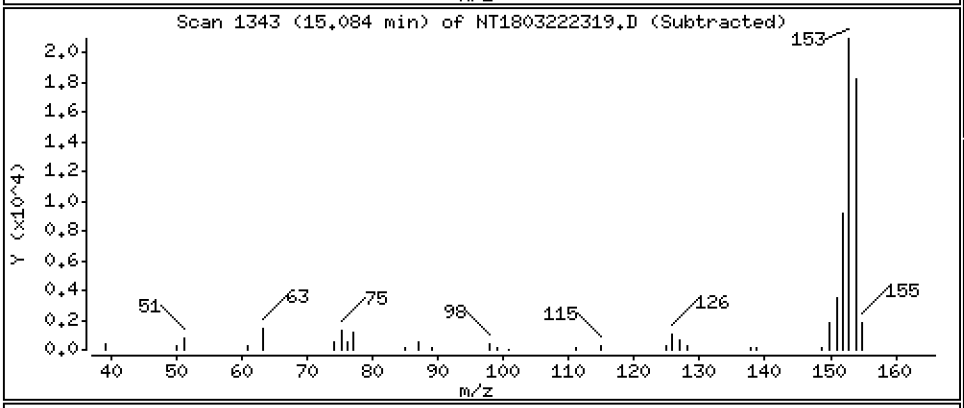
Column phase: ZB-5msi

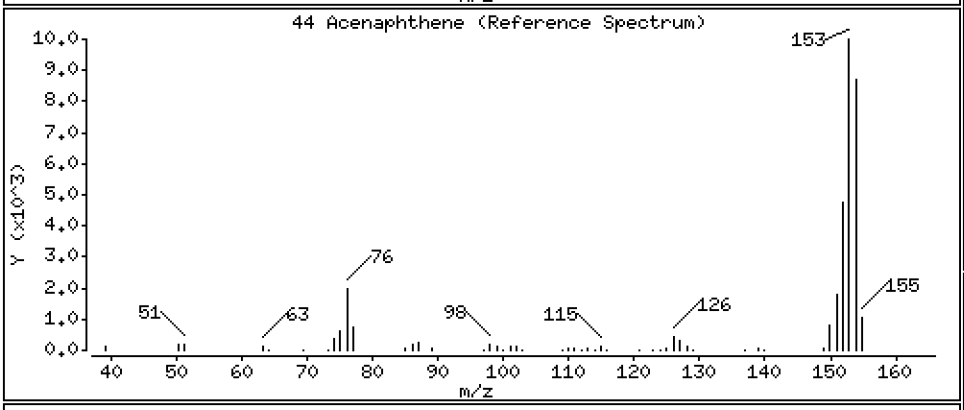
Column diameter: 0.25

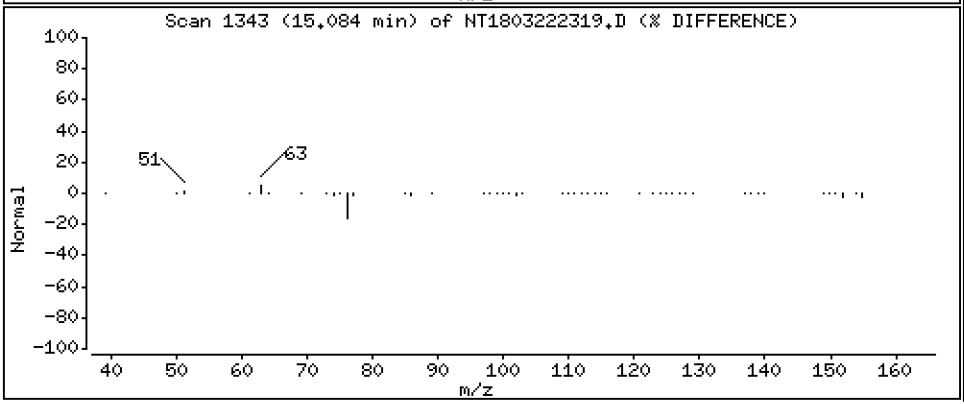
44 Acenaphthene

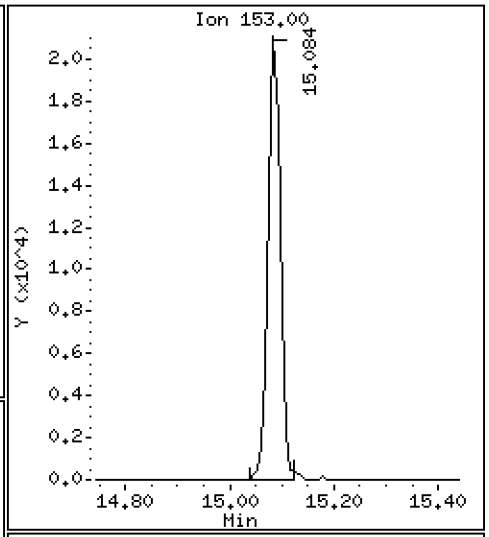
Concentration: 0.2022 ug/mL

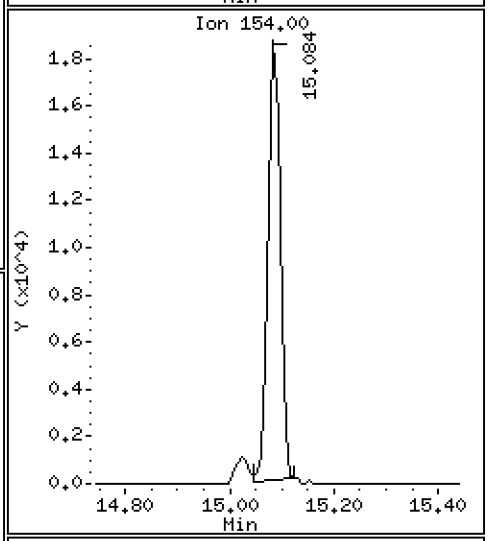


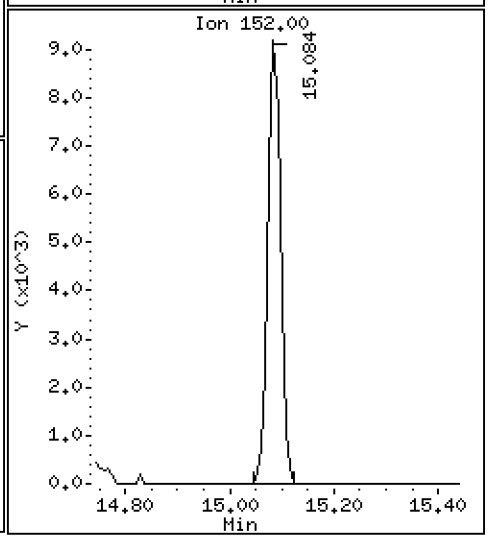












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

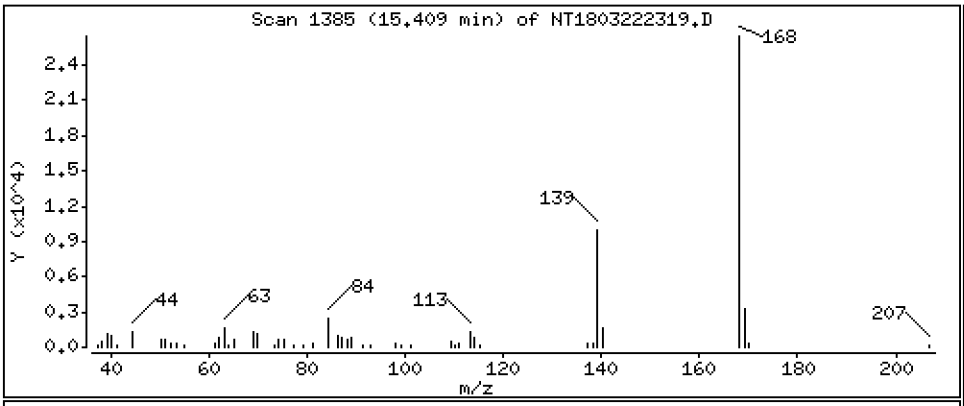
Operator: VTS

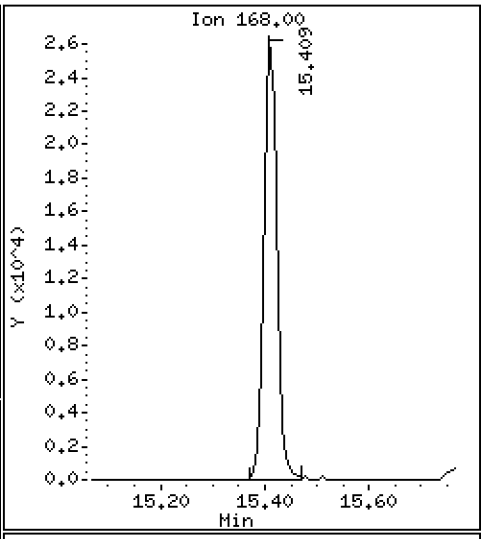
Column phase: ZB-5msi

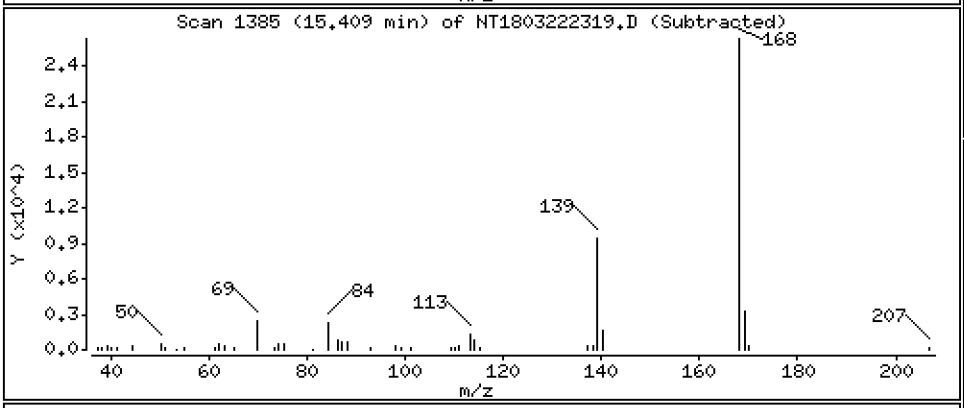
Column diameter: 0.25

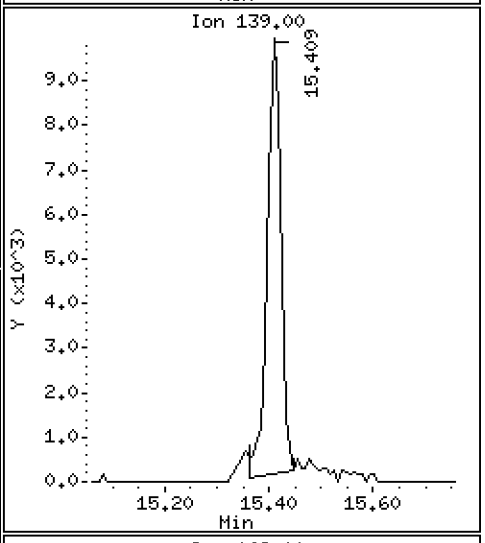
46 Dibenzofuran

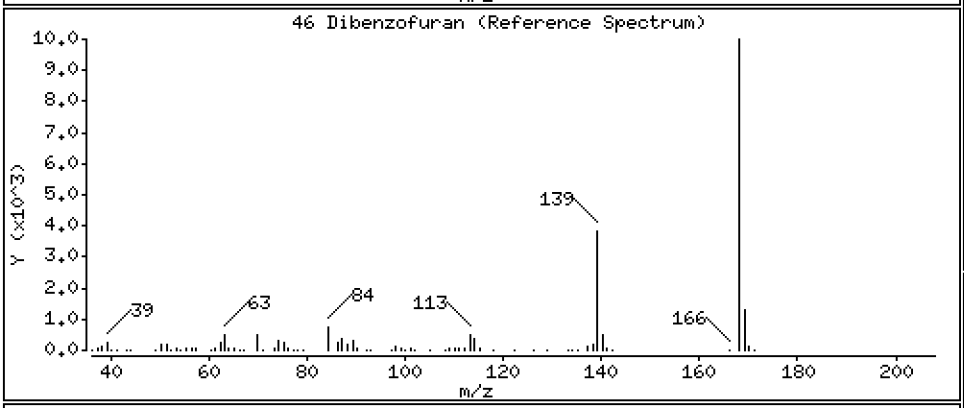
Concentration: 0.1931 ug/mL

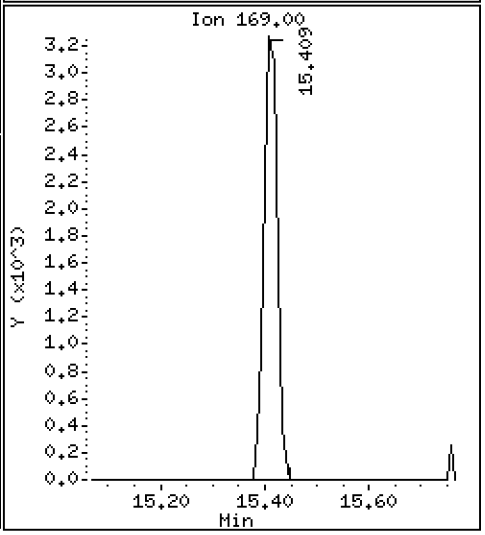


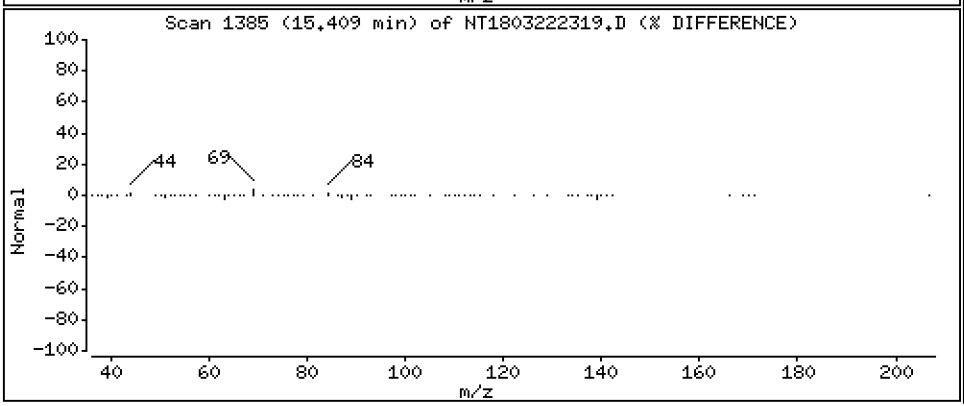












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

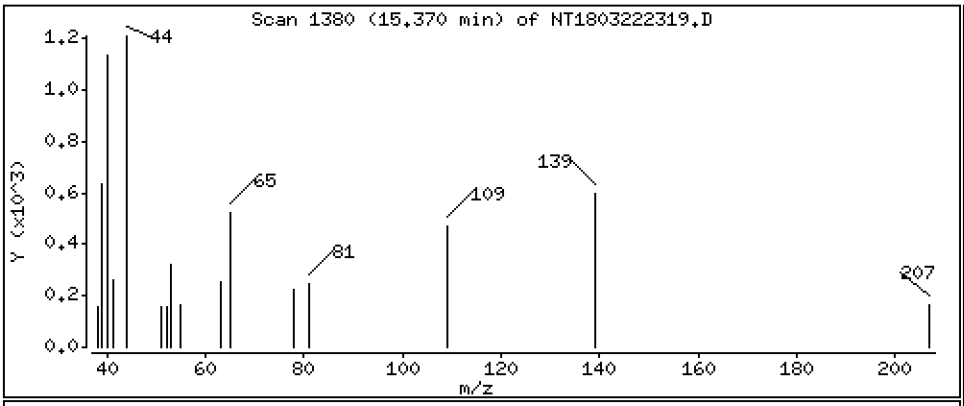
Operator: VTS

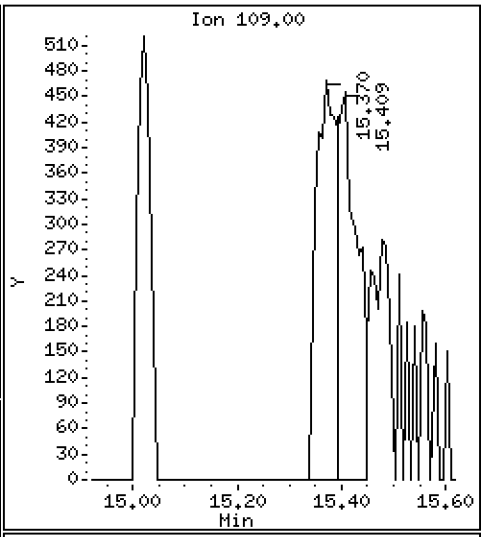
Column phase: ZB-5msi

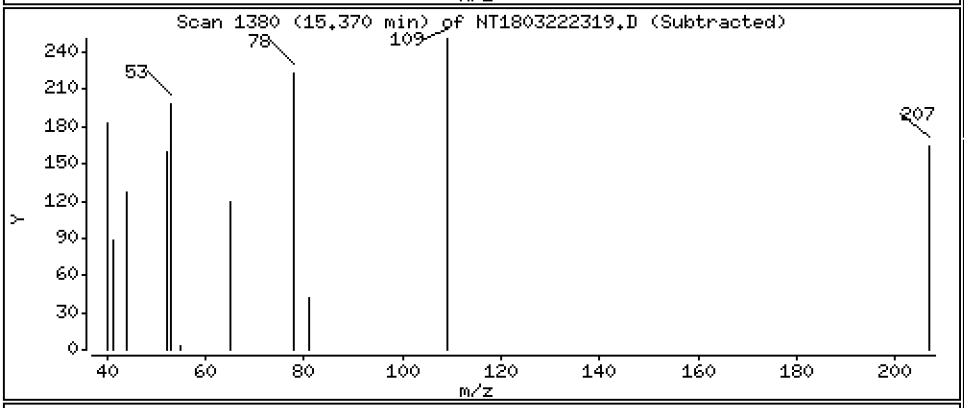
Column diameter: 0.25

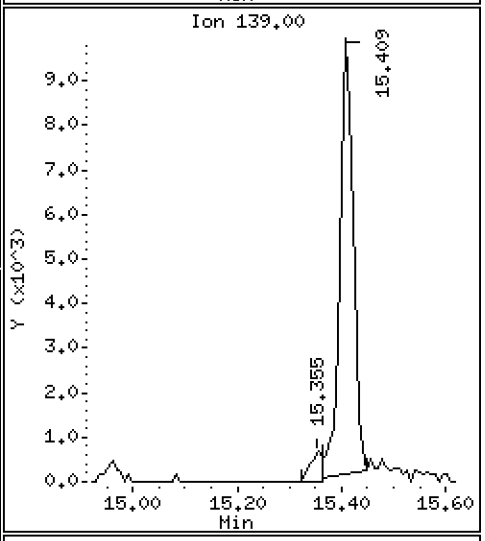
47 4-Nitrophenol

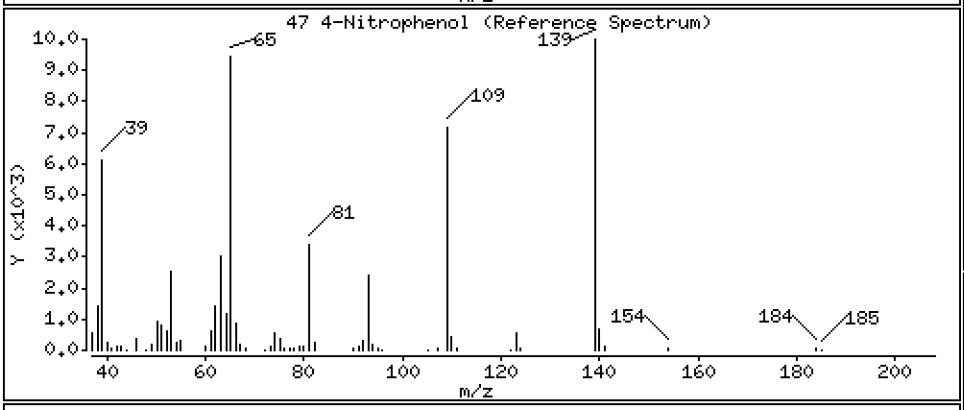
Concentration: 0.06304 ug/mL

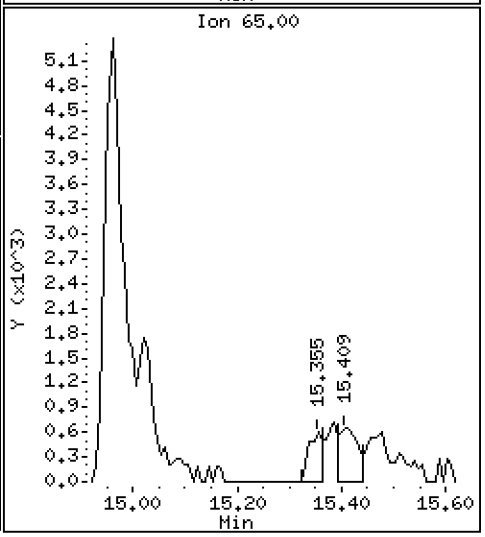


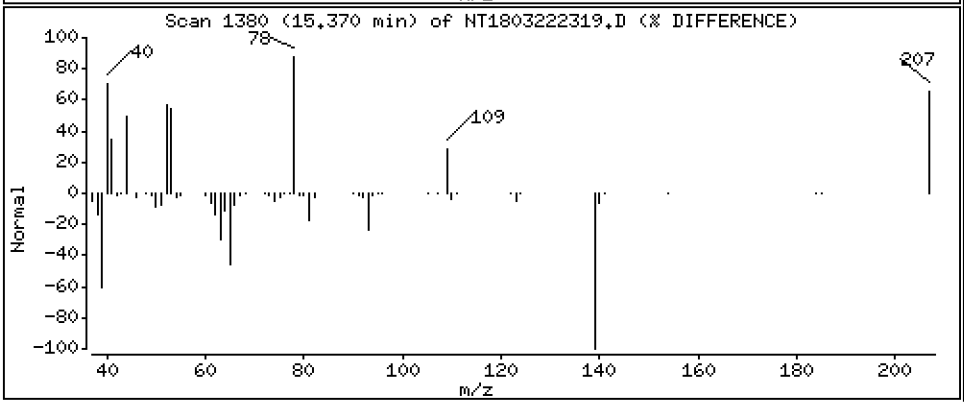












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D

Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

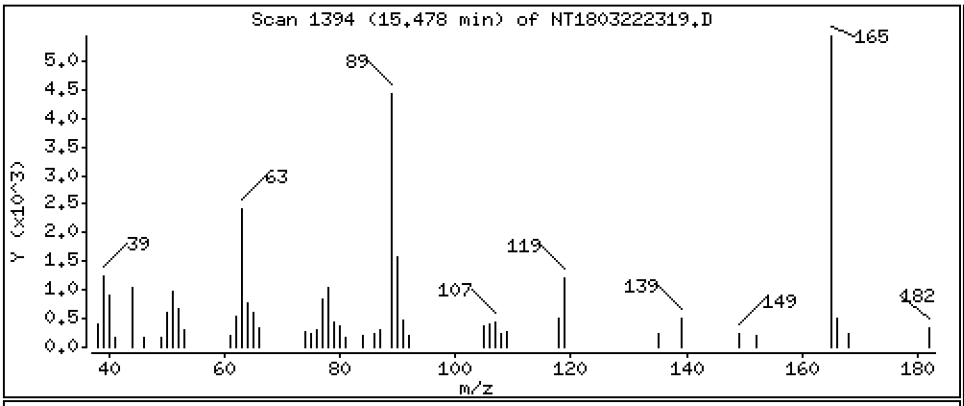
Operator: VTS

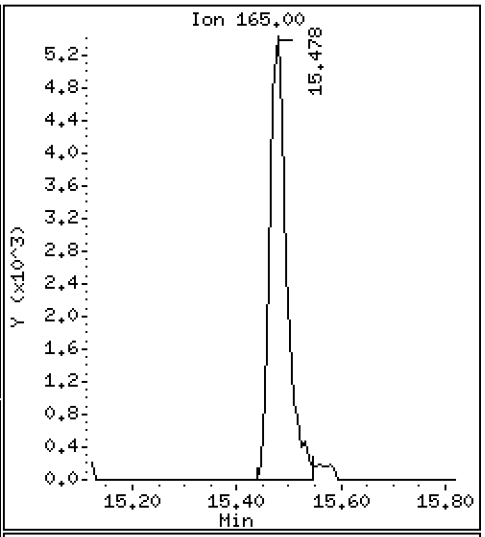
Column phase: ZB-5msi

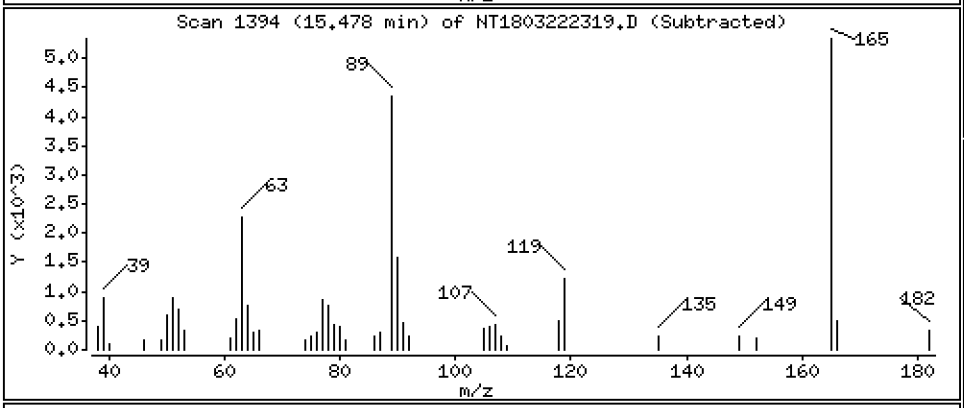
Column diameter: 0.25

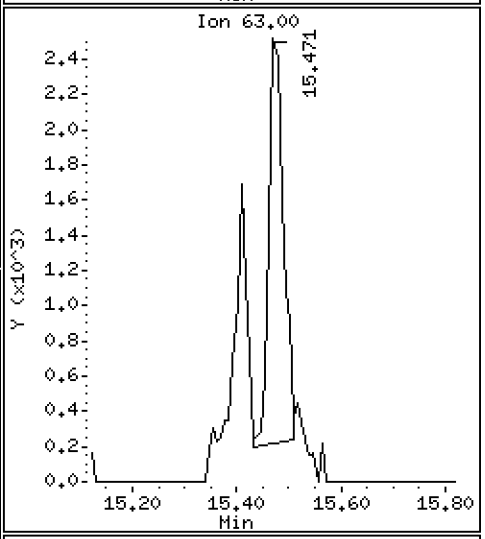
48 2,4-Dinitrotoluene

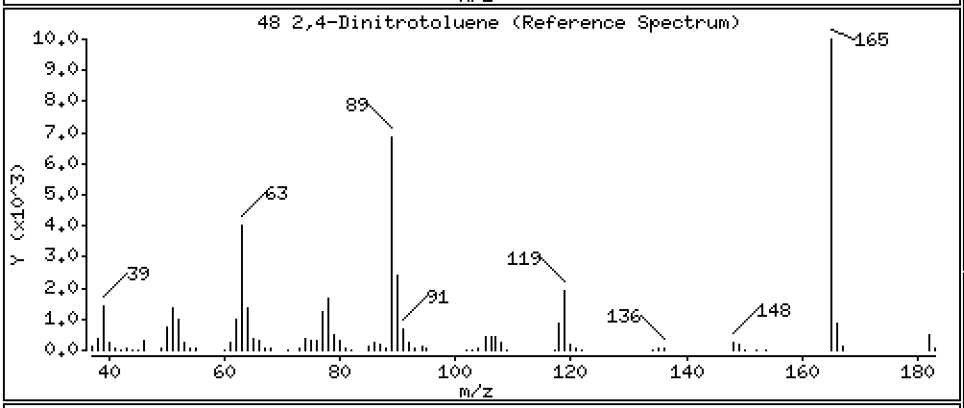
Concentration: 0.2597 ug/mL

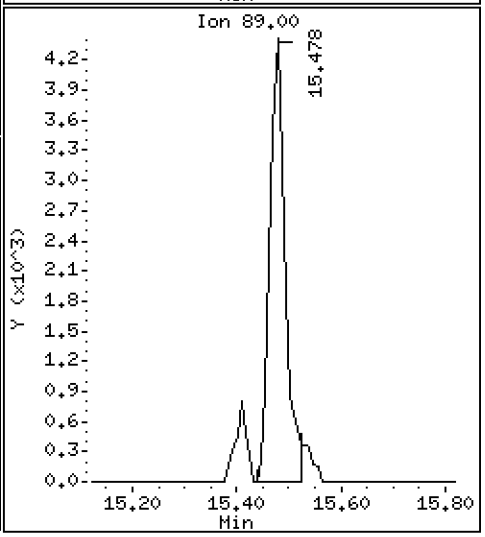


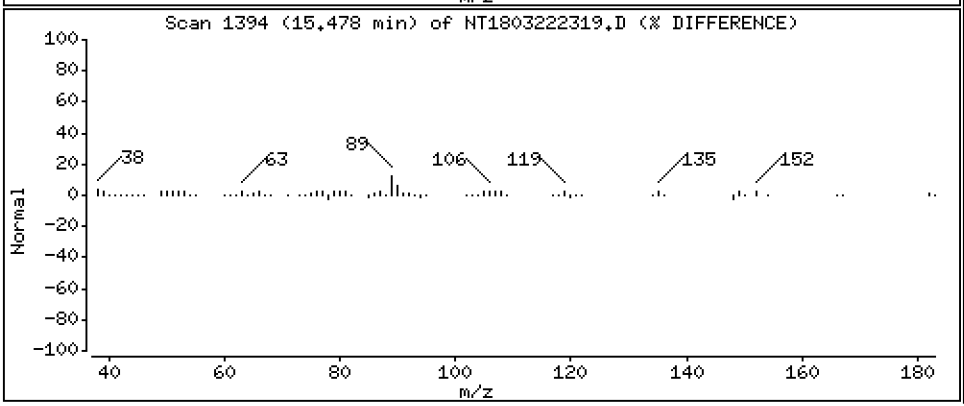












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

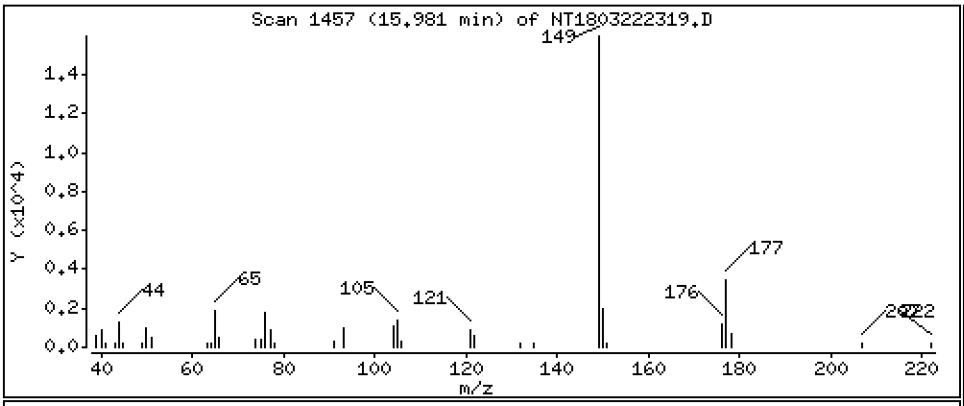
Operator: VTS

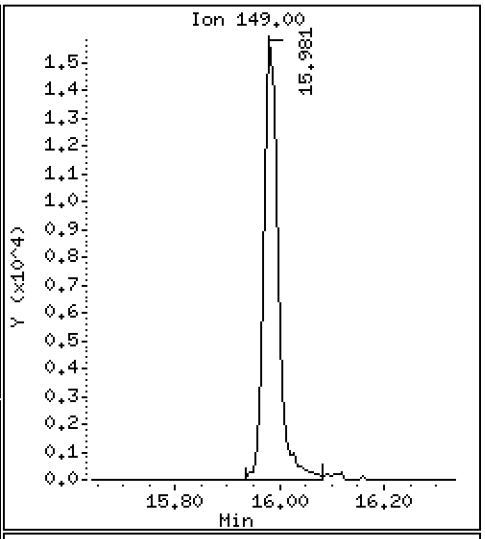
Column phase: ZB-5msi

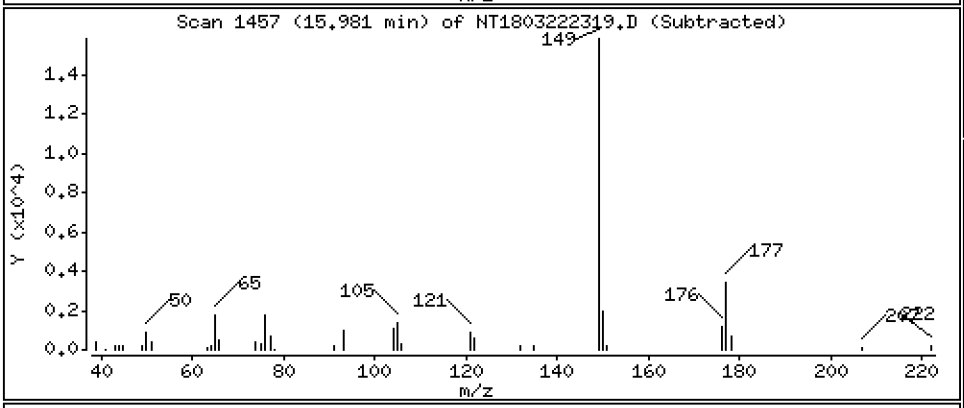
Column diameter: 0.25

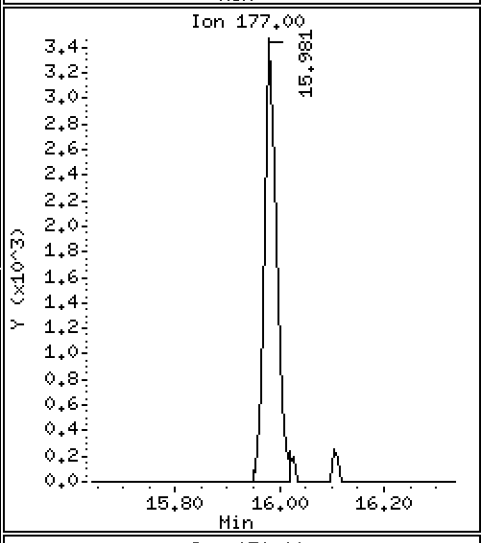
50 Diethylphthalate

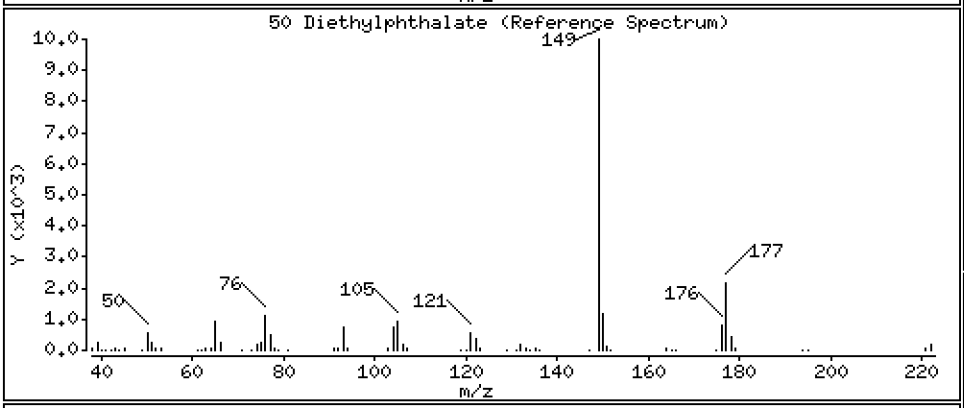
Concentration: 0.2044 ug/mL

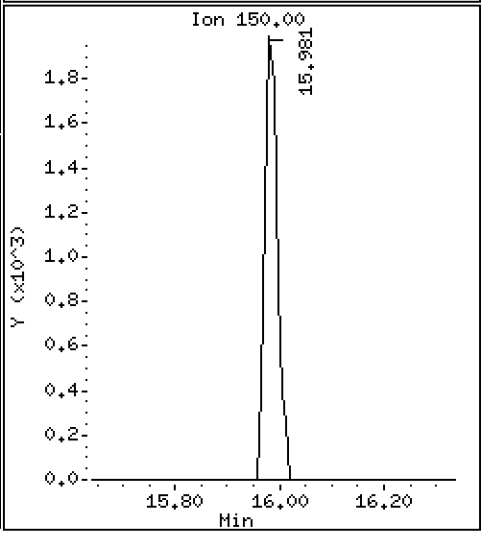


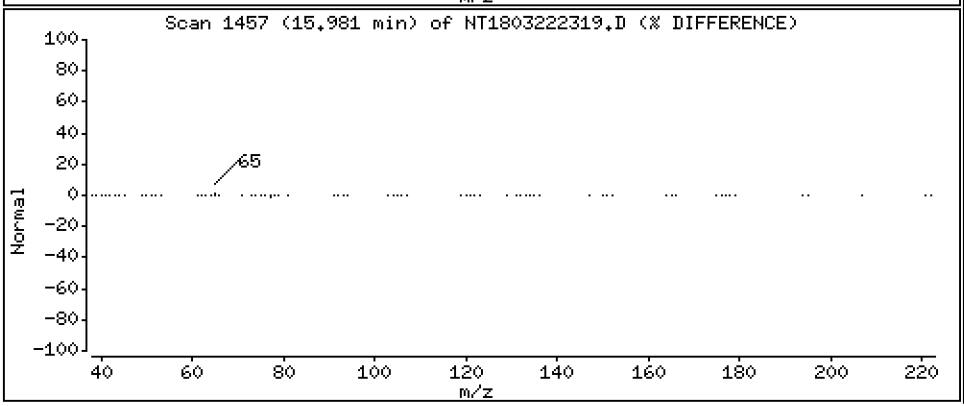












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

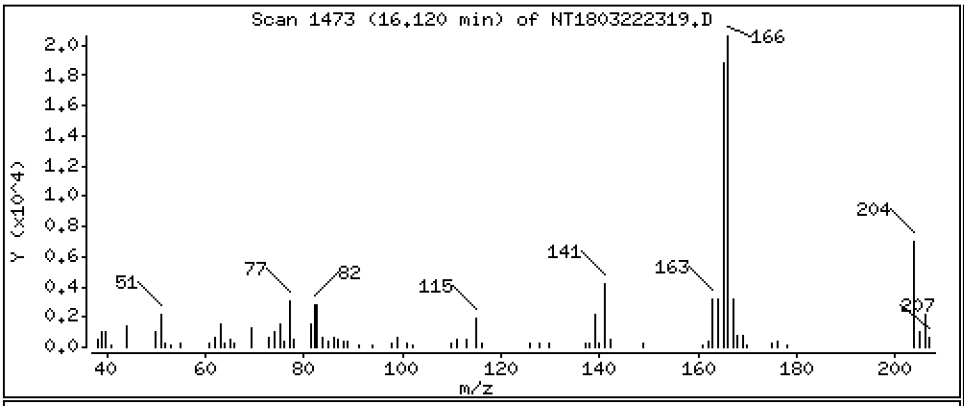
Operator: VTS

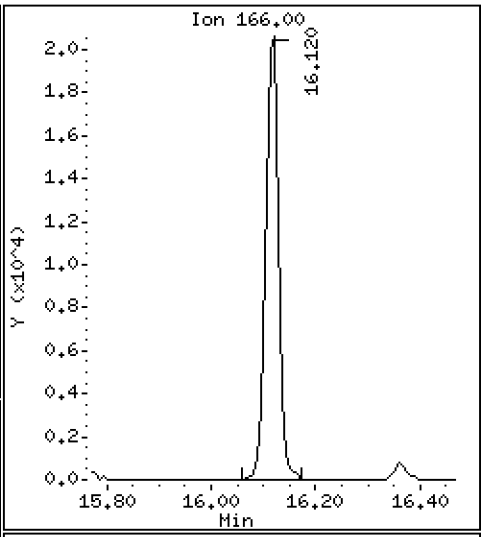
Column phase: ZB-5msi

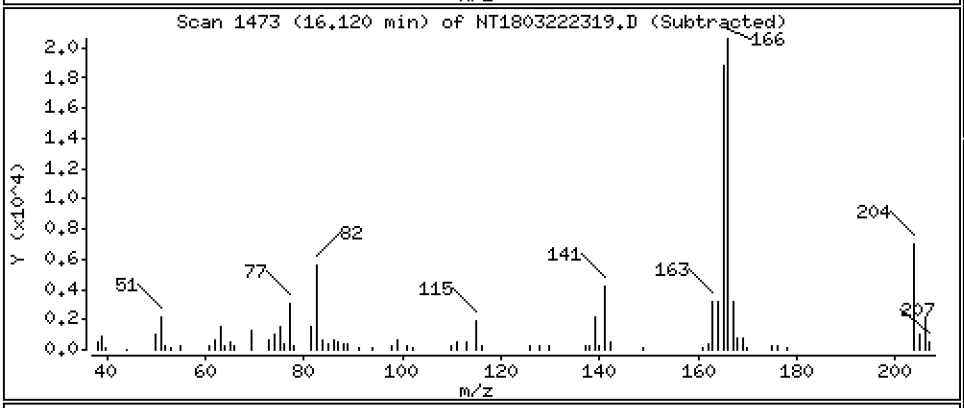
Column diameter: 0.25

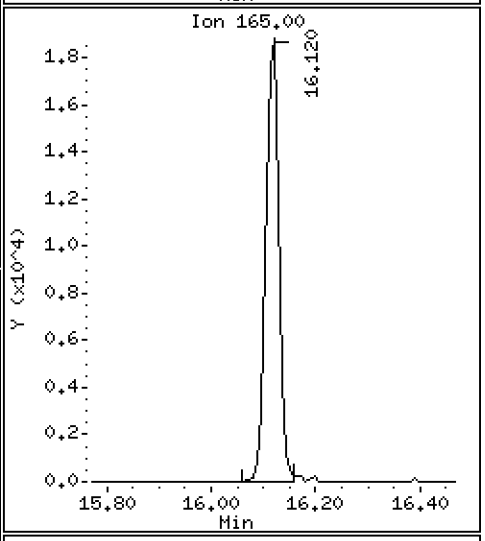
49 Fluorene

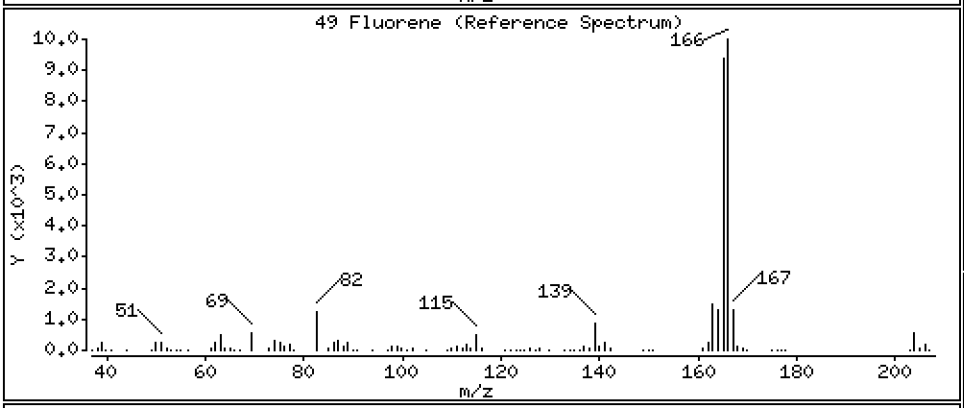
Concentration: 0.1945 ug/mL

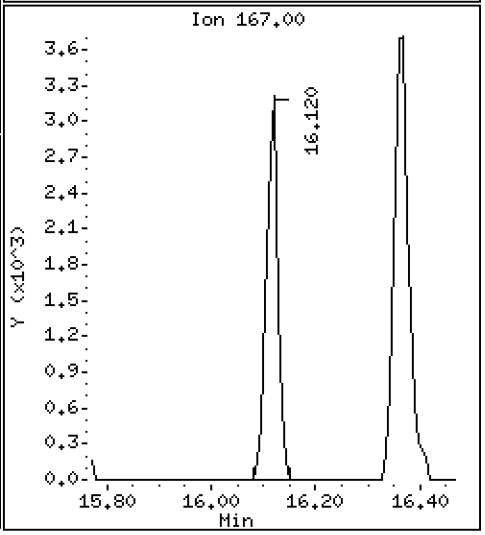


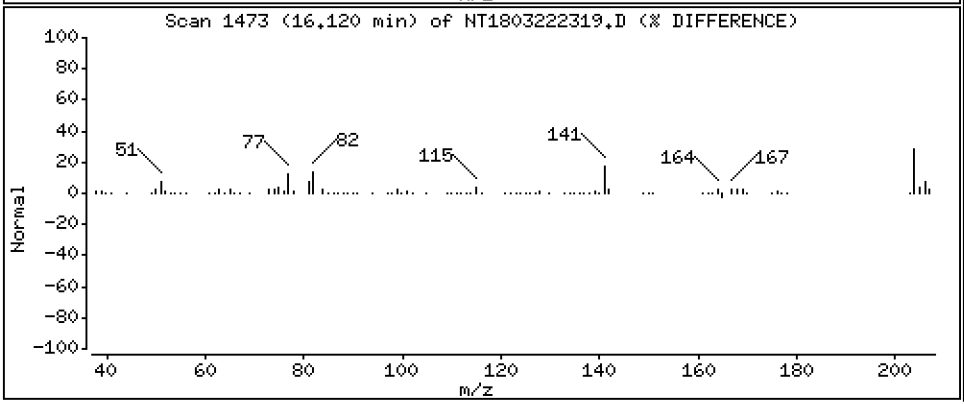












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

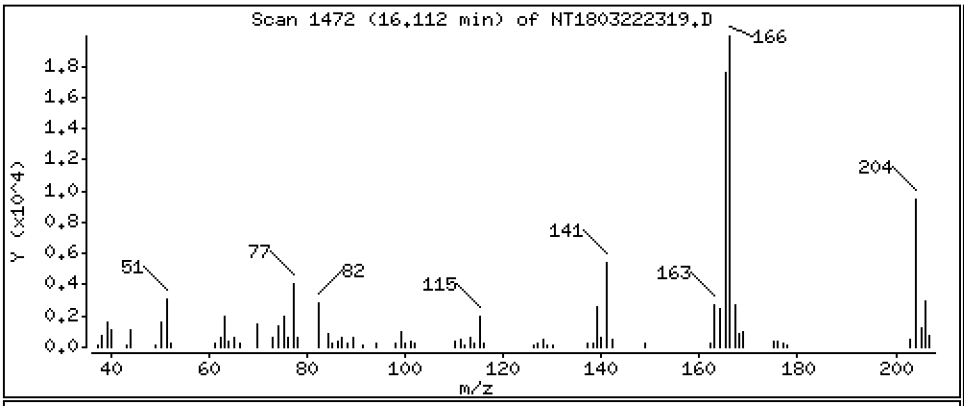
Operator: VTS

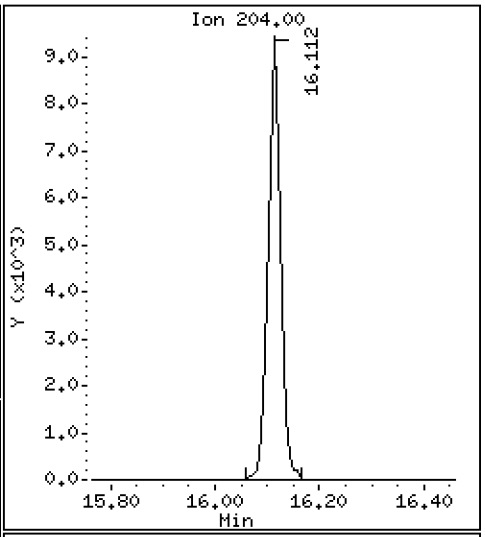
Column phase: ZB-5msi

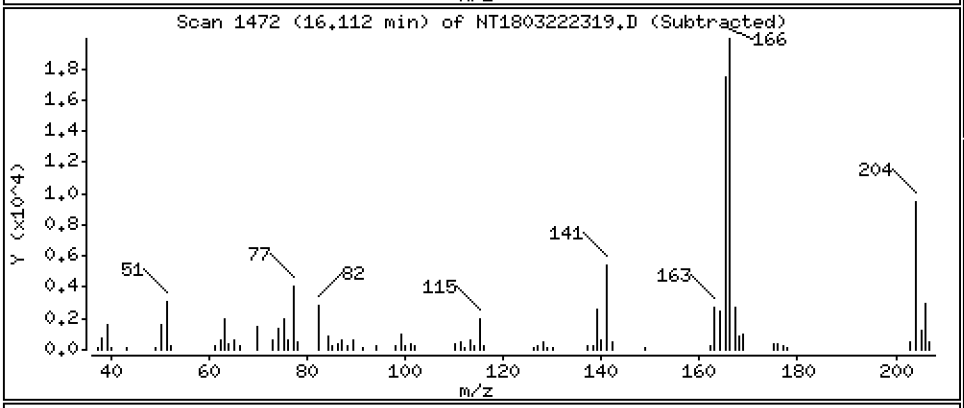
Column diameter: 0.25

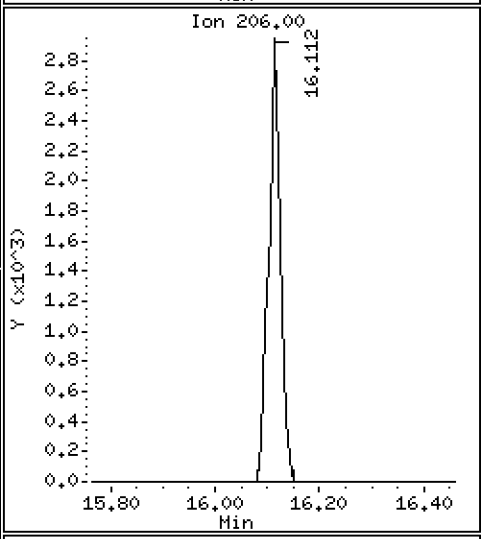
51 4-Chlorophenyl-phenylether

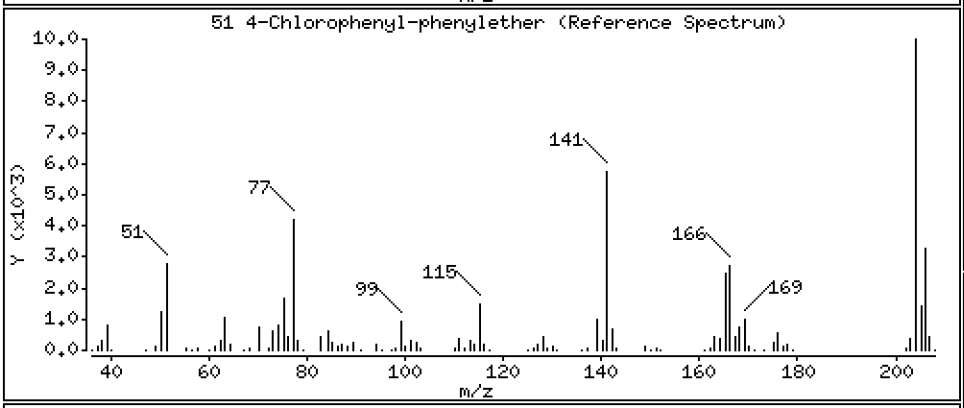
Concentration: 0.1991 ug/mL

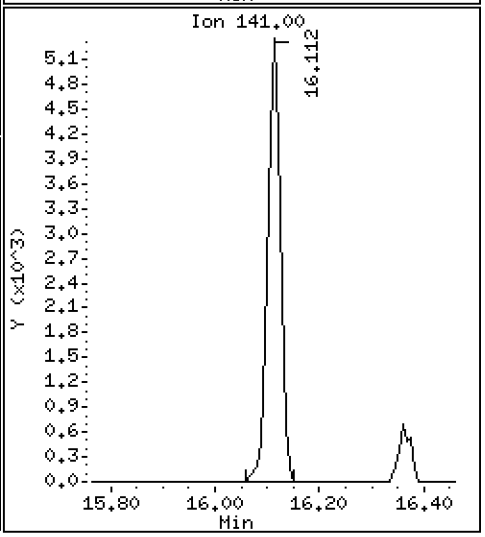


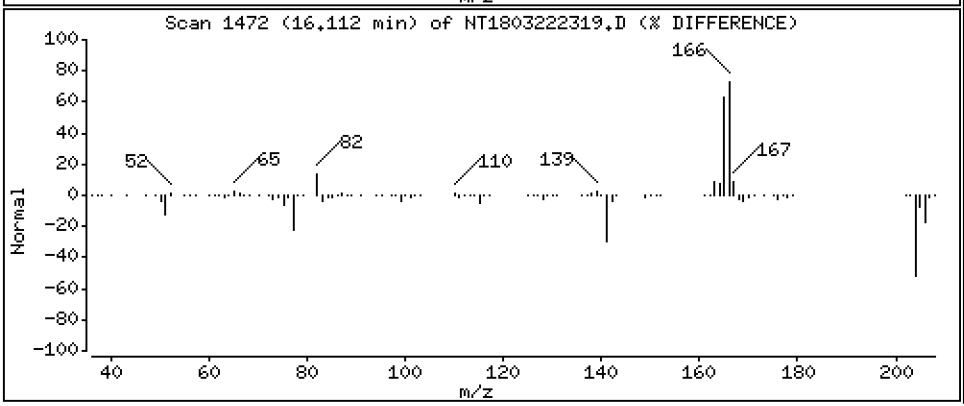












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

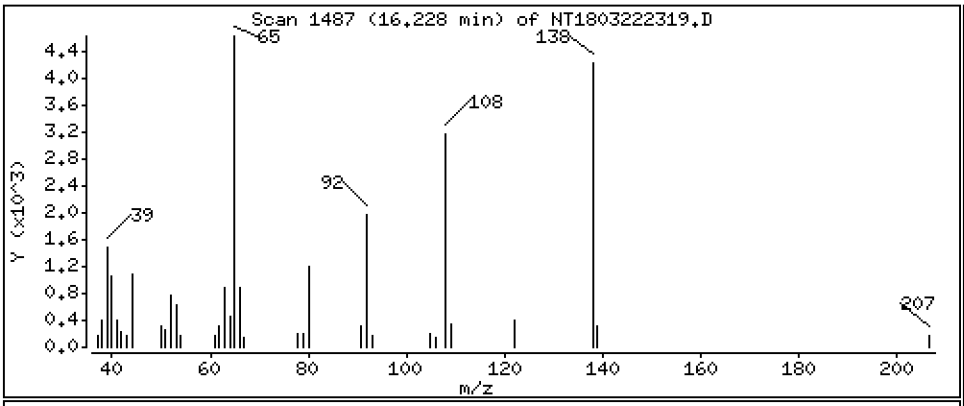
Operator: VTS

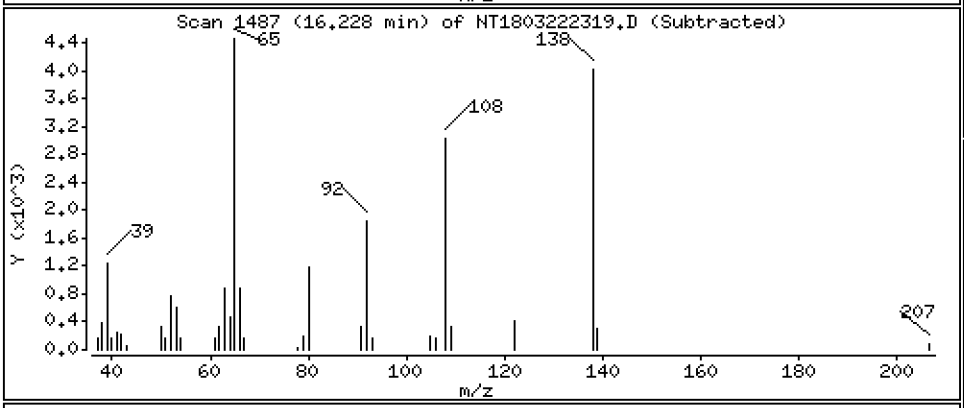
Column phase: ZB-5msi

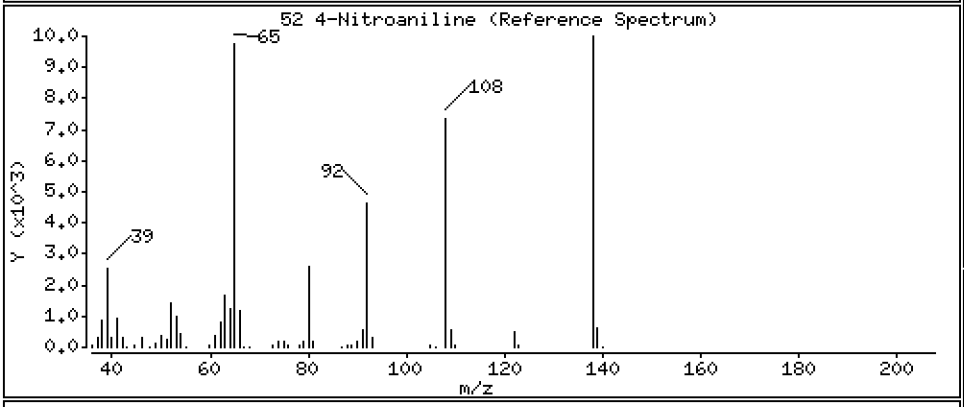
Column diameter: 0.25

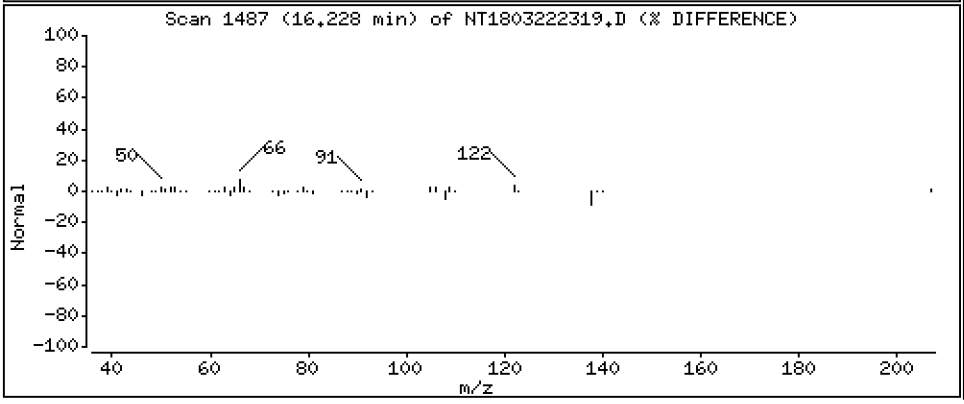
52 4-Nitroaniline

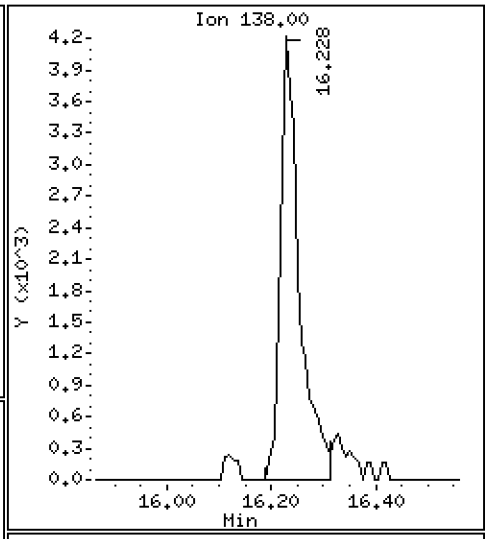
Concentration: 0.2787 ug/mL

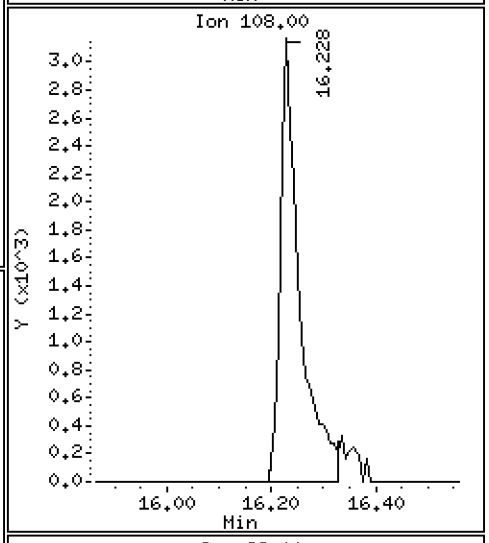


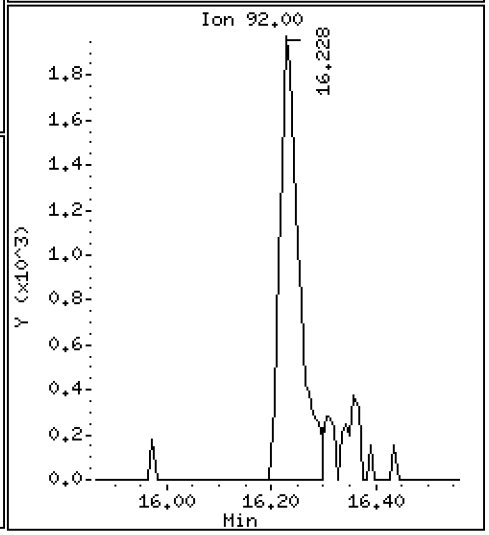












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

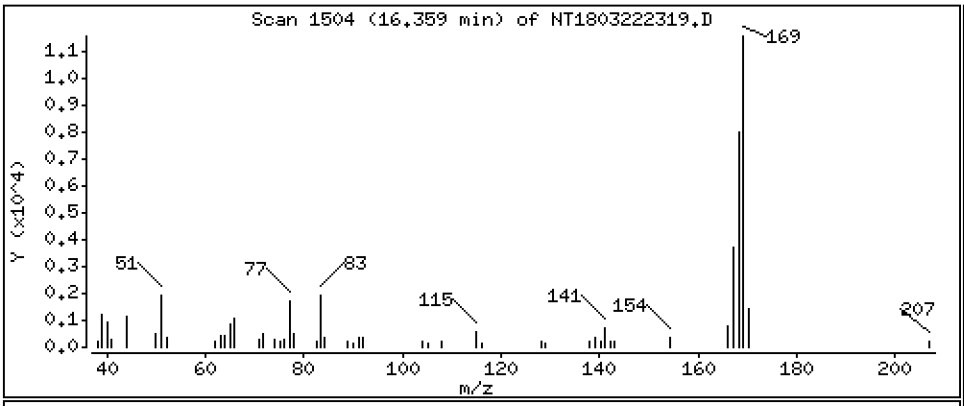
Operator: VTS

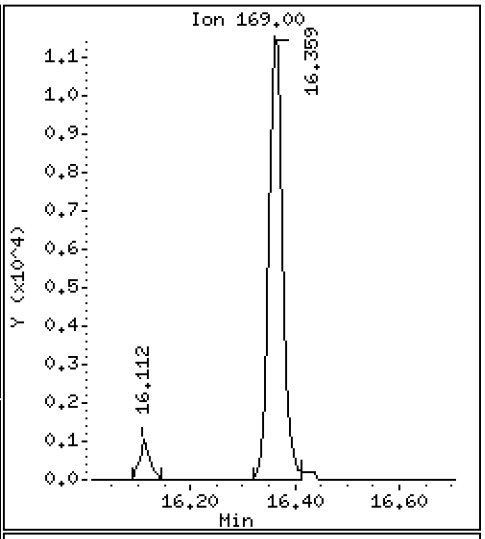
Column phase: ZB-5msi

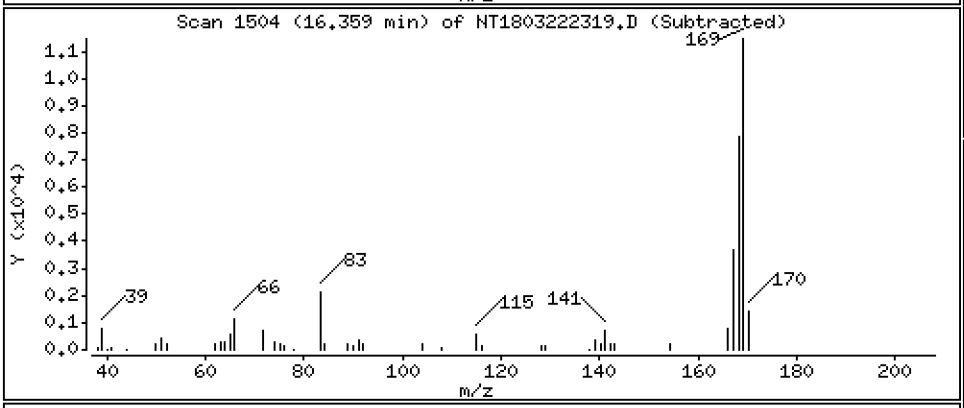
Column diameter: 0.25

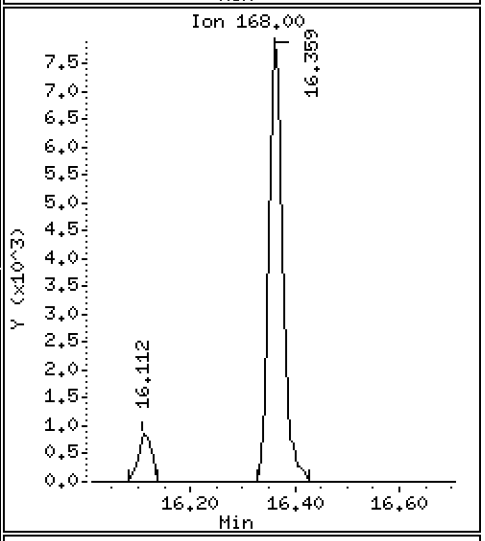
54 N-Nitrosodiphenylamine

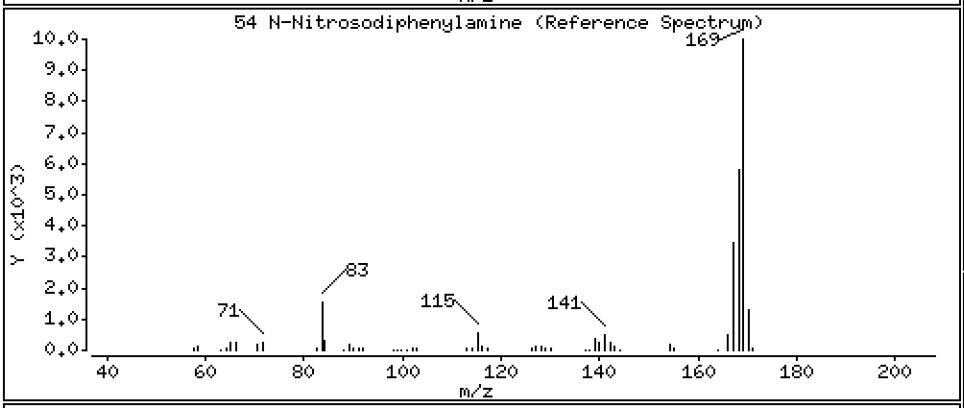
Concentration: 0.1783 ug/mL

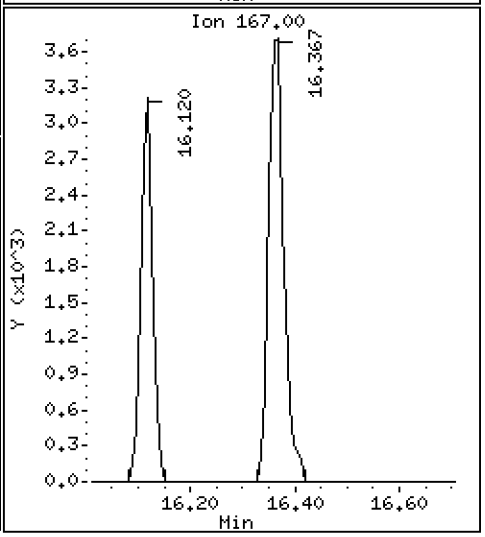


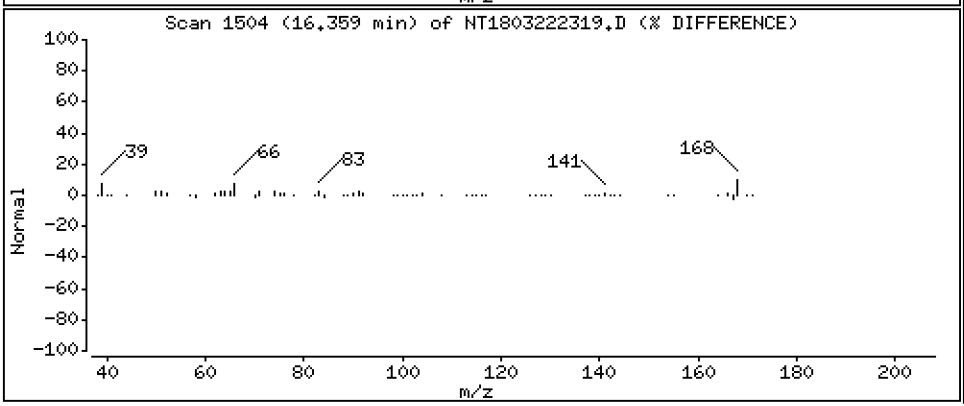












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

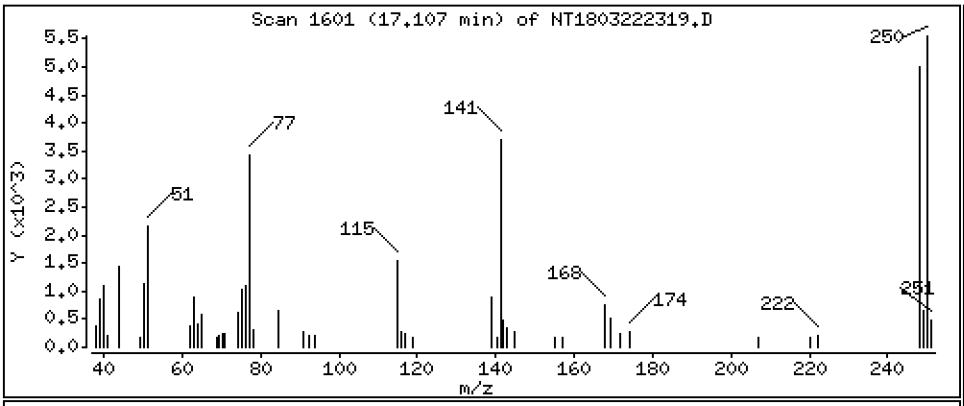
Operator: VTS

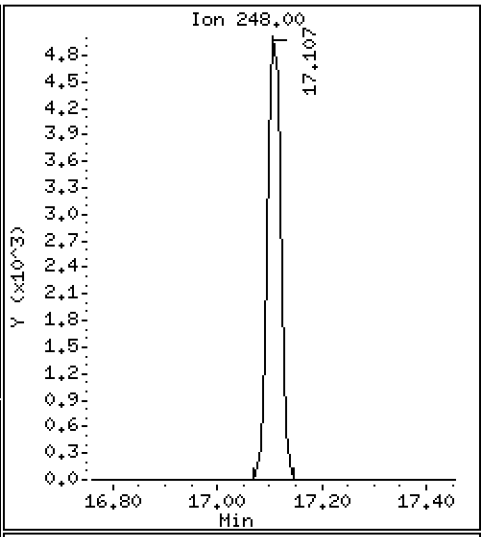
Column phase: ZB-5msi

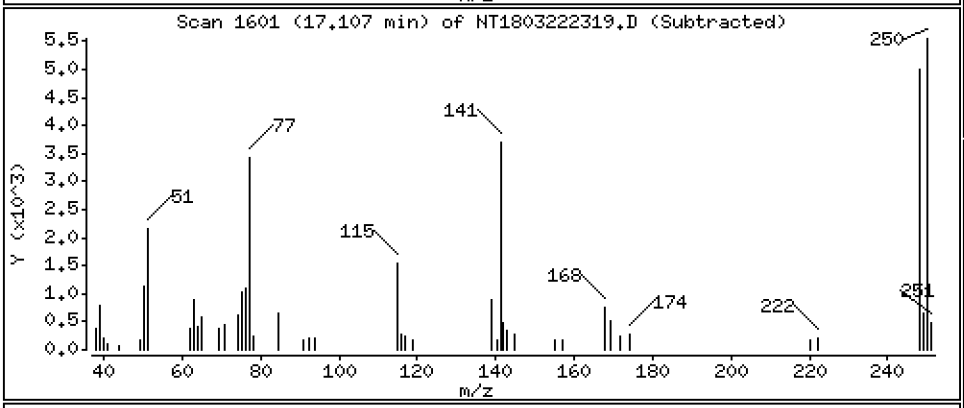
Column diameter: 0.25

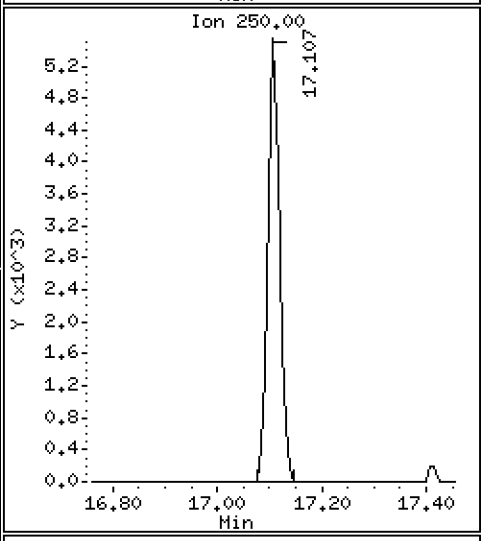
56 4-Bromophenyl-phenylether

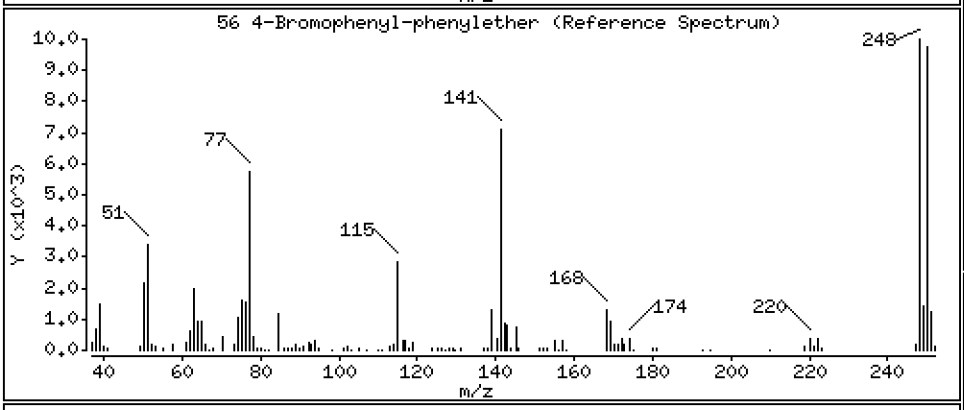
Concentration: 0.1856 ug/mL

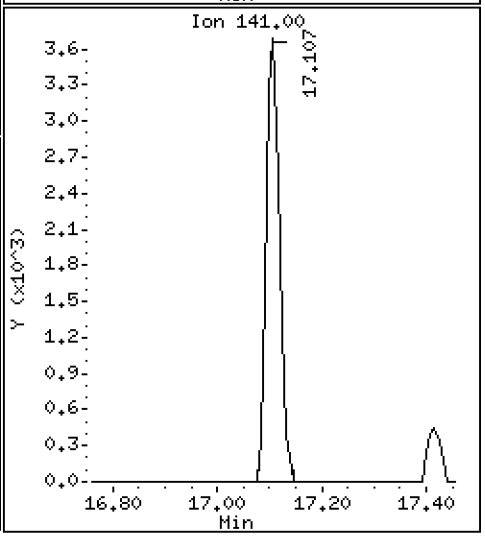


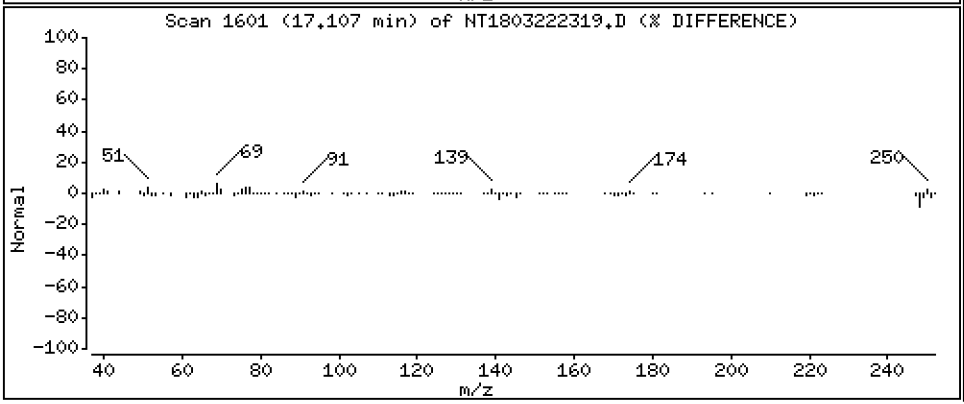












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D

Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

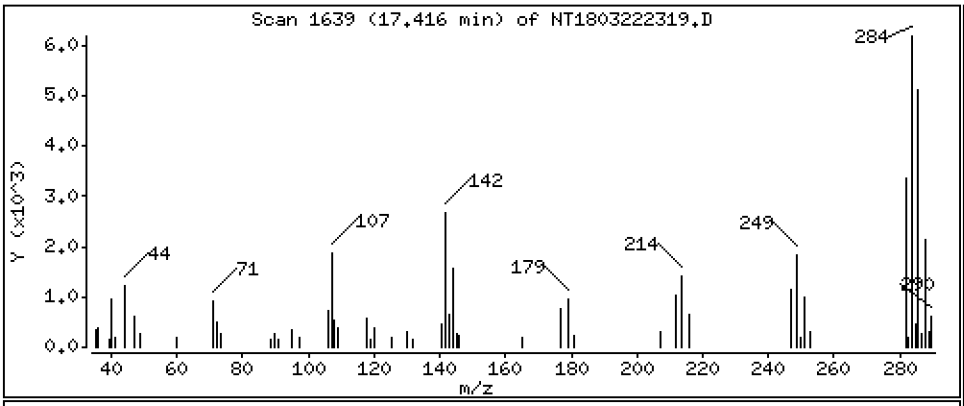
Operator: VTS

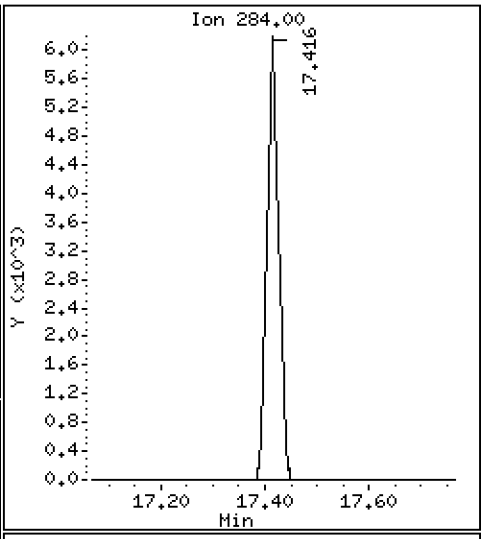
Column phase: ZB-5msi

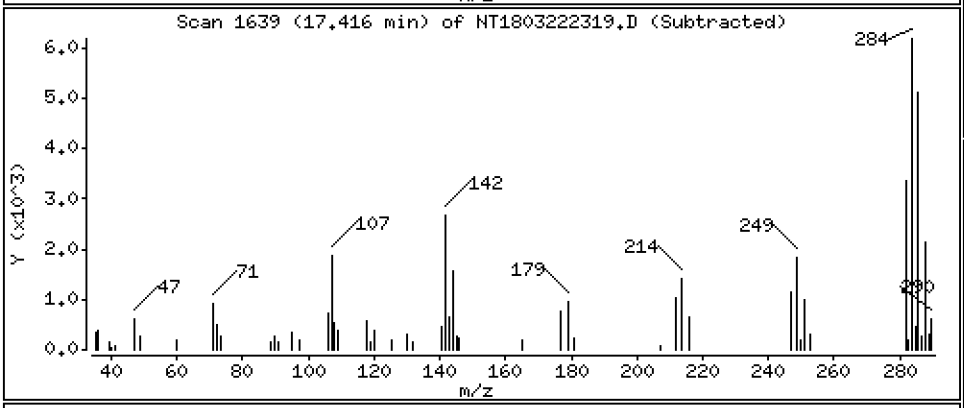
Column diameter: 0.25

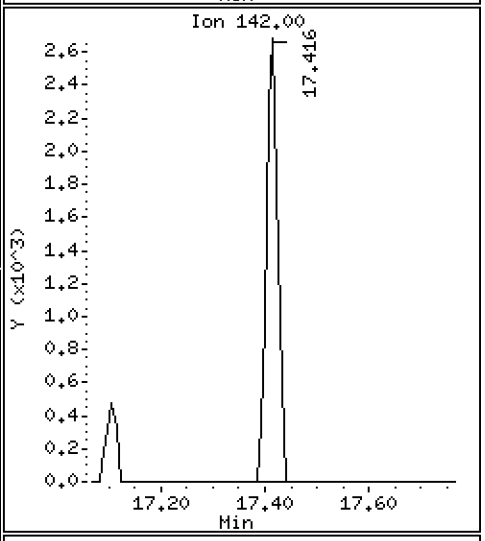
57 Hexachlorobenzene

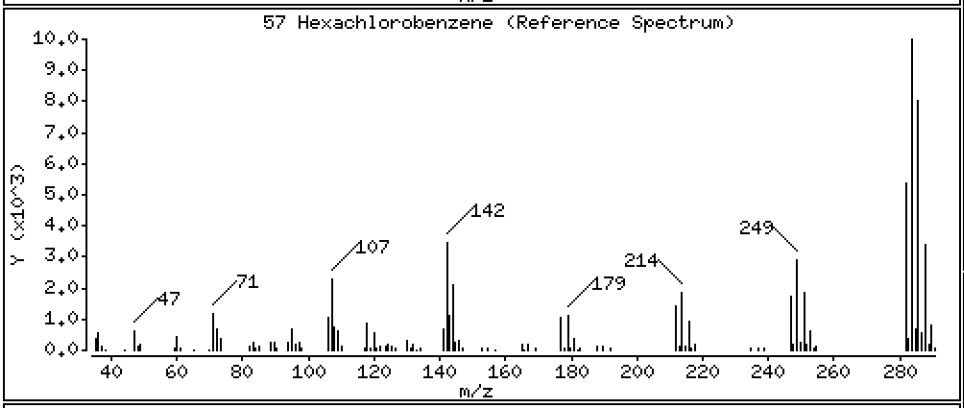
Concentration: 0.1851 ug/mL

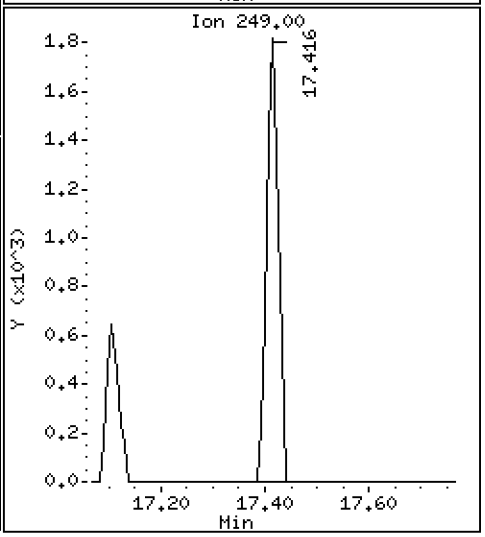


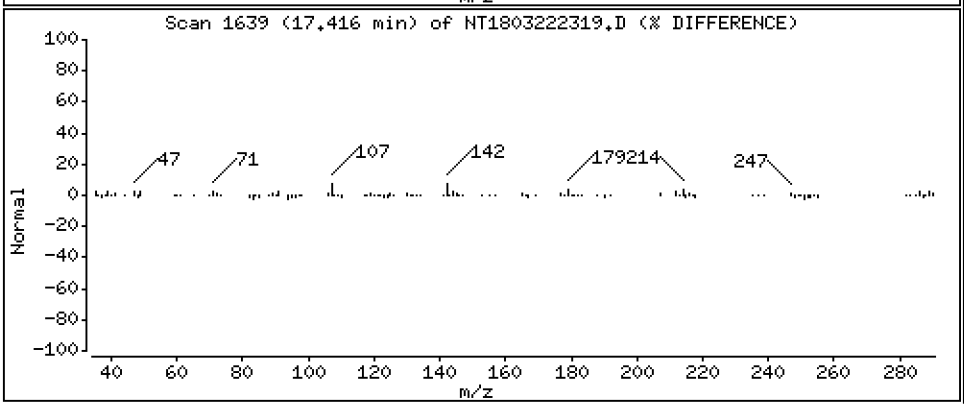












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

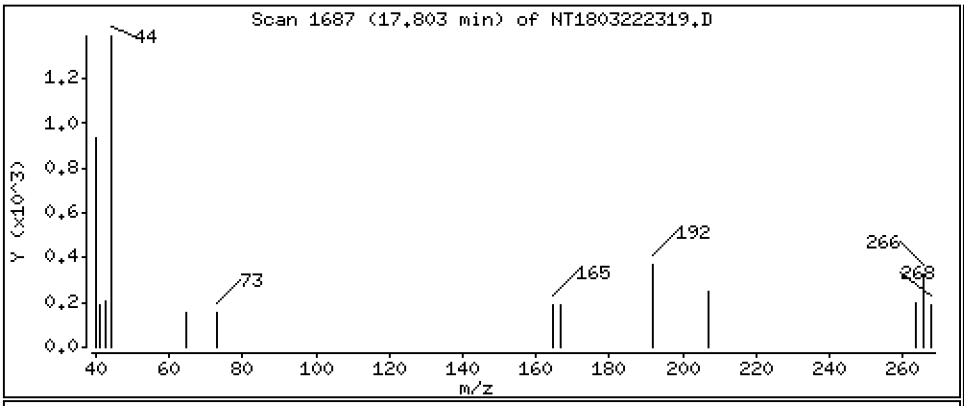
Operator: VTS

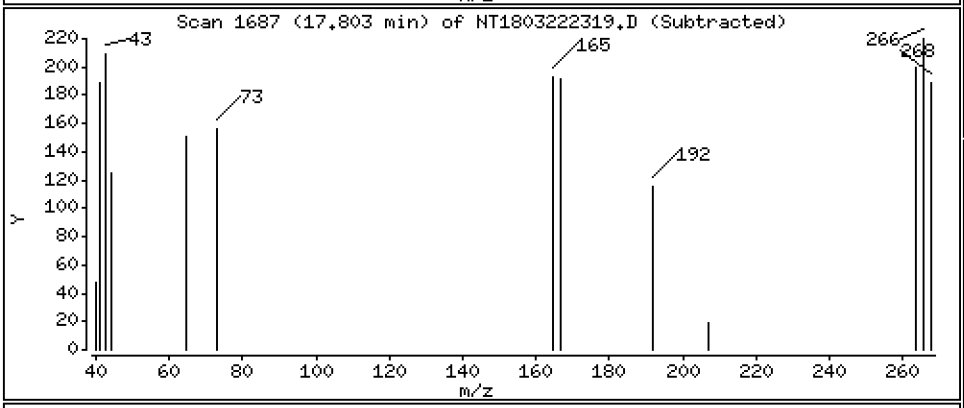
Column phase: ZB-5msi

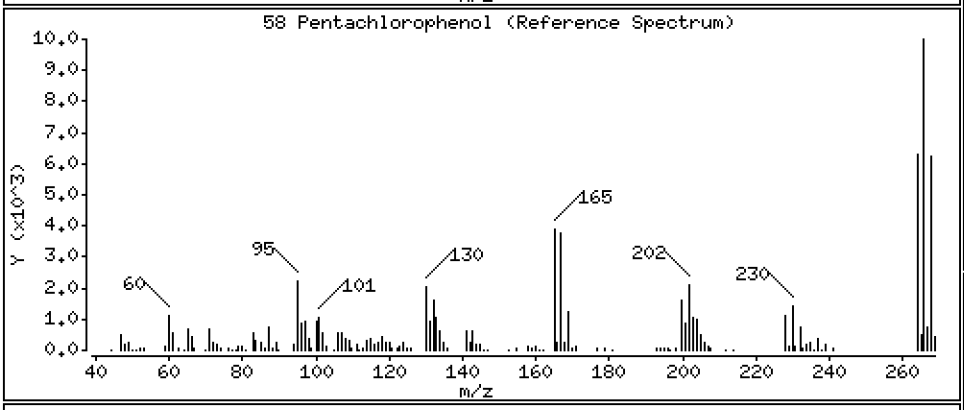
Column diameter: 0.25

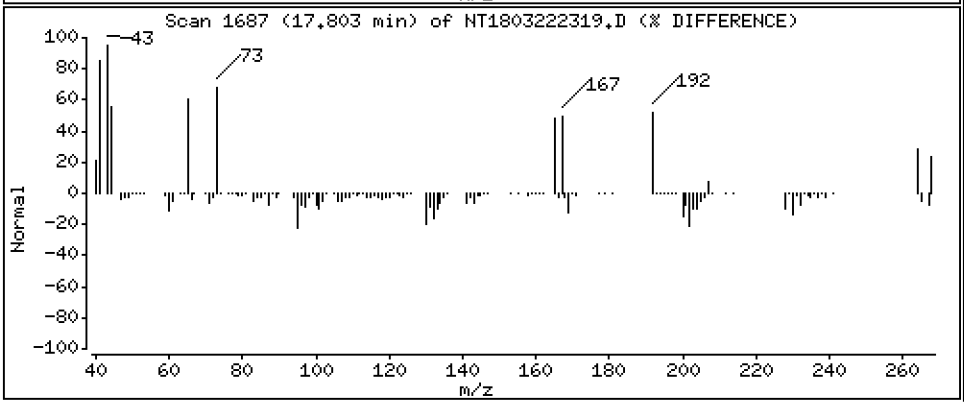
58 Pentachlorophenol

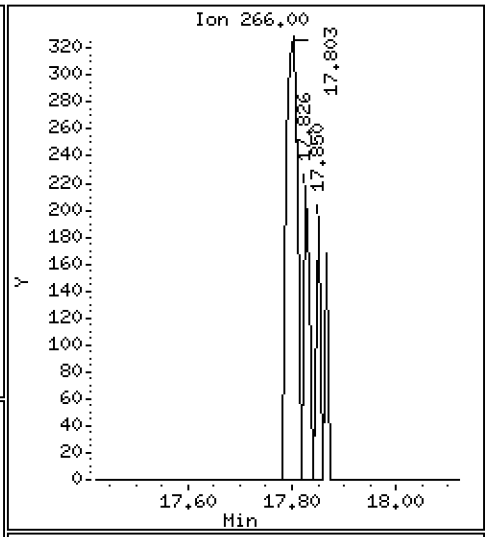
Concentration: 0.01729 ug/mL

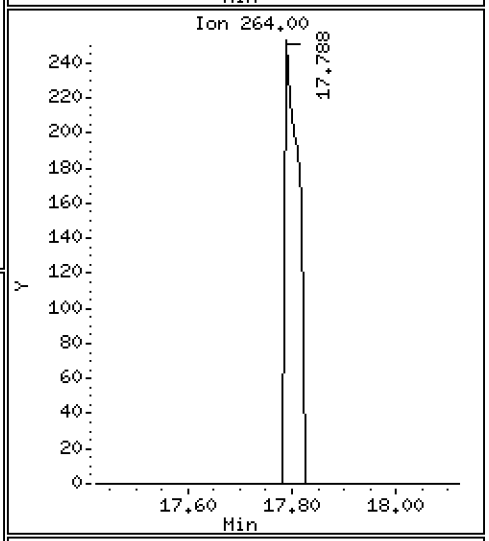


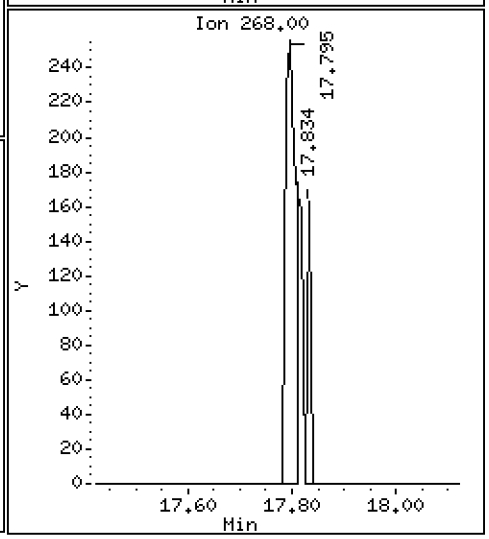












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

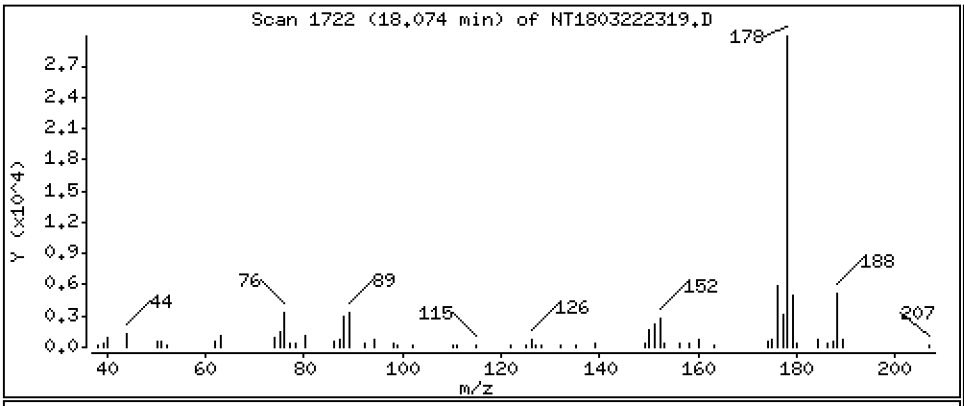
Operator: VTS

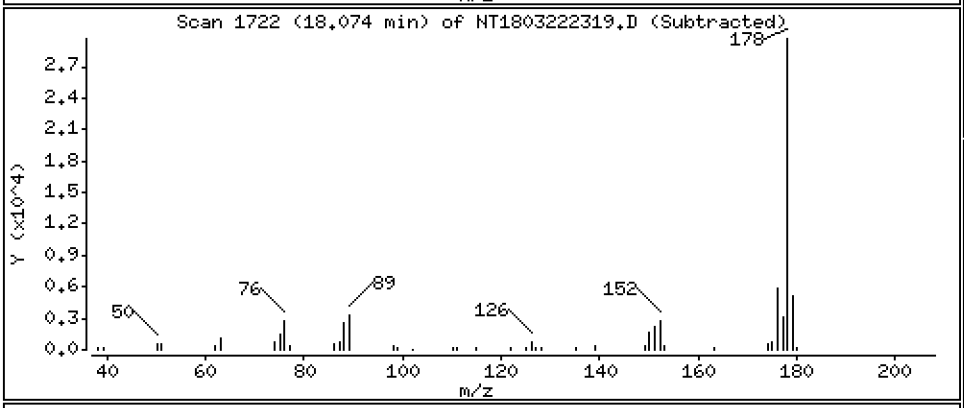
Column phase: ZB-5msi

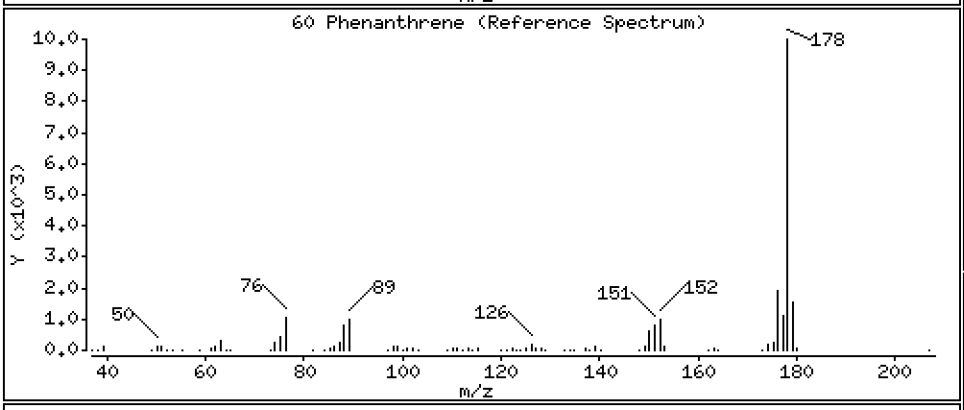
Column diameter: 0.25

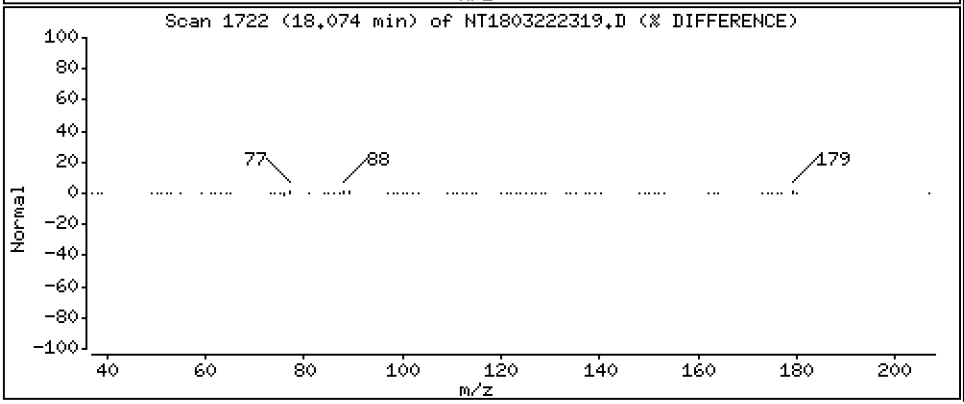
60 Phenanthrene

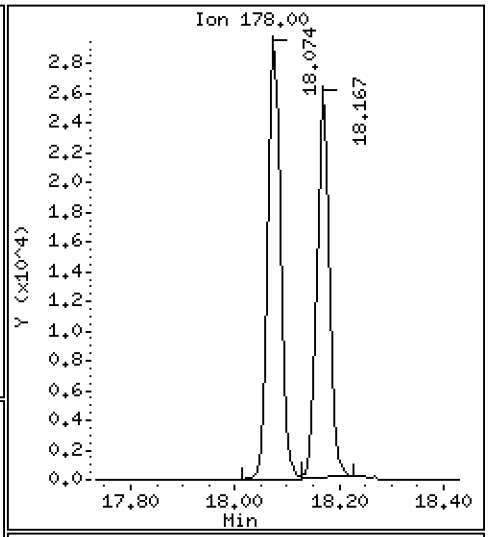
Concentration: 0.1957 ug/mL

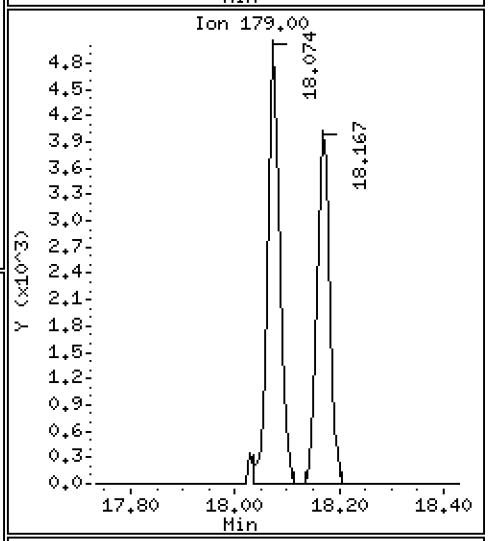


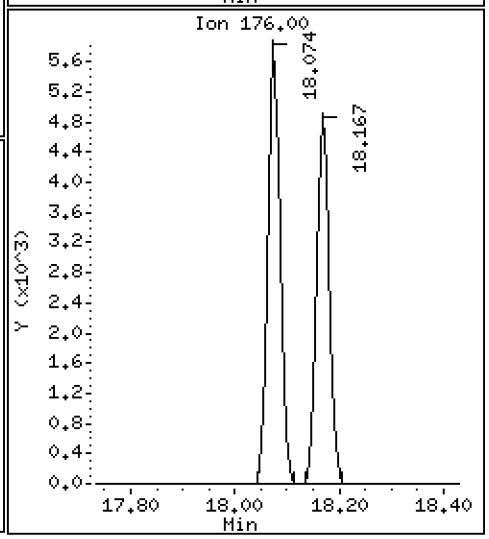












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

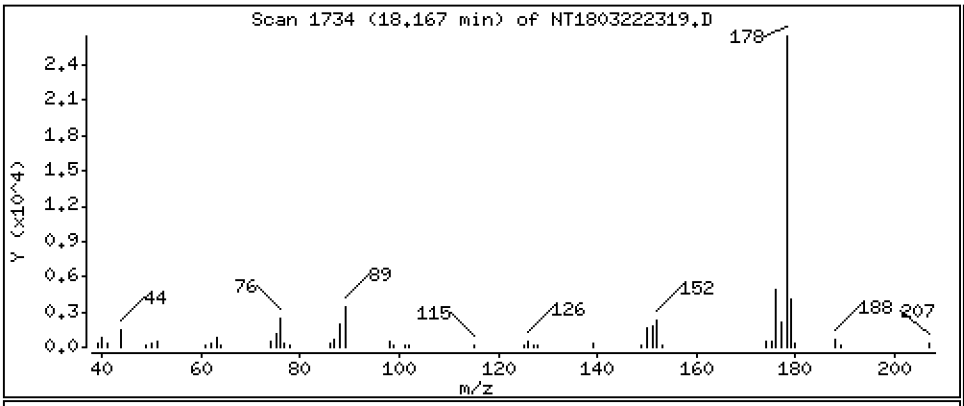
Operator: VTS

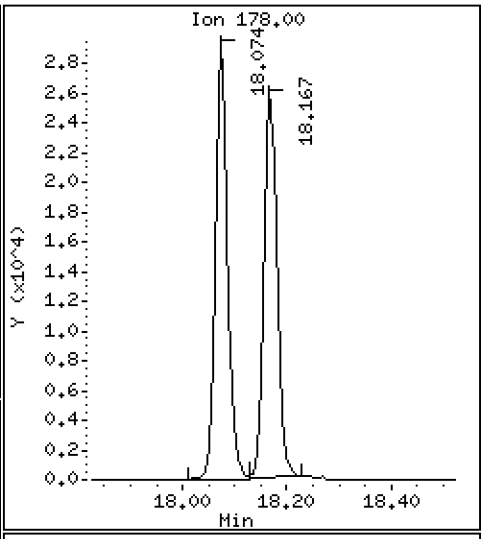
Column phase: ZB-5msi

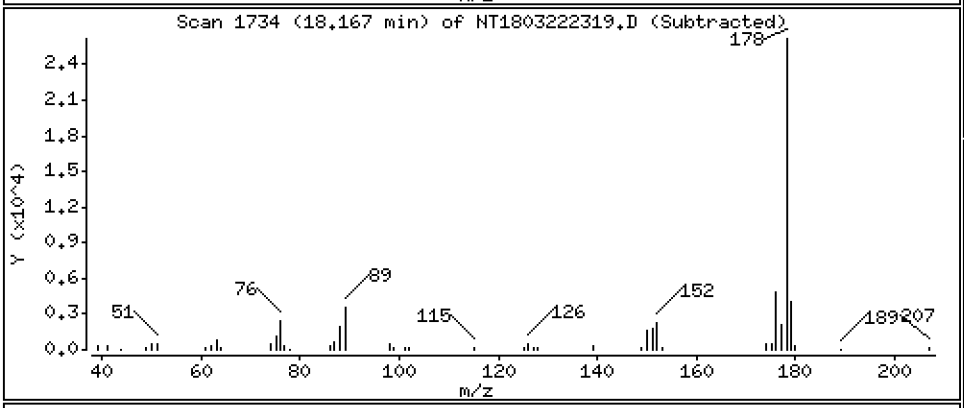
Column diameter: 0.25

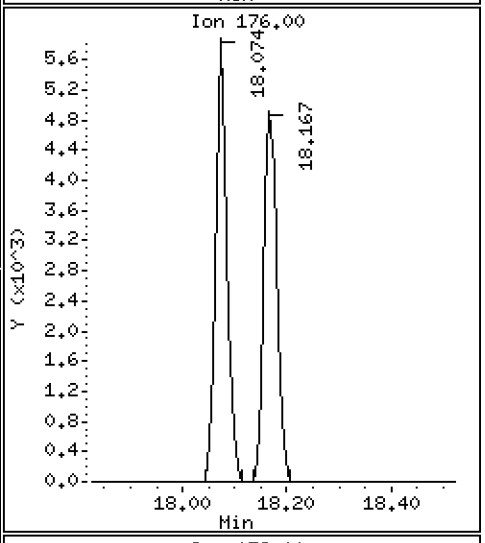
61 Anthracene

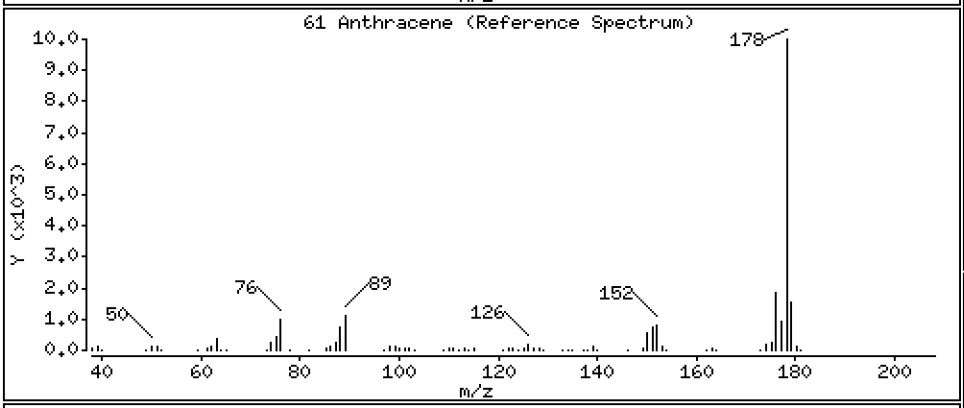
Concentration: 0.1816 ug/mL

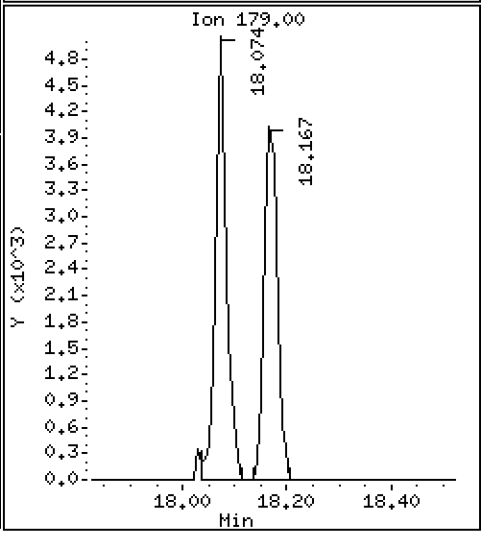


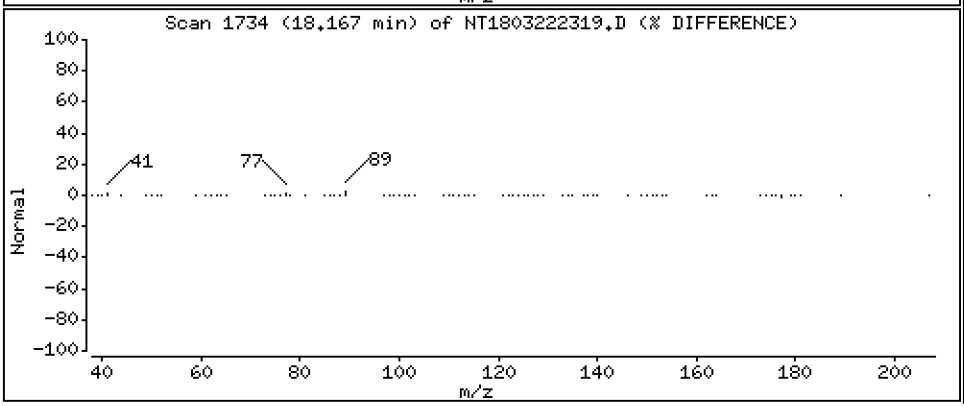












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

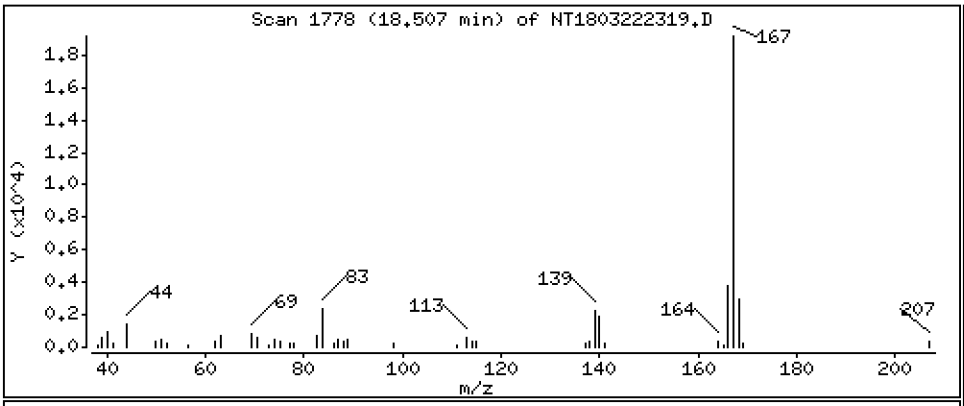
Operator: VTS

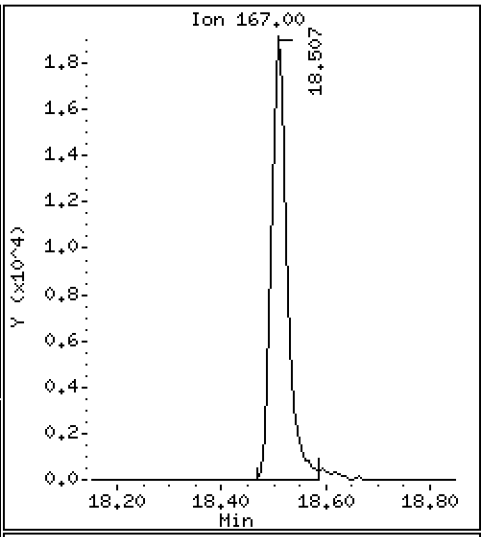
Column phase: ZB-5msi

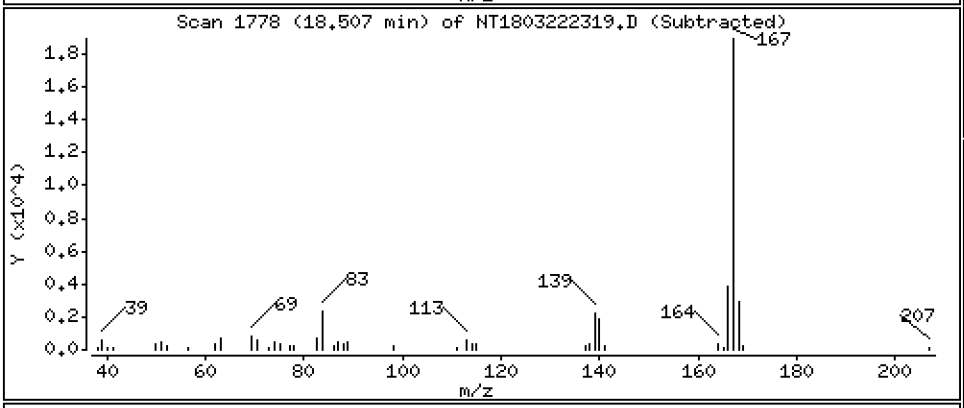
Column diameter: 0.25

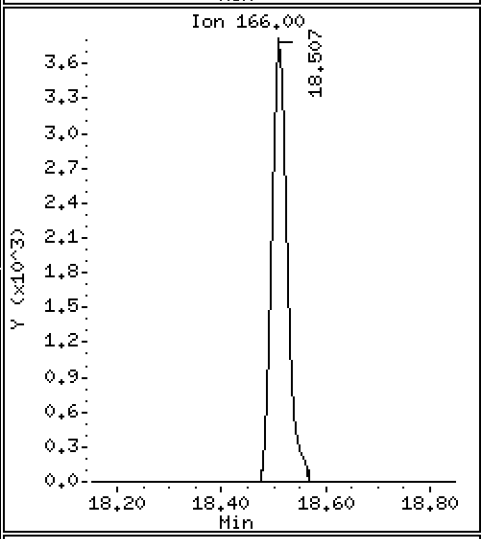
62 Carbazole

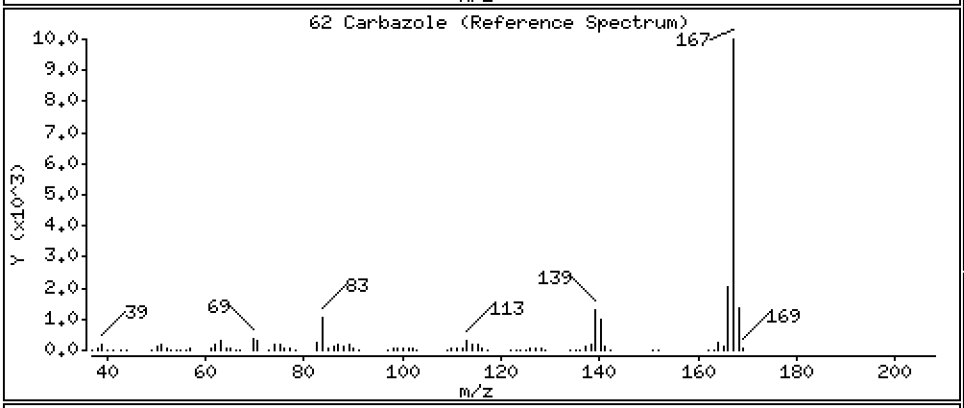
Concentration: 0.1936 ug/mL

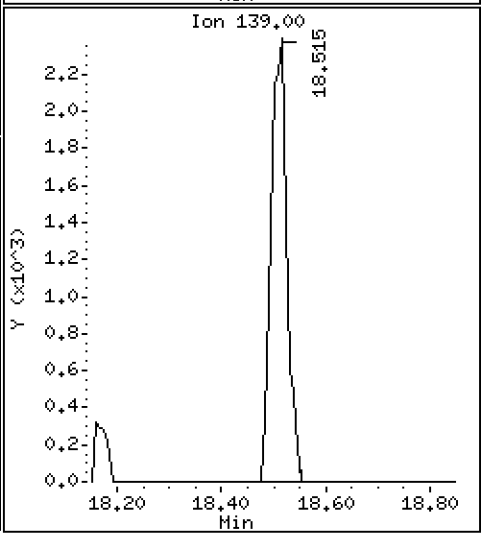


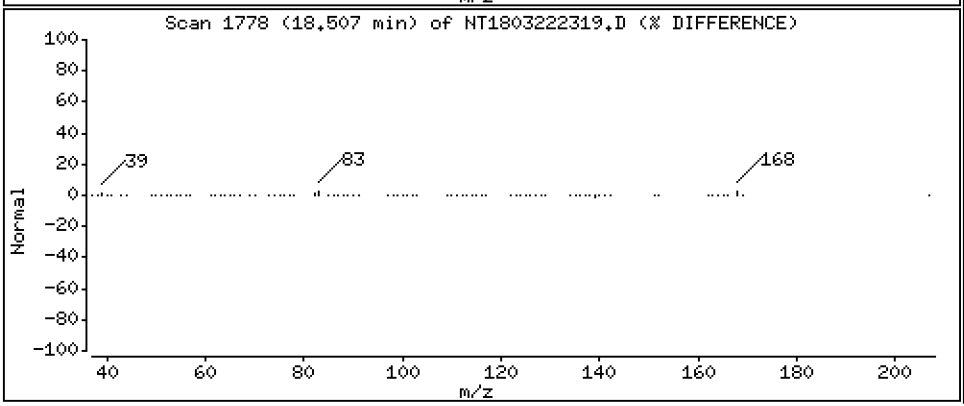












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

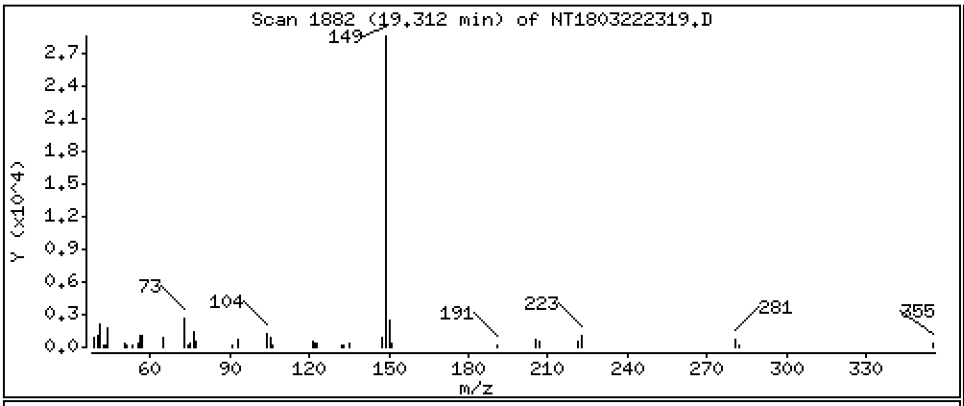
Operator: VTS

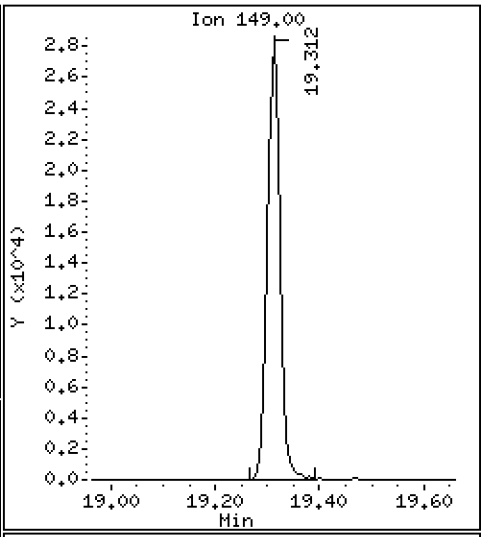
Column phase: ZB-5msi

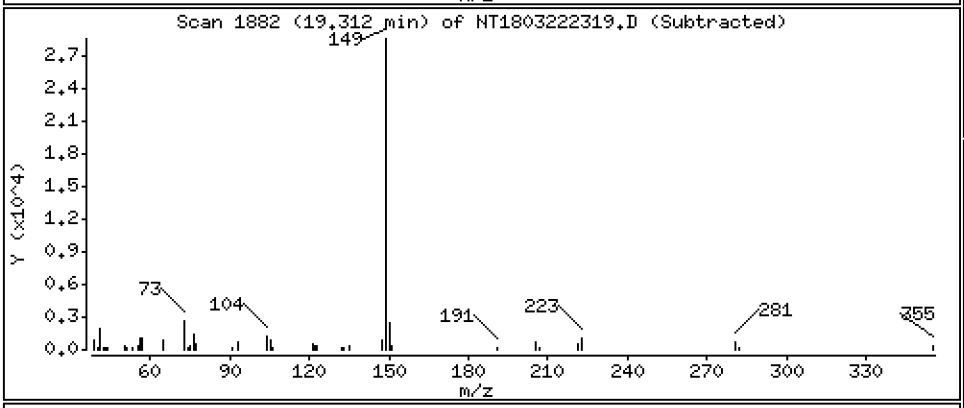
Column diameter: 0.25

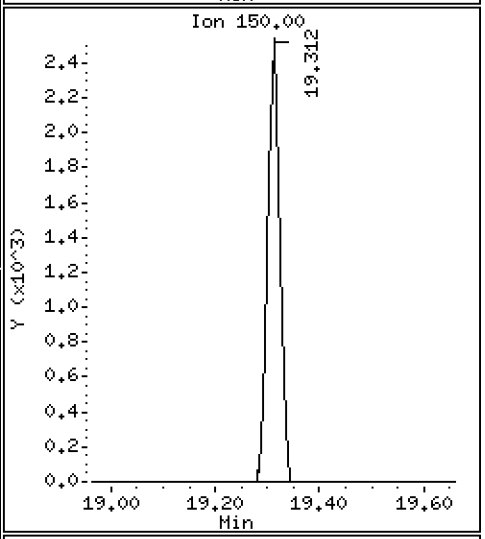
63 Di-n-butylphthalate

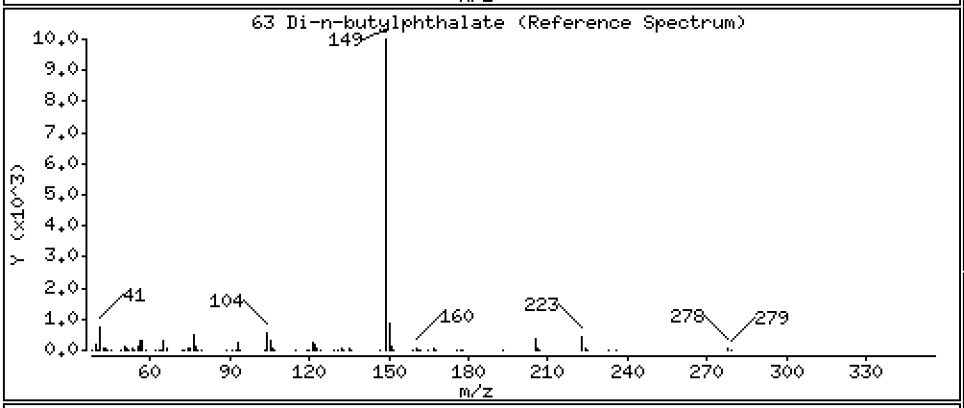
Concentration: 0.1660 ug/mL

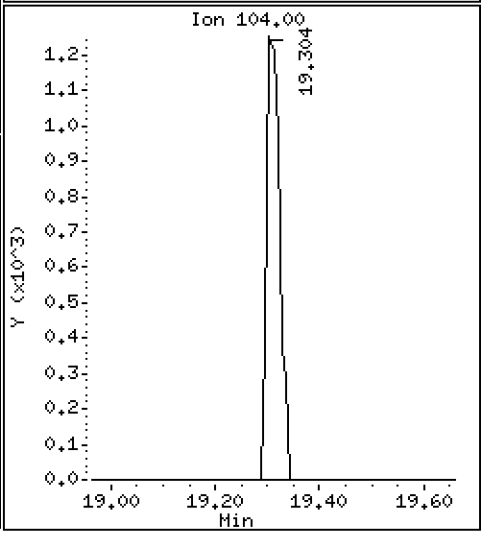


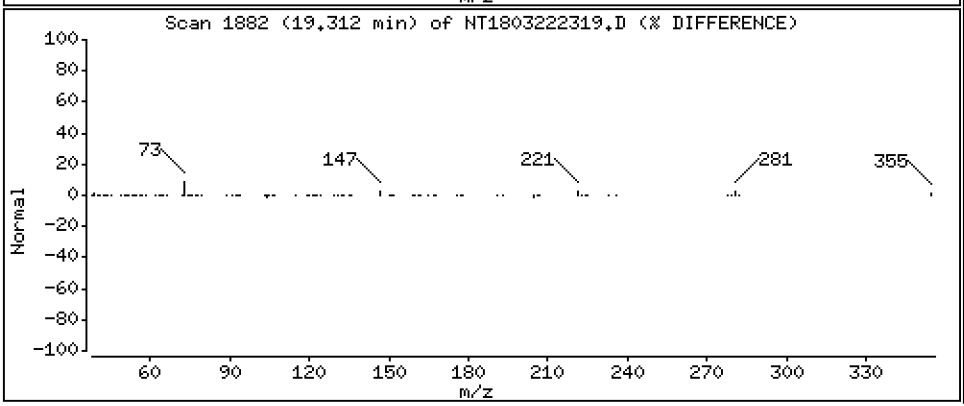












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

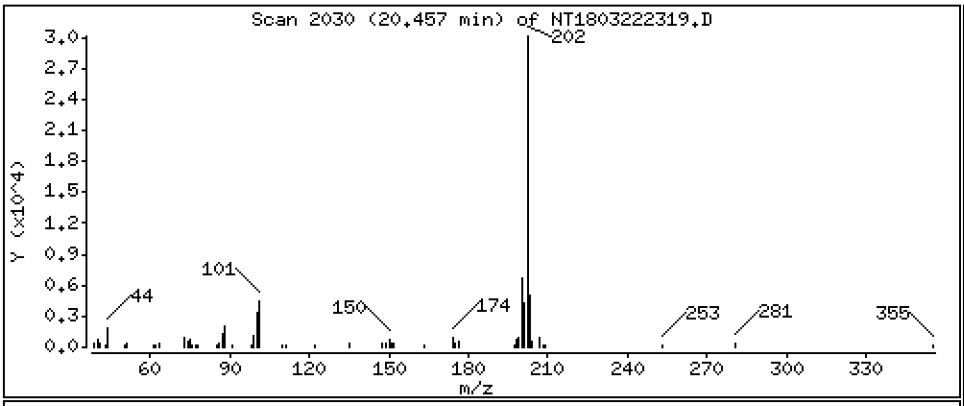
Operator: VTS

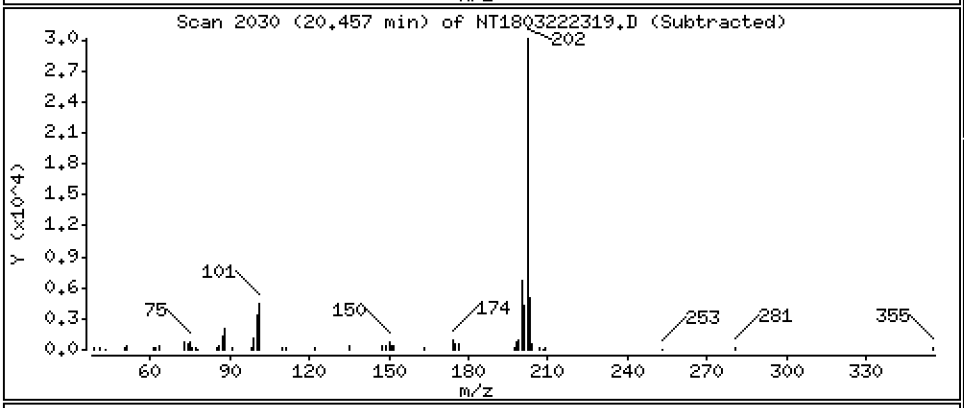
Column phase: ZB-5msi

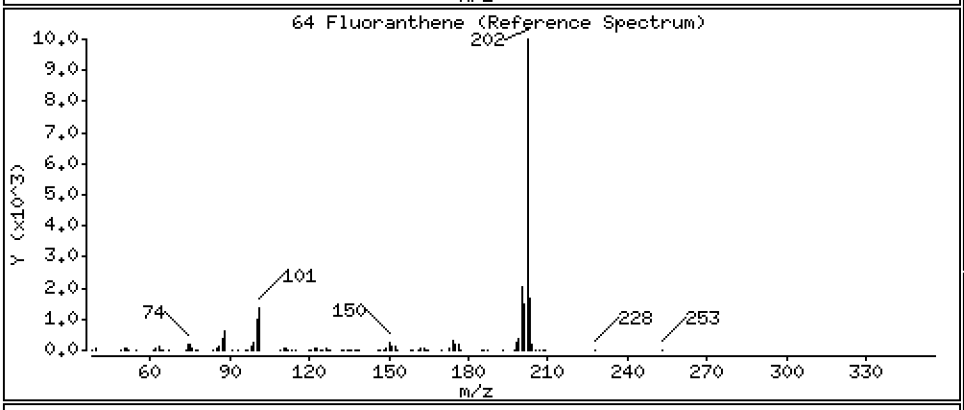
Column diameter: 0.25

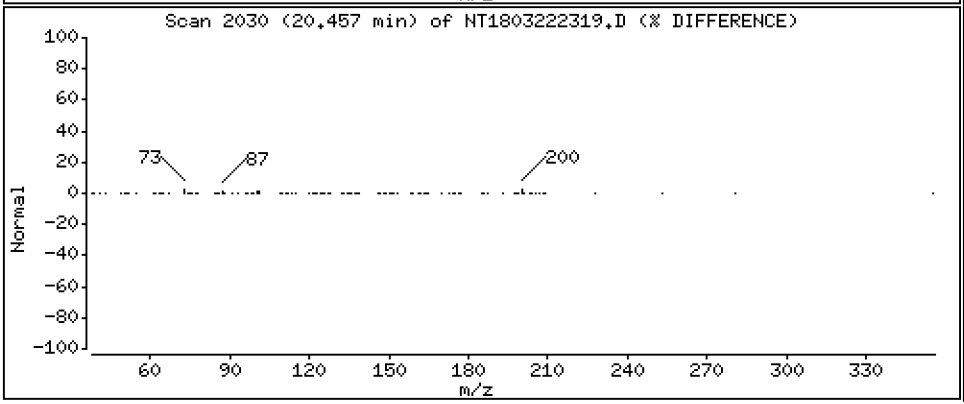
64 Fluoranthene

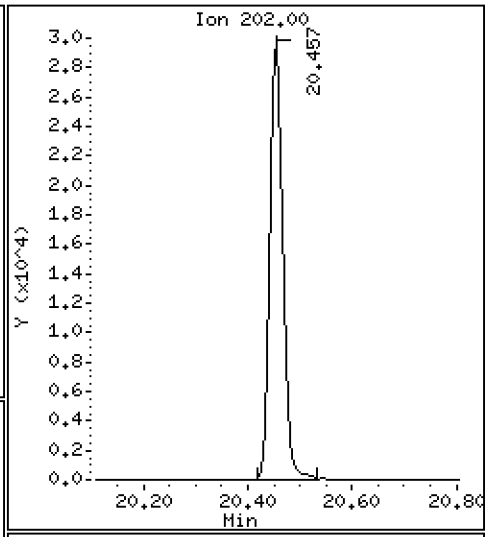
Concentration: 0.1648 ug/mL

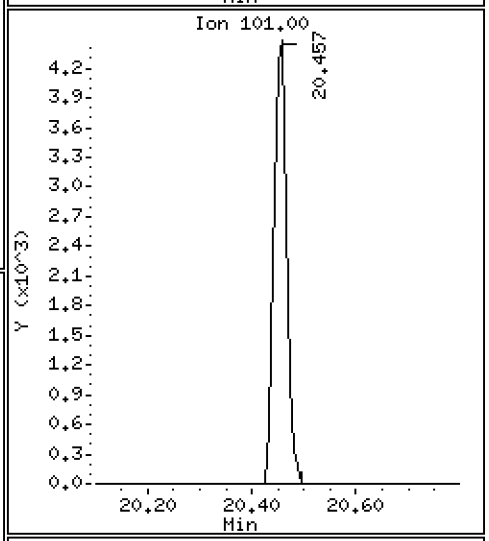


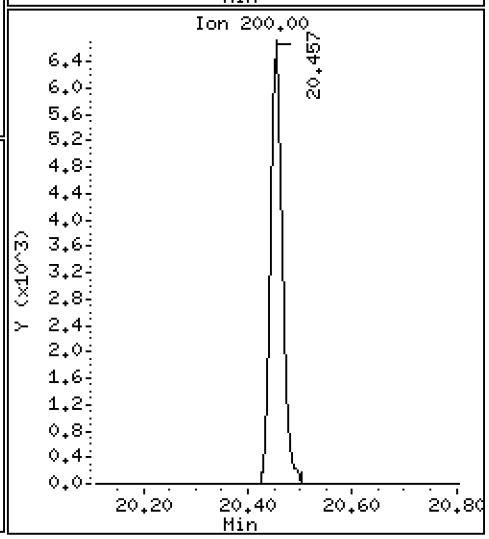












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D

Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

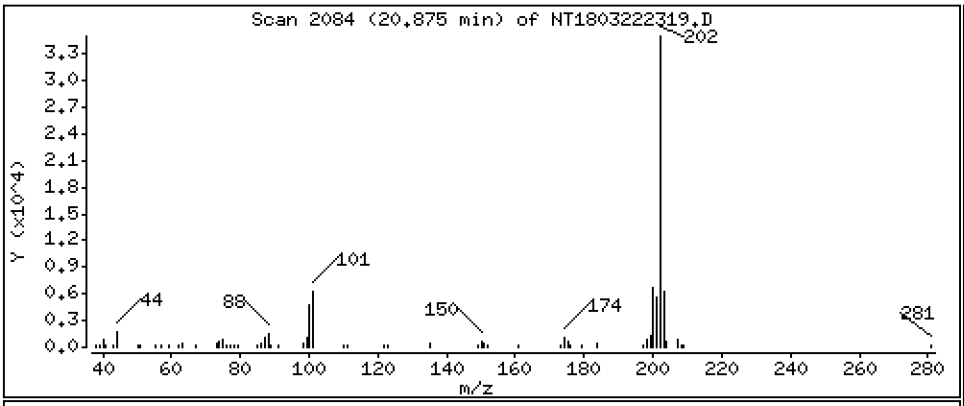
Operator: VTS

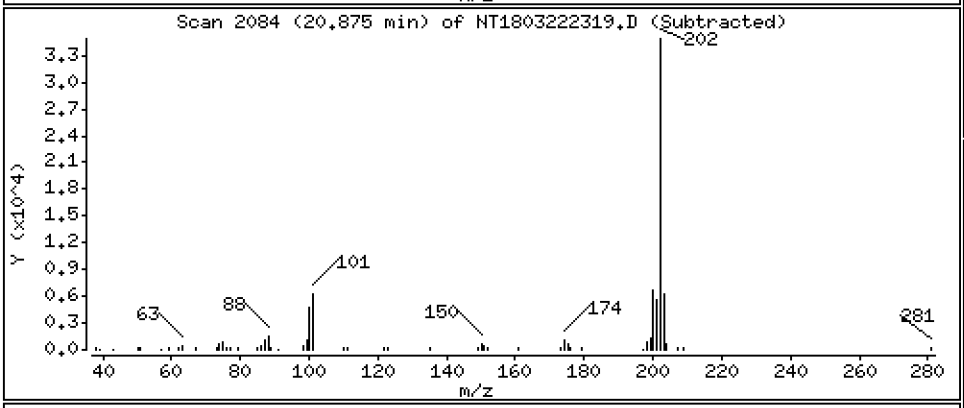
Column phase: ZB-5msi

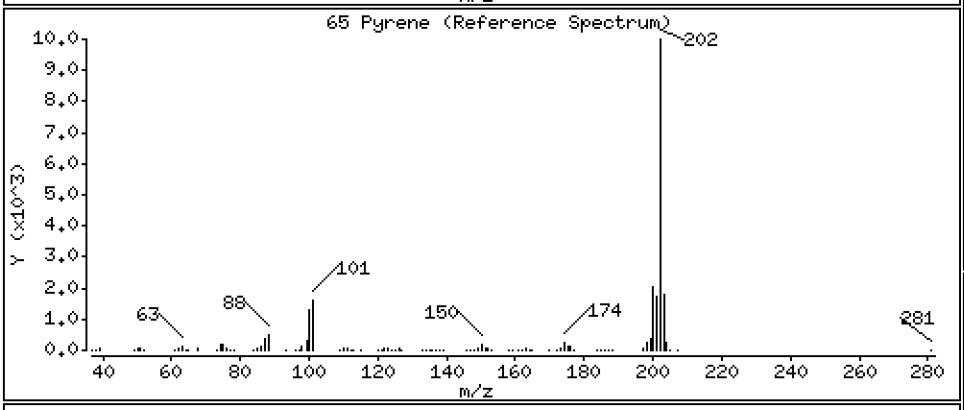
Column diameter: 0.25

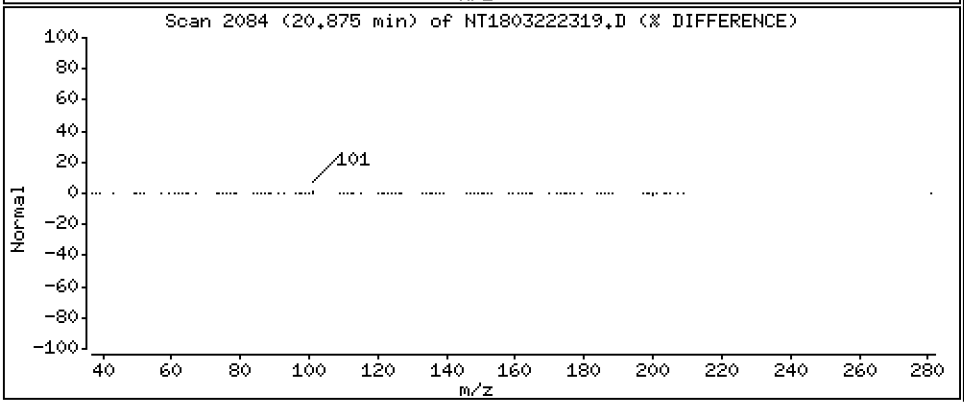
65 Pyrene

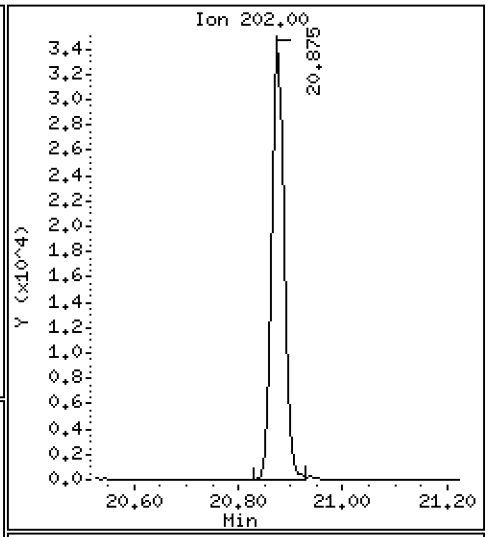
Concentration: 0.1716 ug/mL

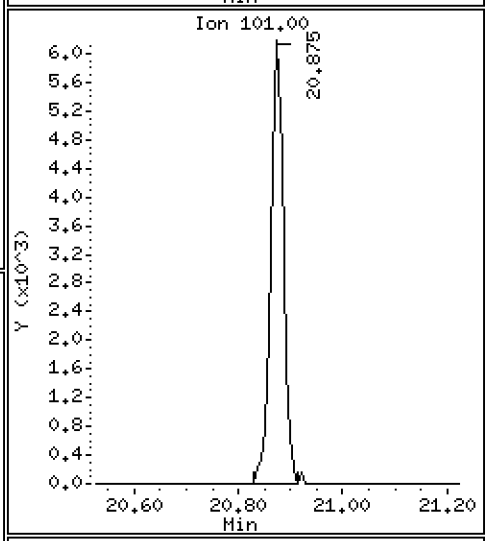


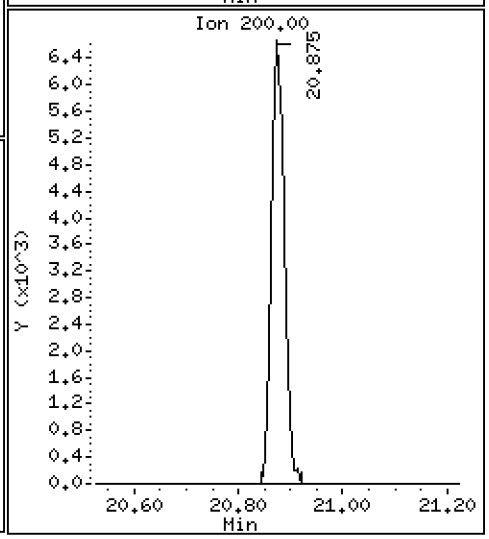












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

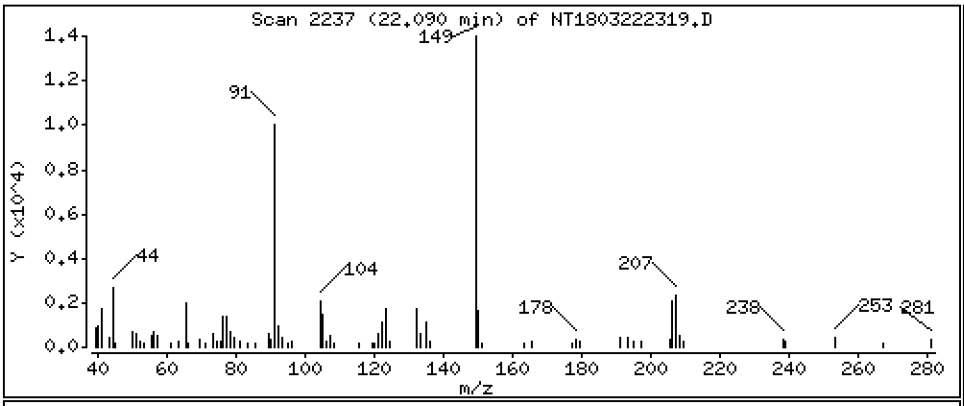
Operator: VTS

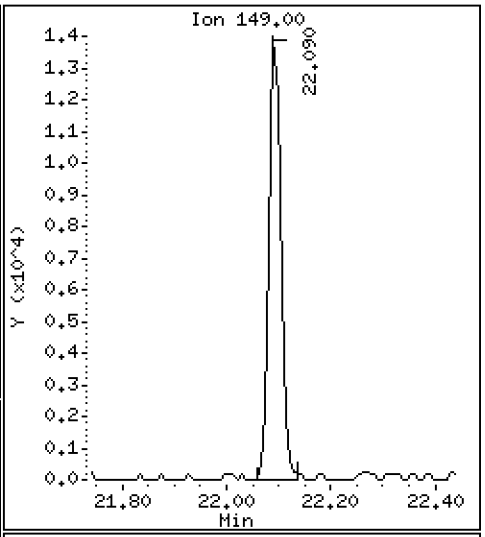
Column phase: ZB-5msi

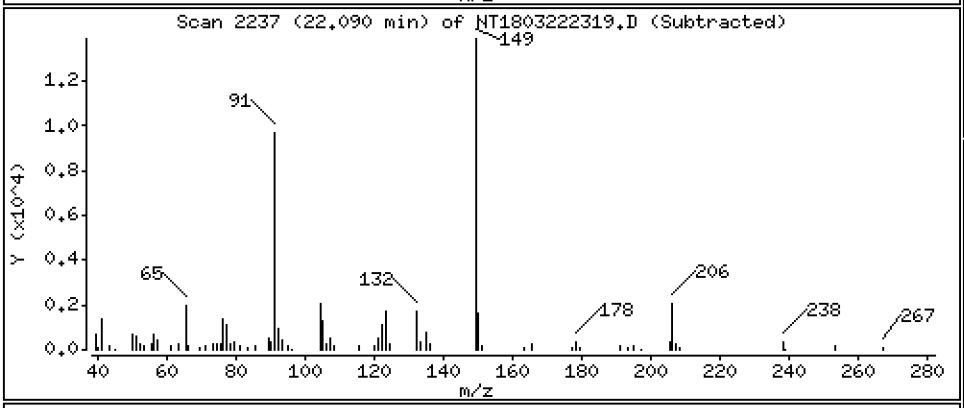
Column diameter: 0.25

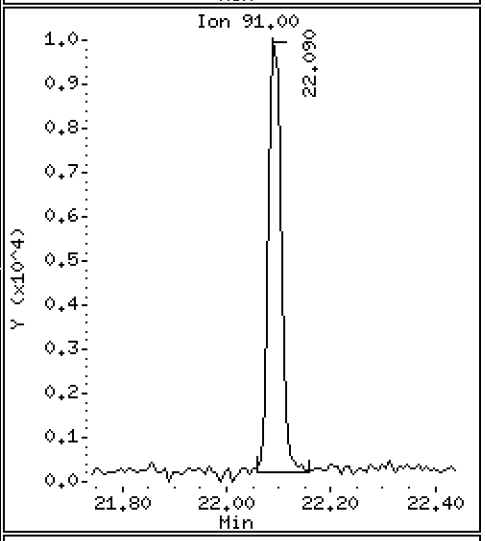
67 Butylbenzylphthalate

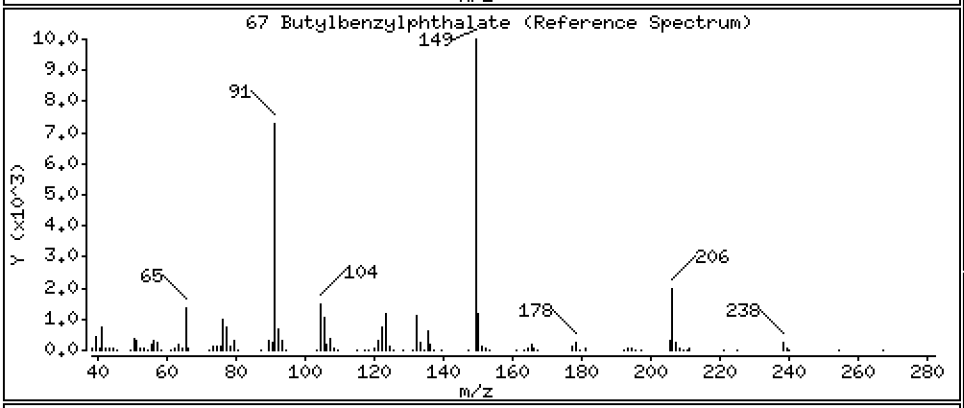
Concentration: 0.1550 ug/mL

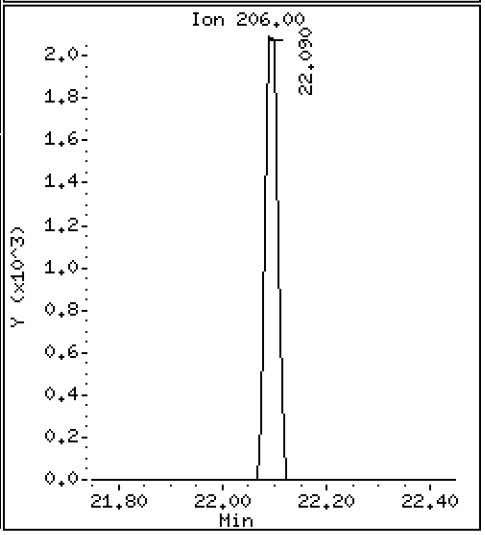


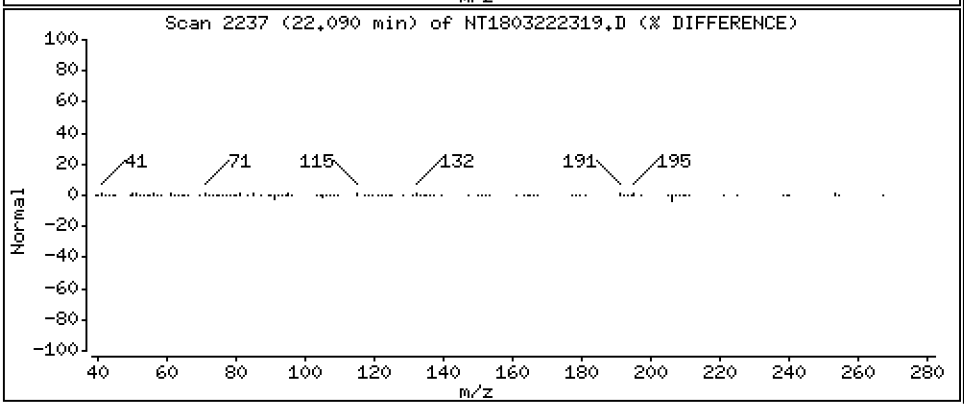












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

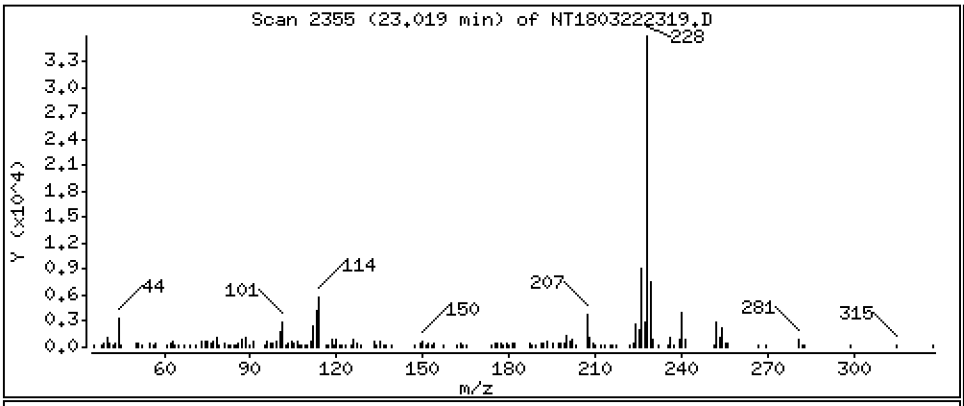
Operator: VTS

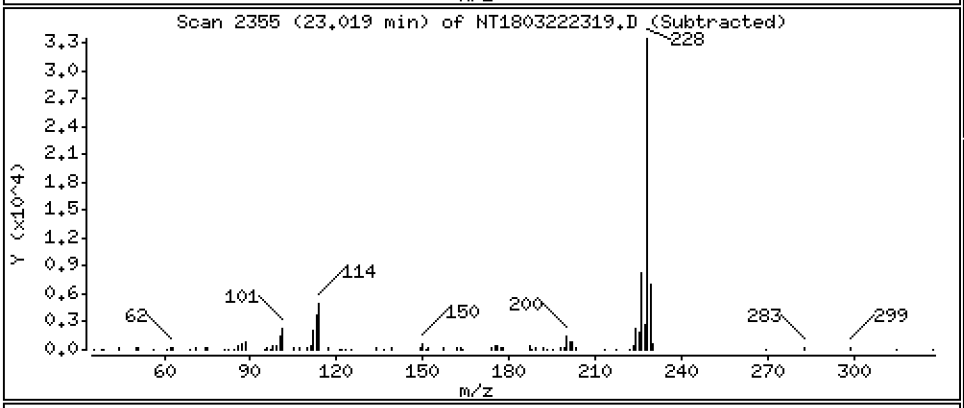
Column phase: ZB-5msi

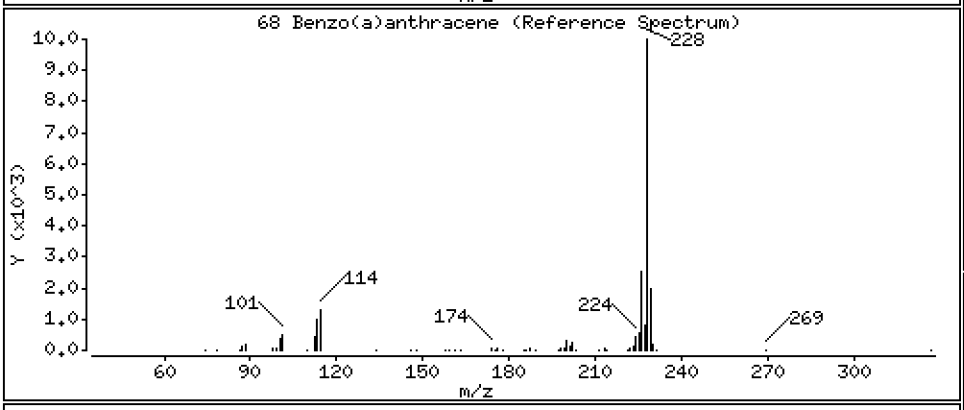
Column diameter: 0.25

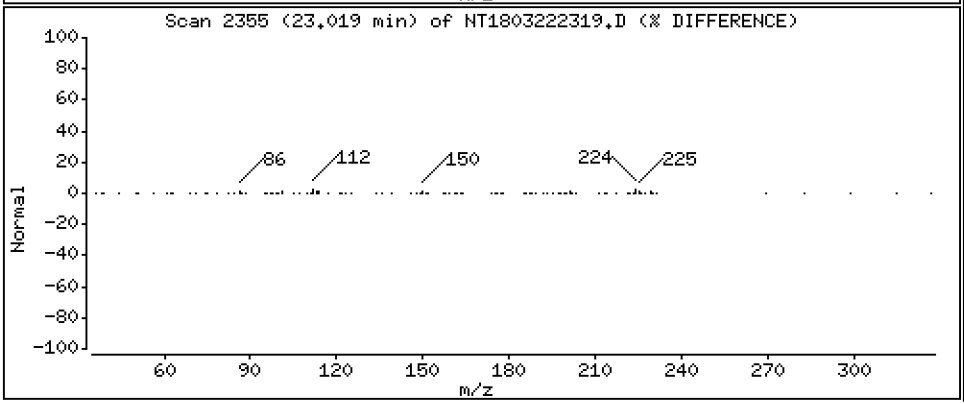
68 Benzo(a)anthracene

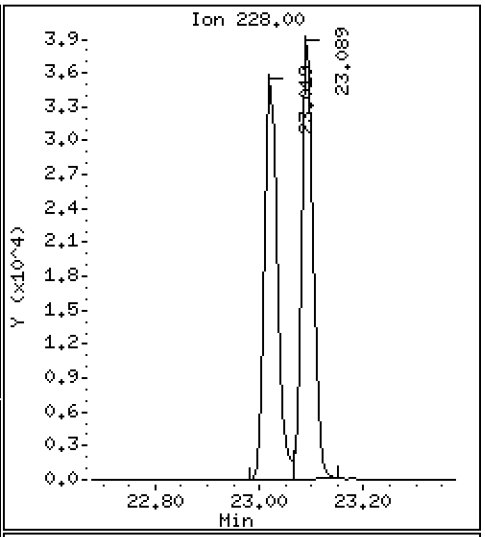
Concentration: 0.2001 ug/mL

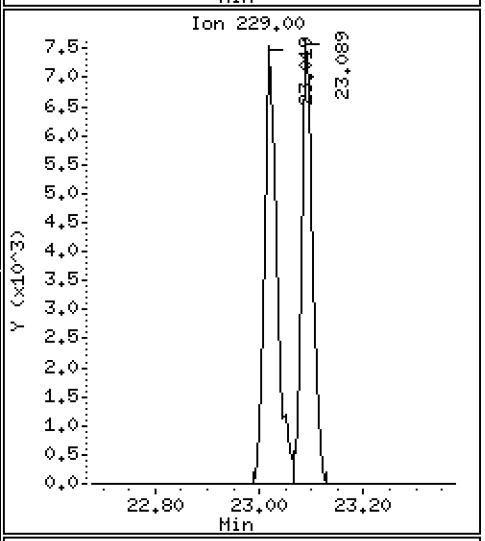


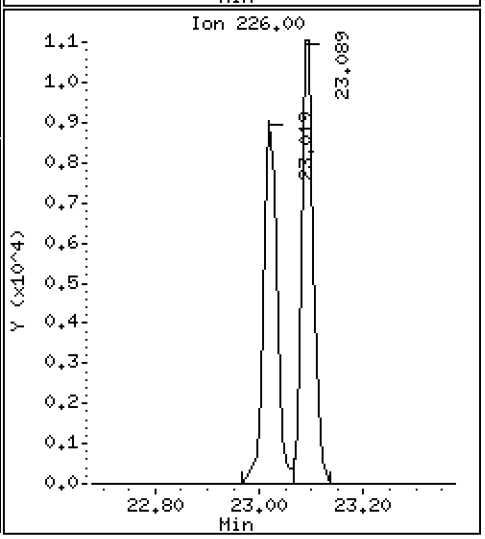












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

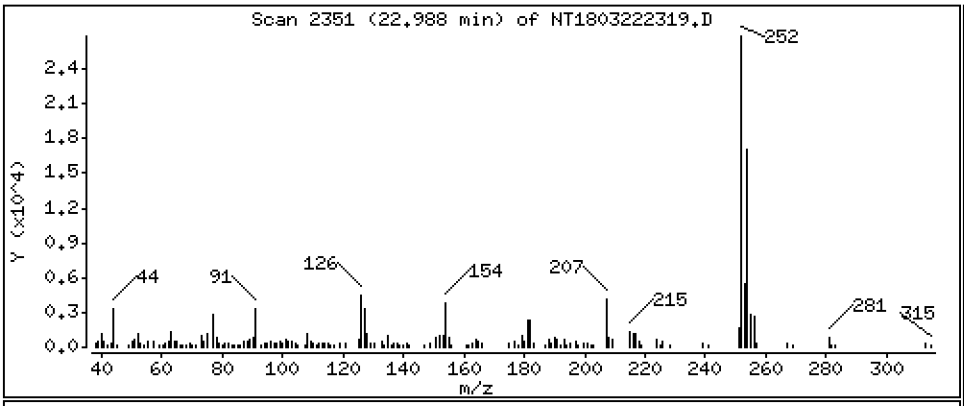
Operator: VTS

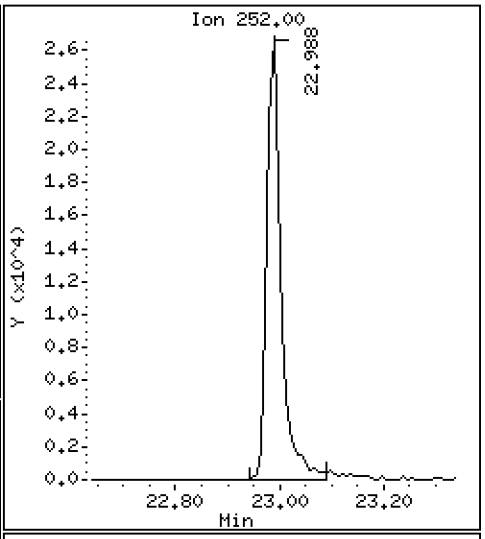
Column phase: ZB-5msi

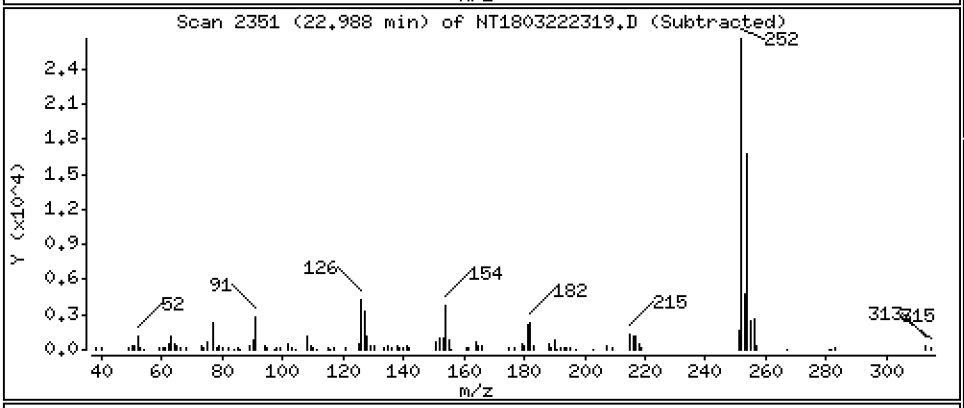
Column diameter: 0.25

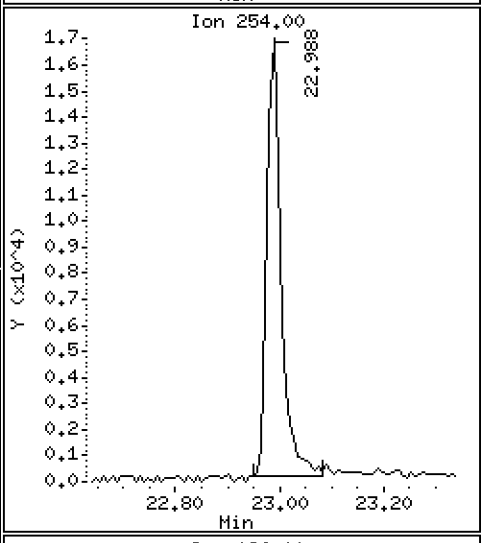
70 3,3'-Dichlorobenzidine

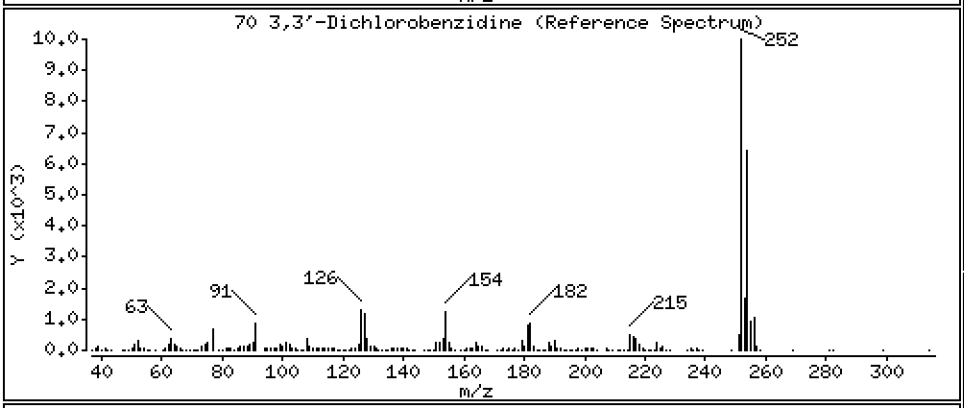
Concentration: 0.4635 ug/mL

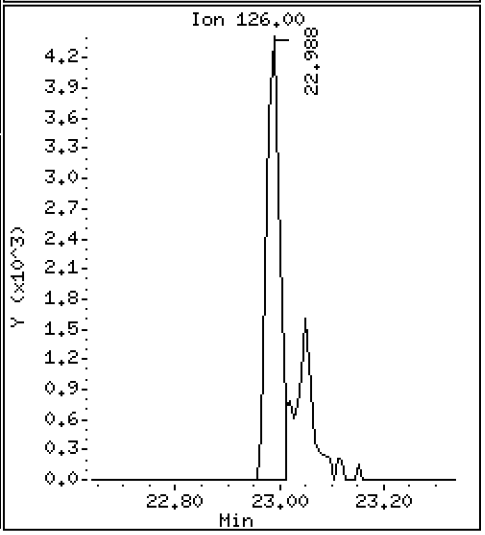


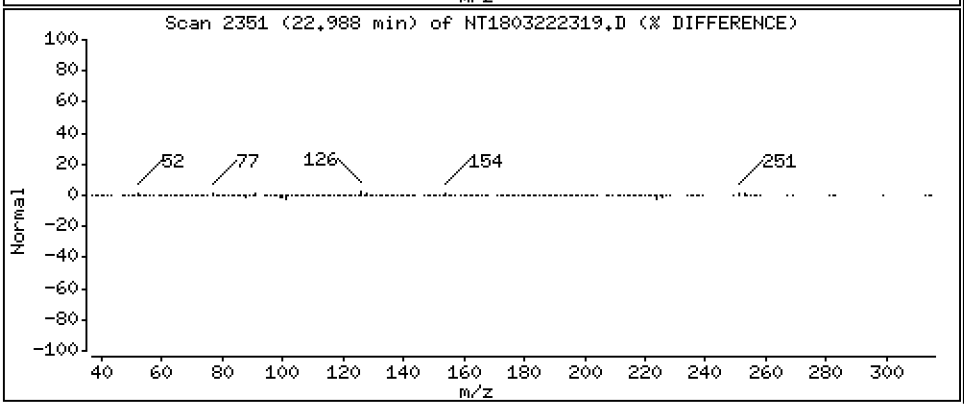












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

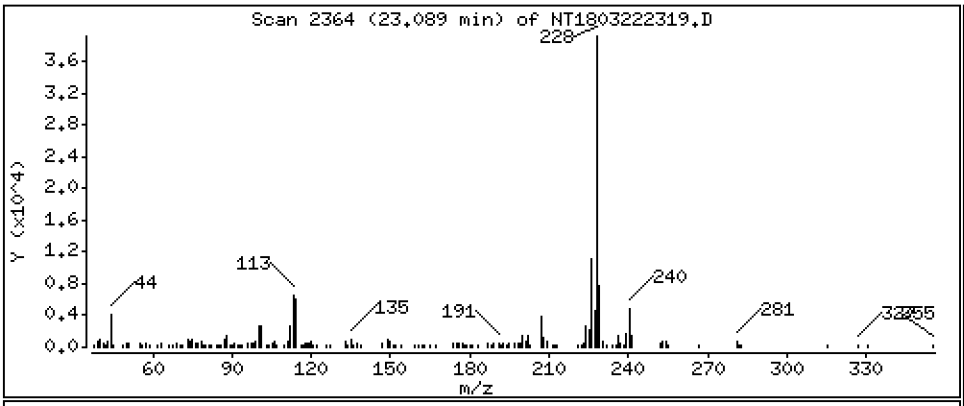
Operator: VTS

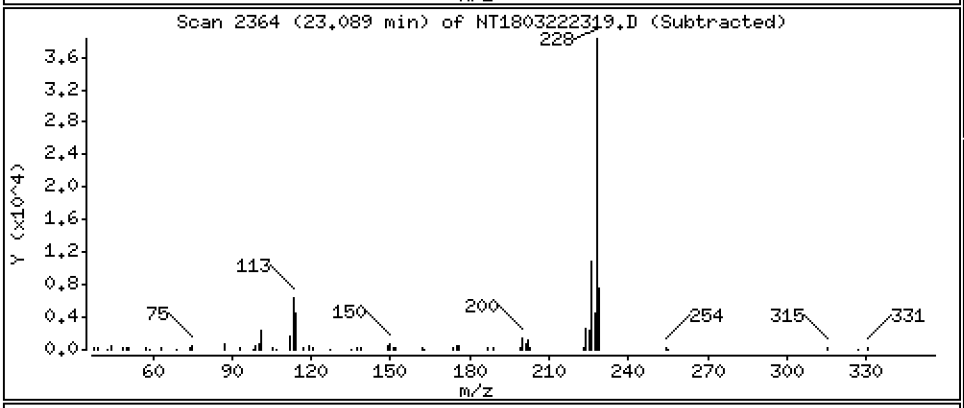
Column phase: ZB-5msi

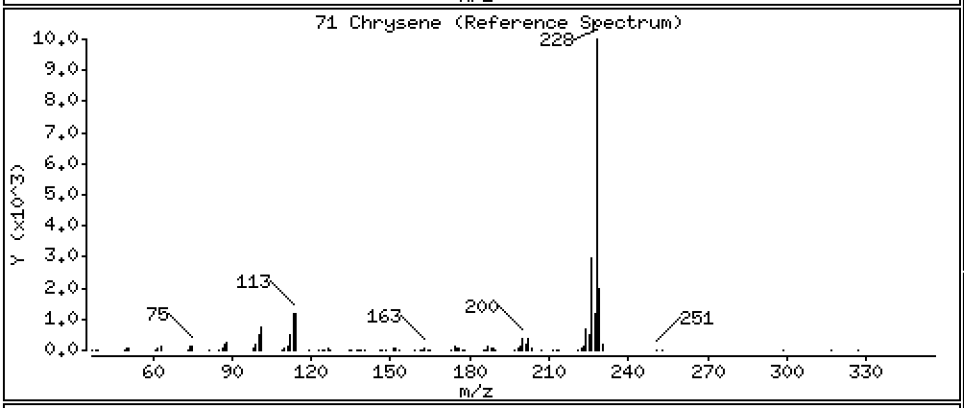
Column diameter: 0.25

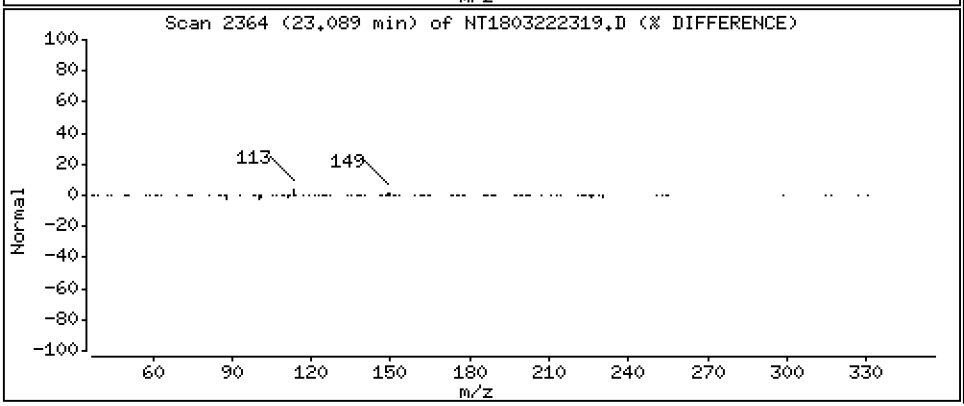
71 Chrysene

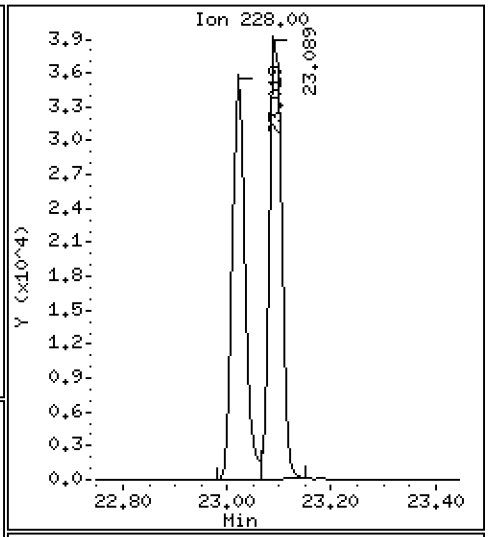
Concentration: 0.2001 ug/mL

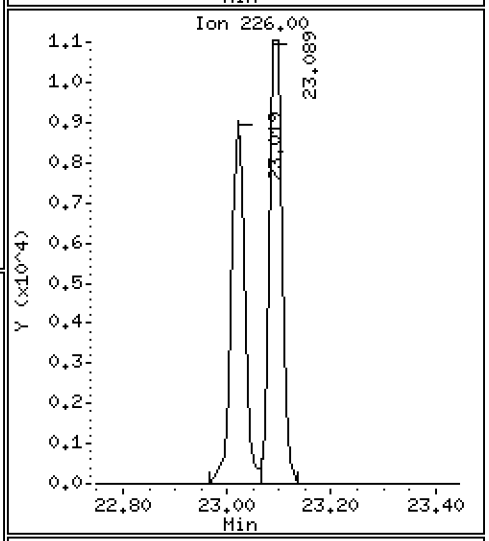


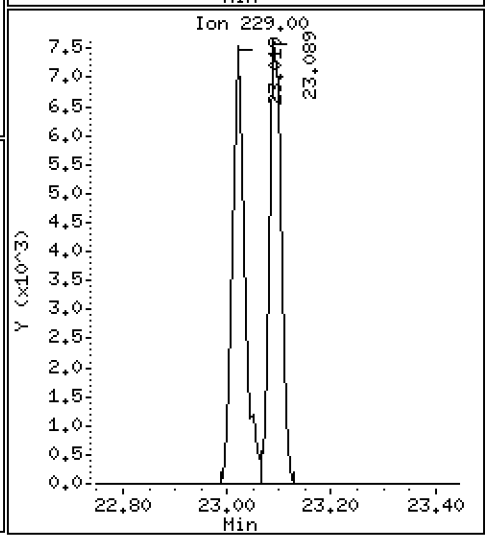












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

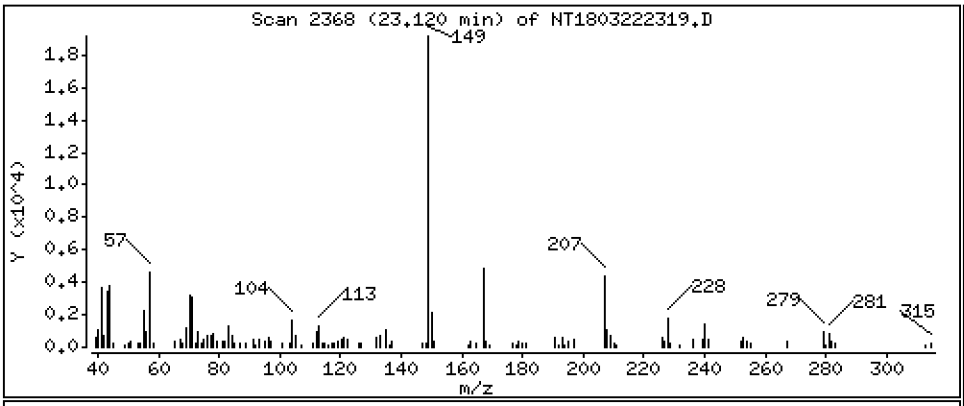
Operator: VTS

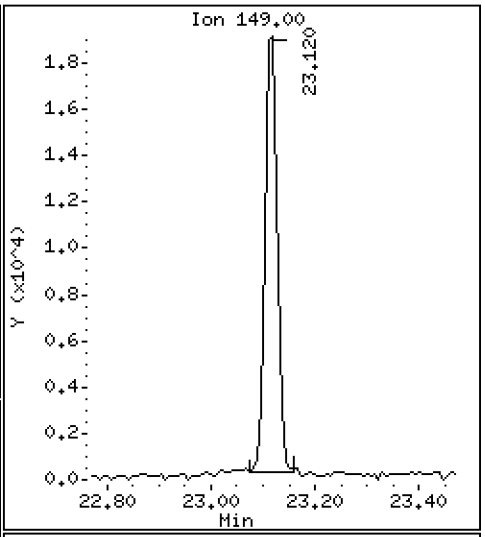
Column phase: ZB-5msi

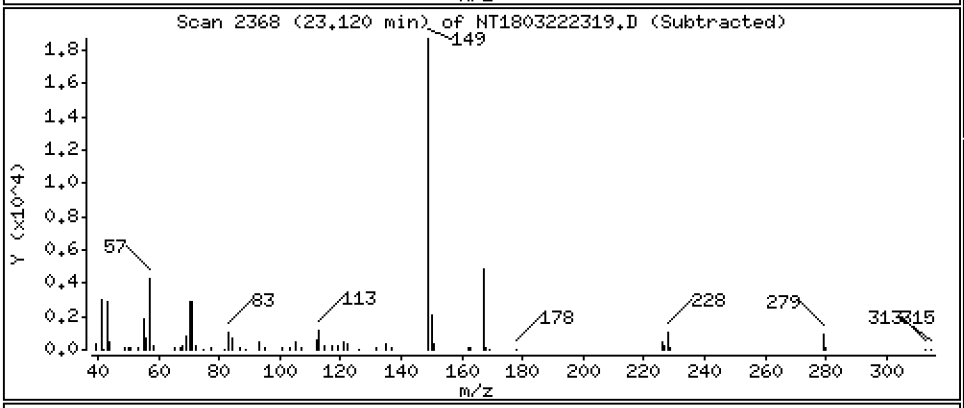
Column diameter: 0.25

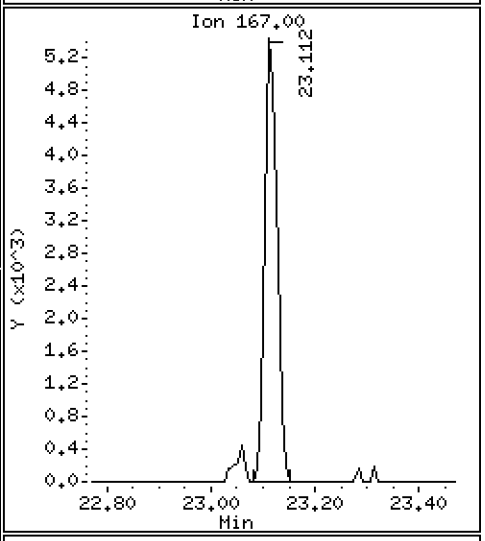
72 bis(2-Ethylhexyl)phthalate

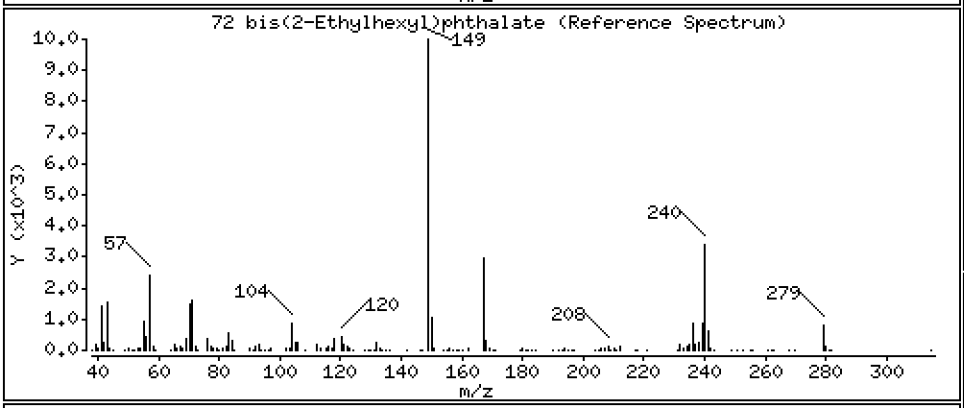
Concentration: 0.1431 ug/mL

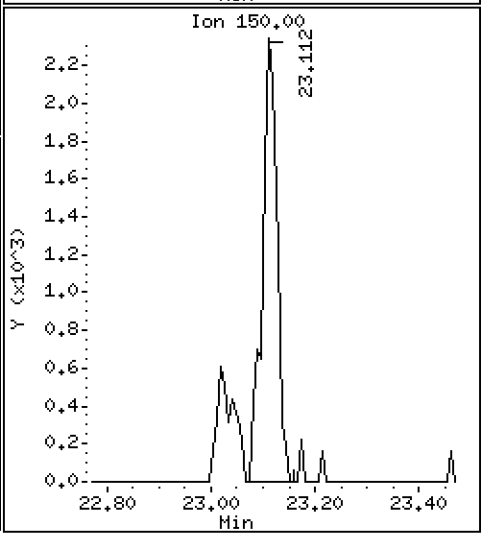


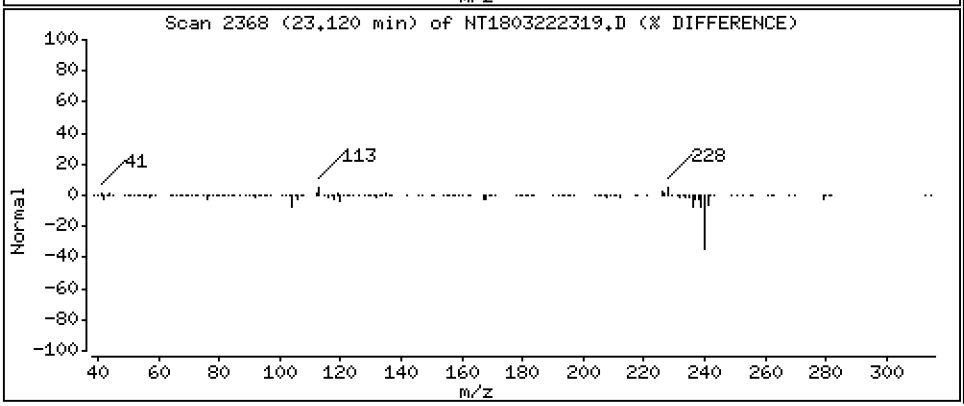












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

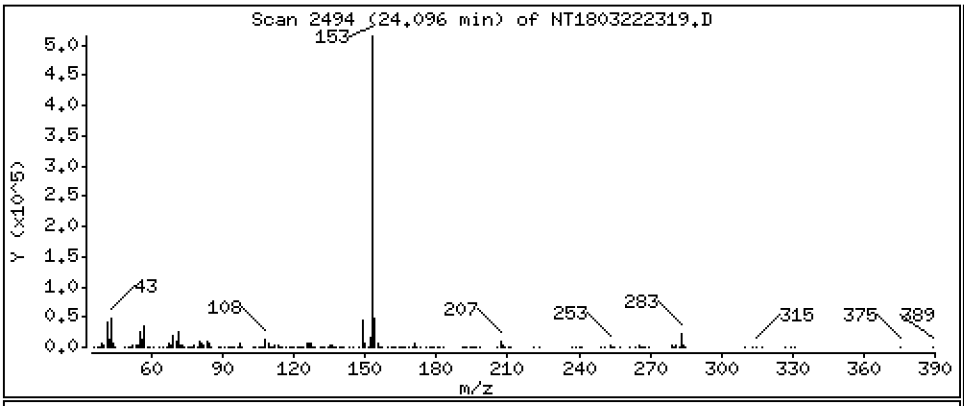
Operator: VTS

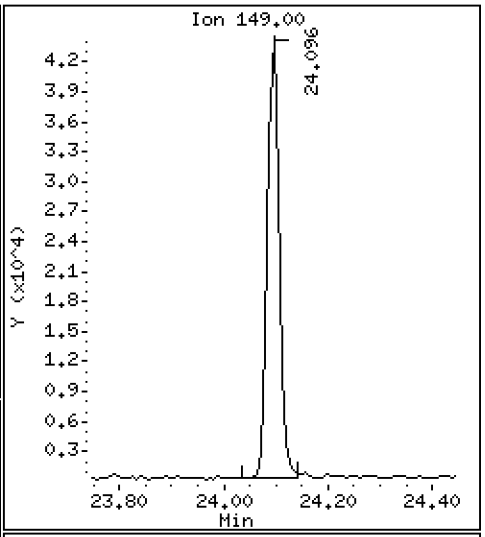
Column phase: ZB-5msi

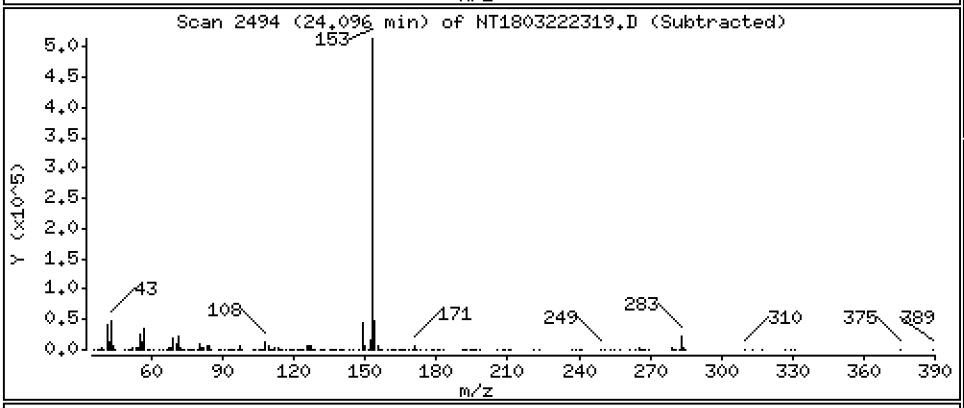
Column diameter: 0.25

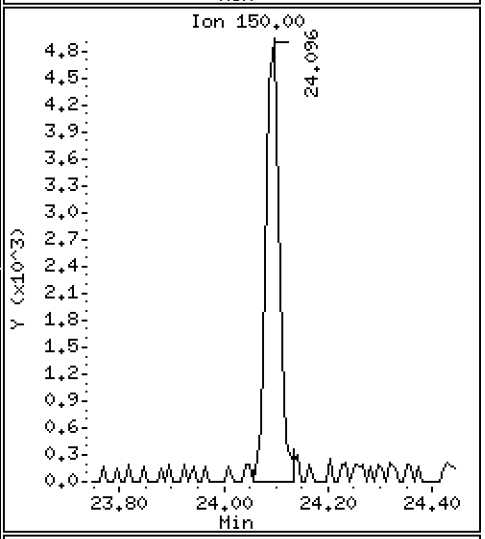
73 Di-n-octylphthalate

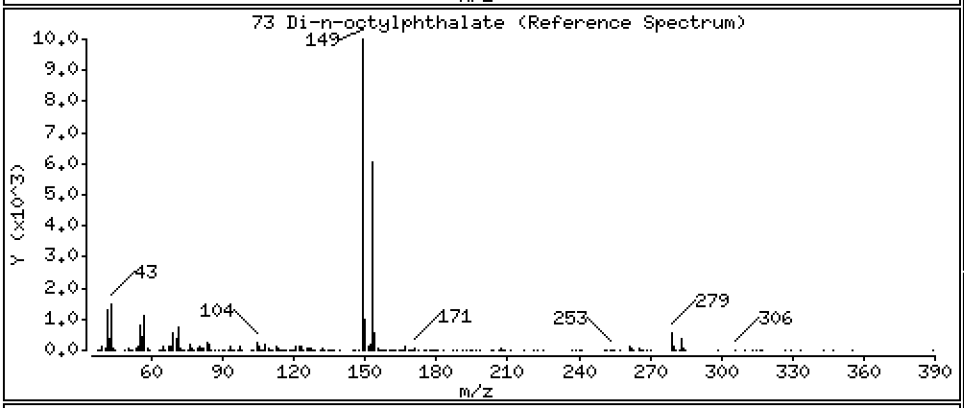
Concentration: 0.1921 ug/mL

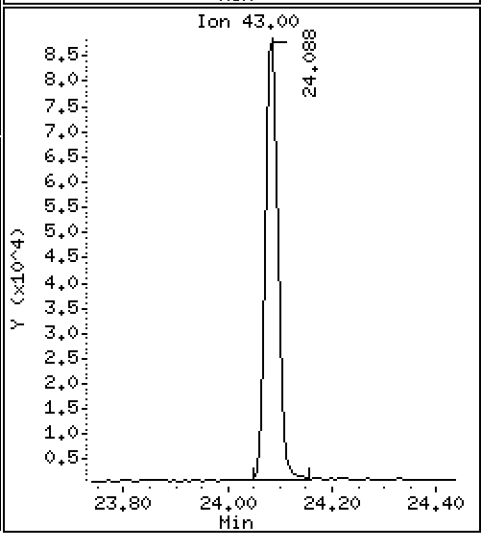


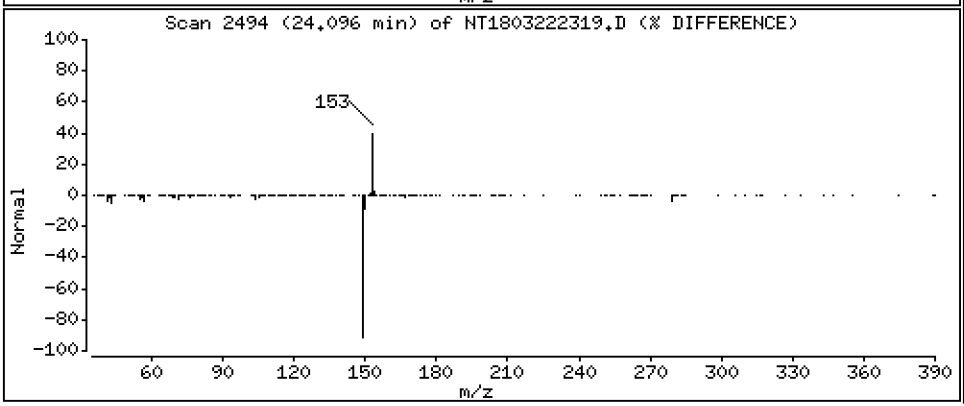












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

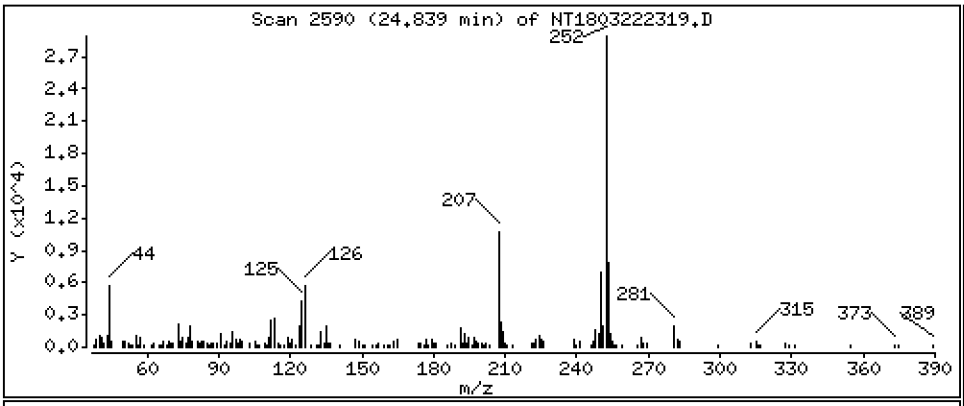
Operator: VTS

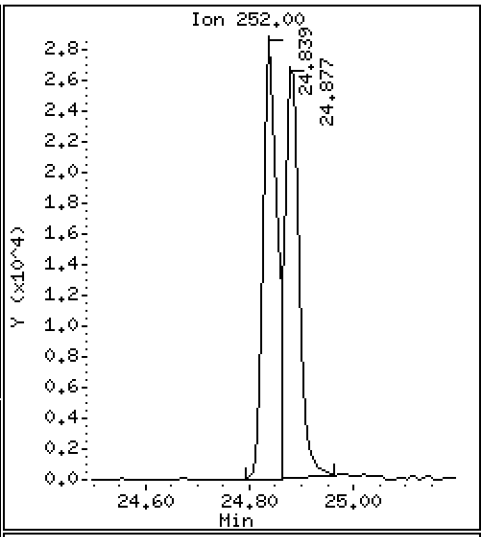
Column phase: ZB-5msi

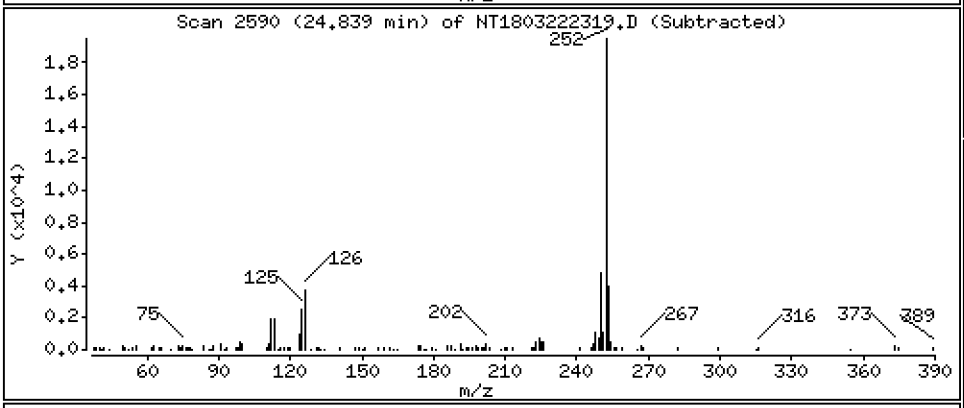
Column diameter: 0.25

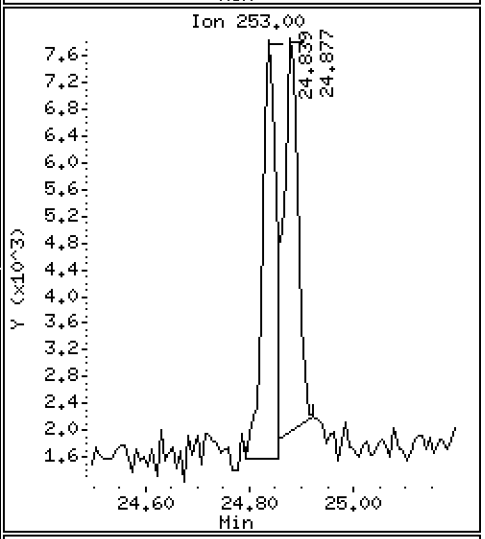
74 Benzo(b)fluoranthene

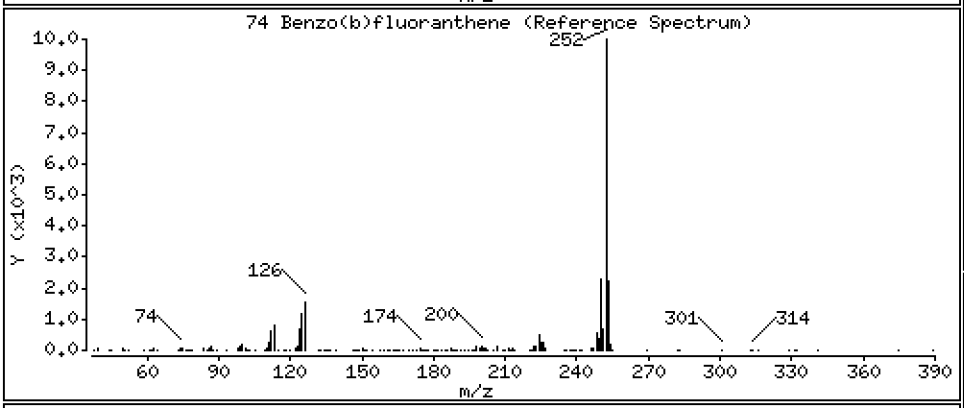
Concentration: 0.2287 ug/mL

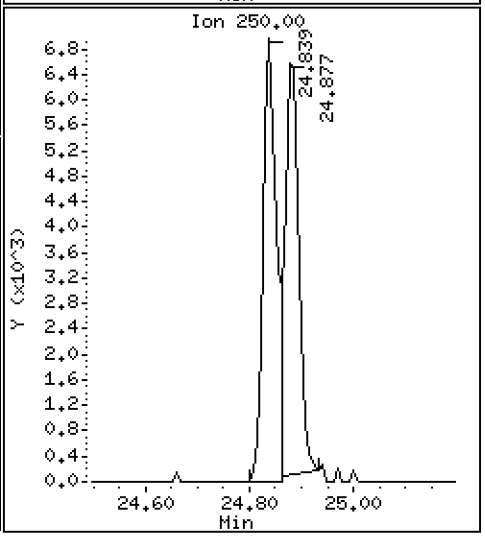


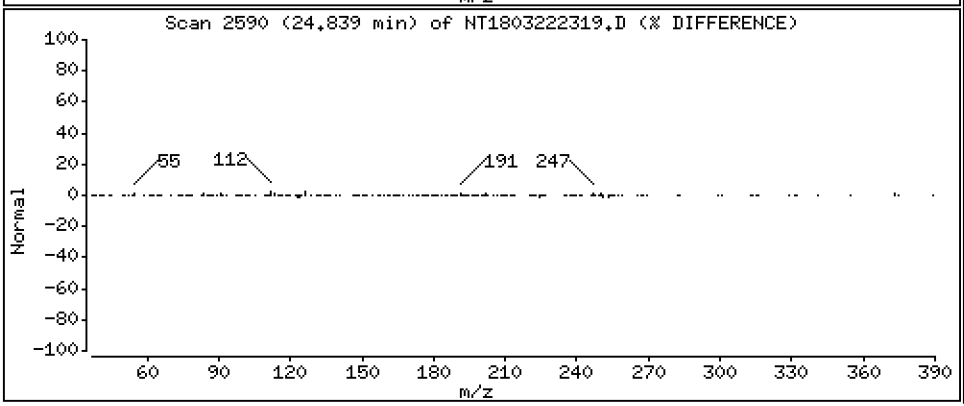












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

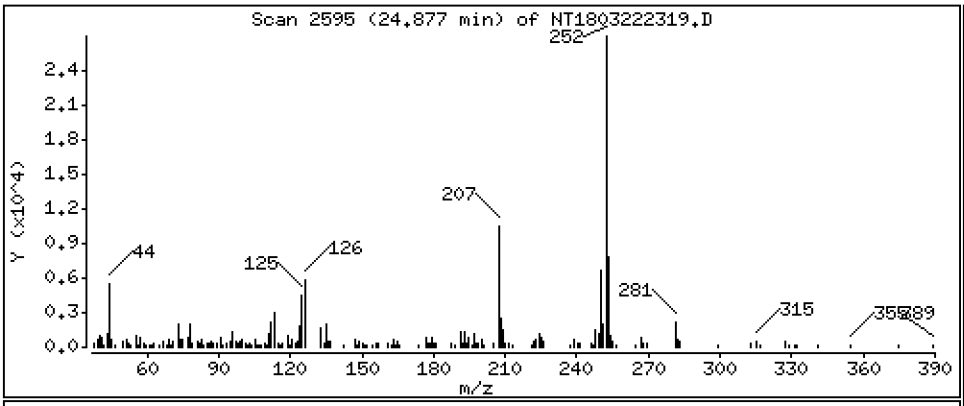
Operator: VTS

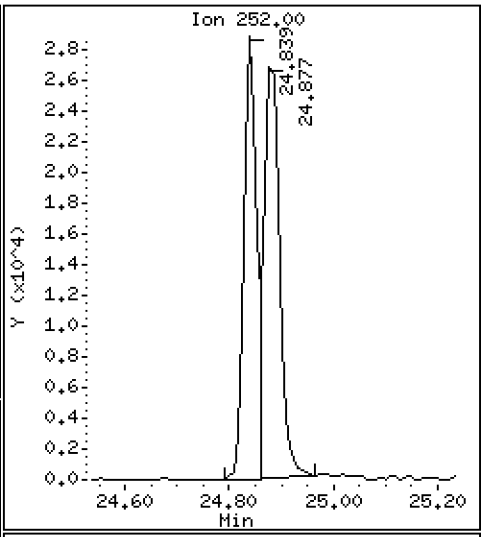
Column phase: ZB-5msi

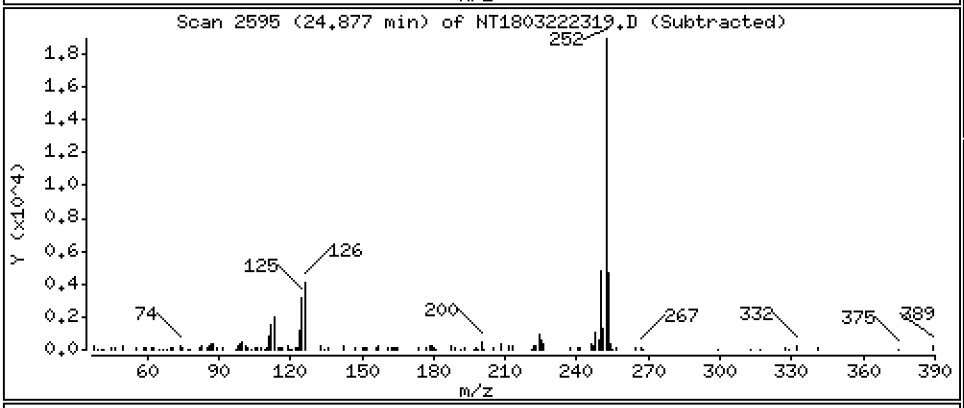
Column diameter: 0.25

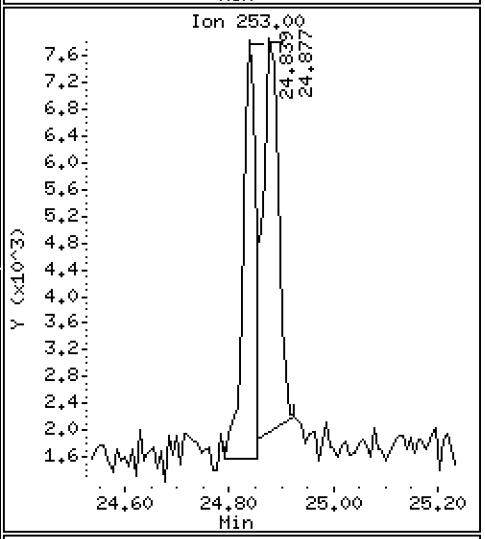
75 Benzo(k)fluoranthene

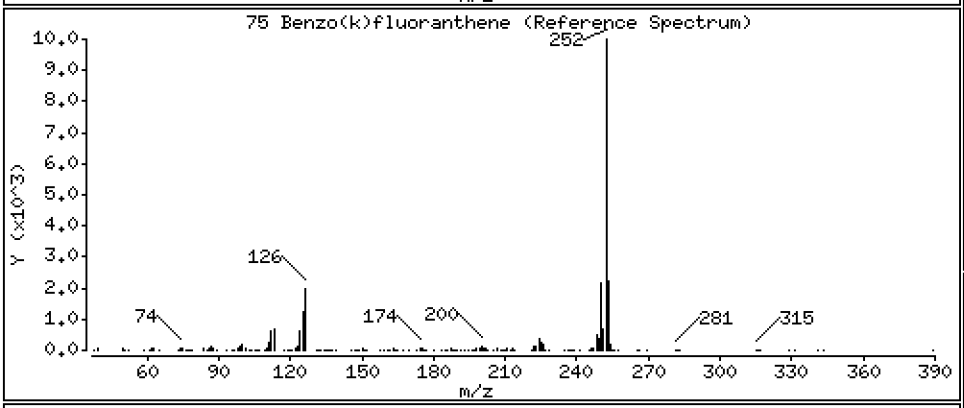
Concentration: 0.2142 ug/mL

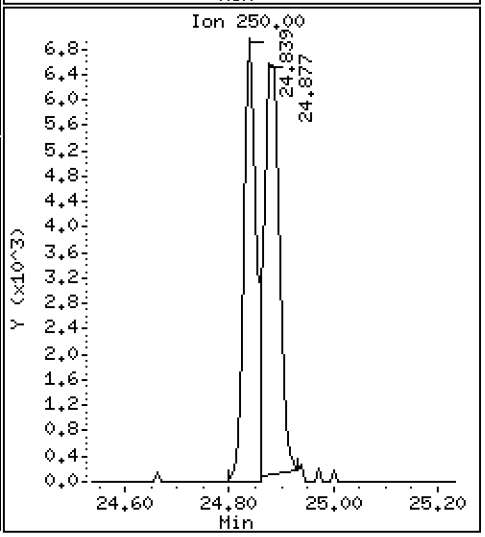


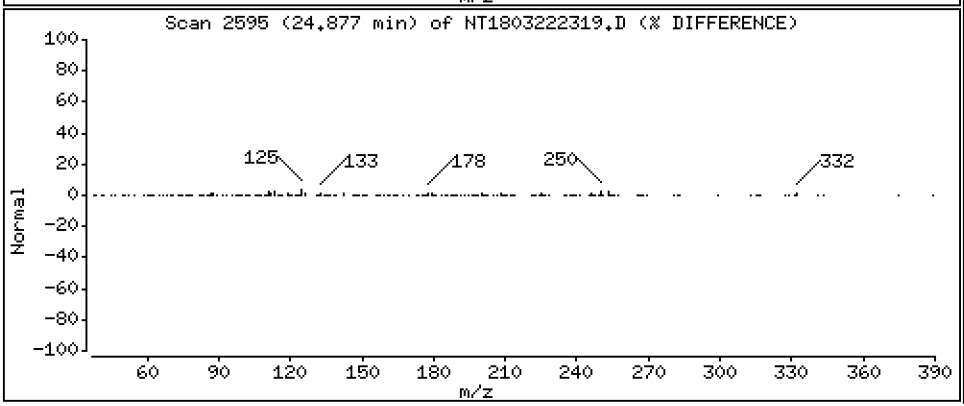












Date : 23-MAR-2023 05:25

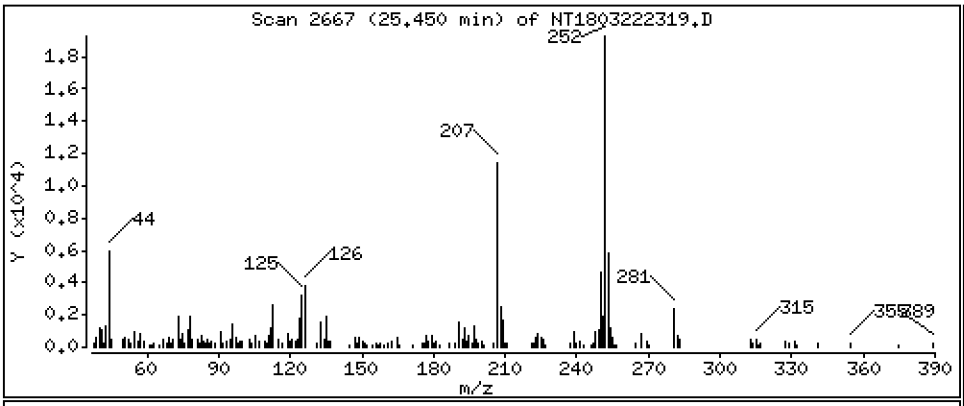
Client ID: Instrument: nt18.i

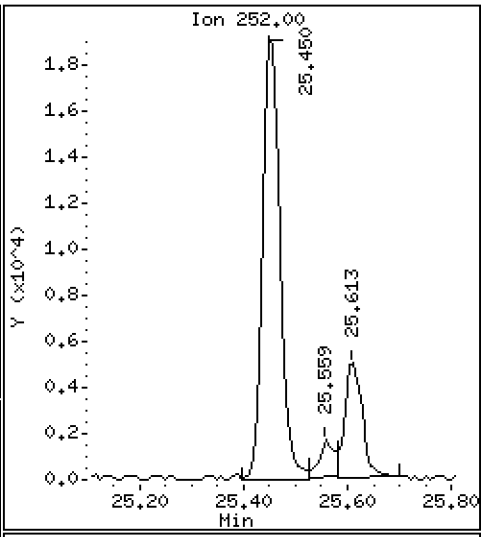
Sample Info: SLD0056-LCV1

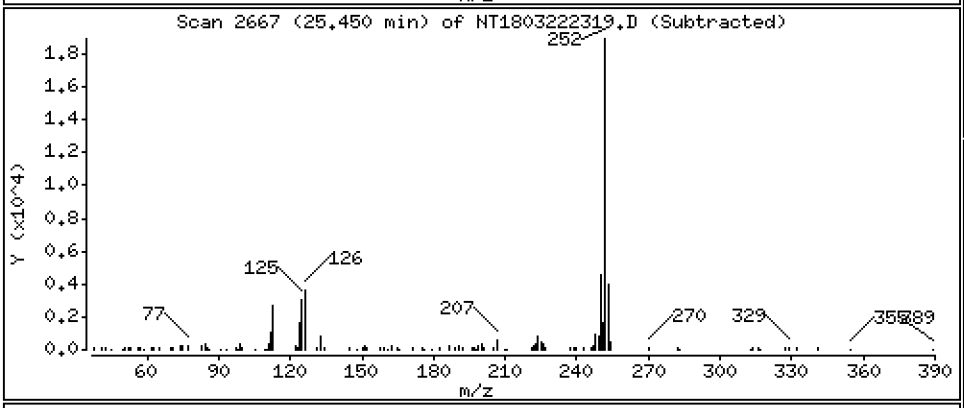
Operator: VTS

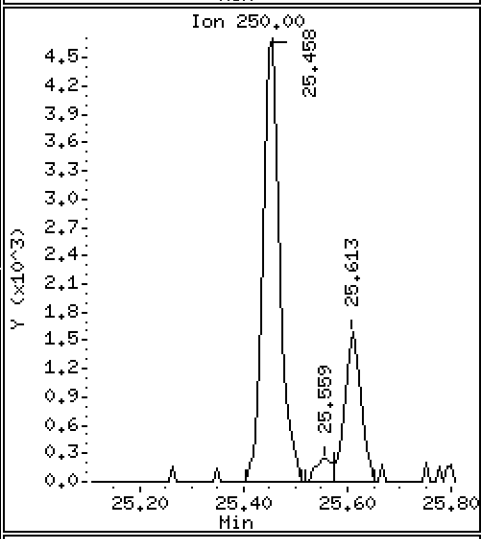
Column phase: ZB-5msi Column diameter: 0.25

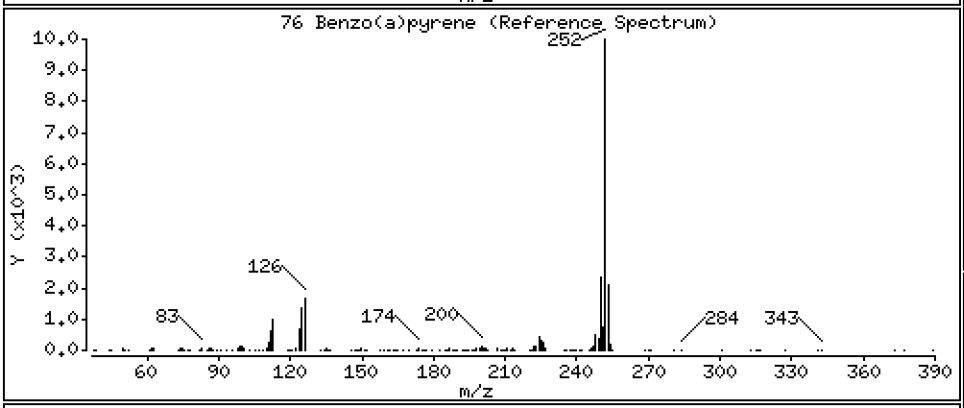
76 Benzo(a)pyrene Concentration: 0.1862 ug/mL

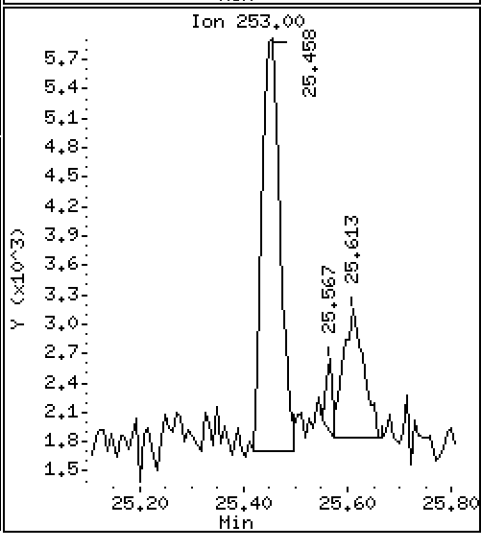


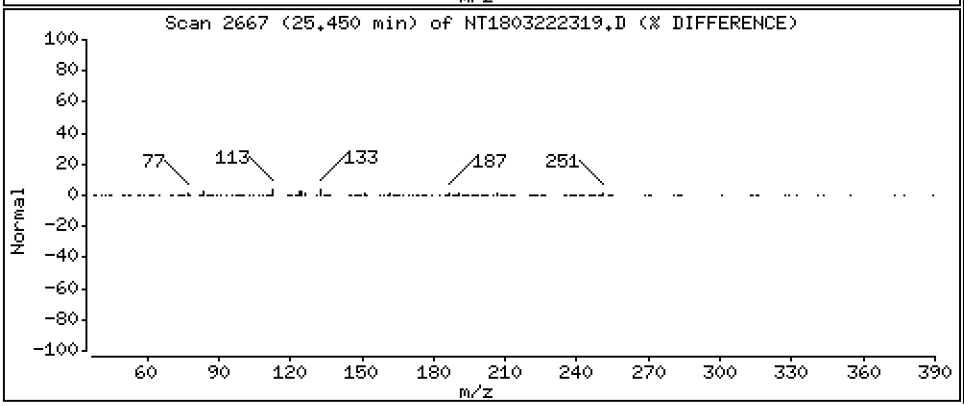












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

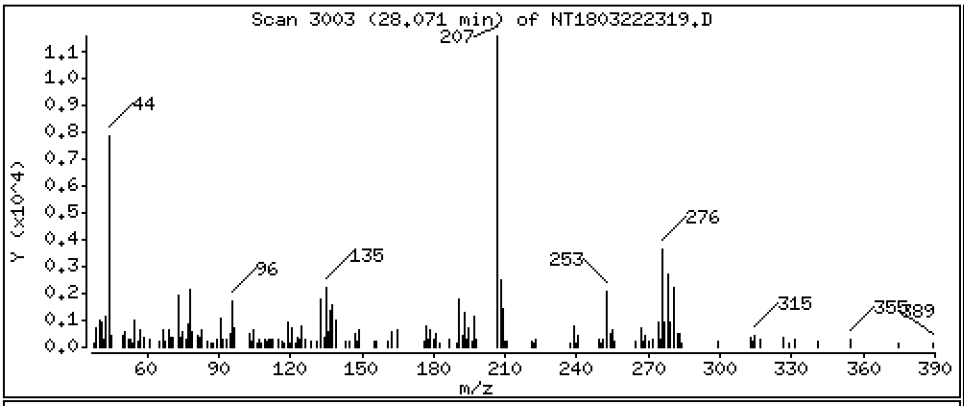
Operator: VTS

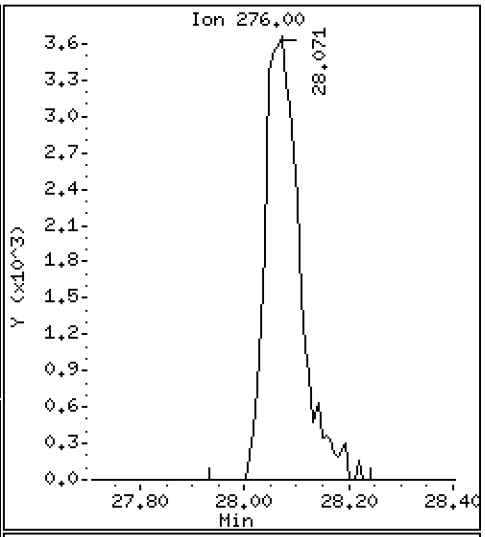
Column phase: ZB-5msi

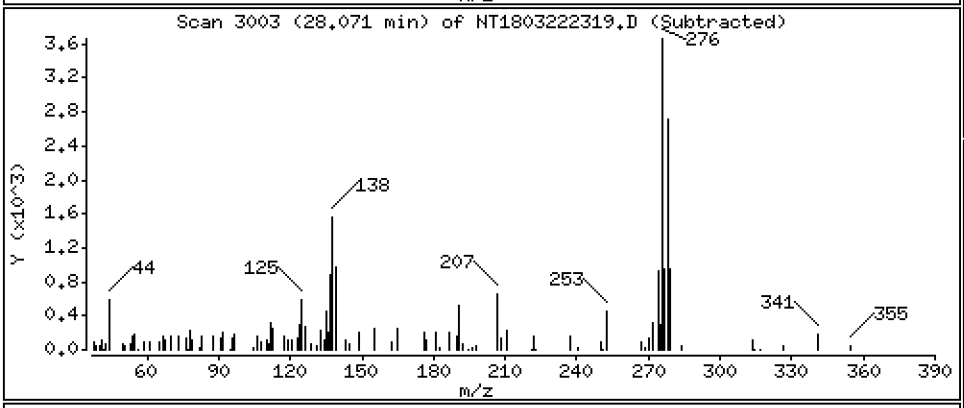
Column diameter: 0.25

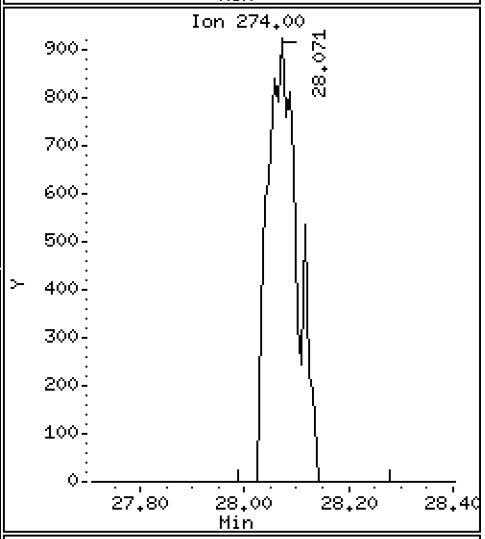
78 Indeno(1,2,3-cd)pyrene

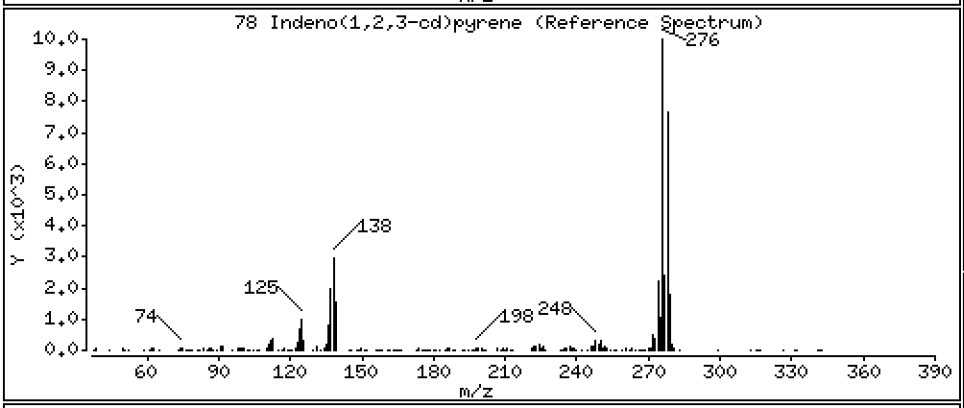
Concentration: 0.05868 ug/mL

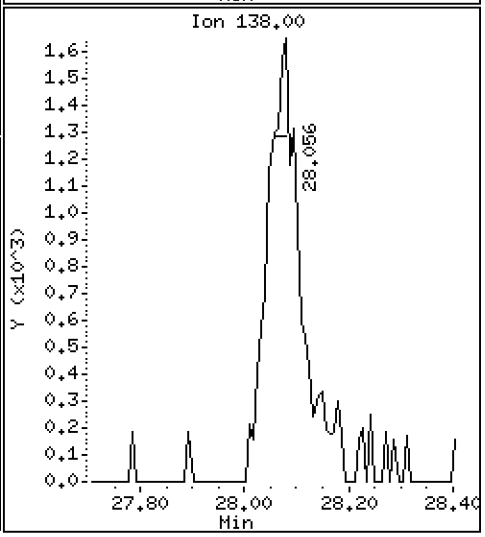


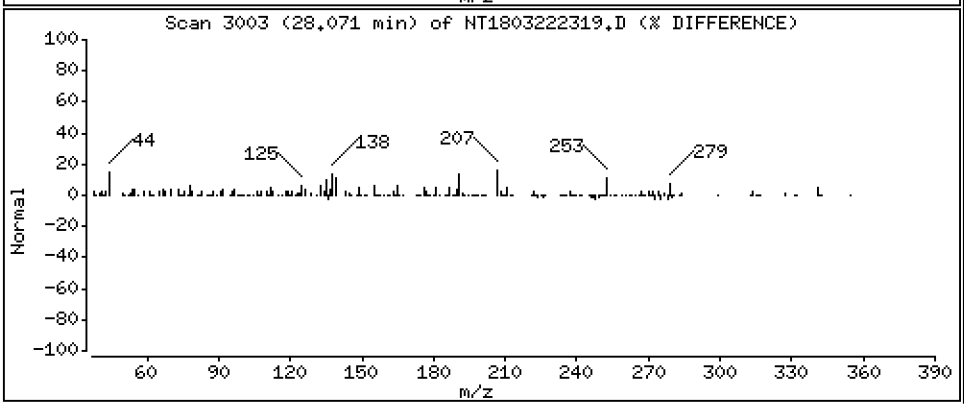












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

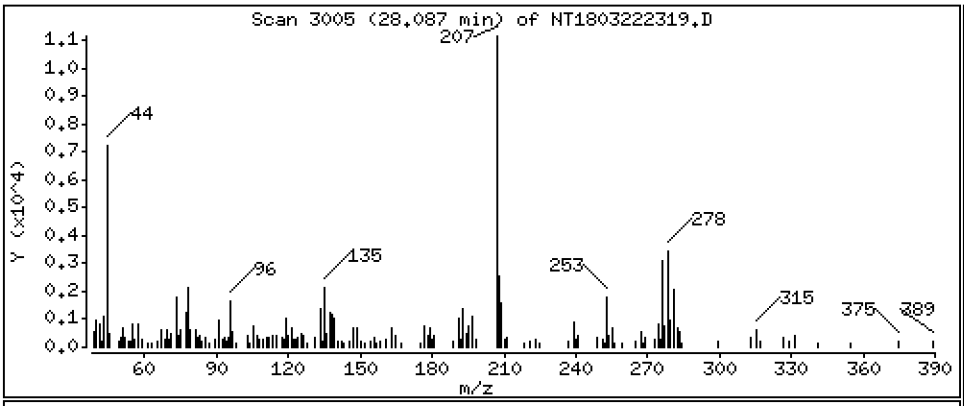
Operator: VTS

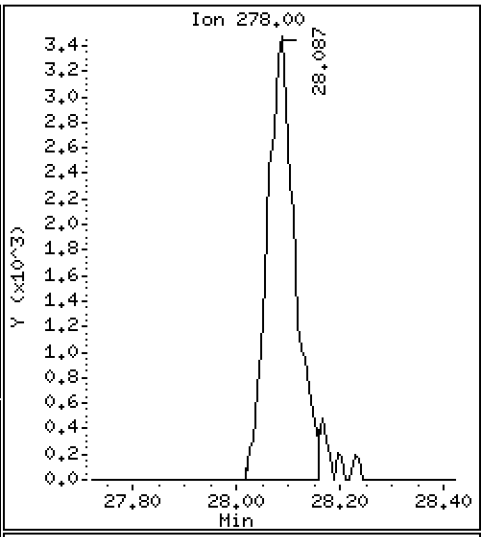
Column phase: ZB-5msi

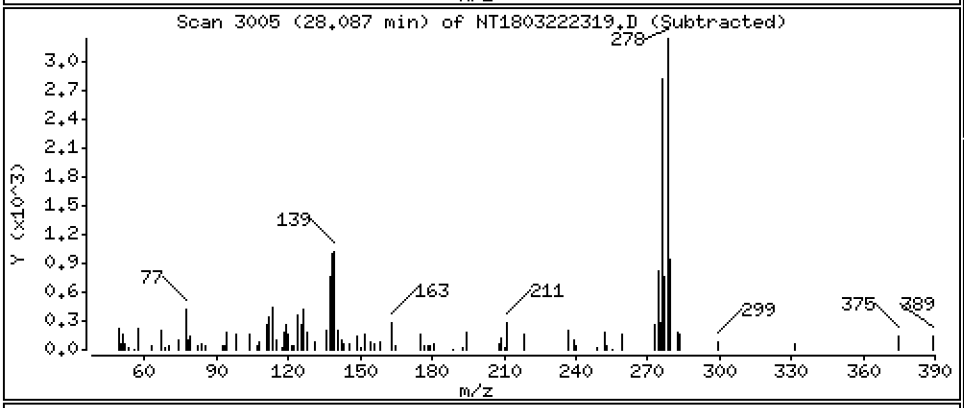
Column diameter: 0.25

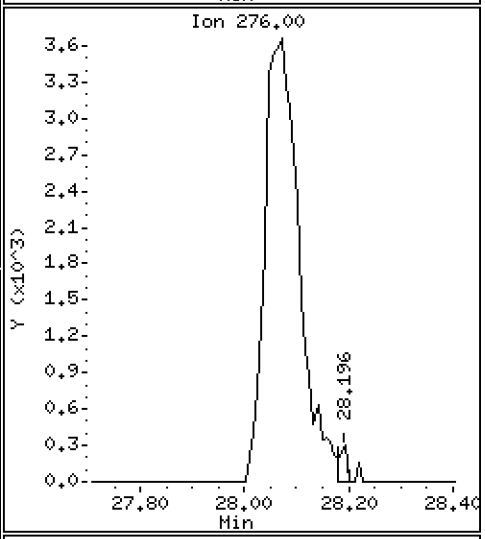
79 Dibenzo(a,h)anthracene

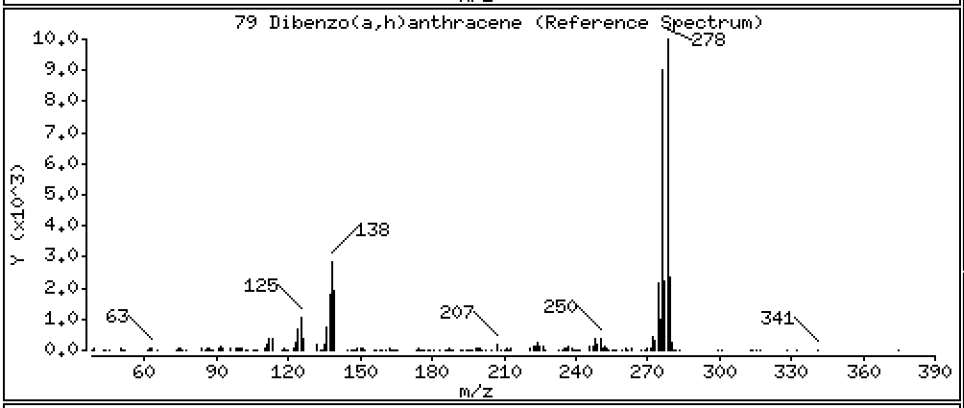
Concentration: 0.05373 ug/mL

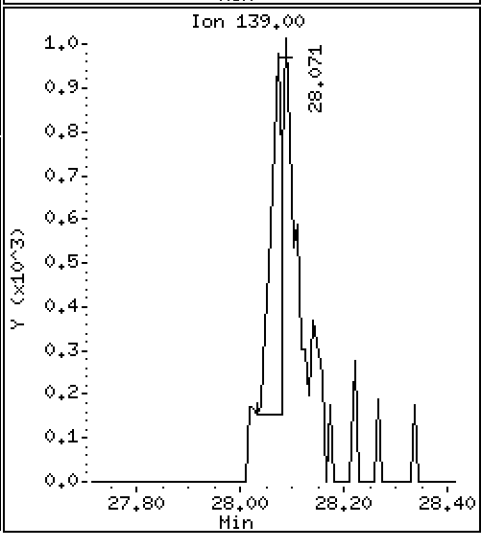


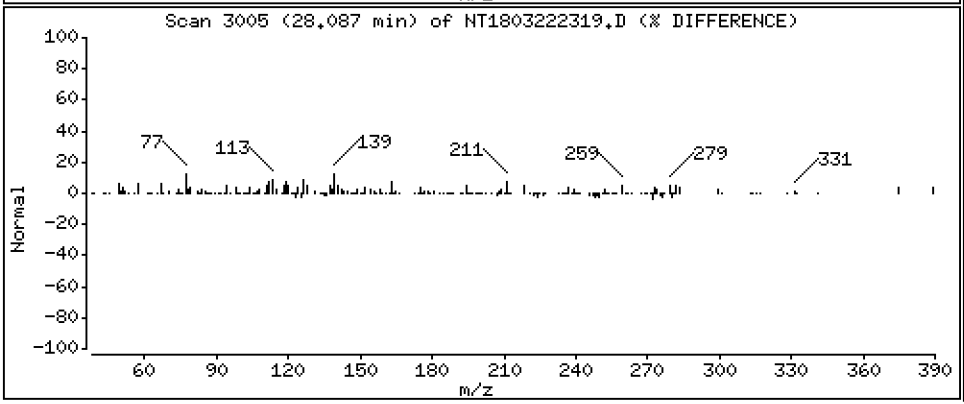












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

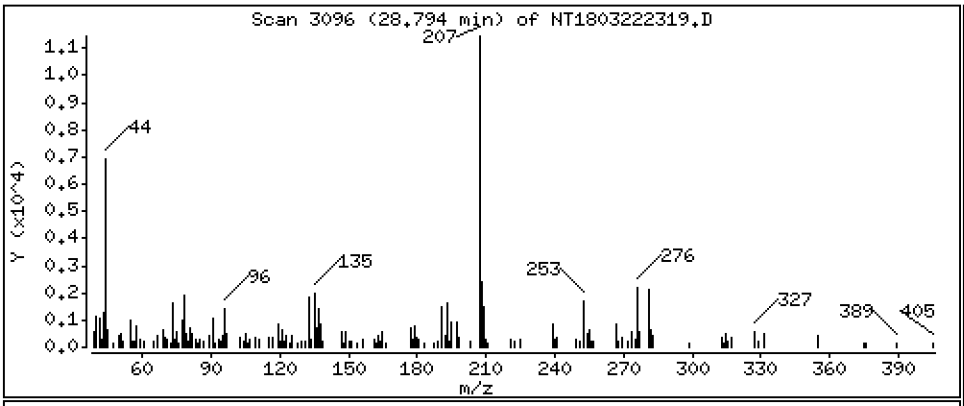
Operator: VTS

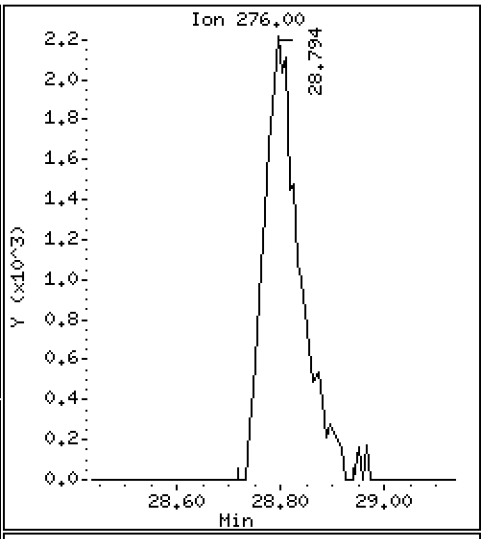
Column phase: ZB-5msi

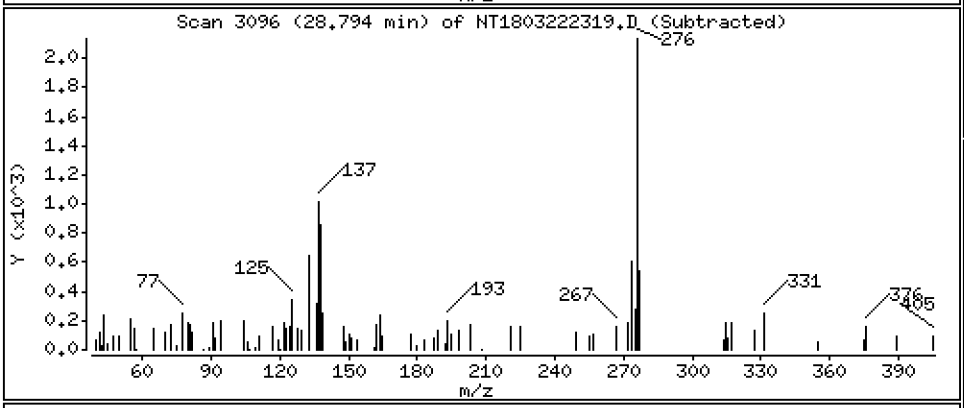
Column diameter: 0.25

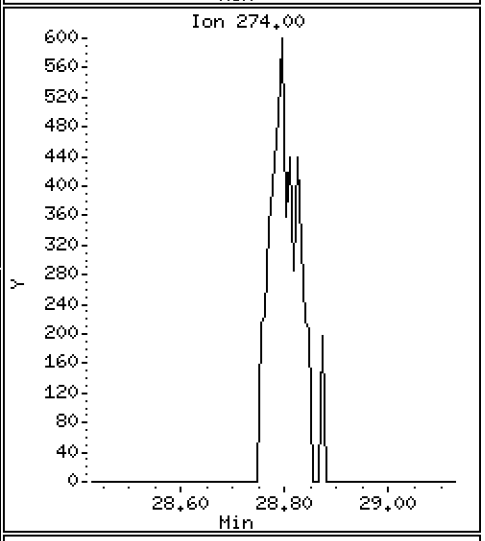
80 Benzo(g,h,i)perylene

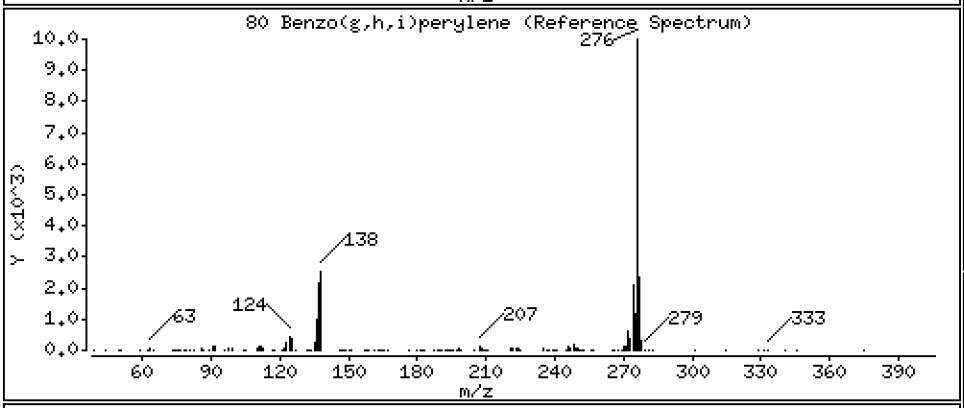
Concentration: 0.04538 ug/mL

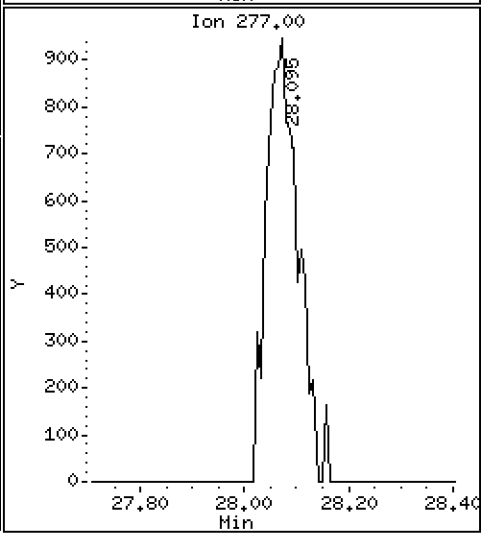


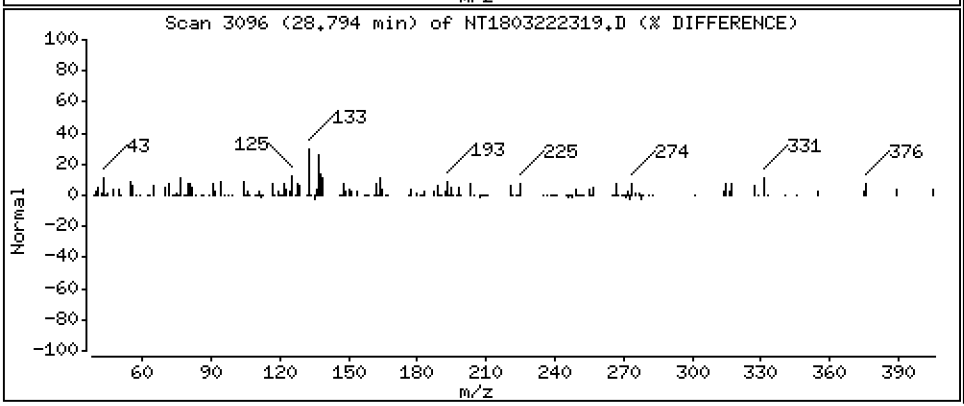












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

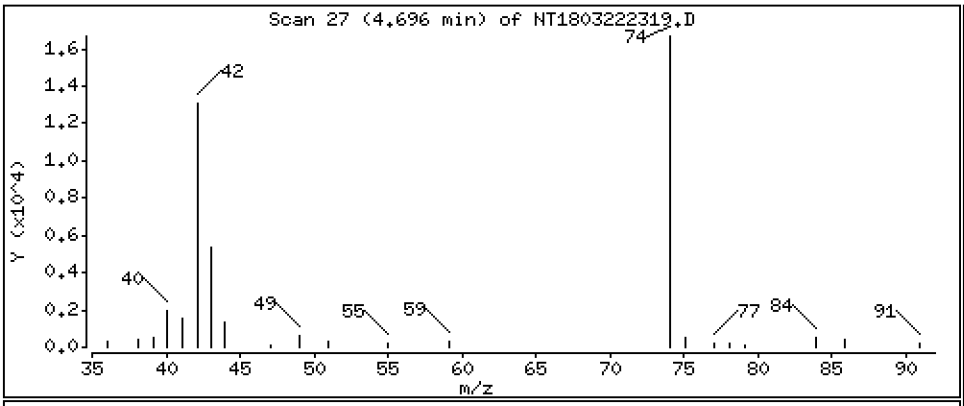
Operator: VTS

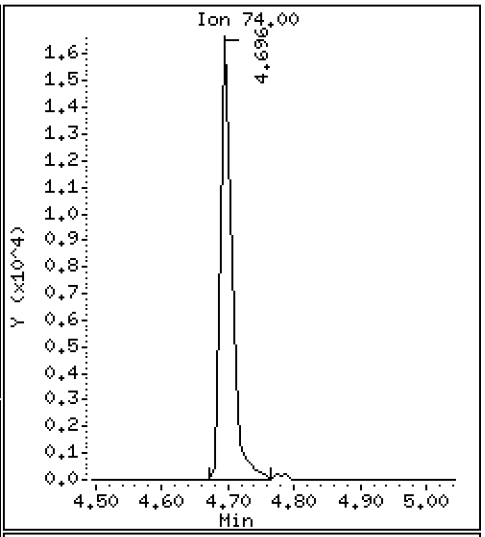
Column phase: ZB-5msi

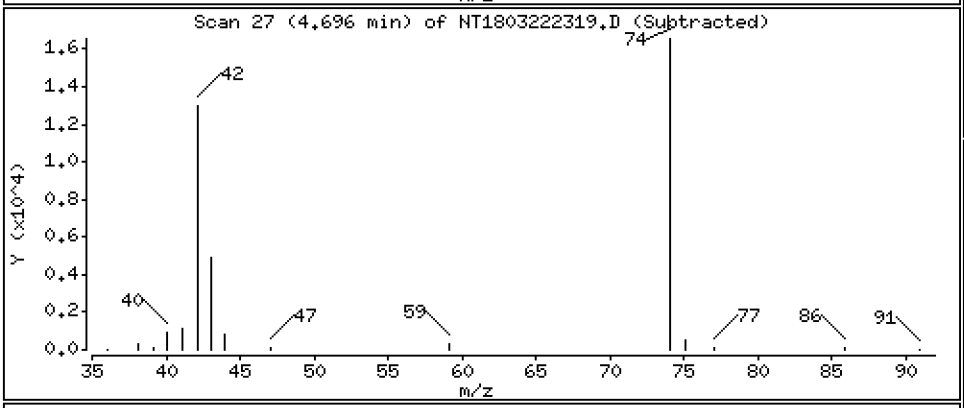
Column diameter: 0.25

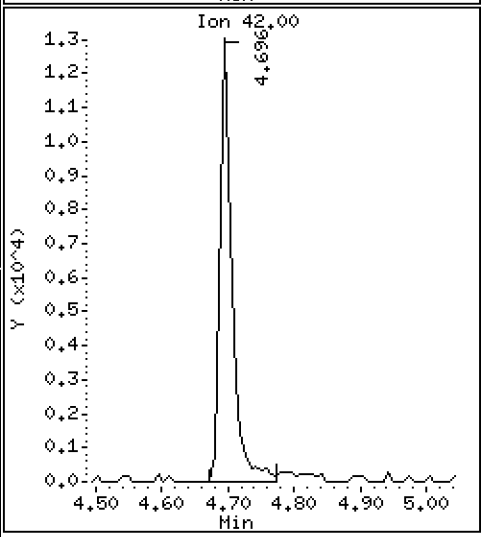
90 N-Nitrosodimethylamine

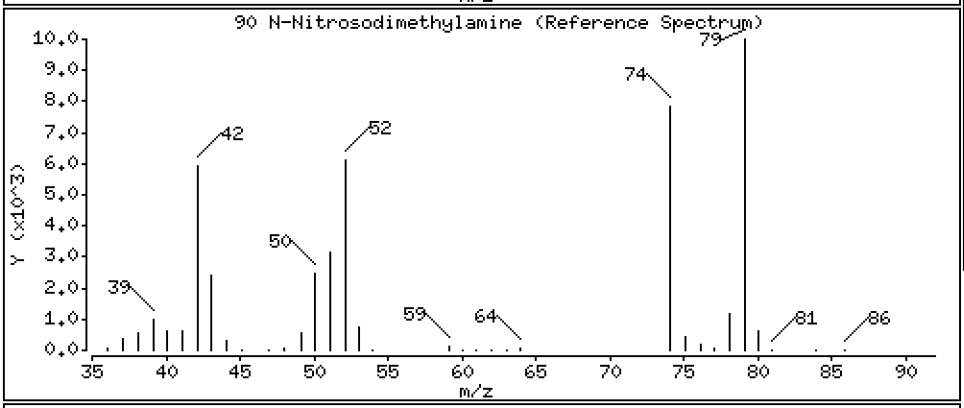
Concentration: 0.3907 ug/mL

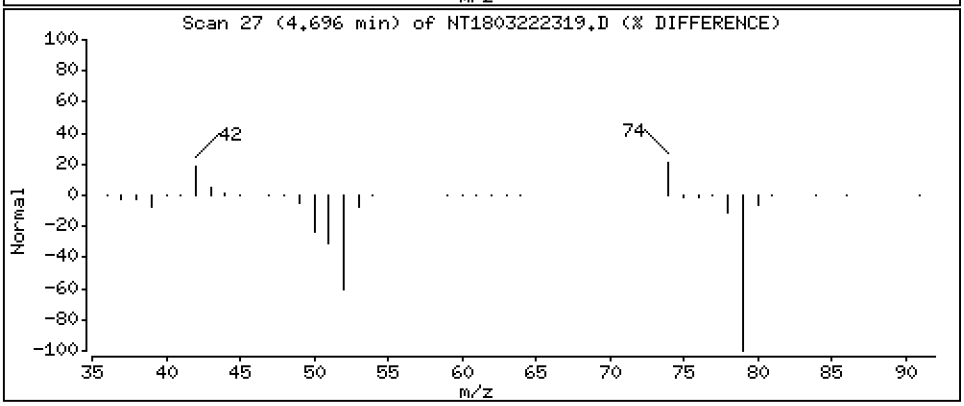












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

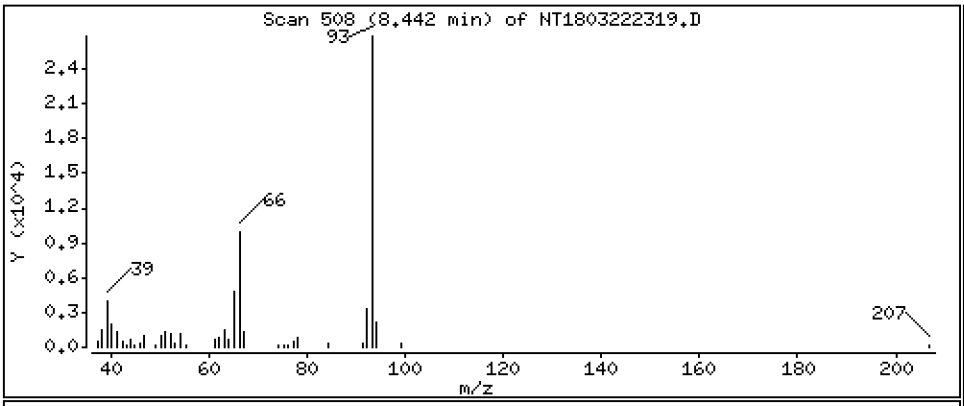
Operator: VTS

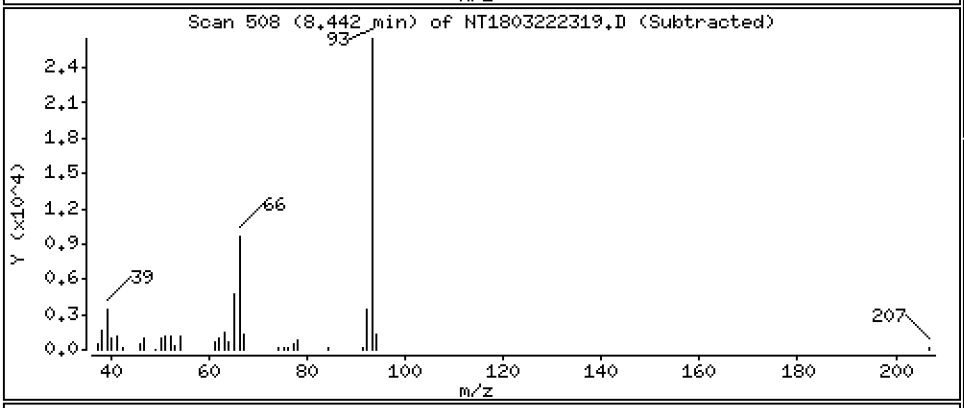
Column phase: ZB-5msi

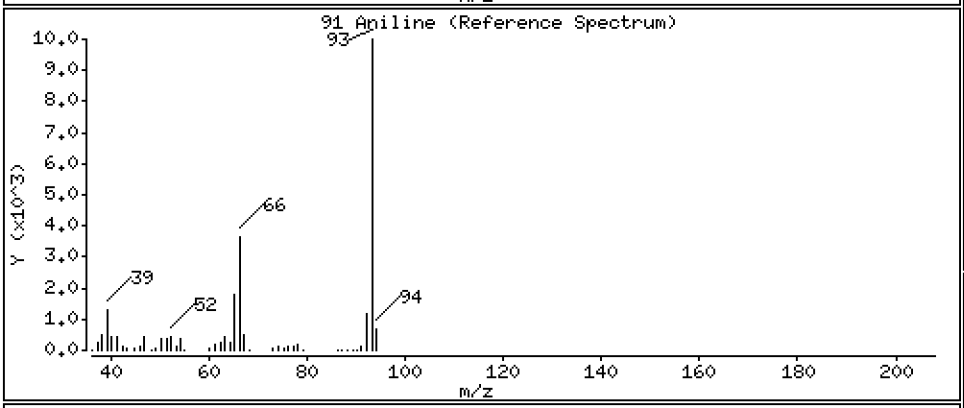
Column diameter: 0.25

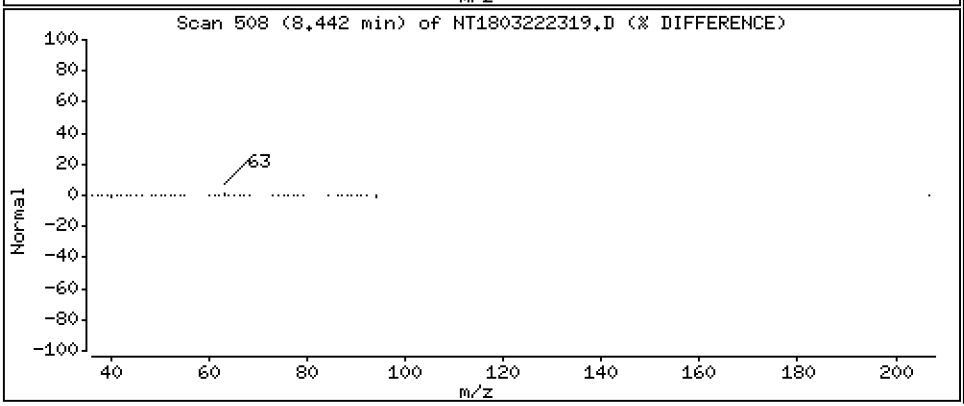
91 Aniline

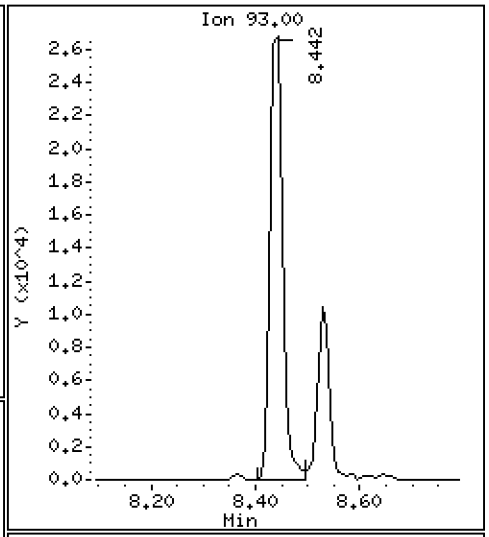
Concentration: 0.3559 ug/mL

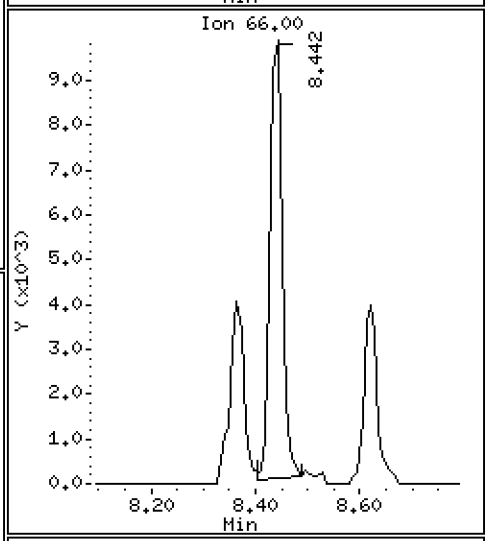


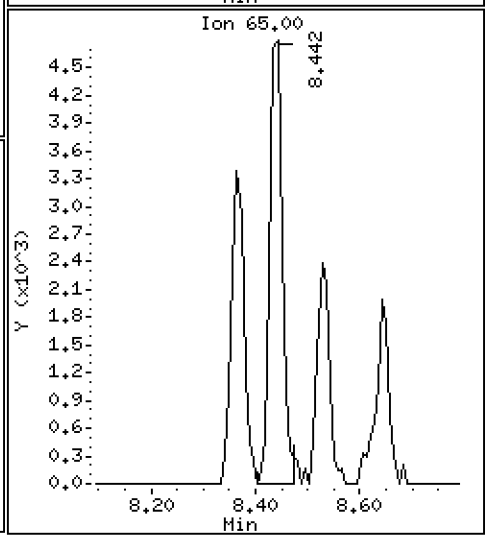












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D

Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

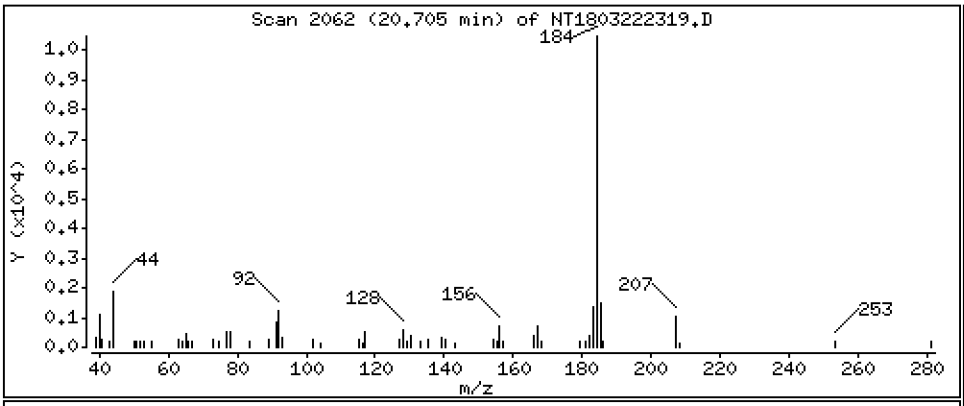
Operator: VTS

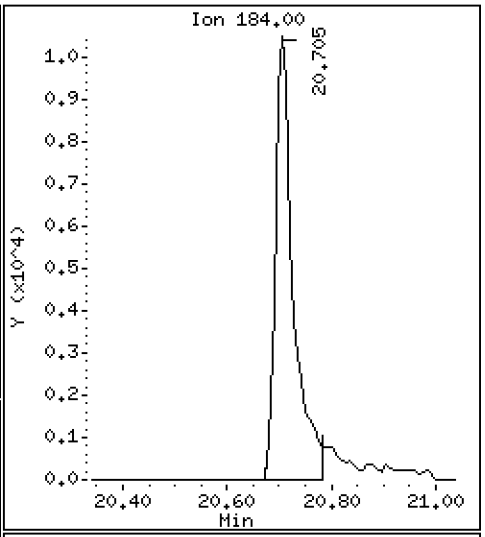
Column phase: ZB-5msi

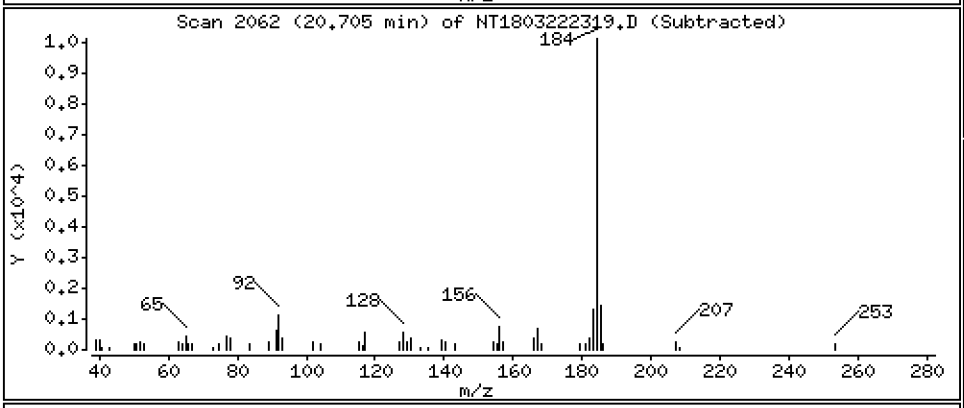
Column diameter: 0.25

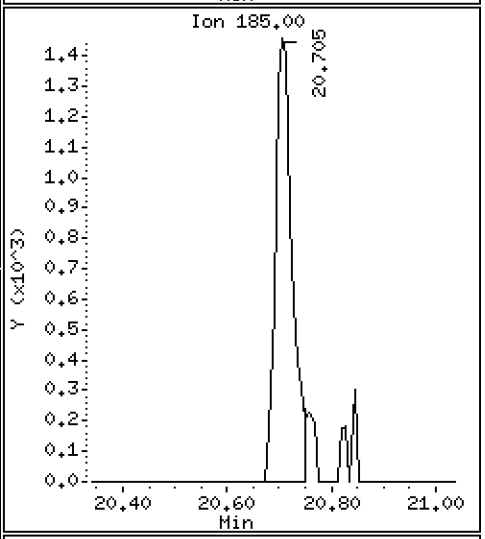
93 Benzidine

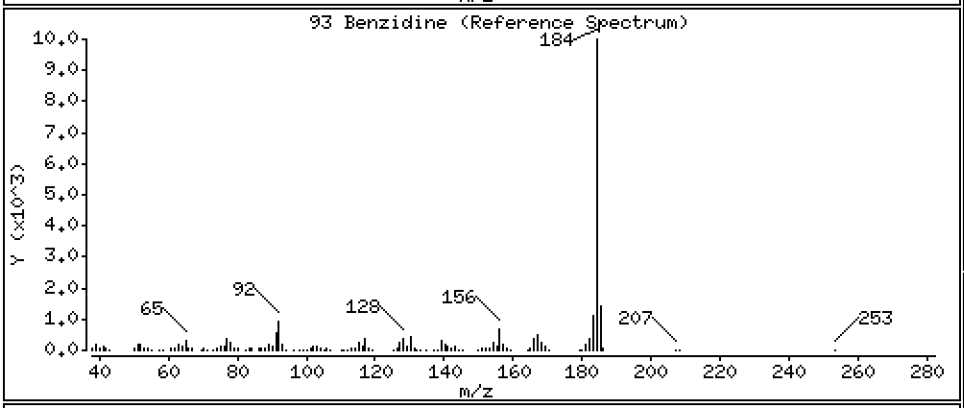
Concentration: 0.2018 ug/mL

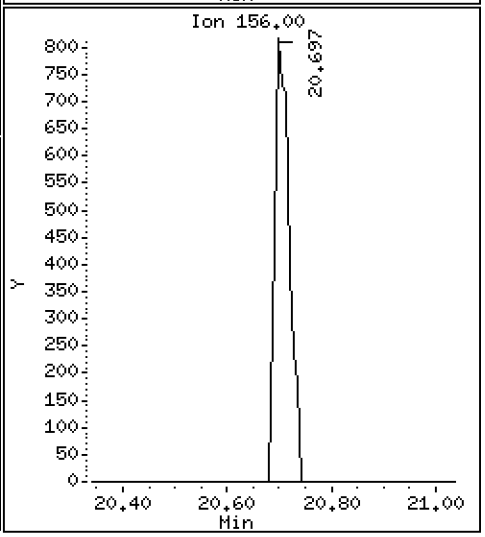


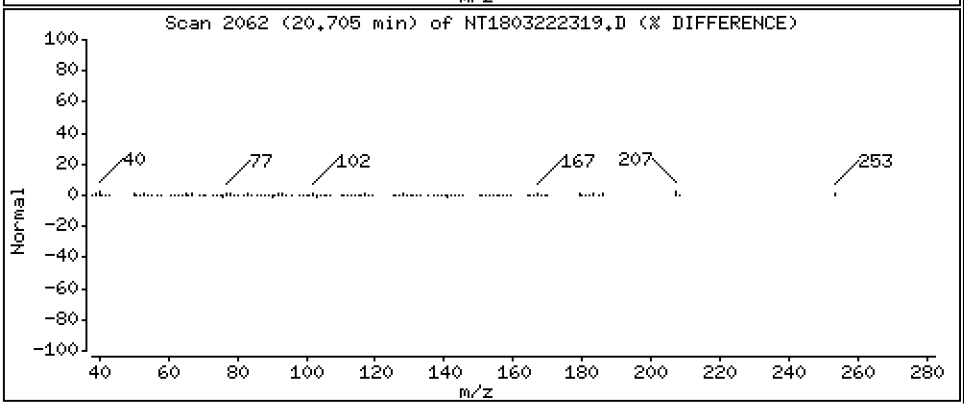












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D

Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

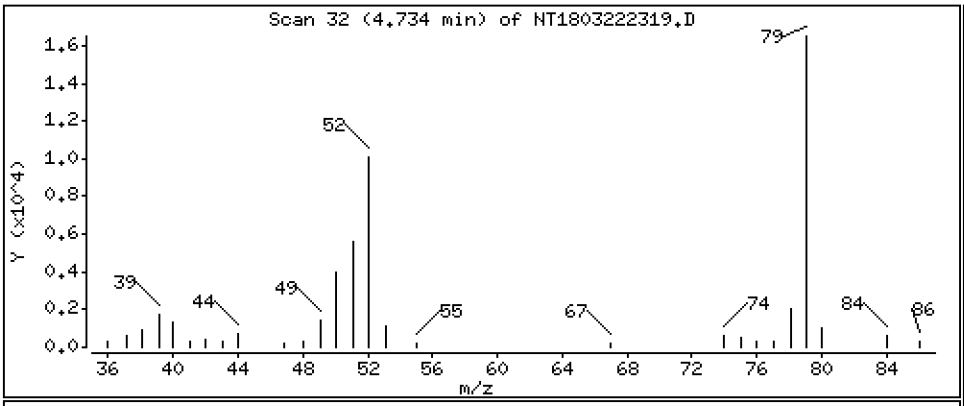
Operator: VTS

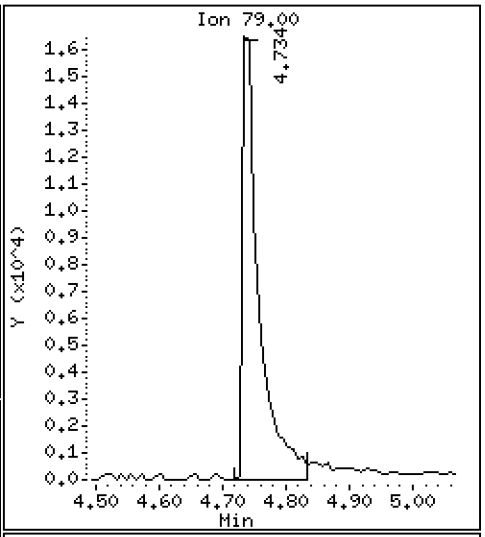
Column phase: ZB-5msi

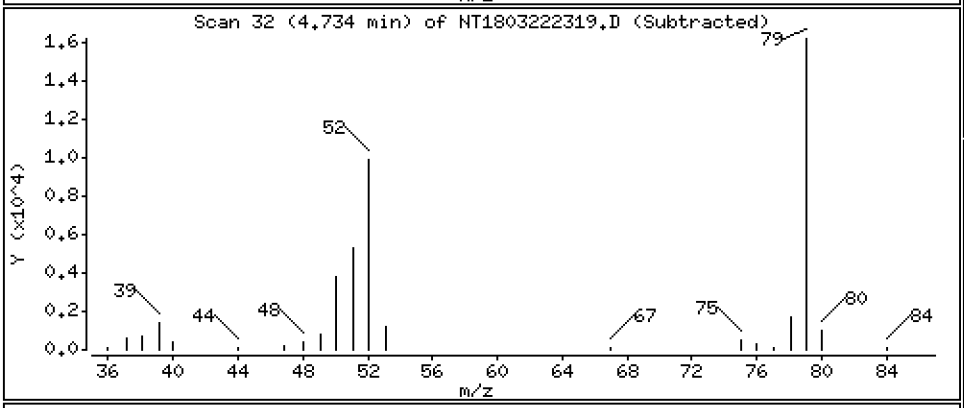
Column diameter: 0.25

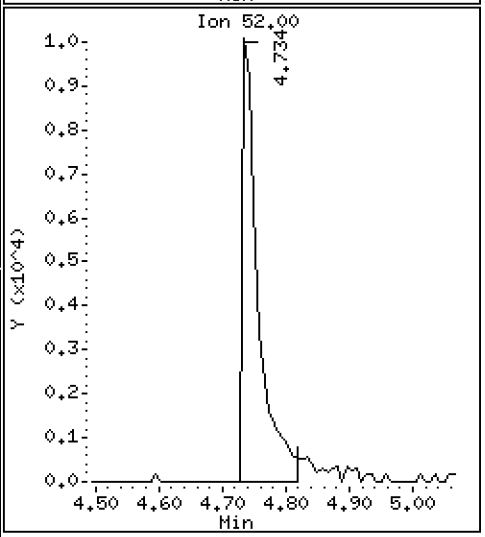
103 Pyridine

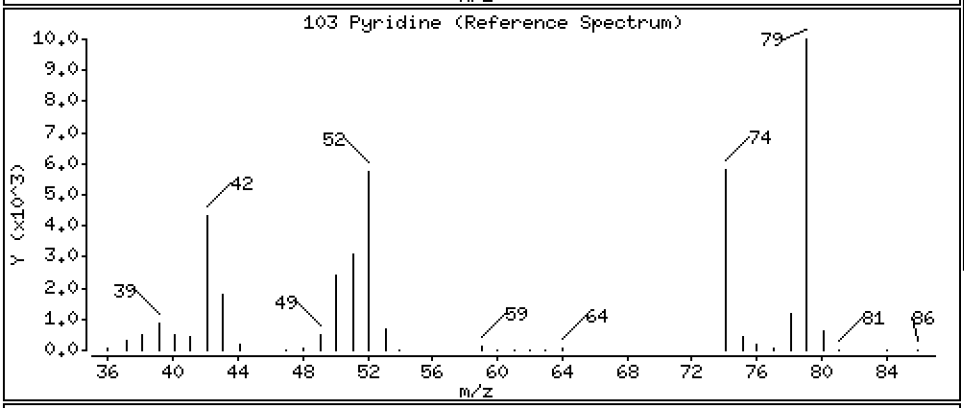
Concentration: 0.3563 ug/mL

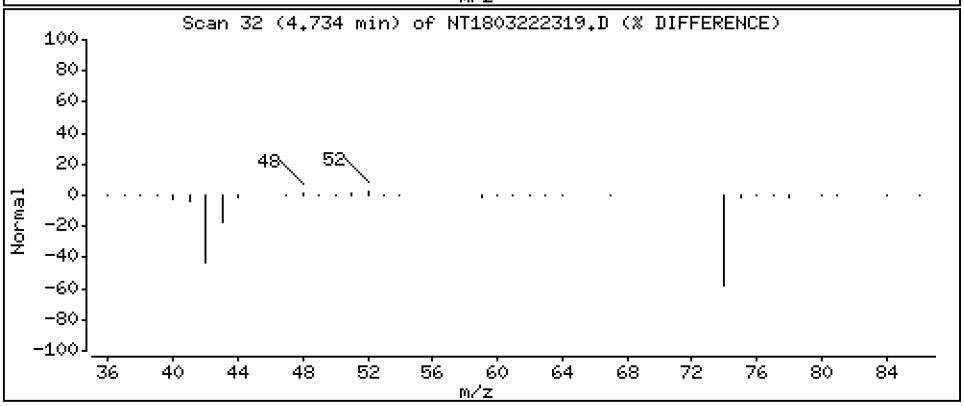












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D

Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

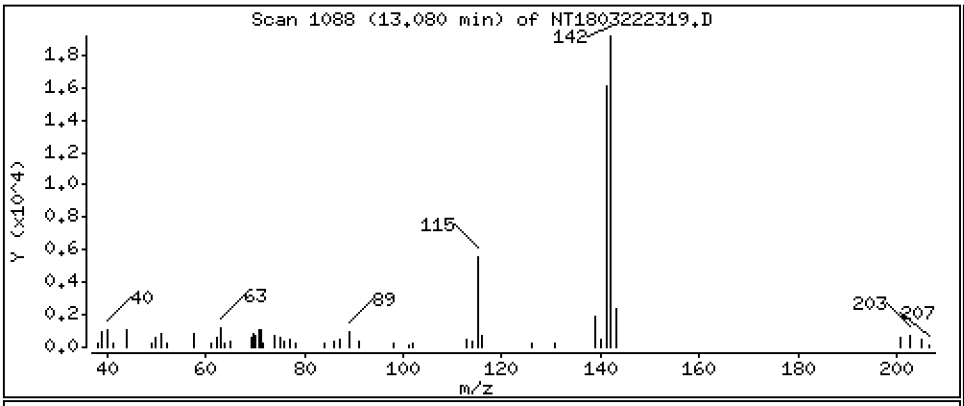
Operator: VTS

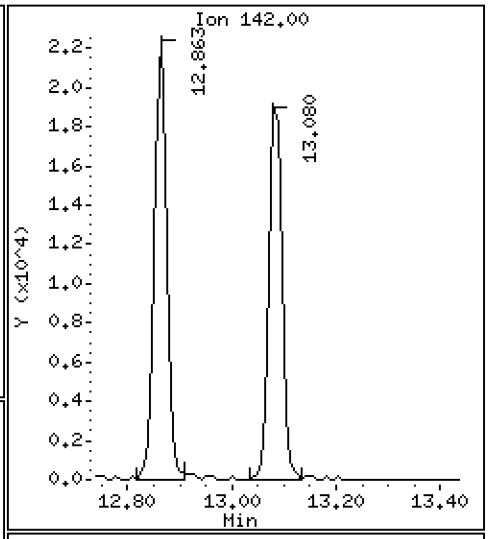
Column phase: ZB-5msi

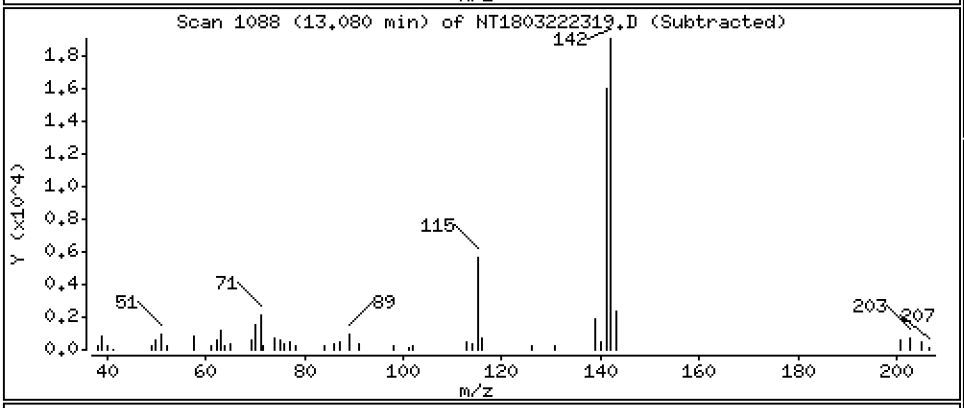
Column diameter: 0.25

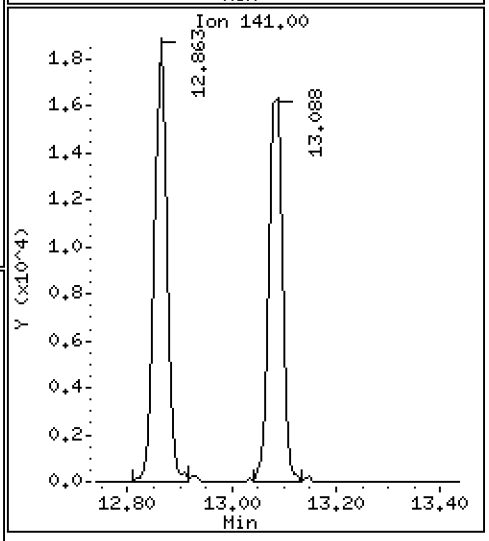
105 1-methylnaphthalene

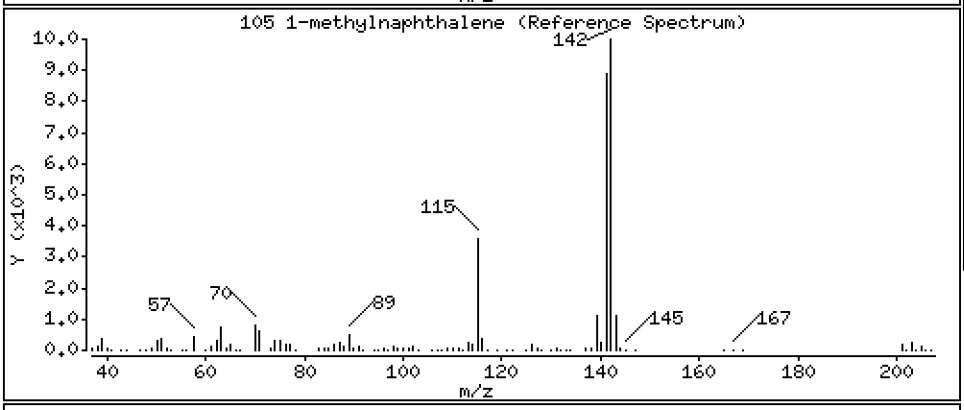
Concentration: 0.1945 ug/mL

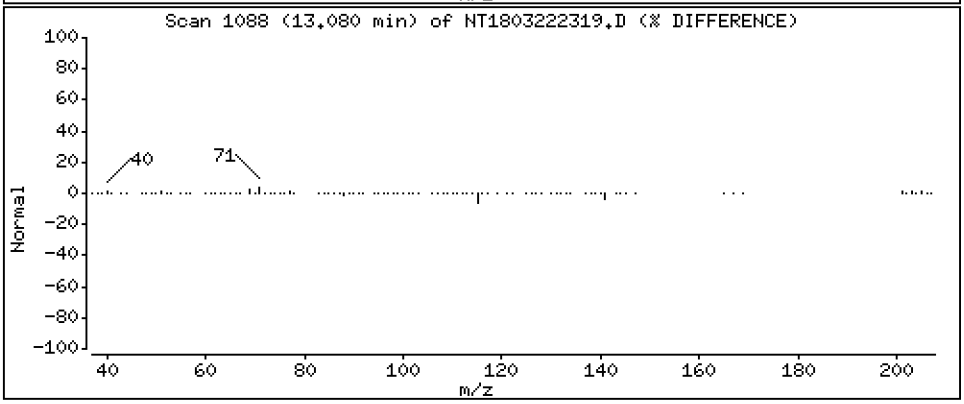












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

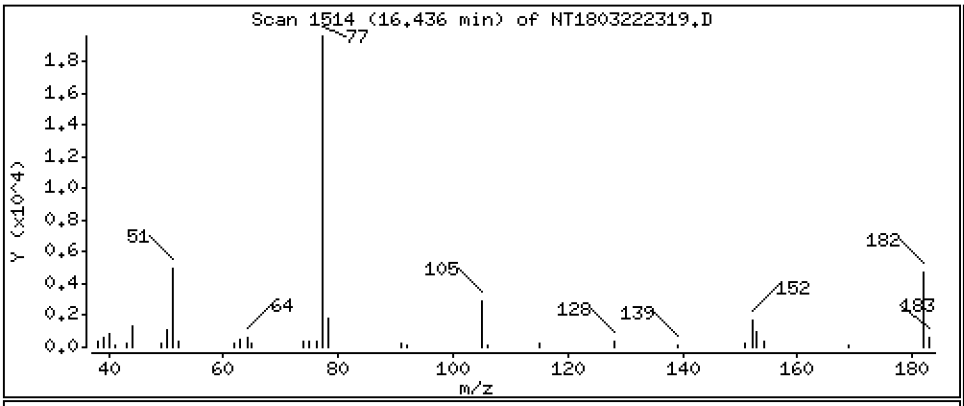
Operator: VTS

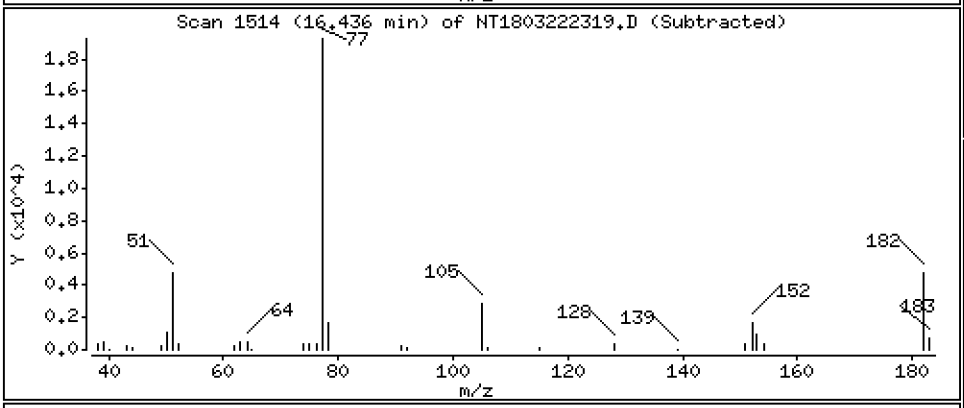
Column phase: ZB-5msi

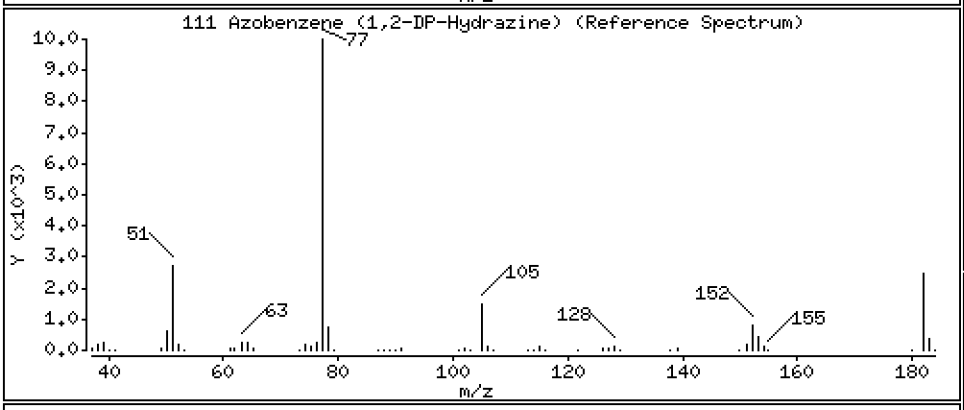
Column diameter: 0.25

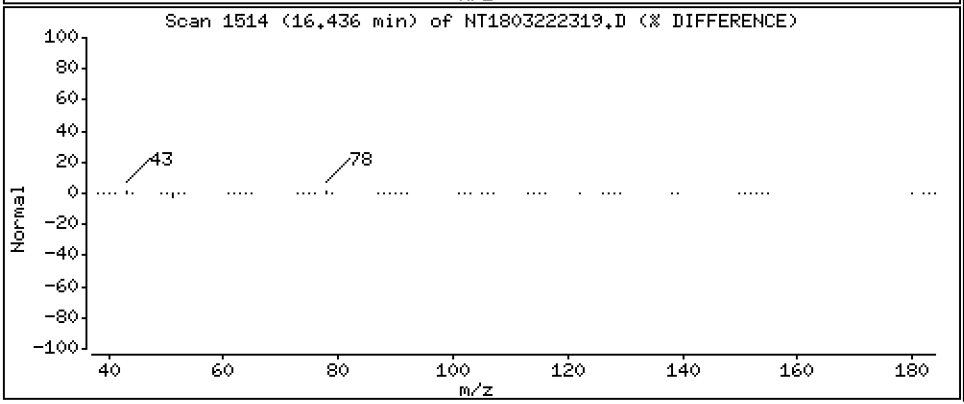
111 Azobenzene (1,2-DP-Hydrazine)

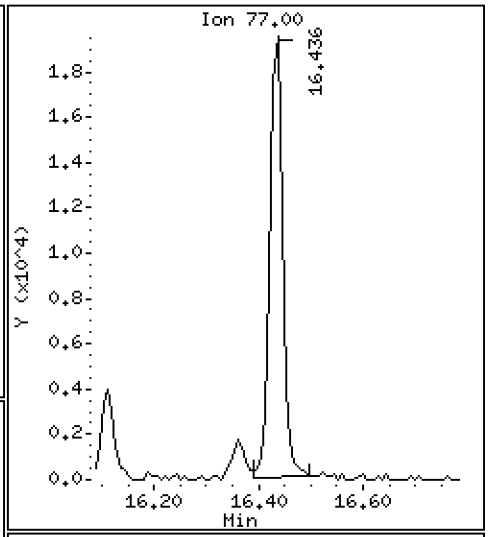
Concentration: 0.1839 ug/mL

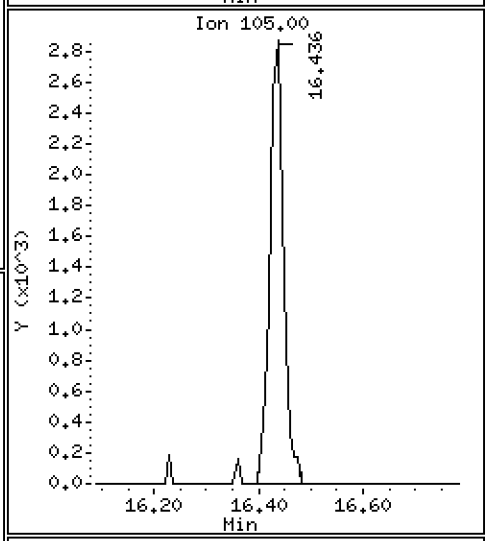


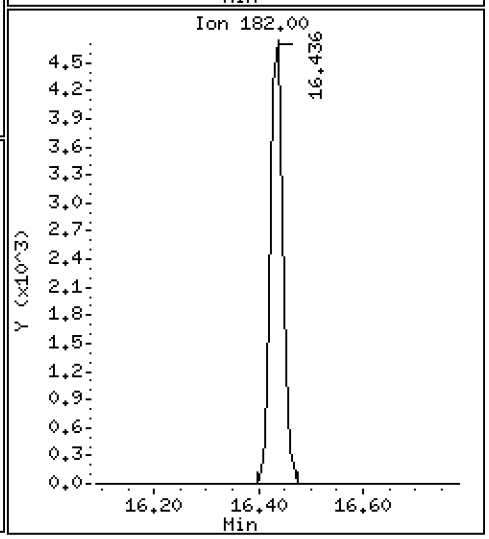












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Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

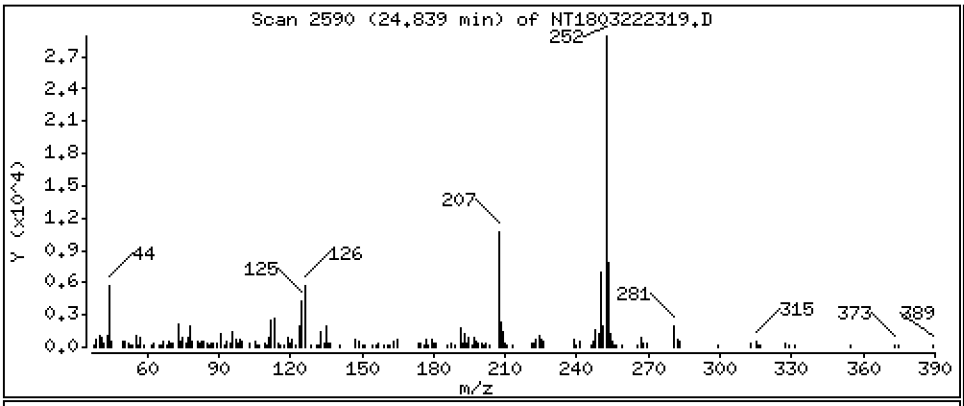
Operator: VTS

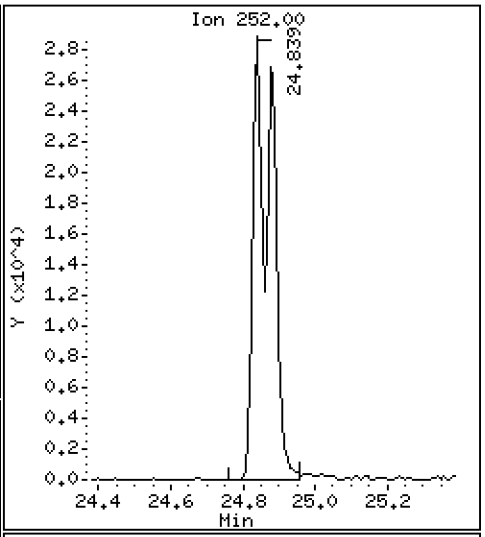
Column phase: ZB-5msi

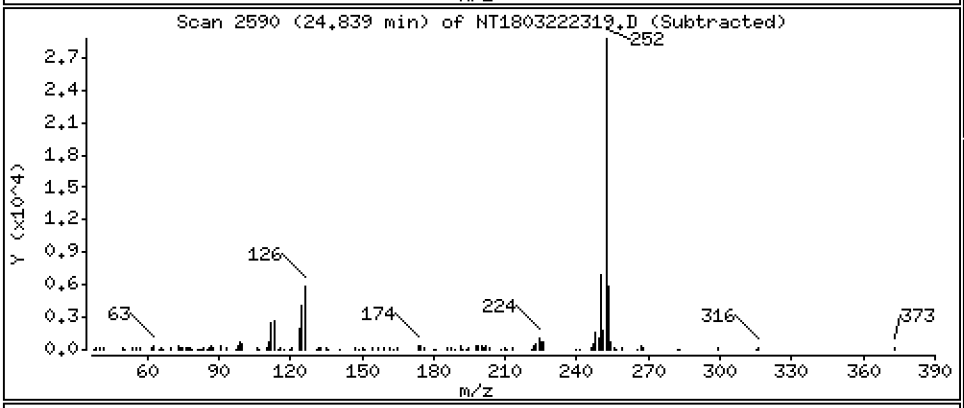
Column diameter: 0.25

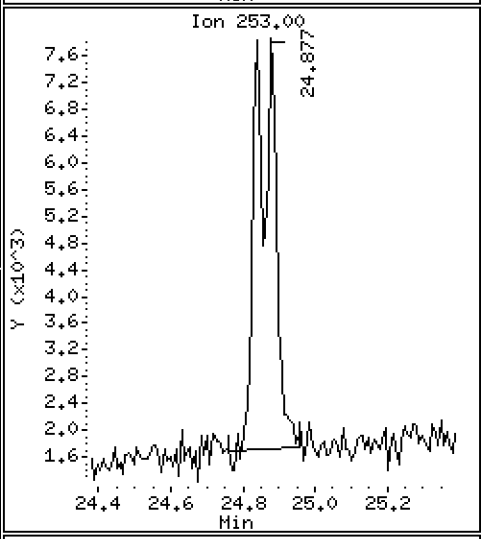
187 Total Benzofluoranthenes

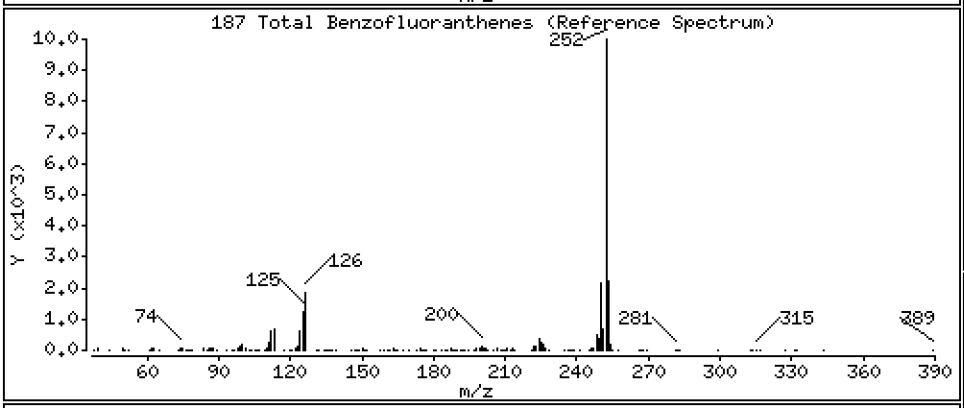
Concentration: 0.4441 ug/mL

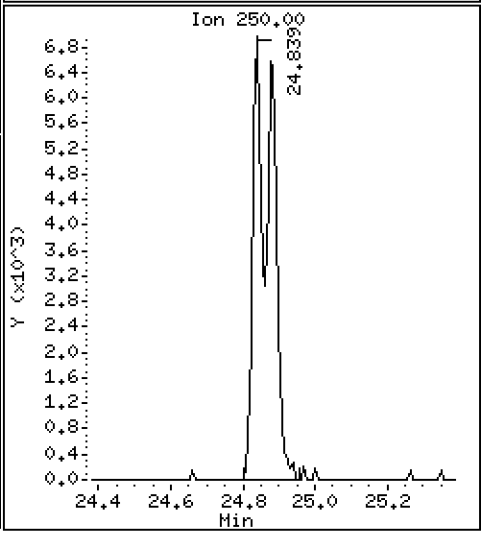


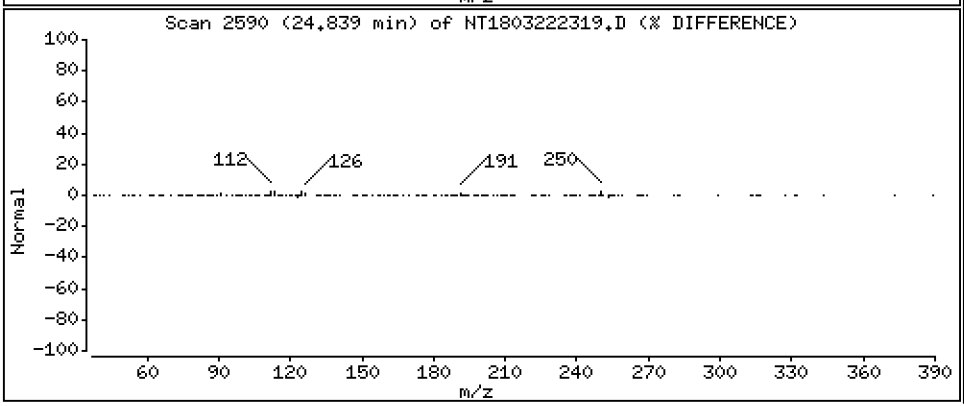












Data File: \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D

Date : 23-MAR-2023 05:25

Client ID:

Instrument: nt18.i

Sample Info: SLD0056-LCV1

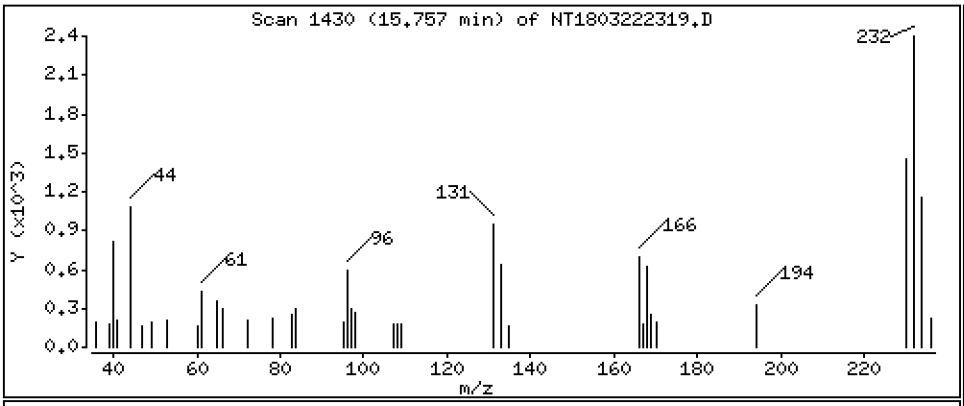
Operator: VTS

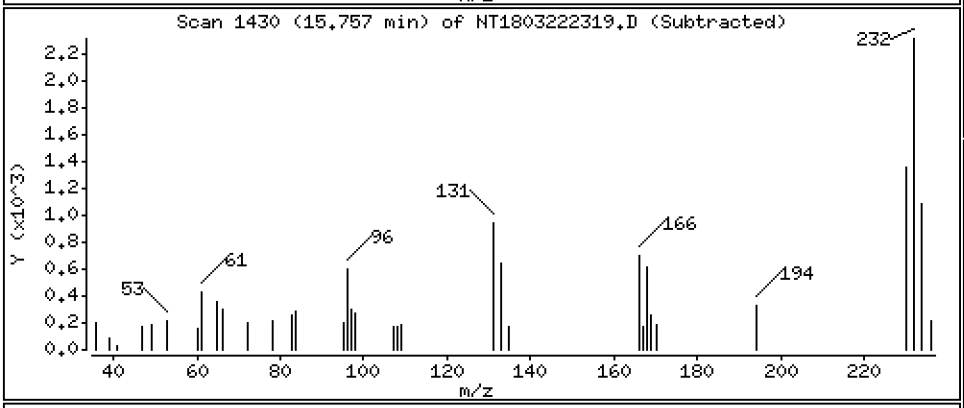
Column phase: ZB-5msi

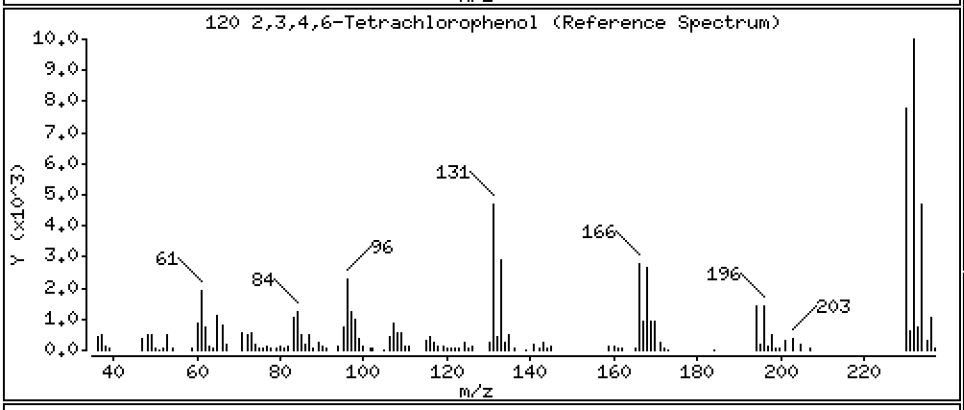
Column diameter: 0.25

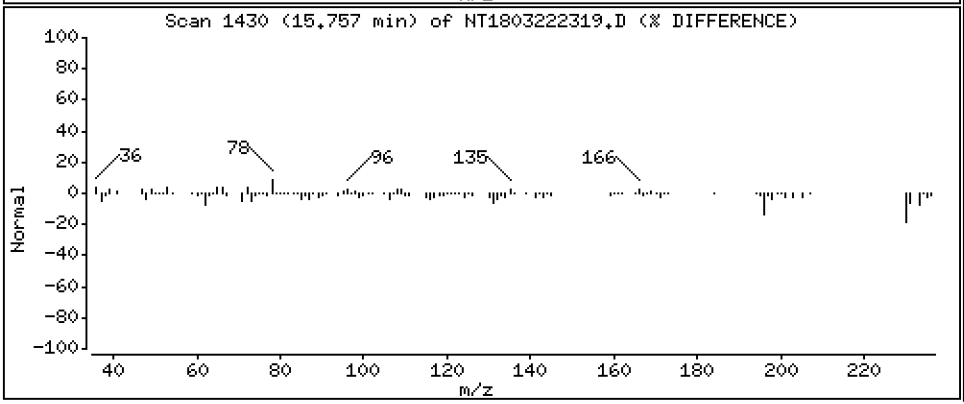
120 2,3,4,6-Tetrachlorophenol

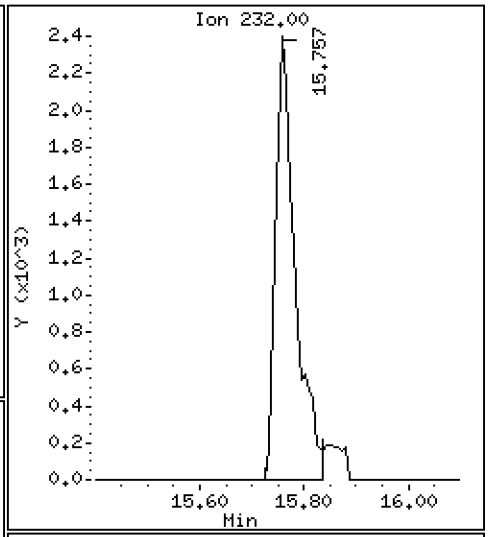
Concentration: 0.1069 ug/mL

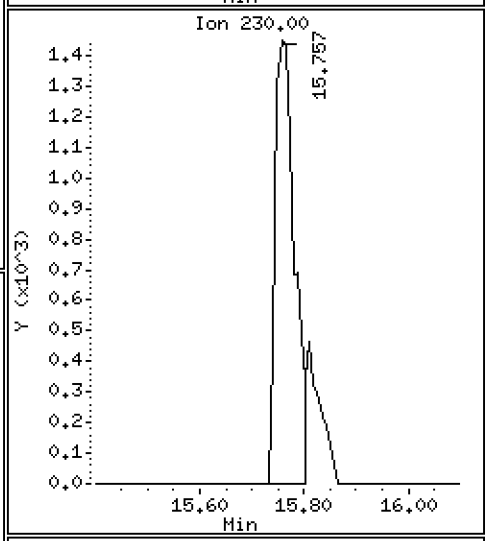


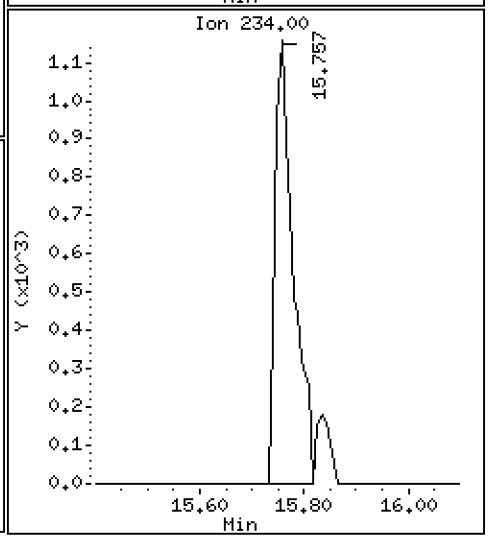












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt18.i\20230322A.b\NT1803222319.D
Lab Smp Id: SLD0056-LCV1
Inj Date : 23-MAR-2023 05:25
Operator : VTS Inst ID: nt18.i
Smp Info : SLD0056-LCV1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt18.i\20230322A.b\ABN.m
Meth Date : 04-Apr-2023 16:12 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 15:18 Cal File: NT1803192302.D
Als bottle: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: DEENAY-201905

							CONCENTRATIONS	
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.781	6.781	(0.755)	22751	0.26830	0.2683
$	2 Phenol-d5	99	8.341	8.349	(0.929)	27796	0.26534	0.2653
	3 Phenol	94	8.365	8.372	(0.931)	19514	0.17421	0.1742
$	5 2-Chlorophenol-d4	132	8.619	8.619	(0.960)	24768	0.27276	0.2728
	4 Bis(2-Chloroethyl)ether	93	8.527	8.534	(0.949)	14546	0.18763	0.1876
	6 2-Chlorophenol	128	8.650	8.650	(0.963)	17752	0.18534	0.1853
	7 1,3-Dichlorobenzene	146	8.913	8.913	(0.992)	19952	0.19620	0.1962
*	8 1,4-Dichlorobenzene-d4	152	8.983	8.983	(1.000)	275063	4.00000	
	9 1,4-Dichlorobenzene	146	9.006	9.014	(1.003)	19999	0.19651	0.1965
$	10 1,2-Dichlorobenzene-d4	152	9.332	9.332	(1.039)	13298	0.19958	0.1996
	12 1,2-Dichlorobenzene	146	9.363	9.363	(1.042)	19303	0.19248	0.1925
	11 Benzyl alcohol	108	9.255	9.247	(1.030)	7157	0.13693	0.1369
	14 2,2'-oxybis(1-Chloropropane)	121	9.550	9.550	(1.063)	4864	0.20599	0.2060(M)
	13 2-Methylphenol	108	9.472	9.472	(1.054)	15527	0.18263	0.1826
	17 Hexachloroethane	117	9.946	9.945	(1.107)	6202	0.15563	0.1556
	16 N-Nitroso-di-n-propylamine	70	9.798	9.806	(1.091)	11301	0.18665	0.1867
	15 4-Methylphenol	108	9.736	9.736	(1.084)	15321	0.17354	0.1735
$	18 Nitrobenzene-d5	82	10.062	10.062	(0.880)	16081	0.19324	0.1932
	19 Nitrobenzene	77	10.093	10.093	(0.882)	14933	0.18253	0.1825
	20 Isophorone	82	10.535	10.543	(0.921)	19908	0.17820	0.1782
	21 2-Nitrophenol	139	10.719	10.719	(0.937)	7484	0.15543	0.1554
	22 2,4-Dimethylphenol	107	10.778	10.778	(0.942)	29568	0.35951	0.3595
	23 Bis(2-Chloroethoxy)methane	93	10.973	10.973	(0.959)	15384	0.19052	0.1905
	24 Benzoic acid	105	10.931	11.007	(0.956)	1480	0.02552	0.02552
	25 2,4-Dichlorophenol	162	11.177	11.169	(0.977)	25079	0.33130	0.3313
	26 1,2,4-Trichlorobenzene	180	11.355	11.355	(0.993)	15556	0.19602	0.1960
*	27 Naphthalene-d8	136	11.440	11.439	(1.000)	1009553	4.00000	
	28 Naphthalene	128	11.478	11.478	(1.003)	53925	0.19684	0.1968
	29 4-Chloroaniline	127	11.609	11.609	(1.015)	34190	0.32436	0.3244
	30 Hexachlorobutadiene	225	11.841	11.849	(1.035)	8839	0.19587	0.1959
	31 4-Chloro-3-methylphenol	107	12.576	12.561	(1.099)	21898	0.31410	0.3141
	32 2-Methylnaphthalene	142	12.863	12.863	(1.124)	34949	0.19589	0.1959(H)
	33 Hexachlorocyclopentadiene	237	13.327	13.327	(0.887)	615	0.01360	0.01360

		QUANT SIG					CONCENTRATIONS ON-COLUMN	CONCENTRATIONS FINAL
Compounds		MASS	RT	EXP RT	REL RT	RESPONSE	(ug/mL)	(ug/mL)
34	2,4,6-Trichlorophenol	196	13.490	13.482	(0.898)	14691	0.31419	0.3142
35	2,4,5-Trichlorophenol	196	13.575	13.551	(0.904)	16432	0.32150	0.3215
$ 36	2-Fluorobiphenyl	172	13.644	13.644	(0.908)	36677	0.19594	0.1959
37	2-Chloronaphthalene	162	13.846	13.846	(0.922)	29288	0.19613	0.1961
38	2-Nitroaniline	65	14.109	14.109	(0.939)	12750	0.32582	0.3258
39	Dimethylphthalate	163	14.542	14.542	(0.968)	27677	0.17769	0.1777
40	Acenaphthylene	152	14.713	14.712	(0.979)	46749	0.18384	0.1838
41	2,6-Dinitrotoluene	165	14.674	14.674	(0.977)	9531	0.27234	0.2723
* 42	Acenaphthene-d10	164	15.022	15.022	(1.000)	522716	4.00000	
43	3-Nitroaniline	138	14.960	14.952	(0.996)	10900	0.27388	0.2739
44	Acenaphthene	153	15.084	15.091	(1.004)	32545	0.20220	0.2022
45	2,4-Dinitrophenol	184	Compound Not Detected.					
46	Dibenzofuran	168	15.408	15.416	(1.026)	42708	0.19314	0.1931
47	4-Nitrophenol	109	15.370	15.269	(1.023)	1330	0.06304	0.06304
48	2,4-Dinitrotoluene	165	15.478	15.470	(1.030)	11929	0.25974	0.2597
50	Diethylphthalate	149	15.981	15.988	(1.064)	32255	0.20438	0.2044
49	Fluorene	166	16.120	16.120	(1.073)	39036	0.19448	0.1945
51	4-Chlorophenyl-phenylether	204	16.112	16.112	(1.073)	17737	0.19910	0.1991
52	4-Nitroaniline	138	16.228	16.212	(1.080)	11047	0.27871	0.2787
53	4,6-Dinitro-2-methylphenol	198	Compound Not Detected.					
54	N-Nitrosodiphenylamine	169	16.359	16.359	(0.907)	20370	0.17826	0.1783
$ 55	2,4,6-Tribromophenol	330	16.659	16.644	(1.109)	5126	0.22524	0.2252
56	4-Bromophenyl-phenylether	248	17.107	17.107	(0.949)	8411	0.18556	0.1856
57	Hexachlorobenzene	284	17.416	17.415	(0.966)	9412	0.18512	0.1851
58	Pentachlorophenol	266	17.803	17.772	(0.988)	518	0.01729	0.01729
* 59	Phenanthrene-d10	188	18.027	18.035	(1.000)	897066	4.00000	
60	Phenanthrene	178	18.073	18.081	(1.003)	47910	0.19565	0.1957
61	Anthracene	178	18.166	18.174	(1.008)	42391	0.18157	0.1816
62	Carbazole	167	18.507	18.499	(1.027)	39801	0.19359	0.1936
63	Di-n-butylphthalate	149	19.311	19.311	(1.071)	45270	0.16596	0.1660
64	Fluoranthene	202	20.456	20.456	(0.887)	48820	0.16485	0.1648
65	Pyrene	202	20.874	20.874	(0.906)	53571	0.17163	0.1716
$ 66	Terphenyl-d14	244	21.168	21.168	(0.918)	38555	0.16608	0.1661
67	Butylbenzylphthalate	149	22.090	22.090	(0.958)	20929	0.15501	0.1550
68	Benzo(a)anthracene	228	23.019	23.027	(0.999)	58190	0.20009	0.2001
* 69	Chrysene-d12	240	23.050	23.058	(1.000)	929348	4.00000	
70	3,3'-Dichlorobenzidine	252	22.988	22.988	(0.997)	48582	0.46346	0.4635
71	Chrysene	228	23.089	23.096	(1.002)	60151	0.20009	0.2001
72	bis(2-Ethylhexyl)phthalate	149	23.120	23.119	(0.960)	29454	0.14310	0.1431
* 134	Di-n-octylphthalate-d4	153	24.087	24.087	(1.000)	1399366	4.00000	
73	Di-n-octylphthalate	149	24.095	24.095	(1.000)	66148	0.19213	0.1921
74	Benzo(b)fluoranthene	252	24.838	24.846	(0.972)	53763	0.22875	0.2287
75	Benzo(k)fluoranthene	252	24.877	24.885	(0.973)	55378	0.21422	0.2142
76	Benzo(a)pyrene	252	25.450	25.458	(0.995)	43735	0.18617	0.1862
* 77	Perylene-d12	264	25.566	25.566	(1.000)	844268	4.00000	
78	Indeno(1,2,3-cd)pyrene	276	28.071	28.055	(1.098)	17190	0.05868	0.05868(M)
79	Dibenzo(a,h)anthracene	278	28.086	28.071	(1.099)	12975	0.05373	0.05373
80	Benzo(g,h,i)perylene	276	28.793	28.785	(1.126)	10608	0.04538	0.04538(M)
90	N-Nitrosodimethylamine	74	4.695	4.695	(0.523)	20482	0.39070	0.3907
91	Aniline	93	8.442	8.442	(0.940)	42865	0.35586	0.3559
93	Benzidine	184	20.704	20.688	(0.898)	25416	0.20182	0.2018
103	Pyridine	79	4.734	4.718	(0.527)	30847	0.35631	0.3563
105	1-methylnaphthalene	142	13.079	13.087	(1.143)	31852	0.19448	0.1945
111	Azobenzene (1,2-DP-Hydrazine)	77	16.436	16.436	(1.094)	31799	0.18387	0.1839

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187 Total Benzofluoranthenes	252	24.838	24.885	(0.972)	104608	0.44412	0.4441
120 2,3,4,6-Tetrachlorophenol	232	15.756	15.748	(1.049)	6117	0.10694	0.1069

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222319.D
Lab Smp Id: SLD0056-LCV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322A.b\ABN.m
Misc Info:

Calibration Date: 23-MAR-2023
Calibration Time: 04:05
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	278642	139321	557284	275063	-1.28
27 Naphthalene-d8	1051761	525881	2103522	1009553	-4.01
42 Acenaphthene-d10	539174	269587	1078348	522716	-3.05
59 Phenanthrene-d10	918099	459050	1836198	897066	-2.29
69 Chrysene-d12	992695	496348	1985390	929348	-6.38
134 Di-n-octylphthala	1524263	762132	3048526	1399366	-8.19
77 Perylene-d12	955797	477899	1911594	844268	-11.67

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	0.00
42 Acenaphthene-d10	15.02	14.52	15.52	15.02	0.00
59 Phenanthrene-d10	18.04	17.54	18.54	18.03	-0.04
69 Chrysene-d12	23.06	22.56	23.56	23.05	-0.03
134 Di-n-octylphthala	24.09	23.59	24.59	24.09	0.00
77 Perylene-d12	25.57	25.07	26.07	25.57	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222319.D

Lab ID: SLD0056-LCV1
nt18.i, ABN.m, 23-MAR-2023 05:25

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.956	0.962	-0.0067	Benzoic acid
1.023	1.016	0.0067	4-Nitrophenol

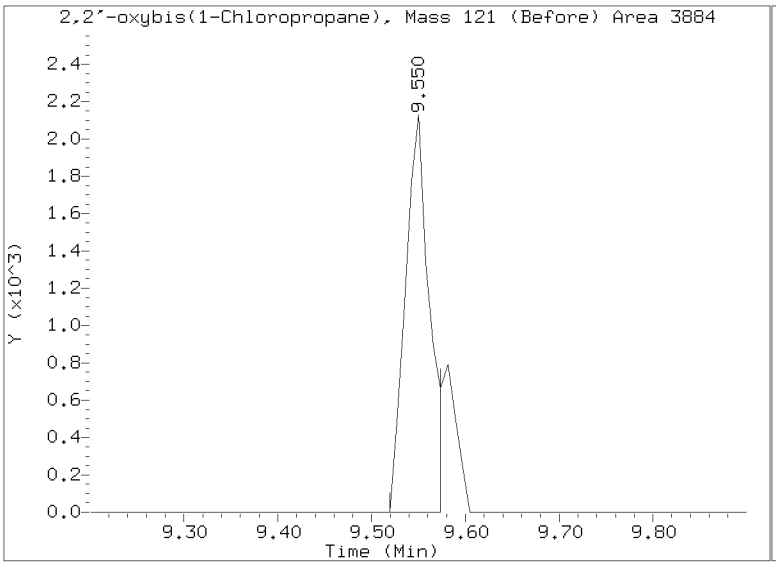
RRT check based on Ccal File: NT1803222317A.D

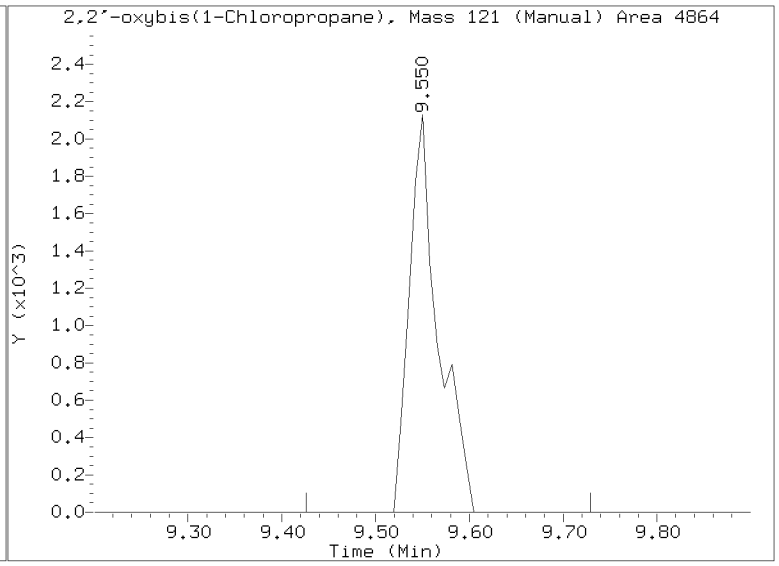
On Column LOD for nt18.i, ABN.m, ICAL.sub = 0.0000

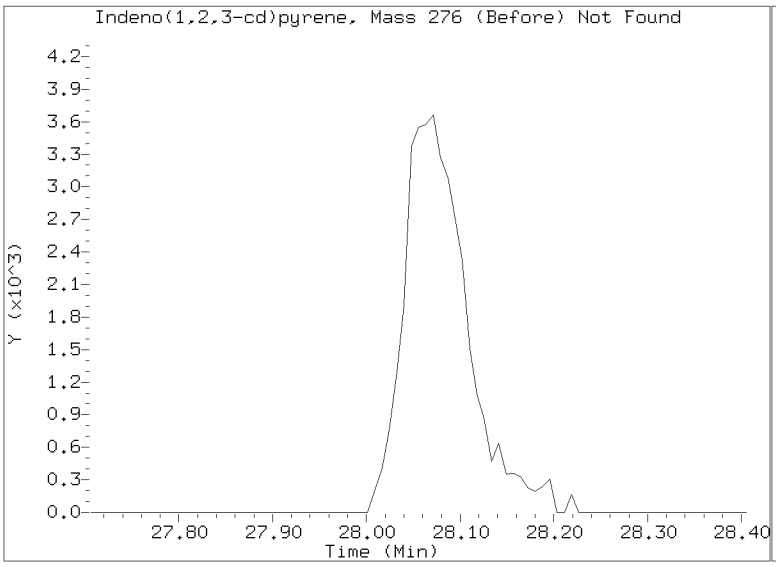
* Only compounds listed in the work order have been verified by the analyst *

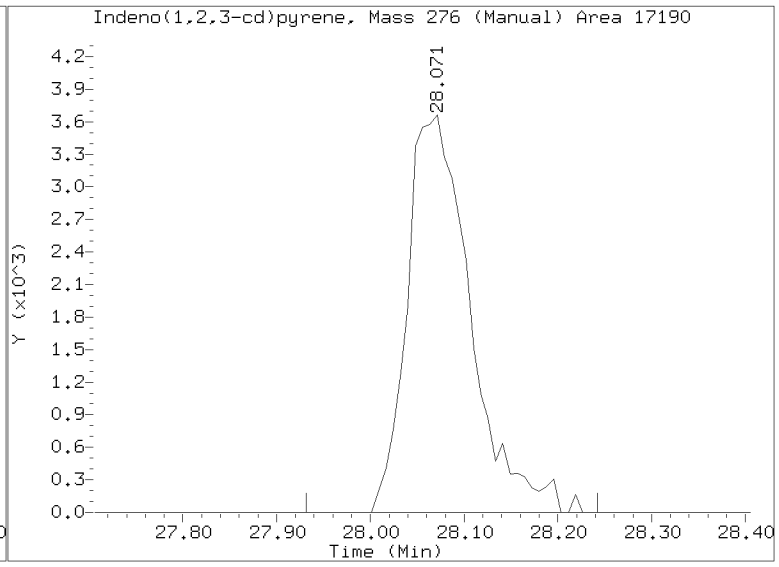
Quant Ion Manual Peak Adjustment Report

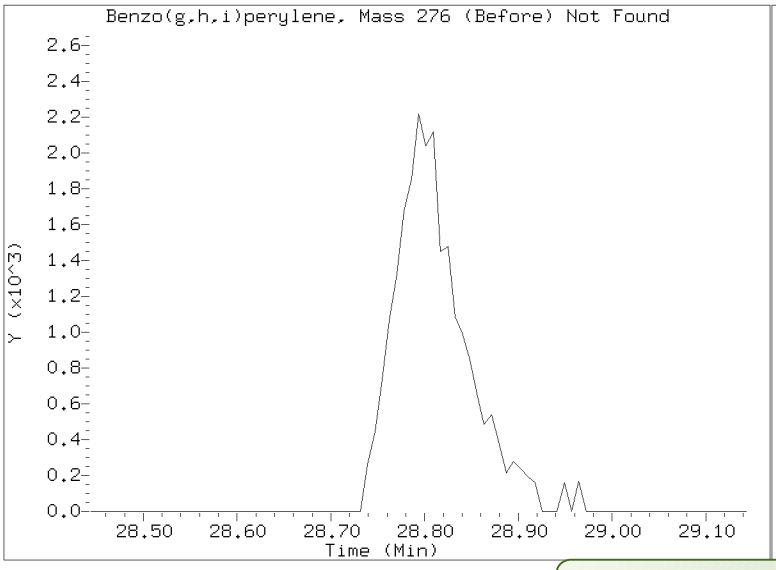
Datafile: //target/share/chem3/nt18.i/20230322A.b/NT1803222319.D
Injection Date: 23-MAR-2023 05:25
Lab ID:SLD0056-LCV1 Client ID:
Report Date: 04/05/2023 08:39

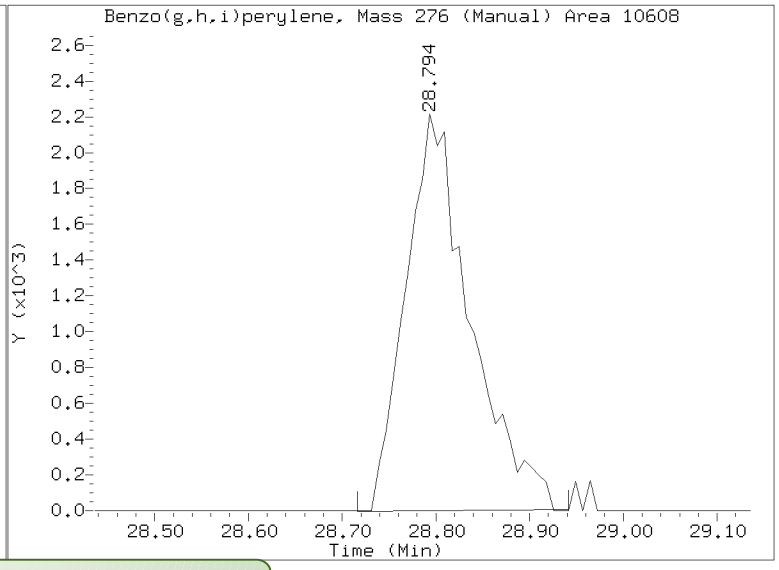












APPROVED
By Deenay Dunmore at 8:45 am, Apr 05, 2023

Analytical Resources, LLC
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0502	Instrument:	NT18
		Calibration:	GC00085

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SLC0502-TUN1	NT1803192301.D	NA	03/19/23 15:00
Cal Standard	SLC0502-CAL7	NT1803192302.D	NA	03/19/23 15:18
Cal Standard	SLC0502-CAL6	NT1803192303.D	NA	03/19/23 15:59
Cal Standard	SLC0502-CAL5	NT1803192304.D	NA	03/19/23 16:40
Cal Standard	SLC0502-CAL4	NT1803192305.D	NA	03/19/23 17:21
Cal Standard	SLC0502-CAL3	NT1803192306.D	NA	03/19/23 18:02
Cal Standard	SLC0502-CAL2	NT1803192307.D	NA	03/19/23 18:43
Cal Standard	SLC0502-CAL1	NT1803192308.D	NA	03/19/23 19:24
SCV 5.0	SLC0502-SCV1	NT1803192311.D	NA	03/19/23 21:26
Initial Cal Blank	SLC0502-ICB1	NT1803192312.D	NA	03/19/23 22:06

Analytical Resources, LLC
Analytical Chemists and Consultants

ANALYSIS SEQUENCE

SLC0502

Instrument: NT18
Calibration ID: GC00085

Printed: 3/30/2023 5:18:32PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SLC0502-TUN1	QC		1		L002618			
SLC0502-CAL1	QC		2		K011105	K010831		
SLC0502-CAL2	QC		3		K011106	K010831		
SLC0502-CAL3	QC		4		K011107	K010831		
SLC0502-CAL4	QC		5		K011108	K010831		
SLC0502-CAL5	QC		6		K011109	K010831		
SLC0502-CAL6	QC		7		K011110	K010831		
SLC0502-CAL7	QC		8		K011111	K010831		
SLC0502-SCV1	QC		9		K010066	K010831		
SLC0502-ICB1	QC		10		K005156	K010831		

Samples Loaded By Date

Data Processed By Date

Security Status Report

Date: 30-Mar-2023 17:48

NT1803192301.D	Data Locked	yev, 30-
NT1803192302.D	Data Locked	yev, 30-
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NT1803192304.D	Data Locked	yev, 30-
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NT1803192308.D	Data Locked	yev, 30-
NT1803192311.D	Data Locked	yev, 30-
NT1803192312.D	Data Locked	yev, 30-

Analytical Resources, LLC
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLD0051	Instrument:	NT18
		Calibration:	GC00085

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SLD0051-TUN1	NT1803222301.D	NA	03/22/23 17:37
Initial Cal Check	SLD0051-ICV1	NT1803222302.D	NA	03/22/23 17:55
ABN 0.2	SLD0051-LCV1	NT1803222304.D	NA	03/22/23 19:17
Blank	BLC0185-BLK1	NT1803222306.D	Solid	03/22/23 20:39
LCS	BLC0185-BS1	NT1803222307.D	Solid	03/22/23 21:20
LCS Dup	BLC0185-BSD1	NT1803222308.D	Solid	03/22/23 22:01
MRL Check	BLC0185-MRL1	NT1803222309.D	Solid	03/22/23 22:42
Reference	BLC0185-SRM1	NT1803222310.D	Solid	03/22/23 23:22
LDW23-SC1044	23C0108-02	NT1803222311.D	Solid	03/23/23 00:03
LDW23-SS1106	23C0108-06	NT1803222312.D	Solid	03/23/23 00:44
LDW23-SS1107	23C0108-07	NT1803222313.D	Solid	03/23/23 01:24
LDW23-SS1111	23C0108-08	NT1803222314.D	Solid	03/23/23 02:04
LDW23-SS1111	BLC0185-MS1	NT1803222315.D	Solid	03/23/23 02:45
LDW23-SS1111	BLC0185-MSD1	NT1803222316.D	Solid	03/23/23 03:25
Calibration Check	SLD0051-CCV1	NT1803222317.D	NA	03/23/23 04:05

ANALYSIS SEQUENCE

SLD0051

Instrument ID: NT18
Calibration ID: GC00085
MS EM Level: 1247 EV

GCMS Description: Agilent 6890N/5975
GCMS Column ID: L001046

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Analyzed	File ID	Analyst	Comments
SLD0051-TUN1	MS Tune	QC		1	L002618		03/22/2023 17:37	NT1803222301.D	VTS	
SLD0051-ICV1	Initial Cal Check	QC		2	K011109	K010831	03/22/2023 17:55	NT1803222302.D	VTS	
SLD0051-LCV1	ABN 0.2	QC		3	K011105	K010831	03/22/2023 19:17	NT1803222304.D	VTS	
BLC0185-BLK1	Blank	QC		4		K010831	03/22/2023 20:39	NT1803222306.D	VTS	
BLC0185-BS1	LCS	QC		5		K010831	03/22/2023 21:20	NT1803222307.D	VTS	
BLC0185-BSD1	LCS Dup	QC		6		K010831	03/22/2023 22:01	NT1803222308.D	VTS	
BLC0185-SRM1	Reference	QC		7		K010831	03/22/2023 23:22	NT1803222310.D	VTS	
BLC0185-MRL1	MRL Check	QC		8		K010831	03/22/2023 22:42	NT1803222309.D	VTS	
23C0108-02	LDW23-SC1044	(20ug/kg solid or 0.2ug/L l	A 03	9		K010831	03/23/2023 00:03	NT1803222311.D	VTS	
23C0108-06	LDW23-SS1106	(20ug/kg solid or 0.2ug/L l	A 03	10		K010831	03/23/2023 00:44	NT1803222312.D	VTS	
23C0108-07	LDW23-SS1107	(20ug/kg solid or 0.2ug/L l	A 03	11		K010831	03/23/2023 01:24	NT1803222313.D	VTS	
23C0108-08	LDW23-SS1111	(20ug/kg solid or 0.2ug/L l	A 03	12		K010831	03/23/2023 02:04	NT1803222314.D	VTS	
BLC0185-MS1	Matrix Spike	QC		13		K010831	03/23/2023 02:45	NT1803222315.D	VTS	
BLC0185-MSD1	Matrix Spike Dup	QC		14		K010831	03/23/2023 03:25	NT1803222316.D	VTS	
SLD0051-CCV1	Calibration Check	QC		15	K011109	K010831	03/23/2023 04:05	NT1803222317.D	VTS	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt18.i\20230322.b

	Time	Filename	LabID	ClientId	DF																			
1	1755	NT1803222302.D	SLD0051-ICV1		1	8.98	259918	11.44	969410	15.02	510287	18.04	882628	23.05	800073	25.57	911909	24.09	1258607					
2	1917	NT1803222304.D	SLD0051-LCV1		1	8.98	258537	11.44	959211	15.02	509271	18.03	876764	23.05	787665	25.56	889586	24.09	1123312					
3	2039	NT1803222306.D	BLC0185-BLK1		1	8.98	289200	11.44	1060662	15.02	553126	18.03	969922	23.05	852333	25.56	829594	24.09	1228218					
4	2120	NT1803222307.D	BLC0185-BS1		1	8.98	284906	11.44	1061400	15.02	560400	18.03	960210	23.05	862376	25.57	860580	24.09	1341381					
5	2201	NT1803222308.D	BLC0185-BSD1		1	8.98	295955	11.44	1099905	15.02	574903	18.03	971818	23.05	871374	25.57	889056	24.09	1398974					
6	2242	NT1803222309.D	BLC0185-MRL1		1	8.98	289690	11.44	1057760	15.02	553979	18.03	966207	23.05	843726	25.56	847206	24.09	1262111					
7	2322	NT1803222310.D	BLC0185-SRM1		1	8.98	287034	11.44	1072936	15.02	558573	18.03	967277	23.05	868812	25.56	805833	24.09	1411928					
8	0003	NT1803222311.D	23C0108-02		1	8.98	308130	11.44	1112183	15.02	575384	18.04	1025705	23.06	1217989	25.58	1227944	24.10	1926684					
9	0044	NT1803222312.D	23C0108-06		1	8.98	312885	11.44	1128923	15.02	574393	18.03	982774	23.06	1157218	25.57	1224205	24.09	1868833					
10	0124	NT1803222313.D	23C0108-07		1	8.98	312257	11.44	1144594	15.02	582698	18.04	1001494	23.06	1137332	25.57	1197887	24.09	1839241					
11	0204	NT1803222314.D	23C0108-08		1	8.98	320245	11.44	1148656	15.02	591737	18.03	1007750	23.06	1152887	25.57	1209357	24.09	1849744					
12	0245	NT1803222315.D	BLC0185-MS1		1	8.98	312672	11.44	1172181	15.03	591672	18.04	1018421	23.06	1178408	25.58	1141589	24.10	1889509					
13	0325	NT1803222316.D	BLC0185-MSD1		1	8.98	318234	11.44	1170211	15.03	602597	18.04	1037040	23.06	1219578	25.58	1114575	24.10	1921269					
14	0405	NT1803222317.D	SLD0051-CCV1		1	8.98	278642	11.44	1051761	15.02	539174	18.04	918099	23.06	992695	25.57	955797	24.09	1524263					

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt18.i\20230322.b

ARI Job No.: SLD0 Method: DFTPP8270E.m Instrument: nt18.i Date: 22-MAR-2023

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1737	NT1803222301.D	SLD0051-TUN1		1	NO MANUAL INTEGRATION
1755	NT1803222302.D	SLD0051-ICV1		1	Benzo(g,h,i)perylene,
1836	NT1803222303.D	SEQ-ICVSIM		1	NO MANUAL INTEGRATION
1917	NT1803222304.D	SLD0051-LCV1		1	Benzo(g,h,i)perylene,
1958	NT1803222305.D	SEQ-LCV100		1	NO MANUAL INTEGRATION
2039	NT1803222306.D	BLC0185-BLK1		1	NO MANUAL INTEGRATION
2120	NT1803222307.D	BLC0185-BS1		1	Benzo(g,h,i)perylene,
2201	NT1803222308.D	BLC0185-BSD1		1	Benzo(g,h,i)perylene,
2242	NT1803222309.D	BLC0185-MRL1		1	Benzo(g,h,i)perylene,
2322	NT1803222310.D	BLC0185-SRM1		1	Benzo(g,h,i)perylene,
0003	NT1803222311.D	23C0108-02		1	Di-n-butylphthalate, Benzo(g,h,i)perylene,
0044	NT1803222312.D	23C0108-06		1	1,4-Dichlorobenzene, Benzo(g,h,i)perylene,
0124	NT1803222313.D	23C0108-07		1	Benzo(g,h,i)perylene,
0204	NT1803222314.D	23C0108-08		1	Dibenzo(a,h)anthracene, Benzo(g,h,i)perylene,
0245	NT1803222315.D	BLC0185-MS1		1	Benzo(g,h,i)perylene,
0325	NT1803222316.D	BLC0185-MSD1		1	Benzo(g,h,i)perylene,
0405	NT1803222317.D	SLD0051-CCV1		1	Benzo(g,h,i)perylene,

Security Status Report

Date: 04-Apr-2023 15:04

NT1803222301.D	Data Locked	deenayd, 04-
NT1803222302.D	Data Locked	deenayd, 04-
NT1803222303.D	Data Locked	deenayd, 04-
NT1803222304.D	Data Locked	deenayd, 04-
NT1803222305.D	Data Locked	deenayd, 04-
NT1803222306.D	Data Locked	deenayd, 04-
NT1803222307.D	Data Locked	deenayd, 04-
NT1803222308.D	Data Locked	deenayd, 04-
NT1803222309.D	Data Locked	deenayd, 04-
NT1803222310.D	Data Locked	deenayd, 04-
NT1803222311.D	Data Locked	deenayd, 04-
NT1803222312.D	Data Locked	deenayd, 04-
NT1803222313.D	Data Locked	deenayd, 04-
NT1803222314.D	Data Locked	deenayd, 04-
NT1803222315.D	Data Locked	deenayd, 04-
NT1803222316.D	Data Locked	deenayd, 04-
NT1803222317.D	Data Locked	deenayd, 04-

Analytical Resources, LLC
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLD0056	Instrument:	NT18
		Calibration:	GC00085

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SLD0056-TUN1	NT1803222301A.D	NA	03/22/23 17:37
Initial Cal Check	SLD0056-ICV1	NT1803222317A.D	NA	03/23/23 04:05
ABN 0.2	SLD0056-LCV1	NT1803222319.D	NA	03/23/23 05:25
Blank	BLC0185-BLK2	NT1803222321.D	Solid	03/23/23 06:46
LDW23-SS1118	23C0108-09	NT1803222322.D	Solid	03/23/23 07:26
ZZZZZ	23C0109-02	NT1803222323.D	Solid	03/23/23 08:06
ZZZZZ	23C0109-03	NT1803222324.D	Solid	03/23/23 08:46
Calibration Check	SLD0056-CCV1	NT1803222325.D	NA	03/23/23 09:27

ANALYSIS SEQUENCE

SLD0056

Instrument ID: NT18
Calibration ID: GC00085
MS EM Level: 1247 EV

GCMS Description: Agilent 6890N/5975
GCMS Column ID: L001046

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Analyzed	File ID	Analyst	Comments
SLD0056-TUN1	MS Tune	QC		1	L002618		03/22/2023 17:37	NT1803222301A.D	VTS	
SLD0056-ICV1	Initial Cal Check	QC		2	K011109	K010831	03/23/2023 04:05	NT1803222317A.D	VTS	
SLD0056-LCV1	ABN 0.2	QC		3	K011105	K010831	03/23/2023 05:25	NT1803222319.D	VTS	
BLC0185-BLK2	Blank	QC		4		K010831	03/23/2023 06:46	NT1803222321.D	VTS	
23C0108-09	LDW23-SS1118	(20ug/kg solid or 0.2ug/L l	A 03	5		K010831	03/23/2023 07:26	NT1803222322.D	VTS	
23C0109-02	LDW23-SS1104	(20ug/kg solid or 0.2ug/L l	A 03	6		K010831	03/23/2023 08:06	NT1803222323.D	VTS	
23C0109-03	LDW23-SS1105	(20ug/kg solid or 0.2ug/L l	A 03	7		K010831	03/23/2023 08:46	NT1803222324.D	VTS	
SLD0056-CCV1	Calibration Check	QC		8	K011109	K010831	03/23/2023 09:27	NT1803222325.D	VTS	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt18.i\20230322A.b

	Time	Filename	LabID	ClientId	DF																		
1	0405	NT1803222317A.D	SLD0056-CCV1		1	8.98	278642	11.44	1051761	15.02	539174	18.04	918099	23.06	992695	25.57	955797	24.09	1524263				
2	0525	NT1803222319.D	SLD0056-LCV1		1	8.98	275063	11.44	1009553	15.02	522716	18.03	897066	23.05	929348	25.57	844268	24.09	1399366				
3	0646	NT1803222321.D	BLC0185-BLK2		1	8.98	311248	11.44	1123692	15.02	580324	18.03	983190	23.05	1019052	25.57	855418	24.09	1511923				
4	0726	NT1803222322.D	23C0108-09		1	8.98	304379	11.44	1113487	15.02	582233	18.04	1017152	23.06	1154845	25.57	1050297	24.10	1885460				
5	0806	NT1803222323.D	23C0109-02		1	8.98	296443	11.44	1068543	15.02	565127	18.03	982890	23.05	1060125	25.57	896272	24.09	1757677				
6	0846	NT1803222324.D	23C0109-03		1	8.98	322769	11.44	1159203	15.02	600826	18.04	1020224	23.06	1137449	25.57	976657	24.09	1834385				
7	0927	NT1803222325.D	SLD0056-CCV1		1	8.98	288668	11.44	1072266	15.02	548891	18.04	934994	23.06	1020869	25.57	830516	24.09	1585554				
8	1007	NT1803222326.D	SEQ-CCVSIM		1	8.98	270100	11.44	998229	15.02	518104	18.03	891372	23.05	945566	25.57	714673	24.09	1468230				

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt18.i\20230322A.b

ARI Job No.: SLD0 Method: DFTPP8270E.m Instrument: nt18.i Date: 22-MAR-2023

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1737	NT1803222301A.D	SLD0056-TUN1		1	NO MANUAL INTEGRATION
0405	NT1803222317A.D	SLD0056-ICV1		1	2,2'-oxybis(1-Chloropropane), Benzo(g,h,i)perylene,
0445	NT1803222318.D	SEQ-ICVSIM		1	Benzo(g,h,i)perylene,
0525	NT1803222319.D	SLD0056-LCV1		1	2,2'-oxybis(1-Chloropropane), Indeno(1,2,3-cd)pyrene, Benzo(g,h,i)perylene,
0605	NT1803222320.D	SEQ-LCV100		1	3-Nitroaniline, Indeno(1,2,3-cd)pyrene, Dibenzo(a,h)anthracene, Benzo(g,h,i)perylene,
0646	NT1803222321.D	BLC0185-BLK2		1	NO MANUAL INTEGRATION
0726	NT1803222322.D	23C0108-09		1	Benzo(g,h,i)perylene,
0806	NT1803222323.D	23C0109-02		1	NO MANUAL INTEGRATION
0846	NT1803222324.D	23C0109-03		1	Benzo(g,h,i)perylene,
0927	NT1803222325.D	SLD0056-CCV1		1	2,2'-oxybis(1-Chloropropane), Benzo(g,h,i)perylene,
1007	NT1803222326.D	SEQ-CCVSIM		1	NO MANUAL INTEGRATION

Security Status Report

Date: 05-Apr-2023 09:08

NT1803222301A.D	Data Locked	deenayd, 05-
NT1803222317A.D	Data Locked	deenayd, 05-
NT1803222318.D	Data Locked	deenayd, 05-
NT1803222319.D	Data Locked	deenayd, 05-
NT1803222320.D	Data Locked	deenayd, 05-
NT1803222321.D	Data Locked	deenayd, 05-
NT1803222322.D	Data Locked	deenayd, 05-
NT1803222323.D	Data Locked	deenayd, 05-
NT1803222324.D	Data Locked	deenayd, 05-
NT1803222325.D	Data Locked	deenayd, 05-
NT1803222326.D	Data Locked	deenayd, 05-

SURROGATE RECOVERY AND RT SUMMARY
EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG/WO:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0502	Instrument:	NT18
Calibration:	GC00085	Calibration Date:	03/19/2023

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SLC0502-ICB1 (Water)			Lab File ID: NT1803192312.D			Analyzed: 03/19/23 22:06		
2-Fluorophenol	7.5000	100	27 - 120	6.788	6.790286	-0.0023	N/A	
Phenol-d5	7.5000	102	29 - 120	8.357	8.356714	0.0003	N/A	
2-Chlorophenol-d4	7.5000	98.7	31 - 120	8.627	8.632714	-0.0057	N/A	
1,2-Dichlorobenzene-d4	5.0000	95.5	32 - 120	9.348	9.351285	-0.0033	N/A	
Nitrobenzene-d5	5.0000	103	30 - 120	10.077	10.08057	-0.0036	N/A	
2-Fluorobiphenyl	5.0000	97.9	35 - 120	13.66	13.66214	-0.0021	N/A	
2,4,6-Tribromophenol	7.5000	76.9	24 - 134	16.667	16.671	-0.0040	N/A	
p-Terphenyl-d14	5.0000	105	37 - 120	21.191	21.18829	0.0027	N/A	

SURROGATE RECOVERY AND RT SUMMARY
EPA 8270E

Laboratory: Analytical Resources, LLC
SDG/WO: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLD0051
Instrument: NT18
Calibration: GC00085
Calibration Date: 03/19/2023

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SLD0051-ICV1 (Solid)			Lab File ID: NT1803222302.D			Analyzed: 03/22/23 17:55		
2-Fluorophenol	7.5000	99.2	80 - 120	6.773	6.790286	-0.0173	N/A	
Phenol-d5	7.5000	100	80 - 120	8.341	8.356714	-0.0157	N/A	
2-Chlorophenol-d4	7.5000	101	80 - 120	8.619	8.632714	-0.0137	N/A	
1,2-Dichlorobenzene-d4	5.0000	95.3	80 - 120	9.332	9.351285	-0.0193	N/A	
Nitrobenzene-d5	5.0000	105	80 - 120	10.062	10.08057	-0.0186	N/A	
2-Fluorobiphenyl	5.0000	98.4	80 - 120	13.644	13.66214	-0.0181	N/A	
2,4,6-Tribromophenol	7.5000	99.0	80 - 120	16.644	16.671	-0.0270	N/A	
p-Terphenyl-d14	5.0000	97.1	80 - 120	21.168	21.18829	-0.0203	N/A	
SLD0051-LCV1 (Solid)			Lab File ID: NT1803222304.D			Analyzed: 03/22/23 19:17		
2-Fluorophenol	0.30000	80.2	50 - 150	6.781	6.790286	-0.0093	N/A	
Phenol-d5	0.30000	84.6	50 - 150	8.341	8.356714	-0.0157	N/A	
2-Chlorophenol-d4	0.30000	83.4	50 - 150	8.619	8.632714	-0.0137	N/A	
1,2-Dichlorobenzene-d4	0.20000	97.1	50 - 150	9.332	9.351285	-0.0193	N/A	
Nitrobenzene-d5	0.20000	84.6	50 - 150	10.062	10.08057	-0.0186	N/A	
2-Fluorobiphenyl	0.20000	96.5	50 - 150	13.644	13.66214	-0.0181	N/A	
2,4,6-Tribromophenol	0.30000	43.1	50 - 150	16.644	16.671	-0.0270	N/A	*
p-Terphenyl-d14	0.20000	86.4	50 - 150	21.168	21.18829	-0.0203	N/A	
BLC0185-BLK1 (Solid)			Lab File ID: NT1803222306.D			Analyzed: 03/22/23 20:39		
2-Fluorophenol	750.00	76.2	27 - 120	6.788	6.790286	-0.0023	N/A	
Phenol-d5	750.00	84.5	29 - 120	8.341	8.356714	-0.0157	N/A	
2-Chlorophenol-d4	750.00	85.6	31 - 120	8.619	8.632714	-0.0137	N/A	
1,2-Dichlorobenzene-d4	500.00	83.9	32 - 120	9.332	9.351285	-0.0193	N/A	
Nitrobenzene-d5	500.00	95.3	30 - 120	10.054	10.08057	-0.0266	N/A	
2-Fluorobiphenyl	500.00	91.2	35 - 120	13.637	13.66214	-0.0251	N/A	
2,4,6-Tribromophenol	750.00	71.5	24 - 134	16.644	16.671	-0.0270	N/A	
p-Terphenyl-d14	500.00	100	37 - 120	21.168	21.18829	-0.0203	N/A	

SURROGATE RECOVERY AND RT SUMMARY
EPA 8270E

Laboratory: Analytical Resources, LLC
SDG/WO: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLD0051
Instrument: NT18
Calibration: GC00085
Calibration Date: 03/19/2023

Surrogate Compound	Spike Level ug/kg wet	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
BLC0185-BS1 (Solid)			Lab File ID: NT1803222307.D				Analyzed: 03/22/23 21:20	
2-Fluorophenol	750.00	78.9	27 - 120	6.781	6.790286	-0.0093	N/A	
Phenol-d5	750.00	84.2	29 - 120	8.341	8.356714	-0.0157	N/A	
2-Chlorophenol-d4	750.00	85.3	31 - 120	8.619	8.632714	-0.0137	N/A	
1,2-Dichlorobenzene-d4	500.00	79.4	32 - 120	9.332	9.351285	-0.0193	N/A	
Nitrobenzene-d5	500.00	89.4	30 - 120	10.062	10.08057	-0.0186	N/A	
2-Fluorobiphenyl	500.00	86.5	35 - 120	13.644	13.66214	-0.0181	N/A	
2,4,6-Tribromophenol	750.00	86.6	24 - 134	16.644	16.671	-0.0270	N/A	
p-Terphenyl-d14	500.00	88.6	37 - 120	21.168	21.18829	-0.0203	N/A	
BLC0185-BSD1 (Solid)			Lab File ID: NT1803222308.D				Analyzed: 03/22/23 22:01	
2-Fluorophenol	750.00	80.1	27 - 120	6.788	6.790286	-0.0023	N/A	
Phenol-d5	750.00	84.4	29 - 120	8.341	8.356714	-0.0157	N/A	
2-Chlorophenol-d4	750.00	85.5	31 - 120	8.619	8.632714	-0.0137	N/A	
1,2-Dichlorobenzene-d4	500.00	77.6	32 - 120	9.332	9.351285	-0.0193	N/A	
Nitrobenzene-d5	500.00	90.1	30 - 120	10.062	10.08057	-0.0186	N/A	
2-Fluorobiphenyl	500.00	85.7	35 - 120	13.644	13.66214	-0.0181	N/A	
2,4,6-Tribromophenol	750.00	88.8	24 - 134	16.644	16.671	-0.0270	N/A	
p-Terphenyl-d14	500.00	89.1	37 - 120	21.168	21.18829	-0.0203	N/A	
BLC0185-MRL1 (Solid)			Lab File ID: NT1803222309.D				Analyzed: 03/22/23 22:42	
2-Fluorophenol	750.00	69.6	27 - 120	6.788	6.790286	-0.0023	N/A	
Phenol-d5	750.00	78.6	29 - 120	8.341	8.356714	-0.0157	N/A	
2-Chlorophenol-d4	750.00	78.4	31 - 120	8.619	8.632714	-0.0137	N/A	
1,2-Dichlorobenzene-d4	500.00	76.7	32 - 120	9.332	9.351285	-0.0193	N/A	
Nitrobenzene-d5	500.00	89.2	30 - 120	10.054	10.08057	-0.0266	N/A	
2-Fluorobiphenyl	500.00	83.2	35 - 120	13.637	13.66214	-0.0251	N/A	
2,4,6-Tribromophenol	750.00	66.9	24 - 134	16.644	16.671	-0.0270	N/A	
p-Terphenyl-d14	500.00	91.7	37 - 120	21.168	21.18829	-0.0203	N/A	

SURROGATE RECOVERY AND RT SUMMARY
EPA 8270E

Laboratory: Analytical Resources, LLC
SDG/WO: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLD0051
Instrument: NT18
Calibration: GC00085
Calibration Date: 03/19/2023

Surrogate Compound	Spike Level ug/kg wet	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
BLC0185-SRM1 (Solid)			Lab File ID: NT1803222310.D			Analyzed: 03/22/23 23:22		
2-Fluorophenol	7500.0	82.0	27 - 120	6.788	6.790286	-0.0023	N/A	
Phenol-d5	7500.0	87.6	29 - 120	8.341	8.356714	-0.0157	N/A	
2-Chlorophenol-d4	7500.0	87.9	31 - 120	8.619	8.632714	-0.0137	N/A	
1,2-Dichlorobenzene-d4	5000.0	78.6	32 - 120	9.332	9.351285	-0.0193	N/A	
Nitrobenzene-d5	5000.0	92.1	30 - 120	10.054	10.08057	-0.0266	N/A	
2-Fluorobiphenyl	5000.0	86.0	35 - 120	13.644	13.66214	-0.0181	N/A	
2,4,6-Tribromophenol	7500.0	99.2	24 - 134	16.644	16.671	-0.0270	N/A	
p-Terphenyl-d14	5000.0	96.7	37 - 120	21.168	21.18829	-0.0203	N/A	
23C0108-02 (Solid)			Lab File ID: NT1803222311.D			Analyzed: 03/23/23 00:03		
2-Fluorophenol	750.04	81.2	27 - 120	6.788	6.790286	-0.0023	N/A	
Phenol-d5	750.04	84.1	29 - 120	8.349	8.356714	-0.0077	N/A	
2-Chlorophenol-d4	750.04	84.0	31 - 120	8.619	8.632714	-0.0137	N/A	
1,2-Dichlorobenzene-d4	500.02	76.2	32 - 120	9.332	9.351285	-0.0193	N/A	
Nitrobenzene-d5	500.02	90.0	30 - 120	10.054	10.08057	-0.0266	N/A	
2-Fluorobiphenyl	500.02	84.6	35 - 120	13.644	13.66214	-0.0181	N/A	
2,4,6-Tribromophenol	750.04	95.3	24 - 134	16.644	16.671	-0.0270	N/A	
p-Terphenyl-d14	500.02	76.7	37 - 120	21.168	21.18829	-0.0203	N/A	
23C0108-06 (Solid)			Lab File ID: NT1803222312.D			Analyzed: 03/23/23 00:44		
2-Fluorophenol	749.31	82.9	27 - 120	6.796	6.790286	0.0057	N/A	
Phenol-d5	749.31	86.8	29 - 120	8.349	8.356714	-0.0077	N/A	
2-Chlorophenol-d4	749.31	87.3	31 - 120	8.619	8.632714	-0.0137	N/A	
1,2-Dichlorobenzene-d4	499.54	76.8	32 - 120	9.332	9.351285	-0.0193	N/A	
Nitrobenzene-d5	499.54	94.1	30 - 120	10.054	10.08057	-0.0266	N/A	
2-Fluorobiphenyl	499.54	87.4	35 - 120	13.644	13.66214	-0.0181	N/A	
2,4,6-Tribromophenol	749.31	94.4	24 - 134	16.644	16.671	-0.0270	N/A	
p-Terphenyl-d14	499.54	79.0	37 - 120	21.168	21.18829	-0.0203	N/A	

SURROGATE RECOVERY AND RT SUMMARY
EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG/WO:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLD0051	Instrument:	NT18
Calibration:	GC00085	Calibration Date:	03/19/2023

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
23C0108-07 (Solid)			Lab File ID: NT1803222313.D			Analyzed: 03/23/23 01:24		
2-Fluorophenol	748.66	79.2	27 - 120	6.796	6.790286	0.0057	N/A	
Phenol-d5	748.66	82.0	29 - 120	8.349	8.356714	-0.0077	N/A	
2-Chlorophenol-d4	748.66	85.7	31 - 120	8.619	8.632714	-0.0137	N/A	
1,2-Dichlorobenzene-d4	499.11	75.5	32 - 120	9.332	9.351285	-0.0193	N/A	
Nitrobenzene-d5	499.11	91.0	30 - 120	10.062	10.08057	-0.0186	N/A	
2-Fluorobiphenyl	499.11	86.6	35 - 120	13.644	13.66214	-0.0181	N/A	
2,4,6-Tribromophenol	748.66	90.6	24 - 134	16.644	16.671	-0.0270	N/A	
p-Terphenyl-d14	499.11	81.4	37 - 120	21.168	21.18829	-0.0203	N/A	
23C0108-08 (Solid)			Lab File ID: NT1803222314.D			Analyzed: 03/23/23 02:04		
2-Fluorophenol	748.99	77.2	27 - 120	6.796	6.790286	0.0057	N/A	
Phenol-d5	748.99	80.5	29 - 120	8.349	8.356714	-0.0077	N/A	
2-Chlorophenol-d4	748.99	82.3	31 - 120	8.619	8.632714	-0.0137	N/A	
1,2-Dichlorobenzene-d4	499.33	73.2	32 - 120	9.332	9.351285	-0.0193	N/A	
Nitrobenzene-d5	499.33	89.9	30 - 120	10.054	10.08057	-0.0266	N/A	
2-Fluorobiphenyl	499.33	83.9	35 - 120	13.644	13.66214	-0.0181	N/A	
2,4,6-Tribromophenol	748.99	88.6	24 - 134	16.644	16.671	-0.0270	N/A	
p-Terphenyl-d14	499.33	76.5	37 - 120	21.168	21.18829	-0.0203	N/A	
BLC0185-MS1 (Solid)			Lab File ID: NT1803222315.D			Analyzed: 03/23/23 02:45		
2-Fluorophenol	748.99	78.9	27 - 120	6.796	6.790286	0.0057	N/A	
Phenol-d5	748.99	83.1	29 - 120	8.349	8.356714	-0.0077	N/A	
2-Chlorophenol-d4	748.99	85.7	31 - 120	8.619	8.632714	-0.0137	N/A	
1,2-Dichlorobenzene-d4	499.33	75.6	32 - 120	9.332	9.351285	-0.0193	N/A	
Nitrobenzene-d5	499.33	89.8	30 - 120	10.062	10.08057	-0.0186	N/A	
2-Fluorobiphenyl	499.33	86.5	35 - 120	13.644	13.66214	-0.0181	N/A	
2,4,6-Tribromophenol	748.99	96.1	24 - 134	16.652	16.671	-0.0190	N/A	
p-Terphenyl-d14	499.33	79.5	37 - 120	21.168	21.18829	-0.0203	N/A	

SURROGATE RECOVERY AND RT SUMMARY
EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG/WO:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLD0051	Instrument:	NT18
Calibration:	GC00085	Calibration Date:	03/19/2023

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
BLC0185-MSD1 (Solid)			Lab File ID: NT1803222316.D			Analyzed: 03/23/23 03:25		
2-Fluorophenol	748.99	79.9	27 - 120	6.796	6.790286	0.0057	N/A	
Phenol-d5	748.99	82.1	29 - 120	8.357	8.356714	0.0003	N/A	
2-Chlorophenol-d4	748.99	86.6	31 - 120	8.627	8.632714	-0.0057	N/A	
1,2-Dichlorobenzene-d4	499.33	76.4	32 - 120	9.34	9.351285	-0.0113	N/A	
Nitrobenzene-d5	499.33	92.1	30 - 120	10.062	10.08057	-0.0186	N/A	
2-Fluorobiphenyl	499.33	87.0	35 - 120	13.644	13.66214	-0.0181	N/A	
2,4,6-Tribromophenol	748.99	97.1	24 - 134	16.652	16.671	-0.0190	N/A	
p-Terphenyl-d14	499.33	81.4	37 - 120	21.168	21.18829	-0.0203	N/A	
SLD0051-CCV1 (Solid)			Lab File ID: NT1803222317.D			Analyzed: 03/23/23 04:05		
2-Fluorophenol	7.5000	103	50 - 150	6.781	6.790286	-0.0093	N/A	
Phenol-d5	7.5000	102	50 - 150	8.349	8.356714	-0.0077	N/A	
2-Chlorophenol-d4	7.5000	104	50 - 150	8.619	8.632714	-0.0137	N/A	
1,2-Dichlorobenzene-d4	5.0000	96.1	50 - 150	9.332	9.351285	-0.0193	N/A	
Nitrobenzene-d5	5.0000	109	50 - 150	10.062	10.08057	-0.0186	N/A	
2-Fluorobiphenyl	5.0000	99.5	50 - 150	13.644	13.66214	-0.0181	N/A	
2,4,6-Tribromophenol	7.5000	104	50 - 150	16.644	16.671	-0.0270	N/A	
p-Terphenyl-d14	5.0000	86.7	50 - 150	21.168	21.18829	-0.0203	N/A	

SURROGATE RECOVERY AND RT SUMMARY
EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG/WO:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLD0056	Instrument:	NT18
Calibration:	GC00085	Calibration Date:	03/19/2023

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SLD0056-ICV1 (Solid)			Lab File ID: NT1803222317A.D			Analyzed: 03/23/23 04:05		
2-Fluorophenol	7.5000	103	80 - 120	6.781	6.790286	-0.0093	N/A	
Phenol-d5	7.5000	102	80 - 120	8.349	8.356714	-0.0077	N/A	
2-Chlorophenol-d4	7.5000	104	80 - 120	8.619	8.632714	-0.0137	N/A	
1,2-Dichlorobenzene-d4	5.0000	96.1	80 - 120	9.332	9.351285	-0.0193	N/A	
Nitrobenzene-d5	5.0000	109	80 - 120	10.062	10.08057	-0.0186	N/A	
2-Fluorobiphenyl	5.0000	99.5	80 - 120	13.644	13.66214	-0.0181	N/A	
2,4,6-Tribromophenol	7.5000	104	80 - 120	16.644	16.671	-0.0270	N/A	
p-Terphenyl-d14	5.0000	86.7	80 - 120	21.168	21.18829	-0.0203	N/A	
SLD0056-LCV1 (Solid)			Lab File ID: NT1803222319.D			Analyzed: 03/23/23 05:25		
2-Fluorophenol	0.30000	89.4	50 - 150	6.781	6.790286	-0.0093	N/A	
Phenol-d5	0.30000	88.4	50 - 150	8.341	8.356714	-0.0157	N/A	
2-Chlorophenol-d4	0.30000	90.9	50 - 150	8.619	8.632714	-0.0137	N/A	
1,2-Dichlorobenzene-d4	0.20000	99.8	50 - 150	9.332	9.351285	-0.0193	N/A	
Nitrobenzene-d5	0.20000	96.6	50 - 150	10.062	10.08057	-0.0186	N/A	
2-Fluorobiphenyl	0.20000	98.0	50 - 150	13.644	13.66214	-0.0181	N/A	
2,4,6-Tribromophenol	0.30000	75.1	50 - 150	16.659	16.671	-0.0120	N/A	
p-Terphenyl-d14	0.20000	83.0	50 - 150	21.168	21.18829	-0.0203	N/A	
BLC0185-BLK2 (Solid)			Lab File ID: NT1803222321.D			Analyzed: 03/23/23 06:46		
2-Fluorophenol	750.00	76.6	27 - 120	6.788	6.790286	-0.0023	N/A	
Phenol-d5	750.00	82.1	29 - 120	8.341	8.356714	-0.0157	N/A	
2-Chlorophenol-d4	750.00	84.9	31 - 120	8.619	8.632714	-0.0137	N/A	
1,2-Dichlorobenzene-d4	500.00	84.7	32 - 120	9.332	9.351285	-0.0193	N/A	
Nitrobenzene-d5	500.00	98.8	30 - 120	10.054	10.08057	-0.0266	N/A	
2-Fluorobiphenyl	500.00	91.6	35 - 120	13.644	13.66214	-0.0181	N/A	
2,4,6-Tribromophenol	750.00	76.2	24 - 134	16.644	16.671	-0.0270	N/A	
p-Terphenyl-d14	500.00	90.7	37 - 120	21.168	21.18829	-0.0203	N/A	

SURROGATE RECOVERY AND RT SUMMARY
EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG/WO:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLD0056	Instrument:	NT18
Calibration:	GC00085	Calibration Date:	03/19/2023

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
23C0108-09 (Solid)			Lab File ID: NT1803222322.D			Analyzed: 03/23/23 07:26		
2-Fluorophenol	748.19	81.2	27 - 120	6.796	6.790286	0.0057	N/A	
Phenol-d5	748.19	83.6	29 - 120	8.349	8.356714	-0.0077	N/A	
2-Chlorophenol-d4	748.19	84.8	31 - 120	8.619	8.632714	-0.0137	N/A	
1,2-Dichlorobenzene-d4	498.79	76.3	32 - 120	9.332	9.351285	-0.0193	N/A	
Nitrobenzene-d5	498.79	91.8	30 - 120	10.062	10.08057	-0.0186	N/A	
2-Fluorobiphenyl	498.79	84.9	35 - 120	13.644	13.66214	-0.0181	N/A	
2,4,6-Tribromophenol	748.19	92.7	24 - 134	16.644	16.671	-0.0270	N/A	
p-Terphenyl-d14	498.79	81.4	37 - 120	21.168	21.18829	-0.0203	N/A	
SLD0056-CCV1 (Solid)			Lab File ID: NT1803222325.D			Analyzed: 03/23/23 09:27		
2-Fluorophenol	7.5000	101	50 - 150	6.781	6.790286	-0.0093	N/A	
Phenol-d5	7.5000	100	50 - 150	8.349	8.356714	-0.0077	N/A	
2-Chlorophenol-d4	7.5000	103	50 - 150	8.619	8.632714	-0.0137	N/A	
1,2-Dichlorobenzene-d4	5.0000	95.0	50 - 150	9.332	9.351285	-0.0193	N/A	
Nitrobenzene-d5	5.0000	109	50 - 150	10.062	10.08057	-0.0186	N/A	
2-Fluorobiphenyl	5.0000	99.3	50 - 150	13.644	13.66214	-0.0181	N/A	
2,4,6-Tribromophenol	7.5000	106	50 - 150	16.644	16.671	-0.0270	N/A	
p-Terphenyl-d14	5.0000	87.5	50 - 150	21.168	21.18829	-0.0203	N/A	

Analytical Resources, LLC
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0502	Instrument:	NT18
		Calibration:	GC00085

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (SLC0502-SCV1)		(Water)		Lab File ID: NT1803192311.D				Analyzed: 03/19/23 21:26	
1,4-Dichlorobenzene-d4	248847	8.998	249685	8.999	100	50 - 200	-0.001	+/-0.50	
Naphthalene-d8	941852	11.455	942385	11.455	100	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	508667	15.045	498398	15.045	102	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	854150	18.05	850721	18.05	100	50 - 200	0.000	+/-0.50	
Chrysene-d12	703971	23.073	695007	23.073	101	50 - 200	0.000	+/-0.50	
Di-n-Octylphthalate-d4	1052203	24.11	908791	24.11	116	50 - 200	0.000	+/-0.50	
Perylene-d12	796363	25.597	773685	25.597	103	50 - 200	0.000	+/-0.50	
Initial Cal Blank (SLC0502-ICB1)		(Water)		Lab File ID: NT1803192312.D				Analyzed: 03/19/23 22:06	
1,4-Dichlorobenzene-d4	248537	8.998	249685	8.999	100	50 - 200	-0.001	+/-0.50	
Naphthalene-d8	914912	11.455	942385	11.455	97	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	478452	15.045	498398	15.045	96	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	846112	18.05	850721	18.05	99	50 - 200	0.000	+/-0.50	
Chrysene-d12	676661	23.073	695007	23.073	97	50 - 200	0.000	+/-0.50	
Di-n-Octylphthalate-d4	797100	24.11	908791	24.11	88	50 - 200	0.000	+/-0.50	
Perylene-d12	739815	25.589	773685	25.597	96	50 - 200	-0.008	+/-0.50	

Analytical Resources, LLC
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLD0051	Instrument:	NT18
		Calibration:	GC00085

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SLD0051-ICV1)		(Solid)	Lab File ID: NT1803222302.D				Analyzed: 03/22/23 17:55		
1,4-Dichlorobenzene-d4	259918	8.983	259918	8.983	100	50 - 200	0.000	+/-0.50	
Naphthalene-d8	969410	11.439	969410	11.439	100	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	510287	15.022	510287	15.022	100	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	882628	18.035	882628	18.035	100	50 - 200	0.000	+/-0.50	
Chrysene-d12	800073	23.05	800073	23.05	100	50 - 200	0.000	+/-0.50	
Di-n-Octylphthalate-d4	1258607	24.087	1258607	24.087	100	50 - 200	0.000	+/-0.50	
Perylene-d12	911909	25.566	911909	25.566	100	50 - 200	0.000	+/-0.50	
Low Cal Check (SLD0051-LCV1)		(Solid)	Lab File ID: NT1803222304.D				Analyzed: 03/22/23 19:17		
1,4-Dichlorobenzene-d4	258537	8.983	259918	8.983	99	50 - 200	0.000	+/-0.50	
Naphthalene-d8	959211	11.44	969410	11.439	99	50 - 200	0.001	+/-0.50	
Acenaphthene-d10	509271	15.022	510287	15.022	100	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	876764	18.027	882628	18.035	99	50 - 200	-0.008	+/-0.50	
Chrysene-d12	787665	23.05	800073	23.05	98	50 - 200	0.000	+/-0.50	
Di-n-Octylphthalate-d4	1123312	24.087	1258607	24.087	89	50 - 200	0.000	+/-0.50	
Perylene-d12	889586	25.558	911909	25.566	98	50 - 200	-0.008	+/-0.50	
Blank (BLC0185-BLK1)		(Solid)	Lab File ID: NT1803222306.D				Analyzed: 03/22/23 20:39		
1,4-Dichlorobenzene-d4	289200	8.975	259918	8.983	111	50 - 200	-0.008	+/-0.50	
Naphthalene-d8	1060662	11.439	969410	11.439	109	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	553126	15.022	510287	15.022	108	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	969922	18.027	882628	18.035	110	50 - 200	-0.008	+/-0.50	
Chrysene-d12	852333	23.05	800073	23.05	107	50 - 200	0.000	+/-0.50	
Di-n-Octylphthalate-d4	1228218	24.087	1258607	24.087	98	50 - 200	0.000	+/-0.50	
Perylene-d12	829594	25.558	911909	25.566	91	50 - 200	-0.008	+/-0.50	
LCS (BLC0185-BS1)		(Solid)	Lab File ID: NT1803222307.D				Analyzed: 03/22/23 21:20		
1,4-Dichlorobenzene-d4	284906	8.983	259918	8.983	110	50 - 200	0.000	+/-0.50	
Naphthalene-d8	1061400	11.439	969410	11.439	109	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	560400	15.022	510287	15.022	110	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	960210	18.027	882628	18.035	109	50 - 200	-0.008	+/-0.50	
Chrysene-d12	862376	23.05	800073	23.05	108	50 - 200	0.000	+/-0.50	
Di-n-Octylphthalate-d4	1341381	24.087	1258607	24.087	107	50 - 200	0.000	+/-0.50	
Perylene-d12	860580	25.566	911909	25.566	94	50 - 200	0.000	+/-0.50	

Analytical Resources, LLC
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLD0051	Instrument:	NT18
		Calibration:	GC00085

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS Dup (BLC0185-BSD1)		(Solid)		Lab File ID: NT1803222308.D				Analyzed: 03/22/23 22:01	
1,4-Dichlorobenzene-d4	295955	8.975	259918	8.983	114	50 - 200	-0.008	+/-0.50	
Naphthalene-d8	1099905	11.439	969410	11.439	113	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	574903	15.022	510287	15.022	113	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	971818	18.027	882628	18.035	110	50 - 200	-0.008	+/-0.50	
Chrysene-d12	871374	23.05	800073	23.05	109	50 - 200	0.000	+/-0.50	
Di-n-Octylphthalate-d4	1398974	24.087	1258607	24.087	111	50 - 200	0.000	+/-0.50	
Perylene-d12	889056	25.566	911909	25.566	97	50 - 200	0.000	+/-0.50	
MRL Check (BLC0185-MRL1)		(Solid)		Lab File ID: NT1803222309.D				Analyzed: 03/22/23 22:42	
1,4-Dichlorobenzene-d4	289690	8.975	259918	8.983	111	50 - 200	-0.008	+/-0.50	
Naphthalene-d8	1057760	11.439	969410	11.439	109	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	553979	15.022	510287	15.022	109	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	966207	18.027	882628	18.035	109	50 - 200	-0.008	+/-0.50	
Chrysene-d12	843726	23.05	800073	23.05	105	50 - 200	0.000	+/-0.50	
Di-n-Octylphthalate-d4	1262111	24.087	1258607	24.087	100	50 - 200	0.000	+/-0.50	
Perylene-d12	847206	25.558	911909	25.566	93	50 - 200	-0.008	+/-0.50	
Reference (BLC0185-SRM1)		(Solid)		Lab File ID: NT1803222310.D				Analyzed: 03/22/23 23:22	
1,4-Dichlorobenzene-d4	287034	8.975	259918	8.983	110	50 - 200	-0.008	+/-0.50	
Naphthalene-d8	1072936	11.44	969410	11.439	111	50 - 200	0.001	+/-0.50	
Acenaphthene-d10	558573	15.022	510287	15.022	109	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	967277	18.027	882628	18.035	110	50 - 200	-0.008	+/-0.50	
Chrysene-d12	868812	23.05	800073	23.05	109	50 - 200	0.000	+/-0.50	
Di-n-Octylphthalate-d4	1411928	24.087	1258607	24.087	112	50 - 200	0.000	+/-0.50	
Perylene-d12	805833	25.558	911909	25.566	88	50 - 200	-0.008	+/-0.50	
LDW23-SC1044 (23C0108-02)		(Solid)		Lab File ID: NT1803222311.D				Analyzed: 03/23/23 00:03	
1,4-Dichlorobenzene-d4	308130	8.975	259918	8.983	119	50 - 200	-0.008	+/-0.50	
Naphthalene-d8	1112183	11.44	969410	11.439	115	50 - 200	0.001	+/-0.50	
Acenaphthene-d10	575384	15.022	510287	15.022	113	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	1025705	18.035	882628	18.035	116	50 - 200	0.000	+/-0.50	
Chrysene-d12	1217989	23.058	800073	23.05	152	50 - 200	0.008	+/-0.50	
Di-n-Octylphthalate-d4	1926684	24.095	1258607	24.087	153	50 - 200	0.008	+/-0.50	
Perylene-d12	1227944	25.582	911909	25.566	135	50 - 200	0.016	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270E

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Sequence: SLD0051

SDG: 23C0108
Project: AOC5 MR Phase 1
Instrument: NT18
Calibration: GC00085

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LDW23-SS1106 (23C0108-06)		(Solid)	Lab File ID: NT1803222312.D				Analyzed: 03/23/23 00:44		
1,4-Dichlorobenzene-d4	312885	8.975	259918	8.983	120	50 - 200	-0.008	+/-0.50	
Naphthalene-d8	1128923	11.44	969410	11.439	116	50 - 200	0.001	+/-0.50	
Acenaphthene-d10	574393	15.022	510287	15.022	113	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	982774	18.027	882628	18.035	111	50 - 200	-0.008	+/-0.50	
Chrysene-d12	1157218	23.058	800073	23.05	145	50 - 200	0.008	+/-0.50	
Di-n-Octylphthalate-d4	1868833	24.087	1258607	24.087	148	50 - 200	0.000	+/-0.50	
Perylene-d12	1224205	25.574	911909	25.566	134	50 - 200	0.008	+/-0.50	
LDW23-SS1107 (23C0108-07)		(Solid)	Lab File ID: NT1803222313.D				Analyzed: 03/23/23 01:24		
1,4-Dichlorobenzene-d4	312257	8.983	259918	8.983	120	50 - 200	0.000	+/-0.50	
Naphthalene-d8	1144594	11.44	969410	11.439	118	50 - 200	0.001	+/-0.50	
Acenaphthene-d10	582698	15.022	510287	15.022	114	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	1001494	18.035	882628	18.035	113	50 - 200	0.000	+/-0.50	
Chrysene-d12	1137332	23.058	800073	23.05	142	50 - 200	0.008	+/-0.50	
Di-n-Octylphthalate-d4	1839241	24.087	1258607	24.087	146	50 - 200	0.000	+/-0.50	
Perylene-d12	1197887	25.574	911909	25.566	131	50 - 200	0.008	+/-0.50	
LDW23-SS1111 (23C0108-08)		(Solid)	Lab File ID: NT1803222314.D				Analyzed: 03/23/23 02:04		
1,4-Dichlorobenzene-d4	320245	8.983	259918	8.983	123	50 - 200	0.000	+/-0.50	
Naphthalene-d8	1148656	11.44	969410	11.439	118	50 - 200	0.001	+/-0.50	
Acenaphthene-d10	591737	15.022	510287	15.022	116	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	1007750	18.027	882628	18.035	114	50 - 200	-0.008	+/-0.50	
Chrysene-d12	1152887	23.058	800073	23.05	144	50 - 200	0.008	+/-0.50	
Di-n-Octylphthalate-d4	1849744	24.087	1258607	24.087	147	50 - 200	0.000	+/-0.50	
Perylene-d12	1209357	25.574	911909	25.566	133	50 - 200	0.008	+/-0.50	
Matrix Spike (BLC0185-MS1)		(Solid)	Lab File ID: NT1803222315.D				Analyzed: 03/23/23 02:45		
1,4-Dichlorobenzene-d4	312672	8.983	259918	8.983	120	50 - 200	0.000	+/-0.50	
Naphthalene-d8	1172181	11.439	969410	11.439	121	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	591672	15.03	510287	15.022	116	50 - 200	0.008	+/-0.50	
Phenanthrene-d10	1018421	18.035	882628	18.035	115	50 - 200	0.000	+/-0.50	
Chrysene-d12	1178408	23.058	800073	23.05	147	50 - 200	0.008	+/-0.50	
Di-n-Octylphthalate-d4	1889509	24.095	1258607	24.087	150	50 - 200	0.008	+/-0.50	
Perylene-d12	1141589	25.581	911909	25.566	125	50 - 200	0.015	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270E

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLD0051
Instrument: NT18
Calibration: GC00085

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Matrix Spike Dup (BLC0185-MSD1)		(Solid)		Lab File ID: NT1803222316.D				Analyzed: 03/23/23 03:25	
1,4-Dichlorobenzene-d4	318234	8.983	259918	8.983	122	50 - 200	0.000	+/-0.50	
Naphthalene-d8	1170211	11.439	969410	11.439	121	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	602597	15.029	510287	15.022	118	50 - 200	0.007	+/-0.50	
Phenanthrene-d10	1037040	18.035	882628	18.035	117	50 - 200	0.000	+/-0.50	
Chrysene-d12	1219578	23.058	800073	23.05	152	50 - 200	0.008	+/-0.50	
Di-n-Octylphthalate-d4	1921269	24.095	1258607	24.087	153	50 - 200	0.008	+/-0.50	
Perylene-d12	1114575	25.581	911909	25.566	122	50 - 200	0.015	+/-0.50	

Analytical Resources, LLC
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270E

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLD0056	Instrument:	NT18
		Calibration:	GC00085

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SLD0056-ICV1)		(Solid)	Lab File ID: NT1803222317A.D				Analyzed: 03/23/23 04:05		
1,4-Dichlorobenzene-d4	278642	8.983	278642	8.983	100	50 - 200	0.000	+/-0.50	
Naphthalene-d8	1051761	11.439	1051761	11.439	100	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	539174	15.022	539174	15.022	100	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	918099	18.035	918099	18.035	100	50 - 200	0.000	+/-0.50	
Chrysene-d12	992695	23.058	992695	23.058	100	50 - 200	0.000	+/-0.50	
Di-n-Octylphthalate-d4	1524263	24.087	1524263	24.087	100	50 - 200	0.000	+/-0.50	
Perylene-d12	955797	25.566	955797	25.566	100	50 - 200	0.000	+/-0.50	
Low Cal Check (SLD0056-LCV1)		(Solid)	Lab File ID: NT1803222319.D				Analyzed: 03/23/23 05:25		
1,4-Dichlorobenzene-d4	275063	8.983	278642	8.983	99	50 - 200	0.000	+/-0.50	
Naphthalene-d8	1009553	11.44	1051761	11.439	96	50 - 200	0.001	+/-0.50	
Acenaphthene-d10	522716	15.022	539174	15.022	97	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	897066	18.027	918099	18.035	98	50 - 200	-0.008	+/-0.50	
Chrysene-d12	929348	23.05	992695	23.058	94	50 - 200	-0.008	+/-0.50	
Di-n-Octylphthalate-d4	1399366	24.087	1524263	24.087	92	50 - 200	0.000	+/-0.50	
Perylene-d12	844268	25.566	955797	25.566	88	50 - 200	0.000	+/-0.50	
Blank (BLC0185-BLK2)		(Solid)	Lab File ID: NT1803222321.D				Analyzed: 03/23/23 06:46		
1,4-Dichlorobenzene-d4	311248	8.975	278642	8.983	112	50 - 200	-0.008	+/-0.50	
Naphthalene-d8	1123692	11.439	1051761	11.439	107	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	580324	15.022	539174	15.022	108	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	983190	18.027	918099	18.035	107	50 - 200	-0.008	+/-0.50	
Chrysene-d12	1019052	23.05	992695	23.058	103	50 - 200	-0.008	+/-0.50	
Di-n-Octylphthalate-d4	1511923	24.087	1524263	24.087	99	50 - 200	0.000	+/-0.50	
Perylene-d12	855418	25.566	955797	25.566	89	50 - 200	0.000	+/-0.50	
LDW23-SS1118 (23C0108-09)		(Solid)	Lab File ID: NT1803222322.D				Analyzed: 03/23/23 07:26		
1,4-Dichlorobenzene-d4	304379	8.975	278642	8.983	109	50 - 200	-0.008	+/-0.50	
Naphthalene-d8	1113487	11.439	1051761	11.439	106	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	582233	15.022	539174	15.022	108	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	1017152	18.035	918099	18.035	111	50 - 200	0.000	+/-0.50	
Chrysene-d12	1154845	23.058	992695	23.058	116	50 - 200	0.000	+/-0.50	
Di-n-Octylphthalate-d4	1885460	24.095	1524263	24.087	124	50 - 200	0.008	+/-0.50	
Perylene-d12	1050297	25.574	955797	25.566	110	50 - 200	0.008	+/-0.50	

HOLDING TIME SUMMARY

Analysis: EPA 8270E

Laboratory: Analytical Resources, LLC SDG: 23C0108

Client: Anchor QEA, LLC Project: AOC5 MR Phase 1

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW23-SC1044 23C0108-02	03/02/23 15:06	03/03/23 16:35	03/09/23 13:26	6	365	03/23/23 00:03	13	40	
LDW23-SS1106 23C0108-06	03/03/23 10:00	03/03/23 16:35	03/09/23 13:26	6	365	03/23/23 00:44	13	40	
LDW23-SS1107 23C0108-07	03/03/23 10:21	03/03/23 16:35	03/09/23 13:26	6	365	03/23/23 01:24	13	40	
LDW23-SS1111 23C0108-08	03/03/23 10:36	03/03/23 16:35	03/09/23 13:26	6	365	03/23/23 02:04	14	40	
LDW23-SS1118 23C0108-09	03/03/23 11:25	03/03/23 16:35	03/09/23 13:26	6	365	03/23/23 07:26	14	40	
Matrix Spike BLC0185-MS1	03/03/23 10:36	03/03/23 16:35	03/09/23 13:26	6	365	03/23/23 02:45	14	40	
Matrix Spike Dup BLC0185-MSD1	03/03/23 10:36	03/03/23 16:35	03/09/23 13:26	6	365	03/23/23 03:25	14	40	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

EPA 8270E

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Instrument: NT18

Analyte	MDL	RL	Units
Phenol	4.4	20.0	ug/kg
4-Methylphenol	7.4	20.0	ug/kg
Naphthalene	4.2	20.0	ug/kg
2-Methylnaphthalene	4.5	20.0	ug/kg
Acenaphthylene	6.2	20.0	ug/kg
Dimethylphthalate	4.4	20.0	ug/kg
Acenaphthene	5.2	20.0	ug/kg
Dibenzofuran	14.1	20.0	ug/kg
Fluorene	14.6	20.0	ug/kg
Phenanthrene	8.7	20.0	ug/kg
Anthracene	7.2	20.0	ug/kg
Fluoranthene	6.1	20.0	ug/kg
Pyrene	5.7	20.0	ug/kg
Butylbenzylphthalate	9.4	20.0	ug/kg
Benzo(a)anthracene	6.0	20.0	ug/kg
Chrysene	6.1	20.0	ug/kg
bis(2-Ethylhexyl)phthalate	5.5	50.0	ug/kg
Benzofluoranthenes, Total	10.0	40.0	ug/kg
Benzo(a)pyrene	4.2	20.0	ug/kg
Indeno(1,2,3-cd)pyrene	14.7	20.0	ug/kg
Dibenzo(a,h)anthracene	17.2	20.0	ug/kg
Benzo(g,h,i)perylene	13.6	20.0	ug/kg

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: NA

Chemical: Tributyl Phosphate

Manufacturer: Chemservice

Product #: O-916

Lot #: 59-57A

Purity: 99%

Analyst: VB

Element: B000954

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B001873

Printed: 9/23/2013 11:47:03AM

Description:	SVOC 4,4 DDT	Expires:	31-Dec-29
Standard Type:	Calibration Stan	Prepared:	23-Sep-13
Solvent:	N/A	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	23-Sep-13 11:46 by JZ
Vendor:	Chem Service	Lot #:	198-128A
Vendor Catalog #:			

Comments

Neat, Purity @ 99.2%. (ARI#: 790A)

Analyte	CAS Number	Concentration	Units
4,4'-DDT	50-29-3	1000000	ug/mL

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: _____

Chemical: 4,4' DDT

Manufacturer: Chem Service

Product #: _____

Lot #: 198-128A

Purity: 99.2%

Analyst: AB

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B001875

Printed: 9/23/2013 12:13:55PM

Description:	SVOC alpha-Terpineol	Expires:	31-Dec-29
Standard Type:	Calibration Stan	Prepared:	31-Dec-12
Solvent:	N/A	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	23-Sep-13 12:13 by JZ
Vendor:	ACROS Organics	Lot #:	AD16481201
Vendor Catalog #:			

Comments

Neat, Purity @ 98%. (ARI#: I1582A)

Analyte	CAS Number	Concentration	Units
alpha-Terpineol	98-55-5	1000000	ug/mL

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer:_____

Chemical: alpha-Terpineol

Manufacturer: Acros Organics

Product #: _____

Lot #: A0648170 1

Purity: 98%

Analyst: [signature]

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B001885

Printed: 9/23/2013 3:45:57PM

Description:	SVOA Dibutyl Phenyl phosphate	Expires:	31-Dec-29
Standard Type:	Calibration Stan	Prepared:	31-Dec-12
Solvent:	NA	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	23-Sep-13 15:45 by JZ
Vendor:	Monsanto	Lot #:	N/A
Vendor Catalog #:			

Comments

Neat, Purity @ 98.9%.

Analyte	CAS Number	Concentration	Units
Dibutyl Phenyl Phosphate	2528-36-1	1000000	ug/mL

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer:_____

Chemical: Dibutyl Phenyl Phosphate

Manufacturer: Monsanto

Product #: N/A

Lot #: N/A

Purity: 98.9%

Analyst: [signature]

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B001886

Printed: 9/23/2013 3:59:35PM

Description:	SVOC Triphenyl Phosphate	Expires:	31-Dec-29
Standard Type:	Calibration Stan	Prepared:	31-Dec-12
Solvent:	NA	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	23-Sep-13 15:59 by JZ
Vendor:	Aldrich	Lot #:	04902CM
Vendor Catalog #:			

Comments

Neat, Purity @ 99%.

Analyte	CAS Number	Concentration	Units
Triphenyl Phosphate	115-86-6	1000000	ug/mL

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer:_____

Chemical: Triphenyl Phosphate

Manufacturer: Aldrich

Product #: _____

Lot #: 04907CM

Purity: 99%

Analyst: [signature]

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B001887

Printed: 9/23/2013 4:18:55PM

Description:	SVOC Butylated Hydroxytoluene	Expires:	31-Dec-29
Standard Type:	Calibration Stan	Prepared:	31-Dec-12
Solvent:	NA	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	23-Sep-13 16:18 by JZ
Vendor:	SIGMA	Lot #:	39F-0197
Vendor Catalog #:			

Comments

neat,Purity @ 99.9%.

Analyte	CAS Number	Concentration	Units
Butylated Hydroxytoluene	128-37-0	1000000	ug/mL

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: _____

Chemical: Butylated Hydroxytoluene

Manufacturer: Sigma

Product #: _____

Lot #: 39F-0197

Purity: 99.8%

Analyst: AR

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B001890

Printed: 9/23/2013 5:02:53PM

Description:	SVOC Butyl Diphenyl Phosphate	Expires:	31-Dec-29
Standard Type:	Calibration Stan	Prepared:	31-Dec-12
Solvent:	NA	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	23-Sep-13 17:02 by JZ
Vendor:	Monsanto	Lot #:	N/A
Vendor Catalog #:			

Comments

Neat, Purity @ 98%.

Analyte	CAS Number	Concentration	Units
Butyl Diphenyl Phosphate	2752-95-6	1000000	ug/mL

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: _____

Chemical: Butyl Diphenyl Phosphate

Manufacturer: Monsanto

Product #: NA

Lot #: NA

Purity: 98%

Analyst: [signature]

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B001941

Printed: 9/25/2013 1:45:31PM

Description:	SVOC 2,4-Dinitrophenol	Expires:	31-Dec-29
Standard Type:	Calibration Stan	Prepared:	25-Sep-13
Solvent:	NA	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	25-Sep-13 13:45 by JZ
Vendor:	SIGMA	Lot #:	65H5021
Vendor Catalog #:			

Comments

Neat, Purity @ 90-95%. (ARI#: 0466)

Analyte	CAS Number	Concentration	Units
2,4-Dinitrophenol	51-28-5	1000000	ug/mL

B001941
SVOA 2,4-Dinitrophenol
Expires 12/31/2029
Prepared By Jianqing Zhou 9/25/2013

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer:_____

Chemical: 2,4-Dinitrophenol

Manufacturer: Sigma

Product #: _____

Lot #: bEH 502 1

Purity: 90 ~ 94%

Analyst: _____

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B001945

Printed: 9/25/2013 3:23:22PM

Description:	SVOC Benzoic Acid	Expires:	31-Dec-29
Standard Type:	Calibration Stan	Prepared:	31-Dec-12
Solvent:	NA	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	25-Sep-13 15:23 by JZ
Vendor:	ACROS Organics	Lot #:	A0224339
Vendor Catalog #:			

Comments

Neat, Purity @ 98%.

Analyte	CAS Number	Concentration	Units
Benzoic acid	65-85-0	1000000	ug/mL

B001945
SVOC Benzoic Acid
Expires 12/31/2029
Prepared By Jianqing Zhou 12/31/2012

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer:_____

Chemical: Benzoic Acid

Manufacturer: Acros Organics

Product #: _____

Lot #: A0214339

Purity: 98%

Analyst: _____

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B001948

Printed: 9/25/2013 3:37:51PM

Description:	SVOC 4,6-Dinitro-2-Methylphenol	Expires:	31-Dec-29
Standard Type:	Calibration Stan	Prepared:	25-Sep-13
Solvent:	NA	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	25-Sep-13 15:37 by JZ
Vendor:	Chem Service	Lot #:	179-31A
Vendor Catalog #:			

Comments

Neat, Purity @ 99%. (ARI#: 009A)

Analyte	CAS Number	Concentration	Units
4,6-Dinitro-2-methylphenol	534-52-1	1000000	ug/mL

B001948
SVOA 4,6-Dinitro-2-Methylphenol
Expires 12/31/2029
Prepared By Jianqing Zhou 9/25/2013

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: _____

Chemical: 4,6-Dinitro-2-Methylphenol

Manufacturer: Chem Service

Product #: _____

Lot #: 179-31A

Purity: 99%

Analyst: KB

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B002054

Printed: 10/4/2013 6:32:21PM

Description:	SVOA 1-Methylnaphthalene	Expires:	02-Apr-14
Standard Type:	Analyte Spike	Prepared:	13-Dec-12
Solvent:	NA	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	04-Oct-13 18:32 by JZ
Vendor:	Chem Service	Lot #:	62-5B
Vendor Catalog #:			

Comments

Neat, Purity @ 99%

Analyte	CAS Number	Concentration	Units
1-Methylnaphthalene	90-12-0	1000000	ug/mL

B002054
SVOA 1-Methylnaphthalene
Solvent / Lot: NA
Prep: 12/13/2012 by JZ
Exp: 12/31/2029
Location:

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer:_____

Chemical: 1-Methyl naphthalene

Manufacturer: Chem Service

Product #: 0787

Lot #: 67-53

Purity: 99%

Analyst: AZ

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B002135

Printed: 10/15/2013 12:07:39PM

Description:	SVOA Benzidine	Expires:	31-Dec-29
Standard Type:	Analyte Spike	Prepared:	15-Oct-13
Solvent:	N/A	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	15-Oct-13 12:07 by JZ
Vendor:	SIGMA	Lot #:	18C0024
Vendor Catalog #:			

Comments

Purity @ 95%. ARI#: 0467.

Analyte	CAS Number	Concentration	Units
Benzidine	92-87-5	1000000	ug/mL

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer:_____

Chemical: Benzidine

Manufacturer: Sigma

Product #: B-3503

Lot #: 18C0024

Purity: 98%

Analyst: [signature]

Certificate of Analysis

Product Name:	1,2,4,5-Tetrachlorobenzene
Product Description:	98%
Product Brand:	Sigma-Aldrich
Product Number:	131857
Molecular Weight:	215.89
CAS Number:	95-94-3

TEST	SPECIFICATION	LOT 19309JR RESULTS
APPEARANCE	WHITE POWDER, CHIPS OR CRYSTALS	WHITE CHIPS
INFRARED SPECTRUM	CONFORMS TO STRUCTURE.	CONFORMS TO STRUCTURE AND STANDARD AS
** **		ILLUSTRATED ON PAGE 1011C OF EDITION I,
** **		VOLUME 1 OF "THE ALDRICH LIBRARY OF FT-IR
** **		SPECTRA".
GAS LIQUID	97.5% (MINIMUM)	99.9 %
QUALITY CONTROL		JULY 1997

Barbara Rajzer, Supervisor
Quality Control
Milwaukee, Wisconsin USA

F009172
SVOC 1,2,4,5-Tetrachlorobenzene
Expires 12/31/2079
Prepared By Joshua Rains 10/6/2017

H000691

Data File: \\target\share\chem2\fid4a.i\20230317.b\423C1703.D

Page 1

Date : 17-MAR-2023 10:46

Client ID:

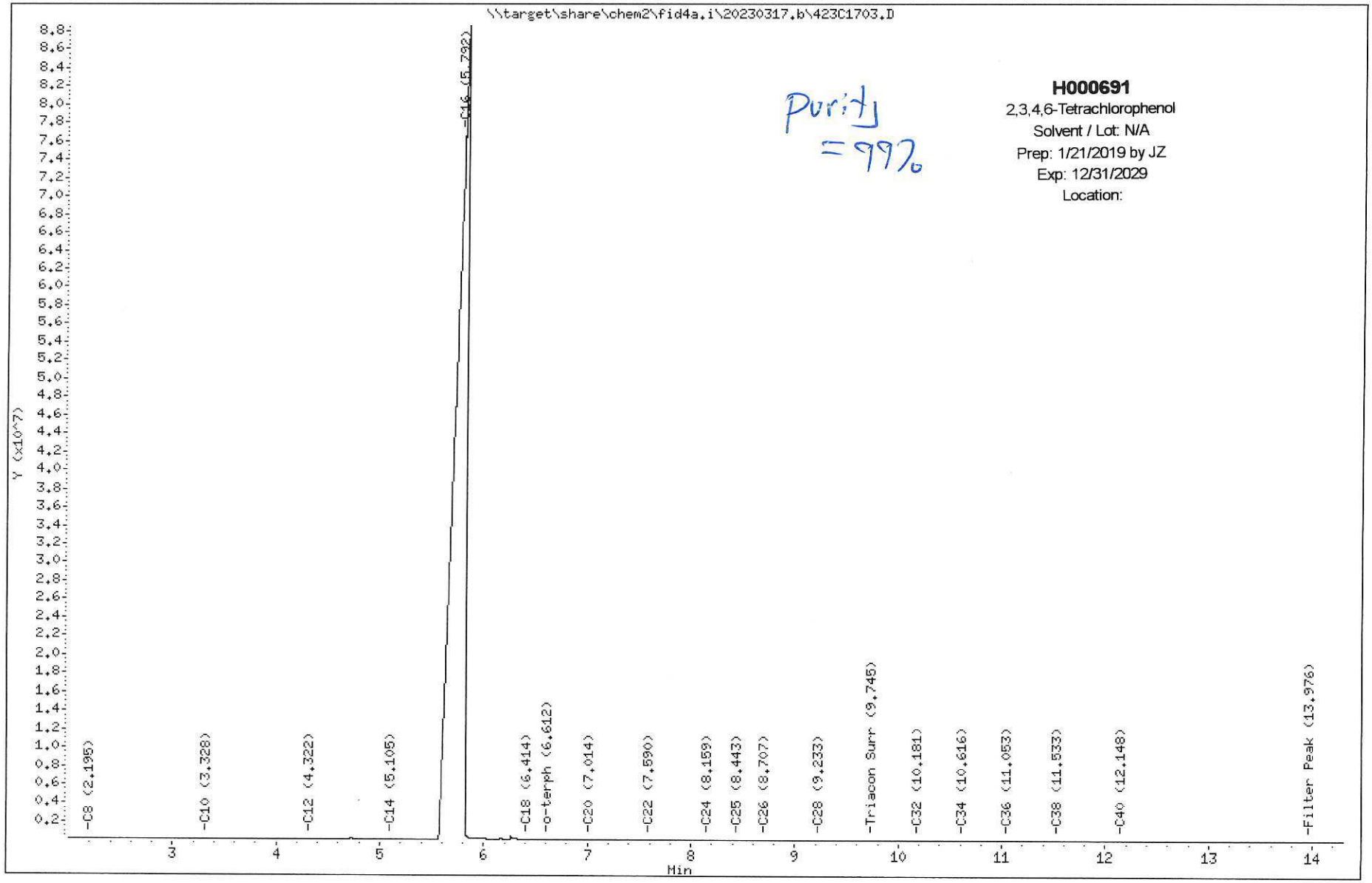
Instrument: fid4a.i

Sample Info: K007226

Operator: AA

Column phase: RTX-1

Column diameter: 0.25



Purity = 99%

H000691
2,3,4,6-Tetrachlorophenol
Solvent / Lot: N/A
Prep: 1/21/2019 by JZ
Exp: 12/31/2029
Location:

ARI Labs, Inc.

Data file : \\target\share\chem2\fid4a.i\20230317.b\423C1703.D
Lab Smp Id: K007226
Inj Date : 17-MAR-2023 10:46
Operator : AA   Inst ID: fid4a.i
Smp Info : K007226
Misc Info :
Comment   :
Method   : \\target\share\chem2\fid4a.i\20230317.b\FID4TPH.m
Meth Date : 17-Mar-2023 16:58 alfonso   Quant Type: AREA%
Cal Date : 18-AUG-2022 11:51   Cal File: 422H1803.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: Falcon+   Compound Sublist: tph.sub
Target Version: 4.14
Processing Host: ALFONSO-201901

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable   Local Compound Variable

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
2.043	81395	55677	0.684	0.012	1 Toluene
2.074	68503	39991	0.584	0.010	
2.104	85451	37158	0.435	0.012	
2.146	59381	25207	0.424	0.008	
2.181	11414	22862	2.003	0.001	
2.195	34939	23199	0.664	0.005	2 C8
2.218	8679	21808	2.513	0.001	
2.224	21070	21832	1.036	0.003	
2.243	45086	20191	0.448	0.006	
2.286	3130	15677	5.009	0.000	
2.291	12615	15880	1.259	0.001	
2.313	20979	15888	0.757	0.003	
2.333	7621	15373	2.017	0.001	
2.348	31874	17112	0.537	0.004	
2.373	4619	13267	2.872	0.000	
2.380	12003	13446	1.120	0.001	
2.393	10327	13347	1.292	0.001	
2.408	9963	12697	1.274	0.001	
2.446	24366	11882	0.488	0.003	
2.498	24898	10214	0.410	0.003	
2.557	1592	6395	4.017	0.000	
2.570	4427	6384	1.442	0.000	
2.583	4275	6215	1.454	0.000	
2.595	1208	6068	5.024	0.000	
2.602	3076	6230	2.025	0.000	
2.607	1560	6270	4.019	0.000	
2.631	17195	8933	0.520	0.002	
2.654	17386	7637	0.439	0.002	
2.703	4531	5468	1.207	0.000	
2.717	9156	5741	0.627	0.001	
2.740	3955	5045	1.275	0.000	

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
2.768	1029	4134	4.017	0.000	
2.771	830	4189	5.050	0.000	
2.778	1924	4438	2.307	0.000	
2.784	5498	4564	0.830	0.000	
2.846	25970	8400	0.323	0.003	
2.880	939	3165	3.370	0.000	
2.884	1885	3183	1.688	0.000	
2.901	4805	3504	0.729	0.000	
2.938	581	1990	3.423	0.000	
2.944	1450	2016	1.390	0.000	
2.955	449	1816	4.043	0.000	
2.967	1234	2009	1.629	0.000	
2.982	712	2087	2.931	0.000	
2.988	1000	2338	2.337	0.000	
3.001	3475	3541	1.019	0.000	
3.018	3528	3705	1.050	0.000	
3.033	983	2521	2.564	0.000	
3.038	1297	2686	2.070	0.000	
3.044	2547	2541	0.997	0.000	
3.069	389	1330	3.418	0.000	
3.078	728	1545	2.123	0.000	
3.085	1244	1637	1.316	0.000	
3.098	1115	1624	1.457	0.000	
3.108	926	1475	1.593	0.000	
3.119	239	1202	5.036	0.000	
3.125	540	1251	2.315	0.000	
3.133	409	1219	2.978	0.000	
3.144	2600	1886	0.725	0.000	
3.165	620	1604	2.588	0.000	
3.173	554	1647	2.972	0.000	
3.192	2423	2273	0.938	0.000	
3.197	582	2418	4.158	0.000	
3.204	1161	2723	2.346	0.000	
3.208	825	2777	3.364	0.000	
3.228	4472	3391	0.758	0.000	
3.246	1586	2676	1.688	0.000	
3.279	1194	2070	1.734	0.000	
3.293	854	1951	2.285	0.000	
3.298	595	2029	3.408	0.000	
3.315	2640	2597	0.984	0.000	
3.320	1015	2542	2.504	0.000	
3.328	1549	2593	1.674	0.000	3 C10
3.338	1314	2533	1.928	0.000	
3.350	523	2159	4.130	0.000	
3.358	1776	2105	1.185	0.000	
3.371	356	1797	5.043	0.000	
3.378	914	1880	2.057	0.000	
3.383	380	1927	5.068	0.000	
3.387	595	2023	3.399	0.000	
3.395	1390	2270	1.633	0.000	
3.405	1490	1994	1.338	0.000	
3.423	690	1601	2.321	0.000	
3.435	821	1554	1.894	0.000	
3.441	387	1583	4.087	0.000	
3.444	401	1625	4.051	0.000	
3.448	403	1636	4.060	0.000	
3.455	1216	1700	1.398	0.000	

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
3.478	235	1185	5.047	0.000	
3.482	412	1229	2.986	0.000	
3.488	695	1177	1.694	0.000	
3.501	239	969	4.063	0.000	
3.509	914	1149	1.258	0.000	
3.520	1078	1069	0.992	0.000	
3.540	301	927	3.079	0.000	
3.556	406	849	2.089	0.000	
3.567	370	873	2.359	0.000	
3.572	178	939	5.270	0.000	
3.578	591	1171	1.981	0.000	
3.591	869	1353	1.556	0.000	
3.596	741	1352	1.826	0.000	
3.606	471	1401	2.976	0.000	
3.613	548	1411	2.577	0.000	
3.618	433	1521	3.511	0.000	
3.625	710	1635	2.303	0.000	
3.630	910	1667	1.832	0.000	
3.652	661	1562	2.362	0.000	
3.670	462	1214	2.627	0.000	
3.686	1036	1453	1.403	0.000	
3.690	829	1374	1.658	0.000	
3.702	531	1191	2.241	0.000	
3.712	452	1355	3.001	0.000	
3.716	820	1423	1.736	0.000	
3.736	2685	2093	0.780	0.000	
3.752	689	2030	2.946	0.000	
3.760	4109	2349	0.572	0.000	
3.805	3183	2036	0.640	0.000	
3.823	496	1686	3.401	0.000	
3.835	1641	2314	1.410	0.000	
3.859	9243	4616	0.499	0.001	
3.897	851	1745	2.051	0.000	
3.904	503	1721	3.419	0.000	
3.927	3866	3293	0.852	0.000	
3.941	5520	3558	0.645	0.000	
3.980	573	1715	2.991	0.000	
3.992	1027	1794	1.748	0.000	
3.995	1494	1860	1.245	0.000	
4.010	887	1639	1.847	0.000	
4.021	663	1724	2.602	0.000	
4.026	1380	1776	1.287	0.000	
4.045	306	1546	5.059	0.000	
4.053	1001	1758	1.757	0.000	
4.061	1137	1804	1.586	0.000	
4.072	779	1773	2.275	0.000	
4.080	989	1896	1.917	0.000	
4.087	561	1905	3.396	0.000	
4.098	1956	2156	1.103	0.000	
4.106	1168	2044	1.750	0.000	
4.127	1049	1627	1.551	0.000	
4.142	587	1545	2.633	0.000	
4.148	1155	1572	1.361	0.000	
4.173	3682	2398	0.651	0.000	
4.189	1023	1738	1.700	0.000	
4.204	549	1627	2.961	0.000	
4.213	628	1658	2.641	0.000	

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
4.221	1039	1830	1.761	0.000	
4.227	447	1814	4.058	0.000	
4.248	2703	2638	0.976	0.000	
4.256	1387	2945	2.123	0.000	
4.260	743	2988	4.022	0.000	
4.265	912	3081	3.378	0.000	
4.268	779	3140	4.031	0.000	
4.275	1736	3217	1.853	0.000	
4.289	2688	3495	1.300	0.000	
4.295	3466	3448	0.995	0.000	
4.322	1054	2680	2.543	0.000	4 C12
4.330	1686	2627	1.558	0.000	
4.358	1066	1974	1.852	0.000	
4.378	434	1758	4.054	0.000	
4.384	1324	1879	1.419	0.000	
4.403	860	1608	1.869	0.000	
4.414	457	1567	3.431	0.000	
4.421	1117	1675	1.499	0.000	
4.433	910	1538	1.690	0.000	
4.439	865	1534	1.774	0.000	
4.449	764	1302	1.705	0.000	
4.471	433	1123	2.593	0.000	
4.476	734	1135	1.546	0.000	
4.490	385	1005	2.610	0.000	
4.498	555	1186	2.137	0.000	
4.502	695	1166	1.677	0.000	
4.518	587	949	1.618	0.000	
4.526	316	925	2.924	0.000	
4.533	560	989	1.765	0.000	
4.543	469	1001	2.135	0.000	
4.548	222	916	4.130	0.000	
4.553	188	980	5.207	0.000	
4.558	255	1038	4.076	0.000	
4.568	652	1157	1.775	0.000	
4.573	338	1151	3.409	0.000	
4.580	487	1283	2.636	0.000	
4.596	3801	1950	0.513	0.000	
4.631	531	1429	2.692	0.000	
4.663	4548	3737	0.822	0.000	
4.667	2815	3822	1.358	0.000	
4.679	2199	3760	1.710	0.000	
4.688	1068	3585	3.356	0.000	
4.694	2166	3742	1.727	0.000	
4.723	372603	172476	0.463	0.055	
4.894	47034	21828	0.464	0.006	
4.956	80510	28154	0.350	0.011	
4.999	54273	16950	0.312	0.008	
5.068	1137	5713	5.027	0.000	
5.072	8415	5792	0.688	0.001	
5.105	4203	4316	1.027	0.000	5 C14
5.146	660	2685	4.070	0.000	
5.153	2524	2649	1.050	0.000	
5.170	1076	2437	2.265	0.000	
5.174	2371	2438	1.028	0.000	
5.201	1013	2011	1.986	0.000	
5.210	2064	2332	1.130	0.000	
5.224	1083	2304	2.127	0.000	

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
5.228	2027	2354	1.162	0.000	
5.276	4673	2682	0.574	0.000	
5.322	195	844	4.328	0.000	
5.331	977	1203	1.231	0.000	
5.356	490	993	2.027	0.000	
5.361	814	1044	1.283	0.000	
5.382	115	387	3.351	0.000	
5.399	619	960	1.551	0.000	
5.406	402	1035	2.576	0.000	
5.410	378	1122	2.968	0.000	
5.423	1663	1555	0.935	0.000	
5.452	5951	5020	0.844	0.000	
5.501	290	797	2.753	0.000	
5.523	2317	2472	1.067	0.000	
5.538	5946	6823	1.147	0.000	
5.792	501855376	76456669	0.152	74.449	6 C16
5.807	79757019	82319946	1.032	11.775	
5.823	77929961	88539160	1.136	11.505	
5.962	75333	84828	1.126	0.011	
5.986	474748	124326	0.262	0.070	
6.070	17103	57180	3.343	0.002	
6.074	120761	57565	0.477	0.017	
6.113	90233	47140	0.522	0.013	
6.165	407438	218439	0.536	0.060	
6.263	944101	374166	0.396	0.139	
6.414	114839	39498	0.344	0.016	7 C18
6.464	53190	31177	0.586	0.007	
6.523	31509	25870	0.821	0.004	
6.551	4785	23963	5.008	0.000	
6.559	51194	25409	0.496	0.007	
6.590	21354	21666	1.015	0.003	
6.612	35061	21127	0.603	0.005	$ 8 o-terph
6.638	17712	19934	1.125	0.002	
6.672	22159	19651	0.887	0.003	
6.683	26846	19268	0.718	0.003	
6.708	5413	18142	3.351	0.000	
6.713	24941	18247	0.732	0.003	
6.747	50657	18478	0.365	0.007	
6.795	23973	17444	0.728	0.003	
6.814	28457	17895	0.629	0.004	
6.837	10746	15445	1.437	0.001	
6.871	29974	21406	0.714	0.004	
6.874	4287	21471	5.009	0.000	
6.882	20520	21675	1.056	0.003	
6.944	32864	17445	0.531	0.004	
6.978	9138	15347	1.679	0.001	
7.014	4130	13830	3.348	0.000	9 C20
7.025	12567	14083	1.121	0.001	
7.038	4952	14274	2.882	0.000	
7.044	6508	14578	2.240	0.000	
7.050	25344	14736	0.581	0.003	
7.099	5531	12365	2.236	0.000	
7.108	16440	12371	0.752	0.002	
7.129	9415	11275	1.198	0.001	
7.175	3589	10327	2.878	0.000	
7.182	7285	10474	1.438	0.001	
7.212	11252	10002	0.889	0.001	

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
7.227	5193	9506	1.830	0.000	
7.237	5172	9476	1.832	0.000	
7.247	4652	9357	2.011	0.000	
7.254	3258	9369	2.875	0.000	
7.259	7003	9455	1.350	0.001	
7.272	5540	9252	1.670	0.000	
7.283	4511	9087	2.014	0.000	
7.296	5828	9031	1.550	0.000	
7.308	4850	8866	1.828	0.000	
7.318	3111	9014	2.897	0.000	
7.324	3191	9168	2.873	0.000	
7.328	2775	9325	3.360	0.000	
7.339	6190	9713	1.569	0.000	
7.344	2920	9761	3.343	0.000	
7.350	17091	9874	0.578	0.002	
7.379	7217	8616	1.194	0.001	
7.395	5430	8408	1.548	0.000	
7.404	2492	8342	3.348	0.000	
7.409	1666	8354	5.014	0.000	
7.415	2955	8500	2.877	0.000	
7.423	3887	8782	2.259	0.000	
7.465	28160	14253	0.506	0.004	
7.471	6466	14499	2.242	0.000	
7.480	6649	15111	2.273	0.000	
7.484	26595	15197	0.571	0.003	
7.514	13964	13621	0.975	0.002	
7.539	8118	12614	1.554	0.001	
7.553	10540	12495	1.185	0.001	
7.584	2820	11307	4.010	0.000	
7.590	4522	11429	2.527	0.000	10 C22
7.620	16634	10435	0.627	0.002	
7.653	6793	9783	1.440	0.001	
7.663	8606	9666	1.123	0.001	
7.675	2827	9464	3.347	0.000	
7.683	9373	9620	1.026	0.001	
7.699	3657	9205	2.517	0.000	
7.708	5071	9290	1.832	0.000	
7.713	10483	9274	0.885	0.001	
7.735	10686	9257	0.866	0.001	
7.752	4732	8664	1.831	0.000	
7.765	5624	8765	1.558	0.000	
7.773	5614	8686	1.547	0.000	
7.784	3375	8506	2.520	0.000	
7.793	2118	8517	4.021	0.000	
7.799	10086	8544	0.847	0.001	
7.817	7761	8325	1.073	0.001	
7.833	2415	8088	3.350	0.000	
7.838	2838	8160	2.875	0.000	
7.844	3649	8173	2.240	0.000	
7.858	2009	8069	4.017	0.000	
7.864	4482	8197	1.829	0.000	
7.871	3688	8223	2.230	0.000	
7.879	4875	8269	1.696	0.000	
7.889	2009	8061	4.013	0.000	
7.897	4080	8308	2.036	0.000	
7.916	17828	10103	0.567	0.002	
7.935	4052	9086	2.242	0.000	

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
7.940	2229	8948	4.015	0.000	
7.945	5765	8973	1.556	0.000	
7.954	6458	8765	1.357	0.000	
7.976	2099	8428	4.016	0.000	
7.984	10213	8807	0.862	0.001	
7.999	4897	8282	1.691	0.000	
8.013	8782	8112	0.924	0.001	
8.028	5860	7858	1.341	0.000	
8.040	3929	7871	2.003	0.000	
8.054	9161	8146	0.889	0.001	
8.067	2701	7766	2.876	0.000	
8.074	3069	7702	2.510	0.000	
8.081	2694	7742	2.874	0.000	
8.088	2705	7793	2.881	0.000	
8.095	5842	7832	1.341	0.000	
8.104	5419	7841	1.447	0.000	
8.119	5740	7735	1.348	0.000	
8.134	4986	7768	1.558	0.000	
8.141	5893	8009	1.359	0.000	
8.159	9098	8027	0.882	0.001	11 C24
8.174	3156	7971	2.526	0.000	
8.185	2376	7967	3.353	0.000	
8.190	4739	7937	1.675	0.000	
8.202	5181	8028	1.549	0.000	
8.212	1994	8027	4.025	0.000	
8.223	6137	8270	1.348	0.000	
8.236	6864	8171	1.190	0.001	
8.248	2383	7986	3.351	0.000	
8.253	2405	8059	3.351	0.000	
8.259	5294	8207	1.550	0.000	
8.268	2866	8235	2.874	0.000	
8.280	6583	8312	1.263	0.000	
8.289	4538	8296	1.828	0.000	
8.295	2060	8300	4.029	0.000	
8.300	2063	8291	4.020	0.000	
8.313	7062	8400	1.189	0.001	
8.318	1667	8375	5.023	0.000	
8.332	11362	9100	0.801	0.001	
8.343	4357	8741	2.006	0.000	
8.358	1267	8458	6.676	0.000	
8.363	2991	8621	2.882	0.000	
8.371	3980	8983	2.257	0.000	
8.379	6330	9083	1.435	0.000	
8.385	3111	8963	2.881	0.000	
8.393	6706	9050	1.349	0.000	
8.404	4903	8943	1.824	0.000	
8.417	8437	8972	1.063	0.001	
8.438	7166	9103	1.270	0.001	
8.443	3211	9227	2.873	0.000	12 C25
8.450	3688	9295	2.521	0.000	
8.455	2313	9276	4.010	0.000	
8.475	30054	13714	0.456	0.004	
8.504	5760	9733	1.690	0.000	
8.519	2799	9376	3.350	0.000	
8.529	4766	9710	2.037	0.000	
8.537	4875	9815	2.013	0.000	
8.543	8411	9973	1.186	0.001	

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
8.555	2969	9916	3.340	0.000	
8.560	3974	9987	2.513	0.000	
8.568	2483	9997	4.026	0.000	
8.572	5007	10043	2.006	0.000	
8.591	14074	10725	0.762	0.002	
8.602	2648	10665	4.028	0.000	
8.606	2159	10862	5.032	0.000	
8.609	2183	10952	5.017	0.000	
8.633	7361	10561	1.435	0.001	
8.647	6774	10495	1.549	0.001	
8.658	2596	10420	4.014	0.000	
8.663	4723	10573	2.239	0.000	
8.669	3156	10589	3.355	0.000	
8.687	15405	11334	0.736	0.002	
8.699	6103	11158	1.828	0.000	
8.707	2223	11136	5.009	0.000	13 C26
8.730	28697	12536	0.437	0.004	
8.754	8658	11553	1.334	0.001	
8.763	2896	11612	4.010	0.000	
8.780	15029	12352	0.822	0.002	
8.788	1833	12243	6.680	0.000	
8.798	11854	12679	1.070	0.001	
8.806	1873	12509	6.677	0.000	
8.809	3133	12565	4.011	0.000	
8.813	2506	12550	5.008	0.000	
8.819	7588	12757	1.681	0.001	
8.829	4418	12679	2.870	0.000	
8.835	6988	12762	1.826	0.001	
8.848	13711	13258	0.967	0.002	
8.872	26625	13656	0.513	0.003	
8.894	4575	13127	2.869	0.000	
8.898	2631	13188	5.013	0.000	
8.902	5918	13262	2.241	0.000	
8.914	8577	13313	1.552	0.001	
8.922	4011	13433	3.349	0.000	
8.926	4724	13546	2.867	0.000	
8.933	6787	13651	2.011	0.001	
8.946	9614	13923	1.448	0.001	
8.951	6274	14004	2.232	0.000	
8.960	5592	14036	2.510	0.000	
8.966	3513	14090	4.011	0.000	
8.969	2829	14171	5.009	0.000	
8.973	4976	14233	2.860	0.000	
8.980	4289	14365	3.350	0.000	
8.996	27708	16441	0.593	0.004	
9.013	8129	14847	1.827	0.001	
9.025	8129	14840	1.826	0.001	
9.036	7503	15229	2.030	0.001	
9.040	4559	15225	3.340	0.000	
9.057	14920	16251	1.089	0.002	
9.067	9915	16831	1.698	0.001	
9.076	8535	17331	2.031	0.001	
9.081	5250	17596	3.352	0.000	
9.084	10558	17675	1.674	0.001	
9.095	4386	17601	4.013	0.000	
9.111	30564	19262	0.630	0.004	
9.128	8346	18722	2.243	0.001	

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
9.139	15095	18986	1.258	0.002	
9.149	6655	19050	2.862	0.000	
9.158	23240	19719	0.848	0.003	
9.171	1903	19042	10.005	0.000	
9.175	4773	19156	4.013	0.000	
9.187	23630	19927	0.843	0.003	
9.199	4925	19763	4.013	0.000	
9.208	14115	20394	1.445	0.002	
9.219	12303	20691	1.682	0.001	
9.226	7266	20831	2.867	0.001	
9.233	15622	21000	1.344	0.002	14 C28
9.247	9280	20714	2.232	0.001	
9.262	45057	27849	0.618	0.006	
9.281	22651	23200	1.024	0.003	
9.304	13489	22820	1.692	0.001	
9.307	18038	22862	1.267	0.002	
9.328	8656	21778	2.516	0.001	
9.334	8635	21650	2.507	0.001	
9.343	16240	21738	1.339	0.002	
9.354	5409	21709	4.013	0.000	
9.367	16481	22234	1.349	0.002	
9.370	6683	22346	3.344	0.000	
9.382	14775	23166	1.568	0.002	
9.390	11679	23531	2.015	0.001	
9.394	12888	23584	1.830	0.001	
9.408	18752	23645	1.261	0.002	
9.416	4675	23396	5.004	0.000	
9.428	25138	24392	0.970	0.003	
9.438	20233	24095	1.191	0.002	
9.468	67429	26696	0.396	0.009	
9.496	8413	24122	2.867	0.001	
9.507	12049	24259	2.013	0.001	
9.527	36362	25771	0.709	0.005	
9.538	12891	25911	2.010	0.001	
9.543	6452	25853	4.007	0.000	
9.551	10420	26202	2.515	0.001	
9.557	29750	26593	0.894	0.004	
9.574	6252	25071	4.010	0.000	
9.593	29143	27655	0.949	0.004	
9.599	40783	27905	0.684	0.006	
9.620	13159	26364	2.004	0.001	
9.632	17259	26799	1.553	0.002	
9.640	13210	26592	2.013	0.001	
9.664	35362	28170	0.797	0.005	
9.672	27890	28134	1.009	0.004	
9.696	26737	28634	1.071	0.003	
9.711	53475	30848	0.577	0.007	
9.745	33266	29504	0.887	0.004	$ 15 Triacon Surr
9.752	7348	29501	4.015	0.001	
9.756	20542	29565	1.439	0.003	
9.768	7255	29059	4.005	0.001	
9.773	7275	29173	4.010	0.001	
9.785	31543	30611	0.970	0.004	
9.803	46804	32832	0.701	0.006	
9.821	10456	30060	2.875	0.001	
9.833	30772	31156	1.012	0.004	
9.860	77784	33514	0.431	0.011	

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
9.881	12779	32069	2.510	0.001	
9.892	14531	32668	2.248	0.002	
9.896	8201	32902	4.012	0.001	
9.908	23357	33882	1.451	0.003	
9.912	27050	34095	1.260	0.003	
9.939	14585	32570	2.233	0.002	
9.951	23032	33095	1.437	0.003	
9.956	11596	33292	2.871	0.001	
9.966	16544	33271	2.011	0.002	
9.971	11660	33391	2.864	0.001	
9.975	10051	33617	3.345	0.001	
9.983	15209	33983	2.234	0.002	
9.988	15177	33830	2.229	0.002	
9.996	10128	33907	3.348	0.001	
10.018	43348	35629	0.822	0.006	
10.021	7133	35693	5.004	0.001	
10.025	8960	35988	4.016	0.001	
10.034	42064	36944	0.878	0.006	
10.063	65447	38699	0.591	0.009	
10.077	7375	36906	5.004	0.001	
10.083	16743	37428	2.235	0.002	
10.095	34467	38665	1.122	0.005	
10.118	90921	40621	0.447	0.013	
10.151	37738	38047	1.008	0.005	
10.158	11383	38037	3.342	0.001	
10.168	36074	38274	1.061	0.005	
10.181	15072	37809	2.509	0.002	16 C32
10.185	5655	37746	6.675	0.000	
10.198	43905	38471	0.876	0.006	
10.208	24771	38177	1.541	0.003	
10.218	19031	38113	2.003	0.002	
10.228	13353	38279	2.867	0.001	
10.237	21225	38826	1.829	0.003	
10.243	30946	38929	1.258	0.004	
10.266	43064	39733	0.923	0.006	
10.275	11912	39784	3.340	0.001	
10.278	19932	39886	2.001	0.002	
10.293	46366	40725	0.878	0.006	
10.318	46465	41024	0.883	0.006	
10.328	24720	41353	1.673	0.003	
10.334	10308	41278	4.005	0.001	
10.343	29100	41866	1.439	0.004	
10.354	22822	41695	1.827	0.003	
10.360	16568	41490	2.504	0.002	
10.376	31388	42321	1.348	0.004	
10.384	36478	43119	1.182	0.005	
10.393	21427	43144	2.014	0.003	
10.416	82339	44731	0.543	0.012	
10.434	23173	42257	1.824	0.003	
10.455	42801	43684	1.021	0.006	
10.459	19648	44004	2.240	0.002	
10.469	19632	43883	2.235	0.002	
10.492	56113	45807	0.816	0.008	
10.497	20626	45915	2.226	0.003	
10.503	27439	45837	1.671	0.004	
10.513	31833	45842	1.440	0.004	
10.523	6773	45190	6.672	0.001	

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
10.529	22697	45513	2.005	0.003	
10.543	39087	46432	1.188	0.005	
10.552	16284	46719	2.869	0.002	
10.558	18796	47158	2.509	0.002	
10.576	69878	48769	0.698	0.010	
10.586	12085	48384	4.004	0.001	
10.592	21757	48469	2.228	0.003	
10.609	46960	50482	1.075	0.006	
10.616	40486	50812	1.255	0.005	17 C34
10.628	52392	50284	0.960	0.007	
10.665	99744	52644	0.528	0.014	
10.680	20832	52264	2.509	0.003	
10.699	126137	55939	0.443	0.018	
10.723	18258	52316	2.865	0.002	
10.733	65550	52928	0.807	0.009	
10.751	49102	51903	1.057	0.007	
10.765	10288	51490	5.005	0.001	
10.777	73220	52877	0.722	0.010	
10.791	15621	52150	3.338	0.002	
10.799	46819	52190	1.115	0.006	
10.817	52000	52328	1.006	0.007	
10.828	13014	52167	4.008	0.001	
10.833	18275	52280	2.861	0.002	
10.838	67284	52271	0.777	0.009	
10.860	15395	51401	3.339	0.002	
10.867	15366	51252	3.335	0.002	
10.874	25712	51608	2.007	0.003	
10.885	59363	52064	0.877	0.008	
10.901	33199	51247	1.544	0.004	
10.911	35859	51446	1.435	0.005	
10.925	15150	50526	3.335	0.002	
10.936	27761	50508	1.819	0.004	
10.954	40634	51235	1.261	0.005	
10.958	17973	51428	2.861	0.002	
10.982	101216	54997	0.543	0.014	
10.999	80380	54264	0.675	0.011	
11.022	15822	52869	3.342	0.002	
11.029	23878	53171	2.227	0.003	
11.032	23908	53219	2.226	0.003	
11.044	39793	53228	1.338	0.005	
11.053	13218	52959	4.007	0.001	19 C36
11.057	26491	53088	2.004	0.003	
11.069	47933	53454	1.115	0.007	
11.079	78088	52997	0.679	0.011	
11.132	4853	48537	10.002	0.000	
11.138	21933	48845	2.227	0.003	
11.148	46678	49317	1.057	0.006	
11.158	12248	49060	4.006	0.001	
11.164	14711	49102	3.338	0.002	
11.179	64473	49939	0.775	0.009	
11.192	19751	49439	2.503	0.002	
11.197	14848	49541	3.337	0.002	
11.202	17336	49566	2.859	0.002	
11.206	12400	49639	4.003	0.001	
11.212	56808	49881	0.878	0.008	
11.230	26830	48794	1.819	0.003	
11.263	19014	47590	2.503	0.002	

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
11.267	11927	47790	4.007	0.001	
11.285	66432	50042	0.753	0.009	
11.308	17214	49235	2.860	0.002	
11.312	19684	49285	2.504	0.002	
11.322	19740	49570	2.511	0.002	
11.331	27467	50208	1.828	0.004	
11.334	12565	50301	4.003	0.001	
11.338	17617	50367	2.859	0.002	
11.356	50450	50688	1.005	0.007	
11.383	31641	48774	1.541	0.004	
11.392	14562	48589	3.337	0.002	
11.398	14566	48593	3.336	0.002	
11.405	21947	48858	2.226	0.003	
11.418	36961	49602	1.342	0.005	
11.428	52174	49838	0.955	0.007	
11.438	46900	49605	1.058	0.006	
11.456	66003	49218	0.746	0.009	
11.481	84312	48818	0.579	0.012	
11.518	39837	46996	1.180	0.005	
11.533	55836	46822	0.839	0.008	20 C38
11.560	30101	46465	1.544	0.004	
11.568	20916	46512	2.224	0.003	
11.573	11637	46596	4.004	0.001	
11.579	23274	46598	2.002	0.003	
11.586	13953	46531	3.335	0.002	
11.591	9318	46631	5.004	0.001	
11.623	97892	48831	0.499	0.014	
11.631	17107	48984	2.863	0.002	
11.638	22090	49260	2.230	0.003	
11.642	32050	49351	1.540	0.004	
11.669	95446	50981	0.534	0.014	
11.685	95822	49865	0.520	0.014	
11.788	8918	44609	5.002	0.001	
11.791	35704	44768	1.254	0.005	
11.804	11082	44350	4.002	0.001	
11.813	22172	44403	2.003	0.003	
11.823	19993	44543	2.228	0.002	
11.829	13395	44754	3.341	0.001	
11.837	20184	44981	2.228	0.002	
11.852	26933	44942	1.669	0.003	
11.866	36041	45224	1.255	0.005	
11.877	15835	45355	2.864	0.002	
11.883	18222	45726	2.509	0.002	
11.889	15985	45741	2.861	0.002	
11.896	20679	46117	2.230	0.003	
11.905	23259	46896	2.016	0.003	
11.929	70146	49826	0.710	0.010	
11.936	52288	50085	0.958	0.007	
11.951	14787	49369	3.339	0.002	
11.957	17313	49595	2.865	0.002	
11.961	32199	49647	1.542	0.004	
11.971	19578	49063	2.506	0.002	
11.980	34244	49065	1.433	0.005	
12.019	96987	51133	0.527	0.014	
12.025	48685	51499	1.058	0.007	
12.053	38386	51386	1.339	0.005	
12.062	38575	51549	1.336	0.005	

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
12.070	17923	51300	2.862	0.002	
12.078	45780	51141	1.117	0.006	
12.105	31495	48817	1.550	0.004	
12.118	85510	48295	0.565	0.012	
12.148	55474	46657	0.841	0.008	21 C40
12.172	34299	45899	1.338	0.005	
12.181	18286	45754	2.502	0.002	
12.188	20565	45727	2.223	0.003	
12.198	29701	45787	1.542	0.004	
12.212	11377	45530	4.002	0.001	
12.218	29576	45566	1.541	0.004	
12.237	41054	45750	1.114	0.006	
12.243	13695	45701	3.337	0.002	
12.253	27528	46122	1.675	0.004	
12.260	16149	46201	2.861	0.002	
12.272	32473	46571	1.434	0.004	
12.347	231342	54259	0.235	0.034	
12.355	96470	54322	0.563	0.014	
12.383	13155	52687	4.005	0.001	
12.389	52817	52930	1.002	0.007	
12.434	117936	55204	0.468	0.017	
12.440	19323	55283	2.861	0.002	
12.448	22049	55156	2.502	0.003	
12.460	127044	56114	0.442	0.018	
12.500	63536	55700	0.877	0.009	
12.519	44746	56237	1.257	0.006	
12.523	16928	56556	3.341	0.002	
12.528	14154	56666	4.003	0.002	
12.532	14154	56644	4.002	0.002	
12.538	25607	57089	2.229	0.003	
12.543	31284	57010	1.822	0.004	
12.560	76588	57084	0.745	0.011	
12.574	22463	56167	2.500	0.003	
12.583	192414	56305	0.293	0.028	
12.668	201456	54098	0.269	0.029	
12.722	63529	49368	0.777	0.009	
12.744	14574	48683	3.340	0.002	
12.757	68233	49046	0.719	0.010	
12.777	29106	48653	1.672	0.004	
12.802	69072	49884	0.722	0.010	
12.805	19947	49915	2.502	0.002	
12.813	12457	49907	4.006	0.001	
12.826	42860	50672	1.182	0.006	
12.830	15192	50711	3.338	0.002	
12.835	63121	50727	0.804	0.009	
12.856	30109	50299	1.671	0.004	
12.871	12459	49875	4.003	0.001	
12.876	24950	49913	2.001	0.003	
12.883	12458	49860	4.002	0.001	
12.892	24999	50091	2.004	0.003	
12.904	37682	50442	1.339	0.005	
12.918	60965	51059	0.838	0.009	
12.929	15268	50972	3.338	0.002	
12.950	101236	52476	0.518	0.014	
12.991	32619	50285	1.542	0.004	
13.030	23826	47690	2.002	0.003	
13.047	49429	47410	0.959	0.007	

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
13.072	11668	46709	4.003	0.001	
13.077	14056	46964	3.341	0.002	
13.083	21201	47214	2.227	0.003	
13.092	45034	47490	1.055	0.006	
13.103	33139	47401	1.430	0.004	
13.119	58622	47300	0.807	0.008	
13.136	61979	46406	0.749	0.009	
13.163	36232	45399	1.253	0.005	
13.172	13552	45219	3.337	0.002	
13.178	13550	45211	3.337	0.002	
13.183	13581	45318	3.337	0.002	
13.188	15867	45365	2.859	0.002	
13.193	11350	45433	4.003	0.001	
13.206	54879	45909	0.837	0.008	
13.233	74220	46899	0.632	0.010	
13.246	18724	46923	2.506	0.002	
13.250	14089	47028	3.338	0.002	
13.254	9392	46999	5.004	0.001	
13.261	35241	47103	1.337	0.005	
13.270	21093	46884	2.223	0.003	
13.278	16404	46889	2.858	0.002	
13.284	28108	46937	1.670	0.004	
13.309	27777	46575	1.677	0.004	
13.313	11643	46617	4.004	0.001	
13.323	30391	46938	1.544	0.004	
13.337	49696	47554	0.957	0.007	
13.345	11906	47686	4.005	0.001	
13.352	21499	47921	2.229	0.003	
13.358	14416	48133	3.339	0.002	
13.366	24163	48487	2.007	0.003	
13.391	108474	49842	0.459	0.016	
13.411	39818	49922	1.254	0.005	
13.421	140245	49882	0.356	0.020	
13.468	75433	46221	0.613	0.011	
13.519	59701	44435	0.744	0.008	
13.538	26345	44021	1.671	0.003	
13.553	17475	43727	2.502	0.002	
13.559	19699	43828	2.225	0.002	
13.566	15324	43832	2.860	0.002	
13.574	28519	43956	1.541	0.004	
13.585	21950	43943	2.002	0.003	
13.595	26497	44341	1.673	0.003	
13.603	22230	44574	2.005	0.003	
13.608	11135	44585	4.004	0.001	
13.633	100703	46371	0.460	0.014	
13.650	25255	45974	1.820	0.003	
13.663	20511	45675	2.227	0.003	
13.670	15945	45584	2.859	0.002	
13.677	40973	45642	1.114	0.006	
13.688	4544	45448	10.002	0.000	
13.693	29520	45508	1.542	0.004	
13.718	24720	44995	1.820	0.003	
13.727	11216	44890	4.002	0.001	
13.735	29185	45025	1.543	0.004	
13.752	17874	44782	2.505	0.002	
13.767	35874	45020	1.255	0.005	
13.775	36036	45104	1.252	0.005	

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
13.785	11226	44939	4.003	0.001	
13.790	47016	44953	0.956	0.006	
13.813	11118	44516	4.004	0.001	
13.818	37641	44507	1.182	0.005	
13.832	15424	44192	2.865	0.002	
13.838	17564	43967	2.503	0.002	
13.844	26339	43892	1.666	0.003	
13.855	30567	43821	1.434	0.004	
13.865	23854	43526	1.825	0.003	
13.882	28266	43639	1.544	0.004	
13.886	30418	43629	1.434	0.004	
13.901	34702	43472	1.253	0.005	
13.920	48162	44005	0.914	0.007	
13.928	17577	43956	2.501	0.002	
13.941	15410	44084	2.861	0.002	
13.946	11045	44251	4.006	0.001	
13.949	24369	44341	1.820	0.003	
13.959	22103	44264	2.003	0.003	
13.967	22088	44195	2.001	0.003	
13.976	33207	44336	1.335	0.004	18 Filter Peak
13.998	24195	44018	1.819	0.003	
14.007	15335	43888	2.862	0.002	
14.014	17519	43863	2.504	0.002	
14.019	54335	43870	0.807	0.008	
14.046	10722	42915	4.003	0.001	
14.052	19305	42955	2.225	0.002	
14.058	8568	42864	5.003	0.001	
14.067	38739	43159	1.114	0.005	
14.077	15012	42931	2.860	0.002	
14.083	25753	42977	1.669	0.003	
14.102	25682	42913	1.671	0.003	
14.108	19267	42865	2.225	0.002	
14.116	12834	42815	3.336	0.001	
14.126	25874	43369	1.676	0.003	
14.133	56339	43595	0.774	0.008	
14.161	32503	43582	1.341	0.004	
14.165	10909	43696	4.006	0.001	
14.170	15313	43822	2.862	0.002	
14.175	10960	43911	4.007	0.001	
14.178	13176	43945	3.335	0.001	
14.183	19785	43976	2.223	0.002	
14.191	8796	44018	5.005	0.001	
14.197	17636	44177	2.505	0.002	
14.208	28815	44459	1.543	0.004	
14.219	8873	44379	5.002	0.001	
14.223	13318	44445	3.337	0.001	
14.229	28860	44456	1.540	0.004	
14.247	15436	44194	2.863	0.002	
14.260	37147	43758	1.178	0.005	
14.274	45685	43705	0.957	0.006	
	677340272	268782821		100.000	

Total unknown % area = 25.478

Supelco®

www.sigmaaldrich.com

Certificate of Composition - Analytical Standard

BASE STOCK

Product no.: 22523051
Lot no.: LRAC9813
Expiry Date: May 2023
Manufacturing Date: May 2021
Storage: Refrigerate
Solvent/Matrix: Dichloromethane
Certificate version: LRAC9813.01 *(Note: Certificates may be updated due to the availability of new data. Check our website at: www.sigma-aldrich.com for the most current version.)*

J005199
SVOA-ABN BASE STOCK-200-800ug/ml
Expires 5/31/2023
Prepared By Jianqing Zhou 5/18/2021

Analyte	*Assigned Value*	*Units*	*Raw Material Purity,%*	*Raw Material Lot*
3,3'-DICHLOROBENZIDINE CAS# 91-94-1	802	µg/mL	99.9	LC27068
2,4-DINITROTOLUENE CAS# 121-14-2	802	µg/mL	97.8	LB46632
2,6-DINITROTOLUENE CAS# 606-20-2	801	µg/mL	99.9	LB79891
HEXACHLOROCYCLOPENTADIENE CAS# 77-47-4	802	µg/mL	96.0	LB95525
N-NITROSODIMETHYLAMINE CAS# 62-75-9	801	µg/mL	95.0	2019-030598 5
PERYLENE CAS# 198-55-0	201	µg/mL	99.6	04101PG
ANILINE CAS# 62-53-3	803	µg/mL	100.0	10126MG
4-CHLOROANILINE CAS# 106-47-8	803	µg/mL	100.0	MKBZ6909V
2-NITROANILINE CAS# 88-74-4	802	µg/mL	99.9	LC05068
3-NITROANILINE CAS# 99-09-2	802	µg/mL	99.9	LC09264
4-NITROANILINE CAS# 100-01-6	802	µg/mL	99.9	LC11400
PYRIDINE (LOW WATER) CAS# 110-86-1	802	µg/mL	100.0	SHBJ9218

Measurement method: Where applicable, the assigned value is based on a purity determination by mass balance and gravimetrically prepared value.

Intended use: Intended for R&D and Analytical Use only. Not for drug, household or other uses.

Packaging: 1 mL in amber ampule

Instructions for handling and correct use: Use on the as is basis. The internal pressure of the container may be slightly different from the atmospheric pressure at the user`s location. Open slowly and carefully to avoid dispersion of the material.

Sigma-Aldrich RTC, 2931 Soldier Springs Rd. Laramie, WY 82070, USA;
Tel. 1 307-742-5452; Fax 1 855-831-9211; www.sigmaaldrich.com
Sigma-Aldrich RTC is a subsidiary of Merck KGaA, Darmstadt, Germany.

Health and safety information: All chemical reference materials should be considered potentially hazardous and should be used only by qualified laboratory personnel. Please refer to the Safety Data Sheet for detailed information about the nature of any hazard and appropriate precautions to be taken.

Certificate issue date: 12-May-2021

Andy Ommen - QC Manager

Mark Pooler - QA Supervisor

Certificate of analysis revision history:

Certificate version	Date	Reason for version
LRAC9813.01	12-May-2021	Original Release Date

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Certificate of Composition - Analytical Standard

ACID STOC"

Product no.: 22523046
Lot no.: LRAC9812
Expiry Date: May 2023
Manufacturing Date: May 2021
Storage: Refrigerate
Solvent/Matrix: Dichloromethane
Certificate version: LRAC9812.01 *(Note: Certificates may be updated due to the availability of new data. Check our website at: www.sigma-aldrich.com for the most current version.)*

J005200
SVOA-ABN ACID STOCK-200-800ug/ml
Solvent / Lot: DCM
Prep: 5/18/2021 by JZ
Exp: 5/31/2023
Location:

JZ 5/18/21

Analyte	*Assigned Value*	*Units*	*Raw Material Purity,%*	*Raw Material Lot*
2,4-DIMETHYLPHENOL CAS# 105-67-9	802	µg/mL	99.9	LB88935
2,4-DICHLOROPHENOL CAS# 120-83-2	802	µg/mL	100.0	BCBZ6787
2,4,5-TRICHLOROPHENOL CAS# 95-95-4	802	µg/mL	99.9	JS00008
2,4-DINITROPHENOL CAS# 51-28-5	1806	µg/mL	75.9	MKBP5833V
2,4,6-TRICHLOROPHENOL CAS# 88-06-2	803	µg/mL	98.7	LB82983
4-CHLORO-3-METHYLPHENOL CAS# 59-50-7	801	µg/mL	99.9	JS00013
4-NITROPHENOL CAS# 100-02-7	801	µg/mL	99.9	LC10889
2-METHYL-4,6-DINITROPHENOL CAS# 534-52-1	1804	µg/mL	99.7	LC18338
PENTACHLOROPHENOL CAS# 87-86-5	803	µg/mL	98.7	MKCK8156
BENZOIC ACID CAS# 65-85-0	1805	µg/mL	99.9	LC16514

Measurement method: Where applicable, the assigned value is based on a purity determination by mass balance and gravimetrically prepared value.

Intended use: Intended for R&D and Analytical Use only. Not for drug, household or other uses.

Packaging: 1 mL in amber ampule

Instructions for handling and correct use: Use on the as is basis. The internal pressure of the container may be slightly different from the atmospheric pressure at the user`s location. Open slowly and carefully to avoid dispersion of the material.

Health and safety information: All chemical reference materials should be considered potentially hazardous and should be used only by qualified laboratory personnel. Please refer to the Safety Data Sheet for detailed information about the nature of any hazard and appropriate precautions to be taken.

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Sigma-Aldrich RTC is a subsidiary of Merck KGaA, Darmstadt, Germany.

Agilent

Certificate of Analysis

J008074

SVOA PAH STD 2000ug/ml
Expires 6/30/2023
Prepared By Joshua Rains 8/5/2021

Product Name: PAH Standard

Product Number: US-106N-1

Lot Number: 0006540449

Lot Issue Date: 11-Jun-2020

Expiration Date: 30-Jun-2023

Description:

This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system, and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	Concentration ± Uncertainty
acenaphthene	000083-32-9	RM10879	2008 ± 10 µg/mL
acenaphthylene	000208-96-8	RM10891	2003 ± 10 µg/mL
anthracene	000120-12-7	RM14212	2006 ± 10 µg/mL
benz[a]anthracene	000056-55-3	RM16072	2006 ± 10 µg/mL
benzo[b]fluoranthene	000205-99-2	RM14571	2005 ± 10 µg/mL
benzo[k]fluoranthene	000207-08-9	RM14321	2009 ± 10 µg/mL
benzo[ghi]perylene	000191-24-2	RM15761	2008 ± 10 µg/mL
benzo[a]pyrene	000050-32-8	RM12669	2009 ± 10 µg/mL
chrysene	000218-01-9	RM12260	2009 ± 10 µg/mL
dibenz[a,h]anthracene	000053-70-3	RM06786	2009 ± 10 µg/mL
fluoranthene	000206-44-0	RM12277	2004 ± 10 µg/mL
fluorene	000086-73-7	RM09441	2009 ± 10 µg/mL
indeno[1,2,3-cd]pyrene	000193-39-5	RM14192	2009 ± 10 µg/mL
naphthalene	000091-20-3	NT00970	2008 ± 10 µg/mL
phenanthrene	000085-01-8	RM10495	2009 ± 10 µg/mL
pyrene	000129-00-0	RM03479	2008 ± 10 µg/mL

Matrix: methylene chloride/benzene (1:1)

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

ISO 17034 Cert No. AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026

www.agilent.com/quality/

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

ISO 17025 Cert No. AT-1937

Certificate of Analysis

Product Number: US-106N-1 **Lot Number:** 0006540449

Storage Conditions: Store at Room Temperature (15° to 30°C).

Traceability:
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:
This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Hazards:
Refer to the Safety Data Sheet on www.agilent.com for information regarding this RM.

Expiration of Certification:
The certification of this RM is valid until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

Maintenance of Certification:
If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

Sample lot approver:

Monica Bourgeois
QMS Representative

ISO 17034 Cert No.
AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026
Page: 2 of 2

www.agilent.com/quality/

ISO 17025 Cert
No. AT-1937

Certificate of Analysis

Produced by Phenova
6390 Joyce Drive STE 100, Golden, CO 80403 USA ■ Tel: 303-940-0033 ■ Fax: 303-940-0043 ■ info@phenova.com
Access your Safety Data Sheets and digital Certificates at **www.phenova.com/documents.**

Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101244
Lot Number: CL16062
Description: Benzidines Standard
Certification Date: November 19, 2020
Storage: 4 °C
Expiration Date: November 30, 2030
Provided As: 1 mL in 2 mL Ampoule in Methylene Chloride

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Benzidine	92-87-5	2000	± 2.740%
3,3'-Dichlorobenzidine	91-94-1	2000	± 3.229%

J008310
Benzidines std @2000ug/ml
Expires 11/30/2030
Prepared By Van Spohn 8/12/2021

ACCREDITED
Reference Material Producer
Certicate No. 2427.02

Phenova is an accredited ISO/IEC 17034 Reference Material Producer and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ACCREDITED
Chemical Testing Laboratory
Certicate No. 2427.03

IL64691018_us

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Access your Safety Data Sheets and digital Certificates at **www.phenova.com/documents.**

1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO 17034[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.

4. Handling and Usage Notes: Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

   Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.

12. Period of Validity: The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

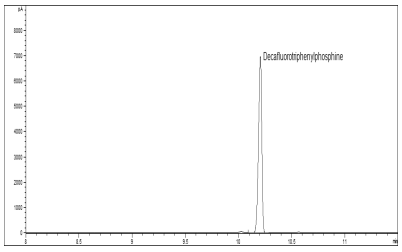
References:

[1] ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.
[3] ISO 17034 – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

Certificate of Analysis - Certified Reference Material

Decafluorotriphenylphosphine solution

Product no.: 48724-U
Lot no.: LRAD0628
Expiry Date: October 2024
Manufacturing Date: September 2021
Storage: ROOM TEMPERATURE
Solvent/Matrix: DICHLOROMETHANE
Certificate version: LRAD0628.01 (*Note: Certificates may be updated due to the availability of new data. Check our website at: www.sigma-aldrich.com for the most current version.)*

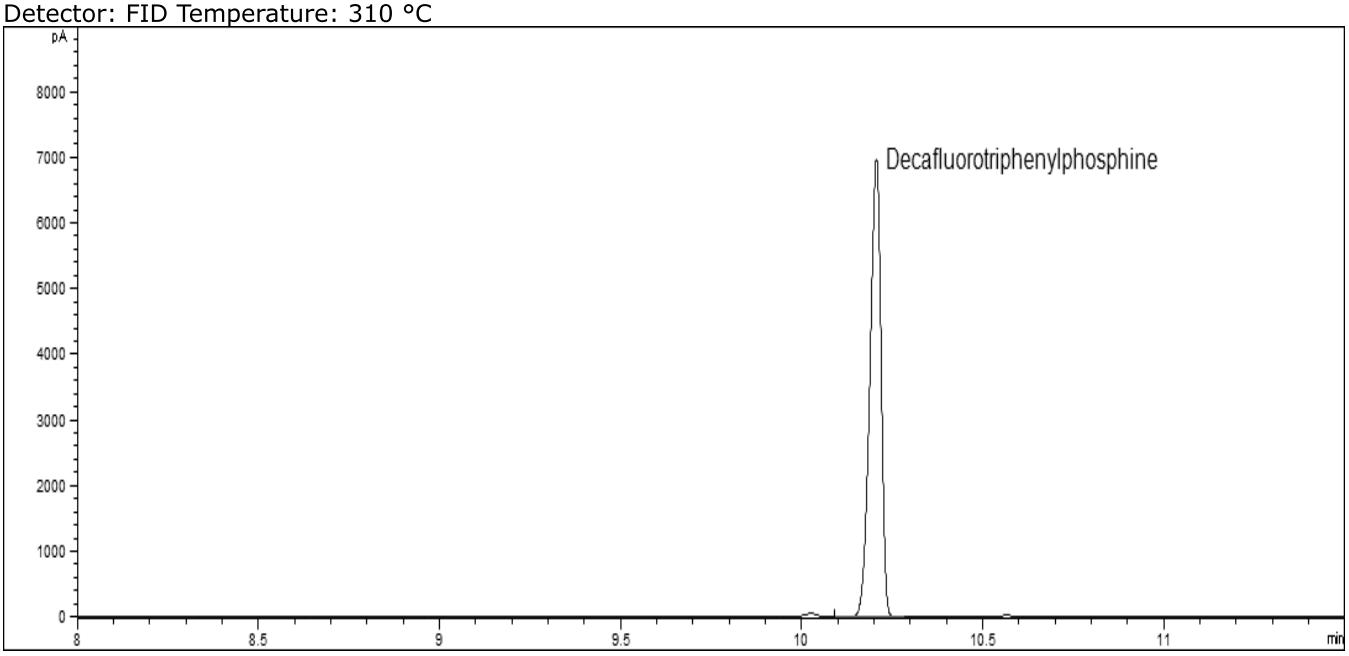


Certified Values:

Analyte	*Certified Value*	*Units*	*Raw Material Purity,%*	*Raw Material Lot*
DFTPP CAS# 5074-71-5	25.2 ± 2.6	mg/mL	97.0	10220909

ASSAY Method

METHOD: GC (BELLEFONTE)
Column: SPB-5, 30 m × 0.53 mm I.D., 1.5 µm film thickness
Carrier Gas: H_2 Flow Rate: 4.3 mL/min
Inlet Temperature: 250 °C Injection Volume: 1 µL
Injection Mode: 25:1
Temperature Program: 120 °C (Hold 0 min) @ 12 °C/min to 260 °C (Hold 0 min)
Detector: FID Temperature: 310 °C



Sigma-Aldrich RTC, 2931 Soldier Springs Rd. Laramie, WY 82070, USA;
Tel. 1 307-742-5452; Fax 1 855-831-9211; www.sigmaaldrich.com
Sigma-Aldrich RTC is a subsidiary of Merck KGaA, Darmstadt, Germany.

Elution details:

EO	RT(MIN)	ANALYTE
1	10.206	Decafluorotriphenylphosphine

Metrological traceability: Traceable to the SI and higher order standards from NIST through an unbroken chain of comparisons. The balance used to weigh raw materials is accurate to +/-0.0001 g and calibrated regularly using mass standards traceable to NIST. All dilutions were performed gravimetrically. Additionally, individual analytes are traceable to NIST SRMs where available and specified above.

Measurement method: Where applicable, the assigned value is based on a purity determination by mass balance and gravimetrically prepared value.

Intended use: Intended for R&D and Analytical Use only. Not for drug, household or other uses.

Minimum sample size: 1 µL

Packaging: 1 mL in amber ampule

Instructions for handling and correct use: Use on the as is basis. The internal pressure of the container may be slightly different from the atmospheric pressure at the user`s location. Open slowly and carefully to avoid dispersion of the material.

Health and safety information: All chemical reference materials should be considered potentially hazardous and should be used only by qualified laboratory personnel. Please refer to the Safety Data Sheet for detailed information about the nature of any hazard and appropriate precautions to be taken.

Accreditation: Sigma-Aldrich RTC is accredited by the US accreditation authority ANAB as a registered reference material producer AR-1470 in accordance with ISO 17034.

Certificate issue date: 30-Sep-2021

Andy Ommen - QC Manager

Scott Stetler - QA Manager

Details on metrological traceability: This standard has been gravimetrically prepared using balances that have been fully qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error. Fill volume to predetermined specifications is gravimetrically verified throughout the dispensing process using qualified and calibrated balances. Further traceability to a corresponding Primary Standard may be achieved through a direct comparison assay. Where a Primary Standard is available, the assay value will be included in the specified section of the COA.

Associated uncertainty: Ucrm - Uncertainty values in this document are expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k, which is obtained from a *t*-distribution and degrees of freedom. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long term stability, and short term stability (transport). The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies. The mathematical representation of the Ucrm calculation is as follows:

$$u_{CRM} = \sqrt{u_{char}^2 + u_{\text{hom } ogeneity}^2 + u_{stability}^2}$$

Homogeneity assessment: Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared by Single Factor Analysis of Variance (ANOVA). The uncertainty due to homogeneity was derived from the ANOVA. Heterogeneity was not detected under the conditions of the ANOVA.

Stability assessment: Significance of the stability assessment will be demonstrated if the analytical result of the study and the range of values represented by the Expanded Uncertainty do not overlap the result of the original assay and the range of its values represented by the Expanded Uncertainty. The method employed will usually be the same method used to characterize the assay value in the initial

Certificate of analysis revision history:

Certificate version	Date	Reason for version
LRAD0628.01	30-Sep-2021	Original Release Date

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Certificate of Analysis

BNAs - Sandy Loam 1

Certified Reference Material

Description

Product ID CRM143-50G
Lot **LRAC8918**
Expiration Date January 2024
Manufacturing Date January 2021
Storage Conditions Refrigerate
Solvent/Matrix SOIL

Certified Values

Analyte	*Units*	*Certified Value* [1,4]
1,2,4-Trichlorobenzene	µg/Kg	1477 ± 181
1,3-Dichlorobenzene (m-Dichlorobenzene)	µg/Kg	1625 ± 292
1-Chloronaphthalene	µg/Kg	2809 ± 84
2,3-Dimethylphenol	µg/Kg	4552 ± 137
2,4,5-Trichlorophenol	µg/Kg	3438 ± 245
2,4,6-Trichlorophenol	µg/Kg	2194 ± 251
2,4-Dichlorophenol	µg/Kg	6991 ± 394
2,4-Dimethylphenol	µg/Kg	6357 ± 879
2,4-Dinitrophenol	µg/Kg	2922 ± 523
2,4-Dinitrotoluene (2,4-DNT)	µg/Kg	3318 ± 442
2,6-Dichlorophenol	µg/Kg	4578 ± 874
2,6-Dimethylphenol	µg/Kg	7582 ± 228
2-Chloronaphthalene	µg/Kg	2223 ± 168
2-Chlorophenol	µg/Kg	1678 ± 202
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	µg/Kg	5148 ± 685
2-Methylphenol (o-Cresol)	µg/Kg	6004 ± 573
2-Nitrophenol	µg/Kg	6456 ± 383
3,4-Dimethylphenol	µg/Kg	7185 ± 216
3+4-Methylphenol (m+p-Cresol)	µg/Kg	8033 ± 1613
4-Bromophenyl phenyl ether (BDE-3)	µg/Kg	7169 ± 310
4-Chloro-3-methylphenol	µg/Kg	2071 ± 110
4-Chlorophenyl phenylether	µg/Kg	2052 ± 113
4-Methylphenol (p-Cresol)	µg/Kg	6617 ± 1371
4-Nitrophenol	µg/Kg	6812 ± 595
Acenaphthene	µg/Kg	5489 ± 380

Description

Lot **LRAC8918**
Expiration Date January 2024
Manufacturing Date January 2021
Storage Conditions Refrigerate
Solvent/Matrix SOIL

Acenaphthylene	µg/Kg	1948 ± 240
Anthracene	µg/Kg	2866 ± 237
Benzo(a)anthracene	µg/Kg	5751 ± 552
Benzo(a)pyrene	µg/Kg	5902 ± 612
Benzo(b)fluoranthene	µg/Kg	3010 ± 409
Benzo(b+k)fluoranthene	µg/Kg	6534 ± 196
Benzo(g,h,i)perylene	µg/Kg	1380 ± 136
Benzo(k)fluoranthene	µg/Kg	2215 ± 237
Butyl benzyl phthalate	µg/Kg	3511 ± 384
Carbazole	µg/Kg	5412 ± 407
Chrysene	µg/Kg	1477 ± 72
Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)	µg/Kg	2905 ± 321
Dibenzo(a,h)anthracene	µg/Kg	3420 ± 302
Dibenzofuran	µg/Kg	6130 ± 253
Dimethyl phthalate	µg/Kg	4537 ± 250
Di-n-butyl phthalate	µg/Kg	1721 ± 154
Di-n-octyl phthalate	µg/Kg	2744 ± 288
Fluoranthene	µg/Kg	2497 ± 222
Fluorene	µg/Kg	3724 ± 222
Hexachlorobutadiene	µg/Kg	1877 ± 245
Indeno(1,2,3-cd) pyrene	µg/Kg	3914 ± 409
Isophorone	µg/Kg	1615 ± 170
Naphthalene	µg/Kg	4458 ± 480
Nitrobenzene	µg/Kg	3539 ± 266
n-Nitrosodimethylamine	µg/Kg	1580 ± 402
n-Nitrosodiphenylamine	µg/Kg	2854 ± 379
Pentachlorophenol	µg/Kg	3411 ± 358
Phenanthrene	µg/Kg	5052 ± 385
Phenol	µg/Kg	2660 ± 184
Pyrene	µg/Kg	2964 ± 256
Pyridine	µg/Kg	1008 ± 30

Informational Values

Certificate of Analysis

BNAs - Sandy Loam 1

Certified Reference Material

Description

Product ID CRM143-50G
Lot **LRAC8918**
Expiration Date January 2024
Manufacturing Date January 2021
Storage Conditions Refrigerate
Solvent/Matrix SOIL

Analyte	*Units*	*Suggested Acceptance Windows*	*Standard Deviation*
1,2,4-Trichlorobenzene	µg/Kg	148 to 2853	459
1,3-Dichlorobenzene (m-Dichlorobenzene)	µg/Kg	163 to 3440	605
1-Chloronaphthalene	µg/Kg	1123 to 4494	562
2,3-Dimethylphenol	µg/Kg	1821 to 7284	910
2,4,5-Trichlorophenol	µg/Kg	1003 to 5872	811
2,4,6-Trichlorophenol	µg/Kg	640 to 3748	518
2,4-Dichlorophenol	µg/Kg	2391 to 11591	1533
2,4-Dimethylphenol	µg/Kg	0.00 to 13959	2534
2,4-Dinitrophenol	µg/Kg	1169 to 4675	584
2,4-Dinitrotoluene (2,4-DNT)	µg/Kg	1248 to 5388	690
2,6-Dichlorophenol	µg/Kg	1831 to 7324	916
2,6-Dimethylphenol	µg/Kg	3033 to 12132	1516
2-Chloronaphthalene	µg/Kg	748 to 3699	492
2-Chlorophenol	µg/Kg	415 to 2942	421
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	µg/Kg	0.00 to 10347	1733
2-Methylphenol (o-Cresol)	µg/Kg	1306 to 10702	1566
2-Nitrophenol	µg/Kg	1534 to 11379	1641
3,4-Dimethylphenol	µg/Kg	2874 to 11495	1437
3+4-Methylphenol (m+p-Cresol)	µg/Kg	4054 to 16218	2027
4-Bromophenyl phenyl ether (BDE-3)	µg/Kg	2901 to 11437	1423
4-Chloro-3-methylphenol	µg/Kg	677 to 3464	464
4-Chlorophenyl phenylether	µg/Kg	756 to 3348	432
4-Methylphenol (p-Cresol)	µg/Kg	2647 to 10587	1323
4-Nitrophenol	µg/Kg	681 to 14762	2650
Acenaphthene	µg/Kg	2243 to 8736	1082
Acenaphthylene	µg/Kg	712 to 3183	412
Anthracene	µg/Kg	1218 to 4515	550
Benzo(a)anthracene	µg/Kg	2806 to 8696	982
Benzo(a)pyrene	µg/Kg	2512 to 9292	1130
Benzo(b)fluoranthene	µg/Kg	1197 to 4822	604
Benzo(b+k)fluoranthene	µg/Kg	2614 to 10454	1307

Description

Lot **LRAC8918**
Expiration Date January 2024
Manufacturing Date January 2021
Storage Conditions Refrigerate
Solvent/Matrix SOIL

Benzo(g,h,i)perylene	µg/Kg	489 to 2271	297
Benzo(k)fluoranthene	µg/Kg	892 to 3537	441
Butyl benzyl phthalate	µg/Kg	1255 to 5766	752
Carbazole	µg/Kg	2032 to 8792	1127
Chrysene	µg/Kg	669 to 2284	269
Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)	µg/Kg	765 to 5045	713
Dibenzo(a,h)anthracene	µg/Kg	1257 to 5583	721
Dibenzofuran	µg/Kg	2766 to 9493	1121
Dimethyl phthalate	µg/Kg	1842 to 7231	898
Di-n-butyl phthalate	µg/Kg	495 to 2947	409
Di-n-octyl phthalate	µg/Kg	690 to 4798	685
Fluoranthene	µg/Kg	984 to 4009	504
Fluorene	µg/Kg	1638 to 5810	695
Hexachlorobutadiene	µg/Kg	425 to 3329	484
Indeno(1,2,3-cd) pyrene	µg/Kg	870 to 6957	1015
Isophorone	µg/Kg	437 to 2792	392
Naphthalene	µg/Kg	1131 to 7784	1109
Nitrobenzene	µg/Kg	1024 to 6054	838
n-Nitrosodimethylamine	µg/Kg	632 to 2528	316
n-Nitrosodiphenylamine	µg/Kg	1142 to 4567	571
Pentachlorophenol	µg/Kg	341 to 7037	1209
Phenanthrene	µg/Kg	2307 to 7798	915
Phenol	µg/Kg	681 to 4639	660
Pyrene	µg/Kg	1118 to 4810	615
Pyridine	µg/Kg	403 to 1613	202

Additional Information:

DESCRIPTION

The organic sample is a soil containing extractable BNAs for analysis by 8100, 8270, 8310 or equivalent methods.

This product consist of a 5 vials each containing 10g of soil for analysis of PAHs. Each vial is identical and has been tested how homogeneity. Only one vial is need for test the remaining vials are to be used for multiple methods or routine testing.

The soil has been sterilized to minimize degradation of the sample.

The sample has been sized to 100 mesh.

Required storage condition is 4ºC.

The sample has been intentionally prepared with an apparent headspace.

STORAGE

The sample should be stored at 4ºC. It has been determined to be stable for the duration of the expiration date.

After sub-sampling replace cap securely and store remaining sample at 4ºC.

The shelf life of the product was determined by historic stability of similar CRM's. The expiration date may be extended based on stock and popularity upon successful stability testing by a 17025 accredited laboratory.

Certificate of Analysis

BNAs - Sandy Loam 1

Certified Reference Material

Description

Product ID	CRM143-50G
Lot	**LRAC8918**
Expiration Date	January 2024
Manufacturing Date	January 2021
Storage Conditions	Refrigerate
Solvent/Matrix	SOIL

Stability and shelf life after opening must be determined by the user, taking into account sampling frequency/volume and all local conditions.

SAMPLE PREPARATION

Extract the complete contents of a single vial. Transfer entire contents of one vial to extraction vessel. Rinse vial and cap with extraction solvent.

Assume a 10g sample size for all calculations.

Note: Sample extracts and calibration solutions should be in the same solvent.

Report all results on a wet weight basis, do not correct for moisture.

NOTE: For method 8100 and using a packed column gas chromatographic method or cannot adequately resolve the following may coelute in four pairs of compounds: anthracene and phenanthrene; chrysene and benzo(a)anthracene; benzo(b)fluoranthene and benzo(k)fluoranthene; and dibenzo(a,h)anthracene and indeno(1,2,3-cd)pyrene.

SCOPE AND APPLICATION

The BNAs in Soil Certified Reference Material (CRM) consists of 5 10mL VOA vials, with a Teflon lined closures containing approximately 10 grams of soil, fortified with BNAs. Being a natural matrix waste sample the analyst is challenged by the same preparation problems, analytical interferences, etc. as is typical for similar matrices received by the laboratory for analysis.

Description

Lot	**LRAC8918**
Expiration Date	January 2024
Manufacturing Date	January 2021
Storage Conditions	Refrigerate
Solvent/Matrix	SOIL

1 **Metrological traceability:** Traceable to the SI and higher order standards from NIST through an unbroken chain of comparisons. The balance used to weigh raw materials is accurate to +/-0.0001 g and calibrated regularly using mass standards traceable to NIST. All dilutions were performed gravimetrically. Additionally, individual analytes are traceable to NIST SRMs where available and specified above.
4 Ucrm - Uncertainty values in this document are expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k, which is obtained from a *t*-distribution and degrees of freedom. K=2 unless specified. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long term stability, and short term stability (transport). The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies. The mathematical representation of the Ucrm calculation is as follows:

$$u_{CRM} = \sqrt{u_{char}^2 + u_{\text{hom } ogeneity}^2 + u_{stability}^2}$$

***k*:** Coverage factor derived from a t-distribution table, based on the degrees of freedom of the data set. Assume 2.0 for a **Confidence interval = 95%**

6 Analytical Value- For QC verification of the certified value only- not to be used in calculations. Represents the analytical data obtained by comparison to a standard as analyzed by the method described in the CoA or another acceptable method. The result may differ from the certified value and UCRM based on method uncertainty as well as the uncertainty associated with the standard used for comparison.

Traceability: The standard was manufactured under an ISO/IEC 17025:2017 certified quality system. The balance used to weigh raw materials is accurate to +/- 0.0001g and calibrated regularly using mass standards traceable to NIST. All dilutions were preformed gravimetrically. Additionally, individual analytes are traceable to NIST SRMs where available and specified above.

Homogeneity: Homogeneity was assessed in accordance with ISO 17034:2016. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared using a one-way analysis of variance approach as described by TNI EL-V3-2009 Appendix A.2. See Instructions for minimum sub-sample size.

Expiration is at end of month given on certificate and label.

MSDS reports for components comprising greater than 1.0% of the solution or 0.1% for components known to be carcinogens are available upon request.

THIS PRODUCT WAS DESIGNED, PRODUCED AND VERIFIED FOR ACCURACY AND STABILITY IN ACCORDANCE WITH **ISO/IEC 17025:2017 (ANAB Cert AT-1467)** and **ISO 17034:2016 (ANAB Cert AR-1470).**

Andy Ommen - QC Manager

Mark Pooler - QA Supervisor

Certification Date	January 05, 2021
Version	0-152021

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

Agilent

Certificate of Analysis

Product Name: Toxic Substances Standard

Product Number: US-103N-1 **Lot Issue Date:** 25-May-2021

Lot Number: 0006609664 **Expiration Date:** 30-Jun-2024

Description:
This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	Concentration ± Uncertainty
benzoic acid	000065-85-0	RM01884	2005 ± 10 µg/mL
o-cresol	000095-48-7	RM12877	2005 ± 10 µg/mL
p-cresol	000106-44-5	RM01988	2005 ± 10 µg/mL
2,4,5-trichlorophenol	000095-95-4	NT00344	2004 ± 10 µg/mL

Matrix: methylene chloride (dichloromethane)

Storage Conditions: Store at Room Temperature (15° to 30°C).

Traceability:
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:
This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Hazards:
Refer to the Safety Data Sheet on www.agilent.com for information regarding this RM.

5/11/22

K004539
toxic sub mix#1
Solvent / Lot: methylene chloride
Prep: 5/11/2022 by JZ
Exp: 6/30/2024
Location:

ANAB ACCREDITED ISO17034 REFERENCE MATERIAL PRODUCER
ISO 17034 Cert No. AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026

www.agilent.com/quality/
CSD-QA-015.1

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
ISO 17025 Cert No. AT-1937

ISO 17034

Agilent
Trusted Answers

Reference Material Certificate

Product Name: Phenols Standard
Product Number: US-107N-1
Storage Conditions: Store at Room Temperature (15° to 30°C).

Lot Number: 0006648297
Lot Issue Date: 17-Nov-2021
Expiration Date: 31-Dec-2024

Component Name	CERTIFIED VALUES Concentration	Expanded Uncertainty	CAS#	Analyte Lot
4-chloro-3-methylphenol	2006 ±	10 µg/mL	000059-50-7	RM01885
2-chlorophenol	2007 ±	10 µg/mL	000095-57-8	RM01871
2,4-dichlorophenol	2005 ±	10 µg/mL	000120-83-2	RM13878
2,4-dimethylphenol	2006 ±	10 µg/mL	000105-67-9	RM13009
2,4-dinitrophenol	2006 ±	10 µg/mL	000051-28-5	RM02112
2-methyl-4,6-dinitrophenol	2005 ±	10 µg/mL	000534-52-1	RM02292
2-nitrophenol	2007 ±	10 µg/mL	000088-75-5	RM13445
4-nitrophenol	2006 ±	10 µg/mL	000100-02-7	RM03752
pentachlorophenol	2006 ±	10 µg/mL	000087-86-5	RM02474
phenol	2006 ±	10 µg/mL	000108-95-2	RM11471
2,4,6-trichlorophenol	2006 ±	10 µg/mL	000088-06-2	RM18096

Matrix: methylene chloride (dichloromethane)

Description:
This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above.

Traceability:
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:
This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Safety:
Refer to the Safety Data Sheet on www.agilent.com for information regarding this analytical reference material.

5/11/22

CSD-QA-015.1

K004540
phenols mix
Solvent / Lot: methylene chloride
Prep: 5/11/2022 by JZ
Exp: 12/31/2024
Location:

ISO 17034

Agilent
Trusted Answers

Reference Material Certificate

Product Name: PAH Standard
Product Number: US-106N-1
Storage Conditions: Store at Room Temperature (15° to 30°C).

Lot Number: 0006627349
Lot Issue Date: 17-Sep-2021
Expiration Date: 31-Oct-2024

Component Name	CERTIFIED VALUES Concentration	Expanded Uncertainty	CAS#	Analyte Lot
acenaphthene	2007 ±	10 µg/mL	000083-32-9	RM10879
acenaphthylene	2004 ±	10 µg/mL	000208-96-8	RM10891
anthracene	2006 ±	10 µg/mL	000120-12-7	RM14212
benz[a]anthracene	2006 ±	10 µg/mL	000056-55-3	RM16072
benzo[b]fluoranthene	2006 ±	10 µg/mL	000205-99-2	RM14571
benzo[k]fluoranthene	2006 ±	10 µg/mL	000207-08-9	RM18376
benzo[ghi]perylene	2006 ±	10 µg/mL	000191-24-2	RM15761
benzo[a]pyrene	2006 ±	10 µg/mL	000050-32-8	RM17573
chrysene	2007 ±	10 µg/mL	000218-01-9	RM13771
dibenz[a,h]anthracene	2006 ±	10 µg/mL	000053-70-3	RM06786
fluoranthene	2006 ±	10 µg/mL	000206-44-0	RM12277
fluorene	2006 ±	10 µg/mL	000086-73-7	RM09441
indeno[1,2,3-cd]pyrene	2006 ±	10 µg/mL	000193-39-5	RM14192
naphthalene	2007 ±	10 µg/mL	000091-20-3	RM10445
phenanthrene	2005 ±	10 µg/mL	000085-01-8	RM10495
pyrene	2005 ±	10 µg/mL	000129-00-0	RM16126

Matrix: methylene chloride/benzene (1:1)

Description:
This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above.

Traceability:
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:
This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

K004541
SVOA PAH STD 2000ug/ml
Solvent / Lot: DCM/BENZENE
Prep: 5/11/2022 by JZ
Exp: 10/31/2024
Location: Fridge 19

CSD-QA-015.1

11/22

Reference Materials Producer
Cert #2495.01

Certificate of Analysis

Chemical Testing
Cert #2495.02

Catalog Number: ECS-A-030 **Lot No.** AA210126005

Description: Base/Neutrals Mix 1

Matrix: Methylene Chloride

Manufactured Date: 1-26-2021

Expiration Date: 1-26-2024

This **SPEXOrganics**® Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

Certified Compounds:

Compound	CAS #	Labeled	Purity	Certified†	Uncertainty
1,2,4-Trichlorobenzene	120-82-1	2000 µg/mL	99%	2010 µg/mL	± 50 µg/mL
1,2-Dichlorobenzene	95-50-1	2000 µg/mL	99%	2002 µg/mL	± 50 µg/mL
1,3-Dichlorobenzene	541-73-1	2000 µg/mL	98%	2021 µg/mL	± 51 µg/mL
1,4-Dichlorobenzene	106-46-7	2000 µg/mL	99%	2012 µg/mL	± 50 µg/mL
2,4-Dinitrotoluene	121-14-2	2000 µg/mL	97%	2006 µg/mL	± 50 µg/mL
2,6-Dinitrotoluene	606-20-2	2000 µg/mL	99.6%	2012 µg/mL	± 50 µg/mL
2-Chloronaphthalene	91-58-7	2000 µg/mL	98%	2004 µg/mL	± 50 µg/mL
4-Bromodiphenyl ether	101-55-3	2000 µg/mL	99%	2022 µg/mL	± 51 µg/mL
4-Chlorophenyl-phenyl ether	7005-72-3	2000 µg/mL	98%	2001 µg/mL	± 50 µg/mL
Azobenzene	103-33-3	2000 µg/mL	98%	2001 µg/mL	± 50 µg/mL
Bis(2-chloro-1-methylethyl) ether	108-60-1	2000 µg/mL	98.9%	2010 µg/mL	± 50 µg/mL
bis(2-Chloroethoxy)methane	111-91-1	2000 µg/mL	97%	2001 µg/mL	± 50 µg/mL
bis(2-Chloroethyl)ether	111-44-4	2000 µg/mL	99%	2002 µg/mL	± 50 µg/mL
Bis(2-Ethylhexyl)phthalate	117-81-7	2000 µg/mL	99%	2003 µg/mL	± 50 µg/mL
Butylbenzyl phthalate	85-68-7	2000 µg/mL	98%	2000 µg/mL	± 50 µg/mL
Carbazole	86-74-8	2000 µg/mL	95%	2009 µg/mL	± 50 µg/mL
Di-n-butyl phthalate	84-74-2	2000 µg/mL	99%	2020 µg/mL	± 50 µg/mL
Di-n-octyl phthalate	117-84-0	2000 µg/mL	98%	2000 µg/mL	± 50 µg/mL
Diethyl phthalate	84-66-2	2000 µg/mL	99.5%	2002 µg/mL	± 50 µg/mL
Dimethyl phthalate	131-11-3	2000 µg/mL	99%	2006 µg/mL	± 50 µg/mL
Hexachlorobenzene	118-74-1	2000 µg/mL	99%	2003 µg/mL	± 50 µg/mL
Hexachlorobutadiene	87-68-3	2000 µg/mL	97%	2003 µg/mL	± 50 µg/mL
Hexachlorocyclopentadiene	77-47-4	2000 µg/mL	99%	2003 µg/mL	± 50 µg/mL
Hexachloroethane	67-72-1	2000 µg/mL	98%	2003 µg/mL	± 50 µg/mL
Isophorone	78-59-1	2000 µg/mL	97%	2003 µg/mL	± 50 µg/mL
N-Nitrosodi-n-propylamine	621-64-7	2000 µg/mL	98%	2000 µg/mL	± 50 µg/mL
N-Nitrosodiphenylamine	86-30-6	2000 µg/mL	97%	2001 µg/mL	± 50 µg/mL
Nitrobenzene	98-95-3	2000 µg/mL	99%	2001 µg/mL	± 50 µg/mL
Pyridine	110-86-1	2000 µg/mL	99%	2004 µg/mL	± 50 µg/mL
N-Nitrosodimethylamine	62-75-9	2000 µg/mL	97%	2000 µg/mL	± 50 µg/mL

Certificate of Reference Material

Catalog Number: ECS-A-030 **Lot No.** AA210126005

Description: Base/Neutrals Mix 1

Matrix: Methylene Chloride

Manufactured Date: 1-26-2021

Expiration Date: 1-26-2024

Final Solution Verification:

Final solution integrity verified by Gas Chromatography/Mass Spectrometry. The mass spectrum of each compound was confirmed against the NIST mass spectral database.

† Certified concentration based on gravimetric weights and corrected for the purity of the compound(s) used to prepare the standard. Analytical balance calibration is verified daily with C1 weight set #23-190006 which is registered with Atlantic Scale, and traceable to NIST and NJ Division of Weights and Measures.

This CRM is guaranteed stable and accurate to within the uncertainty listed for the certified value. This includes uncertainty components due to preparation, homogeneity, short term and long term stability. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further information, contact the Sales Support Department at crmsales@spexcsp.com.

Date of Certification: 1-26-2021 Certifying Officer: Shannon Mora

Report of Certification

Catalog Number: ECS-A-030 **Lot No.** AA210126005

Description: Base/Neutrals Mix 1

Matrix: Methylene Chloride

Manufactured Date: 1-26-2021

Expiration Date: 1-26-2024

This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001:2008, ISO 17025:2005, and ISO Guide 34:2009 Quality System consistent with the following standards:

- ISO 9001:2008: Quality management systems - Requirements - Certified by UL-DQS
- ISO 17025:2005: General Requirements for the Competence of Testing and Calibration Laboratories - Accredited by A2LA
- ISO Guide 34:2009: General Requirements for the Competence of Reference Material Producers - Accredited by A2LA
- ISO Guide 31:2000: Reference Materials - Contents of Certificates and Labels
- ISO Guide 35:2006: Reference Materials - General and statistical principals for certification
- Guide to the Expression of Uncertainty in Measurement 1997
- EURACHEM/CITAC Guide: Qualifying Uncertainty in Analytical Measurements - Second Edition
- ASTM Guide D6362-98
- NIST Technical Note 1297
- ILAC-G12-2000: Guidelines for the requirements for the competence of reference material producers
- ISO/REMCO N280

Storage Requirements:

To ensure the stability of the product once it arrives in your laboratory , please store this product in a refrigerator (2°C to 8°C). Note: Shipping conditions may differ from storage conditions. The EXPIRATION DATE is calculated from the MANUFACTURED DATE using our stability data and is applicable only if the product is unopened and stored under the prescribed conditions.

Instructions for Use:

Let material come to room temperature before use. Check for precipitate and if necessary sonicate for one minute. If compounds do not dissolve after one minute then sonicate further until the product is dissolved. A clear appearance is acceptable. The minimum recommended amount that should be removed from this vial is 5 µL with a 25µL gas tight syringe. All solutions should be thoroughly mixed, by shaking, prior to use. All surfaces that come in contact with the solution must be thoroughly cleaned prior to use. Dilutions should be performed only with Class A volumetric glassware.

Material Source:

All analytes and matrix materials are obtained and verified by SPEX CertiPrep from pre-qualified vendors as per ISO guidelines. Vendor identifications are proprietary, however sources of all materials used in the preparation and testing of SPEX CertiPrep CRMs are tracked and documented. For assistance, please contact sales support at crmsales@spexcsp.com.

Method of Preparation:

Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, and analytical instrumentation have been qualified prior to use. The highest purity solvents and Class A / calibrated volumetrics have been been used in all preparations.

Homogeneity:

The homogeneity of this CRM has been confirmed by procedures consistent with ISO 17025:2005, ISO Guide 34:2009, and ASTM D6362-98 Appendix X2. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedure 4300-HOMOGEN-1A. This is consistent with the intended use of this CRM. The Degree of Homogeneity, as expressed as maximum between-bottle variation, is 1.2%

Statistical Estimator and Confidence Limits:

The Certified value 'X' as listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X=certified value, U=expanded uncertainty, x=property value
- $U = ku_c$ where k=2 is the coverage factor at the 95% confidence level
- u_c = combined standard uncertainty obtained by combining the individual compound standard uncertainty components u_i, where $u_c = \sqrt{\sum u_i^2}$

Legal Notice:

SPEX CertiPrep Certified Reference Materials are not for any cosmetic, drug, or household application and are to be used only by qualified individuals who are trained in appropriate procedures. No claims against SPEX CertiPrep of any kind whatsoever, whether based on breech of warranty, alleged negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall SPEX CertiPrep be liable for any loss of profits or any incidental, special, or consequential damages.

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Accredited to 17025 & Guide 34 ISO Certified to 9001

ACCREDITED
Reference Materials Producer
Cert #2495.01

ECS

Certificate of Analysis

ilac-MRA ACCREDITED
Chemical Testing
Cert #2495.02

Catalog Number: ECS-A-030 **Lot No.** AA210126005

Description: Base/Neutrals Mix 1

Matrix: Methylene Chloride

Manufactured Date: 1-26-2021

Expiration Date: 1-26-2024

This **SPEXOrganics®** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

Certified Compounds:

Compound	CAS #	Labeled	Purity	Certified†	Uncertainty
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4-Bromodiphenyl ether	101-55-3	2000 µg/mL	99%	2022 µg/mL	± 51 µg/mL
4-Chlorophenyl-phenyl ether	7005-72-3	2000 µg/mL	98%	2001 µg/mL	± 50 µg/mL
Azobenzene	103-33-3	2000 µg/mL	98%	2001 µg/mL	± 50 µg/mL
Bis(2-chloro-1-methylethyl) ether	108-60-1	2000 µg/mL	98.9%	2010 µg/mL	± 50 µg/mL
bis(2-Chloroethoxy)methane	111-91-1	2000 µg/mL	97%	2001 µg/mL	± 50 µg/mL
bis(2-Chloroethyl)ether	111-44-4	2000 µg/mL	99%	2002 µg/mL	± 50 µg/mL
Bis(2-Ethylhexyl)phthalate	117-81-7	2000 µg/mL	99%	2003 µg/mL	± 50 µg/mL
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Carbazole	86-74-8	2000 µg/mL	95%	2009 µg/mL	± 50 µg/mL
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Diethyl phthalate	84-66-2	2000 µg/mL	99.5%	2002 µg/mL	± 50 µg/mL
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K004542

Certificate of Reference Material

Catalog Number: ECS-A-030 **Lot No.** AA210126005

Description: Base/Neutrals Mix 1

Matrix: Methylene Chloride

Manufactured Date: 1-26-2021

Expiration Date: 1-26-2024

Final Solution Verification:

Final solution integrity verified by Gas Chromatography/Mass Spectrometry. The mass spectrum of each compound was confirmed against the NIST mass spectral database.

† Certified concentration based on gravimetric weights and corrected for the purity of the compound(s) used to prepare the standard. Analytical balance calibration is verified daily with C1 weight set #23-190006 which is registered with Atlantic Scale, and traceable to NIST and NJ Division of Weights and Measures.

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Date of Certification: 1-26-2021 Certifying Officer: Shannon Nave

Report of Certification

Catalog Number: ECS-A-030 **Lot No.** AA210126005

Description: Base/Neutrals Mix 1

Matrix: Methylene Chloride

Manufactured Date: 1-26-2021

Expiration Date: 1-26-2024

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Material Source:

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Method of Preparation:

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Homogeneity:

The homogeneity of this CRM has been confirmed by procedures consistent with ISO 17025:2005, ISO Guide 34:2009, and ASTM D6362-98 Appendix X2. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedure 4300-HOMOGEN-1A. This is consistent with the intended use of this CRM. The Degree of Homogeneity, as expressed as maximum between-bottle variation, is 1.2%

Statistical Estimator and Confidence Limits:

The Certified value 'X' as listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X=certified value, U=expanded uncertainty, x=property value
- $U = ku_c$ where k=2 is the coverage factor at the 95% confidence level
- u_c = combined standard uncertainty obtained by combining the individual compound standard uncertainty components u_i where $u_c = \sqrt{\sum u_i^2}$

Legal Notice:

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Agilent

Certificate of Analysis

Product Name: 1-Methylnaphthalene Standard

Product Number: EPA-1225-1 **Lot Issue Date:** 19-Jul-2021

Lot Number: 0006624769 **Expiration Date:** 31-Jul-2023

Description:
This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	Concentration ± Uncertainty
1-methylnaphthalene	000090-12-0	RM07712	999.3 ± 5.0 µg/mL

Matrix: methanol (methyl alcohol)

Storage Conditions: Store at Room Temperature (15° to 30°C).

Traceability:
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:
This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Hazards:
Refer to the Safety Data Sheet on www.agilent.com for information regarding this RM.

Expiration of Certification:
The certification of this RM is valid until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

Maintenance of Certification:
If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

K004543
1-Methylnaphthalene
Solvent / Lot: MEOH
Prep: 5/11/2022 by JZ
Exp: 7/31/2023
Location:

5/11/22

Sample lot approver:
Monica Bourgeois
QMS Representative

ANAB ACCREDITED ISO17034 REFERENCE MATERIAL PRODUCER
ISO 17034 Cert
No. AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026
Page: 1 of 1
www.agilent.com/quality/
CSD-QA-015.1

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
ISO 17025 Cert
No. AT-1937

Agilent

Certificate of Analysis

Product Name: Toxic Substances Standard

Product Number: US-104N-1 **Lot Issue Date:** 02-Jul-2021

Lot Number: 0006620643 **Expiration Date:** 31-Jul-2023

Description:
This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	Concentration ± Uncertainty
aniline	000062-53-3	RM12853	2005 ± 10 µg/mL
benzyl alcohol	000100-51-6	RM10547	2004 ± 10 µg/mL
4-chloroaniline	000106-47-8	RM01886	2002 ± 10 µg/mL
dibenzofuran	000132-64-9	RM02077	2002 ± 10 µg/mL
2-methylnaphthalene	000091-57-6	RM01258	2006 ± 10 µg/mL
2-nitroaniline	000088-74-4	RM02402	2003 ± 10 µg/mL
3-nitroaniline	000099-09-2	RM02424	2003 ± 10 µg/mL
4-nitroaniline	000100-01-6	RM02425	2003 ± 10 µg/mL

Matrix: methylene chloride (dichloromethane)

Storage Conditions: Store at Room Temperature (15° to 30°C).

Traceability:
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:
This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

K004544
toxic sub mix#2
Solvent / Lot: methylene chloride
Prep: 5/11/2022 by JZ
Exp: 7/31/2023
Location:

05/11/22

ANAB ACCREDITED ISO17034 REFERENCE MATERIAL PRODUCER
ISO 17034 Cert No. AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026

www.agilent.com/quality/
CSD-QA-015.1

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
ISO 17025 Cert No. AT-1937

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31493 **Lot No.:** A0181243

Description : CLP 04.1 BNA Surrogate Mix

CLP 04.1 BNA Surrogate Mix 1000-1500 µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2025 **Storage:** 10°C or colder

Handling: Sonicate prior to use. **Ship:** Ambient

05/11/22

K004545
CLP 04.1 BNA SURR MIX
Solvent / Lot: AO175316
Prep: 5/11/2022 by JZ
Exp: 10/20/2025
Location:

Elution Order	Compound	Gr (weig					
1	2-Fluorophenol **CAS #** 367-12-4 (Lot STBJ2508) **Purity** 99%	1,50				µg/mL	Stressed
				+/-	53.3632	µg/mL	Stressed
2	Phenol-d6 **CAS #** 13127-88-3 (Lot PR-31262) **Purity** 99%	1,506.0	µg/mL	+/-	8.9452	µg/mL	Gravimetric
				+/-	43.9882	µg/mL	Unstressed
				+/-	53.3632	µg/mL	Stressed
3	2-Chlorophenol-d4 **CAS #** 93951-73-6 (Lot PR-30568) **Purity** 99%	1,510.0	µg/mL	+/-	8.9689	µg/mL	Gravimetric
				+/-	44.1050	µg/mL	Unstressed
				+/-	53.5049	µg/mL	Stressed
4	1,2-Dichlorobenzene-d4 **CAS #** 2199-69-1 (Lot PR-32542/022621DB1 **Purity** 99%	1,004.0	µg/mL	+/-	5.9635	µg/mL	Gravimetric
				+/-	29.3255	µg/mL	Unstressed
				+/-	35.5754	µg/mL	Stressed
5	Nitrobenzene-d5 **CAS #** 4165-60-0 (Lot PR-29940A) **Purity** 99%	1,008.0	µg/mL	+/-	5.9872	µg/mL	Gravimetric
				+/-	29.4423	µg/mL	Unstressed
				+/-	35.7172	µg/mL	Stressed
6	2-Fluorobiphenyl **CAS #** 321-60-8 (Lot 19169) **Purity** 99%	1,006.0	µg/mL	+/-	5.9753	µg/mL	Gravimetric
				+/-	29.3839	µg/mL	Unstressed
				+/-	35.6463	µg/mL	Stressed
7	2,4,6-Tribromophenol **CAS #** 118-79-6 (Lot MKCJ7664) **Purity** 99%	1,506.0	µg/mL	+/-	8.9452	µg/mL	Gravimetric
				+/-	43.9882	µg/mL	Unstressed
				+/-	53.3632	µg/mL	Stressed

Certificate of Analysis

phenova Certified Reference Materials | A Phenomenex Company

Produced by Phenova
6390 Joyce Drive STE 100, Golden, CO 80403 USA ▪ Tel: 303-940-0033 ▪ Fax: 303-940-0043 ▪ info@phenova.com
Access your Safety Data Sheets and digital Certificates at **www.phenova.com/documents.**

Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101246
Description: Benzoic Acid
Storage: 4 °C
Provided As: 1 mL in 2 mL Ampoule in Methylene Chloride

Lot Number: CL17953
Certification Date: January 31, 2022
Expiration Date: January 31, 2032

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Benzoic acid	65-85-0	2000	± 2.714%

K004603
Benzoic Acid @2000ug/ml
Solvent / Lot: N/A
Prep: 5/13/2022 by JZ
Exp: 1/31/2032
Location: GC

5/13/22

ACCREDITED
Reference Material Producer
Certicate No. 2427.02

phenova Certified Reference Materials | A Phenomenex Company

Phenova is an accredited ISO/IEC 17034 Reference Material Producer and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ACCREDITED
Chemical Testing Laboratory
Certicate No. 2427.03

IL64691018 us

Certificate of Analysis

phenova Certified Reference Materials | A Phenomenex Company

Produced by Phenova
6390 Joyce Drive STE 100, Golden, CO 80403 USA ▪ Tel: 303-940-0033 ▪ Fax: 303-940-0043 ▪ info@phenova.com
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Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101244
Description: Benzidines Standard
Storage: 4 °C
Provided As: 1 mL in 2 mL Ampoule in Methylene Chloride

Lot Number: CL17662
Certification Date: December 2, 2021
Expiration Date: November 30, 2031

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Benzidine	92-87-5	2000	± 0.211%
3,3'-Dichlorobenzidine	91-94-1	2000	± 1.305%

K004604
Benzidines std @2000ug/ml
Solvent / Lot: MeCl2
Prep: 5/13/2022 by JZ
Exp: 11/30/2031
Location: GC

5/13/22

ACCREDITED
Reference Material Producer
Certicate No. 2427.02

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Phenova is an accredited ISO/IEC 17034 Reference Material Producer and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ACCREDITED
Chemical Testing Laboratory
Certicate No. 2427.03

IL64691018_us

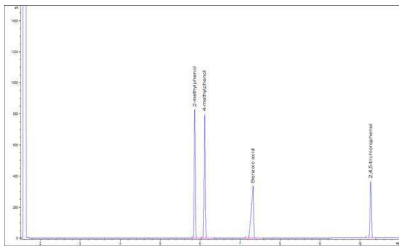
Supelco®

www.sigmaaldrich.com

Certificate of Analysis - Certified Reference Material

EPA TCL Hazardous Substances Mix 1

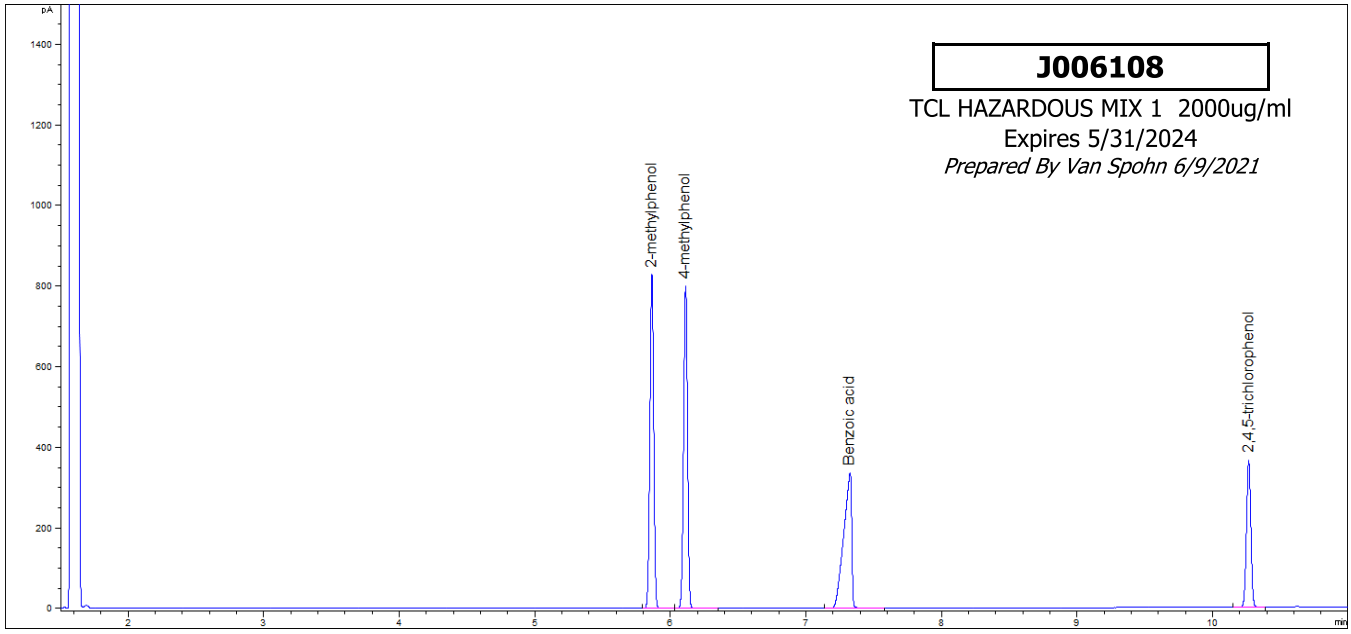
Product no.: 48907
Lot no.: LRAC9610
Expiry Date: May 2024
Manufacturing Date: May 2021
Storage: Refrigerate
Solvent/Matrix: DICHLOROMETHANE
Certificate version: LRAC9610.01 *(Note: Certificates may be updated due to the availability of new data. Check our website at: www.sigma-aldrich.com for the most current version.)*



Certified Values:

Analyte	*Certified Value*	*Units*	*Raw Material Purity,%*	*Elution order*	*Raw Material Lot*
2-METHYLPHENOL CAS# 95-48-7	2004 ± 9	µg/mL	99.0	1	G1735A
4-METHYLPHENOL CAS# 106-44-5	2004 ± 13	µg/mL	98.9	2	06921MG
BENZOIC ACID CAS# 65-85-0	2012 ± 6	µg/mL	99.9	3	LC16514
2,4,5-TRICHLOROPHENOL CAS# 95-95-4	2003 ± 6	µg/mL	99.9	4	JS00008

Informational Values:



Additional Information:
Analytical Method Parameters:
Column: Equity-5, 30 m × 0.53 mm I.D., 1.5 µm film thickness (Column #98)
Carrier Gas: H2, Flow: 4.5 mL/min
Inlet Temperature: 170 °C, Injection Volume: 1 µL
Injection Mode: Split, Split Ratio: 20:1

Sigma-Aldrich RTC, 2931 Soldier Springs Rd. Laramie, WY 82070, USA;
Tel. 1 307-742-5452; Fax 1 855-831-9211; www.sigmaaldrich.com
Sigma-Aldrich RTC is a subsidiary of Merck KGaA, Darmstadt, Germany.

Temperature Program: 80 °C @ 10 °C/min to 190 °C (Hold 5 min)
Detector: FID
Detector Temperature: 310 °C

Metrological traceability: Traceable to the SI and higher order standards from NIST through an unbroken chain of comparisons. The balance used to weigh raw materials is accurate to +/-0.0001 g and calibrated regularly using mass standards traceable to NIST. All dilutions were performed gravimetrically. Additionally, individual analytes are traceable to NIST SRMs where available and specified above.

Measurement method: Where applicable, the assigned value is based on a purity determination by mass balance and gravimetrically prepared value.

Intended use: Intended for R&D and Analytical Use only. Not for drug, household or other uses.

Packaging: 1 mL in amber ampule

Instructions for handling and correct use: Use on the as is basis. The internal pressure of the container may be slightly different from the atmospheric pressure at the user`s location. Open slowly and carefully to avoid dispersion of the material.

Health and safety information: All chemical reference materials should be considered potentially hazardous and should be used only by qualified laboratory personnel. Please refer to the Safety Data Sheet for detailed information about the nature of any hazard and appropriate precautions to be taken.

Accreditation: Sigma-Aldrich RTC is accredited by the US accreditation authority ANAB as a registered reference material producer AR-1470 in accordance with ISO 17034.

Certificate issue date: 20-May-2021

Andy Ommen - QC Manager

Mark Pooler - QA Supervisor

Details on metrological traceability: This standard has been gravimetrically prepared using balances that have been fully qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error. Fill volume to predetermined specifications is gravimetrically verified throughout the dispensing process using qualified and calibrated balances. Further traceability to a corresponding Primary Standard may be achieved through a direct comparison assay. Where a Primary Standard is available, the assay value will be included in the specified section of the COA.

Associated uncertainty: Ucrm - Uncertainty values in this document are expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k, which is obtained from a *t*-distribution and degrees of freedom. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long term stability, and short term stability (transport). The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies. The mathematical representation of the Ucrm calculation is as follows:

$$u_{CRM} = \sqrt{u_{char}^2 + u_{\text{hom } ogeneity}^2 + u_{stability}^2}$$

Homogeneity assessment: Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared by Single Factor Analysis of Variance (ANOVA). The uncertainty due to homogeneity was derived from the ANOVA. Heterogeneity was not detected under the conditions of the ANOVA.

Stability assessment: Significance of the stability assessment will be demonstrated if the analytical result of the study and the range of values represented by the Expanded Uncertainty do not overlap the result of the original assay and the range of its values represented by the Expanded Uncertainty. The method employed will usually be the same method used to characterize the assay value in the initial

Certificate of analysis revision history:

Certificate version	Date	Reason for version
LRAC9610.01	20-May-2021	Original Release Date

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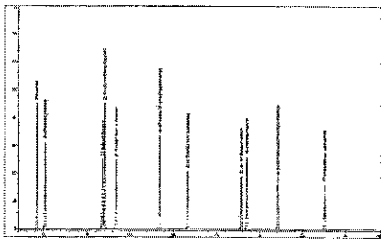
Certificate of Analysis - Certified Reference Material

EPA TCL Phenols Mix

Product no.: 48904
Lot no.: LRAD0139
Expiry Date: July 2024
Manufacturing Date: July 2021
Storage: REFRIGERATE
Solvent/Matrix: DICHLOROMETHANE
Certificate version: LRAD0139.01 *(Note: Certificates may be updated due to the availability of new data. Check our website at: www.sigma-aldrich.com for the most current version.)*



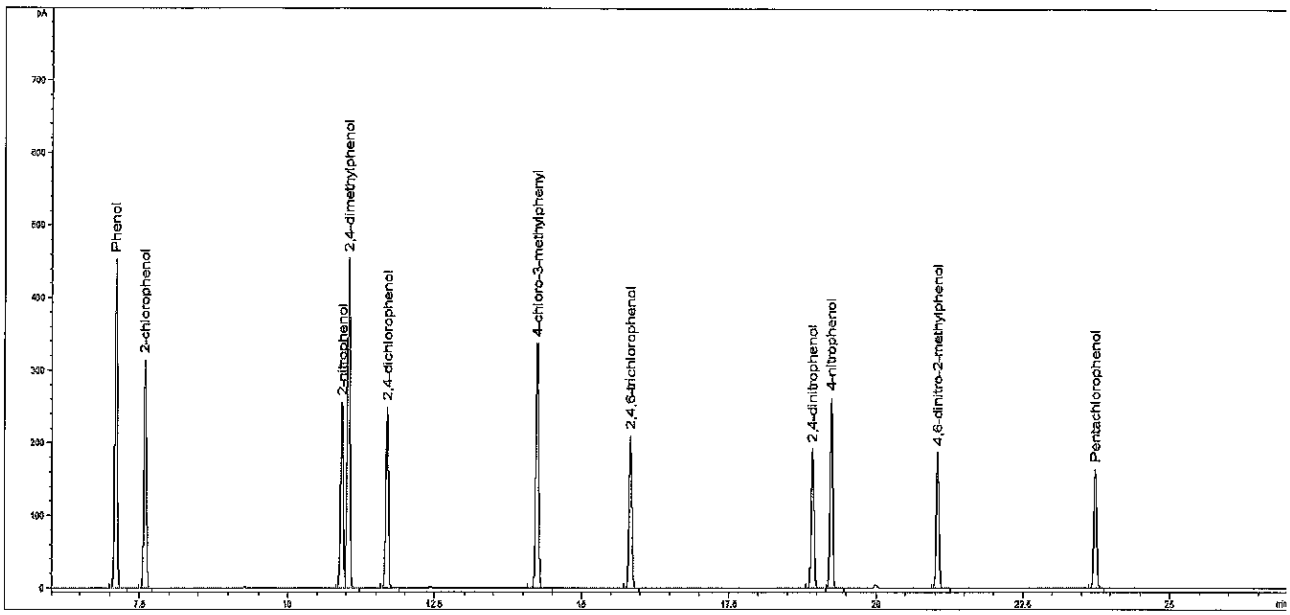
Certified Values:

Analyte	*Certified Value*	*Units*	*Raw Material Purity,%*	*Raw Material Lot*
2-CHLOROPHENOL CAS# 95-57-8	2001 ± 25	µg/mL	99.9	STBG3033V
2-NITROPHENOL CAS# 88-75-5	1999 ± 18	µg/mL	99.3	15905BB
2,4-DIMETHYLPHENOL CAS# 105-67-9	2000 ± 14	µg/mL	99.2	05421CO
2,4-DICHLOROPHENOL CAS# 120-83-2	2000 ± 17	µg/mL	99.5	03221TN
4-CHLORO-3-METHYLPHENOL CAS# 59-50-7	2000 ± 5	µg/mL	99.9	JS00013
2,4,6-TRICHLOROPHENOL CAS# 88-06-2	2002 ± 5	µg/mL	99.5	04212PS
2,4-DINITROPHENOL CAS# 51-28-5	2000 ± 28	µg/mL	66.9	STBJ5751
4-NITROPHENOL CAS# 100-02-7	2000 ± 33	µg/mL	99.0	04628LT
2-METHYL-4,6-DINITROPHENOL CAS# 534-52-1	2000 ± 27	µg/mL	99.7	LC18338
PENTACHLOROPHENOL CAS# 87-86-5	1999 ± 25	µg/mL	97.9	MKCD2150

ASSAY Method

J013597
TCL Phenols Mix 2000ug/ml
Solvent / Lot: LRAD0139
Prep: 12/30/2021 by VS
Exp: 7/31/2024
Location:

Sigma-Aldrich RTC, 2931 Soldier Springs Rd. Laramie, WY 82070, USA;
Tel. 1 307-742-5452; Fax 1 855-831-9211; www.sigmaaldrich.com
Sigma-Aldrich RTC is a subsidiary of Merck KGaA, Darmstadt, Germany.



METHOD: GC (Bellefonte Method)

Column: SPB-5, 30 m × 0.53 mm I.D., 1.5 µm film thickness
Carrier Gas: H_2 Flow Rate: 4.5 mL/min
Inlet Temperature: 200 °C Injection Volume: 1.0 µL
Injection Mode: 25:1
Temperature Program: 80 °C (Hold 2 min) @ 6 °C/min to 260 °C (Hold 5 min)
Detector: FID Temperature: 310 °C

Elution details:

EO	RT(MIN)	ANALYTE
1	7.095	Phenol
2	7.585	2-chlorophenol
3	10.925	2-nitrophenol
4	11.037	2,4-dimethylphenol
5	11.696	2,4-dichlorphenol
6	14.242	4-chloro-3-m3thylphenol
7	15.842	2,4,6-trichlorophenol
8	18.93	2,4-dinitrophenol
9	19.25	4-nitrophenol
10	21.05	4,6-dinitro-2-methylphenol
11	23.752	Pentachlorophenol

Metrological traceability: Traceable to the SI and higher order standards from NIST through an unbroken chain of comparisons. The balance used to weigh raw materials is accurate to +/-0.0001 g and calibrated regularly using mass standards traceable to NIST. All dilutions were performed gravimetrically. Additionally, individual analytes are traceable to NIST SRMs where available and specified above.

Measurement method: Where applicable, the assigned value is based on a purity determination by mass balance and gravimetrically prepared value.

Intended use: Intended for R&D and Analytical Use only. Not for drug, household or other uses.

Packaging: 1 mL in amber ampule

Instructions for handling and correct use: Use on the as is basis. The internal pressure of the container may be slightly different from the atmospheric pressure at the user`s location. Open slowly and carefully to avoid dispersion of the material.

Health and safety information: All chemical reference materials should be considered potentially hazardous and should be used only by qualified laboratory personnel. Please refer to the Safety Data Sheet for detailed information about the nature of any hazard and appropriate precautions to be taken.

Accreditation: Sigma-Aldrich RTC is accredited by the US accreditation authority ANAB as a registered reference material producer AR-1470 in accordance with ISO 17034.

Certificate issue date: 12-Jul-2021

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

Andy Ommen - QC Manager

Mark Pooler - QA Supervisor

Details on metrological traceability: This standard has been gravimetrically prepared using balances that have been fully qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error. Fill volume to predetermined specifications is gravimetrically verified throughout the dispensing process using qualified and calibrated balances. Further traceability to a corresponding Primary Standard may be achieved through a direct comparison assay. Where a Primary Standard is available, the assay value will be included in the specified section of the COA.

Associated uncertainty: Ucrm - Uncertainty values in this document are expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k, which is obtained from a *t*-distribution and degrees of freedom. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long term stability, and short term stability (transport). The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies. The mathematical representation of the Ucrm calculation is as follows:

$$u_{CRM} = \sqrt{u_{char}^2 + u_{hom\ ogeneity}^2 + u_{stability}^2}$$

Homogeneity assessment: Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared by Single Factor Analysis of Variance (ANOVA). The uncertainty due to homogeneity was derived from the ANOVA. Heterogeneity was not detected under the conditions of the ANOVA.

Stability assessment: Significance of the stability assessment will be demonstrated if the analytical result of the study and the range of values represented by the Expanded Uncertainty do not overlap the result of the original assay and the range of its values represented by the Expanded Uncertainty. The method employed will usually be the same method used to characterize the assay value in the initial

Certificate of analysis revision history:

Certificate version	Date	Reason for version
LRAD0139.01	12-Jul-2021	Original Release Date

Disclaimer: The purchaser is required to determine the suitability of this product for any particular application. Sigma-Aldrich RTC makes no warranty of any kind, express or implied, other than its products meet all quality control standards set by Sigma-Aldrich RTC. We do not guarantee that the product can be used for any particular application.

The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the US and Canada.

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K007194
CLP 04.1 BNA SURR MIX
Solvent / Lot: AO187400
Prep: 8/5/2022 by VS
Exp: 4/30/2026
Location:

Certificate of Analysis

IAL

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31493 **Lot No.:** A0187400

Description : CLP 04.1 BNA Surrogate Mix

CLP 04.1 BNA Surrogate Mix 1000-1500 µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2026 **Storage:** 10°C or colder

Handling: Sonicate prior to use. **Ship:** Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2-Fluorophenol **CAS #** 367-12-4 (Lot STBJ3299) **Purity** 99%	1,508.0 µg/mL	+/- 8.9571 µg/mL +/- 44.0466 µg/mL +/- 53.4340 µg/mL	Gravimetric Unstressed Stressed
2	Phenol-d6 **CAS #** 13127-88-3 (Lot SL210831) **Purity** 99%	1,510.0 µg/mL	+/- 8.9689 µg/mL +/- 44.1050 µg/mL +/- 53.5049 µg/mL	Gravimetric Unstressed Stressed
3	2-Chlorophenol-d4 **CAS #** 93951-73-6 (Lot PR-30568) **Purity** 99%	1,512.0 µg/mL	+/- 8.9808 µg/mL +/- 44.1635 µg/mL +/- 53.5758 µg/mL	Gravimetric Unstressed Stressed
4	1,2-Dichlorobenzene-d4 **CAS #** 2199-69-1 (Lot PR-32597) **Purity** 99%	1,004.0 µg/mL	+/- 5.9635 µg/mL +/- 29.3255 µg/mL +/- 35.5754 µg/mL	Gravimetric Unstressed Stressed
5	Nitrobenzene-d5 **CAS #** 4165-60-0 (Lot PR-29940A) **Purity** 99%	1,004.0 µg/mL	+/- 5.9635 µg/mL +/- 29.3255 µg/mL +/- 35.5754 µg/mL	Gravimetric Unstressed Stressed
6	2-Fluorobiphenyl **CAS #** 321-60-8 (Lot 00021384) **Purity** 99%	1,004.0 µg/mL	+/- 5.9635 µg/mL +/- 29.3255 µg/mL +/- 35.5754 µg/mL	Gravimetric Unstressed Stressed
7	2,4,6-Tribromophenol **CAS #** 118-79-6 (Lot MKCJ7664) **Purity** 99%	1,502.0 µg/mL	+/- 8.9214 µg/mL +/- 43.8714 µg/mL +/- 53.2214 µg/mL	Gravimetric Unstressed Stressed

8	p-Terphenyl-d14		1,002.0	µg/mL	+/-	5.9516	µg/mL	Gravimetric
	CAS # 1718-51-0	(Lot PR-30504)			+/-	29.2671	µg/mL	Unstressed
	Purity 99%				+/-	35.5046	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

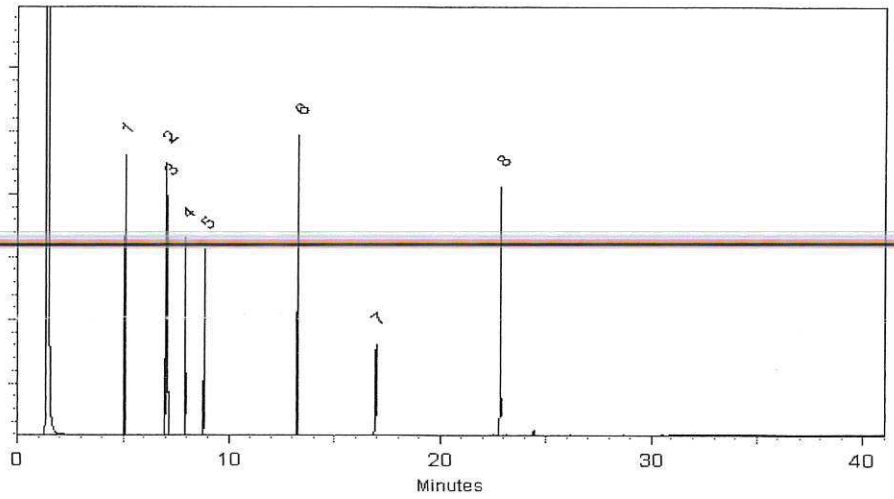
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Bryan Snyder - Operations Tech I

Date Mixed: 17-Jul-2022 **Balance:** 1128353505

Christie Mills - Operations Tech II - ARM QC

Date Passed: 21-Jul-2022

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer) -20°C or colder (Deep Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.

Certificate of Analysis

Produced by Phenova
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Access your Safety Data Sheets and digital Certificates at **www.phenova.com/documents.**

Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL18355
Certification Date: July 25, 2022
Expiration Date: August 31, 2023

K007995
SVOA-8270 LCS MIX 1000ug/ml
Solvent / Lot: N/A
Prep: 8/29/2022 by JZ
Exp: 8/31/2023
Location: FREEZER 44

Aaron Dukes, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Acenaphthene	83-32-9	1000	± 0.300%
Acenaphthylene	208-96-8	1000	± 0.225%
Anthracene	120-12-7	1000	± 6.858%
Azobenzene	103-33-3	1000	± 0.224%
Benzo(a)anthracene	56-55-3	1000	± 0.247%
Benzo(a)pyrene	50-32-8	1000	± 0.270%
Benzo(b)fluoranthene	205-99-2	1000	± 0.635%
Benzo(k)fluoranthene	207-08-9	1000	± 0.682%
Benzo(g,h,i)perylene	191-24-2	1000	± 0.272%
Benzyl alcohol	100-51-6	1000	± 0.231%
Benzyl butyl phthalate	85-68-7	1000	± 0.480%
bis(2-Chloroethoxy)methane	111-91-1	1000	± 0.479%
bis(2-Chloroethyl) ether	111-44-4	1000	± 0.479%
bis(2-Chloroisopropyl) ether	108-60-1	1000	± 0.550%
bis(2-Ethylhexyl) adipate	103-23-1	1000	± 0.479%
bis(2-Ethylhexyl) phthalate	117-81-7	1000	± 0.479%
4-Bromophenyl phenyl ether	101-55-3	1000	± 0.479%
Carbazole	86-74-8	1000	± 0.146%

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Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101444
Lot Number: CL18355
Description: 8270 Calibration Standard
Certification Date: July 25, 2022
Storage: -18 °C
Expiration Date: August 31, 2023
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
4-Chloroaniline	106-47-8	1000	± 0.300%
4-Chloro-3-methylphenol	59-50-7	1000	± 0.545%
2-Chloronaphthalene	91-58-7	1000	± 0.224%
2-Chlorophenol	95-57-8	1000	± 0.507%
4-Chlorophenyl phenyl ether	7005-72-3	1000	± 0.479%
Chrysene	218-01-9	1000	± 0.145%
Dibenz(a,h)anthracene	53-70-3	1000	± 1.058%
Dibenzofuran	132-64-9	1000	± 0.302%
Di-n-butyl phthalate	84-74-2	1000	± 0.518%
1,2-Dichlorobenzene	95-50-1	1000	± 0.247%
1,3-Dichlorobenzene	541-73-1	1000	± 0.225%
1,4-Dichlorobenzene	106-46-7	1000	± 0.224%
2,4-Dichlorophenol	120-83-2	1000	± 0.545%
Diethyl phthalate	84-66-2	1000	± 0.518%
2,4-Dimethylphenol	105-67-9	1000	± 0.507%
Dimethyl phthalate	131-11-3	1000	± 0.518%
1,2-Dinitrobenzene	528-29-0	1000	± 0.361%
1,3-Dinitrobenzene	99-65-0	1000	± 0.300%
1,4-Dinitrobenzene	100-25-4	1000	± 0.242%
2,4-Dinitrophenol	51-28-5	1000	± 0.545%
2,4-Dinitrotoluene	121-14-2	1000	± 1.128%

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Access your Safety Data Sheets and digital Certificates at **www.phenova.com/documents.**

Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101444
Lot Number: CL18355
Description: 8270 Calibration Standard
Certification Date: July 25, 2022
Storage: -18 °C
Expiration Date: August 31, 2023
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
2,6-Dinitrotoluene	606-20-2	1000	± 0.224%
Di-n-octyl phthalate	117-84-0	1000	± 0.486%
Fluoranthene	206-44-0	1000	± 0.224%
Fluorene	86-73-7	1000	± 0.224%
Hexachlorobenzene	118-74-1	1000	± 0.152%
Hexachlorobutadiene	87-68-3	1000	± 0.746%
Hexachlorocyclopentadiene	77-47-4	1000	± 0.153%
Hexachloroethane	67-72-1	1000	± 0.300%
Indeno(1,2,3-cd)pyrene	193-39-5	1000	± 0.883%
Isophorone	78-59-1	1000	± 0.145%
2-Methyl-4,6-dinitrophenol	534-52-1	1000	± 0.508%
1-Methylnaphthalene	90-12-0	1000	± 0.479%
2-Methylnaphthalene	91-57-6	1000	± 0.487%
2-Methylphenol	95-48-7	1000	± 0.545%
3-Methylphenol	108-39-4	500	± 0.279%
4-Methylphenol	106-44-5	500	± 0.399%
Naphthalene	91-20-3	1000	± 0.226%
2-Nitroaniline	88-74-4	1000	± 0.224%
3-Nitroaniline	99-09-2	1000	± 0.235%
4-Nitroaniline	100-01-6	1000	± 0.300%
Nitrobenzene	98-95-3	1000	± 0.300%

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Catalog No.: AL0-101444
Lot Number: CL18355
Description: 8270 Calibration Standard
Certification Date: July 25, 2022
Storage: -18 °C
Expiration Date: August 31, 2023
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
2-Nitrophenol	88-75-5	1000	± 0.514%
4-Nitrophenol	100-02-7	1000	± 0.519%
N-Nitrosodimethylamine	62-75-9	1000	± 0.503%
N-Nitrosodiphenylamine	86-30-6	1000	± 0.476%
N-Nitrosodi-n-propylamine	621-64-7	1000	± 0.461%
Pentachlorophenol	87-86-5	1000	± 0.202%
Phenanthrene	85-01-8	1000	± 0.145%
Phenol	108-95-2	1000	± 0.545%
Pyrene	129-00-0	1000	± 0.147%
Pyridine	110-86-1	1000	± 0.503%
2,3,4,6-Tetrachlorophenol	58-90-2	1000	± 0.247%
2,3,5,6-Tetrachlorophenol	935-95-5	1000	± 0.247%
1,2,4-Trichlorobenzene	120-82-1	1000	± 0.224%
2,4,5-Trichlorophenol	95-95-4	1000	± 0.507%
2,4,6-Trichlorophenol	88-06-2	1000	± 0.509%

Notes: The proper chemical name for Bis(2-Chloroiospropyl) ether is 2,2'-oxybis(1-chloropropane). The analytical uncertainty contribution to the expanded uncertainty for 3 and 4-Methylphenol is measured as the total of the two analytes. N-Nitrosodiphenylamine presents as Diphenylamine at 854 µg/mL.

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1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO 17034[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.

4. Handling and Usage Notes: Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

   Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.

12. Period of Validity: The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.
[3] ISO 17034 – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

Supelco®

www.sigmaaldrich.com

Certificate of Composition - Analytical Standard

BASE STOCK

Product no.: 22523051
Lot no.: LRAD2751
Expiry Date: June 2024
Manufacturing Date: June 2022
Storage: REFRIGERATE
Solvent/Matrix: DICHLOROMETHANE
Certificate version: LRAD2751.01 (*Note: Certificates may be updated due to the availability of new data. Check our website at:* www.sigma-aldrich.com *for the most current version.)*

Analyte	*Assigned Value*	*Units*	*Raw Material Purity,%*	*Raw Material Lot*
3,3'-DICHLOROBENZIDINE, 100MG, NEAT CAS# 91-94-1	799	µg/mL	99.8	LRAD2376
2,4-DINITROTOLUENE CAS# 121-14-2	801	µg/mL	97.8	LB46632
2,6-DINITROTOLUENE CAS# 606-20-2	800	µg/mL	99.2	11231AN
HEXACHLOROCYCLOPENTADIENE CAS# 77-47-4	800	µg/mL	96.0	LB95525
N-NITROSODIMETHYLAMINE CAS# 62-75-9	800	µg/mL	95.0	2019-030598 5
PERYLENE CAS# 198-55-0	200	µg/mL	99.6	04101PG
ANILINE CAS# 62-53-3	800	µg/mL	99.9	LA41596
4-CHLOROANILINE CAS# 106-47-8	800	µg/mL	100.0	MKBZ6909V
2-NITROANILINE CAS# 88-74-4	799	µg/mL	99.9	07411KN
3-NITROANILINE CAS# 99-09-2	800	µg/mL	99.9	LC09264
4-NITROANILINE CAS# 100-01-6	800	µg/mL	99.9	15609AA
PYRIDINE (LOW WATER) CAS# 110-86-1	800	µg/mL	100.0	SHBJ9218

Measurement method: Where applicable, the assigned value is based on a purity determination by mass balance and gravimetrically prepared value.

Intended use: Intended for R&D and Analytical Use only. Not for drug, household or other uses.

Packaging: 1 mL in amber ampule

Instructions for handling and correct use: Use on the as is basis. The internal pressure of the container may be slightly different from the atmospheric pressure at the user`s location. Open slowly and carefully to avoid dispersion of the material.

Sigma-Aldrich RTC, 2931 Soldier Springs Rd. Laramie, WY 82070, USA;
Tel. 1 307-742-5452; Fax 1 855-831-9211; www.sigmaaldrich.com
Sigma-Aldrich RTC is a subsidiary of Merck KGaA, Darmstadt, Germany.

Health and safety information: All chemical reference materials should be considered potentially hazardous and should be used only by qualified laboratory personnel. Please refer to the Safety Data Sheet for detailed information about the nature of any hazard and appropriate precautions to be taken.

Certificate issue date: 03 JUN 2022

Andy Ommen - QC Manager

Scott Stetler - QA Manager

Certificate of analysis revision history:

Certificate version	Date	Reason for version
LRAD2751.01	03 JUN 2022	Original Release Date

Disclaimer: The purchaser is required to determine the suitability of this product for any particular application. Sigma-Aldrich RTC makes no warranty of any kind, express or implied, other than its products meet all quality control standards set by Sigma-Aldrich RTC. We do not guarantee that the product can be used for any particular application.

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Certificate of Composition - Analytical Standard

ACID STOCK

Product no.: 22523046
Lot no.: LRAD2750
Expiry Date: June 2024
Manufacturing Date: June 2022
Storage: REFRIGERATE
Solvent/Matrix: DICHLOROMETHANE
Certificate version: LRAD2750.01 (*Note: Certificates may be updated due to the availability of new data. Check our website at: www.sigma-aldrich.com for the most current version.)*

Analyte	*Assigned Value*	*Units*	*Raw Material Purity,%*	*Raw Material Lot*
2,4-DIMETHYLPHENOL CAS# 105-67-9	800	µg/mL	99.9	LB88935
2,4-DICHLOROPHENOL CAS# 120-83-2	800	µg/mL	100.0	BCBZ6787
2,4,5-TRICHLOROPHENOL CAS# 95-95-4	801	µg/mL	99.9	JS00008
2,4-DINITROPHENOL CAS# 51-28-5	1799	µg/mL	66.9	STBJ5751
2,4,6-TRICHLOROPHENOL CAS# 88-06-2	800	µg/mL	98.7	LB82983
4-CHLORO-3-METHYLPHENOL CAS# 59-50-7	800	µg/mL	100.0	BCCD4461
4-NITROPHENOL CAS# 100-02-7	800	µg/mL	100.0	MKCN1089
2-METHYL-4,6-DINITROPHENOL CAS# 534-52-1	1800	µg/mL	100.0	BCBX5762
PENTACHLOROPHENOL CAS# 87-86-5	800	µg/mL	99.0	23614-01
BENZOIC ACID CAS# 65-85-0	1800	µg/mL	99.9	LC16514

Measurement method: Where applicable, the assigned value is based on a purity determination by mass balance and gravimetrically prepared value.

Intended use: Intended for R&D and Analytical Use only. Not for drug, household or other uses.

Packaging: 1 mL in amber ampule

Instructions for handling and correct use: Use on the as is basis. The internal pressure of the container may be slightly different from the atmospheric pressure at the user`s location. Open slowly and carefully to avoid dispersion of the material.

Health and safety information: All chemical reference materials should be considered potentially hazardous and should be used only by qualified laboratory personnel. Please refer to the Safety Data Sheet for detailed information about the nature of any hazard and appropriate precautions to be taken.

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Tel. 1 307-742-5452; Fax 1 855-831-9211; www.sigmaaldrich.com
Sigma-Aldrich RTC is a subsidiary of Merck KGaA, Darmstadt, Germany.

Certificate issue date: 03 JUN 2022

Andy Ommen - QC Manager

Scott Stetler - QA Manager

Certificate of analysis revision history:

Certificate version	Date	Reason for version
LRAD2750.01	03 JUN 2022	Original Release Date

Disclaimer: The purchaser is required to determine the suitability of this product for any particular application. Sigma-Aldrich RTC makes no warranty of any kind, express or implied, other than its products meet all quality control standards set by Sigma-Aldrich RTC. We do not guarantee that the product can be used for any particular application.

Certificate of Analysis

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Certified Reference Material

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Catalog No.: AL0-101244
Description: Benzidines Standard
Storage: 4 °C
Provided As: 1 mL in 2 mL Ampoule in Methylene Chloride

Lot Number: CL18939
Certification Date: September 7, 2022
Expiration Date: August 31, 2032

Aaron Dukes, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Benzidine	92-87-5	2000	± 3.812%
3,3'-Dichlorobenzidine	91-94-1	2000	± 1.419%

L001288
Benzidines std @2000ug/ml
Solvent / Lot: CL18939
Prep: 2/7/2023 by VS
Exp: 8/31/2032
Location: GC

ACCREDITED
Reference Material Producer
Certicate No. 2427.02

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Phenova is an accredited ISO/IEC 17034 Reference Material Producer and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ACCREDITED
Chemical Testing Laboratory
Certicate No. 2427.03

IL64631018 us

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Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101443
Lot Number: CL18741
Description: Aniline
Certification Date: July 21, 2022
Storage: 4 °C
Expiration Date: July 31, 2030
Provided As: 1 mL in 2 mL Ampoule in Methylene Chloride

Aaron Dukes, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aniline	62-53-3	1000	± 1.719%

L001290
Anline-1000ug/mL
Solvent / Lot: CL18741
Prep: 2/7/2023 by VS
Exp: 7/31/2030
Location: GC

ACCREDITED
Reference Material Producer
Certicate No. 2427.02

Phenova is an accredited ISO/IEC 17034 Reference Material Producer and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ACCREDITED
Chemical Testing Laboratory
Certicate No. 2427.03

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Certified Reference Material

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Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL18811
Certification Date: August 9, 2022
Expiration Date: November 30, 2023

Aaron Dukes, Certified Reference Materials Manager

L001291
SVOA-8270 LCS MIX 1000ug/ml
Solvent / Lot: CL18811
Prep: 2/7/2023 by VS
Exp: 11/30/2023
Location: FREEZER 44

Component	CAS #	µg/mL	Expanded Uncertainty
Acenaphthene	83-32-9	1000	± 1.643%
Acenaphthylene	208-96-8	1000	± 1.317%
Anthracene	120-12-7	1000	± 2.136%
Azobenzene	103-33-3	1000	± 1.630%
Benzo(a)anthracene	56-55-3	1000	± 2.372%
Benzo(a)pyrene	50-32-8	1000	± 3.028%
Benzo(b)fluoranthene	205-99-2	1000	± 2.377%
Benzo(k)fluoranthene	207-08-9	1000	± 2.286%
Benzo(g,h,i)perylene	191-24-2	1000	± 2.561%
Benzyl alcohol	100-51-6	1000	± 1.803%
Benzyl butyl phthalate	85-68-7	1000	± 1.855%
bis(2-Chloroethoxy)methane	111-91-1	1000	± 1.626%
bis(2-Chloroethyl) ether	111-44-4	1000	± 1.776%
bis(2-Chloroisopropyl) ether	108-60-1	1000	± 2.406%
bis(2-Ethylhexyl) adipate	103-23-1	1000	± 2.415%
bis(2-Ethylhexyl) phthalate	117-81-7	1000	± 2.350%
4-Bromophenyl phenyl ether	101-55-3	1000	± 1.708%
Carbazole	86-74-8	1000	± 1.844%

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Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL18811
Certification Date: August 9, 2022
Expiration Date: November 30, 2023

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
4-Chloroaniline	106-47-8	1000	± 2.831%
4-Chloro-3-methylphenol	59-50-7	1000	± 1.571%
2-Chloronaphthalene	91-58-7	1000	± 2.022%
2-Chlorophenol	95-57-8	1000	± 2.001%
4-Chlorophenyl phenyl ether	7005-72-3	1000	± 1.634%
Chrysene	218-01-9	1000	± 2.358%
Dibenz(a,h)anthracene	53-70-3	1000	± 2.452%
Dibenzofuran	132-64-9	1000	± 0.310%
Di-n-butyl phthalate	84-74-2	1000	± 2.347%
1,2-Dichlorobenzene	95-50-1	1000	± 1.803%
1,3-Dichlorobenzene	541-73-1	1000	± 1.808%
1,4-Dichlorobenzene	106-46-7	1000	± 1.503%
2,4-Dichlorophenol	120-83-2	1000	± 1.393%
Diethyl phthalate	84-66-2	1000	± 1.870%
2,4-Dimethylphenol	105-67-9	1000	± 2.495%
Dimethyl phthalate	131-11-3	1000	± 2.113%
1,2-Dinitrobenzene	528-29-0	1000	± 0.240%
1,3-Dinitrobenzene	99-65-0	1000	± 1.221%
1,4-Dinitrobenzene	100-25-4	1000	± 0.246%
2,4-Dinitrophenol	51-28-5	1000	± 0.519%
2,4-Dinitrotoluene	121-14-2	1000	± 2.242%

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Catalog No.: AL0-101444
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Description: 8270 Calibration Standard
Certification Date: August 9, 2022
Storage: -18 °C
Expiration Date: November 30, 2023
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
2,6-Dinitrotoluene	606-20-2	1000	± 2.154%
Di-n-octyl phthalate	117-84-0	1000	± 2.670%
Fluoranthene	206-44-0	1000	± 2.103%
Fluorene	86-73-7	1000	± 0.890%
Hexachlorobenzene	118-74-1	1000	± 1.210%
Hexachlorobutadiene	87-68-3	1000	± 1.304%
Hexachlorocyclopentadiene	77-47-4	1000	± 1.510%
Hexachloroethane	67-72-1	1000	± 3.281%
Indeno(1,2,3-cd)pyrene	193-39-5	1000	± 1.921%
Isophorone	78-59-1	1000	± 2.022%
2-Methyl-4,6-dinitrophenol	534-52-1	1000	± 1.661%
1-Methylnaphthalene	90-12-0	1000	± 1.929%
2-Methylnaphthalene	91-57-6	1000	± 2.220%
2-Methylphenol	95-48-7	1000	± 2.168%
3-Methylphenol	108-39-4	500	± 1.025%
4-Methylphenol	106-44-5	500	± 1.064%
Naphthalene	91-20-3	1000	± 1.199%
2-Nitroaniline	88-74-4	1000	± 1.874%
3-Nitroaniline	99-09-2	1000	± 2.146%
4-Nitroaniline	100-01-6	1000	± 0.300%
Nitrobenzene	98-95-3	1000	± 1.704%

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Lot Number: CL18811
Certification Date: August 9, 2022
Expiration Date: November 30, 2023

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
2-Nitrophenol	88-75-5	1000	± 2.051%
4-Nitrophenol	100-02-7	1000	± 1.413%
N-Nitrosodimethylamine	62-75-9	1000	± 0.545%
N-Nitrosodiphenylamine	86-30-6	1000	± 1.669%
N-Nitrosodi-n-propylamine	621-64-7	1000	± 0.712%
Pentachlorophenol	87-86-5	1000	± 2.454%
Phenanthrene	85-01-8	1000	± 2.072%
Phenol	108-95-2	1000	± 2.140%
Pyrene	129-00-0	1000	± 1.869%
Pyridine	110-86-1	1000	± 0.545%
2,3,4,6-Tetrachlorophenol	58-90-2	1000	± 2.552%
2,3,5,6-Tetrachlorophenol	935-95-5	1000	± 2.220%
1,2,4-Trichlorobenzene	120-82-1	1000	± 1.632%
2,4,5-Trichlorophenol	95-95-4	1000	± 1.596%
2,4,6-Trichlorophenol	88-06-2	1000	± 0.481%

Notes: The proper chemical name for Bis(2-Chloroiospropyl) ether is 2,2'-oxybis(1-chloropropane). The analytical uncertainty contribution to the expanded uncertainty for 3 and 4-Methylphenol is measured as the total of the two analytes. N-Nitrosodiphenylamine presents as Diphenylamine at 854 µg/mL.

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2. Quality Standards: Phenova is accredited by A2LA to ISO 17034[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.

4. Handling and Usage Notes: Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.

12. Period of Validity: The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.
[3] ISO 17034 – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270E-SIM

SIM SVOC Organics (Dual scan list)

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-02 A	SDG:	23C0108
Sampled:	03/02/23 15:06	Prepared:	03/09/23 13:26	File ID:	NT1803222311S.D
% Solids:	52.74	Preparation:	EPA 3546 (Microwave)	Analyzed:	03/23/23 00:03
Batch:	BLC0185	Sequence:	SLD0061	Initial/Final:	18.96 g Wet / 1 mL
Instrument:	NT18	Column:	ZB-5MS	Calibration:	GD00001
Cleanups:	GPC				

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg dry)	Q	DL	RL
106-46-7	1,4-Dichlorobenzene	1	1.7	J	0.6	5.0
95-50-1	1,2-Dichlorobenzene	1	5.0	U	0.7	5.0
100-51-6	Benzyl Alcohol	1	30.3		2.5	20.0
65-85-0	Benzoic acid	1	46.6	J	13.4	100
105-67-9	2,4-Dimethylphenol	1	20.0	U	2.2	20.0
120-82-1	1,2,4-Trichlorobenzene	1	5.0	U	2.7	5.0
86-30-6	N-Nitrosodiphenylamine	1	5.0	U	1.3	5.0
87-86-5	Pentachlorophenol	1	4.3	J	2.1	20.0

SURROGATES	ADDED: (ug/kg dry)	FOUND: (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorophenol	750.04	631	84.2	27 - 120	
p-Terphenyl-d14	500.02	397	79.4	37 - 120	

Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223115.D

Date : 23-MAR-2023 00:03

Client ID:

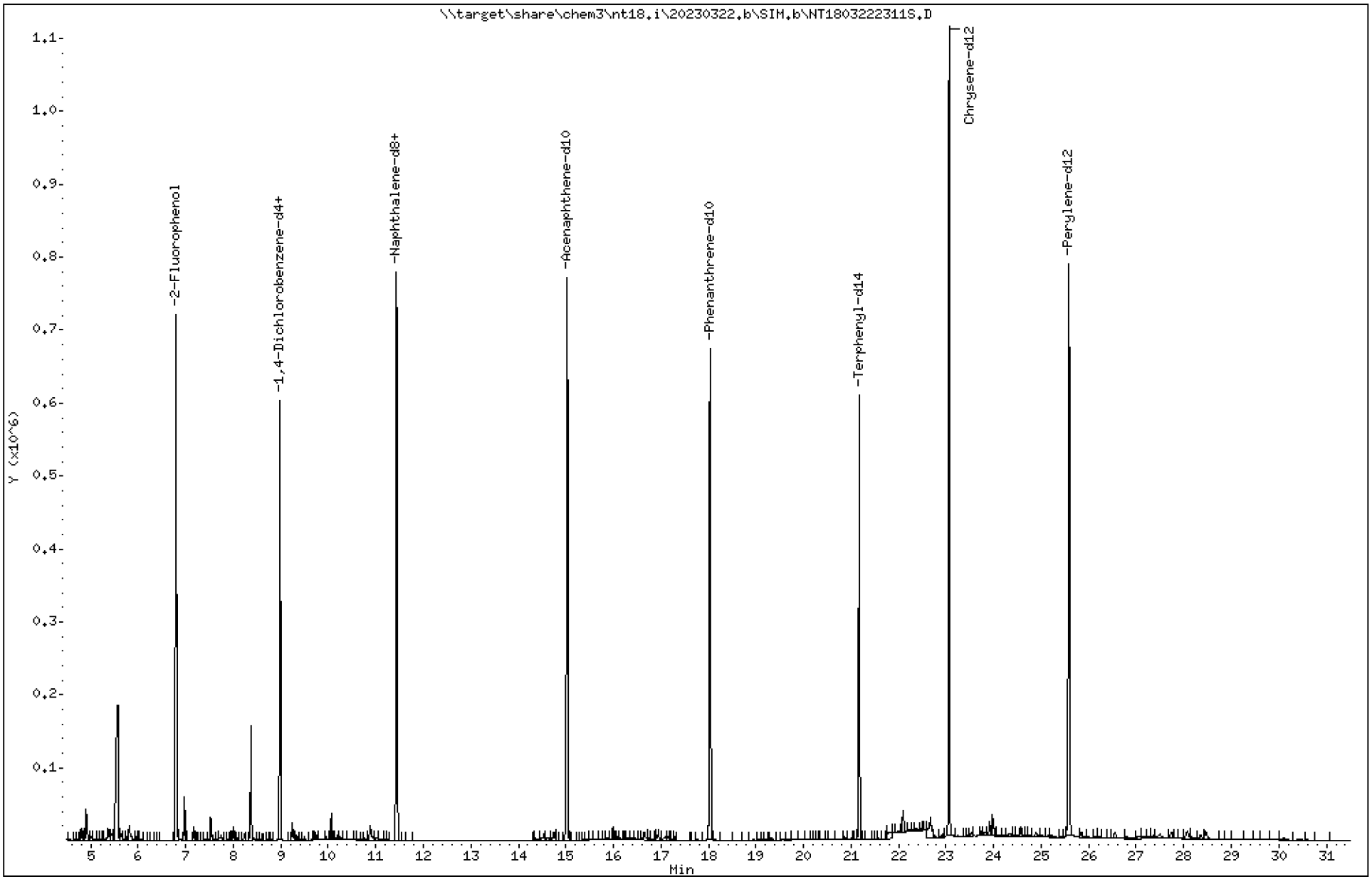
Sample Info: 23C0108-02

Instrument: nt18.i

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



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Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

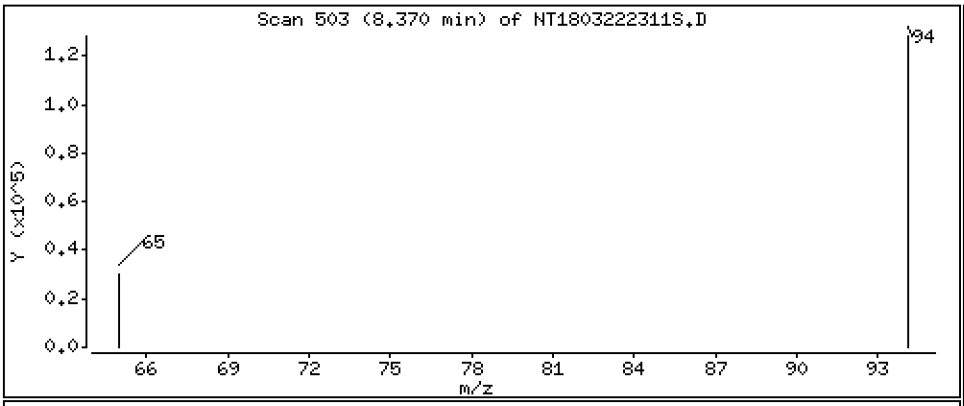
Operator: VTS

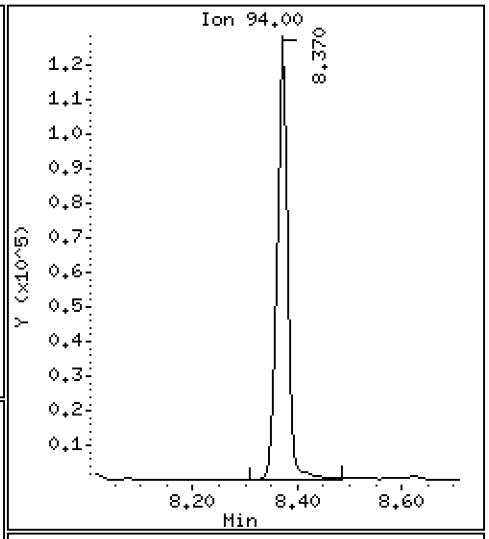
Column phase: ZB-5msi

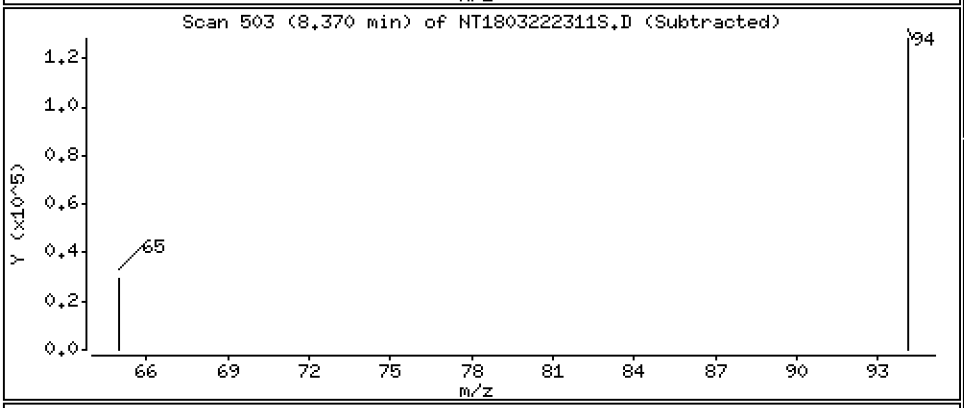
Column diameter: 0.25

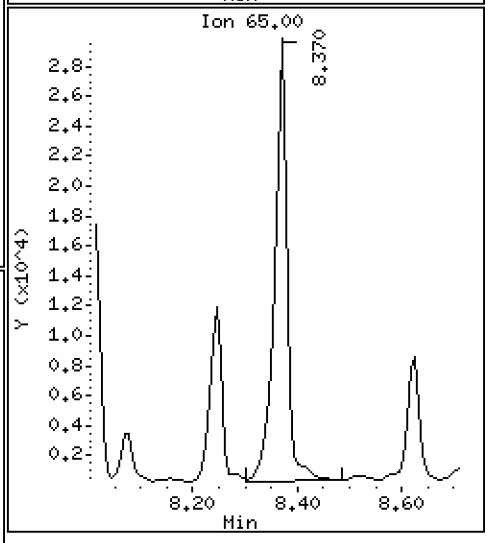
3 Phenol

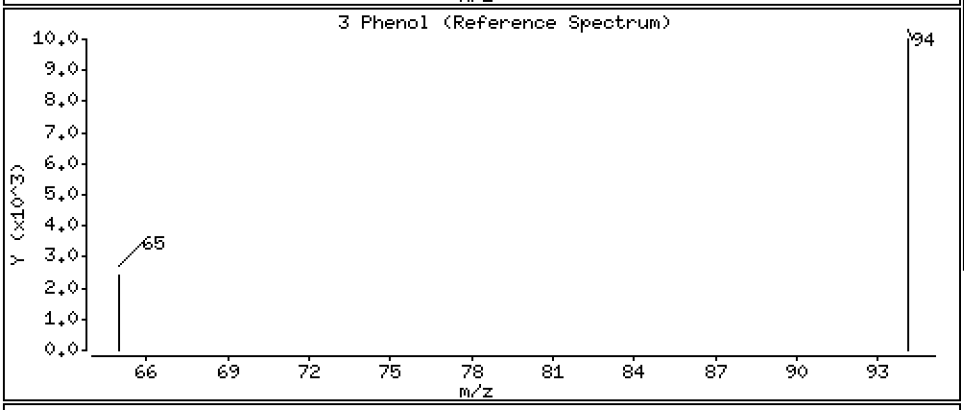
Concentration: 1.314 ug/mL

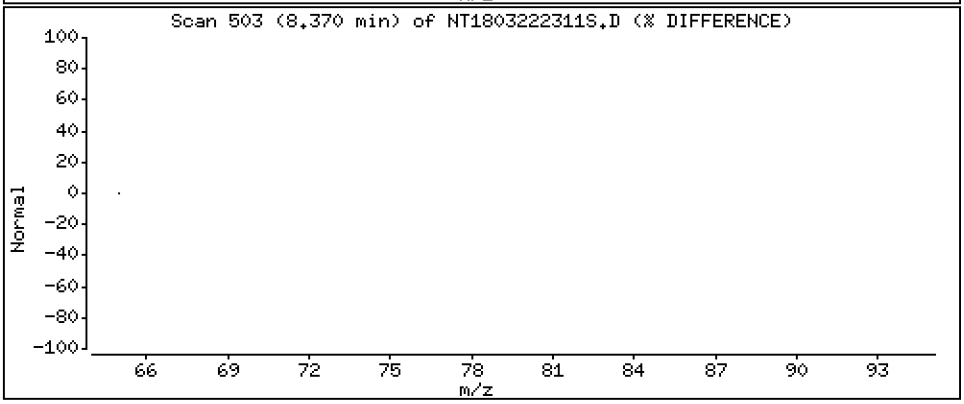












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Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

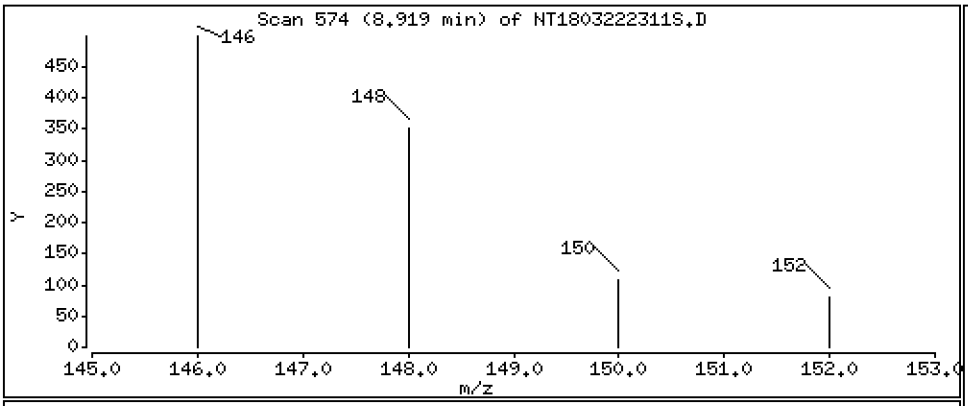
Operator: VTS

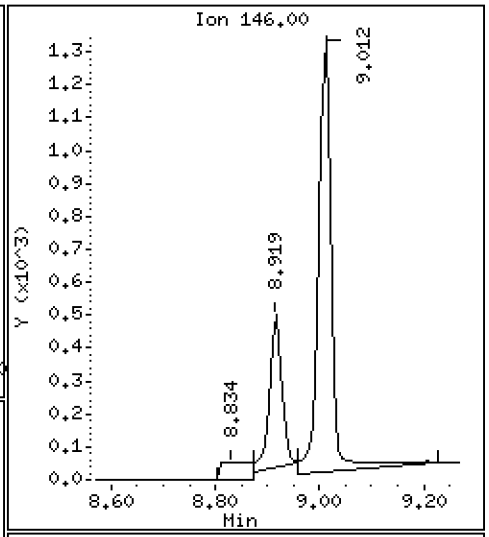
Column phase: ZB-5msi

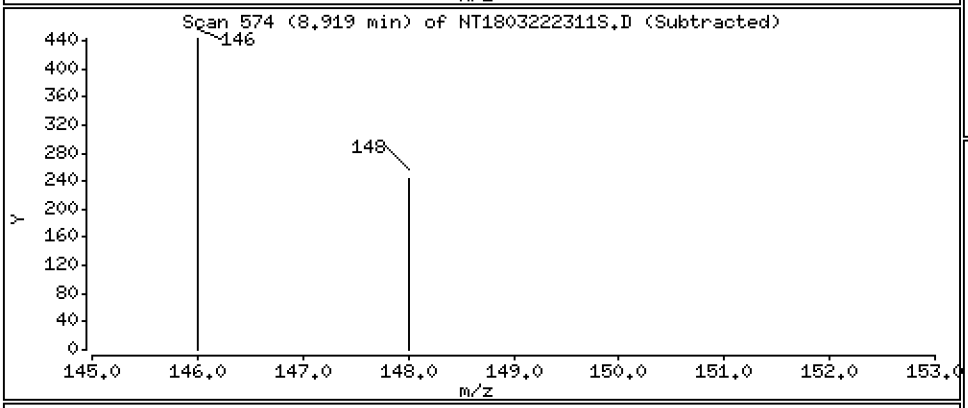
Column diameter: 0.25

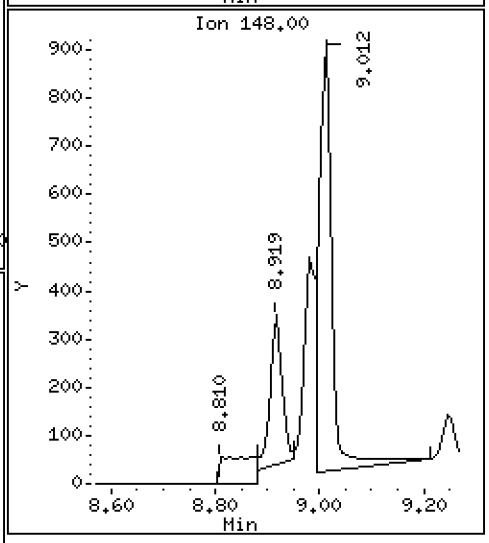
7 1,3-Dichlorobenzene

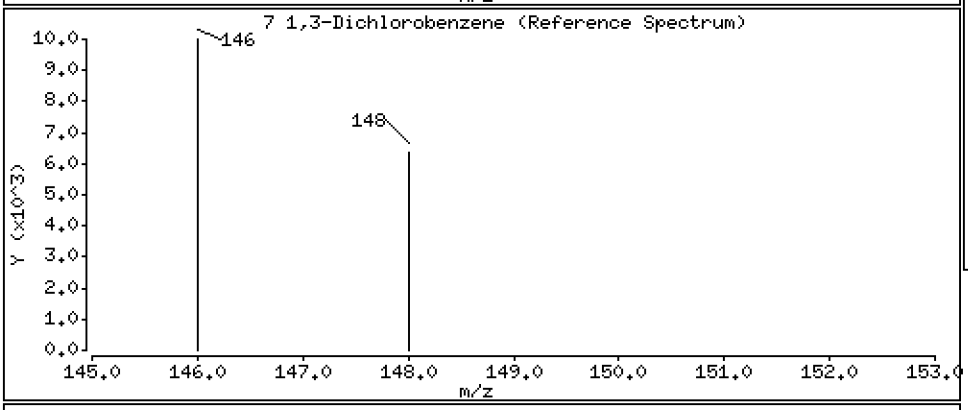
Concentration: 0.005969 ug/mL

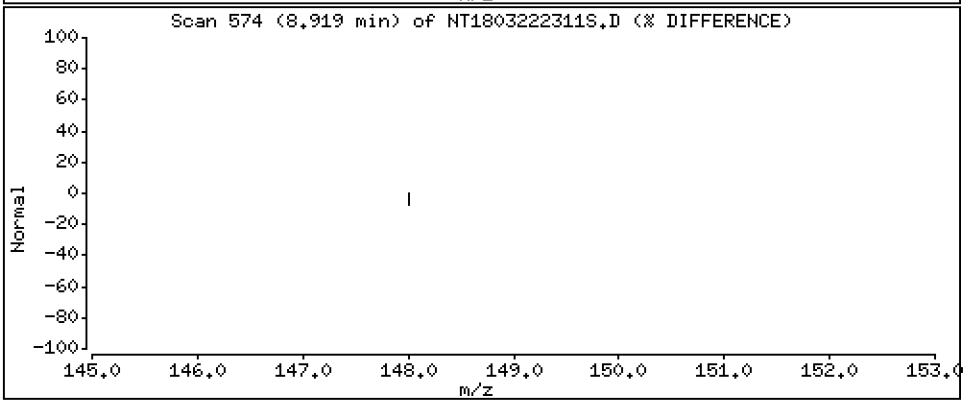












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Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

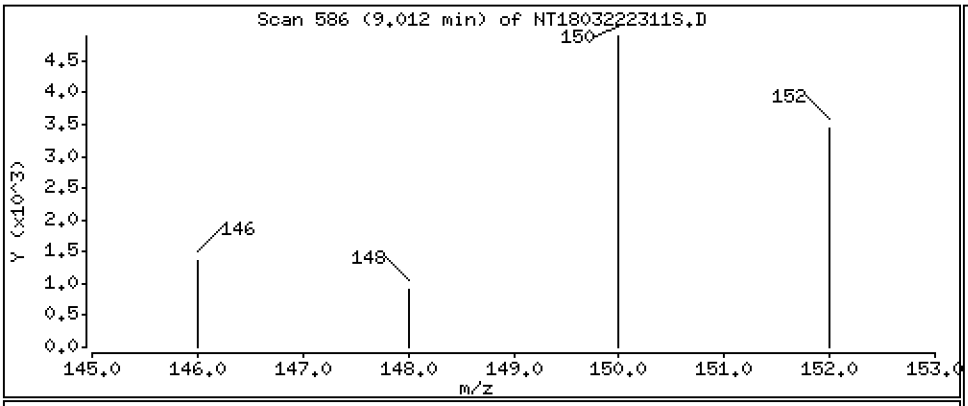
Operator: VTS

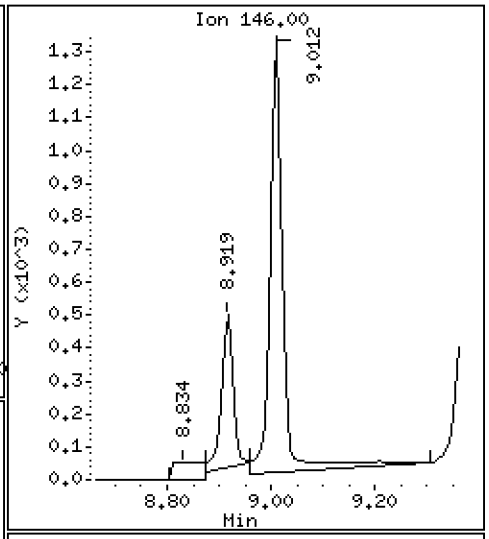
Column phase: ZB-5msi

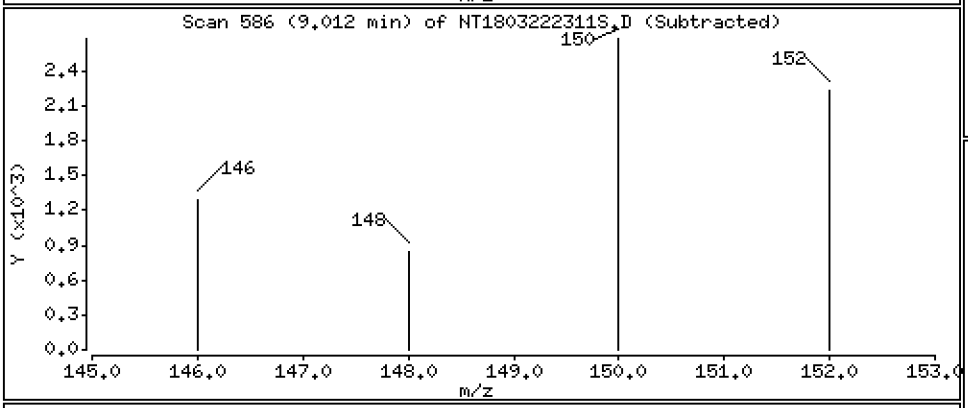
Column diameter: 0.25

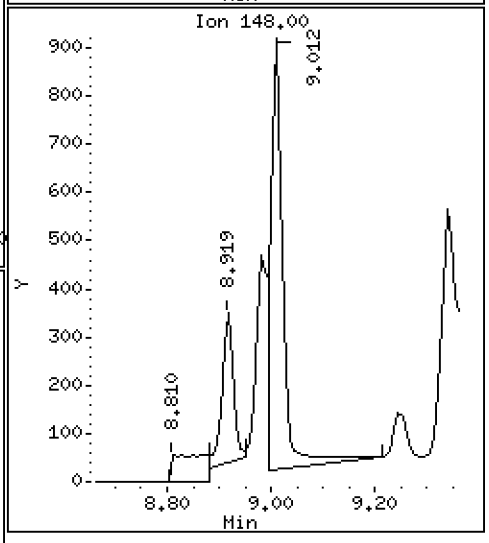
9 1,4-Dichlorobenzene

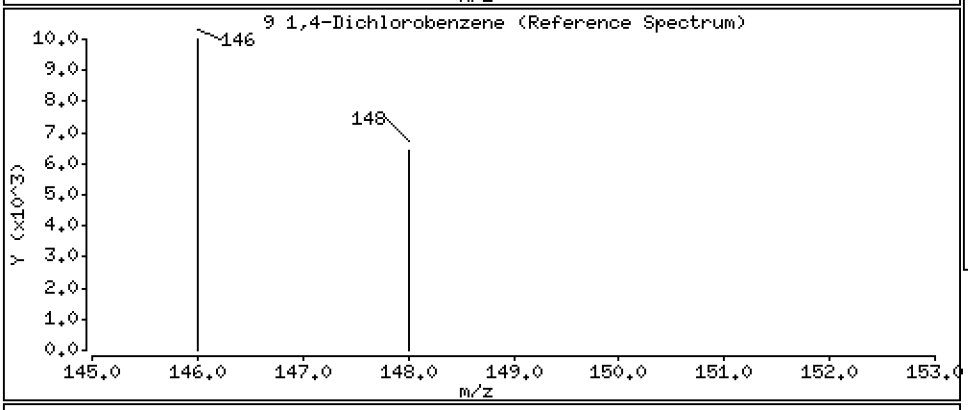
Concentration: 0.01715 ug/mL

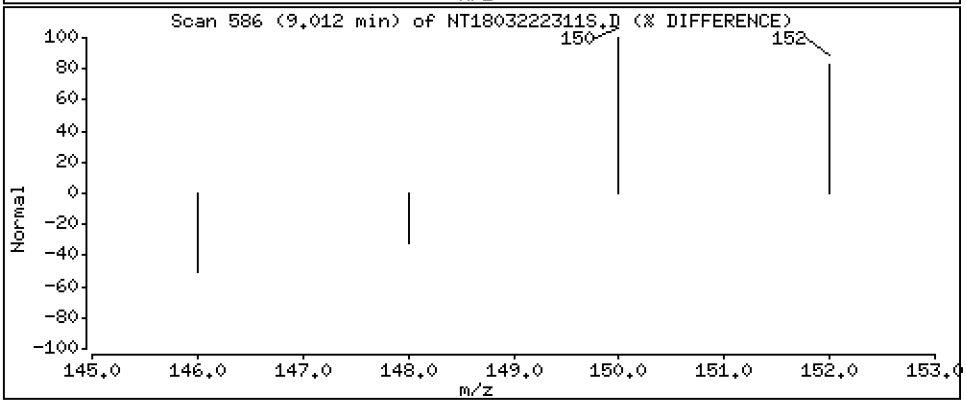












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Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

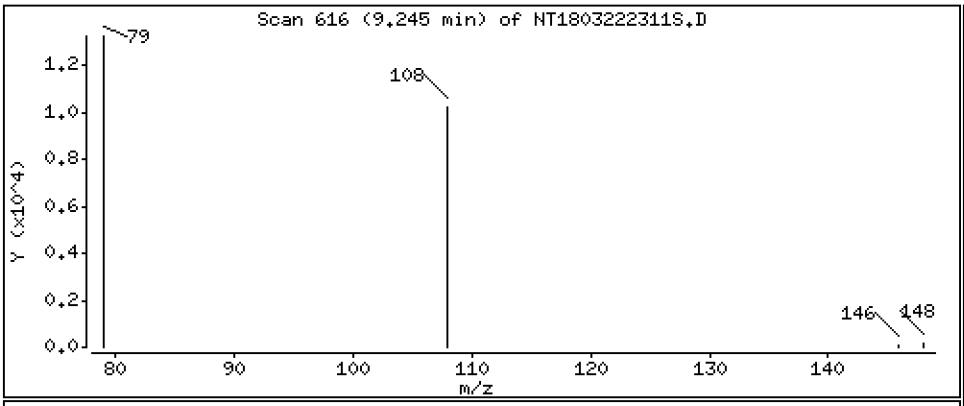
Operator: VTS

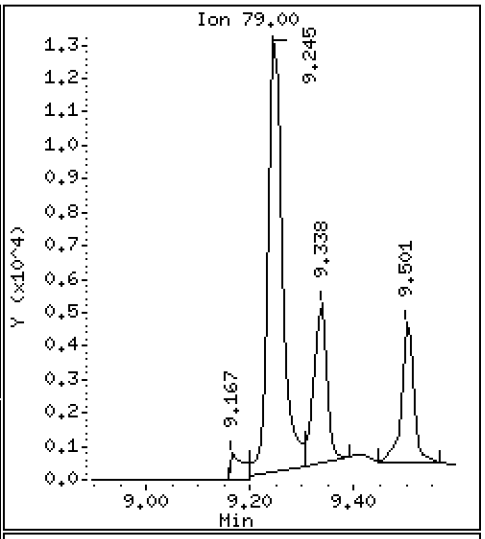
Column phase: ZB-5msi

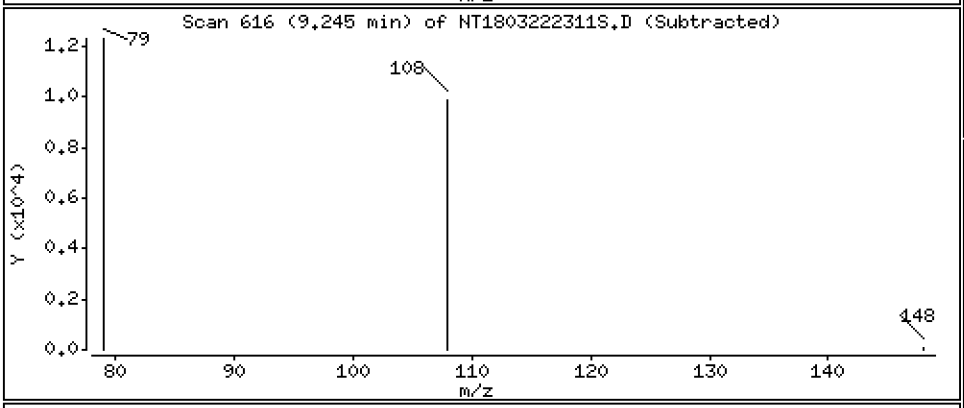
Column diameter: 0.25

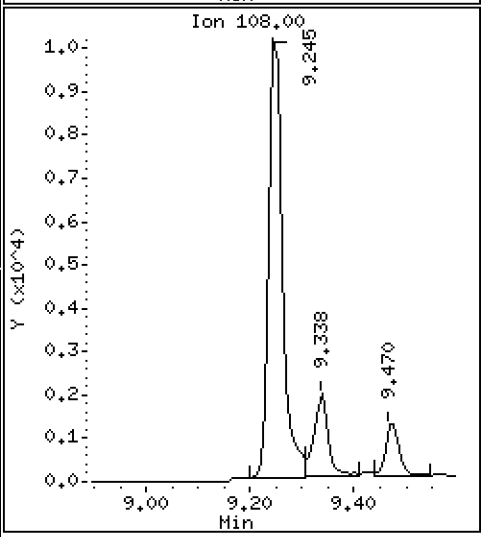
11 Benzyl alcohol

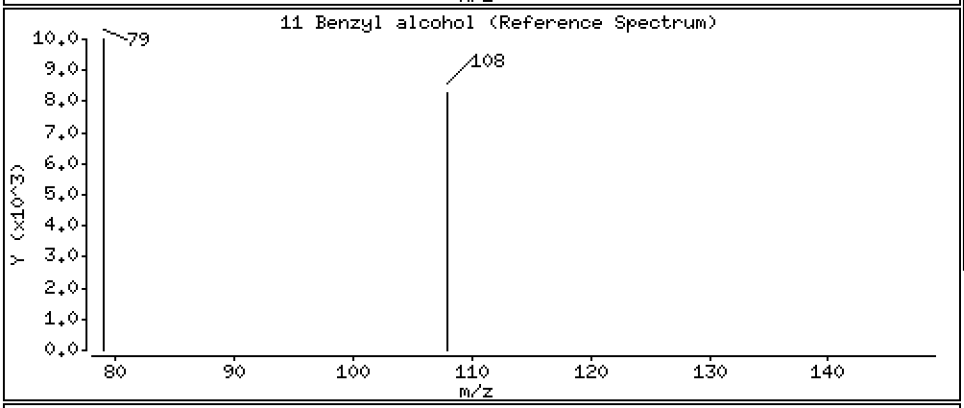
Concentration: 0.3028 ug/mL

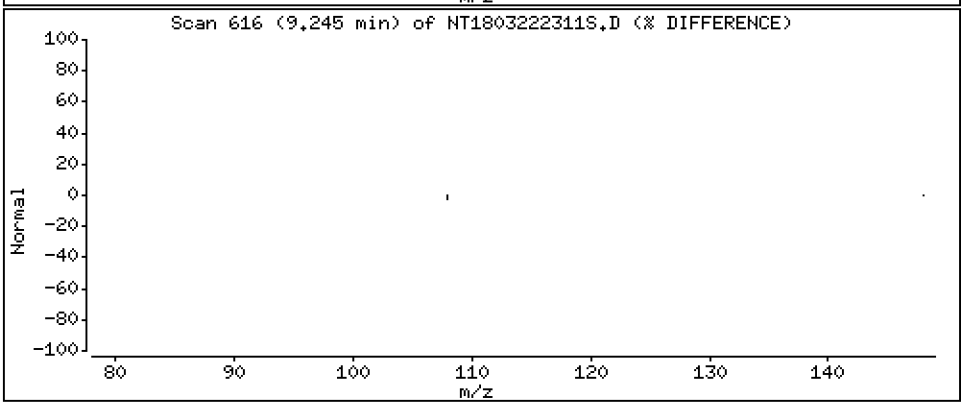












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222311S.D

Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

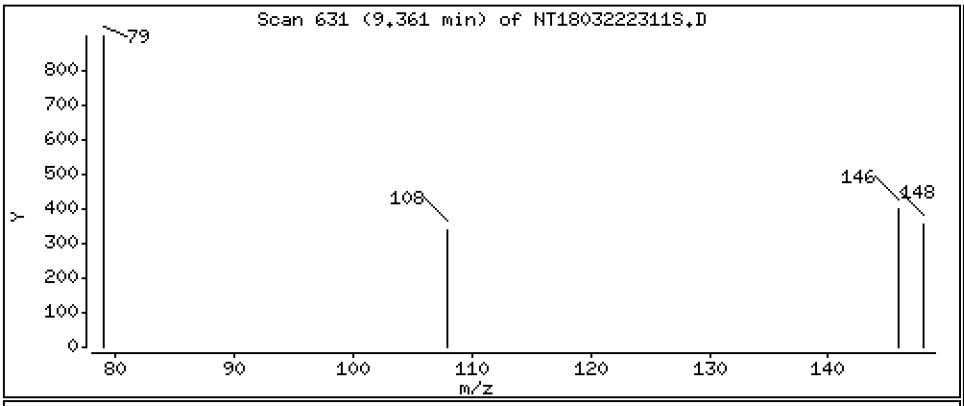
Operator: VTS

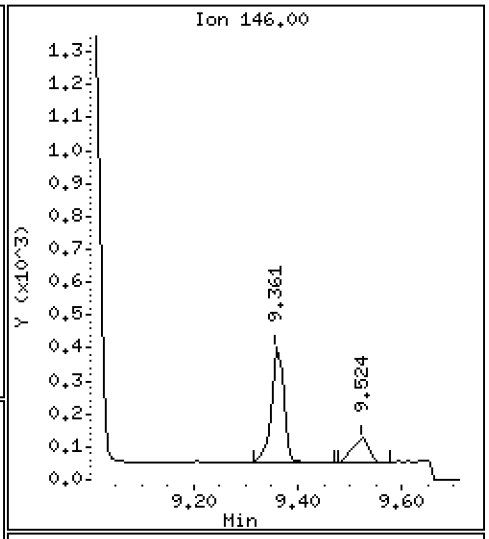
Column phase: ZB-5msi

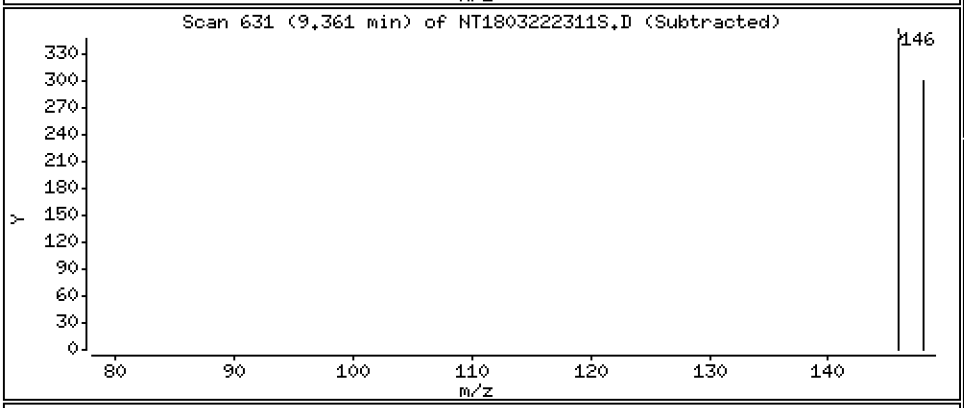
Column diameter: 0.25

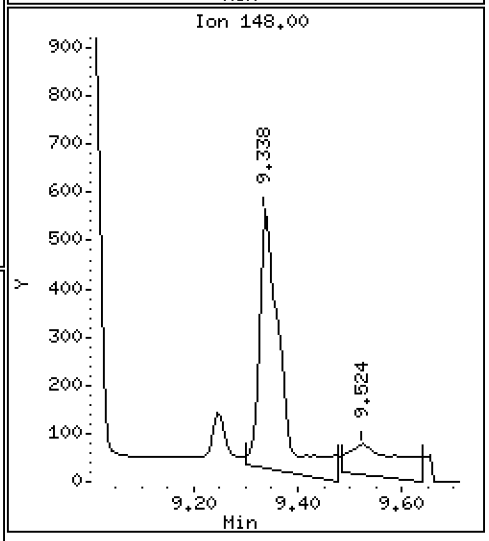
12 1,2-Dichlorobenzene

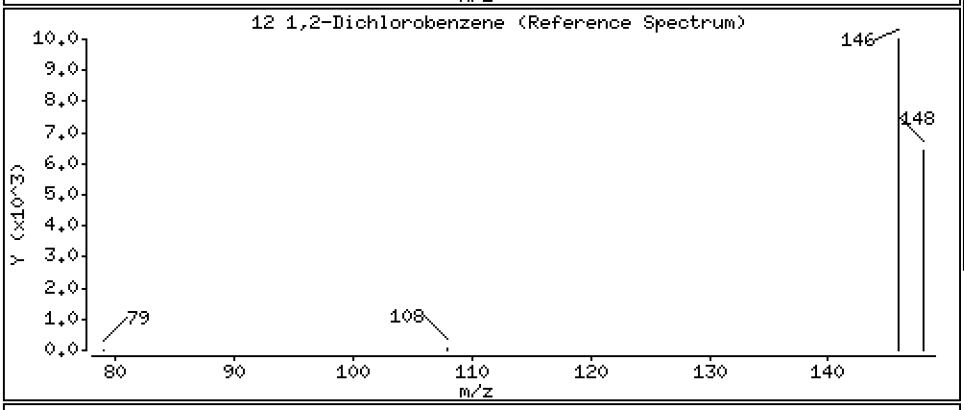
Concentration: 0.004245 ug/mL

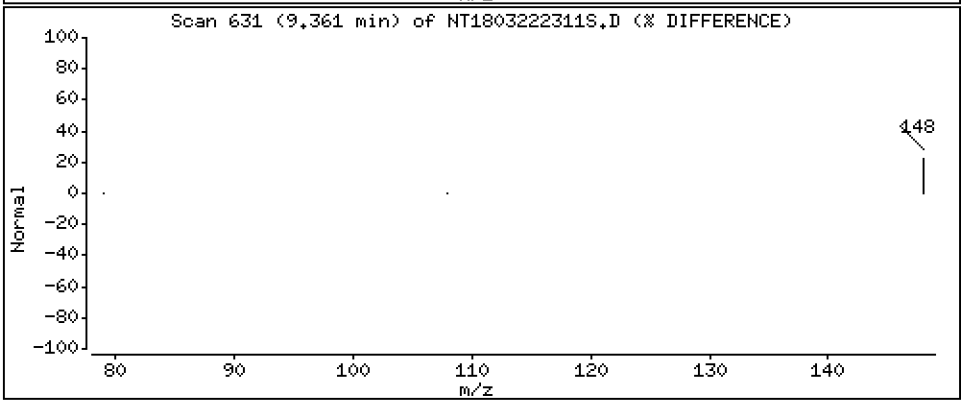












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222311S.D

Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

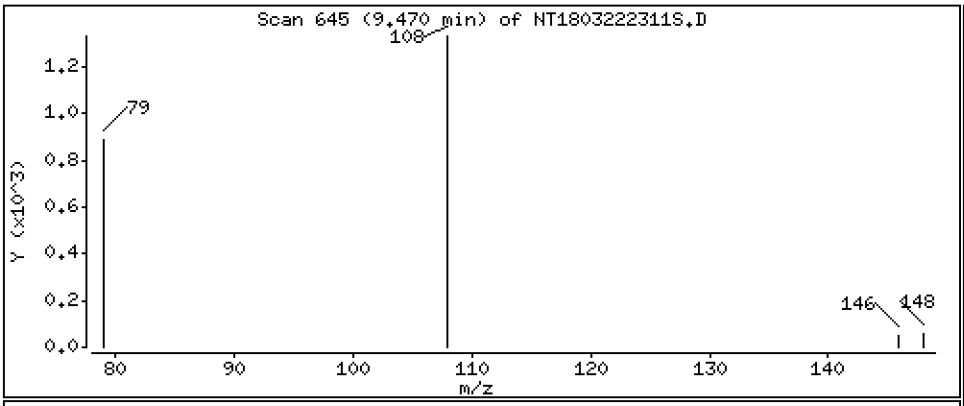
Operator: VTS

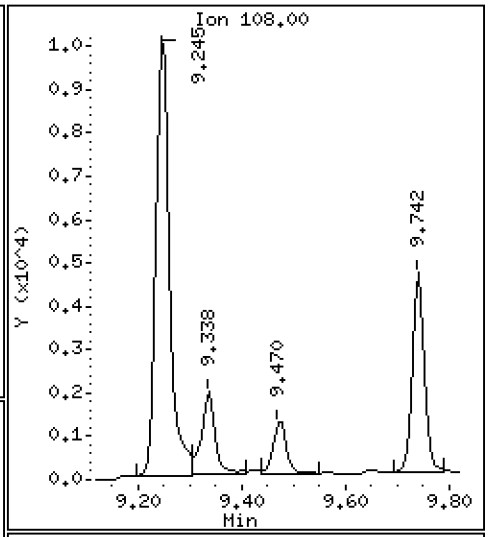
Column phase: ZB-5msi

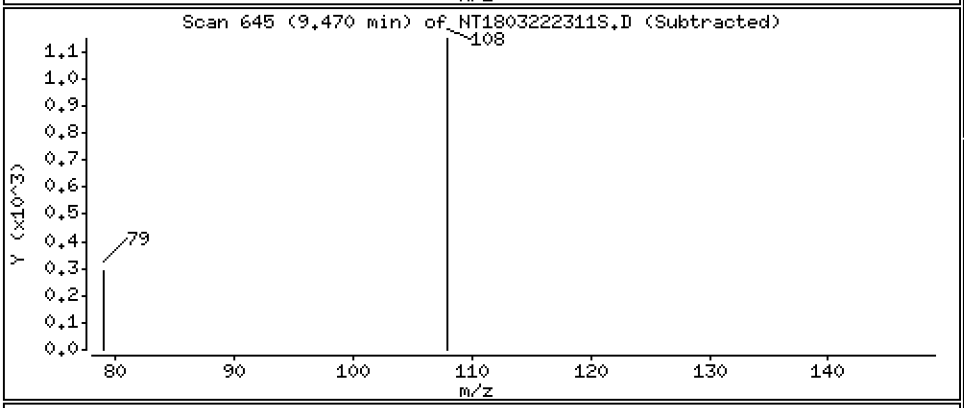
Column diameter: 0.25

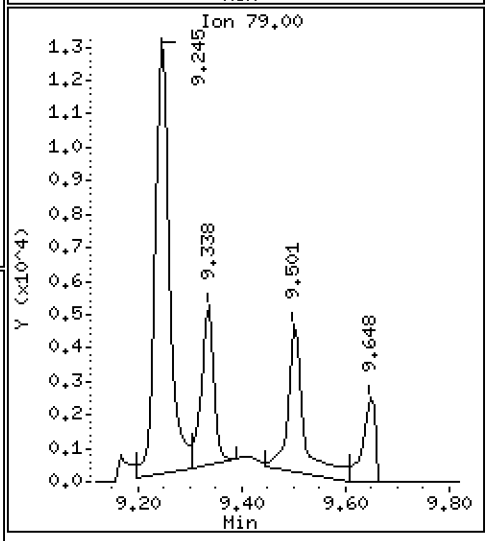
13 2-Methylphenol

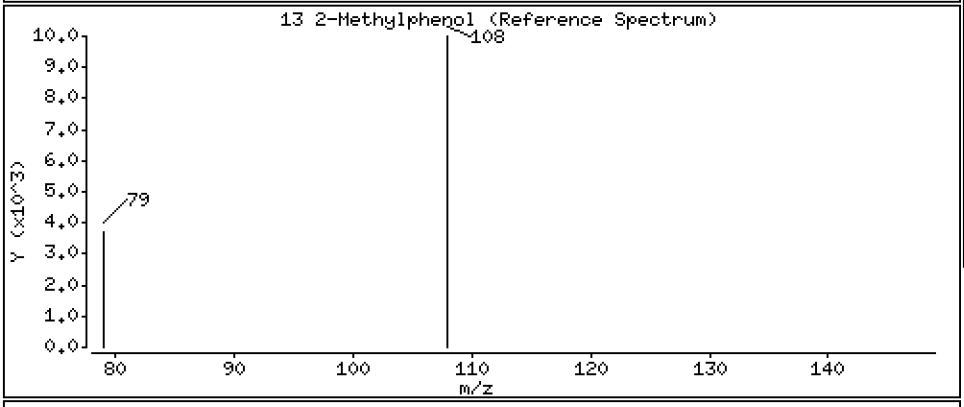
Concentration: 0.02234 ug/mL

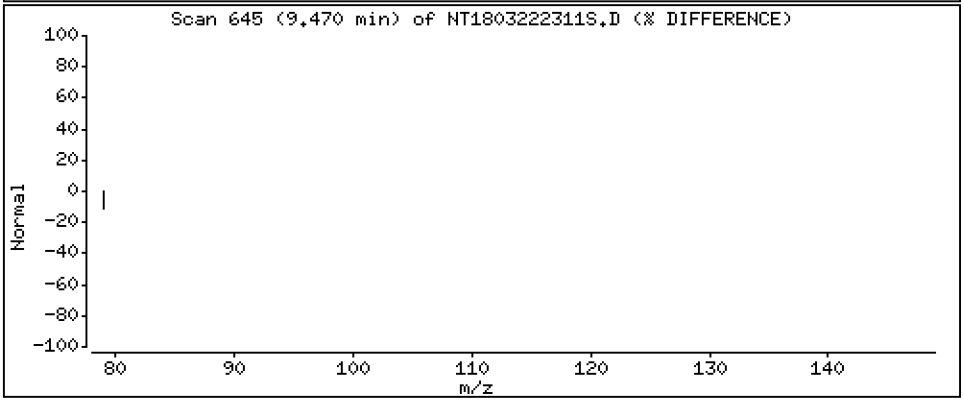












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222311S.D

Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

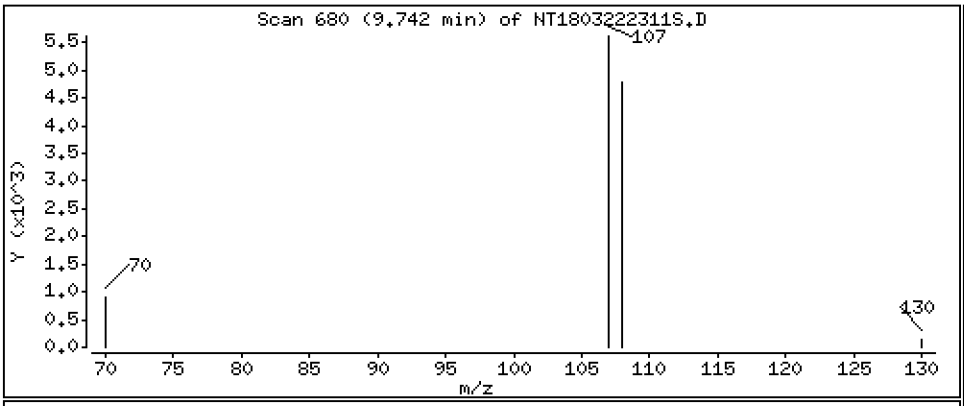
Operator: VTS

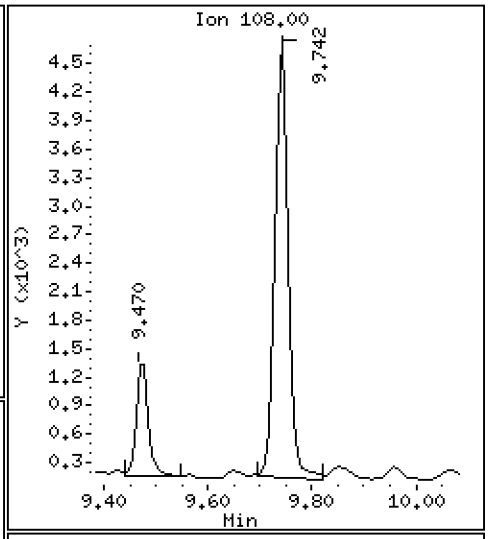
Column phase: ZB-5msi

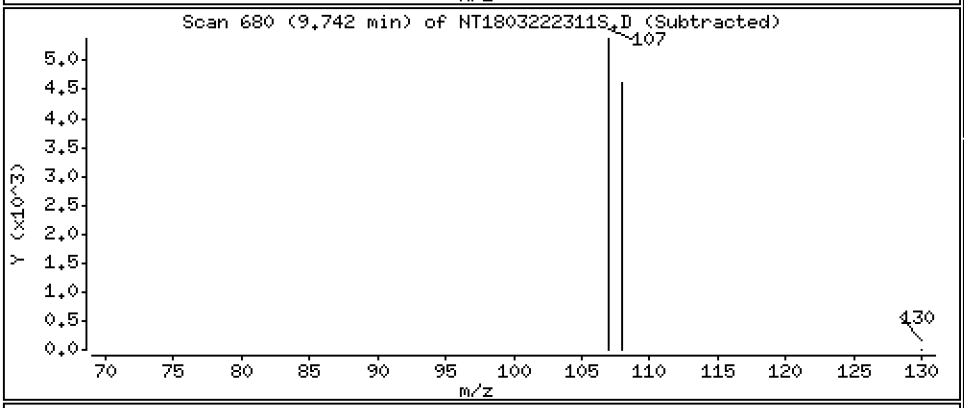
Column diameter: 0.25

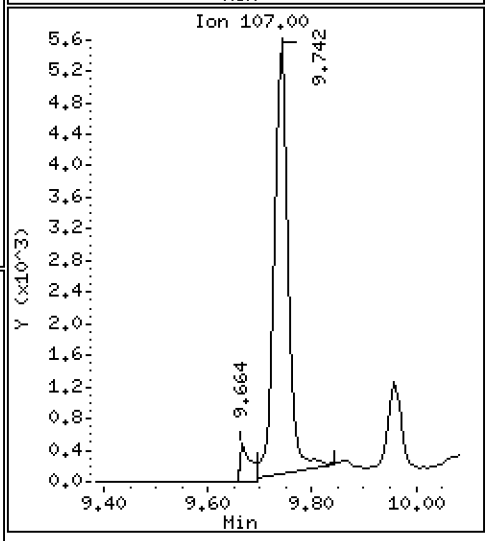
15 4-Methylphenol

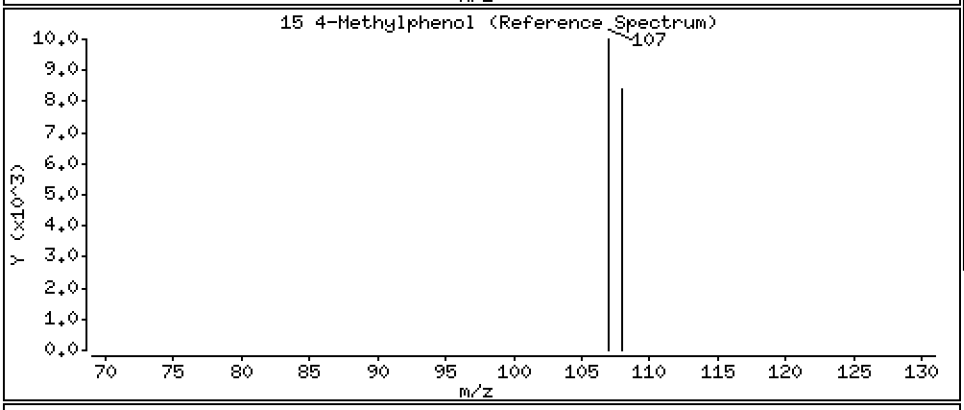
Concentration: 0.08195 ug/mL

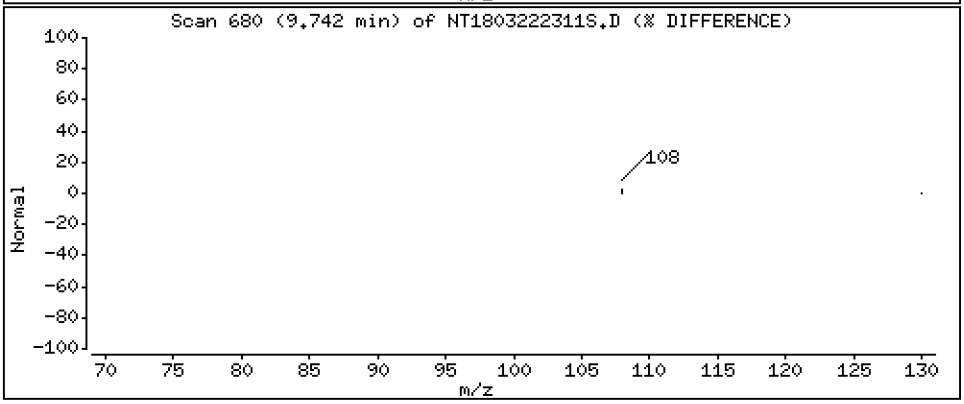












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223115.D

Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

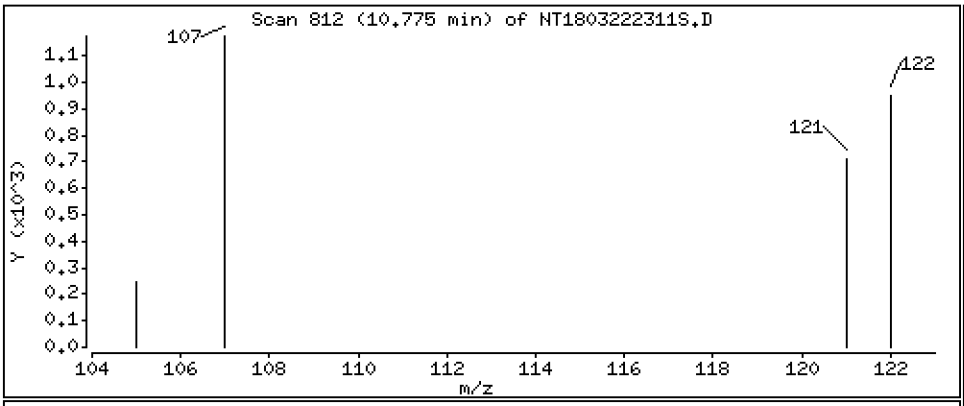
Operator: VTS

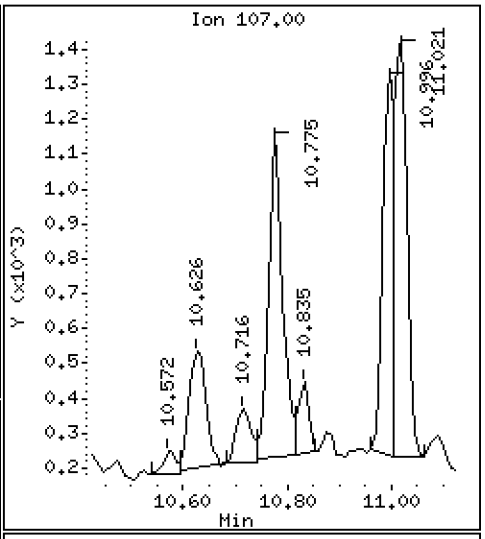
Column phase: ZB-5msi

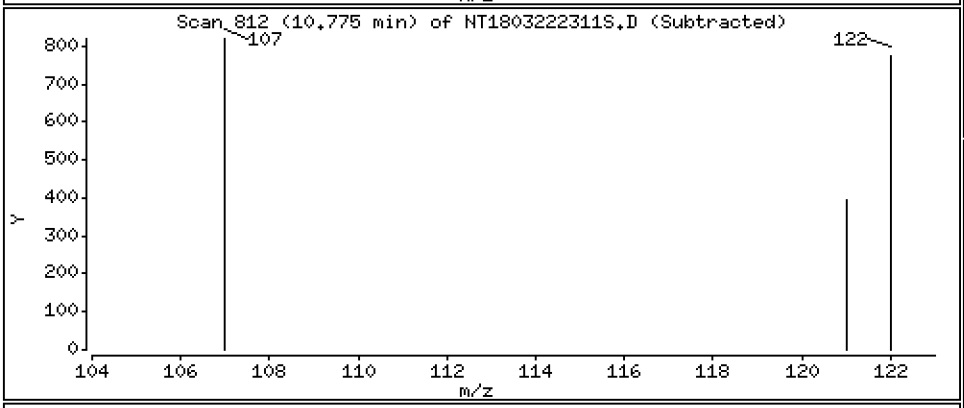
Column diameter: 0.25

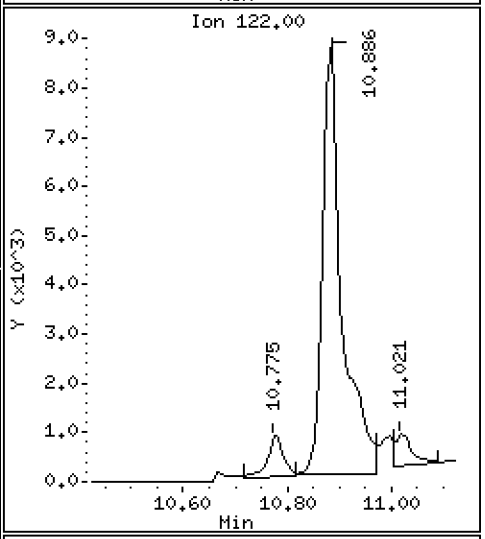
22 2,4-Dimethylphenol

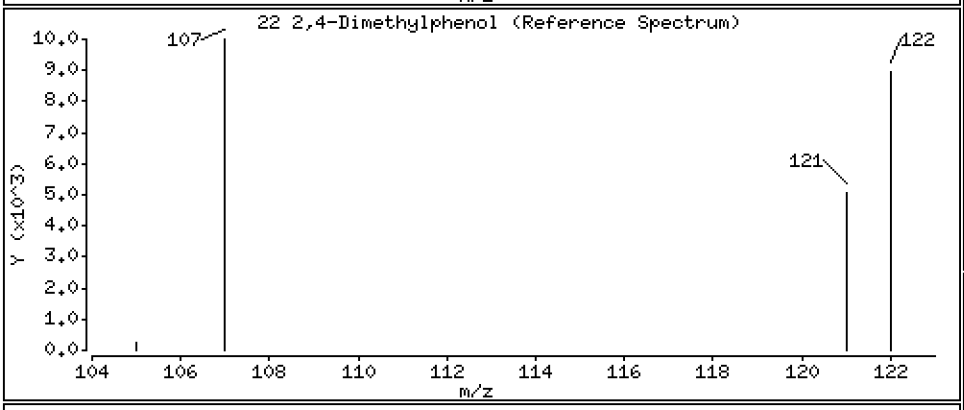
Concentration: 0.02147 ug/mL

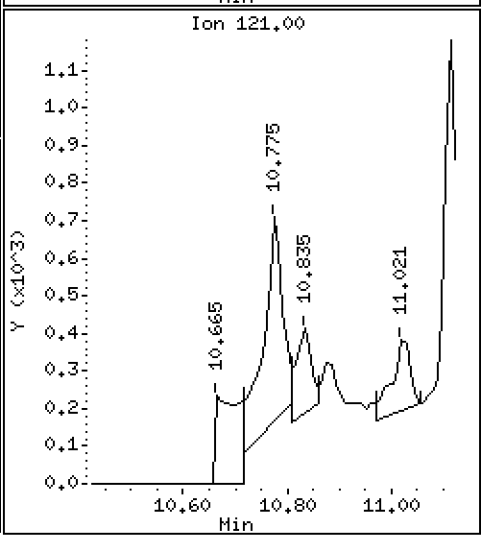


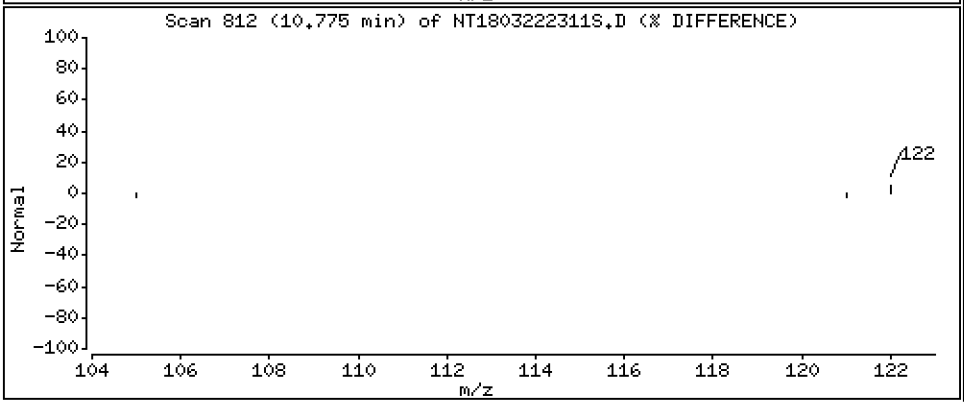












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Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

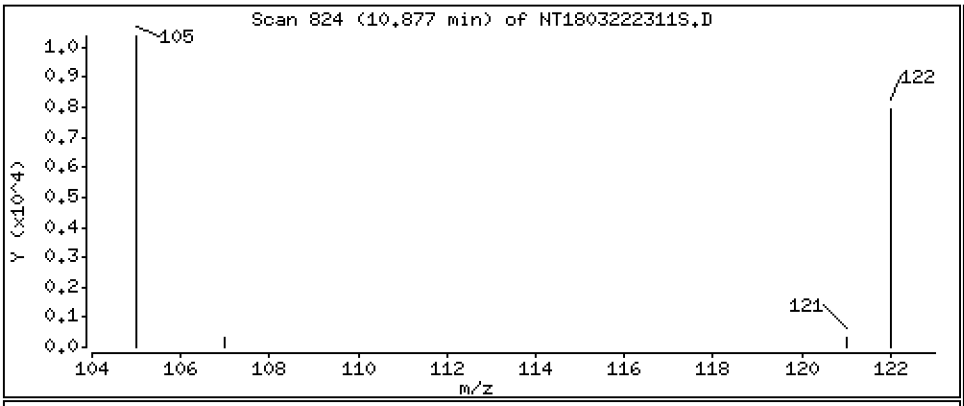
Operator: VTS

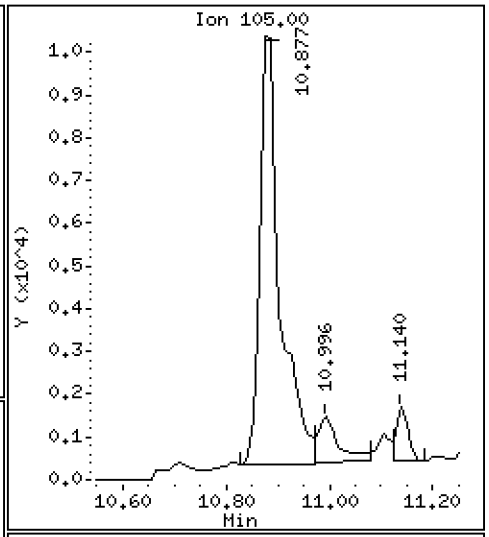
Column phase: ZB-5msi

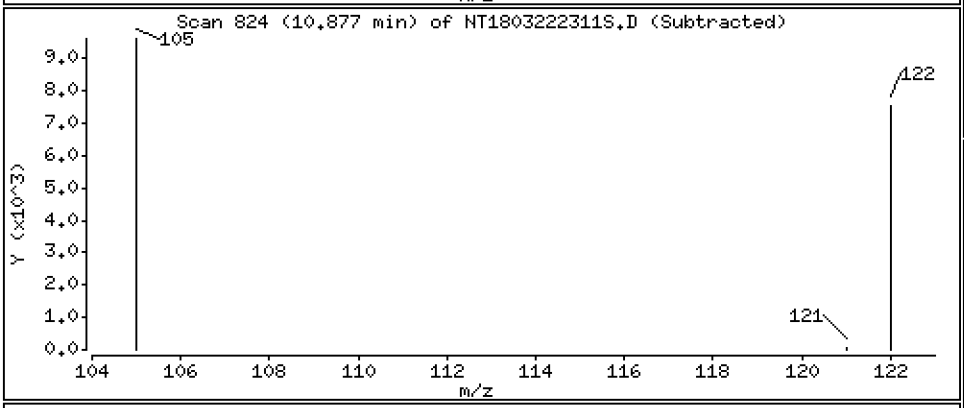
Column diameter: 0.25

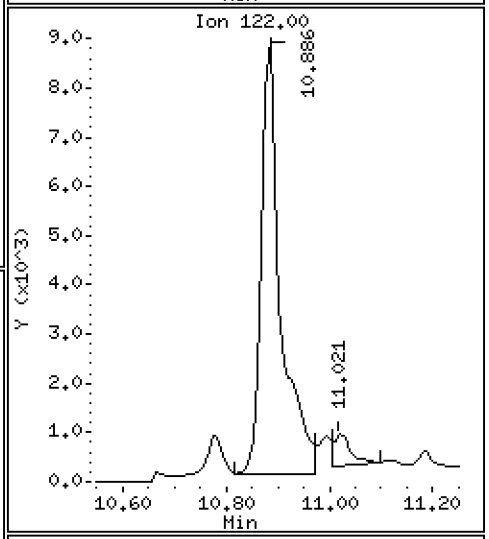
24 Benzoic acid

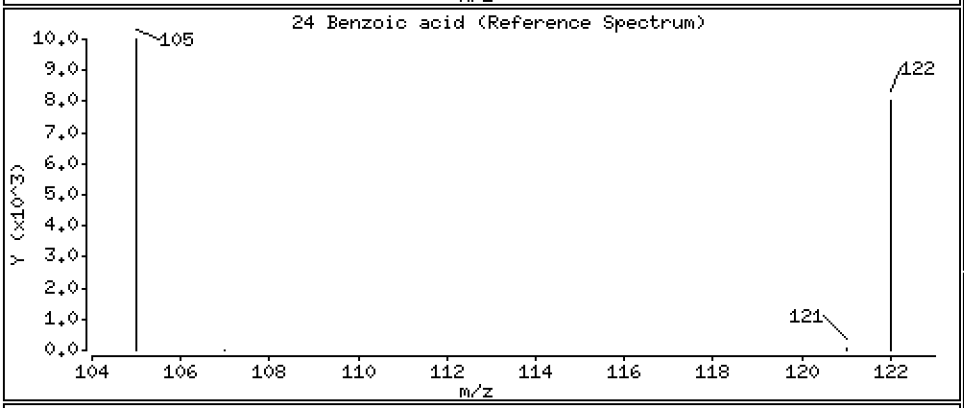
Concentration: 0.4661 ug/mL

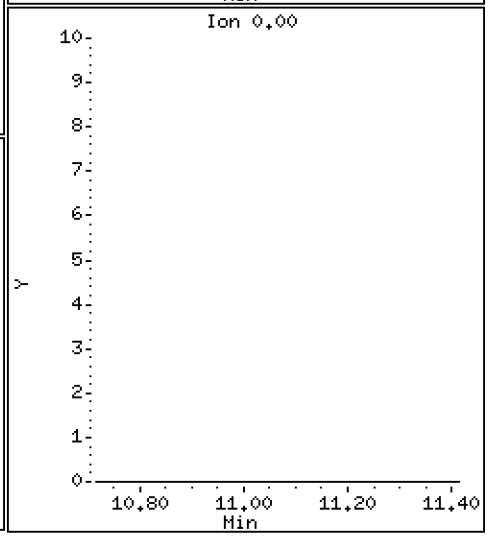


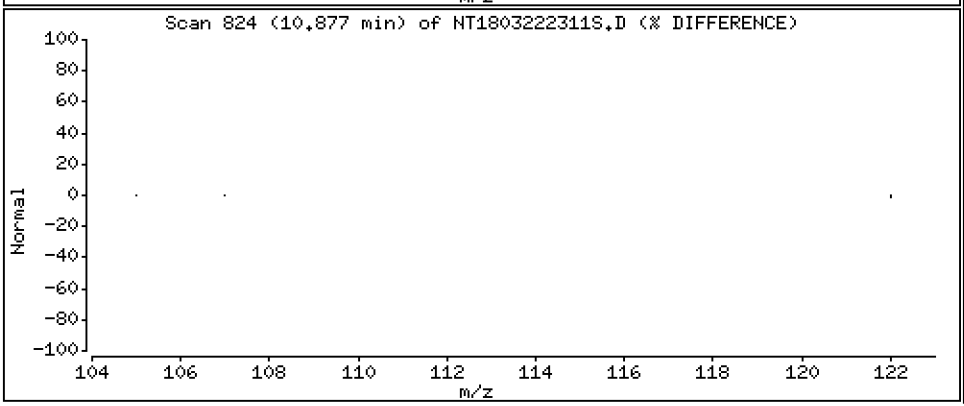












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Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

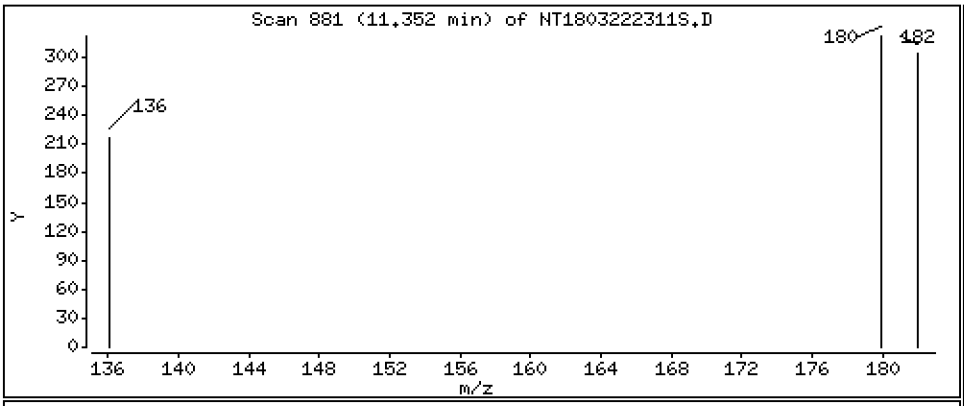
Operator: VTS

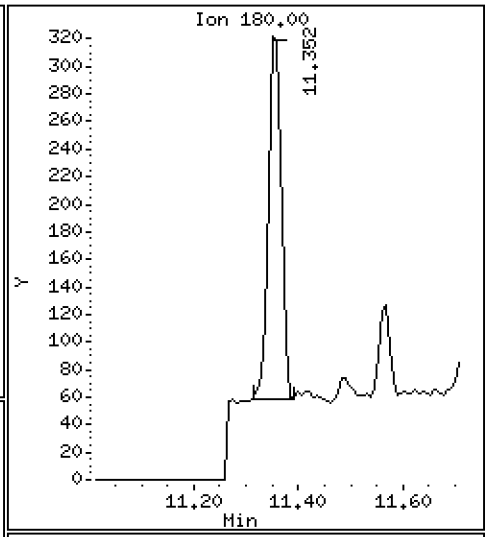
Column phase: ZB-5msi

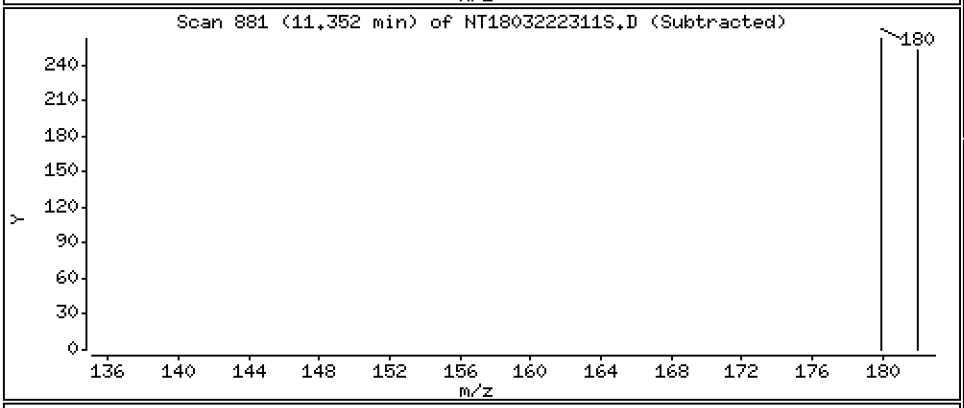
Column diameter: 0.25

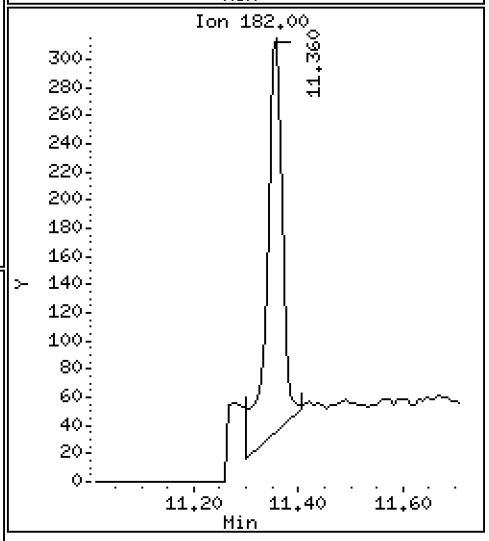
26 1,2,4-Trichlorobenzene

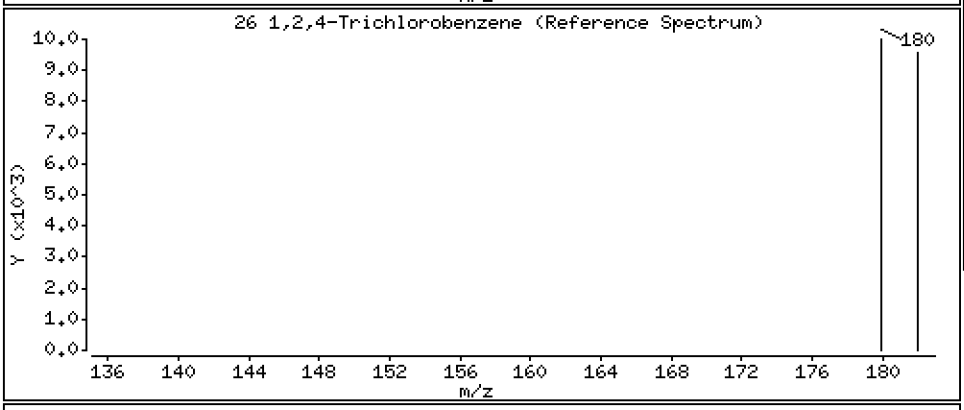
Concentration: 0.004431 ug/mL

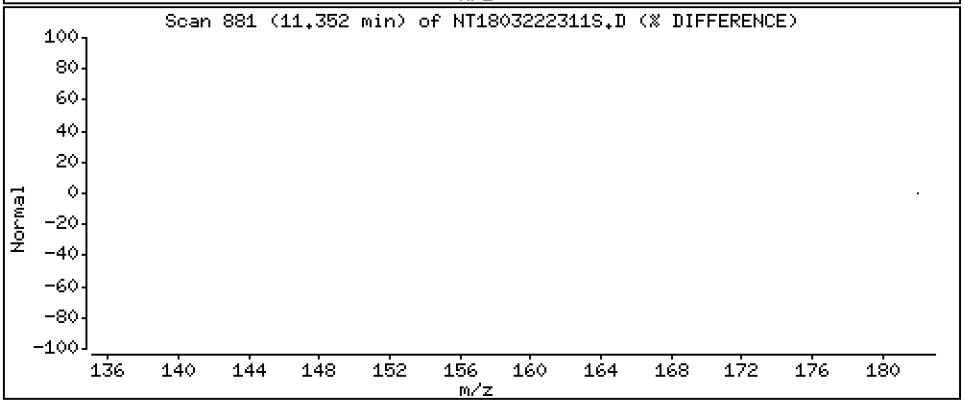












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222311S.D

Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

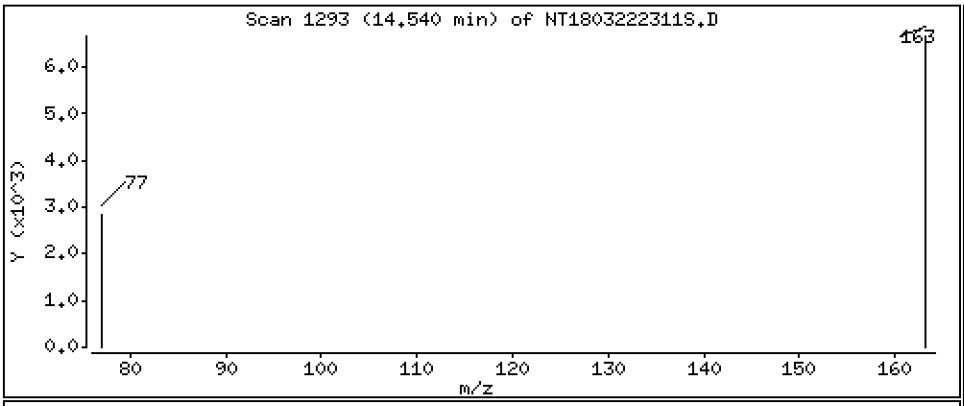
Operator: VTS

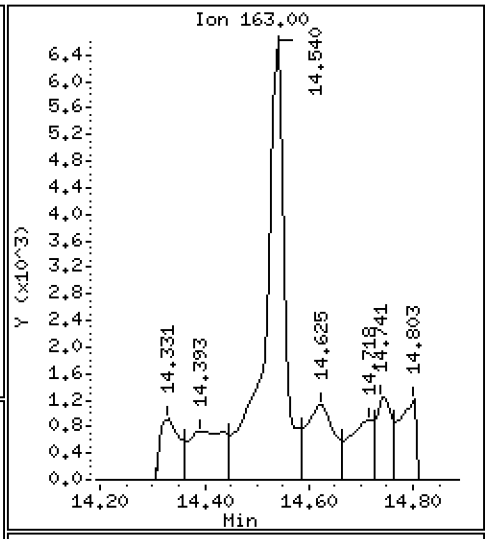
Column phase: ZB-5msi

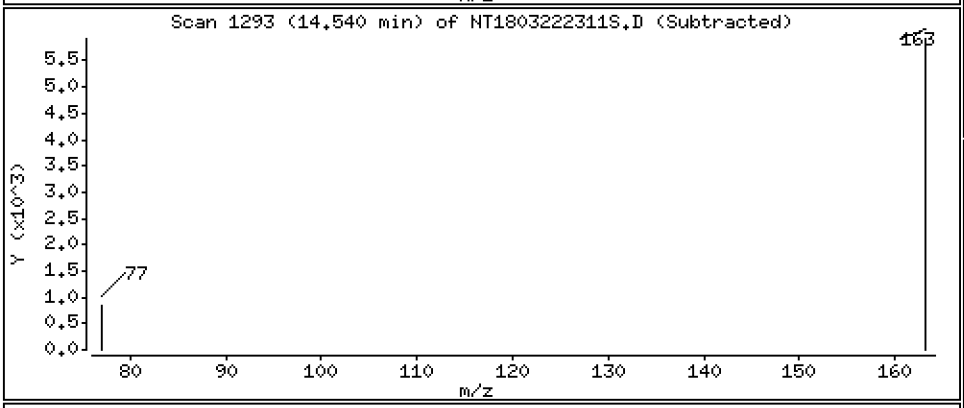
Column diameter: 0.25

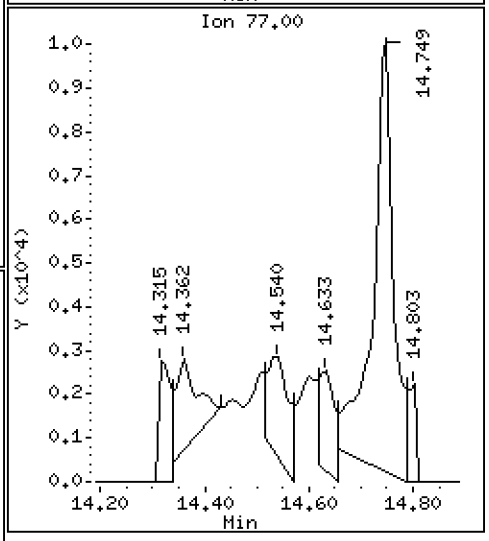
39 Dimethylphthalate

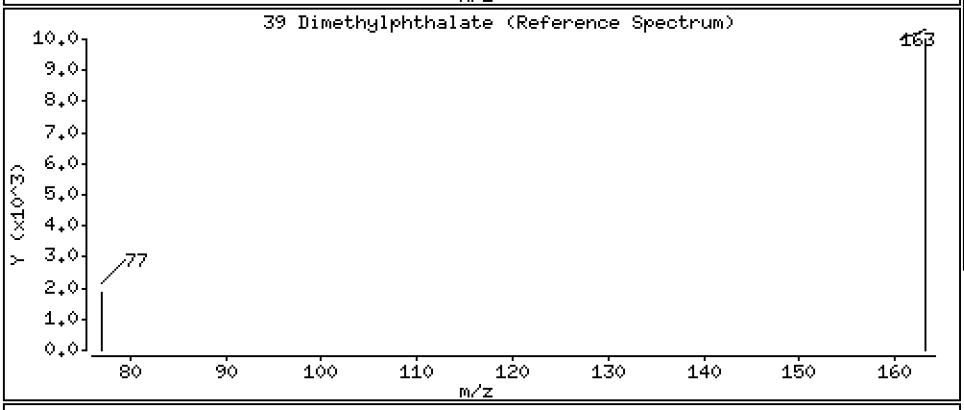
Concentration: 0.08912 ug/mL

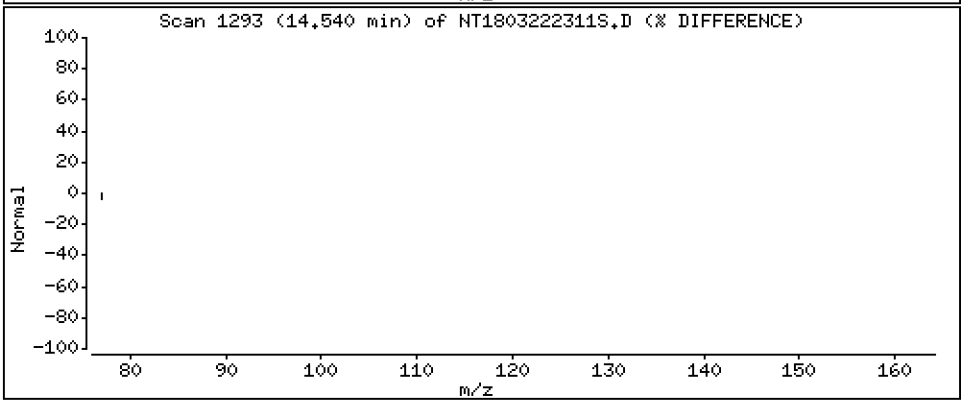












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222311S.D

Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

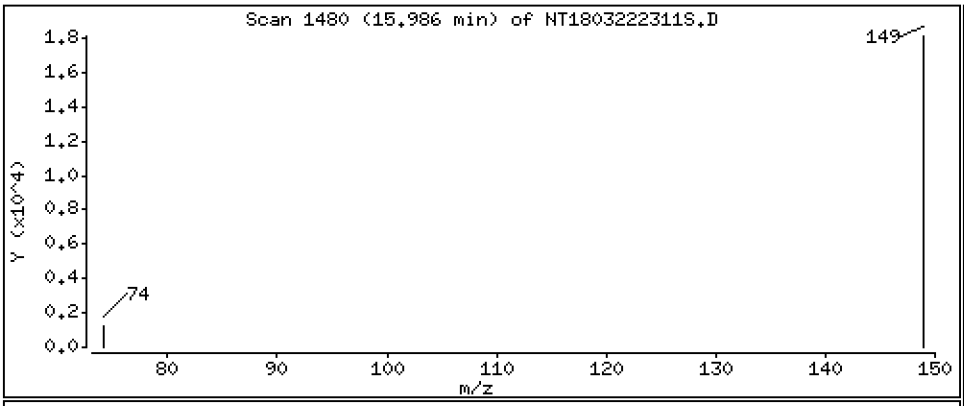
Operator: VTS

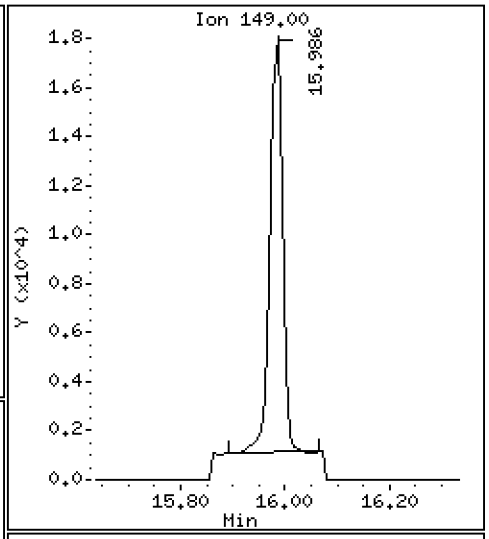
Column phase: ZB-5msi

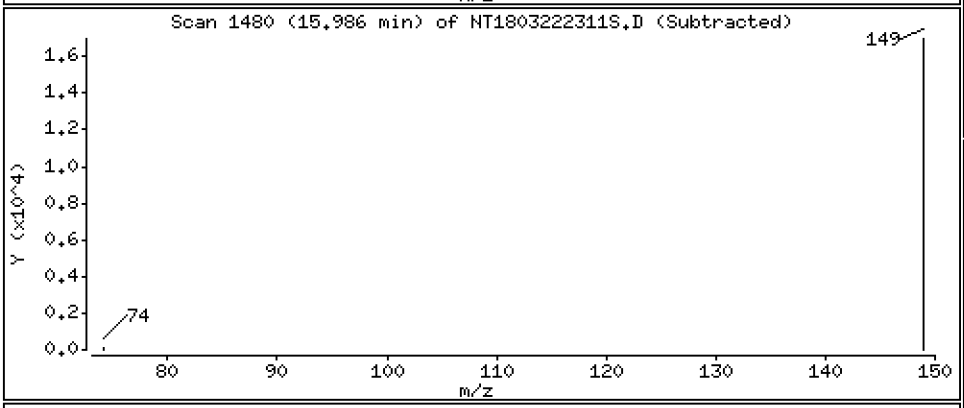
Column diameter: 0.25

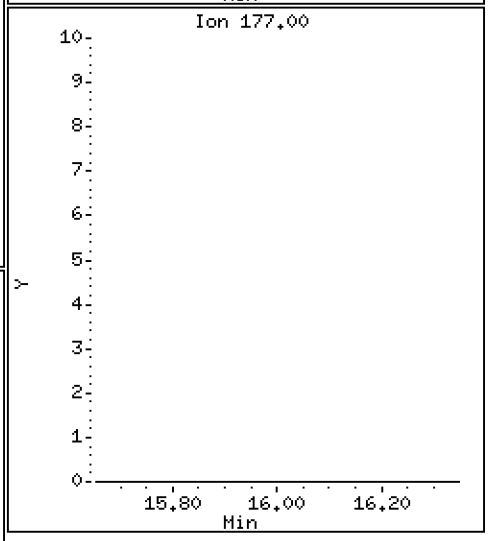
50 Diethylphthalate

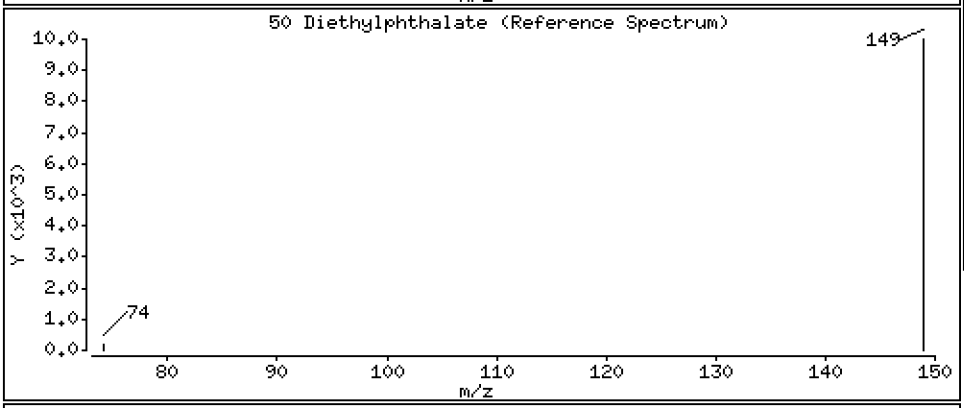
Concentration: 0.1555 ug/mL

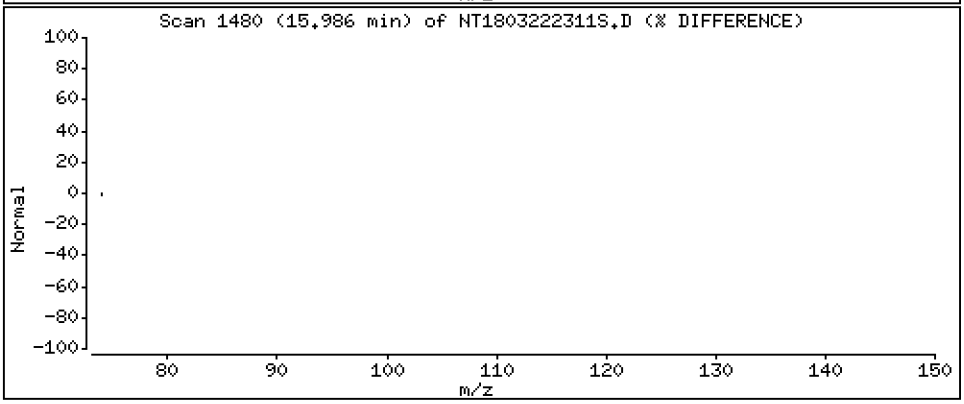












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Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

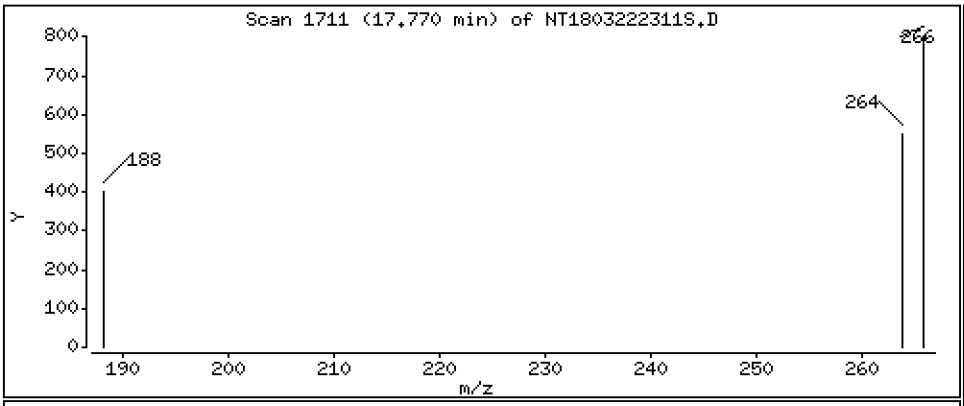
Operator: VTS

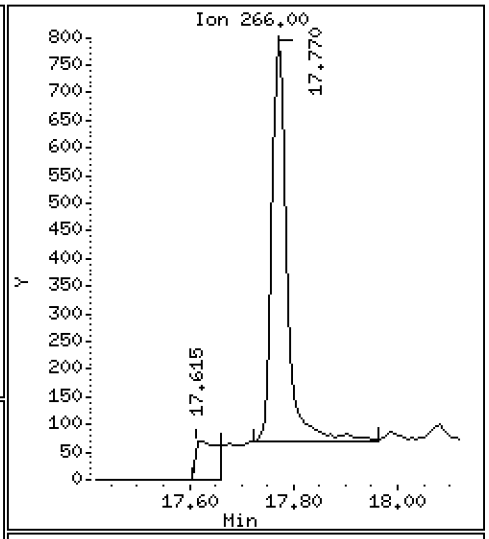
Column phase: ZB-5msi

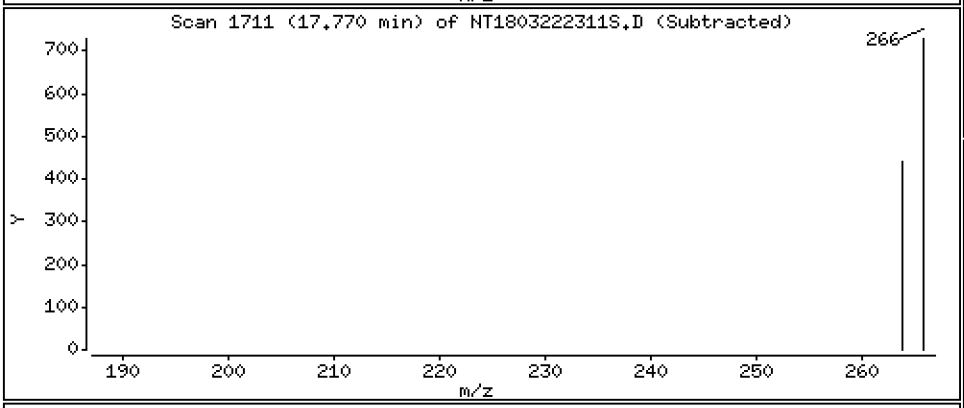
Column diameter: 0.25

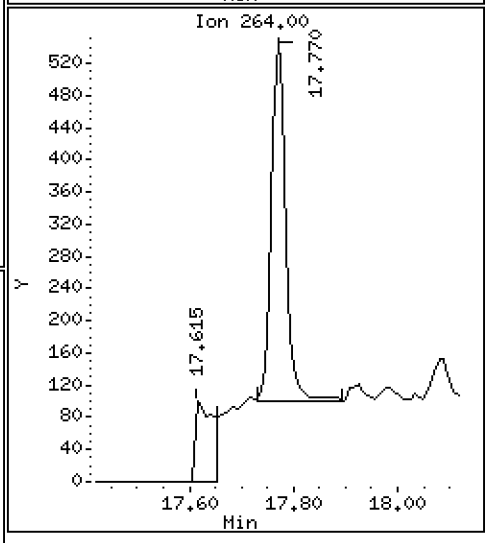
58 Pentachlorophenol

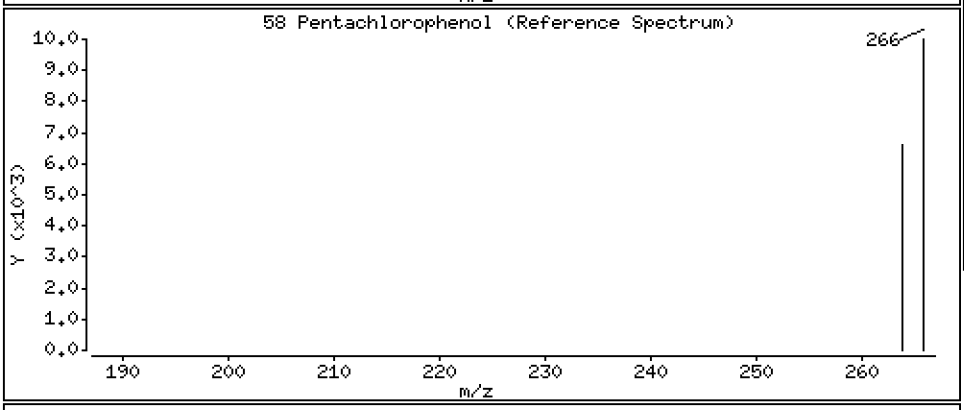
Concentration: 0.04261 ug/mL

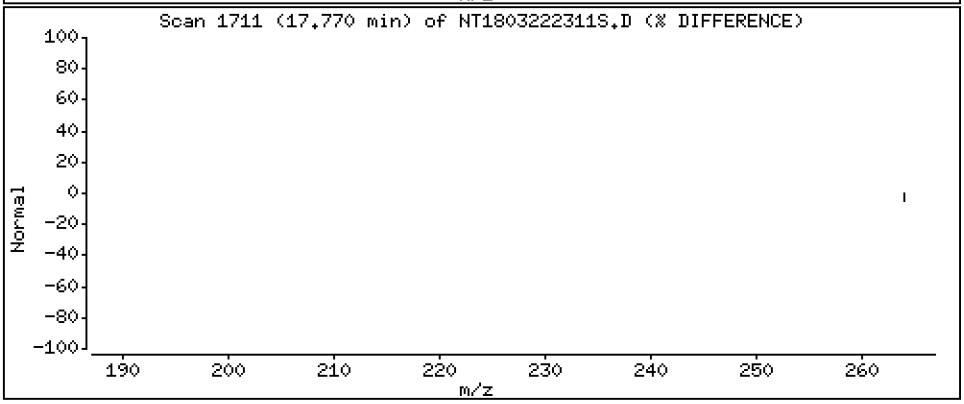












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222311S.D

Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

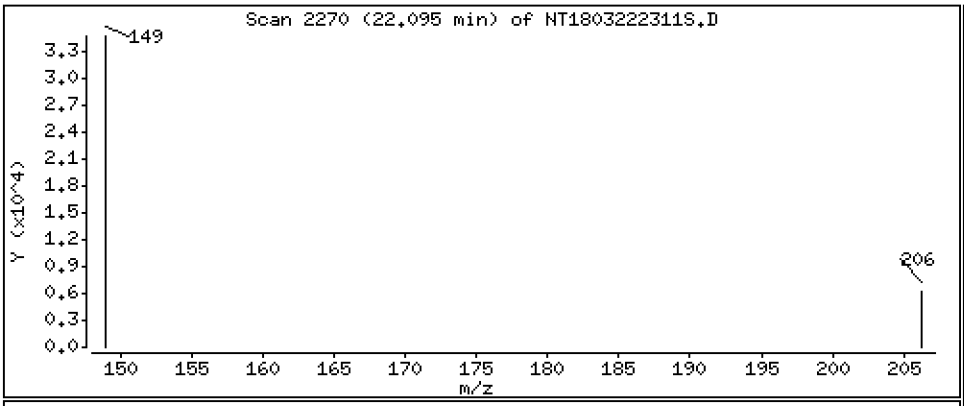
Operator: VTS

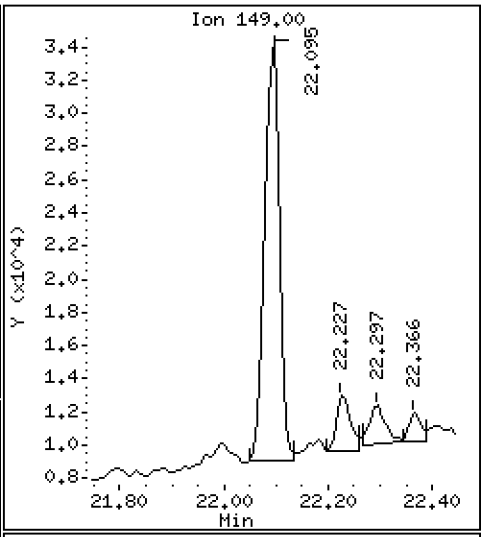
Column phase: ZB-5msi

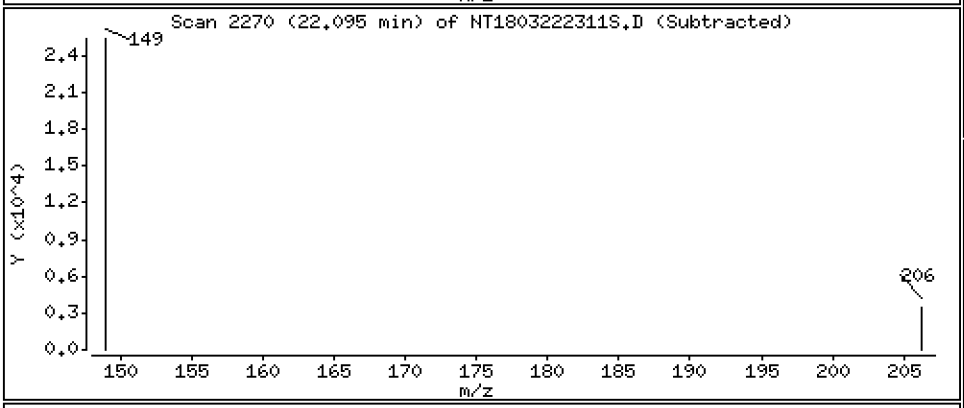
Column diameter: 0.25

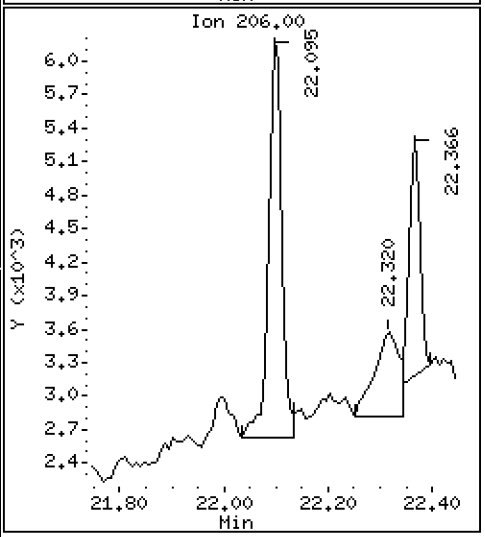
67 Butylbenzylphthalate

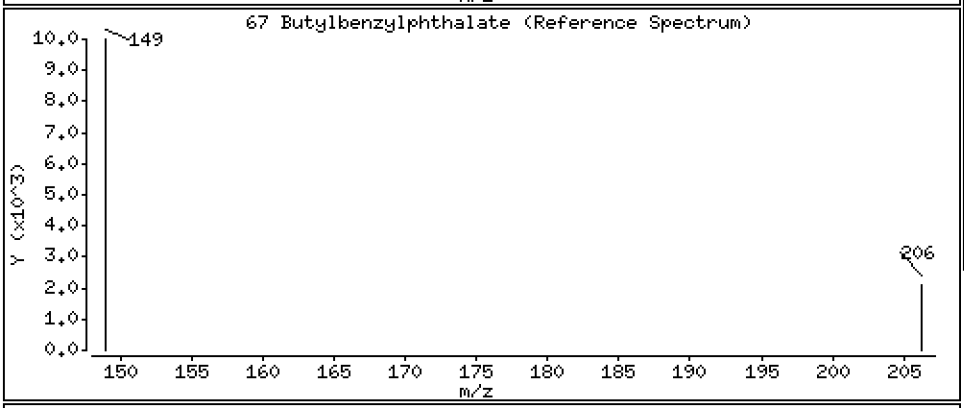
Concentration: 0.2518 ug/mL

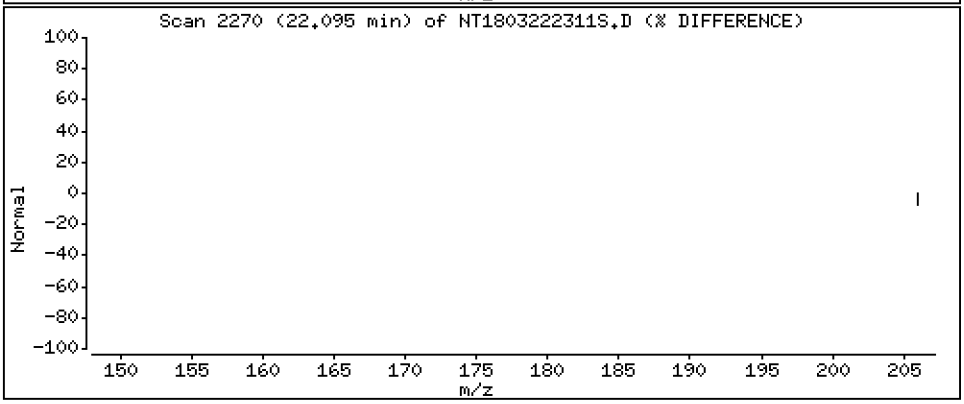












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222311S.D

Date : 23-MAR-2023 00:03

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-02

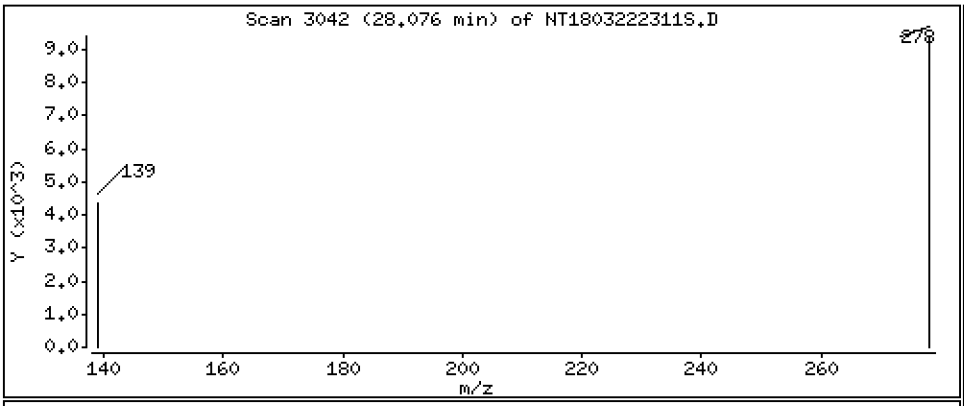
Operator: VTS

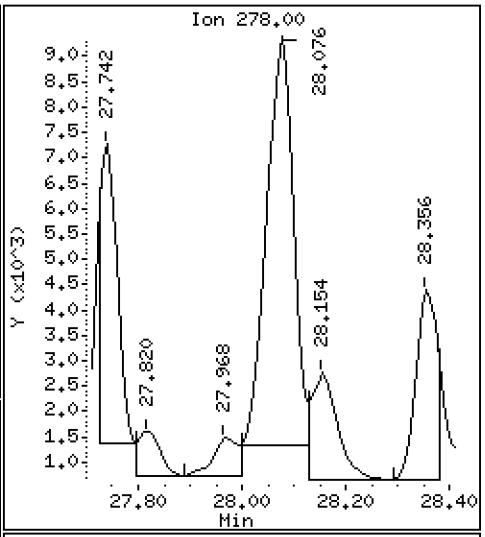
Column phase: ZB-5msi

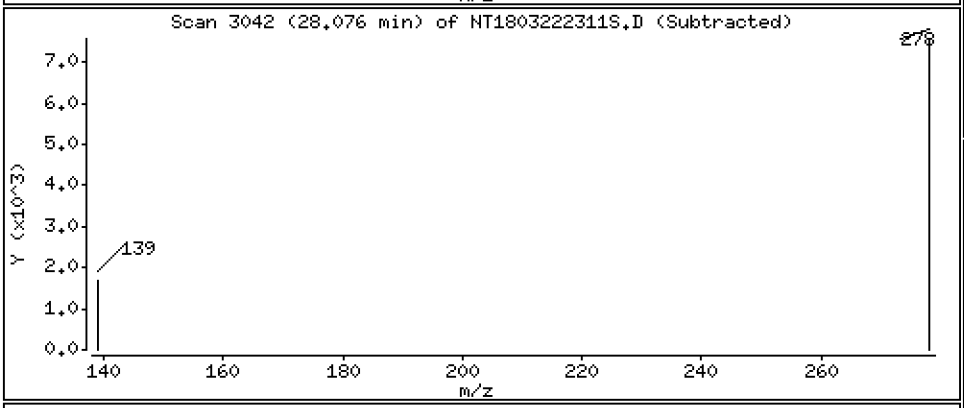
Column diameter: 0.25

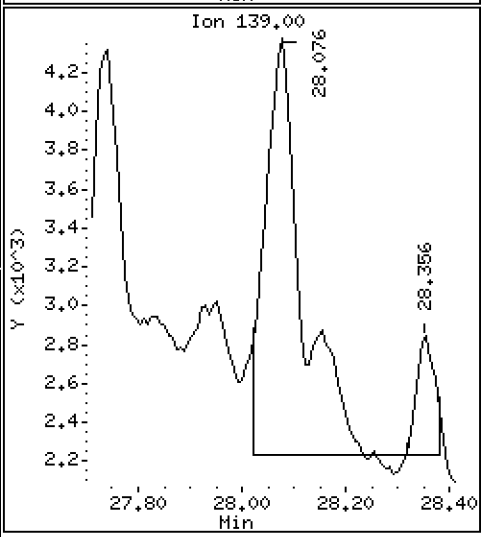
79 Dibenzo(a,h)anthracene

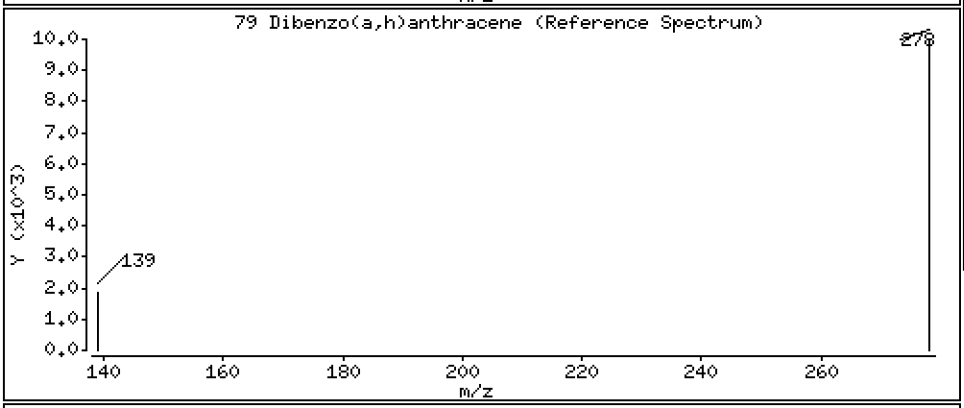
Concentration: 0.07151 ug/mL

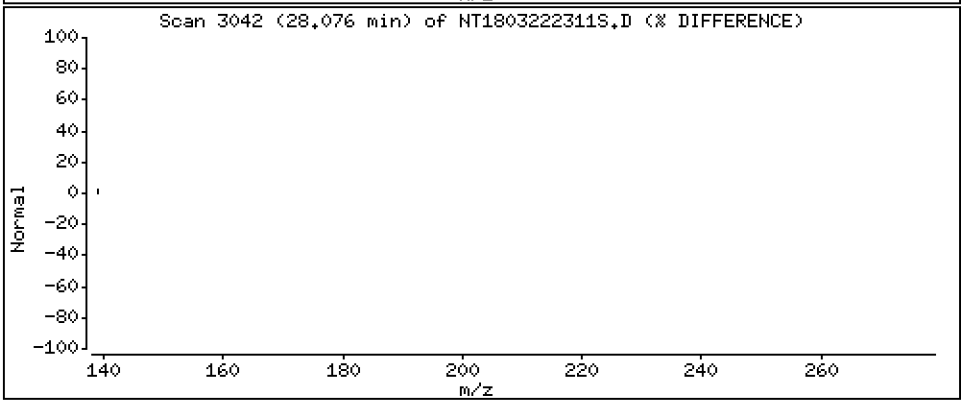












ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222311S.D
Lab Smp Id: 23C0108-02
Inj Date : 23-MAR-2023 00:03
Operator : VTS Inst ID: nt18.i
Smp Info : 23C0108-02
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230322.b\SIM.b\SIMABN2.m
Meth Date : 05-Apr-2023 10:09 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: DEENAY-201905

								CONCENTRATIONS	
		QUANT SIG						ON-COLUMN	FINAL
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE		(ug/mL)	(ug/mL)
$	1 2-Fluorophenol	112	6.793	6.778	(0.756)	630262		6.31302	6.313(R)
	3 Phenol	94	8.370	8.362	(0.932)	175616		1.31367	1.314
	7 1,3-Dichlorobenzene	146	8.918	8.918	(0.993)	772		0.00597	0.005969
*	8 1,4-Dichlorobenzene-d4	152	8.980	8.980	(1.000)	342453		4.00000	
	9 1,4-Dichlorobenzene	146	9.011	9.011	(1.003)	2250		0.01715	0.01715
	11 Benzyl alcohol	79	9.244	9.244	(1.029)	24203		0.30276	0.3028
	12 1,2-Dichlorobenzene	146	9.361	9.360	(1.042)	542		0.00425	0.004245
	13 2-Methylphenol	108	9.469	9.469	(1.054)	2073		0.02234	0.02234
	15 4-Methylphenol	108	9.741	9.733	(1.085)	7911		0.08195	0.08195
	16 N-Nitroso-di-n-propylamine	70	Compound Not Detected.						
	22 2,4-Dimethylphenol	107	10.775	10.775	(0.942)	1839		0.02147	0.02147
	24 Benzoic acid	105	10.877	10.902	(0.951)	27217		0.46613	0.4661
	26 1,2,4-Trichlorobenzene	180	11.352	11.360	(0.993)	433		0.00443	0.004431
*	27 Naphthalene-d8	136	11.437	11.444	(1.000)	1226773		4.00000	
	30 Hexachlorobutadiene	225	Compound Not Detected.						
	39 Dimethylphthalate	163	14.540	14.539	(0.968)	17013		0.08912	0.08912
*	42 Acenaphthene-d10	162	15.027	15.027	(1.000)	597627		4.00000	
	50 Diethylphthalate	149	15.986	15.985	(1.064)	26950		0.15548	0.1555(M)
	54 N-Nitrosodiphenylamine	169	Compound Not Detected.						
	57 Hexachlorobenzene	284	Compound Not Detected.						
	58 Pentachlorophenol	266	17.769	17.769	(0.985)	1425		0.04261	0.04261
*	59 Phenanthrene-d10	188	18.032	18.032	(1.000)	1098679		4.00000	
$	66 Terphenyl-d14	244	21.173	21.165	(0.918)	744259		3.96861	3.969(R)
	67 Butylbenzylphthalate	149	22.095	22.095	(0.958)	47274		0.25177	0.2518
*	69 Chrysene-d12	240	23.063	23.055	(1.000)	1330502		4.00000	
*	77 Perylene-d12	264	25.587	25.563	(1.000)	1369234		4.00000	
	79 Dibenzo(a,h)anthracene	278	28.076	28.060	(1.097)	28973		0.07151	0.07151
	90 N-Nitrosodimethylamine	74	Compound Not Detected.						

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222311S.D
Lab Smp Id: 23C0108-02
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 22-MAR-2023
Calibration Time: 18:36
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	283947	141974	567894	342453	20.60
27 Naphthalene-d8	1057483	528742	2114966	1226773	16.01
42 Acenaphthene-d10	520336	260168	1040672	597627	14.85
59 Phenanthrene-d10	933537	466769	1867074	1098679	17.69
69 Chrysene-d12	863272	431636	1726544	1330502	54.12
77 Perylene-d12	996915	498458	1993830	1369234	37.35

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	-0.07
42 Acenaphthene-d10	15.03	14.53	15.53	15.03	0.00
59 Phenanthrene-d10	18.03	17.53	18.53	18.03	0.00
69 Chrysene-d12	23.06	22.56	23.56	23.06	0.03
77 Perylene-d12	25.56	25.06	26.06	25.59	0.09

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222311S.D

Lab ID: 23C0108-02
nt18.i, 20230322.b\SIM.b\SIMABN2.m,   23-MAR-2023 00:03

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

RRT check based on Ccal File: SIM.b/NT1803222303S.D

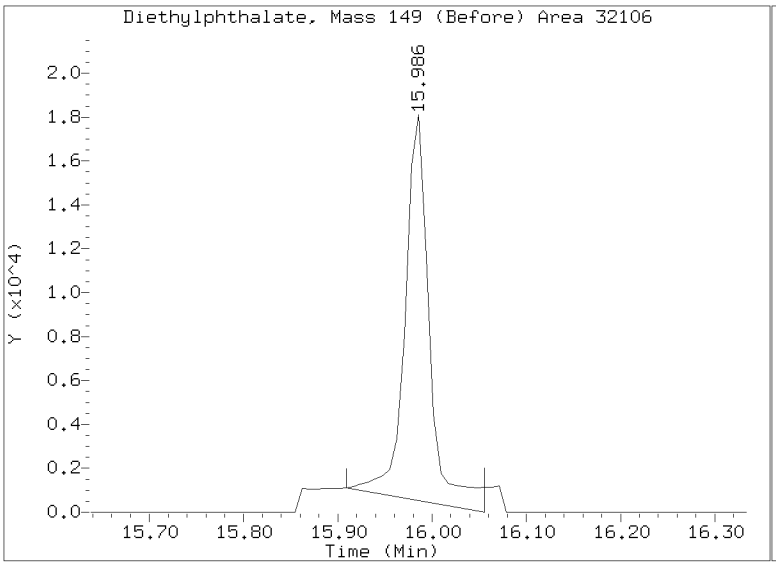
On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

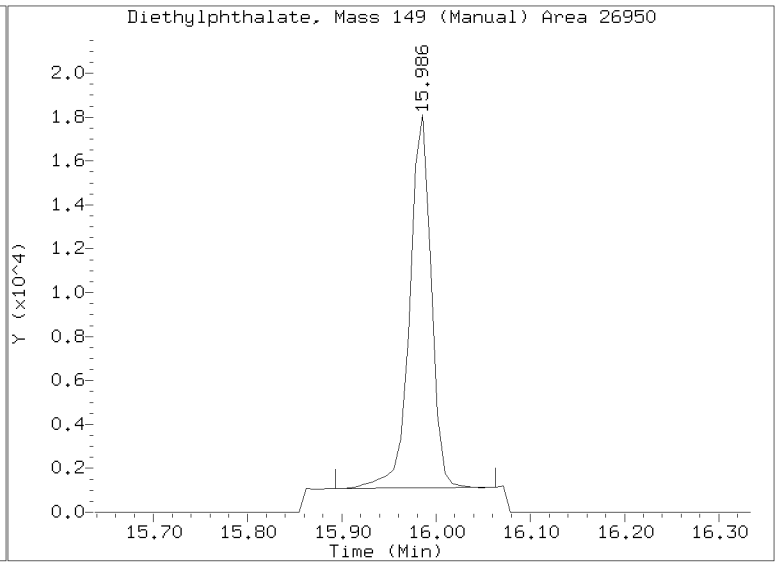
Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230322.b/SIM.b/NT1803222311S.D
Injection Date: 23-MAR-2023 00:03
Lab ID:23C0108-02 Client ID:
Report Date: 04/05/2023 10:10





Analytical Resources, LLC
Analytical Chemists and Consultants

LDW23-SS1106

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270E-SIM

SIM SVOC Organics (Dual scan list)

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-06 A	SDG:	23C0108
Sampled:	03/03/23 10:00	Prepared:	03/09/23 13:26	File ID:	NT1803222312S.D
% Solids:	43.33	Preparation:	EPA 3546 (Microwave)	Analyzed:	03/23/23 00:44
Batch:	BLC0185	Sequence:	SLD0061	Initial/Final:	23.1 g Wet / 1 mL
Instrument:	NT18	Column:	ZB-5MS	Calibration:	GD00001
Cleanups:	GPC				

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg dry)	Q	DL	RL
106-46-7	1,4-Dichlorobenzene	1	1.7	J	0.6	5.0
95-50-1	1,2-Dichlorobenzene	1	5.0	U	0.7	5.0
100-51-6	Benzyl Alcohol	1	41.1		2.5	20.0
65-85-0	Benzoic acid	1	71.7	J	13.4	99.9
105-67-9	2,4-Dimethylphenol	1	20.0	U	2.2	20.0
120-82-1	1,2,4-Trichlorobenzene	1	5.0	U	2.7	5.0
86-30-6	N-Nitrosodiphenylamine	1	5.0	U	1.3	5.0
87-86-5	Pentachlorophenol	1	4.3	J	2.1	20.0

SURROGATES	ADDED: (ug/kg dry)	FOUND: (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorophenol	749.31	655	87.5	27 - 120	
p-Terphenyl-d14	499.54	407	81.5	37 - 120	

Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223128.D

Date : 23-MAR-2023 00:44

Client ID:

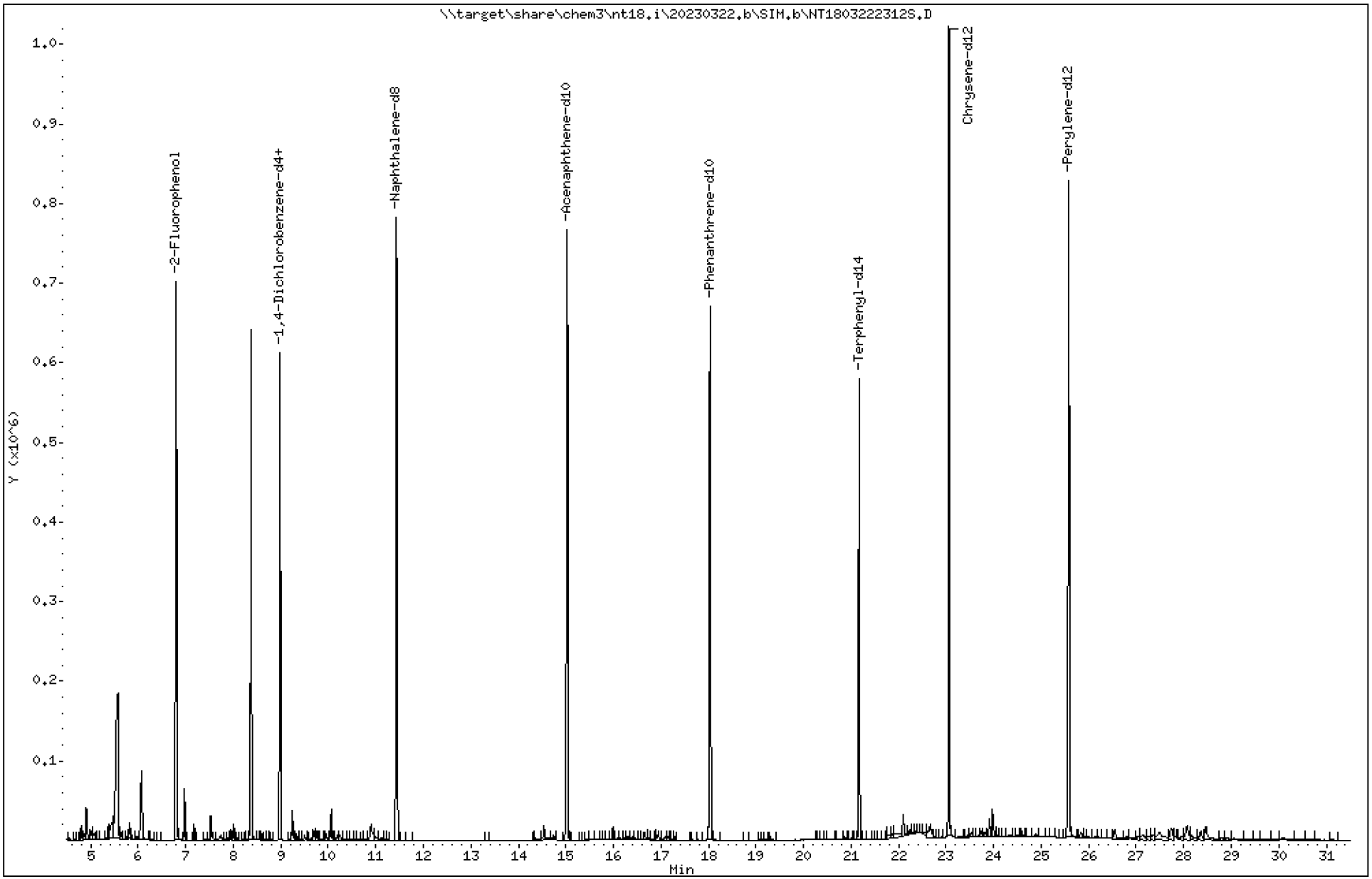
Instrument: nt18.i

Sample Info: 23C0108-06

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223125.D

Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

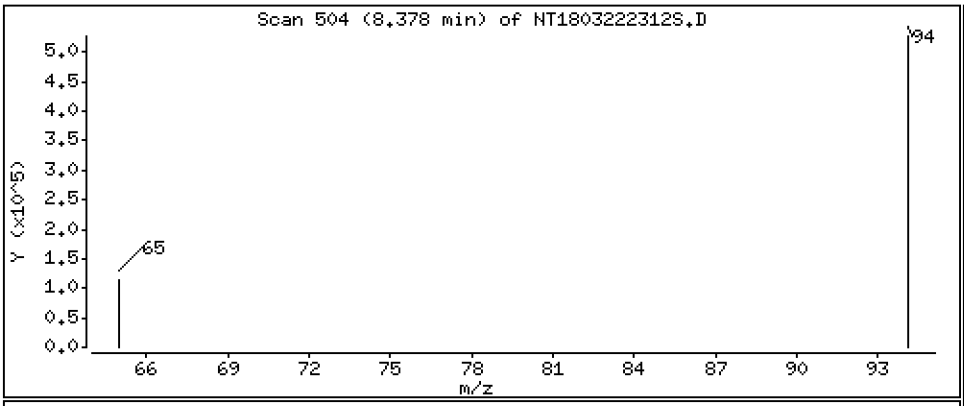
Operator: VTS

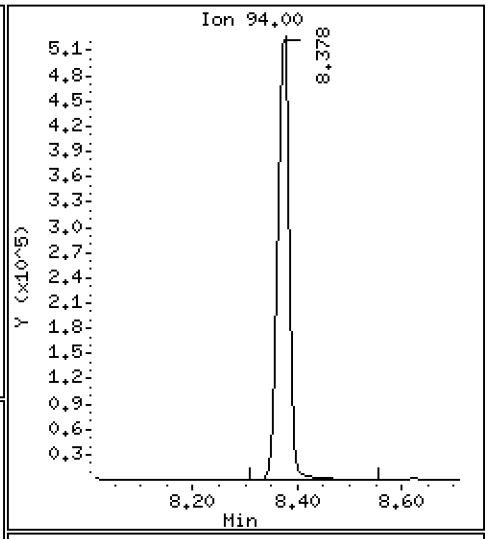
Column phase: ZB-5msi

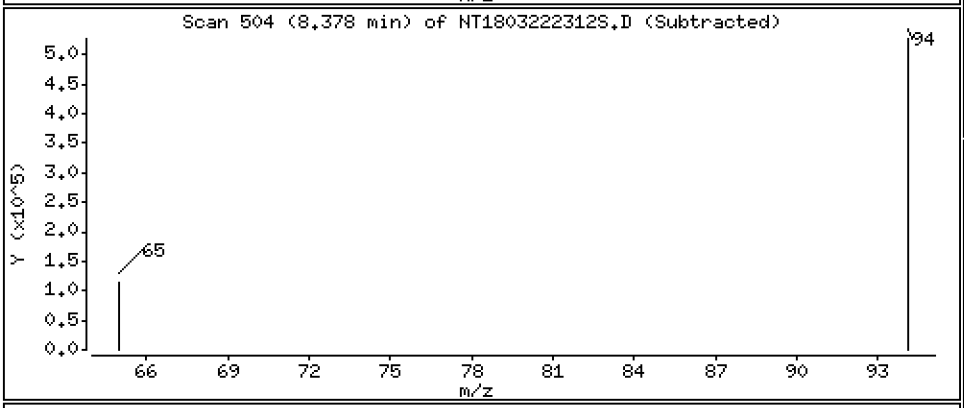
Column diameter: 0.25

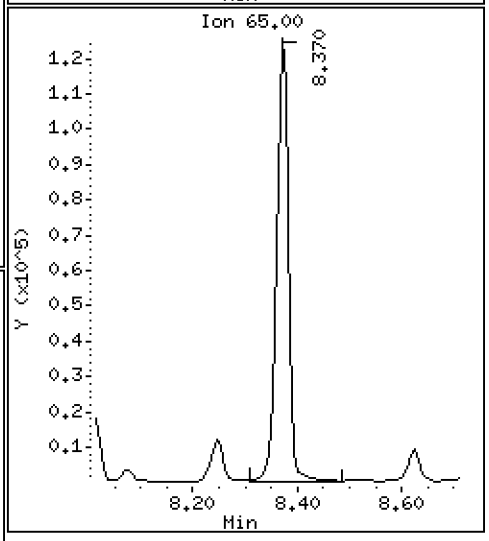
3 Phenol

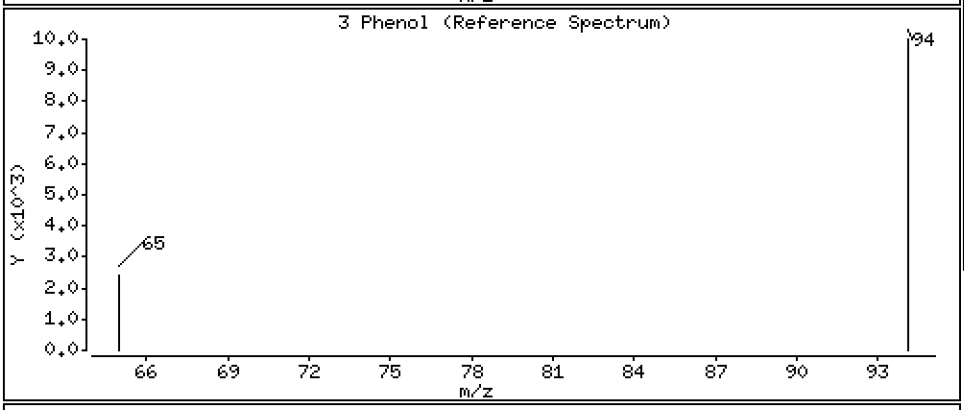
Concentration: 5.716 ug/mL

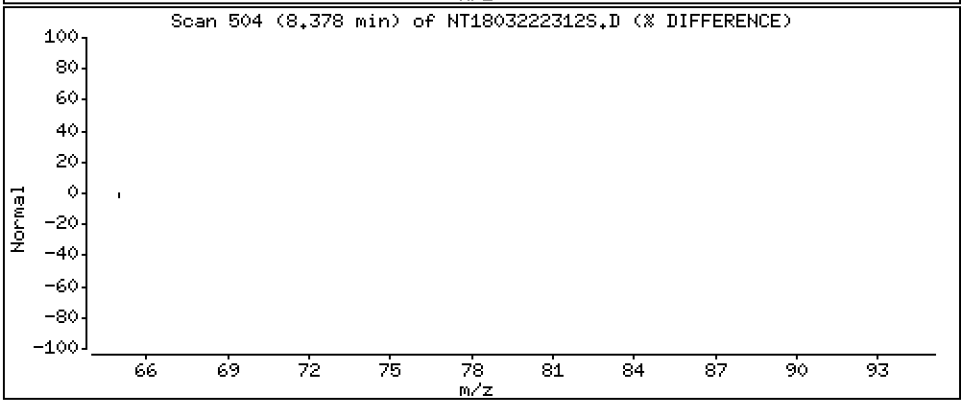












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Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

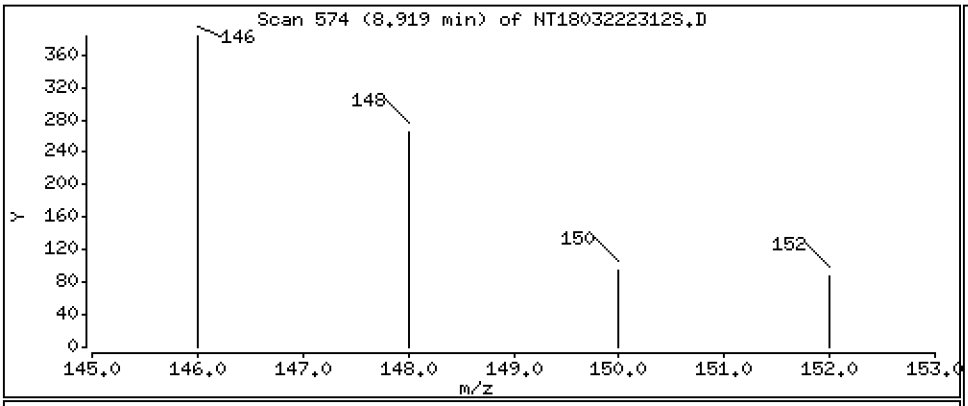
Operator: VTS

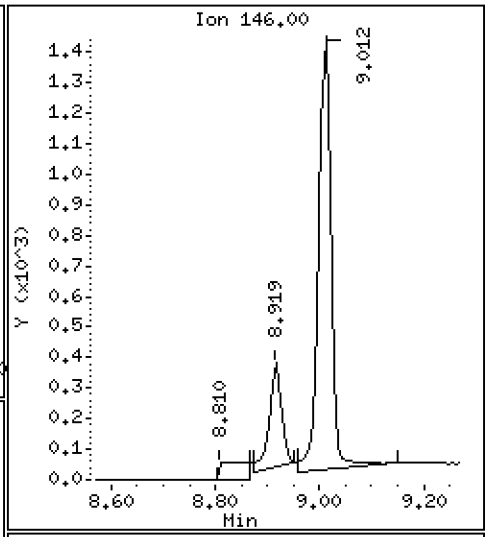
Column phase: ZB-5msi

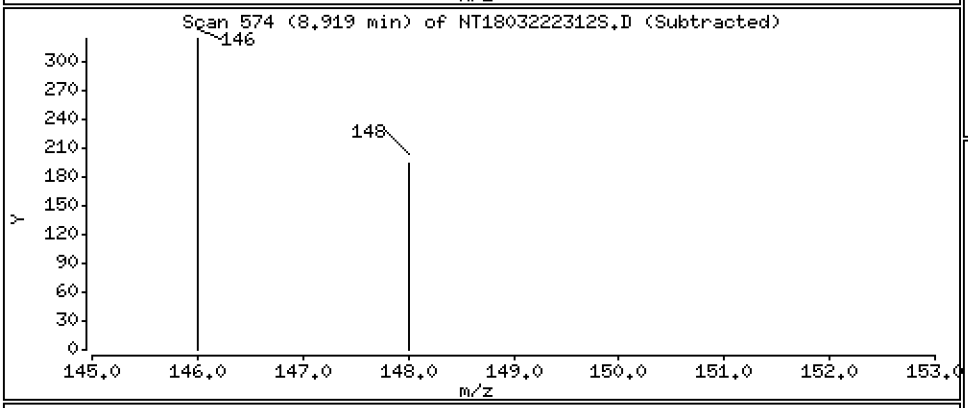
Column diameter: 0.25

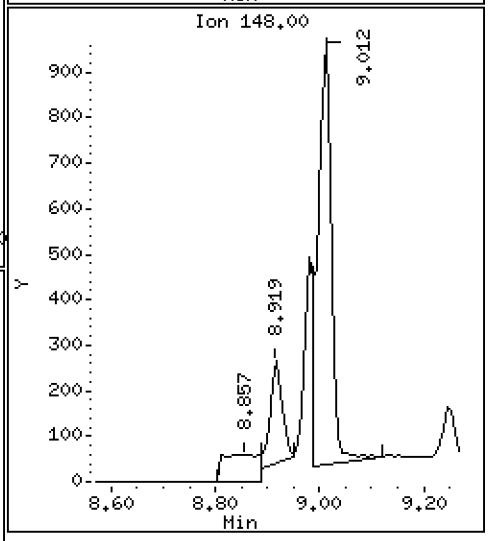
7 1,3-Dichlorobenzene

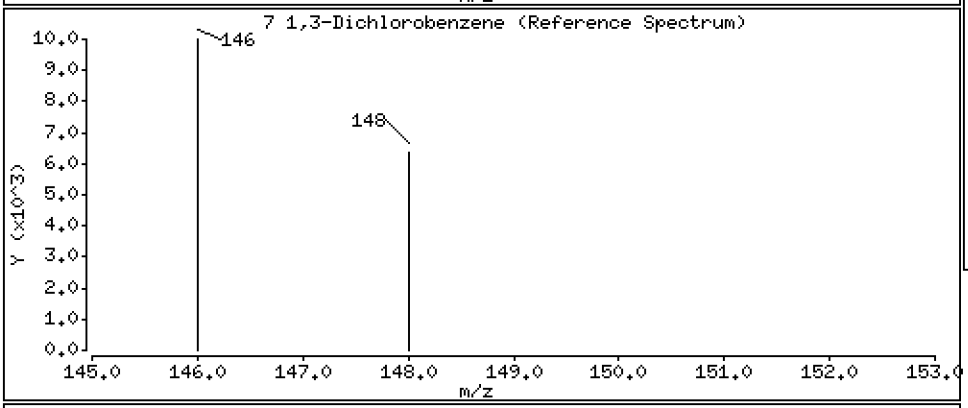
Concentration: 0.004329 ug/mL

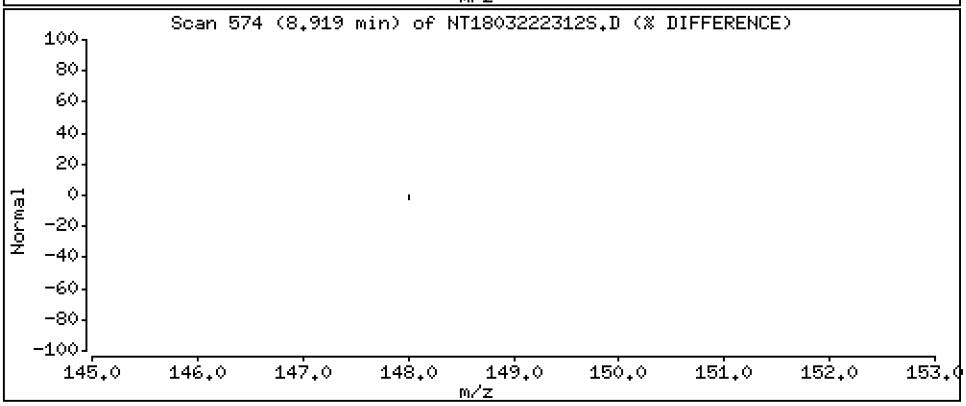












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223125.D

Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

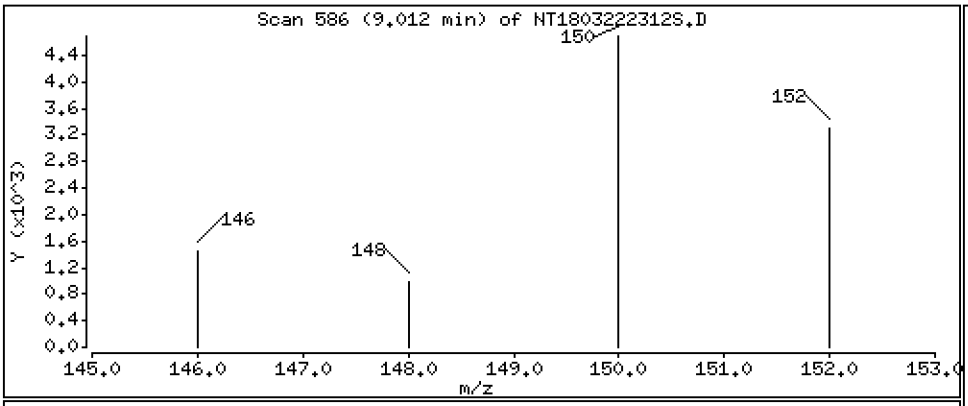
Operator: VTS

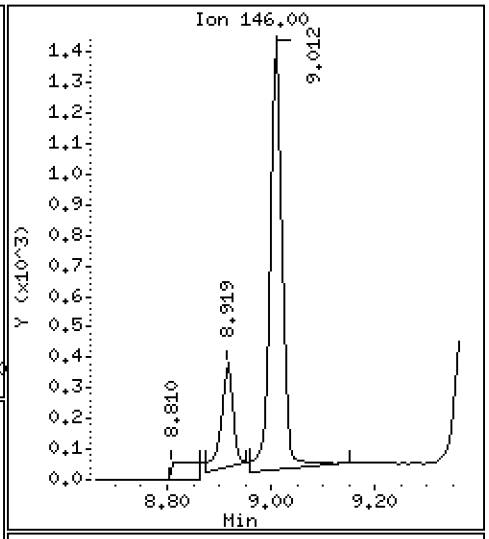
Column phase: ZB-5msi

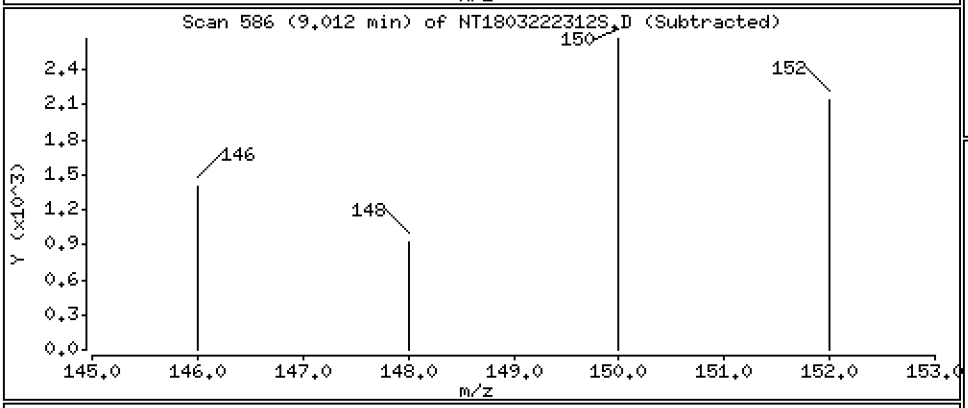
Column diameter: 0.25

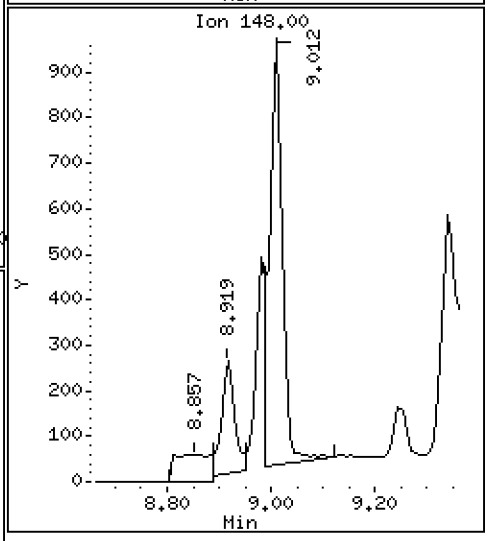
9 1,4-Dichlorobenzene

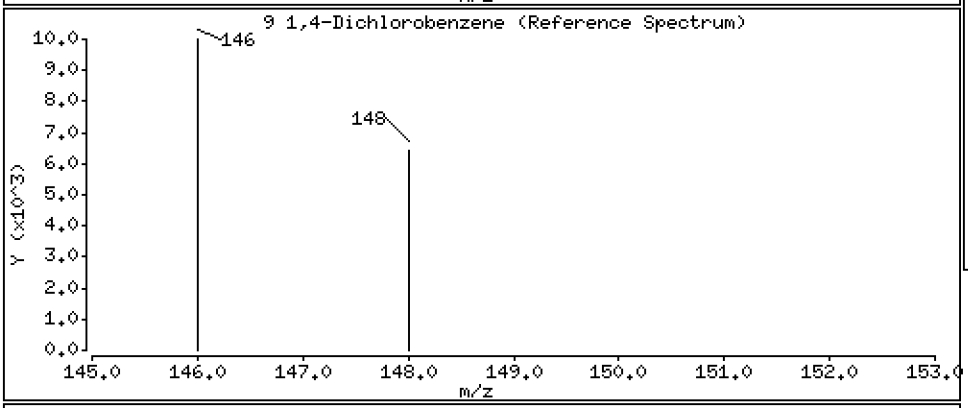
Concentration: 0.01700 ug/mL

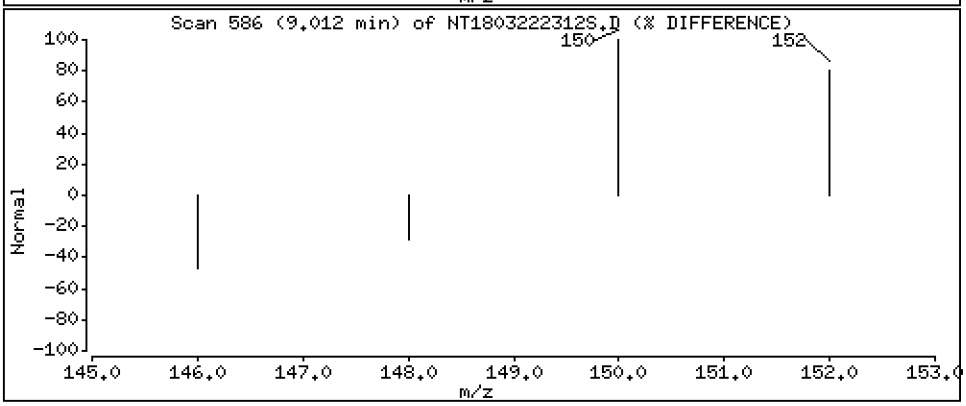












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223125.D

Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

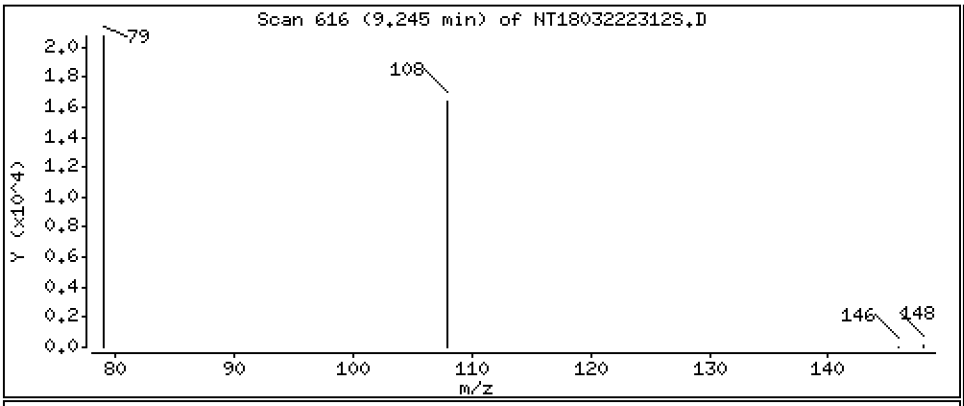
Operator: VTS

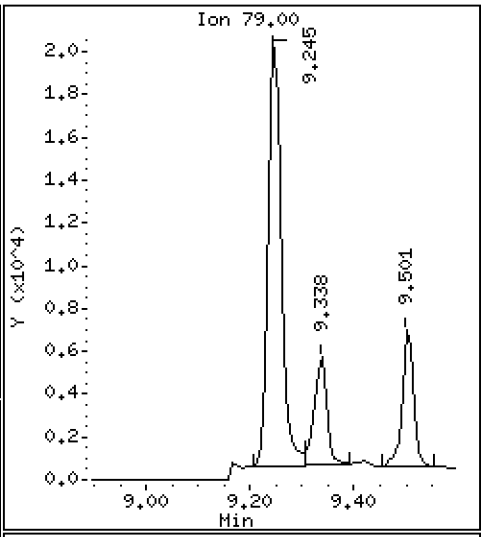
Column phase: ZB-5msi

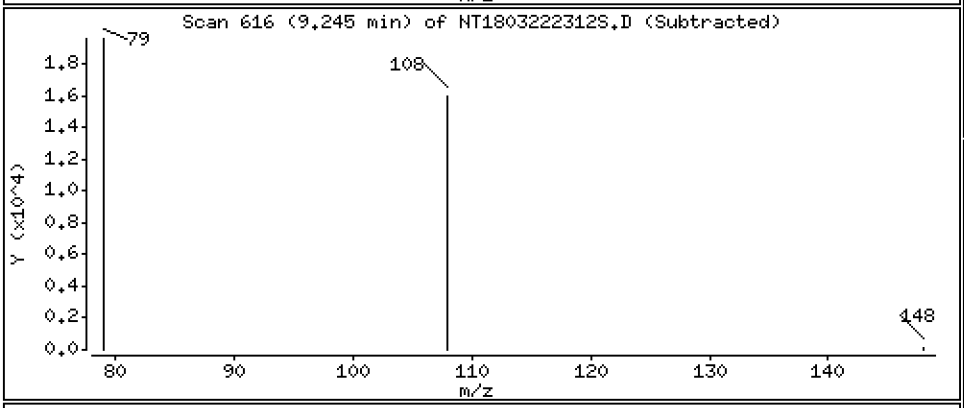
Column diameter: 0.25

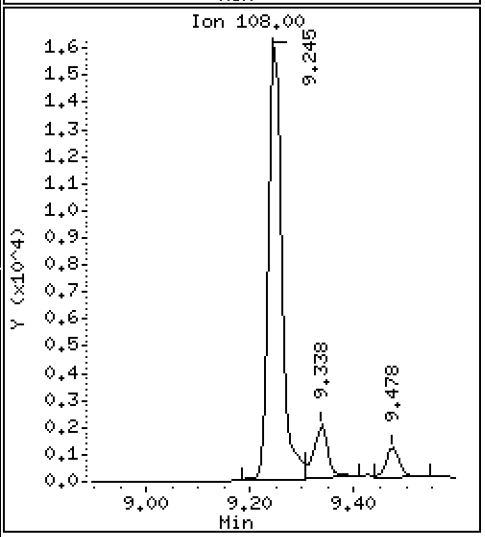
11 Benzyl alcohol

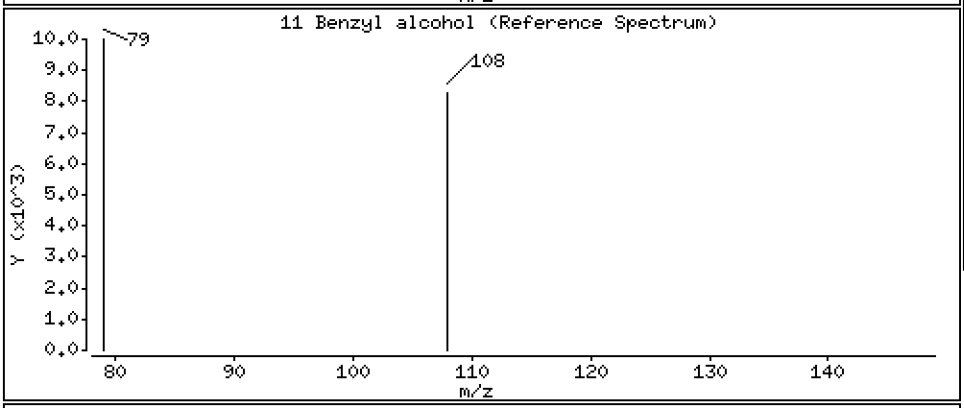
Concentration: 0.4110 ug/mL

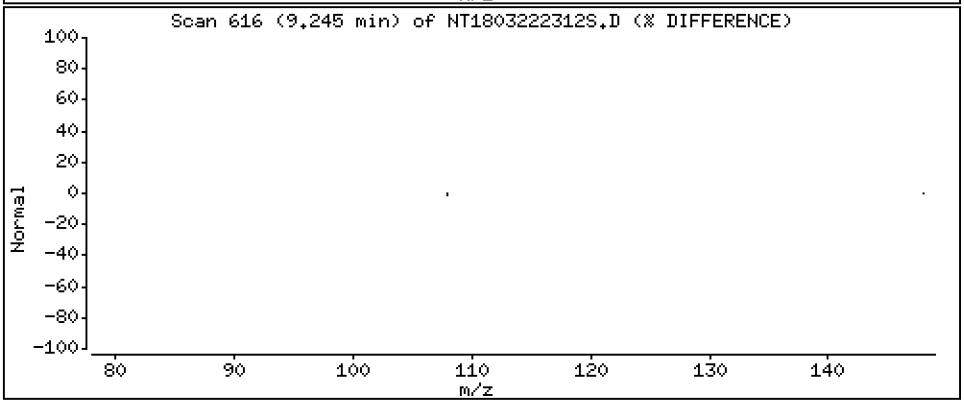












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223125.D

Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

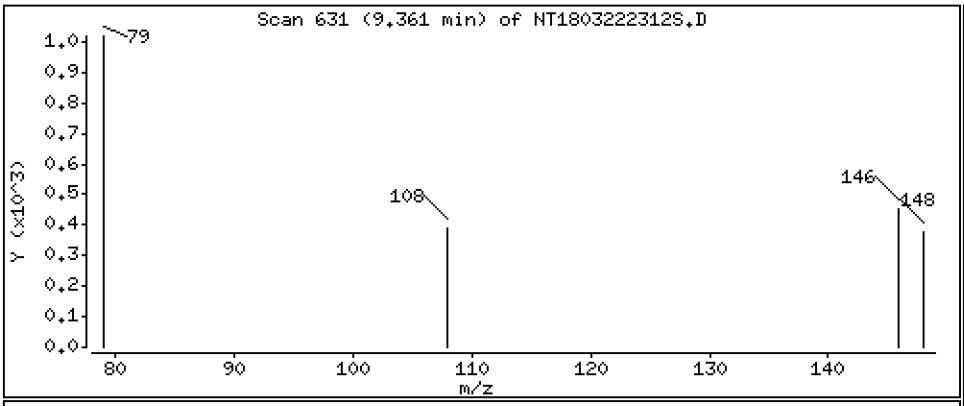
Operator: VTS

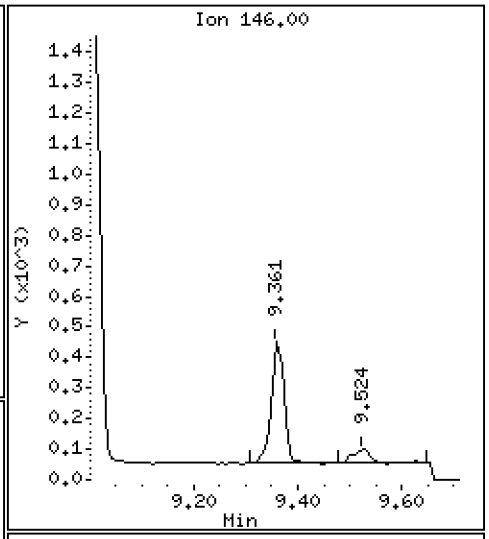
Column phase: ZB-5msi

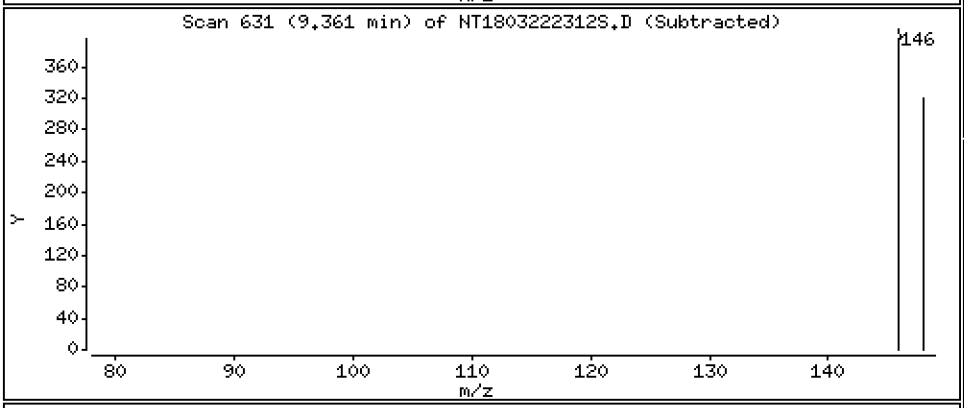
Column diameter: 0.25

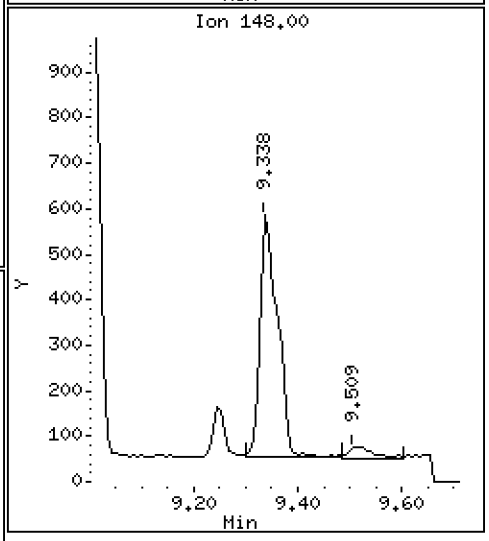
12 1,2-Dichlorobenzene

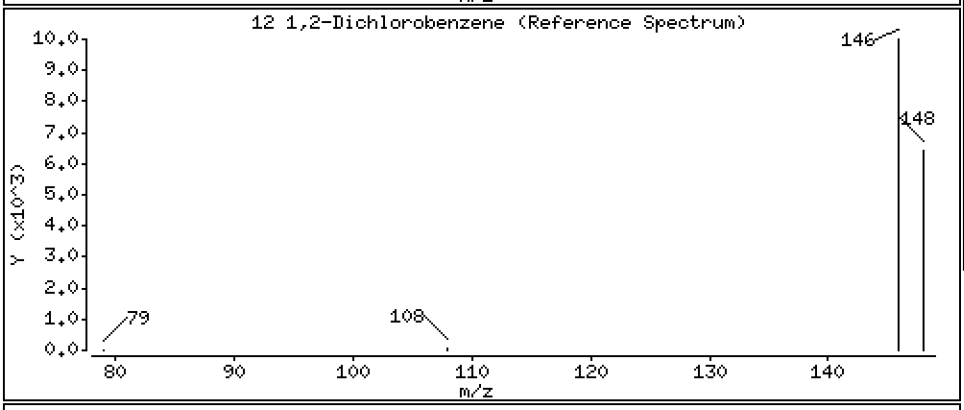
Concentration: 0.004856 ug/mL

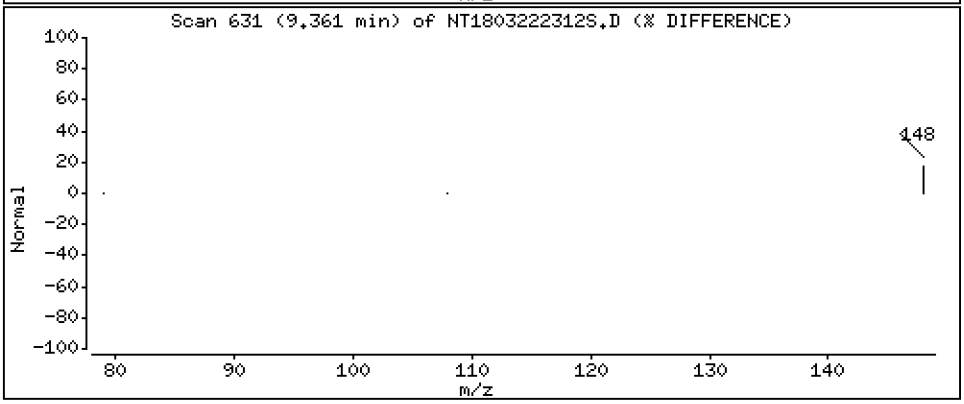












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223125.D

Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

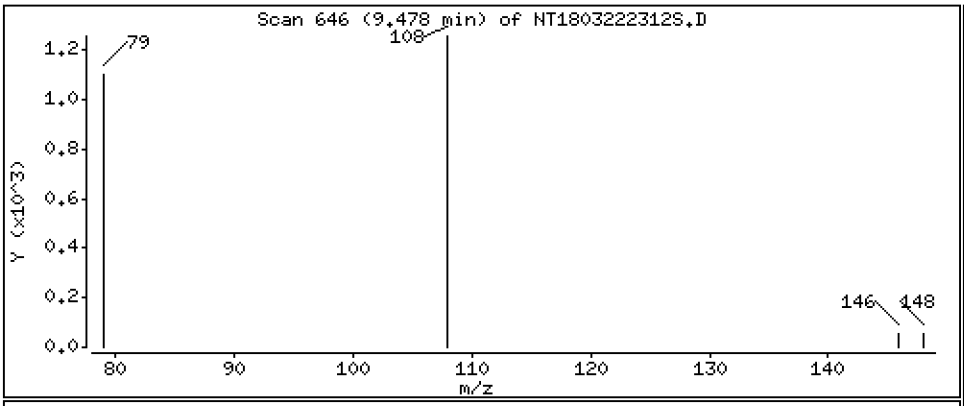
Operator: VTS

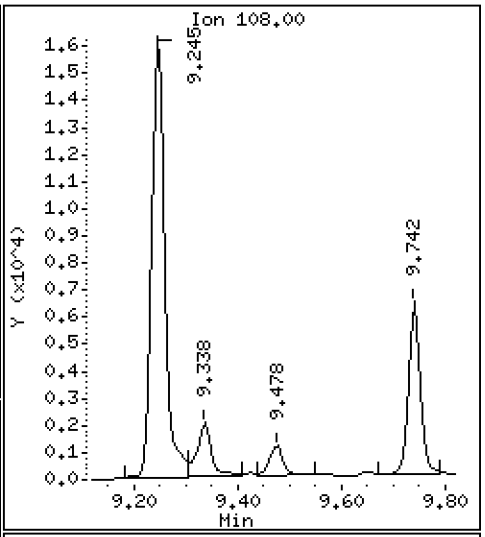
Column phase: ZB-5msi

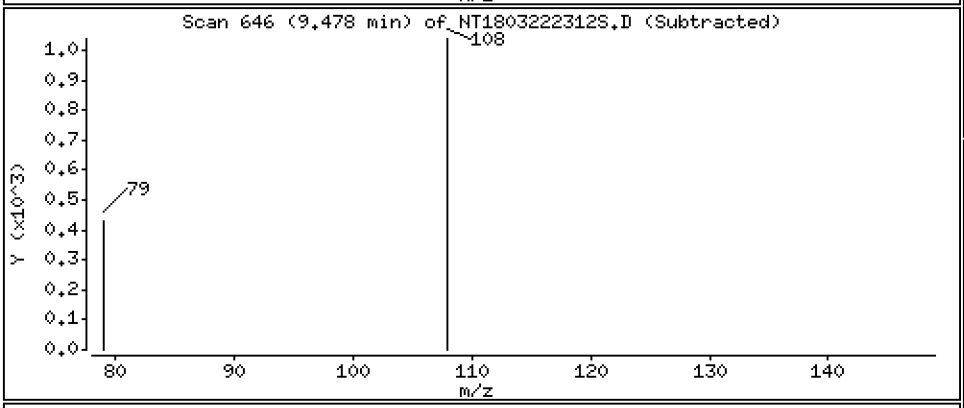
Column diameter: 0.25

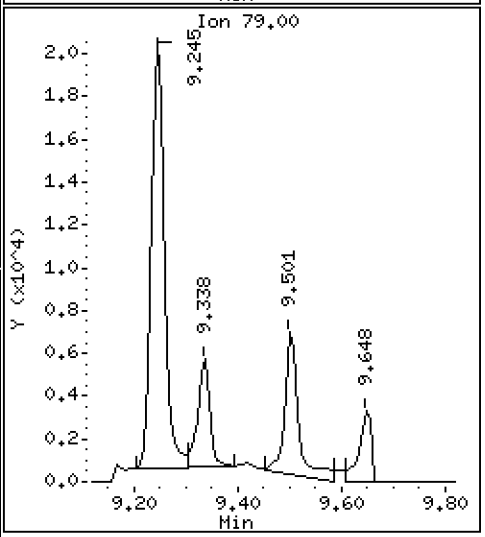
13 2-Methylphenol

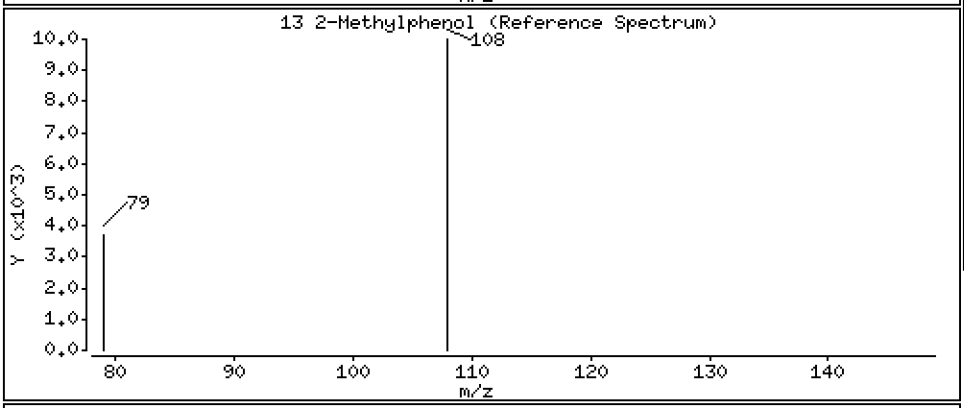
Concentration: 0.02061 ug/mL

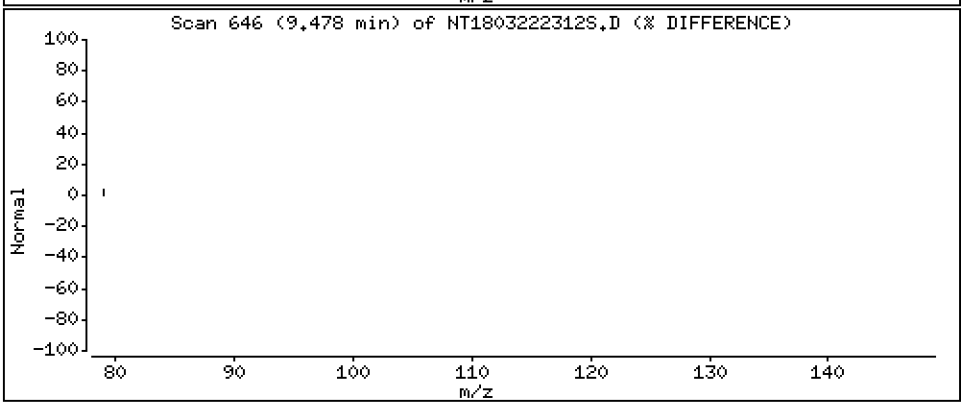












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223128.D

Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

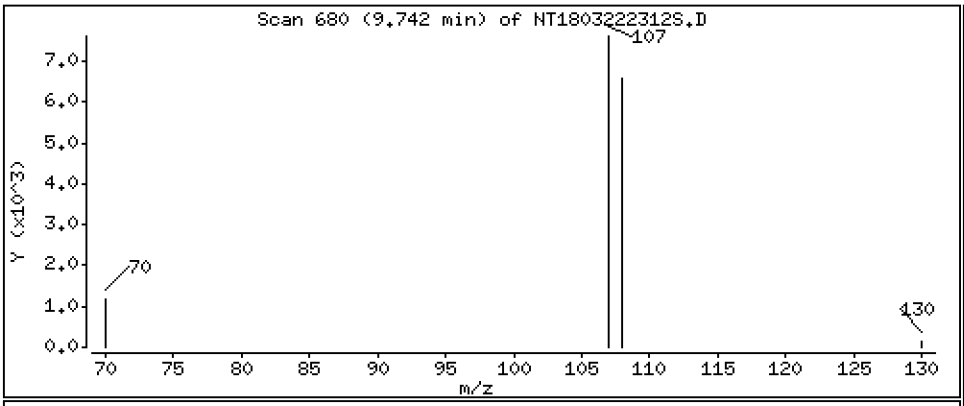
Operator: VTS

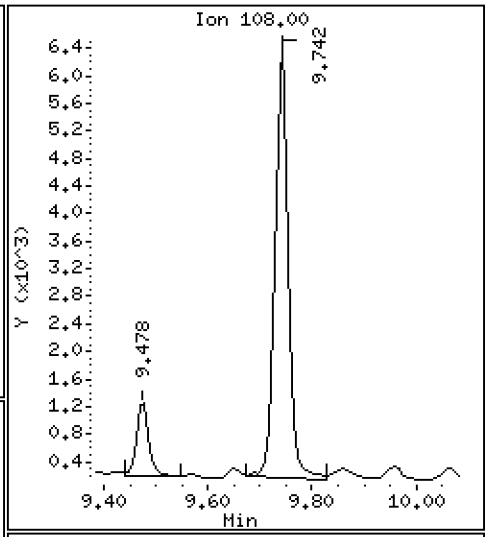
Column phase: ZB-5msi

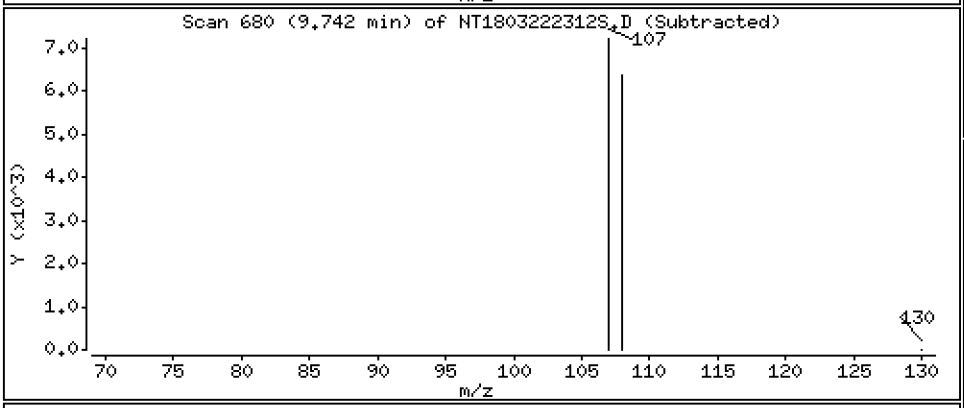
Column diameter: 0.25

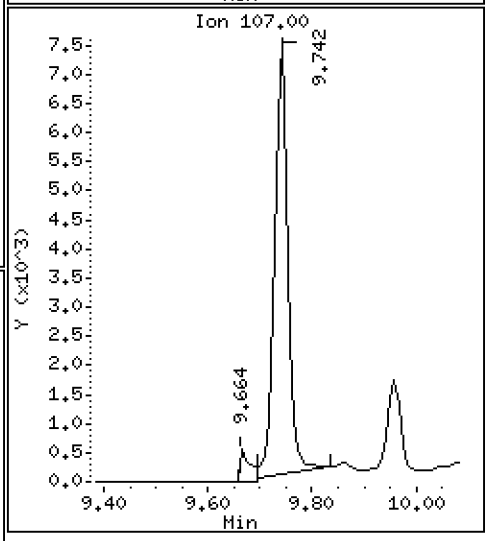
15 4-Methylphenol

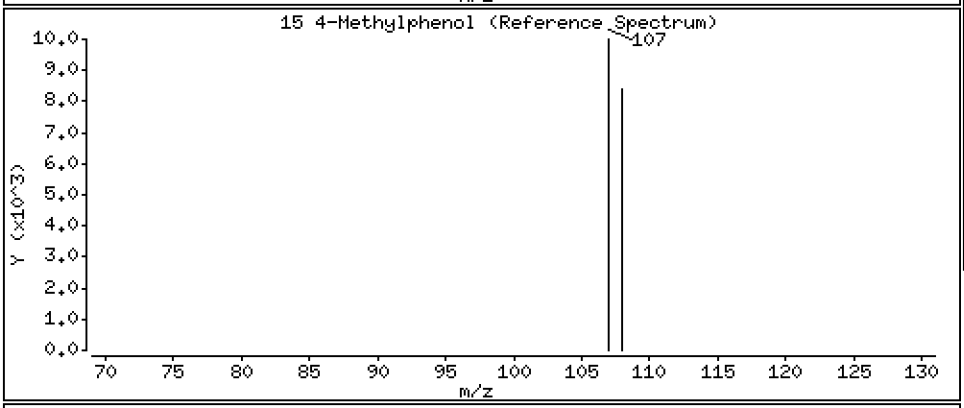
Concentration: 0.1093 ug/mL

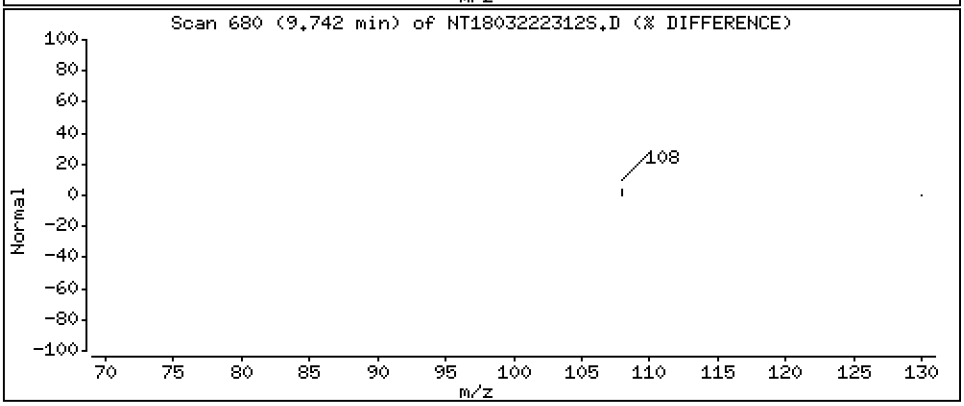












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223125.D

Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

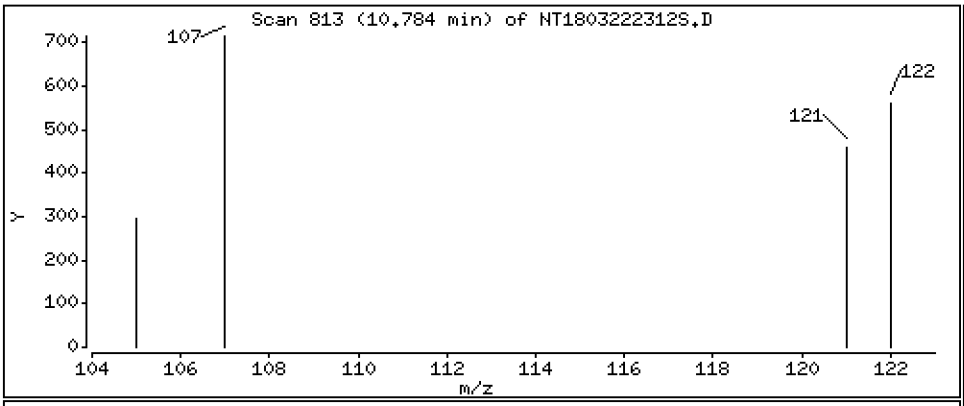
Operator: VTS

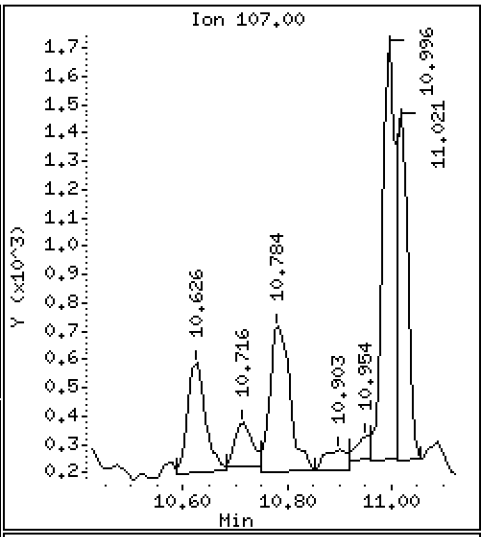
Column phase: ZB-5msi

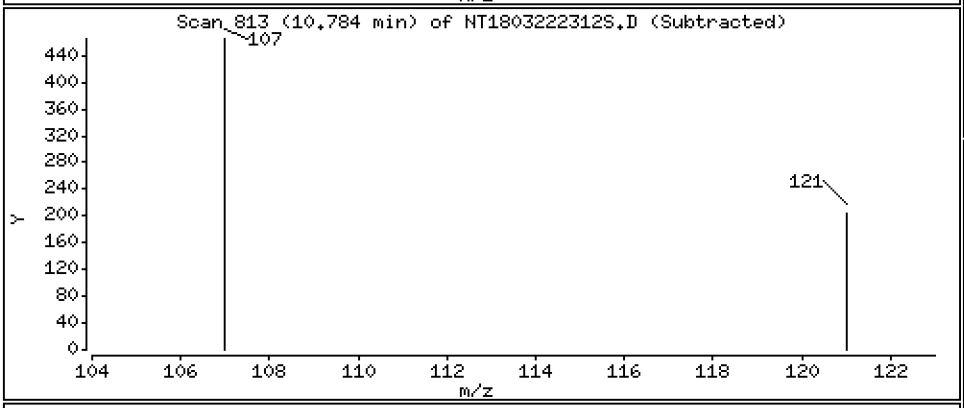
Column diameter: 0.25

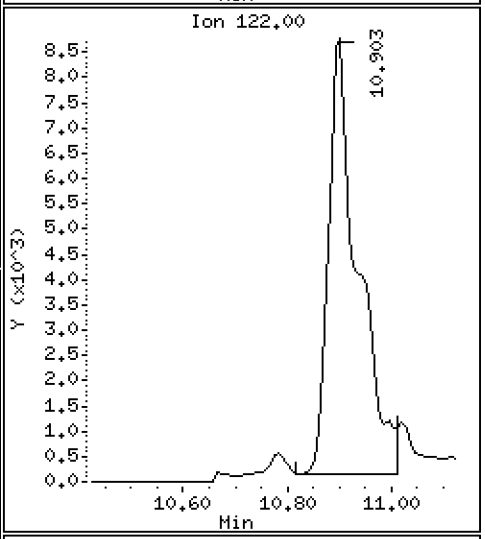
22 2,4-Dimethylphenol

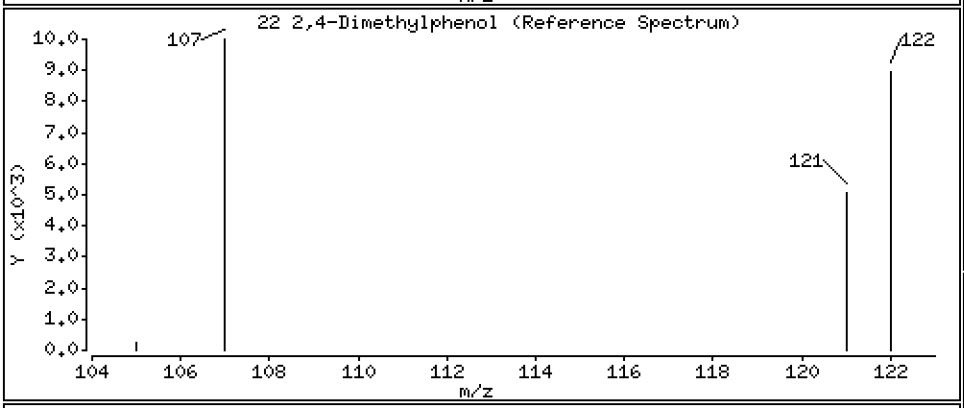
Concentration: 0.01629 ug/mL

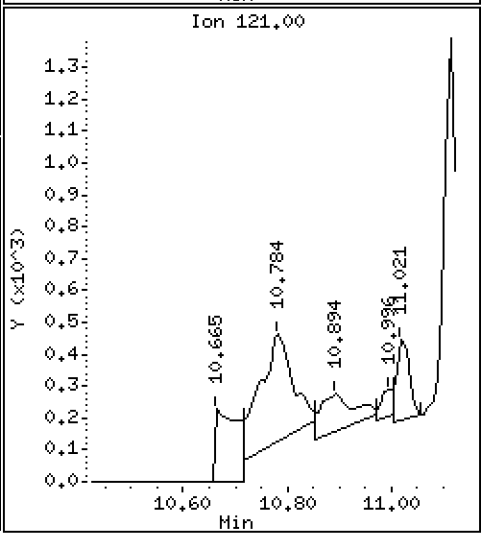


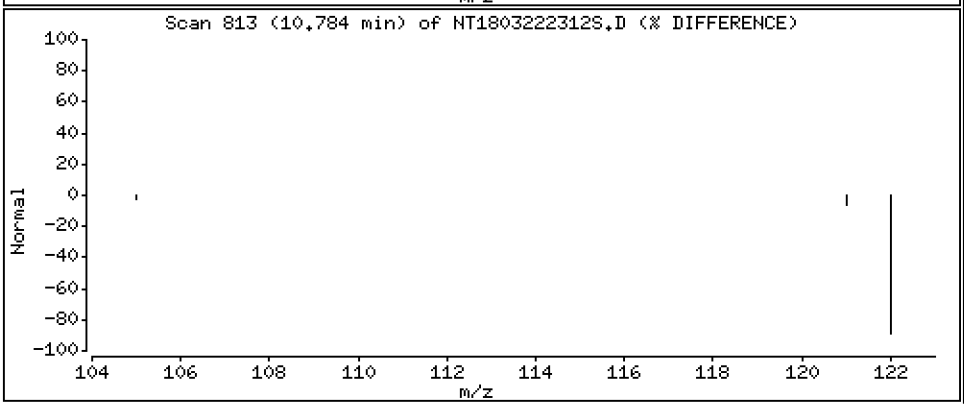












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223125.D

Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

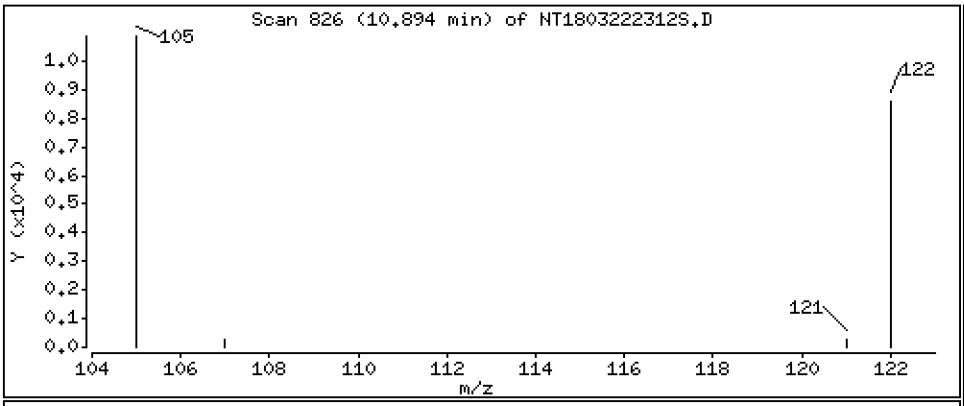
Operator: VTS

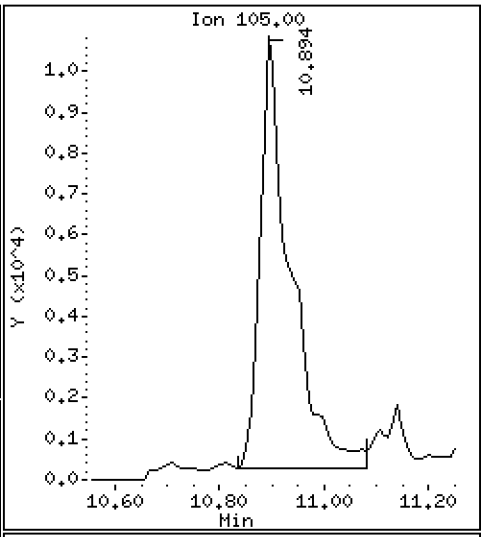
Column phase: ZB-5msi

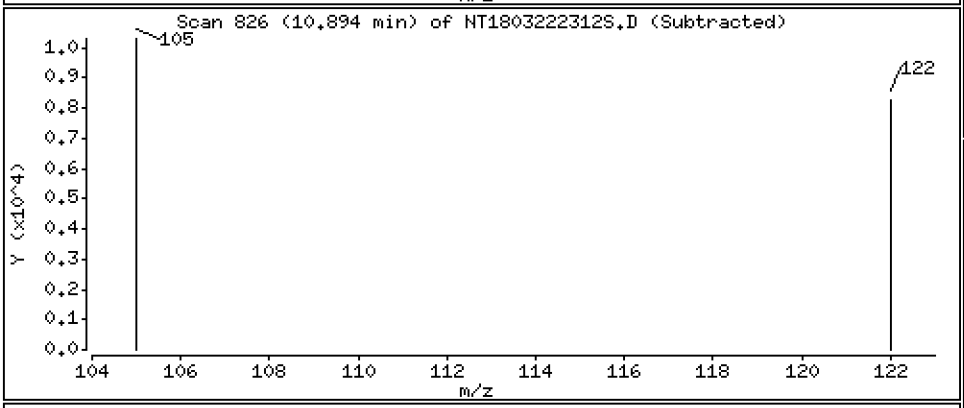
Column diameter: 0.25

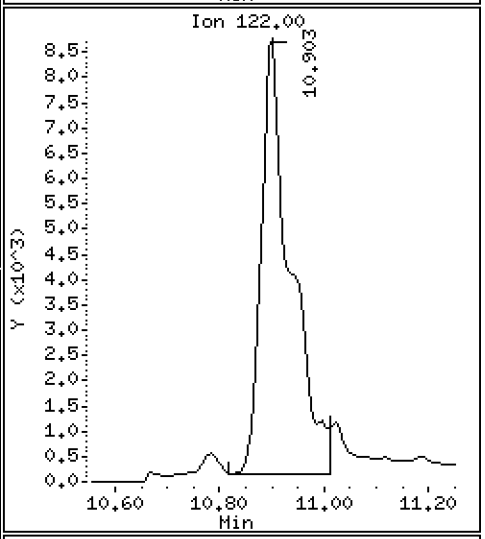
24 Benzoic acid

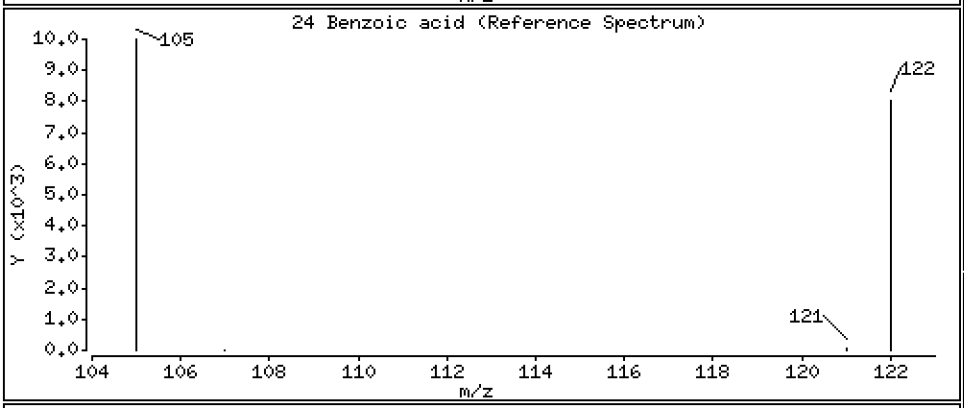
Concentration: 0.7181 ug/mL

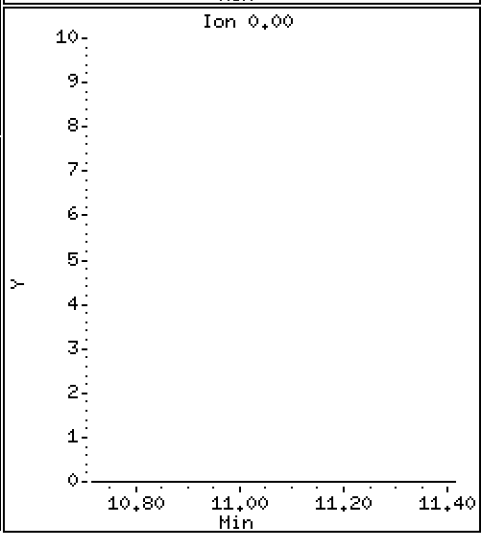


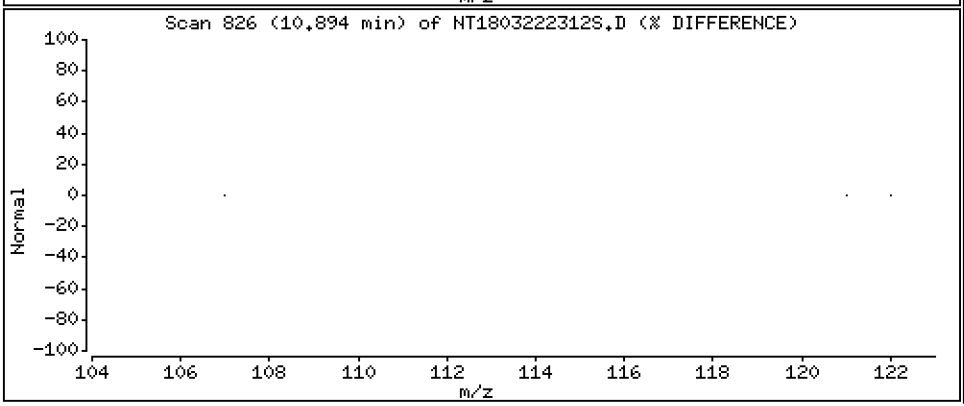












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Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

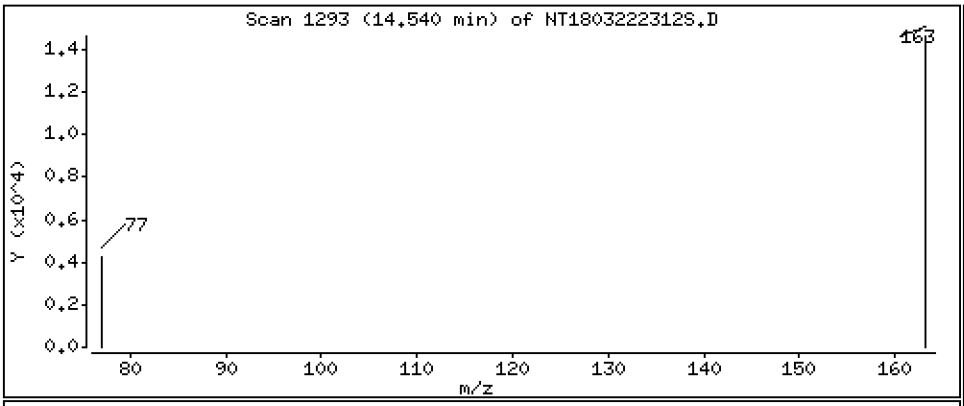
Operator: VTS

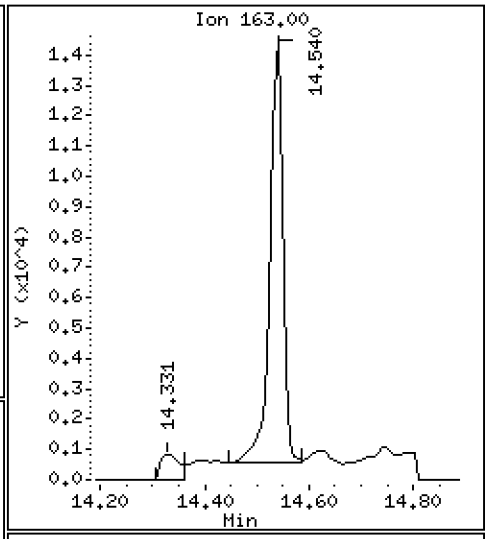
Column phase: ZB-5msi

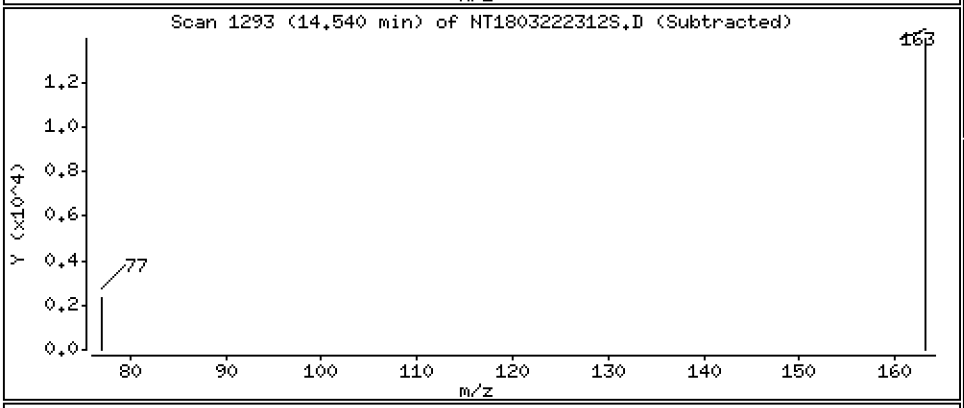
Column diameter: 0.25

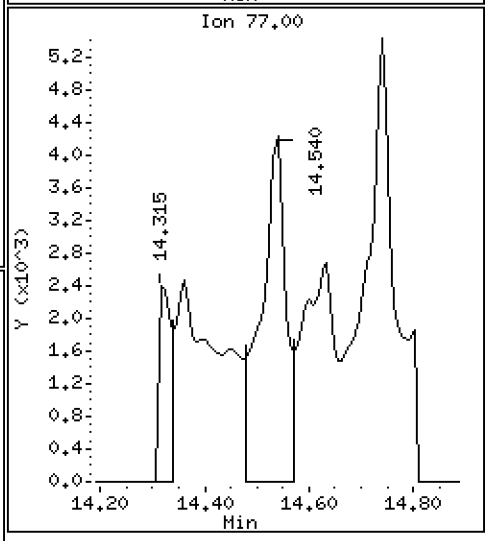
39 Dimethylphthalate

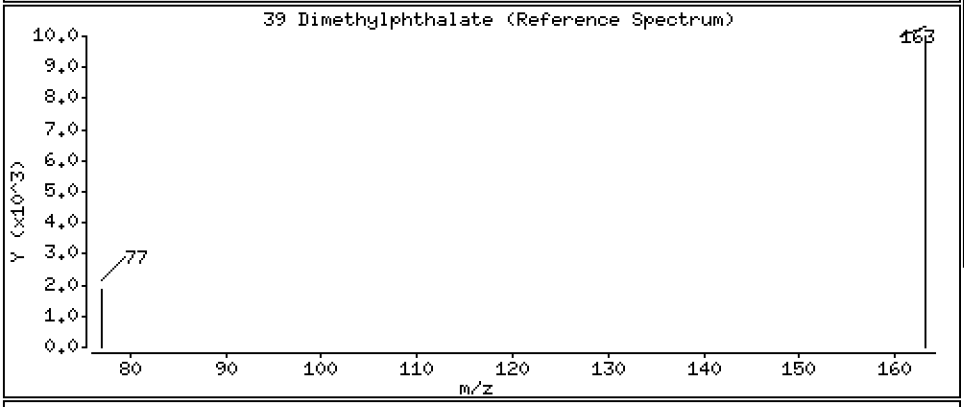
Concentration: 0.1192 ug/mL

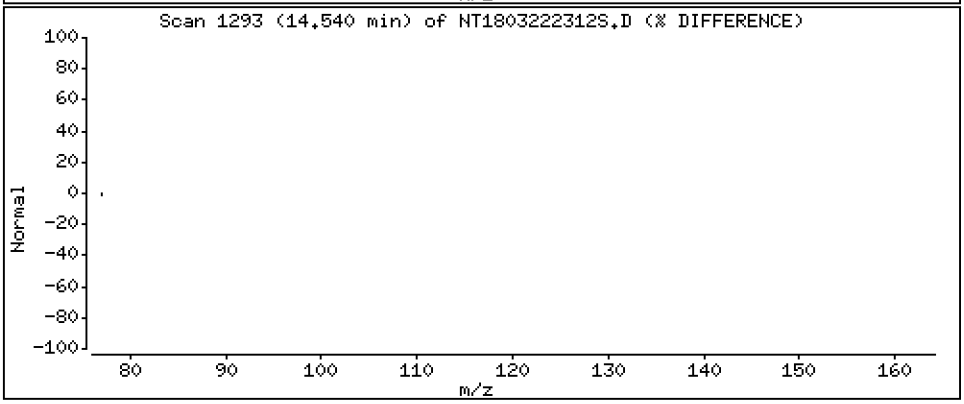












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223125.D

Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

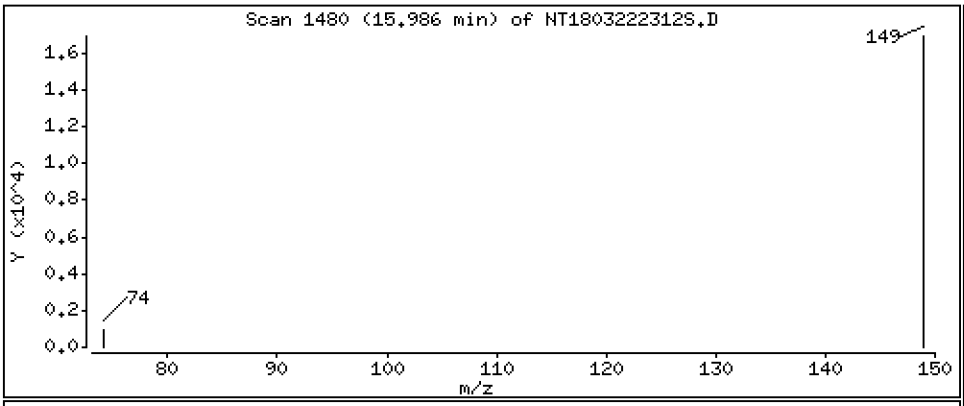
Operator: VTS

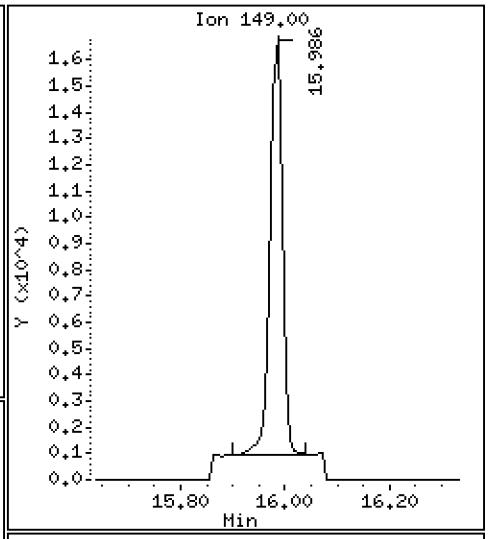
Column phase: ZB-5msi

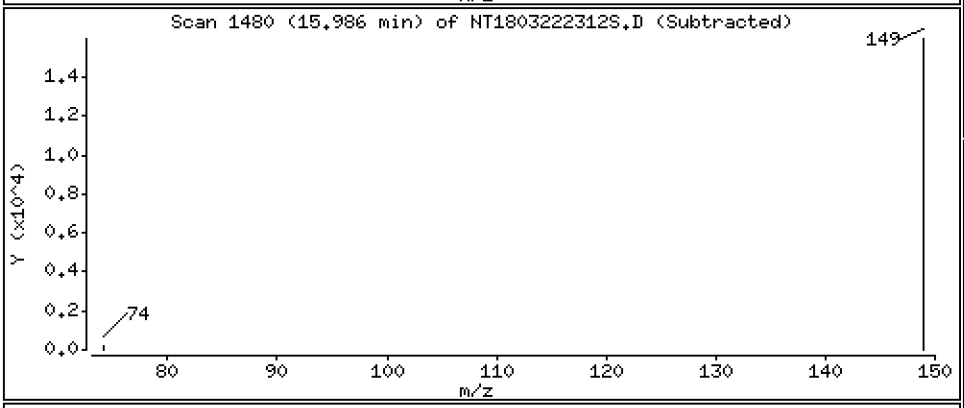
Column diameter: 0.25

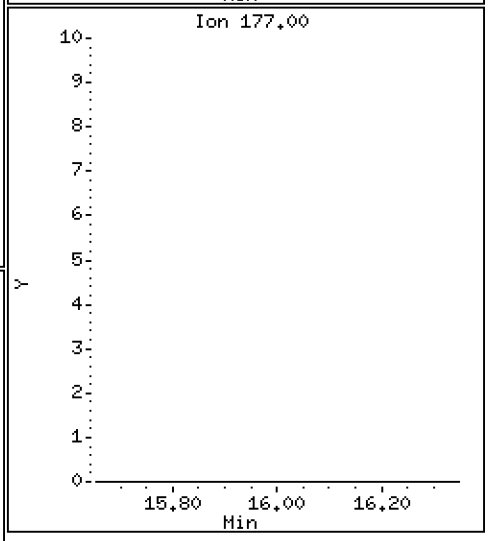
50 Diethylphthalate

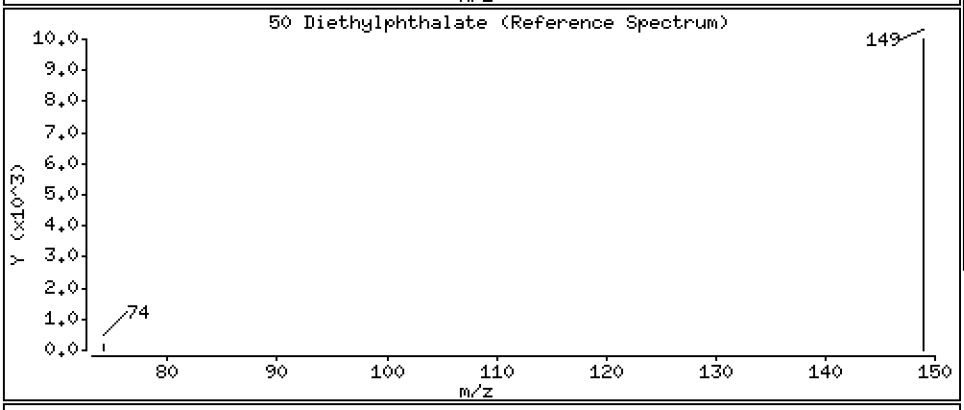
Concentration: 0.1425 ug/mL

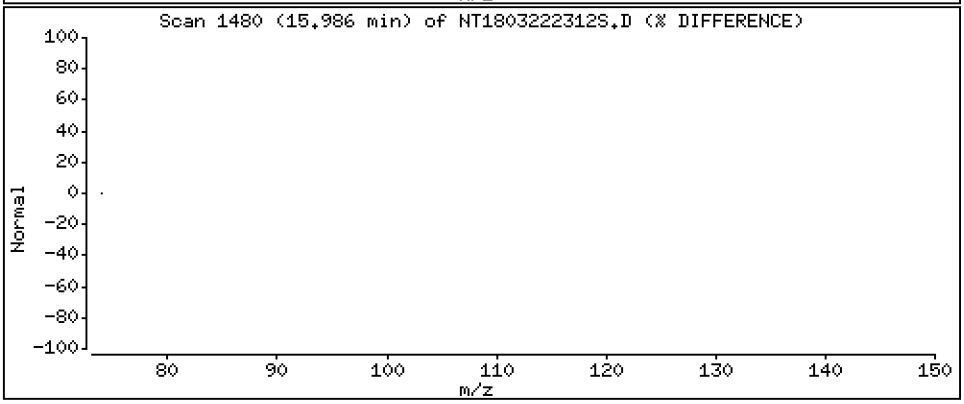












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223125.D

Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

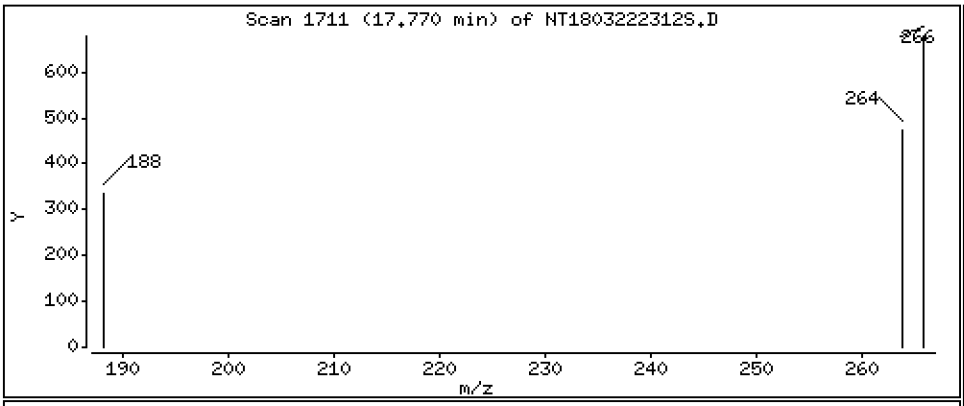
Operator: VTS

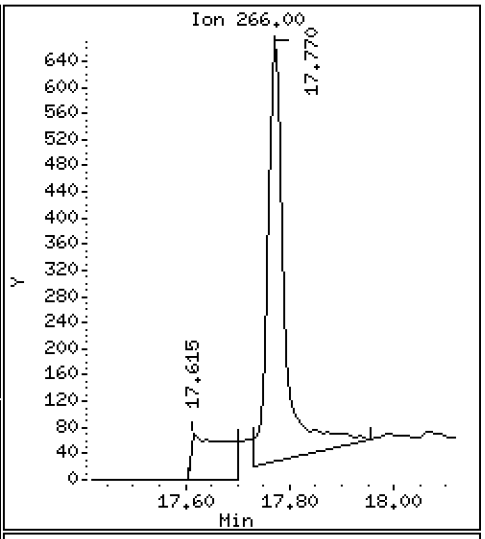
Column phase: ZB-5msi

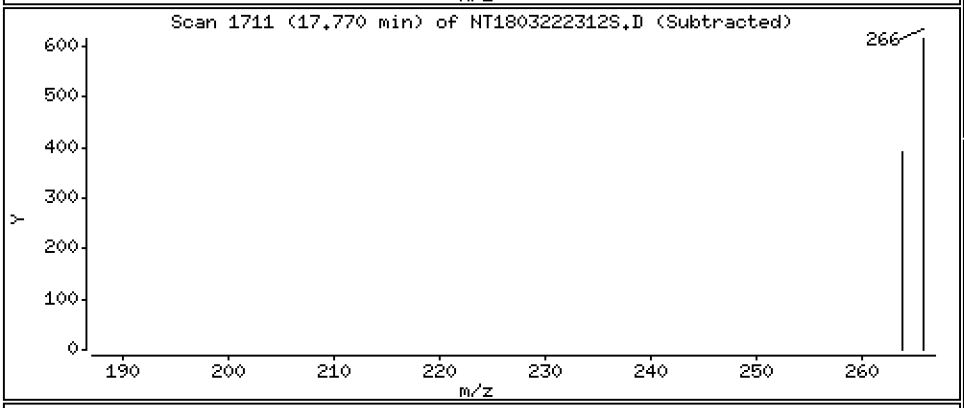
Column diameter: 0.25

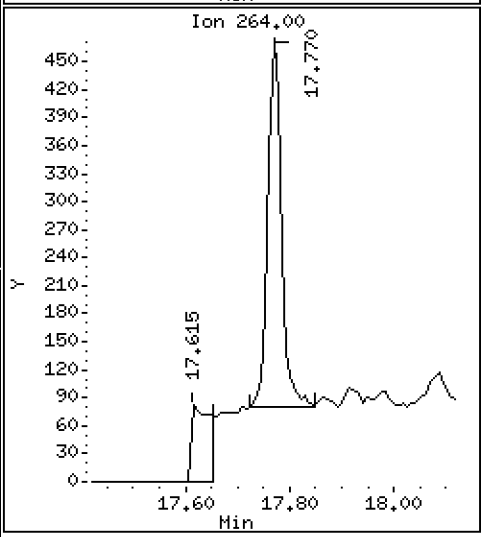
58 Pentachlorophenol

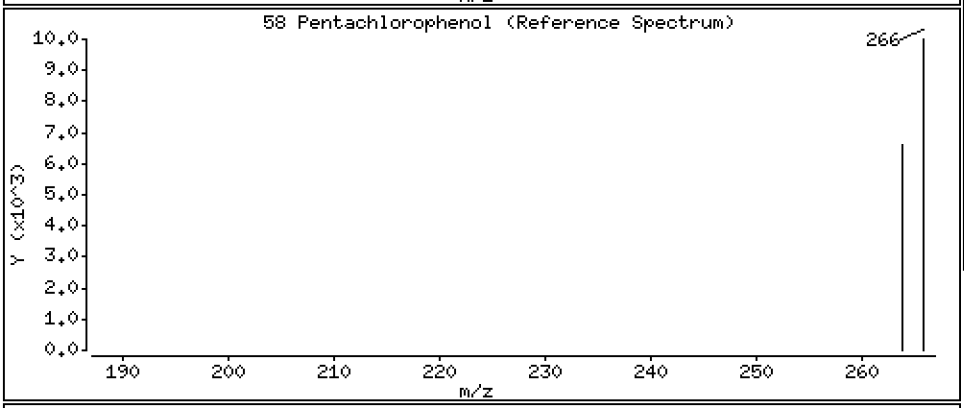
Concentration: 0.04336 ug/mL

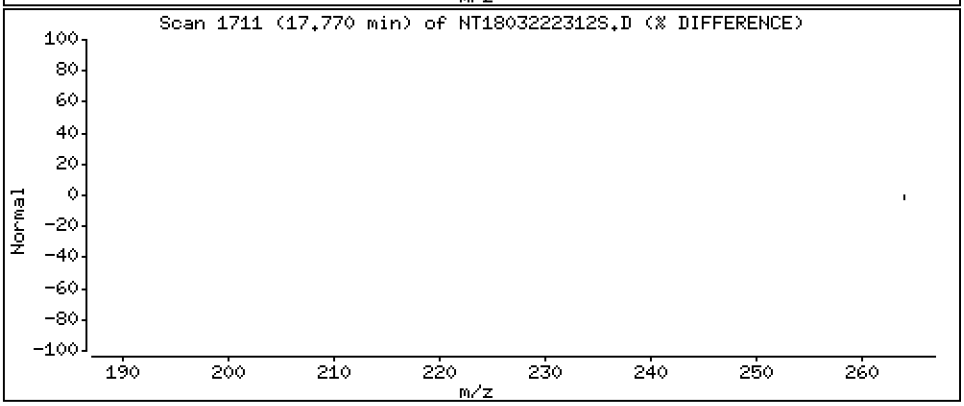












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223125.D

Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

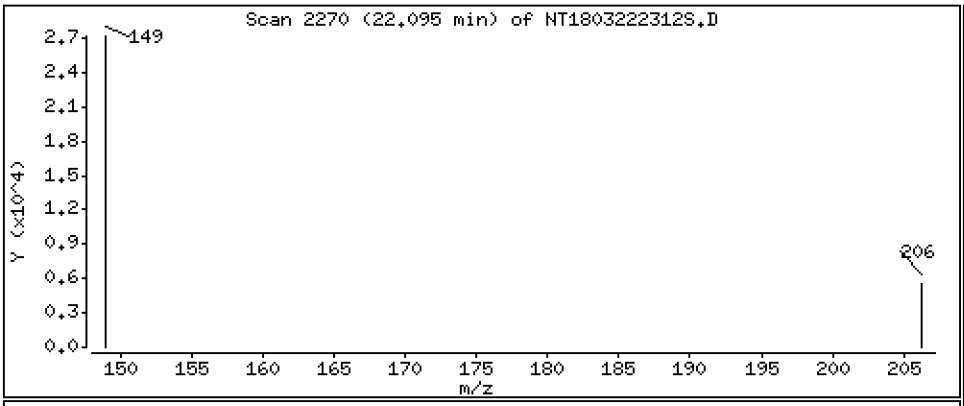
Operator: VTS

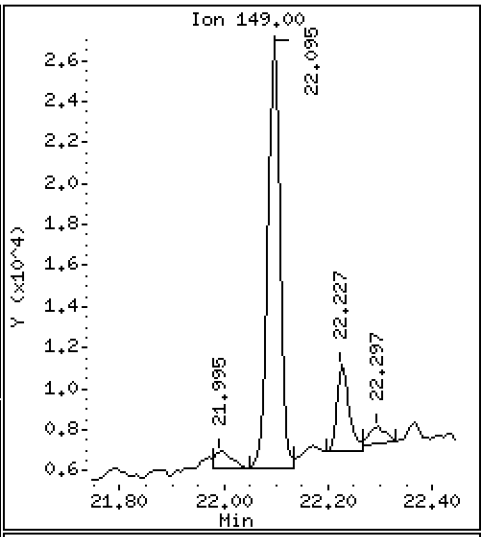
Column phase: ZB-5msi

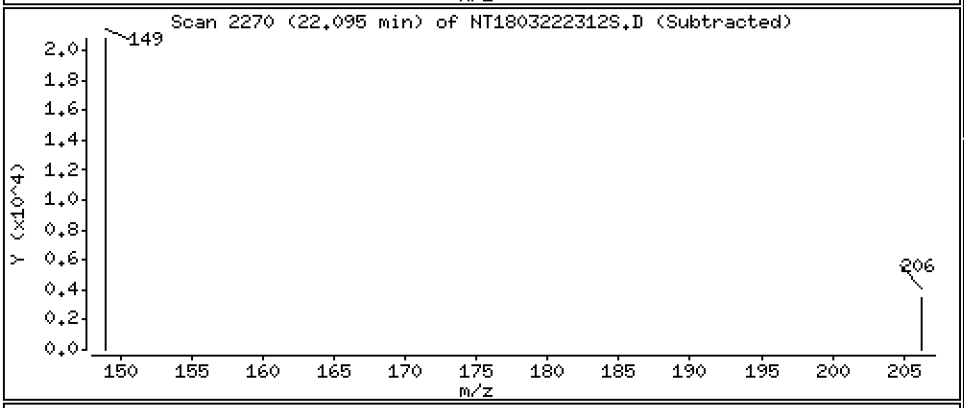
Column diameter: 0.25

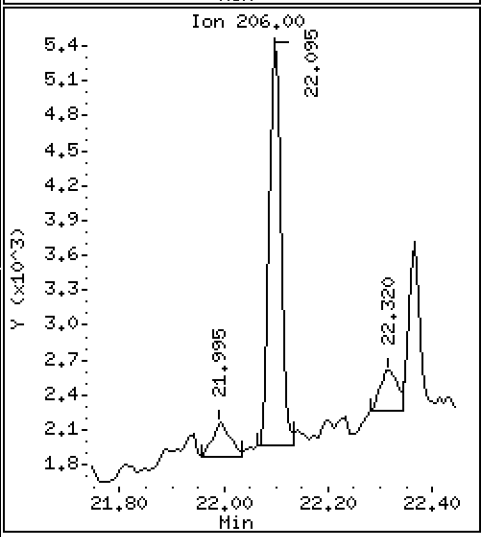
67 Butylbenzylphthalate

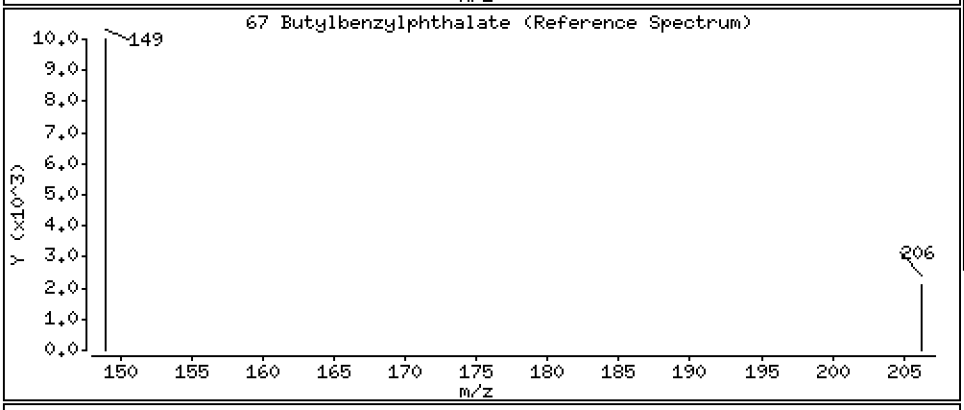
Concentration: 0.1814 ug/mL

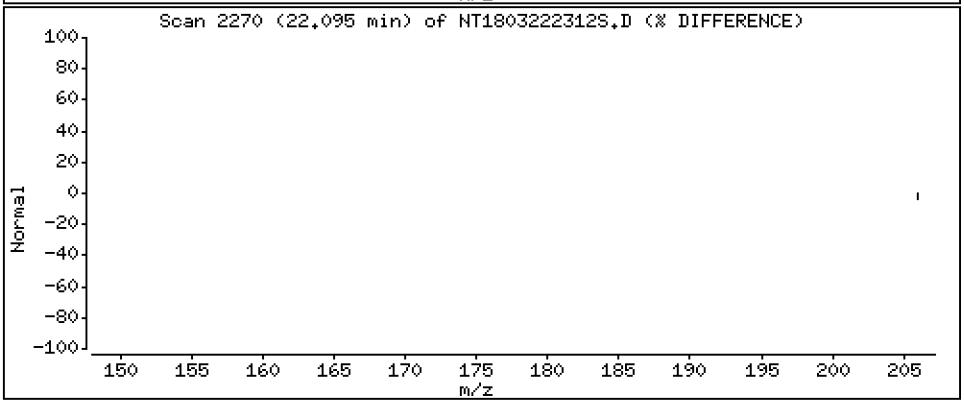












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223125.D

Date : 23-MAR-2023 00:44

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-06

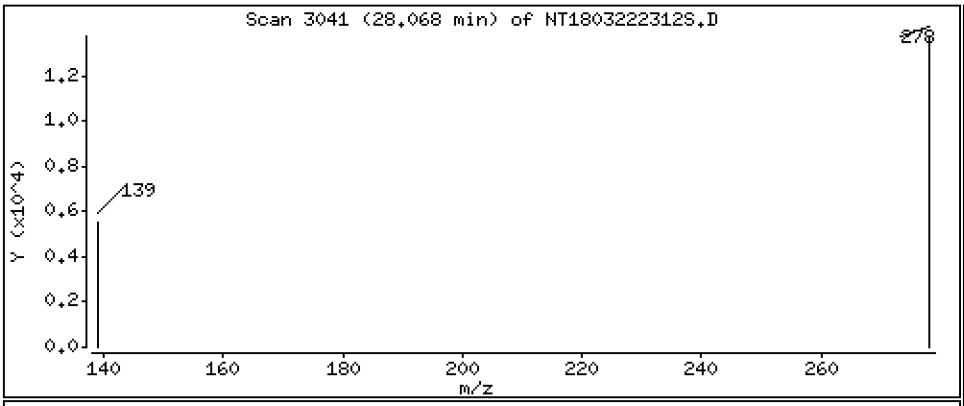
Operator: VTS

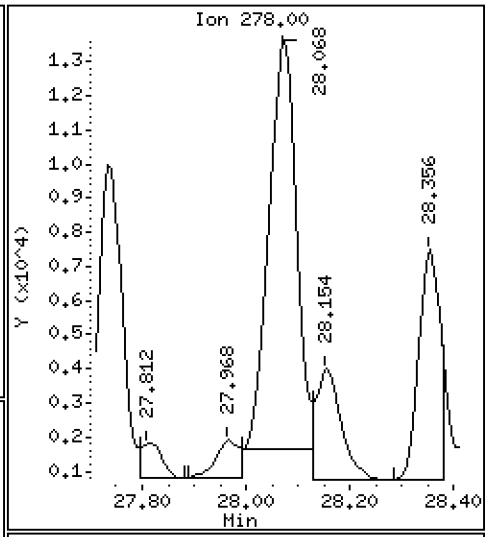
Column phase: ZB-5msi

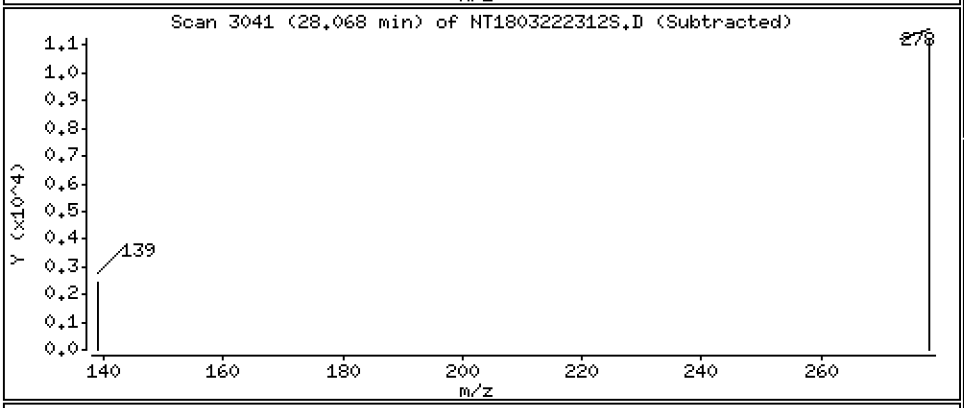
Column diameter: 0.25

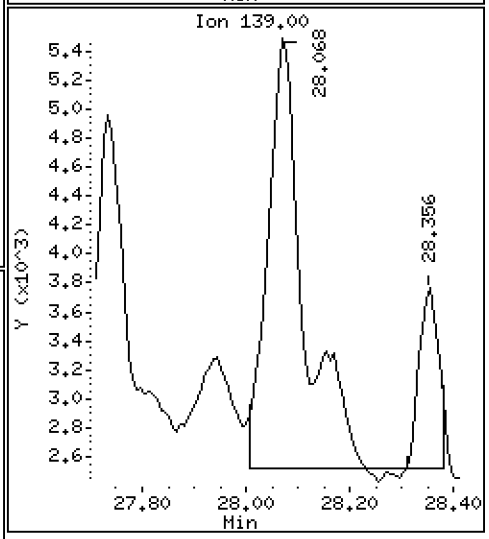
79 Dibenzo(a,h)anthracene

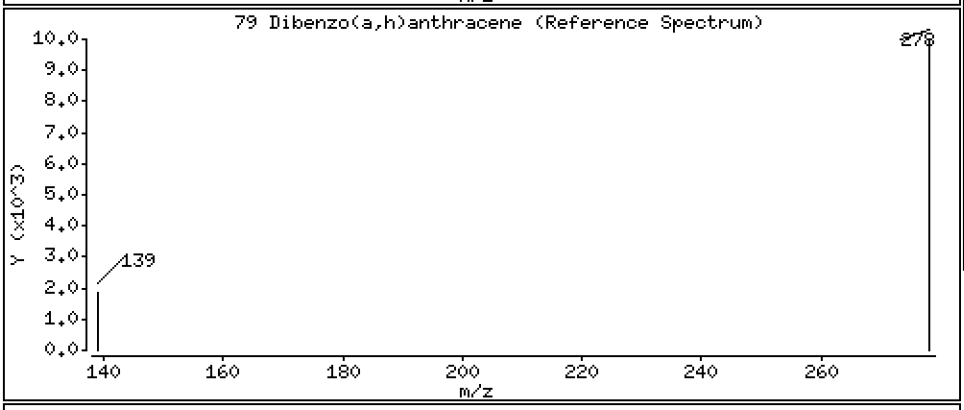
Concentration: 0.1099 ug/mL

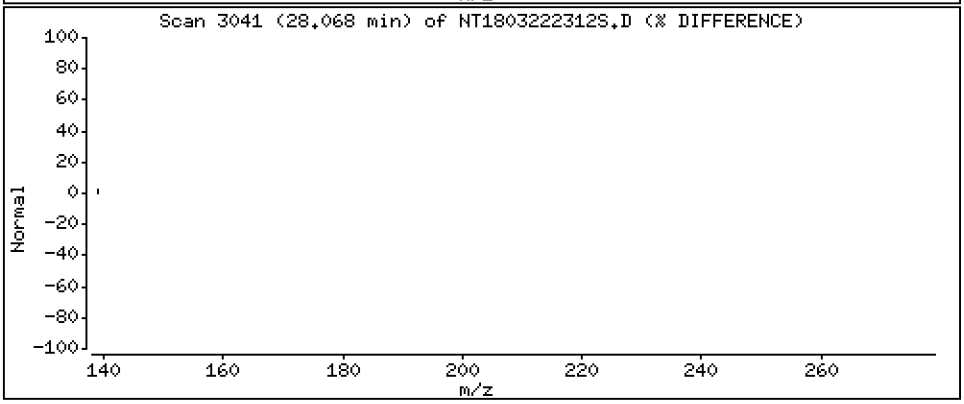












ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222312S.D
Lab Smp Id: 23C0108-06
Inj Date : 23-MAR-2023 00:44
Operator : VTS Inst ID: nt18.i
Smp Info : 23C0108-06
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230322.b\SIM.b\SIMABN2.m
Meth Date : 05-Apr-2023 10:09 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: DEENAY-201905

								CONCENTRATIONS	
		QUANT SIG						ON-COLUMN	FINAL
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE		(ug/mL)	(ug/mL)
$	1 2-Fluorophenol	112	6.801	6.778	(0.757)	664423		6.56014	6.560(R)
	3 Phenol	94	8.377	8.362	(0.933)	775177		5.71577	5.716
	7 1,3-Dichlorobenzene	146	8.918	8.918	(0.993)	568		0.00433	0.004329
*	8 1,4-Dichlorobenzene-d4	152	8.980	8.980	(1.000)	347415		4.00000	
	9 1,4-Dichlorobenzene	146	9.011	9.011	(1.003)	2263		0.01700	0.01700
	11 Benzyl alcohol	79	9.244	9.244	(1.029)	33330		0.41097	0.4110
	12 1,2-Dichlorobenzene	146	9.361	9.360	(1.042)	629		0.00486	0.004856
	13 2-Methylphenol	108	9.477	9.469	(1.055)	1940		0.02061	0.02061
	15 4-Methylphenol	108	9.741	9.733	(1.085)	10700		0.10926	0.1093
	16 N-Nitroso-di-n-propylamine	70	Compound Not Detected.						
	22 2,4-Dimethylphenol	107	10.783	10.775	(0.943)	1423		0.01629	0.01629
	24 Benzoic acid	105	10.894	10.902	(0.953)	42787		0.71807	0.7181
	26 1,2,4-Trichlorobenzene	180	Compound Not Detected.						
*	27 Naphthalene-d8	136	11.437	11.444	(1.000)	1250587		4.00000	
	30 Hexachlorobutadiene	225	Compound Not Detected.						
	39 Dimethylphthalate	163	14.539	14.539	(0.968)	22783		0.11920	0.1192
*	42 Acenaphthene-d10	162	15.027	15.027	(1.000)	598392		4.00000	
	50 Diethylphthalate	149	15.985	15.985	(1.064)	24737		0.14253	0.1425(M)
	54 N-Nitrosodiphenylamine	169	Compound Not Detected.						
	57 Hexachlorobenzene	284	Compound Not Detected.						
	58 Pentachlorophenol	266	17.769	17.769	(0.985)	1404		0.04336	0.04336
*	59 Phenanthrene-d10	188	18.032	18.032	(1.000)	1063977		4.00000	
$	66 Terphenyl-d14	244	21.173	21.165	(0.918)	722448		4.07608	4.076(R)
	67 Butylbenzylphthalate	149	22.095	22.095	(0.958)	32200		0.18145	0.1814
*	69 Chrysene-d12	240	23.063	23.055	(1.000)	1257458		4.00000	
*	77 Perylene-d12	264	25.579	25.563	(1.000)	1364887		4.00000	
	79 Dibenzo(a,h)anthracene	278	28.068	28.060	(1.097)	44397		0.10994	0.1099
	90 N-Nitrosodimethylamine	74	Compound Not Detected.						

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222312S.D
Lab Smp Id: 23C0108-06
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 22-MAR-2023
Calibration Time: 18:36
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	283947	141974	567894	347415	22.35
27 Naphthalene-d8	1057483	528742	2114966	1250587	18.26
42 Acenaphthene-d10	520336	260168	1040672	598392	15.00
59 Phenanthrene-d10	933537	466769	1867074	1063977	13.97
69 Chrysene-d12	863272	431636	1726544	1257458	45.66
77 Perylene-d12	996915	498458	1993830	1364887	36.91

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	-0.07
42 Acenaphthene-d10	15.03	14.53	15.53	15.03	0.00
59 Phenanthrene-d10	18.03	17.53	18.53	18.03	0.00
69 Chrysene-d12	23.06	22.56	23.56	23.06	0.03
77 Perylene-d12	25.56	25.06	26.06	25.58	0.06

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222312S.D

Lab ID: 23C0108-06
nt18.i, 20230322.b\SIM.b\SIMABN2.m,   23-MAR-2023 00:44

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

RRT check based on Ccal File: SIM.b/NT1803222303S.D

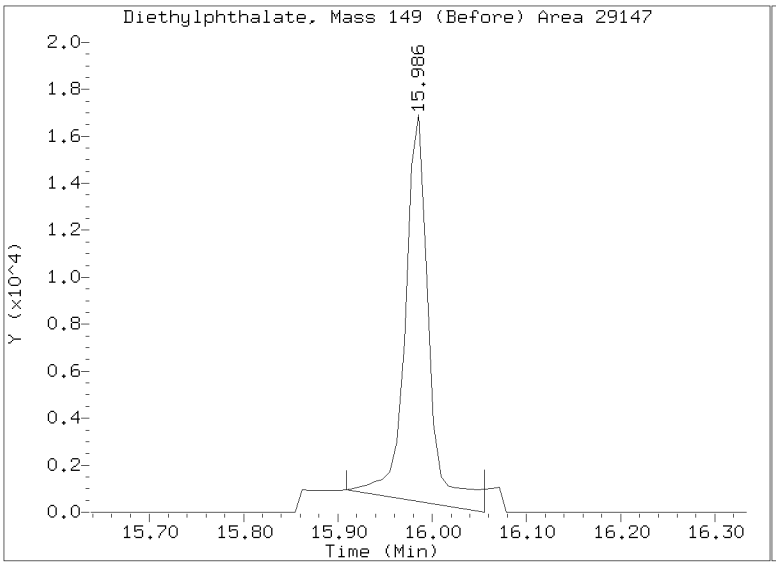
On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

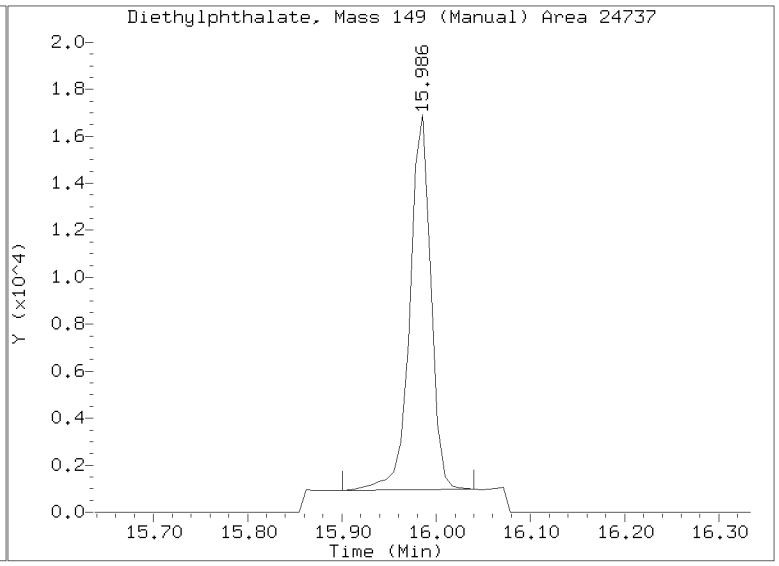
Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230322.b/SIM.b/NT1803222312S.D
Injection Date: 23-MAR-2023 00:44
Lab ID:23C0108-06 Client ID:
Report Date: 04/05/2023 10:10





APPROVED

By Deenay Dunmore at 11:19 am, Apr 05, 2023

Analytical Resources, LLC
Analytical Chemists and Consultants

LDW23-SS1107

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270E-SIM

SIM SVOC Organics (Dual scan list)

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-07 A	SDG:	23C0108
Sampled:	03/03/23 10:21	Prepared:	03/09/23 13:26	File ID:	NT1803222313S.D
% Solids:	40.20	Preparation:	EPA 3546 (Microwave)	Analyzed:	03/23/23 01:24
Batch:	BLC0185	Sequence:	SLD0061	Initial/Final:	24.92 g Wet / 1 mL
Instrument:	NT18	Column:	ZB-5MS	Calibration:	GD00001
Cleanups:	GPC				

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg dry)	Q	DL	RL
106-46-7	1,4-Dichlorobenzene	1	1.4	J	0.6	5.0
95-50-1	1,2-Dichlorobenzene	1	5.0	U	0.7	5.0
100-51-6	Benzyl Alcohol	1	29.0		2.5	20.0
65-85-0	Benzoic acid	1	47.3	J	13.4	99.8
105-67-9	2,4-Dimethylphenol	1	20.0	U	2.2	20.0
120-82-1	1,2,4-Trichlorobenzene	1	5.0	U	2.7	5.0
86-30-6	N-Nitrosodiphenylamine	1	5.0	U	1.3	5.0
87-86-5	Pentachlorophenol	1	3.2	J	2.1	20.0

SURROGATES	ADDED: (ug/kg dry)	FOUND: (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorophenol	748.66	624	83.4	27 - 120	
p-Terphenyl-d14	499.11	423	84.8	37 - 120	

Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223135.D

Date : 23-MAR-2023 01:24

Client ID:

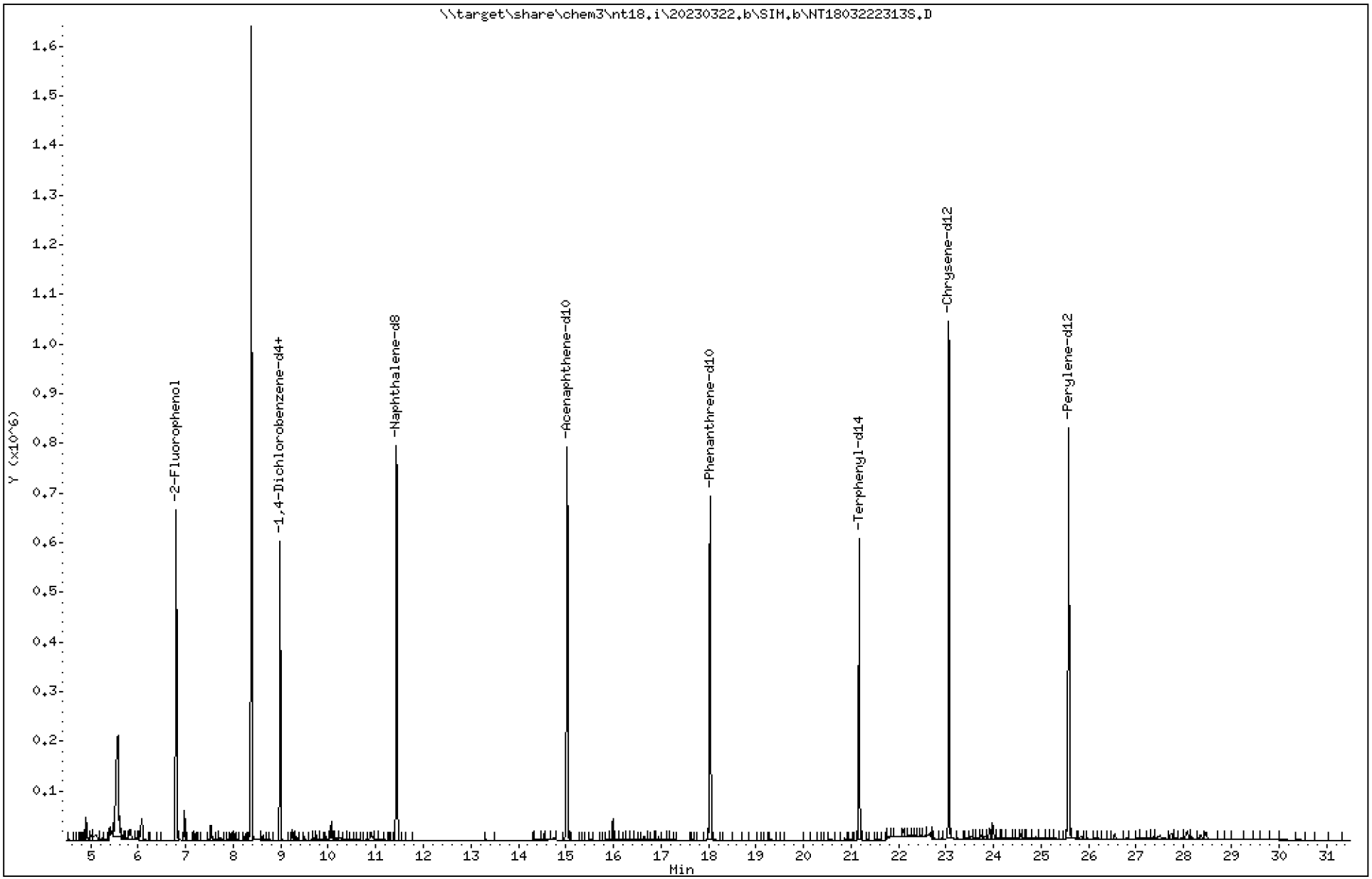
Sample Info: 23C0108-07

Instrument: nt18.i

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222313S.D

Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

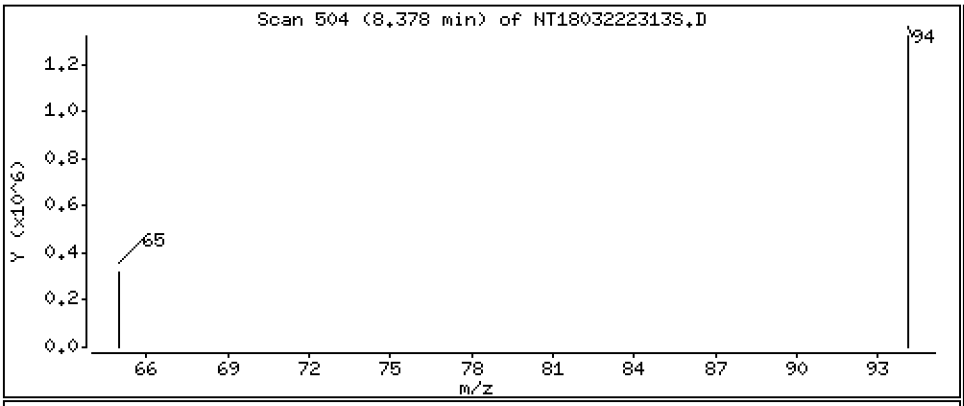
Operator: VTS

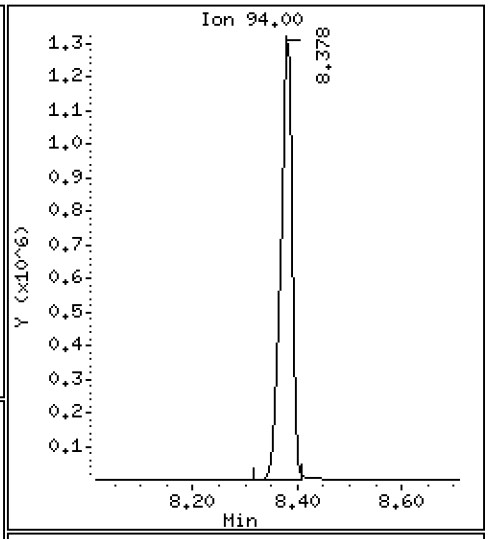
Column phase: ZB-5msi

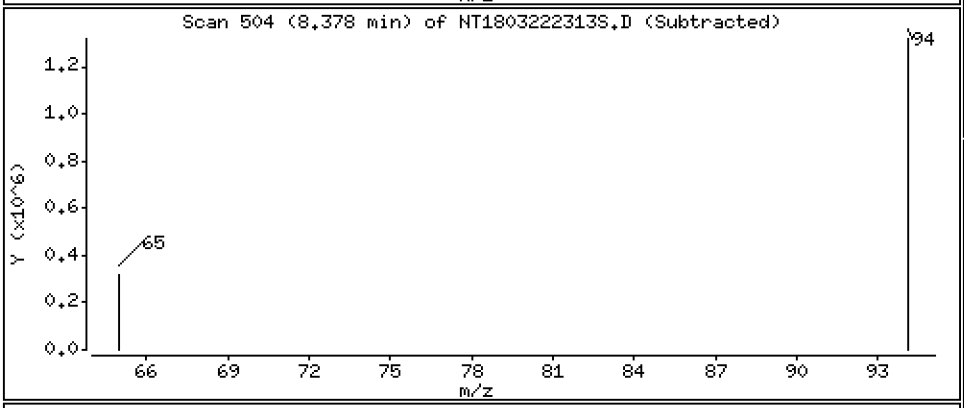
Column diameter: 0.25

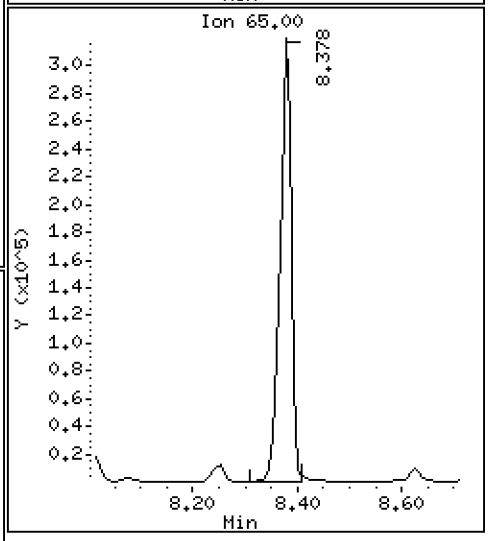
3 Phenol

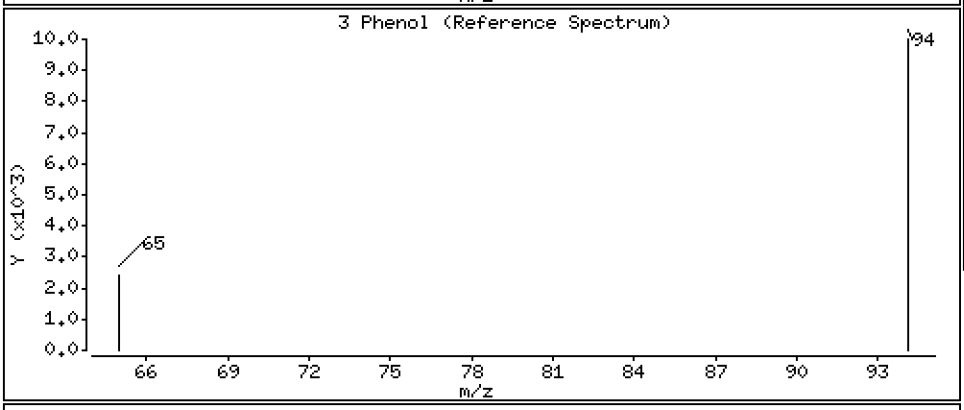
Concentration: 14.56 ug/mL

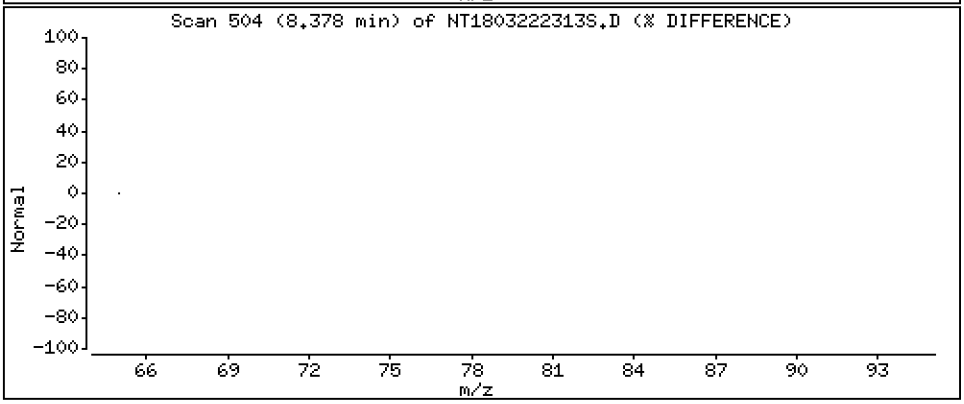












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222313S.D

Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

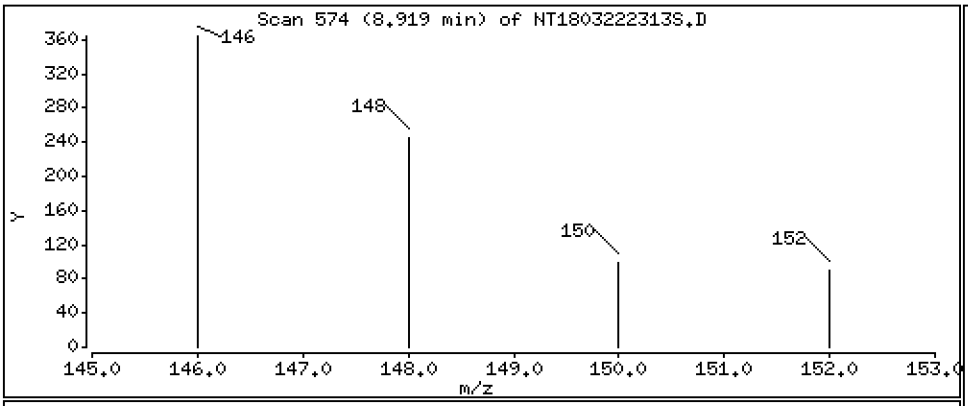
Operator: VTS

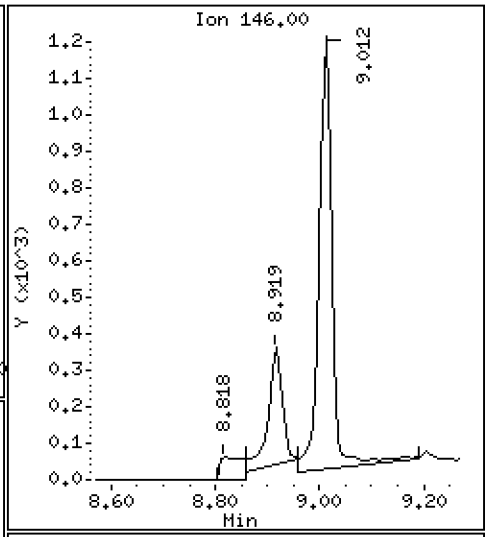
Column phase: ZB-5msi

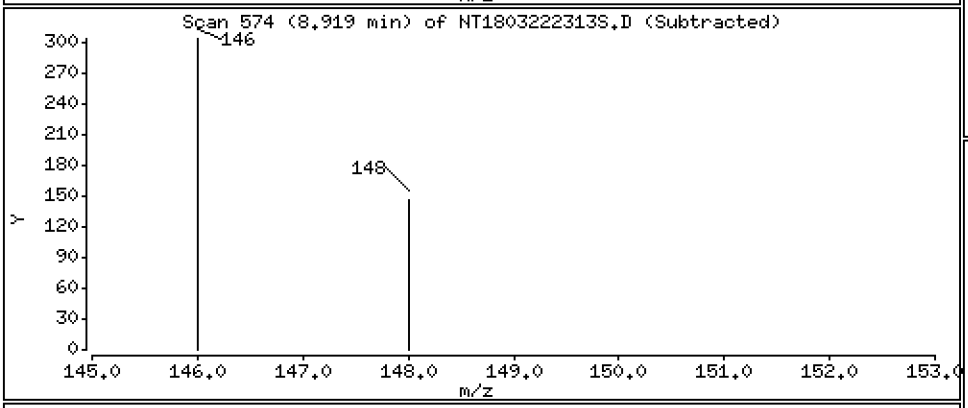
Column diameter: 0.25

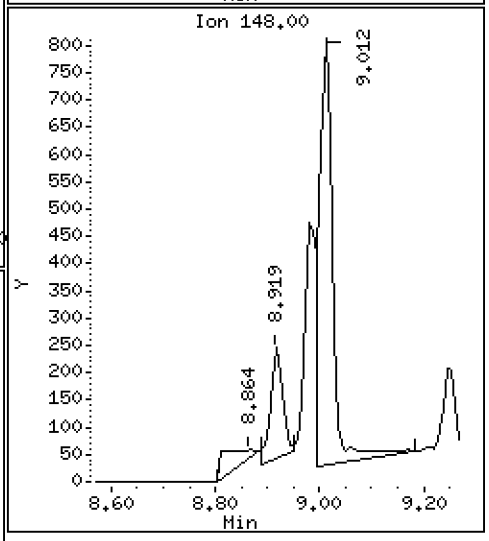
7 1,3-Dichlorobenzene

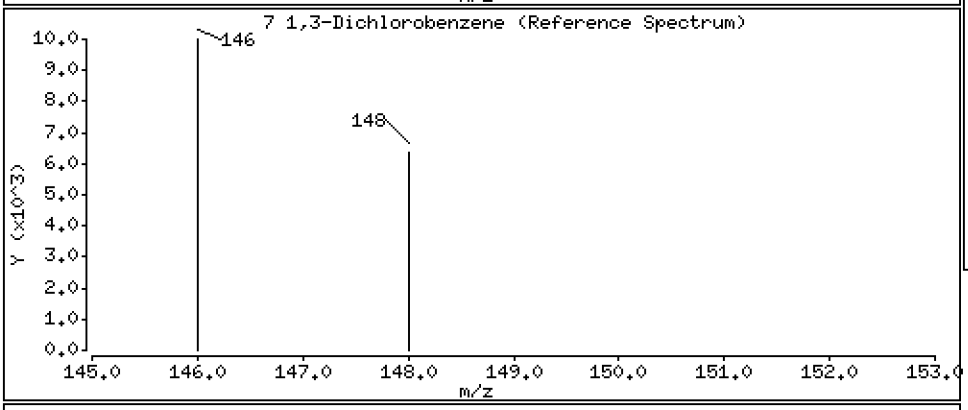
Concentration: 0.004702 ug/mL

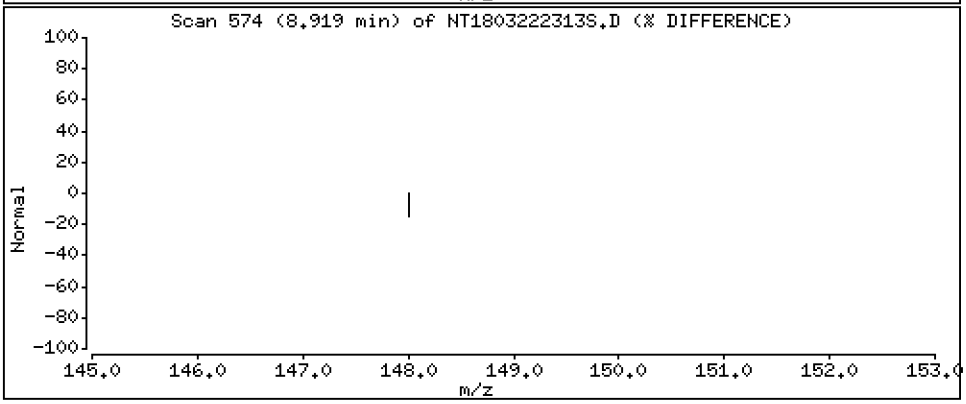












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222313S.D

Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

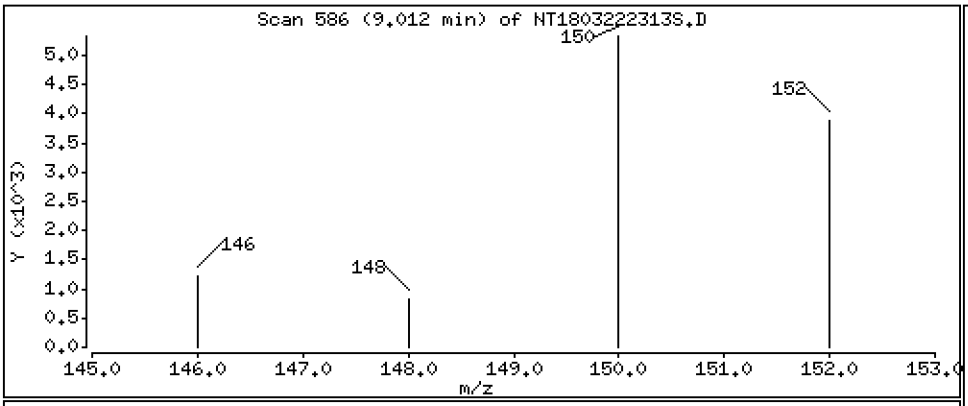
Operator: VTS

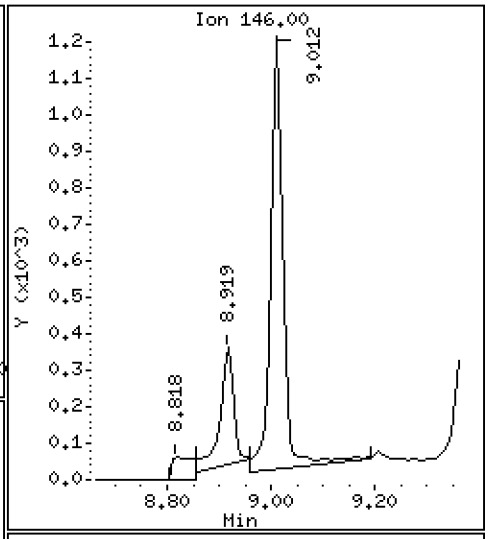
Column phase: ZB-5msi

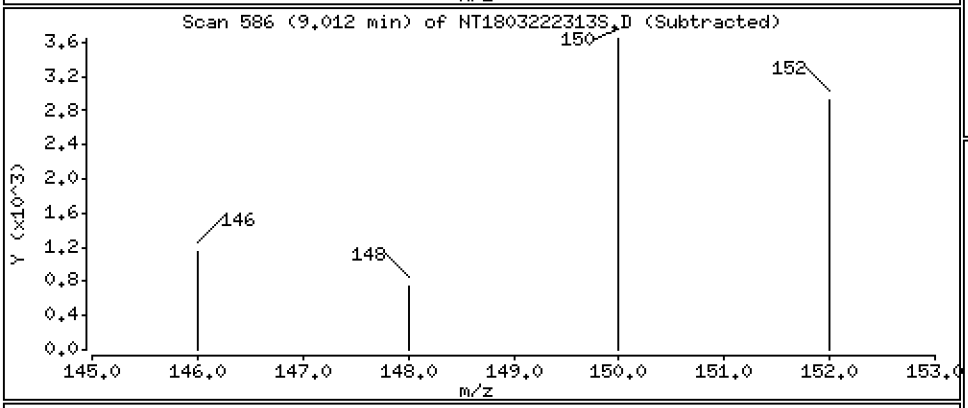
Column diameter: 0.25

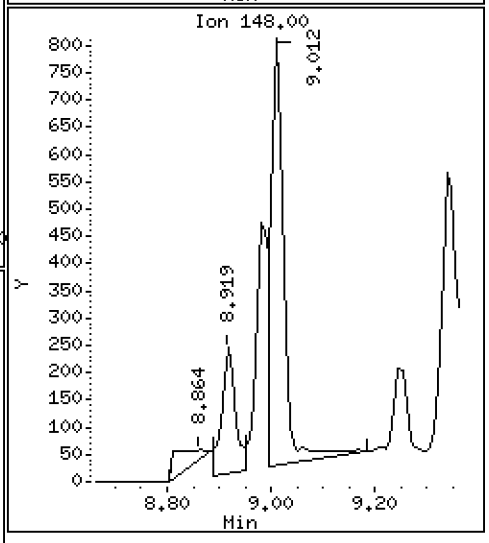
9 1,4-Dichlorobenzene

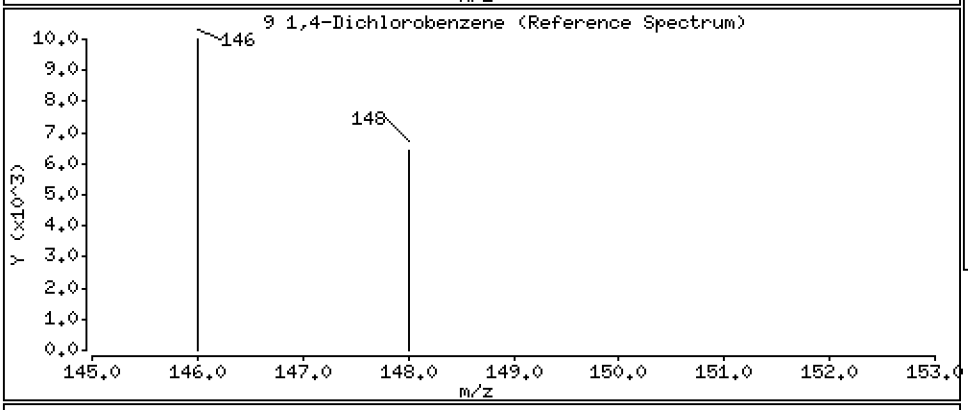
Concentration: 0.01435 ug/mL

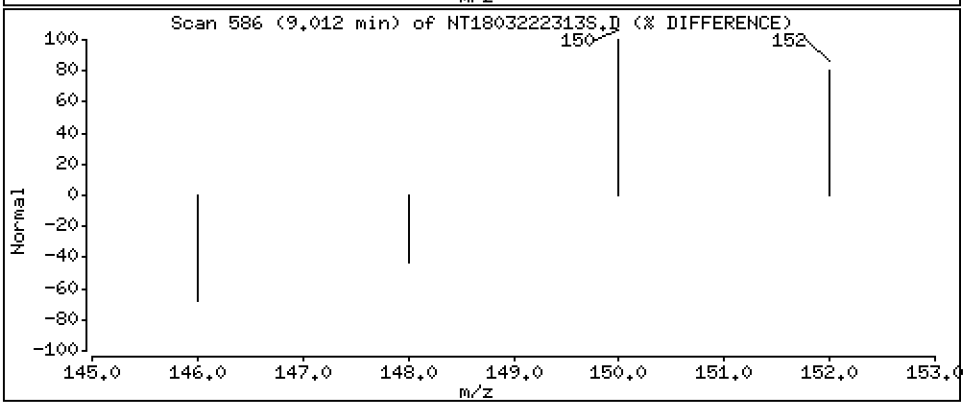












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222313S.D

Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

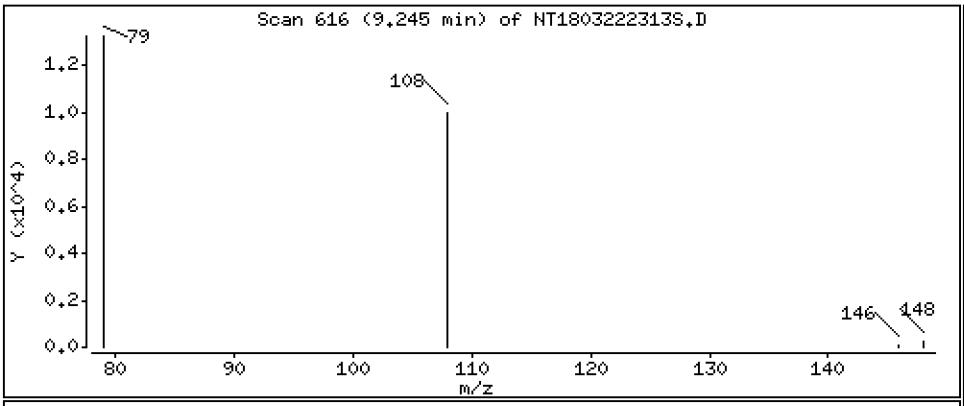
Operator: VTS

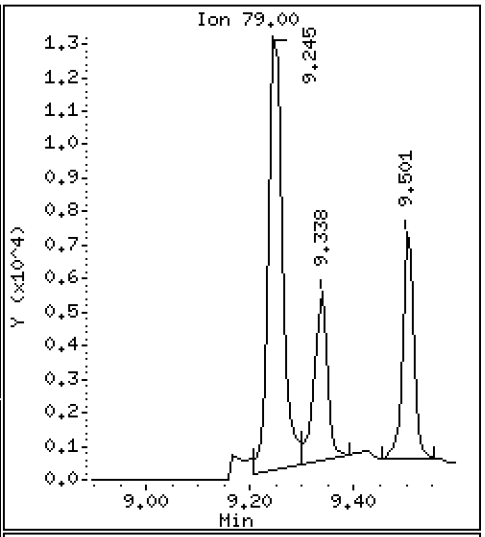
Column phase: ZB-5msi

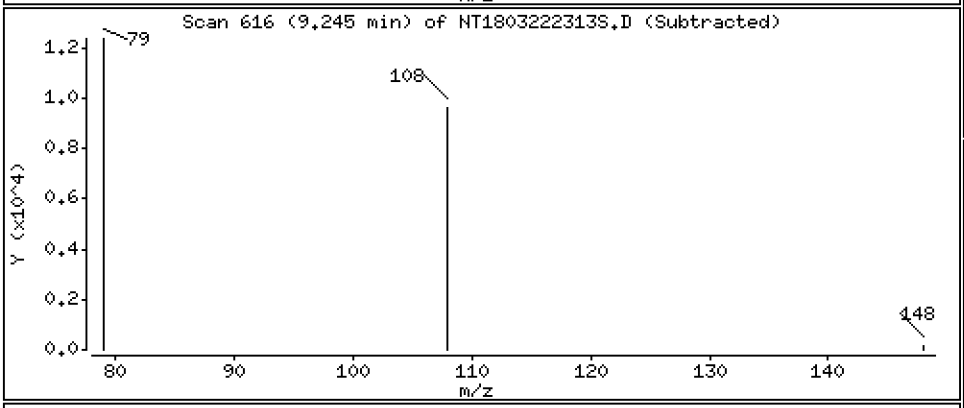
Column diameter: 0.25

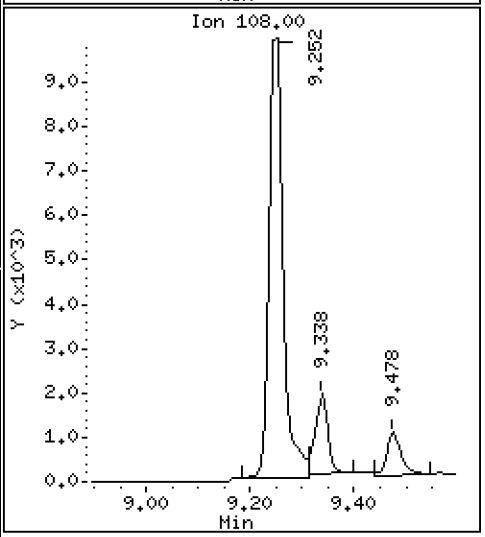
11 Benzyl alcohol

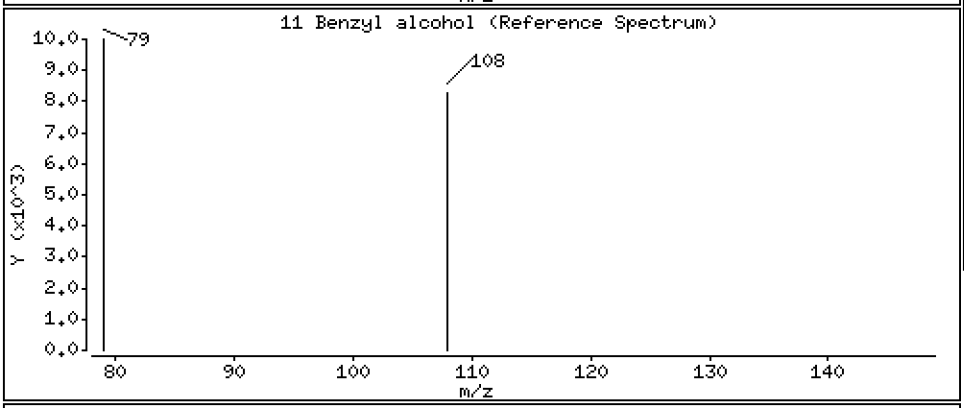
Concentration: 0.2905 ug/mL

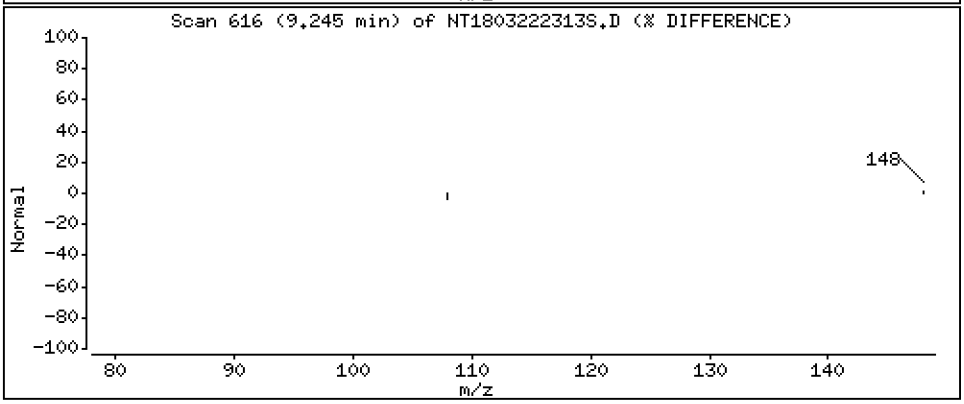












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222313S.D

Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

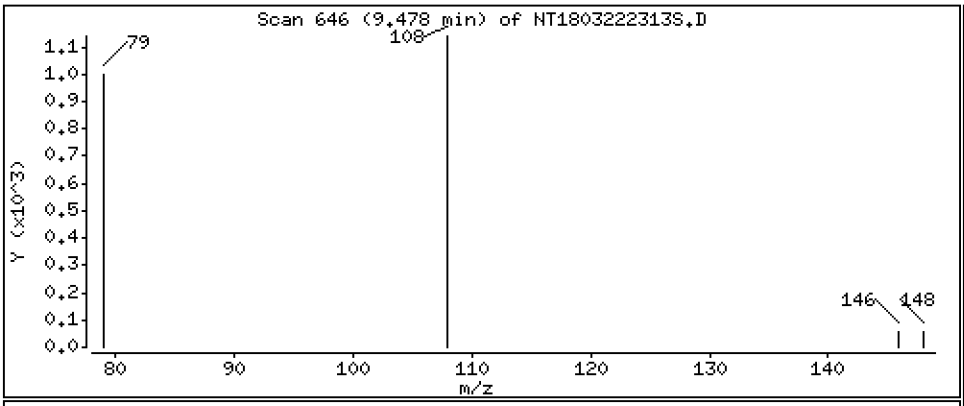
Operator: VTS

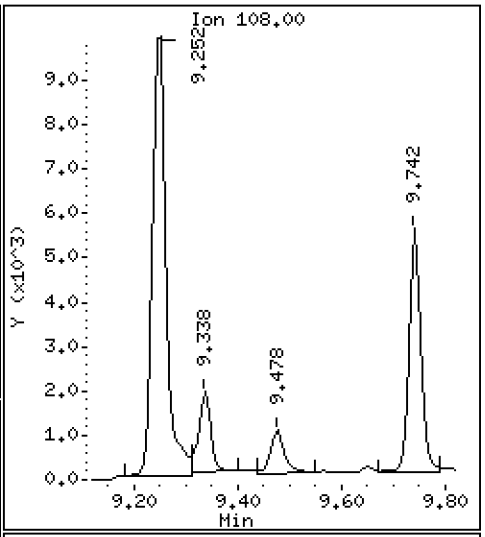
Column phase: ZB-5msi

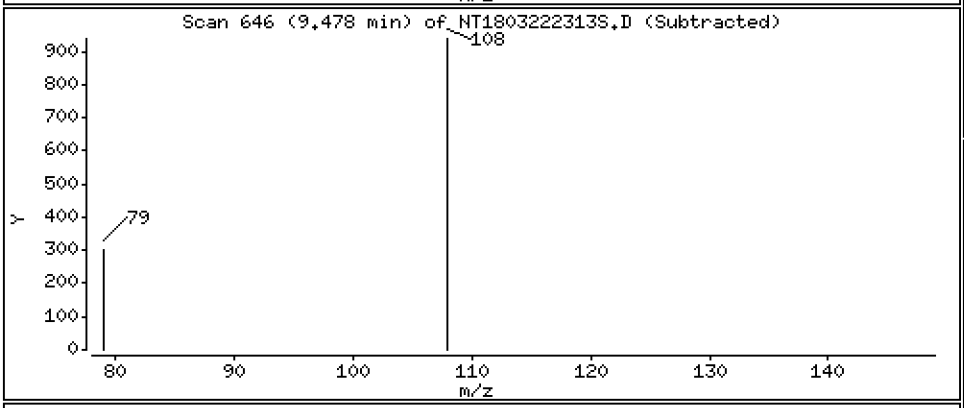
Column diameter: 0.25

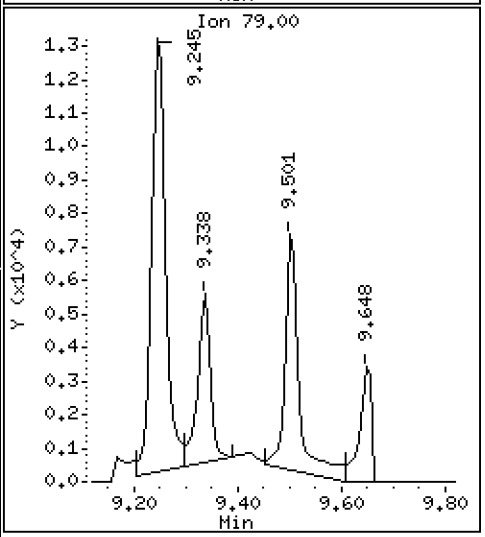
13 2-Methylphenol

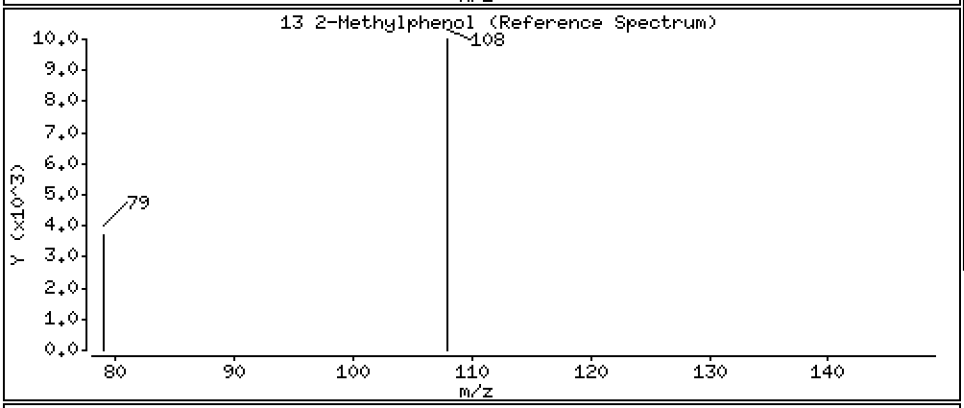
Concentration: 0.01850 ug/mL

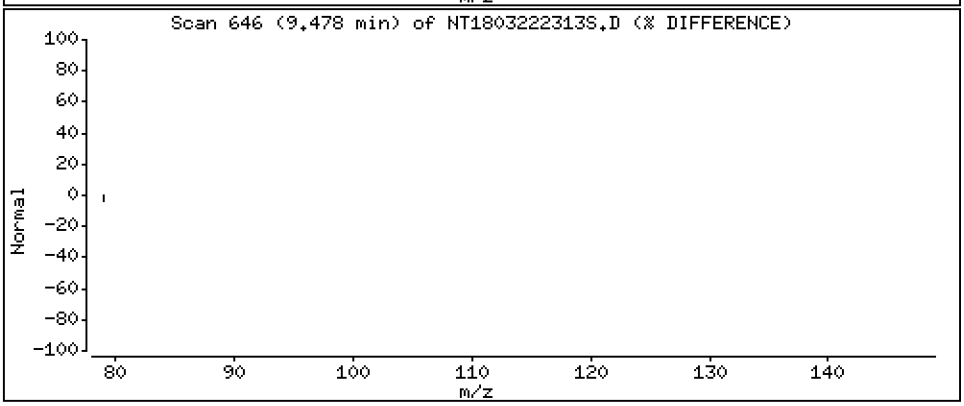












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222313S.D

Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

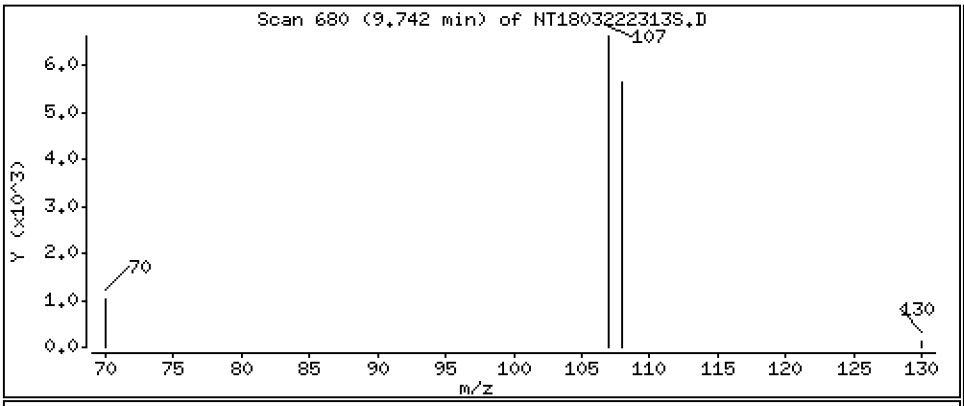
Operator: VTS

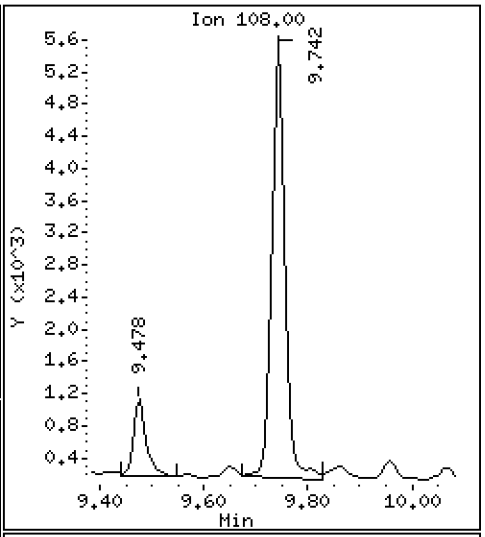
Column phase: ZB-5msi

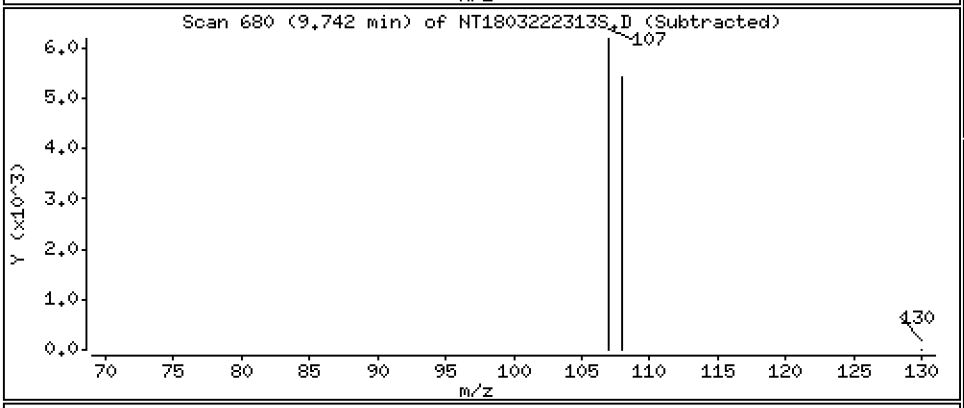
Column diameter: 0.25

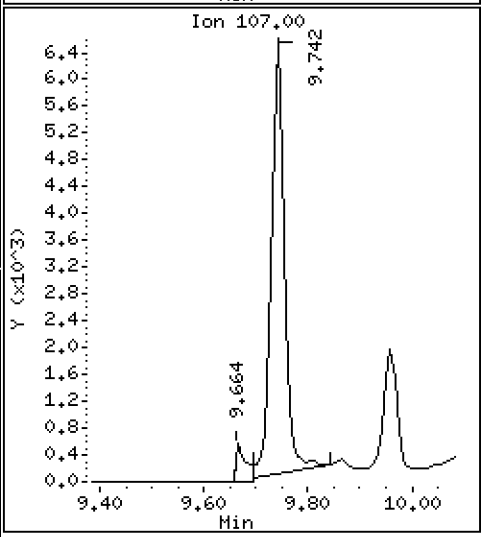
15 4-Methylphenol

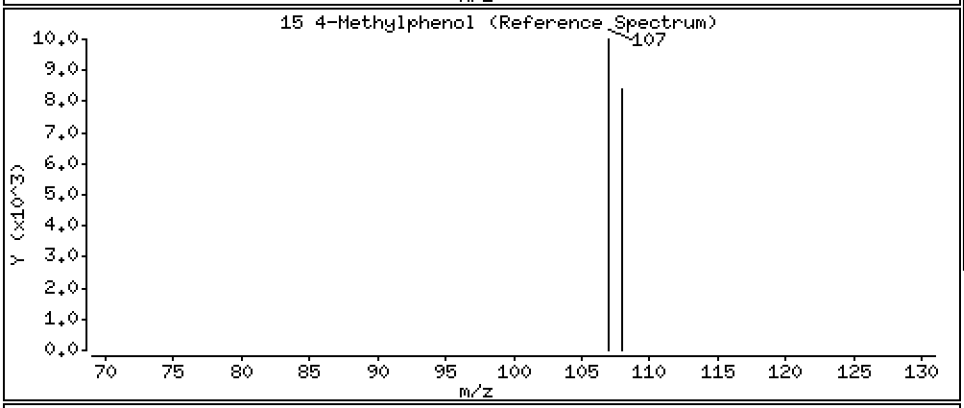
Concentration: 0.09427 ug/mL

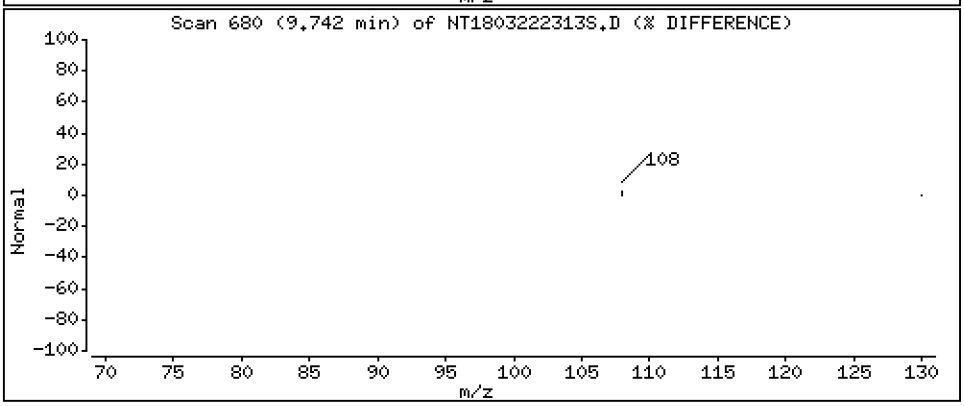












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Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

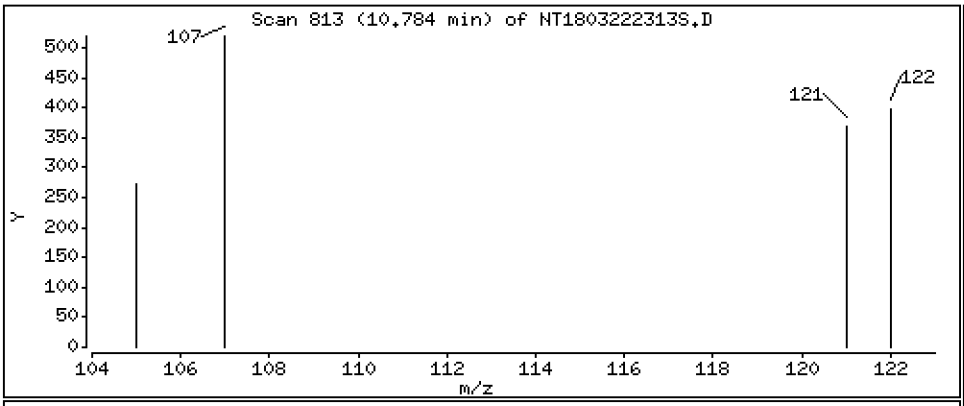
Operator: VTS

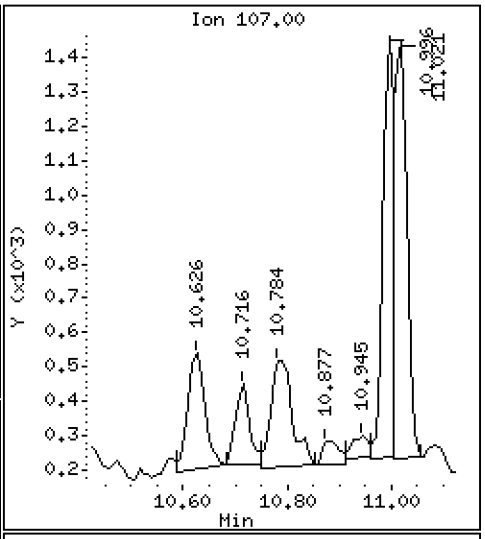
Column phase: ZB-5msi

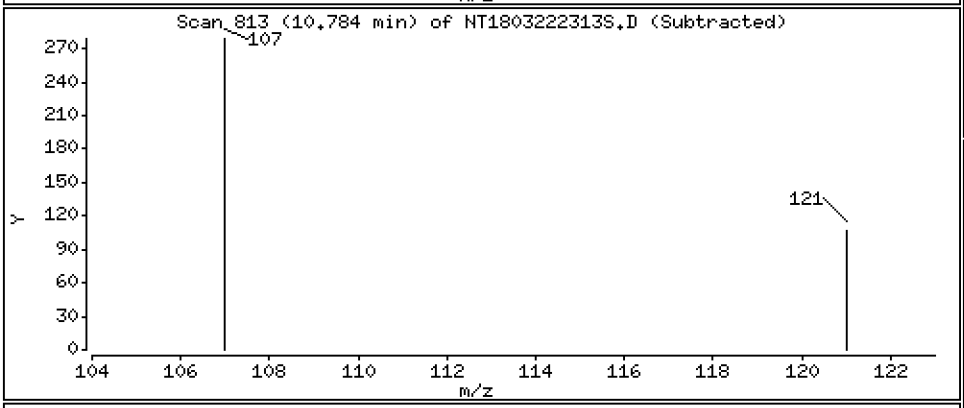
Column diameter: 0.25

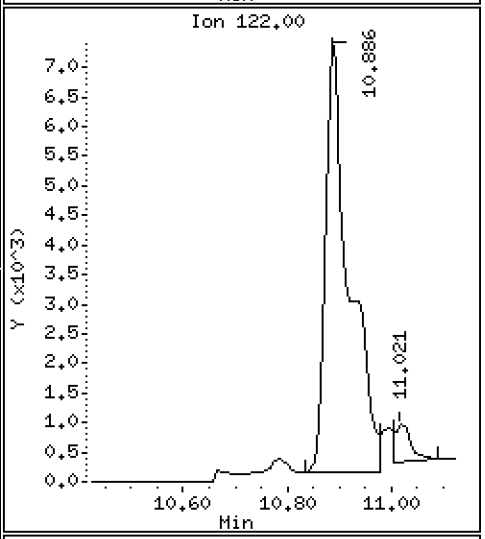
22 2,4-Dimethylphenol

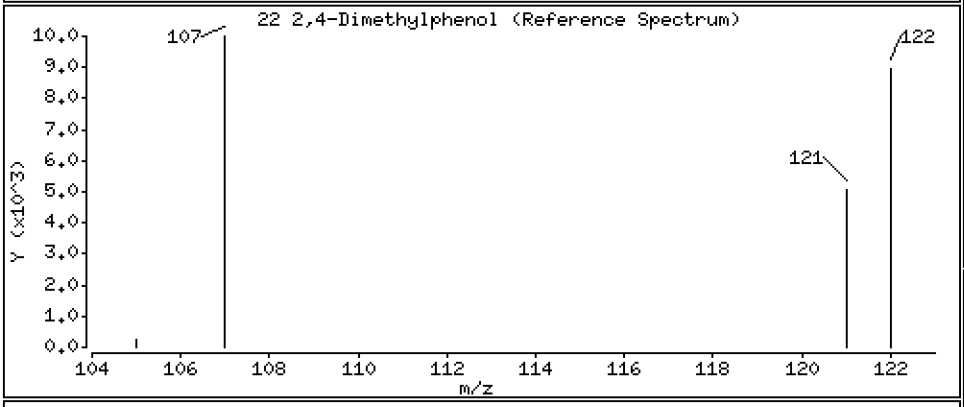
Concentration: 0.01047 ug/mL

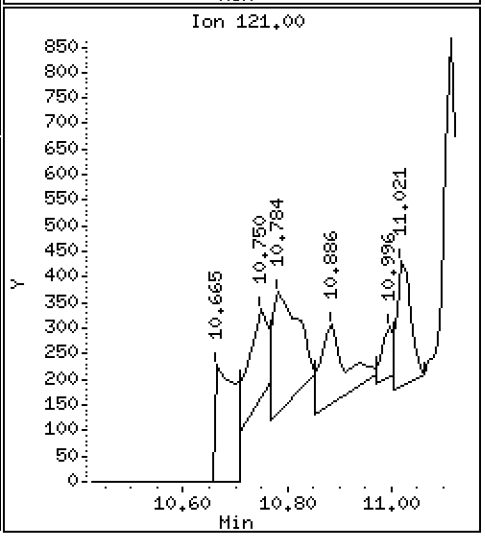


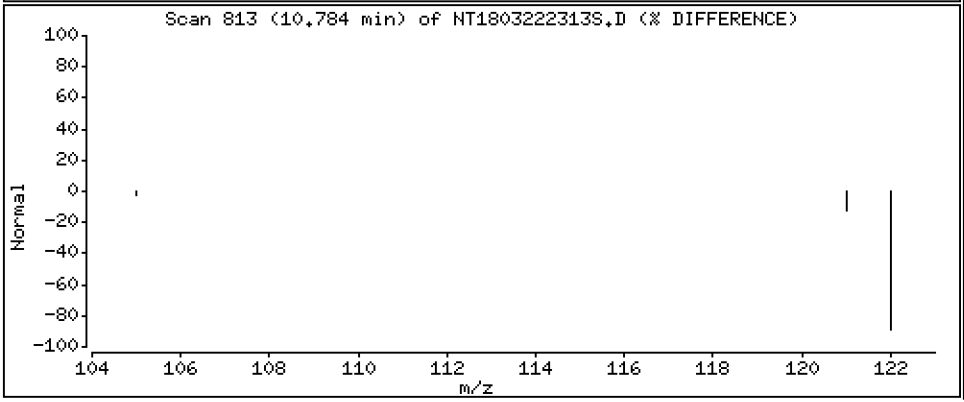












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Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

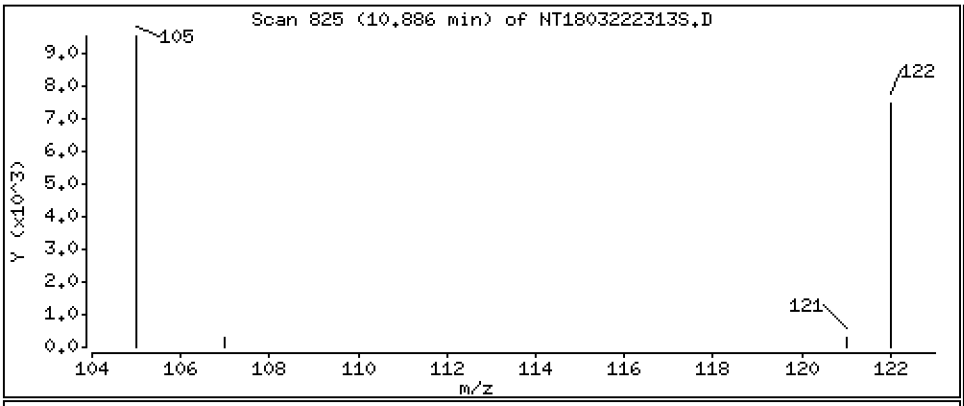
Operator: VTS

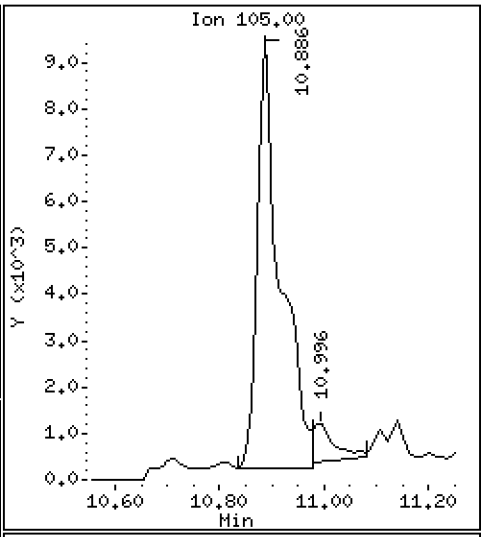
Column phase: ZB-5msi

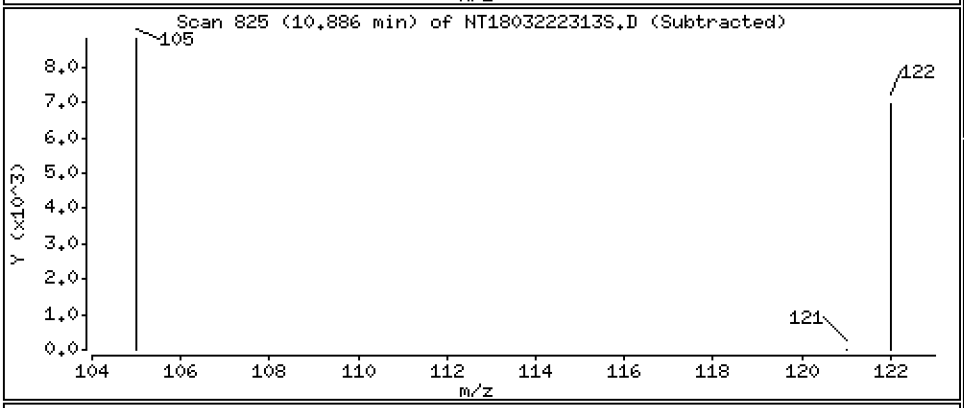
Column diameter: 0.25

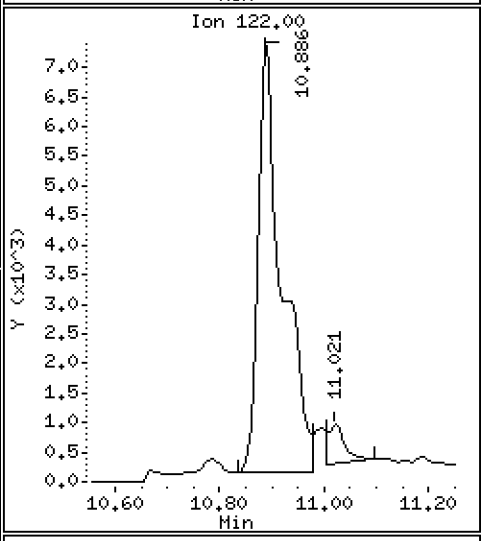
24 Benzoic acid

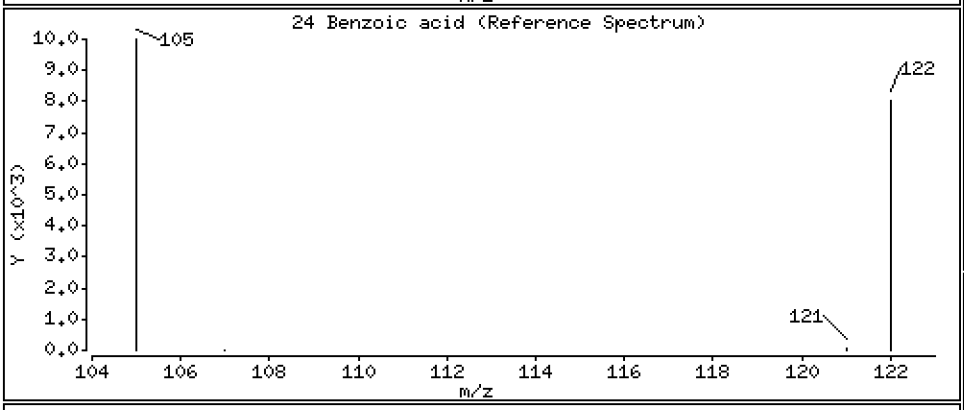
Concentration: 0.4737 ug/mL

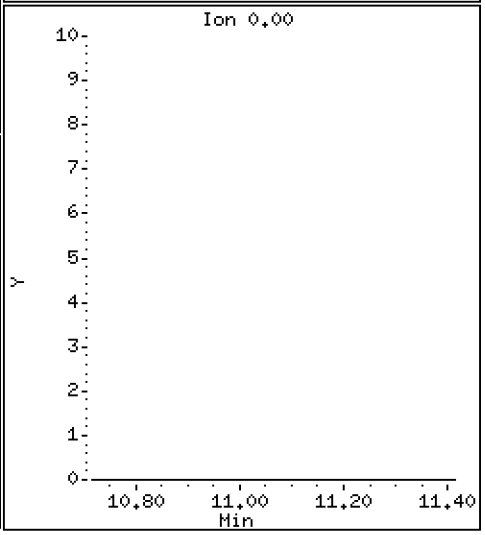


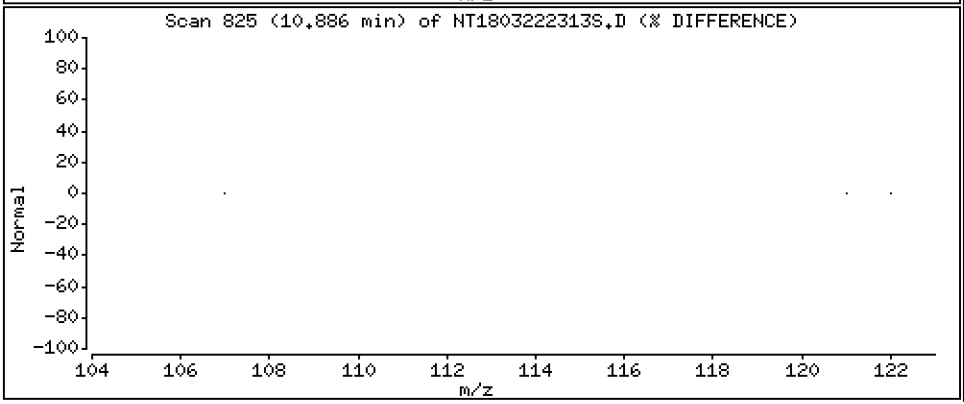












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Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

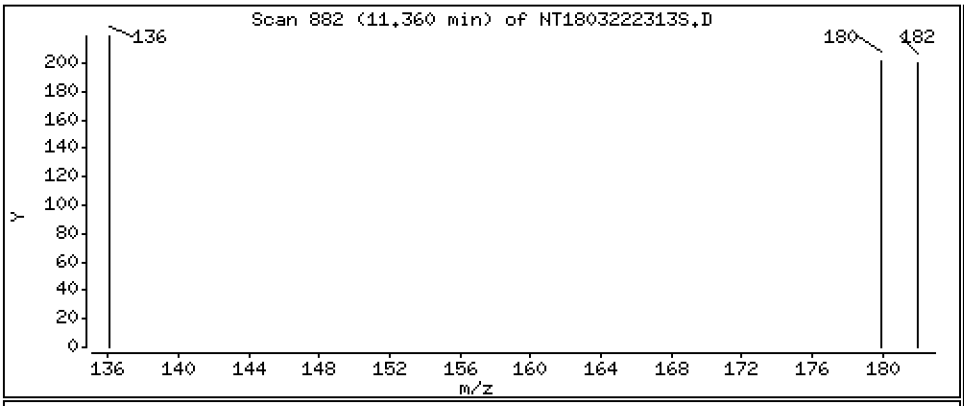
Operator: VTS

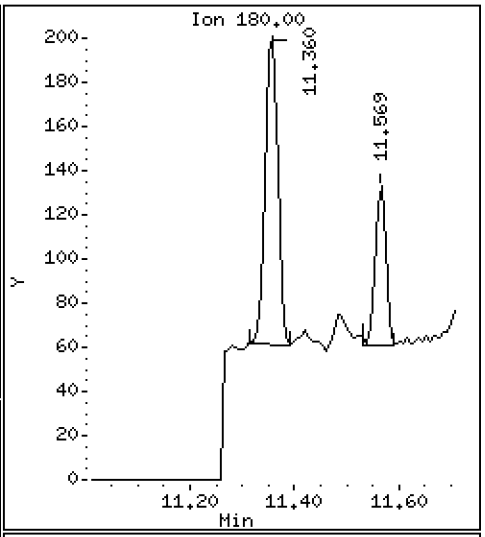
Column phase: ZB-5msi

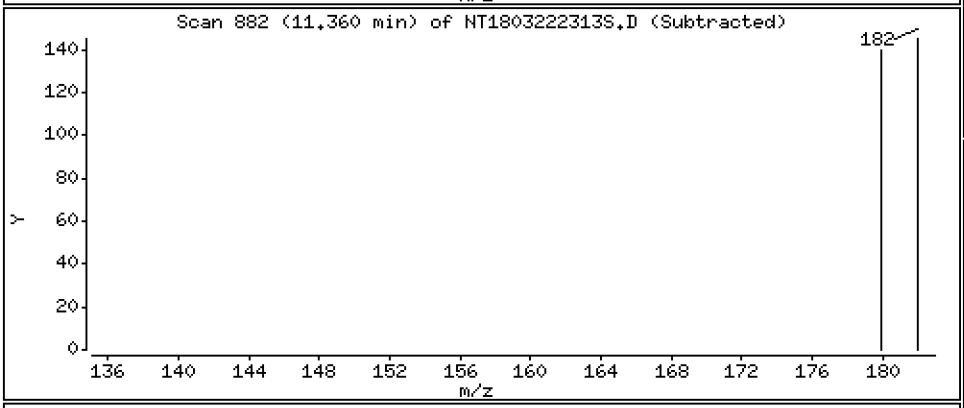
Column diameter: 0.25

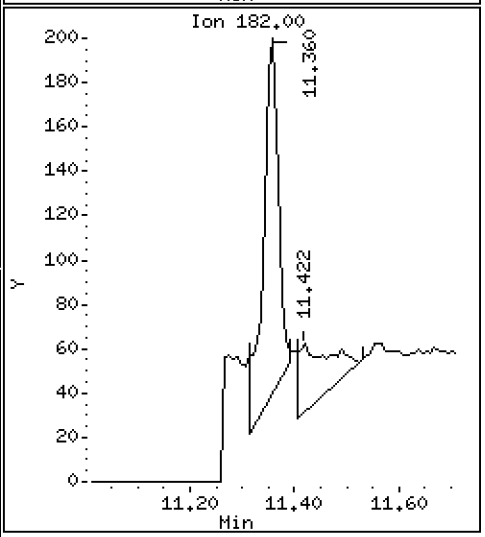
26 1,2,4-Trichlorobenzene

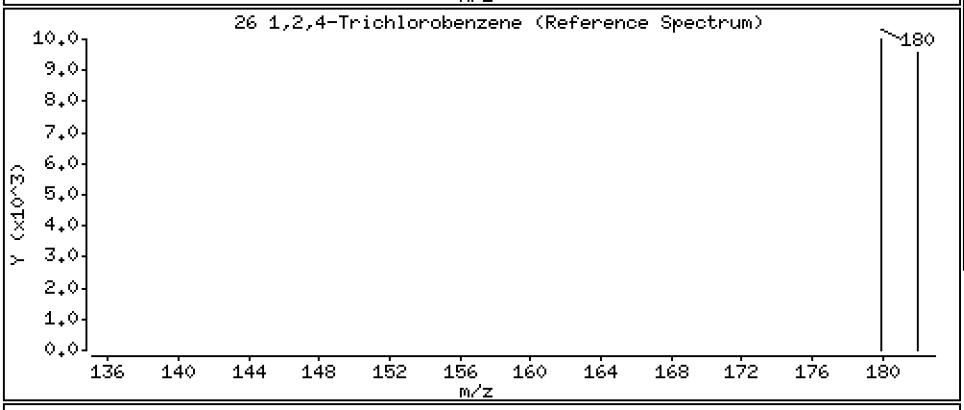
Concentration: 0.002220 ug/mL

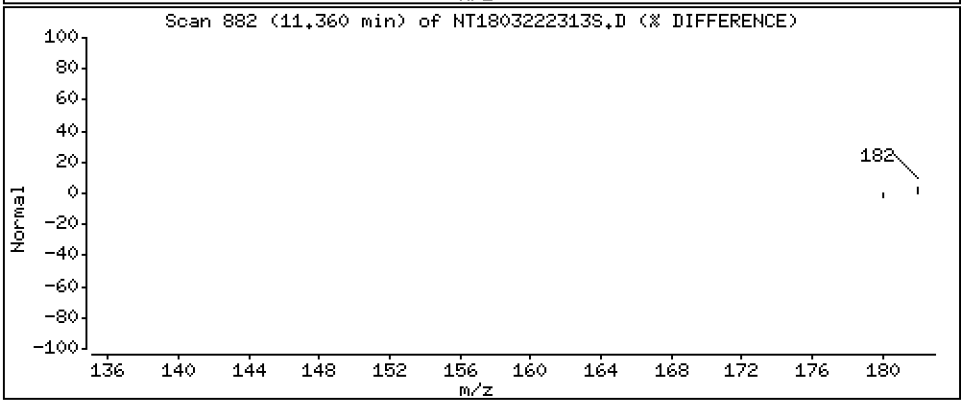












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222313S.D

Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

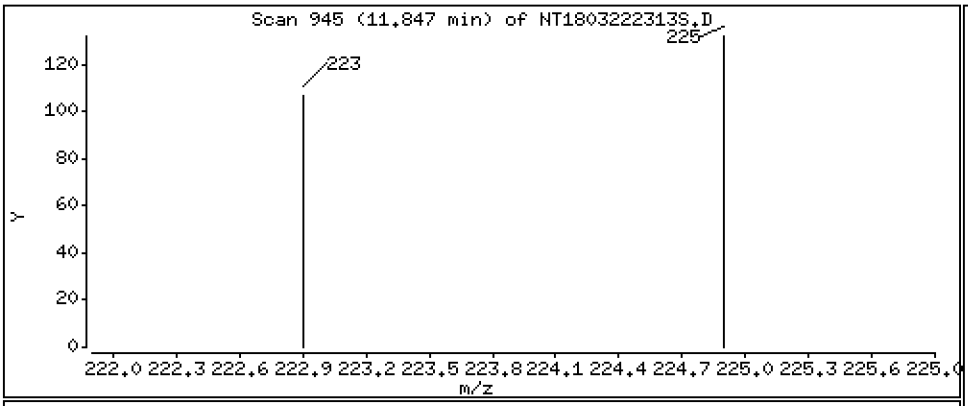
Operator: VTS

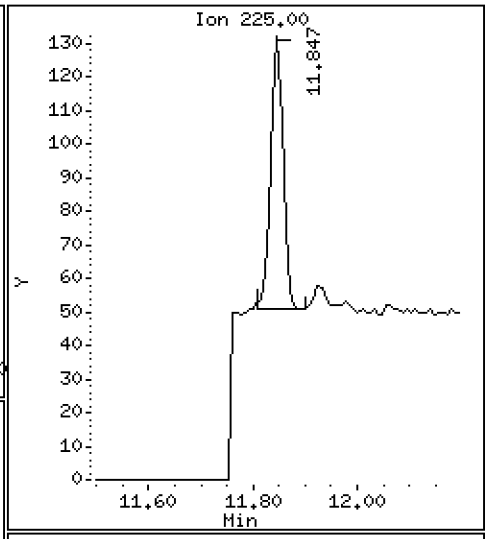
Column phase: ZB-5msi

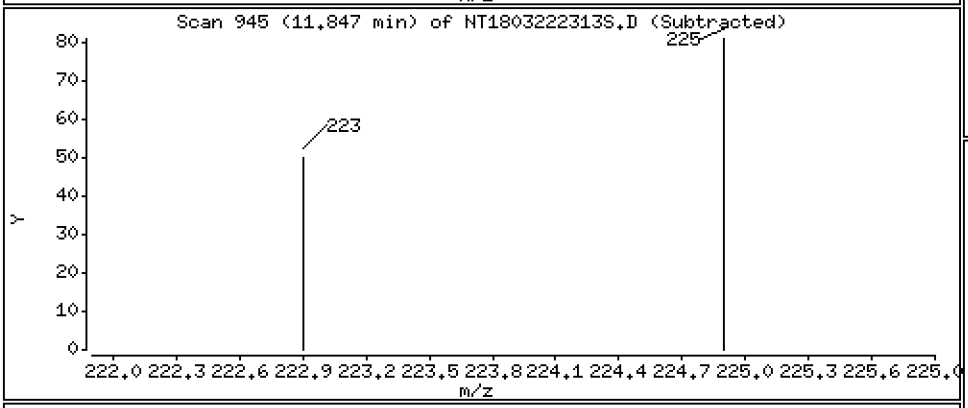
Column diameter: 0.25

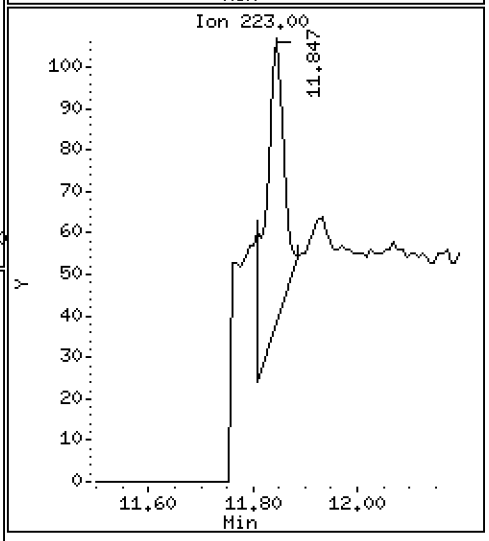
30 Hexachlorobutadiene

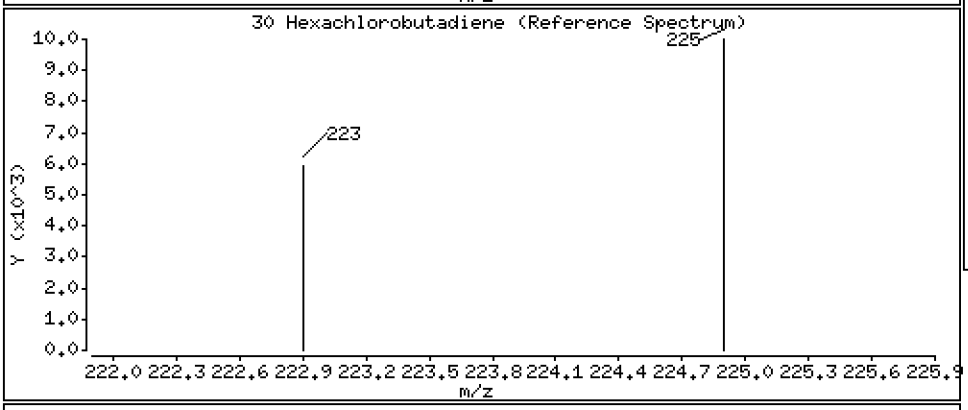
Concentration: 0.002179 ug/mL

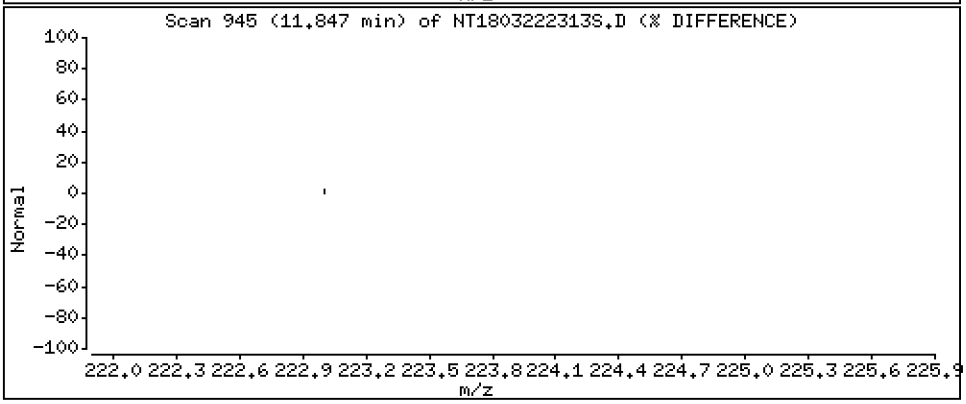












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222313S.D

Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

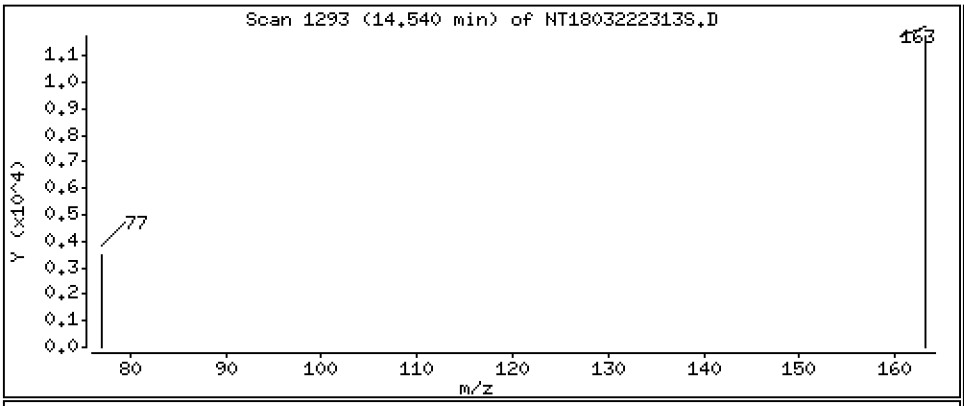
Operator: VTS

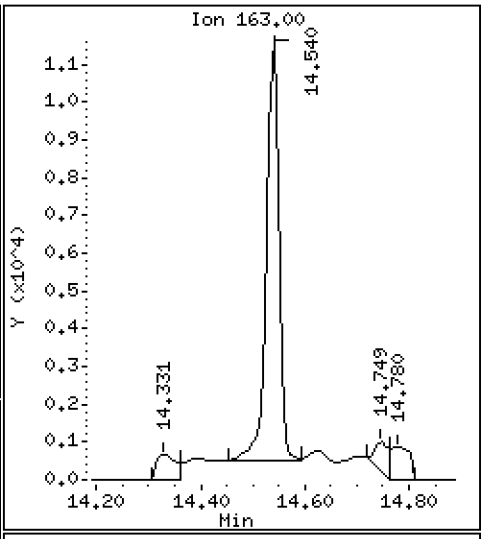
Column phase: ZB-5msi

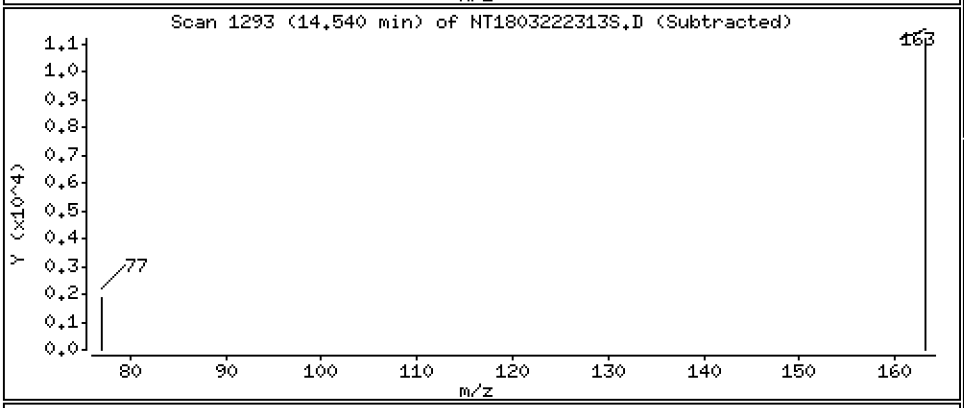
Column diameter: 0.25

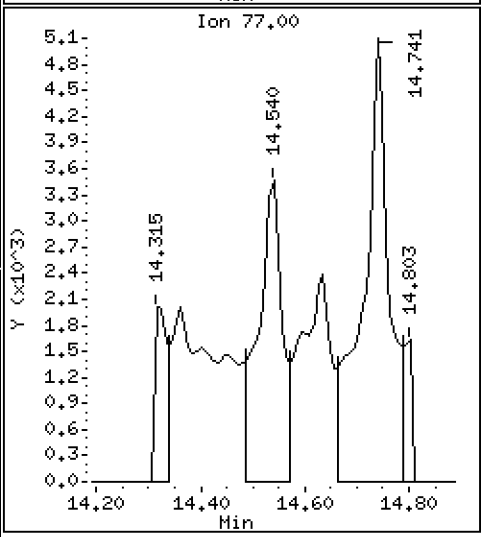
39 Dimethylphthalate

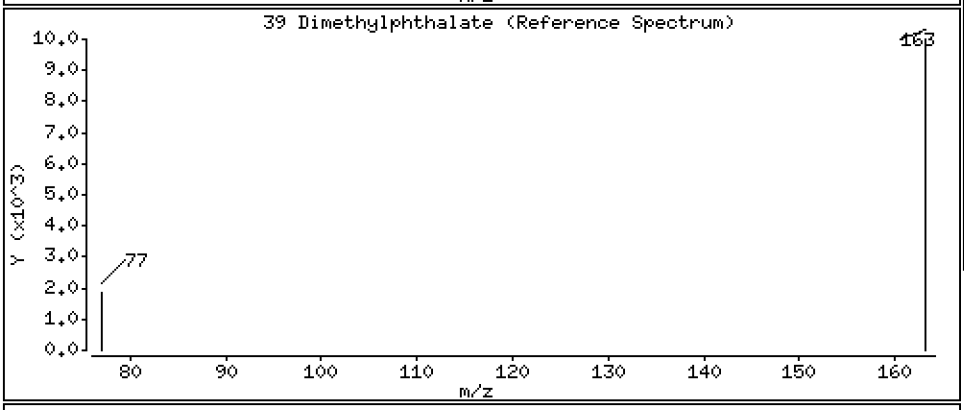
Concentration: 0.09104 ug/mL

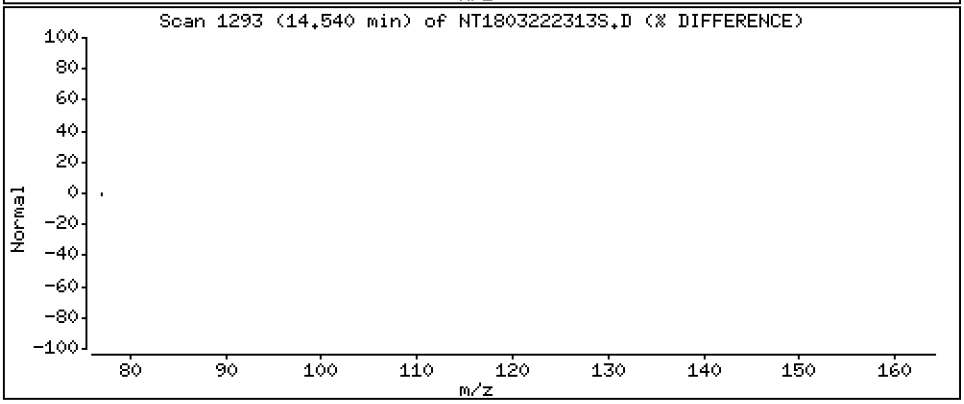












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222313S.D

Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

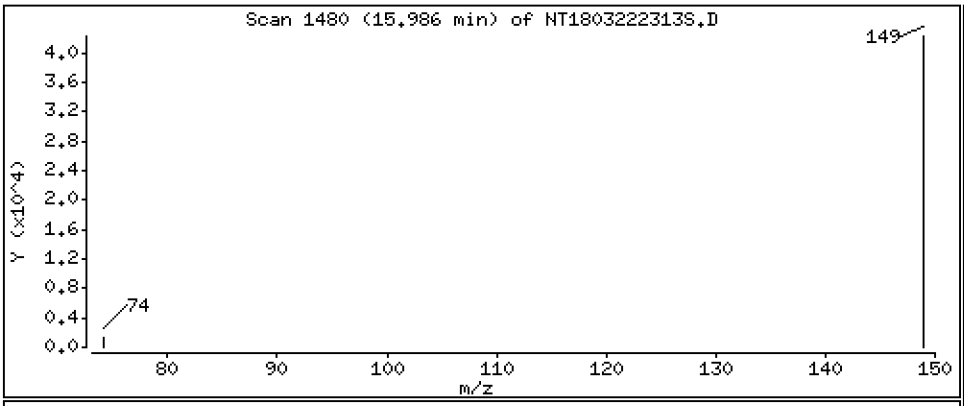
Operator: VTS

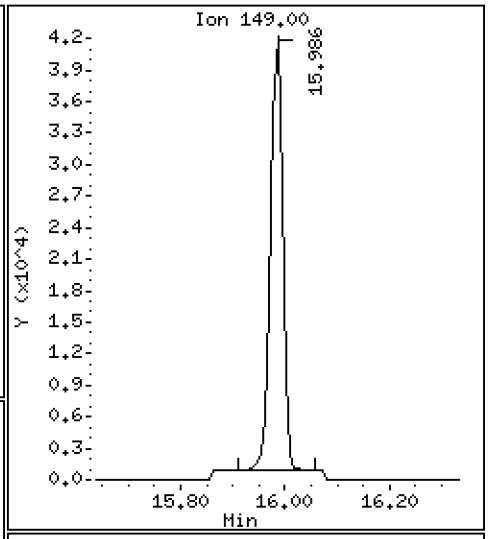
Column phase: ZB-5msi

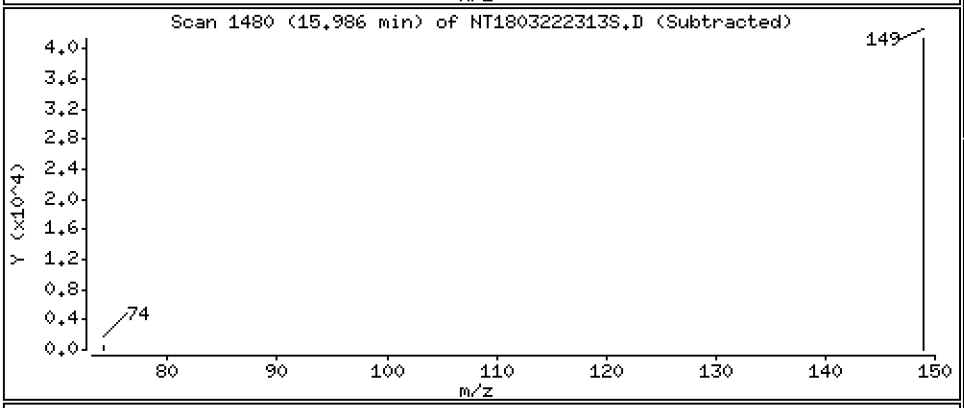
Column diameter: 0.25

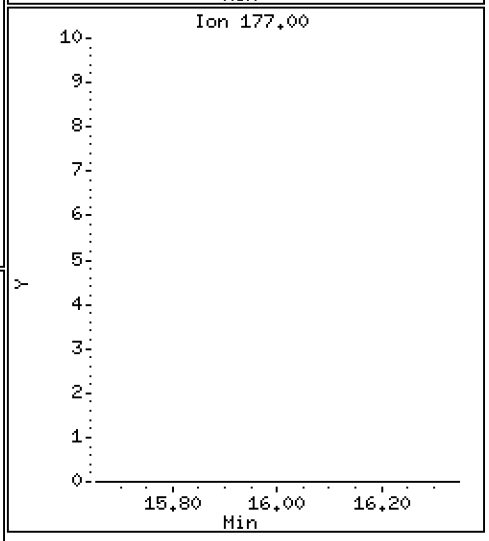
50 Diethylphthalate

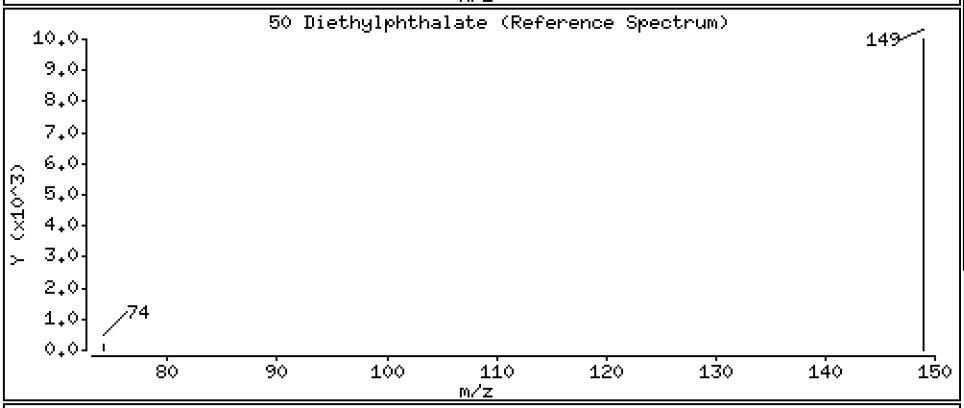
Concentration: 0.3620 ug/mL

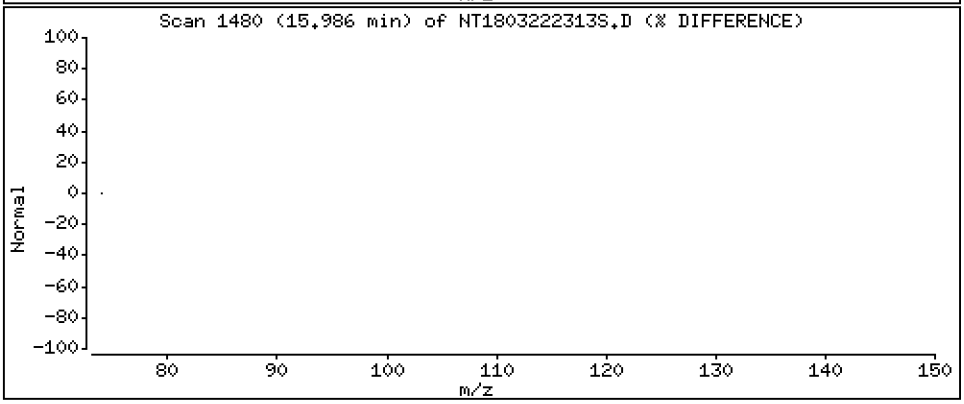












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222313S.D

Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

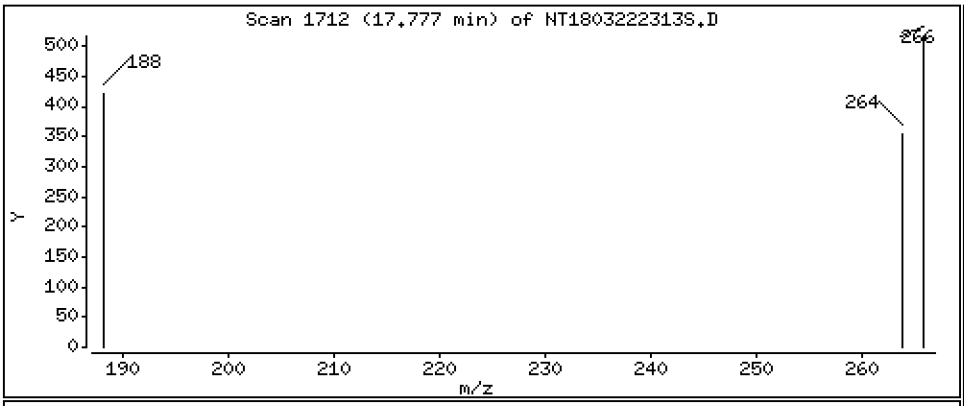
Operator: VTS

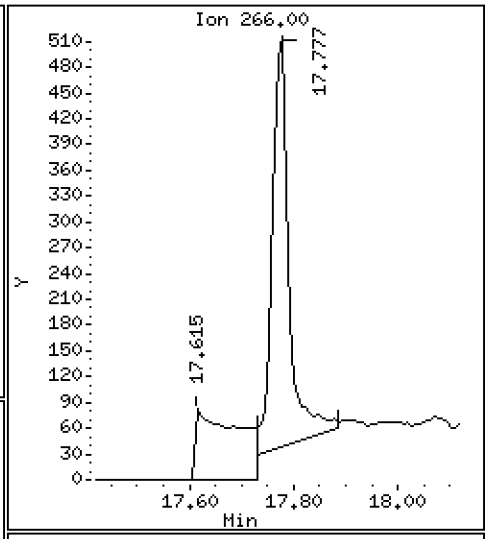
Column phase: ZB-5msi

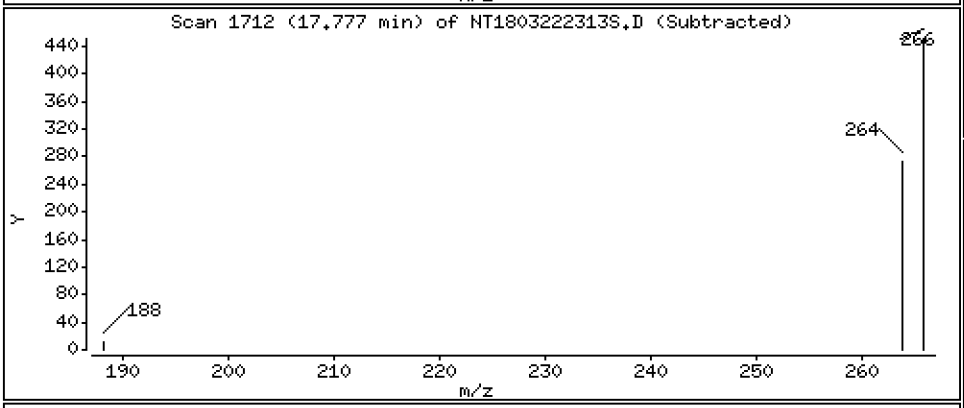
Column diameter: 0.25

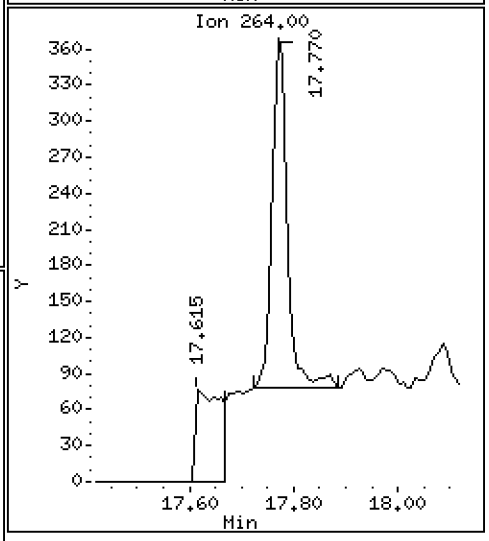
58 Pentachlorophenol

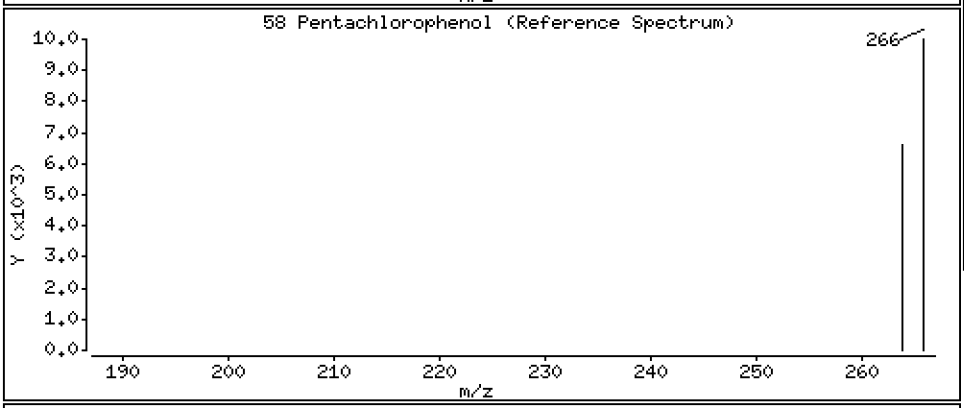
Concentration: 0.03158 ug/mL

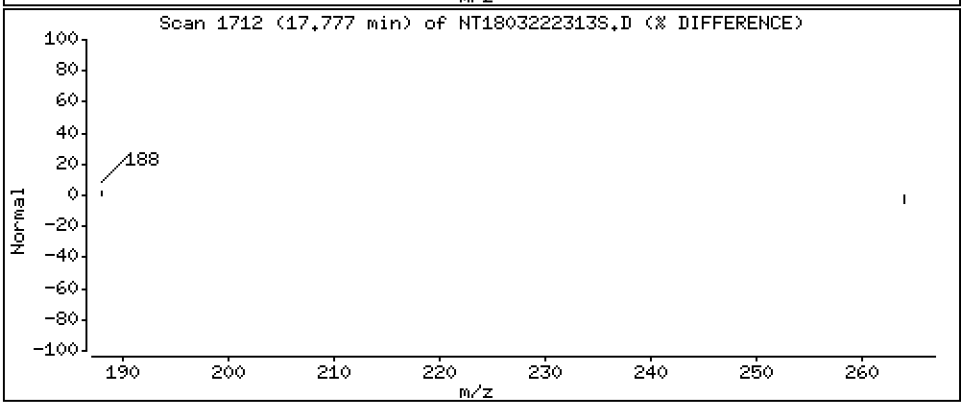












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222313S.D

Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

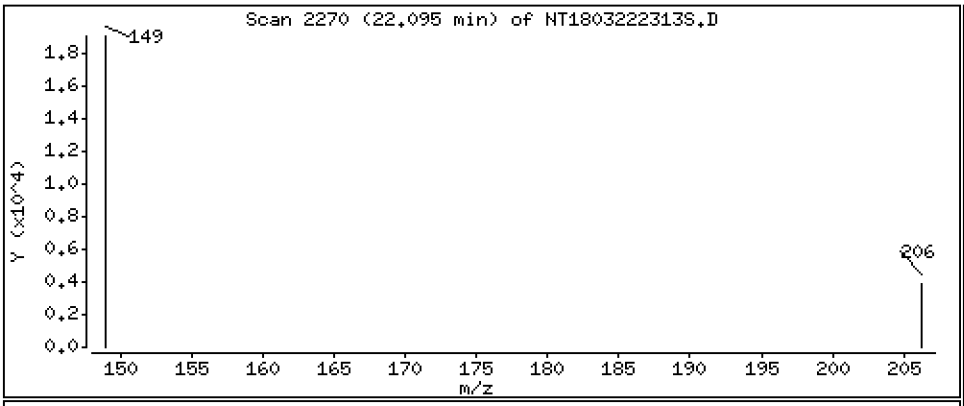
Operator: VTS

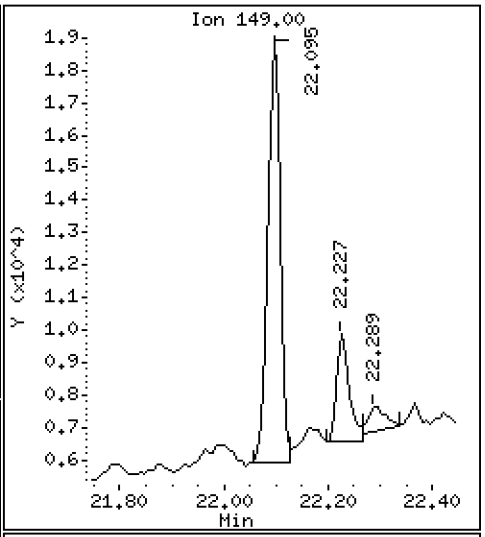
Column phase: ZB-5msi

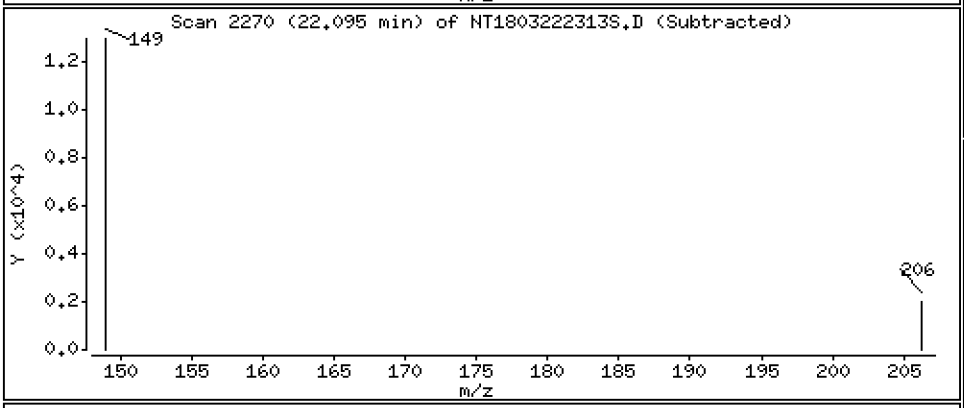
Column diameter: 0.25

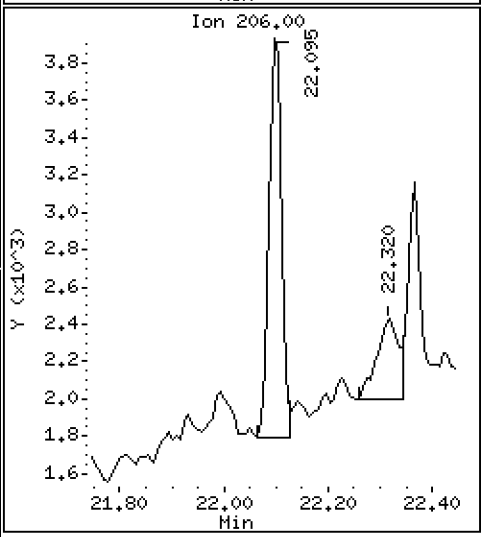
67 Butylbenzylphthalate

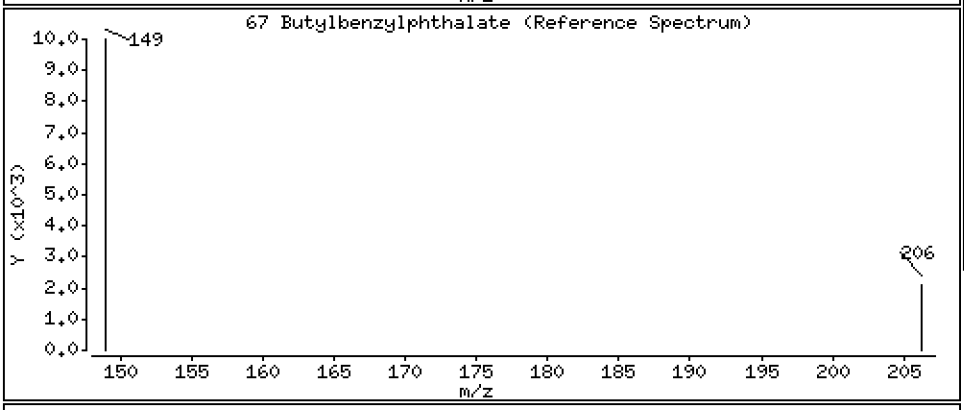
Concentration: 0.1161 ug/mL

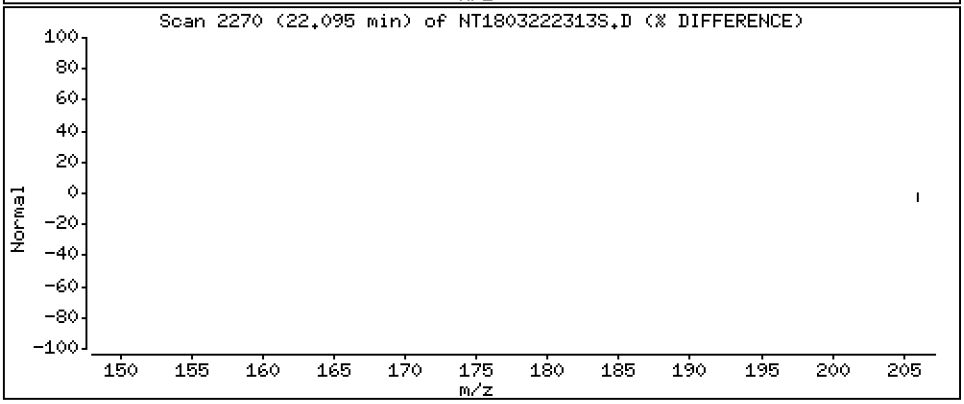












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222313S.D

Date : 23-MAR-2023 01:24

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-07

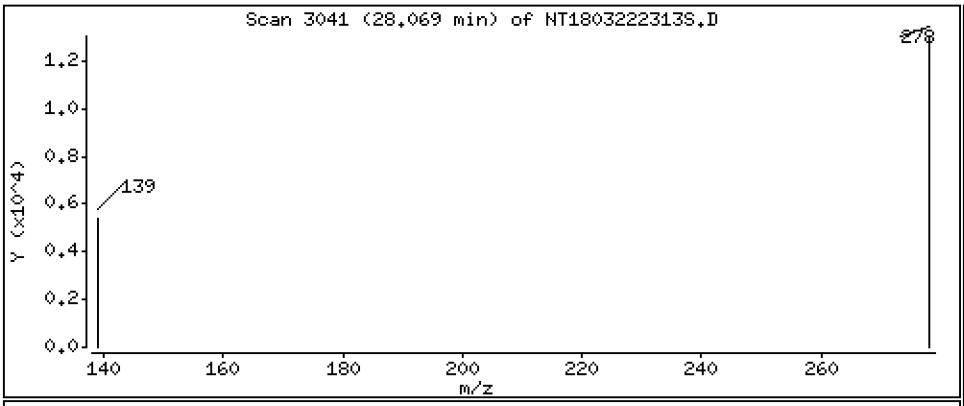
Operator: VTS

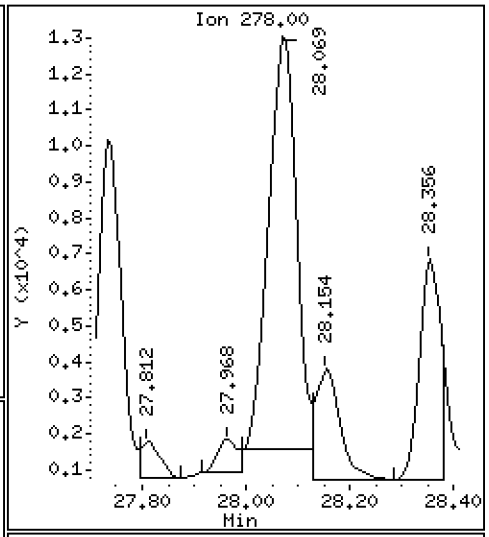
Column phase: ZB-5msi

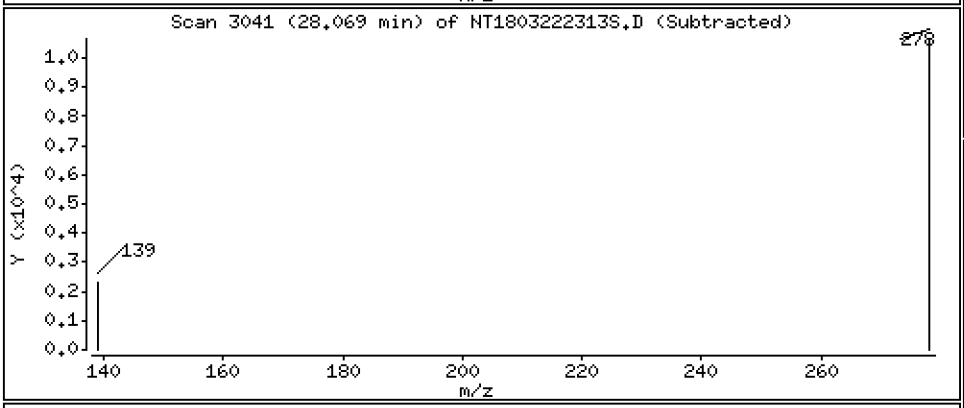
Column diameter: 0.25

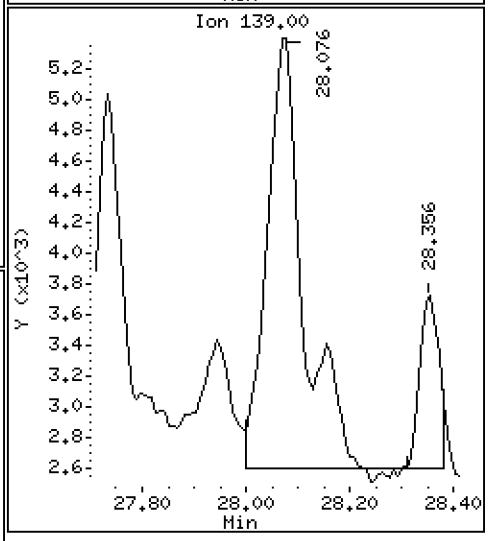
79 Dibenzo(a,h)anthracene

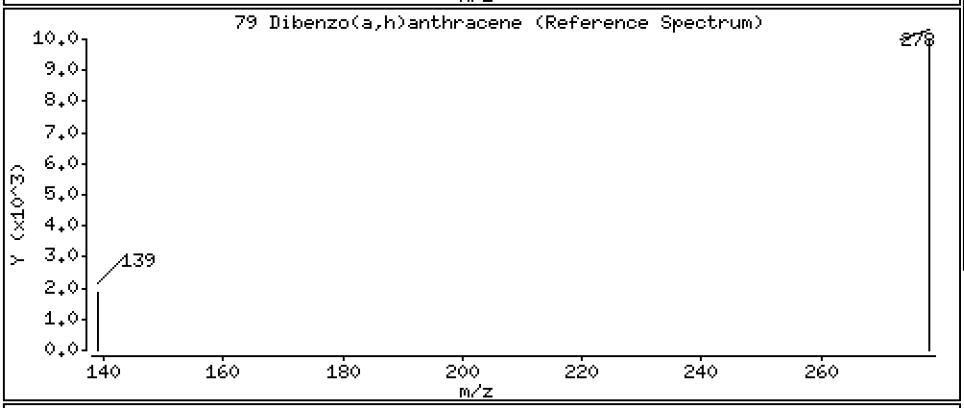
Concentration: 0.1083 ug/mL

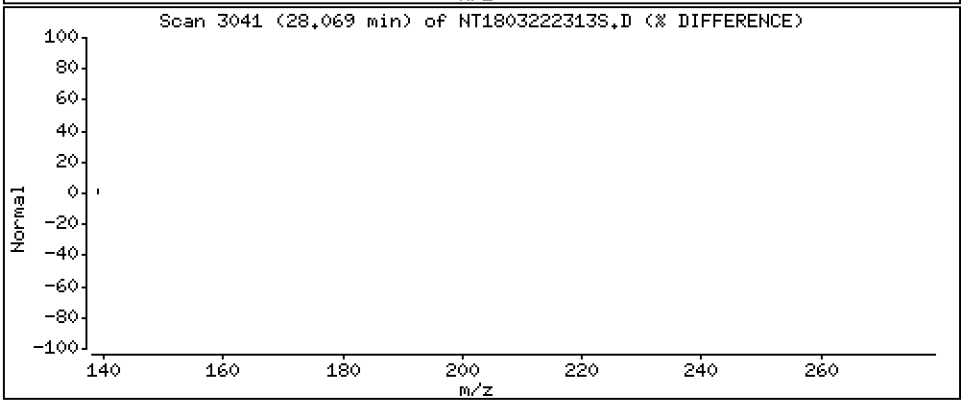












ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222313S.D
Lab Smp Id: 23C0108-07
Inj Date : 23-MAR-2023 01:24
Operator : VTS Inst ID: nt18.i
Smp Info : 23C0108-07
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230322.b\SIM.b\SIMABN2.m
Meth Date : 05-Apr-2023 10:09 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: DEENAY-201905

			QUANT SIG					CONCENTRATIONS ON-COLUMN	FINAL
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/mL)	(ug/mL)
$	1	2-Fluorophenol	112	6.801	6.778	(0.757)	636410	6.25240	6.252(R)
	3	Phenol	94	8.377	8.362	(0.933)	1984187	14.5579	14.56
	7	1,3-Dichlorobenzene	146	8.918	8.918	(0.993)	620	0.00470	0.004702
*	8	1,4-Dichlorobenzene-d4	152	8.980	8.980	(1.000)	349146	4.00000	
	9	1,4-Dichlorobenzene	146	9.011	9.011	(1.003)	1919	0.01435	0.01435
	11	Benzyl alcohol	79	9.244	9.244	(1.029)	23676	0.29049	0.2905
	12	1,2-Dichlorobenzene	146	Compound Not Detected.					
	13	2-Methylphenol	108	9.477	9.469	(1.055)	1750	0.01850	0.01850
	15	4-Methylphenol	108	9.741	9.733	(1.085)	9278	0.09427	0.09427
	16	N-Nitroso-di-n-propylamine	70	Compound Not Detected.					
	22	2,4-Dimethylphenol	107	10.783	10.775	(0.943)	922	0.01047	0.01047
	24	Benzoic acid	105	10.885	10.902	(0.952)	28436	0.47369	0.4737
	26	1,2,4-Trichlorobenzene	180	11.360	11.360	(0.993)	223	0.00222	0.002220
*	27	Naphthalene-d8	136	11.437	11.444	(1.000)	1261237	4.00000	
	30	Hexachlorobutadiene	225	11.846	11.846	(1.036)	126	0.00218	0.002179
	39	Dimethylphthalate	163	14.539	14.539	(0.968)	17665	0.09104	0.09104
*	42	Acenaphthene-d10	162	15.027	15.027	(1.000)	607455	4.00000	
	50	Diethylphthalate	149	15.986	15.985	(1.064)	63785	0.36204	0.3620
	54	N-Nitrosodiphenylamine	169	Compound Not Detected.					
	57	Hexachlorobenzene	284	Compound Not Detected.					
	58	Pentachlorophenol	266	17.777	17.769	(0.986)	1046	0.03158	0.03158
*	59	Phenanthrene-d10	188	18.032	18.032	(1.000)	1088307	4.00000	
$	66	Terphenyl-d14	244	21.173	21.165	(0.918)	744809	4.24029	4.240(R)
	67	Butylbenzylphthalate	149	22.095	22.095	(0.958)	20426	0.11614	0.1161
*	69	Chrysene-d12	240	23.055	23.055	(1.000)	1246177	4.00000	
*	77	Perylene-d12	264	25.579	25.563	(1.000)	1338120	4.00000	
	79	Dibenzo(a,h)anthracene	278	28.068	28.060	(1.097)	42895	0.10834	0.1083
	90	N-Nitrosodimethylamine	74	Compound Not Detected.					

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222313S.D
Lab Smp Id: 23C0108-07
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 22-MAR-2023
Calibration Time: 18:36
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	283947	141974	567894	349146	22.96
27 Naphthalene-d8	1057483	528742	2114966	1261237	19.27
42 Acenaphthene-d10	520336	260168	1040672	607455	16.74
59 Phenanthrene-d10	933537	466769	1867074	1088307	16.58
69 Chrysene-d12	863272	431636	1726544	1246177	44.36
77 Perylene-d12	996915	498458	1993830	1338120	34.23

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	-0.07
42 Acenaphthene-d10	15.03	14.53	15.53	15.03	0.00
59 Phenanthrene-d10	18.03	17.53	18.53	18.03	0.00
69 Chrysene-d12	23.06	22.56	23.56	23.06	0.00
77 Perylene-d12	25.56	25.06	26.06	25.58	0.06

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222313S.D

Lab ID: 23C0108-07
nt18.i, 20230322.b\SIM.b\SIMABN2.m,   23-MAR-2023 01:24

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

RRT check based on Ccal File: SIM.b/NT1803222303S.D

On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

Analytical Resources, LLC
Analytical Chemists and Consultants

LDW23-SS1111

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270E-SIM

SIM SVOC Organics (Dual scan list)

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-08 A	SDG:	23C0108
Sampled:	03/03/23 10:36	Prepared:	03/09/23 13:26	File ID:	NT1803222314S.D
% Solids:	46.38	Preparation:	EPA 3546 (Microwave)	Analyzed:	03/23/23 02:04
Batch:	BLC0185	Sequence:	SLD0061	Initial/Final:	21.59 g Wet / 1 mL
Instrument:	NT18	Column:	ZB-5MS	Calibration:	GD00001
Cleanups:	GPC				

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg dry)	Q	DL	RL
106-46-7	1,4-Dichlorobenzene	1	1.5	J	0.6	5.0
95-50-1	1,2-Dichlorobenzene	1	0.8	J	0.7	5.0
100-51-6	Benzyl Alcohol	1	27.2		2.5	20.0
65-85-0	Benzoic acid	1	84.1	J	13.4	99.9
105-67-9	2,4-Dimethylphenol	1	20.0	U	2.2	20.0
120-82-1	1,2,4-Trichlorobenzene	1	5.0	U	2.7	5.0
86-30-6	N-Nitrosodiphenylamine	1	5.0	U	1.3	5.0
87-86-5	Pentachlorophenol	1	5.5	J	2.1	20.0

SURROGATES	ADDED: (ug/kg dry)	FOUND: (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorophenol	748.99	610	81.4	27 - 120	
p-Terphenyl-d14	499.33	399	80.0	37 - 120	

Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223314S.D

Date : 23-MAR-2023 02:04

Client ID:

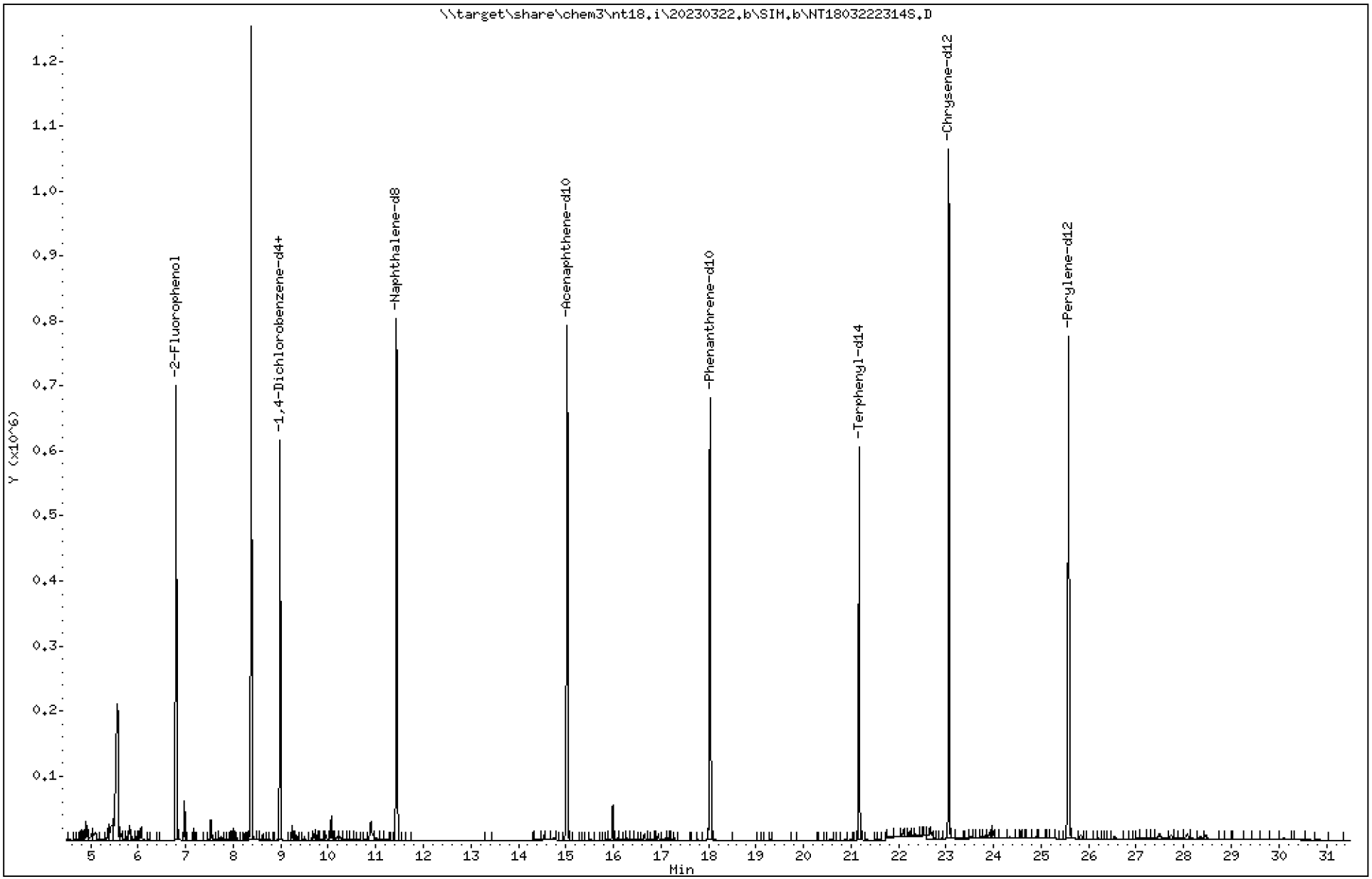
Sample Info: 23C0108-08

Column phase: ZB-5msi

Instrument: nt18.i

Operator: VTS

Column diameter: 0.25



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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

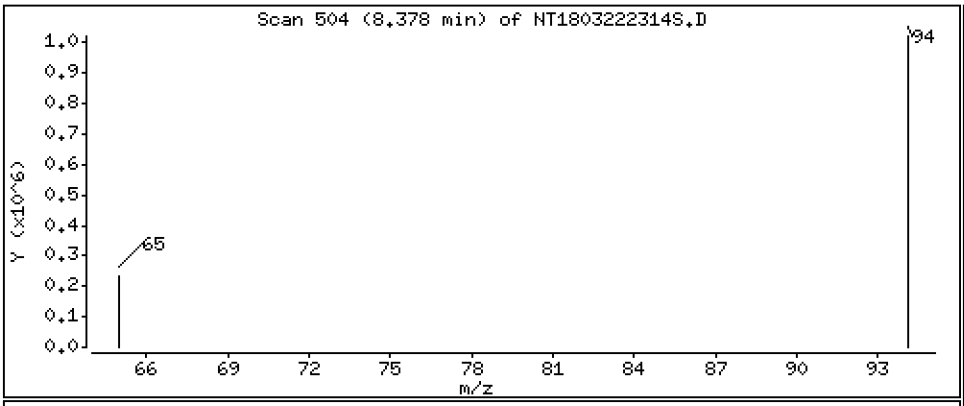
Operator: VTS

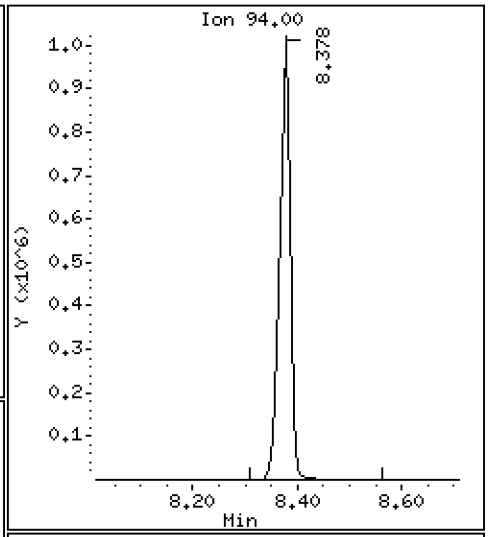
Column phase: ZB-5msi

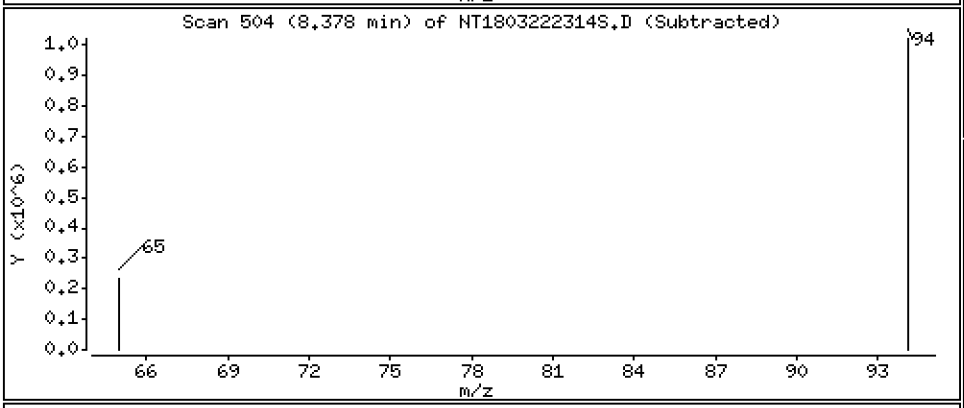
Column diameter: 0.25

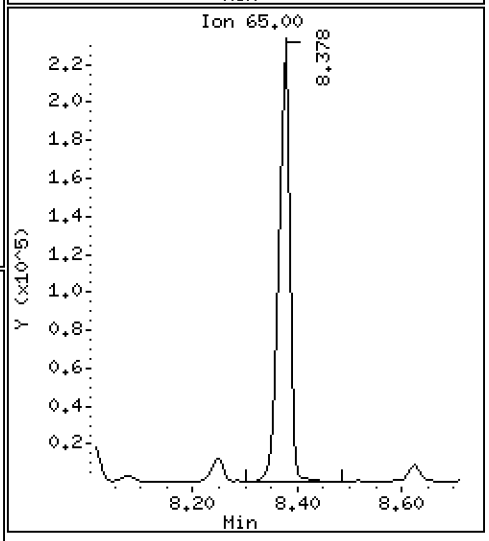
3 Phenol

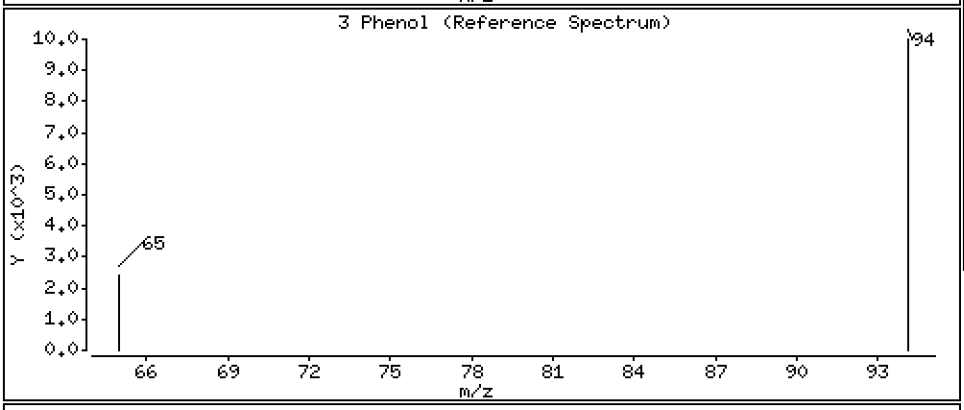
Concentration: 10.02 ug/mL

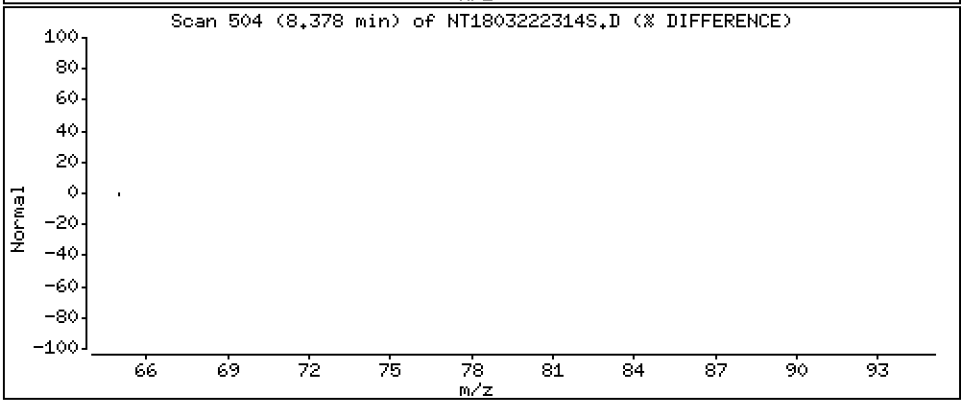












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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

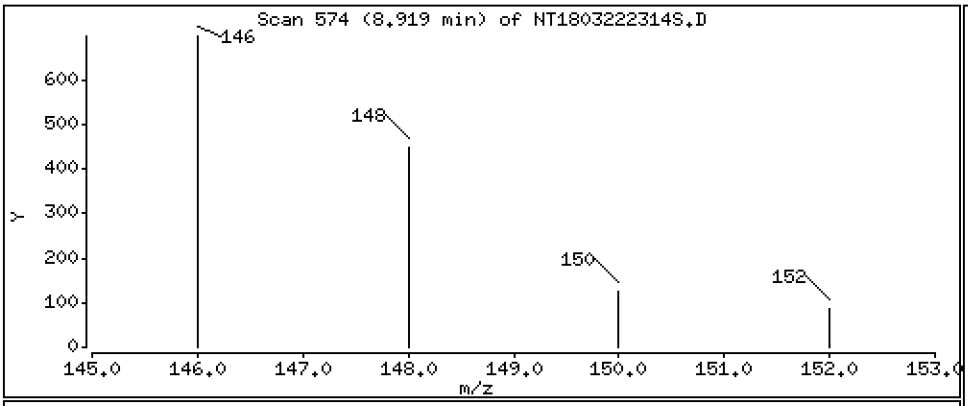
Operator: VTS

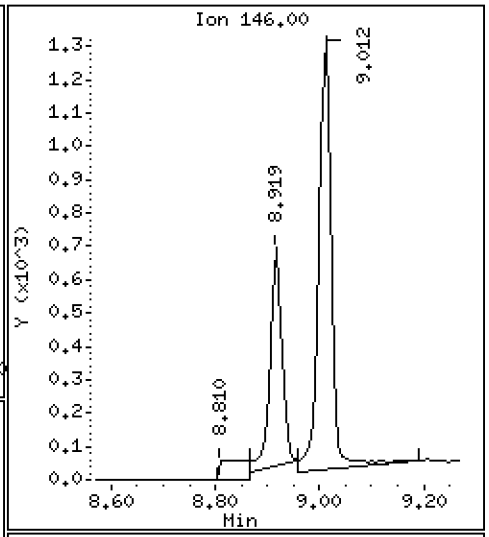
Column phase: ZB-5msi

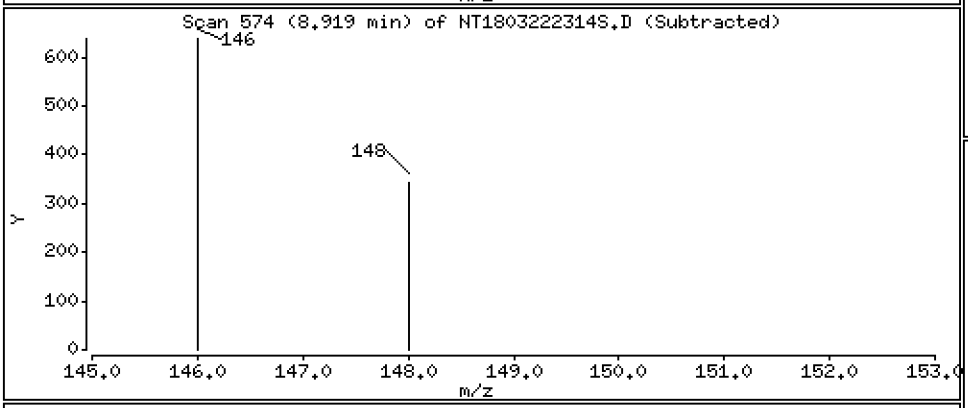
Column diameter: 0.25

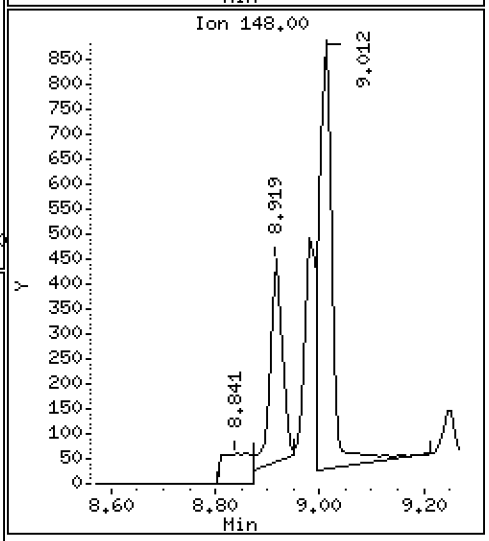
7 1,3-Dichlorobenzene

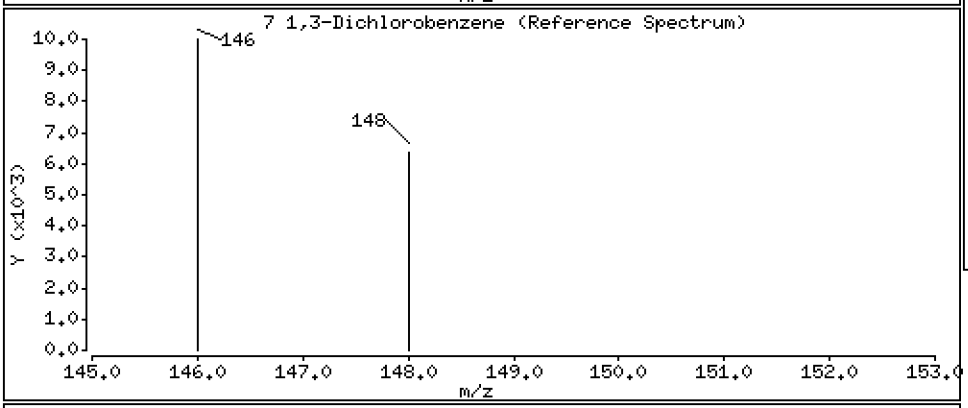
Concentration: 0.007769 ug/mL

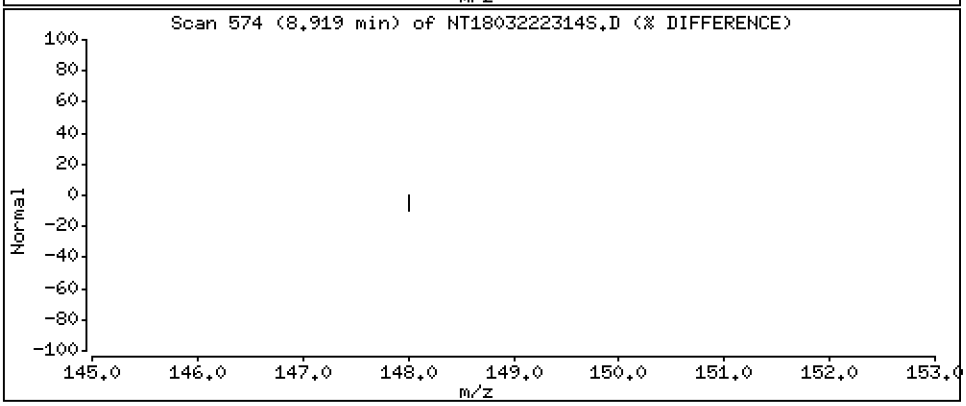












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222314S.D

Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

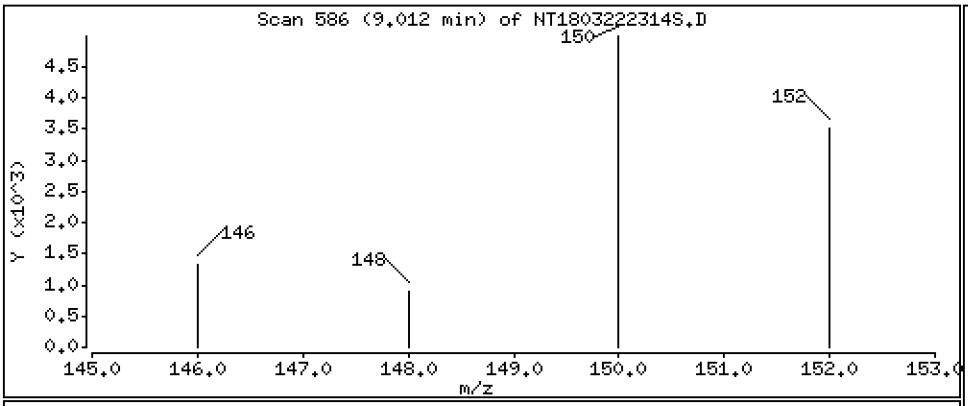
Operator: VTS

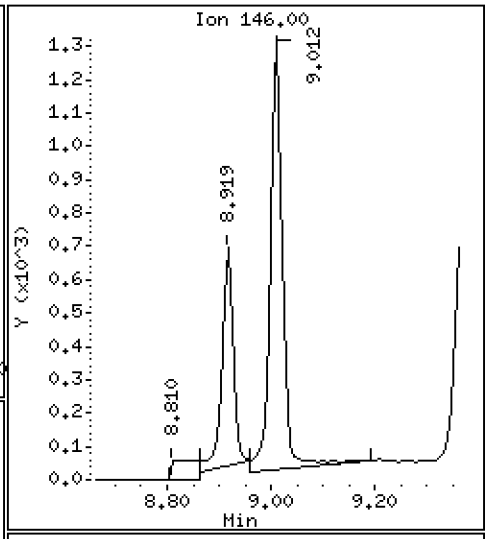
Column phase: ZB-5msi

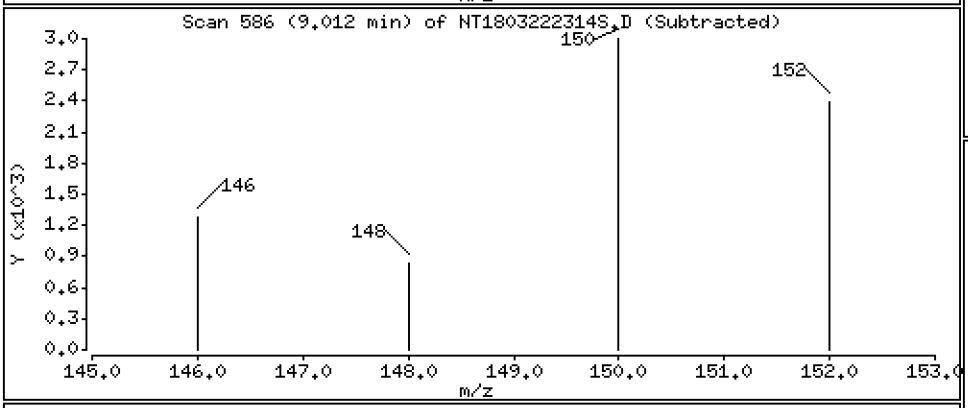
Column diameter: 0.25

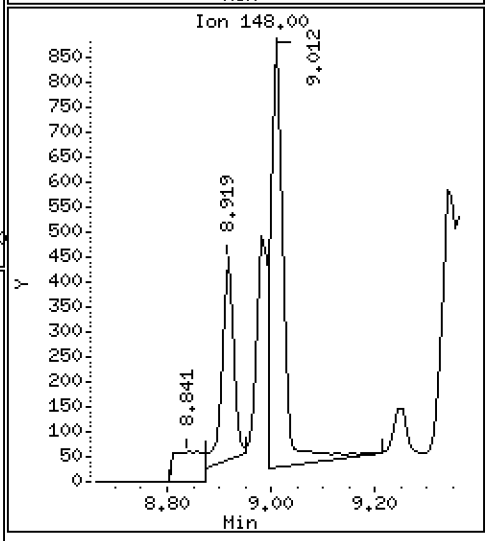
9 1,4-Dichlorobenzene

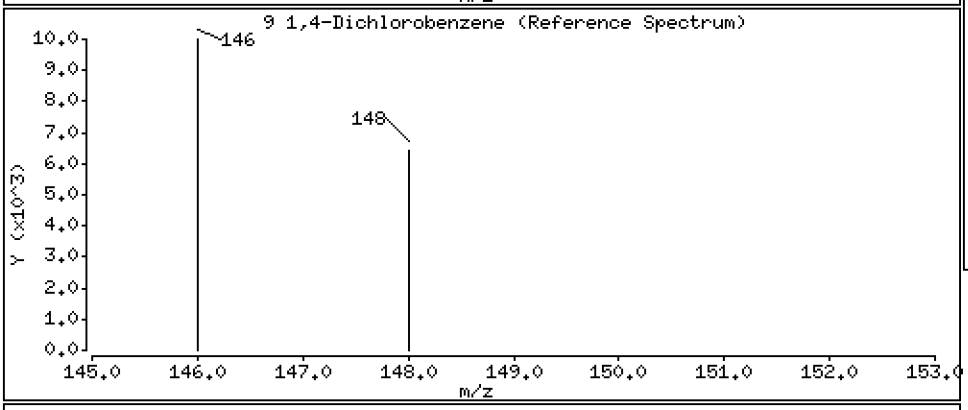
Concentration: 0.01530 ug/mL

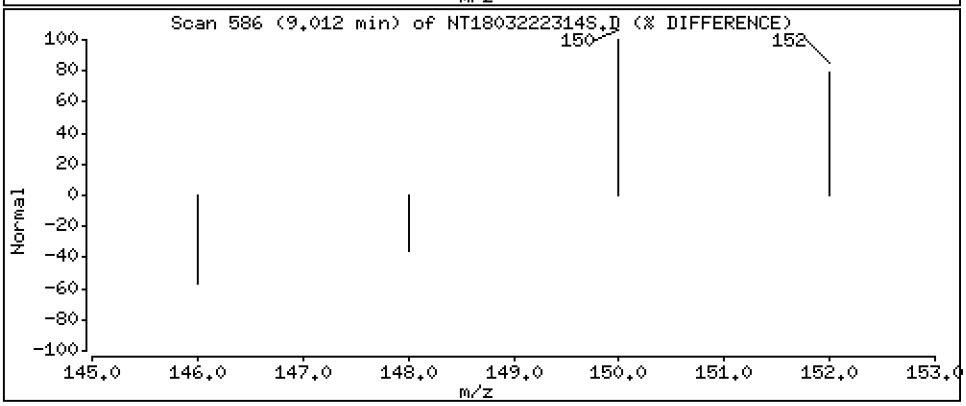












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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

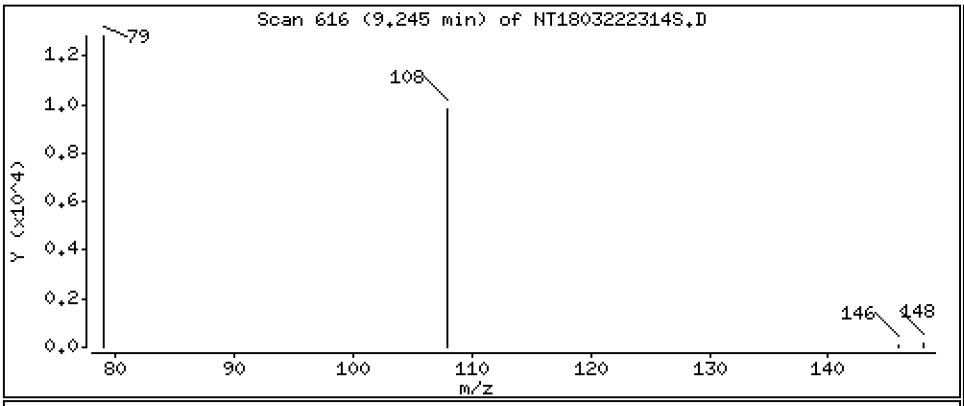
Operator: VTS

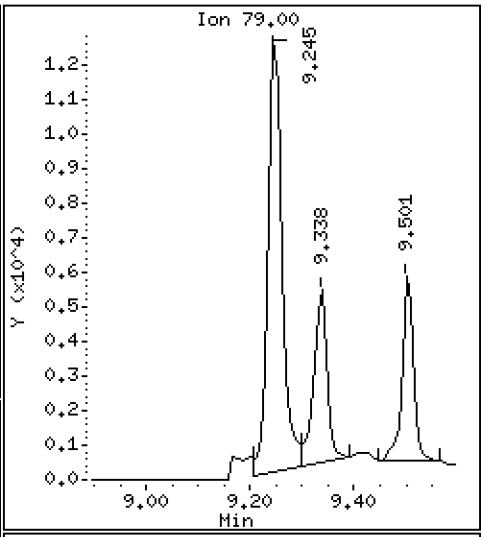
Column phase: ZB-5msi

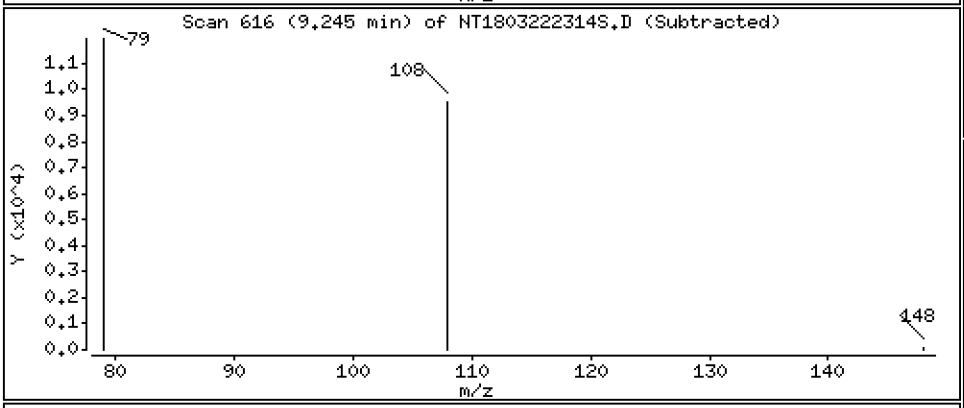
Column diameter: 0.25

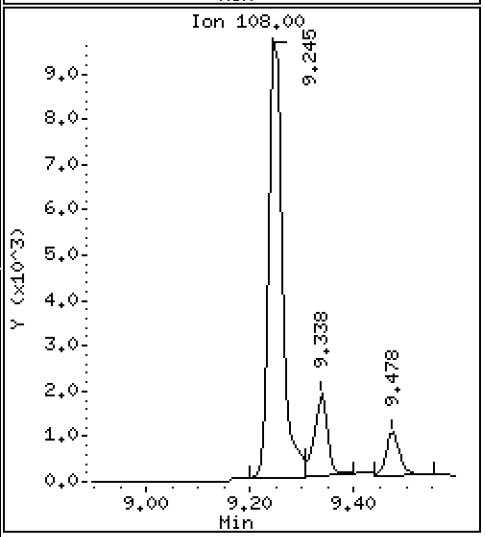
11 Benzyl alcohol

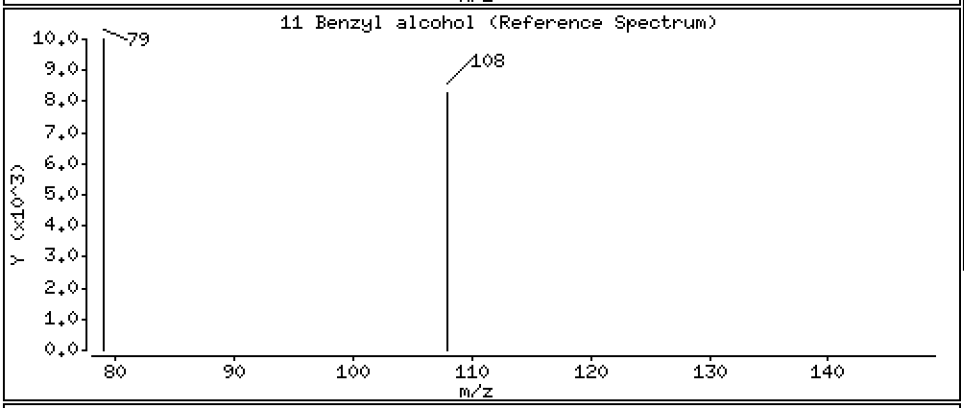
Concentration: 0.2728 ug/mL

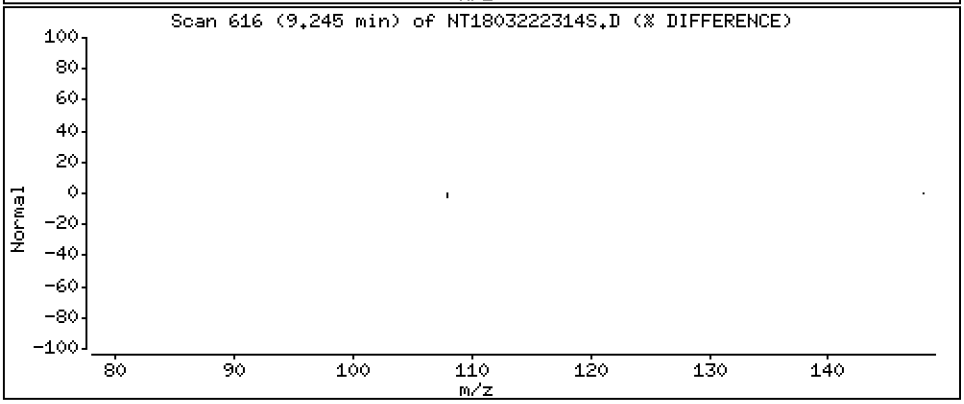












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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

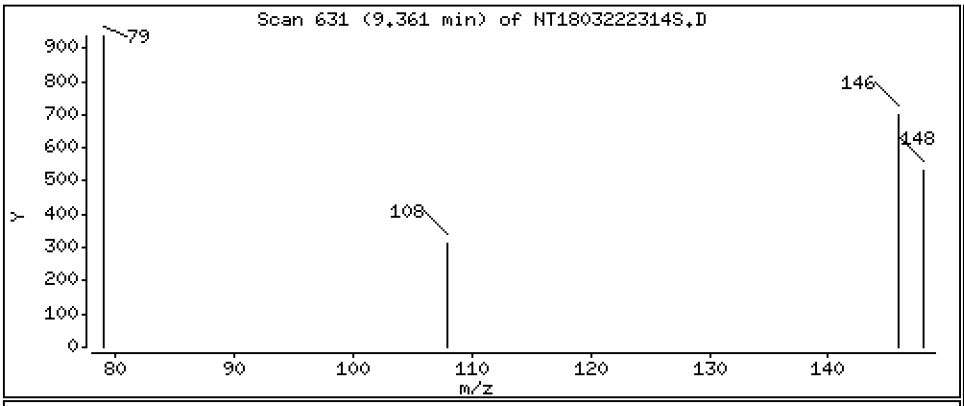
Operator: VTS

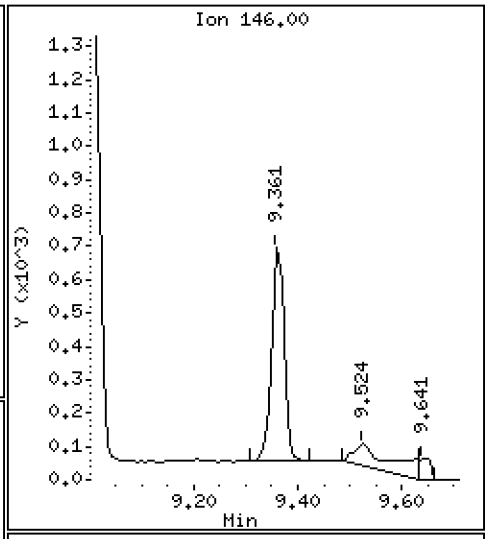
Column phase: ZB-5msi

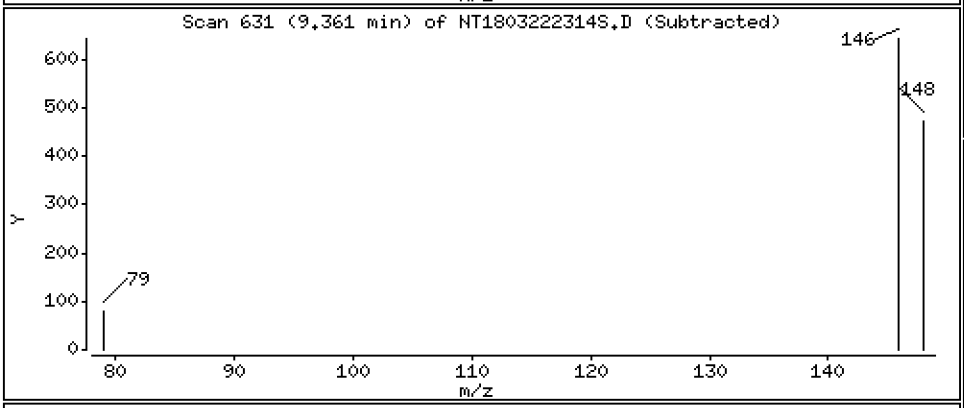
Column diameter: 0.25

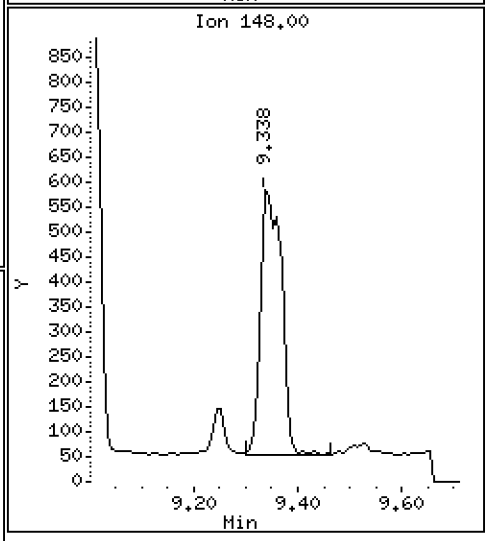
12 1,2-Dichlorobenzene

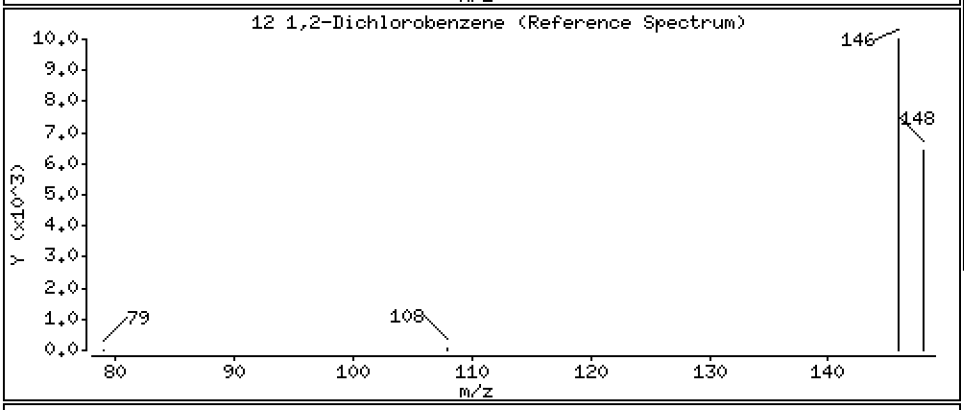
Concentration: 0.007614 ug/mL

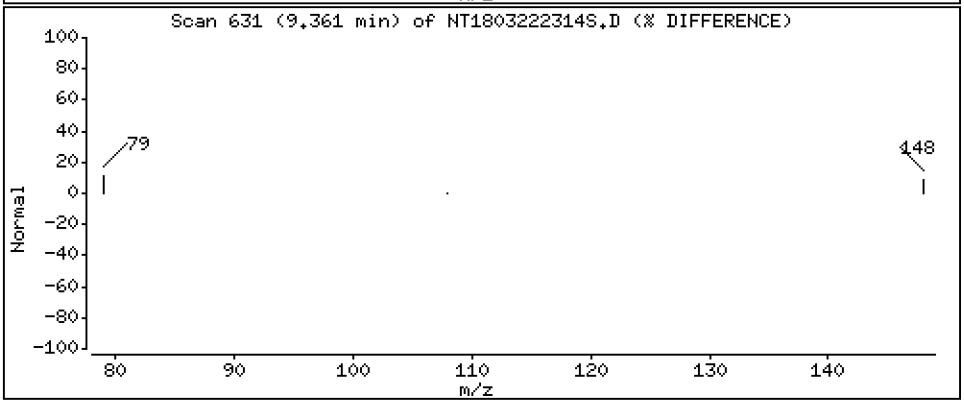












Date : 23-MAR-2023 02:04

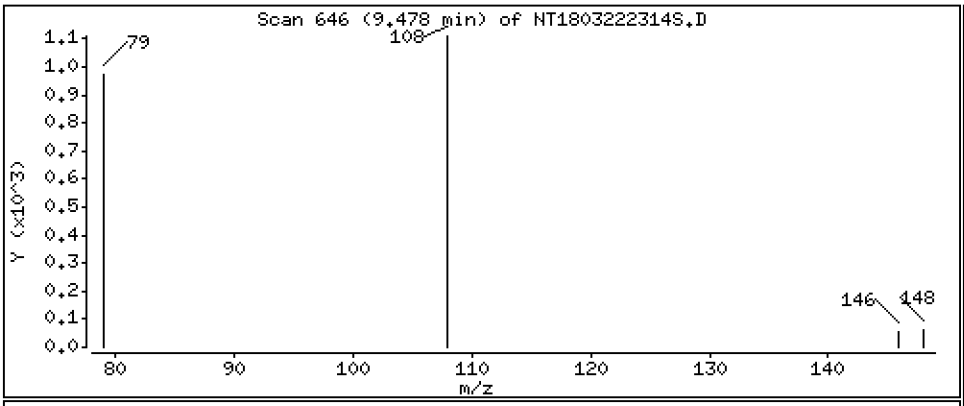
Client ID: Instrument: nt18.i

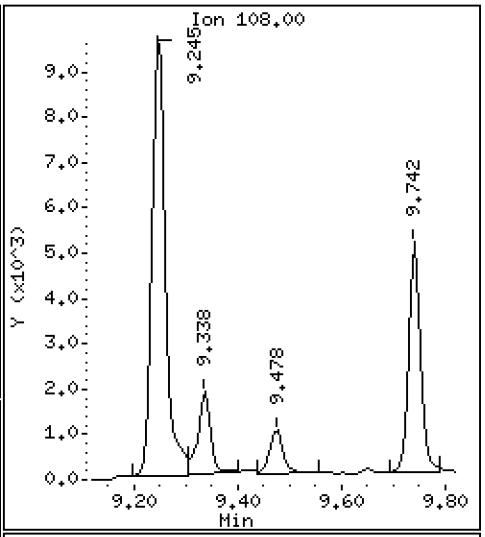
Sample Info: 23C0108-08

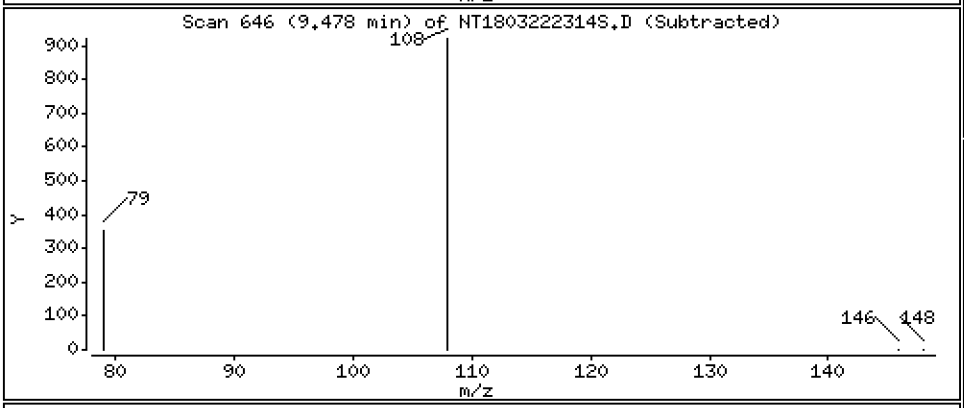
Operator: VTS

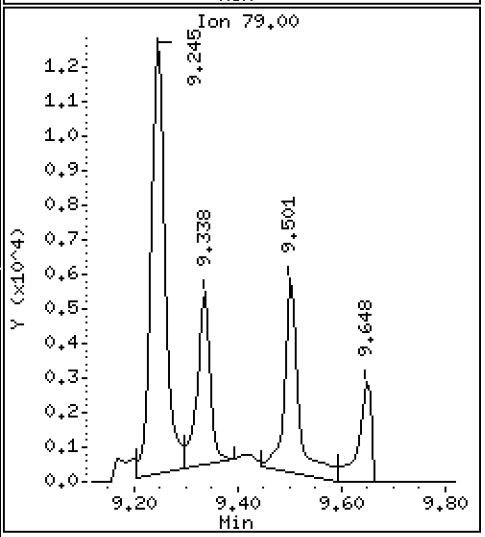
Column phase: ZB-5msi Column diameter: 0.25

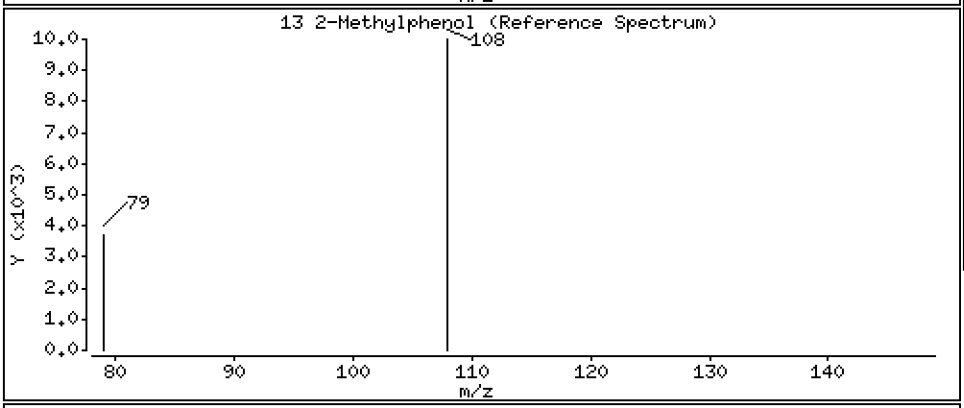
13 2-Methylphenol Concentration: 0.01710 ug/mL

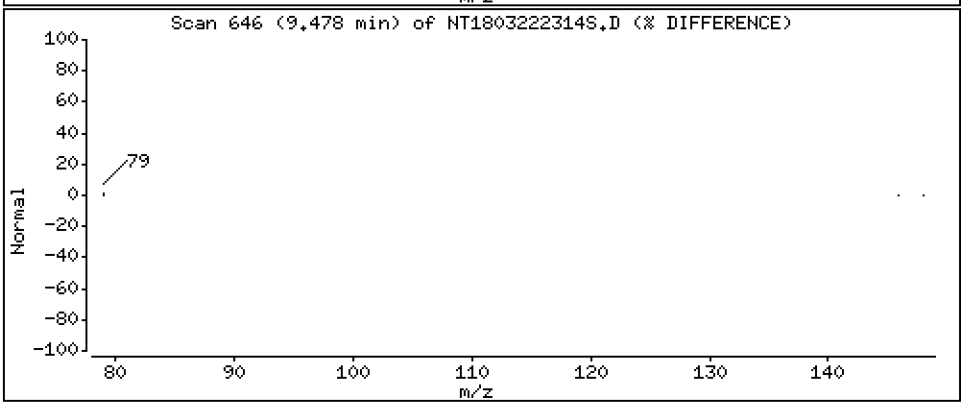












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222314S.D

Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

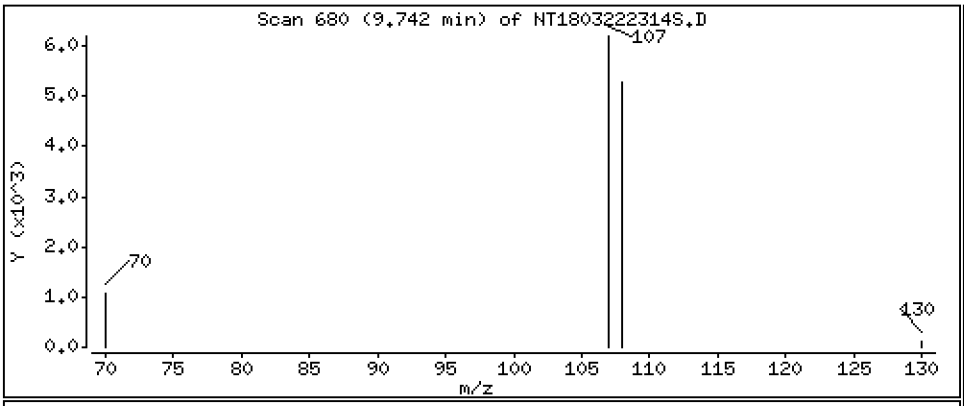
Operator: VTS

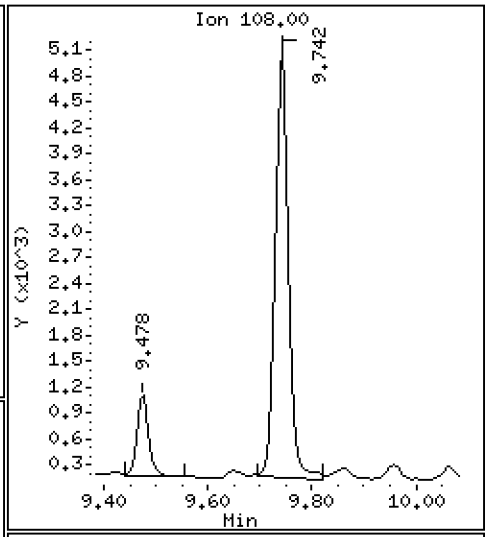
Column phase: ZB-5msi

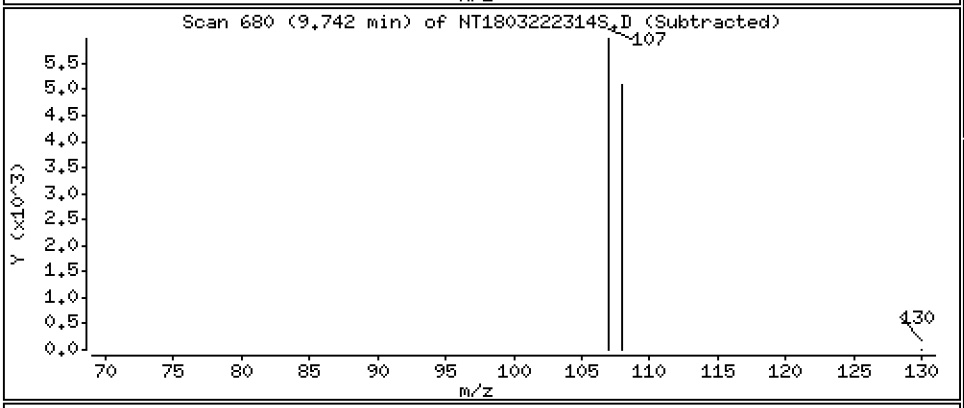
Column diameter: 0.25

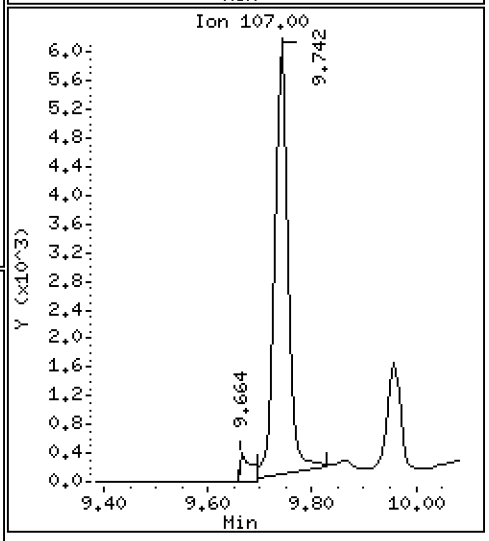
15 4-Methylphenol

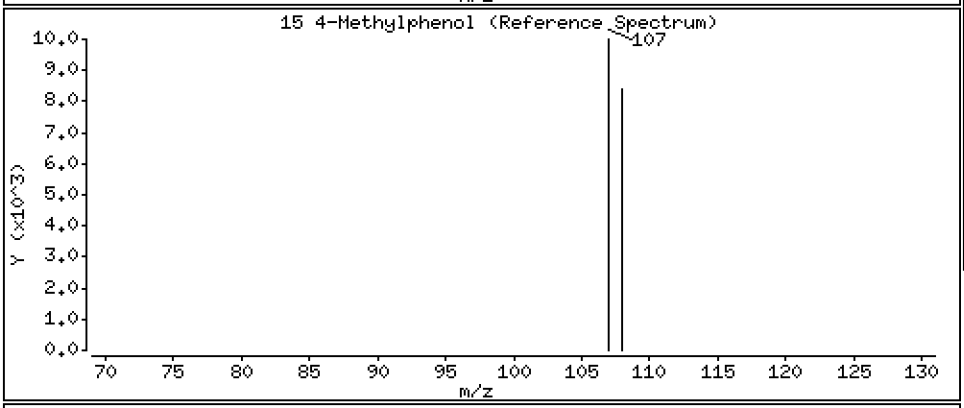
Concentration: 0.08453 ug/mL

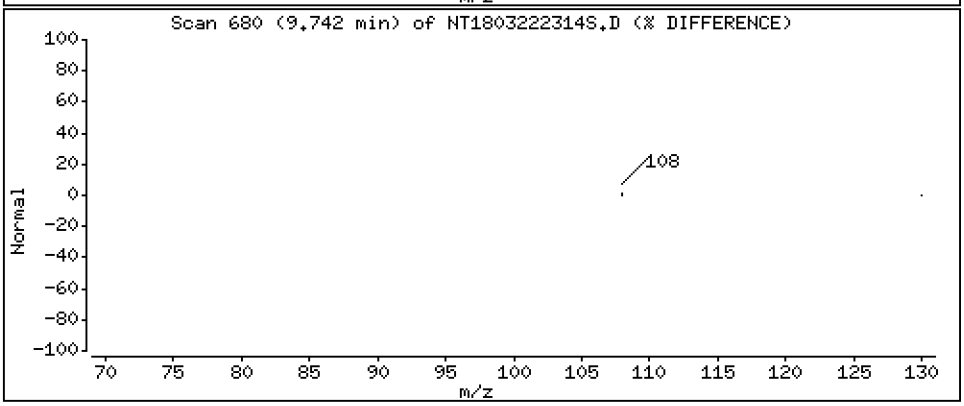












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Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

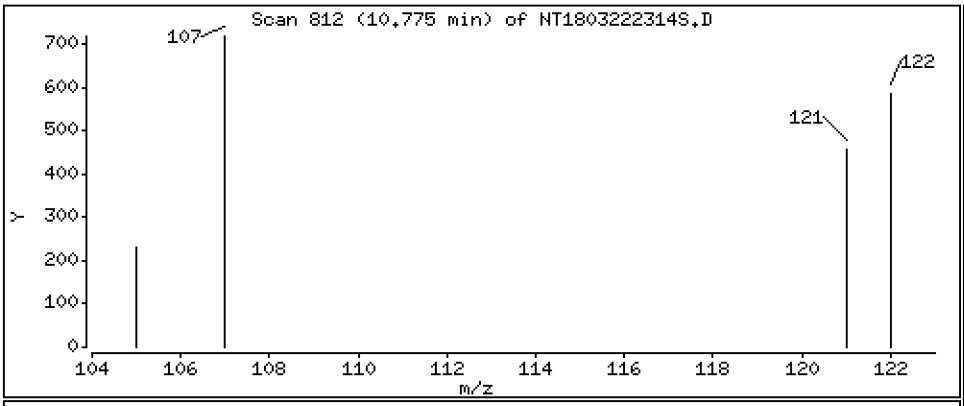
Operator: VTS

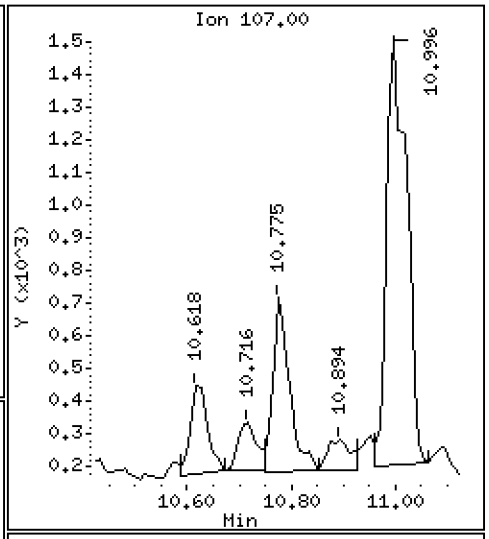
Column phase: ZB-5msi

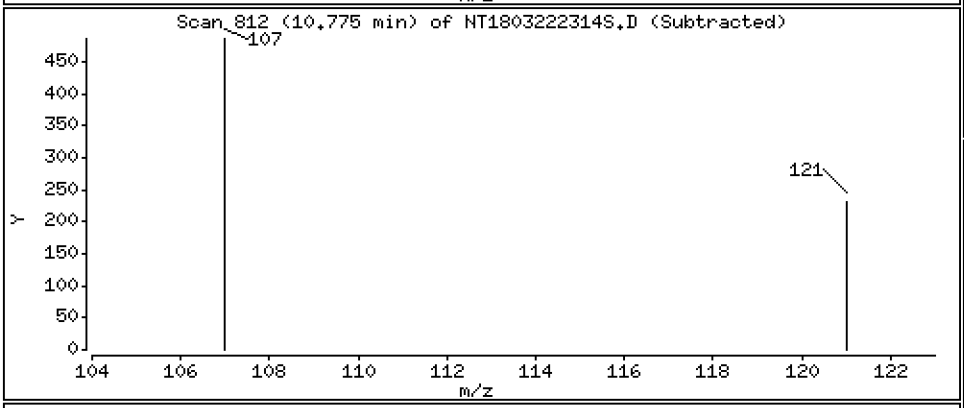
Column diameter: 0.25

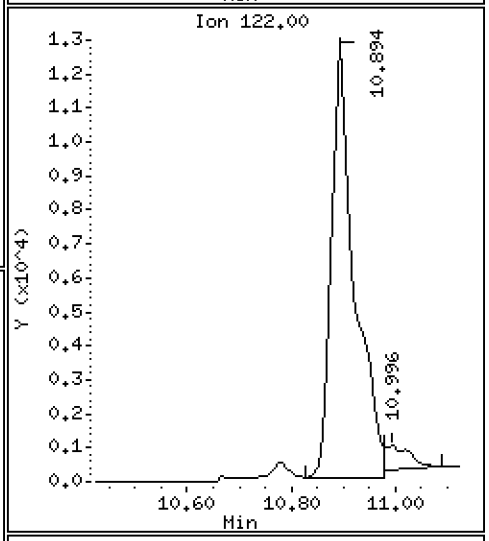
22 2,4-Dimethylphenol

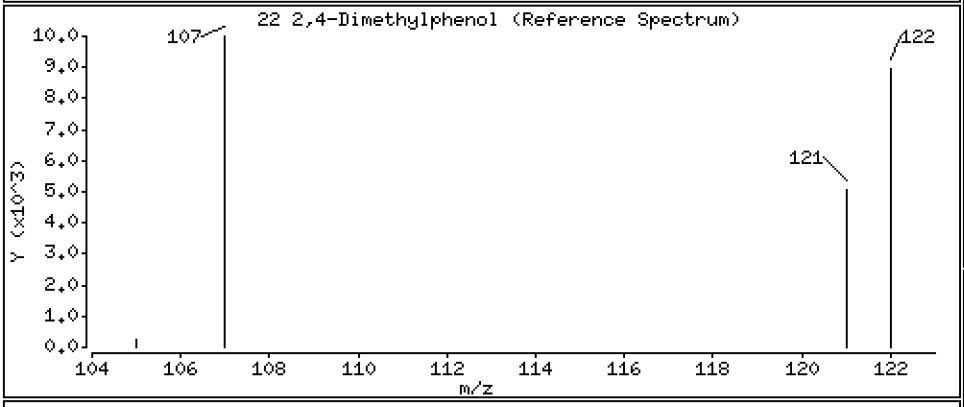
Concentration: 0.01358 ug/mL

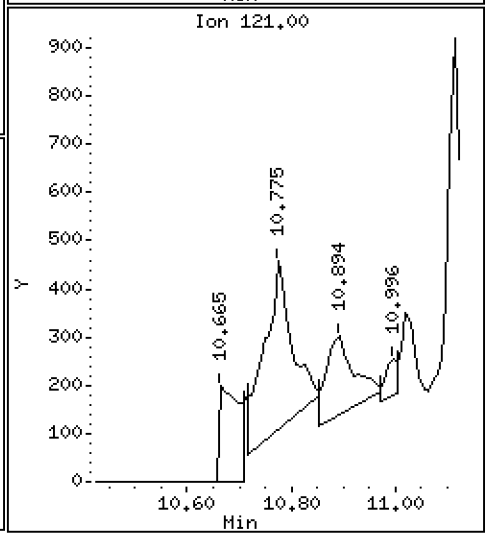


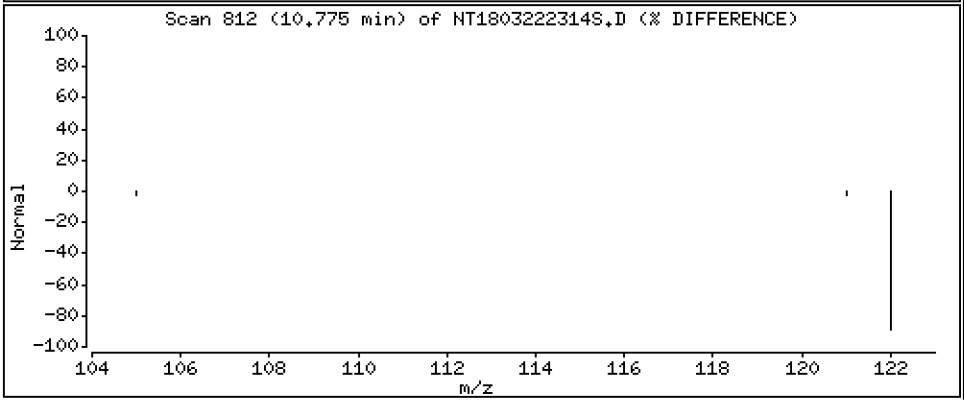












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223145.D

Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

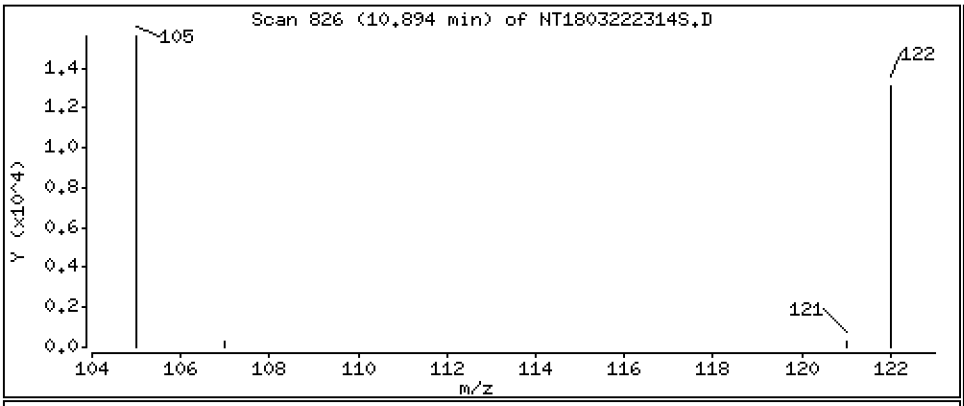
Operator: VTS

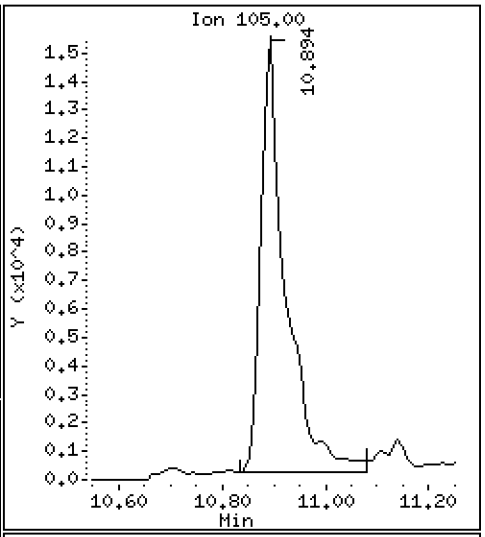
Column phase: ZB-5msi

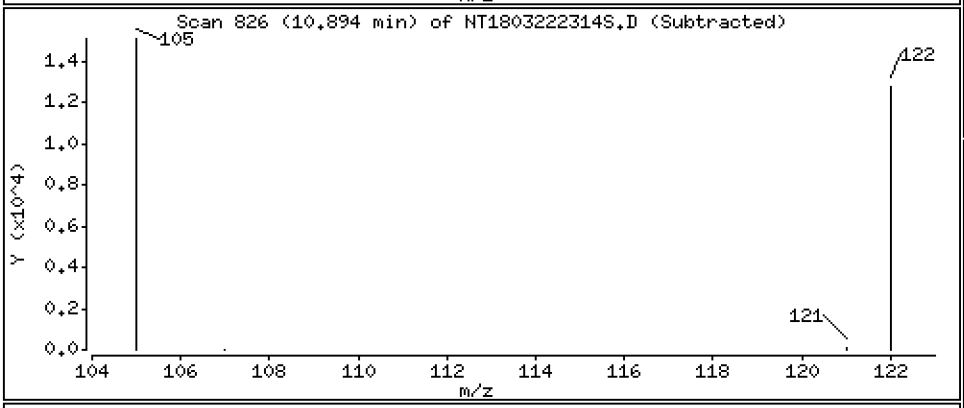
Column diameter: 0.25

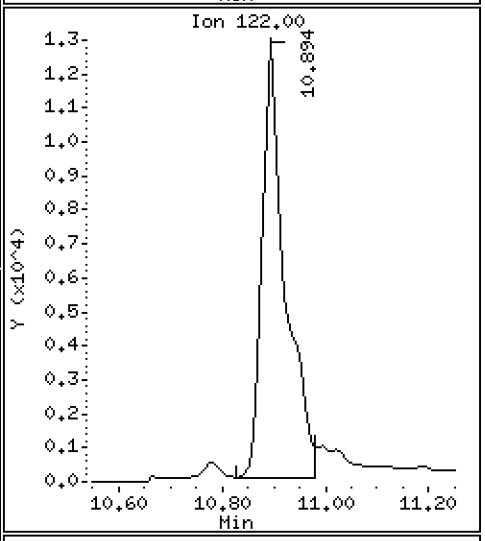
24 Benzoic acid

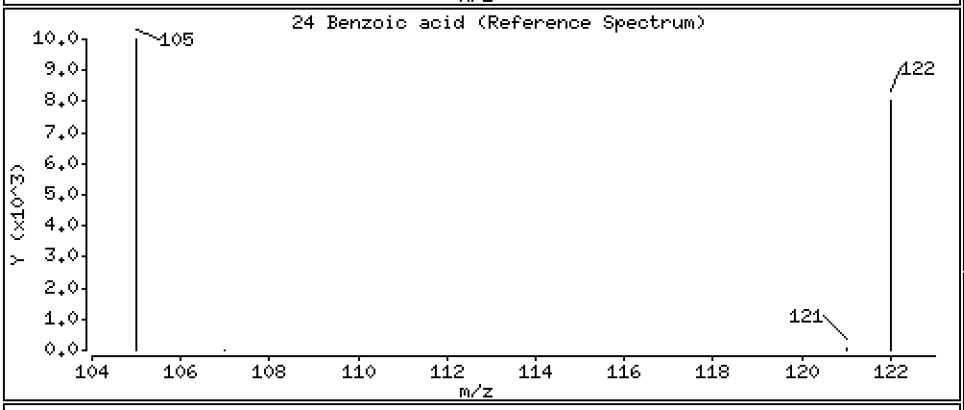
Concentration: 0.8424 ug/mL

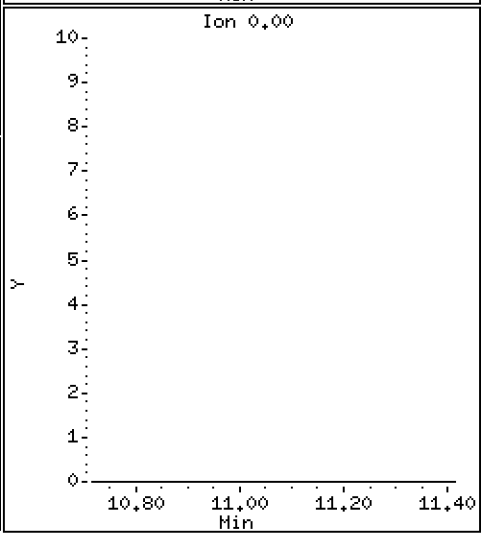


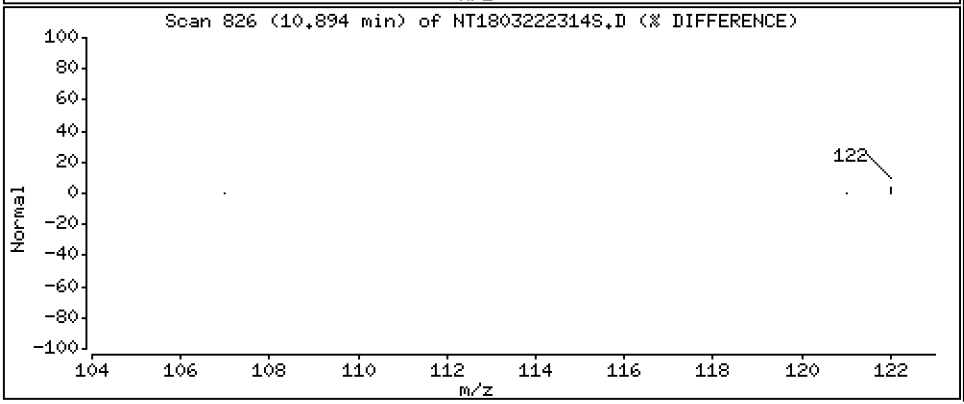












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222314S.D

Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

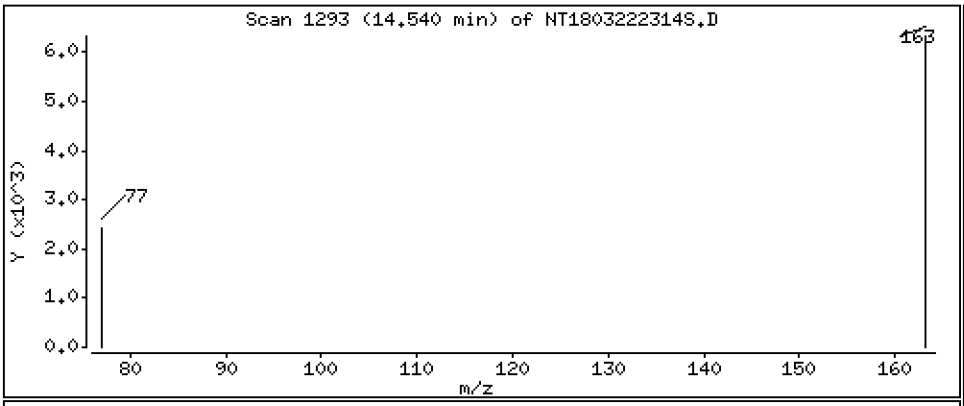
Operator: VTS

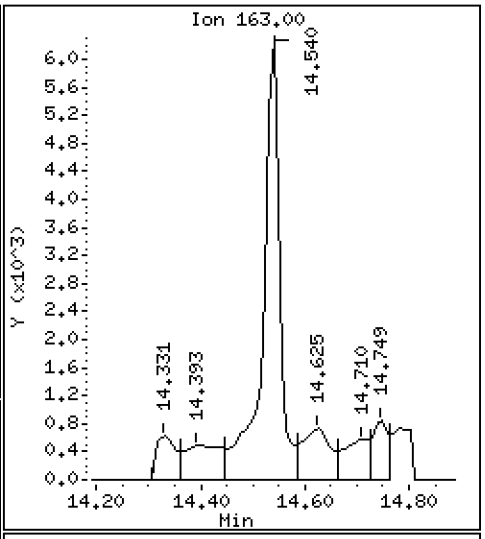
Column phase: ZB-5msi

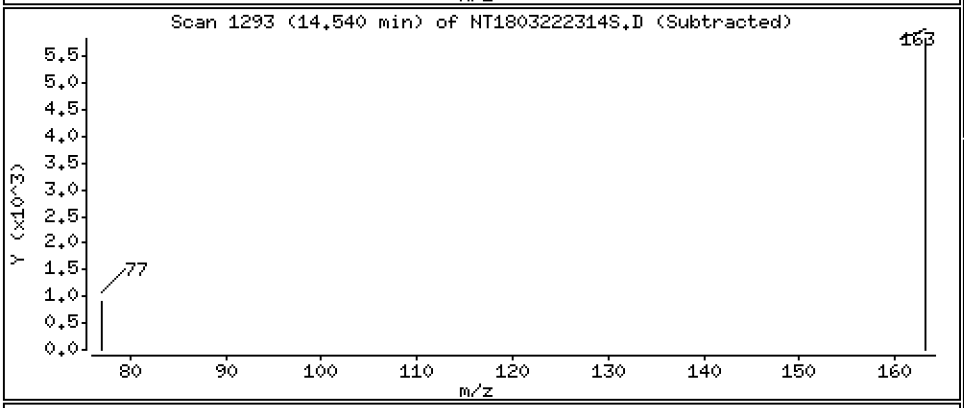
Column diameter: 0.25

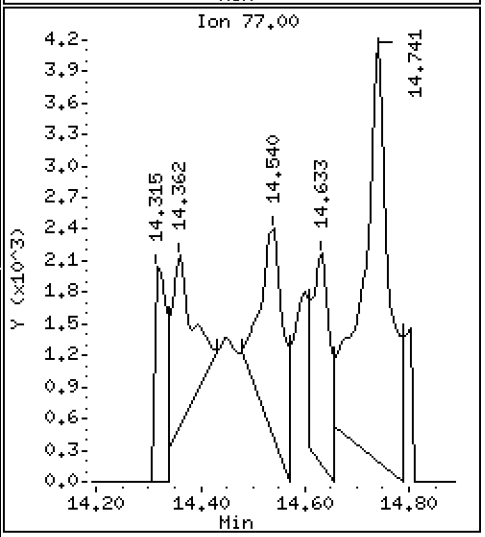
39 Dimethylphthalate

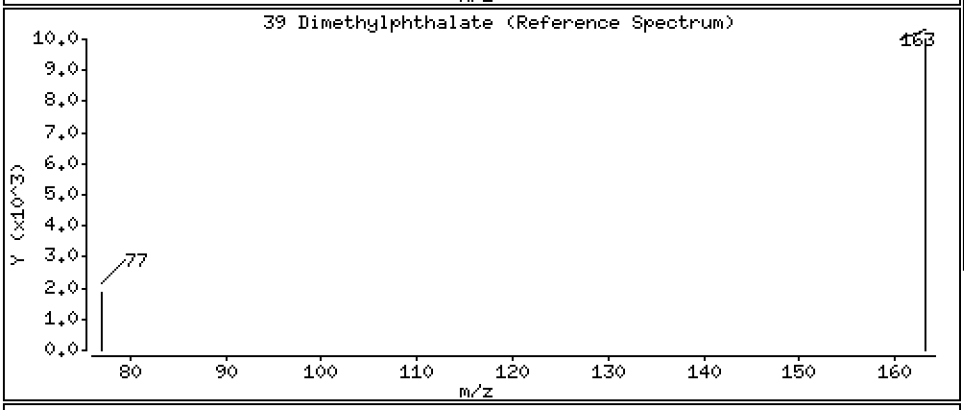
Concentration: 0.06946 ug/mL

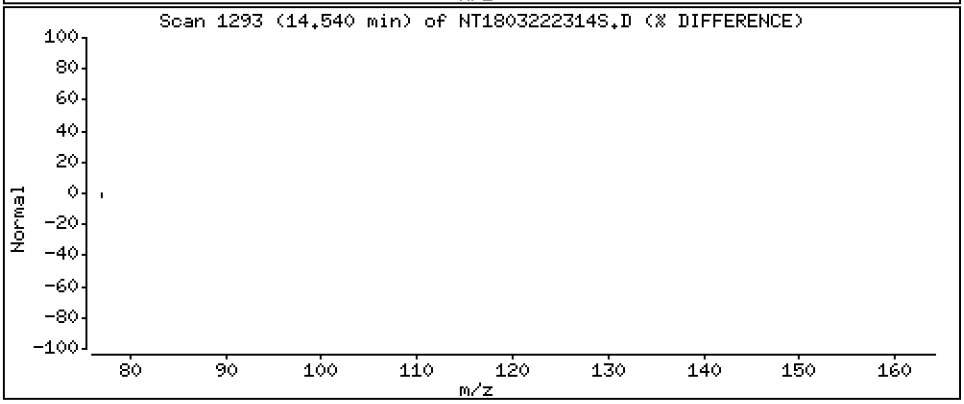












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222314S.D

Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

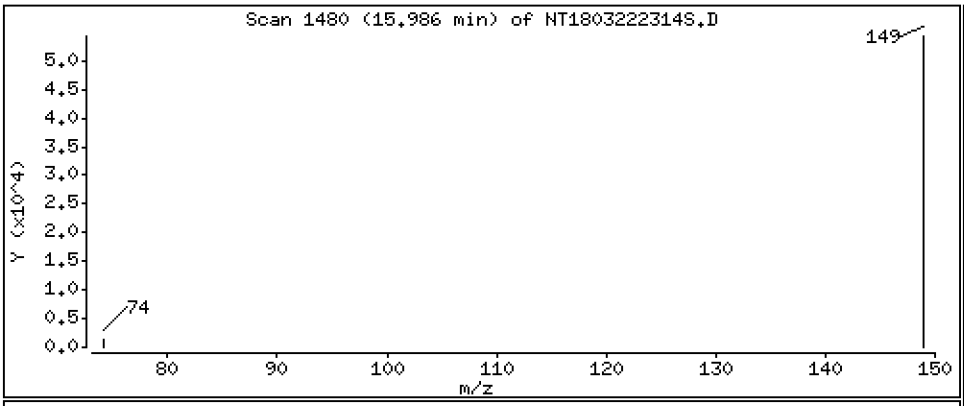
Operator: VTS

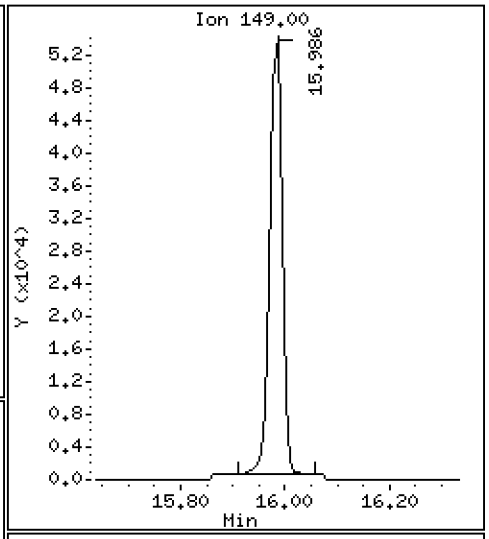
Column phase: ZB-5msi

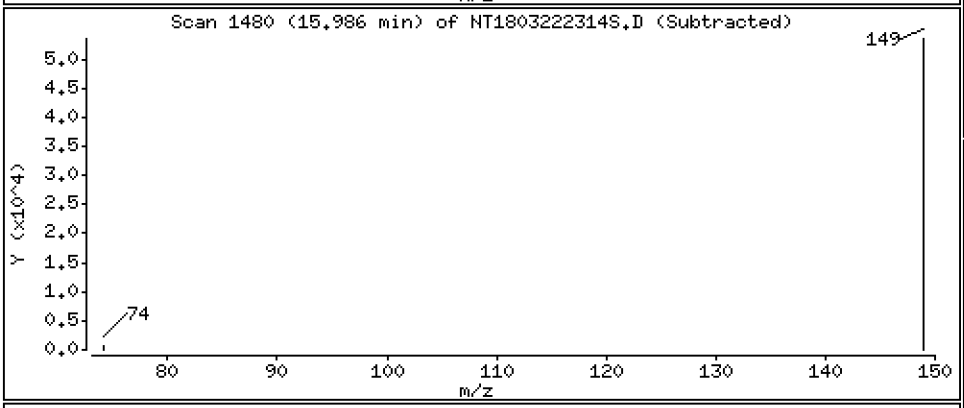
Column diameter: 0.25

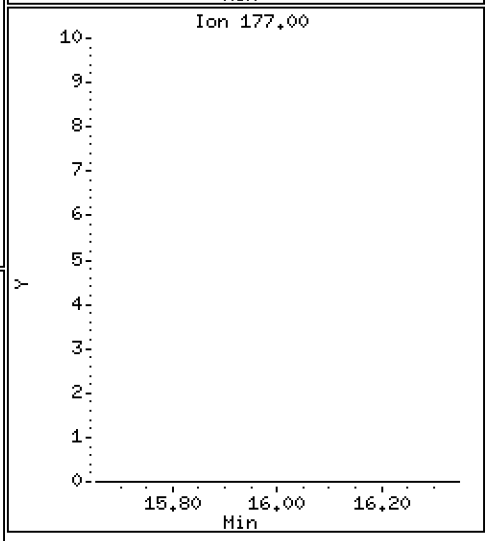
50 Diethylphthalate

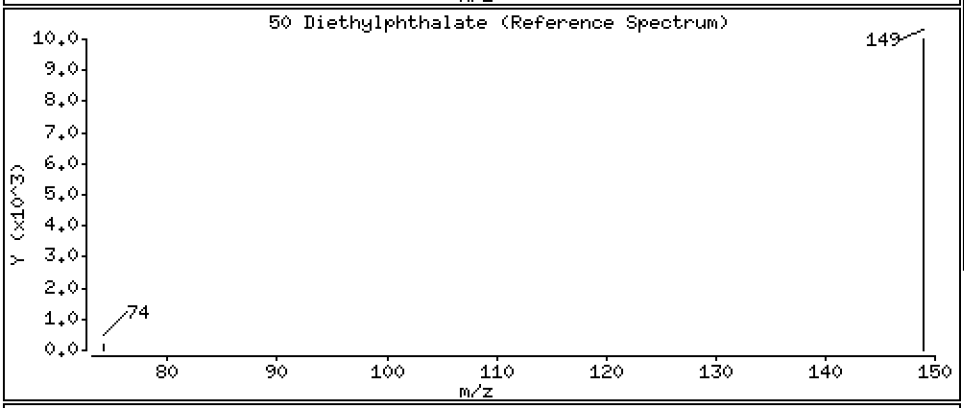
Concentration: 0.4637 ug/mL

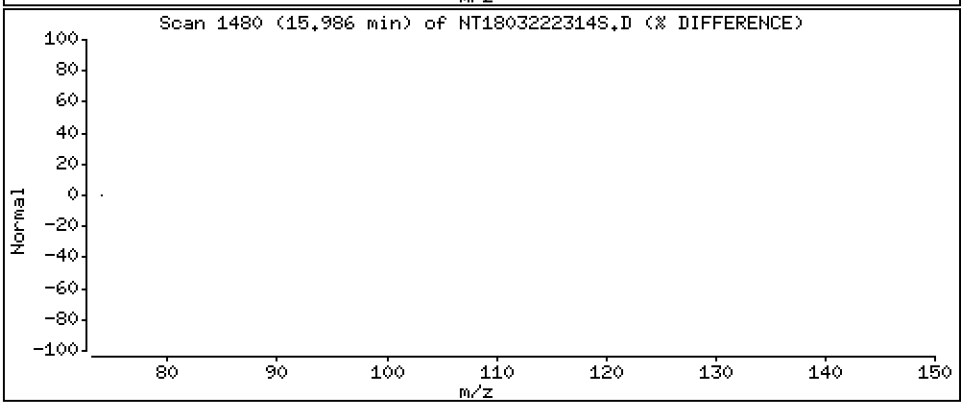












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222314S.D

Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

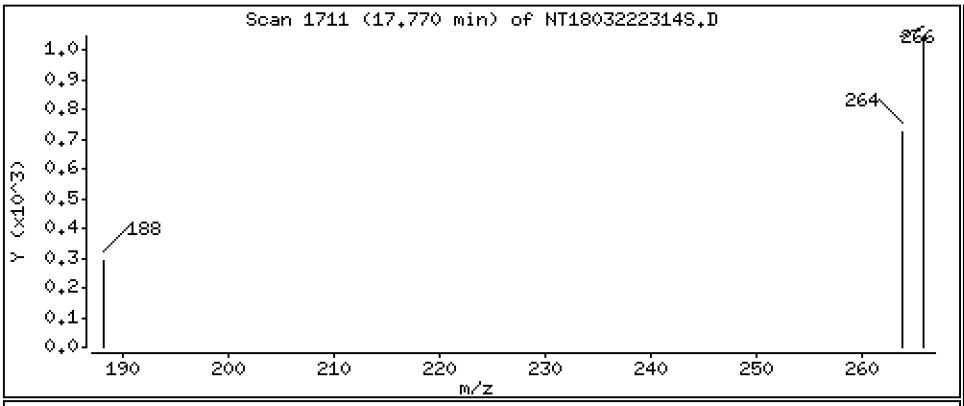
Operator: VTS

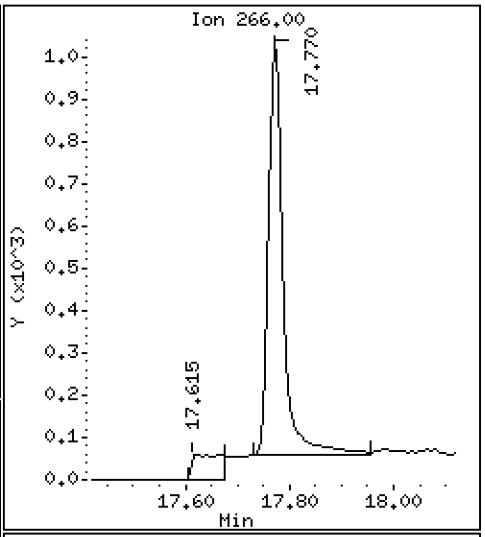
Column phase: ZB-5msi

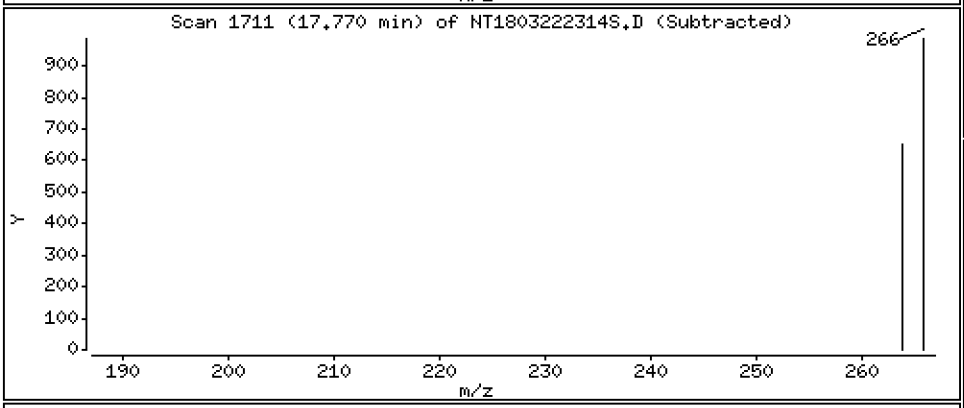
Column diameter: 0.25

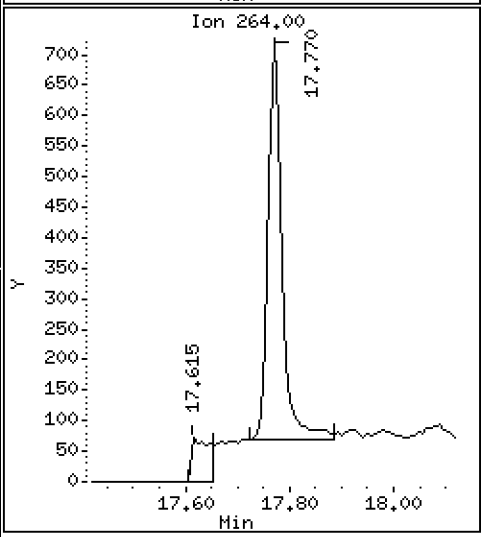
58 Pentachlorophenol

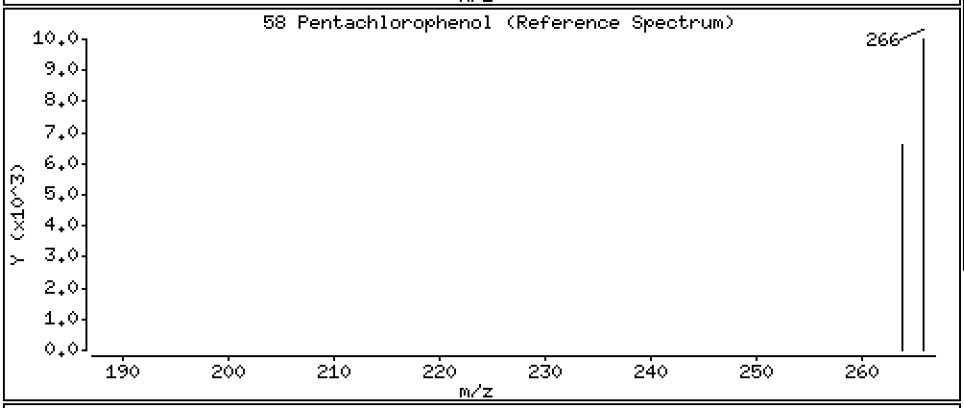
Concentration: 0.05477 ug/mL

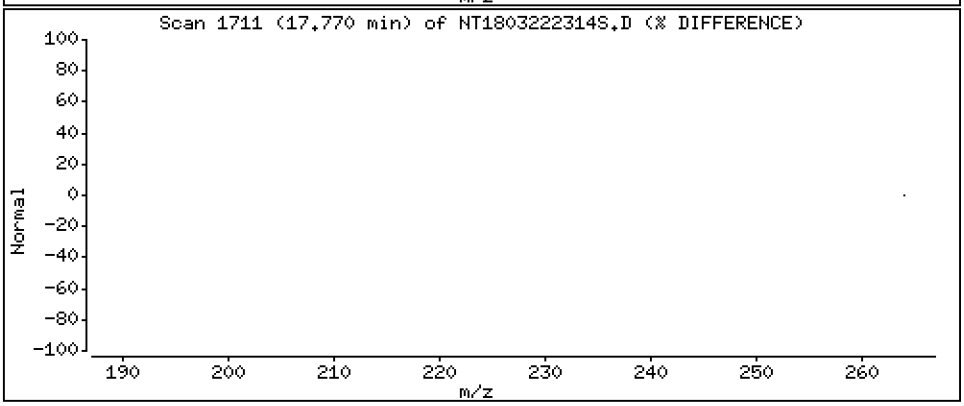












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222314S.D

Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

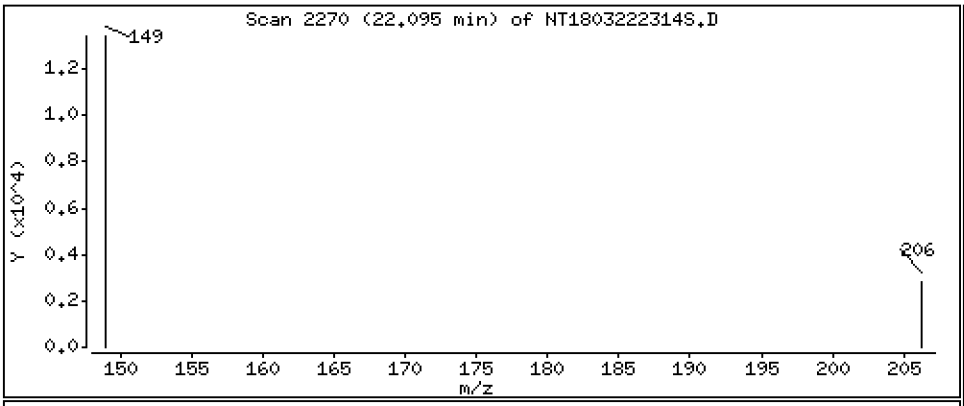
Operator: VTS

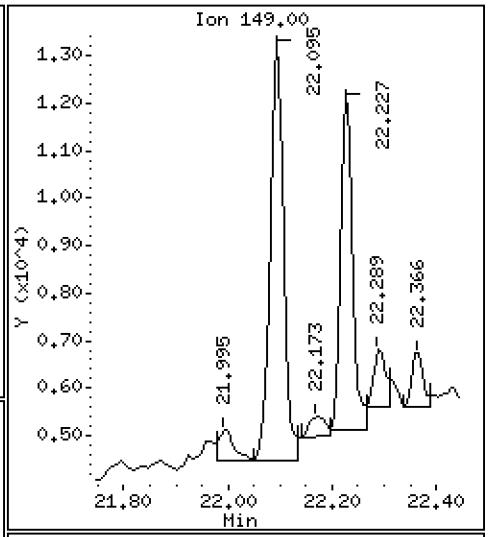
Column phase: ZB-5msi

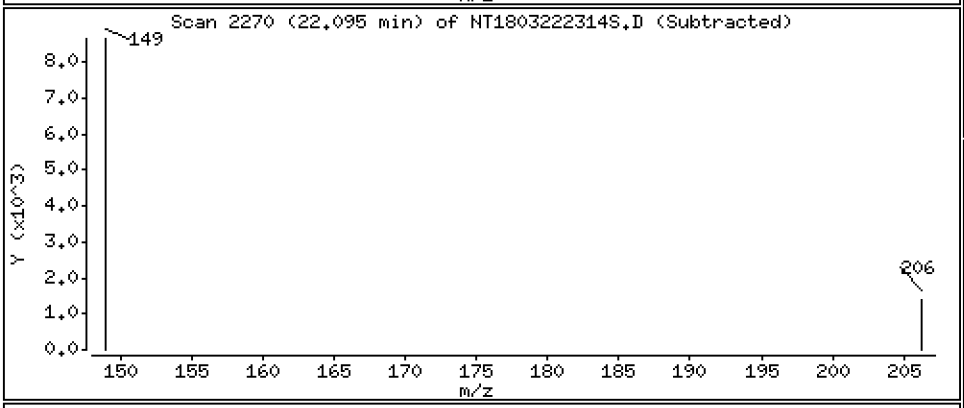
Column diameter: 0.25

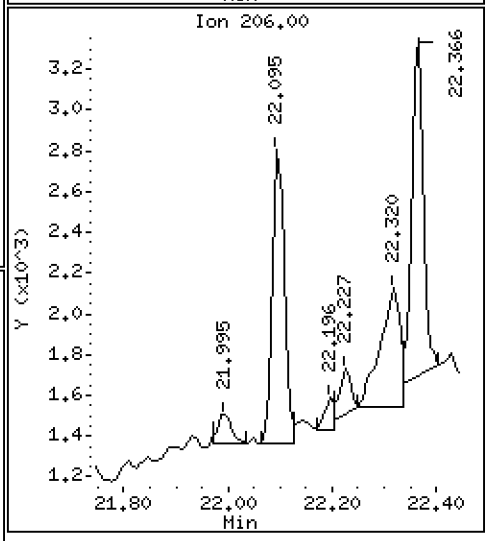
67 Butylbenzylphthalate

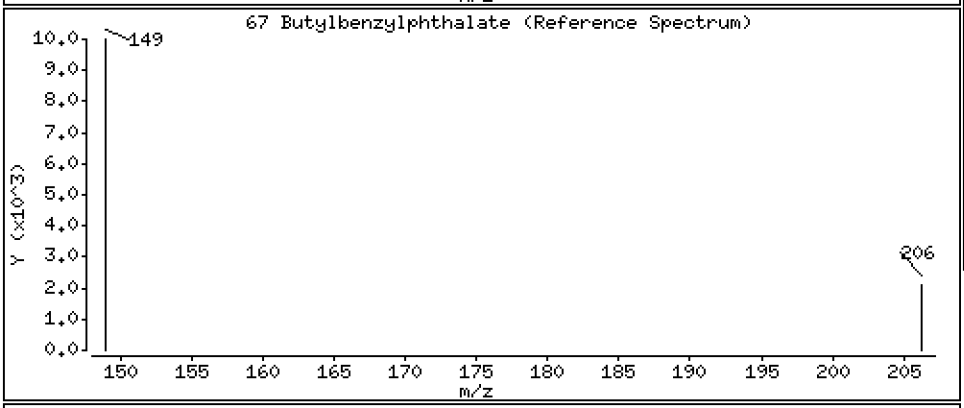
Concentration: 0.08268 ug/mL

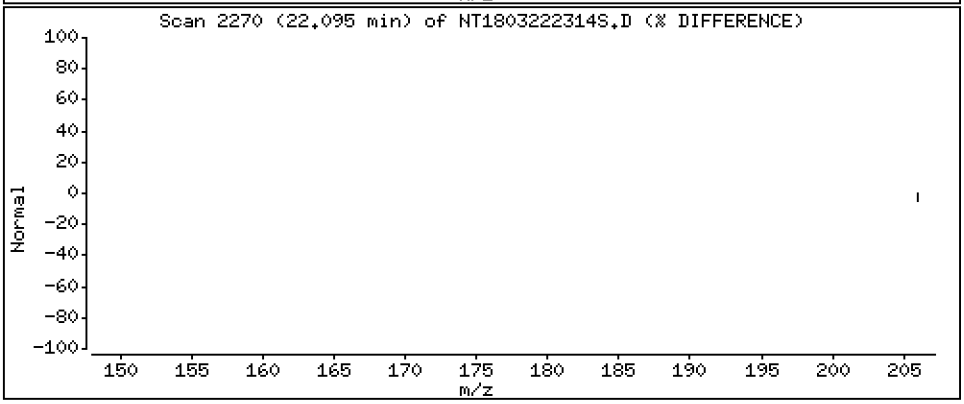












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222314S.D

Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

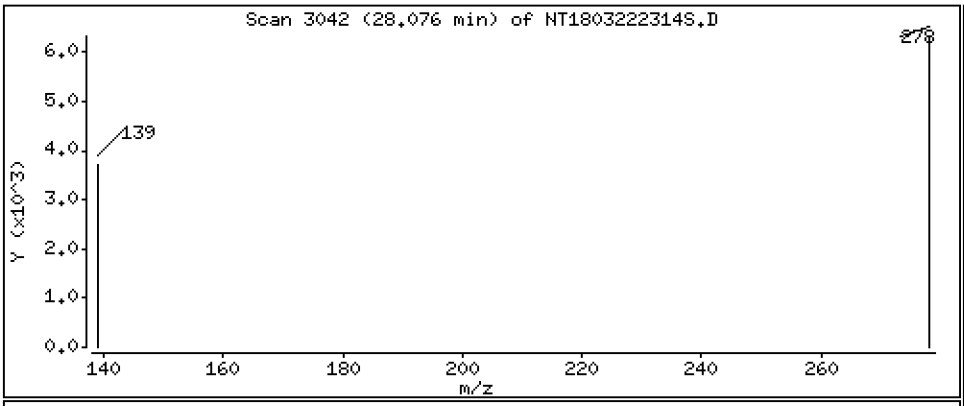
Operator: VTS

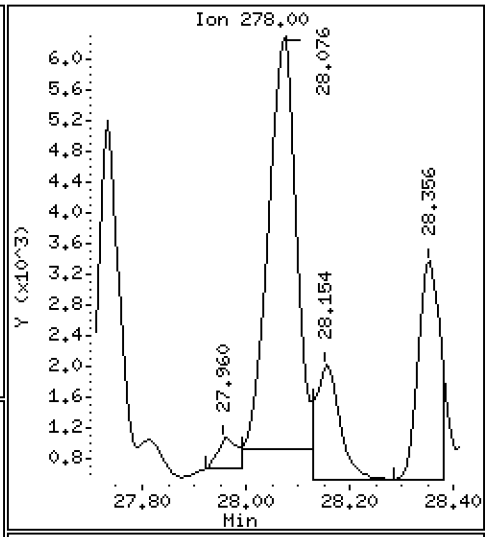
Column phase: ZB-5msi

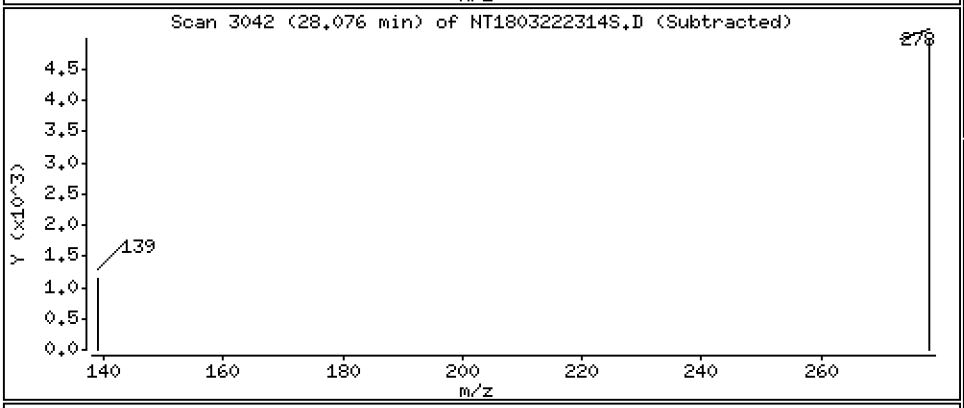
Column diameter: 0.25

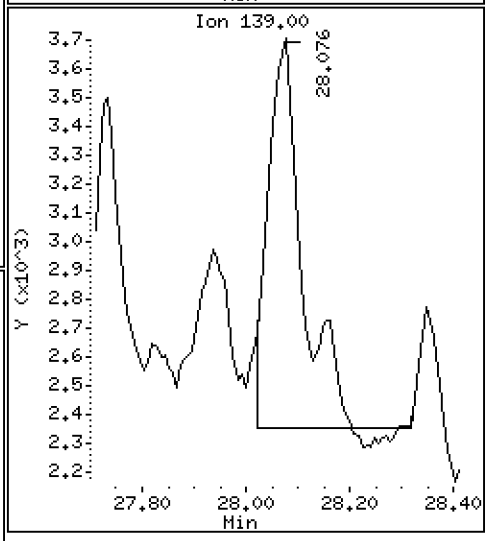
79 Dibenzo(a,h)anthracene

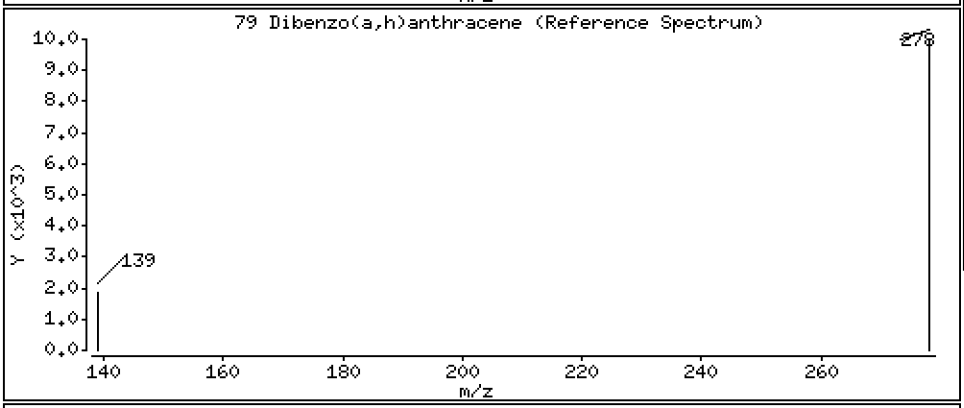
Concentration: 0.04989 ug/mL

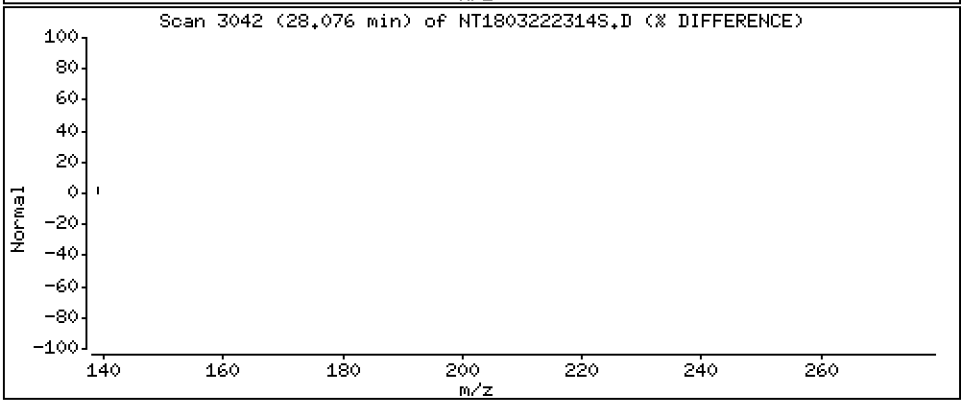












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222314S.D

Date : 23-MAR-2023 02:04

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-08

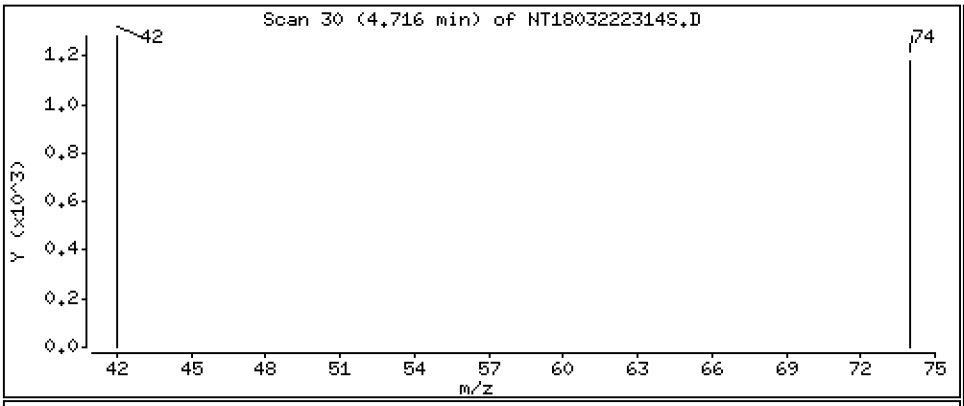
Operator: VTS

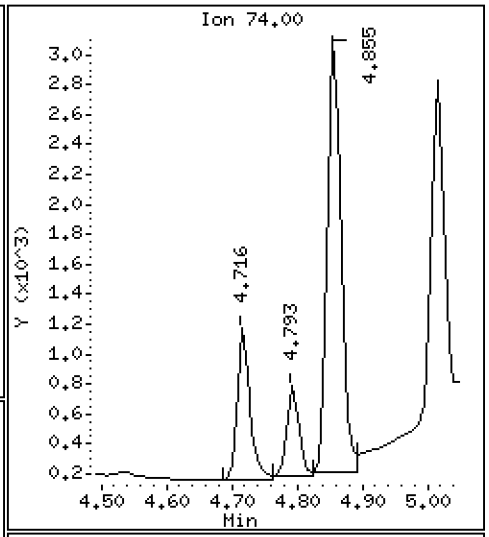
Column phase: ZB-5msi

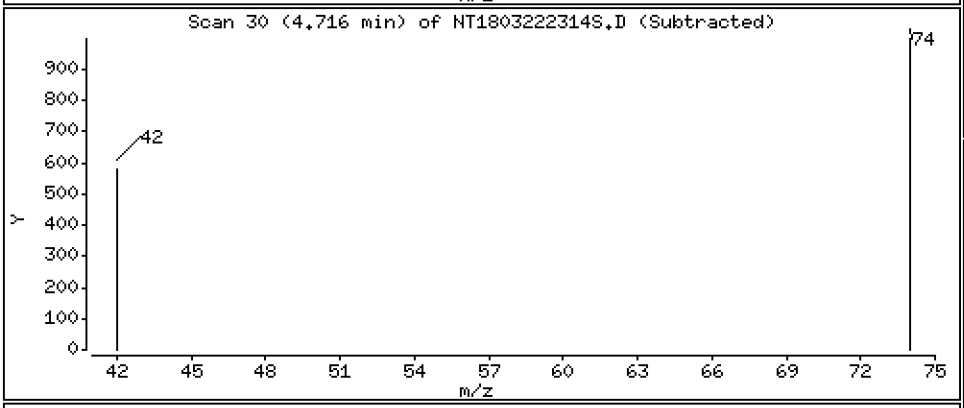
Column diameter: 0.25

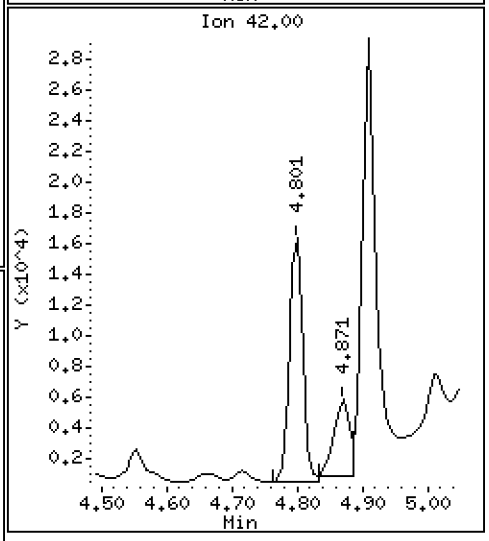
90 N-Nitrosodimethylamine

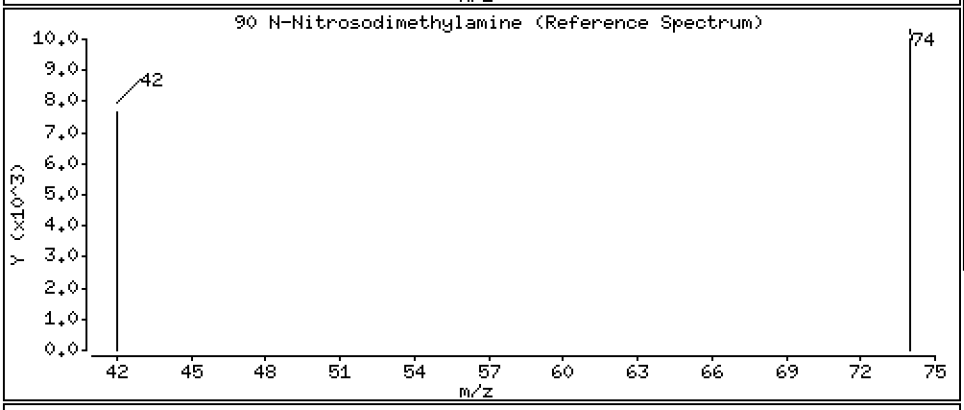
Concentration: 0.02212 ug/mL

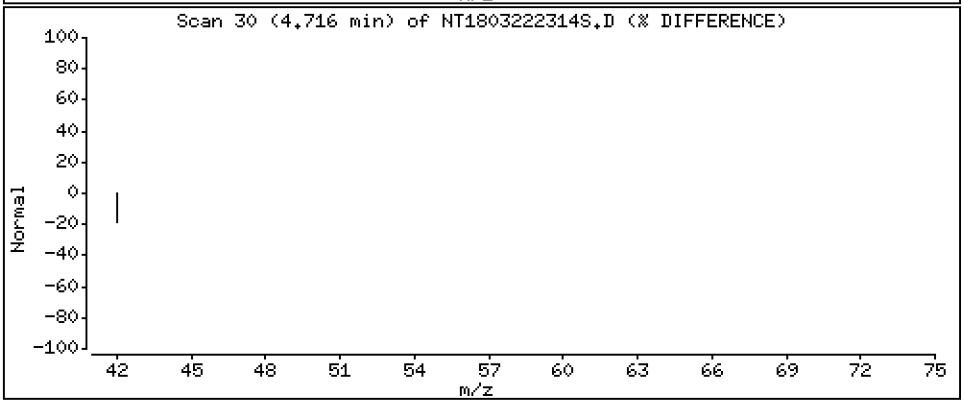












ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222314S.D
Lab Smp Id: 23C0108-08
Inj Date : 23-MAR-2023 02:04
Operator : VTS Inst ID: nt18.i
Smp Info : 23C0108-08
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230322.b\SIM.b\SIMABN2.m
Meth Date : 05-Apr-2023 10:09 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: DEENAY-201905

			QUANT SIG					CONCENTRATIONS ON-COLUMN	FINAL
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/mL)	(ug/mL)
$	1	2-Fluorophenol	112	6.793	6.778	(0.756)	632714	6.10549	6.105(R)
	3	Phenol	94	8.377	8.362	(0.933)	1390153	10.0180	10.02
	7	1,3-Dichlorobenzene	146	8.918	8.918	(0.993)	1043	0.00777	0.007769
*	8	1,4-Dichlorobenzene-d4	152	8.980	8.980	(1.000)	355471	4.00000	
	9	1,4-Dichlorobenzene	146	9.011	9.011	(1.003)	2084	0.01530	0.01530
	11	Benzyl alcohol	79	9.244	9.244	(1.029)	22635	0.27277	0.2728
	12	1,2-Dichlorobenzene	146	9.361	9.360	(1.042)	1009	0.00761	0.007614
	13	2-Methylphenol	108	9.477	9.469	(1.055)	1647	0.01710	0.01710
	15	4-Methylphenol	108	9.741	9.733	(1.085)	8470	0.08453	0.08453
	16	N-Nitroso-di-n-propylamine	70	Compound Not Detected.					
	22	2,4-Dimethylphenol	107	10.775	10.775	(0.942)	1218	0.01358	0.01358
	24	Benzoic acid	105	10.894	10.902	(0.953)	51591	0.84236	0.8424
	26	1,2,4-Trichlorobenzene	180	Compound Not Detected.					
*	27	Naphthalene-d8	136	11.437	11.444	(1.000)	1284738	4.00000	
	30	Hexachlorobutadiene	225	Compound Not Detected.					
	39	Dimethylphthalate	163	14.539	14.539	(0.968)	13790	0.06946	0.06946
*	42	Acenaphthene-d10	162	15.027	15.027	(1.000)	621519	4.00000	
	50	Diethylphthalate	149	15.986	15.985	(1.064)	83594	0.46374	0.4637
	54	N-Nitrosodiphenylamine	169	Compound Not Detected.					
	57	Hexachlorobenzene	284	Compound Not Detected.					
	58	Pentachlorophenol	266	17.769	17.769	(0.985)	1813	0.05477	0.05477
*	59	Phenanthrene-d10	188	18.032	18.032	(1.000)	1087466	4.00000	
$	66	Terphenyl-d14	244	21.173	21.165	(0.918)	713699	3.99786	3.998(R)
	67	Butylbenzylphthalate	149	22.095	22.095	(0.958)	14779	0.08268	0.08268
*	69	Chrysene-d12	240	23.055	23.055	(1.000)	1266535	4.00000	
*	77	Perylene-d12	264	25.579	25.563	(1.000)	1343151	4.00000	
	79	Dibenzo(a,h)anthracene	278	28.076	28.060	(1.098)	19828	0.04989	0.04989
	90	N-Nitrosodimethylamine	74	4.716	4.700	(0.525)	1399	0.02212	0.02212

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222314S.D
Lab Smp Id: 23C0108-08
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 22-MAR-2023
Calibration Time: 18:36
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	283947	141974	567894	355471	25.19
27 Naphthalene-d8	1057483	528742	2114966	1284738	21.49
42 Acenaphthene-d10	520336	260168	1040672	621519	19.45
59 Phenanthrene-d10	933537	466769	1867074	1087466	16.49
69 Chrysene-d12	863272	431636	1726544	1266535	46.71
77 Perylene-d12	996915	498458	1993830	1343151	34.73

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	-0.07
42 Acenaphthene-d10	15.03	14.53	15.53	15.03	0.00
59 Phenanthrene-d10	18.03	17.53	18.53	18.03	0.00
69 Chrysene-d12	23.06	22.56	23.56	23.06	0.00
77 Perylene-d12	25.56	25.06	26.06	25.58	0.06

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222314S.D

Lab ID: 23C0108-08
nt18.i, 20230322.b\SIM.b\SIMABN2.m,   23-MAR-2023 02:04

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

RRT check based on Ccal File: SIM.b/NT1803222303S.D

On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

Analytical Resources, LLC
Analytical Chemists and Consultants

LDW23-SS1118

Form I

ORGANIC ANALYSIS DATA SHEET

EPA 8270E-SIM

SIM SVOC Organics (Dual scan list)

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-09 A	SDG:	23C0108
Sampled:	03/03/23 11:25	Prepared:	03/09/23 13:26	File ID:	NT1803222322S.D
% Solids:	42.62	Preparation:	EPA 3546 (Microwave)	Analyzed:	03/23/23 07:26
Batch:	BLC0185	Sequence:	SLD0064	Initial/Final:	23.52 g Wet / 1 mL
Instrument:	NT18	Column:	ZB-5MS	Calibration:	GD00001
Cleanups:	GPC				

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg dry)	Q	DL	RL
106-46-7	1,4-Dichlorobenzene	1	2.1	J	0.6	5.0
95-50-1	1,2-Dichlorobenzene	1	1.0	J	0.7	5.0
100-51-6	Benzyl Alcohol	1	51.7		2.5	20.0
65-85-0	Benzoic acid	1	74.6	J	13.4	99.8
105-67-9	2,4-Dimethylphenol	1	2.7	J	2.2	20.0
120-82-1	1,2,4-Trichlorobenzene	1	5.0	U	2.7	5.0
86-30-6	N-Nitrosodiphenylamine	1	5.0	U	1.3	5.0
87-86-5	Pentachlorophenol	1	6.1	J	2.1	20.0

SURROGATES	ADDED: (ug/kg dry)	FOUND: (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorophenol	748.19	629	84.1	27 - 120	
p-Terphenyl-d14	498.79	410	82.2	37 - 120	

Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT18032223225.D

Date : 23-MAR-2023 07:26

Client ID:

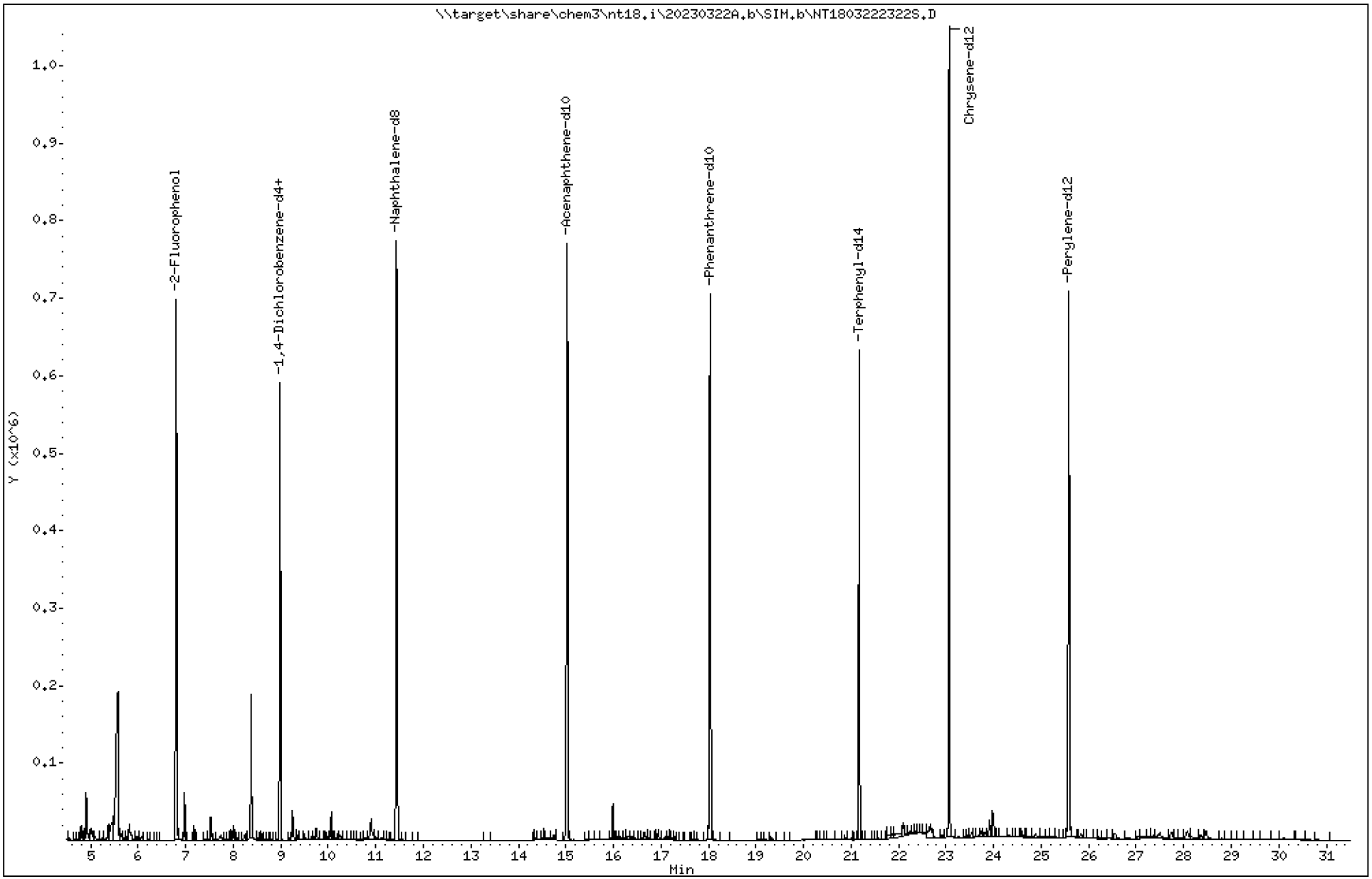
Instrument: nt18.i

Sample Info: 23C0108-09

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT18032223225.D

Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

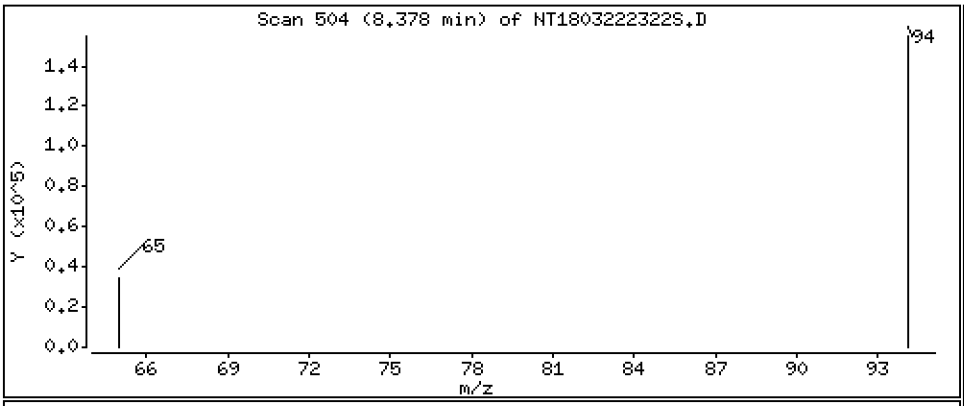
Operator: VTS

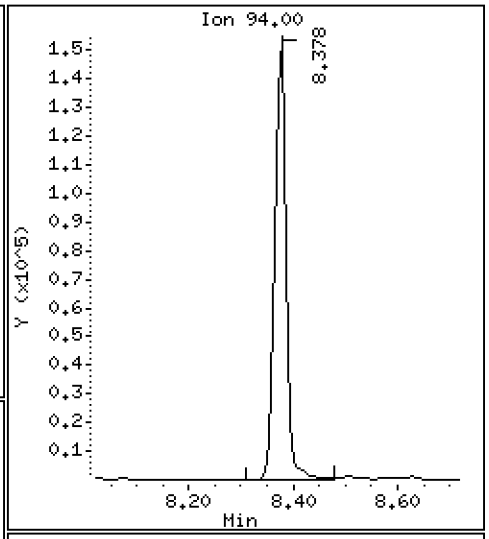
Column phase: ZB-5msi

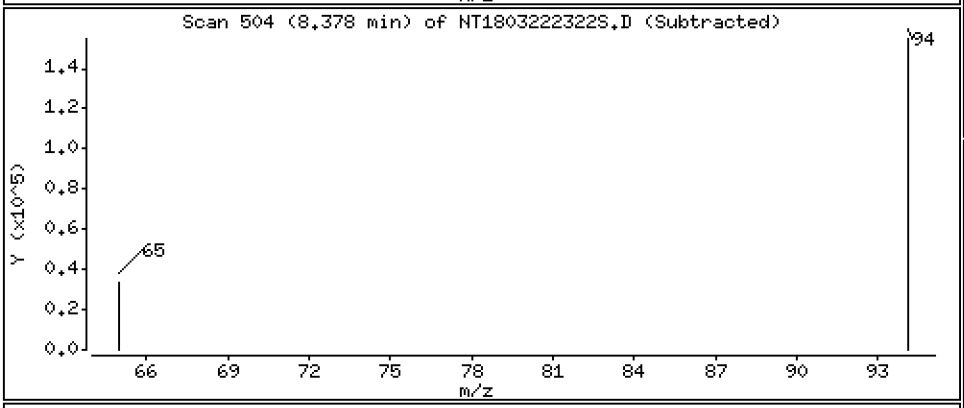
Column diameter: 0.25

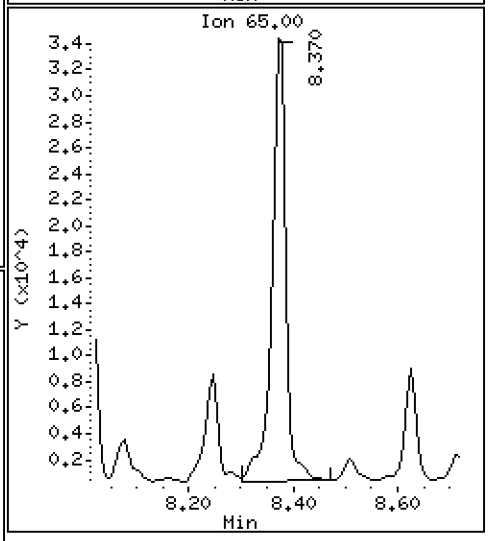
3 Phenol

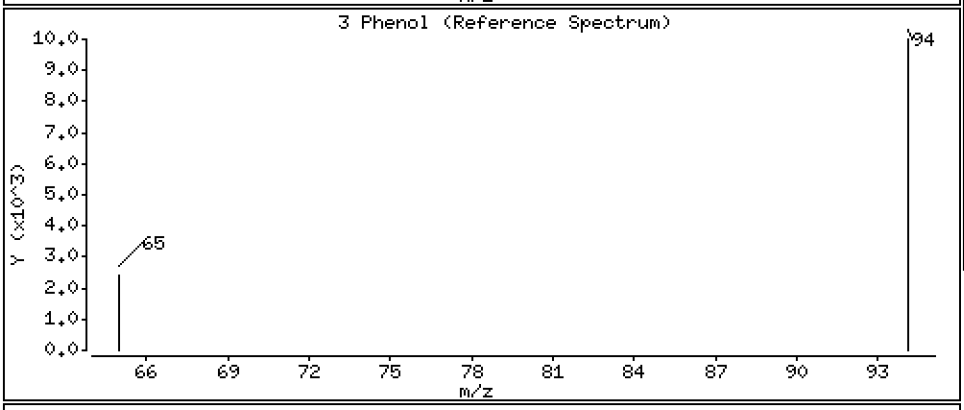
Concentration: 1.671 ug/mL

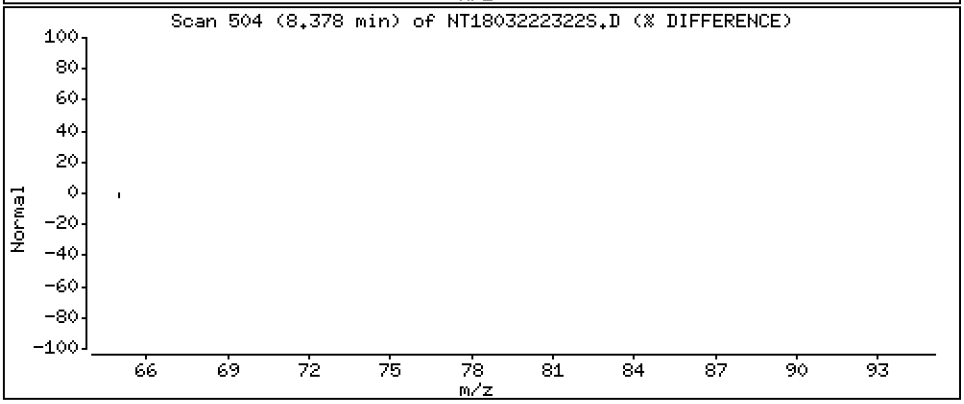












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT18032223225.D

Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

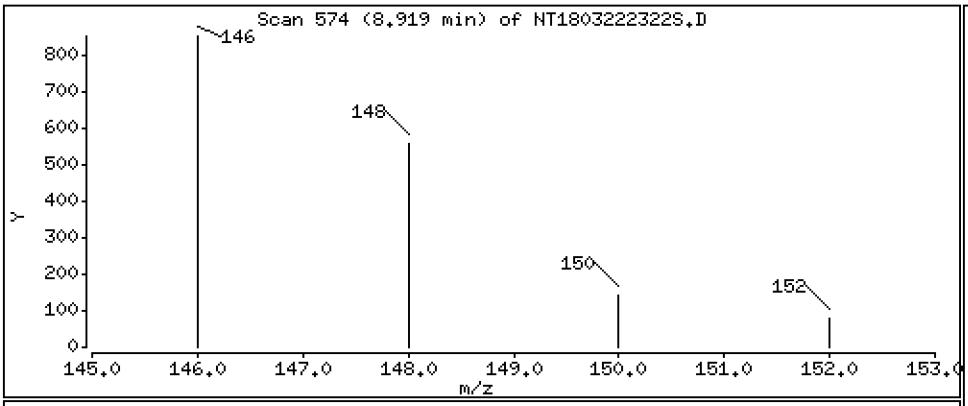
Operator: VTS

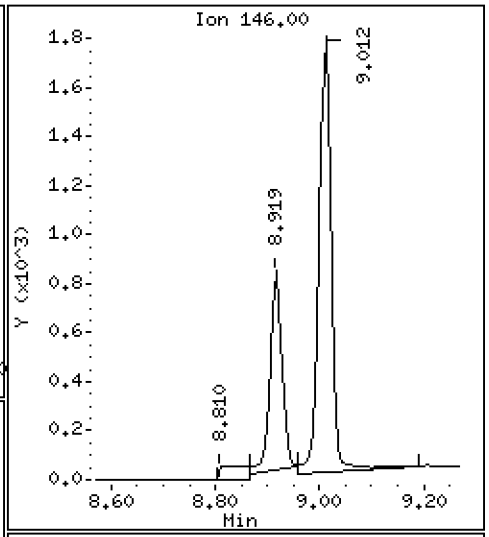
Column phase: ZB-5msi

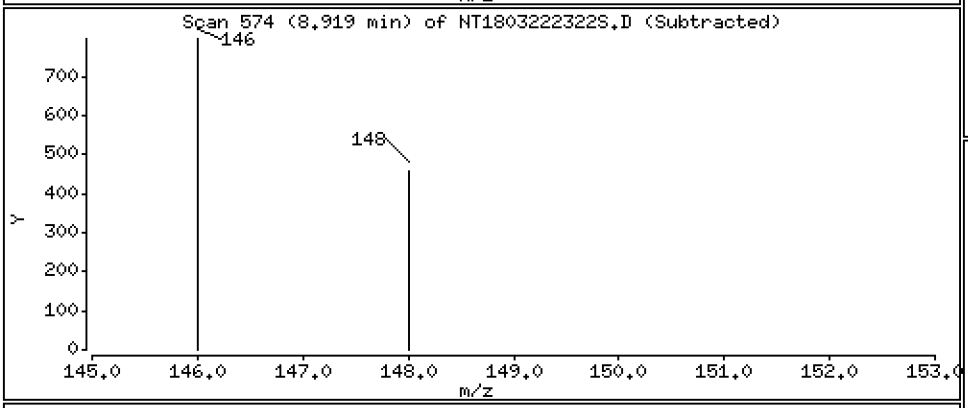
Column diameter: 0.25

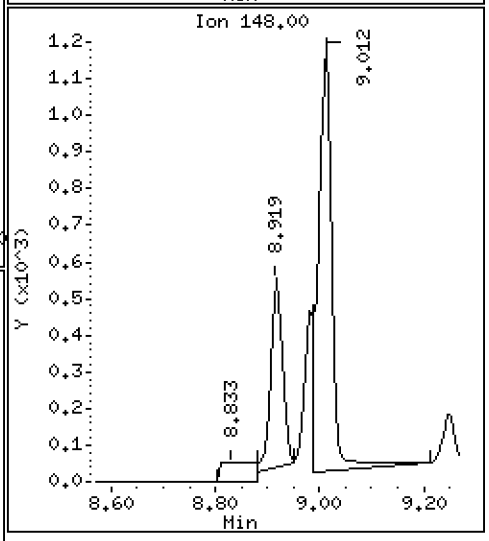
7 1,3-Dichlorobenzene

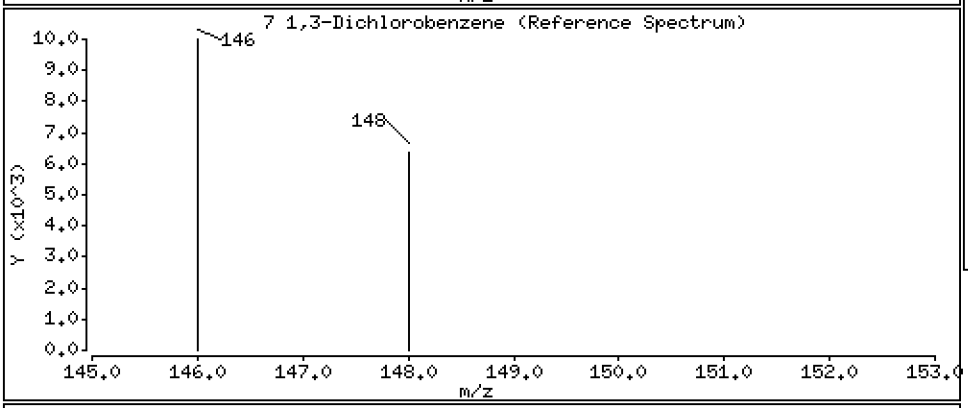
Concentration: 0.01003 ug/mL

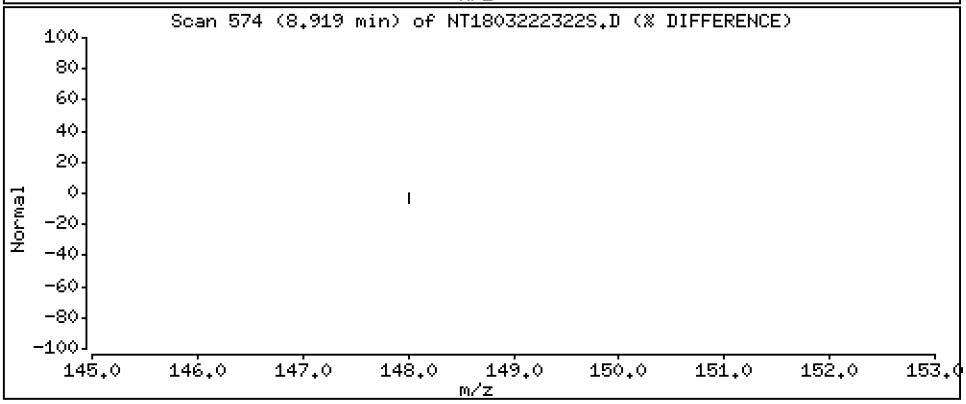












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT18032223225.D

Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

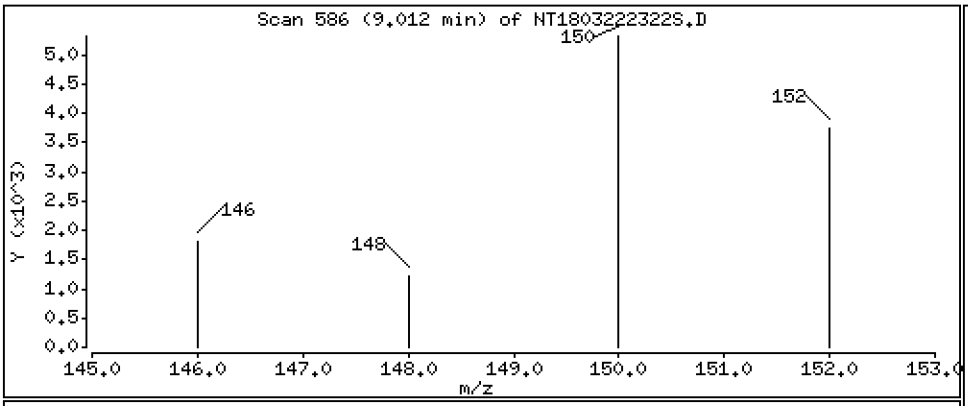
Operator: VTS

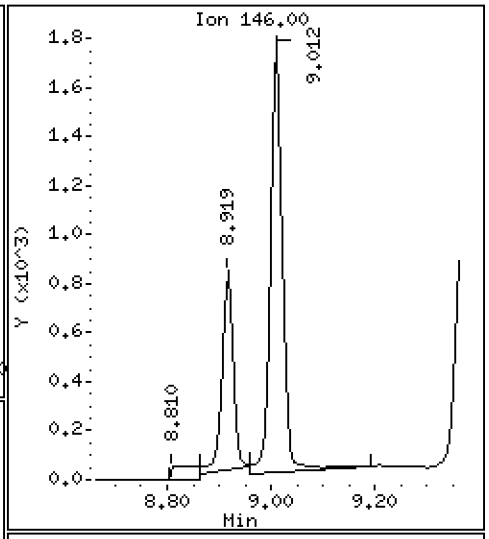
Column phase: ZB-5msi

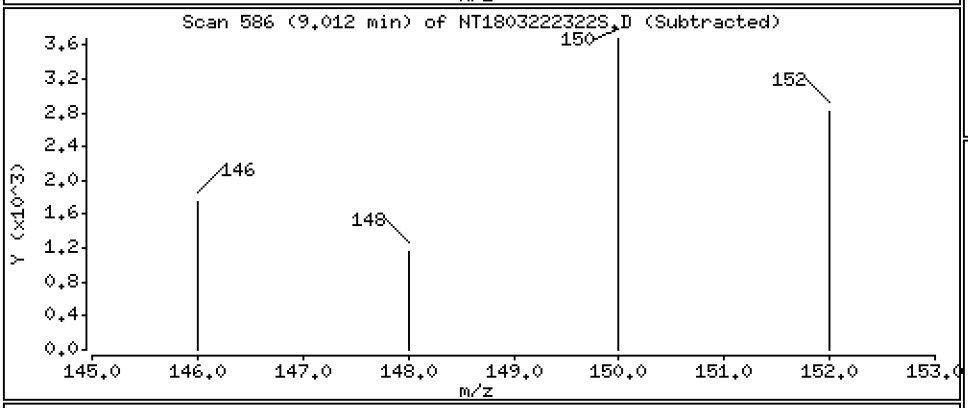
Column diameter: 0.25

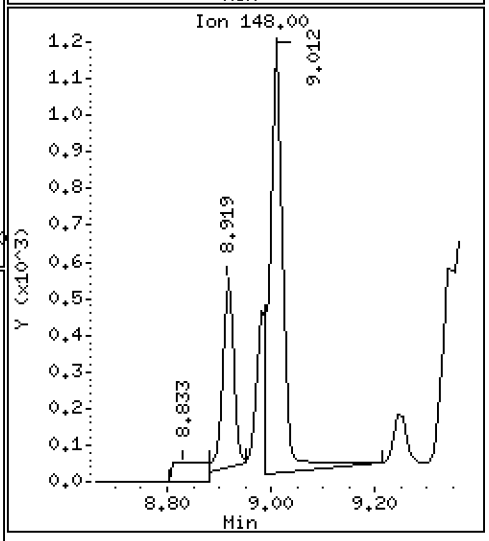
9 1,4-Dichlorobenzene

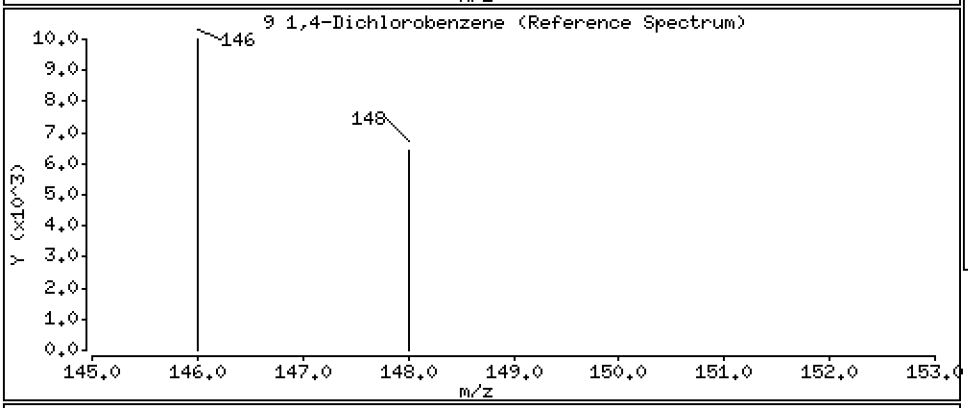
Concentration: 0.02143 ug/mL

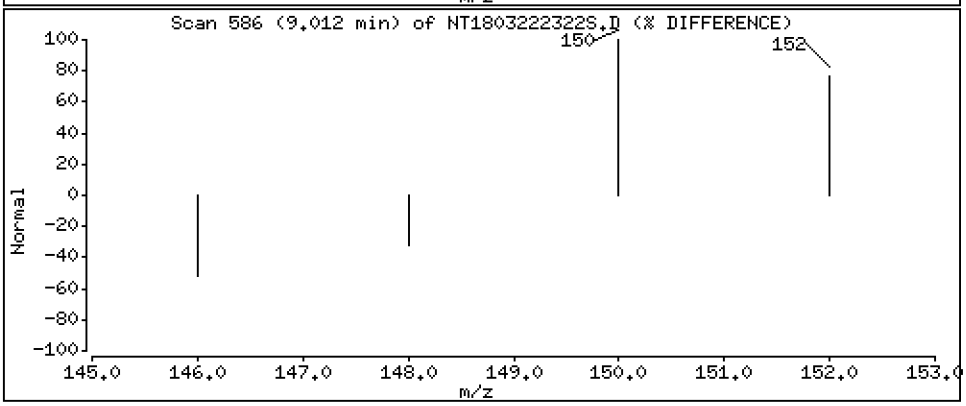












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT18032223225.D

Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

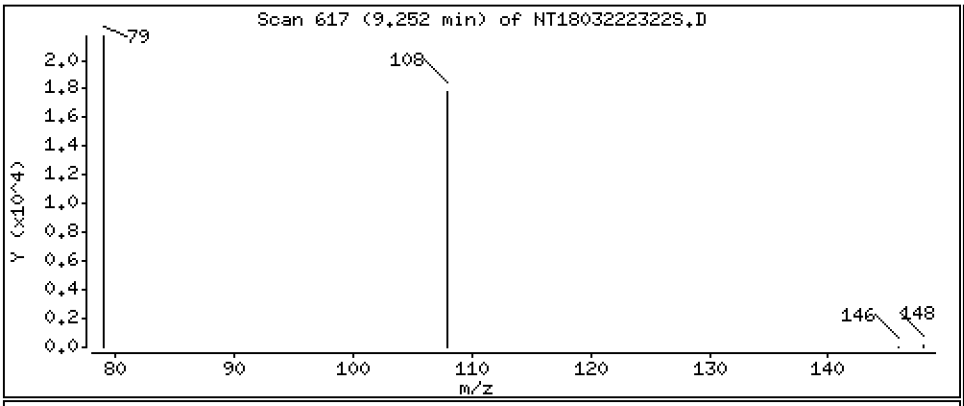
Operator: VTS

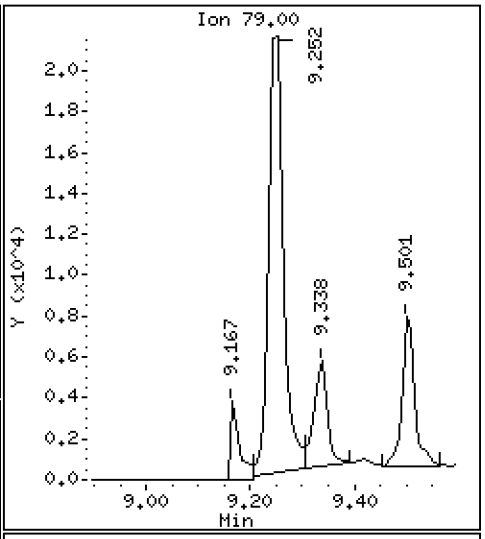
Column phase: ZB-5msi

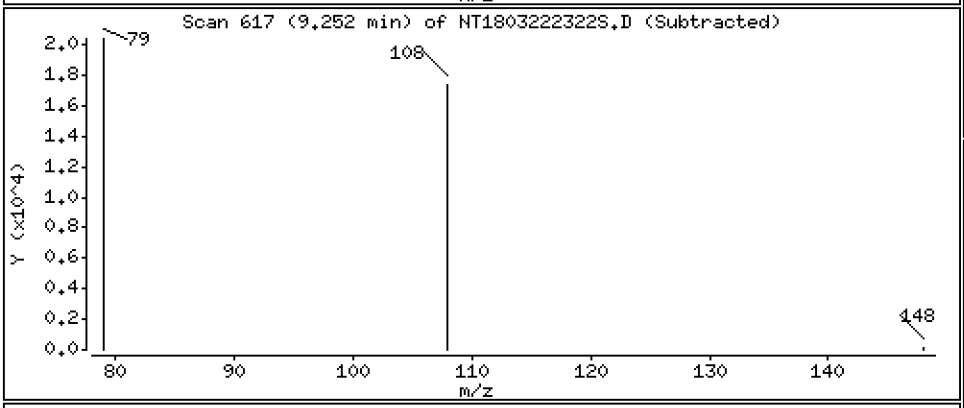
Column diameter: 0.25

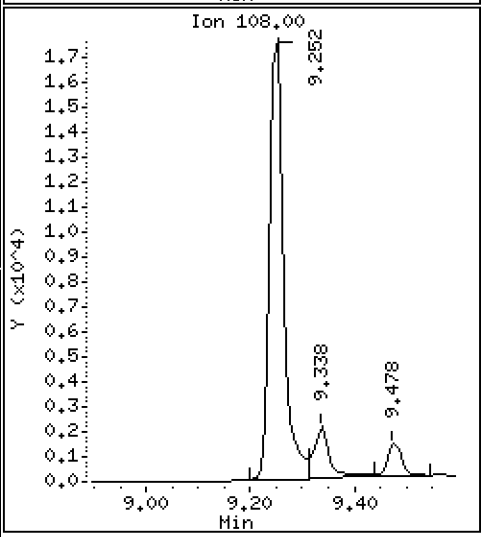
11 Benzyl alcohol

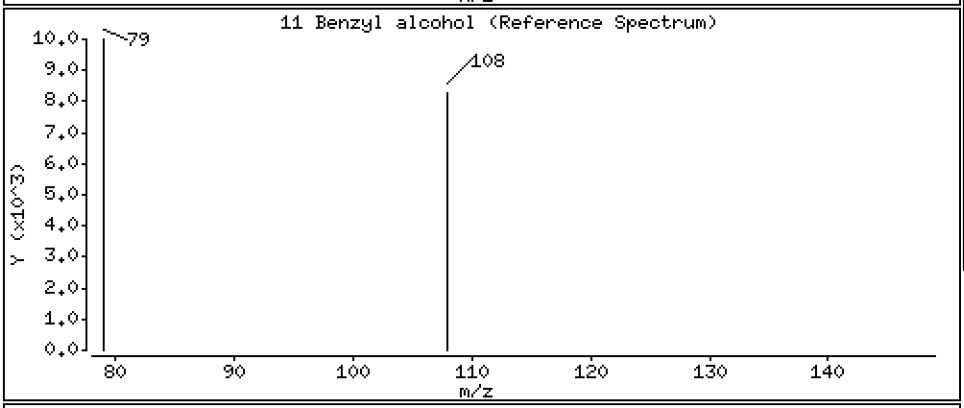
Concentration: 0.5179 ug/mL

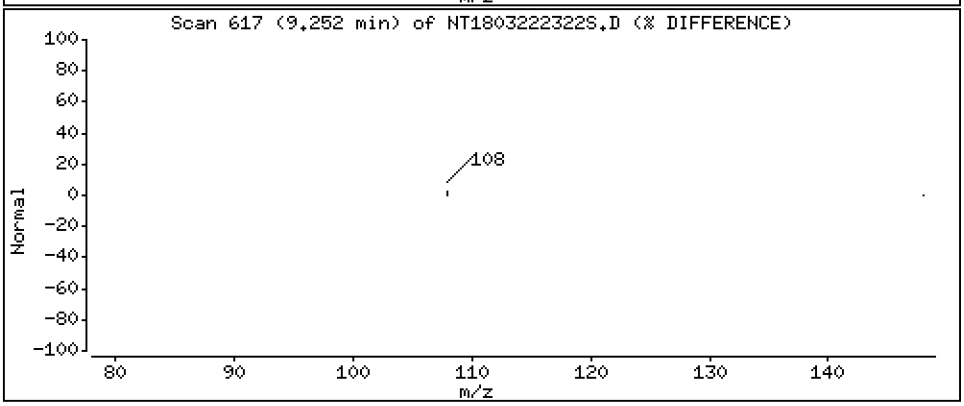












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT18032223225.D

Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

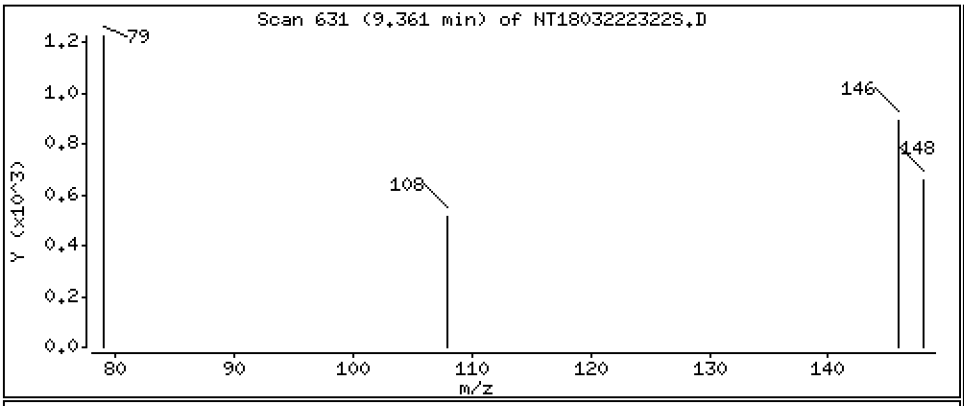
Operator: VTS

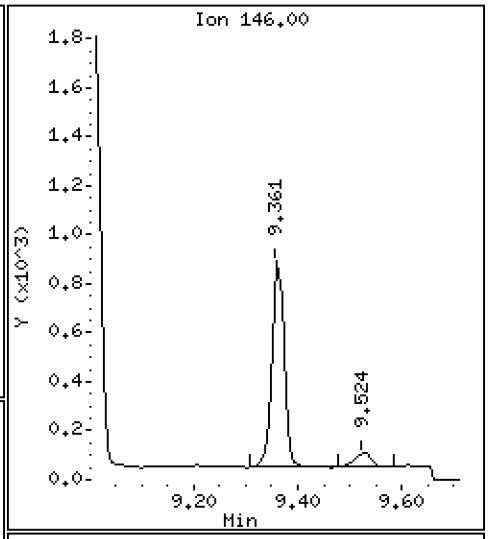
Column phase: ZB-5msi

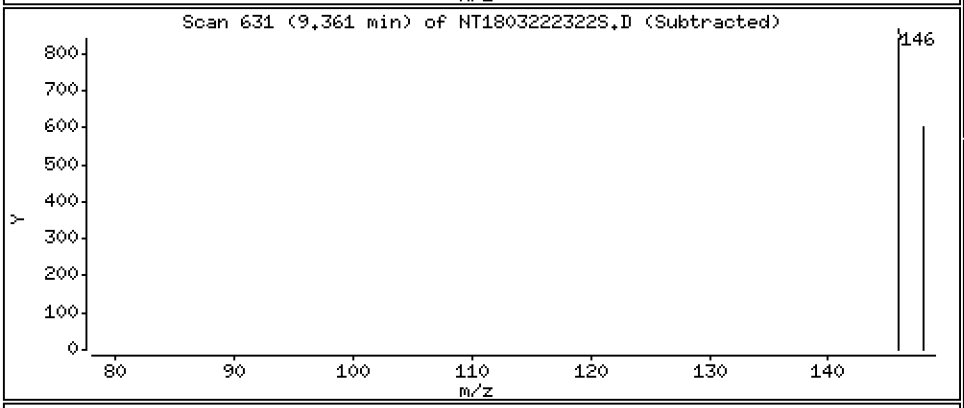
Column diameter: 0.25

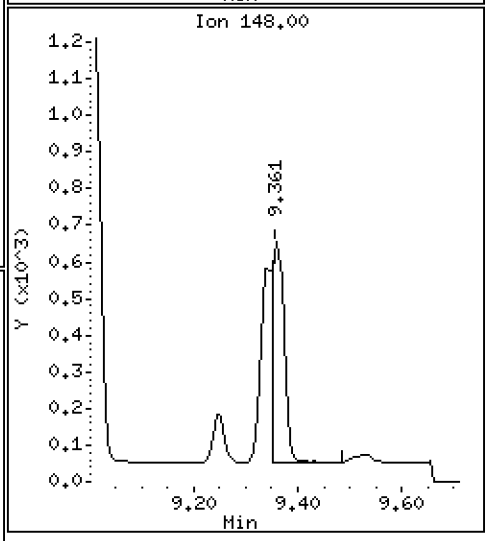
12 1,2-Dichlorobenzene

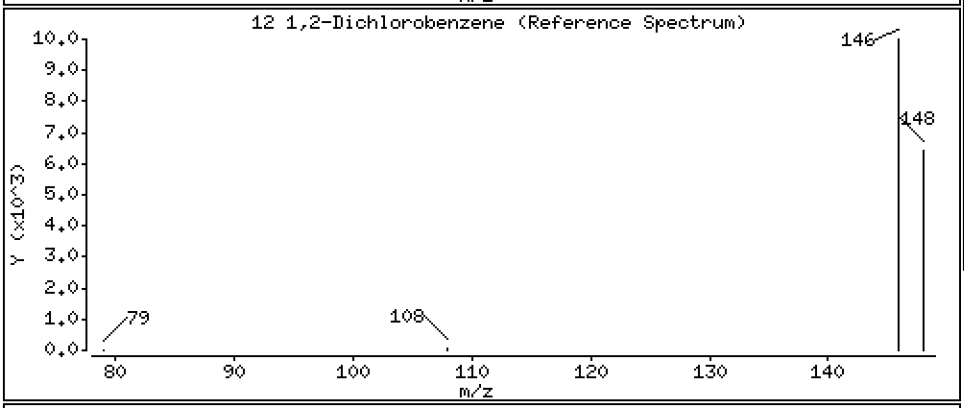
Concentration: 0.01004 ug/mL

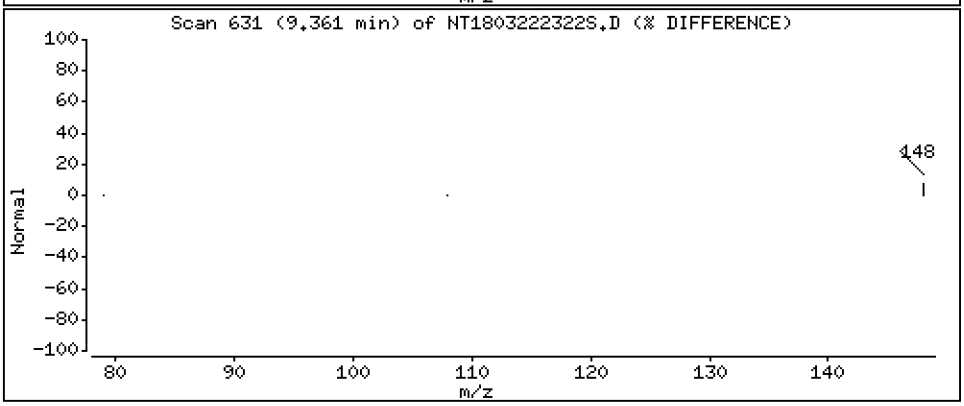












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT18032223225.D

Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

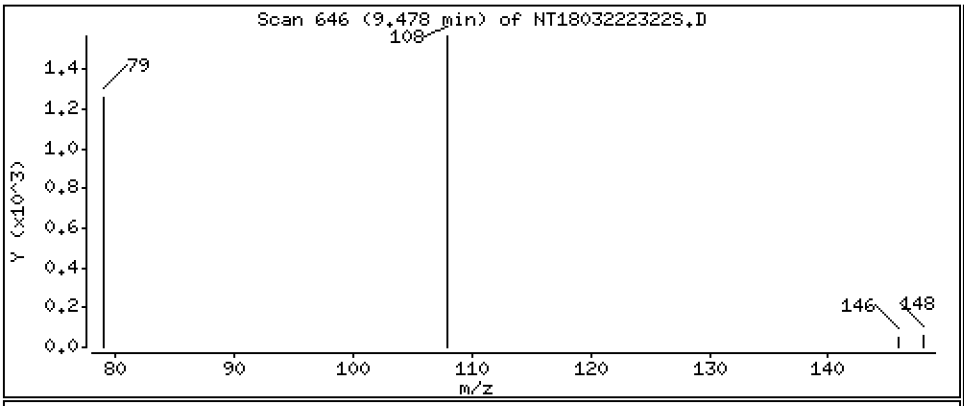
Operator: VTS

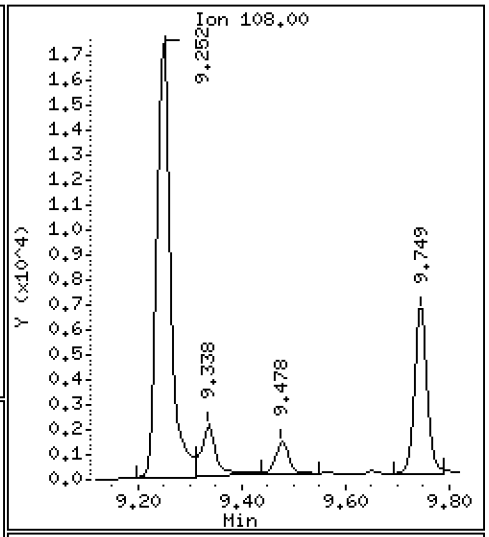
Column phase: ZB-5msi

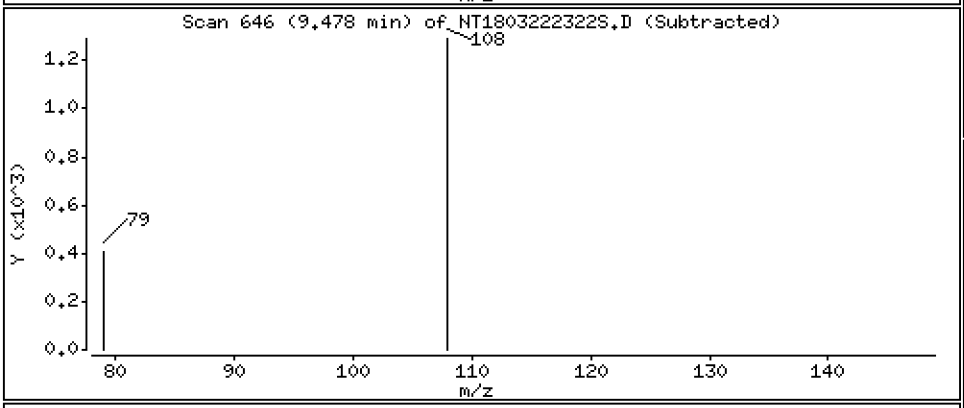
Column diameter: 0.25

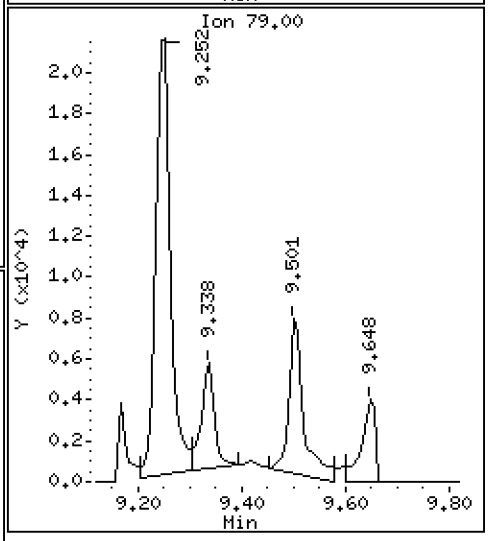
13 2-Methylphenol

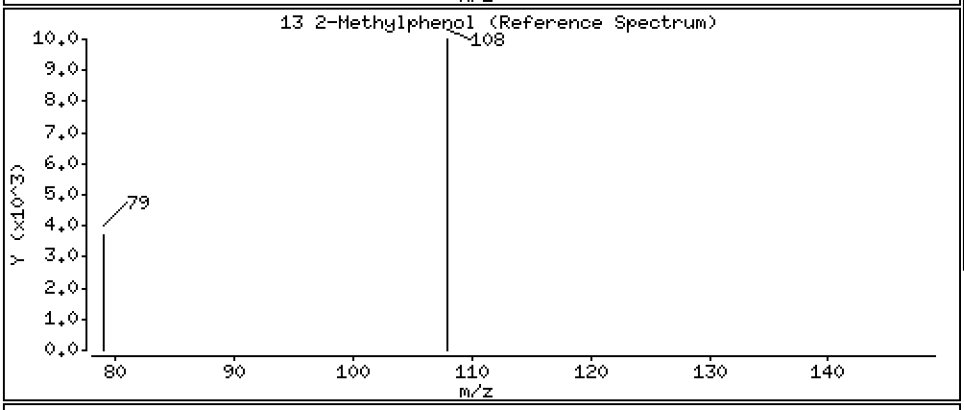
Concentration: 0.02614 ug/mL

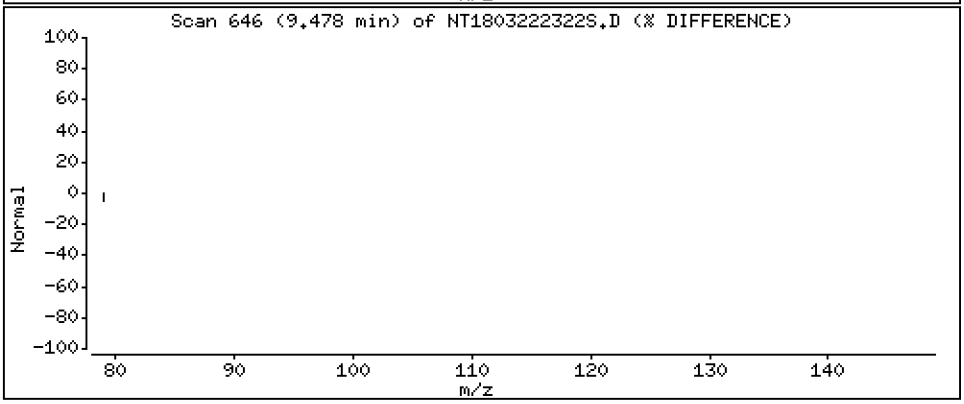












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT18032223225.D

Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

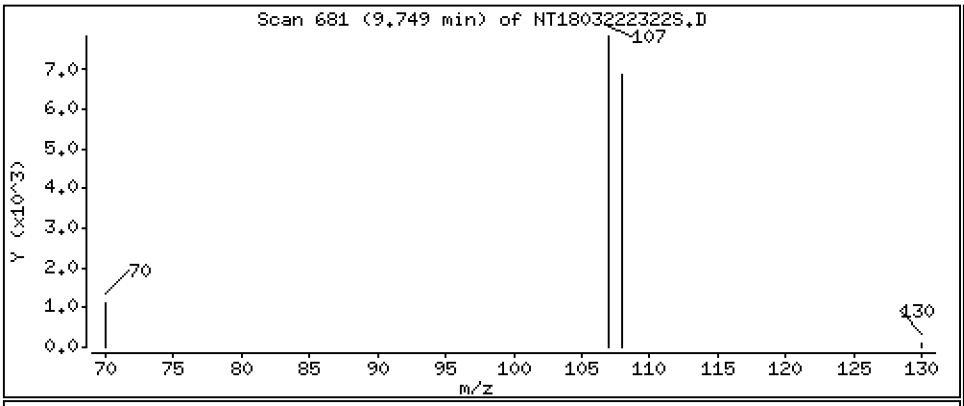
Operator: VTS

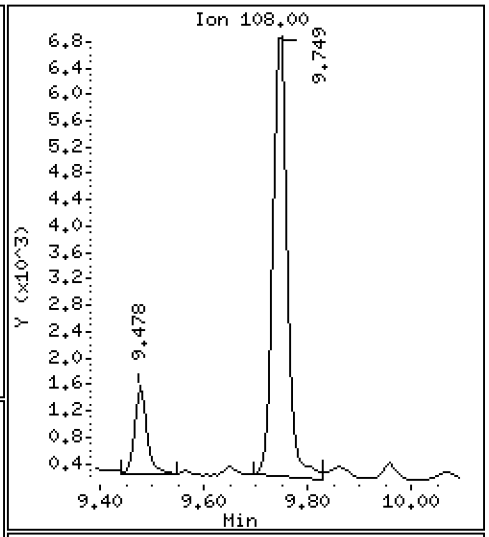
Column phase: ZB-5msi

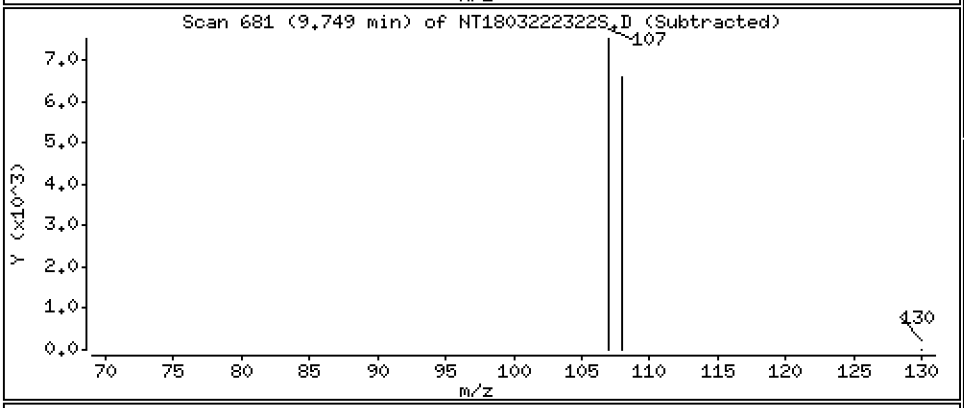
Column diameter: 0.25

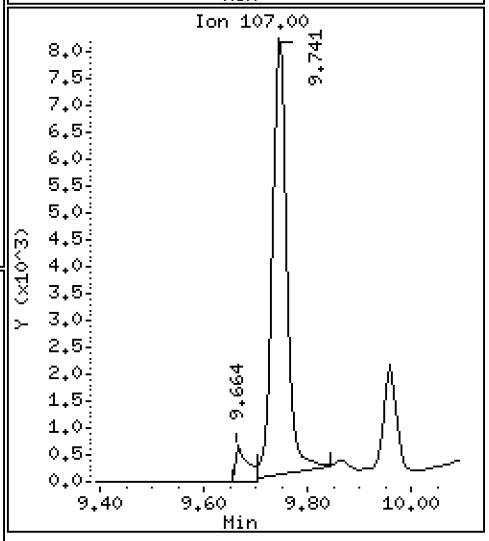
15 4-Methylphenol

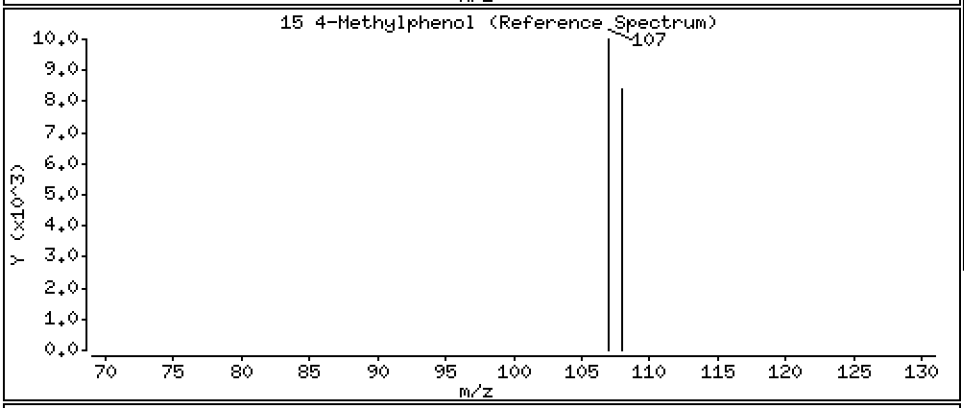
Concentration: 0.1308 ug/mL

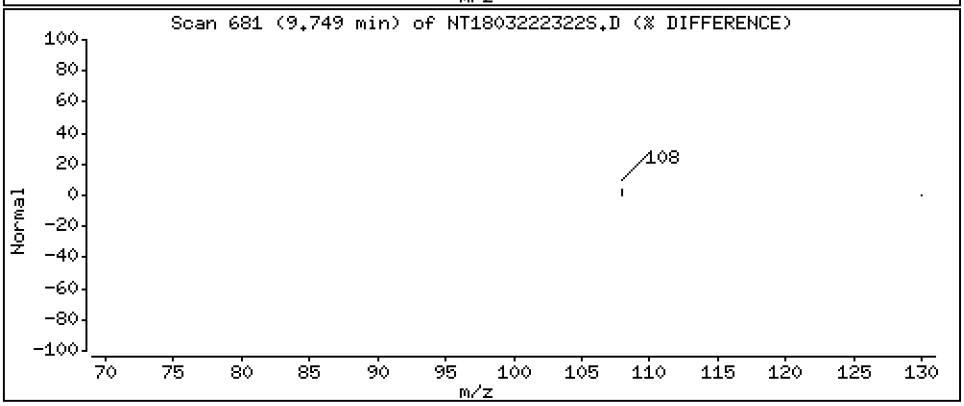












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT18032223225.D

Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

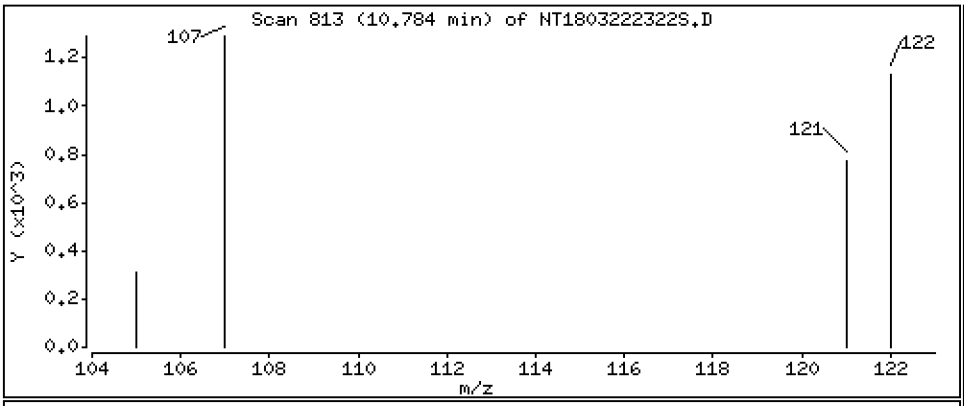
Operator: VTS

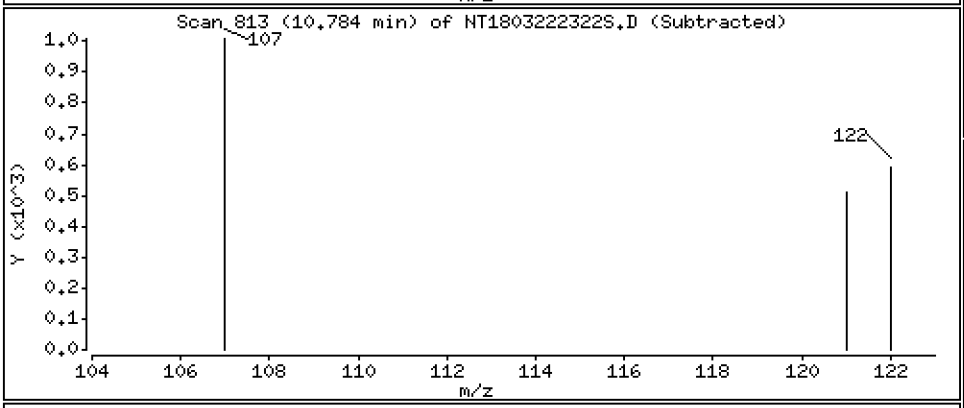
Column phase: ZB-5msi

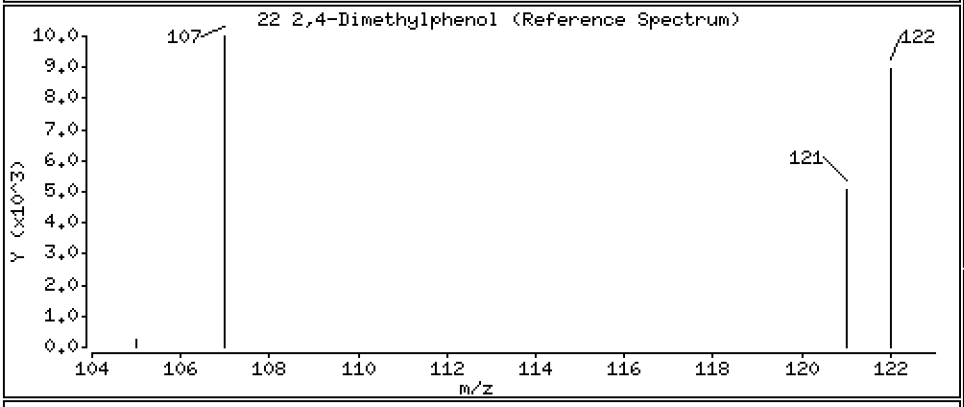
Column diameter: 0.25

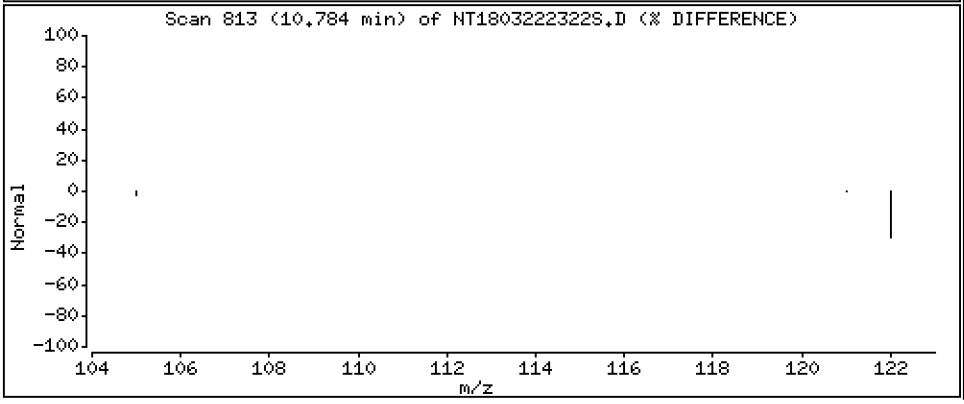
22 2,4-Dimethylphenol

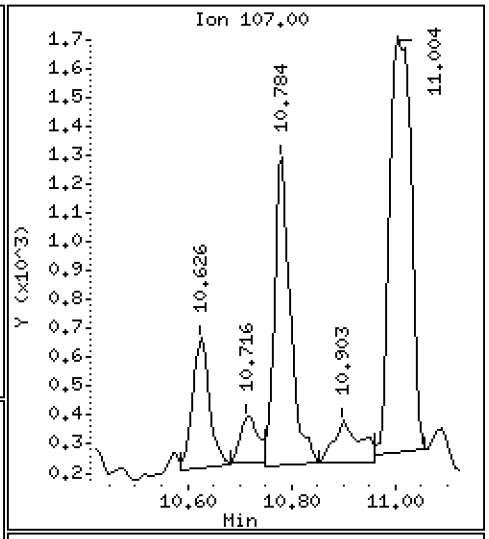
Concentration: 0.02744 ug/mL

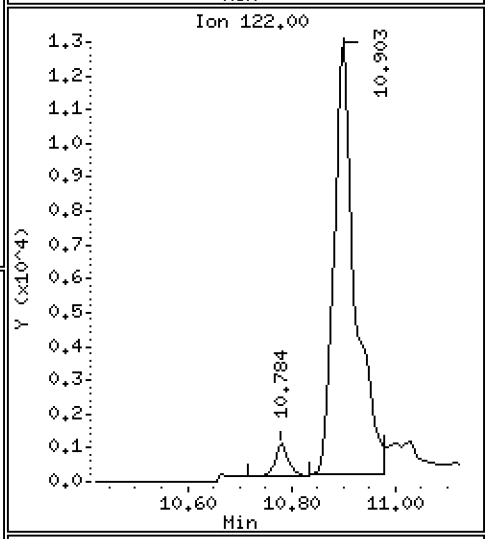


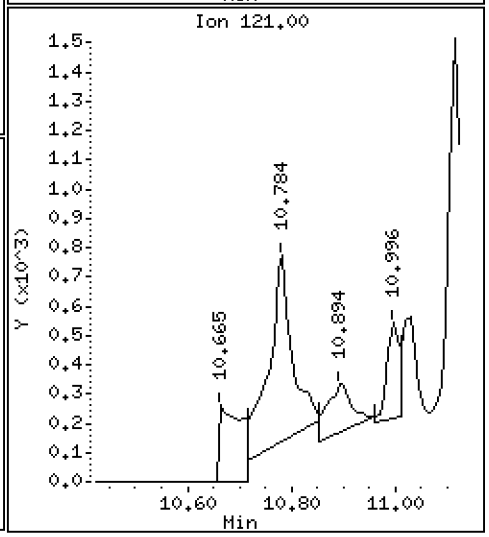












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Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

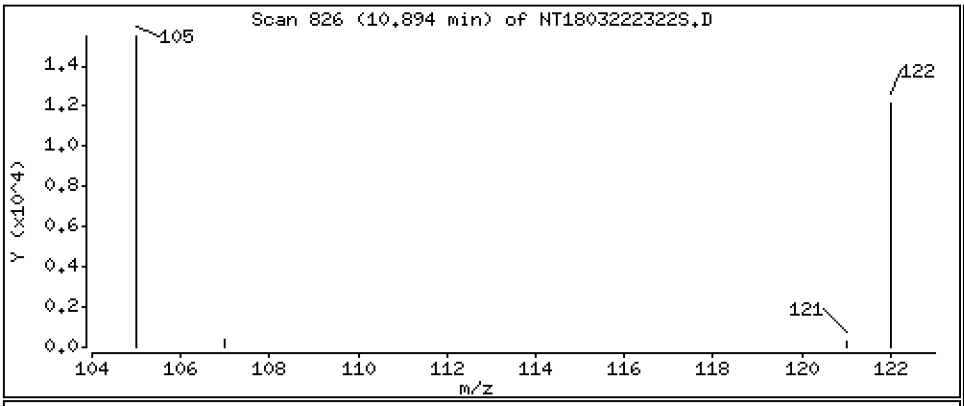
Operator: VTS

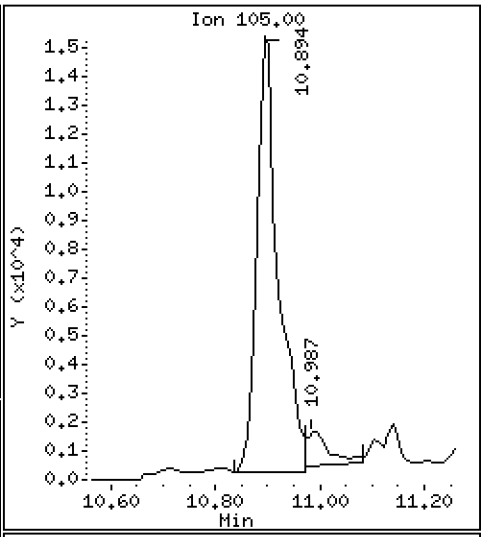
Column phase: ZB-5msi

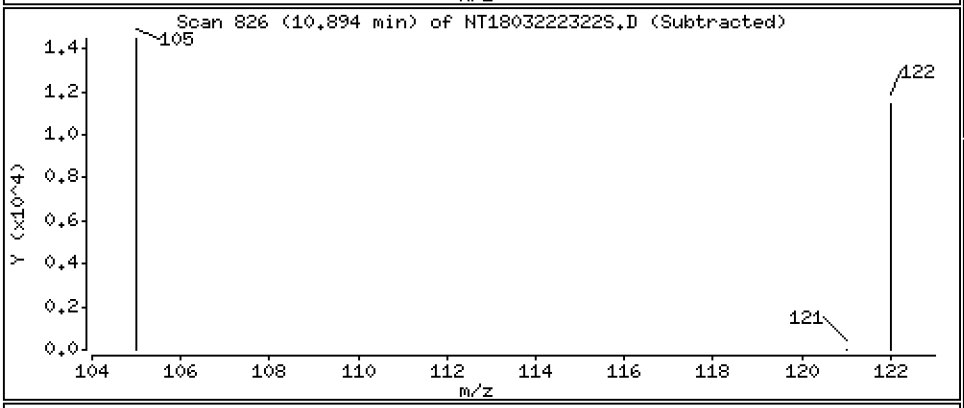
Column diameter: 0.25

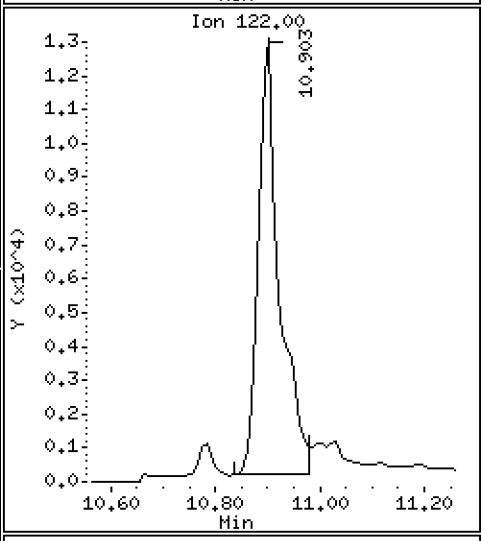
24 Benzoic acid

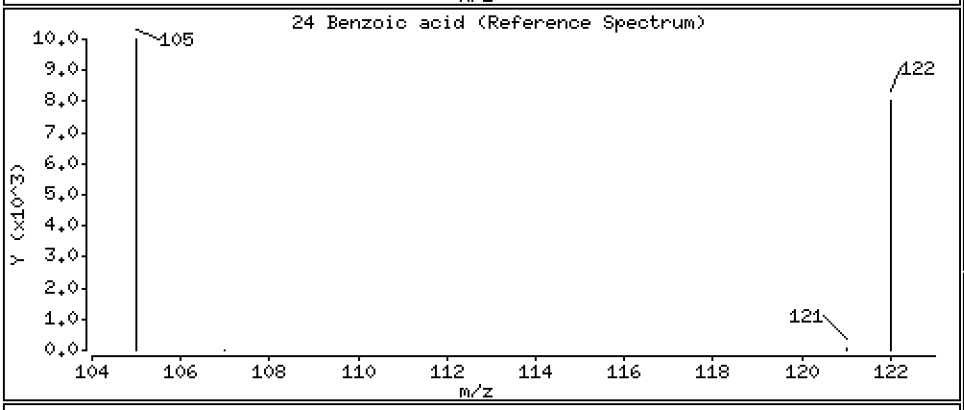
Concentration: 0.7475 ug/mL

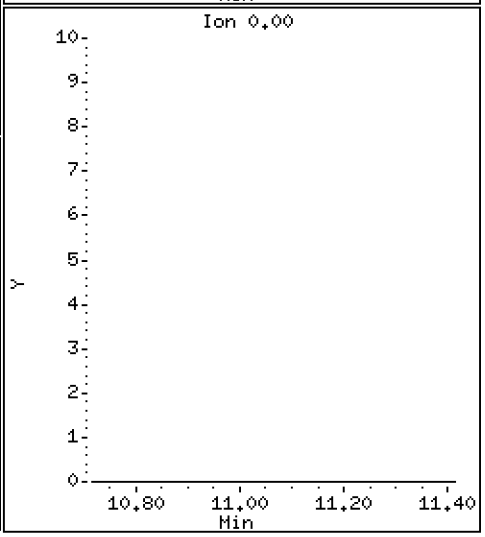


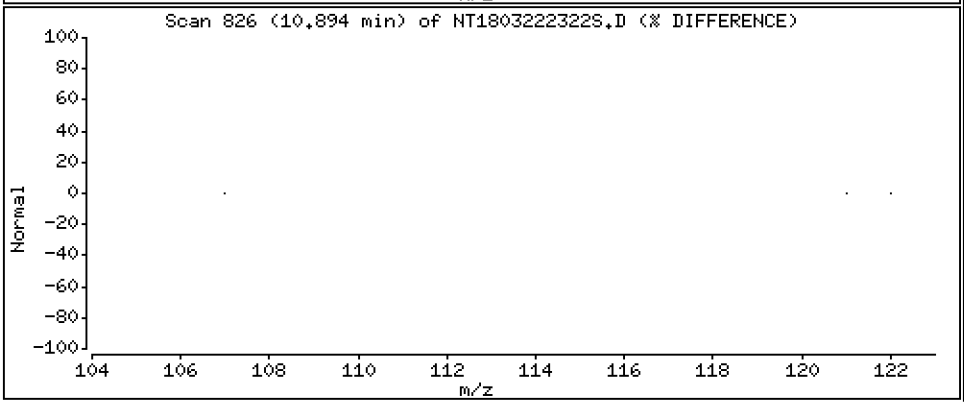












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Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

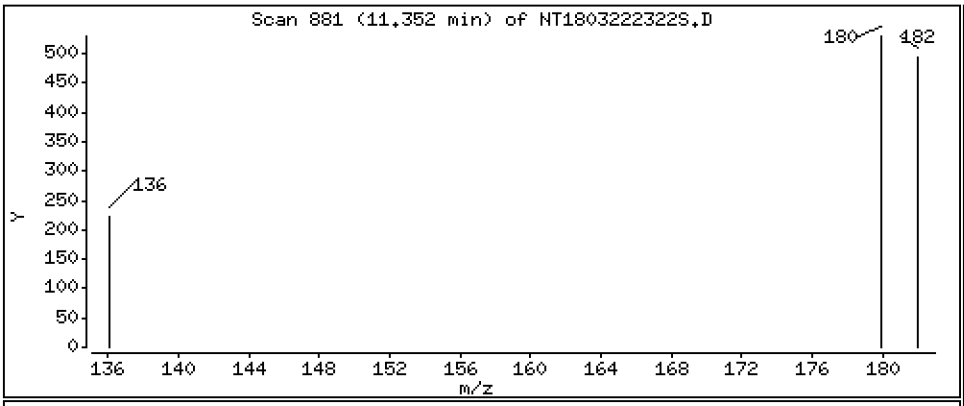
Operator: VTS

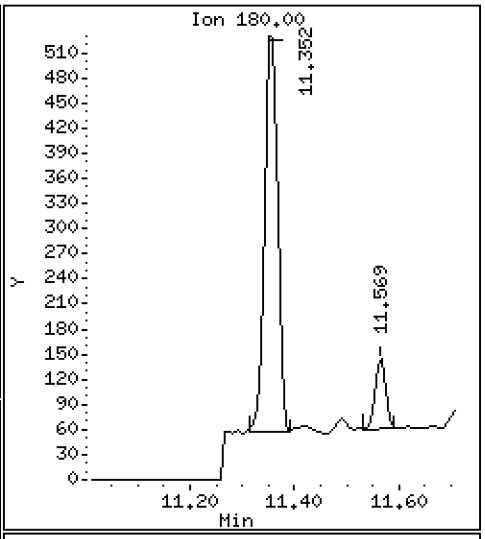
Column phase: ZB-5msi

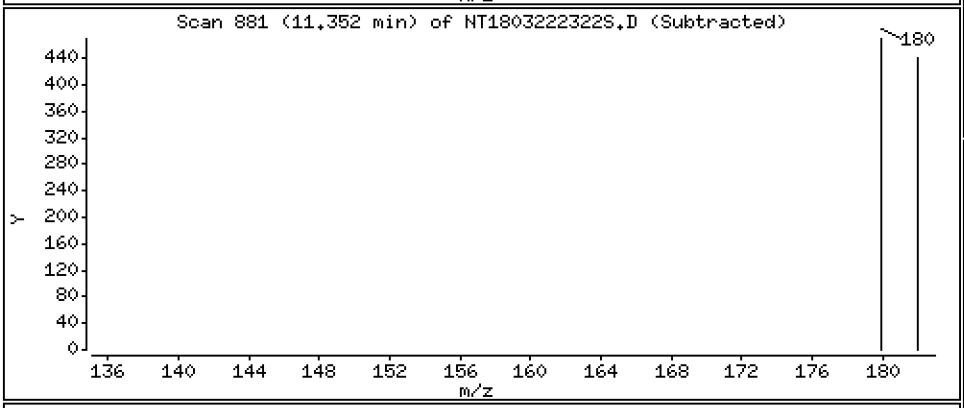
Column diameter: 0.25

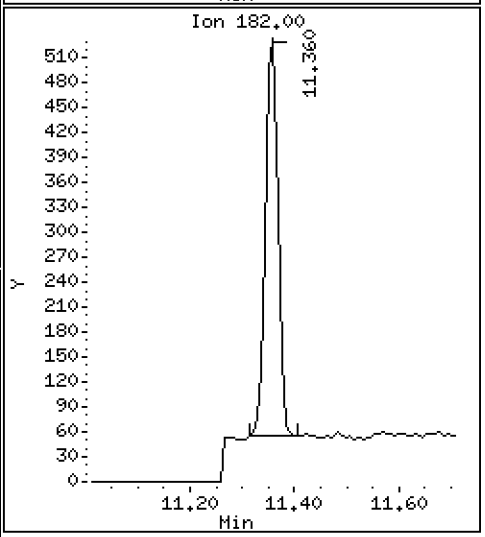
26 1,2,4-Trichlorobenzene

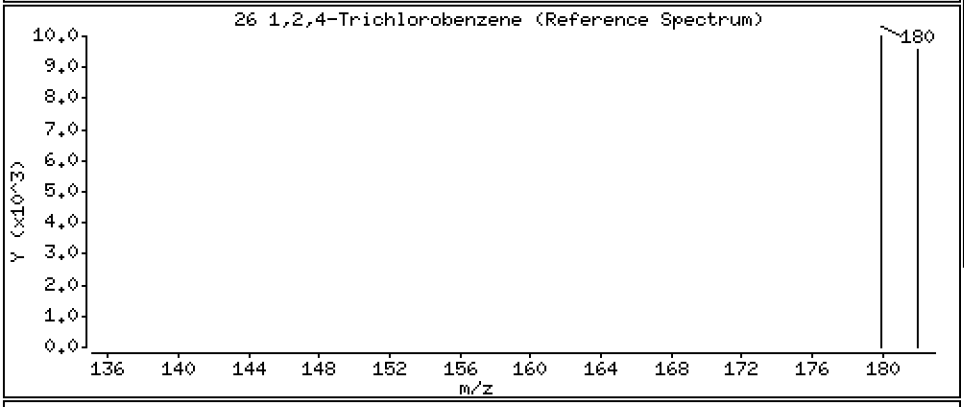
Concentration: 0.007995 ug/mL

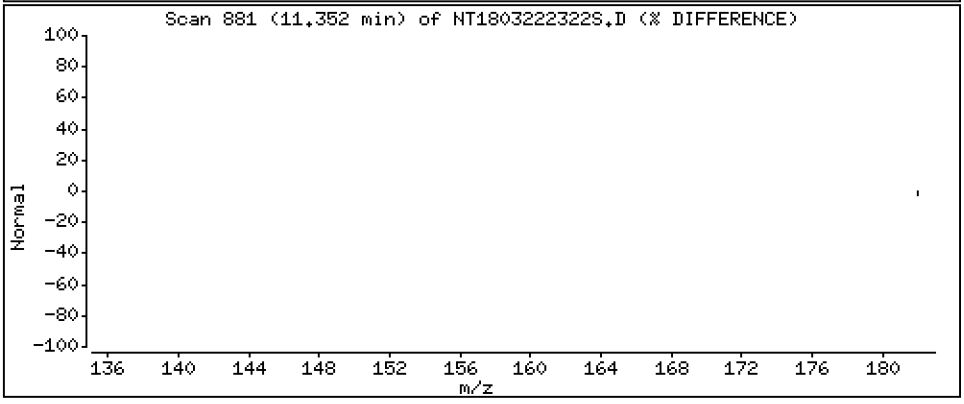












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT18032223225.D

Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

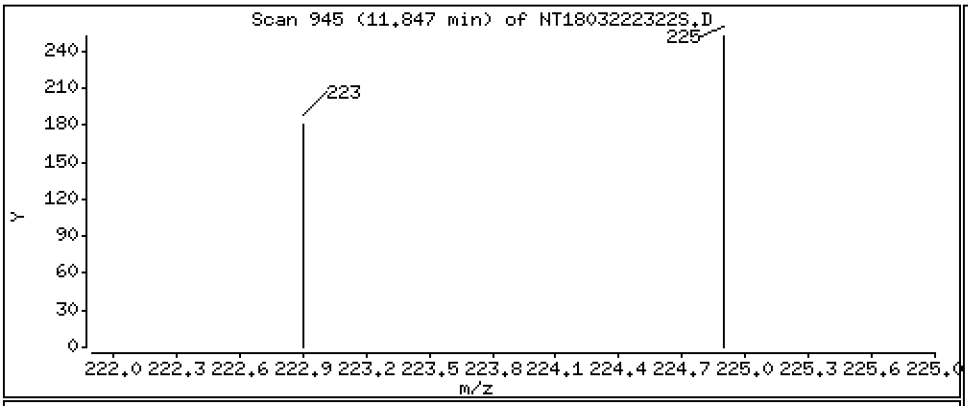
Operator: VTS

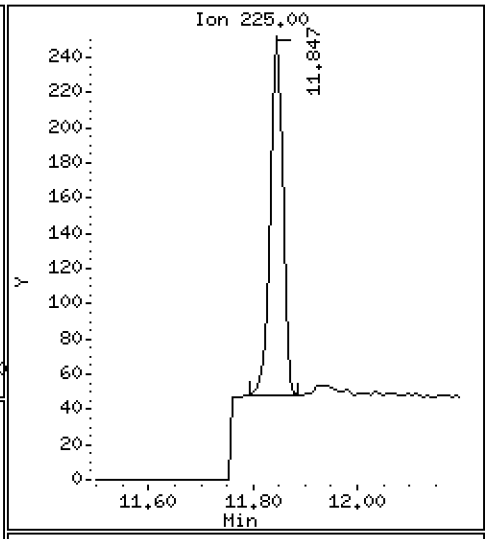
Column phase: ZB-5msi

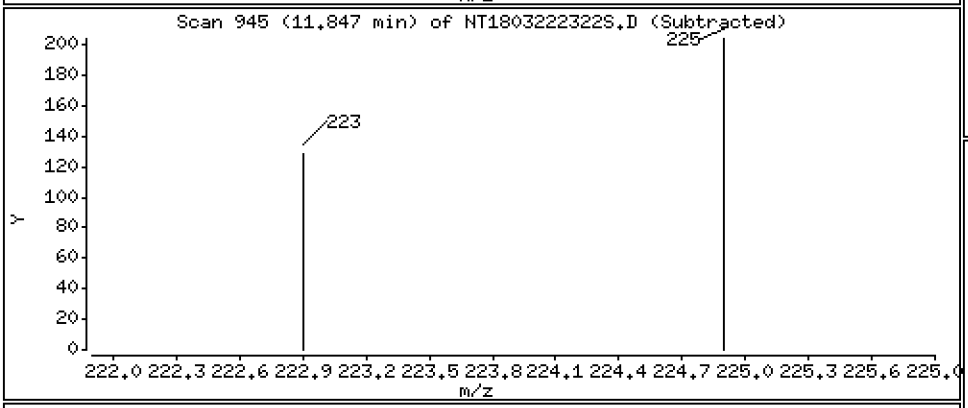
Column diameter: 0.25

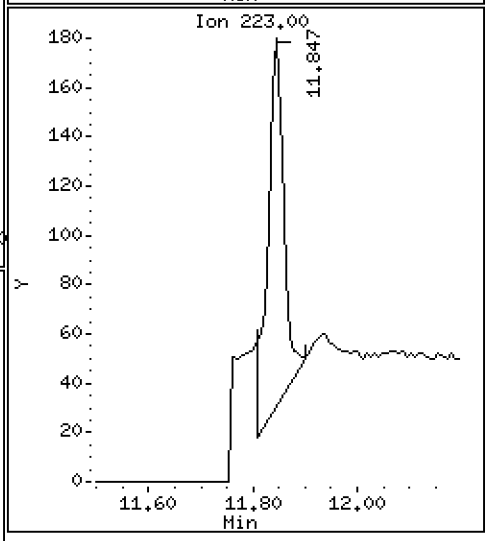
30 Hexachlorobutadiene

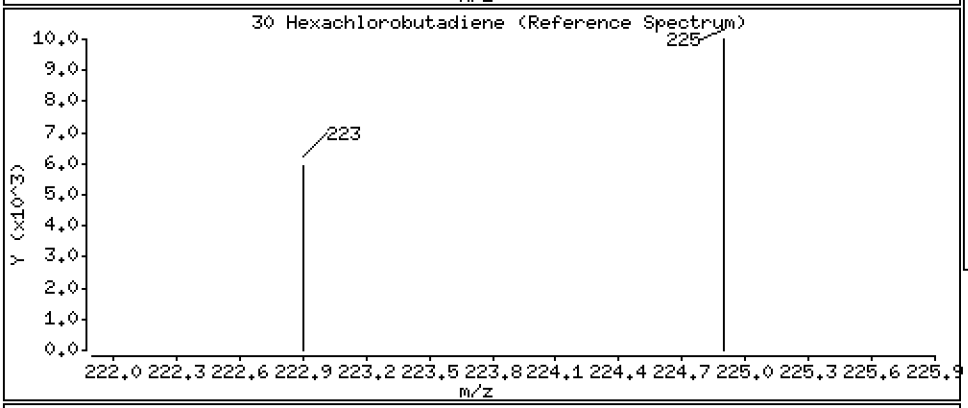
Concentration: 0.005706 ug/mL

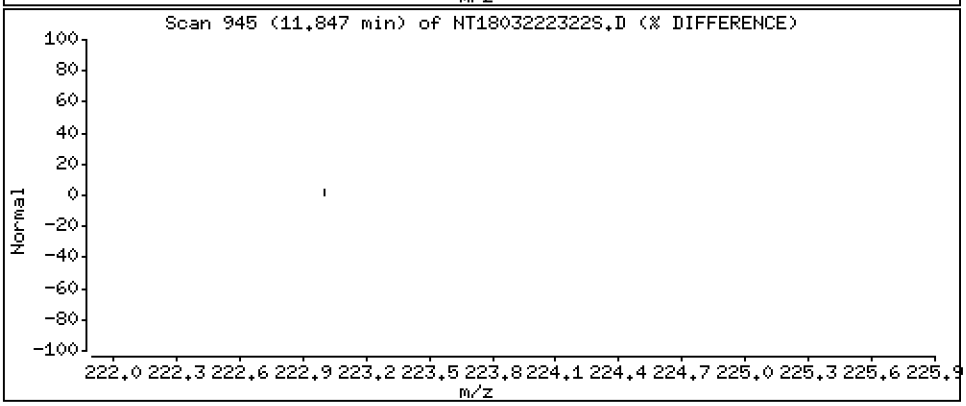












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Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

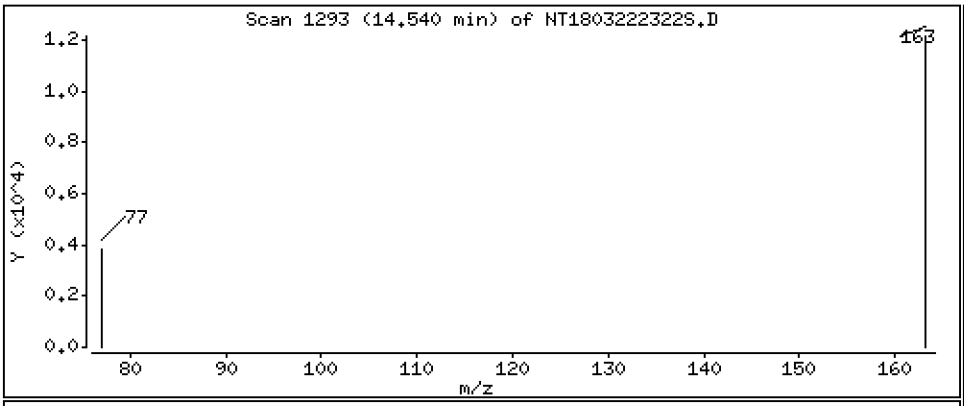
Operator: VTS

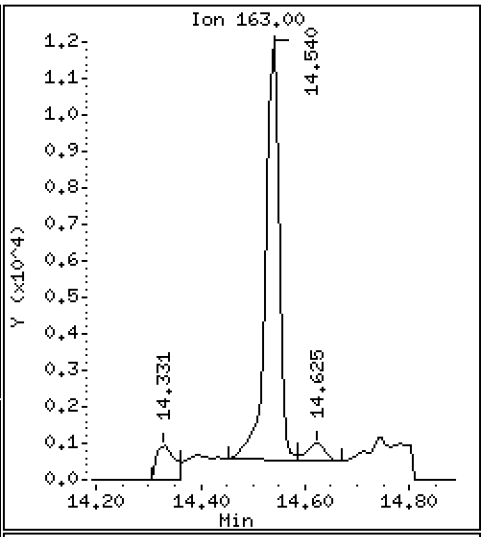
Column phase: ZB-5msi

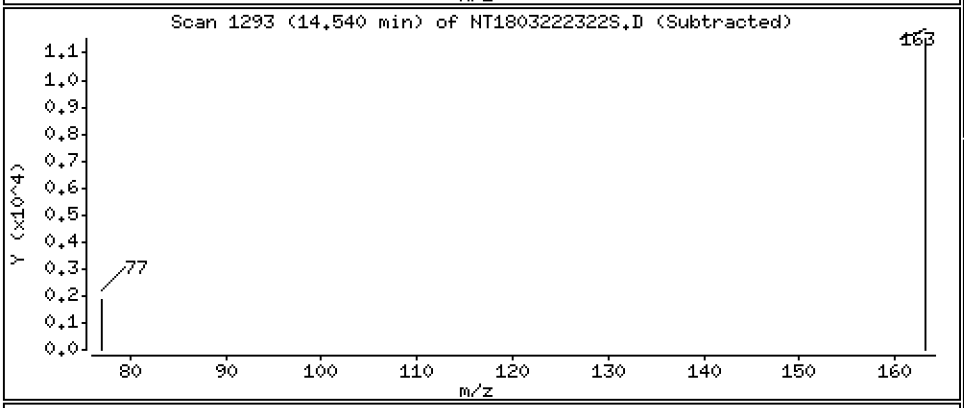
Column diameter: 0.25

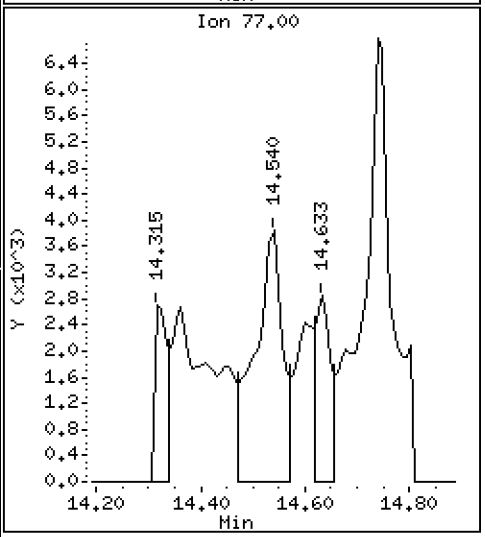
39 Dimethylphthalate

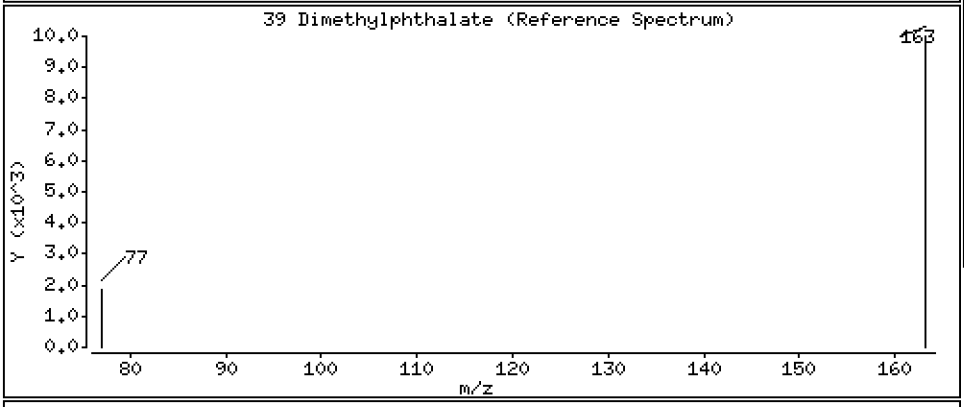
Concentration: 0.1021 ug/mL

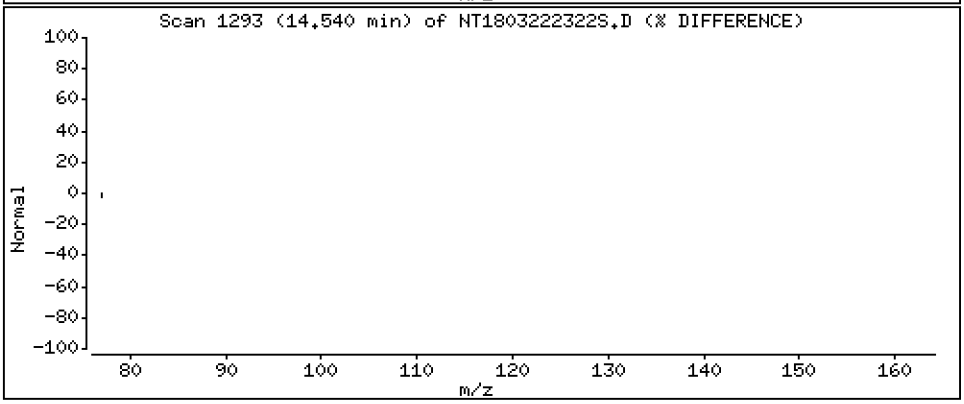












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT18032223225.D

Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

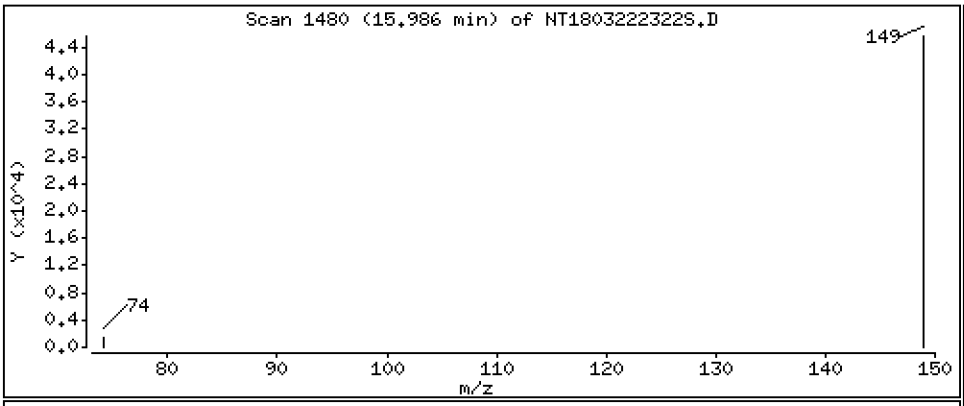
Operator: VTS

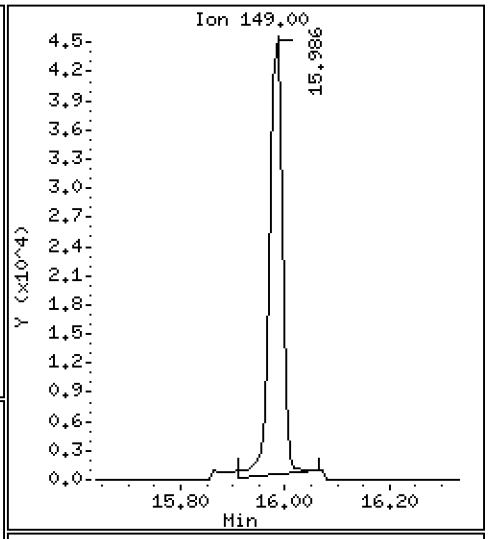
Column phase: ZB-5msi

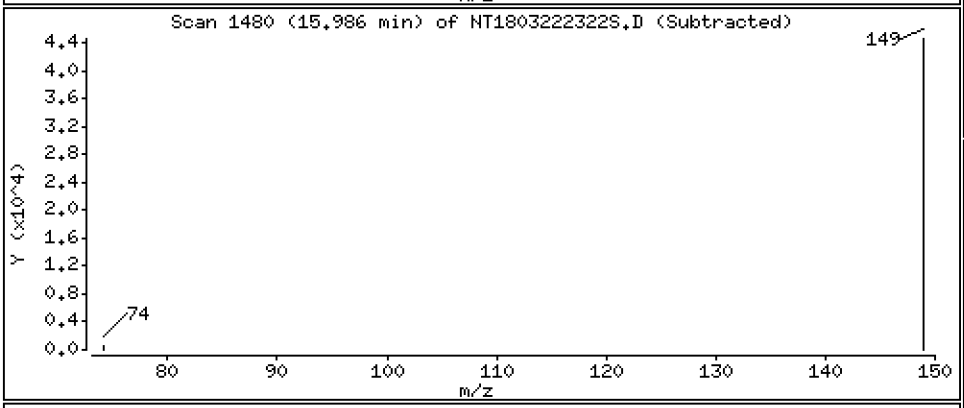
Column diameter: 0.25

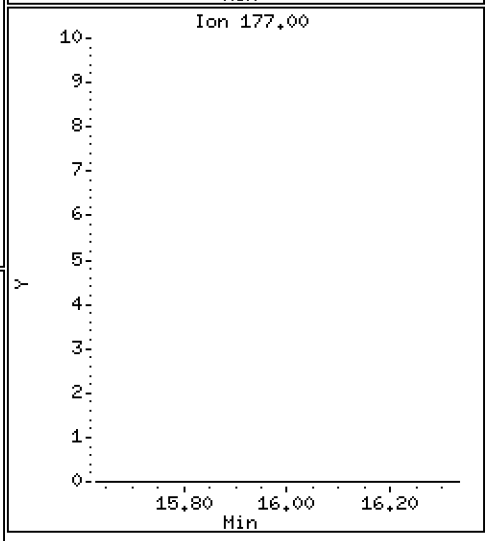
50 Diethylphthalate

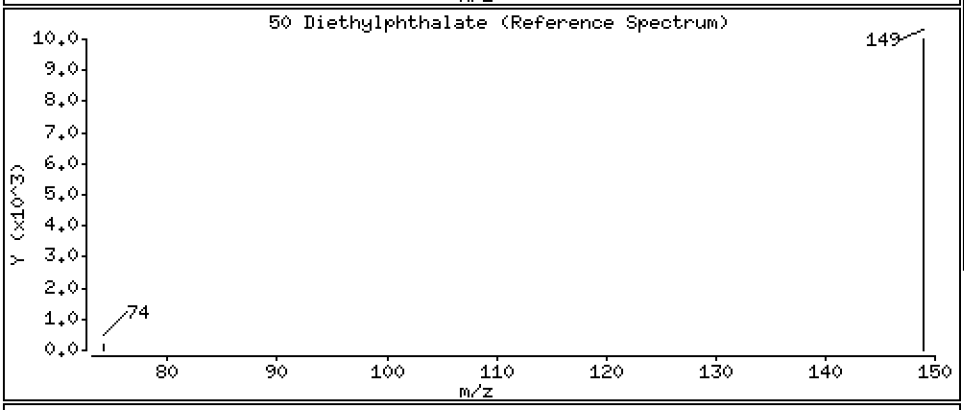
Concentration: 0.4191 ug/mL

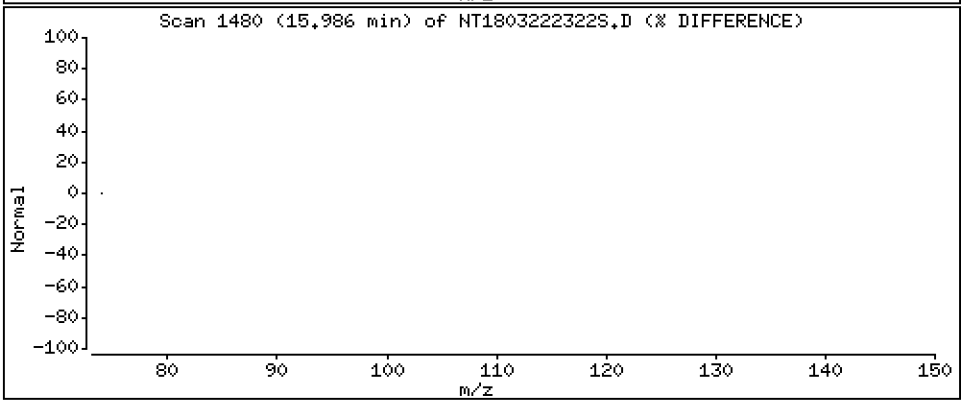












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT18032223225.D

Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

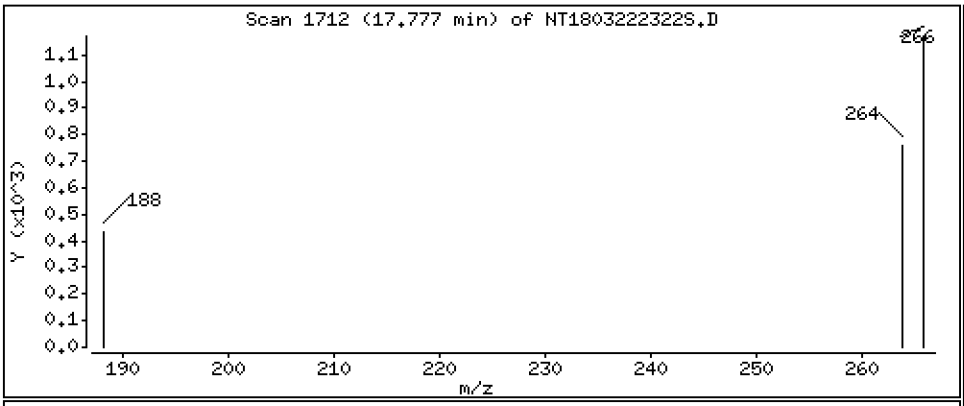
Operator: VTS

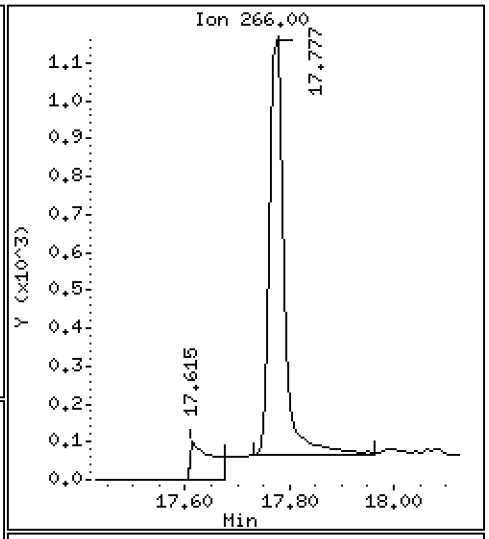
Column phase: ZB-5msi

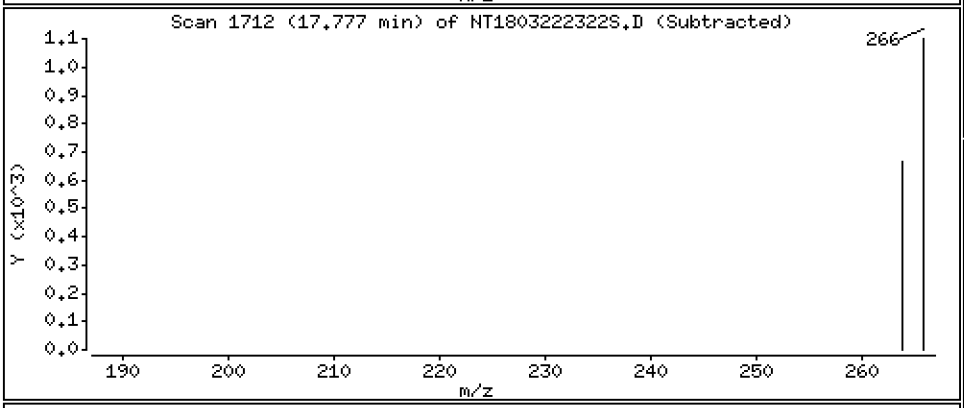
Column diameter: 0.25

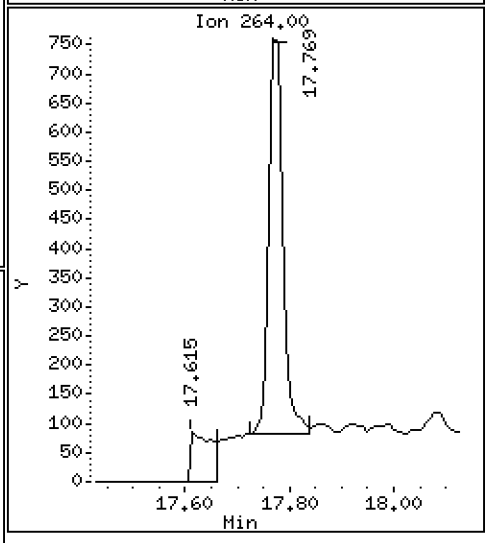
58 Pentachlorophenol

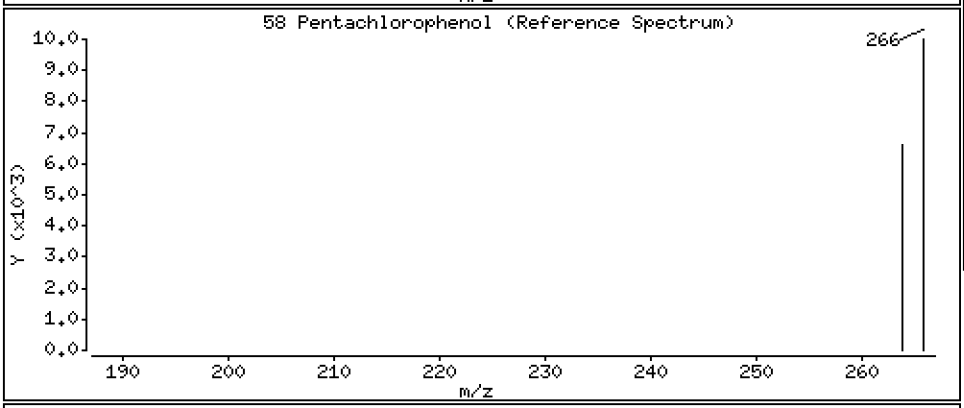
Concentration: 0.06074 ug/mL

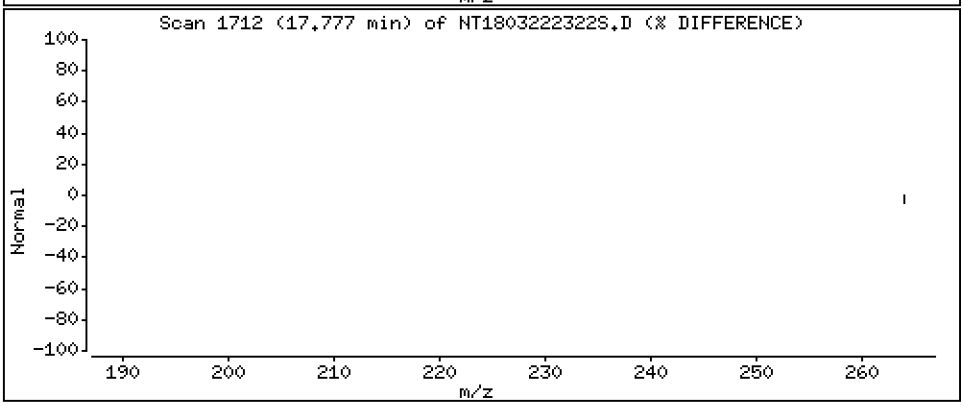












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT18032223225.D

Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

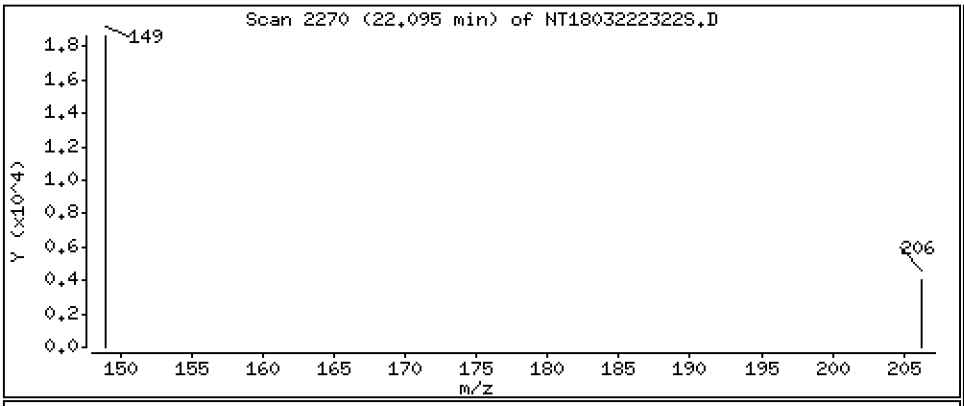
Operator: VTS

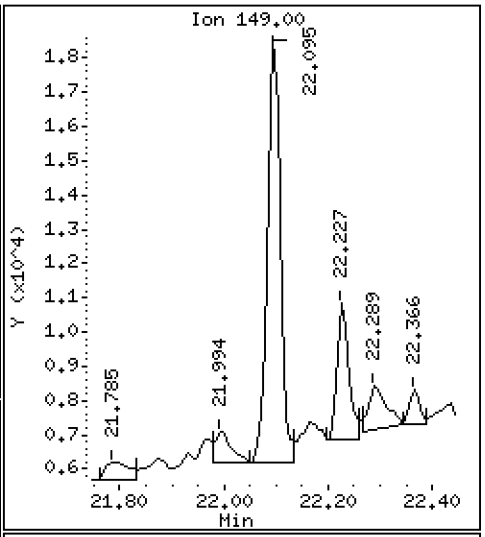
Column phase: ZB-5msi

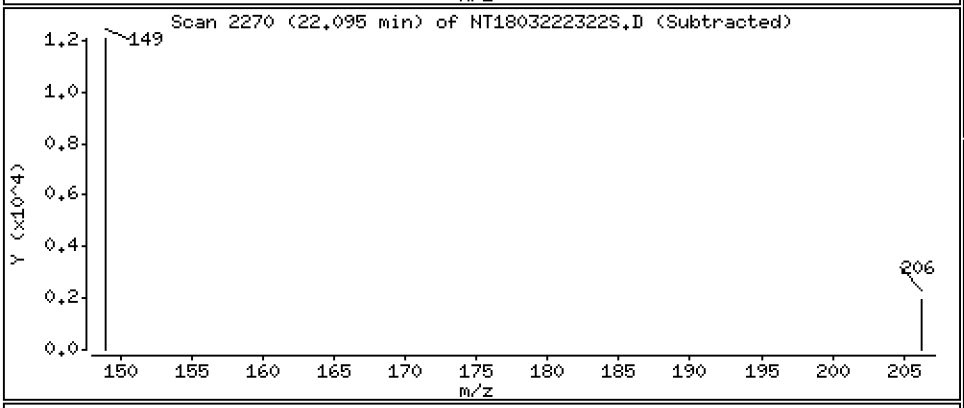
Column diameter: 0.25

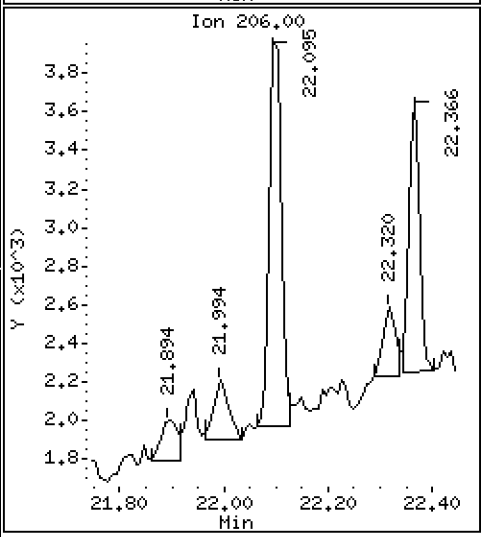
67 Butylbenzylphthalate

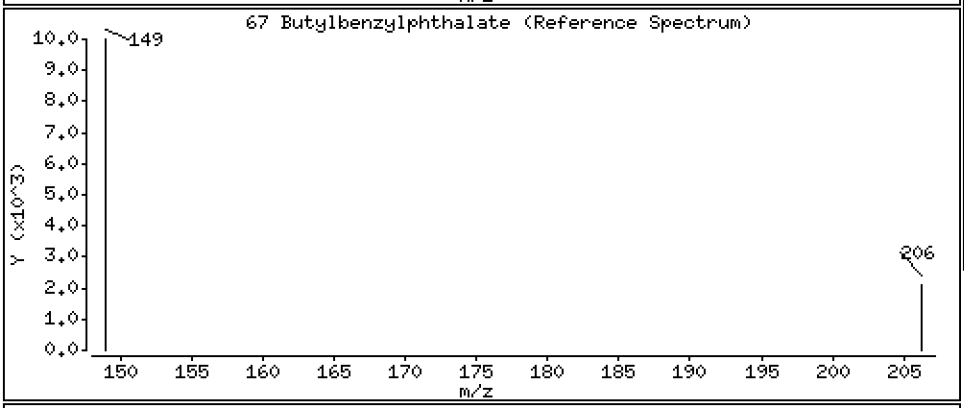
Concentration: 0.1108 ug/mL

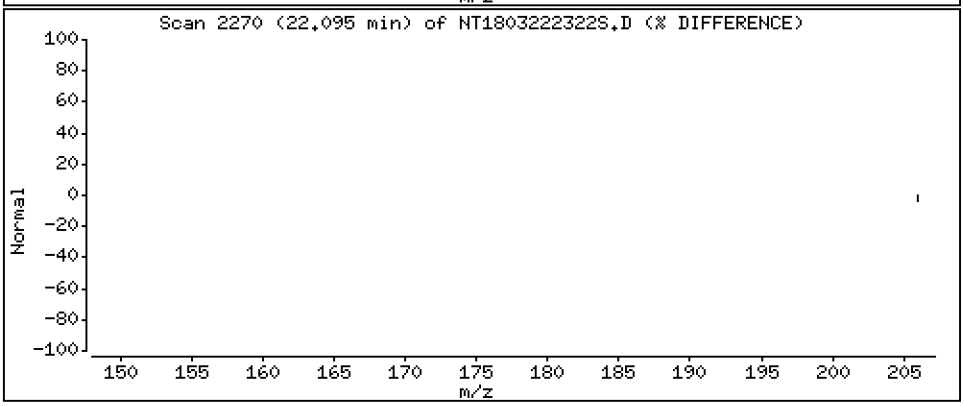












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT18032223225.D

Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

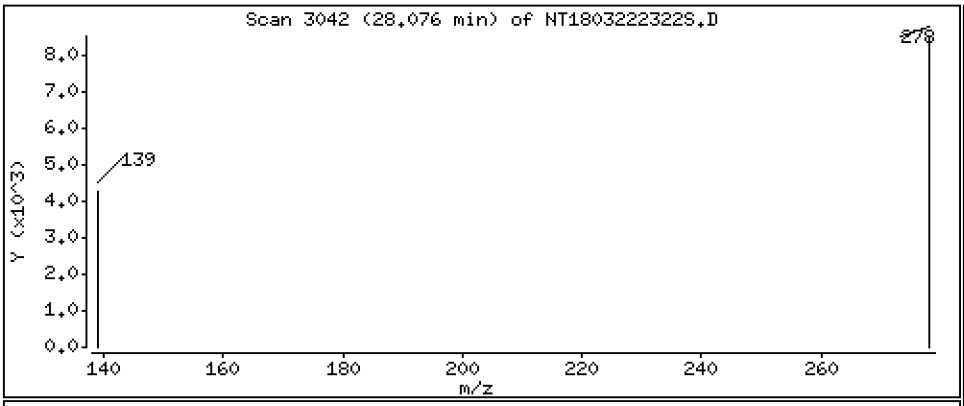
Operator: VTS

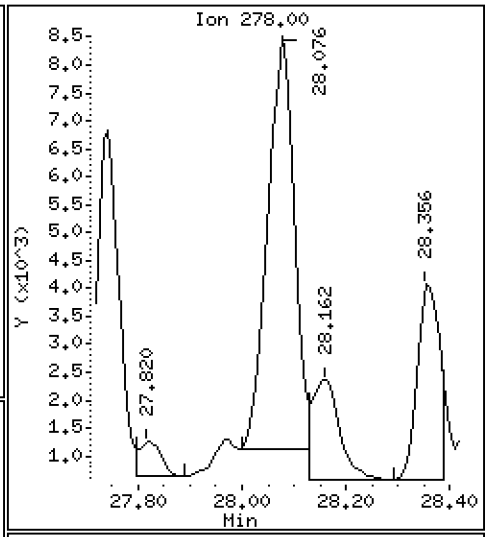
Column phase: ZB-5msi

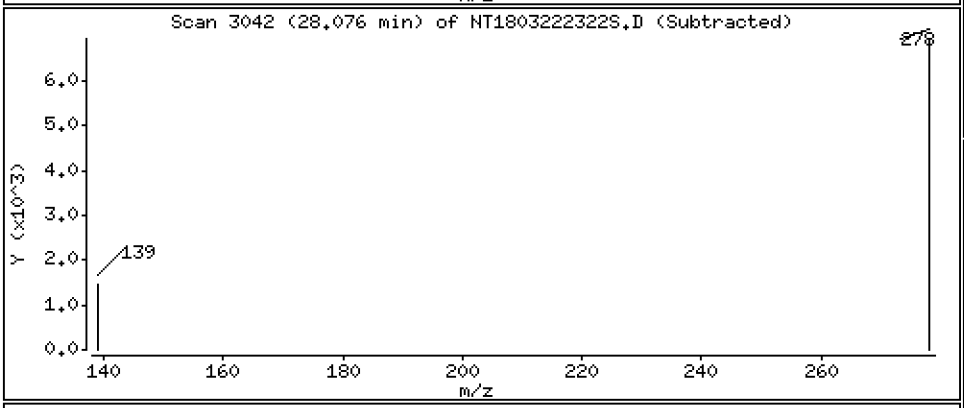
Column diameter: 0.25

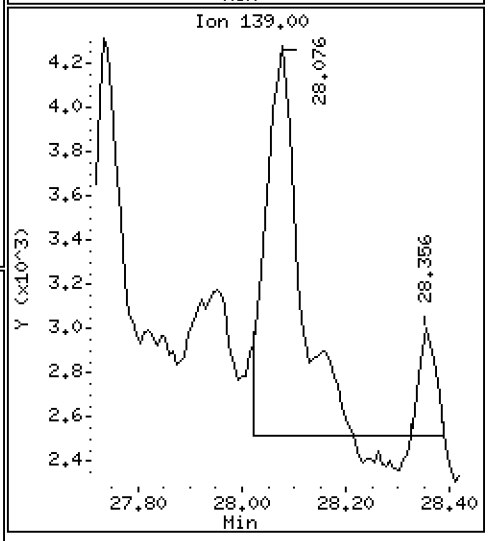
79 Dibenzo(a,h)anthracene

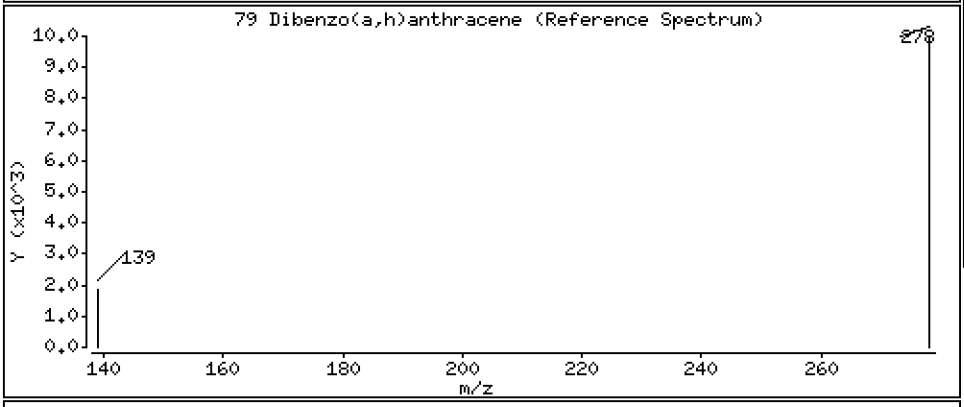
Concentration: 0.07620 ug/mL

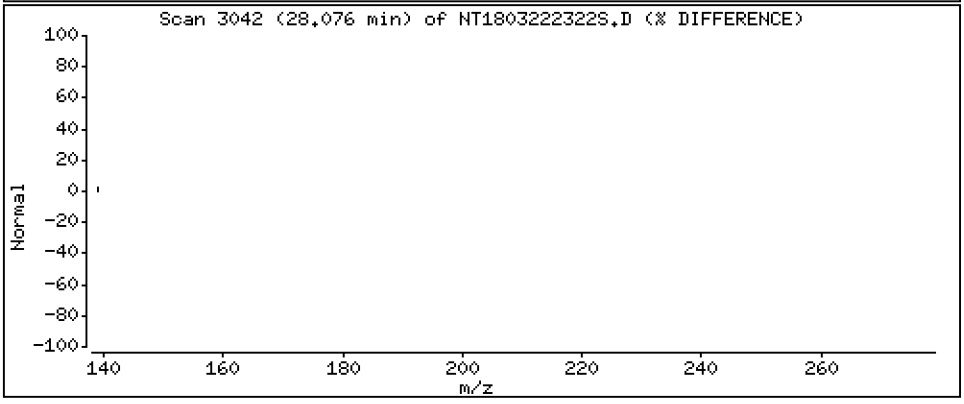












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT18032223225.D

Date : 23-MAR-2023 07:26

Client ID:

Instrument: nt18.i

Sample Info: 23C0108-09

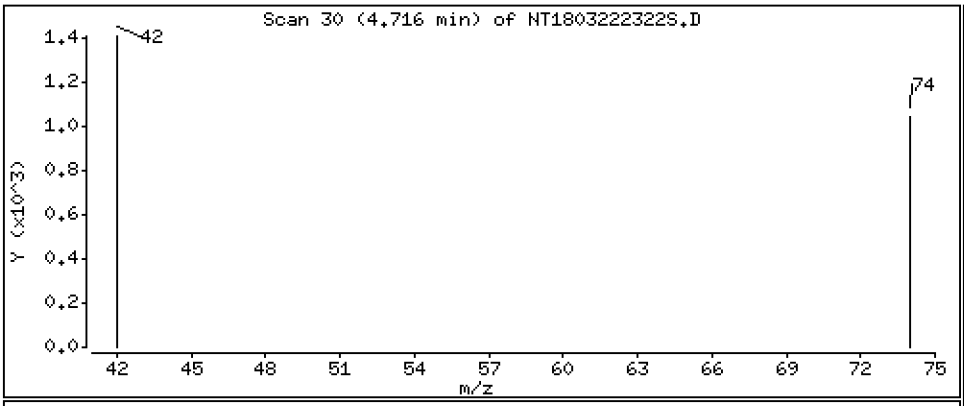
Operator: VTS

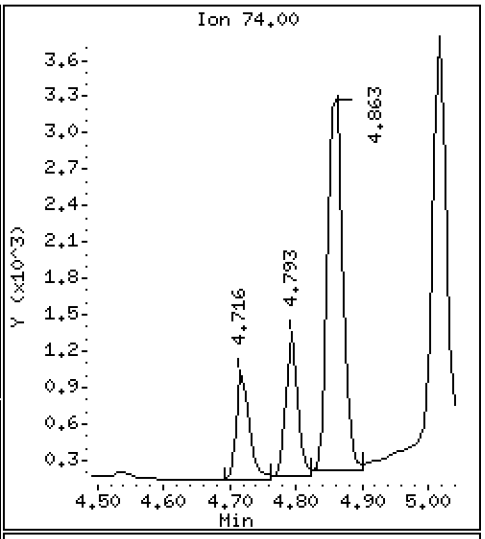
Column phase: ZB-5msi

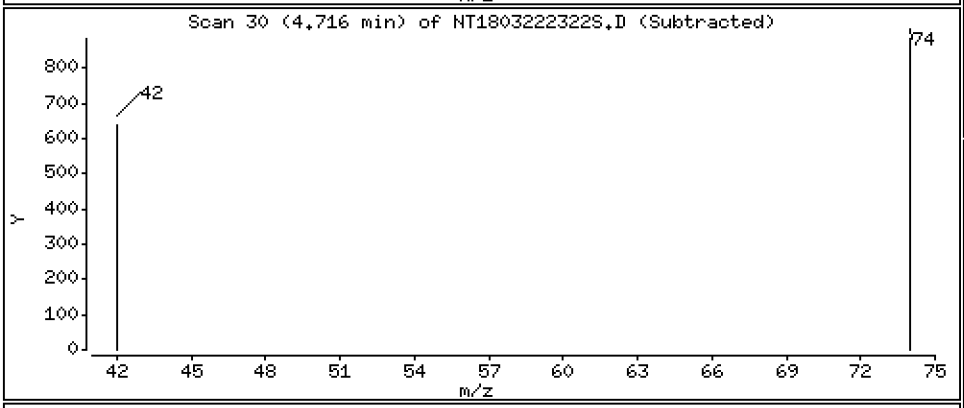
Column diameter: 0.25

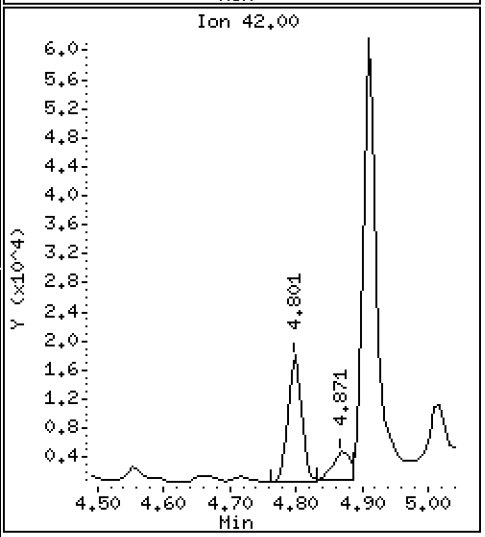
90 N-Nitrosodimethylamine

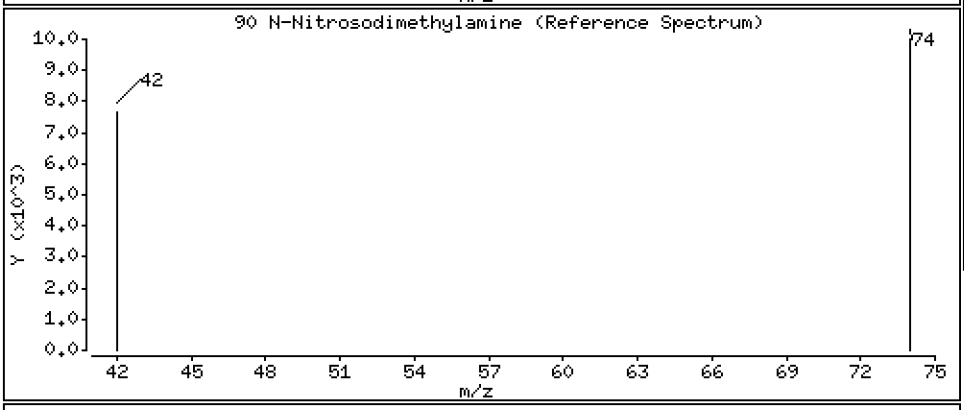
Concentration: 0.02035 ug/mL

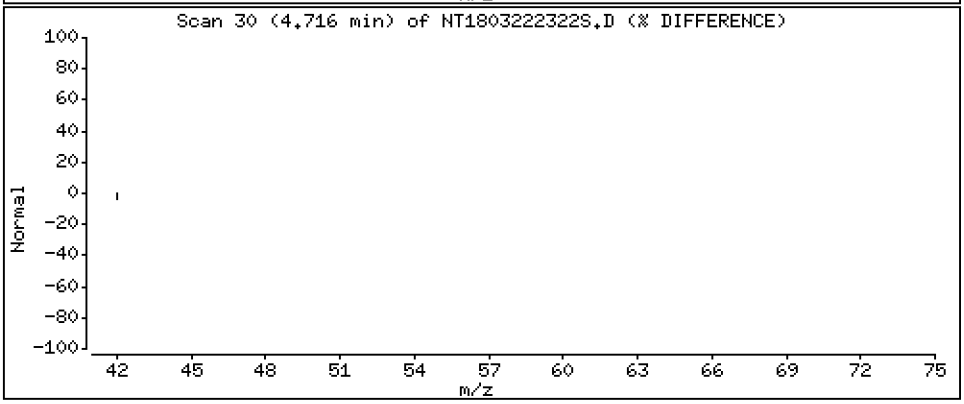












ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT1803222322S.D
Lab Smp Id: 23C0108-09
Inj Date : 23-MAR-2023 07:26
Operator : VTS Inst ID: nt18.i
Smp Info : 23C0108-09
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230322A.b\SIM.b\SIMABN2.m
Meth Date : 05-Apr-2023 11:57 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: DEENAY-201905

			QUANT SIG					CONCENTRATIONS ON-COLUMN	FINAL
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/mL)	(ug/mL)
$	1	2-Fluorophenol	112	6.801	6.786	(0.757)	623060	6.30720	6.307(R)
	3	Phenol	94	8.377	8.369	(0.933)	221083	1.67135	1.671
	7	1,3-Dichlorobenzene	146	8.918	8.918	(0.993)	1284	0.01003	0.01003
*	8	1,4-Dichlorobenzene-d4	152	8.980	8.980	(1.000)	338852	4.00000	
	9	1,4-Dichlorobenzene	146	9.011	9.011	(1.003)	2782	0.02143	0.02143
	11	Benzyl alcohol	79	9.252	9.244	(1.030)	40964	0.51787	0.5179
	12	1,2-Dichlorobenzene	146	9.361	9.361	(1.042)	1268	0.01004	0.01004
	13	2-Methylphenol	108	9.477	9.469	(1.055)	2400	0.02614	0.02614
	15	4-Methylphenol	108	9.749	9.741	(1.086)	12497	0.13083	0.1308
	16	N-Nitroso-di-n-propylamine	70	Compound Not Detected.					
	22	2,4-Dimethylphenol	107	10.783	10.775	(0.943)	2359	0.02744	0.02744
	24	Benzoic acid	105	10.894	10.911	(0.953)	43850	0.74745	0.7475
	26	1,2,4-Trichlorobenzene	180	11.352	11.360	(0.993)	784	0.00800	0.007995
*	27	Naphthalene-d8	136	11.437	11.437	(1.000)	1231118	4.00000	
	30	Hexachlorobutadiene	225	11.846	11.846	(1.036)	322	0.00571	0.005706
	39	Dimethylphthalate	163	14.539	14.539	(0.968)	19669	0.10212	0.1021
*	42	Acenaphthene-d10	162	15.027	15.027	(1.000)	602971	4.00000	
	50	Diethylphthalate	149	15.985	15.985	(1.064)	73292	0.41910	0.4191
	54	N-Nitrosodiphenylamine	169	Compound Not Detected.					
	57	Hexachlorobenzene	284	Compound Not Detected.					
	58	Pentachlorophenol	266	17.777	17.777	(0.986)	2055	0.06074	0.06074
*	59	Phenanthrene-d10	188	18.032	18.032	(1.000)	1111406	4.00000	
$	66	Terphenyl-d14	244	21.173	21.166	(0.918)	744538	4.10885	4.109(R)
	67	Butylbenzylphthalate	149	22.095	22.095	(0.958)	20107	0.11083	0.1108
*	69	Chrysene-d12	240	23.063	23.055	(1.000)	1285574	4.00000	
*	77	Perylene-d12	264	25.579	25.563	(1.000)	1165335	4.00000	
	79	Dibenzo(a,h)anthracene	278	28.076	28.068	(1.098)	26275	0.07620	0.07620
	90	N-Nitrosodimethylamine	74	4.716	4.692	(0.525)	1227	0.02035	0.02035

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222322S.D
Lab Smp Id: 23C0108-09
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 23-MAR-2023
Calibration Time: 04:45
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	300412	150206	600824	338852	12.80
27 Naphthalene-d8	1106289	553145	2212578	1231118	11.28
42 Acenaphthene-d10	537373	268687	1074746	602971	12.21
59 Phenanthrene-d10	948670	474335	1897340	1111406	17.15
69 Chrysene-d12	1017874	508937	2035748	1285574	26.30
77 Perylene-d12	984454	492227	1968908	1165335	18.37

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	0.00
42 Acenaphthene-d10	15.03	14.53	15.53	15.03	0.00
59 Phenanthrene-d10	18.03	17.53	18.53	18.03	0.00
69 Chrysene-d12	23.06	22.56	23.56	23.06	0.03
77 Perylene-d12	25.56	25.06	26.06	25.58	0.06

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222322S.D

Lab ID: 23C0108-09
nt18.i, 20230322A.b\SIM.b\SIMABN2.m,   23-MAR-2023 07:26

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

RRT check based on Ccal File: SIM.b/NT1803222318S.D

On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

PREPARATION BATCH SUMMARY

EPA 8270E-SIM

Laboratory: Analytical Resources, LLC SDG: 23C0108

Client: Anchor QEA, LLC Project: AOC5 MR Phase 1

Batch: BLC0185 Batch Matrix: Solid Preparation: EPA 3546 (Microwave)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-SC1044	23C0108-02	NT1803222311S.D	03/09/23 13:26	
LDW23-SS1106	23C0108-06	NT1803222312S.D	03/09/23 13:26	
LDW23-SS1107	23C0108-07	NT1803222313S.D	03/09/23 13:26	
LDW23-SS1111	23C0108-08	NT1803222314S.D	03/09/23 13:26	
LDW23-SS1118	23C0108-09	NT1803222322S.D	03/09/23 13:26	
Blank	BLC0185-BLK3	NT1803222306S.D	03/09/23 13:26	
Blank	BLC0185-BLK4	NT1803222321S.D	03/09/23 13:26	
LCS	BLC0185-BS2	NT1803222307S.D	03/09/23 13:26	
LCS Dup	BLC0185-BSD2	NT1803222308S.D	03/09/23 13:26	
MRL Check	BLC0185-MRL2	NT1803222309S.D	03/09/23 13:26	
LDW23-SS1111	BLC0185-MS2	NT1803222315S.D	03/09/23 13:26	
LDW23-SS1111	BLC0185-MSD2	NT1803222316S.D	03/09/23 13:26	
Reference	BLC0185-SRM2	NT1803222310S.D	03/09/23 13:26	

Analytical Resources, LLC
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BLC0185

Prepared using: EPA 3546 (Microwave)

8270E SVOC (20ug/kg solid or 0.2ug/L low H2O Sepf) in Solid (Version:AOC4 List)

Matrix: Solid Date Prepared: 03/09/23 Balance ID: B146462614 Set Up By: CTO 3/8/23

WO Comments

23C0108: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)
23C0109: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

The following standards may be missing from this batch!

Designator	Description
39	Benzidine Spike

Analysis: 8270E SVOC (20ug/kg solid or 0.2ug/L low H2O Sepf)

Lab Number & Container	% Solids	Initial (g) Target Dry: 10 (Wet) Actual	(REQ) GPC C/U (1:1) 1 2 3	Water Wash 1mL	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
23C0108-02 A	52.7	(18.96) 18.96	(1:1)	1mL	1 ____	0.5 ____	
23C0108-06 A	43.3	(23.08) 23.10	(1:1)	1mL	1 ____	0.5 ____	
23C0108-07 A	40.2	(24.88) 24.92	(1:1)	1mL	1 ____	0.5 ____	
23C0108-08 A	46.4	(21.56) 21.59	(1:1)	1mL	1 ____	0.5 ____	
23C0108-09 A	42.6	(23.46) 23.52	(1:1)	1mL	1 ____	0.5 ____	
23C0109-02 A	35.9	(27.86) 27.89	(1:1)	1mL	1 ____	0.5 ____	
23C0109-03 A	36.1	(27.68) 27.68	(1:1)	1mL	1 ____	0.5 ____	

Batch QC

Lab Number	% Solids	Initial (g) Target Dry: 10 (Wet) Actual	(REQ) GPC C/U (1:1) 1 2 3	Water Wash 1mL	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
BLC0185-BLK1	100.0	(10.00) 10.00	(1:1)	1mL	1 ____	0.5 ____	Use 5g Neutral Sodium Sulfate for Blanks
BLC0185-BS1	100.0	(10.00) 10.00	(1:1)	1mL	1 ____	0.5 ____	Use 5g Neutral Sodium Sulfate for Blanks
BLC0185-BSD1	100.0	(10.00) 10.00	(1:1)	1mL	1 ____	0.5 ____	Use 5g Neutral Sodium Sulfate for Blanks
BLC0185-MRL1	100.0	(10.00) 10.00	(1:1)	1mL	1 ____	0.5 ____	Use 5g Neutral Sodium Sulfate for Blanks
BLC0185-MS1	46.4	(21.56) 21.59	(1:1)	1mL	1 ____	0.5 ____	Use 23C0108-08
BLC0185-MSD1	46.4	(21.56) 21.56	(1:1)	1mL	1 ____	0.5 ____	Use 23C0108-08
BLC0185-SRM1	100.0	~~(10.00)~~ (1.00) 1.00 +1g DI WATER	(1:1)	1mL	1 ____	0.5 ____	Use K003477

Client ID verified By 03/09/23 Date

NMS 3/11/23
Preparation Reviewed By Date

03/09/23 13:26
Extraction Date and Time

Printed: 3/8/2023 10:23:45AM

Analytical Resources, LLC
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BLC0185

Prepared using: EPA 3546 (Microwave)

8270E SVOC (20ug/kg solid or 0.2ug/L low H2O Sepf) in Solid (Version:AOC4 List)

WO Comments

23C0108: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)
23C0109: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

Prep Steps	Reagents Used	
Microwave 1 2 3 CT 03/09/23 Analyst/Date	**Station/Reagent**	**Standard ID**
	Microwave **Analyst:** CT **Date:** 03/09/23	
	Anhydrous Sodium Sulfate	L000214
	1:1 Methylene Chloride/Acetone	L000141
	Methylene Chloride	K000541
	Pre-Deactivated Glass Wool	L000923
Pre-GPC KD 100°C Exchange to Hexane (add 10 mL to KD) 0 2 4 5 6 LD 3-10-23 Analyst/Date	**Pre GPC KD** **Analyst:** LD **Date:** 3-10-23	
	Pre-Deactivated Glass Wool	
	Anhydrous Sodium Sulfate	
	Methylene Chloride	K000541
	Hexane	L000989
TurboVap **Pre GPC** 1 2 3 4 5 NRB 3/10/23 Analyst/Date	**GPC Filter Prep** **Analyst:** NRB **Date:** 3/10/23	
	Methylene Chloride	K000541
	GPC Filter	L001799
Post GPC KD 80-85°C 0 2 4 5 6 LD 3-16 Analyst/Date	**GPC** **Analyst:** TWC **Date:** 3/14/23	
	Methylene Chloride	K000541
	GPC Calibration File	CLC0492 GPC2
TurboVap 1 2 3 4 5 NRB 3/17/23 Analyst/Date	**Post GPC KD** **Analyst:** LD **Date:** 3-16-23	
	Methylene Chloride	K000541
Water Wash NRB 3/17/23 Analyst/Date	**Vialing** **Analyst:** NRB **Date:** 3/17/23	
	Methylene Chloride	K000541

Surrogates & Spike Standards Used

Type	Vial ID / Standard ID	Vol uL	Analyst	Witness
Surrogate 100/150µg/mL	**A** L001153 (V) Exp Date: 8/1/2023	50µL	CT	✓
Full List Spike (Freezer) 100µg/mL	**7** L001812 (V) Exp L000781 Date: 8/4/2023	50µL	CT	✓
Base Spike 200µg/mL	**56** L001812 (V) Exp L000778 Date: 8/24/2023	50µL	CT	✓
Acid Spike 100/200µg/mL	**38** L001812 (V) Exp L000779 Date: 8/24/2023	50µL	CT	✓
QLS Spike (Freezer) 10-100µg/mL	**QLS** 14 K011585 (V) Exp Date: 5/31/2023	20µL	CT	✓

MANUALLY ENTER EXPIRATION DATES!

(V) indicates a virtual standard combining two or more physical standards. In these cases the Standard ID refers to the virtual standard, not the parent standards.

If a Standard ID is missing, but should be present, check the standard definition in Element LIMS to be sure Standard Info 6 has the correct letter or number designator matching the vial designator inthe Standard ID column. If it is correct, check the batch and bench sheet in Element LIMS to be sure the correct standards are selected for surrogate(s) and spike(s).

Analytical Resources, LLC
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BLC0185

Prepared using: EPA 3546 (Microwave)

8270E SVOC (20ug/kg solid or 0.2ug/L low H2O Sepf) in Solid (Version:AOC4 List)

WO Comments

23C0108: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

23C0109: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

Prep Instructions	
SPECIAL INSTRUCTIONS: 1. Weigh into beakers-lightly dry with Sodium Sulfate. 2. Transfer to microwave vessel. 3. Add DCM ONLY to the vessels (until solvent is 3 inches above soil layer after homogenization). 4. Add surr/spike. 5. Microwave on appropriate power setting determined by # of samples. 6. After microwave-re-homogenize while hot then let cool 10-15 min in Refridgerator 05. Re-homogenize while cool. 7. Decant DCM into Erlenmeyer flask with a funnel containing pre-deactivated glasswool. 8. Rinse with DCM 9. Microwave a 2nd time using 1:1 DCM/ACE. 10. Let cool and decant the solvent then empty the soil into the funnel and rinse with DCM. 11. KD: Add 10 mL Hexane directly to extract in the KD. 12. GPC REQUIRED 100°C water bath (CLP) KD to 5mL. 13. Vialers to take 1:5 Split Pre- GPC. 14. (After GPC): KD at 80°C. 15. TurboVap to 1mL in DCM. 16. WATER WASH REQUIRED: 16a. Vial 1mL of all extracts in 2mL amber vials in DCM. 16b. Add ~0.5mL DI water and vortex for ~5 seconds each. 16c. Centrifuge extracts for 5 minutes at 1500-2000rpm. 16d. Transfer and vial 0.5mL to new 2mL amber vials (Avoiding collecting water in syringe and cleaning syringe with Acetone and DCM between each vial). 17. Archive water wahed vials and deliever new vials to GC Department for analysis. A. Need Total Solids Y (N) B. Archive/Freeze (Y) N	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

Extraction Parameter: SVOA Extraction Batch: BL0085

Total Solids Batch: ~~BLA~~ BL0101 Work Order(s): 23C0102, 108, 109

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☒ No Anomalies (standard soil/wet sediment/sand/gravel)= 108, 109	CR 3/7/23
☒ Standing Water Decanted (Not shared)= 107:01	CR 3/7/23
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☐ Rocks (%+size)?	
☐ Organics (Leaves/sticks/grass)=	
☒ Oily, obvious fuel/sulfur odors= 107:01	CR 3/7/23
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☒ Previously Frozen = 107, 108, 109	CR 3/7/23
☐ Other (Details)=	
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☒ Other Notes/Comments= (Note problems, concerns, corrective actions).	
~10-15 minutes of PSI issues on GPC for 23C0109-02. PSI issue resolved mid run.	CR 3/15/23
☒ Share Samples Y / (N)	CR 3/7/23
☒ Multiple Jars Y / (N)	CR 3/7/23
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

3056F

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Cleanup Batch:	CLC0143	Cleanup Type:	GPC
Cleanup Method:	EPA 3640A GPC Cleanup 1:1	Analysis:	EPA 8270E-SIM

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-SS1111	23C0108-08	NT1803222314S.D	03/17/2023	
LDW23-SS1107	23C0108-07	NT1803222313S.D	03/17/2023	
LDW23-SS1106	23C0108-06	NT1803222312S.D	03/17/2023	
LDW23-SC1044	23C0108-02	NT1803222311S.D	03/17/2023	
Reference	BLC0185-SRM2	NT1803222310S.D	03/17/2023	
Matrix Spike Dup	BLC0185-MSD2	NT1803222316S.D	03/17/2023	
Matrix Spike	BLC0185-MS2	NT1803222315S.D	03/17/2023	
LCS Dup	BLC0185-BSD2	NT1803222308S.D	03/17/2023	
LCS	BLC0185-BS2	NT1803222307S.D	03/17/2023	
LDW23-SS1118	23C0108-09	NT1803222322S.D	03/17/2023	

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CLC0143

Matrix: Solid **Cleanup using: Organics - EPA 3640A GPC Cleanup 1:1** **Check Standard: CLC0092-GPC1** **Printed: 3/17/2023 10:35:49AM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
23C0108-02	A	LDW23-SC1044	A 02	1	1	SVOC (20ug/kg solid or 0.2ug/L low H2	3/17/2023	NRB	
23C0108-02	A	LDW23-SC1044	A 03	1	1	8270E-SIM Dual Scan SVOC	3/17/2023	NRB	
23C0108-06	A	LDW23-SS1106	A 02	1	1	SVOC (20ug/kg solid or 0.2ug/L low H2	3/17/2023	NRB	
23C0108-06	A	LDW23-SS1106	A 03	1	1	8270E-SIM Dual Scan SVOC	3/17/2023	NRB	
23C0108-07	A	LDW23-SS1107	A 02	1	1	SVOC (20ug/kg solid or 0.2ug/L low H2	3/17/2023	NRB	
23C0108-07	A	LDW23-SS1107	A 03	1	1	8270E-SIM Dual Scan SVOC	3/17/2023	NRB	
23C0108-08	A	LDW23-SS1111	A 02	1	1	SVOC (20ug/kg solid or 0.2ug/L low H2	3/17/2023	NRB	
23C0108-08	A	LDW23-SS1111	A 03	1	1	8270E-SIM Dual Scan SVOC	3/17/2023	NRB	
23C0108-09	A	LDW23-SS1118	A 03	1	1	8270E-SIM Dual Scan SVOC	3/17/2023	NRB	
23C0108-09	A	LDW23-SS1118	A 02	1	1	SVOC (20ug/kg solid or 0.2ug/L low H2	3/17/2023	NRB	
23C0109-02	A	LDW23-SS1104	A 02	1	1	SVOC (20ug/kg solid or 0.2ug/L low H2	3/17/2023	NRB	
23C0109-02	A	LDW23-SS1104	A 03	1	1	8270E-SIM Dual Scan SVOC	3/17/2023	NRB	
23C0109-03	A	LDW23-SS1105	A 02	1	1	SVOC (20ug/kg solid or 0.2ug/L low H2	3/17/2023	NRB	
23C0109-03	A	LDW23-SS1105	A 03	1	1	8270E-SIM Dual Scan SVOC	3/17/2023	NRB	
BLC0185-BLK1	-	Blank	-	1	1	-	3/17/2023	NRB	
BLC0185-BLK2	-	Blank	-	1	1	-	3/17/2023	NRB	
BLC0185-BS1	-	LCS	-	1	1	-	3/17/2023	NRB	
BLC0185-BS2	-	LCS	-	1	1	-	3/17/2023	NRB	
BLC0185-BSD1	-	LCS Dup	-	1	1	-	3/17/2023	NRB	
BLC0185-BSD2	-	LCS Dup	-	1	1	-	3/17/2023	NRB	
BLC0185-MRL1	-	MRL Check	-	1	1	-	3/17/2023	NRB	
BLC0185-MS1	-	Matrix Spike	-	1	1	-	3/17/2023	NRB	

CLEANUP BENCH SHEET

CLC0143

Matrix: Solid **Cleanup using: Organics - EPA 3640A GPC Cleanup 1:1** **Check Standard: CLC0092-GPC1** **Printed: 3/17/2023 10:35:49AM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
BLC0185-MS2	-	Matrix Spike	-	1	1	-	3/17/2023	NRB	
BLC0185-MSD1	-	Matrix Spike Dup	-	1	1	-	3/17/2023	NRB	
BLC0185-MSD2	-	Matrix Spike Dup	-	1	1	-	3/17/2023	NRB	
BLC0185-SRM1	-	Reference	-	1	1	-	3/17/2023	NRB	
BLC0185-SRM2	-	Reference	-	1	1	-	3/17/2023	NRB	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I

METHOD BLANK DATA SHEET

EPA 8270E-SIM

Blank

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Solid	Laboratory ID:	BLC0185-BLK3	File ID:	NT1803222306S.D
Sampled:	N/A	Prepared:	03/09/23 13:26	Analyzed:	03/22/23 20:39
Solids:		Preparation:	EPA 3546 (Microwave)	Initial/Final:	10 g / 1 mL
Batch:	BLC0185	Sequence:	SLD0061	Calibration:	GD00001
Instrument:	NT18	Column:	ZB-5MS		

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg wet)	Q	DL	RL
106-46-7	1,4-Dichlorobenzene	1	0.8	J	0.6	5.0
95-50-1	1,2-Dichlorobenzene	1	5.0	U	0.7	5.0
100-51-6	Benzyl Alcohol	1	20.0	U	2.5	20.0
65-85-0	Benzoic acid	1	100	U	13.4	100
105-67-9	2,4-Dimethylphenol	1	20.0	U	2.2	20.0
120-82-1	1,2,4-Trichlorobenzene	1	5.0	U	2.7	5.0
86-30-6	N-Nitrosodiphenylamine	1	5.0	U	1.3	5.0
87-86-5	Pentachlorophenol	1	20.0	U	2.1	20.0

SURROGATES	ADDED: (ug/kg wet)	FOUND: (ug/kg wet)	% REC	QC LIMITS	Q
2-Fluorophenol	750.00	592	79.0	27 - 120	
p-Terphenyl-d14	500.00	505	101	37 - 120	

Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223306S.D

Date : 22-MAR-2023 20:39

Client ID:

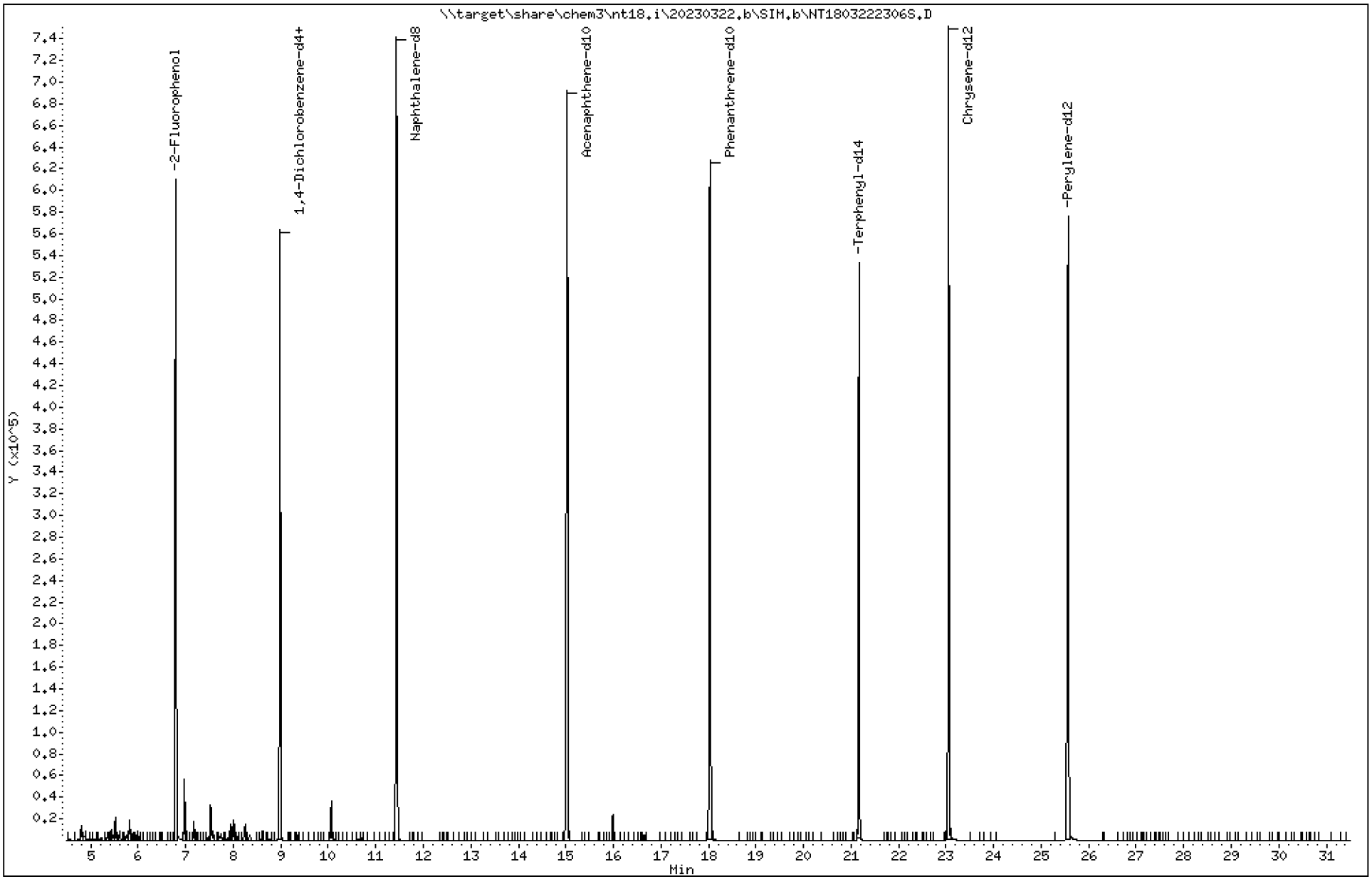
Instrument: nt18.i

Sample Info: BLC0185-BLK3

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



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Date : 22-MAR-2023 20:39

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK3

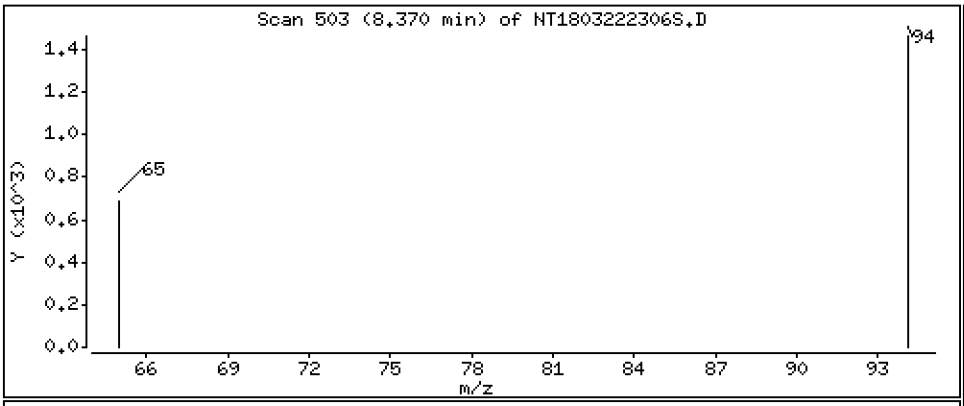
Operator: VTS

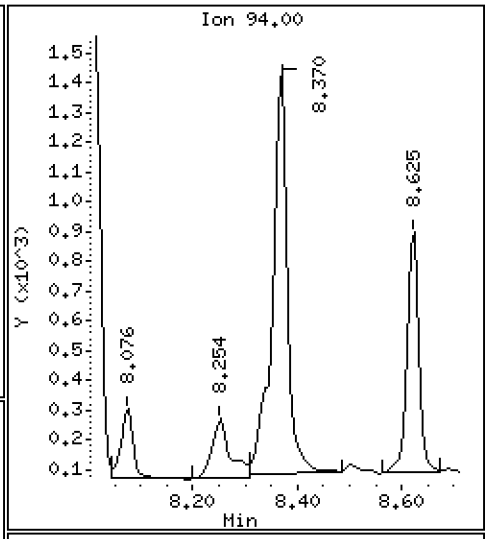
Column phase: ZB-5msi

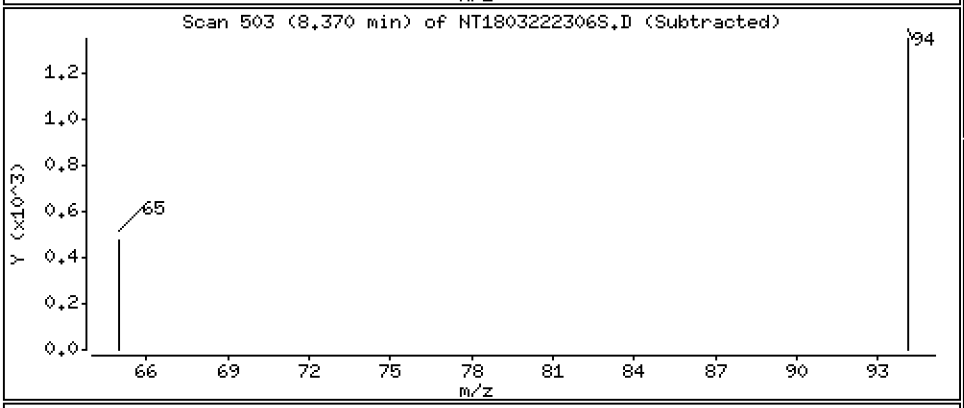
Column diameter: 0.25

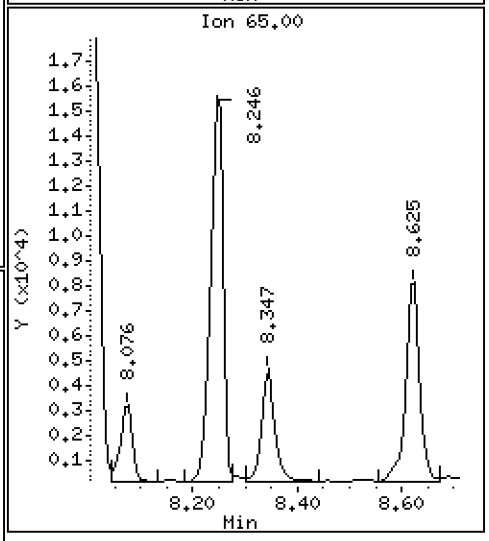
3 Phenol

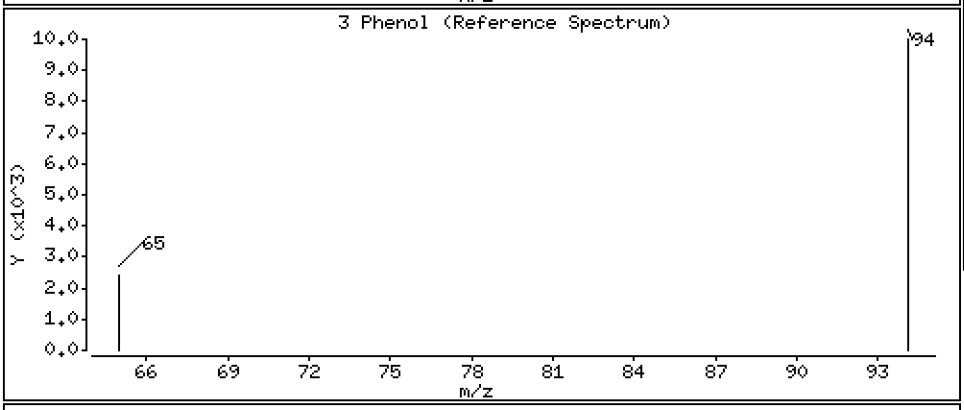
Concentration: 0.02120 ug/mL

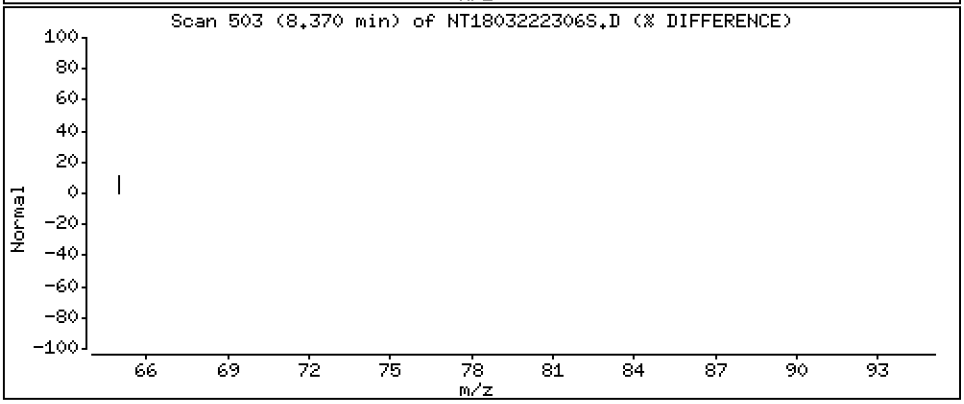












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Date : 22-MAR-2023 20:39

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK3

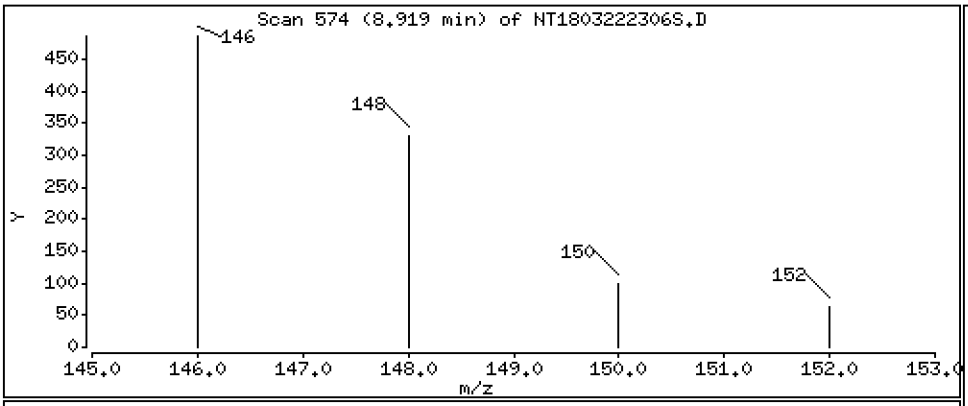
Operator: VTS

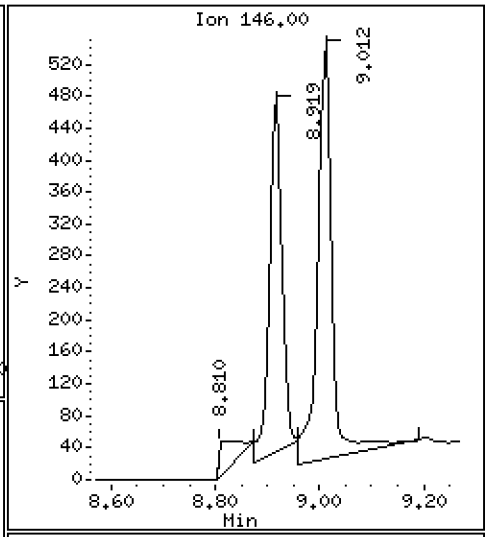
Column phase: ZB-5msi

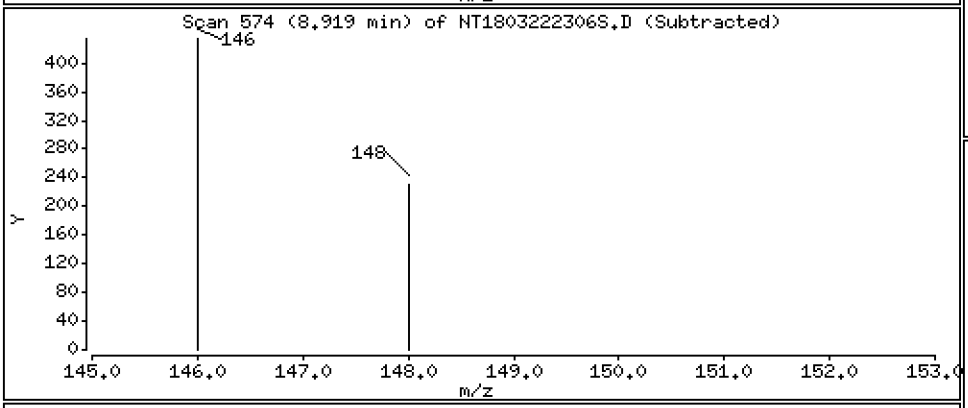
Column diameter: 0.25

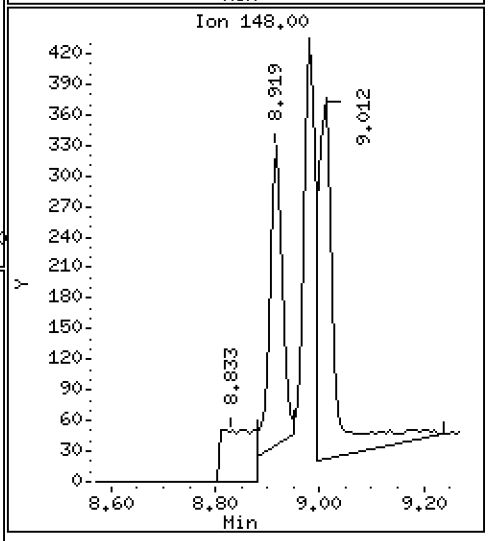
7 1,3-Dichlorobenzene

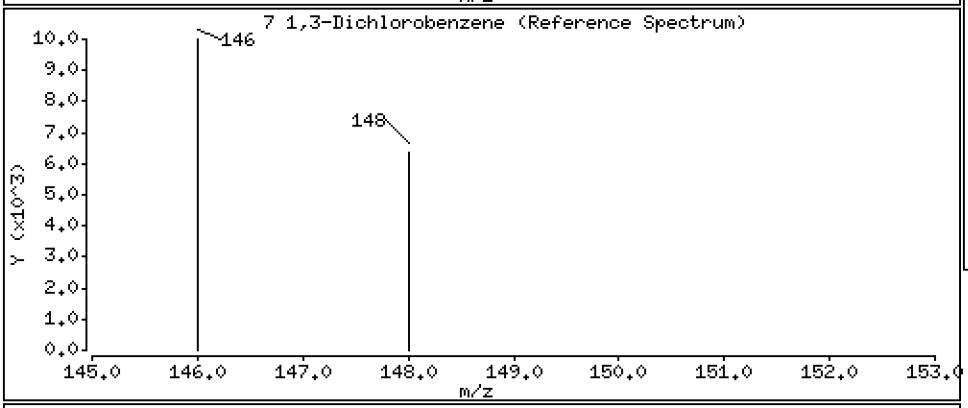
Concentration: 0.006077 ug/mL

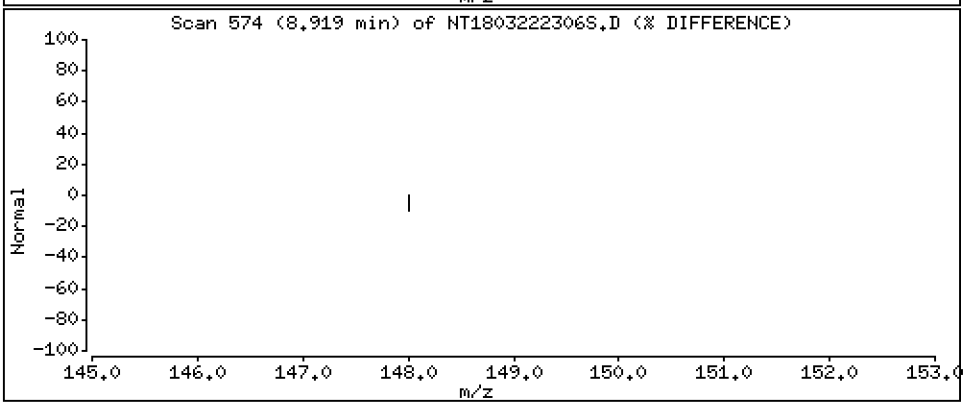












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Date : 22-MAR-2023 20:39

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK3

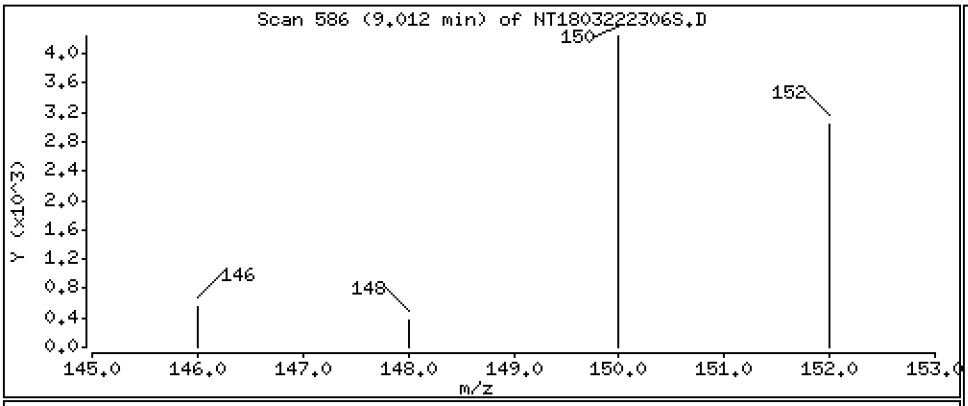
Operator: VTS

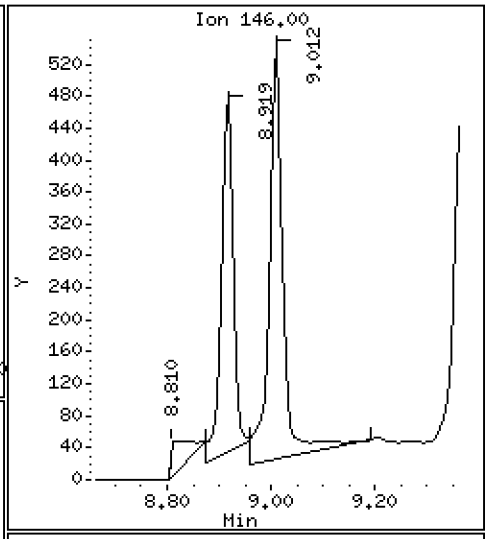
Column phase: ZB-5msi

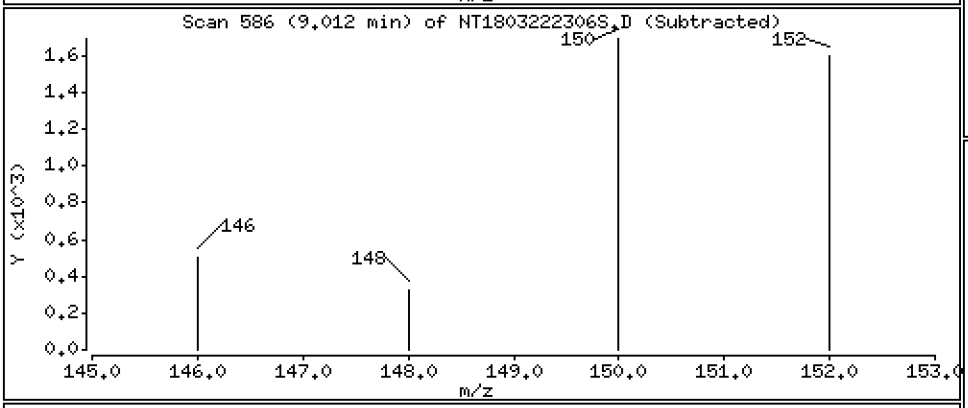
Column diameter: 0.25

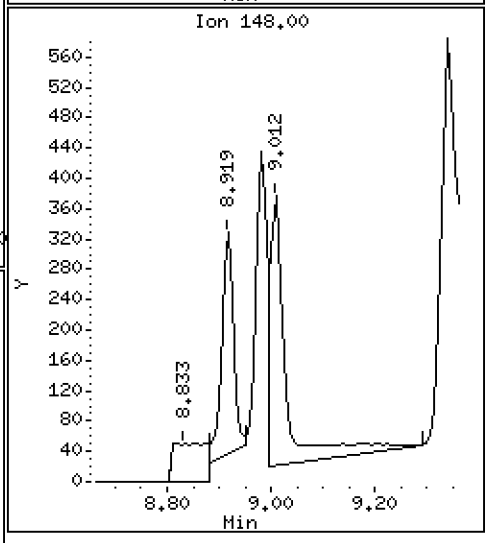
9 1,4-Dichlorobenzene

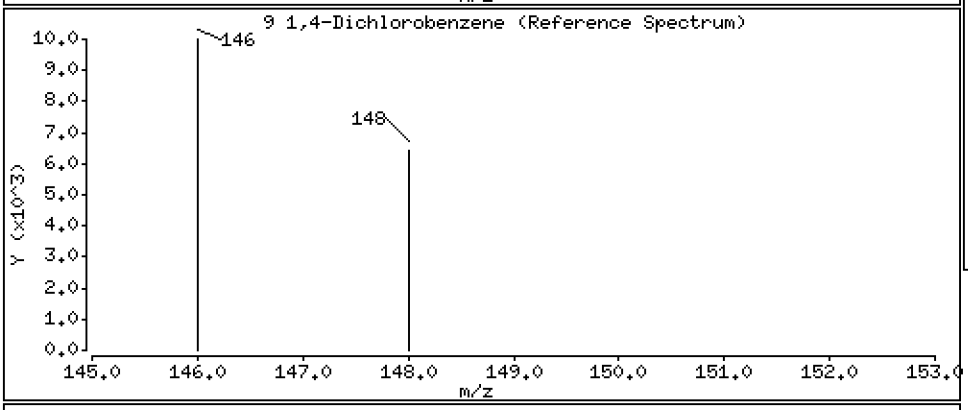
Concentration: 0.007545 ug/mL

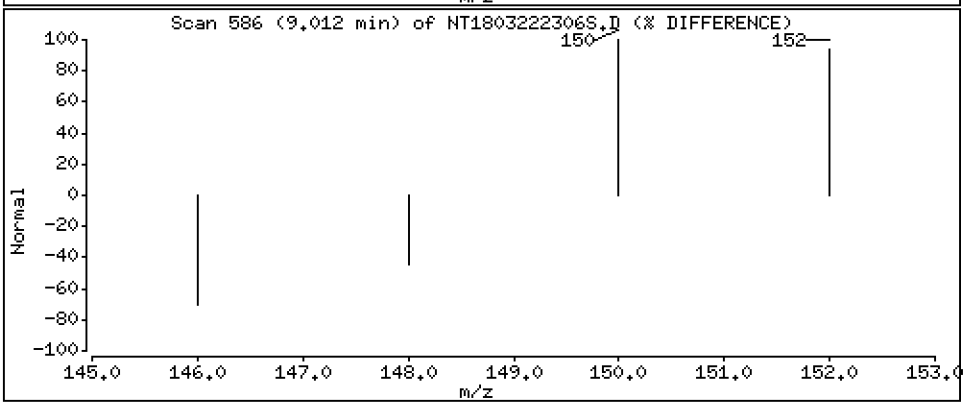












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222306S.D

Date : 22-MAR-2023 20:39

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK3

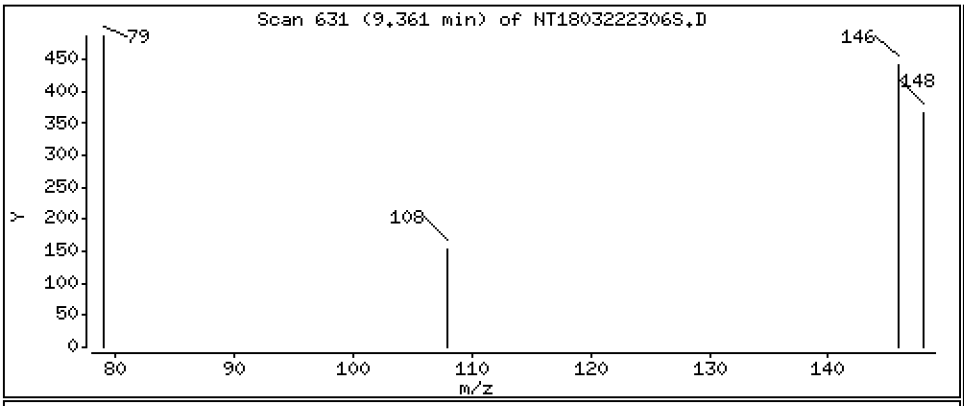
Operator: VTS

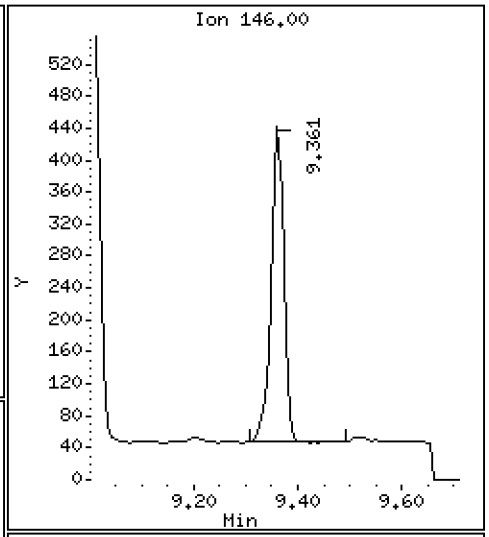
Column phase: ZB-5msi

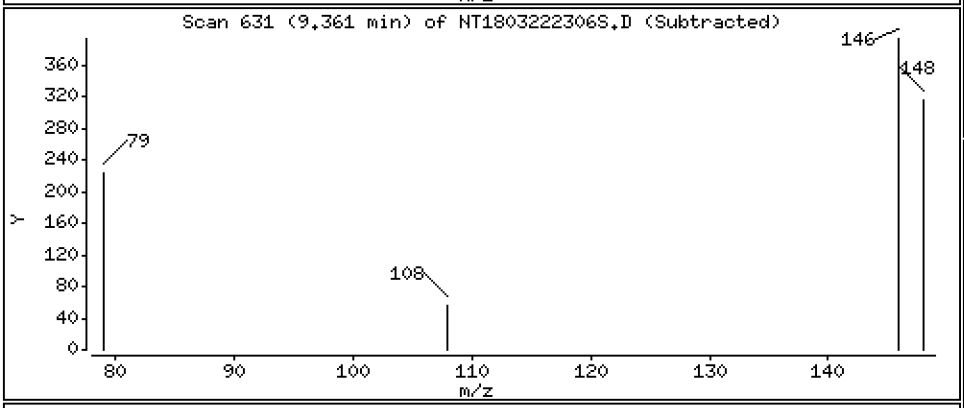
Column diameter: 0.25

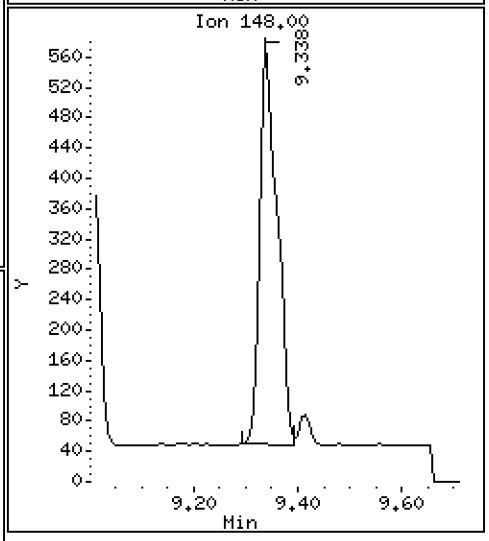
12 1,2-Dichlorobenzene

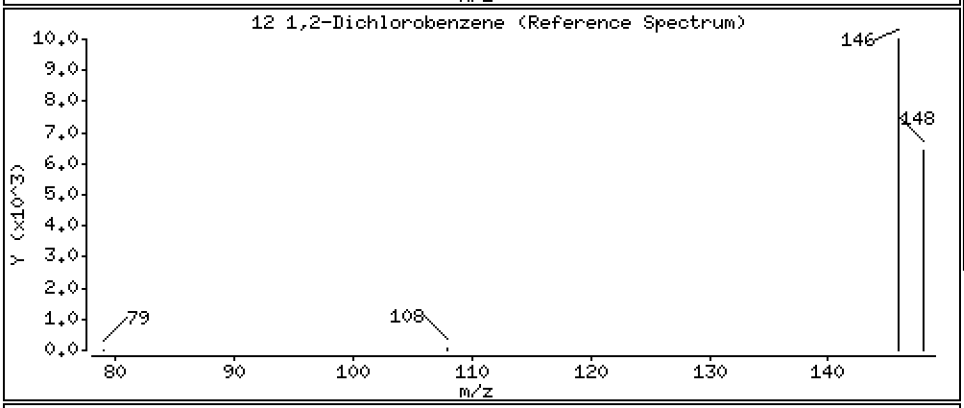
Concentration: 0.005241 ug/mL

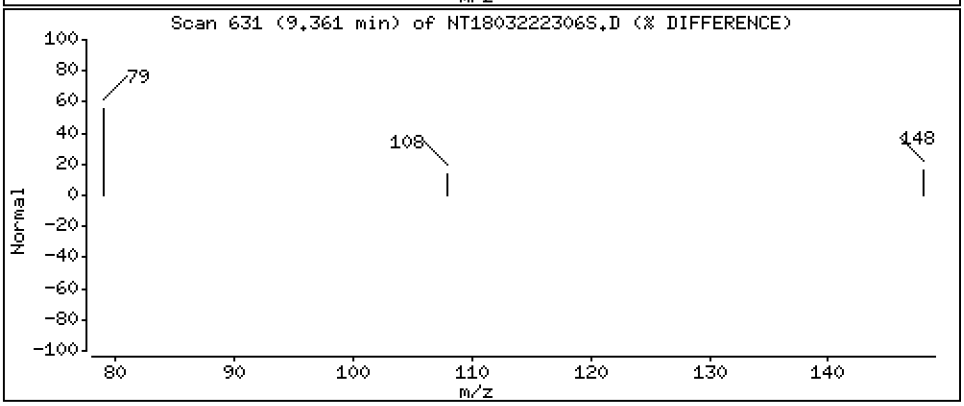












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222306S.D

Date : 22-MAR-2023 20:39

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK3

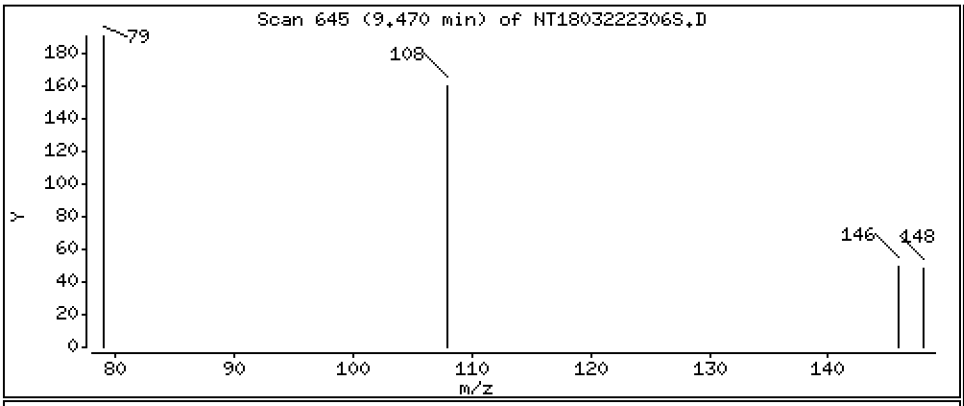
Operator: VTS

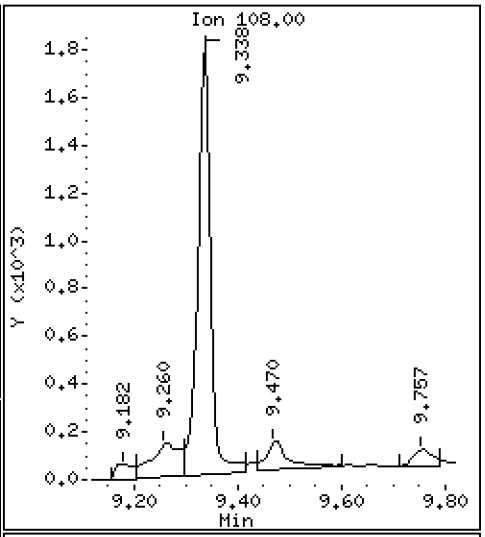
Column phase: ZB-5msi

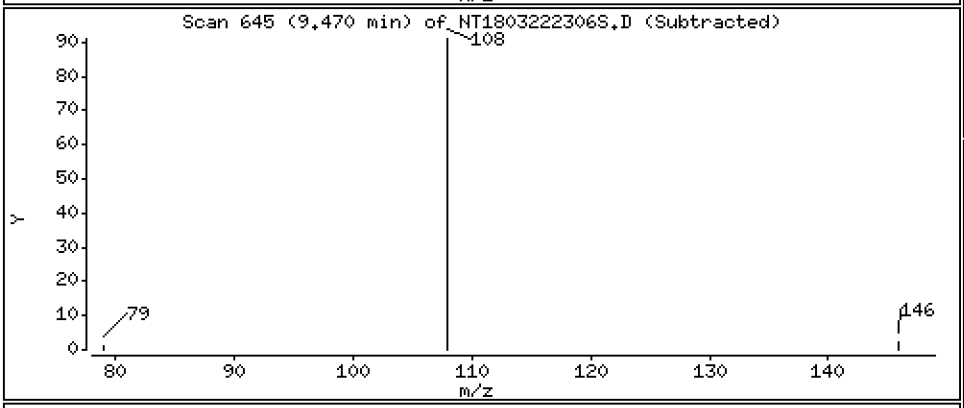
Column diameter: 0.25

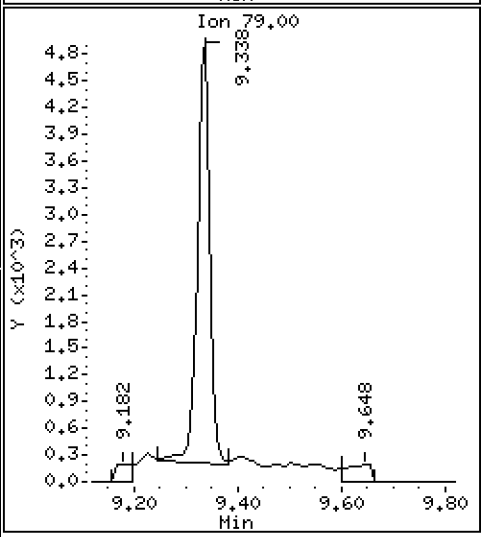
13 2-Methylphenol

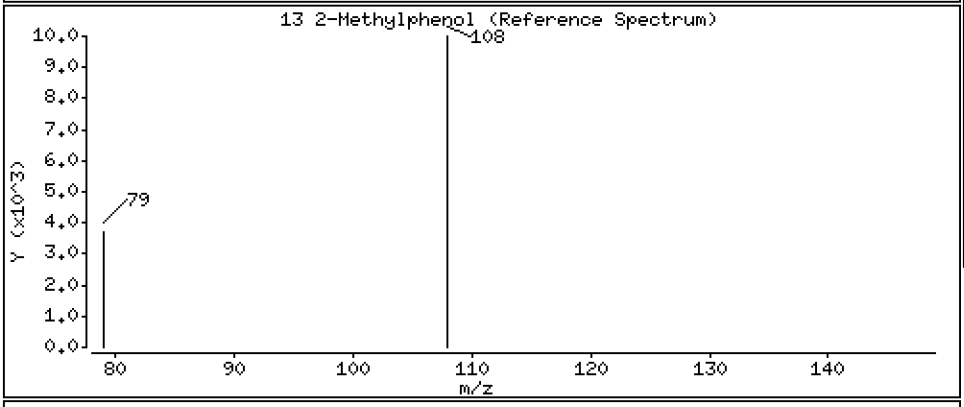
Concentration: 0.003822 ug/mL

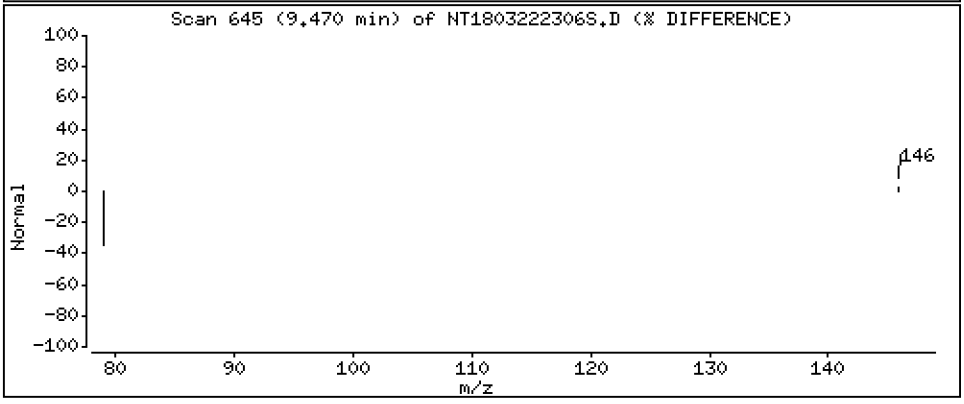












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222306S.D

Date : 22-MAR-2023 20:39

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK3

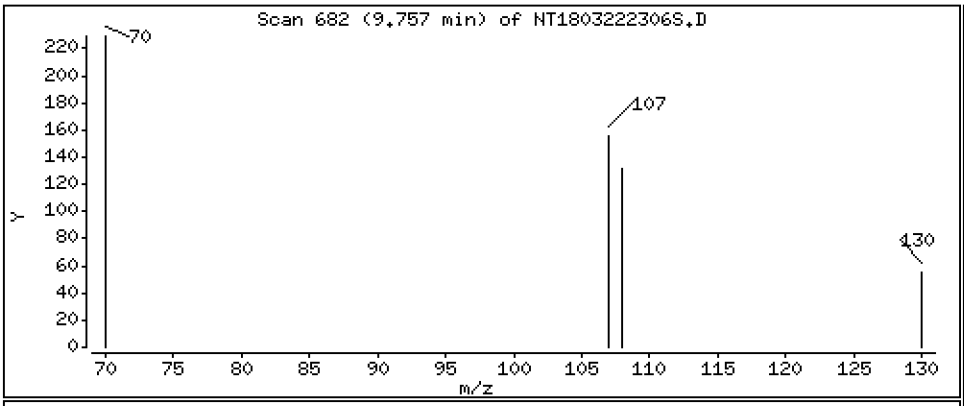
Operator: VTS

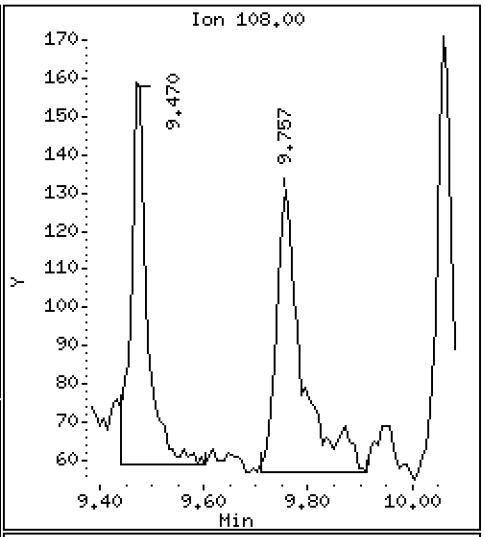
Column phase: ZB-5msi

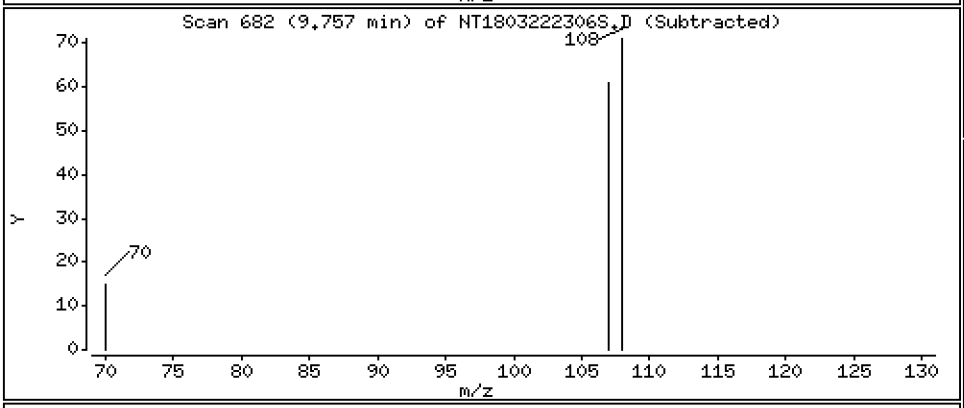
Column diameter: 0.25

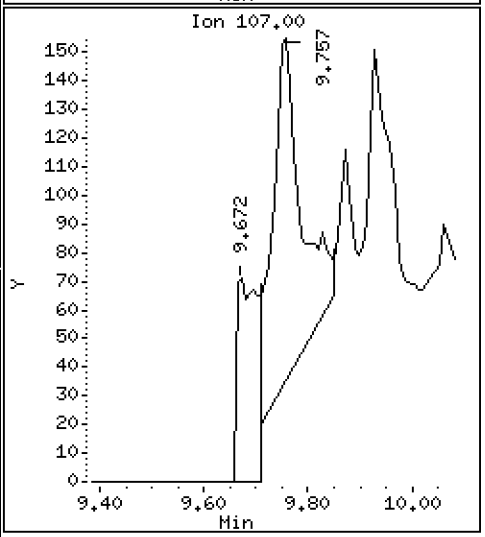
15 4-Methylphenol

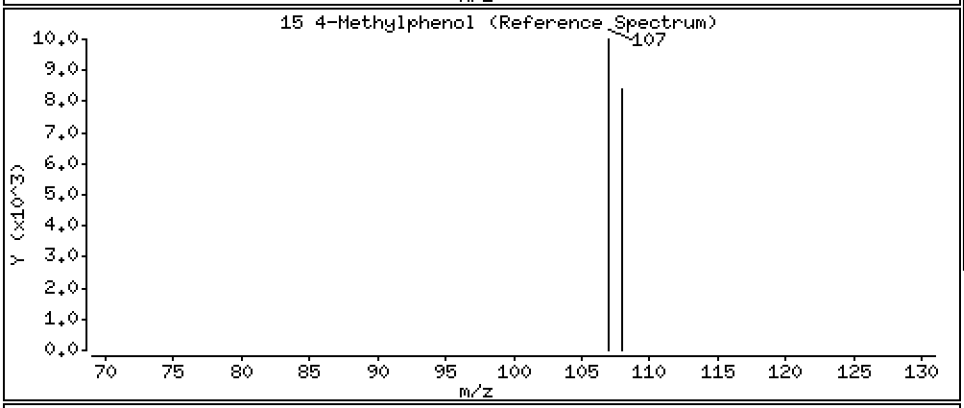
Concentration: 0.002816 ug/mL

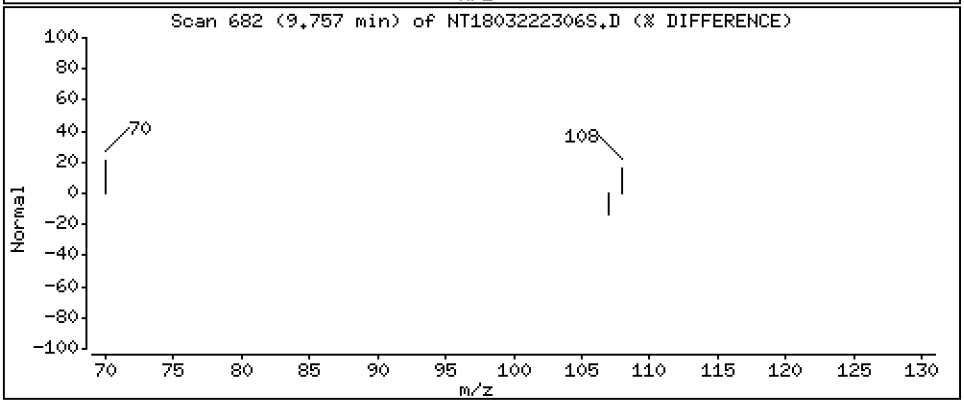












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222306S.D

Date : 22-MAR-2023 20:39

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK3

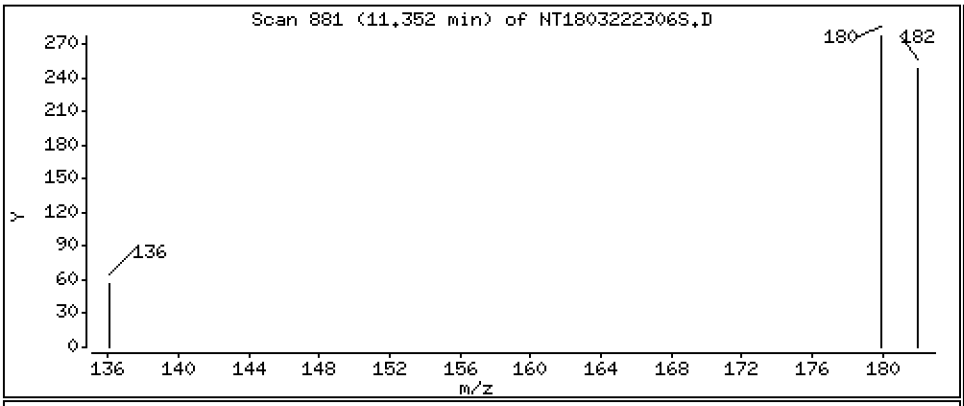
Operator: VTS

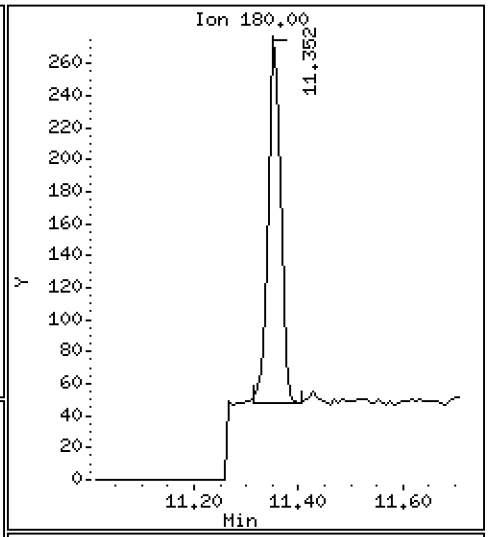
Column phase: ZB-5msi

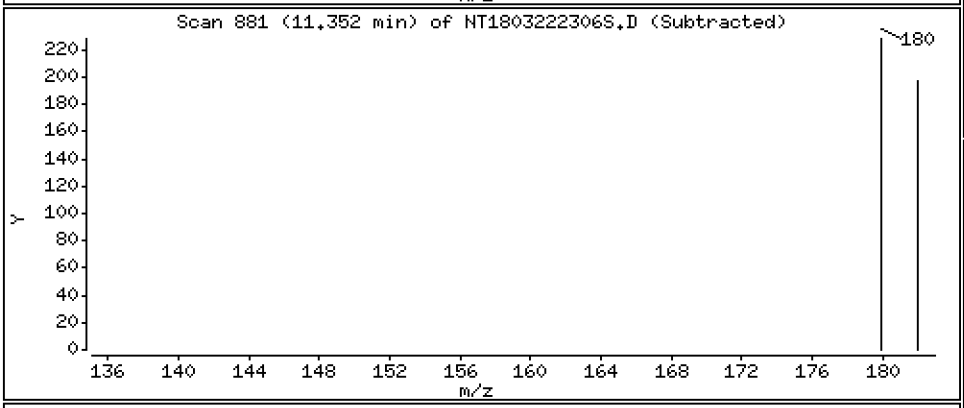
Column diameter: 0.25

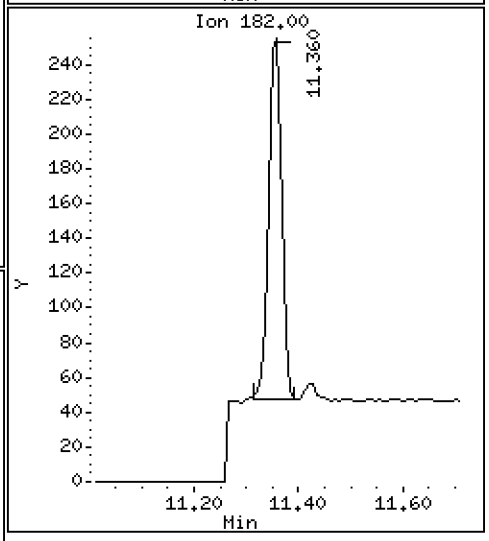
26 1,2,4-Trichlorobenzene

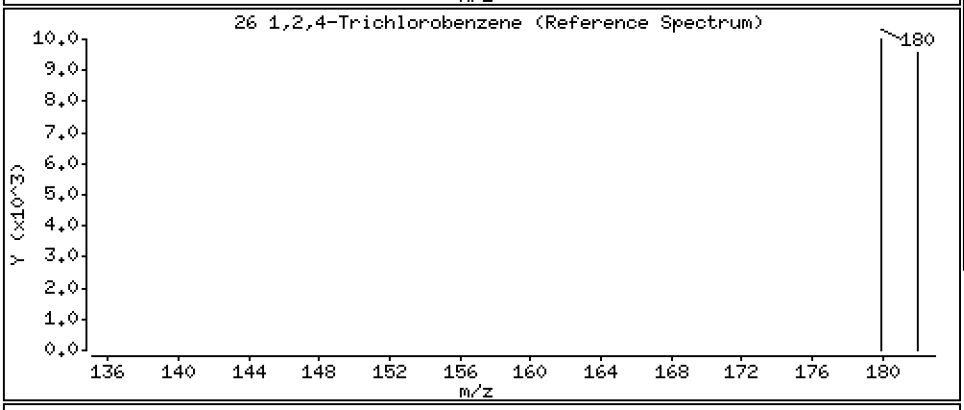
Concentration: 0.003914 ug/mL

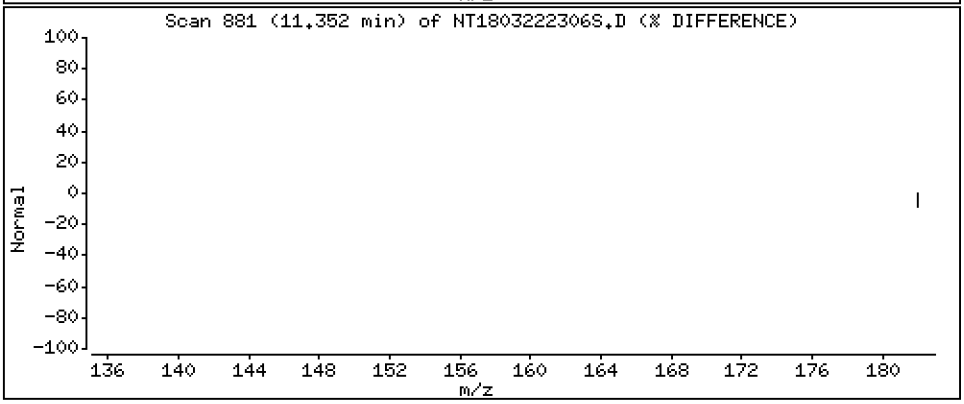












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222306S.D

Date : 22-MAR-2023 20:39

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK3

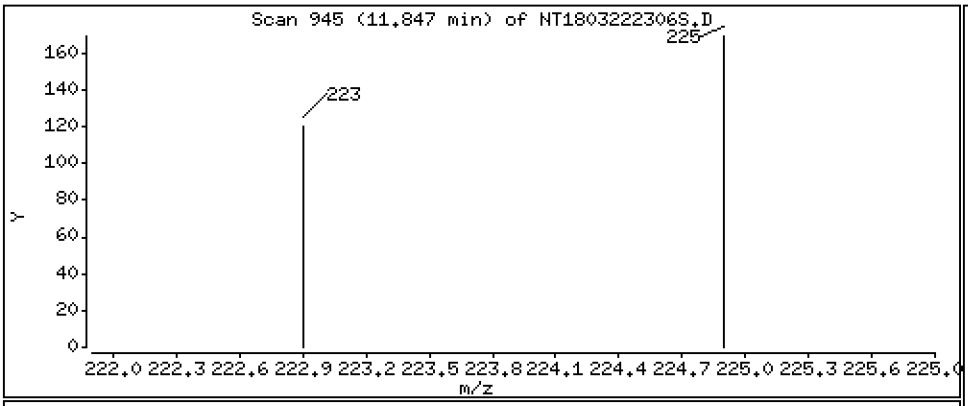
Operator: VTS

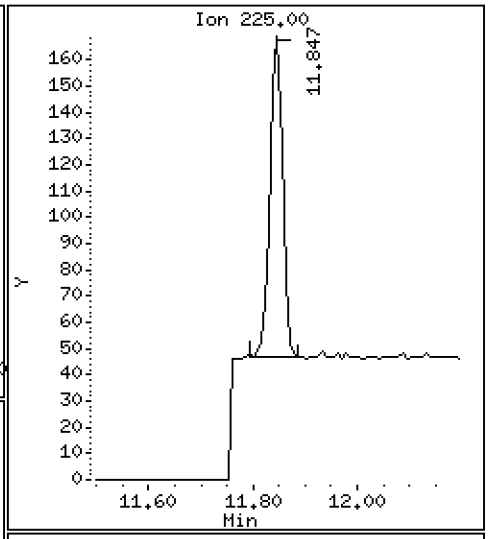
Column phase: ZB-5msi

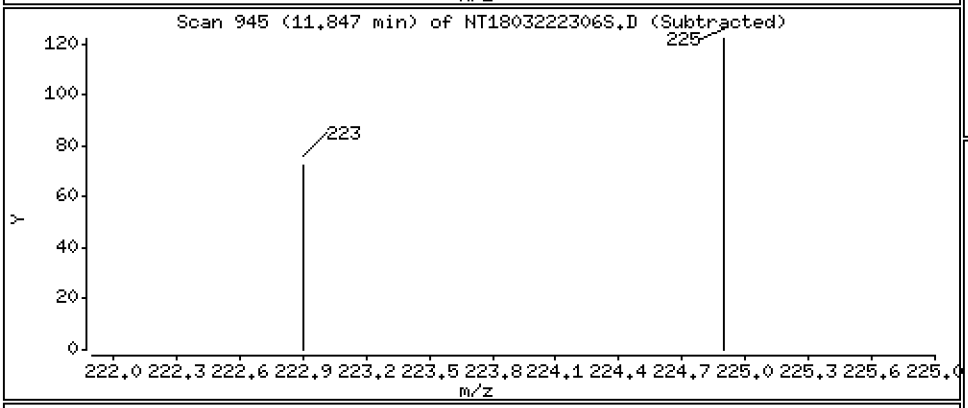
Column diameter: 0.25

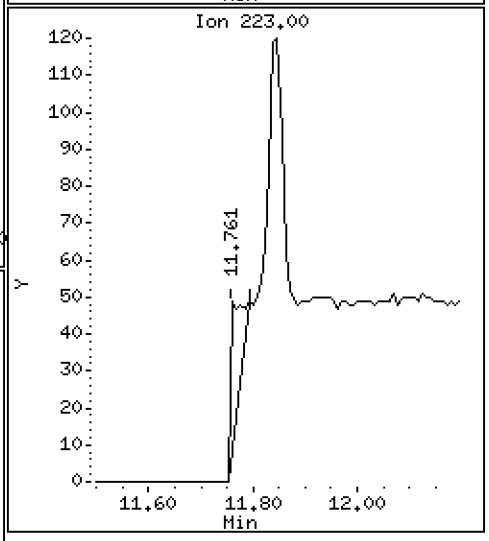
30 Hexachlorobutadiene

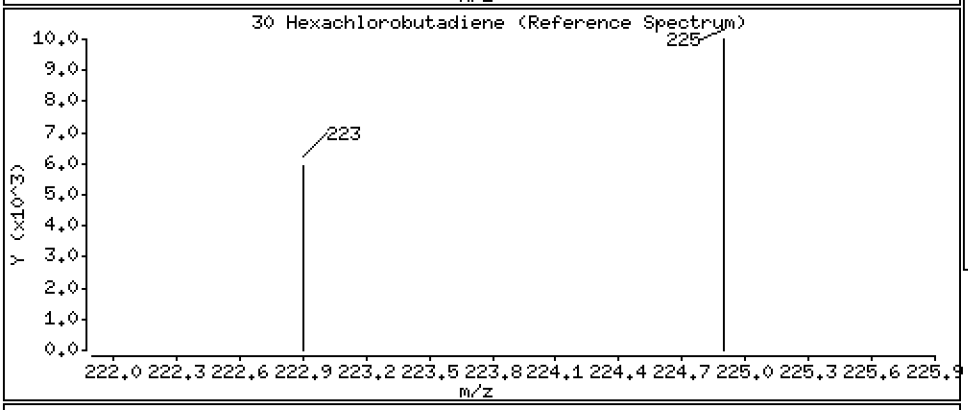
Concentration: 0.003606 ug/mL

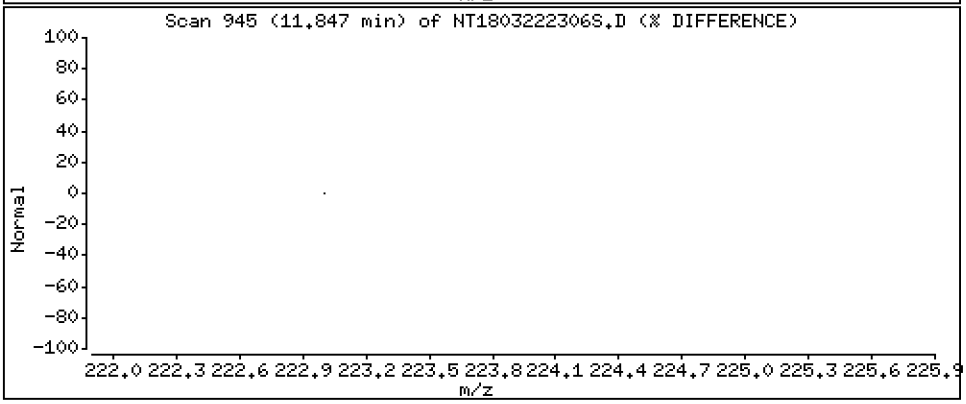












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222306S.D

Date : 22-MAR-2023 20:39

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK3

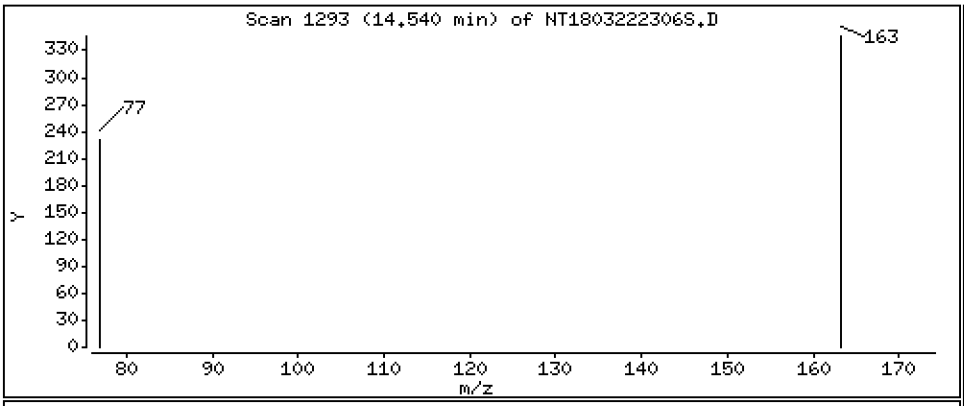
Operator: VTS

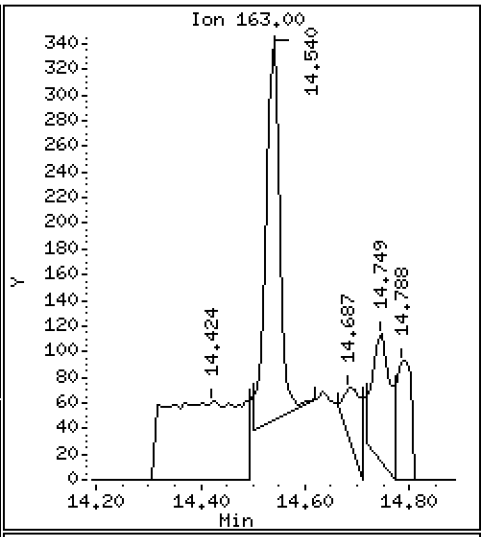
Column phase: ZB-5msi

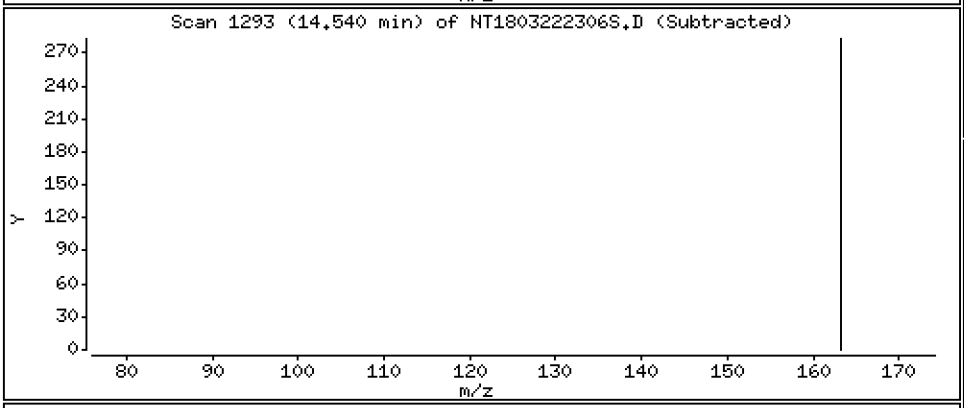
Column diameter: 0.25

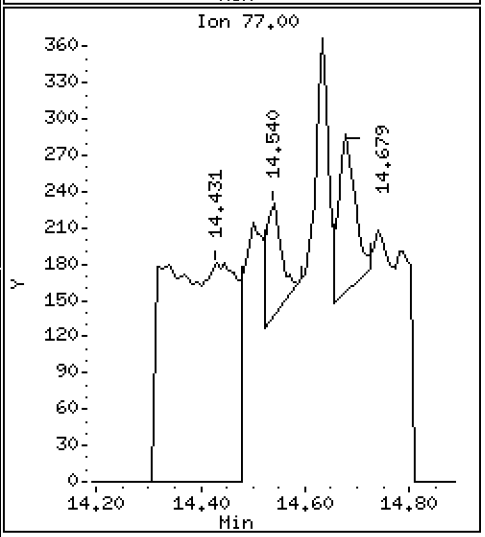
39 Dimethylphthalate

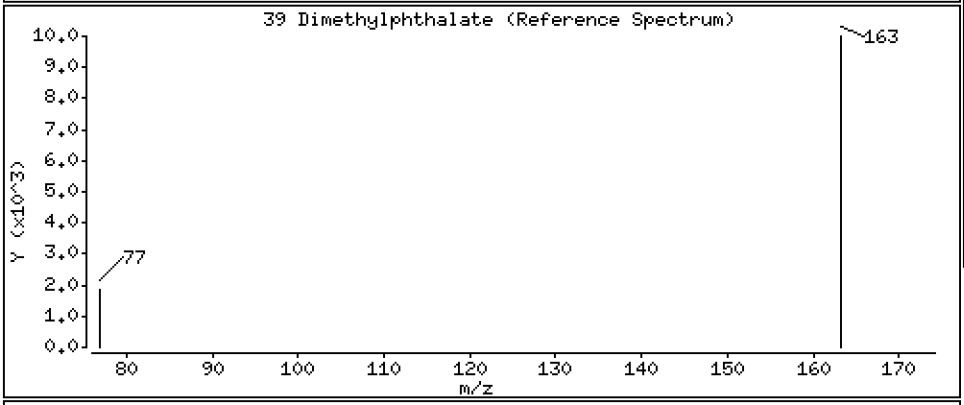
Concentration: 0.002813 ug/mL

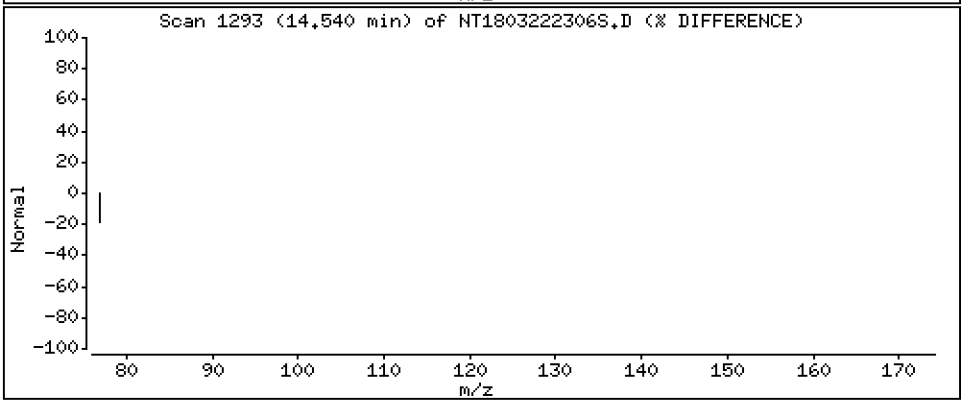












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222306S.D

Date : 22-MAR-2023 20:39

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK3

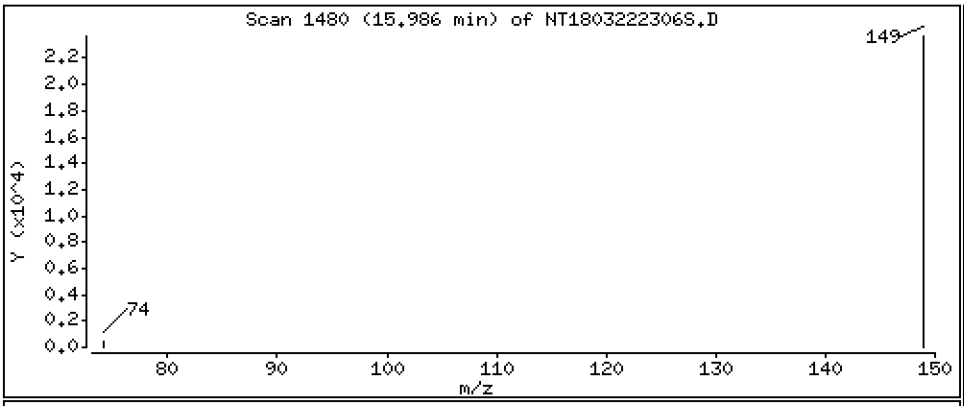
Operator: VTS

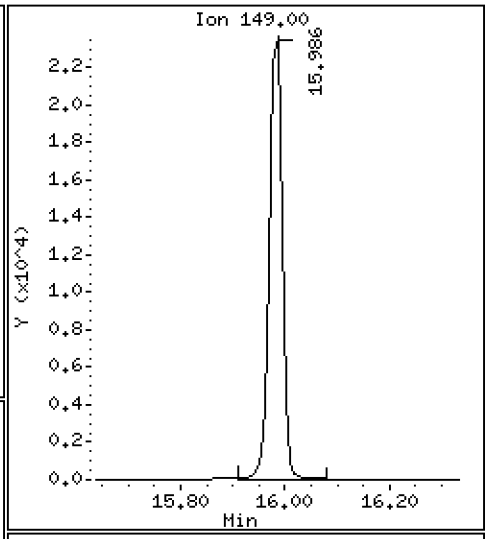
Column phase: ZB-5msi

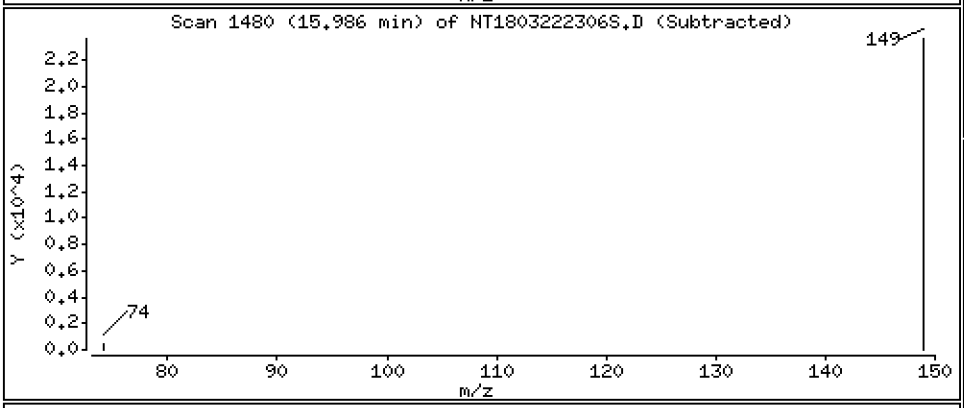
Column diameter: 0.25

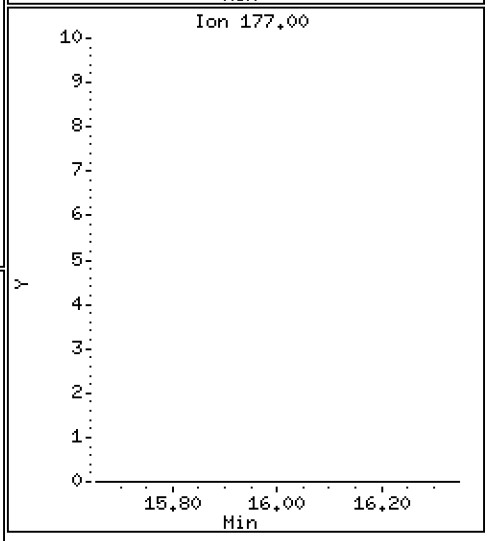
50 Diethylphthalate

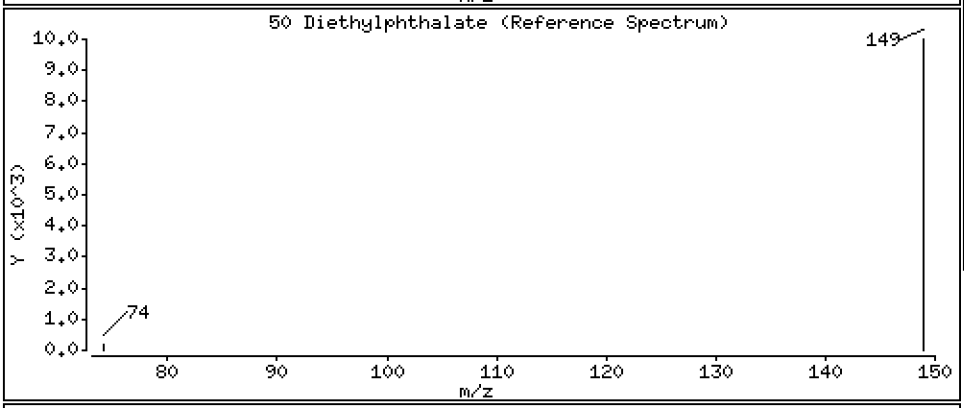
Concentration: 0.2322 ug/mL

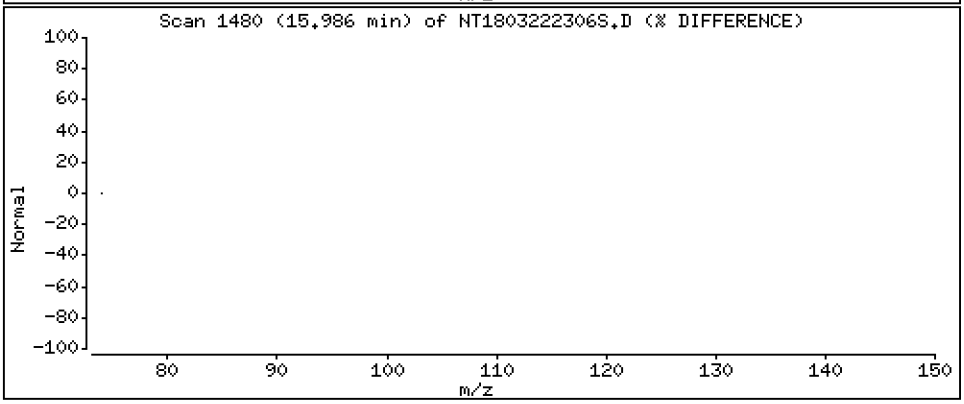












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222306S.D

Date : 22-MAR-2023 20:39

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK3

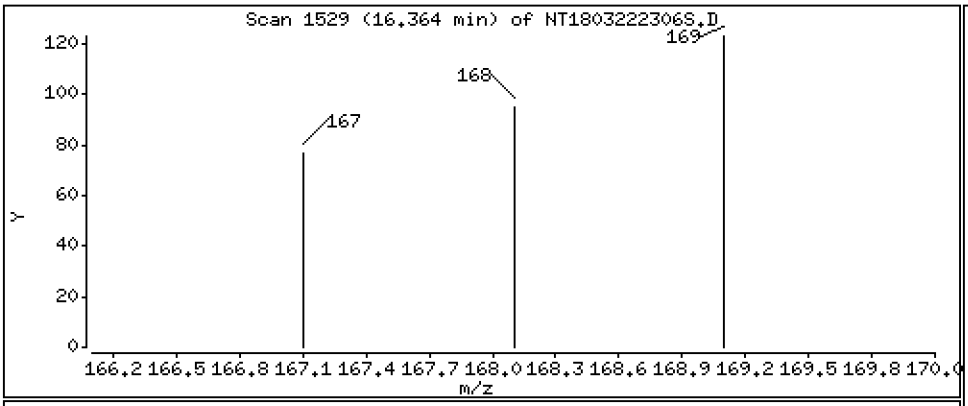
Operator: VTS

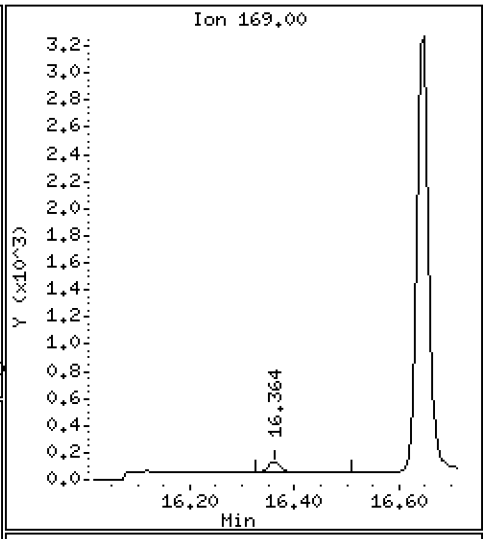
Column phase: ZB-5msi

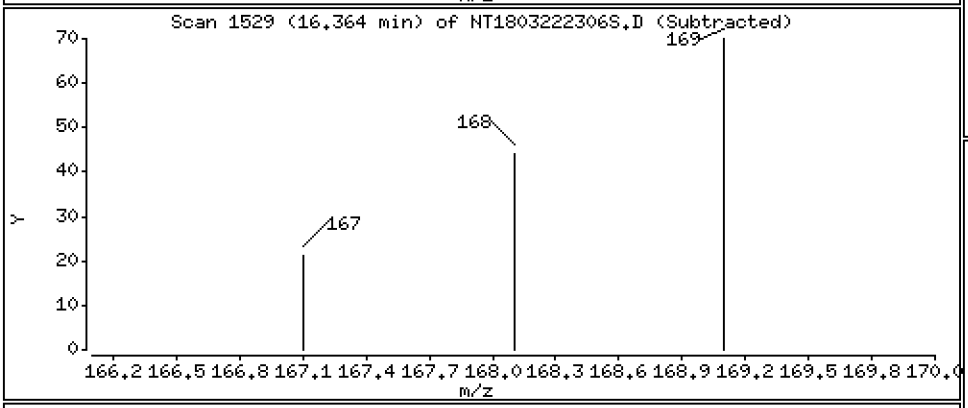
Column diameter: 0.25

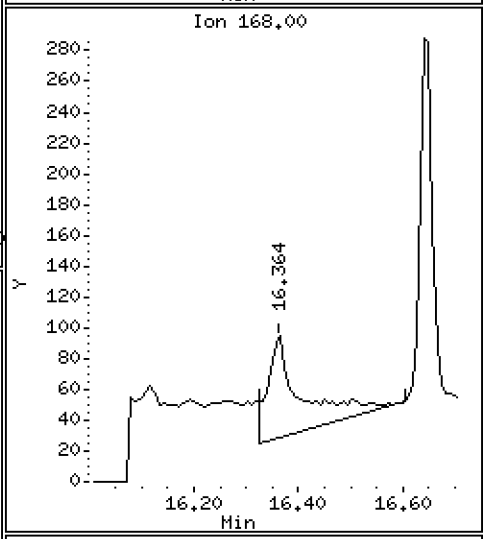
54 N-Nitrosodiphenylamine

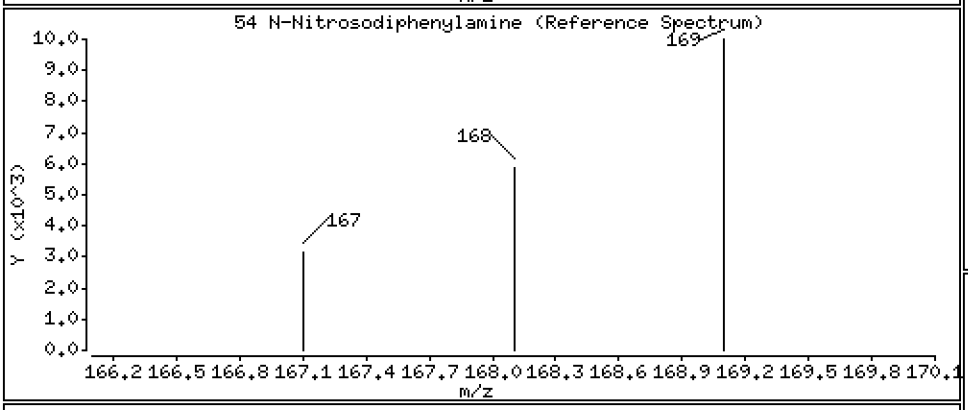
Concentration: 0.001254 ug/mL

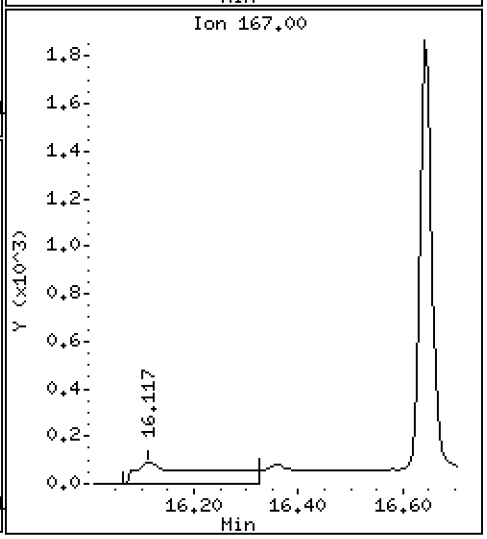


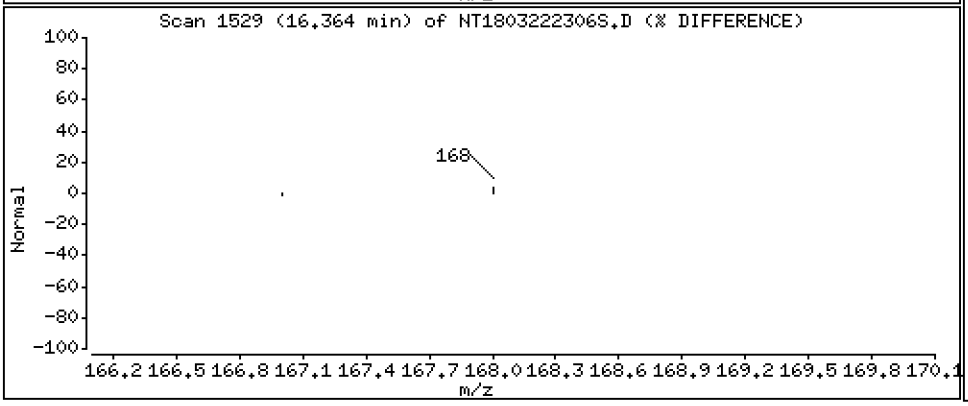












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222306S.D

Date : 22-MAR-2023 20:39

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK3

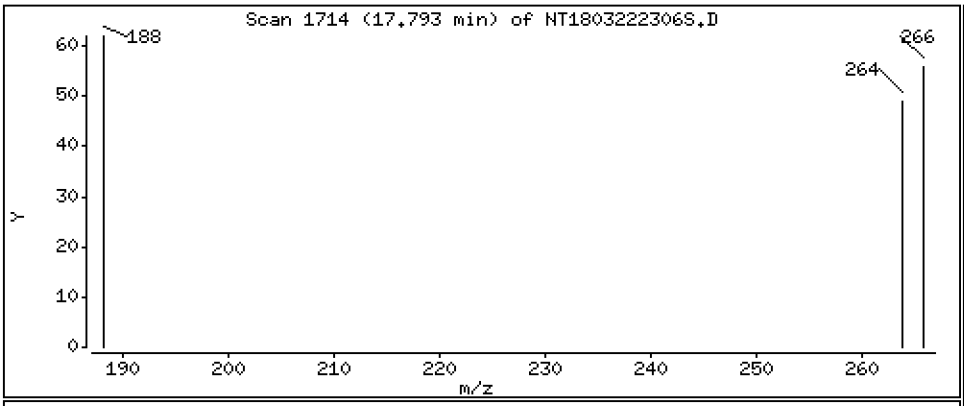
Operator: VTS

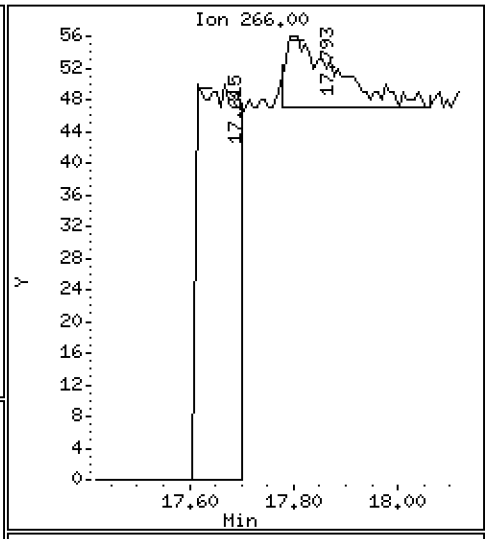
Column phase: ZB-5msi

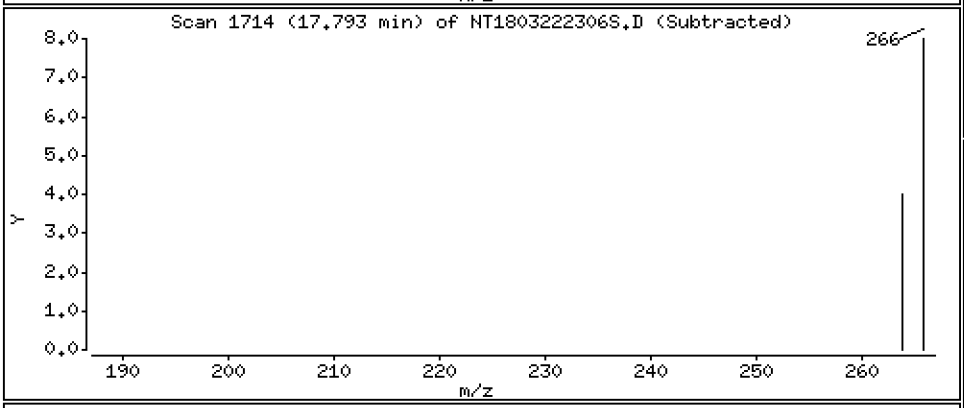
Column diameter: 0.25

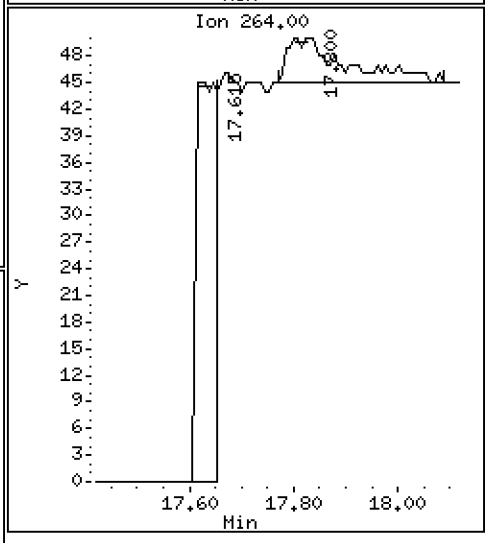
58 Pentachlorophenol

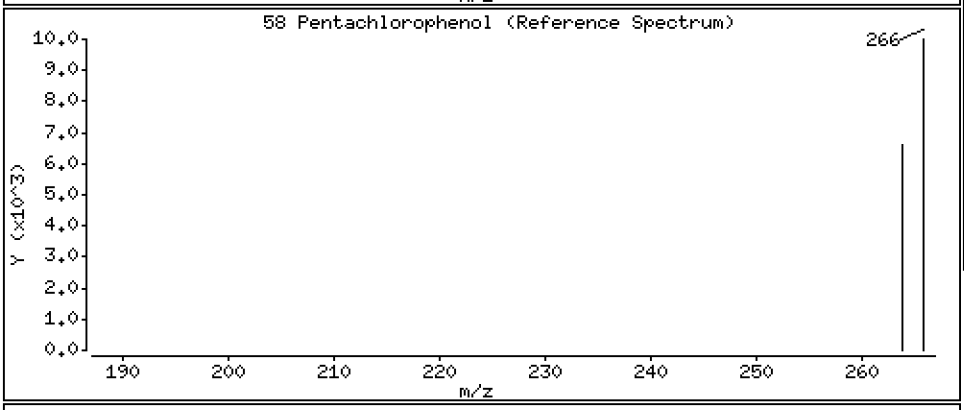
Concentration: 0.002015 ug/mL

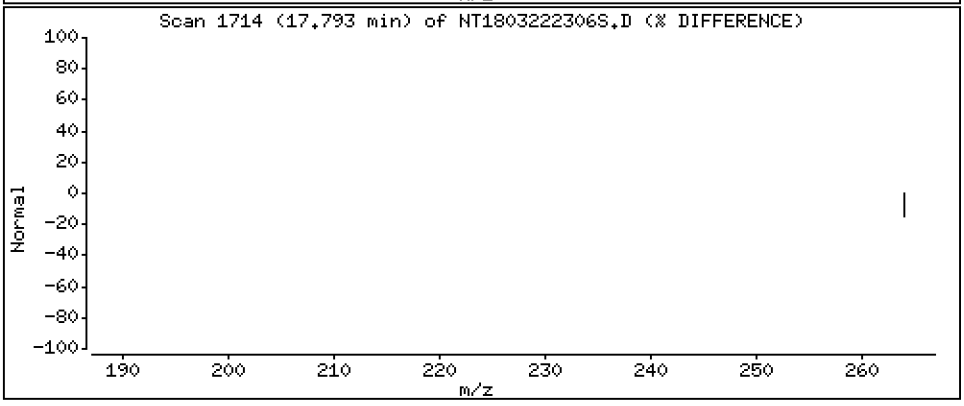












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222306S.D

Date : 22-MAR-2023 20:39

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK3

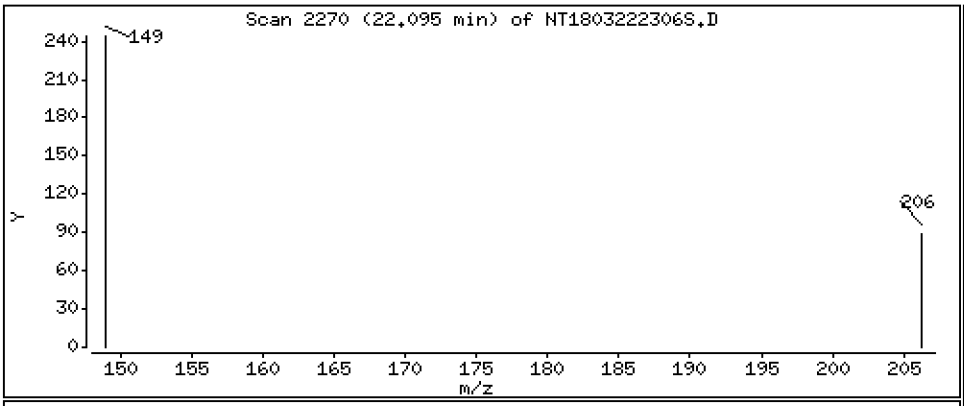
Operator: VTS

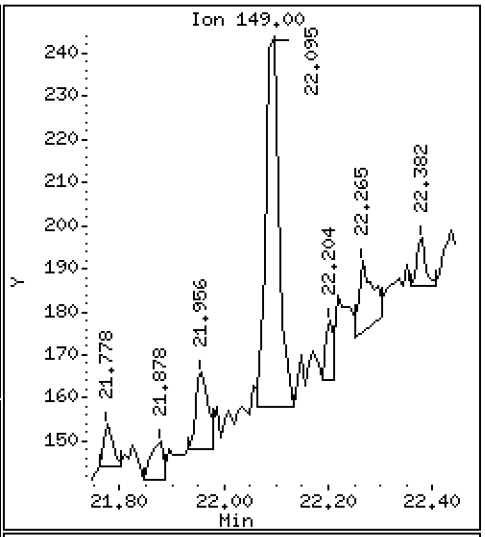
Column phase: ZB-5msi

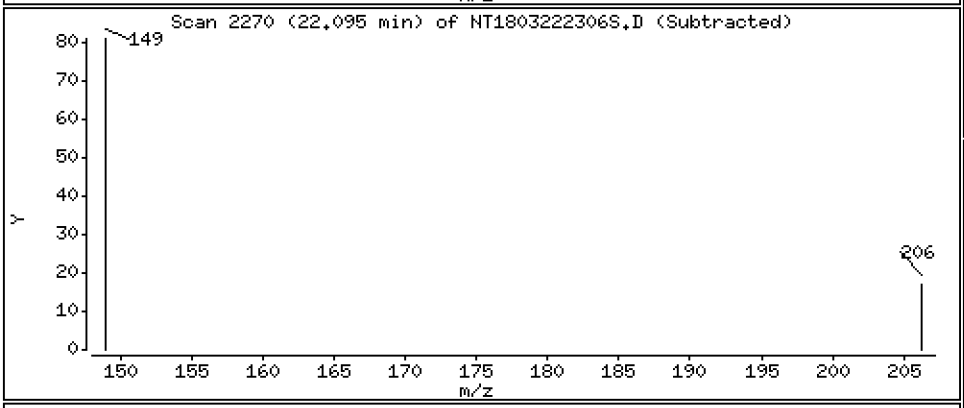
Column diameter: 0.25

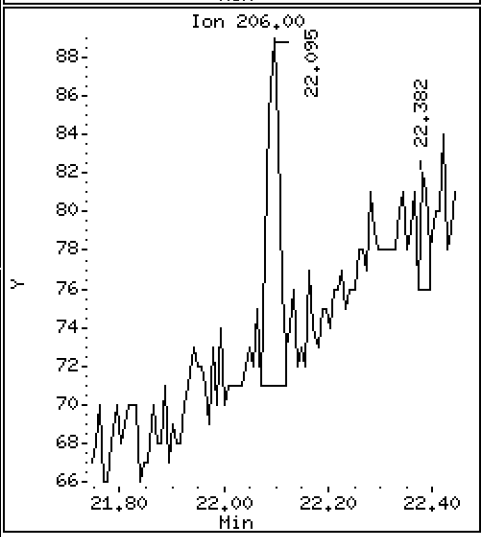
67 Butylbenzylphthalate

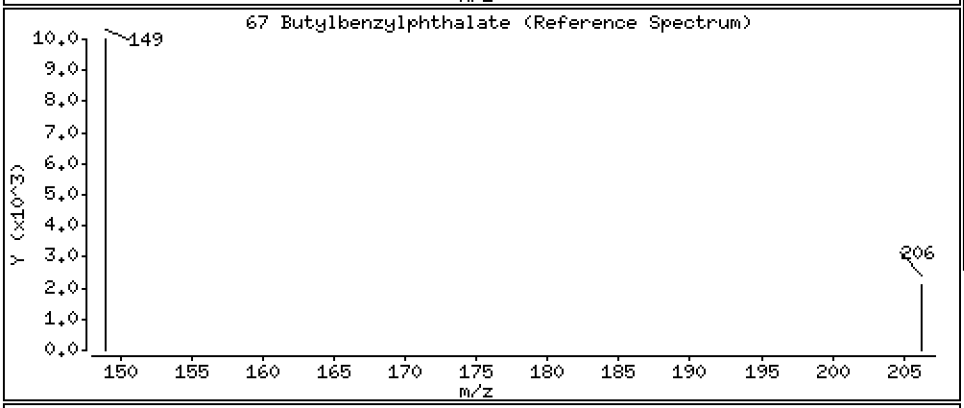
Concentration: 0.001085 ug/mL

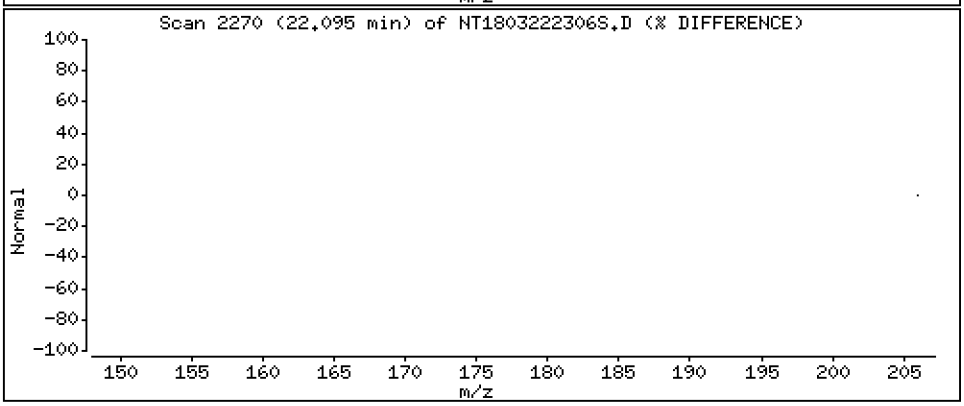












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222306S.D

Date : 22-MAR-2023 20:39

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK3

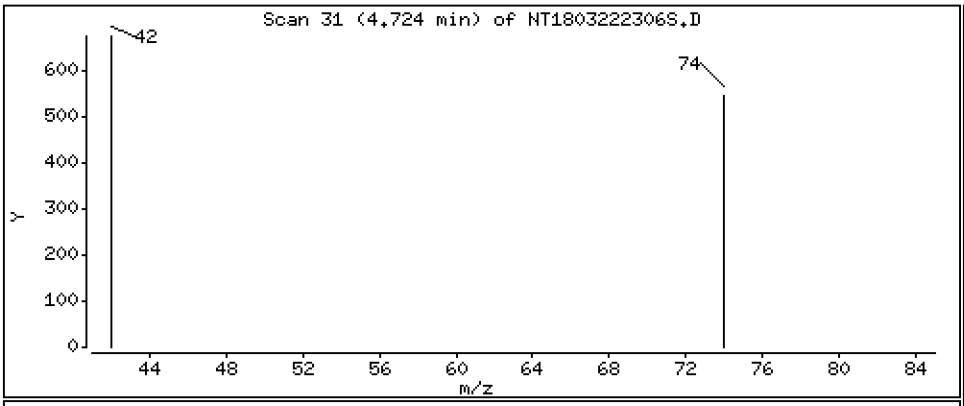
Operator: VTS

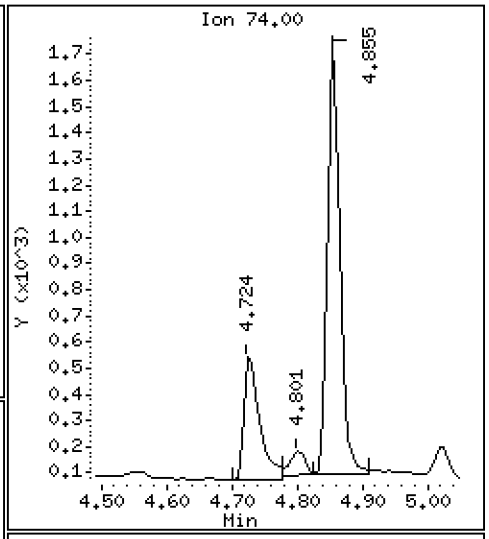
Column phase: ZB-5msi

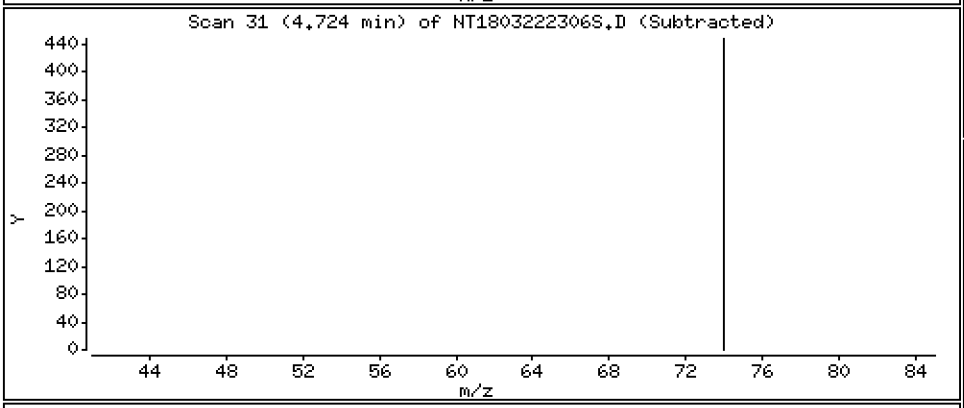
Column diameter: 0.25

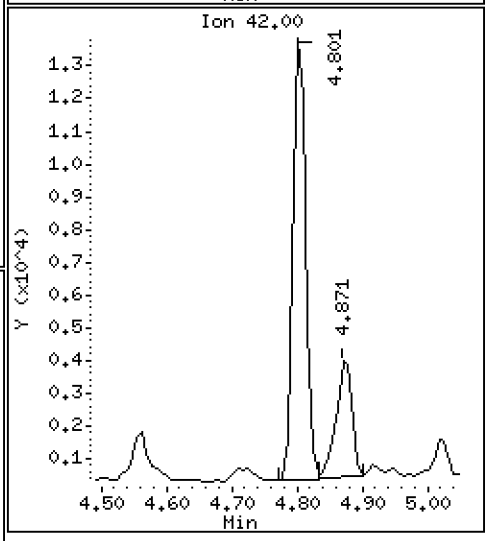
90 N-Nitrosodimethylamine

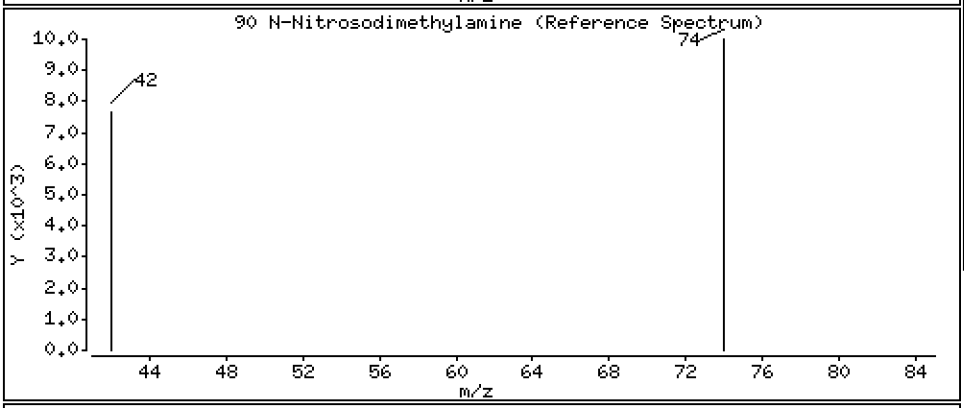
Concentration: 0.01400 ug/mL

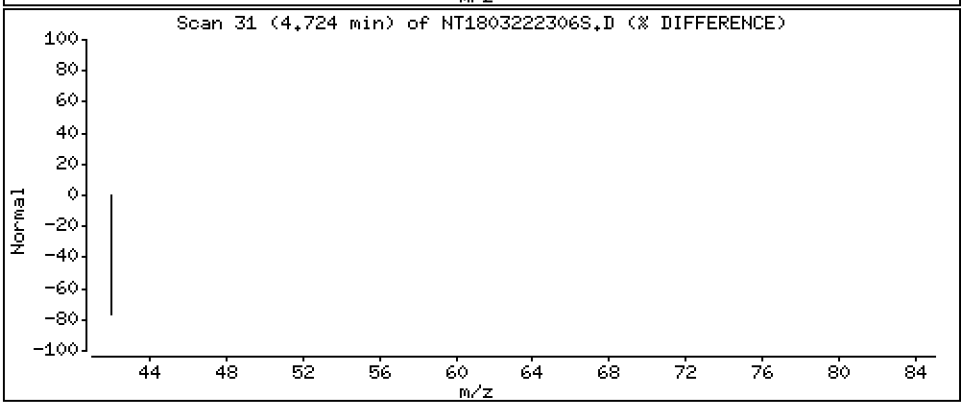












ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222306S.D
Lab Smp Id: BLC0185-BLK3
Inj Date : 22-MAR-2023 20:39
Operator : VTS Inst ID: nt18.i
Smp Info : BLC0185-BLK3
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230322.b\SIM.b\SIMABN2.m
Meth Date : 05-Apr-2023 10:09 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: DEENAY-201905

							CONCENTRATIONS	
		QUANT SIG					ON-COLUMN	FINAL
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/mL)	(ug/mL)
$	1 2-Fluorophenol	112	6.786	6.778	(0.756)	556654	5.92143	5.921(R)
	3 Phenol	94	8.369	8.362	(0.932)	2669	0.02120	0.02120
	7 1,3-Dichlorobenzene	146	8.918	8.918	(0.993)	740	0.00608	0.006077
*	8 1,4-Dichlorobenzene-d4	152	8.980	8.980	(1.000)	322460	4.00000	
	9 1,4-Dichlorobenzene	146	9.011	9.011	(1.003)	932	0.00755	0.007545
	11 Benzyl alcohol	79	Compound Not Detected.					
	12 1,2-Dichlorobenzene	146	9.361	9.360	(1.042)	630	0.00524	0.005241
	13 2-Methylphenol	108	9.469	9.469	(1.054)	334	0.00382	0.003822
	15 4-Methylphenol	108	9.756	9.733	(1.086)	256	0.00282	0.002816
	16 N-Nitroso-di-n-propylamine	70	Compound Not Detected.					
	22 2,4-Dimethylphenol	107	Compound Not Detected.					
	24 Benzoic acid	105	Compound Not Detected.					
	26 1,2,4-Trichlorobenzene	180	11.352	11.360	(0.993)	364	0.00391	0.003914
*	27 Naphthalene-d8	136	11.437	11.444	(1.000)	1167456	4.00000	
	30 Hexachlorobutadiene	225	11.846	11.846	(1.036)	193	0.00361	0.003606
	39 Dimethylphthalate	163	14.539	14.539	(0.968)	518	0.00281	0.002813
*	42 Acenaphthene-d10	162	15.019	15.027	(1.000)	576577	4.00000	
	50 Diethylphthalate	149	15.985	15.985	(1.064)	38836	0.23224	0.2322
	54 N-Nitrosodiphenylamine	169	16.364	16.364	(0.907)	159	0.00125	0.001254
	57 Hexachlorobenzene	284	Compound Not Detected.					
	58 Pentachlorophenol	266	17.792	17.769	(0.987)	64	0.00202	0.002015
*	59 Phenanthrene-d10	188	18.032	18.032	(1.000)	1043890	4.00000	
$	66 Terphenyl-d14	244	21.165	21.165	(0.918)	665370	5.05257	5.053(R)
	67 Butylbenzylphthalate	149	22.095	22.095	(0.959)	143	0.00108	0.001085
*	69 Chrysene-d12	240	23.047	23.055	(1.000)	934289	4.00000	
*	77 Perylene-d12	264	25.563	25.563	(1.000)	932299	4.00000	
	79 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	90 N-Nitrosodimethylamine	74	4.723	4.700	(0.526)	803	0.01400	0.01400

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222306S.D
Lab Smp Id: BLC0185-BLK3
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 22-MAR-2023
Calibration Time: 18:36
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	283947	141974	567894	322460	13.56
27 Naphthalene-d8	1057483	528742	2114966	1167456	10.40
42 Acenaphthene-d10	520336	260168	1040672	576577	10.81
59 Phenanthrene-d10	933537	466769	1867074	1043890	11.82
69 Chrysene-d12	863272	431636	1726544	934289	8.23
77 Perylene-d12	996915	498458	1993830	932299	-6.48

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	-0.07
42 Acenaphthene-d10	15.03	14.53	15.53	15.02	-0.05
59 Phenanthrene-d10	18.03	17.53	18.53	18.03	0.00
69 Chrysene-d12	23.06	22.56	23.56	23.05	-0.03
77 Perylene-d12	25.56	25.06	26.06	25.56	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222306S.D

Lab ID: BLC0185-BLK3
nt18.i, 20230322.b\SIM.b\SIMABN2.m,   22-MAR-2023 20:39

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

RRT check based on Ccal File: SIM.b/NT1803222303S.D

On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

Form I

METHOD BLANK DATA SHEET

EPA 8270E-SIM

Blank

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Solid	Laboratory ID:	BLC0185-BLK4	File ID:	NT1803222321S.D
Sampled:	N/A	Prepared:	03/09/23 13:26	Analyzed:	03/23/23 06:46
Solids:		Preparation:	EPA 3546 (Microwave)	Initial/Final:	10 g / 1 mL
Batch:	BLC0185	Sequence:	SLD0064	Calibration:	GD00001
Instrument:	NT18	Column:	ZB-5MS		

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg wet)	Q	DL	RL
106-46-7	1,4-Dichlorobenzene	1	0.6	J	0.6	5.0
95-50-1	1,2-Dichlorobenzene	1	5.0	U	0.7	5.0
100-51-6	Benzyl Alcohol	1	20.0	U	2.5	20.0
65-85-0	Benzoic acid	1	100	U	13.4	100
105-67-9	2,4-Dimethylphenol	1	20.0	U	2.2	20.0
120-82-1	1,2,4-Trichlorobenzene	1	5.0	U	2.7	5.0
86-30-6	N-Nitrosodiphenylamine	1	5.0	U	1.3	5.0
87-86-5	Pentachlorophenol	1	20.0	U	2.1	20.0

SURROGATES	ADDED: (ug/kg wet)	FOUND: (ug/kg wet)	% REC	QC LIMITS	Q
2-Fluorophenol	750.00	597	79.6	27 - 120	
p-Terphenyl-d14	500.00	456	91.2	37 - 120	

Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT18032223215.D

Date : 23-MAR-2023 06:46

Client ID:

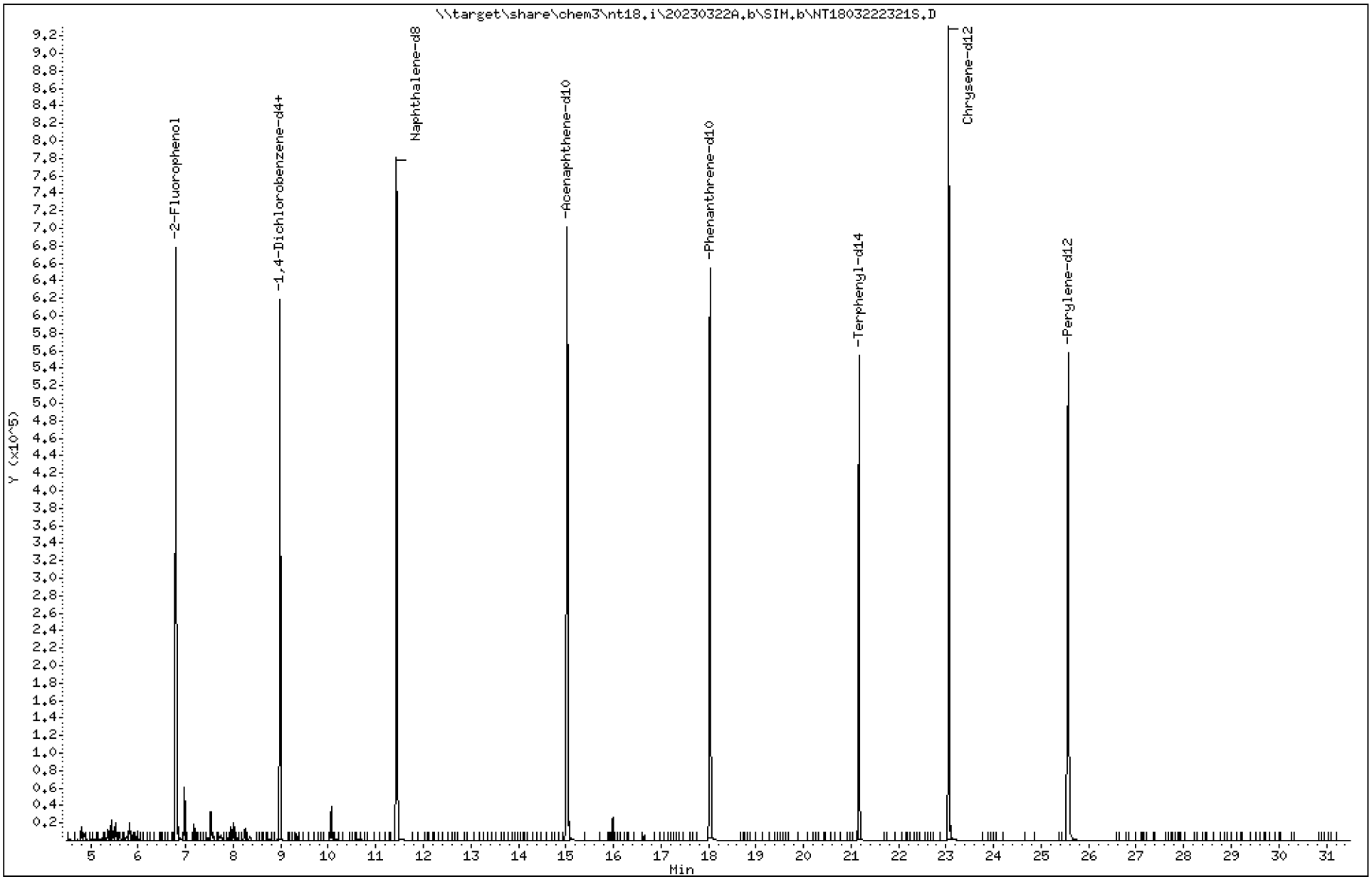
Instrument: nt18.i

Sample Info: BLC0185-BLK4

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT18032223215.D

Date : 23-MAR-2023 06:46

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK4

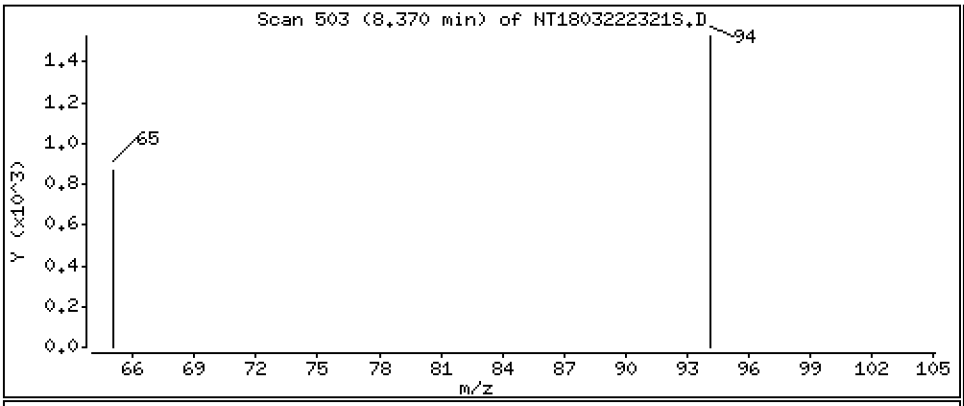
Operator: VTS

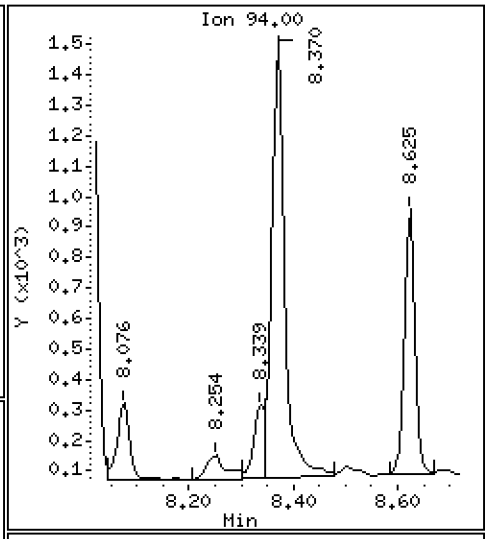
Column phase: ZB-5msi

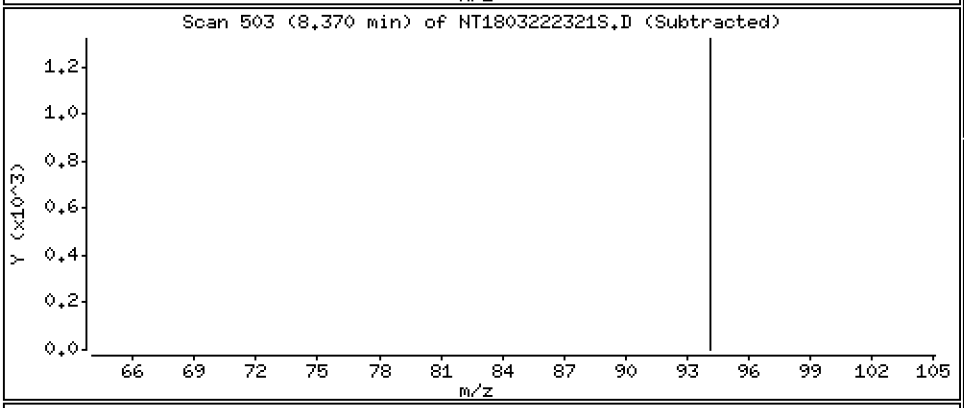
Column diameter: 0.25

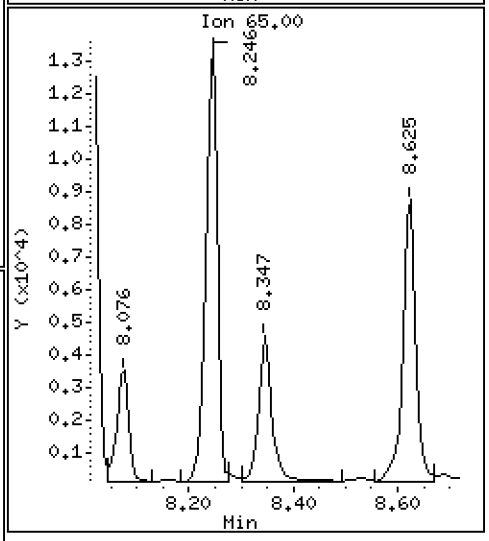
3 Phenol

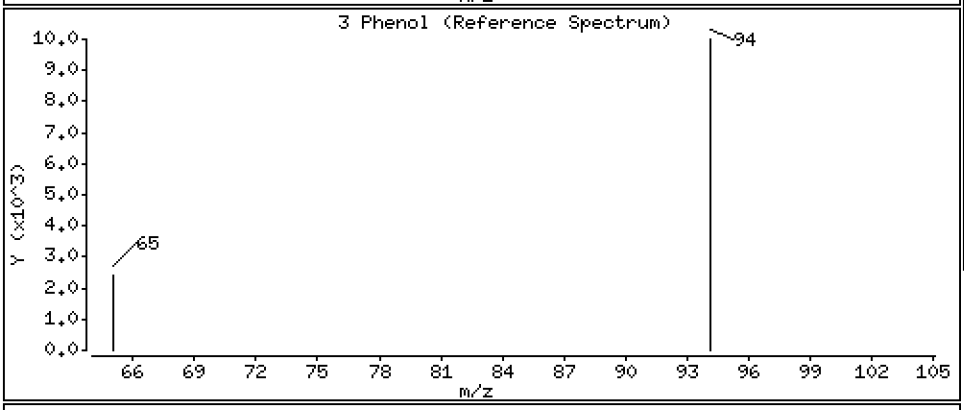
Concentration: 0.01753 ug/mL

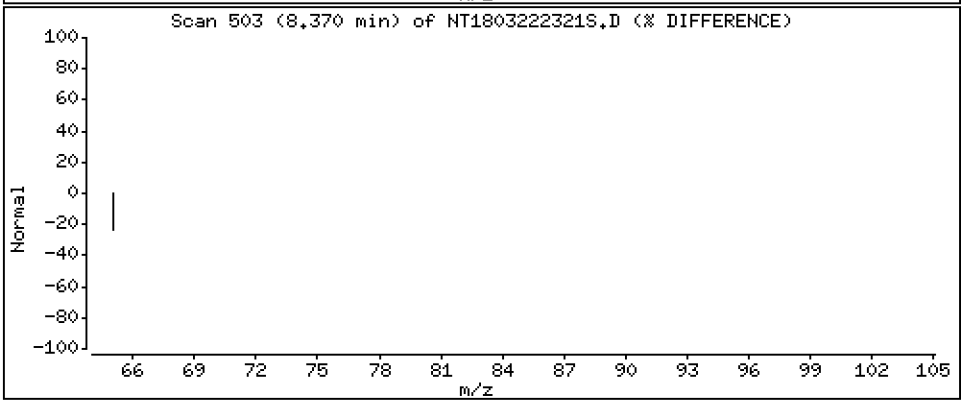












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT1803222321S.D

Date : 23-MAR-2023 06:46

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK4

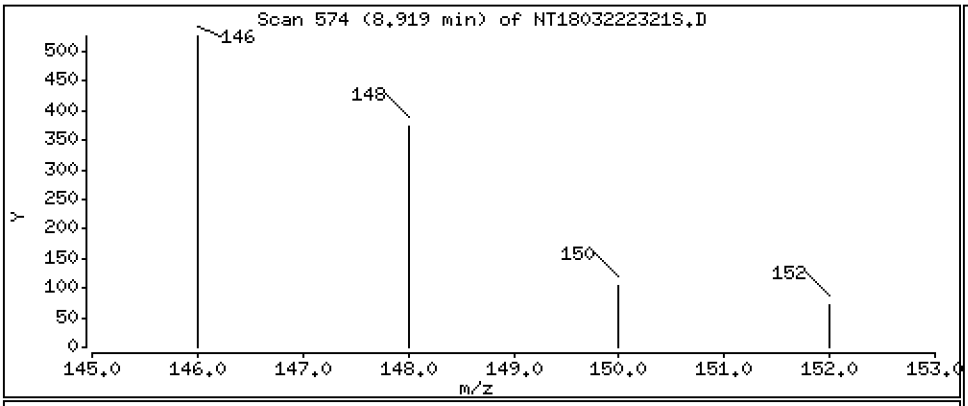
Operator: VTS

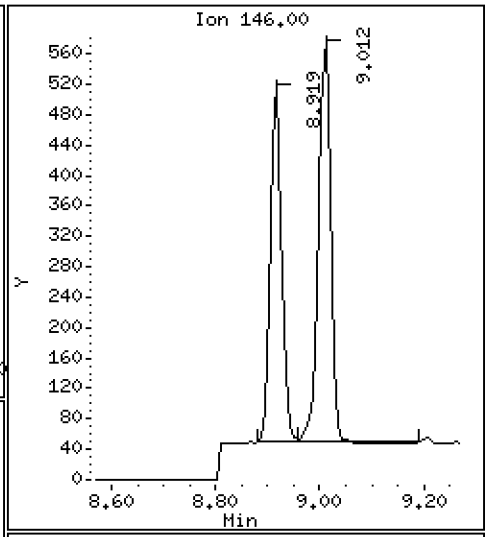
Column phase: ZB-5msi

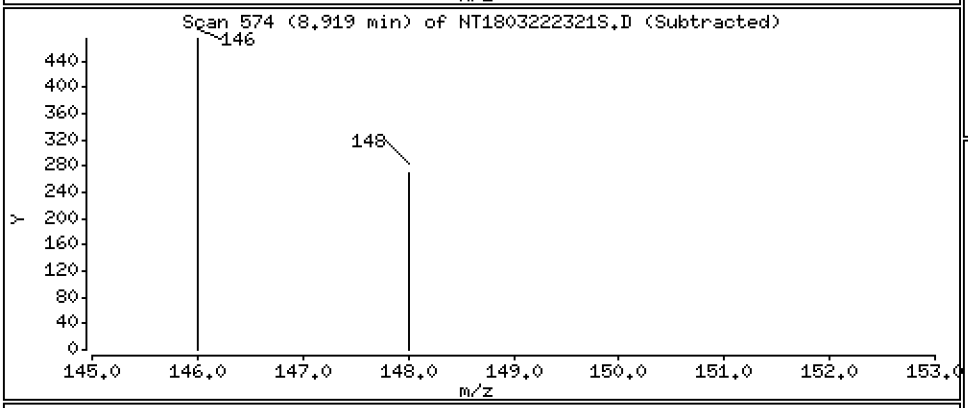
Column diameter: 0.25

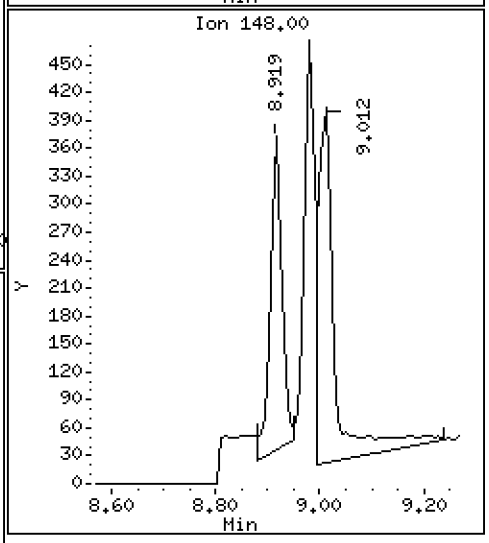
7 1,3-Dichlorobenzene

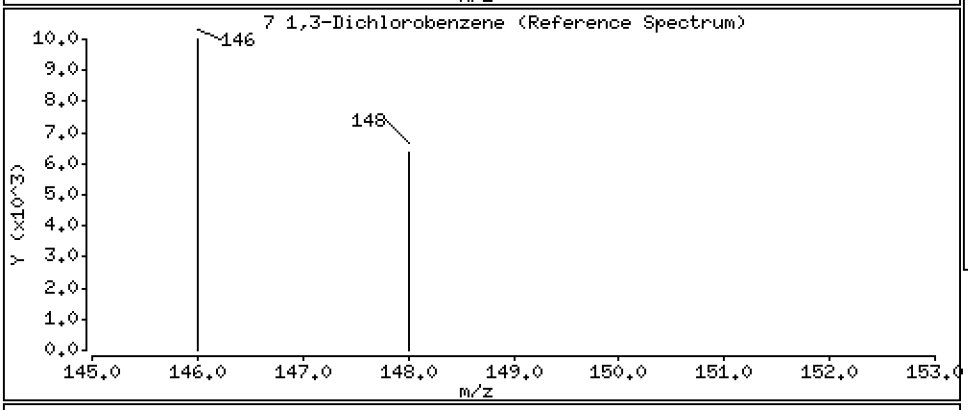
Concentration: 0.005303 ug/mL

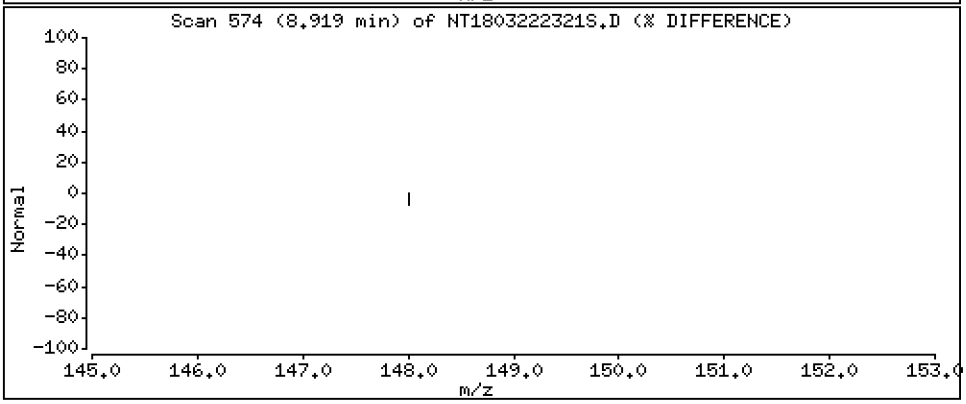












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT18032223215.D

Date : 23-MAR-2023 06:46

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK4

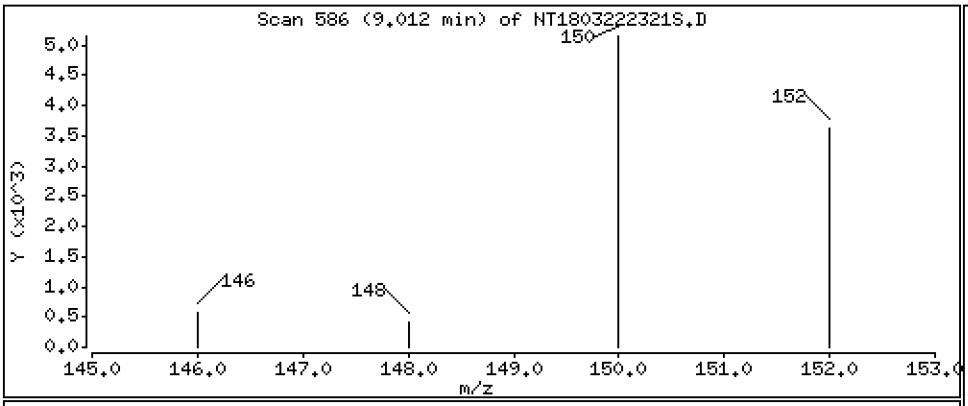
Operator: VTS

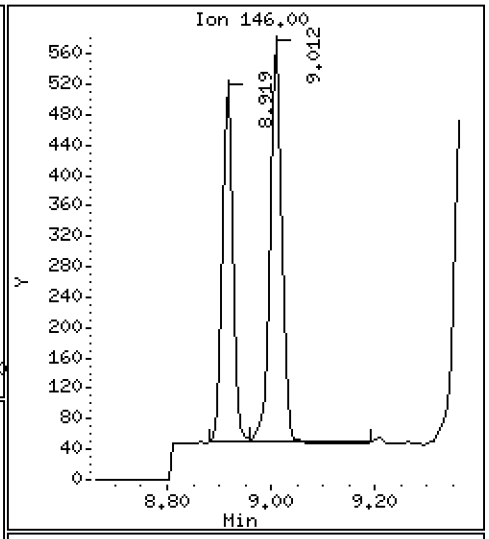
Column phase: ZB-5msi

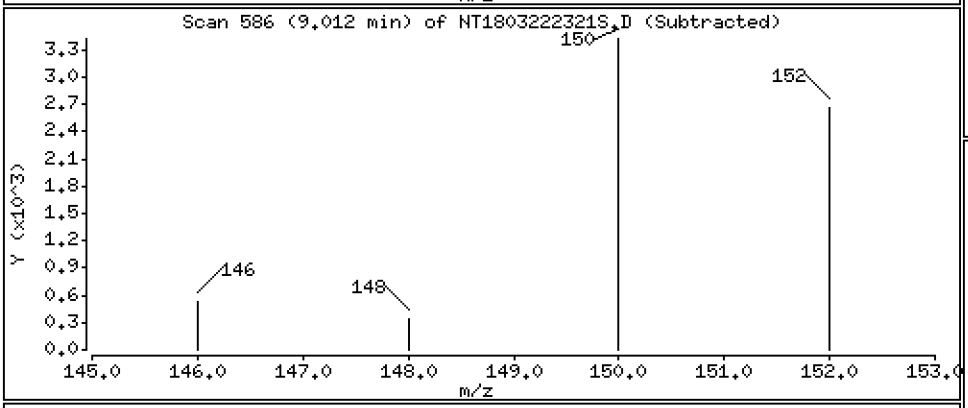
Column diameter: 0.25

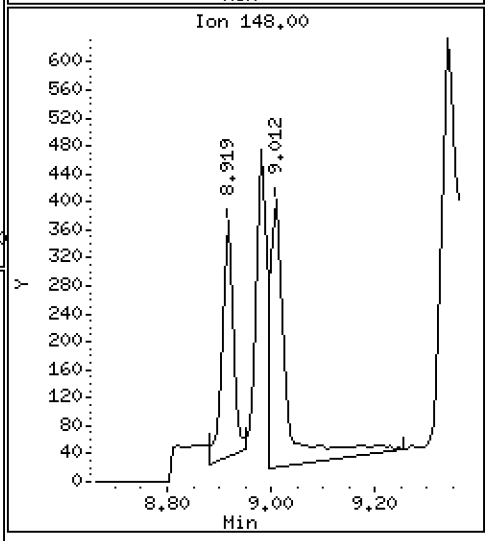
9 1,4-Dichlorobenzene

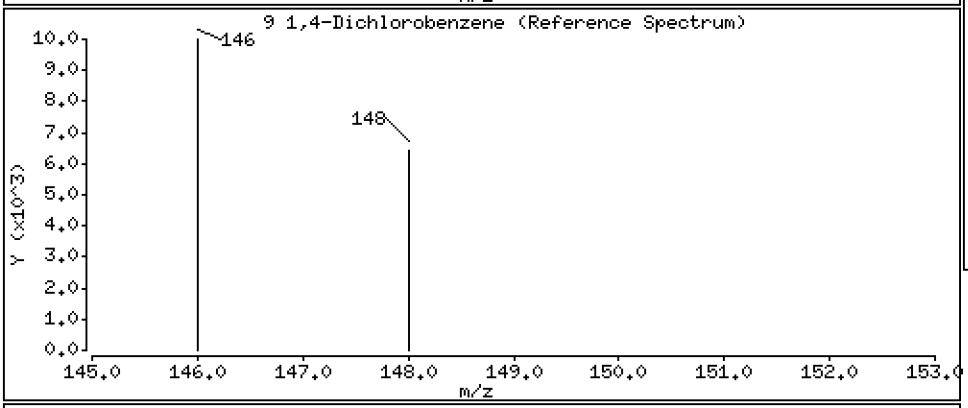
Concentration: 0.006044 ug/mL

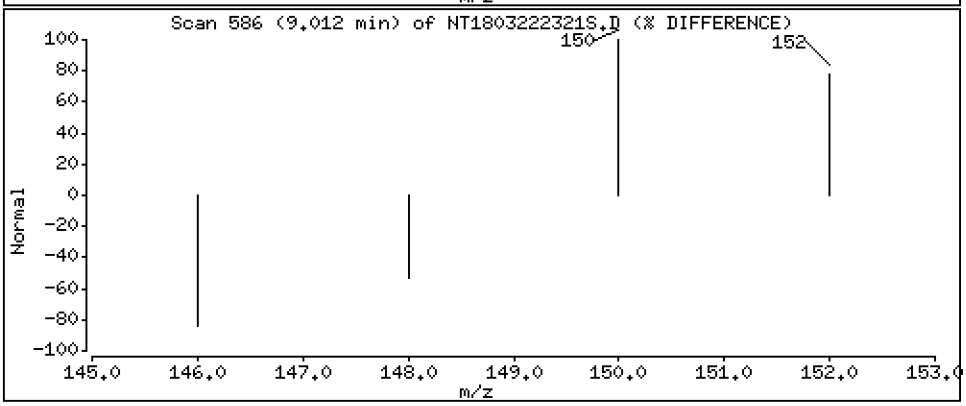












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Date : 23-MAR-2023 06:46

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK4

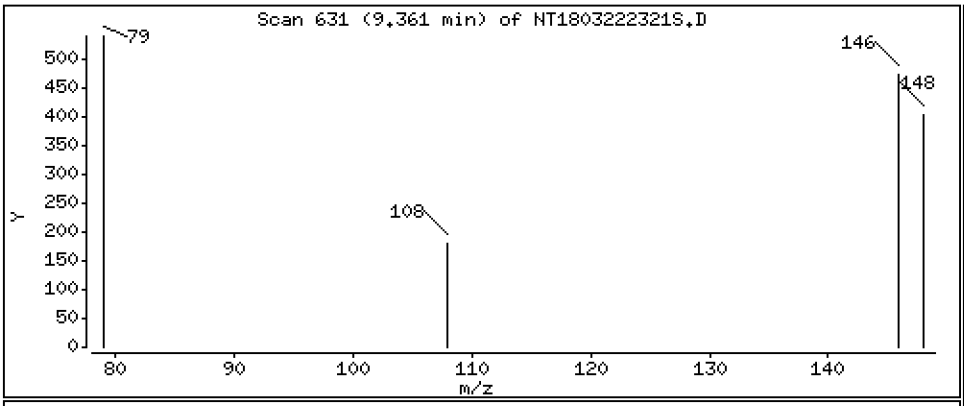
Operator: VTS

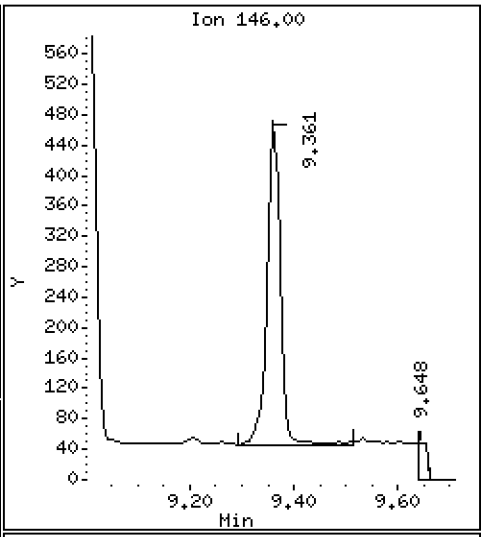
Column phase: ZB-5msi

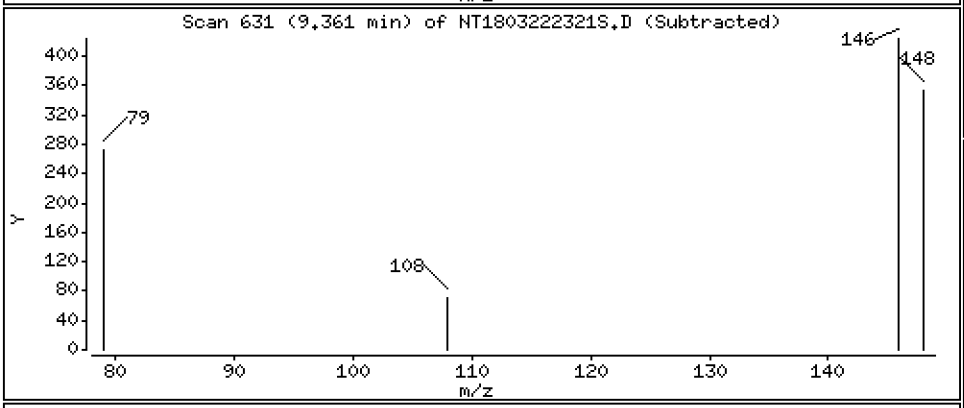
Column diameter: 0.25

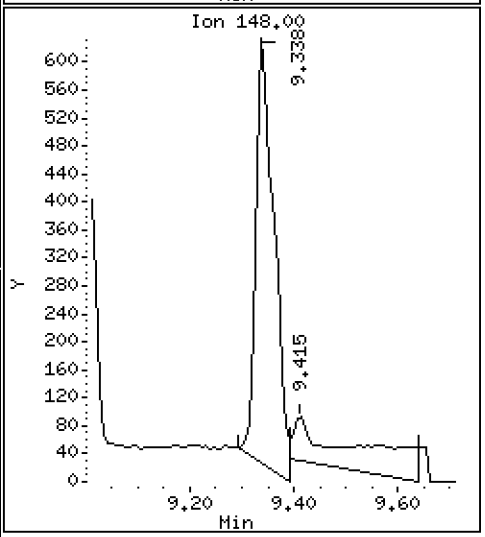
12 1,2-Dichlorobenzene

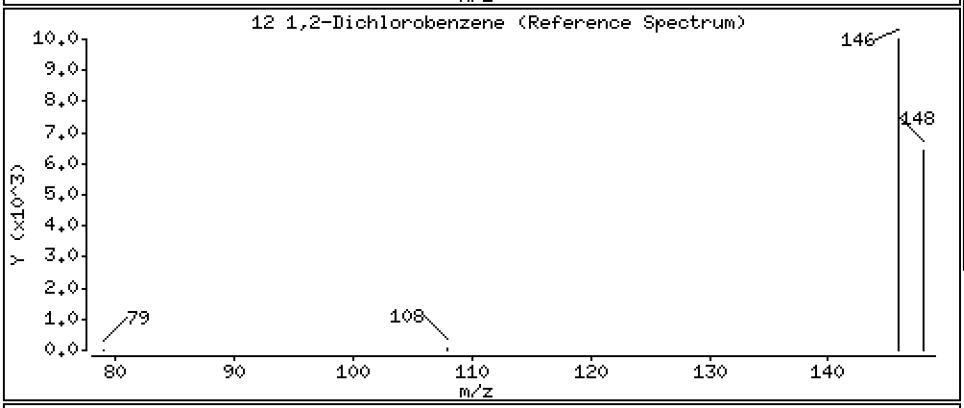
Concentration: 0.005527 ug/mL

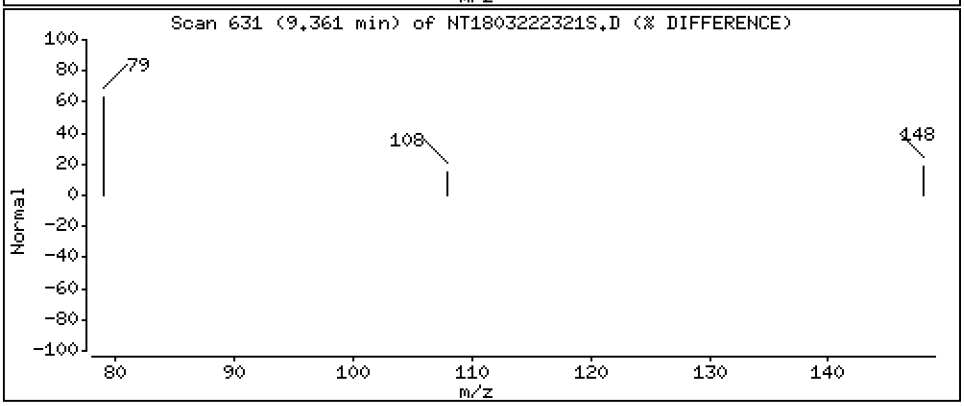












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Date : 23-MAR-2023 06:46

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK4

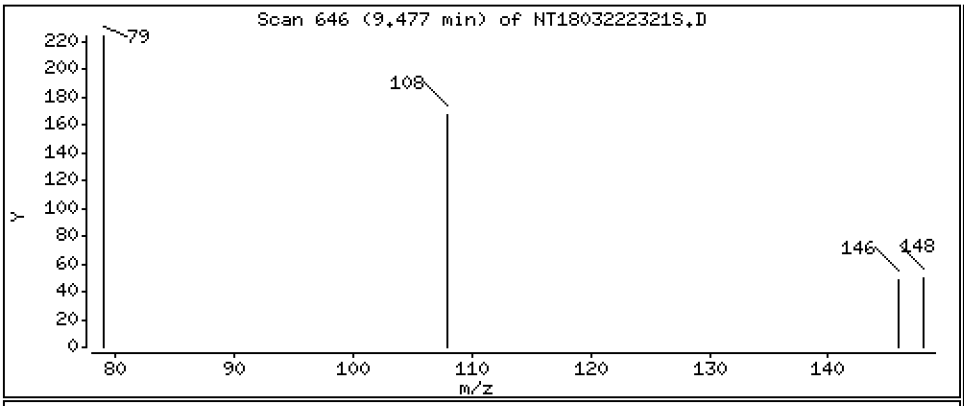
Operator: VTS

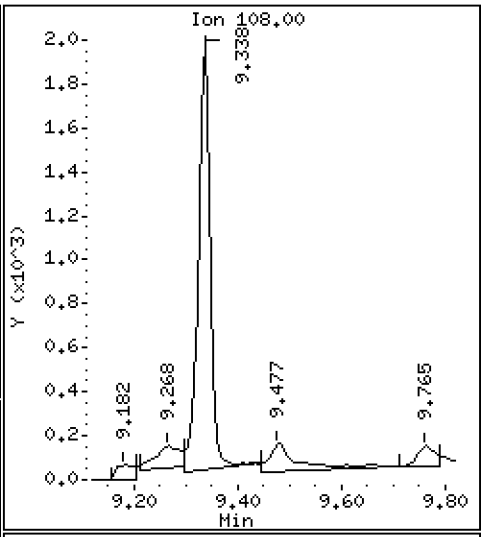
Column phase: ZB-5msi

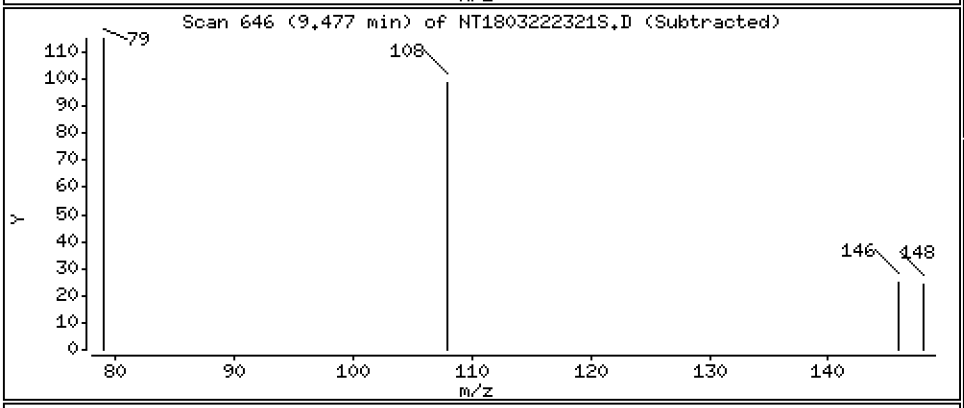
Column diameter: 0.25

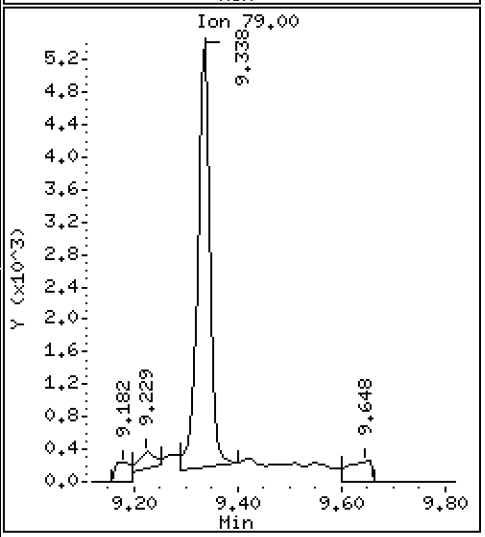
13 2-Methylphenol

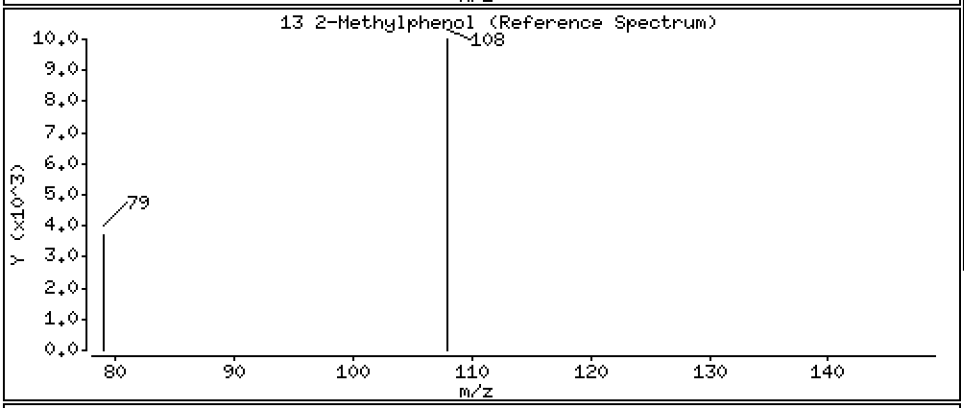
Concentration: 0.005318 ug/mL

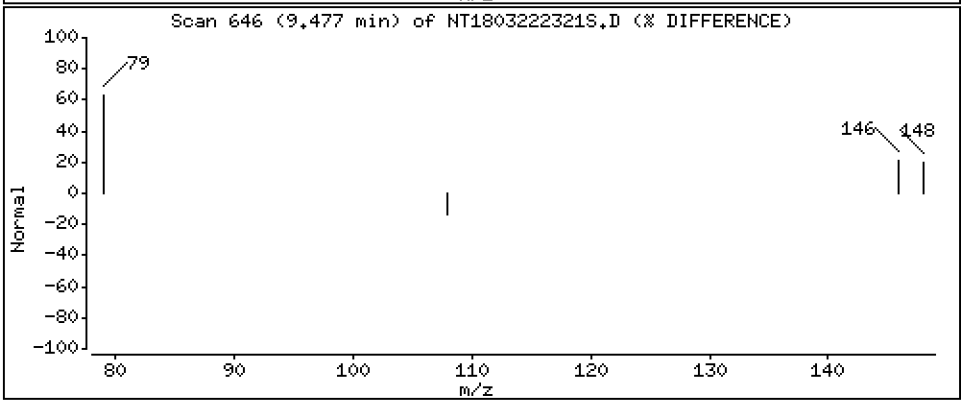












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Date : 23-MAR-2023 06:46

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK4

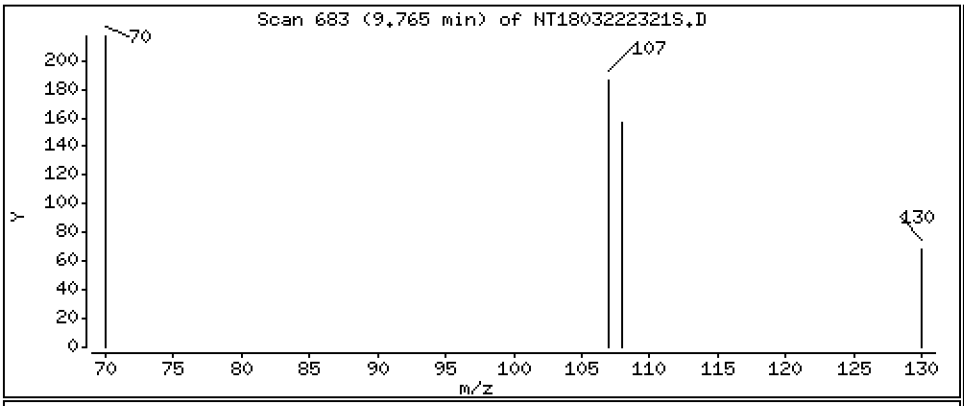
Operator: VTS

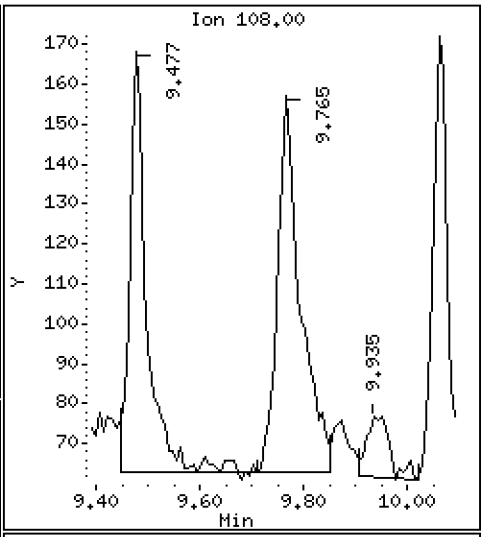
Column phase: ZB-5msi

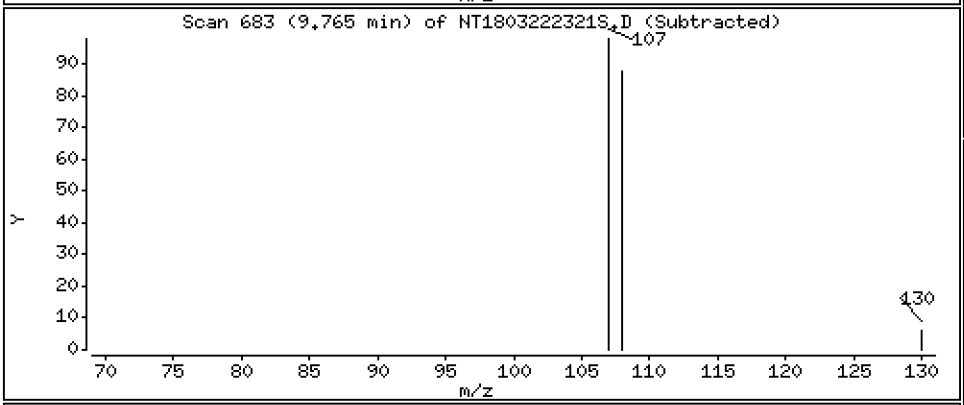
Column diameter: 0.25

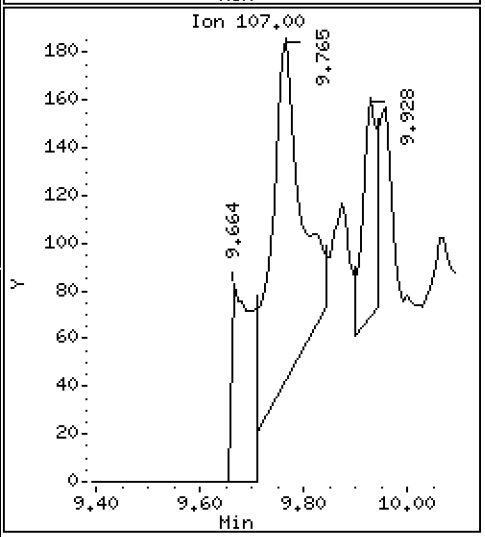
15 4-Methylphenol

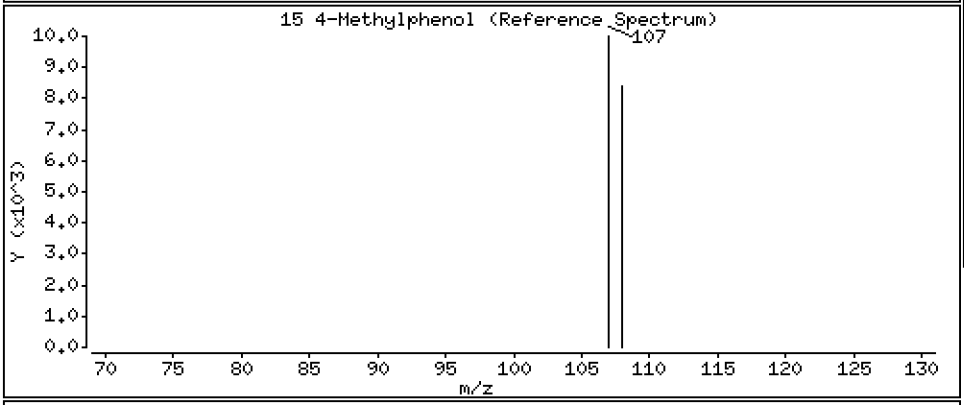
Concentration: 0.002988 ug/mL

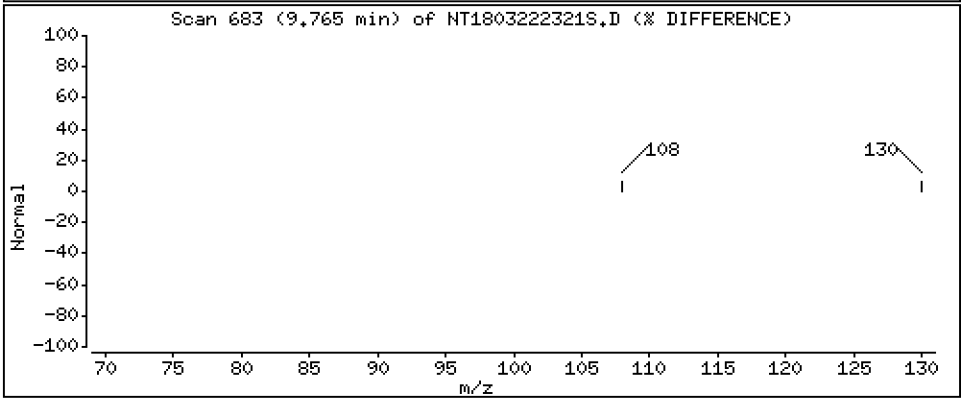












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT18032223215.D

Date : 23-MAR-2023 06:46

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK4

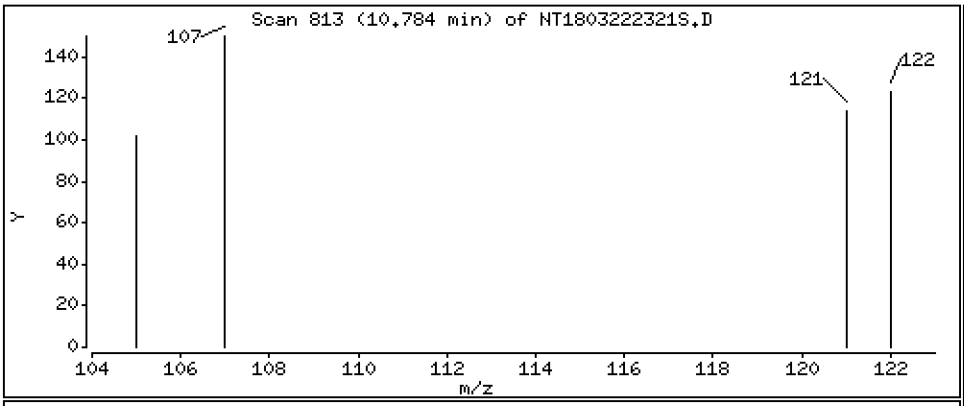
Operator: VTS

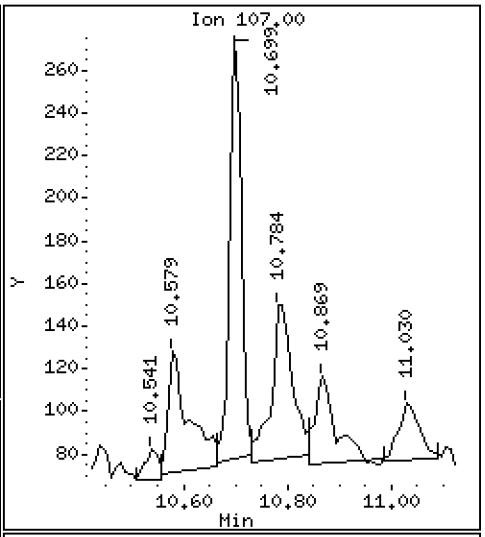
Column phase: ZB-5msi

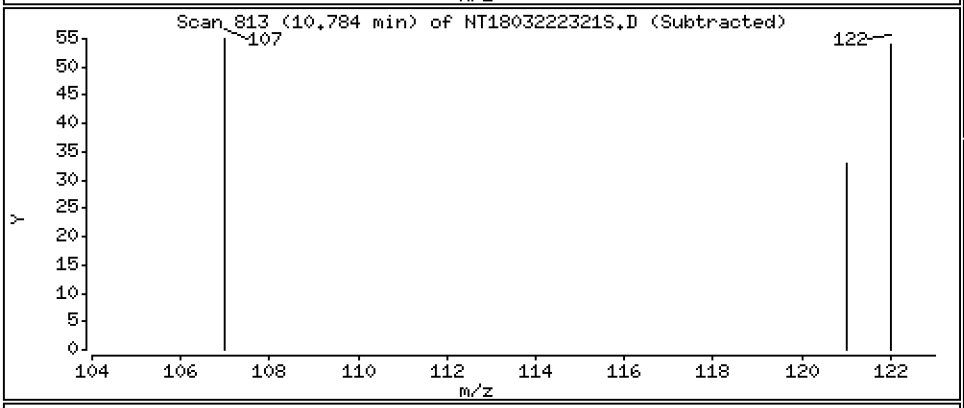
Column diameter: 0.25

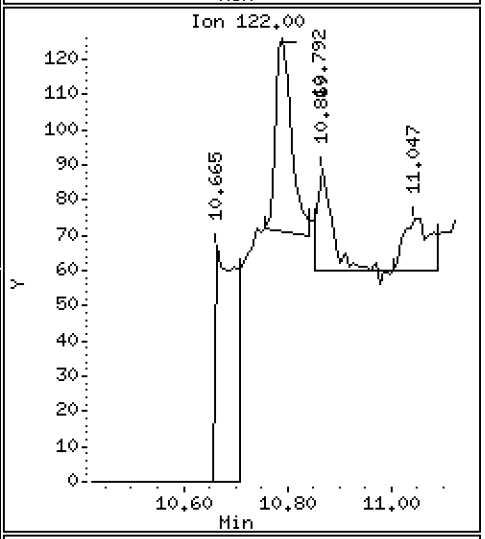
22 2,4-Dimethylphenol

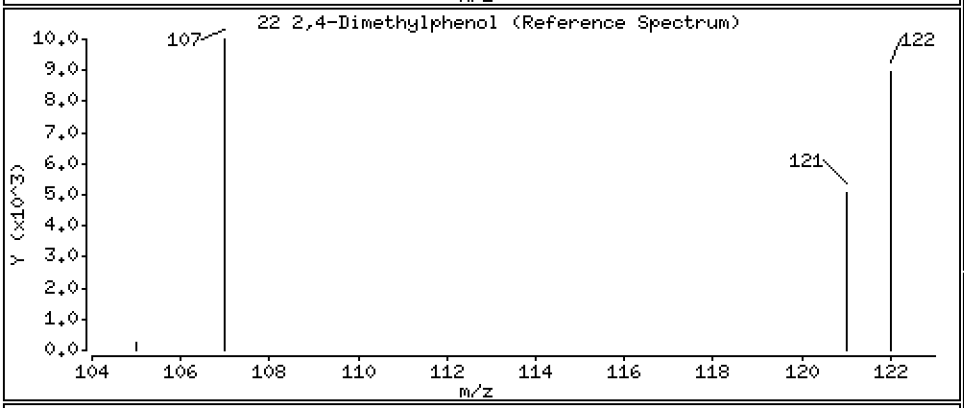
Concentration: 0.002420 ug/mL

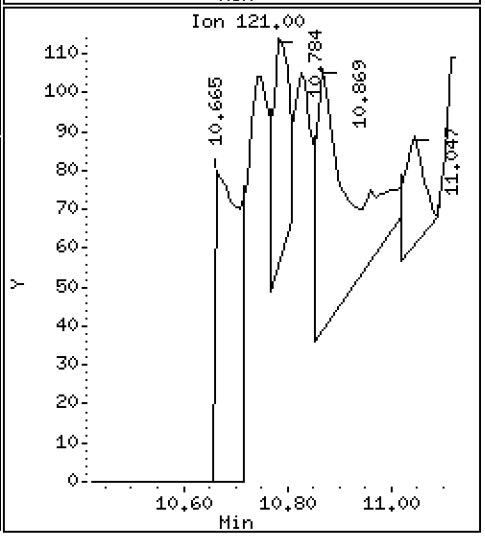


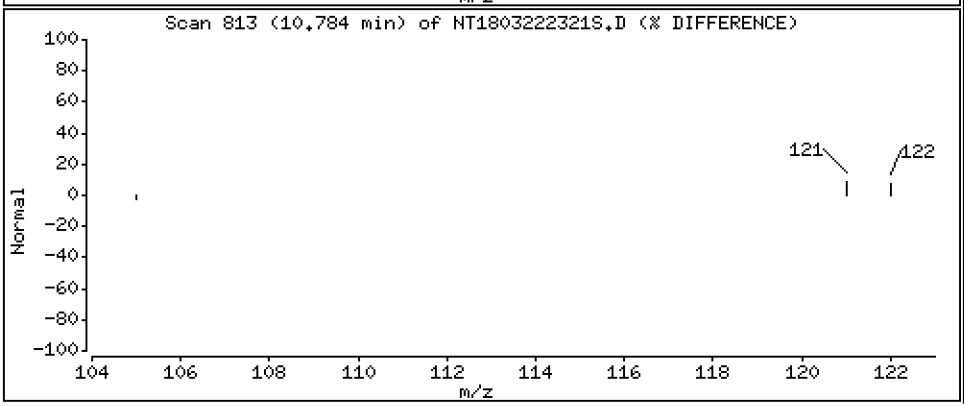












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Date : 23-MAR-2023 06:46

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK4

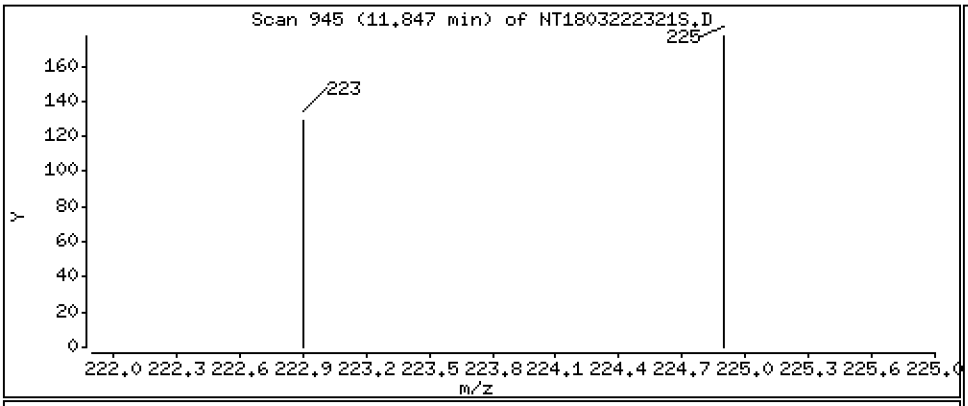
Operator: VTS

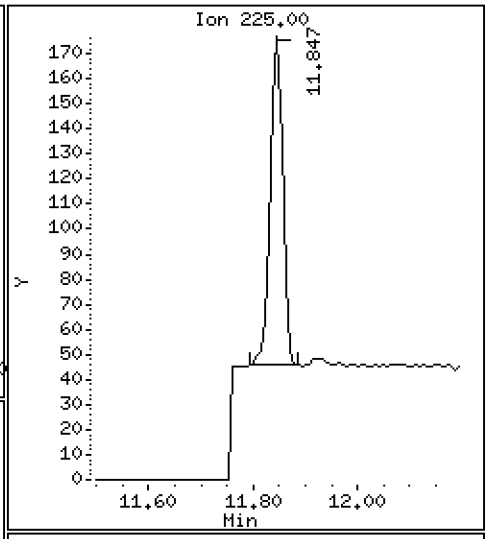
Column phase: ZB-5msi

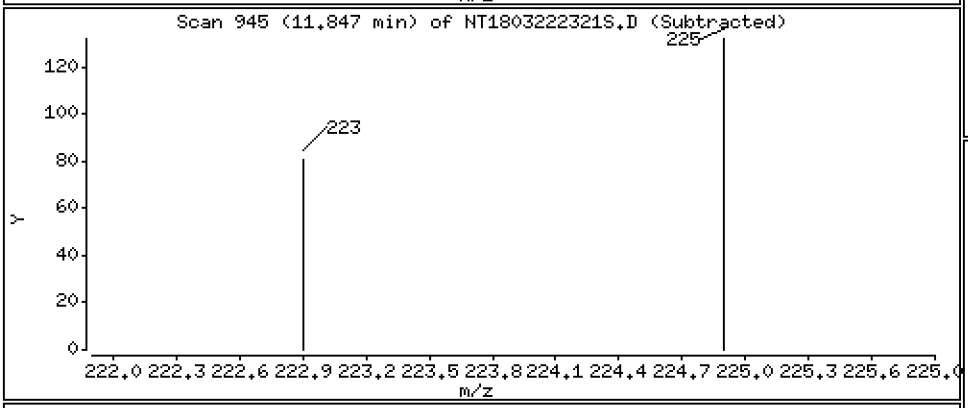
Column diameter: 0.25

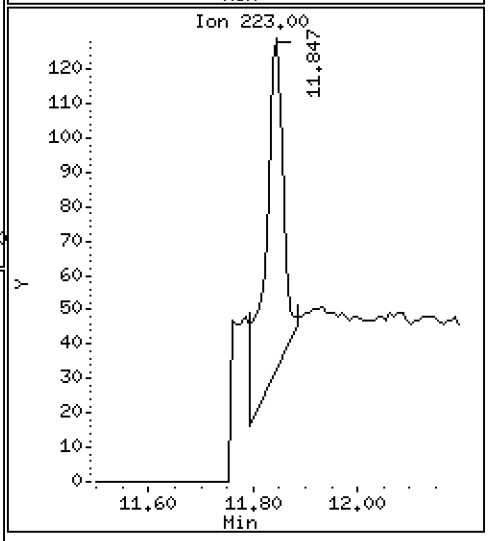
30 Hexachlorobutadiene

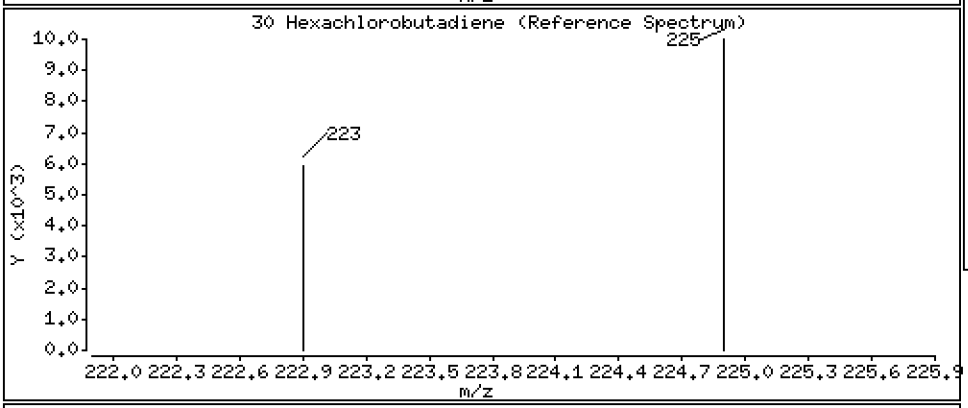
Concentration: 0.003600 ug/mL

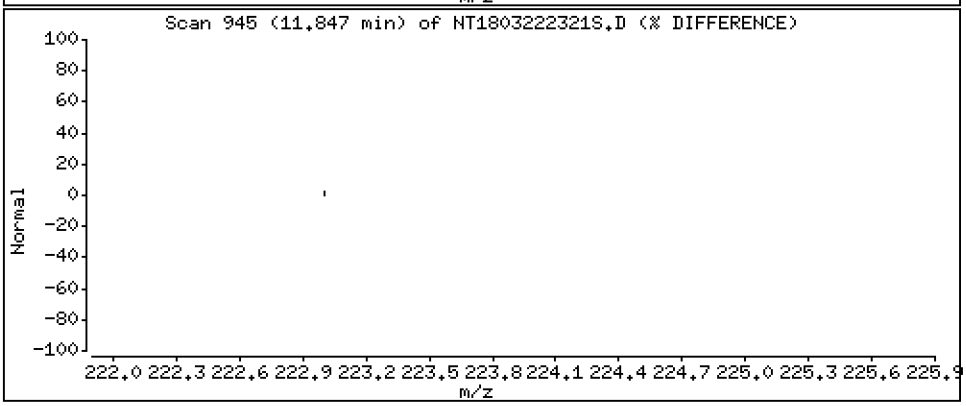












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Date : 23-MAR-2023 06:46

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK4

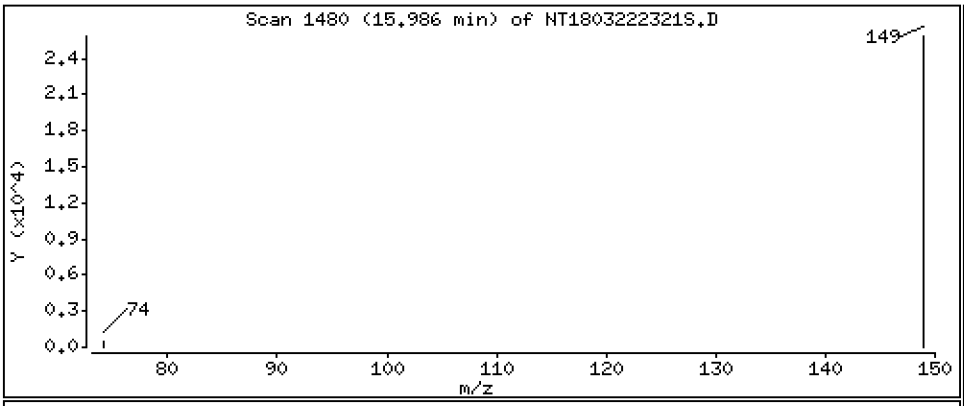
Operator: VTS

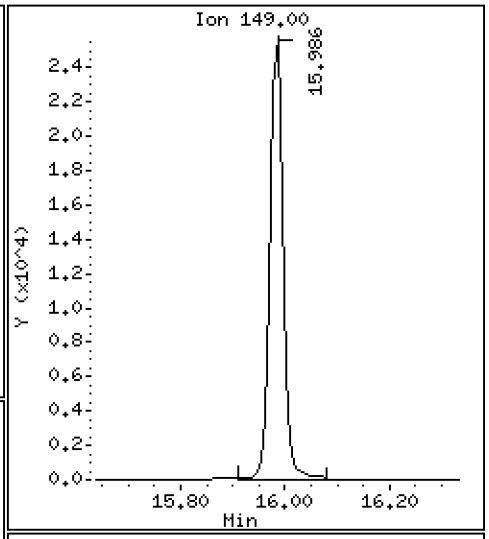
Column phase: ZB-5msi

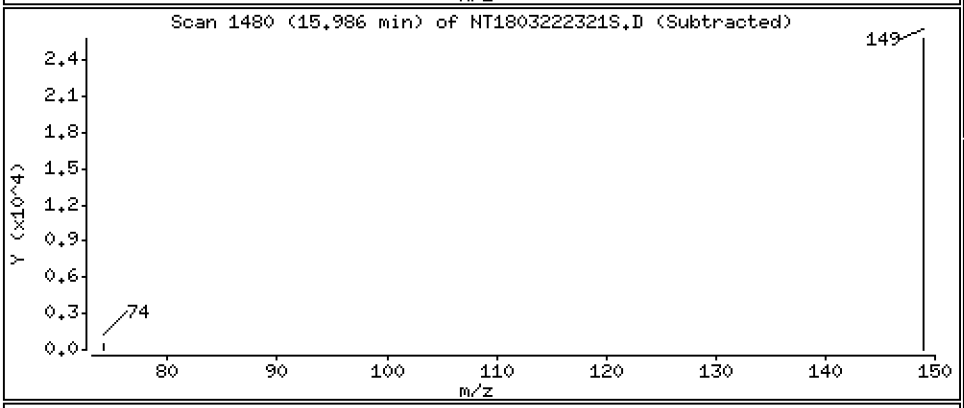
Column diameter: 0.25

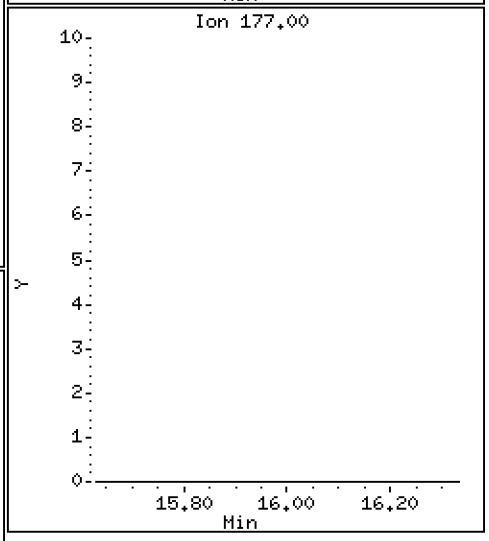
50 Diethylphthalate

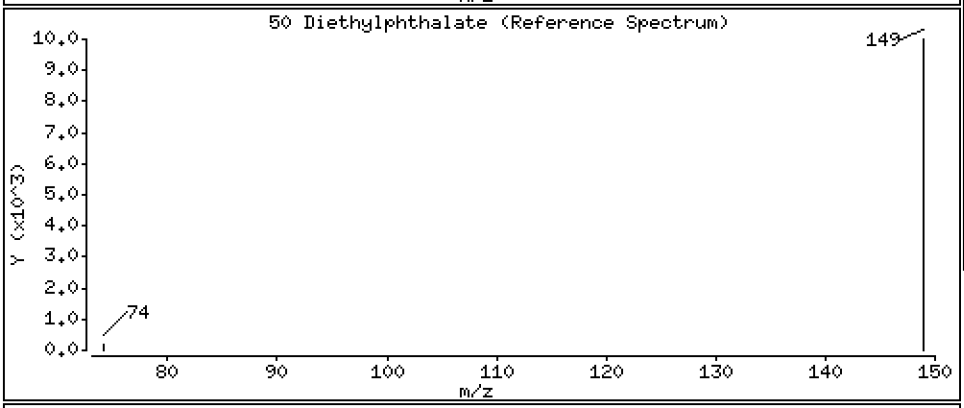
Concentration: 0.2482 ug/mL

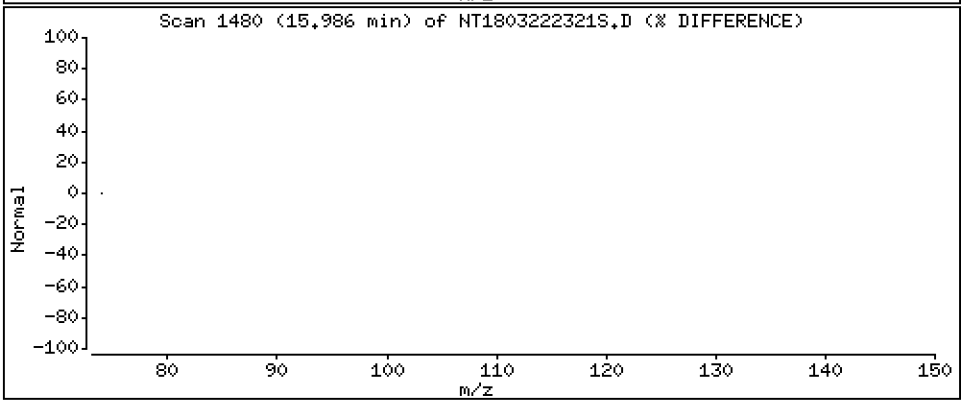












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Date : 23-MAR-2023 06:46

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK4

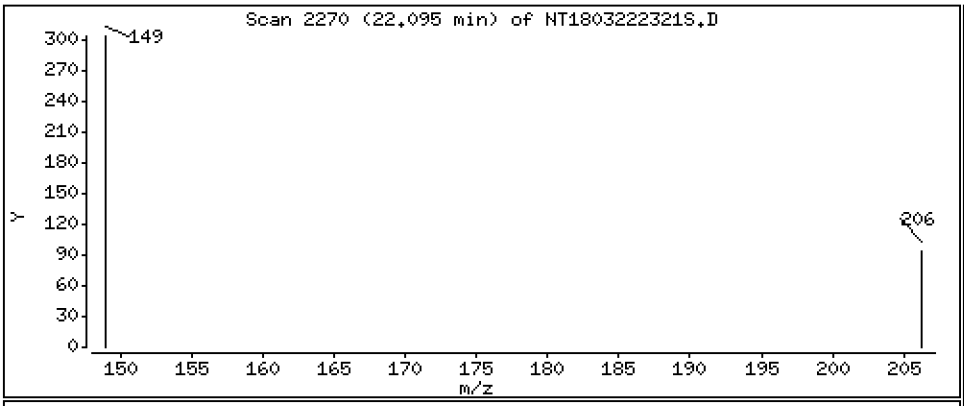
Operator: VTS

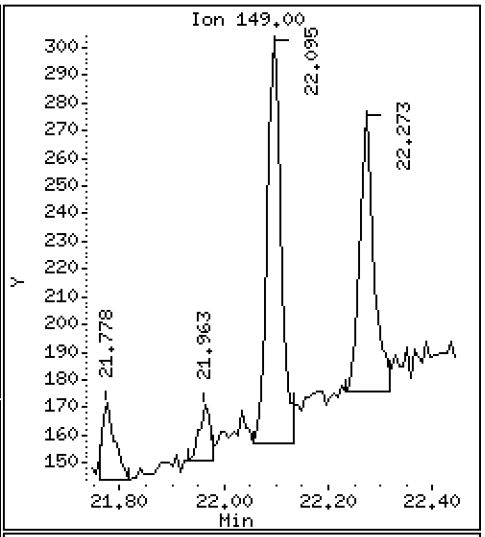
Column phase: ZB-5msi

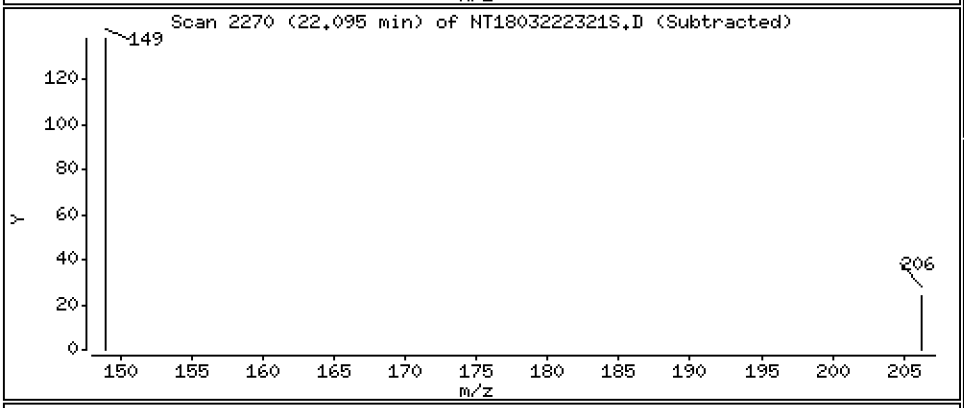
Column diameter: 0.25

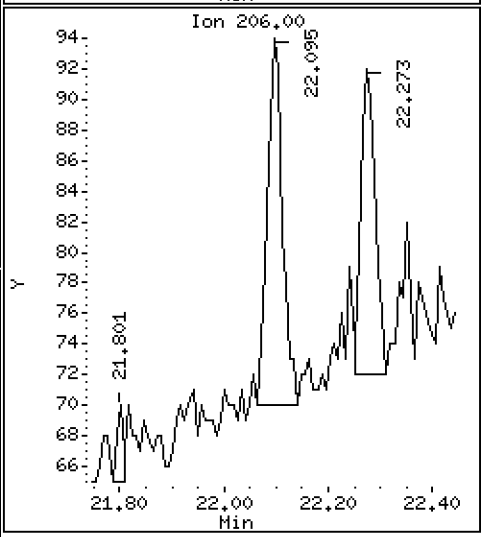
67 Butylbenzylphthalate

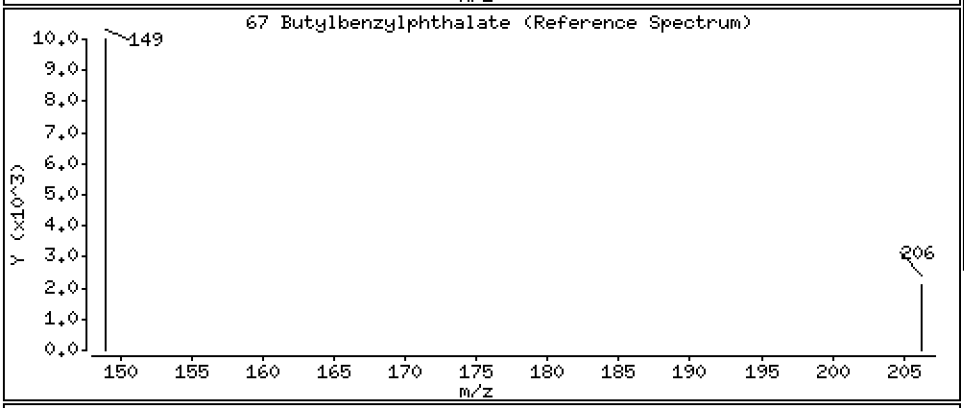
Concentration: 0.001636 ug/mL

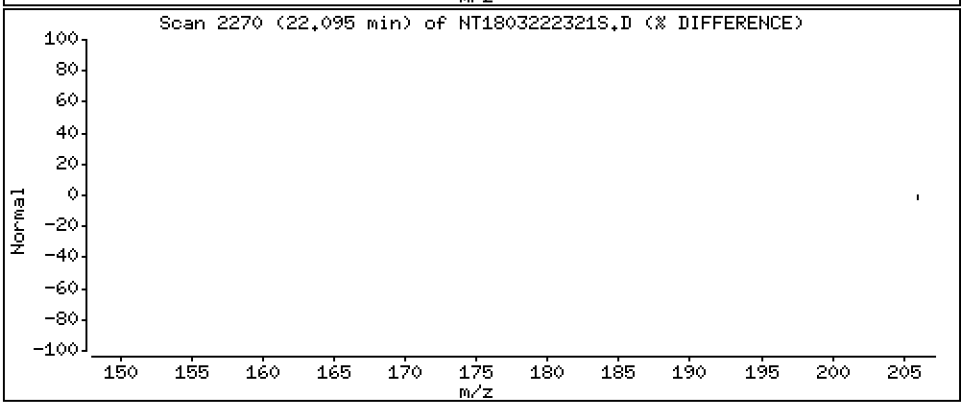












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT18032223215.D

Date : 23-MAR-2023 06:46

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BLK4

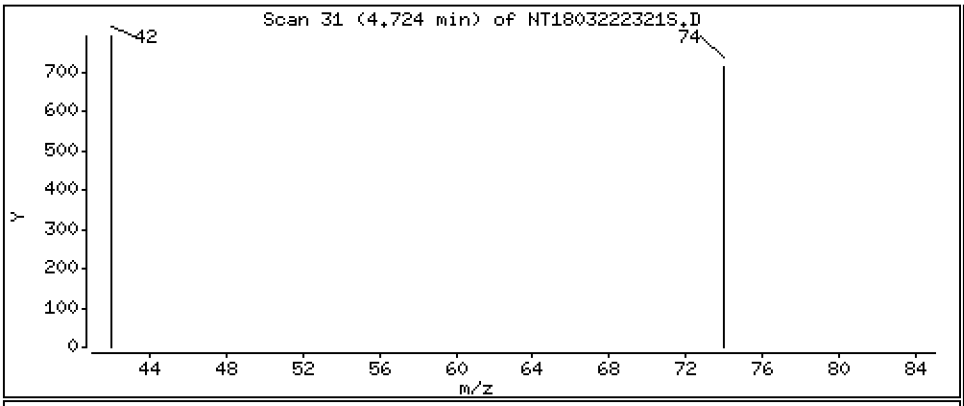
Operator: VTS

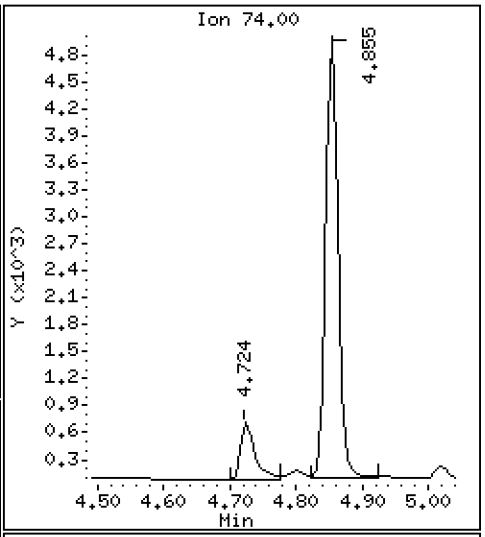
Column phase: ZB-5msi

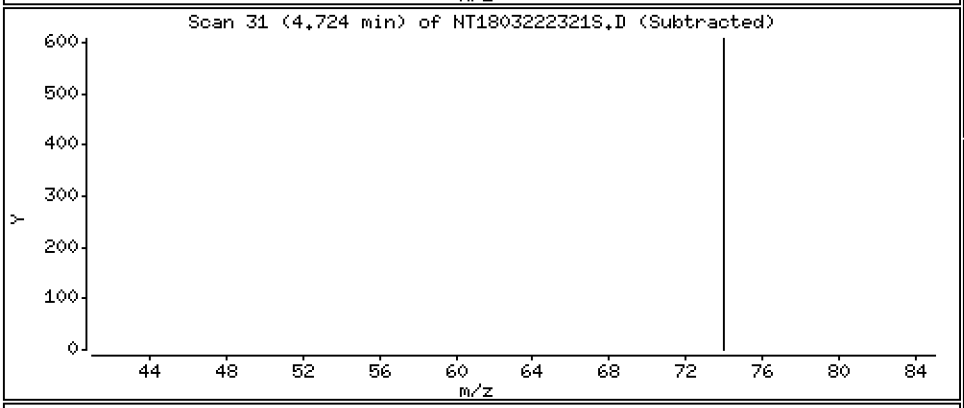
Column diameter: 0.25

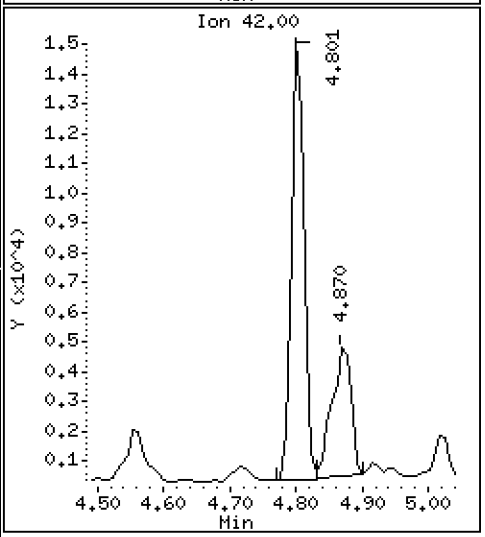
90 N-Nitrosodimethylamine

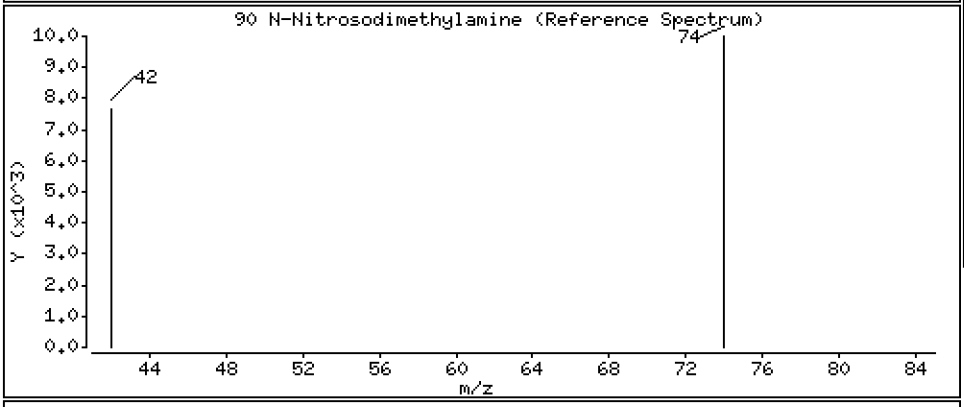
Concentration: 0.01548 ug/mL

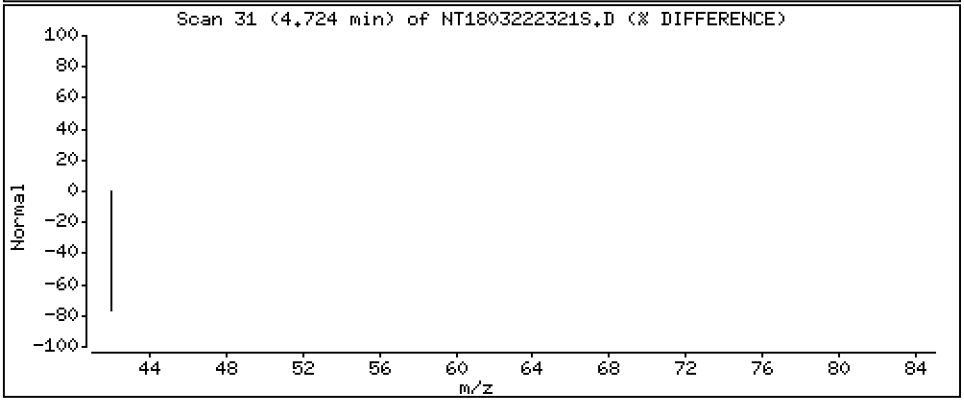












ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT1803222321S.D
Lab Smp Id: BLC0185-BLK4
Inj Date : 23-MAR-2023 06:46
Operator : VTS Inst ID: nt18.i
Smp Info : BLC0185-BLK4
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230322A.b\SIM.b\SIMABN2.m
Meth Date : 05-Apr-2023 11:57 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: DEENAY-201905

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.793	6.786	(0.756)	601055	5.96689	5.967(R)
	3 Phenol	94	8.369	8.369	(0.932)	2365	0.01753	0.01753
	7 1,3-Dichlorobenzene	146	8.918	8.918	(0.993)	692	0.00530	0.005303
*	8 1,4-Dichlorobenzene-d4	152	8.980	8.980	(1.000)	345528	4.00000	
	9 1,4-Dichlorobenzene	146	9.011	9.011	(1.003)	800	0.00604	0.006044
	11 Benzyl alcohol	79	Compound Not Detected.					
	12 1,2-Dichlorobenzene	146	9.360	9.361	(1.042)	712	0.00553	0.005527
	13 2-Methylphenol	108	9.477	9.469	(1.055)	498	0.00532	0.005318(H)
	15 4-Methylphenol	108	9.764	9.741	(1.087)	291	0.00299	0.002988
	16 N-Nitroso-di-n-propylamine	70	Compound Not Detected.					
	22 2,4-Dimethylphenol	107	10.783	10.775	(0.943)	211	0.00242	0.002420
	24 Benzoic acid	105	Compound Not Detected.					
	26 1,2,4-Trichlorobenzene	180	Compound Not Detected.					
*	27 Naphthalene-d8	136	11.437	11.437	(1.000)	1248344	4.00000	
	30 Hexachlorobutadiene	225	11.846	11.846	(1.036)	206	0.00360	0.003600
	39 Dimethylphthalate	163	Compound Not Detected.					
*	42 Acenaphthene-d10	162	15.027	15.027	(1.000)	600752	4.00000	
	50 Diethylphthalate	149	15.985	15.985	(1.064)	43245	0.24820	0.2482
	54 N-Nitrosodiphenylamine	169	Compound Not Detected.					
	57 Hexachlorobenzene	284	Compound Not Detected.					
	58 Pentachlorophenol	266	Compound Not Detected.					
*	59 Phenanthrene-d10	188	18.032	18.032	(1.000)	1063919	4.00000	
$	66 Terphenyl-d14	244	21.165	21.166	(0.918)	715746	4.56179	4.562(R)
	67 Butylbenzylphthalate	149	22.095	22.095	(0.958)	257	0.00164	0.001636
*	69 Chrysene-d12	240	23.055	23.055	(1.000)	1113151	4.00000	
*	77 Perylene-d12	264	25.563	25.563	(1.000)	956207	4.00000	
	79 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	90 N-Nitrosodimethylamine	74	4.723	4.692	(0.526)	952	0.01548	0.01548

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222321S.D
Lab Smp Id: BLC0185-BLK4
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 23-MAR-2023
Calibration Time: 04:45
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	300412	150206	600824	345528	15.02
27 Naphthalene-d8	1106289	553145	2212578	1248344	12.84
42 Acenaphthene-d10	537373	268687	1074746	600752	11.79
59 Phenanthrene-d10	948670	474335	1897340	1063919	12.15
69 Chrysene-d12	1017874	508937	2035748	1113151	9.36
77 Perylene-d12	984454	492227	1968908	956207	-2.87

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	-0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	-0.00
42 Acenaphthene-d10	15.03	14.53	15.53	15.03	-0.00
59 Phenanthrene-d10	18.03	17.53	18.53	18.03	-0.00
69 Chrysene-d12	23.06	22.56	23.56	23.06	-0.00
77 Perylene-d12	25.56	25.06	26.06	25.56	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222321S.D

Lab ID: BLC0185-BLK4
nt18.i, 20230322A.b\SIM.b\SIMABN2.m,   23-MAR-2023 06:46

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

RRT check based on Ccal File: SIM.b/NT1803222318S.D

On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

Analytical Resources, LLC
Analytical Chemists and Consultants

LCS / LCS DUPLICATE RECOVERY

EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	03/22/23 21:20
Batch:	BLC0185	Laboratory ID:	BLC0185-BS2
Preparation:	EPA 3546 (Microwave)	Sequence Name:	LCS
Initial/Final:	10 g / 1 mL		

COMPOUND	SPIKE ADDED (ug/kg wet)	LCS CONCENTRATION (ug/kg wet)	Q	LCS % REC. #	QC LIMITS REC.
1,4-Dichlorobenzene	500	346		69.3	36 - 120
1,2-Dichlorobenzene	500	345		69.0	36 - 120
Benzyl Alcohol	500	338		67.6	25 - 123
Benzoic acid	2300	2090	Q	91.0	10 - 160
2,4-Dimethylphenol	1300	600		46.1	10 - 120
1,2,4-Trichlorobenzene	500	353		70.6	35 - 120
N-Nitrosodiphenylamine	500	369		73.7	27 - 120
Pentachlorophenol	1300	1260	Q	97.2	26 - 120

* Indicates values outside of QC limits

COMPOUND	SPIKE ADDED (ug/kg wet)	LCSD CONCENTRATION (ug/kg wet)	Q	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,4-Dichlorobenzene	500	389		77.7	11.5	30	36 - 120
1,2-Dichlorobenzene	500	386		77.3	11.4	30	36 - 120
Benzyl Alcohol	500	387		77.4	13.5	30	25 - 123
Benzoic acid	2300	2390	Q	104	13.3	30	10 - 160
2,4-Dimethylphenol	1300	717		55.2	17.9	30	10 - 120
1,2,4-Trichlorobenzene	500	396		79.3	11.6	30	35 - 120
N-Nitrosodiphenylamine	500	456		91.3	21.3	30	27 - 120
Pentachlorophenol	1300	1390	Q	107	9.82	30	26 - 120

* Indicates values outside of QC limits

Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223075.D

Date : 22-MAR-2023 21:20

Client ID:

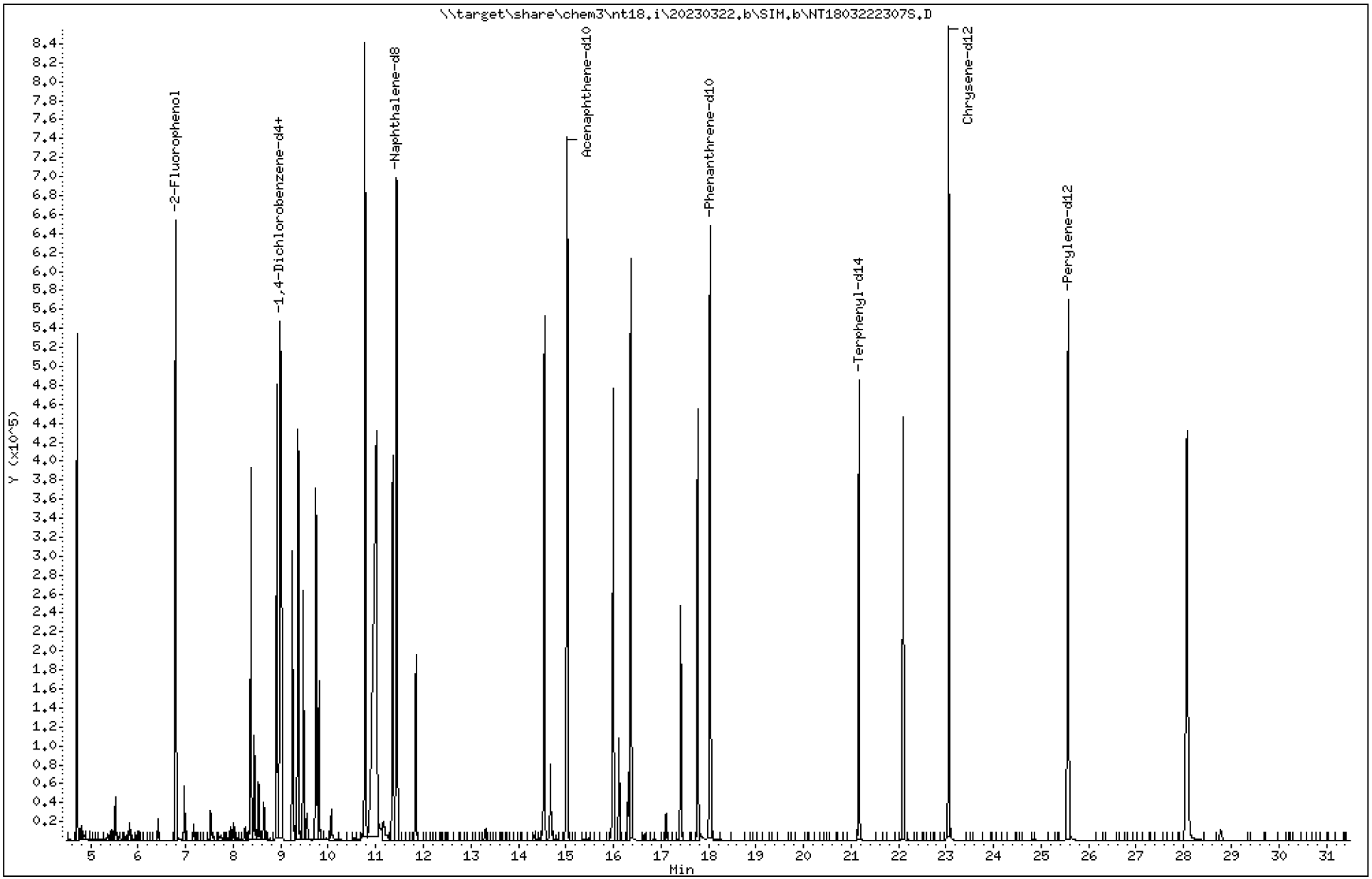
Instrument: nt18.i

Sample Info: BLC0185-BS2

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BS2

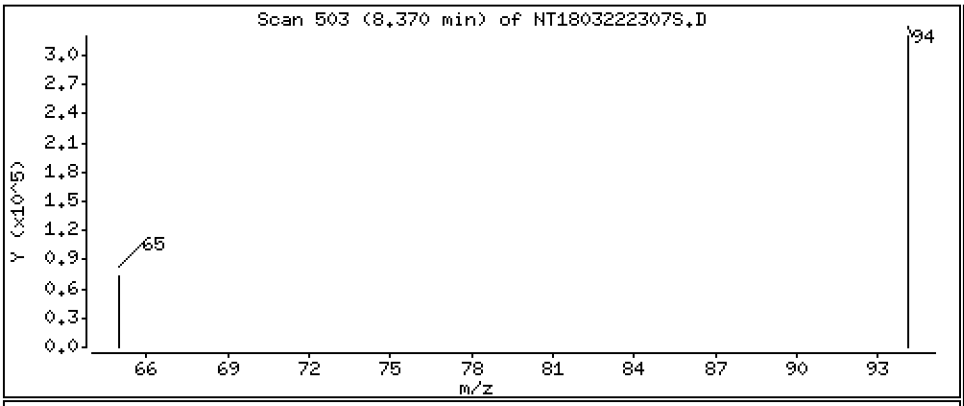
Operator: VTS

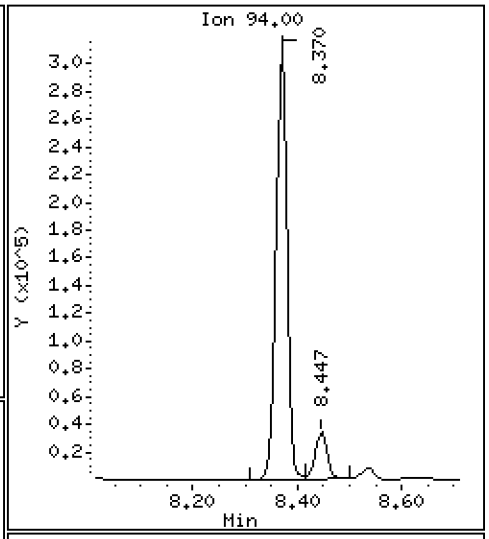
Column phase: ZB-5msi

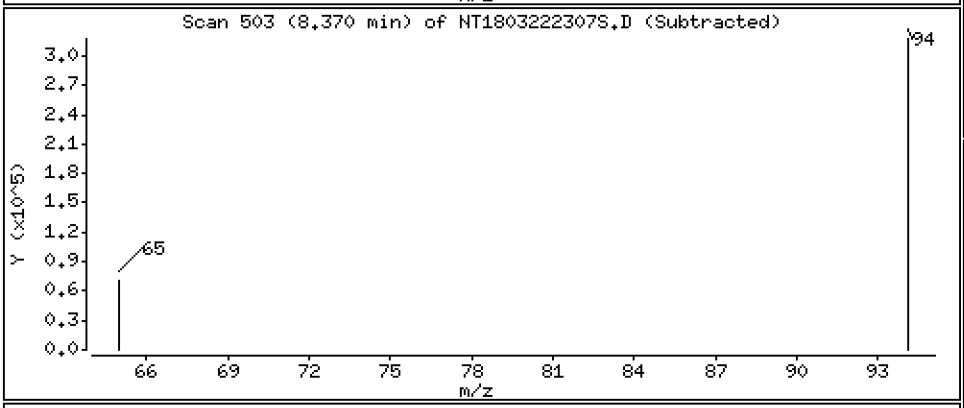
Column diameter: 0.25

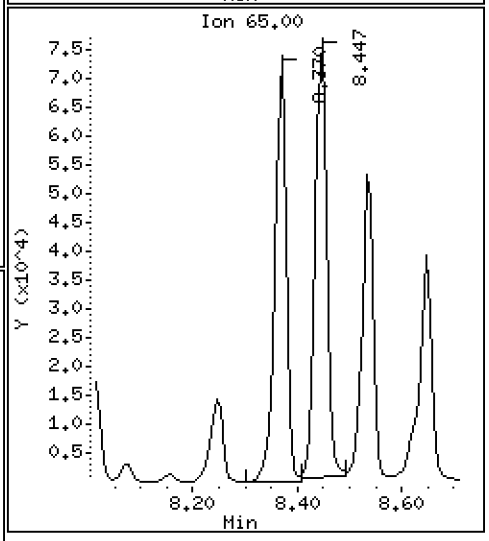
3 Phenol

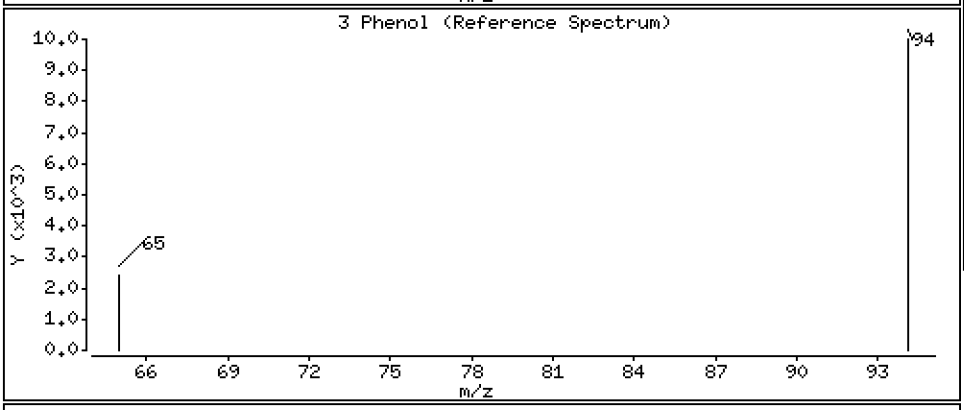
Concentration: 3.422 ug/mL

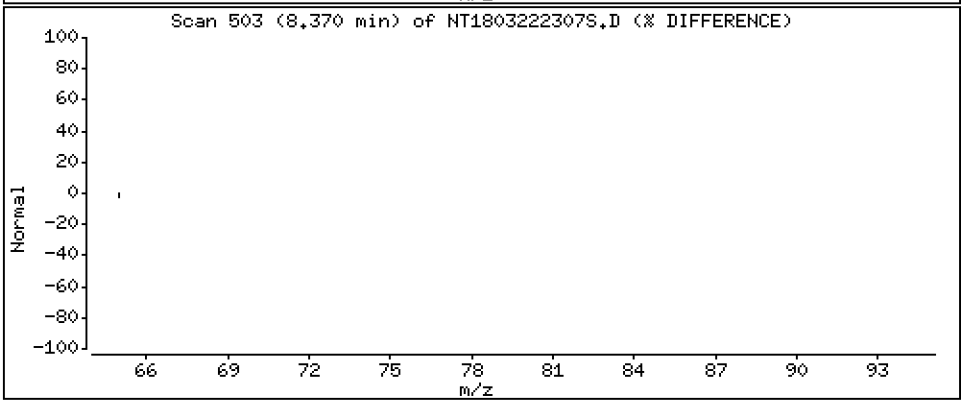












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222307S.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BS2

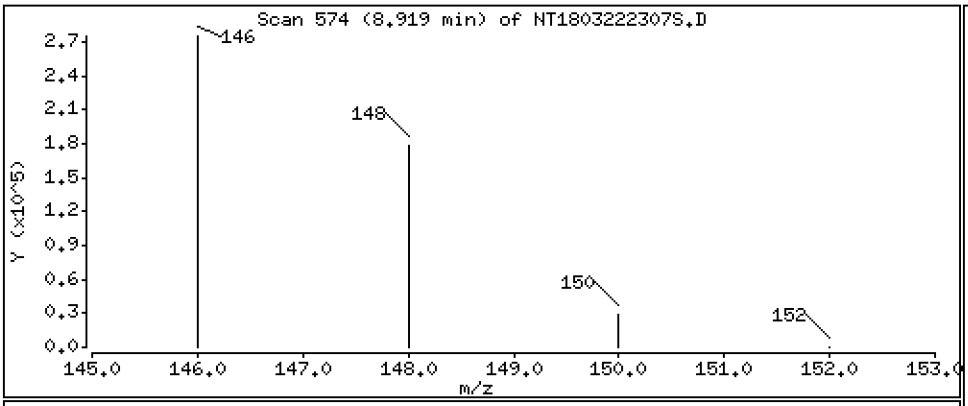
Operator: VTS

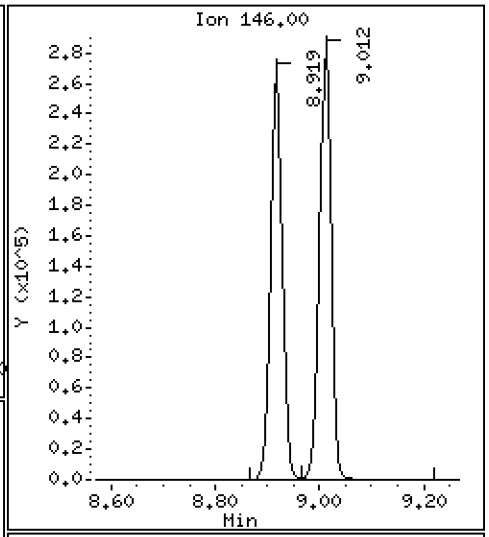
Column phase: ZB-5msi

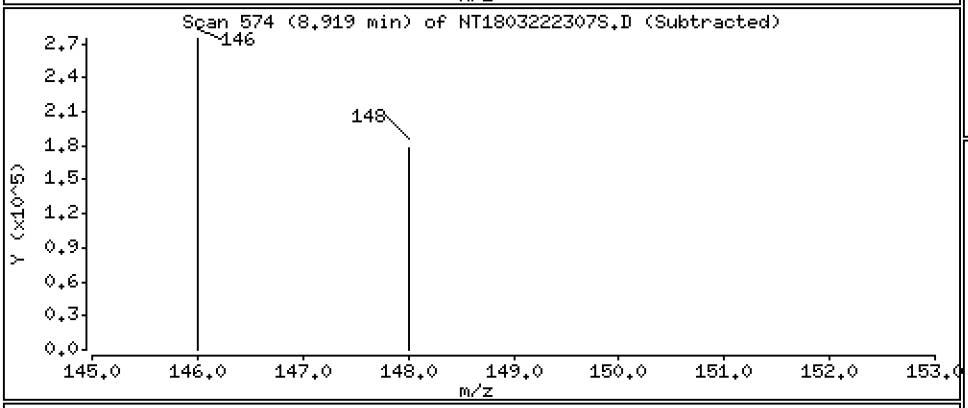
Column diameter: 0.25

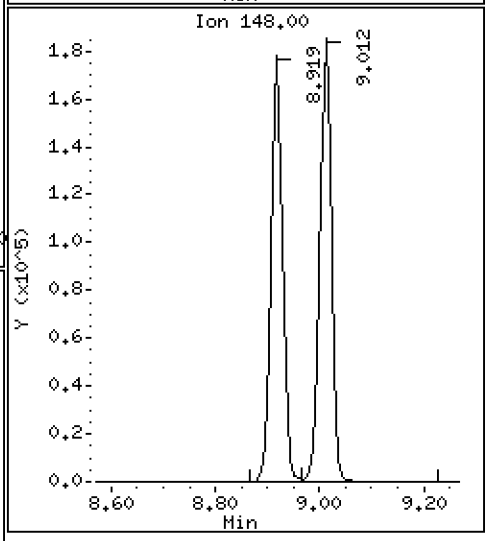
7 1,3-Dichlorobenzene

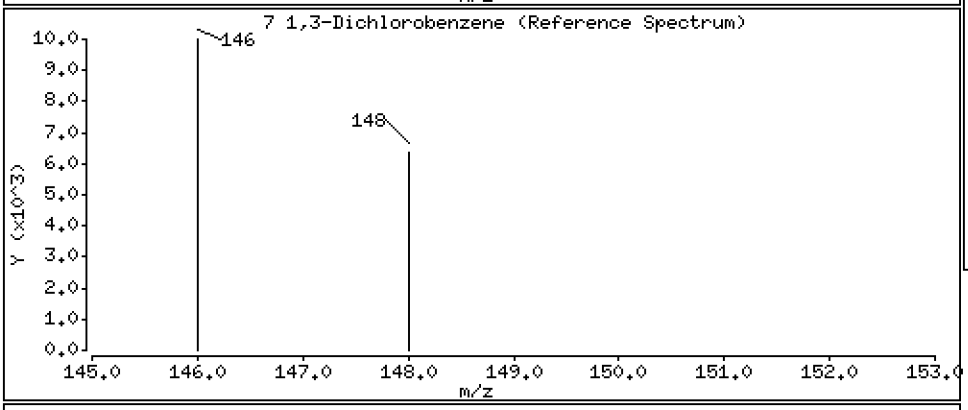
Concentration: 3.454 ug/mL

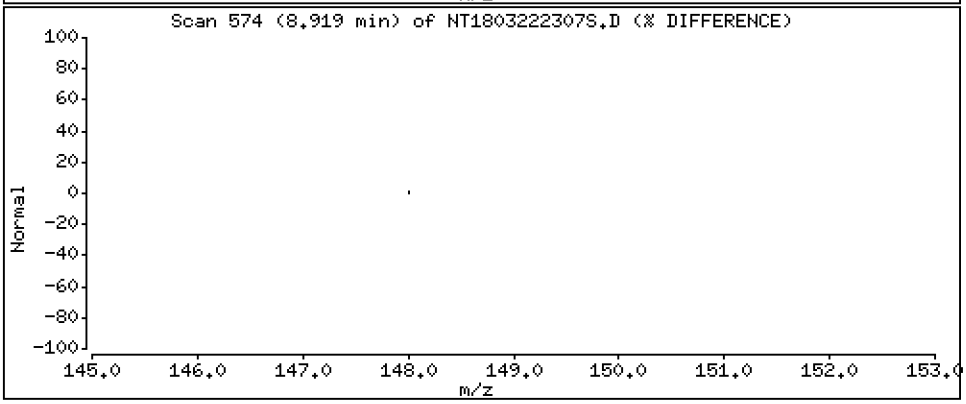












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222307S.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BS2

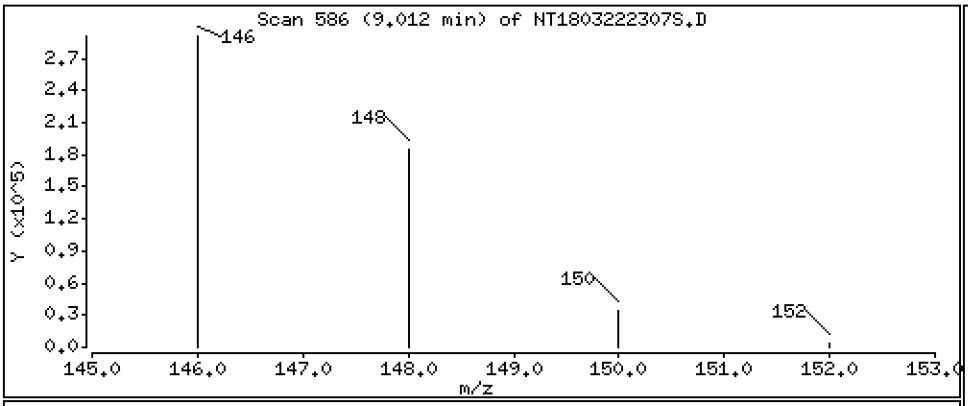
Operator: VTS

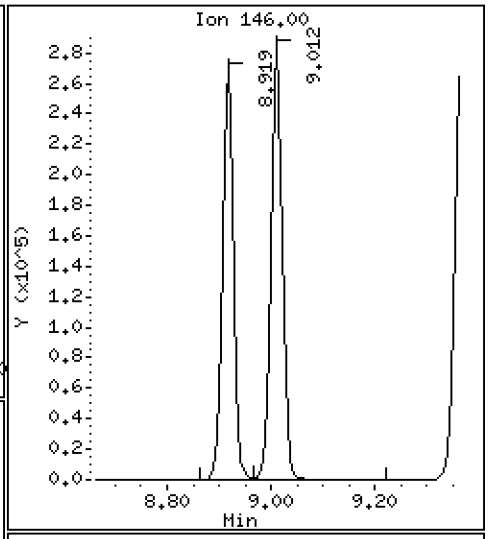
Column phase: ZB-5msi

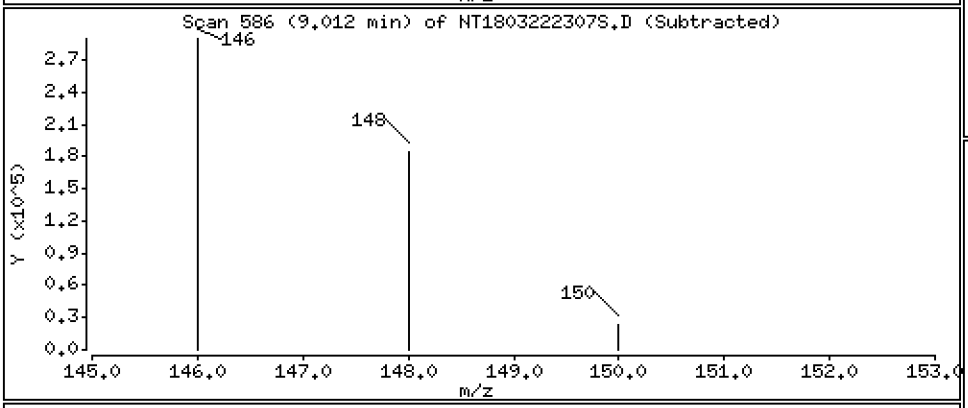
Column diameter: 0.25

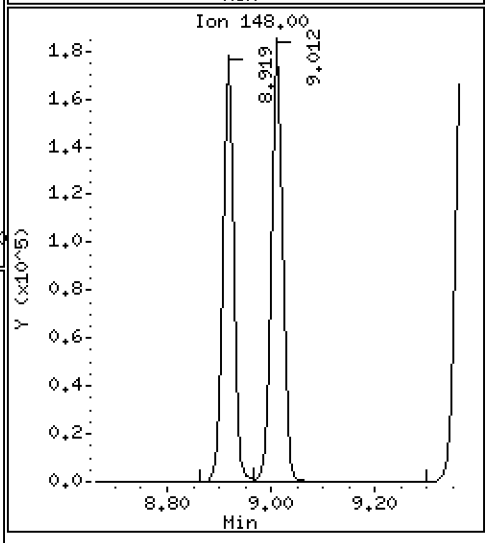
9 1,4-Dichlorobenzene

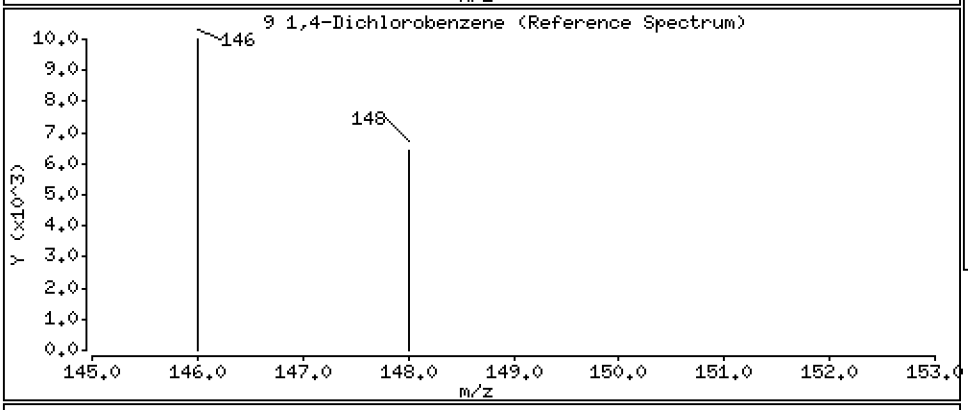
Concentration: 3.464 ug/mL

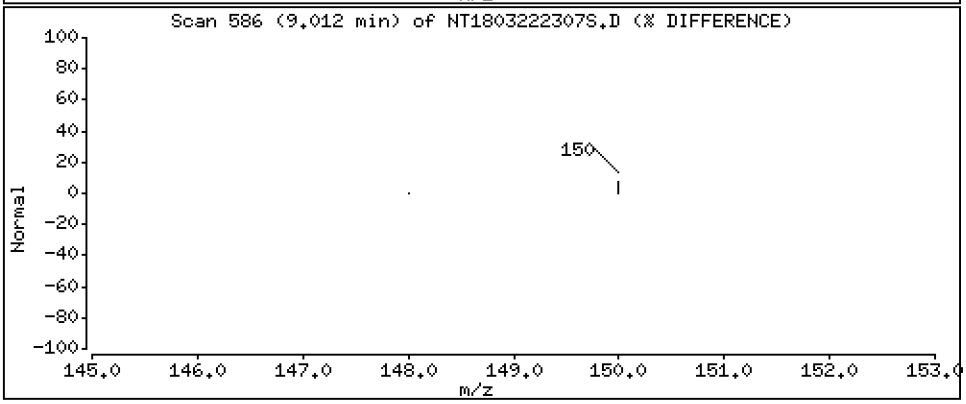












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222307S.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BS2

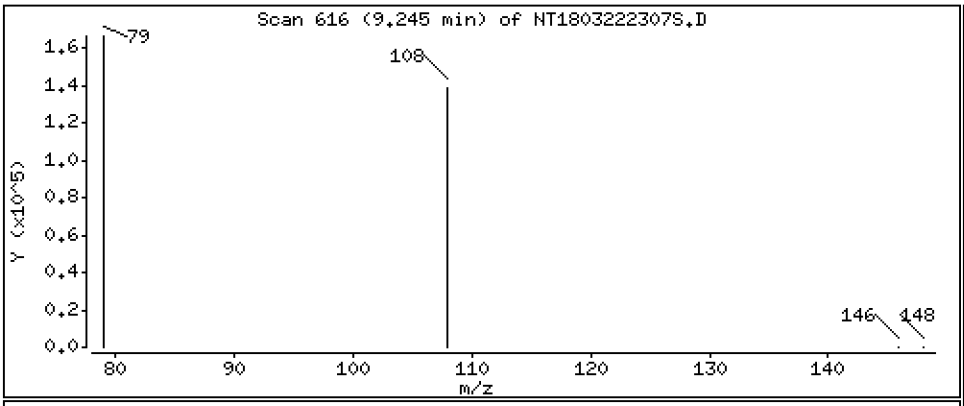
Operator: VTS

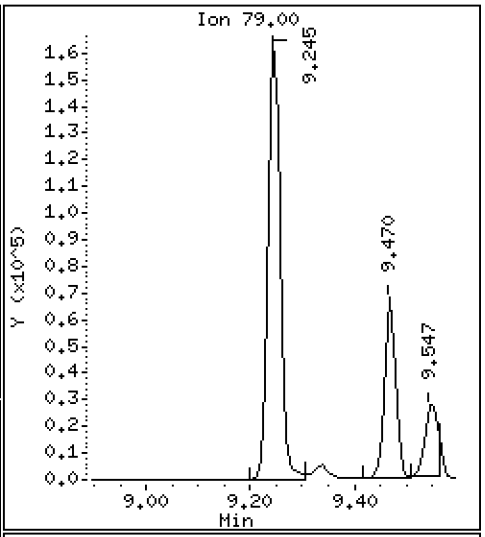
Column phase: ZB-5msi

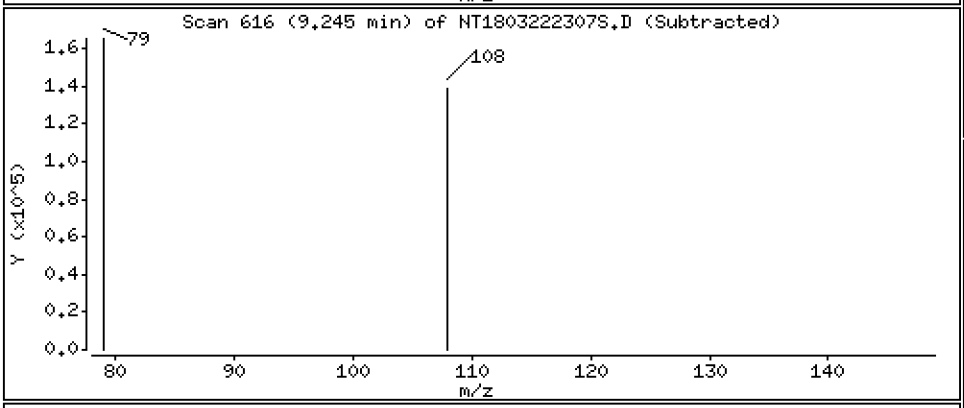
Column diameter: 0.25

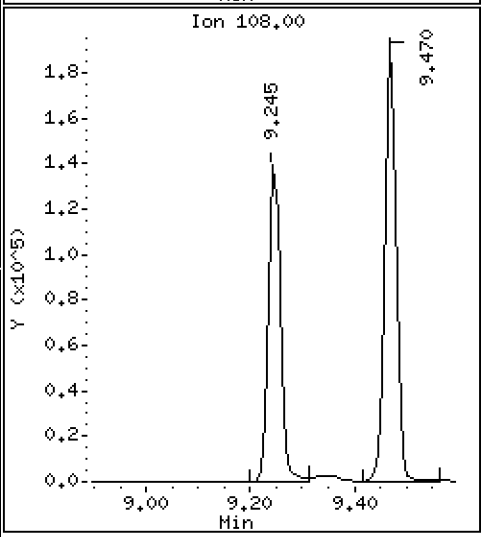
11 Benzyl alcohol

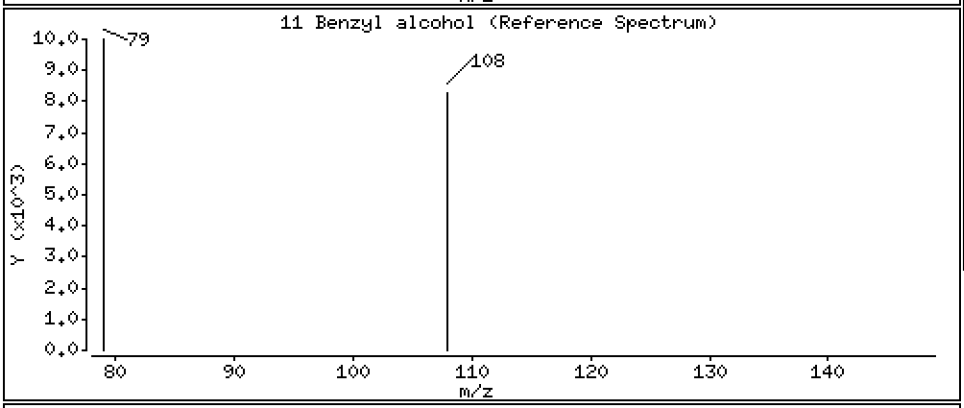
Concentration: 3.379 ug/mL

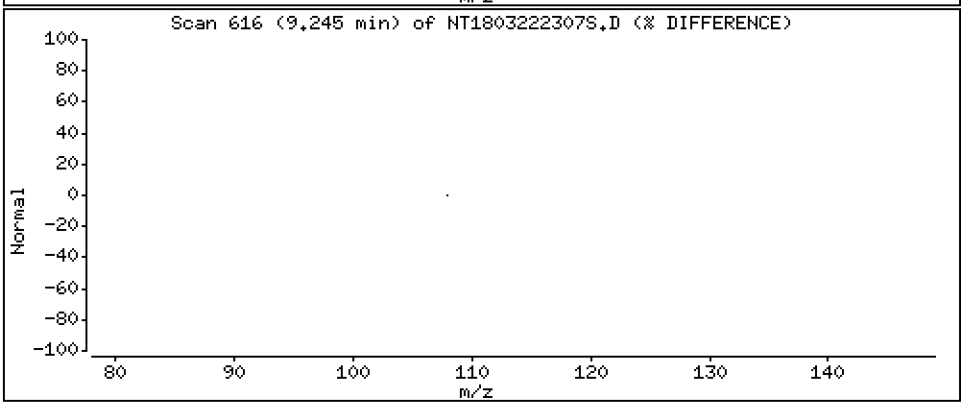












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222307S.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BS2

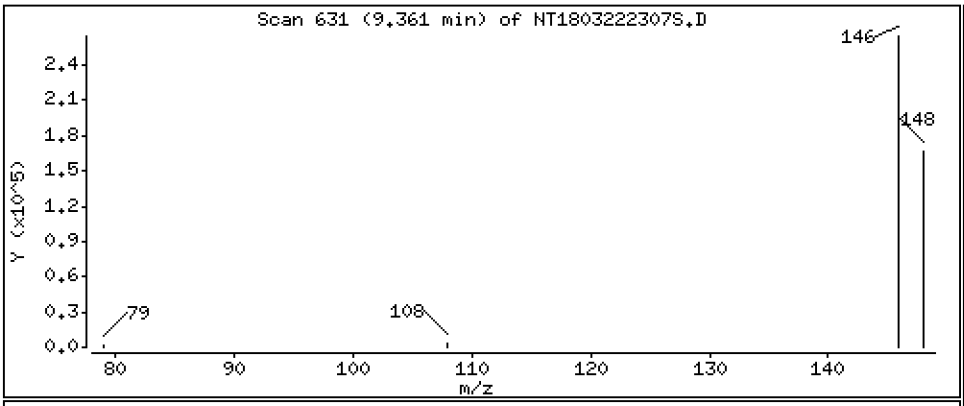
Operator: VTS

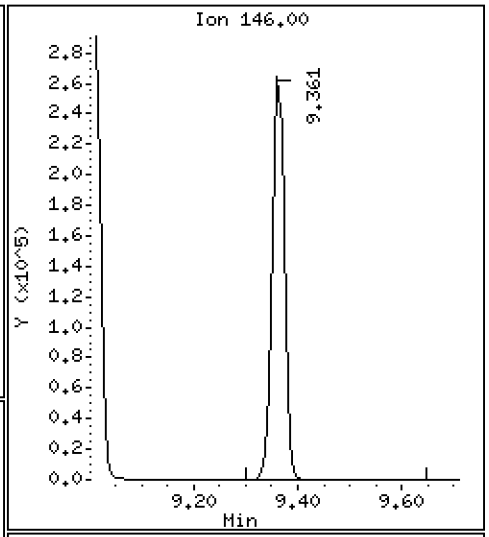
Column phase: ZB-5msi

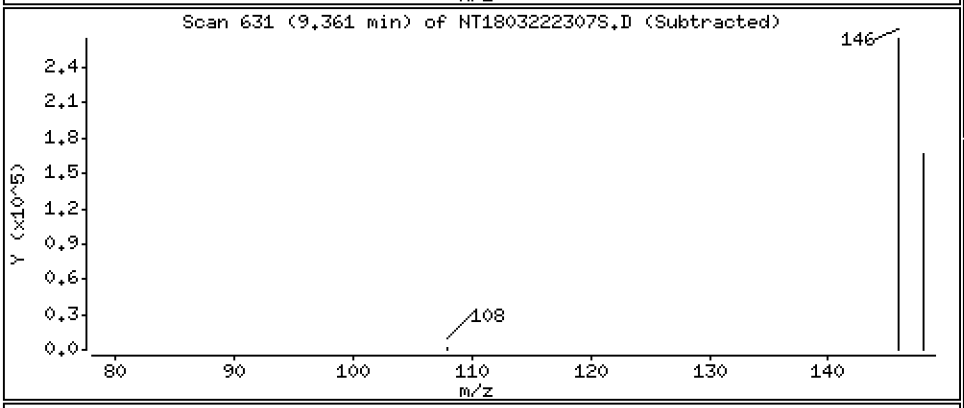
Column diameter: 0.25

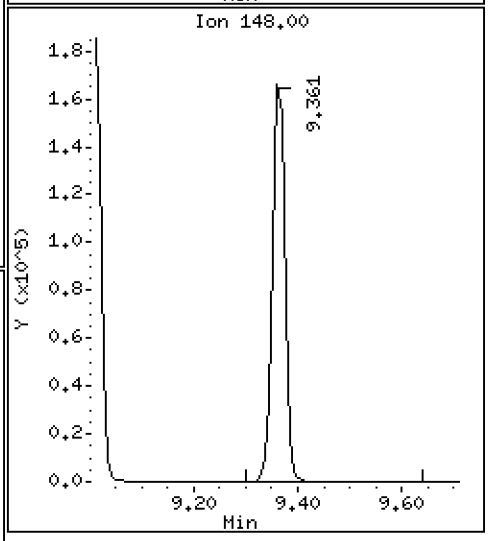
12 1,2-Dichlorobenzene

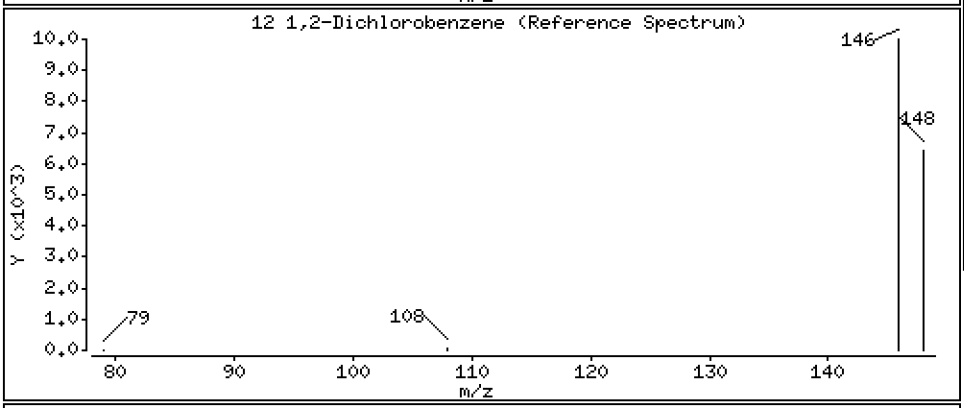
Concentration: 3.449 ug/mL

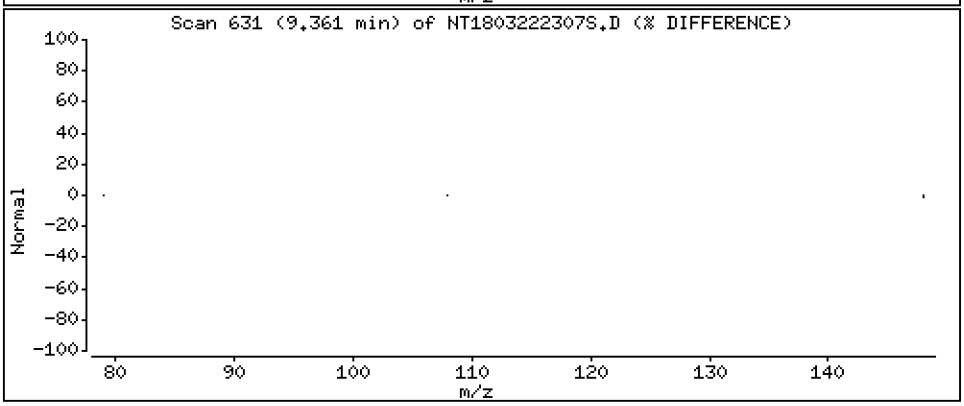












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222307S.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BS2

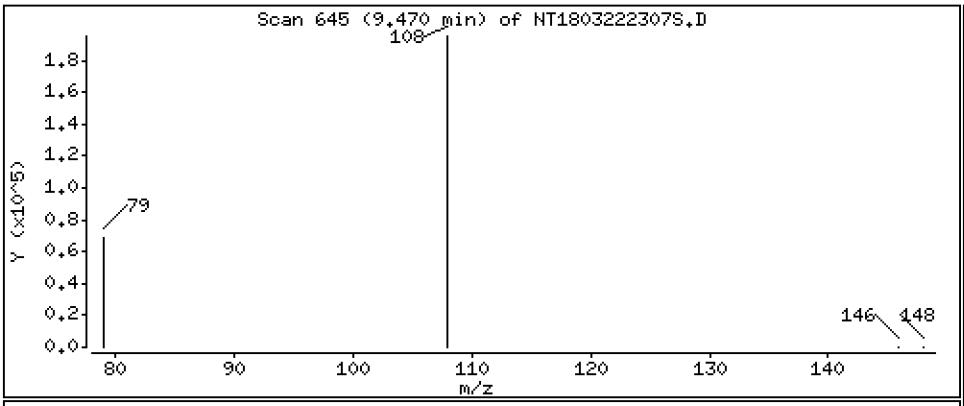
Operator: VTS

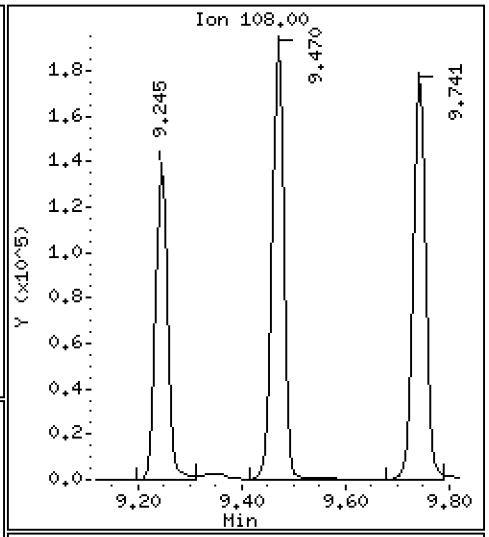
Column phase: ZB-5msi

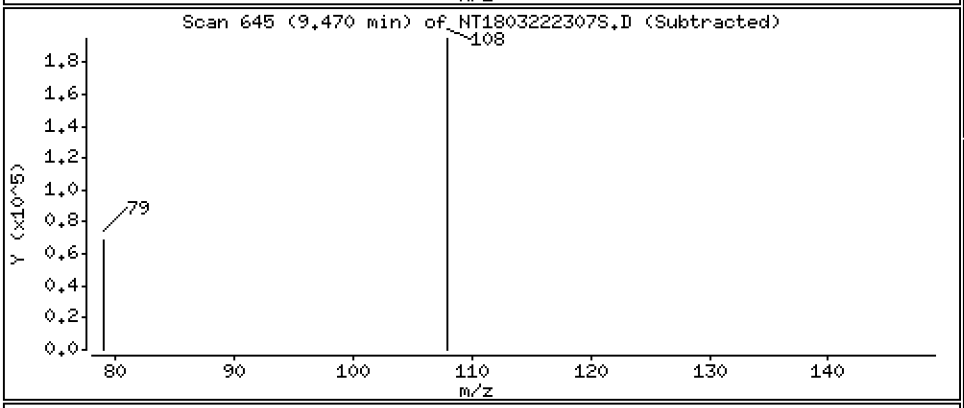
Column diameter: 0.25

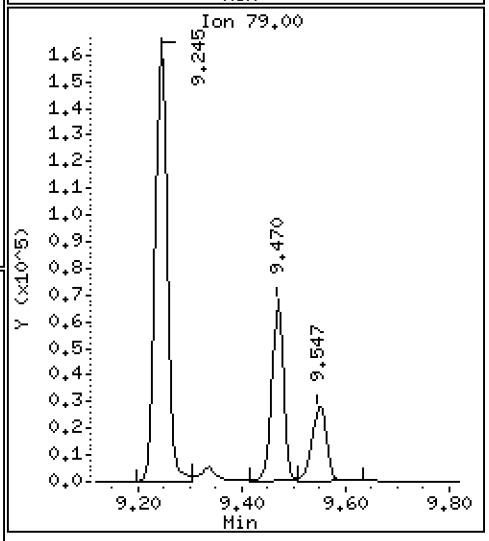
13 2-Methylphenol

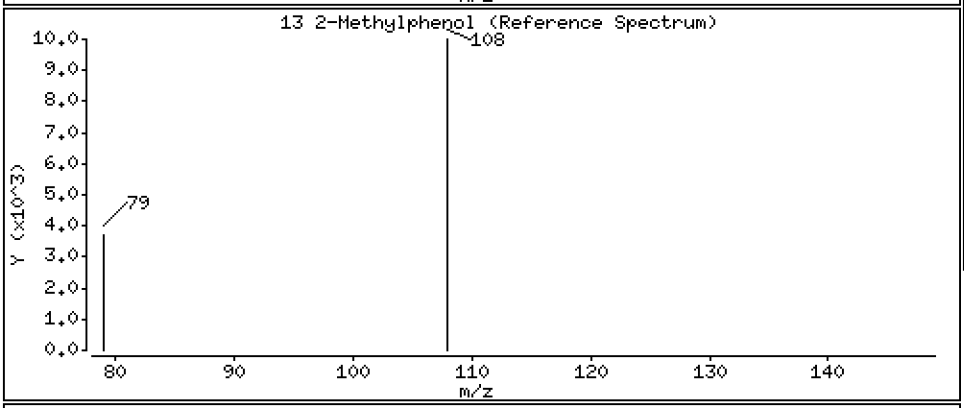
Concentration: 3.296 ug/mL

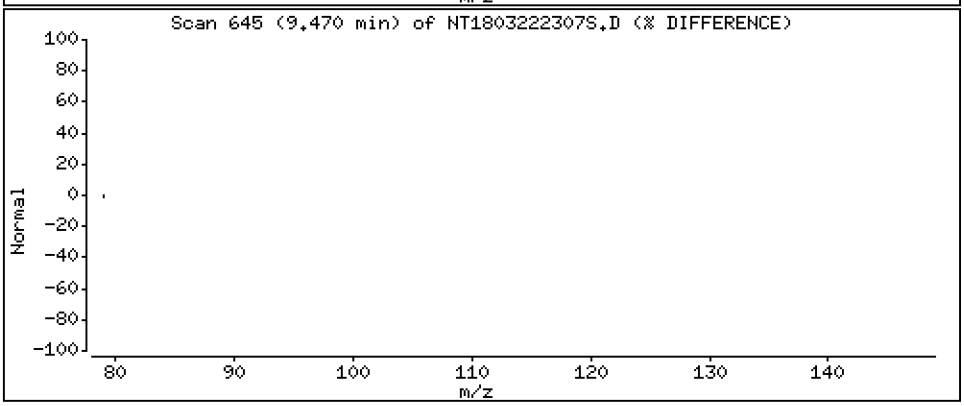












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222307S.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BS2

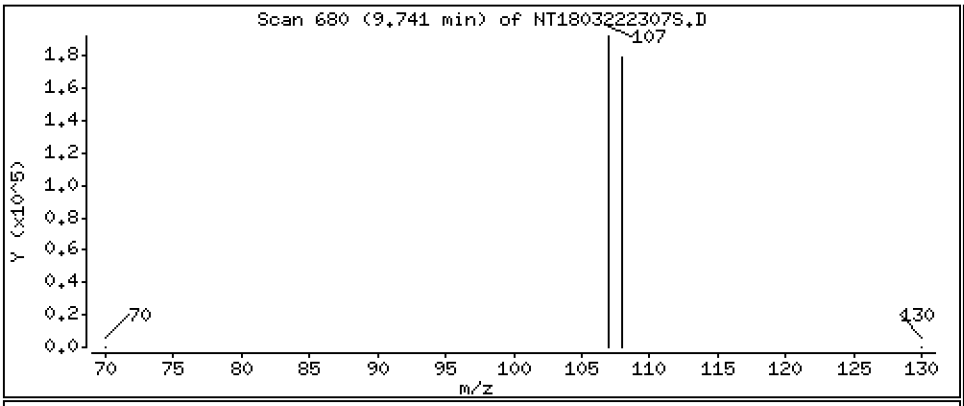
Operator: VTS

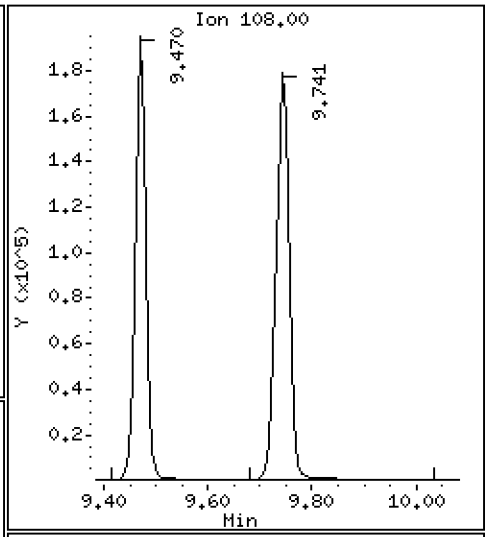
Column phase: ZB-5msi

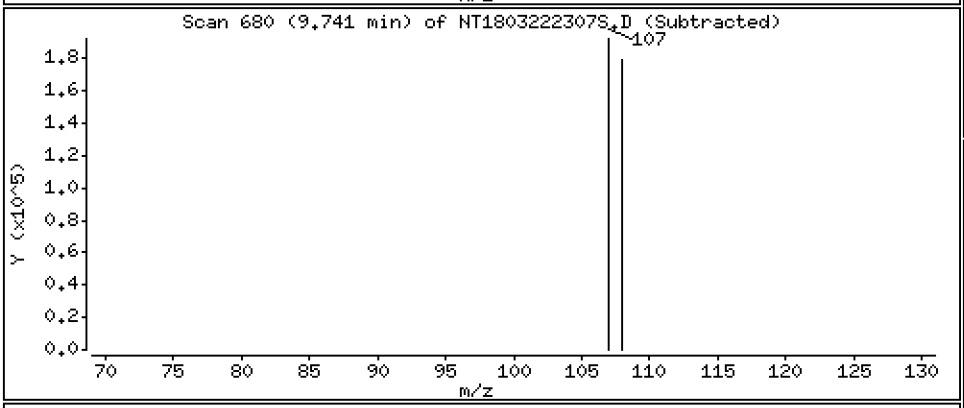
Column diameter: 0.25

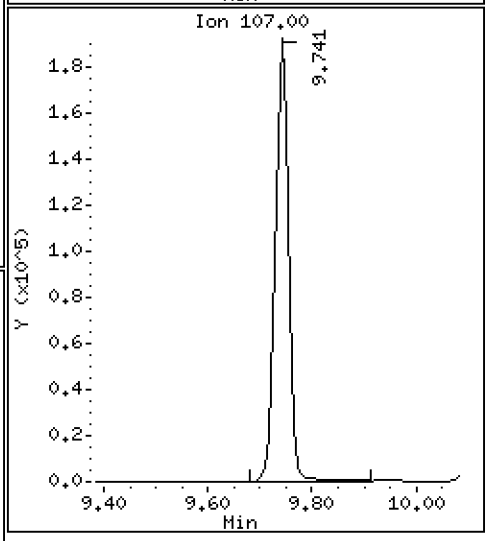
15 4-Methylphenol

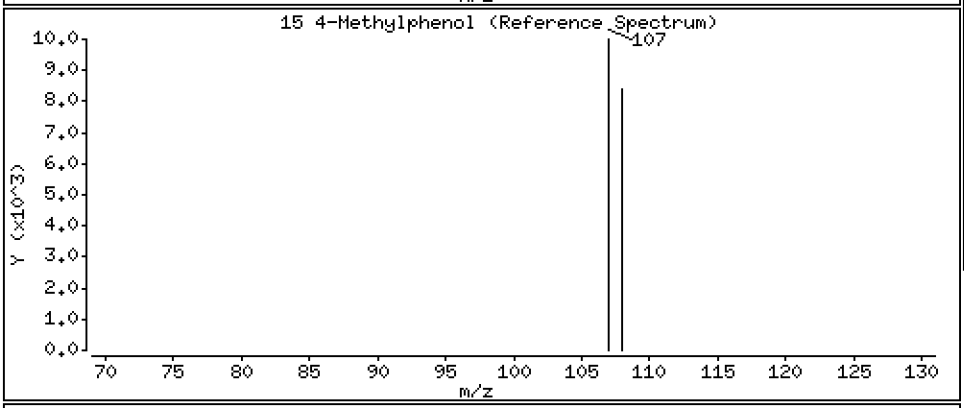
Concentration: 3.512 ug/mL

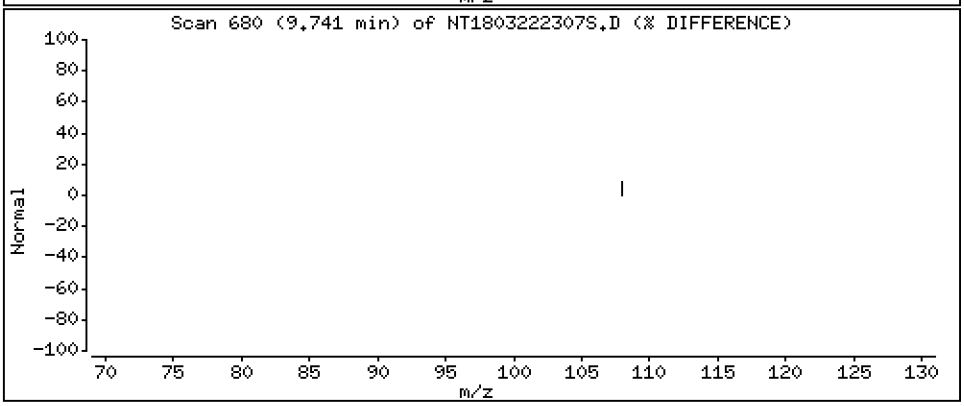












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222307S.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BS2

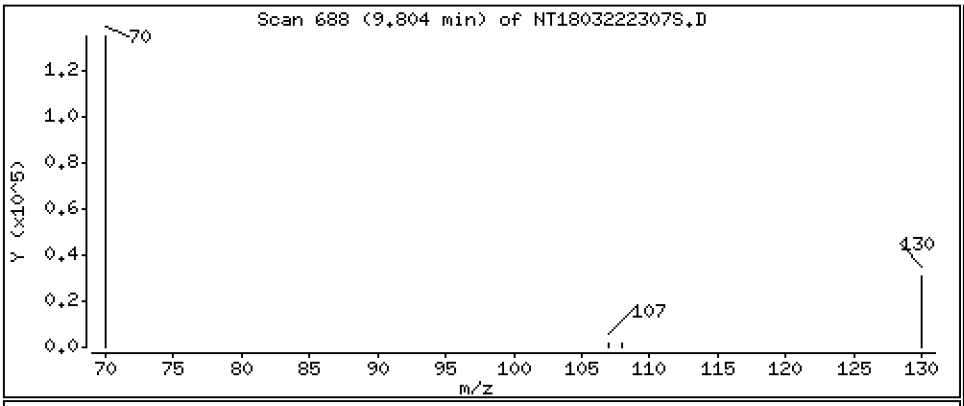
Operator: VTS

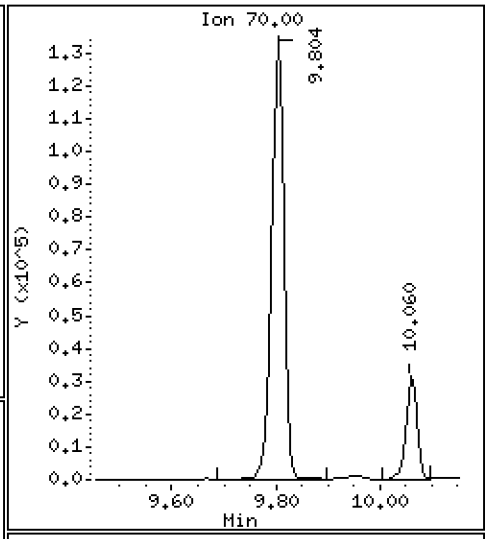
Column phase: ZB-5msi

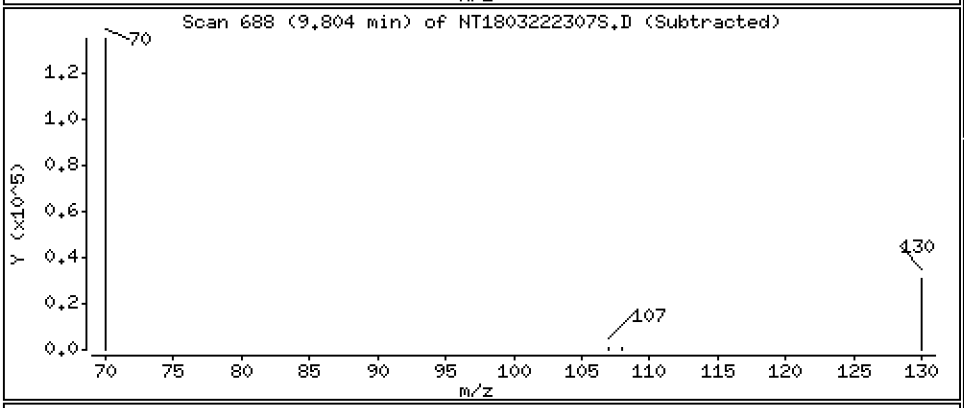
Column diameter: 0.25

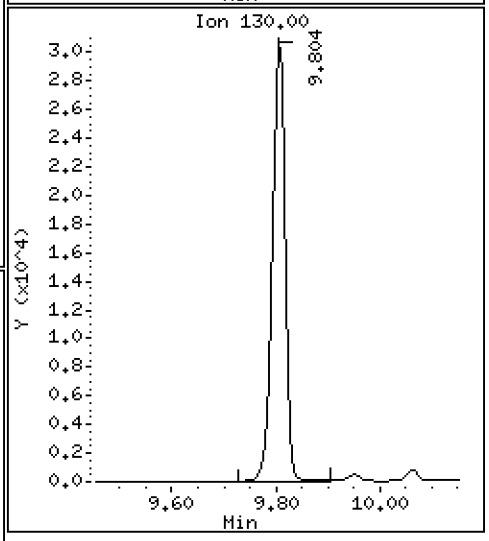
16 N-Nitroso-di-n-propylamine

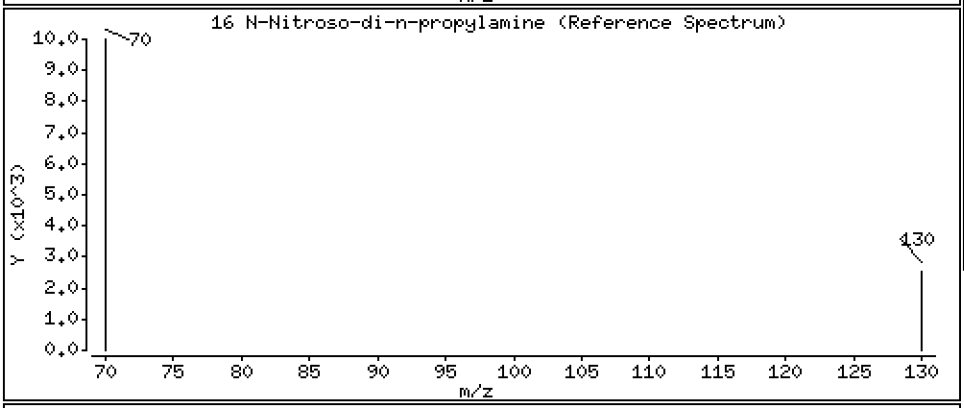
Concentration: 3.532 ug/mL

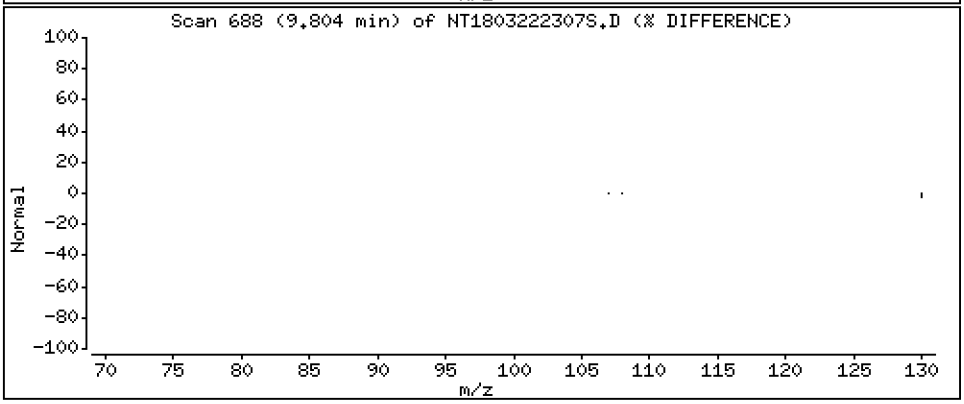












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BS2

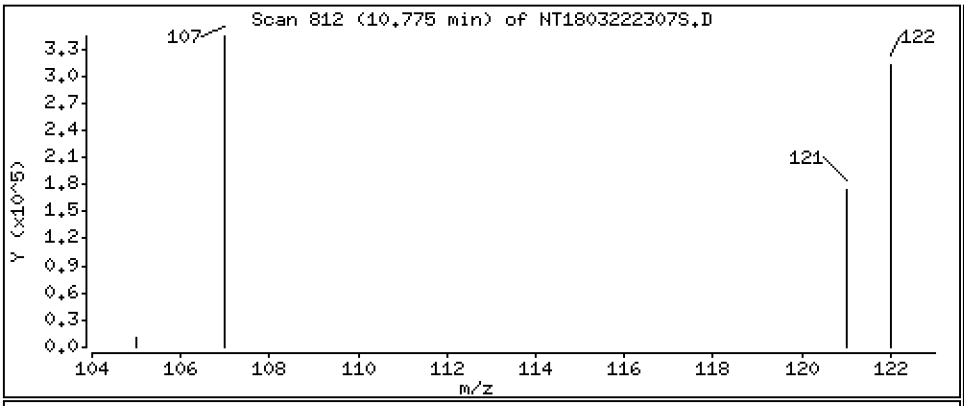
Operator: VTS

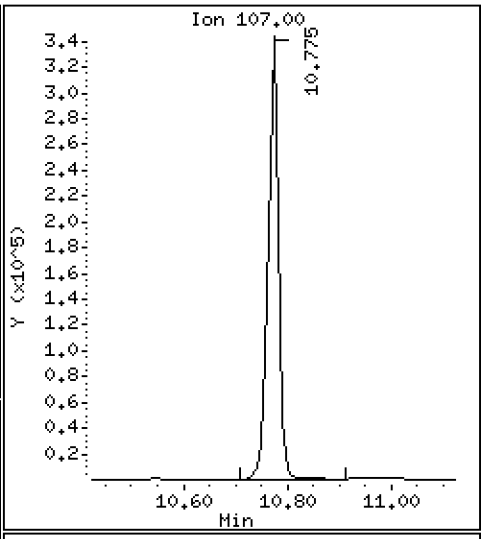
Column phase: ZB-5msi

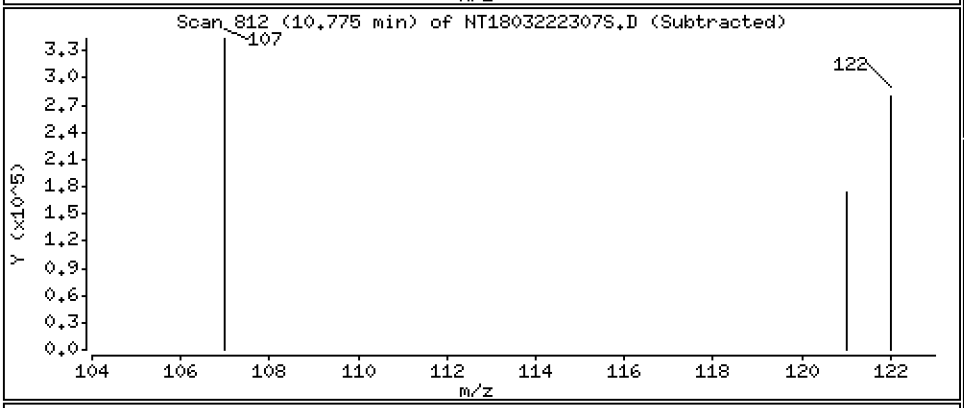
Column diameter: 0.25

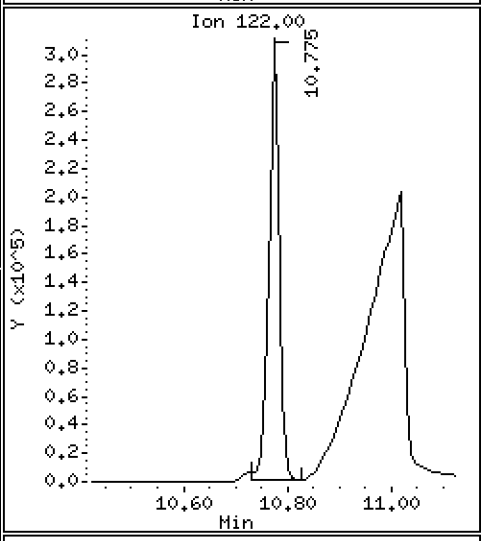
22 2,4-Dimethylphenol

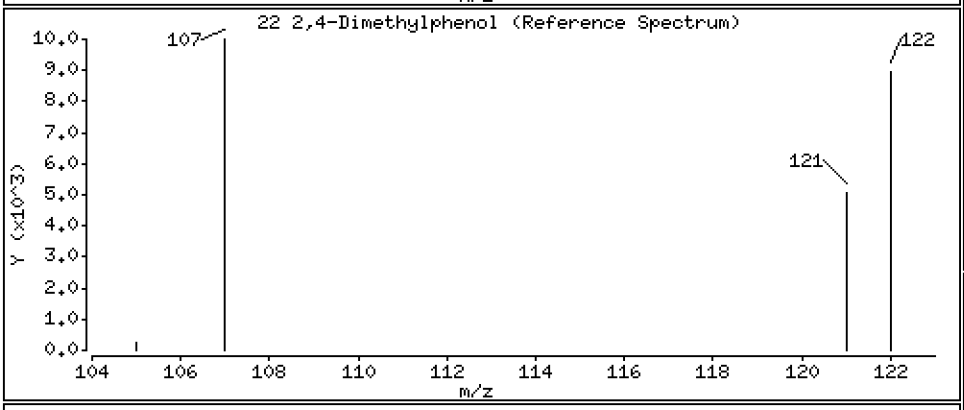
Concentration: 5.997 ug/mL

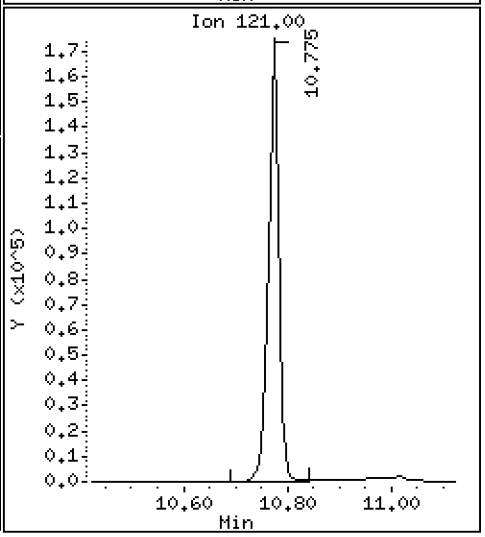


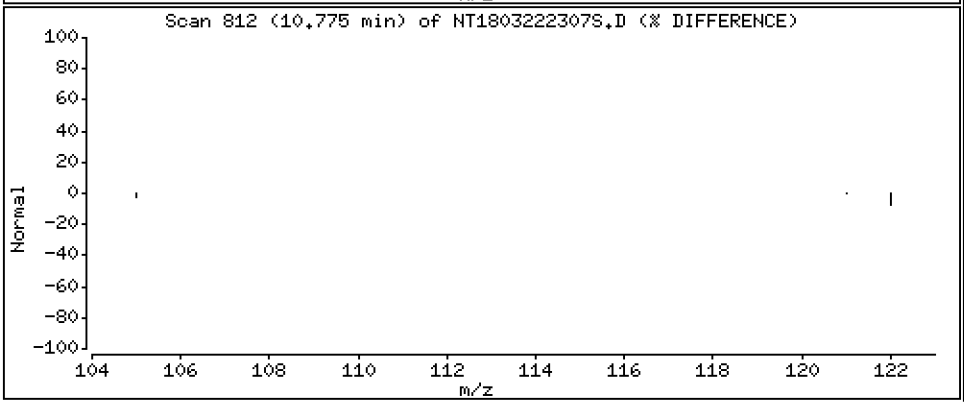












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Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BS2

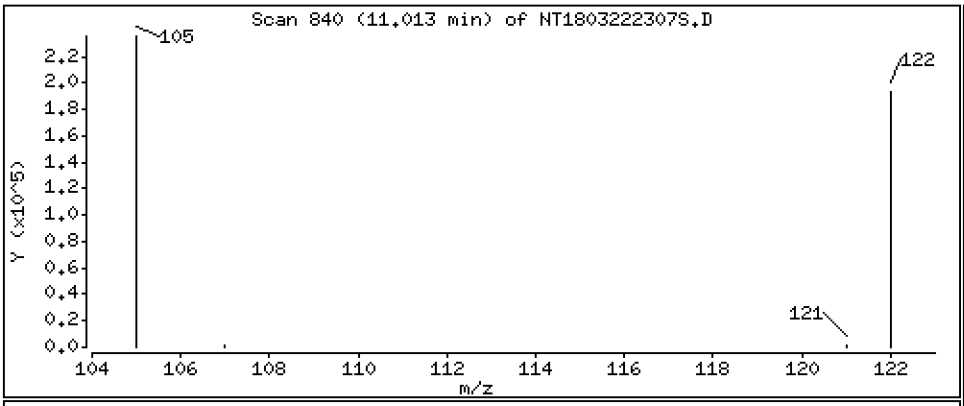
Operator: VTS

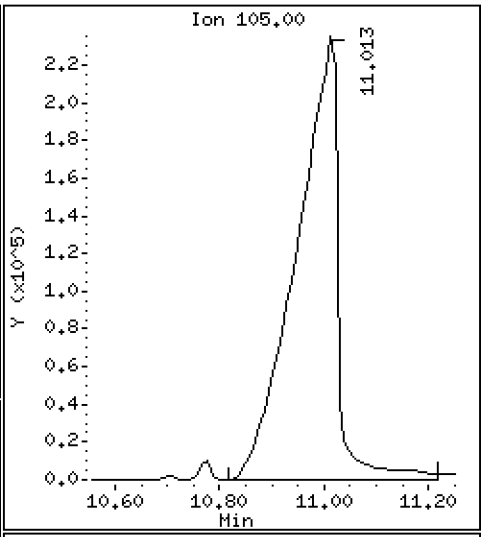
Column phase: ZB-5msi

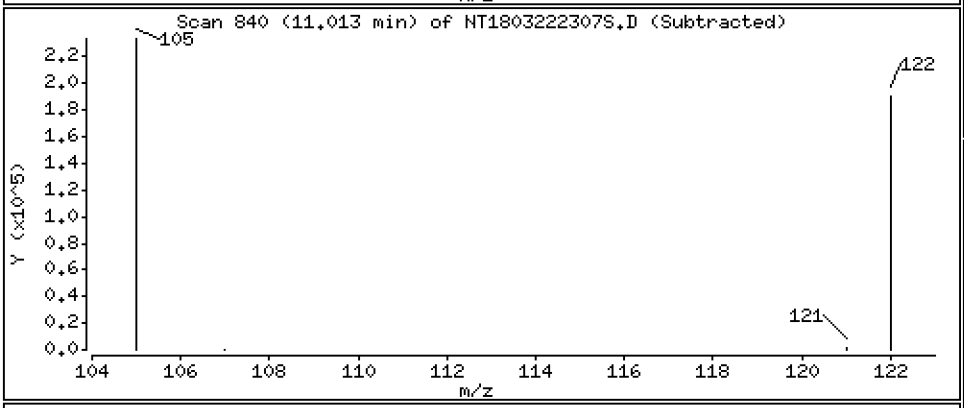
Column diameter: 0.25

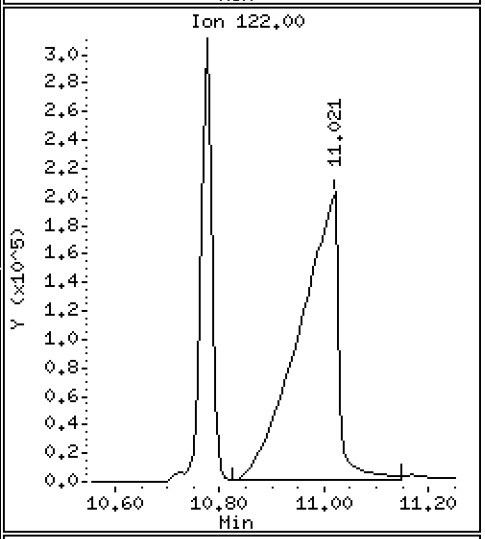
24 Benzoic acid

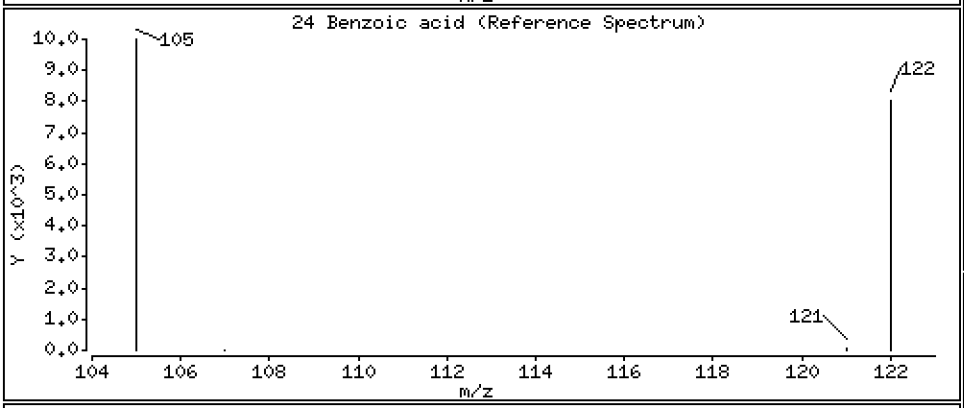
Concentration: 20.94 ug/mL

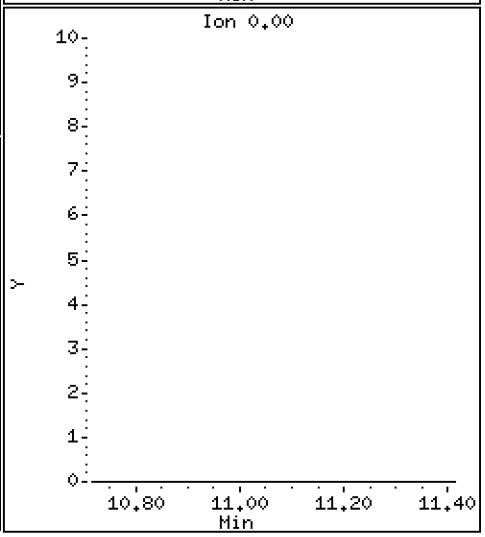


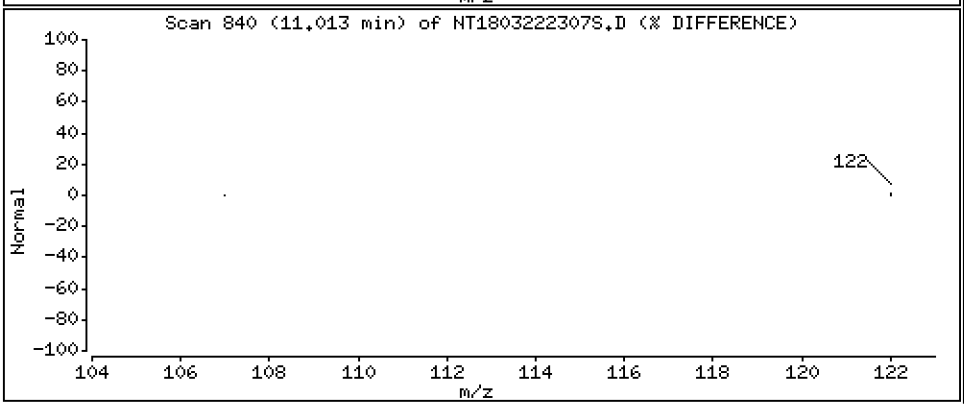












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223075.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BS2

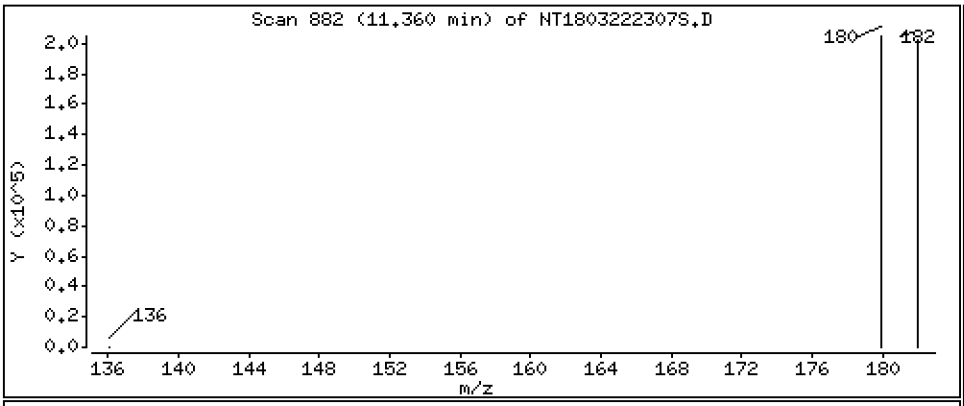
Operator: VTS

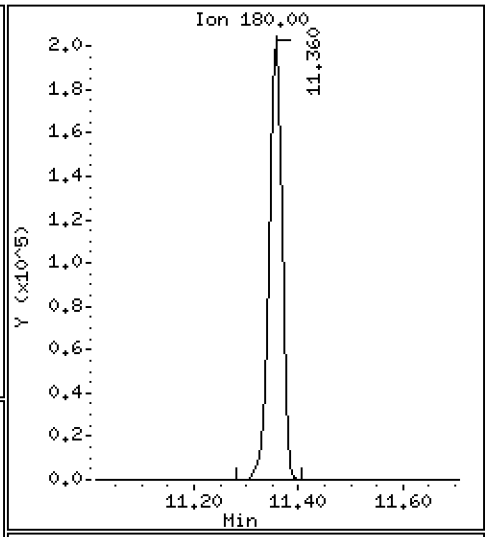
Column phase: ZB-5msi

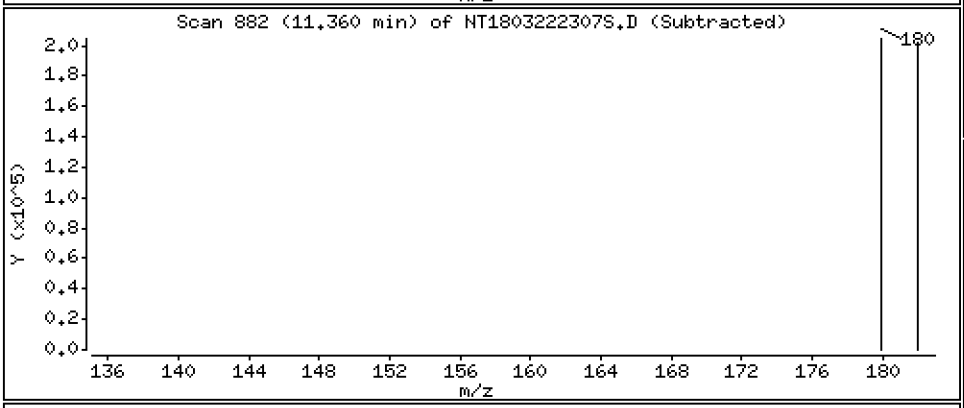
Column diameter: 0.25

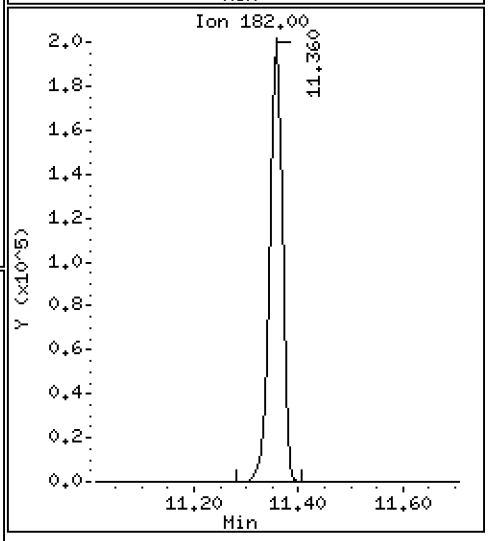
26 1,2,4-Trichlorobenzene

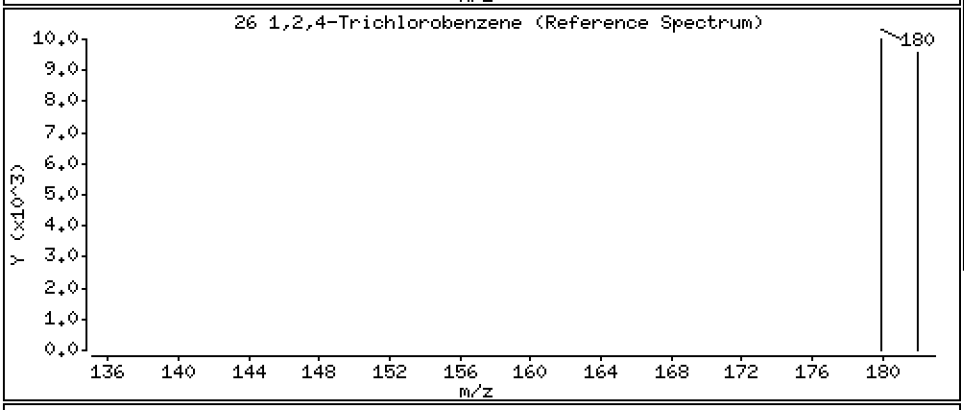
Concentration: 3.530 ug/mL

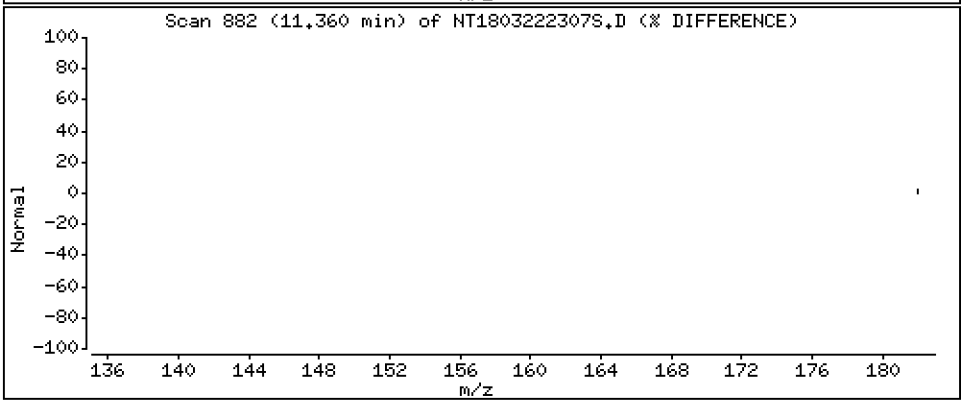












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222307S.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BS2

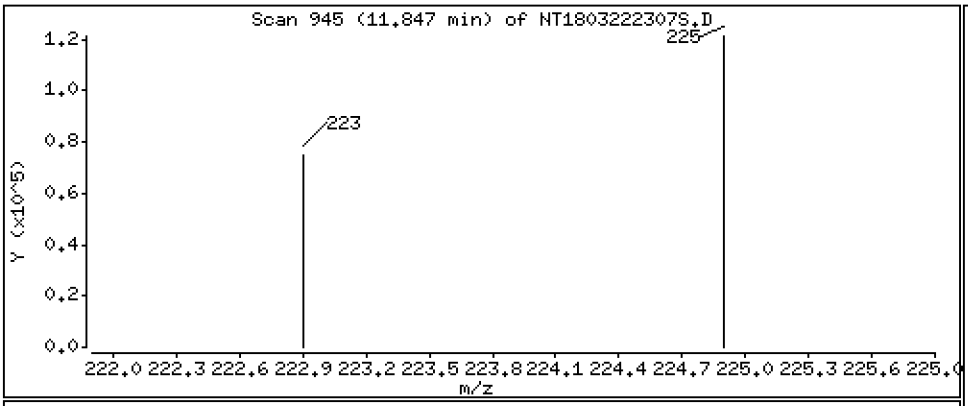
Operator: VTS

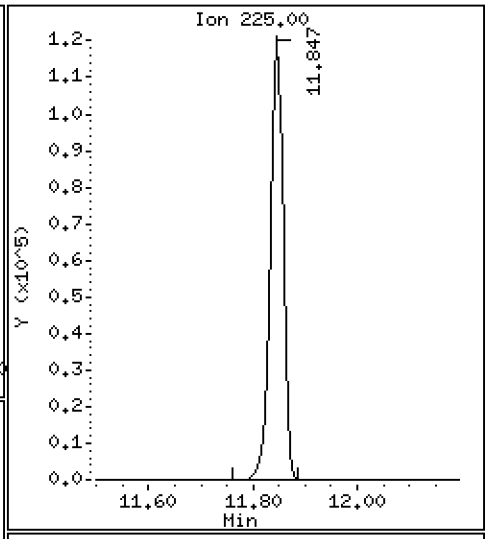
Column phase: ZB-5msi

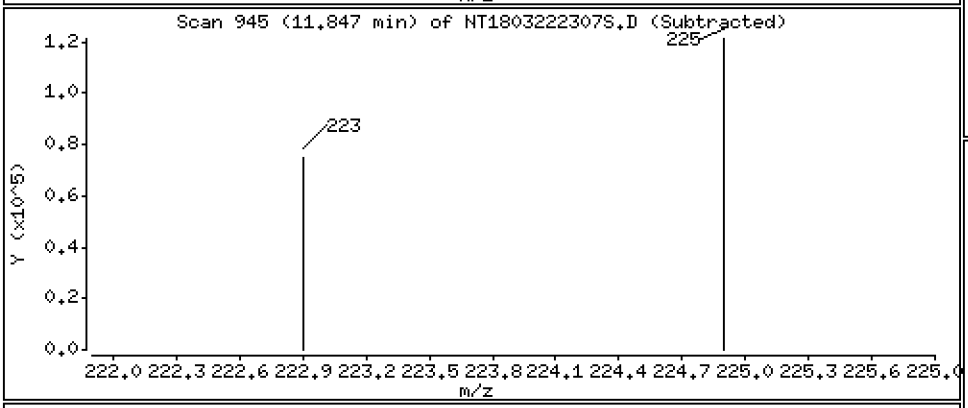
Column diameter: 0.25

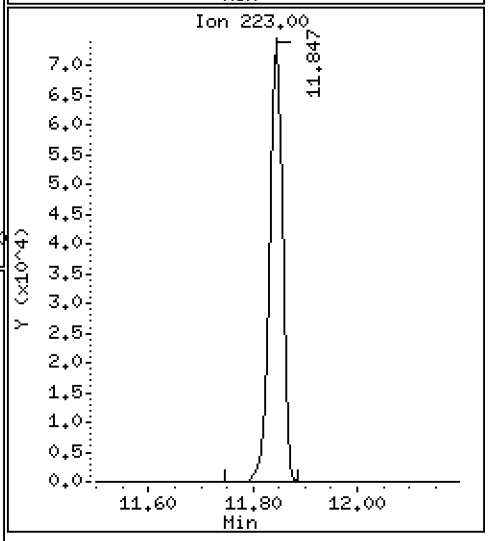
30 Hexachlorobutadiene

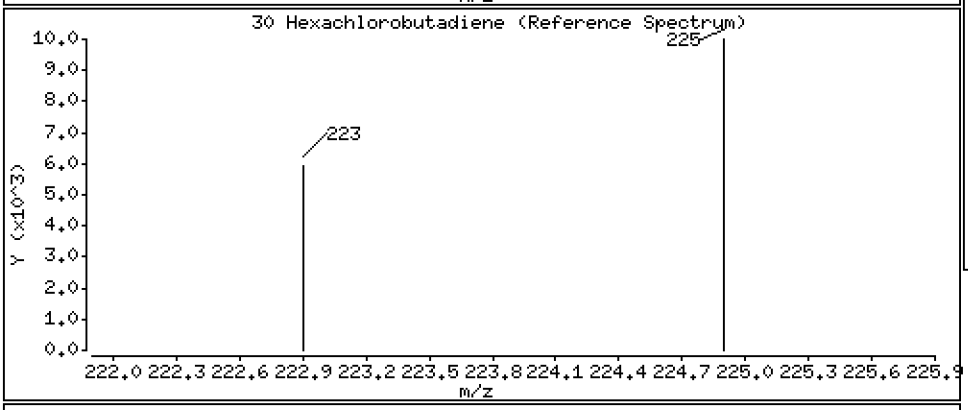
Concentration: 3.610 ug/mL

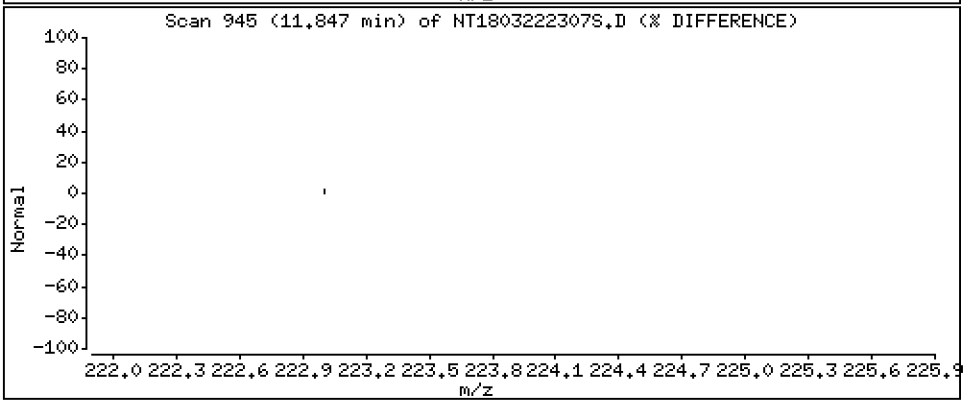












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222307S.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BS2

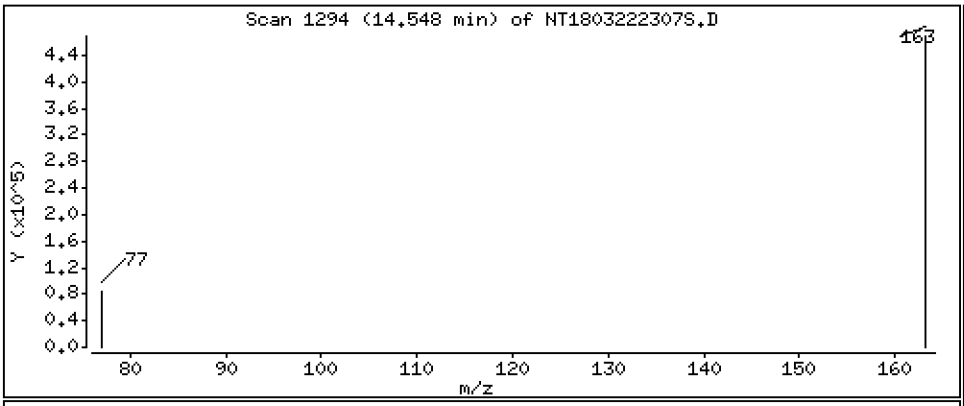
Operator: VTS

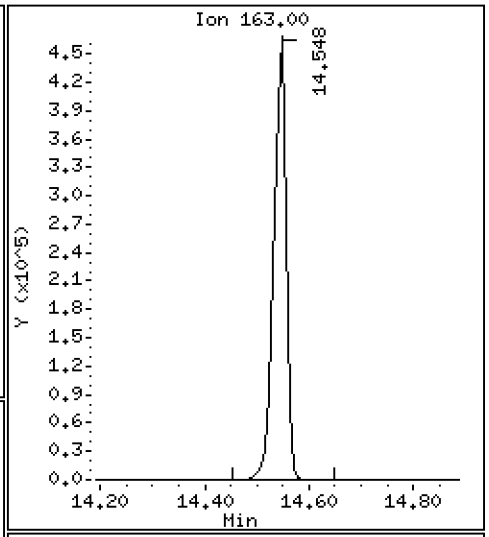
Column phase: ZB-5msi

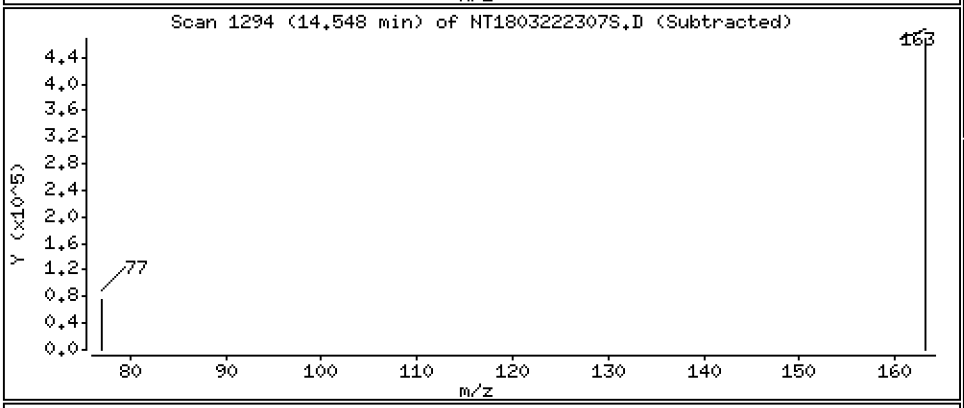
Column diameter: 0.25

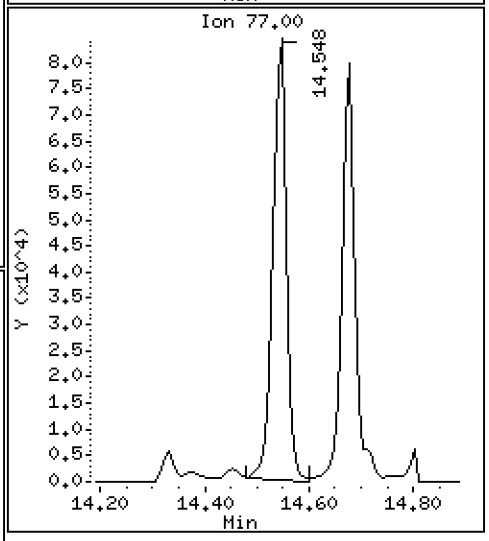
39 Dimethylphthalate

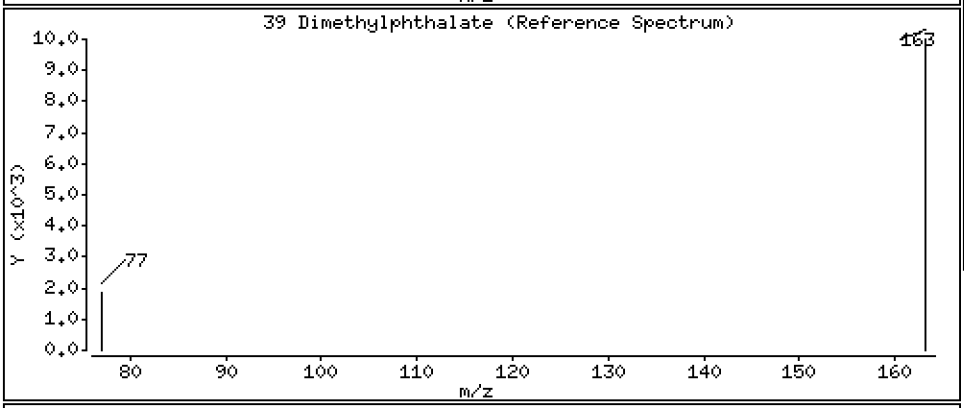
Concentration: 4.019 ug/mL

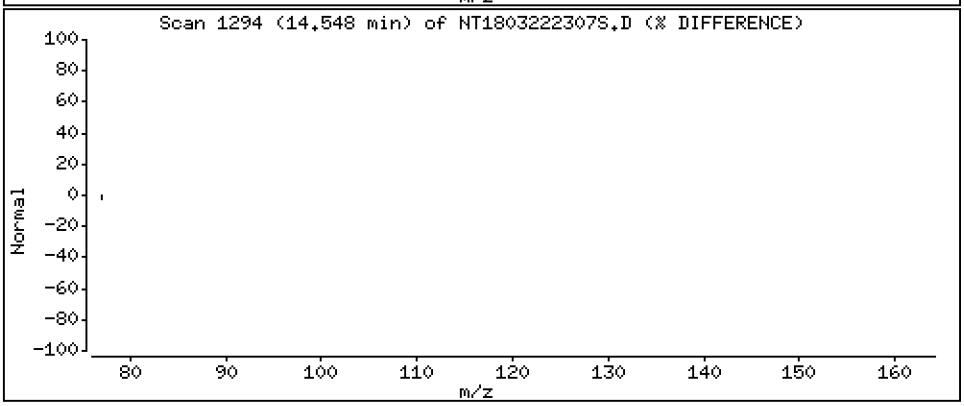












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222307S.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BS2

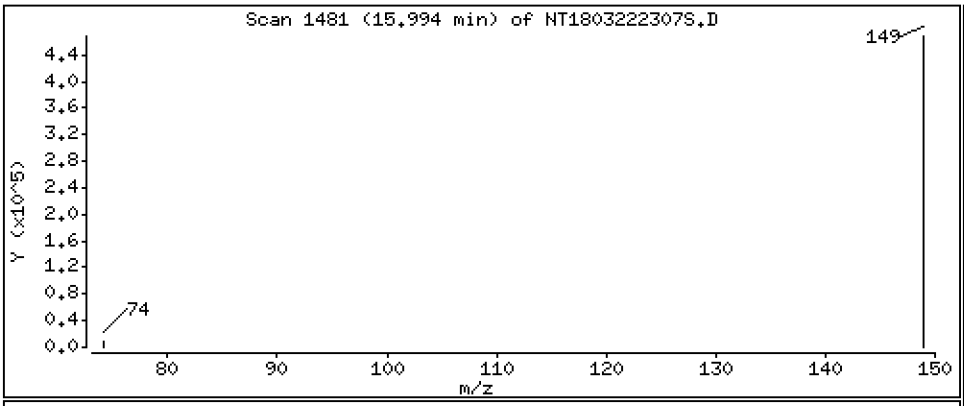
Operator: VTS

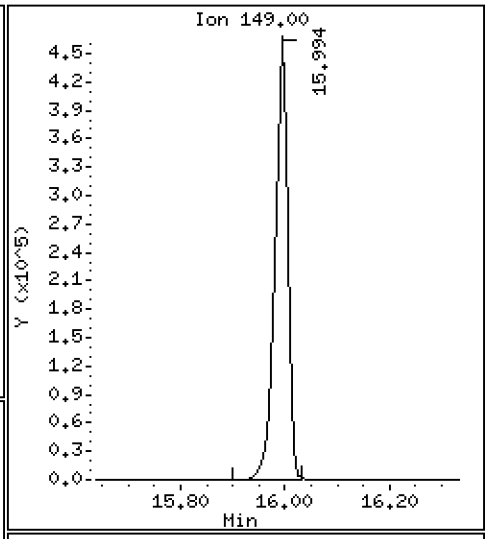
Column phase: ZB-5msi

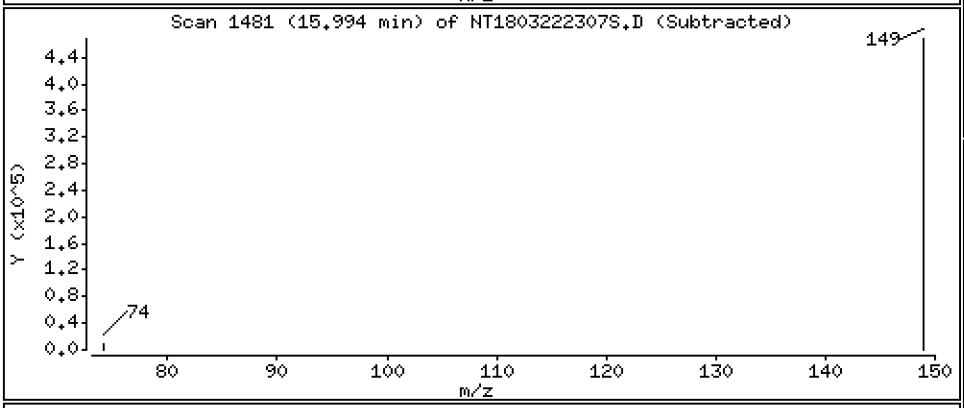
Column diameter: 0.25

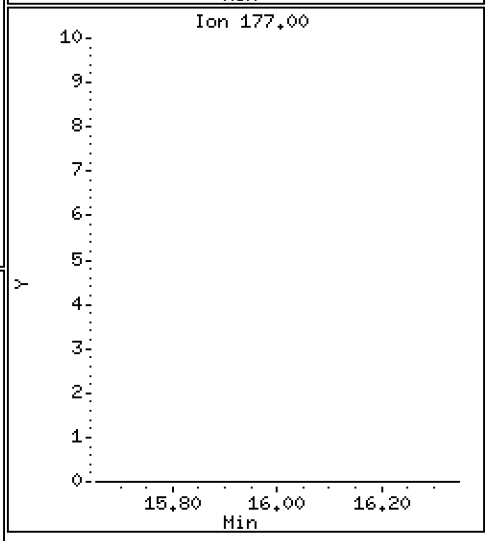
50 Diethylphthalate

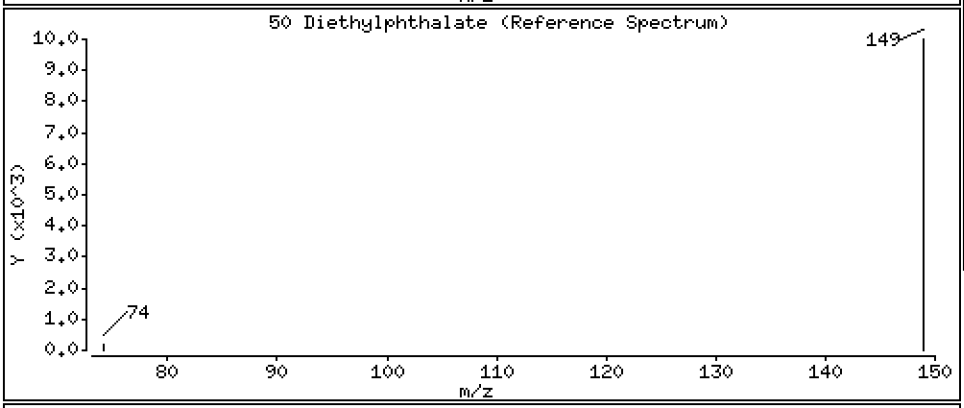
Concentration: 4.607 ug/mL

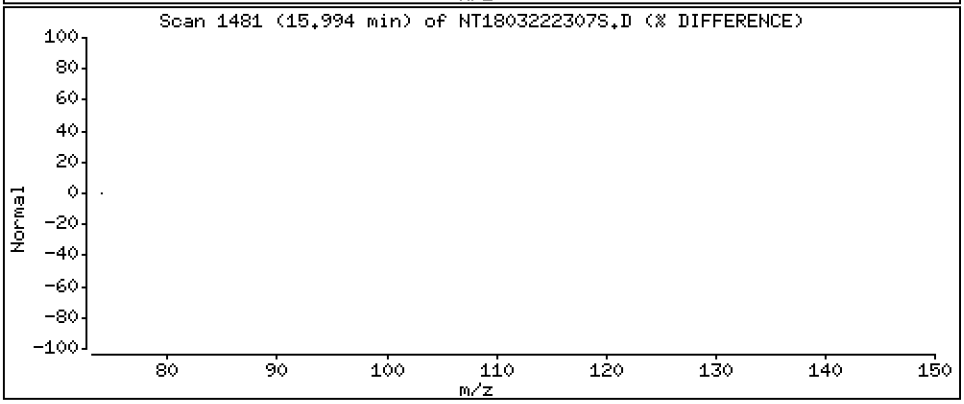












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222307S.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BS2

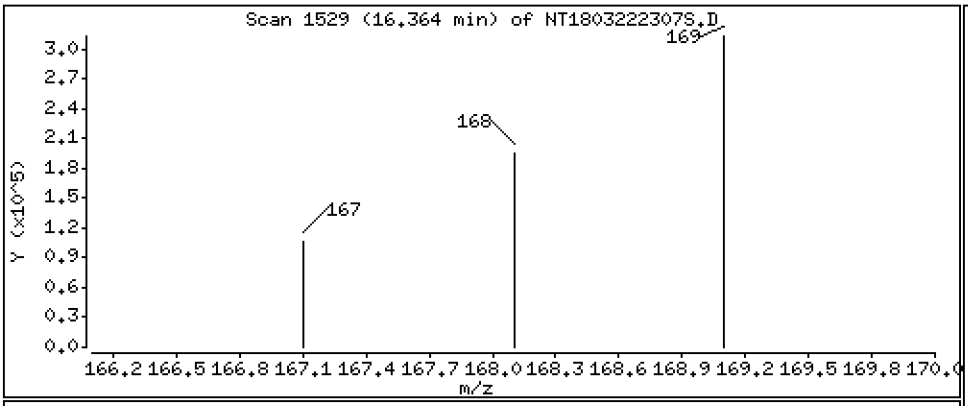
Operator: VTS

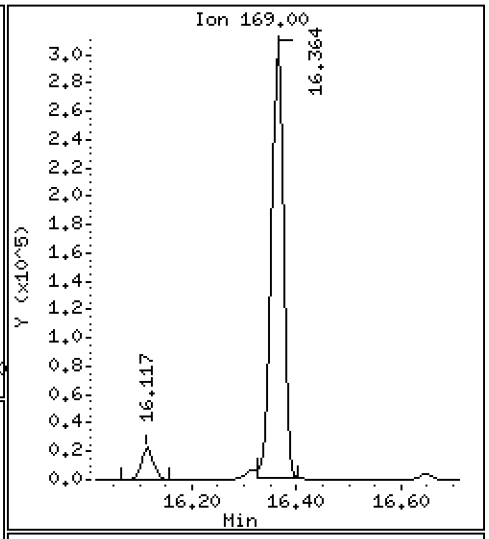
Column phase: ZB-5msi

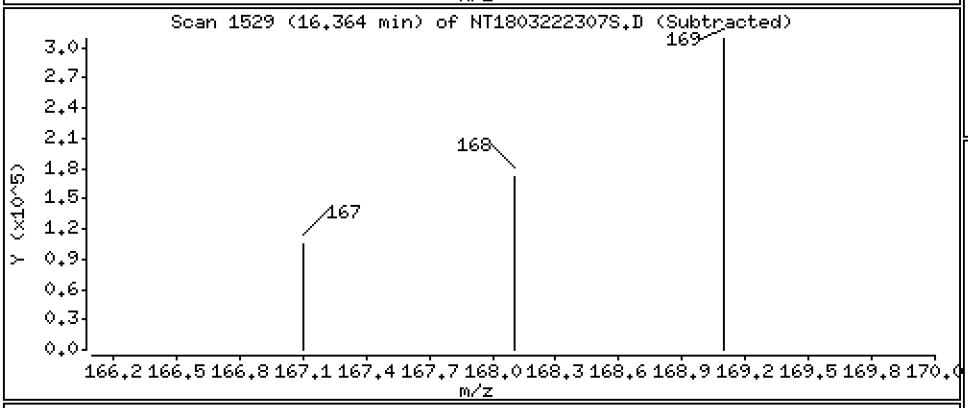
Column diameter: 0.25

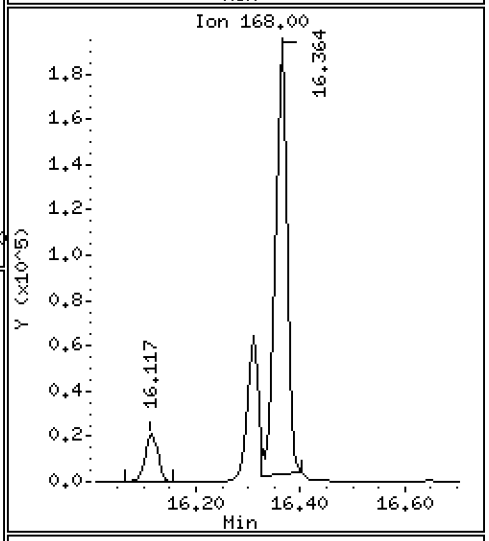
54 N-Nitrosodiphenylamine

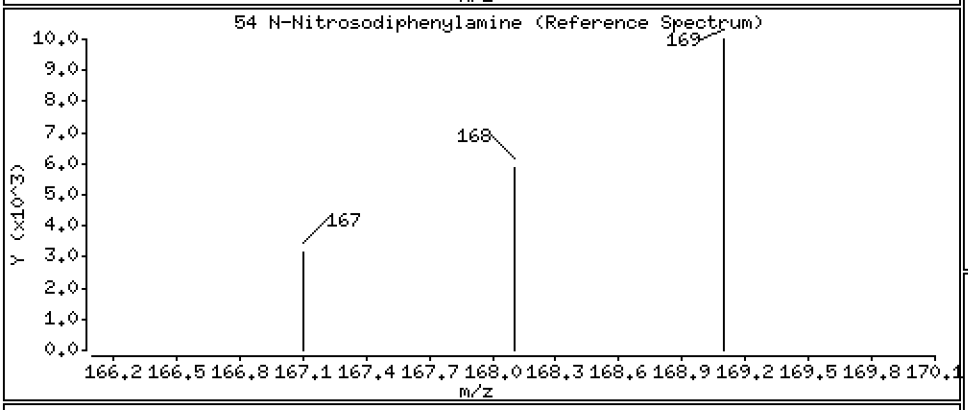
Concentration: 3.686 ug/mL

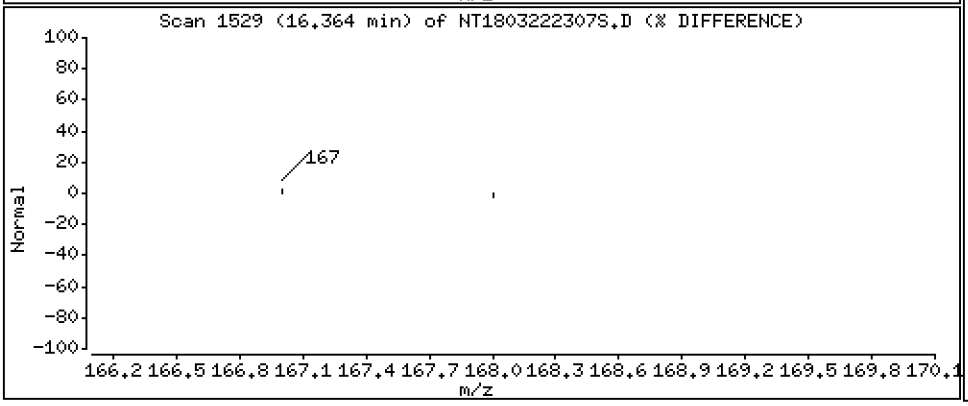


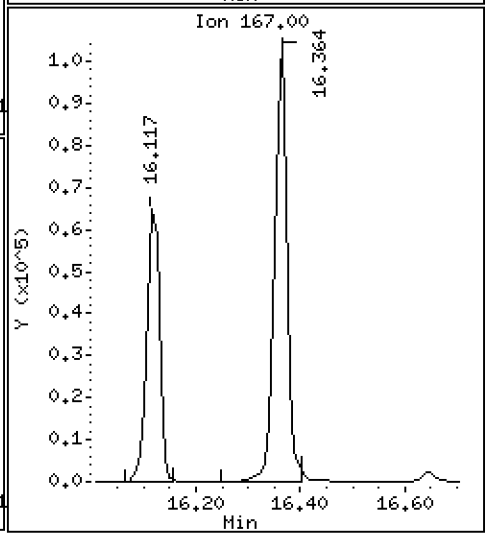












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222307S.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BS2

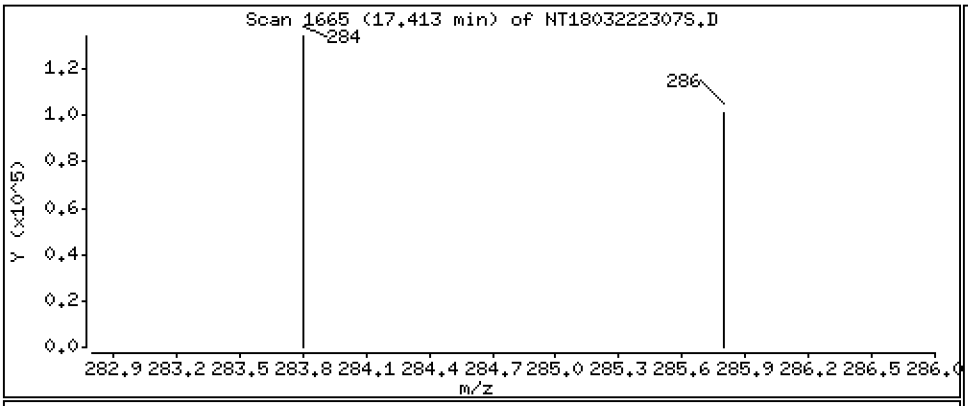
Operator: VTS

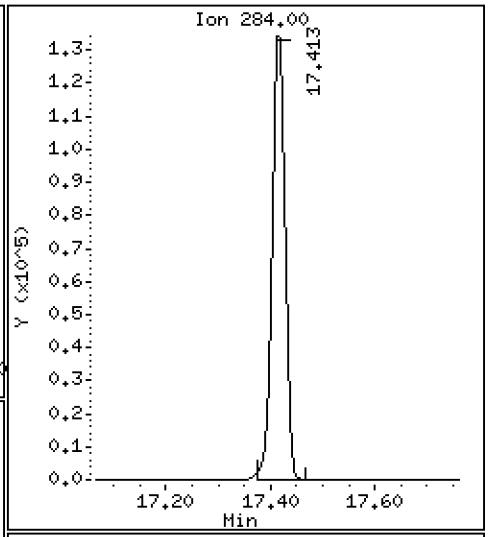
Column phase: ZB-5msi

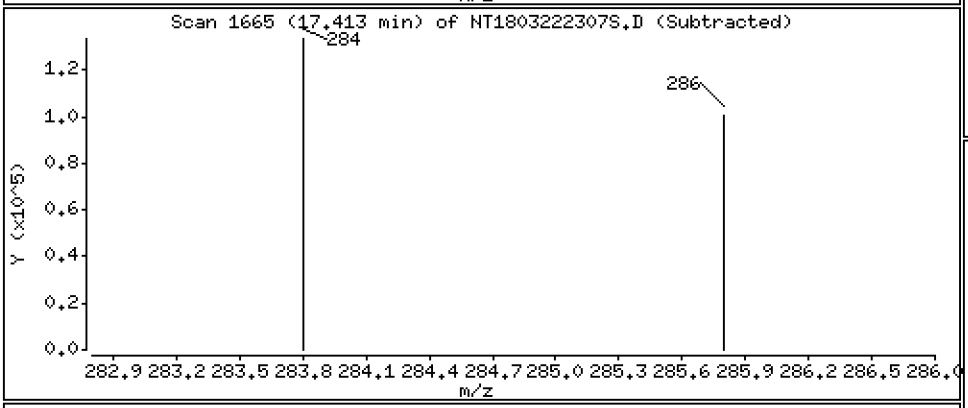
Column diameter: 0.25

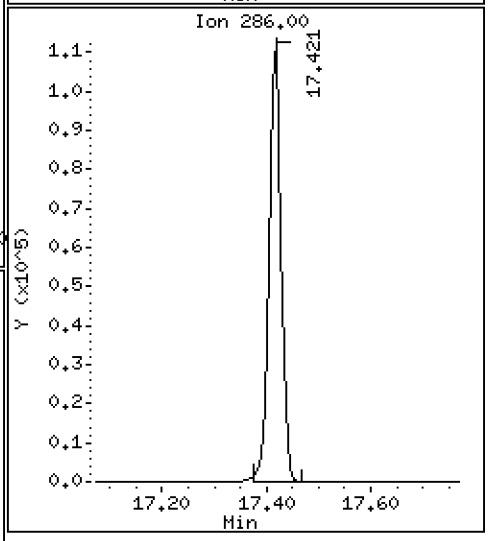
57 Hexachlorobenzene

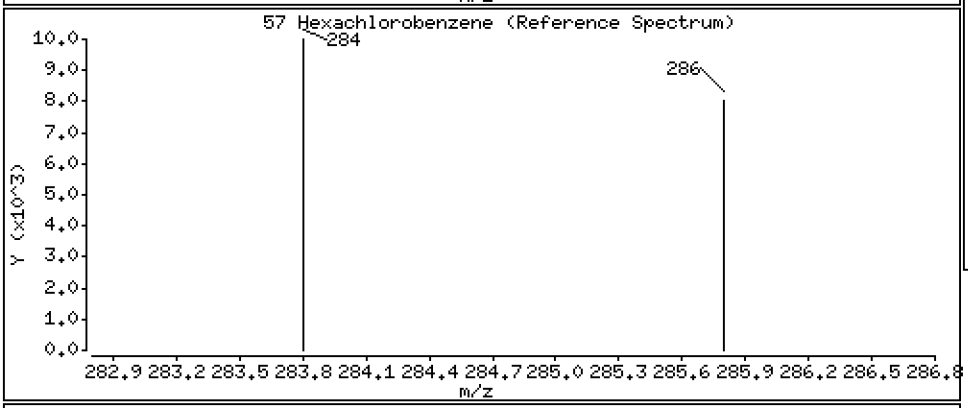
Concentration: 3.704 ug/mL

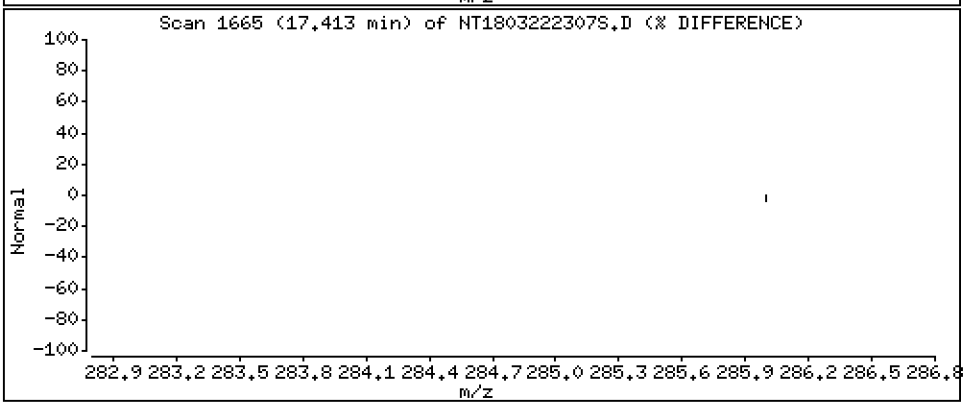












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222307S.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BS2

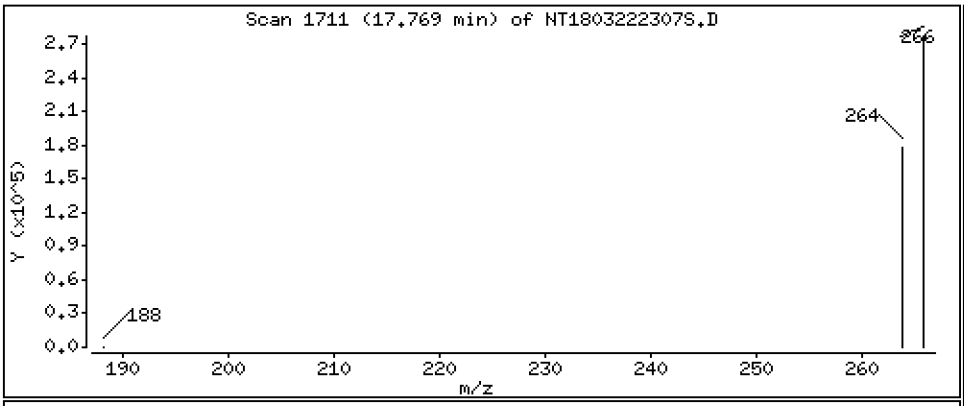
Operator: VTS

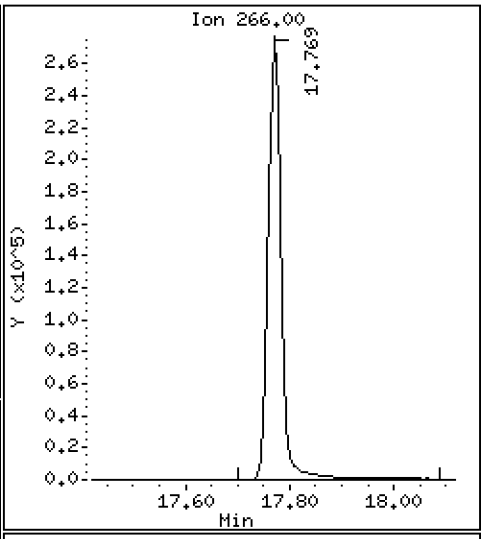
Column phase: ZB-5msi

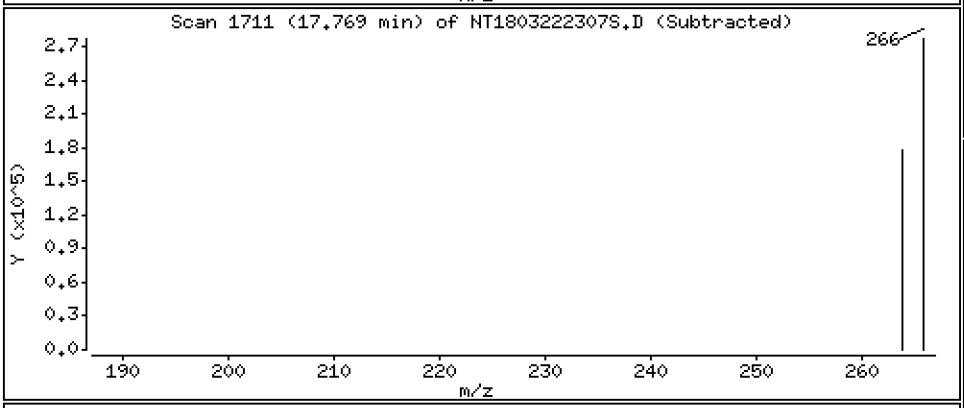
Column diameter: 0.25

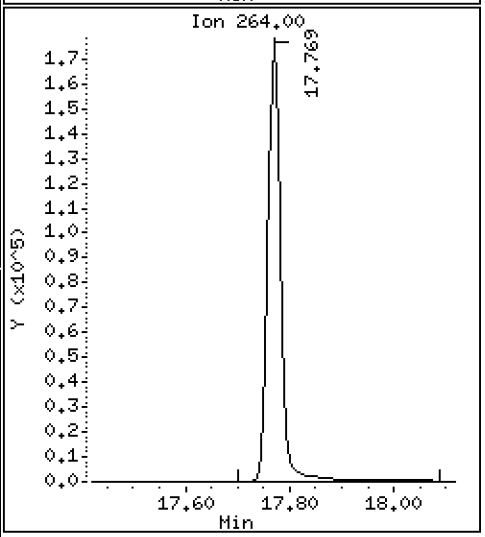
58 Pentachlorophenol

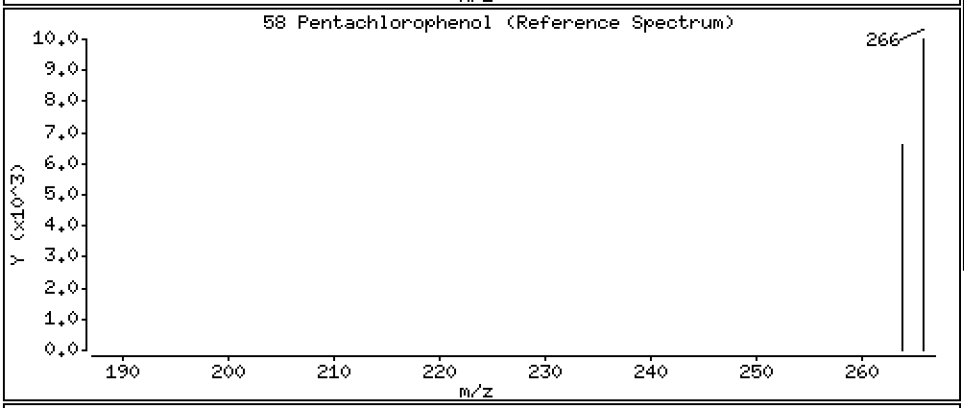
Concentration: 12.63 ug/mL

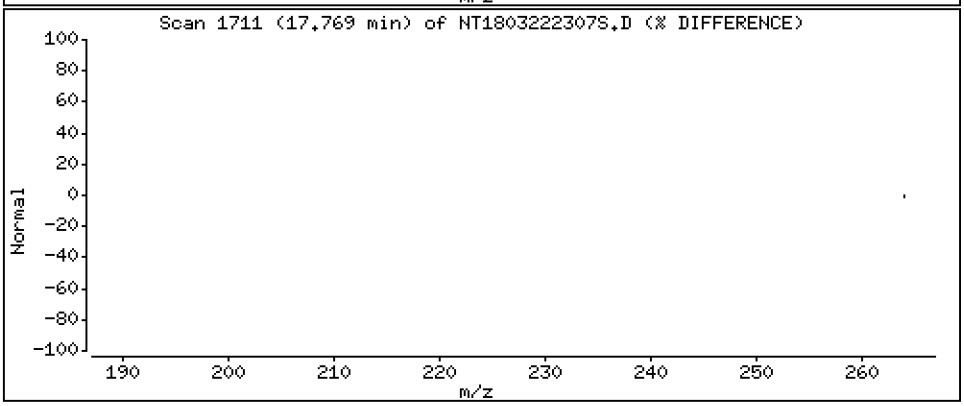












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222307S.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BS2

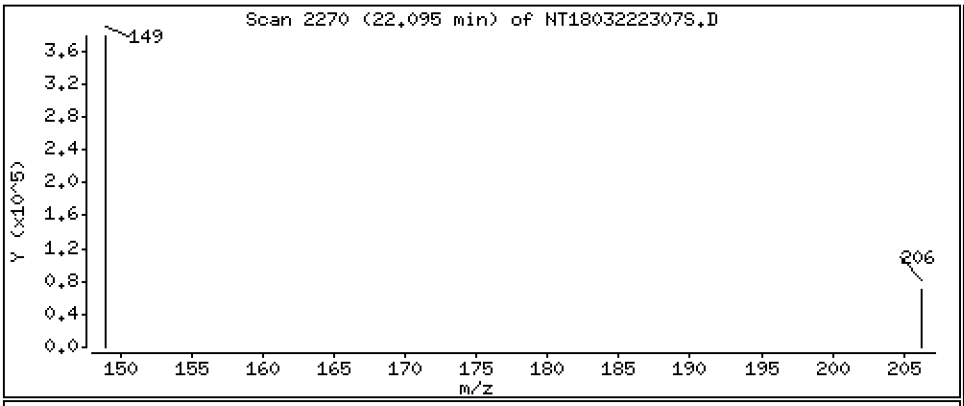
Operator: VTS

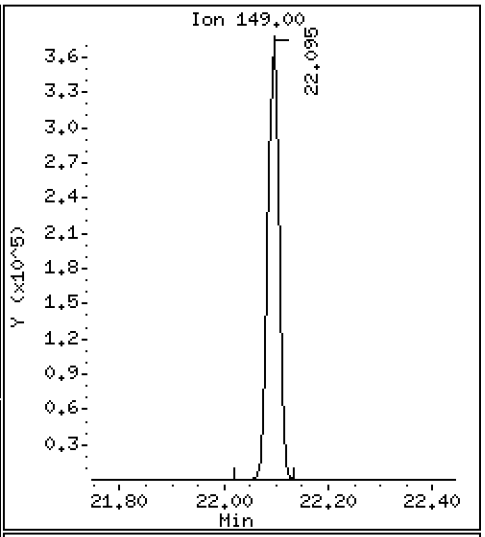
Column phase: ZB-5msi

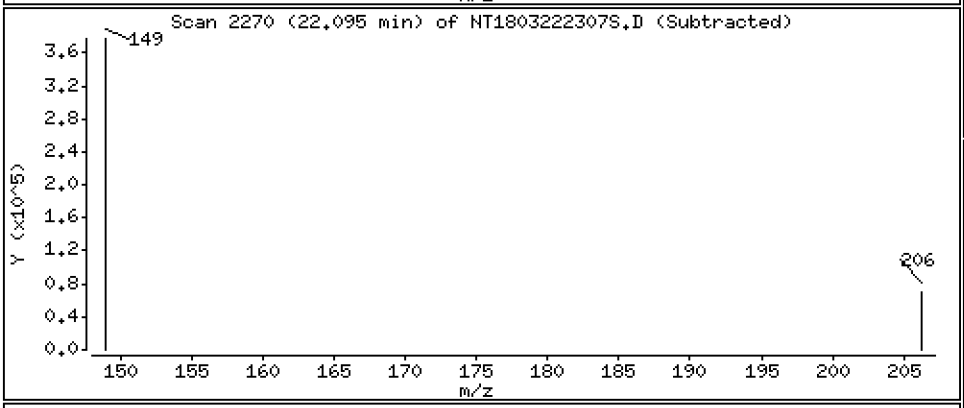
Column diameter: 0.25

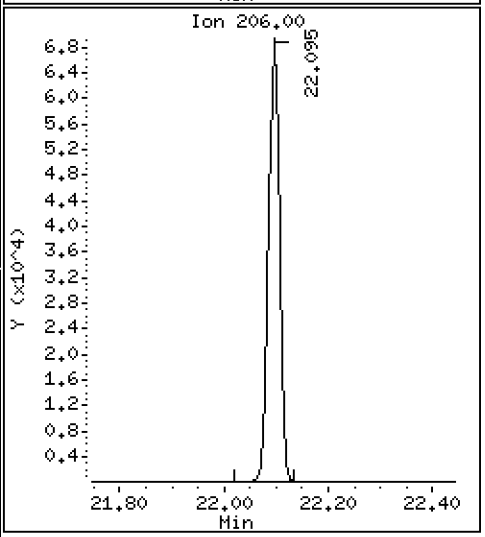
67 Butylbenzylphthalate

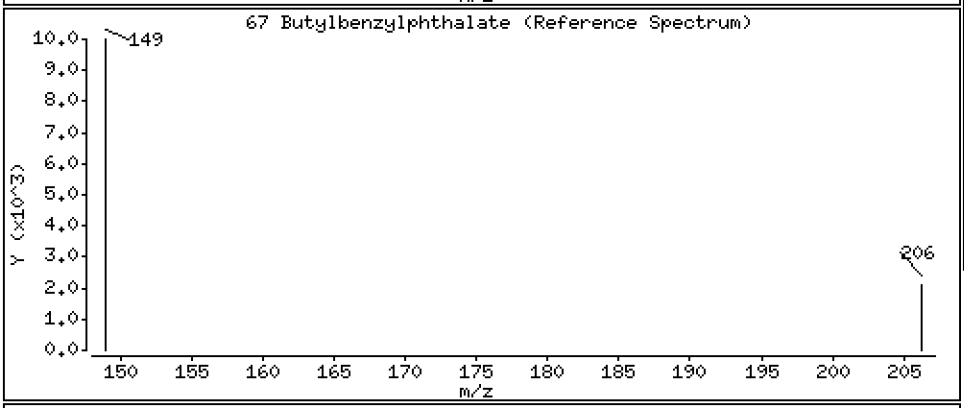
Concentration: 3.888 ug/mL

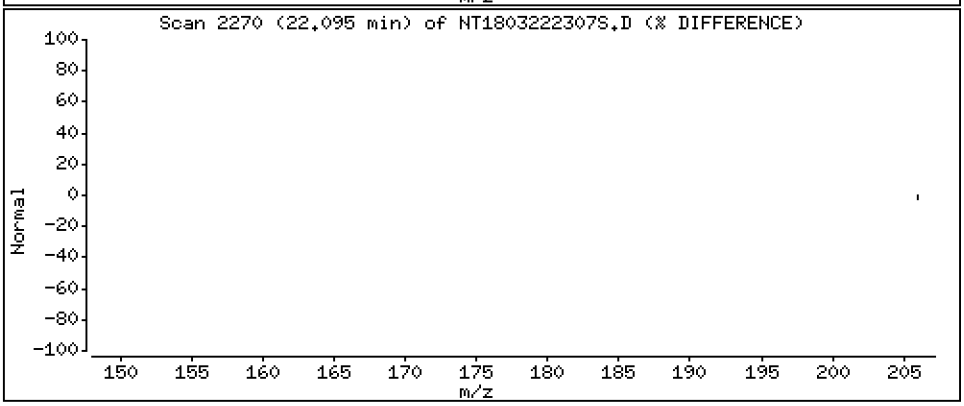












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222307S.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BS2

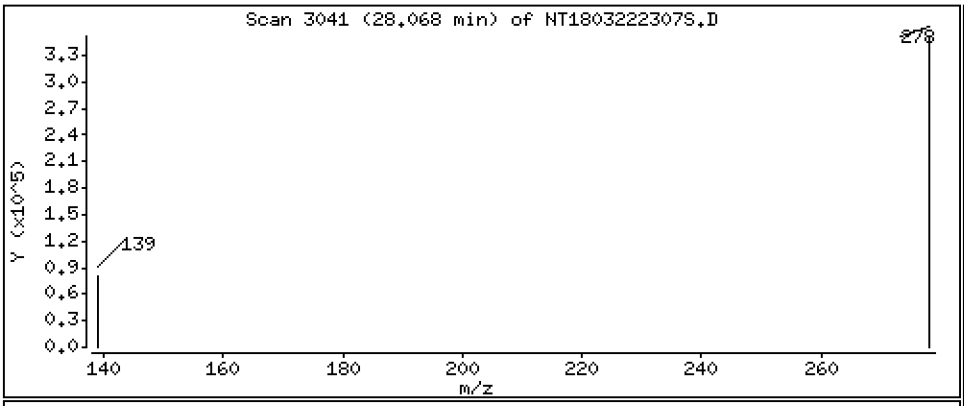
Operator: VTS

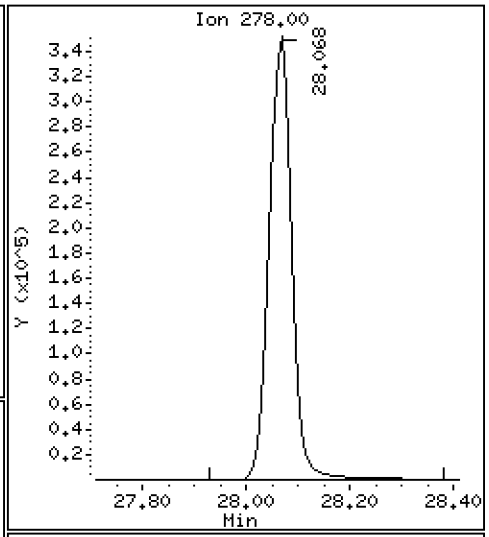
Column phase: ZB-5msi

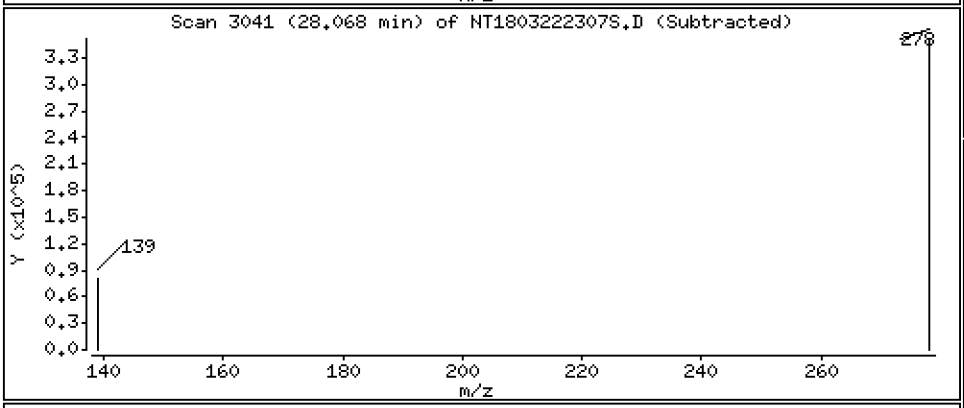
Column diameter: 0.25

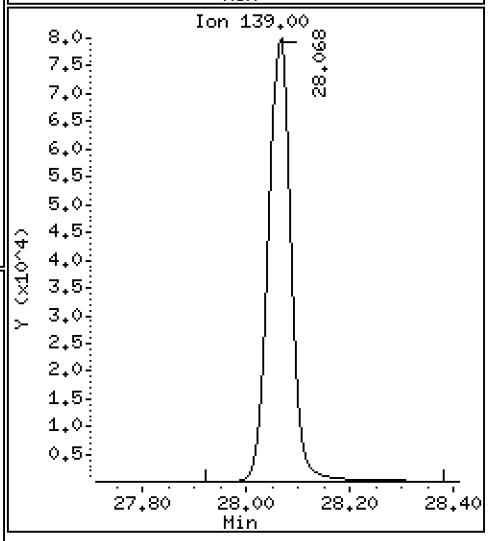
79 Dibenzo(a,h)anthracene

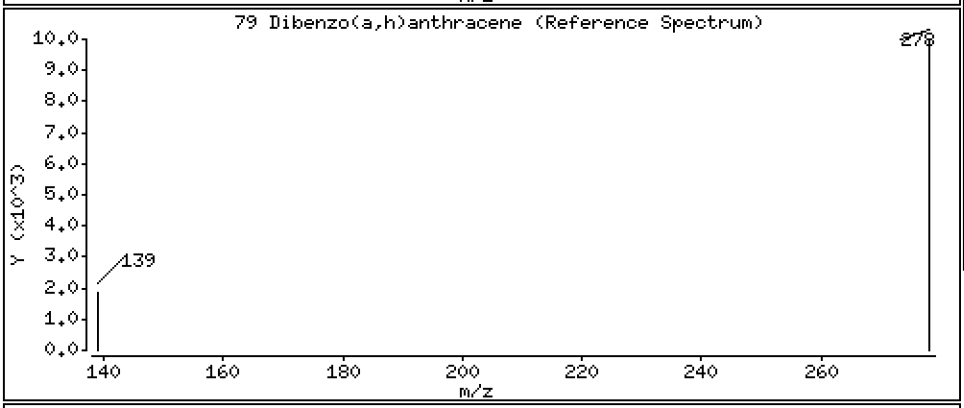
Concentration: 3.686 ug/mL

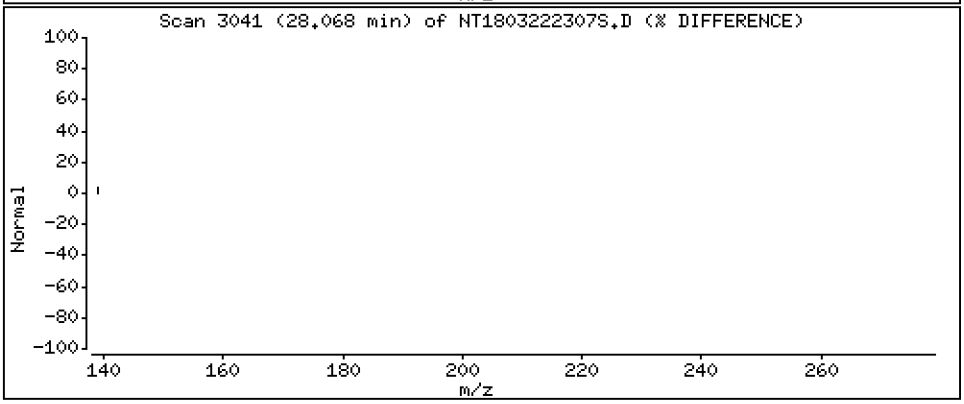












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222307S.D

Date : 22-MAR-2023 21:20

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BS2

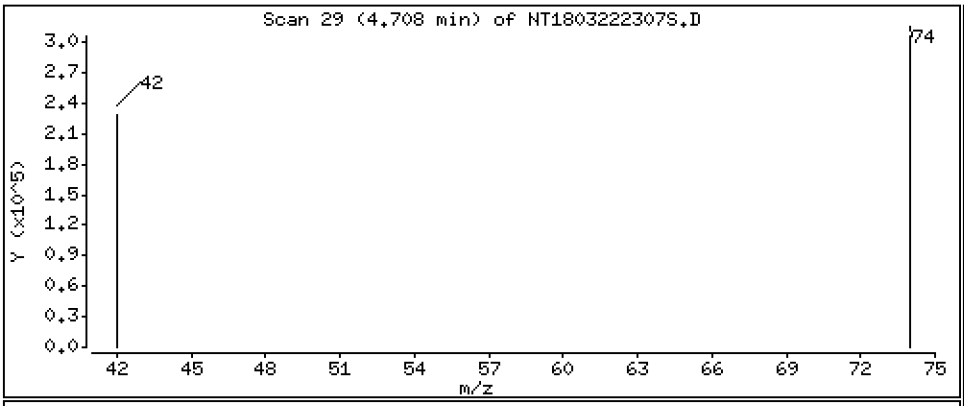
Operator: VTS

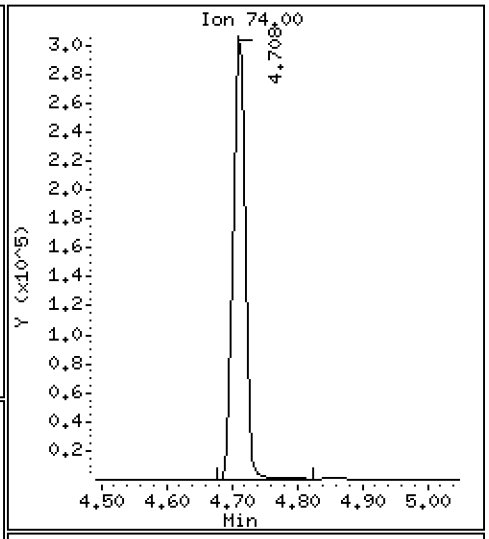
Column phase: ZB-5msi

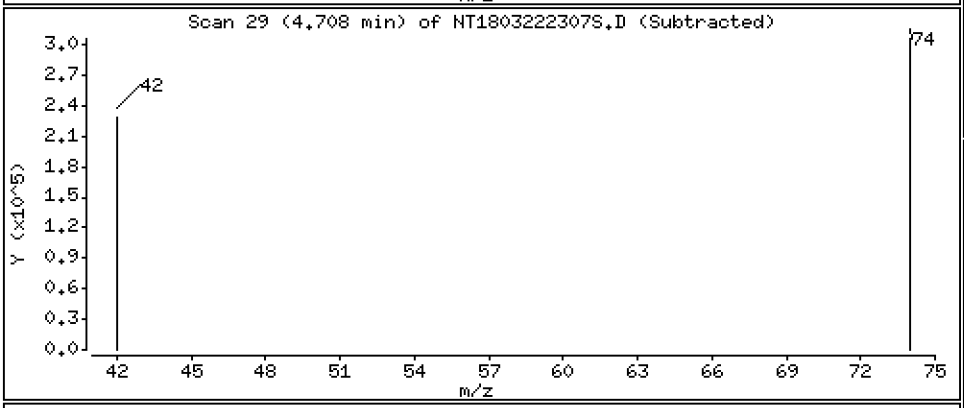
Column diameter: 0.25

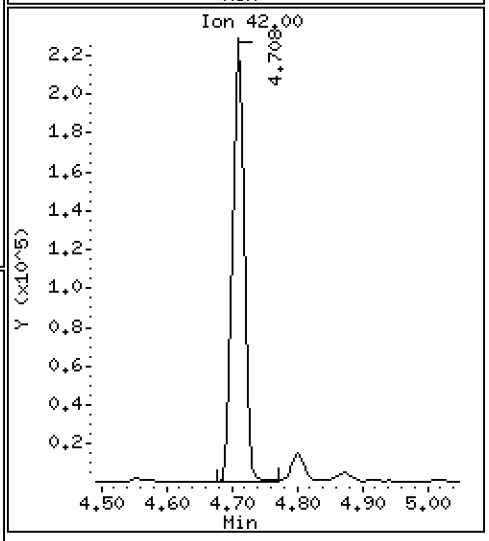
90 N-Nitrosodimethylamine

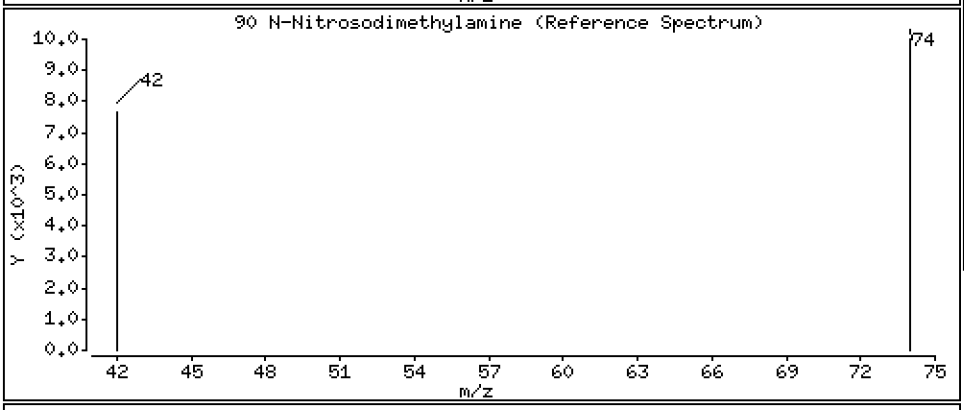
Concentration: 7.236 ug/mL

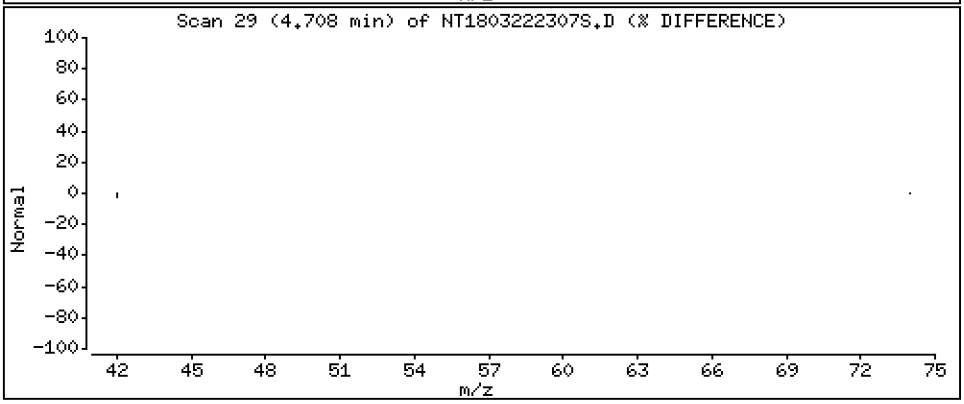












ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222307S.D
Lab Smp Id: BLC0185-BS2
Inj Date : 22-MAR-2023 21:20
Operator : VTS Inst ID: nt18.i
Smp Info : BLC0185-BS2
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230322.b\SIM.b\SIMABN2.m
Meth Date : 05-Apr-2023 10:09 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: DEENAY-201905

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.786	6.778	(0.756)	567856	6.14877	6.149(R)
	3 Phenol	94	8.369	8.362	(0.932)	423128	3.42158	3.422
	7 1,3-Dichlorobenzene	146	8.918	8.918	(0.993)	413223	3.45406	3.454
*	8 1,4-Dichlorobenzene-d4	152	8.980	8.980	(1.000)	316787	4.00000	
	9 1,4-Dichlorobenzene	146	9.011	9.011	(1.003)	420317	3.46375	3.464
	11 Benzyl alcohol	79	9.244	9.244	(1.029)	249868	3.37887	3.379
	12 1,2-Dichlorobenzene	146	9.361	9.360	(1.042)	407280	3.44856	3.449
	13 2-Methylphenol	108	9.469	9.469	(1.054)	282994	3.29649	3.296
	15 4-Methylphenol	108	9.741	9.733	(1.085)	313654	3.51230	3.512
	16 N-Nitroso-di-n-propylamine	70	9.803	9.803	(1.092)	208058	3.53202	3.532
	22 2,4-Dimethylphenol	107	10.775	10.775	(0.942)	494826	5.99716	5.997
	24 Benzoic acid	105	11.012	10.902	(0.963)	1303389	20.9402	20.94
	26 1,2,4-Trichlorobenzene	180	11.360	11.360	(0.993)	332203	3.52999	3.530
*	27 Naphthalene-d8	136	11.437	11.444	(1.000)	1181498	4.00000	
	30 Hexachlorobutadiene	225	11.846	11.846	(1.036)	195547	3.61049	3.610
	39 Dimethylphthalate	163	14.547	14.539	(0.968)	743665	4.01946	4.019
*	42 Acenaphthene-d10	162	15.027	15.027	(1.000)	579236	4.00000	
	50 Diethylphthalate	149	15.993	15.985	(1.064)	773992	4.60718	4.607
	54 N-Nitrosodiphenylamine	169	16.364	16.364	(0.907)	464829	3.68642	3.686
	57 Hexachlorobenzene	284	17.413	17.413	(0.966)	222214	3.70431	3.704
	58 Pentachlorophenol	266	17.769	17.769	(0.985)	460983	12.6305	12.63
*	59 Phenanthrene-d10	188	18.032	18.032	(1.000)	1038197	4.00000	
$	66 Terphenyl-d14	244	21.166	21.165	(0.918)	603450	4.48831	4.488(R)
	67 Butylbenzylphthalate	149	22.095	22.095	(0.958)	523449	3.88847	3.888
*	69 Chrysene-d12	240	23.055	23.055	(1.000)	953869	4.00000	
*	77 Perylene-d12	264	25.563	25.563	(1.000)	969064	4.00000	
	79 Dibenzo(a,h)anthracene	278	28.068	28.060	(1.098)	1057008	3.68644	3.686
	90 N-Nitrosodimethylamine	74	4.708	4.700	(0.524)	407876	7.23620	7.236

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222307S.D
Lab Smp Id: BLC0185-BS2
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 22-MAR-2023
Calibration Time: 18:36
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	283947	141974	567894	316787	11.57
27 Naphthalene-d8	1057483	528742	2114966	1181498	11.73
42 Acenaphthene-d10	520336	260168	1040672	579236	11.32
59 Phenanthrene-d10	933537	466769	1867074	1038197	11.21
69 Chrysene-d12	863272	431636	1726544	953869	10.49
77 Perylene-d12	996915	498458	1993830	969064	-2.79

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	-0.07
42 Acenaphthene-d10	15.03	14.53	15.53	15.03	0.00
59 Phenanthrene-d10	18.03	17.53	18.53	18.03	0.00
69 Chrysene-d12	23.06	22.56	23.56	23.06	0.00
77 Perylene-d12	25.56	25.06	26.06	25.56	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222307S.D

Lab ID: BLC0185-BS2
nt18.i, 20230322.b\SIM.b\SIMABN2.m,   22-MAR-2023 21:20

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.963	0.953	0.0103	Benzoic acid

RRT check based on Ccal File: SIM.b/NT1803222303S.D

On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223085.D

Date : 22-MAR-2023 22:01

Client ID:

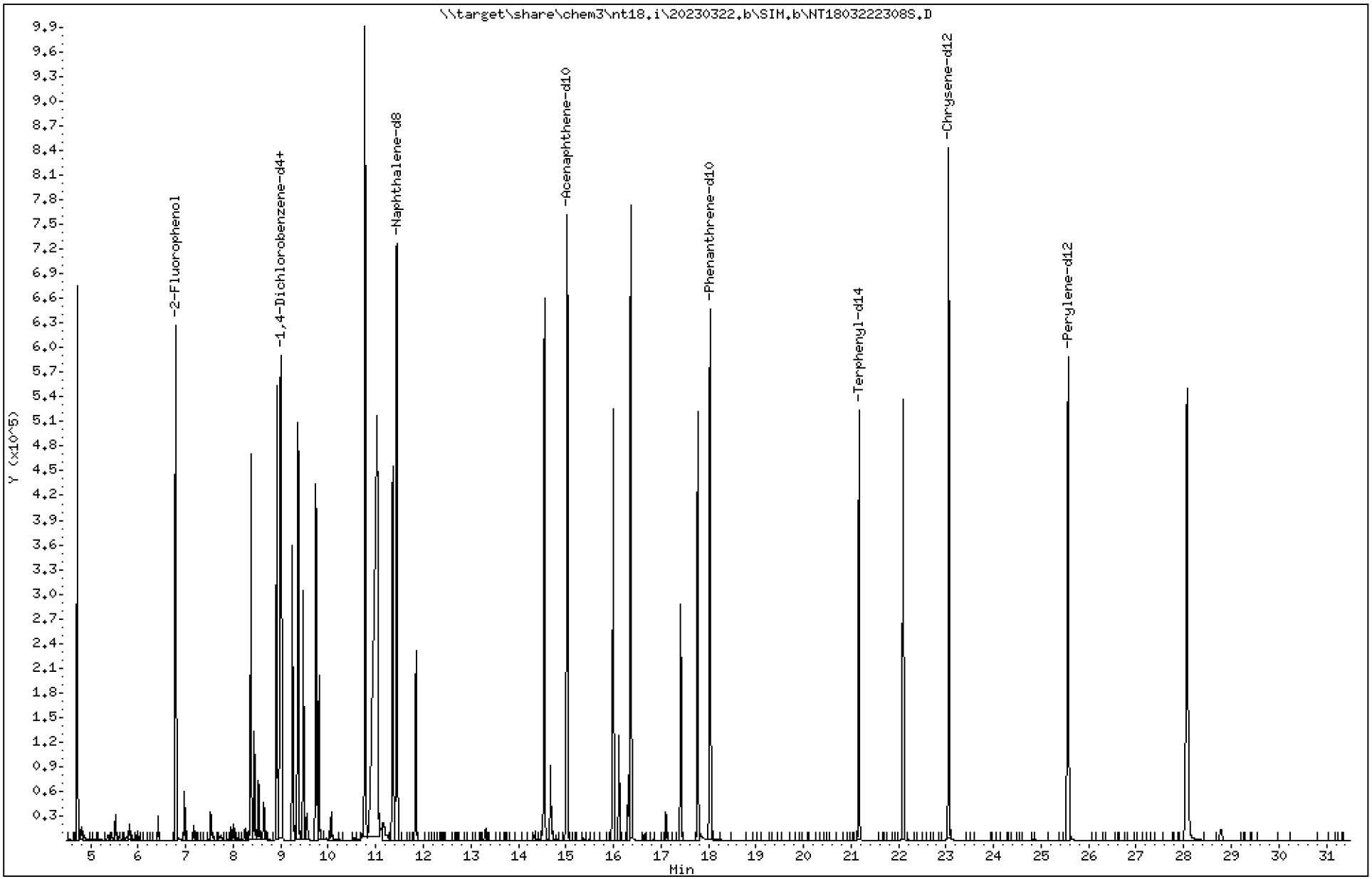
Sample Info: BLC0185-BSD2

Instrument: nt18.i

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222308S.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD2

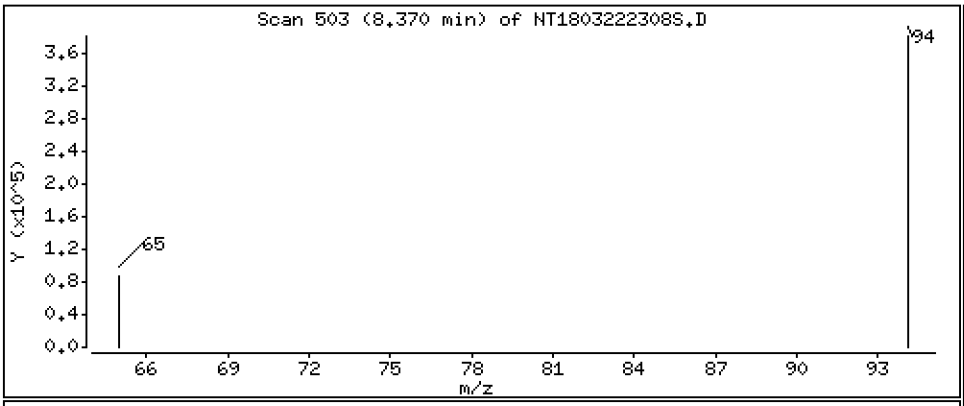
Operator: VTS

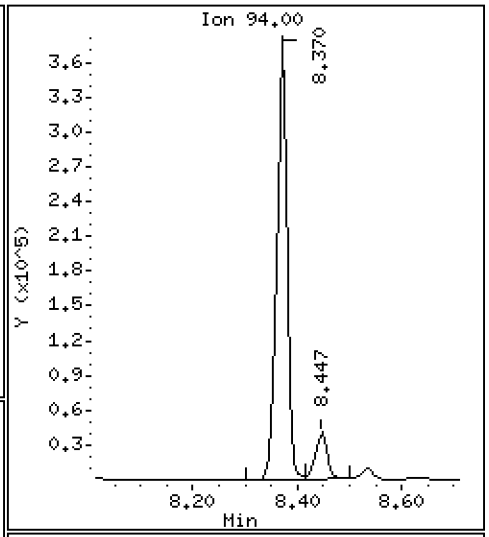
Column phase: ZB-5msi

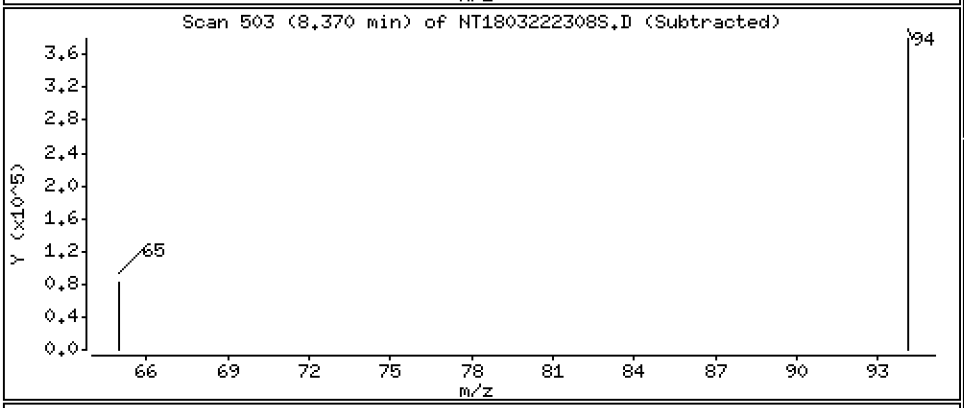
Column diameter: 0.25

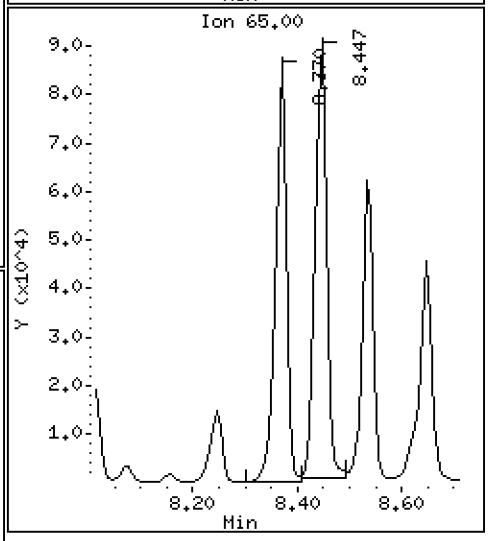
3 Phenol

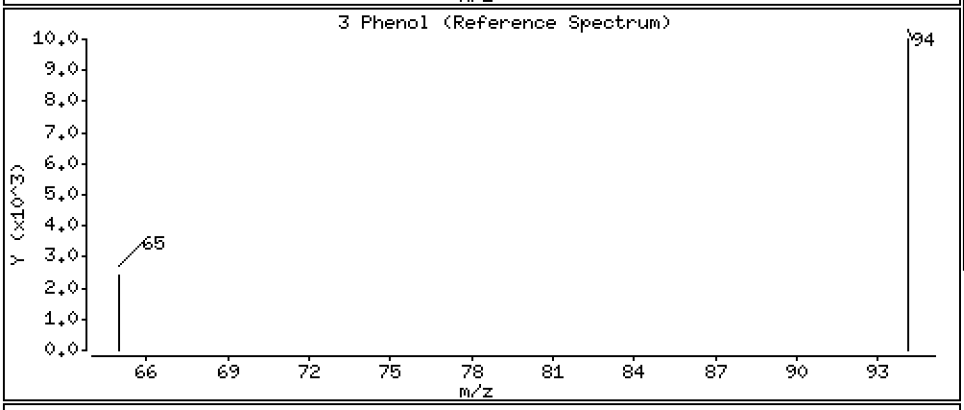
Concentration: 3.959 ug/mL

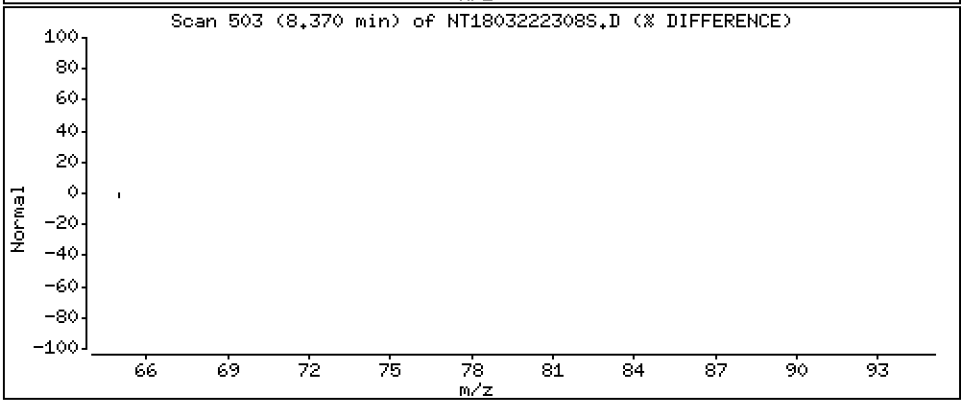












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222308S.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD2

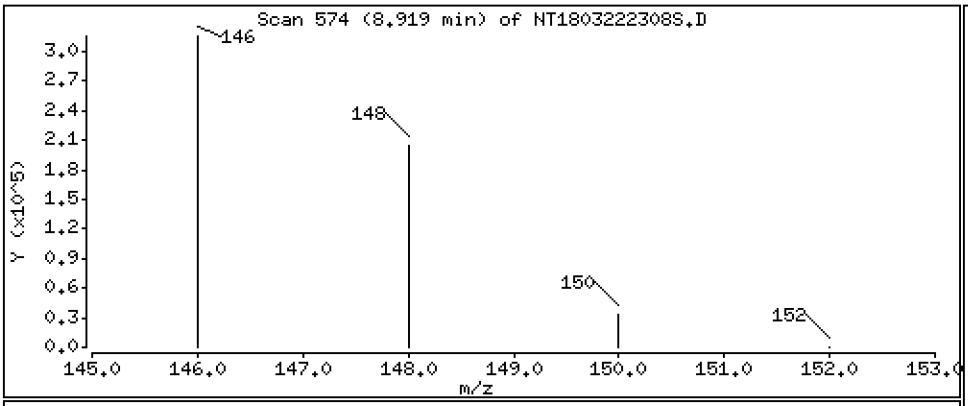
Operator: VTS

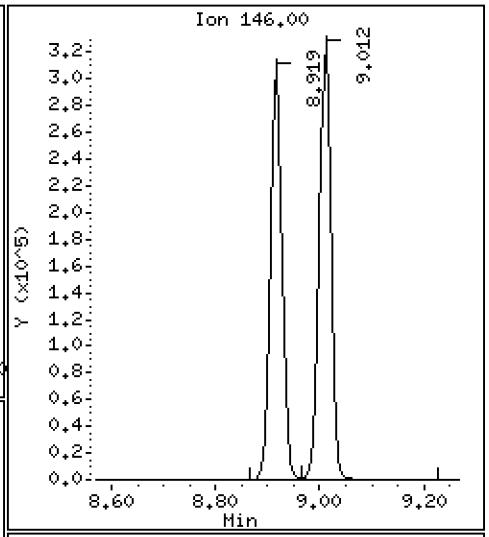
Column phase: ZB-5msi

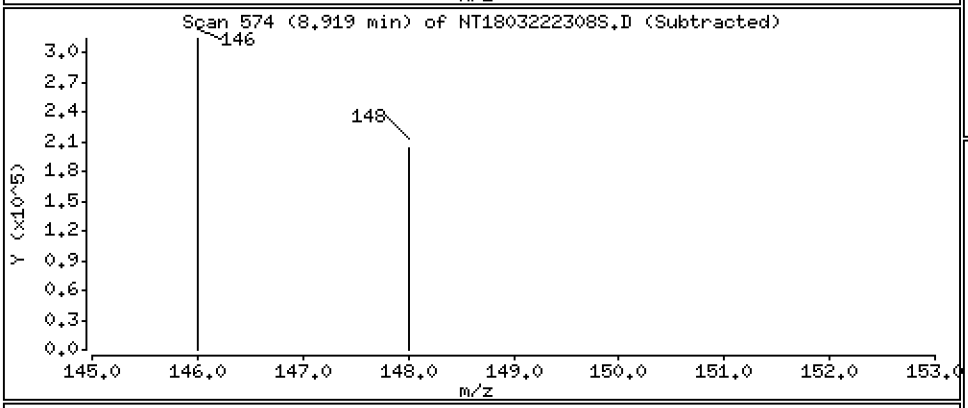
Column diameter: 0.25

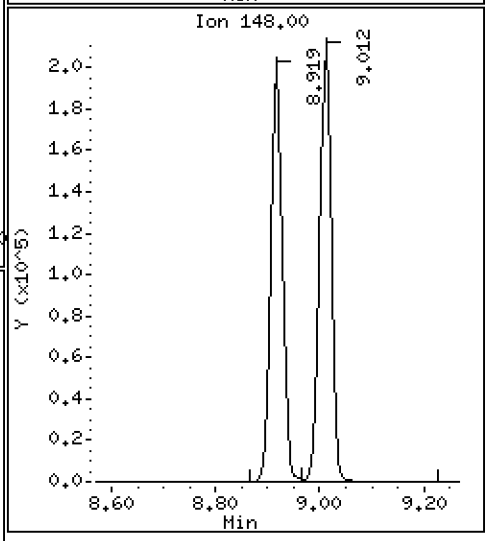
7 1,3-Dichlorobenzene

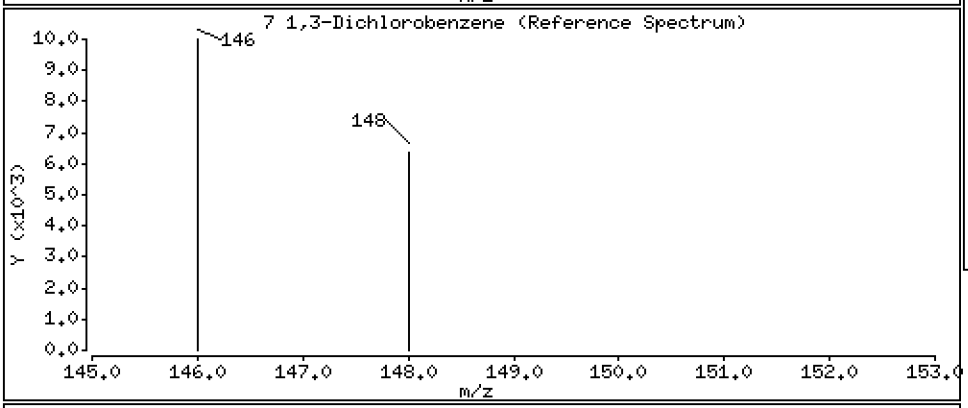
Concentration: 3.852 ug/mL

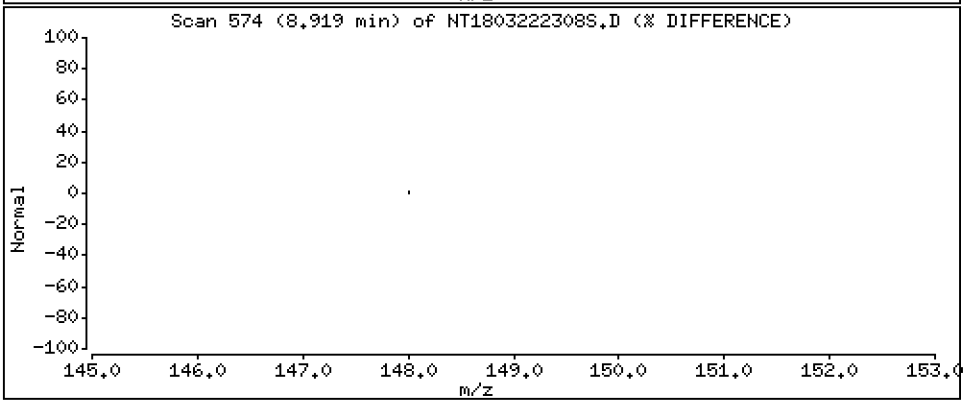












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222308S.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD2

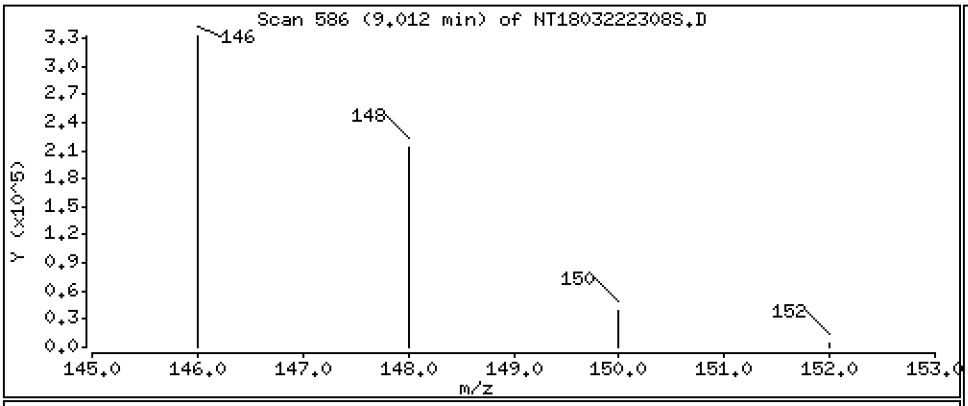
Operator: VTS

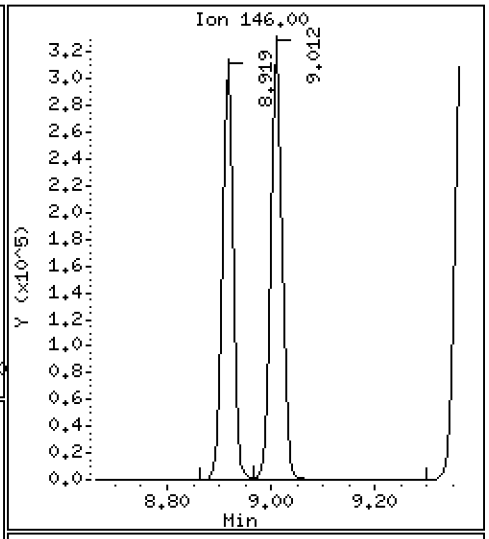
Column phase: ZB-5msi

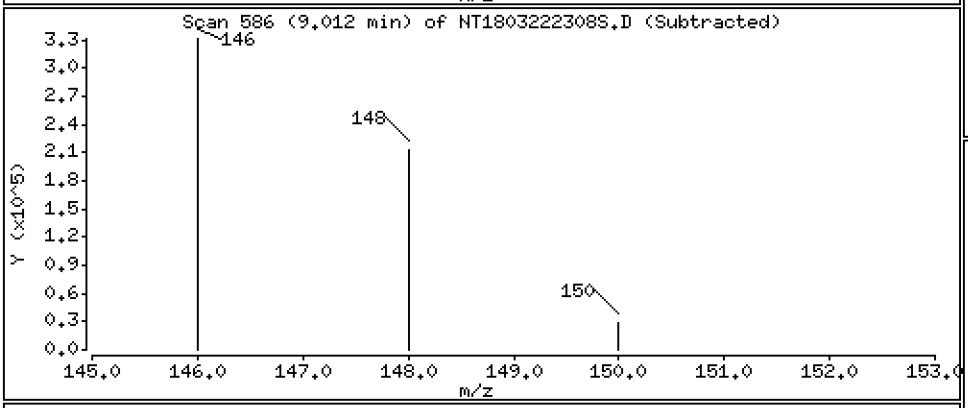
Column diameter: 0.25

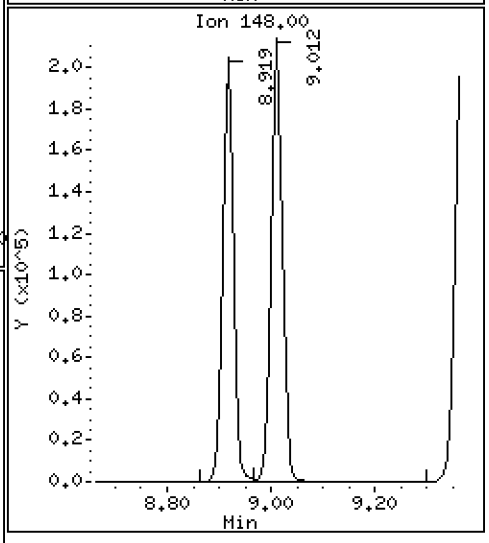
9 1,4-Dichlorobenzene

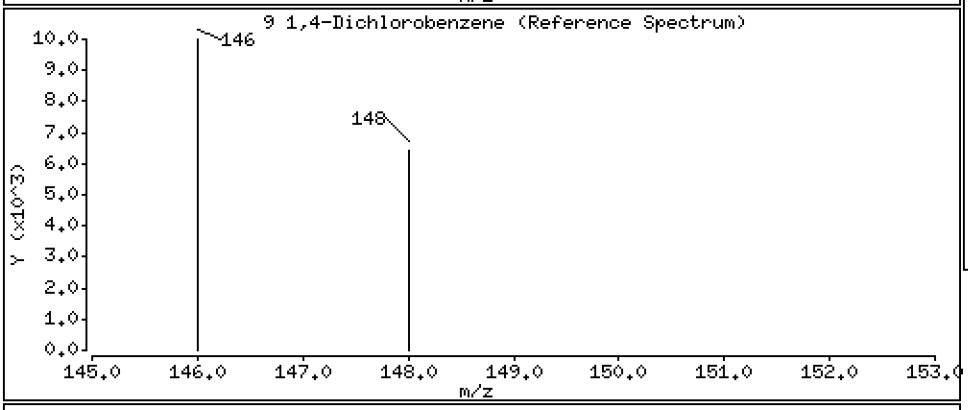
Concentration: 3.885 ug/mL

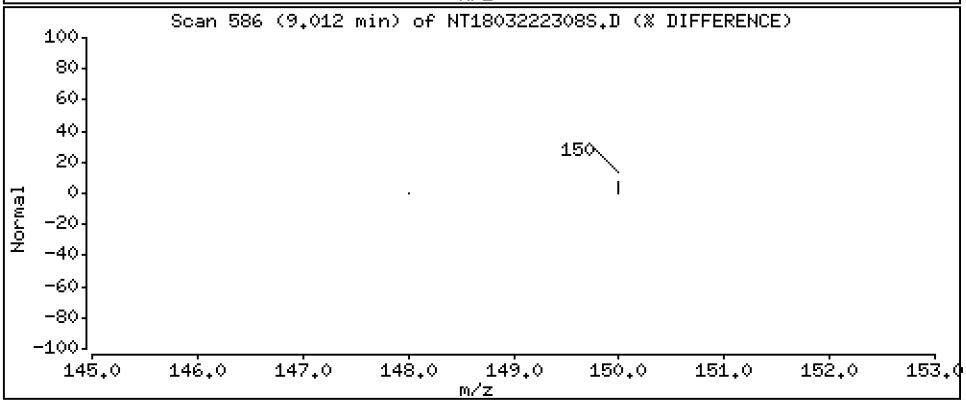












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222308S.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD2

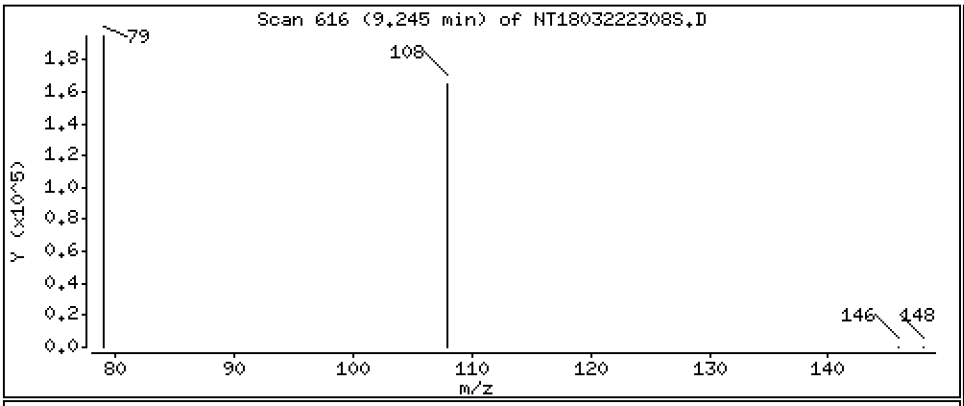
Operator: VTS

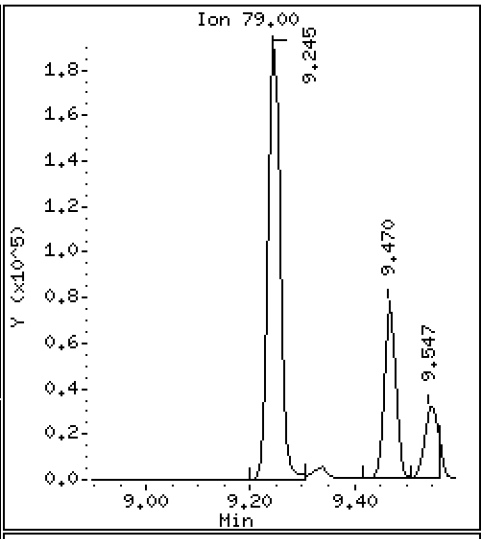
Column phase: ZB-5msi

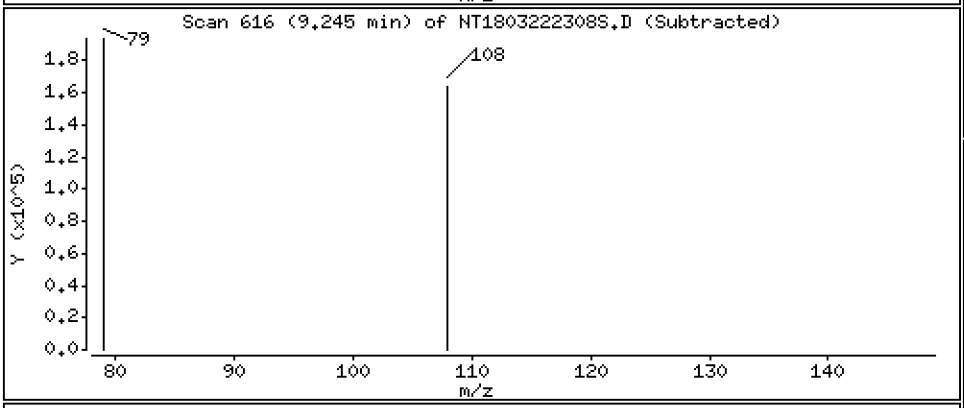
Column diameter: 0.25

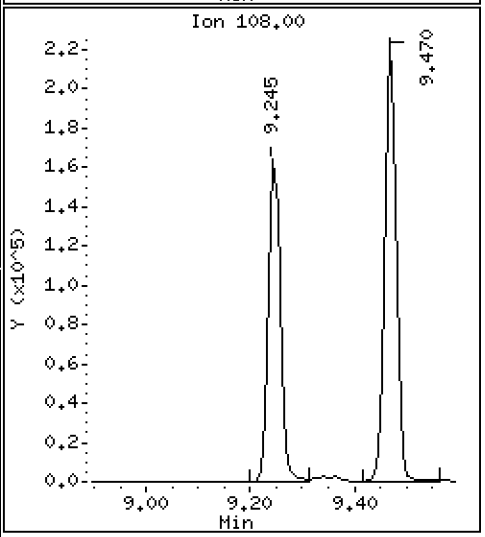
11 Benzyl alcohol

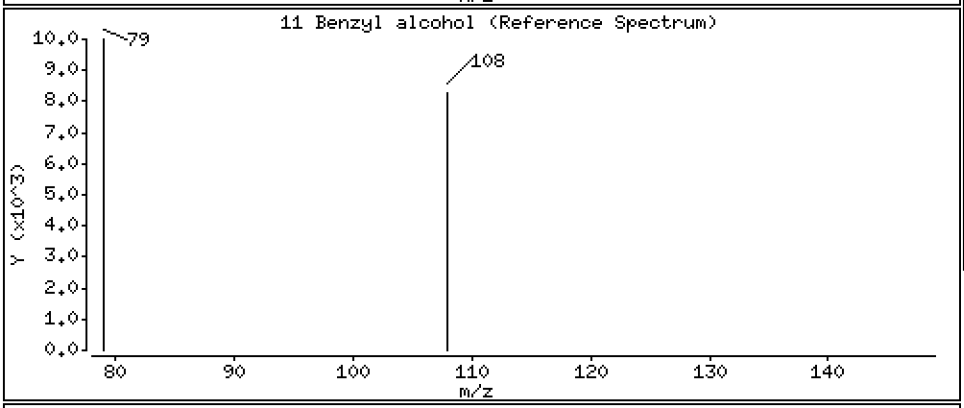
Concentration: 3.868 ug/mL

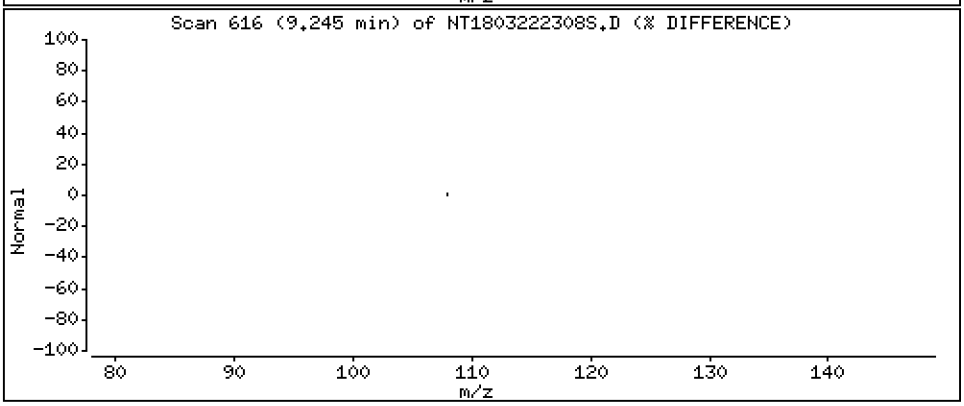












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222308S.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD2

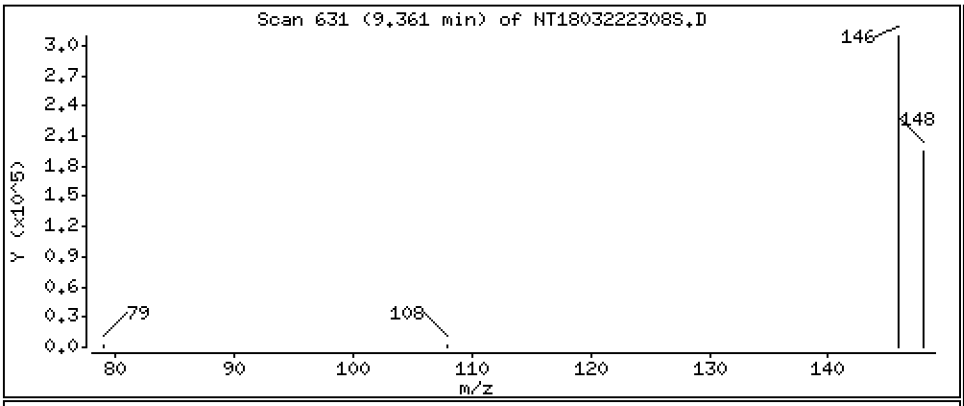
Operator: VTS

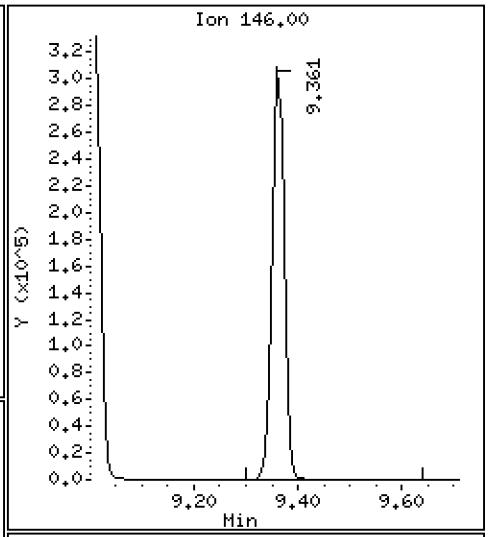
Column phase: ZB-5msi

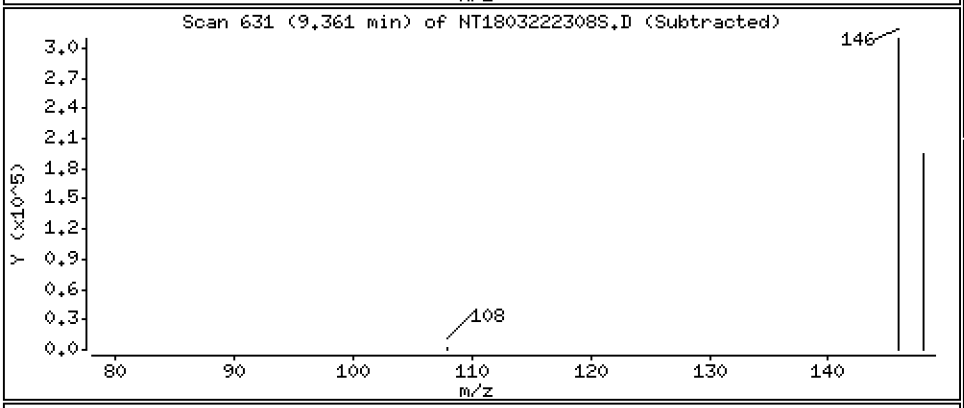
Column diameter: 0.25

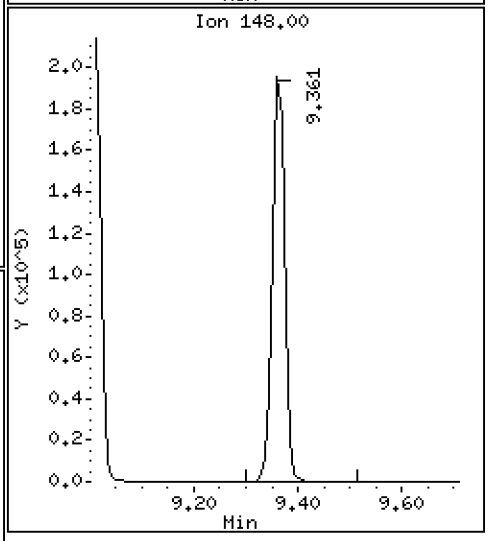
12 1,2-Dichlorobenzene

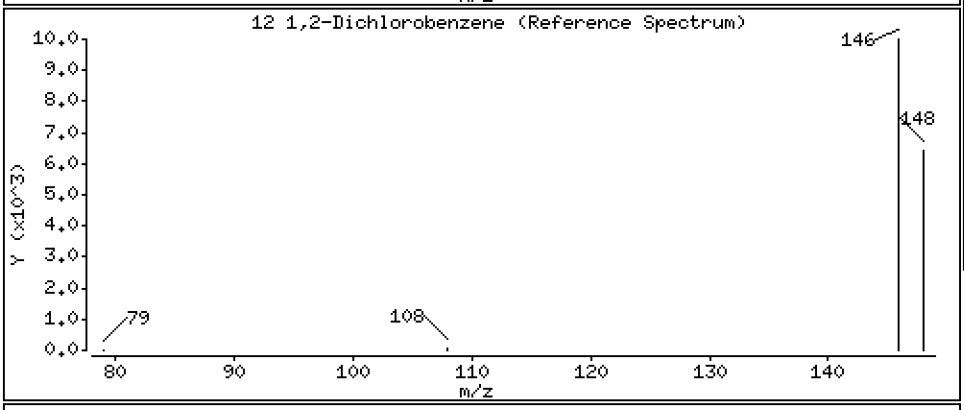
Concentration: 3.864 ug/mL

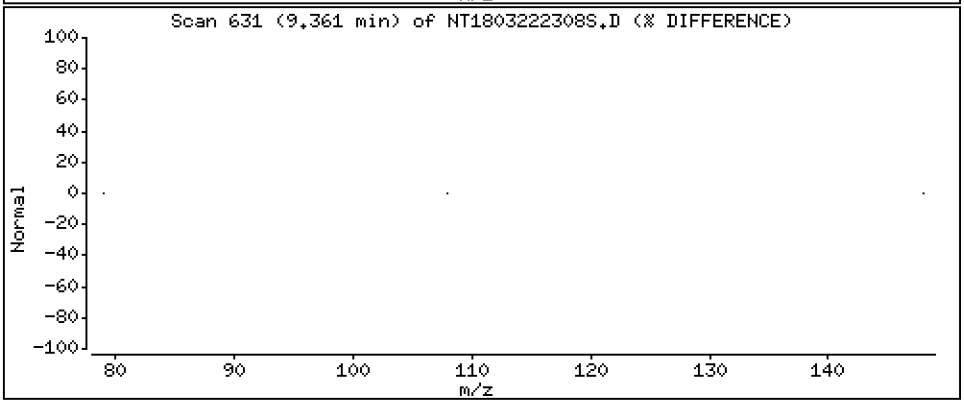












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222308S.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD2

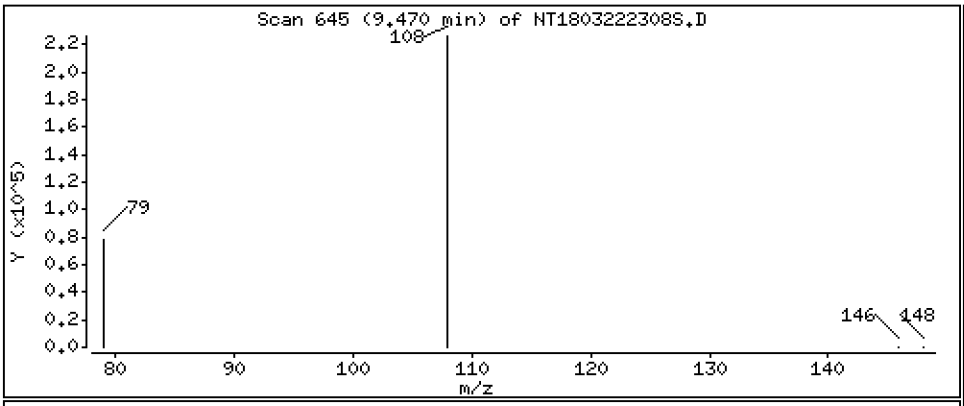
Operator: VTS

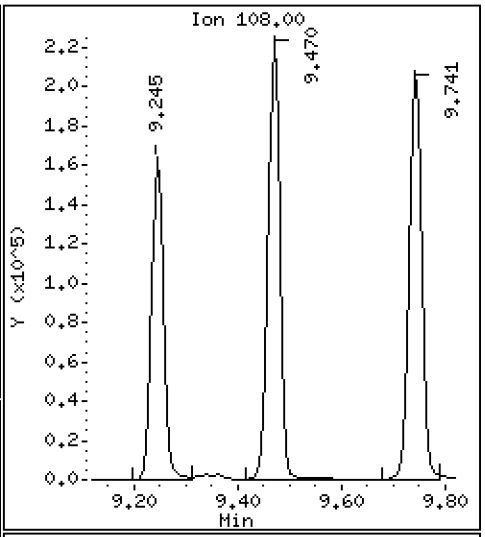
Column phase: ZB-5msi

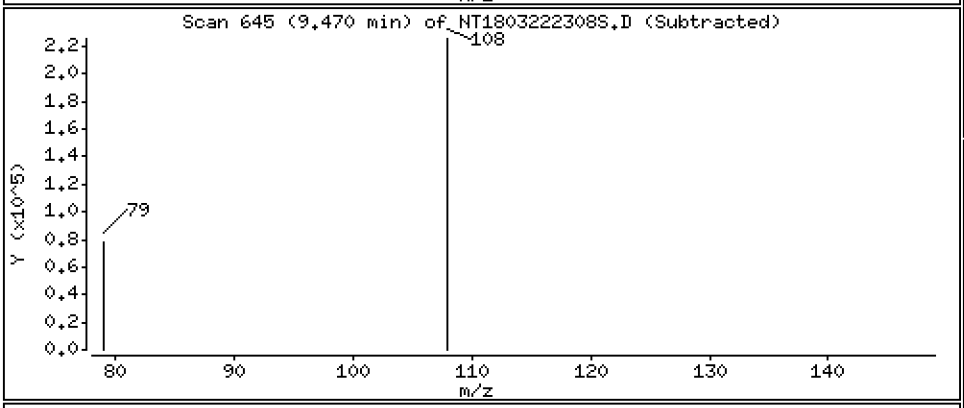
Column diameter: 0.25

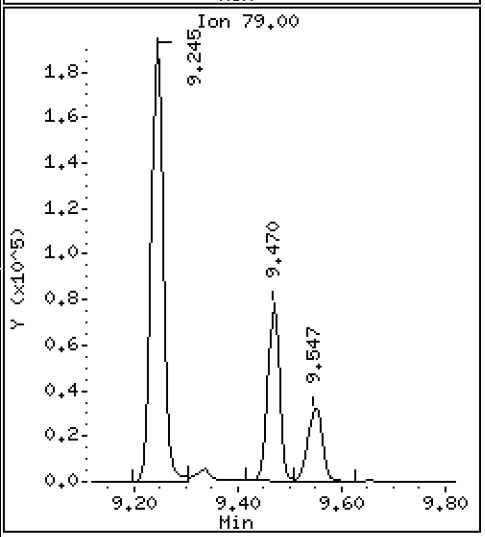
13 2-Methylphenol

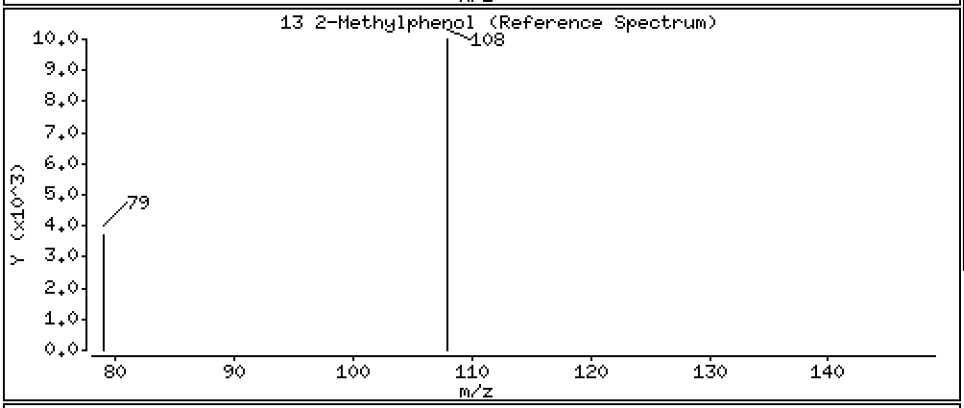
Concentration: 3.768 ug/mL

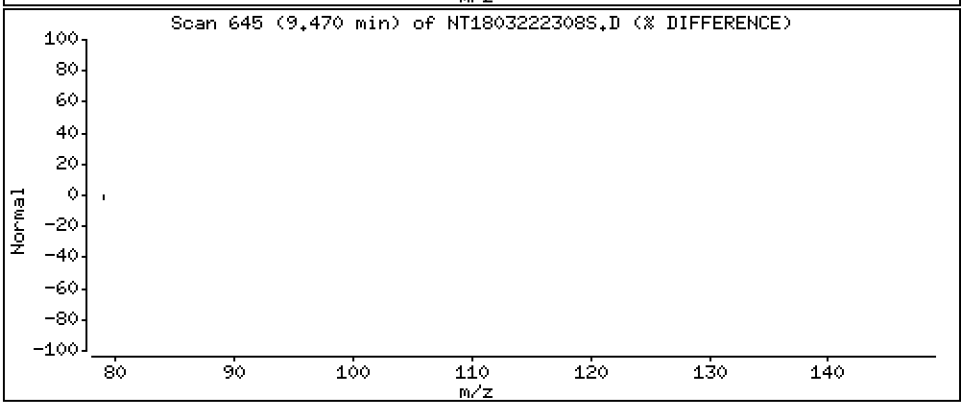












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222308S.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD2

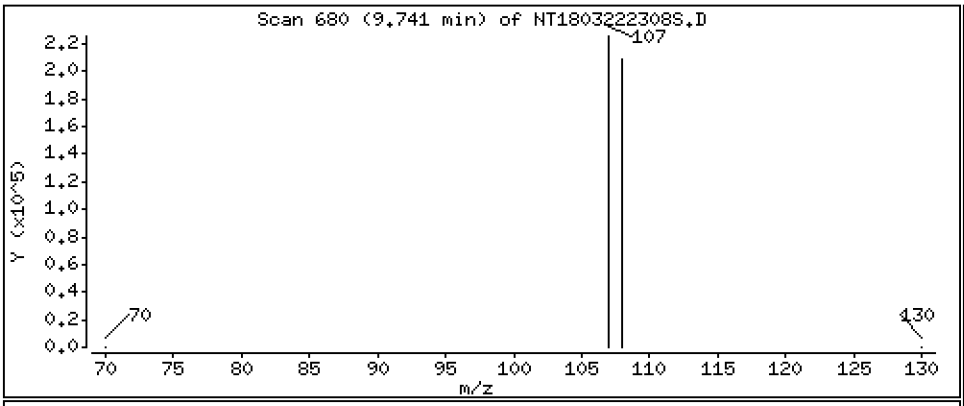
Operator: VTS

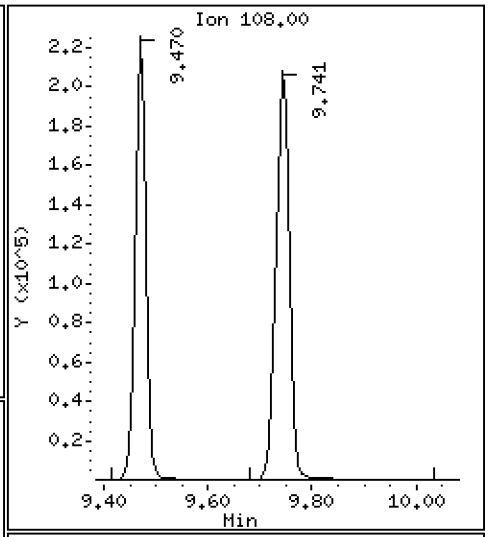
Column phase: ZB-5msi

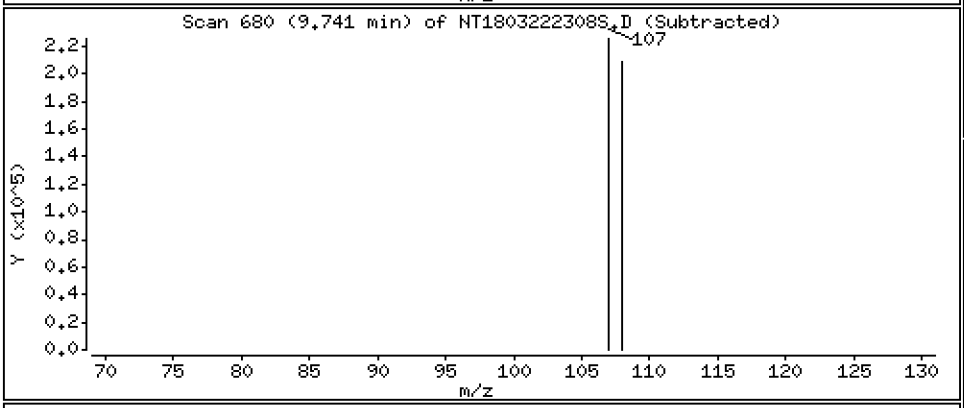
Column diameter: 0.25

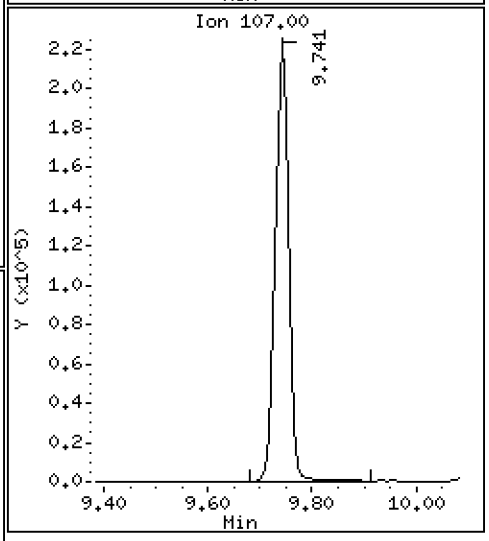
15 4-Methylphenol

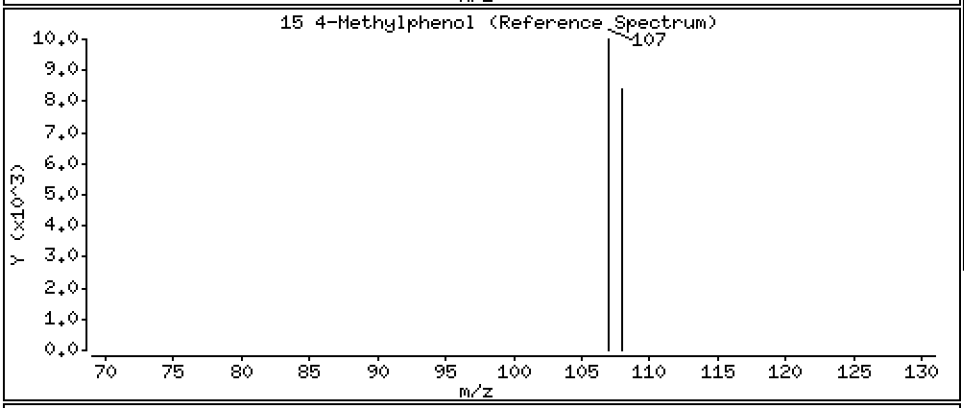
Concentration: 4.039 ug/mL

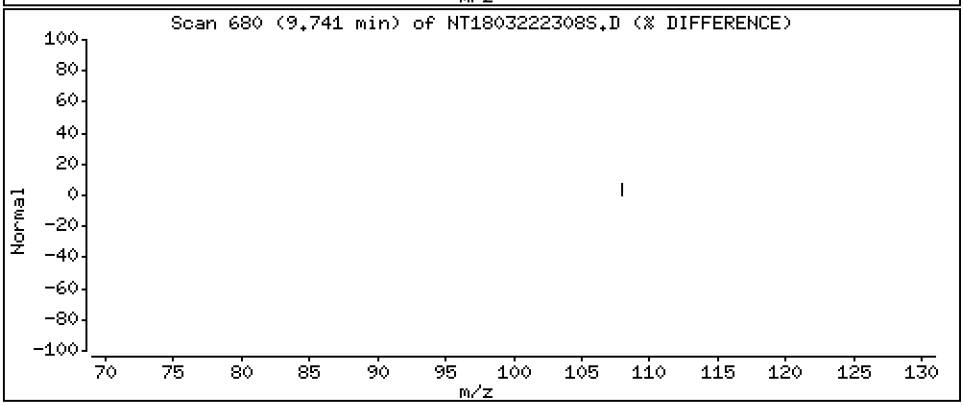












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222308S.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD2

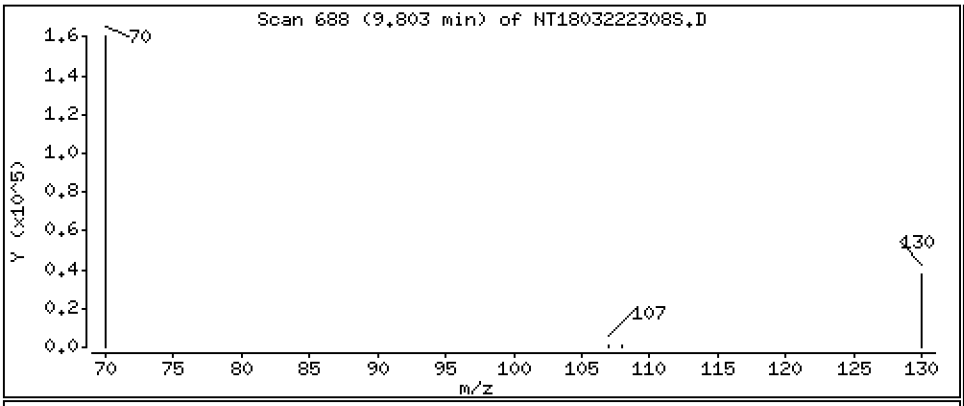
Operator: VTS

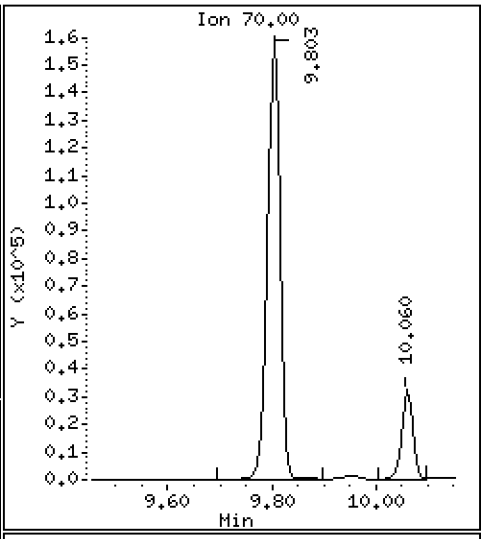
Column phase: ZB-5msi

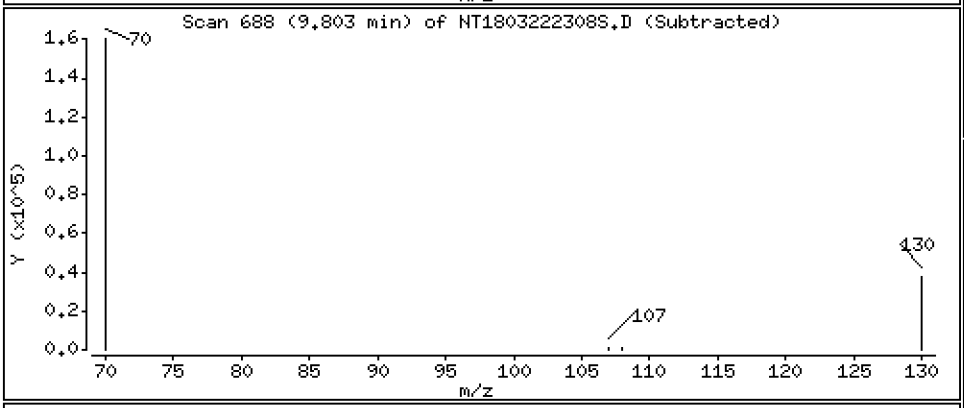
Column diameter: 0.25

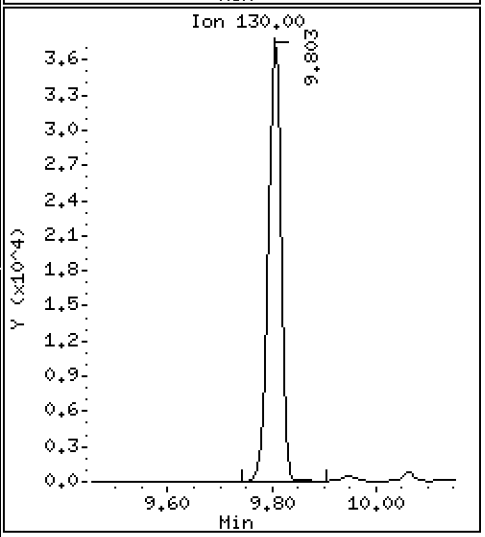
16 N-Nitroso-di-n-propylamine

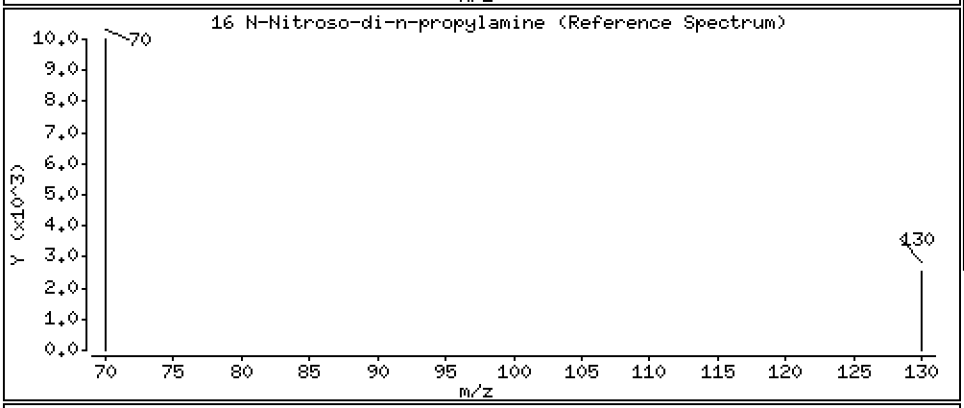
Concentration: 4.185 ug/mL

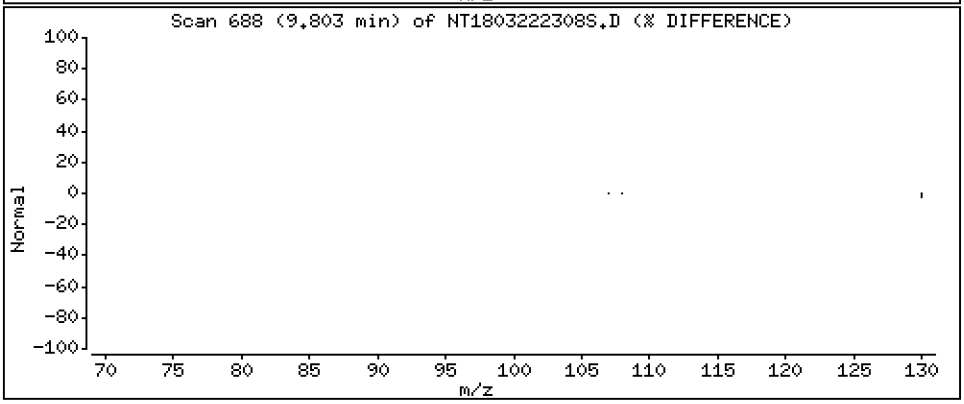












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222308S.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD2

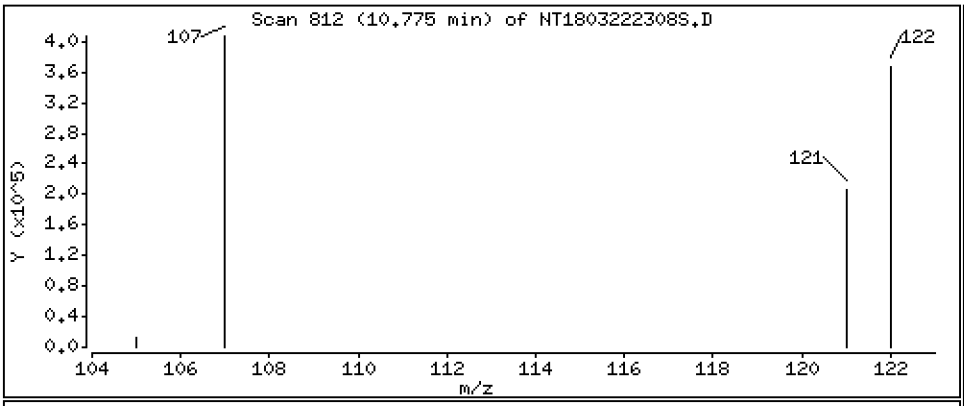
Operator: VTS

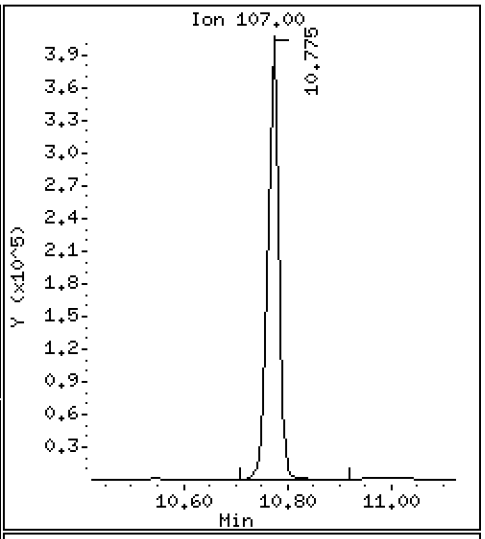
Column phase: ZB-5msi

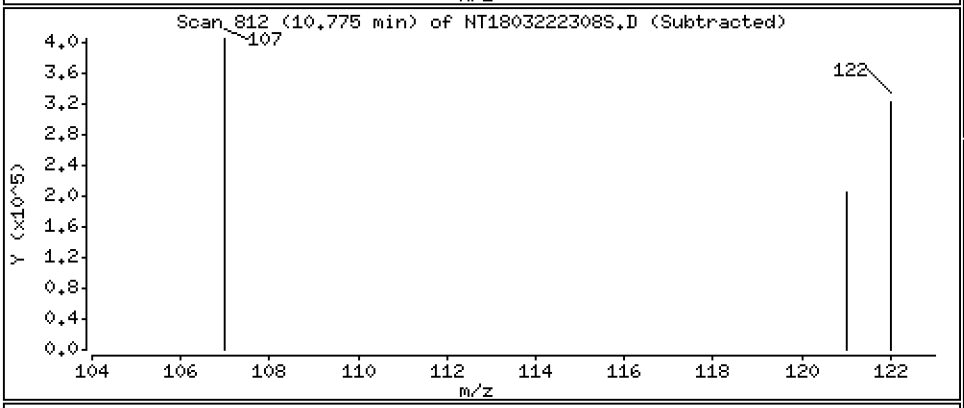
Column diameter: 0.25

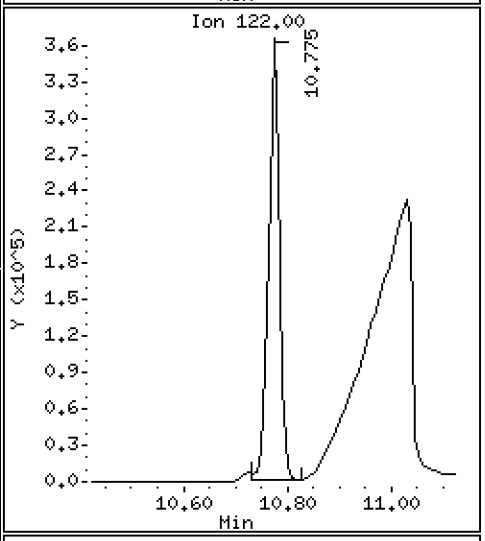
22 2,4-Dimethylphenol

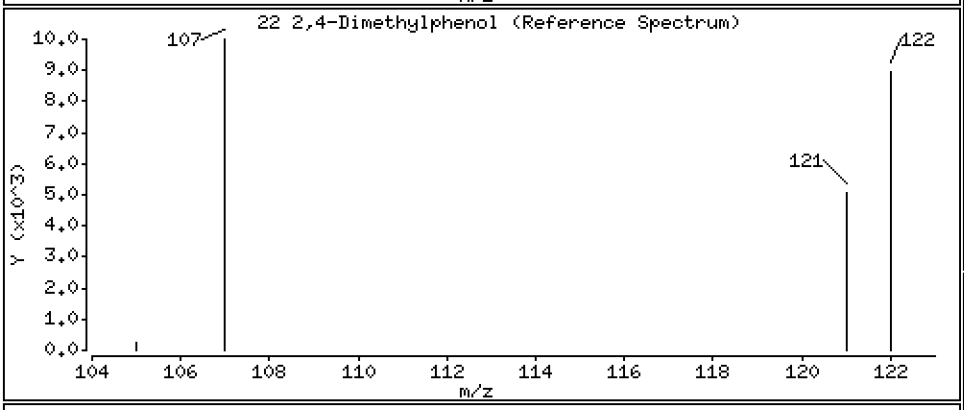
Concentration: 7.173 ug/mL

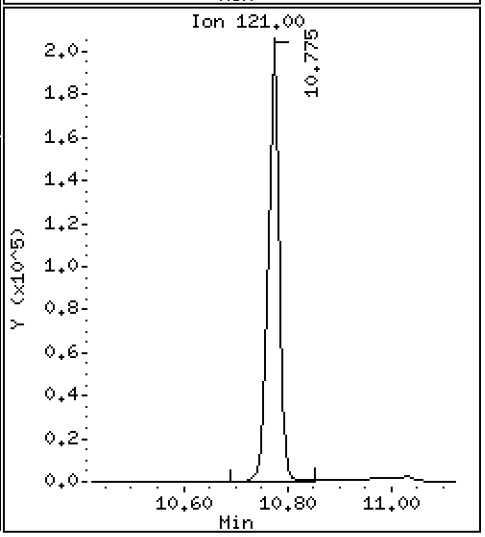


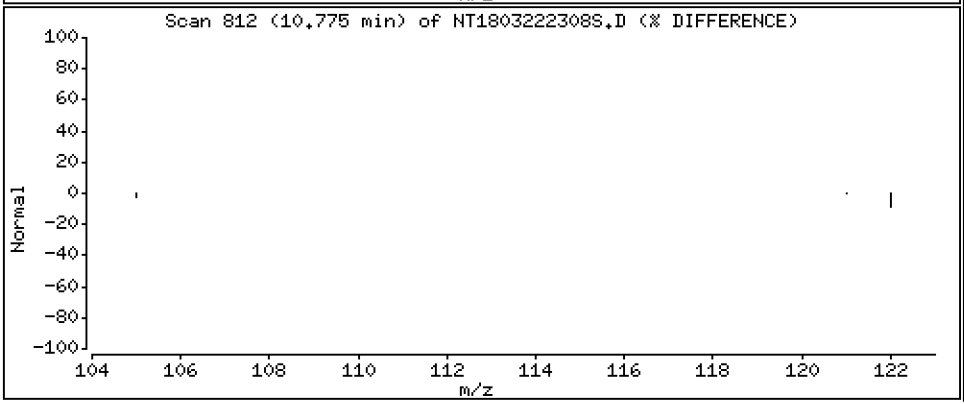












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Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD2

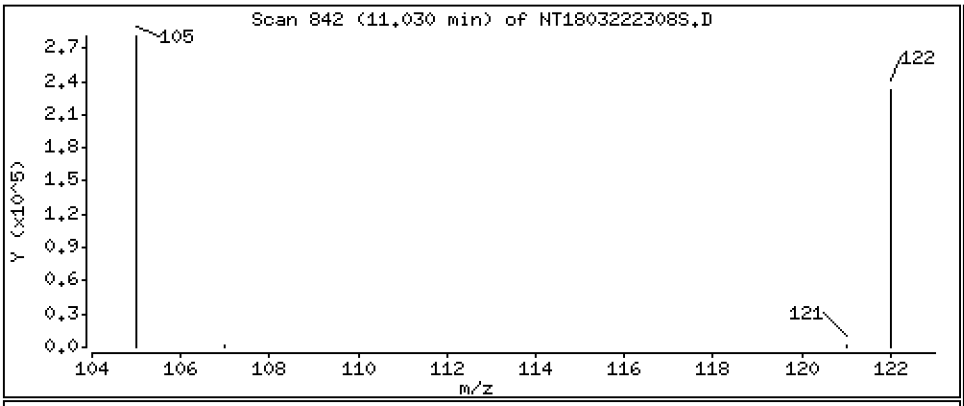
Operator: VTS

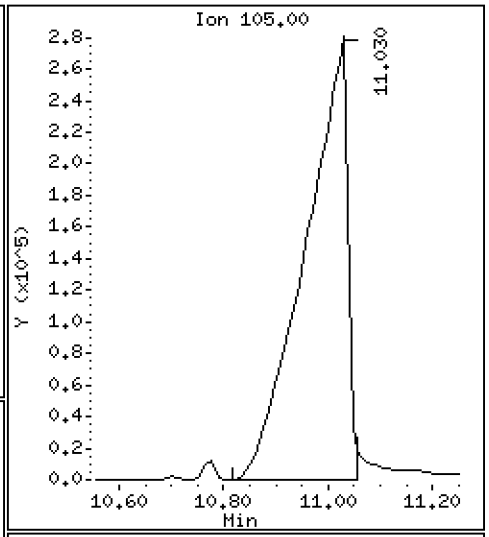
Column phase: ZB-5msi

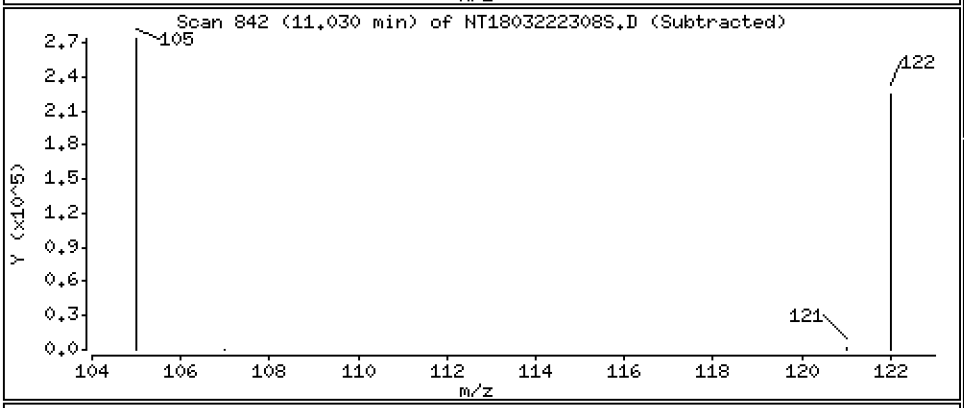
Column diameter: 0.25

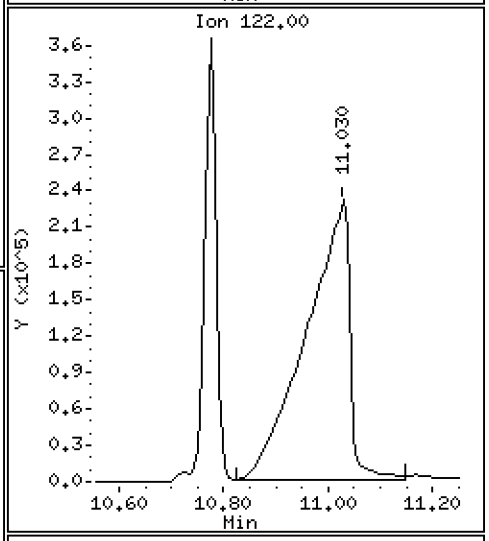
24 Benzoic acid

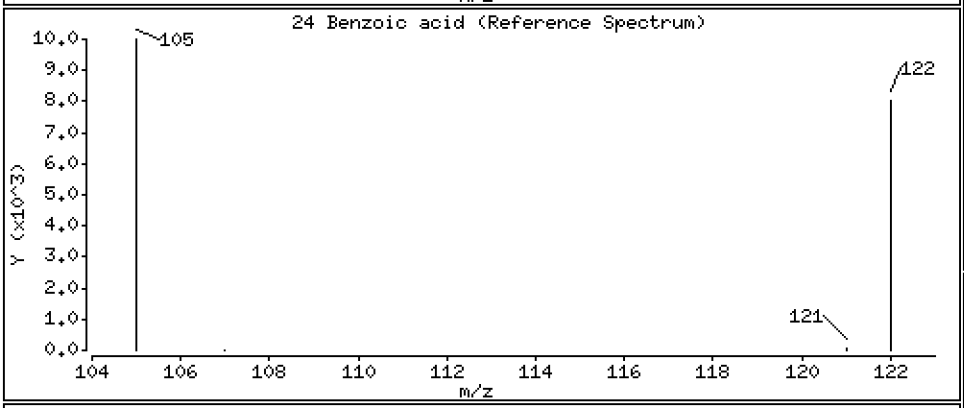
Concentration: 23.93 ug/mL

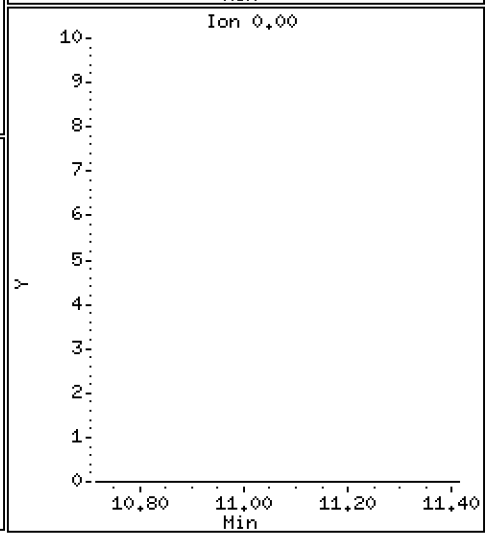


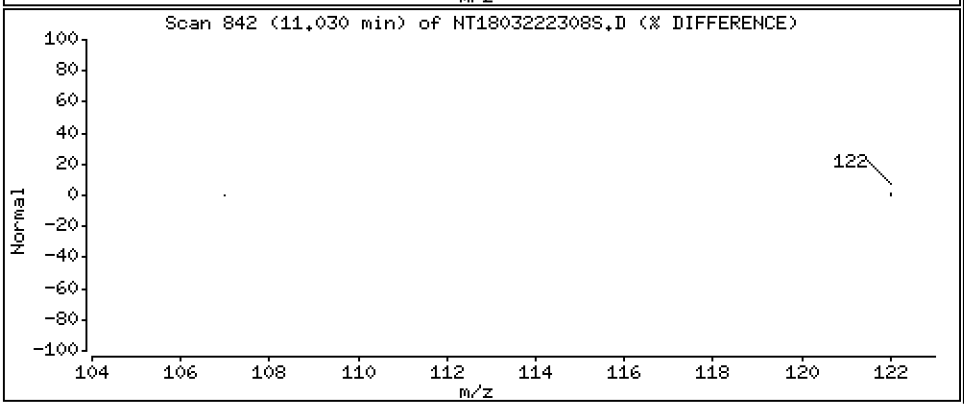












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222308S.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD2

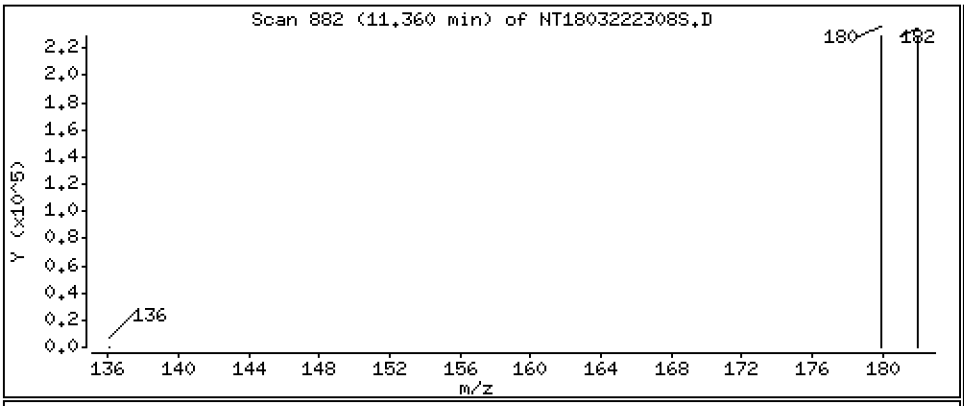
Operator: VTS

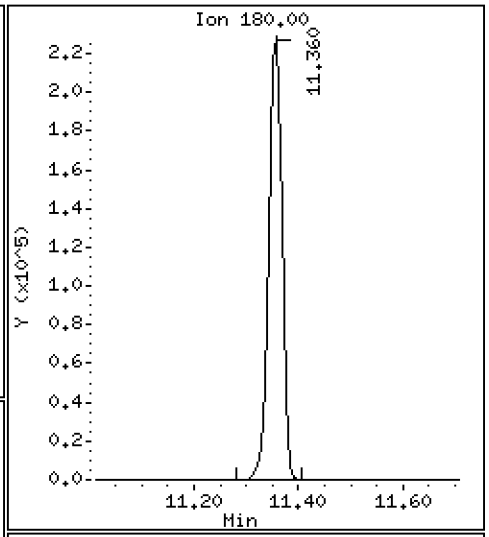
Column phase: ZB-5msi

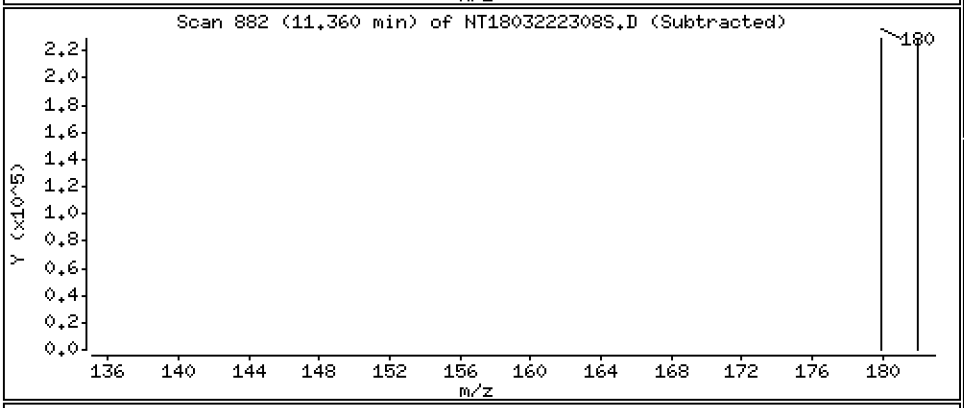
Column diameter: 0.25

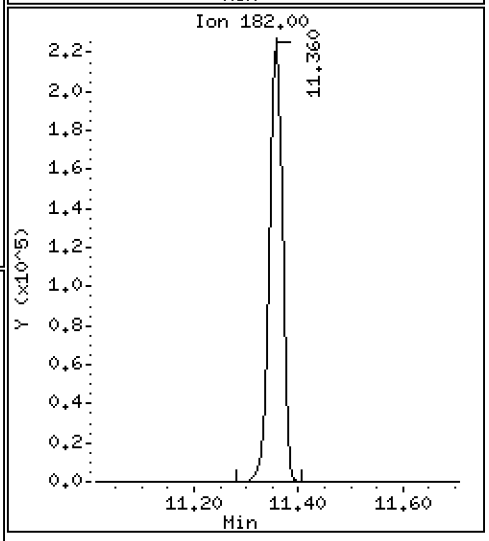
26 1,2,4-Trichlorobenzene

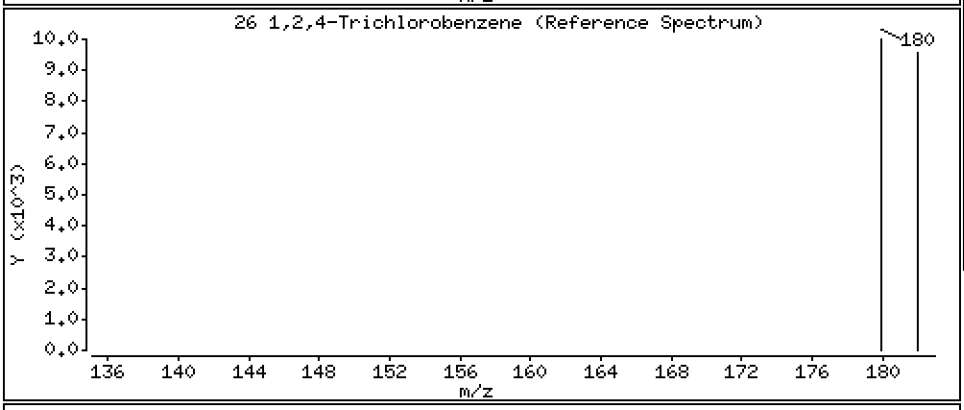
Concentration: 3.964 ug/mL

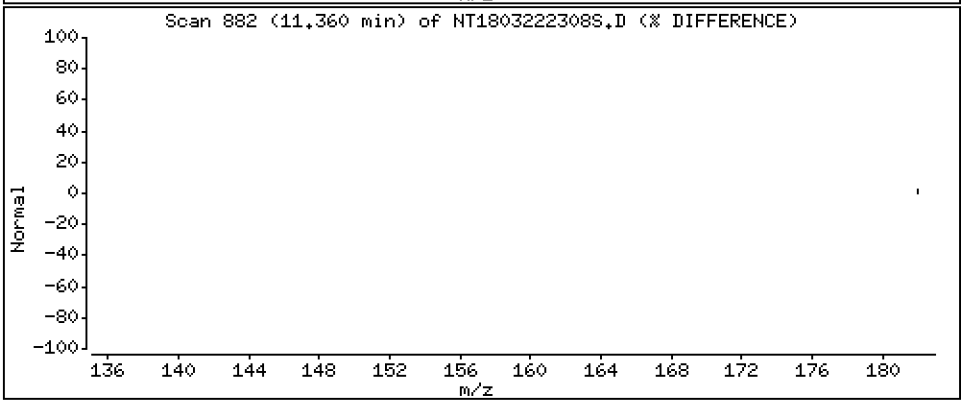












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222308S.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD2

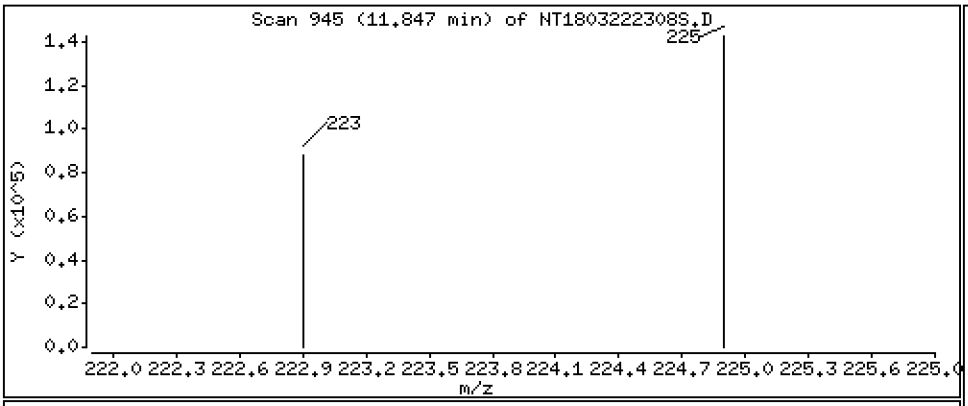
Operator: VTS

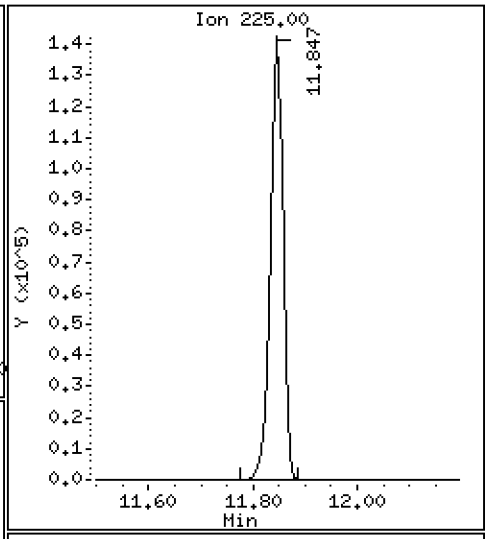
Column phase: ZB-5msi

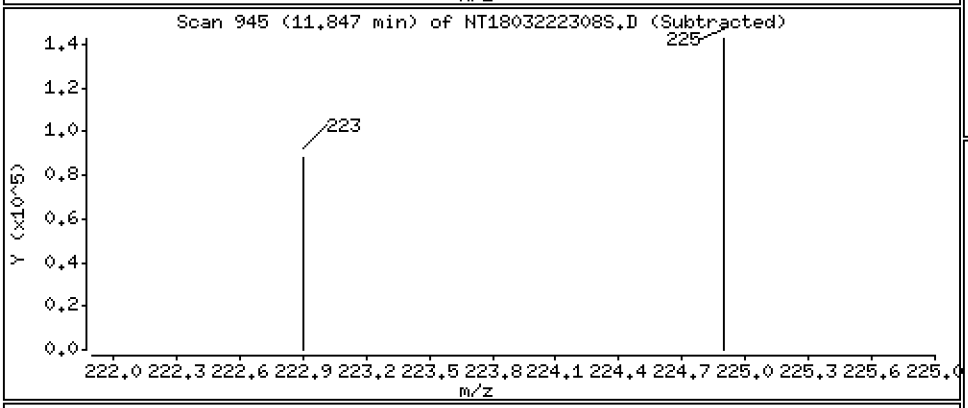
Column diameter: 0.25

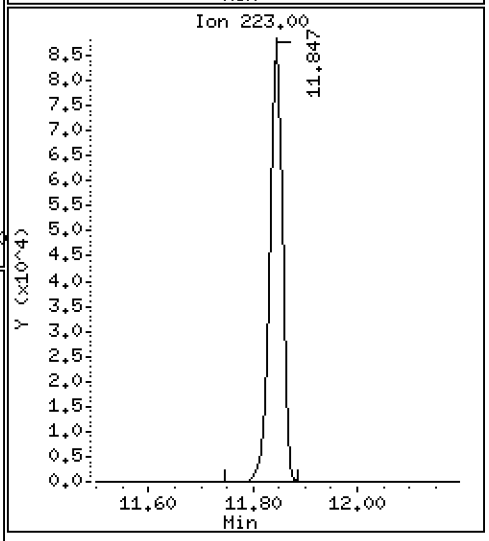
30 Hexachlorobutadiene

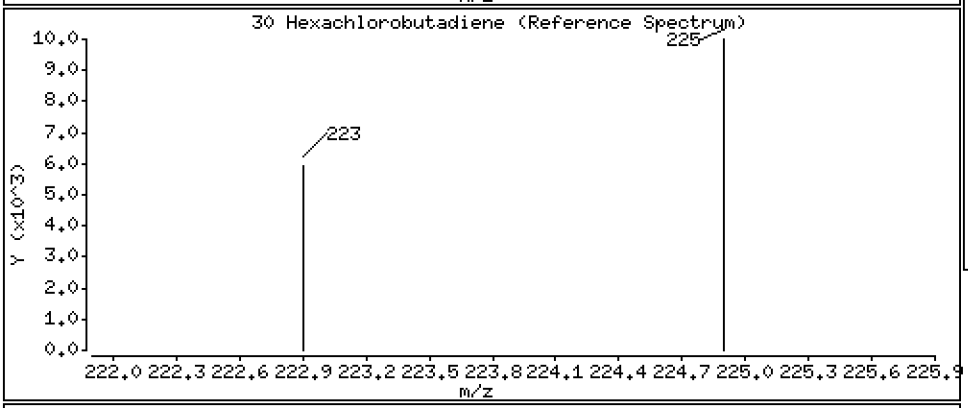
Concentration: 4.025 ug/mL

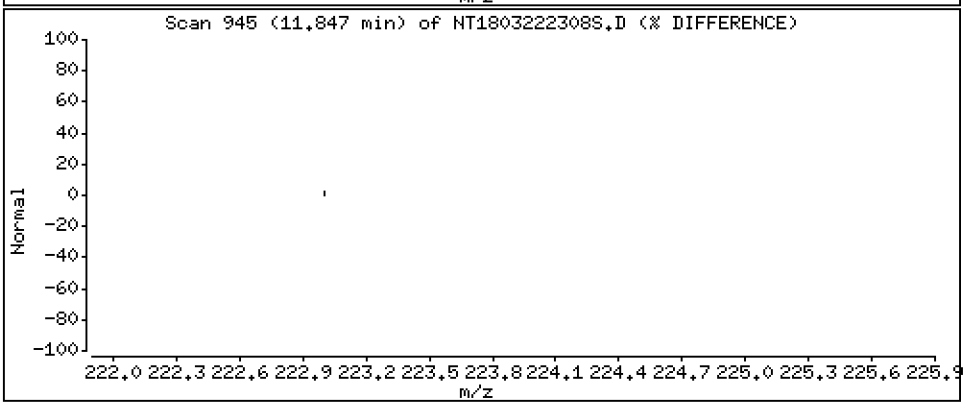












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222308S.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD2

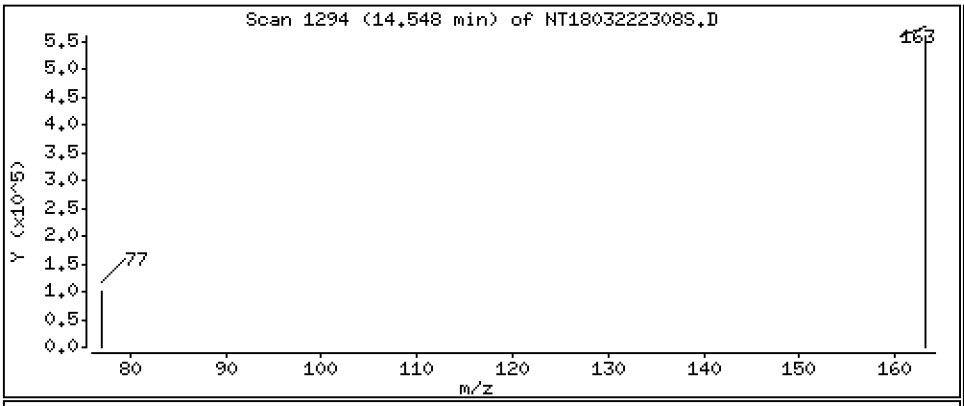
Operator: VTS

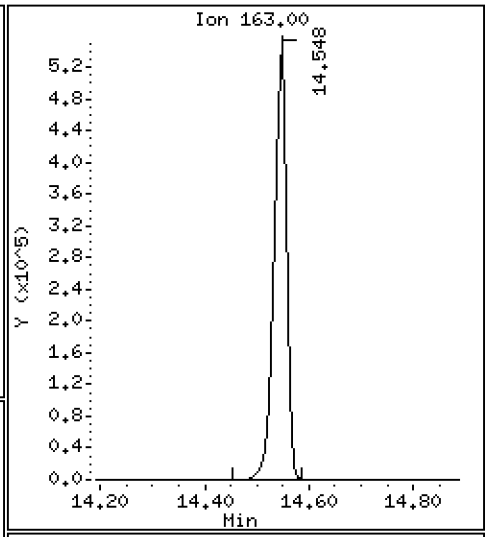
Column phase: ZB-5msi

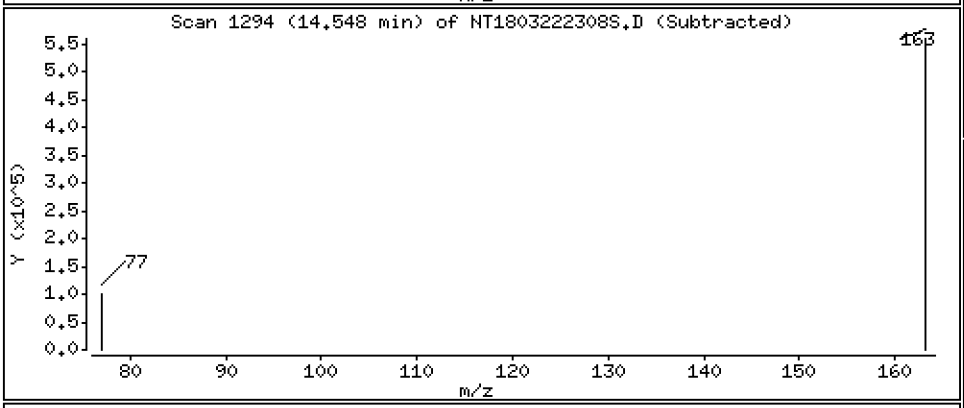
Column diameter: 0.25

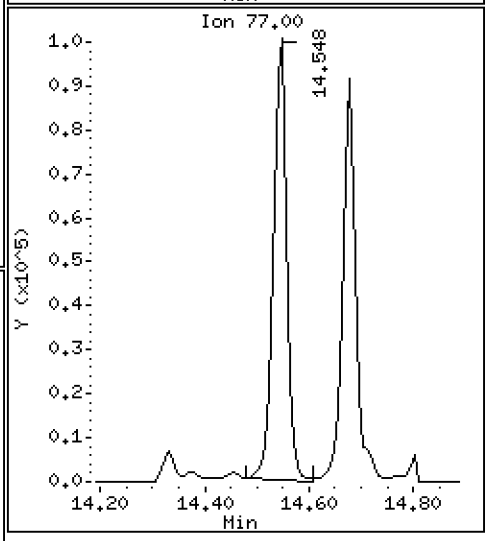
39 Dimethylphthalate

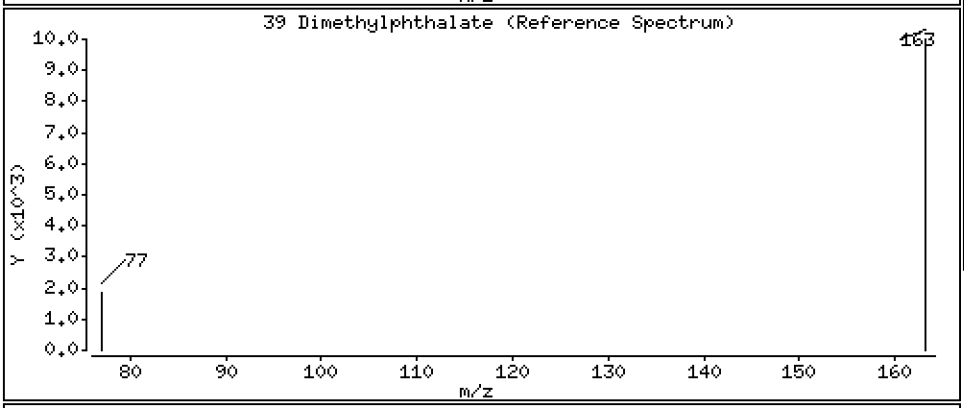
Concentration: 4.632 ug/mL

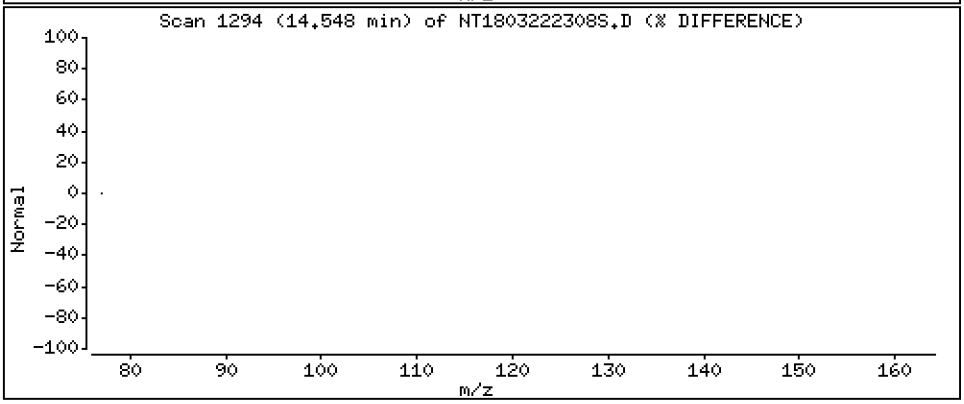












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222308S.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD2

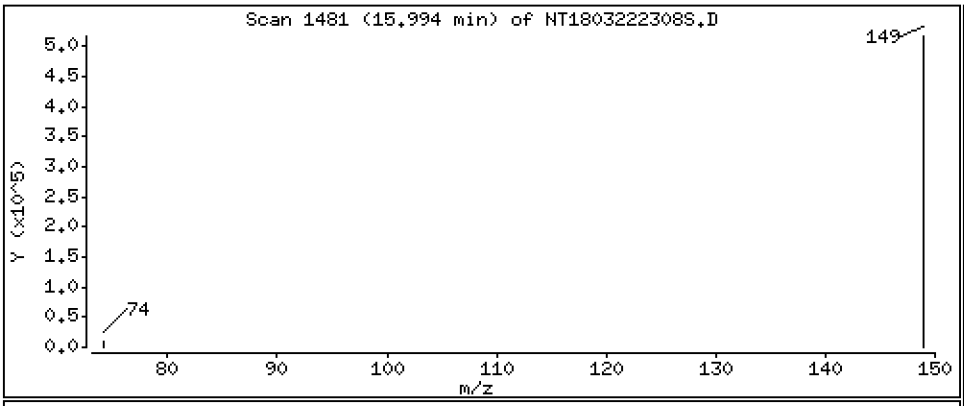
Operator: VTS

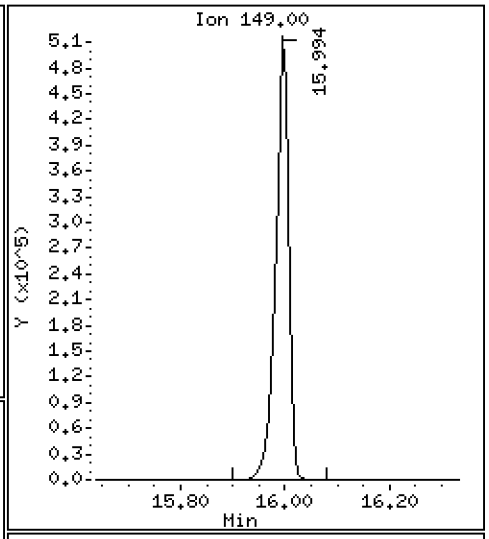
Column phase: ZB-5msi

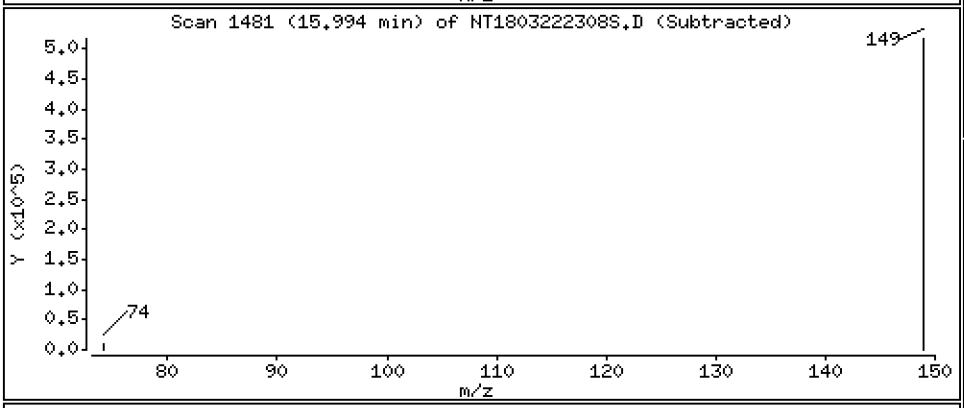
Column diameter: 0.25

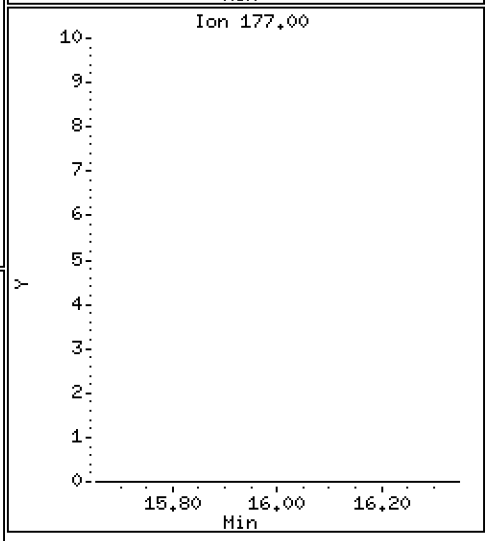
50 Diethylphthalate

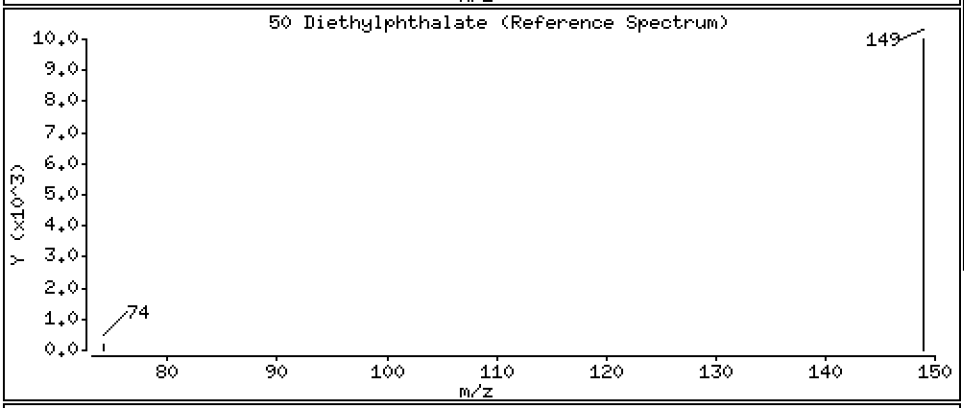
Concentration: 5.094 ug/mL

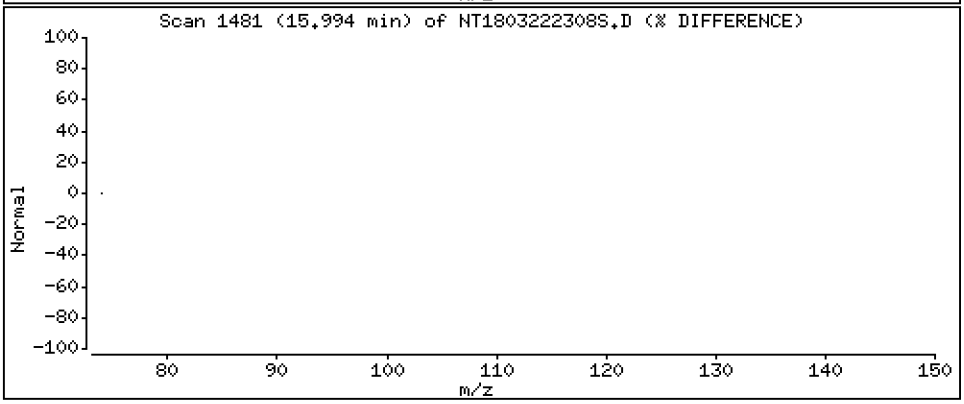












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222308S.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD2

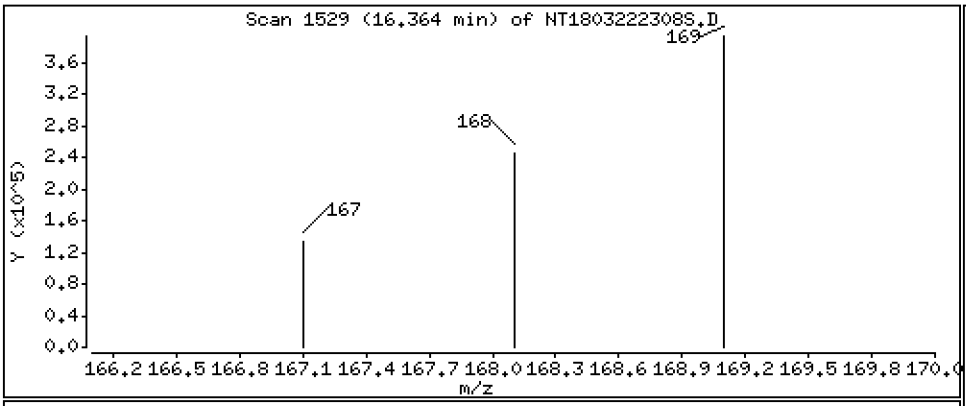
Operator: VTS

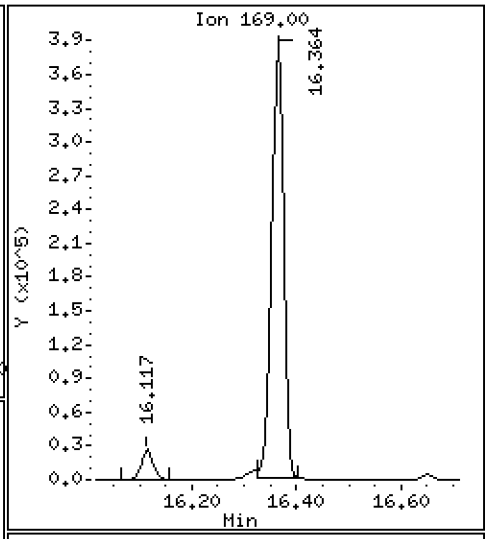
Column phase: ZB-5msi

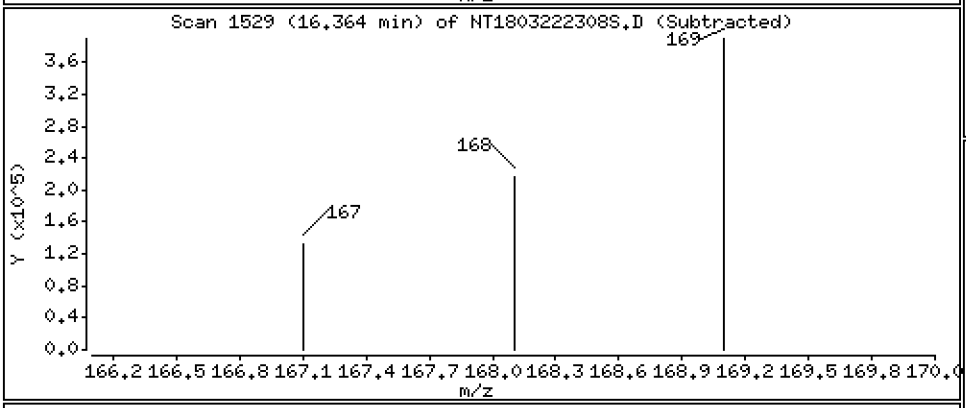
Column diameter: 0.25

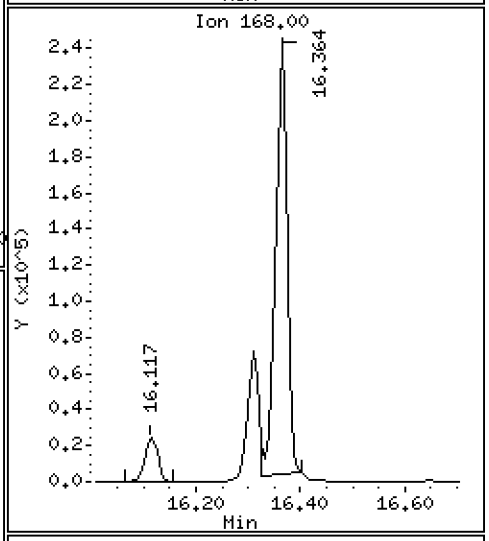
54 N-Nitrosodiphenylamine

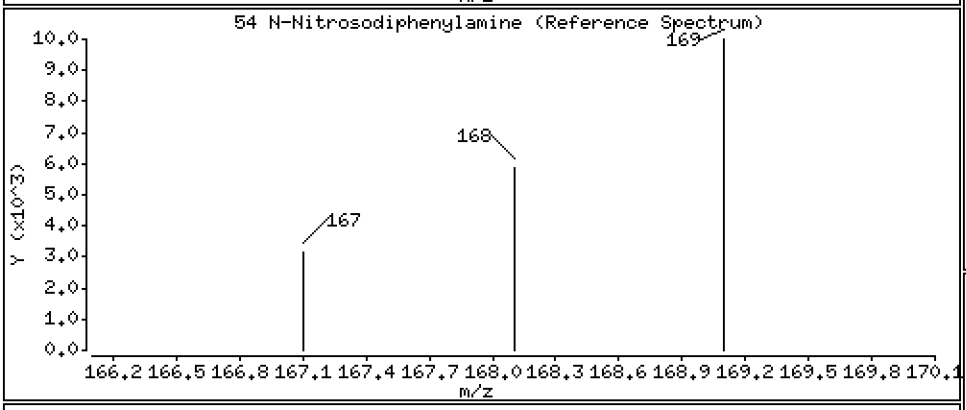
Concentration: 4.563 ug/mL

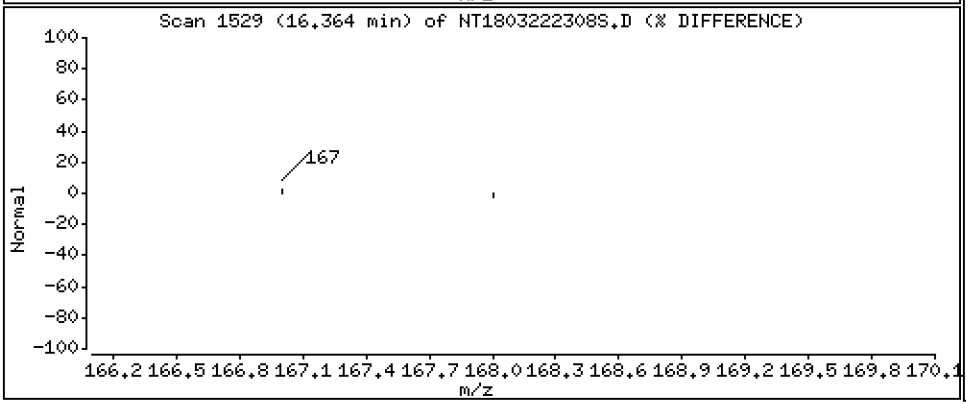


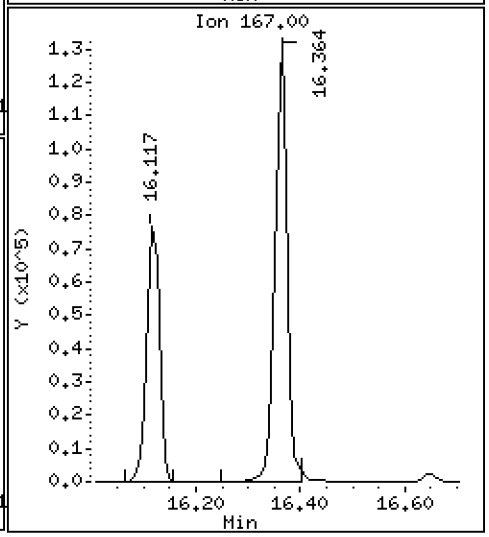












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222308S.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD2

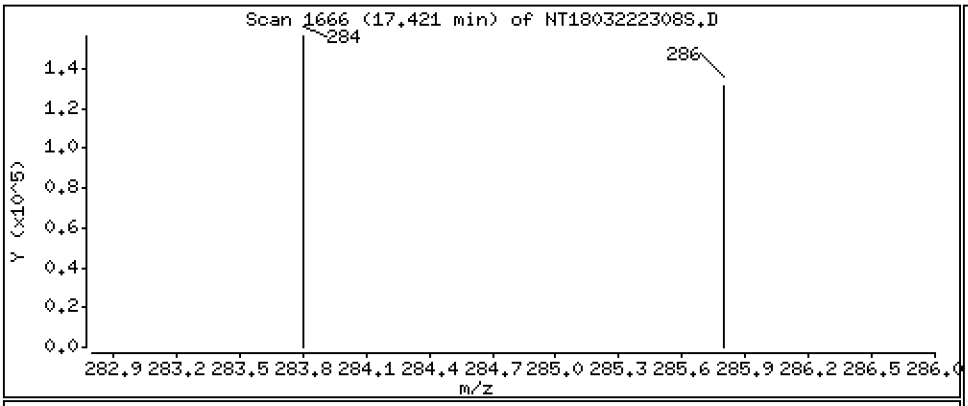
Operator: VTS

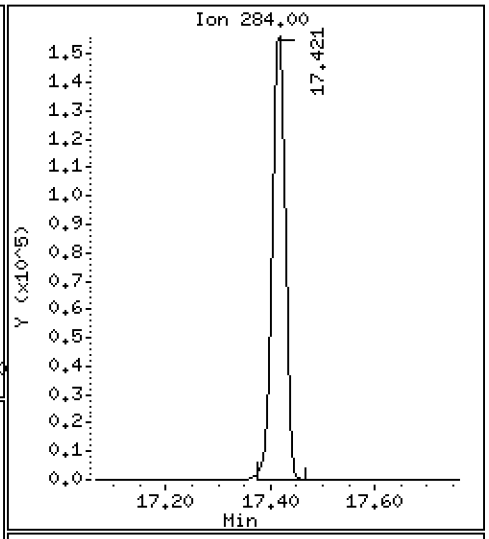
Column phase: ZB-5msi

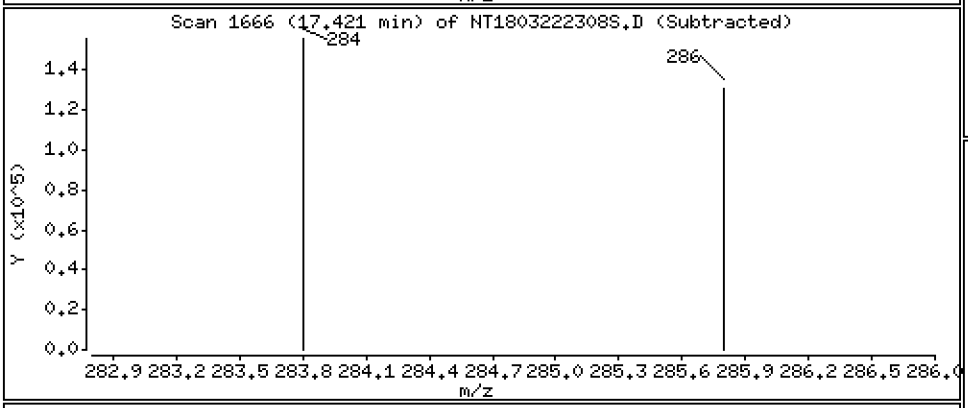
Column diameter: 0.25

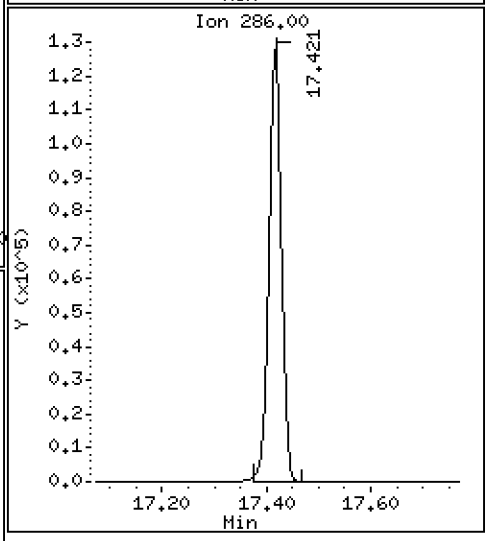
57 Hexachlorobenzene

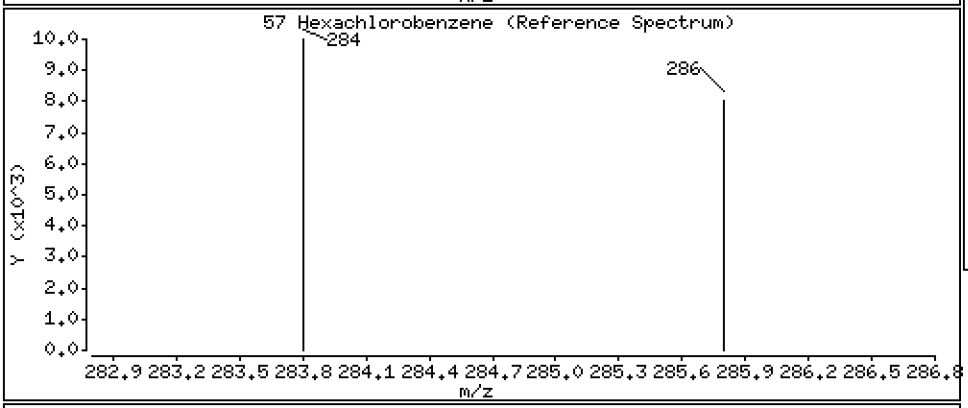
Concentration: 4.339 ug/mL

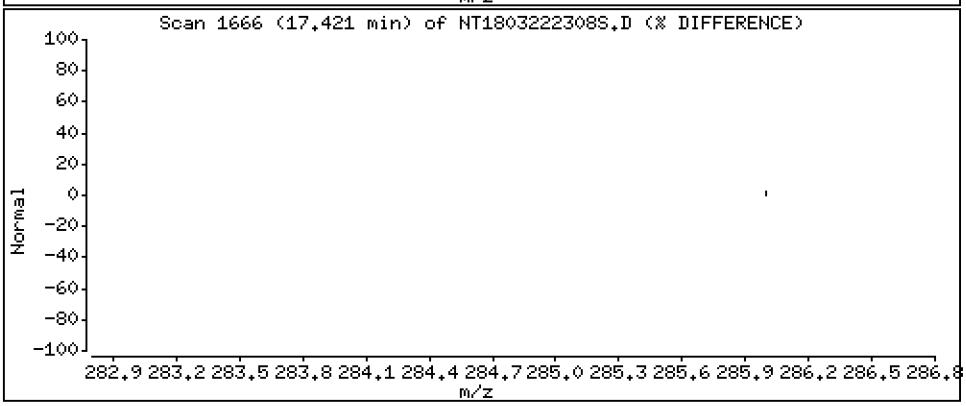












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222308S.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD2

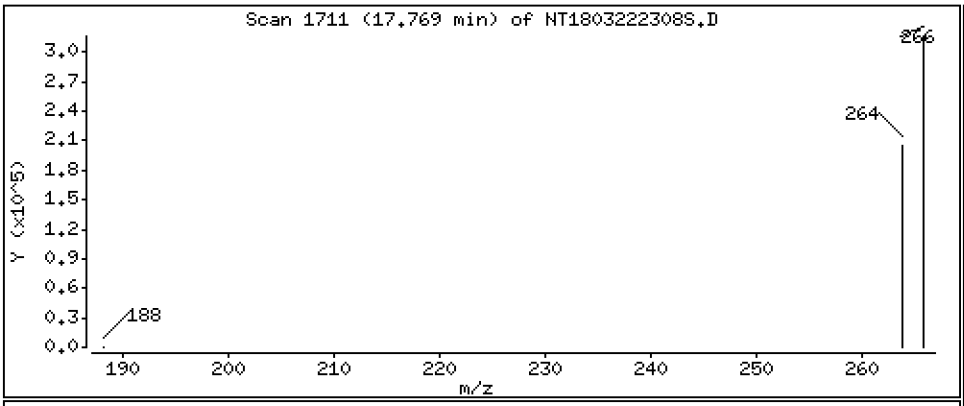
Operator: VTS

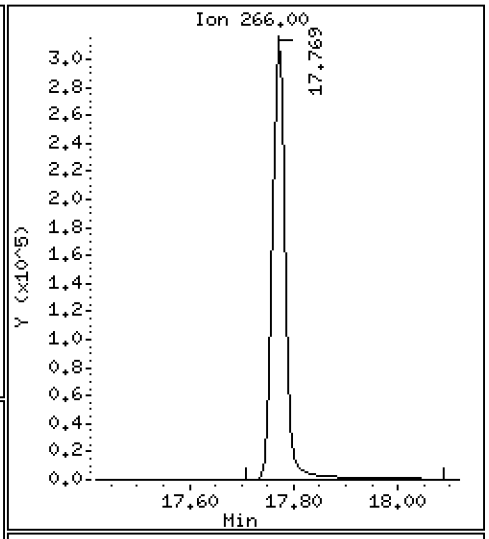
Column phase: ZB-5msi

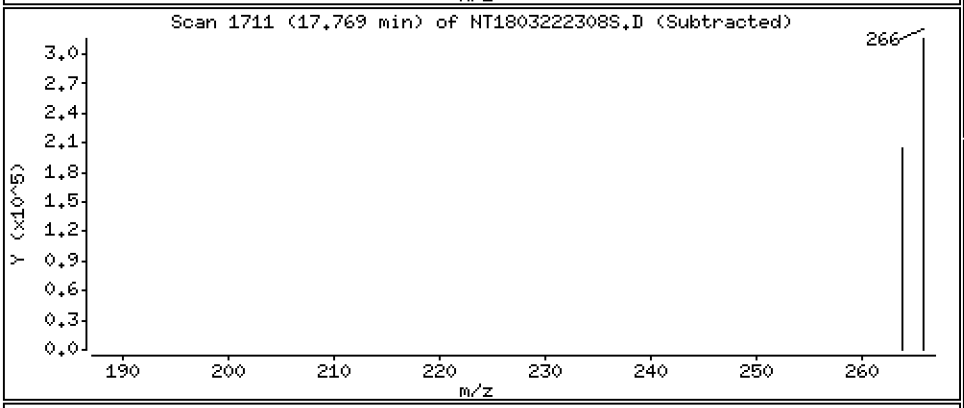
Column diameter: 0.25

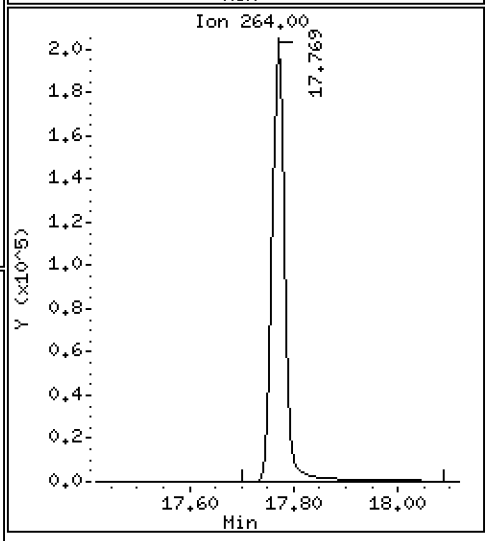
58 Pentachlorophenol

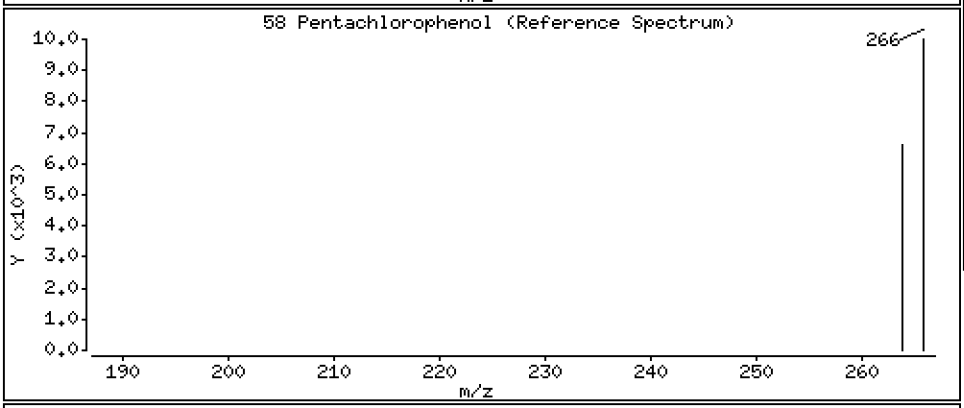
Concentration: 13.94 ug/mL

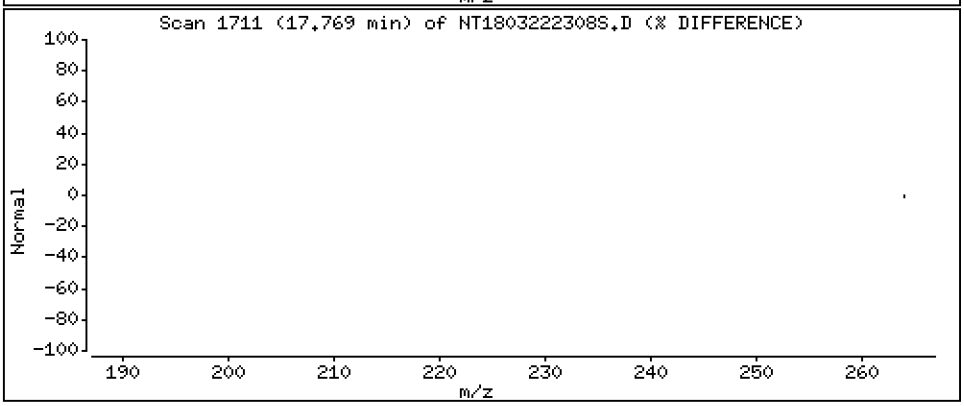












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222308S.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD2

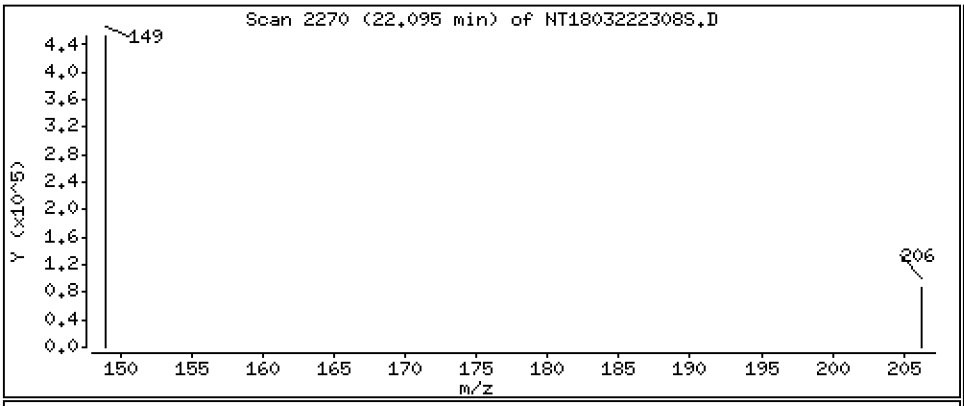
Operator: VTS

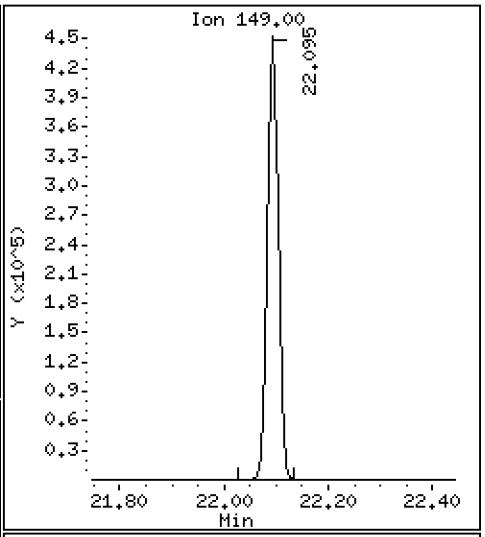
Column phase: ZB-5msi

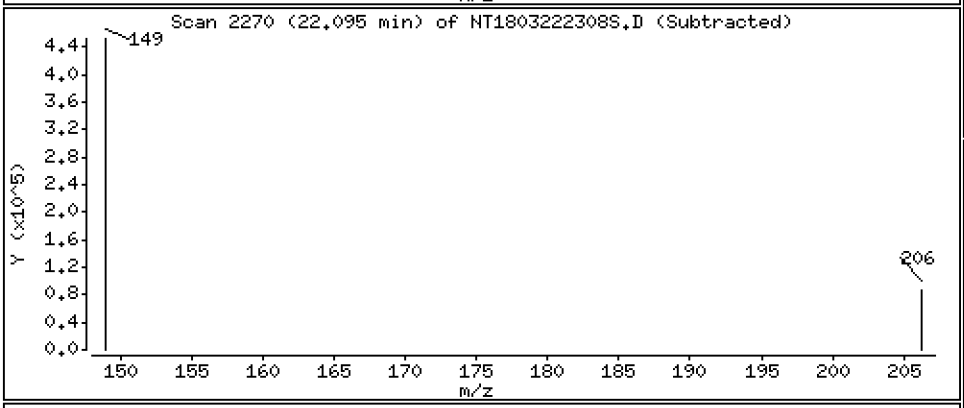
Column diameter: 0.25

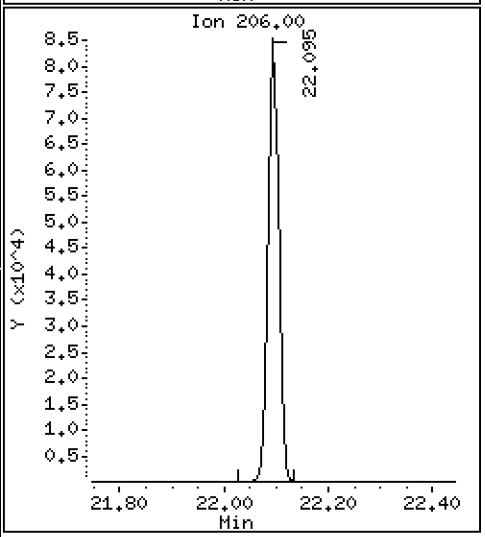
67 Butylbenzylphthalate

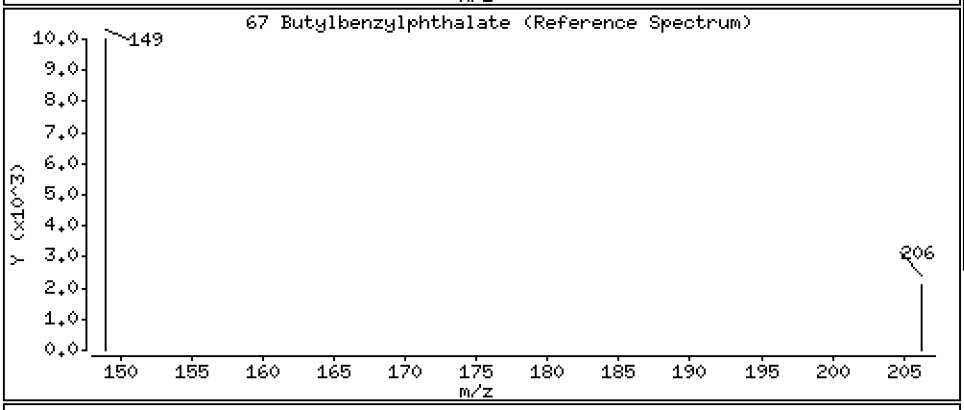
Concentration: 4.501 ug/mL

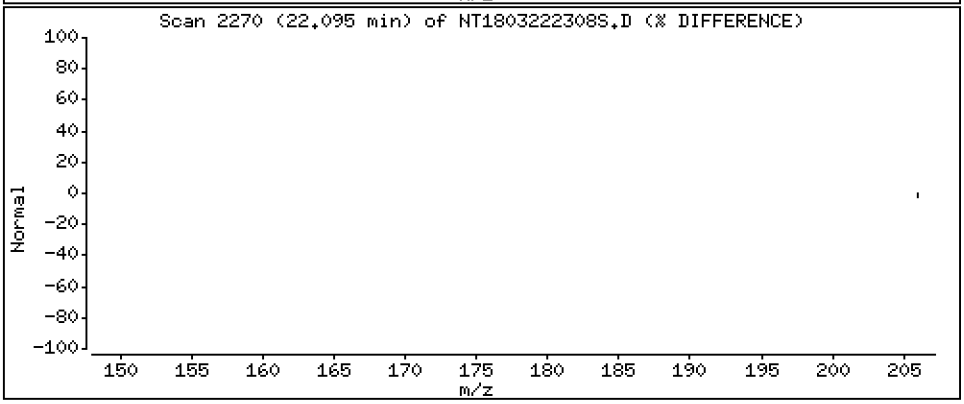












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222308S.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD2

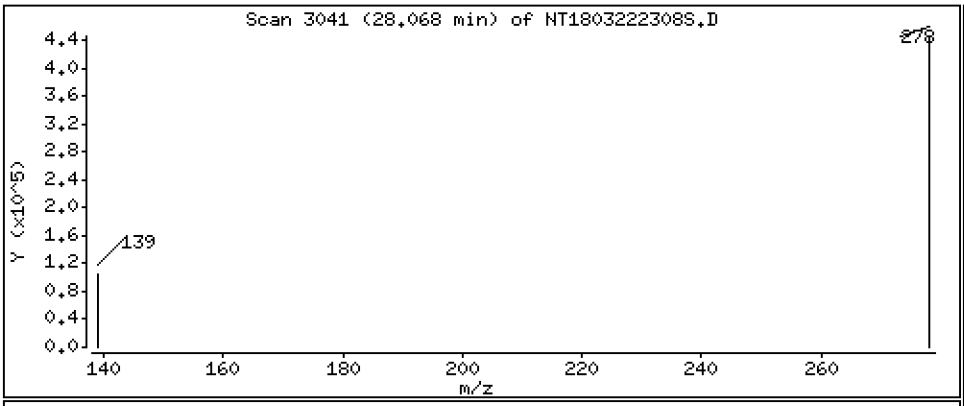
Operator: VTS

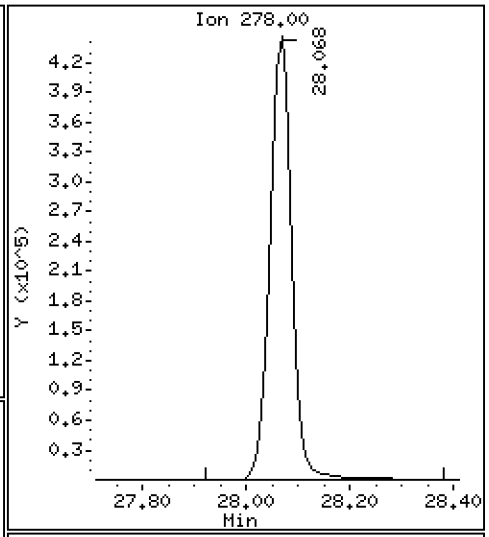
Column phase: ZB-5msi

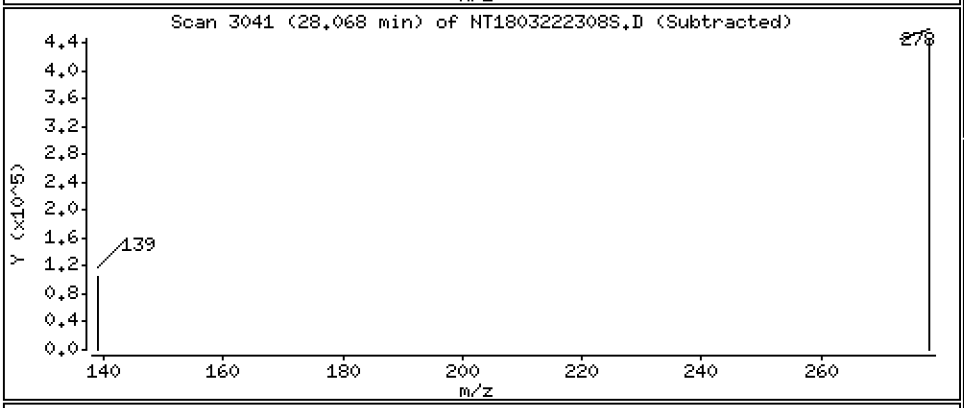
Column diameter: 0.25

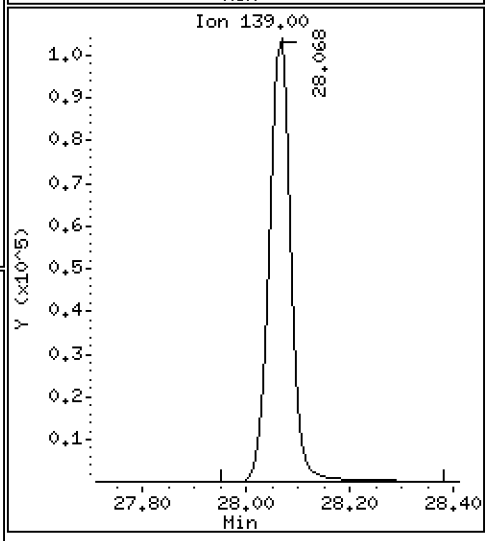
79 Dibenzo(a,h)anthracene

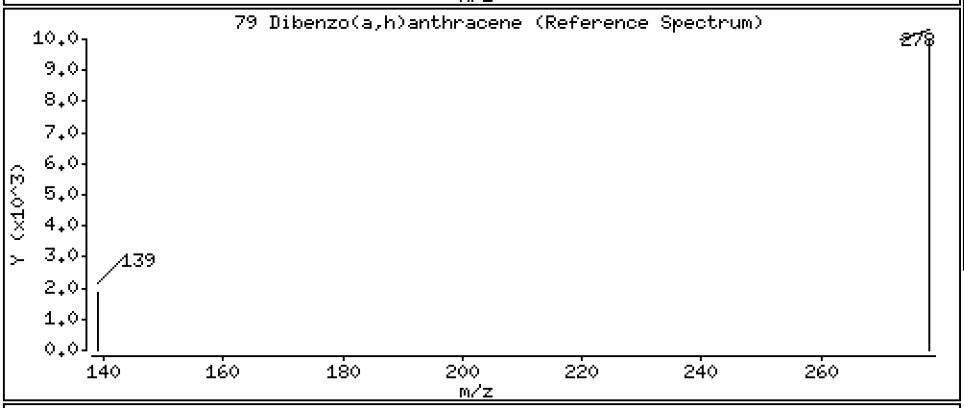
Concentration: 4.352 ug/mL

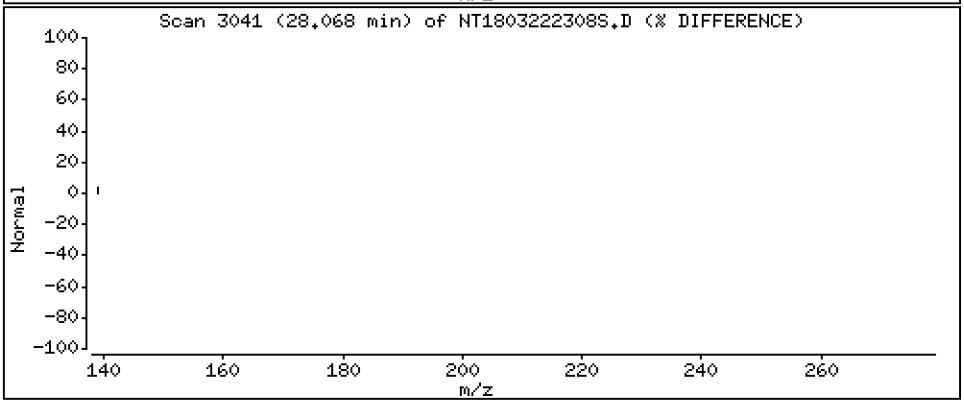












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222308S.D

Date : 22-MAR-2023 22:01

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-BSD2

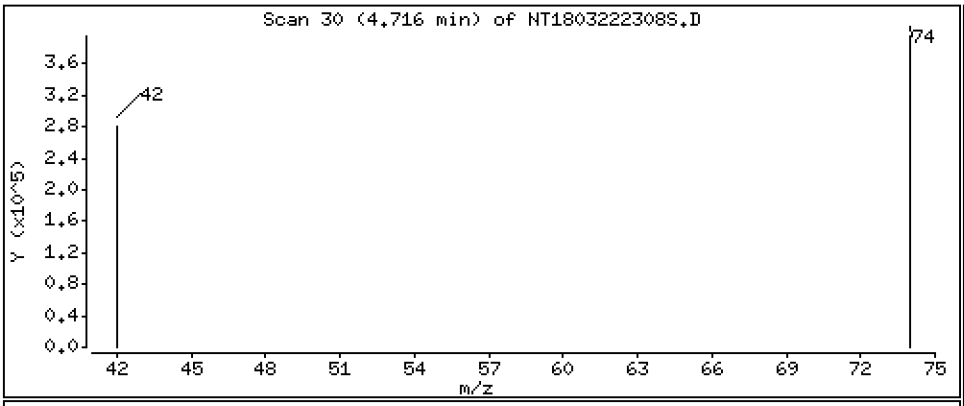
Operator: VTS

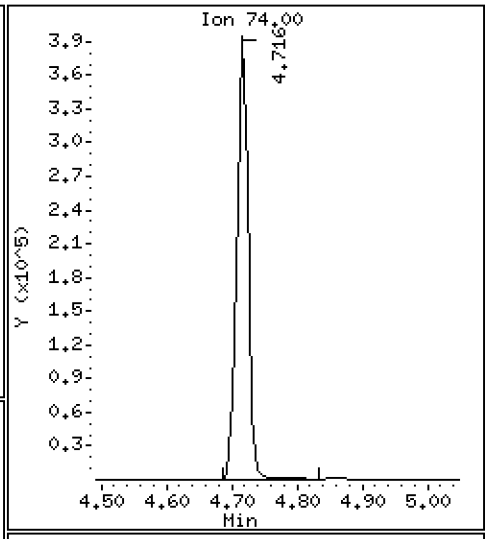
Column phase: ZB-5msi

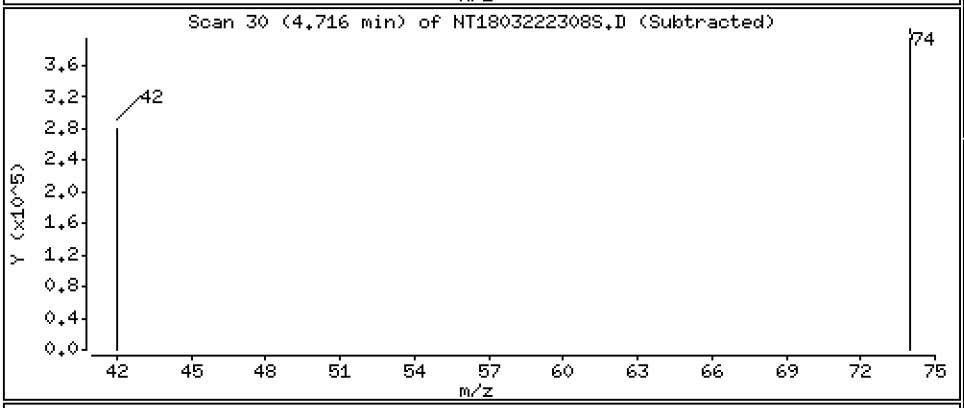
Column diameter: 0.25

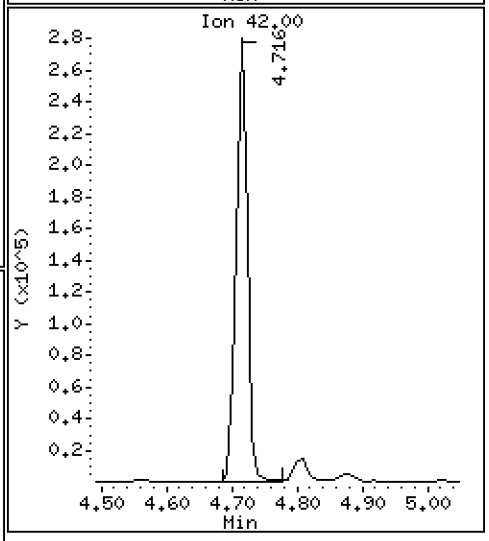
90 N-Nitrosodimethylamine

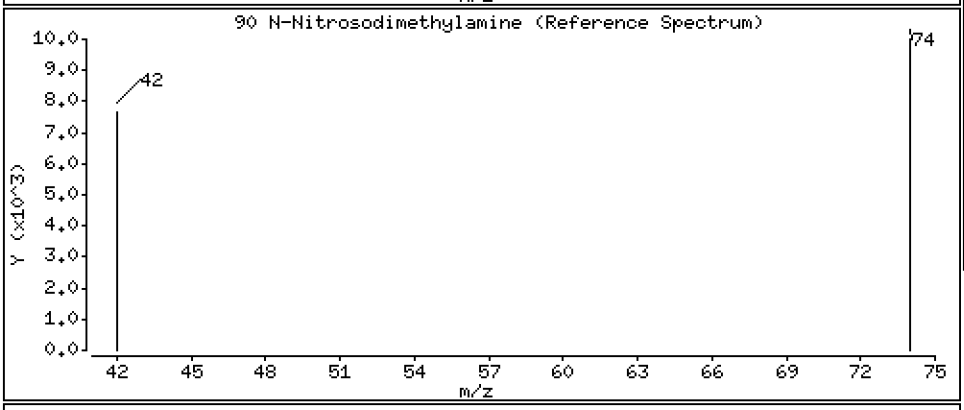
Concentration: 8.521 ug/mL

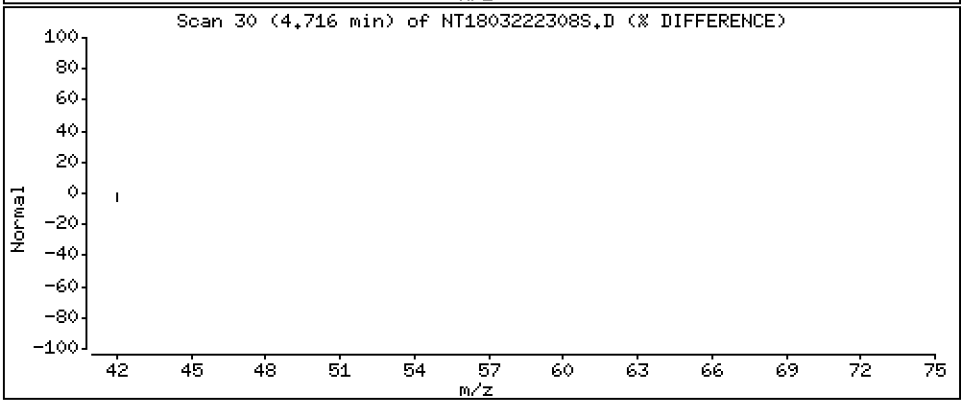












ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222308S.D
Lab Smp Id: BLC0185-BSD2
Inj Date : 22-MAR-2023 22:01
Operator : VTS Inst ID: nt18.i
Smp Info : BLC0185-BSD2
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230322.b\SIM.b\SIMABN2.m
Meth Date : 05-Apr-2023 10:09 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: DEENAY-201905

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.793	6.778	(0.756)	594312	6.24136	6.241(R)
	3 Phenol	94	8.369	8.362	(0.932)	504839	3.95934	3.959
	7 1,3-Dichlorobenzene	146	8.918	8.918	(0.993)	475191	3.85238	3.852
*	8 1,4-Dichlorobenzene-d4	152	8.980	8.980	(1.000)	326627	4.00000	
	9 1,4-Dichlorobenzene	146	9.011	9.011	(1.003)	486092	3.88511	3.885
	11 Benzyl alcohol	79	9.244	9.244	(1.029)	294914	3.86786	3.868
	12 1,2-Dichlorobenzene	146	9.360	9.360	(1.042)	470544	3.86421	3.864
	13 2-Methylphenol	108	9.469	9.469	(1.054)	333521	3.76802	3.768
	15 4-Methylphenol	108	9.741	9.733	(1.085)	371853	4.03857	4.039
	16 N-Nitroso-di-n-propylamine	70	9.803	9.803	(1.092)	254174	4.18490	4.185
	22 2,4-Dimethylphenol	107	10.775	10.775	(0.941)	610935	7.17301	7.173
	24 Benzoic acid	105	11.029	10.902	(0.964)	1565080	23.9252	23.93
	26 1,2,4-Trichlorobenzene	180	11.360	11.360	(0.993)	385056	3.96376	3.964
*	27 Naphthalene-d8	136	11.444	11.444	(1.000)	1219606	4.00000	
	30 Hexachlorobutadiene	225	11.846	11.846	(1.035)	225028	4.02499	4.025
	39 Dimethylphthalate	163	14.547	14.539	(0.968)	882373	4.63164	4.632
*	42 Acenaphthene-d10	162	15.027	15.027	(1.000)	596436	4.00000	
	50 Diethylphthalate	149	15.993	15.985	(1.064)	881152	5.09379	5.094
	54 N-Nitrosodiphenylamine	169	16.364	16.364	(0.907)	580597	4.56342	4.563
	57 Hexachlorobenzene	284	17.420	17.413	(0.966)	262624	4.33885	4.339
	58 Pentachlorophenol	266	17.769	17.769	(0.985)	523368	13.9351	13.94
*	59 Phenanthrene-d10	188	18.032	18.032	(1.000)	1047551	4.00000	
$	66 Terphenyl-d14	244	21.165	21.165	(0.918)	618789	4.52057	4.521(R)
	67 Butylbenzylphthalate	149	22.095	22.095	(0.958)	616878	4.50104	4.501
*	69 Chrysene-d12	240	23.055	23.055	(1.000)	971135	4.00000	
*	77 Perylene-d12	264	25.563	25.563	(1.000)	989005	4.00000	
	79 Dibenzo(a,h)anthracene	278	28.068	28.060	(1.098)	1273649	4.35243	4.352
	90 N-Nitrosodimethylamine	74	4.716	4.700	(0.525)	495240	8.52145	8.521

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222308S.D
Lab Smp Id: BLC0185-BSD2
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 22-MAR-2023
Calibration Time: 18:36
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	283947	141974	567894	326627	15.03
27 Naphthalene-d8	1057483	528742	2114966	1219606	15.33
42 Acenaphthene-d10	520336	260168	1040672	596436	14.63
59 Phenanthrene-d10	933537	466769	1867074	1047551	12.21
69 Chrysene-d12	863272	431636	1726544	971135	12.49
77 Perylene-d12	996915	498458	1993830	989005	-0.79

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	0.00
42 Acenaphthene-d10	15.03	14.53	15.53	15.03	0.00
59 Phenanthrene-d10	18.03	17.53	18.53	18.03	0.00
69 Chrysene-d12	23.06	22.56	23.56	23.06	0.00
77 Perylene-d12	25.56	25.06	26.06	25.56	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222308S.D

Lab ID: BLC0185-BSD2
nt18.i, 20230322.b\SIM.b\SIMABN2.m,   22-MAR-2023 22:01

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.964	0.953	0.0111	Benzoic acid

RRT check based on Ccal File: SIM.b/NT1803222303S.D

On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

Analytical Resources, LLC
Analytical Chemists and Consultants

LDW23-SS1111

MS / MS DUPLICATE RECOVERY
EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	03/23/23 02:45
Batch:	BLC0185	Laboratory ID:	BLC0185-MS2
Preparation:	EPA 3546 (Microwave)	Sequence Name:	Matrix Spike
Initial/Final:	21.59 g / 1 mL	Source Sample:	LDW23-SS1111

COMPOUND	SPIKE ADDED (ug/kg dry)	SAMPLE CONCENTRATION (ug/kg dry)	Q	MS CONCENTRATION (ug/kg dry)	Q	MS % REC. #	QC LIMITS REC.
1,4-Dichlorobenzene	499	1.5	J	363		72.3	36 - 120
1,2-Dichlorobenzene	499	0.8	J	359		71.6	36 - 120
Benzyl Alcohol	499	27.2		365		67.6	25 - 123
Benzoic acid	2300	84.1	J	1380	Q	56.2	10 - 160
2,4-Dimethylphenol	1300	ND	U	812		62.6	10 - 120
1,2,4-Trichlorobenzene	499	ND	U	377		75.5	35 - 120
N-Nitrosodiphenylamine	499	ND	U	425		85.2	27 - 120
Pentachlorophenol	1300	5.5	J	1490	Q	114	26 - 120

* Values outside of QC limits

MS / MS DUPLICATE RECOVERY
EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	03/23/23 03:25
Batch:	BLC0185	Laboratory ID:	BLC0185-MSD2
Preparation:	EPA 3546 (Microwave)	Sequence Name:	Matrix Spike Dup
Initial/Final:	21.59 g / 1 mL	Source Sample:	LDW23-SS1111

COMPOUND	SPIKE ADDED (ug/kg dry)	MSD CONCENTRATION (ug/kg dry)	Q	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,4-Dichlorobenzene	499	365		72.7	0.563	30	36 - 120
1,2-Dichlorobenzene	499	364		72.7	1.44	30	36 - 120
Benzyl Alcohol	499	380		70.7	4.14	30	25 - 123
Benzoic acid	2300	1650	Q	68.1	18.0	30	10 - 160
2,4-Dimethylphenol	1300	975		75.1	18.2	30	10 - 120
1,2,4-Trichlorobenzene	499	386		77.2	2.25	30	35 - 120
N-Nitrosodiphenylamine	499	434		86.9	2.03	30	27 - 120
Pentachlorophenol	1300	1520	Q	117	2.06	30	26 - 120

* Values outside of QC limits

Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223155.D

Date : 23-MAR-2023 02:45

Client ID:

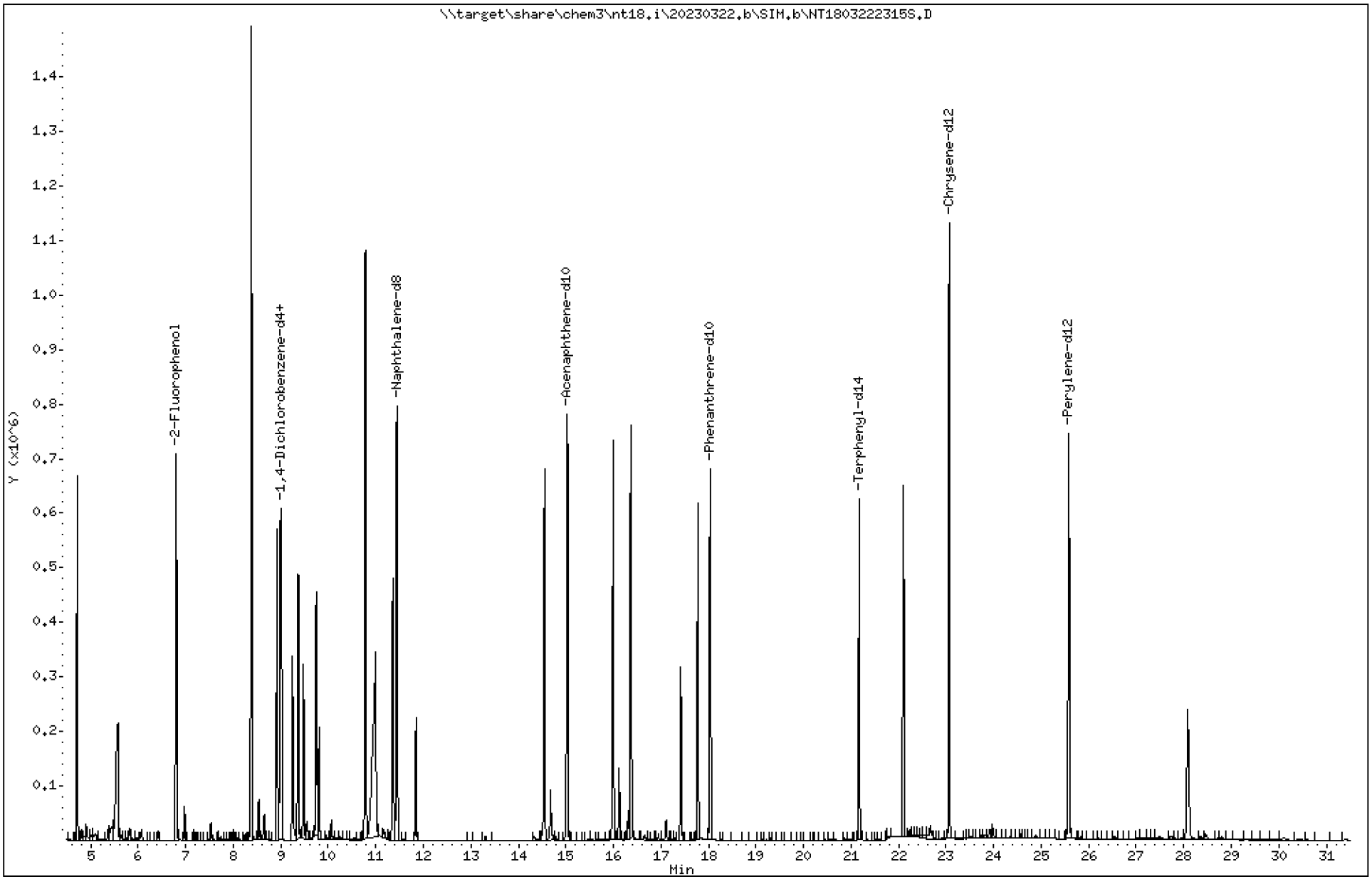
Sample Info: BLC0185-MS2

Column phase: ZB-5msi

Instrument: nt18.i

Operator: VTS

Column diameter: 0.25



Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222315S.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS2

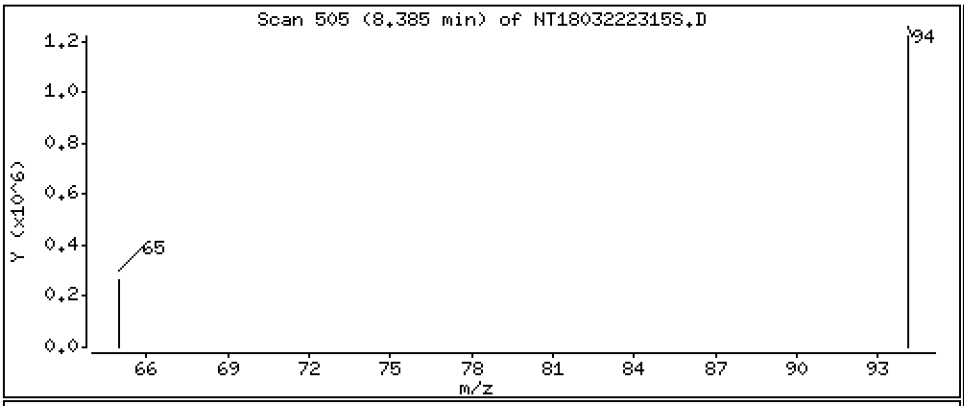
Operator: VTS

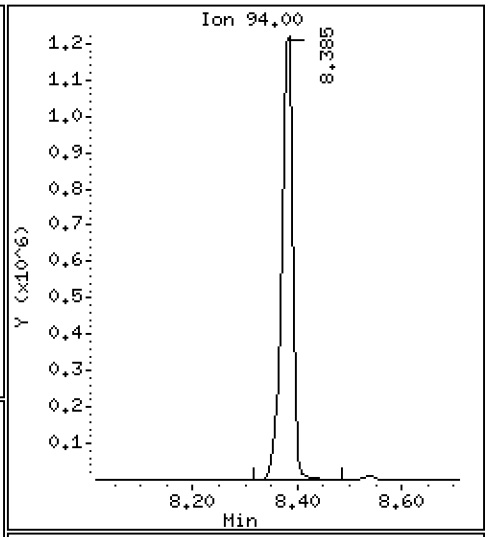
Column phase: ZB-5msi

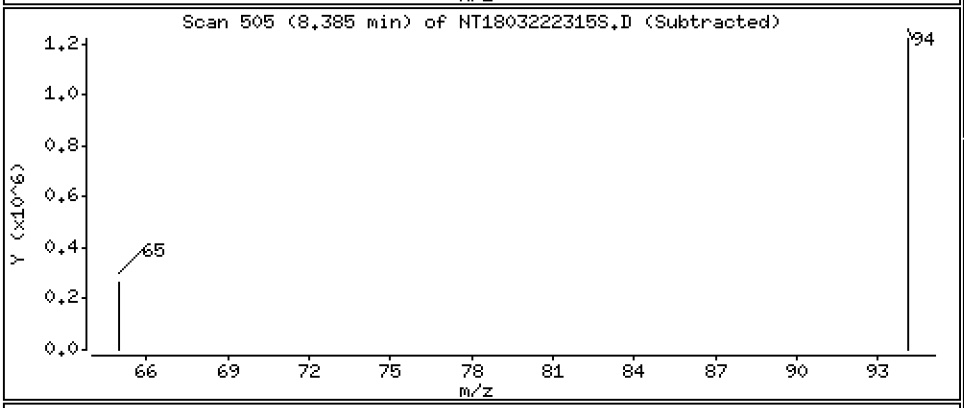
Column diameter: 0.25

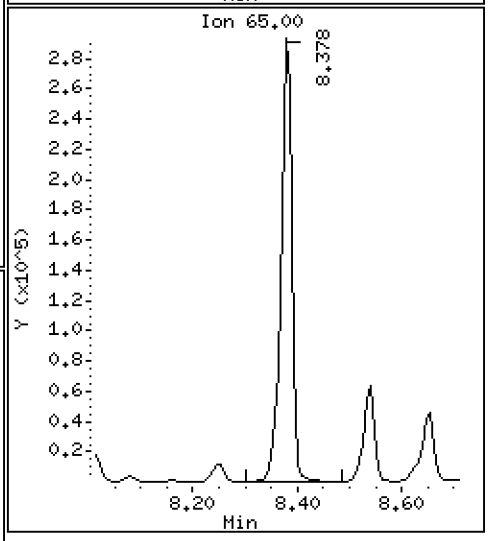
3 Phenol

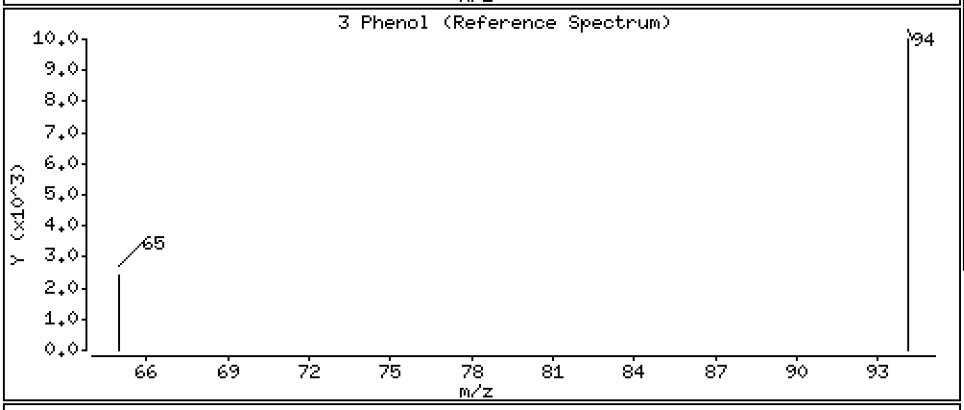
Concentration: 13.56 ug/mL

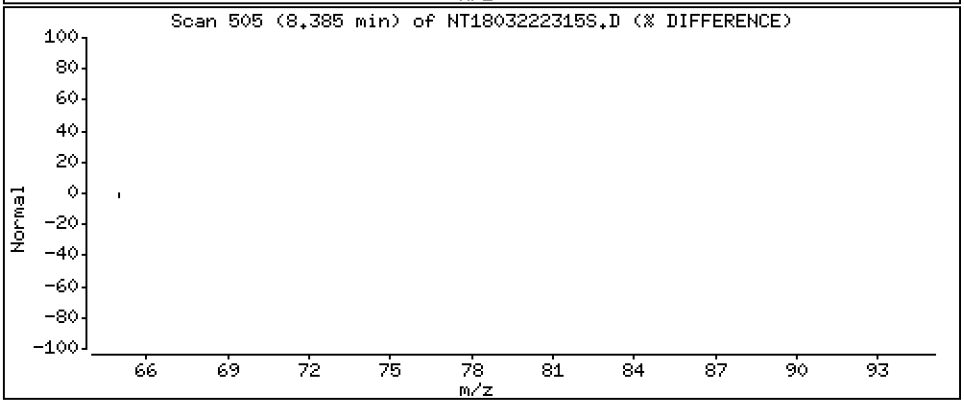












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222315S.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS2

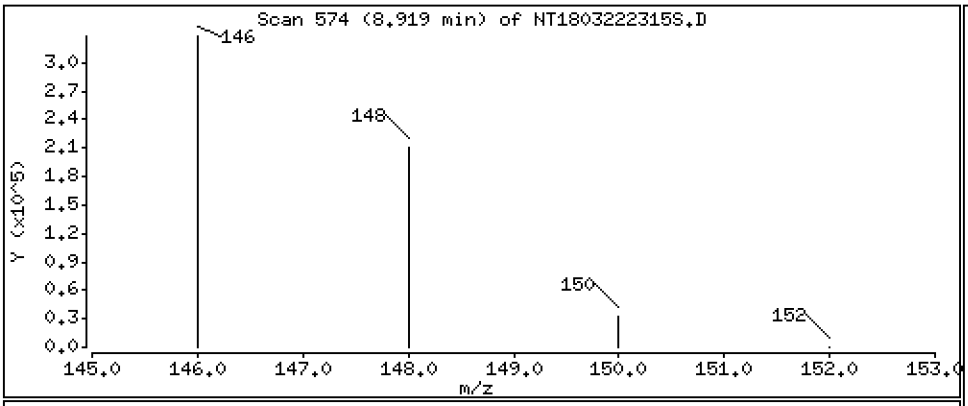
Operator: VTS

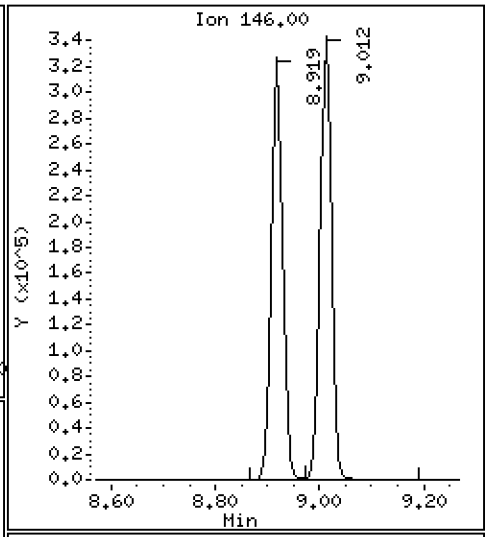
Column phase: ZB-5msi

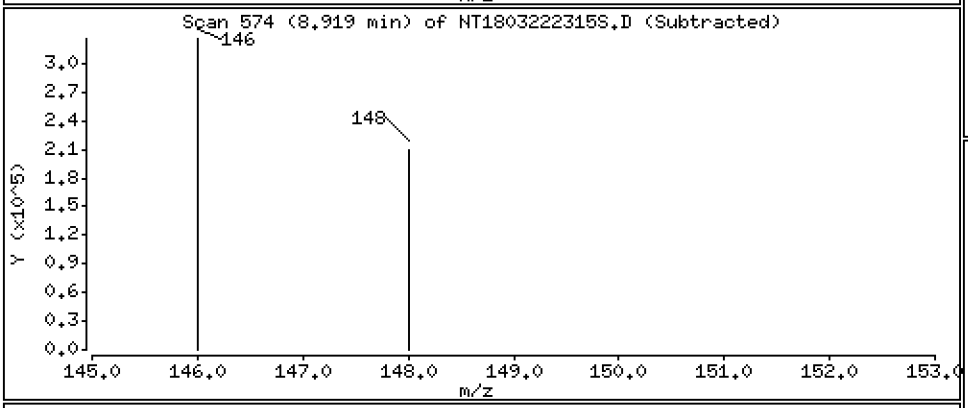
Column diameter: 0.25

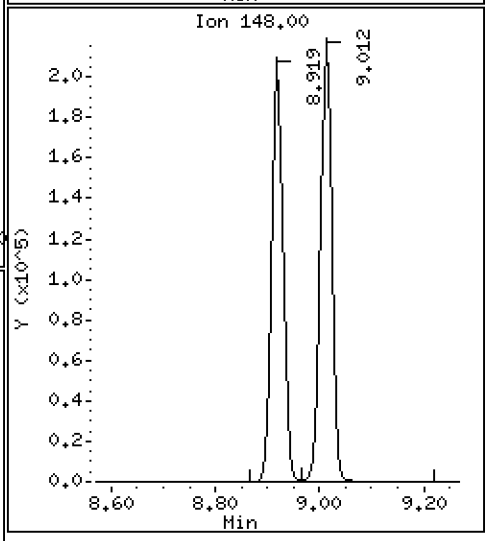
7 1,3-Dichlorobenzene

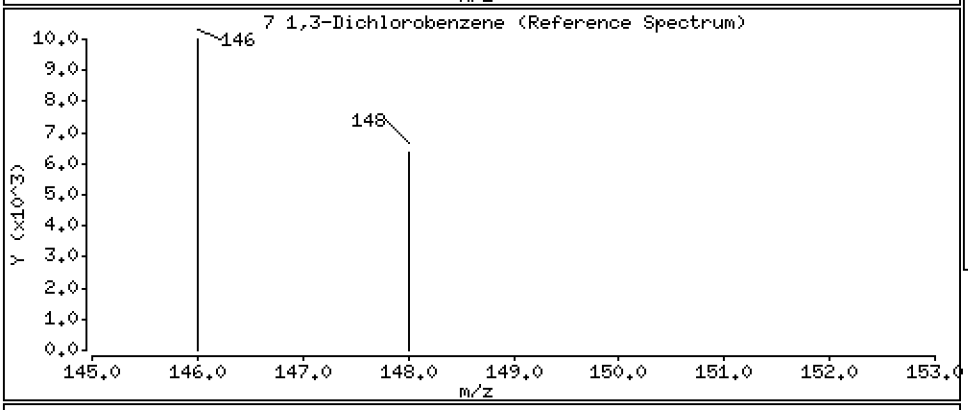
Concentration: 3.616 ug/mL

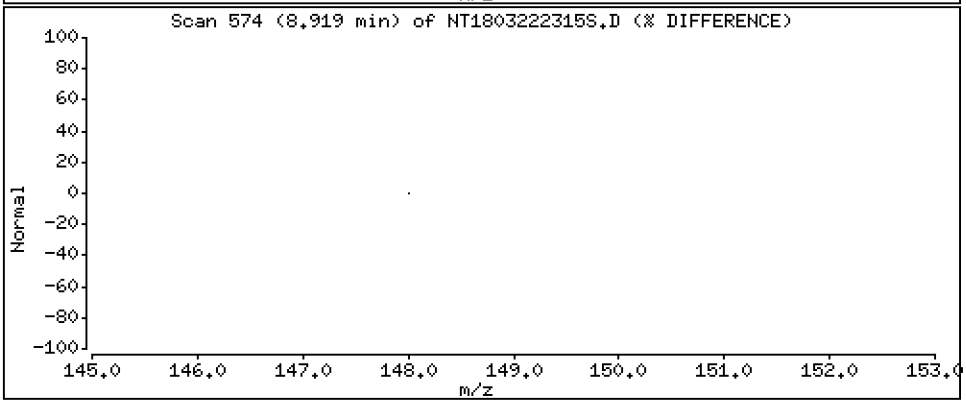












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS2

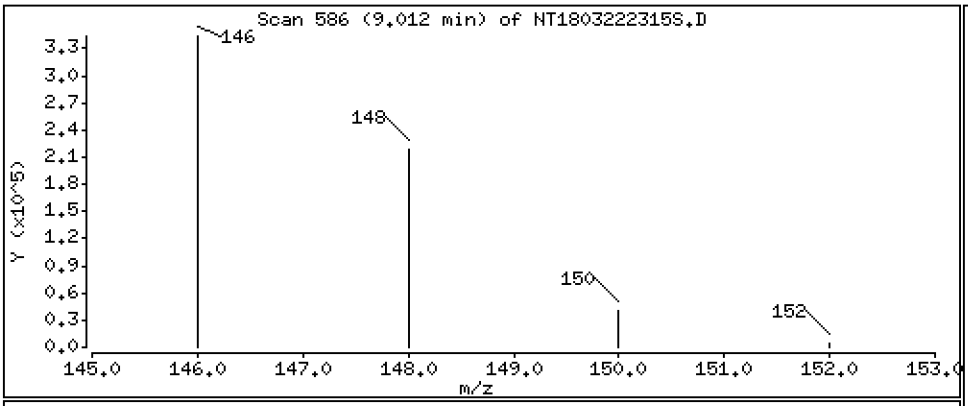
Operator: VTS

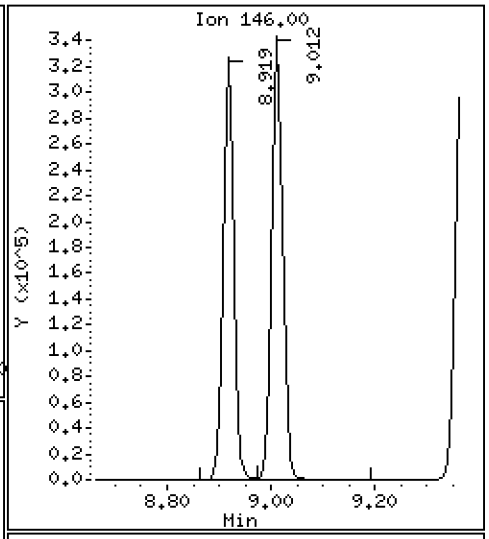
Column phase: ZB-5msi

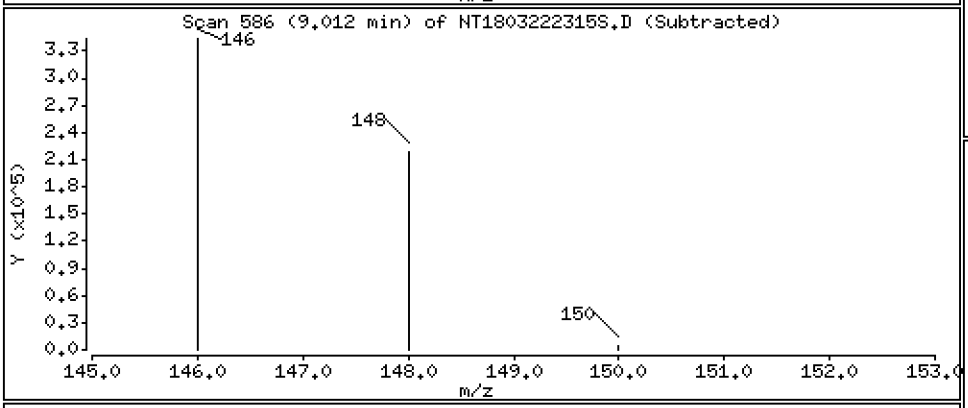
Column diameter: 0.25

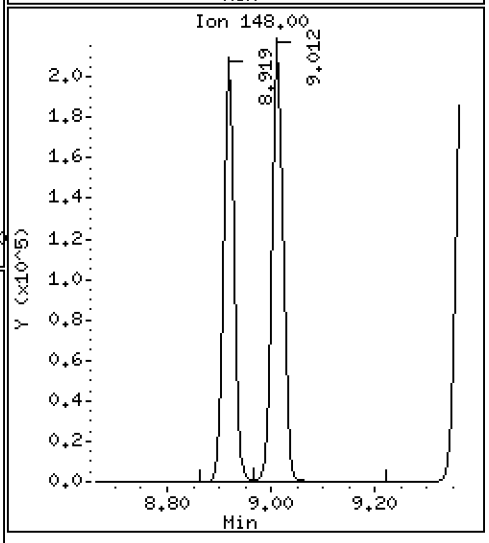
9 1,4-Dichlorobenzene

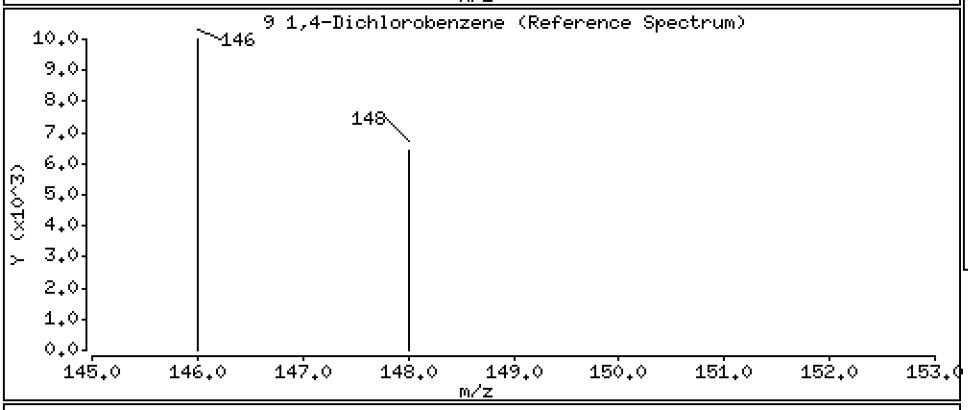
Concentration: 3.630 ug/mL

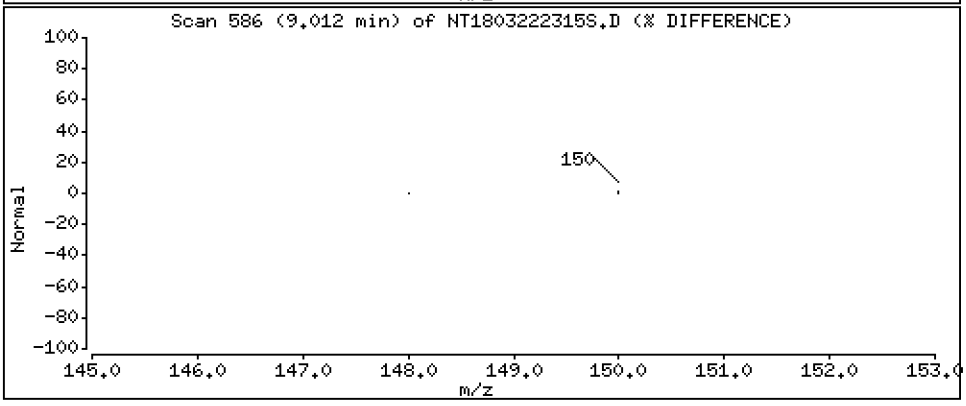












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222315S.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS2

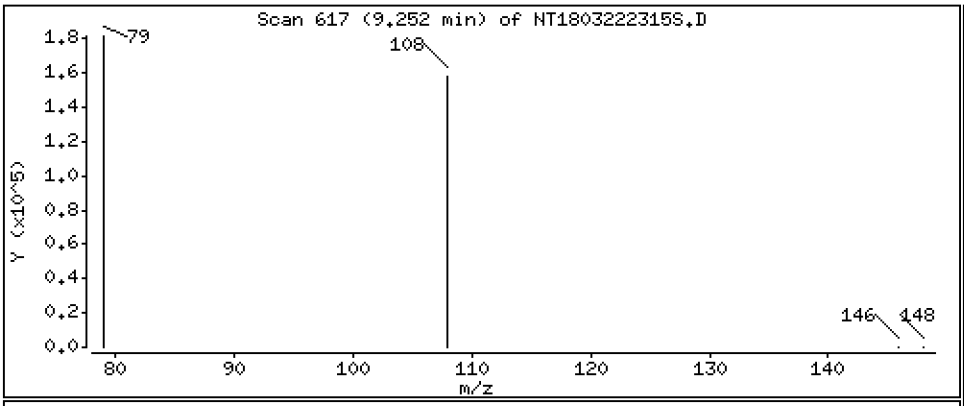
Operator: VTS

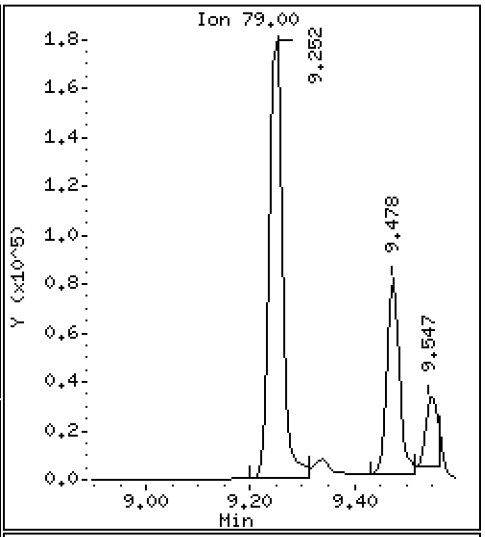
Column phase: ZB-5msi

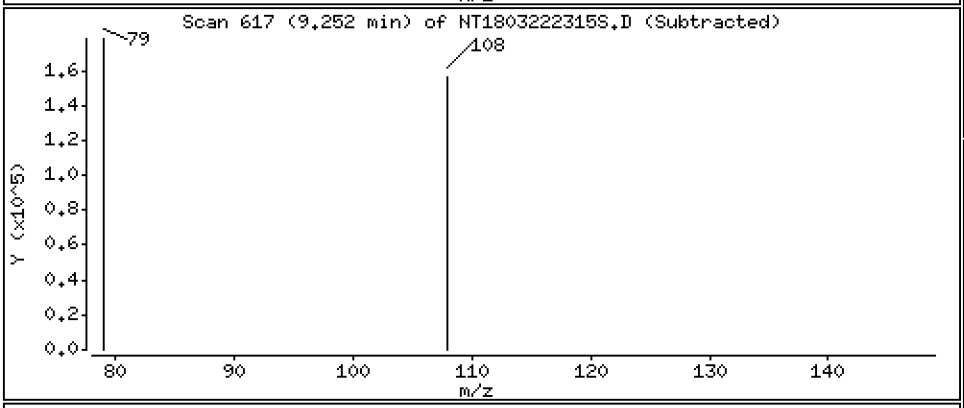
Column diameter: 0.25

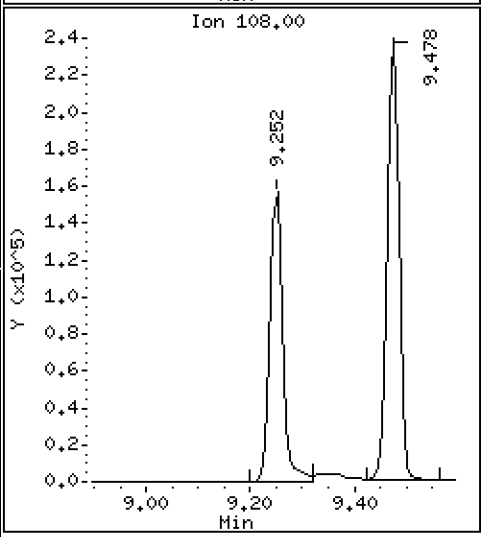
11 Benzyl alcohol

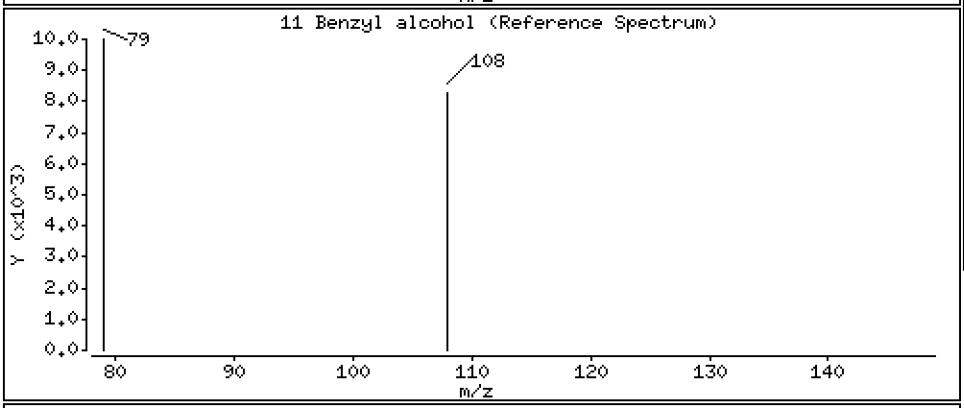
Concentration: 3.651 ug/mL

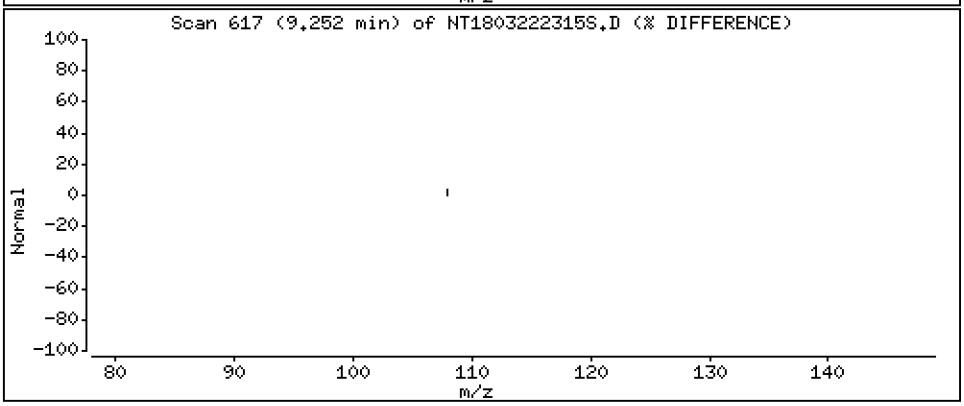












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222315S.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS2

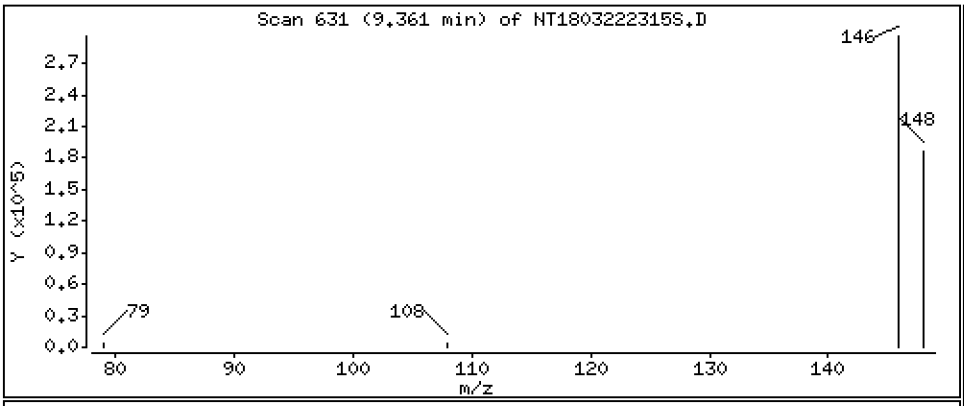
Operator: VTS

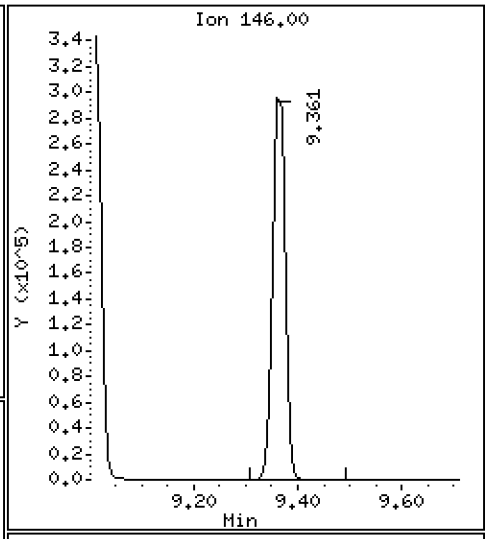
Column phase: ZB-5msi

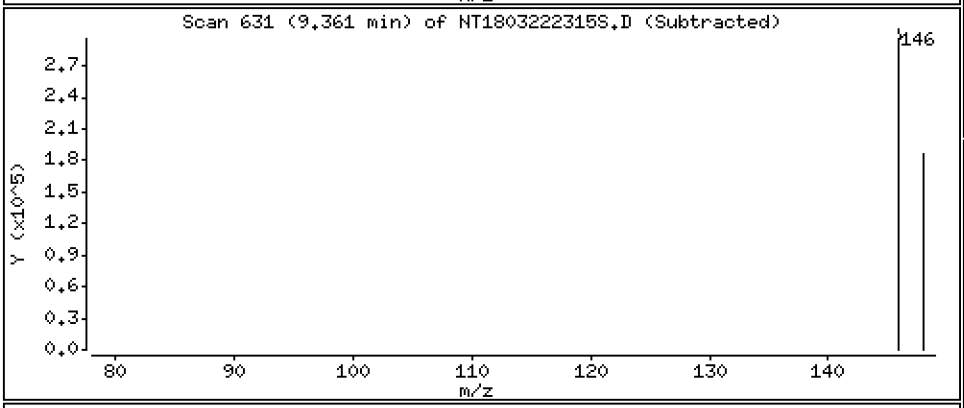
Column diameter: 0.25

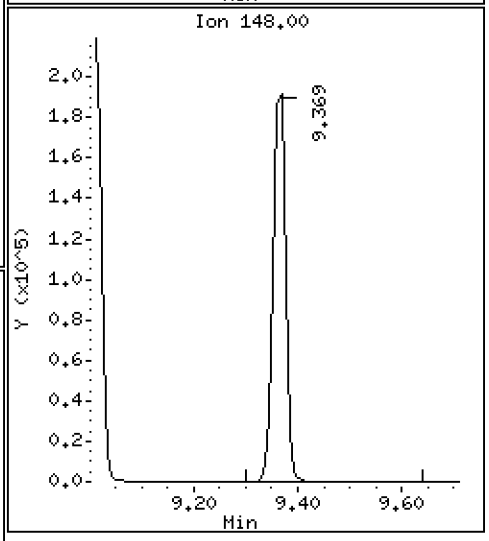
12 1,2-Dichlorobenzene

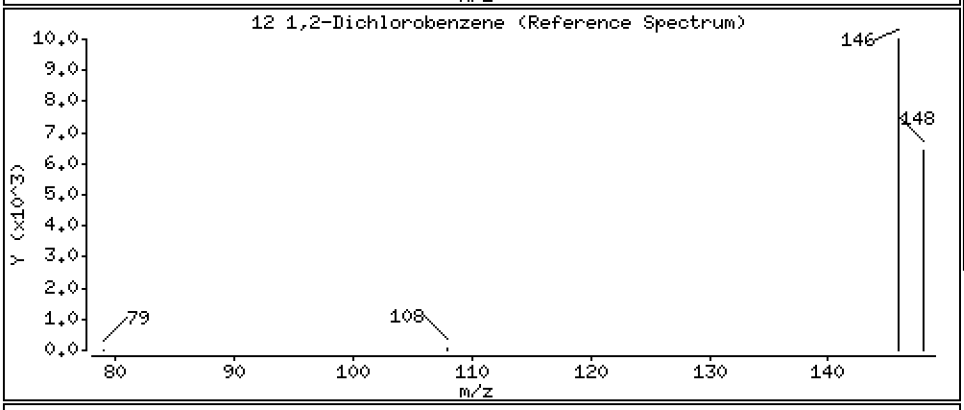
Concentration: 3.590 ug/mL

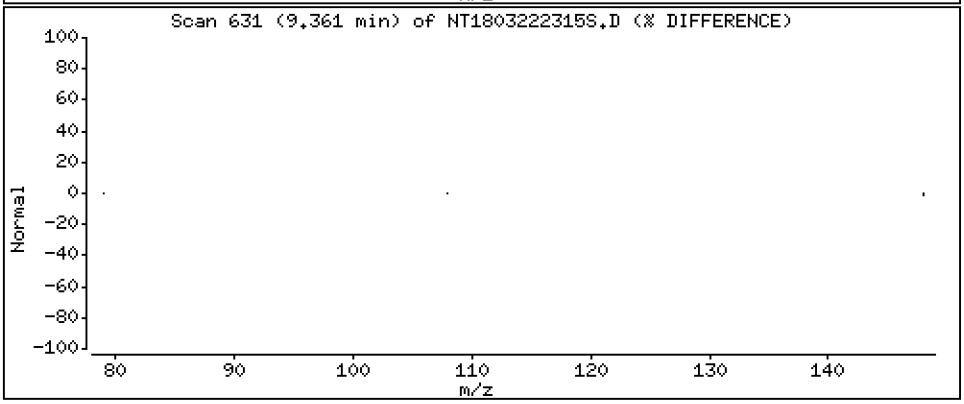












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222315S.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS2

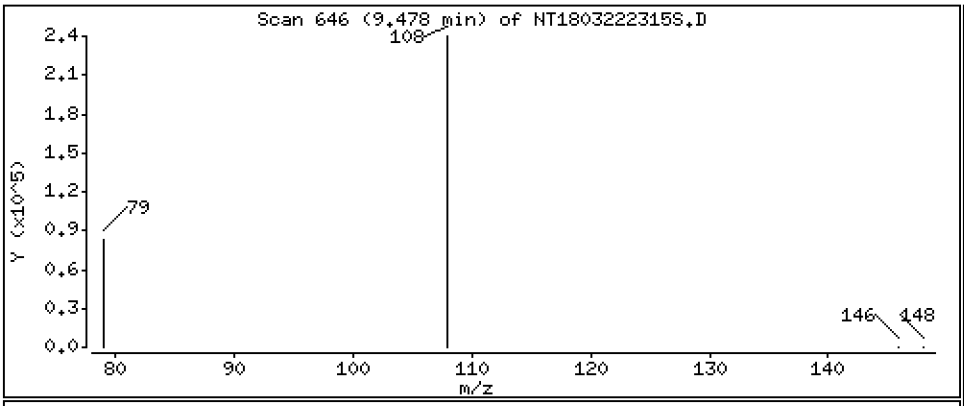
Operator: VTS

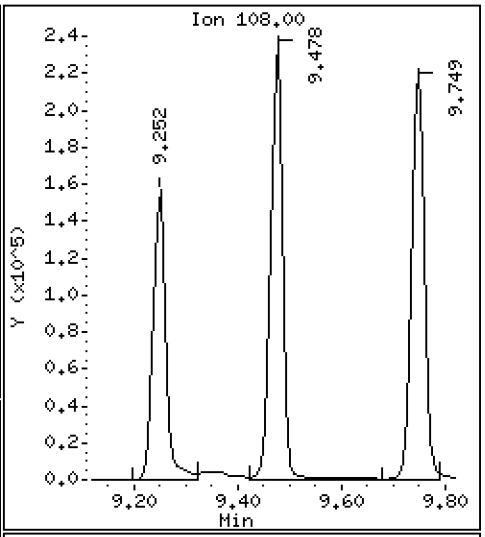
Column phase: ZB-5msi

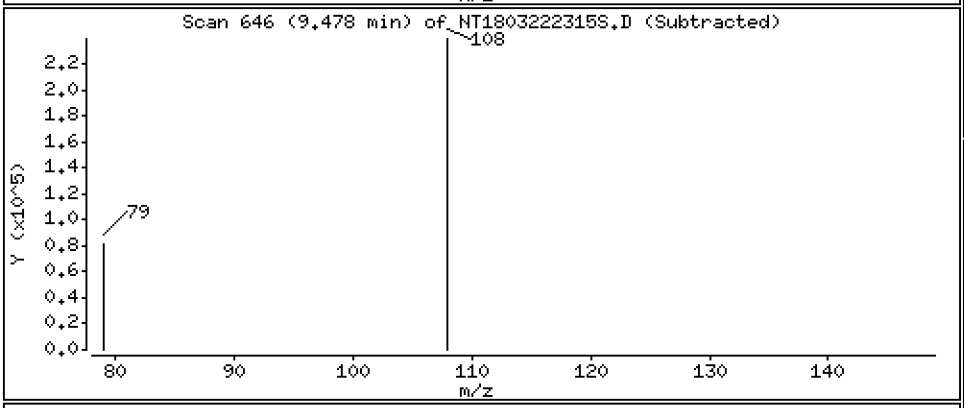
Column diameter: 0.25

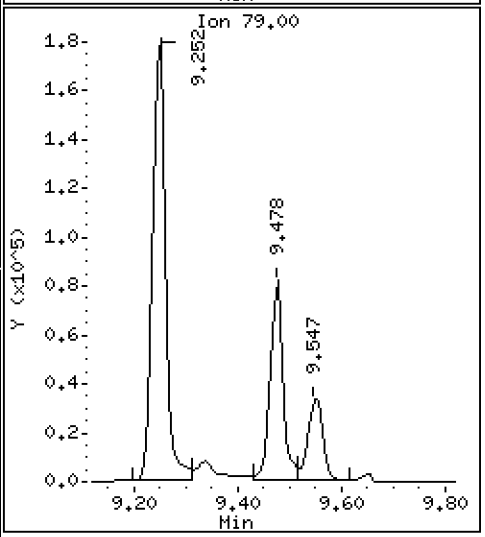
13 2-Methylphenol

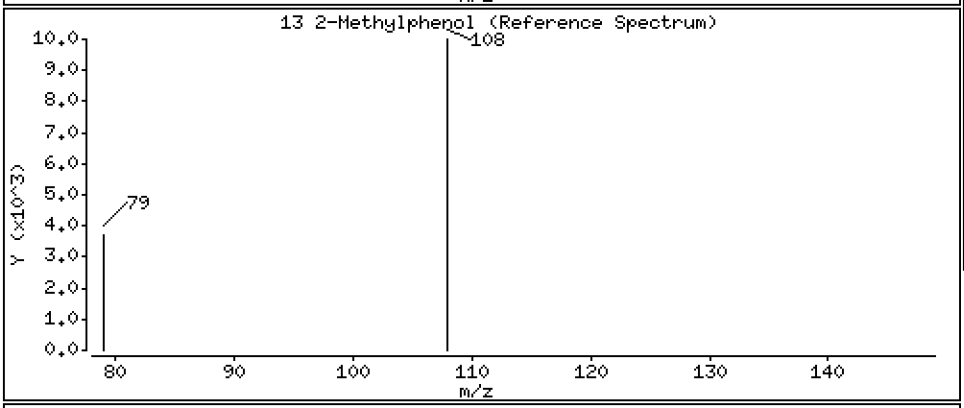
Concentration: 3.819 ug/mL

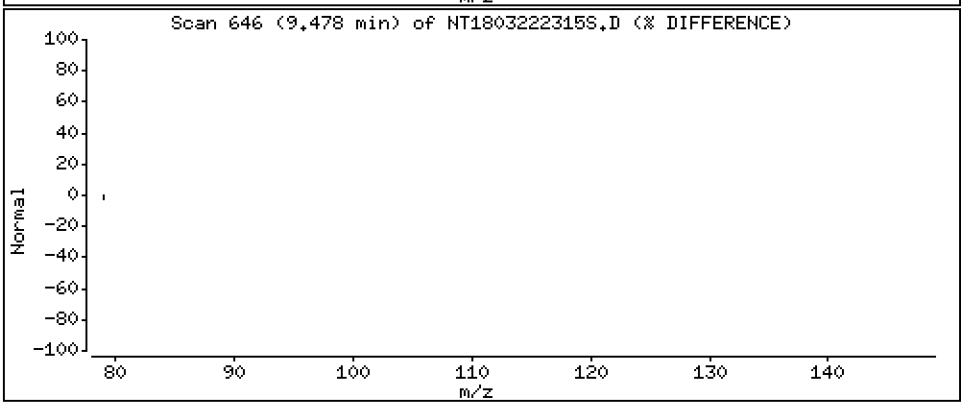












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222315S.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS2

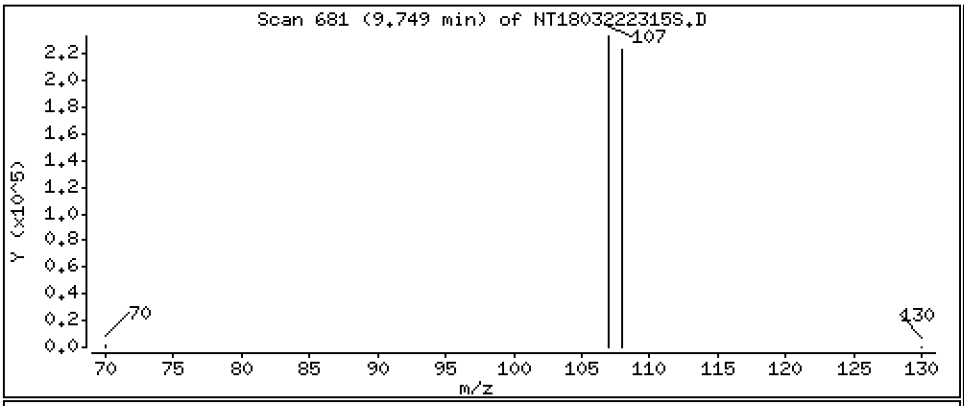
Operator: VTS

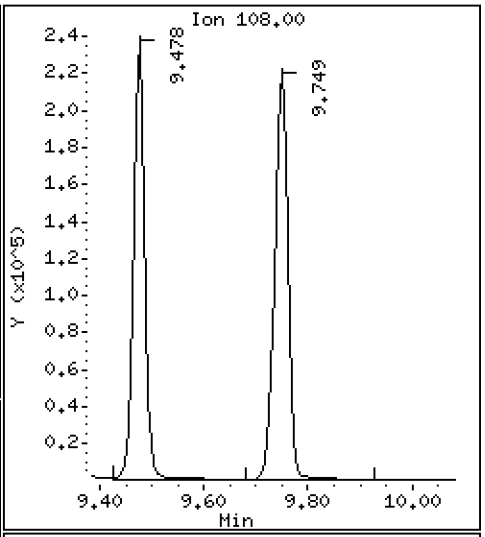
Column phase: ZB-5msi

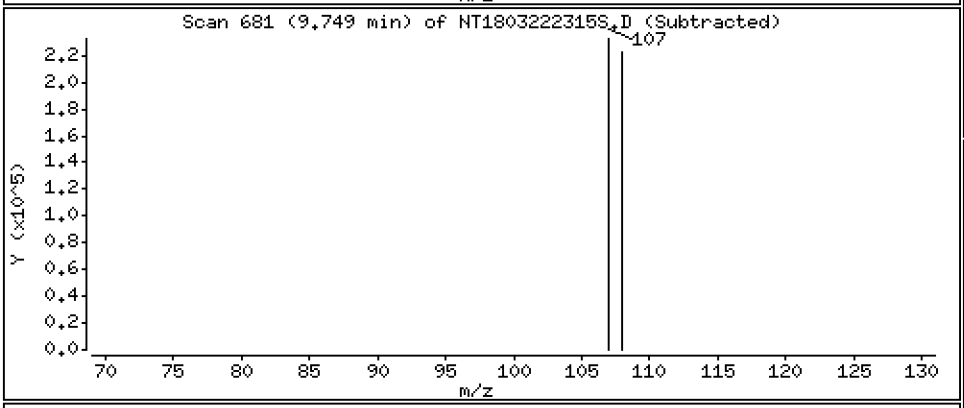
Column diameter: 0.25

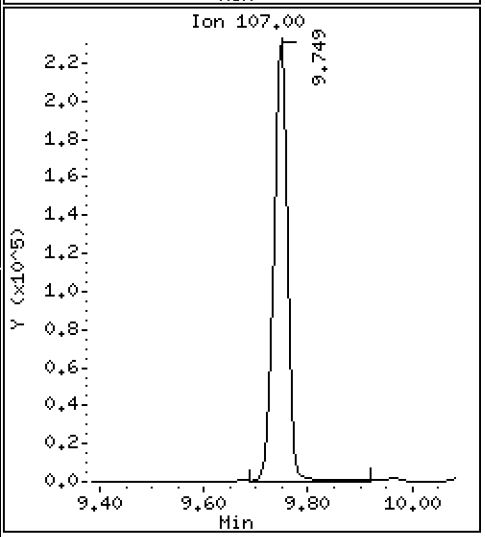
15 4-Methylphenol

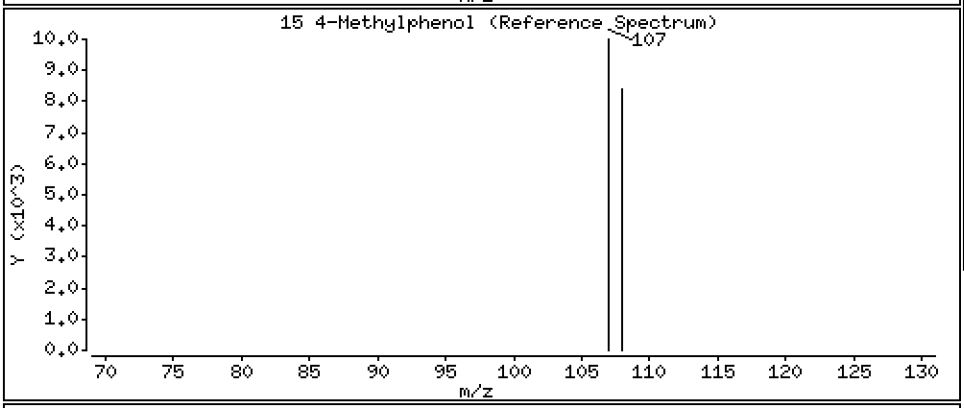
Concentration: 4.031 ug/mL

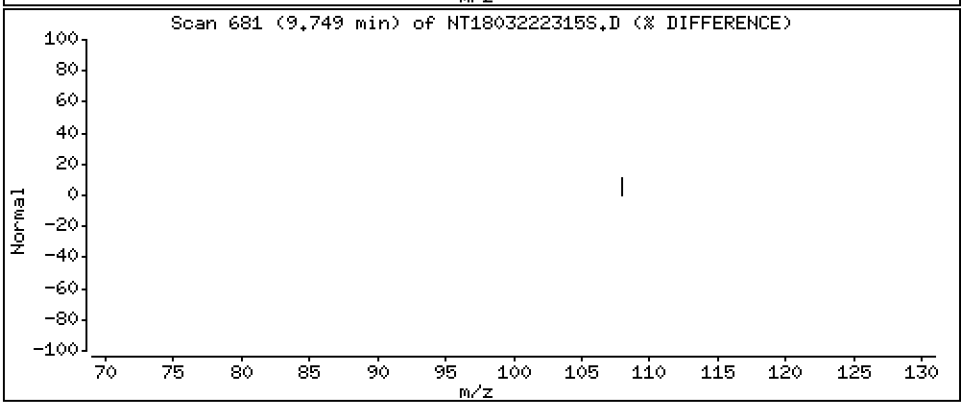












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222315S.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS2

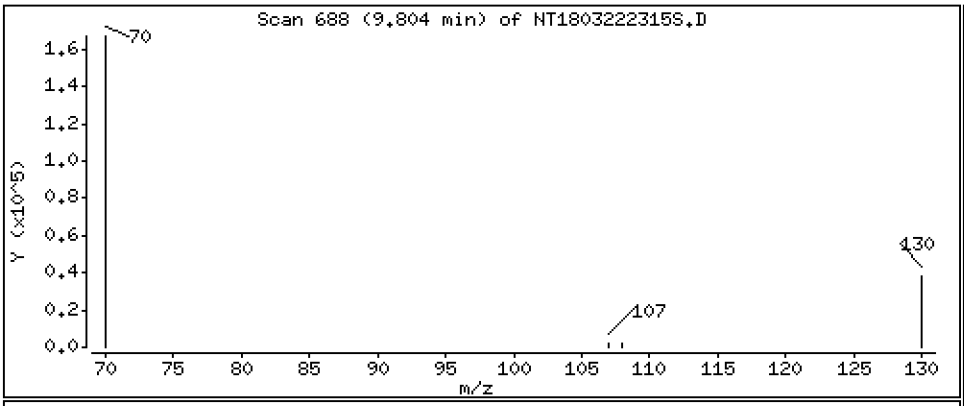
Operator: VTS

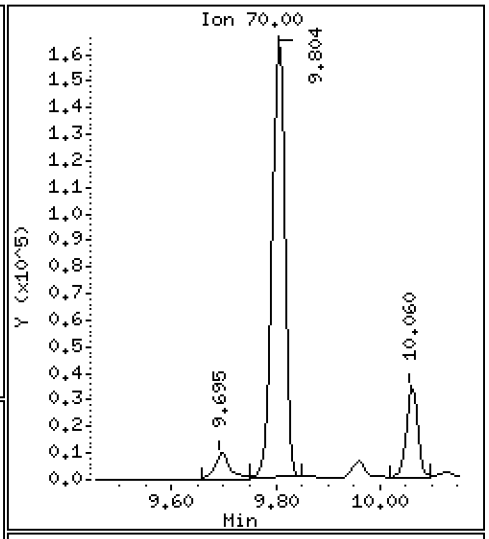
Column phase: ZB-5msi

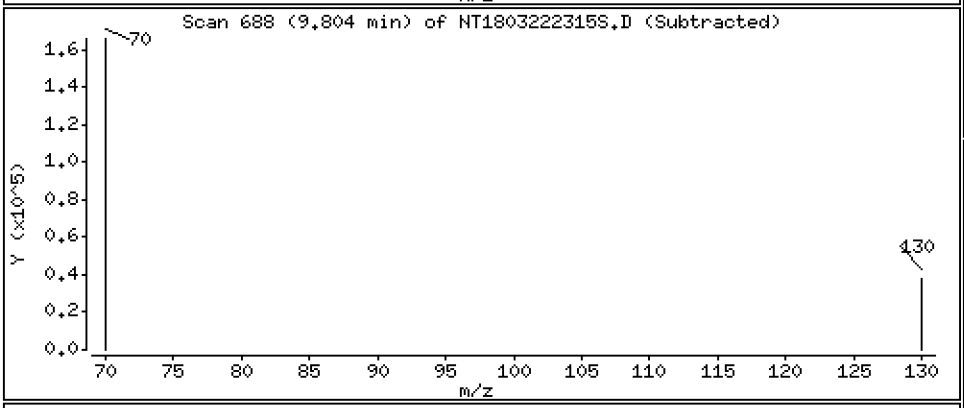
Column diameter: 0.25

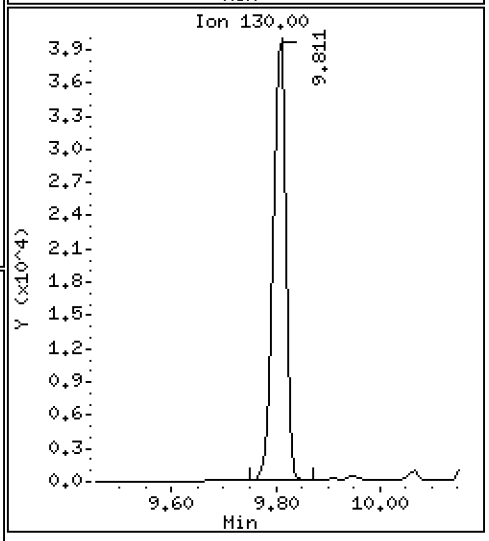
16 N-Nitroso-di-n-propylamine

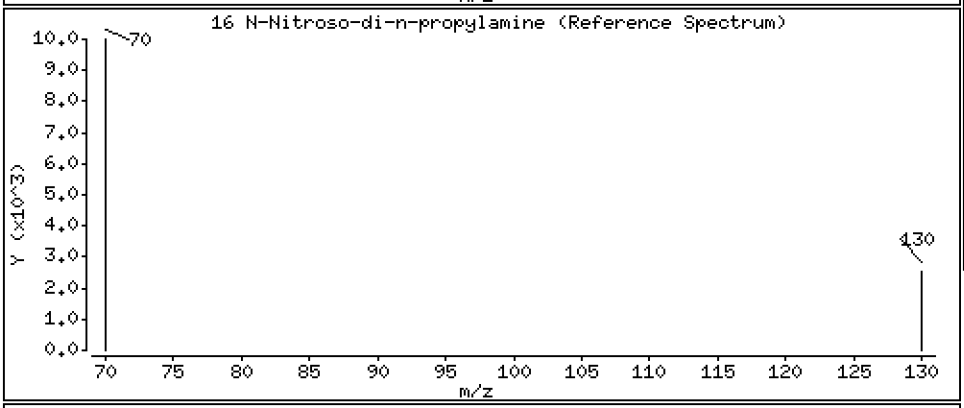
Concentration: 4.084 ug/mL

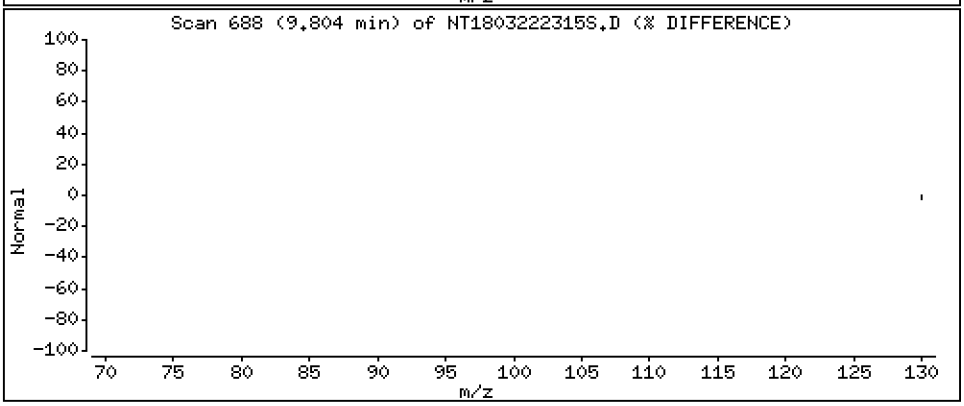












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223155.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS2

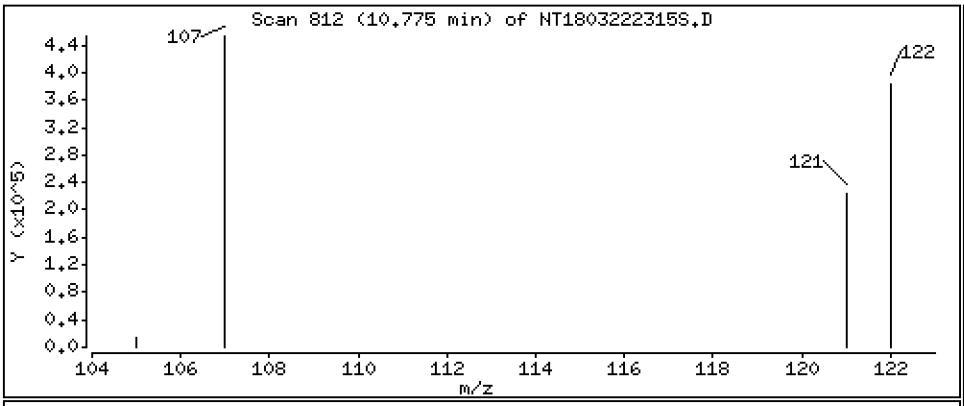
Operator: VTS

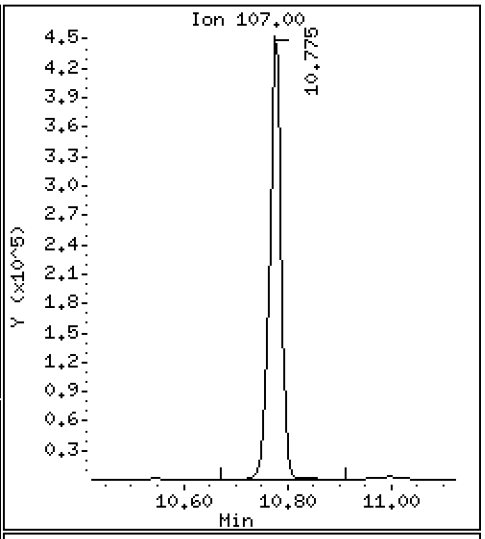
Column phase: ZB-5msi

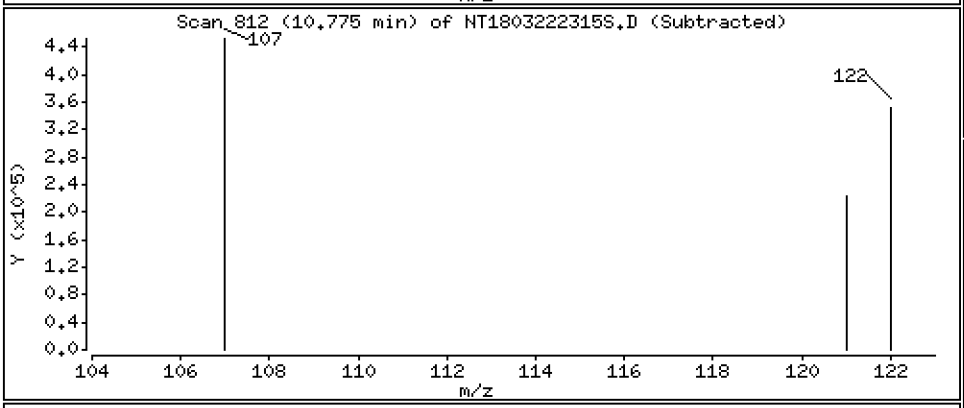
Column diameter: 0.25

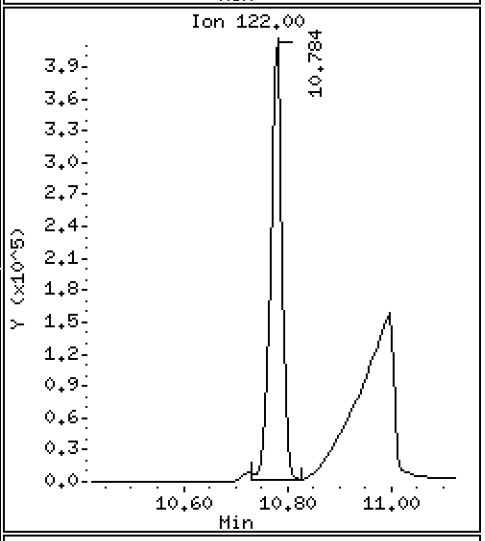
22 2,4-Dimethylphenol

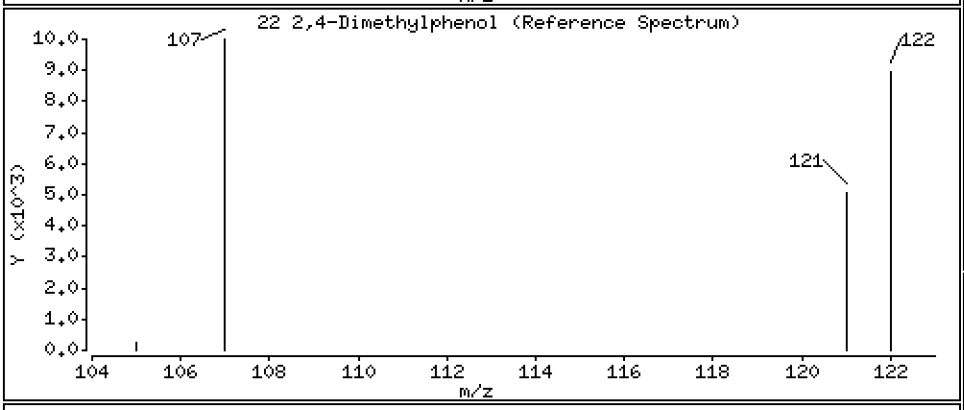
Concentration: 8.133 ug/mL

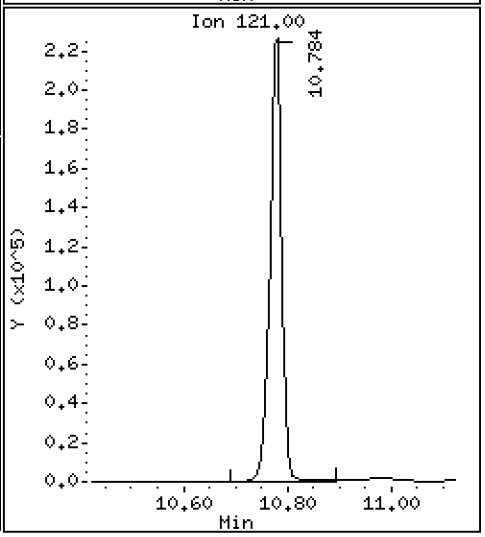


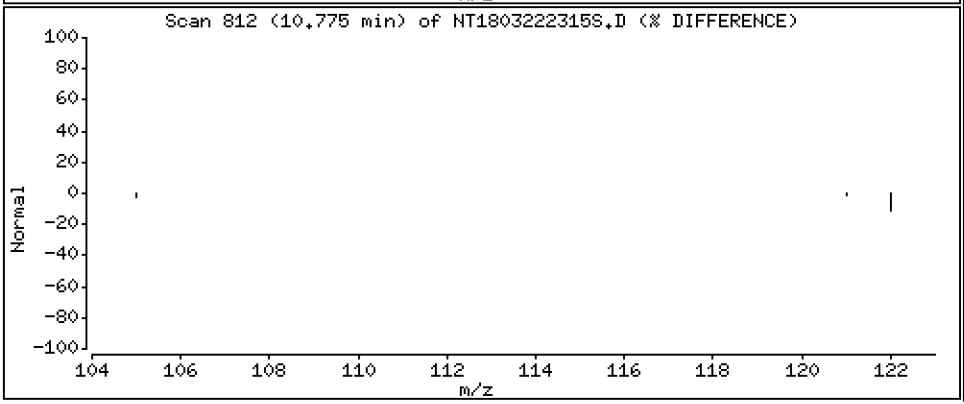












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS2

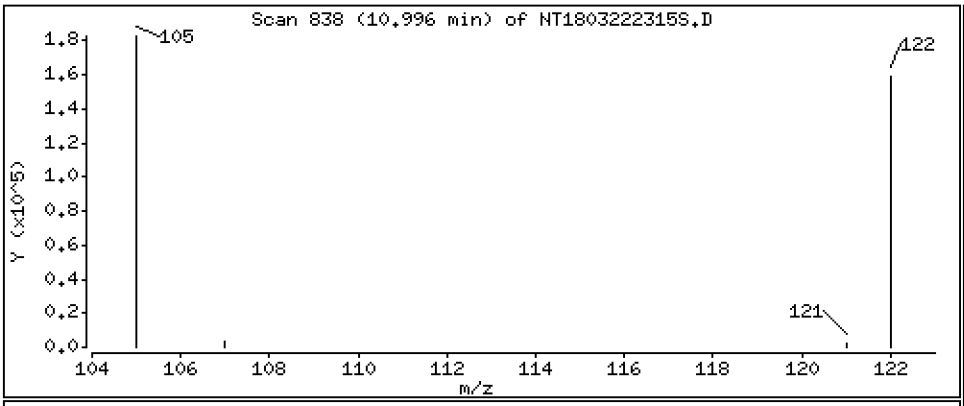
Operator: VTS

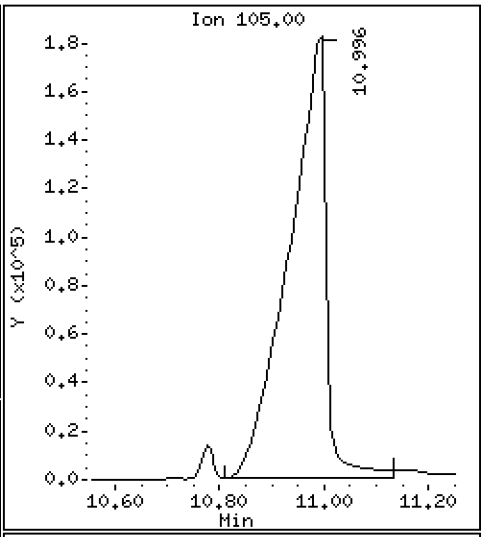
Column phase: ZB-5msi

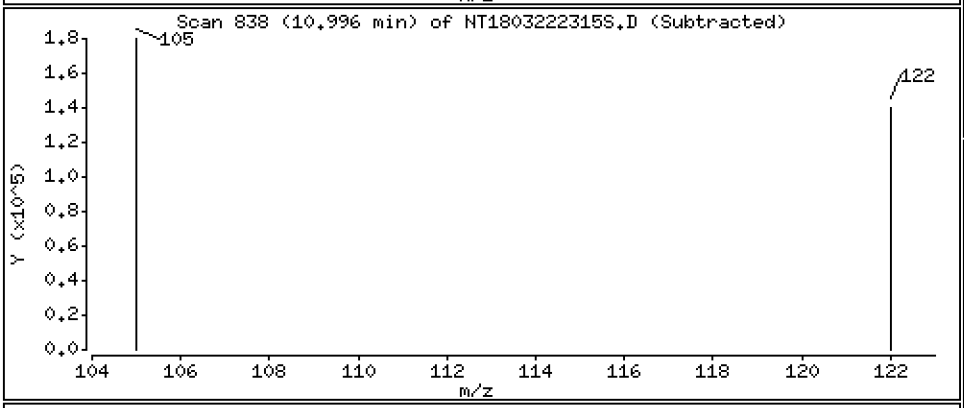
Column diameter: 0.25

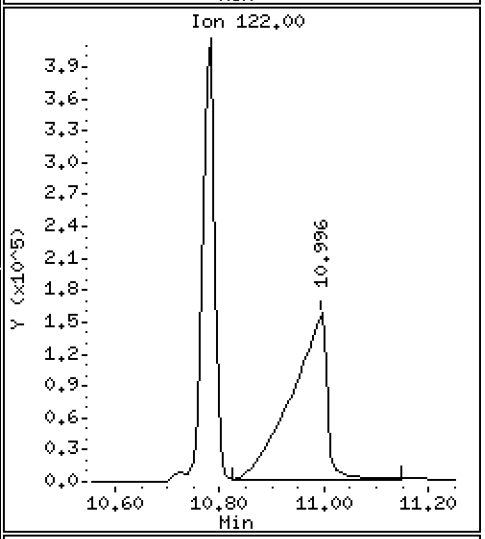
24 Benzoic acid

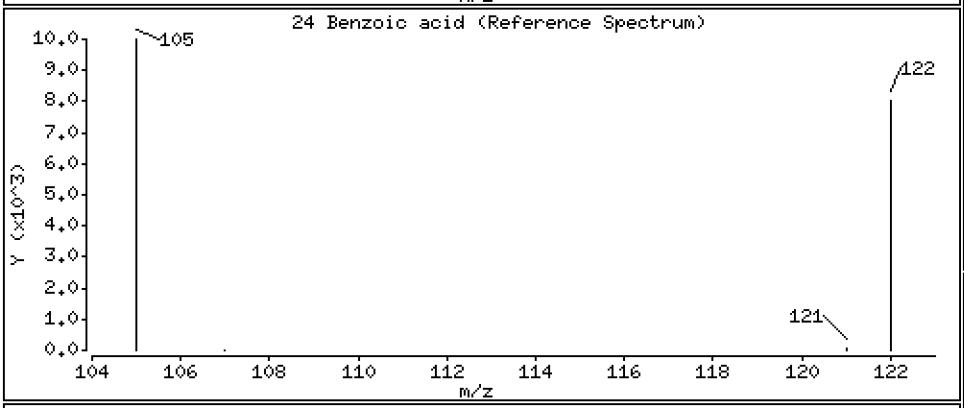
Concentration: 13.77 ug/mL

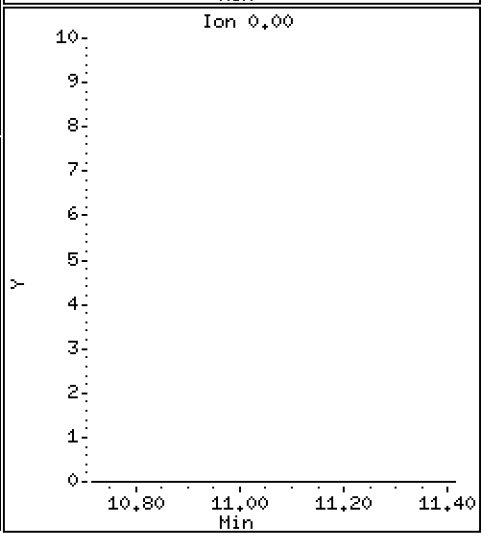


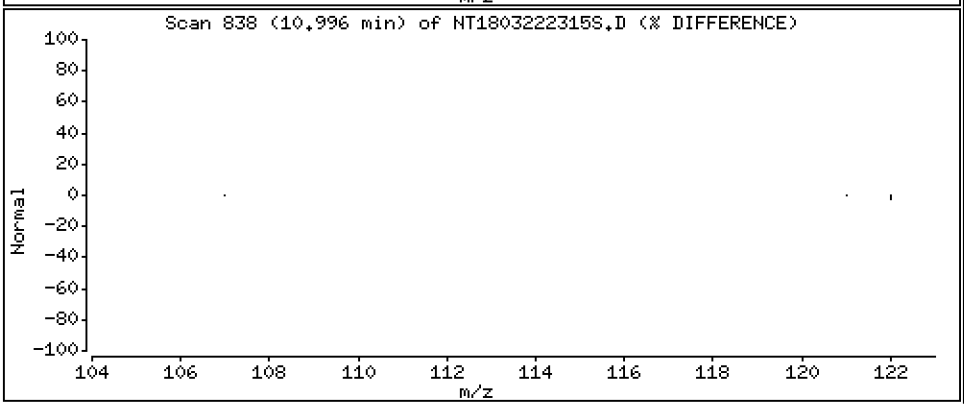












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS2

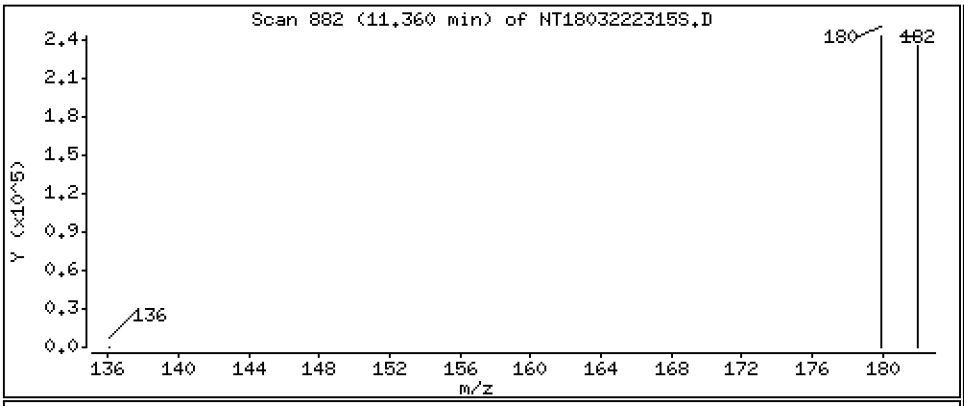
Operator: VTS

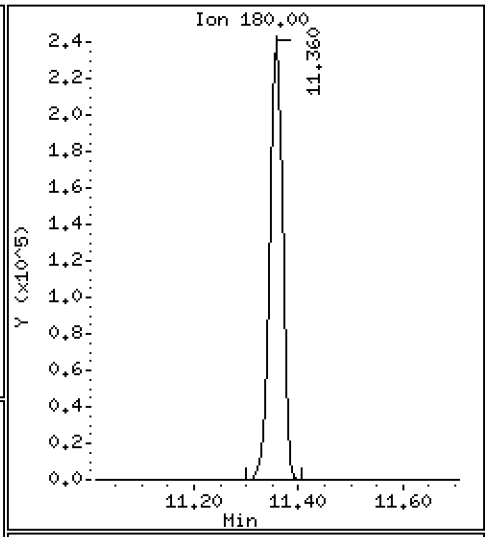
Column phase: ZB-5msi

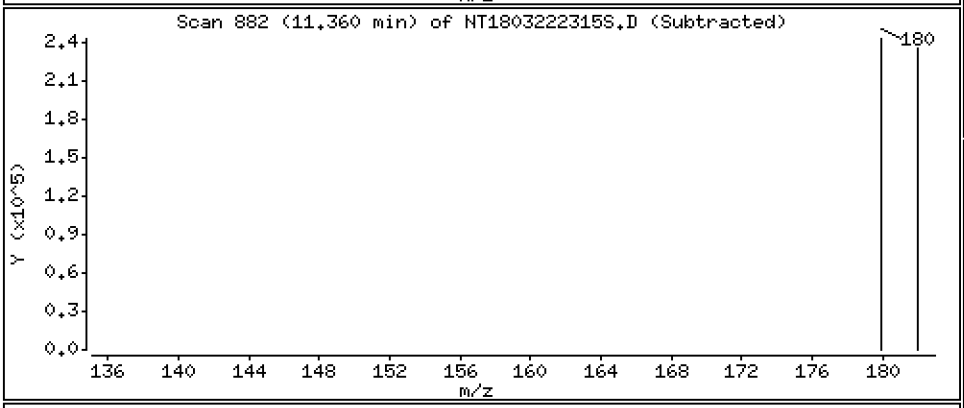
Column diameter: 0.25

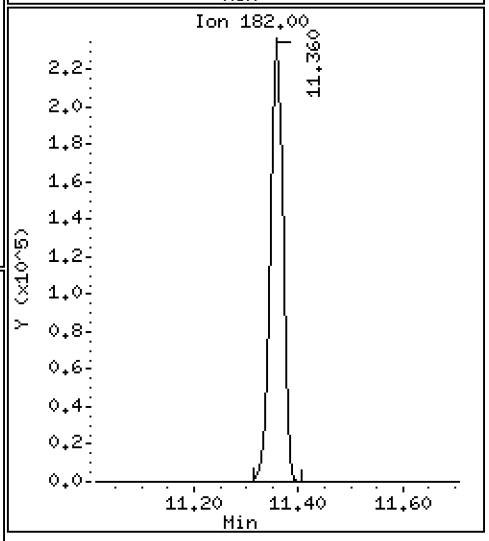
26 1,2,4-Trichlorobenzene

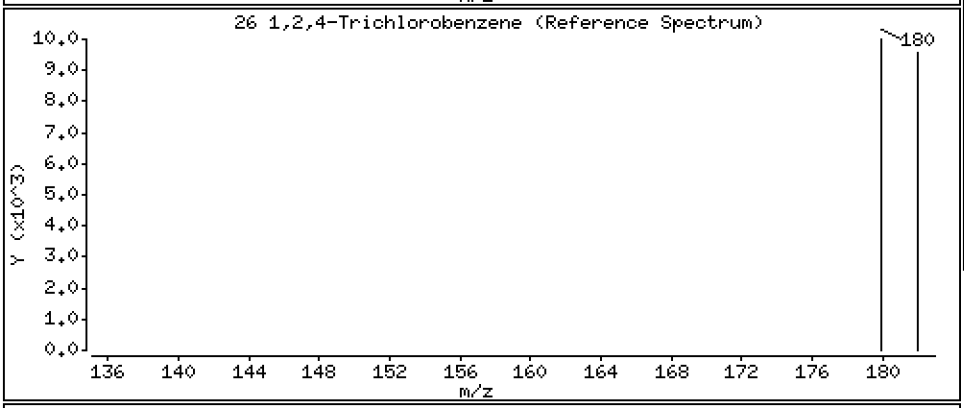
Concentration: 3.775 ug/mL

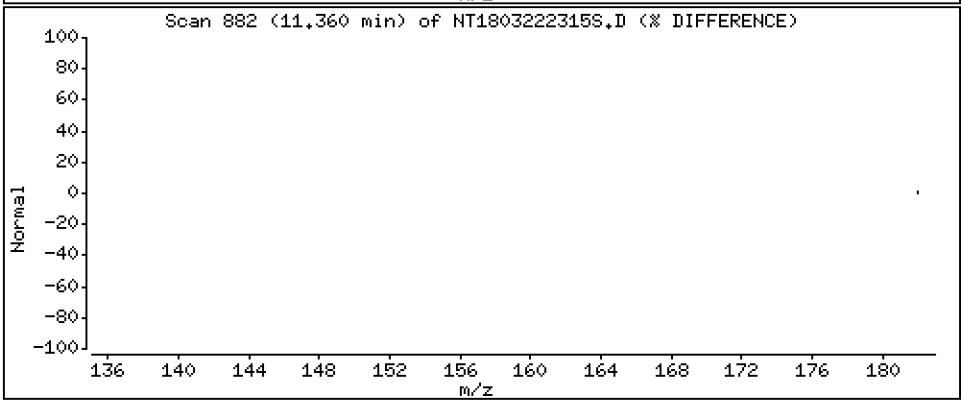












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222315S.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS2

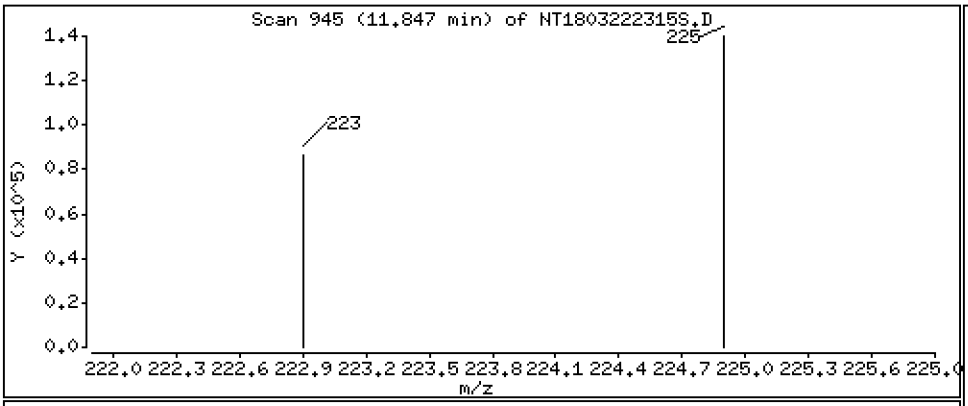
Operator: VTS

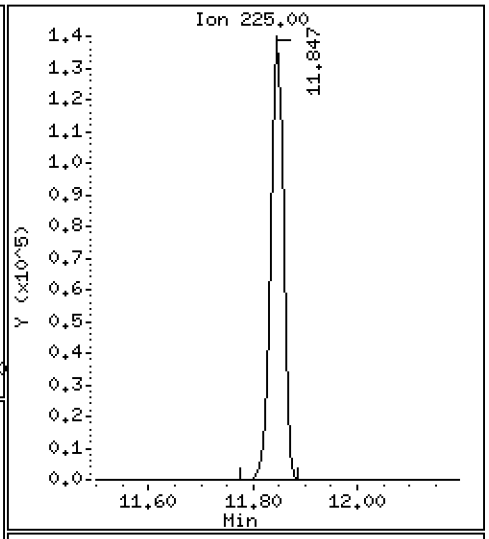
Column phase: ZB-5msi

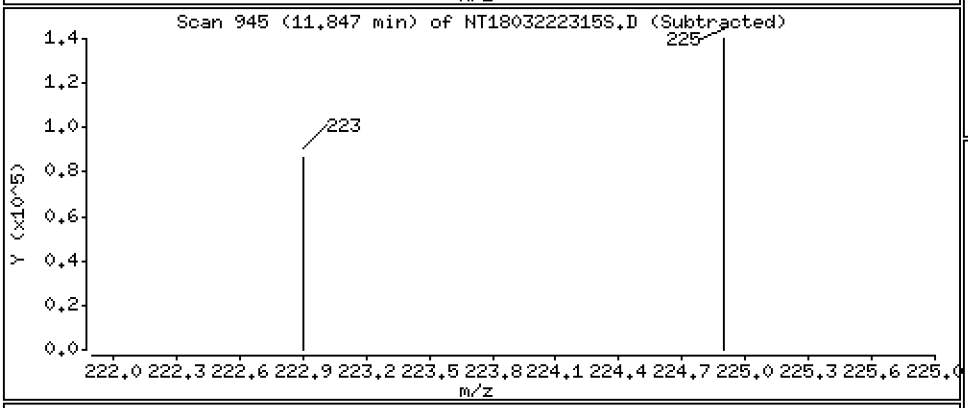
Column diameter: 0.25

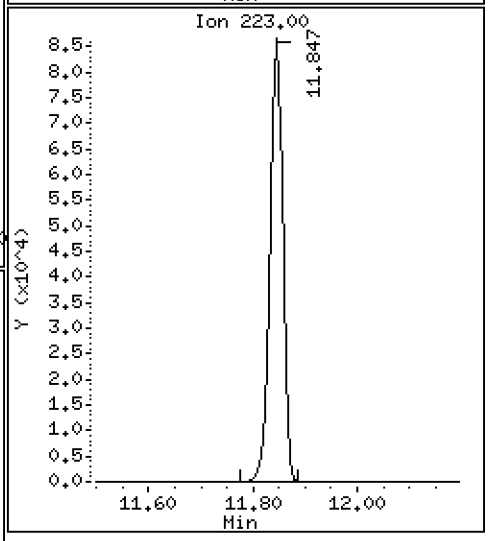
30 Hexachlorobutadiene

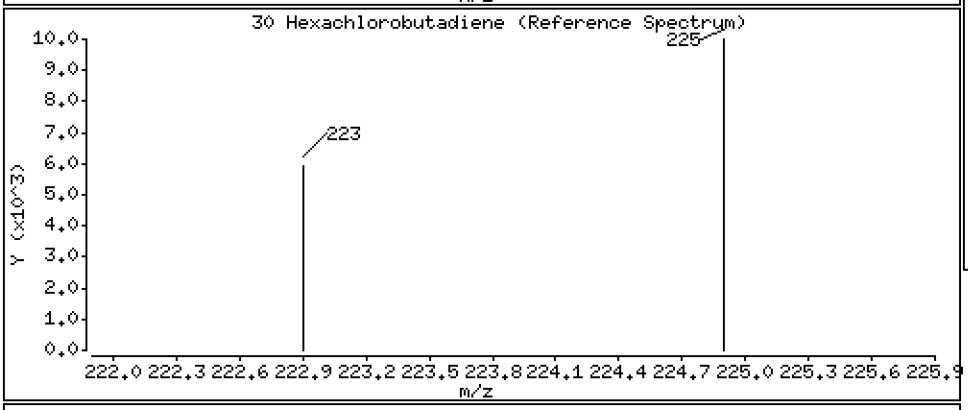
Concentration: 3.768 ug/mL

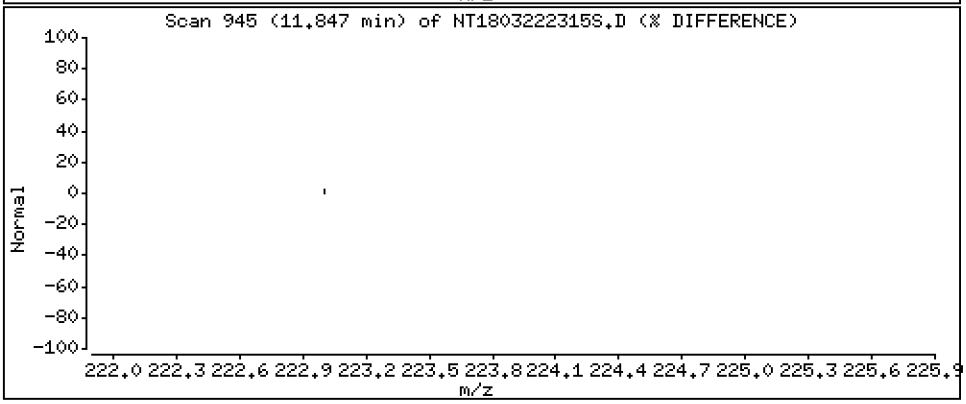












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222315S.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS2

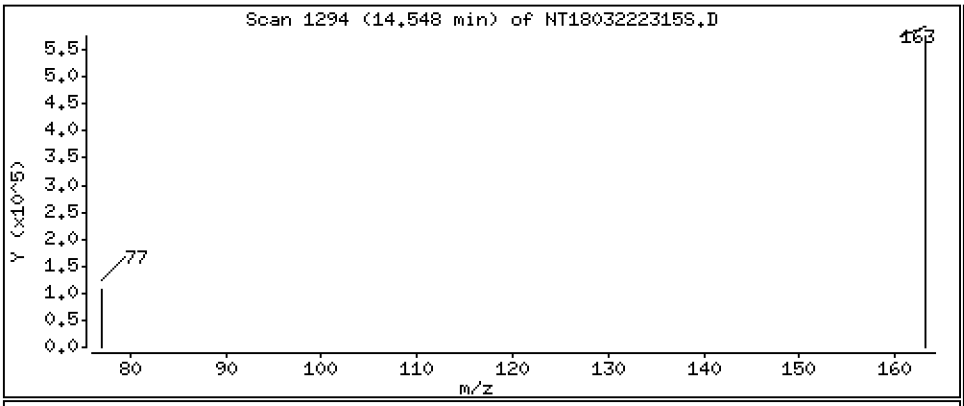
Operator: VTS

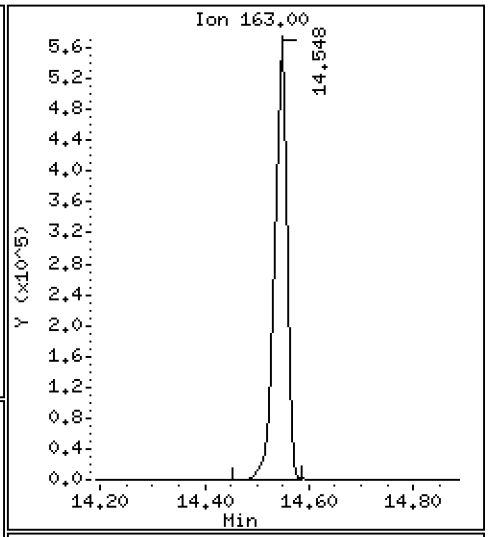
Column phase: ZB-5msi

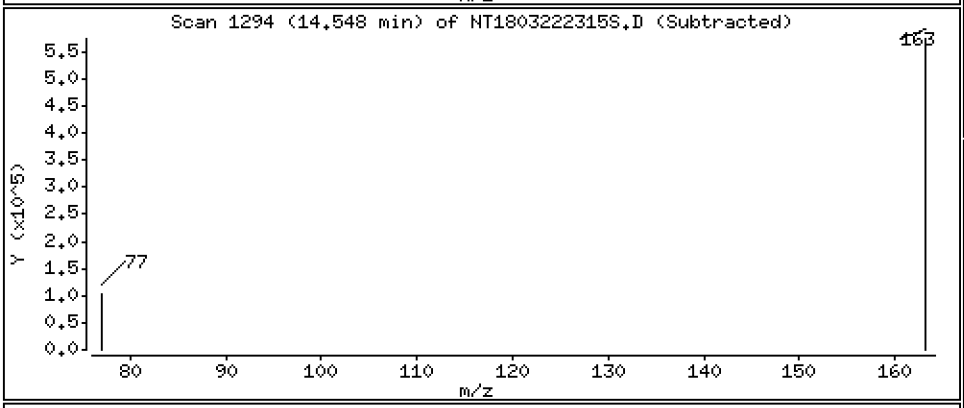
Column diameter: 0.25

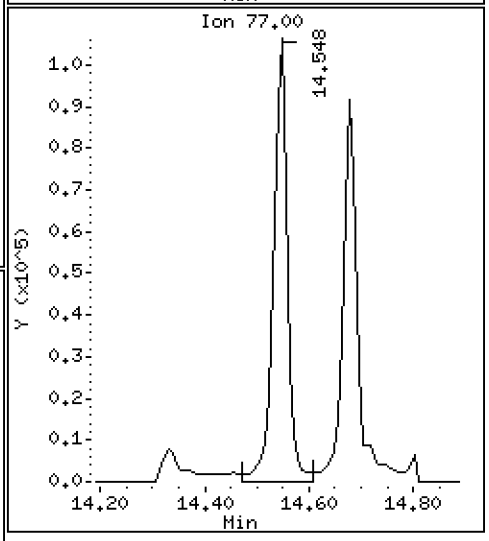
39 Dimethylphthalate

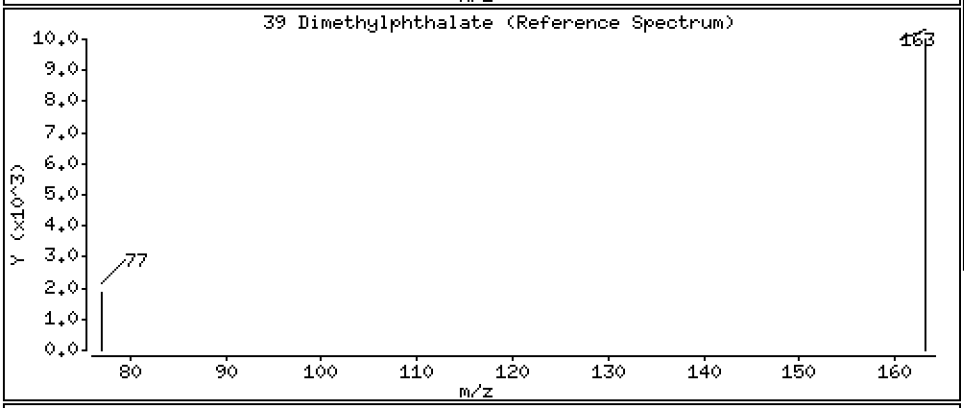
Concentration: 4.614 ug/mL

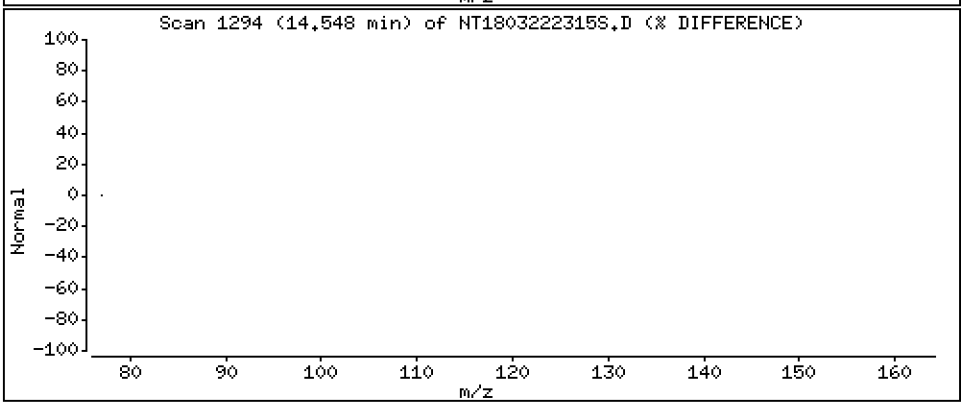












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222315S.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS2

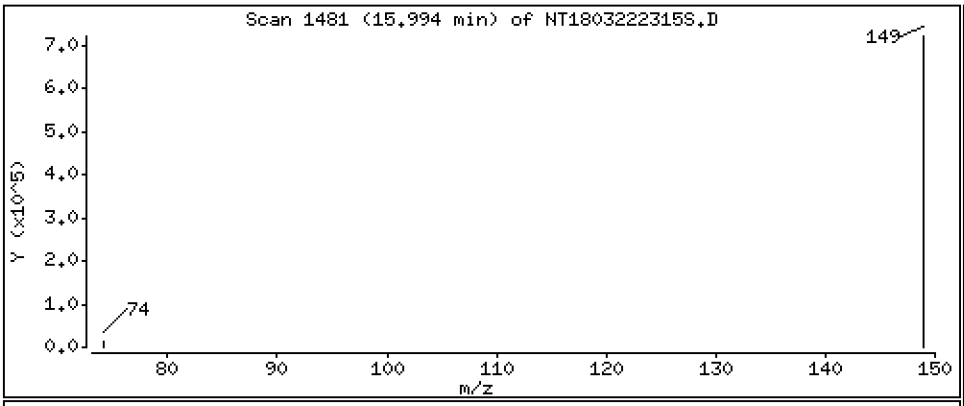
Operator: VTS

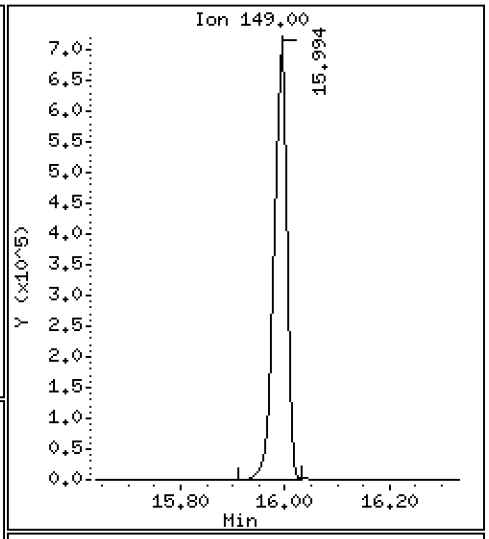
Column phase: ZB-5msi

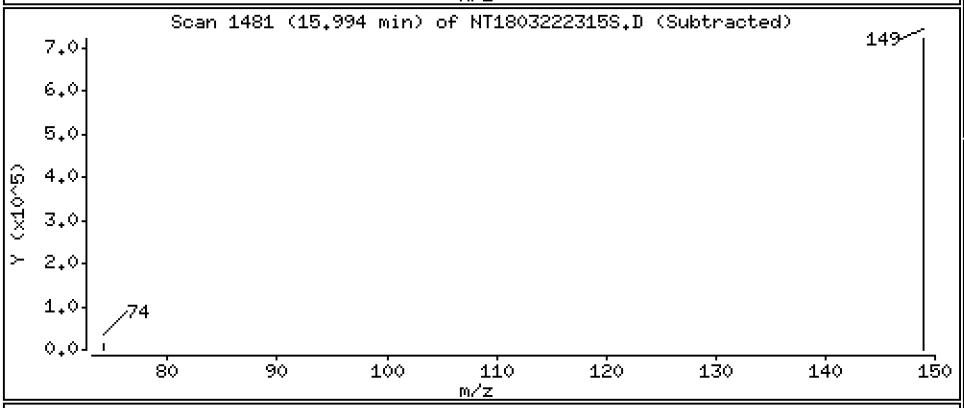
Column diameter: 0.25

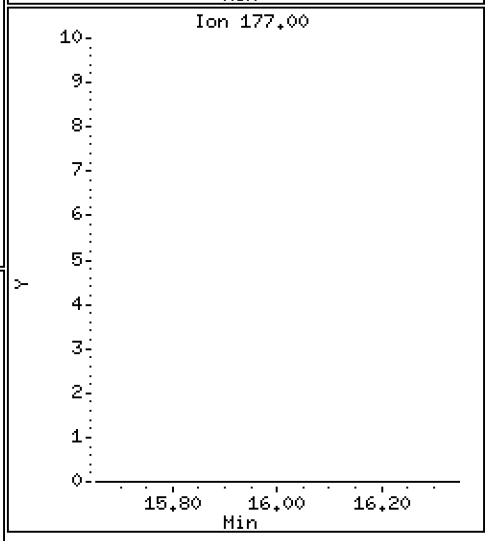
50 Diethylphthalate

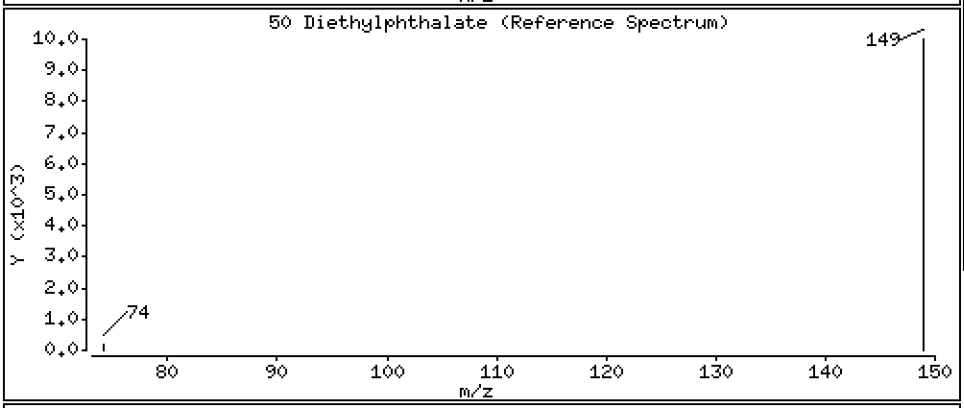
Concentration: 6.574 ug/mL

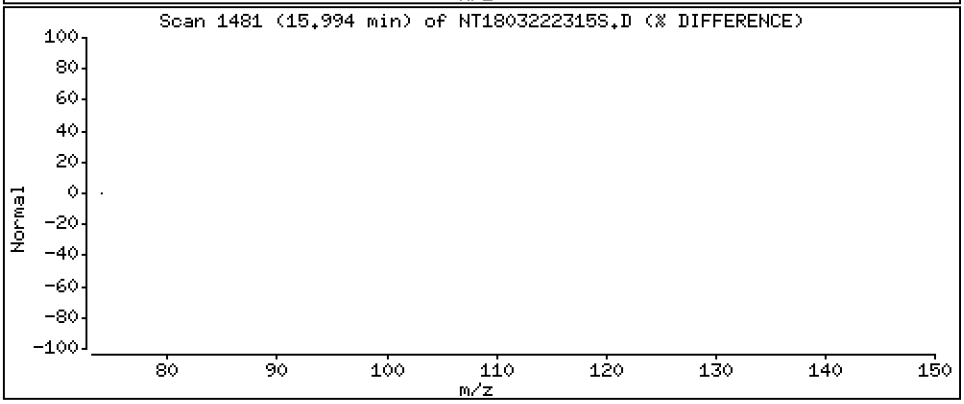












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222315S.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS2

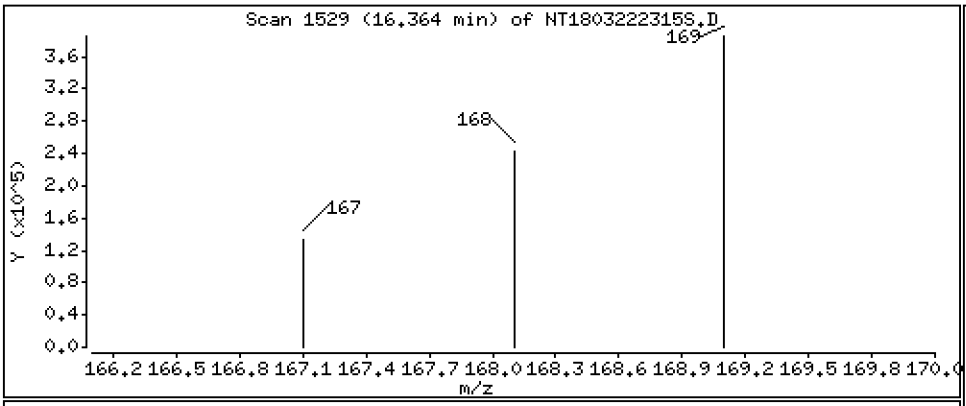
Operator: VTS

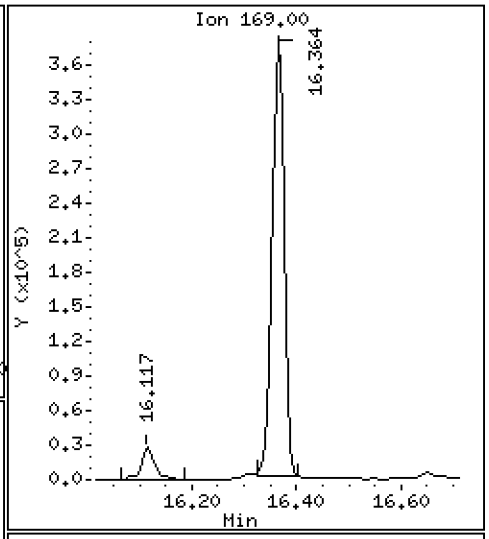
Column phase: ZB-5msi

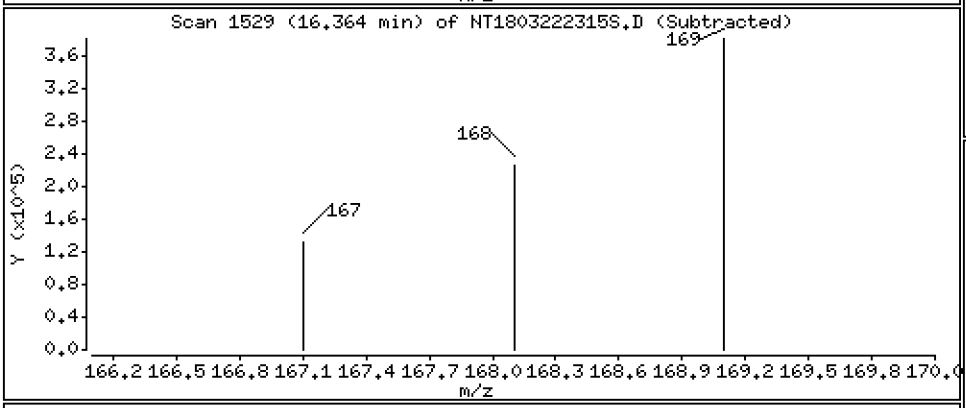
Column diameter: 0.25

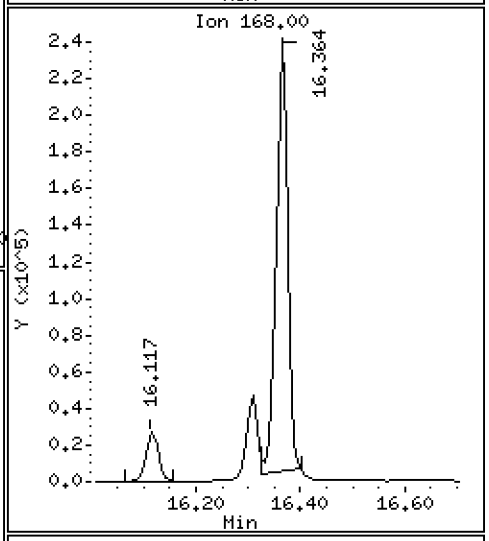
54 N-Nitrosodiphenylamine

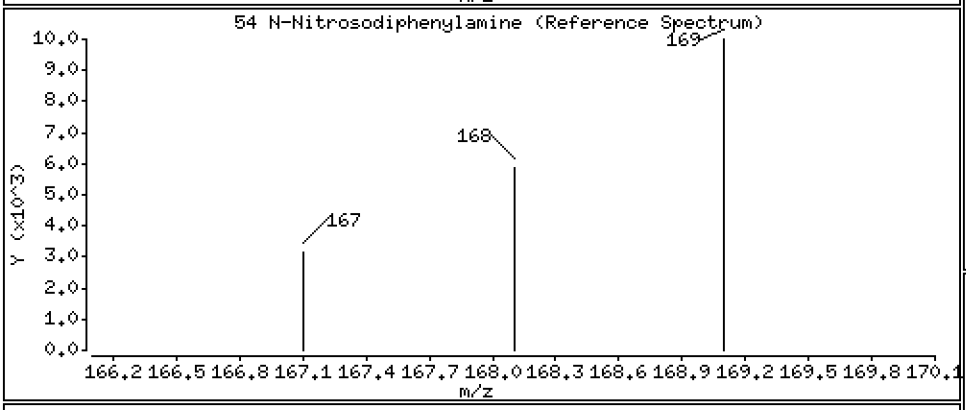
Concentration: 4.259 ug/mL

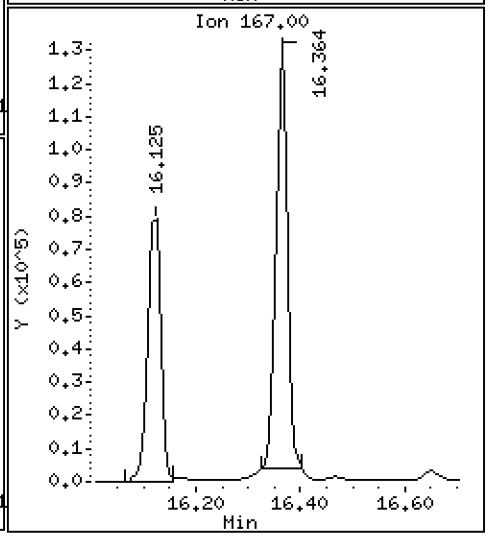


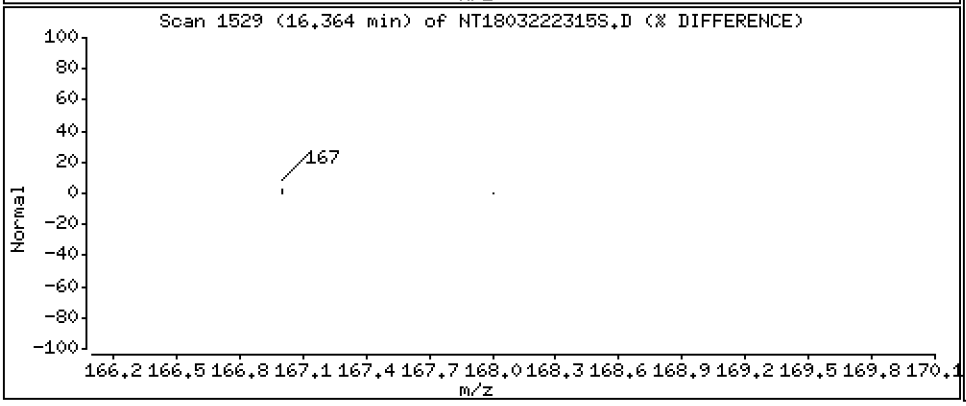












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS2

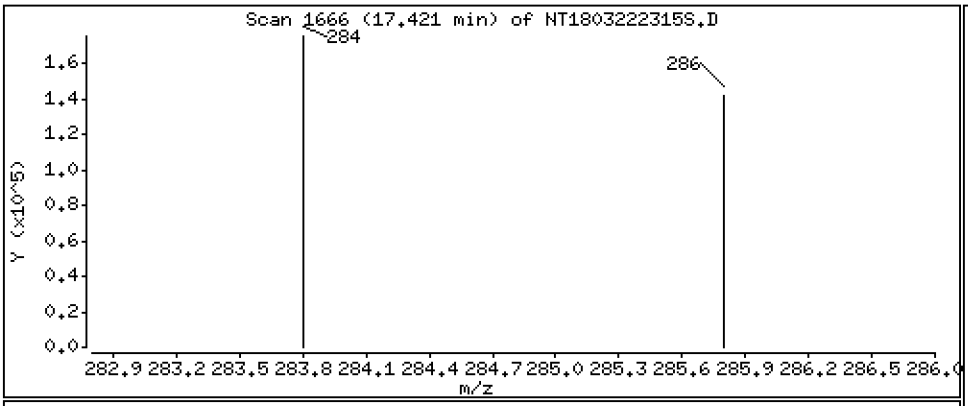
Operator: VTS

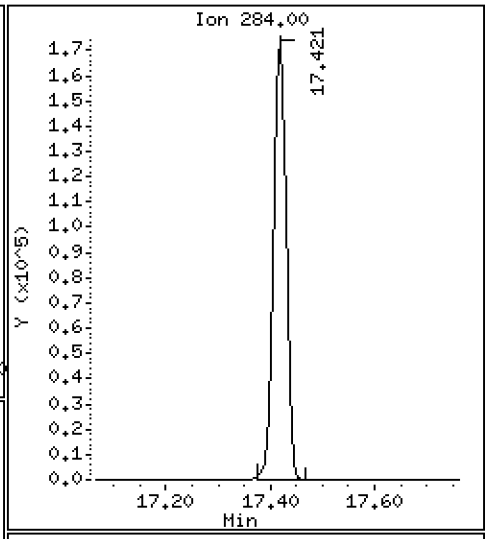
Column phase: ZB-5msi

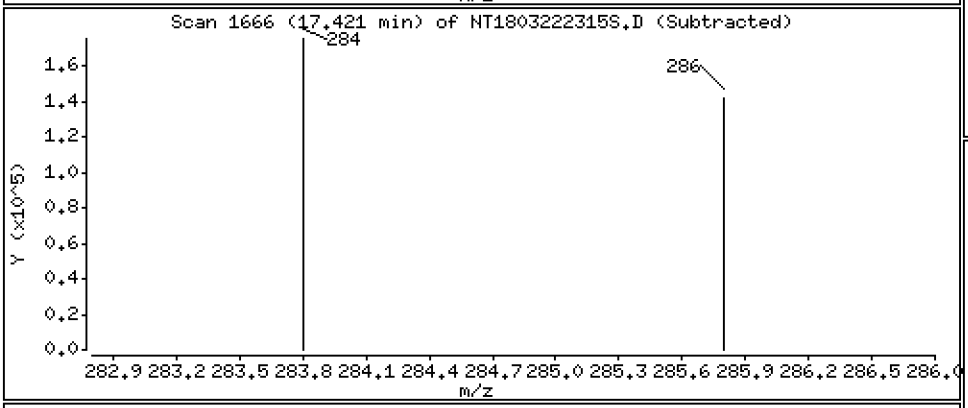
Column diameter: 0.25

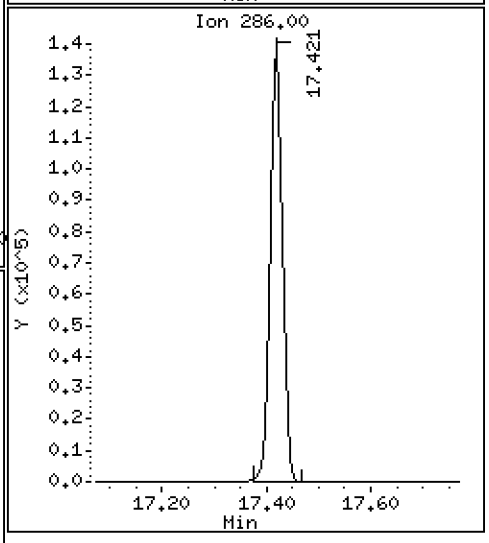
57 Hexachlorobenzene

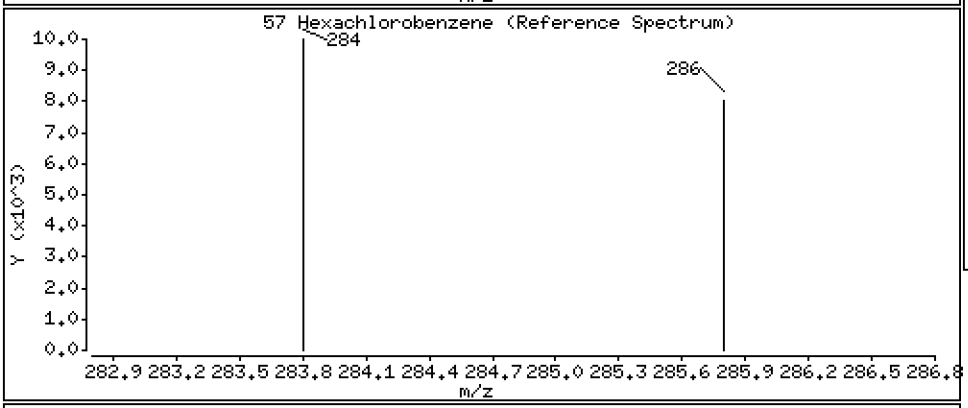
Concentration: 4.375 ug/mL

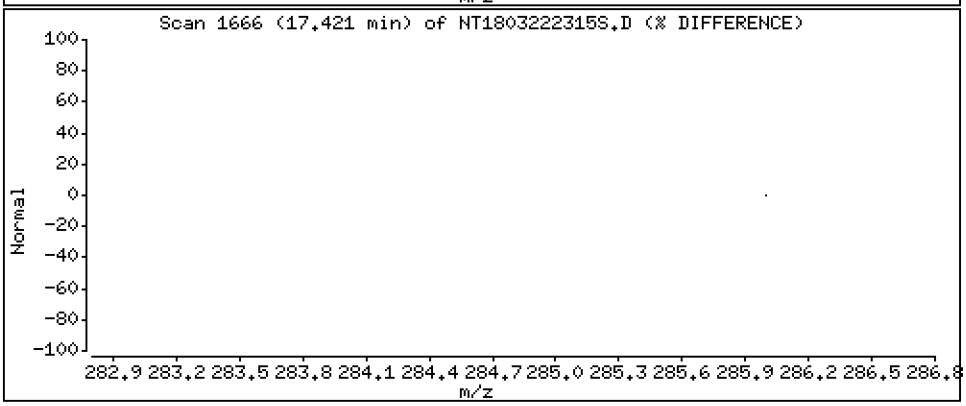












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222315S.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS2

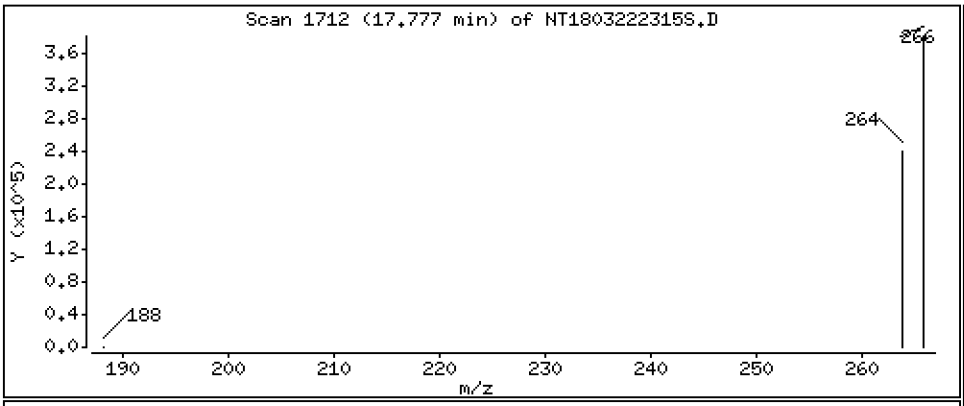
Operator: VTS

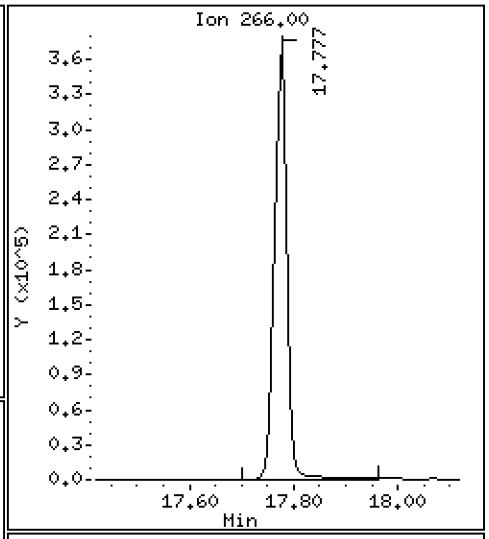
Column phase: ZB-5msi

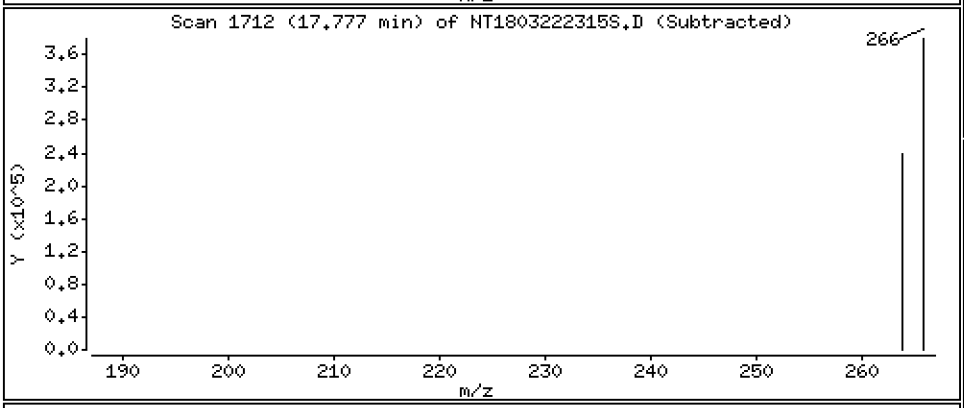
Column diameter: 0.25

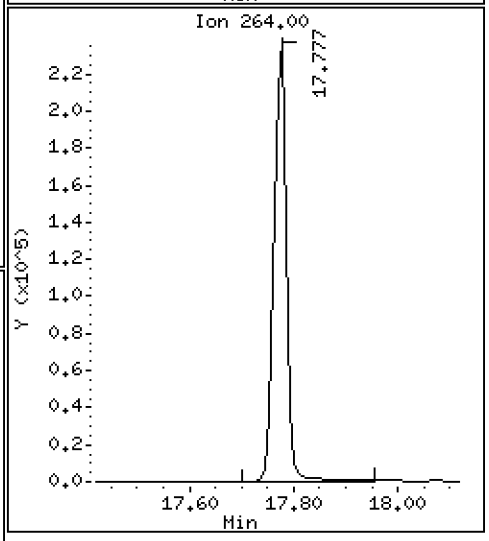
58 Pentachlorophenol

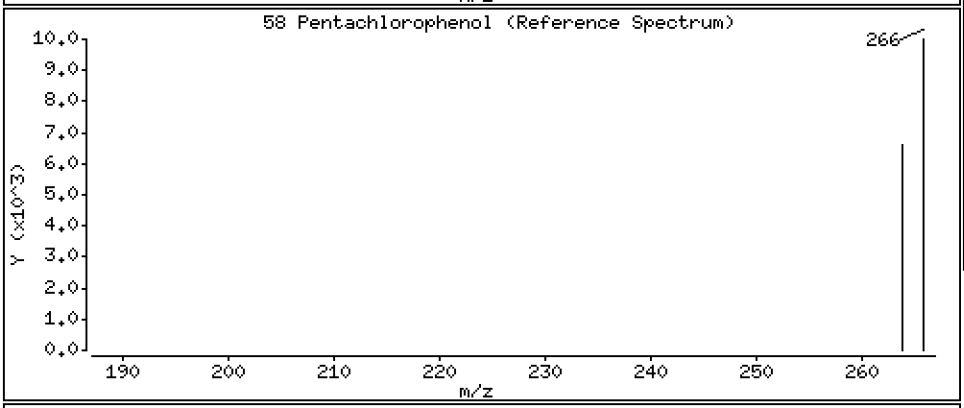
Concentration: 14.89 ug/mL

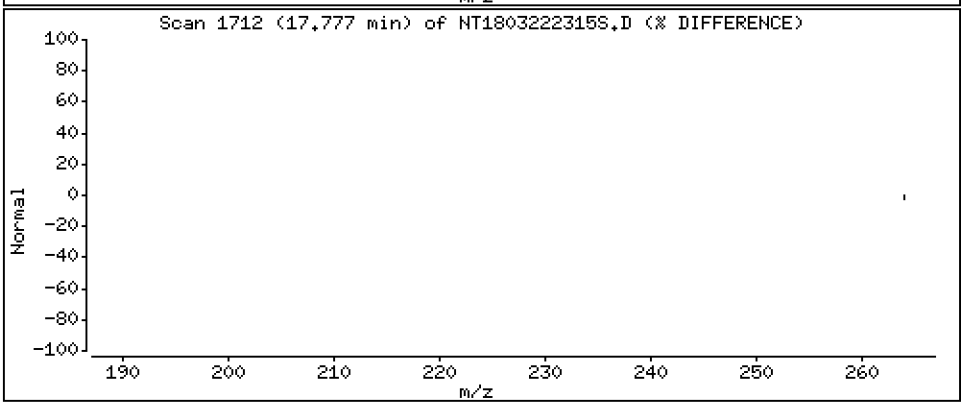












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Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS2

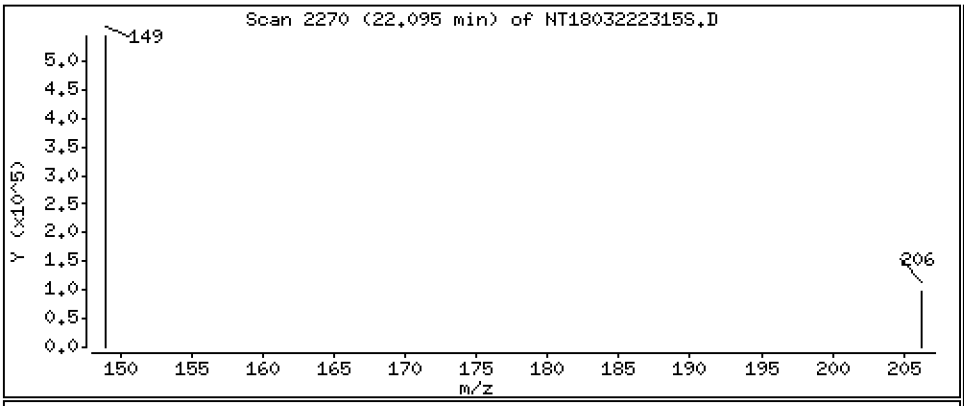
Operator: VTS

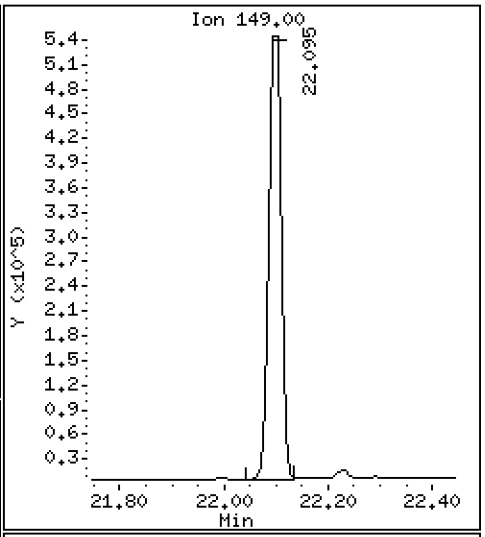
Column phase: ZB-5msi

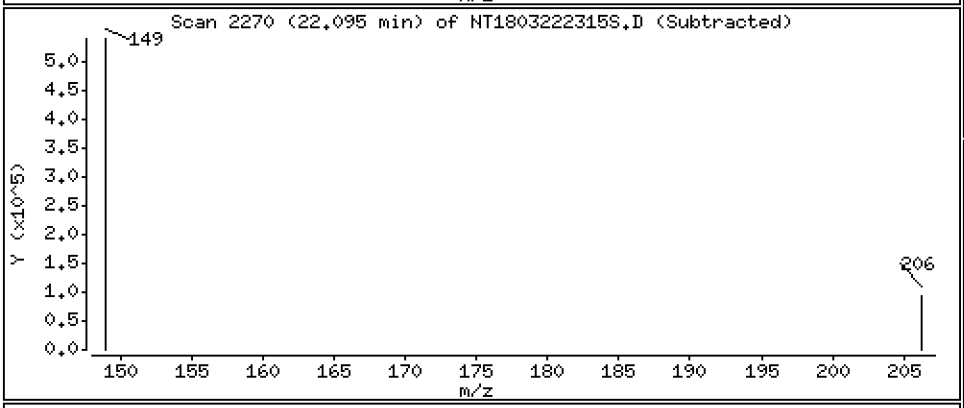
Column diameter: 0.25

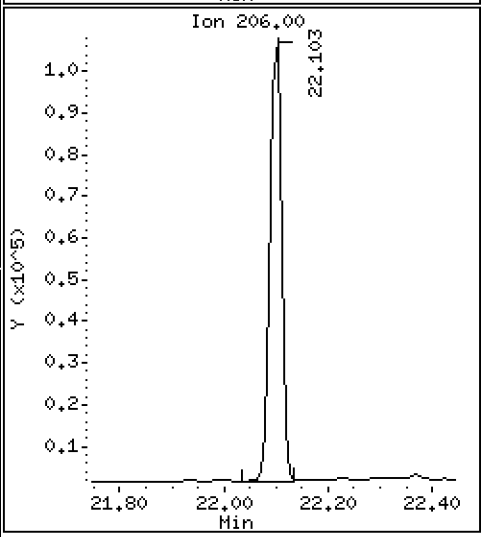
67 Butylbenzylphthalate

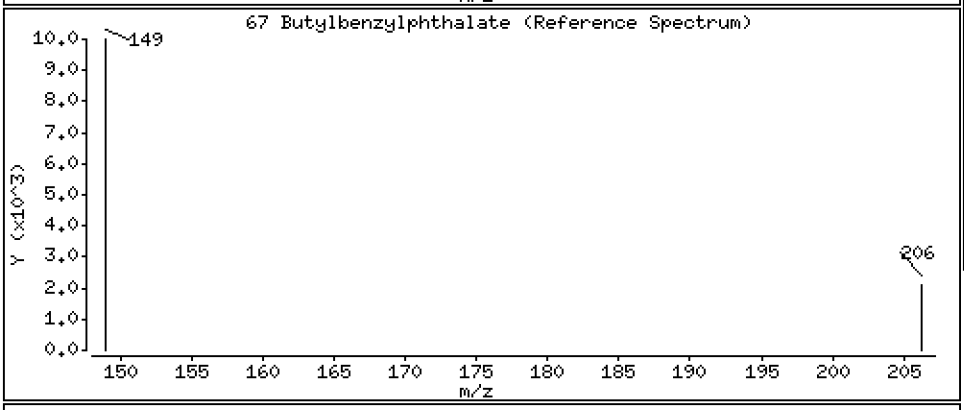
Concentration: 4.539 ug/mL

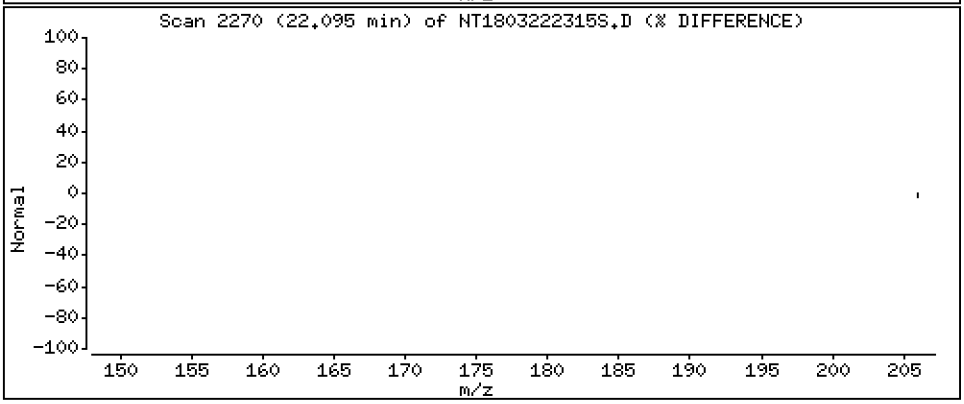












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222315S.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS2

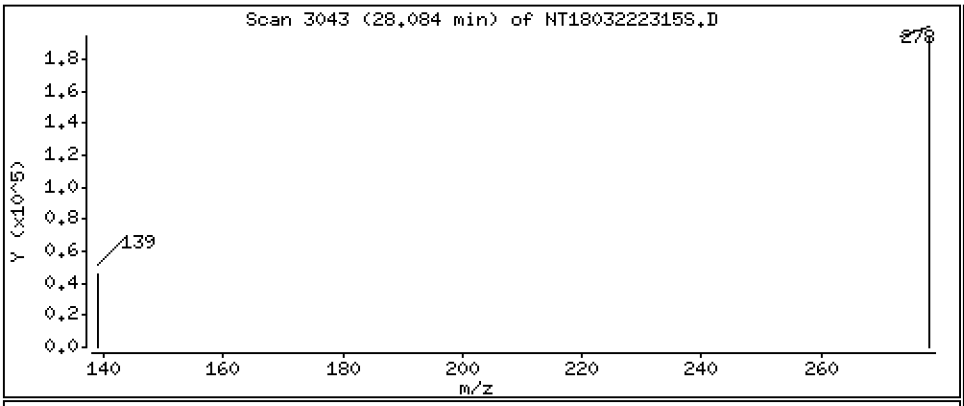
Operator: VTS

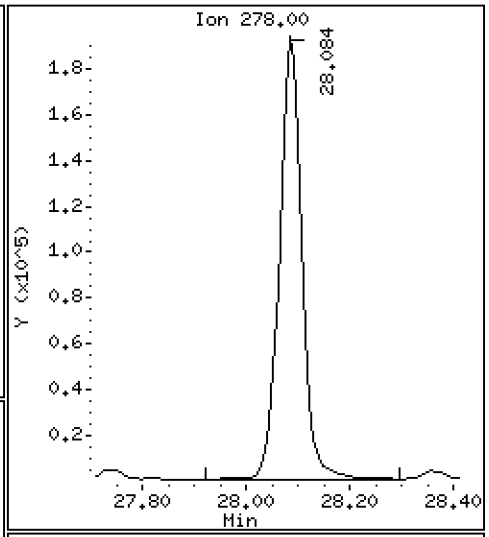
Column phase: ZB-5msi

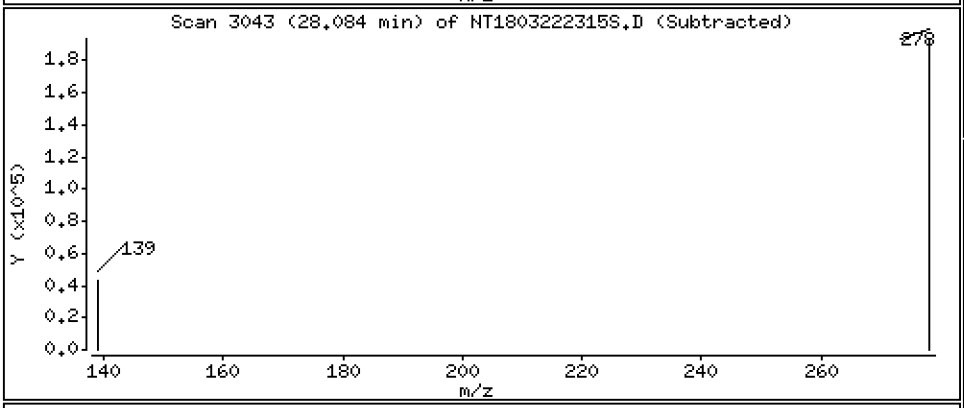
Column diameter: 0.25

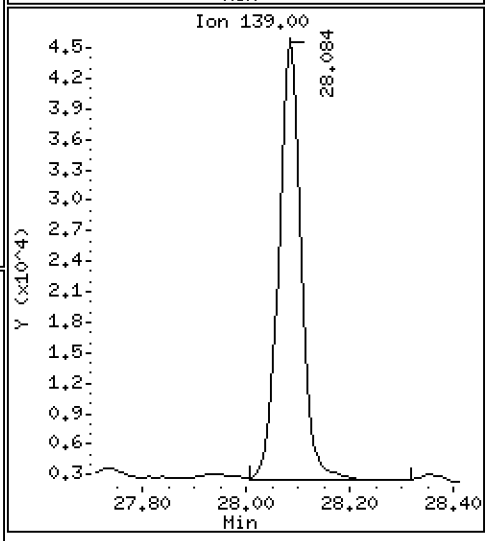
79 Dibenzo(a,h)anthracene

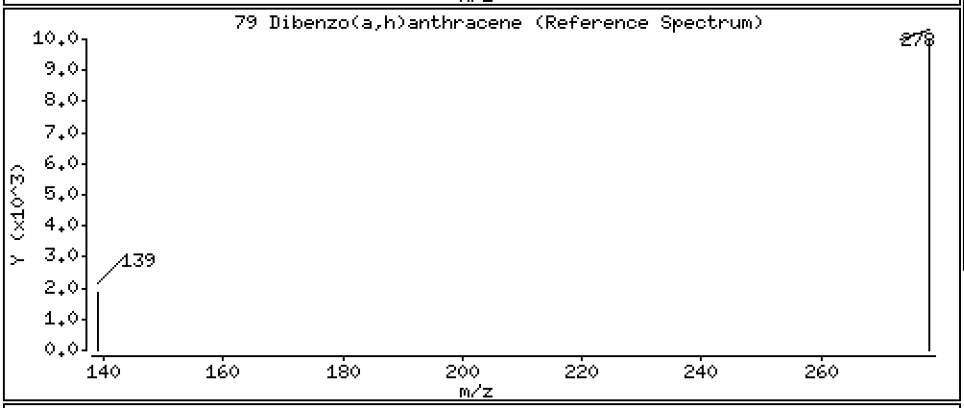
Concentration: 1.586 ug/mL

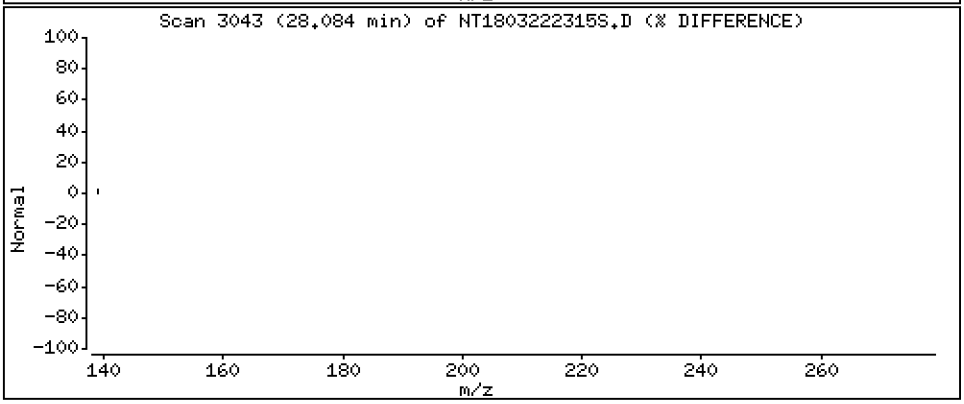












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223155.D

Date : 23-MAR-2023 02:45

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MS2

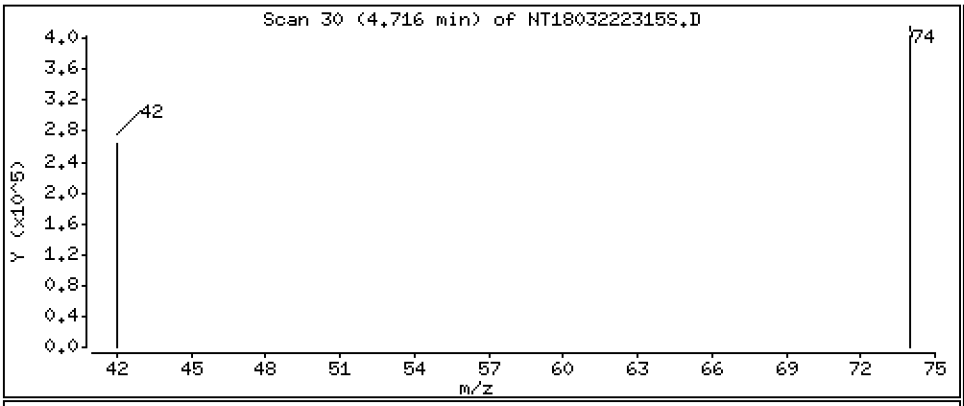
Operator: VTS

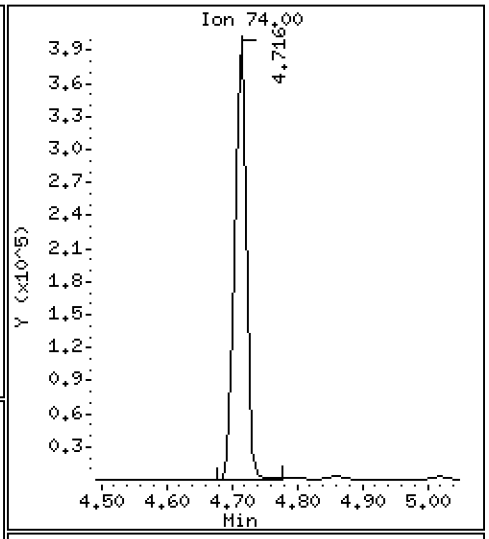
Column phase: ZB-5msi

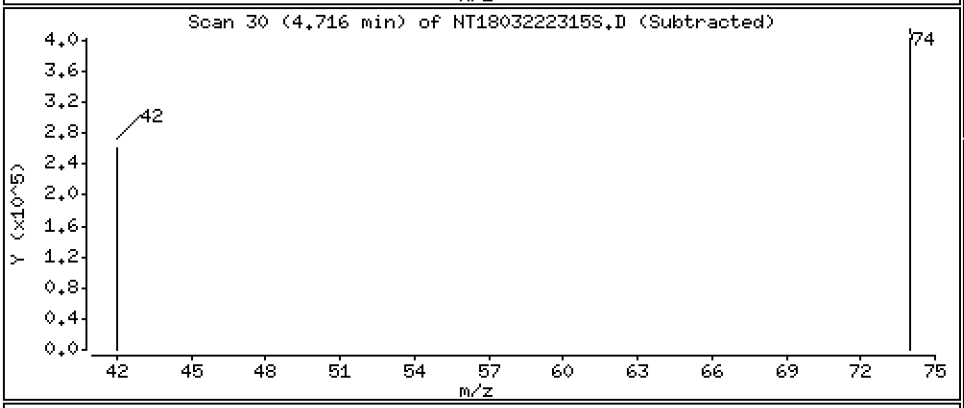
Column diameter: 0.25

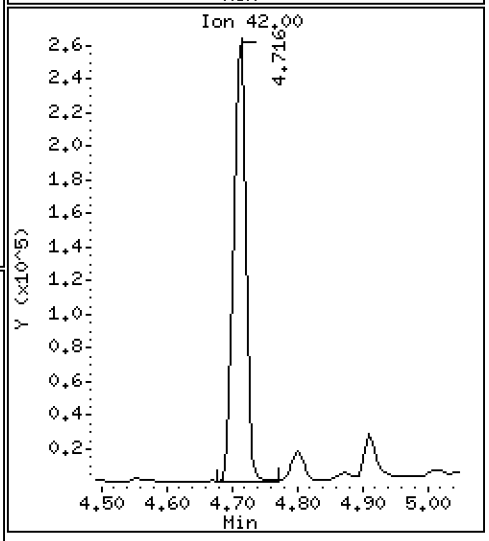
90 N-Nitrosodimethylamine

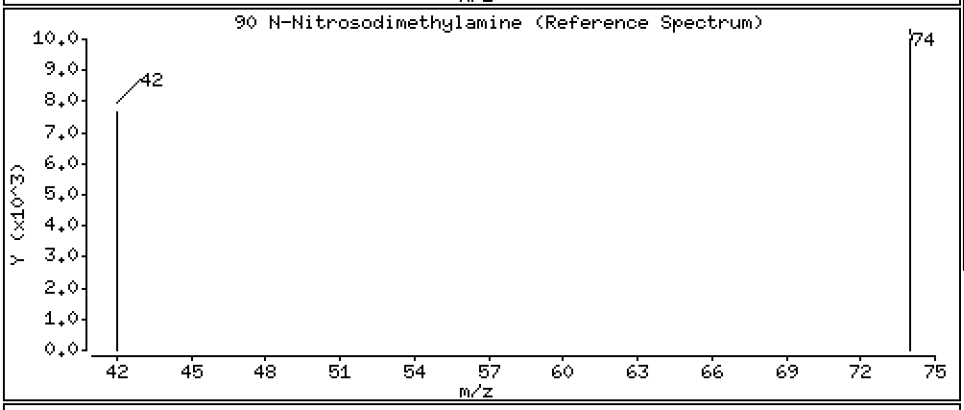
Concentration: 8.193 ug/mL

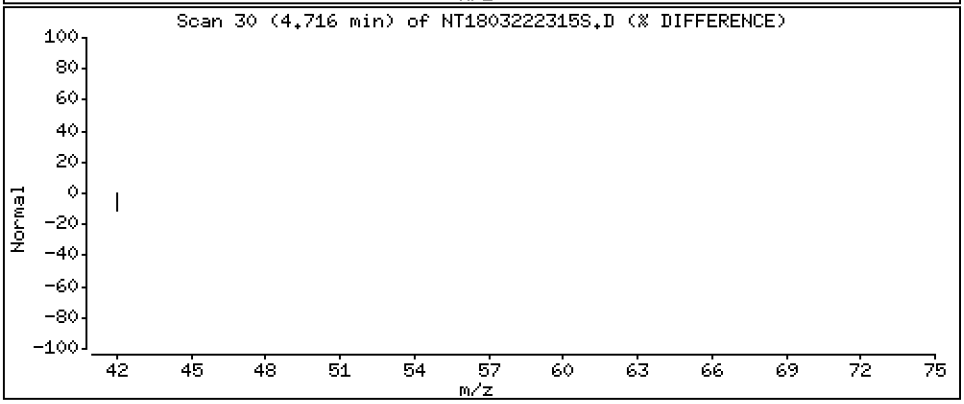












ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222315S.D
Lab Smp Id: BLC0185-MS2
Inj Date : 23-MAR-2023 02:45
Operator : VTS Inst ID: nt18.i
Smp Info : BLC0185-MS2
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230322.b\SIM.b\SIMABN2.m
Meth Date : 05-Apr-2023 10:09 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: DEENAY-201905

								CONCENTRATIONS	
		QUANT SIG						ON-COLUMN	FINAL
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE		(ug/mL)	(ug/mL)
$	1 2-Fluorophenol	112	6.801	6.778	(0.757)	642855		6.27800	6.278(R)
	3 Phenol	94	8.385	8.362	(0.933)	1858838		13.5567	13.56
	7 1,3-Dichlorobenzene	146	8.918	8.918	(0.992)	479678		3.61621	3.616
*	8 1,4-Dichlorobenzene-d4	152	8.988	8.980	(1.000)	351244		4.00000	
	9 1,4-Dichlorobenzene	146	9.011	9.011	(1.003)	488414		3.63008	3.630
	11 Benzyl alcohol	79	9.252	9.244	(1.029)	299400		3.65149	3.651
	12 1,2-Dichlorobenzene	146	9.361	9.360	(1.041)	470078		3.58982	3.590
	13 2-Methylphenol	108	9.477	9.469	(1.054)	363541		3.81932	3.819
	15 4-Methylphenol	108	9.749	9.733	(1.085)	399138		4.03109	4.031
	16 N-Nitroso-di-n-propylamine	70	9.803	9.803	(1.091)	266710		4.08353	4.084
	22 2,4-Dimethylphenol	107	10.775	10.775	(0.941)	738621		8.13344	8.133
	24 Benzoic acid	105	10.995	10.902	(0.961)	906888		13.7690	13.77
	26 1,2,4-Trichlorobenzene	180	11.360	11.360	(0.993)	391034		3.77523	3.775
*	27 Naphthalene-d8	136	11.445	11.444	(1.000)	1300390		4.00000	
	30 Hexachlorobutadiene	225	11.846	11.846	(1.035)	224606		3.76787	3.768
	39 Dimethylphthalate	163	14.547	14.539	(0.968)	906911		4.61381	4.614
*	42 Acenaphthene-d10	162	15.027	15.027	(1.000)	615391		4.00000	
	50 Diethylphthalate	149	15.993	15.985	(1.064)	1173420		6.57441	6.574
	54 N-Nitrosodiphenylamine	169	16.364	16.364	(0.907)	569766		4.25922	4.259
	57 Hexachlorobenzene	284	17.421	17.413	(0.966)	278401		4.37450	4.375
	58 Pentachlorophenol	266	17.777	17.769	(0.986)	597288		14.8949	14.89
*	59 Phenanthrene-d10	188	18.032	18.032	(1.000)	1101432		4.00000	
$	66 Terphenyl-d14	244	21.173	21.165	(0.918)	755282		4.13358	4.134(R)
	67 Butylbenzylphthalate	149	22.095	22.095	(0.958)	830438		4.53929	4.539
*	69 Chrysene-d12	240	23.063	23.055	(1.000)	1296323		4.00000	
*	77 Perylene-d12	264	25.579	25.563	(1.000)	1262809		4.00000	
	79 Dibenzo(a,h)anthracene	278	28.083	28.060	(1.098)	592625		1.58607	1.586
	90 N-Nitrosodimethylamine	74	4.716	4.700	(0.525)	512015		8.19264	8.193

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222315S.D
Lab Smp Id: BLC0185-MS2
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 22-MAR-2023
Calibration Time: 18:36
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	283947	141974	567894	351244	23.70
27 Naphthalene-d8	1057483	528742	2114966	1300390	22.97
42 Acenaphthene-d10	520336	260168	1040672	615391	18.27
59 Phenanthrene-d10	933537	466769	1867074	1101432	17.98
69 Chrysene-d12	863272	431636	1726544	1296323	50.16
77 Perylene-d12	996915	498458	1993830	1262809	26.67

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.99	0.09
27 Naphthalene-d8	11.44	10.94	11.94	11.45	0.00
42 Acenaphthene-d10	15.03	14.53	15.53	15.03	0.00
59 Phenanthrene-d10	18.03	17.53	18.53	18.03	0.00
69 Chrysene-d12	23.06	22.56	23.56	23.06	0.03
77 Perylene-d12	25.56	25.06	26.06	25.58	0.06

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222315S.D

Lab ID: BLC0185-MS2
nt18.i, 20230322.b\SIM.b\SIMABN2.m,   23-MAR-2023 02:45

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.961	0.953	0.0081	Benzoic acid

RRT check based on Ccal File: SIM.b/NT1803222303S.D

On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223316S.D

Date : 23-MAR-2023 03:25

Client ID:

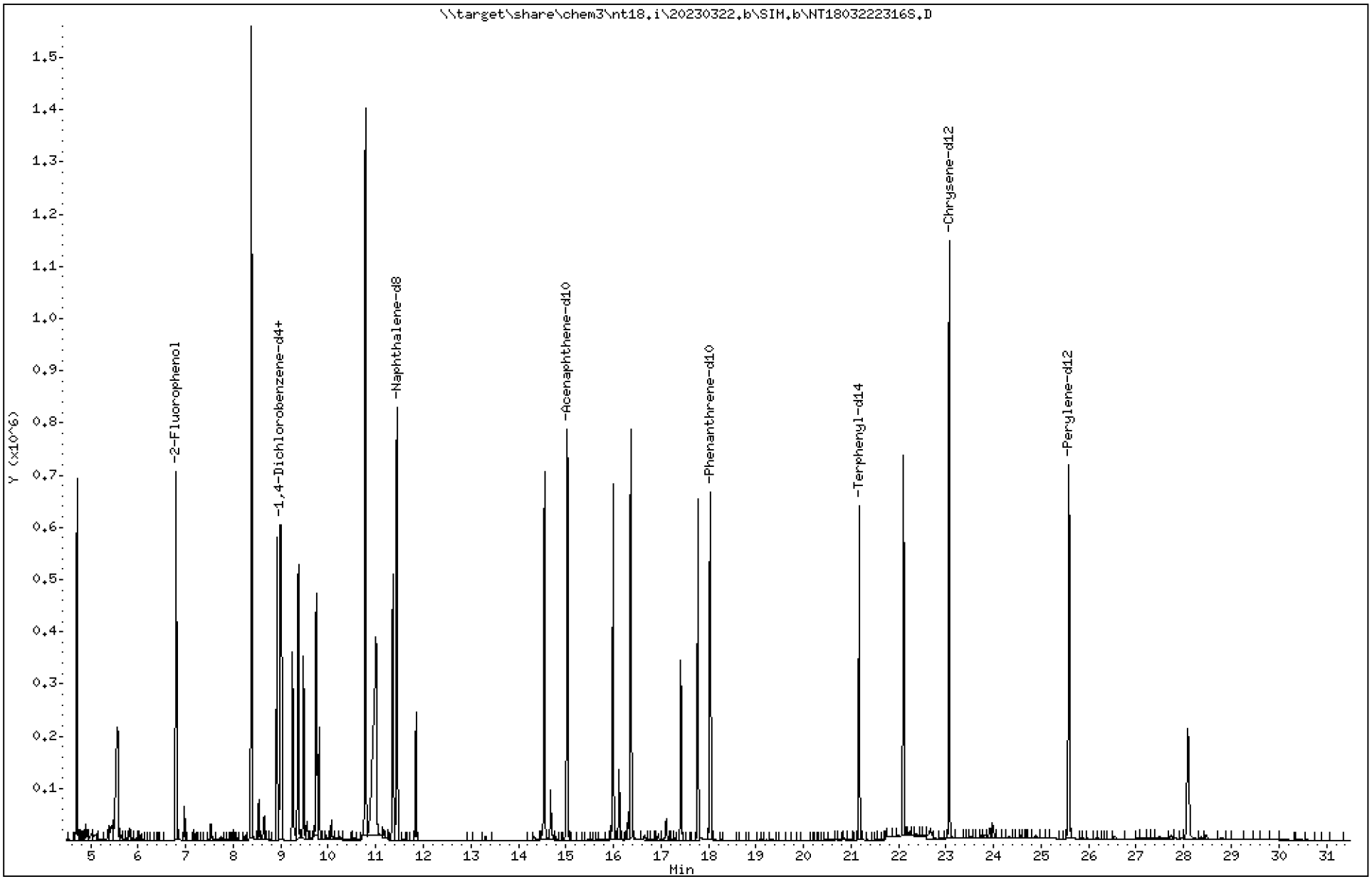
Instrument: nt18.i

Sample Info: BLC0185-MSD2

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223165.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD2

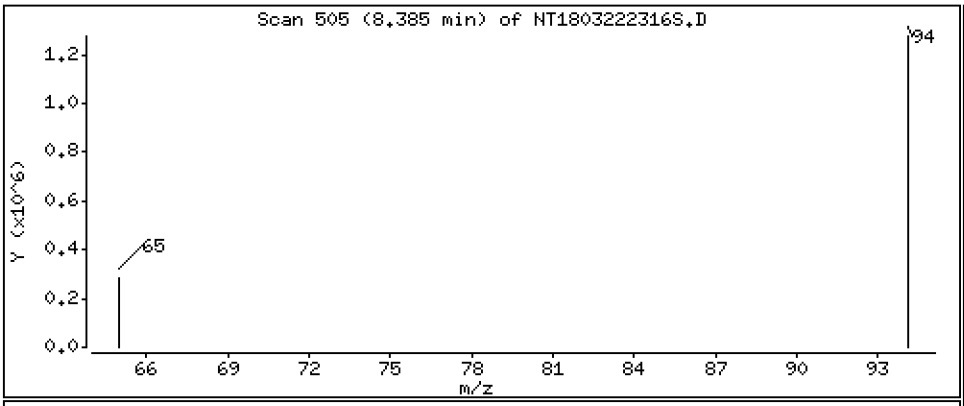
Operator: VTS

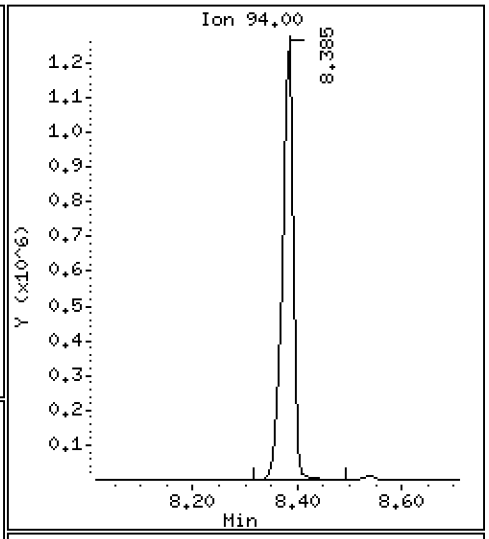
Column phase: ZB-5msi

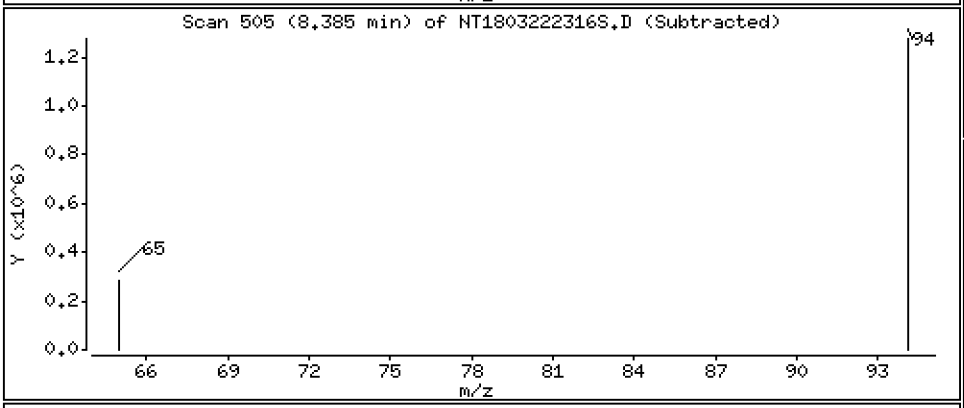
Column diameter: 0.25

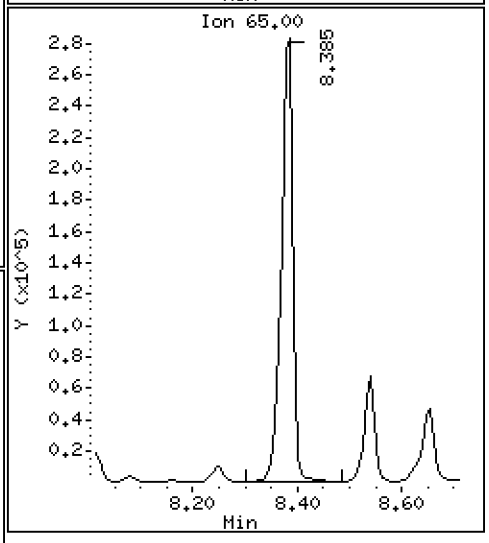
3 Phenol

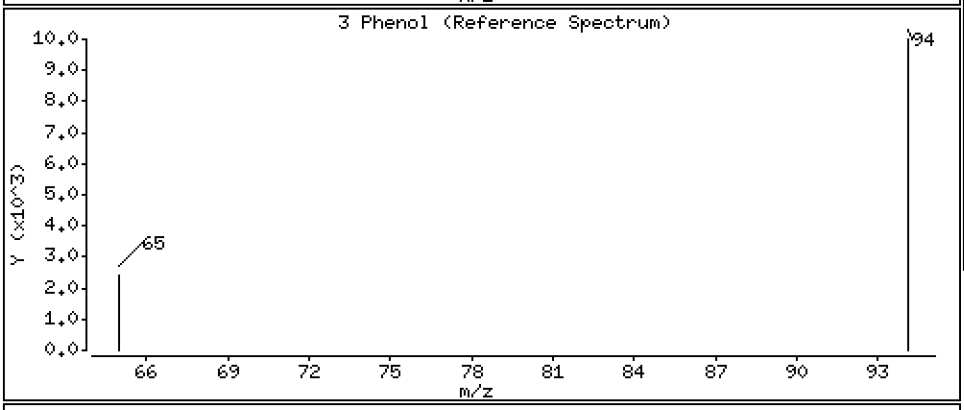
Concentration: 13.37 ug/mL

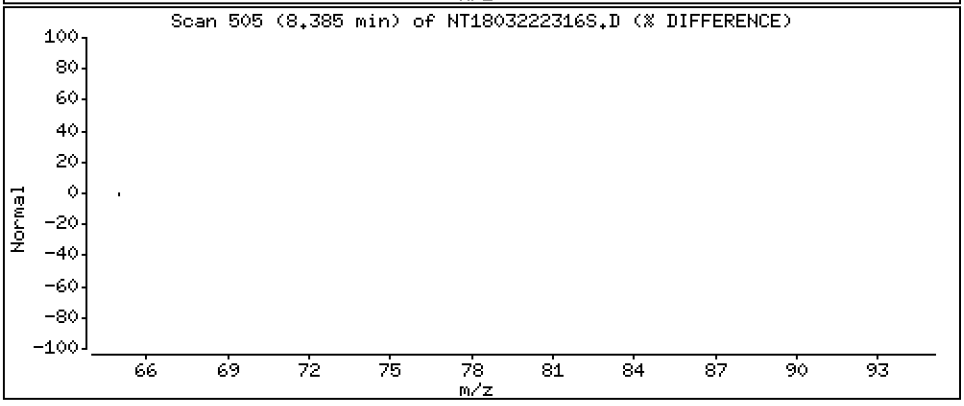












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222316S.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD2

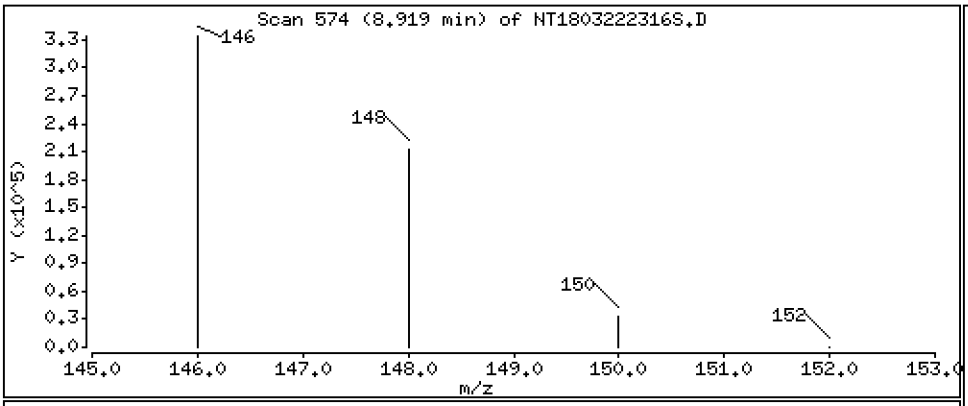
Operator: VTS

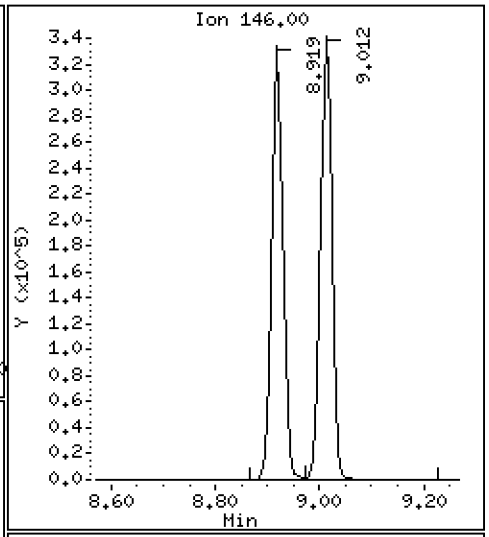
Column phase: ZB-5msi

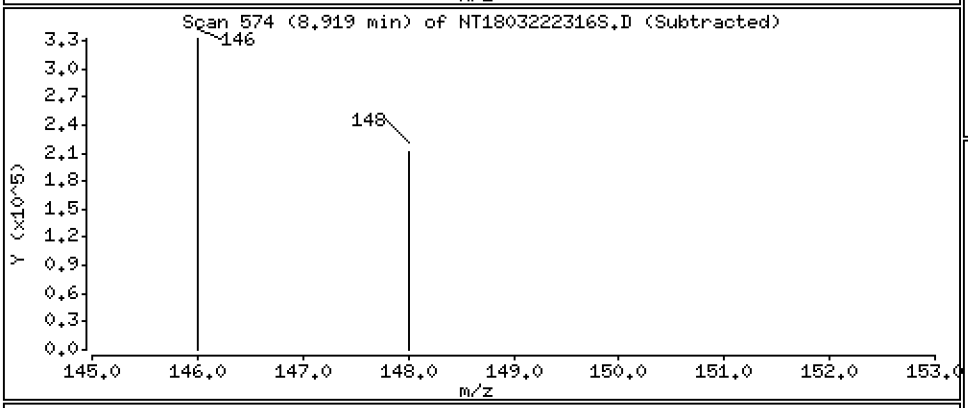
Column diameter: 0.25

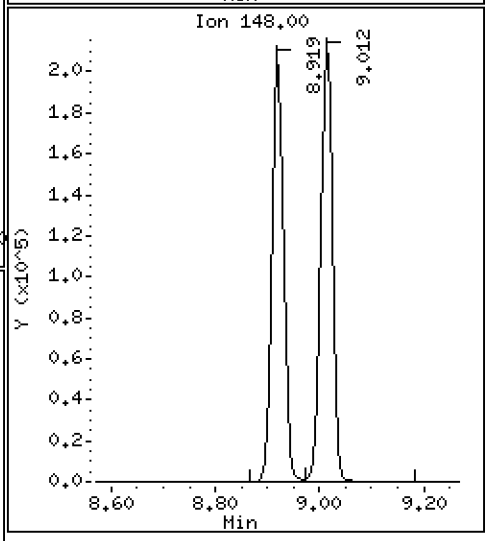
7 1,3-Dichlorobenzene

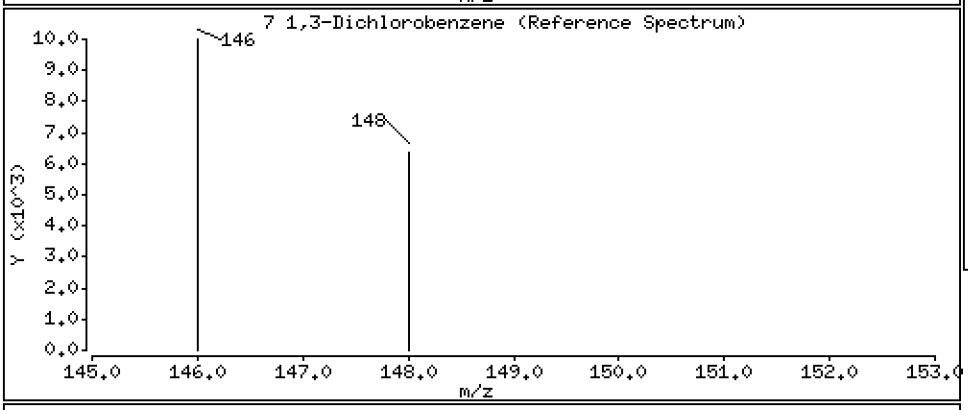
Concentration: 3.635 ug/mL

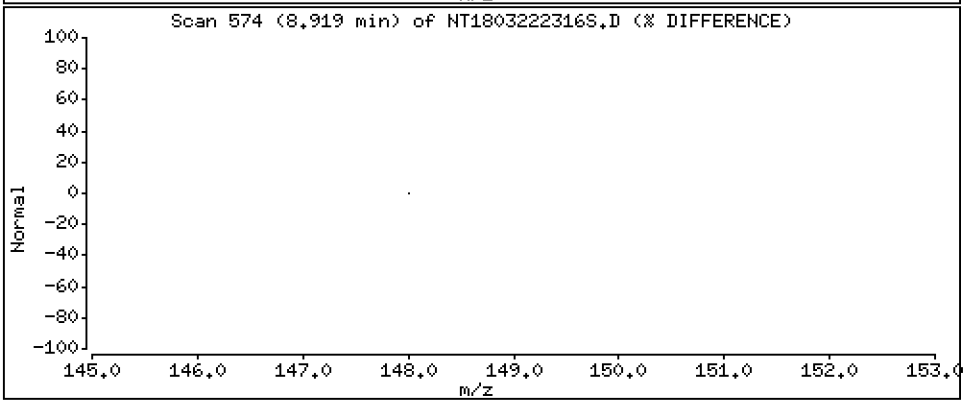












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222316S.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD2

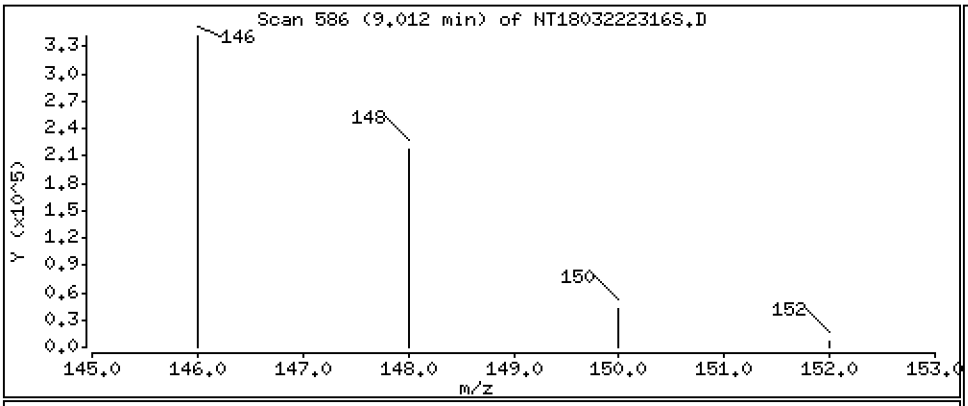
Operator: VTS

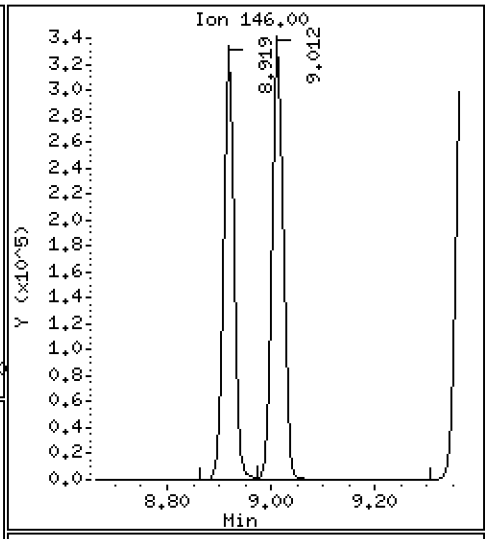
Column phase: ZB-5msi

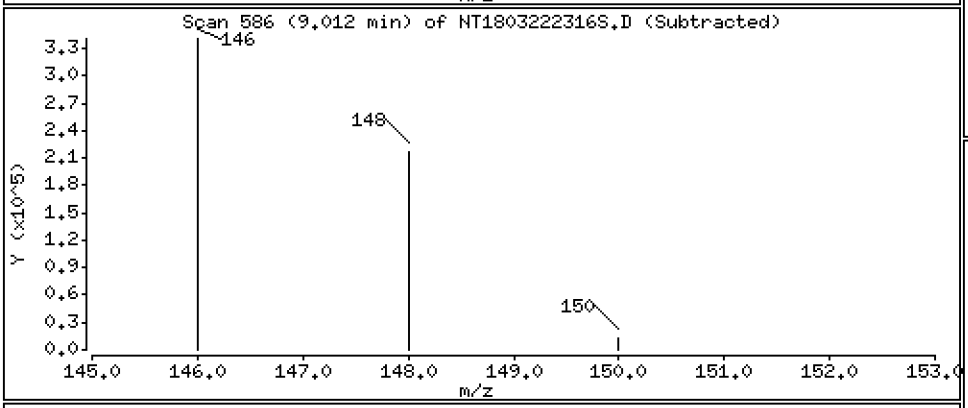
Column diameter: 0.25

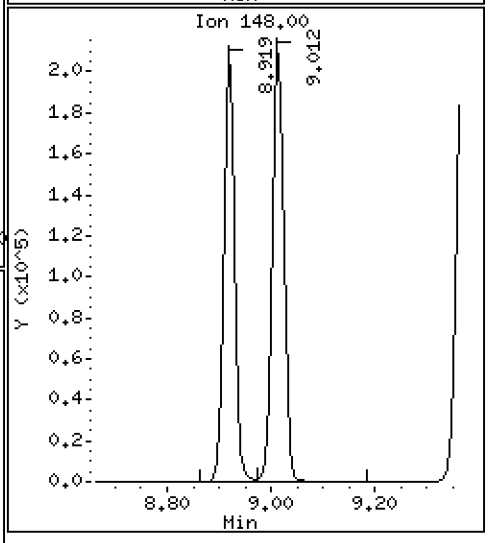
9 1,4-Dichlorobenzene

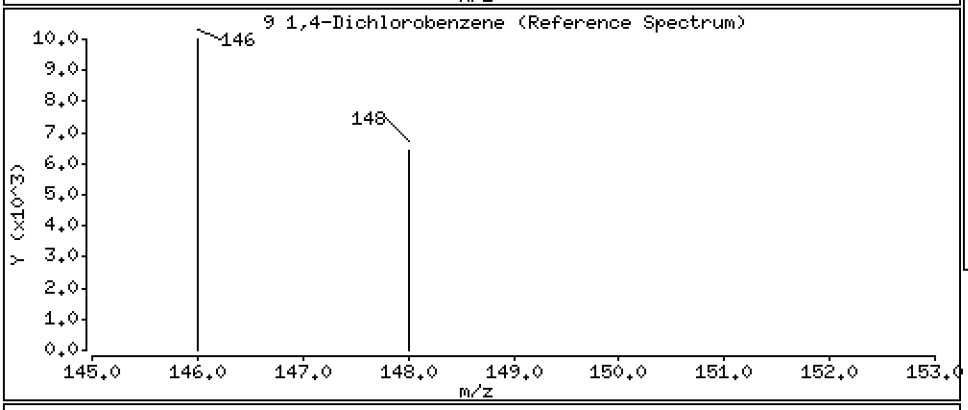
Concentration: 3.651 ug/mL

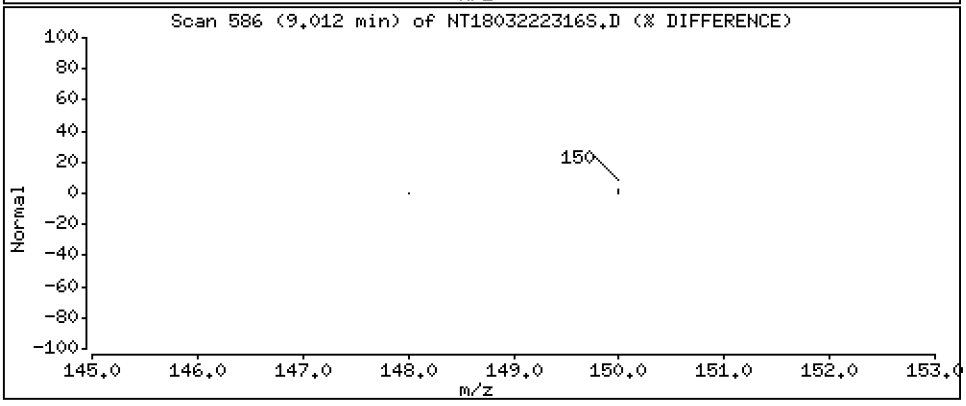












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222316S.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD2

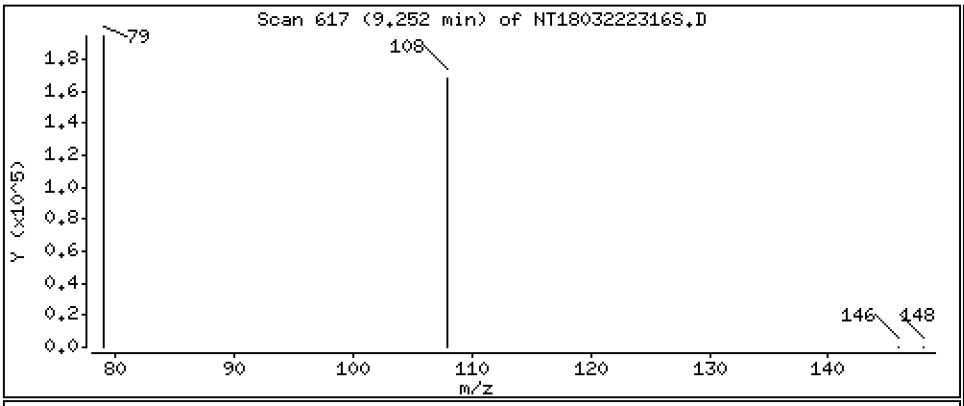
Operator: VTS

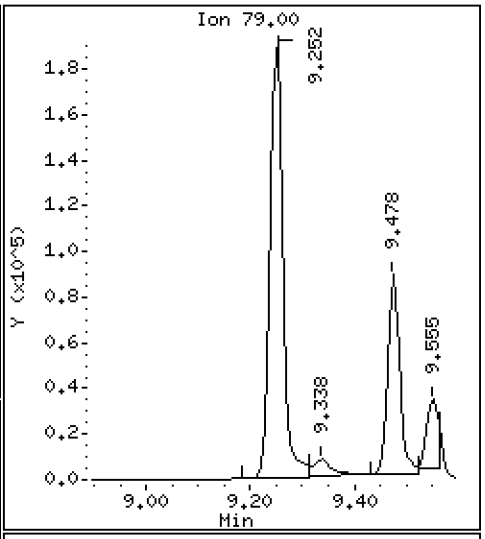
Column phase: ZB-5msi

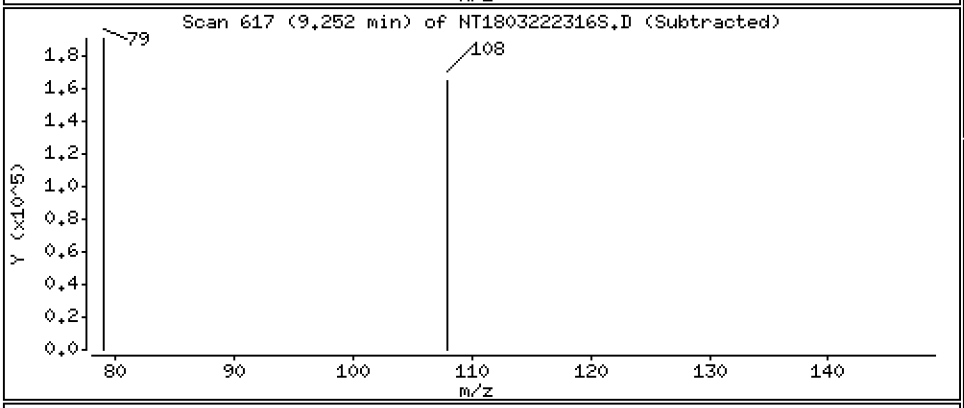
Column diameter: 0.25

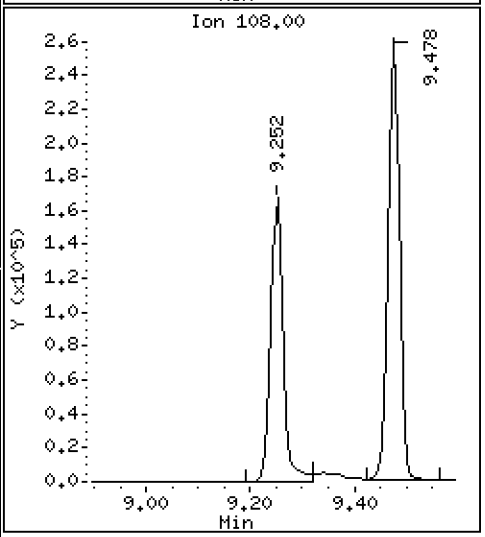
11 Benzyl alcohol

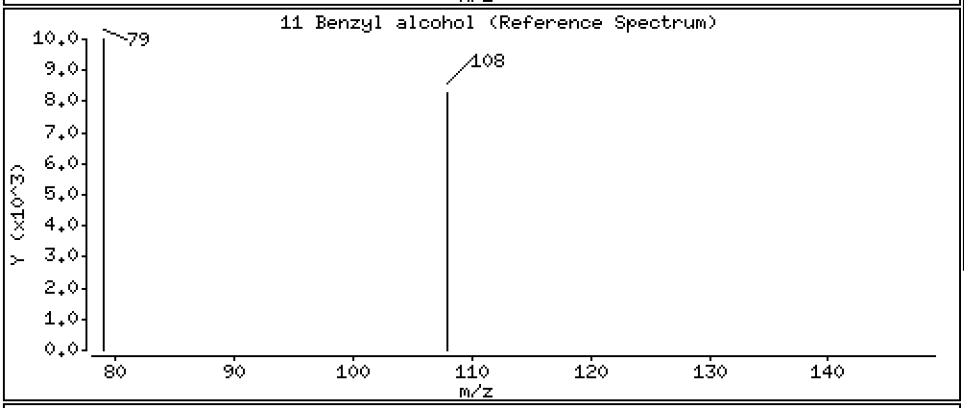
Concentration: 3.806 ug/mL

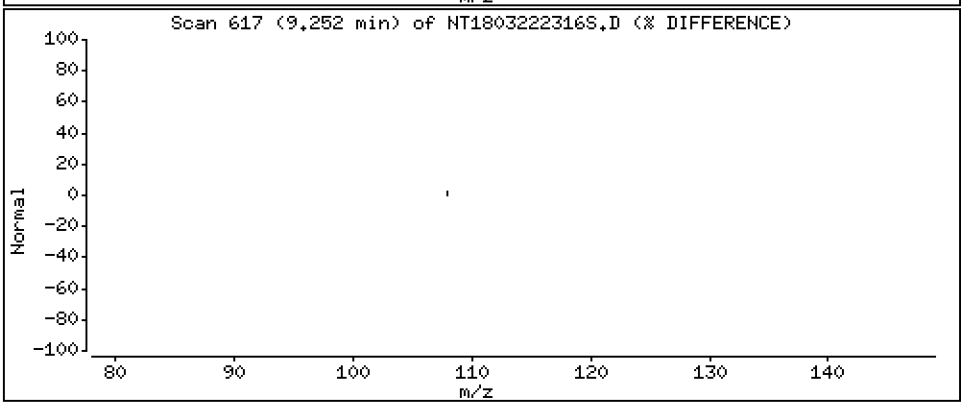












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223165.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD2

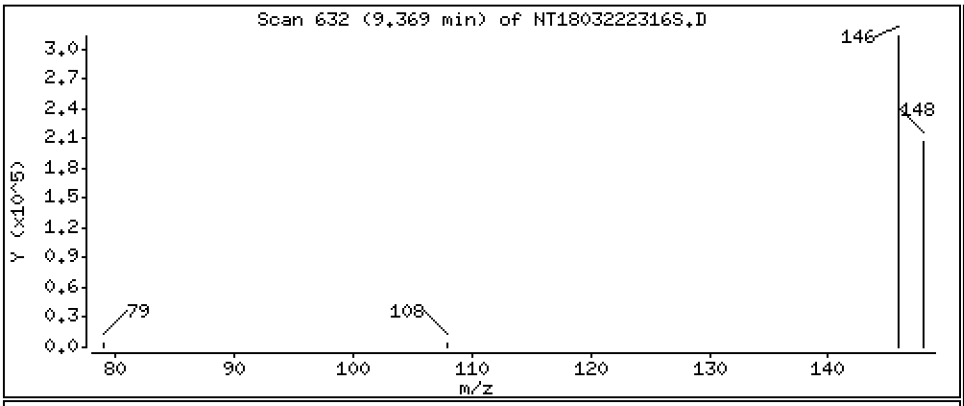
Operator: VTS

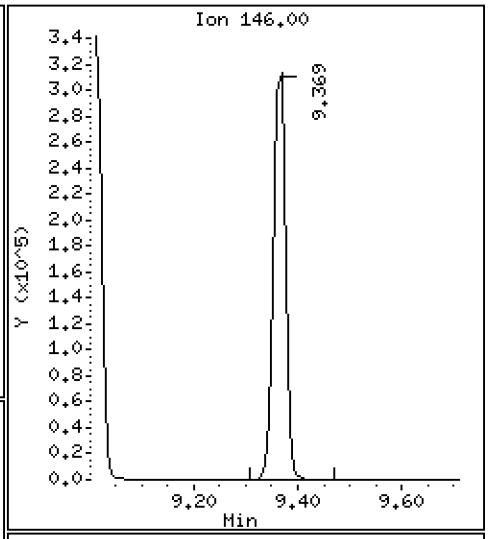
Column phase: ZB-5msi

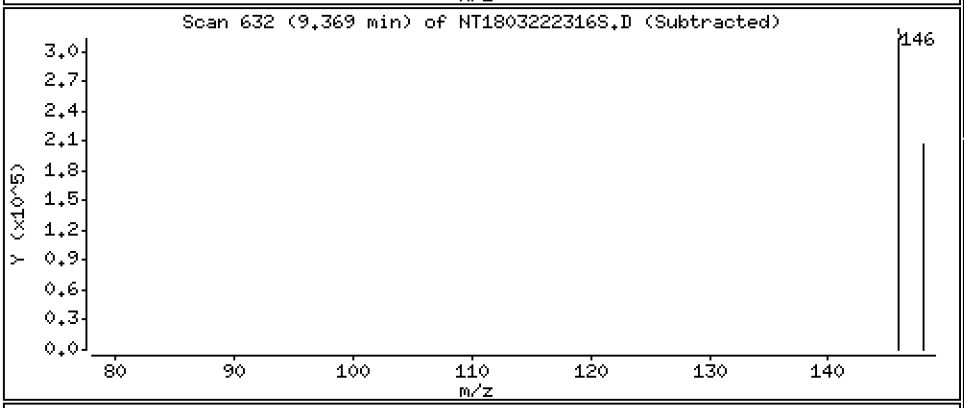
Column diameter: 0.25

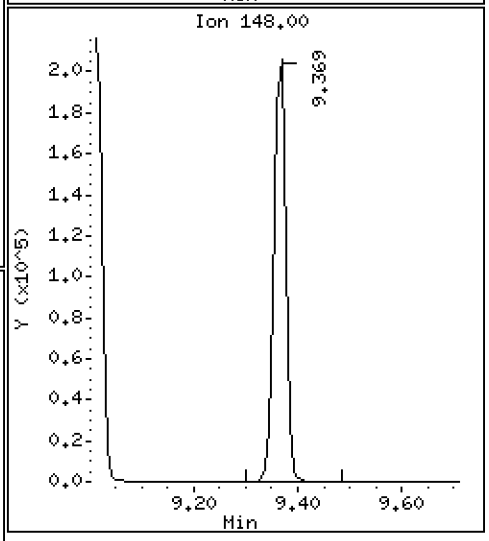
12 1,2-Dichlorobenzene

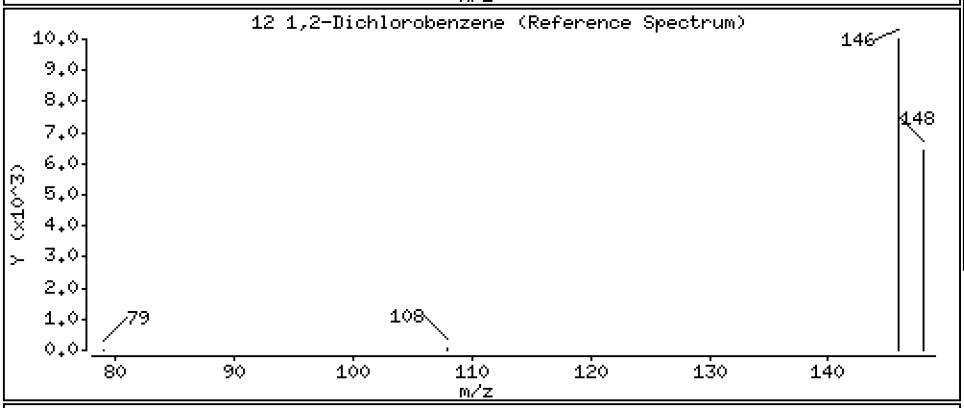
Concentration: 3.642 ug/mL

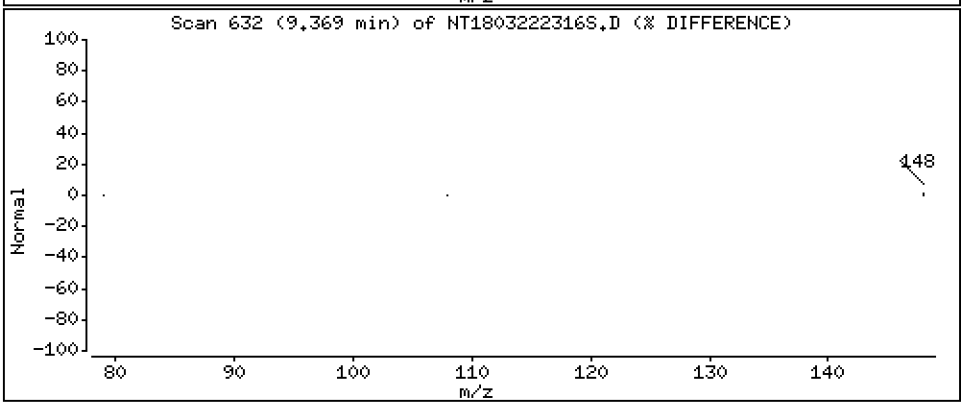












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222316S.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD2

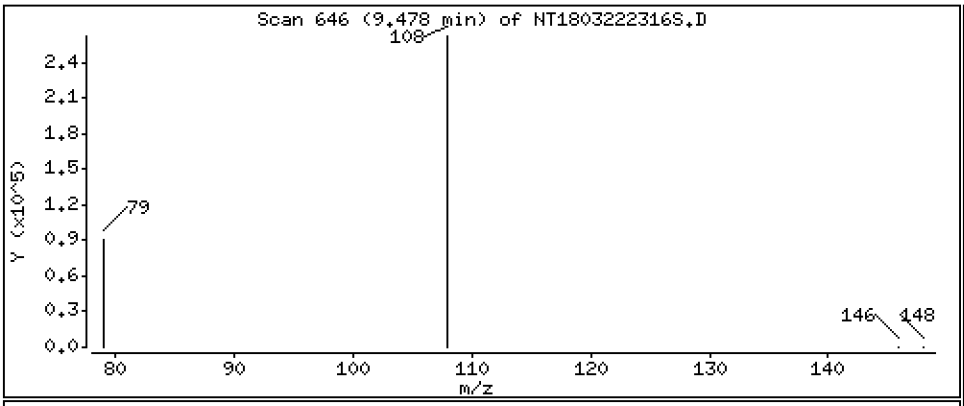
Operator: VTS

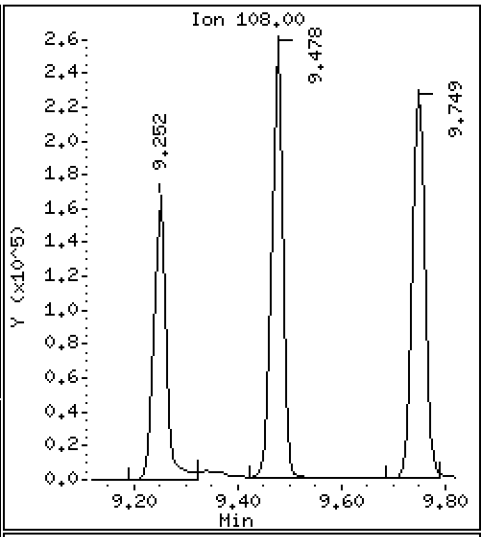
Column phase: ZB-5msi

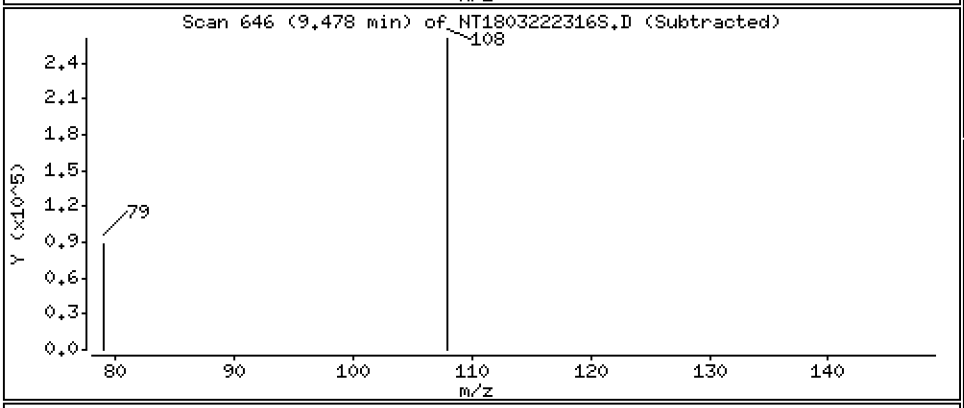
Column diameter: 0.25

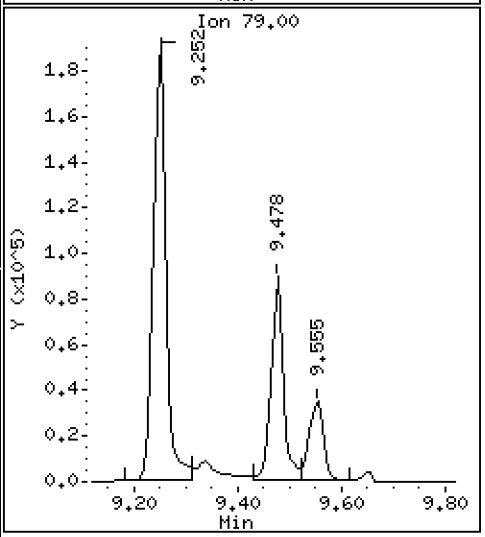
13 2-Methylphenol

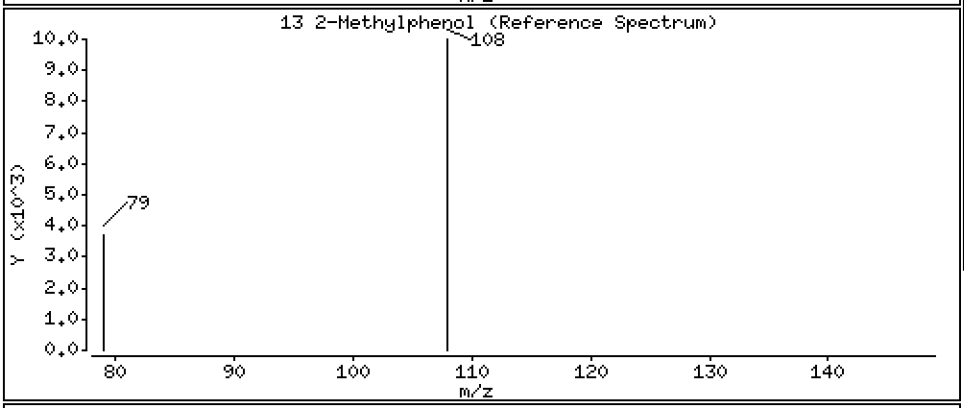
Concentration: 3.931 ug/mL

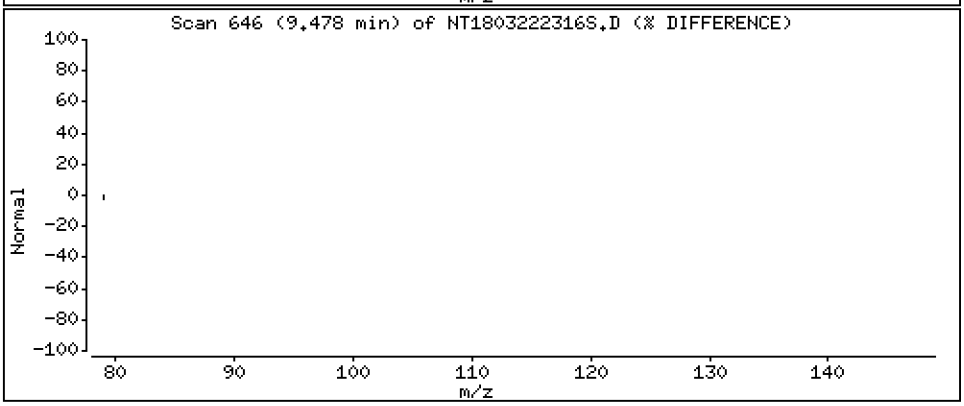












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222316S.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD2

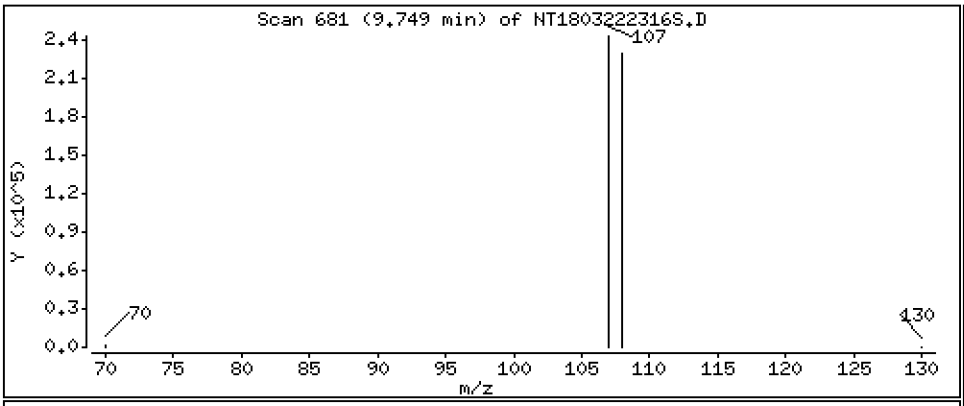
Operator: VTS

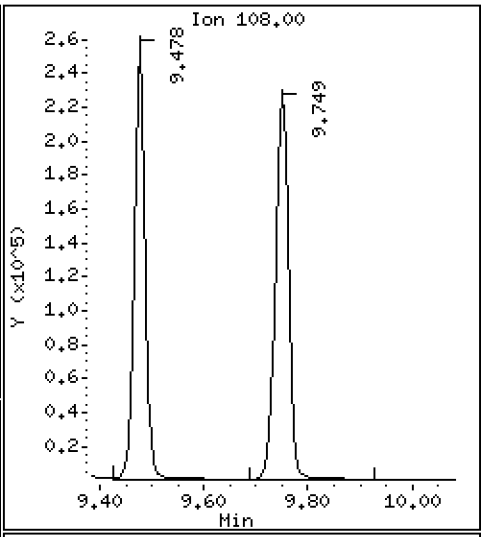
Column phase: ZB-5msi

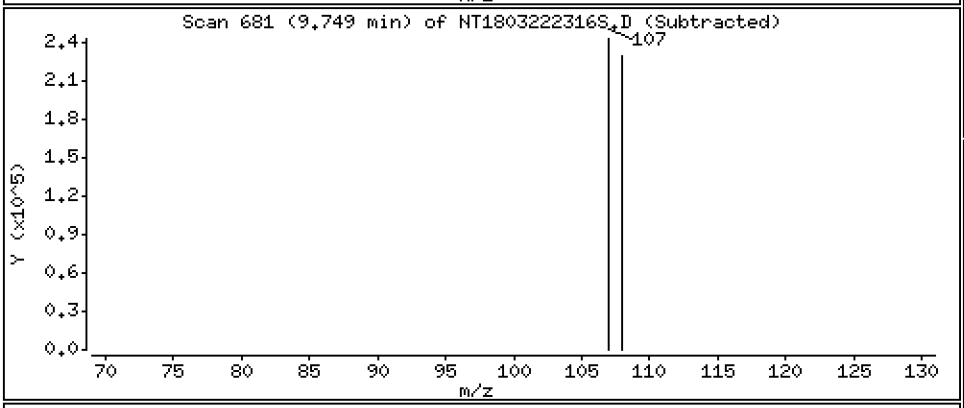
Column diameter: 0.25

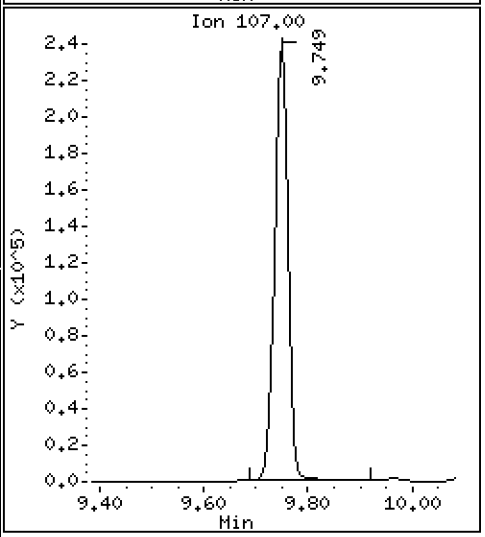
15 4-Methylphenol

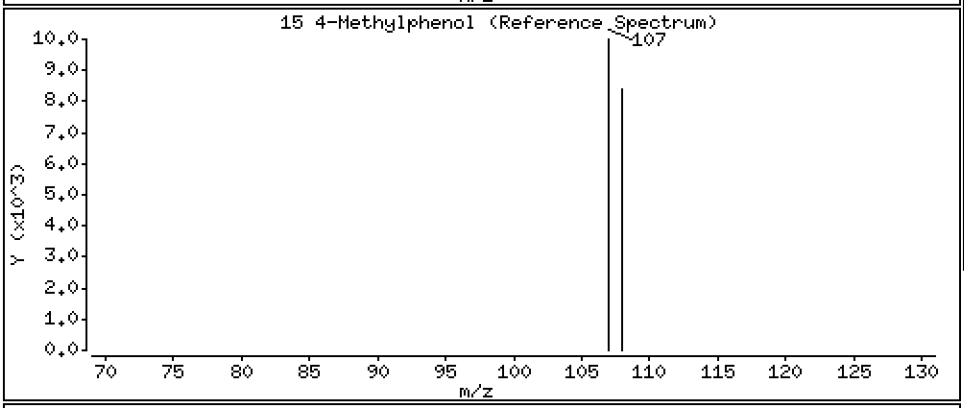
Concentration: 4.160 ug/mL

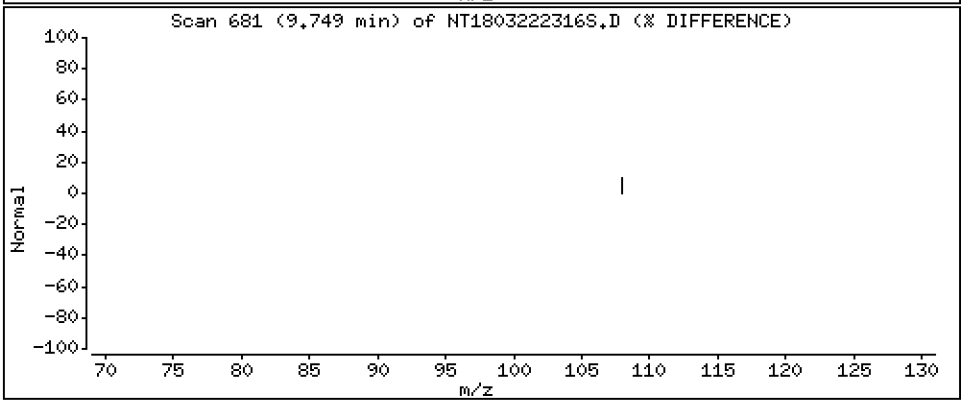












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223165.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD2

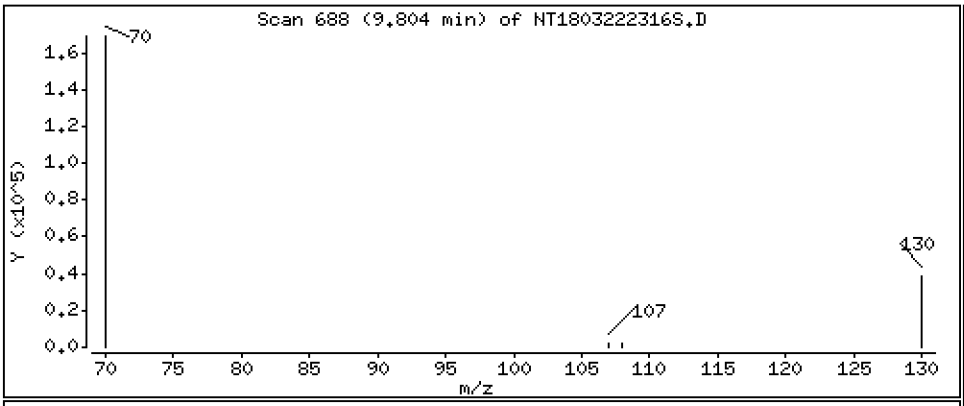
Operator: VTS

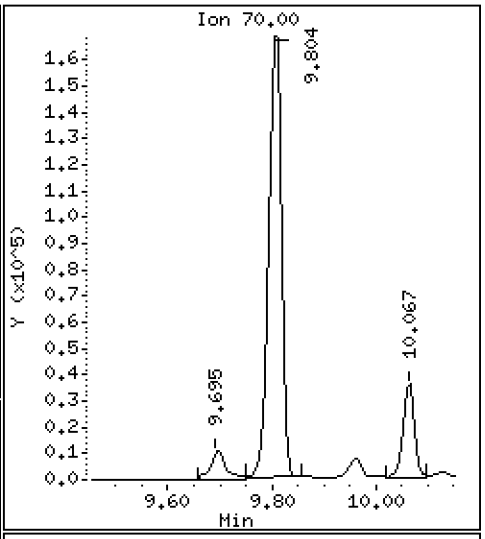
Column phase: ZB-5msi

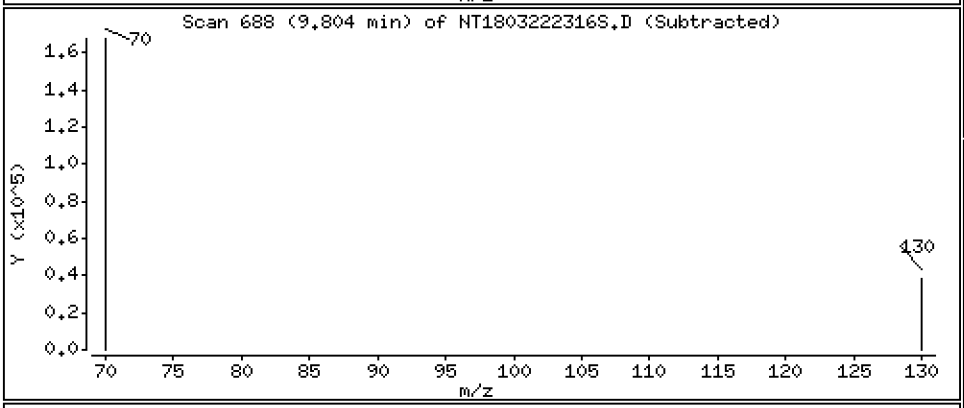
Column diameter: 0.25

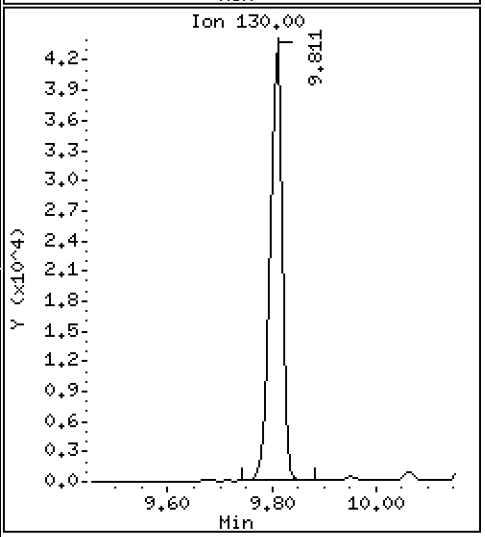
16 N-Nitroso-di-n-propylamine

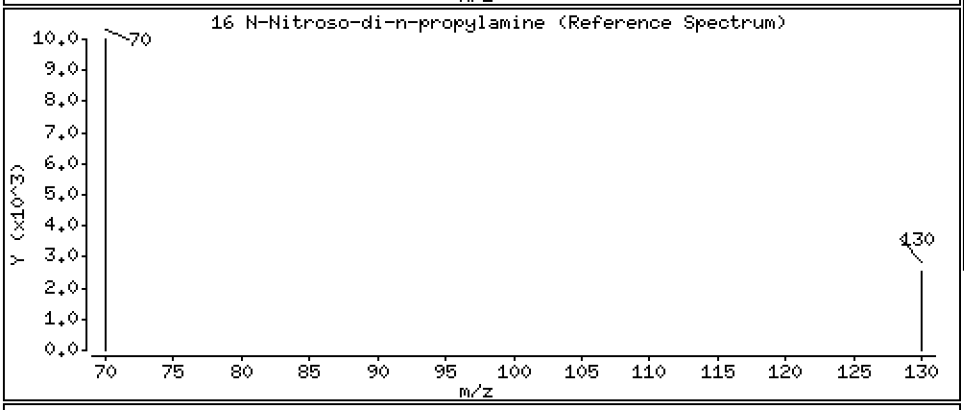
Concentration: 4.199 ug/mL

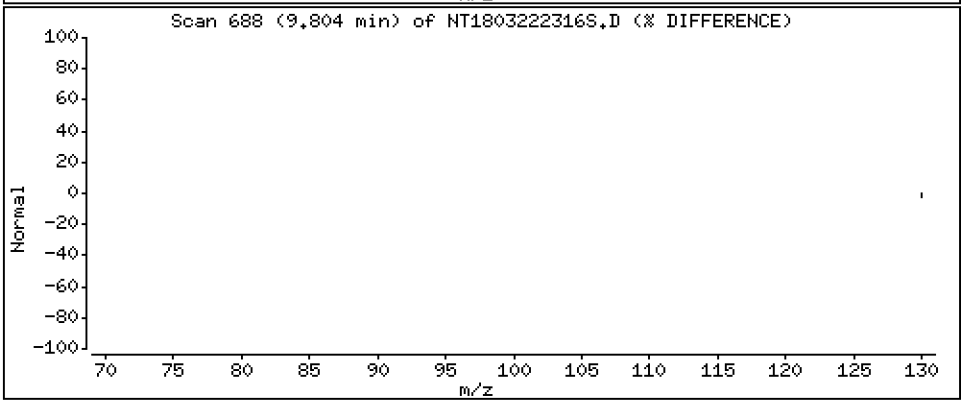












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223165.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD2

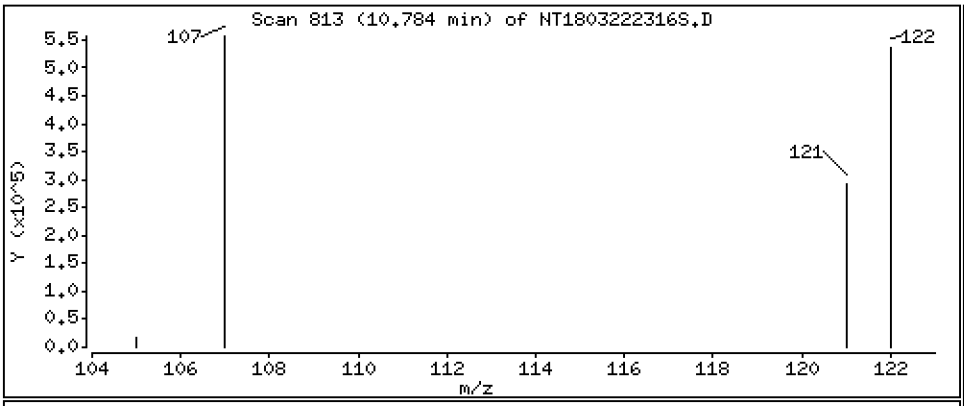
Operator: VTS

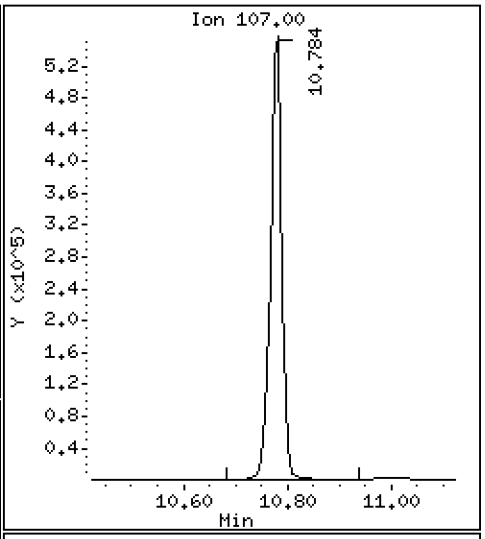
Column phase: ZB-5msi

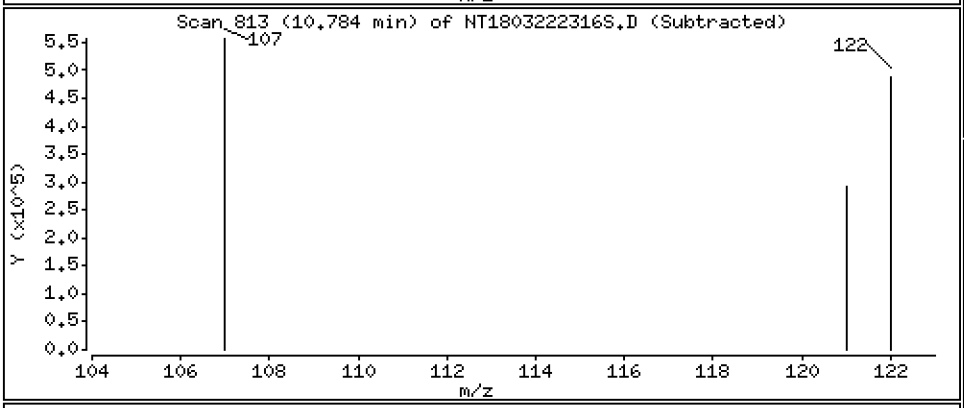
Column diameter: 0.25

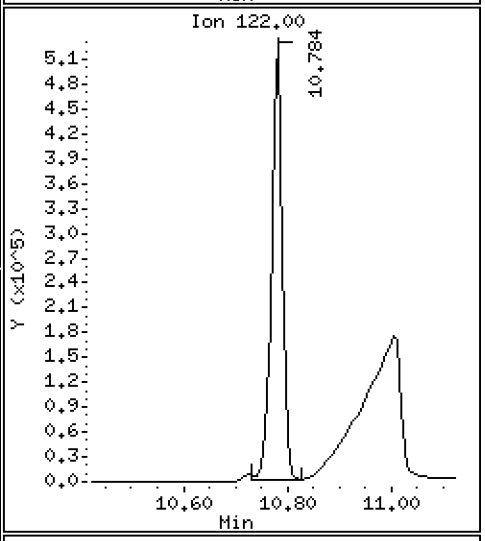
22 2,4-Dimethylphenol

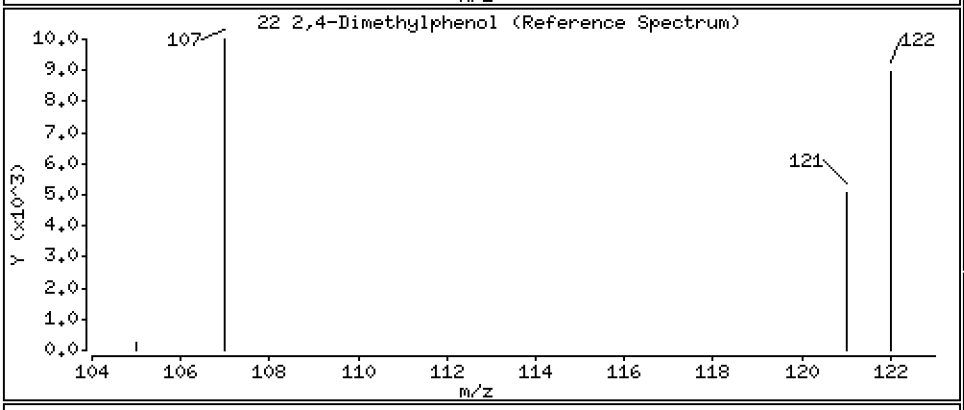
Concentration: 9.764 ug/mL

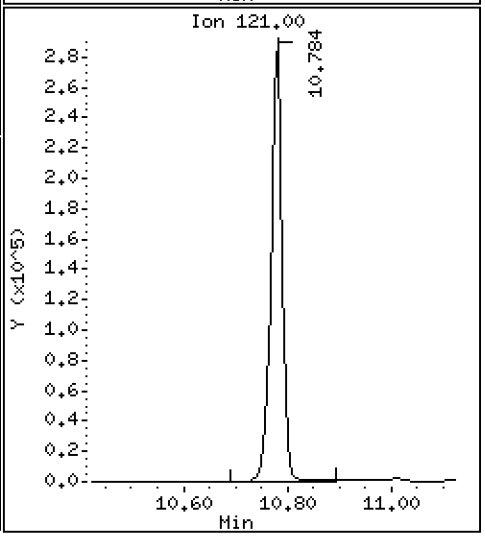


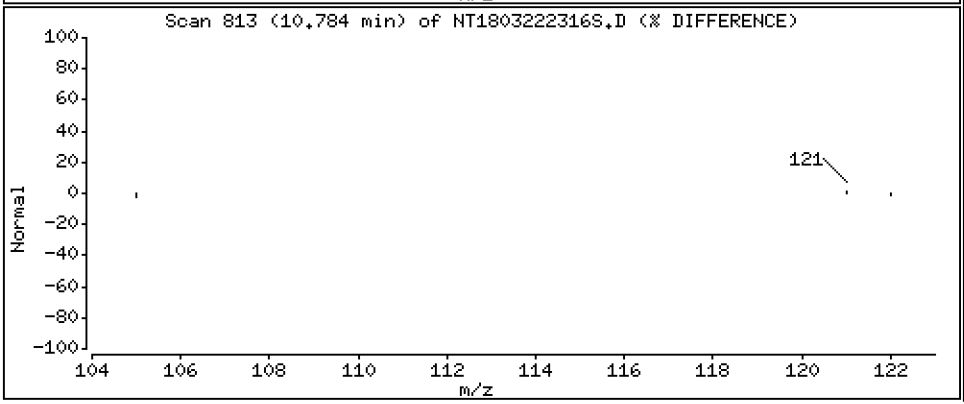












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223165.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD2

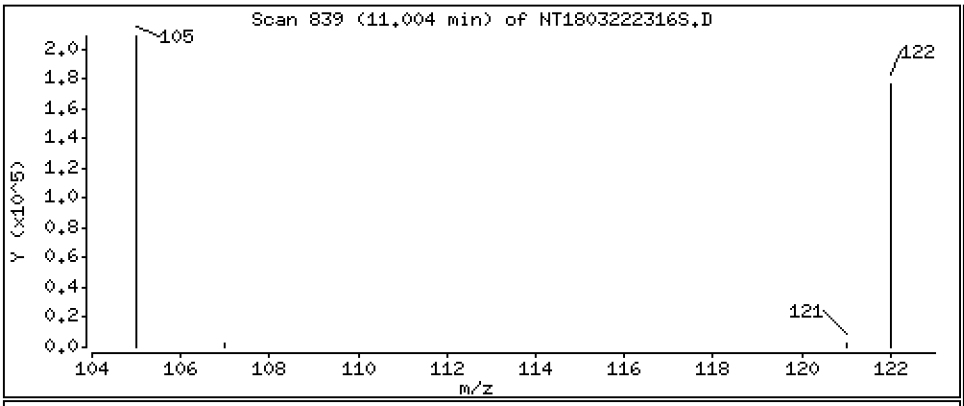
Operator: VTS

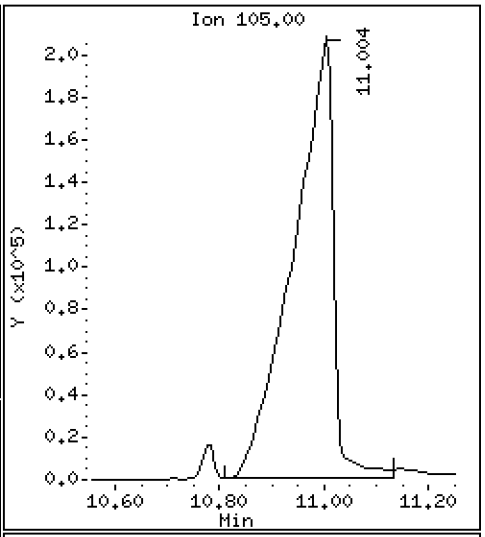
Column phase: ZB-5msi

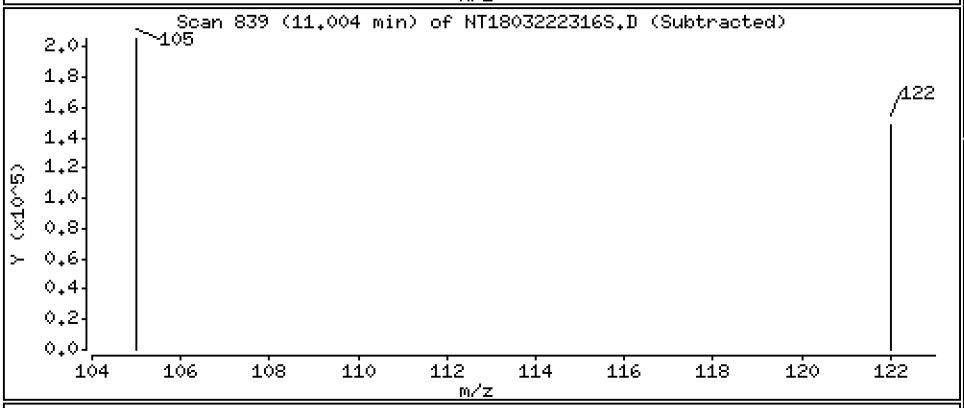
Column diameter: 0.25

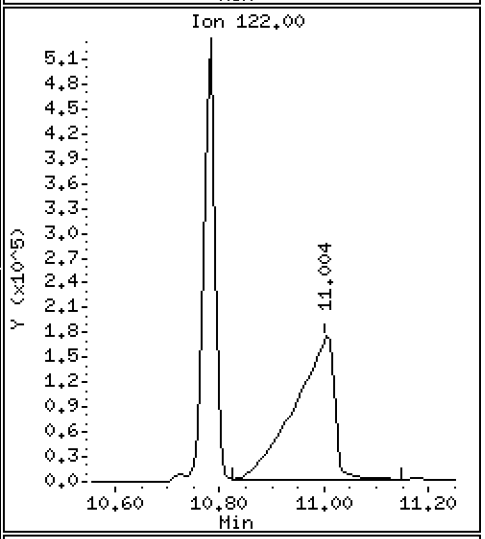
24 Benzoic acid

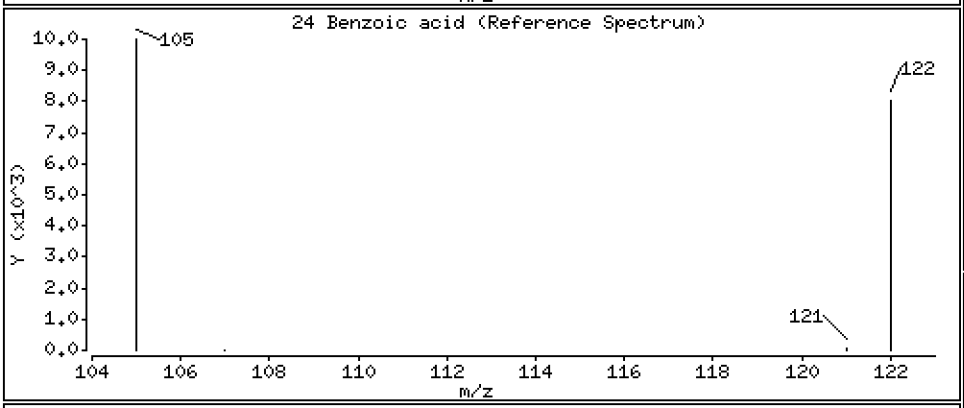
Concentration: 16.49 ug/mL

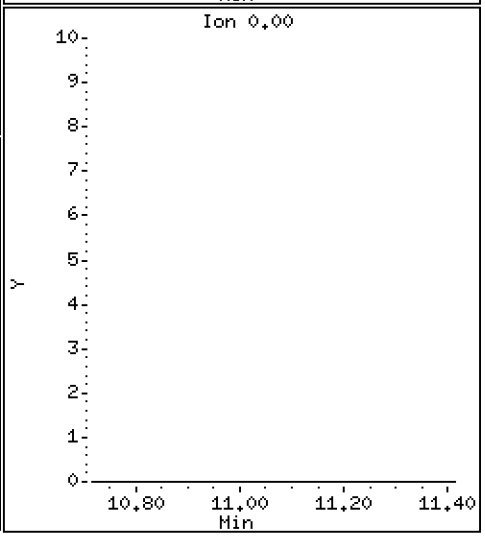


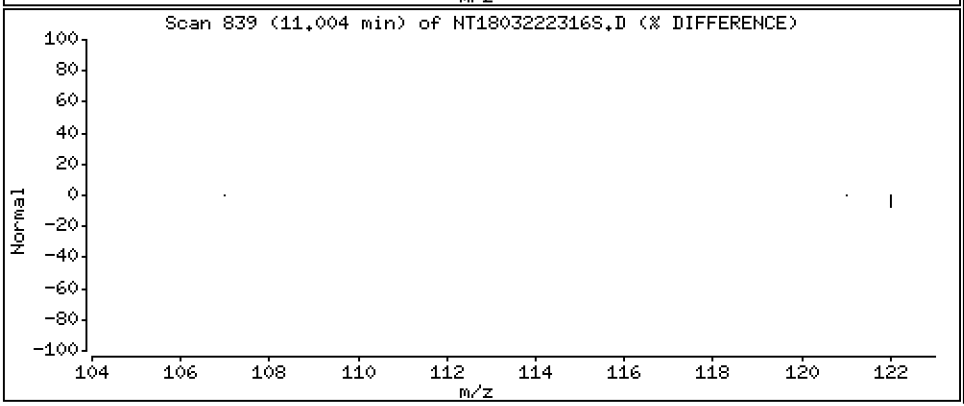












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD2

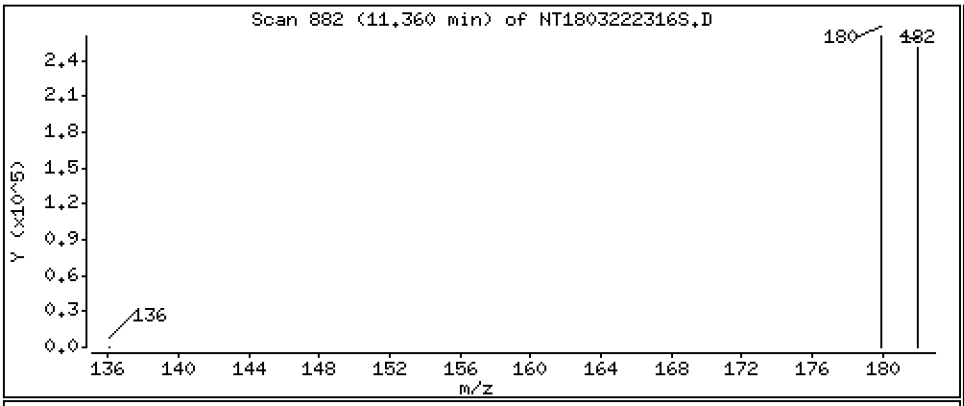
Operator: VTS

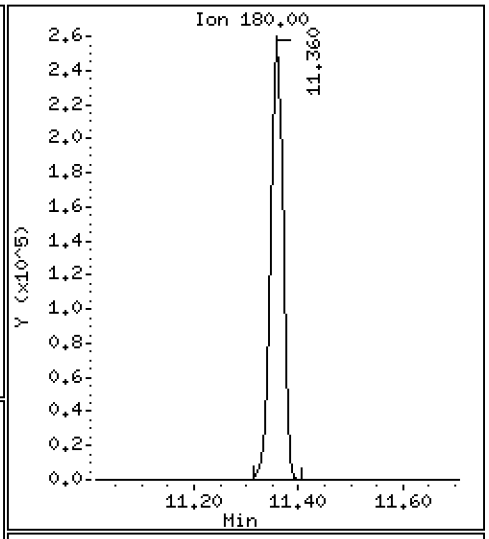
Column phase: ZB-5msi

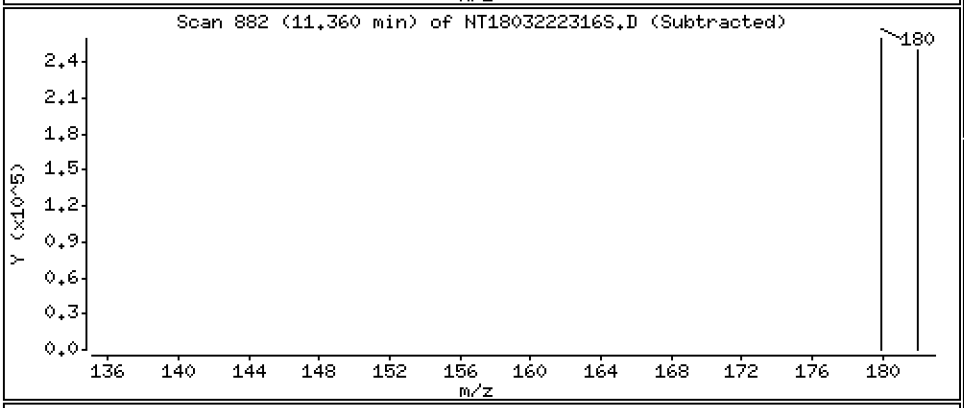
Column diameter: 0.25

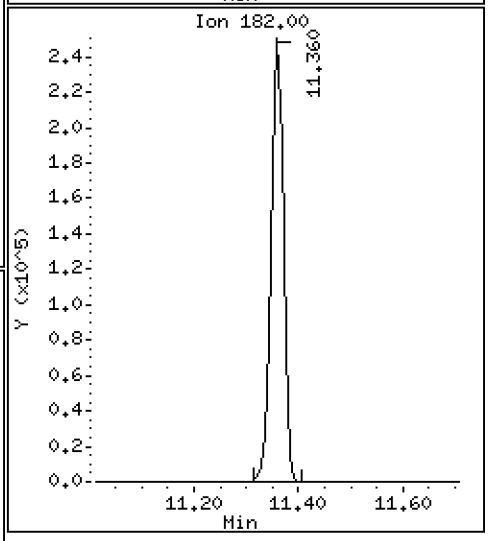
26 1,2,4-Trichlorobenzene

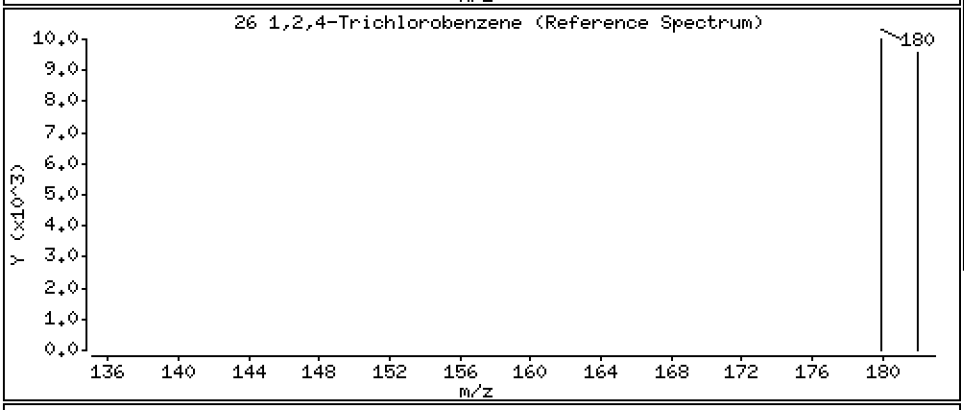
Concentration: 3.861 ug/mL

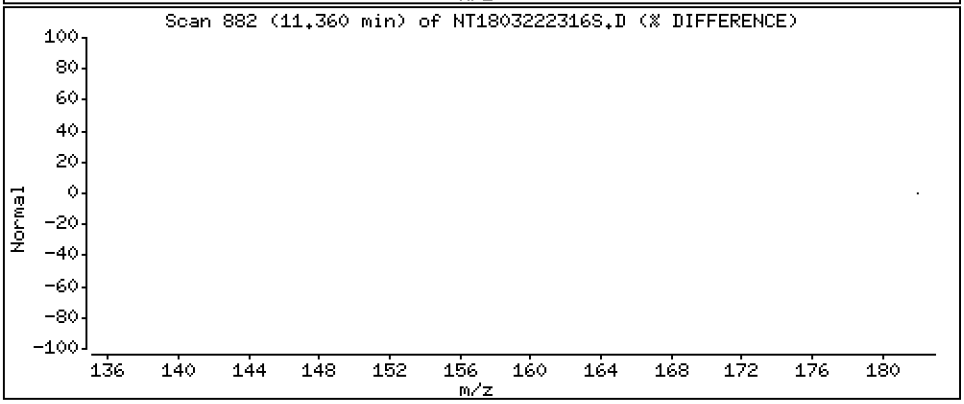












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222316S.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD2

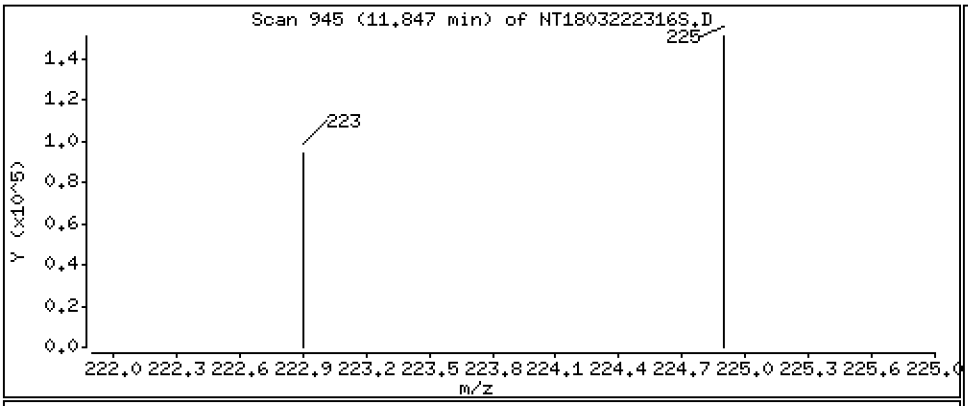
Operator: VTS

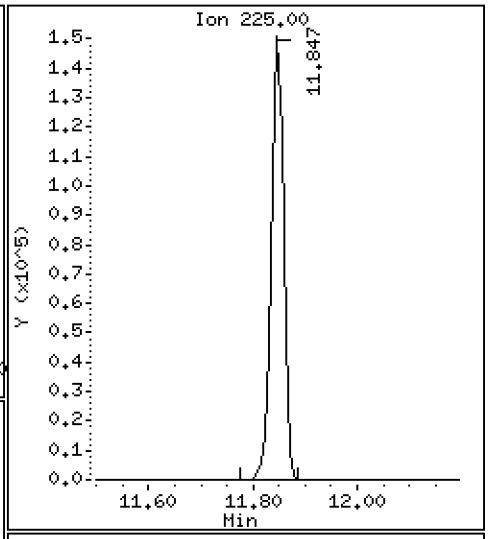
Column phase: ZB-5msi

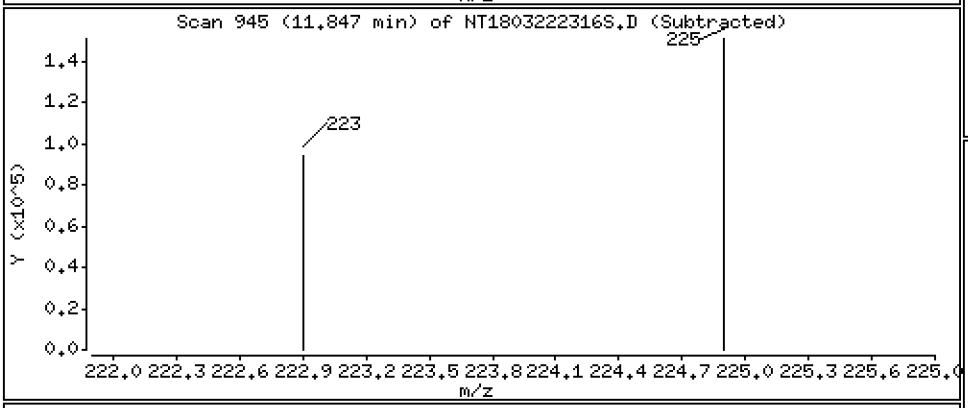
Column diameter: 0.25

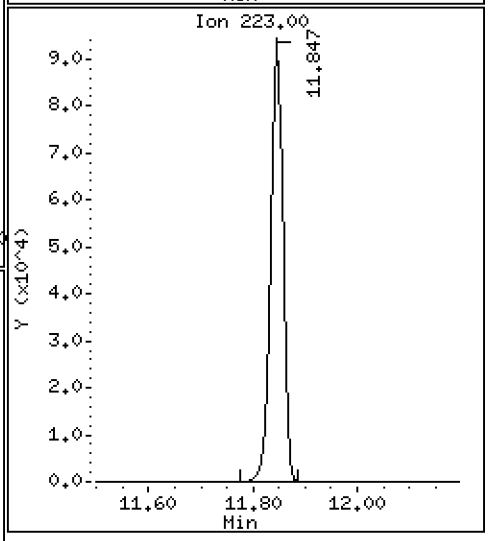
30 Hexachlorobutadiene

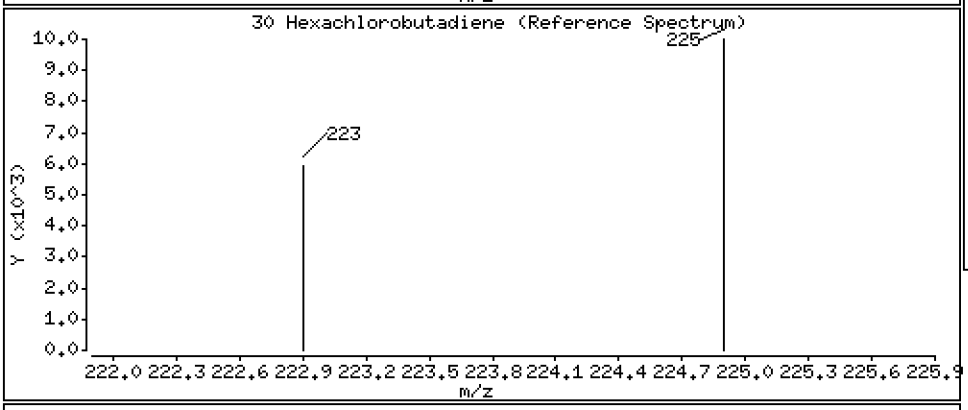
Concentration: 3.865 ug/mL

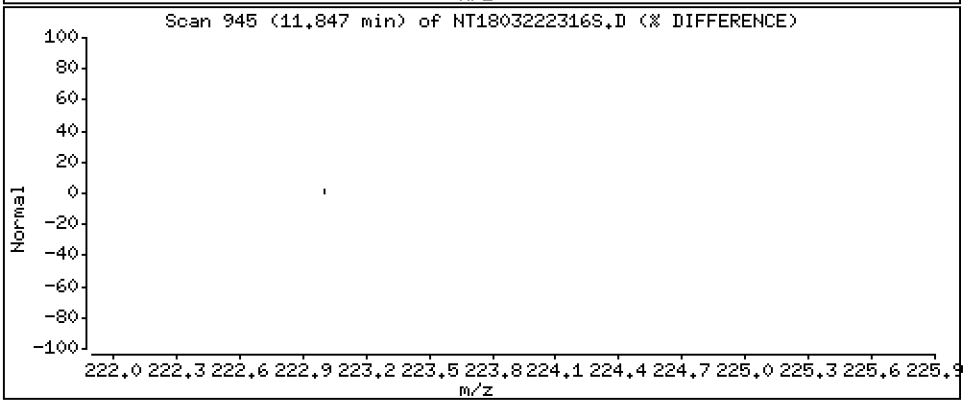












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222316S.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD2

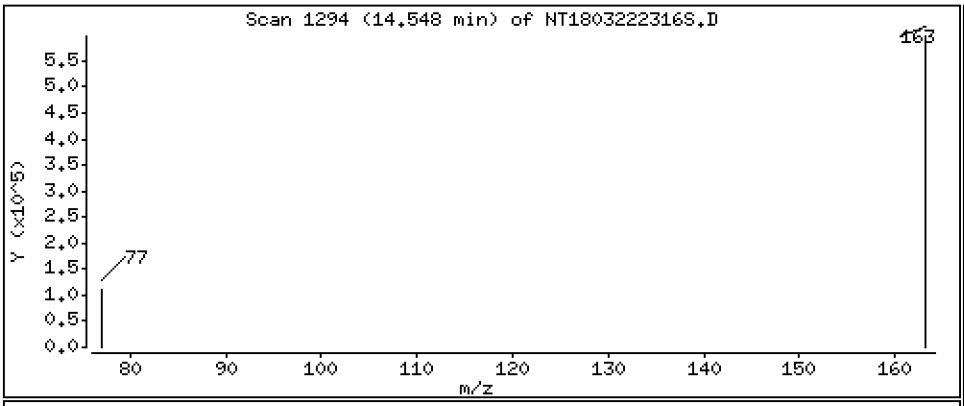
Operator: VTS

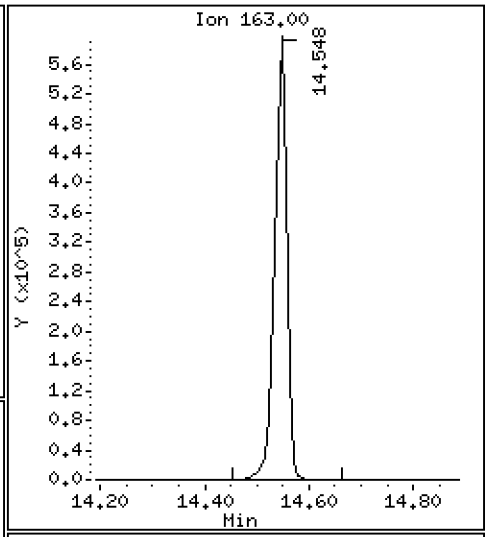
Column phase: ZB-5msi

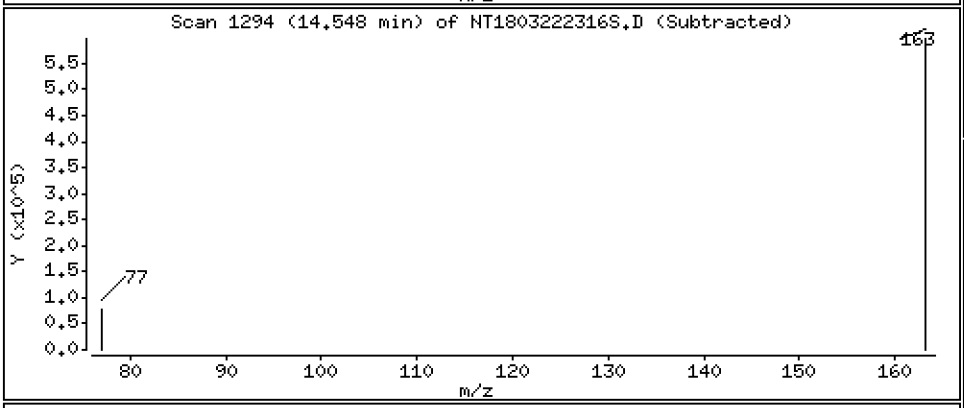
Column diameter: 0.25

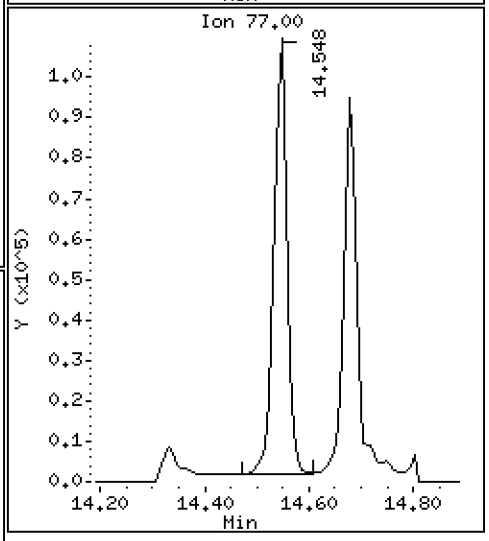
39 Dimethylphthalate

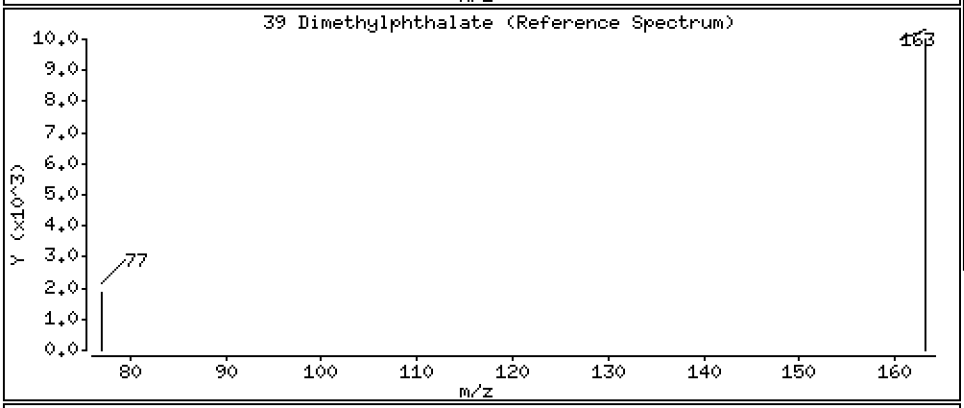
Concentration: 4.736 ug/mL

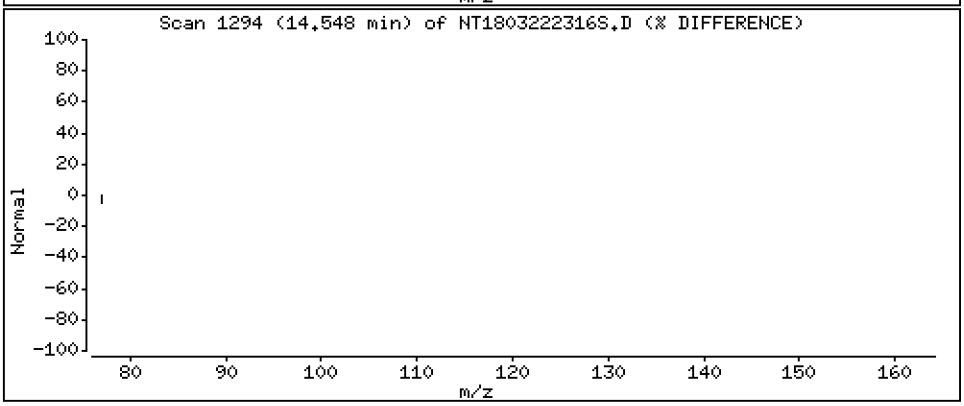












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222316S.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD2

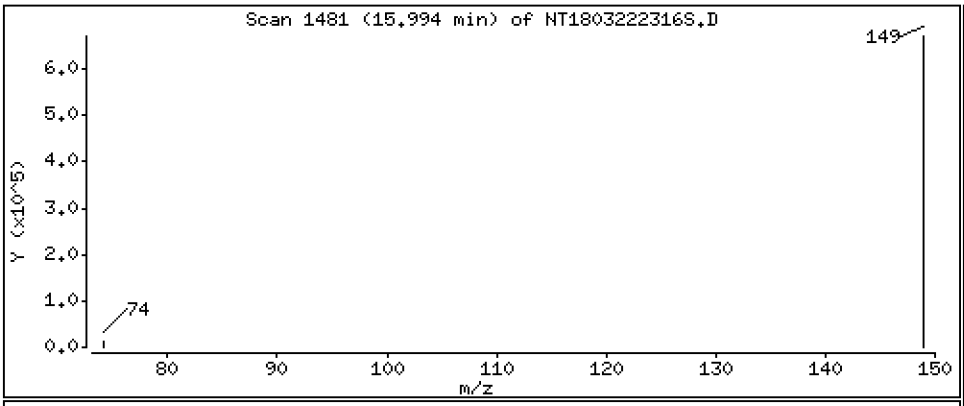
Operator: VTS

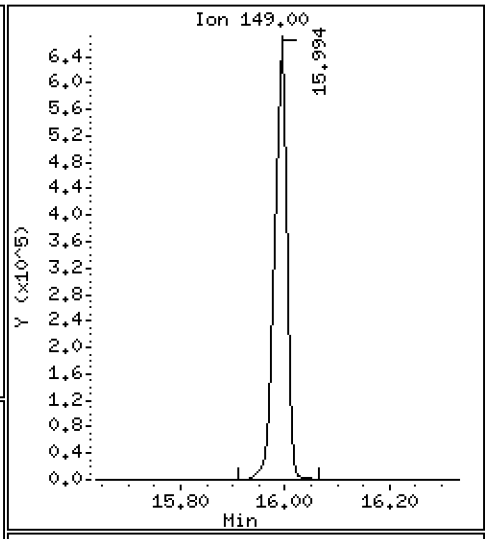
Column phase: ZB-5msi

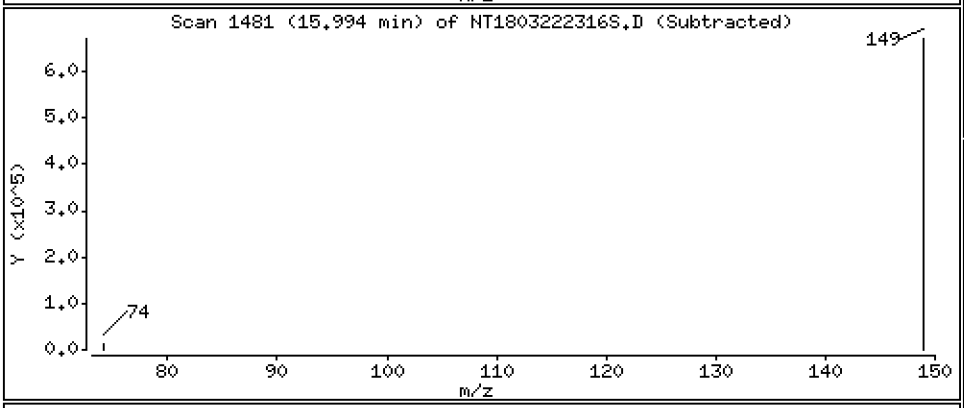
Column diameter: 0.25

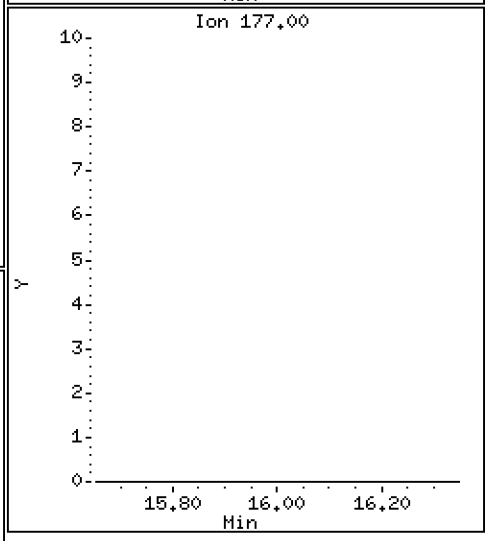
50 Diethylphthalate

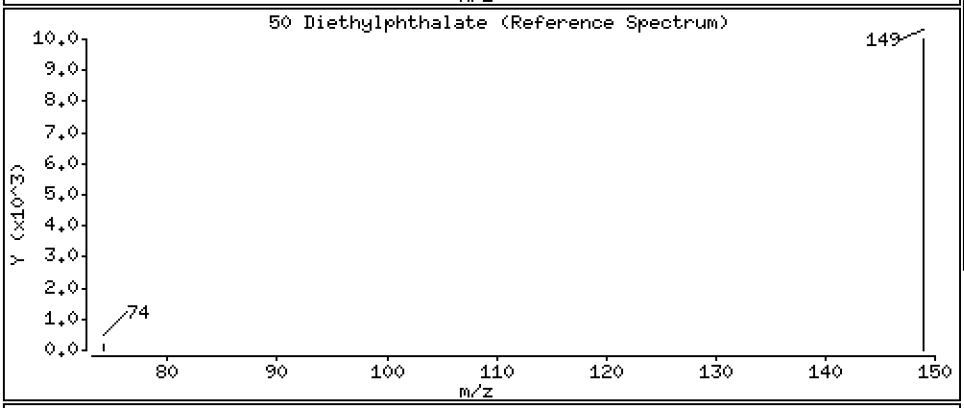
Concentration: 5.856 ug/mL

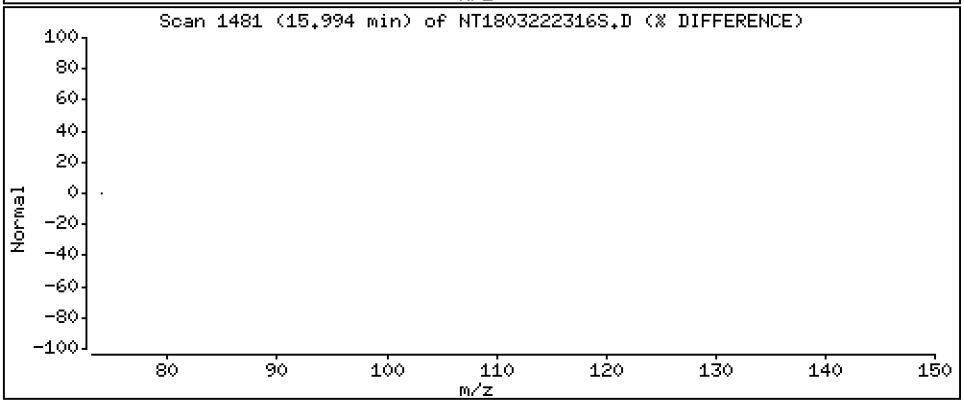












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222316S.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD2

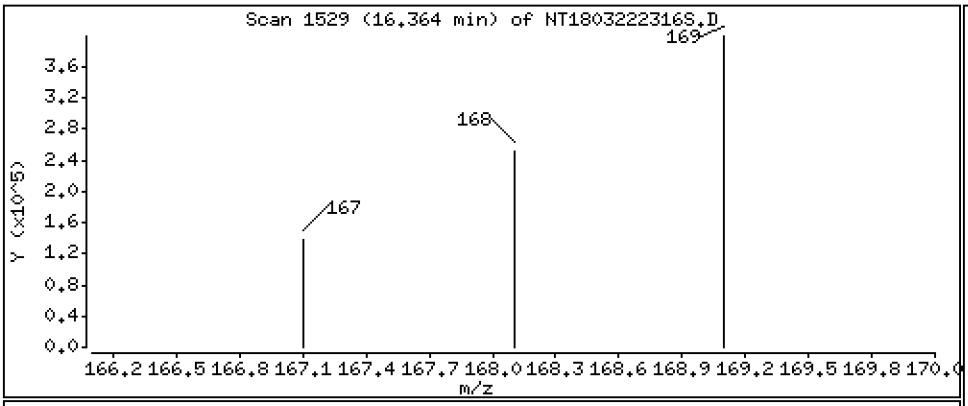
Operator: VTS

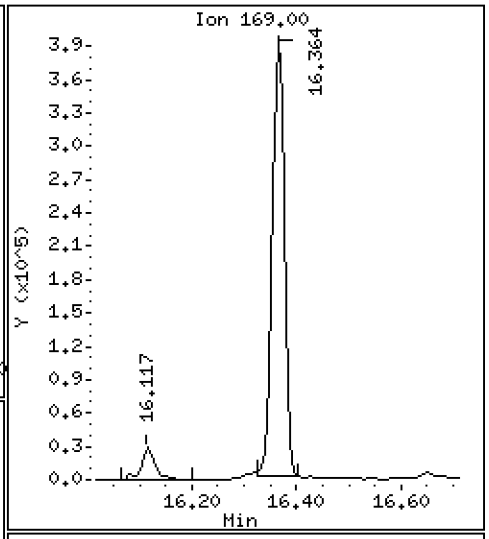
Column phase: ZB-5msi

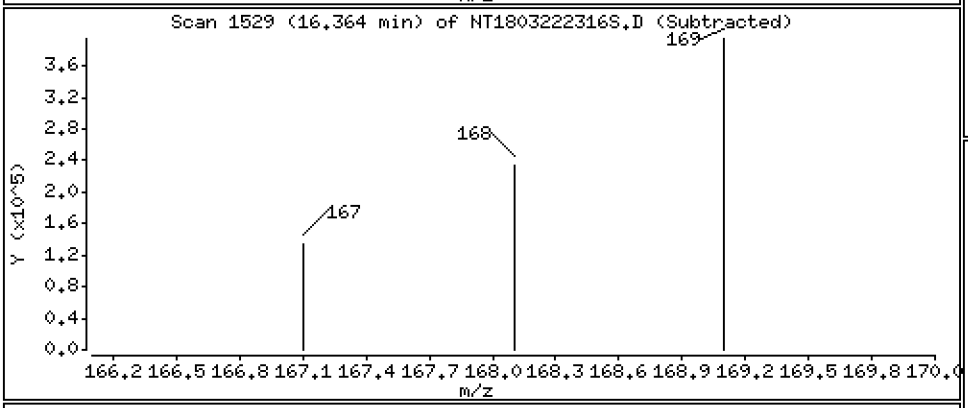
Column diameter: 0.25

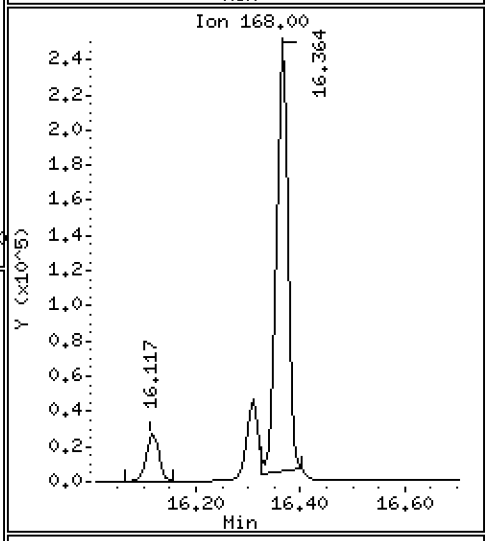
54 N-Nitrosodiphenylamine

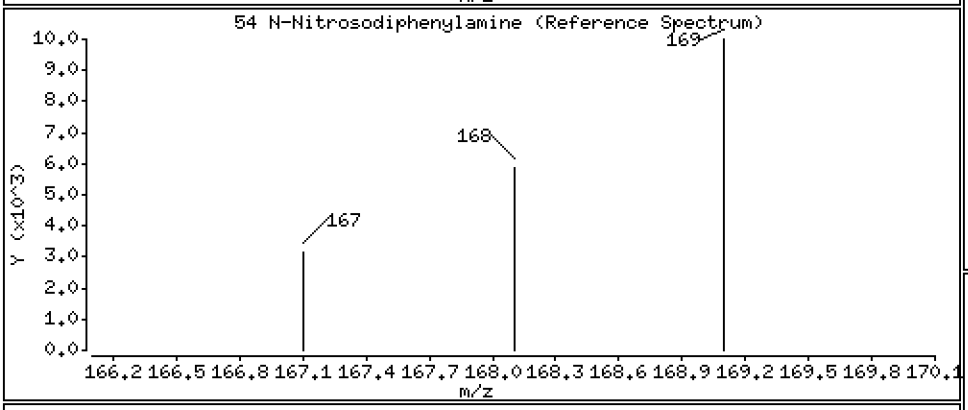
Concentration: 4.346 ug/mL

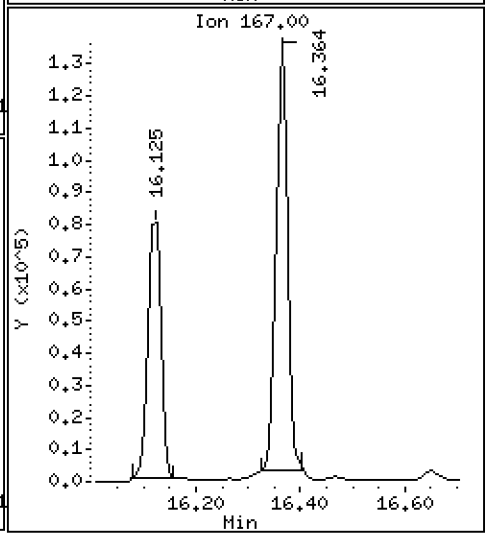


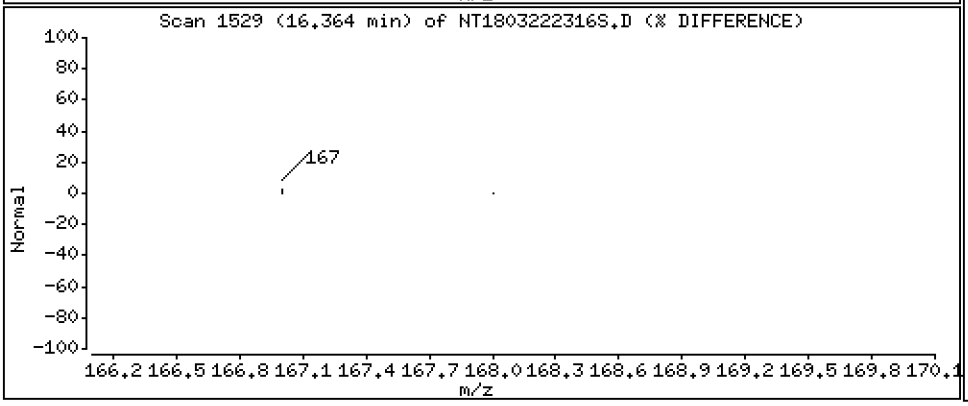












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD2

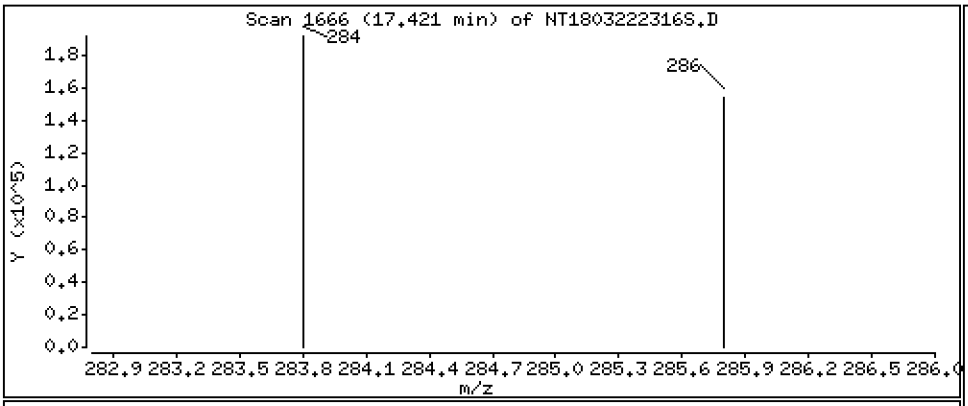
Operator: VTS

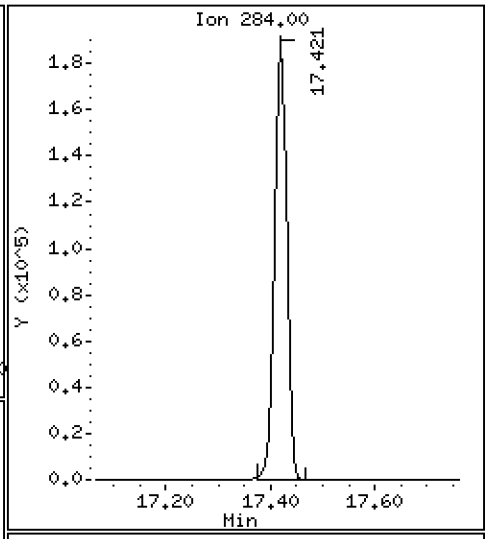
Column phase: ZB-5msi

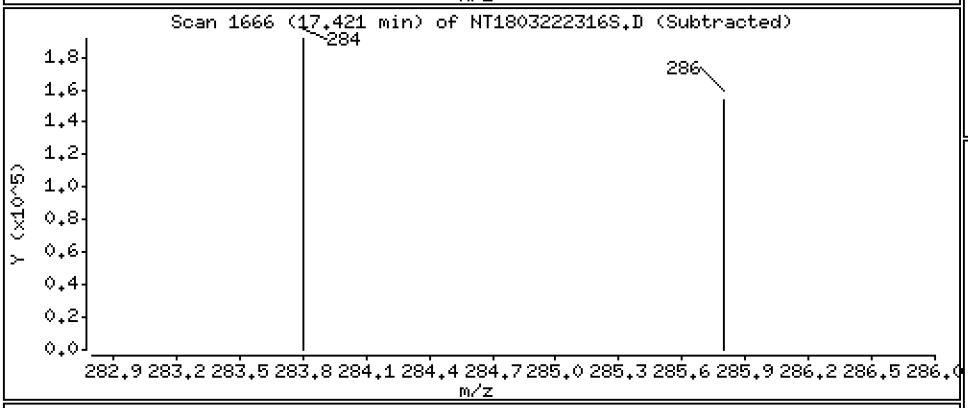
Column diameter: 0.25

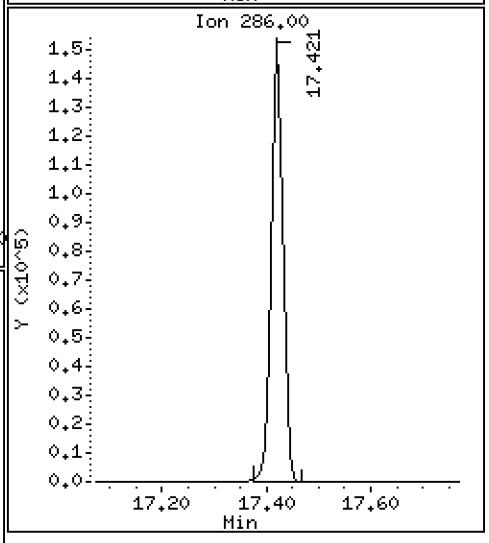
57 Hexachlorobenzene

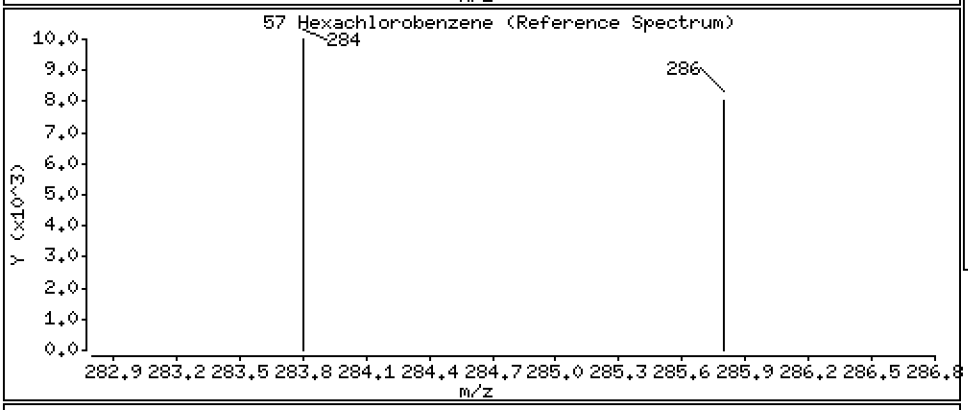
Concentration: 4.420 ug/mL

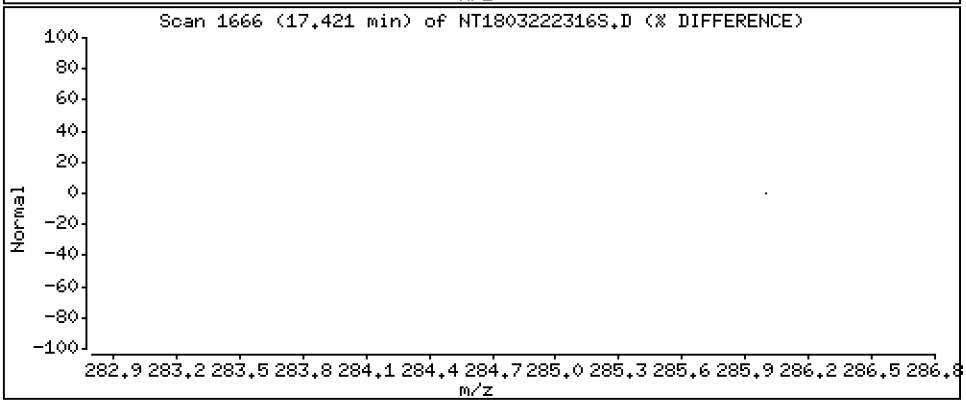












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222316S.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD2

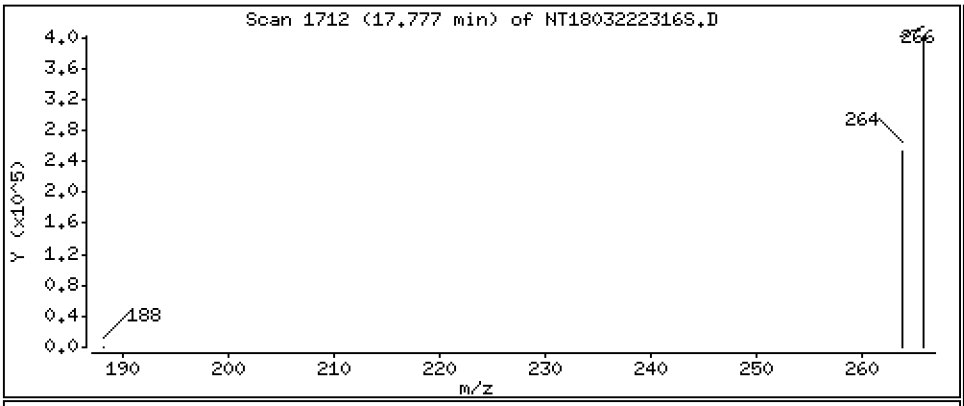
Operator: VTS

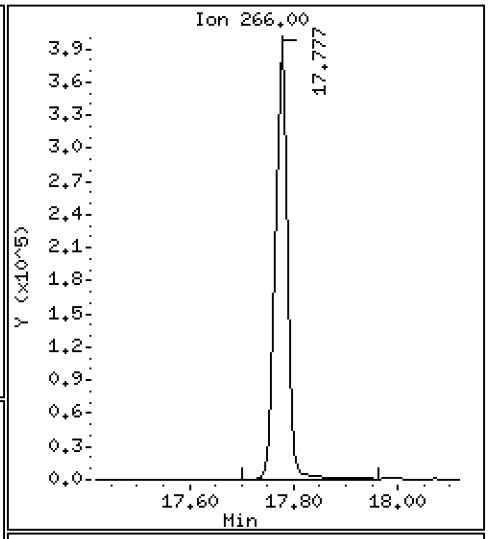
Column phase: ZB-5msi

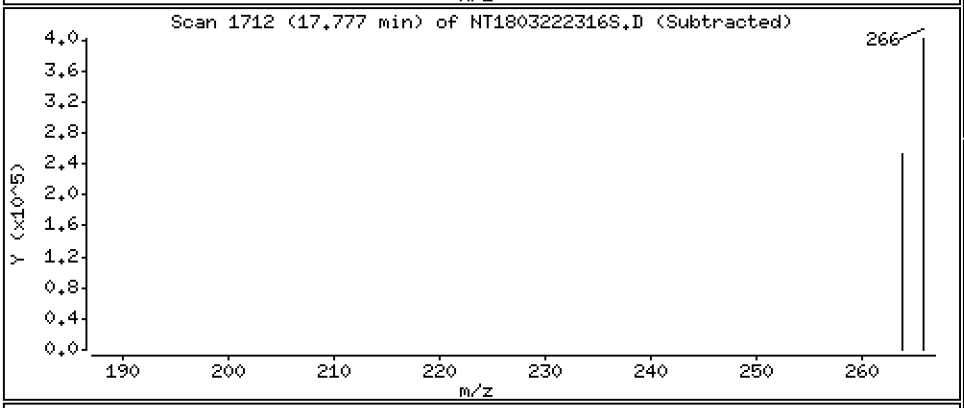
Column diameter: 0.25

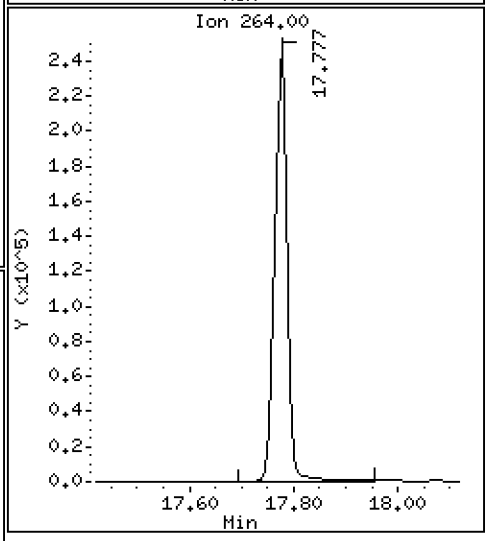
58 Pentachlorophenol

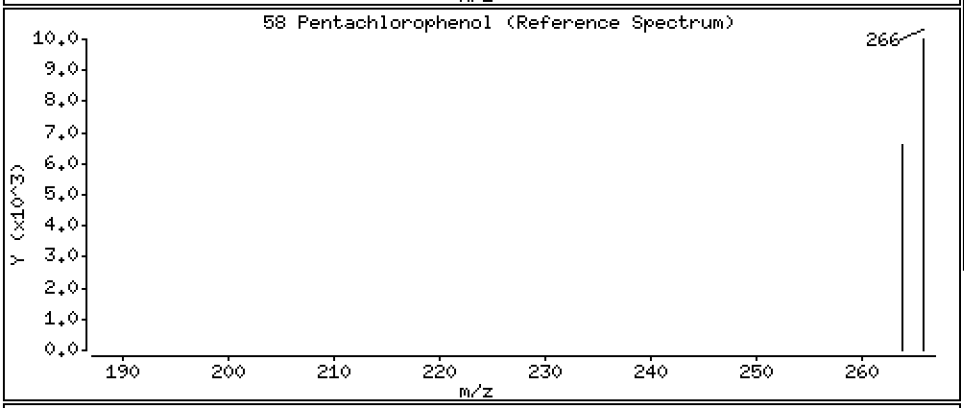
Concentration: 15.20 ug/mL

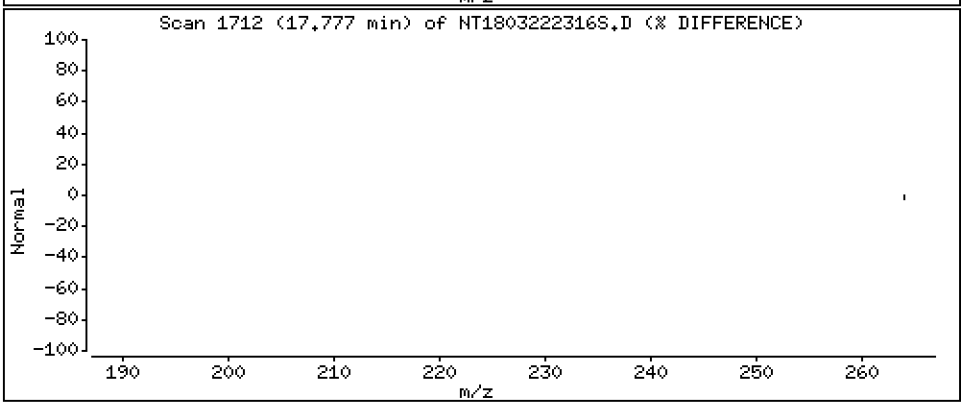












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD2

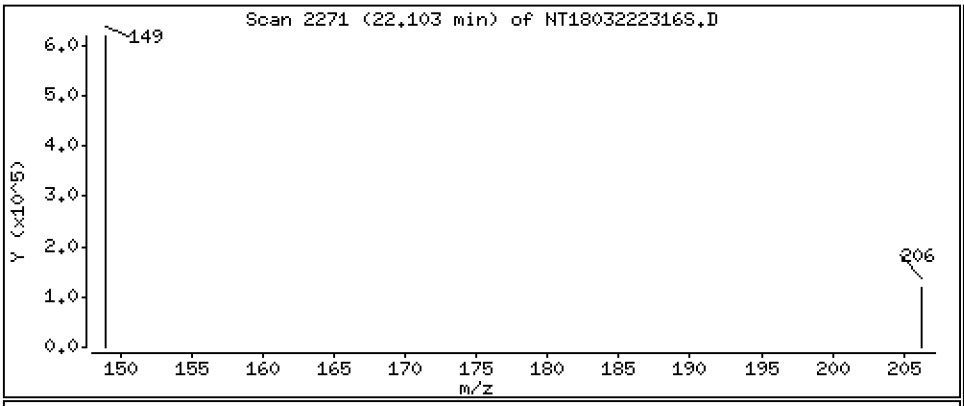
Operator: VTS

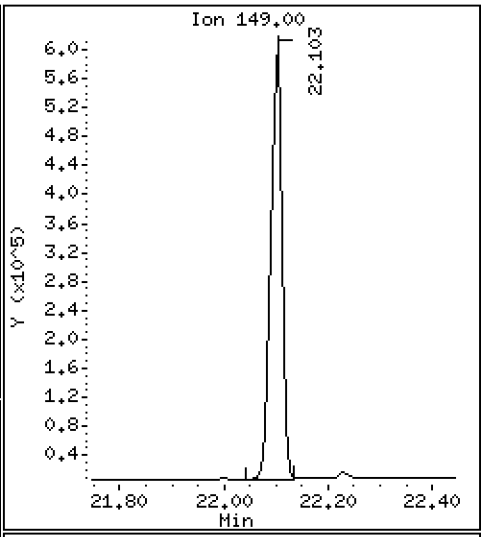
Column phase: ZB-5msi

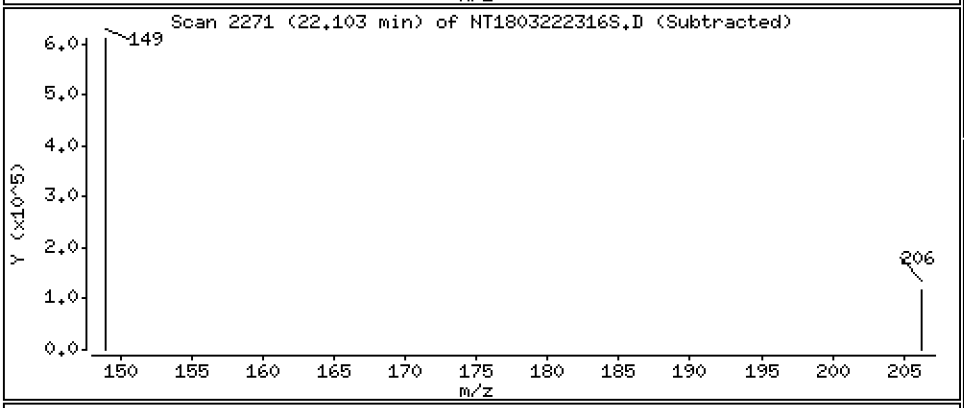
Column diameter: 0.25

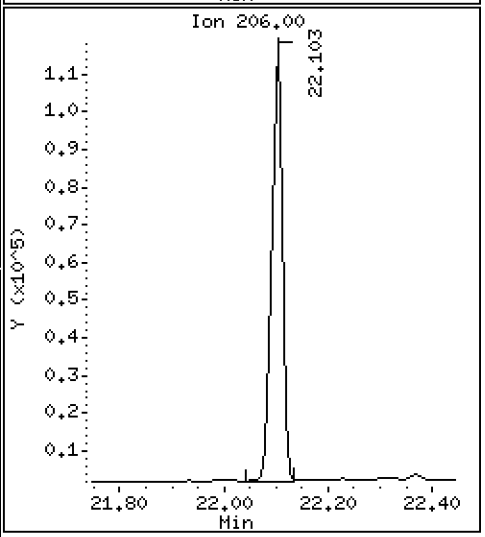
67 Butylbenzylphthalate

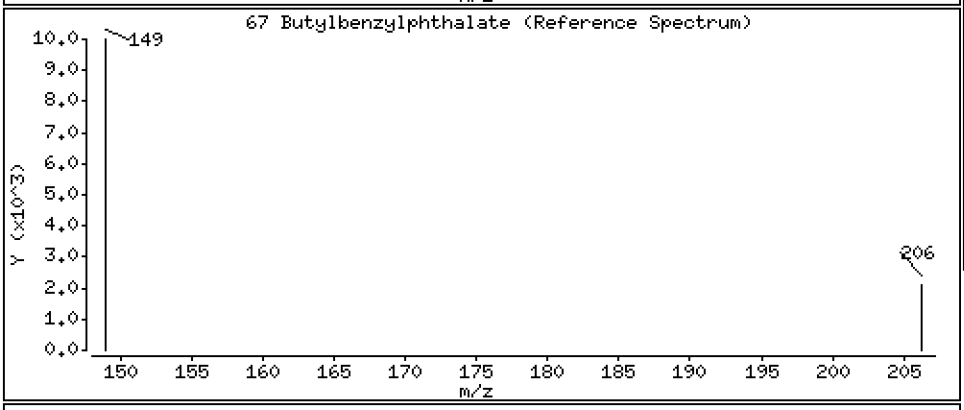
Concentration: 4.557 ug/mL

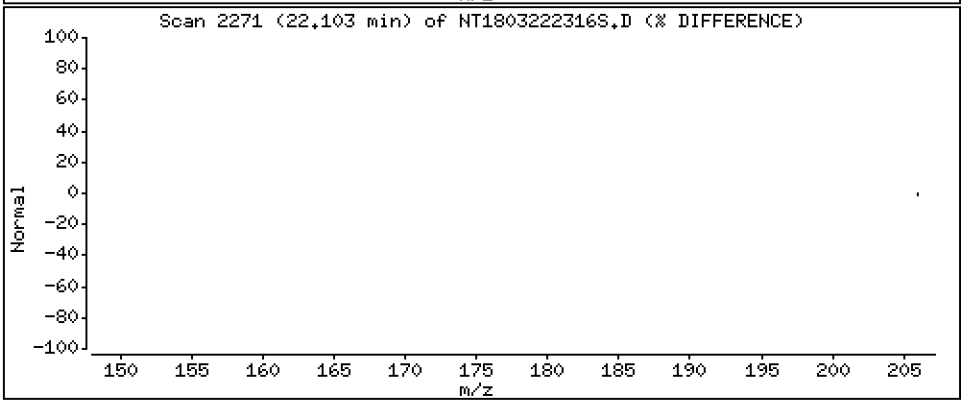












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Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD2

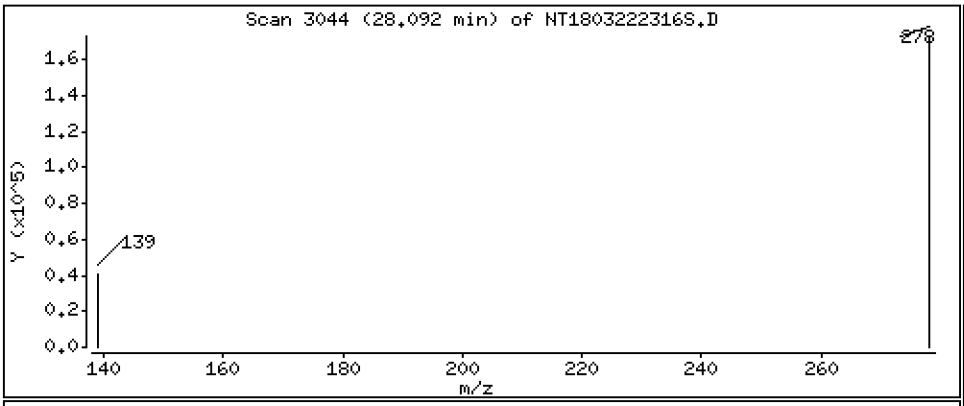
Operator: VTS

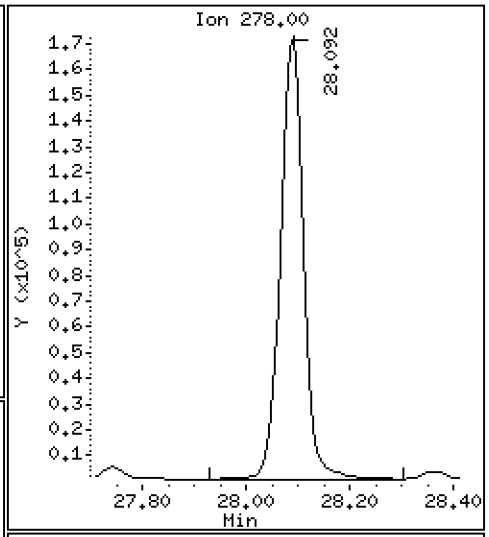
Column phase: ZB-5msi

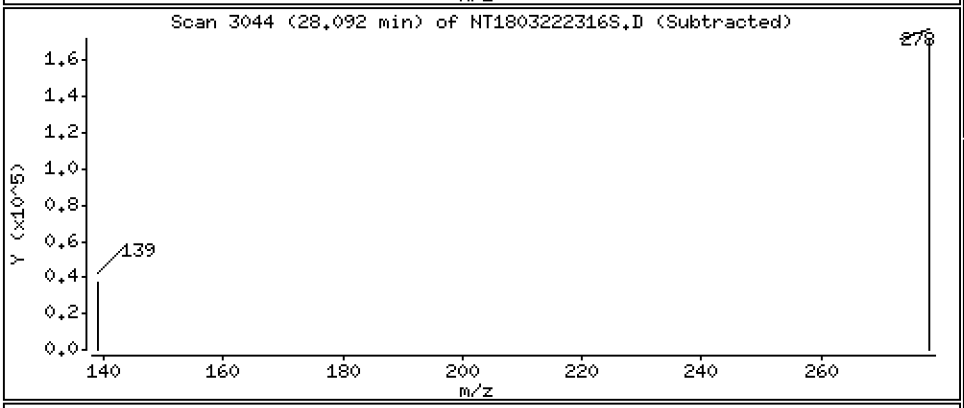
Column diameter: 0.25

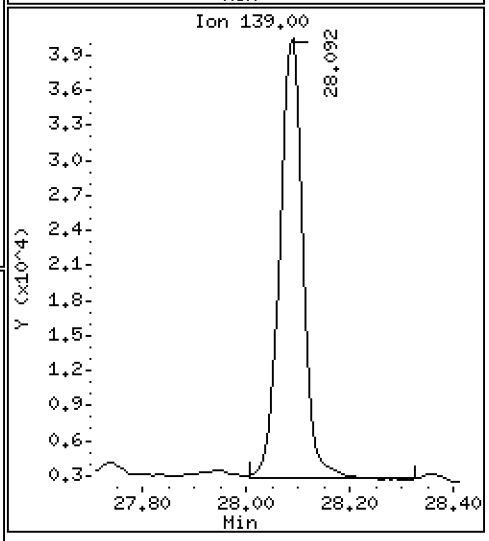
79 Dibenzo(a,h)anthracene

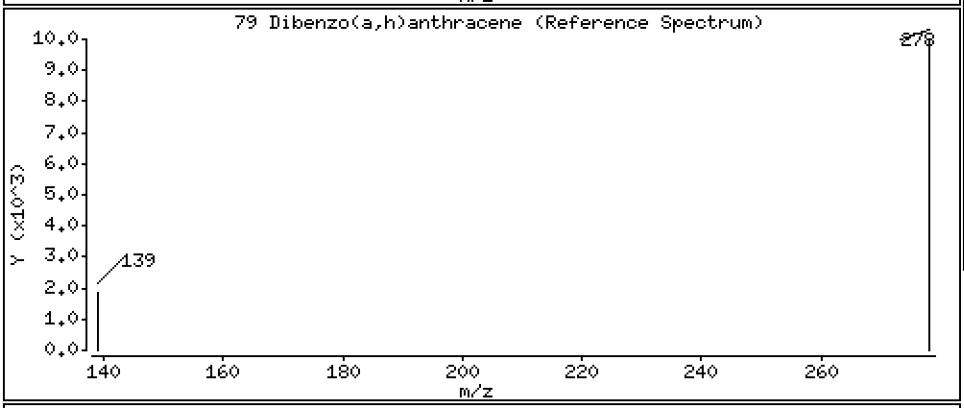
Concentration: 1.470 ug/mL

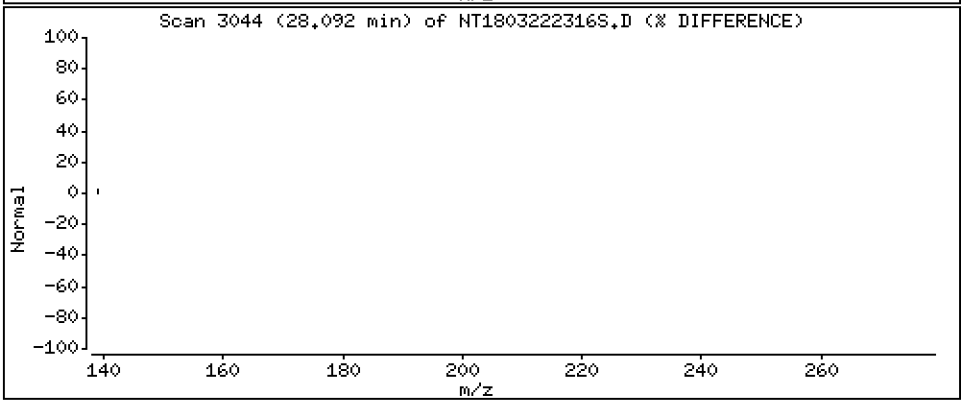












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222316S.D

Date : 23-MAR-2023 03:25

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-MSD2

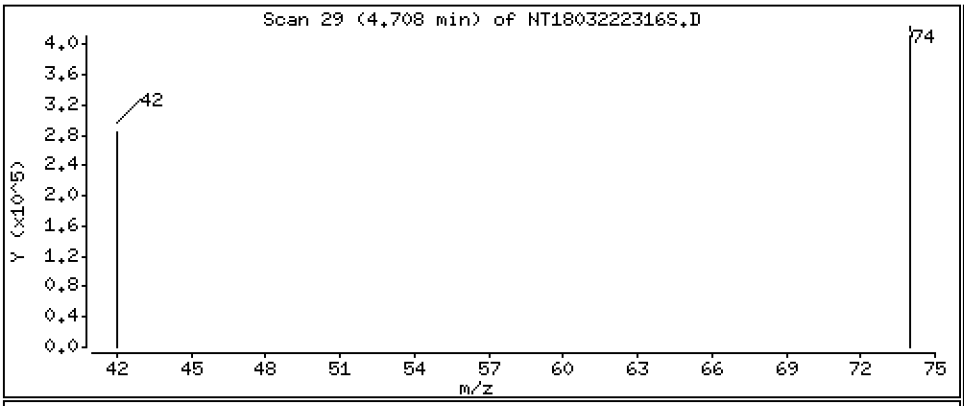
Operator: VTS

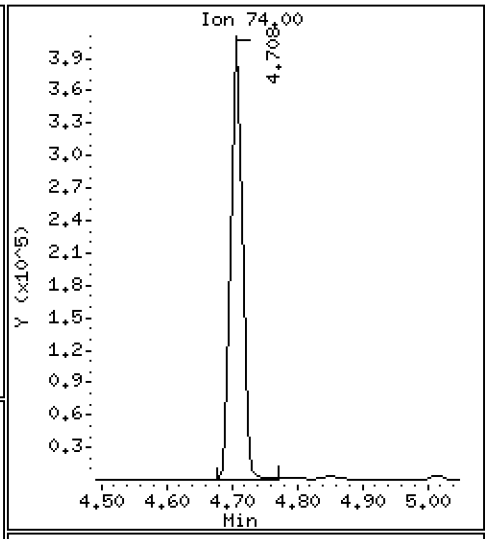
Column phase: ZB-5msi

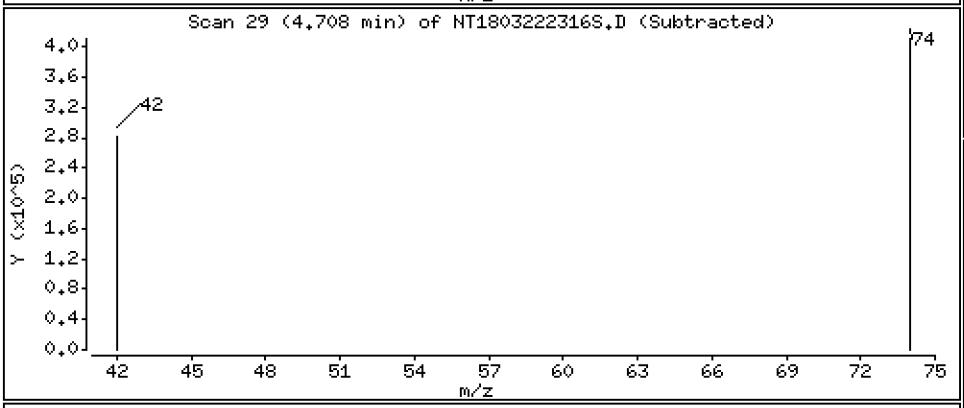
Column diameter: 0.25

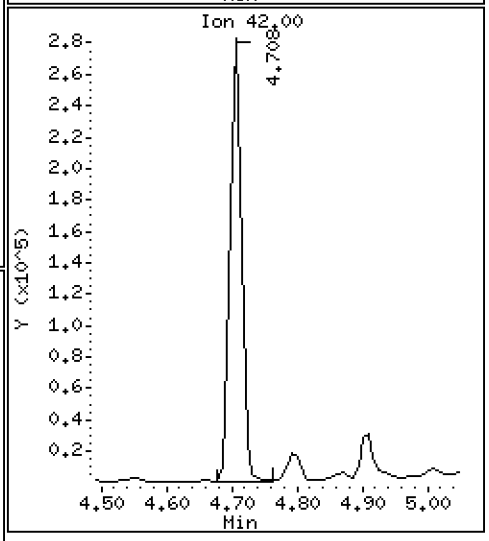
90 N-Nitrosodimethylamine

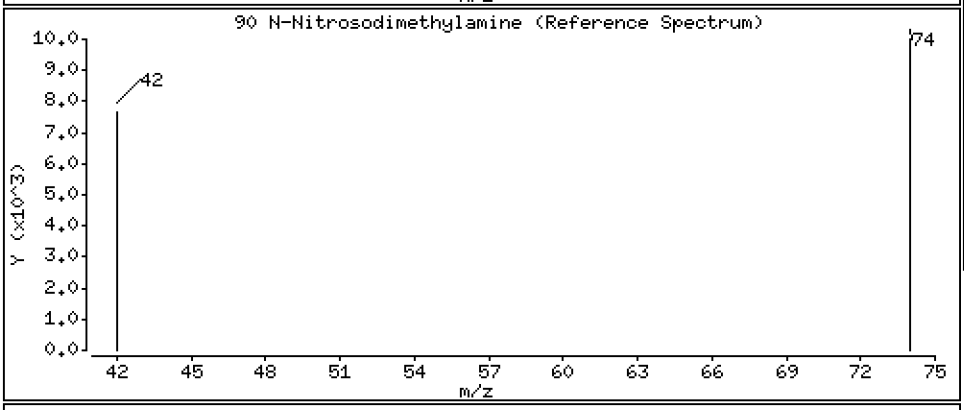
Concentration: 8.147 ug/mL

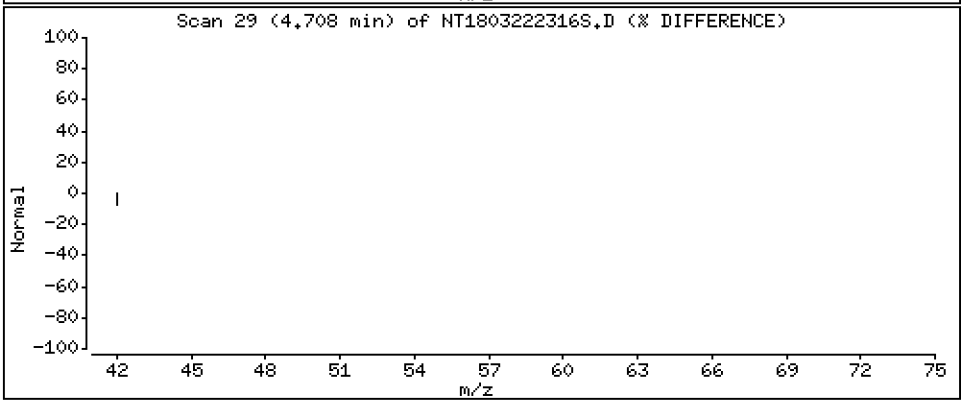












ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222316S.D
Lab Smp Id: BLC0185-MSD2
Inj Date : 23-MAR-2023 03:25
Operator : VTS Inst ID: nt18.i
Smp Info : BLC0185-MSD2
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230322.b\SIM.b\SIMABN2.m
Meth Date : 05-Apr-2023 10:09 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: DEENAY-201905

			QUANT SIG					CONCENTRATIONS ON-COLUMN	FINAL
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/mL)	(ug/mL)
$	1	2-Fluorophenol	112	6.793	6.778	(0.756)	651027	6.32587	6.326(R)
	3	Phenol	94	8.385	8.362	(0.933)	1842447	13.3697	13.37
	7	1,3-Dichlorobenzene	146	8.918	8.918	(0.992)	484596	3.63494	3.635
*	8	1,4-Dichlorobenzene-d4	152	8.988	8.980	(1.000)	353017	4.00000	
	9	1,4-Dichlorobenzene	146	9.011	9.011	(1.003)	493653	3.65059	3.651
	11	Benzyl alcohol	79	9.252	9.244	(1.029)	313630	3.80583	3.806
	12	1,2-Dichlorobenzene	146	9.368	9.360	(1.042)	479323	3.64204	3.642
	13	2-Methylphenol	108	9.477	9.469	(1.054)	376090	3.93132	3.931
	15	4-Methylphenol	108	9.749	9.733	(1.085)	413973	4.15992	4.160
	16	N-Nitroso-di-n-propylamine	70	9.803	9.803	(1.091)	275638	4.19903	4.199
	22	2,4-Dimethylphenol	107	10.783	10.775	(0.942)	891716	9.76355	9.764
	24	Benzoic acid	105	11.004	10.902	(0.961)	1108415	16.4944	16.49
	26	1,2,4-Trichlorobenzene	180	11.360	11.360	(0.993)	402201	3.86101	3.861
*	27	Naphthalene-d8	136	11.445	11.444	(1.000)	1307811	4.00000	
	30	Hexachlorobutadiene	225	11.846	11.846	(1.035)	231710	3.86498	3.865
	39	Dimethylphthalate	163	14.547	14.539	(0.968)	937625	4.73574	4.736
*	42	Acenaphthene-d10	162	15.027	15.027	(1.000)	619851	4.00000	
	50	Diethylphthalate	149	15.993	15.985	(1.064)	1052790	5.85610	5.856
	54	N-Nitrosodiphenylamine	169	16.364	16.364	(0.907)	597149	4.34644	4.346
	57	Hexachlorobenzene	284	17.421	17.413	(0.966)	288920	4.42032	4.420
	58	Pentachlorophenol	266	17.777	17.769	(0.986)	629431	15.2050	15.20
*	59	Phenanthrene-d10	188	18.032	18.032	(1.000)	1131201	4.00000	
$	66	Terphenyl-d14	244	21.173	21.165	(0.918)	787350	4.18065	4.181(R)
	67	Butylbenzylphthalate	149	22.102	22.095	(0.958)	859249	4.55678	4.557
*	69	Chrysene-d12	240	23.063	23.055	(1.000)	1336147	4.00000	
*	77	Perylene-d12	264	25.586	25.563	(1.000)	1253602	4.00000	
	79	Dibenzo(a,h)anthracene	278	28.091	28.060	(1.098)	545379	1.47035	1.470
	90	N-Nitrosodimethylamine	74	4.708	4.700	(0.524)	511705	8.14656	8.147

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222316S.D
Lab Smp Id: BLC0185-MSD2
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 22-MAR-2023
Calibration Time: 18:36
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	283947	141974	567894	353017	24.32
27 Naphthalene-d8	1057483	528742	2114966	1307811	23.67
42 Acenaphthene-d10	520336	260168	1040672	619851	19.13
59 Phenanthrene-d10	933537	466769	1867074	1131201	21.17
69 Chrysene-d12	863272	431636	1726544	1336147	54.78
77 Perylene-d12	996915	498458	1993830	1253602	25.75

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.99	0.09
27 Naphthalene-d8	11.44	10.94	11.94	11.45	0.00
42 Acenaphthene-d10	15.03	14.53	15.53	15.03	0.00
59 Phenanthrene-d10	18.03	17.53	18.53	18.03	0.00
69 Chrysene-d12	23.06	22.56	23.56	23.06	0.03
77 Perylene-d12	25.56	25.06	26.06	25.59	0.09

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222316S.D

Lab ID: BLC0185-MSD2
nt18.i, 20230322.b\SIM.b\SIMABN2.m,   23-MAR-2023 03:25

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.961	0.953	0.0089	Benzoic acid

RRT check based on Ccal File: SIM.b/NT1803222303S.D

On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

Analytical Resources, LLC
Analytical Chemists and Consultants

STANDARD REFERENCE MATERIAL RECOVERY

EPA 8270E-SIM

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Laboratory ID: BLC0185-SRM2
Batch: BLC0185
Initial/Final: 1 g / 1 mL
Preparation: EPA 3546 (Microwave)
Analyzed: 03/22/2023 23:22
Standard ID: K003477
Expires: 01/31/2024
Standard Lot#: CRM 143 (LRAC8918)
Description: CRM 143 BNAs - Sandy Loam

ANALYTE	TRUE (ug/kg wet)	FOUND (ug/kg wet)	MDL	MRL	Q	SRM % REC.	QC LIMITS REC.
2,4-Dimethylphenol	6357.0	6100	21.7	200		96.0	0 - 220
1,2,4-Trichlorobenzene	1477.0	1190	26.8	50.0		80.3	10 - 193
N-Nitrosodiphenylamine	2854.0	4320	13.1	50.0		151	40 - 160
Pentachlorophenol	3411.0	4390	21.3	200	Q	129	10 - 206

* Values outside of QC limits

Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223105.D

Date : 22-MAR-2023 23:22

Client ID:

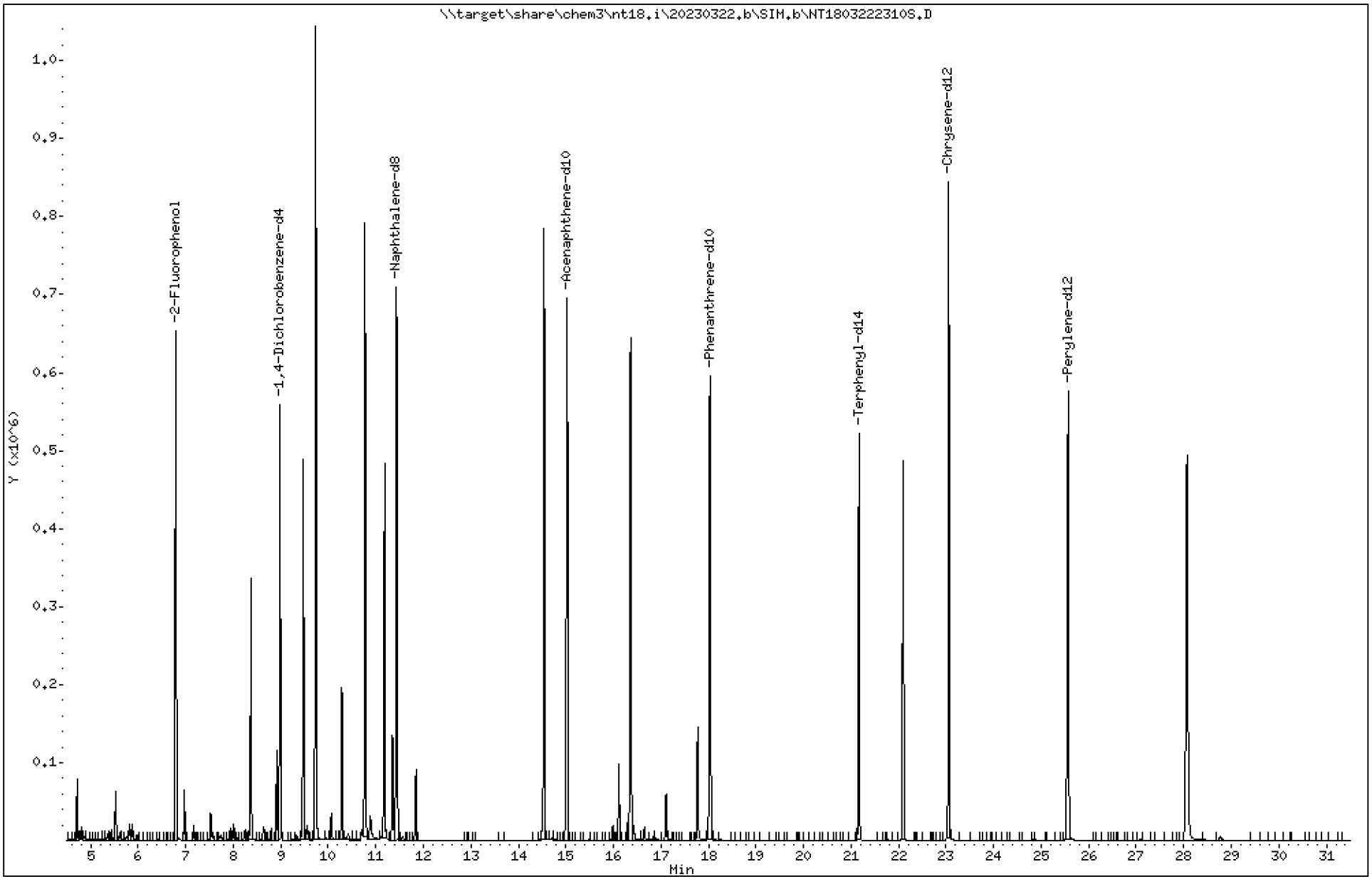
Sample Info: BLC0185-SRM2

Column phase: ZB-5msi

Instrument: nt18.i

Operator: VTS

Column diameter: 0.25



Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222310S.D

Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM2

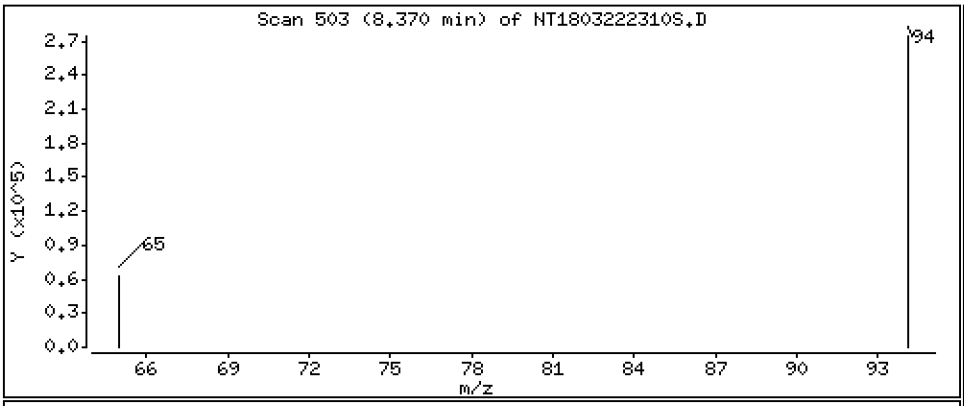
Operator: VTS

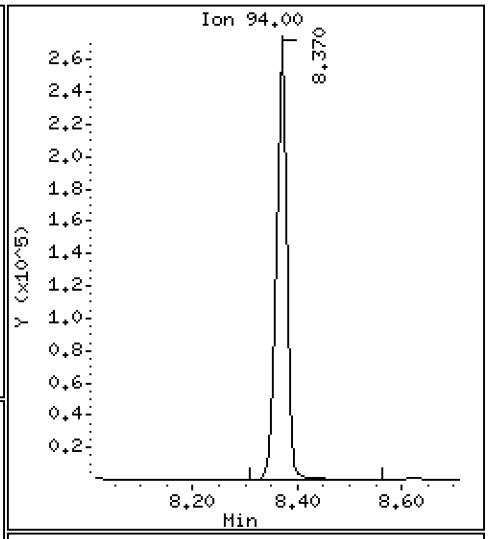
Column phase: ZB-5msi

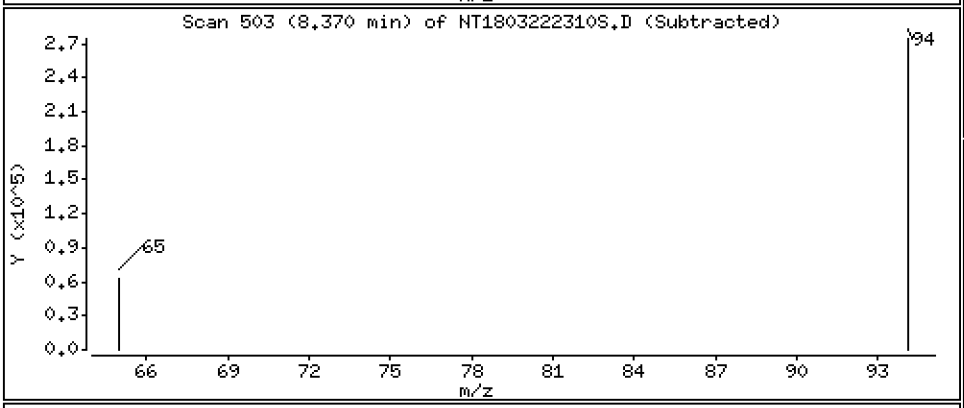
Column diameter: 0.25

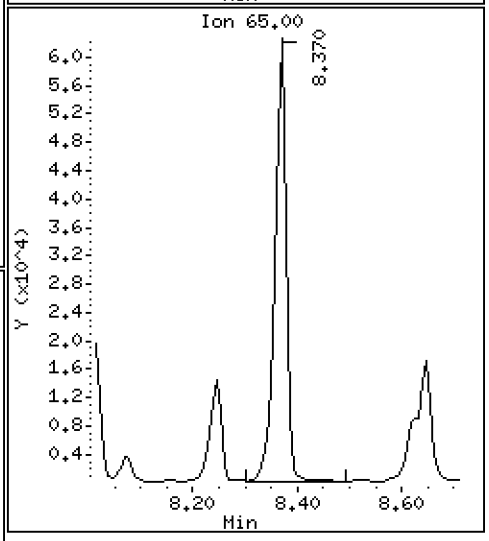
3 Phenol

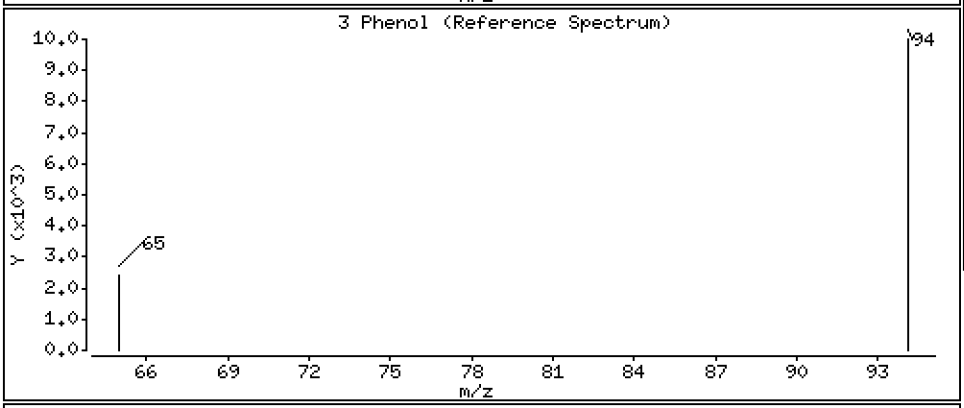
Concentration: 2.973 ug/mL

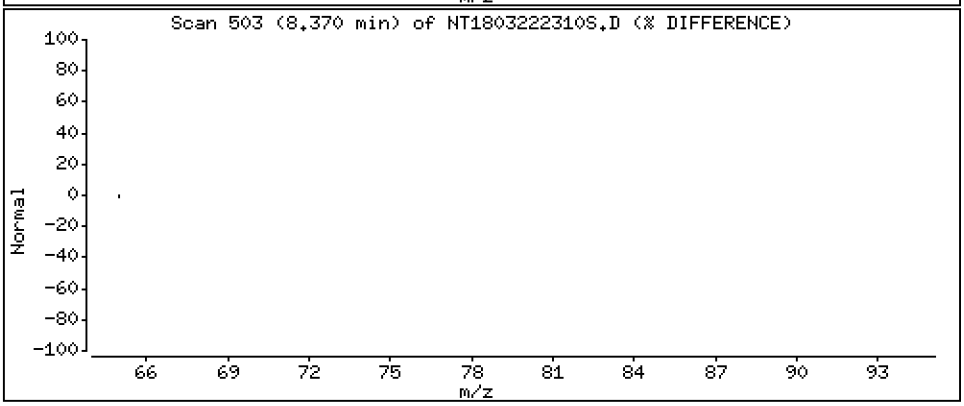












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222310S.D

Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM2

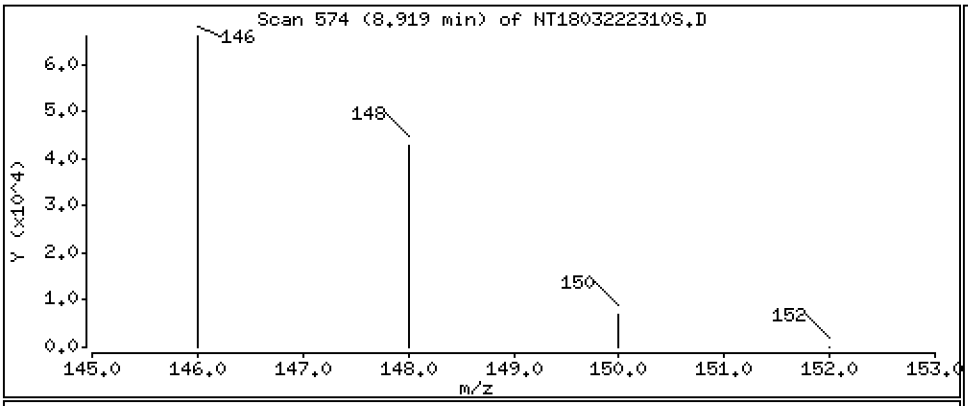
Operator: VTS

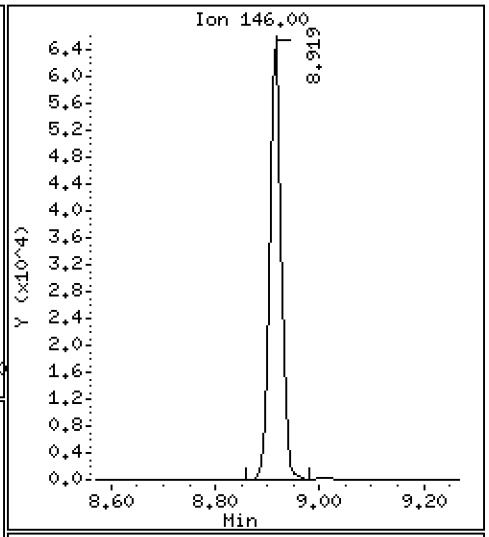
Column phase: ZB-5msi

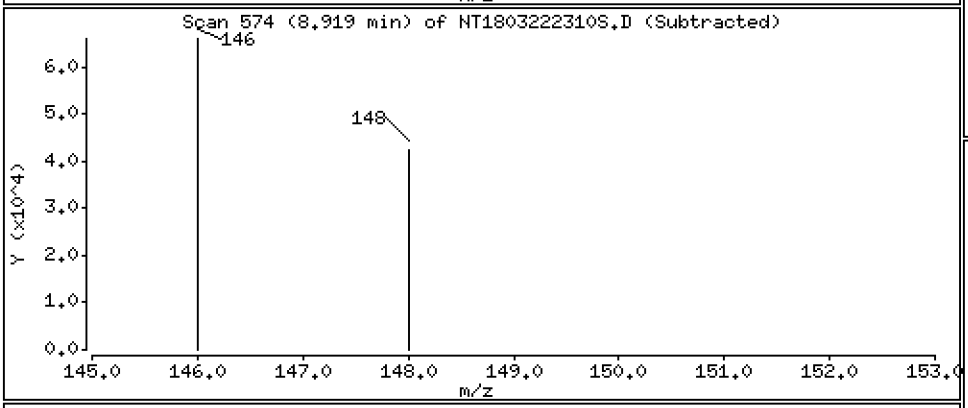
Column diameter: 0.25

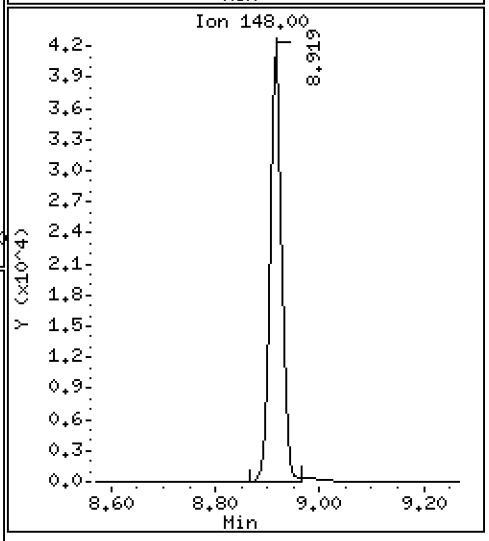
7 1,3-Dichlorobenzene

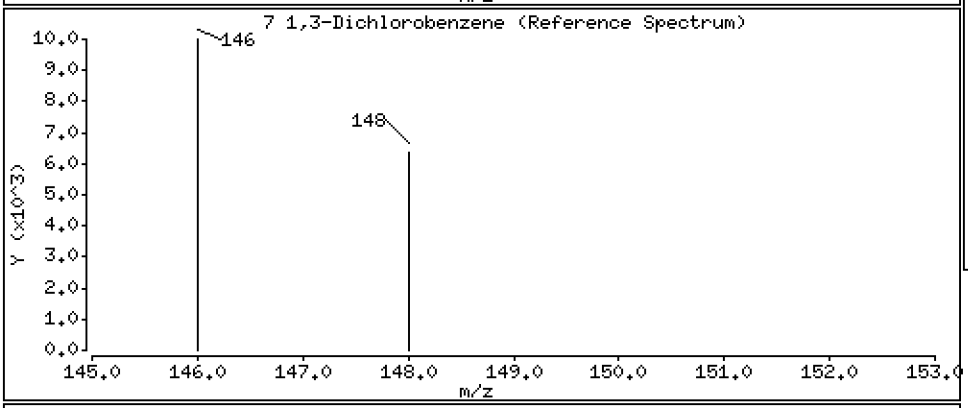
Concentration: 0.8325 ug/mL

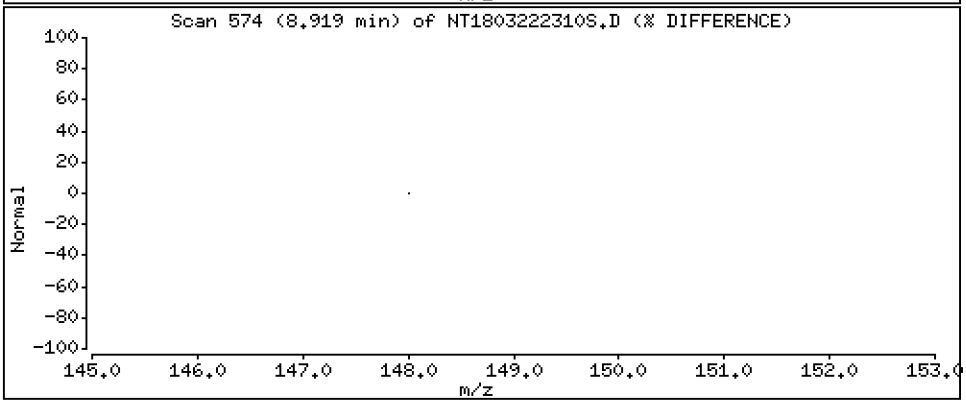












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM2

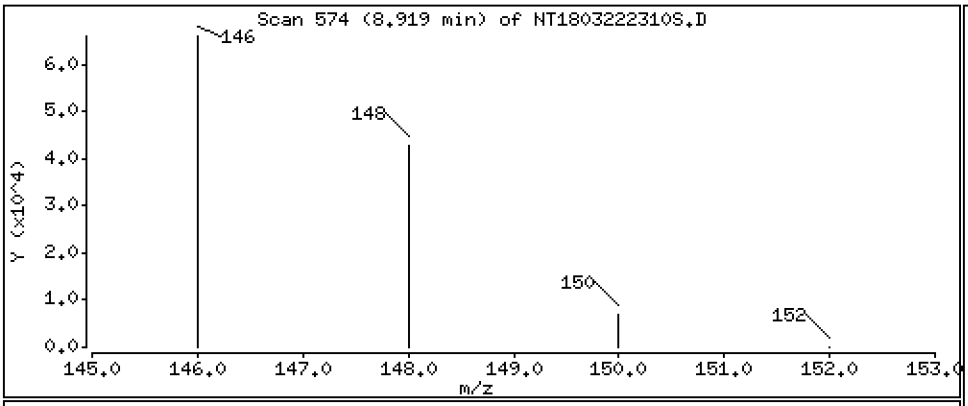
Operator: VTS

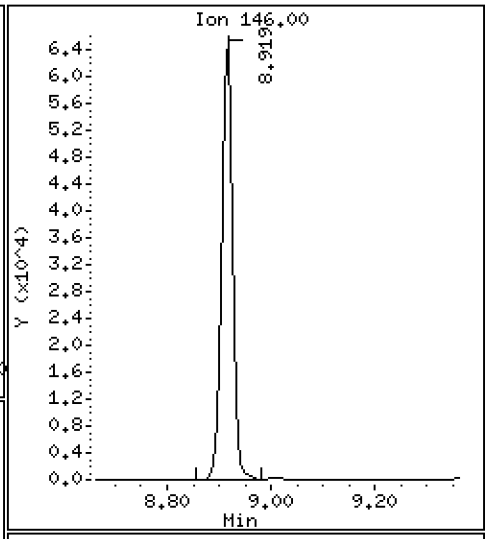
Column phase: ZB-5msi

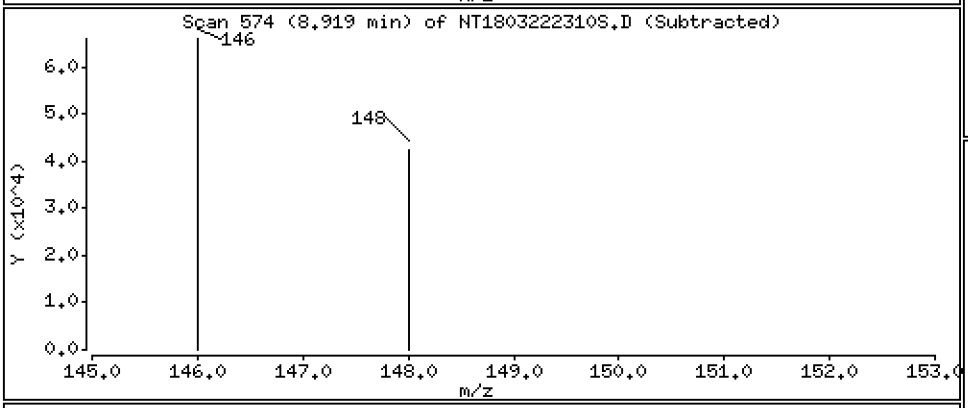
Column diameter: 0.25

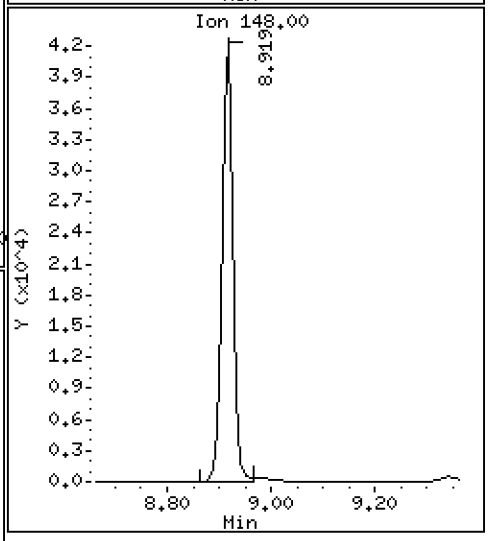
9 1,4-Dichlorobenzene

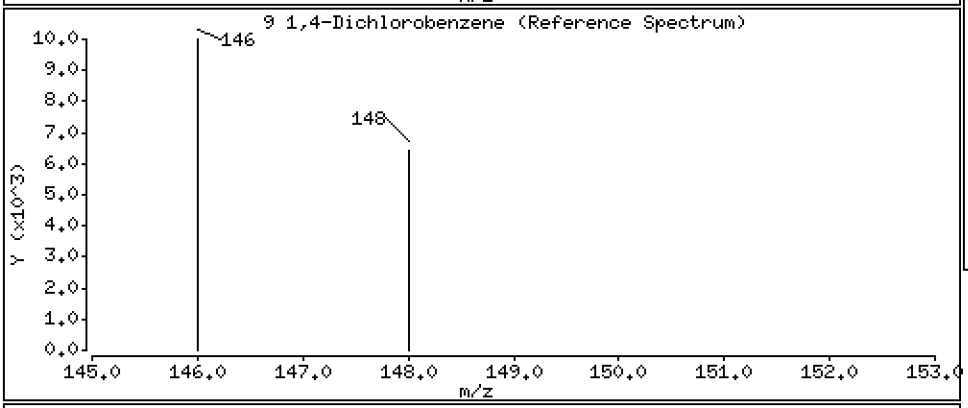
Concentration: 0.8207 ug/mL

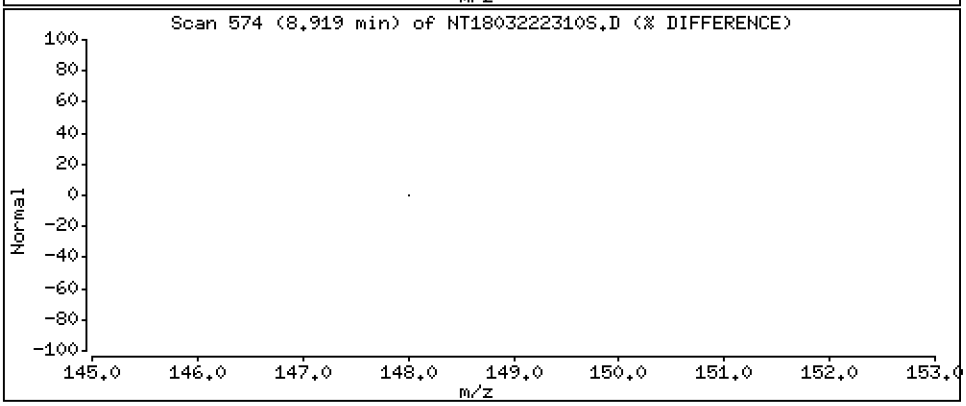












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM2

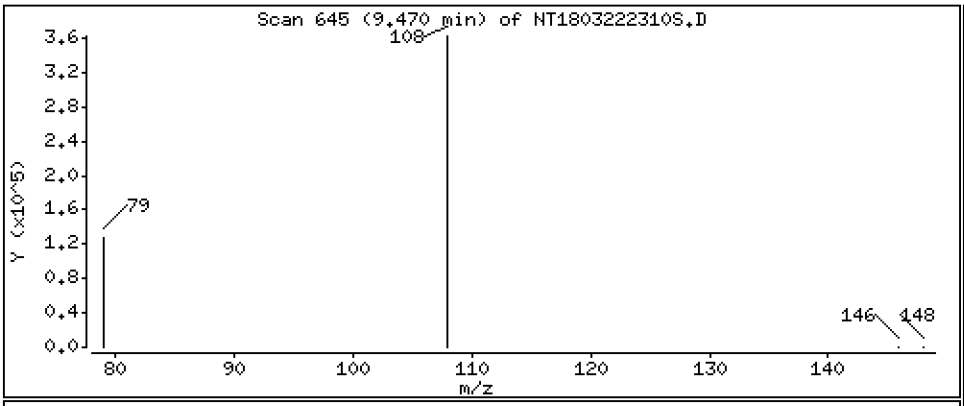
Operator: VTS

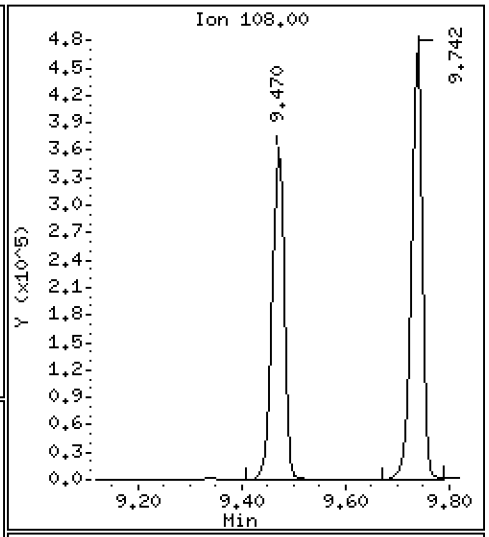
Column phase: ZB-5msi

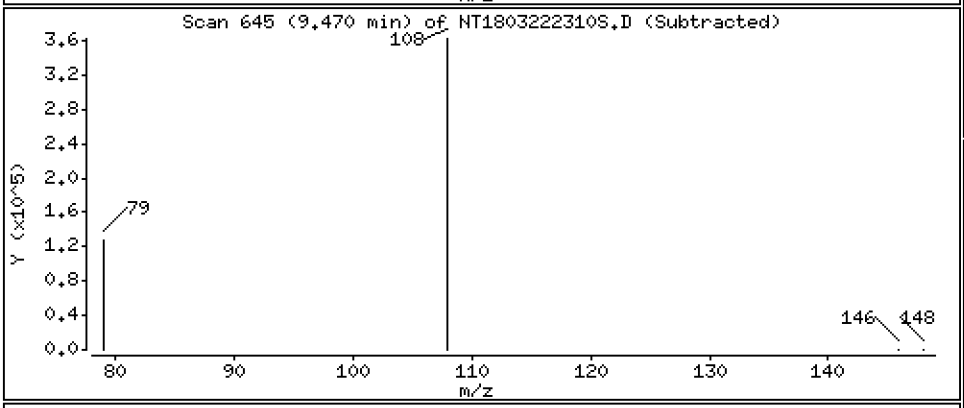
Column diameter: 0.25

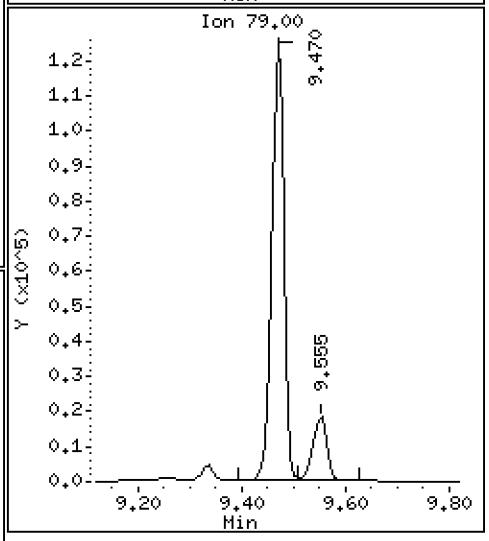
13 2-Methylphenol

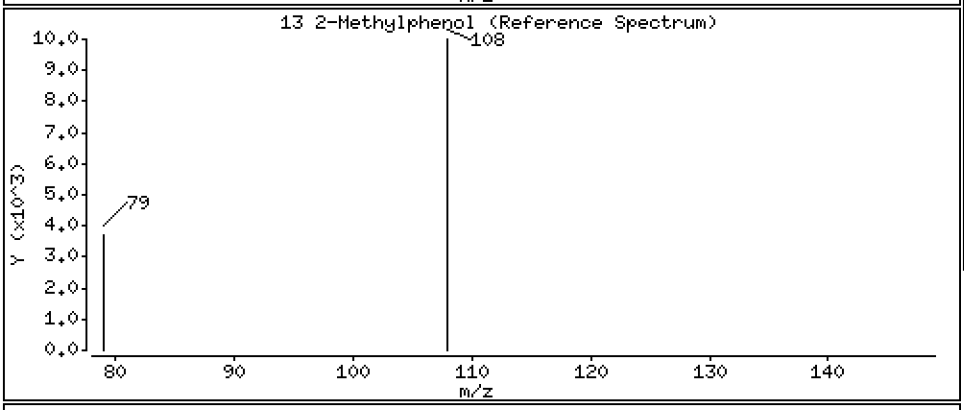
Concentration: 6.456 ug/mL

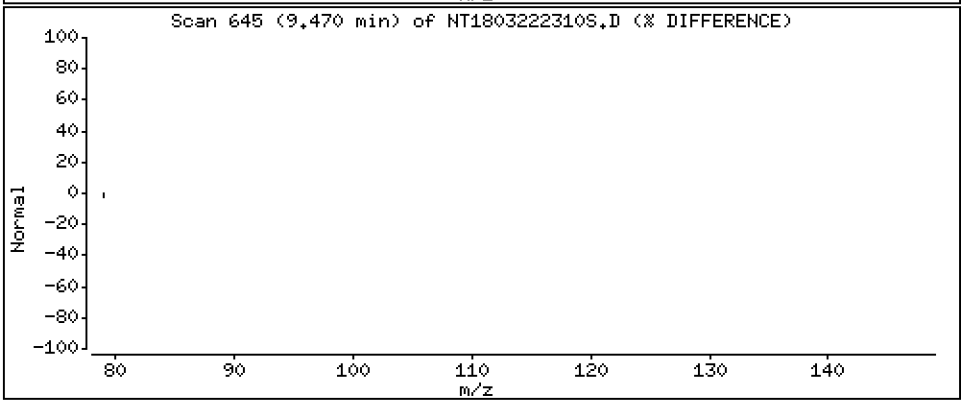












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222310S.D

Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM2

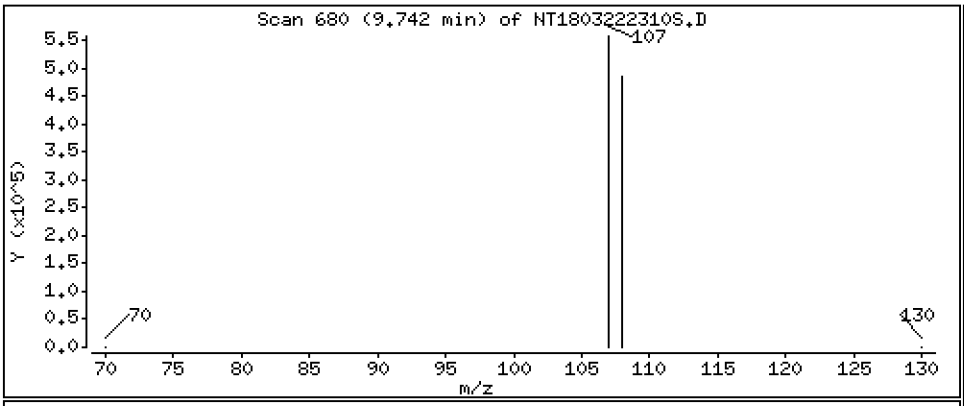
Operator: VTS

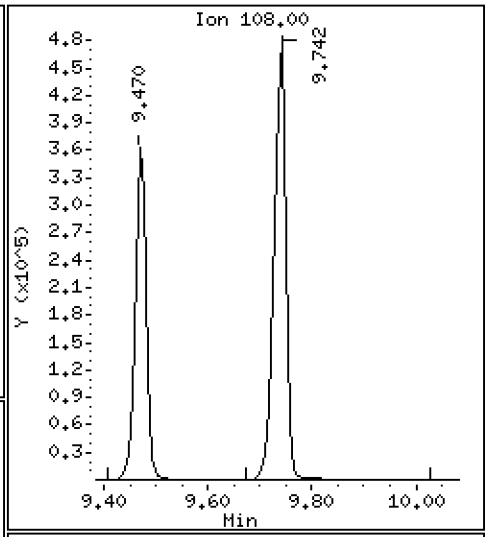
Column phase: ZB-5msi

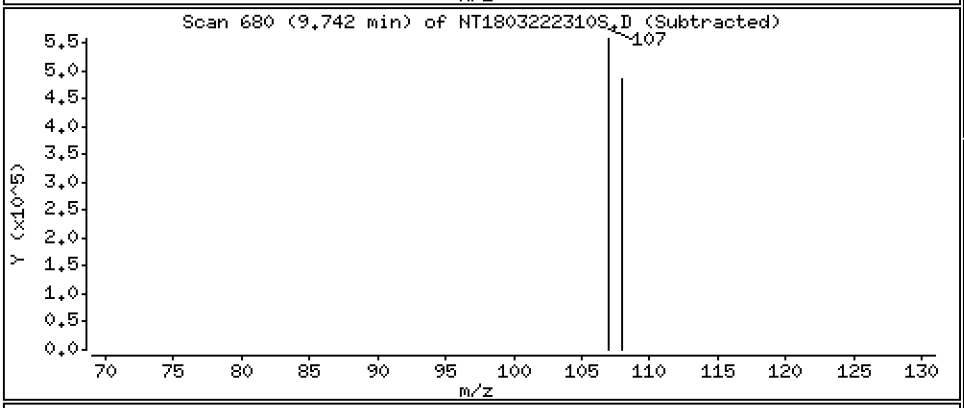
Column diameter: 0.25

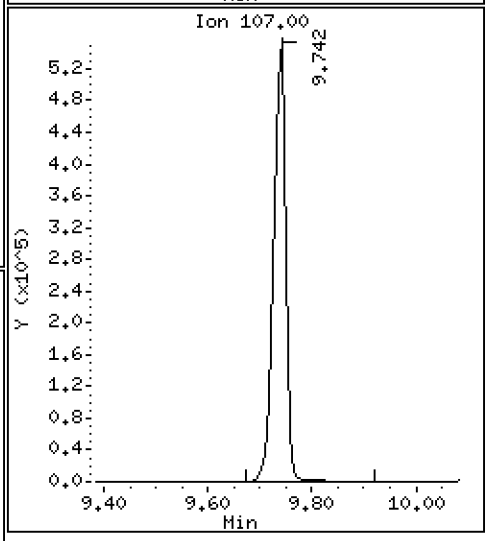
15 4-Methylphenol

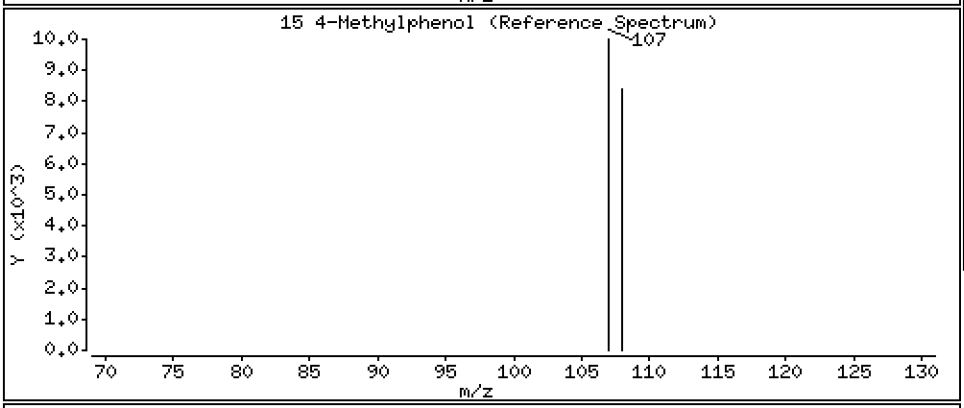
Concentration: 8.133 ug/mL

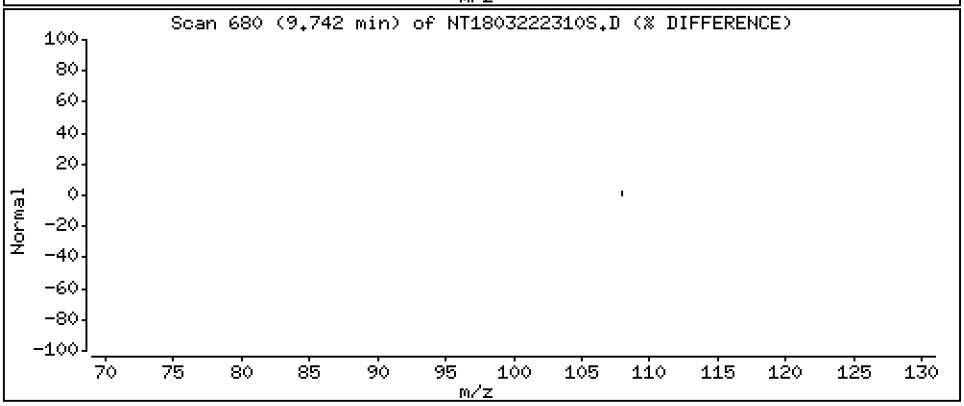












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223105.D

Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM2

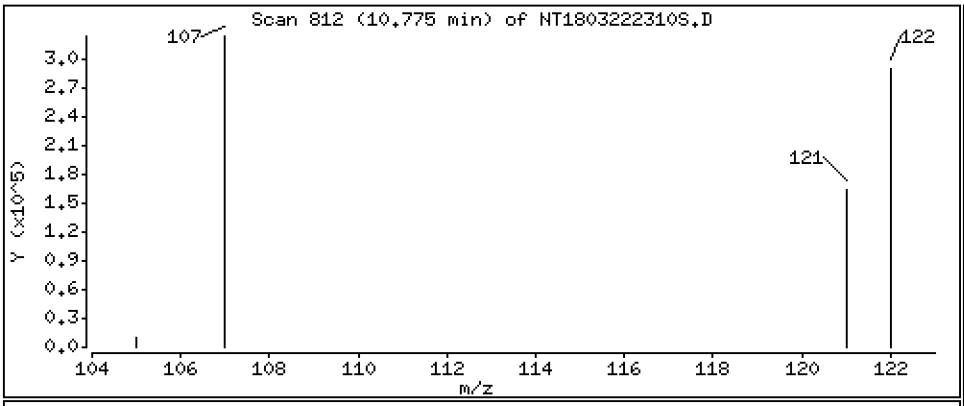
Operator: VTS

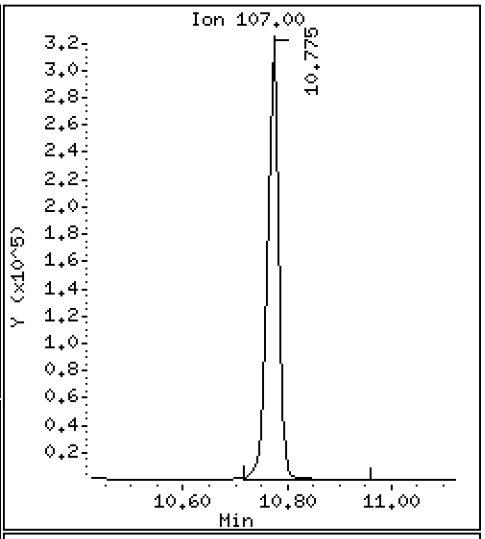
Column phase: ZB-5msi

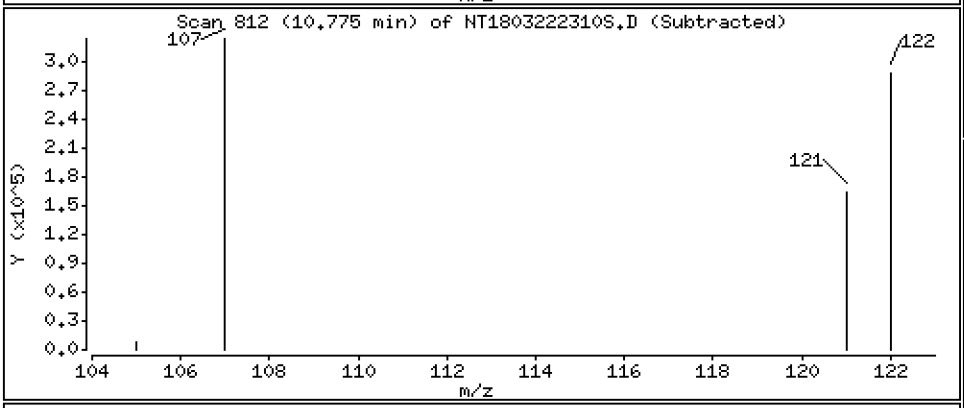
Column diameter: 0.25

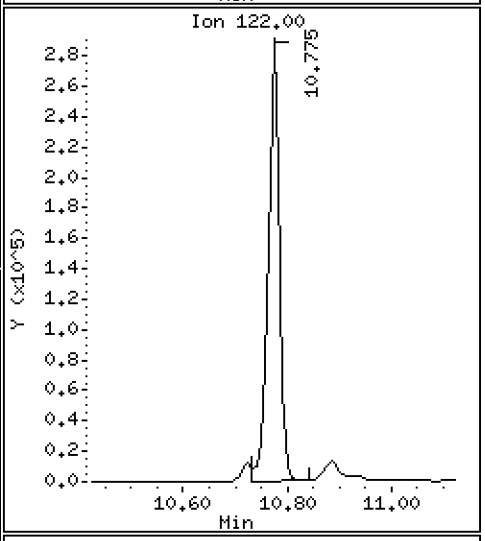
22 2,4-Dimethylphenol

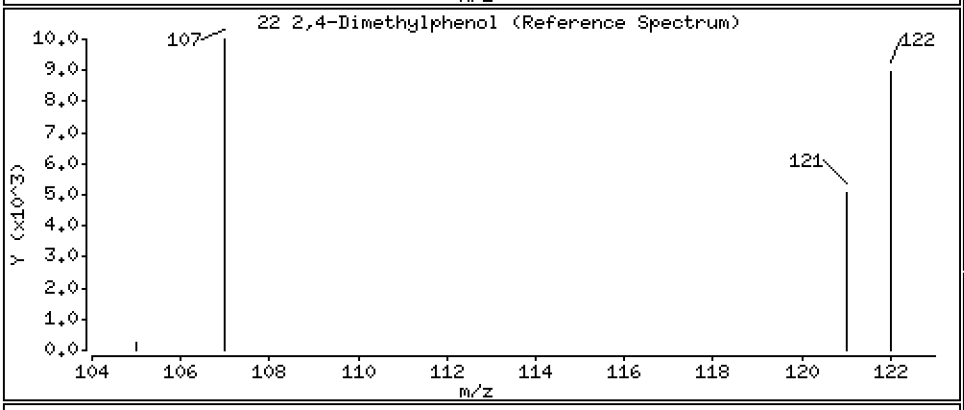
Concentration: 6.103 ug/mL

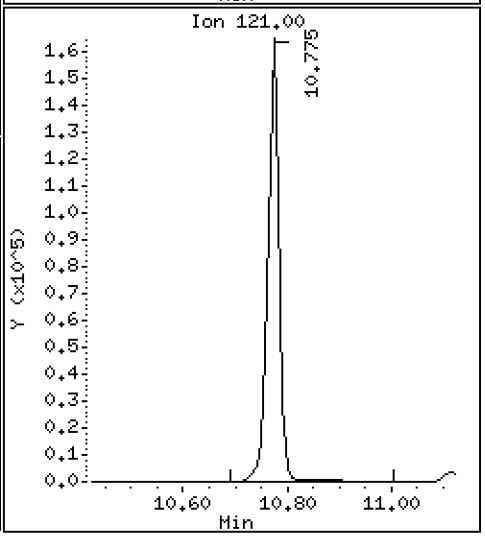


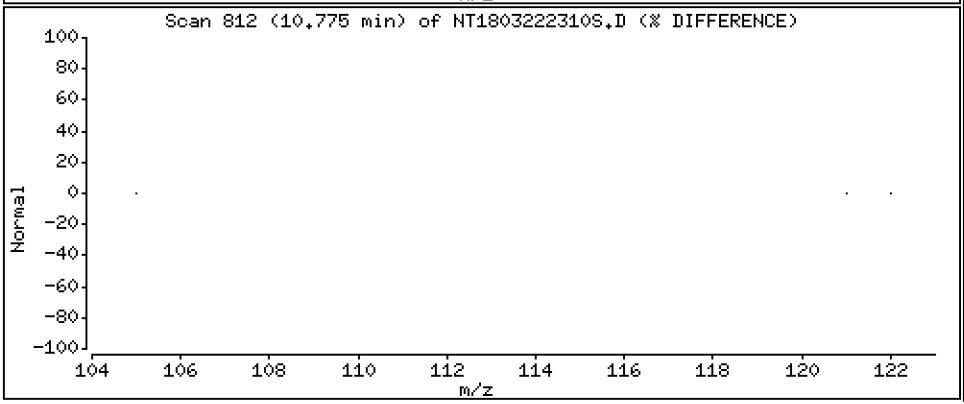












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222310S.D

Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM2

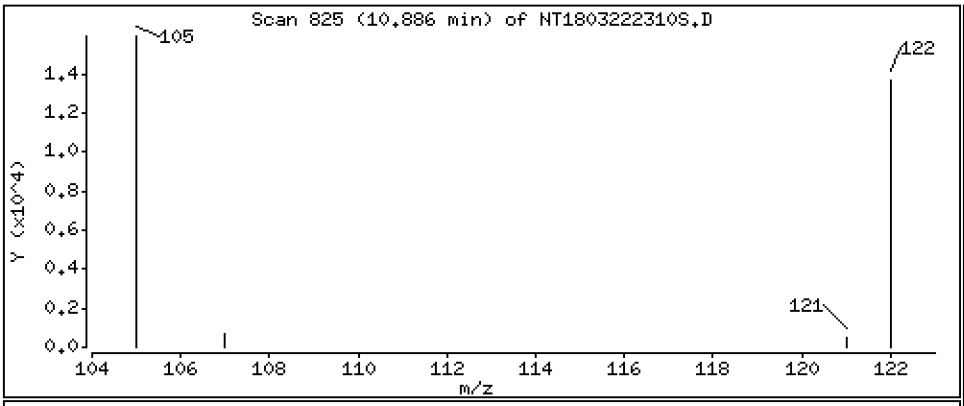
Operator: VTS

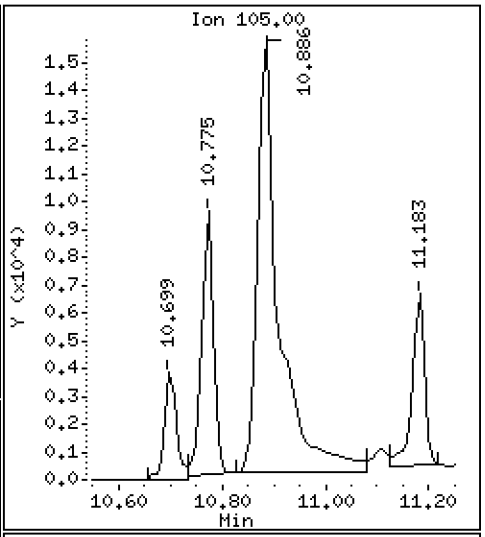
Column phase: ZB-5msi

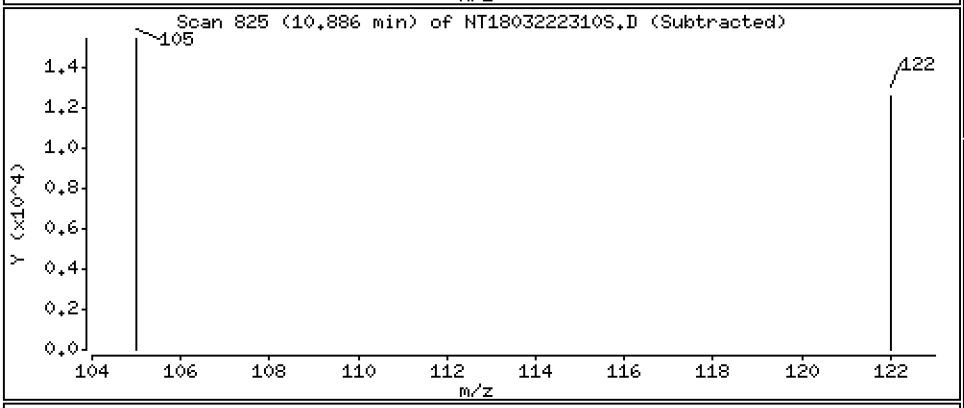
Column diameter: 0.25

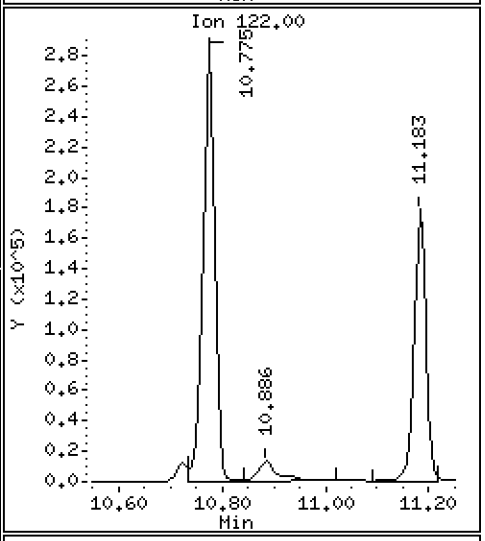
24 Benzoic acid

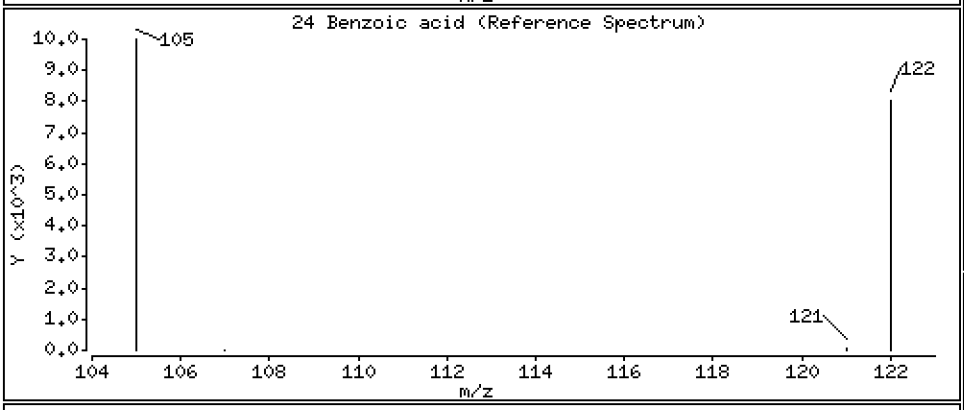
Concentration: 0.8032 ug/mL

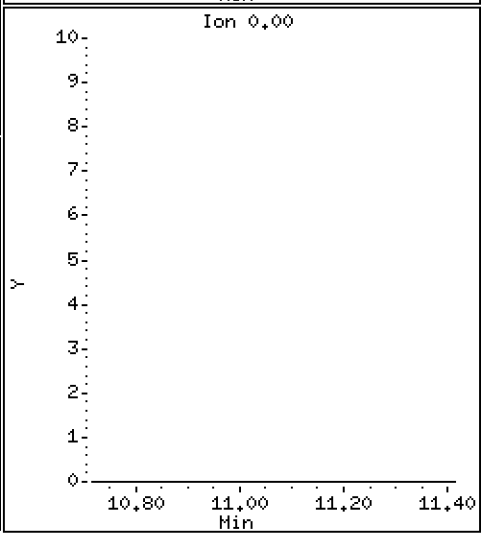


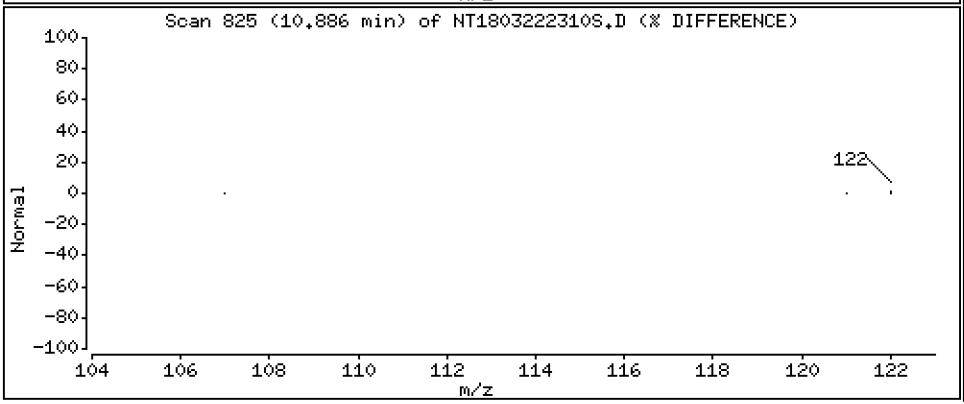












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222310S.D

Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM2

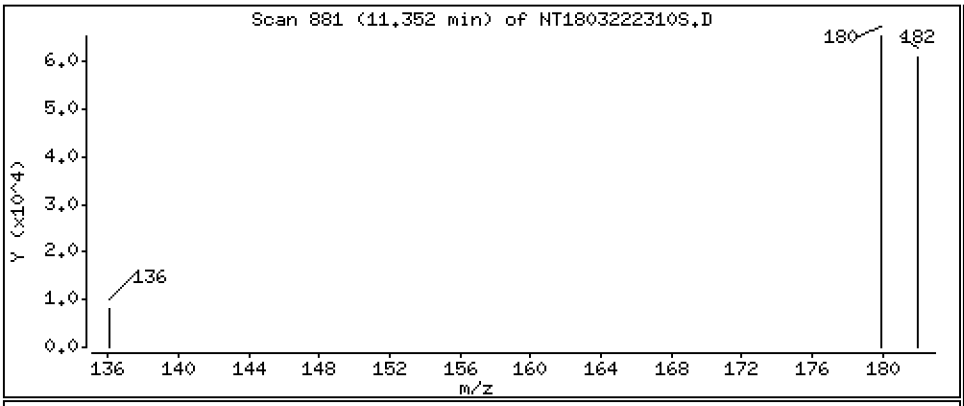
Operator: VTS

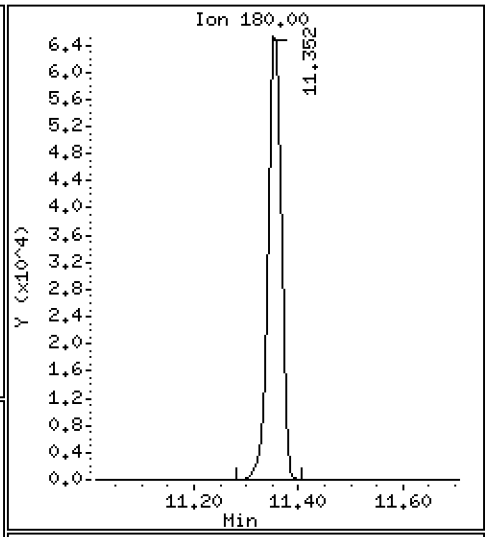
Column phase: ZB-5msi

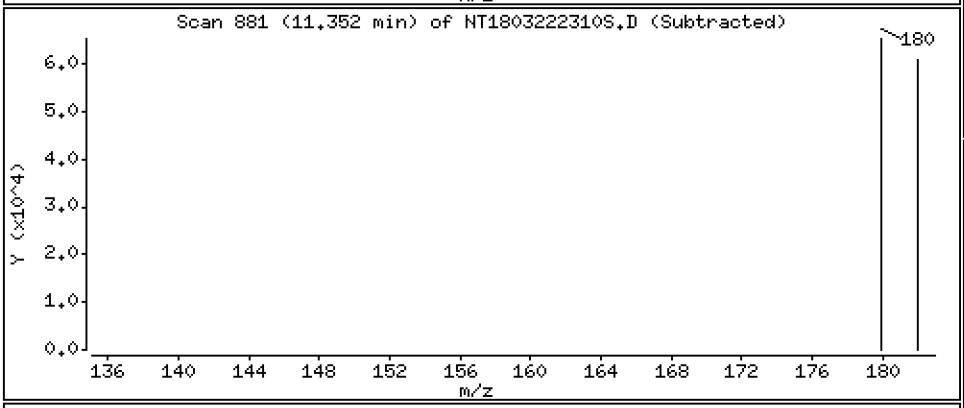
Column diameter: 0.25

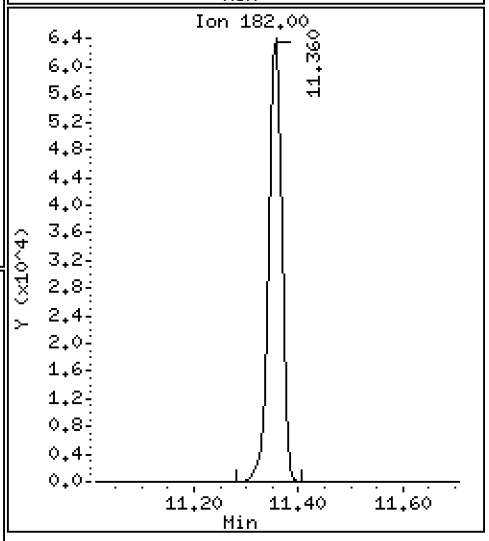
26 1,2,4-Trichlorobenzene

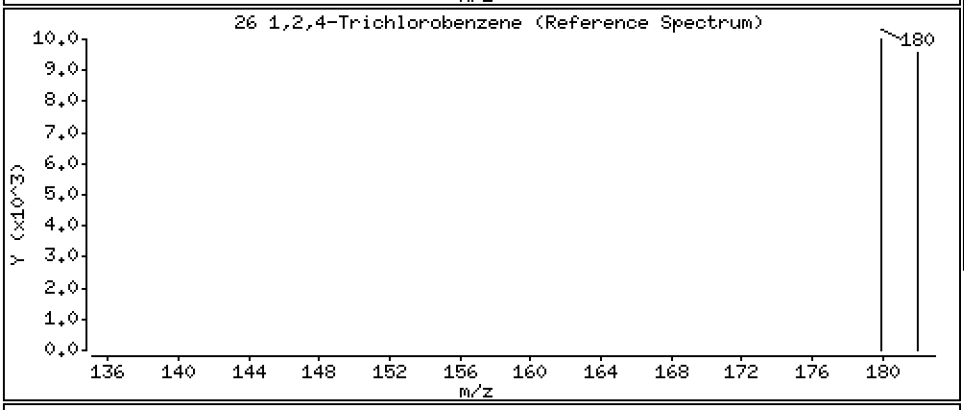
Concentration: 1.186 ug/mL

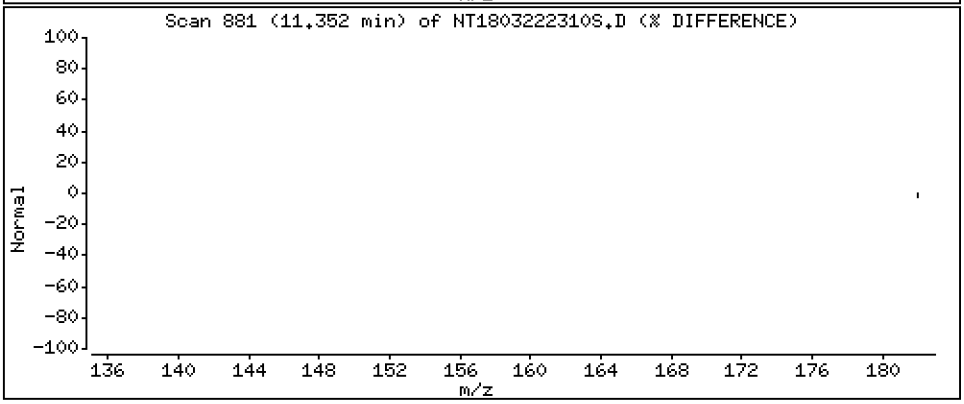












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222310S.D

Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM2

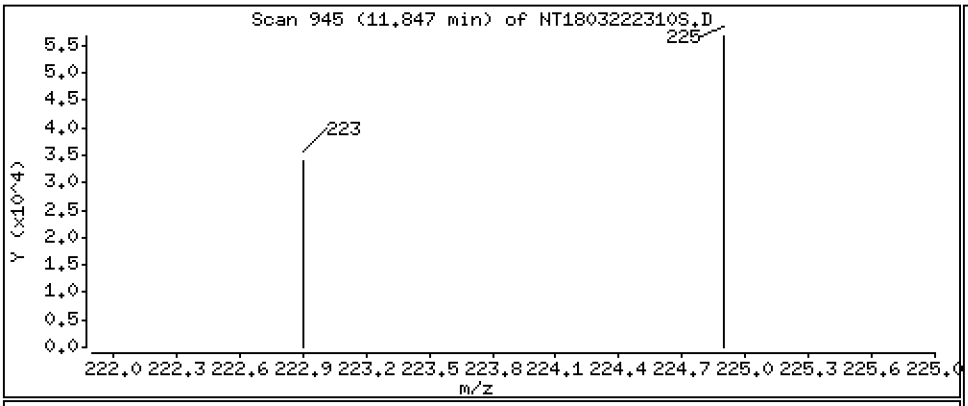
Operator: VTS

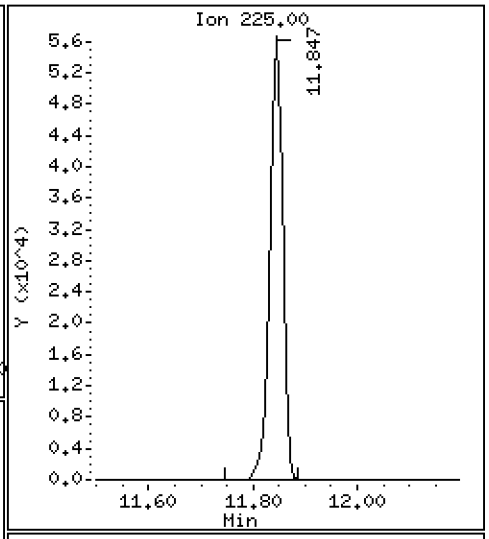
Column phase: ZB-5msi

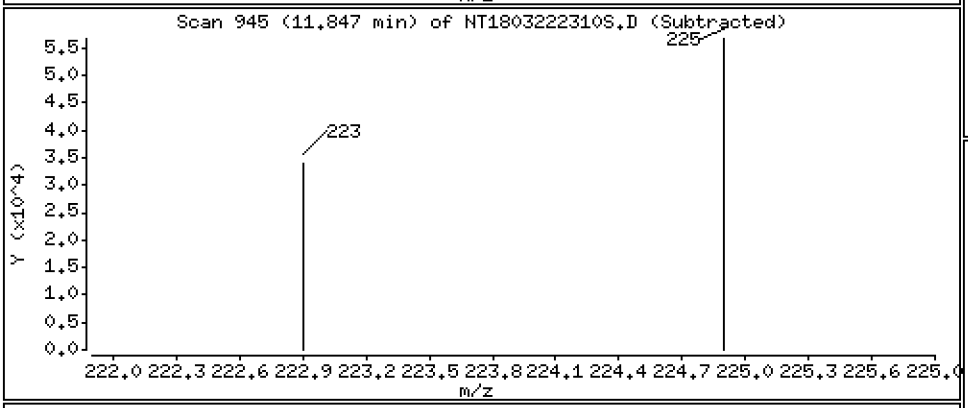
Column diameter: 0.25

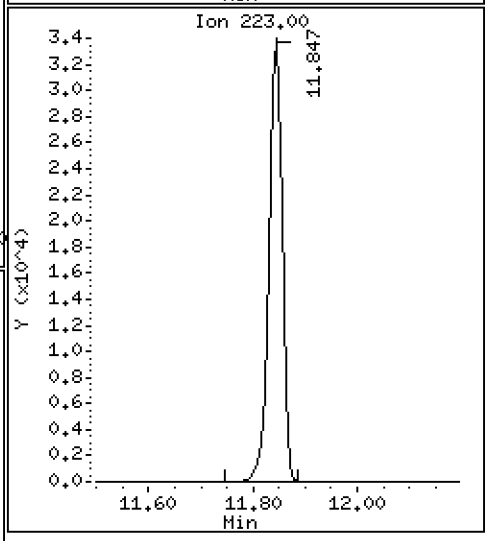
30 Hexachlorobutadiene

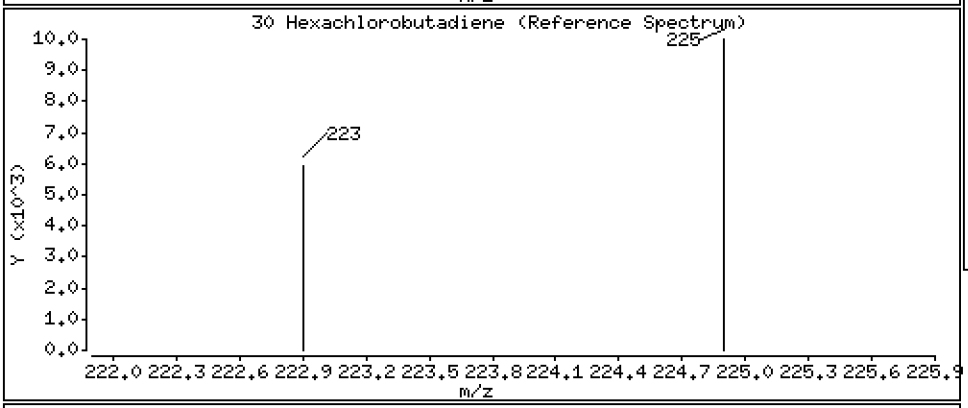
Concentration: 1.706 ug/mL

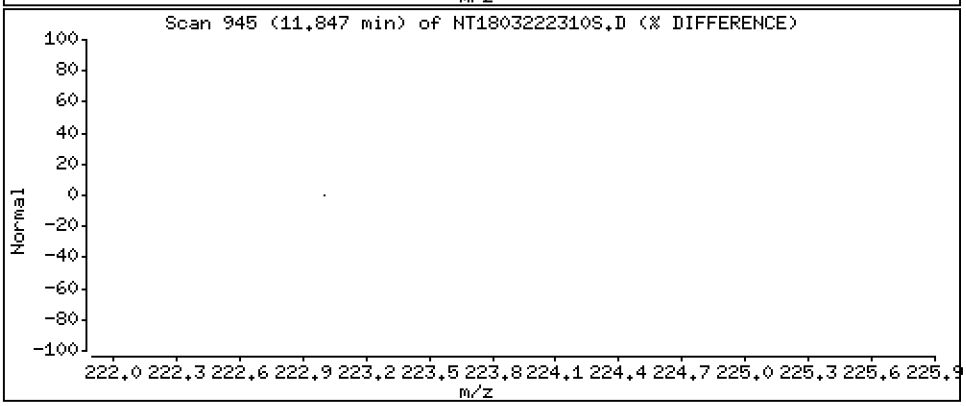












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222310S.D

Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM2

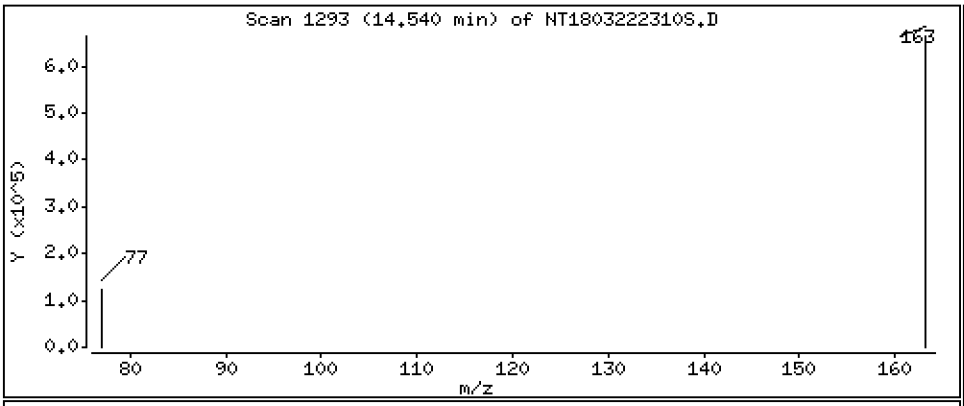
Operator: VTS

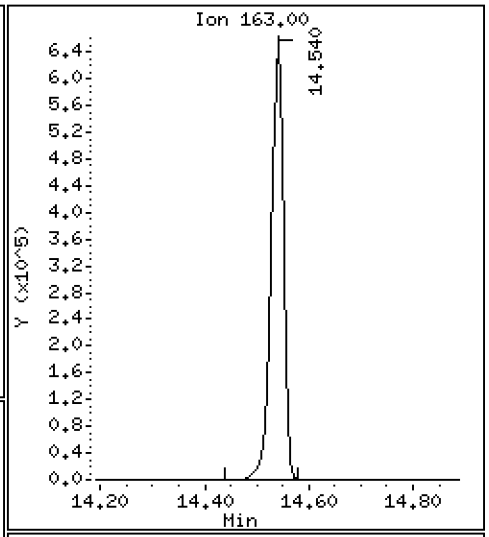
Column phase: ZB-5msi

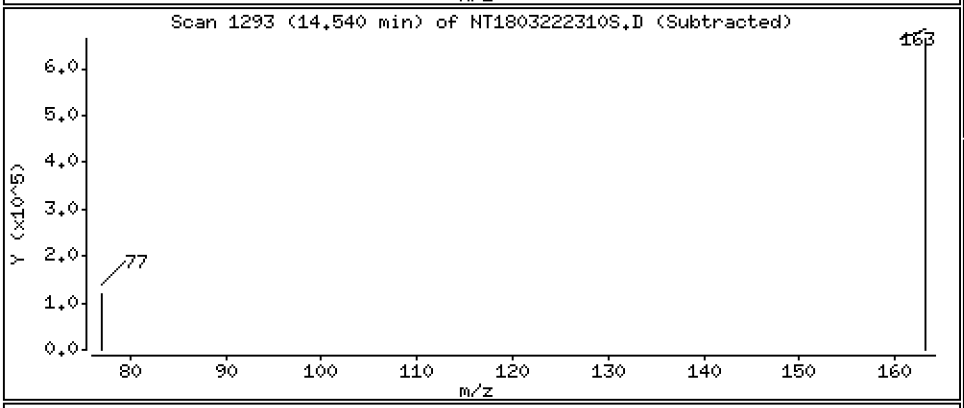
Column diameter: 0.25

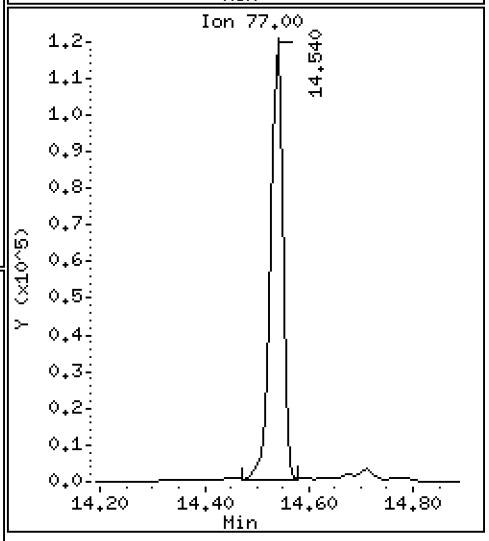
39 Dimethylphthalate

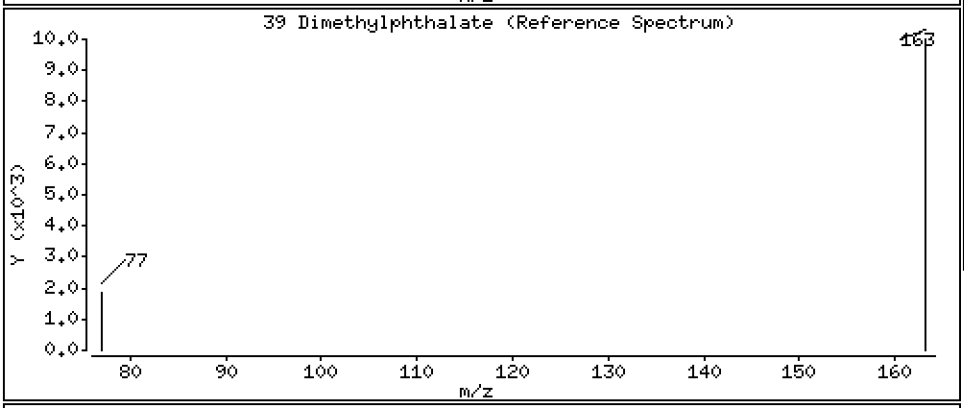
Concentration: 5.497 ug/mL

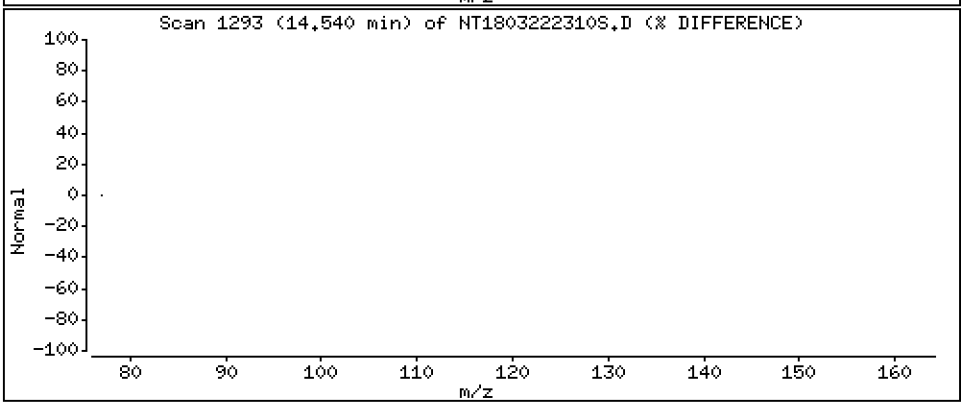












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222310S.D

Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM2

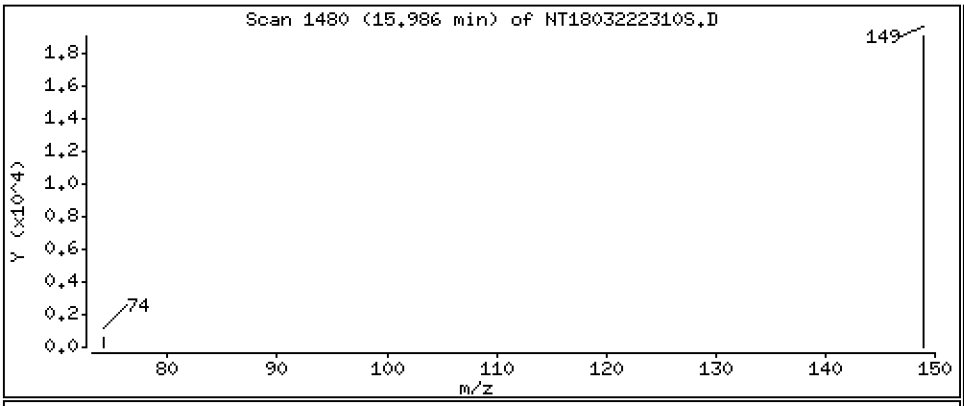
Operator: VTS

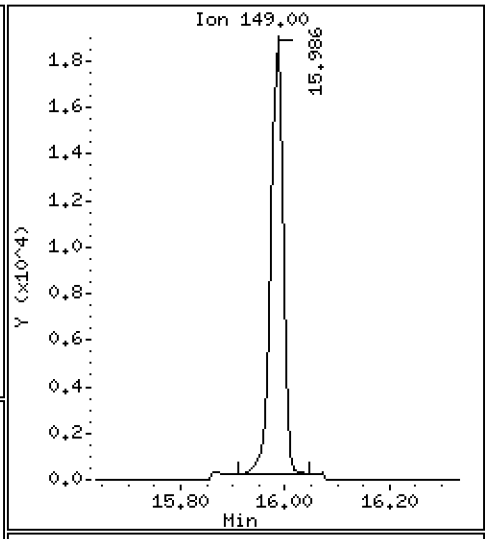
Column phase: ZB-5msi

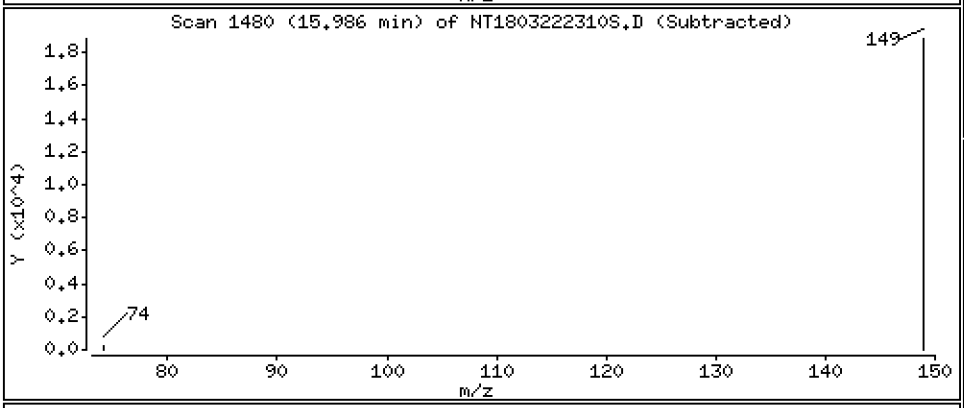
Column diameter: 0.25

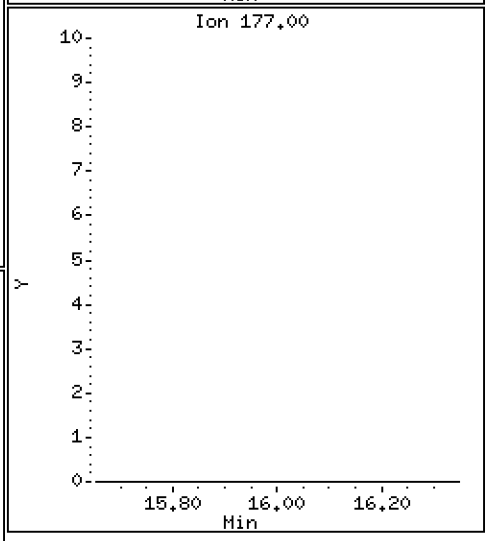
50 Diethylphthalate

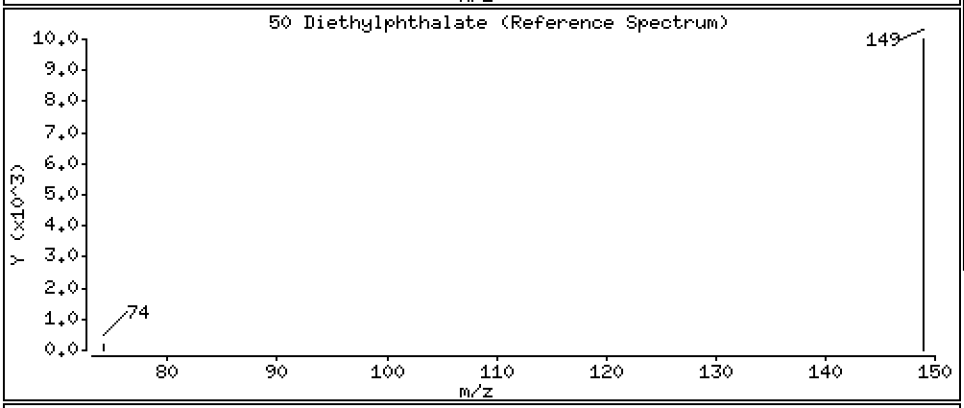
Concentration: 0.1724 ug/mL

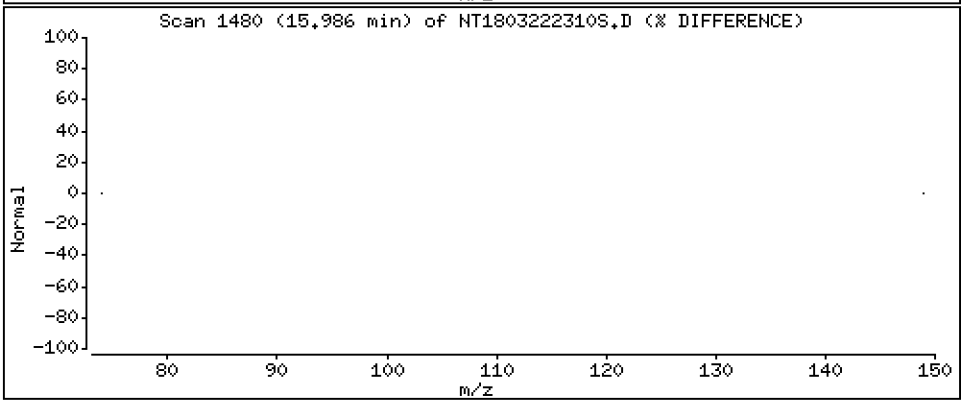












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Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM2

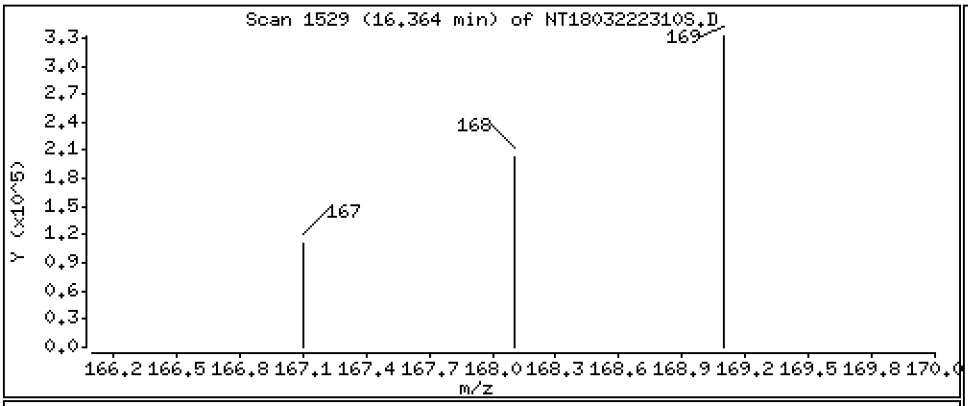
Operator: VTS

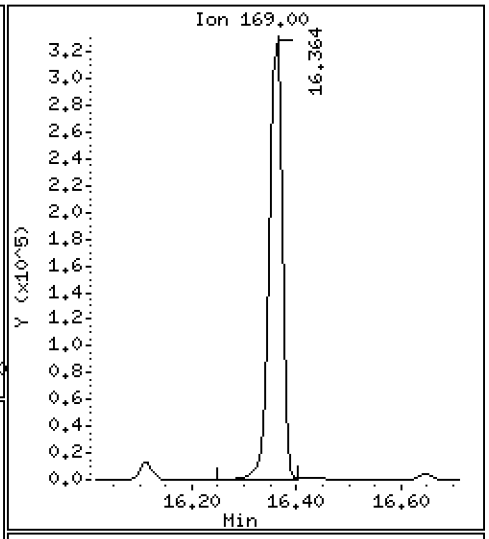
Column phase: ZB-5msi

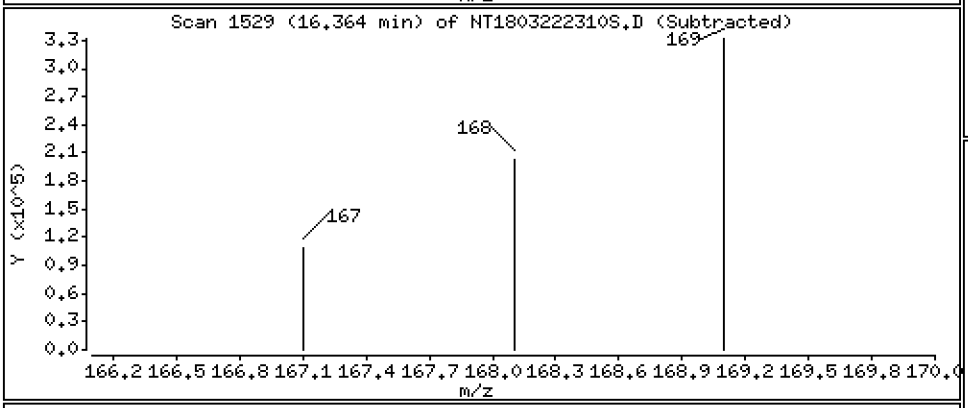
Column diameter: 0.25

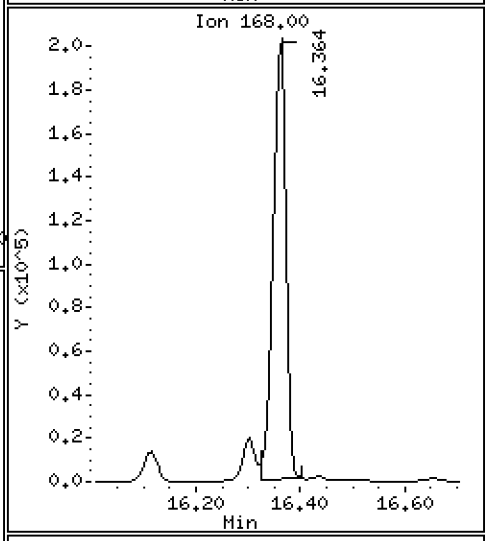
54 N-Nitrosodiphenylamine

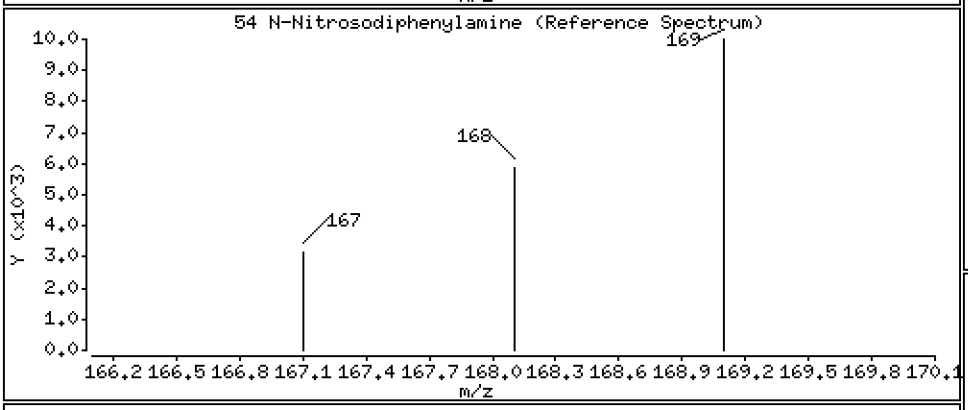
Concentration: 4.317 ug/mL

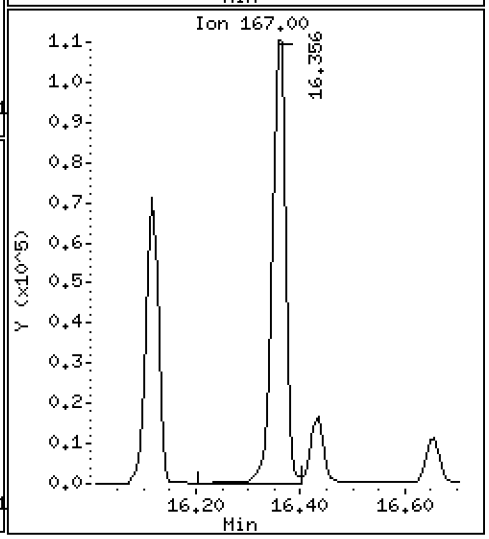


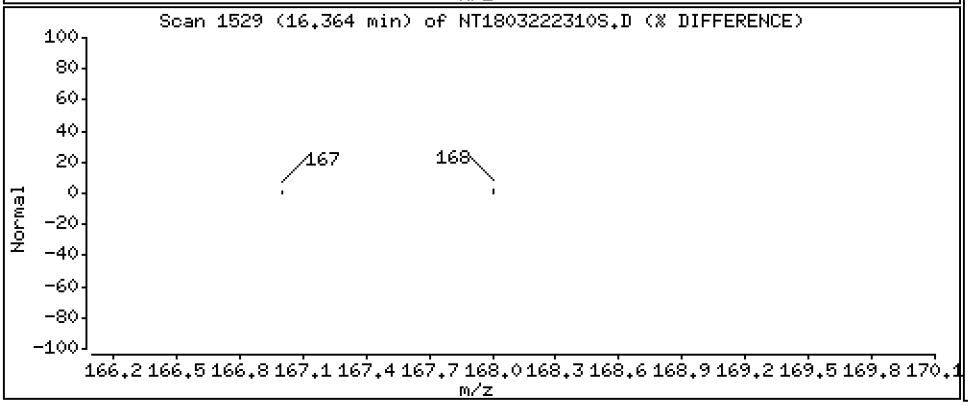












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222310S.D

Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM2

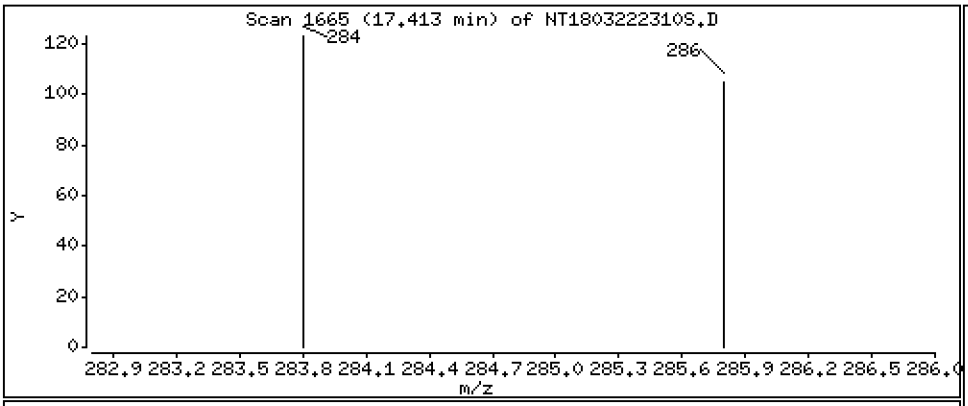
Operator: VTS

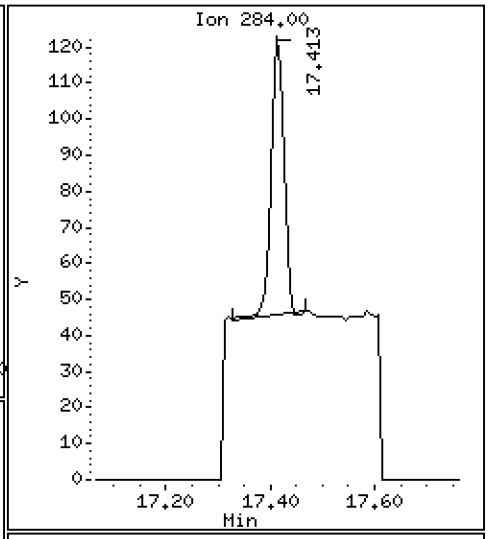
Column phase: ZB-5msi

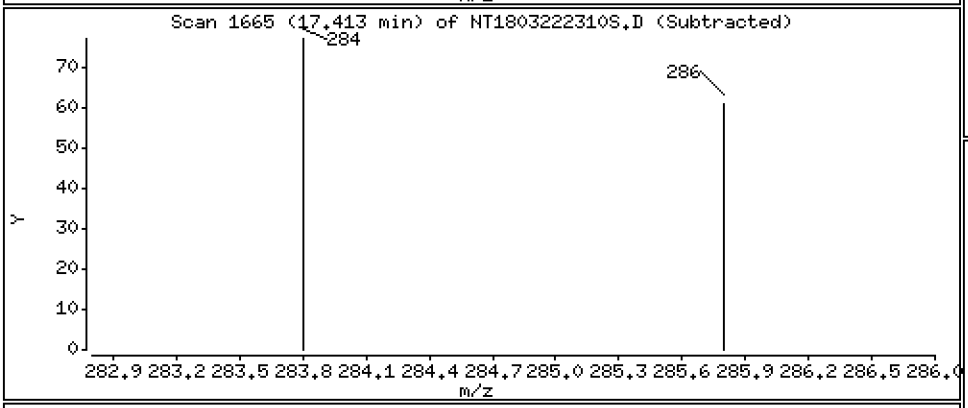
Column diameter: 0.25

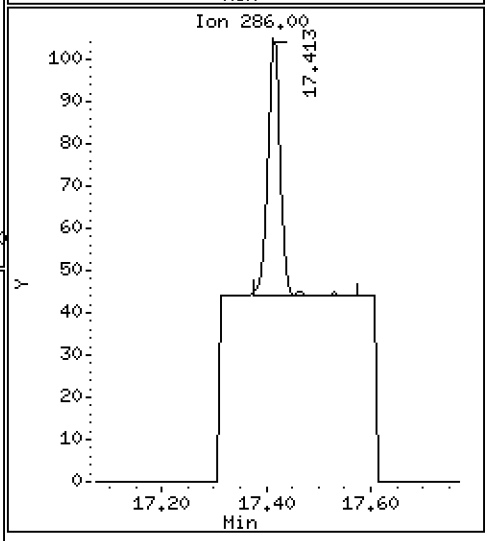
57 Hexachlorobenzene

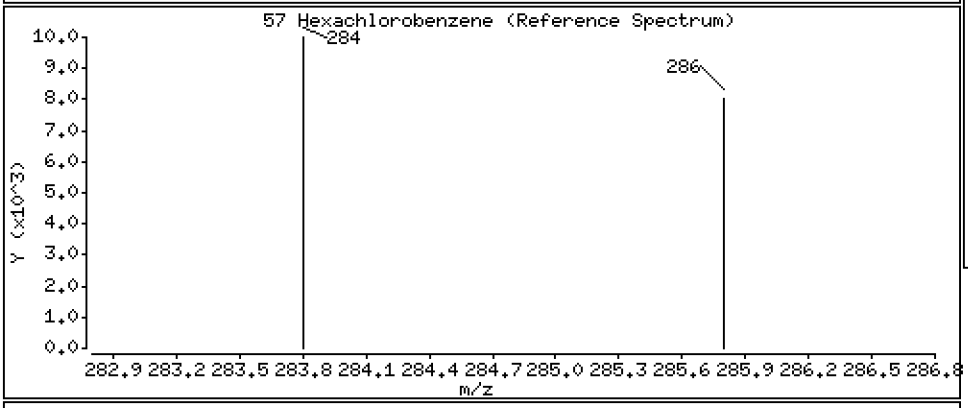
Concentration: 0.002098 ug/mL

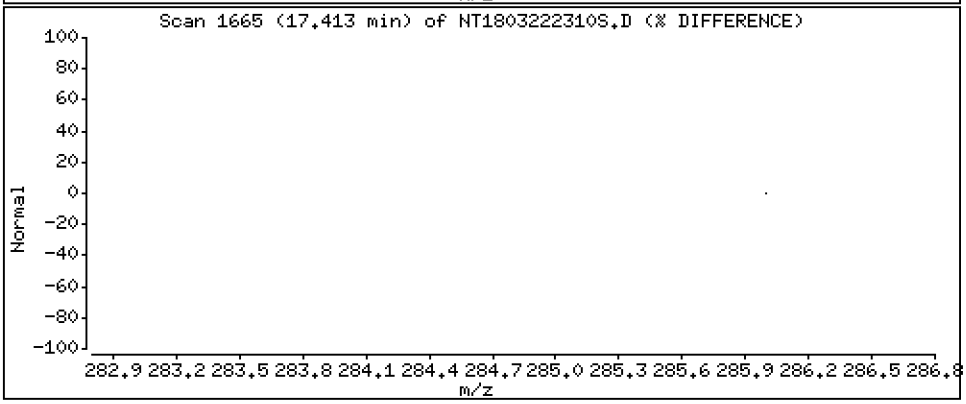












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222310S.D

Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM2

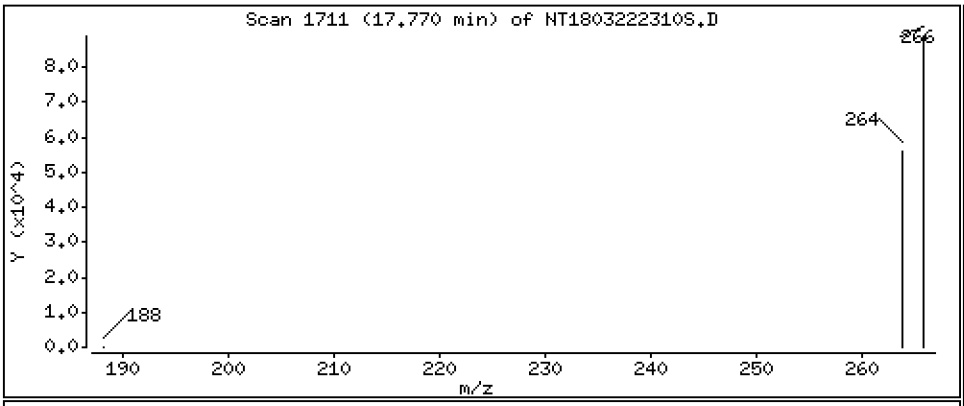
Operator: VTS

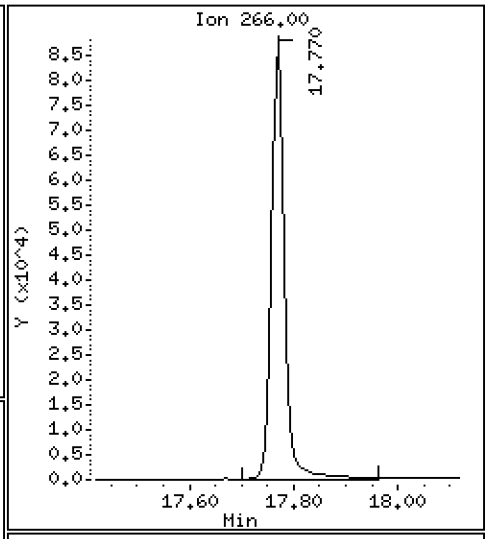
Column phase: ZB-5msi

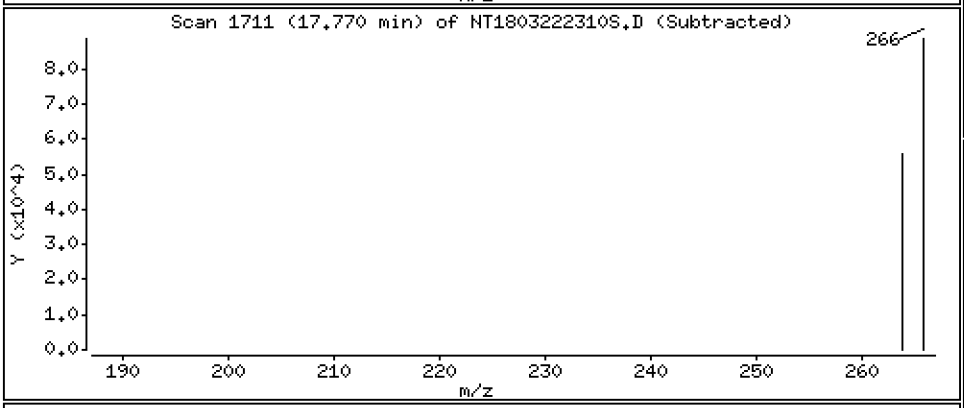
Column diameter: 0.25

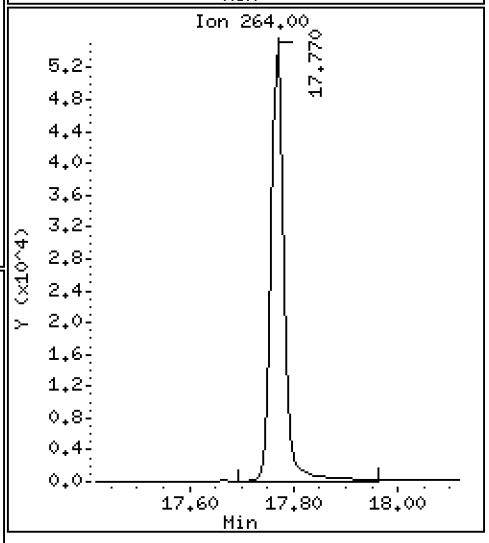
58 Pentachlorophenol

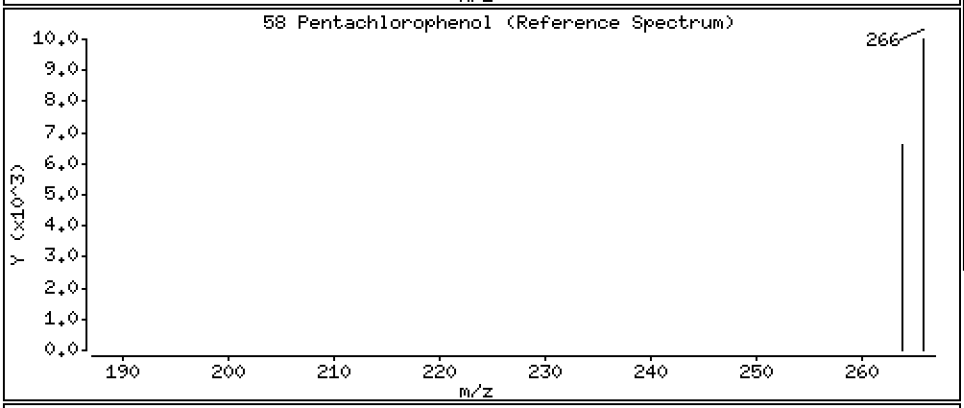
Concentration: 4.388 ug/mL

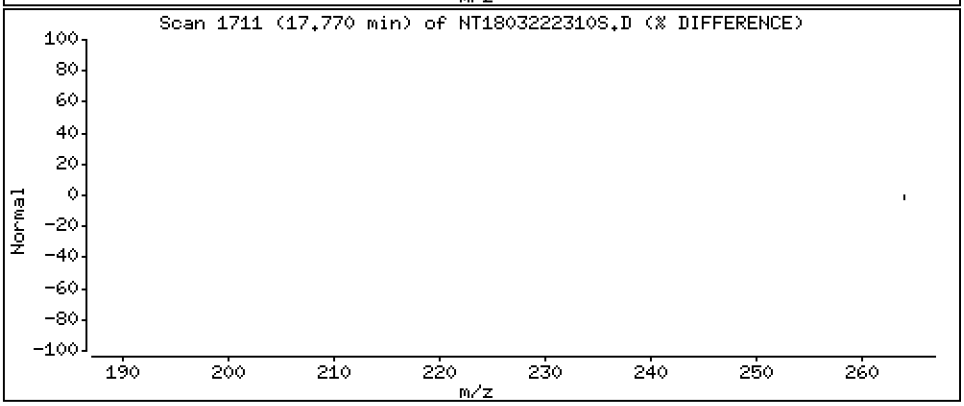












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222310S.D

Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM2

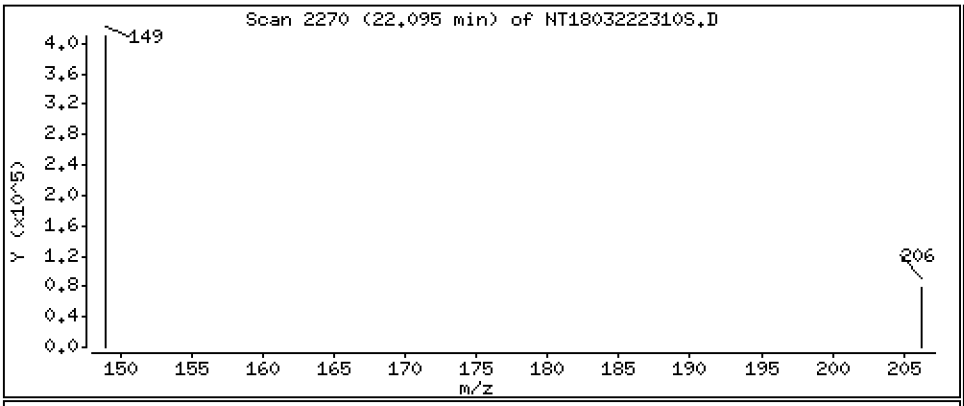
Operator: VTS

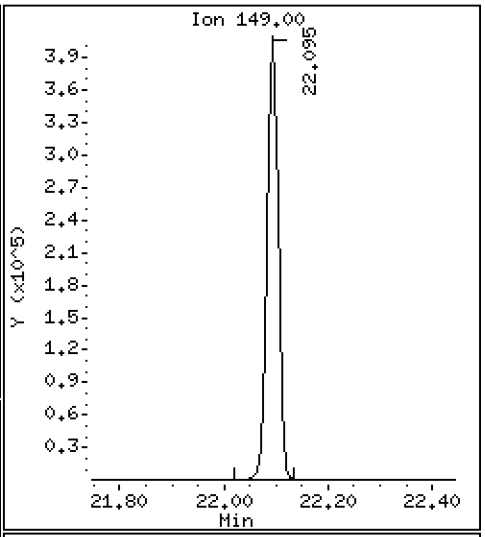
Column phase: ZB-5msi

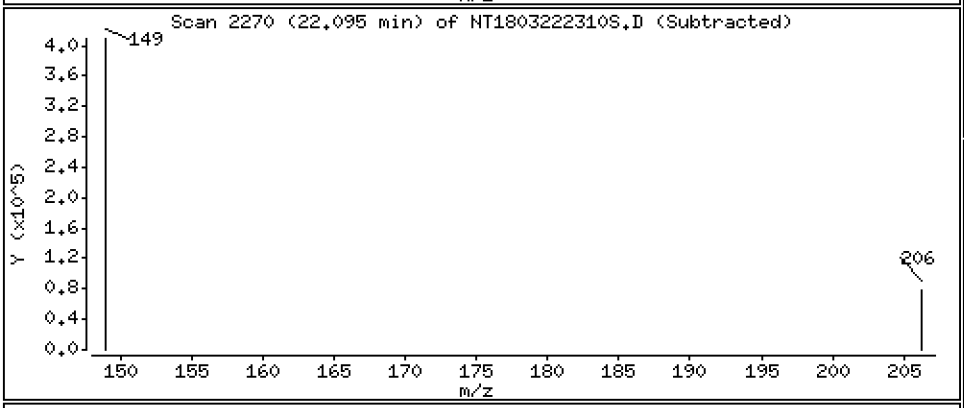
Column diameter: 0.25

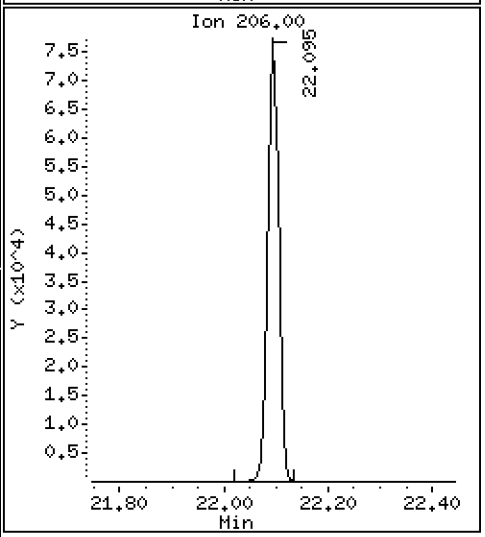
67 Butylbenzylphthalate

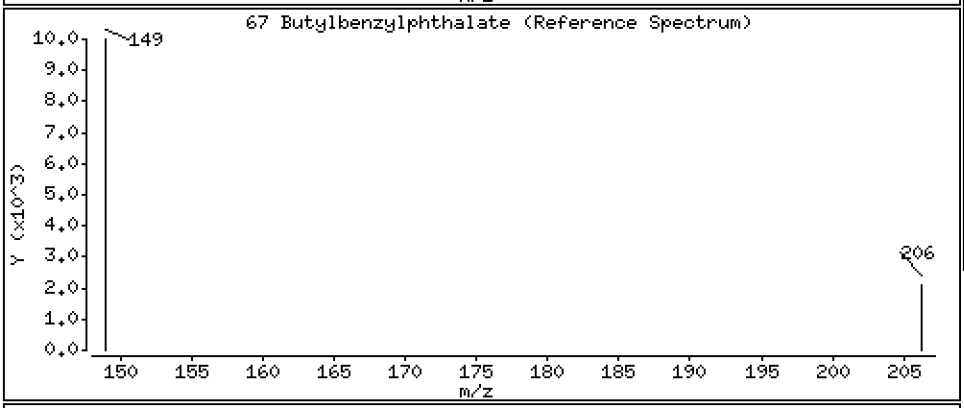
Concentration: 4.243 ug/mL

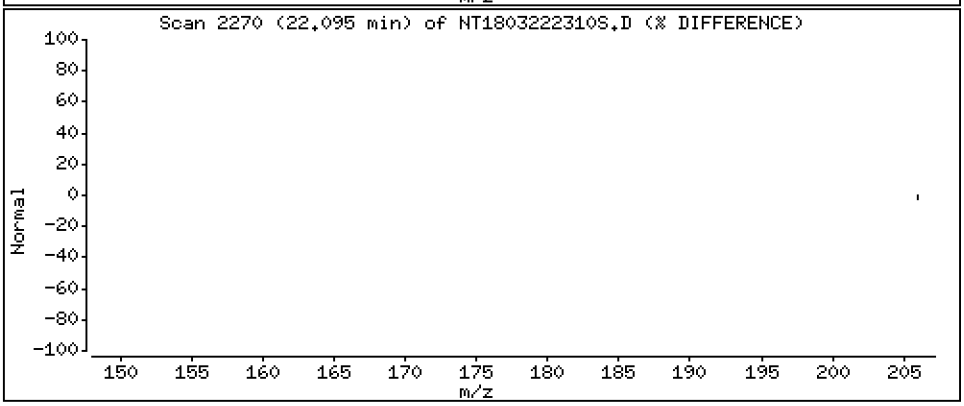












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222310S.D

Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM2

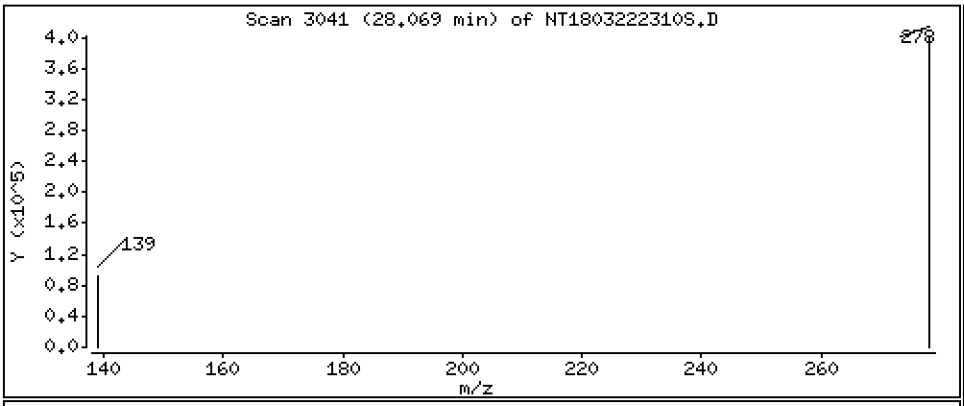
Operator: VTS

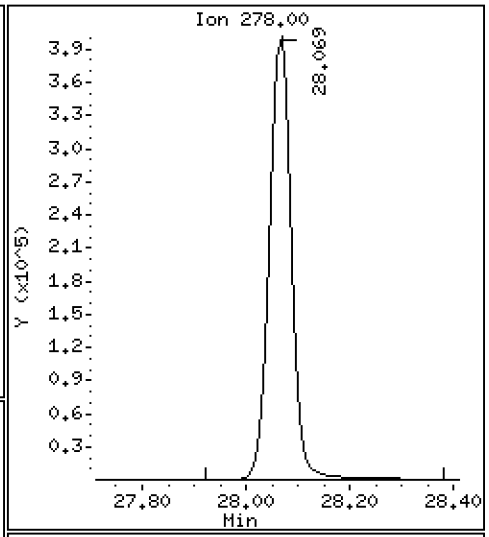
Column phase: ZB-5msi

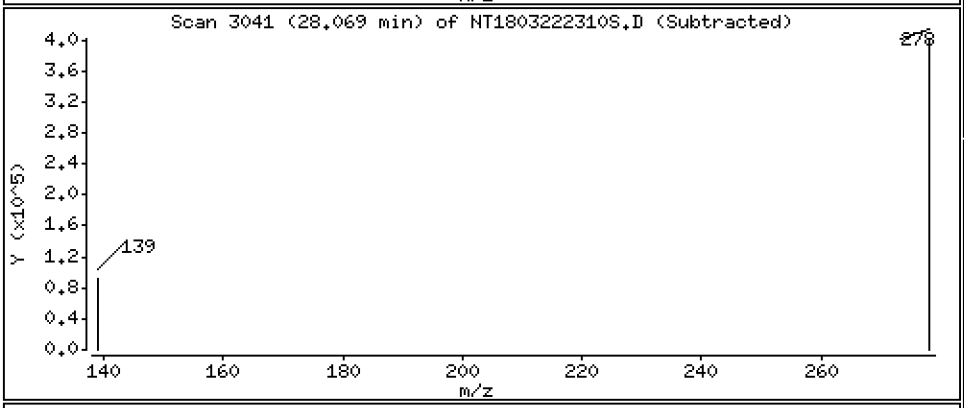
Column diameter: 0.25

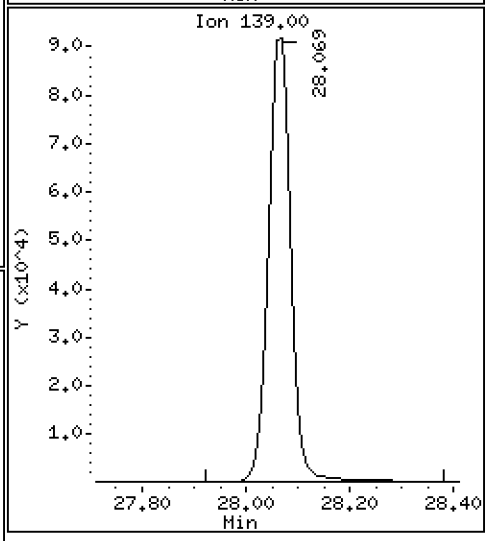
79 Dibenzo(a,h)anthracene

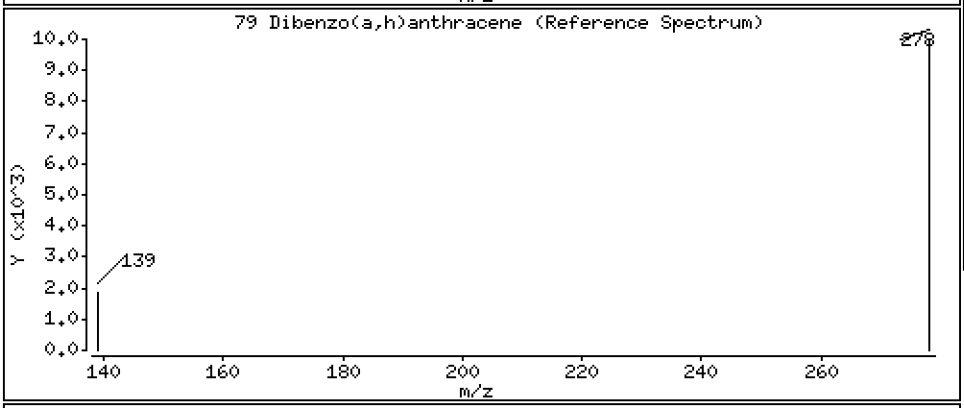
Concentration: 4.394 ug/mL

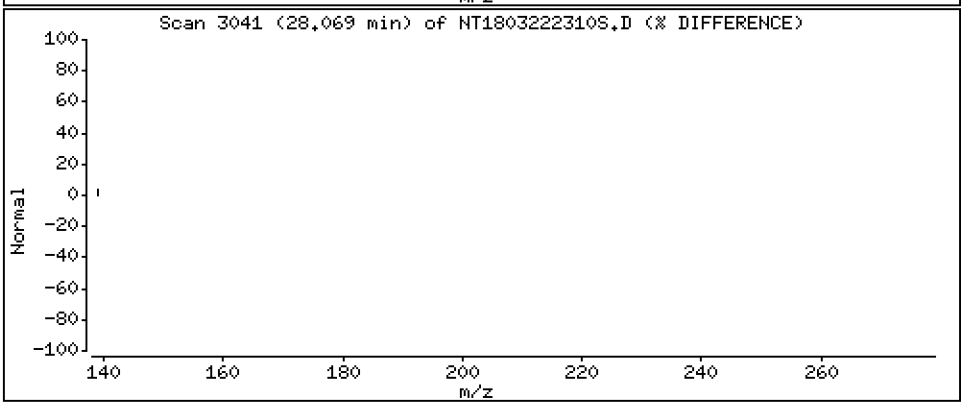












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222310S.D

Date : 22-MAR-2023 23:22

Client ID:

Instrument: nt18.i

Sample Info: BLC0185-SRM2

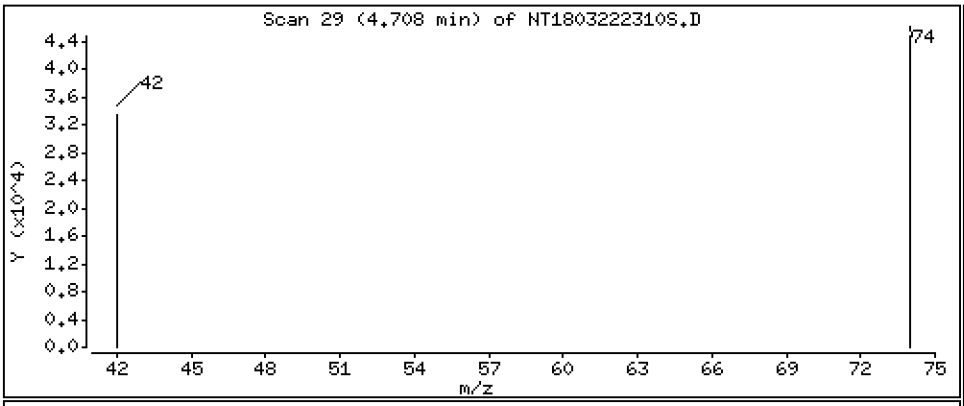
Operator: VTS

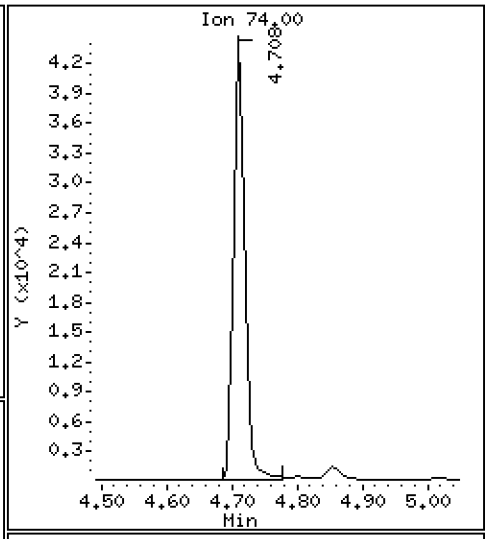
Column phase: ZB-5msi

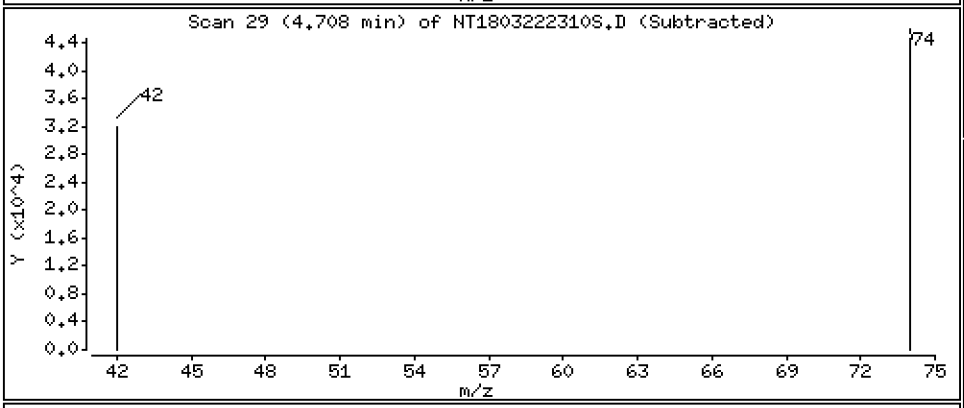
Column diameter: 0.25

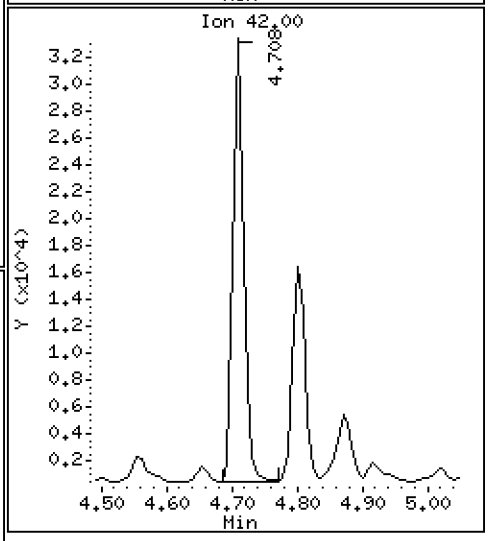
90 N-Nitrosodimethylamine

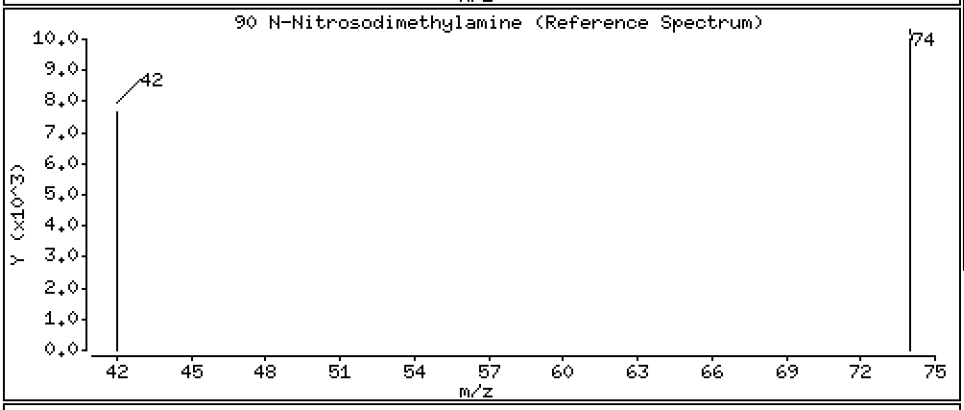
Concentration: 0.9521 ug/mL

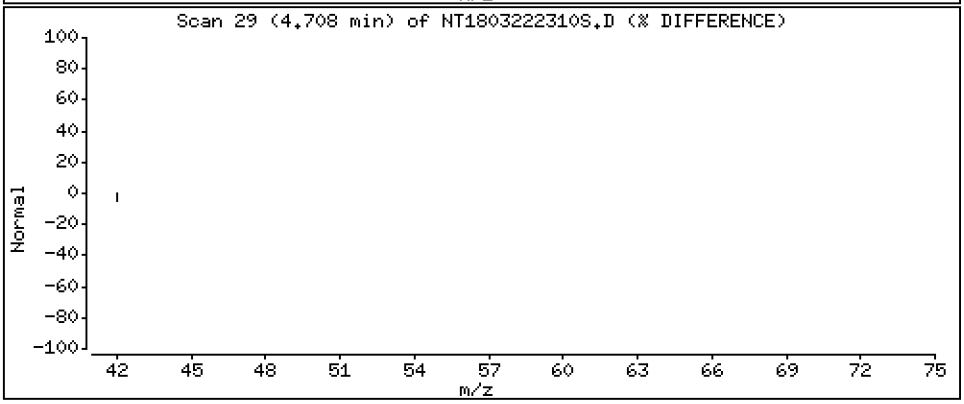












ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222310S.D
Lab Smp Id: BLC0185-SRM2
Inj Date : 22-MAR-2023 23:22
Operator : VTS Inst ID: nt18.i
Smp Info : BLC0185-SRM2
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230322.b\SIM.b\SIMABN2.m
Meth Date : 05-Apr-2023 10:09 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: DEENAY-201905

							CONCENTRATIONS	
		QUANT SIG					ON-COLUMN	FINAL
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/mL)	(ug/mL)
$	1 2-Fluorophenol	112	6.793	6.778	(0.756)	596082	6.43326	6.433(R)
	3 Phenol	94	8.370	8.362	(0.932)	368849	2.97289	2.973
	7 1,3-Dichlorobenzene	146	8.918	8.918	(0.993)	99919	0.83247	0.8325
*	8 1,4-Dichlorobenzene-d4	152	8.980	8.980	(1.000)	317828	4.00000	
	9 1,4-Dichlorobenzene	146	8.918	9.011	(0.993)	99919	0.82072	0.8207
	11 Benzyl alcohol	79	Compound Not Detected.					
	12 1,2-Dichlorobenzene	146	Compound Not Detected.					
	13 2-Methylphenol	108	9.469	9.469	(1.054)	556063	6.45615	6.456
	15 4-Methylphenol	108	9.741	9.733	(1.085)	728693	8.13319	8.133
	16 N-Nitroso-di-n-propylamine	70	Compound Not Detected.					
	22 2,4-Dimethylphenol	107	10.775	10.775	(0.942)	502687	6.10333	6.103
	24 Benzoic acid	105	10.885	10.902	(0.952)	45149	0.80316	0.8032
	26 1,2,4-Trichlorobenzene	180	11.352	11.360	(0.993)	111385	1.18569	1.186
*	27 Naphthalene-d8	136	11.437	11.444	(1.000)	1179389	4.00000	
	30 Hexachlorobutadiene	225	11.846	11.846	(1.036)	92207	1.70551	1.706
	39 Dimethylphthalate	163	14.539	14.539	(0.968)	1018744	5.49721	5.497
*	42 Acenaphthene-d10	162	15.019	15.027	(1.000)	580188	4.00000	
	50 Diethylphthalate	149	15.986	15.985	(1.064)	29006	0.17237	0.1724
	54 N-Nitrosodiphenylamine	169	16.364	16.364	(0.907)	540687	4.31717	4.317
	57 Hexachlorobenzene	284	17.413	17.413	(0.966)	125	0.00210	0.002098(M)
	58 Pentachlorophenol	266	17.769	17.769	(0.985)	143747	4.38829	4.388
*	59 Phenanthrene-d10	188	18.032	18.032	(1.000)	1031187	4.00000	
$	66 Terphenyl-d14	244	21.166	21.165	(0.918)	653655	4.86678	4.867(R)
	67 Butylbenzylphthalate	149	22.095	22.095	(0.958)	570563	4.24287	4.243
*	69 Chrysene-d12	240	23.055	23.055	(1.000)	952878	4.00000	
*	77 Perylene-d12	264	25.563	25.563	(1.000)	896158	4.00000	
	79 Dibenzo(a,h)anthracene	278	28.068	28.060	(1.098)	1165231	4.39449	4.394
	90 N-Nitrosodimethylamine	74	4.708	4.700	(0.524)	53844	0.95213	0.9521

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222310S.D
Lab Smp Id: BLC0185-SRM2
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 22-MAR-2023
Calibration Time: 18:36
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	283947	141974	567894	317828	11.93
27 Naphthalene-d8	1057483	528742	2114966	1179389	11.53
42 Acenaphthene-d10	520336	260168	1040672	580188	11.50
59 Phenanthrene-d10	933537	466769	1867074	1031187	10.46
69 Chrysene-d12	863272	431636	1726544	952878	10.38
77 Perylene-d12	996915	498458	1993830	896158	-10.11

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	-0.07
42 Acenaphthene-d10	15.03	14.53	15.53	15.02	-0.05
59 Phenanthrene-d10	18.03	17.53	18.53	18.03	0.00
69 Chrysene-d12	23.06	22.56	23.56	23.06	0.00
77 Perylene-d12	25.56	25.06	26.06	25.56	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222310S.D

Lab ID: BLC0185-SRM2
nt18.i, 20230322.b\SIM.b\SIMABN2.m,   22-MAR-2023 23:22

RT	CO-ELUTION COMPOUNDS
8.919	1,4-Dichlorobenzene and 1,3-Dichlorobenzene

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.993	1.003	-0.0104	1,4-Dichlorobenzene

RRT check based on Ccal File: SIM.b/NT1803222303S.D

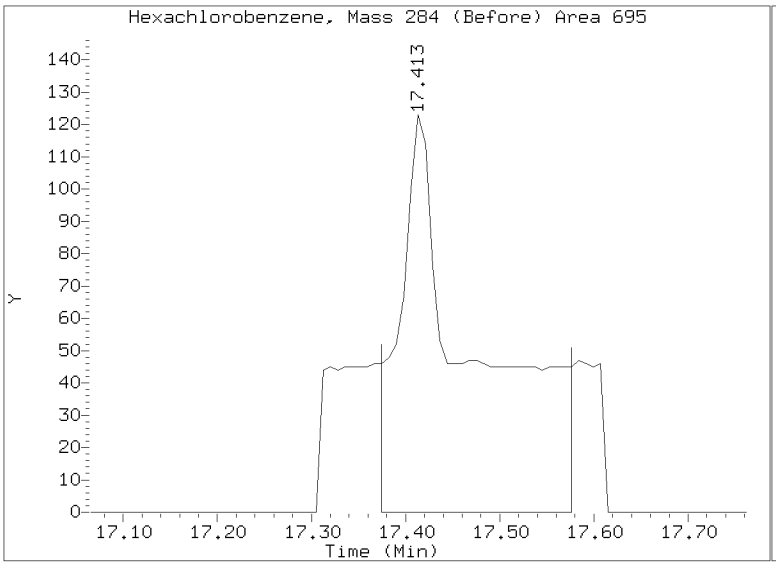
On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

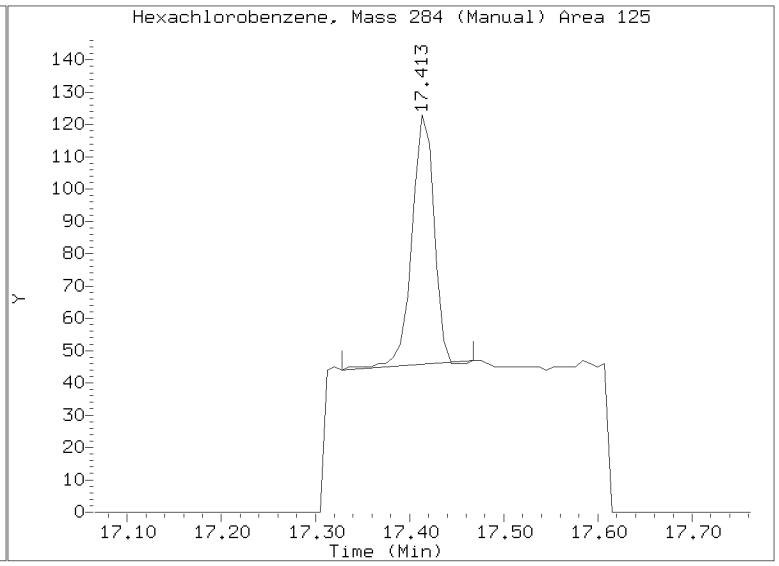
Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230322.b/SIM.b/NT1803222310S.D
Injection Date: 22-MAR-2023 23:22
Lab ID:BLC0185-SRM2 Client ID:
Report Date: 04/05/2023 10:10





APPROVED

By Deenay Dunmore at 11:19 am, Apr 05, 2023

INITIAL CALIBRATION DATA

EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GD00001	Instrument:	NT18
Calibration Date:	04/01/2023	Column (1):	ZB-5MS

Calibration Comments: DS

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	Conc	RRF	Conc	**RRF**	Conc	RRF	Conc	RRF	Conc	**RRF**	Conc	**RRF**
1,4-Dichlorobenzene	0.05	1.77497	0.1	1.641714	0.2	1.465931	0.5	1.568822	1	1.426238	2.5	1.539919
1,2-Dichlorobenzene	0.05	1.636834	0.1	1.6085	0.2	1.444039	0.5	1.552173	1	1.402908	2.5	1.508477
Benzyl Alcohol	0.05	0.5221231	0.1	0.6237307	0.2	0.6286458	0.5	0.8137017	1	0.7865431	2.5	0.9594512
Benzoic acid	0.2	3.83201E-03	0.4	2.88914E-03	0.8	1.608984E-02	2	6.631124E-02	4	0.1106234	10	0.2005349
2,4-Dimethylphenol	0.1	0.2240696	0.2	0.2560751	0.4	0.2555713	1	0.30728	2	0.2850383	5	0.3172467
1,2,4-Trichlorobenzene	0.05	0.3413373	0.1	0.3379245	0.2	0.3061434	0.5	0.3311612	1	0.3037773	2.5	0.3266811
N-Nitrosodiphenylamine	0.05	0.3575518	0.1	0.4352796	0.2	0.4408703	0.5	0.5267122	1	0.5055595	2.5	0.5530353
Pentachlorophenol	0.1	2.635979E-02	0.2	3.281971E-02	0.4	4.008568E-02	1	7.475339E-02	2	9.015757E-02	5	0.1329129
2-Fluorophenol	0.075	0.9776098	0.15	1.078373	0.3	1.047976	0.75	1.244279	1.5	1.178877	3.75	1.331017
p-Terphenyl-d14	0.05	0.502021	0.1	0.5390079	0.2	0.5161108	0.5	0.6019345	1	0.5623616	2.5	0.6198892

INITIAL CALIBRATION DATA

EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GD00001	Instrument:	NT18
Calibration Date:	04/01/2023	Column (1):	ZB-5MS

Calibration Comments: DS

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF
1,4-Dichlorobenzene	5	1.393183	10	1.44705								
1,2-Dichlorobenzene	5	1.357813	10	1.419186								
Benzyl Alcohol	5	0.8885029	10	0.9443572								
Benzoic acid	20	0.2133354	40	0.2418472								
2,4-Dimethylphenol	10	0.2892255	20	0.3002168								
1,2,4-Trichlorobenzene	5	0.2946765	10	0.307165								
N-Nitrosodiphenylamine	5	0.5133668	10	0.5541284								
Pentachlorophenol	10	0.1361687	20	0.1608029								
2-Fluorophenol	7.5	1.216235	15	1.254587								
p-Terphenyl-d14	5	0.5790246	10	0.5901012								

INITIAL CALIBRATION DATA

EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GD00001	Instrument:	NT18
Calibration Date:	04/01/2023	Column (1):	ZB-5MS

Calibration Comments: DS

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
1,4-Dichlorobenzene	1.532228	8.3			RSD (15)	
1,2-Dichlorobenzene	1.491241	6.8			RSD (15)	
Benzyl Alcohol	0.770882	21.1		0.9993	QCOD (0.99)	
Benzoic acid	0.1069329	93.3		0.9961	QCOD (0.99)	
2,4-Dimethylphenol	0.2793404	11.3			RSD (15)	
1,2,4-Trichlorobenzene	0.3186083	5.6			RSD (15)	
N-Nitrosodiphenylamine	0.485813	14.1			RSD (15)	
Pentachlorophenol	8.675758E-02	60.0		0.9983	QCOD (0.99)	
2-Fluorophenol	1.166119	10.3			RSD (15)	
p-Terphenyl-d14	0.5638063	7.4			RSD (15)	

ANALYSIS SEQUENCE

SLD0001

Instrument: NT18
Calibration ID: UNASSIGNED

Printed: 4/1/2023 6:20:55AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SLD0001-CAL1	QC		1		L002878	K010831		
SLD0001-CAL2	QC		2		L002877	K010831		
SLD0001-CAL3	QC		3		K011105	K010831		
SLD0001-CAL4	QC		4		K011106	K010831		
SLD0001-CAL5	QC		5		K011107	K010831		
SLD0001-CAL6	QC		6		K011108	K010831		
SLD0001-CAL7	QC		7		K011109	K010831		
SLD0001-CAL8	QC		8		K011110	K010831		
SLD0001-SCV1	QC		9		K010066	K010831		
SLD0001-ICB1	QC		10		K005156	K010831		

Samples Loaded By Date

Data Processed By Date

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt18.i\20230319.b\SIM.b

	Time	Filename	LabID	ClientId	DF											
1	1559	NT1803192303S.D	SLD0001-CAL8		1	9.00	304018	11.46	1171666	15.05	582113	18.06	1047716	23.08	949185	25.60 997831
2	1640	NT1803192304S.D	SLD0001-CAL7		1	9.00	293152	11.46	1107403	15.05	551201	18.06	941200	23.08	797153	25.60 919405
3	1721	NT1803192305S.D	SLD0001-CAL6		1	9.00	272911	11.46	1024167	15.04	514559	18.06	880372	23.08	757356	25.59 851888
4	1802	NT1803192306S.D	SLD0001-CAL5		1	9.00	276557	11.46	1034745	15.04	519728	18.06	903862	23.07	761695	25.59 858044
5	1843	NT1803192307S.D	SLD0001-CAL4		1	9.00	269573	11.46	1012679	15.04	512101	18.05	905056	23.07	753052	25.59 831773
6	1924	NT1803192308S.D	SLD0001-CAL3		1	9.00	285948	11.46	1077077	15.04	546226	18.06	970172	23.07	800952	25.59 872718
7	2004	NT1803192309S.D	SLD0001-CAL2		1	9.00	278197	11.46	1048755	15.04	527543	18.05	943945	23.07	782623	25.59 866109
8	2045	NT1803192310S.D	SLCD0001-CAL1		1	9.00	257717	11.46	970770	15.04	480239	18.05	849779	23.07	709293	25.59 796818
9	2126	NT1803192311S.D	SLCD0001-SCV1		1	9.00	274820	11.46	1036057	15.05	524780	18.06	904764	23.08	777248	25.59 888854
10	2206	NT1803192312S.D	SLD0001-ICB1		1	9.00	274085	11.46	1007260	15.04	498081	18.05	889215	23.07	744134	25.59 821502

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt18.i\20230319.b\SIM.b

ARI Job No.: SLD0 Method: SIM.b\SIMABN2.m Instrument: nt18.i Date: 19-MAR-2023

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1559	NT1803192303S.D	SLD0001-CAL8		1	NO MANUAL INTEGRATION
1640	NT1803192304S.D	SLD0001-CAL7		1	NO MANUAL INTEGRATION
1721	NT1803192305S.D	SLD0001-CAL6		1	NO MANUAL INTEGRATION
1802	NT1803192306S.D	SLD0001-CAL5		1	NO MANUAL INTEGRATION
1843	NT1803192307S.D	SLD0001-CAL4		1	NO MANUAL INTEGRATION
1924	NT1803192308S.D	SLD0001-CAL3		1	Benzoic acid, Pentachlorophenol,
2004	NT1803192309S.D	SLD0001-CAL2		1	Benzoic acid, Pentachlorophenol,
2045	NT1803192310S.D	SLCD0001-CAL1		1	N-Nitroso-di-n-propylamine, Benzoic acid, Pentachlorophenol, Terphenyl-d14,
2126	NT1803192311S.D	SLCD0001-SCV1		1	NO MANUAL INTEGRATION
2206	NT1803192312S.D	SLD0001-ICB1		1	N-Nitrosodimethylamine,

Security Status Report

Date: 31-Mar-2023 09:32

NT1803192303S.D	Data Locked	yev, 31-
NT1803192304S.D	Data Locked	yev, 31-
NT1803192305S.D	Data Locked	yev, 31-
NT1803192306S.D	Data Locked	yev, 31-
NT1803192307S.D	Data Locked	yev, 31-
NT1803192308S.D	Data Locked	yev, 31-
NT1803192309S.D	Data Locked	yev, 31-
NT1803192310S.D	Data Locked	yev, 31-
NT1803192311S.D	Data Locked	yev, 31-
NT1803192312S.D	Data Locked	yev, 31-

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Batch File: \\target\share\chem3\nt18.i\20230319.b\SIM.b
Inst ID: nt18.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06	RT07	RT08
FILENAME:	NT1803192303S	NT1803192304S	NT1803192305S	NT1803192306S	NT1803192307S	NT1803192308S	NT1803192309S	NT1803192310S
INJ.DATE:	19-MAR-2023	19-MAR-2023	19-MAR-2023	19-MAR-2023	19-MAR-2023	19-MAR-2023	19-MAR-2023	19-MAR-2023
INJ.TIME:	15:59	16:40	17:21	18:02	18:43	19:24	20:04	20:45

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	RT08	EXPEC RT	RT WINDOW	AVG RT	STD DEV
$ 1 2-Fluorophenol	6.794	6.794	6.794	6.794	6.794	6.794	6.794	6.794	6.794	6.294-7.294	6.794	0.000
138 Chlorobenzilate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	33.580	33.080-34.080	+++++	+++++
139 Isodrin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	30.873	30.373-31.373	+++++	+++++
140 Diallate A	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	31.300	30.800-31.800	+++++	+++++
141 Diallate B	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	31.300	30.800-31.800	+++++	+++++
142 1,2-Dibromo-3-Chloropr	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	15.496	14.996-15.996	+++++	+++++
135 2,3,5,6-Tetrachlorophe	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	20.428	19.928-20.928	+++++	+++++
136 2,3,4,5-tetrachlorophe	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	20.471	19.971-20.971	+++++	+++++
137 NewCpnd_131	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.828	7.328-8.328	+++++	+++++
* 134 Di-n-octylphthalate-d4	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	23.775	23.275-24.275	+++++	+++++
133 Butylatedhydroxytoluen	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.190	13.690-14.690	+++++	+++++
132 3,6-Dimethylphenanthre	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	31.262	30.762-31.762	+++++	+++++
131 1-Methylphenanthrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	29.954	29.454-30.454	+++++	+++++
146 Benzo(j)fluoranthene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	23.752	23.252-24.252	+++++	+++++
130 Dibenzothiophene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	27.717	27.217-28.217	+++++	+++++
129 1-Methylfluorene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	20.566	20.066-21.066	+++++	+++++
128 N-Hexadecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	19.796	19.296-20.296	+++++	+++++

Reviewer 1 _____ Date:_____
Reviewer 2 _____ Date:_____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Batch File: \\target\share\chem3\nt18.i\20230319.b\SIM.b
Inst ID: nt18.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	RT08	EXPEC RT	RT WINDOW	AVG RT	STD DEV
127 2-Isopropylnaphthalene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	23.349	22.849-23.849	+++++	+++++
126 N-Tetradecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	22.474	21.974-22.974	+++++	+++++
144 alpha-Terpineol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.191	10.691-11.691	+++++	+++++
125 Safrole	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	17.779	17.279-18.279	+++++	+++++
124 3,4-Dimethylphenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	16.310	15.810-16.810	+++++	+++++
123 Acetophenone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	17.707	17.207-18.207	+++++	+++++
122 Furfuraldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.921	8.421-9.421	+++++	+++++
143 1,4-Dioxane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	3.736	3.236-4.236	+++++	+++++
$ 145 d8-1,4-Dioxane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	2.914	2.414-3.414	+++++	+++++
121 Quinoline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	20.148	19.648-20.648	+++++	+++++
120 2,3,4,6-Tetrachlorophe	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	15.588	15.088-16.088	+++++	+++++
119 7,12-Dimethylbenz(a)an	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	38.587	38.087-39.087	+++++	+++++
118 Triphenyl Phosphate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	20.382	19.882-20.882	+++++	+++++
117 Butyl Diphenyl Phospha	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	18.734	18.234-19.234	+++++	+++++
116 Dibutyl Phenyl Phospha	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	16.987	16.487-17.487	+++++	+++++
115 Tributyl Phosphate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	15.204	14.704-15.704	+++++	+++++
114 Beta-Pinene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.540	14.040-15.040	+++++	+++++
113 Diphenyl Oxide	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	21.586	21.086-22.086	+++++	+++++
112 Biphenyl	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	17.692	17.192-18.192	+++++	+++++
111 Azobenzene (1,2-DP-Hyd	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	16.366	15.866-16.866	+++++	+++++
110 Tetrachloroguaiacol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	18.055	17.555-18.555	+++++	+++++
109 3,4,5-Trichloroguaiaco	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	17.228	16.728-17.728	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Batch File: \\target\share\chem3\nt18.i\20230319.b\SIM.b
Inst ID: nt18.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	RT08	EXPEC RT	RT WINDOW	AVG RT	STD DEV
108	4,5,6-Trichloroguaiaco	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	16.517	16.017-17.017	+++++	+++++
107	4,5-Dichloro-2-Methoxy	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.803	14.303-15.303	+++++	+++++
106	Guaiacol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.843	11.343-12.343	+++++	+++++
105	1-methylnaphthalene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	13.016	12.516-13.516	+++++	+++++
$ 2	Phenol-d5	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.305	7.805-8.805	+++++	+++++
3	Phenol	8.393	8.386	8.378	8.378	8.378	8.378	8.378	8.378	8.378	7.878-8.878	8.381	0.006
4	Bis(2-Chloroethyl)ethe	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.482	7.982-8.982	+++++	+++++
$ 5	2-Chlorophenol-d4	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.567	8.067-9.067	+++++	+++++
6	2-Chlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.598	8.098-9.098	+++++	+++++
7	1,3-Dichlorobenzene	8.934	8.934	8.934	8.934	8.934	8.934	8.934	8.934	8.934	8.434-9.434	8.934	0.000
* 8	1,4-Dichlorobenzene-d4	9.004	9.004	8.996	8.996	8.996	8.996	8.996	8.996	8.996	8.496-9.496	8.998	0.004
9	1,4-Dichlorobenzene	9.027	9.027	9.027	9.027	9.027	9.027	9.028	9.027	9.027	8.527-9.527	9.027	0.000
$ 10	1,2-Dichlorobenzene-d4	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.279	8.779-9.779	+++++	+++++
11	Benzyl alcohol	9.268	9.260	9.260	9.260	9.260	9.260	9.268	9.268	9.268	8.768-9.768	9.263	0.004
12	1,2-Dichlorobenzene	9.384	9.384	9.377	9.377	9.377	9.377	9.377	9.377	9.377	8.877-9.877	9.379	0.004
13	2-Methylphenol	9.493	9.485	9.485	9.485	9.485	9.485	9.485	9.485	9.485	8.985-9.985	9.486	0.003
14	2,2'-oxybis(1-Chloropr	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.488	8.988-9.988	+++++	+++++
15	4-Methylphenol	9.757	9.757	9.749	9.749	9.749	9.749	9.749	9.749	9.749	9.249-10.249	9.751	0.004
16	N-Nitroso-di-n-propyla	9.835	9.827	9.819	9.819	9.819	9.819	9.819	9.819	9.819	9.319-10.319	9.822	0.006
17	Hexachloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.884	9.384-10.384	+++++	+++++
$ 18	Nitrobenzene-d5	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	10.001	9.501-10.501	+++++	+++++
19	Nitrobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	10.039	9.539-10.539	+++++	+++++
20	Isophorone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	10.482	9.982-10.982	+++++	+++++
21	2-Nitrophenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	10.660	10.160-11.160	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Batch File: \\target\share\chem3\nt18.i\20230319.b\SIM.b
Inst ID: nt18.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	RT08	EXPEC RT	RT WINDOW	AVG RT	STD DEV
	22 2,4-Dimethylphenol	10.801	10.792	10.792	10.792	10.792	10.792	10.792	10.792	10.792	10.292-11.292	10.793	0.003
	23 Bis(2-Chloroethoxy)met	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	10.917	10.417-11.417	+++++	+++++
	24 Benzoic acid	11.098	11.021	10.971	10.920	10.894	10.886	11.064	10.784	10.784	10.284-11.284	10.955	0.104
	25 2,4-Dichlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.112	10.612-11.612	+++++	+++++
	26 1,2,4-Trichlorobenzene	11.383	11.376	11.376	11.376	11.375	11.376	11.376	11.376	11.376	10.876-11.876	11.377	0.003
*	27 Naphthalene-d8	11.460	11.461	11.461	11.461	11.460	11.461	11.461	11.461	11.461	10.961-11.961	11.461	0.000
	28 Naphthalene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.418	10.918-11.918	+++++	+++++
	29 4-Chloroaniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.545	11.045-12.045	+++++	+++++
	30 Hexachlorobutadiene	11.870	11.862	11.862	11.862	11.862	11.862	11.862	11.862	11.862	11.362-12.362	11.863	0.003
	31 4-Chloro-3-methylpheno	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	12.513	12.013-13.013	+++++	+++++
	32 2-Methylnaphthalene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	12.799	12.299-13.299	+++++	+++++
	33 Hexachlorocyclopentadi	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	13.264	12.764-13.764	+++++	+++++
	34 2,4,6-Trichlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	13.418	12.918-13.918	+++++	+++++
	35 2,4,5-Trichlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	13.488	12.988-13.988	+++++	+++++
$	36 2-Fluorobiphenyl	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	13.573	13.073-14.073	+++++	+++++
	37 2-Chloronaphthalene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	13.782	13.282-14.282	+++++	+++++
	38 2-Nitroaniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.045	13.545-14.545	+++++	+++++
	39 Dimethylphthalate	14.571	14.563	14.563	14.563	14.555	14.555	14.556	14.555	14.555	14.055-15.055	14.560	0.006
	40 Acenaphthylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.641	14.141-15.141	+++++	+++++
	41 2,6-Dinitrotoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.618	14.118-15.118	+++++	+++++
*	42 Acenaphthene-d10	15.050	15.051	15.043	15.043	15.043	15.043	15.043	15.043	15.043	14.543-15.543	15.045	0.004
	43 3-Nitroaniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.897	14.397-15.397	+++++	+++++
	44 Acenaphthene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	15.020	14.520-15.520	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Batch File: \\target\share\chem3\nt18.i\20230319.b\SIM.b
Inst ID: nt18.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	RT08	EXPEC RT	RT WINDOW	AVG RT	STD DEV
	45 2,4-Dinitrophenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	15.106	14.606-15.606	+++++	+++++
	46 Dibenzofuran	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	15.345	14.845-15.845	+++++	+++++
	47 4-Nitrophenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	15.229	14.729-15.729	+++++	+++++
	48 2,4-Dinitrotoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	15.415	14.915-15.915	+++++	+++++
	49 Fluorene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	16.049	15.549-16.549	+++++	+++++
	50 Diethylphthalate	16.025	16.017	16.009	16.009	16.001	16.002	16.002	16.002	16.002	15.502-16.502	16.008	0.009
	51 4-Chlorophenyl-phenyle	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	16.041	15.541-16.541	+++++	+++++
	52 4-Nitroaniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	16.165	15.665-16.665	+++++	+++++
	53 4,6-Dinitro-2-methylph	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	16.250	15.750-16.750	+++++	+++++
	54 N-Nitrosodiphenylamine	16.395	16.387	16.380	16.380	16.379	16.380	16.380	16.380	16.380	15.880-16.880	16.382	0.006
$	55 2,4,6-Tribromophenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	16.582	16.082-17.082	+++++	+++++
	56 4-Bromophenyl-phenylet	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	17.037	16.537-17.537	+++++	+++++
	57 Hexachlorobenzene	17.444	17.437	17.437	17.437	17.436	17.437	17.437	17.437	17.437	16.937-17.937	17.438	0.003
	58 Pentachlorophenol	17.800	17.793	17.793	17.793	17.793	17.793	17.793	17.800	17.800	17.300-18.300	17.795	0.004
*	59 Phenanthrene-d10	18.056	18.056	18.056	18.056	18.048	18.056	18.048	18.048	18.048	17.548-18.548	18.053	0.004
	60 Phenanthrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	18.010	17.510-18.510	+++++	+++++
	61 Anthracene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	18.103	17.603-18.603	+++++	+++++
	62 Carbazole	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	18.428	17.928-18.928	+++++	+++++
	63 Di-n-butylphthalate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	19.240	18.740-19.740	+++++	+++++
	64 Fluoranthene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	20.385	19.885-20.885	+++++	+++++
	65 Pyrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	20.811	20.311-21.311	+++++	+++++
$	66 Terphenyl-d14	21.197	21.189	21.189	21.189	21.189	21.189	21.189	21.189	21.189	20.689-21.689	21.190	0.003
	67 Butylbenzylphthalate	22.118	22.119	22.118	22.118	22.118	22.118	22.119	22.118	22.118	21.618-22.618	22.118	0.000
	68 Benzo(a)anthracene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	22.963	22.463-23.463	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Batch File: \\target\share\chem3\nt18.i\20230319.b\SIM.b
Inst ID: nt18.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	RT08	EXPEC RT	RT WINDOW	AVG RT	STD DEV
*	69 Chrysene-d12	23.079	23.079	23.079	23.071	23.071	23.071	23.071	23.071	23.071	22.571-23.571	23.074	0.004
	70 3,3'-Dichlorobenzidine	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	22.924	22.424-23.424	+++++	+++++
	71 Chrysene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	23.033	22.533-23.533	+++++	+++++
	72 bis(2-Ethylhexyl)phtha	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	23.056	22.556-23.556	+++++	+++++
	73 Di-n-octylphthalate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	24.039	23.539-24.539	+++++	+++++
	74 Benzo(b)fluoranthene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	24.775	24.275-25.275	+++++	+++++
	75 Benzo(k)fluoranthene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	24.813	24.313-25.313	+++++	+++++
	76 Benzo(a)pyrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	25.371	24.871-25.871	+++++	+++++
*	77 Perylene-d12	25.602	25.603	25.595	25.595	25.595	25.595	25.595	25.595	25.595	25.095-26.095	25.597	0.004
	78 Indeno(1,2,3-cd)pyrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	27.935	27.435-28.435	+++++	+++++
	79 Dibenzo(a,h)anthracene	28.138	28.123	28.115	28.107	28.107	28.107	28.107	28.107	28.107	27.607-28.607	28.114	0.011
	80 Benzo(g,h,i)perylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	28.650	28.150-29.150	+++++	+++++
$	85 p-Cresol-d4	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	17.238	16.738-17.738	+++++	+++++
$	86 Anthracene-d10	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	29.316	28.816-29.816	+++++	+++++
$	87 Fluoranthene-d10	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	26.007	25.507-26.507	+++++	+++++
$	88 Dibenz(a,h)anthracene-	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	44.609	44.109-45.109	+++++	+++++
$	89 Diphenyl-d10	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	16.085	15.585-16.585	+++++	+++++
	90 N-Nitrosodimethylamine	4.732	4.716	4.709	4.709	4.708	4.709	4.716	4.716	4.716	4.216-5.216	4.714	0.008
	91 Aniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.397	7.897-8.897	+++++	+++++
	92 1,2-Diphenylhydrazine	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	21.615	21.115-22.115	+++++	+++++
	93 Benzidine	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	20.625	20.125-21.125	+++++	+++++
$	95 D10-1-methylnaphthalen	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	17.686	17.186-18.186	+++++	+++++
	96 p-Cymene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.540	14.040-15.040	+++++	+++++
	97 Caffeine	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	26.957	26.457-27.457	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Batch File: \\target\share\chem3\nt18.i\20230319.b\SIM.b
Inst ID: nt18.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	RT08	EXPEC RT	RT WINDOW	AVG RT	STD DEV
98 Retene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	19.609	19.109-20.109	+++++	+++++
99 Perylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	25.438	24.938-25.938	+++++	+++++
100 3-beta-Coprostanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	26.384	25.884-26.884	+++++	+++++
101 Cholesterol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	43.881	43.381-44.381	+++++	+++++
102 beta-Sitosterol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	45.573	45.073-46.073	+++++	+++++
103 Pyridine	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.681	4.181-5.181	+++++	+++++

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAR-2023 15:59
End Cal Date : 19-MAR-2023 20:45
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Last Edit : 31-Mar-2023 09:18 yev

Calibration File Names:
Level 1: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192310S.D
Level 2: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192309S.D
Level 3: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192308S.D
Level 4: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192307S.D
Level 5: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192306S.D
Level 6: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192305S.D
Level 7: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192304S.D
Level 8: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192303S.D

Compound	0.0500000 Level 1	0.1000000 Level 2	0.2000000 Level 3	0.5000000 Level 4	1.0000 Level 5	2.5000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	5.0000 Level 7	10.0000 Level 8									
138 Chlorobenzilate	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
139 Isodrin	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
140 Diallate A	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000

ARI Labs, Inc.

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Last Edit : 31-Mar-2023 09:18 yev

Compound	0.0500000 Level 1	0.1000000 Level 2	0.2000000 Level 3	0.5000000 Level 4	1.0000 Level 5	2.5000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	5.0000 Level 7	10.0000 Level 8									
141 Diallate B	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
142 1,2-Dibromo-3-Chloropropane	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
135 2,3,5,6-Tetrachlorophenol	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
136 2,3,4,5-tetrachlorophenol	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
137 NewCpnd_131	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
133 Butylatedhydroxytoluene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
132 3,6-Dimethylphenanthrene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000

ARI Labs, Inc.

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Last Edit : 31-Mar-2023 09:18 yev

Compound	0.0500000 Level 1	0.1000000 Level 2	0.2000000 Level 3	0.5000000 Level 4	1.0000 Level 5	2.5000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	5.0000 Level 7	10.0000 Level 8									
131 1-Methylphenanthrene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
146 Benzo(j)fluoranthene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
130 Dibenzothiophene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
129 1-Methylfluorene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
128 N-Hexadecane	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
127 2-Isopropylnaphthalene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
126 N-Tetradecane	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000

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Last Edit : 31-Mar-2023 09:18 yev

Compound	0.0500000 Level 1 / 5.0000 Level 7	0.1000000 Level 2 / 10.0000 Level 8	0.2000000 Level 3	0.5000000 Level 4	1.0000 Level 5	2.5000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
144 alpha-Terpineol	***** / *****	***** / *****	*****	*****	*****	*****	AVRG		0.000e+000		0.000e+000
125 Safrole	***** / *****	***** / *****	*****	*****	*****	*****	AVRG		0.000e+000		0.000e+000
124 3,4-Dimethylphenol	***** / *****	***** / *****	*****	*****	*****	*****	AVRG		0.000e+000		0.000e+000
123 Acetophenone	***** / *****	***** / *****	*****	*****	*****	*****	AVRG		0.000e+000		0.000e+000
122 Furfuraldehyde	***** / *****	***** / *****	*****	*****	*****	*****	AVRG		0.000e+000		0.000e+000
143 1,4-Dioxane	***** / *****	***** / *****	*****	*****	*****	*****	AVRG		0.000e+000		0.000e+000
121 Quinoline	***** / *****	***** / *****	*****	*****	*****	*****	AVRG		0.000e+000		0.000e+000

ARI Labs, Inc.

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Compound	0.0500000 Level 1 / 5.0000 Level 7	0.1000000 Level 2 / 10.0000 Level 8	0.2000000 Level 3	0.5000000 Level 4	1.0000 Level 5	2.5000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
120 2,3,4,6-Tetrachlorophenol	+++++ / +++++	+++++ / +++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000
119 7,12-Dimethylbenz(a)anthracen	+++++ / +++++	+++++ / +++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000
118 Triphenyl Phosphate	+++++ / +++++	+++++ / +++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000
117 Butyl Diphenyl Phosphate	+++++ / +++++	+++++ / +++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000
116 Dibutyl Phenyl Phosphate	+++++ / +++++	+++++ / +++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000
115 Tributyl Phosphate	+++++ / +++++	+++++ / +++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000
114 Beta-Pinene	+++++ / +++++	+++++ / +++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000

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Last Edit : 31-Mar-2023 09:18 yev

Compound	0.0500000 Level 1	0.1000000 Level 2	0.2000000 Level 3	0.5000000 Level 4	1.0000 Level 5	2.5000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	5.0000 Level 7	10.0000 Level 8									
113 Diphenyl Oxide	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
112 Biphenyl	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
111 Azobenzene (1,2-DP-Hydrazine)	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
110 Tetrachloroguaiacol	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
109 3,4,5-Trichloroguaiacol	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
108 4,5,6-Trichloroguaiacol	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
107 4,5-Dichloro-2-Methoxyphenol	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000

ARI Labs, Inc.

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Last Edit : 31-Mar-2023 09:18 yev

Compound	0.0500000 Level 1	0.1000000 Level 2	0.2000000 Level 3	0.5000000 Level 4	1.0000 Level 5	2.5000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	5.0000 Level 7	10.0000 Level 8									
106 Guaiacol	*****	*****	*****	*****	*****	*****					
	*****	*****					AVRG		0.000e+000		0.000e+000
105 1-methylnaphthalene	*****	*****	*****	*****	*****	*****					
	*****	*****					AVRG		0.000e+000		0.000e+000
3 Phenol	1.35715	1.52079	1.44082	1.67717	1.55953	1.74042					
	1.57425	1.62174					AVRG		1.56149		7.92400
4 Bis(2-Chloroethyl)ether	*****	*****	*****	*****	*****	*****					
	*****	*****					AVRG		0.000e+000		0.000e+000
6 2-Chlorophenol	*****	*****	*****	*****	*****	*****					
	*****	*****					AVRG		0.000e+000		0.000e+000
7 1,3-Dichlorobenzene	1.65329	1.60390	1.43635	1.56805	1.43613	1.55775					
	1.39657	1.43272					AVRG		1.51059		6.36515
9 1,4-Dichlorobenzene	1.77497	1.64171	1.46593	1.56882	1.42624	1.53992					
	1.39318	1.44705					AVRG		1.53223		8.34799

ARI Labs, Inc.

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Last Edit : 31-Mar-2023 09:18 yev

Compound	0.0500000 Level 1	0.1000000 Level 2	0.2000000 Level 3	0.5000000 Level 4	1.0000 Level 5	2.5000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	5.0000 Level 7	10.0000 Level 8									
11 Benzyl alcohol	1682	4338	8988	27419	54381	163653					
	325583	717754					QUAD	0.000e+000	1.14120	-0.03437	0.99932
12 1,2-Dichlorobenzene	1.63683	1.60850	1.44404	1.55217	1.40291	1.50848					
	1.35781	1.41919					AVRG		1.49124		6.80013
13 2-Methylphenol	0.89400	1.00389	0.94982	1.14765	1.08688	1.24287					
	1.14367	1.20299					AVRG		1.08397		11.43436
14 2,2'-oxybis(1-Chloropropane)	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
15 4-Methylphenol	0.88500	0.99958	0.98976	1.20603	1.15152	1.31053					
	1.20931	1.26901					AVRG		1.12759		13.45390
16 N-Nitroso-di-n-propylamine	0.64877	0.72208	0.66697	0.78216	0.73048	0.83493					
	0.76415	0.80082					AVRG		0.74380		8.65712
17 Hexachloroethane	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAR-2023 15:59
End Cal Date : 19-MAR-2023 20:45
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Last Edit : 31-Mar-2023 09:18 yev

Compound	0.0500000 Level 1 / 5.0000 Level 7	0.1000000 Level 2 / 10.0000 Level 8	0.2000000 Level 3	0.5000000 Level 4	1.0000 Level 5	2.5000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
19 Nitrobenzene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
20 Isophorone	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
21 2-Nitrophenol	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
22 2,4-Dimethylphenol	0.22407	0.25608	0.25557	0.30728	0.28504	0.31725					
	0.28923	0.30022					AVRG		0.27934		11.27565
23 Bis(2-Chloroethoxy)methane	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
24 Benzoic acid	+++++	303	3466	33576	114467	513453					
	1181241	2833642					QUAD	0.000e+000	5.26301	-0.46914	0.99830
25 2,4-Dichlorophenol	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000

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	5.0000 Level 7	10.0000 Level 8									
26 1,2,4-Trichlorobenzene	0.34134	0.33792	0.30614	0.33116	0.30378	0.32668					
	0.29468	0.30717					AVRG		0.31861		5.55345
28 Naphthalene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
29 4-Chloroaniline	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
30 Hexachlorobutadiene	0.19844	0.19593	0.17633	0.19139	0.17309	0.18680					
	0.16977	0.17516					AVRG		0.18336		6.07502
31 4-Chloro-3-methylphenol	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
32 2-Methylnaphthalene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
33 Hexachlorocyclopentadiene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000

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	5.0000 Level 7	10.0000 Level 8									
34 2,4,6-Trichlorophenol	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
35 2,4,5-Trichlorophenol	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
37 2-Chloronaphthalene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
38 2-Nitroaniline	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
39 Dimethylphthalate	1.20423	1.24016	1.15835	1.32747	1.24594	1.38210					
	1.29074	1.37224					AVRG		1.27766		6.24359
40 Acenaphthylene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
41 2,6-Dinitrotoluene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000

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	5.0000 Level 7	10.0000 Level 8									
43 3-Nitroaniline	*****	*****	*****	*****	*****	*****					
	*****	*****					AVRG		0.000e+000		0.000e+000
44 Acenaphthene	*****	*****	*****	*****	*****	*****					
	*****	*****					AVRG		0.000e+000		0.000e+000
45 2,4-Dinitrophenol	*****	*****	*****	*****	*****	*****					
	*****	*****					AVRG		0.000e+000		0.000e+000
46 Dibenzofuran	*****	*****	*****	*****	*****	*****					
	*****	*****					AVRG		0.000e+000		0.000e+000
47 4-Nitrophenol	*****	*****	*****	*****	*****	*****					
	*****	*****					AVRG		0.000e+000		0.000e+000
48 2,4-Dinitrotoluene	*****	*****	*****	*****	*****	*****					
	*****	*****					AVRG		0.000e+000		0.000e+000
49 Fluorene	*****	*****	*****	*****	*****	*****					
	*****	*****					AVRG		0.000e+000		0.000e+000

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	5.0000 Level 7	10.0000 Level 8									
50 Diethylphthalate	1.00367	1.07495	1.03554	1.22910	1.16281	1.29197					
	1.19722	1.28576					AVRG		1.16013		9.58552
51 4-Chlorophenyl-phenylether	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
52 4-Nitroaniline	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
53 4,6-Dinitro-2-methylphenol	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
54 N-Nitrosodiphenylamine	0.35755	0.43528	0.44087	0.52671	0.50556	0.55304					
	0.51337	0.55413					AVRG		0.48581		14.14002
56 4-Bromophenyl-phenylether	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
57 Hexachlorobenzene	0.23969	0.23773	0.21625	0.23323	0.21757	0.24151					
	0.22751	0.23550					AVRG		0.23112		4.22118

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	5.0000 Level 7	10.0000 Level 8									
58 Pentachlorophenol	+++++	1549	3889	16914	40745	146266					
	320405	842379					QUAD	0.000e+000	8.21711	-2.49016	0.99913
60 Phenanthrene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
61 Anthracene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
62 Carbazole	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
63 Di-n-butylphthalate	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
64 Fluoranthene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
65 Pyrene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000

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	5.0000 Level 7	10.0000 Level 8									
67 Butylbenzylphthalate	1313	3559	7694	35537	72660	260961					
	533971	1361063					QUAD	0.000e+000	1.96460	-0.15464	0.99912
68 Benzo(a)anthracene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
70 3,3'-Dichlorobenzidine	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
71 Chrysene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
72 bis(2-Ethylhexyl)phthalate	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
73 Di-n-octylphthalate	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
74 Benzo(b)fluoranthene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000

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	5.0000 Level 7	10.0000 Level 8									
75 Benzo(k)fluoranthene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
76 Benzo(a)pyrene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
78 Indeno(1,2,3-cd)pyrene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
79 Dibenzo(a,h)anthracene	4527	12407	27484	88239	188650	588913					
	1256577	3021529					QUAD	0.000e+000	0.97994	-0.05097	0.99960
80 Benzo(g,h,i)perylene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
90 N-Nitrosodimethylamine	0.71101	0.74019	0.67666	0.75546	0.69644	0.76003					
	0.67969	0.67428					AVRG		0.71172		5.02353
91 Aniline	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000

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	5.0000 Level 7	10.0000 Level 8									
92 1,2-Diphenylhydrazine	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
93 Benzidine	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
96 p-Cymene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
97 Caffeine	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
98 Retene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
99 Perylene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
100 3-beta-Coprostanol	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000

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	5.0000 Level 7	10.0000 Level 8									
101 Cholesterol	#####	#####	#####	#####	#####	#####					
	#####	#####					AVRG		0.000e+000		0.000e+000
102 beta-Sitosterol	#####	#####	#####	#####	#####	#####					
	#####	#####					AVRG		0.000e+000		0.000e+000
103 Pyridine	#####	#####	#####	#####	#####	#####					
	#####	#####					AVRG		0.000e+000		0.000e+000
$ 1 2-Fluorophenol	0.97761	1.07837	1.04798	1.24428	1.17888	1.33102					
	1.21624	1.25459					AVRG		1.16612		10.30045
$ 145 d8-1,4-Dioxane	#####	#####	#####	#####	#####	#####					
	#####	#####					AVRG		0.000e+000		0.000e+000
$ 2 Phenol-d5	#####	#####	#####	#####	#####	#####					
	#####	#####					AVRG		0.000e+000		0.000e+000
$ 5 2-Chlorophenol-d4	#####	#####	#####	#####	#####	#####					
	#####	#####					AVRG		0.000e+000		0.000e+000

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	5.0000 Level 7	10.0000 Level 8									
$ 10 1,2-Dichlorobenzene-d4	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
$ 18 Nitrobenzene-d5	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
$ 36 2-Fluorobiphenyl	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
$ 55 2,4,6-Tribromophenol	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
$ 66 Terphenyl-d14	0.50202	0.53901	0.51611	0.60193	0.56236	0.61989					
	0.57902	0.59010					AVRG		0.56381		7.41411
$ 85 p-Cresol-d4	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000
$ 86 Anthracene-d10	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++	+++++					AVRG		0.000e+000		0.000e+000

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$ 87 Fluoranthene-d10	+++++ / +++++	+++++ / +++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000
$ 88 Dibenz(a,h)anthracene-d14	+++++ / +++++	+++++ / +++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000
$ 89 Diphenyl-d10	+++++ / +++++	+++++ / +++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000
$ 95 D10-1-methylnaphthalene	+++++ / +++++	+++++ / +++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000

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Curve	Formula	Units
Averaged	Amt = Rsp/m1	Response
Quad	Amt = b + m1*Rsp + m2*Rsp^2	Response

Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192304S.D

Date : 19-MAR-2023 16:40

Client ID:

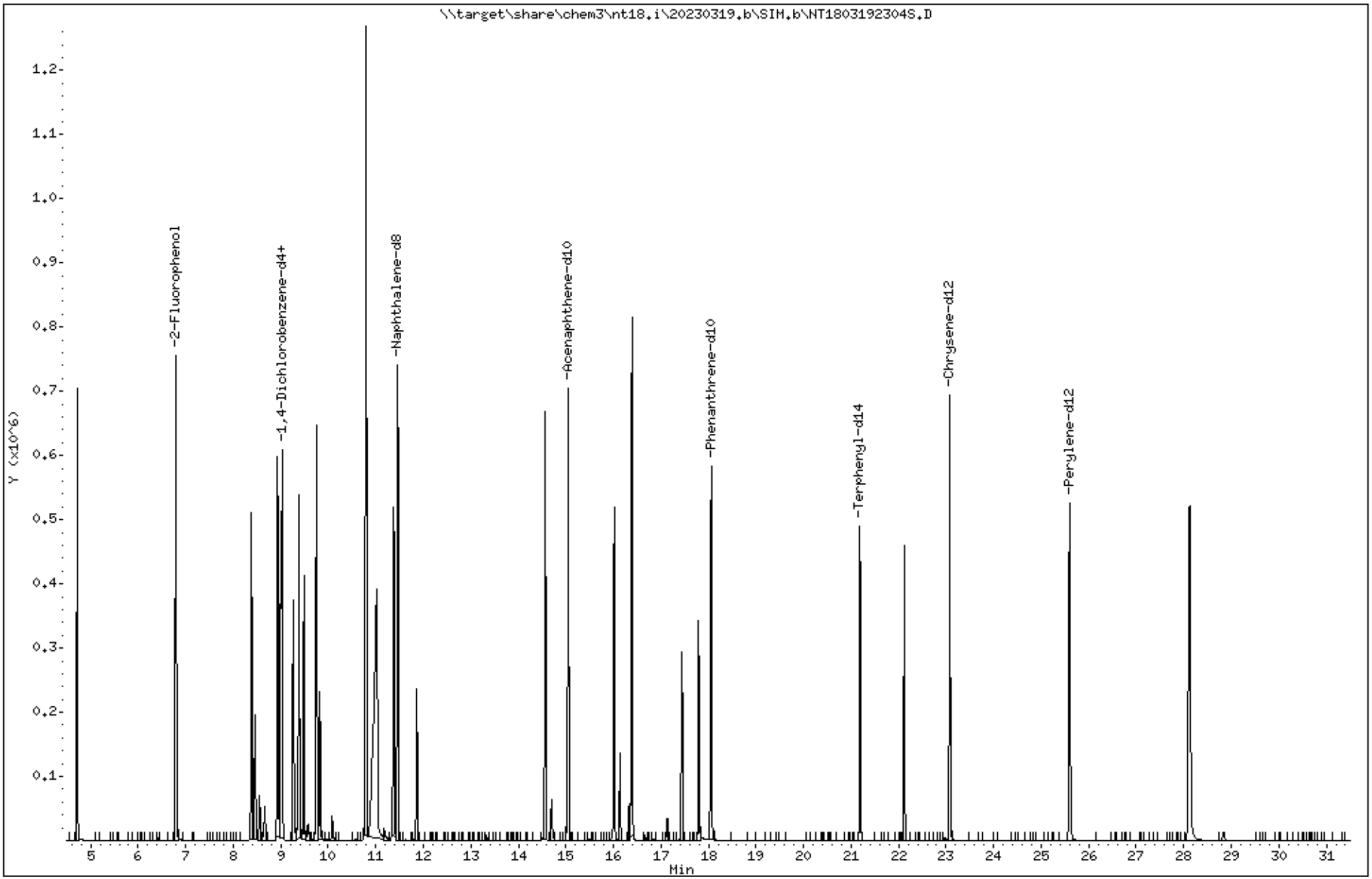
Instrument: nt18.i

Sample Info: SEQ-CAL5

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192304S.D
Lab Smp Id: SLD0001-CAL7
Inj Date : 19-MAR-2023 16:40
Operator : YZ Inst ID: nt18.i
Smp Info : SEQ-CAL5
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Meth Date : 31-Mar-2023 09:18 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 4 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: ORGDATA102

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1	2-Fluorophenol	112	6.794	6.794	(0.755)	668516	7.50000	7.822
	3	Phenol	94	8.385	8.378	(0.931)	576870	5.00000	5.041
	7	1,3-Dichlorobenzene	146	8.934	8.934	(0.992)	511759	5.00000	4.623
*	8	1,4-Dichlorobenzene-d4	152	9.004	8.996	(1.000)	293152	4.00000	
	9	1,4-Dichlorobenzene	146	9.027	9.027	(1.003)	510518	5.00000	4.546
	11	Benzyl alcohol	79	9.260	9.268	(1.028)	325583	5.00000	4.900
	12	1,2-Dichlorobenzene	146	9.384	9.377	(1.042)	497557	5.00000	4.553
	13	2-Methylphenol	108	9.485	9.485	(1.053)	419086	5.00000	5.275
	15	4-Methylphenol	108	9.757	9.749	(1.084)	443138	5.00000	5.362
	16	N-Nitroso-di-n-propylamine	70	9.826	9.819	(1.091)	280015	5.00000	5.137
	22	2,4-Dimethylphenol	107	10.792	10.792	(0.942)	800723	10.0000	10.35
	24	Benzoic acid	105	11.021	10.784	(0.962)	1181241	20.0000	20.32
	26	1,2,4-Trichlorobenzene	180	11.375	11.376	(0.993)	407907	5.00000	4.624
*	27	Naphthalene-d8	136	11.460	11.460	(1.000)	1107403	4.00000	
	30	Hexachlorobutadiene	225	11.862	11.862	(1.035)	234998	5.00000	4.629
	39	Dimethylphthalate	163	14.563	14.555	(0.968)	889322	5.00000	5.051
*	42	Acenaphthene-d10	162	15.050	15.042	(1.000)	551201	4.00000	
	50	Diethylphthalate	149	16.017	16.001	(1.064)	824889	5.00000	5.160
	54	N-Nitrosodiphenylamine	169	16.387	16.379	(0.908)	603976	5.00000	5.284
	57	Hexachlorobenzene	284	17.436	17.437	(0.966)	267665	5.00000	4.922
	58	Pentachlorophenol	266	17.792	17.800	(0.985)	320405	10.0000	10.03
*	59	Phenanthrene-d10	188	18.055	18.048	(1.000)	941200	4.00000	
$	66	Terphenyl-d14	244	21.189	21.189	(0.918)	576964	5.00000	5.135
	67	Butylbenzylphthalate	149	22.118	22.118	(0.958)	533971	5.00000	4.986
*	69	Chrysene-d12	240	23.078	23.070	(1.000)	797153	4.00000	
*	77	Perylene-d12	264	25.602	25.594	(1.000)	919405	4.00000	
	79	Dibenzo(a,h)anthracene	278	28.122	28.107	(1.098)	1256577	5.00000	4.976
	90	N-Nitrosodimethylamine	74	4.716	4.716	(0.524)	498133	10.0000	9.550

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192304S.D
Lab Smp Id: SLD0001-CAL7
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 18:02
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	276557	138279	553114	293152	6.00
27 Naphthalene-d8	1034745	517373	2069490	1107403	7.02
42 Acenaphthene-d10	519728	259864	1039456	551201	6.06
59 Phenanthrene-d10	903862	451931	1807724	941200	4.13
69 Chrysene-d12	761695	380848	1523390	797153	4.66
77 Perylene-d12	858044	429022	1716088	919405	7.15

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	0.09
27 Naphthalene-d8	11.46	10.96	11.96	11.46	0.00
42 Acenaphthene-d10	15.04	14.54	15.54	15.05	0.05
59 Phenanthrene-d10	18.06	17.56	18.56	18.06	0.00
69 Chrysene-d12	23.07	22.57	23.57	23.08	0.03
77 Perylene-d12	25.59	25.09	26.09	25.60	0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192304S.D

Lab ID: SLD0001-CAL7
nt18.i, 20230319.b\SIM.b\SIMABN2.m,   19-MAR-2023 16:40

RT	CO-ELUTION COMPOUNDS
NO CO-ELUTIONS	

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.962	0.941	0.0207	Benzoic acid

RRT check based on Ccal File: SIM.b/NT1803192310S.D

On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192305S.D

Date : 19-MAR-2023 17:21

Client ID:

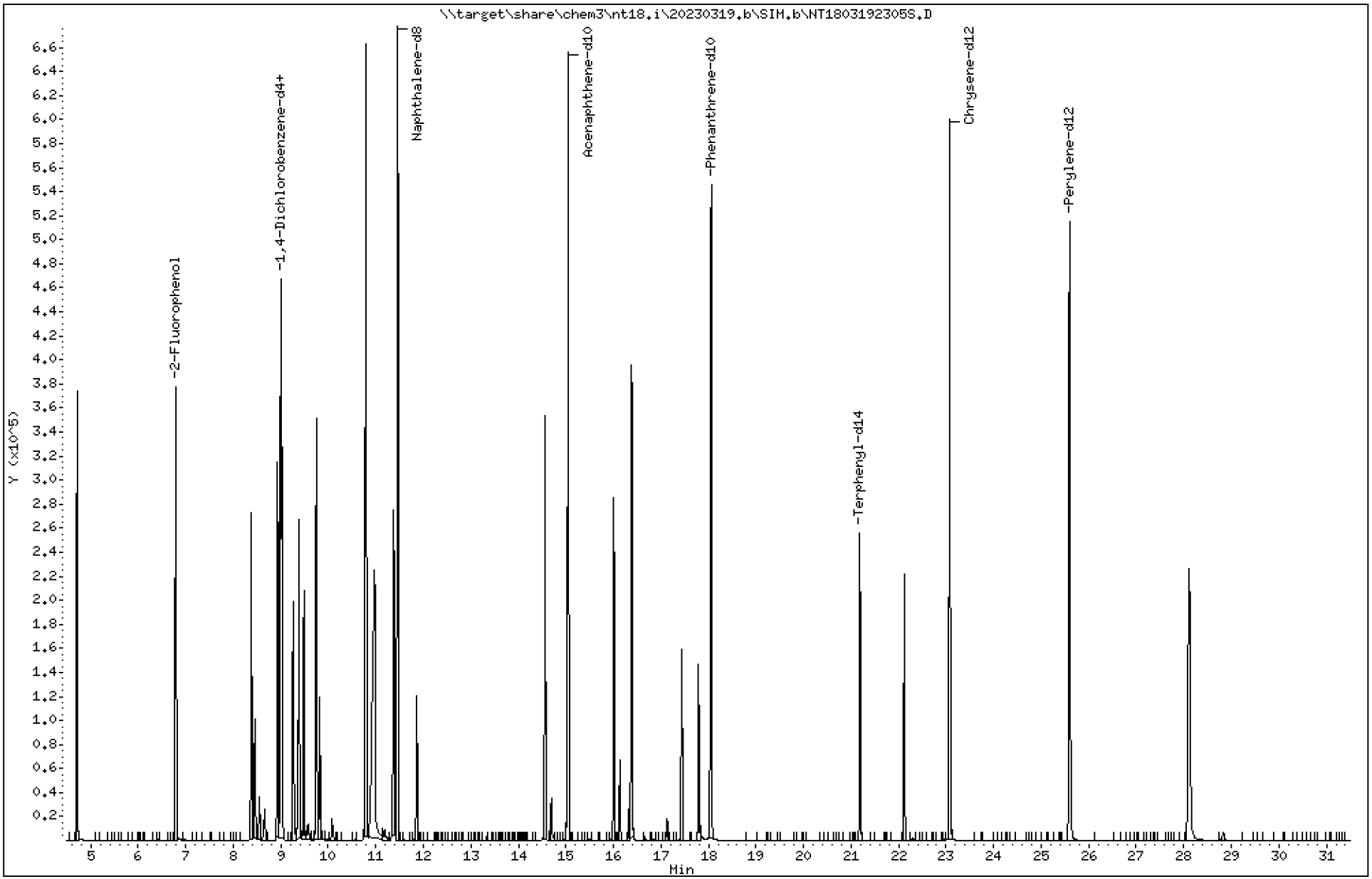
Instrument: nt18.i

Sample Info: SEQ-CAL4

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192305S.D
Lab Smp Id: SLD0001-CAL6
Inj Date : 19-MAR-2023 17:21
Operator : YZ Inst ID: nt18.i
Smp Info : SEQ-CAL4
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Meth Date : 31-Mar-2023 09:18 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 5 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: ORGDATA102

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1	2-Fluorophenol	112	6.793	6.794	(0.755)	340546	3.75000	4.280
	3	Phenol	94	8.377	8.378	(0.931)	296862	2.50000	2.786
	7	1,3-Dichlorobenzene	146	8.934	8.934	(0.993)	265704	2.50000	2.578
*	8	1,4-Dichlorobenzene-d4	152	8.996	8.996	(1.000)	272911	4.00000	
	9	1,4-Dichlorobenzene	146	9.027	9.027	(1.003)	262663	2.50000	2.513
	11	Benzyl alcohol	79	9.260	9.268	(1.029)	163653	2.50000	2.688
	12	1,2-Dichlorobenzene	146	9.376	9.377	(1.042)	257300	2.50000	2.529
	13	2-Methylphenol	108	9.485	9.485	(1.054)	211995	2.50000	2.866
	15	4-Methylphenol	108	9.749	9.749	(1.084)	223536	2.50000	2.906
	16	N-Nitroso-di-n-propylamine	70	9.819	9.819	(1.091)	142414	2.50000	2.806
	22	2,4-Dimethylphenol	107	10.792	10.792	(0.942)	406142	5.00000	5.678
	24	Benzoic acid	105	10.970	10.784	(0.957)	513453	10.0000	10.08
	26	1,2,4-Trichlorobenzene	180	11.375	11.376	(0.993)	209110	2.50000	2.563
*	27	Naphthalene-d8	136	11.460	11.460	(1.000)	1024167	4.00000	
	30	Hexachlorobutadiene	225	11.862	11.862	(1.035)	119573	2.50000	2.547
	39	Dimethylphthalate	163	14.563	14.555	(0.968)	444484	2.50000	2.704
*	42	Acenaphthene-d10	162	15.042	15.042	(1.000)	514559	4.00000	
	50	Diethylphthalate	149	16.009	16.001	(1.064)	415498	2.50000	2.784
	54	N-Nitrosodiphenylamine	169	16.379	16.379	(0.907)	304298	2.50000	2.846
	57	Hexachlorobenzene	284	17.436	17.437	(0.966)	132886	2.50000	2.612
	58	Pentachlorophenol	266	17.792	17.800	(0.985)	146266	5.00000	5.186
*	59	Phenanthrene-d10	188	18.055	18.048	(1.000)	880372	4.00000	
$	66	Terphenyl-d14	244	21.189	21.189	(0.918)	293423	2.50000	2.749
	67	Butylbenzylphthalate	149	22.118	22.118	(0.958)	260961	2.50000	2.634
*	69	Chrysene-d12	240	23.078	23.070	(1.000)	757356	4.00000	
*	77	Perylene-d12	264	25.594	25.594	(1.000)	851888	4.00000	
	79	Dibenzo(a,h)anthracene	278	28.115	28.107	(1.098)	588913	2.50000	2.612
	90	N-Nitrosodimethylamine	74	4.708	4.716	(0.523)	259275	5.00000	5.339

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192305S.D
Lab Smp Id: SLD0001-CAL6
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 18:02
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	276557	138279	553114	272911	-1.32
27 Naphthalene-d8	1034745	517373	2069490	1024167	-1.02
42 Acenaphthene-d10	519728	259864	1039456	514559	-0.99
59 Phenanthrene-d10	903862	451931	1807724	880372	-2.60
69 Chrysene-d12	761695	380848	1523390	757356	-0.57
77 Perylene-d12	858044	429022	1716088	851888	-0.72

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	-0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	-0.00
42 Acenaphthene-d10	15.04	14.54	15.54	15.04	-0.00
59 Phenanthrene-d10	18.06	17.56	18.56	18.06	0.00
69 Chrysene-d12	23.07	22.57	23.57	23.08	0.03
77 Perylene-d12	25.59	25.09	26.09	25.59	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192305S.D

Lab ID: SLD0001-CAL6
nt18.i, 20230319.b\SIM.b\SIMABN2.m,   19-MAR-2023 17:21

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.957	0.941	0.0163	Benzoic acid

RRT check based on Ccal File: SIM.b/NT1803192310S.D

On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT18031923065.D

Page 1

Date : 19-MAR-2023 18:02

Client ID:

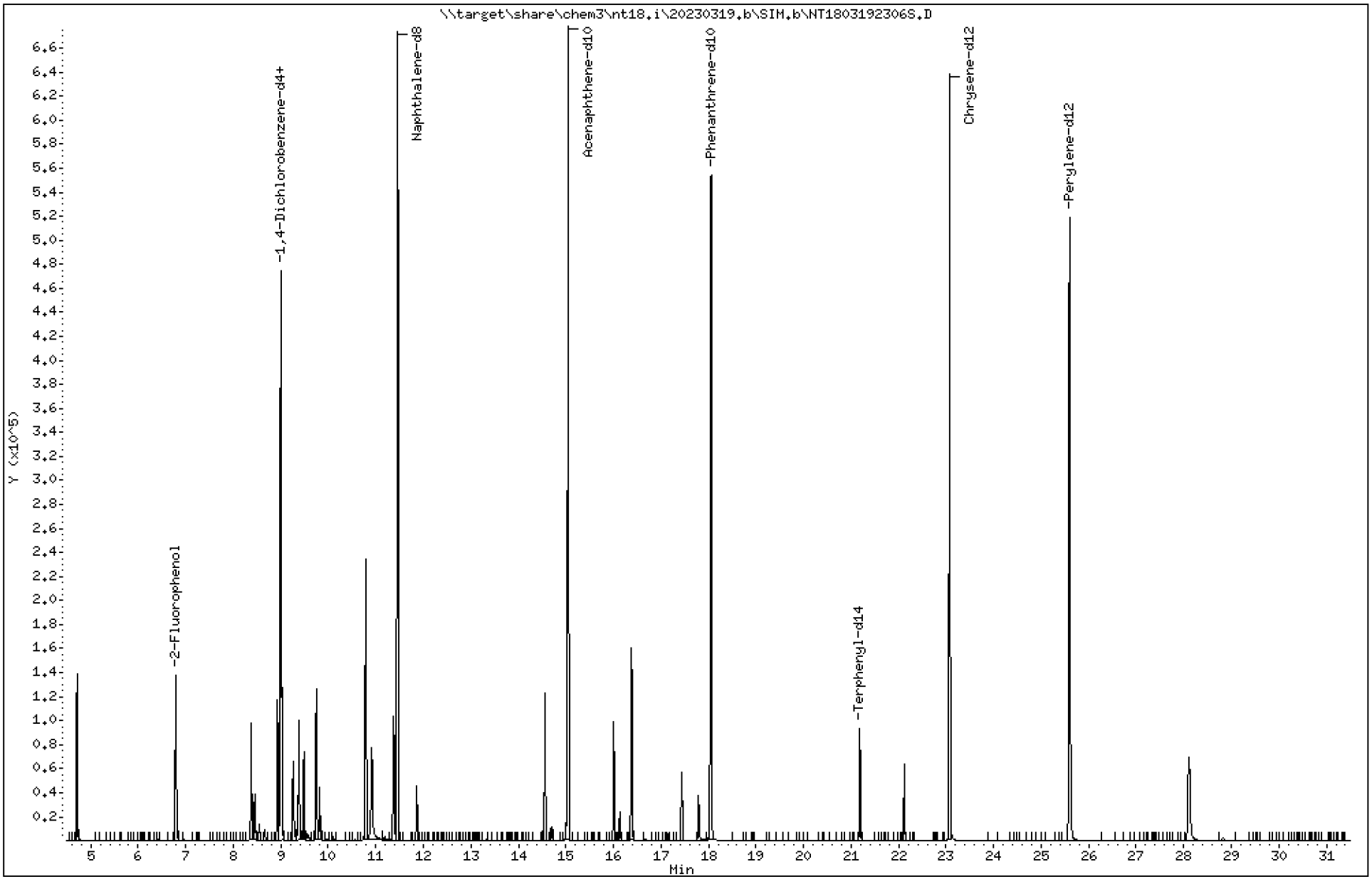
Instrument: nt18.i

Sample Info: SEQ-CAL3

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192306S.D
Lab Smp Id: SLD0001-CAL5
Inj Date : 19-MAR-2023 18:02
Operator : YZ Inst ID: nt18.i
Smp Info : SEQ-CAL3
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Meth Date : 31-Mar-2023 09:18 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 6 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: ORGDATA102

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1	2-Fluorophenol	112	6.793	6.794	(0.755)	122260	1.50000	1.516
	3	Phenol	94	8.377	8.378	(0.931)	107825	1.00000	0.9988
	7	1,3-Dichlorobenzene	146	8.934	8.934	(0.993)	99293	1.00000	0.9507
*	8	1,4-Dichlorobenzene-d4	152	8.996	8.996	(1.000)	276557	4.00000	
	9	1,4-Dichlorobenzene	146	9.027	9.027	(1.003)	98609	1.00000	0.9308
	11	Benzyl alcohol	79	9.260	9.268	(1.029)	54381	1.00000	0.8923
	12	1,2-Dichlorobenzene	146	9.376	9.377	(1.042)	96996	1.00000	0.9408
	13	2-Methylphenol	108	9.485	9.485	(1.054)	75146	1.00000	1.003
	15	4-Methylphenol	108	9.749	9.749	(1.084)	79615	1.00000	1.021
	16	N-Nitroso-di-n-propylamine	70	9.819	9.819	(1.091)	50505	1.00000	0.9821
	22	2,4-Dimethylphenol	107	10.792	10.792	(0.942)	147471	2.00000	2.041
	24	Benzoic acid	105	10.919	10.784	(0.953)	114467	4.00000	2.306
	26	1,2,4-Trichlorobenzene	180	11.375	11.376	(0.993)	78583	1.00000	0.9535
*	27	Naphthalene-d8	136	11.460	11.460	(1.000)	1034745	4.00000	
	30	Hexachlorobutadiene	225	11.862	11.862	(1.035)	44777	1.00000	0.9440
	39	Dimethylphthalate	163	14.563	14.555	(0.968)	161888	1.00000	0.9752
*	42	Acenaphthene-d10	162	15.042	15.042	(1.000)	519728	4.00000	
	50	Diethylphthalate	149	16.009	16.001	(1.064)	151086	1.00000	1.002
	54	N-Nitrosodiphenylamine	169	16.379	16.379	(0.907)	114239	1.00000	1.041
	57	Hexachlorobenzene	284	17.436	17.437	(0.966)	49164	1.00000	0.9414
	58	Pentachlorophenol	266	17.792	17.800	(0.985)	40745	2.00000	1.461
*	59	Phenanthrene-d10	188	18.055	18.048	(1.000)	903862	4.00000	
$	66	Terphenyl-d14	244	21.189	21.189	(0.918)	107087	1.00000	0.9974
	67	Butylbenzylphthalate	149	22.118	22.118	(0.959)	72660	1.00000	0.7440
*	69	Chrysene-d12	240	23.070	23.070	(1.000)	761695	4.00000	
*	77	Perylene-d12	264	25.594	25.594	(1.000)	858044	4.00000	
	79	Dibenzo(a,h)anthracene	278	28.107	28.107	(1.098)	188650	1.00000	0.8519
	90	N-Nitrosodimethylamine	74	4.708	4.716	(0.523)	96302	2.00000	1.957

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192306S.D
Lab Smp Id: SLD0001-CAL5
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 18:02
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	276557	138279	553114	276557	0.00
27 Naphthalene-d8	1034745	517373	2069490	1034745	0.00
42 Acenaphthene-d10	519728	259864	1039456	519728	0.00
59 Phenanthrene-d10	903862	451931	1807724	903862	0.00
69 Chrysene-d12	761695	380848	1523390	761695	0.00
77 Perylene-d12	858044	429022	1716088	858044	0.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	0.00
42 Acenaphthene-d10	15.04	14.54	15.54	15.04	0.00
59 Phenanthrene-d10	18.06	17.56	18.56	18.06	0.00
69 Chrysene-d12	23.07	22.57	23.57	23.07	0.00
77 Perylene-d12	25.59	25.09	26.09	25.59	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192306S.D

Lab ID: SLD0001-CAL5
nt18.i, 20230319.b\SIM.b\SIMABN2.m,   19-MAR-2023 18:02

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.953	0.941	0.0118	Benzoic acid

RRT check based on Ccal File: SIM.b/NT1803192310S.D

On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192307S.D

Date : 19-MAR-2023 18:43

Client ID:

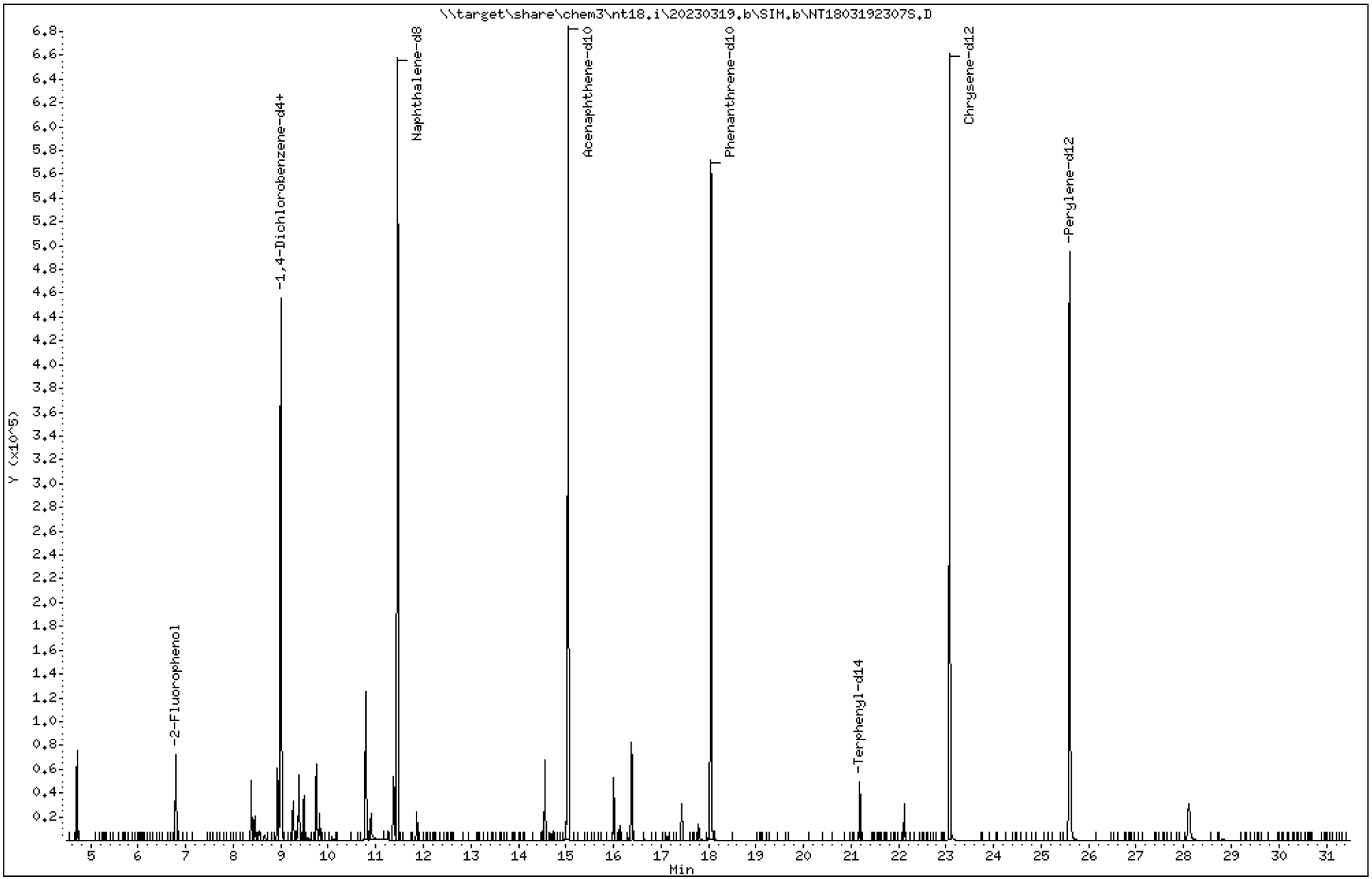
Sample Info: SEQ-CAL2

Column phase: ZB-5msi

Instrument: nt18.i

Operator: YZ

Column diameter: 0.25



ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192307S.D
Lab Smp Id: SLD0001-CAL4
Inj Date : 19-MAR-2023 18:43
Operator : YZ Inst ID: nt18.i
Smp Info : SEQ-CAL2
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Meth Date : 31-Mar-2023 09:18 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 7 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: ORGDATA102

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1	2-Fluorophenol	112	6.793	6.794	(0.755)	62892	0.75000	0.8003
	3	Phenol	94	8.377	8.378	(0.931)	56515	0.50000	0.5370
	7	1,3-Dichlorobenzene	146	8.934	8.934	(0.993)	52838	0.50000	0.5190
*	8	1,4-Dichlorobenzene-d4	152	8.996	8.996	(1.000)	269573	4.00000	
	9	1,4-Dichlorobenzene	146	9.027	9.027	(1.003)	52864	0.50000	0.5119
	11	Benzyl alcohol	79	9.260	9.268	(1.029)	27419	0.50000	0.4629
	12	1,2-Dichlorobenzene	146	9.376	9.377	(1.042)	52303	0.50000	0.5204
	13	2-Methylphenol	108	9.485	9.485	(1.054)	38672	0.50000	0.5294
	15	4-Methylphenol	108	9.749	9.749	(1.084)	40639	0.50000	0.5348
	16	N-Nitroso-di-n-propylamine	70	9.819	9.819	(1.091)	26356	0.50000	0.5258
	22	2,4-Dimethylphenol	107	10.792	10.792	(0.942)	77794	1.00000	1.100
	24	Benzoic acid	105	10.893	10.784	(0.951)	33576	2.00000	0.6959
	26	1,2,4-Trichlorobenzene	180	11.375	11.376	(0.993)	41920	0.50000	0.5197
*	27	Naphthalene-d8	136	11.460	11.460	(1.000)	1012679	4.00000	
	30	Hexachlorobutadiene	225	11.862	11.862	(1.035)	24227	0.50000	0.5219
	39	Dimethylphthalate	163	14.555	14.555	(0.968)	84975	0.50000	0.5195
*	42	Acenaphthene-d10	162	15.042	15.042	(1.000)	512101	4.00000	
	50	Diethylphthalate	149	16.001	16.001	(1.064)	78678	0.50000	0.5297
	54	N-Nitrosodiphenylamine	169	16.379	16.379	(0.908)	59588	0.50000	0.5421
	57	Hexachlorobenzene	284	17.436	17.437	(0.966)	26386	0.50000	0.5046
	58	Pentachlorophenol	266	17.792	17.800	(0.986)	16914	1.00000	0.6108
*	59	Phenanthrene-d10	188	18.047	18.048	(1.000)	905056	4.00000	
$	66	Terphenyl-d14	244	21.189	21.189	(0.918)	56661	0.50000	0.5338
	67	Butylbenzylphthalate	149	22.118	22.118	(0.959)	35537	0.50000	0.3695
*	69	Chrysene-d12	240	23.070	23.070	(1.000)	753052	4.00000	
*	77	Perylene-d12	264	25.594	25.594	(1.000)	831773	4.00000	
	79	Dibenzo(a,h)anthracene	278	28.107	28.107	(1.098)	88239	0.50000	0.4135
	90	N-Nitrosodimethylamine	74	4.708	4.716	(0.523)	50913	1.00000	1.061

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192307S.D
Lab Smp Id: SLD0001-CAL4
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 18:02
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	276557	138279	553114	269573	-2.53
27 Naphthalene-d8	1034745	517373	2069490	1012679	-2.13
42 Acenaphthene-d10	519728	259864	1039456	512101	-1.47
59 Phenanthrene-d10	903862	451931	1807724	905056	0.13
69 Chrysene-d12	761695	380848	1523390	753052	-1.13
77 Perylene-d12	858044	429022	1716088	831773	-3.06

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	-0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	-0.00
42 Acenaphthene-d10	15.04	14.54	15.54	15.04	-0.00
59 Phenanthrene-d10	18.06	17.56	18.56	18.05	-0.04
69 Chrysene-d12	23.07	22.57	23.57	23.07	-0.00
77 Perylene-d12	25.59	25.09	26.09	25.59	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192307S.D

Lab ID: SLD0001-CAL4
nt18.i, 20230319.b\SIM.b\SIMABN2.m,   19-MAR-2023 18:43

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.951	0.941	0.0096	Benzoic acid

RRT check based on Ccal File: SIM.b/NT1803192310S.D

On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT18031923115.D

Date : 19-MAR-2023 21:26

Client ID:

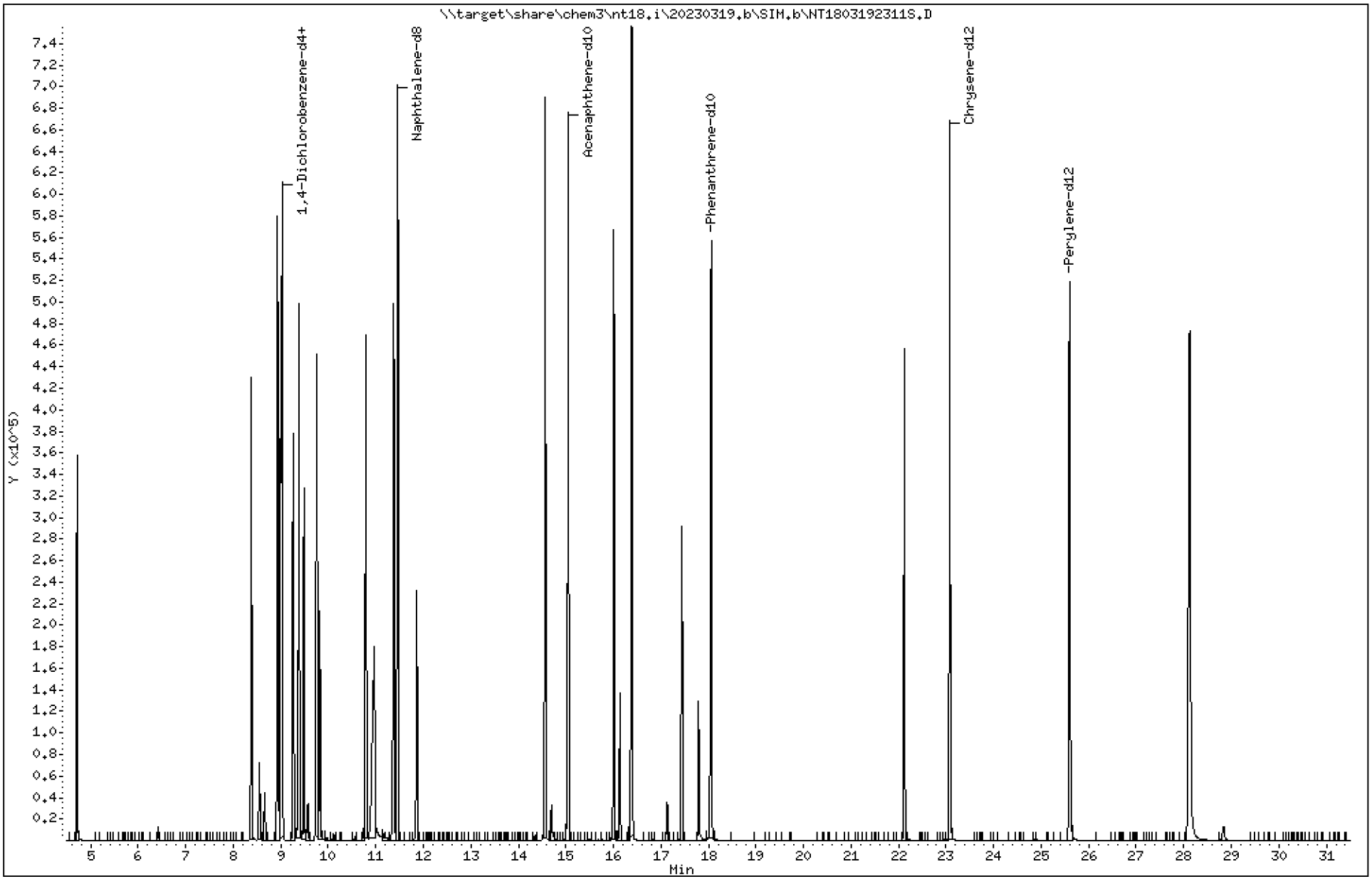
Instrument: nt18.i

Sample Info: SEQ-SCV1

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

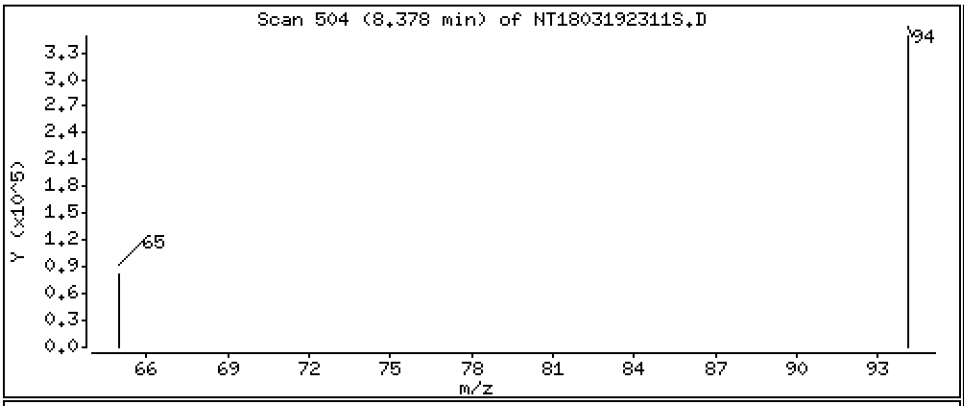
Operator: YZ

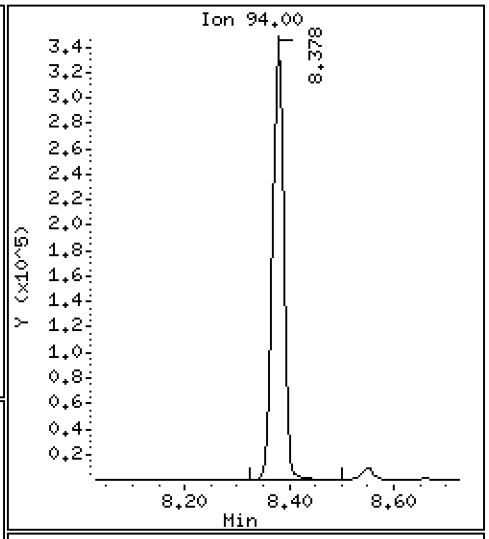
Column phase: ZB-5msi

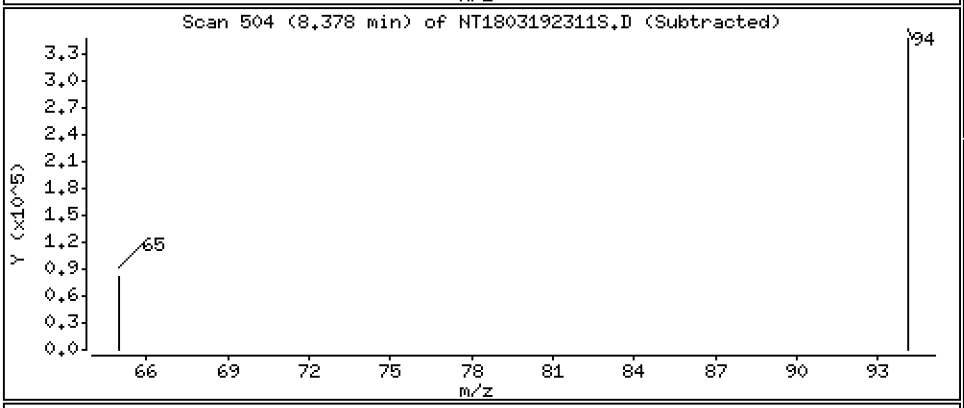
Column diameter: 0.25

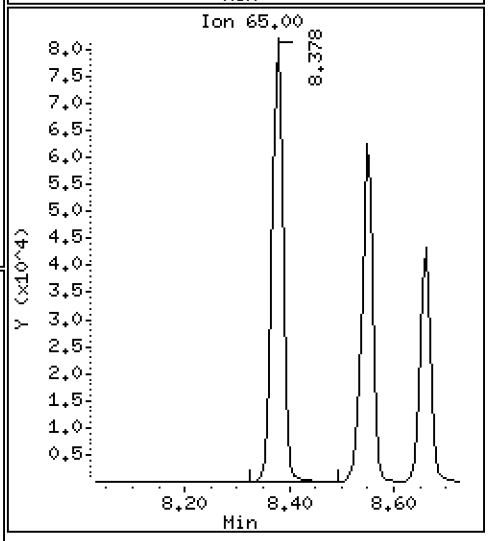
3 Phenol

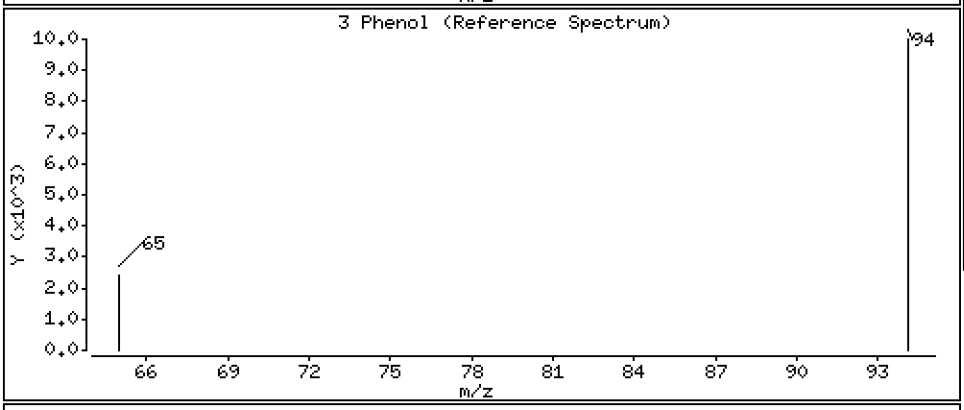
Concentration: 4.479 ug/mL

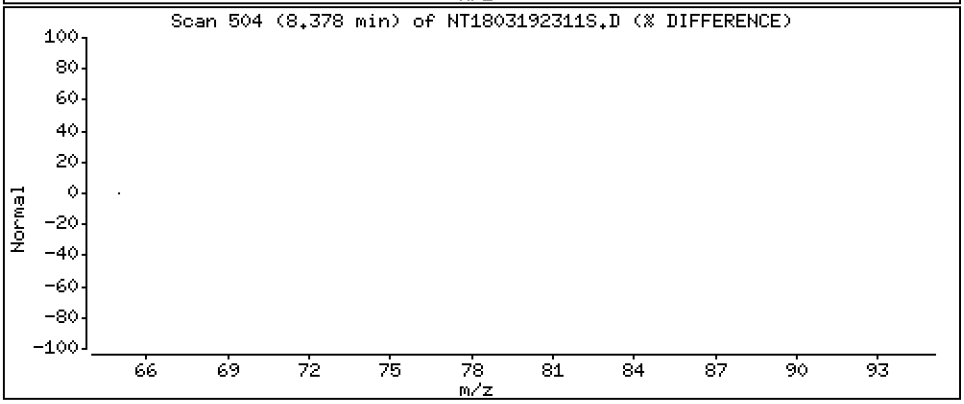












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

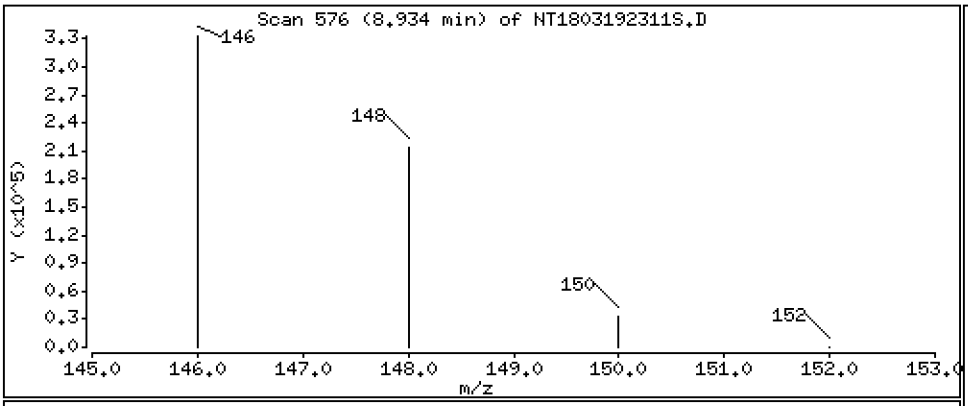
Operator: YZ

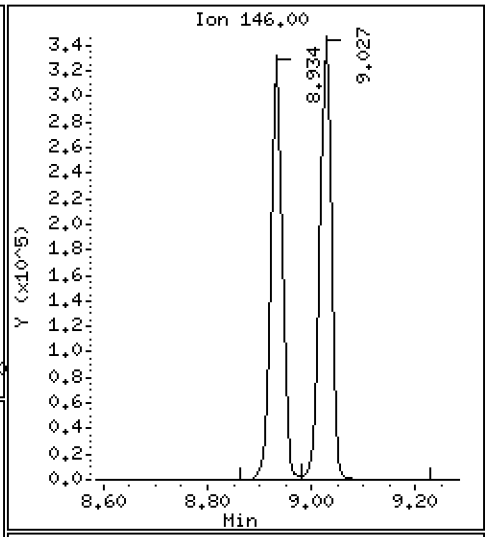
Column phase: ZB-5msi

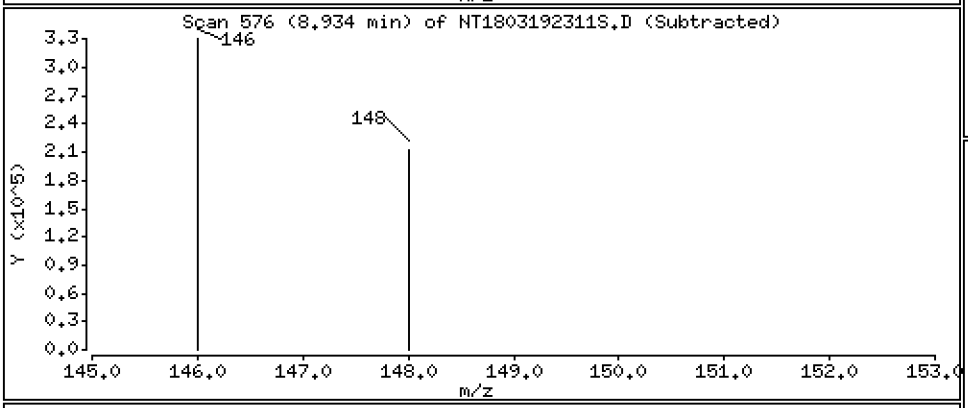
Column diameter: 0.25

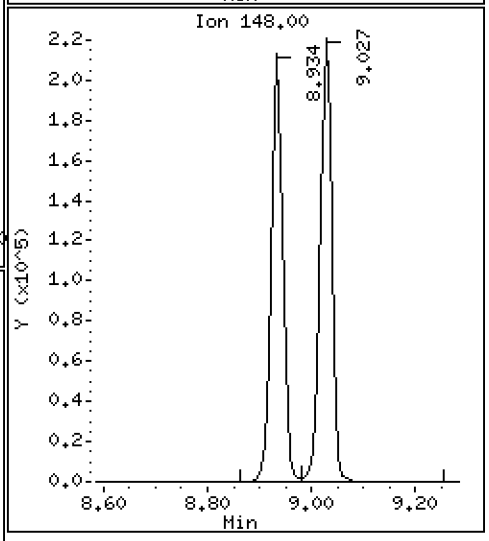
7 1,3-Dichlorobenzene

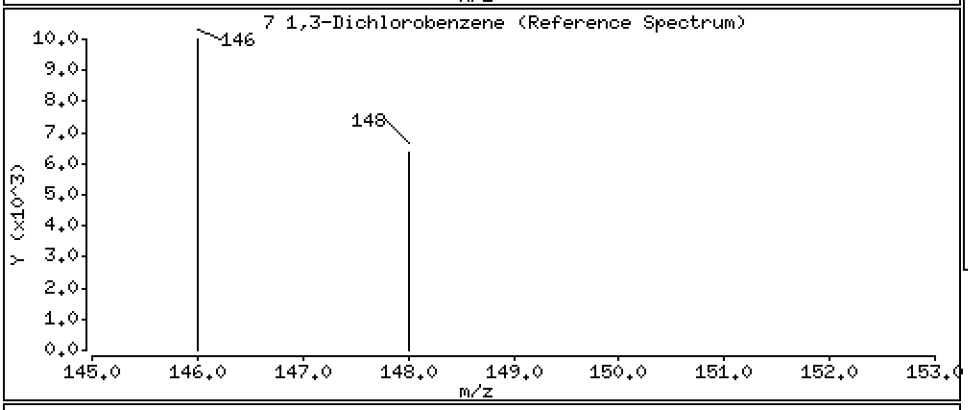
Concentration: 4.806 ug/mL

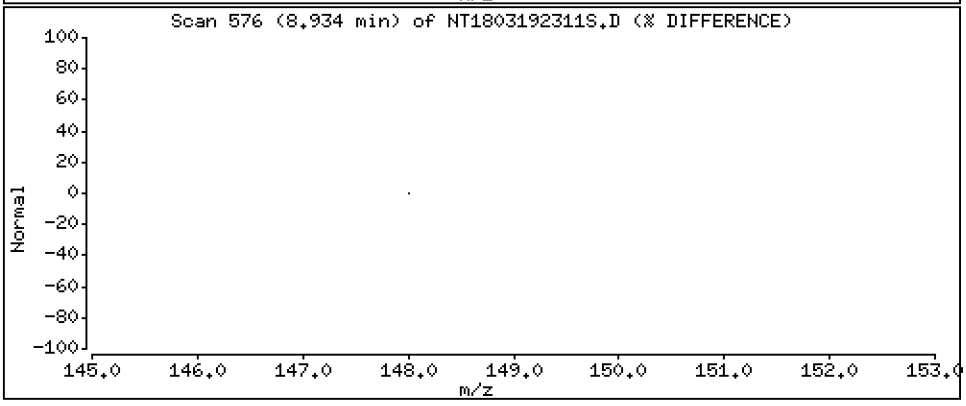












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

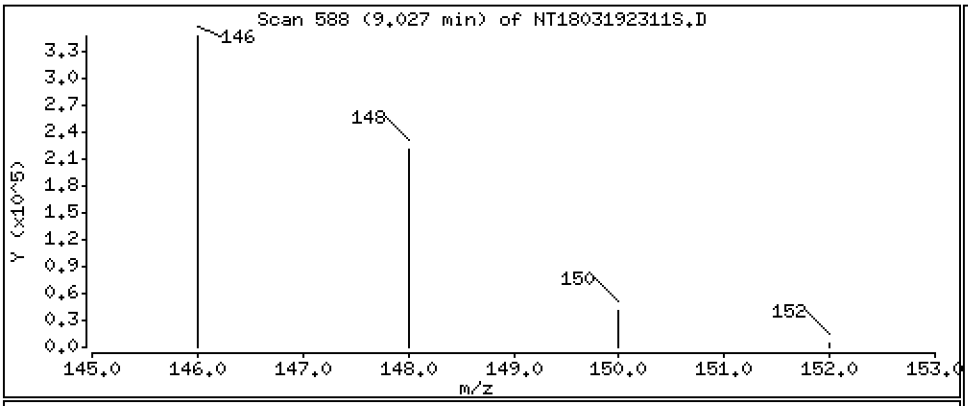
Operator: YZ

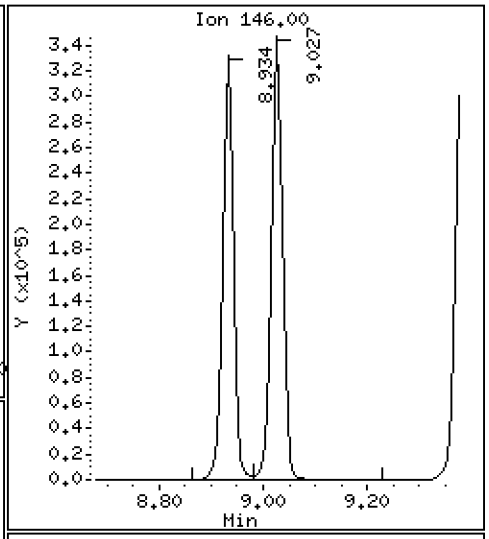
Column phase: ZB-5msi

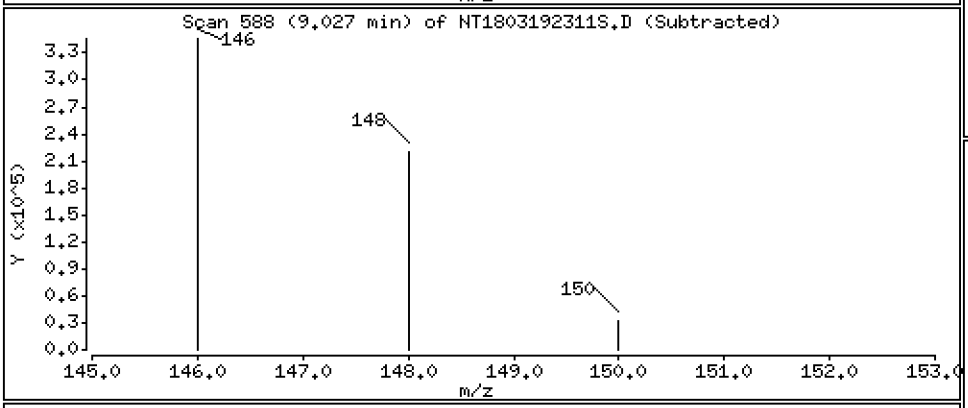
Column diameter: 0.25

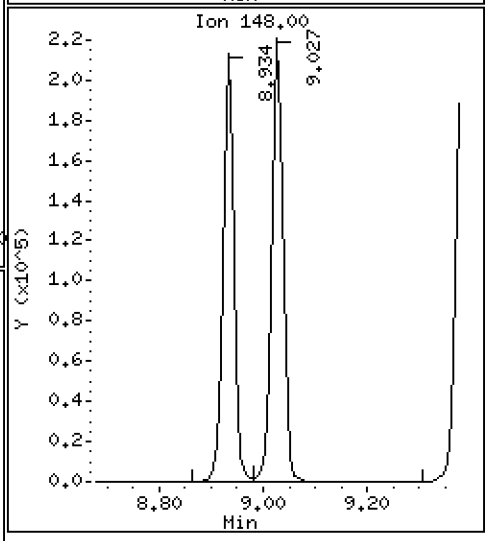
9 1,4-Dichlorobenzene

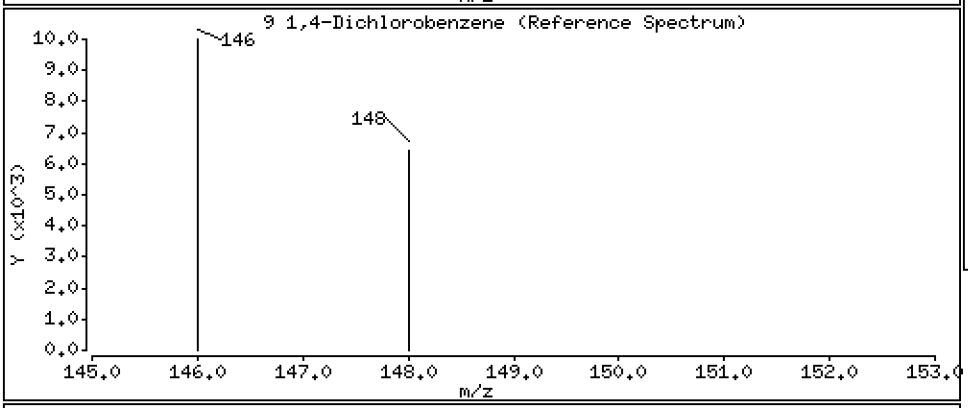
Concentration: 4.816 ug/mL

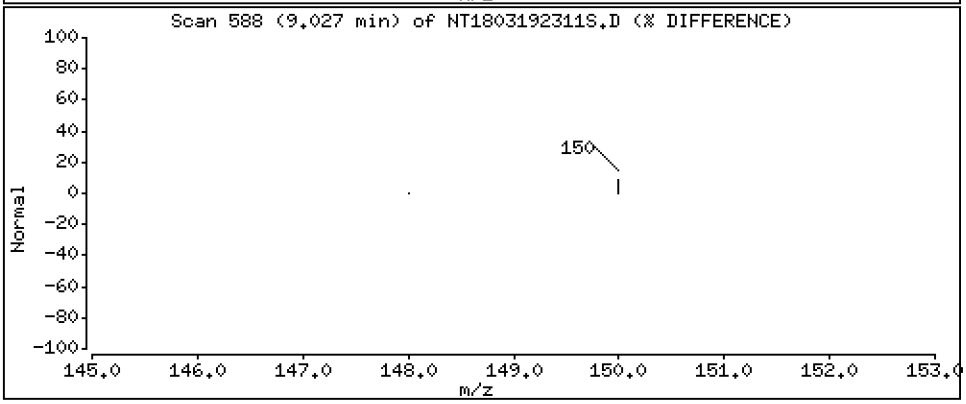












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

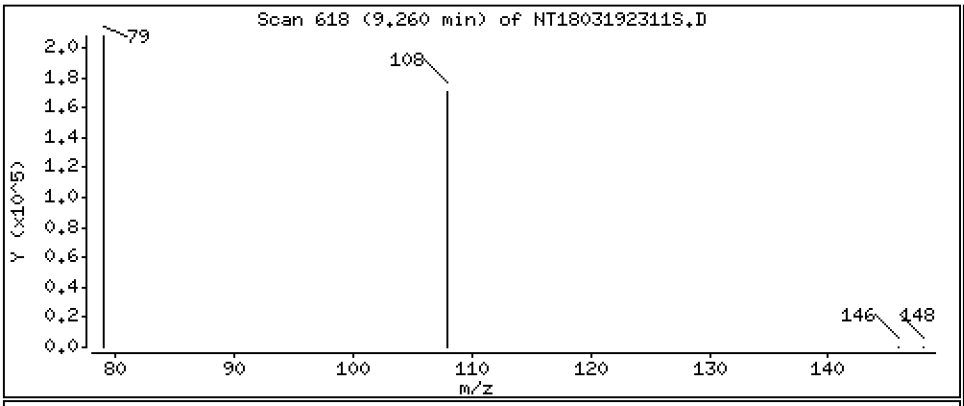
Operator: YZ

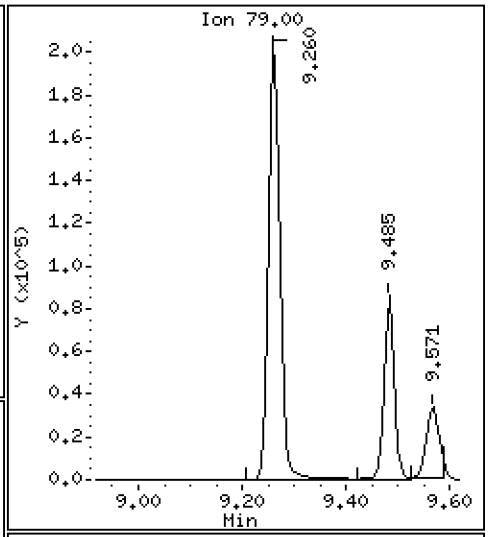
Column phase: ZB-5msi

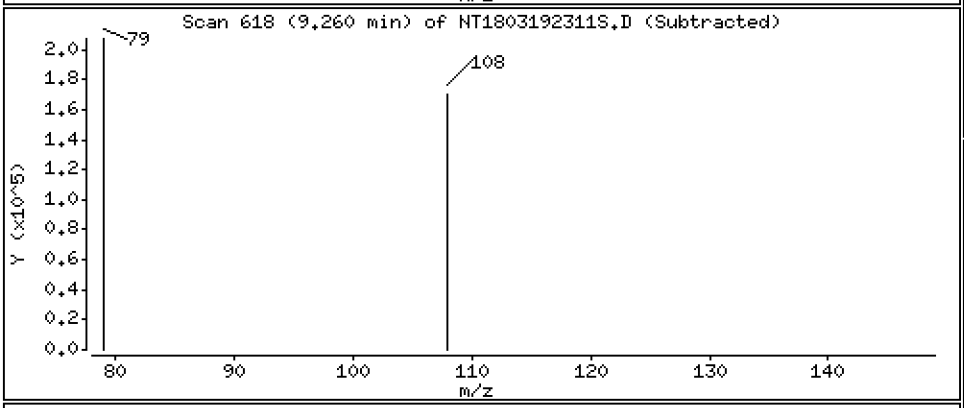
Column diameter: 0.25

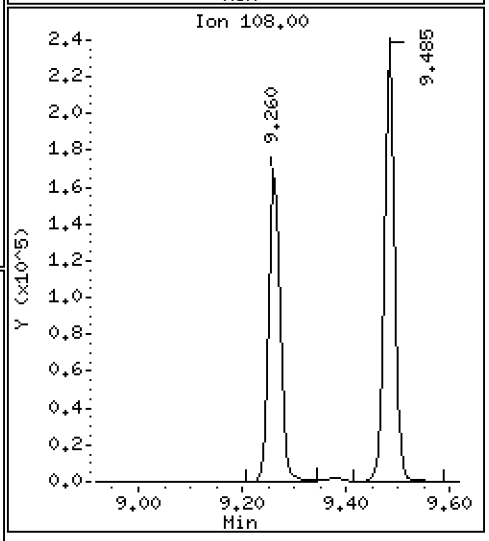
11 Benzyl alcohol

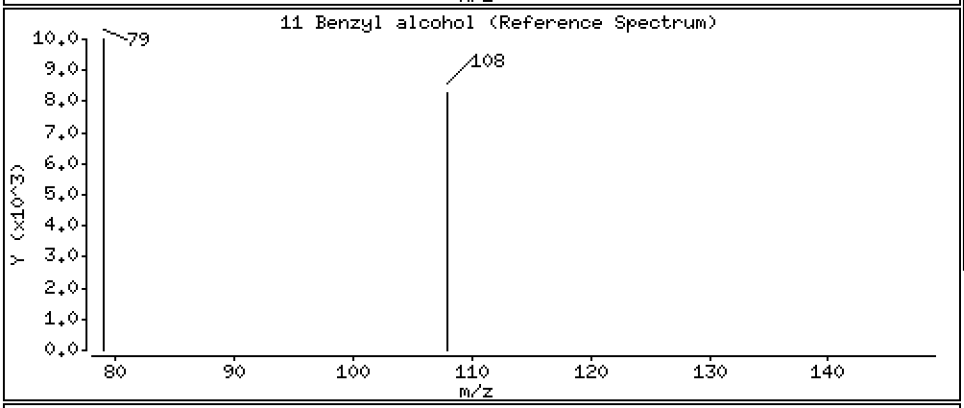
Concentration: 4.892 ug/mL

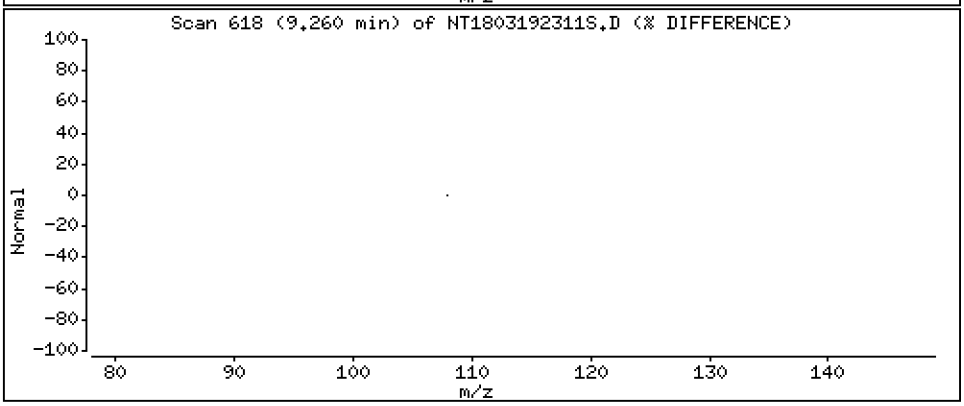












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

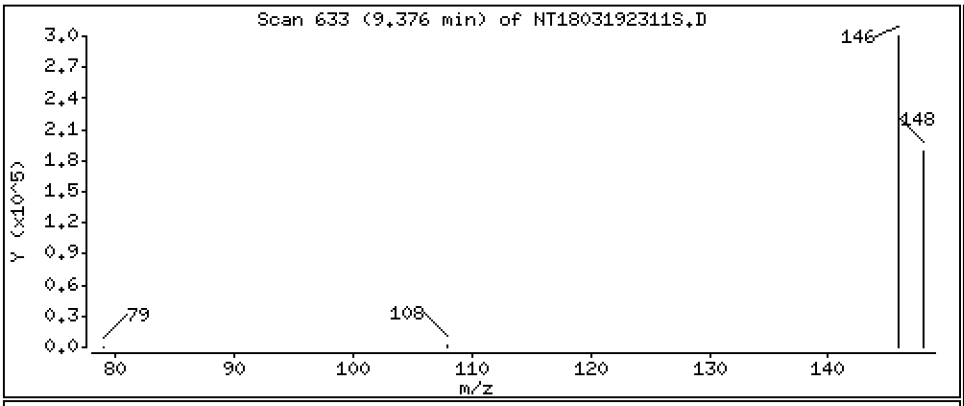
Operator: YZ

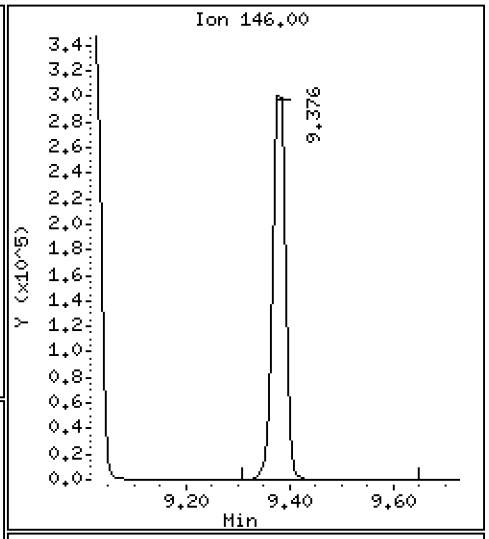
Column phase: ZB-5msi

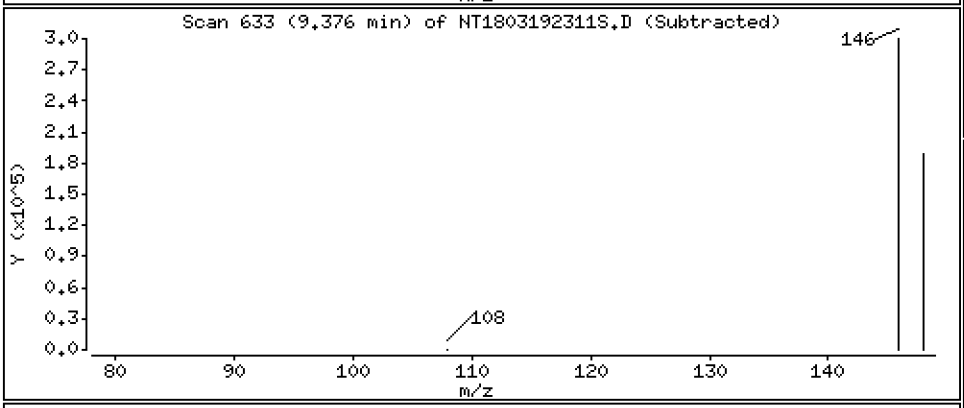
Column diameter: 0.25

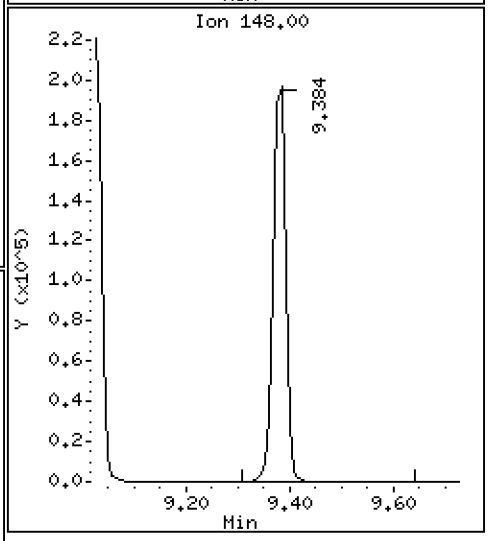
12 1,2-Dichlorobenzene

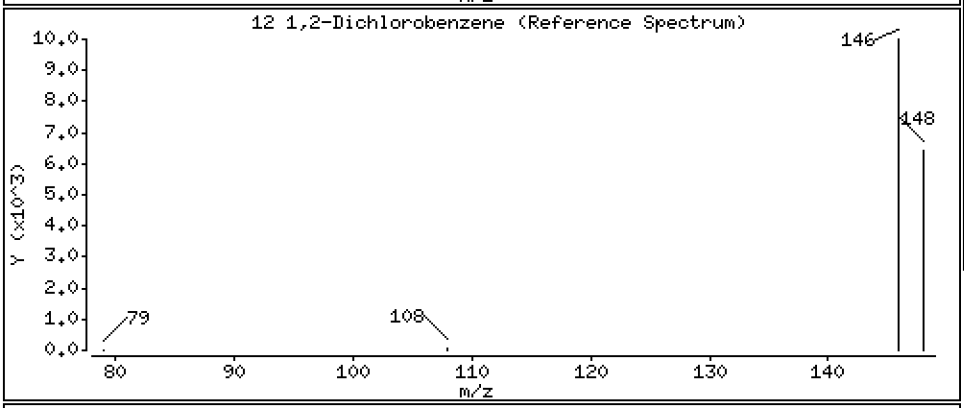
Concentration: 4.745 ug/mL

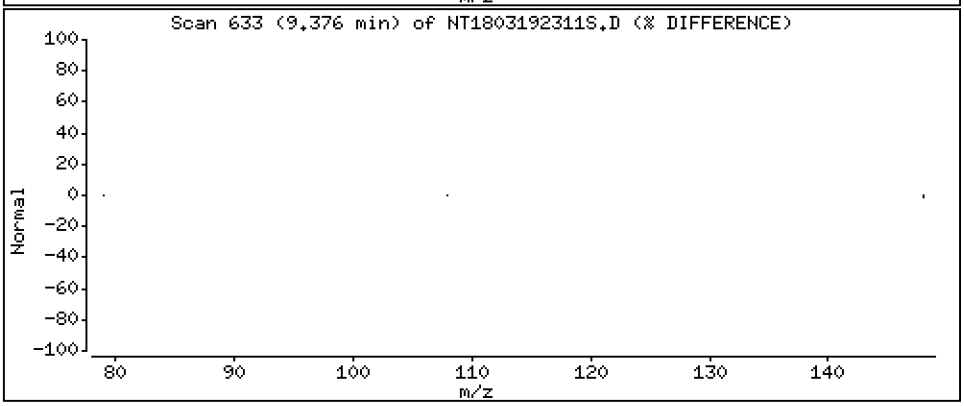












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

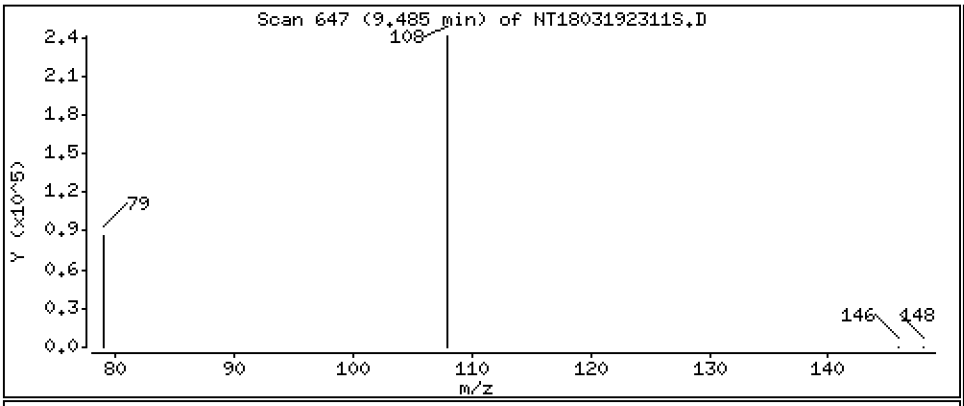
Operator: YZ

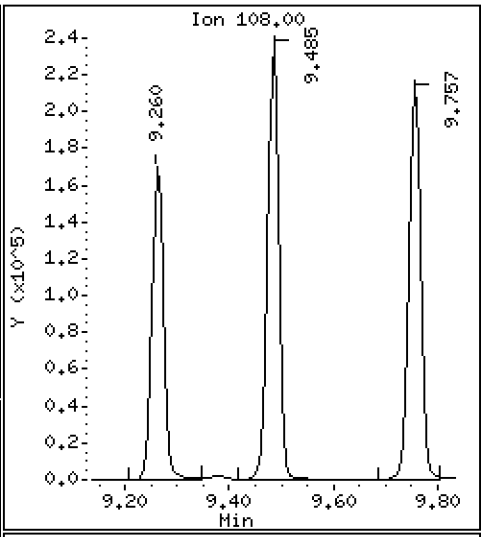
Column phase: ZB-5msi

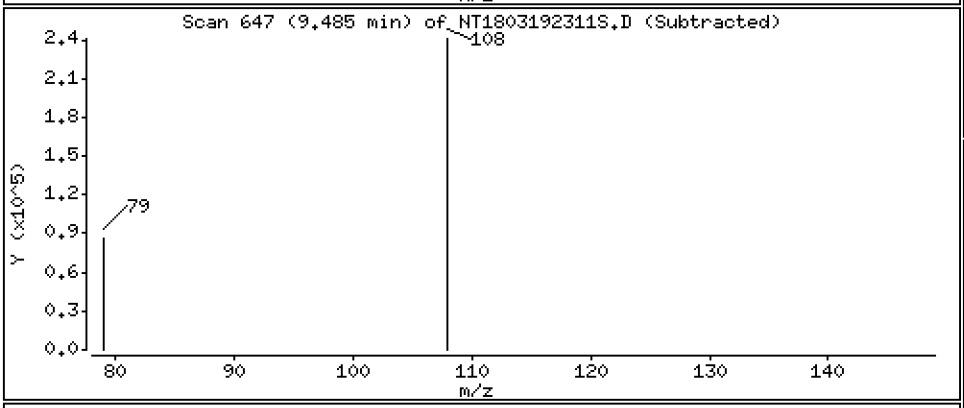
Column diameter: 0.25

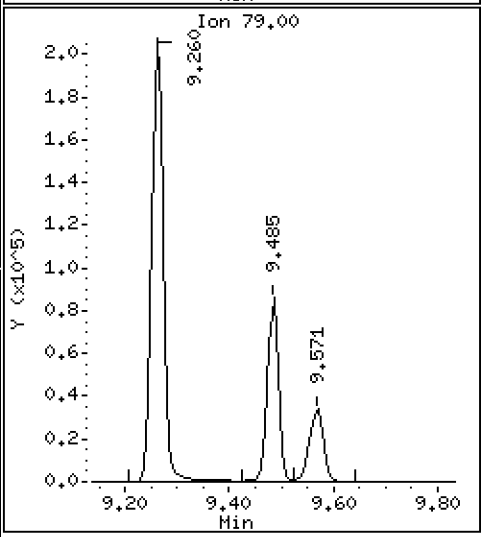
13 2-Methylphenol

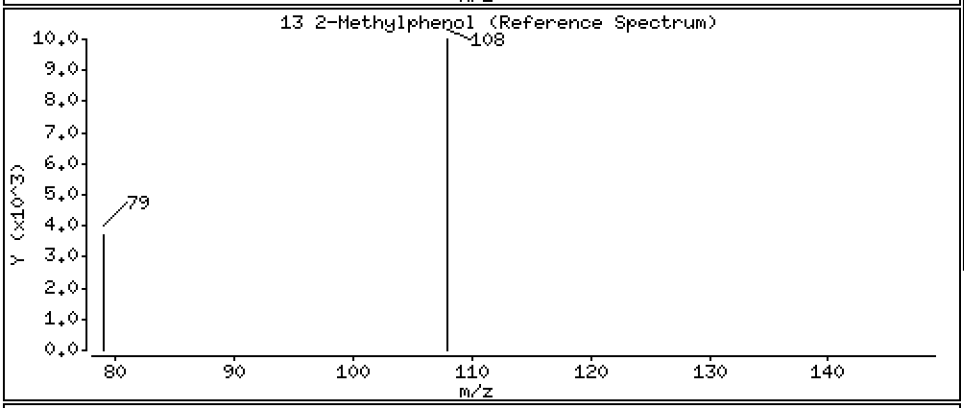
Concentration: 4.462 ug/mL

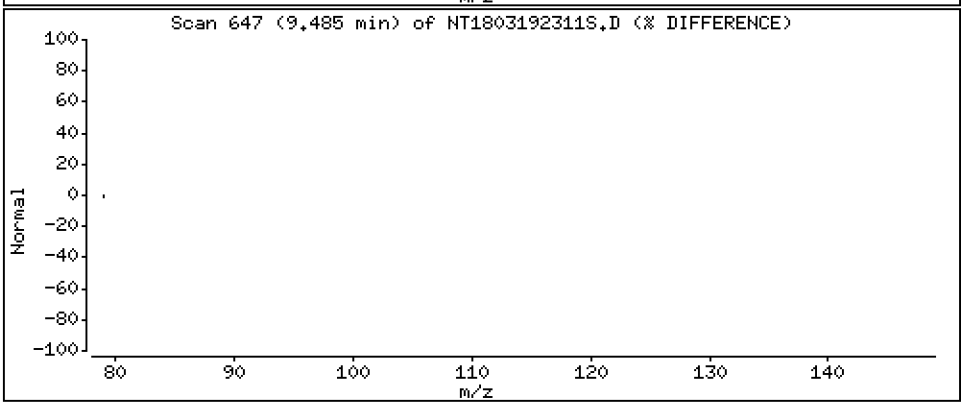












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

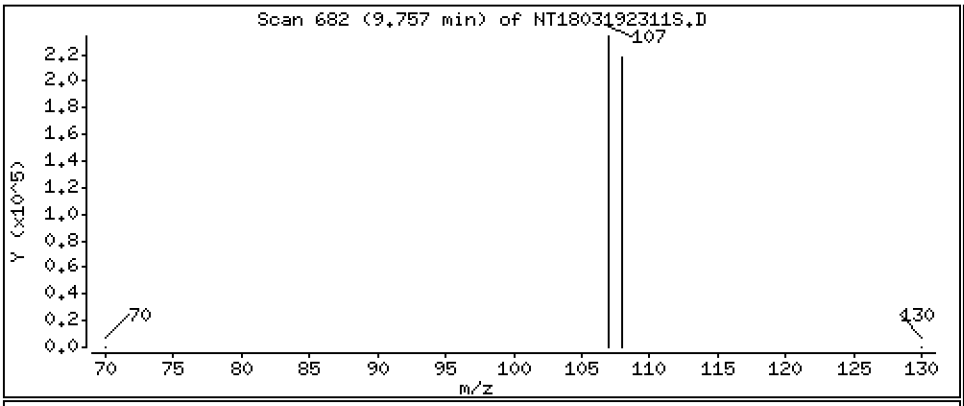
Operator: YZ

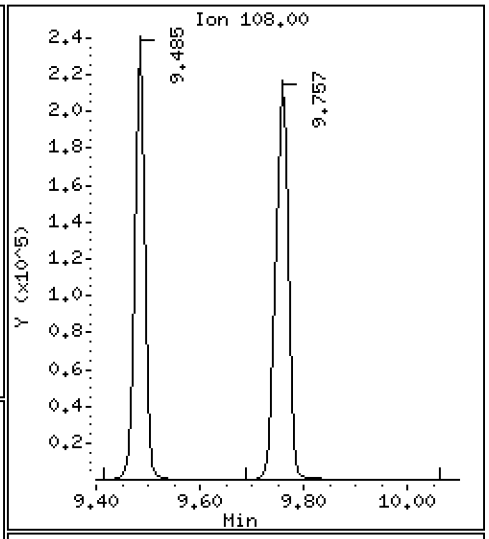
Column phase: ZB-5msi

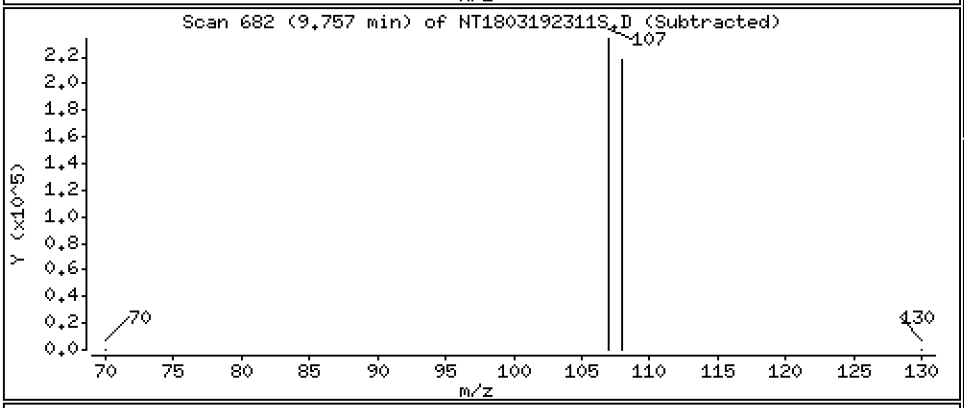
Column diameter: 0.25

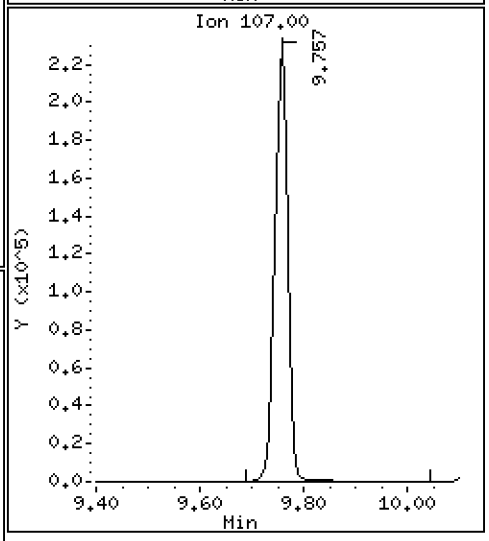
15 4-Methylphenol

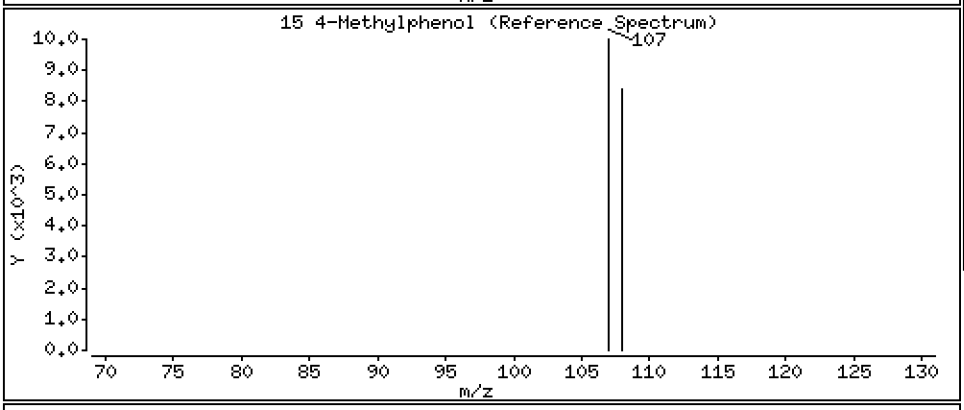
Concentration: 4.689 ug/mL

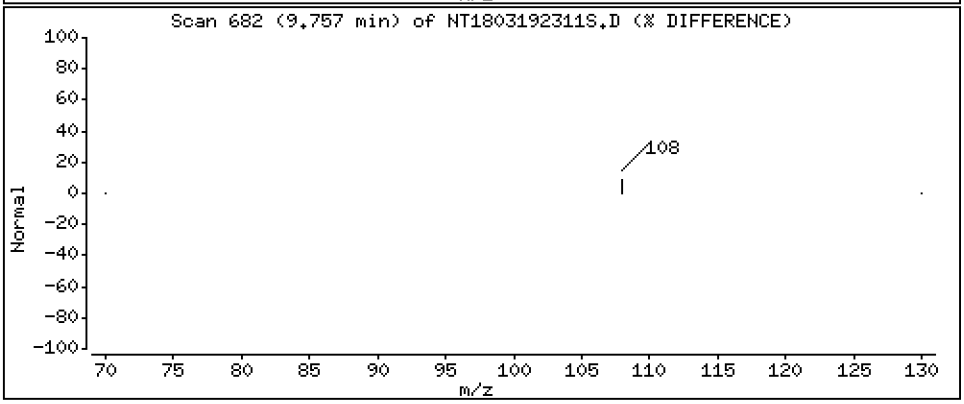












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

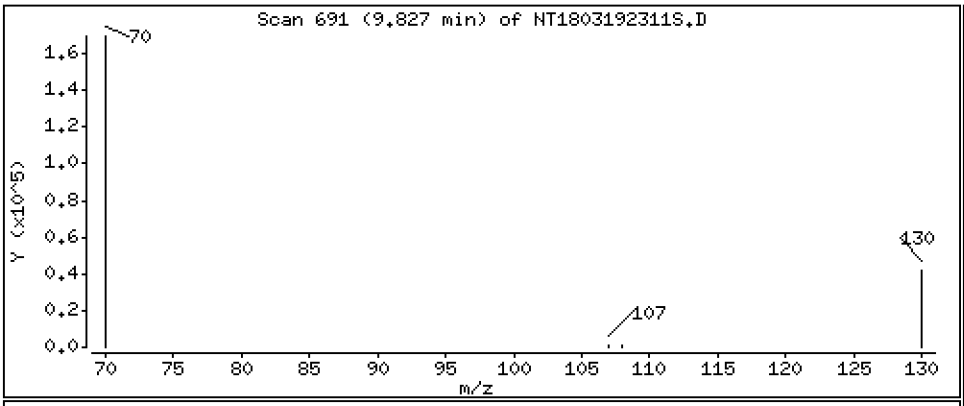
Operator: YZ

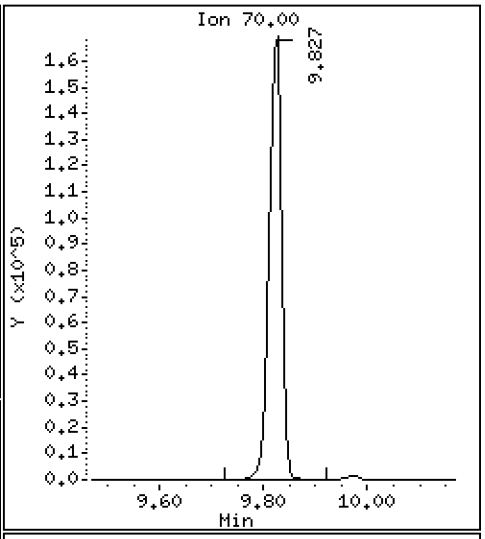
Column phase: ZB-5msi

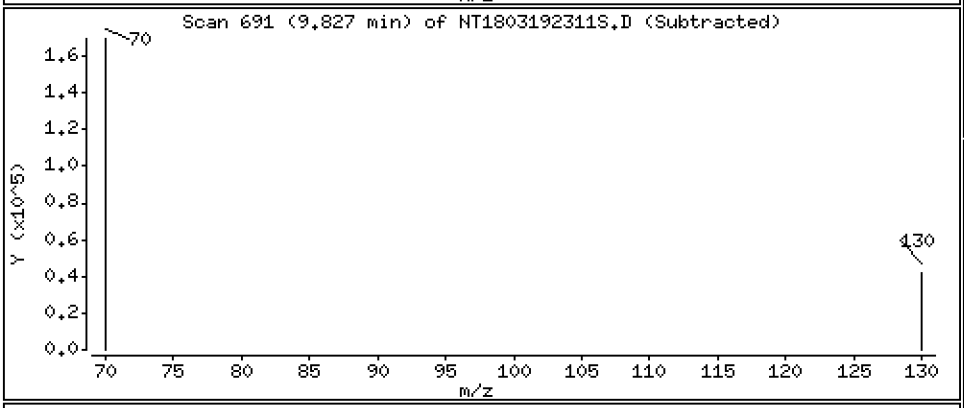
Column diameter: 0.25

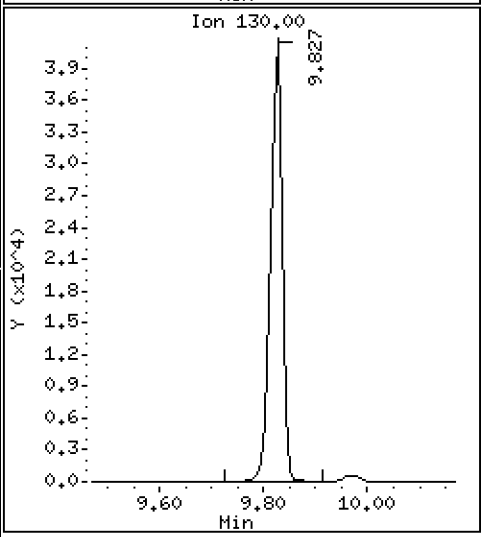
16 N-Nitroso-di-n-propylamine

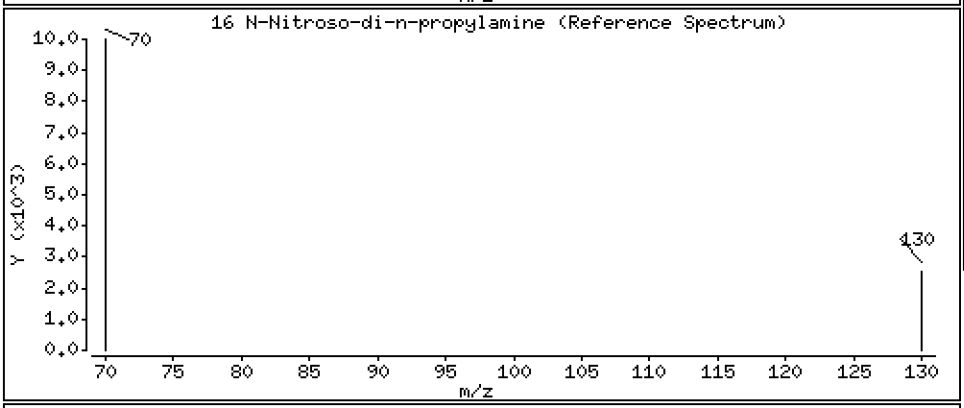
Concentration: 5.256 ug/mL

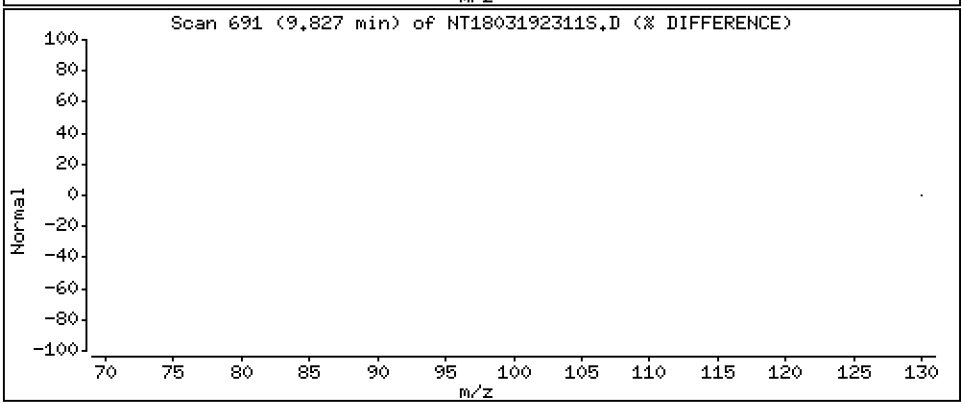












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

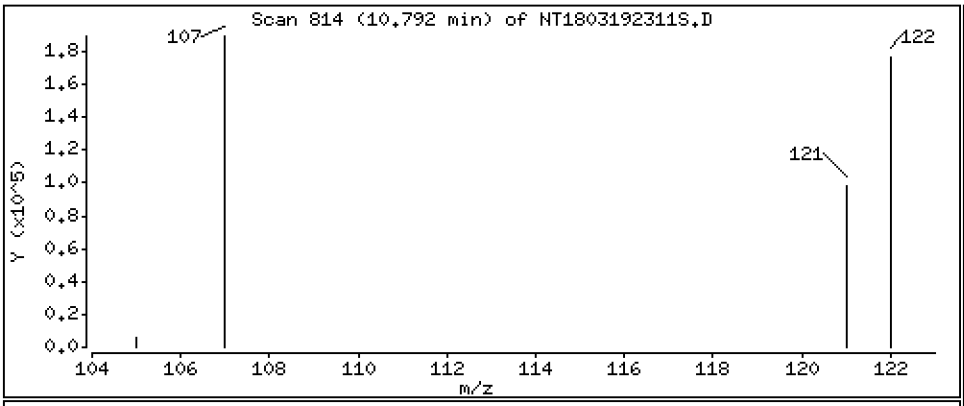
Operator: YZ

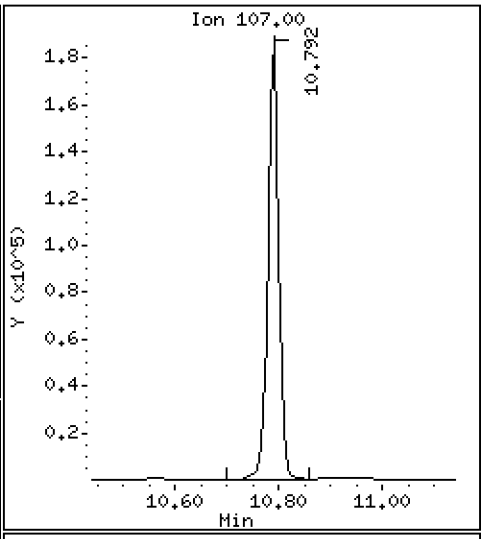
Column phase: ZB-5msi

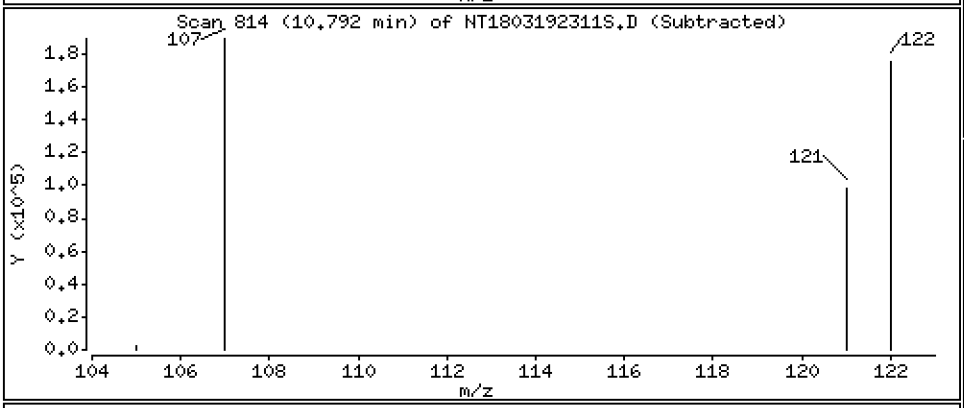
Column diameter: 0.25

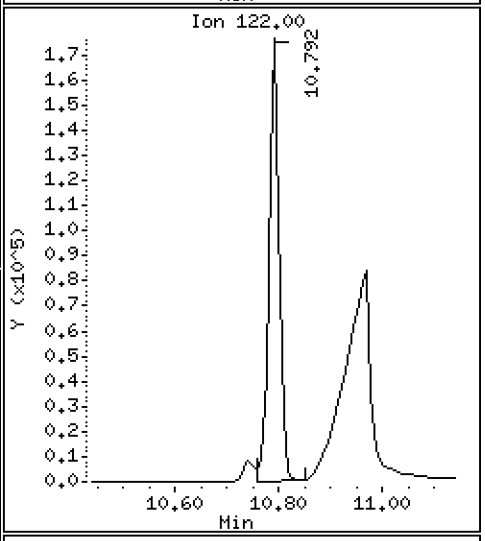
22 2,4-Dimethylphenol

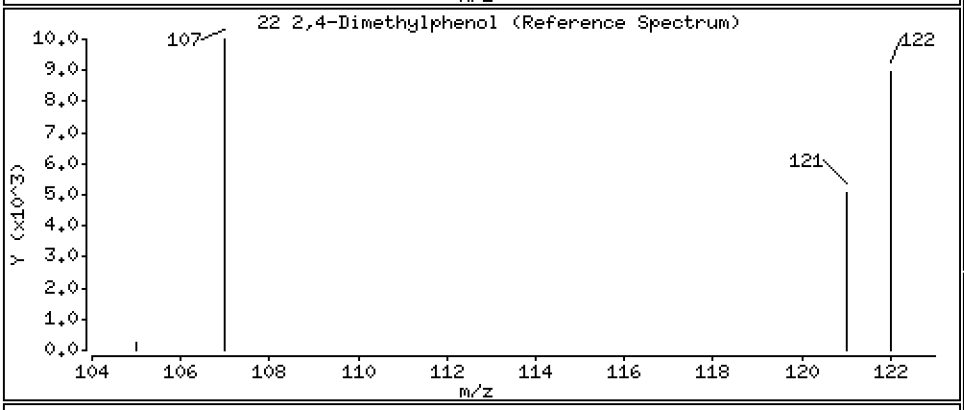
Concentration: 3.919 ug/mL

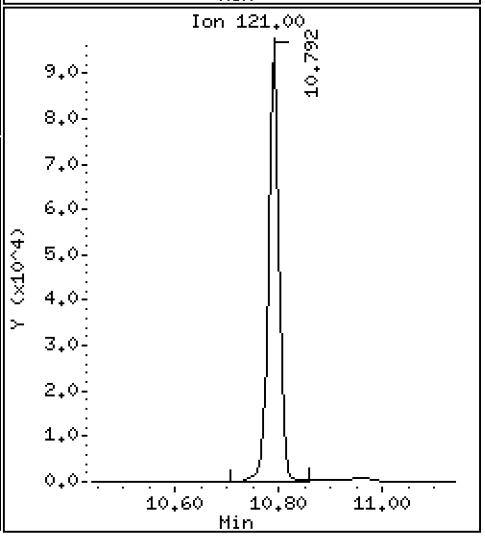


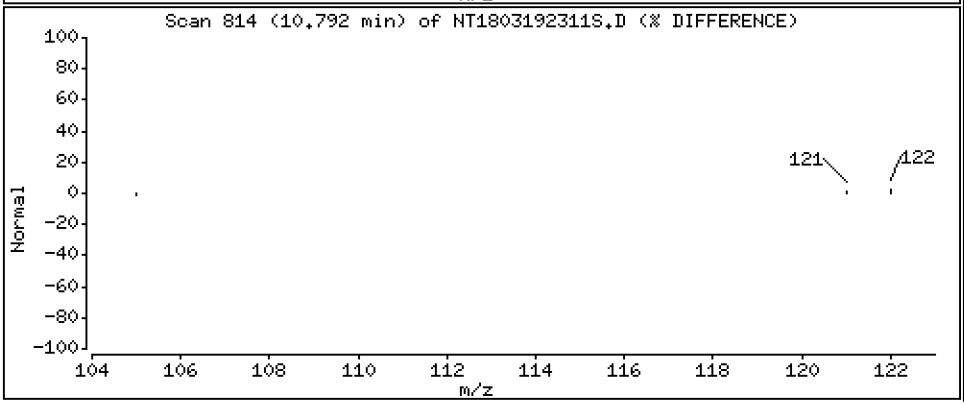












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

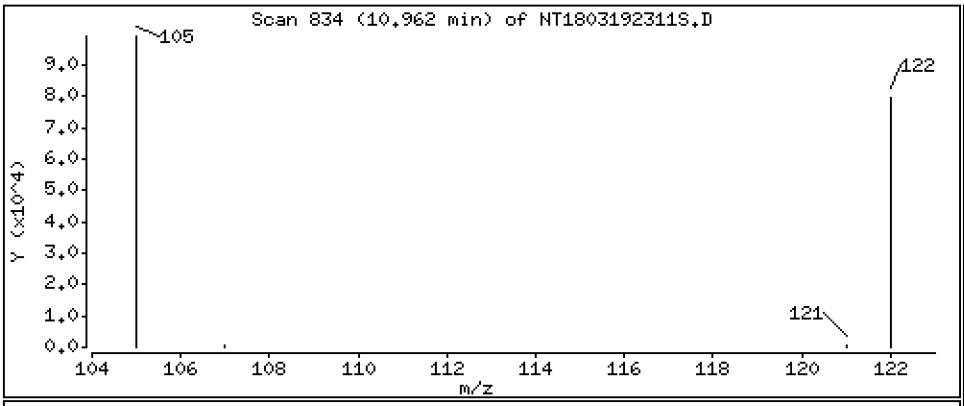
Operator: YZ

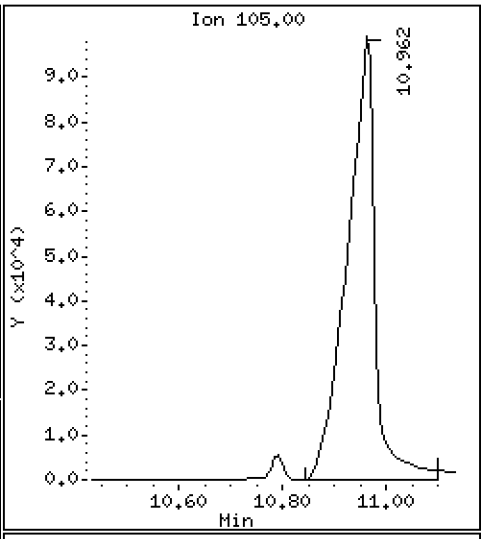
Column phase: ZB-5msi

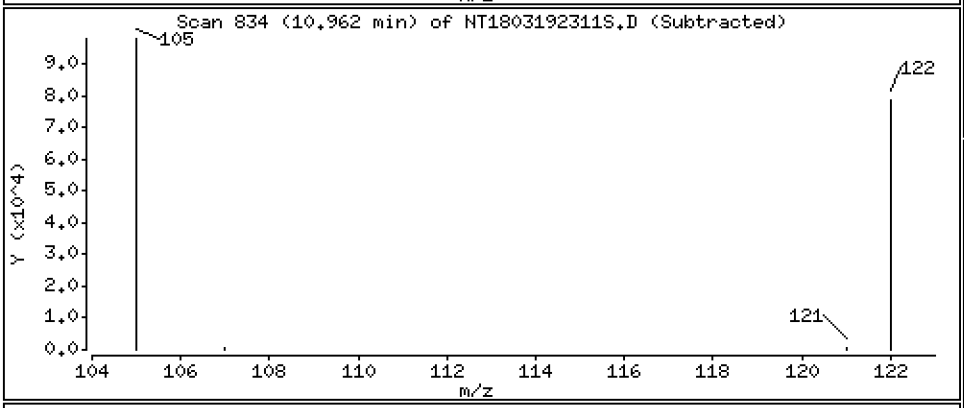
Column diameter: 0.25

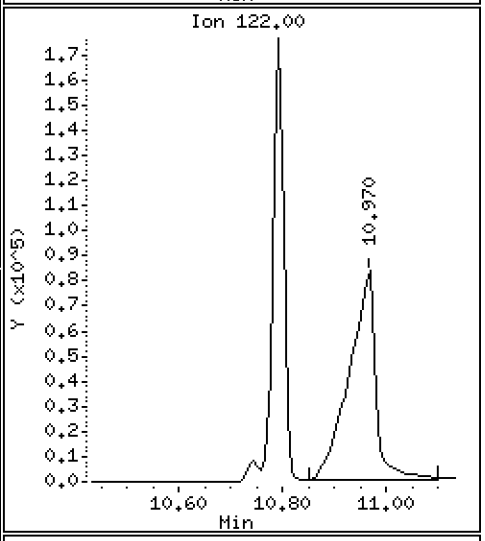
24 Benzoic acid

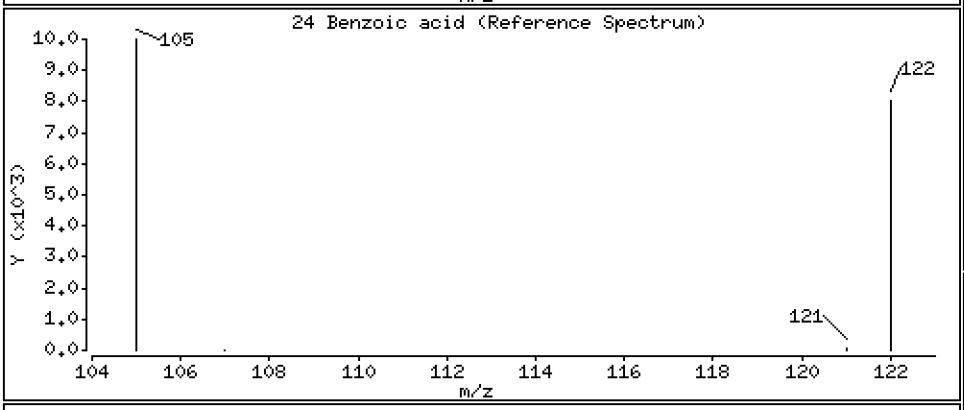
Concentration: 7.324 ug/mL

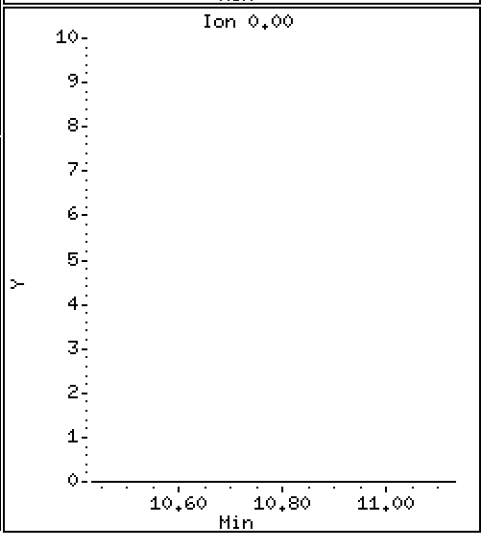


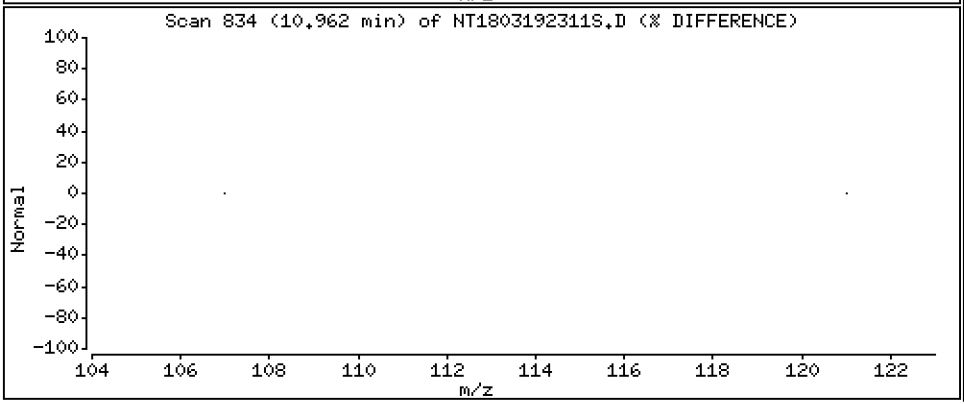












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

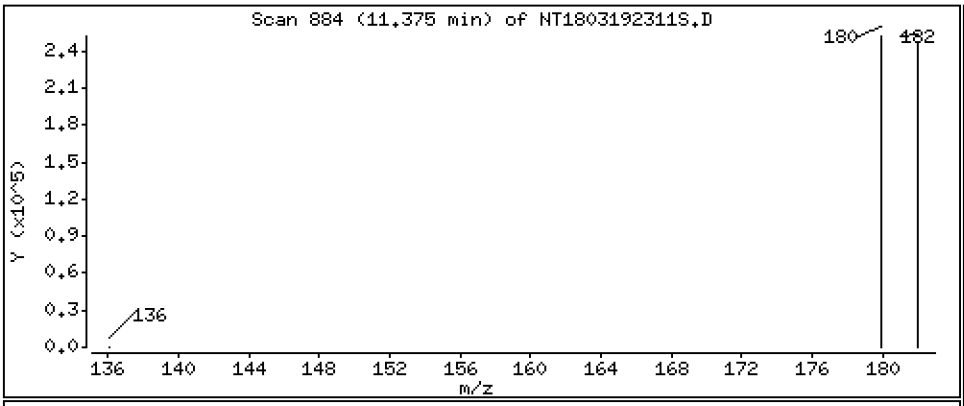
Operator: YZ

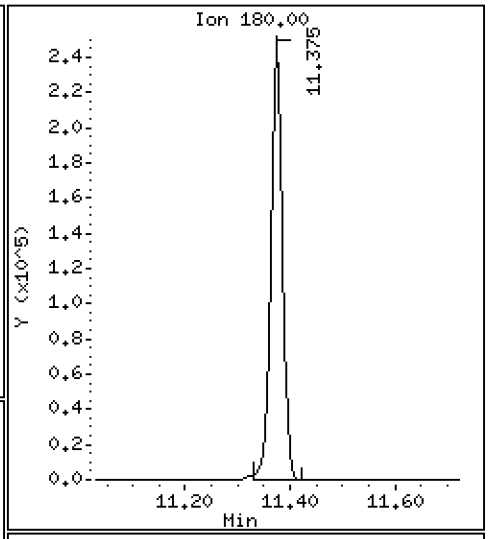
Column phase: ZB-5msi

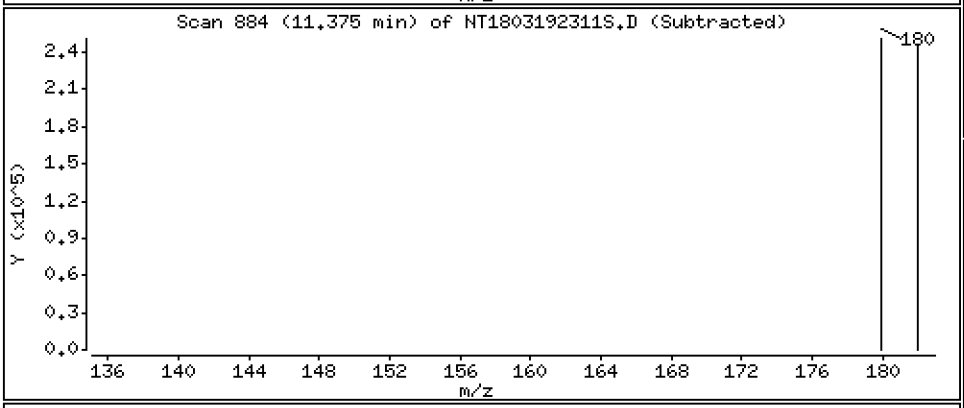
Column diameter: 0.25

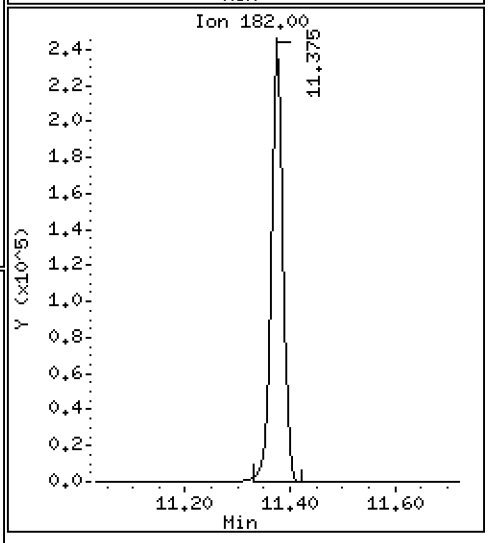
26 1,2,4-Trichlorobenzene

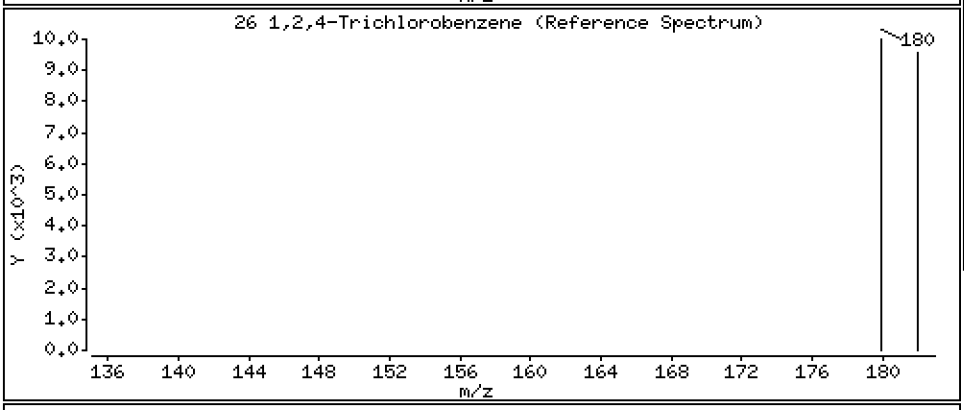
Concentration: 4.690 ug/mL

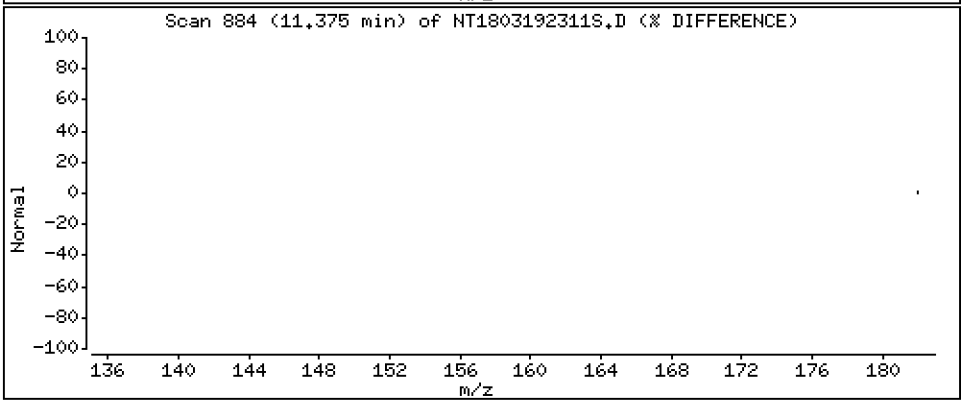












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

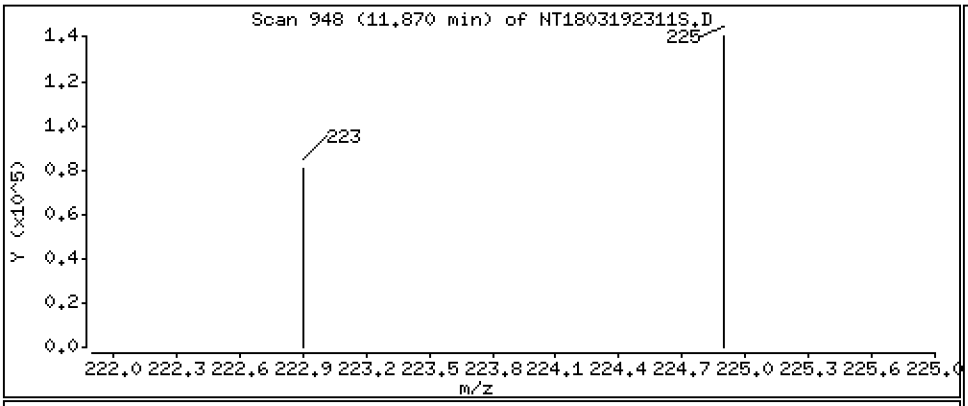
Operator: YZ

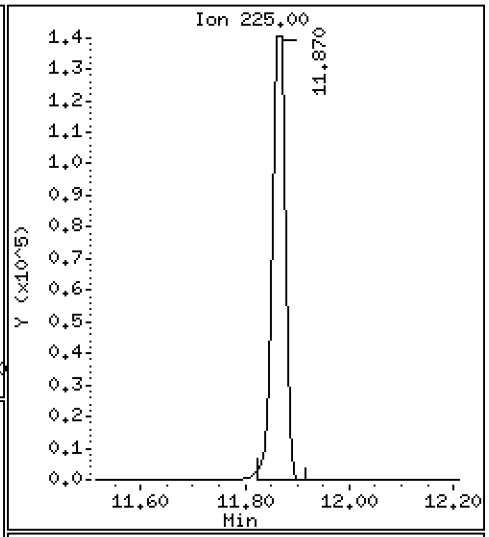
Column phase: ZB-5msi

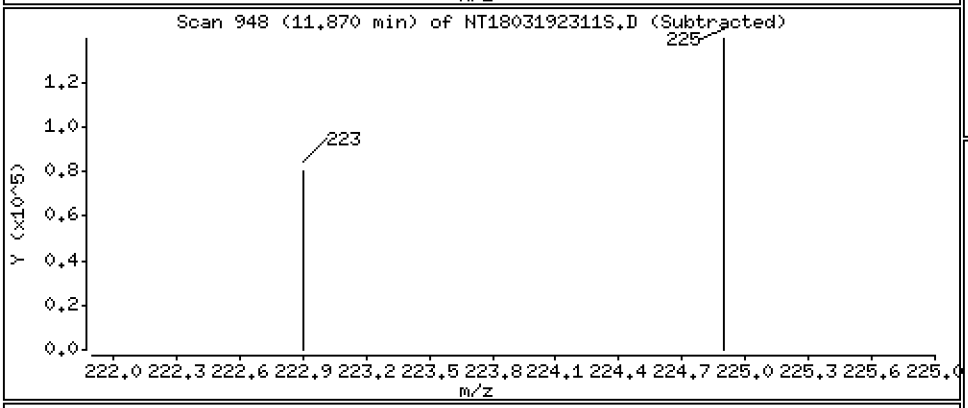
Column diameter: 0.25

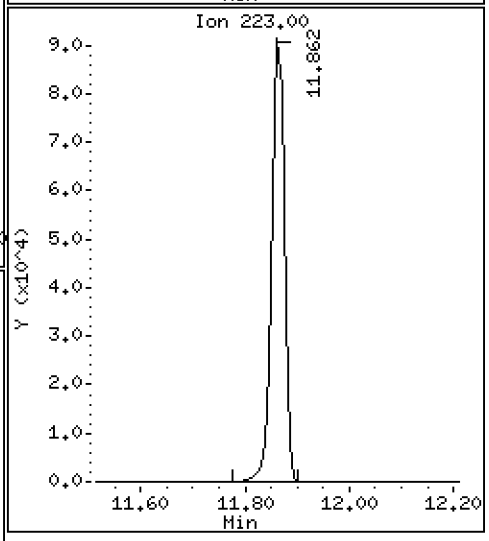
30 Hexachlorobutadiene

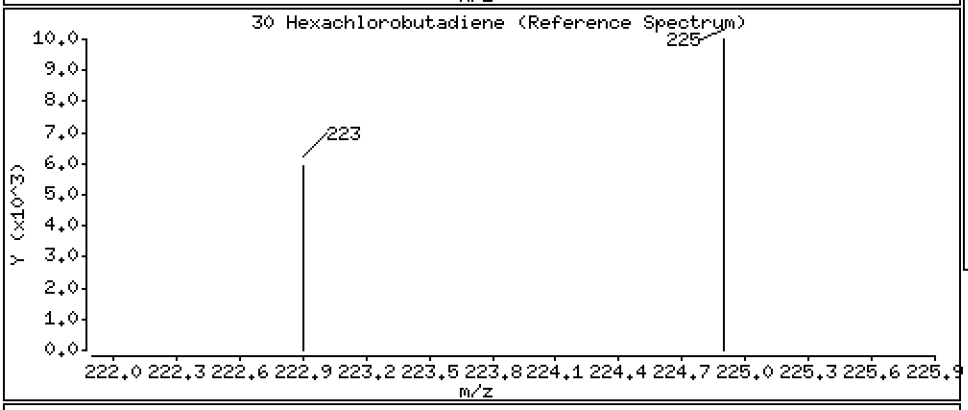
Concentration: 4.874 ug/mL

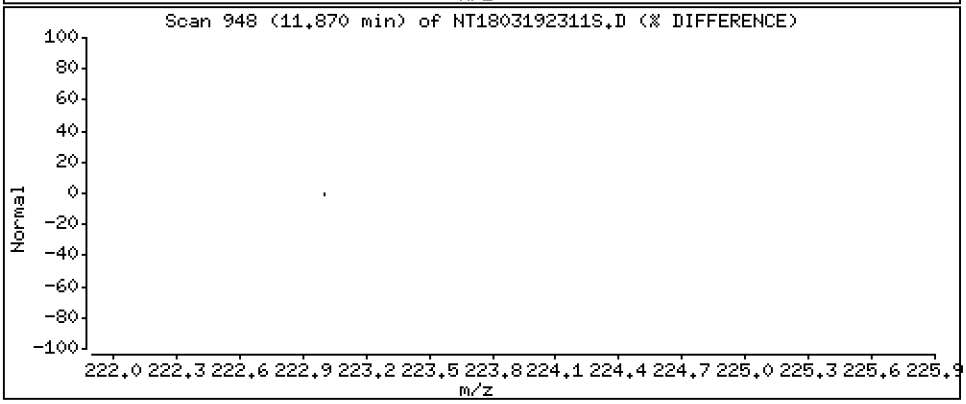












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

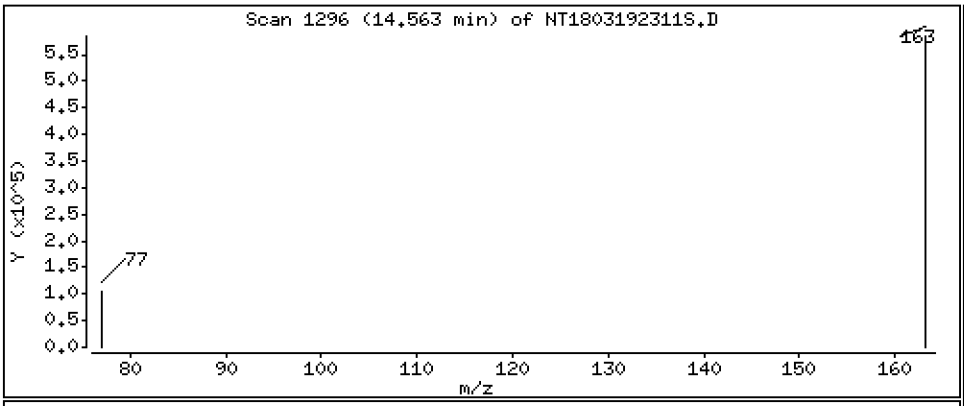
Operator: YZ

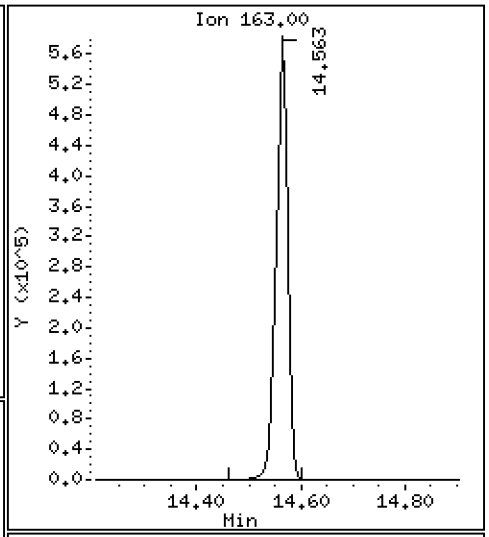
Column phase: ZB-5msi

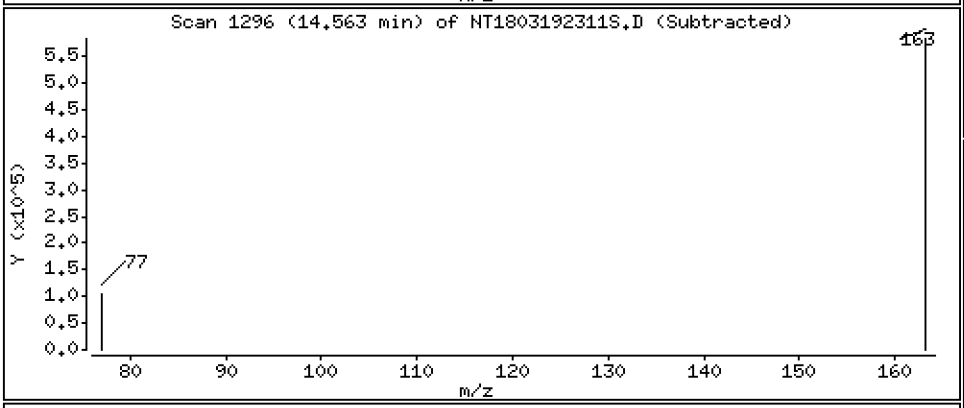
Column diameter: 0.25

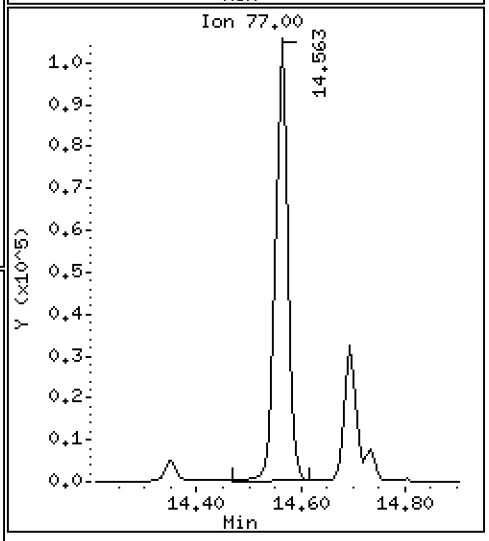
39 Dimethylphthalate

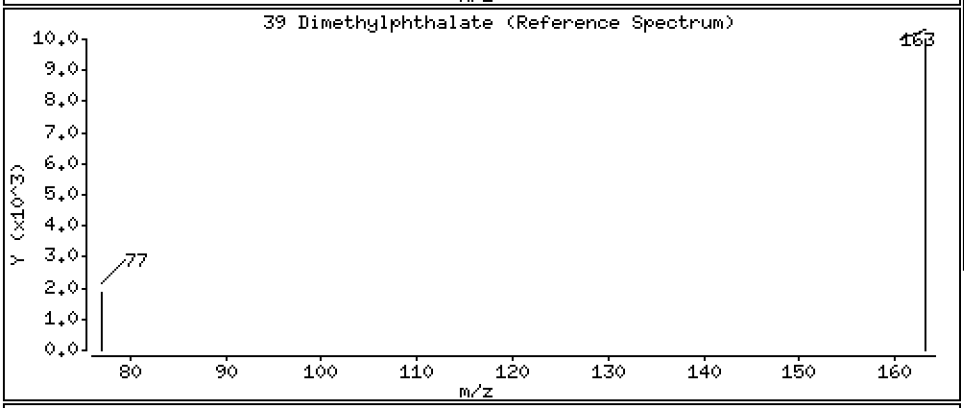
Concentration: 5.227 ug/mL

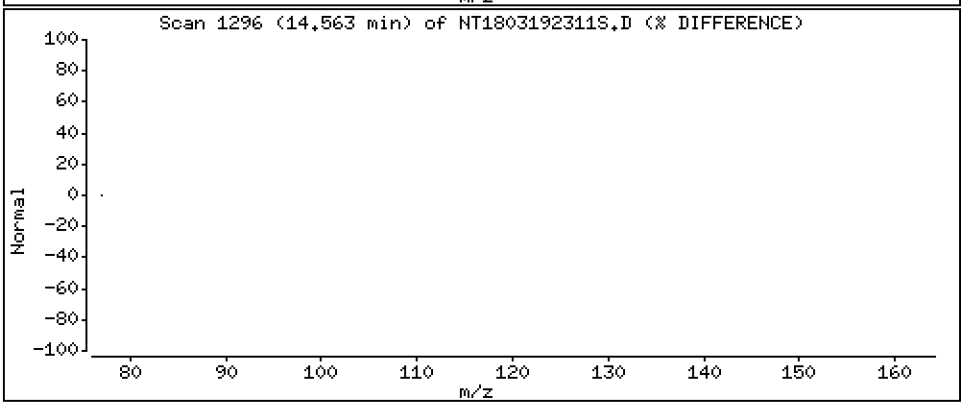












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

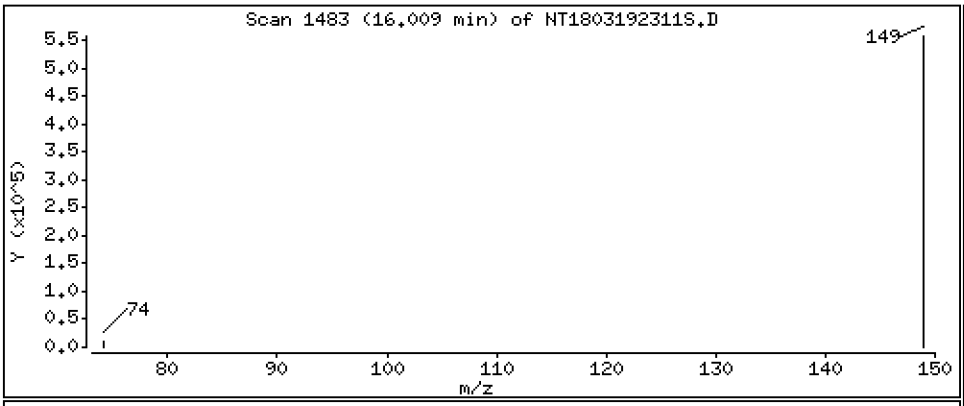
Operator: YZ

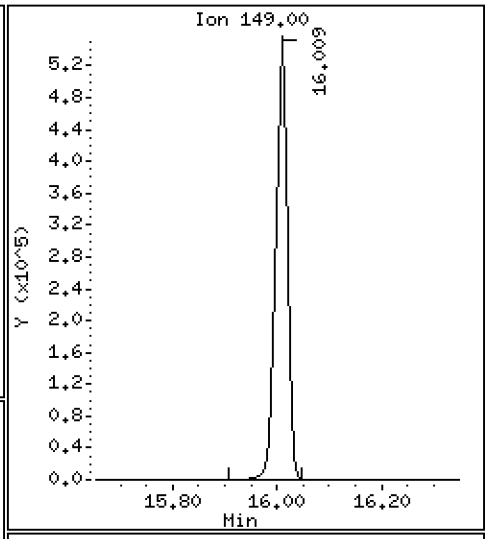
Column phase: ZB-5msi

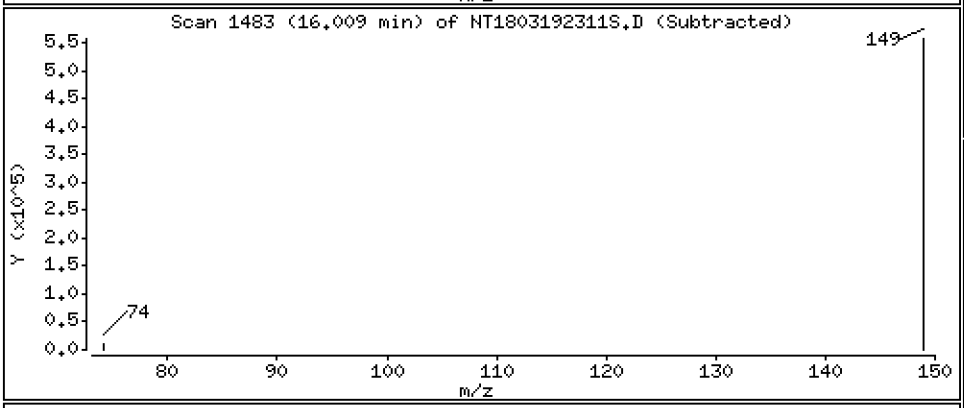
Column diameter: 0.25

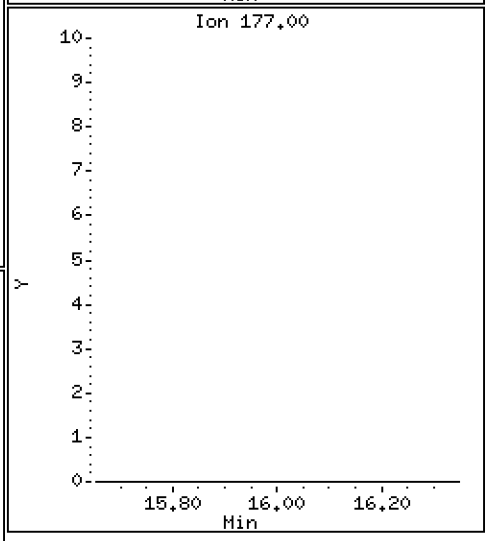
50 Diethylphthalate

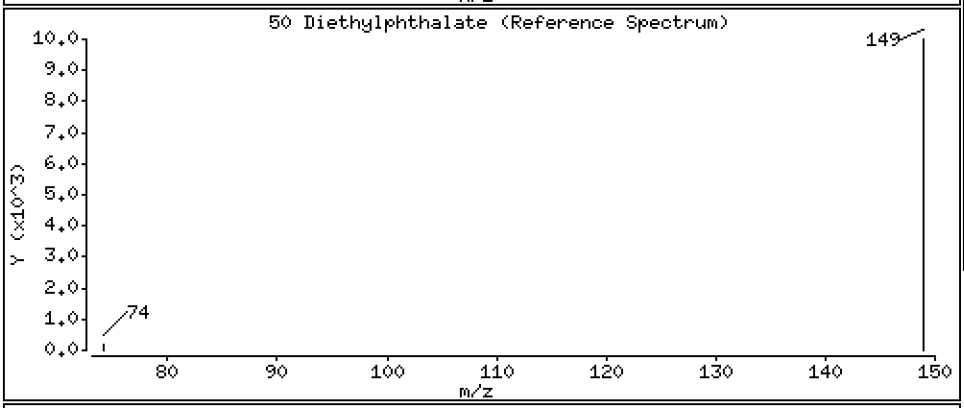
Concentration: 5.521 ug/mL

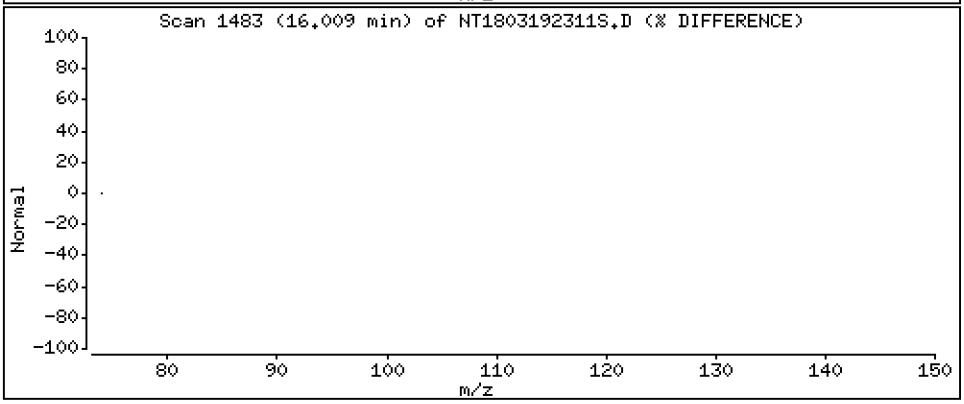












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT18031923115.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

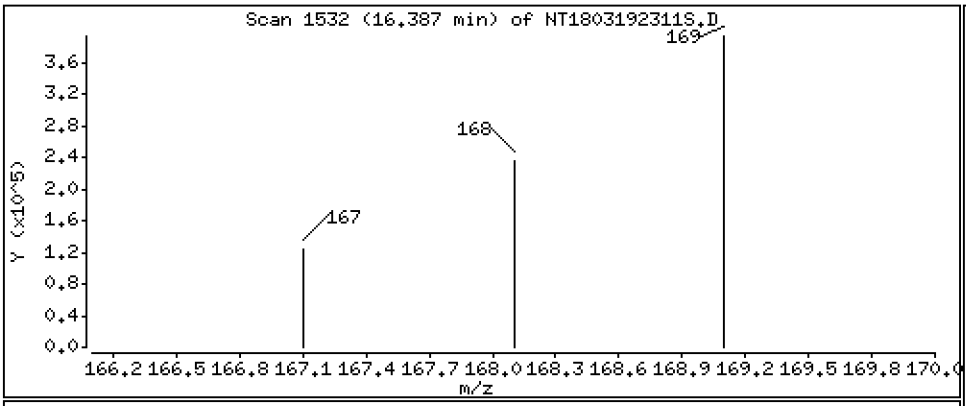
Operator: YZ

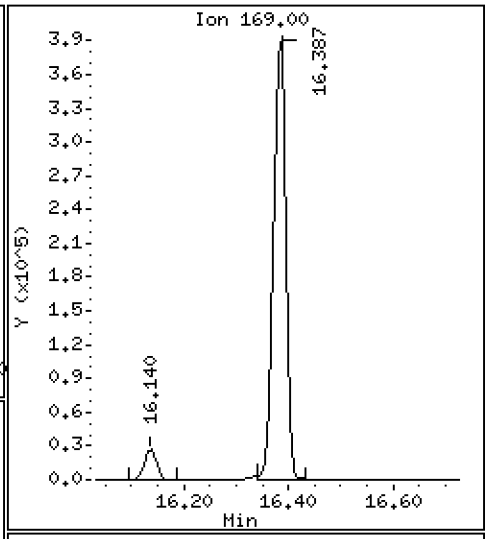
Column phase: ZB-5msi

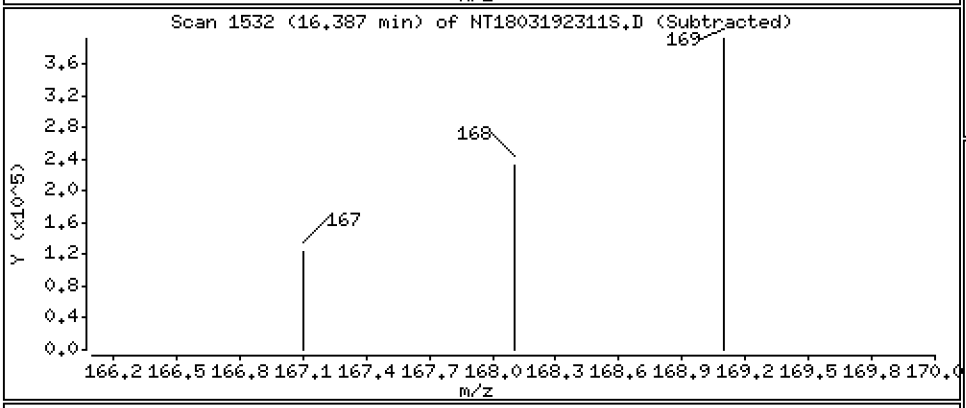
Column diameter: 0.25

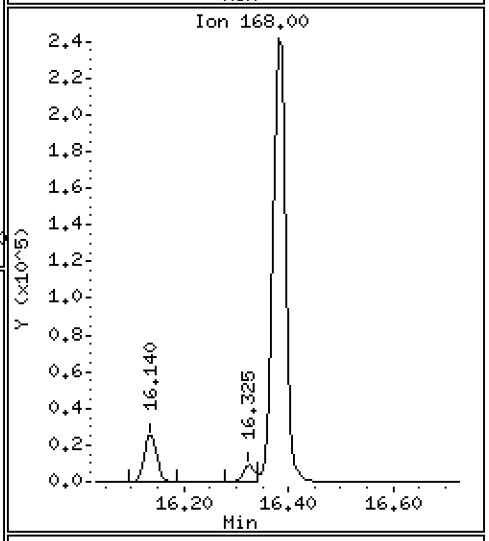
54 N-Nitrosodiphenylamine

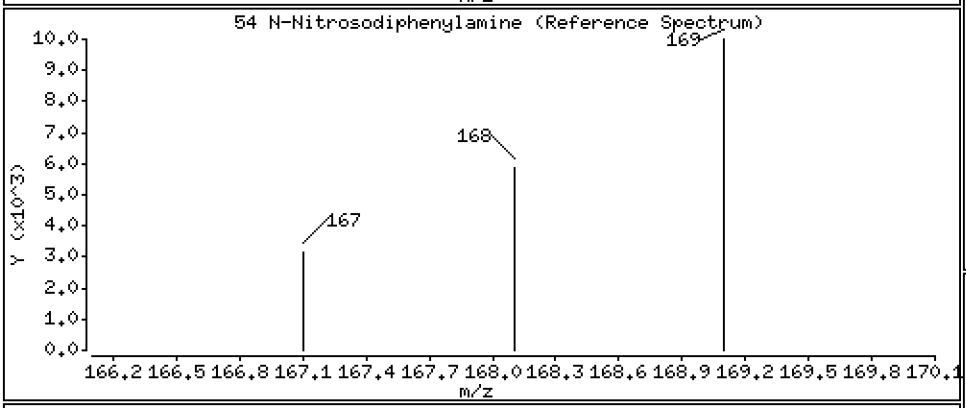
Concentration: 5.554 ug/mL

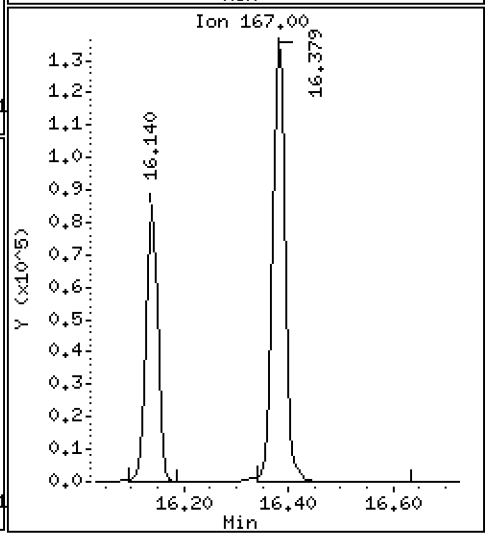


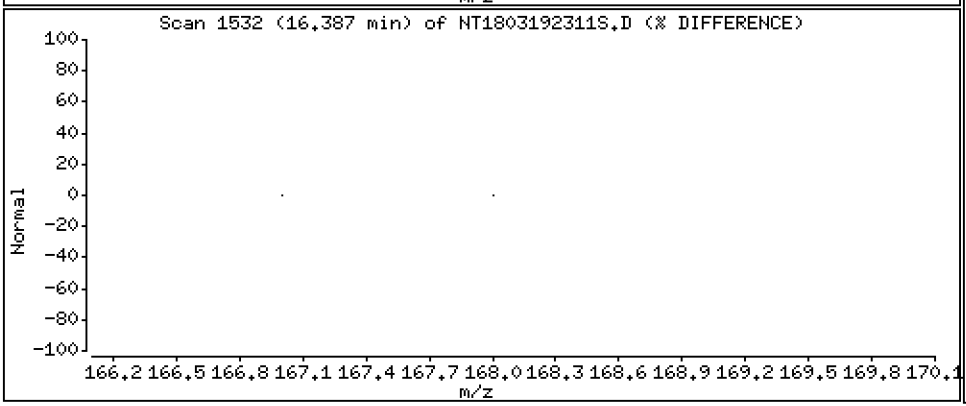












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

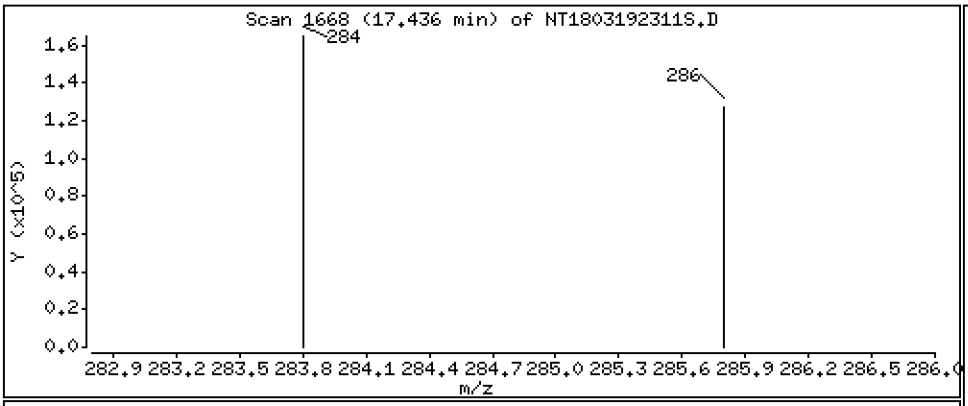
Operator: YZ

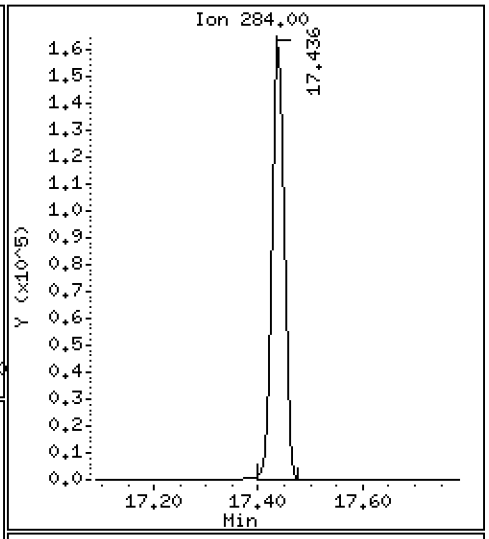
Column phase: ZB-5msi

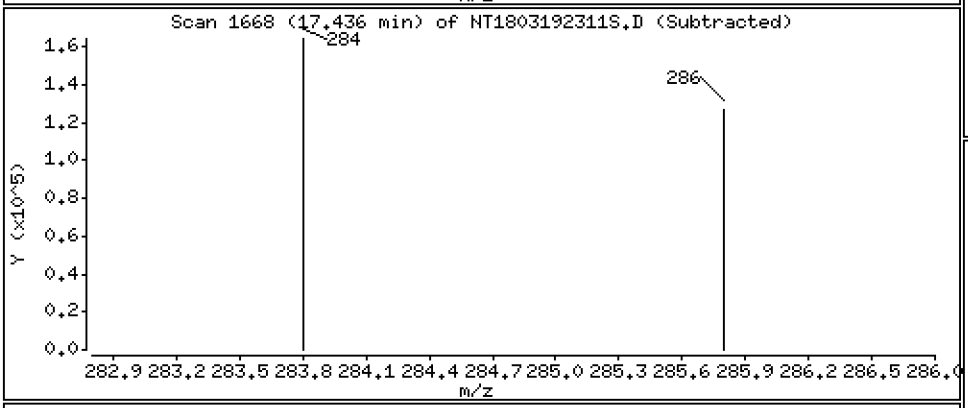
Column diameter: 0.25

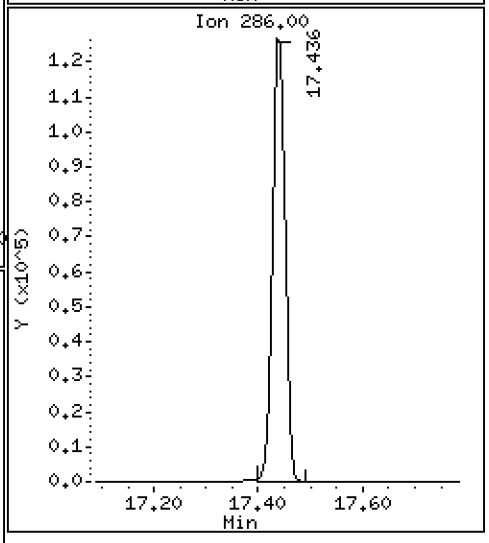
57 Hexachlorobenzene

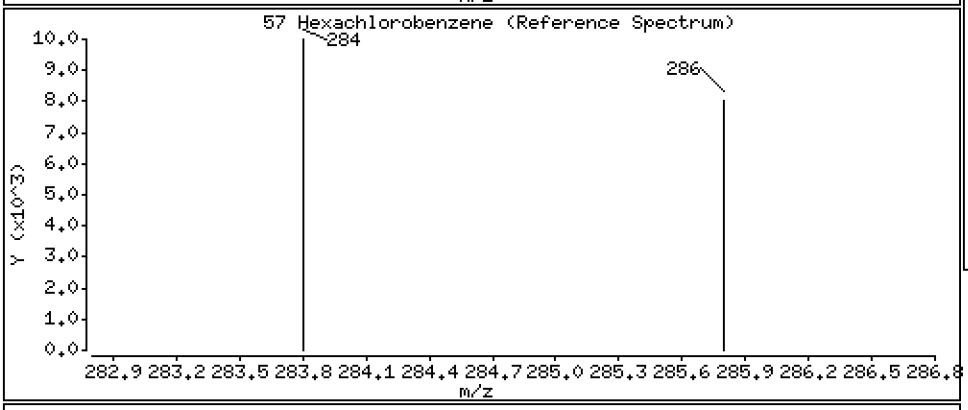
Concentration: 4.887 ug/mL

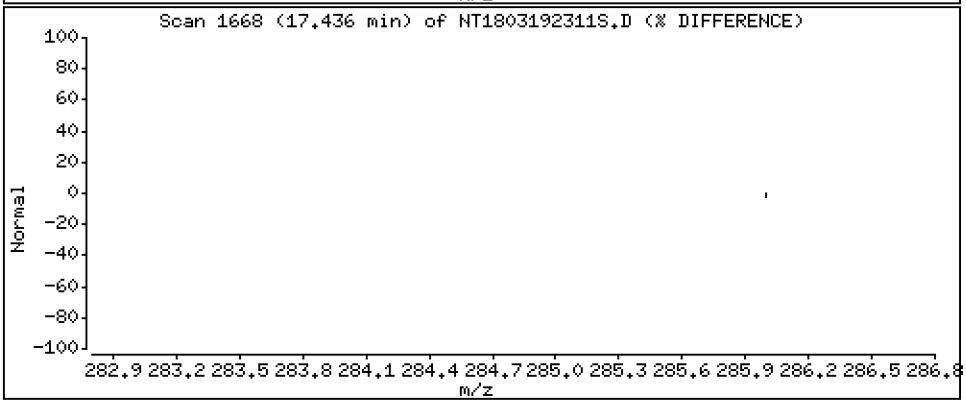












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

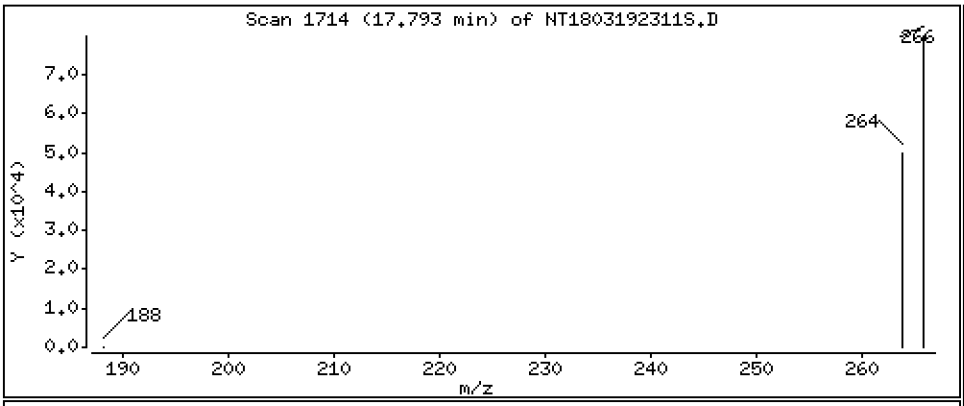
Operator: YZ

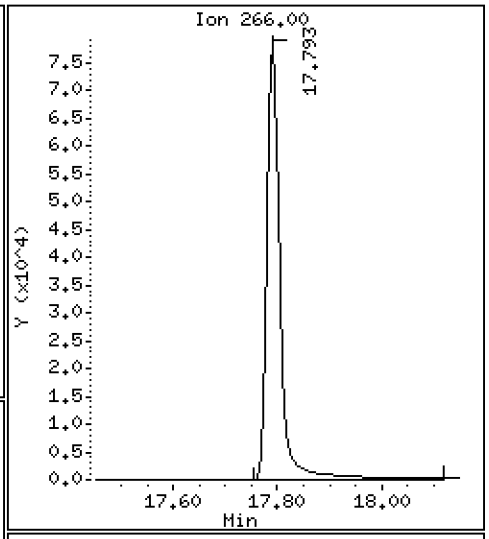
Column phase: ZB-5msi

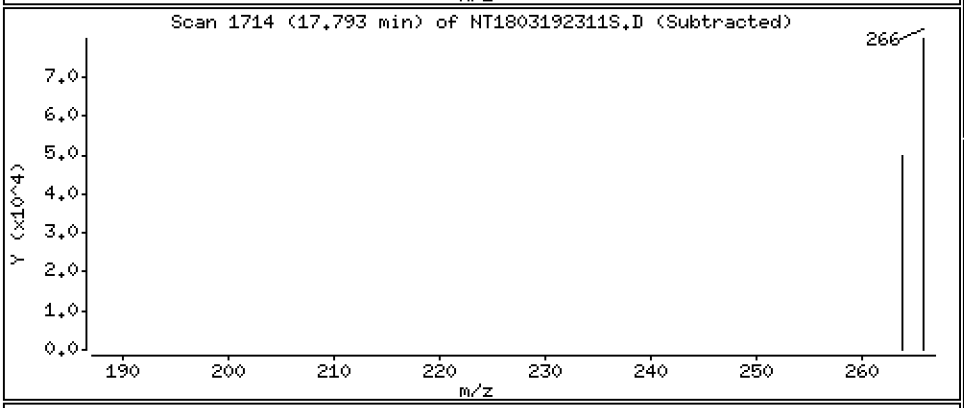
Column diameter: 0.25

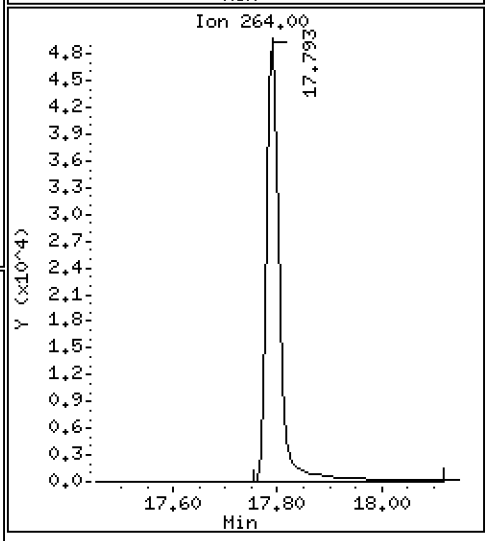
58 Pentachlorophenol

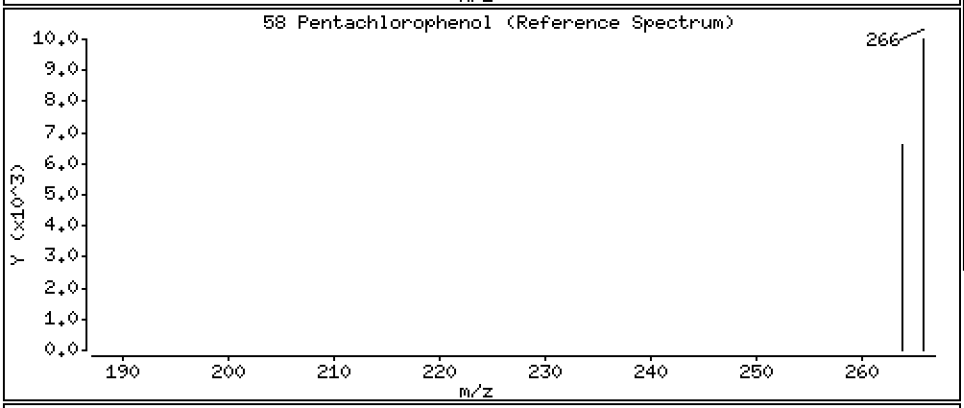
Concentration: 4.555 ug/mL

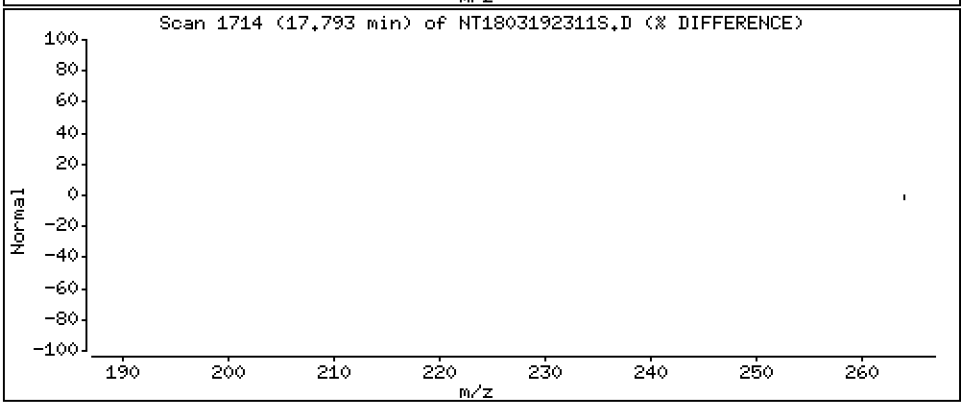












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT18031923115.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

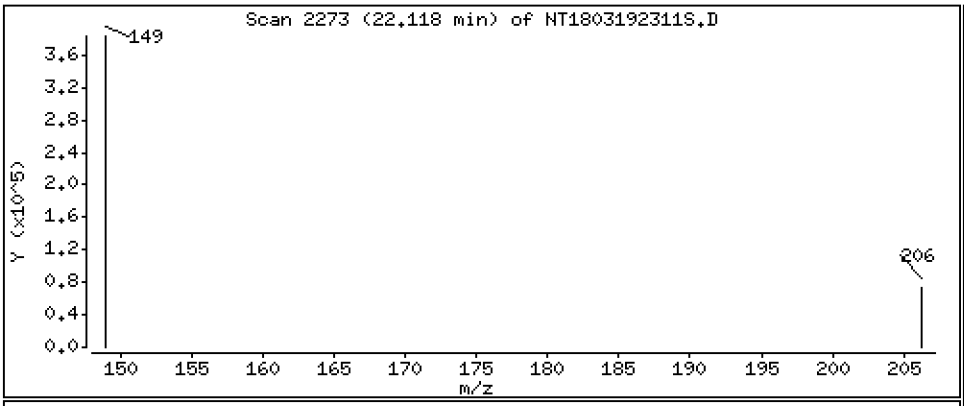
Operator: YZ

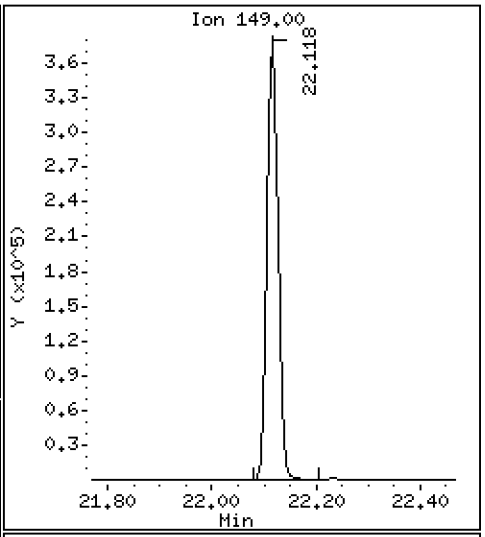
Column phase: ZB-5msi

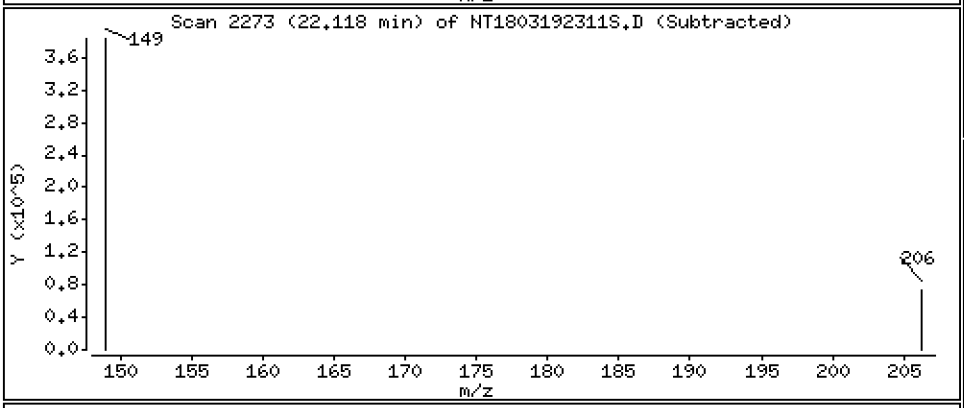
Column diameter: 0.25

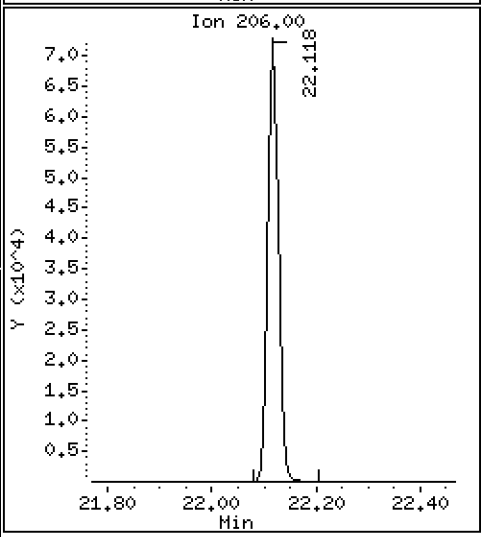
67 Butylbenzylphthalate

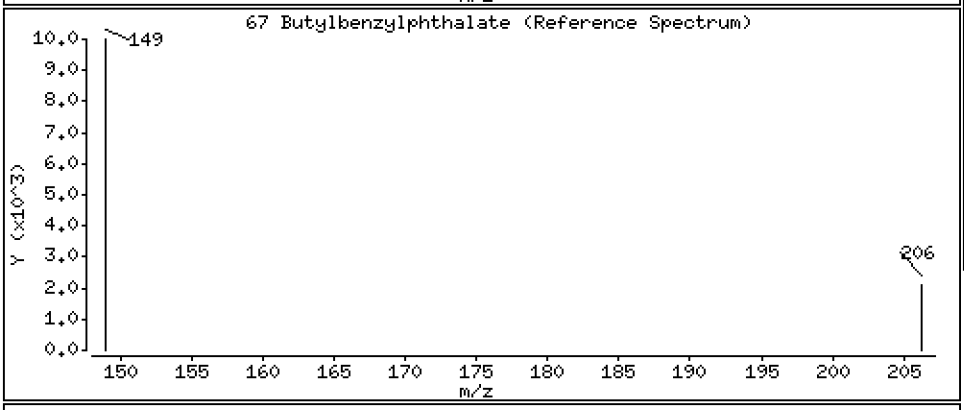
Concentration: 5.016 ug/mL

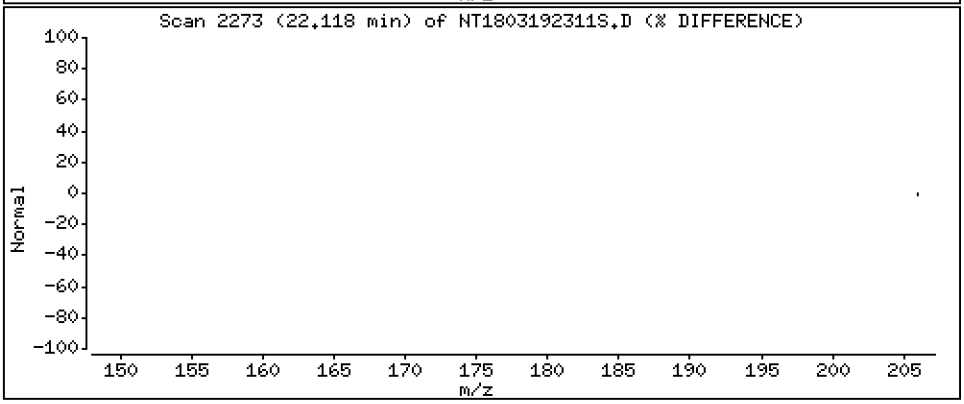












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

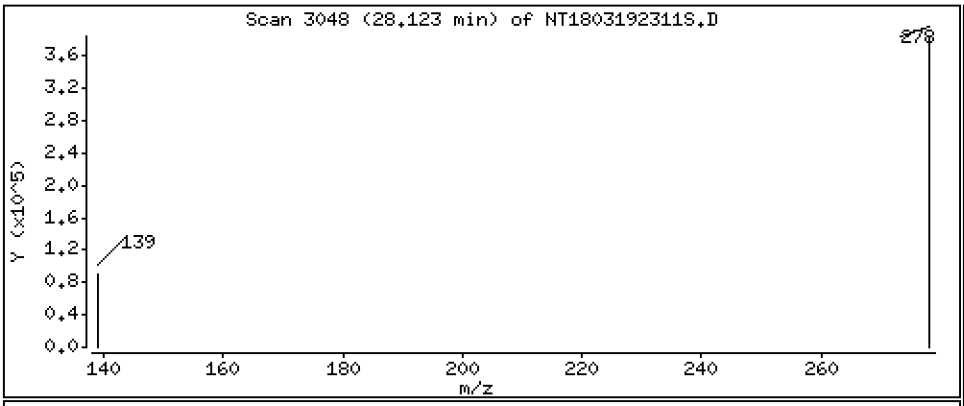
Operator: YZ

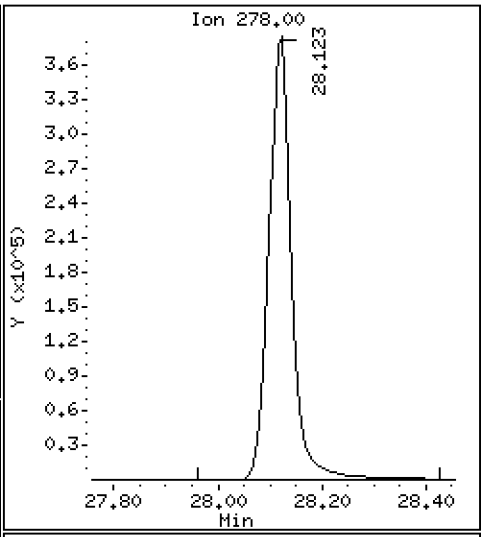
Column phase: ZB-5msi

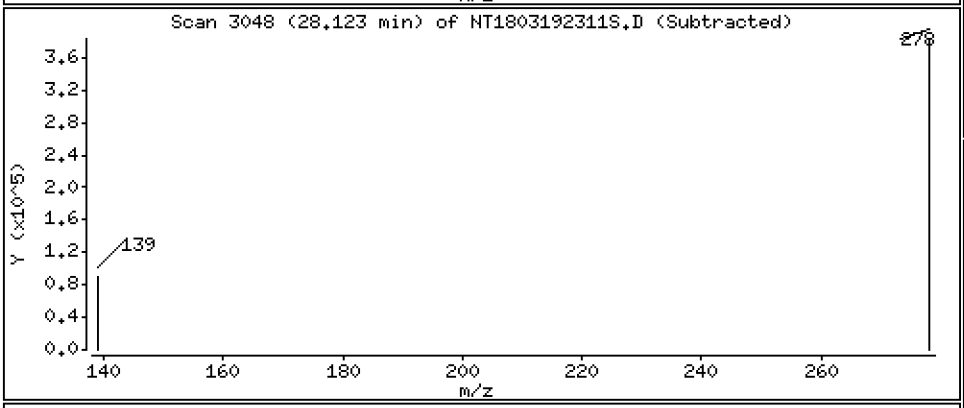
Column diameter: 0.25

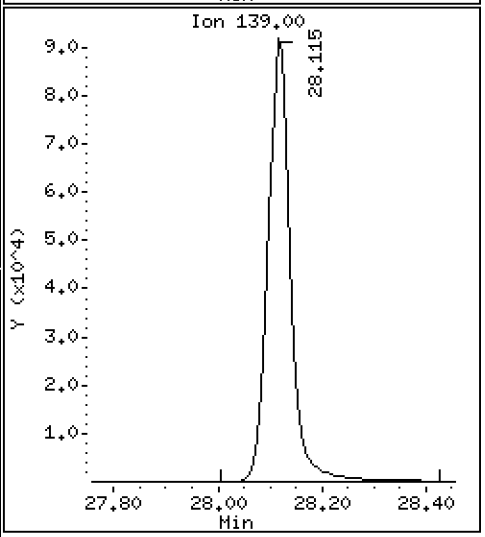
79 Dibenzo(a,h)anthracene

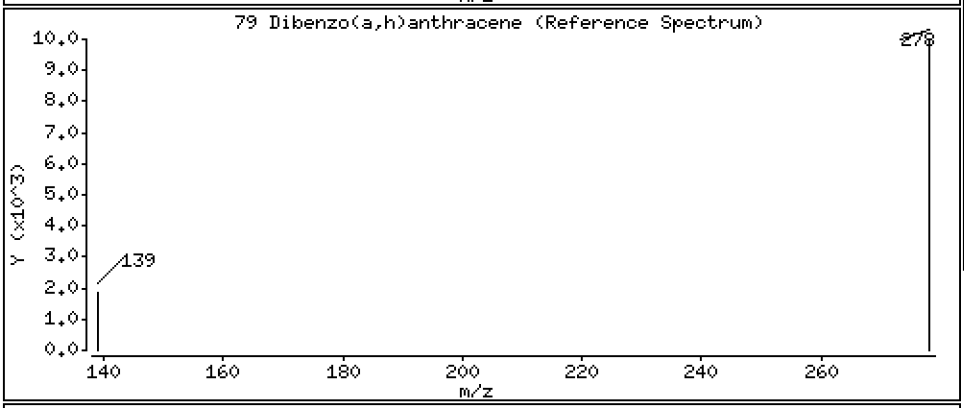
Concentration: 4.775 ug/mL

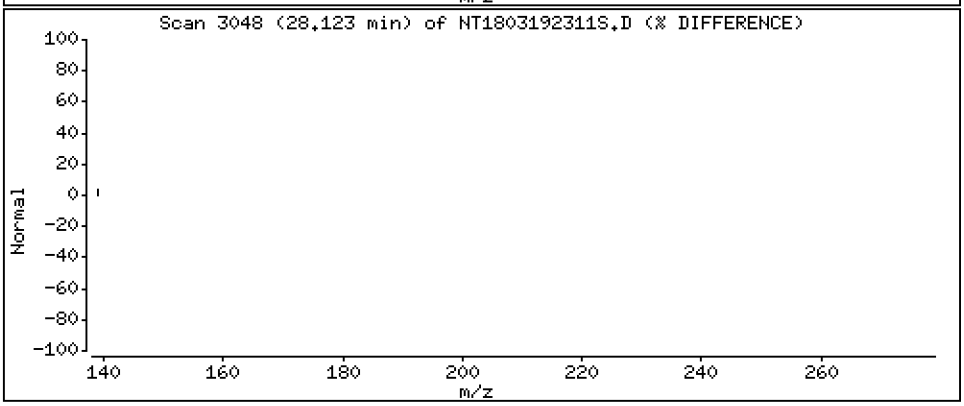












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT18031923115.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

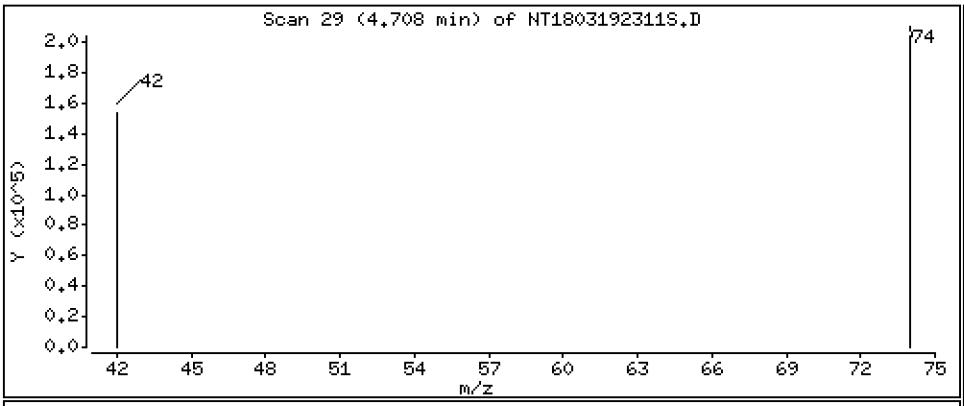
Operator: YZ

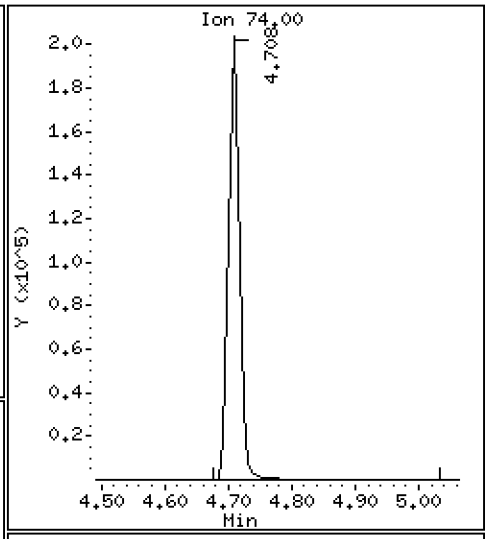
Column phase: ZB-5msi

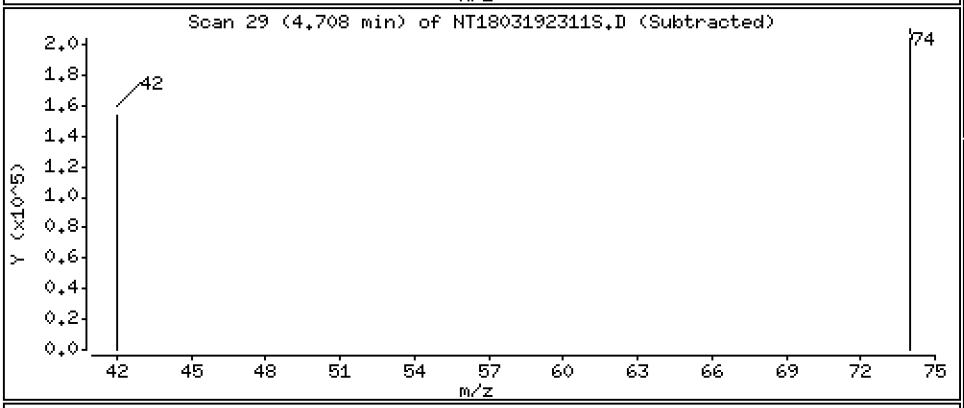
Column diameter: 0.25

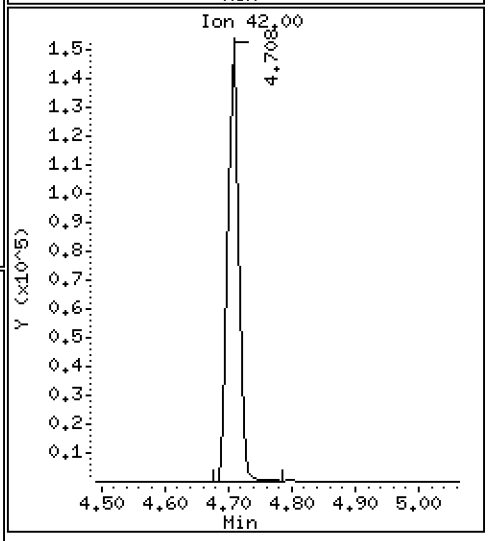
90 N-Nitrosodimethylamine

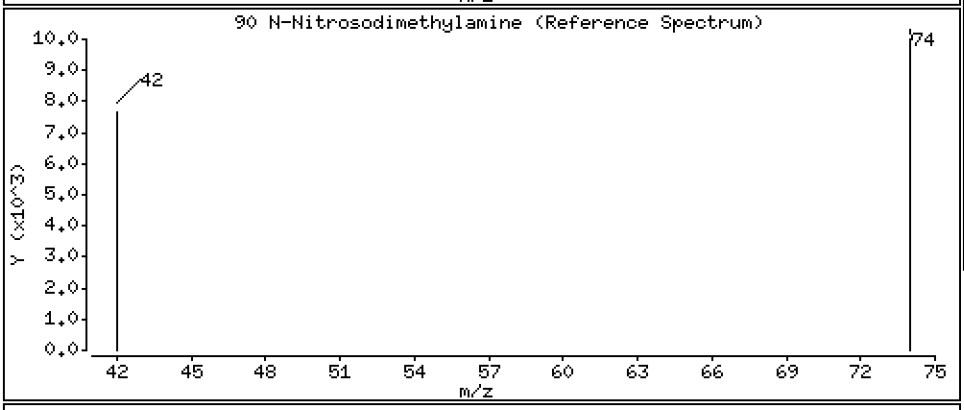
Concentration: 4.951 ug/mL

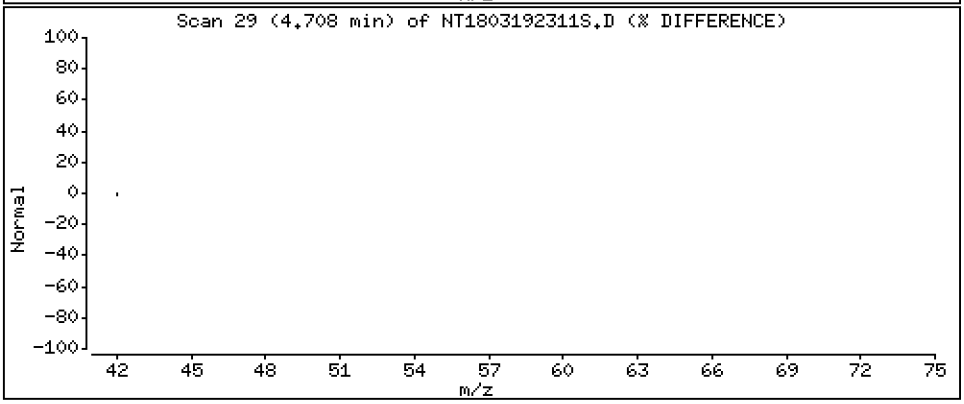












ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D
Lab Smp Id: SLCD0001-SCV1
Inj Date : 19-MAR-2023 21:26
Operator : YZ Inst ID: nt18.i
Smp Info : SEQ-SCV1
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Meth Date : 31-Mar-2023 09:18 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: ORGDATA102

			QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1	2-Fluorophenol	112	Compound Not Detected.					
	3	Phenol	94	8.377	8.378	(0.931)	480565	4.47946	4.479
	7	1,3-Dichlorobenzene	146	8.934	8.934	(0.993)	498765	4.80574	4.806
*	8	1,4-Dichlorobenzene-d4	152	8.996	8.996	(1.000)	274820	4.00000	
	9	1,4-Dichlorobenzene	146	9.027	9.027	(1.003)	506945	4.81558	4.816
	11	Benzyl alcohol	79	9.260	9.268	(1.029)	304709	4.89226	4.892
	12	1,2-Dichlorobenzene	146	9.376	9.377	(1.042)	486107	4.74456	4.745
	13	2-Methylphenol	108	9.485	9.485	(1.054)	332308	4.46205	4.462
	15	4-Methylphenol	108	9.756	9.749	(1.085)	363280	4.68923	4.689
	16	N-Nitroso-di-n-propylamine	70	9.826	9.819	(1.092)	268590	5.25590	5.256
	22	2,4-Dimethylphenol	107	10.792	10.792	(0.942)	283542	3.91886	3.919
	24	Benzoic acid	105	10.961	10.784	(0.957)	372399	7.32448	7.324
	26	1,2,4-Trichlorobenzene	180	11.375	11.376	(0.993)	387054	4.69019	4.690
*	27	Naphthalene-d8	136	11.460	11.460	(1.000)	1036057	4.00000	
	30	Hexachlorobutadiene	225	11.869	11.862	(1.036)	231479	4.87389	4.874
	39	Dimethylphthalate	163	14.563	14.555	(0.968)	876118	5.22675	5.227
*	42	Acenaphthene-d10	162	15.050	15.042	(1.000)	524780	4.00000	
	50	Diethylphthalate	149	16.009	16.001	(1.064)	840376	5.52142	5.521
	54	N-Nitrosodiphenylamine	169	16.387	16.379	(0.908)	610358	5.55444	5.554
	57	Hexachlorobenzene	284	17.436	17.437	(0.966)	255499	4.88731	4.887
	58	Pentachlorophenol	266	17.792	17.800	(0.985)	131147	4.55505	4.555
*	59	Phenanthrene-d10	188	18.055	18.048	(1.000)	904764	4.00000	
$	66	Terphenyl-d14	244	Compound Not Detected.					
	67	Butylbenzylphthalate	149	22.118	22.118	(0.958)	523931	5.01615	5.016
*	69	Chrysene-d12	240	23.078	23.070	(1.000)	777248	4.00000	
*	77	Perylene-d12	264	25.594	25.594	(1.000)	888854	4.00000	
	79	Dibenzo(a,h)anthracene	278	28.122	28.107	(1.099)	1161652	4.77453	4.775
	90	N-Nitrosodimethylamine	74	4.708	4.716	(0.523)	242099	4.95102	4.951

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192311S.D
Lab Smp Id: SLCD0001-SCV1
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 18:02
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	276557	138279	553114	274820	-0.63
27 Naphthalene-d8	1034745	517373	2069490	1036057	0.13
42 Acenaphthene-d10	519728	259864	1039456	524780	0.97
59 Phenanthrene-d10	903862	451931	1807724	904764	0.10
69 Chrysene-d12	761695	380848	1523390	777248	2.04
77 Perylene-d12	858044	429022	1716088	888854	3.59

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	-0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	-0.00
42 Acenaphthene-d10	15.04	14.54	15.54	15.05	0.05
59 Phenanthrene-d10	18.06	17.56	18.56	18.06	-0.00
69 Chrysene-d12	23.07	22.57	23.57	23.08	0.03
77 Perylene-d12	25.59	25.09	26.09	25.59	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192311S.D

Lab ID: SLCD0001-SCV1
nt18.i, 20230319.b\SIM.b\SIMABN2.m,   19-MAR-2023 21:26

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

** FIRST SURROGATE NOT FOUND. ICAL Check not performed **

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.957	0.941	0.0156	Benzoic acid

RRT check based on Ccal File: SIM.b/NT1803192310S.D

On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192303S.D

Date : 19-MAR-2023 15:59

Client ID:

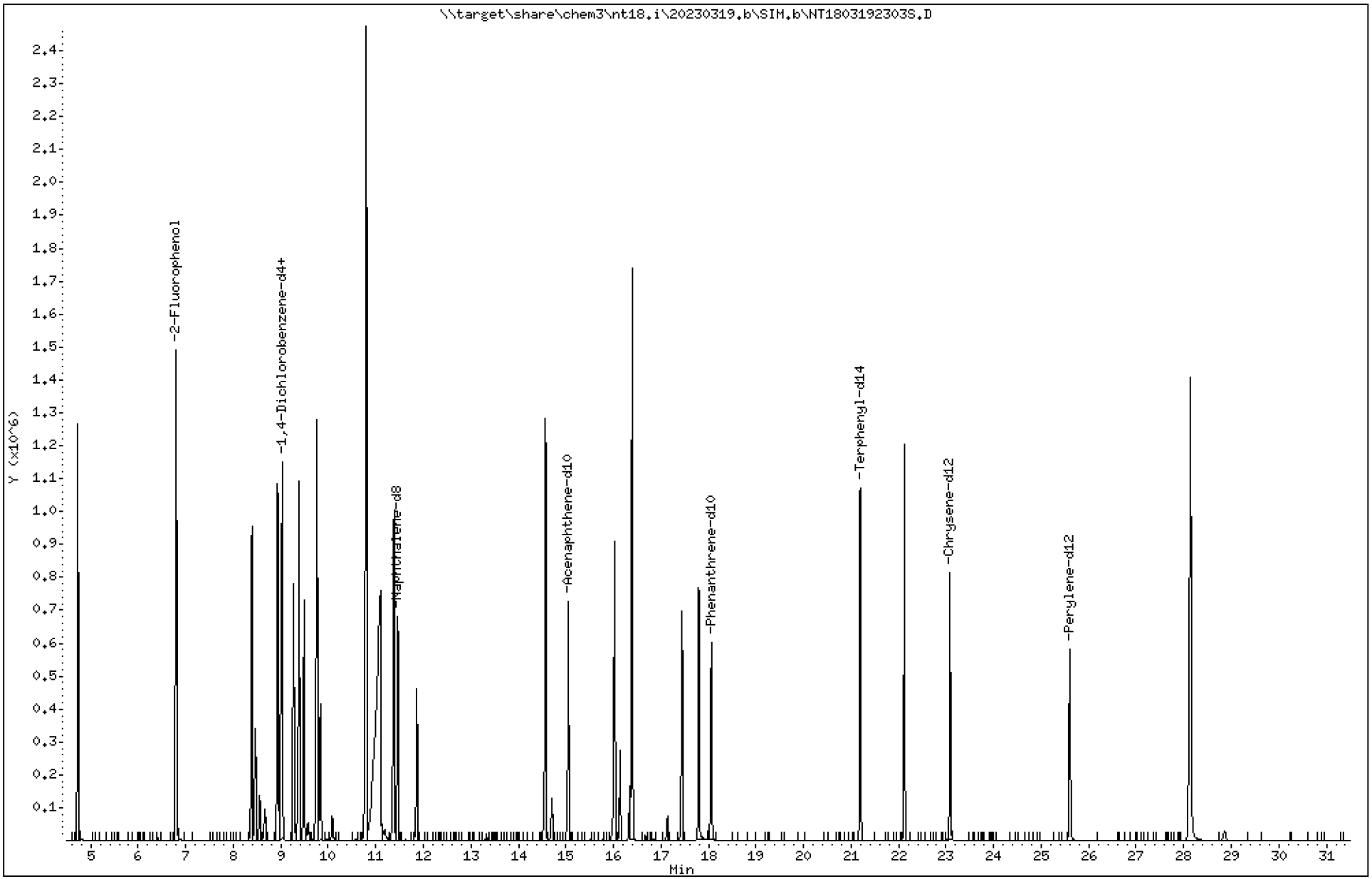
Sample Info: SEQ-CAL6

Column phase: ZB-5msi

Instrument: nt18.i

Operator: YZ

Column diameter: 0.25



ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192303S.D
Lab Smp Id: SLD0001-CAL8
Inj Date : 19-MAR-2023 15:59
Operator : YZ Inst ID: nt18.i
Smp Info : SEQ-CAL6
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Meth Date : 31-Mar-2023 09:18 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 3 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: ORGDATA102

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1	2-Fluorophenol	112	6.793	6.794	(0.755)	1430314	15.0000	16.14
	3	Phenol	94	8.393	8.378	(0.932)	1232598	10.0000	10.39
	7	1,3-Dichlorobenzene	146	8.934	8.934	(0.992)	1088929	10.0000	9.484
*	8	1,4-Dichlorobenzene-d4	152	9.004	8.996	(1.000)	304018	4.00000	
	9	1,4-Dichlorobenzene	146	9.027	9.027	(1.003)	1099823	10.0000	9.444
	11	Benzyl alcohol	79	9.267	9.268	(1.029)	717754	10.0000	10.01
	12	1,2-Dichlorobenzene	146	9.384	9.377	(1.042)	1078645	10.0000	9.517
	13	2-Methylphenol	108	9.493	9.485	(1.054)	914328	10.0000	11.10
	15	4-Methylphenol	108	9.756	9.749	(1.084)	964504	10.0000	11.25
	16	N-Nitroso-di-n-propylamine	70	9.834	9.819	(1.092)	608663	10.0000	10.77
	22	2,4-Dimethylphenol	107	10.800	10.792	(0.942)	1758769	20.0000	21.49
	24	Benzoic acid	105	11.097	10.784	(0.968)	2833642	40.0000	39.94
	26	1,2,4-Trichlorobenzene	180	11.383	11.376	(0.993)	899737	10.0000	9.641
*	27	Naphthalene-d8	136	11.460	11.460	(1.000)	1171666	4.00000	
	30	Hexachlorobutadiene	225	11.869	11.862	(1.036)	513068	10.0000	9.553
	39	Dimethylphthalate	163	14.570	14.555	(0.968)	1996994	10.0000	10.74
*	42	Acenaphthene-d10	162	15.050	15.042	(1.000)	582113	4.00000	
	50	Diethylphthalate	149	16.024	16.001	(1.065)	1871142	10.0000	11.08
	54	N-Nitrosodiphenylamine	169	16.394	16.379	(0.908)	1451423	10.0000	11.41
	57	Hexachlorobenzene	284	17.444	17.437	(0.966)	616852	10.0000	10.19
	58	Pentachlorophenol	266	17.800	17.800	(0.986)	842379	20.0000	19.99
*	59	Phenanthrene-d10	188	18.055	18.048	(1.000)	1047716	4.00000	
$	66	Terphenyl-d14	244	21.196	21.189	(0.918)	1400288	10.0000	10.47
	67	Butylbenzylphthalate	149	22.118	22.118	(0.958)	1361063	10.0000	9.996
*	69	Chrysene-d12	240	23.078	23.070	(1.000)	949185	4.00000	
*	77	Perylene-d12	264	25.602	25.594	(1.000)	997831	4.00000	
	79	Dibenzo(a,h)anthracene	278	28.138	28.107	(1.099)	3021529	10.0000	10.00
	90	N-Nitrosodimethylamine	74	4.731	4.716	(0.525)	1024973	20.0000	18.95

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192303S.D
Lab Smp Id: SLD0001-CAL8
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 18:02
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	276557	138279	553114	304018	9.93
27 Naphthalene-d8	1034745	517373	2069490	1171666	13.23
42 Acenaphthene-d10	519728	259864	1039456	582113	12.00
59 Phenanthrene-d10	903862	451931	1807724	1047716	15.92
69 Chrysene-d12	761695	380848	1523390	949185	24.61
77 Perylene-d12	858044	429022	1716088	997831	16.29

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	0.08
27 Naphthalene-d8	11.46	10.96	11.96	11.46	-0.00
42 Acenaphthene-d10	15.04	14.54	15.54	15.05	0.05
59 Phenanthrene-d10	18.06	17.56	18.56	18.06	-0.00
69 Chrysene-d12	23.07	22.57	23.57	23.08	0.03
77 Perylene-d12	25.59	25.09	26.09	25.60	0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192303S.D

Lab ID: SLD0001-CAL8
nt18.i, 20230319.b\SIM.b\SIMABN2.m,   19-MAR-2023 15:59

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.968	0.941	0.0274	Benzoic acid

RRT check based on Ccal File: SIM.b/NT1803192310S.D

On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT18031923095.D

Date : 19-MAR-2023 20:04

Client ID:

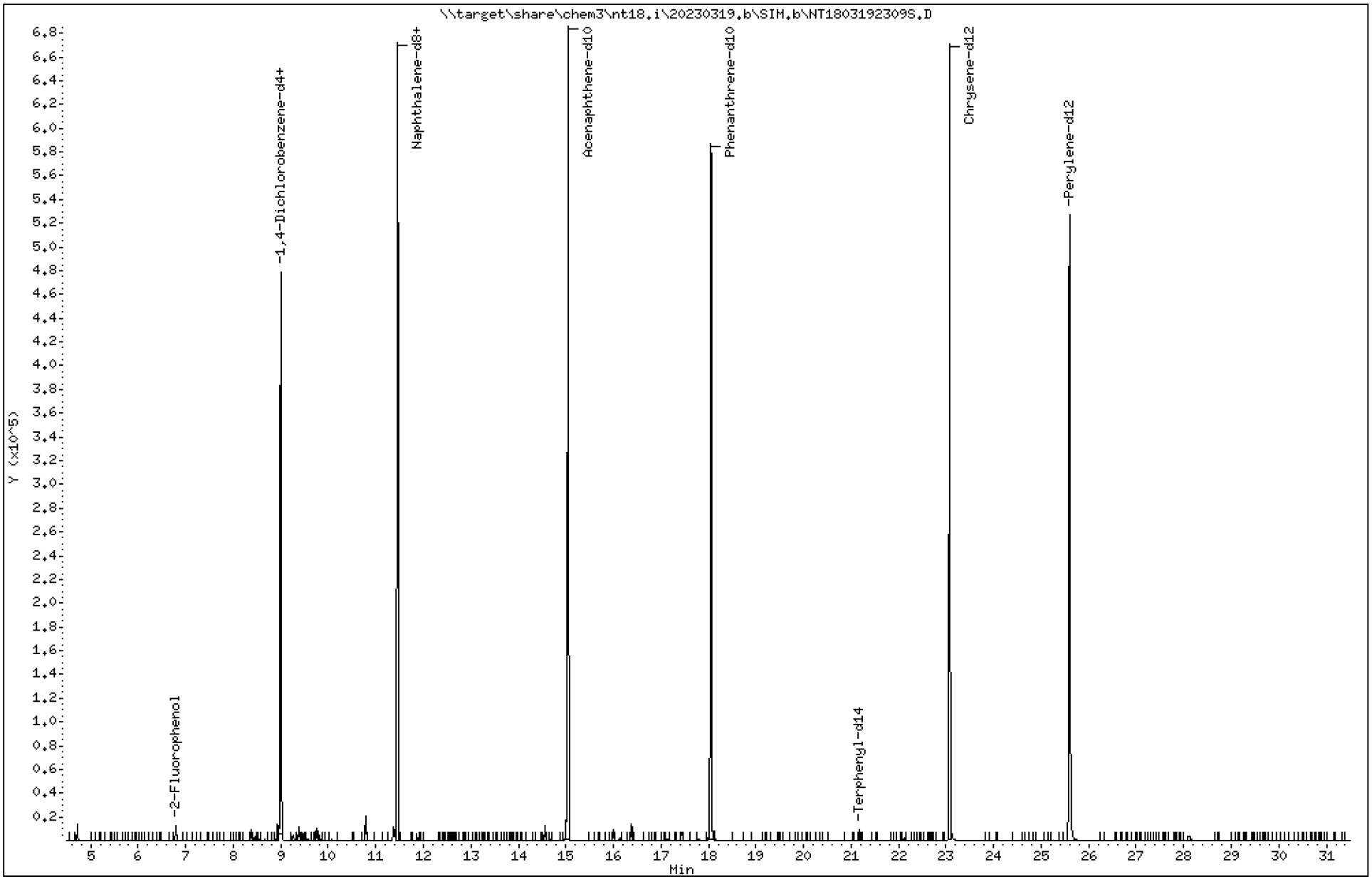
Sample Info: SEQ-SIM2

Instrument: nt18.i

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192309S.D
Lab Smp Id: SLD0001-CAL2
Inj Date : 19-MAR-2023 20:04
Operator : YZ Inst ID: nt18.i
Smp Info : SEQ-SIM2
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Meth Date : 31-Mar-2023 09:18 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 9 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: ORGDATA102

								AMOUNTS	
		QUANT SIG						CAL-AMT	ON-COL
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE		(ug/mL)	(ug/mL)
$	1 2-Fluorophenol	112	6.794	6.794	(0.755)	11250		0.15000	0.1387
	3 Phenol	94	8.377	8.378	(0.931)	10577		0.10000	0.09739
	7 1,3-Dichlorobenzene	146	8.934	8.934	(0.993)	11155		0.10000	0.1062
*	8 1,4-Dichlorobenzene-d4	152	8.996	8.996	(1.000)	278197		4.00000	
	9 1,4-Dichlorobenzene	146	9.027	9.027	(1.003)	11418		0.10000	0.1071
	11 Benzyl alcohol	79	9.268	9.268	(1.030)	4338		0.10000	0.07115
	12 1,2-Dichlorobenzene	146	9.376	9.377	(1.042)	11187		0.10000	0.1079
	13 2-Methylphenol	108	9.485	9.485	(1.054)	6982		0.10000	0.09261
	15 4-Methylphenol	108	9.749	9.749	(1.084)	6952		0.10000	0.08865
	16 N-Nitroso-di-n-propylamine	70	9.819	9.819	(1.091)	5022		0.10000	0.09708
	22 2,4-Dimethylphenol	107	10.792	10.792	(0.942)	13428		0.20000	0.1833
	24 Benzoic acid	105	11.063	10.784	(0.965)	303		0.40000	0.006082(M)
	26 1,2,4-Trichlorobenzene	180	11.375	11.376	(0.993)	8860		0.10000	0.1061
*	27 Naphthalene-d8	136	11.460	11.460	(1.000)	1048755		4.00000	
	30 Hexachlorobutadiene	225	11.862	11.862	(1.035)	5137		0.10000	0.1069
	39 Dimethylphthalate	163	14.555	14.555	(0.968)	16356		0.10000	0.09707
*	42 Acenaphthene-d10	162	15.042	15.042	(1.000)	527543		4.00000	
	50 Diethylphthalate	149	16.001	16.001	(1.064)	14177		0.10000	0.09266
	54 N-Nitrosodiphenylamine	169	16.379	16.379	(0.908)	10272		0.10000	0.08960
	57 Hexachlorobenzene	284	17.436	17.437	(0.966)	5610		0.10000	0.1029
	58 Pentachlorophenol	266	17.792	17.800	(0.986)	1549		0.20000	0.05391(M)
*	59 Phenanthrene-d10	188	18.048	18.048	(1.000)	943945		4.00000	
$	66 Terphenyl-d14	244	21.189	21.189	(0.918)	10546		0.10000	0.09560
	67 Butylbenzylphthalate	149	22.118	22.118	(0.959)	3559		0.10000	0.03572
*	69 Chrysene-d12	240	23.071	23.070	(1.000)	782623		4.00000	
*	77 Perylene-d12	264	25.594	25.594	(1.000)	866109		4.00000	
	79 Dibenzo(a,h)anthracene	278	28.107	28.107	(1.098)	12407		0.10000	0.05611
	90 N-Nitrosodimethylamine	74	4.716	4.716	(0.524)	10296		0.20000	0.2080

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192309S.D
Lab Smp Id: SLD0001-CAL2
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 18:02
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	276557	138279	553114	278197	0.59
27 Naphthalene-d8	1034745	517373	2069490	1048755	1.35
42 Acenaphthene-d10	519728	259864	1039456	527543	1.50
59 Phenanthrene-d10	903862	451931	1807724	943945	4.43
69 Chrysene-d12	761695	380848	1523390	782623	2.75
77 Perylene-d12	858044	429022	1716088	866109	0.94

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	0.00
42 Acenaphthene-d10	15.04	14.54	15.54	15.04	0.00
59 Phenanthrene-d10	18.06	17.56	18.56	18.05	-0.04
69 Chrysene-d12	23.07	22.57	23.57	23.07	0.00
77 Perylene-d12	25.59	25.09	26.09	25.59	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192309S.D

Lab ID: SLD0001-CAL2
nt18.i, 20230319.b\SIM.b\SIMABN2.m,   19-MAR-2023 20:04

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.965	0.941	0.0244	Benzoic acid

RRT check based on Ccal File: SIM.b/NT1803192310S.D

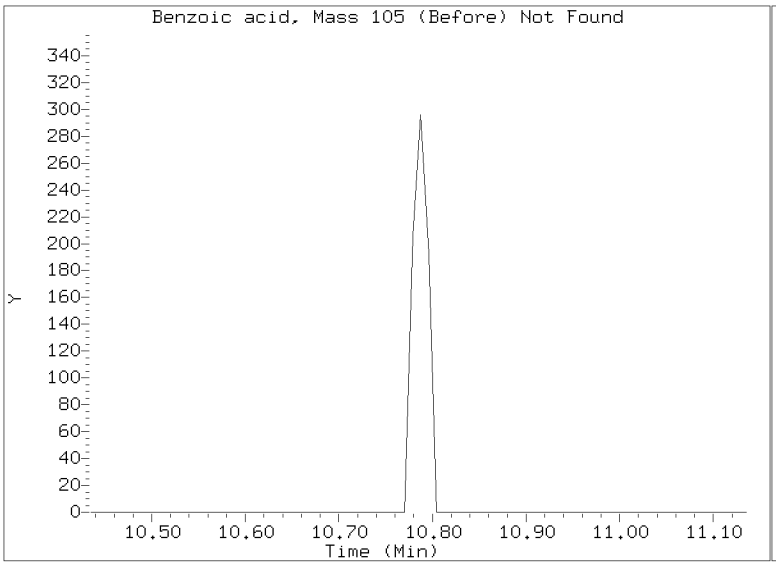
On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

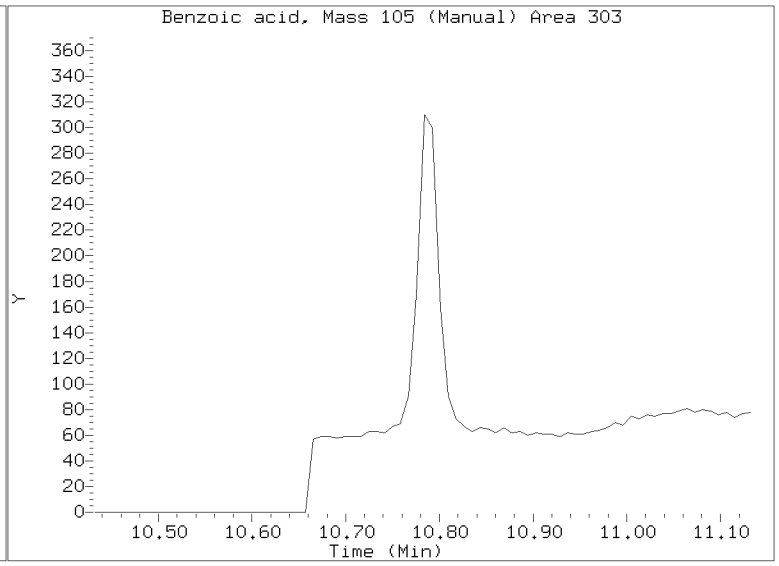
Exception: 1,2,4-Trichlorobenzene 0.0010

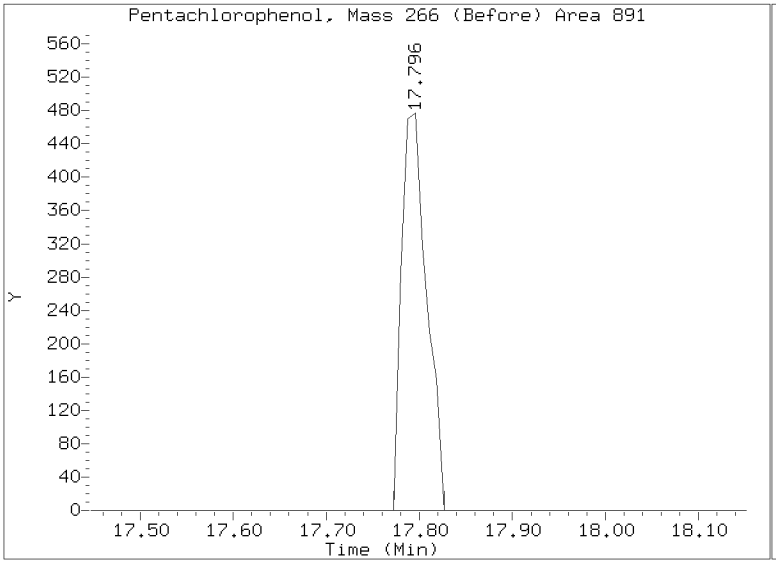
* Only compounds listed in the work order have been verified by the analyst *

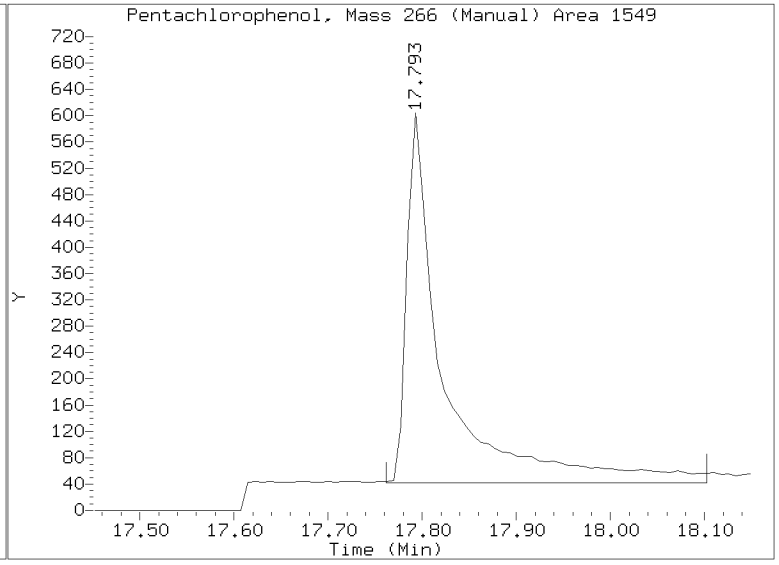
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230319.b/SIM.b/NT1803192309S.D
Injection Date: 19-MAR-2023 20:04
Lab ID:SLD0001-CAL2 Client ID:
Report Date: 04/01/2023 06:25









Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT18031923085.D

Date : 19-MAR-2023 19:24

Client ID:

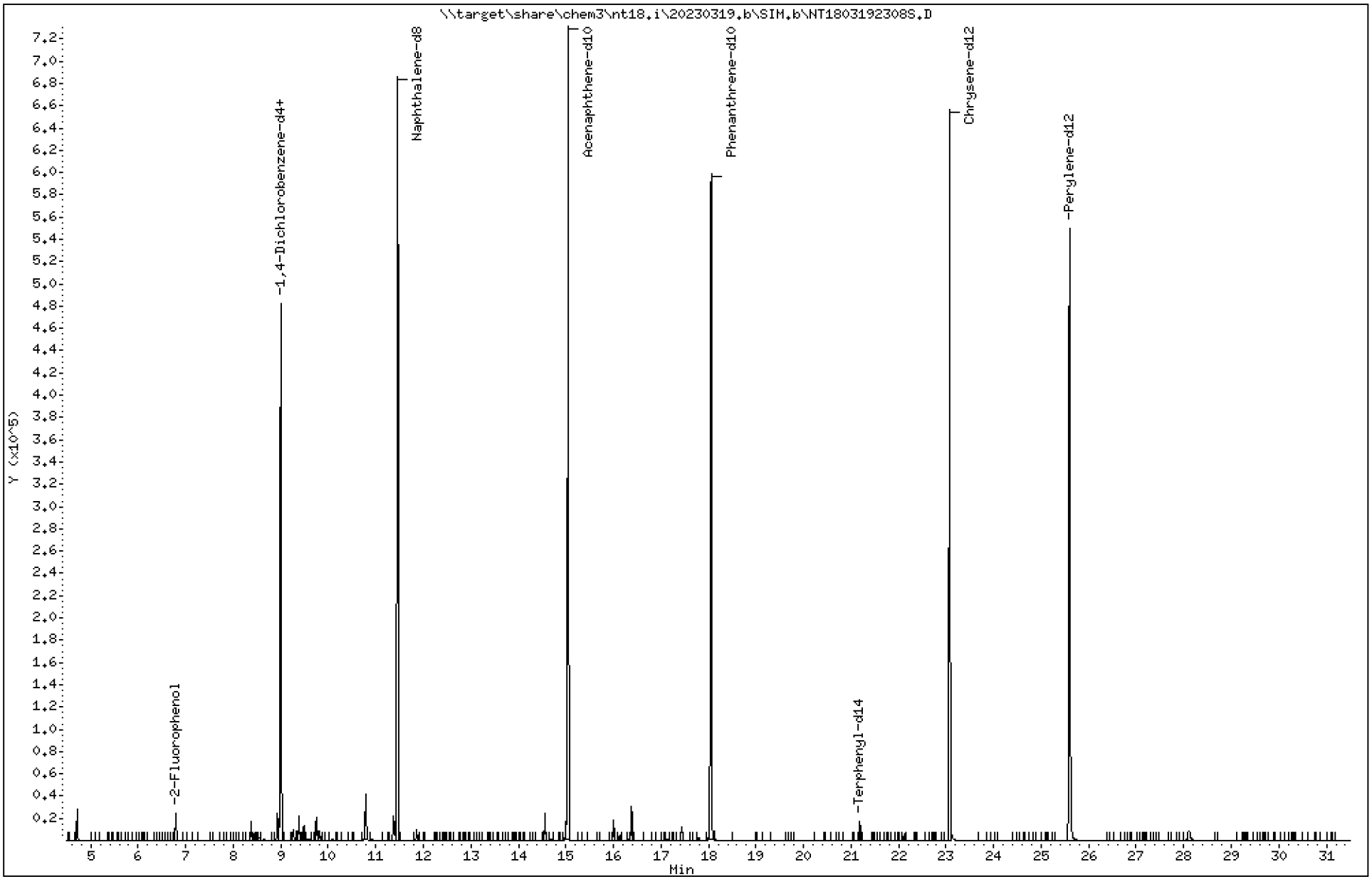
Instrument: nt18.i

Sample Info: SEQ-CAL1

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192308S.D
Lab Smp Id: SLD0001-CAL3
Inj Date : 19-MAR-2023 19:24
Operator : YZ Inst ID: nt18.i
Smp Info : SEQ-CAL1
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Meth Date : 31-Mar-2023 09:18 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 8 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: ORGDATA102

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1	2-Fluorophenol	112	6.793	6.794	(0.755)	22475	0.30000	0.2696
	3	Phenol	94	8.377	8.378	(0.931)	20600	0.20000	0.1845
	7	1,3-Dichlorobenzene	146	8.934	8.934	(0.993)	20536	0.20000	0.1902
*	8	1,4-Dichlorobenzene-d4	152	8.996	8.996	(1.000)	285948	4.00000	
	9	1,4-Dichlorobenzene	146	9.027	9.027	(1.003)	20959	0.20000	0.1913
	11	Benzyl alcohol	79	9.260	9.268	(1.029)	8988	0.20000	0.1433
	12	1,2-Dichlorobenzene	146	9.376	9.377	(1.042)	20646	0.20000	0.1937
	13	2-Methylphenol	108	9.485	9.485	(1.054)	13580	0.20000	0.1752
	15	4-Methylphenol	108	9.749	9.749	(1.084)	14151	0.20000	0.1756
	16	N-Nitroso-di-n-propylamine	70	9.819	9.819	(1.091)	9536	0.20000	0.1793
	22	2,4-Dimethylphenol	107	10.792	10.792	(0.942)	27527	0.40000	0.3660
	24	Benzoic acid	105	10.885	10.784	(0.950)	3466	0.80000	0.06773(M)
	26	1,2,4-Trichlorobenzene	180	11.375	11.376	(0.993)	16487	0.20000	0.1922
*	27	Naphthalene-d8	136	11.460	11.460	(1.000)	1077077	4.00000	
	30	Hexachlorobutadiene	225	11.862	11.862	(1.035)	9496	0.20000	0.1923
	39	Dimethylphthalate	163	14.555	14.555	(0.968)	31636	0.20000	0.1813
*	42	Acenaphthene-d10	162	15.042	15.042	(1.000)	546226	4.00000	
	50	Diethylphthalate	149	16.001	16.001	(1.064)	28282	0.20000	0.1785
	54	N-Nitrosodiphenylamine	169	16.379	16.379	(0.907)	21386	0.20000	0.1815
	57	Hexachlorobenzene	284	17.436	17.437	(0.966)	10490	0.20000	0.1871
	58	Pentachlorophenol	266	17.792	17.800	(0.985)	3889	0.40000	0.1316(M)
*	59	Phenanthrene-d10	188	18.055	18.048	(1.000)	970172	4.00000	
$	66	Terphenyl-d14	244	21.189	21.189	(0.918)	20669	0.20000	0.1831
	67	Butylbenzylphthalate	149	22.118	22.118	(0.959)	7694	0.20000	0.07543
*	69	Chrysene-d12	240	23.070	23.070	(1.000)	800952	4.00000	
*	77	Perylene-d12	264	25.594	25.594	(1.000)	872718	4.00000	
	79	Dibenzo(a,h)anthracene	278	28.107	28.107	(1.098)	27484	0.20000	0.1232
	90	N-Nitrosodimethylamine	74	4.708	4.716	(0.523)	19349	0.40000	0.3803

QC Flag Legend

M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192308S.D
Lab Smp Id: SLD0001-CAL3
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 18:02
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	276557	138279	553114	285948	3.40
27 Naphthalene-d8	1034745	517373	2069490	1077077	4.09
42 Acenaphthene-d10	519728	259864	1039456	546226	5.10
59 Phenanthrene-d10	903862	451931	1807724	970172	7.34
69 Chrysene-d12	761695	380848	1523390	800952	5.15
77 Perylene-d12	858044	429022	1716088	872718	1.71

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	0.00
42 Acenaphthene-d10	15.04	14.54	15.54	15.04	0.00
59 Phenanthrene-d10	18.06	17.56	18.56	18.06	0.00
69 Chrysene-d12	23.07	22.57	23.57	23.07	0.00
77 Perylene-d12	25.59	25.09	26.09	25.59	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192308S.D

Lab ID: SLD0001-CAL3
nt18.i, 20230319.b\SIM.b\SIMABN2.m,   19-MAR-2023 19:24

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.950	0.941	0.0089	Benzoic acid

RRT check based on Ccal File: SIM.b/NT1803192310S.D

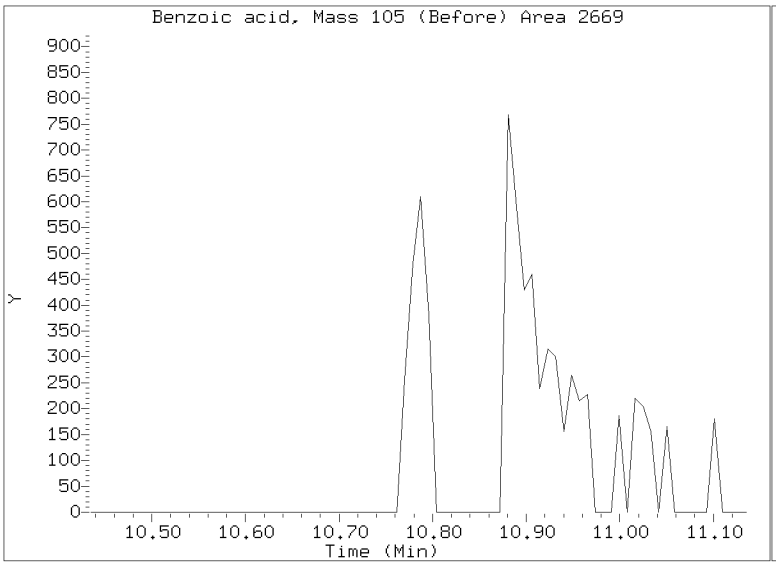
On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

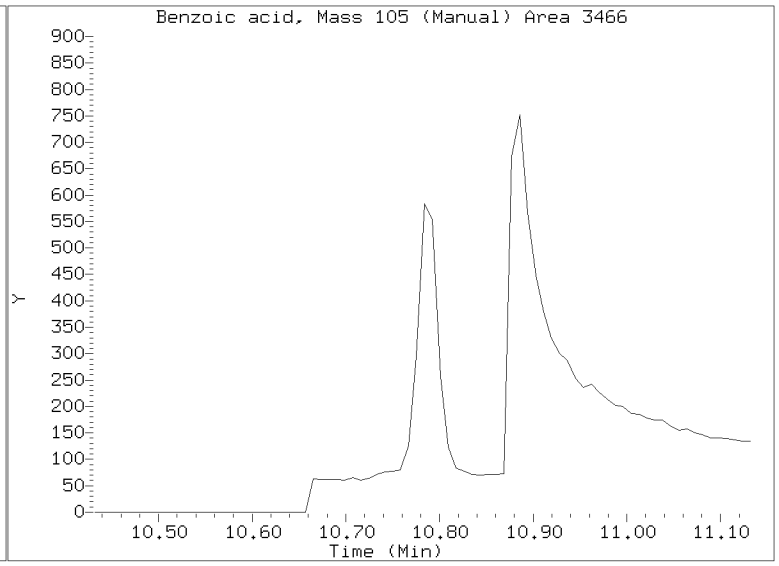
Exception: 1,2,4-Trichlorobenzene 0.0010

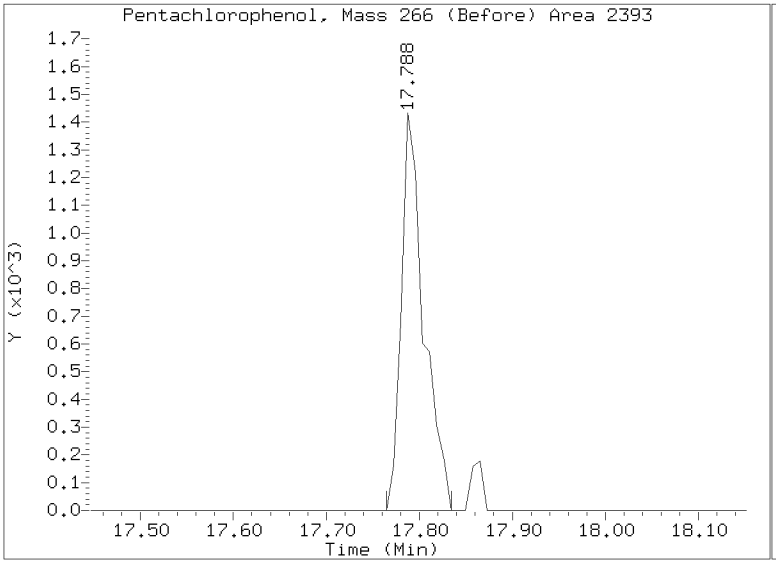
* Only compounds listed in the work order have been verified by the analyst *

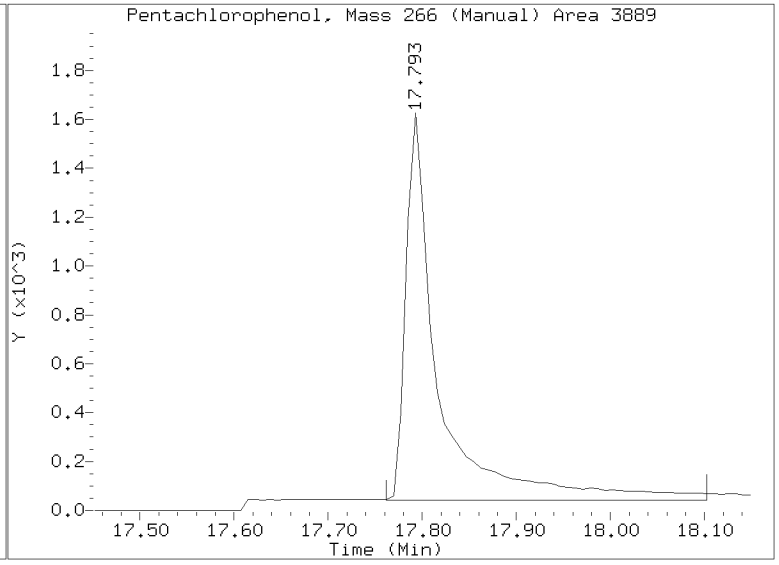
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230319.b/SIM.b/NT1803192308S.D
Injection Date: 19-MAR-2023 19:24
Lab ID:SLD0001-CAL3 Client ID:
Report Date: 04/01/2023 06:24









Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT18031923125.D

Date : 19-MAR-2023 22:06

Client ID:

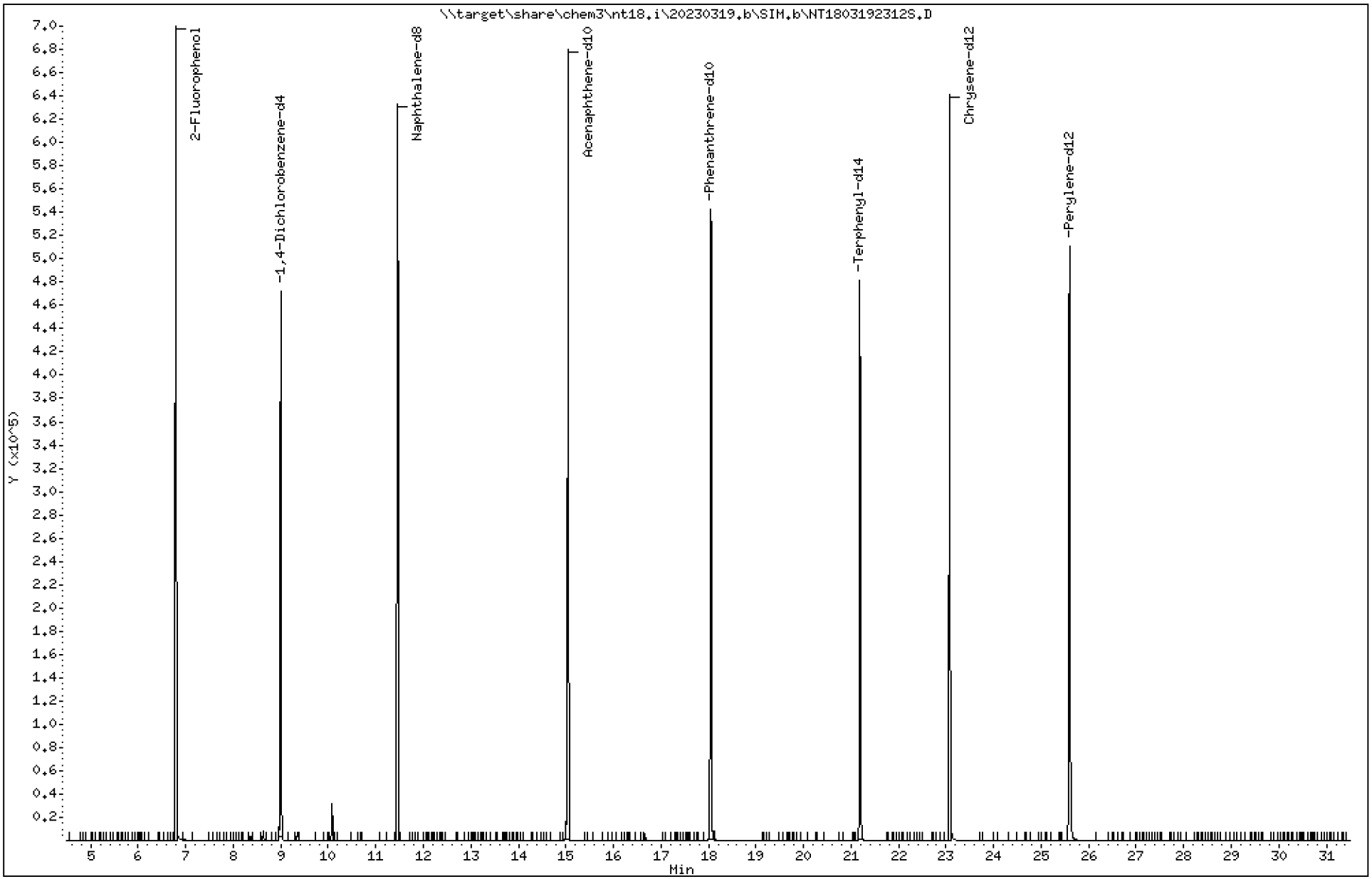
Instrument: nt18.i

Sample Info: SEQ-ICB1

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT18031923125.D

Date : 19-MAR-2023 22:06

Client ID:

Instrument: nt18.i

Sample Info: SEQ-ICB1

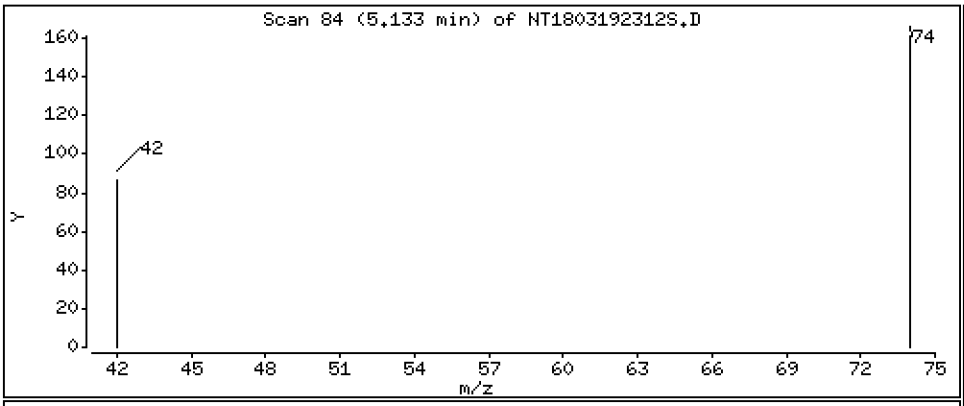
Operator: YZ

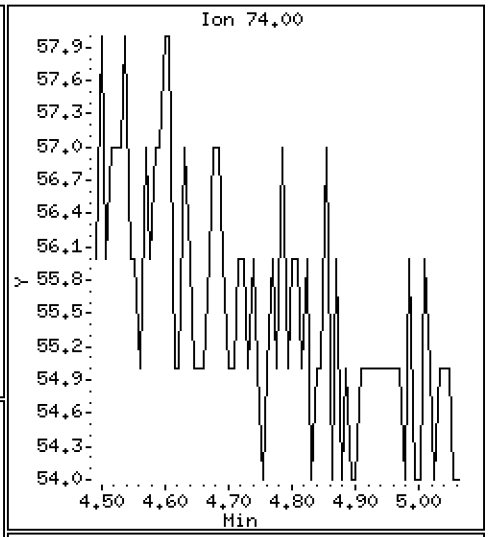
Column phase: ZB-5msi

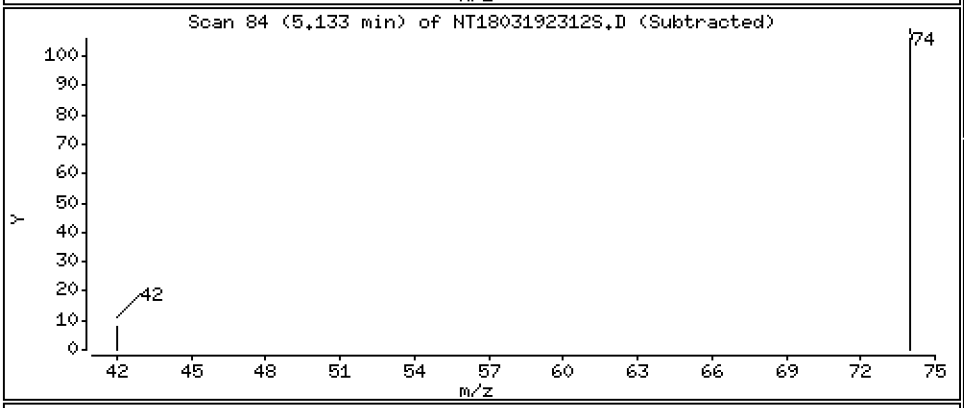
Column diameter: 0.25

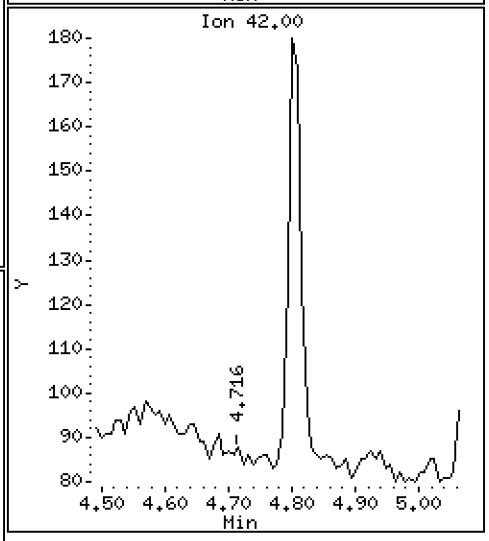
90 N-Nitrosodimethylamine

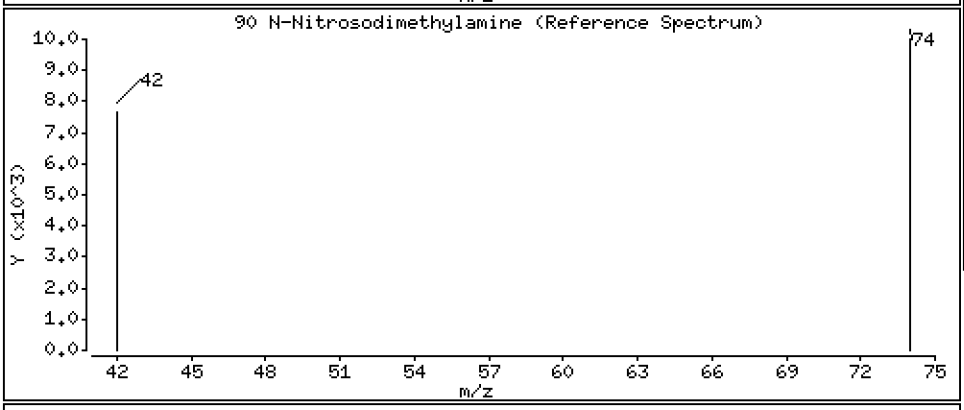
Concentration: 0.002953 ug/mL

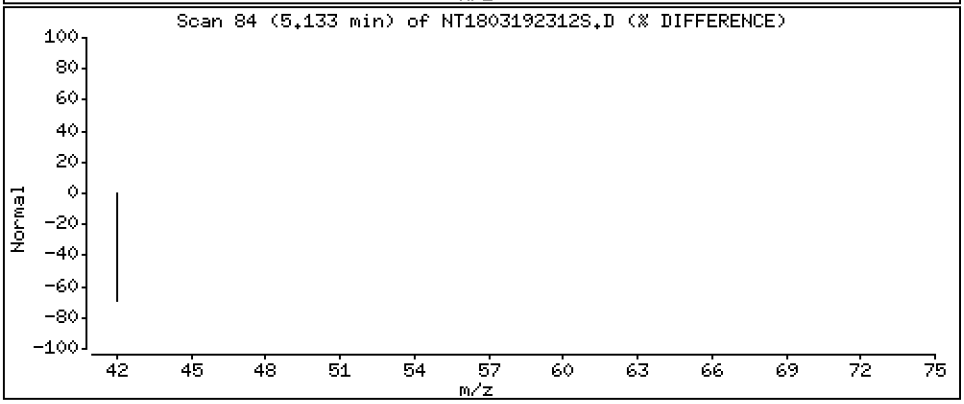












ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192312S.D
Lab Smp Id: SLD0001-ICB1
Inj Date : 19-MAR-2023 22:06
Operator : YZ Inst ID: nt18.i
Smp Info : SEQ-ICB1
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Meth Date : 31-Mar-2023 09:18 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: ORGDATA102

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1	2-Fluorophenol	112	6.793	6.794	(0.755)	613107	7.67305	7.673(R)
	3	Phenol	94	Compound Not Detected.					
	7	1,3-Dichlorobenzene	146	Compound Not Detected.					
*	8	1,4-Dichlorobenzene-d4	152	8.996	8.996	(1.000)	274085	4.00000	
	9	1,4-Dichlorobenzene	146	Compound Not Detected.					
	11	Benzyl alcohol	79	Compound Not Detected.					
	12	1,2-Dichlorobenzene	146	Compound Not Detected.					
	13	2-Methylphenol	108	Compound Not Detected.					
	15	4-Methylphenol	108	Compound Not Detected.					
	16	N-Nitroso-di-n-propylamine	70	Compound Not Detected.					
	22	2,4-Dimethylphenol	107	Compound Not Detected.					
	24	Benzoic acid	105	Compound Not Detected.					
	26	1,2,4-Trichlorobenzene	180	Compound Not Detected.					
*	27	Naphthalene-d8	136	11.460	11.460	(1.000)	1007260	4.00000	
	30	Hexachlorobutadiene	225	Compound Not Detected.					
	39	Dimethylphthalate	163	Compound Not Detected.					
*	42	Acenaphthene-d10	162	15.042	15.042	(1.000)	498081	4.00000	
	50	Diethylphthalate	149	Compound Not Detected.					
	54	N-Nitrosodiphenylamine	169	Compound Not Detected.					
	57	Hexachlorobenzene	284	Compound Not Detected.					
	58	Pentachlorophenol	266	Compound Not Detected.					
*	59	Phenanthrene-d10	188	18.047	18.048	(1.000)	889215	4.00000	
$	66	Terphenyl-d14	244	21.189	21.189	(0.918)	551720	5.26014	5.260(R)
	67	Butylbenzylphthalate	149	Compound Not Detected.					
*	69	Chrysene-d12	240	23.070	23.070	(1.000)	744134	4.00000	
*	77	Perylene-d12	264	25.594	25.594	(1.000)	821502	4.00000	
	79	Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	90	N-Nitrosodimethylamine	74	5.133	4.716	(0.571)	144	0.00295	0.002953(M)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192312S.D
Lab Smp Id: SLD0001-ICB1
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 18:02
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	276557	138279	553114	274085	-0.89
27 Naphthalene-d8	1034745	517373	2069490	1007260	-2.66
42 Acenaphthene-d10	519728	259864	1039456	498081	-4.17
59 Phenanthrene-d10	903862	451931	1807724	889215	-1.62
69 Chrysene-d12	761695	380848	1523390	744134	-2.31
77 Perylene-d12	858044	429022	1716088	821502	-4.26

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	-0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	-0.00
42 Acenaphthene-d10	15.04	14.54	15.54	15.04	-0.00
59 Phenanthrene-d10	18.06	17.56	18.56	18.05	-0.04
69 Chrysene-d12	23.07	22.57	23.57	23.07	-0.00
77 Perylene-d12	25.59	25.09	26.09	25.59	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192312S.D

Lab ID: SLD0001-ICB1
nt18.i, 20230319.b\SIM.b\SIMABN2.m,   19-MAR-2023 22:06

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.571	0.524	0.0463	N-Nitrosodimethylamine

RRT check based on Ccal File: SIM.b/NT1803192310S.D

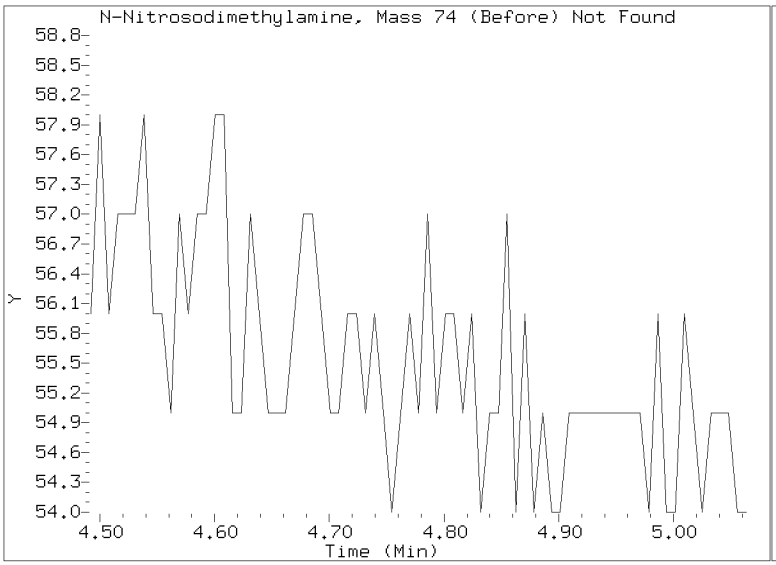
On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

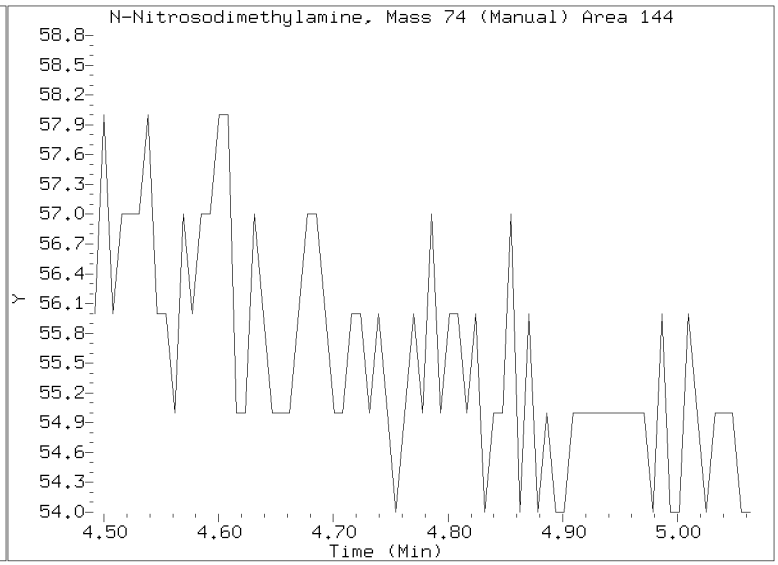
Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230319.b/SIM.b/NT1803192312S.D
Injection Date: 19-MAR-2023 22:06
Lab ID:SLD0001-ICB1 Client ID:
Report Date: 04/01/2023 06:25





Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT18031923105.D

Date : 19-MAR-2023 20:45

Client ID:

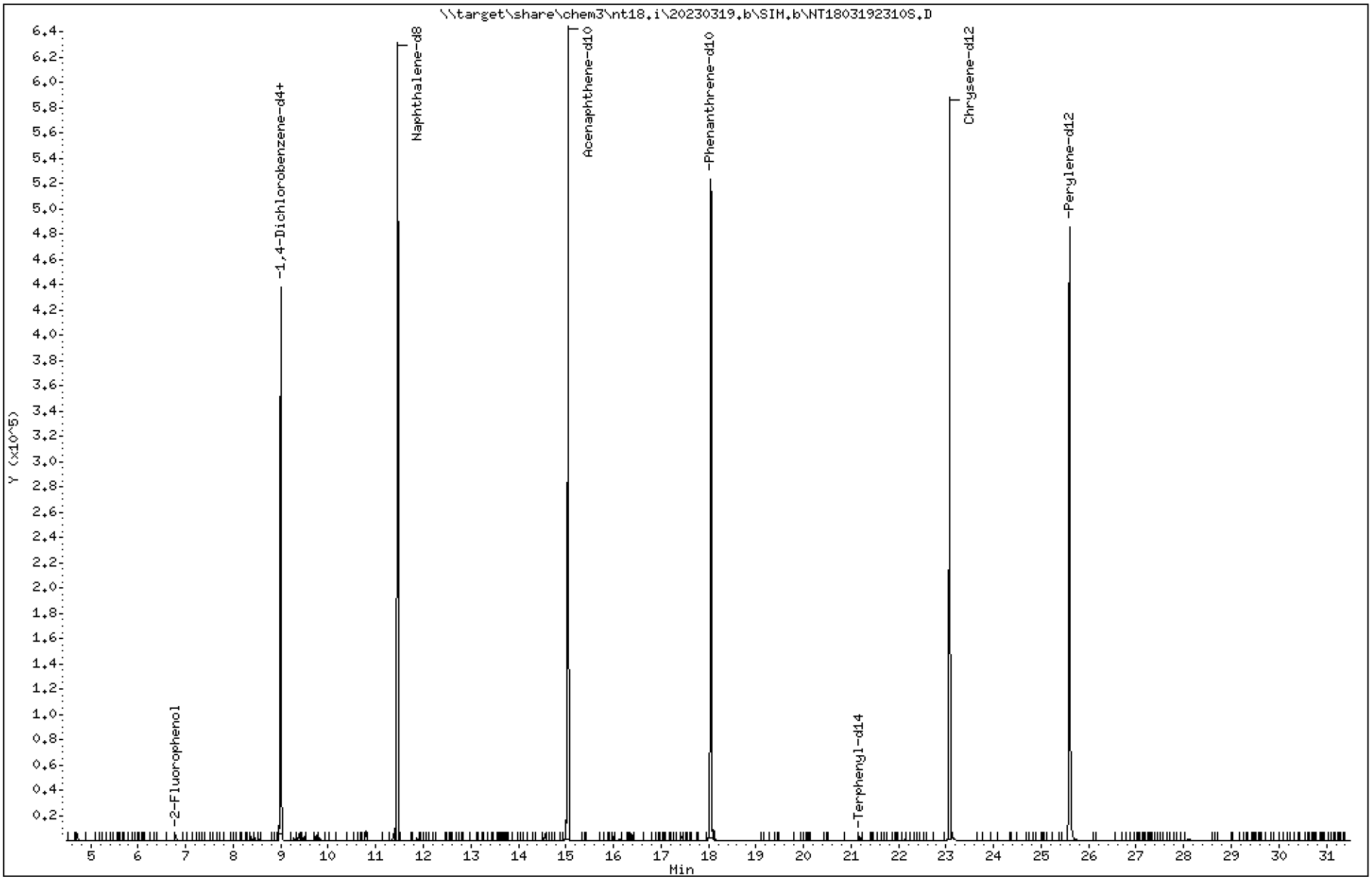
Sample Info: SEQ-SIM1

Column phase: ZB-5msi

Instrument: nt18.i

Operator: YZ

Column diameter: 0.25



ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192310S.D
Lab Smp Id: SLCD0001-CAL1
Inj Date : 19-MAR-2023 20:45
Operator : YZ Inst ID: nt18.i
Smp Info : SEQ-SIM1
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Meth Date : 31-Mar-2023 09:18 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 10 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: ORGDATA102

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1 2-Fluorophenol	112	6.793	6.794	(0.755)	4724	0.07500	0.06288
	3 Phenol	94	8.377	8.378	(0.931)	4372	0.05000	0.04346
	7 1,3-Dichlorobenzene	146	8.934	8.934	(0.993)	5326	0.05000	0.05472
*	8 1,4-Dichlorobenzene-d4	152	8.996	8.996	(1.000)	257717	4.00000	
	9 1,4-Dichlorobenzene	146	9.027	9.027	(1.003)	5718	0.05000	0.05792
	11 Benzyl alcohol	79	9.267	9.268	(1.030)	1682	0.05000	0.02979
	12 1,2-Dichlorobenzene	146	9.376	9.377	(1.042)	5273	0.05000	0.05488
	13 2-Methylphenol	108	9.485	9.485	(1.054)	2880	0.05000	0.04124
	15 4-Methylphenol	108	9.749	9.749	(1.084)	2851	0.05000	0.03924
	16 N-Nitroso-di-n-propylamine	70	9.819	9.819	(1.091)	2090	0.05000	0.04361(M)
	22 2,4-Dimethylphenol	107	10.792	10.792	(0.942)	5438	0.10000	0.08021
	24 Benzoic acid	105	10.783	10.784	(0.941)	186	0.20000	0.004034(MH)
	26 1,2,4-Trichlorobenzene	180	11.375	11.376	(0.993)	4142	0.05000	0.05357
*	27 Naphthalene-d8	136	11.460	11.460	(1.000)	970770	4.00000	
	30 Hexachlorobutadiene	225	11.862	11.862	(1.035)	2408	0.05000	0.05411
	39 Dimethylphthalate	163	14.555	14.555	(0.968)	7229	0.05000	0.04713
*	42 Acenaphthene-d10	162	15.042	15.042	(1.000)	480239	4.00000	
	50 Diethylphthalate	149	16.001	16.001	(1.064)	6025	0.05000	0.04326
	54 N-Nitrosodiphenylamine	169	16.379	16.379	(0.908)	3798	0.05000	0.03680
	57 Hexachlorobenzene	284	17.436	17.437	(0.966)	2546	0.05000	0.05185
	58 Pentachlorophenol	266	17.800	17.800	(0.986)	560	0.10000	0.02166(M)
*	59 Phenanthrene-d10	188	18.048	18.048	(1.000)	849779	4.00000	
$	66 Terphenyl-d14	244	21.189	21.189	(0.918)	4451	0.05000	0.04452(M)
	67 Butylbenzylphthalate	149	22.118	22.118	(0.959)	1313	0.05000	0.01454
*	69 Chrysene-d12	240	23.070	23.070	(1.000)	709293	4.00000	
*	77 Perylene-d12	264	25.594	25.594	(1.000)	796818	4.00000	
	79 Dibenzo(a,h)anthracene	278	28.107	28.107	(1.098)	4527	0.05000	0.02226
	90 N-Nitrosodimethylamine	74	4.716	4.716	(0.524)	4581	0.10000	0.09990

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192310S.D
Lab Smp Id: SLCD0001-CAL1
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 18:02
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	276557	138279	553114	257717	-6.81
27 Naphthalene-d8	1034745	517373	2069490	970770	-6.18
42 Acenaphthene-d10	519728	259864	1039456	480239	-7.60
59 Phenanthrene-d10	903862	451931	1807724	849779	-5.98
69 Chrysene-d12	761695	380848	1523390	709293	-6.88
77 Perylene-d12	858044	429022	1716088	796818	-7.14

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	-0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	-0.00
42 Acenaphthene-d10	15.04	14.54	15.54	15.04	-0.00
59 Phenanthrene-d10	18.06	17.56	18.56	18.05	-0.04
69 Chrysene-d12	23.07	22.57	23.57	23.07	-0.00
77 Perylene-d12	25.59	25.09	26.09	25.59	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192310S.D

Lab ID: SLCD0001-CAL1
nt18.i, 20230319.b\SIM.b\SIMABN2.m,   19-MAR-2023 20:45

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

RRT check based on Ccal File: SIM.b/NT1803192310S.D

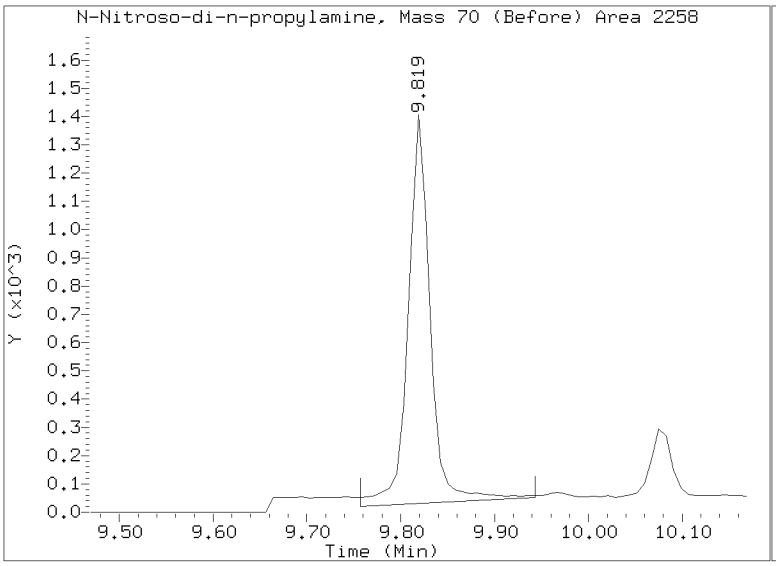
On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

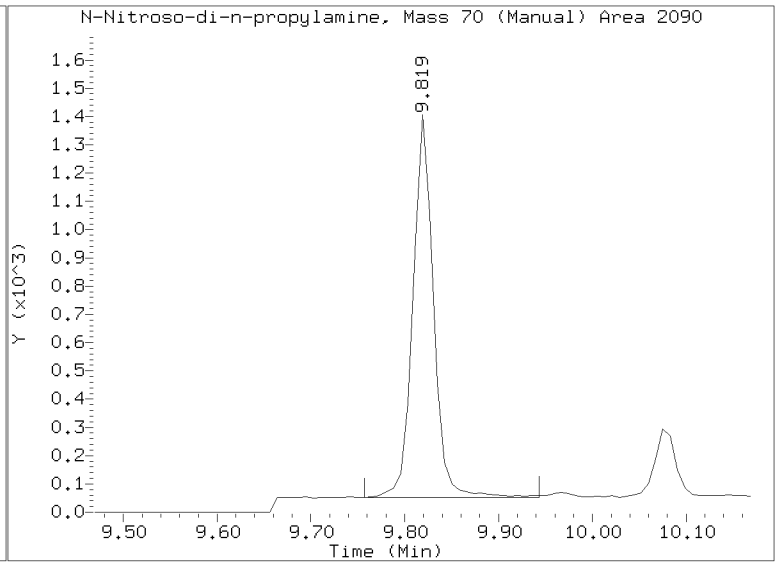
Exception: 1,2,4-Trichlorobenzene 0.0010

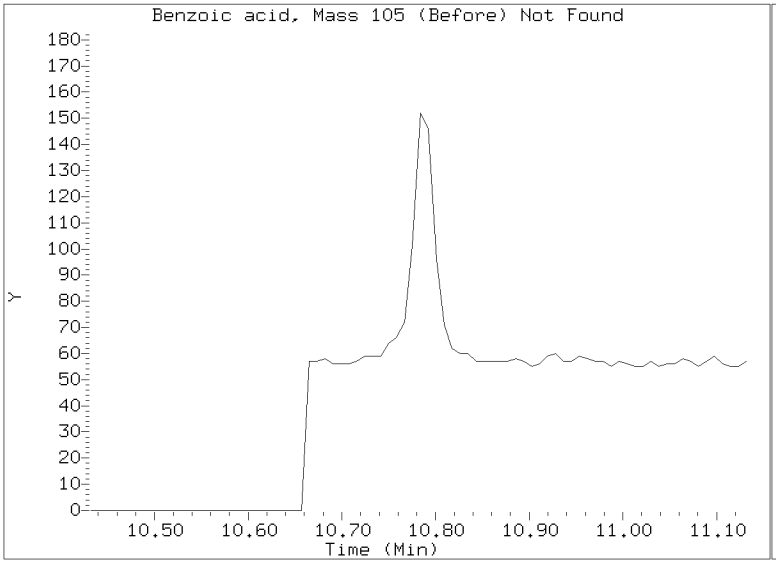
* Only compounds listed in the work order have been verified by the analyst *

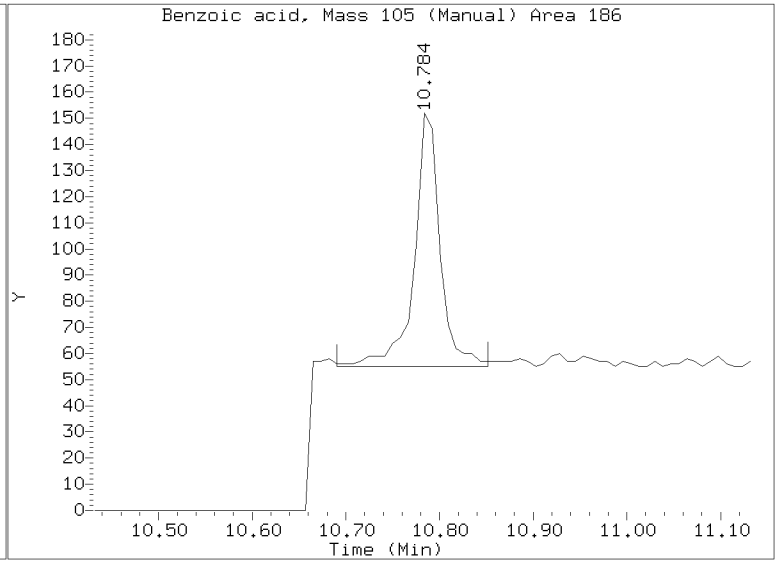
Quant Ion Manual Peak Adjustment Report

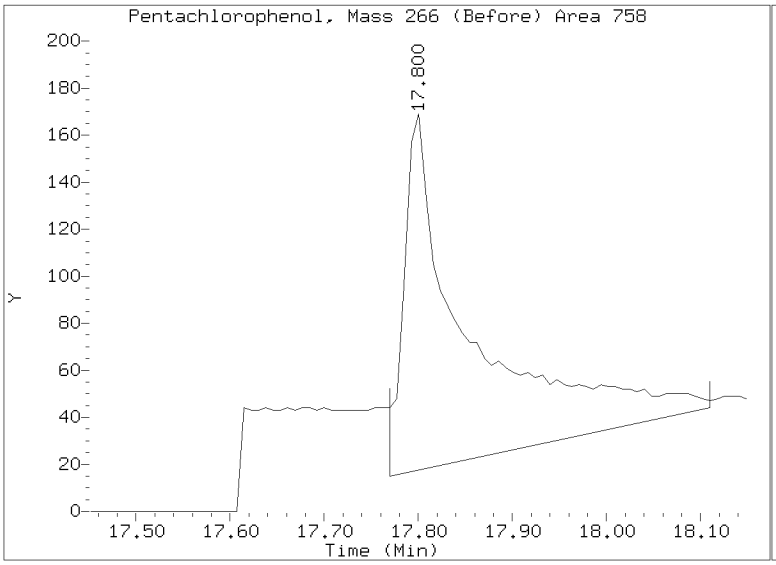
Datafile: //target/share/chem3/nt18.i/20230319.b/SIM.b/NT1803192310S.D
Injection Date: 19-MAR-2023 20:45
Lab ID:SLCD0001-CAL1 Client ID:
Report Date: 04/01/2023 06:25

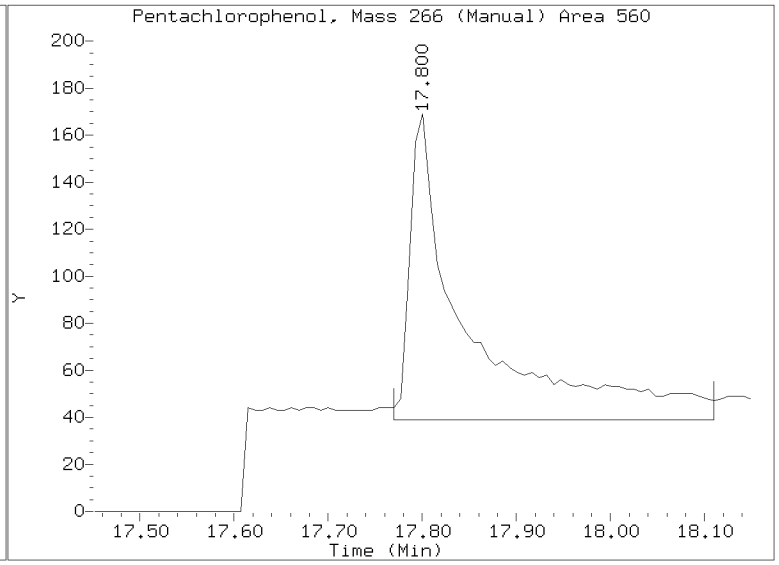






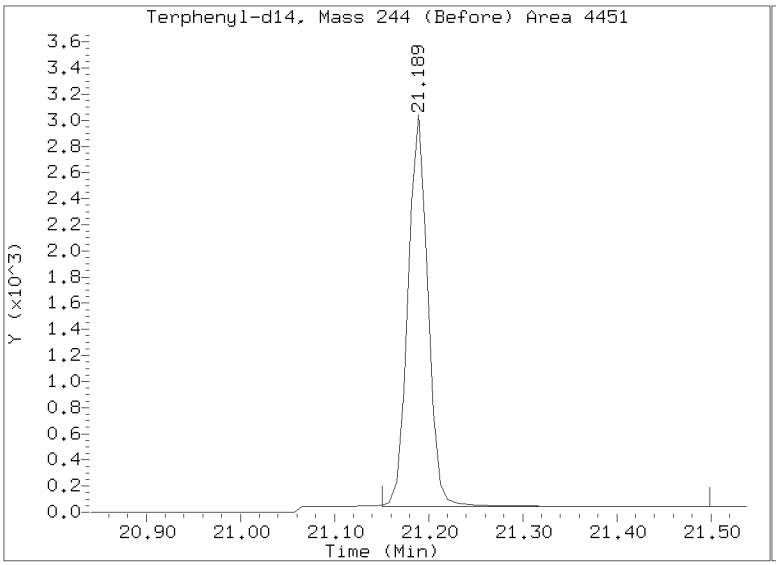


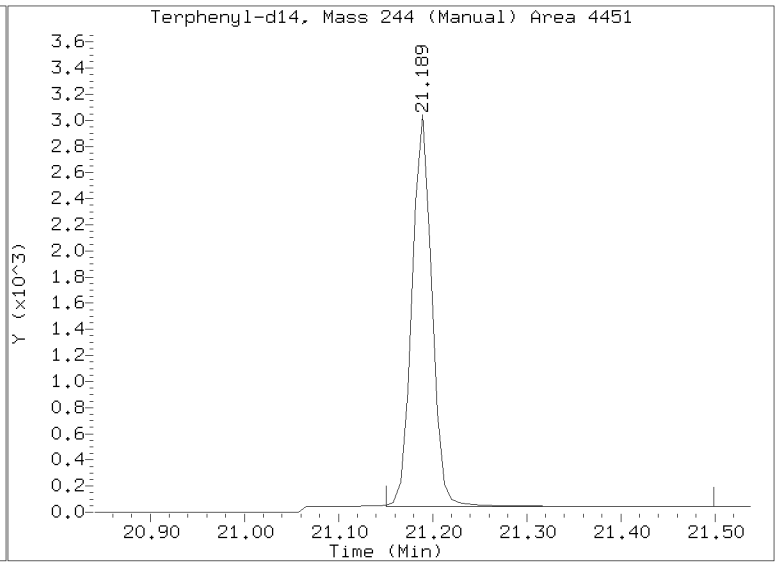




Quant Ion Manual Peak Adjustment Report

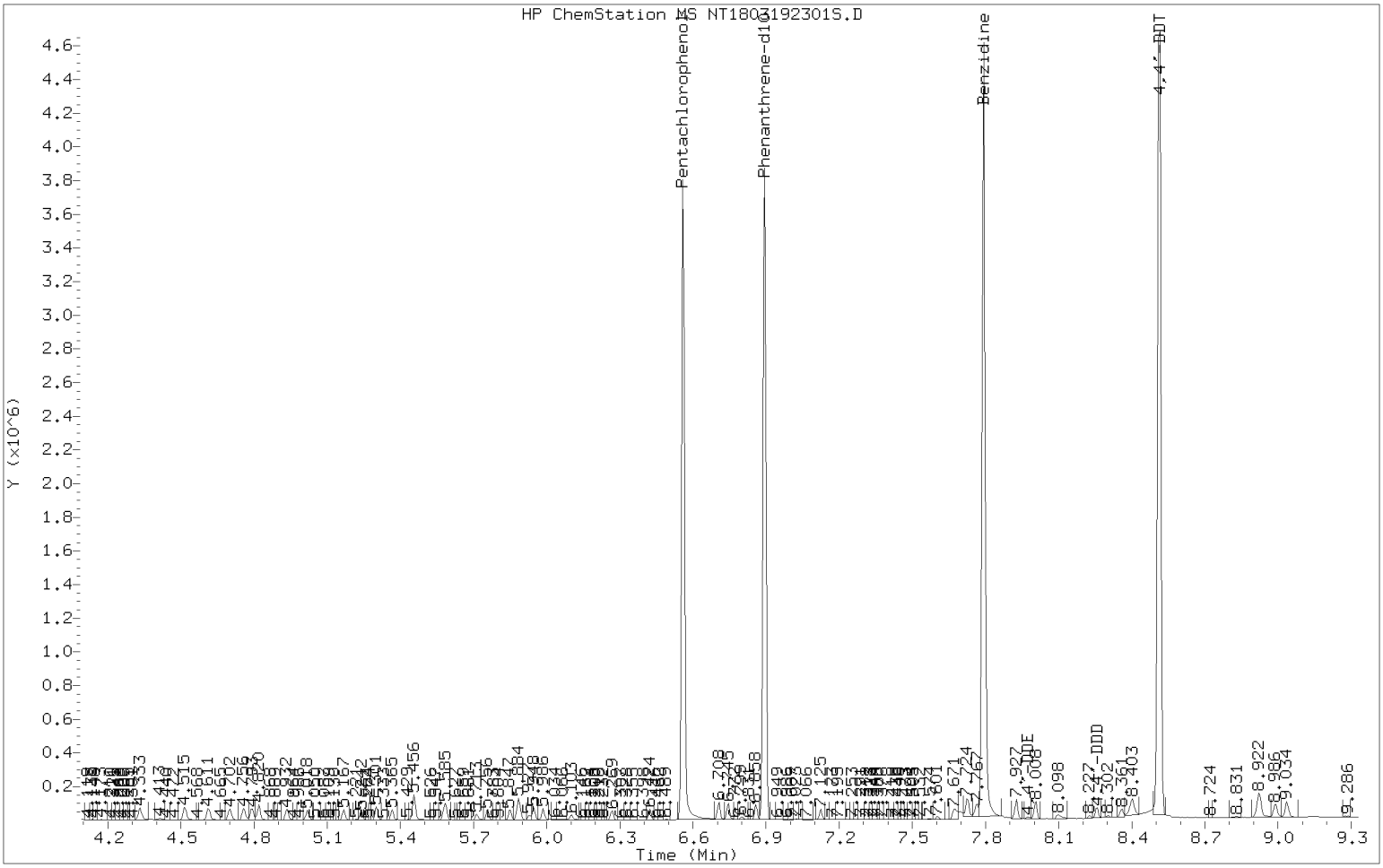
Datafile: //target/share/chem3/nt18.i/20230319.b/SIM.b/NT1803192310S.D
Injection Date: 19-MAR-2023 20:45
Lab ID:SLCD0001-CAL1 Client ID:
Report Date: 04/01/2023 06:25

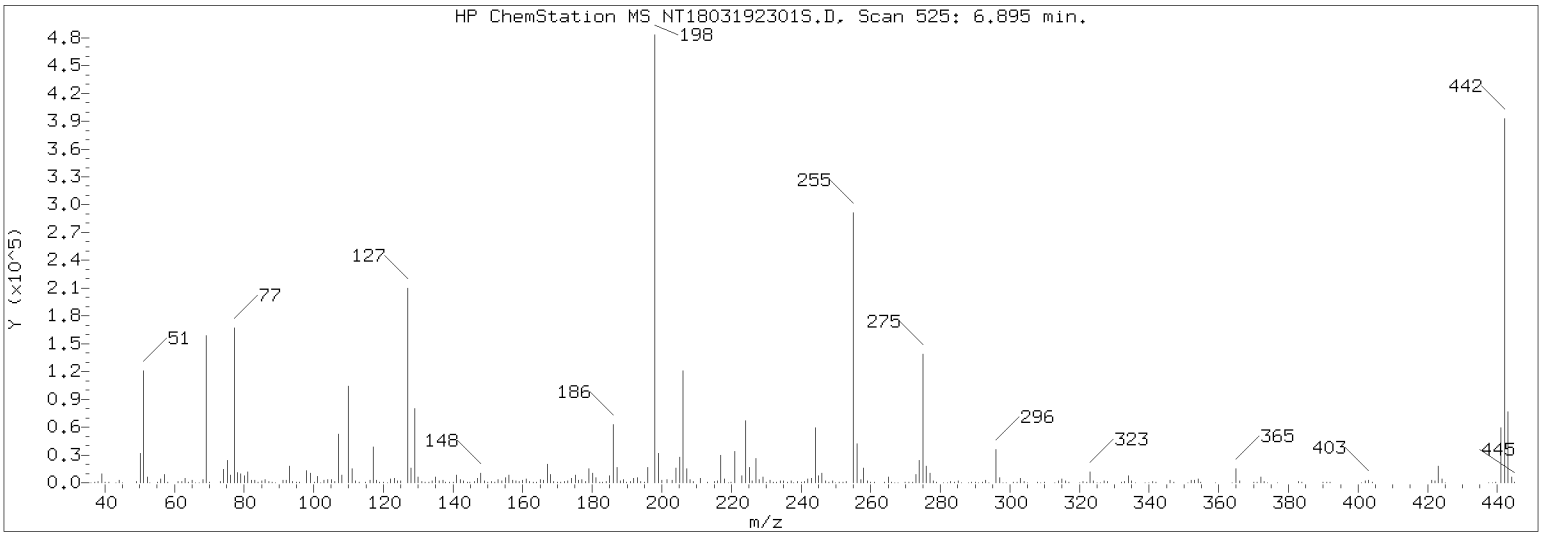




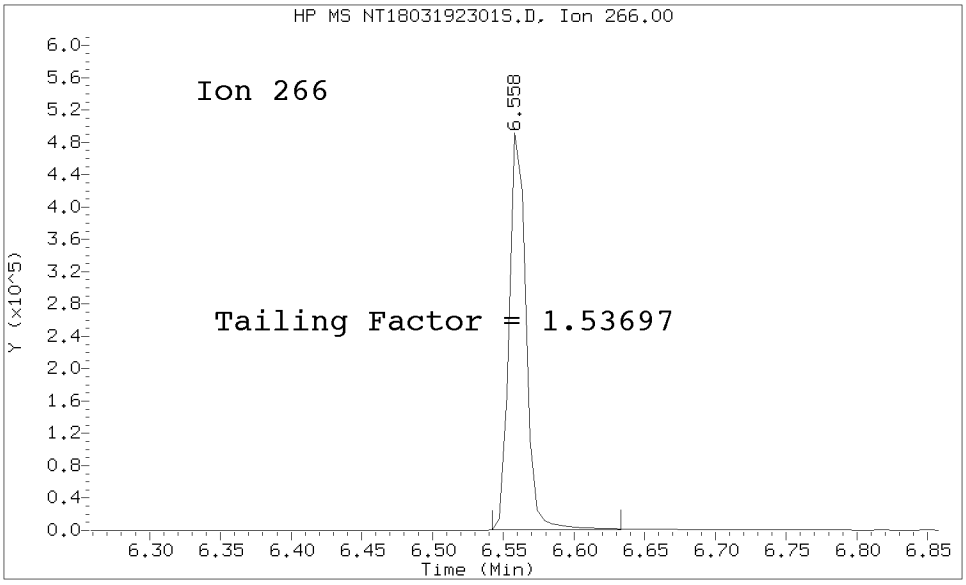
DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20230319.b/SIM.b/NT1803192301S.D/NT1803192301S.D
Method Used: \20230319.b\SIM.b\DFTPP8270E.m Inst: nt18
Injection Date: 19-MAR-2023 15:00 Operator: VTS
Sample Info: SLD0001-TUN1 SLD0001-TUN1
Report Date: 07/05/2023 13:28



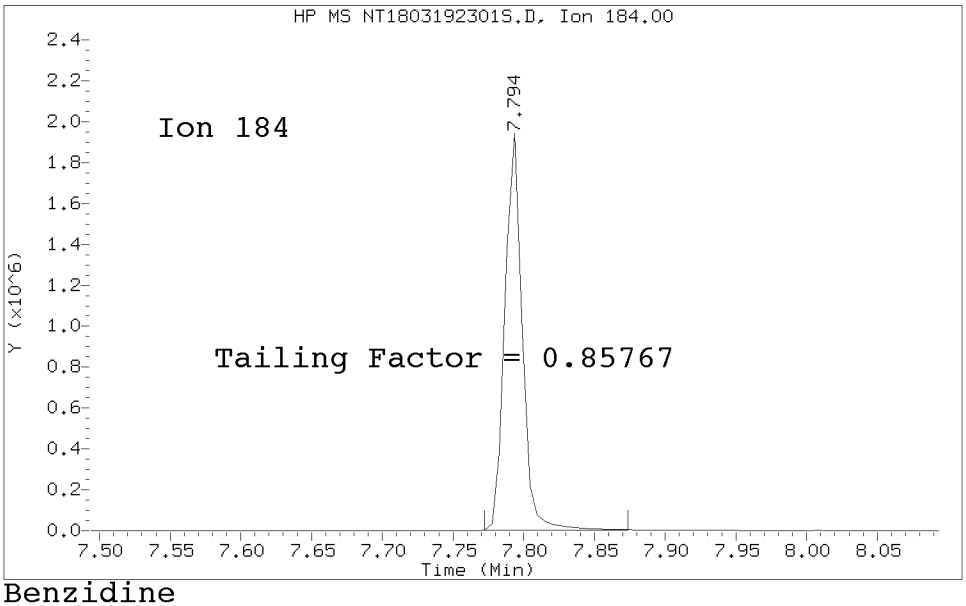


Datafile Analyzed: /20230319.b/SIM.b/NT1803192301S.D/NT1803192301S.D
Method Used: \20230319.b\DFTPP8270E.m\sw846ddt.m Inst: nt18
Injection Date: 19-MAR-2023 15:00 Operator: JGR
Sample Info: SEQ-TUN1
Report Date: 07/05/2023 13:28



Pentachlorophenol
==========
 Exp. RT = 6.558
Found RT = 6.558

Tail Factor = 1.537 Maximum Allowed = 2.0



Benzidine
=========
 Exp. RT = 7.794
Found RT = 7.794

Tail Factor = 0.858 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	1.5369718	2.000	PASS
Benzidine	0.8576687	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	917001			N/A
4,4-DDE	1172	0.1	20.0	PASS
4,4-DDD	10228	1.1	20.0	PASS
4,4-DDD + DDE	11400	1.2	20.0	PASS

Tuning Sample, nt18.i/20230319.b/SIM.b/NT1803192301S.D, *** PASSED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
68	Less than 2.00% of mass 69	0.41 (1.17)
69	Mass 69 relative abundance	35.23
70	Less than 2.00% of mass 69	0.10 (0.29)
197	Less than 2.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.59
365	1.00 - 100.00% of mass 198	3.10
441	Less than 150.00% of mass 443	11.57 (78.15)
442	Less than 200.00% of mass 198	77.08
443	15.00 - 24.00% of mass 442	14.81 (19.21)

Data File: NT1803192301S.D
Spectrum: Avg. Scans 524-526 (6.90), Background Scan 520
Location of Maximum: 198.00
Number of points: 309

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	121	125.00	1821	207.00	11135	295.00	329
37.00	500	127.00	163840	208.00	2805	296.00	26432
38.00	1245	128.00	12270	209.00	838	297.00	3716
39.00	7544	129.00	62072	211.00	3818	298.00	259
40.00	120	130.00	4849	213.00	193	299.00	64
41.00	100	131.00	992	215.00	881	301.00	417
43.00	67	132.00	615	216.00	1995	302.00	544
45.00	246	133.00	331	217.00	22552	303.00	3131
49.00	756	134.00	1761	218.00	2969	304.00	890
50.00	25768	135.00	4696	219.00	219	305.00	116
51.00	98952	136.00	1871	220.00	205	308.00	407
52.00	4822	137.00	2367	221.00	24104	309.00	177
53.00	263	138.00	376	223.00	5616	310.00	358
55.00	499	140.00	307	224.00	50896	313.00	172
56.00	3297	141.00	6738	225.00	12515	314.00	1264
57.00	7143	142.00	2782	226.00	1344	315.00	3056
58.00	291	143.00	1679	227.00	19752	316.00	1708
61.00	1370	144.00	534	228.00	2739	317.00	368
62.00	1420	145.00	421	229.00	4385	320.00	68
63.00	3824	146.00	1318	230.00	646	321.00	914
64.00	531	147.00	3639	231.00	1861	322.00	398
65.00	2235	148.00	7832	232.00	323	323.00	8720
66.00	98	149.00	1713	233.00	389	324.00	1632
67.00	77	150.00	476	234.00	1428	325.00	102
68.00	1506	151.00	1012	235.00	1512	326.00	193
69.00	128752	152.00	586	236.00	905	327.00	1786
70.00	371	153.00	2301	237.00	1602	328.00	901
72.00	57	154.00	1869	238.00	238	332.00	512
73.00	1015	155.00	4153	239.00	924	333.00	904
74.00	11313	156.00	6541	240.00	600	334.00	5260
75.00	19080	157.00	1566	241.00	1166	335.00	1536
76.00	6534	158.00	1474	242.00	3034	336.00	141
77.00	134464	159.00	1049	243.00	3206	339.00	80
78.00	8968	160.00	2372	244.00	43488	340.00	122
79.00	7701	161.00	3521	245.00	5633	341.00	1078
80.00	6286	162.00	1097	246.00	7685	342.00	204
81.00	8997	163.00	278	247.00	1682	346.00	1849
82.00	2343	164.00	557	248.00	317	347.00	344
83.00	2309	165.00	2816	249.00	1497	351.00	72
84.00	44	166.00	801	250.00	261	352.00	2497
85.00	1538	167.00	8878	251.00	348	353.00	1762
86.00	2357	168.00	6863	252.00	328	354.00	2672
87.00	1241	169.00	1320	253.00	921	355.00	504
88.00	510	170.00	540	255.00	215360	359.00	82
89.00	269	171.00	704	256.00	30688	364.00	168
91.00	2180	172.00	1234	257.00	2431	365.00	11323
92.00	2154	173.00	1872	258.00	11553	366.00	1511
93.00	14566	174.00	3365	259.00	1716	370.00	147
94.00	977	175.00	6401	260.00	396	371.00	589

95.00	170	176.00	2322	261.00	386	372.00	4312
96.00	802	177.00	2835	264.00	303	373.00	1006
97.00	209	178.00	915	265.00	4352	374.00	83
98.00	11227	179.00	11889	266.00	561	377.00	63
99.00	8764	180.00	7952	267.00	67	383.00	1088
100.00	795	181.00	4025	268.00	70	384.00	298
101.00	5504	182.00	752	270.00	296	390.00	599
102.00	329	183.00	431	271.00	435	391.00	328
103.00	1952	184.00	882	272.00	530	392.00	273
104.00	3328	185.00	5780	273.00	6856	401.00	213
105.00	2907	186.00	47296	274.00	17064	402.00	1482
106.00	941	187.00	12810	275.00	99032	403.00	2083
107.00	41200	188.00	1425	276.00	13034	404.00	794
108.00	6493	189.00	2487	277.00	7630	421.00	1834
109.00	203	190.00	481	278.00	1267	422.00	1840
110.00	83096	191.00	1220	279.00	211	423.00	13286
111.00	11519	192.00	3843	281.00	54	424.00	3047
112.00	1525	193.00	4363	282.00	104	425.00	306
113.00	356	194.00	880	283.00	954	437.00	66
115.00	185	195.00	690	284.00	649	438.00	87
116.00	2358	196.00	13260	285.00	1495	439.00	346
117.00	30504	198.00	365440	286.00	212	441.00	42288
118.00	2310	199.00	24096	288.00	71	442.00	281664
119.00	353	200.00	2074	289.00	381	443.00	54112
120.00	503	201.00	2296	290.00	324	444.00	4487
121.00	205	203.00	1957	291.00	53	445.00	294
122.00	2775	204.00	12144	292.00	420		
123.00	4014	205.00	21040	293.00	1979		
124.00	1725	206.00	90016	294.00	326		

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270E-SIM

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GD00001
Laboratory ID: SLD0001-SCV1
Sequence: SLD0001
Sequence Name: SCV 5.0
Standard ID: K010066

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DRIFT	QC LIMIT
1,4-Dichlorobenzene	5.0000	4.8	-3.7	20.00
1,2-Dichlorobenzene	5.0000	4.7	-5.1	20.00
Benzyl Alcohol	5.0000	4.9	-2.2	20.00
Benzoic acid	10.000	7.3	-26.8 *	20.00
2,4-Dimethylphenol	5.0000	3.9	-21.6 *	20.00
1,2,4-Trichlorobenzene	5.0000	4.7	-6.2	20.00
N-Nitrosodiphenylamine	5.0000	5.6	11.1	20.00
Pentachlorophenol	5.0000	4.6	-8.9	20.00
2-Fluorophenol	7.5000	0.00		
p-Terphenyl-d14	5.0000	0.00		

* Indicates values outside of QC limits

Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT18031923115.D

Date : 19-MAR-2023 21:26

Client ID:

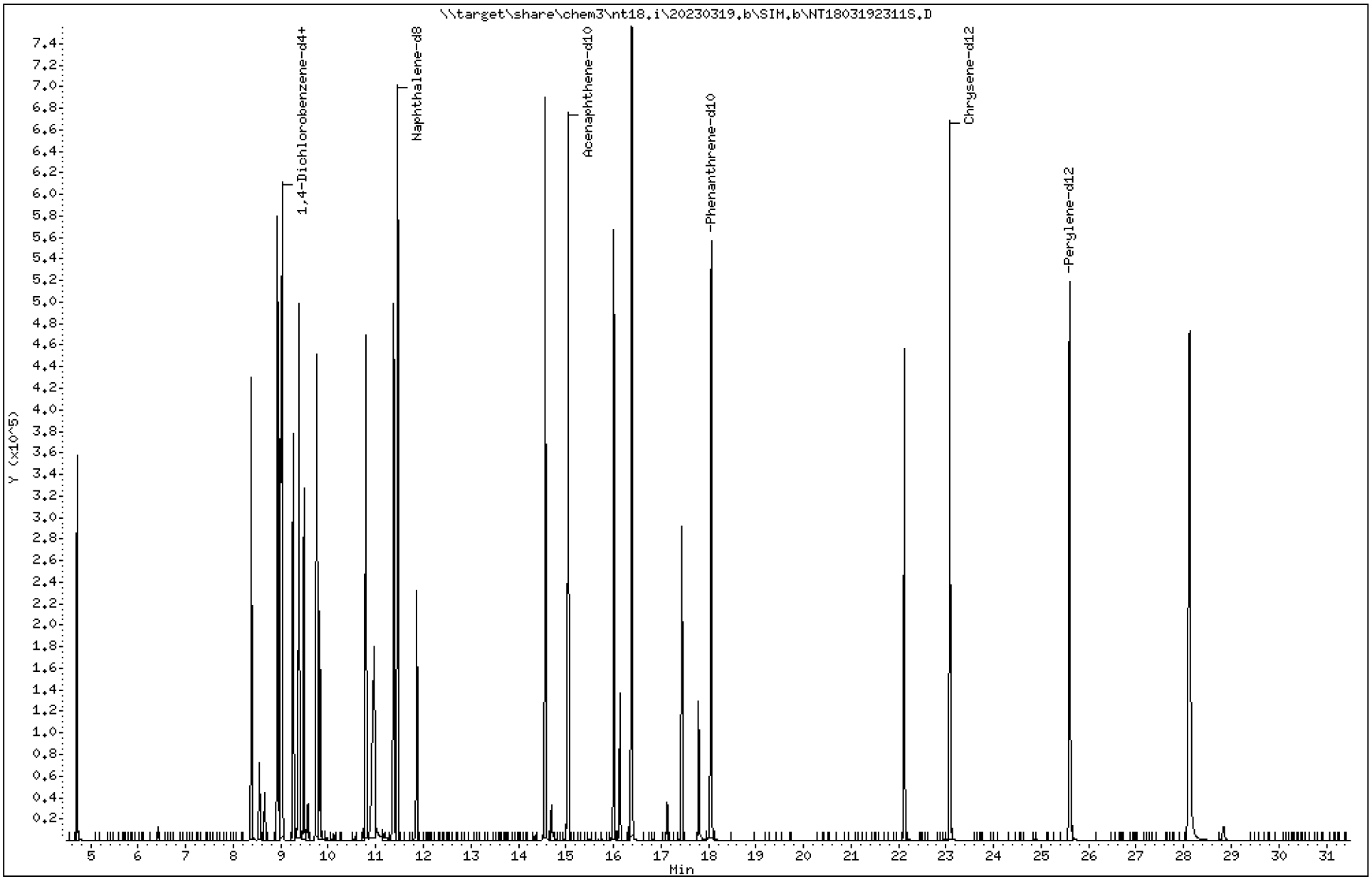
Sample Info: SEQ-SCV1

Column phase: ZB-5msi

Instrument: nt18.i

Operator: YZ

Column diameter: 0.25



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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

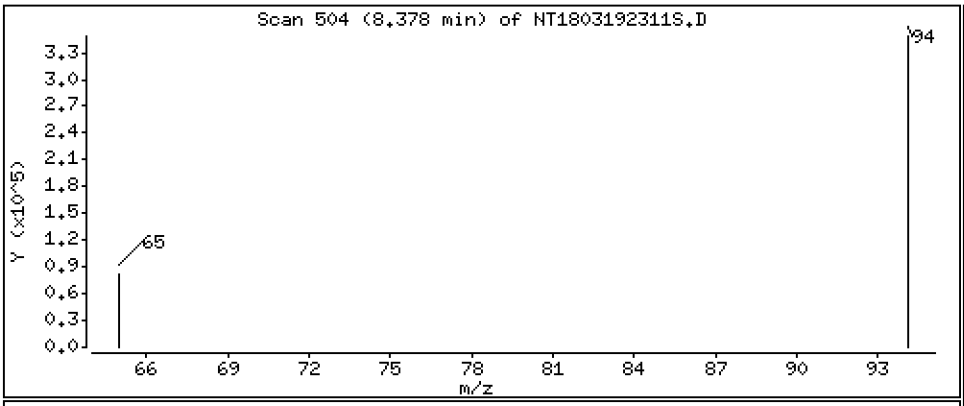
Operator: YZ

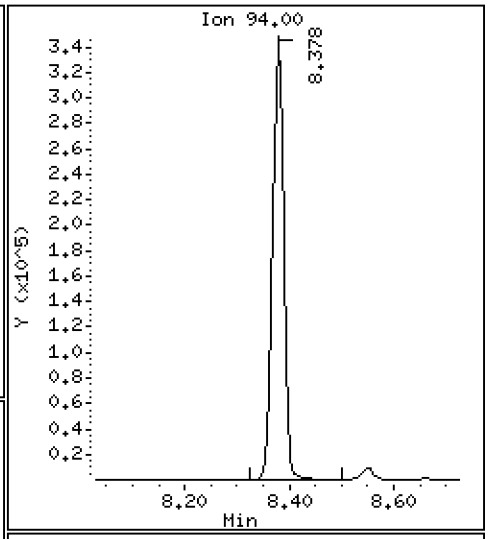
Column phase: ZB-5msi

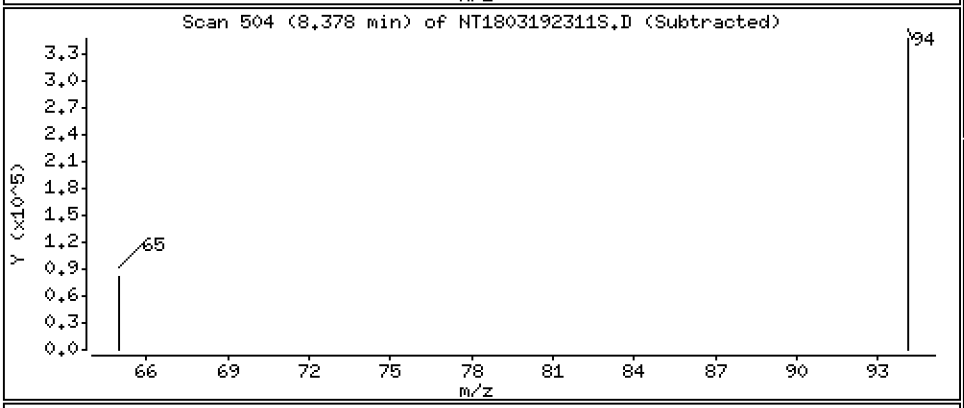
Column diameter: 0.25

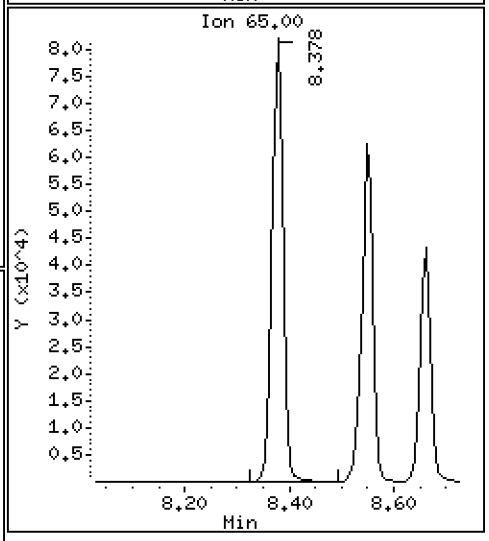
3 Phenol

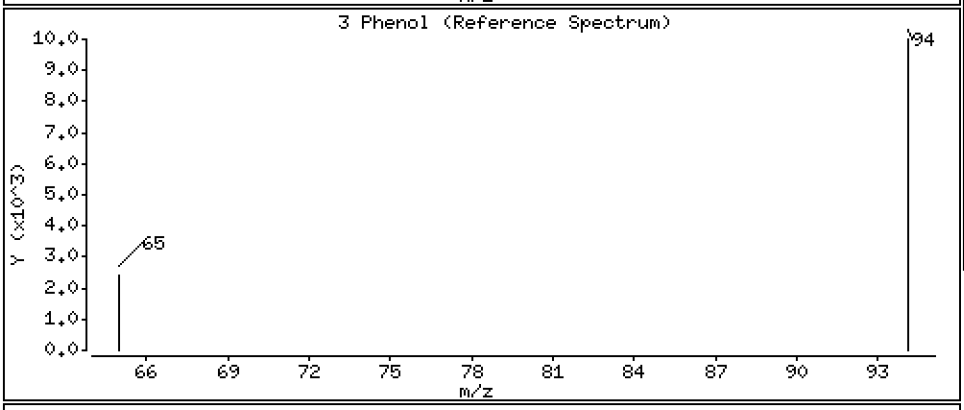
Concentration: 4.479 ug/mL

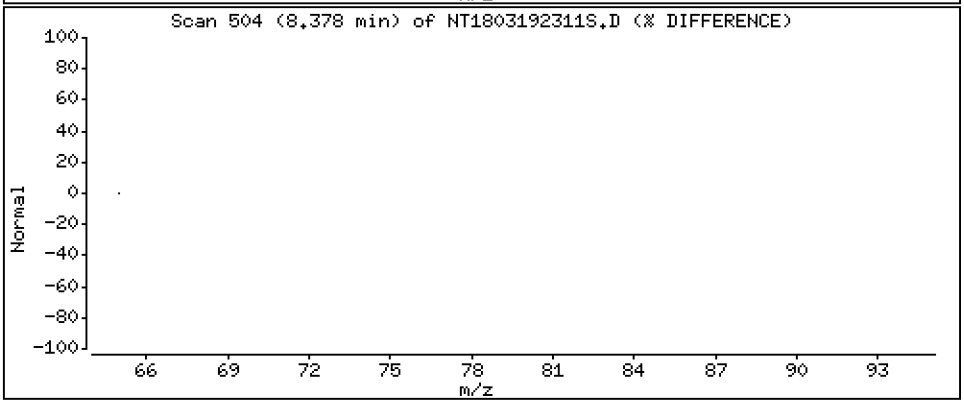












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

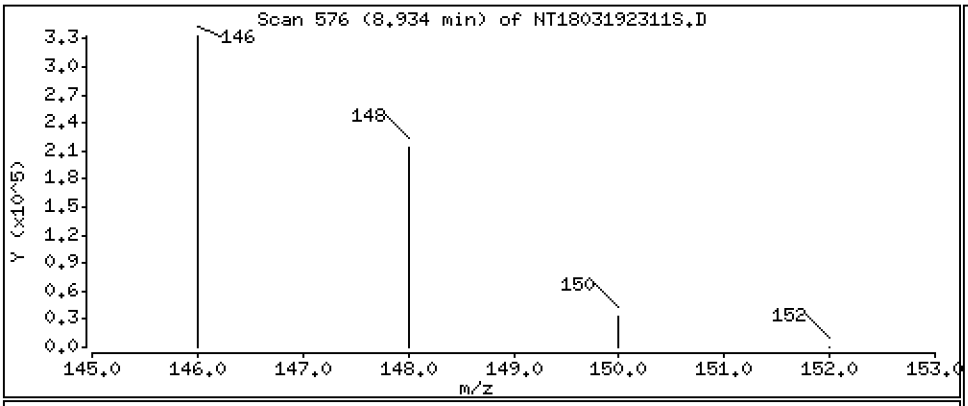
Operator: YZ

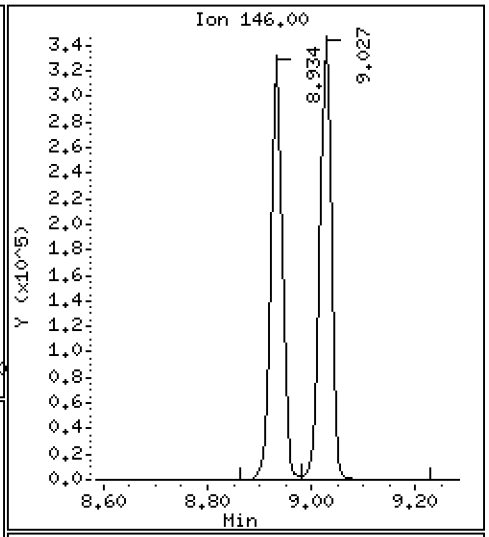
Column phase: ZB-5msi

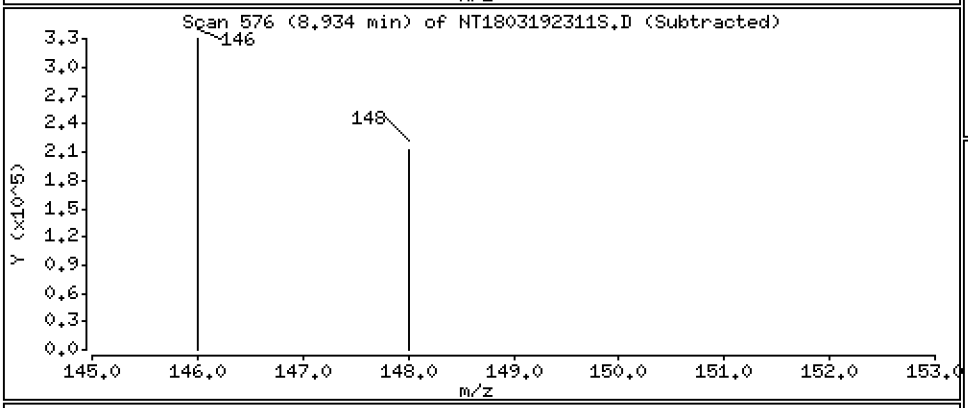
Column diameter: 0.25

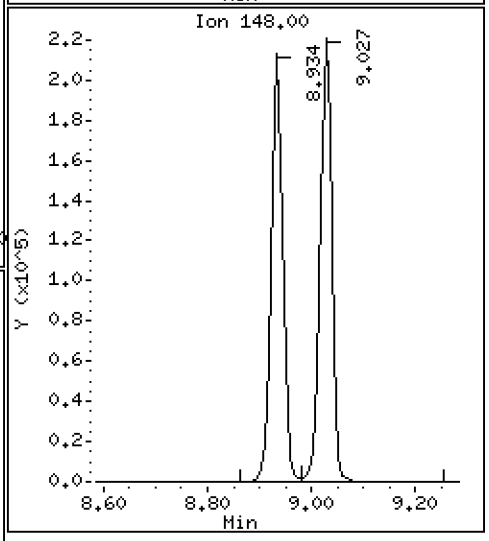
7 1,3-Dichlorobenzene

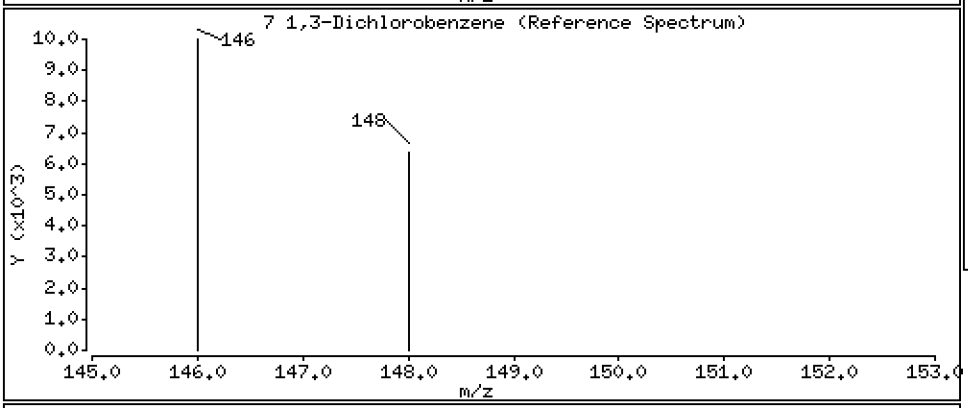
Concentration: 4.806 ug/mL

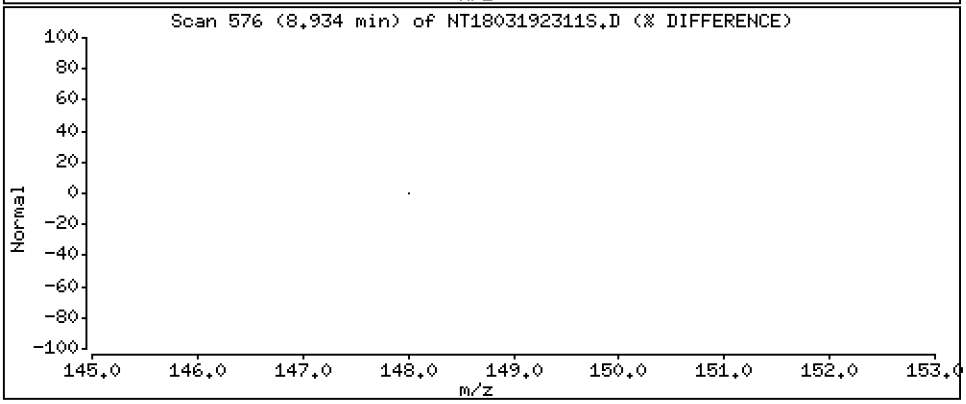












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

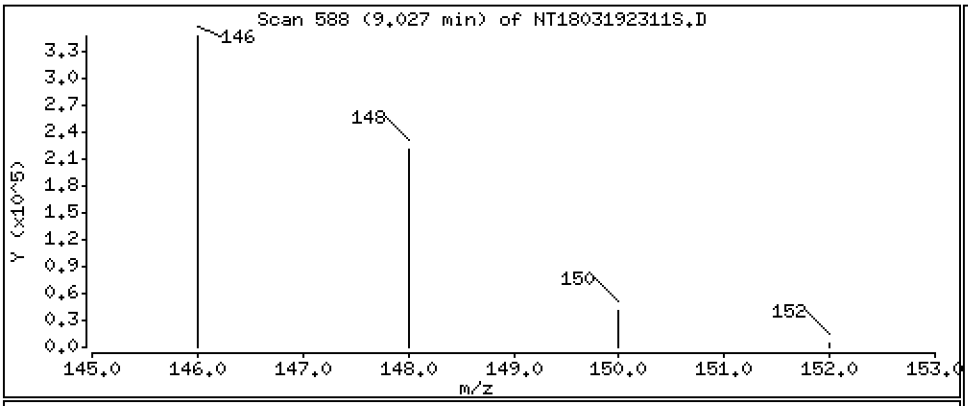
Operator: YZ

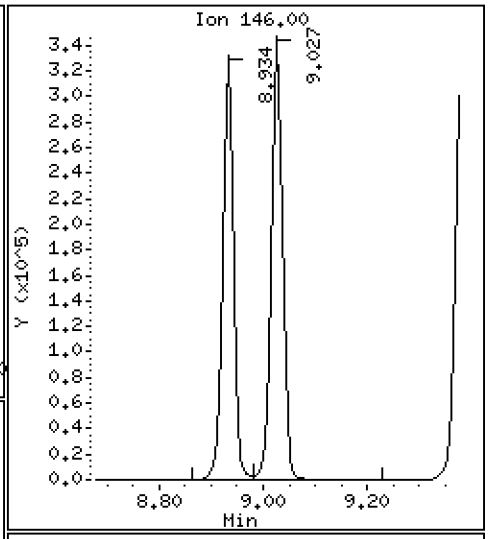
Column phase: ZB-5msi

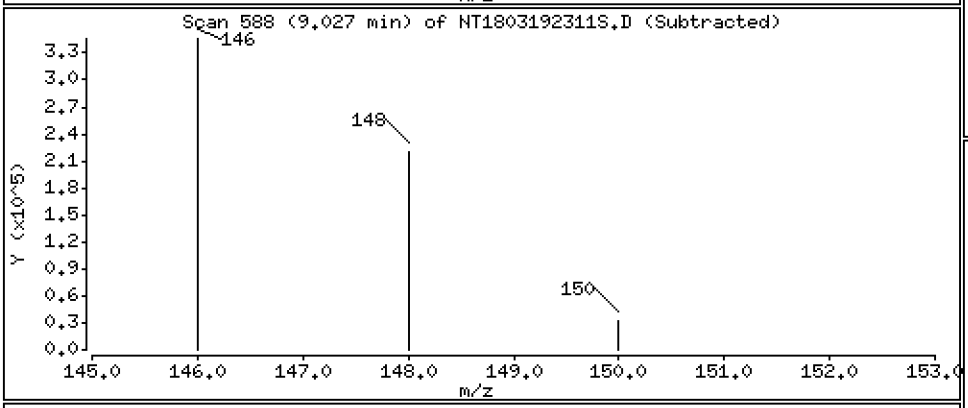
Column diameter: 0.25

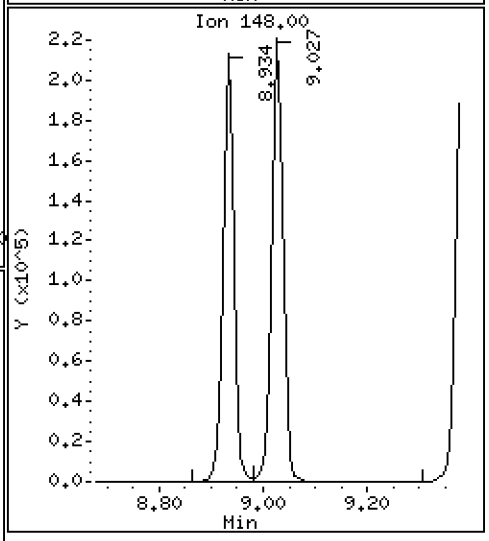
9 1,4-Dichlorobenzene

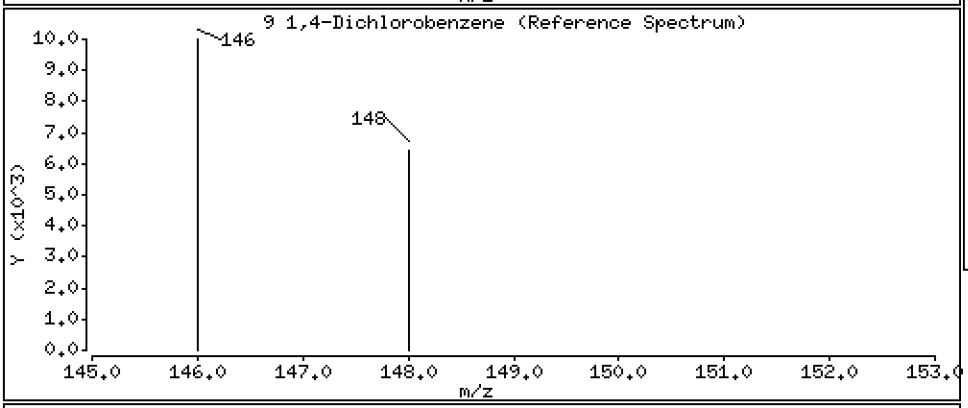
Concentration: 4.816 ug/mL

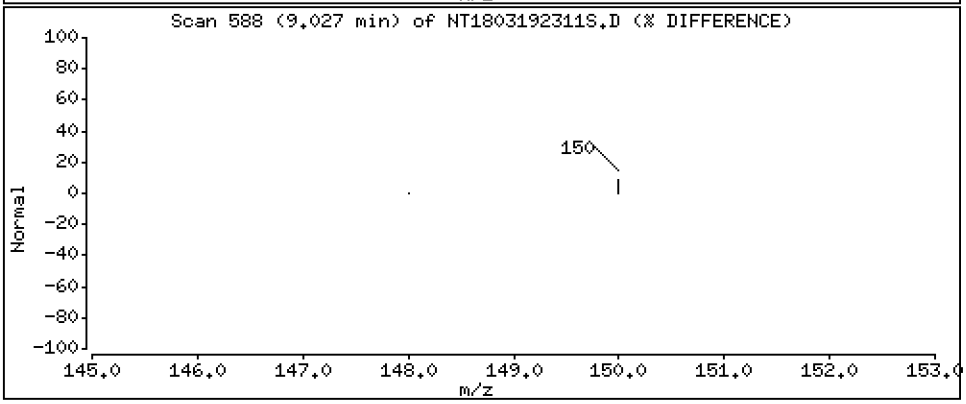












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

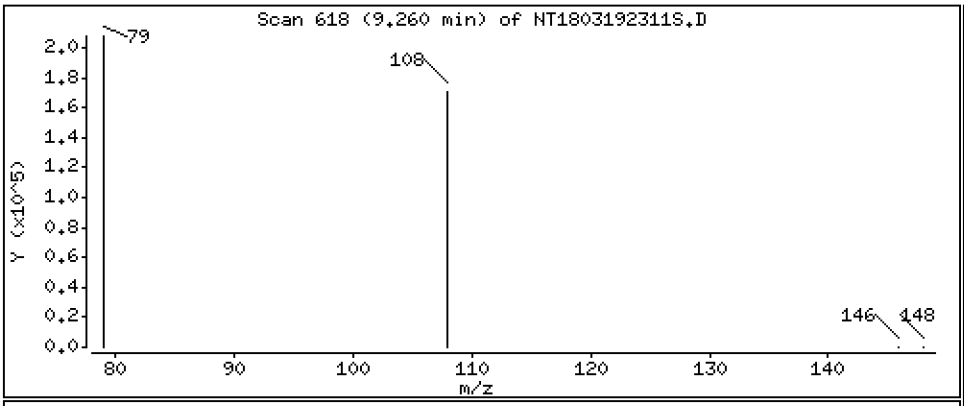
Operator: YZ

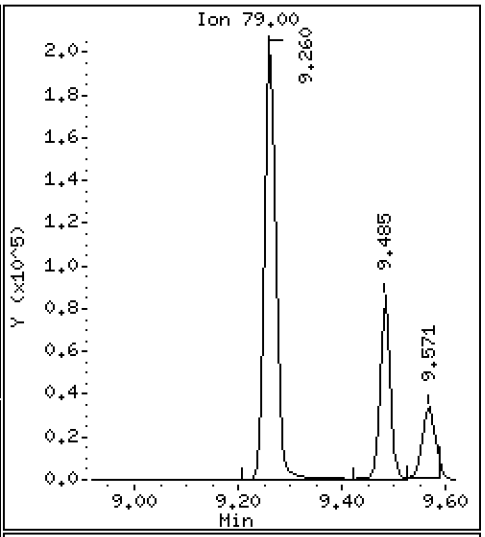
Column phase: ZB-5msi

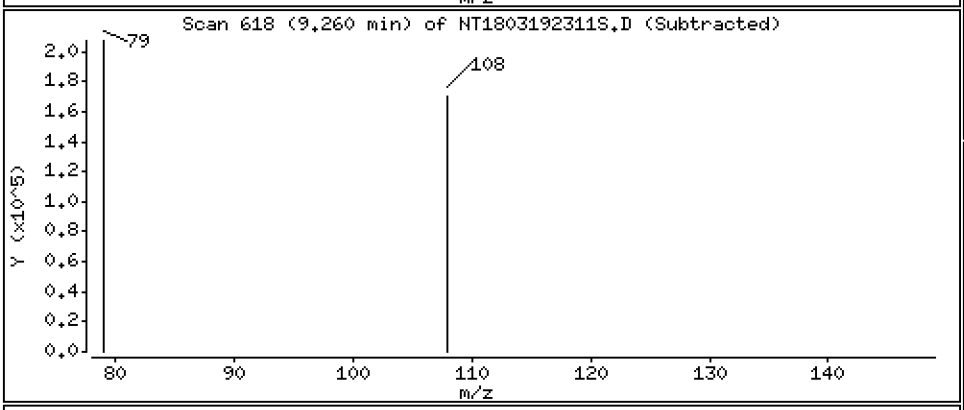
Column diameter: 0.25

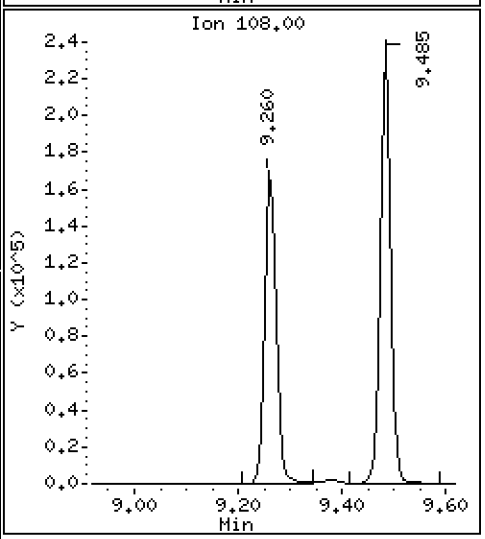
11 Benzyl alcohol

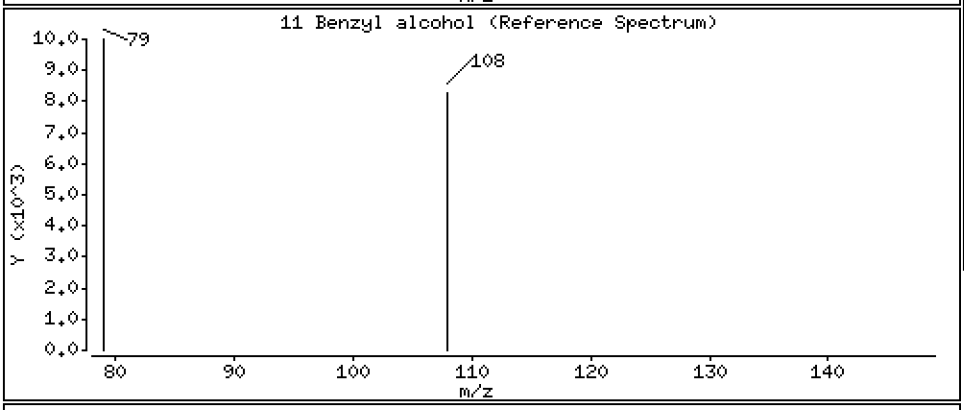
Concentration: 4.892 ug/mL

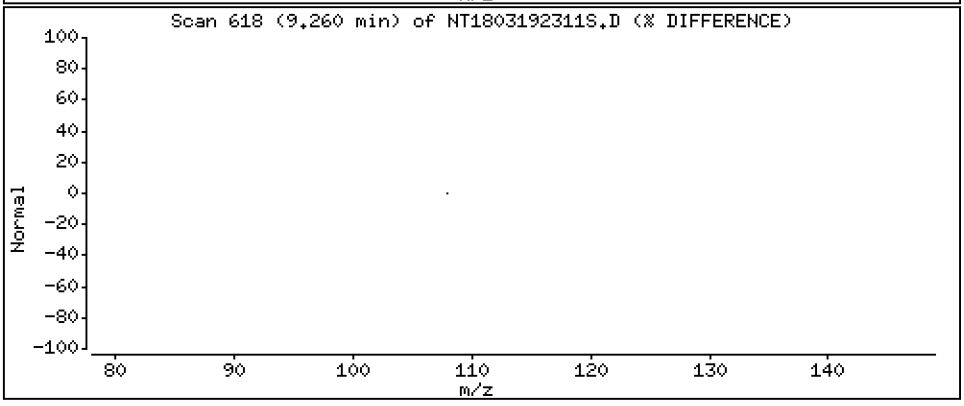












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

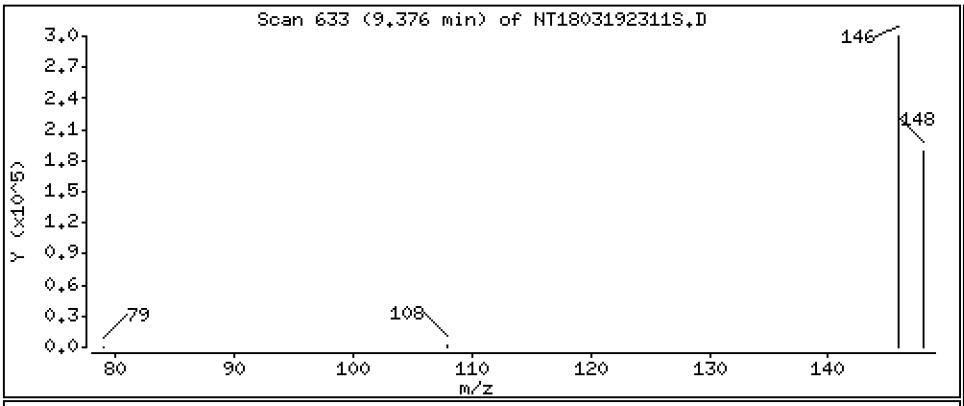
Operator: YZ

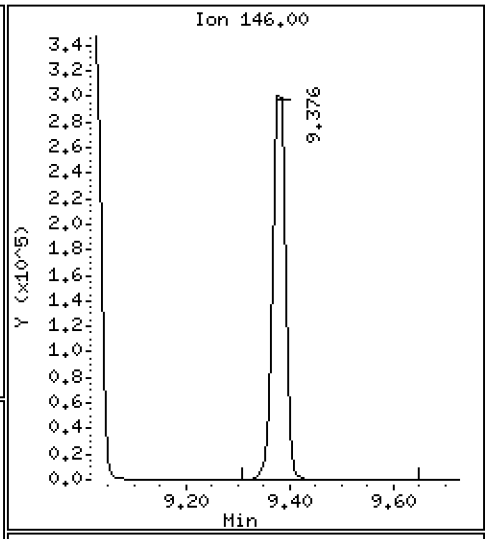
Column phase: ZB-5msi

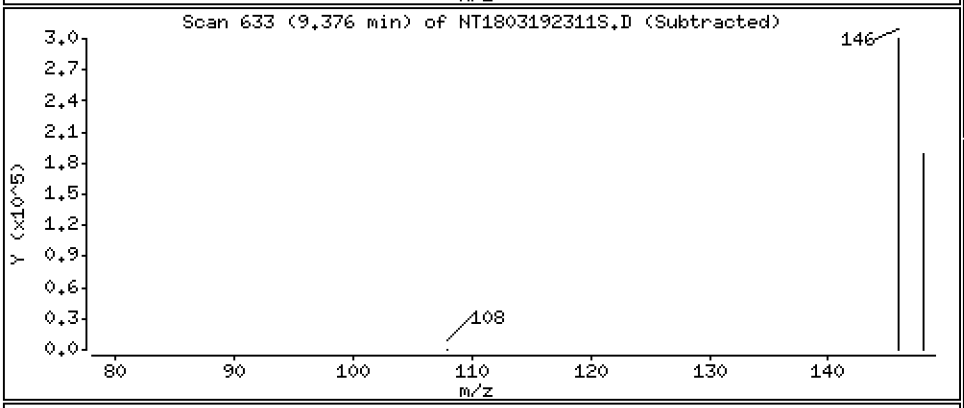
Column diameter: 0.25

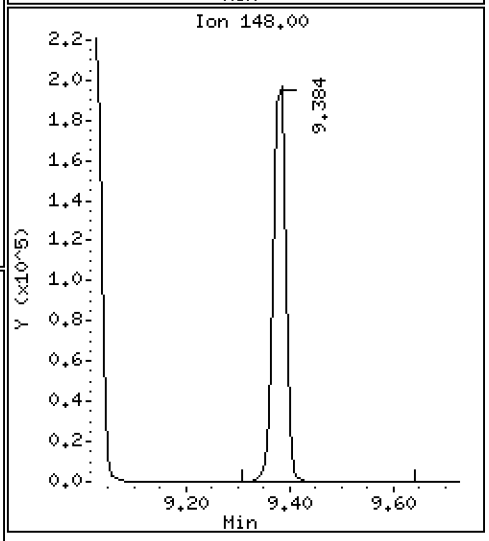
12 1,2-Dichlorobenzene

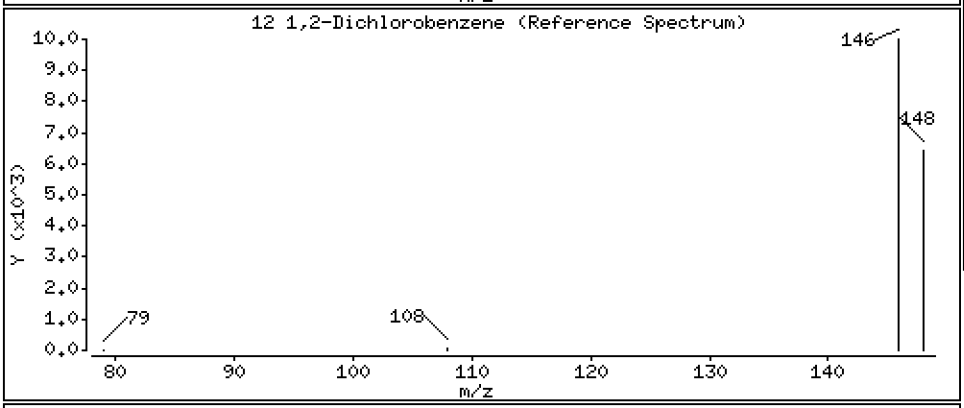
Concentration: 4.745 ug/mL

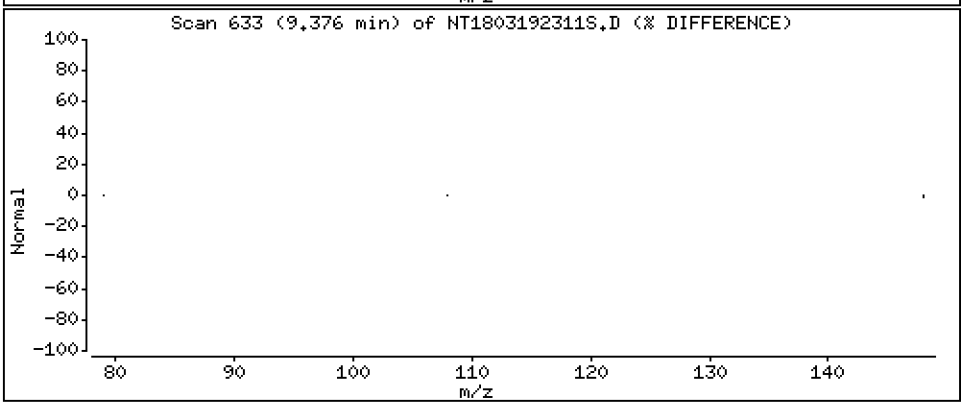












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

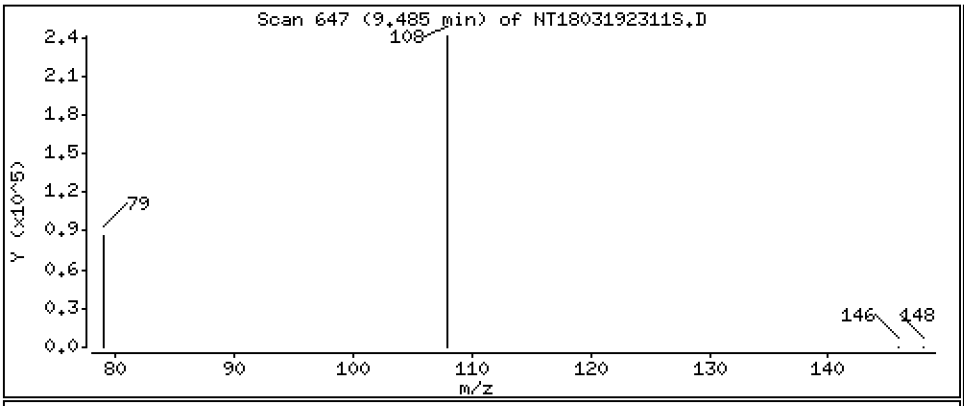
Operator: YZ

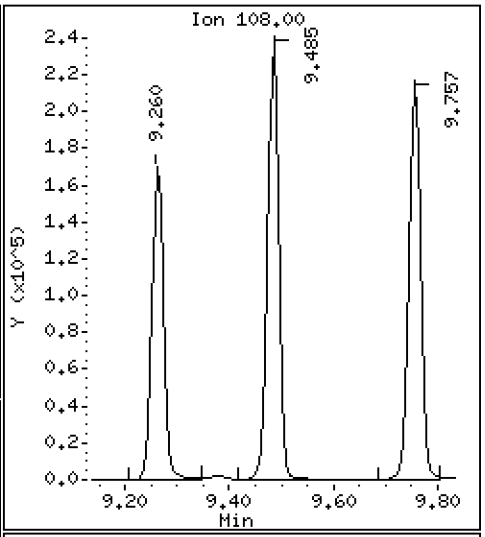
Column phase: ZB-5msi

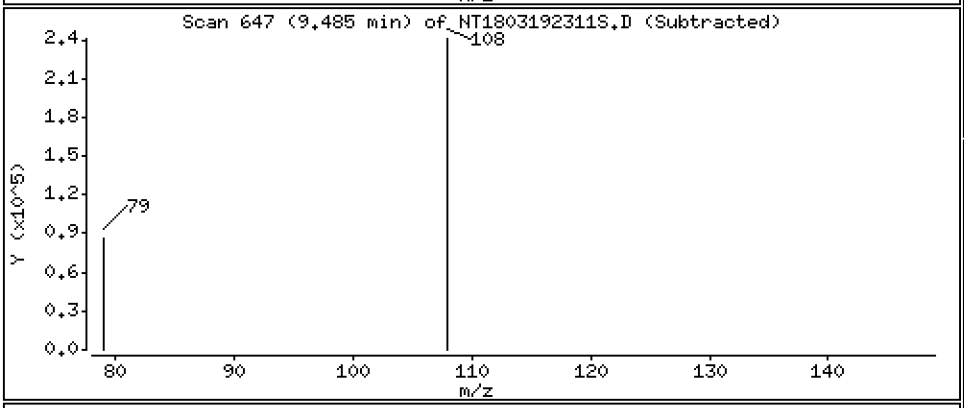
Column diameter: 0.25

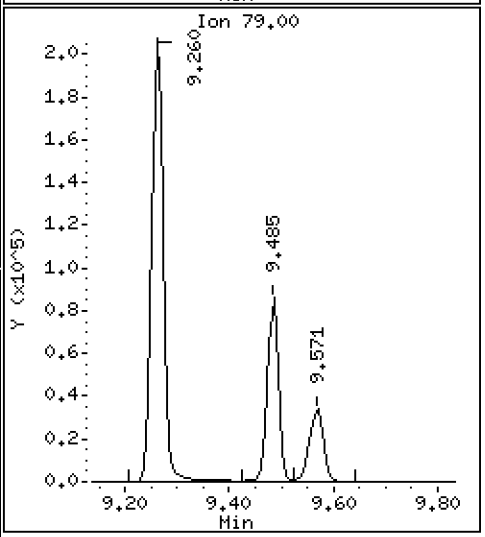
13 2-Methylphenol

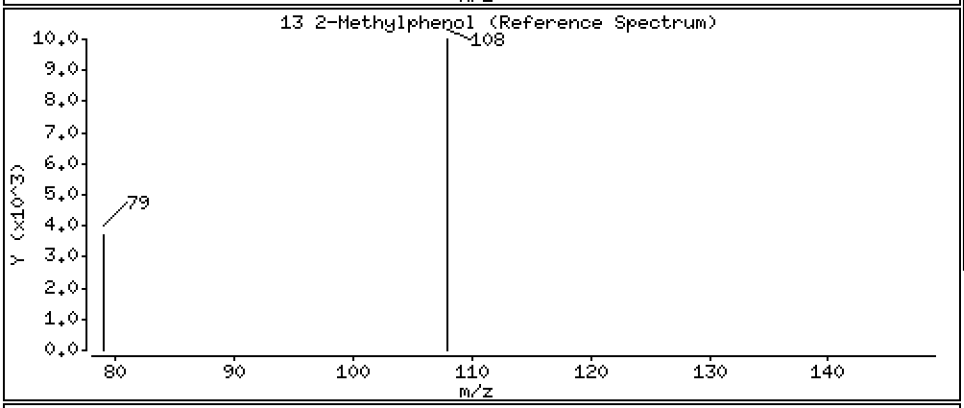
Concentration: 4.462 ug/mL

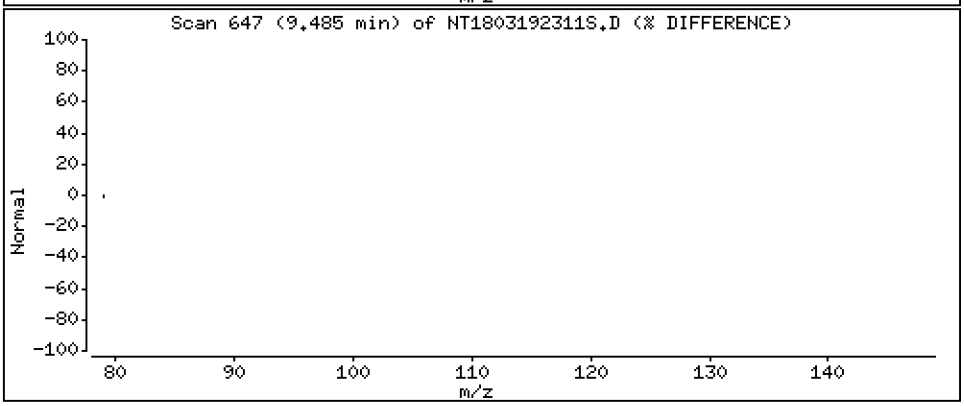












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

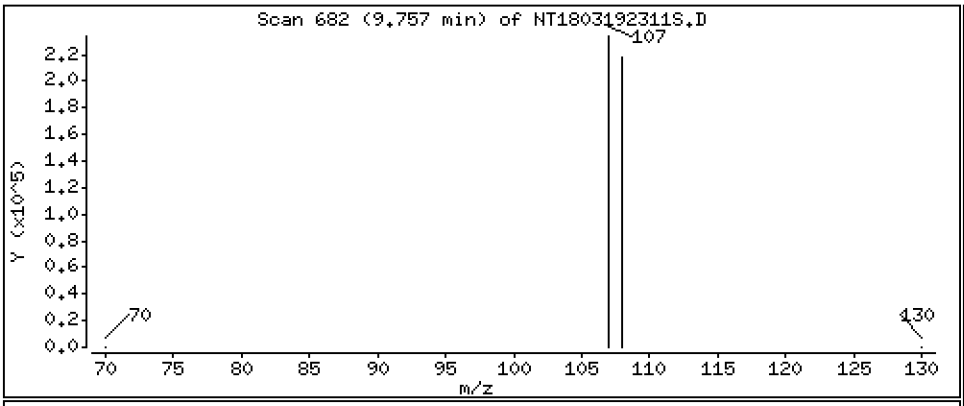
Operator: YZ

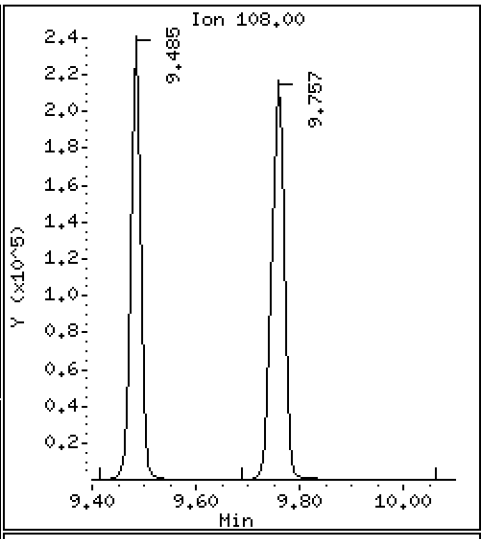
Column phase: ZB-5msi

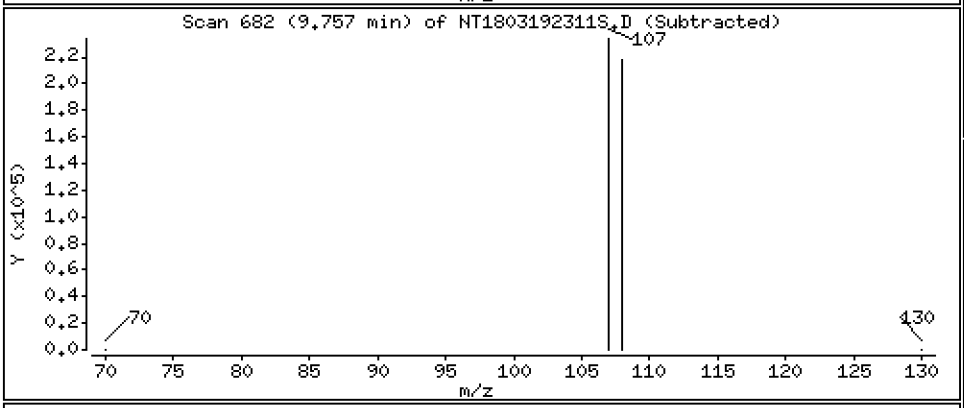
Column diameter: 0.25

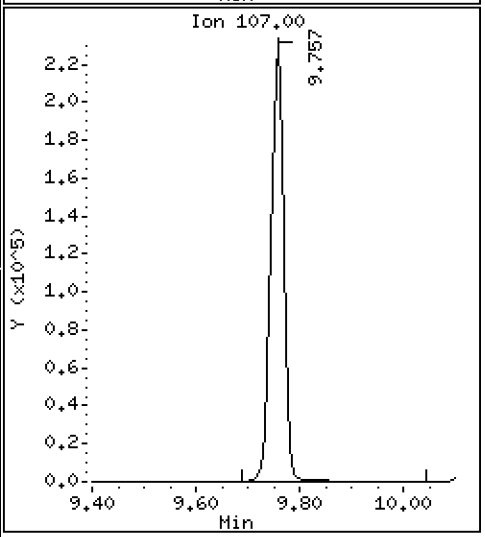
15 4-Methylphenol

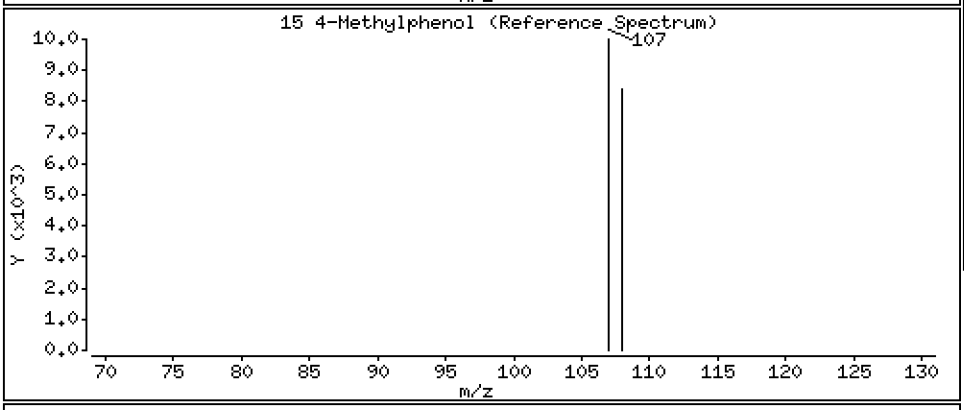
Concentration: 4.689 ug/mL

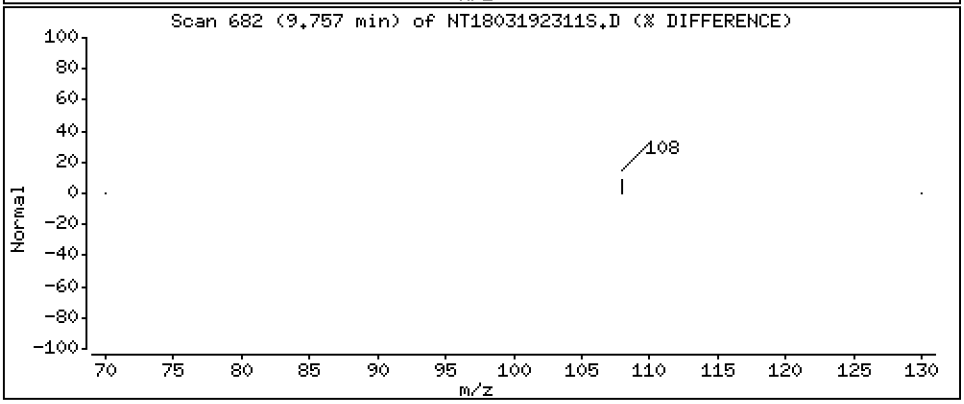












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

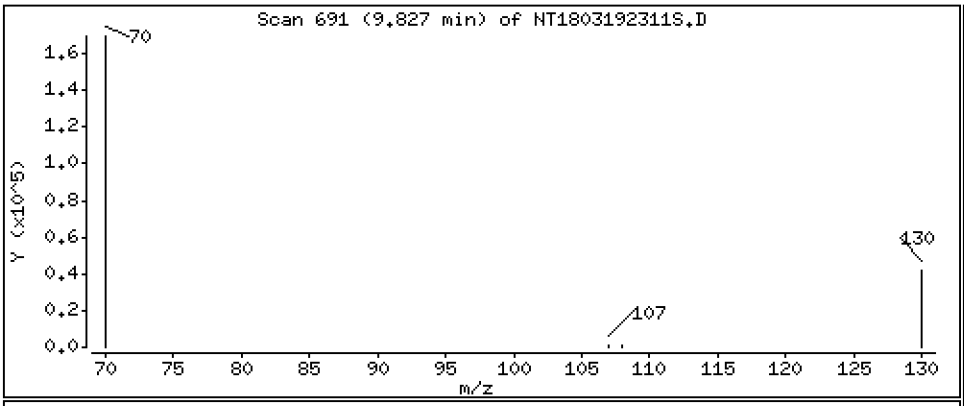
Operator: YZ

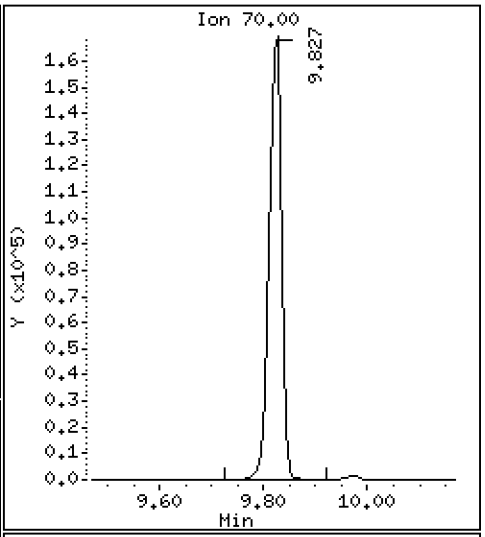
Column phase: ZB-5msi

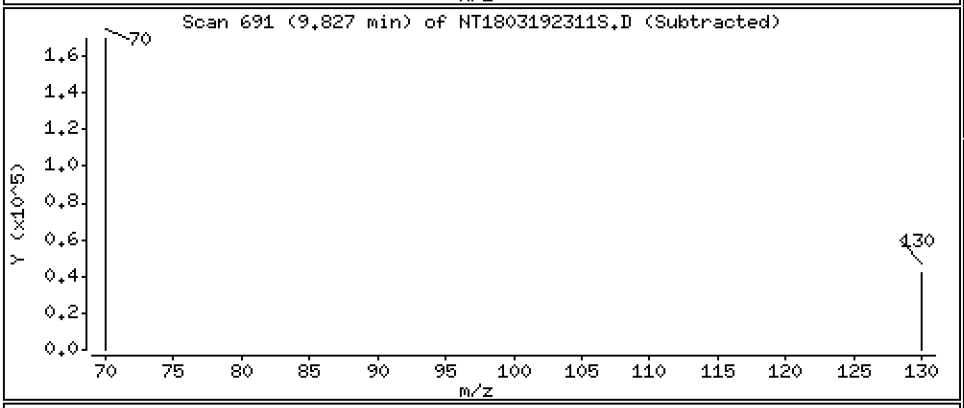
Column diameter: 0.25

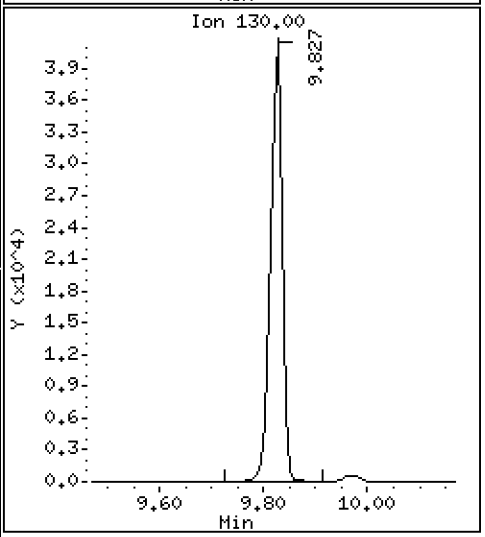
16 N-Nitroso-di-n-propylamine

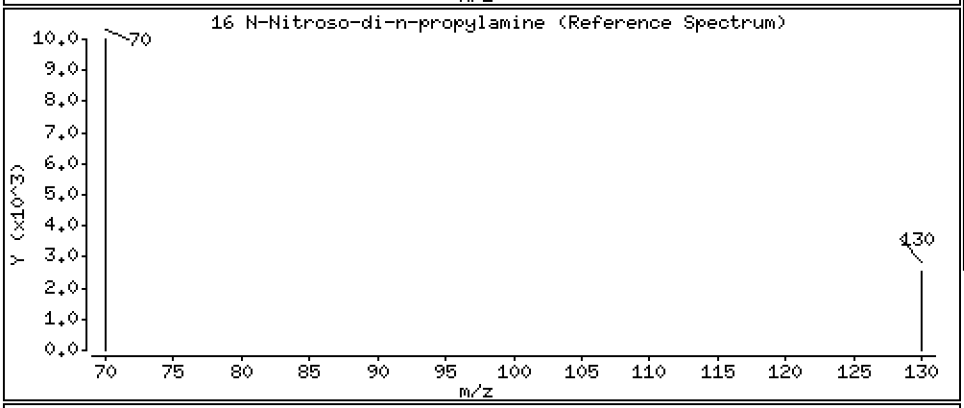
Concentration: 5.256 ug/mL

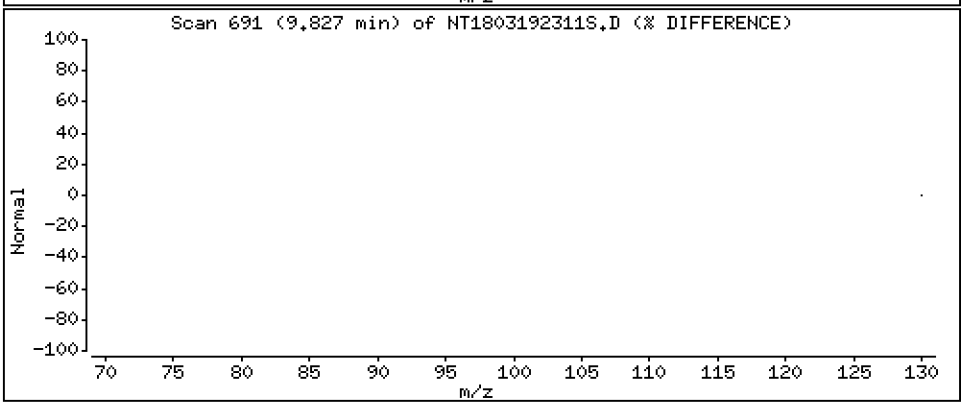












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

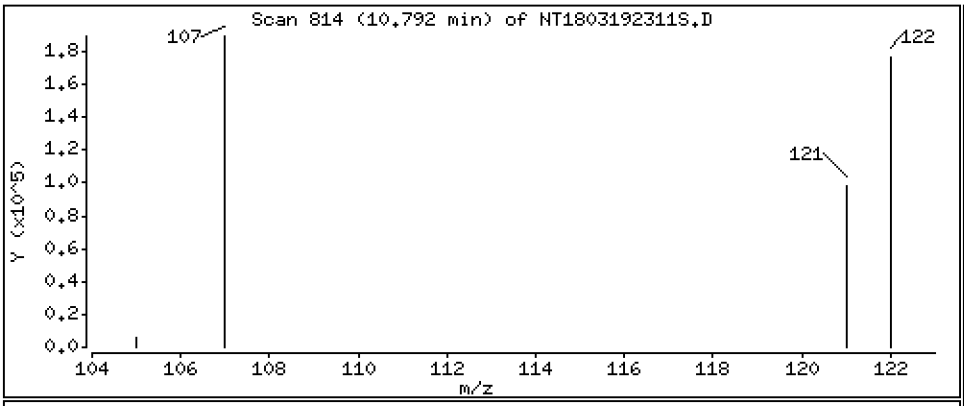
Operator: YZ

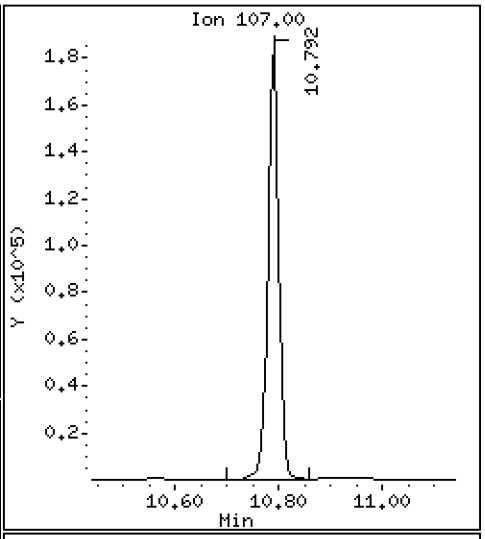
Column phase: ZB-5msi

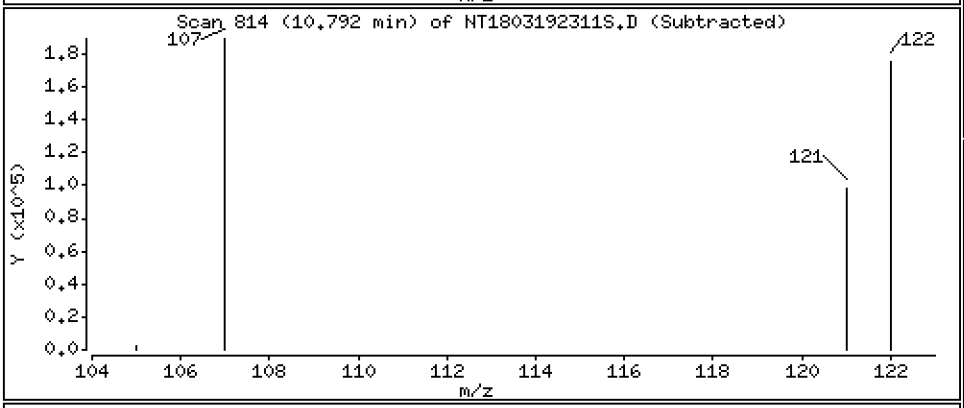
Column diameter: 0.25

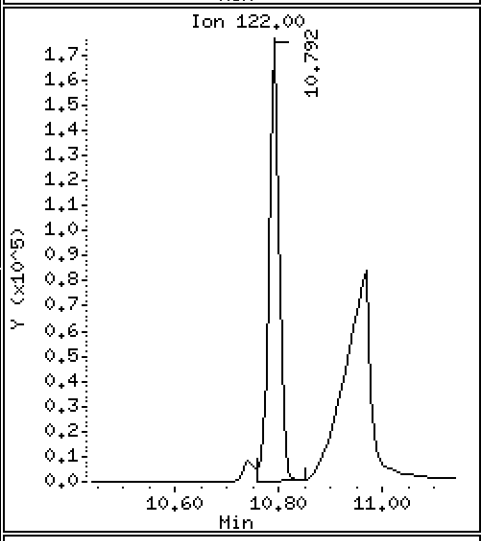
22 2,4-Dimethylphenol

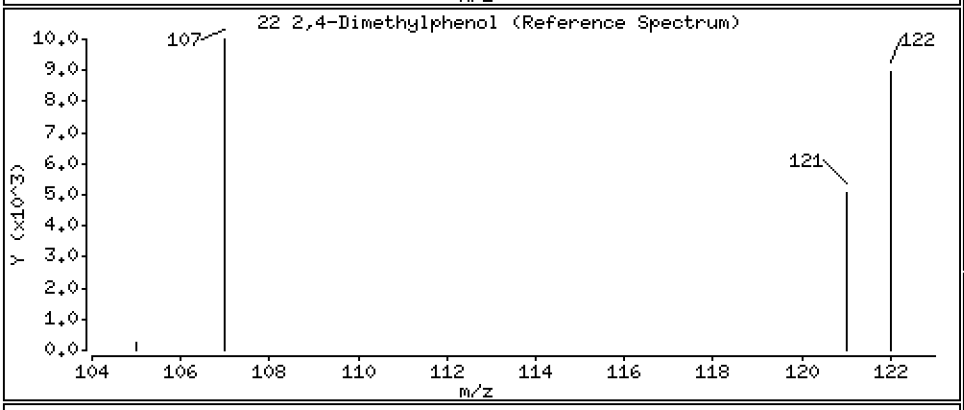
Concentration: 3.919 ug/mL

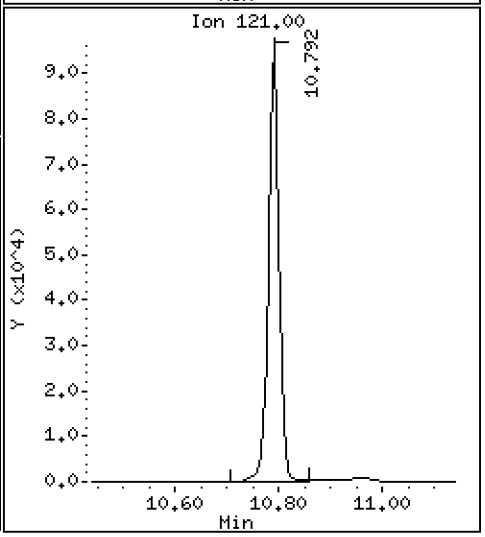


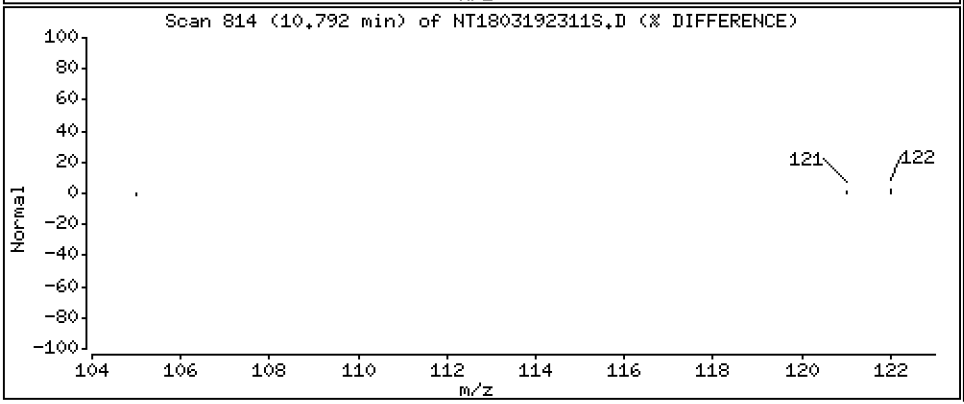












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

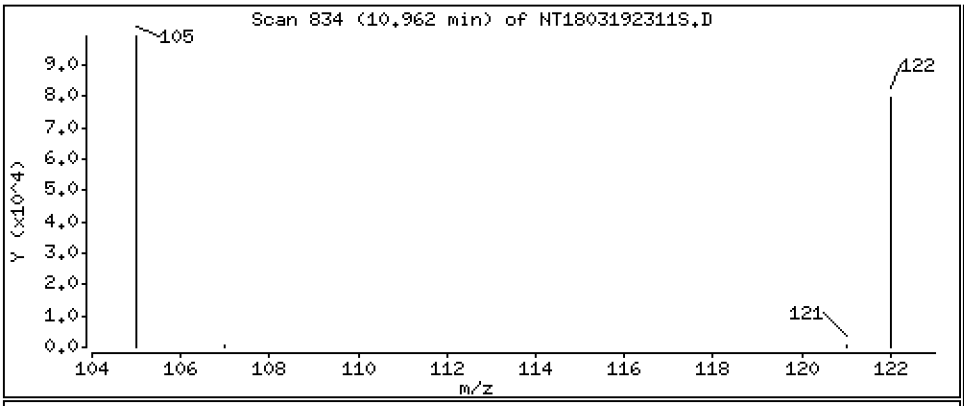
Operator: YZ

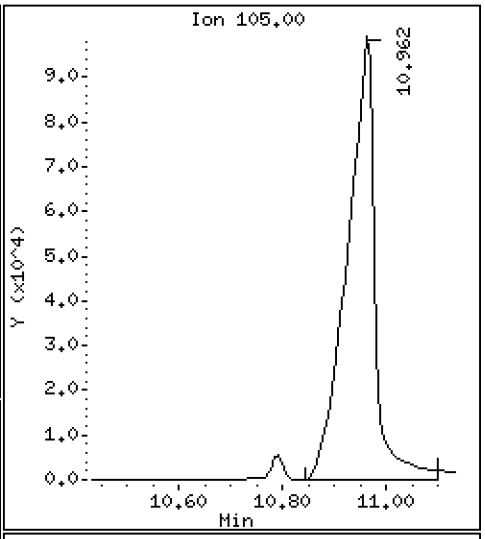
Column phase: ZB-5msi

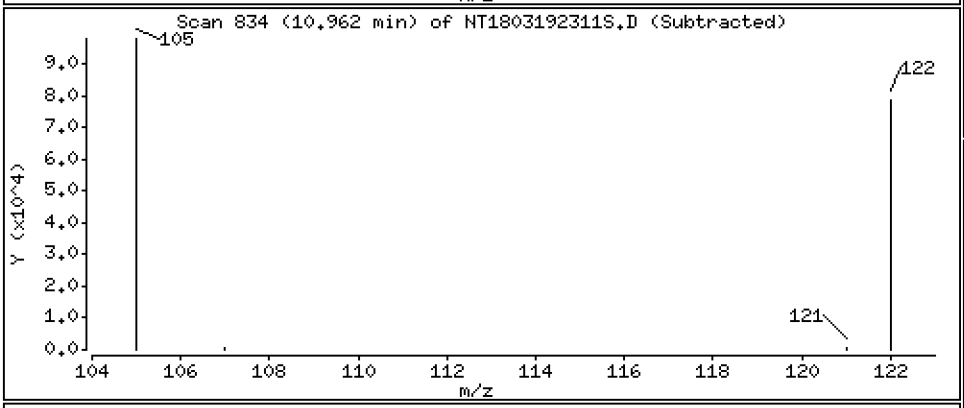
Column diameter: 0.25

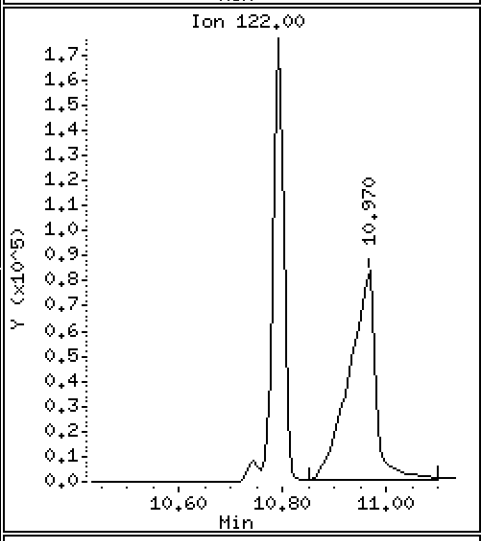
24 Benzoic acid

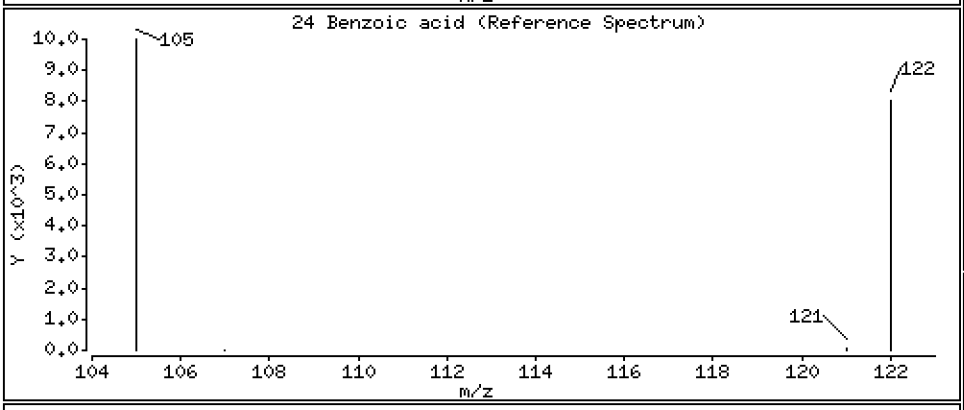
Concentration: 7.324 ug/mL

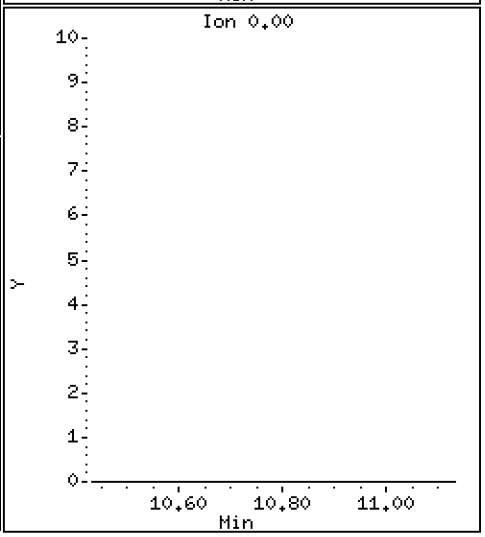


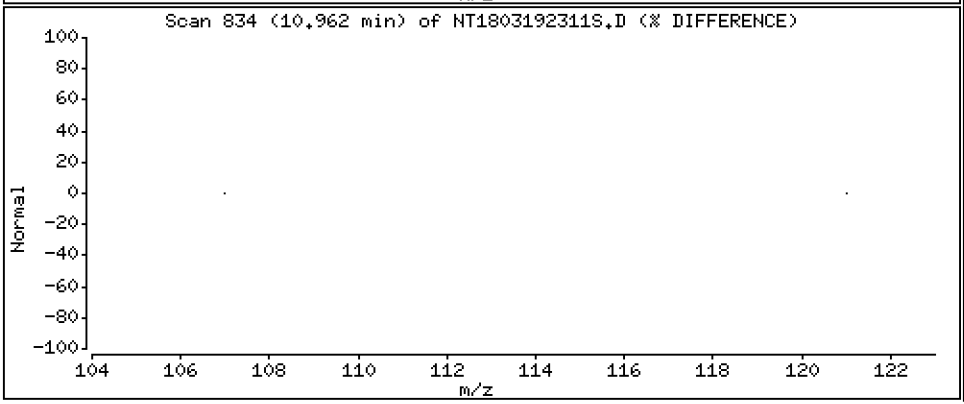












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

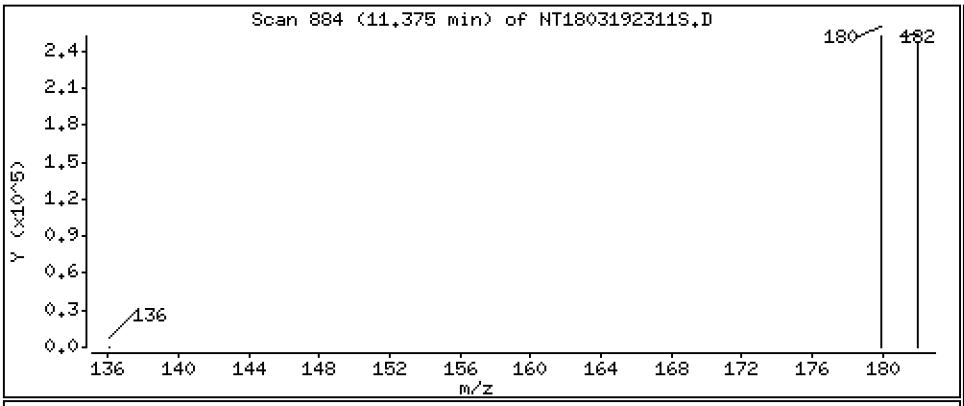
Operator: YZ

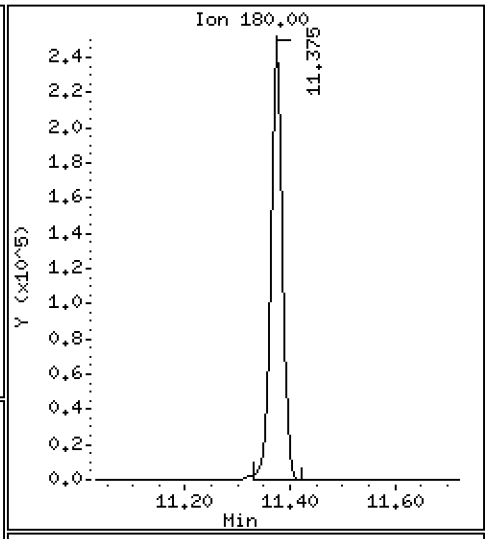
Column phase: ZB-5msi

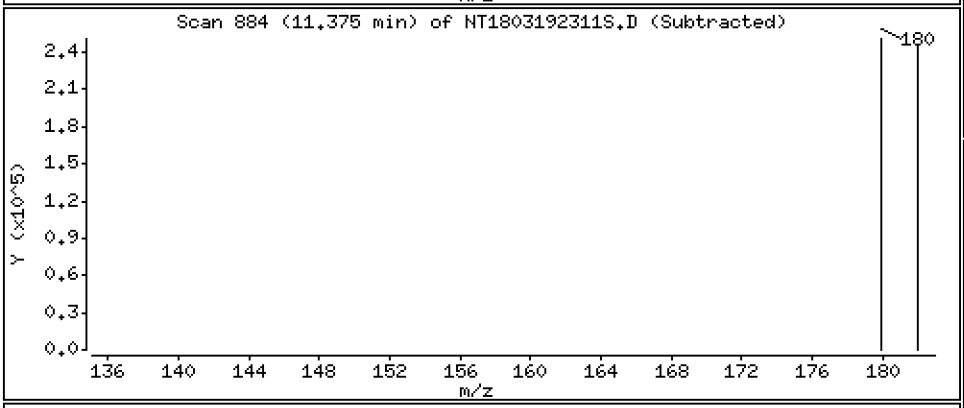
Column diameter: 0.25

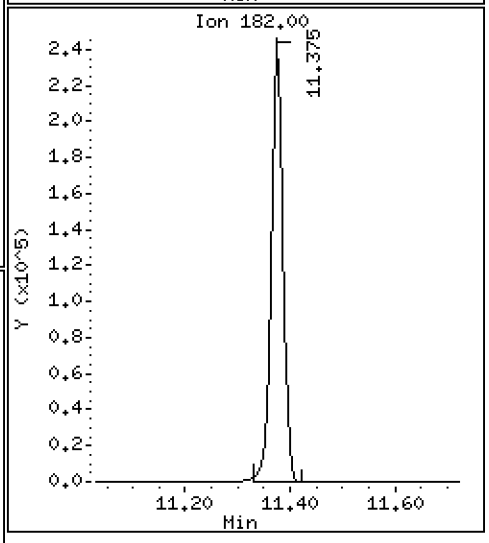
26 1,2,4-Trichlorobenzene

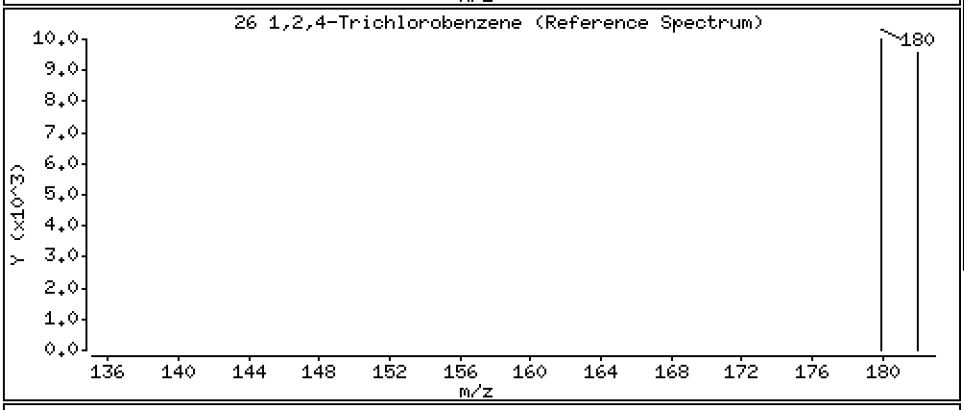
Concentration: 4.690 ug/mL

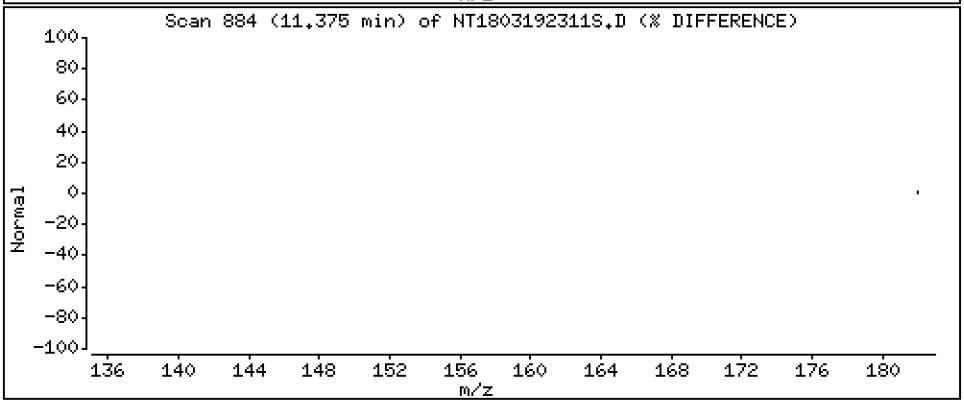












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

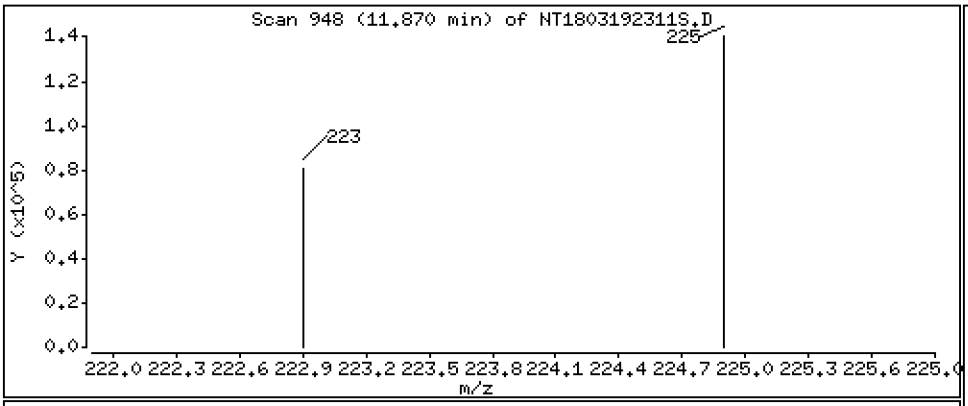
Operator: YZ

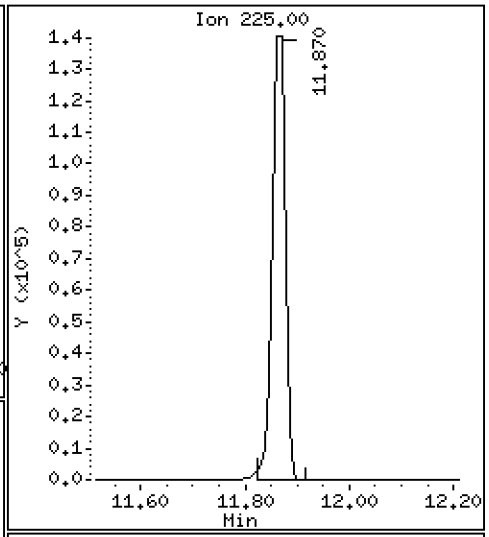
Column phase: ZB-5msi

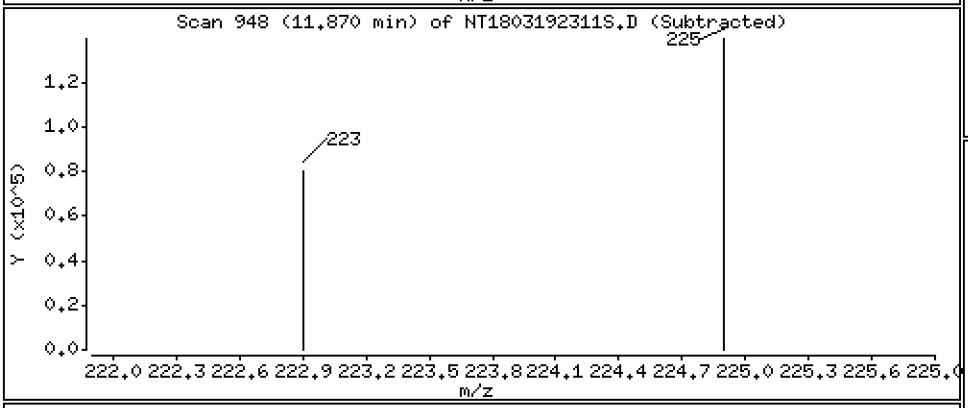
Column diameter: 0.25

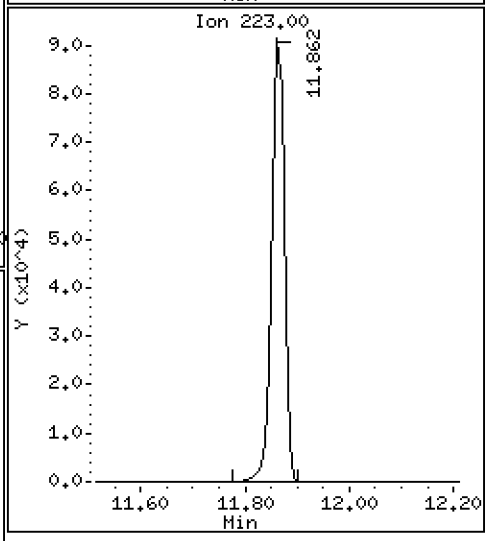
30 Hexachlorobutadiene

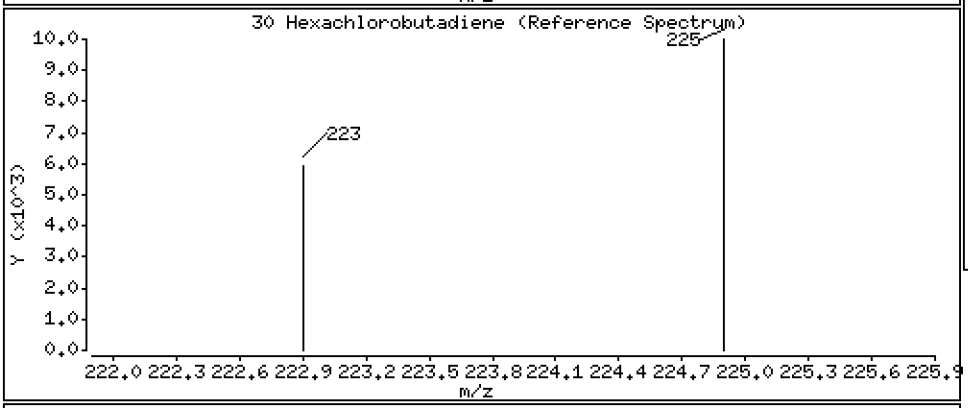
Concentration: 4.874 ug/mL

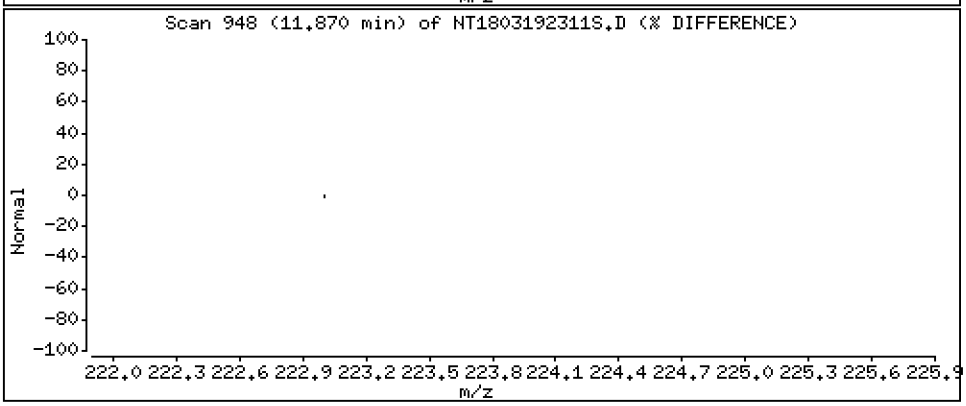












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

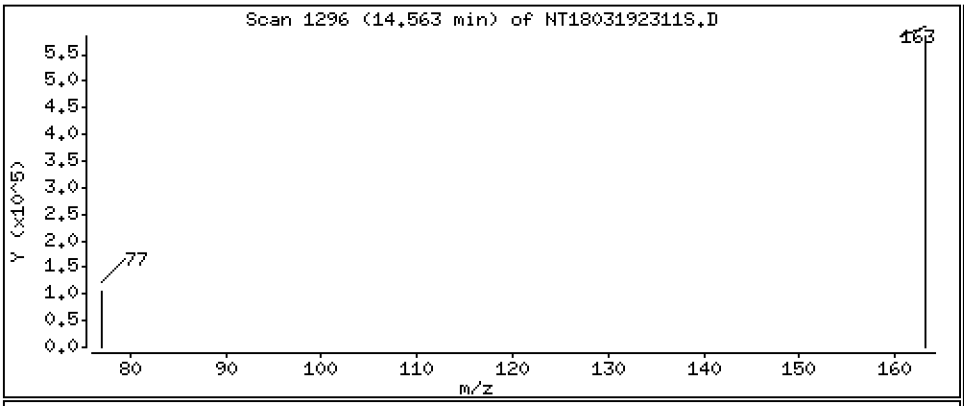
Operator: YZ

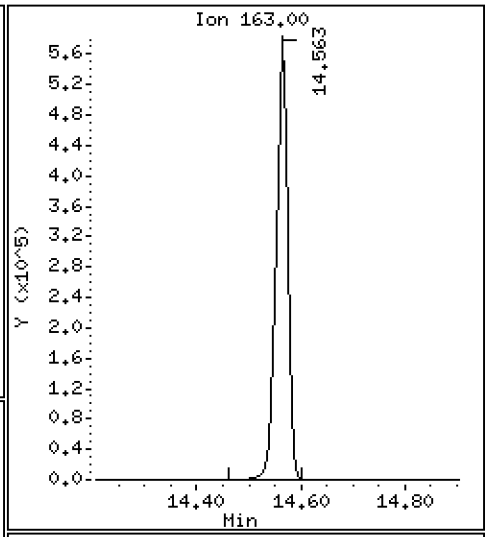
Column phase: ZB-5msi

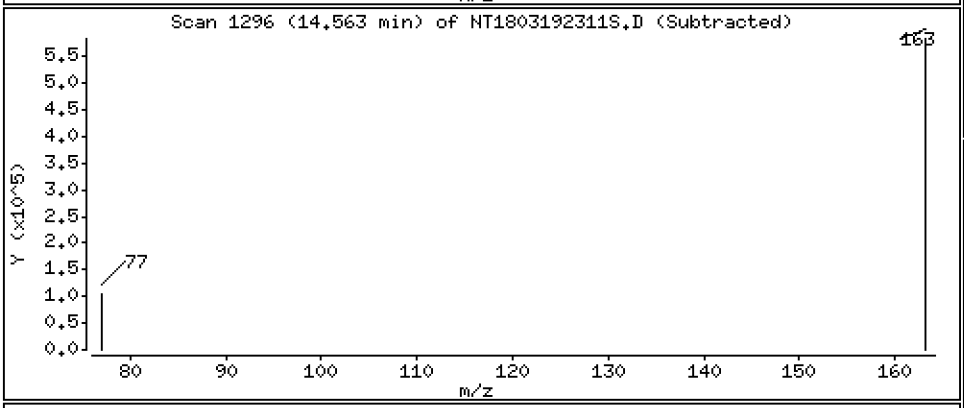
Column diameter: 0.25

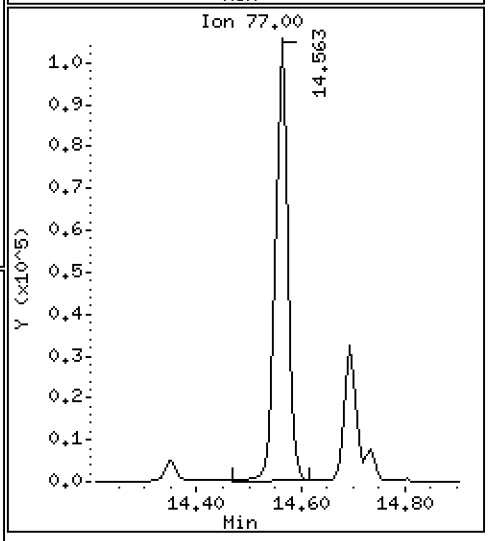
39 Dimethylphthalate

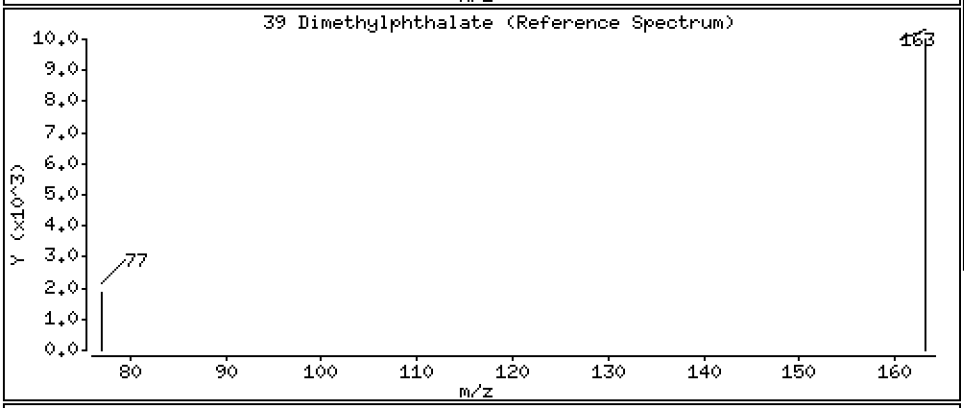
Concentration: 5.227 ug/mL

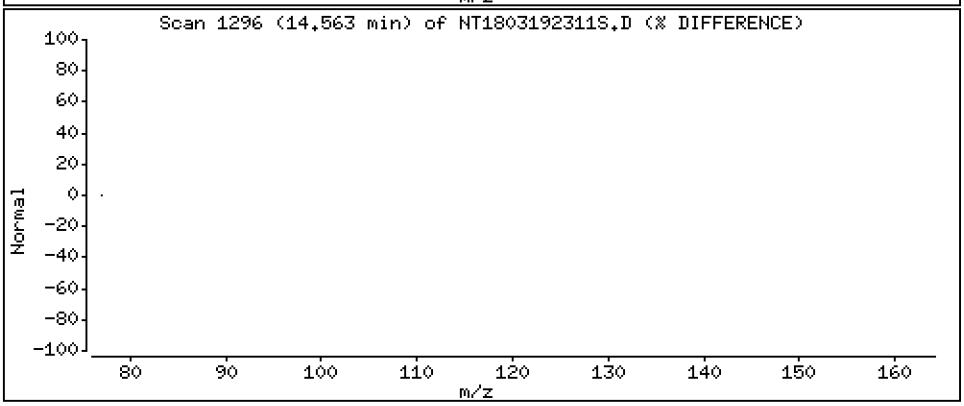












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

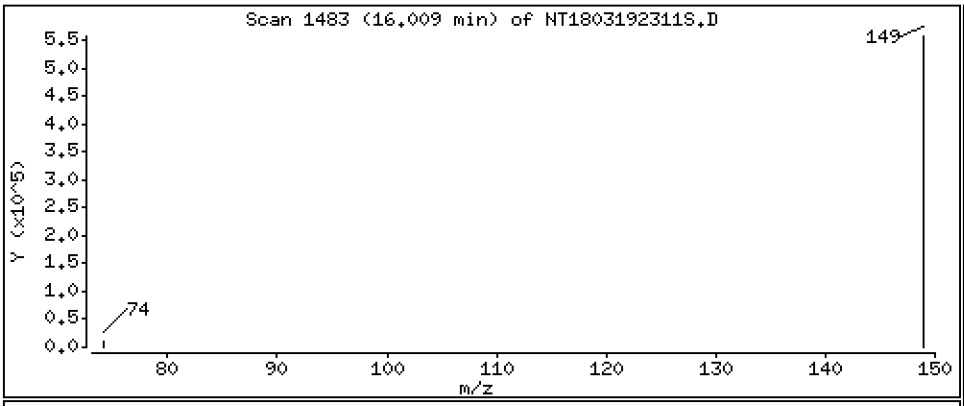
Operator: YZ

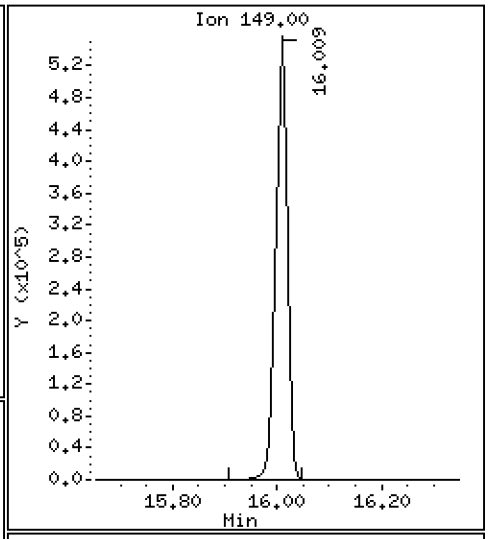
Column phase: ZB-5msi

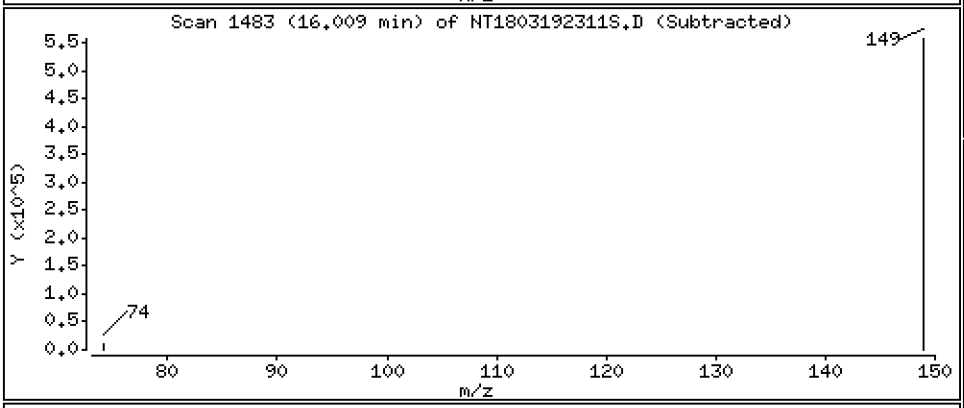
Column diameter: 0.25

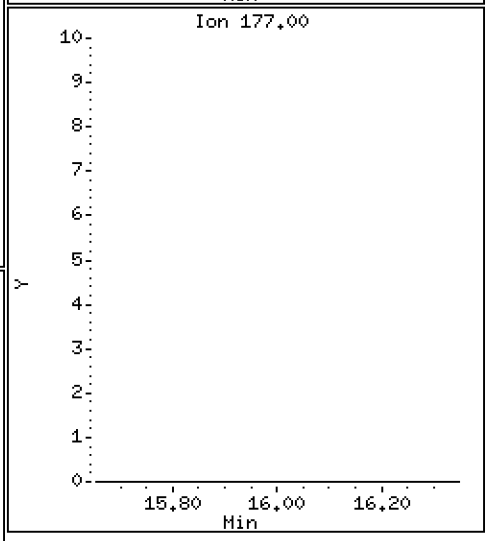
50 Diethylphthalate

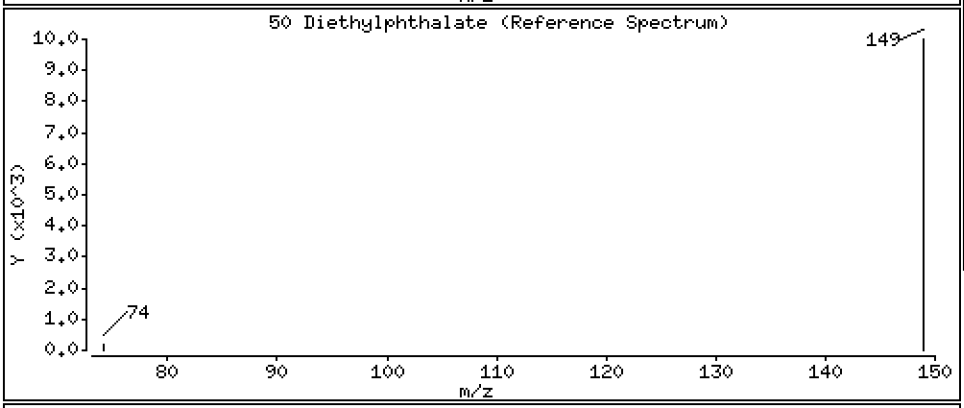
Concentration: 5.521 ug/mL

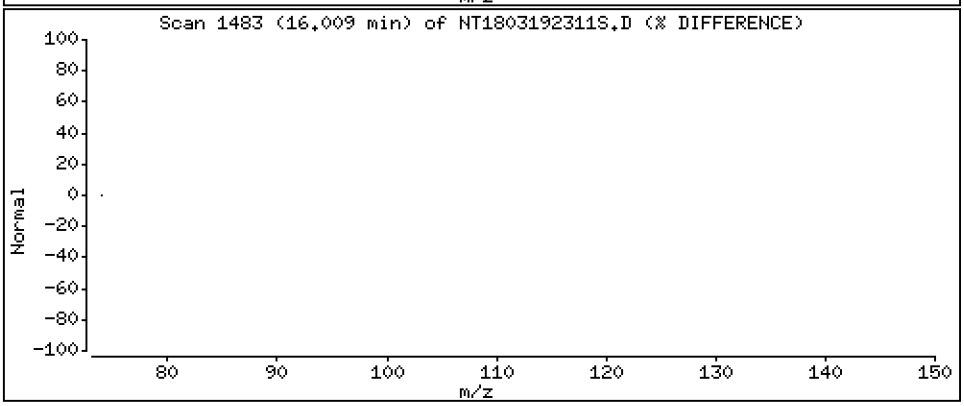












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT18031923115.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

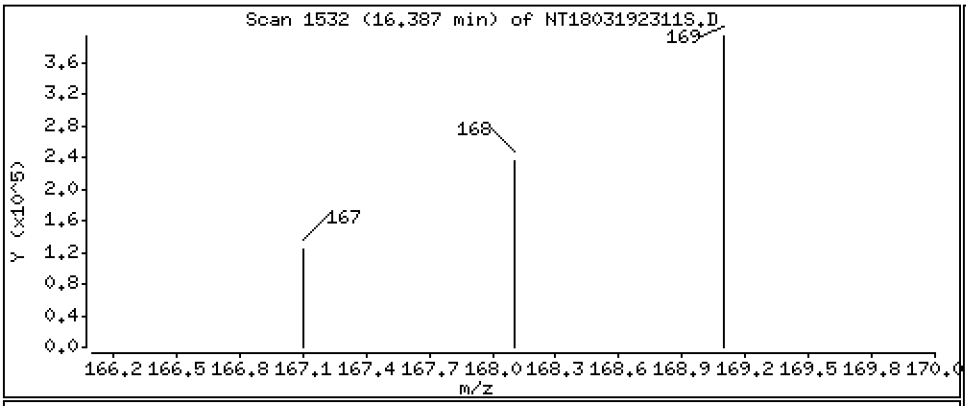
Operator: YZ

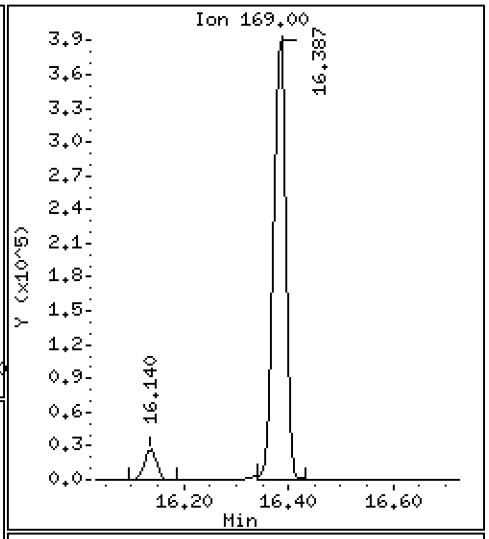
Column phase: ZB-5msi

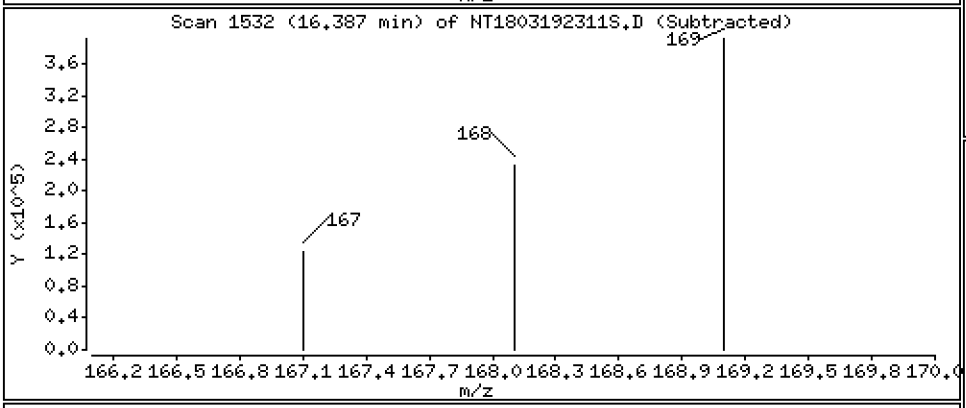
Column diameter: 0.25

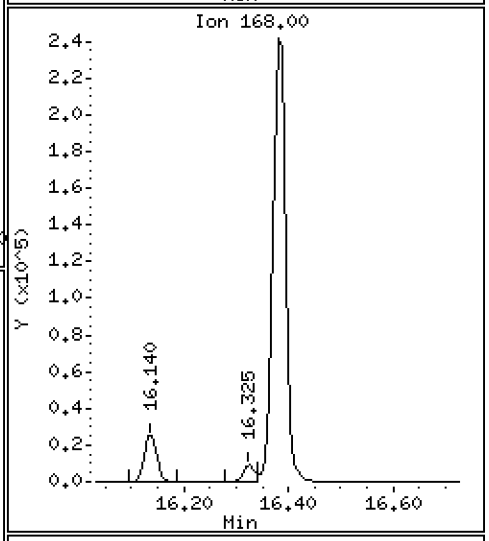
54 N-Nitrosodiphenylamine

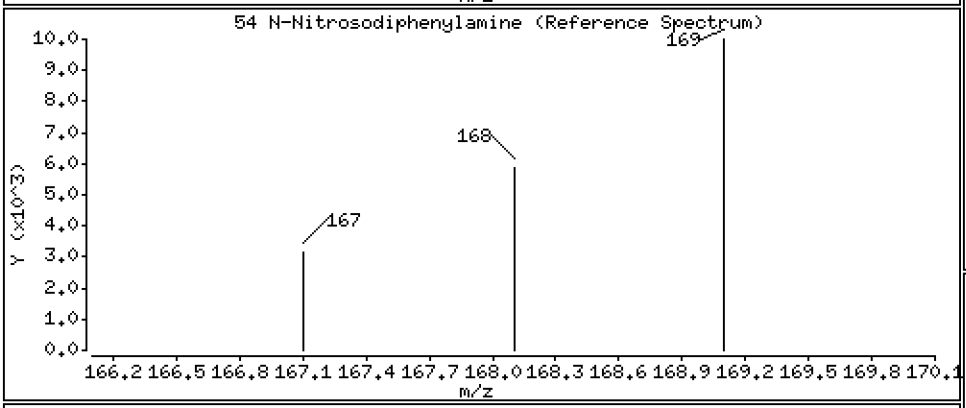
Concentration: 5.554 ug/mL

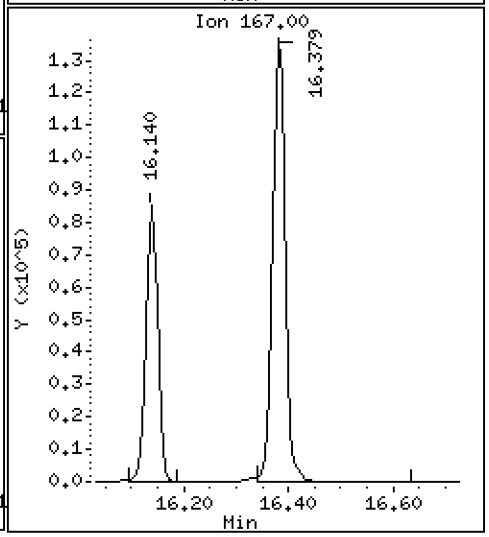


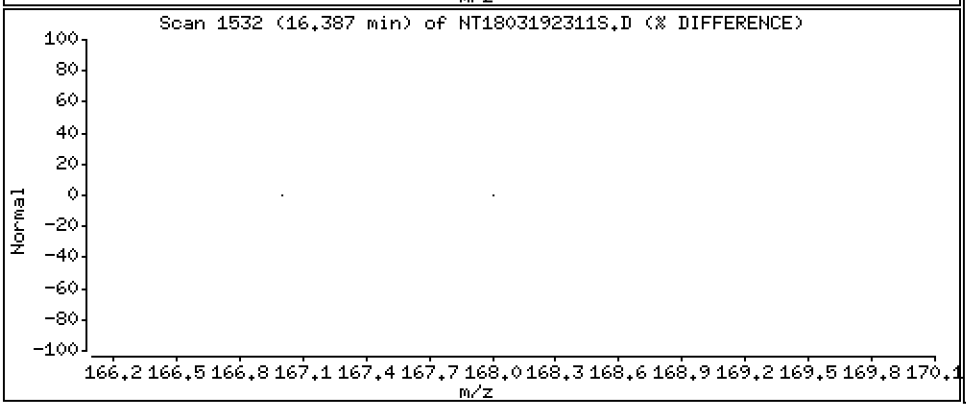












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

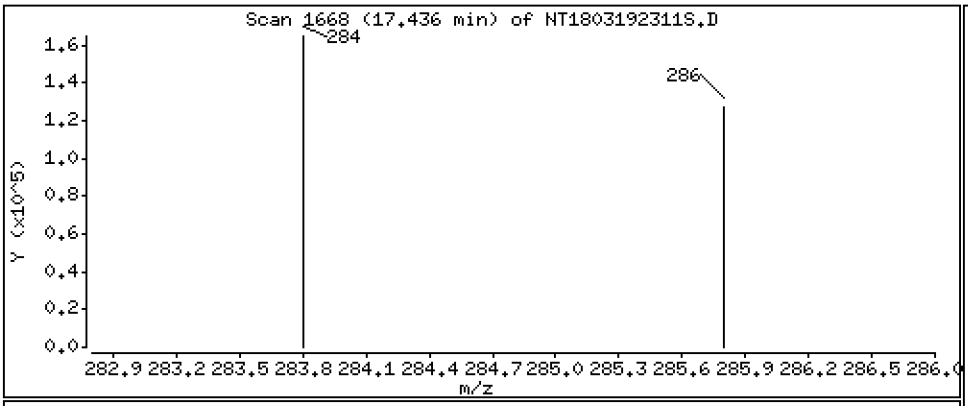
Operator: YZ

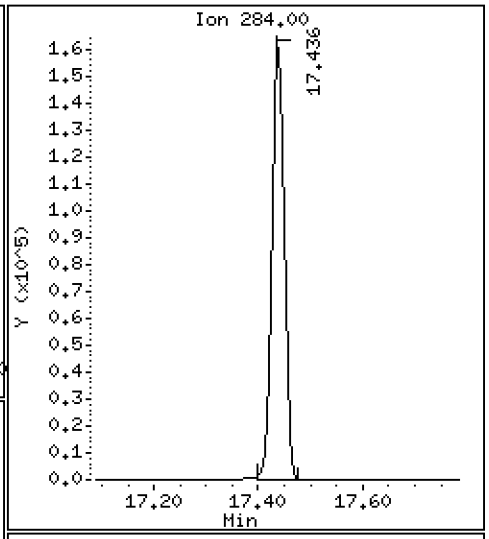
Column phase: ZB-5msi

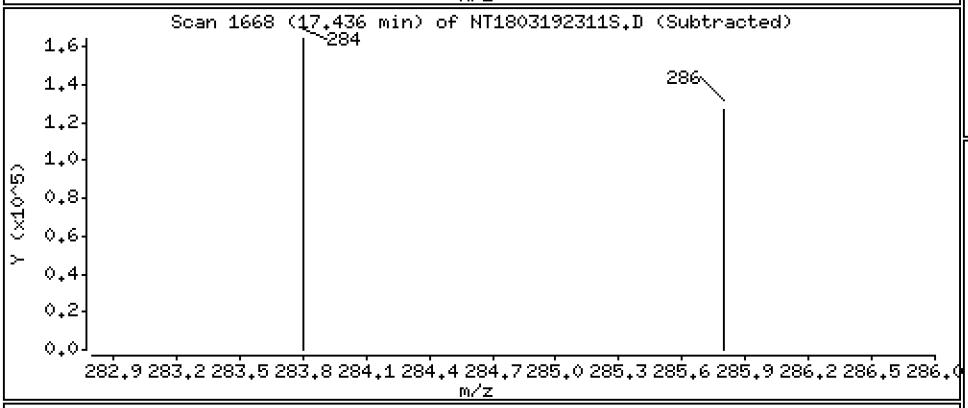
Column diameter: 0.25

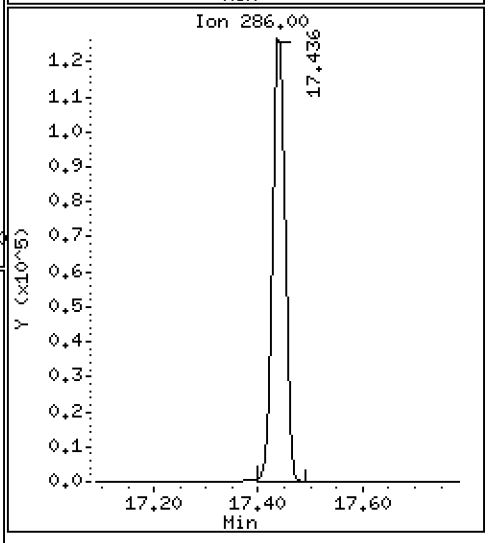
57 Hexachlorobenzene

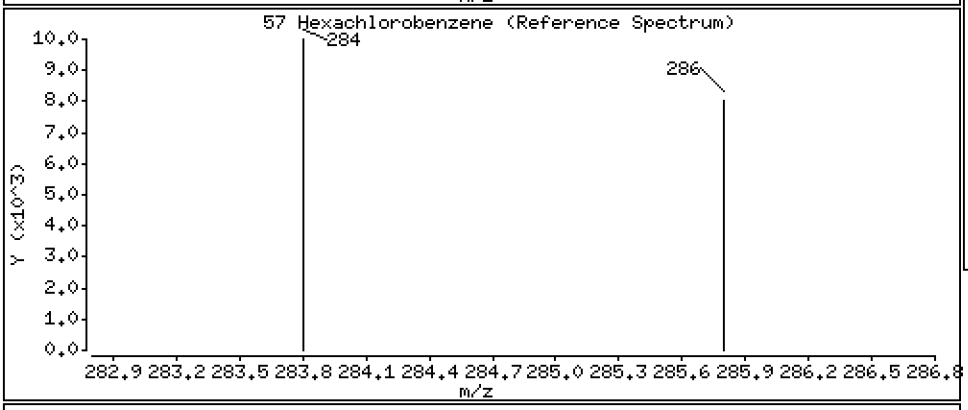
Concentration: 4.887 ug/mL

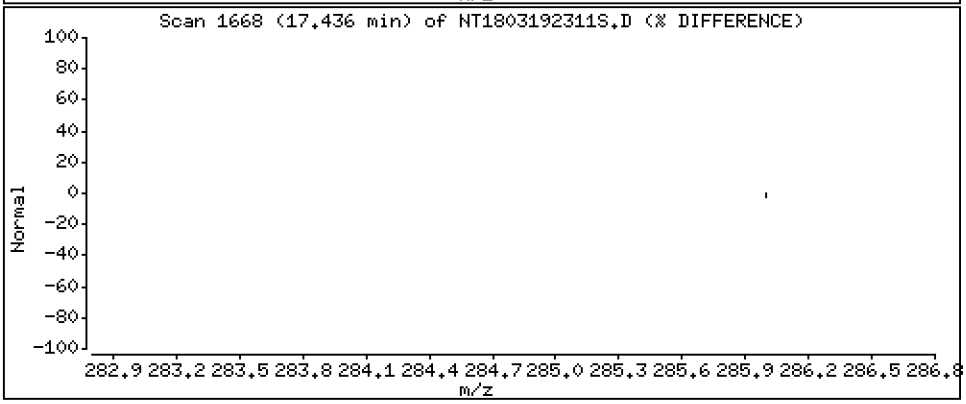












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

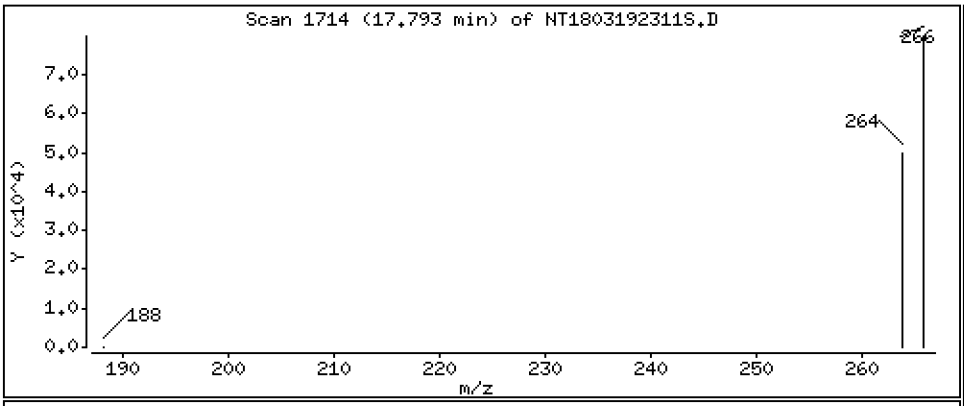
Operator: YZ

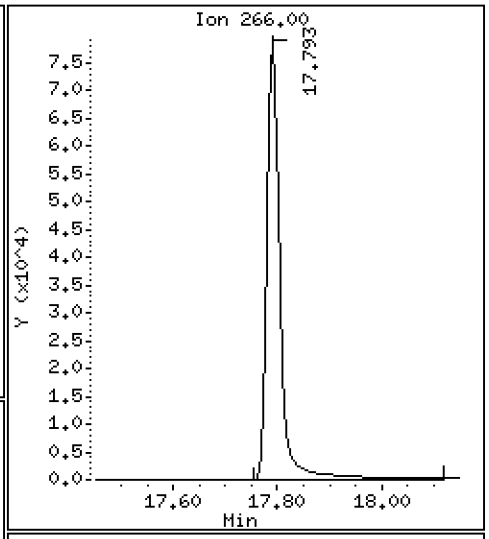
Column phase: ZB-5msi

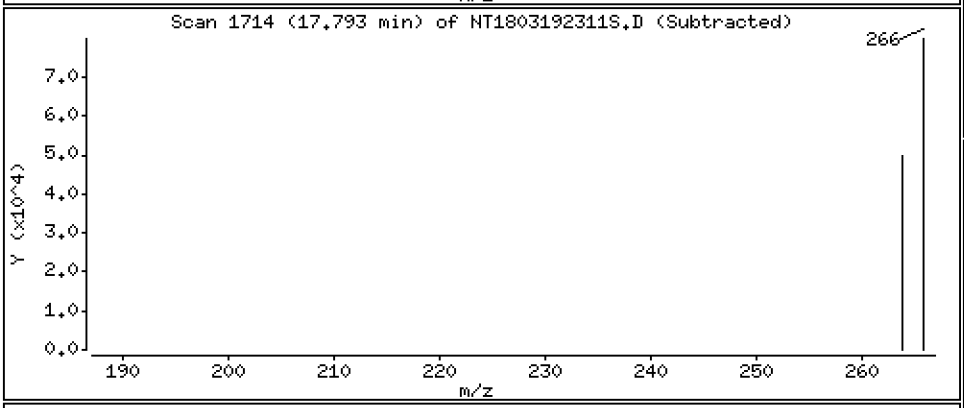
Column diameter: 0.25

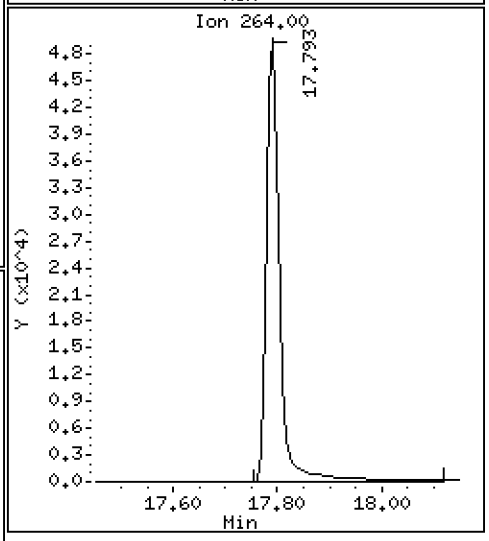
58 Pentachlorophenol

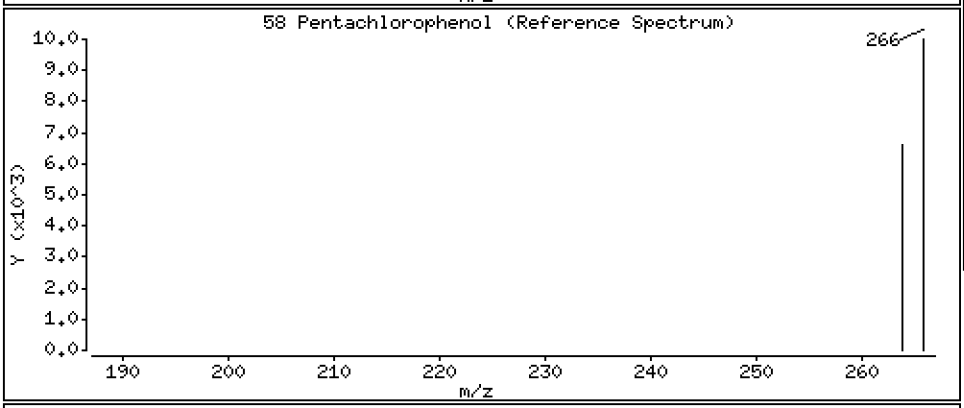
Concentration: 4.555 ug/mL

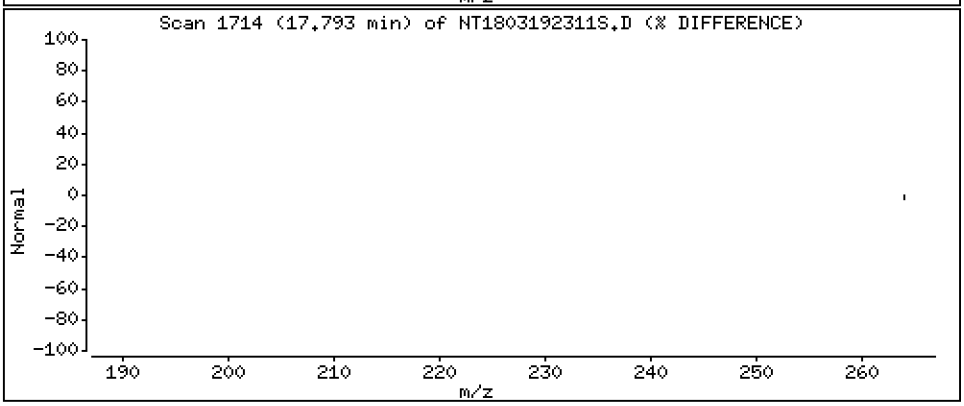












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT18031923115.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

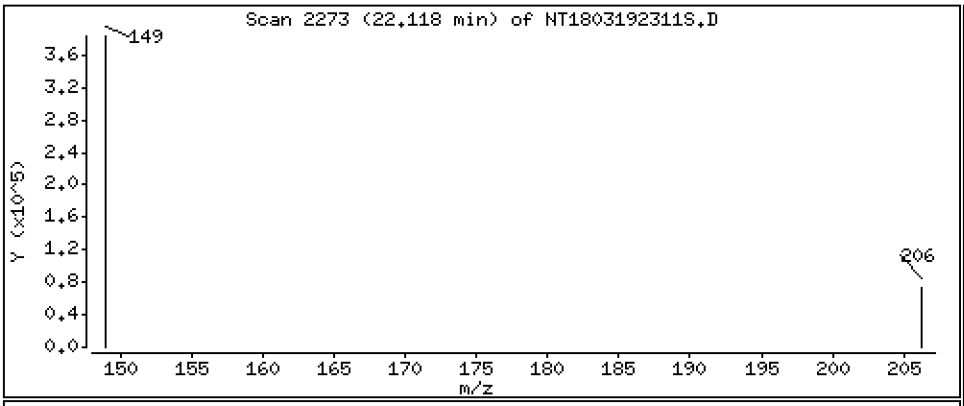
Operator: YZ

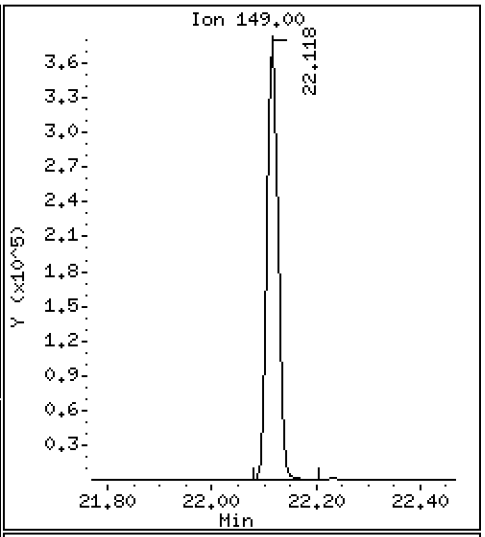
Column phase: ZB-5msi

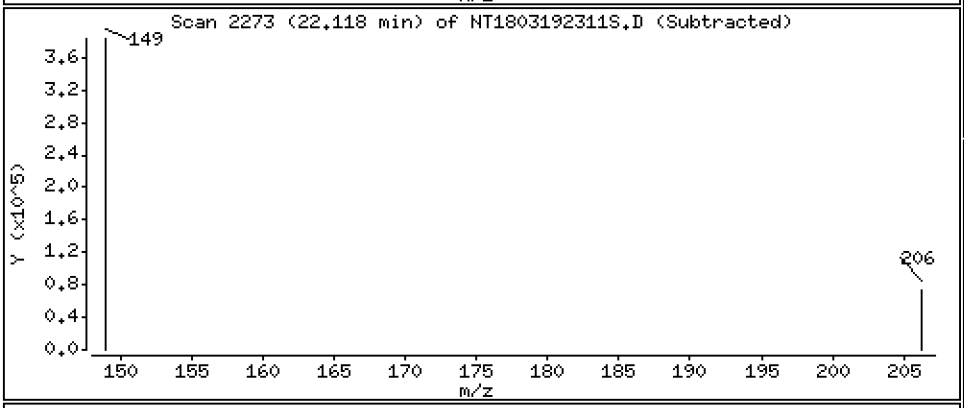
Column diameter: 0.25

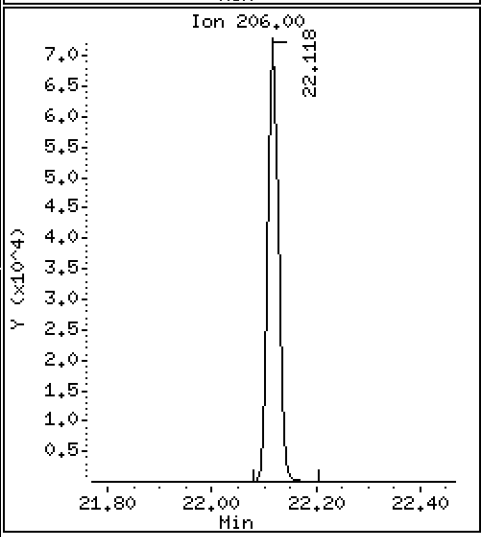
67 Butylbenzylphthalate

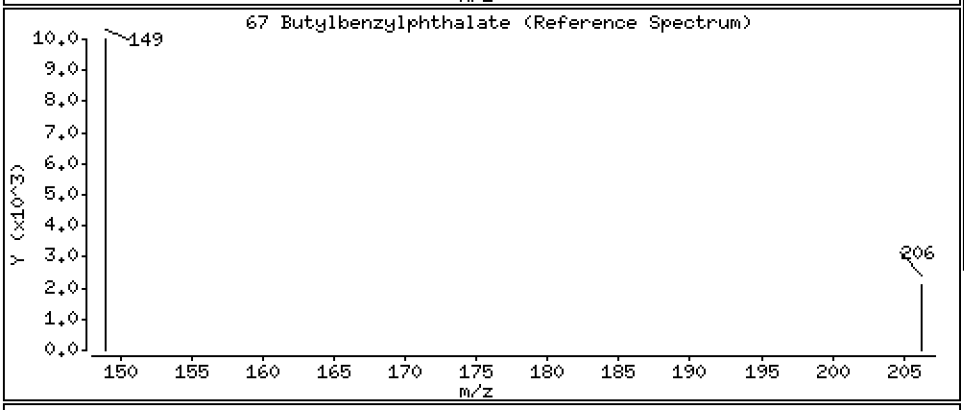
Concentration: 5.016 ug/mL

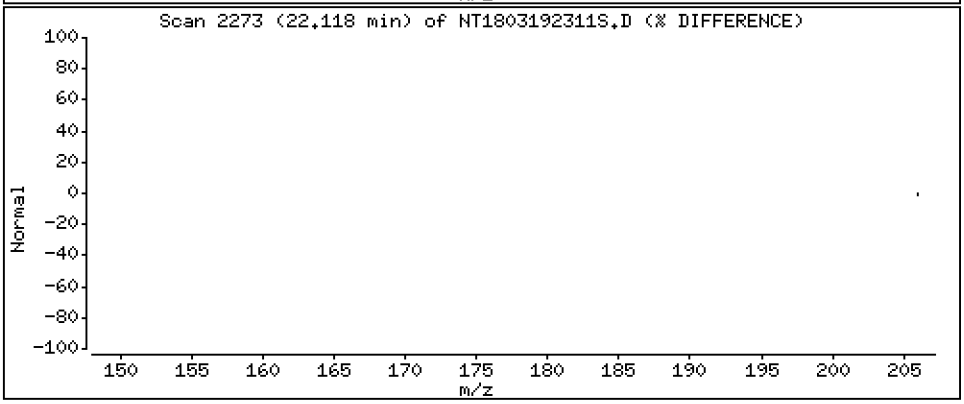












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

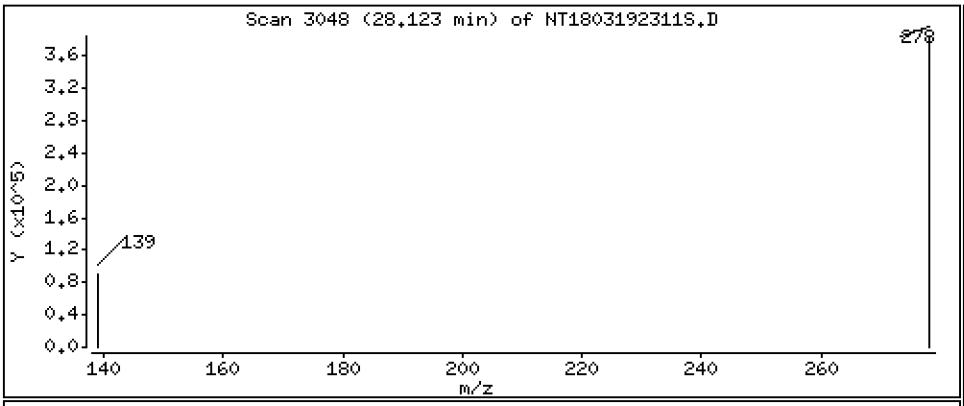
Operator: YZ

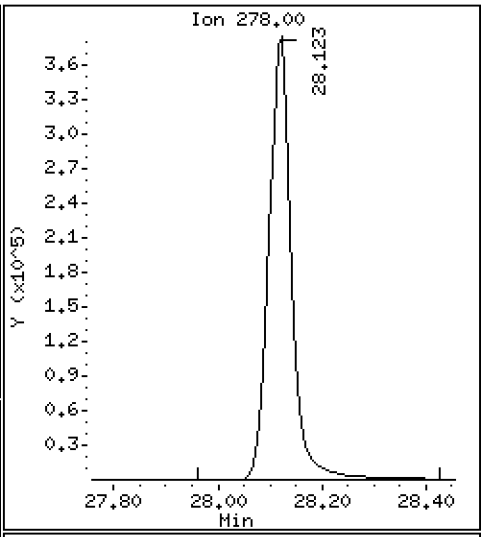
Column phase: ZB-5msi

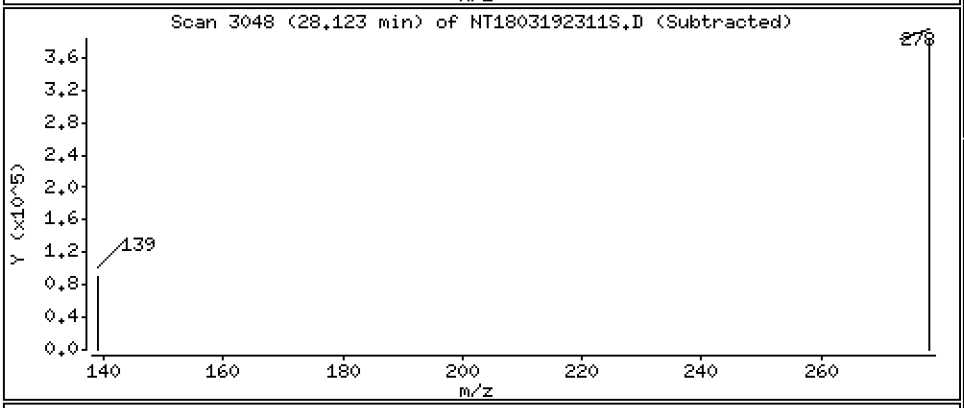
Column diameter: 0.25

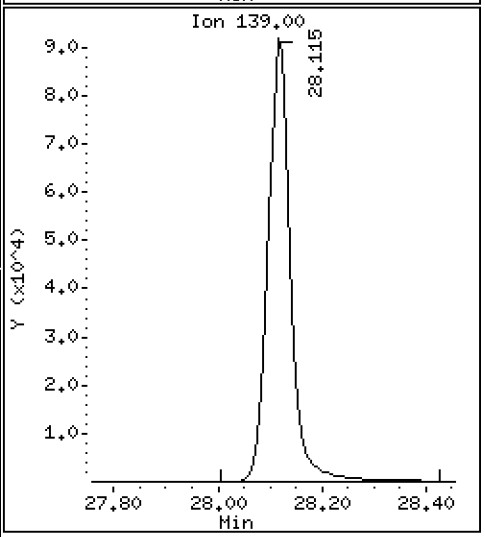
79 Dibenzo(a,h)anthracene

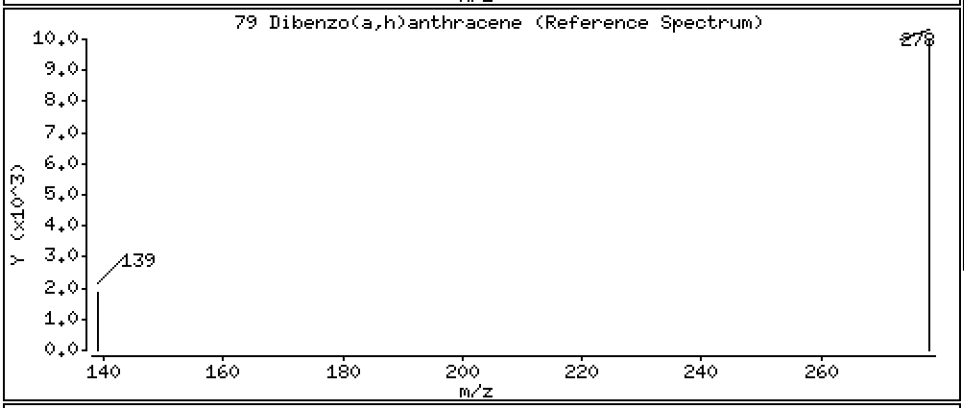
Concentration: 4.775 ug/mL

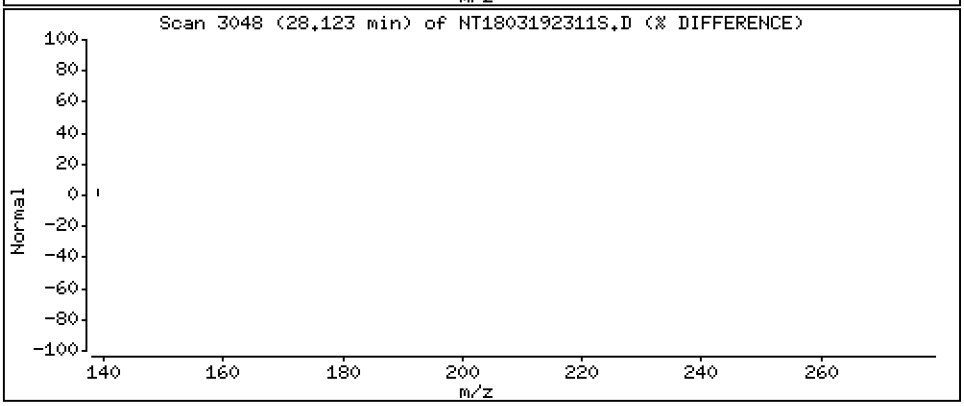












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT18031923115.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

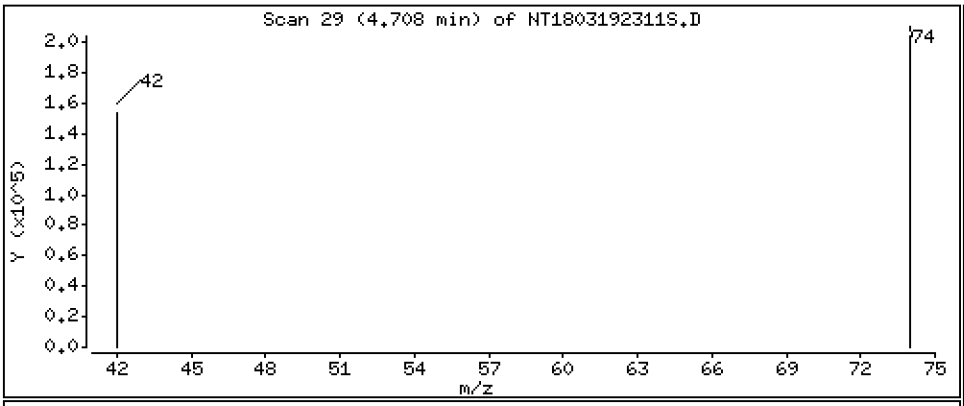
Operator: YZ

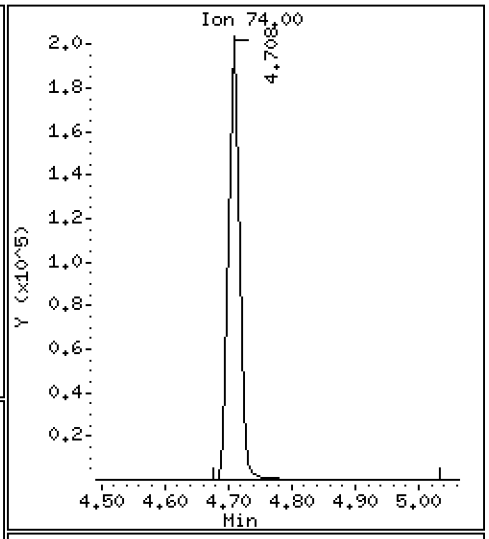
Column phase: ZB-5msi

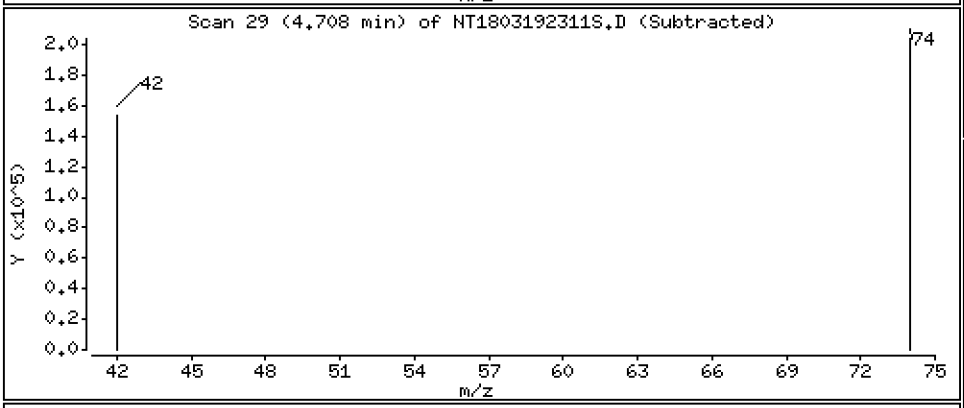
Column diameter: 0.25

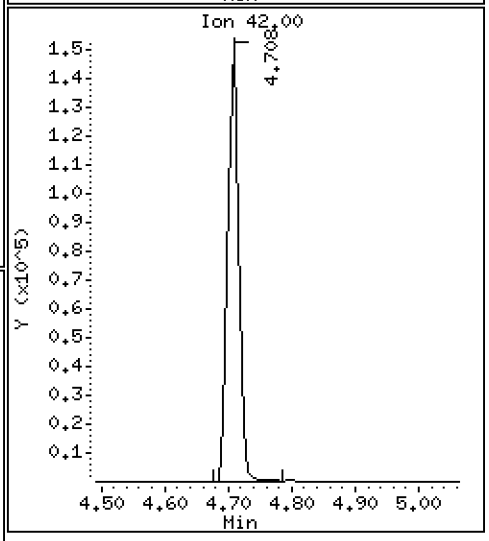
90 N-Nitrosodimethylamine

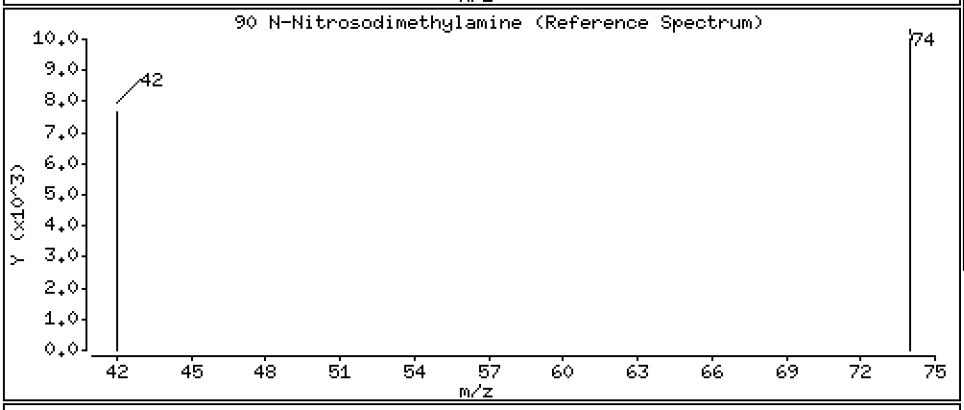
Concentration: 4.951 ug/mL

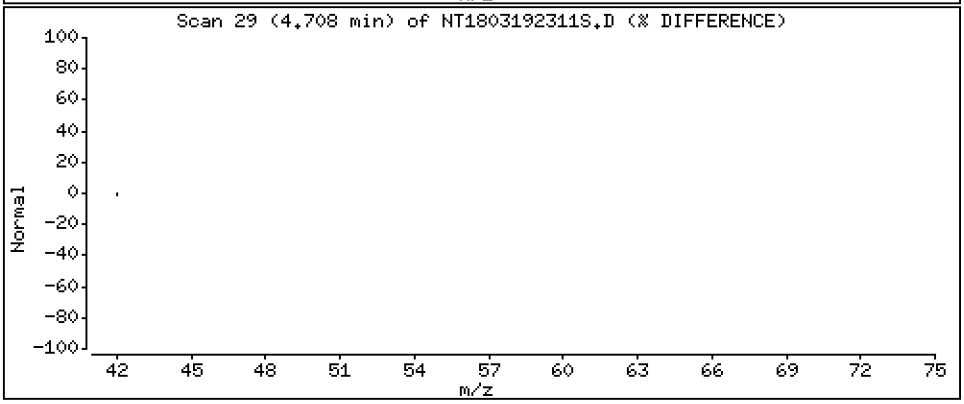












ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D
Lab Smp Id: SLCD0001-SCV1
Inj Date : 19-MAR-2023 21:26
Operator : YZ Inst ID: nt18.i
Smp Info : SEQ-SCV1
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Meth Date : 31-Mar-2023 09:18 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: ORGDATA102

			QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1	2-Fluorophenol	112	Compound Not Detected.					
	3	Phenol	94	8.377	8.378	(0.931)	480565	4.47946	4.479
	7	1,3-Dichlorobenzene	146	8.934	8.934	(0.993)	498765	4.80574	4.806
*	8	1,4-Dichlorobenzene-d4	152	8.996	8.996	(1.000)	274820	4.00000	
	9	1,4-Dichlorobenzene	146	9.027	9.027	(1.003)	506945	4.81558	4.816
	11	Benzyl alcohol	79	9.260	9.268	(1.029)	304709	4.89226	4.892
	12	1,2-Dichlorobenzene	146	9.376	9.377	(1.042)	486107	4.74456	4.745
	13	2-Methylphenol	108	9.485	9.485	(1.054)	332308	4.46205	4.462
	15	4-Methylphenol	108	9.756	9.749	(1.085)	363280	4.68923	4.689
	16	N-Nitroso-di-n-propylamine	70	9.826	9.819	(1.092)	268590	5.25590	5.256
	22	2,4-Dimethylphenol	107	10.792	10.792	(0.942)	283542	3.91886	3.919
	24	Benzoic acid	105	10.961	10.784	(0.957)	372399	7.32448	7.324
	26	1,2,4-Trichlorobenzene	180	11.375	11.376	(0.993)	387054	4.69019	4.690
*	27	Naphthalene-d8	136	11.460	11.460	(1.000)	1036057	4.00000	
	30	Hexachlorobutadiene	225	11.869	11.862	(1.036)	231479	4.87389	4.874
	39	Dimethylphthalate	163	14.563	14.555	(0.968)	876118	5.22675	5.227
*	42	Acenaphthene-d10	162	15.050	15.042	(1.000)	524780	4.00000	
	50	Diethylphthalate	149	16.009	16.001	(1.064)	840376	5.52142	5.521
	54	N-Nitrosodiphenylamine	169	16.387	16.379	(0.908)	610358	5.55444	5.554
	57	Hexachlorobenzene	284	17.436	17.437	(0.966)	255499	4.88731	4.887
	58	Pentachlorophenol	266	17.792	17.800	(0.985)	131147	4.55505	4.555
*	59	Phenanthrene-d10	188	18.055	18.048	(1.000)	904764	4.00000	
$	66	Terphenyl-d14	244	Compound Not Detected.					
	67	Butylbenzylphthalate	149	22.118	22.118	(0.958)	523931	5.01615	5.016
*	69	Chrysene-d12	240	23.078	23.070	(1.000)	777248	4.00000	
*	77	Perylene-d12	264	25.594	25.594	(1.000)	888854	4.00000	
	79	Dibenzo(a,h)anthracene	278	28.122	28.107	(1.099)	1161652	4.77453	4.775
	90	N-Nitrosodimethylamine	74	4.708	4.716	(0.523)	242099	4.95102	4.951

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192311S.D
Lab Smp Id: SLCD0001-SCV1
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 18:02
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	276557	138279	553114	274820	-0.63
27 Naphthalene-d8	1034745	517373	2069490	1036057	0.13
42 Acenaphthene-d10	519728	259864	1039456	524780	0.97
59 Phenanthrene-d10	903862	451931	1807724	904764	0.10
69 Chrysene-d12	761695	380848	1523390	777248	2.04
77 Perylene-d12	858044	429022	1716088	888854	3.59

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	-0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	-0.00
42 Acenaphthene-d10	15.04	14.54	15.54	15.05	0.05
59 Phenanthrene-d10	18.06	17.56	18.56	18.06	-0.00
69 Chrysene-d12	23.07	22.57	23.57	23.08	0.03
77 Perylene-d12	25.59	25.09	26.09	25.59	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192311S.D

Lab ID: SLCD0001-SCV1
nt18.i, 20230319.b\SIM.b\SIMABN2.m,   19-MAR-2023 21:26

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

** FIRST SURROGATE NOT FOUND. ICAL Check not performed **

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.957	0.941	0.0156	Benzoic acid

RRT check based on Ccal File: SIM.b/NT1803192310S.D

On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270E-SIM

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GD00001
Laboratory ID: SLD0001-SCV1
Sequence: SLD0001
Standard ID: K010066

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DRIFT	QC LIMIT
1,4-Dichlorobenzene	5.0000	4.8	-3.7	20.00
1,2-Dichlorobenzene	5.0000	4.7	-5.1	20.00
Benzyl Alcohol	5.0000	4.9	-2.2	20.00
Benzoic acid	10.000	7.3	-26.8 *	20.00
2,4-Dimethylphenol	5.0000	3.9	-21.6 *	20.00
1,2,4-Trichlorobenzene	5.0000	4.7	-6.2	20.00
N-Nitrosodiphenylamine	5.0000	5.6	11.1	20.00
Pentachlorophenol	5.0000	4.6	-8.9	20.00
2-Fluorophenol	7.5000	0.00		
p-Terphenyl-d14	5.0000	0.00		

* Values outside of QC limits

Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT18031923115.D

Date : 19-MAR-2023 21:26

Client ID:

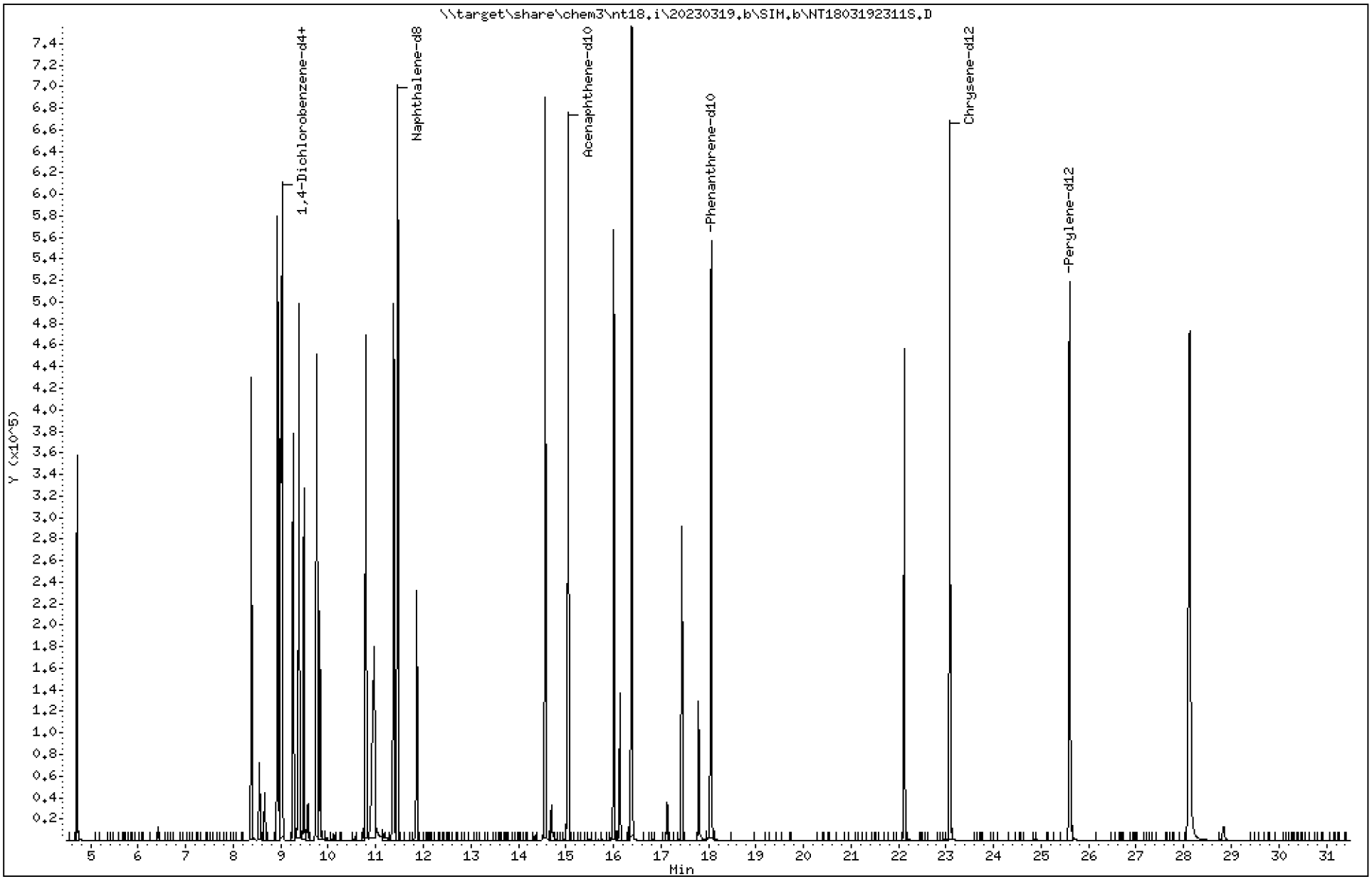
Sample Info: SEQ-SCV1

Column phase: ZB-5msi

Instrument: nt18.i

Operator: YZ

Column diameter: 0.25



Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

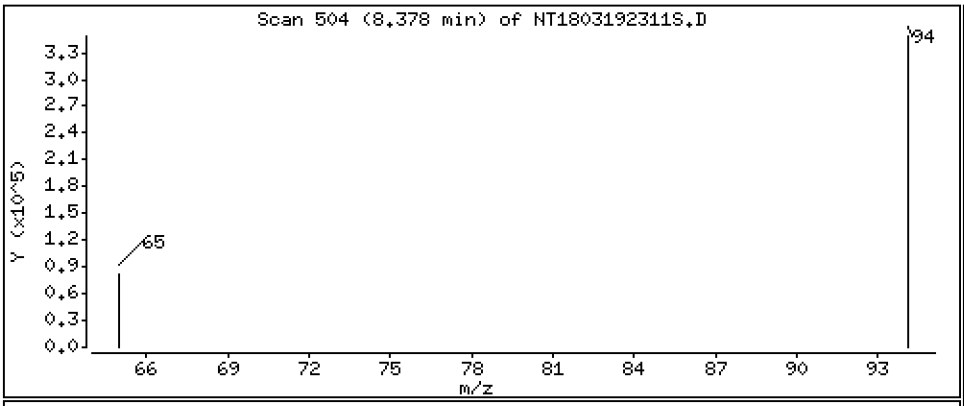
Operator: YZ

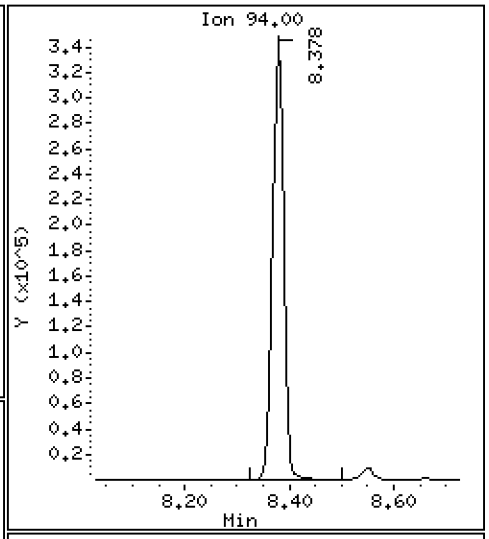
Column phase: ZB-5msi

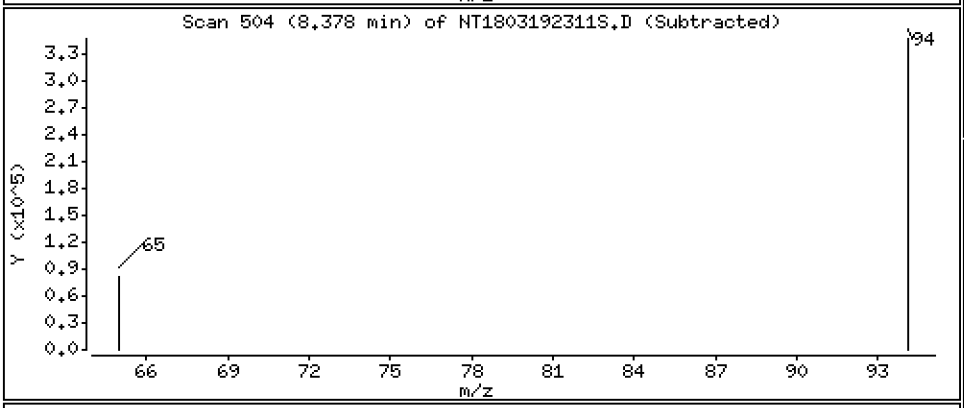
Column diameter: 0.25

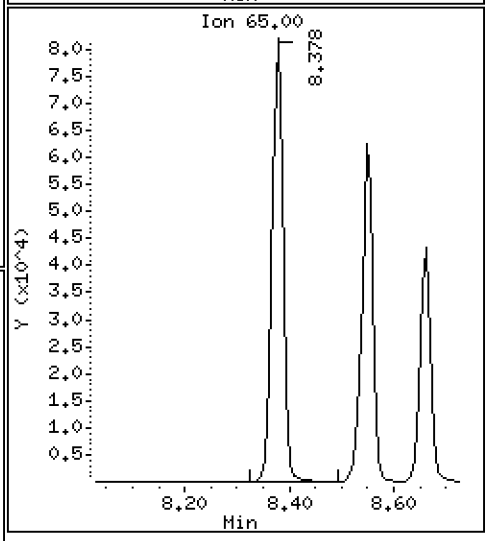
3 Phenol

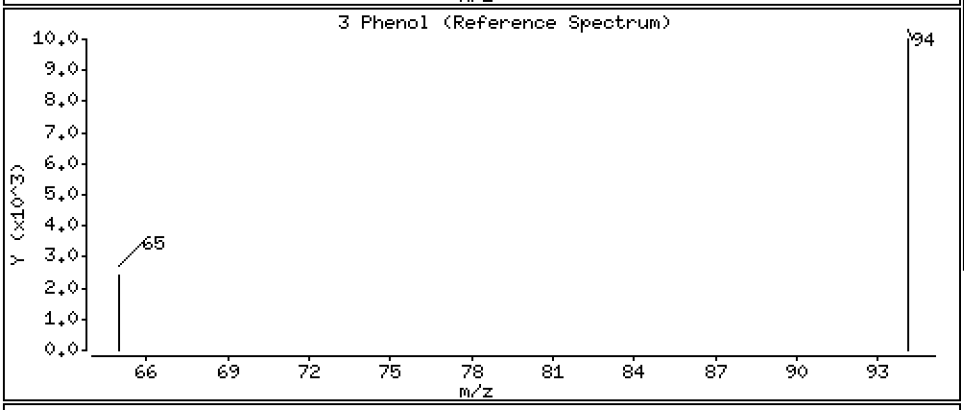
Concentration: 4.479 ug/mL

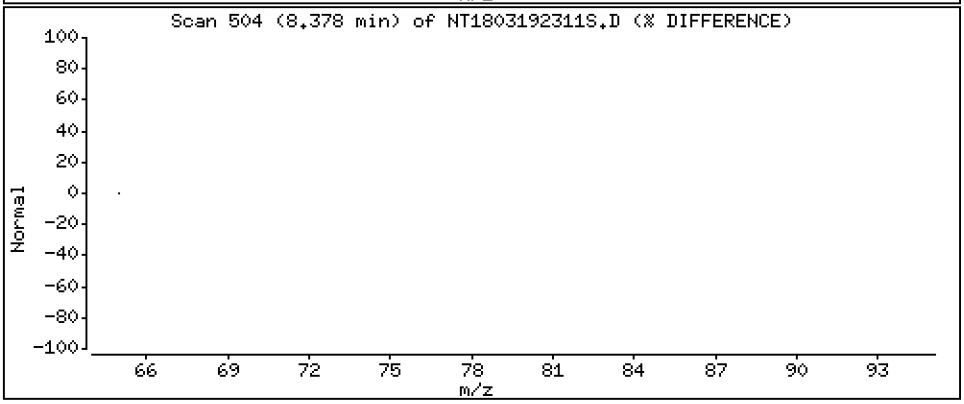












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

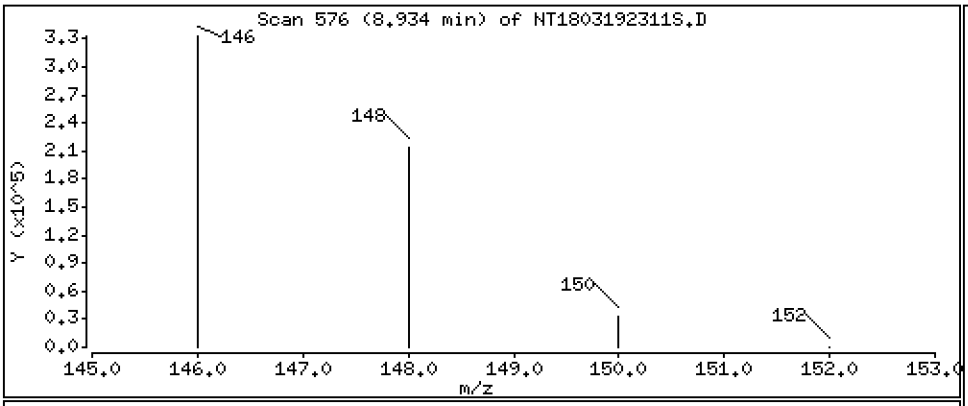
Operator: YZ

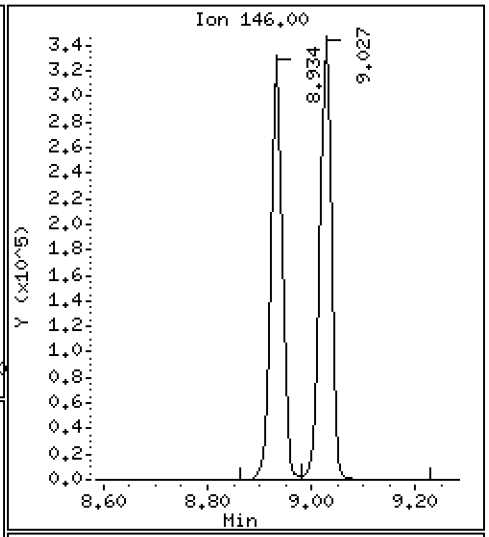
Column phase: ZB-5msi

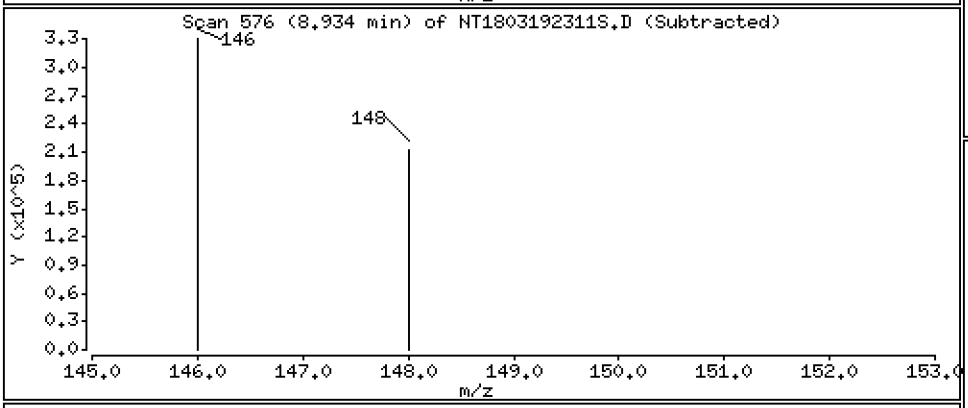
Column diameter: 0.25

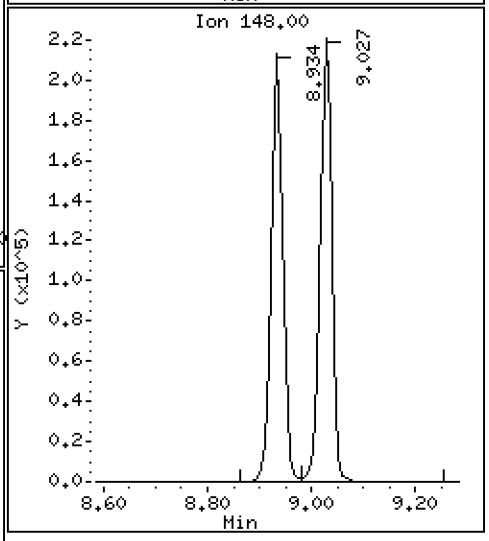
7 1,3-Dichlorobenzene

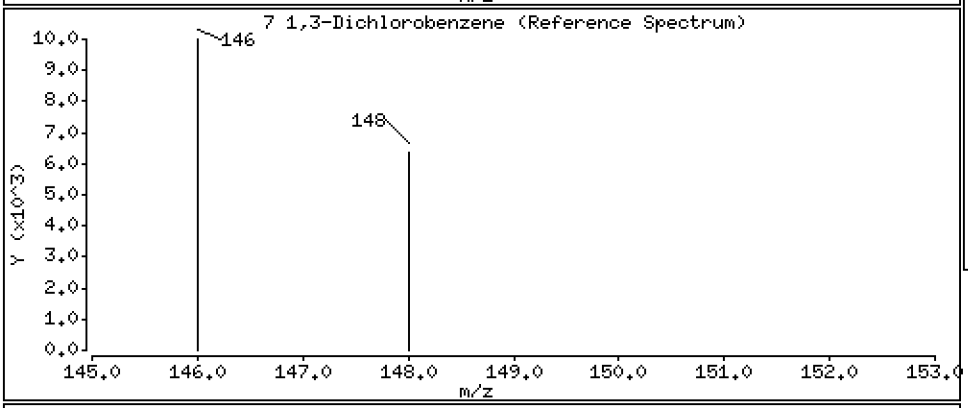
Concentration: 4.806 ug/mL

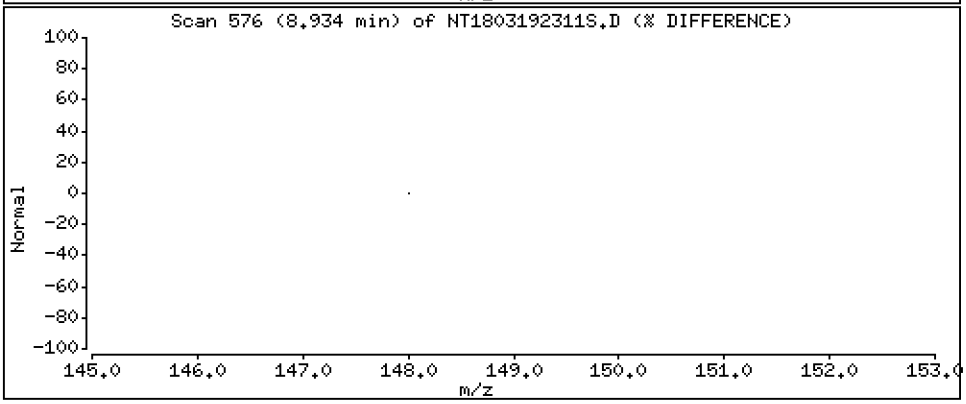












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

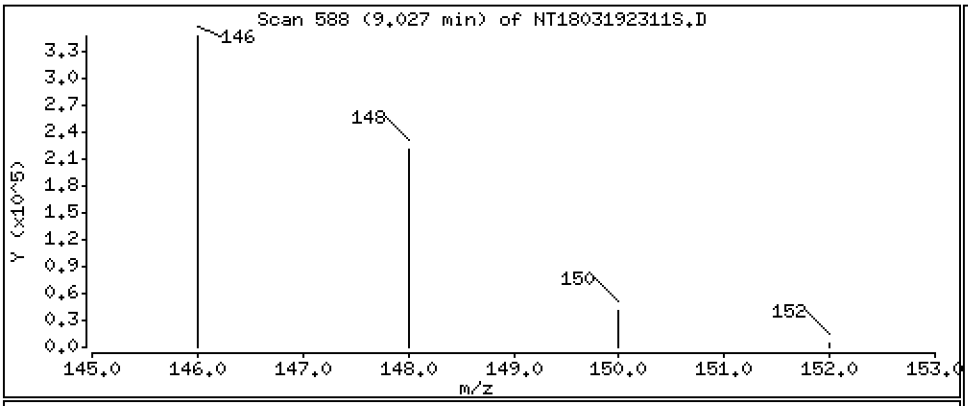
Operator: YZ

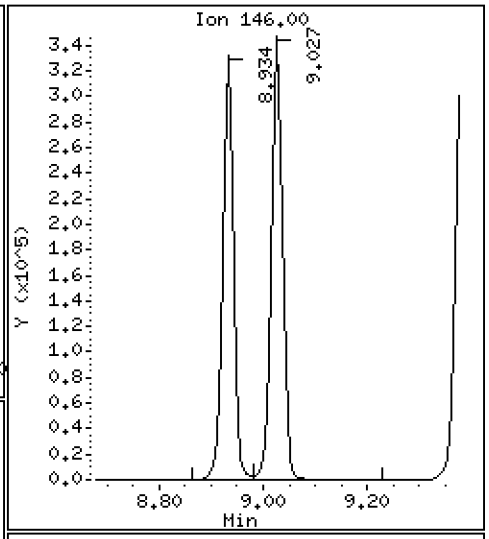
Column phase: ZB-5msi

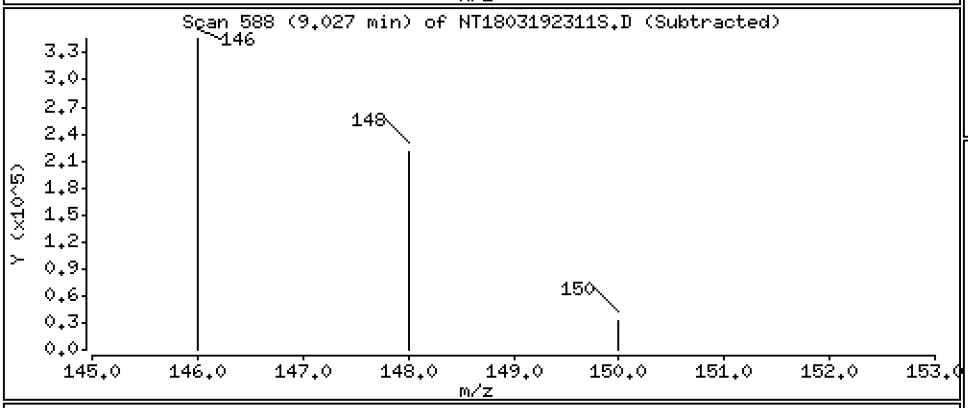
Column diameter: 0.25

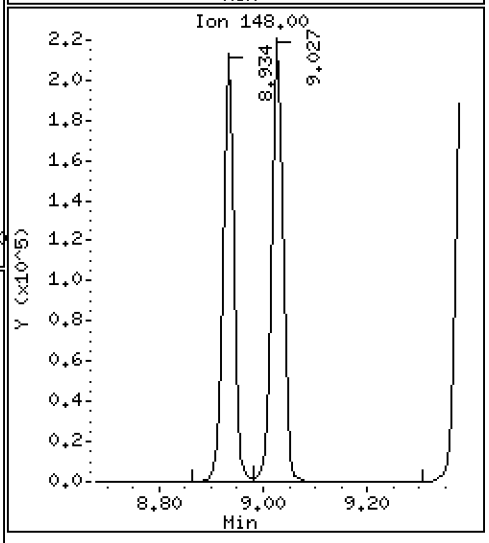
9 1,4-Dichlorobenzene

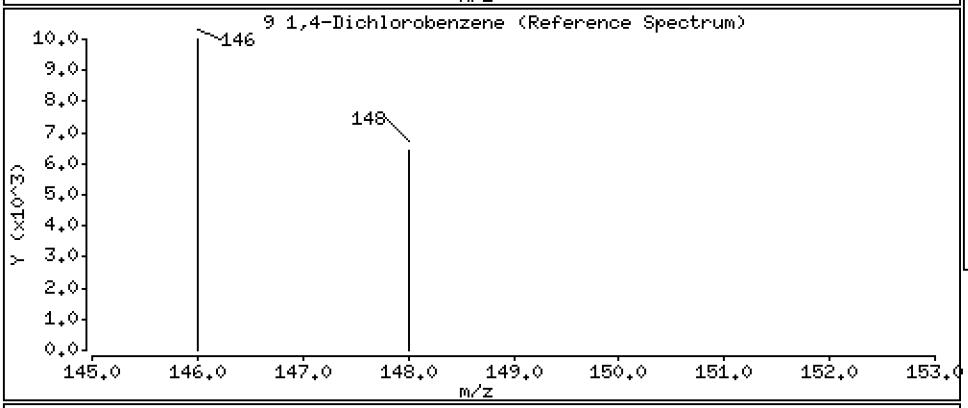
Concentration: 4.816 ug/mL

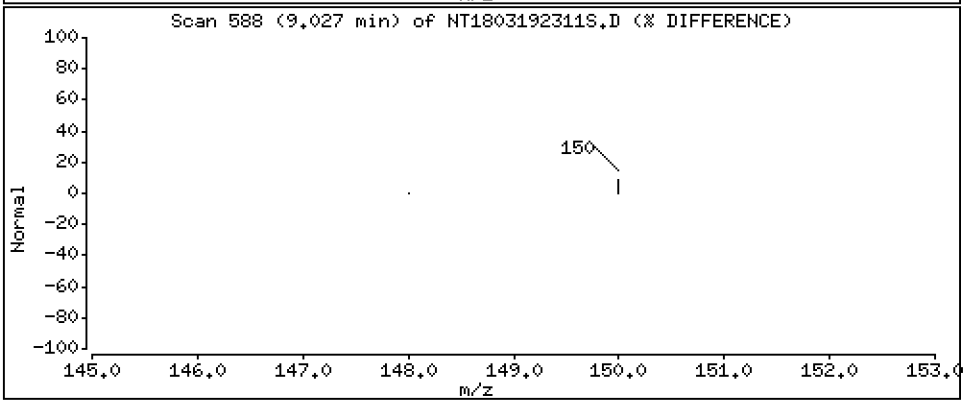












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

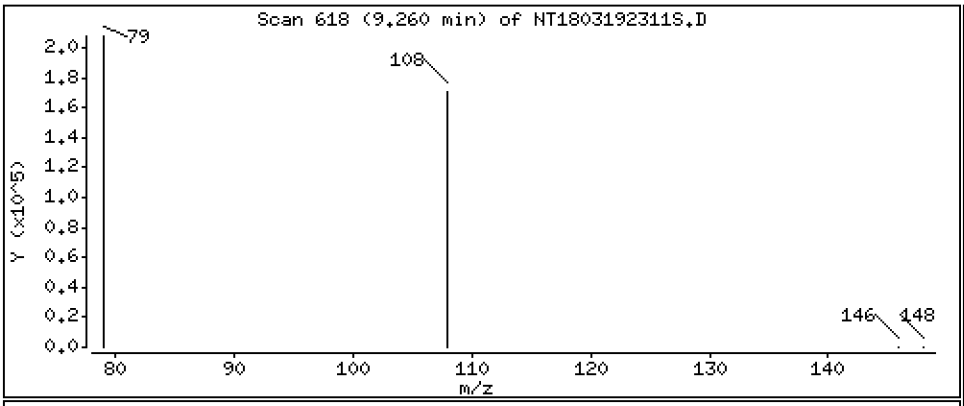
Operator: YZ

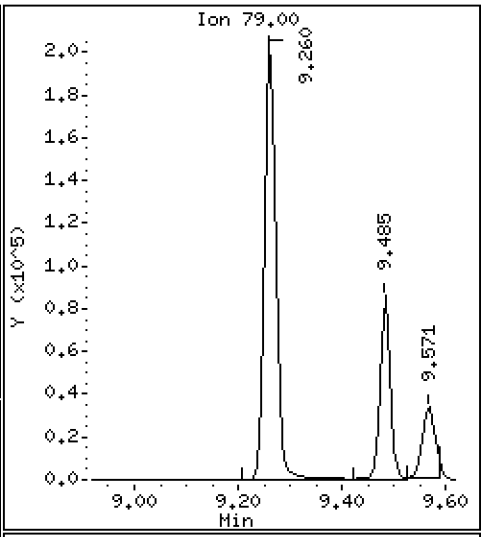
Column phase: ZB-5msi

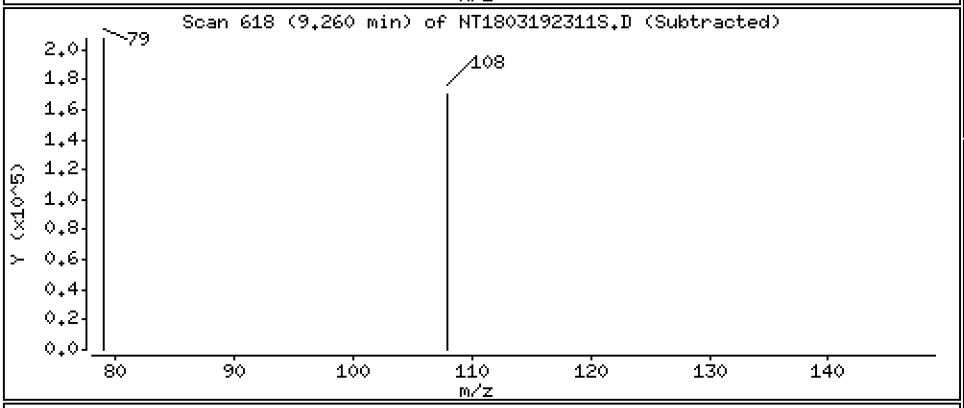
Column diameter: 0.25

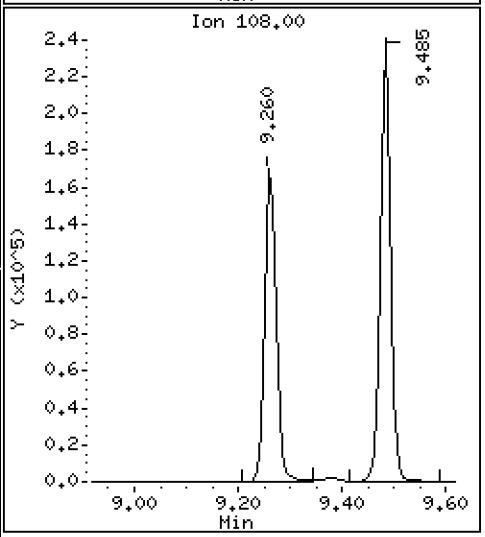
11 Benzyl alcohol

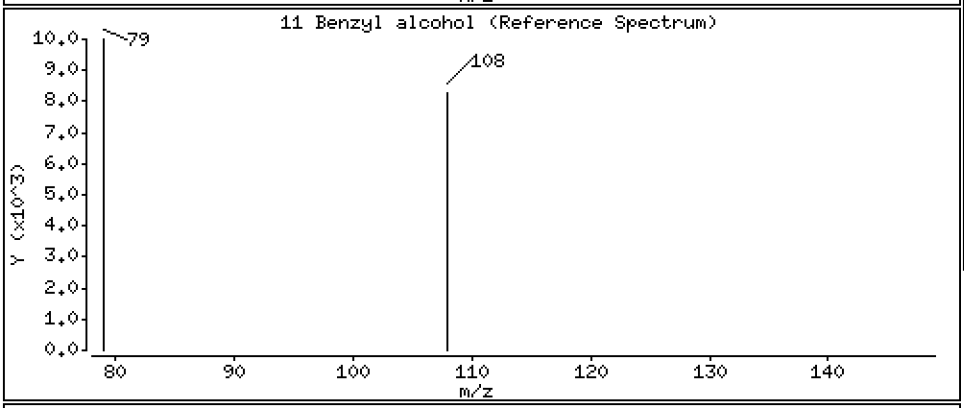
Concentration: 4.892 ug/mL

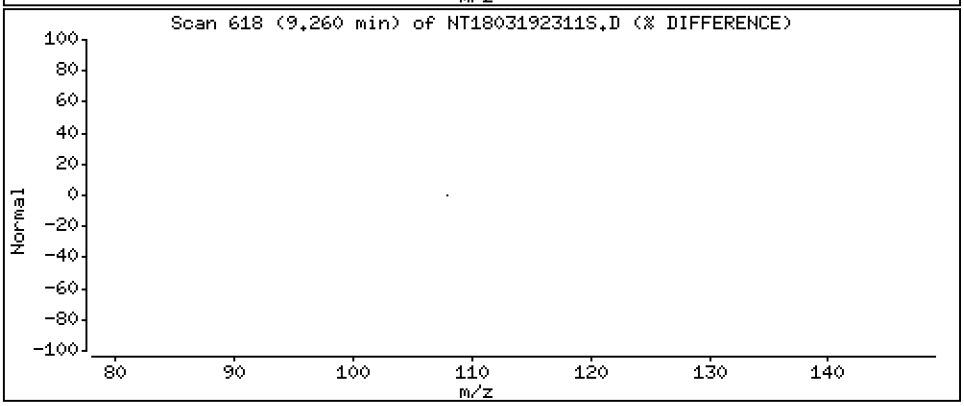












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

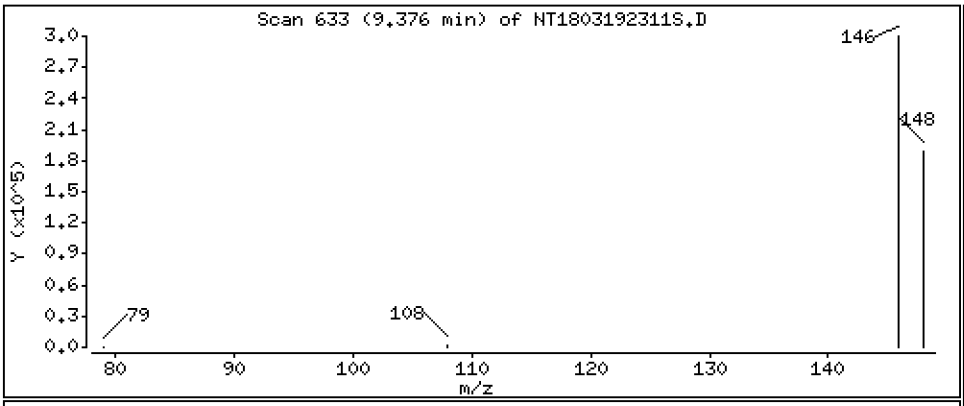
Operator: YZ

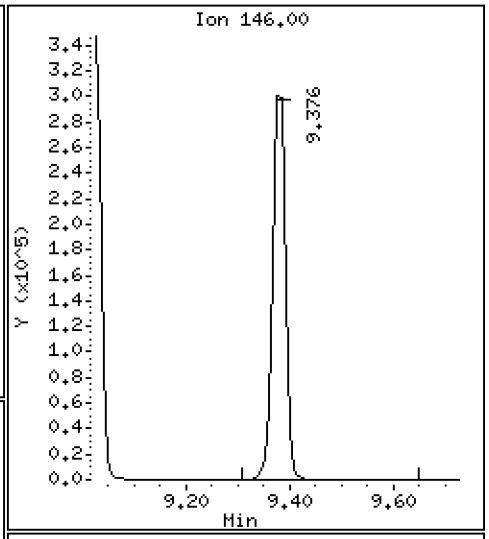
Column phase: ZB-5msi

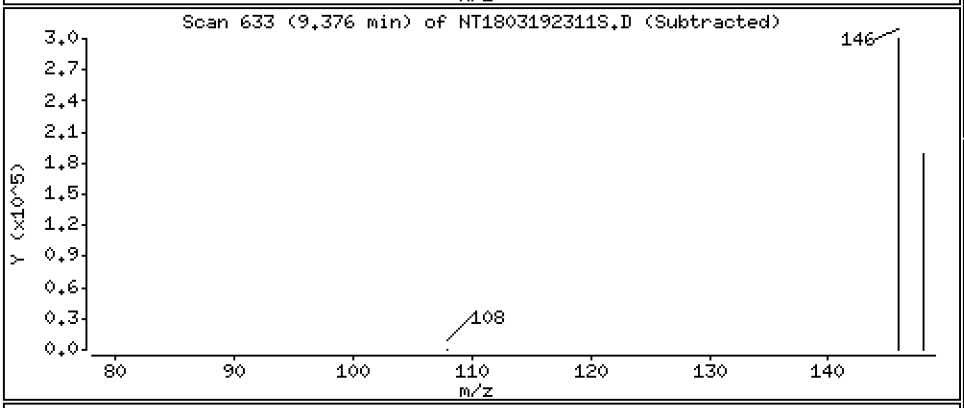
Column diameter: 0.25

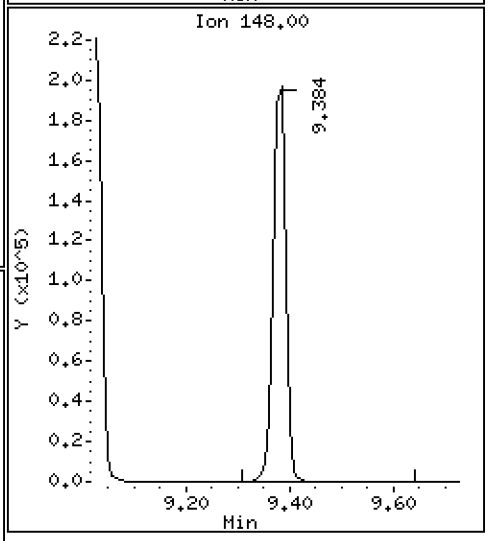
12 1,2-Dichlorobenzene

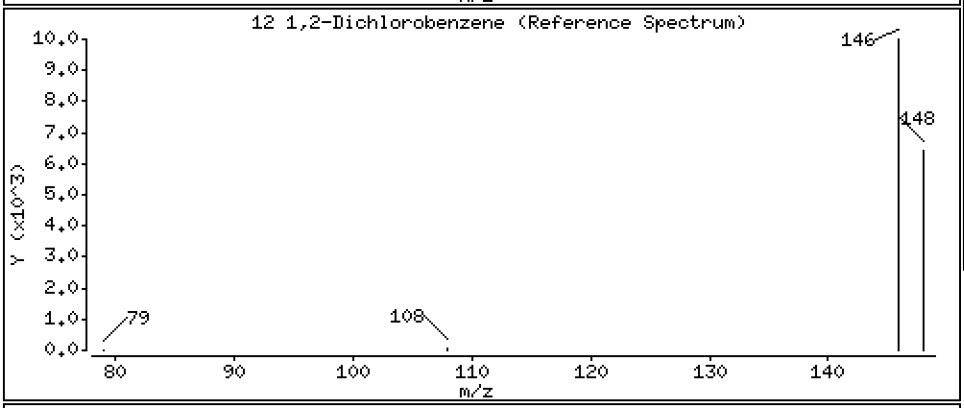
Concentration: 4.745 ug/mL

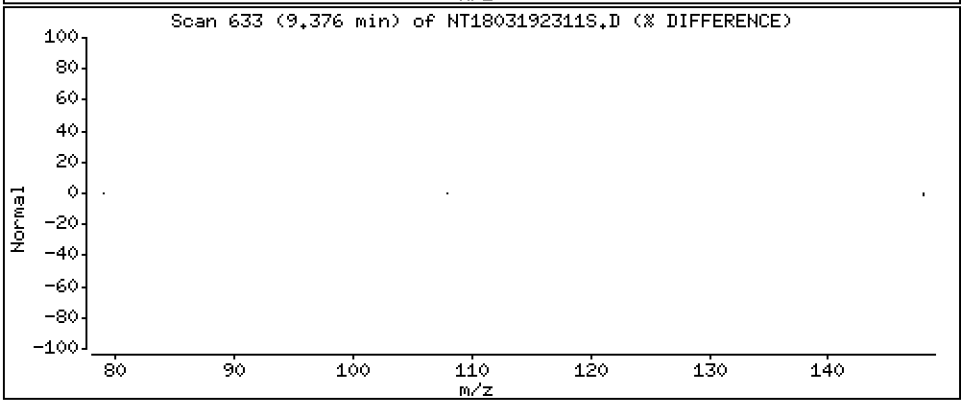












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

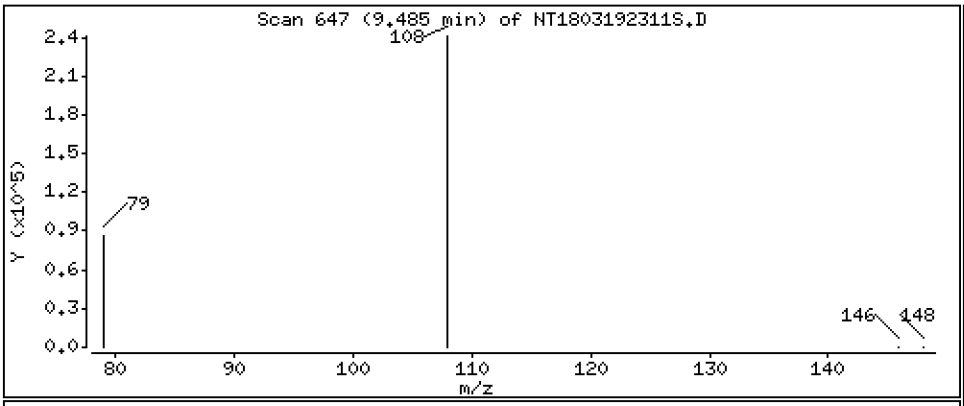
Operator: YZ

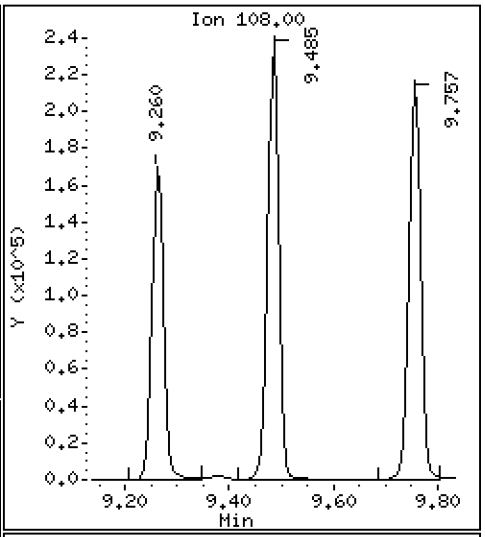
Column phase: ZB-5msi

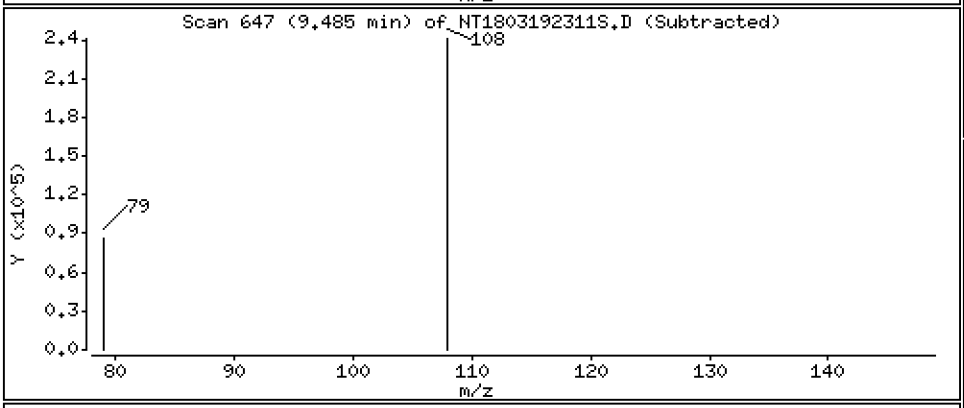
Column diameter: 0.25

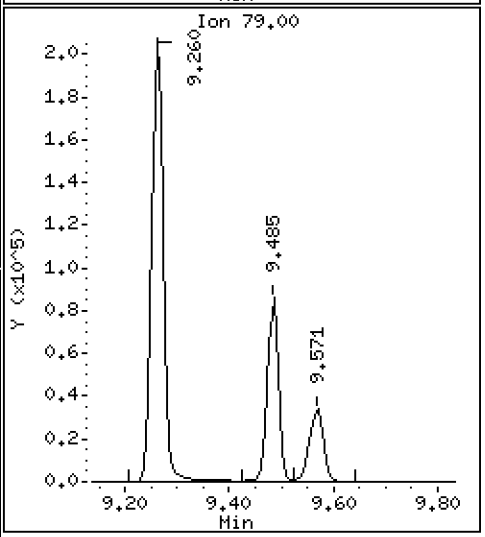
13 2-Methylphenol

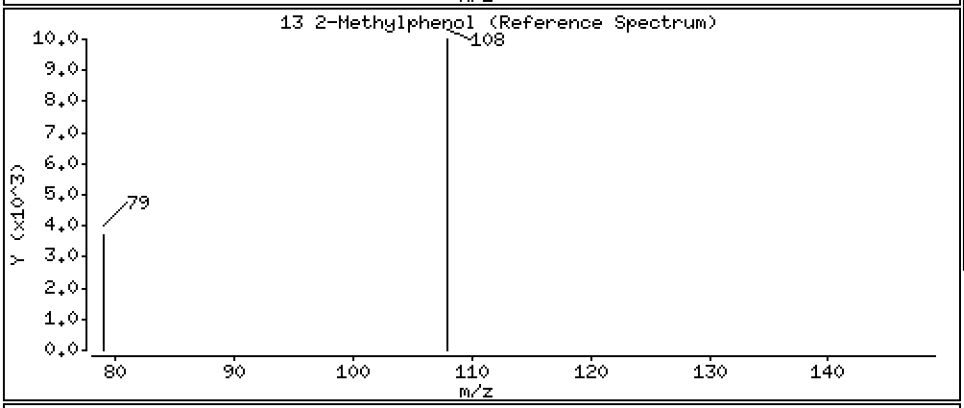
Concentration: 4.462 ug/mL

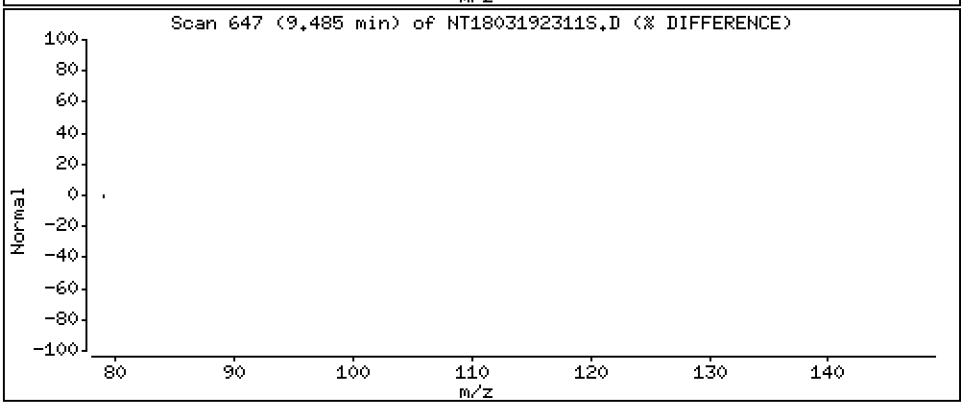












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

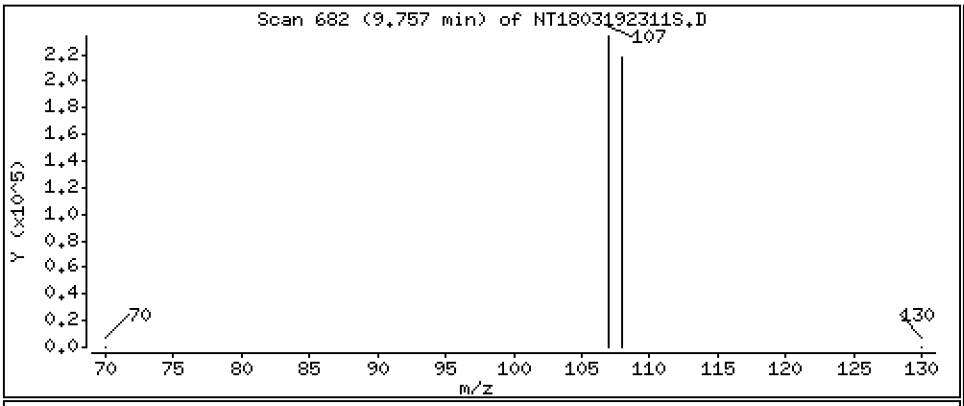
Operator: YZ

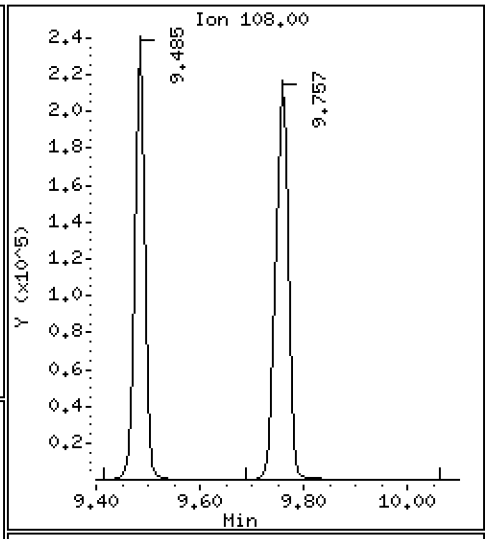
Column phase: ZB-5msi

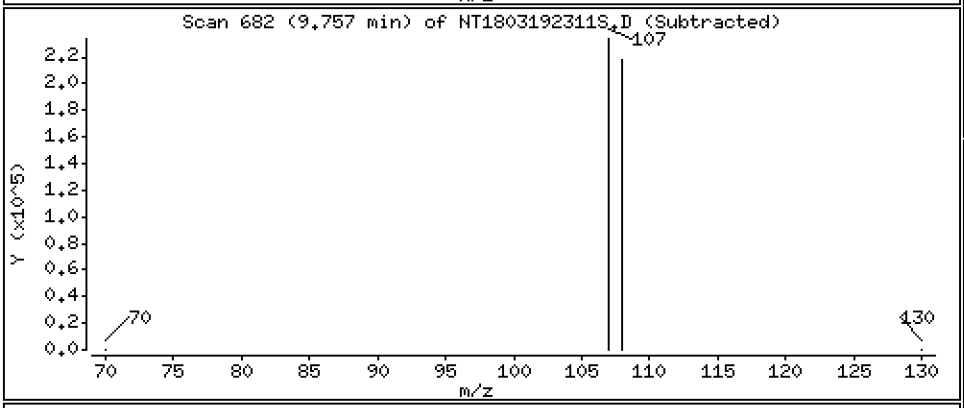
Column diameter: 0.25

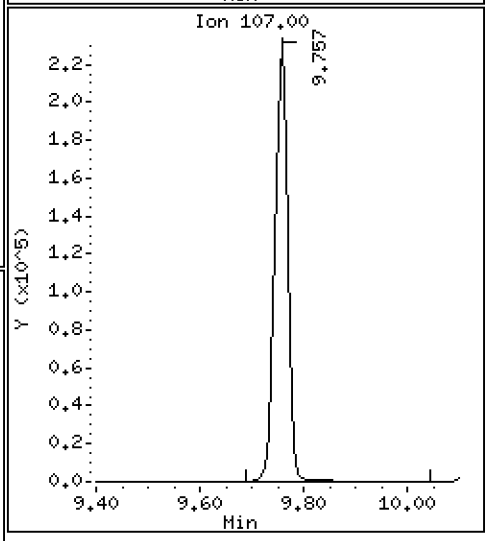
15 4-Methylphenol

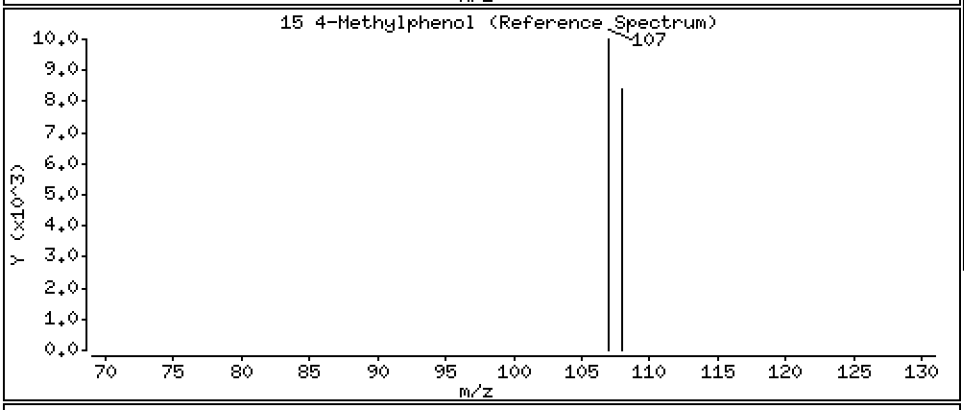
Concentration: 4.689 ug/mL

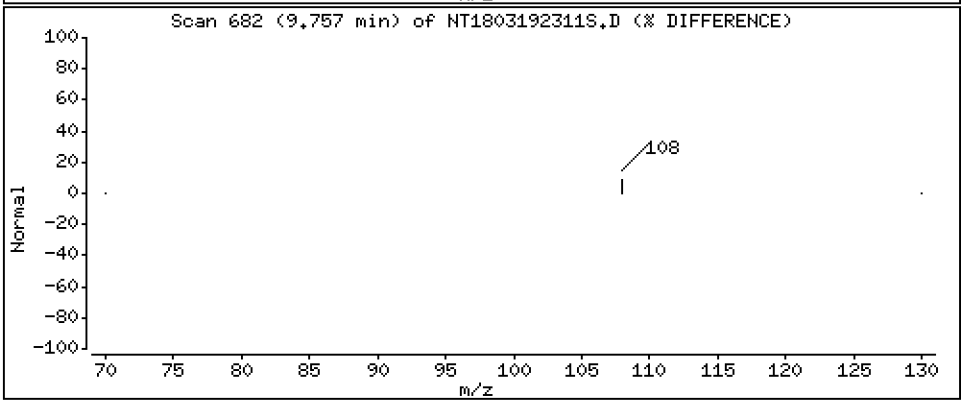












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

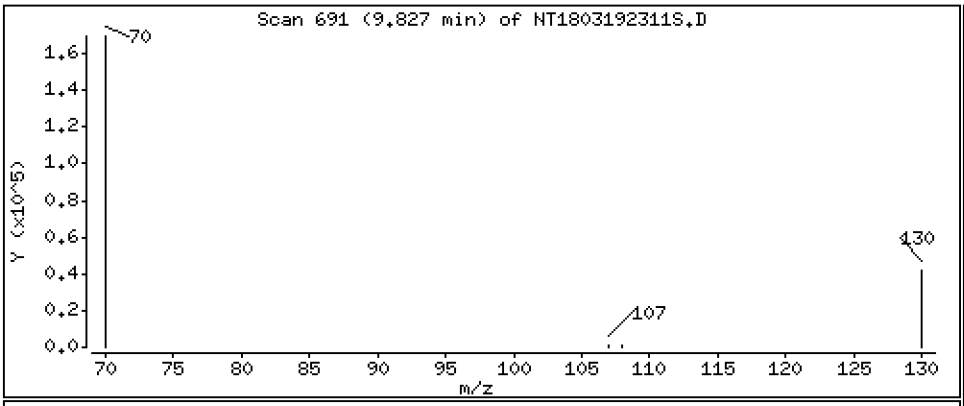
Operator: YZ

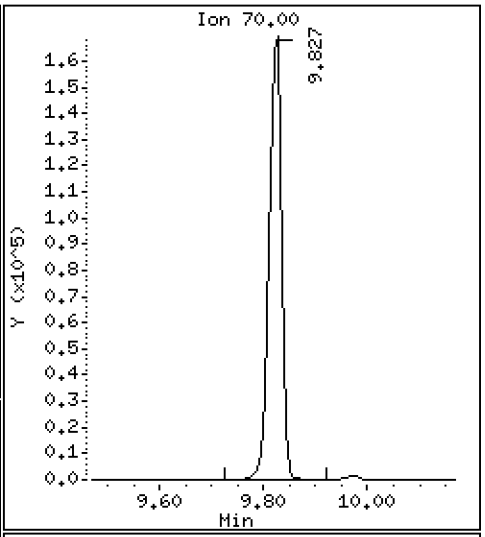
Column phase: ZB-5msi

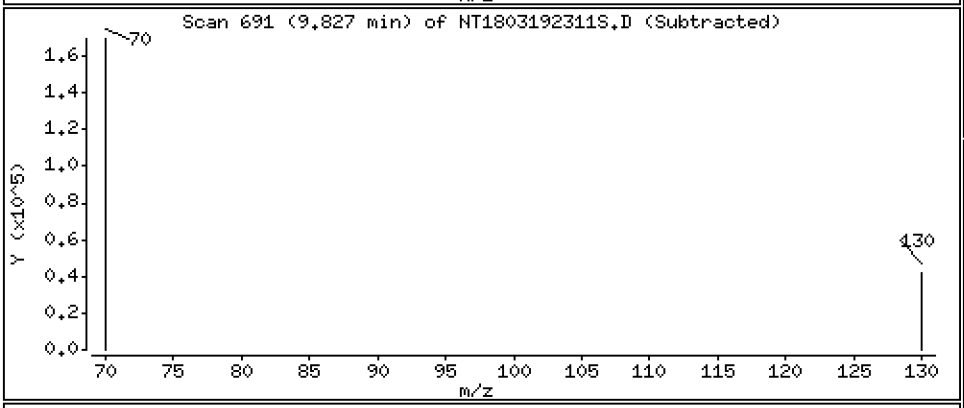
Column diameter: 0.25

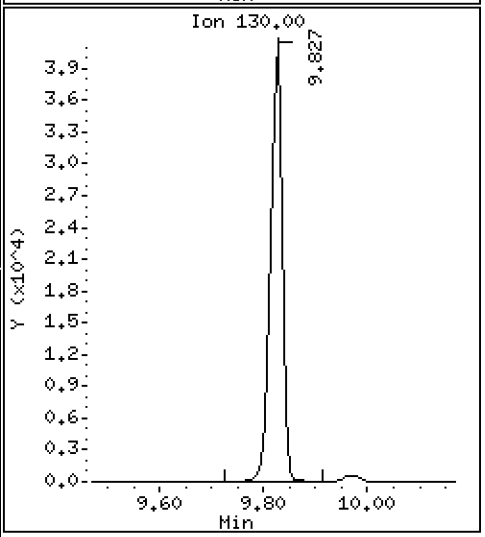
16 N-Nitroso-di-n-propylamine

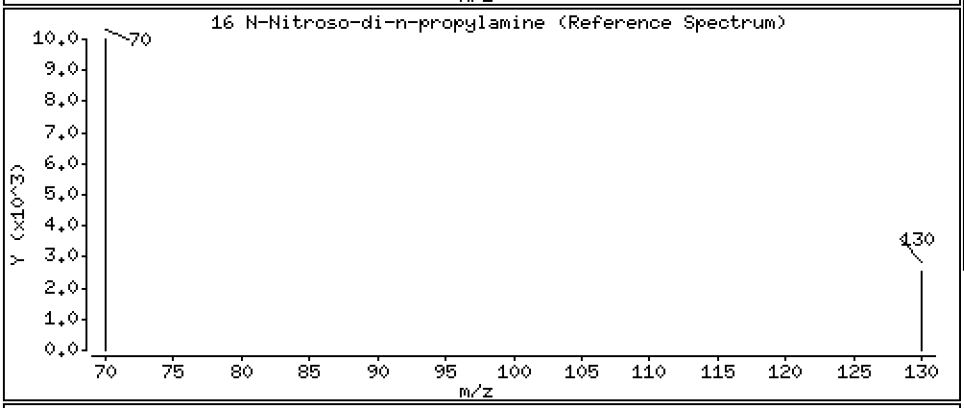
Concentration: 5.256 ug/mL

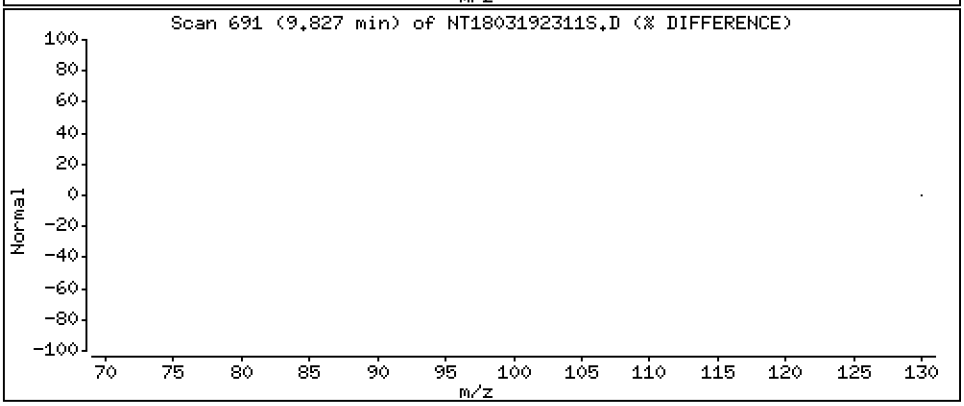












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT18031923115.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

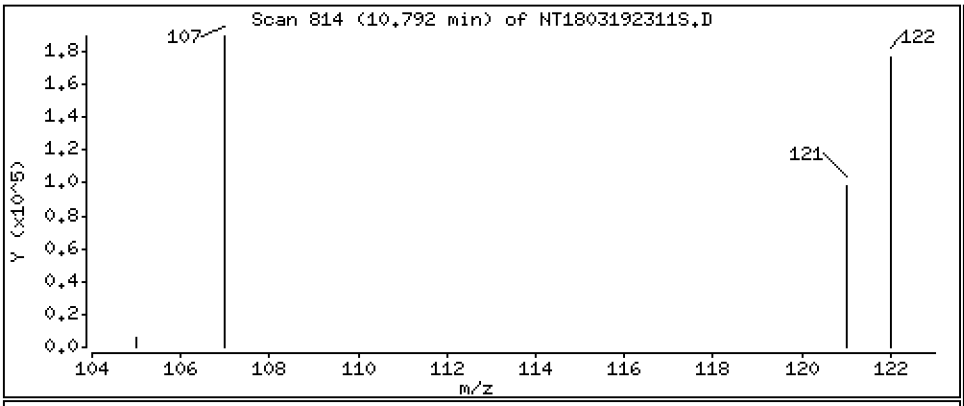
Operator: YZ

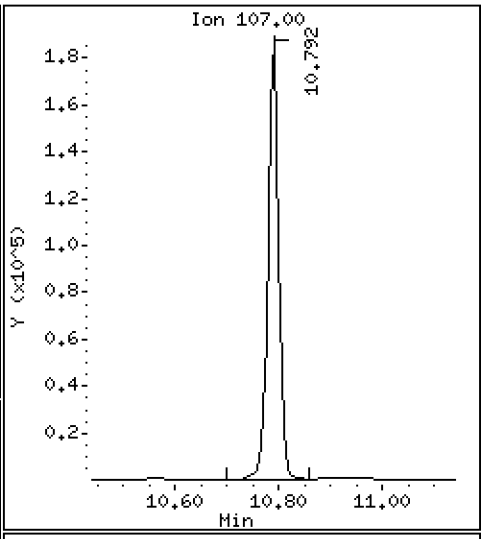
Column phase: ZB-5msi

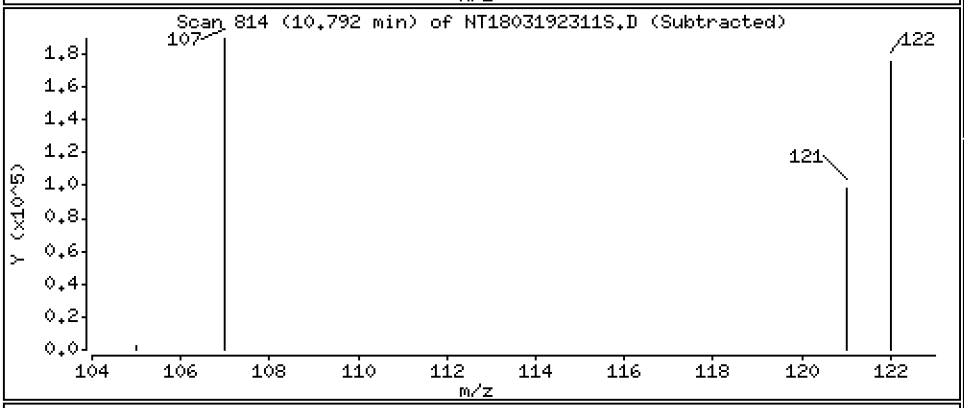
Column diameter: 0.25

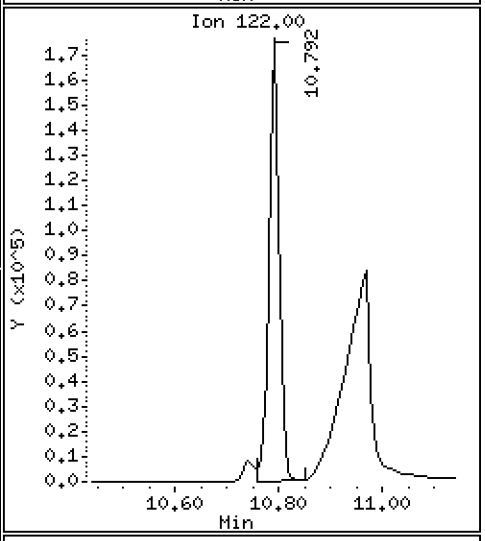
22 2,4-Dimethylphenol

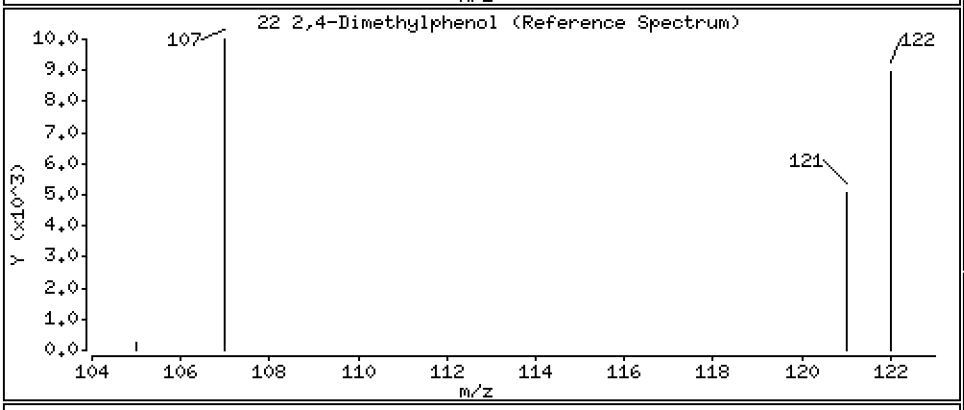
Concentration: 3.919 ug/mL

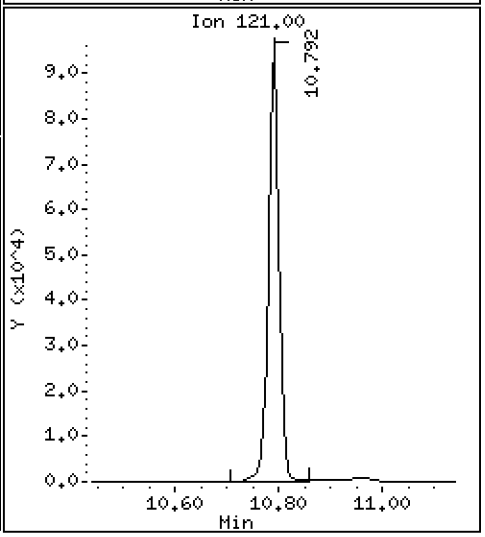


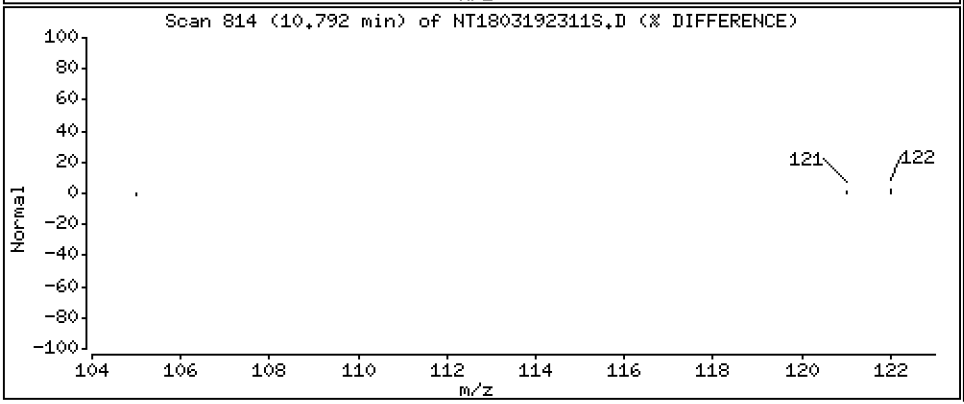












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

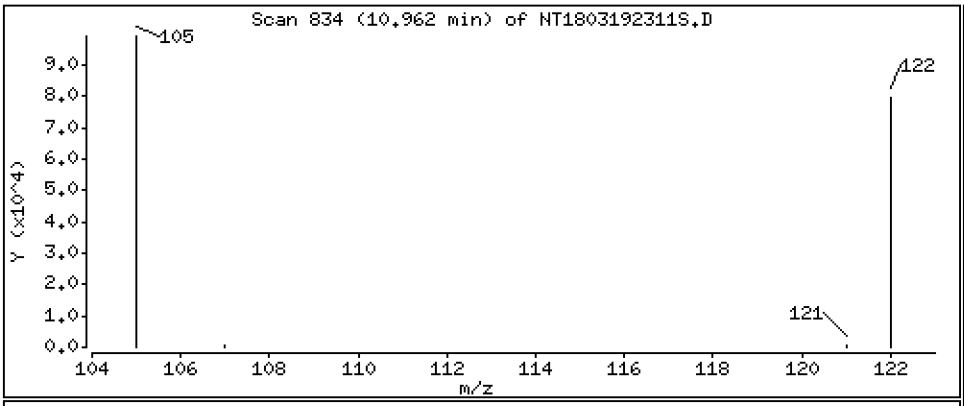
Operator: YZ

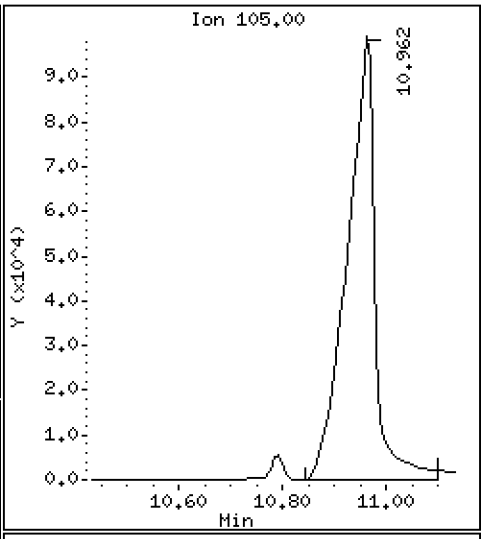
Column phase: ZB-5msi

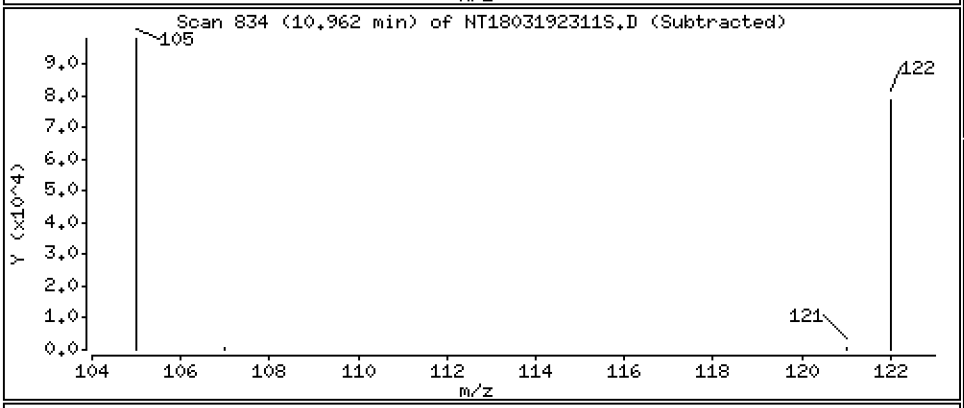
Column diameter: 0.25

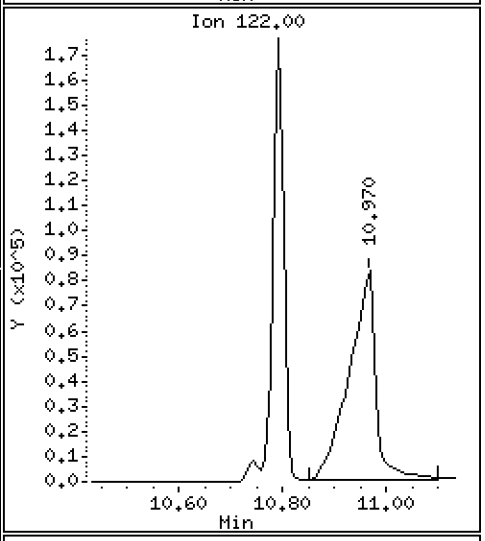
24 Benzoic acid

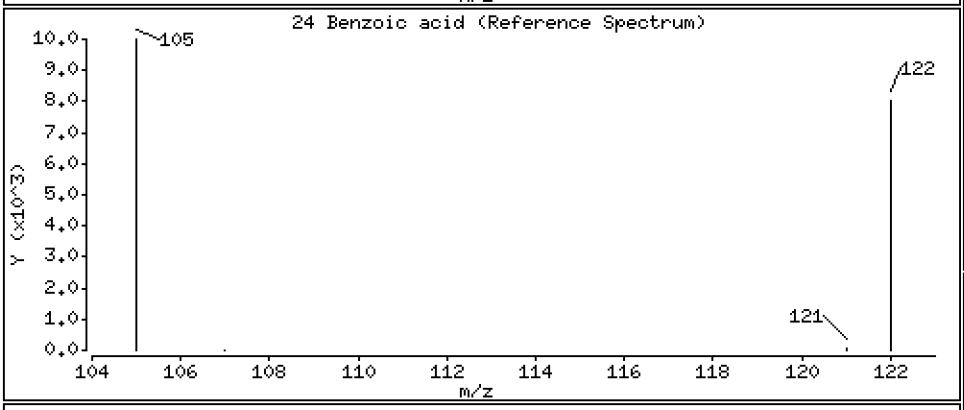
Concentration: 7.324 ug/mL

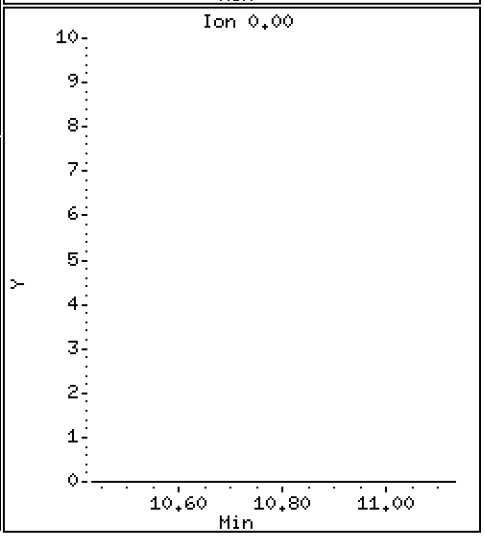


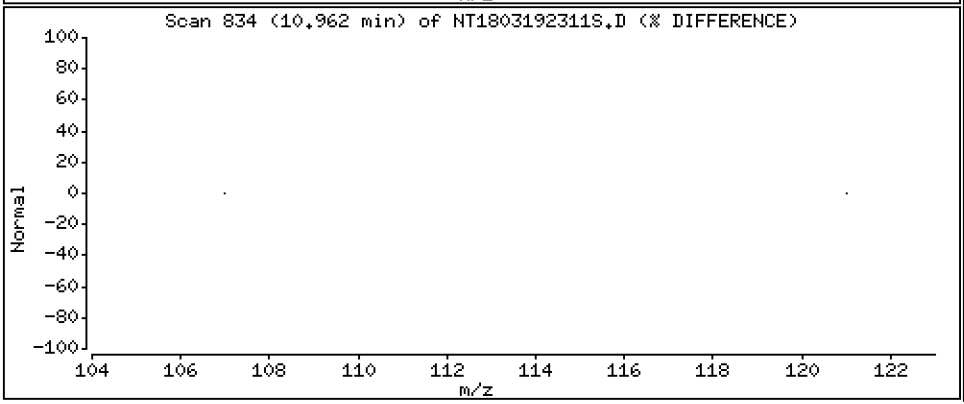












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

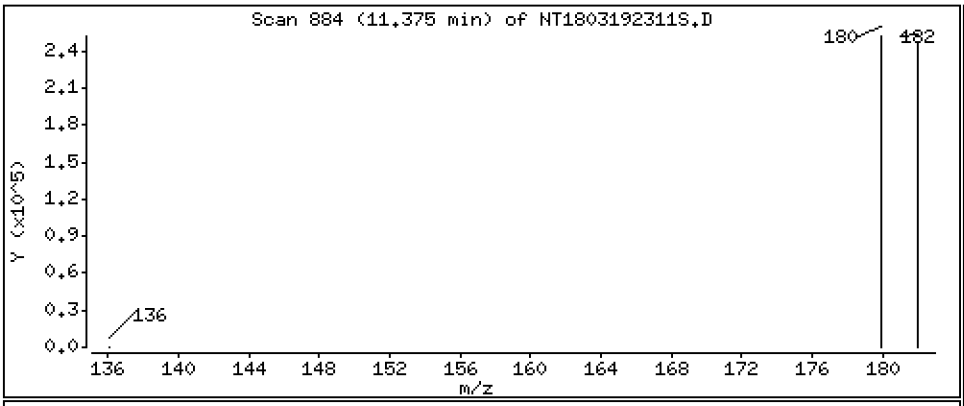
Operator: YZ

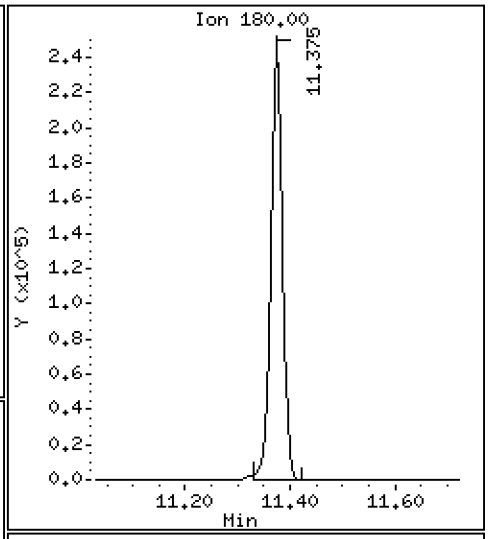
Column phase: ZB-5msi

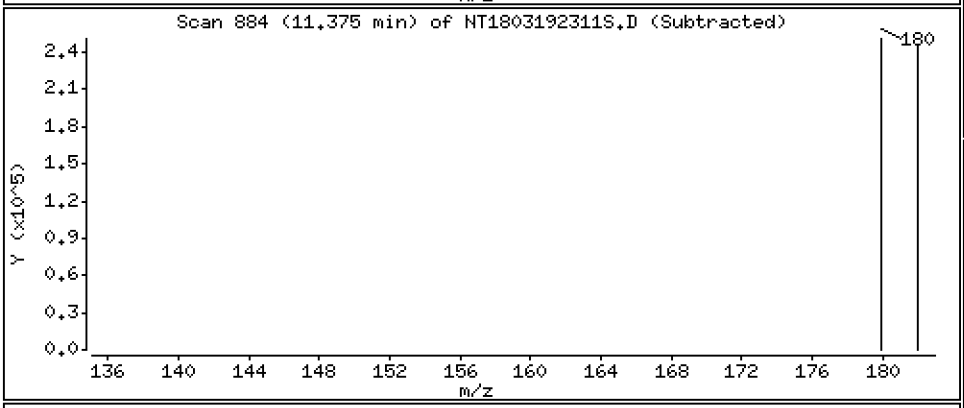
Column diameter: 0.25

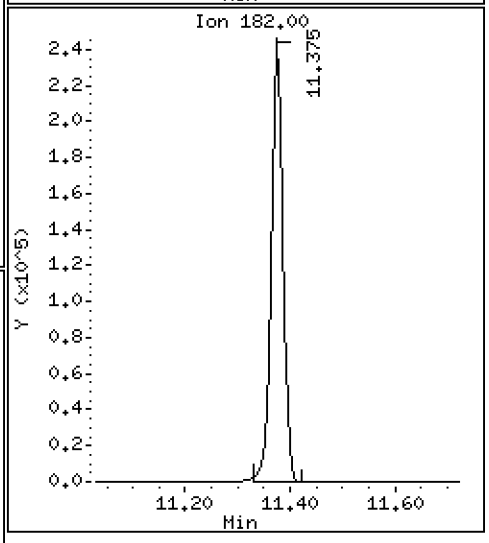
26 1,2,4-Trichlorobenzene

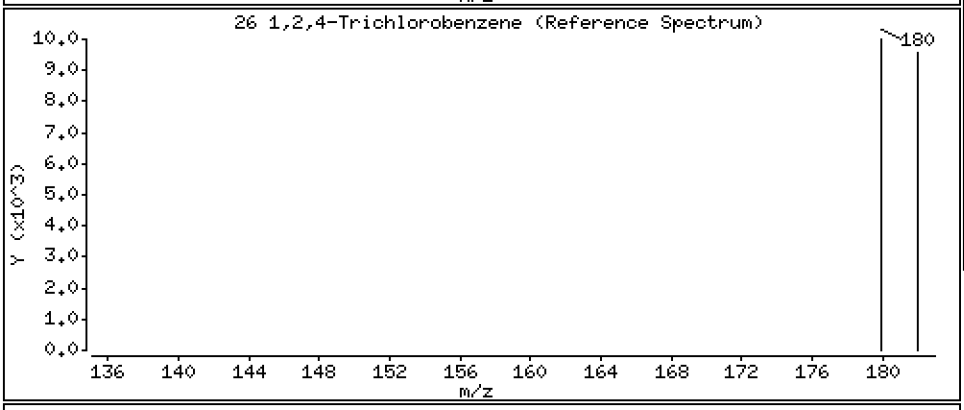
Concentration: 4.690 ug/mL

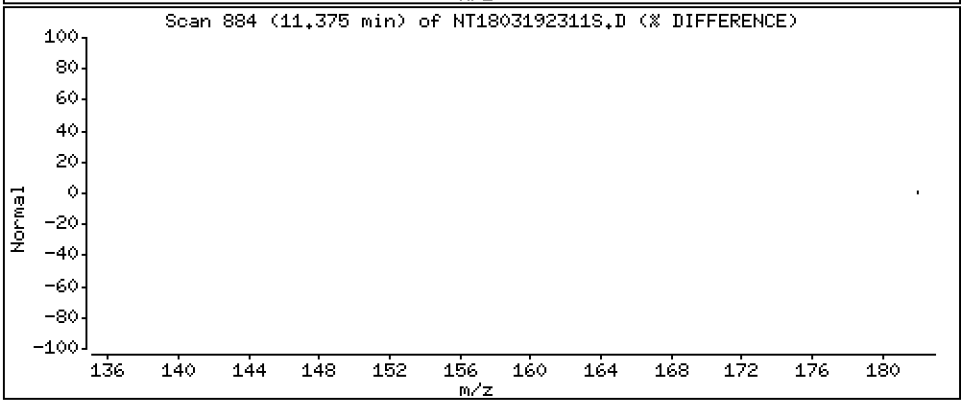












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

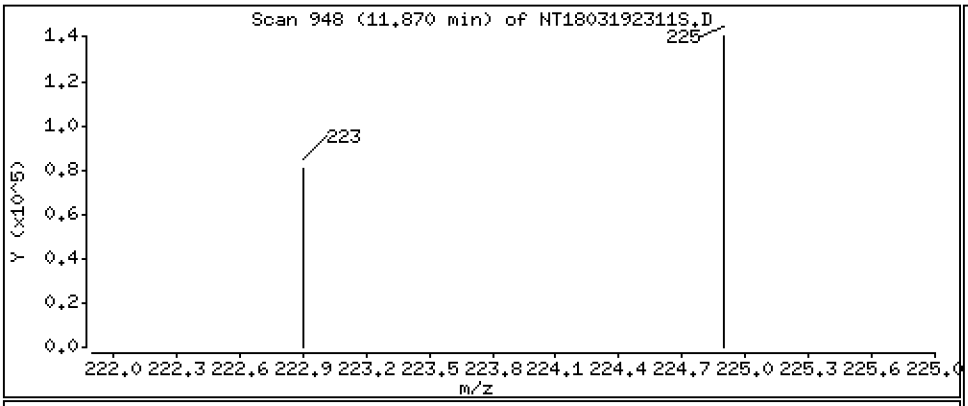
Operator: YZ

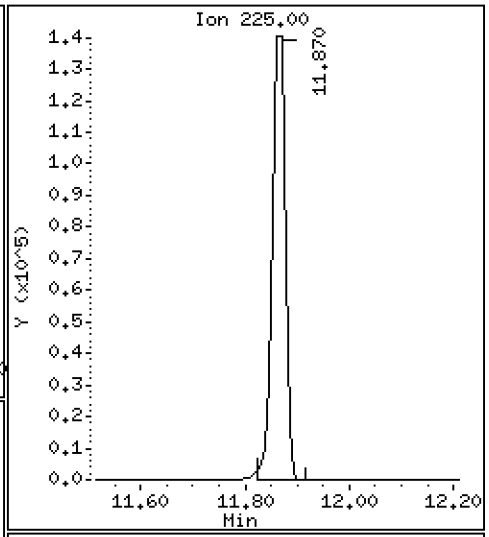
Column phase: ZB-5msi

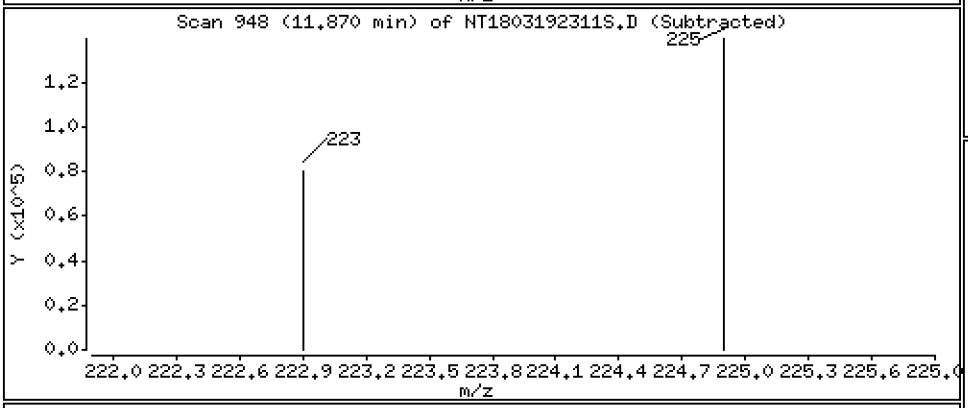
Column diameter: 0.25

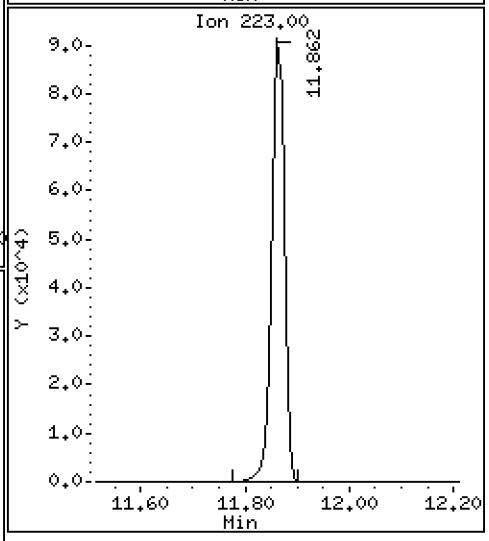
30 Hexachlorobutadiene

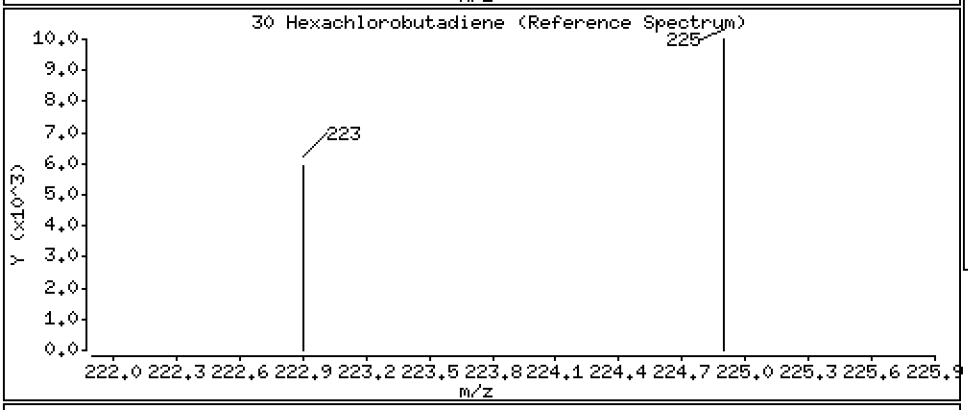
Concentration: 4.874 ug/mL

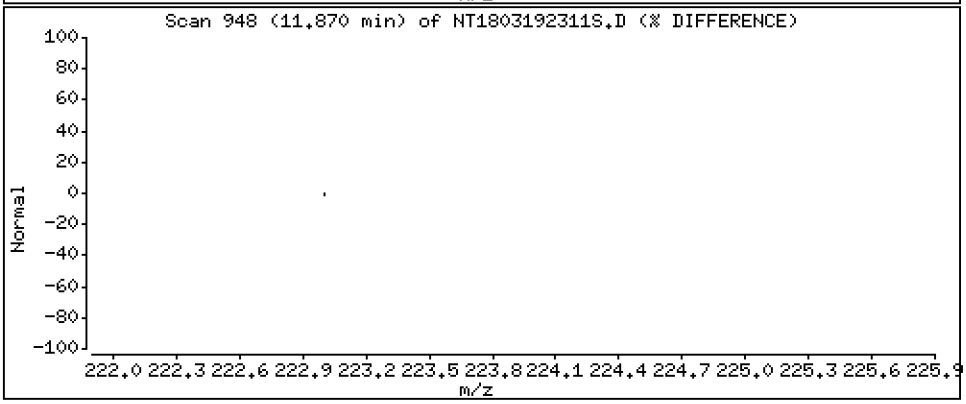












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

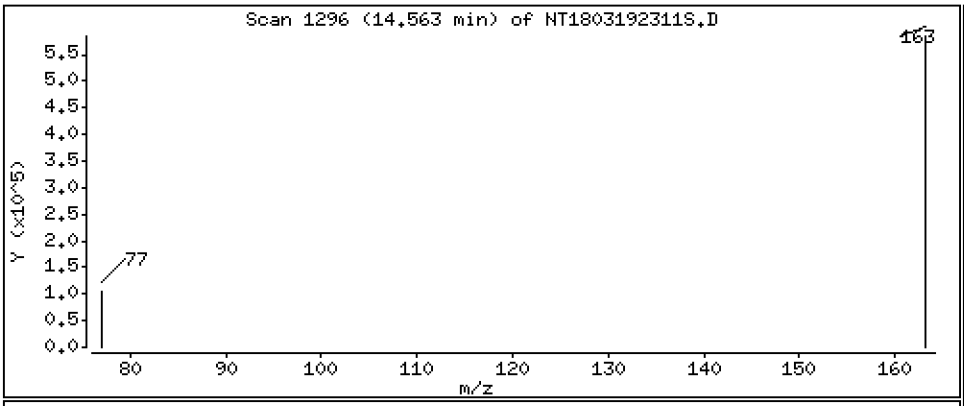
Operator: YZ

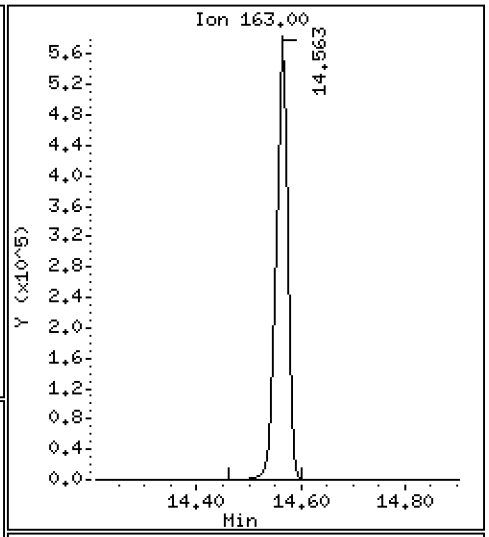
Column phase: ZB-5msi

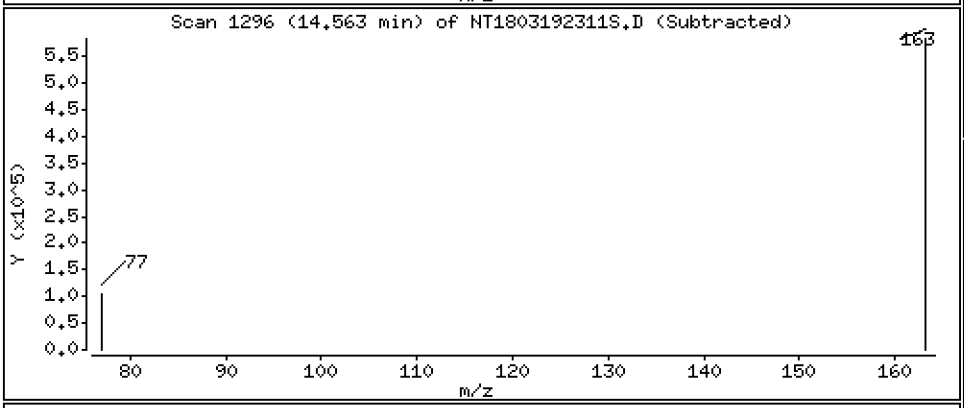
Column diameter: 0.25

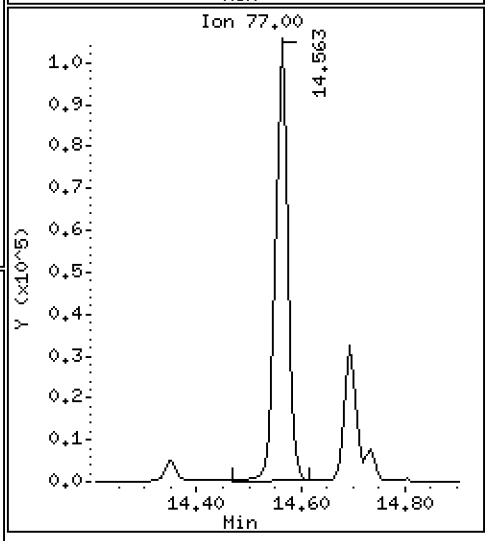
39 Dimethylphthalate

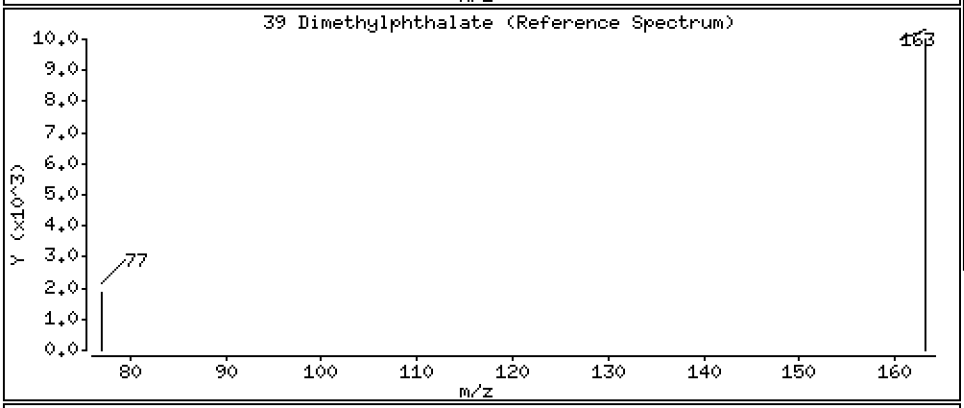
Concentration: 5.227 ug/mL

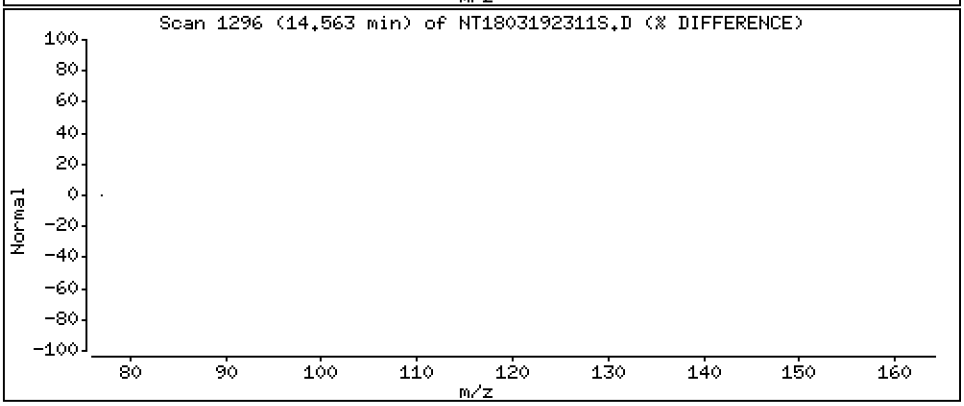












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

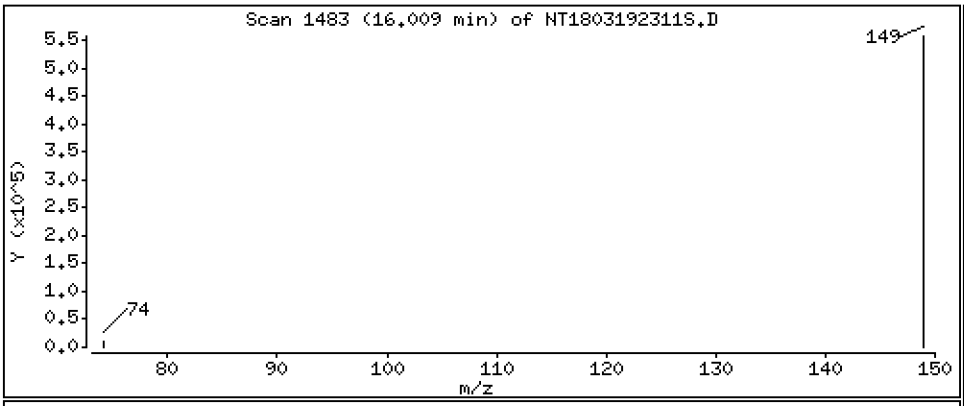
Operator: YZ

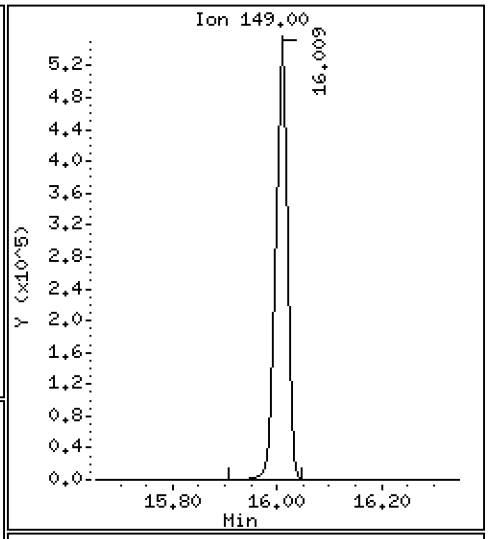
Column phase: ZB-5msi

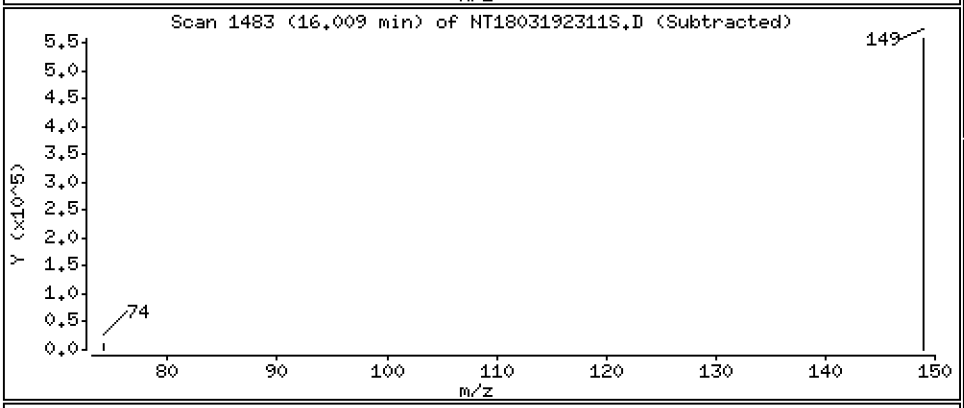
Column diameter: 0.25

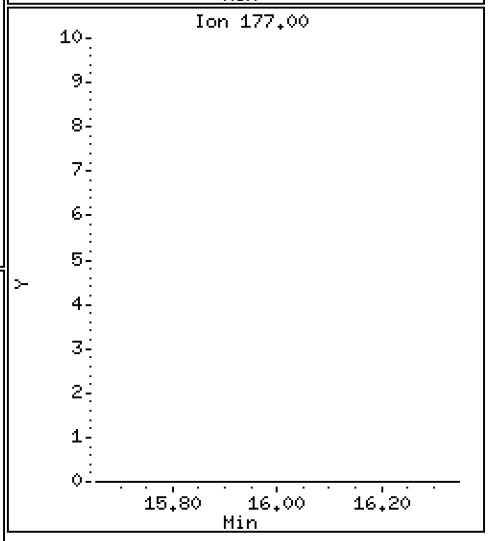
50 Diethylphthalate

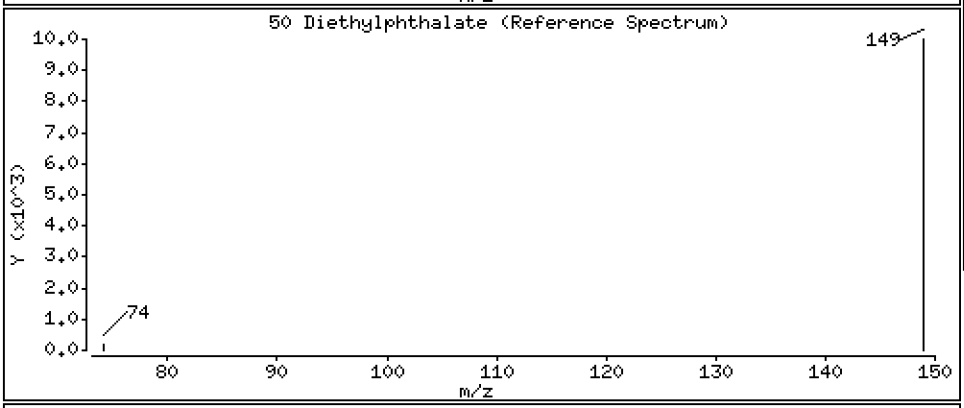
Concentration: 5.521 ug/mL

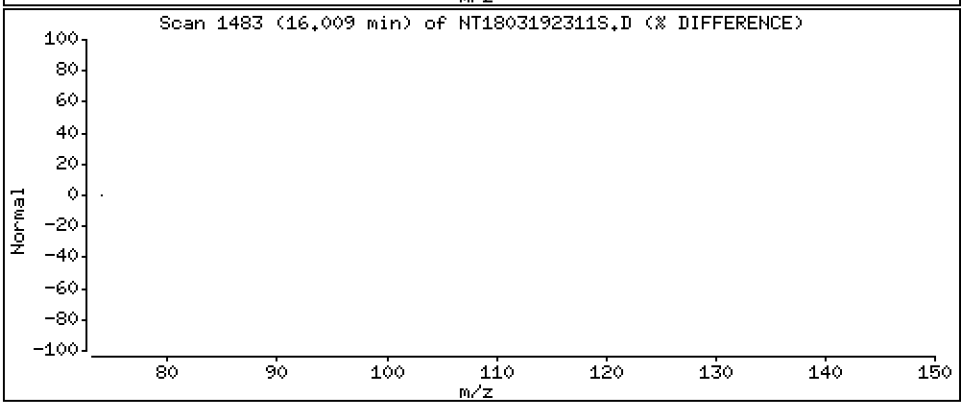












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT18031923115.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

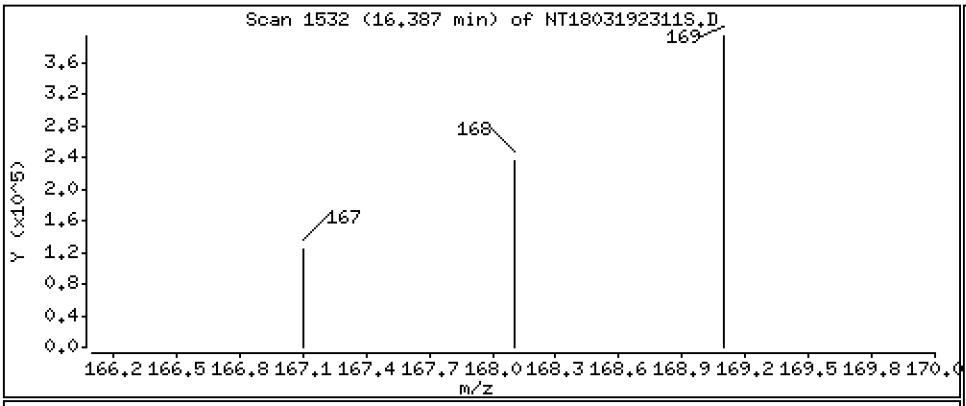
Operator: YZ

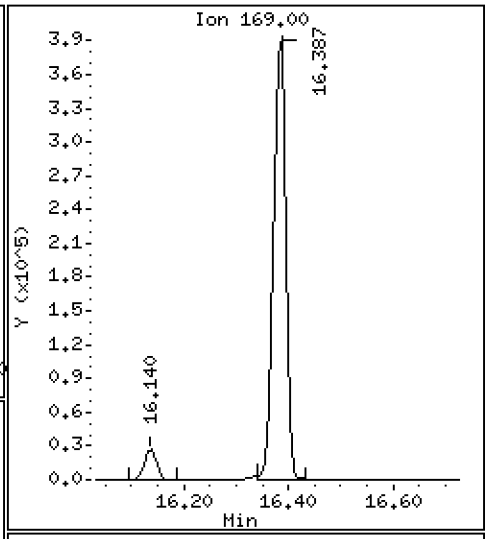
Column phase: ZB-5msi

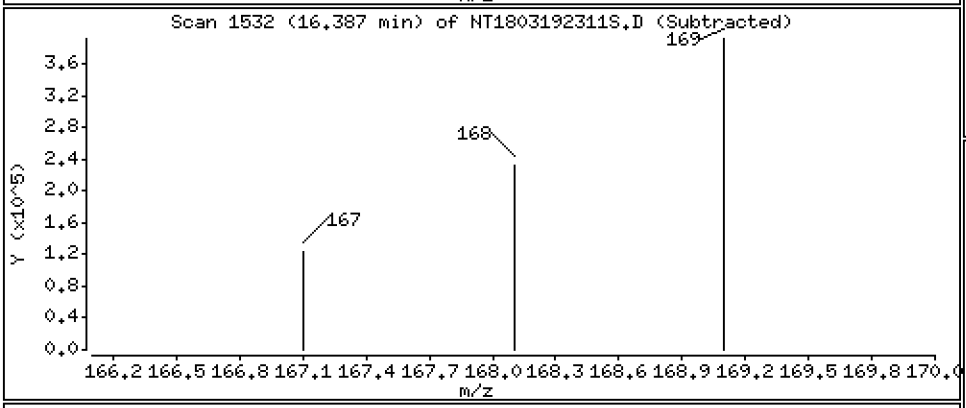
Column diameter: 0.25

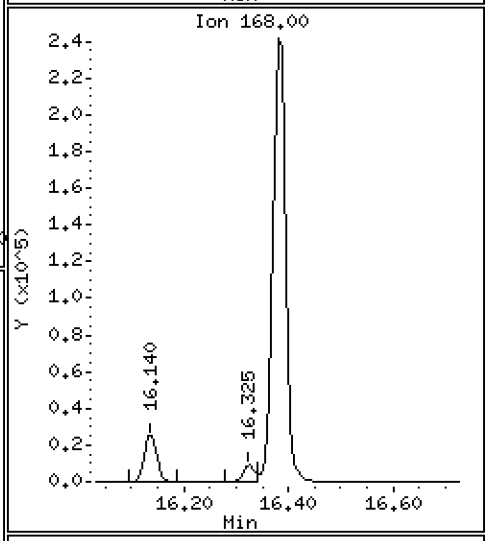
54 N-Nitrosodiphenylamine

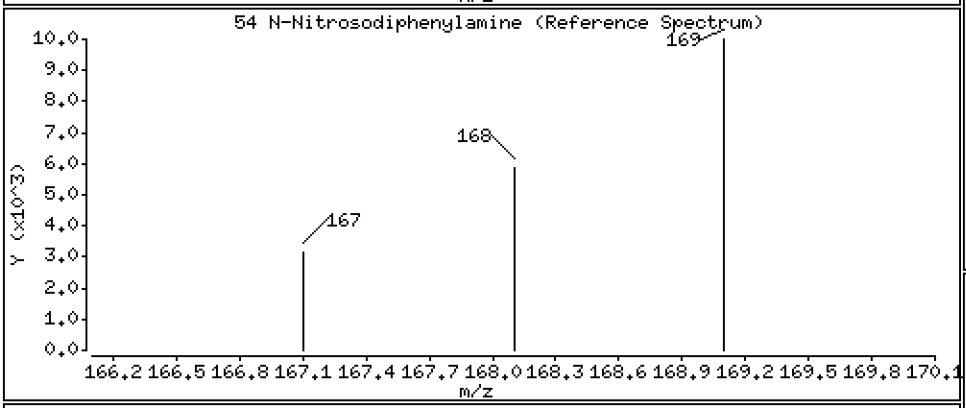
Concentration: 5.554 ug/mL

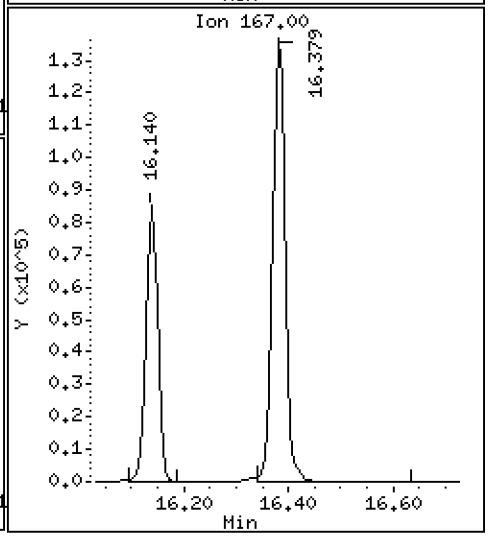


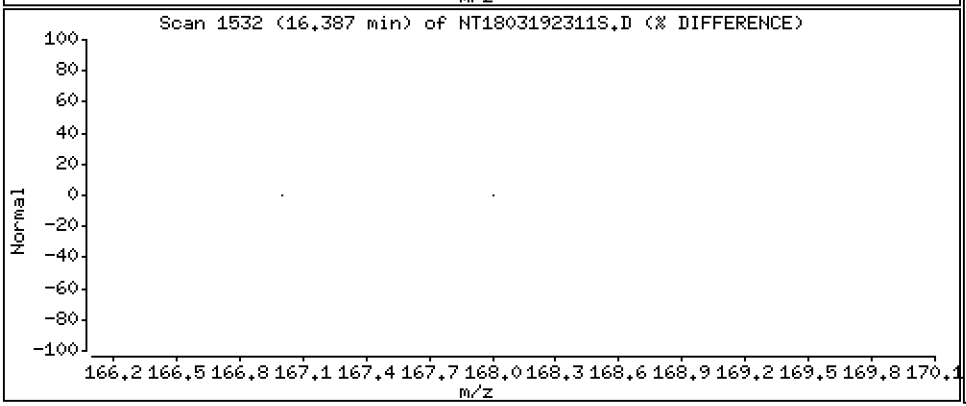












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

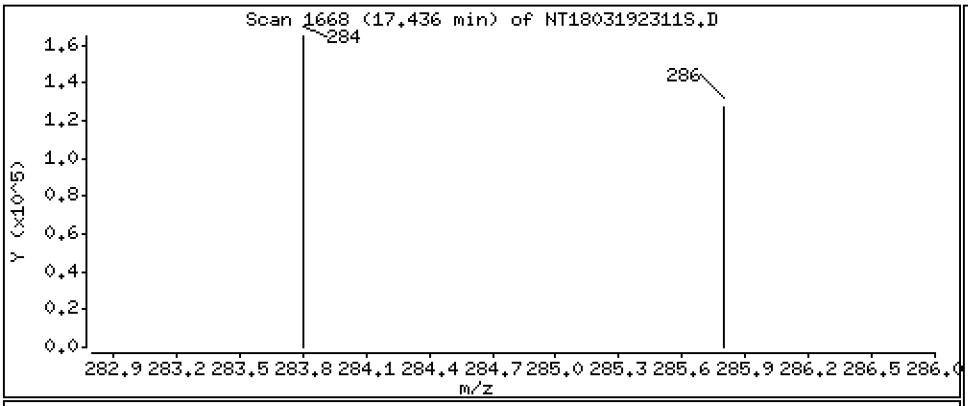
Operator: YZ

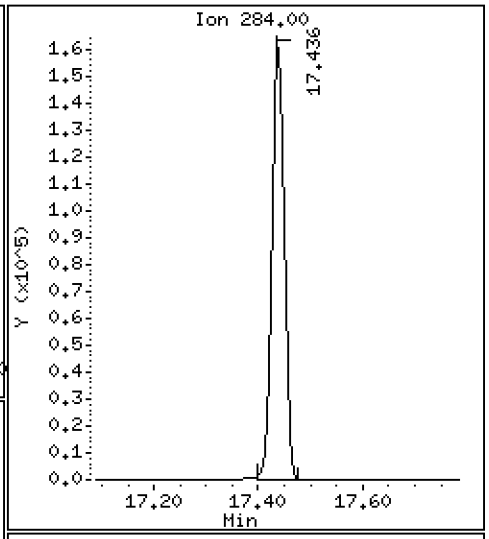
Column phase: ZB-5msi

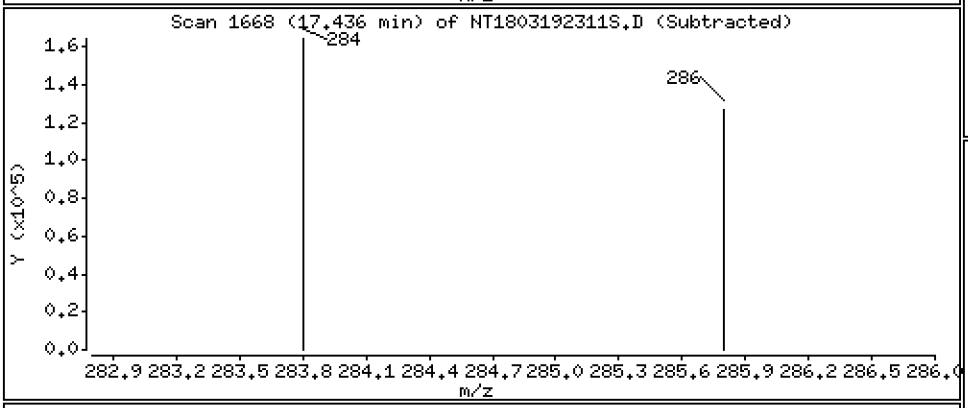
Column diameter: 0.25

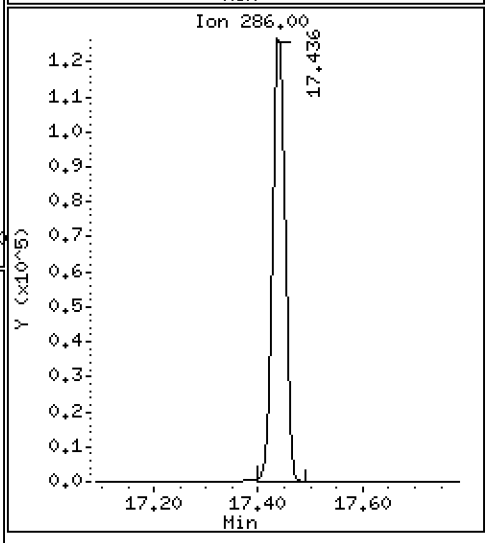
57 Hexachlorobenzene

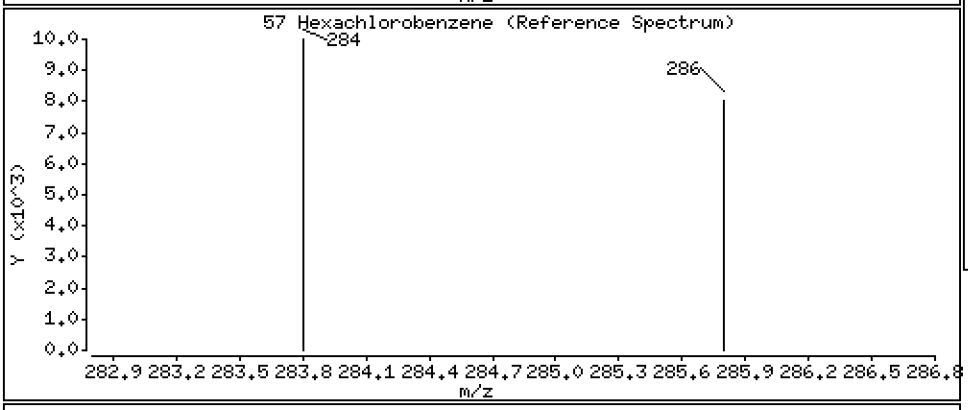
Concentration: 4.887 ug/mL

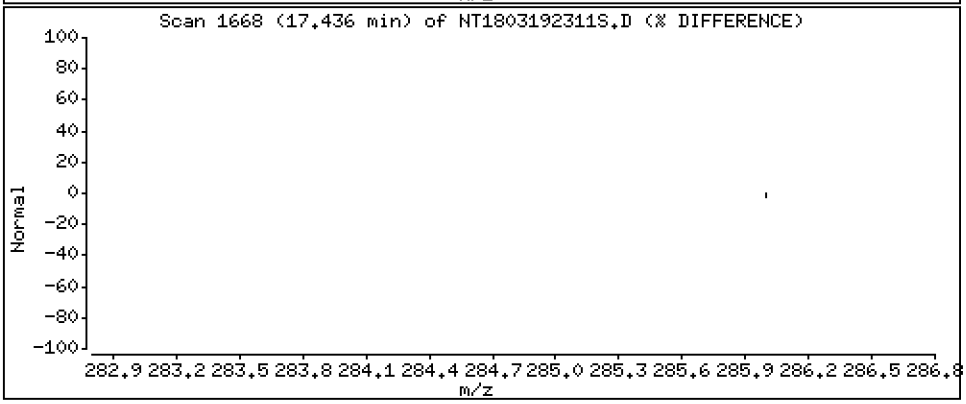












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

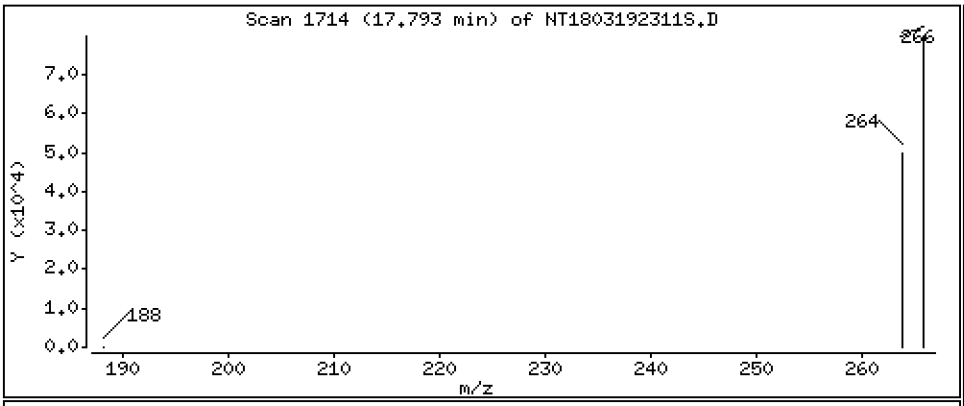
Operator: YZ

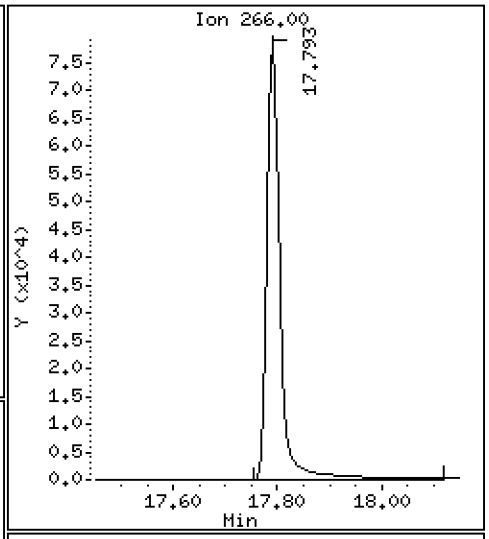
Column phase: ZB-5msi

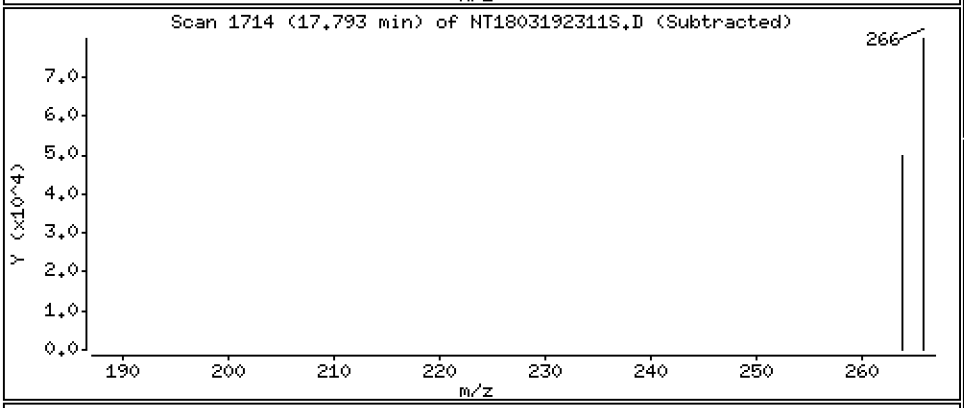
Column diameter: 0.25

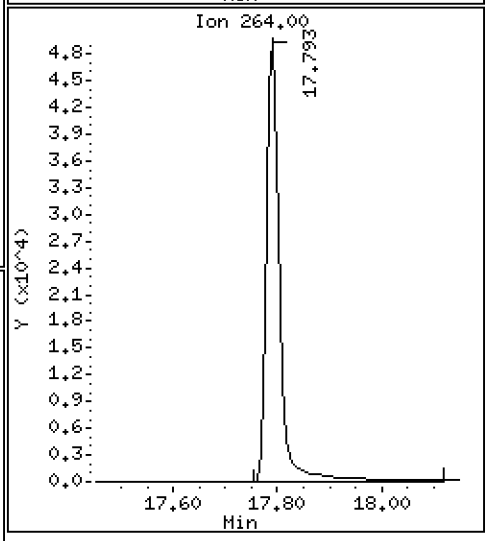
58 Pentachlorophenol

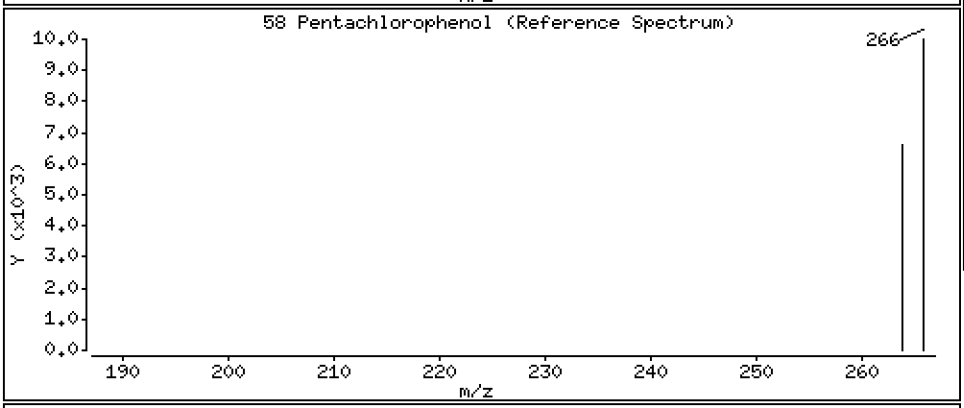
Concentration: 4.555 ug/mL

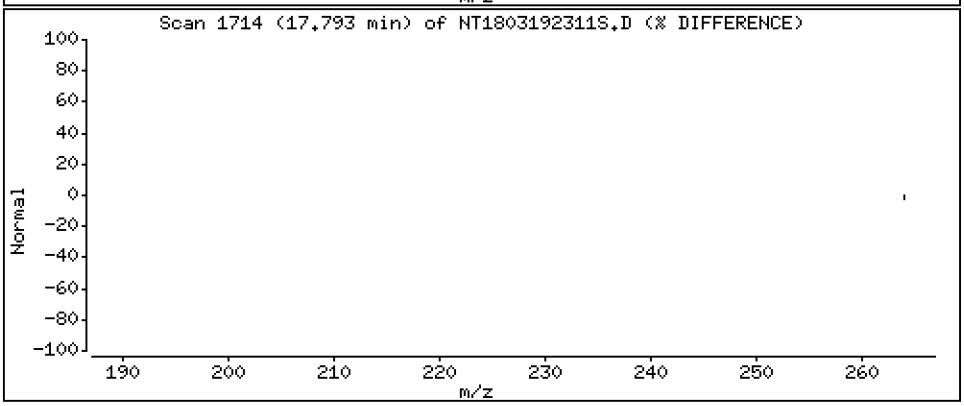












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

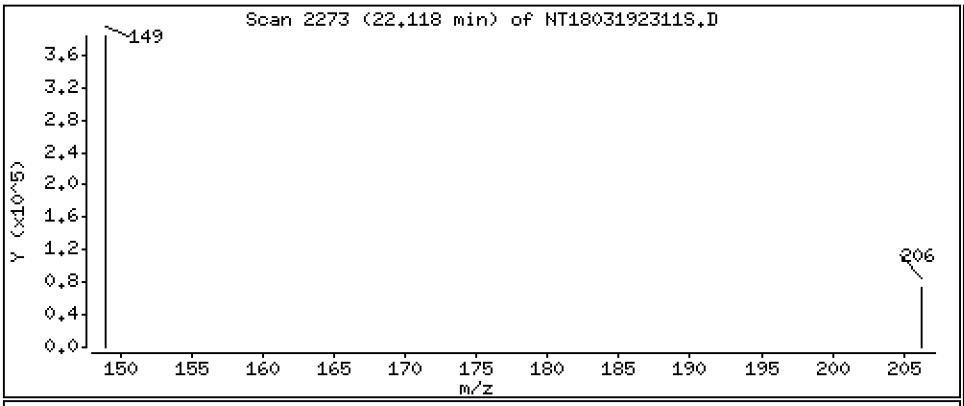
Operator: YZ

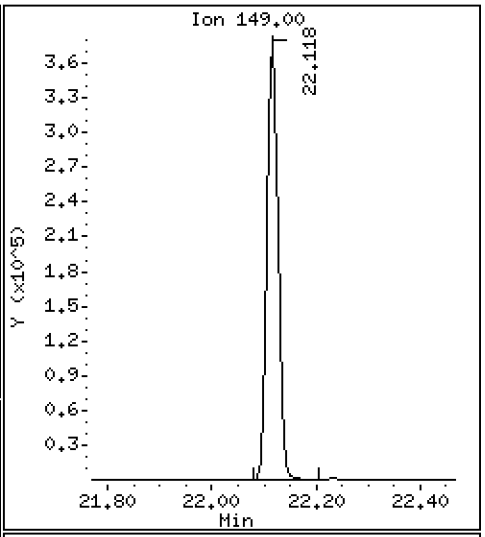
Column phase: ZB-5msi

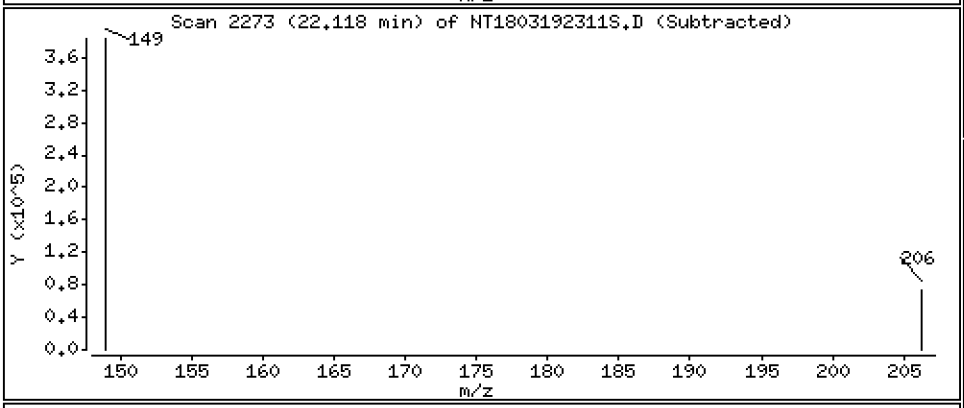
Column diameter: 0.25

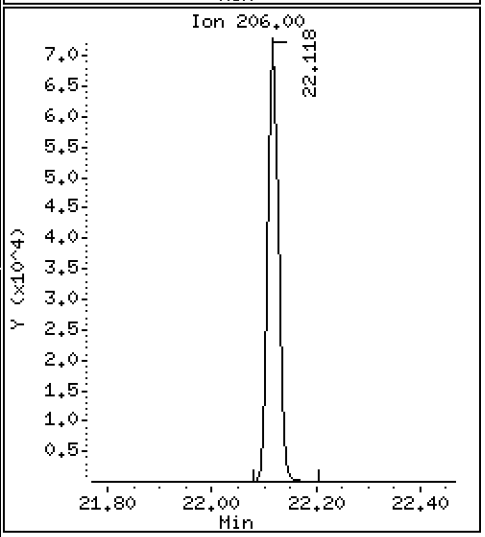
67 Butylbenzylphthalate

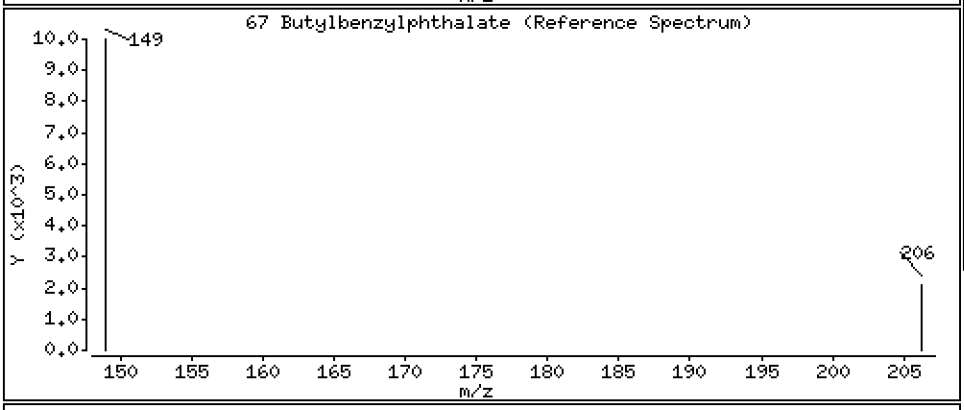
Concentration: 5.016 ug/mL

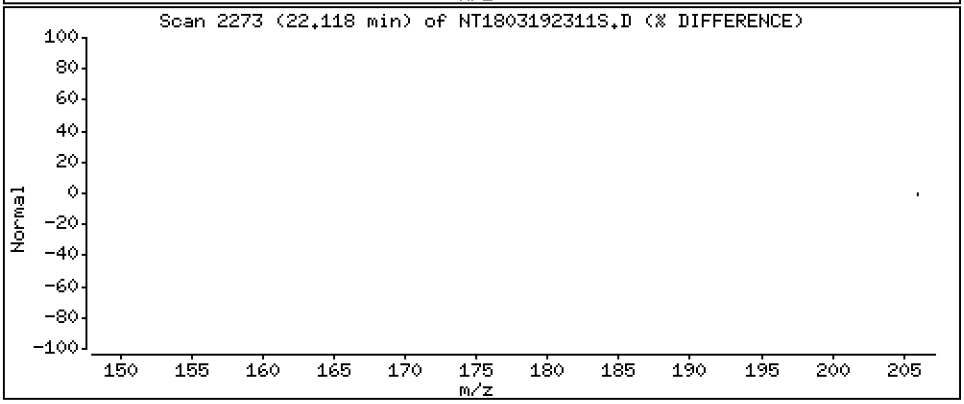












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

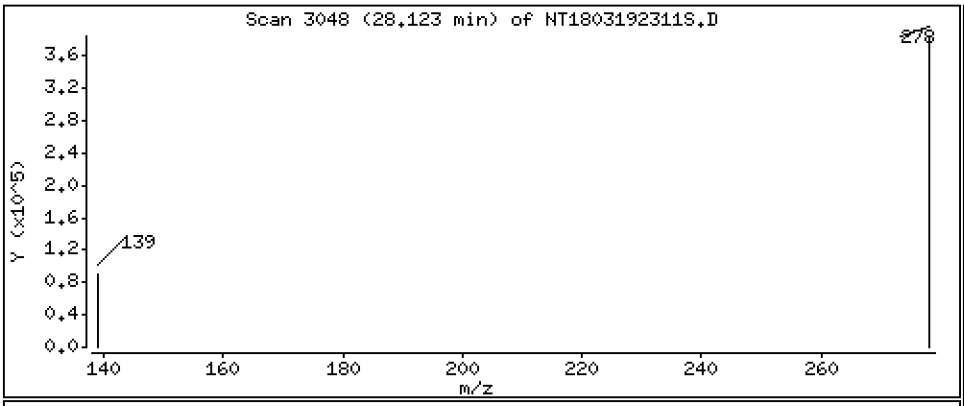
Operator: YZ

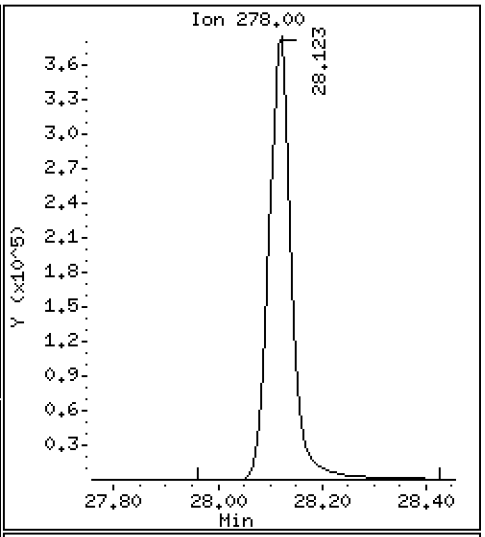
Column phase: ZB-5msi

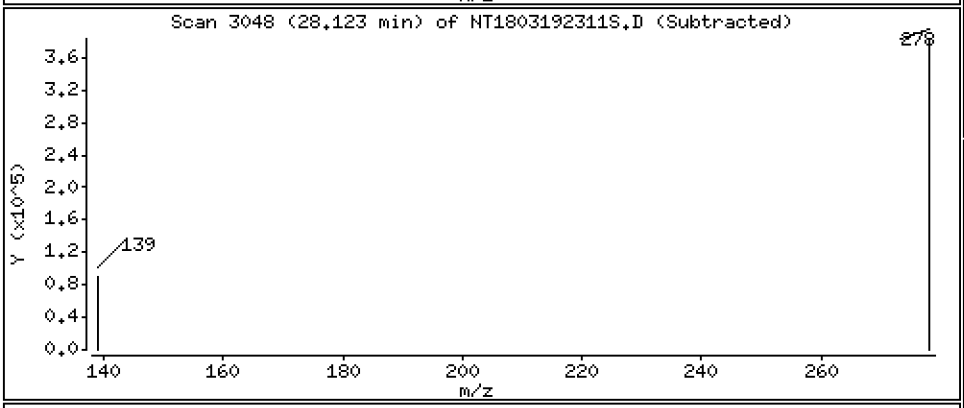
Column diameter: 0.25

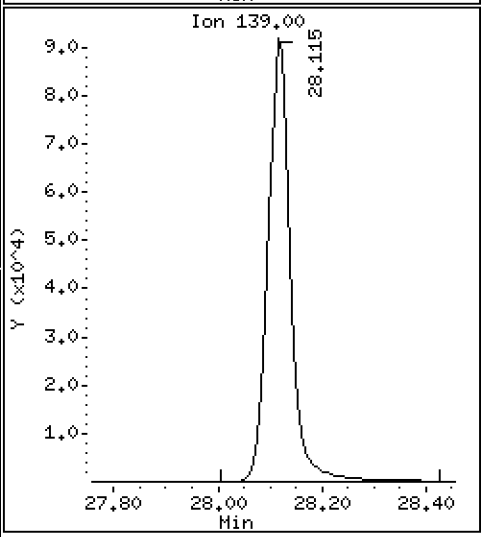
79 Dibenzo(a,h)anthracene

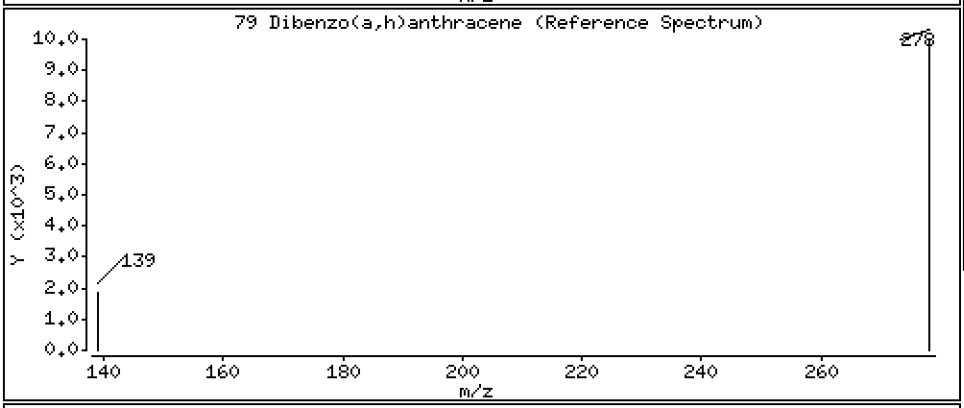
Concentration: 4.775 ug/mL

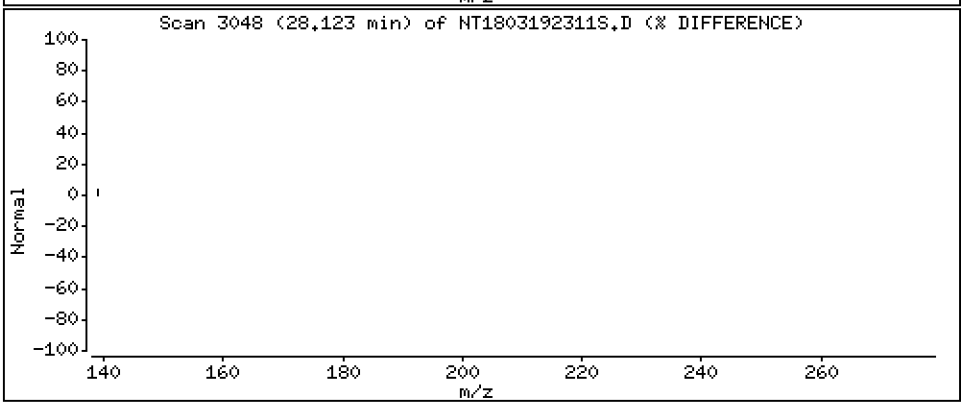












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT18031923115.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

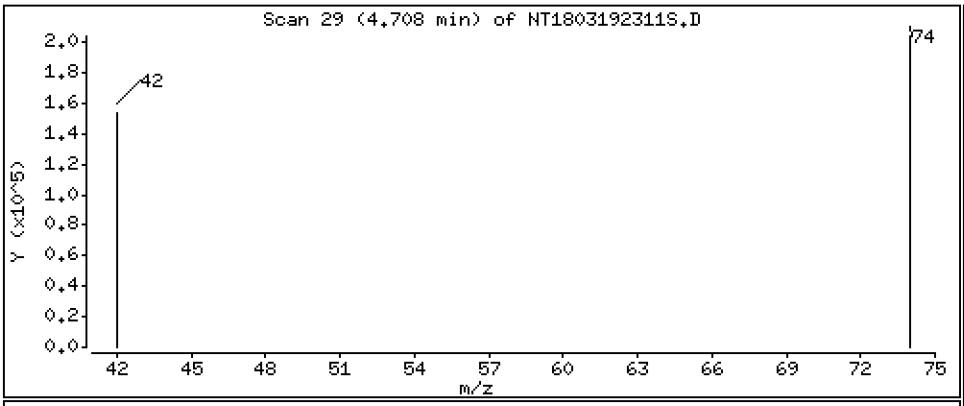
Operator: YZ

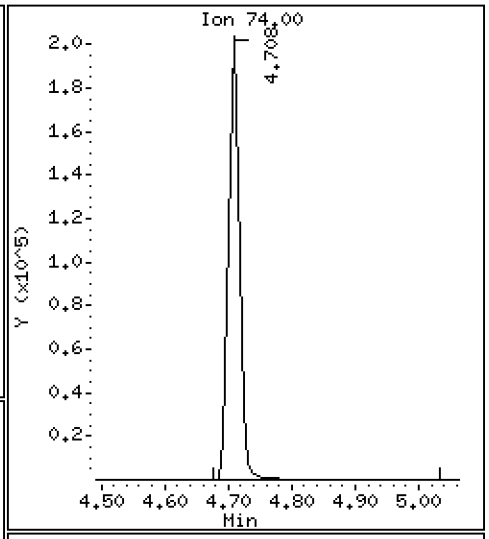
Column phase: ZB-5msi

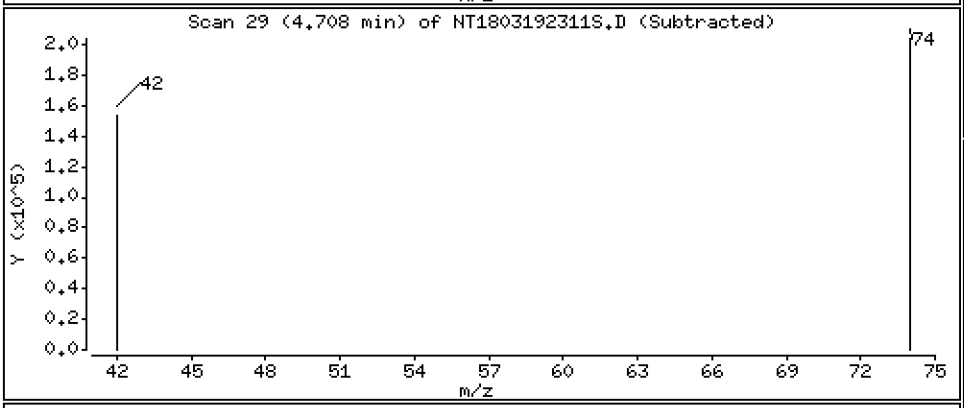
Column diameter: 0.25

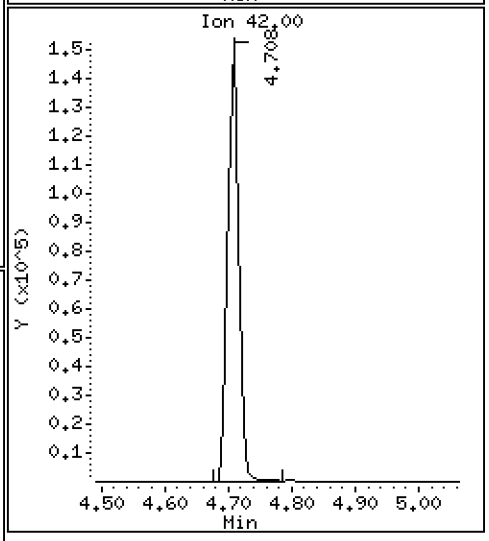
90 N-Nitrosodimethylamine

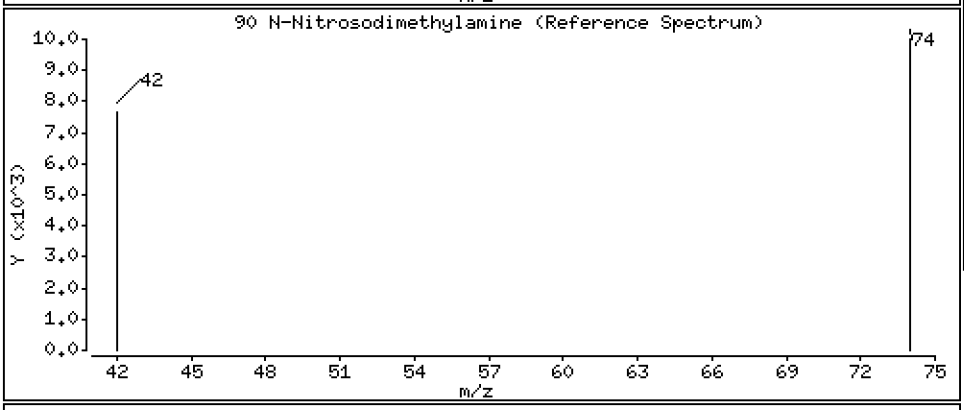
Concentration: 4.951 ug/mL

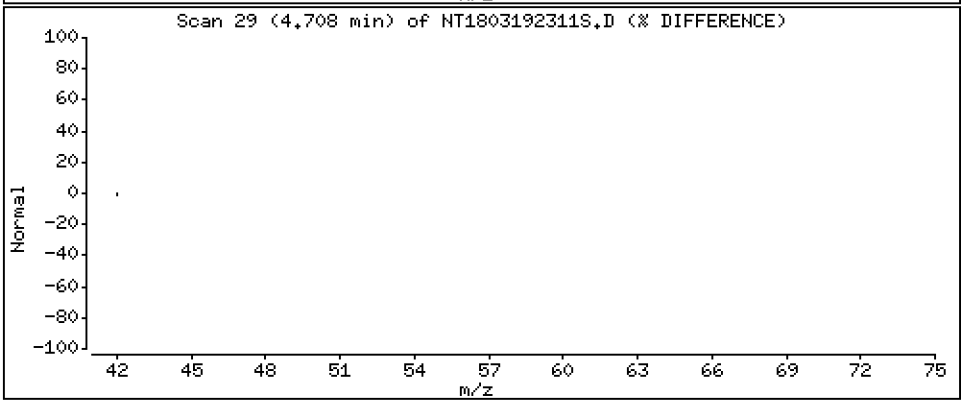












ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D
Lab Smp Id: SLCD0001-SCV1
Inj Date : 19-MAR-2023 21:26
Operator : YZ Inst ID: nt18.i
Smp Info : SEQ-SCV1
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Meth Date : 31-Mar-2023 09:18 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: ORGDATA102

			QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1	2-Fluorophenol	112	Compound Not Detected.					
	3	Phenol	94	8.377	8.378	(0.931)	480565	4.47946	4.479
	7	1,3-Dichlorobenzene	146	8.934	8.934	(0.993)	498765	4.80574	4.806
*	8	1,4-Dichlorobenzene-d4	152	8.996	8.996	(1.000)	274820	4.00000	
	9	1,4-Dichlorobenzene	146	9.027	9.027	(1.003)	506945	4.81558	4.816
	11	Benzyl alcohol	79	9.260	9.268	(1.029)	304709	4.89226	4.892
	12	1,2-Dichlorobenzene	146	9.376	9.377	(1.042)	486107	4.74456	4.745
	13	2-Methylphenol	108	9.485	9.485	(1.054)	332308	4.46205	4.462
	15	4-Methylphenol	108	9.756	9.749	(1.085)	363280	4.68923	4.689
	16	N-Nitroso-di-n-propylamine	70	9.826	9.819	(1.092)	268590	5.25590	5.256
	22	2,4-Dimethylphenol	107	10.792	10.792	(0.942)	283542	3.91886	3.919
	24	Benzoic acid	105	10.961	10.784	(0.957)	372399	7.32448	7.324
	26	1,2,4-Trichlorobenzene	180	11.375	11.376	(0.993)	387054	4.69019	4.690
*	27	Naphthalene-d8	136	11.460	11.460	(1.000)	1036057	4.00000	
	30	Hexachlorobutadiene	225	11.869	11.862	(1.036)	231479	4.87389	4.874
	39	Dimethylphthalate	163	14.563	14.555	(0.968)	876118	5.22675	5.227
*	42	Acenaphthene-d10	162	15.050	15.042	(1.000)	524780	4.00000	
	50	Diethylphthalate	149	16.009	16.001	(1.064)	840376	5.52142	5.521
	54	N-Nitrosodiphenylamine	169	16.387	16.379	(0.908)	610358	5.55444	5.554
	57	Hexachlorobenzene	284	17.436	17.437	(0.966)	255499	4.88731	4.887
	58	Pentachlorophenol	266	17.792	17.800	(0.985)	131147	4.55505	4.555
*	59	Phenanthrene-d10	188	18.055	18.048	(1.000)	904764	4.00000	
$	66	Terphenyl-d14	244	Compound Not Detected.					
	67	Butylbenzylphthalate	149	22.118	22.118	(0.958)	523931	5.01615	5.016
*	69	Chrysene-d12	240	23.078	23.070	(1.000)	777248	4.00000	
*	77	Perylene-d12	264	25.594	25.594	(1.000)	888854	4.00000	
	79	Dibenzo(a,h)anthracene	278	28.122	28.107	(1.099)	1161652	4.77453	4.775
	90	N-Nitrosodimethylamine	74	4.708	4.716	(0.523)	242099	4.95102	4.951

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192311S.D
Lab Smp Id: SLCD0001-SCV1
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 18:02
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	276557	138279	553114	274820	-0.63
27 Naphthalene-d8	1034745	517373	2069490	1036057	0.13
42 Acenaphthene-d10	519728	259864	1039456	524780	0.97
59 Phenanthrene-d10	903862	451931	1807724	904764	0.10
69 Chrysene-d12	761695	380848	1523390	777248	2.04
77 Perylene-d12	858044	429022	1716088	888854	3.59

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	-0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	-0.00
42 Acenaphthene-d10	15.04	14.54	15.54	15.05	0.05
59 Phenanthrene-d10	18.06	17.56	18.56	18.06	-0.00
69 Chrysene-d12	23.07	22.57	23.57	23.08	0.03
77 Perylene-d12	25.59	25.09	26.09	25.59	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192311S.D

Lab ID: SLCD0001-SCV1
nt18.i, 20230319.b\SIM.b\SIMABN2.m,   19-MAR-2023 21:26

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

** FIRST SURROGATE NOT FOUND. ICAL Check not performed **

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.957	0.941	0.0156	Benzoic acid

RRT check based on Ccal File: SIM.b/NT1803192310S.D

On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

Analytical Resources, LLC
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK
EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	NT18	Calibration:	GD00001
Lab File ID:	NT1803222303S.D	Calibration Date:	04/01/2023
Sequence:	SLD0061	Injection Date:	03/22/23
Lab Sample ID:	SLD0061-ICV1	Injection Time:	18:36
Sequence Name:	Initial Cal Check		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF		
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT	
1,4-Dichlorobenzene	A	1.0000	0.9	1.5322280	1.4413680		-5.9	+/-20	
1,2-Dichlorobenzene	A	1.0000	0.9	1.4912410	1.4064310		-5.7	+/-20	
Benzyl Alcohol	A	1.0000	0.9	0.7708820	0.8215618		-12.0	+/-20	
Benzoic acid	A	4.0000	1.3	0.1069329	0.0627254		-67.2	+/-20	*
2,4-Dimethylphenol	A	2.0000	2.0	0.2793404	0.2839838		1.7	+/-20	
1,2,4-Trichlorobenzene	A	1.0000	1.0	0.3186083	0.3055860		-4.1	+/-20	
N-Nitrosodiphenylamine	A	1.0000	1.0	0.4858130	0.5062167		4.2	+/-20	
Pentachlorophenol	A	2.0000	1.4	0.0867576	0.0870881		-29.4	+/-20	*
2-Fluorophenol	A	1.5000	1.53	1.1661190	1.1900720		2.1	+/-20	
p-Terphenyl-d14	A	1.0000	0.982	0.5638063	0.5537629		-1.8	+/-20	

* Values outside of QC limits

Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223033.D

Date : 22-MAR-2023 18:36

Client ID:

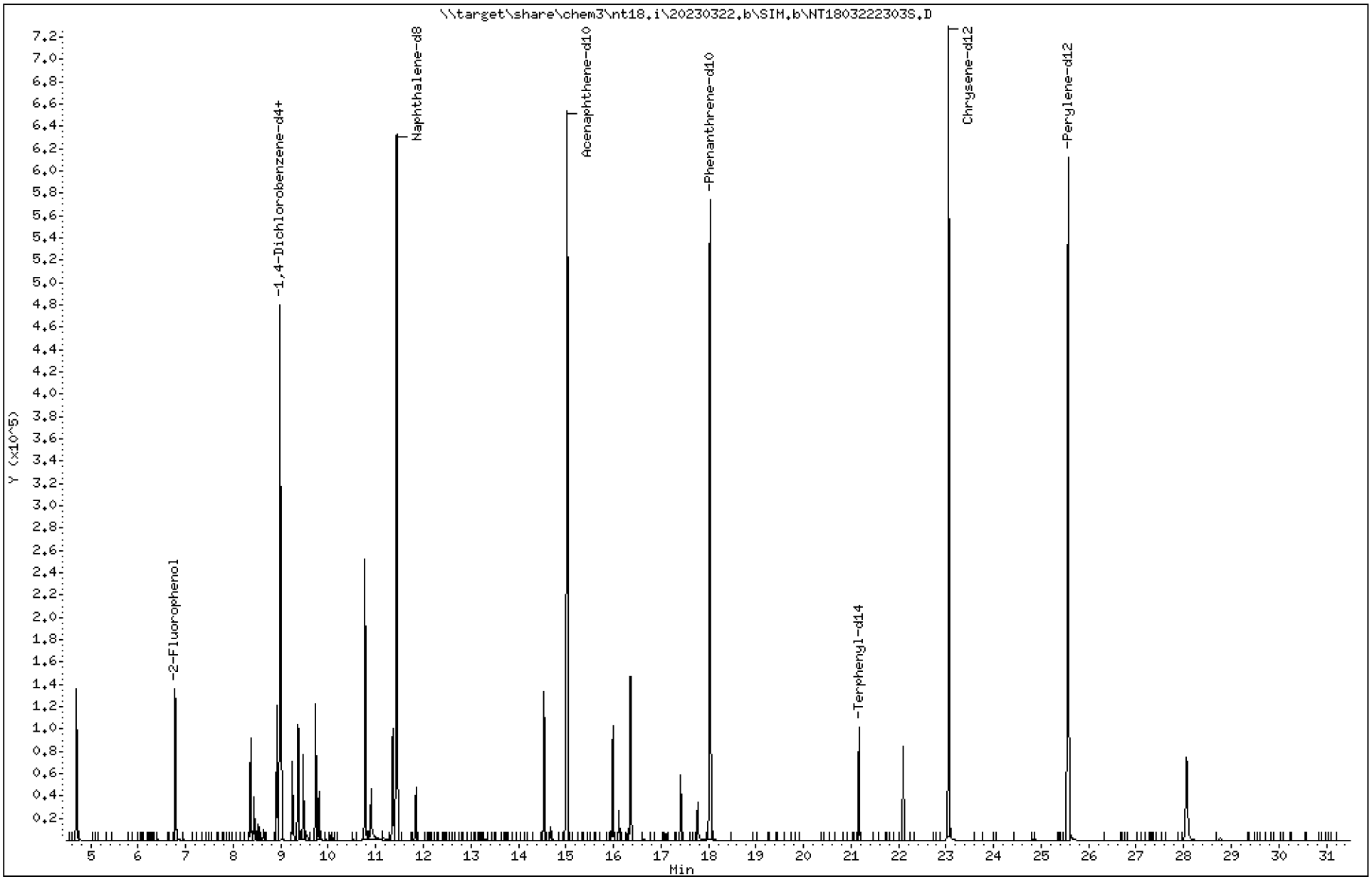
Instrument: nt18.i

Sample Info: SLD0061-ICV1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222303S.D
Lab Smp Id: SLD0061-ICV1
Inj Date : 22-MAR-2023 18:36
Operator : VTS Inst ID: nt18.i
Smp Info : SLD0061-ICV1
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230322.b\SIM.b\SIMABN2.m
Meth Date : 05-Apr-2023 10:09 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: DEENAY-201905

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1	2-Fluorophenol	112	6.778	6.778	(0.755)	126719	1.50000	1.531
	3	Phenol	94	8.362	8.362	(0.931)	110813	1.00000	0.9997
	7	1,3-Dichlorobenzene	146	8.918	8.918	(0.993)	102306	1.00000	0.9541
*	8	1,4-Dichlorobenzene-d4	152	8.980	8.980	(1.000)	283947	4.00000	
	9	1,4-Dichlorobenzene	146	9.011	9.011	(1.003)	102318	1.00000	0.9407
	11	Benzyl alcohol	79	9.244	9.244	(1.029)	58320	1.00000	0.8798
	12	1,2-Dichlorobenzene	146	9.360	9.360	(1.042)	99838	1.00000	0.9431
	13	2-Methylphenol	108	9.469	9.469	(1.054)	78568	1.00000	1.021
	15	4-Methylphenol	108	9.733	9.733	(1.084)	82599	1.00000	1.032
	16	N-Nitroso-di-n-propylamine	70	9.803	9.803	(1.092)	51054	1.00000	0.9669
	22	2,4-Dimethylphenol	107	10.775	10.775	(0.941)	150154	2.00000	2.033
	24	Benzoic acid	105	10.902	10.902	(0.953)	66331	4.00000	1.313
	26	1,2,4-Trichlorobenzene	180	11.360	11.360	(0.993)	80788	1.00000	0.9591
*	27	Naphthalene-d8	136	11.444	11.444	(1.000)	1057483	4.00000	
	30	Hexachlorobutadiene	225	11.846	11.846	(1.035)	46197	1.00000	0.9530
	39	Dimethylphthalate	163	14.539	14.539	(0.968)	162841	1.00000	0.9798
*	42	Acenaphthene-d10	162	15.027	15.027	(1.000)	520336	4.00000	
	50	Diethylphthalate	149	15.985	15.985	(1.064)	153535	1.00000	1.017
	54	N-Nitrosodiphenylamine	169	16.364	16.364	(0.907)	118143	1.00000	1.042
	57	Hexachlorobenzene	284	17.413	17.413	(0.966)	51191	1.00000	0.9490
	58	Pentachlorophenol	266	17.769	17.769	(0.985)	40650	2.00000	1.412
*	59	Phenanthrene-d10	188	18.032	18.032	(1.000)	933537	4.00000	
$	66	Terphenyl-d14	244	21.165	21.165	(0.918)	119512	1.00000	0.9822
	67	Butylbenzylphthalate	149	22.095	22.095	(0.958)	95555	1.00000	0.7843
*	69	Chrysene-d12	240	23.055	23.055	(1.000)	863272	4.00000	
*	77	Perylene-d12	264	25.563	25.563	(1.000)	996915	4.00000	
	79	Dibenzo(a,h)anthracene	278	28.060	28.060	(1.098)	196800	1.00000	0.6672
	90	N-Nitrosodimethylamine	74	4.700	4.700	(0.523)	98044	2.00000	1.941

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222303S.D
Lab Smp Id: SLD0061-ICV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 22-MAR-2023
Calibration Time: 12:47
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	283947	141974	567894	283947	0.00
27 Naphthalene-d8	1057483	528742	2114966	1057483	0.00
42 Acenaphthene-d10	520336	260168	1040672	520336	0.00
59 Phenanthrene-d10	933537	466769	1867074	933537	0.00
69 Chrysene-d12	863272	431636	1726544	863272	0.00
77 Perylene-d12	996915	498458	1993830	996915	0.00

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	0.00
42 Acenaphthene-d10	15.03	14.53	15.53	15.03	0.00
59 Phenanthrene-d10	18.03	17.53	18.53	18.03	0.00
69 Chrysene-d12	23.06	22.56	23.56	23.06	0.00
77 Perylene-d12	25.56	25.06	26.06	25.56	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222303S.D

Lab ID: SLD0061-ICV1
nt18.i, 20230322.b\SIM.b\SIMABN2.m,   22-MAR-2023 18:36

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

No RRT check. Ccal file.

On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt18.i\20230322.b\SIM.b

Instrument: nt18.i Date: 22-MAR-2023 Method: SIM.b\SIMABN2.m

INITIAL CAL: 19-MAR-2023

Compound	%RSD or R^2
NO Q-FLAGS	

ICV CAL: NT1803222303S.D 22-MAR-2023 18:36

Compound	%D
Benzoic acid	-67.2
Pentachlorophenol	-29.4
Dibenzo(a,h)anthracene	-33.3
Butylbenzylphthalate	-21.6

Analytical Resources, LLC
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK
EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	NT18	Calibration:	GD00001
Lab File ID:	NT1803222318SA.D	Calibration Date:	04/01/2023
Sequence:	SLD0064	Injection Date:	03/23/23
Lab Sample ID:	SLD0064-ICV1	Injection Time:	04:45
Sequence Name:	Initial Cal Check		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF		
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT	
1,4-Dichlorobenzene	A	1.0000	0.9	1.5322280	1.4270540		-6.9	+/-20	
1,2-Dichlorobenzene	A	1.0000	0.9	1.4912410	1.3974280		-6.3	+/-20	
Benzyl Alcohol	A	1.0000	0.9	0.7708820	0.8403792		-10.0	+/-20	
Benzoic acid	A	4.0000	3.0	0.1069329	0.1424854		-26.0	+/-20	*
2,4-Dimethylphenol	A	2.0000	2.1	0.2793404	0.2898790		3.8	+/-20	
1,2,4-Trichlorobenzene	A	1.0000	1.0	0.3186083	0.3042279		-4.5	+/-20	
N-Nitrosodiphenylamine	A	1.0000	1.1	0.4858130	0.5121908		5.4	+/-20	
Pentachlorophenol	A	2.0000	1.4	0.0867576	0.0870524		-29.4	+/-20	*
2-Fluorophenol	A	1.5000	1.57	1.1661190	1.2190550		4.5	+/-20	
p-Terphenyl-d14	A	1.0000	0.915	0.5638063	0.5158831		-8.5	+/-20	

* Values outside of QC limits

Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT1803222318SA.D

Date : 23-MAR-2023 04:45

Client ID:

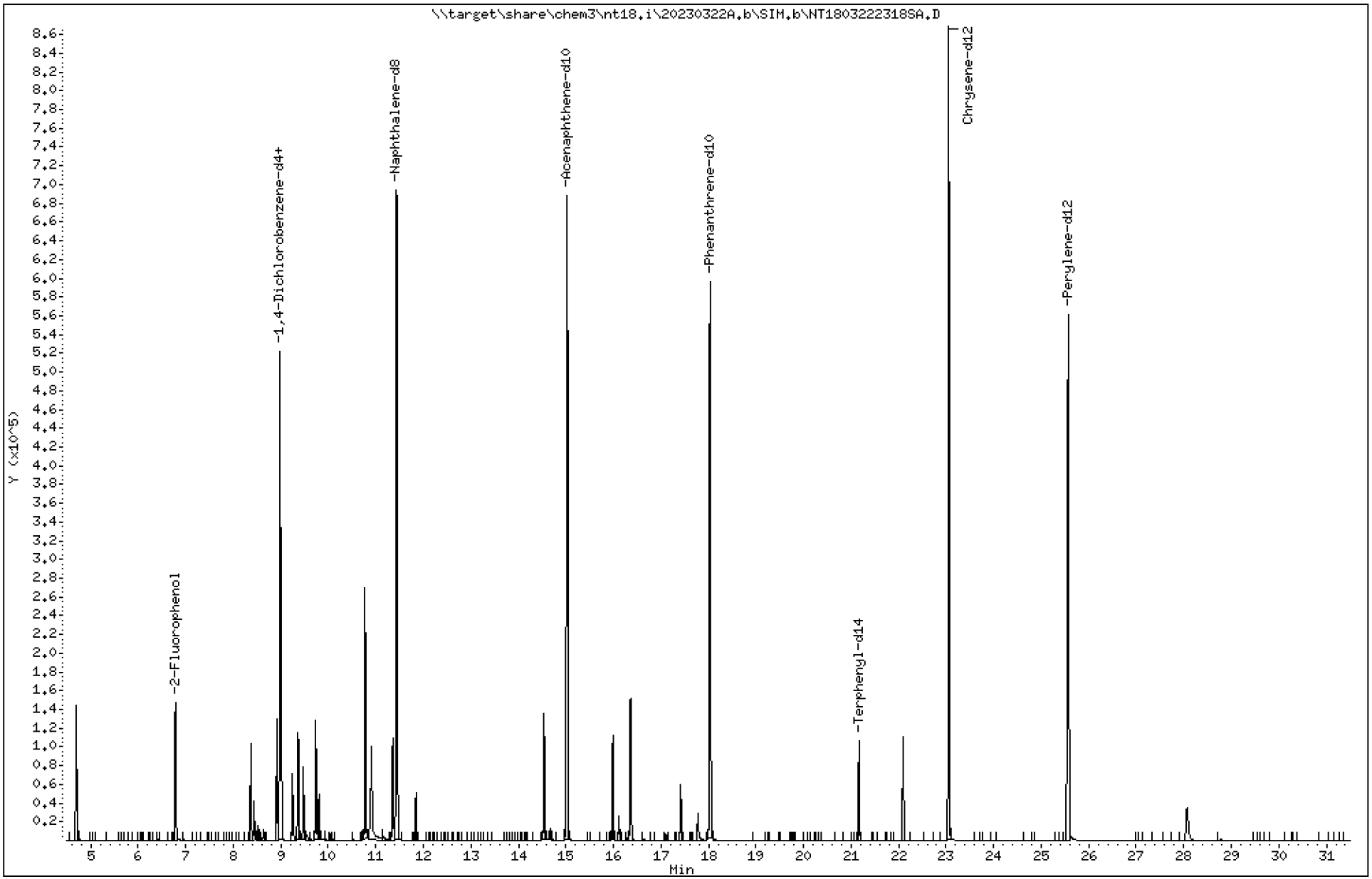
Instrument: nt18.i

Sample Info: SLD0064-ICV1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT1803222318SA.D
Lab Smp Id: SLD0064-ICV1
Inj Date : 23-MAR-2023 04:45
Operator : VTS Inst ID: nt18.i
Smp Info : SLD0064-ICV1
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230322A.b\SIM.b\SIMABN2.m
Meth Date : 05-Apr-2023 11:57 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: DEENAY-201905

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1	2-Fluorophenol	112	6.786	6.786	(0.756)	137332	1.50000	1.568
	3	Phenol	94	8.369	8.369	(0.932)	115979	1.00000	0.9890
	7	1,3-Dichlorobenzene	146	8.918	8.918	(0.993)	107855	1.00000	0.9507
*	8	1,4-Dichlorobenzene-d4	152	8.980	8.980	(1.000)	300412	4.00000	
	9	1,4-Dichlorobenzene	146	9.011	9.011	(1.003)	107176	1.00000	0.9314
	11	Benzyl alcohol	79	9.244	9.244	(1.029)	63115	1.00000	0.9000
	12	1,2-Dichlorobenzene	146	9.361	9.361	(1.042)	104951	1.00000	0.9371
	13	2-Methylphenol	108	9.469	9.469	(1.054)	85031	1.00000	1.044
	15	4-Methylphenol	108	9.741	9.741	(1.085)	88968	1.00000	1.051
	16	N-Nitroso-di-n-propylamine	70	9.803	9.803	(1.092)	55670	1.00000	0.9966
	22	2,4-Dimethylphenol	107	10.775	10.775	(0.942)	160345	2.00000	2.075
	24	Benzoic acid	105	10.911	10.911	(0.954)	157630	4.00000	2.962
	26	1,2,4-Trichlorobenzene	180	11.360	11.360	(0.993)	84141	1.00000	0.9549
*	27	Naphthalene-d8	136	11.437	11.437	(1.000)	1106289	4.00000	
	30	Hexachlorobutadiene	225	11.846	11.846	(1.036)	47314	1.00000	0.9330
	39	Dimethylphthalate	163	14.539	14.539	(0.968)	175326	1.00000	1.021
*	42	Acenaphthene-d10	162	15.027	15.027	(1.000)	537373	4.00000	
	50	Diethylphthalate	149	15.985	15.985	(1.064)	168728	1.00000	1.083
	54	N-Nitrosodiphenylamine	169	16.364	16.364	(0.907)	121475	1.00000	1.054
	57	Hexachlorobenzene	284	17.413	17.413	(0.966)	53885	1.00000	0.9830
	58	Pentachlorophenol	266	17.777	17.777	(0.986)	41292	2.00000	1.412
*	59	Phenanthrene-d10	188	18.032	18.032	(1.000)	948670	4.00000	
$	66	Terphenyl-d14	244	21.166	21.166	(0.918)	131276	1.00000	0.9150
	67	Butylbenzylphthalate	149	22.095	22.095	(0.958)	127106	1.00000	0.8848
*	69	Chrysene-d12	240	23.055	23.055	(1.000)	1017874	4.00000	
*	77	Perylene-d12	264	25.563	25.563	(1.000)	984454	4.00000	
	79	Dibenzo(a,h)anthracene	278	28.068	28.068	(1.098)	108285	1.00000	0.3718
	90	N-Nitrosodimethylamine	74	4.692	4.692	(0.523)	103849	2.00000	1.943

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222318SA.D
Lab Smp Id: SLD0064-ICV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 18:02
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	300412	150206	600824	300412	0.00
27 Naphthalene-d8	1106289	553145	2212578	1106289	0.00
42 Acenaphthene-d10	537373	268687	1074746	537373	0.00
59 Phenanthrene-d10	948670	474335	1897340	948670	0.00
69 Chrysene-d12	1017874	508937	2035748	1017874	0.00
77 Perylene-d12	984454	492227	1968908	984454	0.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	0.00
42 Acenaphthene-d10	15.03	14.53	15.53	15.03	0.00
59 Phenanthrene-d10	18.03	17.53	18.53	18.03	0.00
69 Chrysene-d12	23.06	22.56	23.56	23.06	0.00
77 Perylene-d12	25.56	25.06	26.06	25.56	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222318SA.D

Lab ID: SLD0064-ICV1
nt18.i, 20230322A.b\SIM.b\SIMABN2.m,   23-MAR-2023 04:45

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

No RRT check. Ccal file.

On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt18.i\20230322A.b\SIM.b

Instrument: nt18.i Date: 23-MAR-2023 Method: SIM.b\SIMABN2.m

INITIAL CAL: 19-MAR-2023

Compound	%RSD or R^2
NO Q-FLAGS	

ICV CAL: NT1803222318SA.D 23-MAR-2023 04:45

Compound	%D
Benzoic acid	-26.0
Pentachlorophenol	-29.4
Dibenzo(a,h)anthracene	-62.8

Analytical Resources, LLC
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	NT18	Calibration:	GD00001
Lab File ID:	NT1803192311S.D	Calibration Date:	04/01/2023
Sequence:	SLD0001	Injection Date:	03/19/23
Lab Sample ID:	SLD0001-SCV1	Injection Time:	21:26
Sequence Name:	SCV 5.0		

		CONC. (ug/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT	
1,4-Dichlorobenzene	A	5.0000	4.8	1.5322280	1.4757150		-3.7	+/-20	
1,2-Dichlorobenzene	A	5.0000	4.7	1.4912410	1.4150560		-5.1	+/-20	
Benzyl Alcohol	A	5.0000	4.9	0.7708820	0.8870068		-2.2	+/-20	
Benzoic acid	A	10.000	7.3	0.1069329	0.1437755		-26.8	+/-20	*
2,4-Dimethylphenol	A	5.0000	3.9	0.2793404	0.2189393		-21.6	+/-20	*
1,2,4-Trichlorobenzene	A	5.0000	4.7	0.3186083	0.2988670		-6.2	+/-20	
N-Nitrosodiphenylamine	A	5.0000	5.6	0.4858130	0.5396837		11.1	+/-20	
Pentachlorophenol	A	5.0000	4.6	0.0867576	0.1159613		-8.9	+/-20	
2-Fluorophenol	A	7.5000	0.00	1.1661190					
p-Terphenyl-d14	A	5.0000	0.00	0.5638063					

* Values outside of QC limits

Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT18031923115.D

Page 1

Date : 19-MAR-2023 21:26

Client ID:

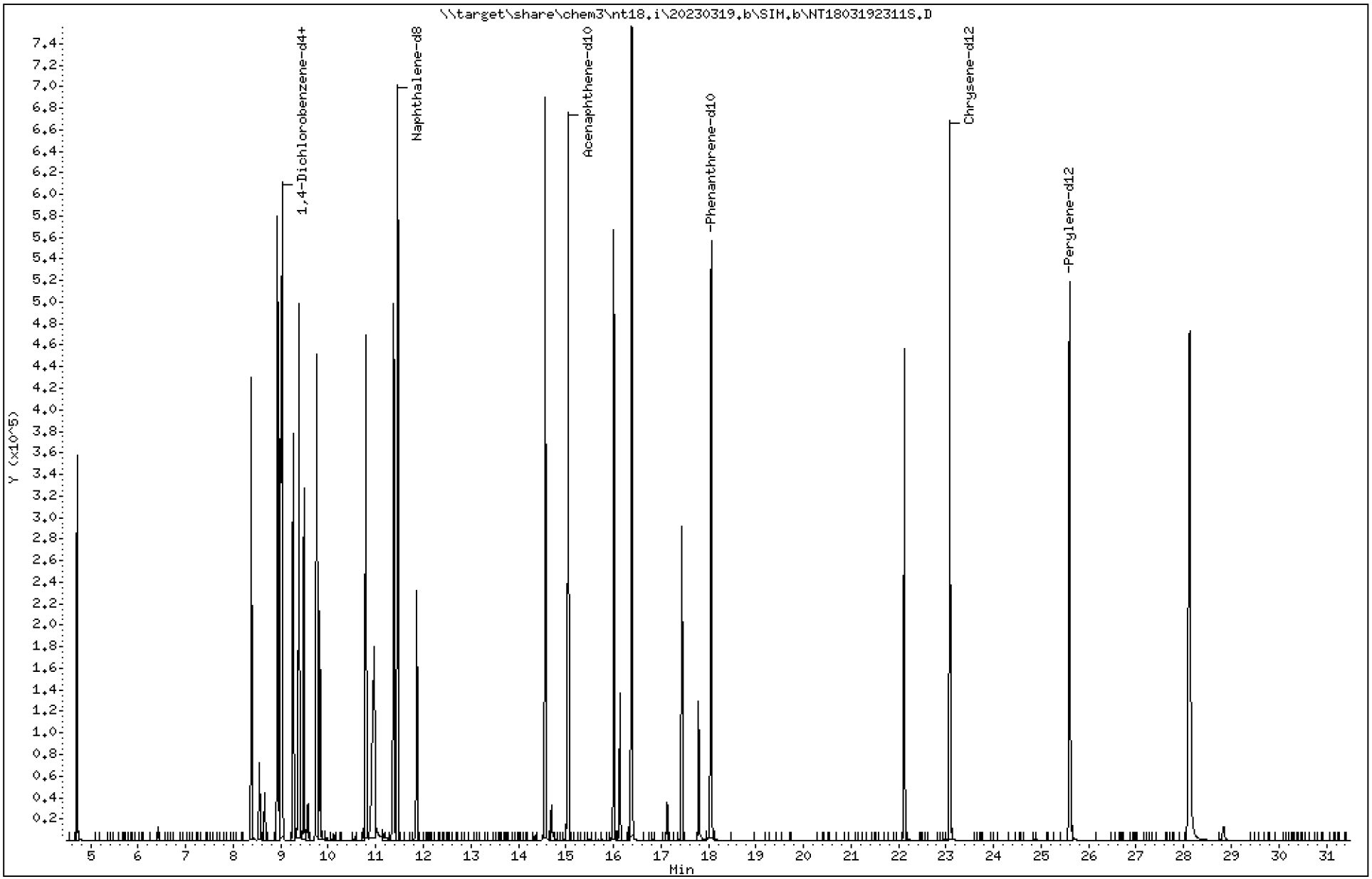
Instrument: nt18.i

Sample Info: SEQ-SCV1

Operator: YZ

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

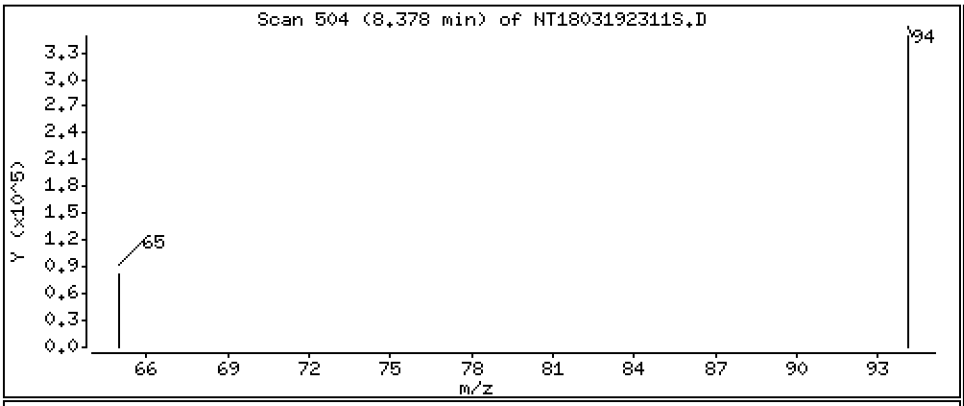
Operator: YZ

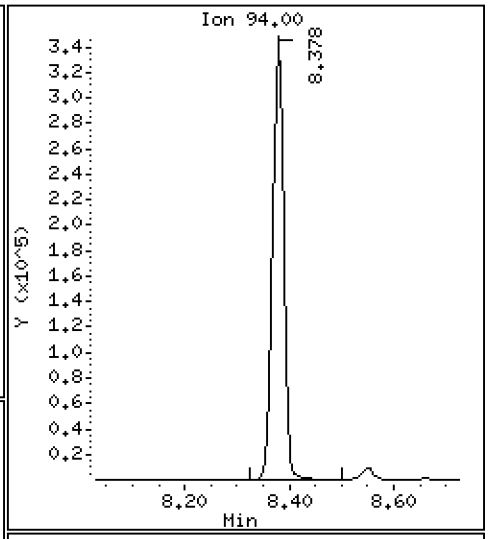
Column phase: ZB-5msi

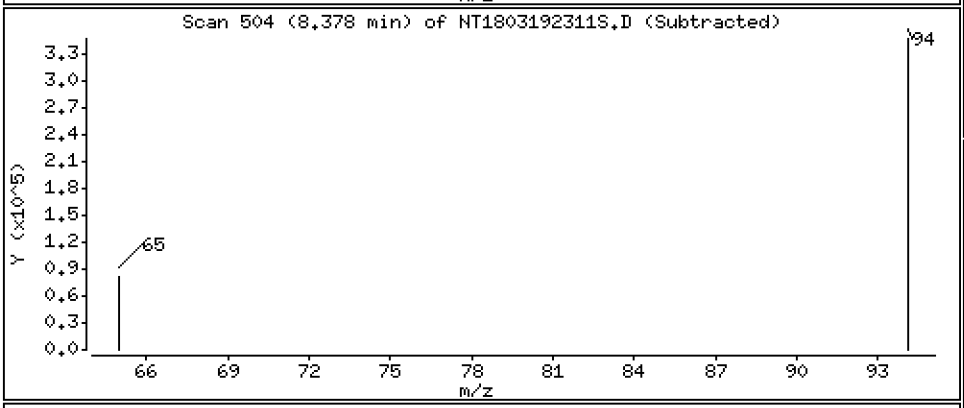
Column diameter: 0.25

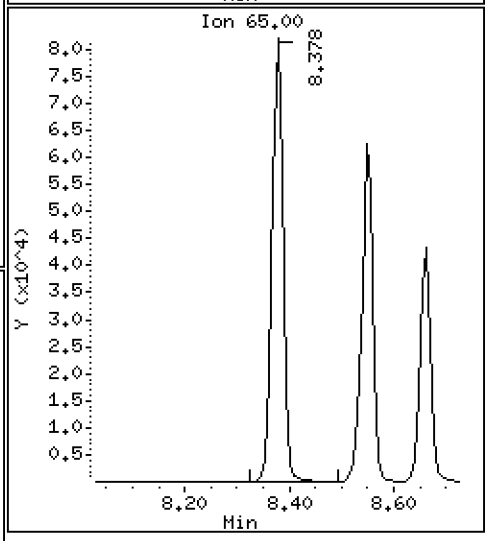
3 Phenol

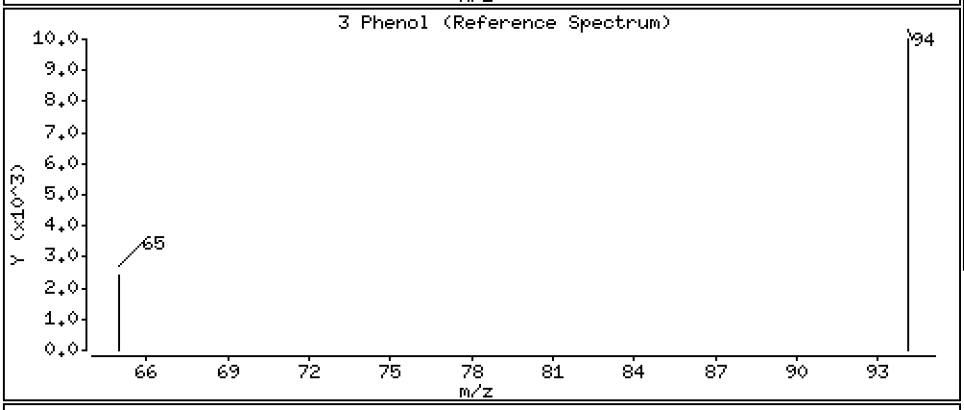
Concentration: 4.479 ug/mL

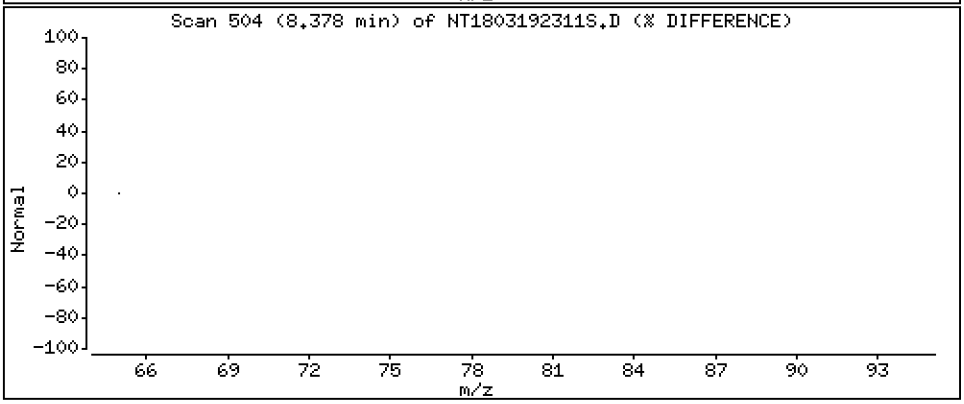












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

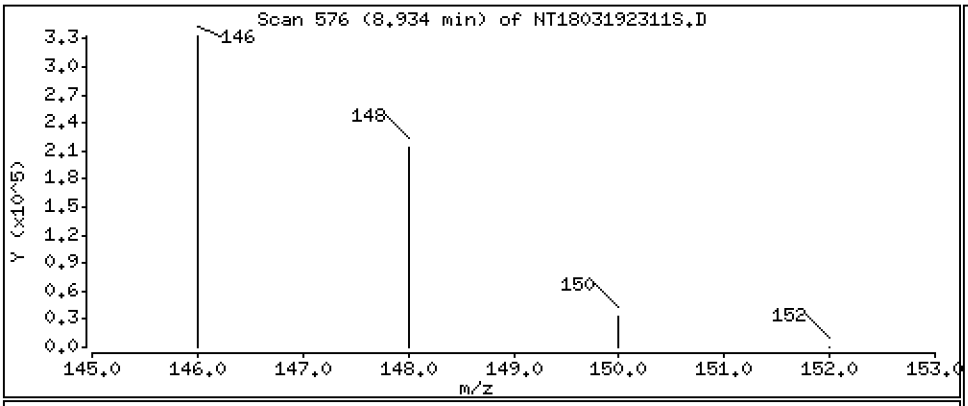
Operator: YZ

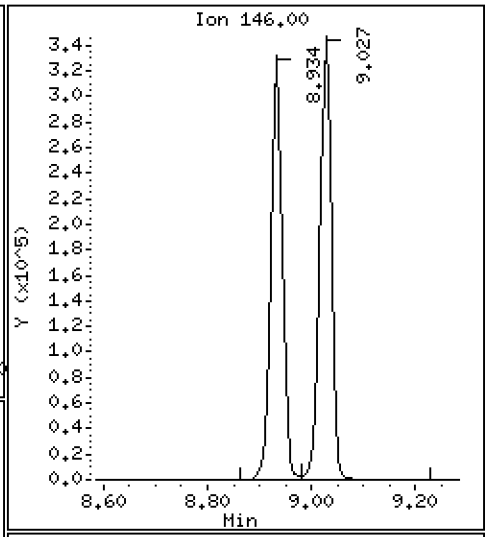
Column phase: ZB-5msi

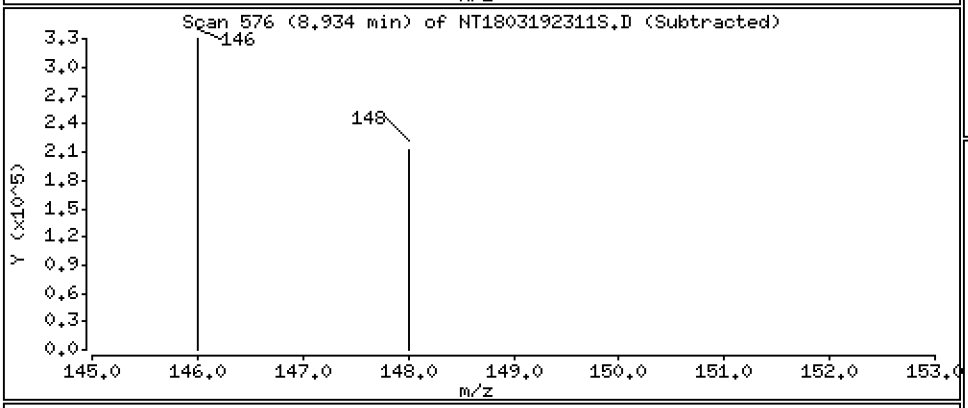
Column diameter: 0.25

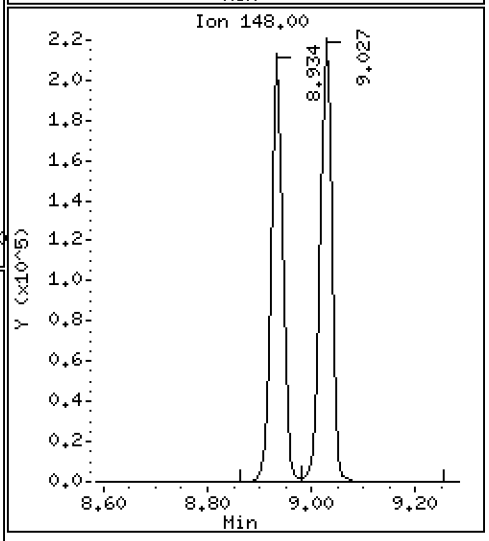
7 1,3-Dichlorobenzene

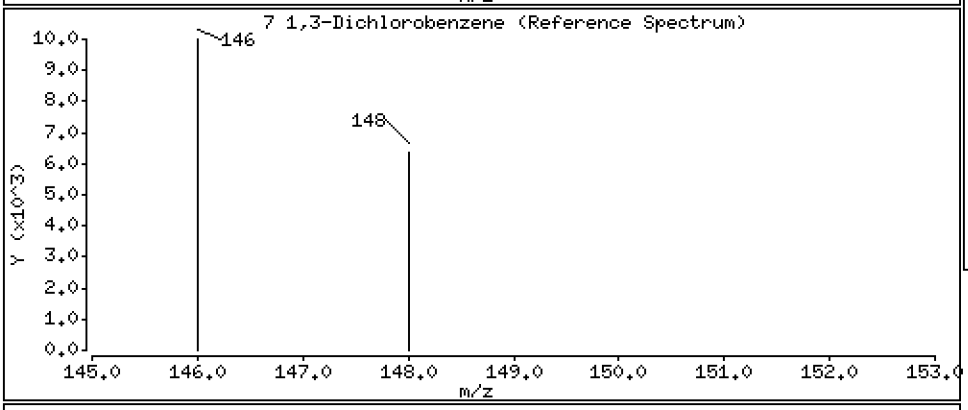
Concentration: 4.806 ug/mL

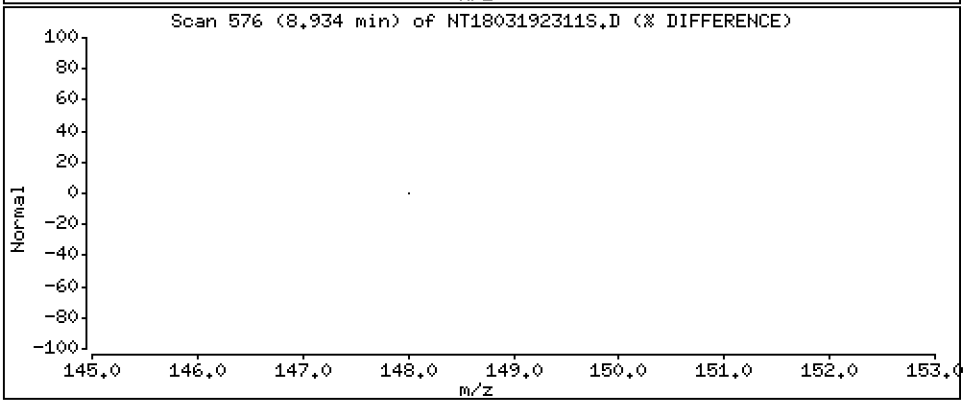












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

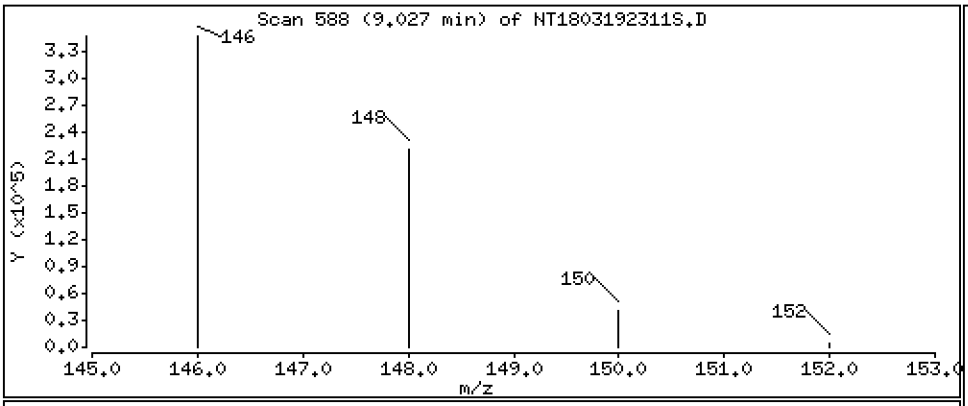
Operator: YZ

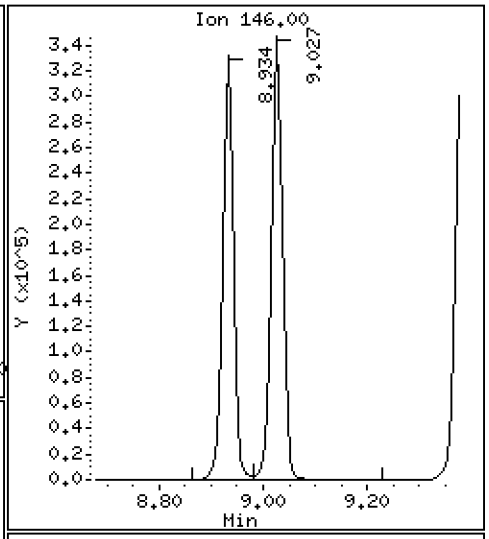
Column phase: ZB-5msi

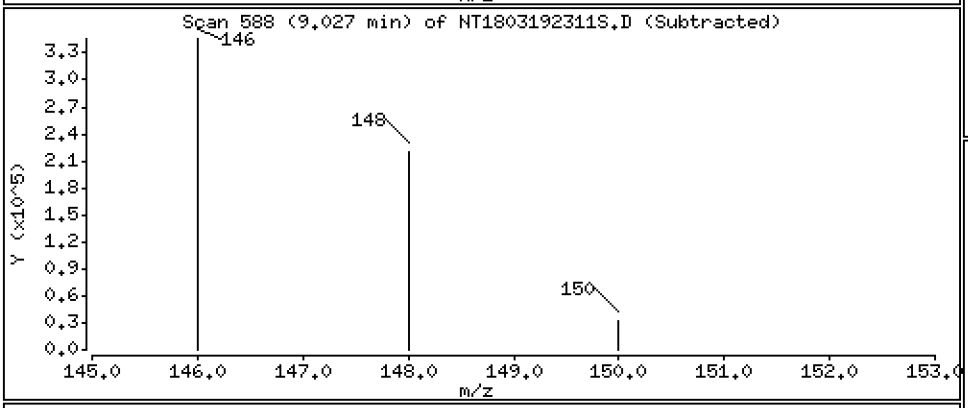
Column diameter: 0.25

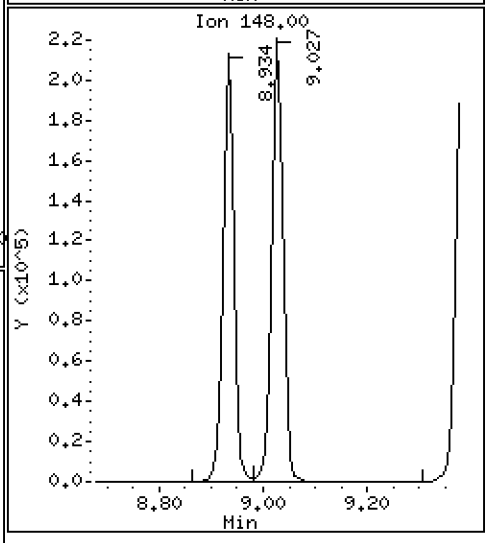
9 1,4-Dichlorobenzene

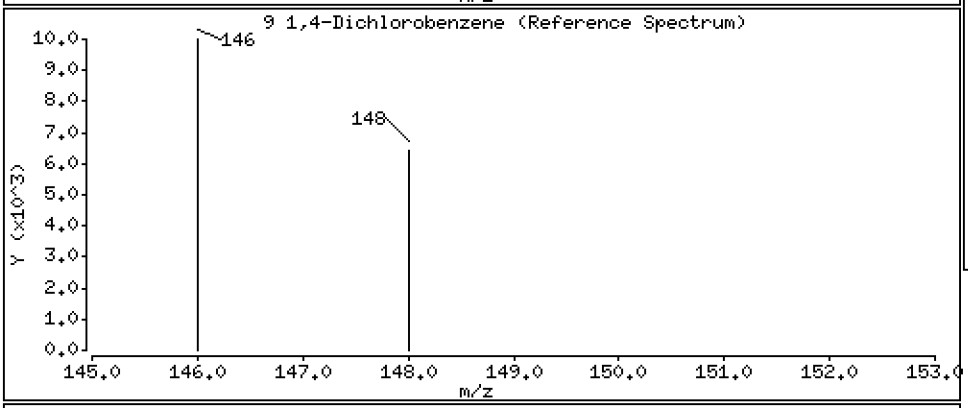
Concentration: 4.816 ug/mL

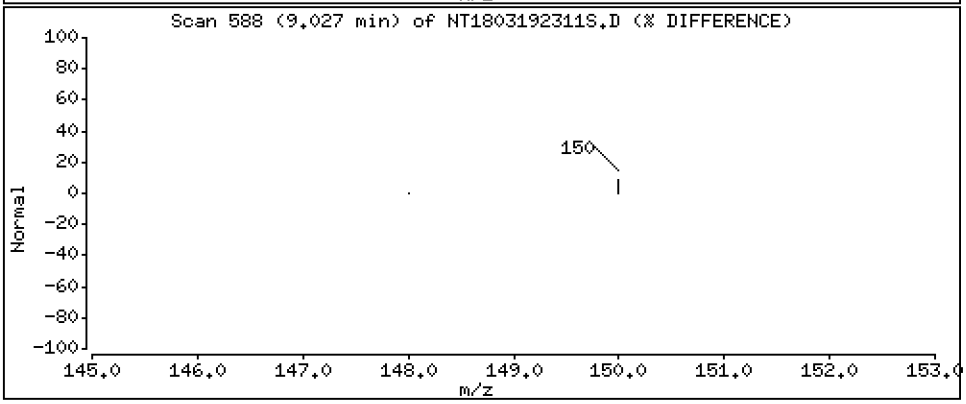












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

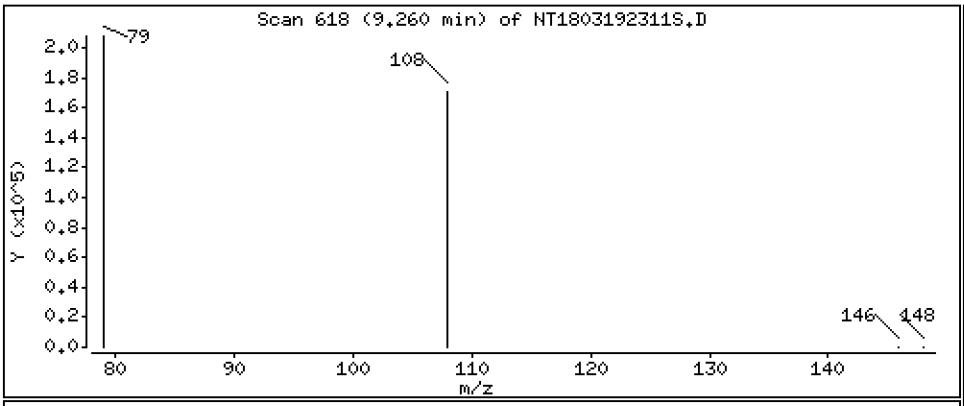
Operator: YZ

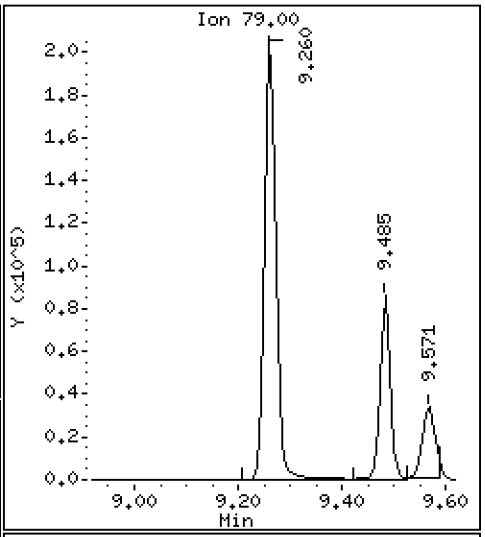
Column phase: ZB-5msi

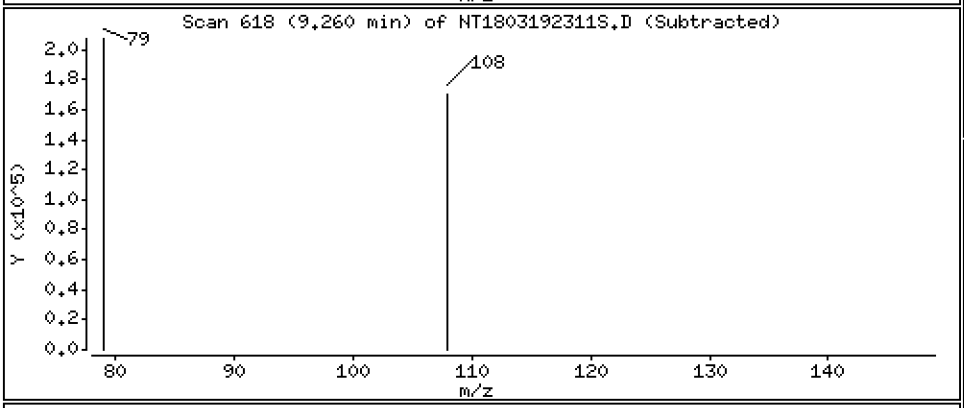
Column diameter: 0.25

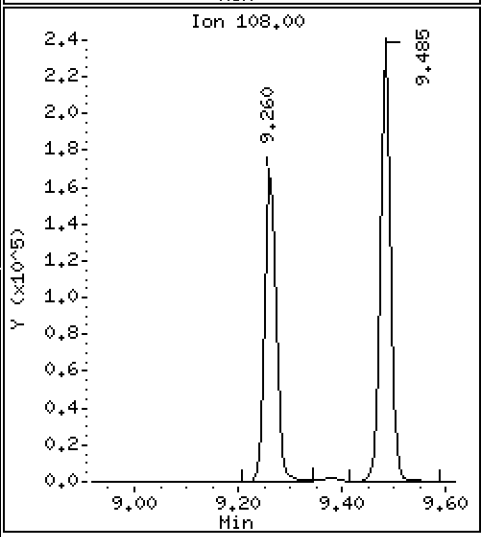
11 Benzyl alcohol

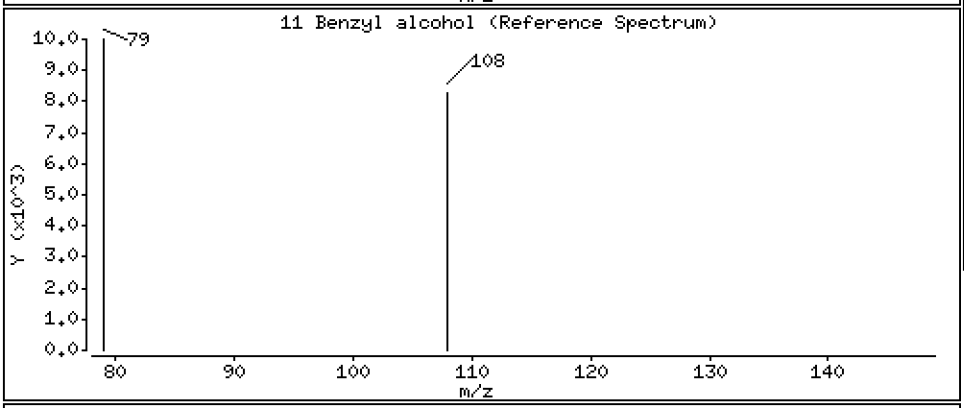
Concentration: 4.892 ug/mL

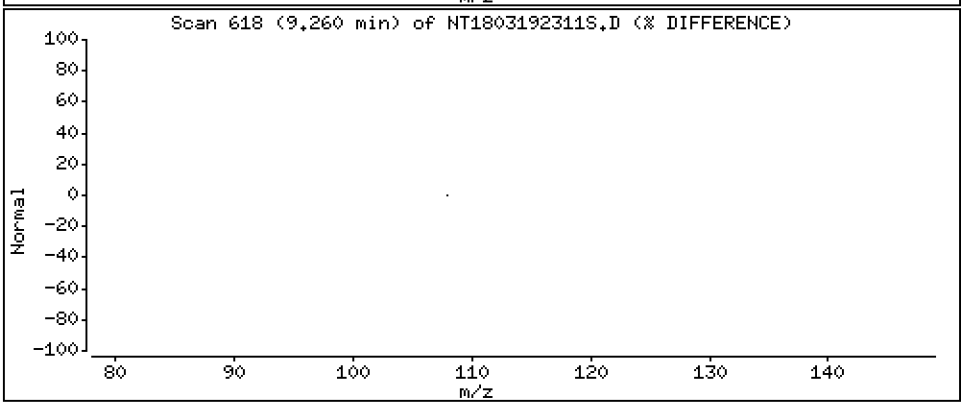












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

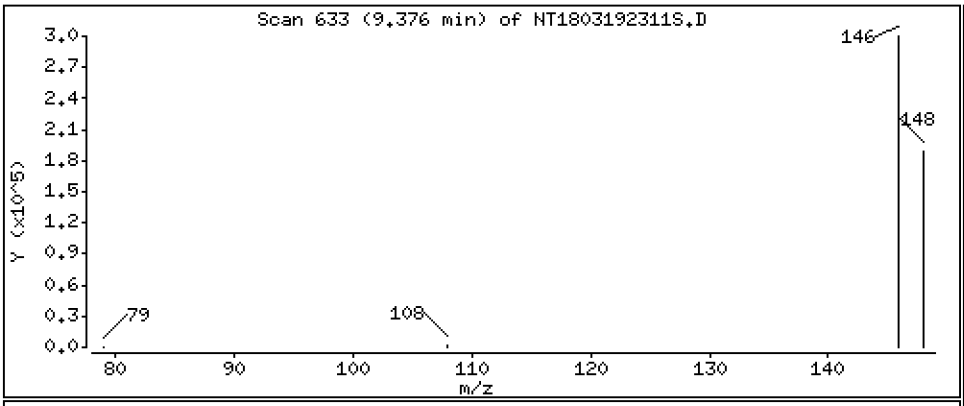
Operator: YZ

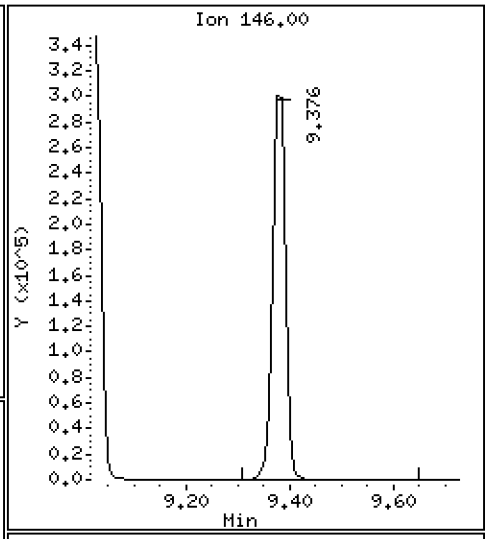
Column phase: ZB-5msi

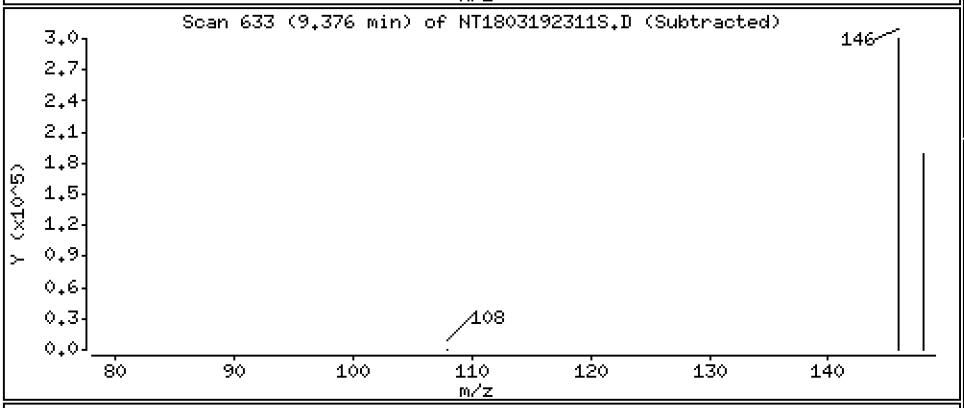
Column diameter: 0.25

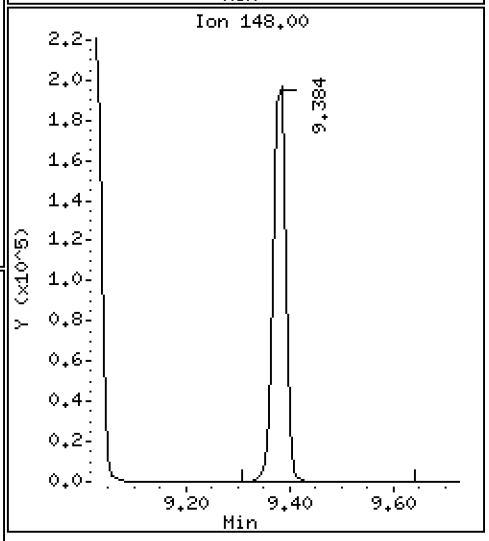
12 1,2-Dichlorobenzene

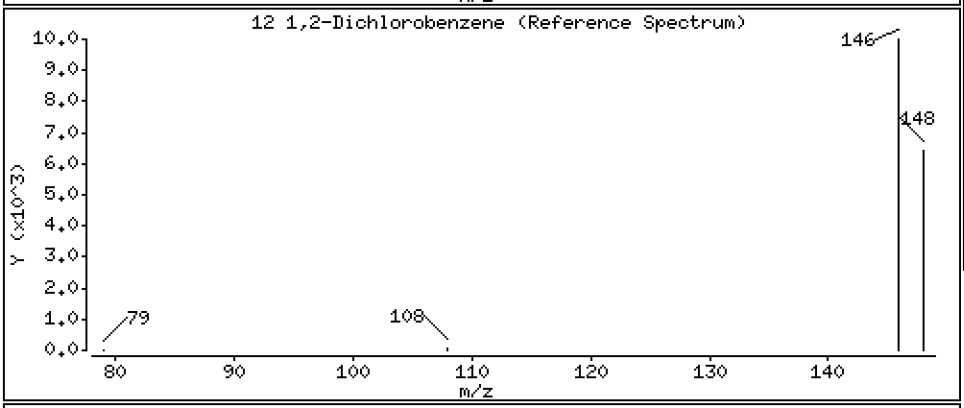
Concentration: 4.745 ug/mL

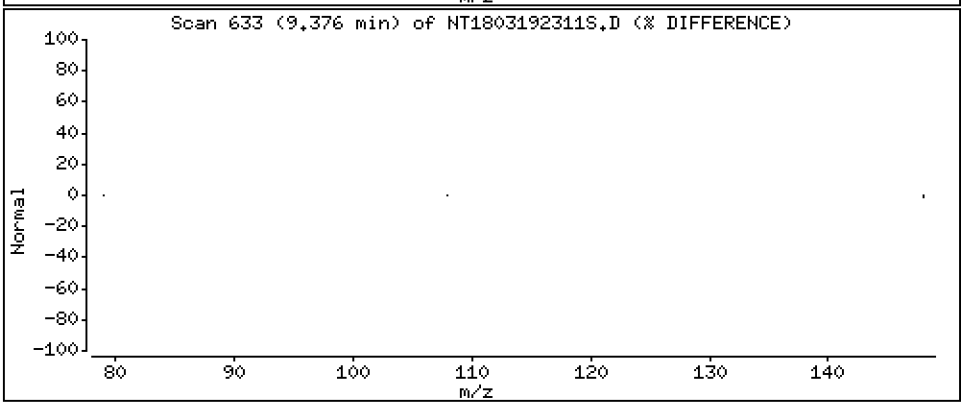












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

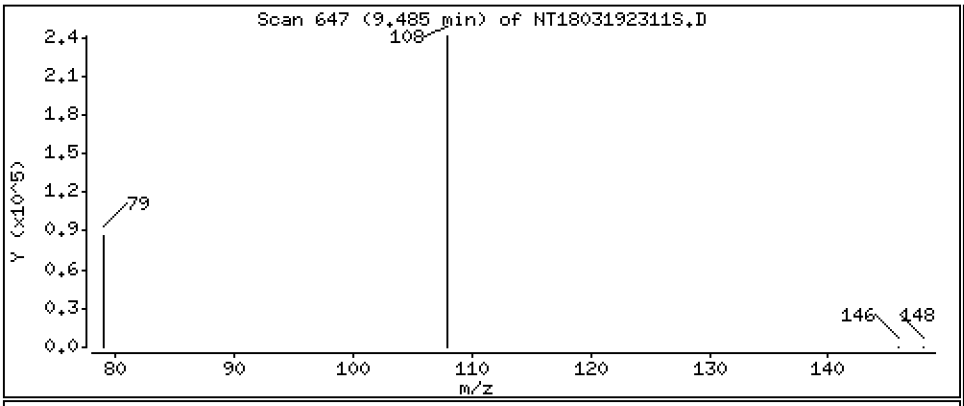
Operator: YZ

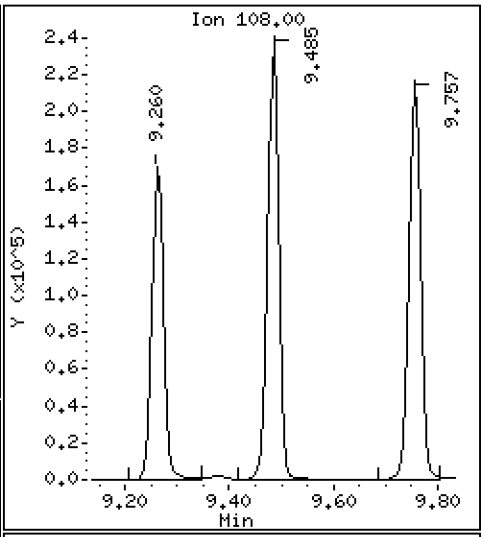
Column phase: ZB-5msi

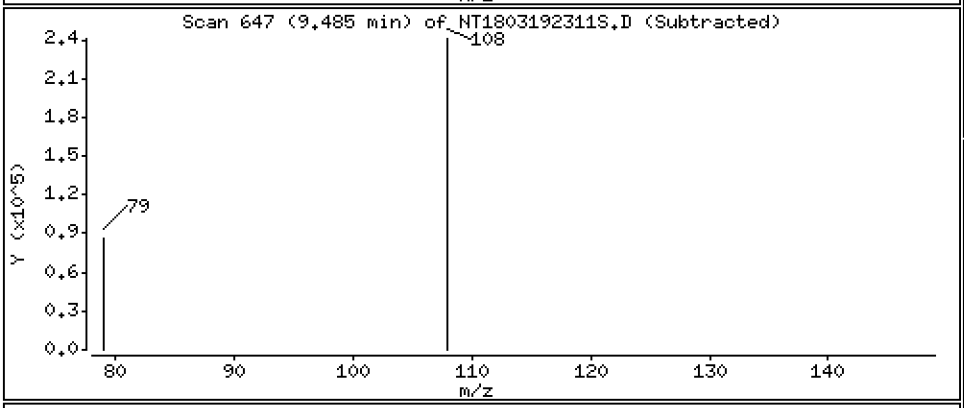
Column diameter: 0.25

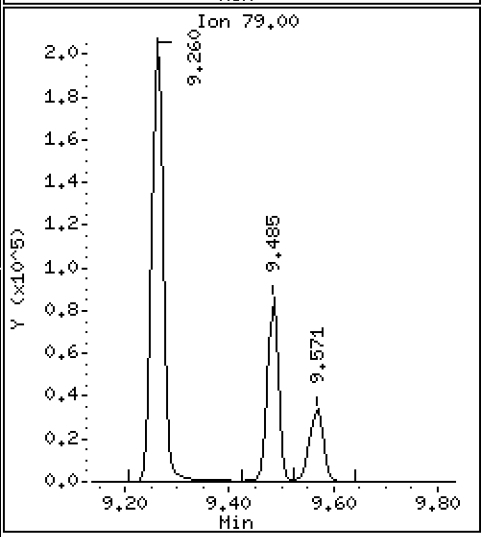
13 2-Methylphenol

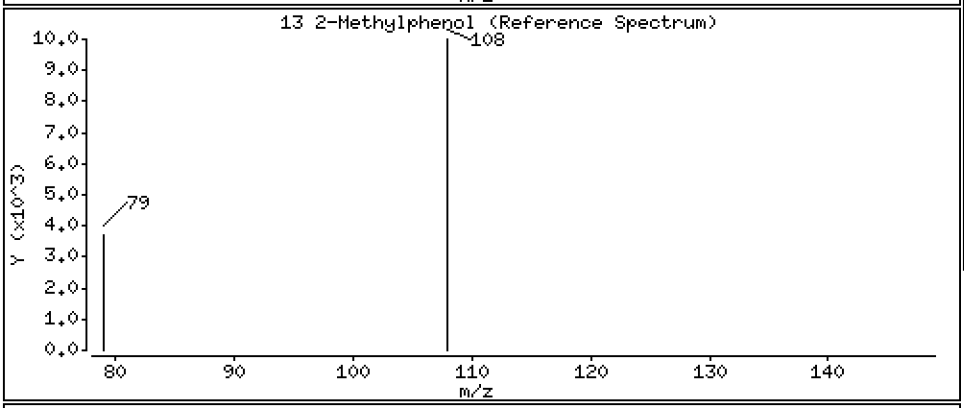
Concentration: 4.462 ug/mL

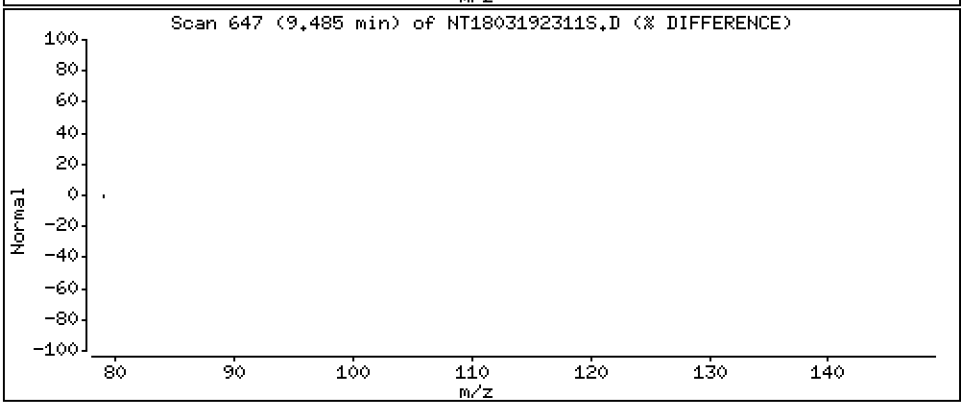












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

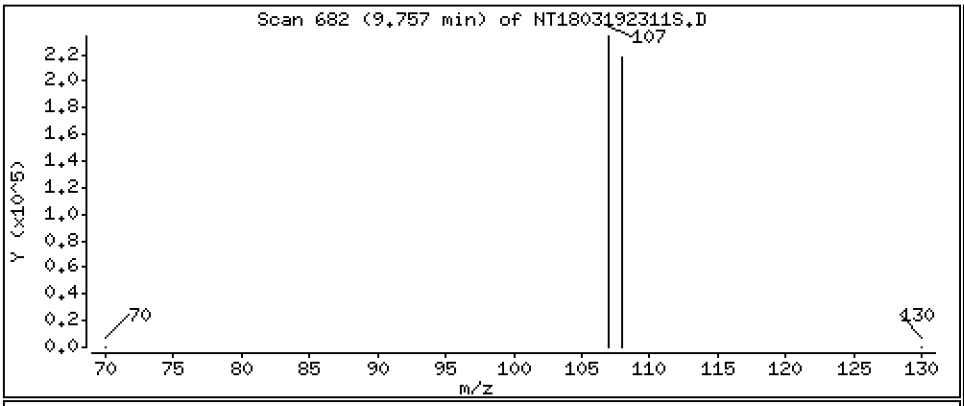
Operator: YZ

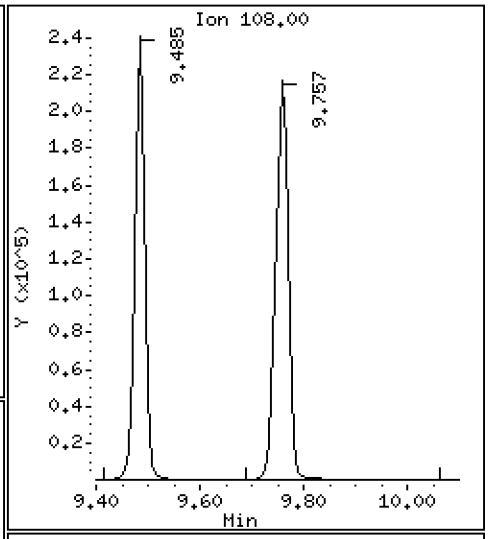
Column phase: ZB-5msi

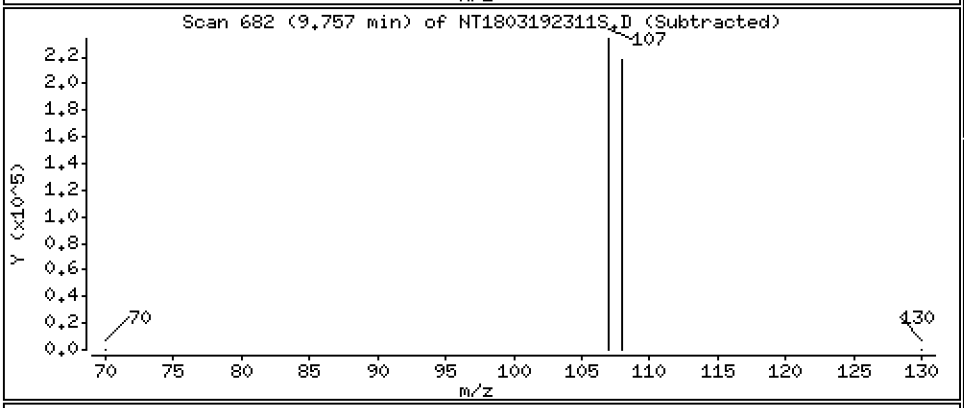
Column diameter: 0.25

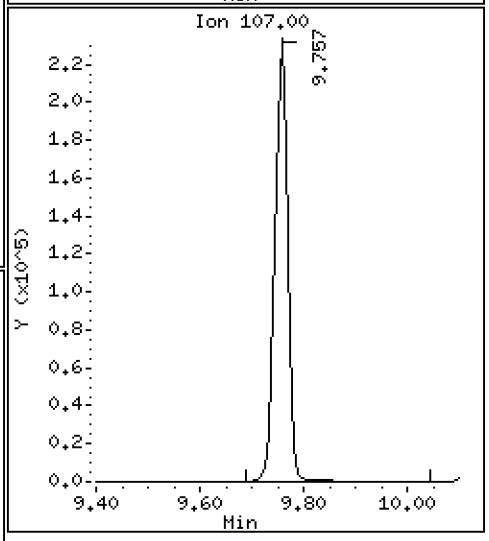
15 4-Methylphenol

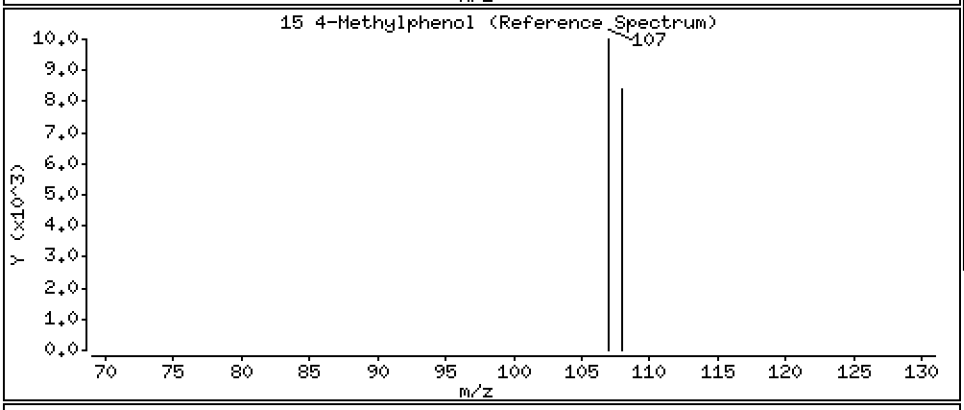
Concentration: 4.689 ug/mL

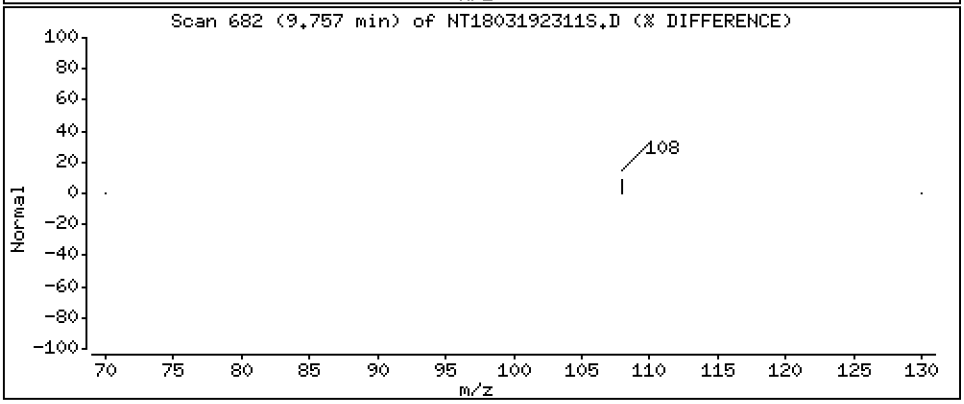












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

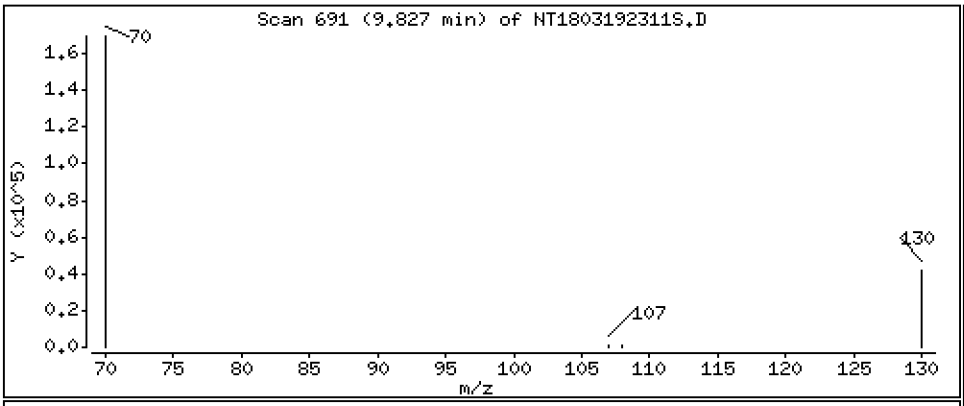
Operator: YZ

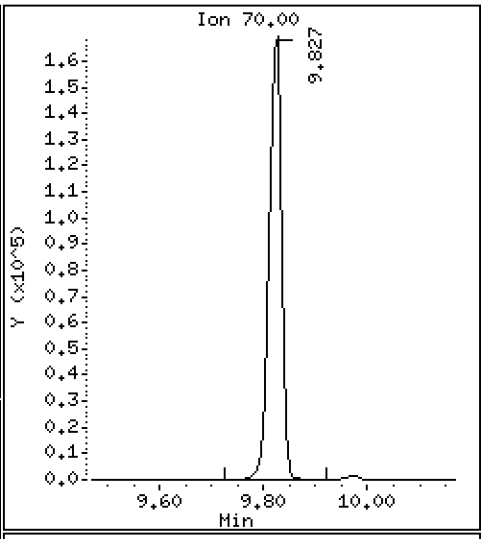
Column phase: ZB-5msi

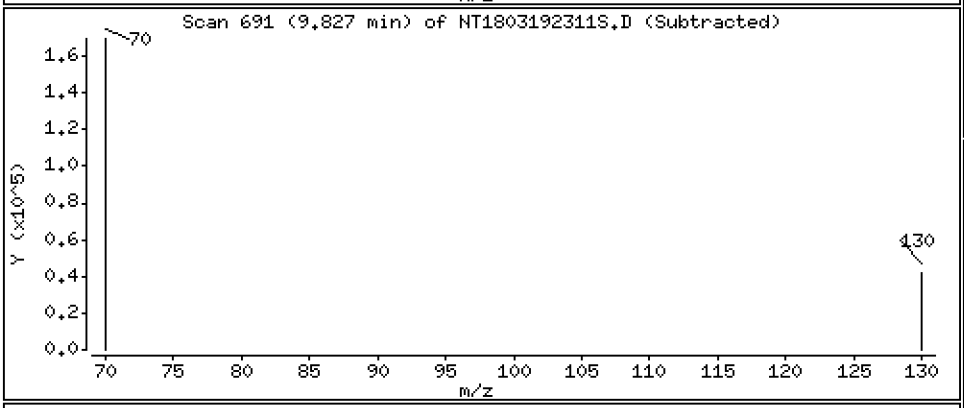
Column diameter: 0.25

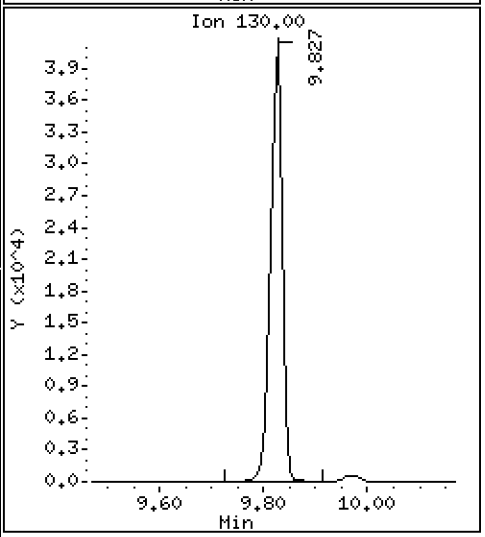
16 N-Nitroso-di-n-propylamine

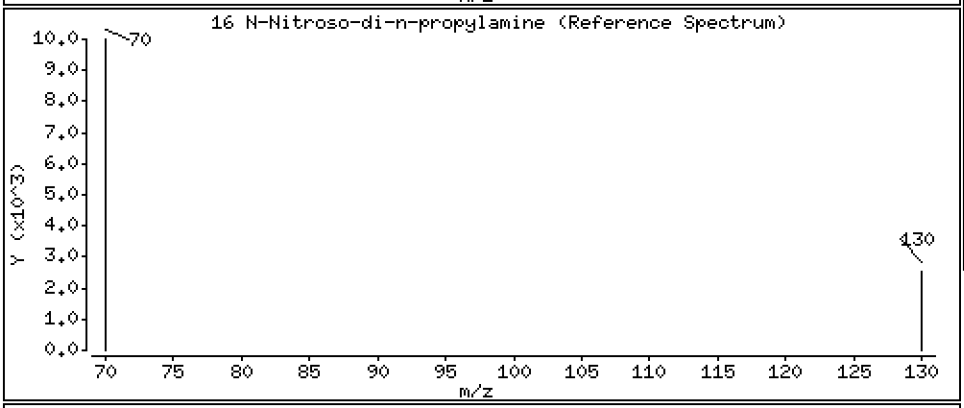
Concentration: 5.256 ug/mL

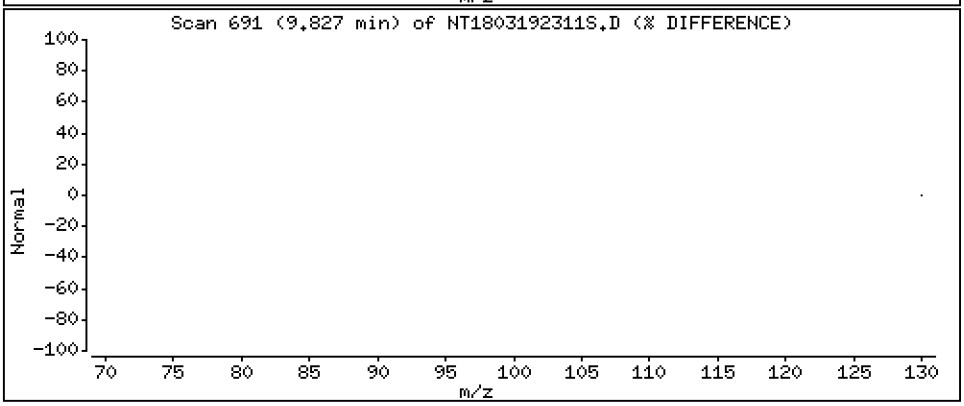












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

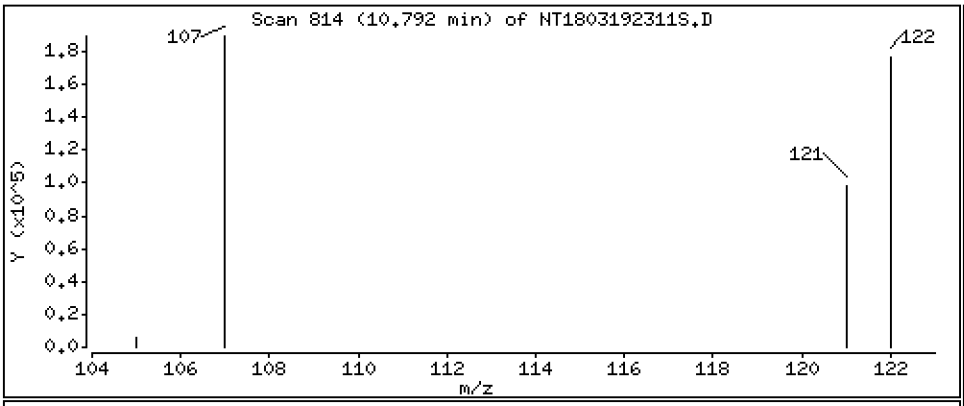
Operator: YZ

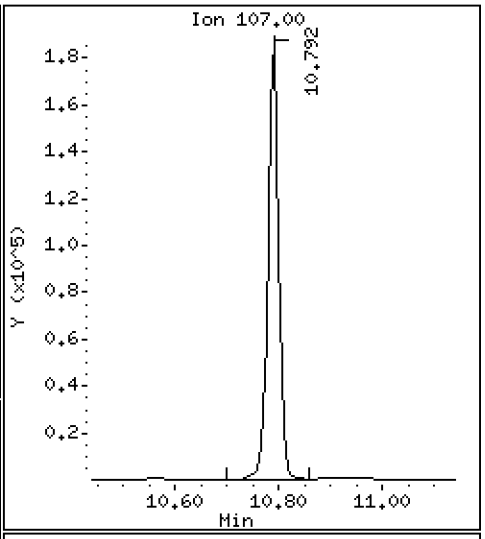
Column phase: ZB-5msi

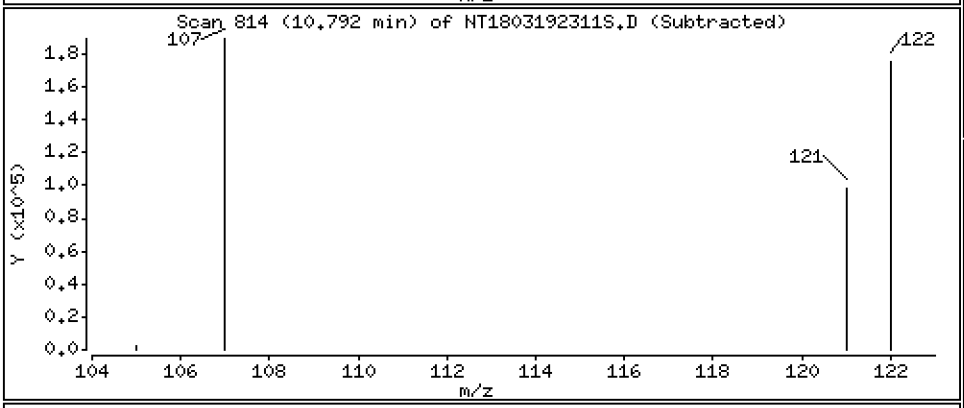
Column diameter: 0.25

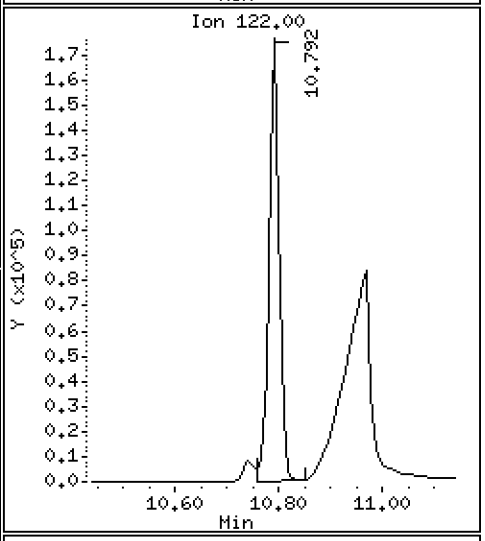
22 2,4-Dimethylphenol

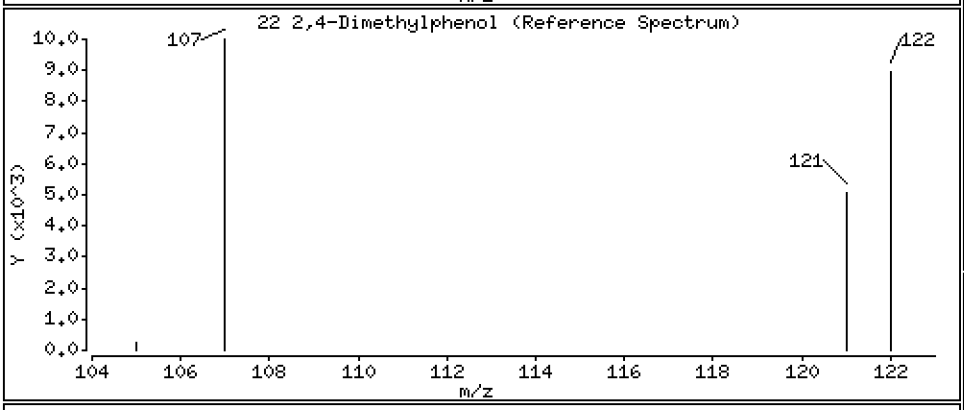
Concentration: 3.919 ug/mL

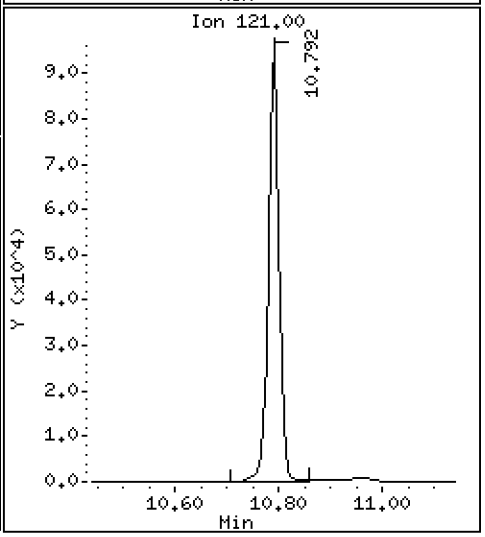


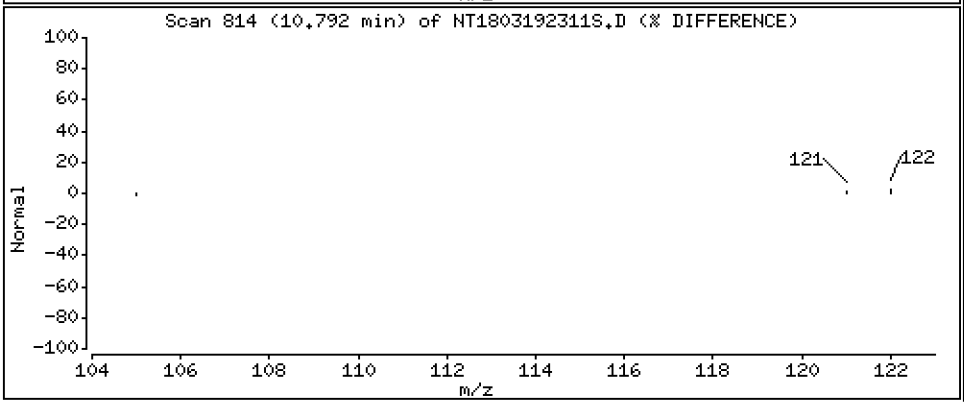












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

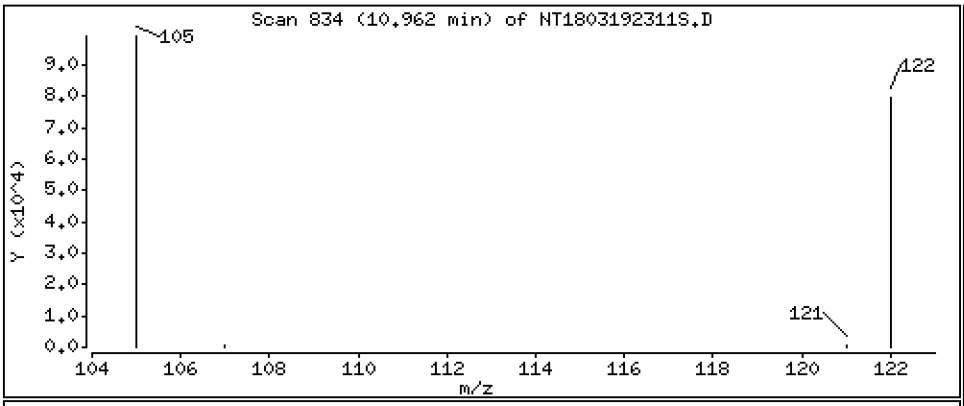
Operator: YZ

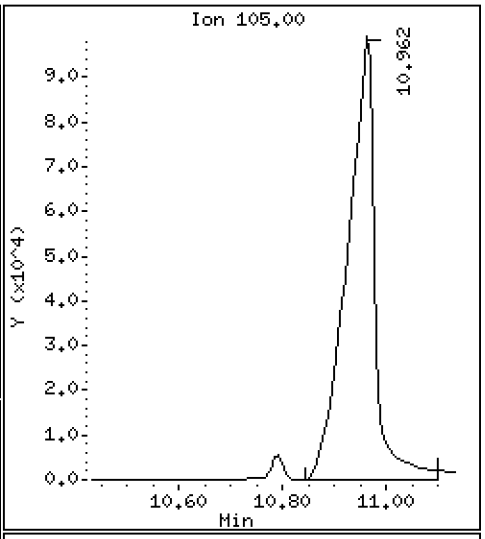
Column phase: ZB-5msi

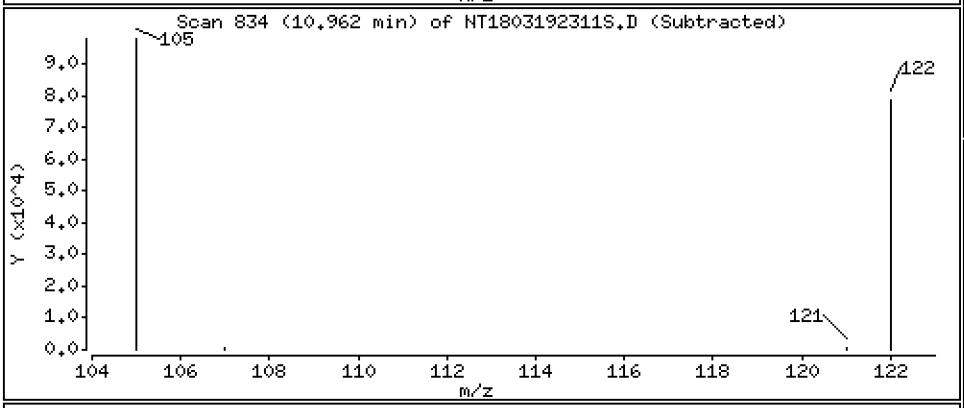
Column diameter: 0.25

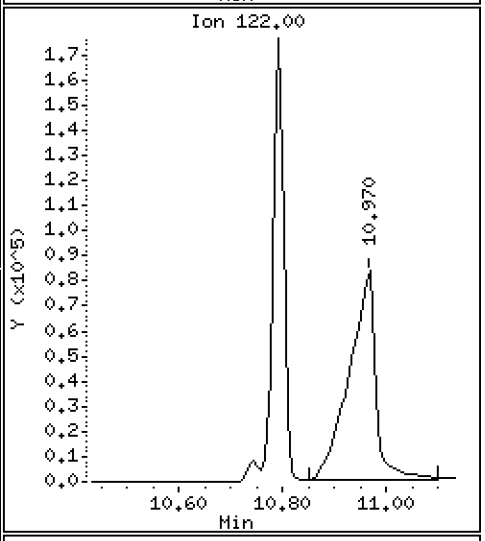
24 Benzoic acid

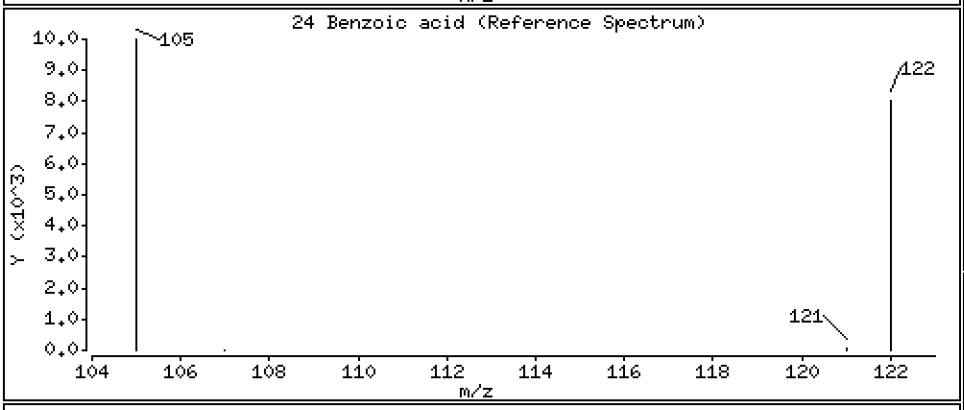
Concentration: 7.324 ug/mL

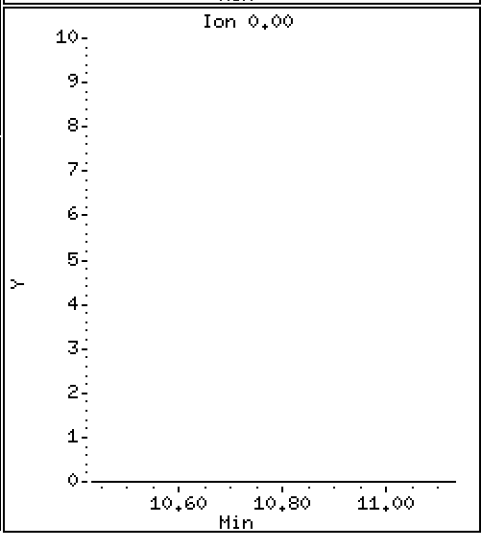


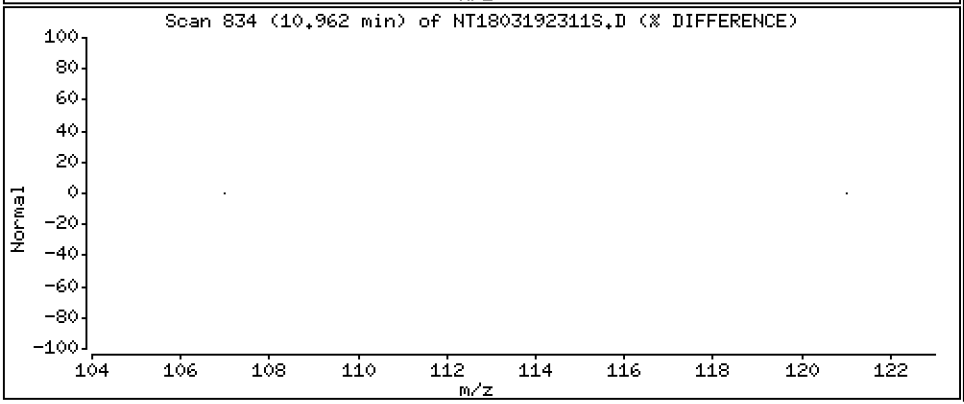












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

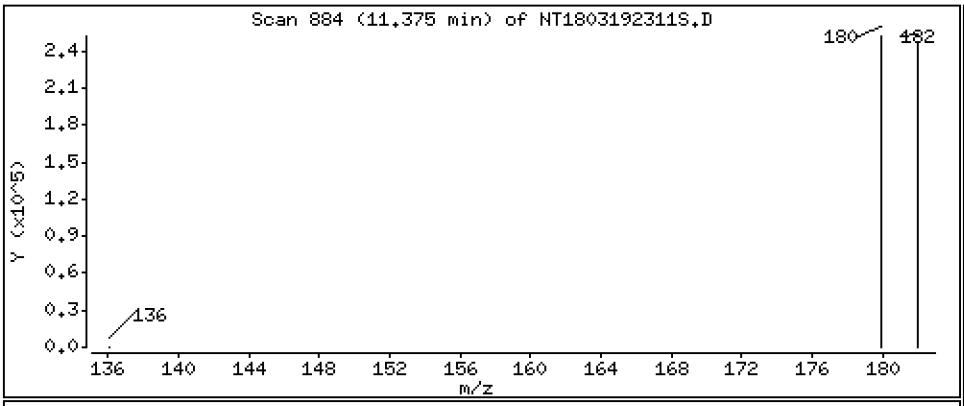
Operator: YZ

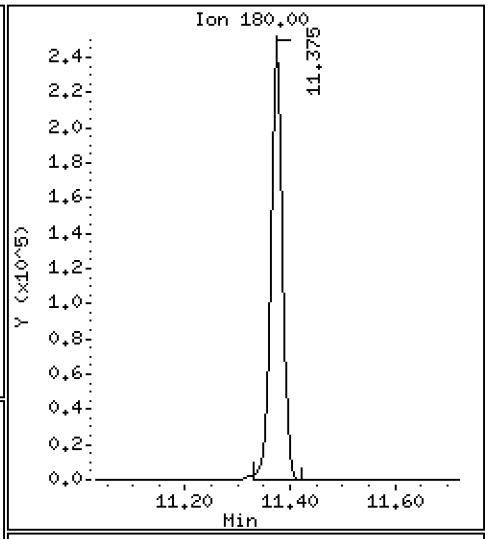
Column phase: ZB-5msi

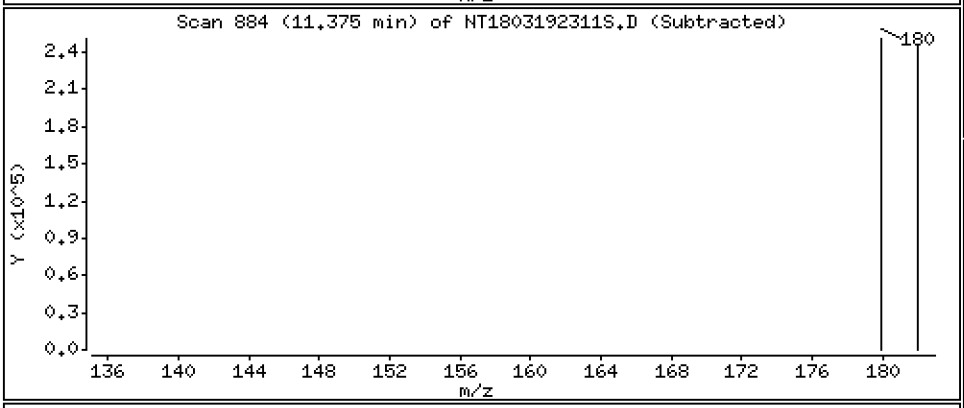
Column diameter: 0.25

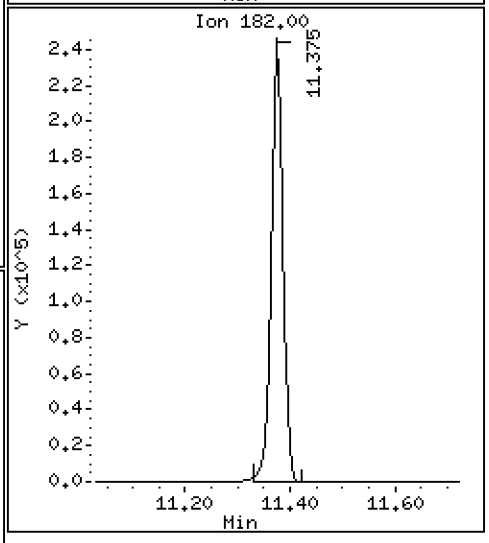
26 1,2,4-Trichlorobenzene

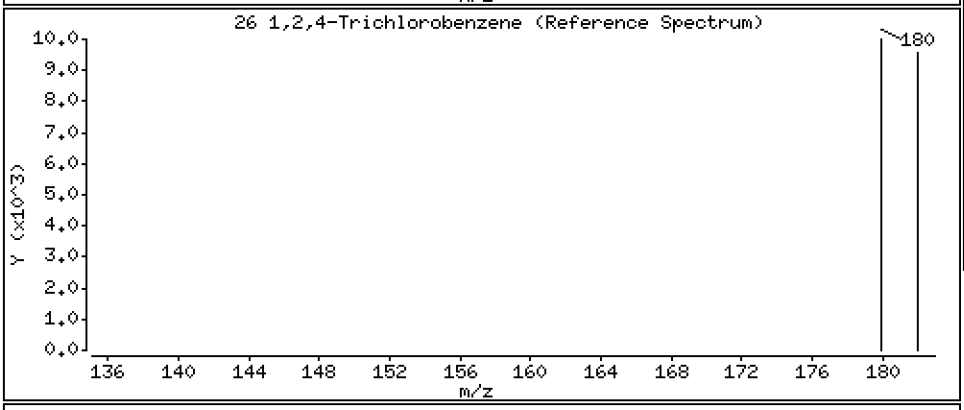
Concentration: 4.690 ug/mL

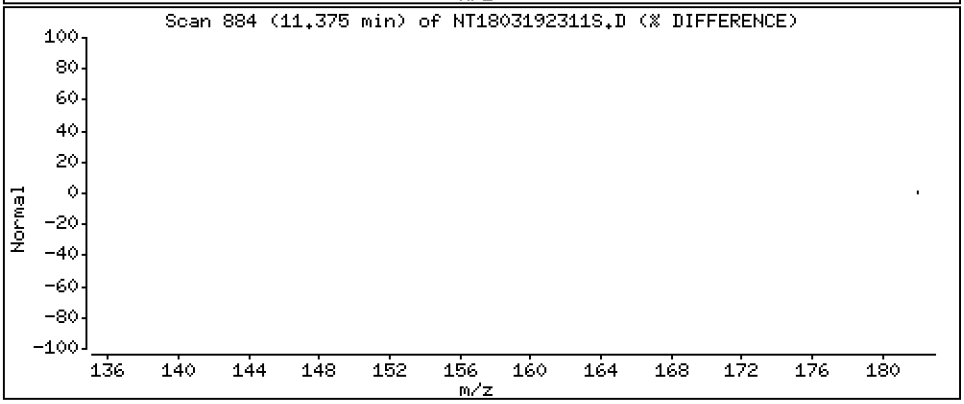












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

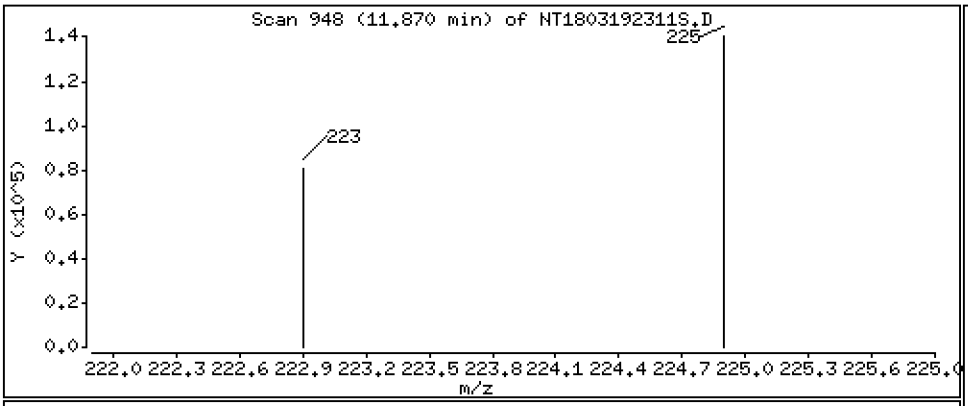
Operator: YZ

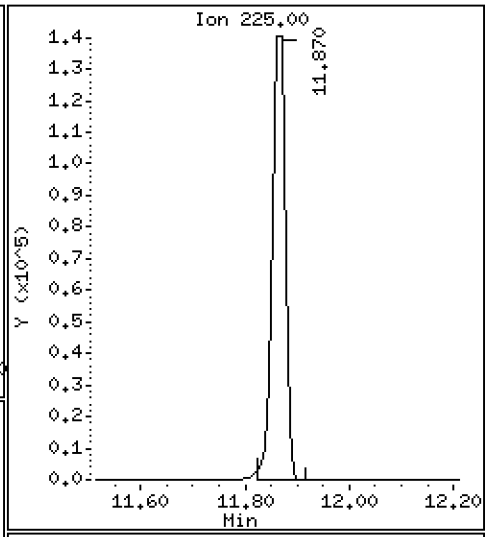
Column phase: ZB-5msi

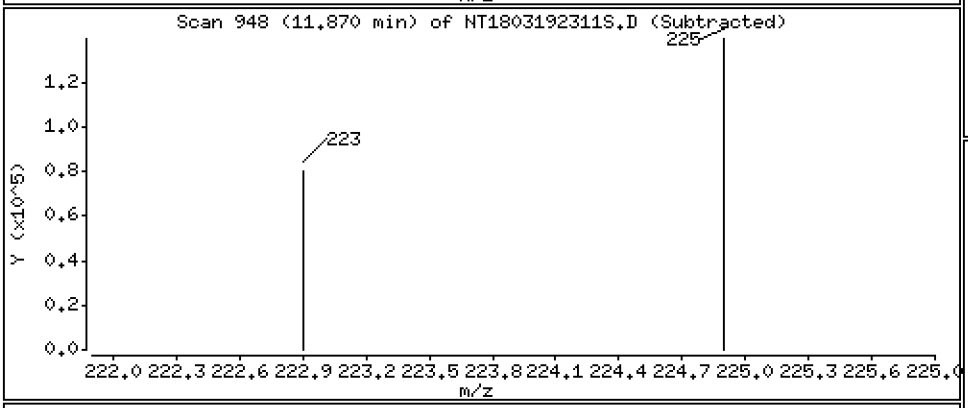
Column diameter: 0.25

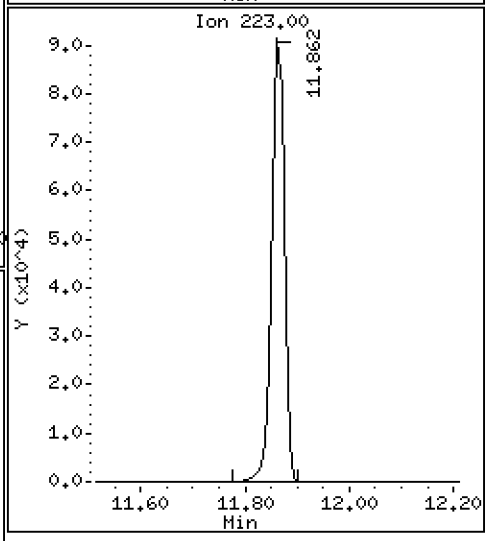
30 Hexachlorobutadiene

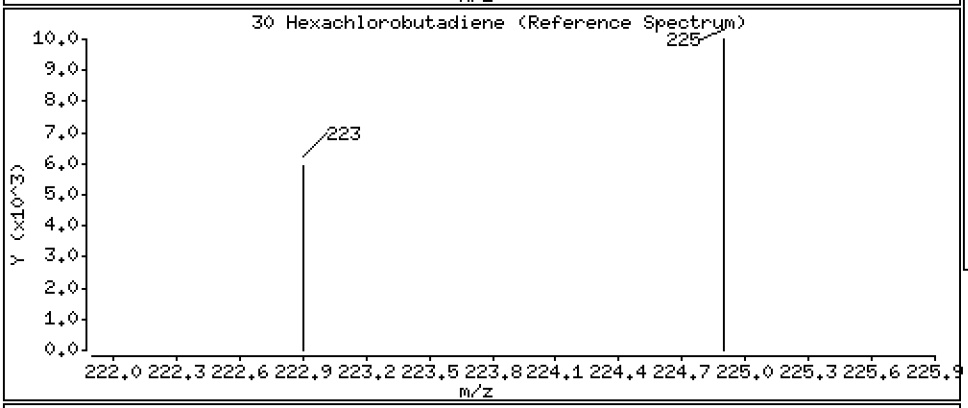
Concentration: 4.874 ug/mL

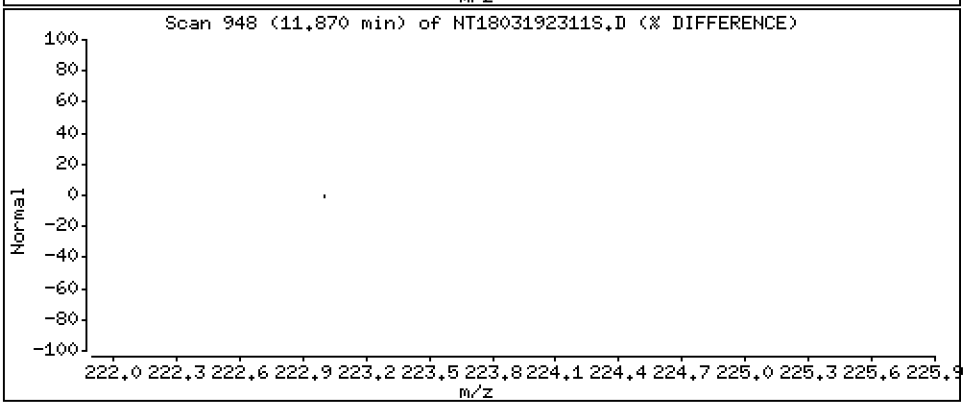












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

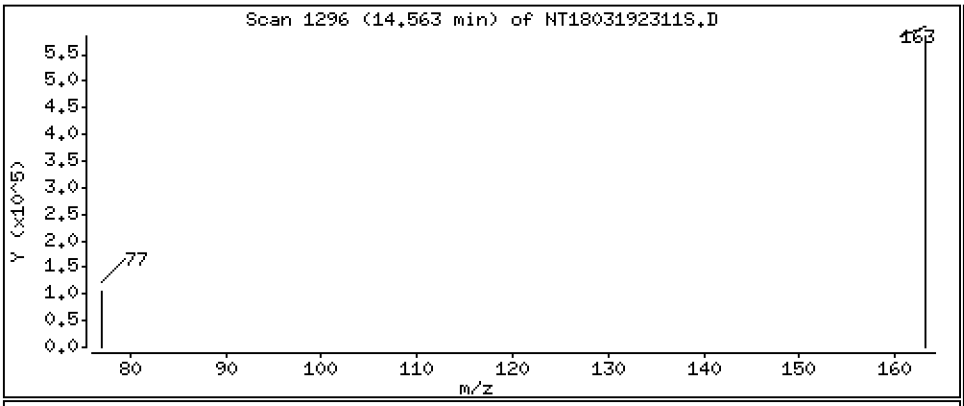
Operator: YZ

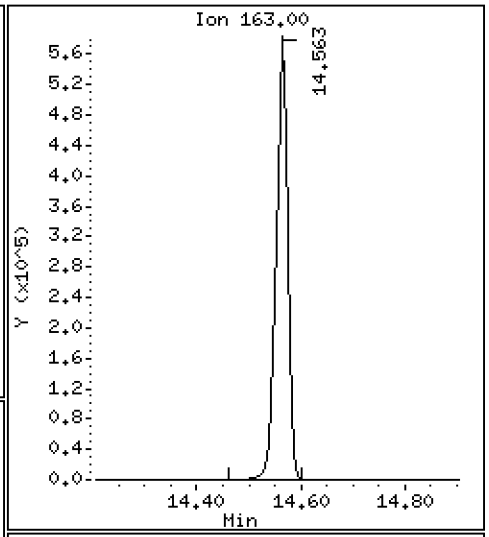
Column phase: ZB-5msi

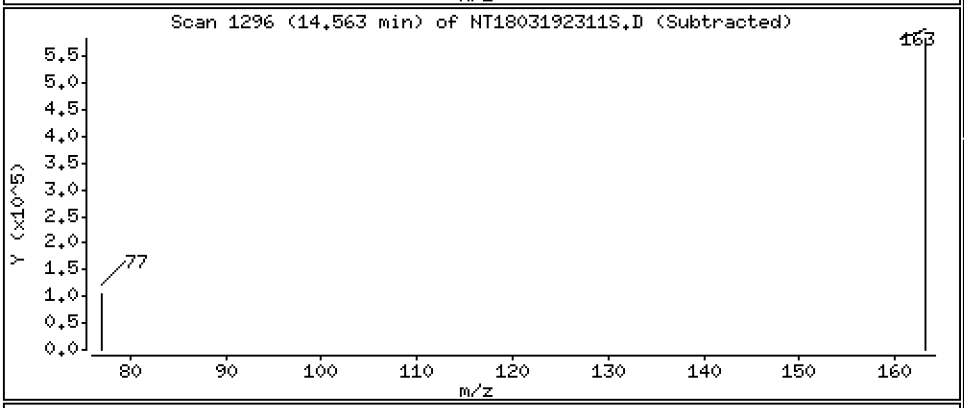
Column diameter: 0.25

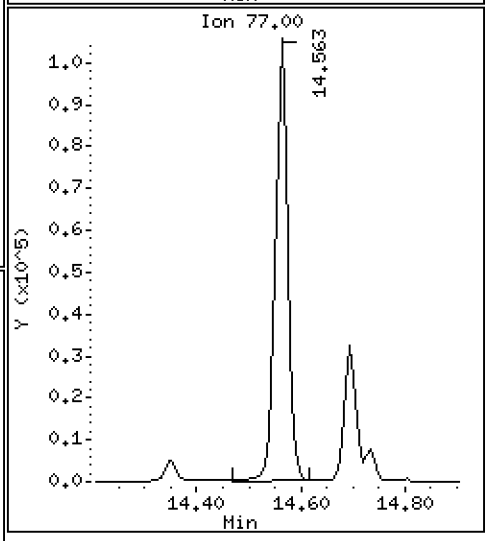
39 Dimethylphthalate

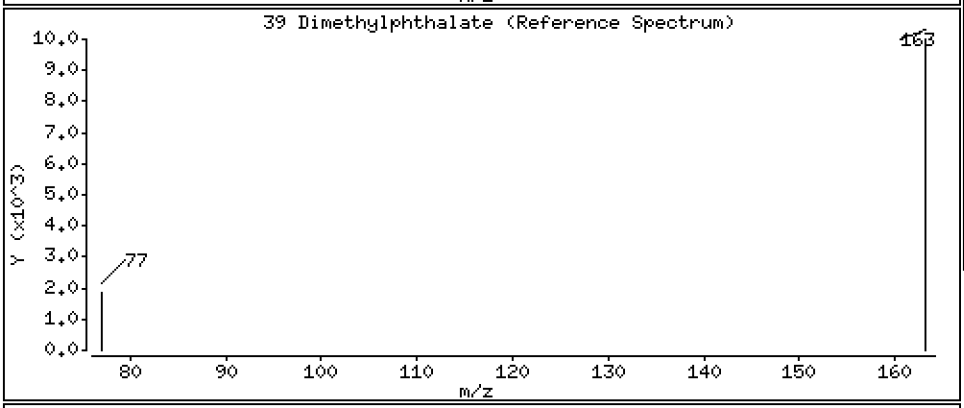
Concentration: 5.227 ug/mL

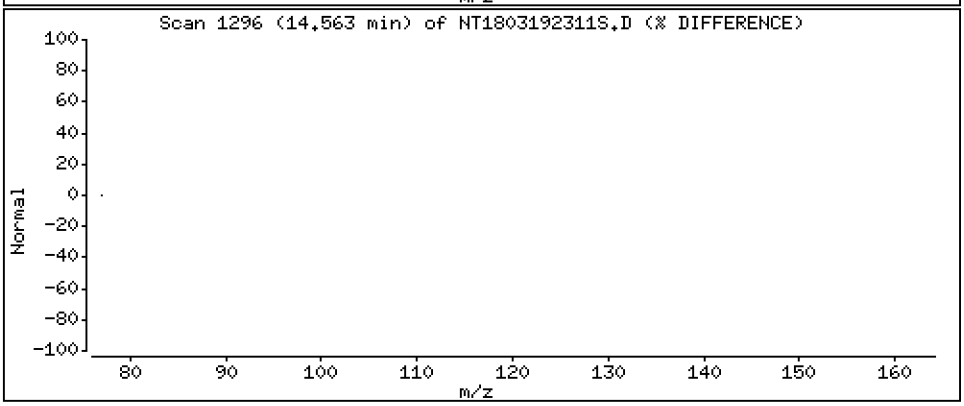












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

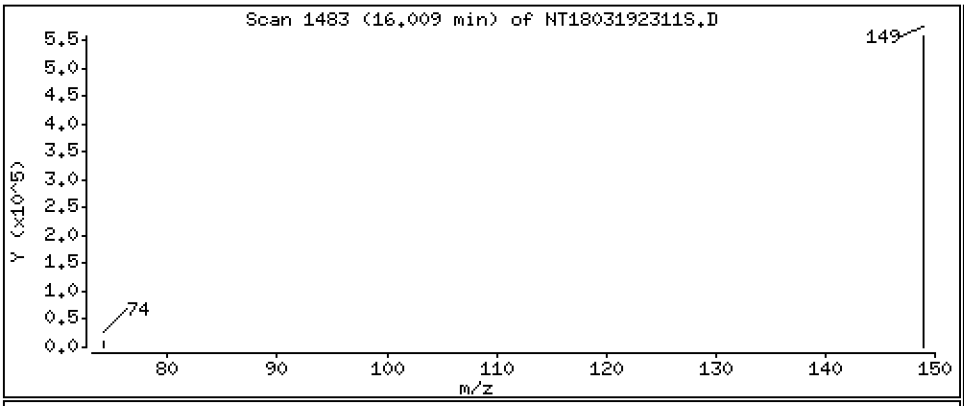
Operator: YZ

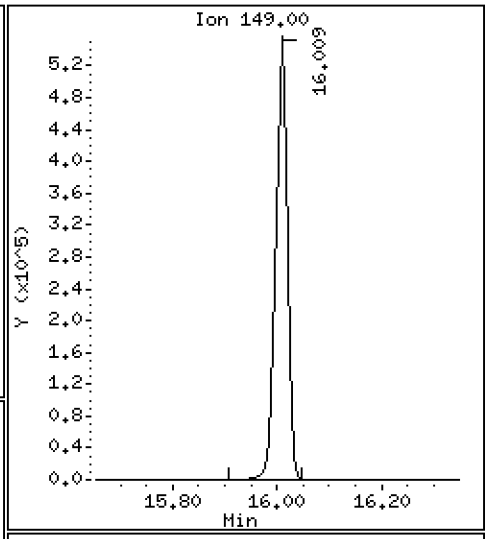
Column phase: ZB-5msi

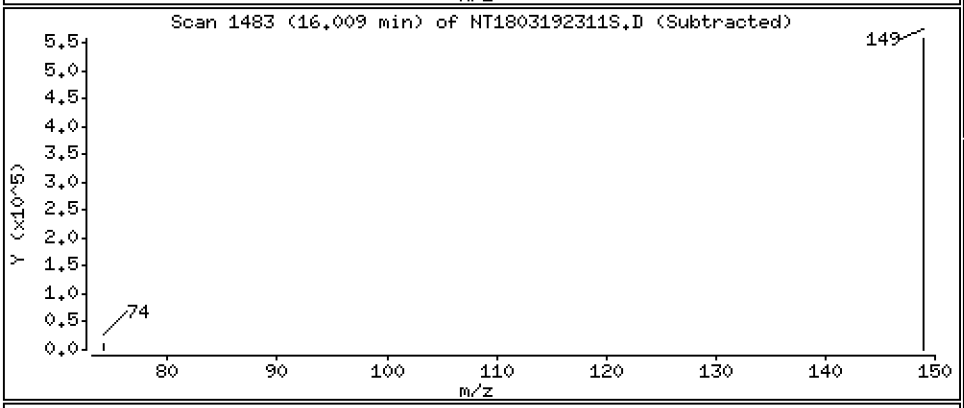
Column diameter: 0.25

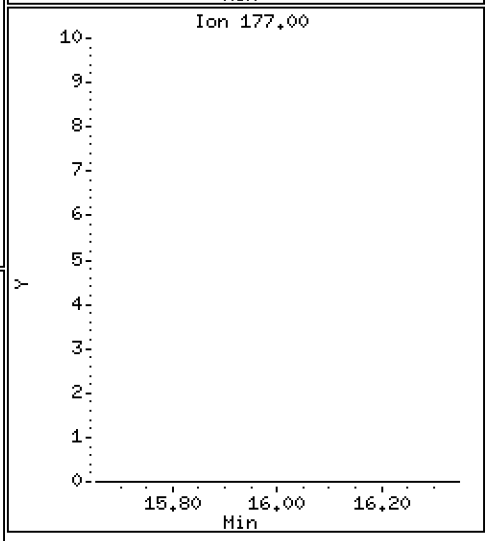
50 Diethylphthalate

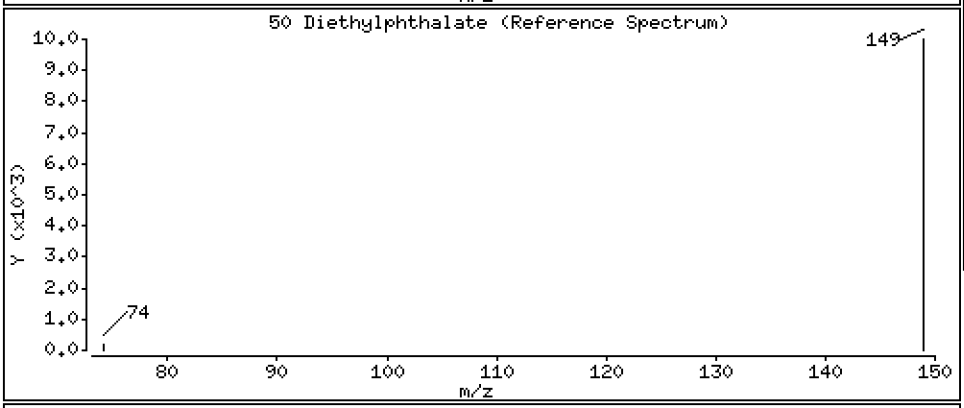
Concentration: 5.521 ug/mL

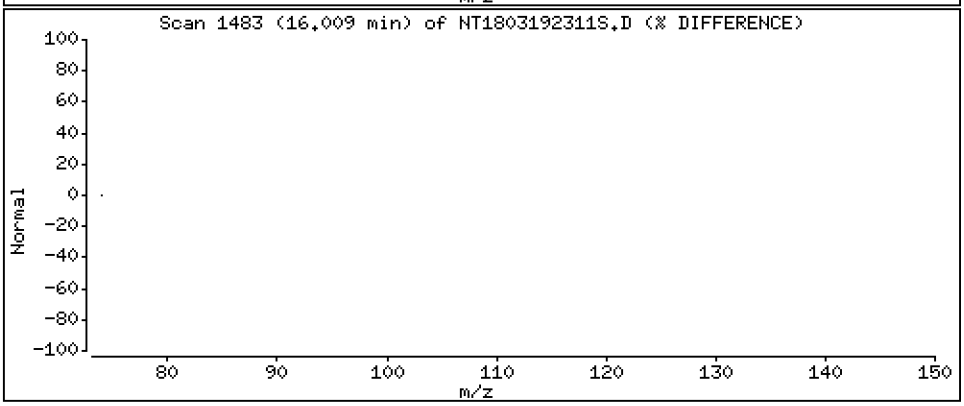












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT18031923115.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

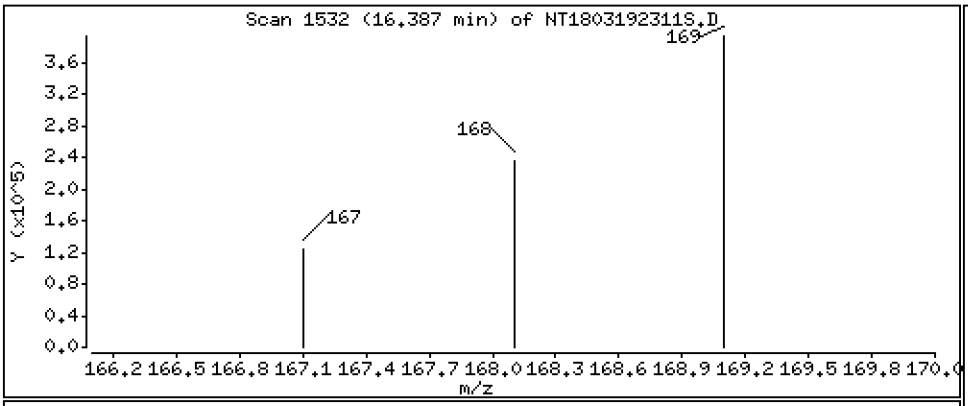
Operator: YZ

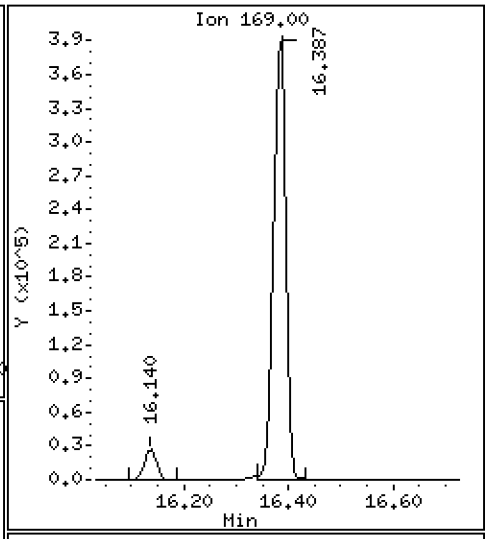
Column phase: ZB-5msi

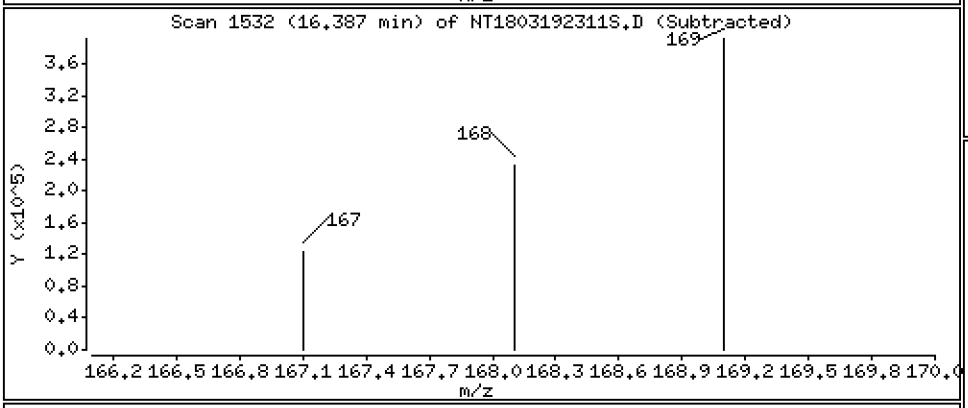
Column diameter: 0.25

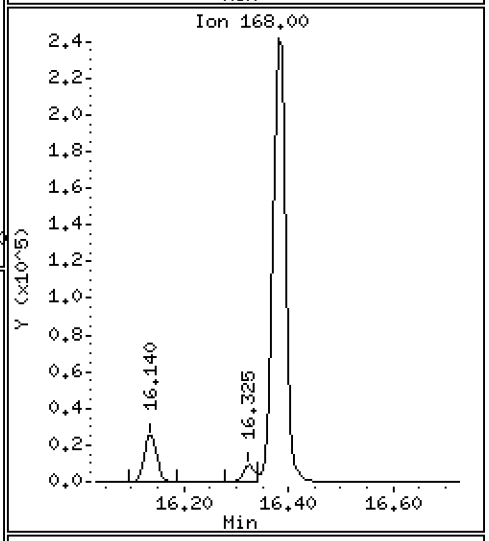
54 N-Nitrosodiphenylamine

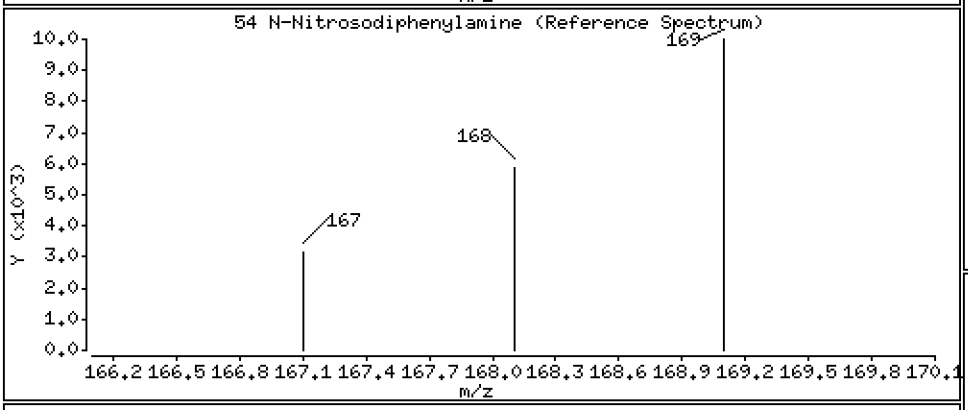
Concentration: 5.554 ug/mL

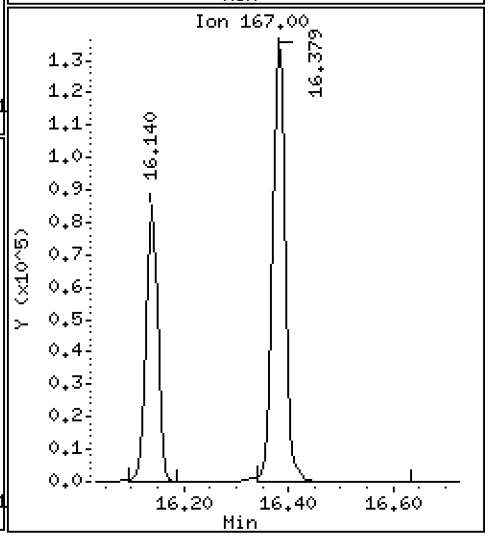


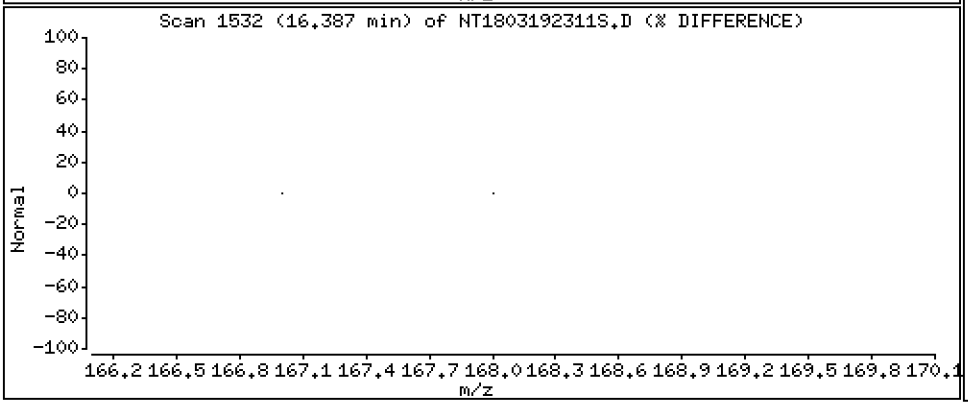












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

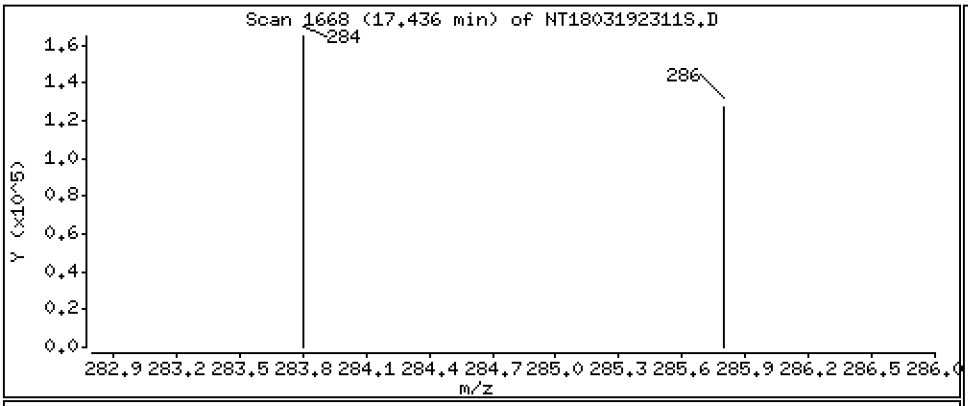
Operator: YZ

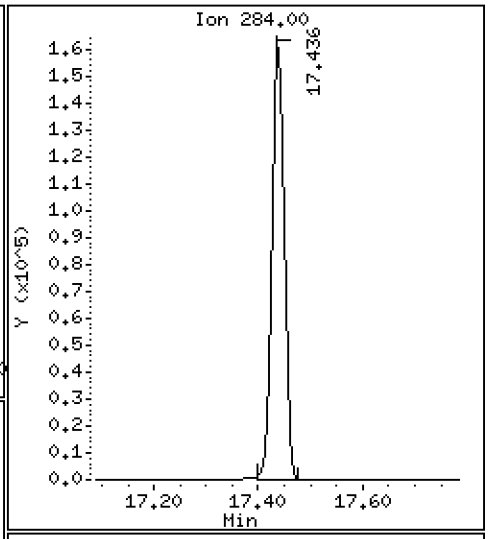
Column phase: ZB-5msi

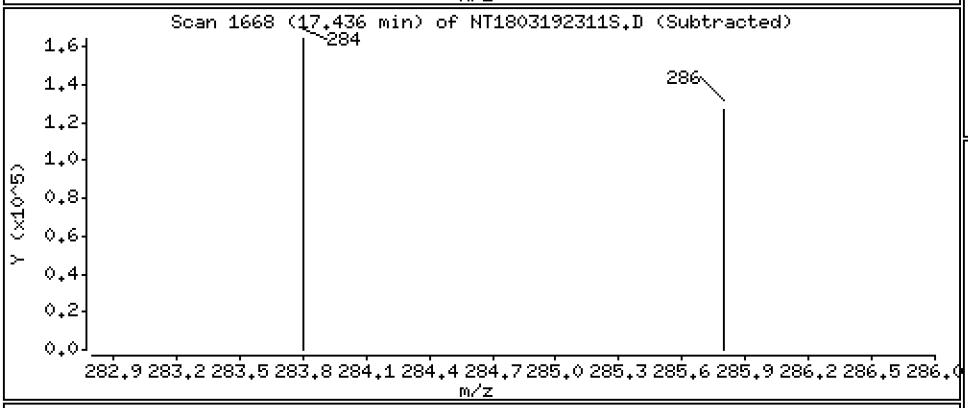
Column diameter: 0.25

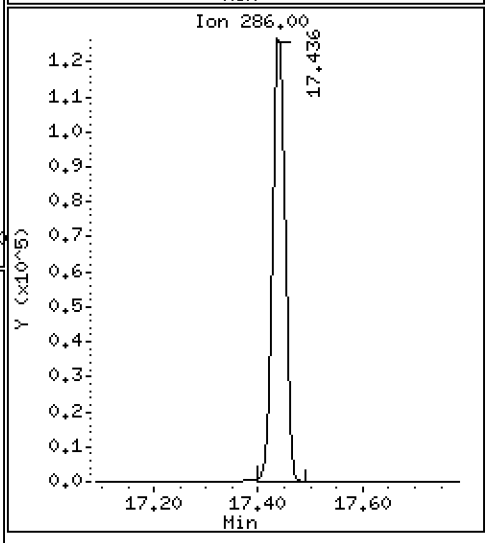
57 Hexachlorobenzene

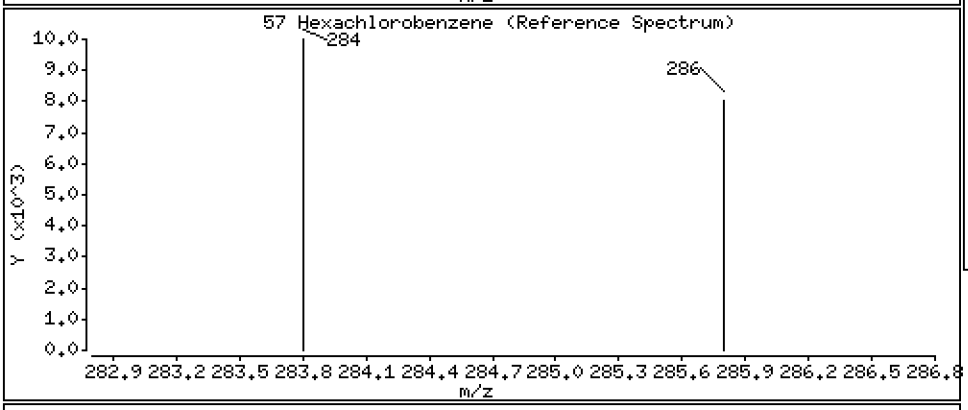
Concentration: 4.887 ug/mL

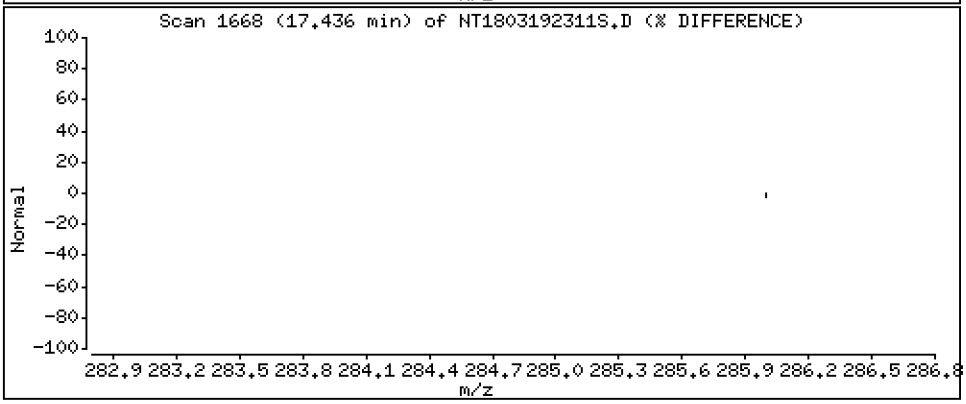












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

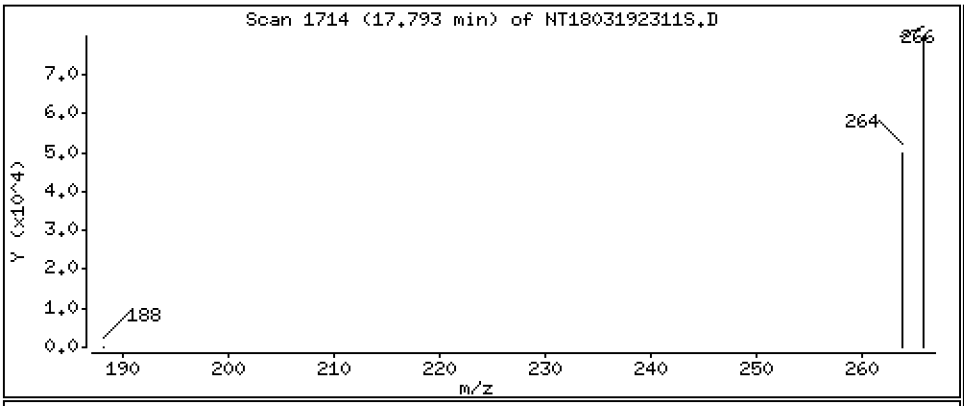
Operator: YZ

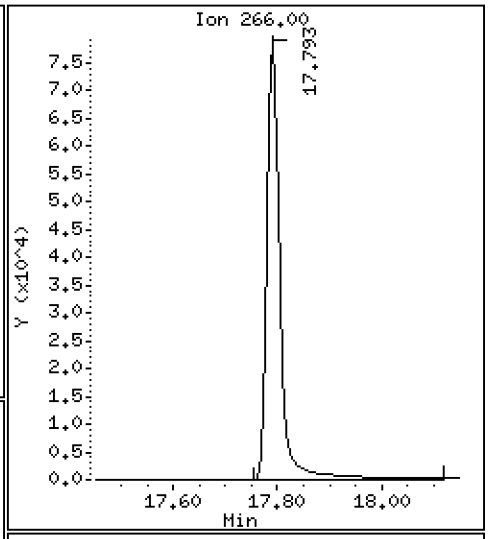
Column phase: ZB-5msi

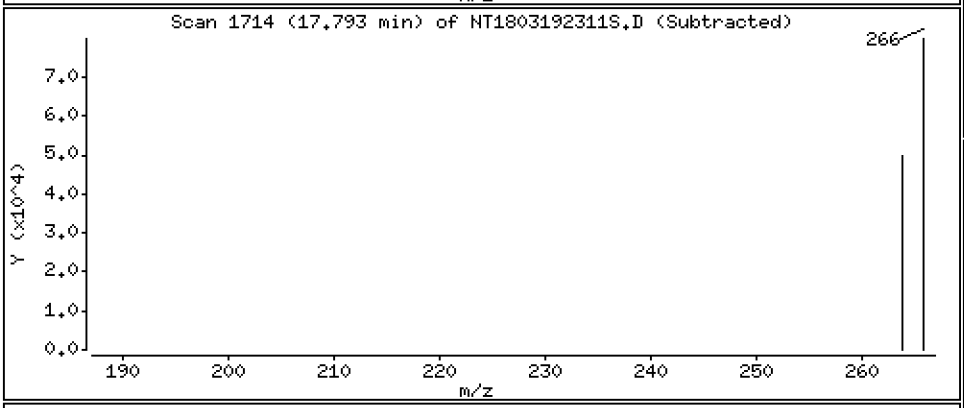
Column diameter: 0.25

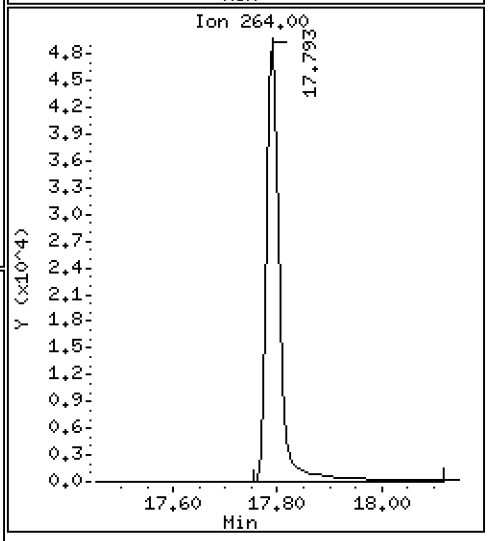
58 Pentachlorophenol

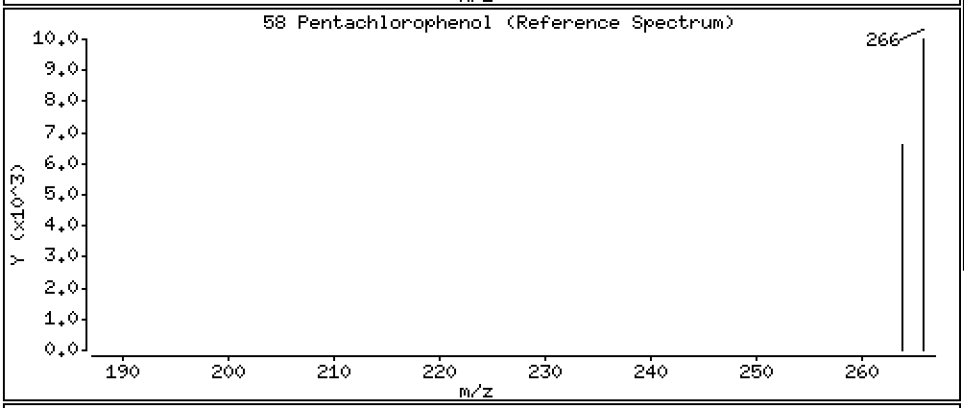
Concentration: 4.555 ug/mL

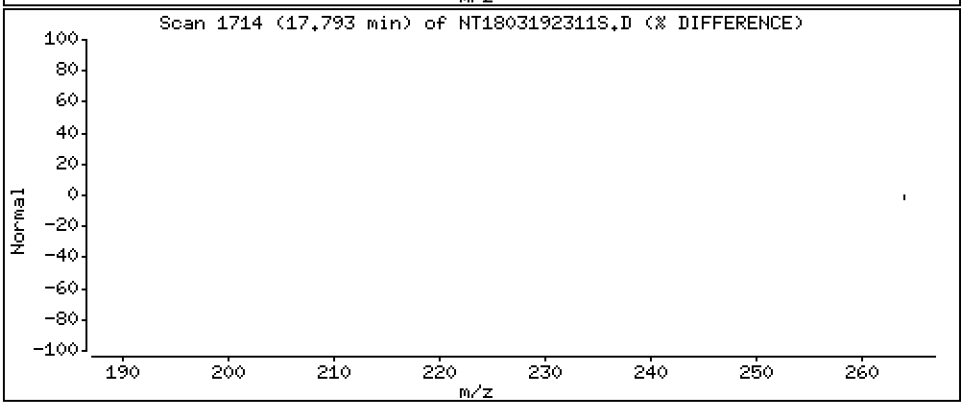












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

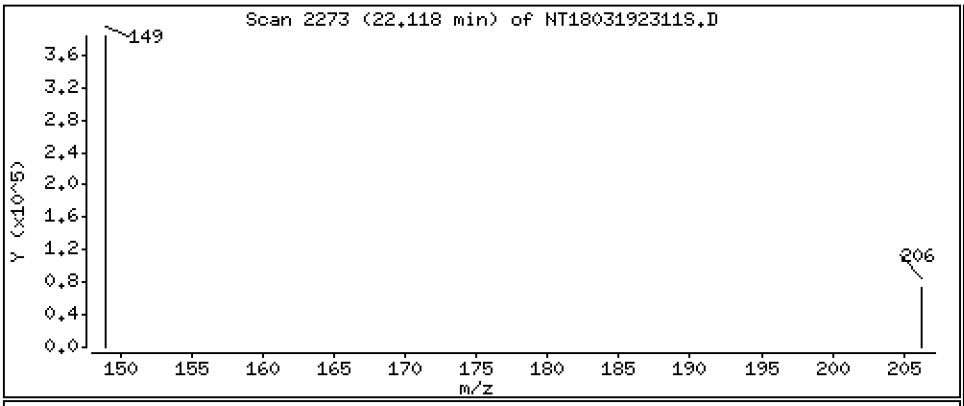
Operator: YZ

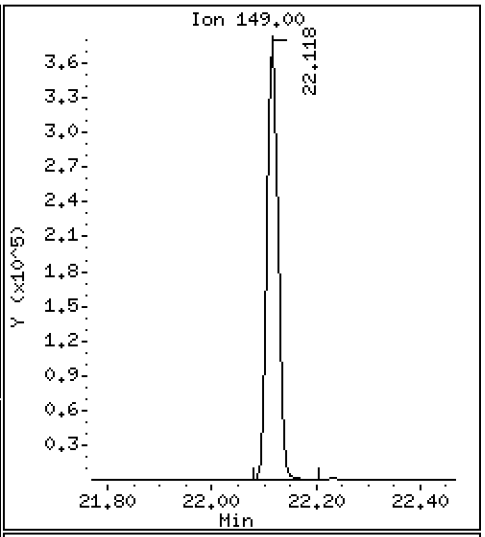
Column phase: ZB-5msi

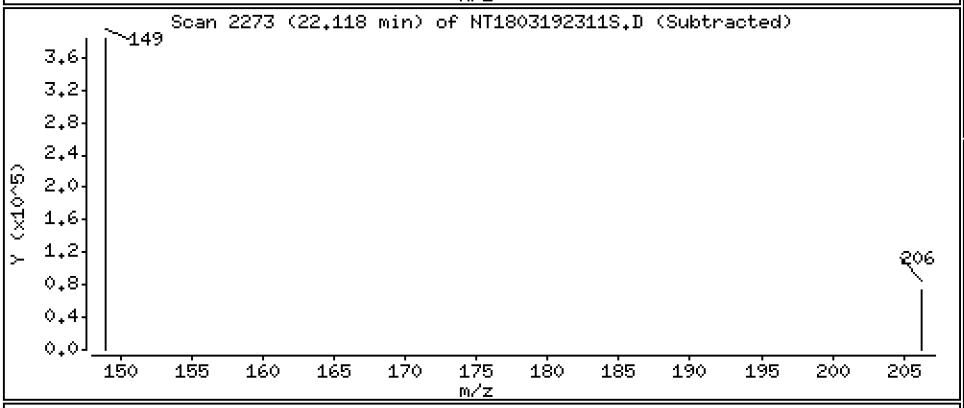
Column diameter: 0.25

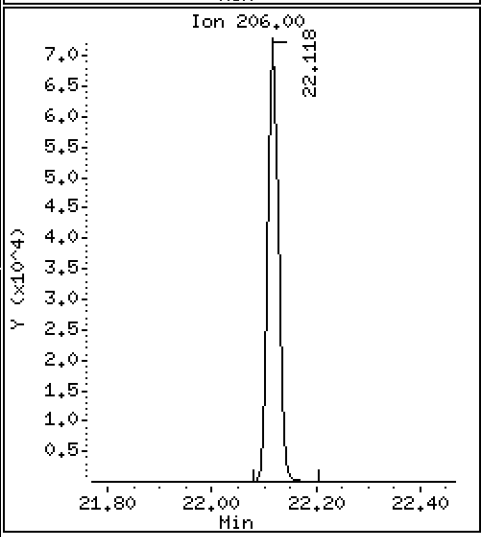
67 Butylbenzylphthalate

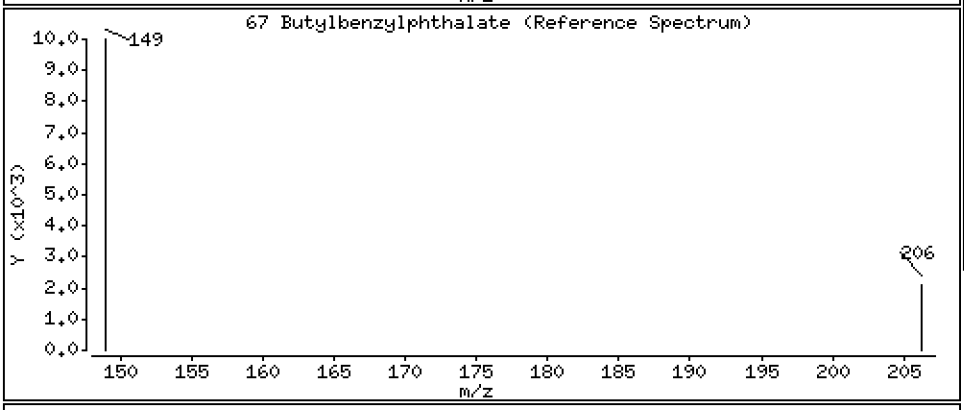
Concentration: 5.016 ug/mL

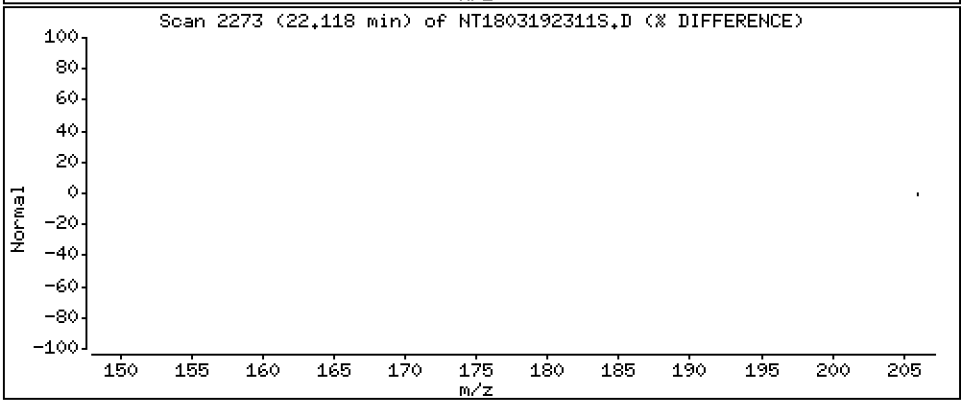












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Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

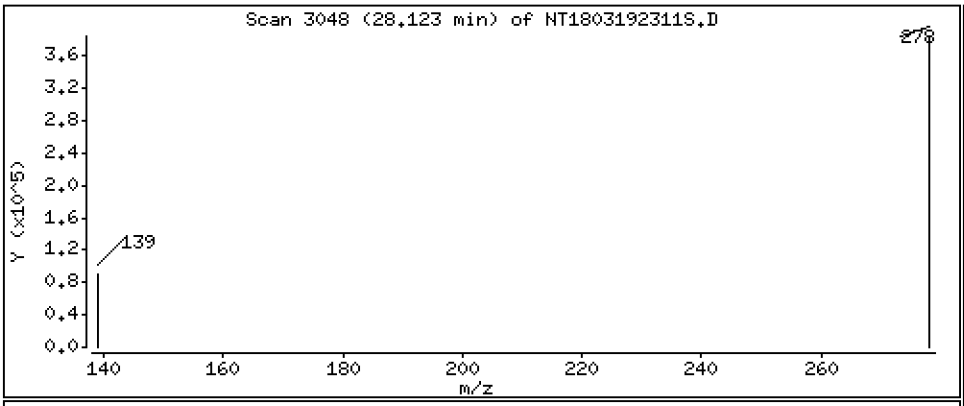
Operator: YZ

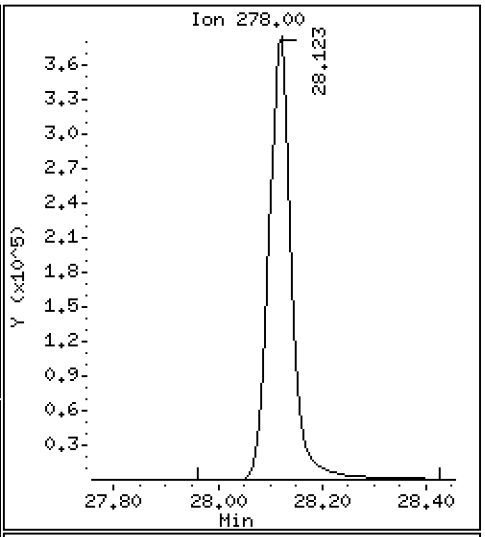
Column phase: ZB-5msi

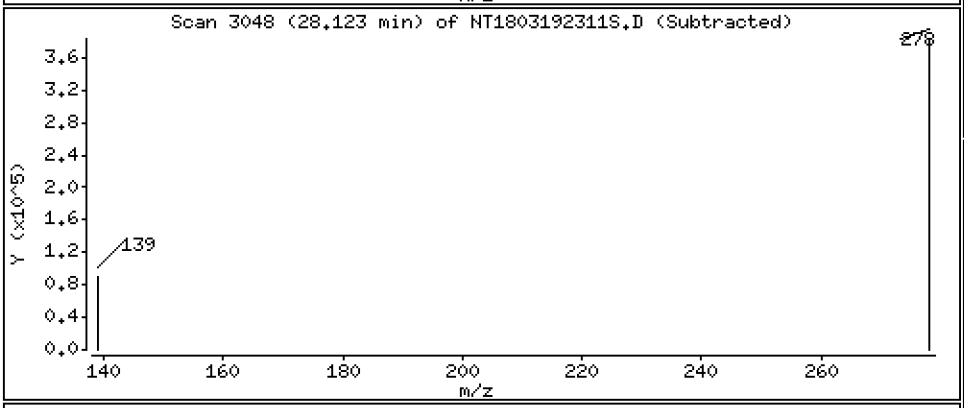
Column diameter: 0.25

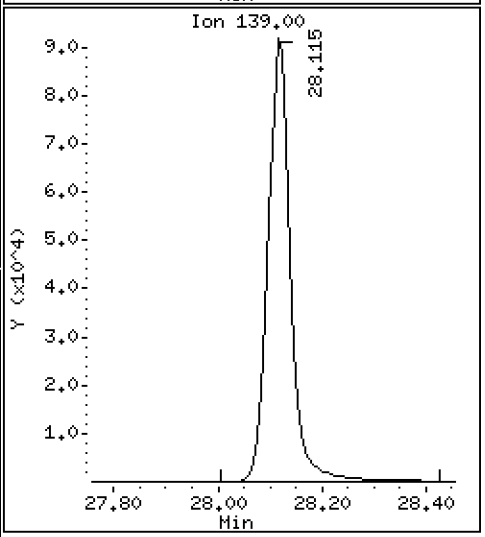
79 Dibenzo(a,h)anthracene

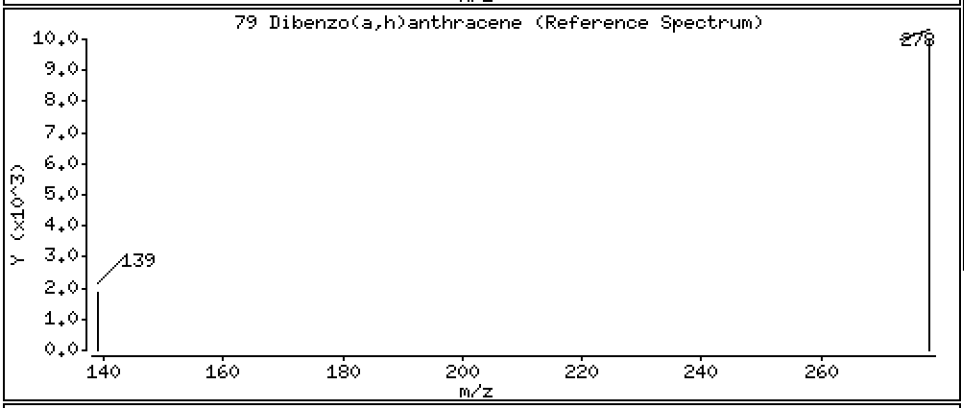
Concentration: 4.775 ug/mL

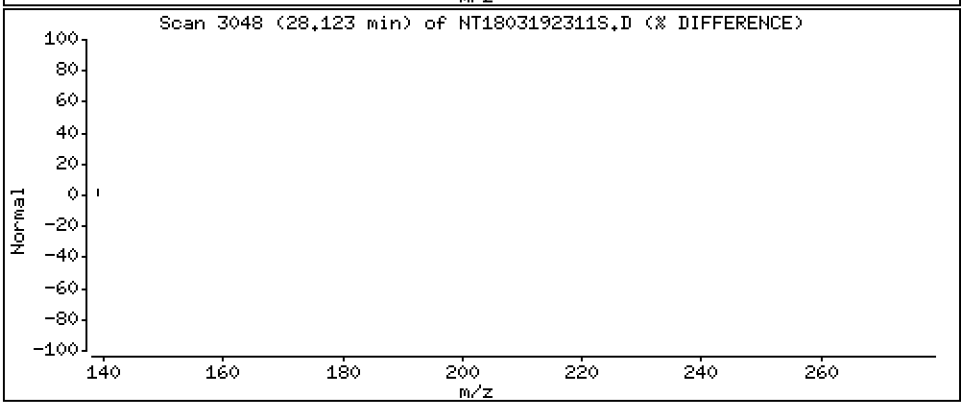












Data File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT18031923115.D

Date : 19-MAR-2023 21:26

Client ID:

Instrument: nt18.i

Sample Info: SEQ-SCV1

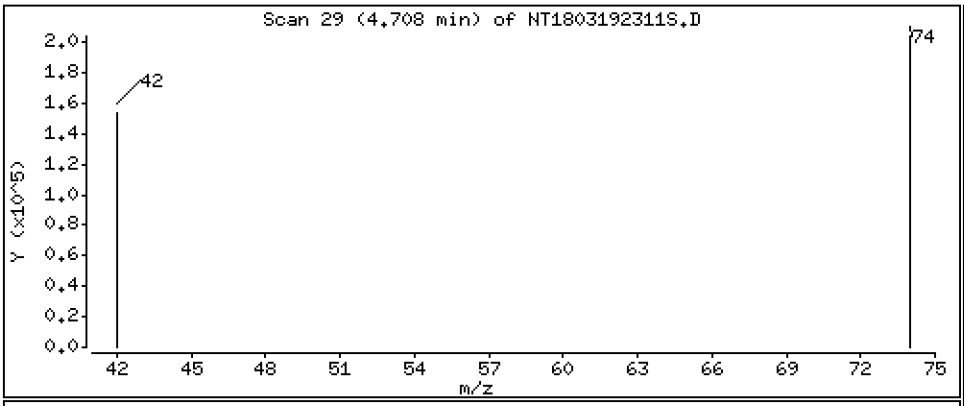
Operator: YZ

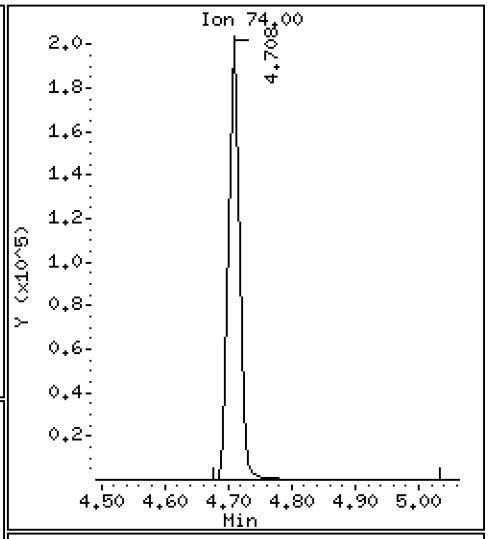
Column phase: ZB-5msi

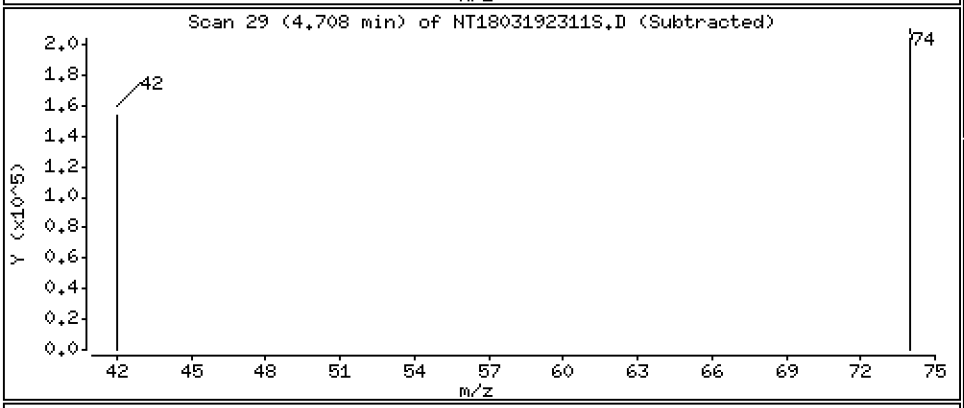
Column diameter: 0.25

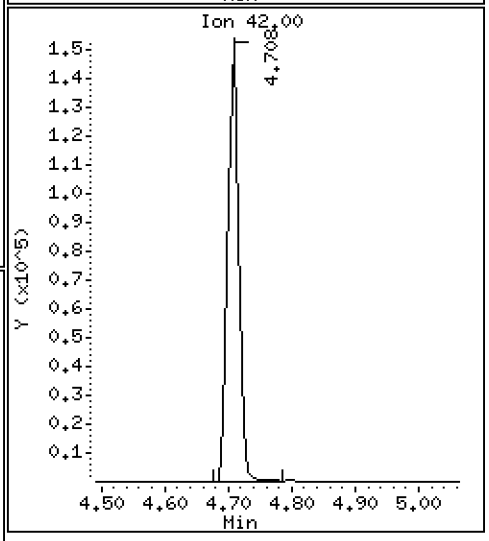
90 N-Nitrosodimethylamine

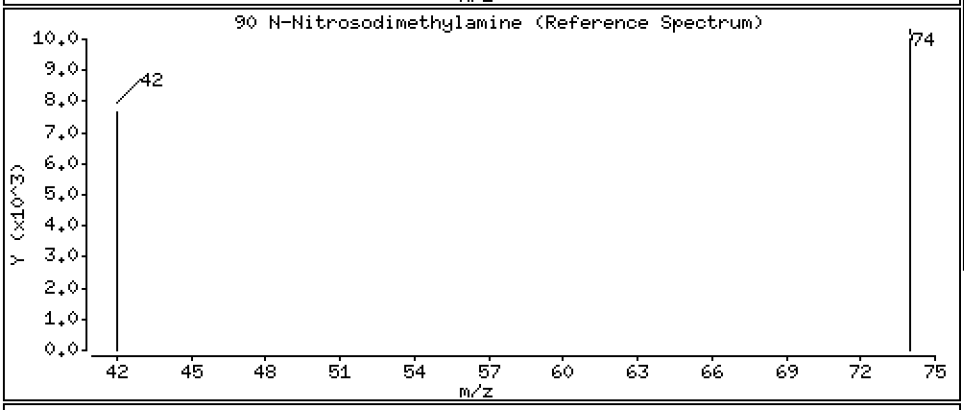
Concentration: 4.951 ug/mL

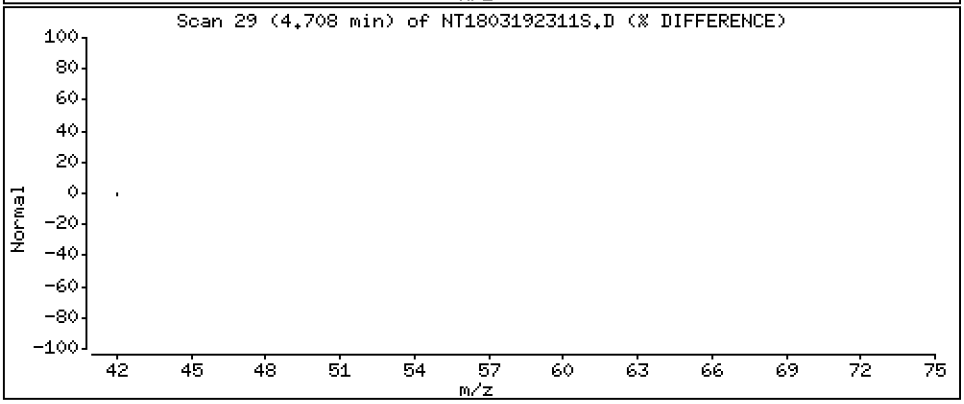












ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230319.b\SIM.b\NT1803192311S.D
Lab Smp Id: SLCD0001-SCV1
Inj Date : 19-MAR-2023 21:26
Operator : YZ Inst ID: nt18.i
Smp Info : SEQ-SCV1
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Meth Date : 31-Mar-2023 09:18 yev Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: ORGDATA102

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1	2-Fluorophenol	112	Compound Not Detected.					
	3	Phenol	94	8.377	8.378	(0.931)	480565	4.47946	4.479
	7	1,3-Dichlorobenzene	146	8.934	8.934	(0.993)	498765	4.80574	4.806
*	8	1,4-Dichlorobenzene-d4	152	8.996	8.996	(1.000)	274820	4.00000	
	9	1,4-Dichlorobenzene	146	9.027	9.027	(1.003)	506945	4.81558	4.816
	11	Benzyl alcohol	79	9.260	9.268	(1.029)	304709	4.89226	4.892
	12	1,2-Dichlorobenzene	146	9.376	9.377	(1.042)	486107	4.74456	4.745
	13	2-Methylphenol	108	9.485	9.485	(1.054)	332308	4.46205	4.462
	15	4-Methylphenol	108	9.756	9.749	(1.085)	363280	4.68923	4.689
	16	N-Nitroso-di-n-propylamine	70	9.826	9.819	(1.092)	268590	5.25590	5.256
	22	2,4-Dimethylphenol	107	10.792	10.792	(0.942)	283542	3.91886	3.919
	24	Benzoic acid	105	10.961	10.784	(0.957)	372399	7.32448	7.324
	26	1,2,4-Trichlorobenzene	180	11.375	11.376	(0.993)	387054	4.69019	4.690
*	27	Naphthalene-d8	136	11.460	11.460	(1.000)	1036057	4.00000	
	30	Hexachlorobutadiene	225	11.869	11.862	(1.036)	231479	4.87389	4.874
	39	Dimethylphthalate	163	14.563	14.555	(0.968)	876118	5.22675	5.227
*	42	Acenaphthene-d10	162	15.050	15.042	(1.000)	524780	4.00000	
	50	Diethylphthalate	149	16.009	16.001	(1.064)	840376	5.52142	5.521
	54	N-Nitrosodiphenylamine	169	16.387	16.379	(0.908)	610358	5.55444	5.554
	57	Hexachlorobenzene	284	17.436	17.437	(0.966)	255499	4.88731	4.887
	58	Pentachlorophenol	266	17.792	17.800	(0.985)	131147	4.55505	4.555
*	59	Phenanthrene-d10	188	18.055	18.048	(1.000)	904764	4.00000	
$	66	Terphenyl-d14	244	Compound Not Detected.					
	67	Butylbenzylphthalate	149	22.118	22.118	(0.958)	523931	5.01615	5.016
*	69	Chrysene-d12	240	23.078	23.070	(1.000)	777248	4.00000	
*	77	Perylene-d12	264	25.594	25.594	(1.000)	888854	4.00000	
	79	Dibenzo(a,h)anthracene	278	28.122	28.107	(1.099)	1161652	4.77453	4.775
	90	N-Nitrosodimethylamine	74	4.708	4.716	(0.523)	242099	4.95102	4.951

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803192311S.D
Lab Smp Id: SLCD0001-SCV1
Analysis Type: SV
Quant Type: ISTD
Operator: YZ
Method File: \\target\share\chem3\nt18.i\20230319.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 19-MAR-2023
Calibration Time: 18:02
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	276557	138279	553114	274820	-0.63
27 Naphthalene-d8	1034745	517373	2069490	1036057	0.13
42 Acenaphthene-d10	519728	259864	1039456	524780	0.97
59 Phenanthrene-d10	903862	451931	1807724	904764	0.10
69 Chrysene-d12	761695	380848	1523390	777248	2.04
77 Perylene-d12	858044	429022	1716088	888854	3.59

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.00	8.50	9.50	9.00	-0.00
27 Naphthalene-d8	11.46	10.96	11.96	11.46	-0.00
42 Acenaphthene-d10	15.04	14.54	15.54	15.05	0.05
59 Phenanthrene-d10	18.06	17.56	18.56	18.06	-0.00
69 Chrysene-d12	23.07	22.57	23.57	23.08	0.03
77 Perylene-d12	25.59	25.09	26.09	25.59	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803192311S.D

Lab ID: SLCD0001-SCV1
nt18.i, 20230319.b\SIM.b\SIMABN2.m,   19-MAR-2023 21:26

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

** FIRST SURROGATE NOT FOUND. ICAL Check not performed **

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.957	0.941	0.0156	Benzoic acid

RRT check based on Ccal File: SIM.b/NT1803192310S.D

On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	NT18	Calibration:	GD00001
Lab File ID:	NT1803222318S.D	Calibration Date:	04/01/2023
Sequence:	SLD0061	Injection Date:	03/23/23
Lab Sample ID:	SLD0061-CCV1	Injection Time:	04:45
Sequence Name:	Calibration Check		

		CONC. (ug/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
1,4-Dichlorobenzene	A	1.0000	0.9	1.5322280	1.4270540		-6.9	+/-50
1,2-Dichlorobenzene	A	1.0000	0.9	1.4912410	1.3974280		-6.3	+/-50
Benzyl Alcohol	A	1.0000	0.9	0.7708820	0.8403792		-10.0	+/-50
Benzoic acid	A	4.0000	3.0	0.1069329	0.1421347		-26.1	+/-50
2,4-Dimethylphenol	A	2.0000	2.1	0.2793404	0.2898790		3.8	+/-50
1,2,4-Trichlorobenzene	A	1.0000	1.0	0.3186083	0.3045497		-4.4	+/-50
N-Nitrosodiphenylamine	A	1.0000	1.1	0.4858130	0.5129666		5.6	+/-50
Pentachlorophenol	A	2.0000	1.4	0.0867576	0.0869343		-29.5	+/-50
2-Fluorophenol	A	1.5000	1.57	1.1661190	1.2190550		4.5	+/-50
p-Terphenyl-d14	A	1.0000	0.915	0.5638063	0.5158635		-8.5	+/-50

* Values outside of QC limits

* Values outside of QC limits

Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT18032223185.D

Date : 23-MAR-2023 04:45

Client ID:

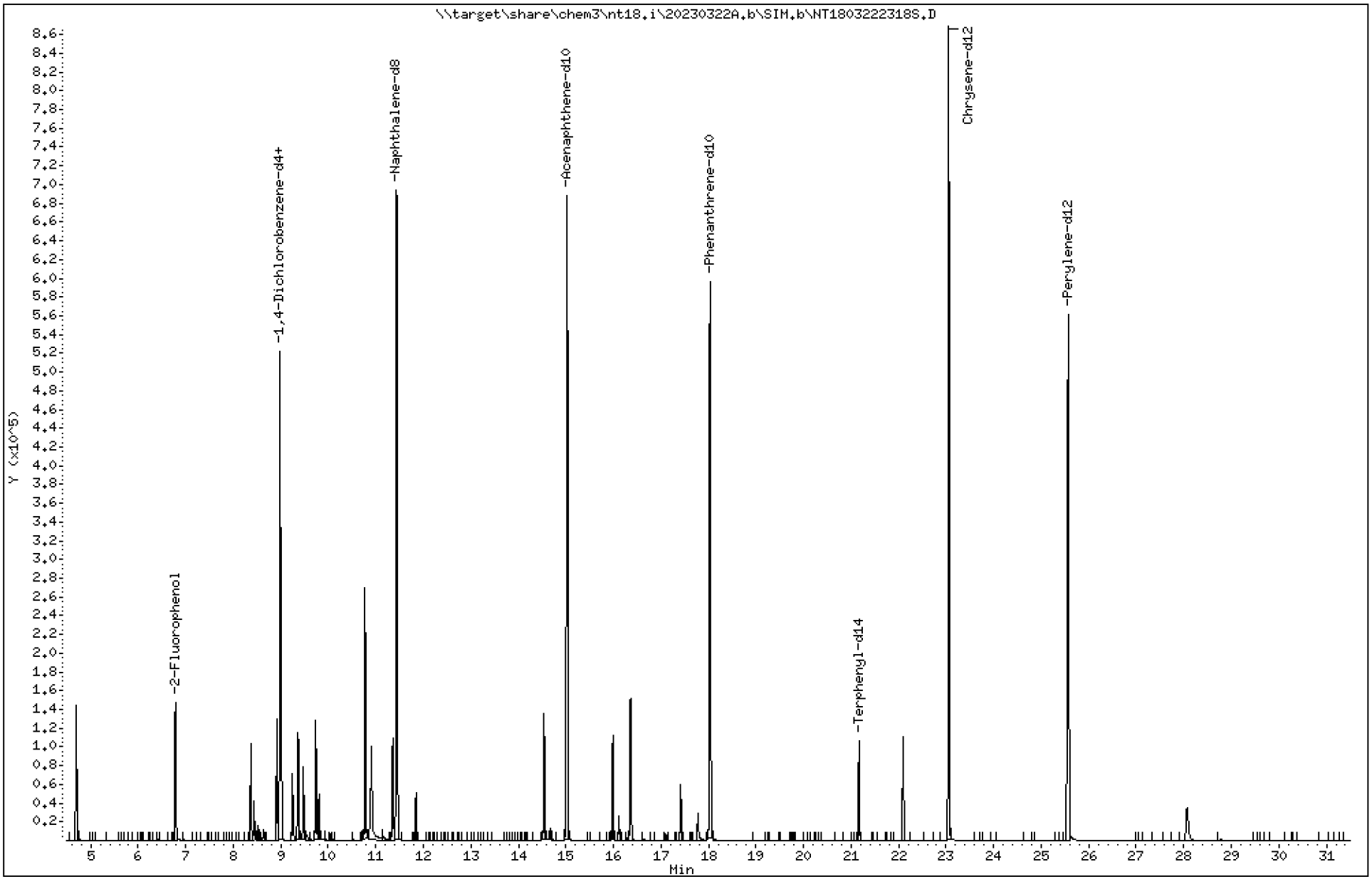
Instrument: nt18.i

Sample Info: SLD0064-ICV1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT1803222318S.D
Lab Smp Id: SLD0064-ICV1
Inj Date : 23-MAR-2023 04:45
Operator : VTS Inst ID: nt18.i
Smp Info : SLD0064-ICV1
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230322A.b\SIM.b\SIMABN2.m
Meth Date : 05-Apr-2023 11:57 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: DEENAY-201905

			QUANT SIG					AMOUNTS	
		Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1	2-Fluorophenol	112	6.786	6.786	(0.756)	137332	1.50000	1.568
	3	Phenol	94	8.369	8.369	(0.932)	115979	1.00000	0.9890
	7	1,3-Dichlorobenzene	146	8.918	8.918	(0.993)	107855	1.00000	0.9507
*	8	1,4-Dichlorobenzene-d4	152	8.980	8.980	(1.000)	300412	4.00000	
	9	1,4-Dichlorobenzene	146	9.011	9.011	(1.003)	107176	1.00000	0.9314
	11	Benzyl alcohol	79	9.244	9.244	(1.029)	63115	1.00000	0.9000
	12	1,2-Dichlorobenzene	146	9.361	9.361	(1.042)	104951	1.00000	0.9371
	13	2-Methylphenol	108	9.469	9.469	(1.054)	85031	1.00000	1.044
	15	4-Methylphenol	108	9.741	9.741	(1.085)	88968	1.00000	1.051
	16	N-Nitroso-di-n-propylamine	70	9.803	9.803	(1.092)	55670	1.00000	0.9966
	22	2,4-Dimethylphenol	107	10.775	10.775	(0.942)	160345	2.00000	2.075
	24	Benzoic acid	105	10.911	10.911	(0.954)	157630	4.00000	2.962
	26	1,2,4-Trichlorobenzene	180	11.360	11.360	(0.993)	84141	1.00000	0.9549
*	27	Naphthalene-d8	136	11.437	11.437	(1.000)	1106289	4.00000	
	30	Hexachlorobutadiene	225	11.846	11.846	(1.036)	47314	1.00000	0.9330
	39	Dimethylphthalate	163	14.539	14.539	(0.968)	175326	1.00000	1.021
*	42	Acenaphthene-d10	162	15.027	15.027	(1.000)	537373	4.00000	
	50	Diethylphthalate	149	15.985	15.985	(1.064)	168728	1.00000	1.083
	54	N-Nitrosodiphenylamine	169	16.364	16.364	(0.907)	121475	1.00000	1.054
	57	Hexachlorobenzene	284	17.413	17.413	(0.966)	53885	1.00000	0.9830
	58	Pentachlorophenol	266	17.777	17.777	(0.986)	41292	2.00000	1.412
*	59	Phenanthrene-d10	188	18.032	18.032	(1.000)	948670	4.00000	
$	66	Terphenyl-d14	244	21.166	21.166	(0.918)	131276	1.00000	0.9150
	67	Butylbenzylphthalate	149	22.095	22.095	(0.958)	127106	1.00000	0.8848
*	69	Chrysene-d12	240	23.055	23.055	(1.000)	1017874	4.00000	
*	77	Perylene-d12	264	25.563	25.563	(1.000)	984454	4.00000	
	79	Dibenzo(a,h)anthracene	278	28.068	28.068	(1.098)	108285	1.00000	0.3718
	90	N-Nitrosodimethylamine	74	4.692	4.692	(0.523)	103849	2.00000	1.943

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222318S.D
Lab Smp Id: SLD0064-ICV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 22-MAR-2023
Calibration Time: 18:36
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	300412	150206	600824	300412	0.00
27 Naphthalene-d8	1106289	553145	2212578	1106289	0.00
42 Acenaphthene-d10	537373	268687	1074746	537373	0.00
59 Phenanthrene-d10	948670	474335	1897340	948670	0.00
69 Chrysene-d12	1017874	508937	2035748	1017874	0.00
77 Perylene-d12	984454	492227	1968908	984454	0.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	0.00
42 Acenaphthene-d10	15.03	14.53	15.53	15.03	0.00
59 Phenanthrene-d10	18.03	17.53	18.53	18.03	0.00
69 Chrysene-d12	23.06	22.56	23.56	23.06	0.00
77 Perylene-d12	25.56	25.06	26.06	25.56	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222318S.D

Lab ID: SLD0064-ICV1
nt18.i, 20230322A.b\SIM.b\SIMABN2.m,   23-MAR-2023 04:45

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

No RRT check. Ccal file.

On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt18.i\20230322A.b\SIM.b

Instrument: nt18.i Date: 23-MAR-2023 Method: SIM.b\SIMABN2.m

INITIAL CAL: 19-MAR-2023

Compound	%RSD or R^2
NO Q-FLAGS	

ICV CAL: NT1803222318S.D 23-MAR-2023 04:45

Compound	%D
Benzoic acid	-26.0
Pentachlorophenol	-29.4
Dibenzo(a,h)anthracene	-62.8

Analytical Resources, LLC
Analytical Chemists and Consultants

LOW-CONCENTRATION
CONTINUING CALIBRATION CHECK
EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	NT18	Calibration:	GD00001
Lab File ID:	NT1803222305S.D	Calibration Date:	04/01/2023
Sequence:	SLD0061	Injection Date:	03/22/23
Lab Sample ID:	SLD0061-LCV1	Injection Time:	19:58
Sequence Name:	ABN 0.1		

		CONC. (ug/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
1,4-Dichlorobenzene	A	0.10000	0.1	1.5322280	1.6586810		8.3	
1,2-Dichlorobenzene	A	0.10000	0.1	1.4912410	1.6110500		8.0	
Benzyl Alcohol	A	0.10000	0.06	0.7708820	0.5624671		-39.8	
Benzoic acid	A	0.40000	0.0	0.1069329				
2,4-Dimethylphenol	A	0.20000	0.2	0.2793404	0.2639003		-5.5	
1,2,4-Trichlorobenzene	A	0.10000	0.1	0.3186083	0.3444557		8.1	
N-Nitrosodiphenylamine	A	0.10000	0.09	0.4858130	0.4385180		-9.7	
Pentachlorophenol	A	0.20000	0.02	0.0867576	0.0108385		-91.1	
2-Fluorophenol	A	0.15000	0.133	1.1661190	1.0314740		-11.5	
p-Terphenyl-d14	A	0.10000	0.0983	0.5638063	0.5544441		-1.7	

* Values outside of QC limits

Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT18032223058.D

Date : 22-MAR-2023 19:58

Client ID:

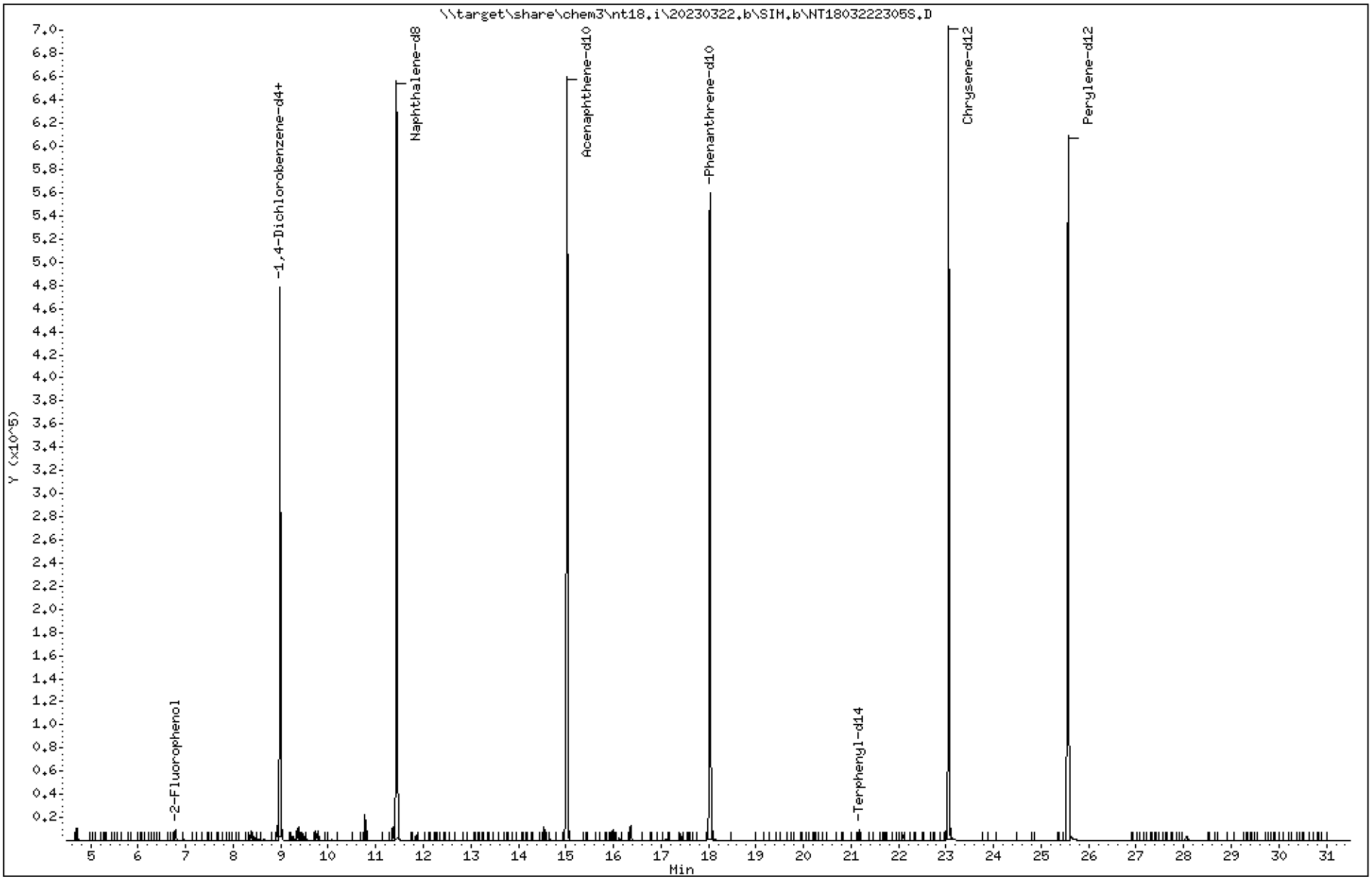
Instrument: nt18.i

Sample Info: SLD0061-LCV1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



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Date : 22-MAR-2023 19:58

Client ID:

Instrument: nt18.i

Sample Info: SLD0061-LCV1

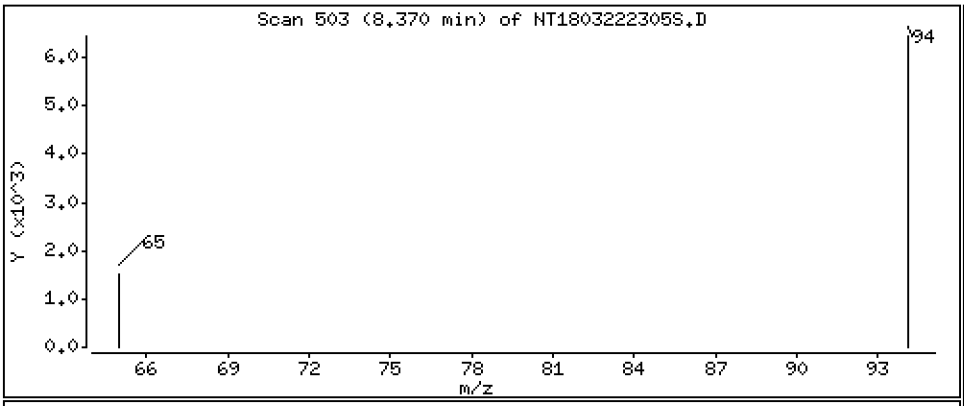
Operator: VTS

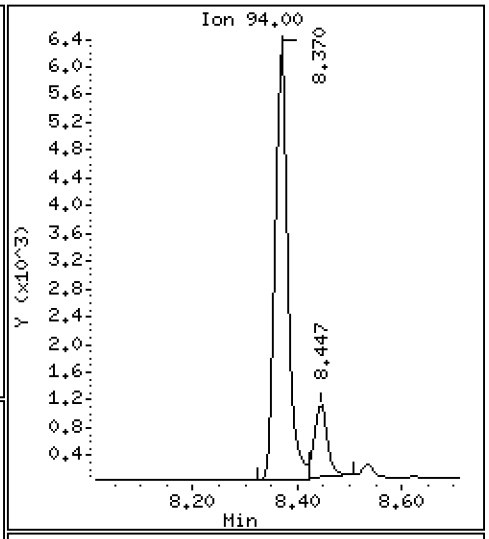
Column phase: ZB-5msi

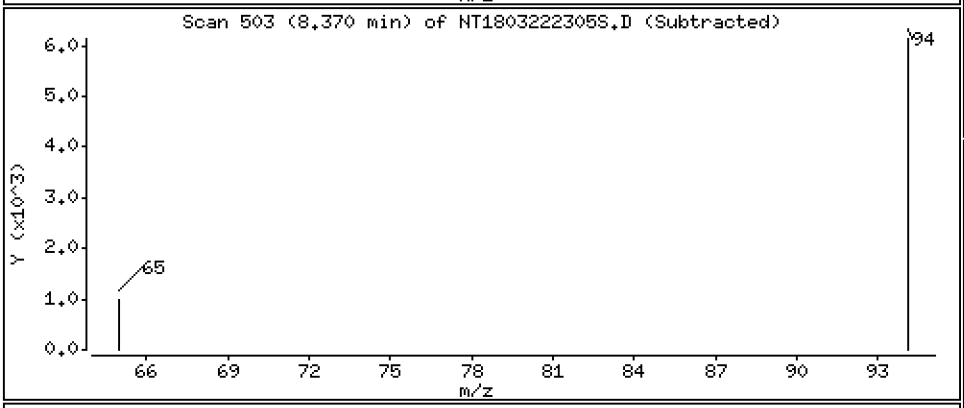
Column diameter: 0.25

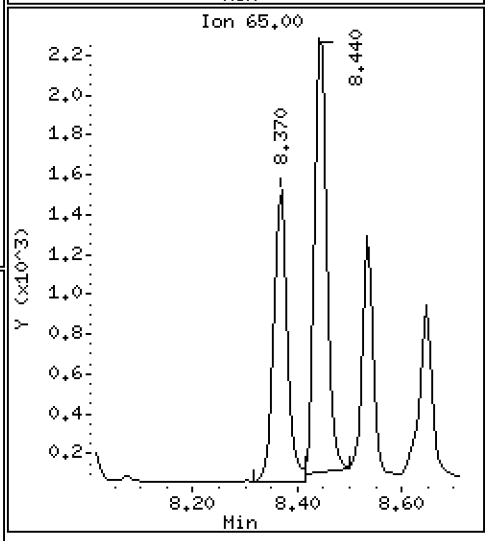
3 Phenol

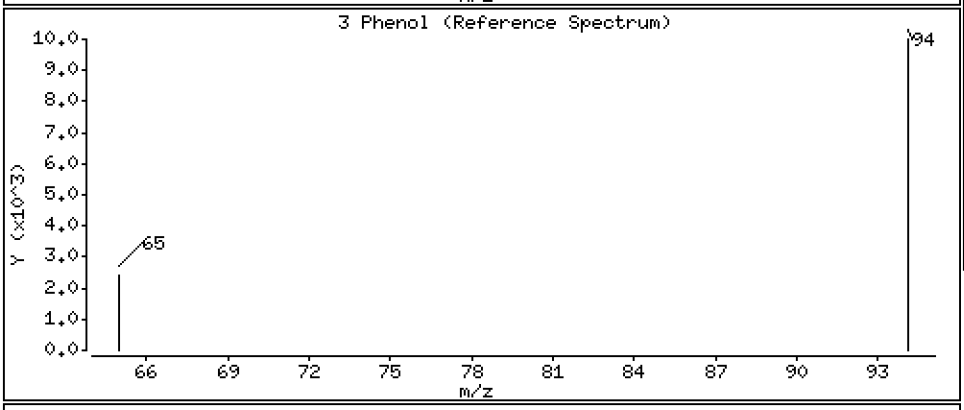
Concentration: 0.09457 ug/mL

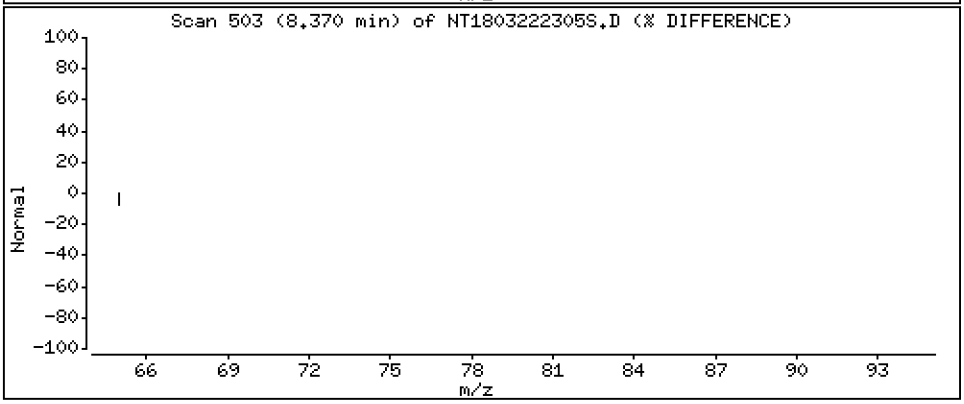












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222305S.D

Date : 22-MAR-2023 19:58

Client ID:

Instrument: nt18.i

Sample Info: SLD0061-LCV1

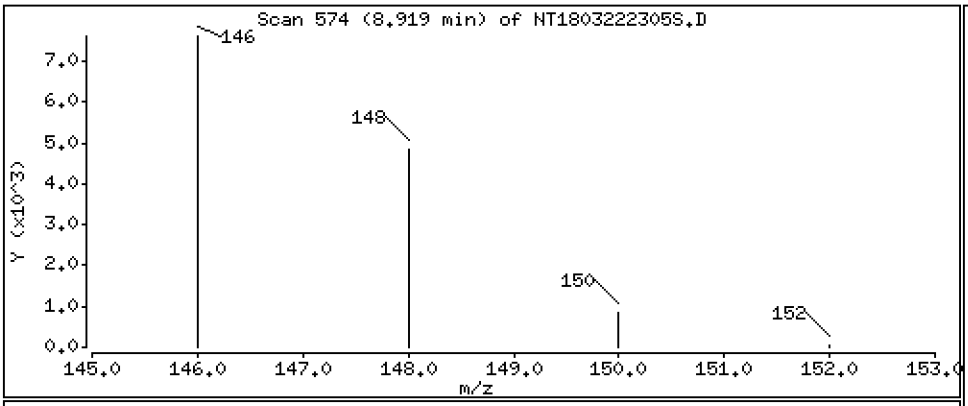
Operator: VTS

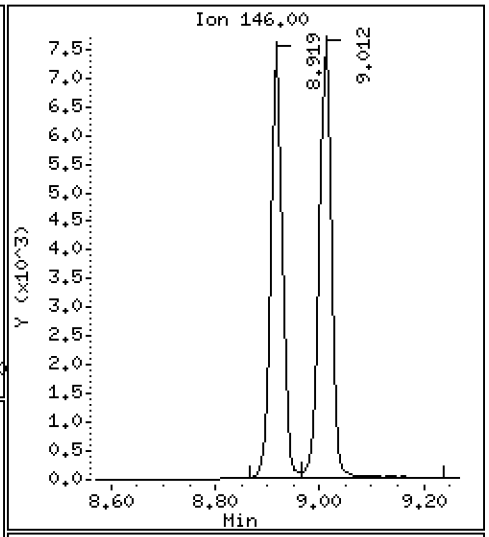
Column phase: ZB-5msi

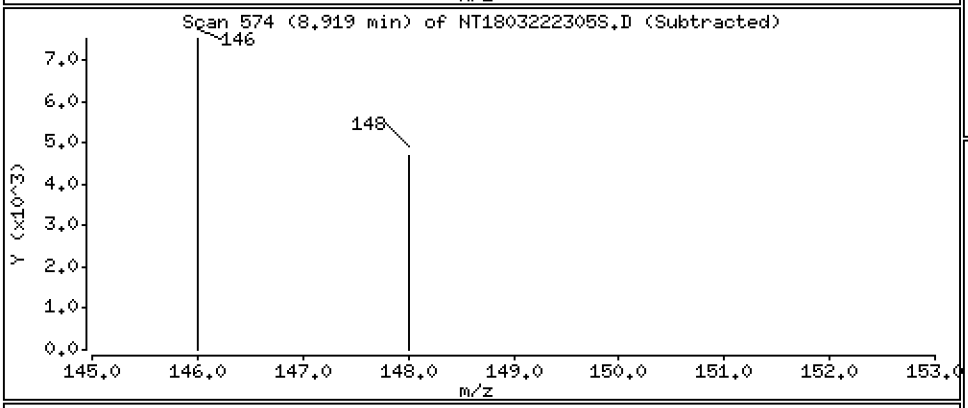
Column diameter: 0.25

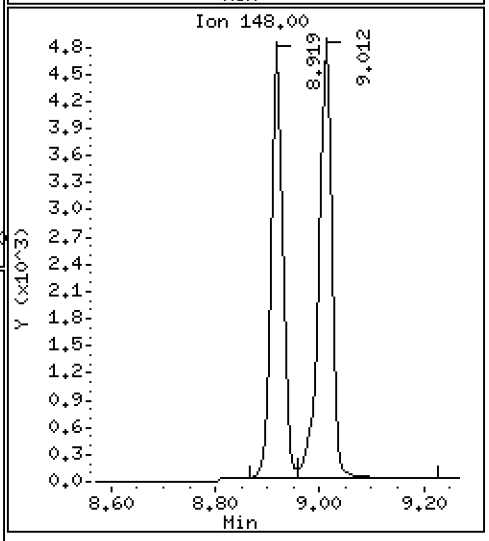
7 1,3-Dichlorobenzene

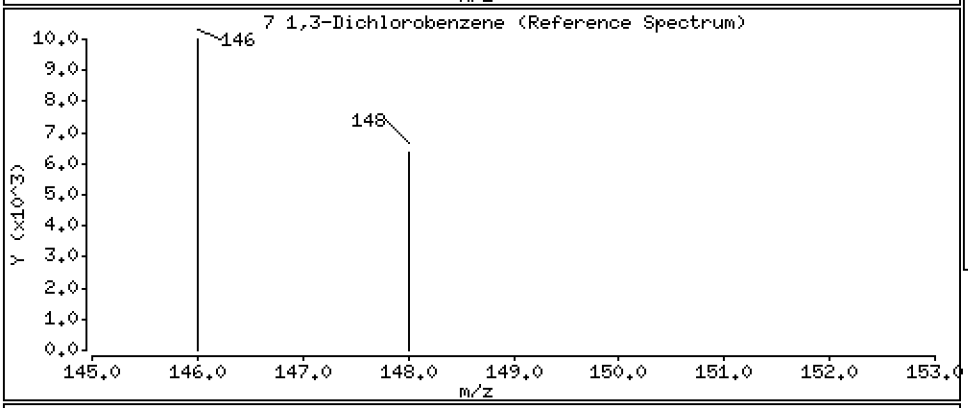
Concentration: 0.1063 ug/mL

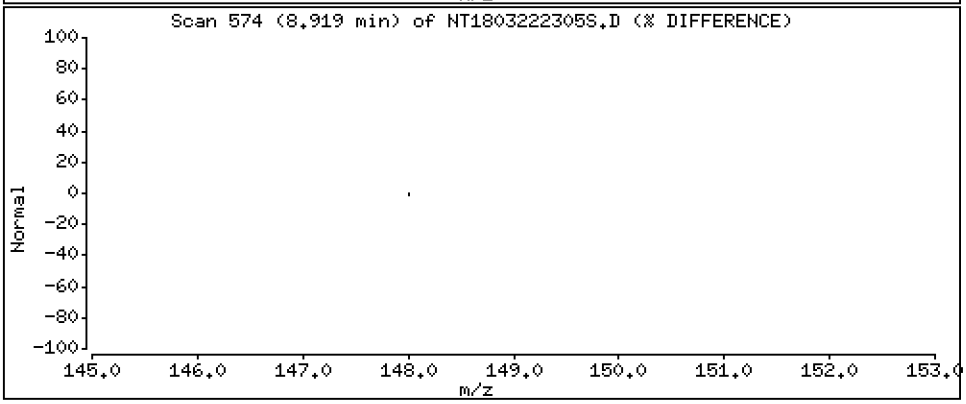












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222305S.D

Date : 22-MAR-2023 19:58

Client ID:

Instrument: nt18.i

Sample Info: SLD0061-LCV1

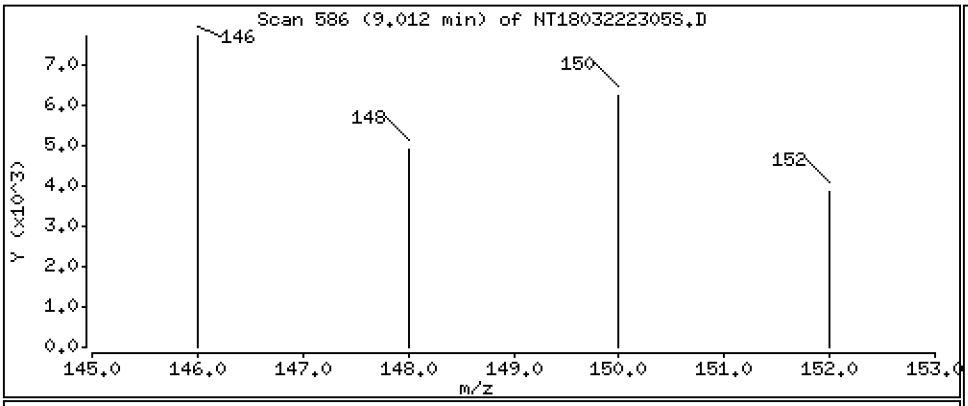
Operator: VTS

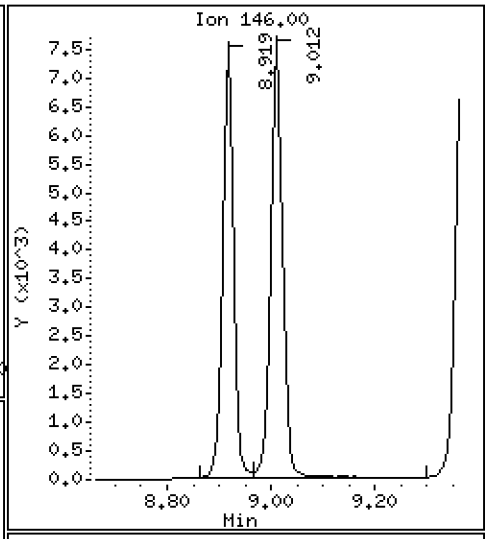
Column phase: ZB-5msi

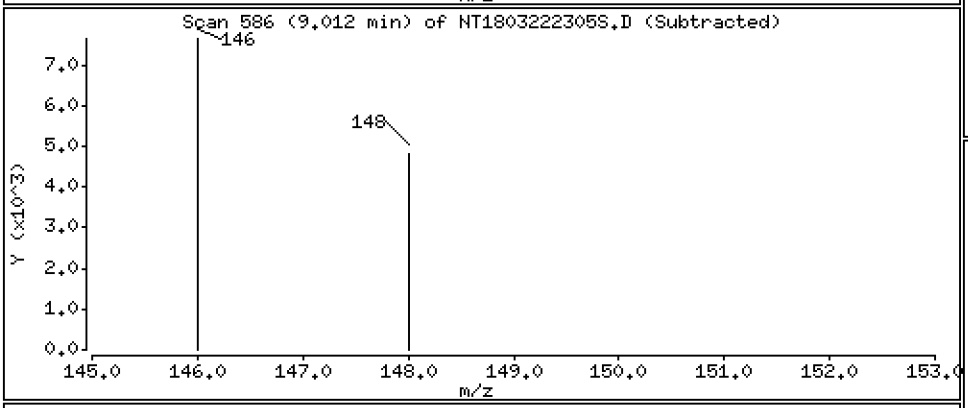
Column diameter: 0.25

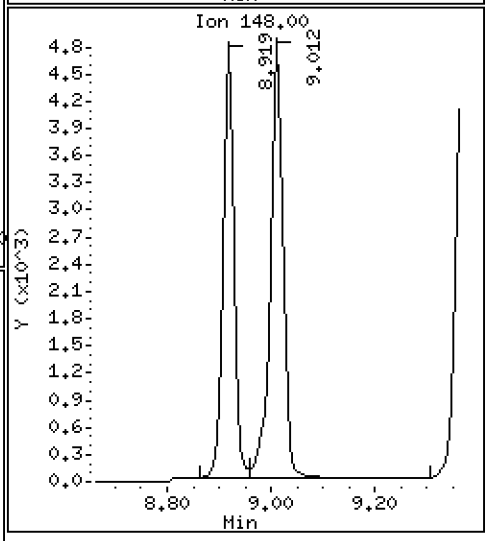
9 1,4-Dichlorobenzene

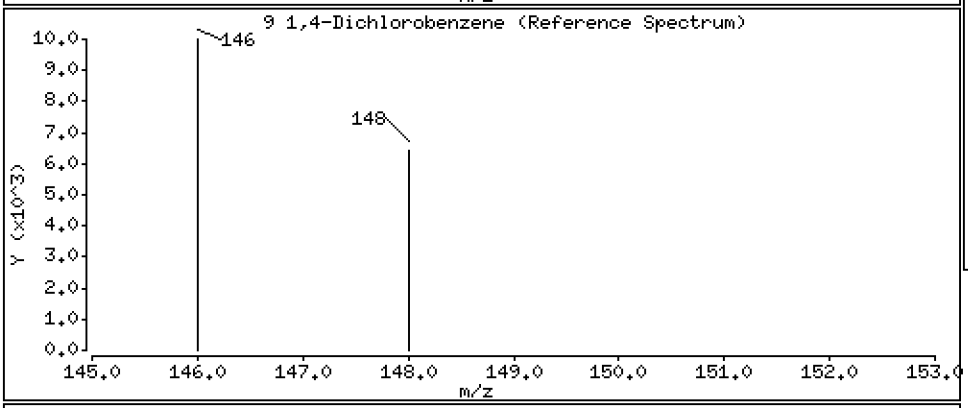
Concentration: 0.1083 ug/mL

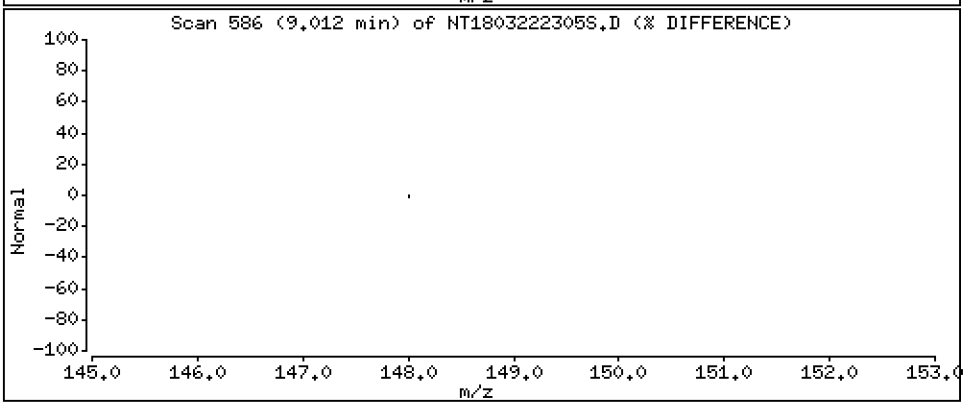












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222305S.D

Date : 22-MAR-2023 19:58

Client ID:

Instrument: nt18.i

Sample Info: SLD0061-LCV1

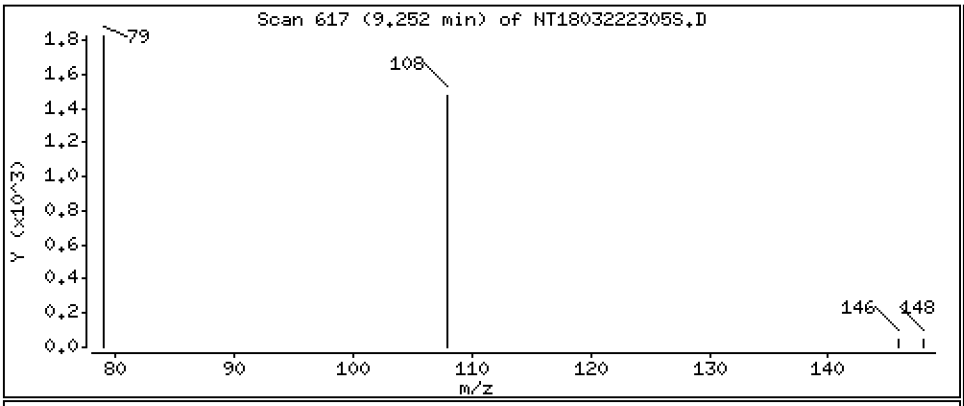
Operator: VTS

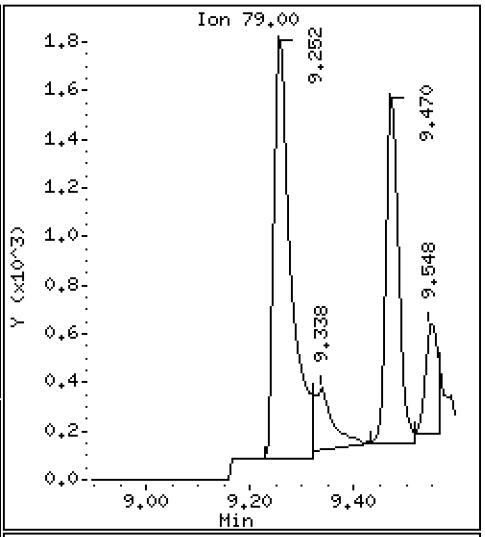
Column phase: ZB-5msi

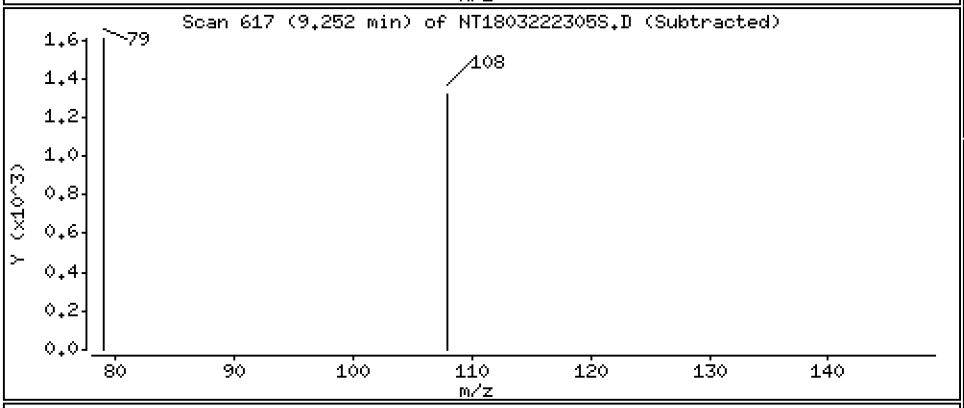
Column diameter: 0.25

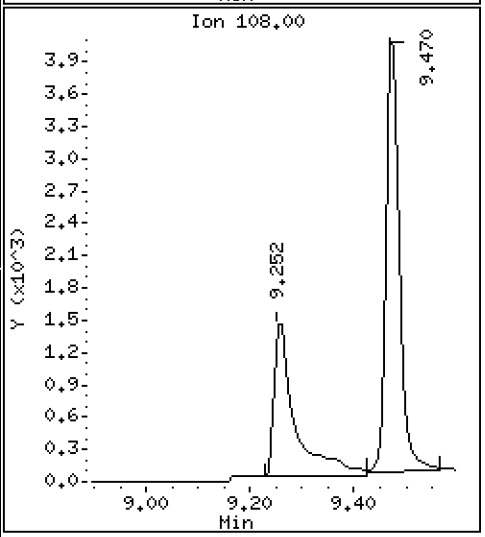
11 Benzyl alcohol

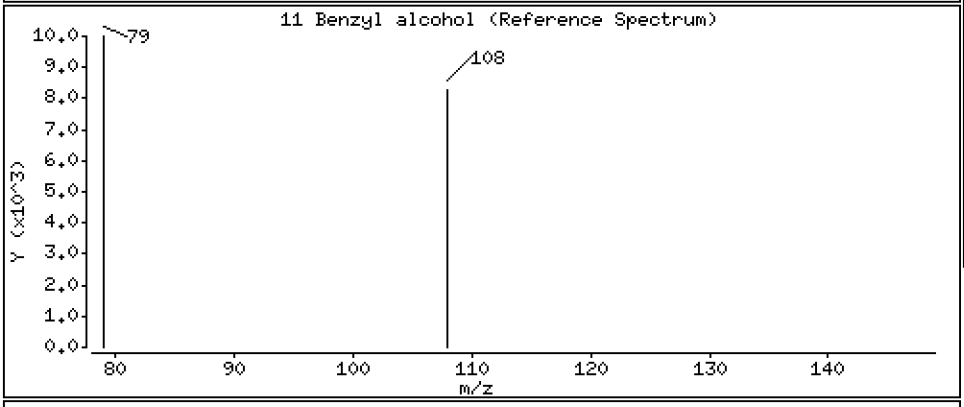
Concentration: 0.06024 ug/mL

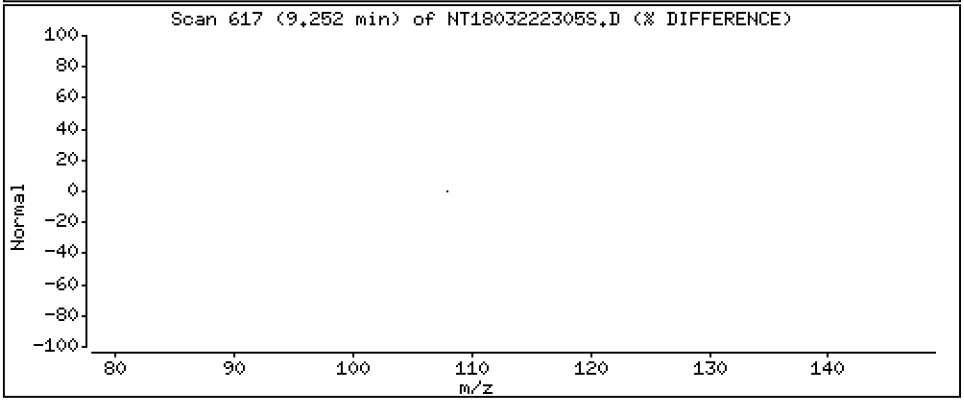












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222305S.D

Date : 22-MAR-2023 19:58

Client ID:

Instrument: nt18.i

Sample Info: SLD0061-LCV1

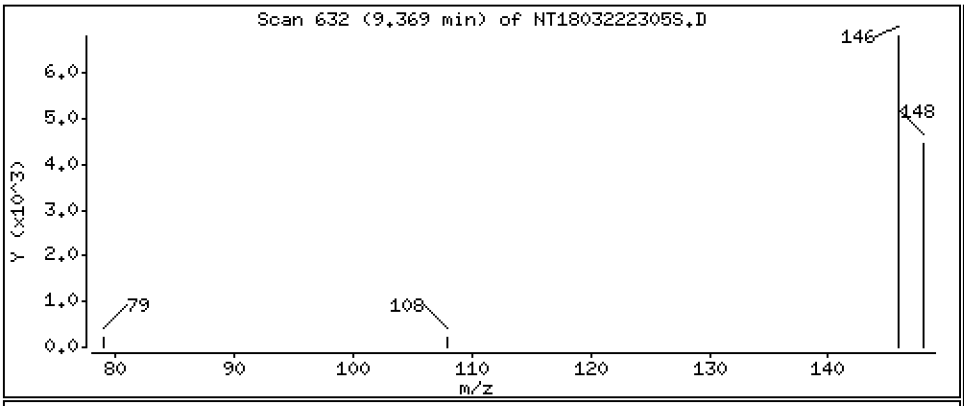
Operator: VTS

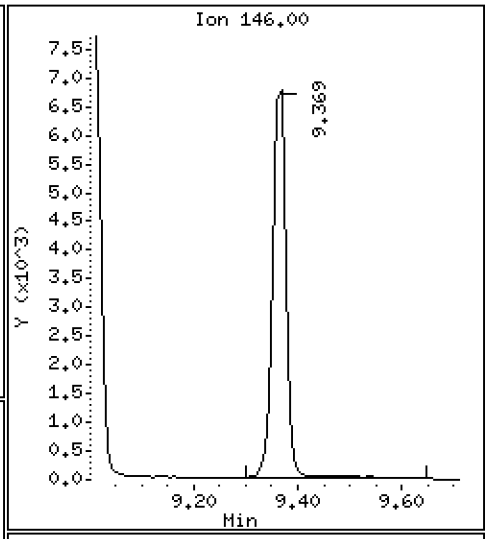
Column phase: ZB-5msi

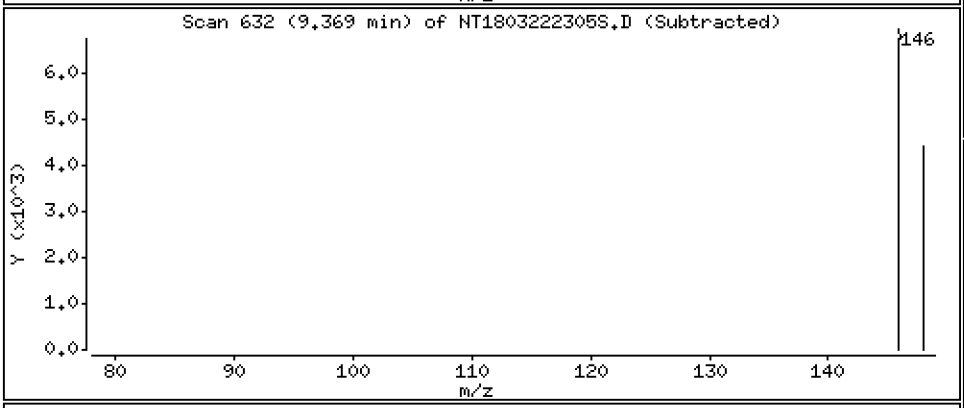
Column diameter: 0.25

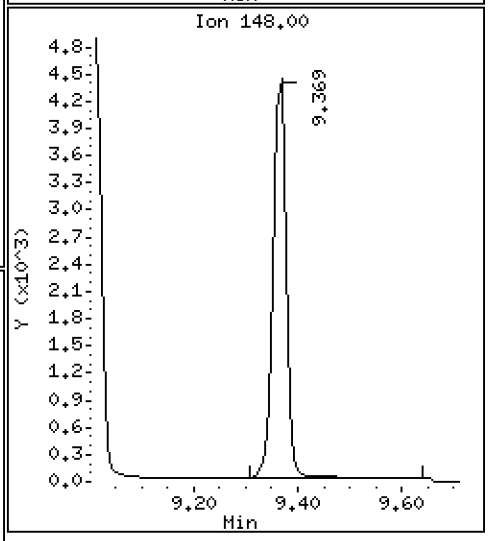
12 1,2-Dichlorobenzene

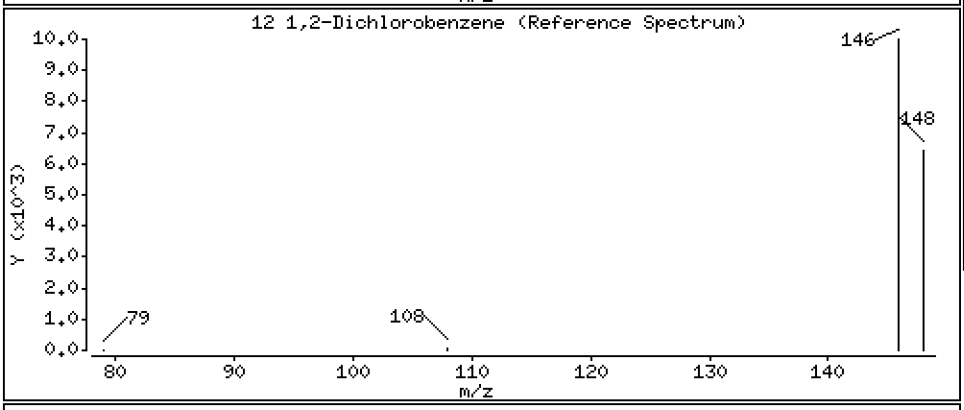
Concentration: 0.1080 ug/mL

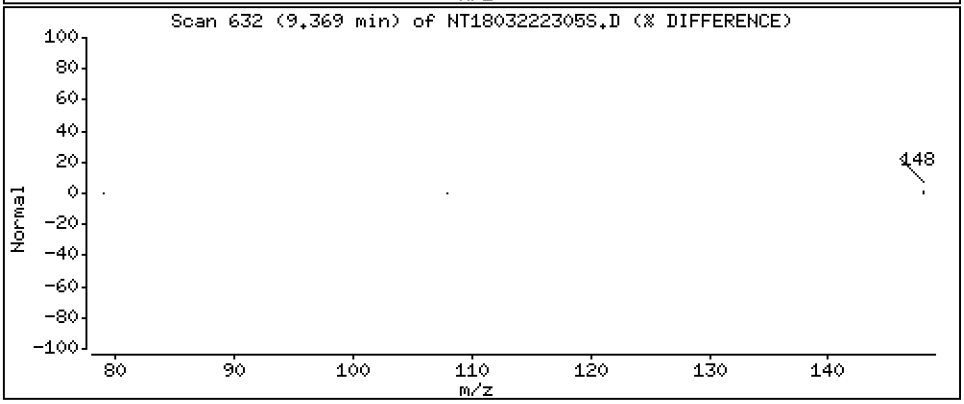












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Date : 22-MAR-2023 19:58

Client ID:

Instrument: nt18.i

Sample Info: SLD0061-LCV1

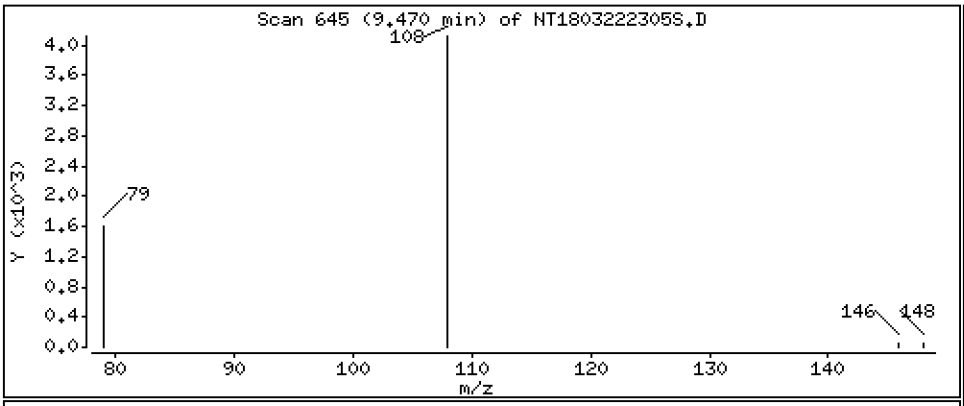
Operator: VTS

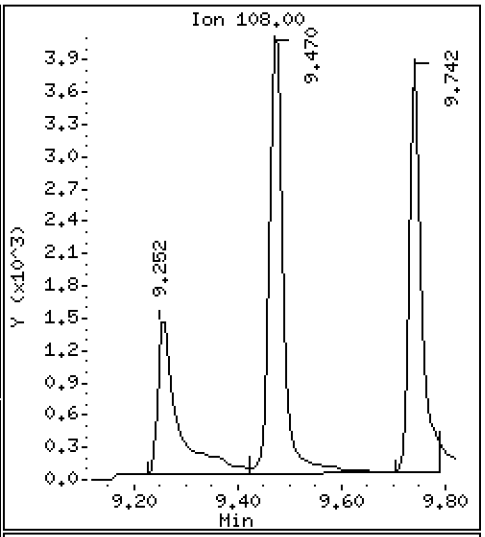
Column phase: ZB-5msi

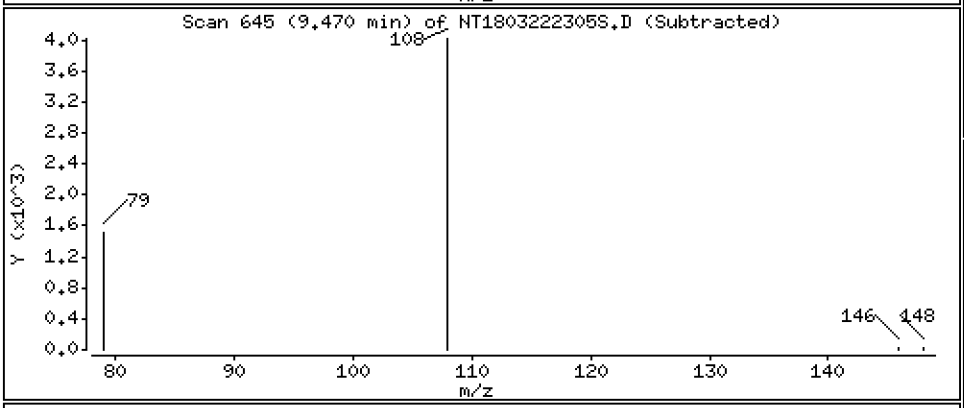
Column diameter: 0.25

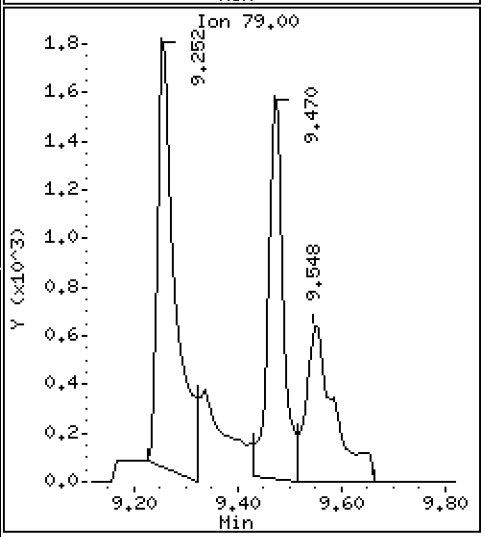
13 2-Methylphenol

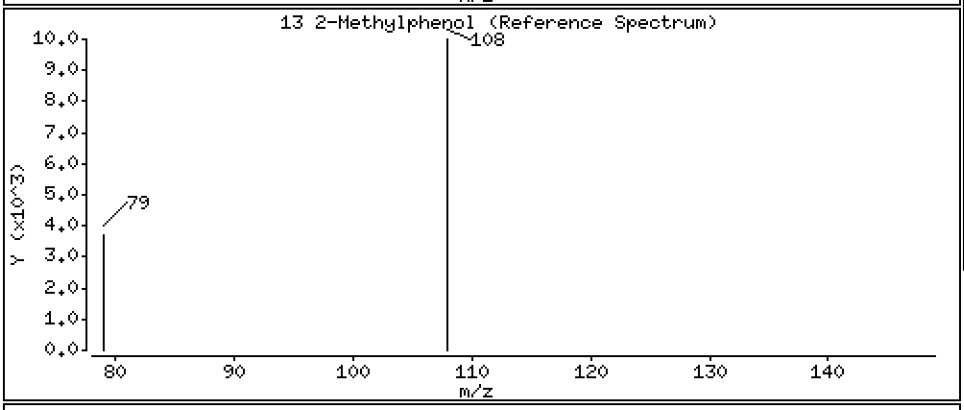
Concentration: 0.09546 ug/mL

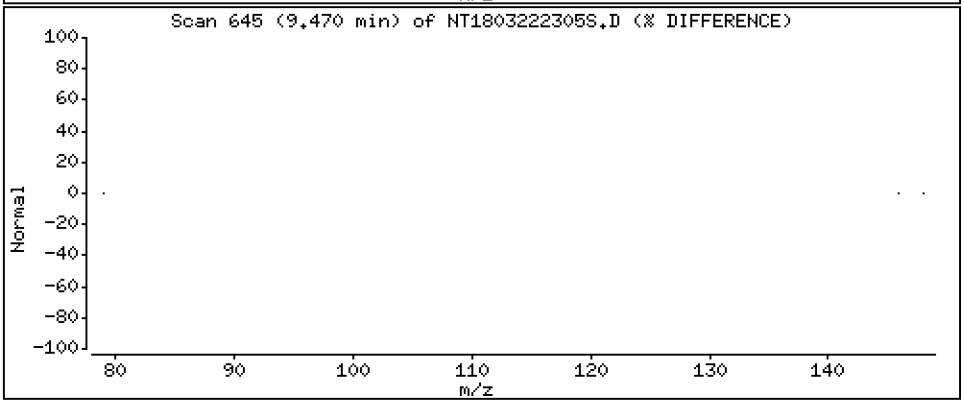












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222305S.D

Date : 22-MAR-2023 19:58

Client ID:

Instrument: nt18.i

Sample Info: SLD0061-LCV1

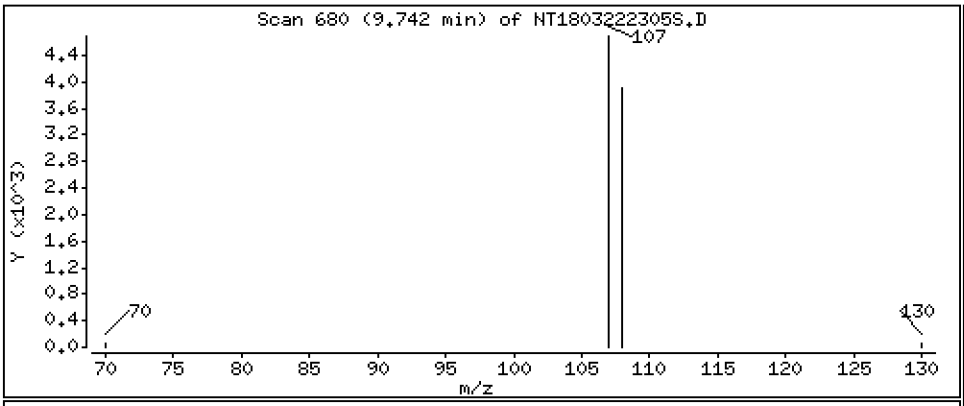
Operator: VTS

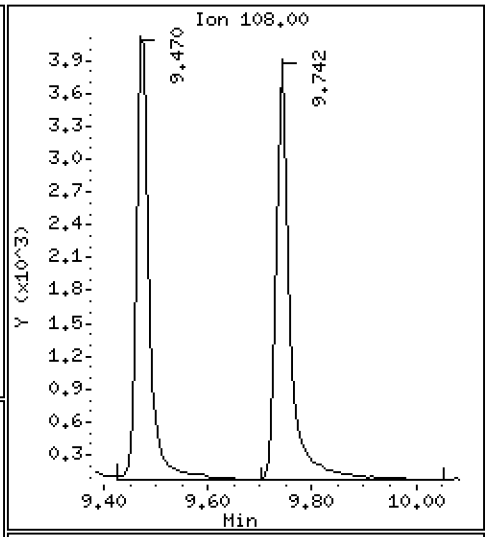
Column phase: ZB-5msi

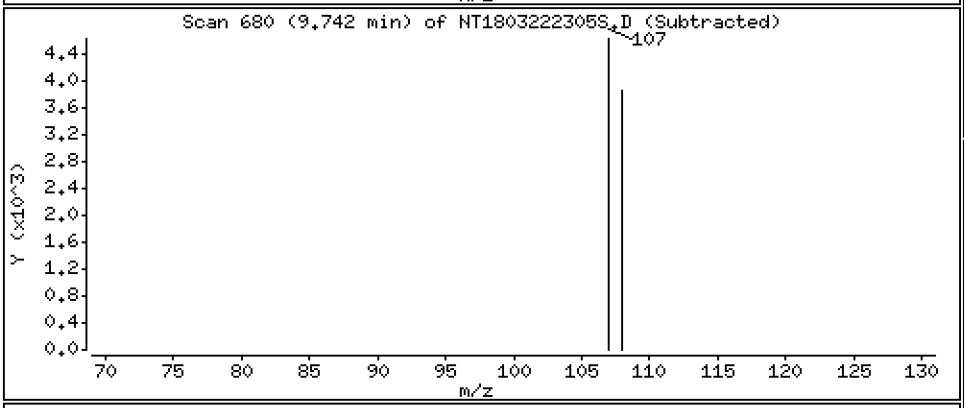
Column diameter: 0.25

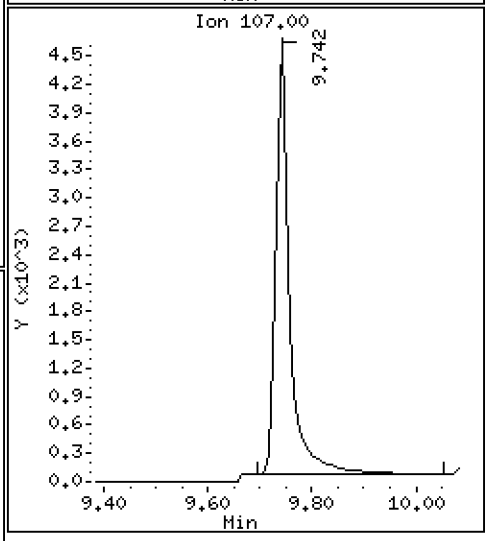
15 4-Methylphenol

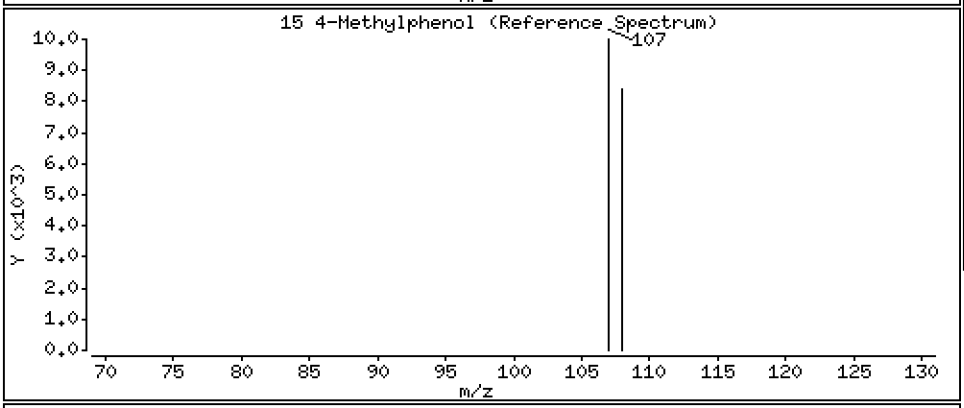
Concentration: 0.08842 ug/mL

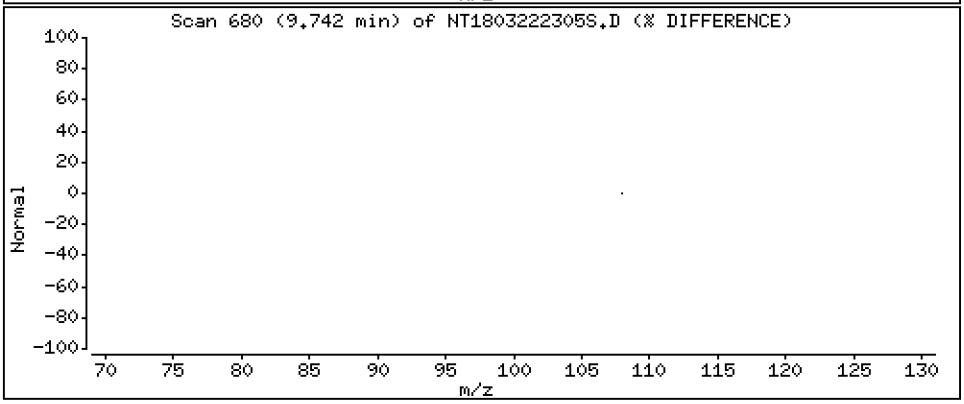












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222305S.D

Date : 22-MAR-2023 19:58

Client ID:

Instrument: nt18.i

Sample Info: SLD0061-LCV1

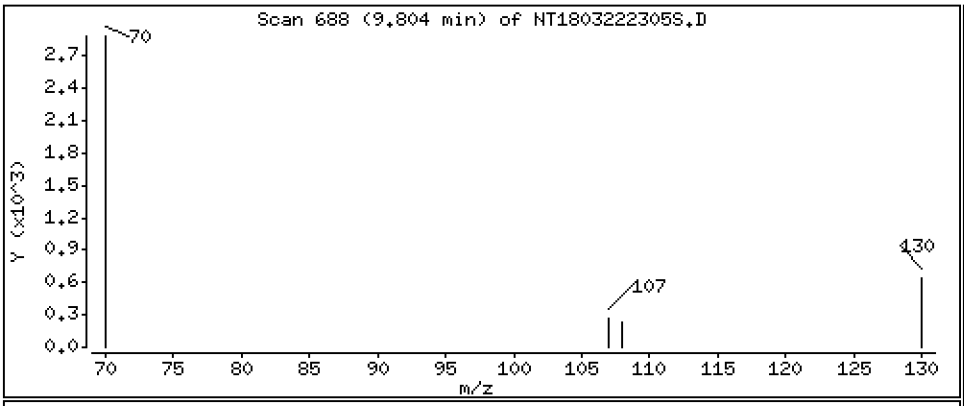
Operator: VTS

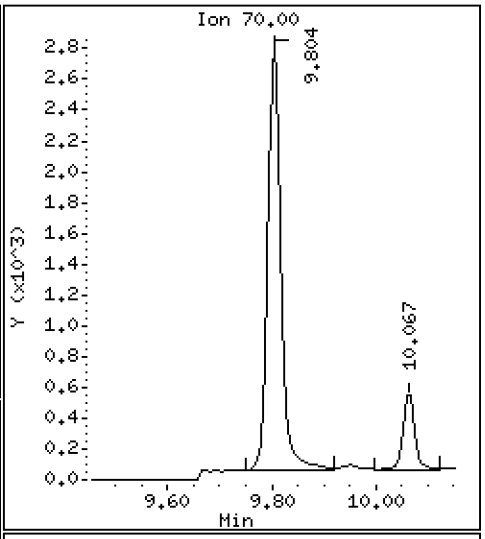
Column phase: ZB-5msi

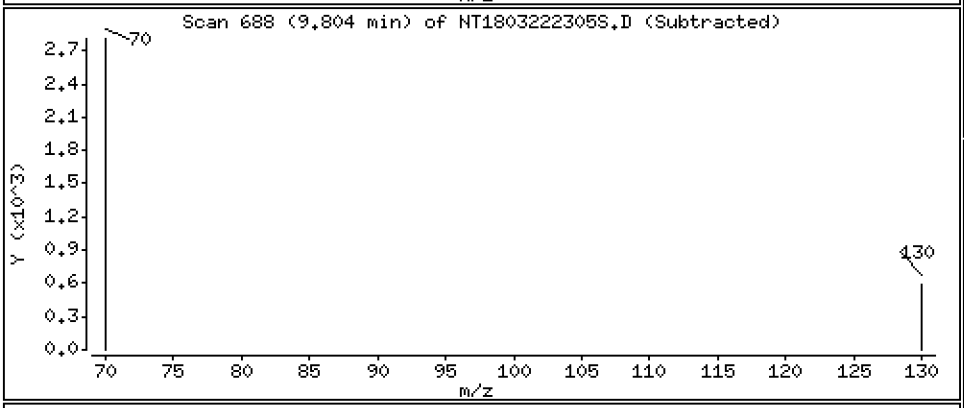
Column diameter: 0.25

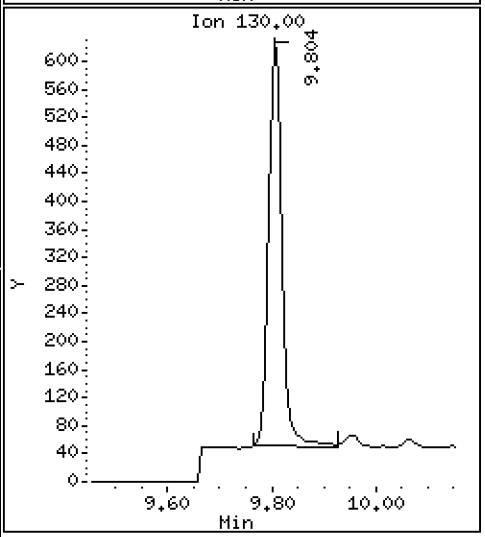
16 N-Nitroso-di-n-propylamine

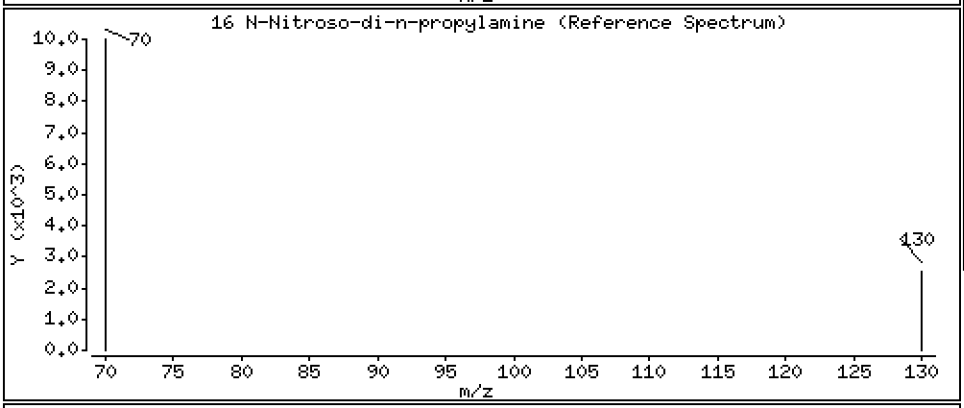
Concentration: 0.08814 ug/mL

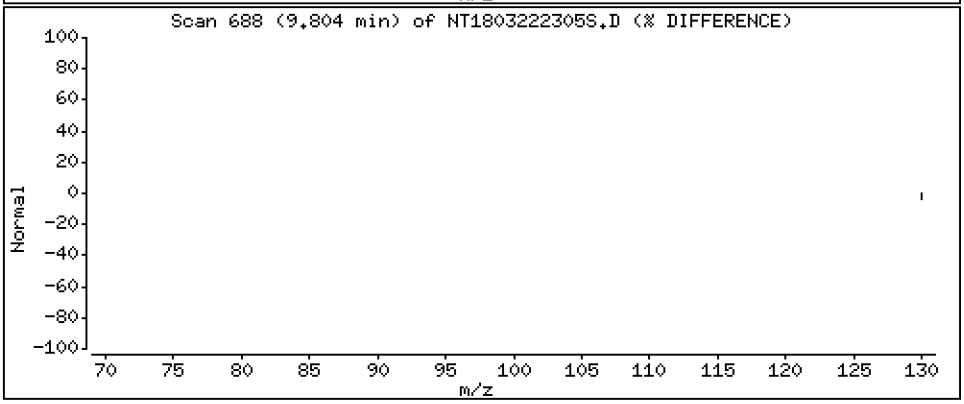












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Date : 22-MAR-2023 19:58

Client ID:

Instrument: nt18.i

Sample Info: SLD0061-LCV1

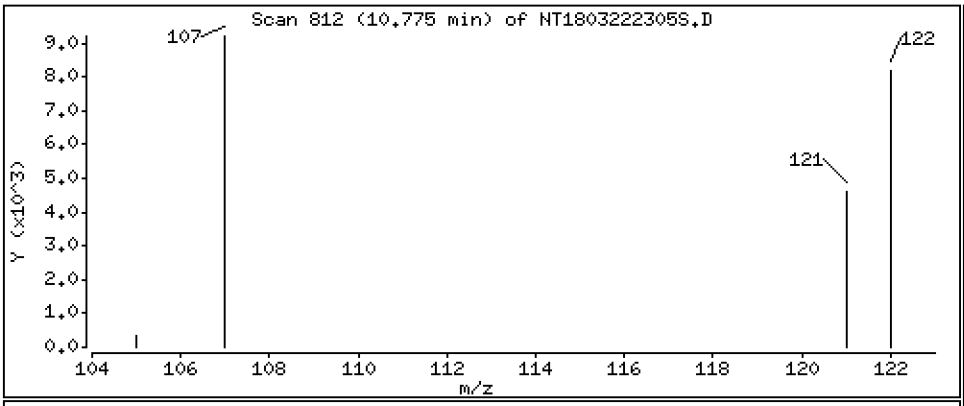
Operator: VTS

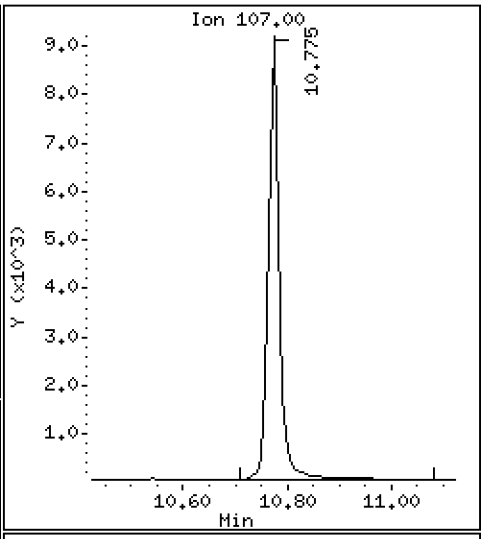
Column phase: ZB-5msi

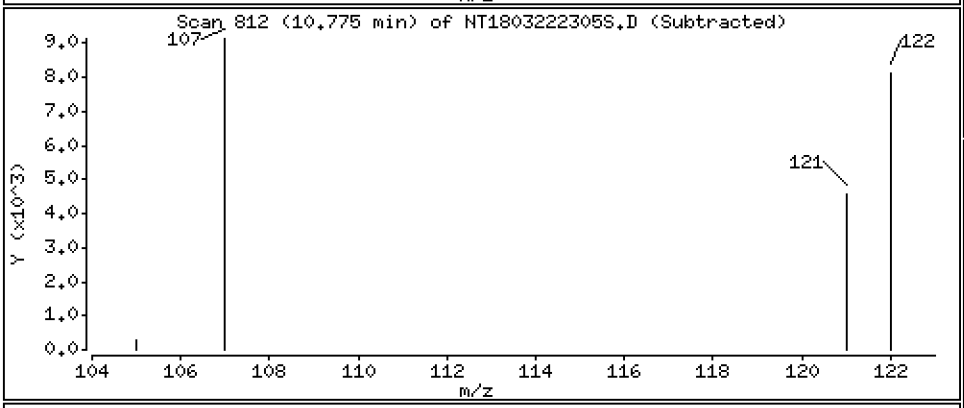
Column diameter: 0.25

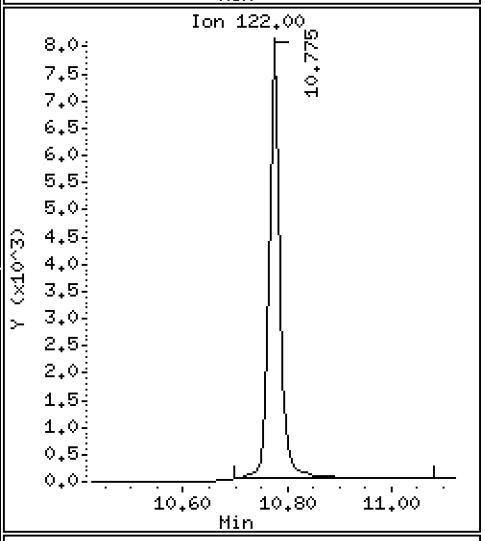
22 2,4-Dimethylphenol

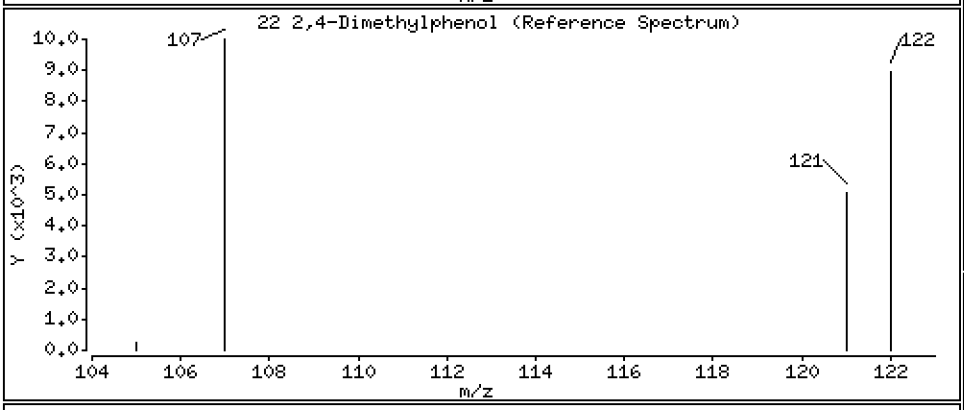
Concentration: 0.1889 ug/mL

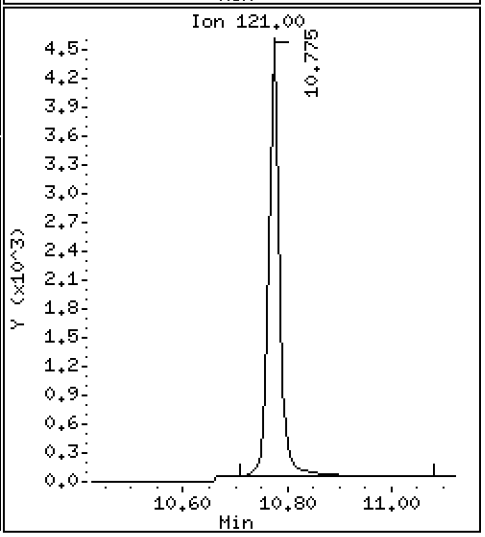


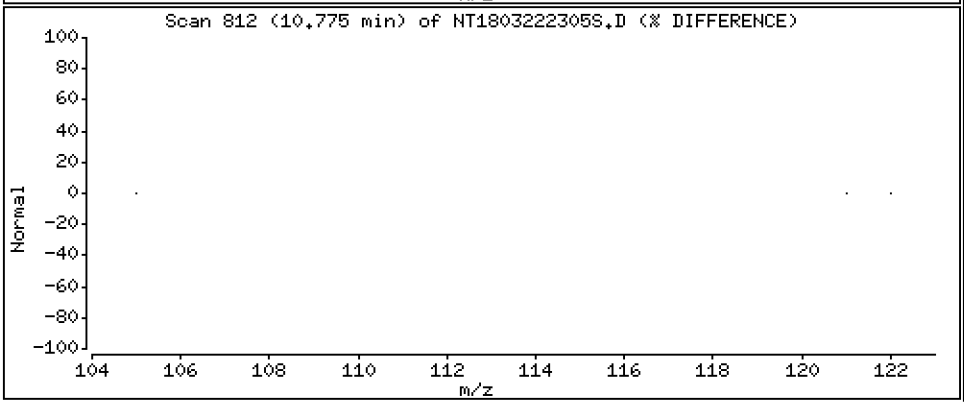












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Date : 22-MAR-2023 19:58

Client ID:

Instrument: nt18.i

Sample Info: SLD0061-LCV1

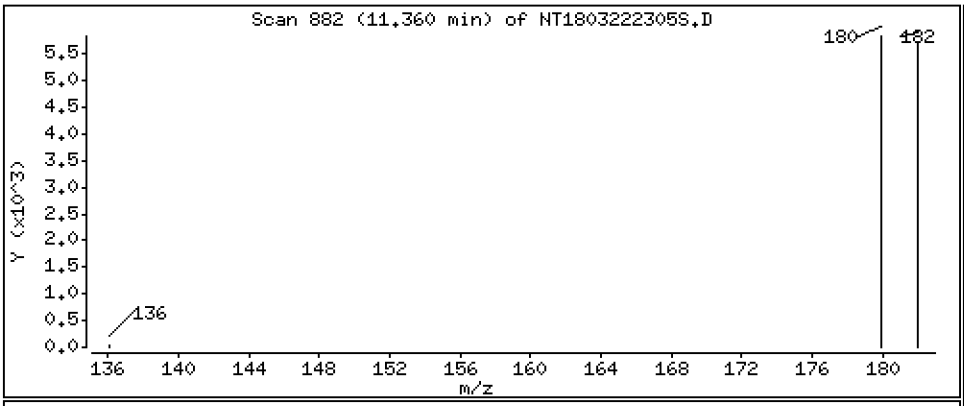
Operator: VTS

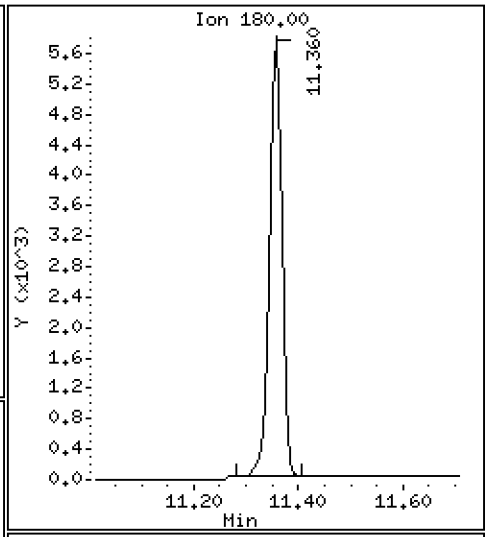
Column phase: ZB-5msi

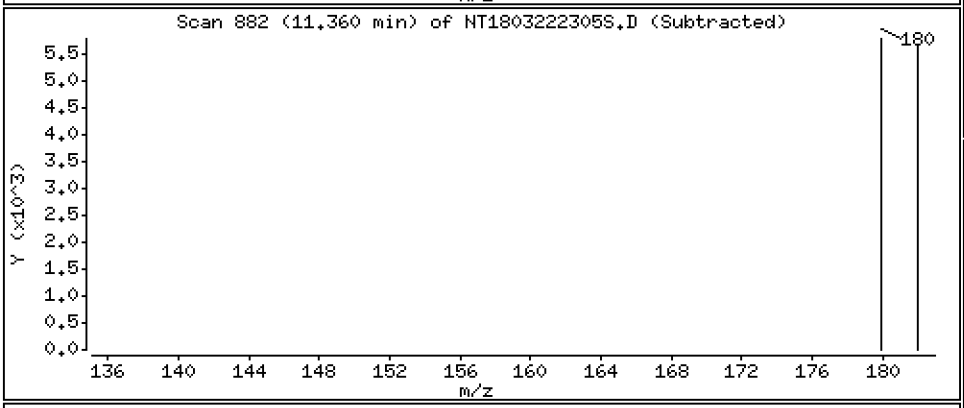
Column diameter: 0.25

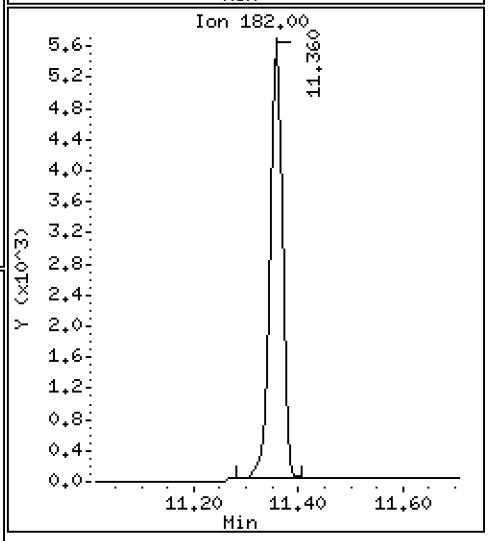
26 1,2,4-Trichlorobenzene

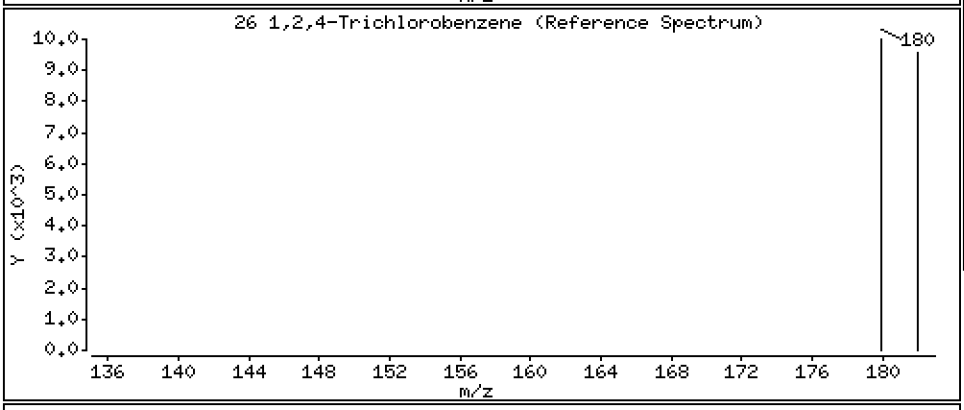
Concentration: 0.1081 ug/mL

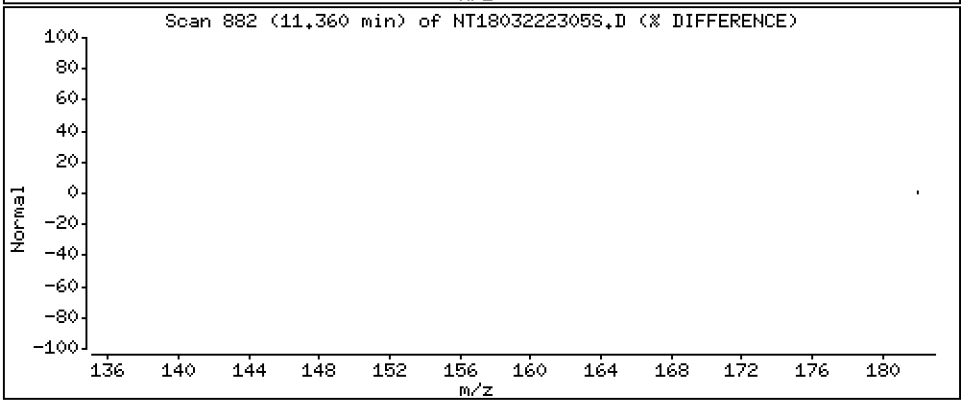












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222305S.D

Date : 22-MAR-2023 19:58

Client ID:

Instrument: nt18.i

Sample Info: SLD0061-LCV1

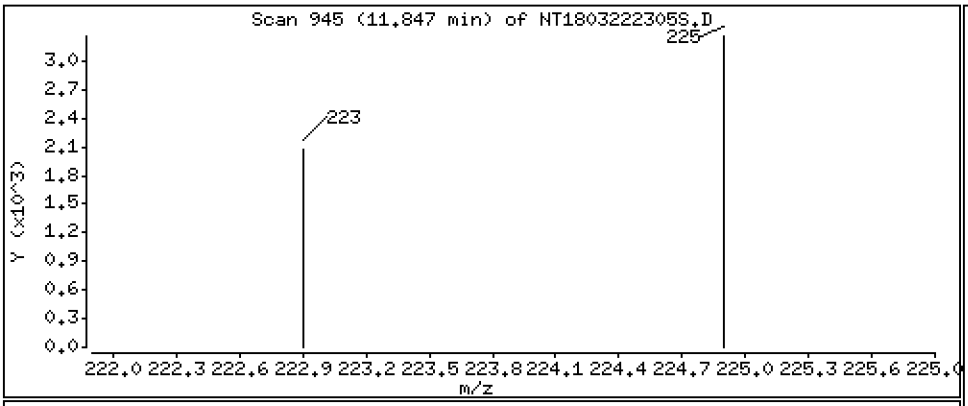
Operator: VTS

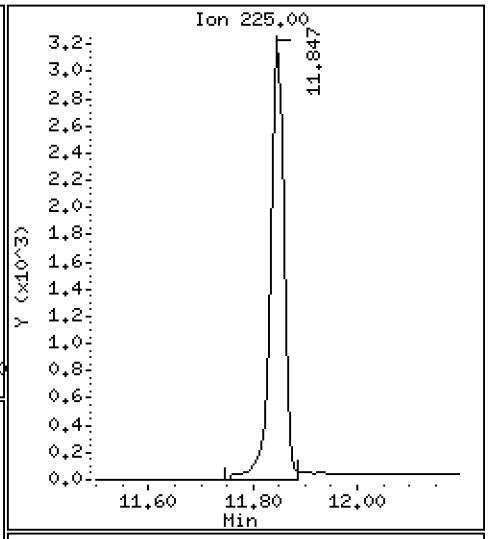
Column phase: ZB-5msi

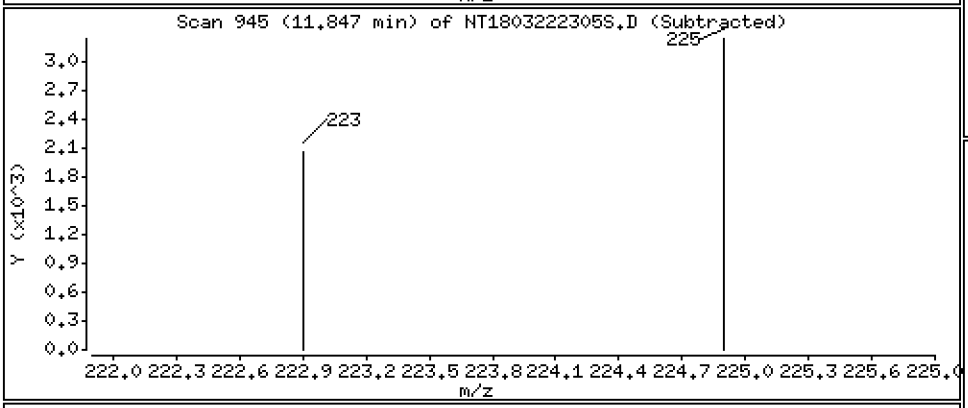
Column diameter: 0.25

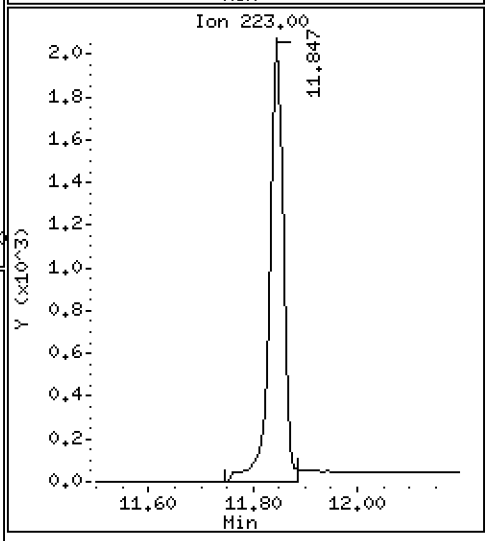
30 Hexachlorobutadiene

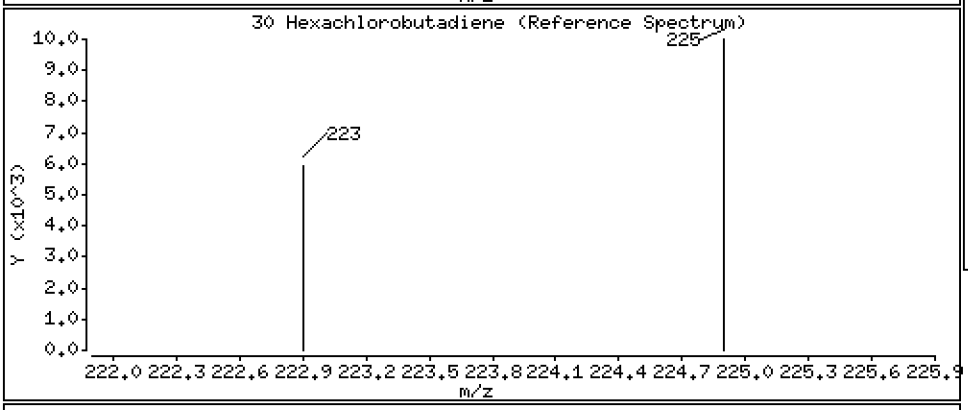
Concentration: 0.1147 ug/mL

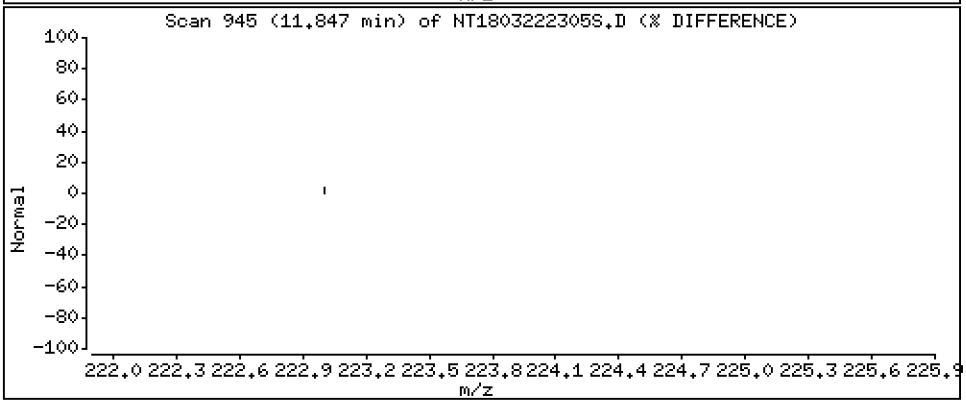












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222305S.D

Date : 22-MAR-2023 19:58

Client ID:

Instrument: nt18.i

Sample Info: SLD0061-LCV1

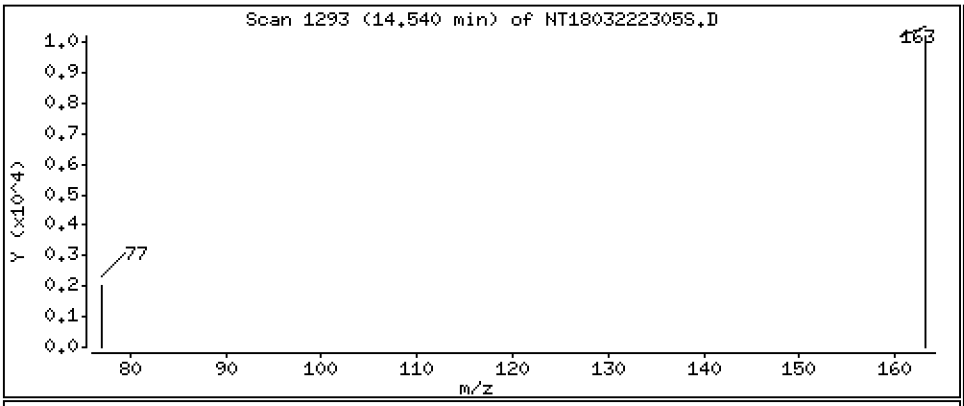
Operator: VTS

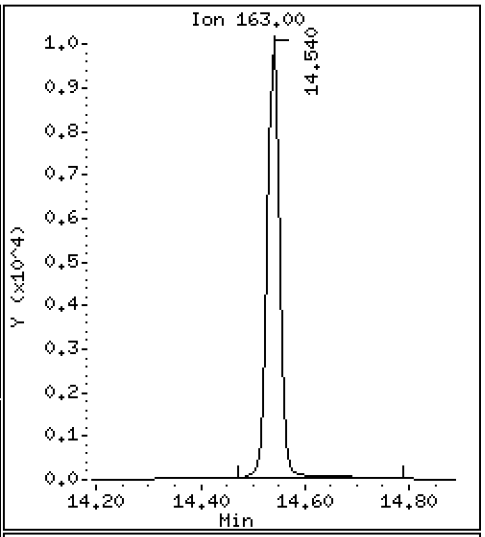
Column phase: ZB-5msi

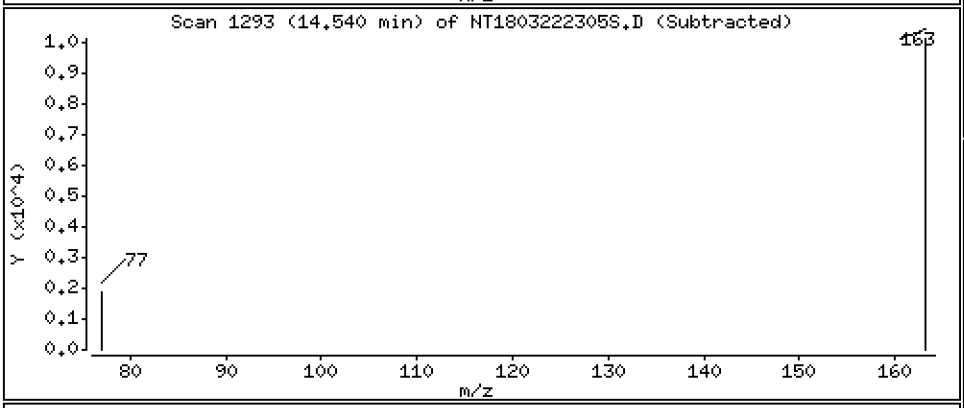
Column diameter: 0.25

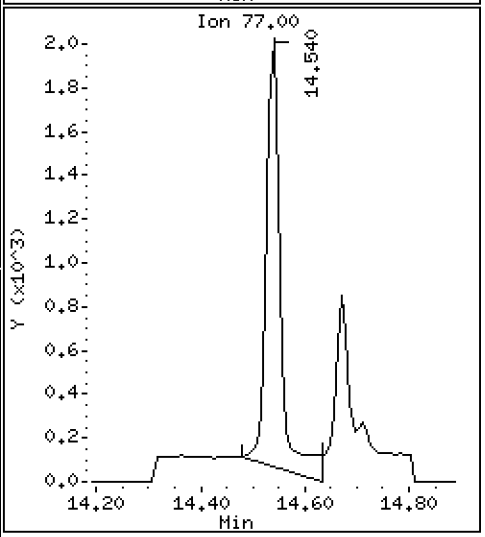
39 Dimethylphthalate

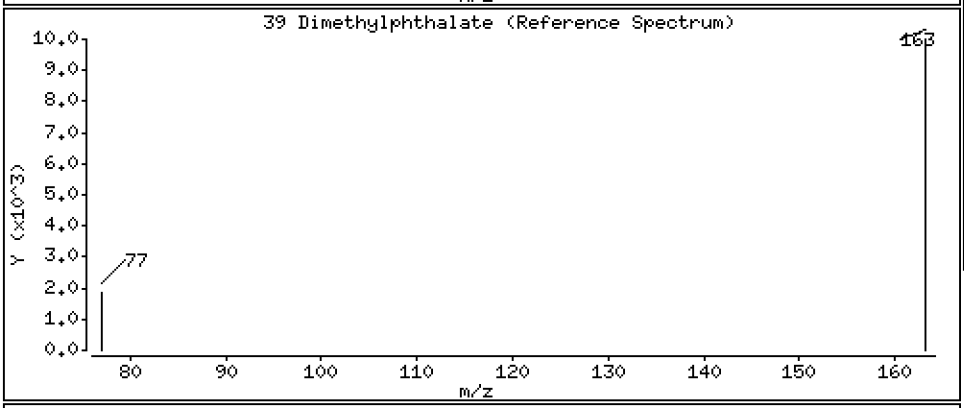
Concentration: 0.09532 ug/mL

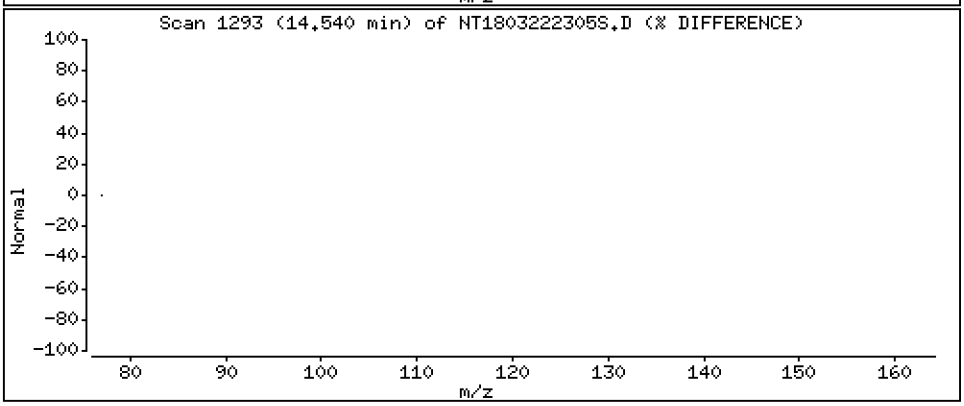












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222305S.D

Date : 22-MAR-2023 19:58

Client ID:

Instrument: nt18.i

Sample Info: SLD0061-LCV1

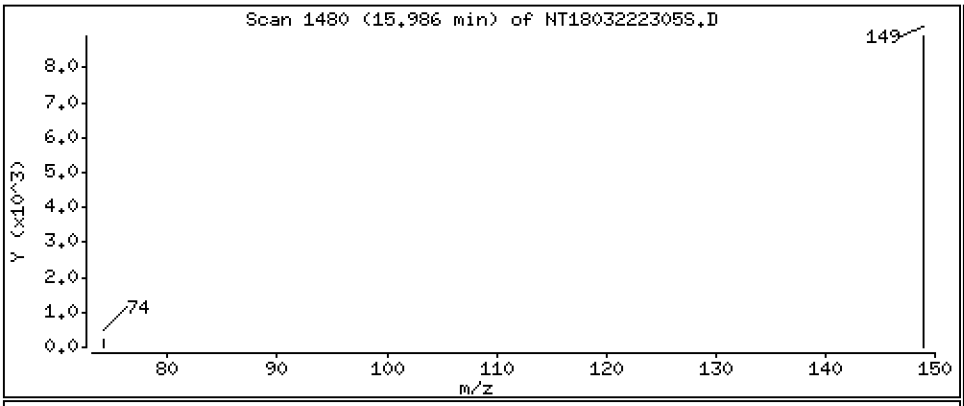
Operator: VTS

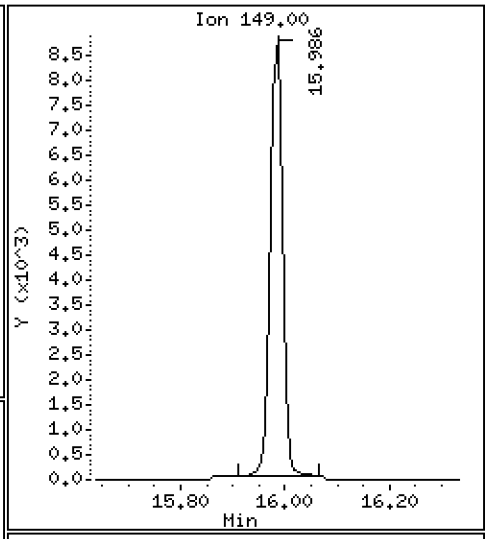
Column phase: ZB-5msi

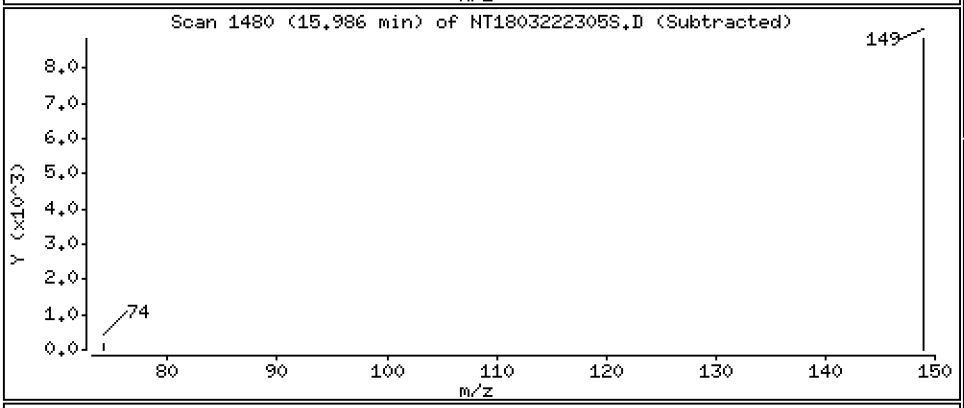
Column diameter: 0.25

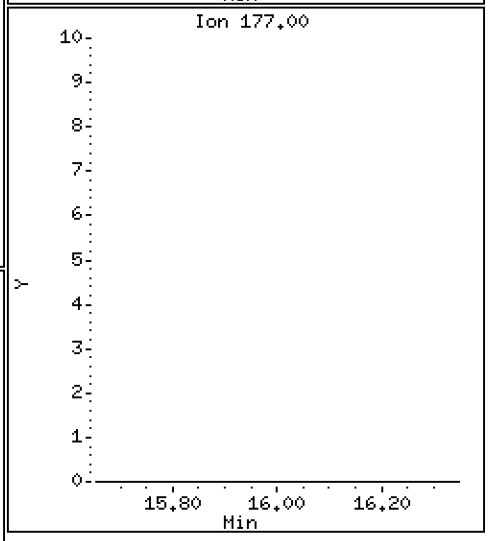
50 Diethylphthalate

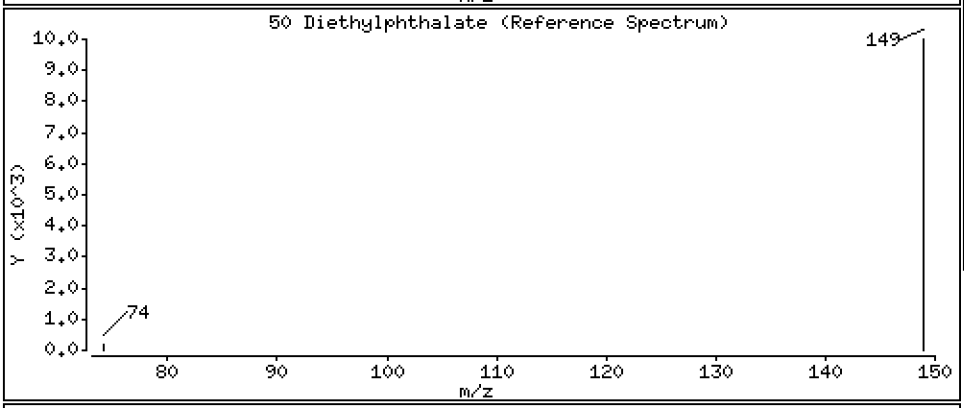
Concentration: 0.09118 ug/mL

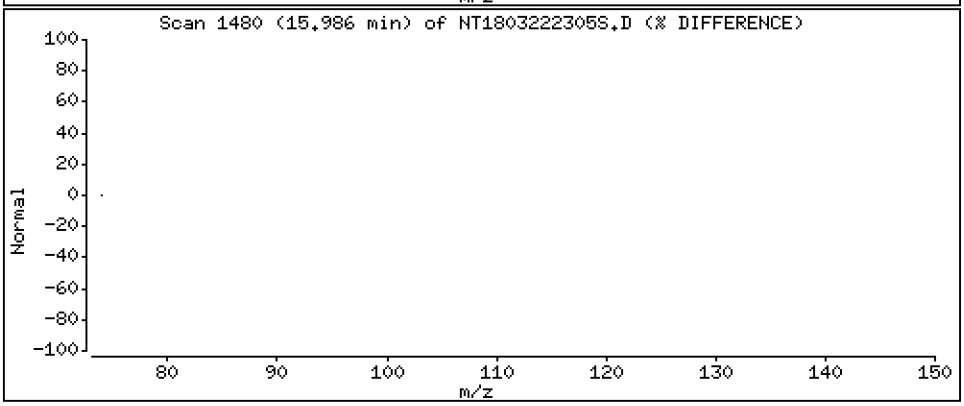












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Date : 22-MAR-2023 19:58

Client ID:

Instrument: nt18.i

Sample Info: SLD0061-LCV1

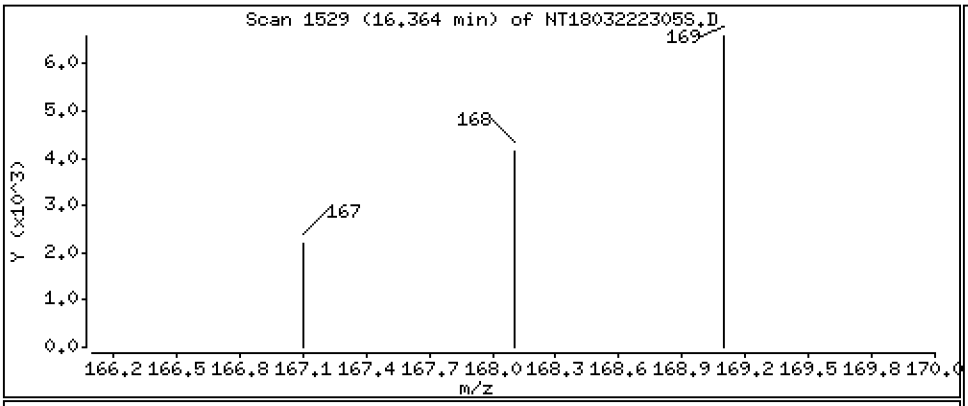
Operator: VTS

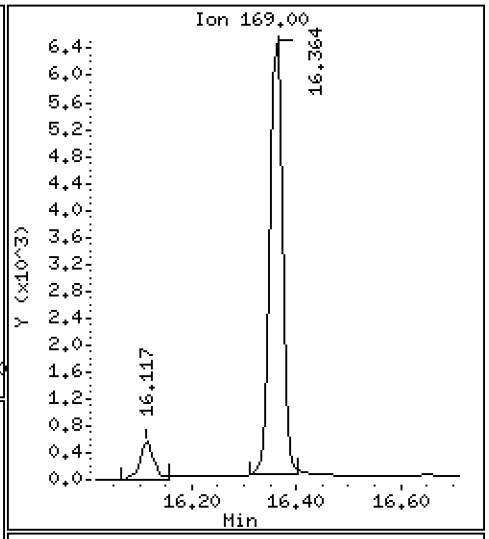
Column phase: ZB-5msi

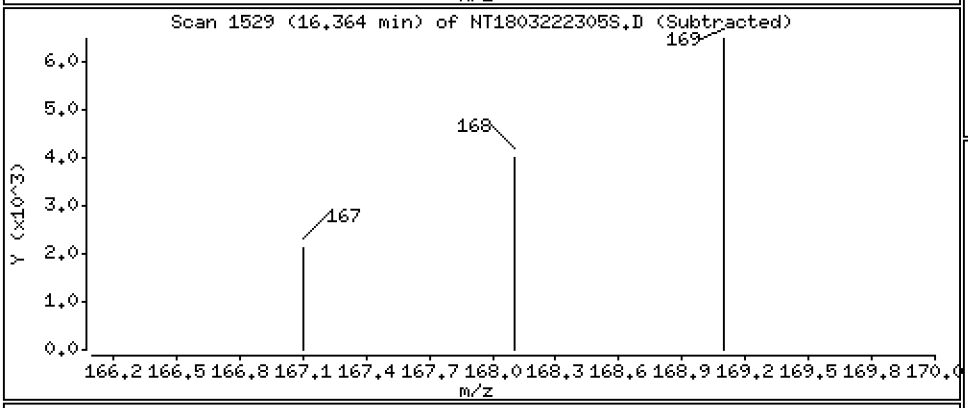
Column diameter: 0.25

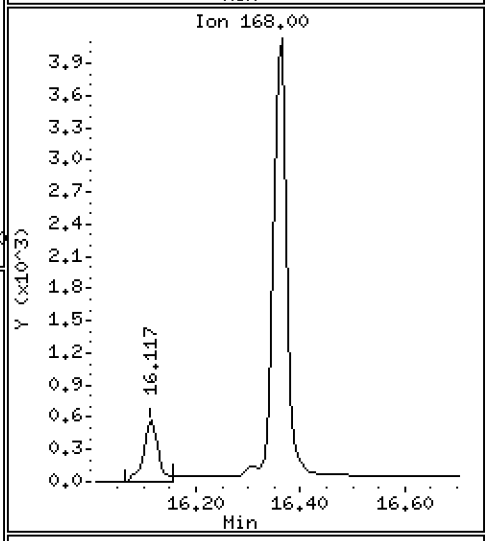
54 N-Nitrosodiphenylamine

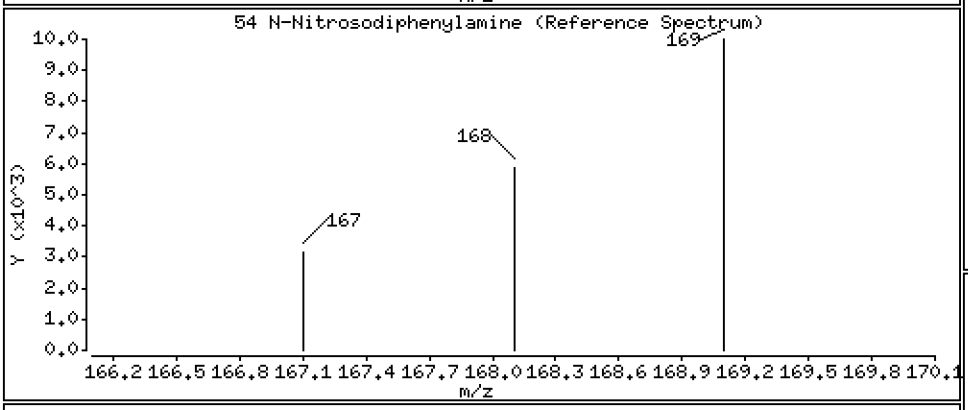
Concentration: 0.09026 ug/mL

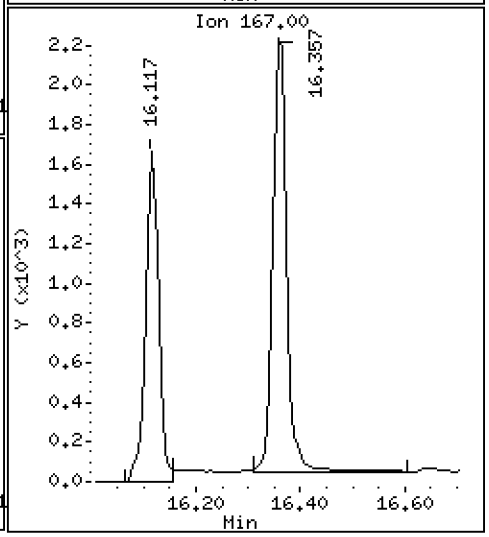


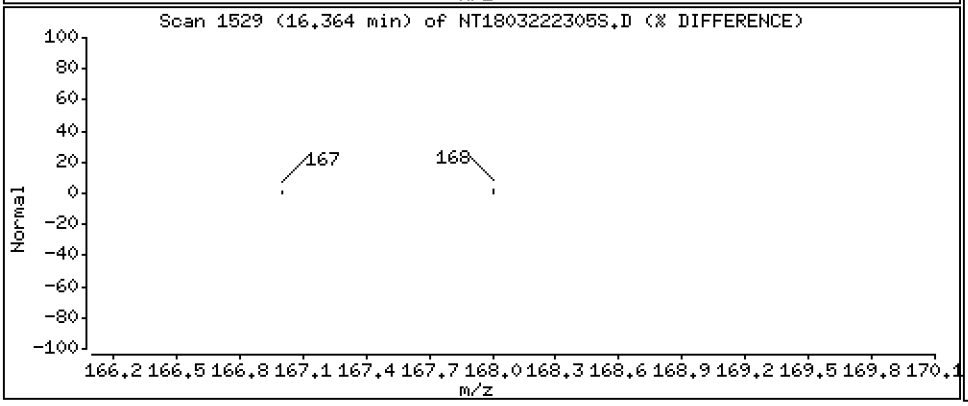












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222305S.D

Date : 22-MAR-2023 19:58

Client ID:

Instrument: nt18.i

Sample Info: SLD0061-LCV1

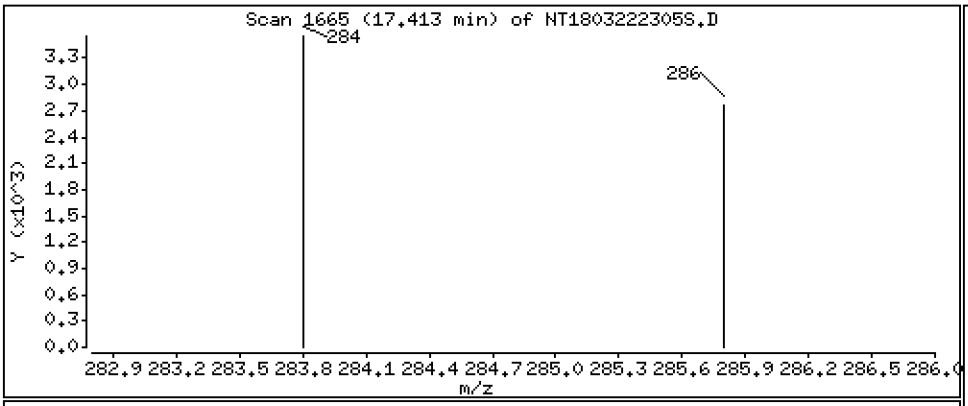
Operator: VTS

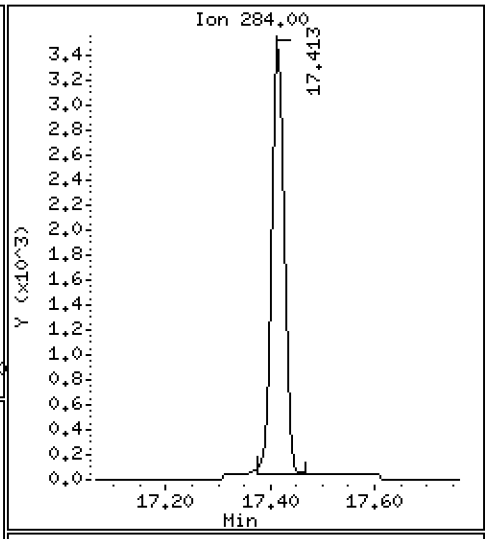
Column phase: ZB-5msi

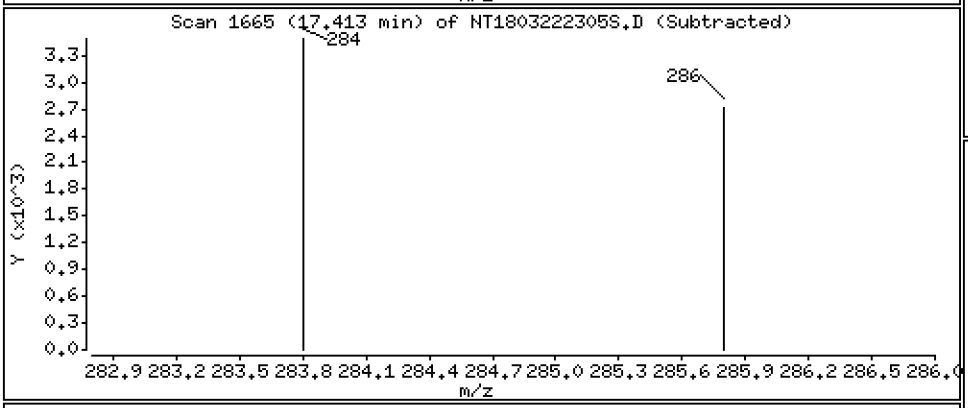
Column diameter: 0.25

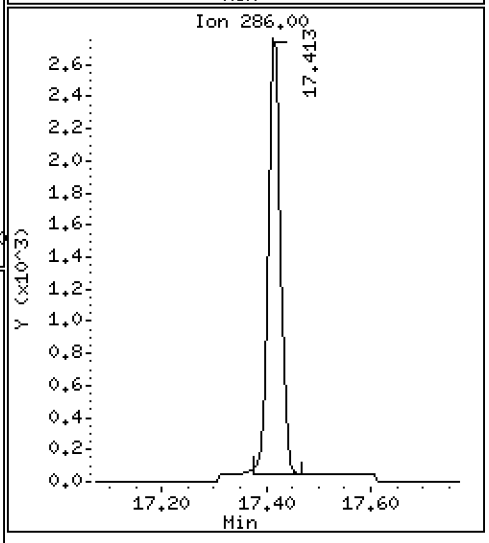
57 Hexachlorobenzene

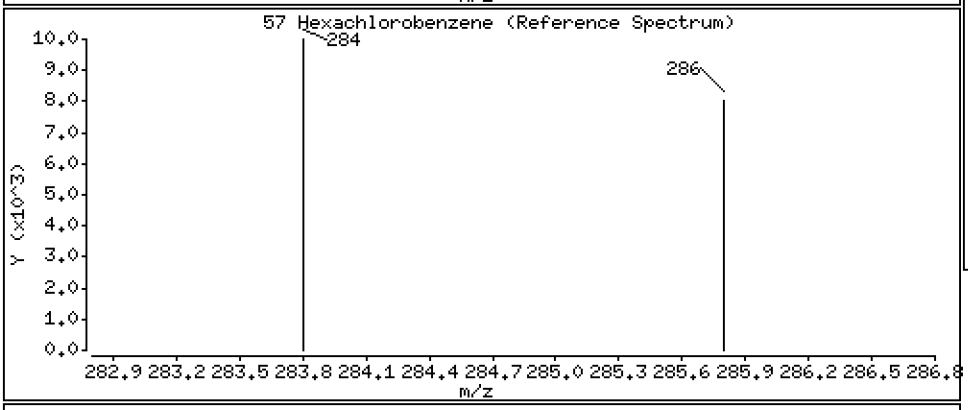
Concentration: 0.1041 ug/mL

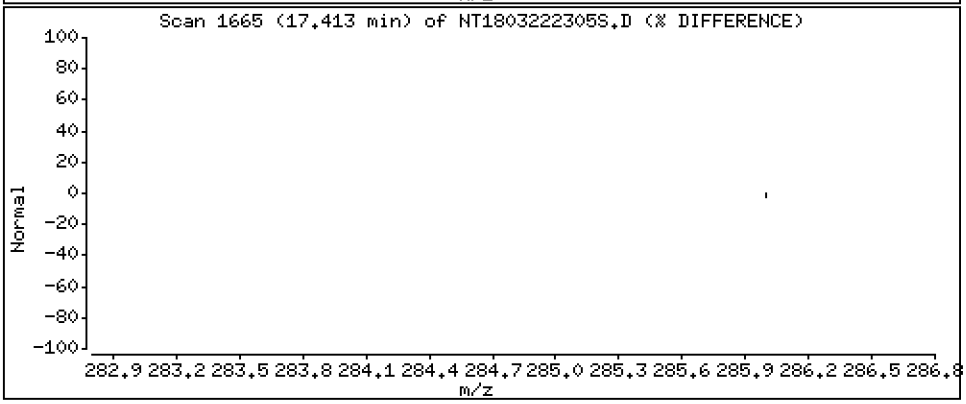












Data File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222305S.D

Date : 22-MAR-2023 19:58

Client ID:

Instrument: nt18.i

Sample Info: SLD0061-LCV1

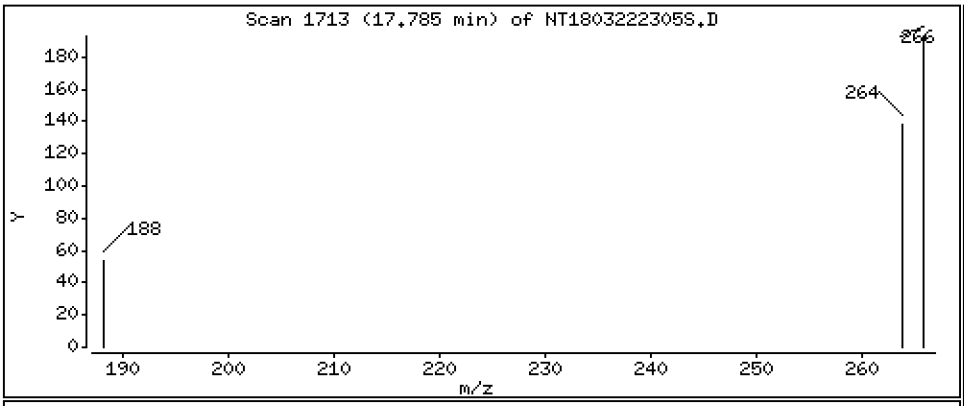
Operator: VTS

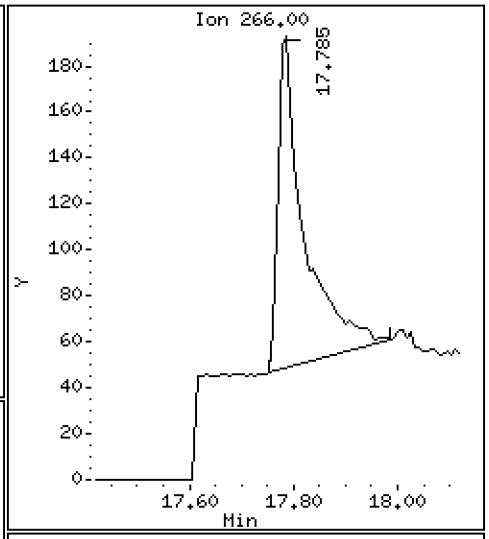
Column phase: ZB-5msi

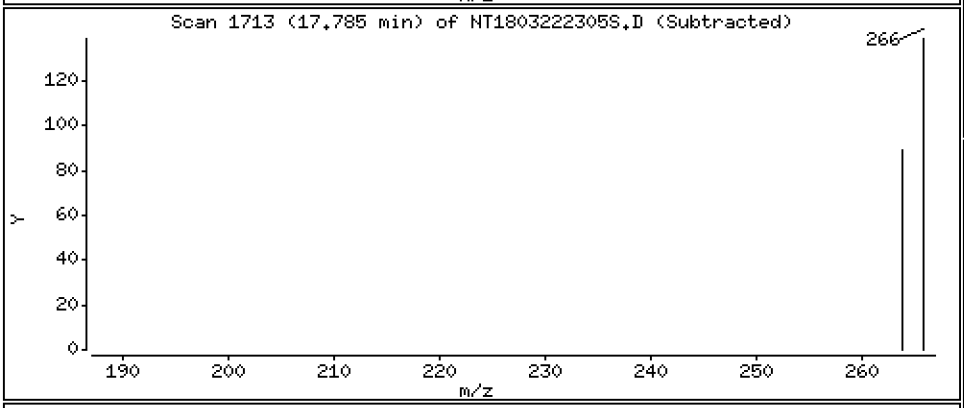
Column diameter: 0.25

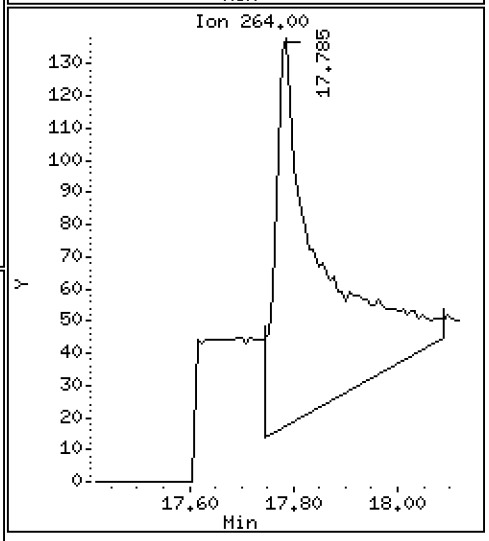
58 Pentachlorophenol

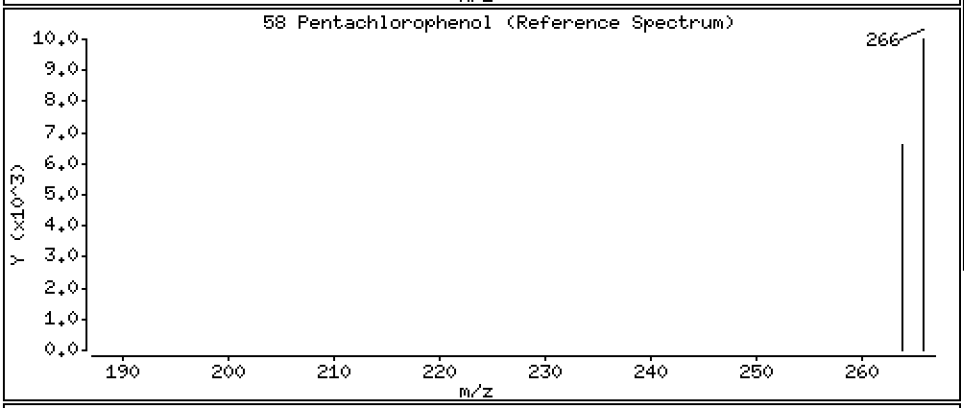
Concentration: 0.01781 ug/mL

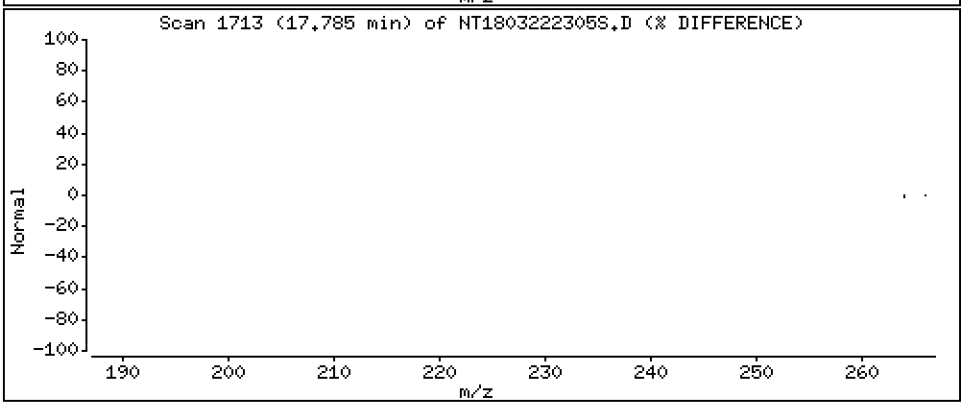












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Date : 22-MAR-2023 19:58

Client ID:

Instrument: nt18.i

Sample Info: SLD0061-LCV1

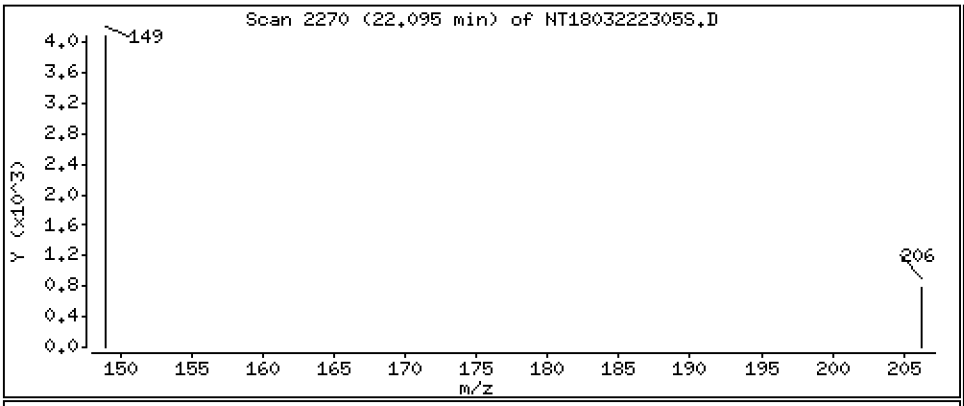
Operator: VTS

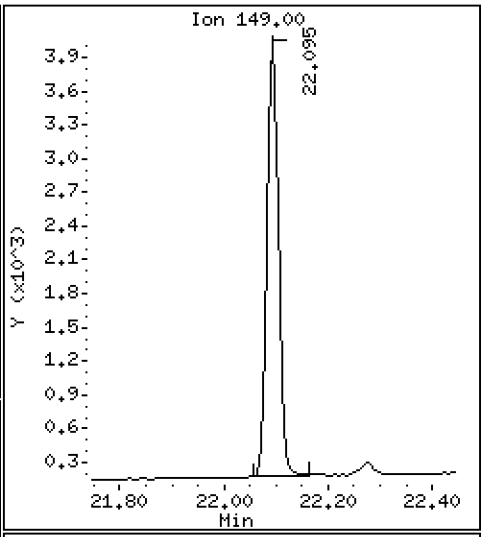
Column phase: ZB-5msi

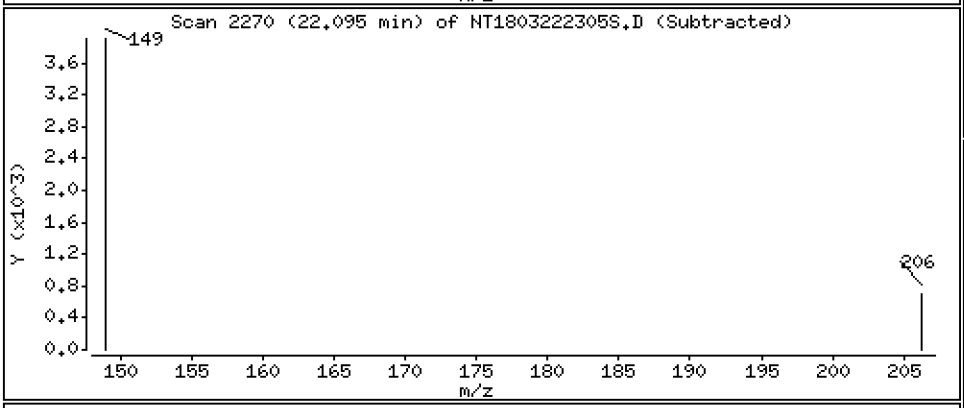
Column diameter: 0.25

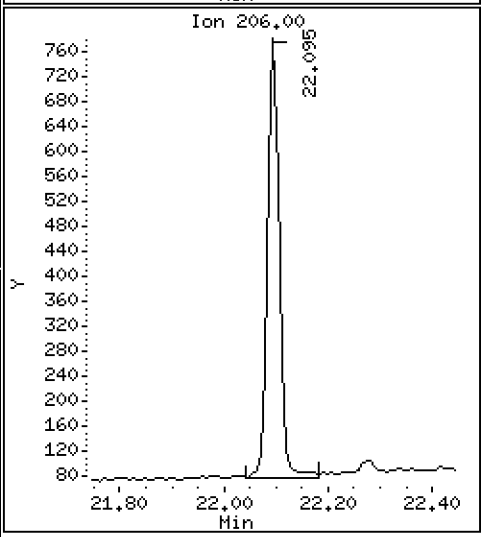
67 Butylbenzylphthalate

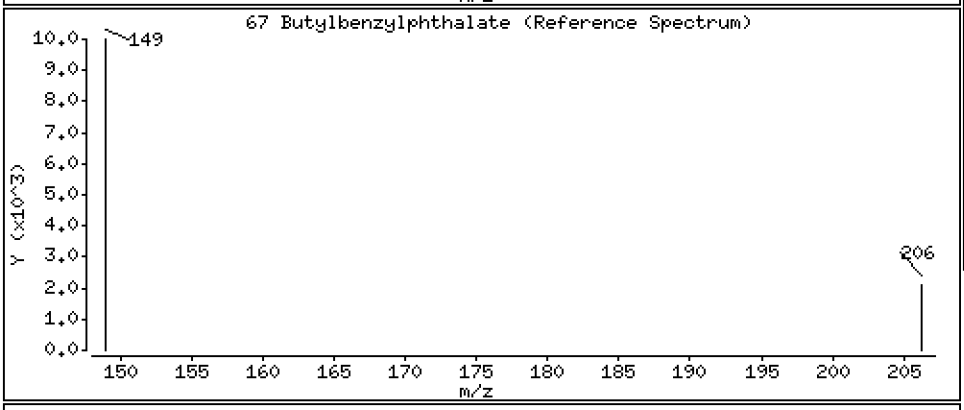
Concentration: 0.04603 ug/mL

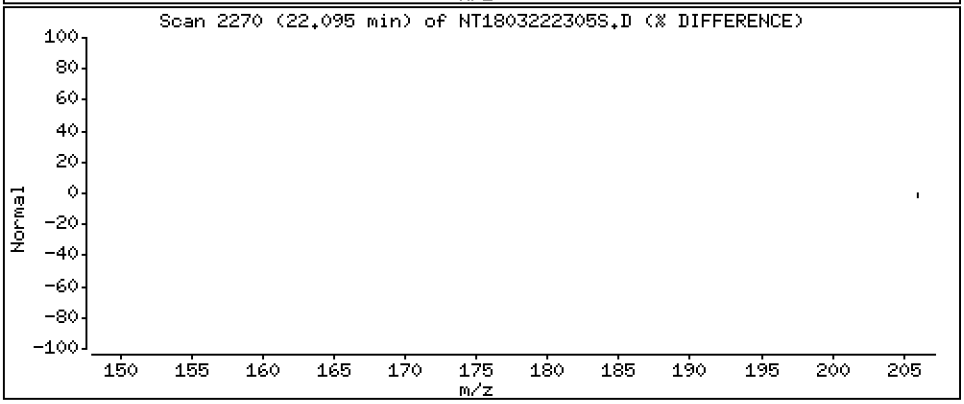












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Date : 22-MAR-2023 19:58

Client ID:

Instrument: nt18.i

Sample Info: SLD0061-LCV1

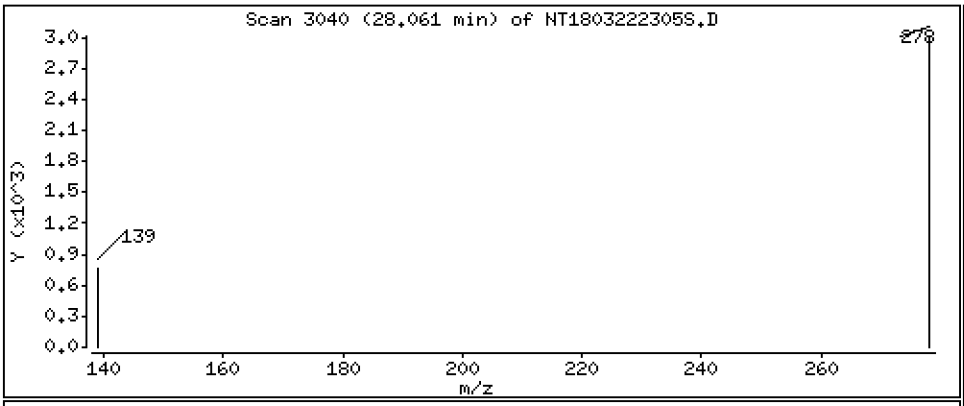
Operator: VTS

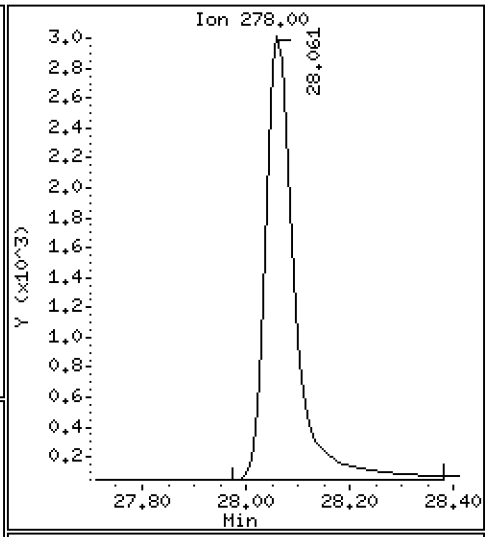
Column phase: ZB-5msi

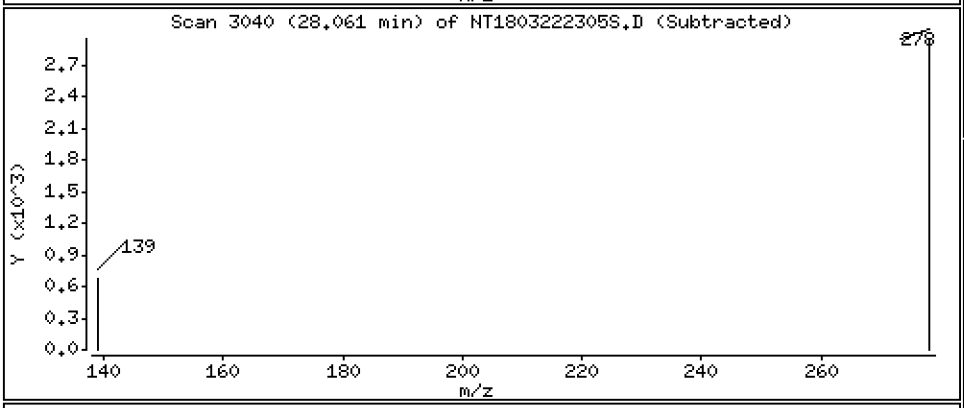
Column diameter: 0.25

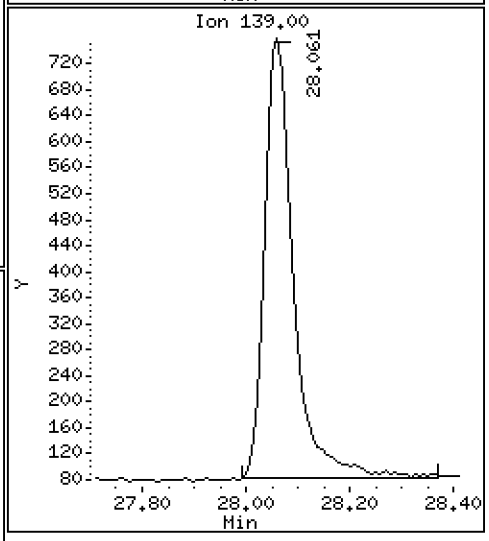
79 Dibenzo(a,h)anthracene

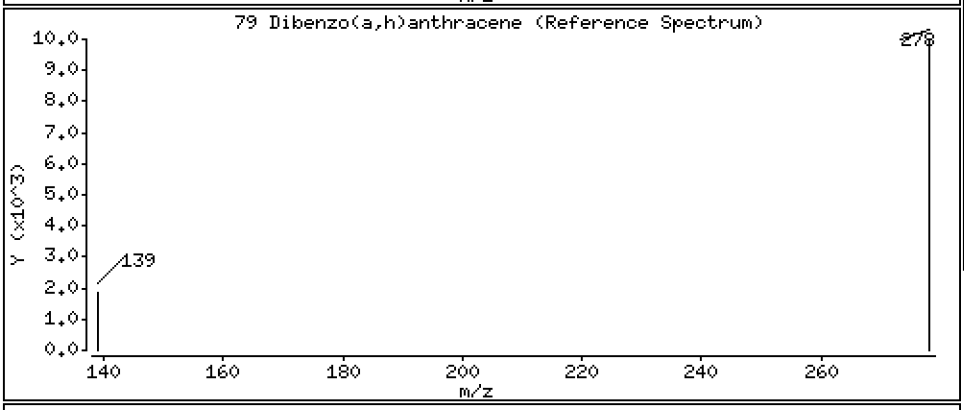
Concentration: 0.03948 ug/mL

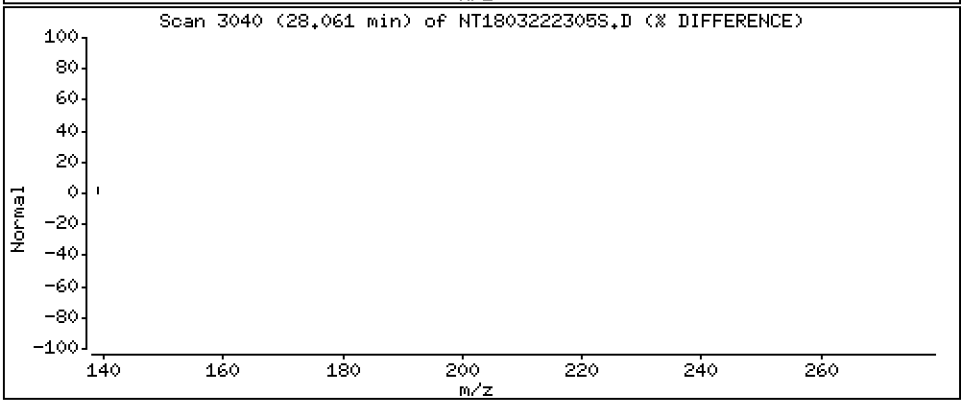












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Date : 22-MAR-2023 19:58

Client ID:

Instrument: nt18.i

Sample Info: SLD0061-LCV1

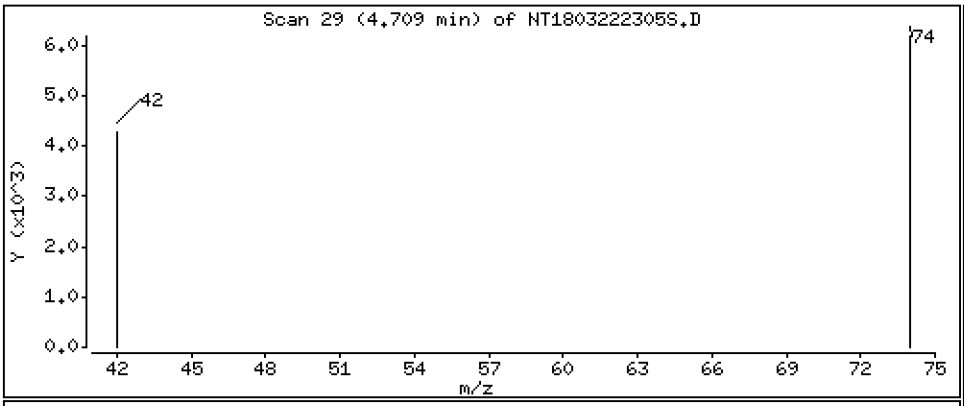
Operator: VTS

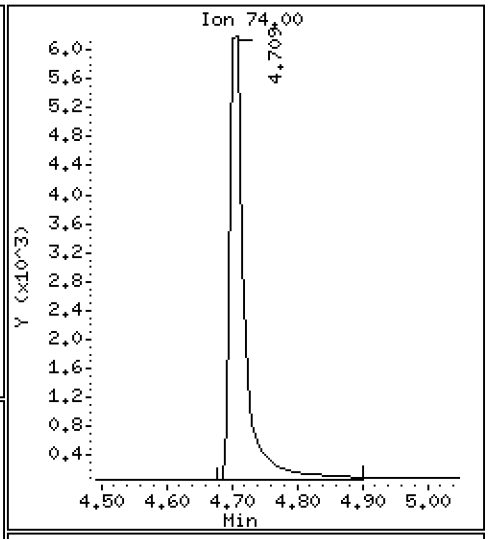
Column phase: ZB-5msi

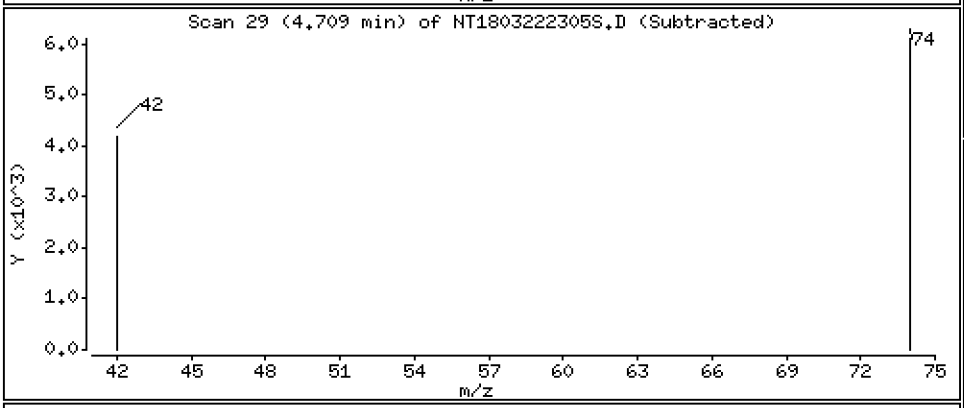
Column diameter: 0.25

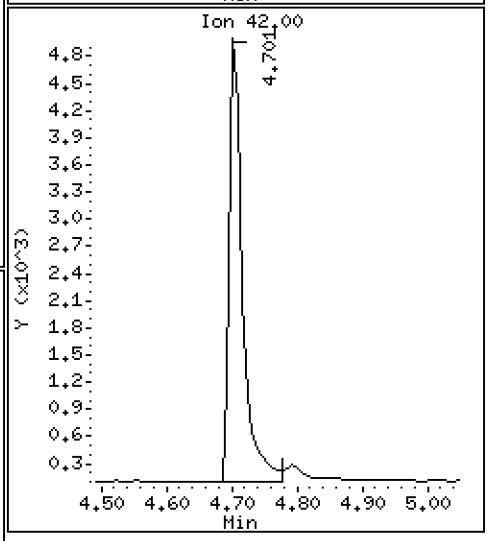
90 N-Nitrosodimethylamine

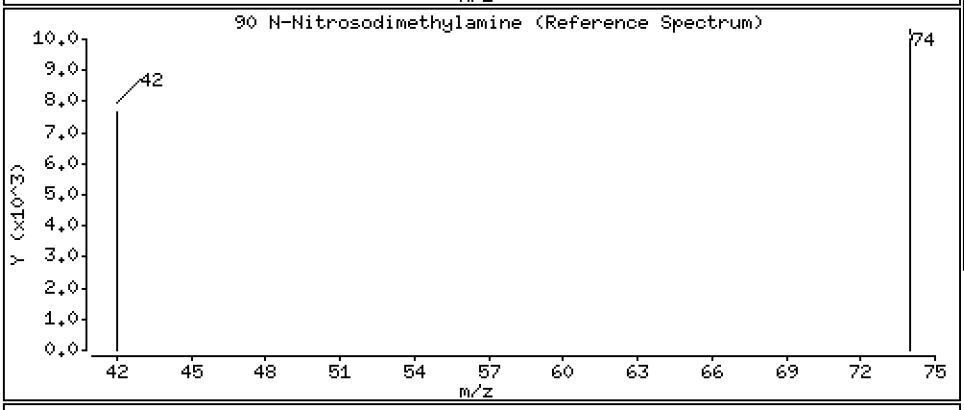
Concentration: 0.1948 ug/mL

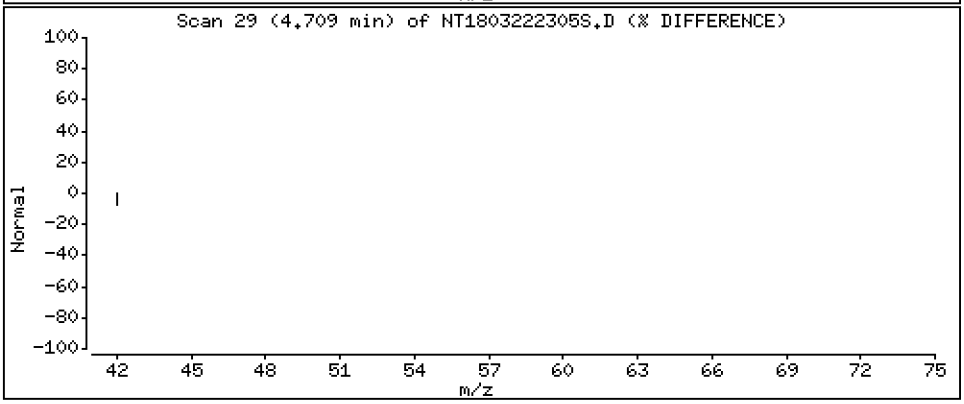












ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230322.b\SIM.b\NT1803222305S.D
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Inj Date : 22-MAR-2023 19:58
Operator : VTS Inst ID: nt18.i
Smp Info : SLD0061-LCV1
Misc Info :
Comment :
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Meth Date : 05-Apr-2023 10:09 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: DEENAY-201905

								CONCENTRATIONS	
		QUANT SIG						ON-COLUMN	FINAL
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE		(ug/mL)	(ug/mL)
$	1 2-Fluorophenol	112	6.786	6.778	(0.756)	10882		0.13268	0.1327(R)
	3 Phenol	94	8.370	8.362	(0.932)	10386		0.09457	0.09457
	7 1,3-Dichlorobenzene	146	8.918	8.918	(0.993)	11293		0.10629	0.1063
*	8 1,4-Dichlorobenzene-d4	152	8.980	8.980	(1.000)	281332		4.00000	
	9 1,4-Dichlorobenzene	146	9.011	9.011	(1.003)	11666		0.10825	0.1083
	11 Benzyl alcohol	79	9.252	9.244	(1.030)	3956		0.06024	0.06024
	12 1,2-Dichlorobenzene	146	9.368	9.360	(1.043)	11331		0.10803	0.1080
	13 2-Methylphenol	108	9.469	9.469	(1.054)	7278		0.09546	0.09546
	15 4-Methylphenol	108	9.741	9.733	(1.085)	7012		0.08842	0.08842
	16 N-Nitroso-di-n-propylamine	70	9.803	9.803	(1.092)	4611		0.08814	0.08814
	22 2,4-Dimethylphenol	107	10.775	10.775	(0.942)	13887		0.18895	0.1889
	24 Benzoic acid	105	Compound Not Detected.						
	26 1,2,4-Trichlorobenzene	180	11.360	11.360	(0.993)	9063		0.10811	0.1081
*	27 Naphthalene-d8	136	11.437	11.444	(1.000)	1052443		4.00000	
	30 Hexachlorobutadiene	225	11.846	11.846	(1.036)	5536		0.11475	0.1147
	39 Dimethylphthalate	163	14.539	14.539	(0.968)	15770		0.09532	0.09532
*	42 Acenaphthene-d10	162	15.019	15.027	(1.000)	517946		4.00000	
	50 Diethylphthalate	149	15.986	15.985	(1.064)	13697		0.09118	0.09118
	54 N-Nitrosodiphenylamine	169	16.364	16.364	(0.907)	10216		0.09026	0.09026
	57 Hexachlorobenzene	284	17.413	17.413	(0.966)	5605		0.10410	0.1041
	58 Pentachlorophenol	266	17.785	17.769	(0.986)	505		0.01781	0.01781(M)
*	59 Phenanthrene-d10	188	18.032	18.032	(1.000)	931866		4.00000	
$	66 Terphenyl-d14	244	21.166	21.165	(0.918)	11875		0.09834	0.09834(R)
	67 Butylbenzylphthalate	149	22.095	22.095	(0.959)	5565		0.04603	0.04603
*	69 Chrysene-d12	240	23.047	23.055	(1.000)	856714		4.00000	
*	77 Perylene-d12	264	25.563	25.563	(1.000)	979915		4.00000	
	79 Dibenzo(a,h)anthracene	278	28.060	28.060	(1.098)	11447		0.03948	0.03948
	90 N-Nitrosodimethylamine	74	4.708	4.700	(0.524)	9752		0.19482	0.1948

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i Calibration Date: 22-MAR-2023
Lab File ID: NT1803222305S.D Calibration Time: 18:36
Lab Smp Id: SLD0061-LCV1
Analysis Type: SV Level:
Quant Type: ISTD Sample Type:
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322.b\SIM.b\SIMABN2.m
Misc Info:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	283947	141974	567894	281332	-0.92
27 Naphthalene-d8	1057483	528742	2114966	1052443	-0.48
42 Acenaphthene-d10	520336	260168	1040672	517946	-0.46
59 Phenanthrene-d10	933537	466769	1867074	931866	-0.18
69 Chrysene-d12	863272	431636	1726544	856714	-0.76
77 Perylene-d12	996915	498458	1993830	979915	-1.71

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	-0.07
42 Acenaphthene-d10	15.03	14.53	15.53	15.02	-0.05
59 Phenanthrene-d10	18.03	17.53	18.53	18.03	0.00
69 Chrysene-d12	23.06	22.56	23.56	23.05	-0.03
77 Perylene-d12	25.56	25.06	26.06	25.56	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222305S.D

Lab ID: SLD0061-LCV1
nt18.i, 20230322.b\SIM.b\SIMABN2.m,   22-MAR-2023 19:58

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

RRT check based on Ccal File: SIM.b/NT1803222303S.D

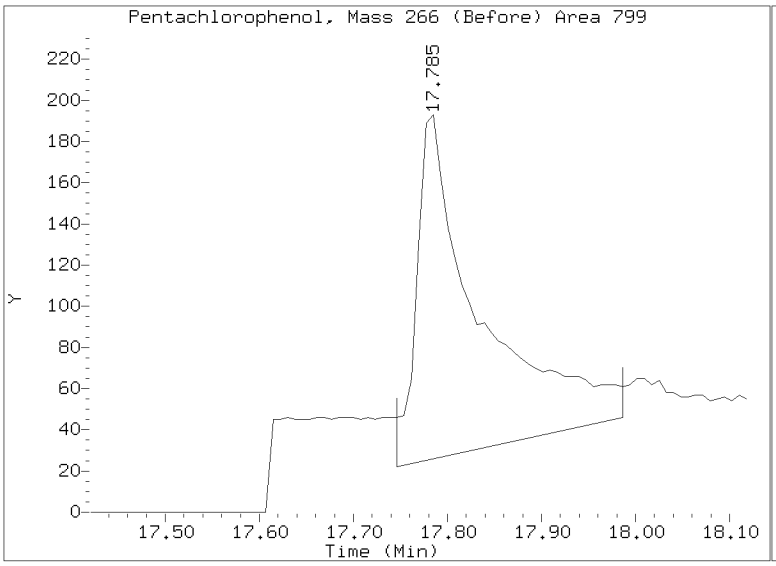
On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

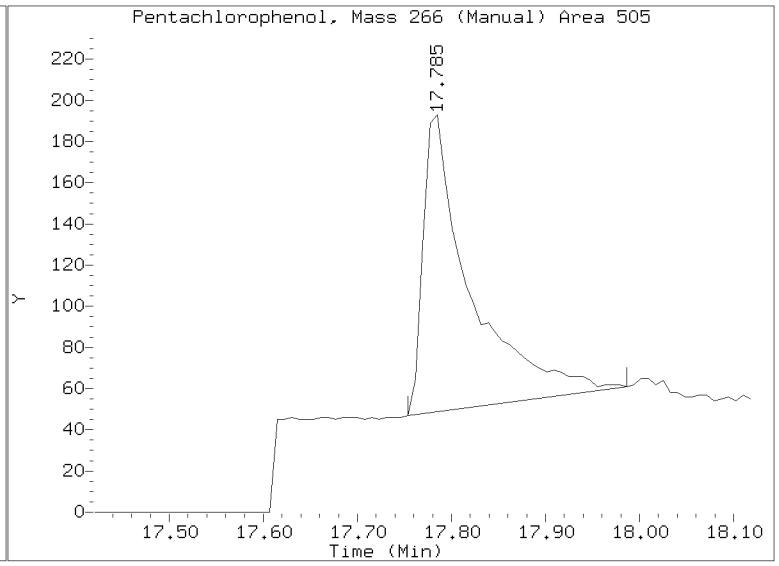
Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230322.b/SIM.b/NT1803222305S.D
Injection Date: 22-MAR-2023 19:58
Lab ID:SLD0061-LCV1 Client ID:
Report Date: 04/05/2023 10:09





APPROVED

By Deenay Dunmore at 11:19 am, Apr 05, 2023

Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	NT18	Calibration:	GD00001
Lab File ID:	NT1803222326S.D	Calibration Date:	04/01/2023
Sequence:	SLD0064	Injection Date:	03/23/23
Lab Sample ID:	SLD0064-CCV1	Injection Time:	10:07
Sequence Name:	Calibration Check		

		CONC. (ug/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
1,4-Dichlorobenzene	A	1.0000	0.9	1.5322280	1.4348340		-6.4	+/-50
1,2-Dichlorobenzene	A	1.0000	0.9	1.4912410	1.3982060		-6.2	+/-50
Benzyl Alcohol	A	1.0000	0.9	0.7708820	0.8253892		-11.6	+/-50
Benzoic acid	A	4.0000	3.3	0.1069329	0.1582226		-17.9	+/-50
2,4-Dimethylphenol	A	2.0000	2.1	0.2793404	0.2912964		4.3	+/-50
1,2,4-Trichlorobenzene	A	1.0000	0.9	0.3186083	0.3009982		-5.5	+/-50
N-Nitrosodiphenylamine	A	1.0000	1.0	0.4858130	0.5016730		3.3	+/-50
Pentachlorophenol	A	2.0000	1.7	0.0867576	0.1027654		-16.9	+/-50
2-Fluorophenol	A	1.5000	1.58	1.1661190	1.2282200		5.3	+/-50
p-Terphenyl-d14	A	1.0000	0.927	0.5638063	0.5225981		-7.3	+/-50

* Values outside of QC limits

* Values outside of QC limits

Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT18032223265.D

Date : 23-MAR-2023 10:07

Client ID:

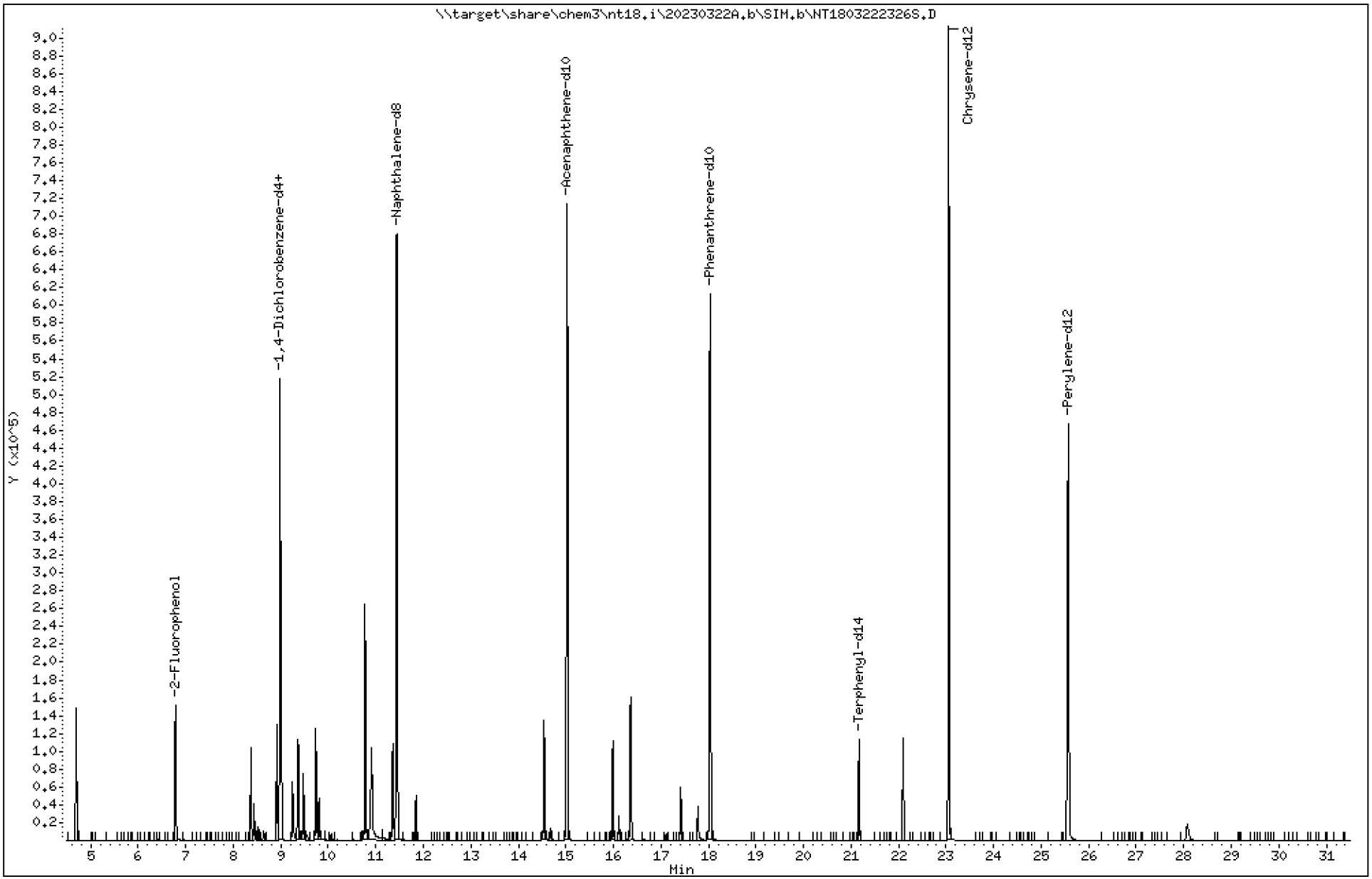
Instrument: nt18.i

Sample Info: SLD0064-CCV1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



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Date : 23-MAR-2023 10:07

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-CCV1

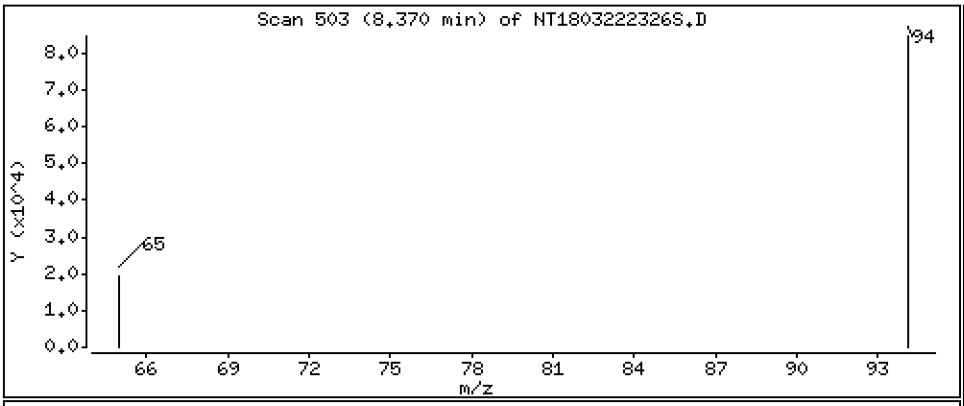
Operator: VTS

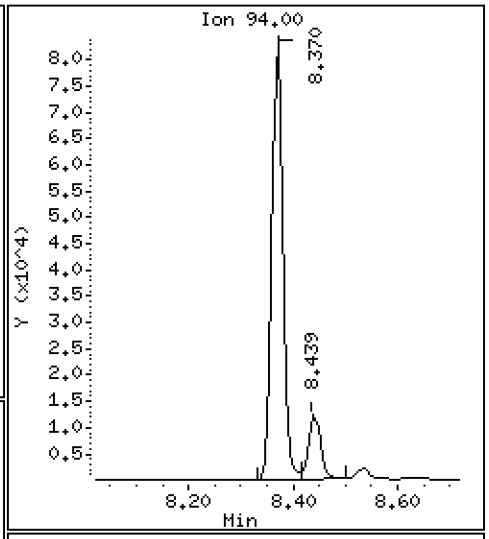
Column phase: ZB-5msi

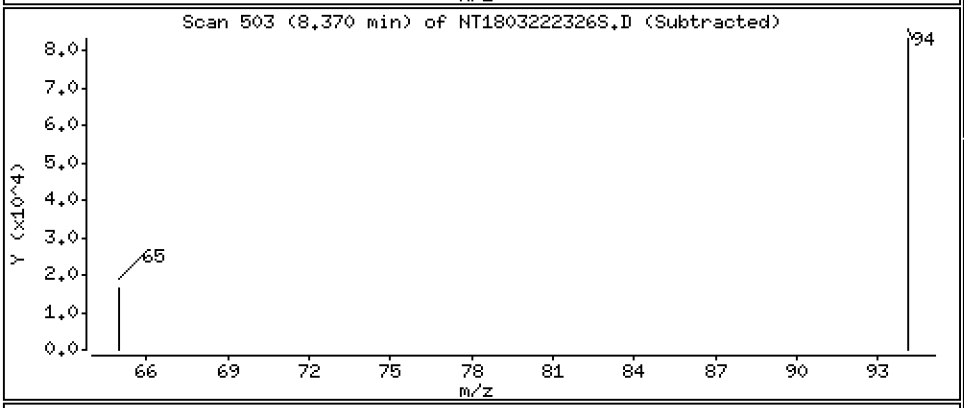
Column diameter: 0.25

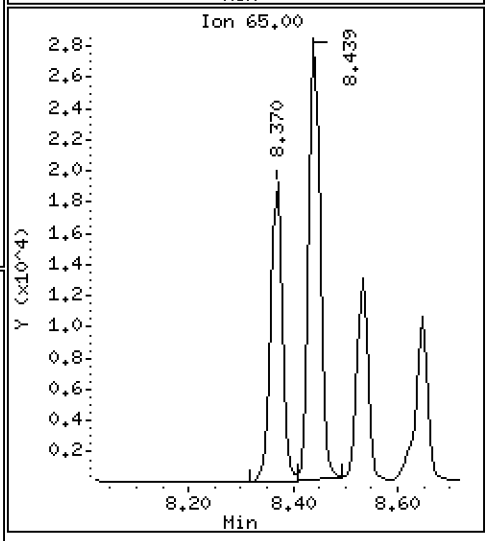
3 Phenol

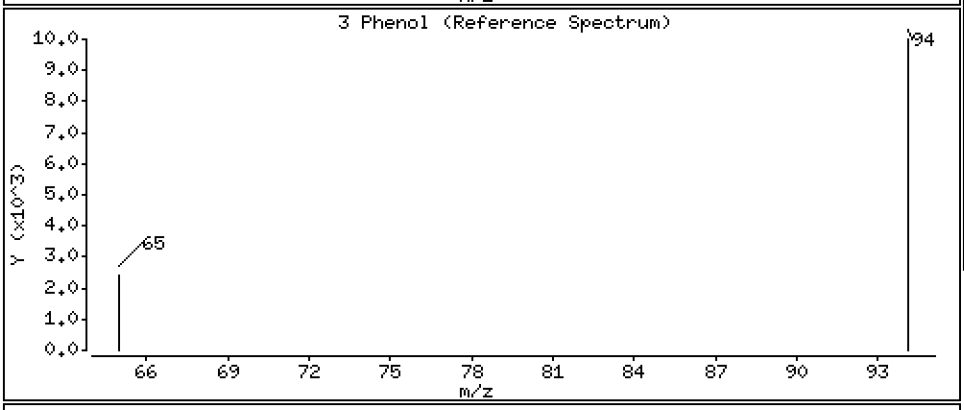
Concentration: 0.9804 ug/mL

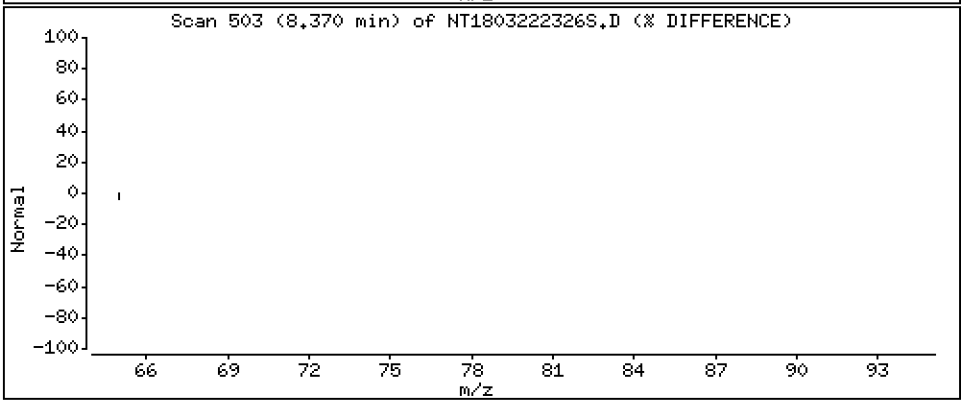












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Date : 23-MAR-2023 10:07

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-CCV1

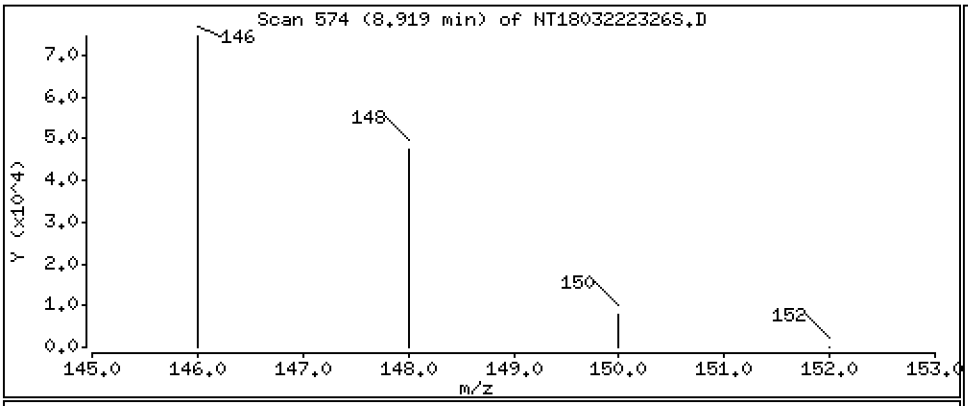
Operator: VTS

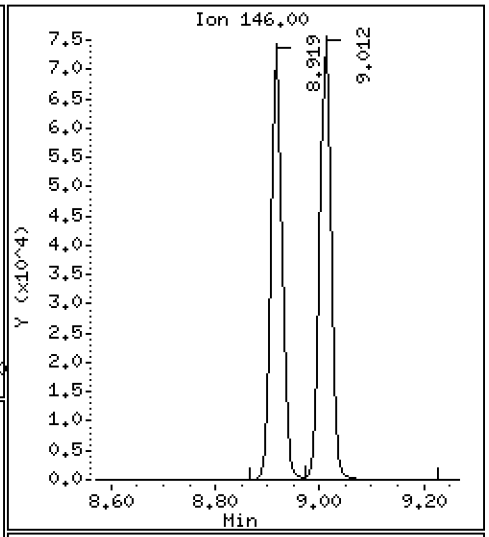
Column phase: ZB-5msi

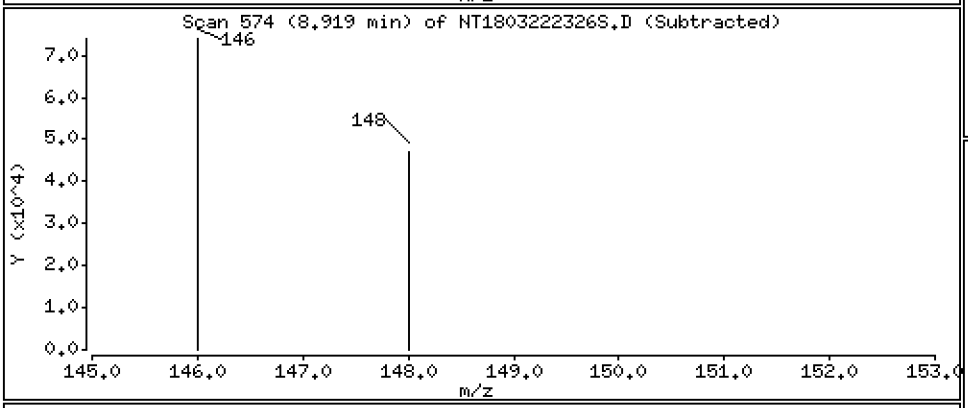
Column diameter: 0.25

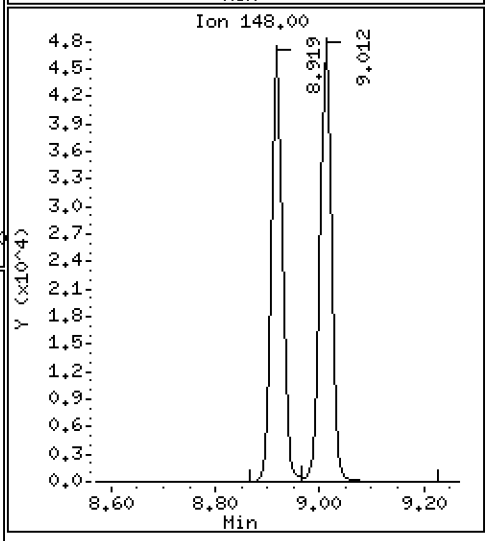
7 1,3-Dichlorobenzene

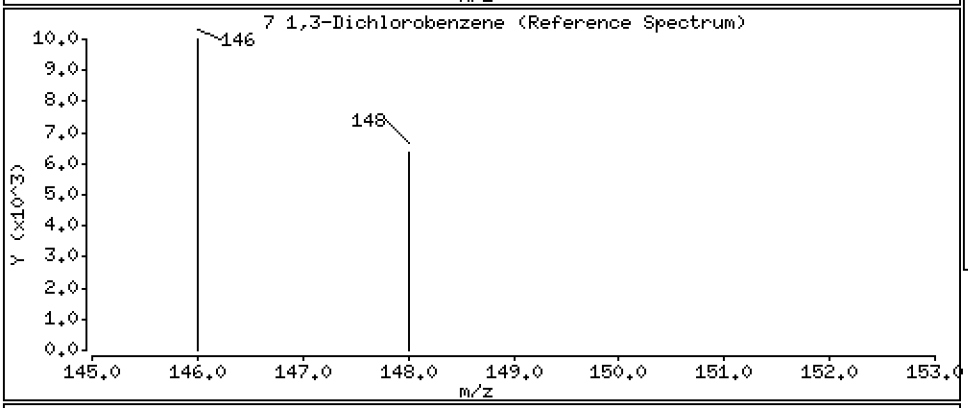
Concentration: 0.9540 ug/mL

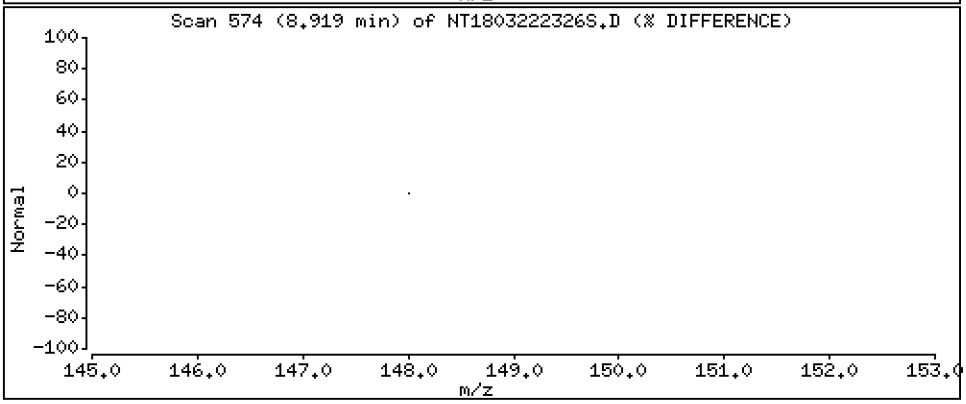












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Date : 23-MAR-2023 10:07

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-CCV1

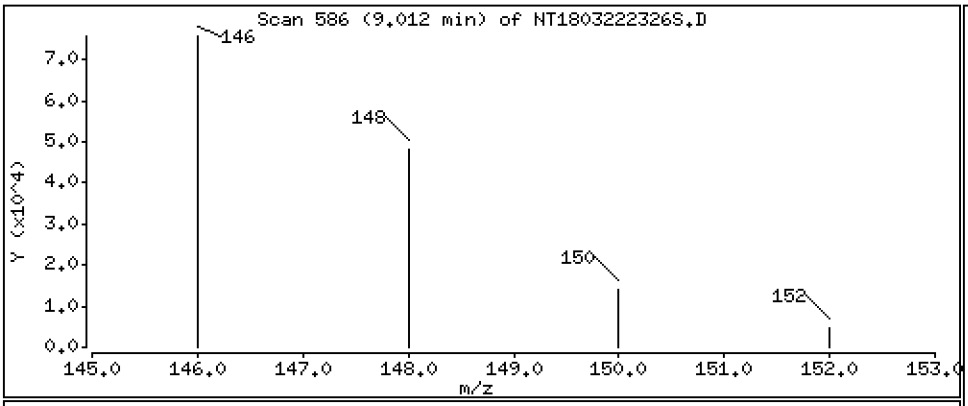
Operator: VTS

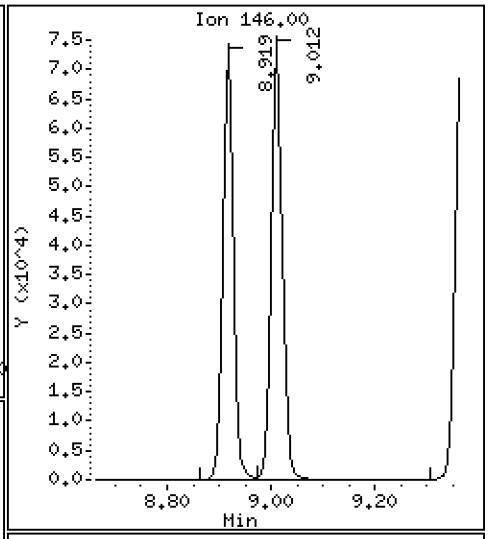
Column phase: ZB-5msi

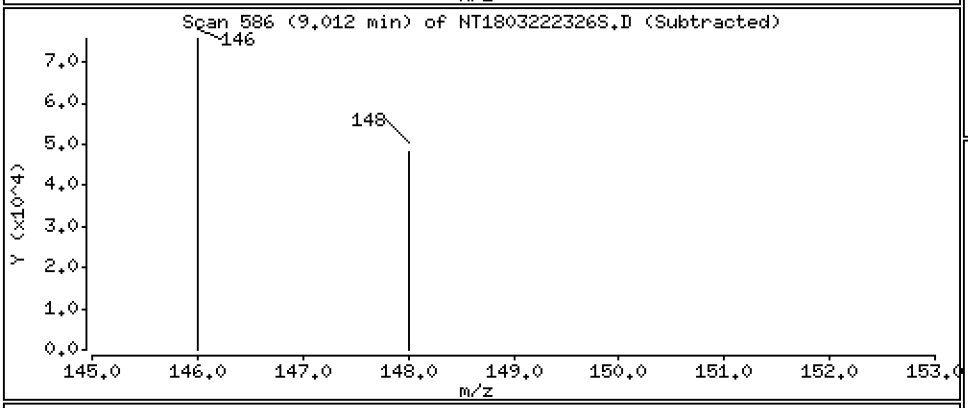
Column diameter: 0.25

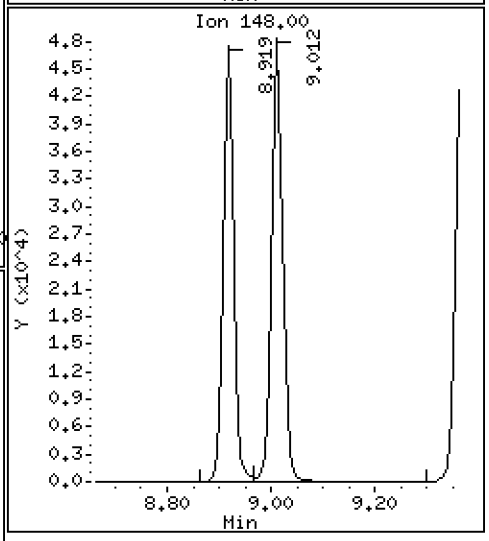
9 1,4-Dichlorobenzene

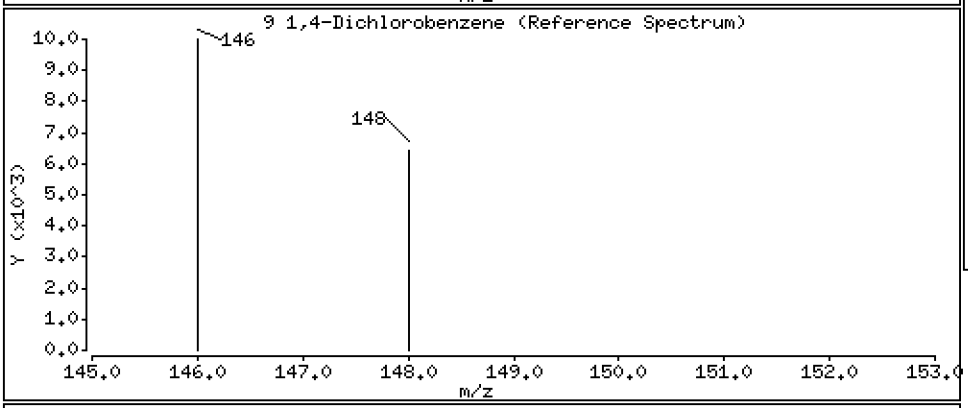
Concentration: 0.9364 ug/mL

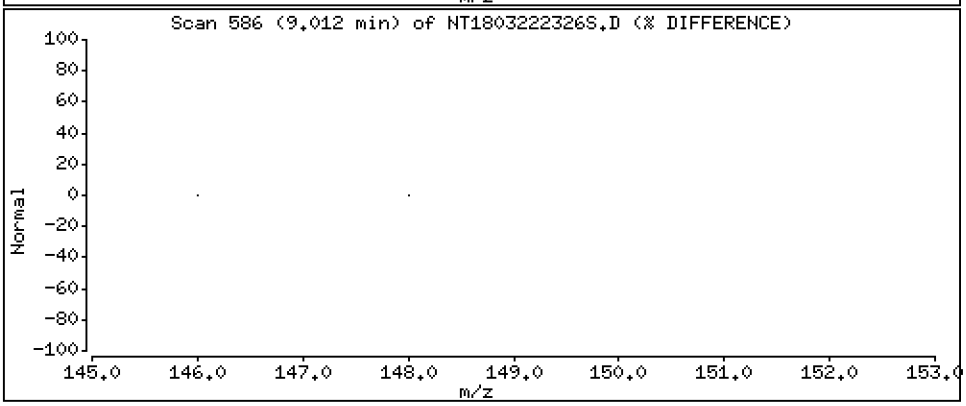












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Date : 23-MAR-2023 10:07

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-CCV1

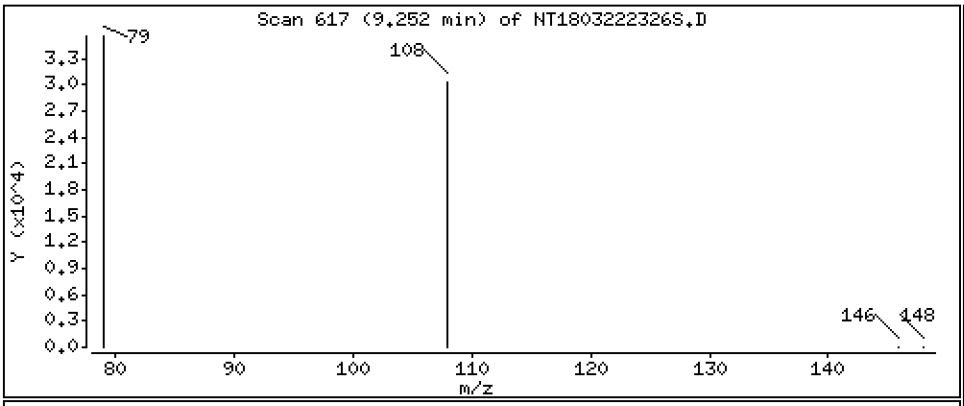
Operator: VTS

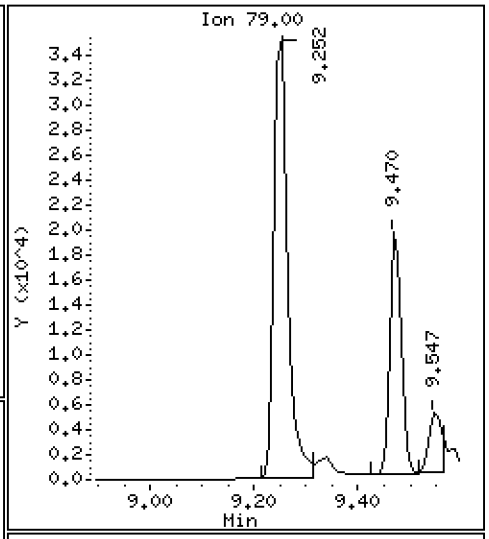
Column phase: ZB-5msi

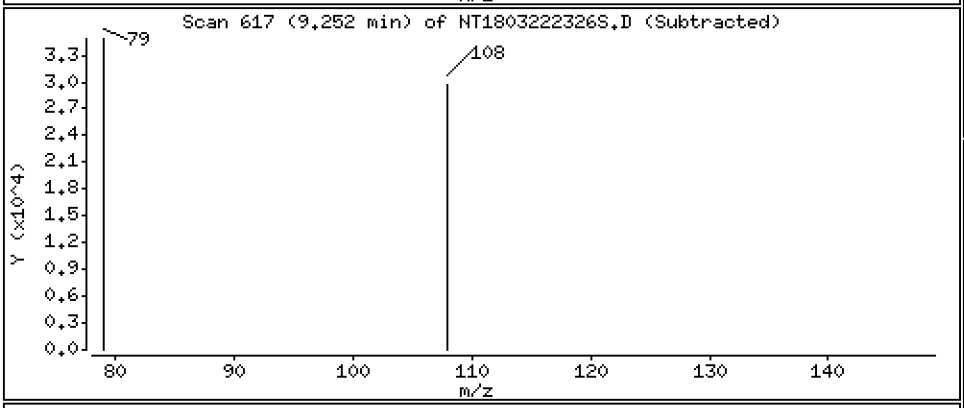
Column diameter: 0.25

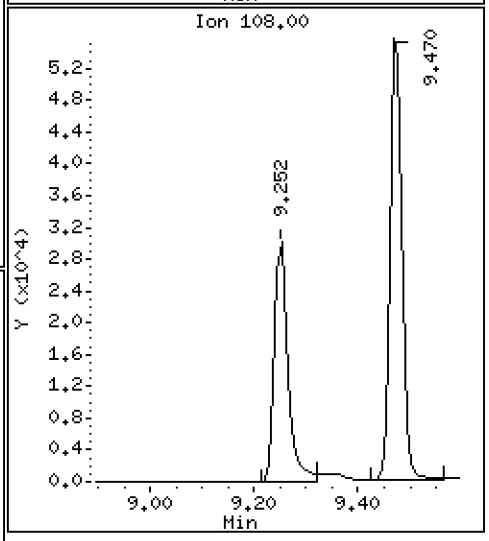
11 Benzyl alcohol

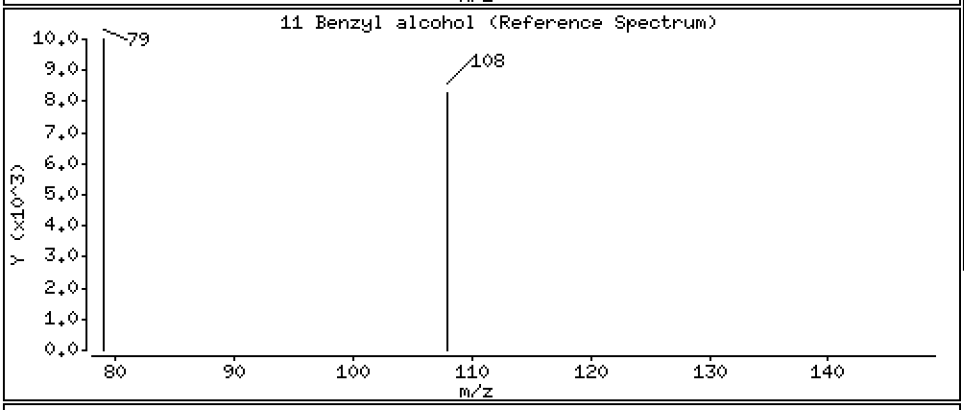
Concentration: 0.8839 ug/mL

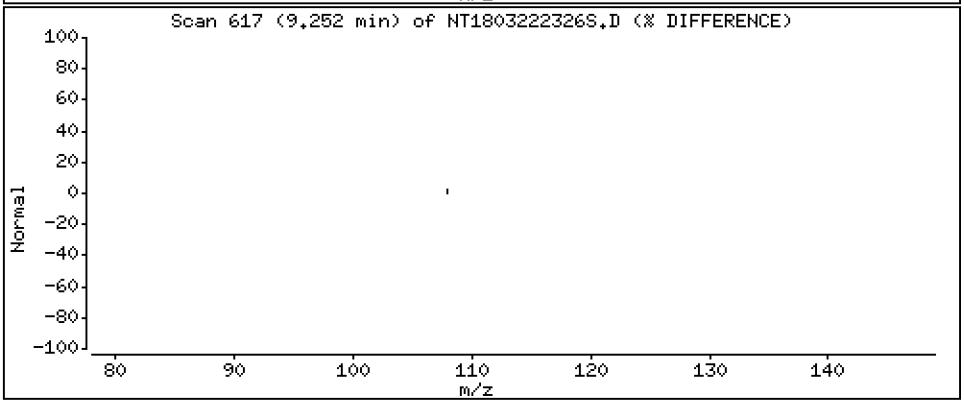












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Date : 23-MAR-2023 10:07

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-CCV1

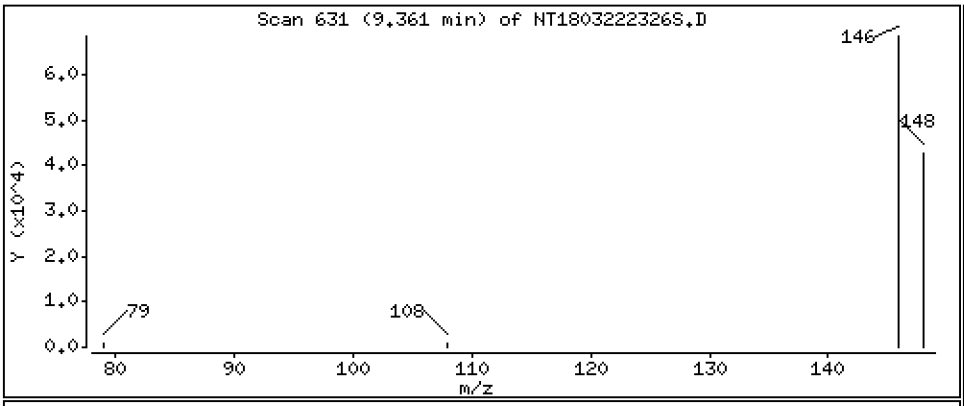
Operator: VTS

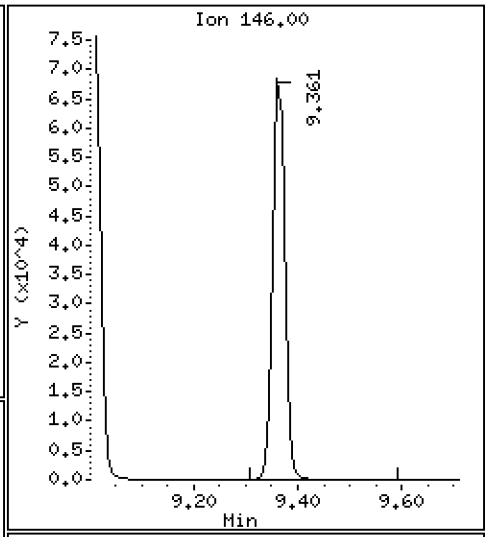
Column phase: ZB-5msi

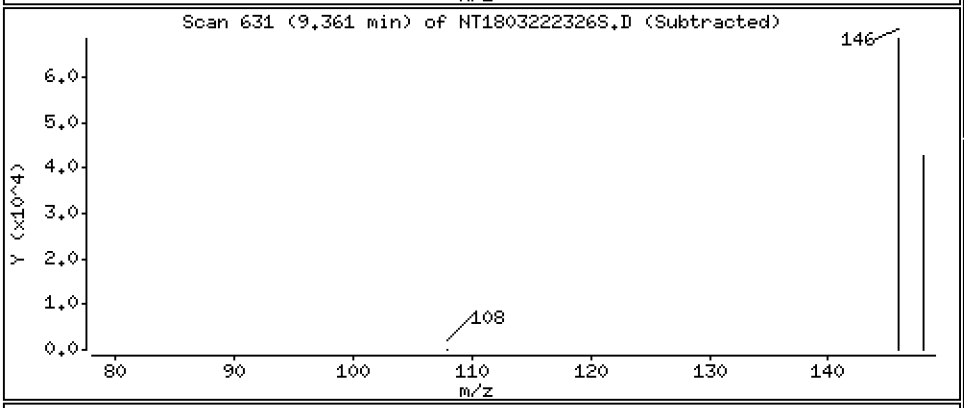
Column diameter: 0.25

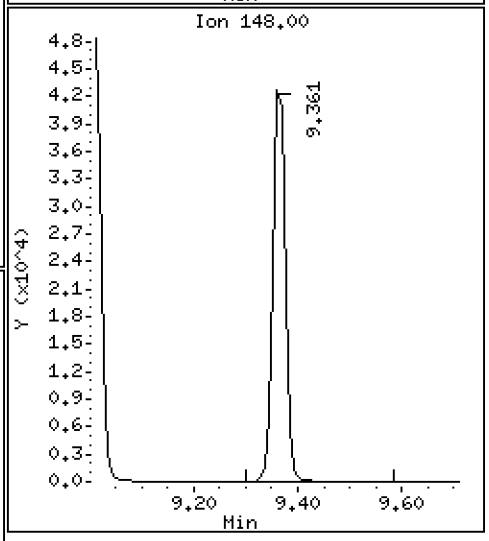
12 1,2-Dichlorobenzene

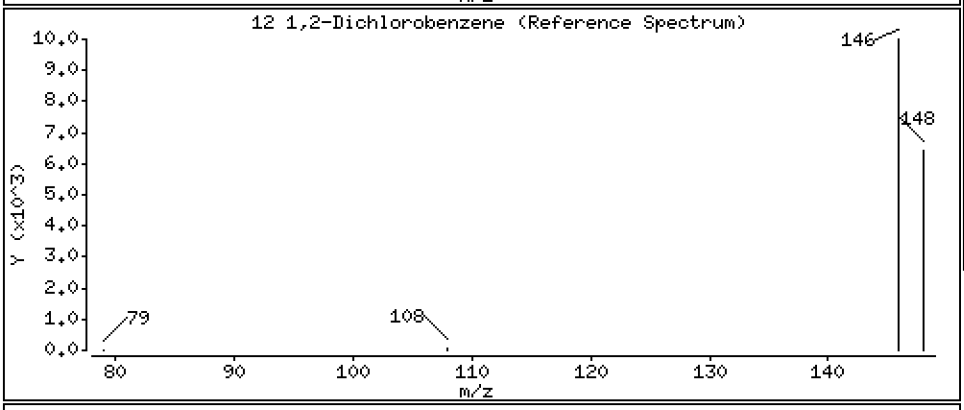
Concentration: 0.9376 ug/mL

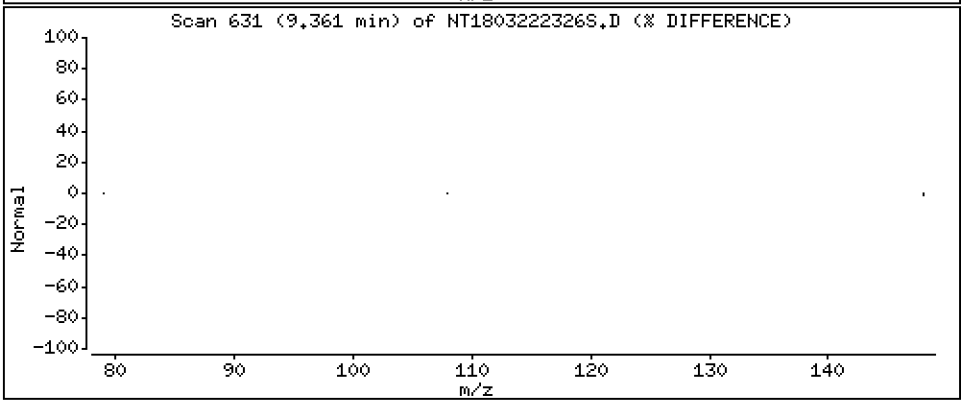












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT18032223265.D

Date : 23-MAR-2023 10:07

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-CCV1

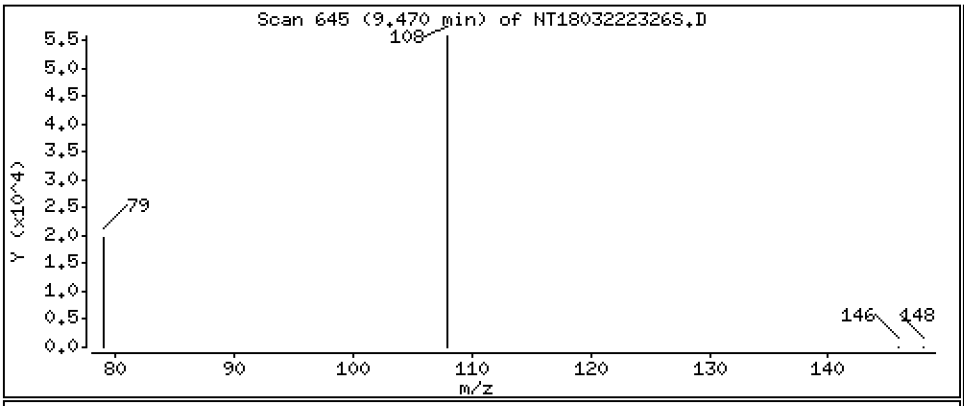
Operator: VTS

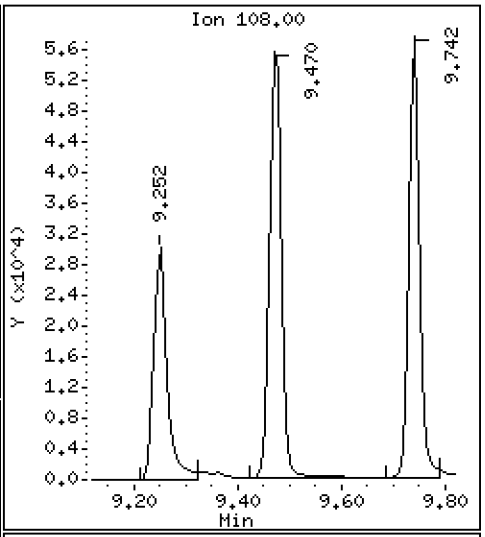
Column phase: ZB-5msi

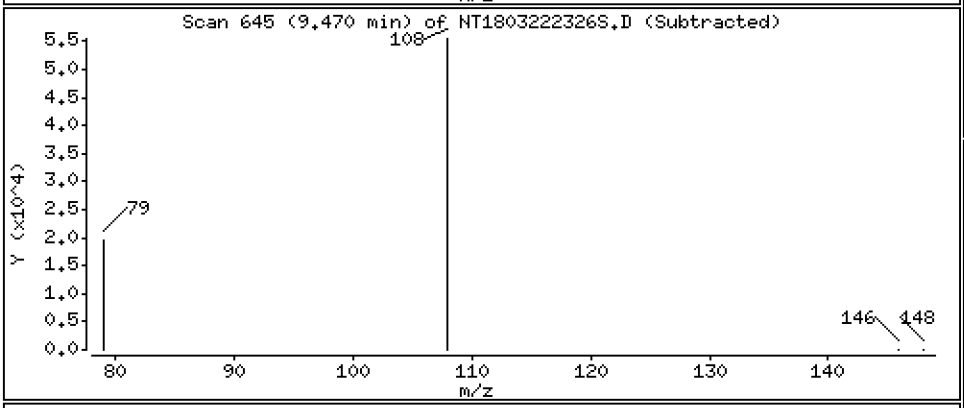
Column diameter: 0.25

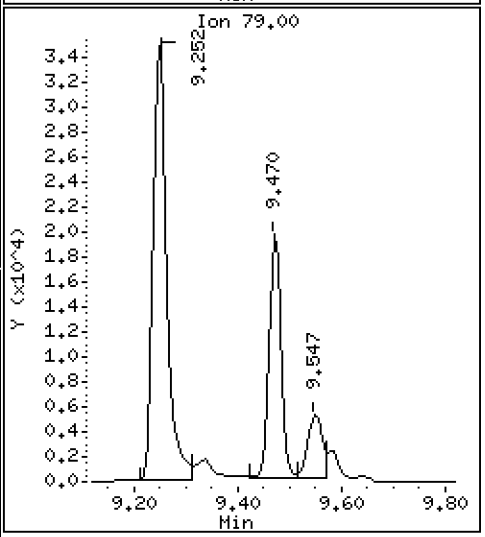
13 2-Methylphenol

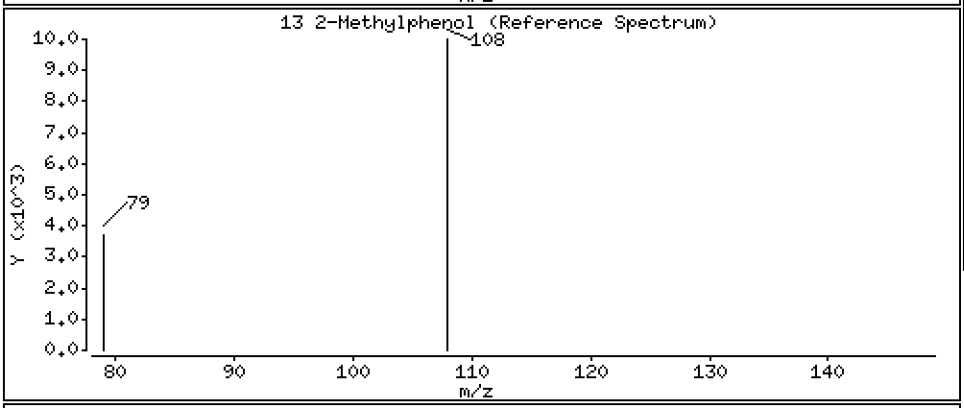
Concentration: 1.042 ug/mL

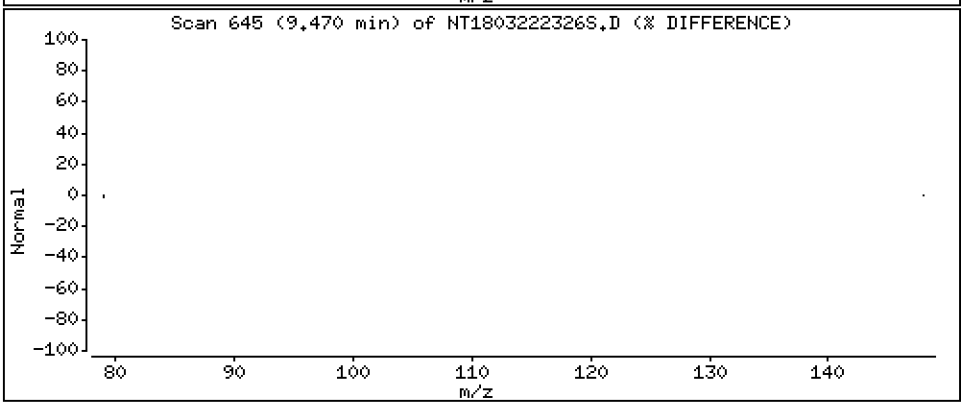












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT18032223265.D

Date : 23-MAR-2023 10:07

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-CCV1

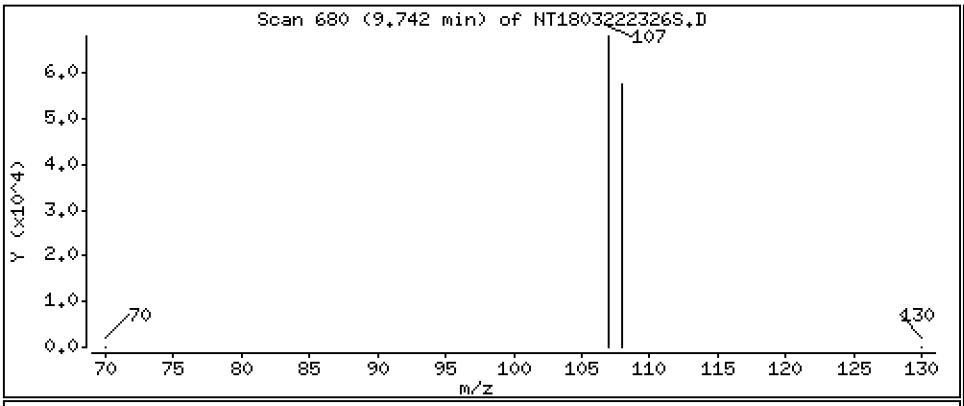
Operator: VTS

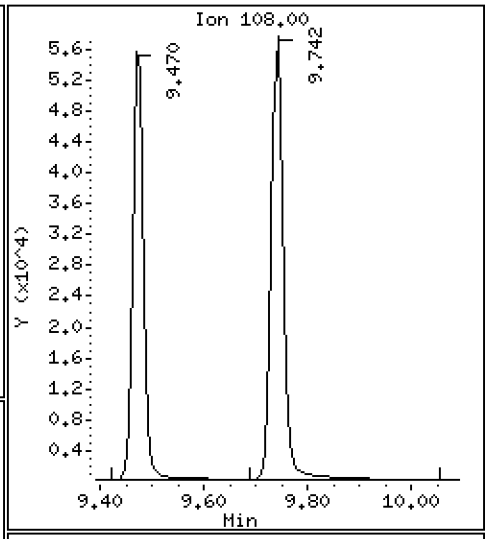
Column phase: ZB-5msi

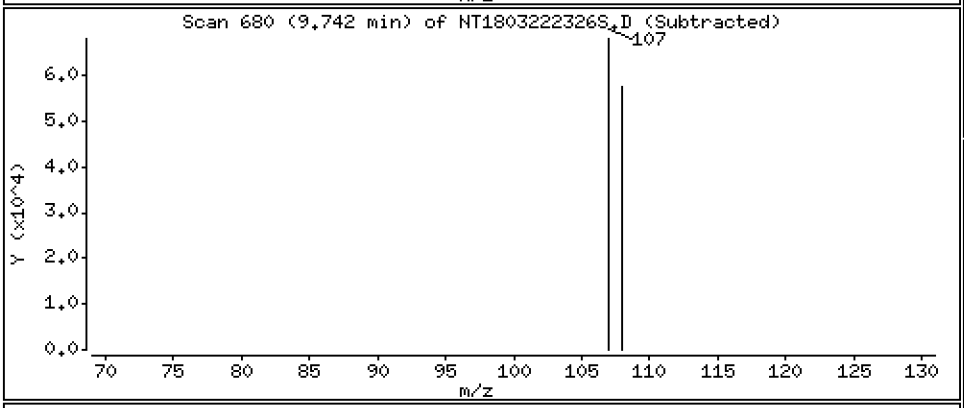
Column diameter: 0.25

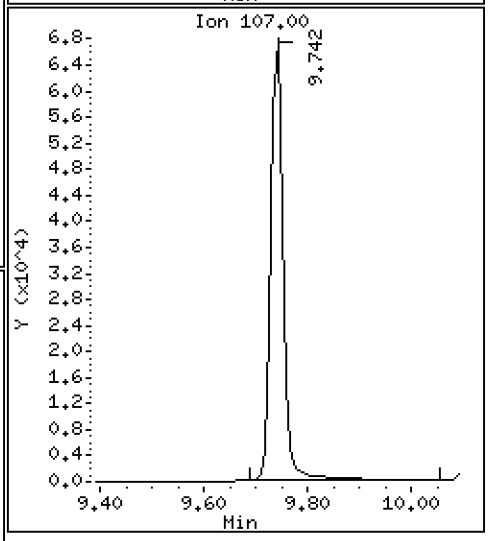
15 4-Methylphenol

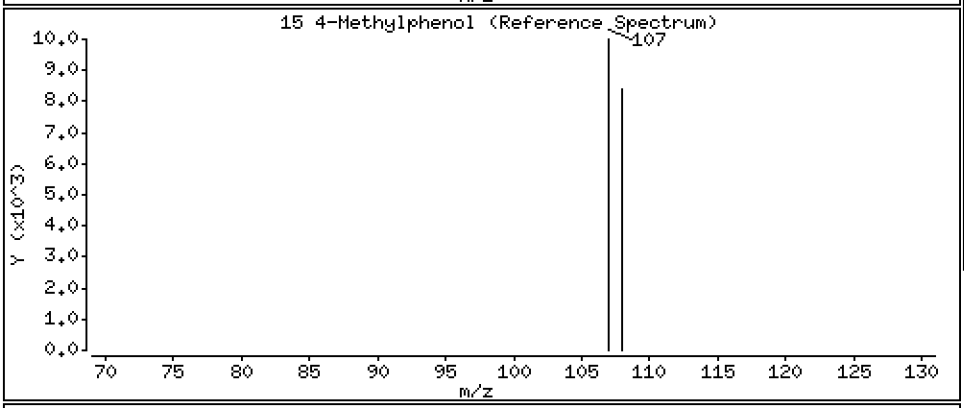
Concentration: 1.044 ug/mL

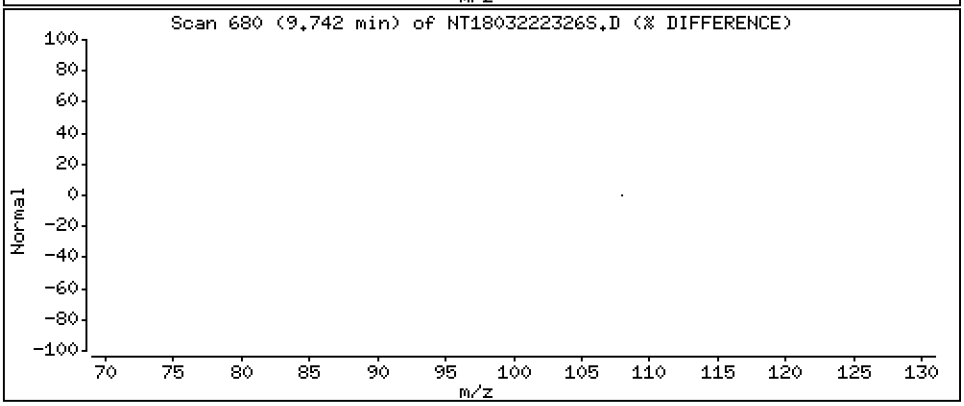












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT18032223265.D

Date : 23-MAR-2023 10:07

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-CCV1

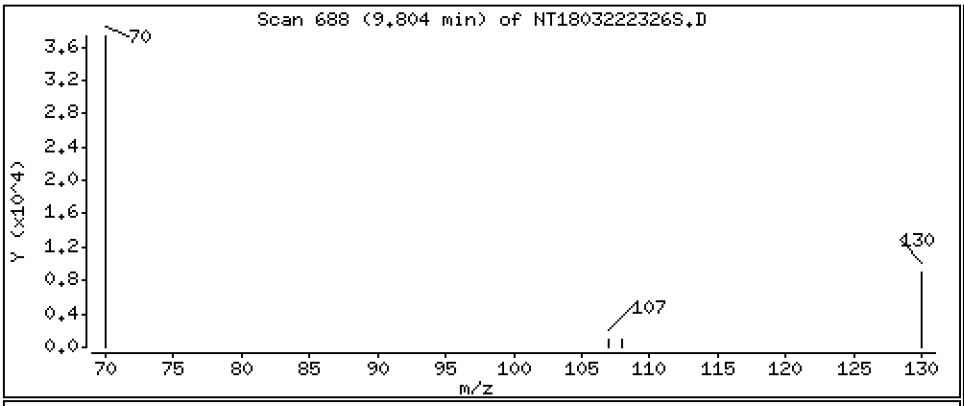
Operator: VTS

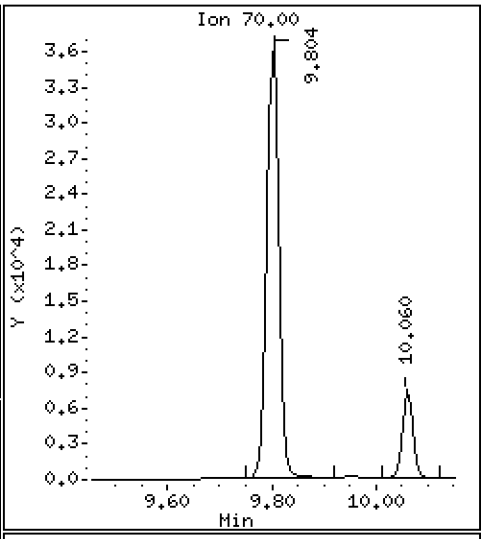
Column phase: ZB-5msi

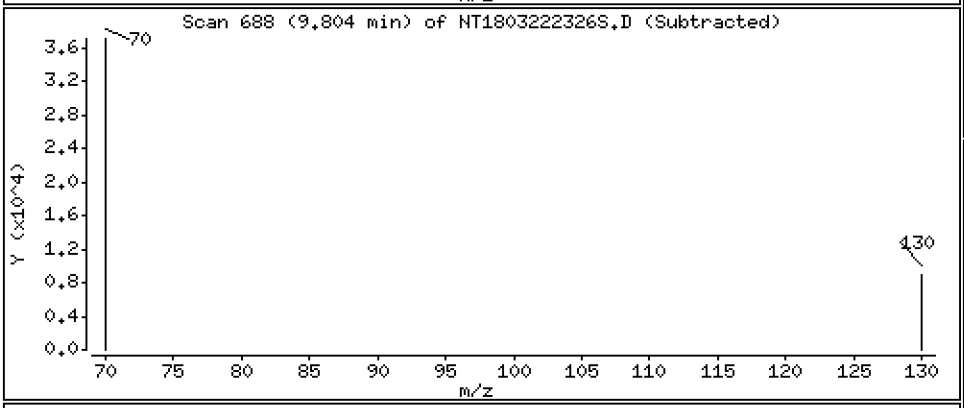
Column diameter: 0.25

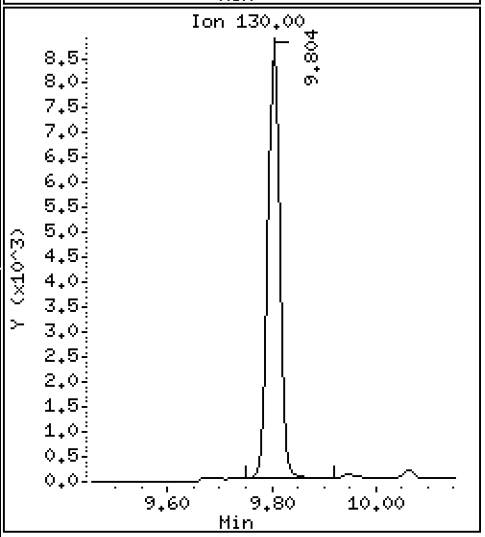
16 N-Nitroso-di-n-propylamine

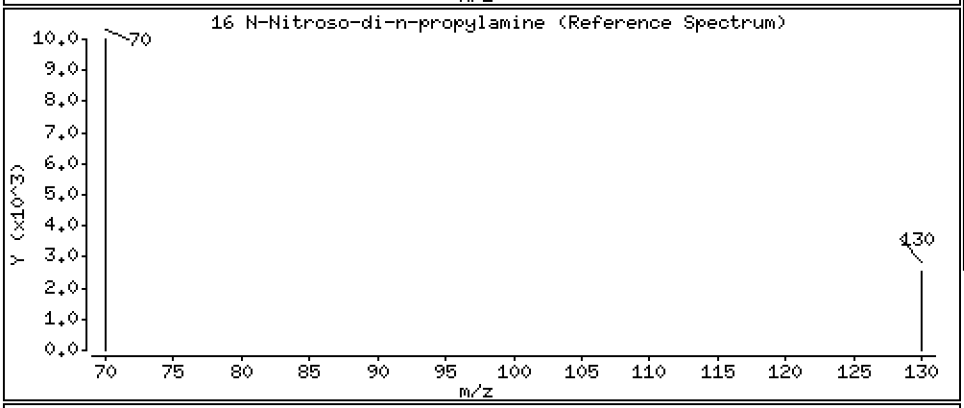
Concentration: 1.005 ug/mL

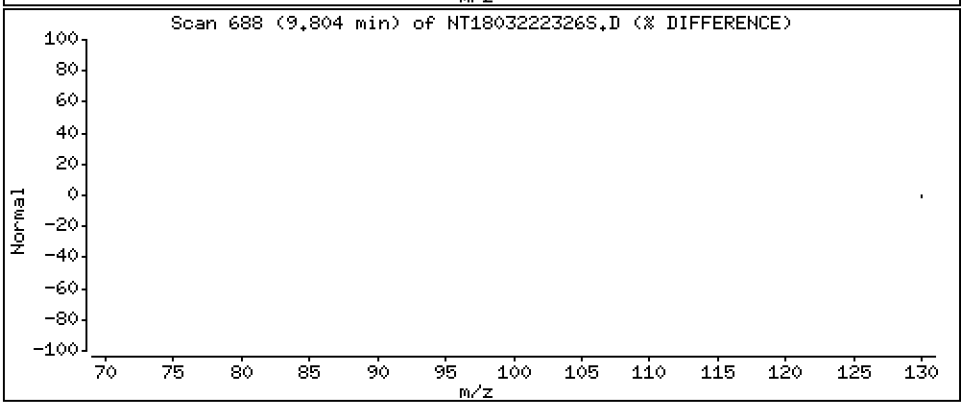












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Date : 23-MAR-2023 10:07

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-CCV1

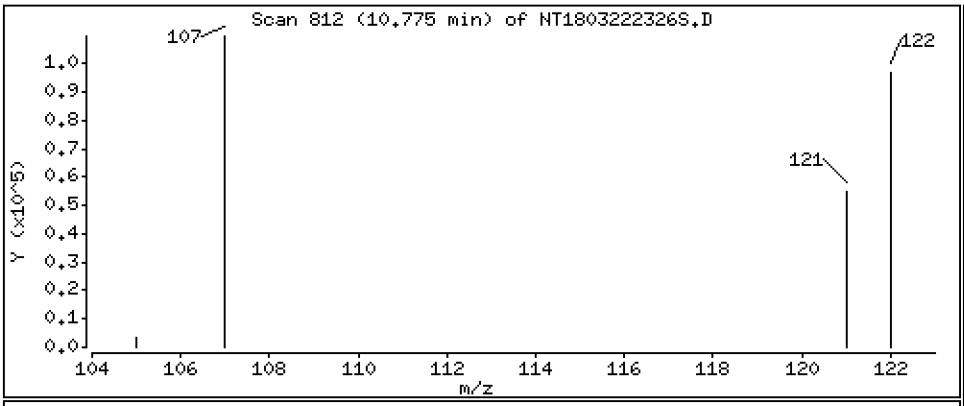
Operator: VTS

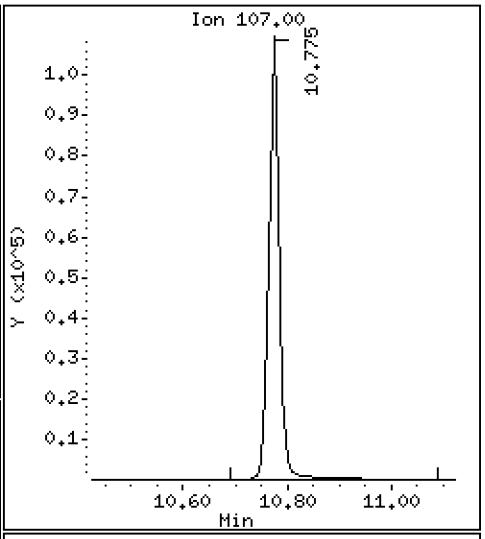
Column phase: ZB-5msi

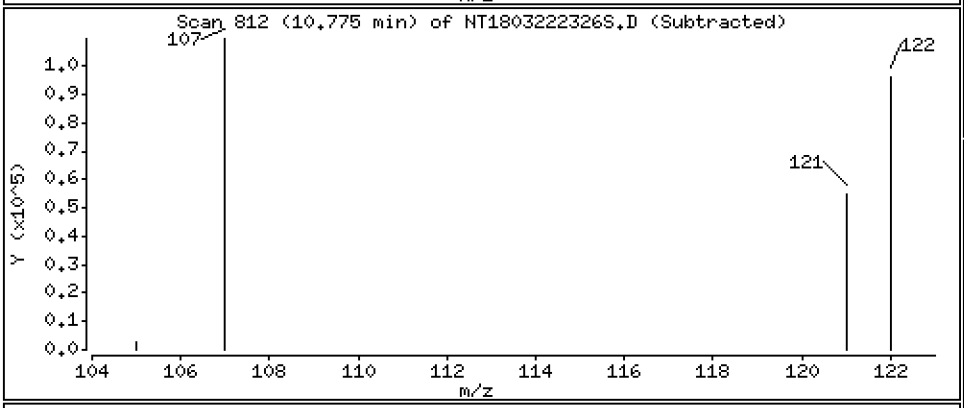
Column diameter: 0.25

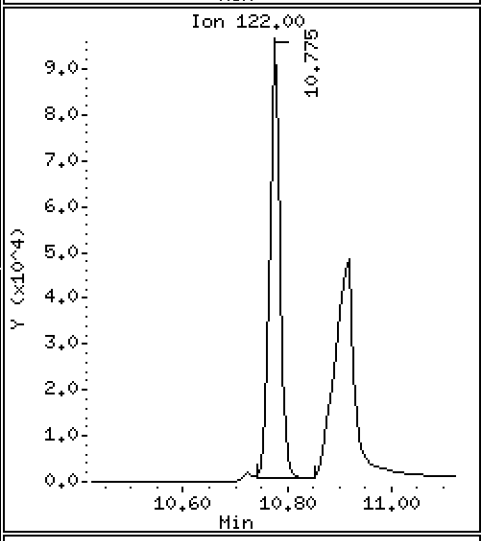
22 2,4-Dimethylphenol

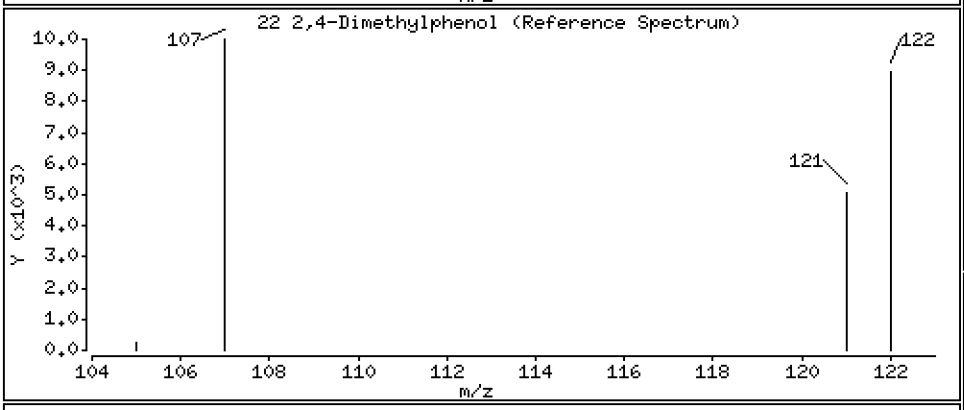
Concentration: 2.086 ug/mL

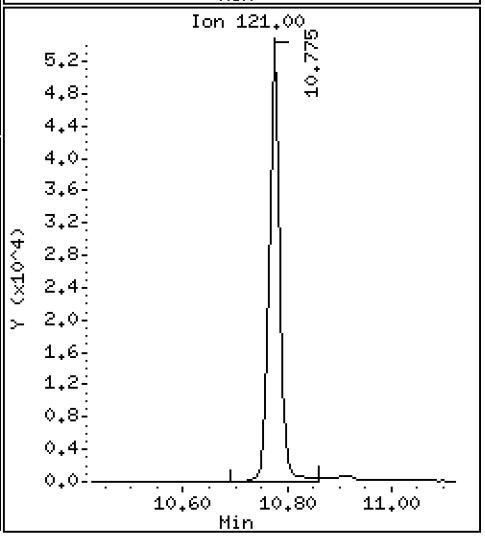


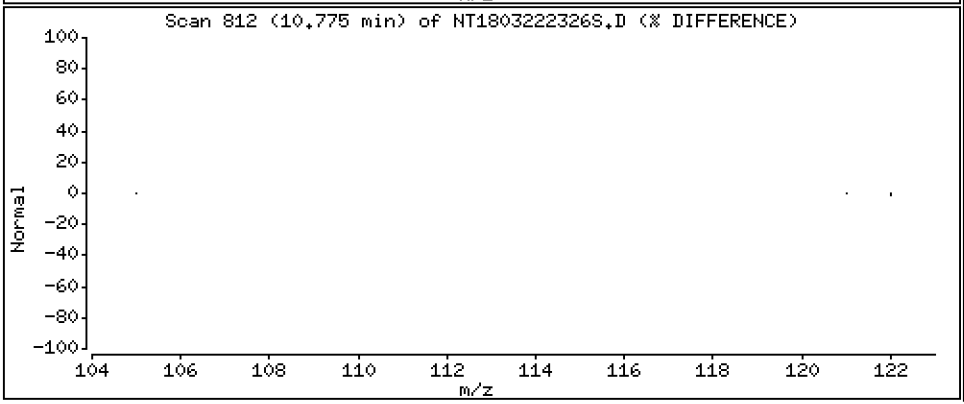












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Date : 23-MAR-2023 10:07

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-CCV1

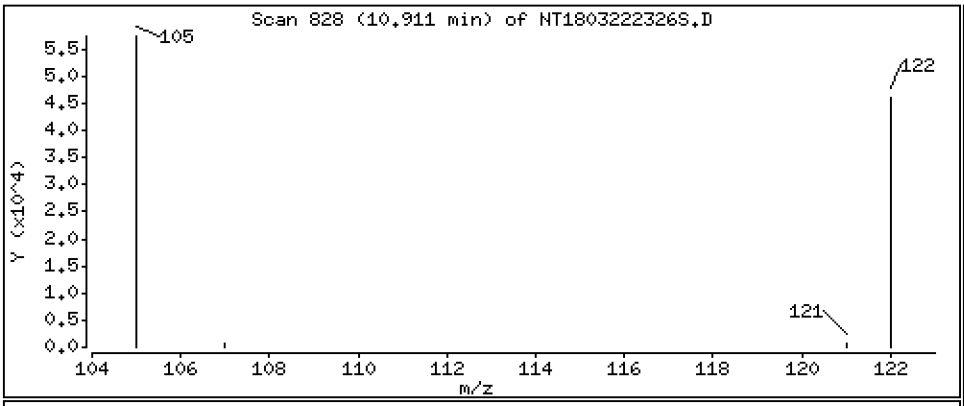
Operator: VTS

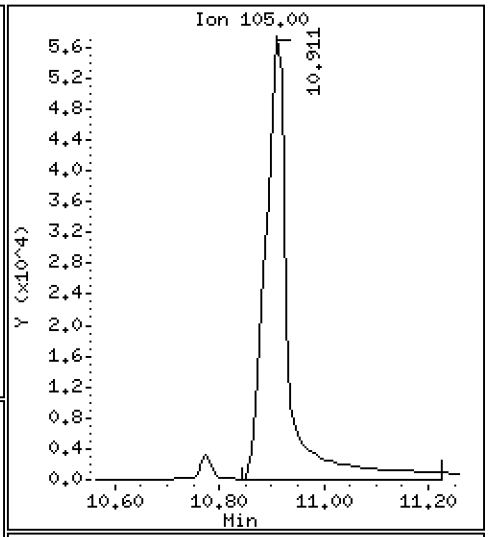
Column phase: ZB-5msi

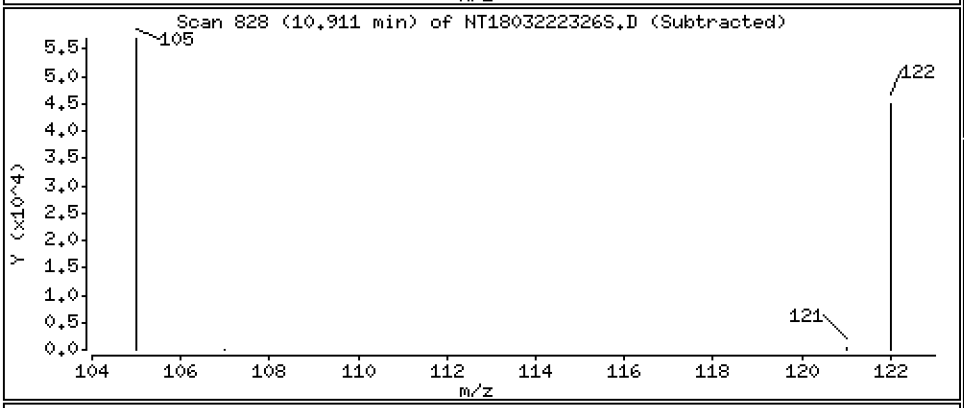
Column diameter: 0.25

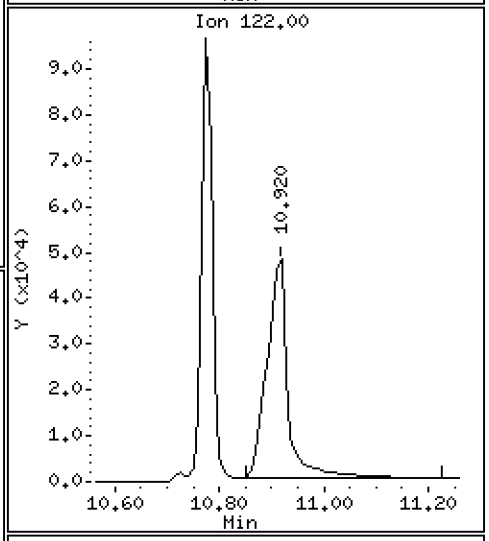
24 Benzoic acid

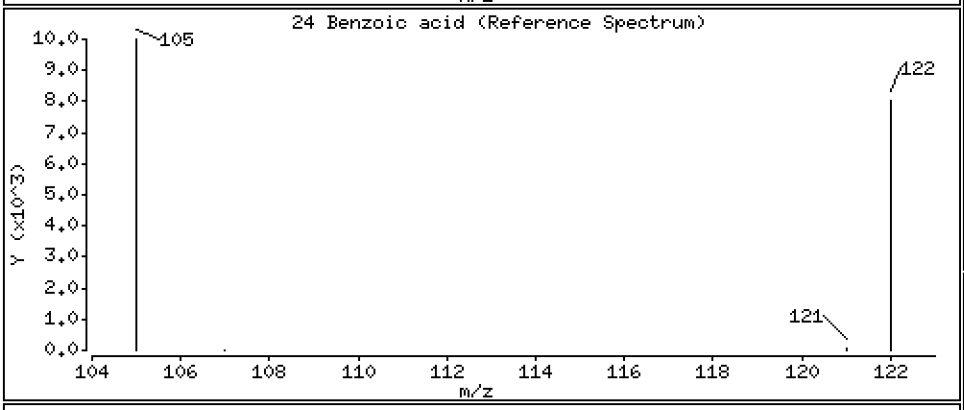
Concentration: 3.284 ug/mL

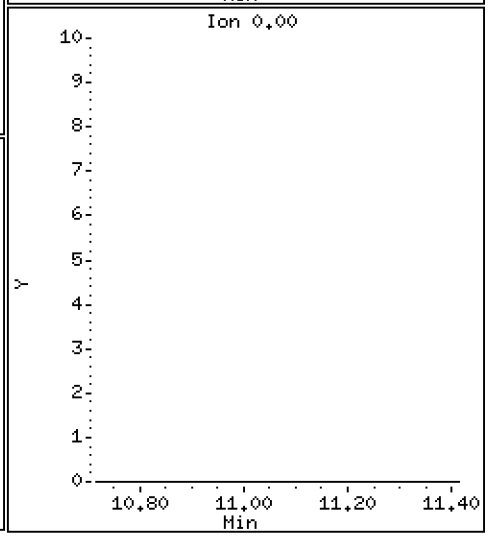


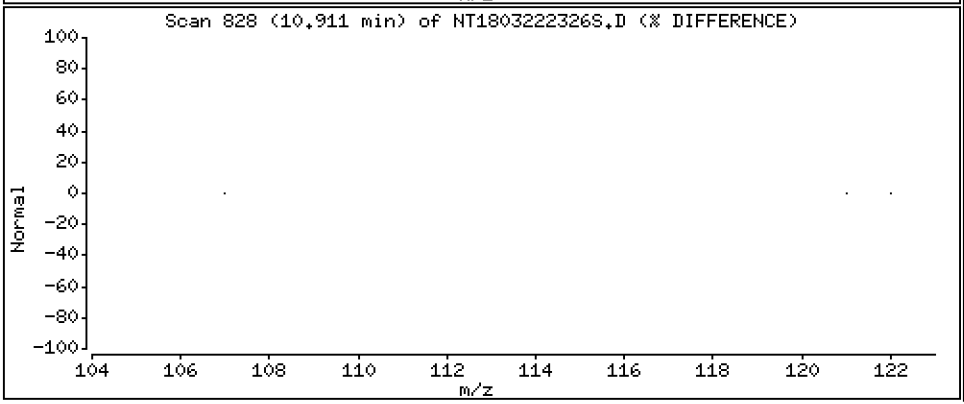












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Date : 23-MAR-2023 10:07

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-CCV1

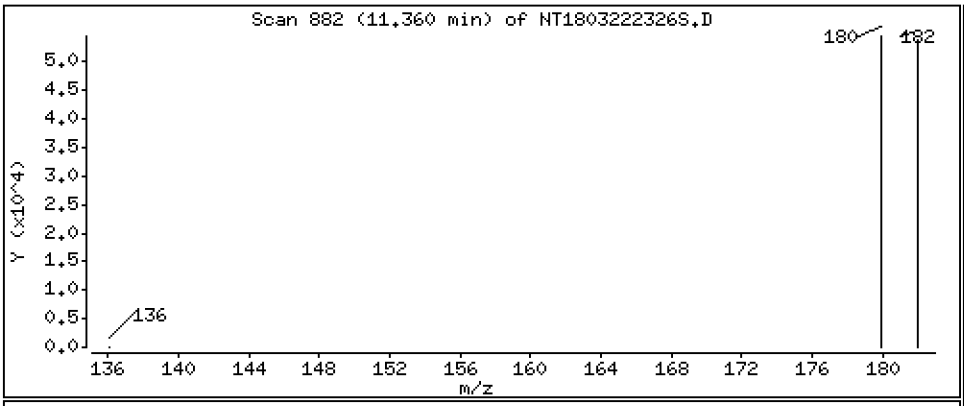
Operator: VTS

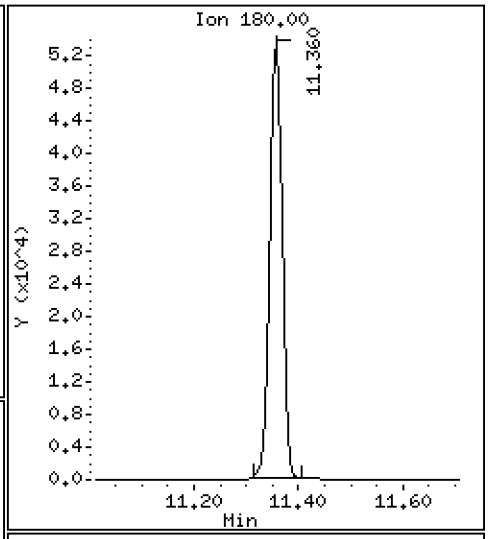
Column phase: ZB-5msi

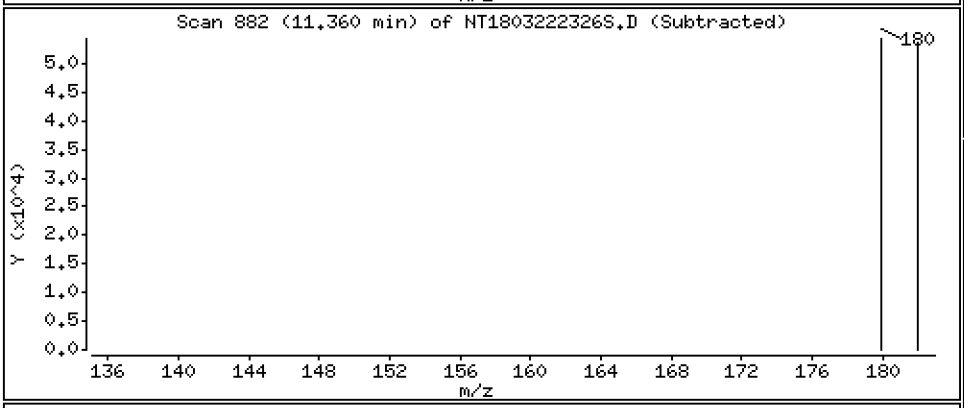
Column diameter: 0.25

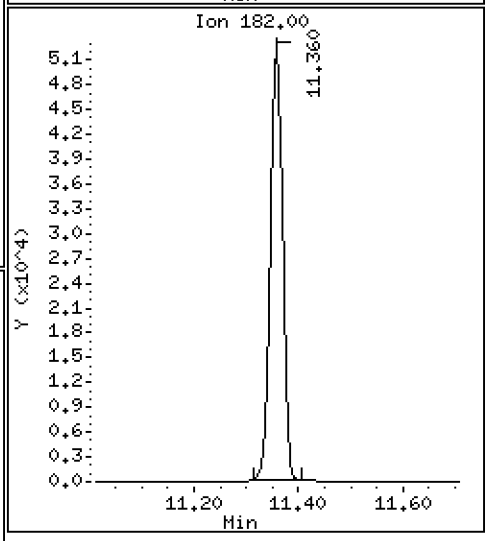
26 1,2,4-Trichlorobenzene

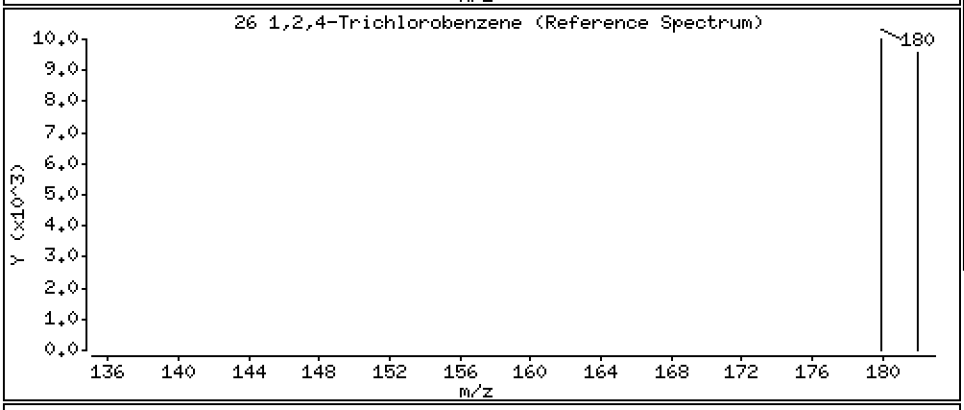
Concentration: 0.9447 ug/mL

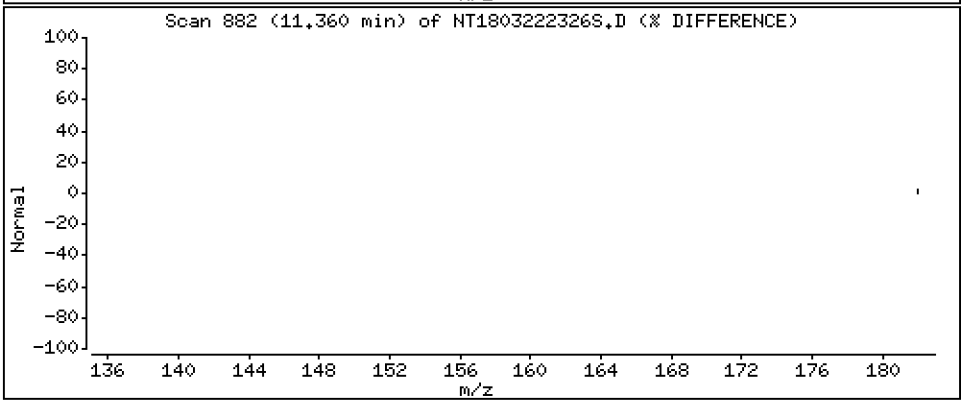












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT18032223326S.D

Date : 23-MAR-2023 10:07

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-CCV1

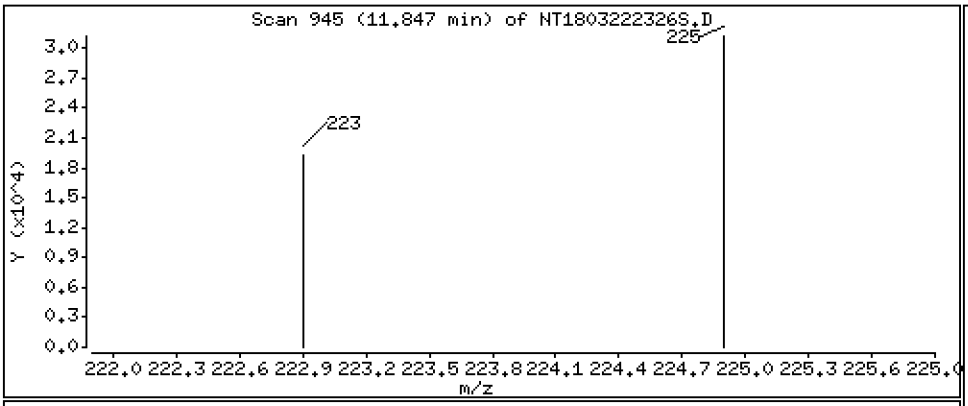
Operator: VTS

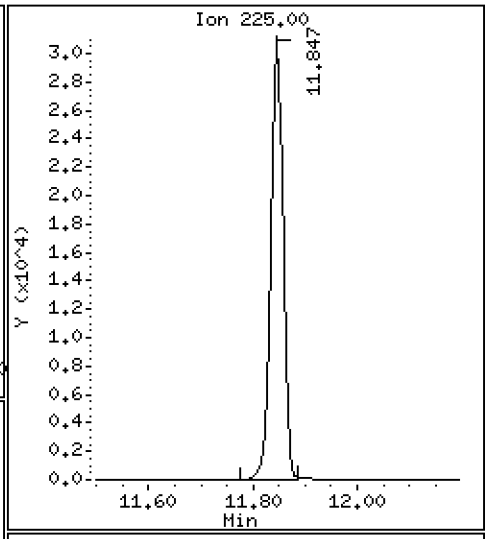
Column phase: ZB-5msi

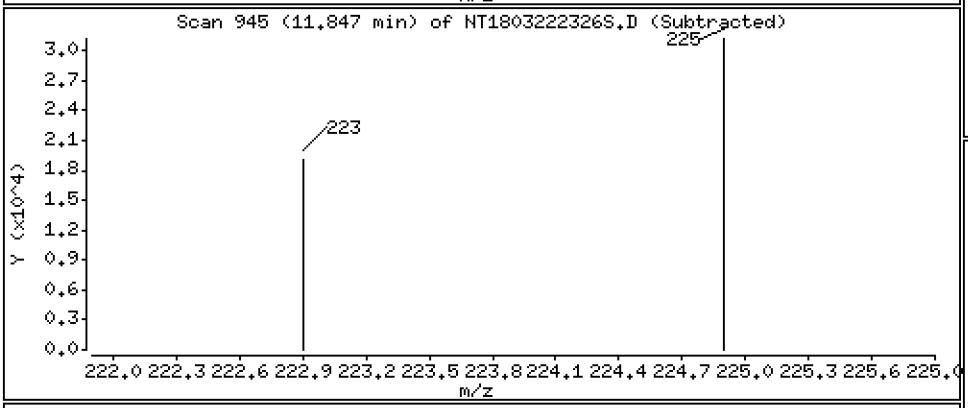
Column diameter: 0.25

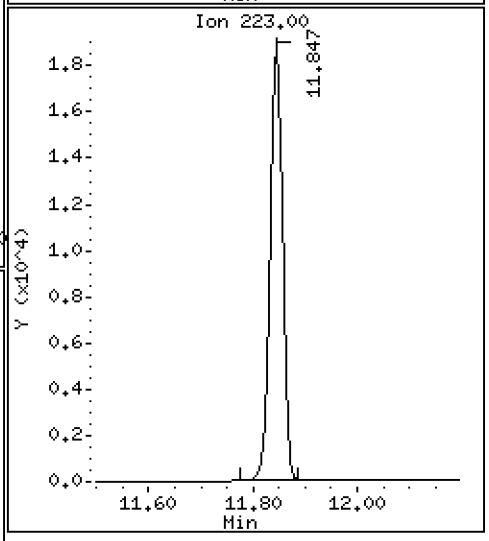
30 Hexachlorobutadiene

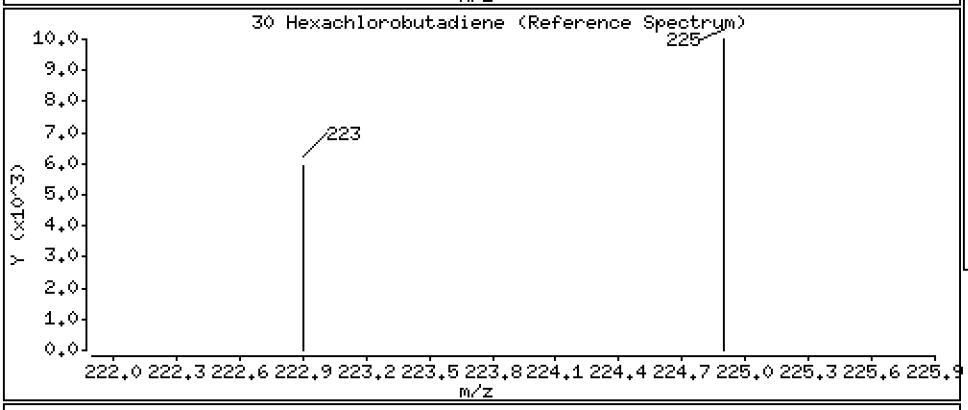
Concentration: 0.9253 ug/mL

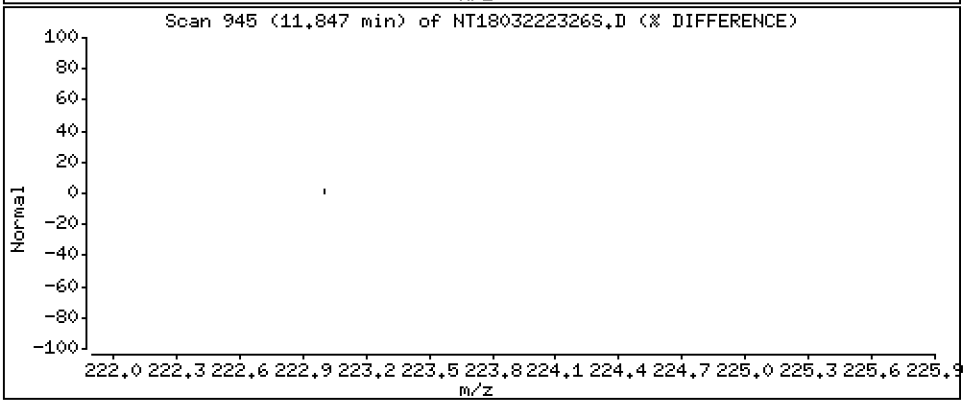












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT1803222326S.D

Date : 23-MAR-2023 10:07

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-CCV1

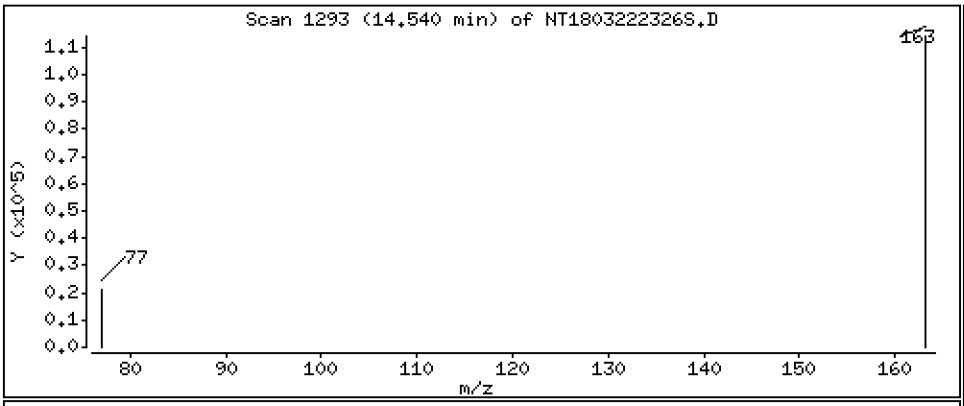
Operator: VTS

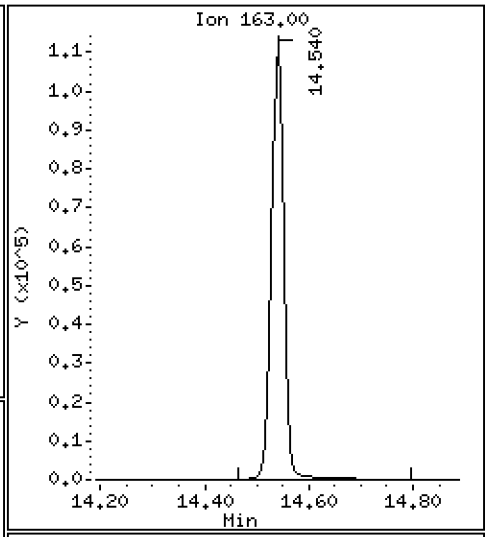
Column phase: ZB-5msi

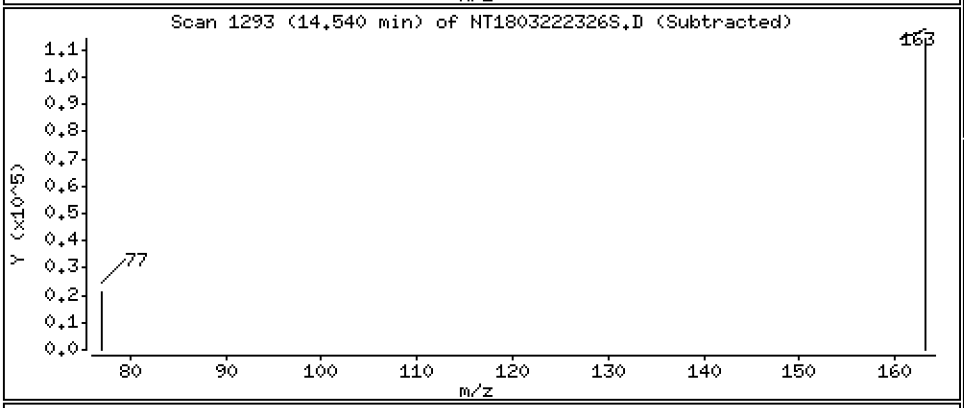
Column diameter: 0.25

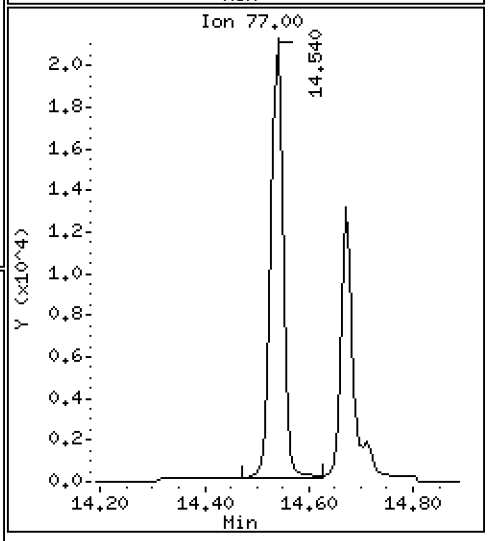
39 Dimethylphthalate

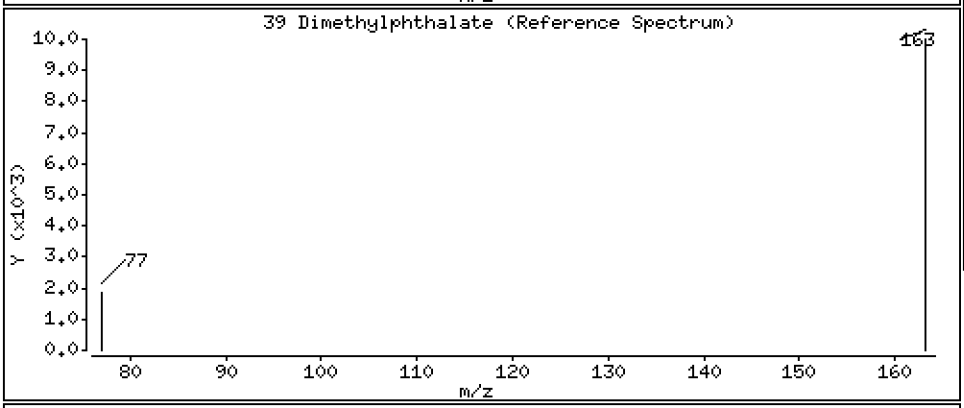
Concentration: 1.022 ug/mL

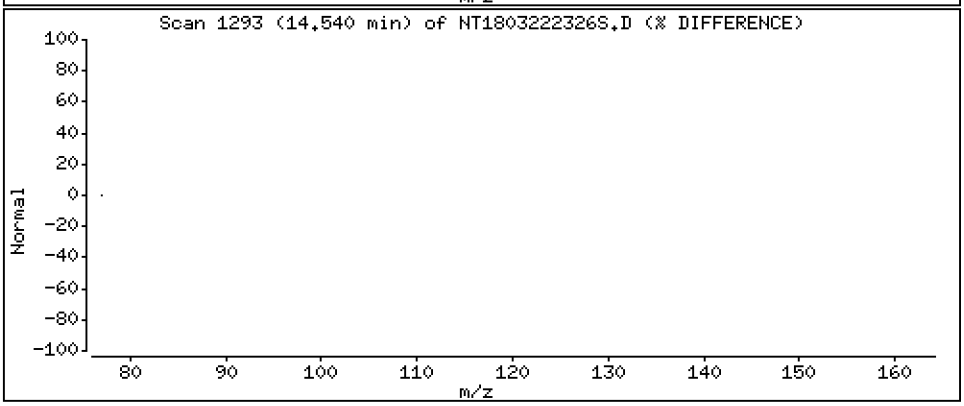












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT1803222326S.D

Date : 23-MAR-2023 10:07

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-CCV1

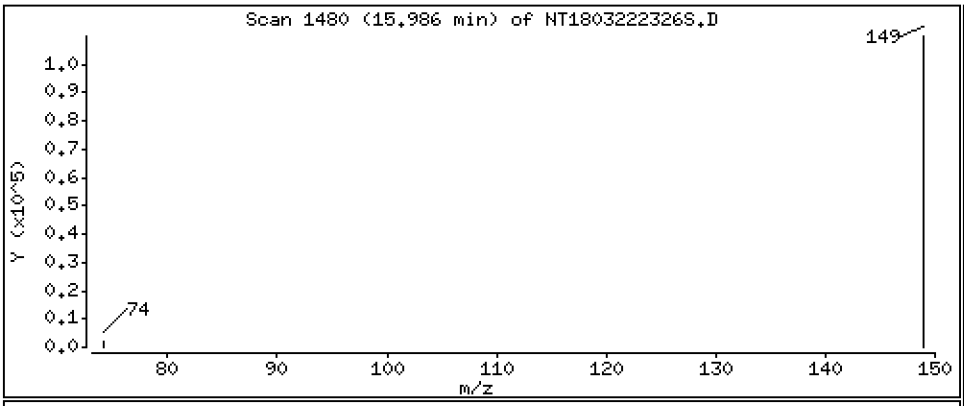
Operator: VTS

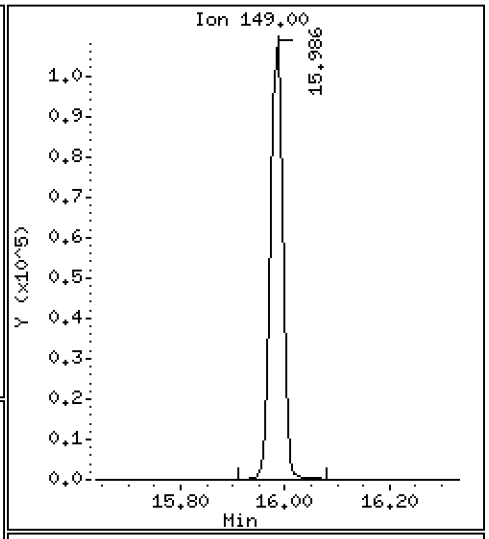
Column phase: ZB-5msi

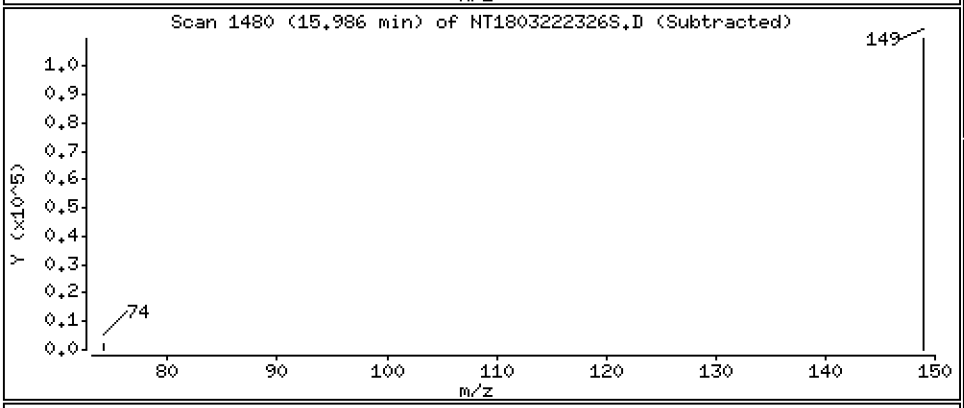
Column diameter: 0.25

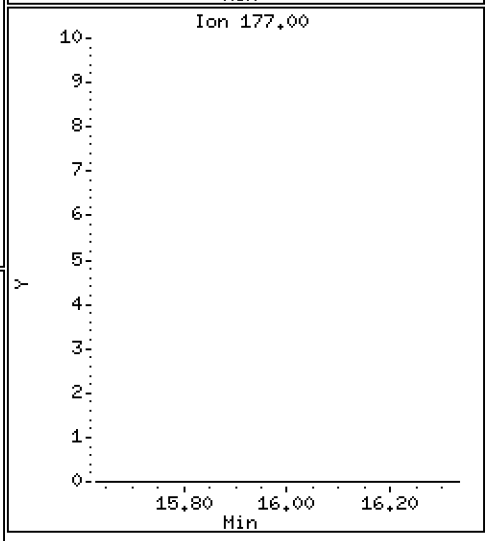
50 Diethylphthalate

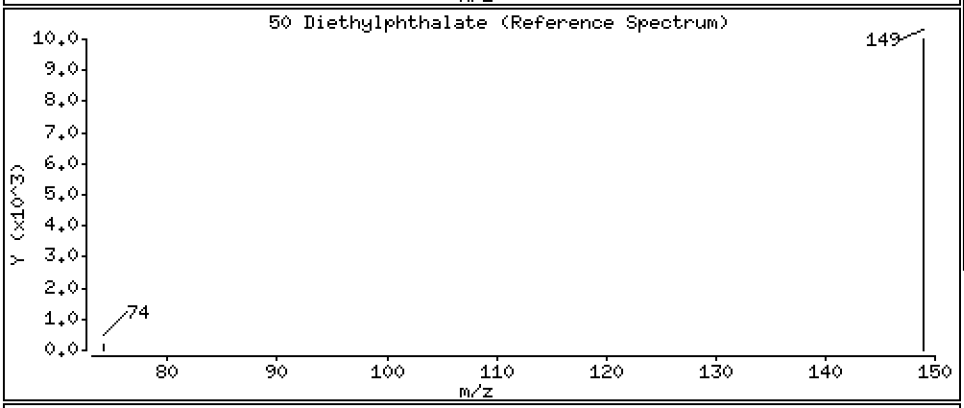
Concentration: 1.085 ug/mL

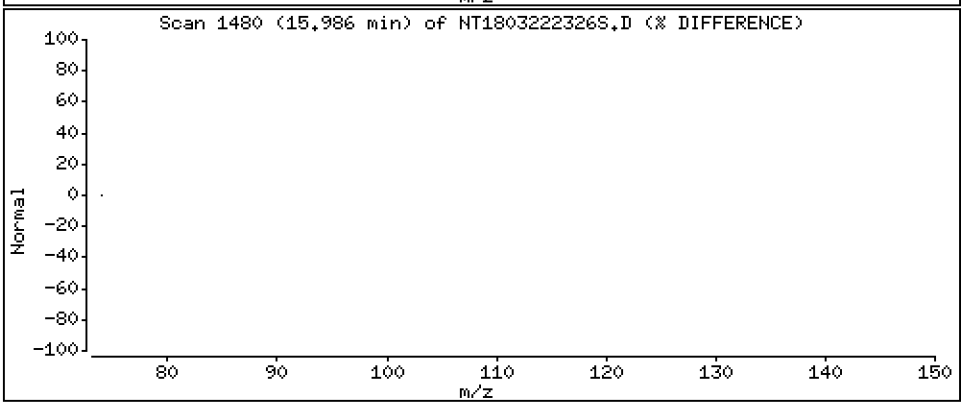












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Date : 23-MAR-2023 10:07

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-CCV1

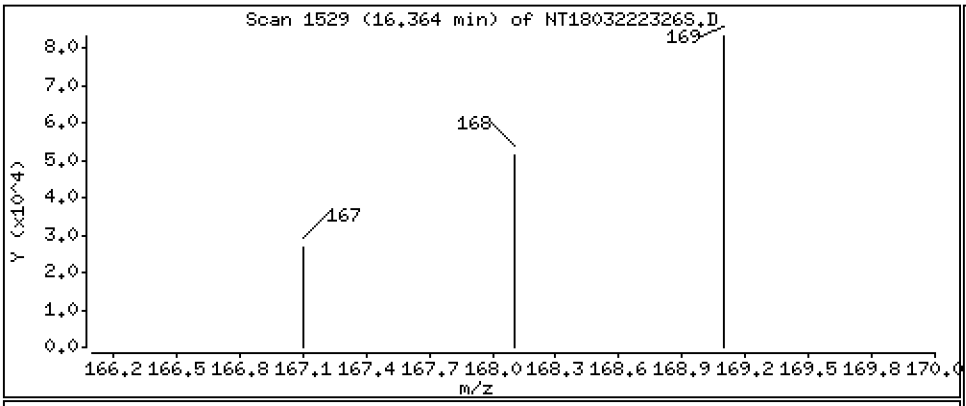
Operator: VTS

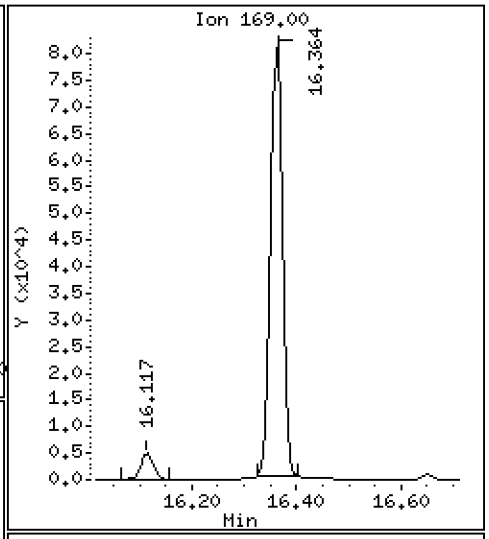
Column phase: ZB-5msi

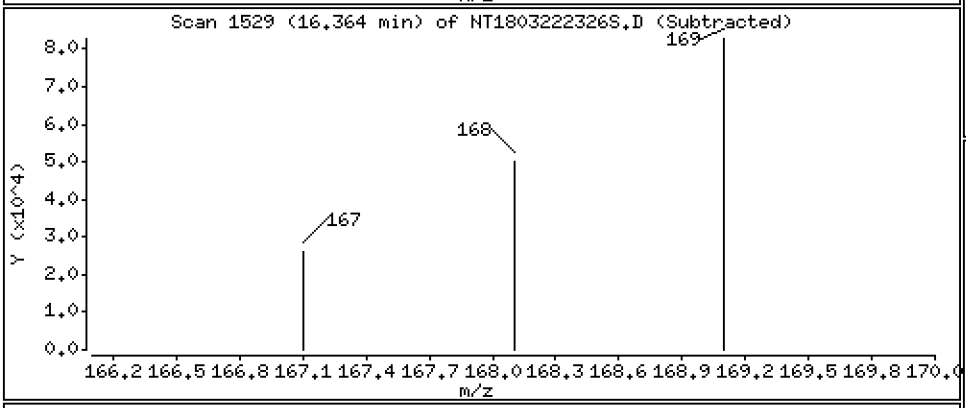
Column diameter: 0.25

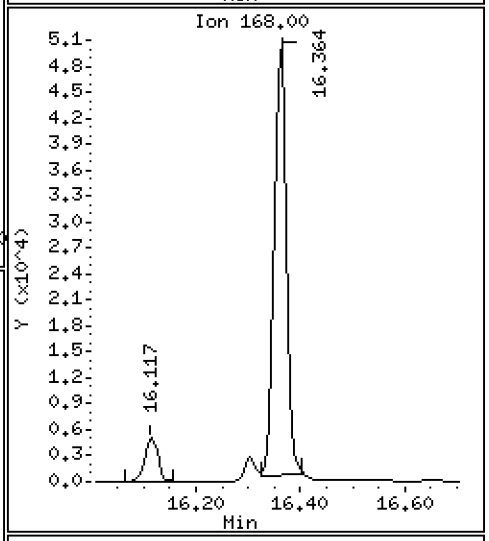
54 N-Nitrosodiphenylamine

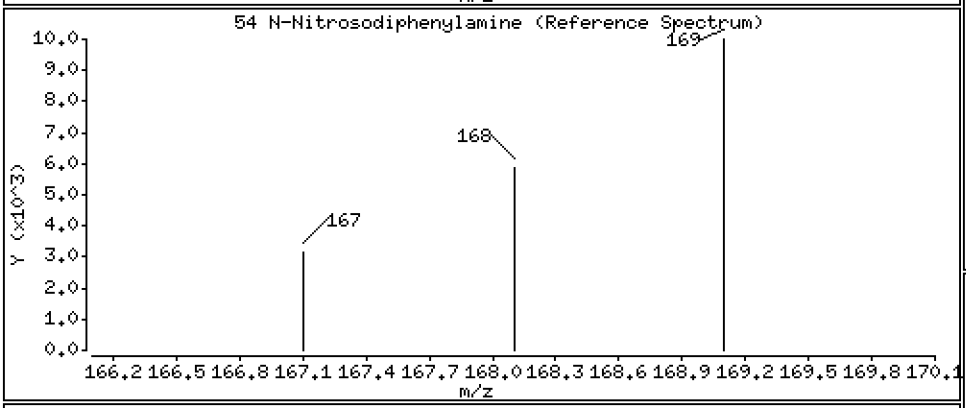
Concentration: 1.033 ug/mL

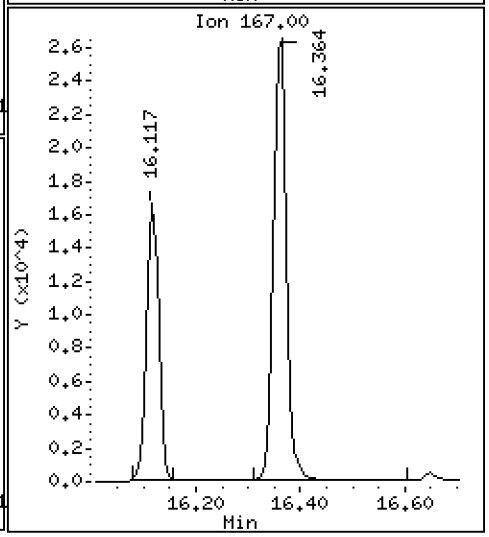


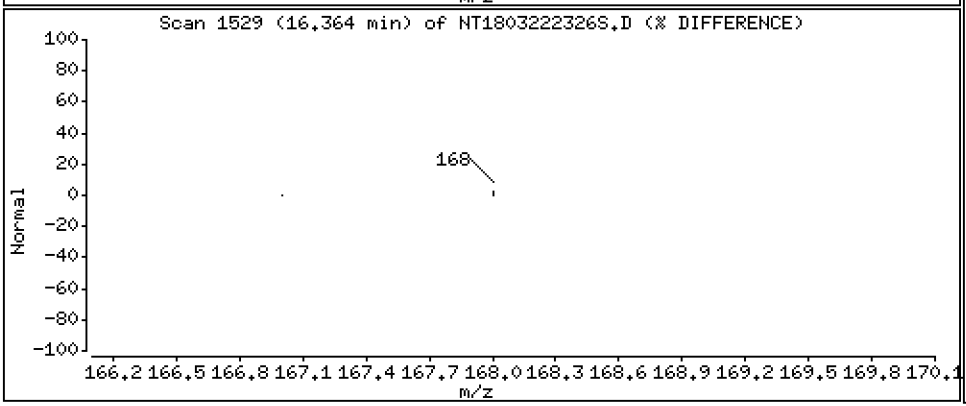












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT1803222326S.D

Date : 23-MAR-2023 10:07

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-CCV1

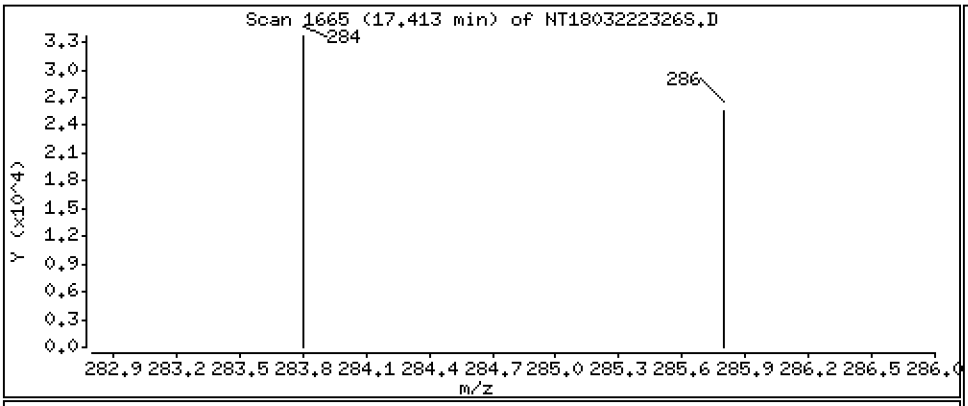
Operator: VTS

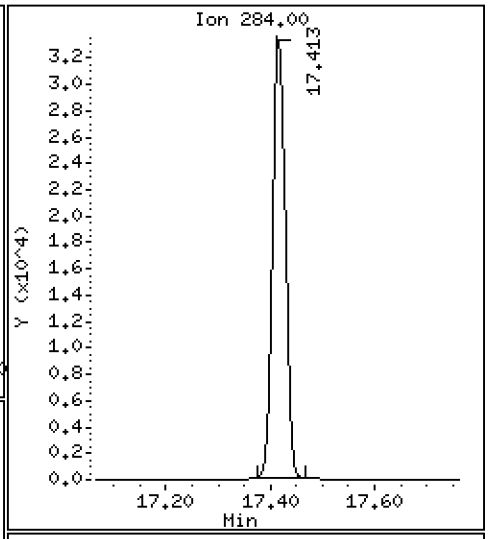
Column phase: ZB-5msi

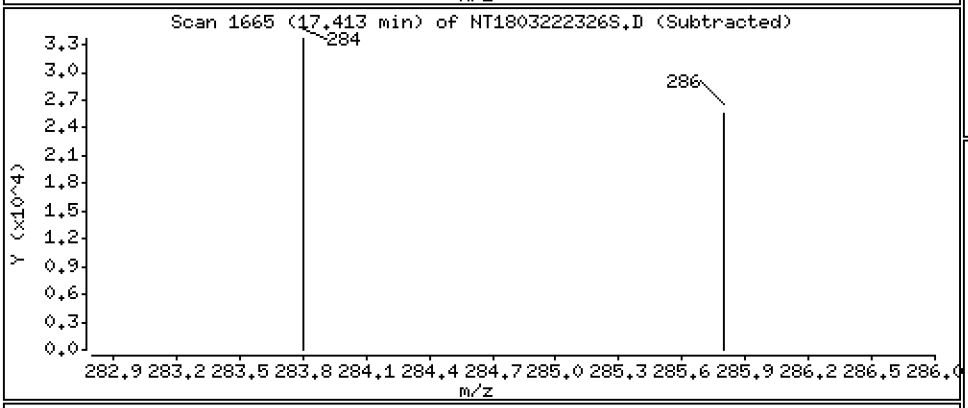
Column diameter: 0.25

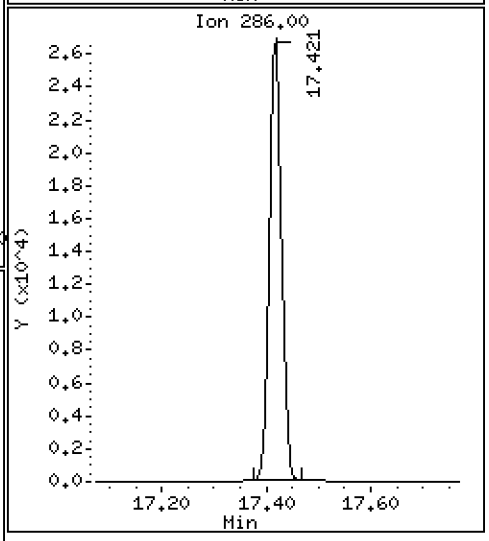
57 Hexachlorobenzene

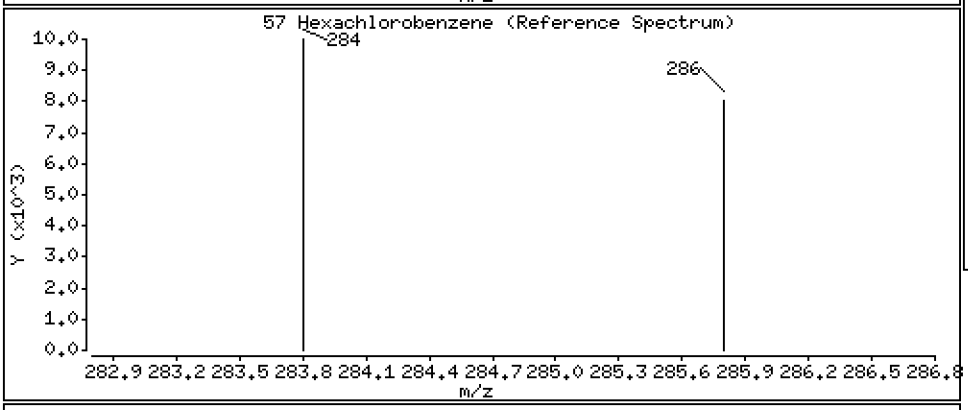
Concentration: 0.9731 ug/mL

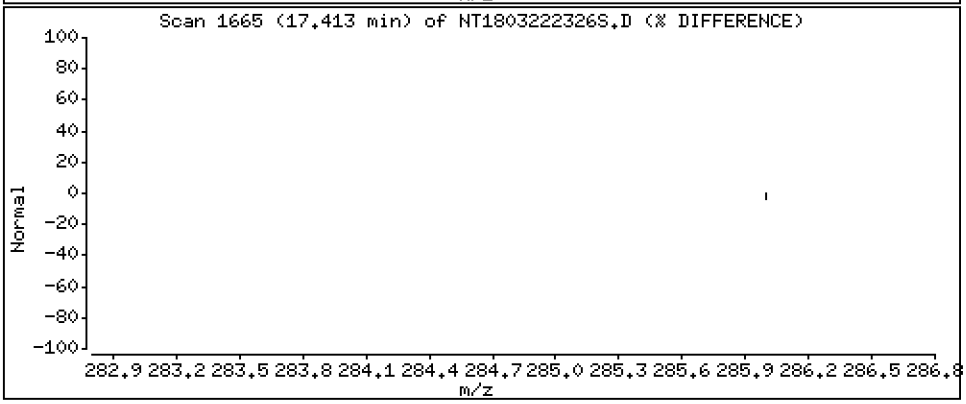












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT1803222326S.D

Date : 23-MAR-2023 10:07

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-CCV1

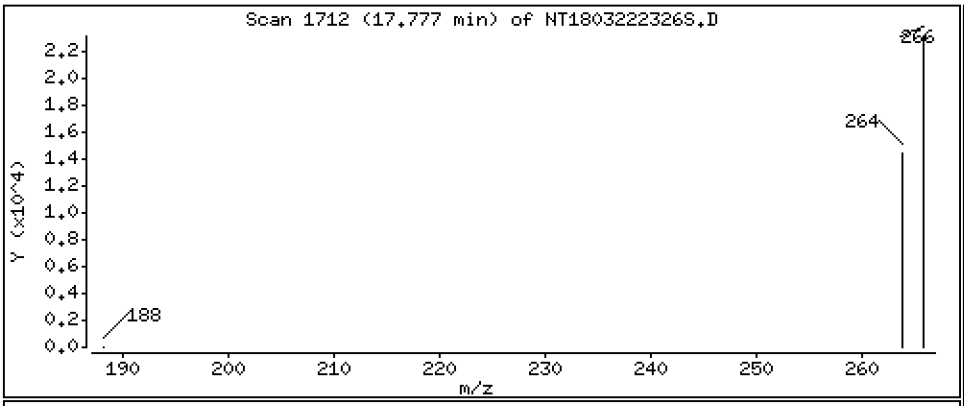
Operator: VTS

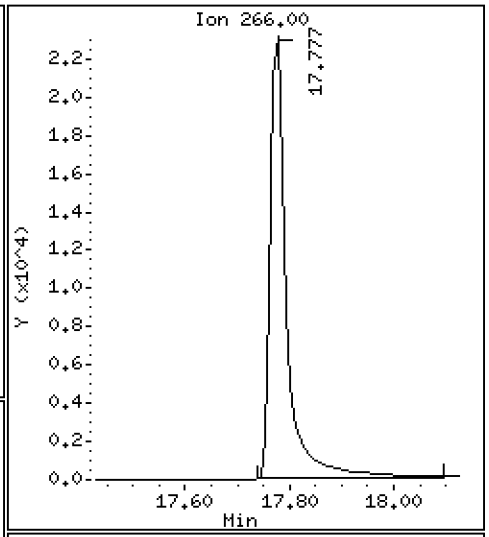
Column phase: ZB-5msi

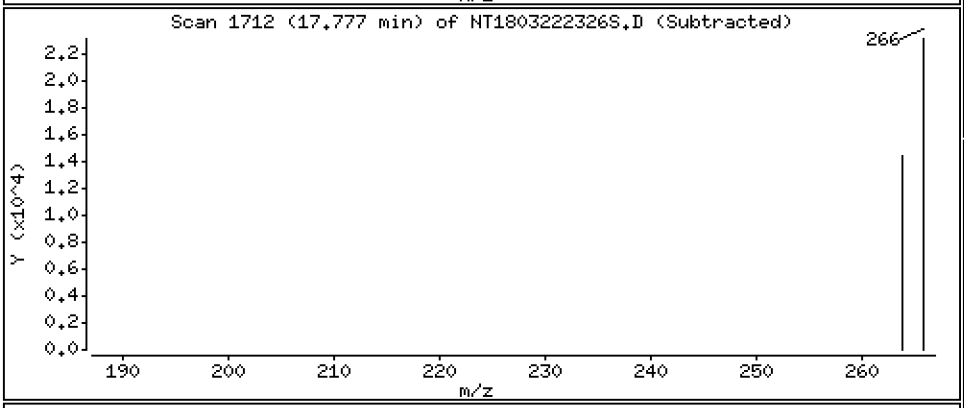
Column diameter: 0.25

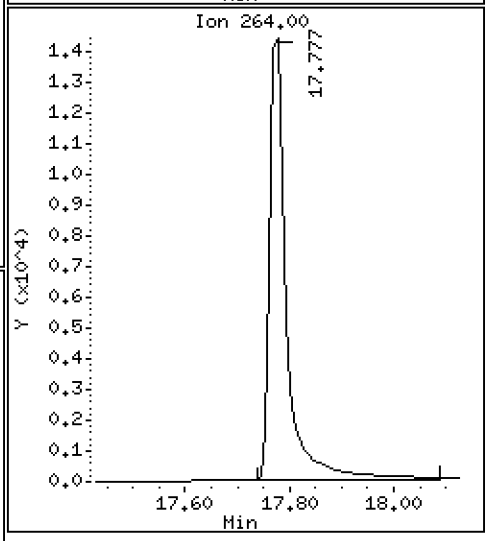
58 Pentachlorophenol

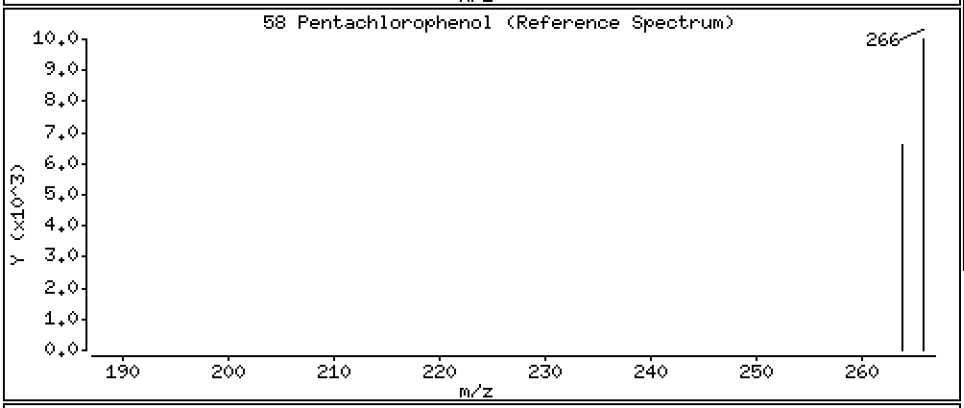
Concentration: 1.663 ug/mL

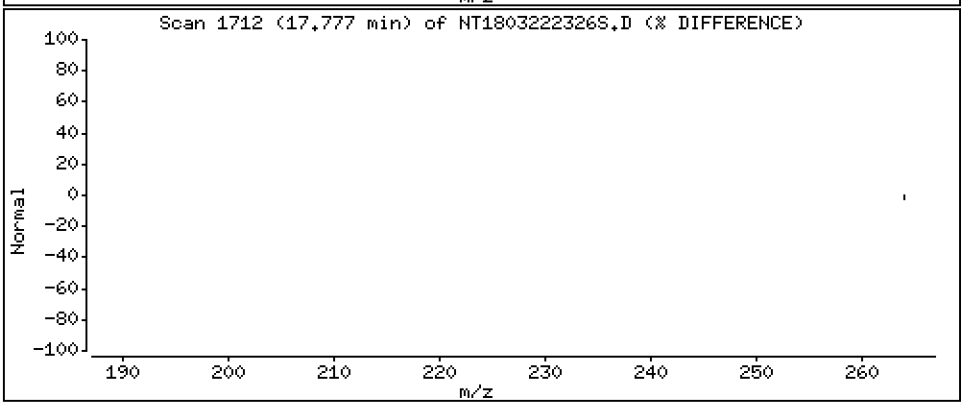












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Date : 23-MAR-2023 10:07

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-CCV1

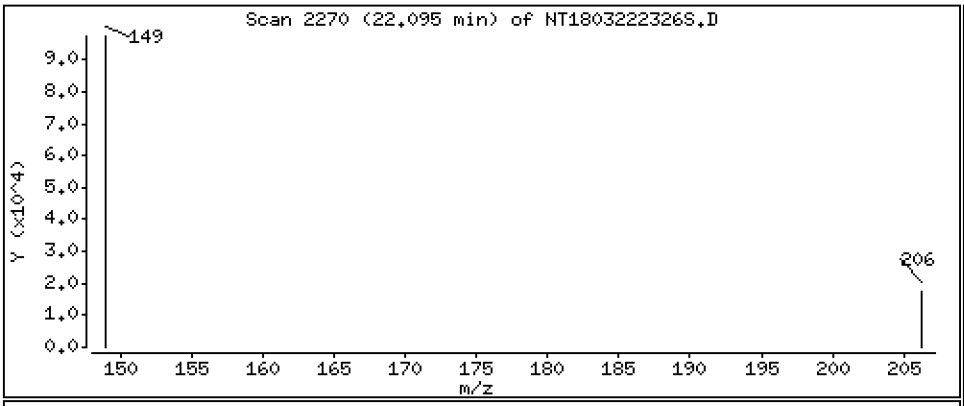
Operator: VTS

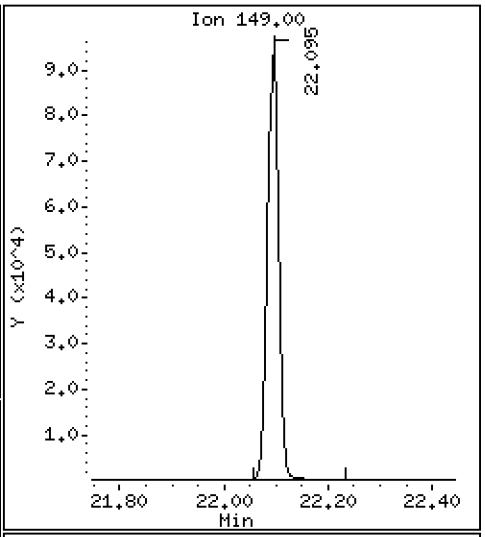
Column phase: ZB-5msi

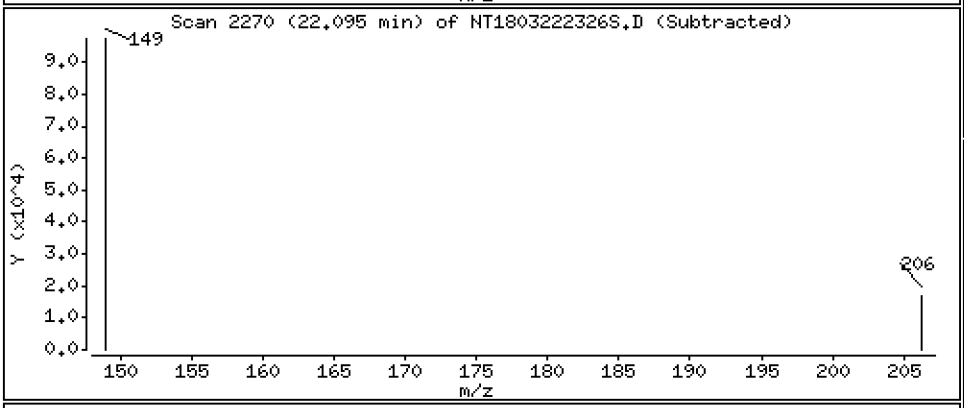
Column diameter: 0.25

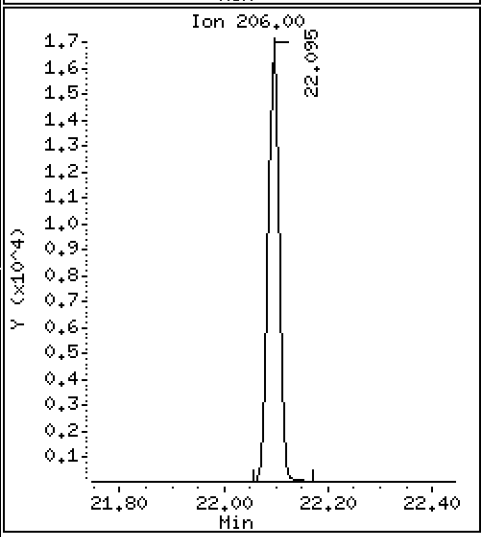
67 Butylbenzylphthalate

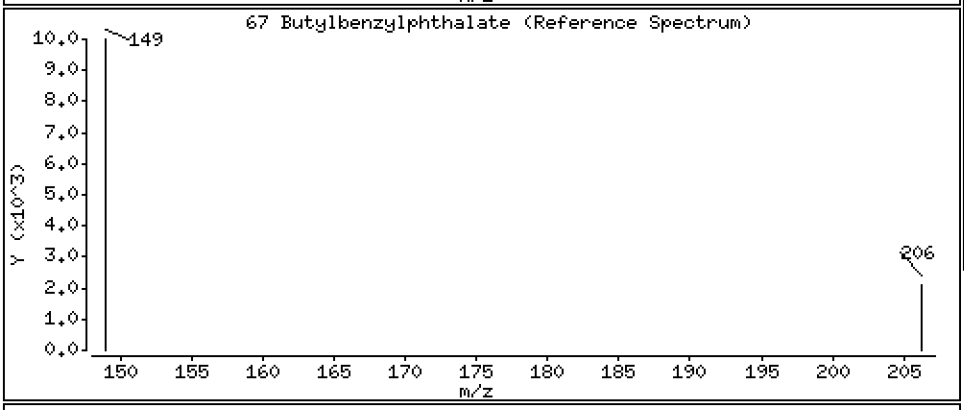
Concentration: 0.8843 ug/mL

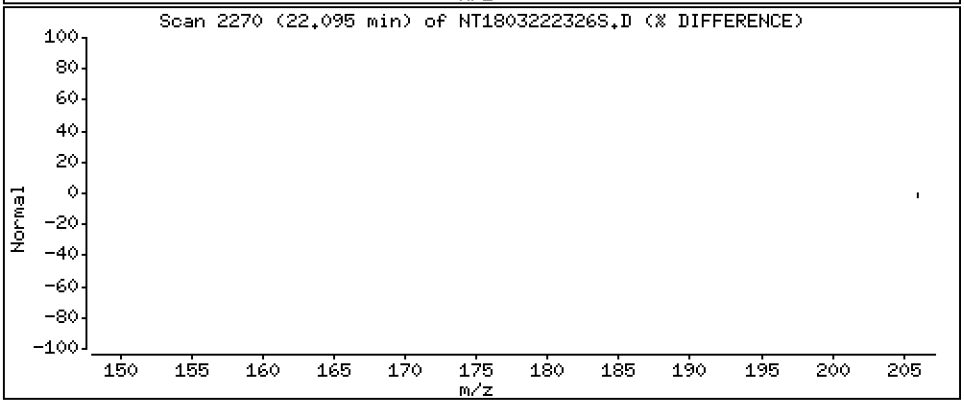












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Date : 23-MAR-2023 10:07

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-CCV1

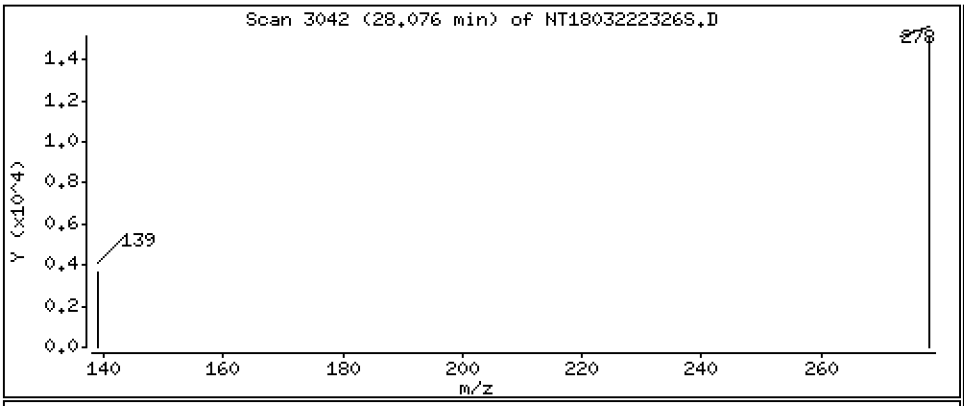
Operator: VTS

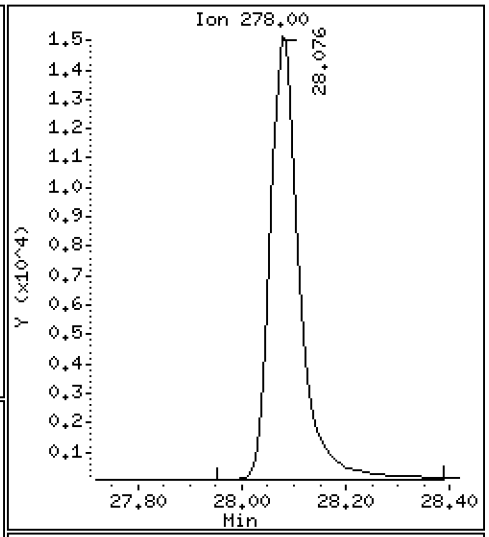
Column phase: ZB-5msi

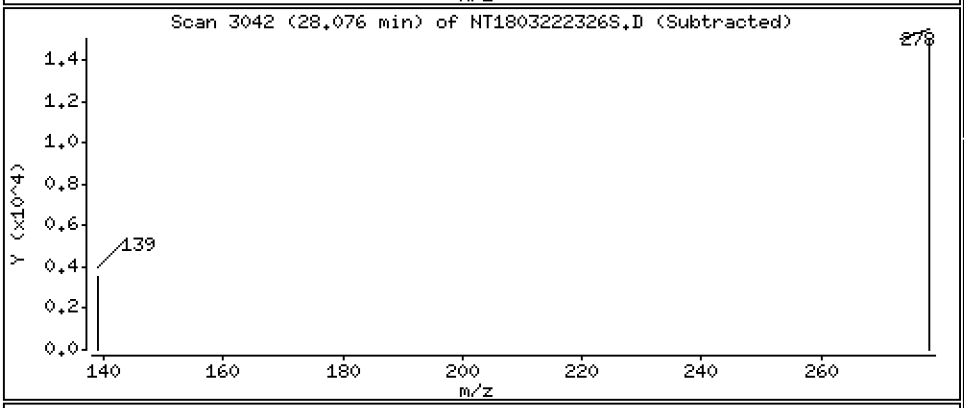
Column diameter: 0.25

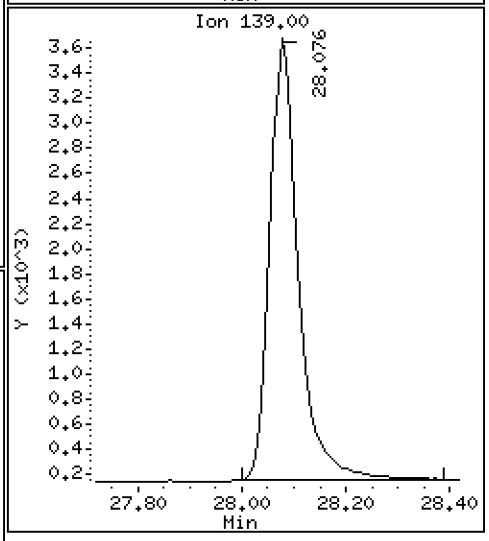
79 Dibenzo(a,h)anthracene

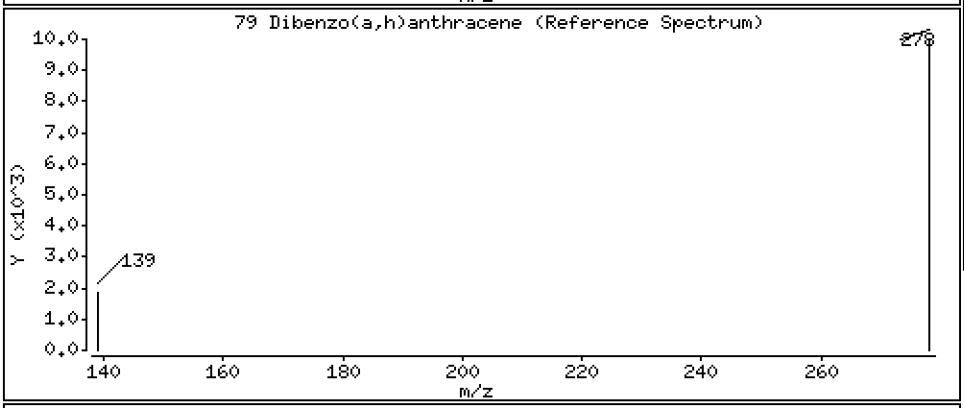
Concentration: 0.2477 ug/mL

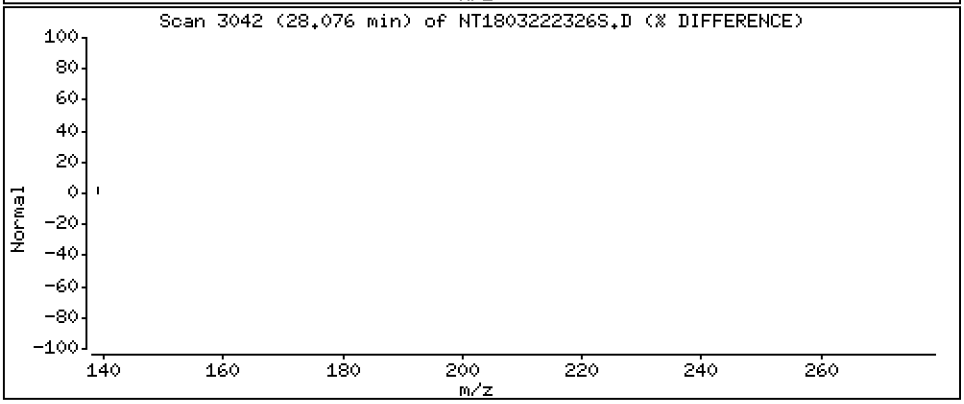












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Date : 23-MAR-2023 10:07

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-CCV1

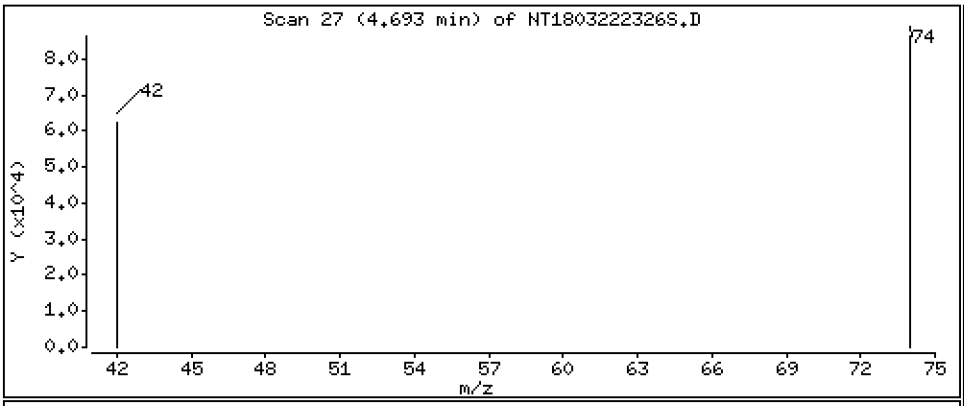
Operator: VTS

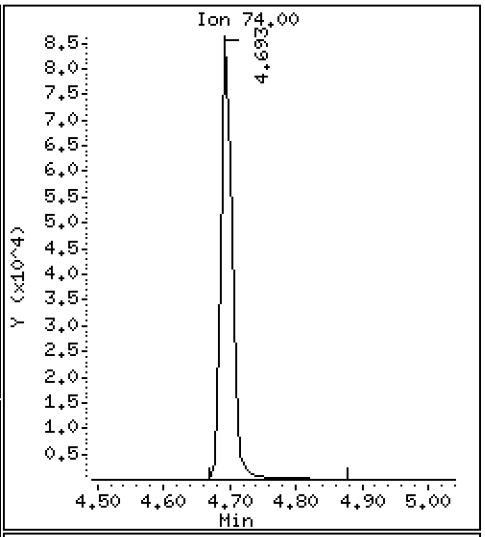
Column phase: ZB-5msi

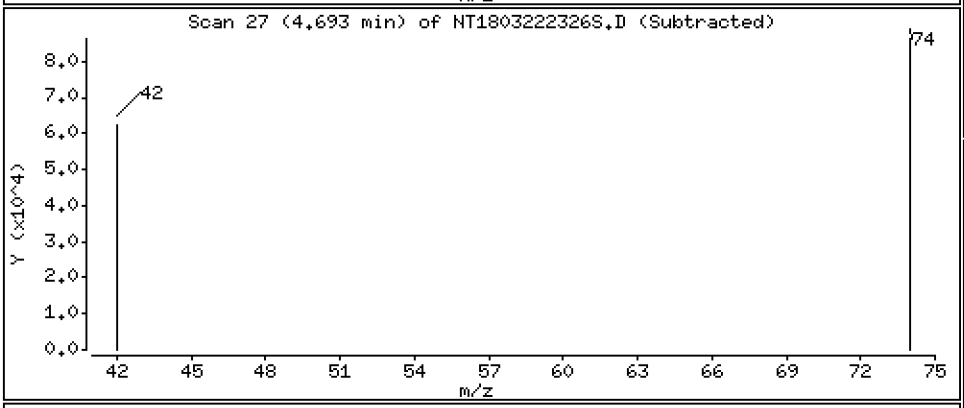
Column diameter: 0.25

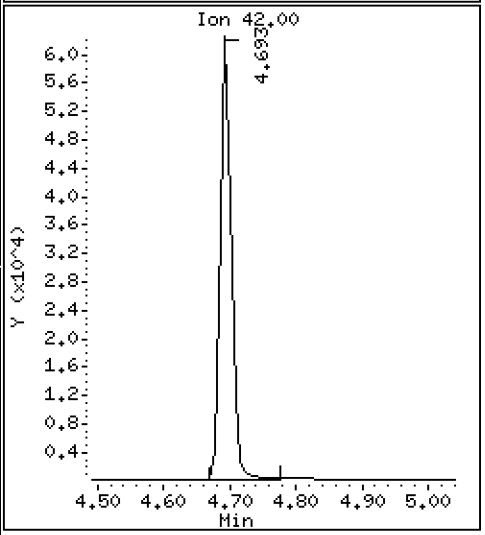
90 N-Nitrosodimethylamine

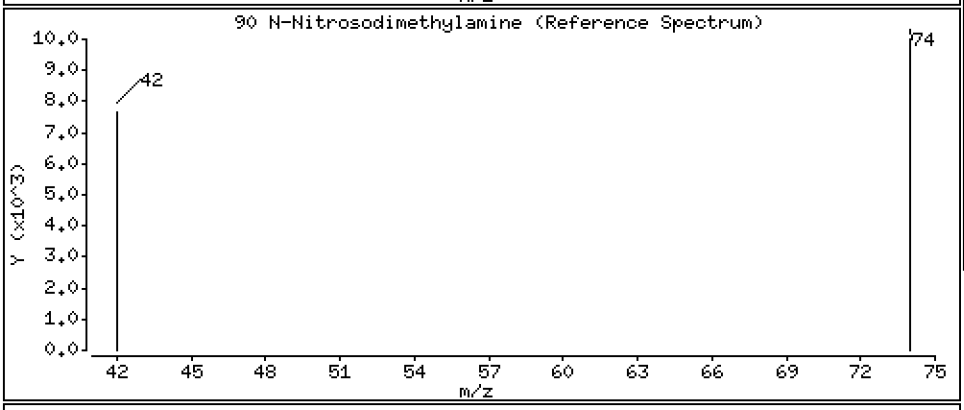
Concentration: 1.950 ug/mL

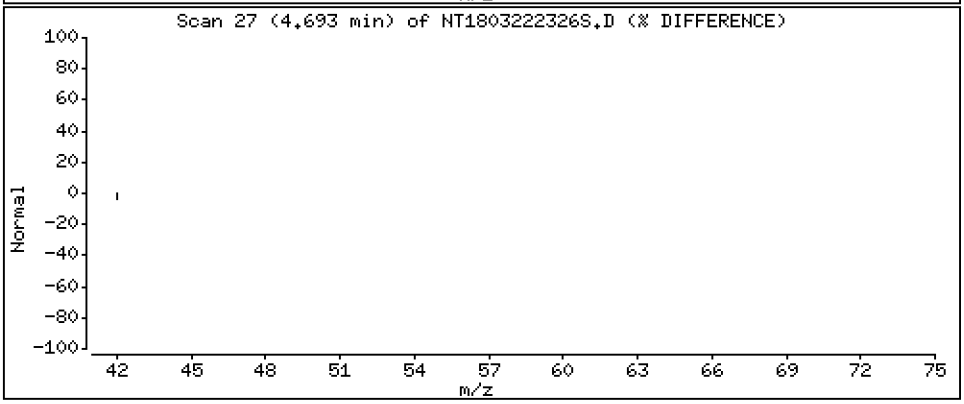












ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT1803222326S.D
Lab Smp Id: SLD0064-CCV1
Inj Date : 23-MAR-2023 10:07
Operator : VTS Inst ID: nt18.i
Smp Info : SLD0064-CCV1
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230322A.b\SIM.b\SIMABN2.m
Meth Date : 05-Apr-2023 11:57 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: DEENAY-201905

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.786	6.786	(0.756)	138219	1.57988	1.580(R)
	3 Phenol	94	8.369	8.369	(0.932)	114854	0.98041	0.9804
	7 1,3-Dichlorobenzene	146	8.918	8.918	(0.993)	108120	0.95402	0.9540
*	8 1,4-Dichlorobenzene-d4	152	8.980	8.980	(1.000)	300096	4.00000	
	9 1,4-Dichlorobenzene	146	9.011	9.011	(1.003)	107647	0.93644	0.9364
	11 Benzyl alcohol	79	9.252	9.244	(1.030)	61924	0.88395	0.8839
	12 1,2-Dichlorobenzene	146	9.361	9.361	(1.042)	104899	0.93761	0.9376
	13 2-Methylphenol	108	9.469	9.469	(1.054)	84750	1.04213	1.042
	15 4-Methylphenol	108	9.741	9.741	(1.085)	88278	1.04352	1.044
	16 N-Nitroso-di-n-propylamine	70	9.803	9.803	(1.092)	56108	1.00547	1.005
	22 2,4-Dimethylphenol	107	10.775	10.775	(0.941)	162045	2.08560	2.086
	24 Benzoic acid	105	10.911	10.911	(0.953)	176035	3.28393	3.284
	26 1,2,4-Trichlorobenzene	180	11.360	11.360	(0.993)	83721	0.94473	0.9447
*	27 Naphthalene-d8	136	11.445	11.437	(1.000)	1112578	4.00000	
	30 Hexachlorobutadiene	225	11.846	11.846	(1.035)	47192	0.92531	0.9253
	39 Dimethylphthalate	163	14.539	14.539	(0.968)	176562	1.02183	1.022
*	42 Acenaphthene-d10	162	15.027	15.027	(1.000)	540961	4.00000	
	50 Diethylphthalate	149	15.986	15.985	(1.064)	170278	1.08529	1.085
	54 N-Nitrosodiphenylamine	169	16.364	16.364	(0.907)	121372	1.03265	1.033
	57 Hexachlorobenzene	284	17.413	17.413	(0.966)	54411	0.97307	0.9731
	58 Pentachlorophenol	266	17.777	17.777	(0.986)	49725	1.66257	1.663
*	59 Phenanthrene-d10	188	18.032	18.032	(1.000)	967738	4.00000	
$	66 Terphenyl-d14	244	21.166	21.166	(0.918)	137127	0.92691	0.9269(R)
	67 Butylbenzylphthalate	149	22.095	22.095	(0.958)	130986	0.88431	0.8843
*	69 Chrysene-d12	240	23.055	23.055	(1.000)	1049579	4.00000	
*	77 Perylene-d12	264	25.563	25.563	(1.000)	810491	4.00000	
	79 Dibenzo(a,h)anthracene	278	28.076	28.068	(1.098)	59397	0.24768	0.2477
	90 N-Nitrosodimethylamine	74	4.693	4.692	(0.523)	104120	1.94995	1.950

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222326S.D
Lab Smp Id: SLD0064-CCV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 23-MAR-2023
Calibration Time: 04:45
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	300412	150206	600824	300096	-0.11
27 Naphthalene-d8	1106289	553145	2212578	1112578	0.57
42 Acenaphthene-d10	537373	268687	1074746	540961	0.67
59 Phenanthrene-d10	948670	474335	1897340	967738	2.01
69 Chrysene-d12	1017874	508937	2035748	1049579	3.11
77 Perylene-d12	984454	492227	1968908	810491	-17.67

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.45	0.07
42 Acenaphthene-d10	15.03	14.53	15.53	15.03	0.00
59 Phenanthrene-d10	18.03	17.53	18.53	18.03	0.00
69 Chrysene-d12	23.06	22.56	23.56	23.06	0.00
77 Perylene-d12	25.56	25.06	26.06	25.56	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222326S.D

Lab ID: SLD0064-CCV1
nt18.i, 20230322A.b\SIM.b\SIMABN2.m,   23-MAR-2023 10:07

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

RRT check based on Ccal File: SIM.b/NT1803222318S.D

On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

Analytical Resources, LLC
Analytical Chemists and Consultants

LOW-CONCENTRATION
CONTINUING CALIBRATION CHECK
EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	NT18	Calibration:	GD00001
Lab File ID:	NT1803222320S.D	Calibration Date:	04/01/2023
Sequence:	SLD0064	Injection Date:	03/23/23
Lab Sample ID:	SLD0064-LCV1	Injection Time:	06:05
Sequence Name:	ABN 0.1		

		CONC. (ug/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
1,4-Dichlorobenzene	A	0.10000	0.1	1.5322280	1.6564190		8.1	
1,2-Dichlorobenzene	A	0.10000	0.1	1.4912410	1.6075820		7.8	
Benzyl Alcohol	A	0.10000	0.09	0.7708820	0.8129648		-12.9	
Benzoic acid	A	0.40000	0.0	0.1069329				
2,4-Dimethylphenol	A	0.20000	0.2	0.2793404	0.2876397		3.0	
1,2,4-Trichlorobenzene	A	0.10000	0.1	0.3186083	0.3340718		4.9	
N-Nitrosodiphenylamine	A	0.10000	0.1	0.4858130	0.5098823		5.0	
Pentachlorophenol	A	0.20000	0.01	0.0867576	0.0083787		-93.1	
2-Fluorophenol	A	0.15000	0.155	1.1661190	1.2015040		3.0	
p-Terphenyl-d14	A	0.10000	0.0968	0.5638063	0.5458556		-3.2	

* Values outside of QC limits

Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT18032223205.D

Date : 23-MAR-2023 06:05

Client ID:

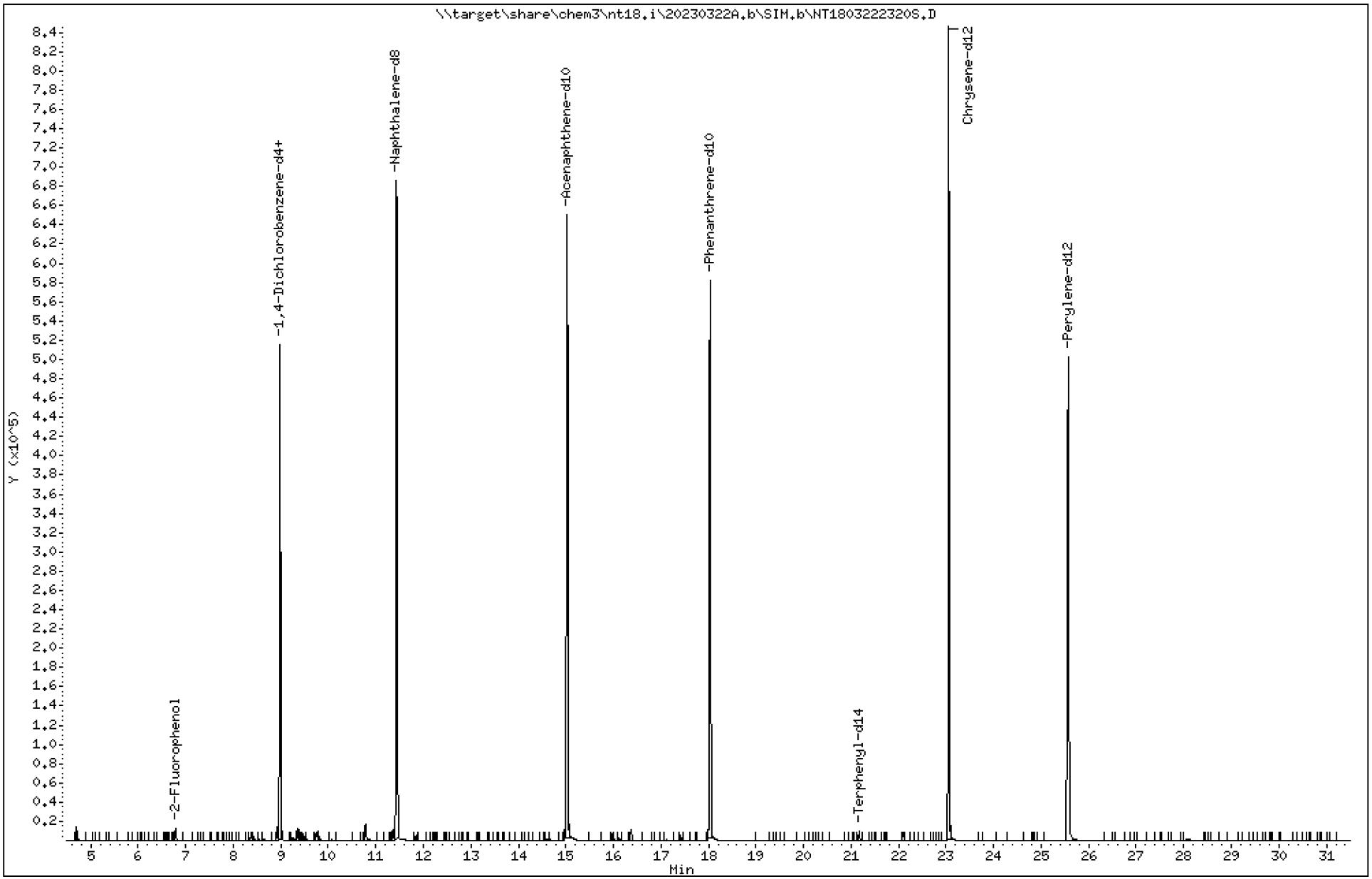
Instrument: nt18.i

Sample Info: SLD0064-LCV1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT1803222320S.D

Date : 23-MAR-2023 06:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-LCV1

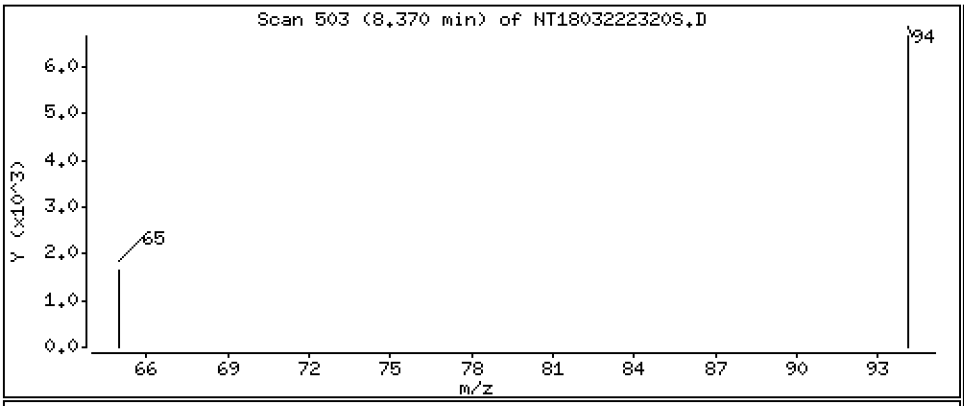
Operator: VTS

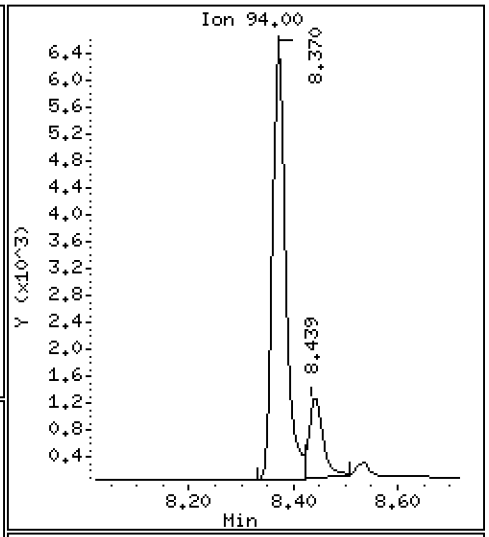
Column phase: ZB-5msi

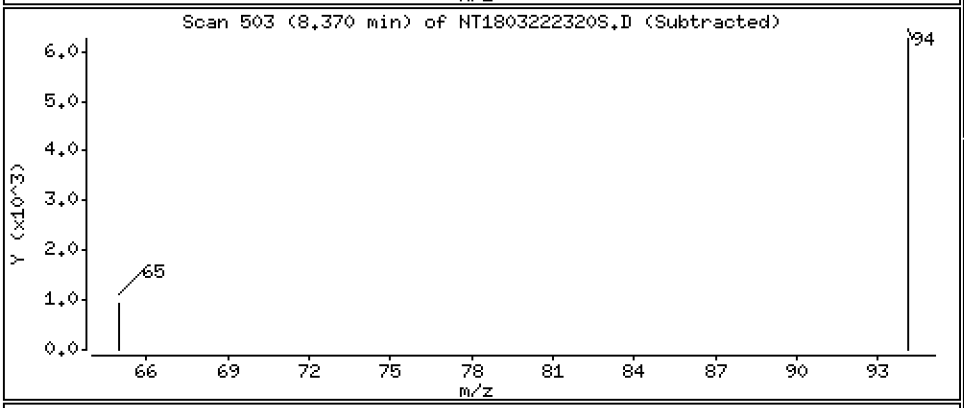
Column diameter: 0.25

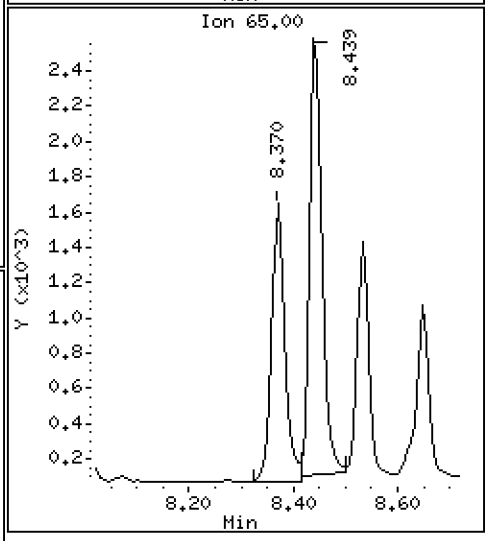
3 Phenol

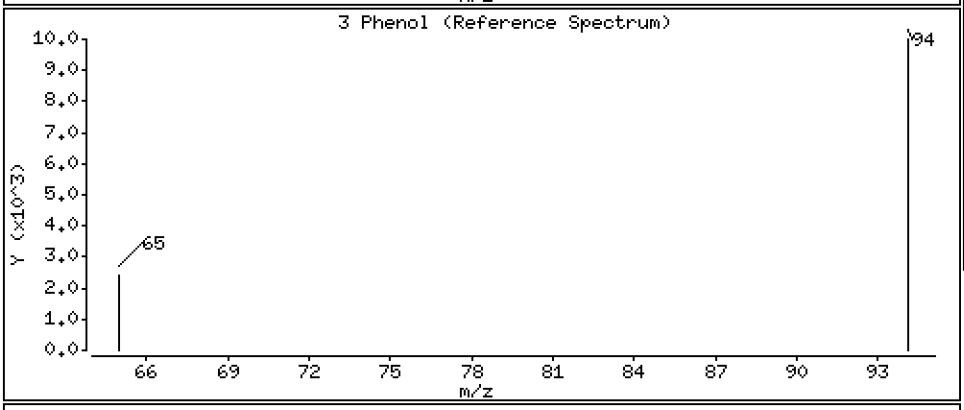
Concentration: 0.09371 ug/mL

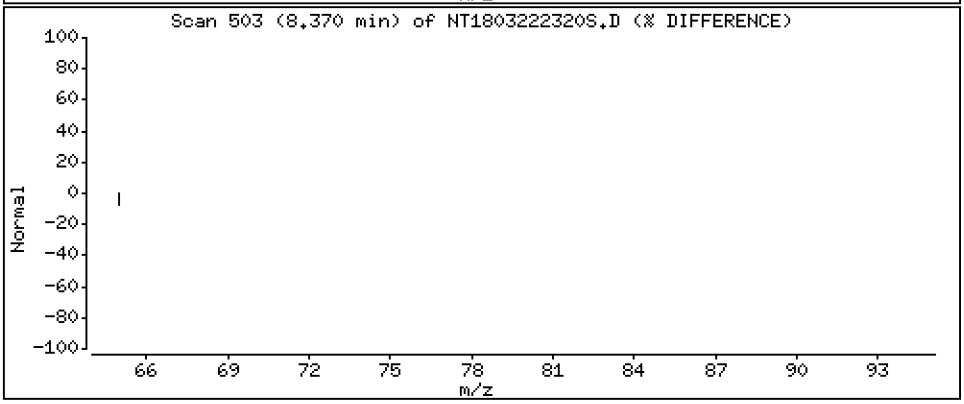












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT1803222320S.D

Date : 23-MAR-2023 06:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-LCV1

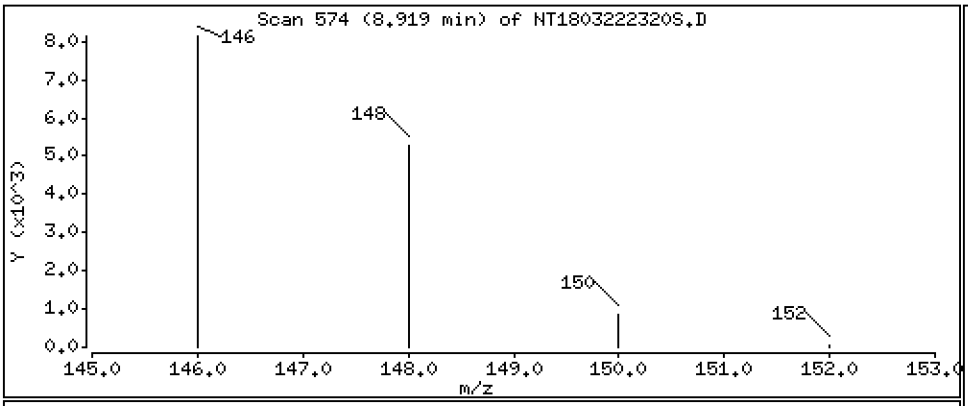
Operator: VTS

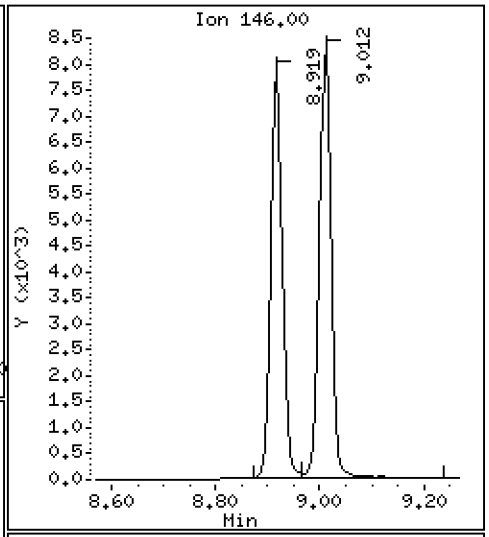
Column phase: ZB-5msi

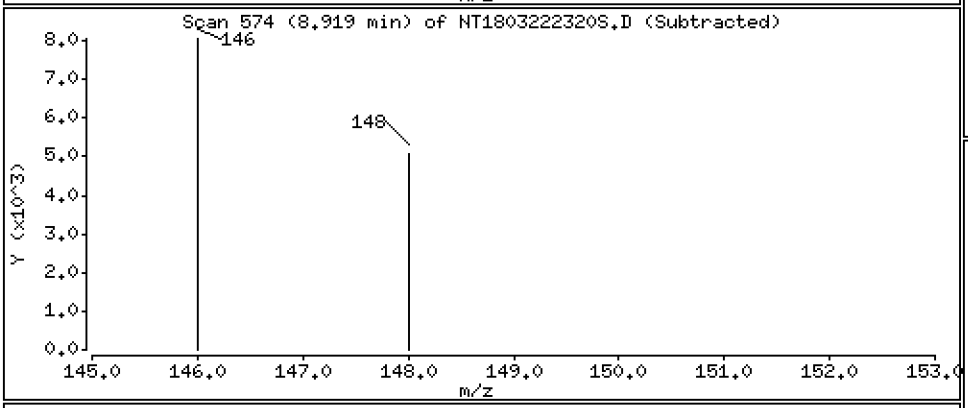
Column diameter: 0.25

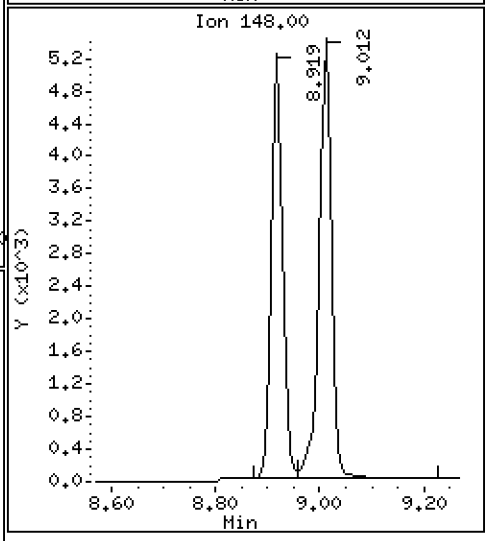
7 1,3-Dichlorobenzene

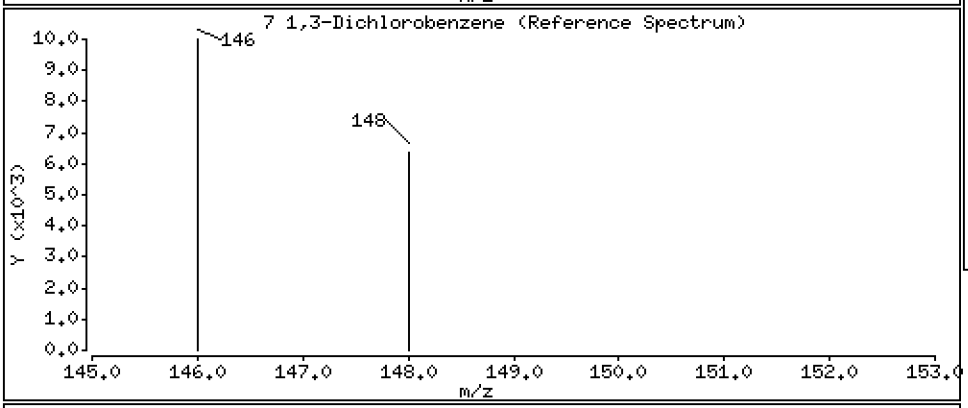
Concentration: 0.1063 ug/mL

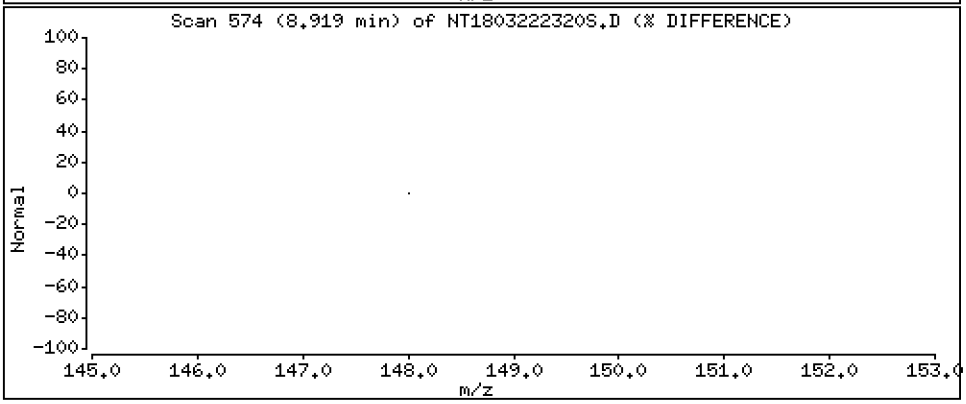












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT1803222320S.D

Date : 23-MAR-2023 06:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-LCV1

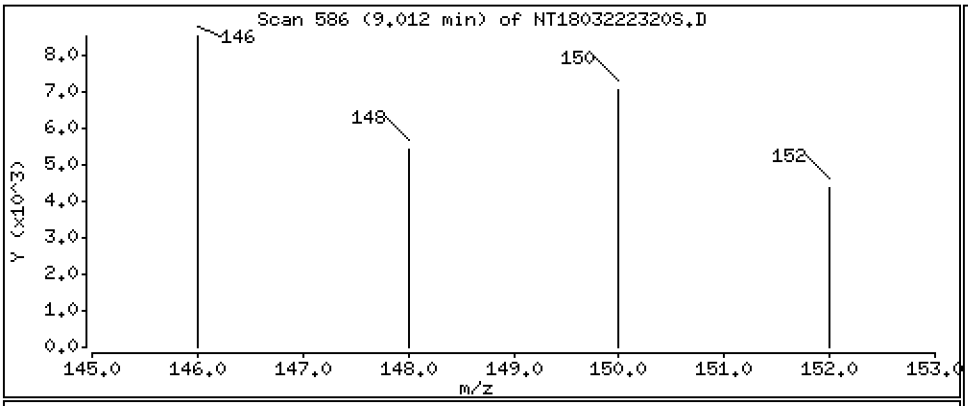
Operator: VTS

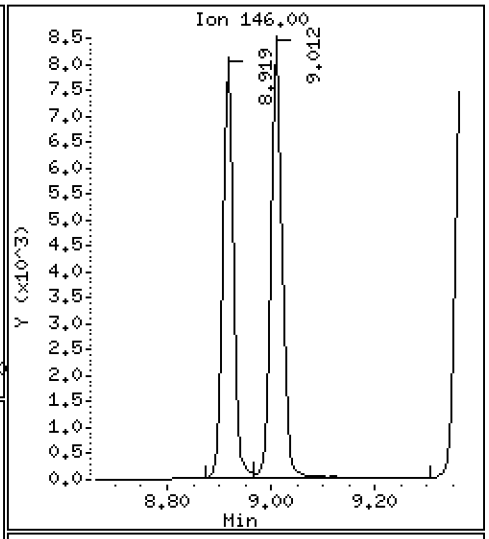
Column phase: ZB-5msi

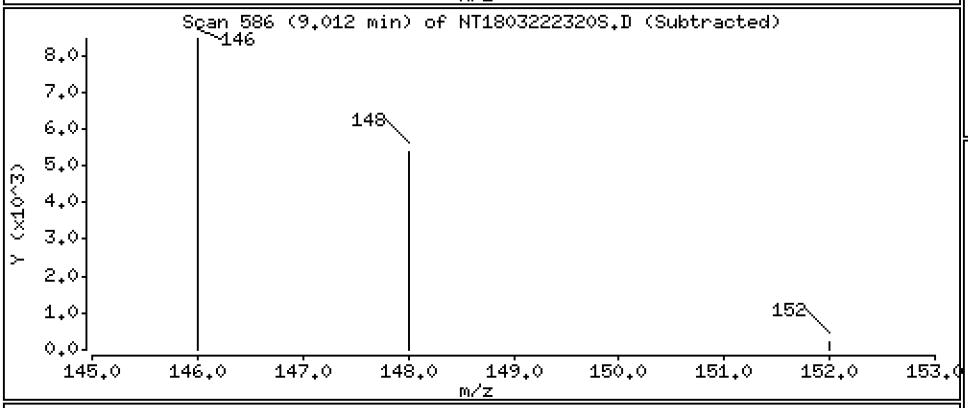
Column diameter: 0.25

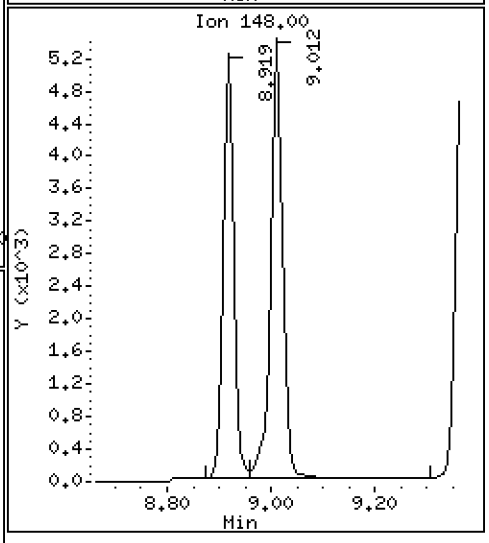
9 1,4-Dichlorobenzene

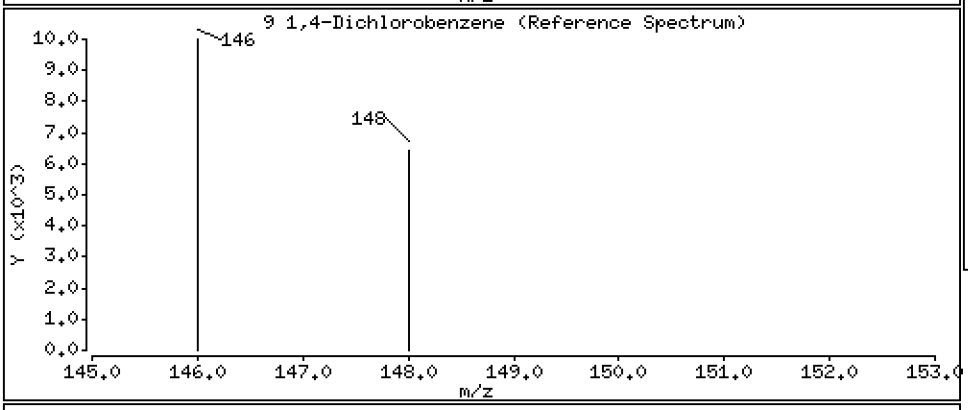
Concentration: 0.1081 ug/mL

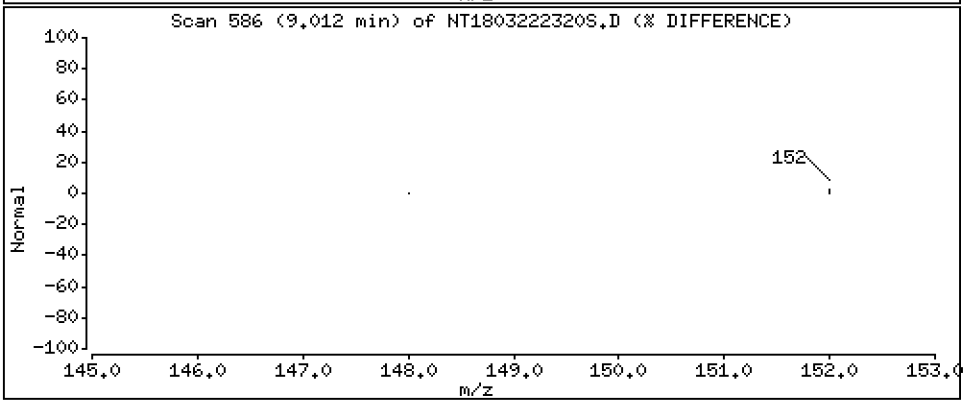












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT1803222320S.D

Date : 23-MAR-2023 06:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-LCV1

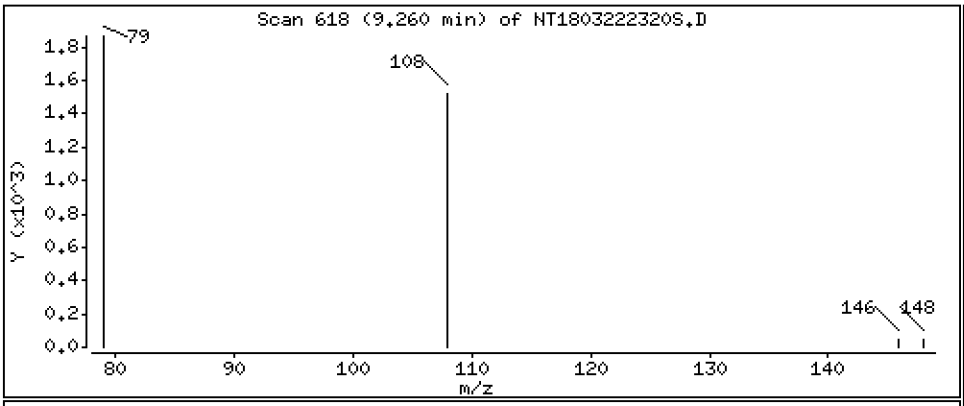
Operator: VTS

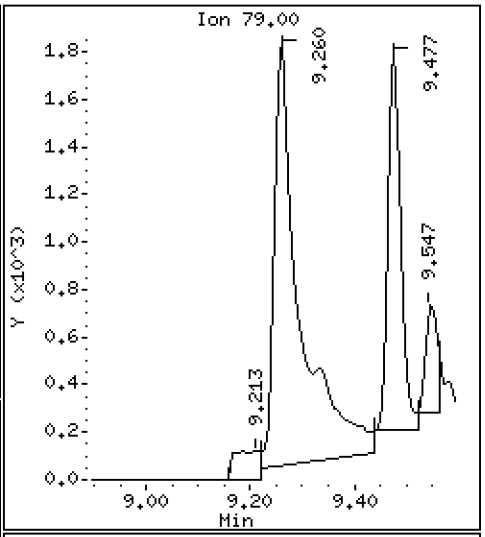
Column phase: ZB-5msi

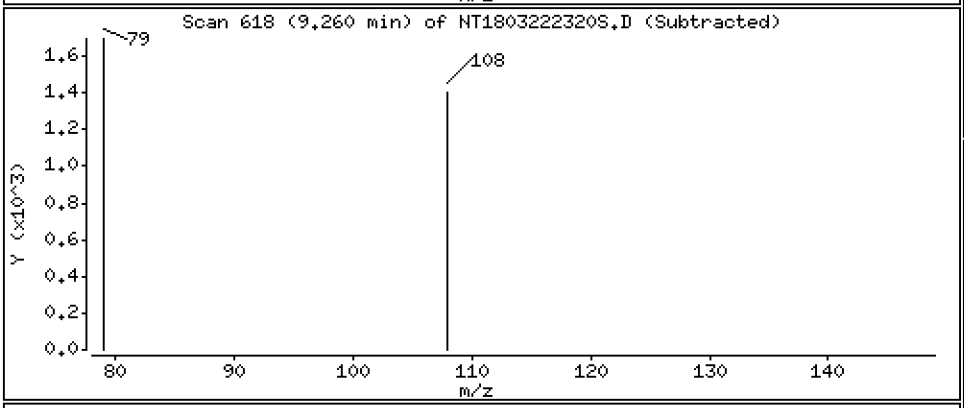
Column diameter: 0.25

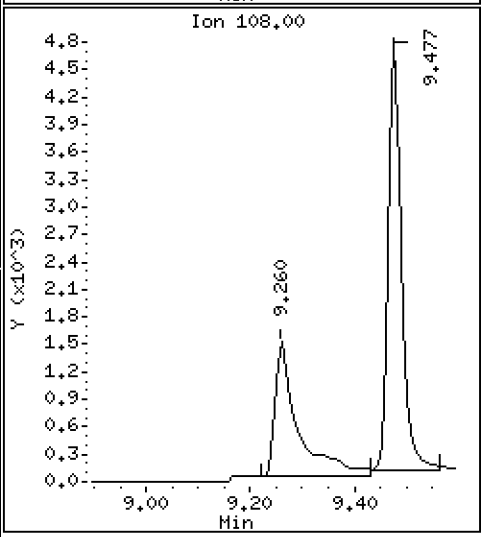
11 Benzyl alcohol

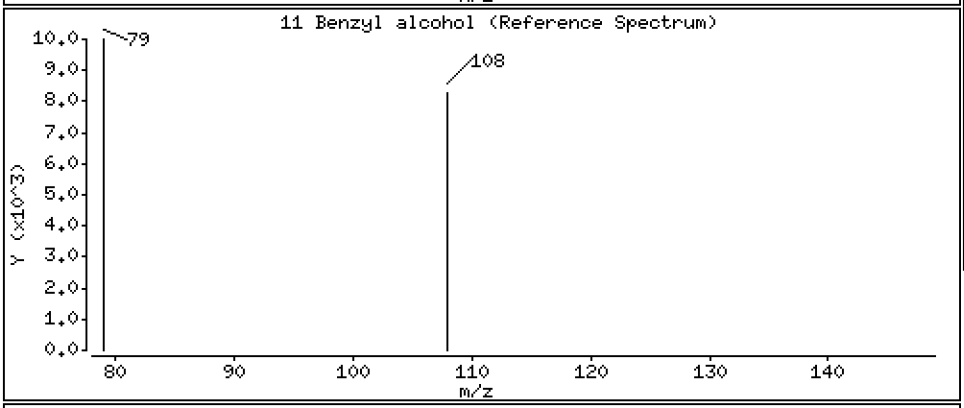
Concentration: 0.08706 ug/mL

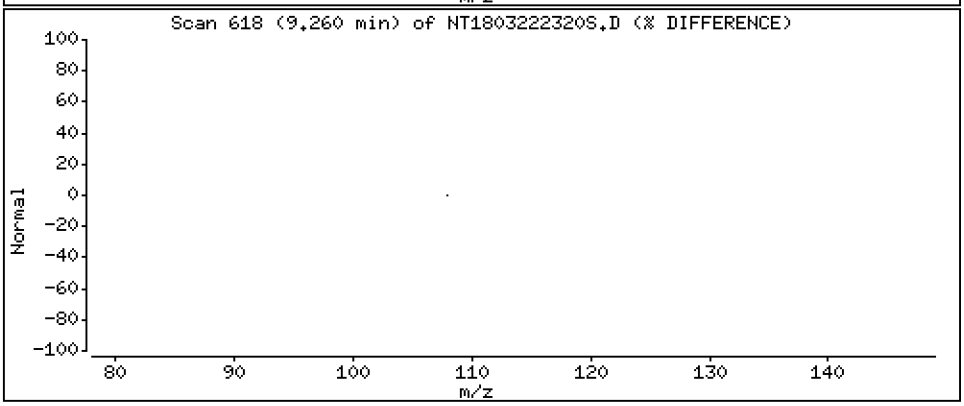












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT1803222320S.D

Date : 23-MAR-2023 06:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-LCV1

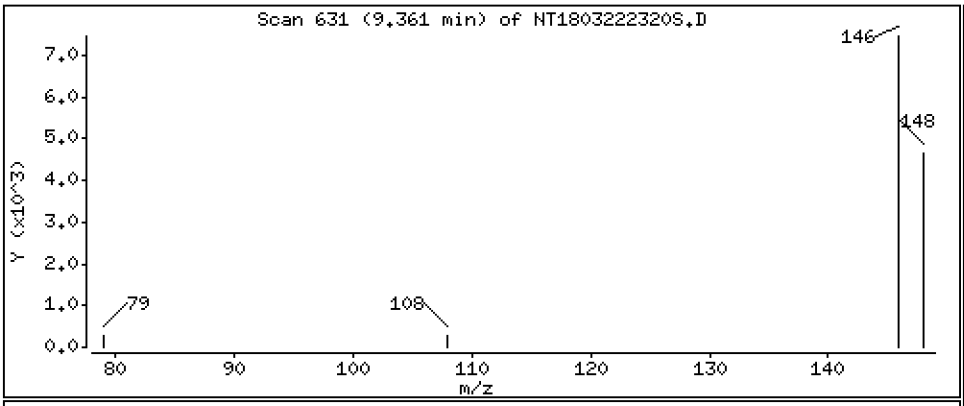
Operator: VTS

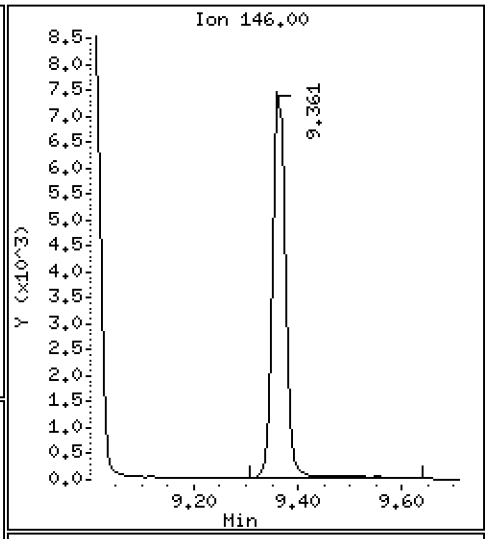
Column phase: ZB-5msi

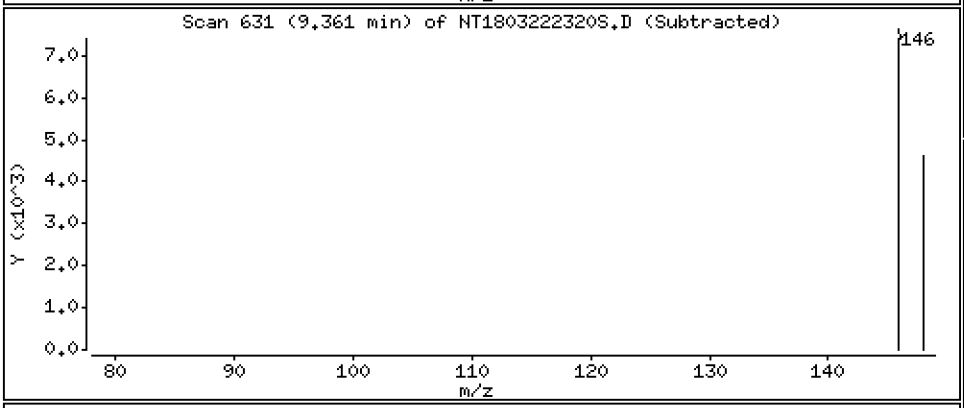
Column diameter: 0.25

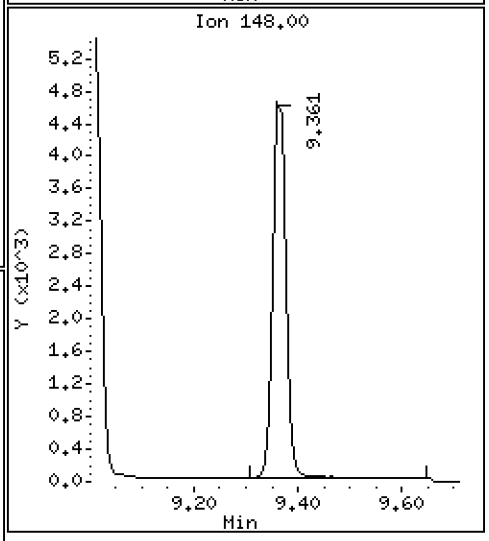
12 1,2-Dichlorobenzene

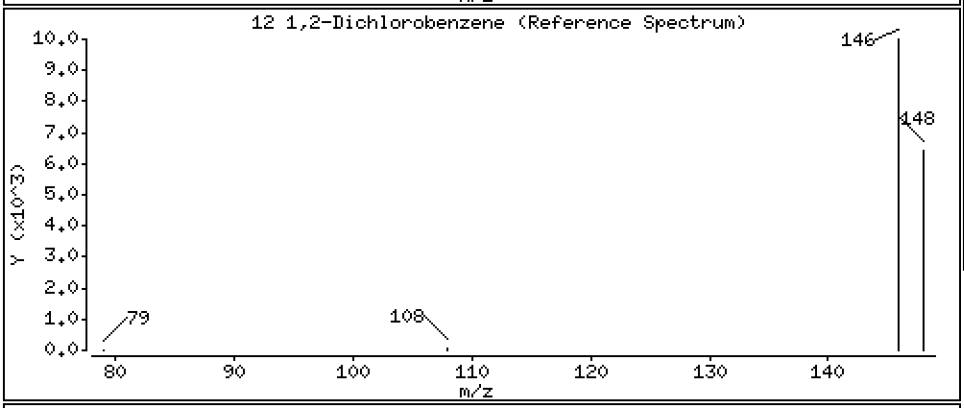
Concentration: 0.1078 ug/mL

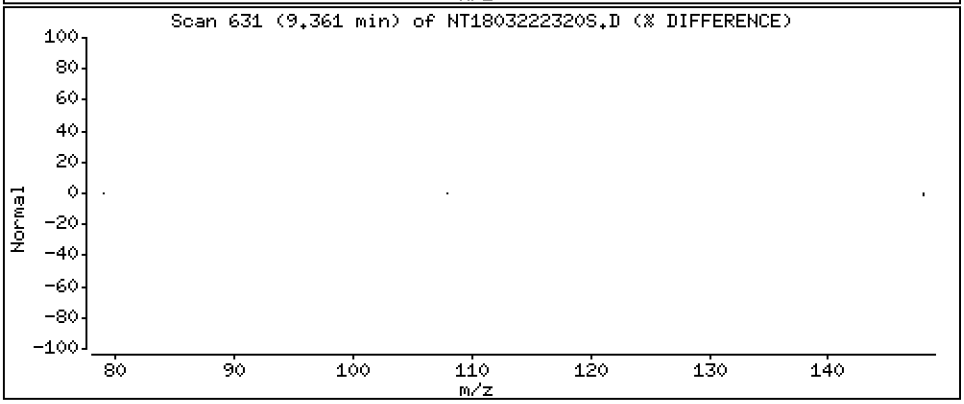












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT1803222320S.D

Date : 23-MAR-2023 06:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-LCV1

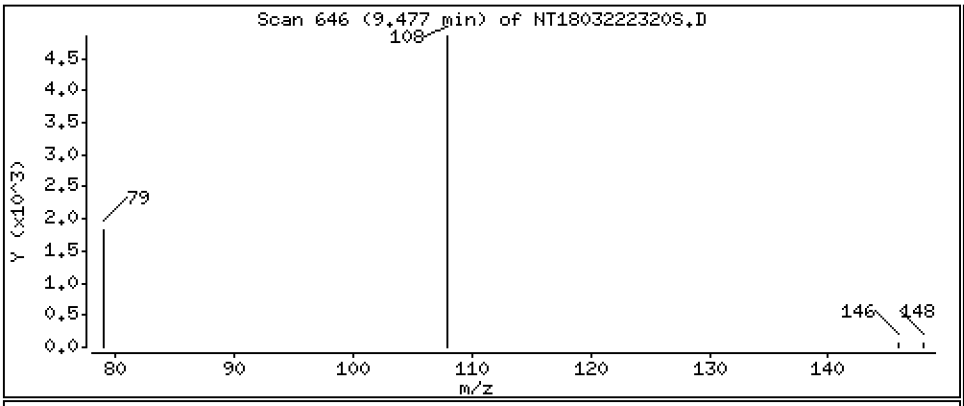
Operator: VTS

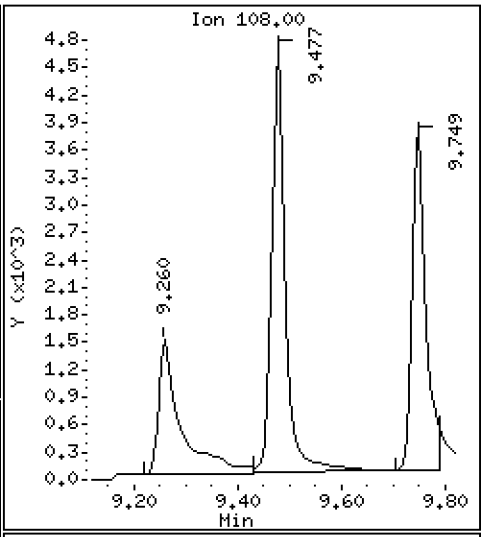
Column phase: ZB-5msi

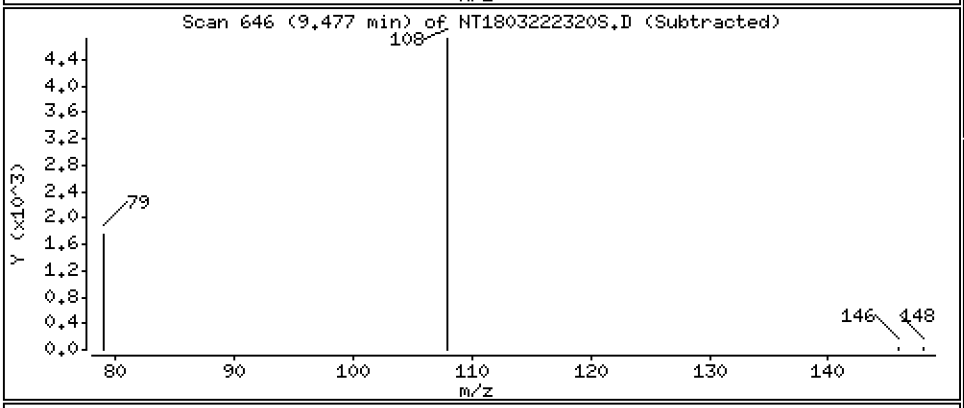
Column diameter: 0.25

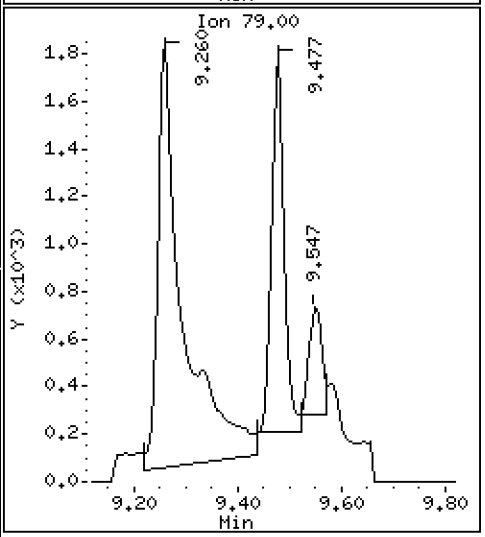
13 2-Methylphenol

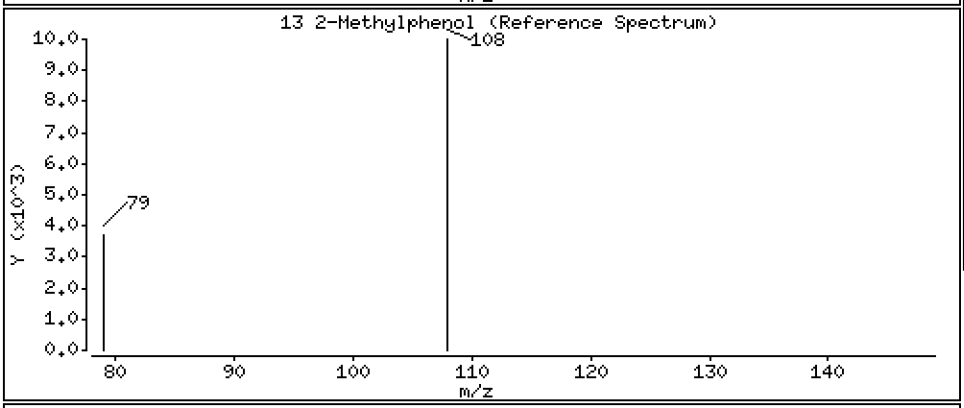
Concentration: 0.1036 ug/mL

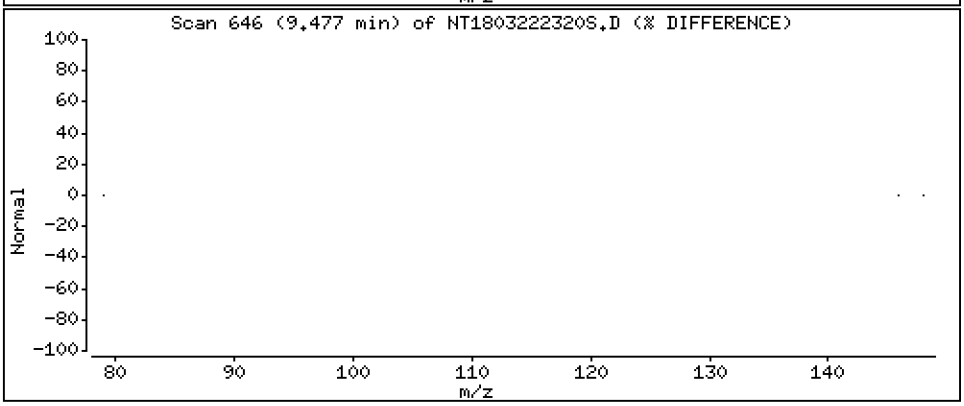












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT1803222320S.D

Date : 23-MAR-2023 06:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-LCV1

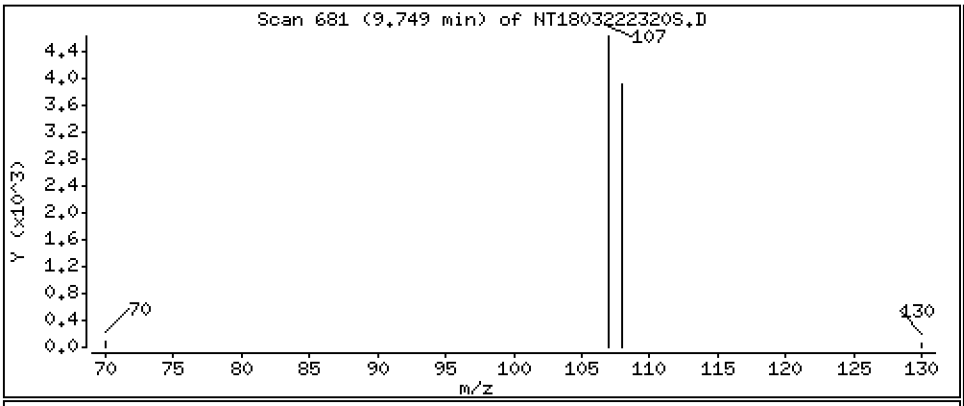
Operator: VTS

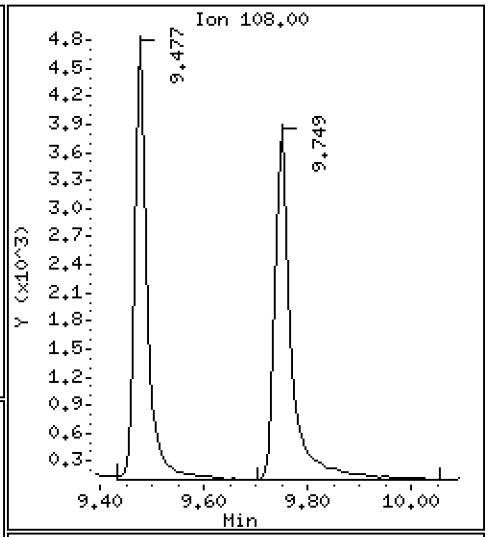
Column phase: ZB-5msi

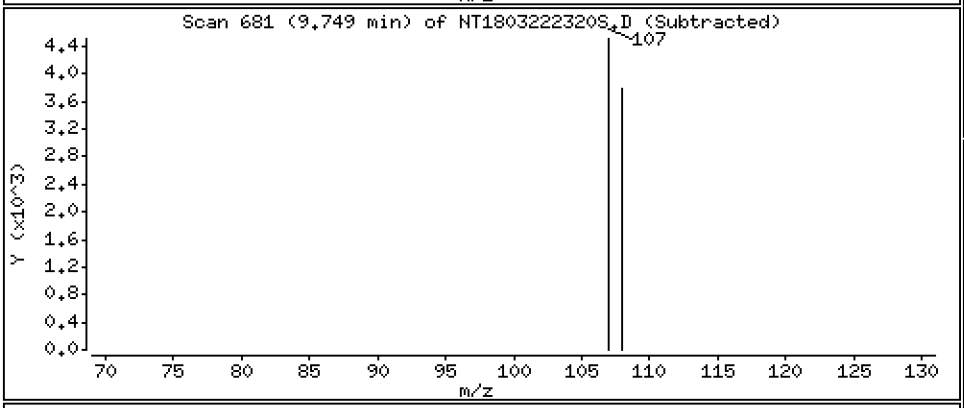
Column diameter: 0.25

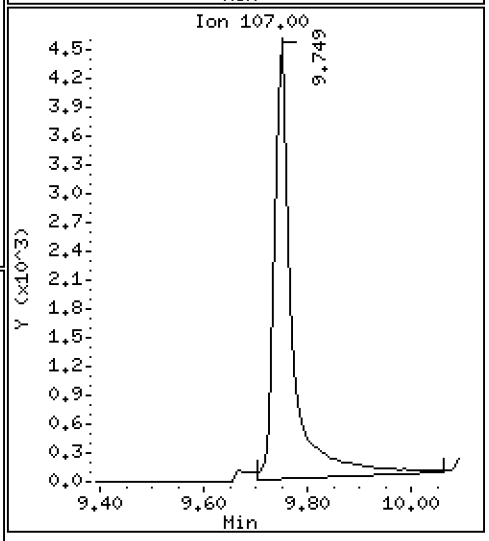
15 4-Methylphenol

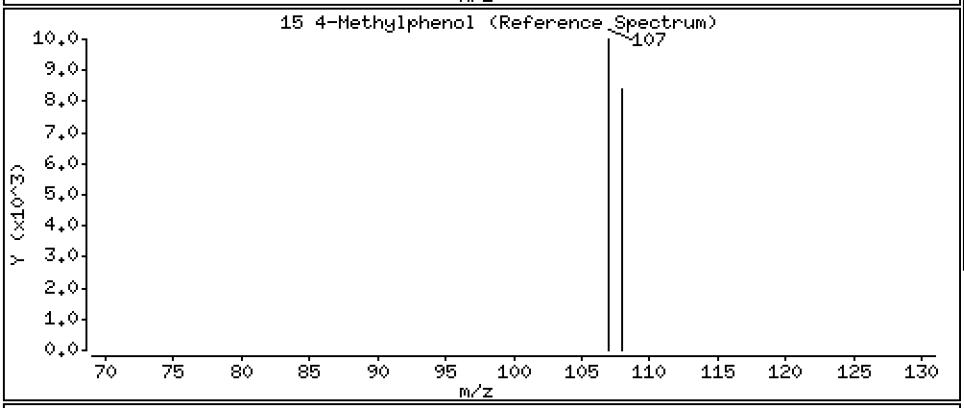
Concentration: 0.09581 ug/mL

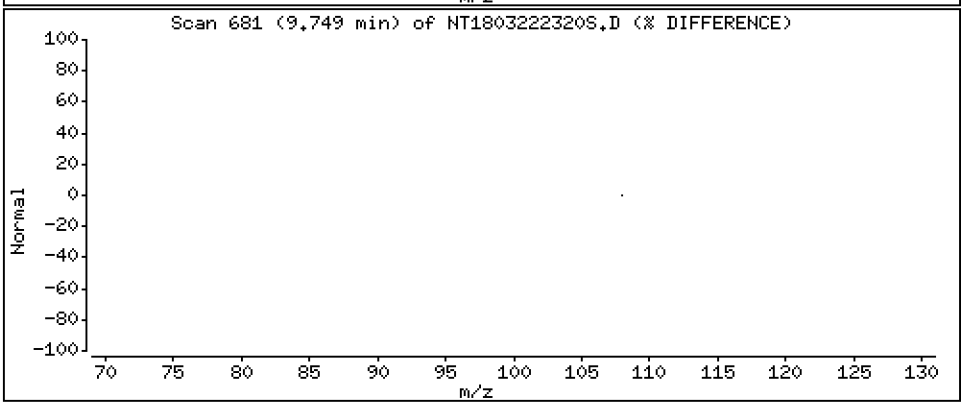












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Date : 23-MAR-2023 06:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-LCV1

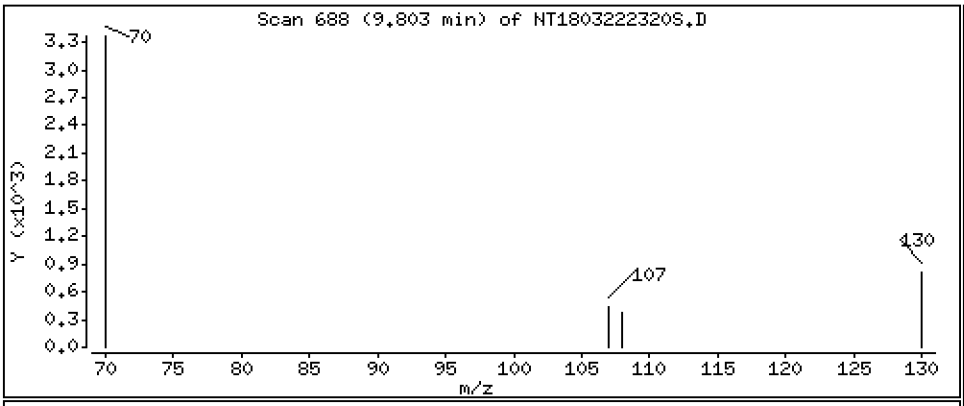
Operator: VTS

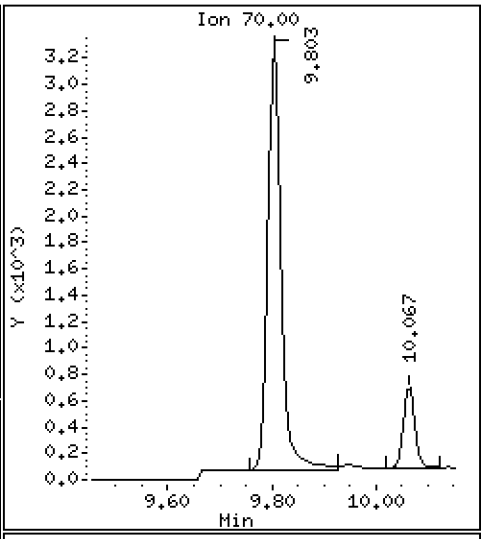
Column phase: ZB-5msi

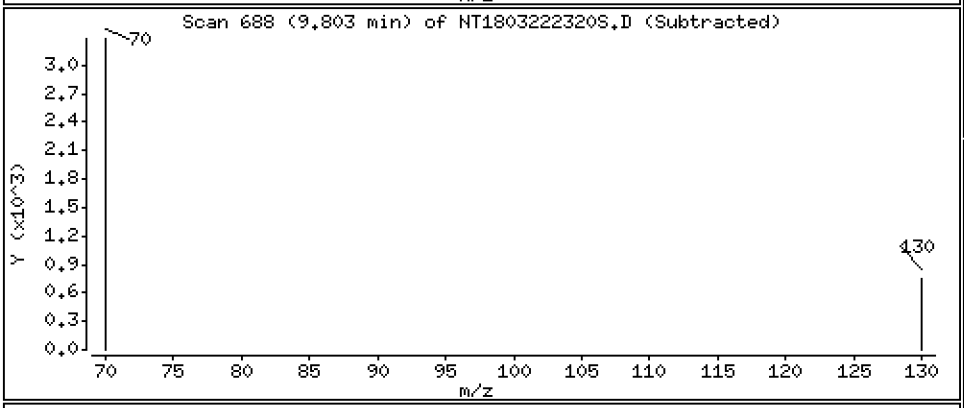
Column diameter: 0.25

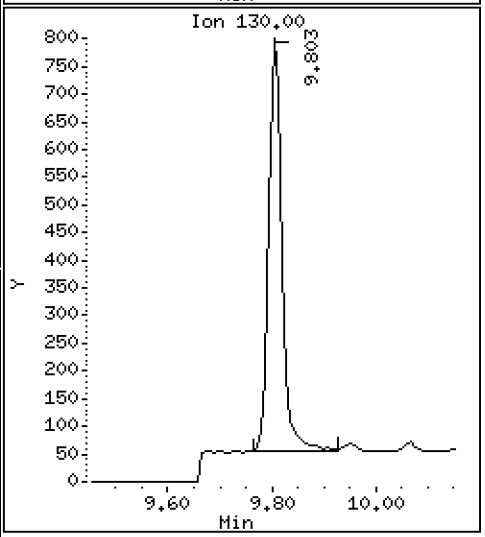
16 N-Nitroso-di-n-propylamine

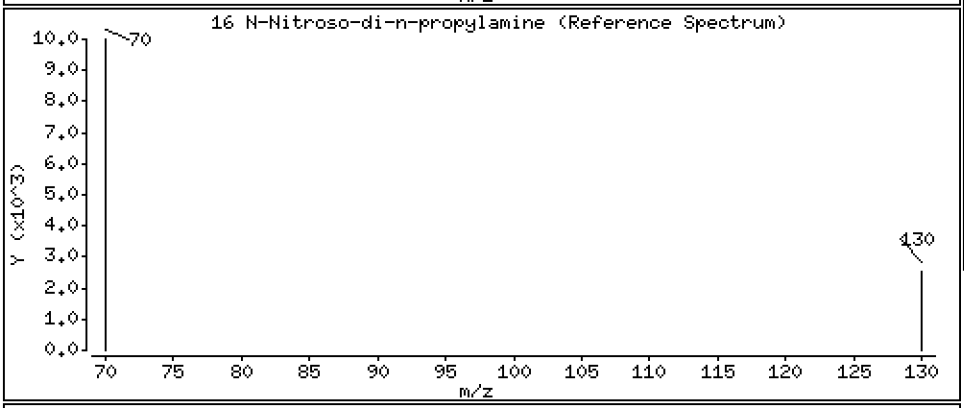
Concentration: 0.09867 ug/mL

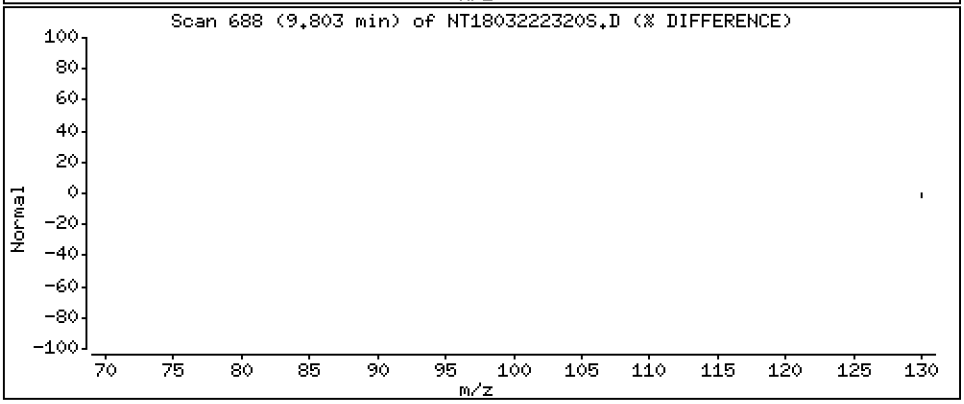












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Date : 23-MAR-2023 06:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-LCV1

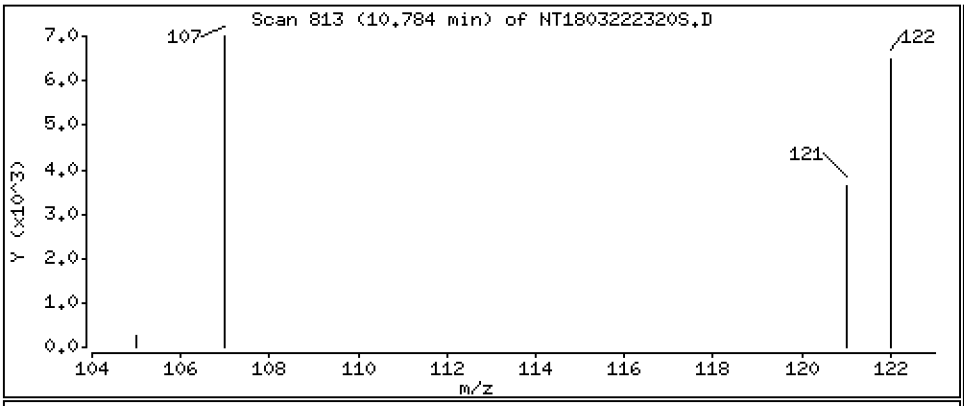
Operator: VTS

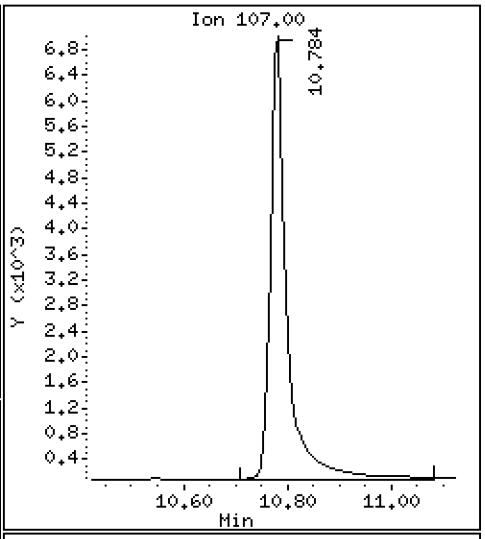
Column phase: ZB-5msi

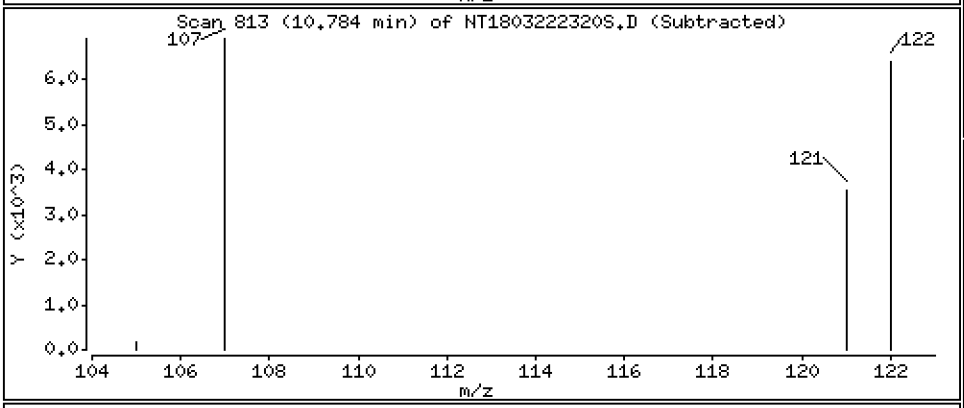
Column diameter: 0.25

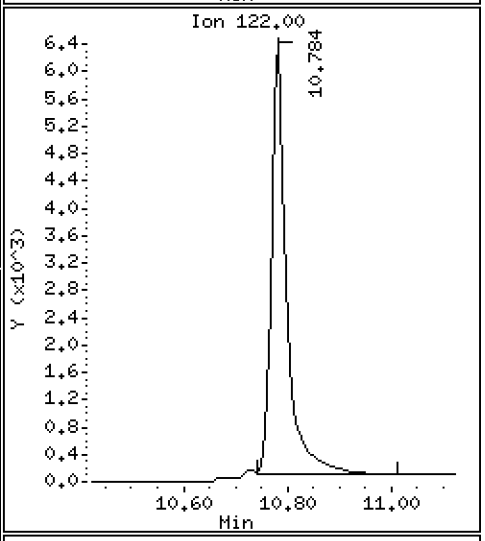
22 2,4-Dimethylphenol

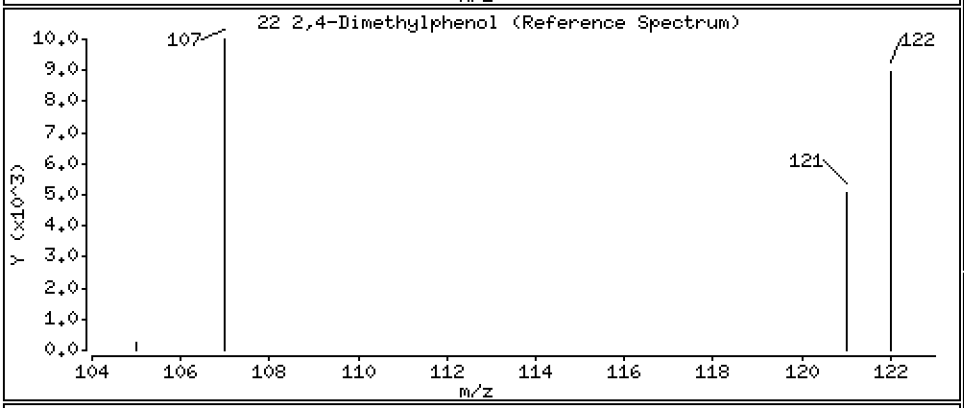
Concentration: 0.2059 ug/mL

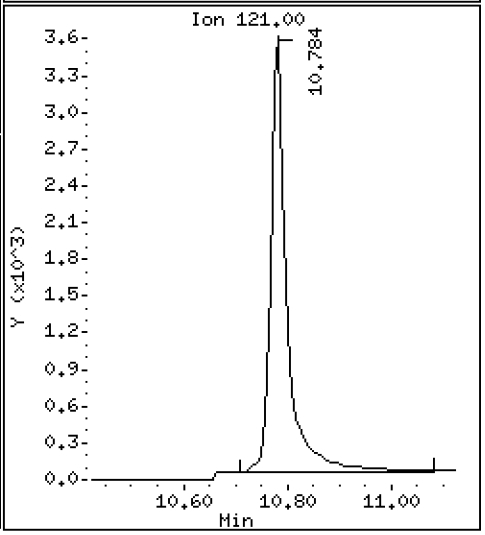


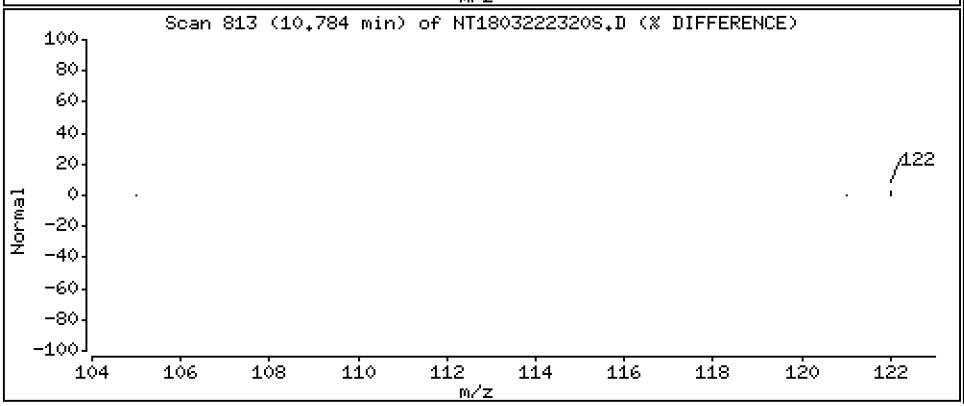












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT1803222320S.D

Date : 23-MAR-2023 06:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-LCV1

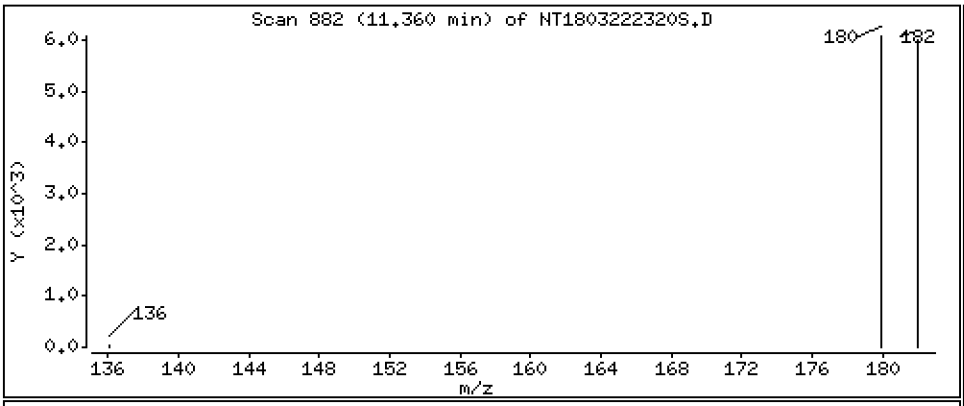
Operator: VTS

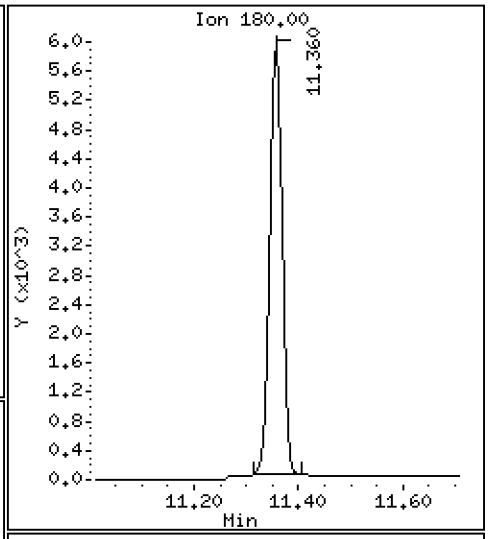
Column phase: ZB-5msi

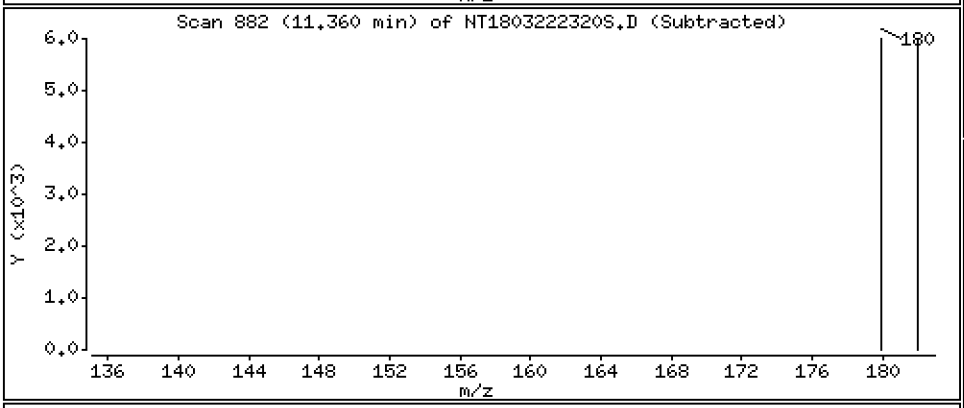
Column diameter: 0.25

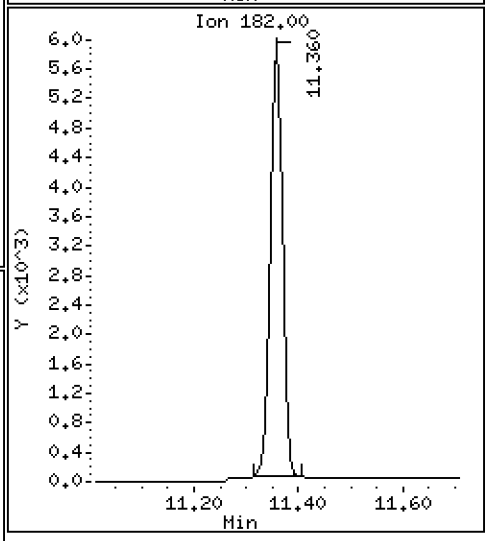
26 1,2,4-Trichlorobenzene

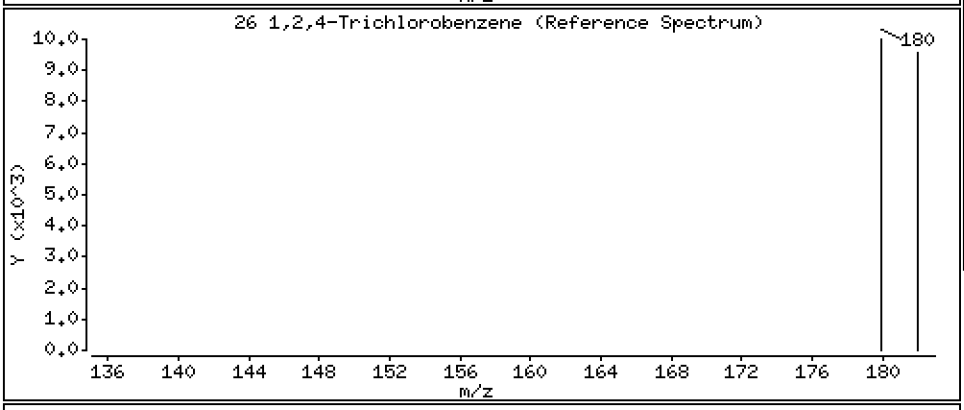
Concentration: 0.1049 ug/mL

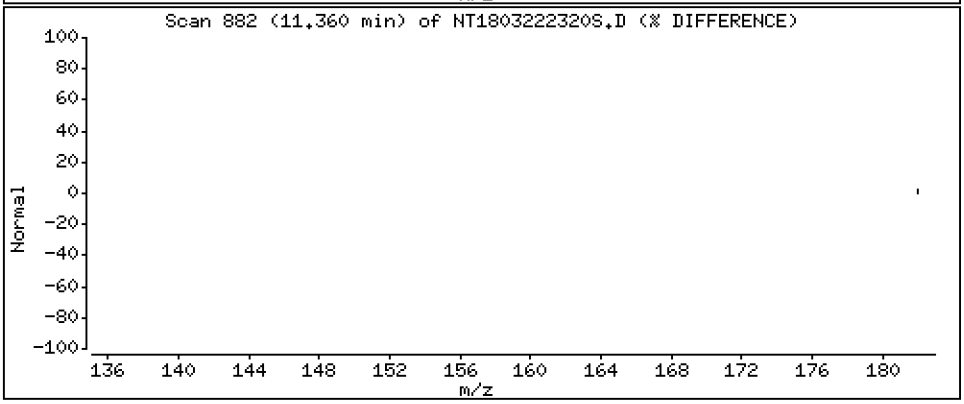












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT1803222320S.D

Date : 23-MAR-2023 06:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-LCV1

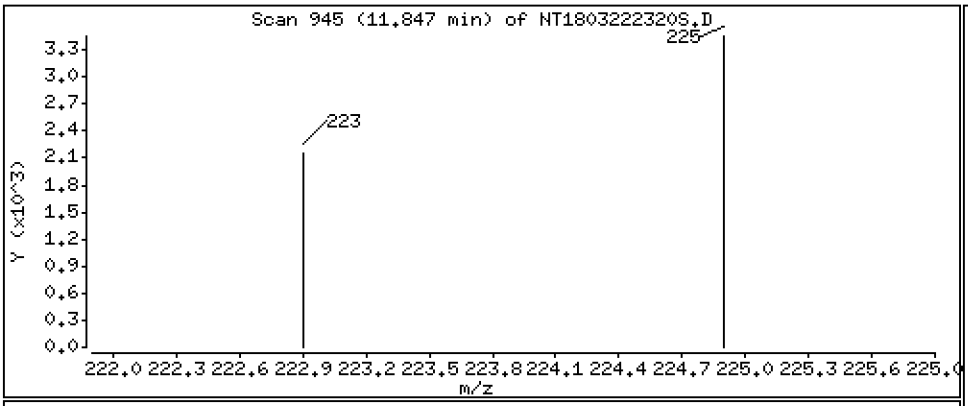
Operator: VTS

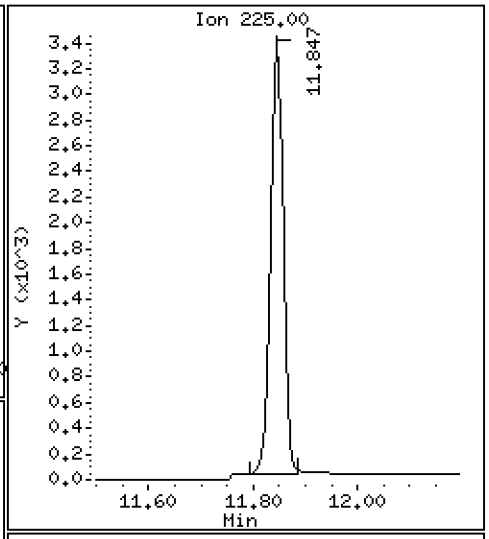
Column phase: ZB-5msi

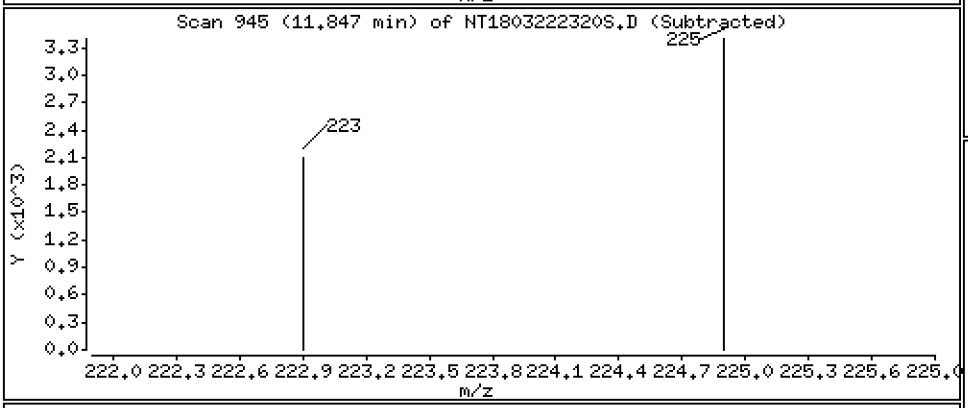
Column diameter: 0.25

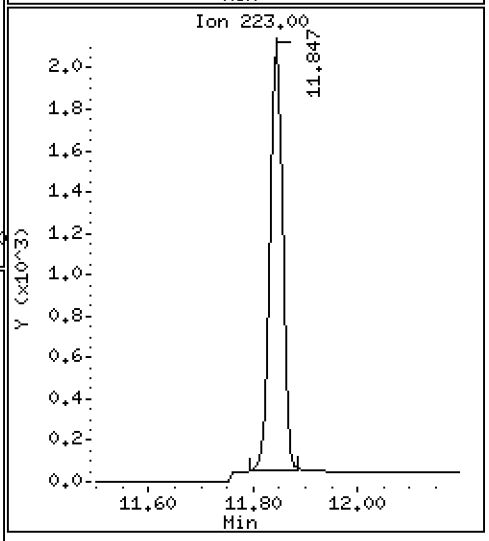
30 Hexachlorobutadiene

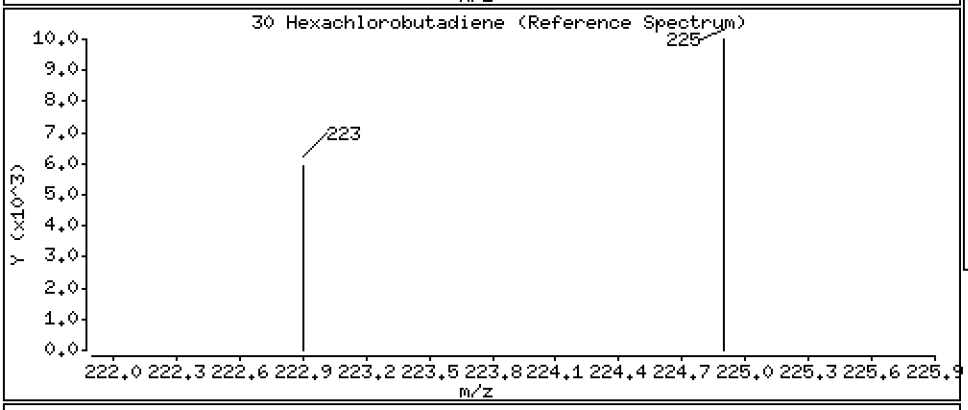
Concentration: 0.1053 ug/mL

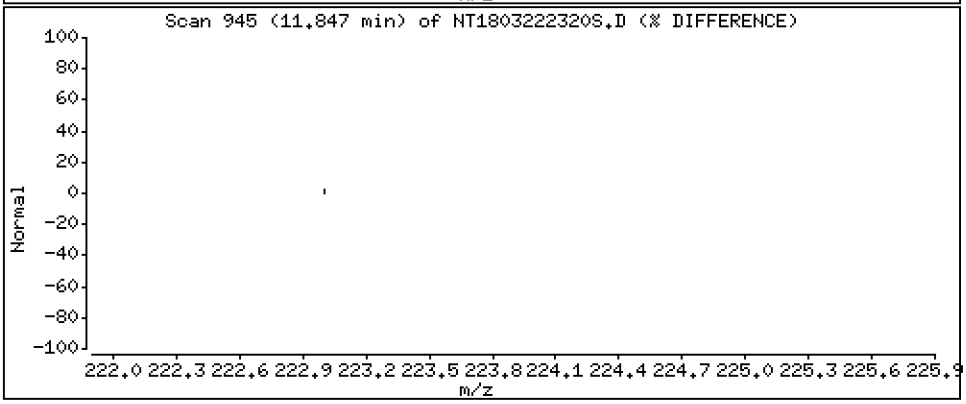












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Date : 23-MAR-2023 06:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-LCV1

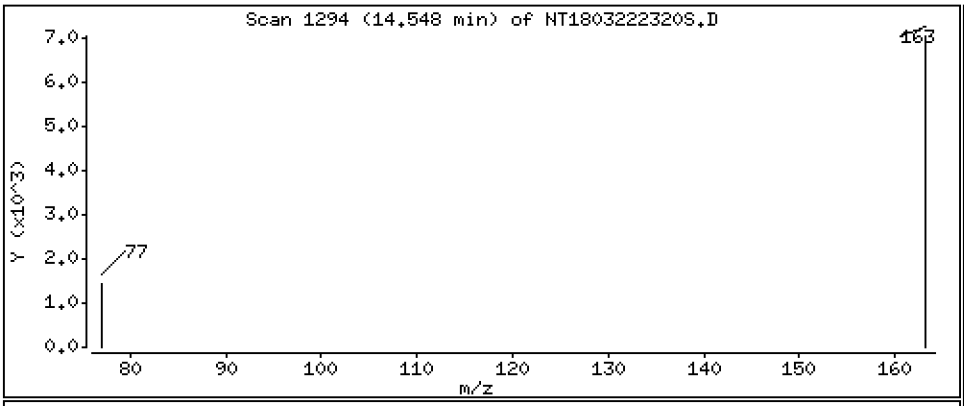
Operator: VTS

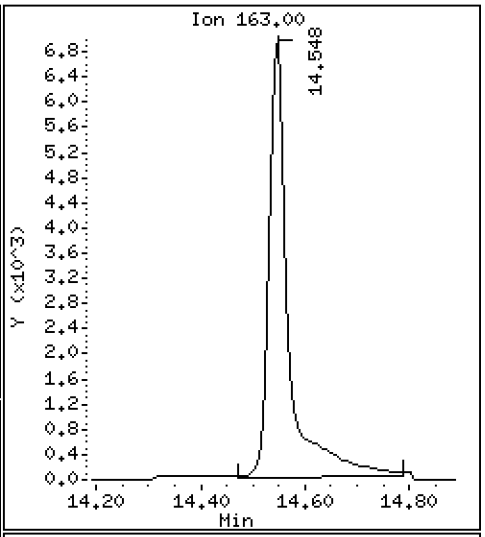
Column phase: ZB-5msi

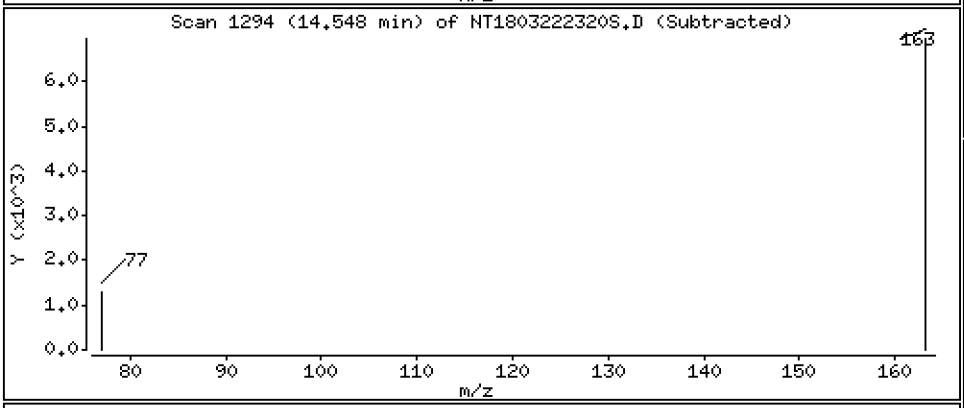
Column diameter: 0.25

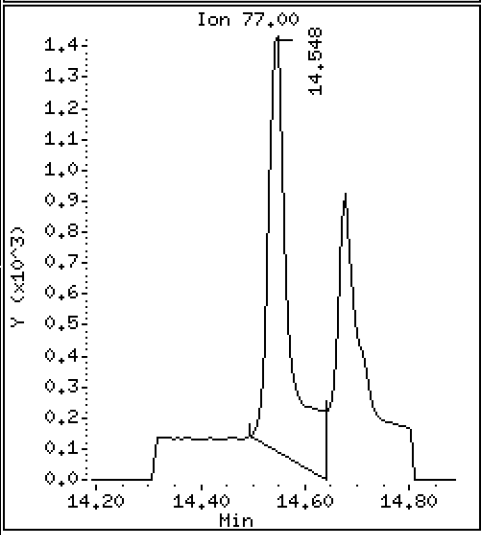
39 Dimethylphthalate

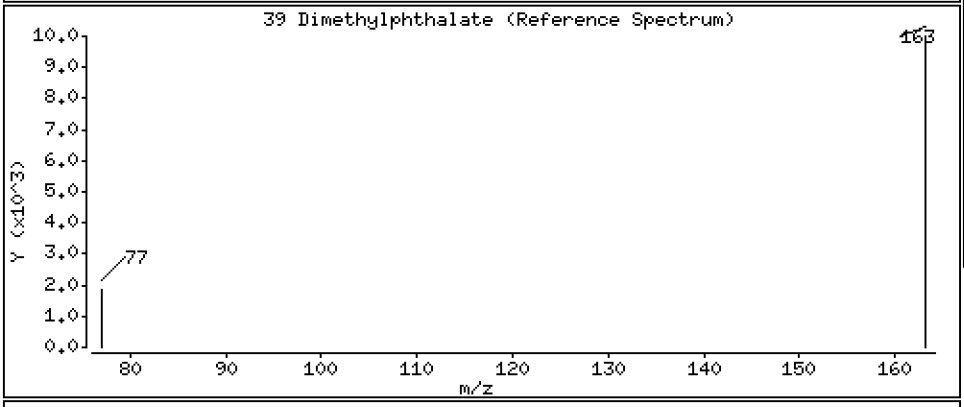
Concentration: 0.1032 ug/mL

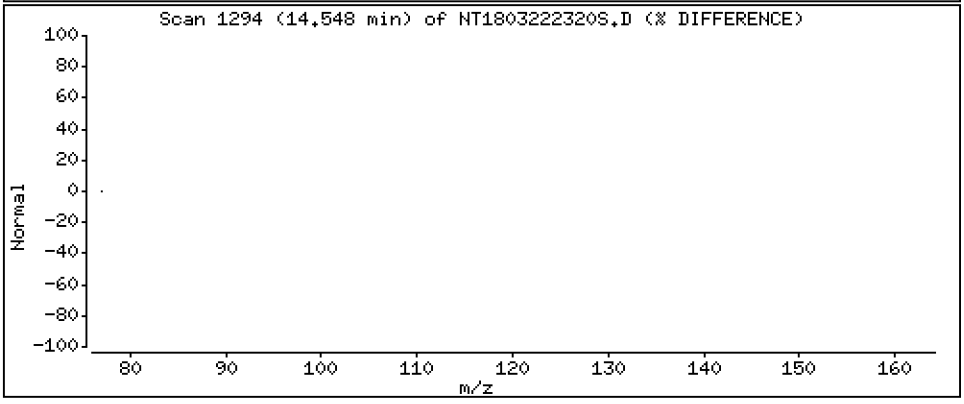












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Date : 23-MAR-2023 06:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-LCV1

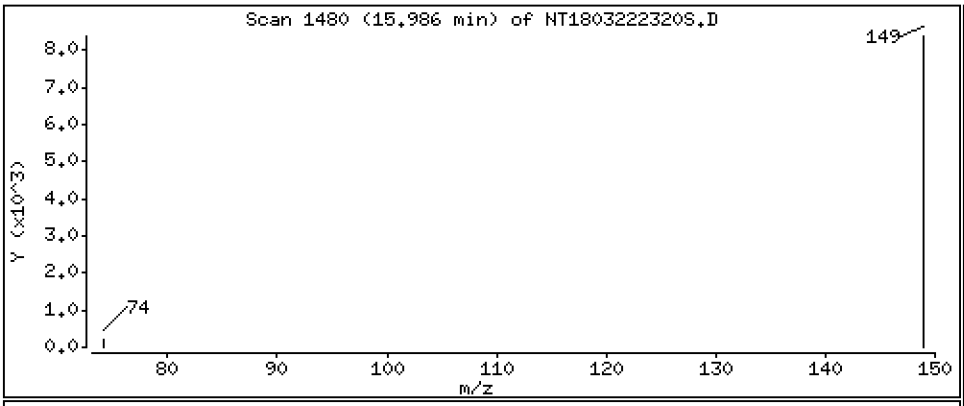
Operator: VTS

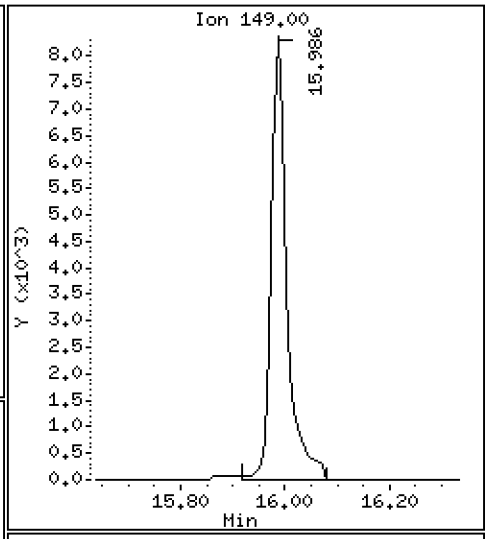
Column phase: ZB-5msi

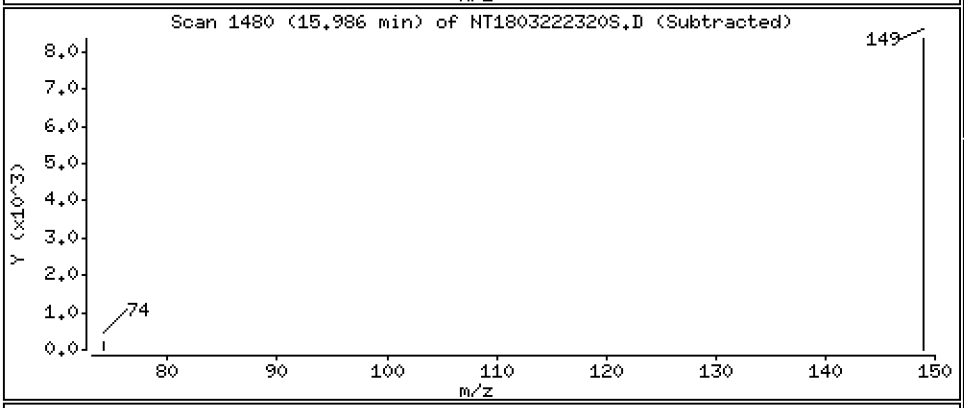
Column diameter: 0.25

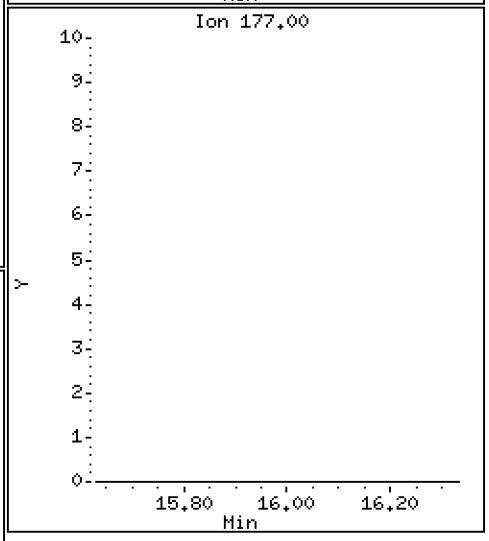
50 Diethylphthalate

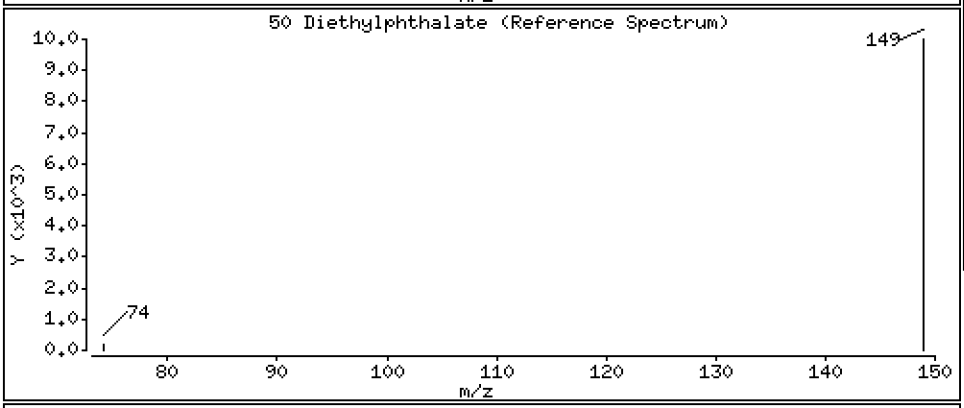
Concentration: 0.1067 ug/mL

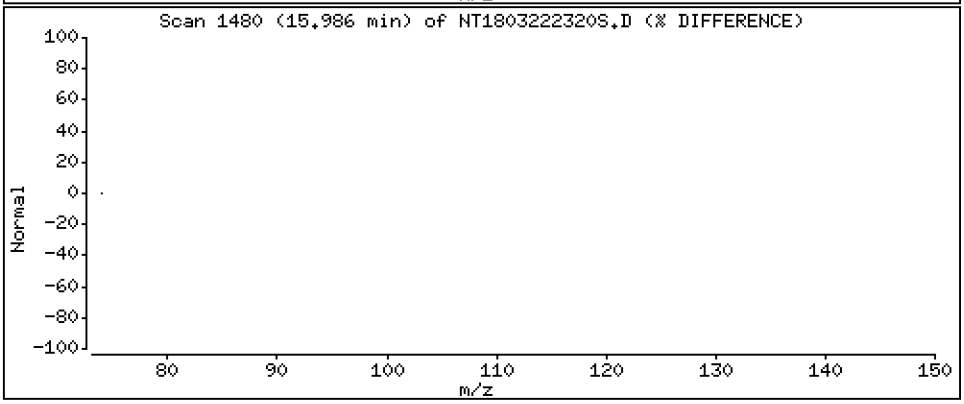












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Date : 23-MAR-2023 06:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-LCV1

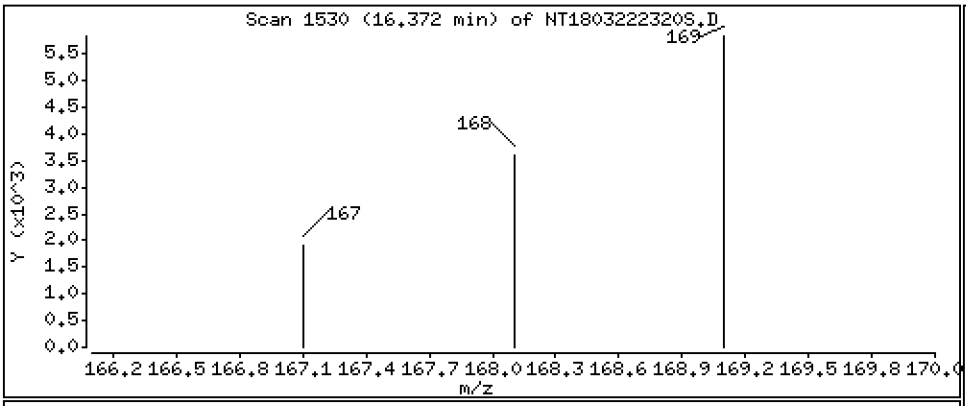
Operator: VTS

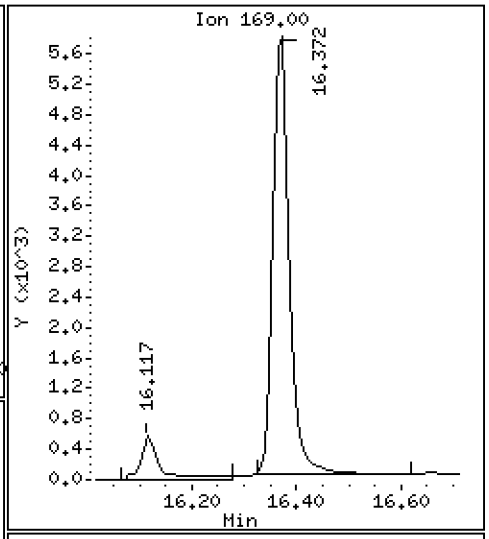
Column phase: ZB-5msi

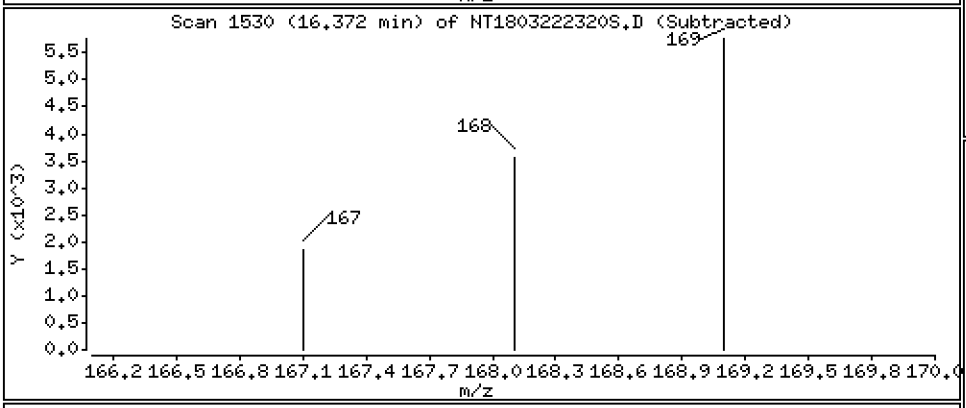
Column diameter: 0.25

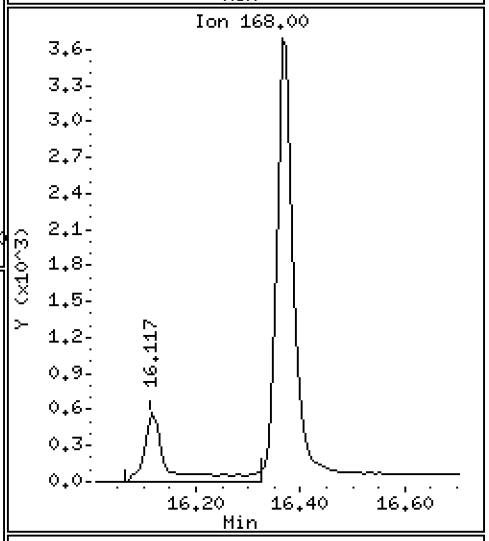
54 N-Nitrosodiphenylamine

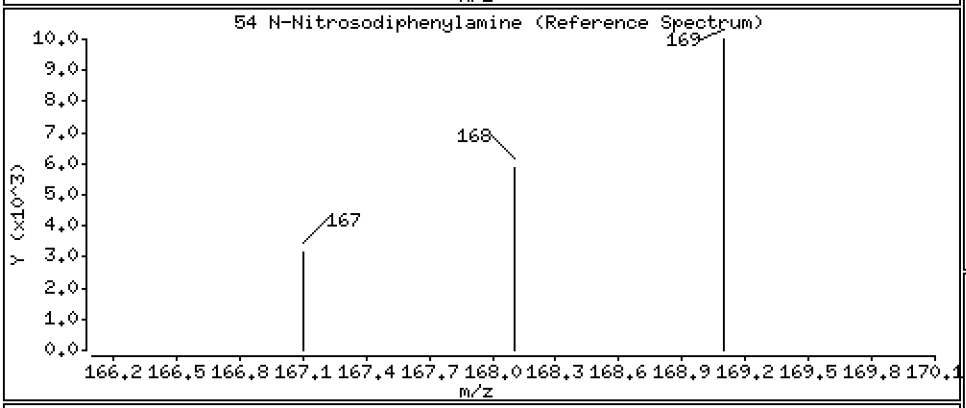
Concentration: 0.1050 ug/mL

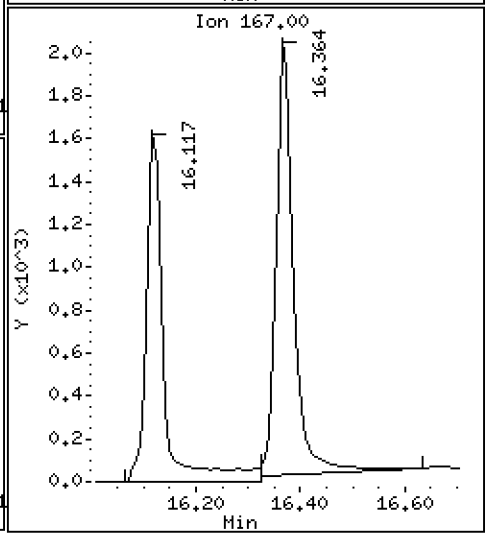


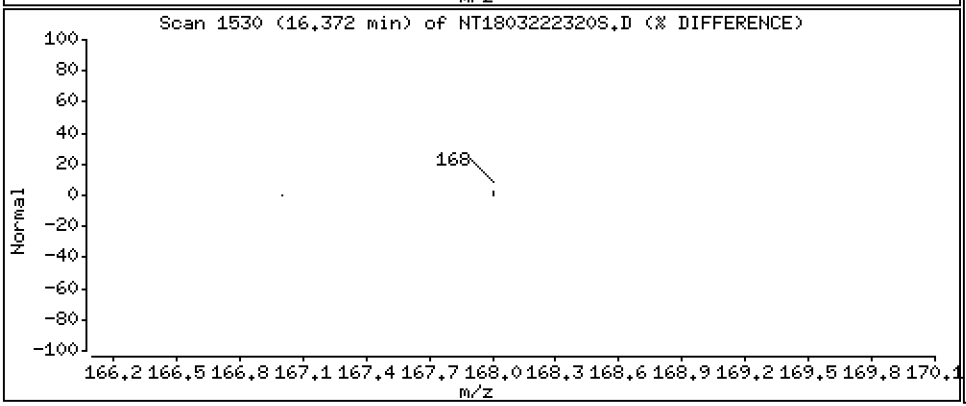












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT1803222320S.D

Date : 23-MAR-2023 06:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-LCV1

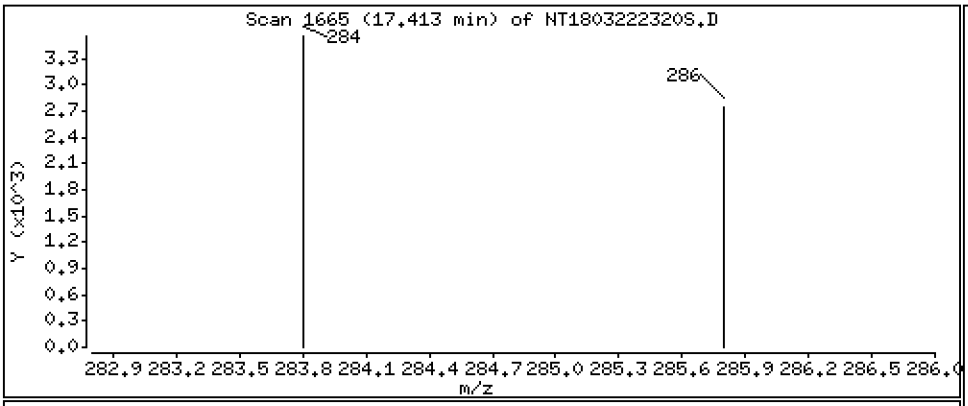
Operator: VTS

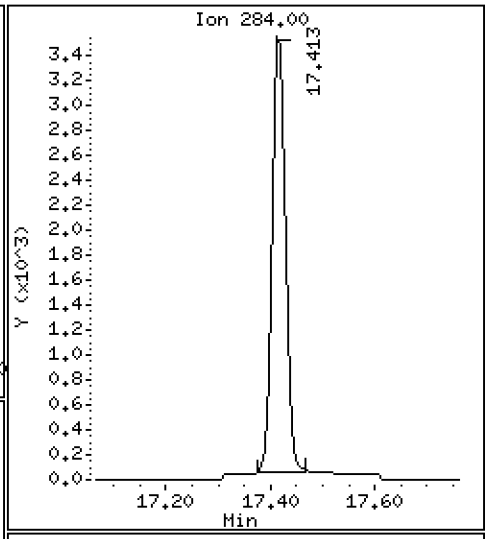
Column phase: ZB-5msi

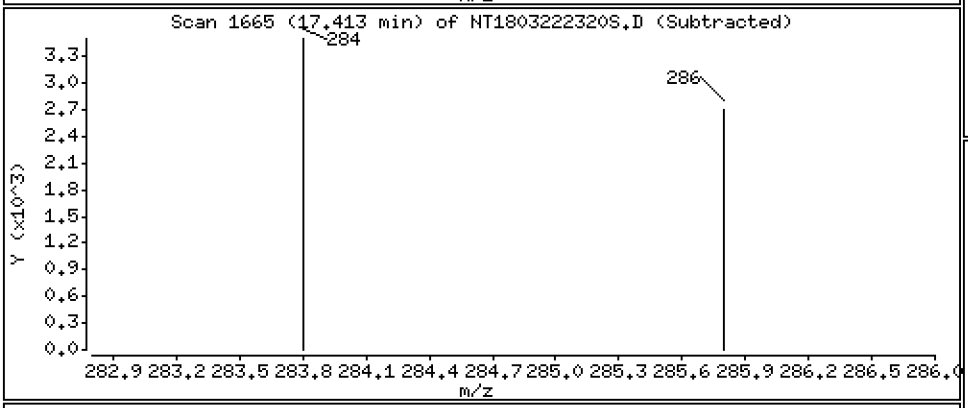
Column diameter: 0.25

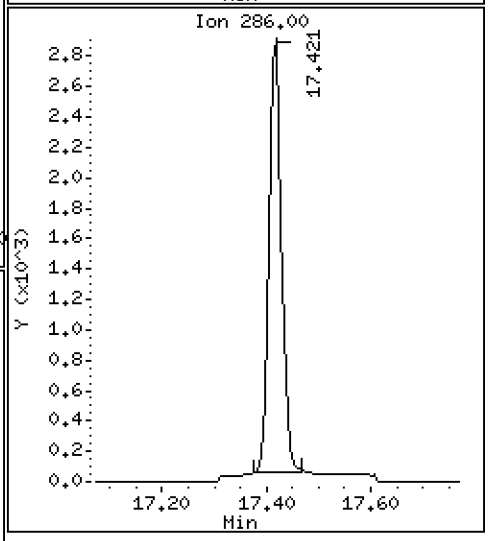
57 Hexachlorobenzene

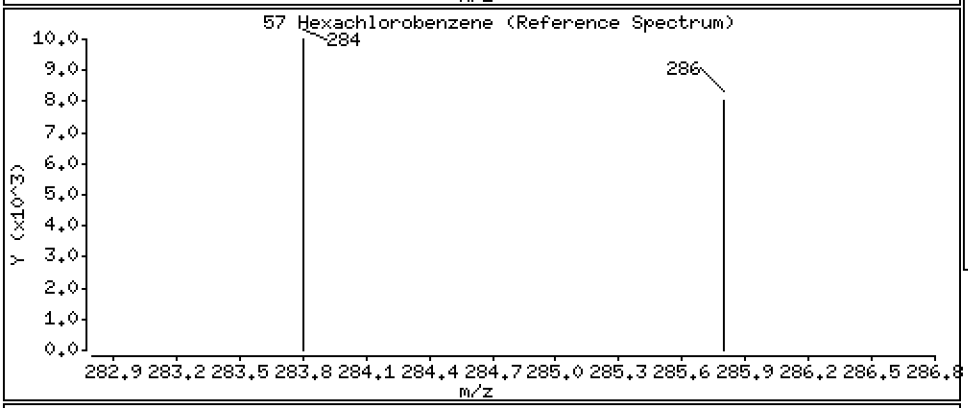
Concentration: 0.1061 ug/mL

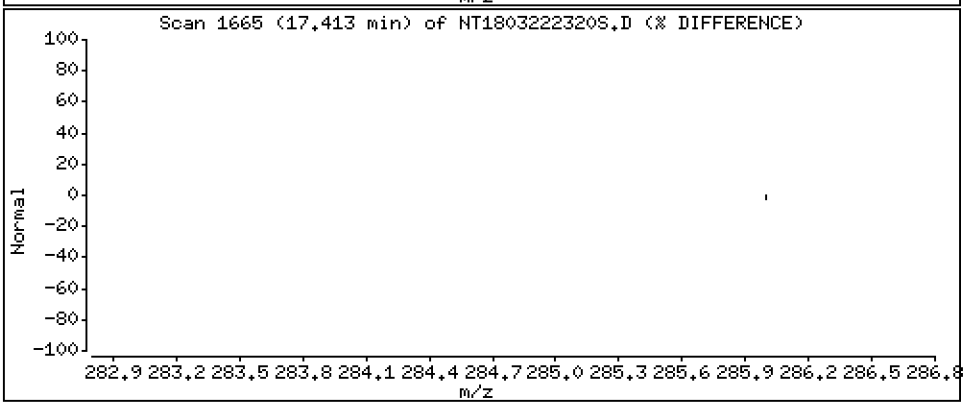












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT1803222320S.D

Date : 23-MAR-2023 06:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-LCV1

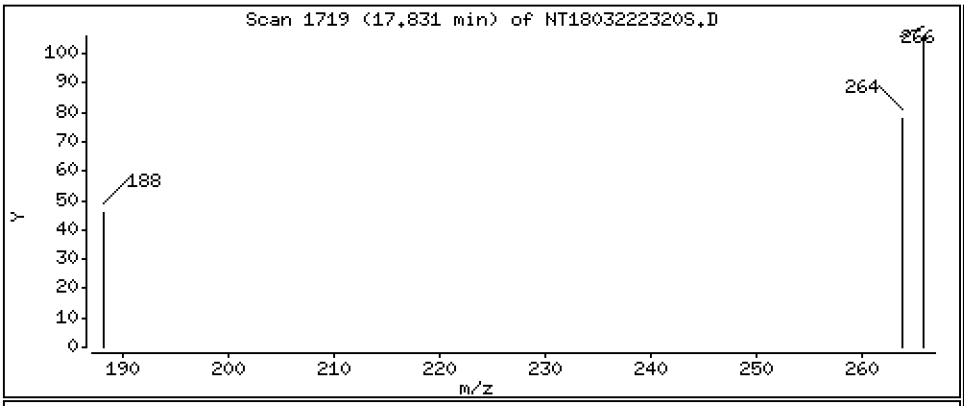
Operator: VTS

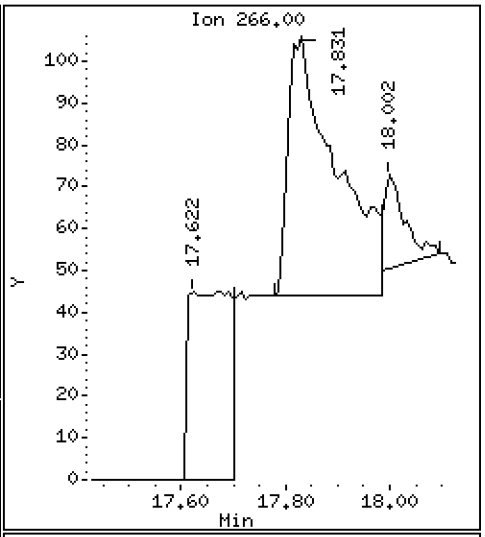
Column phase: ZB-5msi

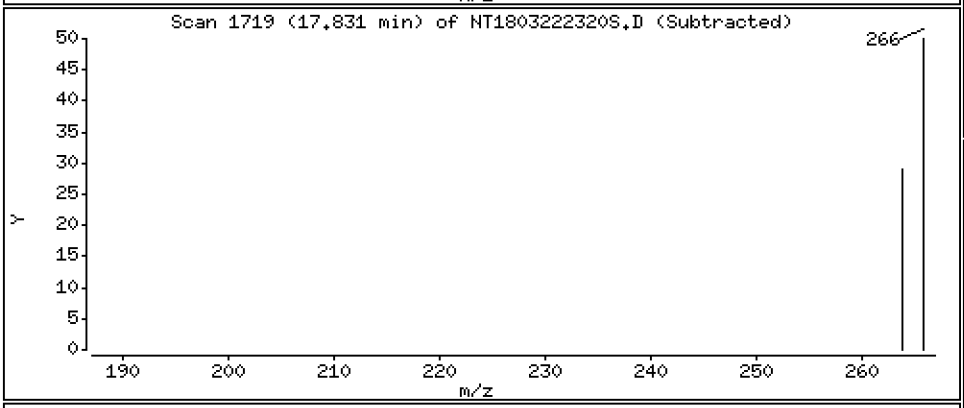
Column diameter: 0.25

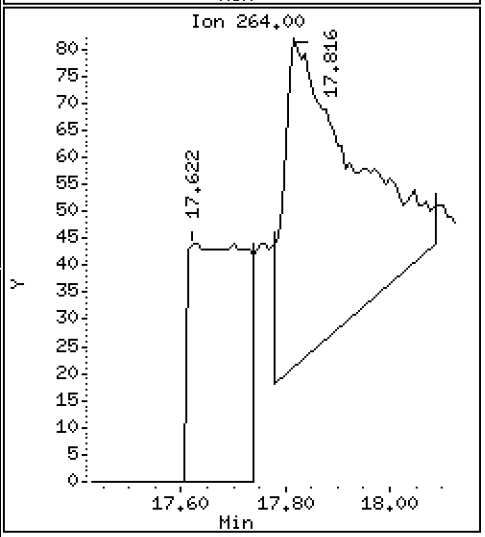
58 Pentachlorophenol

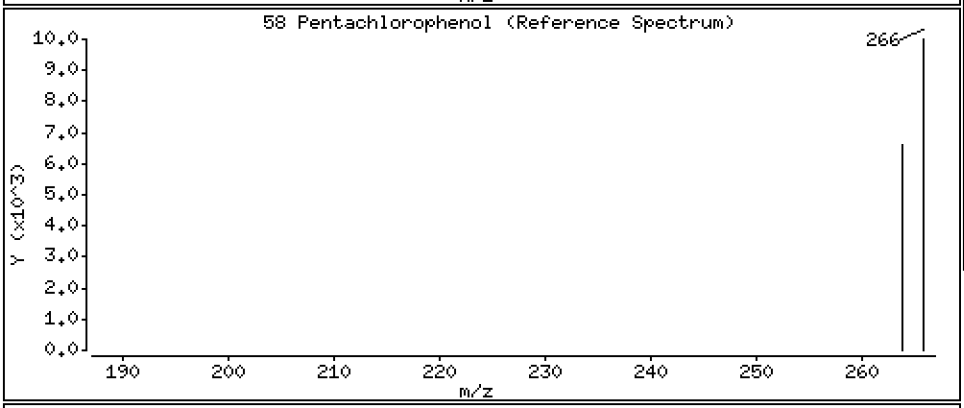
Concentration: 0.01377 ug/mL

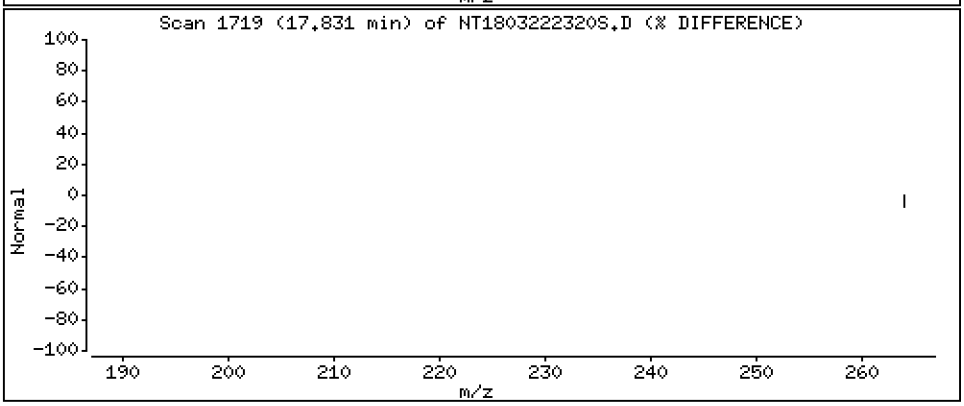












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT1803222320S.D

Date : 23-MAR-2023 06:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-LCV1

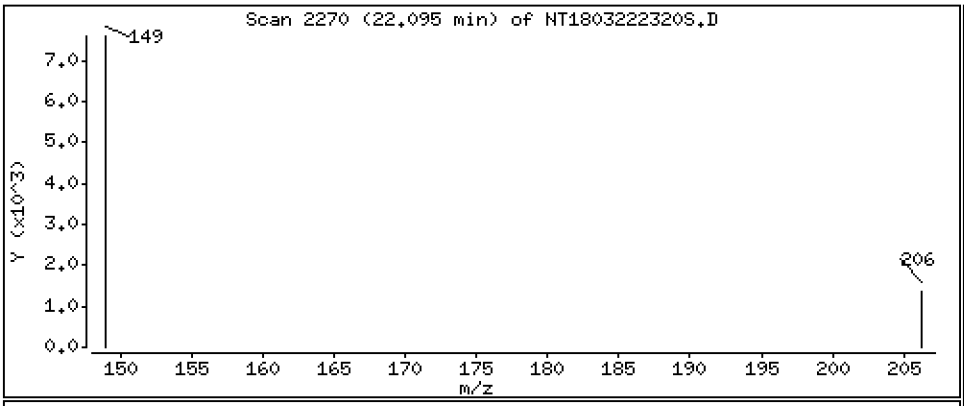
Operator: VTS

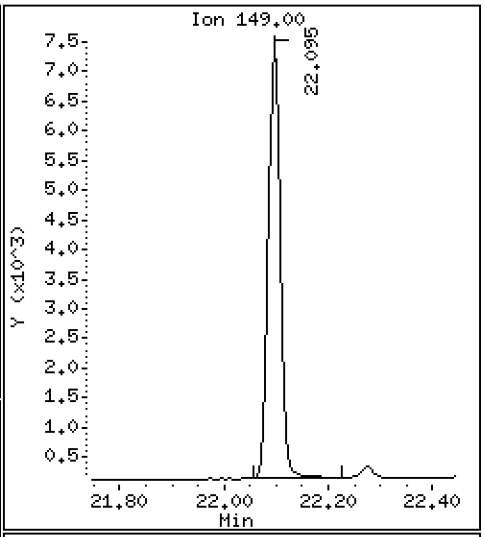
Column phase: ZB-5msi

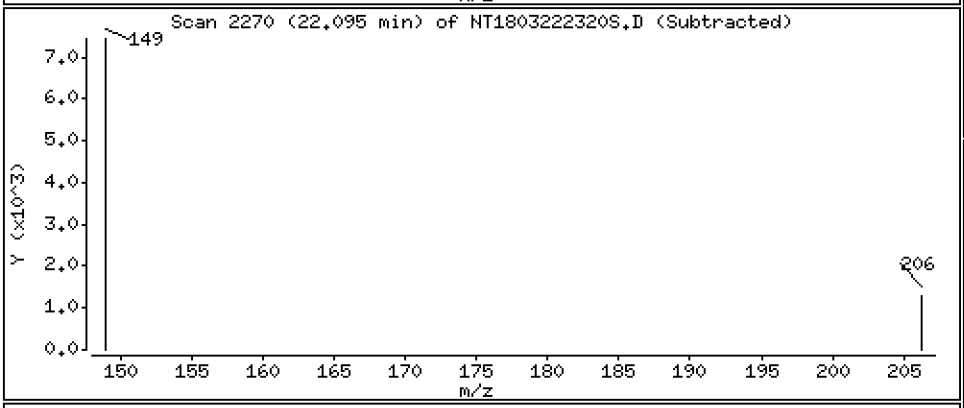
Column diameter: 0.25

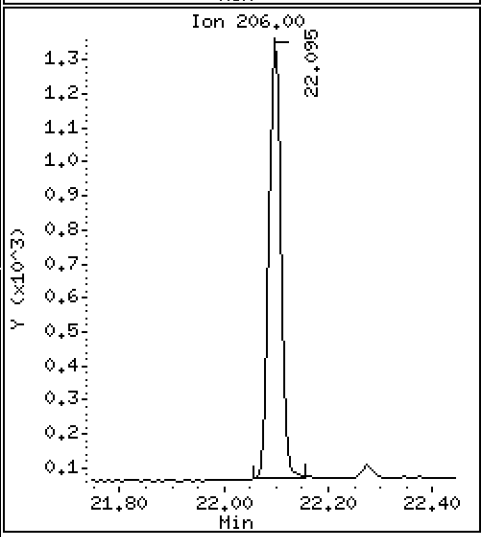
67 Butylbenzylphthalate

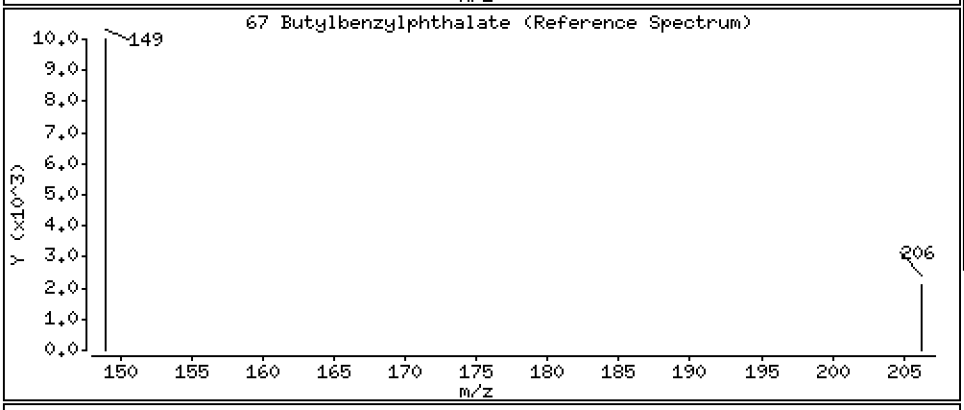
Concentration: 0.07724 ug/mL

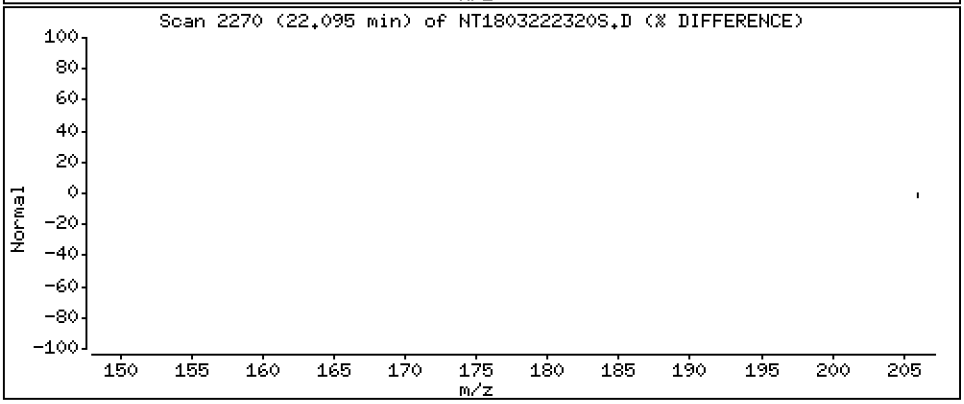












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Date : 23-MAR-2023 06:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-LCV1

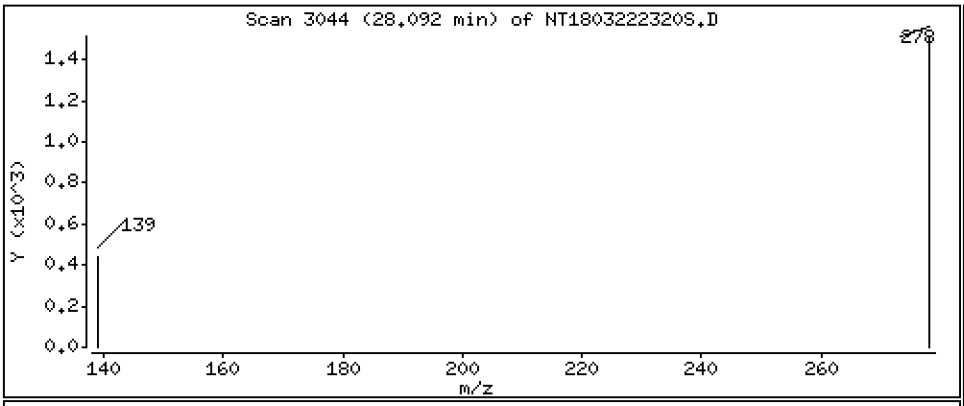
Operator: VTS

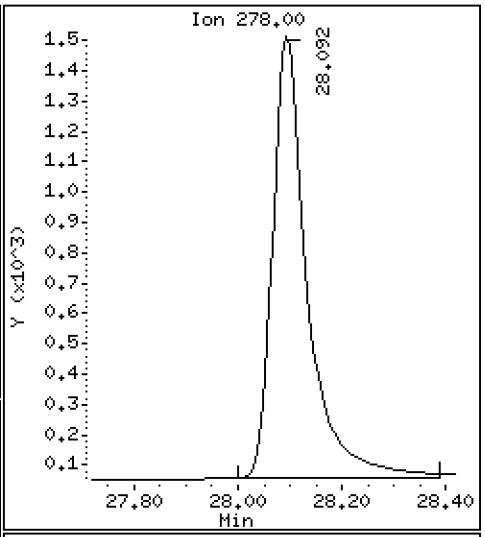
Column phase: ZB-5msi

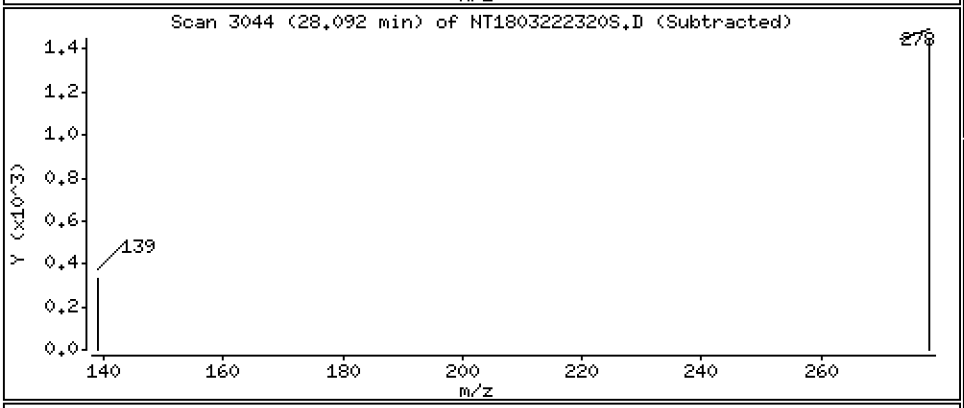
Column diameter: 0.25

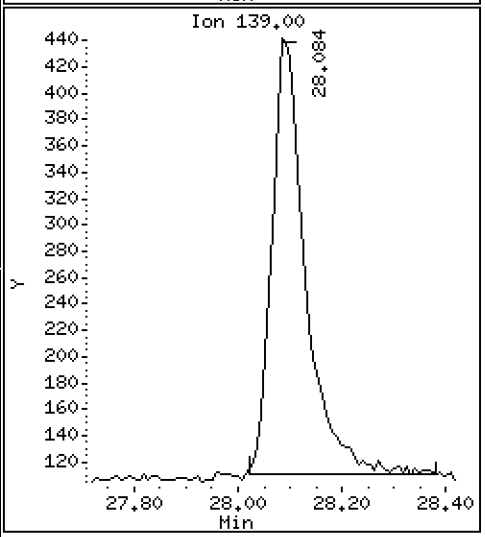
79 Dibenzo(a,h)anthracene

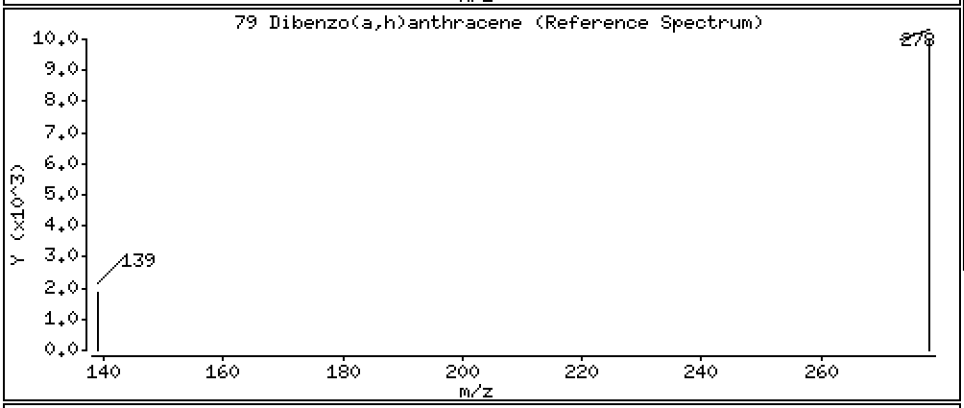
Concentration: 0.02595 ug/mL

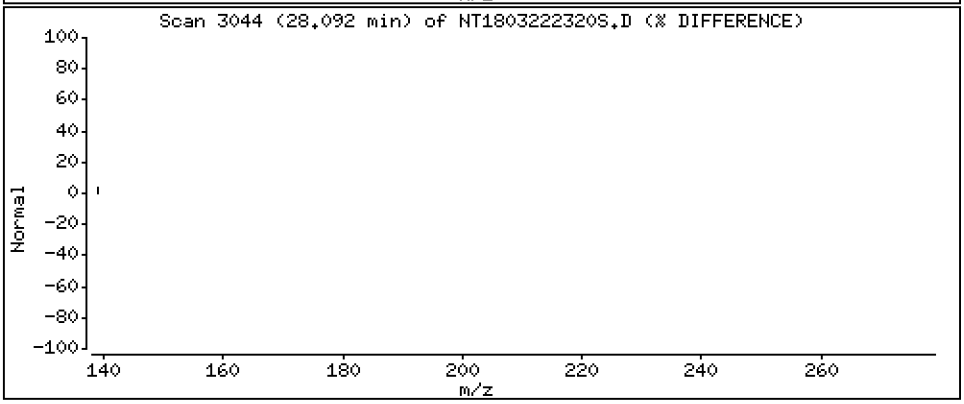












Data File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT1803222320S.D

Date : 23-MAR-2023 06:05

Client ID:

Instrument: nt18.i

Sample Info: SLD0064-LCV1

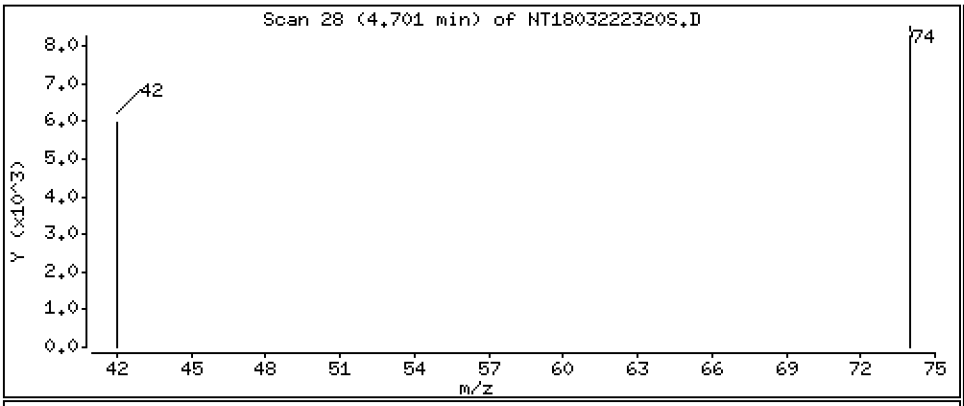
Operator: VTS

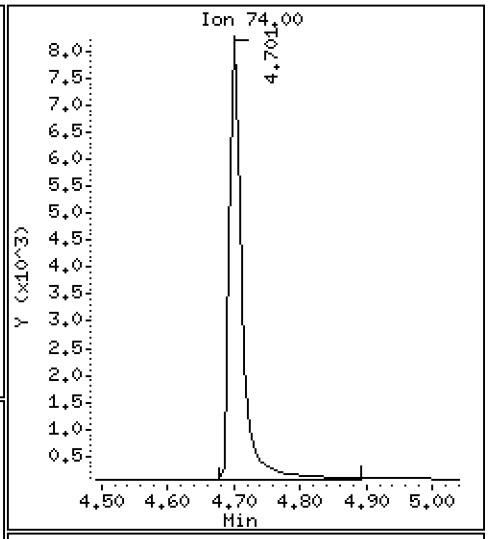
Column phase: ZB-5msi

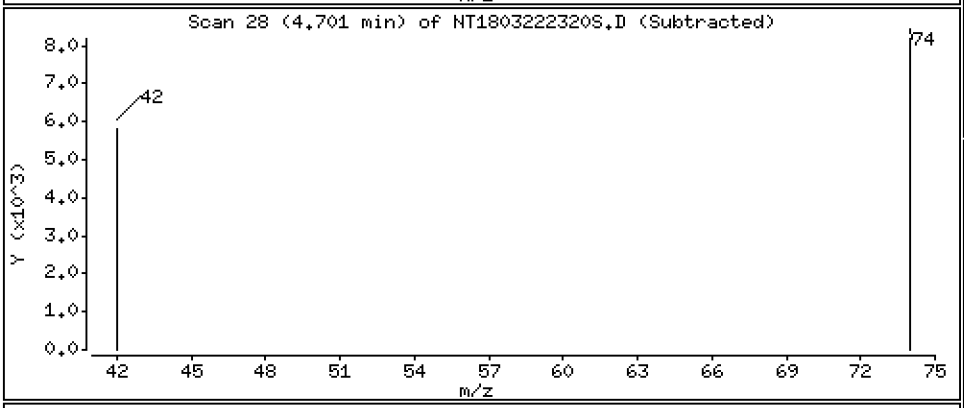
Column diameter: 0.25

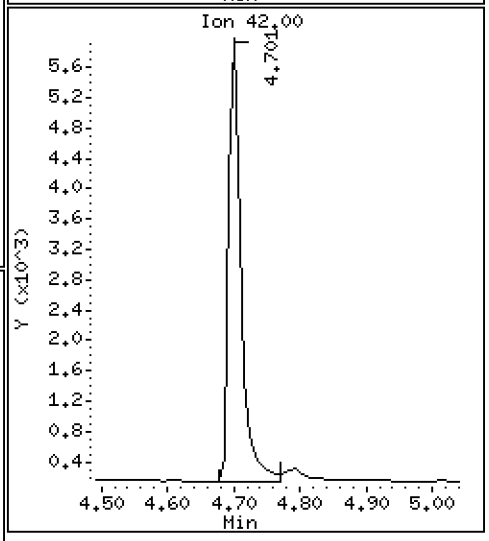
90 N-Nitrosodimethylamine

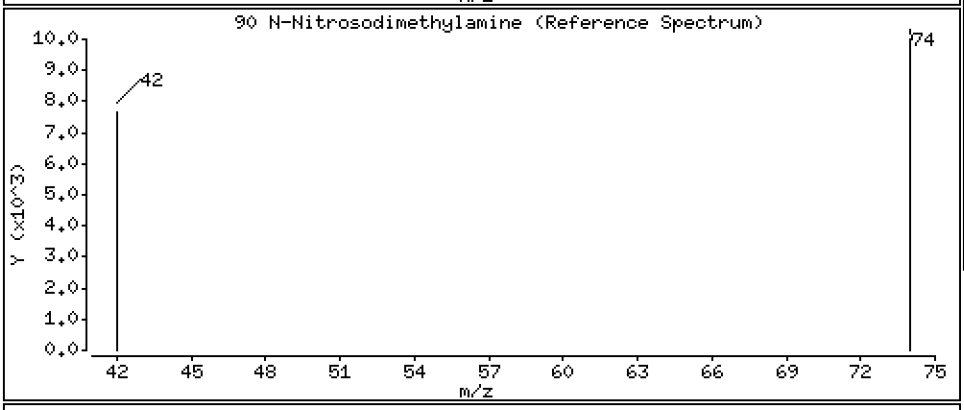
Concentration: 0.2074 ug/mL

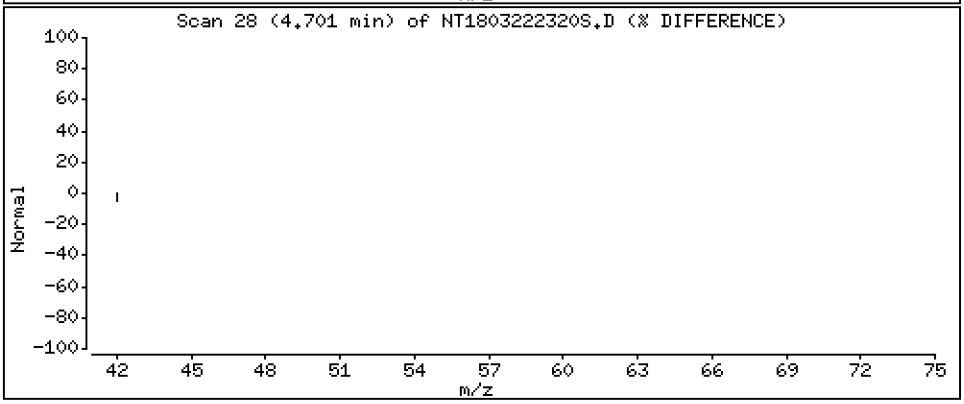












ARI Labs, Inc.

METHOD 8270D-SIM

Data file : \\target\share\chem3\nt18.i\20230322A.b\SIM.b\NT1803222320S.D
Lab Smp Id: SLD0064-LCV1
Inj Date : 23-MAR-2023 06:05
Operator : VTS Inst ID: nt18.i
Smp Info : SLD0064-LCV1
Misc Info :
Comment :
Method : \\target\share\chem3\nt18.i\20230322A.b\SIM.b\SIMABN2.m
Meth Date : 05-Apr-2023 11:57 deenayd Quant Type: ISTD
Cal Date : 19-MAR-2023 20:45 Cal File: NT1803192310S.D
Als bottle: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: PSDDA.sub
Target Version: 4.14
Processing Host: DEENAY-201905

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	6.786	6.786	(0.756)	13359	0.15455	0.1546(R)
	3 Phenol	94	8.369	8.369	(0.932)	10846	0.09371	0.09371
	7 1,3-Dichlorobenzene	146	8.918	8.918	(0.993)	11908	0.10635	0.1063
*	8 1,4-Dichlorobenzene-d4	152	8.980	8.980	(1.000)	296495	4.00000	
	9 1,4-Dichlorobenzene	146	9.011	9.011	(1.003)	12278	0.10811	0.1081
	11 Benzyl alcohol	79	9.260	9.244	(1.031)	6026	0.08706	0.08706
	12 1,2-Dichlorobenzene	146	9.360	9.361	(1.042)	11916	0.10780	0.1078
	13 2-Methylphenol	108	9.477	9.469	(1.055)	8327	0.10364	0.1036
	15 4-Methylphenol	108	9.749	9.741	(1.086)	8008	0.09581	0.09581
	16 N-Nitroso-di-n-propylamine	70	9.803	9.803	(1.092)	5440	0.09867	0.09867
	22 2,4-Dimethylphenol	107	10.783	10.775	(0.943)	15865	0.20594	0.2059
	24 Benzoic acid	105	Compound Not Detected.					
	26 1,2,4-Trichlorobenzene	180	11.360	11.360	(0.993)	9213	0.10485	0.1049
*	27 Naphthalene-d8	136	11.437	11.437	(1.000)	1103116	4.00000	
	30 Hexachlorobutadiene	225	11.846	11.846	(1.036)	5324	0.10528	0.1053
	39 Dimethylphthalate	163	14.547	14.539	(0.968)	17808	0.10324	0.1032
*	42 Acenaphthene-d10	162	15.027	15.027	(1.000)	540048	4.00000	
	50 Diethylphthalate	149	15.985	15.985	(1.064)	16714	0.10671	0.1067
	54 N-Nitrosodiphenylamine	169	16.371	16.364	(0.908)	12323	0.10495	0.1050
	57 Hexachlorobenzene	284	17.413	17.413	(0.966)	5929	0.10614	0.1061
	58 Pentachlorophenol	266	17.831	17.777	(0.989)	405	0.01377	0.01377
*	59 Phenanthrene-d10	188	18.032	18.032	(1.000)	966733	4.00000	
$	66 Terphenyl-d14	244	21.173	21.166	(0.918)	13870	0.09682	0.09682(R)
	67 Butylbenzylphthalate	149	22.095	22.095	(0.958)	11079	0.07724	0.07724
*	69 Chrysene-d12	240	23.055	23.055	(1.000)	1016386	4.00000	
*	77 Perylene-d12	264	25.563	25.563	(1.000)	890966	4.00000	
	79 Dibenzo(a,h)anthracene	278	28.091	28.068	(1.099)	6841	0.02595	0.02595
	90 N-Nitrosodimethylamine	74	4.700	4.692	(0.523)	10942	0.20741	0.2074

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt18.i
Lab File ID: NT1803222320S.D
Lab Smp Id: SLD0064-LCV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt18.i\20230322A.b\SIM.b\SIMABN2.m
Misc Info:

Calibration Date: 23-MAR-2023
Calibration Time: 04:45
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	300412	150206	600824	296495	-1.30
27 Naphthalene-d8	1106289	553145	2212578	1103116	-0.29
42 Acenaphthene-d10	537373	268687	1074746	540048	0.50
59 Phenanthrene-d10	948670	474335	1897340	966733	1.90
69 Chrysene-d12	1017874	508937	2035748	1016386	-0.15
77 Perylene-d12	984454	492227	1968908	890966	-9.50

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	8.98	8.48	9.48	8.98	-0.00
27 Naphthalene-d8	11.44	10.94	11.94	11.44	-0.00
42 Acenaphthene-d10	15.03	14.53	15.53	15.03	-0.00
59 Phenanthrene-d10	18.03	17.53	18.53	18.03	-0.00
69 Chrysene-d12	23.06	22.56	23.56	23.06	-0.00
77 Perylene-d12	25.56	25.06	26.06	25.56	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1803222320S.D

Lab ID: SLD0064-LCV1
nt18.i, 20230322A.b\SIM.b\SIMABN2.m,   23-MAR-2023 06:05

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

RRT check based on Ccal File: SIM.b/NT1803222318S.D

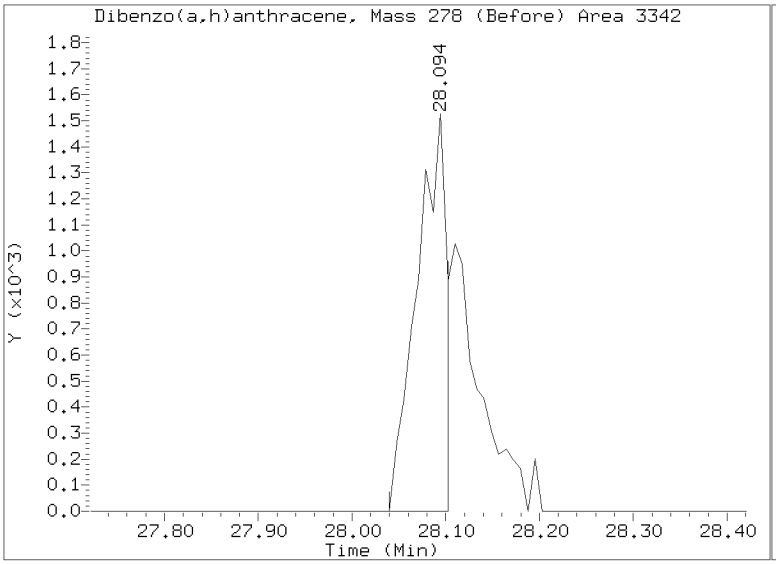
On Column LOD for nt18.i, SIM.b\SIMABN2.m, PSDDA.sub = 0.0000

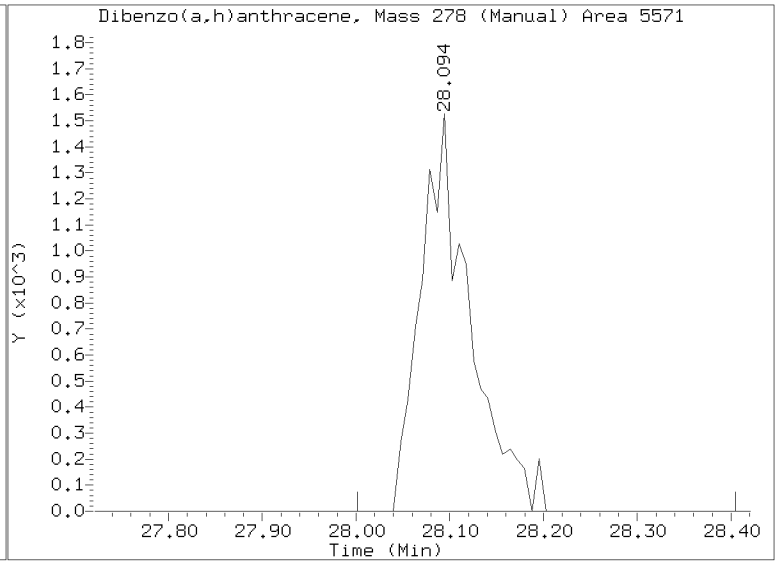
Exception: 1,2,4-Trichlorobenzene 0.0010

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt18.i/20230322A.b/SIM.b/NT1803222320S.D
Injection Date: 23-MAR-2023 06:05
Lab ID:SLD0064-LCV1 Client ID:
Report Date: 04/05/2023 11:38





APPROVED

By Deenay Dunmore at 12:02 pm, Apr 05, 2023

Analytical Resources, LLC
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLD0001	Instrument:	NT18
		Calibration:	GD00001

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ABN 10.0	SLD0001-CAL8	NT1803192303S.D	NA	03/19/23 15:59
ABN 5.0	SLD0001-CAL7	NT1803192304S.D	NA	03/19/23 16:40
ABN 2.5	SLD0001-CAL6	NT1803192305S.D	NA	03/19/23 17:21
ABN 1.0	SLD0001-CAL5	NT1803192306S.D	NA	03/19/23 18:02
ABN 0.5	SLD0001-CAL4	NT1803192307S.D	NA	03/19/23 18:43
ABN 0.2	SLD0001-CAL3	NT1803192308S.D	NA	03/19/23 19:24
ABN 0.1	SLD0001-CAL2	NT1803192309S.D	NA	03/19/23 20:04
ABN 0.05	SLD0001-CAL1	NT1803192310S.D	NA	03/19/23 20:45
SCV 5.0	SLD0001-SCV1	NT1803192311S.D	NA	03/19/23 21:26
Initial Cal Blank	SLD0001-ICB1	NT1803192312S.D	NA	03/19/23 22:06

ANALYSIS SEQUENCE

SLD0001

Instrument: NT18
Calibration ID: UNASSIGNED

Printed: 4/1/2023 6:20:55AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SLD0001-CAL1	QC		1		L002878	K010831		
SLD0001-CAL2	QC		2		L002877	K010831		
SLD0001-CAL3	QC		3		K011105	K010831		
SLD0001-CAL4	QC		4		K011106	K010831		
SLD0001-CAL5	QC		5		K011107	K010831		
SLD0001-CAL6	QC		6		K011108	K010831		
SLD0001-CAL7	QC		7		K011109	K010831		
SLD0001-CAL8	QC		8		K011110	K010831		
SLD0001-SCV1	QC		9		K010066	K010831		
SLD0001-ICB1	QC		10		K005156	K010831		

Samples Loaded By Date

Data Processed By Date

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt18.i\20230319.b\SIM.b

	Time	Filename	LabID	ClientId	DF																				
1	1559	NT1803192303S.D	SLD0001-CAL8		1	9.00	304018	11.46	1171666	15.05	582113	18.06	1047716	23.08	949185	25.60	997831								
2	1640	NT1803192304S.D	SLD0001-CAL7		1	9.00	293152	11.46	1107403	15.05	551201	18.06	941200	23.08	797153	25.60	919405								
3	1721	NT1803192305S.D	SLD0001-CAL6		1	9.00	272911	11.46	1024167	15.04	514559	18.06	880372	23.08	757356	25.59	851888								
4	1802	NT1803192306S.D	SLD0001-CAL5		1	9.00	276557	11.46	1034745	15.04	519728	18.06	903862	23.07	761695	25.59	858044								
5	1843	NT1803192307S.D	SLD0001-CAL4		1	9.00	269573	11.46	1012679	15.04	512101	18.05	905056	23.07	753052	25.59	831773								
6	1924	NT1803192308S.D	SLD0001-CAL3		1	9.00	285948	11.46	1077077	15.04	546226	18.06	970172	23.07	800952	25.59	872718								
7	2004	NT1803192309S.D	SLD0001-CAL2		1	9.00	278197	11.46	1048755	15.04	527543	18.05	943945	23.07	782623	25.59	866109								
8	2045	NT1803192310S.D	SLCD0001-CAL1		1	9.00	257717	11.46	970770	15.04	480239	18.05	849779	23.07	709293	25.59	796818								
9	2126	NT1803192311S.D	SLCD0001-SCV1		1	9.00	274820	11.46	1036057	15.05	524780	18.06	904764	23.08	777248	25.59	888854								
10	2206	NT1803192312S.D	SLD0001-ICB1		1	9.00	274085	11.46	1007260	15.04	498081	18.05	889215	23.07	744134	25.59	821502								

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt18.i\20230319.b\SIM.b

ARI Job No.: SLD0 Method: SIM.b\SIMABN2.m Instrument: nt18.i Date: 19-MAR-2023

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1559	NT1803192303S.D	SLD0001-CAL8		1	NO MANUAL INTEGRATION
1640	NT1803192304S.D	SLD0001-CAL7		1	NO MANUAL INTEGRATION
1721	NT1803192305S.D	SLD0001-CAL6		1	NO MANUAL INTEGRATION
1802	NT1803192306S.D	SLD0001-CAL5		1	NO MANUAL INTEGRATION
1843	NT1803192307S.D	SLD0001-CAL4		1	NO MANUAL INTEGRATION
1924	NT1803192308S.D	SLD0001-CAL3		1	Benzoic acid, Pentachlorophenol,
2004	NT1803192309S.D	SLD0001-CAL2		1	Benzoic acid, Pentachlorophenol,
2045	NT1803192310S.D	SLCD0001-CAL1		1	N-Nitroso-di-n-propylamine, Benzoic acid, Pentachlorophenol, Terphenyl-d14,
2126	NT1803192311S.D	SLCD0001-SCV1		1	NO MANUAL INTEGRATION
2206	NT1803192312S.D	SLD0001-ICB1		1	N-Nitrosodimethylamine,

Security Status Report

Date: 31-Mar-2023 09:32

NT1803192303S.D	Data Locked	yev, 31-
NT1803192304S.D	Data Locked	yev, 31-
NT1803192305S.D	Data Locked	yev, 31-
NT1803192306S.D	Data Locked	yev, 31-
NT1803192307S.D	Data Locked	yev, 31-
NT1803192308S.D	Data Locked	yev, 31-
NT1803192309S.D	Data Locked	yev, 31-
NT1803192310S.D	Data Locked	yev, 31-
NT1803192311S.D	Data Locked	yev, 31-
NT1803192312S.D	Data Locked	yev, 31-

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270E-SIM

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLD0061
Instrument: NT18
Calibration: GD00001

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SLD0061-TUN1	NT1803222301S.D	NA	03/22/23 17:37
Initial Cal Check	SLD0061-ICV1	NT1803222303S.D	NA	03/22/23 18:36
ABN 0.1	SLD0061-LCV1	NT1803222305S.D	NA	03/22/23 19:58
Blank	BLC0185-BLK3	NT1803222306S.D	Solid	03/22/23 20:39
LCS	BLC0185-BS2	NT1803222307S.D	Solid	03/22/23 21:20
LCS Dup	BLC0185-BSD2	NT1803222308S.D	Solid	03/22/23 22:01
MRL Check	BLC0185-MRL2	NT1803222309S.D	Solid	03/22/23 22:42
Reference	BLC0185-SRM2	NT1803222310S.D	Solid	03/22/23 23:22
LDW23-SC1044	23C0108-02	NT1803222311S.D	Solid	03/23/23 00:03
LDW23-SS1106	23C0108-06	NT1803222312S.D	Solid	03/23/23 00:44
LDW23-SS1107	23C0108-07	NT1803222313S.D	Solid	03/23/23 01:24
LDW23-SS1111	23C0108-08	NT1803222314S.D	Solid	03/23/23 02:04
LDW23-SS1111	BLC0185-MS2	NT1803222315S.D	Solid	03/23/23 02:45
LDW23-SS1111	BLC0185-MSD2	NT1803222316S.D	Solid	03/23/23 03:25
Calibration Check	SLD0061-CCV1	NT1803222318S.D	NA	03/23/23 04:45

ANALYSIS SEQUENCE

SLD0061

Instrument ID: NT18
Calibration ID: GD00001
MS EM Level: 1247 EV

GCMS Description: Agilent 6890N/5975
GCMS Column ID: L001046

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Analyzed	File ID	Analyst	Comments
SLD0061-TUN1	MS Tune	QC		1	L002618		03/22/2023 17:37	NT1803222301S.D	VTS	
SLD0061-ICV1	Initial Cal Check	QC		2	K011107	K010831	03/22/2023 18:36	NT1803222303S.D	VTS	
SLD0061-LCV1	ABN 0.1	QC		3	K011452	K010831	03/22/2023 19:58	NT1803222305S.D	VTS	
BLC0185-BLK3	Blank	QC		4		K010831	03/22/2023 20:39	NT1803222306S.D	VTS	
BLC0185-BS2	LCS	QC		5		K010831	03/22/2023 21:20	NT1803222307S.D	VTS	
BLC0185-BSD2	LCS Dup	QC		6		K010831	03/22/2023 22:01	NT1803222308S.D	VTS	
BLC0185-SRM2	Reference	QC		7		K010831	03/22/2023 23:22	NT1803222310S.D	VTS	
BLC0185-MRL2	MRL Check	QC		8		K010831	03/22/2023 22:42	NT1803222309S.D	VTS	
23C0108-02	LDW23-SC1044	270E-SIM Dual Scan SVO	A 03	9		K010831	03/23/2023 00:03	NT1803222311S.D	VTS	
23C0108-06	LDW23-SS1106	270E-SIM Dual Scan SVO	A 03	10		K010831	03/23/2023 00:44	NT1803222312S.D	VTS	
23C0108-07	LDW23-SS1107	270E-SIM Dual Scan SVO	A 03	11		K010831	03/23/2023 01:24	NT1803222313S.D	VTS	
23C0108-08	LDW23-SS1111	270E-SIM Dual Scan SVO	A 03	12		K010831	03/23/2023 02:04	NT1803222314S.D	VTS	
BLC0185-MS2	Matrix Spike	QC		13		K010831	03/23/2023 02:45	NT1803222315S.D	VTS	
BLC0185-MSD2	Matrix Spike Dup	QC		14		K010831	03/23/2023 03:25	NT1803222316S.D	VTS	
SLD0061-CCV1	Calibration Check	QC		15	K011107	K010831	03/23/2023 04:45	NT1803222318S.D	VTS	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt18.i\20230322.b\SIM.b

	Time	Filename	LabID	ClientId	DF											
1	1737	NT1803222301S.D	SLD0051-TUN1		1	|NO ISTDS FOUND||										
2	1755	NT1803222302S.D	SEQ-ICVFULL		1	| 8.98	285497||11.45	1070345||15.03	529166||18.03	943137||23.06	895071||25.57	1010178|				
3	1836	NT1803222303S.D	SLD0061-ICV1		1	| 8.98	283947||11.44	1057483||15.03	520336||18.03	933537||23.06	863272||25.56	996915|				
4	1917	NT1803222304S.D	SEQ-LCVFULL		1	| 8.98	285858||11.44	1064480||15.03	524377||18.03	945799||23.06	875806||25.56	998014|				
5	1958	NT1803222305S.D	SLD0061-LCV1		1	| 8.98	281332||11.44	1052443||15.02	517946||18.03	931866||23.05	856714||25.56	979915|				
6	2039	NT1803222306S.D	BLC0185-BLK1		1	| 8.98	322460||11.44	1167456||15.02	576577||18.03	1043890||23.05	934289||25.56	932299|				
7	2120	NT1803222307S.D	BLK0185-BS1		1	| 8.98	316787||11.44	1181498||15.03	579236||18.03	1038197||23.06	953869||25.56	969064|				
8	2201	NT1803222308S.D	BLC0185-BSD1		1	| 8.98	326627||11.44	1219606||15.03	596436||18.03	1047551||23.06	971135||25.56	989005|				
9	2242	NT1803222309S.D	BLC0185-MRL1		1	| 8.98	323106||11.44	1166840||15.02	574020||18.02	1024462||23.05	925982||25.56	949614|				
10	2322	NT1803222310S.D	BLC0185-SRM1		1	| 8.98	317828||11.44	1179389||15.02	580188||18.03	1031187||23.06	952878||25.56	896158|				
11	0003	NT1803222311S.D	23C0108-02		1	| 8.98	342453||11.44	1226773||15.03	597627||18.03	1098679||23.06	1330502||25.59	1369234|				
12	0044	NT1803222312S.D	23C0108-06		1	| 8.98	347415||11.44	1250587||15.03	598392||18.03	1063977||23.06	1257458||25.58	1364887|				
13	0124	NT1803222313S.D	23C0108-07		1	| 8.98	349146||11.44	1261237||15.03	607455||18.03	1088307||23.06	1246177||25.58	1338120|				
14	0204	NT1803222314S.D	23C0108-08		1	| 8.98	355471||11.44	1284738||15.03	621519||18.03	1087466||23.06	1266535||25.58	1343151|				
15	0245	NT1803222315S.D	BLC0185-MS1		1	| 8.99	351244||11.45	1300390||15.03	615391||18.03	1101432||23.06	1296323||25.58	1262809|				
16	0325	NT1803222316S.D	BLC0185-MSD1		1	| 8.99	353017||11.45	1307811||15.03	619851||18.03	1131201||23.06	1336147||25.59	1253602|				
17	0405	NT1803222317S.D	SLD0051-CCV1		1	| 8.98	312974||11.45	1163690||15.03	557857||18.03	987713||23.06	1090656||25.57	1078204|				
18	0445	NT1803222318S.D	SLD0061-CCV1		1	| 8.98	300412||11.44	1106289||15.03	537373||18.03	948670||23.06	1017874||25.56	984369|				

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt18.i\20230322.b\SIM.b

ARI Job No.: SLD0 Method: DFTPP8270E.m Instrument: nt18.i Date: 22-MAR-2023

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1737	NT1803222301S.D	SLD0061-TUN1		1	NO MANUAL INTEGRATION
1755	NT1803222302S.D	SEQ-ICVFULL		1	NO MANUAL INTEGRATION
1836	NT1803222303S.D	SLD0061-ICV1		1	NO MANUAL INTEGRATION
1917	NT1803222304S.D	SEQ-LCVFULL		1	NO MANUAL INTEGRATION
1958	NT1803222305S.D	SLD0061-LCV1		1	Pentachlorophenol,
2039	NT1803222306S.D	BLC0185-BLK3		1	NO MANUAL INTEGRATION
2120	NT1803222307S.D	BLK0185-BS2		1	NO MANUAL INTEGRATION
2201	NT1803222308S.D	BLC0185-BSD2		1	NO MANUAL INTEGRATION
2242	NT1803222309S.D	BLC0185-MRL2		1	NO MANUAL INTEGRATION
2322	NT1803222310S.D	BLC0185-SRM2		1	Hexachlorobenzene,
0003	NT1803222311S.D	23C0108-02		1	Diethylphthalate,
0044	NT1803222312S.D	23C0108-06		1	Diethylphthalate,
0124	NT1803222313S.D	23C0108-07		1	NO MANUAL INTEGRATION
0204	NT1803222314S.D	23C0108-08		1	NO MANUAL INTEGRATION
0245	NT1803222315S.D	BLC0185-MS2		1	NO MANUAL INTEGRATION
0325	NT1803222316S.D	BLC0185-MSD2		1	NO MANUAL INTEGRATION
0405	NT1803222317S.D	SLD0051-CCV1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt18.i\20230322.b\SIM.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0445	NT1803222318S.D	SLD0061-CCV1		1	NO MANUAL INTEGRATION

Security Status Report

Date: 05-Apr-2023 10:59

NT1803222301S.D	Data Locked	deenayd, 05-
NT1803222302S.D	Data Locked	deenayd, 05-
NT1803222303S.D	Data Locked	deenayd, 05-
NT1803222304S.D	Data Locked	deenayd, 05-
NT1803222305S.D	Data Locked	deenayd, 05-
NT1803222306S.D	Data Locked	deenayd, 05-
NT1803222307S.D	Data Locked	deenayd, 05-
NT1803222308S.D	Data Locked	deenayd, 05-
NT1803222309S.D	Data Locked	deenayd, 05-
NT1803222310S.D	Data Locked	deenayd, 05-
NT1803222311S.D	Data Locked	deenayd, 05-
NT1803222312S.D	Data Locked	deenayd, 05-
NT1803222313S.D	Data Locked	deenayd, 05-
NT1803222314S.D	Data Locked	deenayd, 05-
NT1803222315S.D	Data Locked	deenayd, 05-
NT1803222316S.D	Data Locked	deenayd, 05-
NT1803222317S.D	Data Locked	deenayd, 05-
NT1803222318S.D	Data Locked	deenayd, 05-

Analytical Resources, LLC
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLD0064	Instrument:	NT18
		Calibration:	GD00001

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SLD0064-TUN1	NT1803222301SA.D	NA	03/22/23 17:37
Initial Cal Check	SLD0064-ICV1	NT1803222318SA.D	NA	03/23/23 04:45
ABN 0.1	SLD0064-LCV1	NT1803222320S.D	NA	03/23/23 06:05
Blank	BLC0185-BLK4	NT1803222321S.D	Solid	03/23/23 06:46
LDW23-SS1118	23C0108-09	NT1803222322S.D	Solid	03/23/23 07:26
ZZZZZ	23C0109-02	NT1803222323S.D	Solid	03/23/23 08:06
ZZZZZ	23C0109-03	NT1803222324S.D	Solid	03/23/23 08:46
Calibration Check	SLD0064-CCV1	NT1803222326S.D	NA	03/23/23 10:07

ANALYSIS SEQUENCE

SLD0064

Instrument ID: NT18
Calibration ID: GD00001
MS EM Level: 1247 EV

GCMS Description: Agilent 6890N/5975
GCMS Column ID: L001046

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Analyzed	File ID	Analyst	Comments
SLD0064-TUN1	MS Tune	QC		1	L002618		03/22/2023 17:37	NT1803222301SA.D	VTS	
SLD0064-ICV1	Initial Cal Check	QC		2	K011107	K010831	03/23/2023 04:45	NT1803222318SA.D	VTS	
SLD0064-LCV1	ABN 0.1	QC		3	K011452	K010831	03/23/2023 06:05	NT1803222320S.D	VTS	
BLC0185-BLK4	Blank	QC		4		K010831	03/23/2023 06:46	NT1803222321S.D	VTS	
23C0108-09	LDW23-SS1118	270E-SIM Dual Scan SVO	A 03	5		K010831	03/23/2023 07:26	NT1803222322S.D	VTS	
23C0109-02	LDW23-SS1104	270E-SIM Dual Scan SVO	A 03	6		K010831	03/23/2023 08:06	NT1803222323S.D	VTS	
23C0109-03	LDW23-SS1105	270E-SIM Dual Scan SVO	A 03	7		K010831	03/23/2023 08:46	NT1803222324S.D	VTS	
SLD0064-CCV1	Calibration Check	QC		8	K011107	K010831	03/23/2023 10:07	NT1803222326S.D	VTS	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt18.i\20230322A.b\SIM.b

	Time	Filename	LabID	ClientId	DF															
1	1737	NT1803222301SA.D	SLD0064-TUN1		1	|NO ISTDS FOUND||														
2	0445	NT1803222318SA.D	SLD0064-ICV1		1	| 8.98	300412||11.44	1106289||15.03	537373||18.03	948670||23.06	1017874||25.56	984454|								
3	0605	NT1803222320S.D	SLD0064-LCV1		1	| 8.98	296495||11.44	1103116||15.03	540048||18.03	966733||23.06	1016386||25.56	890966|								
4	0646	NT1803222321S.D	BLC0185-BLK4		1	| 8.98	345528||11.44	1248344||15.03	600752||18.03	1063919||23.06	1113151||25.56	956207|								
5	0726	NT1803222322S.D	23C0108-09		1	| 8.98	338852||11.44	1231118||15.03	602971||18.03	1111406||23.06	1285574||25.58	1165335|								
6	0806	NT1803222323S.D	23C0109-02		1	| 8.98	330504||11.44	1204552||15.03	579997||18.03	1048640||23.06	1172025||25.57	997995|								
7	0846	NT1803222324S.D	23C0109-03		1	| 8.98	356280||11.44	1282210||15.03	625970||18.03	1122775||23.06	1242762||25.57	1098629|								
8	1007	NT1803222326S.D	SLD0064-CCV1		1	| 8.98	300096||11.45	1112578||15.03	540961||18.03	967738||23.06	1049579||25.56	810491|								

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt18.i\20230322A.b\SIM.b

ARI Job No.: SLD0 Method: SIM.b\DFTPP8270E.m Instrument: nt18.i Date: 22-MAR-2023

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1737	NT1803222301SA.D	SLD0051-TUN1		1	NO MANUAL INTEGRATION
0445	NT1803222318S.D	SLD0064-ICV1		1	NO MANUAL INTEGRATION
0525	NT1803222319S.D	SEQ-LCV1		1	NO MANUAL INTEGRATION
0605	NT1803222320S.D	SLD0064-LCV1		1	Dibenzo(a,h)anthracene,
0646	NT1803222321S.D	BLC0185-BLK4		1	NO MANUAL INTEGRATION
0726	NT1803222322S.D	23C0108-09		1	NO MANUAL INTEGRATION
0806	NT1803222323S.D	23C0109-02		1	NO MANUAL INTEGRATION
0846	NT1803222324S.D	23C0109-03		1	NO MANUAL INTEGRATION
0927	NT1803222325S.D	SEQ-CCVFULL		1	NO MANUAL INTEGRATION
1007	NT1803222326S.D	SLD0064-CCV1		1	NO MANUAL INTEGRATION

Security Status Report

Date: 05-Apr-2023 11:42

NT1803222301SA.D	Data Locked	deenayd, 05-
NT1803222318S.D	Data Locked	deenayd, 05-
NT1803222319S.D	Data Locked	deenayd, 05-
NT1803222320S.D	Data Locked	deenayd, 05-
NT1803222321S.D	Data Locked	deenayd, 05-
NT1803222322S.D	Data Locked	deenayd, 05-
NT1803222323S.D	Data Locked	deenayd, 05-
NT1803222324S.D	Data Locked	deenayd, 05-
NT1803222325S.D	Data Locked	deenayd, 05-
NT1803222326S.D	Data Locked	deenayd, 05-

ANALYSIS SEQUENCE

SLD0064

Instrument ID: NT18
Calibration ID: GD00001
MS EM Level: 1247 EV

GCMS Description: Agilent 6890N/5975
GCMS Column ID: L001046

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Analyzed	File ID	Analyst	Comments
SLD0064-TUN1	MS Tune	QC		1	L002618		03/22/2023 17:37	NT1803222301SA.D	VTS	
SLD0064-ICV1	Initial Cal Check	QC		2	K011107	K010831	03/23/2023 04:45	NT1803222318SA.D	VTS	
SLD0064-LCV1	ABN 0.1	QC		3	K011452	K010831	03/23/2023 06:05	NT1803222320S.D	VTS	
BLC0185-BLK4	Blank	QC		4		K010831	03/23/2023 06:46	NT1803222321S.D	VTS	
23C0108-09	LDW23-SS1118	270E-SIM Dual Scan SVO	A 03	5		K010831	03/23/2023 07:26	NT1803222322S.D	VTS	
23C0109-02	LDW23-SS1104	270E-SIM Dual Scan SVO	A 03	6		K010831	03/23/2023 08:06	NT1803222323S.D	VTS	
23C0109-03	LDW23-SS1105	270E-SIM Dual Scan SVO	A 03	7		K010831	03/23/2023 08:46	NT1803222324S.D	VTS	
SLD0064-CCV1	Calibration Check	QC		8	K011107	K010831	03/23/2023 10:07	NT1803222326S.D	VTS	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt18.i\20230322A.b\SIM.b

	Time	Filename	LabID	ClientId	DF															
1	1737	NT1803222301SA.D	SLD0064-TUN1		1	|NO ISTDS FOUND||														
2	0445	NT1803222318SA.D	SLD0064-ICV1		1	| 8.98	300412||11.44	1106289||15.03	537373||18.03	948670||23.06	1017874||25.56	984454|								
3	0605	NT1803222320S.D	SLD0064-LCV1		1	| 8.98	296495||11.44	1103116||15.03	540048||18.03	966733||23.06	1016386||25.56	890966|								
4	0646	NT1803222321S.D	BLC0185-BLK4		1	| 8.98	345528||11.44	1248344||15.03	600752||18.03	1063919||23.06	1113151||25.56	956207|								
5	0726	NT1803222322S.D	23C0108-09		1	| 8.98	338852||11.44	1231118||15.03	602971||18.03	1111406||23.06	1285574||25.58	1165335|								
6	0806	NT1803222323S.D	23C0109-02		1	| 8.98	330504||11.44	1204552||15.03	579997||18.03	1048640||23.06	1172025||25.57	997995|								
7	0846	NT1803222324S.D	23C0109-03		1	| 8.98	356280||11.44	1282210||15.03	625970||18.03	1122775||23.06	1242762||25.57	1098629|								
8	1007	NT1803222326S.D	SLD0064-CCV1		1	| 8.98	300096||11.45	1112578||15.03	540961||18.03	967738||23.06	1049579||25.56	810491|								

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt18.i\20230322A.b\SIM.b

ARI Job No.: SLD0 Method: SIM.b\DFTPP8270E.m Instrument: nt18.i Date: 22-MAR-2023

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1737	NT1803222301SA.D	SLD0051-TUN1		1	NO MANUAL INTEGRATION
0445	NT1803222318S.D	SLD0064-ICV1		1	NO MANUAL INTEGRATION
0525	NT1803222319S.D	SEQ-LCV1		1	NO MANUAL INTEGRATION
0605	NT1803222320S.D	SLD0064-LCV1		1	Dibenzo(a,h)anthracene,
0646	NT1803222321S.D	BLC0185-BLK4		1	NO MANUAL INTEGRATION
0726	NT1803222322S.D	23C0108-09		1	NO MANUAL INTEGRATION
0806	NT1803222323S.D	23C0109-02		1	NO MANUAL INTEGRATION
0846	NT1803222324S.D	23C0109-03		1	NO MANUAL INTEGRATION
0927	NT1803222325S.D	SEQ-CCVFULL		1	NO MANUAL INTEGRATION
1007	NT1803222326S.D	SLD0064-CCV1		1	NO MANUAL INTEGRATION

Security Status Report

Date: 05-Apr-2023 11:42

NT1803222301SA.D	Data Locked	deenayd, 05-
NT1803222318S.D	Data Locked	deenayd, 05-
NT1803222319S.D	Data Locked	deenayd, 05-
NT1803222320S.D	Data Locked	deenayd, 05-
NT1803222321S.D	Data Locked	deenayd, 05-
NT1803222322S.D	Data Locked	deenayd, 05-
NT1803222323S.D	Data Locked	deenayd, 05-
NT1803222324S.D	Data Locked	deenayd, 05-
NT1803222325S.D	Data Locked	deenayd, 05-
NT1803222326S.D	Data Locked	deenayd, 05-

SURROGATE RECOVERY AND RT SUMMARY
EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG/WO:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLD0001	Instrument:	NT18
Calibration:	GD00001	Calibration Date:	03/19/2023

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SLD0001-SCV1 (Solid)			Lab File ID: NT1803192311S.D				Analyzed: 03/19/23 21:26	
2-Fluorophenol	7.5000		0 - 200		6.79325	-6.7933	N/A	
p-Terphenyl-d14	5.0000		0 - 200		21.18987	-21.1899	N/A	
SLD0001-ICB1 (Solid)			Lab File ID: NT1803192312S.D				Analyzed: 03/19/23 22:06	
2-Fluorophenol	7.5000	102	27 - 120	6.793	6.79325	-0.0002	N/A	
p-Terphenyl-d14	5.0000	105	37 - 120	21.189	21.18987	-0.0009	N/A	

SURROGATE RECOVERY AND RT SUMMARY
EPA 8270E-SIM

Laboratory: Analytical Resources, LLC
SDG/WO: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLD0061
Instrument: NT18
Calibration: GD00001
Calibration Date: 03/19/2023

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SLD0061-ICV1 (Solid)			Lab File ID: NT1803222303S.D			Analyzed: 03/22/23 18:36		
2-Fluorophenol	1.5000	102	80 - 120	6.778	6.79325	-0.0153	N/A	
p-Terphenyl-d14	1.0000	98.2	80 - 120	21.165	21.18987	-0.0249	N/A	
SLD0061-LCV1 (Solid)			Lab File ID: NT1803222305S.D			Analyzed: 03/22/23 19:58		
2-Fluorophenol	0.15000	88.5	0 - 200	6.786	6.79325	-0.0072	N/A	
p-Terphenyl-d14	0.10000	98.3	0 - 200	21.166	21.18987	-0.0239	N/A	
BLC0185-BLK3 (Solid)			Lab File ID: NT1803222306S.D			Analyzed: 03/22/23 20:39		
2-Fluorophenol	750.00	79.0	27 - 120	6.786	6.79325	-0.0072	N/A	
p-Terphenyl-d14	500.00	101	37 - 120	21.165	21.18987	-0.0249	N/A	
BLC0185-BS2 (Solid)			Lab File ID: NT1803222307S.D			Analyzed: 03/22/23 21:20		
2-Fluorophenol	750.00	82.0	27 - 120	6.786	6.79325	-0.0072	N/A	
p-Terphenyl-d14	500.00	89.8	37 - 120	21.166	21.18987	-0.0239	N/A	
BLC0185-BSD2 (Solid)			Lab File ID: NT1803222308S.D			Analyzed: 03/22/23 22:01		
2-Fluorophenol	750.00	83.2	27 - 120	6.793	6.79325	-0.0002	N/A	
p-Terphenyl-d14	500.00	90.4	37 - 120	21.165	21.18987	-0.0249	N/A	
BLC0185-MRL2 (Solid)			Lab File ID: NT1803222309S.D			Analyzed: 03/22/23 22:42		
2-Fluorophenol	750.00	72.7	27 - 120	6.786	6.79325	-0.0072	N/A	
p-Terphenyl-d14	500.00	93.0	37 - 120	21.165	21.18987	-0.0249	N/A	
BLC0185-SRM2 (Solid)			Lab File ID: NT1803222310S.D			Analyzed: 03/22/23 23:22		
2-Fluorophenol	7500.0	85.8	27 - 120	6.793	6.79325	-0.0002	N/A	
p-Terphenyl-d14	5000.0	97.3	37 - 120	21.166	21.18987	-0.0239	N/A	
23C0108-02 (Solid)			Lab File ID: NT1803222311S.D			Analyzed: 03/23/23 00:03		
2-Fluorophenol	750.04	84.2	27 - 120	6.793	6.79325	-0.0002	N/A	
p-Terphenyl-d14	500.02	79.4	37 - 120	21.173	21.18987	-0.0169	N/A	
23C0108-06 (Solid)			Lab File ID: NT1803222312S.D			Analyzed: 03/23/23 00:44		
2-Fluorophenol	749.31	87.5	27 - 120	6.801	6.79325	0.0078	N/A	
p-Terphenyl-d14	499.54	81.5	37 - 120	21.173	21.18987	-0.0169	N/A	

SURROGATE RECOVERY AND RT SUMMARY
EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG/WO:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLD0061	Instrument:	NT18
Calibration:	GD00001	Calibration Date:	03/19/2023

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
23C0108-07 (Solid)			Lab File ID: NT1803222313S.D			Analyzed: 03/23/23 01:24		
2-Fluorophenol	748.66	83.4	27 - 120	6.801	6.79325	0.0078	N/A	
p-Terphenyl-d14	499.11	84.8	37 - 120	21.173	21.18987	-0.0169	N/A	
23C0108-08 (Solid)			Lab File ID: NT1803222314S.D			Analyzed: 03/23/23 02:04		
2-Fluorophenol	748.99	81.4	27 - 120	6.793	6.79325	-0.0002	N/A	
p-Terphenyl-d14	499.33	80.0	37 - 120	21.173	21.18987	-0.0169	N/A	
BLC0185-MS2 (Solid)			Lab File ID: NT1803222315S.D			Analyzed: 03/23/23 02:45		
2-Fluorophenol	748.99	83.7	27 - 120	6.801	6.79325	0.0078	N/A	
p-Terphenyl-d14	499.33	82.7	37 - 120	21.173	21.18987	-0.0169	N/A	
BLC0185-MSD2 (Solid)			Lab File ID: NT1803222316S.D			Analyzed: 03/23/23 03:25		
2-Fluorophenol	748.99	84.3	27 - 120	6.793	6.79325	-0.0002	N/A	
p-Terphenyl-d14	499.33	83.6	37 - 120	21.173	21.18987	-0.0169	N/A	
SLD0061-CCV1 (Solid)			Lab File ID: NT1803222318S.D			Analyzed: 03/23/23 04:45		
2-Fluorophenol	1.5000	105	50 - 150	6.786	6.79325	-0.0072	N/A	
p-Terphenyl-d14	1.0000	91.5	50 - 150	21.166	21.18987	-0.0239	N/A	

SURROGATE RECOVERY AND RT SUMMARY
EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG/WO:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLD0064	Instrument:	NT18
Calibration:	GD00001	Calibration Date:	03/19/2023

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SLD0064-ICV1 (Solid)			Lab File ID: NT1803222318SA.D				Analyzed: 03/23/23 04:45	
2-Fluorophenol	1.5000	105	80 - 120	6.786	6.79325	-0.0072	N/A	
p-Terphenyl-d14	1.0000	91.5	80 - 120	21.166	21.18987	-0.0239	N/A	
SLD0064-LCV1 (Solid)			Lab File ID: NT1803222320S.D				Analyzed: 03/23/23 06:05	
2-Fluorophenol	0.15000	103	0 - 200	6.786	6.79325	-0.0072	N/A	
p-Terphenyl-d14	0.10000	96.8	0 - 200	21.173	21.18987	-0.0169	N/A	
BLC0185-BLK4 (Solid)			Lab File ID: NT1803222321S.D				Analyzed: 03/23/23 06:46	
2-Fluorophenol	750.00	79.6	27 - 120	6.793	6.79325	-0.0002	N/A	
p-Terphenyl-d14	500.00	91.2	37 - 120	21.165	21.18987	-0.0249	N/A	
23C0108-09 (Solid)			Lab File ID: NT1803222322S.D				Analyzed: 03/23/23 07:26	
2-Fluorophenol	748.19	84.1	27 - 120	6.801	6.79325	0.0078	N/A	
p-Terphenyl-d14	498.79	82.2	37 - 120	21.173	21.18987	-0.0169	N/A	
SLD0064-CCV1 (Solid)			Lab File ID: NT1803222326S.D				Analyzed: 03/23/23 10:07	
2-Fluorophenol	1.5000	105	50 - 150	6.786	6.79325	-0.0072	N/A	
p-Terphenyl-d14	1.0000	92.7	50 - 150	21.166	21.18987	-0.0239	N/A	

Analytical Resources, LLC
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLD0001	Instrument:	NT18
		Calibration:	GD00001

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (SLD0001-SCV1)		(Solid)		Lab File ID: NT1803192311S.D				Analyzed: 03/19/23 21:26	
1,4-Dichlorobenzene-d4	274820	8.996	276557	8.996	99	50 - 200	0.000	+/-0.50	
Naphthalene-d8	1036057	11.46	1034745	11.46	100	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	524780	15.05	519728	15.042	101	50 - 200	0.008	+/-0.50	
Phenanthrene-d10	904764	18.055	903862	18.055	100	50 - 200	0.000	+/-0.50	
Chrysene-d12	777248	23.078	761695	23.07	102	50 - 200	0.008	+/-0.50	
Perylene-d12	888854	25.594	858044	25.594	104	50 - 200	0.000	+/-0.50	
Initial Cal Blank (SLD0001-ICB1)		(Solid)		Lab File ID: NT1803192312S.D				Analyzed: 03/19/23 22:06	
1,4-Dichlorobenzene-d4	274085	8.996	276557	8.996	99	50 - 200	0.000	+/-0.50	
Naphthalene-d8	1007260	11.46	1034745	11.46	97	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	498081	15.042	519728	15.042	96	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	889215	18.047	903862	18.055	98	50 - 200	-0.008	+/-0.50	
Chrysene-d12	744134	23.07	761695	23.07	98	50 - 200	0.000	+/-0.50	
Perylene-d12	821502	25.594	858044	25.594	96	50 - 200	0.000	+/-0.50	

Analytical Resources, LLC
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270E-SIM

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Sequence: SLD0061
SDG: 23C0108
Project: AOC5 MR Phase 1
Instrument: NT18
Calibration: GD00001

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SLD0061-ICV1)		(Solid)	Lab File ID: NT1803222303S.D				Analyzed: 03/22/23 18:36		
1,4-Dichlorobenzene-d4	283947	8.98	283947	8.98	100	50 - 200	0.000	+/-0.50	
Naphthalene-d8	1057483	11.444	1057483	11.444	100	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	520336	15.027	520336	15.027	100	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	933537	18.032	933537	18.032	100	50 - 200	0.000	+/-0.50	
Chrysene-d12	863272	23.055	863272	23.055	100	50 - 200	0.000	+/-0.50	
Perylene-d12	996915	25.563	996915	25.563	100	50 - 200	0.000	+/-0.50	
Low Cal Check (SLD0061-LCV1)		(Solid)	Lab File ID: NT1803222305S.D				Analyzed: 03/22/23 19:58		
1,4-Dichlorobenzene-d4	281332	8.98	283947	8.98	99	50 - 200	0.000	+/-0.50	
Naphthalene-d8	1052443	11.437	1057483	11.444	100	50 - 200	-0.007	+/-0.50	
Acenaphthene-d10	517946	15.019	520336	15.027	100	50 - 200	-0.008	+/-0.50	
Phenanthrene-d10	931866	18.032	933537	18.032	100	50 - 200	0.000	+/-0.50	
Chrysene-d12	856714	23.047	863272	23.055	99	50 - 200	-0.008	+/-0.50	
Perylene-d12	979915	25.563	996915	25.563	98	50 - 200	0.000	+/-0.50	
Blank (BLC0185-BLK3)		(Solid)	Lab File ID: NT1803222306S.D				Analyzed: 03/22/23 20:39		
1,4-Dichlorobenzene-d4	322460	8.98	283947	8.98	114	50 - 200	0.000	+/-0.50	
Naphthalene-d8	1167456	11.437	1057483	11.444	110	50 - 200	-0.007	+/-0.50	
Acenaphthene-d10	576577	15.019	520336	15.027	111	50 - 200	-0.008	+/-0.50	
Phenanthrene-d10	1043890	18.032	933537	18.032	112	50 - 200	0.000	+/-0.50	
Chrysene-d12	934289	23.047	863272	23.055	108	50 - 200	-0.008	+/-0.50	
Perylene-d12	932299	25.563	996915	25.563	94	50 - 200	0.000	+/-0.50	
LCS (BLC0185-BS2)		(Solid)	Lab File ID: NT1803222307S.D				Analyzed: 03/22/23 21:20		
1,4-Dichlorobenzene-d4	316787	8.98	283947	8.98	112	50 - 200	0.000	+/-0.50	
Naphthalene-d8	1181498	11.437	1057483	11.444	112	50 - 200	-0.007	+/-0.50	
Acenaphthene-d10	579236	15.027	520336	15.027	111	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	1038197	18.032	933537	18.032	111	50 - 200	0.000	+/-0.50	
Chrysene-d12	953869	23.055	863272	23.055	110	50 - 200	0.000	+/-0.50	
Perylene-d12	969064	25.563	996915	25.563	97	50 - 200	0.000	+/-0.50	

Analytical Resources, LLC
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLD0061	Instrument:	NT18
		Calibration:	GD00001

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS Dup (BLC0185-BSD2)		(Solid)	Lab File ID: NT1803222308S.D				Analyzed: 03/22/23 22:01		
1,4-Dichlorobenzene-d4	326627	8.98	283947	8.98	115	50 - 200	0.000	+/-0.50	
Naphthalene-d8	1219606	11.444	1057483	11.444	115	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	596436	15.027	520336	15.027	115	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	1047551	18.032	933537	18.032	112	50 - 200	0.000	+/-0.50	
Chrysene-d12	971135	23.055	863272	23.055	112	50 - 200	0.000	+/-0.50	
Perylene-d12	989005	25.563	996915	25.563	99	50 - 200	0.000	+/-0.50	
MRL Check (BLC0185-MRL2)		(Solid)	Lab File ID: NT1803222309S.D				Analyzed: 03/22/23 22:42		
1,4-Dichlorobenzene-d4	323106	8.98	283947	8.98	114	50 - 200	0.000	+/-0.50	
Naphthalene-d8	1166840	11.437	1057483	11.444	110	50 - 200	-0.007	+/-0.50	
Acenaphthene-d10	574020	15.019	520336	15.027	110	50 - 200	-0.008	+/-0.50	
Phenanthrene-d10	1024462	18.024	933537	18.032	110	50 - 200	-0.008	+/-0.50	
Chrysene-d12	925982	23.047	863272	23.055	107	50 - 200	-0.008	+/-0.50	
Perylene-d12	949614	25.563	996915	25.563	95	50 - 200	0.000	+/-0.50	
Reference (BLC0185-SRM2)		(Solid)	Lab File ID: NT1803222310S.D				Analyzed: 03/22/23 23:22		
1,4-Dichlorobenzene-d4	317828	8.98	283947	8.98	112	50 - 200	0.000	+/-0.50	
Naphthalene-d8	1179389	11.437	1057483	11.444	112	50 - 200	-0.007	+/-0.50	
Acenaphthene-d10	580188	15.019	520336	15.027	112	50 - 200	-0.008	+/-0.50	
Phenanthrene-d10	1031187	18.032	933537	18.032	110	50 - 200	0.000	+/-0.50	
Chrysene-d12	952878	23.055	863272	23.055	110	50 - 200	0.000	+/-0.50	
Perylene-d12	896158	25.563	996915	25.563	90	50 - 200	0.000	+/-0.50	
LDW23-SC1044 (23C0108-02)		(Solid)	Lab File ID: NT1803222311S.D				Analyzed: 03/23/23 00:03		
1,4-Dichlorobenzene-d4	342453	8.98	283947	8.98	121	50 - 200	0.000	+/-0.50	
Naphthalene-d8	1226773	11.437	1057483	11.444	116	50 - 200	-0.007	+/-0.50	
Acenaphthene-d10	597627	15.027	520336	15.027	115	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	1098679	18.032	933537	18.032	118	50 - 200	0.000	+/-0.50	
Chrysene-d12	1330502	23.063	863272	23.055	154	50 - 200	0.008	+/-0.50	
Perylene-d12	1369234	25.587	996915	25.563	137	50 - 200	0.024	+/-0.50	

Analytical Resources, LLC
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLD0061	Instrument:	NT18
		Calibration:	GD00001

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LDW23-SS1106 (23C0108-06)		(Solid)	Lab File ID: NT1803222312S.D				Analyzed: 03/23/23 00:44		
1,4-Dichlorobenzene-d4	347415	8.98	283947	8.98	122	50 - 200	0.000	+/-0.50	
Naphthalene-d8	1250587	11.437	1057483	11.444	118	50 - 200	-0.007	+/-0.50	
Acenaphthene-d10	598392	15.027	520336	15.027	115	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	1063977	18.032	933537	18.032	114	50 - 200	0.000	+/-0.50	
Chrysene-d12	1257458	23.063	863272	23.055	146	50 - 200	0.008	+/-0.50	
Perylene-d12	1364887	25.579	996915	25.563	137	50 - 200	0.016	+/-0.50	
LDW23-SS1107 (23C0108-07)		(Solid)	Lab File ID: NT1803222313S.D				Analyzed: 03/23/23 01:24		
1,4-Dichlorobenzene-d4	349146	8.98	283947	8.98	123	50 - 200	0.000	+/-0.50	
Naphthalene-d8	1261237	11.437	1057483	11.444	119	50 - 200	-0.007	+/-0.50	
Acenaphthene-d10	607455	15.027	520336	15.027	117	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	1088307	18.032	933537	18.032	117	50 - 200	0.000	+/-0.50	
Chrysene-d12	1246177	23.055	863272	23.055	144	50 - 200	0.000	+/-0.50	
Perylene-d12	1338120	25.579	996915	25.563	134	50 - 200	0.016	+/-0.50	
LDW23-SS1111 (23C0108-08)		(Solid)	Lab File ID: NT1803222314S.D				Analyzed: 03/23/23 02:04		
1,4-Dichlorobenzene-d4	355471	8.98	283947	8.98	125	50 - 200	0.000	+/-0.50	
Naphthalene-d8	1284738	11.437	1057483	11.444	121	50 - 200	-0.007	+/-0.50	
Acenaphthene-d10	621519	15.027	520336	15.027	119	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	1087466	18.032	933537	18.032	116	50 - 200	0.000	+/-0.50	
Chrysene-d12	1266535	23.055	863272	23.055	147	50 - 200	0.000	+/-0.50	
Perylene-d12	1343151	25.579	996915	25.563	135	50 - 200	0.016	+/-0.50	
Matrix Spike (BLC0185-MS2)		(Solid)	Lab File ID: NT1803222315S.D				Analyzed: 03/23/23 02:45		
1,4-Dichlorobenzene-d4	351244	8.988	283947	8.98	124	50 - 200	0.008	+/-0.50	
Naphthalene-d8	1300390	11.445	1057483	11.444	123	50 - 200	0.001	+/-0.50	
Acenaphthene-d10	615391	15.027	520336	15.027	118	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	1101432	18.032	933537	18.032	118	50 - 200	0.000	+/-0.50	
Chrysene-d12	1296323	23.063	863272	23.055	150	50 - 200	0.008	+/-0.50	
Perylene-d12	1262809	25.579	996915	25.563	127	50 - 200	0.016	+/-0.50	

Analytical Resources, LLC
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLD0061	Instrument:	NT18
		Calibration:	GD00001

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Matrix Spike Dup (BLC0185-MSD2)		(Solid)	Lab File ID: NT1803222316S.D					Analyzed: 03/23/23 03:25	
1,4-Dichlorobenzene-d4	353017	8.988	283947	8.98	124	50 - 200	0.008	+/-0.50	
Naphthalene-d8	1307811	11.445	1057483	11.444	124	50 - 200	0.001	+/-0.50	
Acenaphthene-d10	619851	15.027	520336	15.027	119	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	1131201	18.032	933537	18.032	121	50 - 200	0.000	+/-0.50	
Chrysene-d12	1336147	23.063	863272	23.055	155	50 - 200	0.008	+/-0.50	
Perylene-d12	1253602	25.586	996915	25.563	126	50 - 200	0.023	+/-0.50	

Analytical Resources, LLC
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270E-SIM

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLD0064	Instrument:	NT18
		Calibration:	GD00001

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SLD0064-ICV1)		(Solid)	Lab File ID: NT1803222318SA.D				Analyzed: 03/23/23 04:45		
1,4-Dichlorobenzene-d4	300412	8.98	300412	8.98	100	50 - 200	0.000	+/-0.50	
Naphthalene-d8	1106289	11.437	1106289	11.437	100	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	537373	15.027	537373	15.027	100	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	948670	18.032	948670	18.032	100	50 - 200	0.000	+/-0.50	
Chrysene-d12	1017874	23.055	1017874	23.055	100	50 - 200	0.000	+/-0.50	
Perylene-d12	984454	25.563	984454	25.563	100	50 - 200	0.000	+/-0.50	
Low Cal Check (SLD0064-LCV1)		(Solid)	Lab File ID: NT1803222320S.D				Analyzed: 03/23/23 06:05		
1,4-Dichlorobenzene-d4	296495	8.98	300412	8.98	99	50 - 200	0.000	+/-0.50	
Naphthalene-d8	1103116	11.437	1106289	11.437	100	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	540048	15.027	537373	15.027	100	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	966733	18.032	948670	18.032	102	50 - 200	0.000	+/-0.50	
Chrysene-d12	1016386	23.055	1017874	23.055	100	50 - 200	0.000	+/-0.50	
Perylene-d12	890966	25.563	984454	25.563	91	50 - 200	0.000	+/-0.50	
Blank (BLC0185-BLK4)		(Solid)	Lab File ID: NT1803222321S.D				Analyzed: 03/23/23 06:46		
1,4-Dichlorobenzene-d4	345528	8.98	300412	8.98	115	50 - 200	0.000	+/-0.50	
Naphthalene-d8	1248344	11.437	1106289	11.437	113	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	600752	15.027	537373	15.027	112	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	1063919	18.032	948670	18.032	112	50 - 200	0.000	+/-0.50	
Chrysene-d12	1113151	23.055	1017874	23.055	109	50 - 200	0.000	+/-0.50	
Perylene-d12	956207	25.563	984454	25.563	97	50 - 200	0.000	+/-0.50	
LDW23-SS1118 (23C0108-09)		(Solid)	Lab File ID: NT1803222322S.D				Analyzed: 03/23/23 07:26		
1,4-Dichlorobenzene-d4	338852	8.98	300412	8.98	113	50 - 200	0.000	+/-0.50	
Naphthalene-d8	1231118	11.437	1106289	11.437	111	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	602971	15.027	537373	15.027	112	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	1111406	18.032	948670	18.032	117	50 - 200	0.000	+/-0.50	
Chrysene-d12	1285574	23.063	1017874	23.055	126	50 - 200	0.008	+/-0.50	
Perylene-d12	1165335	25.579	984454	25.563	118	50 - 200	0.016	+/-0.50	

HOLDING TIME SUMMARY

Analysis: EPA 8270E-SIM

Laboratory: Analytical Resources, LLC SDG: 23C0108

Client: Anchor QEA, LLC Project: AOC5 MR Phase 1

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW23-SC1044 23C0108-02	03/02/23 15:06	03/03/23 16:35	03/09/23 13:26	6	365	03/23/23 00:03	13	40	
LDW23-SS1106 23C0108-06	03/03/23 10:00	03/03/23 16:35	03/09/23 13:26	6	365	03/23/23 00:44	13	40	
LDW23-SS1107 23C0108-07	03/03/23 10:21	03/03/23 16:35	03/09/23 13:26	6	365	03/23/23 01:24	13	40	
LDW23-SS1111 23C0108-08	03/03/23 10:36	03/03/23 16:35	03/09/23 13:26	6	365	03/23/23 02:04	14	40	
LDW23-SS1118 23C0108-09	03/03/23 11:25	03/03/23 16:35	03/09/23 13:26	6	365	03/23/23 07:26	14	40	
Matrix Spike BLC0185-MS2	03/03/23 10:36	03/03/23 16:35	03/09/23 13:26	6	365	03/23/23 02:45	14	40	
Matrix Spike Dup BLC0185-MSD2	03/03/23 10:36	03/03/23 16:35	03/09/23 13:26	6	365	03/23/23 03:25	14	40	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

EPA 8270E-SIM

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Instrument: NT18

Analyte	MDL	RL	Units
1,4-Dichlorobenzene	0.6	5.0	ug/kg
1,2-Dichlorobenzene	0.7	5.0	ug/kg
Benzyl Alcohol	2.5	20.0	ug/kg
Benzoic acid	13.4	100	ug/kg
2,4-Dimethylphenol	2.2	20.0	ug/kg
1,2,4-Trichlorobenzene	2.7	5.0	ug/kg
N-Nitrosodiphenylamine	1.3	5.0	ug/kg
Pentachlorophenol	2.1	20.0	ug/kg

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: NA

Chemical: Tributyl Phosphate

Manufacturer: Chemservice

Product #: O-916

Lot #: 59-57A

Purity: 99%

Analyst: VB

Element: B000954

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B001873

Printed: 9/23/2013 11:47:03AM

Description:	SVOC 4,4 DDT	Expires:	31-Dec-29
Standard Type:	Calibration Stan	Prepared:	23-Sep-13
Solvent:	N/A	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	23-Sep-13 11:46 by JZ
Vendor:	Chem Service	Lot #:	198-128A
Vendor Catalog #:			

Comments

Neat, Purity @ 99.2%. (ARI#: 790A)

Analyte	CAS Number	Concentration	Units
4,4'-DDT	50-29-3	1000000	ug/mL

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer:_____

Chemical: 4,4' DDT

Manufacturer: Chem Service

Product #: _____

Lot #: 198-128A

Purity: 99.2%

Analyst: AB

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B001875

Printed: 9/23/2013 12:13:55PM

Description:	SVOC alpha-Terpineol	Expires:	31-Dec-29
Standard Type:	Calibration Stan	Prepared:	31-Dec-12
Solvent:	N/A	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	23-Sep-13 12:13 by JZ
Vendor:	ACROS Organics	Lot #:	AD16481201
Vendor Catalog #:			

Comments

Neat, Purity @ 98%. (ARI#: I1582A)

Analyte	CAS Number	Concentration	Units
alpha-Terpineol	98-55-5	1000000	ug/mL

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: _____

Chemical: alpha-Terpineol

Manufacturer: Acros Organics

Product #: _____

Lot #: A0648170 1

Purity: 98%

Analyst: [signature]

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B001885

Printed: 9/23/2013 3:45:57PM

Description:	SVOA Dibutyl Phenyl phosphate	Expires:	31-Dec-29
Standard Type:	Calibration Stan	Prepared:	31-Dec-12
Solvent:	NA	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	23-Sep-13 15:45 by JZ
Vendor:	Monsanto	Lot #:	N/A
Vendor Catalog #:			

Comments

Neat, Purity @ 98.9%.

Analyte	CAS Number	Concentration	Units
Dibutyl Phenyl Phosphate	2528-36-1	1000000	ug/mL

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer:_____

Chemical: Dibutyl Phenyl Phosphate

Manufacturer: Monsanto

Product #: N/A

Lot #: N/A

Purity: 98.9%

Analyst: [signature]

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B001886

Printed: 9/23/2013 3:59:35PM

Description:	SVOC Triphenyl Phosphate	Expires:	31-Dec-29
Standard Type:	Calibration Stan	Prepared:	31-Dec-12
Solvent:	NA	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	23-Sep-13 15:59 by JZ
Vendor:	Aldrich	Lot #:	04902CM
Vendor Catalog #:			

Comments

Neat, Purity @ 99%.

Analyte	CAS Number	Concentration	Units
Triphenyl Phosphate	115-86-6	1000000	ug/mL

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer:_____

Chemical: Triphenyl Phosphate

Manufacturer: Aldrich

Product #: _____

Lot #: 04907CM

Purity: 99%

Analyst: [signature]

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B001887

Printed: 9/23/2013 4:18:55PM

Description:	SVOC Butylated Hydroxytoluene	Expires:	31-Dec-29
Standard Type:	Calibration Stan	Prepared:	31-Dec-12
Solvent:	NA	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	23-Sep-13 16:18 by JZ
Vendor:	SIGMA	Lot #:	39F-0197
Vendor Catalog #:			

Comments

neat,Purity @ 99.9%.

Analyte	CAS Number	Concentration	Units
Butylated Hydroxytoluene	128-37-0	1000000	ug/mL

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: _____

Chemical: Butylated Hydroxytoluene

Manufacturer: Sigma

Product #: _____

Lot #: 39F-0197

Purity: 99.8%

Analyst: AR

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B001890

Printed: 9/23/2013 5:02:53PM

Description:	SVOC Butyl Diphenyl Phosphate	Expires:	31-Dec-29
Standard Type:	Calibration Stan	Prepared:	31-Dec-12
Solvent:	NA	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	23-Sep-13 17:02 by JZ
Vendor:	Monsanto	Lot #:	N/A
Vendor Catalog #:			

Comments

Neat, Purity @ 98%.

Analyte	CAS Number	Concentration	Units
Butyl Diphenyl Phosphate	2752-95-6	1000000	ug/mL

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: _____

Chemical: Butyl Diphenyl Phosphate

Manufacturer: Monsanto

Product #: NA

Lot #: NA

Purity: 98%

Analyst: [signature]

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B001941

Printed: 9/25/2013 1:45:31PM

Description:	SVOC 2,4-Dinitrophenol	Expires:	31-Dec-29
Standard Type:	Calibration Stan	Prepared:	25-Sep-13
Solvent:	NA	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	25-Sep-13 13:45 by JZ
Vendor:	SIGMA	Lot #:	65H5021
Vendor Catalog #:			

Comments

Neat, Purity @ 90-95%. (ARI#: 0466)

Analyte	CAS Number	Concentration	Units
2,4-Dinitrophenol	51-28-5	1000000	ug/mL

B001941
SVOA 2,4-Dinitrophenol
Expires 12/31/2029
Prepared By Jianqing Zhou 9/25/2013

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer:_____

Chemical: 2,4-Dinitrophenol

Manufacturer: Sigma

Product #: _____

Lot #: bEH 502 I

Purity: 90 ~ 94%

Analyst: _____

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B001945

Printed: 9/25/2013 3:23:22PM

Description:	SVOC Benzoic Acid	Expires:	31-Dec-29
Standard Type:	Calibration Stan	Prepared:	31-Dec-12
Solvent:	NA	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	25-Sep-13 15:23 by JZ
Vendor:	ACROS Organics	Lot #:	A0224339
Vendor Catalog #:			

Comments

Neat, Purity @ 98%.

Analyte	CAS Number	Concentration	Units
Benzoic acid	65-85-0	1000000	ug/mL

B001945
SVOC Benzoic Acid
Expires 12/31/2029
Prepared By Jianqing Zhou 12/31/2012

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer:_____

Chemical: Benzoic Acid

Manufacturer: Acros Organics

Product #: _____

Lot #: A0224339

Purity: 98%

Analyst: [signature]

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B001948

Printed: 9/25/2013 3:37:51PM

Description:	SVOC 4,6-Dinitro-2-Methylphenol	Expires:	31-Dec-29
Standard Type:	Calibration Stan	Prepared:	25-Sep-13
Solvent:	NA	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	25-Sep-13 15:37 by JZ
Vendor:	Chem Service	Lot #:	179-31A
Vendor Catalog #:			

Comments

Neat, Purity @ 99%. (ARI#: 009A)

Analyte	CAS Number	Concentration	Units
4,6-Dinitro-2-methylphenol	534-52-1	1000000	ug/mL

B001948
SVOA 4,6-Dinitro-2-Methylphenol
Expires 12/31/2029
Prepared By Jianqing Zhou 9/25/2013

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer: _____

Chemical: 4,6-Dinitro-2-Methylphenol

Manufacturer: Chem Service

Product #: _____

Lot #: 179-31A

Purity: 99%

Analyst: KB

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B002054

Printed: 10/4/2013 6:32:21PM

Description:	SVOA 1-Methylnaphthalene	Expires:	02-Apr-14
Standard Type:	Analyte Spike	Prepared:	13-Dec-12
Solvent:	NA	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	04-Oct-13 18:32 by JZ
Vendor:	Chem Service	Lot #:	62-5B
Vendor Catalog #:			

Comments

Neat, Purity @ 99%

Analyte	CAS Number	Concentration	Units
1-Methylnaphthalene	90-12-0	1000000	ug/mL

B002054
SVOA 1-Methylnaphthalene
Solvent / Lot: NA
Prep: 12/13/2012 by JZ
Exp: 12/31/2029
Location:

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer:_____

Chemical: 1-Methyl naphthalene

Manufacturer: Chem Service

Product #: 0787

Lot #: 67-53

Purity: 99%

Analyst: AZ

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B002135

Printed: 10/15/2013 12:07:39PM

Description:	SVOA Benzidine	Expires:	31-Dec-29
Standard Type:	Analyte Spike	Prepared:	15-Oct-13
Solvent:	N/A	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	15-Oct-13 12:07 by JZ
Vendor:	SIGMA	Lot #:	18C0024
Vendor Catalog #:			

Comments

Purity @ 95%. ARI#: 0467.

Analyte	CAS Number	Concentration	Units
Benzidine	92-87-5	1000000	ug/mL

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer:_____

Chemical: Benzidine

Manufacturer: Sigma

Product #: B-3503

Lot #: 18C0024

Purity: 98%

Analyst: [signature]

Certificate of Analysis

Product Name:	1,2,4,5-Tetrachlorobenzene
Product Description:	98%
Product Brand:	Sigma-Aldrich
Product Number:	131857
Molecular Weight:	215.89
CAS Number:	95-94-3

TEST	SPECIFICATION	LOT 19309JR RESULTS
APPEARANCE	WHITE POWDER, CHIPS OR CRYSTALS	WHITE CHIPS
INFRARED SPECTRUM	CONFORMS TO STRUCTURE.	CONFORMS TO STRUCTURE AND STANDARD AS
** **		ILLUSTRATED ON PAGE 1011C OF EDITION I,
** **		VOLUME 1 OF "THE ALDRICH LIBRARY OF FT-IR
** **		SPECTRA".
GAS LIQUID	97.5% (MINIMUM)	99.9 %
QUALITY CONTROL		JULY 1997

Barbara Rajzer, Supervisor
Quality Control
Milwaukee, Wisconsin USA

F009172
SVOC 1,2,4,5-Tetrachlorobenzene
Expires 12/31/2079
Prepared By Joshua Rains 10/6/2017

H000691

Data File: \\target\share\chem2\fid4a.i\20230317.b\423C1703.D

Page 1

Date : 17-MAR-2023 10:46

Client ID:

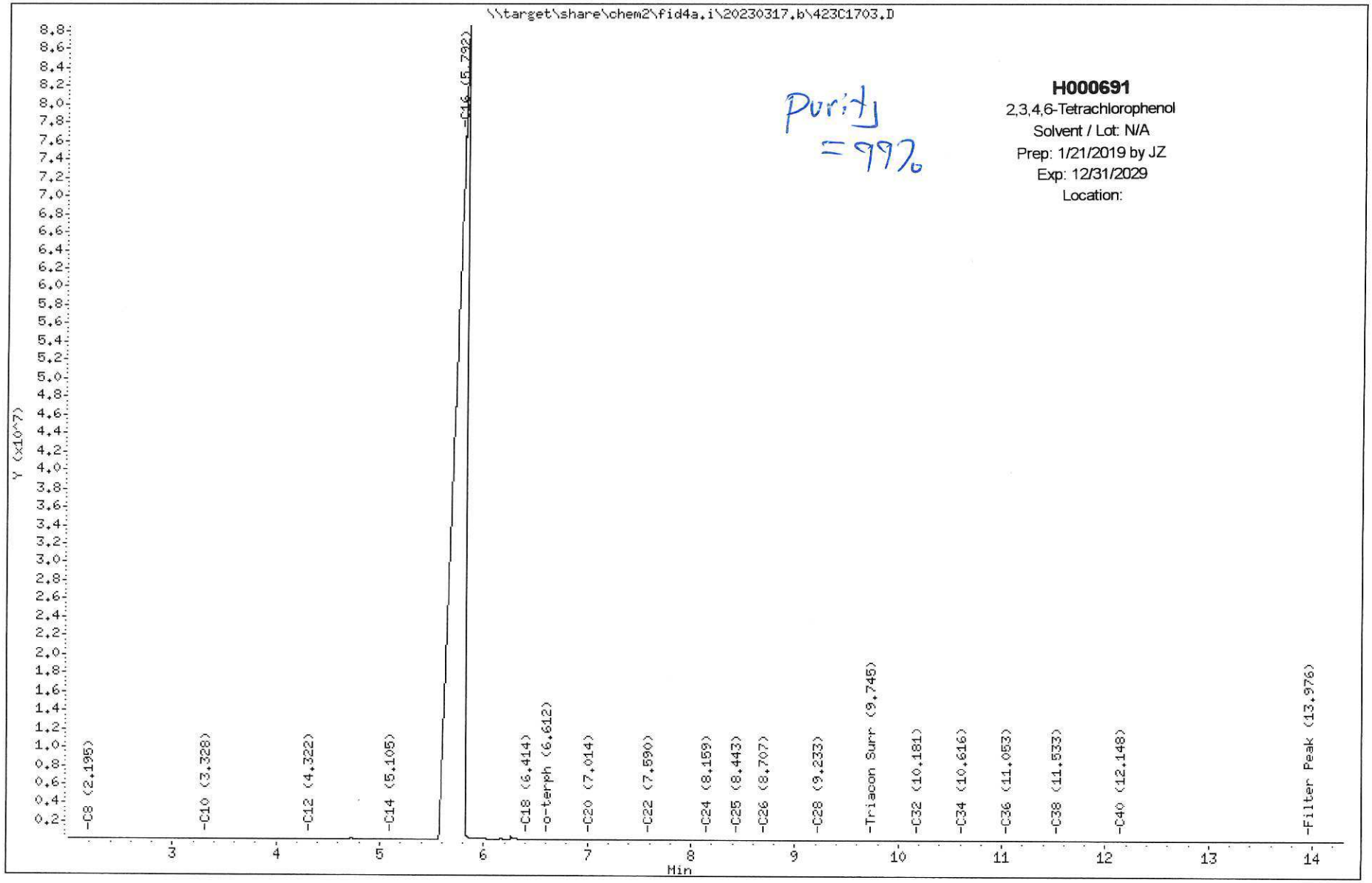
Instrument: fid4a.i

Sample Info: K007226

Operator: AA

Column phase: RTX-1

Column diameter: 0.25



Purity = 99%

H000691
2,3,4,6-Tetrachlorophenol
Solvent / Lot: N/A
Prep: 1/21/2019 by JZ
Exp: 12/31/2029
Location:

ARI Labs, Inc.

Data file : \\target\share\chem2\fid4a.i\20230317.b\423C1703.D
Lab Smp Id: K007226
Inj Date : 17-MAR-2023 10:46
Operator : AA   Inst ID: fid4a.i
Smp Info : K007226
Misc Info :
Comment   :
Method   : \\target\share\chem2\fid4a.i\20230317.b\FID4TPH.m
Meth Date : 17-Mar-2023 16:58 alfonso   Quant Type: AREA%
Cal Date : 18-AUG-2022 11:51   Cal File: 422H1803.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: Falcon+   Compound Sublist: tph.sub
Target Version: 4.14
Processing Host: ALFONSO-201901

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable   Local Compound Variable

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
2.043	81395	55677	0.684	0.012	1 Toluene
2.074	68503	39991	0.584	0.010	
2.104	85451	37158	0.435	0.012	
2.146	59381	25207	0.424	0.008	
2.181	11414	22862	2.003	0.001	
2.195	34939	23199	0.664	0.005	2 C8
2.218	8679	21808	2.513	0.001	
2.224	21070	21832	1.036	0.003	
2.243	45086	20191	0.448	0.006	
2.286	3130	15677	5.009	0.000	
2.291	12615	15880	1.259	0.001	
2.313	20979	15888	0.757	0.003	
2.333	7621	15373	2.017	0.001	
2.348	31874	17112	0.537	0.004	
2.373	4619	13267	2.872	0.000	
2.380	12003	13446	1.120	0.001	
2.393	10327	13347	1.292	0.001	
2.408	9963	12697	1.274	0.001	
2.446	24366	11882	0.488	0.003	
2.498	24898	10214	0.410	0.003	
2.557	1592	6395	4.017	0.000	
2.570	4427	6384	1.442	0.000	
2.583	4275	6215	1.454	0.000	
2.595	1208	6068	5.024	0.000	
2.602	3076	6230	2.025	0.000	
2.607	1560	6270	4.019	0.000	
2.631	17195	8933	0.520	0.002	
2.654	17386	7637	0.439	0.002	
2.703	4531	5468	1.207	0.000	
2.717	9156	5741	0.627	0.001	
2.740	3955	5045	1.275	0.000	

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
2.768	1029	4134	4.017	0.000	
2.771	830	4189	5.050	0.000	
2.778	1924	4438	2.307	0.000	
2.784	5498	4564	0.830	0.000	
2.846	25970	8400	0.323	0.003	
2.880	939	3165	3.370	0.000	
2.884	1885	3183	1.688	0.000	
2.901	4805	3504	0.729	0.000	
2.938	581	1990	3.423	0.000	
2.944	1450	2016	1.390	0.000	
2.955	449	1816	4.043	0.000	
2.967	1234	2009	1.629	0.000	
2.982	712	2087	2.931	0.000	
2.988	1000	2338	2.337	0.000	
3.001	3475	3541	1.019	0.000	
3.018	3528	3705	1.050	0.000	
3.033	983	2521	2.564	0.000	
3.038	1297	2686	2.070	0.000	
3.044	2547	2541	0.997	0.000	
3.069	389	1330	3.418	0.000	
3.078	728	1545	2.123	0.000	
3.085	1244	1637	1.316	0.000	
3.098	1115	1624	1.457	0.000	
3.108	926	1475	1.593	0.000	
3.119	239	1202	5.036	0.000	
3.125	540	1251	2.315	0.000	
3.133	409	1219	2.978	0.000	
3.144	2600	1886	0.725	0.000	
3.165	620	1604	2.588	0.000	
3.173	554	1647	2.972	0.000	
3.192	2423	2273	0.938	0.000	
3.197	582	2418	4.158	0.000	
3.204	1161	2723	2.346	0.000	
3.208	825	2777	3.364	0.000	
3.228	4472	3391	0.758	0.000	
3.246	1586	2676	1.688	0.000	
3.279	1194	2070	1.734	0.000	
3.293	854	1951	2.285	0.000	
3.298	595	2029	3.408	0.000	
3.315	2640	2597	0.984	0.000	
3.320	1015	2542	2.504	0.000	
3.328	1549	2593	1.674	0.000	3 C10
3.338	1314	2533	1.928	0.000	
3.350	523	2159	4.130	0.000	
3.358	1776	2105	1.185	0.000	
3.371	356	1797	5.043	0.000	
3.378	914	1880	2.057	0.000	
3.383	380	1927	5.068	0.000	
3.387	595	2023	3.399	0.000	
3.395	1390	2270	1.633	0.000	
3.405	1490	1994	1.338	0.000	
3.423	690	1601	2.321	0.000	
3.435	821	1554	1.894	0.000	
3.441	387	1583	4.087	0.000	
3.444	401	1625	4.051	0.000	
3.448	403	1636	4.060	0.000	
3.455	1216	1700	1.398	0.000	

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
3.478	235	1185	5.047	0.000	
3.482	412	1229	2.986	0.000	
3.488	695	1177	1.694	0.000	
3.501	239	969	4.063	0.000	
3.509	914	1149	1.258	0.000	
3.520	1078	1069	0.992	0.000	
3.540	301	927	3.079	0.000	
3.556	406	849	2.089	0.000	
3.567	370	873	2.359	0.000	
3.572	178	939	5.270	0.000	
3.578	591	1171	1.981	0.000	
3.591	869	1353	1.556	0.000	
3.596	741	1352	1.826	0.000	
3.606	471	1401	2.976	0.000	
3.613	548	1411	2.577	0.000	
3.618	433	1521	3.511	0.000	
3.625	710	1635	2.303	0.000	
3.630	910	1667	1.832	0.000	
3.652	661	1562	2.362	0.000	
3.670	462	1214	2.627	0.000	
3.686	1036	1453	1.403	0.000	
3.690	829	1374	1.658	0.000	
3.702	531	1191	2.241	0.000	
3.712	452	1355	3.001	0.000	
3.716	820	1423	1.736	0.000	
3.736	2685	2093	0.780	0.000	
3.752	689	2030	2.946	0.000	
3.760	4109	2349	0.572	0.000	
3.805	3183	2036	0.640	0.000	
3.823	496	1686	3.401	0.000	
3.835	1641	2314	1.410	0.000	
3.859	9243	4616	0.499	0.001	
3.897	851	1745	2.051	0.000	
3.904	503	1721	3.419	0.000	
3.927	3866	3293	0.852	0.000	
3.941	5520	3558	0.645	0.000	
3.980	573	1715	2.991	0.000	
3.992	1027	1794	1.748	0.000	
3.995	1494	1860	1.245	0.000	
4.010	887	1639	1.847	0.000	
4.021	663	1724	2.602	0.000	
4.026	1380	1776	1.287	0.000	
4.045	306	1546	5.059	0.000	
4.053	1001	1758	1.757	0.000	
4.061	1137	1804	1.586	0.000	
4.072	779	1773	2.275	0.000	
4.080	989	1896	1.917	0.000	
4.087	561	1905	3.396	0.000	
4.098	1956	2156	1.103	0.000	
4.106	1168	2044	1.750	0.000	
4.127	1049	1627	1.551	0.000	
4.142	587	1545	2.633	0.000	
4.148	1155	1572	1.361	0.000	
4.173	3682	2398	0.651	0.000	
4.189	1023	1738	1.700	0.000	
4.204	549	1627	2.961	0.000	
4.213	628	1658	2.641	0.000	

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
4.221	1039	1830	1.761	0.000	
4.227	447	1814	4.058	0.000	
4.248	2703	2638	0.976	0.000	
4.256	1387	2945	2.123	0.000	
4.260	743	2988	4.022	0.000	
4.265	912	3081	3.378	0.000	
4.268	779	3140	4.031	0.000	
4.275	1736	3217	1.853	0.000	
4.289	2688	3495	1.300	0.000	
4.295	3466	3448	0.995	0.000	
4.322	1054	2680	2.543	0.000	4 C12
4.330	1686	2627	1.558	0.000	
4.358	1066	1974	1.852	0.000	
4.378	434	1758	4.054	0.000	
4.384	1324	1879	1.419	0.000	
4.403	860	1608	1.869	0.000	
4.414	457	1567	3.431	0.000	
4.421	1117	1675	1.499	0.000	
4.433	910	1538	1.690	0.000	
4.439	865	1534	1.774	0.000	
4.449	764	1302	1.705	0.000	
4.471	433	1123	2.593	0.000	
4.476	734	1135	1.546	0.000	
4.490	385	1005	2.610	0.000	
4.498	555	1186	2.137	0.000	
4.502	695	1166	1.677	0.000	
4.518	587	949	1.618	0.000	
4.526	316	925	2.924	0.000	
4.533	560	989	1.765	0.000	
4.543	469	1001	2.135	0.000	
4.548	222	916	4.130	0.000	
4.553	188	980	5.207	0.000	
4.558	255	1038	4.076	0.000	
4.568	652	1157	1.775	0.000	
4.573	338	1151	3.409	0.000	
4.580	487	1283	2.636	0.000	
4.596	3801	1950	0.513	0.000	
4.631	531	1429	2.692	0.000	
4.663	4548	3737	0.822	0.000	
4.667	2815	3822	1.358	0.000	
4.679	2199	3760	1.710	0.000	
4.688	1068	3585	3.356	0.000	
4.694	2166	3742	1.727	0.000	
4.723	372603	172476	0.463	0.055	
4.894	47034	21828	0.464	0.006	
4.956	80510	28154	0.350	0.011	
4.999	54273	16950	0.312	0.008	
5.068	1137	5713	5.027	0.000	
5.072	8415	5792	0.688	0.001	
5.105	4203	4316	1.027	0.000	5 C14
5.146	660	2685	4.070	0.000	
5.153	2524	2649	1.050	0.000	
5.170	1076	2437	2.265	0.000	
5.174	2371	2438	1.028	0.000	
5.201	1013	2011	1.986	0.000	
5.210	2064	2332	1.130	0.000	
5.224	1083	2304	2.127	0.000	

RT	AREA	HEIGHT	HT/AREA	% AREA		COMPOUNDS
5.228	2027	2354	1.162	0.000		
5.276	4673	2682	0.574	0.000		
5.322	195	844	4.328	0.000		
5.331	977	1203	1.231	0.000		
5.356	490	993	2.027	0.000		
5.361	814	1044	1.283	0.000		
5.382	115	387	3.351	0.000		
5.399	619	960	1.551	0.000		
5.406	402	1035	2.576	0.000		
5.410	378	1122	2.968	0.000		
5.423	1663	1555	0.935	0.000		
5.452	5951	5020	0.844	0.000		
5.501	290	797	2.753	0.000		
5.523	2317	2472	1.067	0.000		
5.538	5946	6823	1.147	0.000		
5.792	501855376	76456669	0.152	74.449		6 C16
5.807	79757019	82319946	1.032	11.775		
5.823	77929961	88539160	1.136	11.505		
5.962	75333	84828	1.126	0.011		
5.986	474748	124326	0.262	0.070		
6.070	17103	57180	3.343	0.002		
6.074	120761	57565	0.477	0.017		
6.113	90233	47140	0.522	0.013		
6.165	407438	218439	0.536	0.060		
6.263	944101	374166	0.396	0.139		
6.414	114839	39498	0.344	0.016		7 C18
6.464	53190	31177	0.586	0.007		
6.523	31509	25870	0.821	0.004		
6.551	4785	23963	5.008	0.000		
6.559	51194	25409	0.496	0.007		
6.590	21354	21666	1.015	0.003		
6.612	35061	21127	0.603	0.005	$	8 o-terph
6.638	17712	19934	1.125	0.002		
6.672	22159	19651	0.887	0.003		
6.683	26846	19268	0.718	0.003		
6.708	5413	18142	3.351	0.000		
6.713	24941	18247	0.732	0.003		
6.747	50657	18478	0.365	0.007		
6.795	23973	17444	0.728	0.003		
6.814	28457	17895	0.629	0.004		
6.837	10746	15445	1.437	0.001		
6.871	29974	21406	0.714	0.004		
6.874	4287	21471	5.009	0.000		
6.882	20520	21675	1.056	0.003		
6.944	32864	17445	0.531	0.004		
6.978	9138	15347	1.679	0.001		
7.014	4130	13830	3.348	0.000		9 C20
7.025	12567	14083	1.121	0.001		
7.038	4952	14274	2.882	0.000		
7.044	6508	14578	2.240	0.000		
7.050	25344	14736	0.581	0.003		
7.099	5531	12365	2.236	0.000		
7.108	16440	12371	0.752	0.002		
7.129	9415	11275	1.198	0.001		
7.175	3589	10327	2.878	0.000		
7.182	7285	10474	1.438	0.001		
7.212	11252	10002	0.889	0.001		

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
7.227	5193	9506	1.830	0.000	
7.237	5172	9476	1.832	0.000	
7.247	4652	9357	2.011	0.000	
7.254	3258	9369	2.875	0.000	
7.259	7003	9455	1.350	0.001	
7.272	5540	9252	1.670	0.000	
7.283	4511	9087	2.014	0.000	
7.296	5828	9031	1.550	0.000	
7.308	4850	8866	1.828	0.000	
7.318	3111	9014	2.897	0.000	
7.324	3191	9168	2.873	0.000	
7.328	2775	9325	3.360	0.000	
7.339	6190	9713	1.569	0.000	
7.344	2920	9761	3.343	0.000	
7.350	17091	9874	0.578	0.002	
7.379	7217	8616	1.194	0.001	
7.395	5430	8408	1.548	0.000	
7.404	2492	8342	3.348	0.000	
7.409	1666	8354	5.014	0.000	
7.415	2955	8500	2.877	0.000	
7.423	3887	8782	2.259	0.000	
7.465	28160	14253	0.506	0.004	
7.471	6466	14499	2.242	0.000	
7.480	6649	15111	2.273	0.000	
7.484	26595	15197	0.571	0.003	
7.514	13964	13621	0.975	0.002	
7.539	8118	12614	1.554	0.001	
7.553	10540	12495	1.185	0.001	
7.584	2820	11307	4.010	0.000	
7.590	4522	11429	2.527	0.000	10 C22
7.620	16634	10435	0.627	0.002	
7.653	6793	9783	1.440	0.001	
7.663	8606	9666	1.123	0.001	
7.675	2827	9464	3.347	0.000	
7.683	9373	9620	1.026	0.001	
7.699	3657	9205	2.517	0.000	
7.708	5071	9290	1.832	0.000	
7.713	10483	9274	0.885	0.001	
7.735	10686	9257	0.866	0.001	
7.752	4732	8664	1.831	0.000	
7.765	5624	8765	1.558	0.000	
7.773	5614	8686	1.547	0.000	
7.784	3375	8506	2.520	0.000	
7.793	2118	8517	4.021	0.000	
7.799	10086	8544	0.847	0.001	
7.817	7761	8325	1.073	0.001	
7.833	2415	8088	3.350	0.000	
7.838	2838	8160	2.875	0.000	
7.844	3649	8173	2.240	0.000	
7.858	2009	8069	4.017	0.000	
7.864	4482	8197	1.829	0.000	
7.871	3688	8223	2.230	0.000	
7.879	4875	8269	1.696	0.000	
7.889	2009	8061	4.013	0.000	
7.897	4080	8308	2.036	0.000	
7.916	17828	10103	0.567	0.002	
7.935	4052	9086	2.242	0.000	

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
7.940	2229	8948	4.015	0.000	
7.945	5765	8973	1.556	0.000	
7.954	6458	8765	1.357	0.000	
7.976	2099	8428	4.016	0.000	
7.984	10213	8807	0.862	0.001	
7.999	4897	8282	1.691	0.000	
8.013	8782	8112	0.924	0.001	
8.028	5860	7858	1.341	0.000	
8.040	3929	7871	2.003	0.000	
8.054	9161	8146	0.889	0.001	
8.067	2701	7766	2.876	0.000	
8.074	3069	7702	2.510	0.000	
8.081	2694	7742	2.874	0.000	
8.088	2705	7793	2.881	0.000	
8.095	5842	7832	1.341	0.000	
8.104	5419	7841	1.447	0.000	
8.119	5740	7735	1.348	0.000	
8.134	4986	7768	1.558	0.000	
8.141	5893	8009	1.359	0.000	
8.159	9098	8027	0.882	0.001	11 C24
8.174	3156	7971	2.526	0.000	
8.185	2376	7967	3.353	0.000	
8.190	4739	7937	1.675	0.000	
8.202	5181	8028	1.549	0.000	
8.212	1994	8027	4.025	0.000	
8.223	6137	8270	1.348	0.000	
8.236	6864	8171	1.190	0.001	
8.248	2383	7986	3.351	0.000	
8.253	2405	8059	3.351	0.000	
8.259	5294	8207	1.550	0.000	
8.268	2866	8235	2.874	0.000	
8.280	6583	8312	1.263	0.000	
8.289	4538	8296	1.828	0.000	
8.295	2060	8300	4.029	0.000	
8.300	2063	8291	4.020	0.000	
8.313	7062	8400	1.189	0.001	
8.318	1667	8375	5.023	0.000	
8.332	11362	9100	0.801	0.001	
8.343	4357	8741	2.006	0.000	
8.358	1267	8458	6.676	0.000	
8.363	2991	8621	2.882	0.000	
8.371	3980	8983	2.257	0.000	
8.379	6330	9083	1.435	0.000	
8.385	3111	8963	2.881	0.000	
8.393	6706	9050	1.349	0.000	
8.404	4903	8943	1.824	0.000	
8.417	8437	8972	1.063	0.001	
8.438	7166	9103	1.270	0.001	
8.443	3211	9227	2.873	0.000	12 C25
8.450	3688	9295	2.521	0.000	
8.455	2313	9276	4.010	0.000	
8.475	30054	13714	0.456	0.004	
8.504	5760	9733	1.690	0.000	
8.519	2799	9376	3.350	0.000	
8.529	4766	9710	2.037	0.000	
8.537	4875	9815	2.013	0.000	
8.543	8411	9973	1.186	0.001	

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
8.555	2969	9916	3.340	0.000	
8.560	3974	9987	2.513	0.000	
8.568	2483	9997	4.026	0.000	
8.572	5007	10043	2.006	0.000	
8.591	14074	10725	0.762	0.002	
8.602	2648	10665	4.028	0.000	
8.606	2159	10862	5.032	0.000	
8.609	2183	10952	5.017	0.000	
8.633	7361	10561	1.435	0.001	
8.647	6774	10495	1.549	0.001	
8.658	2596	10420	4.014	0.000	
8.663	4723	10573	2.239	0.000	
8.669	3156	10589	3.355	0.000	
8.687	15405	11334	0.736	0.002	
8.699	6103	11158	1.828	0.000	
8.707	2223	11136	5.009	0.000	13 C26
8.730	28697	12536	0.437	0.004	
8.754	8658	11553	1.334	0.001	
8.763	2896	11612	4.010	0.000	
8.780	15029	12352	0.822	0.002	
8.788	1833	12243	6.680	0.000	
8.798	11854	12679	1.070	0.001	
8.806	1873	12509	6.677	0.000	
8.809	3133	12565	4.011	0.000	
8.813	2506	12550	5.008	0.000	
8.819	7588	12757	1.681	0.001	
8.829	4418	12679	2.870	0.000	
8.835	6988	12762	1.826	0.001	
8.848	13711	13258	0.967	0.002	
8.872	26625	13656	0.513	0.003	
8.894	4575	13127	2.869	0.000	
8.898	2631	13188	5.013	0.000	
8.902	5918	13262	2.241	0.000	
8.914	8577	13313	1.552	0.001	
8.922	4011	13433	3.349	0.000	
8.926	4724	13546	2.867	0.000	
8.933	6787	13651	2.011	0.001	
8.946	9614	13923	1.448	0.001	
8.951	6274	14004	2.232	0.000	
8.960	5592	14036	2.510	0.000	
8.966	3513	14090	4.011	0.000	
8.969	2829	14171	5.009	0.000	
8.973	4976	14233	2.860	0.000	
8.980	4289	14365	3.350	0.000	
8.996	27708	16441	0.593	0.004	
9.013	8129	14847	1.827	0.001	
9.025	8129	14840	1.826	0.001	
9.036	7503	15229	2.030	0.001	
9.040	4559	15225	3.340	0.000	
9.057	14920	16251	1.089	0.002	
9.067	9915	16831	1.698	0.001	
9.076	8535	17331	2.031	0.001	
9.081	5250	17596	3.352	0.000	
9.084	10558	17675	1.674	0.001	
9.095	4386	17601	4.013	0.000	
9.111	30564	19262	0.630	0.004	
9.128	8346	18722	2.243	0.001	

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
9.139	15095	18986	1.258	0.002	
9.149	6655	19050	2.862	0.000	
9.158	23240	19719	0.848	0.003	
9.171	1903	19042	10.005	0.000	
9.175	4773	19156	4.013	0.000	
9.187	23630	19927	0.843	0.003	
9.199	4925	19763	4.013	0.000	
9.208	14115	20394	1.445	0.002	
9.219	12303	20691	1.682	0.001	
9.226	7266	20831	2.867	0.001	
9.233	15622	21000	1.344	0.002	14 C28
9.247	9280	20714	2.232	0.001	
9.262	45057	27849	0.618	0.006	
9.281	22651	23200	1.024	0.003	
9.304	13489	22820	1.692	0.001	
9.307	18038	22862	1.267	0.002	
9.328	8656	21778	2.516	0.001	
9.334	8635	21650	2.507	0.001	
9.343	16240	21738	1.339	0.002	
9.354	5409	21709	4.013	0.000	
9.367	16481	22234	1.349	0.002	
9.370	6683	22346	3.344	0.000	
9.382	14775	23166	1.568	0.002	
9.390	11679	23531	2.015	0.001	
9.394	12888	23584	1.830	0.001	
9.408	18752	23645	1.261	0.002	
9.416	4675	23396	5.004	0.000	
9.428	25138	24392	0.970	0.003	
9.438	20233	24095	1.191	0.002	
9.468	67429	26696	0.396	0.009	
9.496	8413	24122	2.867	0.001	
9.507	12049	24259	2.013	0.001	
9.527	36362	25771	0.709	0.005	
9.538	12891	25911	2.010	0.001	
9.543	6452	25853	4.007	0.000	
9.551	10420	26202	2.515	0.001	
9.557	29750	26593	0.894	0.004	
9.574	6252	25071	4.010	0.000	
9.593	29143	27655	0.949	0.004	
9.599	40783	27905	0.684	0.006	
9.620	13159	26364	2.004	0.001	
9.632	17259	26799	1.553	0.002	
9.640	13210	26592	2.013	0.001	
9.664	35362	28170	0.797	0.005	
9.672	27890	28134	1.009	0.004	
9.696	26737	28634	1.071	0.003	
9.711	53475	30848	0.577	0.007	
9.745	33266	29504	0.887	0.004	$ 15 Triacon Surr
9.752	7348	29501	4.015	0.001	
9.756	20542	29565	1.439	0.003	
9.768	7255	29059	4.005	0.001	
9.773	7275	29173	4.010	0.001	
9.785	31543	30611	0.970	0.004	
9.803	46804	32832	0.701	0.006	
9.821	10456	30060	2.875	0.001	
9.833	30772	31156	1.012	0.004	
9.860	77784	33514	0.431	0.011	

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
9.881	12779	32069	2.510	0.001	
9.892	14531	32668	2.248	0.002	
9.896	8201	32902	4.012	0.001	
9.908	23357	33882	1.451	0.003	
9.912	27050	34095	1.260	0.003	
9.939	14585	32570	2.233	0.002	
9.951	23032	33095	1.437	0.003	
9.956	11596	33292	2.871	0.001	
9.966	16544	33271	2.011	0.002	
9.971	11660	33391	2.864	0.001	
9.975	10051	33617	3.345	0.001	
9.983	15209	33983	2.234	0.002	
9.988	15177	33830	2.229	0.002	
9.996	10128	33907	3.348	0.001	
10.018	43348	35629	0.822	0.006	
10.021	7133	35693	5.004	0.001	
10.025	8960	35988	4.016	0.001	
10.034	42064	36944	0.878	0.006	
10.063	65447	38699	0.591	0.009	
10.077	7375	36906	5.004	0.001	
10.083	16743	37428	2.235	0.002	
10.095	34467	38665	1.122	0.005	
10.118	90921	40621	0.447	0.013	
10.151	37738	38047	1.008	0.005	
10.158	11383	38037	3.342	0.001	
10.168	36074	38274	1.061	0.005	
10.181	15072	37809	2.509	0.002	16 C32
10.185	5655	37746	6.675	0.000	
10.198	43905	38471	0.876	0.006	
10.208	24771	38177	1.541	0.003	
10.218	19031	38113	2.003	0.002	
10.228	13353	38279	2.867	0.001	
10.237	21225	38826	1.829	0.003	
10.243	30946	38929	1.258	0.004	
10.266	43064	39733	0.923	0.006	
10.275	11912	39784	3.340	0.001	
10.278	19932	39886	2.001	0.002	
10.293	46366	40725	0.878	0.006	
10.318	46465	41024	0.883	0.006	
10.328	24720	41353	1.673	0.003	
10.334	10308	41278	4.005	0.001	
10.343	29100	41866	1.439	0.004	
10.354	22822	41695	1.827	0.003	
10.360	16568	41490	2.504	0.002	
10.376	31388	42321	1.348	0.004	
10.384	36478	43119	1.182	0.005	
10.393	21427	43144	2.014	0.003	
10.416	82339	44731	0.543	0.012	
10.434	23173	42257	1.824	0.003	
10.455	42801	43684	1.021	0.006	
10.459	19648	44004	2.240	0.002	
10.469	19632	43883	2.235	0.002	
10.492	56113	45807	0.816	0.008	
10.497	20626	45915	2.226	0.003	
10.503	27439	45837	1.671	0.004	
10.513	31833	45842	1.440	0.004	
10.523	6773	45190	6.672	0.001	

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
10.529	22697	45513	2.005	0.003	
10.543	39087	46432	1.188	0.005	
10.552	16284	46719	2.869	0.002	
10.558	18796	47158	2.509	0.002	
10.576	69878	48769	0.698	0.010	
10.586	12085	48384	4.004	0.001	
10.592	21757	48469	2.228	0.003	
10.609	46960	50482	1.075	0.006	
10.616	40486	50812	1.255	0.005	17 C34
10.628	52392	50284	0.960	0.007	
10.665	99744	52644	0.528	0.014	
10.680	20832	52264	2.509	0.003	
10.699	126137	55939	0.443	0.018	
10.723	18258	52316	2.865	0.002	
10.733	65550	52928	0.807	0.009	
10.751	49102	51903	1.057	0.007	
10.765	10288	51490	5.005	0.001	
10.777	73220	52877	0.722	0.010	
10.791	15621	52150	3.338	0.002	
10.799	46819	52190	1.115	0.006	
10.817	52000	52328	1.006	0.007	
10.828	13014	52167	4.008	0.001	
10.833	18275	52280	2.861	0.002	
10.838	67284	52271	0.777	0.009	
10.860	15395	51401	3.339	0.002	
10.867	15366	51252	3.335	0.002	
10.874	25712	51608	2.007	0.003	
10.885	59363	52064	0.877	0.008	
10.901	33199	51247	1.544	0.004	
10.911	35859	51446	1.435	0.005	
10.925	15150	50526	3.335	0.002	
10.936	27761	50508	1.819	0.004	
10.954	40634	51235	1.261	0.005	
10.958	17973	51428	2.861	0.002	
10.982	101216	54997	0.543	0.014	
10.999	80380	54264	0.675	0.011	
11.022	15822	52869	3.342	0.002	
11.029	23878	53171	2.227	0.003	
11.032	23908	53219	2.226	0.003	
11.044	39793	53228	1.338	0.005	
11.053	13218	52959	4.007	0.001	19 C36
11.057	26491	53088	2.004	0.003	
11.069	47933	53454	1.115	0.007	
11.079	78088	52997	0.679	0.011	
11.132	4853	48537	10.002	0.000	
11.138	21933	48845	2.227	0.003	
11.148	46678	49317	1.057	0.006	
11.158	12248	49060	4.006	0.001	
11.164	14711	49102	3.338	0.002	
11.179	64473	49939	0.775	0.009	
11.192	19751	49439	2.503	0.002	
11.197	14848	49541	3.337	0.002	
11.202	17336	49566	2.859	0.002	
11.206	12400	49639	4.003	0.001	
11.212	56808	49881	0.878	0.008	
11.230	26830	48794	1.819	0.003	
11.263	19014	47590	2.503	0.002	

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
11.267	11927	47790	4.007	0.001	
11.285	66432	50042	0.753	0.009	
11.308	17214	49235	2.860	0.002	
11.312	19684	49285	2.504	0.002	
11.322	19740	49570	2.511	0.002	
11.331	27467	50208	1.828	0.004	
11.334	12565	50301	4.003	0.001	
11.338	17617	50367	2.859	0.002	
11.356	50450	50688	1.005	0.007	
11.383	31641	48774	1.541	0.004	
11.392	14562	48589	3.337	0.002	
11.398	14566	48593	3.336	0.002	
11.405	21947	48858	2.226	0.003	
11.418	36961	49602	1.342	0.005	
11.428	52174	49838	0.955	0.007	
11.438	46900	49605	1.058	0.006	
11.456	66003	49218	0.746	0.009	
11.481	84312	48818	0.579	0.012	
11.518	39837	46996	1.180	0.005	
11.533	55836	46822	0.839	0.008	20 C38
11.560	30101	46465	1.544	0.004	
11.568	20916	46512	2.224	0.003	
11.573	11637	46596	4.004	0.001	
11.579	23274	46598	2.002	0.003	
11.586	13953	46531	3.335	0.002	
11.591	9318	46631	5.004	0.001	
11.623	97892	48831	0.499	0.014	
11.631	17107	48984	2.863	0.002	
11.638	22090	49260	2.230	0.003	
11.642	32050	49351	1.540	0.004	
11.669	95446	50981	0.534	0.014	
11.685	95822	49865	0.520	0.014	
11.788	8918	44609	5.002	0.001	
11.791	35704	44768	1.254	0.005	
11.804	11082	44350	4.002	0.001	
11.813	22172	44403	2.003	0.003	
11.823	19993	44543	2.228	0.002	
11.829	13395	44754	3.341	0.001	
11.837	20184	44981	2.228	0.002	
11.852	26933	44942	1.669	0.003	
11.866	36041	45224	1.255	0.005	
11.877	15835	45355	2.864	0.002	
11.883	18222	45726	2.509	0.002	
11.889	15985	45741	2.861	0.002	
11.896	20679	46117	2.230	0.003	
11.905	23259	46896	2.016	0.003	
11.929	70146	49826	0.710	0.010	
11.936	52288	50085	0.958	0.007	
11.951	14787	49369	3.339	0.002	
11.957	17313	49595	2.865	0.002	
11.961	32199	49647	1.542	0.004	
11.971	19578	49063	2.506	0.002	
11.980	34244	49065	1.433	0.005	
12.019	96987	51133	0.527	0.014	
12.025	48685	51499	1.058	0.007	
12.053	38386	51386	1.339	0.005	
12.062	38575	51549	1.336	0.005	

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
12.070	17923	51300	2.862	0.002	
12.078	45780	51141	1.117	0.006	
12.105	31495	48817	1.550	0.004	
12.118	85510	48295	0.565	0.012	
12.148	55474	46657	0.841	0.008	21 C40
12.172	34299	45899	1.338	0.005	
12.181	18286	45754	2.502	0.002	
12.188	20565	45727	2.223	0.003	
12.198	29701	45787	1.542	0.004	
12.212	11377	45530	4.002	0.001	
12.218	29576	45566	1.541	0.004	
12.237	41054	45750	1.114	0.006	
12.243	13695	45701	3.337	0.002	
12.253	27528	46122	1.675	0.004	
12.260	16149	46201	2.861	0.002	
12.272	32473	46571	1.434	0.004	
12.347	231342	54259	0.235	0.034	
12.355	96470	54322	0.563	0.014	
12.383	13155	52687	4.005	0.001	
12.389	52817	52930	1.002	0.007	
12.434	117936	55204	0.468	0.017	
12.440	19323	55283	2.861	0.002	
12.448	22049	55156	2.502	0.003	
12.460	127044	56114	0.442	0.018	
12.500	63536	55700	0.877	0.009	
12.519	44746	56237	1.257	0.006	
12.523	16928	56556	3.341	0.002	
12.528	14154	56666	4.003	0.002	
12.532	14154	56644	4.002	0.002	
12.538	25607	57089	2.229	0.003	
12.543	31284	57010	1.822	0.004	
12.560	76588	57084	0.745	0.011	
12.574	22463	56167	2.500	0.003	
12.583	192414	56305	0.293	0.028	
12.668	201456	54098	0.269	0.029	
12.722	63529	49368	0.777	0.009	
12.744	14574	48683	3.340	0.002	
12.757	68233	49046	0.719	0.010	
12.777	29106	48653	1.672	0.004	
12.802	69072	49884	0.722	0.010	
12.805	19947	49915	2.502	0.002	
12.813	12457	49907	4.006	0.001	
12.826	42860	50672	1.182	0.006	
12.830	15192	50711	3.338	0.002	
12.835	63121	50727	0.804	0.009	
12.856	30109	50299	1.671	0.004	
12.871	12459	49875	4.003	0.001	
12.876	24950	49913	2.001	0.003	
12.883	12458	49860	4.002	0.001	
12.892	24999	50091	2.004	0.003	
12.904	37682	50442	1.339	0.005	
12.918	60965	51059	0.838	0.009	
12.929	15268	50972	3.338	0.002	
12.950	101236	52476	0.518	0.014	
12.991	32619	50285	1.542	0.004	
13.030	23826	47690	2.002	0.003	
13.047	49429	47410	0.959	0.007	

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
13.072	11668	46709	4.003	0.001	
13.077	14056	46964	3.341	0.002	
13.083	21201	47214	2.227	0.003	
13.092	45034	47490	1.055	0.006	
13.103	33139	47401	1.430	0.004	
13.119	58622	47300	0.807	0.008	
13.136	61979	46406	0.749	0.009	
13.163	36232	45399	1.253	0.005	
13.172	13552	45219	3.337	0.002	
13.178	13550	45211	3.337	0.002	
13.183	13581	45318	3.337	0.002	
13.188	15867	45365	2.859	0.002	
13.193	11350	45433	4.003	0.001	
13.206	54879	45909	0.837	0.008	
13.233	74220	46899	0.632	0.010	
13.246	18724	46923	2.506	0.002	
13.250	14089	47028	3.338	0.002	
13.254	9392	46999	5.004	0.001	
13.261	35241	47103	1.337	0.005	
13.270	21093	46884	2.223	0.003	
13.278	16404	46889	2.858	0.002	
13.284	28108	46937	1.670	0.004	
13.309	27777	46575	1.677	0.004	
13.313	11643	46617	4.004	0.001	
13.323	30391	46938	1.544	0.004	
13.337	49696	47554	0.957	0.007	
13.345	11906	47686	4.005	0.001	
13.352	21499	47921	2.229	0.003	
13.358	14416	48133	3.339	0.002	
13.366	24163	48487	2.007	0.003	
13.391	108474	49842	0.459	0.016	
13.411	39818	49922	1.254	0.005	
13.421	140245	49882	0.356	0.020	
13.468	75433	46221	0.613	0.011	
13.519	59701	44435	0.744	0.008	
13.538	26345	44021	1.671	0.003	
13.553	17475	43727	2.502	0.002	
13.559	19699	43828	2.225	0.002	
13.566	15324	43832	2.860	0.002	
13.574	28519	43956	1.541	0.004	
13.585	21950	43943	2.002	0.003	
13.595	26497	44341	1.673	0.003	
13.603	22230	44574	2.005	0.003	
13.608	11135	44585	4.004	0.001	
13.633	100703	46371	0.460	0.014	
13.650	25255	45974	1.820	0.003	
13.663	20511	45675	2.227	0.003	
13.670	15945	45584	2.859	0.002	
13.677	40973	45642	1.114	0.006	
13.688	4544	45448	10.002	0.000	
13.693	29520	45508	1.542	0.004	
13.718	24720	44995	1.820	0.003	
13.727	11216	44890	4.002	0.001	
13.735	29185	45025	1.543	0.004	
13.752	17874	44782	2.505	0.002	
13.767	35874	45020	1.255	0.005	
13.775	36036	45104	1.252	0.005	

RT	AREA	HEIGHT	HT/AREA	% AREA	COMPOUNDS
13.785	11226	44939	4.003	0.001	
13.790	47016	44953	0.956	0.006	
13.813	11118	44516	4.004	0.001	
13.818	37641	44507	1.182	0.005	
13.832	15424	44192	2.865	0.002	
13.838	17564	43967	2.503	0.002	
13.844	26339	43892	1.666	0.003	
13.855	30567	43821	1.434	0.004	
13.865	23854	43526	1.825	0.003	
13.882	28266	43639	1.544	0.004	
13.886	30418	43629	1.434	0.004	
13.901	34702	43472	1.253	0.005	
13.920	48162	44005	0.914	0.007	
13.928	17577	43956	2.501	0.002	
13.941	15410	44084	2.861	0.002	
13.946	11045	44251	4.006	0.001	
13.949	24369	44341	1.820	0.003	
13.959	22103	44264	2.003	0.003	
13.967	22088	44195	2.001	0.003	
13.976	33207	44336	1.335	0.004	18 Filter Peak
13.998	24195	44018	1.819	0.003	
14.007	15335	43888	2.862	0.002	
14.014	17519	43863	2.504	0.002	
14.019	54335	43870	0.807	0.008	
14.046	10722	42915	4.003	0.001	
14.052	19305	42955	2.225	0.002	
14.058	8568	42864	5.003	0.001	
14.067	38739	43159	1.114	0.005	
14.077	15012	42931	2.860	0.002	
14.083	25753	42977	1.669	0.003	
14.102	25682	42913	1.671	0.003	
14.108	19267	42865	2.225	0.002	
14.116	12834	42815	3.336	0.001	
14.126	25874	43369	1.676	0.003	
14.133	56339	43595	0.774	0.008	
14.161	32503	43582	1.341	0.004	
14.165	10909	43696	4.006	0.001	
14.170	15313	43822	2.862	0.002	
14.175	10960	43911	4.007	0.001	
14.178	13176	43945	3.335	0.001	
14.183	19785	43976	2.223	0.002	
14.191	8796	44018	5.005	0.001	
14.197	17636	44177	2.505	0.002	
14.208	28815	44459	1.543	0.004	
14.219	8873	44379	5.002	0.001	
14.223	13318	44445	3.337	0.001	
14.229	28860	44456	1.540	0.004	
14.247	15436	44194	2.863	0.002	
14.260	37147	43758	1.178	0.005	
14.274	45685	43705	0.957	0.006	
	677340272	268782821		100.000	

Total unknown % area = 25.478

Supelco®

www.sigmaaldrich.com

Certificate of Composition - Analytical Standard

BASE STOCK

Product no.: 22523051
Lot no.: LRAC9813
Expiry Date: May 2023
Manufacturing Date: May 2021
Storage: Refrigerate
Solvent/Matrix: Dichloromethane
Certificate version: LRAC9813.01 *(Note: Certificates may be updated due to the availability of new data. Check our website at: www.sigma-aldrich.com for the most current version.)*

J005199
SVOA-ABN BASE STOCK-200-800ug/ml
Expires 5/31/2023
Prepared By Jianqing Zhou 5/18/2021

Analyte	*Assigned Value*	*Units*	*Raw Material Purity,%*	*Raw Material Lot*
3,3'-DICHLOROBENZIDINE CAS# 91-94-1	802	µg/mL	99.9	LC27068
2,4-DINITROTOLUENE CAS# 121-14-2	802	µg/mL	97.8	LB46632
2,6-DINITROTOLUENE CAS# 606-20-2	801	µg/mL	99.9	LB79891
HEXACHLOROCYCLOPENTADIENE CAS# 77-47-4	802	µg/mL	96.0	LB95525
N-NITROSODIMETHYLAMINE CAS# 62-75-9	801	µg/mL	95.0	2019-030598 5
PERYLENE CAS# 198-55-0	201	µg/mL	99.6	04101PG
ANILINE CAS# 62-53-3	803	µg/mL	100.0	10126MG
4-CHLOROANILINE CAS# 106-47-8	803	µg/mL	100.0	MKBZ6909V
2-NITROANILINE CAS# 88-74-4	802	µg/mL	99.9	LC05068
3-NITROANILINE CAS# 99-09-2	802	µg/mL	99.9	LC09264
4-NITROANILINE CAS# 100-01-6	802	µg/mL	99.9	LC11400
PYRIDINE (LOW WATER) CAS# 110-86-1	802	µg/mL	100.0	SHBJ9218

Measurement method: Where applicable, the assigned value is based on a purity determination by mass balance and gravimetrically prepared value.

Intended use: Intended for R&D and Analytical Use only. Not for drug, household or other uses.

Packaging: 1 mL in amber ampule

Instructions for handling and correct use: Use on the as is basis. The internal pressure of the container may be slightly different from the atmospheric pressure at the user`s location. Open slowly and carefully to avoid dispersion of the material.

Sigma-Aldrich RTC, 2931 Soldier Springs Rd. Laramie, WY 82070, USA;
Tel. 1 307-742-5452; Fax 1 855-831-9211; www.sigmaaldrich.com
Sigma-Aldrich RTC is a subsidiary of Merck KGaA, Darmstadt, Germany.

Health and safety information: All chemical reference materials should be considered potentially hazardous and should be used only by qualified laboratory personnel. Please refer to the Safety Data Sheet for detailed information about the nature of any hazard and appropriate precautions to be taken.

Certificate issue date: 12-May-2021

Andy Ommen - QC Manager

Mark Pooler - QA Supervisor

Certificate of analysis revision history:

Certificate version	Date	Reason for version
LRAC9813.01	12-May-2021	Original Release Date

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Certificate of Composition - Analytical Standard

ACID STOC"

Product no.: 22523046
Lot no.: LRAC9812
Expiry Date: May 2023
Manufacturing Date: May 2021
Storage: Refrigerate
Solvent/Matrix: Dichloromethane
Certificate version: LRAC9812.01 *(Note: Certificates may be updated due to the availability of new data. Check our website at: www.sigma-aldrich.com for the most current version.)*

J005200
SVOA-ABN ACID STOCK-200-800ug/ml
Solvent / Lot: DCM
Prep: 5/18/2021 by JZ
Exp: 5/31/2023
Location:

JZ 5/18/21

Analyte	*Assigned Value*	*Units*	*Raw Material Purity,%*	*Raw Material Lot*
2,4-DIMETHYLPHENOL CAS# 105-67-9	802	µg/mL	99.9	LB88935
2,4-DICHLOROPHENOL CAS# 120-83-2	802	µg/mL	100.0	BCBZ6787
2,4,5-TRICHLOROPHENOL CAS# 95-95-4	802	µg/mL	99.9	JS00008
2,4-DINITROPHENOL CAS# 51-28-5	1806	µg/mL	75.9	MKBP5833V
2,4,6-TRICHLOROPHENOL CAS# 88-06-2	803	µg/mL	98.7	LB82983
4-CHLORO-3-METHYLPHENOL CAS# 59-50-7	801	µg/mL	99.9	JS00013
4-NITROPHENOL CAS# 100-02-7	801	µg/mL	99.9	LC10889
2-METHYL-4,6-DINITROPHENOL CAS# 534-52-1	1804	µg/mL	99.7	LC18338
PENTACHLOROPHENOL CAS# 87-86-5	803	µg/mL	98.7	MKCK8156
BENZOIC ACID CAS# 65-85-0	1805	µg/mL	99.9	LC16514

Measurement method: Where applicable, the assigned value is based on a purity determination by mass balance and gravimetrically prepared value.

Intended use: Intended for R&D and Analytical Use only. Not for drug, household or other uses.

Packaging: 1 mL in amber ampule

Instructions for handling and correct use: Use on the as is basis. The internal pressure of the container may be slightly different from the atmospheric pressure at the user`s location. Open slowly and carefully to avoid dispersion of the material.

Health and safety information: All chemical reference materials should be considered potentially hazardous and should be used only by qualified laboratory personnel. Please refer to the Safety Data Sheet for detailed information about the nature of any hazard and appropriate precautions to be taken.

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Agilent

Certificate of Analysis

J008074

SVOA PAH STD 2000ug/ml
Expires 6/30/2023
Prepared By Joshua Rains 8/5/2021

Product Name: PAH Standard

Product Number: US-106N-1

Lot Number: 0006540449

Lot Issue Date: 11-Jun-2020

Expiration Date: 30-Jun-2023

Description:

This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system, and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	Concentration ± Uncertainty
acenaphthene	000083-32-9	RM10879	2008 ± 10 µg/mL
acenaphthylene	000208-96-8	RM10891	2003 ± 10 µg/mL
anthracene	000120-12-7	RM14212	2006 ± 10 µg/mL
benz[a]anthracene	000056-55-3	RM16072	2006 ± 10 µg/mL
benzo[b]fluoranthene	000205-99-2	RM14571	2005 ± 10 µg/mL
benzo[k]fluoranthene	000207-08-9	RM14321	2009 ± 10 µg/mL
benzo[ghi]perylene	000191-24-2	RM15761	2008 ± 10 µg/mL
benzo[a]pyrene	000050-32-8	RM12669	2009 ± 10 µg/mL
chrysene	000218-01-9	RM12260	2009 ± 10 µg/mL
dibenz[a,h]anthracene	000053-70-3	RM06786	2009 ± 10 µg/mL
fluoranthene	000206-44-0	RM12277	2004 ± 10 µg/mL
fluorene	000086-73-7	RM09441	2009 ± 10 µg/mL
indeno[1,2,3-cd]pyrene	000193-39-5	RM14192	2009 ± 10 µg/mL
naphthalene	000091-20-3	NT00970	2008 ± 10 µg/mL
phenanthrene	000085-01-8	RM10495	2009 ± 10 µg/mL
pyrene	000129-00-0	RM03479	2008 ± 10 µg/mL

Matrix: methylene chloride/benzene (1:1)

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

ISO 17034 Cert No. AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026

www.agilent.com/quality/

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

ISO 17025 Cert No. AT-1937

Certificate of Analysis

Product Number: US-106N-1 **Lot Number:** 0006540449

Storage Conditions: Store at Room Temperature (15° to 30°C).

Traceability:
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:
This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Hazards:
Refer to the Safety Data Sheet on www.agilent.com for information regarding this RM.

Expiration of Certification:
The certification of this RM is valid until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

Maintenance of Certification:
If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

Sample lot approver:

Monica Bourgeois
QMS Representative

ISO 17034 Cert No.
AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026
Page: 2 of 2

www.agilent.com/quality/

ISO 17025 Cert
No. AT-1937

Certificate of Analysis

phenova Certified Reference Materials | A Phenomenex Company

Produced by Phenova
6390 Joyce Drive STE 100, Golden, CO 80403 USA ■ Tel: 303-940-0033 ■ Fax: 303-940-0043 ■ info@phenova.com
Access your Safety Data Sheets and digital Certificates at **www.phenova.com/documents.**

Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101244
Description: Benzidines Standard
Storage: 4 °C
Provided As: 1 mL in 2 mL Ampoule in Methylene Chloride

Lot Number: CL16062
Certification Date: November 19, 2020
Expiration Date: November 30, 2030

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Benzidine	92-87-5	2000	± 2.740%
3,3'-Dichlorobenzidine	91-94-1	2000	± 3.229%

J008310
Benzidines std @2000ug/ml
Expires 11/30/2030
Prepared By Van Spohn 8/12/2021

ACCREDITED
Reference Material Producer
Certicate No. 2427.02

phenova Certified Reference Materials | A Phenomenex Company

Phenova is an accredited ISO/IEC 17034 Reference Material Producer and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ACCREDITED
Chemical Testing Laboratory
Certicate No. 2427.03

IL64691018_us

Produced by Phenova
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1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO 17034[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.

4. Handling and Usage Notes: Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

   Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.

12. Period of Validity: The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

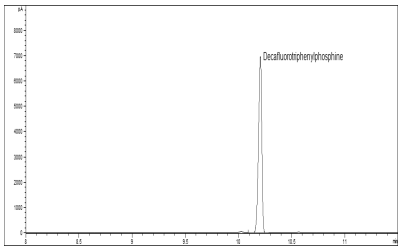
References:

[1] ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.
[3] ISO 17034 – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

Certificate of Analysis - Certified Reference Material

Decafluorotriphenylphosphine solution

Product no.: 48724-U
Lot no.: LRAD0628
Expiry Date: October 2024
Manufacturing Date: September 2021
Storage: ROOM TEMPERATURE
Solvent/Matrix: DICHLOROMETHANE
Certificate version: LRAD0628.01 (*Note: Certificates may be updated due to the availability of new data. Check our website at: www.sigma-aldrich.com for the most current version.)*

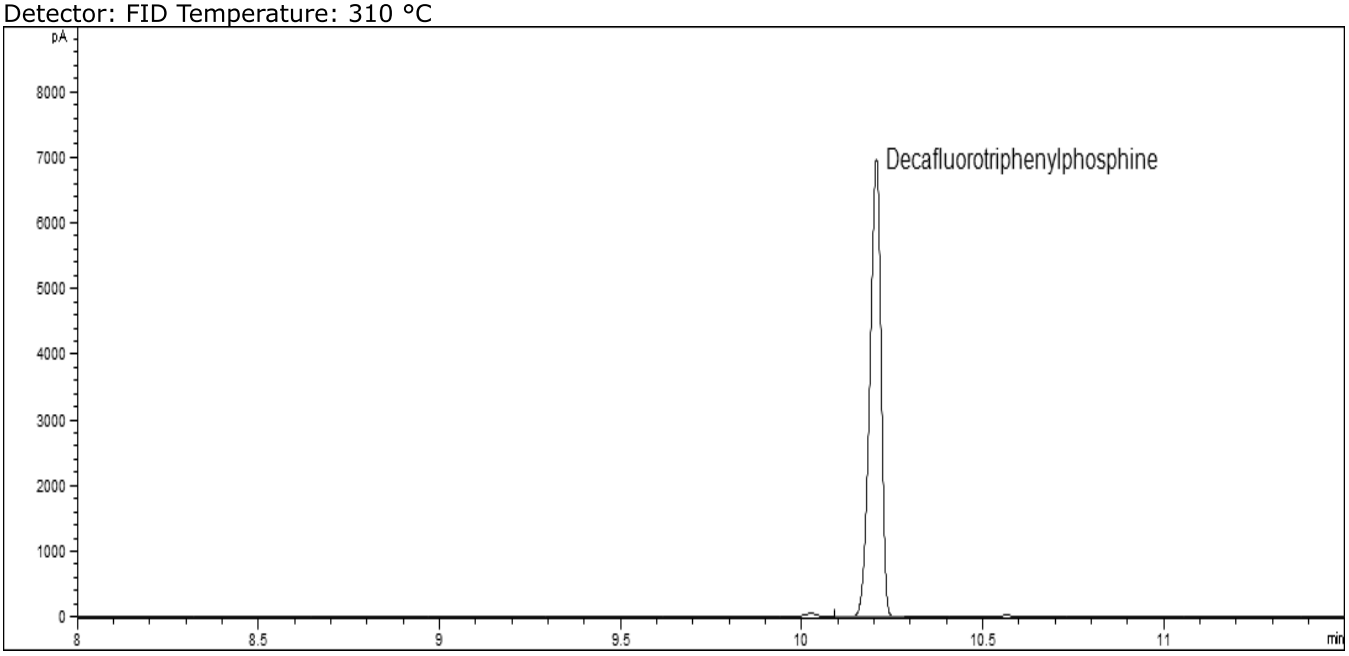


Certified Values:

Analyte	*Certified Value*	*Units*	*Raw Material Purity,%*	*Raw Material Lot*
DFTPP CAS# 5074-71-5	25.2 ± 2.6	mg/mL	97.0	10220909

ASSAY Method

METHOD: GC (BELLEFONTE)
Column: SPB-5, 30 m × 0.53 mm I.D., 1.5 µm film thickness
Carrier Gas: H_2 Flow Rate: 4.3 mL/min
Inlet Temperature: 250 °C Injection Volume: 1 µL
Injection Mode: 25:1
Temperature Program: 120 °C (Hold 0 min) @ 12 °C/min to 260 °C (Hold 0 min)
Detector: FID Temperature: 310 °C



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Tel. 1 307-742-5452; Fax 1 855-831-9211; www.sigmaaldrich.com
Sigma-Aldrich RTC is a subsidiary of Merck KGaA, Darmstadt, Germany.

Elution details:

EO	RT(MIN)	ANALYTE
1	10.206	Decafluorotriphenylphosphine

Metrological traceability: Traceable to the SI and higher order standards from NIST through an unbroken chain of comparisons. The balance used to weigh raw materials is accurate to +/-0.0001 g and calibrated regularly using mass standards traceable to NIST. All dilutions were performed gravimetrically. Additionally, individual analytes are traceable to NIST SRMs where available and specified above.

Measurement method: Where applicable, the assigned value is based on a purity determination by mass balance and gravimetrically prepared value.

Intended use: Intended for R&D and Analytical Use only. Not for drug, household or other uses.

Minimum sample size: 1 µL

Packaging: 1 mL in amber ampule

Instructions for handling and correct use: Use on the as is basis. The internal pressure of the container may be slightly different from the atmospheric pressure at the user`s location. Open slowly and carefully to avoid dispersion of the material.

Health and safety information: All chemical reference materials should be considered potentially hazardous and should be used only by qualified laboratory personnel. Please refer to the Safety Data Sheet for detailed information about the nature of any hazard and appropriate precautions to be taken.

Accreditation: Sigma-Aldrich RTC is accredited by the US accreditation authority ANAB as a registered reference material producer AR-1470 in accordance with ISO 17034.

Certificate issue date: 30-Sep-2021

Andy Ommen - QC Manager

Scott Stetler - QA Manager

Details on metrological traceability: This standard has been gravimetrically prepared using balances that have been fully qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error. Fill volume to predetermined specifications is gravimetrically verified throughout the dispensing process using qualified and calibrated balances. Further traceability to a corresponding Primary Standard may be achieved through a direct comparison assay. Where a Primary Standard is available, the assay value will be included in the specified section of the COA.

Associated uncertainty: Ucrm - Uncertainty values in this document are expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k, which is obtained from a *t*-distribution and degrees of freedom. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long term stability, and short term stability (transport). The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies. The mathematical representation of the Ucrm calculation is as follows:

$$u_{CRM} = \sqrt{u_{char}^2 + u_{\text{hom } ogeneity}^2 + u_{stability}^2}$$

Homogeneity assessment: Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared by Single Factor Analysis of Variance (ANOVA). The uncertainty due to homogeneity was derived from the ANOVA. Heterogeneity was not detected under the conditions of the ANOVA.

Stability assessment: Significance of the stability assessment will be demonstrated if the analytical result of the study and the range of values represented by the Expanded Uncertainty do not overlap the result of the original assay and the range of its values represented by the Expanded Uncertainty. The method employed will usually be the same method used to characterize the assay value in the initial

Certificate of analysis revision history:

Certificate version	Date	Reason for version
LRAD0628.01	30-Sep-2021	Original Release Date

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Disclaimer: The purchaser is required to determine the suitability of this product for any particular application. Sigma-Aldrich RTC makes no warranty of any kind, express or implied, other than its products meet all quality control standards set by Sigma-Aldrich RTC. We do not guarantee that the product can be used for any particular application.

Certificate of Analysis

BNAs - Sandy Loam 1

Certified Reference Material

Description

Product ID CRM143-50G
Lot **LRAC8918**
Expiration Date January 2024
Manufacturing Date January 2021
Storage Conditions Refrigerate
Solvent/Matrix SOIL

Certified Values

Analyte	*Units*	*Certified Value* [1,4]
1,2,4-Trichlorobenzene	µg/Kg	1477 ± 181
1,3-Dichlorobenzene (m-Dichlorobenzene)	µg/Kg	1625 ± 292
1-Chloronaphthalene	µg/Kg	2809 ± 84
2,3-Dimethylphenol	µg/Kg	4552 ± 137
2,4,5-Trichlorophenol	µg/Kg	3438 ± 245
2,4,6-Trichlorophenol	µg/Kg	2194 ± 251
2,4-Dichlorophenol	µg/Kg	6991 ± 394
2,4-Dimethylphenol	µg/Kg	6357 ± 879
2,4-Dinitrophenol	µg/Kg	2922 ± 523
2,4-Dinitrotoluene (2,4-DNT)	µg/Kg	3318 ± 442
2,6-Dichlorophenol	µg/Kg	4578 ± 874
2,6-Dimethylphenol	µg/Kg	7582 ± 228
2-Chloronaphthalene	µg/Kg	2223 ± 168
2-Chlorophenol	µg/Kg	1678 ± 202
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	µg/Kg	5148 ± 685
2-Methylphenol (o-Cresol)	µg/Kg	6004 ± 573
2-Nitrophenol	µg/Kg	6456 ± 383
3,4-Dimethylphenol	µg/Kg	7185 ± 216
3+4-Methylphenol (m+p-Cresol)	µg/Kg	8033 ± 1613
4-Bromophenyl phenyl ether (BDE-3)	µg/Kg	7169 ± 310
4-Chloro-3-methylphenol	µg/Kg	2071 ± 110
4-Chlorophenyl phenylether	µg/Kg	2052 ± 113
4-Methylphenol (p-Cresol)	µg/Kg	6617 ± 1371
4-Nitrophenol	µg/Kg	6812 ± 595
Acenaphthene	µg/Kg	5489 ± 380

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

SIGMA-ALDRICH®
2931 Soldier Springs Rd. Laramie, Wyoming 82070 USA
800-325-5832
TechService@milliporesigma.com www.sigma-aldrich.com

Description

Lot **LRAC8918**
Expiration Date January 2024
Manufacturing Date January 2021
Storage Conditions Refrigerate
Solvent/Matrix SOIL

Acenaphthylene	µg/Kg	1948 ± 240
Anthracene	µg/Kg	2866 ± 237
Benzo(a)anthracene	µg/Kg	5751 ± 552
Benzo(a)pyrene	µg/Kg	5902 ± 612
Benzo(b)fluoranthene	µg/Kg	3010 ± 409
Benzo(b+k)fluoranthene	µg/Kg	6534 ± 196
Benzo(g,h,i)perylene	µg/Kg	1380 ± 136
Benzo(k)fluoranthene	µg/Kg	2215 ± 237
Butyl benzyl phthalate	µg/Kg	3511 ± 384
Carbazole	µg/Kg	5412 ± 407
Chrysene	µg/Kg	1477 ± 72
Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)	µg/Kg	2905 ± 321
Dibenzo(a,h)anthracene	µg/Kg	3420 ± 302
Dibenzofuran	µg/Kg	6130 ± 253
Dimethyl phthalate	µg/Kg	4537 ± 250
Di-n-butyl phthalate	µg/Kg	1721 ± 154
Di-n-octyl phthalate	µg/Kg	2744 ± 288
Fluoranthene	µg/Kg	2497 ± 222
Fluorene	µg/Kg	3724 ± 222
Hexachlorobutadiene	µg/Kg	1877 ± 245
Indeno(1,2,3-cd) pyrene	µg/Kg	3914 ± 409
Isophorone	µg/Kg	1615 ± 170
Naphthalene	µg/Kg	4458 ± 480
Nitrobenzene	µg/Kg	3539 ± 266
n-Nitrosodimethylamine	µg/Kg	1580 ± 402
n-Nitrosodiphenylamine	µg/Kg	2854 ± 379
Pentachlorophenol	µg/Kg	3411 ± 358
Phenanthrene	µg/Kg	5052 ± 385
Phenol	µg/Kg	2660 ± 184
Pyrene	µg/Kg	2964 ± 256
Pyridine	µg/Kg	1008 ± 30

Informational Values

Certificate of Analysis

BNAs - Sandy Loam 1

Certified Reference Material

Description

Product ID CRM143-50G
Lot **LRAC8918**
Expiration Date January 2024
Manufacturing Date January 2021
Storage Conditions Refrigerate
Solvent/Matrix SOIL

Analyte	*Units*	*Suggested Acceptance Windows*	*Standard Deviation*
1,2,4-Trichlorobenzene	µg/Kg	148 to 2853	459
1,3-Dichlorobenzene (m-Dichlorobenzene)	µg/Kg	163 to 3440	605
1-Chloronaphthalene	µg/Kg	1123 to 4494	562
2,3-Dimethylphenol	µg/Kg	1821 to 7284	910
2,4,5-Trichlorophenol	µg/Kg	1003 to 5872	811
2,4,6-Trichlorophenol	µg/Kg	640 to 3748	518
2,4-Dichlorophenol	µg/Kg	2391 to 11591	1533
2,4-Dimethylphenol	µg/Kg	0.00 to 13959	2534
2,4-Dinitrophenol	µg/Kg	1169 to 4675	584
2,4-Dinitrotoluene (2,4-DNT)	µg/Kg	1248 to 5388	690
2,6-Dichlorophenol	µg/Kg	1831 to 7324	916
2,6-Dimethylphenol	µg/Kg	3033 to 12132	1516
2-Chloronaphthalene	µg/Kg	748 to 3699	492
2-Chlorophenol	µg/Kg	415 to 2942	421
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	µg/Kg	0.00 to 10347	1733
2-Methylphenol (o-Cresol)	µg/Kg	1306 to 10702	1566
2-Nitrophenol	µg/Kg	1534 to 11379	1641
3,4-Dimethylphenol	µg/Kg	2874 to 11495	1437
3+4-Methylphenol (m+p-Cresol)	µg/Kg	4054 to 16218	2027
4-Bromophenyl phenyl ether (BDE-3)	µg/Kg	2901 to 11437	1423
4-Chloro-3-methylphenol	µg/Kg	677 to 3464	464
4-Chlorophenyl phenylether	µg/Kg	756 to 3348	432
4-Methylphenol (p-Cresol)	µg/Kg	2647 to 10587	1323
4-Nitrophenol	µg/Kg	681 to 14762	2650
Acenaphthene	µg/Kg	2243 to 8736	1082
Acenaphthylene	µg/Kg	712 to 3183	412
Anthracene	µg/Kg	1218 to 4515	550
Benzo(a)anthracene	µg/Kg	2806 to 8696	982
Benzo(a)pyrene	µg/Kg	2512 to 9292	1130
Benzo(b)fluoranthene	µg/Kg	1197 to 4822	604
Benzo(b+k)fluoranthene	µg/Kg	2614 to 10454	1307

Description

Lot **LRAC8918**
Expiration Date January 2024
Manufacturing Date January 2021
Storage Conditions Refrigerate
Solvent/Matrix SOIL

Benzo(g,h,i)perylene	µg/Kg	489 to 2271	297
Benzo(k)fluoranthene	µg/Kg	892 to 3537	441
Butyl benzyl phthalate	µg/Kg	1255 to 5766	752
Carbazole	µg/Kg	2032 to 8792	1127
Chrysene	µg/Kg	669 to 2284	269
Di(2-ethylhexyl) phthalate (bis(2-Ethylhexyl)phthalate, DEHP)	µg/Kg	765 to 5045	713
Dibenzo(a,h)anthracene	µg/Kg	1257 to 5583	721
Dibenzofuran	µg/Kg	2766 to 9493	1121
Dimethyl phthalate	µg/Kg	1842 to 7231	898
Di-n-butyl phthalate	µg/Kg	495 to 2947	409
Di-n-octyl phthalate	µg/Kg	690 to 4798	685
Fluoranthene	µg/Kg	984 to 4009	504
Fluorene	µg/Kg	1638 to 5810	695
Hexachlorobutadiene	µg/Kg	425 to 3329	484
Indeno(1,2,3-cd) pyrene	µg/Kg	870 to 6957	1015
Isophorone	µg/Kg	437 to 2792	392
Naphthalene	µg/Kg	1131 to 7784	1109
Nitrobenzene	µg/Kg	1024 to 6054	838
n-Nitrosodimethylamine	µg/Kg	632 to 2528	316
n-Nitrosodiphenylamine	µg/Kg	1142 to 4567	571
Pentachlorophenol	µg/Kg	341 to 7037	1209
Phenanthrene	µg/Kg	2307 to 7798	915
Phenol	µg/Kg	681 to 4639	660
Pyrene	µg/Kg	1118 to 4810	615
Pyridine	µg/Kg	403 to 1613	202

Additional Information:

DESCRIPTION

The organic sample is a soil containing extractable BNAs for analysis by 8100, 8270, 8310 or equivalent methods.

This product consist of a 5 vials each containing 10g of soil for analysis of PAHs. Each vial is identical and has been tested how homogeneity. Only one vial is need for test the remaining vials are to be used for multiple methods or routine testing.

The soil has been sterilized to minimize degradation of the sample.

The sample has been sized to 100 mesh.

Required storage condition is 4ºC.

The sample has been intentionally prepared with an apparent headspace.

STORAGE

The sample should be stored at 4ºC. It has been determined to be stable for the duration of the expiration date.

After sub-sampling replace cap securely and store remaining sample at 4ºC.

The shelf life of the product was determined by historic stability of similar CRM's. The expiration date may be extended based on stock and popularity upon successful stability testing by a 17025 accredited laboratory.

Certificate of Analysis

BNAs - Sandy Loam 1

Certified Reference Material

Description

Product ID	CRM143-50G
Lot	**LRAC8918**
Expiration Date	January 2024
Manufacturing Date	January 2021
Storage Conditions	Refrigerate
Solvent/Matrix	SOIL

Stability and shelf life after opening must be determined by the user, taking into account sampling frequency/volume and all local conditions.

SAMPLE PREPARATION

Extract the complete contents of a single vial. Transfer entire contents of one vial to extraction vessel. Rinse vial and cap with extraction solvent.

Assume a 10g sample size for all calculations.

Note: Sample extracts and calibration solutions should be in the same solvent.

Report all results on a wet weight basis, do not correct for moisture.

NOTE: For method 8100 and using a packed column gas chromatographic method or cannot adequately resolve the following may coelute in four pairs of compounds: anthracene and phenanthrene; chrysene and benzo(a)anthracene; benzo(b)fluoranthene and benzo(k)fluoranthene; and dibenzo(a,h)anthracene and indeno(1,2,3-cd)pyrene.

SCOPE AND APPLICATION

The BNAs in Soil Certified Reference Material (CRM) consists of 5 10mL VOA vials, with a Teflon lined closures containing approximately 10 grams of soil, fortified with BNAs. Being a natural matrix waste sample the analyst is challenged by the same preparation problems, analytical interferences, etc. as is typical for similar matrices received by the laboratory for analysis.

Description

Lot	**LRAC8918**
Expiration Date	January 2024
Manufacturing Date	January 2021
Storage Conditions	Refrigerate
Solvent/Matrix	SOIL

1 **Metrological traceability:** Traceable to the SI and higher order standards from NIST through an unbroken chain of comparisons. The balance used to weigh raw materials is accurate to +/-0.0001 g and calibrated regularly using mass standards traceable to NIST. All dilutions were performed gravimetrically. Additionally, individual analytes are traceable to NIST SRMs where available and specified above.
4 Ucrm - Uncertainty values in this document are expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k, which is obtained from a *t*-distribution and degrees of freedom. K=2 unless specified. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long term stability, and short term stability (transport). The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies. The mathematical representation of the Ucrm calculation is as follows:

$$u_{CRM} = \sqrt{u_{char}^2 + u_{\text{hom } ogeneity}^2 + u_{stability}^2}$$

***k*:** Coverage factor derived from a t-distribution table, based on the degrees of freedom of the data set. Assume 2.0 for a **Confidence interval = 95%**

6 Analytical Value- For QC verification of the certified value only- not to be used in calculations. Represents the analytical data obtained by comparison to a standard as analyzed by the method described in the CoA or another acceptable method. The result may differ from the certified value and UCRM based on method uncertainty as well as the uncertainty associated with the standard used for comparison.

Traceability: The standard was manufactured under an ISO/IEC 17025:2017 certified quality system. The balance used to weigh raw materials is accurate to +/- 0.0001g and calibrated regularly using mass standards traceable to NIST. All dilutions were preformed gravimetrically. Additionally, individual analytes are traceable to NIST SRMs where available and specified above.

Homogeneity: Homogeneity was assessed in accordance with ISO 17034:2016. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared using a one-way analysis of variance approach as described by TNI EL-V3-2009 Appendix A.2. See Instructions for minimum sub-sample size.

Expiration is at end of month given on certificate and label.

MSDS reports for components comprising greater than 1.0% of the solution or 0.1% for components known to be carcinogens are available upon request.

THIS PRODUCT WAS DESIGNED, PRODUCED AND VERIFIED FOR ACCURACY AND STABILITY IN ACCORDANCE WITH **ISO/IEC 17025:2017 (ANAB Cert AT-1467)** and **ISO 17034:2016 (ANAB Cert AR-1470).**

Andy Ommen - QC Manager

Mark Pooler - QA Supervisor

Certification Date	January 05, 2021
Version	0-152021

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

Agilent

Certificate of Analysis

Product Name: Toxic Substances Standard

Product Number: US-103N-1 **Lot Issue Date:** 25-May-2021

Lot Number: 0006609664 **Expiration Date:** 30-Jun-2024

Description:
This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	Concentration ± Uncertainty
benzoic acid	000065-85-0	RM01884	2005 ± 10 µg/mL
o-cresol	000095-48-7	RM12877	2005 ± 10 µg/mL
p-cresol	000106-44-5	RM01988	2005 ± 10 µg/mL
2,4,5-trichlorophenol	000095-95-4	NT00344	2004 ± 10 µg/mL

Matrix: methylene chloride (dichloromethane)

Storage Conditions: Store at Room Temperature (15° to 30°C).

Traceability:
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:
This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Hazards:
Refer to the Safety Data Sheet on www.agilent.com for information regarding this RM.

5/11/22

K004539
toxic sub mix#1
Solvent / Lot: methylene chloride
Prep: 5/11/2022 by JZ
Exp: 6/30/2024
Location:

ANAB ACCREDITED ISO17034 REFERENCE MATERIAL PRODUCER
ISO 17034 Cert No. AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026

www.agilent.com/quality/
CSD-QA-015.1

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
ISO 17025 Cert No. AT-1937

ISO 17034

Agilent
Trusted Answers

Reference Material Certificate

Product Name: Phenols Standard
Product Number: US-107N-1
Storage Conditions: Store at Room Temperature (15° to 30°C).

Lot Number: 0006648297
Lot Issue Date: 17-Nov-2021
Expiration Date: 31-Dec-2024

Component Name	CERTIFIED VALUES Concentration	Expanded Uncertainty	CAS#	Analyte Lot
4-chloro-3-methylphenol	2006 ±	10 µg/mL	000059-50-7	RM01885
2-chlorophenol	2007 ±	10 µg/mL	000095-57-8	RM01871
2,4-dichlorophenol	2005 ±	10 µg/mL	000120-83-2	RM13878
2,4-dimethylphenol	2006 ±	10 µg/mL	000105-67-9	RM13009
2,4-dinitrophenol	2006 ±	10 µg/mL	000051-28-5	RM02112
2-methyl-4,6-dinitrophenol	2005 ±	10 µg/mL	000534-52-1	RM02292
2-nitrophenol	2007 ±	10 µg/mL	000088-75-5	RM13445
4-nitrophenol	2006 ±	10 µg/mL	000100-02-7	RM03752
pentachlorophenol	2006 ±	10 µg/mL	000087-86-5	RM02474
phenol	2006 ±	10 µg/mL	000108-95-2	RM11471
2,4,6-trichlorophenol	2006 ±	10 µg/mL	000088-06-2	RM18096

Matrix: methylene chloride (dichloromethane)

Description:
This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above.

Traceability:
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:
This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Safety:
Refer to the Safety Data Sheet on www.agilent.com for information regarding this analytical reference material.

5/11/22

CSD-QA-015.1

K004540
phenols mix
Solvent / Lot: methylene chloride
Prep: 5/11/2022 by JZ
Exp: 12/31/2024
Location:

ISO 17034

Agilent
Trusted Answers

Reference Material Certificate

Product Name: PAH Standard
Product Number: US-106N-1
Storage Conditions: Store at Room Temperature (15° to 30°C).

Lot Number: 0006627349
Lot Issue Date: 17-Sep-2021
Expiration Date: 31-Oct-2024

Component Name	CERTIFIED VALUES Concentration		Expanded Uncertainty	CAS#	Analyte Lot
acenaphthene	2007	±	10 µg/mL	000083-32-9	RM10879
acenaphthylene	2004	±	10 µg/mL	000208-96-8	RM10891
anthracene	2006	±	10 µg/mL	000120-12-7	RM14212
benz[a]anthracene	2006	±	10 µg/mL	000056-55-3	RM16072
benzo[b]fluoranthene	2006	±	10 µg/mL	000205-99-2	RM14571
benzo[k]fluoranthene	2006	±	10 µg/mL	000207-08-9	RM18376
benzo[ghi]perylene	2006	±	10 µg/mL	000191-24-2	RM15761
benzo[a]pyrene	2006	±	10 µg/mL	000050-32-8	RM17573
chrysene	2007	±	10 µg/mL	000218-01-9	RM13771
dibenz[a,h]anthracene	2006	±	10 µg/mL	000053-70-3	RM06786
fluoranthene	2006	±	10 µg/mL	000206-44-0	RM12277
fluorene	2006	±	10 µg/mL	000086-73-7	RM09441
indeno[1,2,3-cd]pyrene	2006	±	10 µg/mL	000193-39-5	RM14192
naphthalene	2007	±	10 µg/mL	000091-20-3	RM10445
phenanthrene	2005	±	10 µg/mL	000085-01-8	RM10495
pyrene	2005	±	10 µg/mL	000129-00-0	RM16126

Matrix: methylene chloride/benzene (1:1)

Description:
This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above.

Traceability:
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:
This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

K004541
SVOA PAH STD 2000ug/ml
Solvent / Lot: DCM/BENZENE
Prep: 5/11/2022 by JZ
Exp: 10/31/2024
Location: Fridge 19

CSD-QA-015.1

11/22

Reference Materials Producer
Cert #2495.01

Certificate of Analysis

Chemical Testing
Cert #2495.02

Catalog Number: ECS-A-030 **Lot No.** AA210126005

Description: Base/Neutrals Mix 1

Matrix: Methylene Chloride

Manufactured Date: 1-26-2021

Expiration Date: 1-26-2024

This **SPEXOrganics**® Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

Certified Compounds:

Compound	CAS #	Labeled	Purity	Certified†	Uncertainty
1,2,4-Trichlorobenzene	120-82-1	2000 µg/mL	99%	2010 µg/mL	± 50 µg/mL
1,2-Dichlorobenzene	95-50-1	2000 µg/mL	99%	2002 µg/mL	± 50 µg/mL
1,3-Dichlorobenzene	541-73-1	2000 µg/mL	98%	2021 µg/mL	± 51 µg/mL
1,4-Dichlorobenzene	106-46-7	2000 µg/mL	99%	2012 µg/mL	± 50 µg/mL
2,4-Dinitrotoluene	121-14-2	2000 µg/mL	97%	2006 µg/mL	± 50 µg/mL
2,6-Dinitrotoluene	606-20-2	2000 µg/mL	99.6%	2012 µg/mL	± 50 µg/mL
2-Chloronaphthalene	91-58-7	2000 µg/mL	98%	2004 µg/mL	± 50 µg/mL
4-Bromodiphenyl ether	101-55-3	2000 µg/mL	99%	2022 µg/mL	± 51 µg/mL
4-Chlorophenyl-phenyl ether	7005-72-3	2000 µg/mL	98%	2001 µg/mL	± 50 µg/mL
Azobenzene	103-33-3	2000 µg/mL	98%	2001 µg/mL	± 50 µg/mL
Bis(2-chloro-1-methylethyl) ether	108-60-1	2000 µg/mL	98.9%	2010 µg/mL	± 50 µg/mL
bis(2-Chloroethoxy)methane	111-91-1	2000 µg/mL	97%	2001 µg/mL	± 50 µg/mL
bis(2-Chloroethyl)ether	111-44-4	2000 µg/mL	99%	2002 µg/mL	± 50 µg/mL
Bis(2-Ethylhexyl)phthalate	117-81-7	2000 µg/mL	99%	2003 µg/mL	± 50 µg/mL
Butylbenzyl phthalate	85-68-7	2000 µg/mL	98%	2000 µg/mL	± 50 µg/mL
Carbazole	86-74-8	2000 µg/mL	95%	2009 µg/mL	± 50 µg/mL
Di-n-butyl phthalate	84-74-2	2000 µg/mL	99%	2020 µg/mL	± 50 µg/mL
Di-n-octyl phthalate	117-84-0	2000 µg/mL	98%	2000 µg/mL	± 50 µg/mL
Diethyl phthalate	84-66-2	2000 µg/mL	99.5%	2002 µg/mL	± 50 µg/mL
Dimethyl phthalate	131-11-3	2000 µg/mL	99%	2006 µg/mL	± 50 µg/mL
Hexachlorobenzene	118-74-1	2000 µg/mL	99%	2003 µg/mL	± 50 µg/mL
Hexachlorobutadiene	87-68-3	2000 µg/mL	97%	2003 µg/mL	± 50 µg/mL
Hexachlorocyclopentadiene	77-47-4	2000 µg/mL	99%	2003 µg/mL	± 50 µg/mL
Hexachloroethane	67-72-1	2000 µg/mL	98%	2003 µg/mL	± 50 µg/mL
Isophorone	78-59-1	2000 µg/mL	97%	2003 µg/mL	± 50 µg/mL
N-Nitrosodi-n-propylamine	621-64-7	2000 µg/mL	98%	2000 µg/mL	± 50 µg/mL
N-Nitrosodiphenylamine	86-30-6	2000 µg/mL	97%	2001 µg/mL	± 50 µg/mL
Nitrobenzene	98-95-3	2000 µg/mL	99%	2001 µg/mL	± 50 µg/mL
Pyridine	110-86-1	2000 µg/mL	99%	2004 µg/mL	± 50 µg/mL
N-Nitrosodimethylamine	62-75-9	2000 µg/mL	97%	2000 µg/mL	± 50 µg/mL

Certificate of Reference Material

Catalog Number: ECS-A-030 **Lot No.** AA210126005

Description: Base/Neutrals Mix 1

Matrix: Methylene Chloride

Manufactured Date: 1-26-2021

Expiration Date: 1-26-2024

Final Solution Verification:

Final solution integrity verified by Gas Chromatography/Mass Spectrometry. The mass spectrum of each compound was confirmed against the NIST mass spectral database.

† Certified concentration based on gravimetric weights and corrected for the purity of the compound(s) used to prepare the standard. Analytical balance calibration is verified daily with C1 weight set #23-190006 which is registered with Atlantic Scale, and traceable to NIST and NJ Division of Weights and Measures.

This CRM is guaranteed stable and accurate to within the uncertainty listed for the certified value. This includes uncertainty components due to preparation, homogeneity, short term and long term stability. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further information, contact the Sales Support Department at crmsales@spexcsp.com.

Date of Certification: 1-26-2021 Certifying Officer: Shannon Mora

Report of Certification

Catalog Number: ECS-A-030 **Lot No.** AA210126005

Description: Base/Neutrals Mix 1

Matrix: Methylene Chloride

Manufactured Date: 1-26-2021

Expiration Date: 1-26-2024

This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001:2008, ISO 17025:2005, and ISO Guide 34:2009 Quality System consistent with the following standards:

- ISO 9001:2008: Quality management systems - Requirements - Certified by UL-DQS
- ISO 17025:2005: General Requirements for the Competence of Testing and Calibration Laboratories - Accredited by A2LA
- ISO Guide 34:2009: General Requirements for the Competence of Reference Material Producers - Accredited by A2LA
- ISO Guide 31:2000: Reference Materials - Contents of Certificates and Labels
- ISO Guide 35:2006: Reference Materials - General and statistical principals for certification
- Guide to the Expression of Uncertainty in Measurement 1997
- EURACHEM/CITAC Guide: Qualifying Uncertainty in Analytical Measurements - Second Edition
- ASTM Guide D6362-98
- NIST Technical Note 1297
- ILAC-G12-2000: Guidelines for the requirements for the competence of reference material producers
- ISO/REMCO N280

Storage Requirements:

To ensure the stability of the product once it arrives in your laboratory , please store this product in a refrigerator (2°C to 8°C). Note: Shipping conditions may differ from storage conditions. The EXPIRATION DATE is calculated from the MANUFACTURED DATE using our stability data and is applicable only if the product is unopened and stored under the prescribed conditions.

Instructions for Use:

Let material come to room temperature before use. Check for precipitate and if necessary sonicate for one minute. If compounds do not dissolve after one minute then sonicate further until the product is dissolved. A clear appearance is acceptable. The minimum recommended amount that should be removed from this vial is 5 µL with a 25µL gas tight syringe. All solutions should be thoroughly mixed, by shaking, prior to use. All surfaces that come in contact with the solution must be thoroughly cleaned prior to use. Dilutions should be performed only with Class A volumetric glassware.

Material Source:

All analytes and matrix materials are obtained and verified by SPEX CertiPrep from pre-qualified vendors as per ISO guidelines. Vendor identifications are proprietary, however sources of all materials used in the preparation and testing of SPEX CertiPrep CRMs are tracked and documented. For assistance, please contact sales support at crmsales@spexcsp.com.

Method of Preparation:

Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, and analytical instrumentation have been qualified prior to use. The highest purity solvents and Class A / calibrated volumetrics have been been used in all preparations.

Homogeneity:

The homogeneity of this CRM has been confirmed by procedures consistent with ISO 17025:2005, ISO Guide 34:2009, and ASTM D6362-98 Appendix X2. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedure 4300-HOMOGEN-1A. This is consistent with the intended use of this CRM. The Degree of Homogeneity, as expressed as maximum between-bottle variation, is 1.2%

Statistical Estimator and Confidence Limits:

The Certified value 'X' as listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X=certified value, U=expanded uncertainty, x=property value
- $U = ku_c$ where k=2 is the coverage factor at the 95% confidence level
- u_c = combined standard uncertainty obtained by combining the individual compound standard uncertainty components u_i, where $u_c = \sqrt{\sum u_i^2}$

Legal Notice:

SPEX CertiPrep Certified Reference Materials are not for any cosmetic, drug, or household application and are to be used only by qualified individuals who are trained in appropriate procedures. No claims against SPEX CertiPrep of any kind whatsoever, whether based on breech of warranty, alleged negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall SPEX CertiPrep be liable for any loss of profits or any incidental, special, or consequential damages.

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Phone: 1-732-549-7144 • Fax 1-732-603-9647

Accredited to 17025 & Guide 34 ISO Certified to 9001

ACCREDITED
Reference Materials Producer
Cert #2495.01

ECS

Certificate of Analysis

ilac-MRA ACCREDITED
Chemical Testing
Cert #2495.02

Catalog Number: ECS-A-030 **Lot No.** AA210126005

Description: Base/Neutrals Mix 1

Matrix: Methylene Chloride

Manufactured Date: 1-26-2021

Expiration Date: 1-26-2024

This **SPEXOrganics®** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

Certified Compounds:

Compound	CAS #	Labeled	Purity	Certified†	Uncertainty
1,2,4-Trichlorobenzene	120-82-1	2000 µg/mL	99%	2010 µg/mL	± 50 µg/mL
1,2-Dichlorobenzene	95-50-1	2000 µg/mL	99%	2002 µg/mL	± 50 µg/mL
1,3-Dichlorobenzene	541-73-1	2000 µg/mL	98%	2021 µg/mL	± 51 µg/mL
1,4-Dichlorobenzene	106-46-7	2000 µg/mL	99%	2012 µg/mL	± 50 µg/mL
2,4-Dinitrotoluene	121-14-2	2000 µg/mL	97%	2006 µg/mL	± 50 µg/mL
2,6-Dinitrotoluene	606-20-2	2000 µg/mL	99.6%	2012 µg/mL	± 50 µg/mL
2-Chloronaphthalene	91-58-7	2000 µg/mL	98%	2004 µg/mL	± 50 µg/mL
4-Bromodiphenyl ether	101-55-3	2000 µg/mL	99%	2022 µg/mL	± 51 µg/mL
4-Chlorophenyl-phenyl ether	7005-72-3	2000 µg/mL	98%	2001 µg/mL	± 50 µg/mL
Azobenzene	103-33-3	2000 µg/mL	98%	2001 µg/mL	± 50 µg/mL
Bis(2-chloro-1-methylethyl) ether	108-60-1	2000 µg/mL	98.9%	2010 µg/mL	± 50 µg/mL
bis(2-Chloroethoxy)methane	111-91-1	2000 µg/mL	97%	2001 µg/mL	± 50 µg/mL
bis(2-Chloroethyl)ether	111-44-4	2000 µg/mL	99%	2002 µg/mL	± 50 µg/mL
Bis(2-Ethylhexyl)phthalate	117-81-7	2000 µg/mL	99%	2003 µg/mL	± 50 µg/mL
Butylbenzyl phthalate	85-68-7	2000 µg/mL	98%	2000 µg/mL	± 50 µg/mL
Carbazole	86-74-8	2000 µg/mL	95%	2009 µg/mL	± 50 µg/mL
Di-n-butyl phthalate	84-74-2	2000 µg/mL	99%	2020 µg/mL	± 50 µg/mL
Di-n-octyl phthalate	117-84-0	2000 µg/mL	98%	2000 µg/mL	± 50 µg/mL
Diethyl phthalate	84-66-2	2000 µg/mL	99.5%	2002 µg/mL	± 50 µg/mL
Dimethyl phthalate	131-11-3	2000 µg/mL	99%	2006 µg/mL	± 50 µg/mL
Hexachlorobenzene	118-74-1	2000 µg/mL	99%	2003 µg/mL	± 50 µg/mL
Hexachlorobutadiene	87-68-3	2000 µg/mL	97%	2003 µg/mL	± 50 µg/mL
Hexachlorocyclopentadiene	77-47-4	2000 µg/mL	99%	2003 µg/mL	± 50 µg/mL
Hexachloroethane	67-72-1	2000 µg/mL	98%	2003 µg/mL	± 50 µg/mL
Isophorone	78-59-1	2000 µg/mL	97%	2003 µg/mL	± 50 µg/mL
N-Nitrosodi-n-propylamine	621-64-7	2000 µg/mL	98%	2000 µg/mL	± 50 µg/mL
N-Nitrosodiphenylamine	86-30-6	2000 µg/mL	97%	2001 µg/mL	± 50 µg/mL
Nitrobenzene	98-95-3	2000 µg/mL	99%	2001 µg/mL	± 50 µg/mL
Pyridine	110-86-1	2000 µg/mL	99%	2004 µg/mL	± 50 µg/mL
N-Nitrosodimethylamine	62-75-9	2000 µg/mL	97%	2000 µg/mL	± 50 µg/mL

K004542

Certificate of Reference Material

Catalog Number: ECS-A-030

Description: Base/Neutrals Mix 1

Matrix: Methylene Chloride

Lot No. AA210126005

Manufactured Date: 1-26-2021

Expiration Date: 1-26-2024

Final Solution Verification:

Final solution integrity verified by Gas Chromatography/Mass Spectrometry. The mass spectrum of each compound was confirmed against the NIST mass spectral database.

† Certified concentration based on gravimetric weights and corrected for the purity of the compound(s) used to prepare the standard. Analytical balance calibration is verified daily with C1 weight set #23-190006 which is registered with Atlantic Scale, and traceable to NIST and NJ Division of Weights and Measures.

This CRM is guaranteed stable and accurate to within the uncertainty listed for the certified value. This includes uncertainty components due to preparation, homogeneity, short term and long term stability. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further information, contact the Sales Support Department at crmsales@spexcsp.com.

Date of Certification: 1-26-2021

Certifying Officer: Shannon Nave

Report of Certification

Catalog Number: ECS-A-030 **Lot No.** AA210126005

Description: Base/Neutrals Mix 1

Matrix: Methylene Chloride

Manufactured Date: 1-26-2021

Expiration Date: 1-26-2024

This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001:2008, ISO 17025:2005, and ISO Guide 34:2009 Quality System consistent with the following standards:

- ISO 9001:2008: Quality management systems - Requirements - Certified by UL-DQS
- ISO 17025:2005: General Requirements for the Competence of Testing and Calibration Laboratories - Accredited by A2LA
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- ISO Guide 31:2000: Reference Materials - Contents of Certificates and Labels
- ISO Guide 35:2006: Reference Materials - General and statistical principals for certification
- Guide to the Expression of Uncertainty in Measurement 1997
- EURACHEM/CITAC Guide: Qualifying Uncertainty in Analytical Measurements - Second Edition
- ASTM Guide D6362-98
- NIST Technical Note 1297
- ILAC-G12-2000: Guidelines for the requirements for the competence of reference material producers
- ISO/REMCO N280

Storage Requirements:

To ensure the stability of the product once it arrives in your laboratory, please store this product in a refrigerator (2°C to 8°C). Note: Shipping conditions may differ from storage conditions. The EXPIRATION DATE is calculated from the MANUFACTURED DATE using our stability data and is applicable only if the product is unopened and stored under the prescribed conditions.

Instructions for Use:

Let material come to room temperature before use. Check for precipitate and if necessary sonicate for one minute. If compounds do not dissolve after one minute then sonicate further until the product is dissolved. A clear appearance is acceptable. The minimum recommended amount that should be removed from this vial is 5µL with a 25µL gas tight syringe. All solutions should be thoroughly mixed, by shaking, prior to use. All surfaces that come in contact with the solution must be thoroughly cleaned prior to use. Dilutions should be performed only with Class A volumetric glassware.

Material Source:

All analytes and matrix materials are obtained and verified by SPEX CertiPrep from pre-qualified vendors as per ISO guidelines. Vendor identifications are proprietary, however sources of all materials used in the preparation and testing of SPEX CertiPrep CRMs are tracked and documented. For assistance, please contact sales support at crmsales@spexcsp.com.

Method of Preparation:

Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, and analytical instrumentation have been qualified prior to use. The highest purity solvents and Class A / calibrated volumetrics have been been used in all preparations.

Homogeneity:

The homogeneity of this CRM has been confirmed by procedures consistent with ISO 17025:2005, ISO Guide 34:2009, and ASTM D6362-98 Appendix X2. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedure 4300-HOMOGEN-1A. This is consistent with the intended use of this CRM. The Degree of Homogeneity, as expressed as maximum between-bottle variation, is 1.2%

Statistical Estimator and Confidence Limits:

The Certified value 'X' as listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X=certified value, U=expanded uncertainty, x=property value
- $U = ku_c$ where k=2 is the coverage factor at the 95% confidence level
- u_c = combined standard uncertainty obtained by combining the individual compound standard uncertainty components u_i where $u_c = \sqrt{\sum u_i^2}$

Legal Notice:

SPEX CertiPrep Certified Reference Materials are not for any cosmetic, drug, or household application and are to be used only by qualified individuals who are trained in appropriate procedures. No claims against SPEX CertiPrep of any kind whatsoever, whether based on breech of warranty, alleged negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall SPEX CertiPrep be liable for any loss of profits or any incidental, special, or consequential damages.

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Agilent

Certificate of Analysis

Product Name: 1-Methylnaphthalene Standard

Product Number: EPA-1225-1 **Lot Issue Date:** 19-Jul-2021

Lot Number: 0006624769 **Expiration Date:** 31-Jul-2023

Description:
This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	Concentration ± Uncertainty
1-methylnaphthalene	000090-12-0	RM07712	999.3 ± 5.0 µg/mL

Matrix: methanol (methyl alcohol)

Storage Conditions: Store at Room Temperature (15° to 30°C).

Traceability:
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:
This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Hazards:
Refer to the Safety Data Sheet on www.agilent.com for information regarding this RM.

Expiration of Certification:
The certification of this RM is valid until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

Maintenance of Certification:
If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

K004543
1-Methylnaphthalene
Solvent / Lot: MEOH
Prep: 5/11/2022 by JZ
Exp: 7/31/2023
Location:

5/11/22

Sample lot approver:
Monica Bourgeois
QMS Representative

ANAB ACCREDITED ISO17034 REFERENCE MATERIAL PRODUCER
ISO 17034 Cert No. AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026
Page: 1 of 1
www.agilent.com/quality/
CSD-QA-015.1

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
ISO 17025 Cert No. AT-1937

Agilent

Certificate of Analysis

Product Name: Toxic Substances Standard

Product Number: US-104N-1 **Lot Issue Date:** 02-Jul-2021

Lot Number: 0006620643 **Expiration Date:** 31-Jul-2023

Description:
This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	Concentration ± Uncertainty
aniline	000062-53-3	RM12853	2005 ± 10 µg/mL
benzyl alcohol	000100-51-6	RM10547	2004 ± 10 µg/mL
4-chloroaniline	000106-47-8	RM01886	2002 ± 10 µg/mL
dibenzofuran	000132-64-9	RM02077	2002 ± 10 µg/mL
2-methylnaphthalene	000091-57-6	RM01258	2006 ± 10 µg/mL
2-nitroaniline	000088-74-4	RM02402	2003 ± 10 µg/mL
3-nitroaniline	000099-09-2	RM02424	2003 ± 10 µg/mL
4-nitroaniline	000100-01-6	RM02425	2003 ± 10 µg/mL

Matrix: methylene chloride (dichloromethane)

Storage Conditions: Store at Room Temperature (15° to 30°C).

Traceability:
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:
This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

K004544
toxic sub mix#2
Solvent / Lot: methylene chloride
Prep: 5/11/2022 by JZ
Exp: 7/31/2023
Location:

05/11/22

ANAB ACCREDITED ISO17034 REFERENCE MATERIAL PRODUCER
ISO 17034 Cert No. AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026

www.agilent.com/quality/
CSD-QA-015.1

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
ISO 17025 Cert No. AT-1937

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31493 **Lot No.:** A0181243

Description : CLP 04.1 BNA Surrogate Mix

CLP 04.1 BNA Surrogate Mix 1000-1500 µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2025 **Storage:** 10°C or colder

Handling: Sonicate prior to use. **Ship:** Ambient

05/11/22

K004545
CLP 04.1 BNA SURR MIX
Solvent / Lot: AO175316
Prep: 5/11/2022 by JZ
Exp: 10/20/2025
Location:

Elution Order	Compound	Gr (weig					
1	2-Fluorophenol **CAS #** 367-12-4 (Lot STBJ2508) **Purity** 99%	1,50				µg/mL	Stressed
				+/-	53.3632	µg/mL	Stressed
2	Phenol-d6 **CAS #** 13127-88-3 (Lot PR-31262) **Purity** 99%	1,506.0	µg/mL	+/-	8.9452	µg/mL	Gravimetric
				+/-	43.9882	µg/mL	Unstressed
				+/-	53.3632	µg/mL	Stressed
3	2-Chlorophenol-d4 **CAS #** 93951-73-6 (Lot PR-30568) **Purity** 99%	1,510.0	µg/mL	+/-	8.9689	µg/mL	Gravimetric
				+/-	44.1050	µg/mL	Unstressed
				+/-	53.5049	µg/mL	Stressed
4	1,2-Dichlorobenzene-d4 **CAS #** 2199-69-1 (Lot PR-32542/022621DB1 **Purity** 99%	1,004.0	µg/mL	+/-	5.9635	µg/mL	Gravimetric
				+/-	29.3255	µg/mL	Unstressed
				+/-	35.5754	µg/mL	Stressed
5	Nitrobenzene-d5 **CAS #** 4165-60-0 (Lot PR-29940A) **Purity** 99%	1,008.0	µg/mL	+/-	5.9872	µg/mL	Gravimetric
				+/-	29.4423	µg/mL	Unstressed
				+/-	35.7172	µg/mL	Stressed
6	2-Fluorobiphenyl **CAS #** 321-60-8 (Lot 19169) **Purity** 99%	1,006.0	µg/mL	+/-	5.9753	µg/mL	Gravimetric
				+/-	29.3839	µg/mL	Unstressed
				+/-	35.6463	µg/mL	Stressed
7	2,4,6-Tribromophenol **CAS #** 118-79-6 (Lot MKCJ7664) **Purity** 99%	1,506.0	µg/mL	+/-	8.9452	µg/mL	Gravimetric
				+/-	43.9882	µg/mL	Unstressed
				+/-	53.3632	µg/mL	Stressed

Certificate of Analysis

phenova Certified Reference Materials | A Phenomenex Company

Produced by Phenova
6390 Joyce Drive STE 100, Golden, CO 80403 USA ▪ Tel: 303-940-0033 ▪ Fax: 303-940-0043 ▪ info@phenova.com
Access your Safety Data Sheets and digital Certificates at **www.phenova.com/documents.**

Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101246
Description: Benzoic Acid
Storage: 4 °C
Provided As: 1 mL in 2 mL Ampoule in Methylene Chloride

Lot Number: CL17953
Certification Date: January 31, 2022
Expiration Date: January 31, 2032

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Benzoic acid	65-85-0	2000	± 2.714%

K004603
Benzoic Acid @2000ug/ml
Solvent / Lot: N/A
Prep: 5/13/2022 by JZ
Exp: 1/31/2032
Location: GC

5/13/22

ACCREDITED
Reference Material Producer
Certicate No. 2427.02

phenova Certified Reference Materials | A Phenomenex Company

Phenova is an accredited ISO/IEC 17034 Reference Material Producer and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ACCREDITED
Chemical Testing Laboratory
Certicate No. 2427.03

IL64691018 us

Certificate of Analysis

phenova Certified Reference Materials | A Phenomenex Company

Produced by Phenova
6390 Joyce Drive STE 100, Golden, CO 80403 USA ▪ Tel: 303-940-0033 ▪ Fax: 303-940-0043 ▪ info@phenova.com
Access your Safety Data Sheets and digital Certificates at **www.phenova.com/documents.**

Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101244
Description: Benzidines Standard
Storage: 4 °C
Provided As: 1 mL in 2 mL Ampoule in Methylene Chloride

Lot Number: CL17662
Certification Date: December 2, 2021
Expiration Date: November 30, 2031

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Benzidine	92-87-5	2000	± 0.211%
3,3'-Dichlorobenzidine	91-94-1	2000	± 1.305%

K004604
Benzidines std @2000ug/ml
Solvent / Lot: MeCl2
Prep: 5/13/2022 by JZ
Exp: 11/30/2031
Location: GC

5/13/22

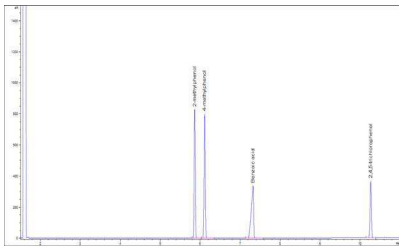
Supelco®

www.sigmaaldrich.com

Certificate of Analysis - Certified Reference Material

EPA TCL Hazardous Substances Mix 1

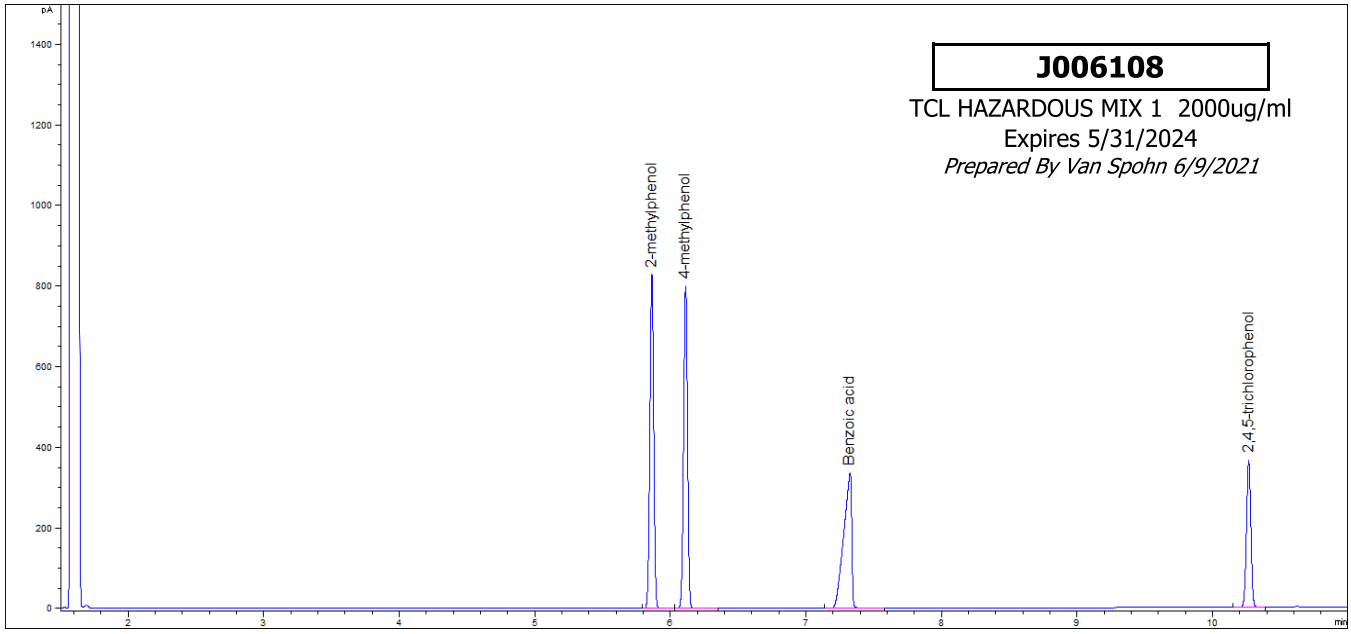
Product no.: 48907
Lot no.: LRAC9610
Expiry Date: May 2024
Manufacturing Date: May 2021
Storage: Refrigerate
Solvent/Matrix: DICHLOROMETHANE
Certificate version: LRAC9610.01 *(Note: Certificates may be updated due to the availability of new data. Check our website at: www.sigma-aldrich.com for the most current version.)*



Certified Values:

Analyte	*Certified Value*	*Units*	*Raw Material Purity,%*	*Elution order*	*Raw Material Lot*
2-METHYLPHENOL CAS# 95-48-7	2004 ± 9	µg/mL	99.0	1	G1735A
4-METHYLPHENOL CAS# 106-44-5	2004 ± 13	µg/mL	98.9	2	06921MG
BENZOIC ACID CAS# 65-85-0	2012 ± 6	µg/mL	99.9	3	LC16514
2,4,5-TRICHLOROPHENOL CAS# 95-95-4	2003 ± 6	µg/mL	99.9	4	JS00008

Informational Values:



Additional Information:
Analytical Method Parameters:
Column: Equity-5, 30 m × 0.53 mm I.D., 1.5 µm film thickness (Column #98)
Carrier Gas: H2, Flow: 4.5 mL/min
Inlet Temperature: 170 °C, Injection Volume: 1 µL
Injection Mode: Split, Split Ratio: 20:1

Sigma-Aldrich RTC, 2931 Soldier Springs Rd. Laramie, WY 82070, USA;
Tel. 1 307-742-5452; Fax 1 855-831-9211; www.sigmaaldrich.com
Sigma-Aldrich RTC is a subsidiary of Merck KGaA, Darmstadt, Germany.

Temperature Program: 80 °C @ 10 °C/min to 190 °C (Hold 5 min)
Detector: FID
Detector Temperature: 310 °C

Metrological traceability: Traceable to the SI and higher order standards from NIST through an unbroken chain of comparisons. The balance used to weigh raw materials is accurate to +/-0.0001 g and calibrated regularly using mass standards traceable to NIST. All dilutions were performed gravimetrically. Additionally, individual analytes are traceable to NIST SRMs where available and specified above.

Measurement method: Where applicable, the assigned value is based on a purity determination by mass balance and gravimetrically prepared value.

Intended use: Intended for R&D and Analytical Use only. Not for drug, household or other uses.

Packaging: 1 mL in amber ampule

Instructions for handling and correct use: Use on the as is basis. The internal pressure of the container may be slightly different from the atmospheric pressure at the user`s location. Open slowly and carefully to avoid dispersion of the material.

Health and safety information: All chemical reference materials should be considered potentially hazardous and should be used only by qualified laboratory personnel. Please refer to the Safety Data Sheet for detailed information about the nature of any hazard and appropriate precautions to be taken.

Accreditation: Sigma-Aldrich RTC is accredited by the US accreditation authority ANAB as a registered reference material producer AR-1470 in accordance with ISO 17034.

Certificate issue date: 20-May-2021

Andy Ommen - QC Manager

Mark Pooler - QA Supervisor

Details on metrological traceability: This standard has been gravimetrically prepared using balances that have been fully qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error. Fill volume to predetermined specifications is gravimetrically verified throughout the dispensing process using qualified and calibrated balances. Further traceability to a corresponding Primary Standard may be achieved through a direct comparison assay. Where a Primary Standard is available, the assay value will be included in the specified section of the COA.

Associated uncertainty: Ucrm - Uncertainty values in this document are expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k, which is obtained from a *t*-distribution and degrees of freedom. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long term stability, and short term stability (transport). The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies. The mathematical representation of the Ucrm calculation is as follows:

$$u_{CRM} = \sqrt{u_{char}^2 + u_{\text{hom}\ ogeneity}^2 + u_{stability}^2}$$

Homogeneity assessment: Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared by Single Factor Analysis of Variance (ANOVA). The uncertainty due to homogeneity was derived from the ANOVA. Heterogeneity was not detected under the conditions of the ANOVA.

Stability assessment: Significance of the stability assessment will be demonstrated if the analytical result of the study and the range of values represented by the Expanded Uncertainty do not overlap the result of the original assay and the range of its values represented by the Expanded Uncertainty. The method employed will usually be the same method used to characterize the assay value in the initial

Certificate of analysis revision history:

Certificate version	Date	Reason for version
LRAC9610.01	20-May-2021	Original Release Date

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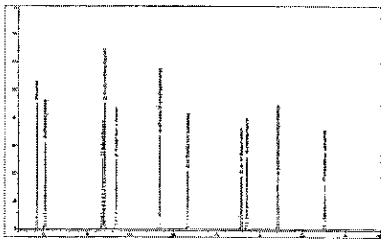
Certificate of Analysis - Certified Reference Material

EPA TCL Phenols Mix

Product no.: 48904
Lot no.: LRAD0139
Expiry Date: July 2024
Manufacturing Date: July 2021
Storage: REFRIGERATE
Solvent/Matrix: DICHLOROMETHANE
Certificate version: LRAD0139.01 *(Note: Certificates may be updated due to the availability of new data. Check our website at: www.sigma-aldrich.com for the most current version.)*



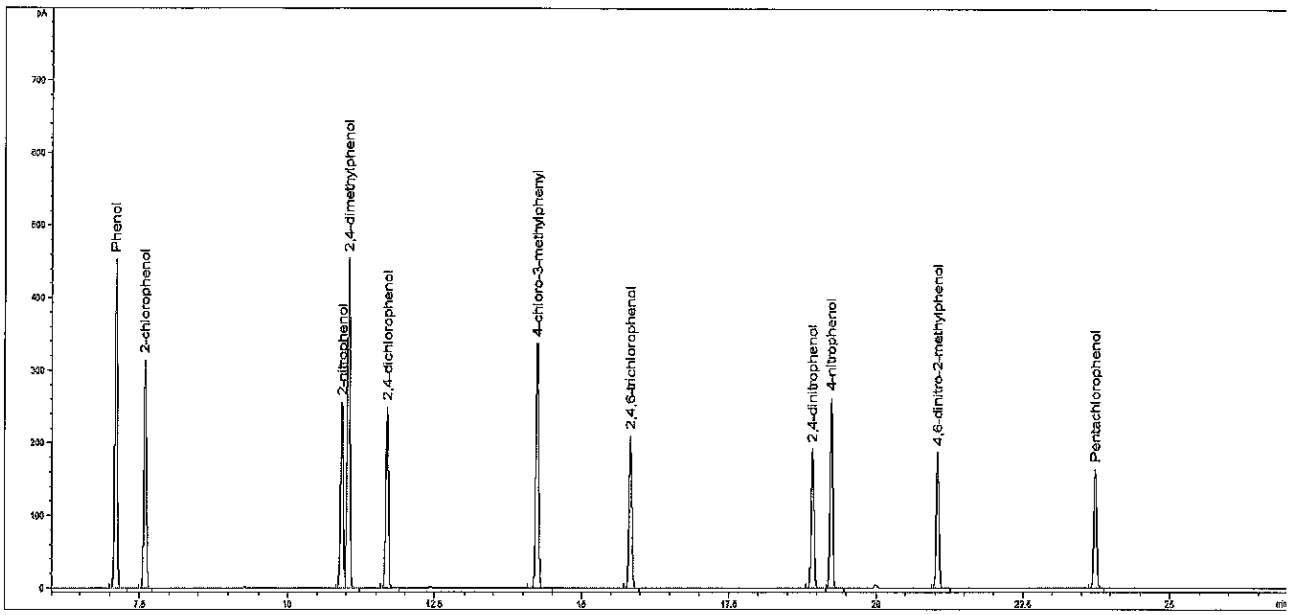
Certified Values:

Analyte	*Certified Value*	*Units*	*Raw Material Purity,%*	*Raw Material Lot*
2-CHLOROPHENOL CAS# 95-57-8	2001 ± 25	µg/mL	99.9	STBG3033V
2-NITROPHENOL CAS# 88-75-5	1999 ± 18	µg/mL	99.3	15905BB
2,4-DIMETHYLPHENOL CAS# 105-67-9	2000 ± 14	µg/mL	99.2	05421CO
2,4-DICHLOROPHENOL CAS# 120-83-2	2000 ± 17	µg/mL	99.5	03221TN
4-CHLORO-3-METHYLPHENOL CAS# 59-50-7	2000 ± 5	µg/mL	99.9	JS00013
2,4,6-TRICHLOROPHENOL CAS# 88-06-2	2002 ± 5	µg/mL	99.5	04212PS
2,4-DINITROPHENOL CAS# 51-28-5	2000 ± 28	µg/mL	66.9	STBJ5751
4-NITROPHENOL CAS# 100-02-7	2000 ± 33	µg/mL	99.0	04628LT
2-METHYL-4,6-DINITROPHENOL CAS# 534-52-1	2000 ± 27	µg/mL	99.7	LC18338
PENTACHLOROPHENOL CAS# 87-86-5	1999 ± 25	µg/mL	97.9	MKCD2150

ASSAY Method

J013597
TCL Phenols Mix 2000ug/ml
Solvent / Lot: LRAD0139
Prep: 12/30/2021 by VS
Exp: 7/31/2024
Location:

Sigma-Aldrich RTC, 2931 Soldier Springs Rd. Laramie, WY 82070, USA;
Tel. 1 307-742-5452; Fax 1 855-831-9211; www.sigmaaldrich.com
Sigma-Aldrich RTC is a subsidiary of Merck KGaA, Darmstadt, Germany.



METHOD: GC (Bellefonte Method)

Column: SPB-5, 30 m × 0.53 mm I.D., 1.5 µm film thickness
Carrier Gas: H_2 Flow Rate: 4.5 mL/min
Inlet Temperature: 200 °C Injection Volume: 1.0 µL
Injection Mode: 25:1
Temperature Program: 80 °C (Hold 2 min) @ 6 °C/min to 260 °C (Hold 5 min)
Detector: FID Temperature: 310 °C

Elution details:

EO	RT(MIN)	ANALYTE
1	7.095	Phenol
2	7.585	2-chlorophenol
3	10.925	2-nitrophenol
4	11.037	2,4-dimethylphenol
5	11.696	2,4-dichlorphenol
6	14.242	4-chloro-3-m3thylphenol
7	15.842	2,4,6-trichlorophenol
8	18.93	2,4-dinitrophenol
9	19.25	4-nitrophenol
10	21.05	4,6-dinitro-2-methylphenol
11	23.752	Pentachlorophenol

Metrological traceability: Traceable to the SI and higher order standards from NIST through an unbroken chain of comparisons. The balance used to weigh raw materials is accurate to +/-0.0001 g and calibrated regularly using mass standards traceable to NIST. All dilutions were performed gravimetrically. Additionally, individual analytes are traceable to NIST SRMs where available and specified above.

Measurement method: Where applicable, the assigned value is based on a purity determination by mass balance and gravimetrically prepared value.

Intended use: Intended for R&D and Analytical Use only. Not for drug, household or other uses.

Packaging: 1 mL in amber ampule

Instructions for handling and correct use: Use on the as is basis. The internal pressure of the container may be slightly different from the atmospheric pressure at the user`s location. Open slowly and carefully to avoid dispersion of the material.

Health and safety information: All chemical reference materials should be considered potentially hazardous and should be used only by qualified laboratory personnel. Please refer to the Safety Data Sheet for detailed information about the nature of any hazard and appropriate precautions to be taken.

Accreditation: Sigma-Aldrich RTC is accredited by the US accreditation authority ANAB as a registered reference material producer AR-1470 in accordance with ISO 17034.

Certificate issue date: 12-Jul-2021

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

Andy Ommen - QC Manager

Mark Pooler - QA Supervisor

Details on metrological traceability: This standard has been gravimetrically prepared using balances that have been fully qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error. Fill volume to predetermined specifications is gravimetrically verified throughout the dispensing process using qualified and calibrated balances. Further traceability to a corresponding Primary Standard may be achieved through a direct comparison assay. Where a Primary Standard is available, the assay value will be included in the specified section of the COA.

Associated uncertainty: Ucrm - Uncertainty values in this document are expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k, which is obtained from a *t*-distribution and degrees of freedom. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long term stability, and short term stability (transport). The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies. The mathematical representation of the Ucrm calculation is as follows:

$$u_{CRM} = \sqrt{u_{char}^2 + u_{hom\ ogeneity}^2 + u_{stability}^2}$$

Homogeneity assessment: Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared by Single Factor Analysis of Variance (ANOVA). The uncertainty due to homogeneity was derived from the ANOVA. Heterogeneity was not detected under the conditions of the ANOVA.

Stability assessment: Significance of the stability assessment will be demonstrated if the analytical result of the study and the range of values represented by the Expanded Uncertainty do not overlap the result of the original assay and the range of its values represented by the Expanded Uncertainty. The method employed will usually be the same method used to characterize the assay value in the initial

Certificate of analysis revision history:

Certificate version	Date	Reason for version
LRAD0139.01	12-Jul-2021	Original Release Date

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Bellefonte, PA 16823-8812
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K007194
CLP 04.1 BNA SURR MIX
Solvent / Lot: AO187400
Prep: 8/5/2022 by VS
Exp: 4/30/2026
Location:

Certificate of Analysis

IAL

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31493 **Lot No.:** A0187400

Description : CLP 04.1 BNA Surrogate Mix

CLP 04.1 BNA Surrogate Mix 1000-1500 µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2026 **Storage:** 10°C or colder

Handling: Sonicate prior to use. **Ship:** Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2-Fluorophenol **CAS #** 367-12-4 (Lot STBJ3299) **Purity** 99%	1,508.0 µg/mL	+/- 8.9571 µg/mL +/- 44.0466 µg/mL +/- 53.4340 µg/mL	Gravimetric Unstressed Stressed
2	Phenol-d6 **CAS #** 13127-88-3 (Lot SL210831) **Purity** 99%	1,510.0 µg/mL	+/- 8.9689 µg/mL +/- 44.1050 µg/mL +/- 53.5049 µg/mL	Gravimetric Unstressed Stressed
3	2-Chlorophenol-d4 **CAS #** 93951-73-6 (Lot PR-30568) **Purity** 99%	1,512.0 µg/mL	+/- 8.9808 µg/mL +/- 44.1635 µg/mL +/- 53.5758 µg/mL	Gravimetric Unstressed Stressed
4	1,2-Dichlorobenzene-d4 **CAS #** 2199-69-1 (Lot PR-32597) **Purity** 99%	1,004.0 µg/mL	+/- 5.9635 µg/mL +/- 29.3255 µg/mL +/- 35.5754 µg/mL	Gravimetric Unstressed Stressed
5	Nitrobenzene-d5 **CAS #** 4165-60-0 (Lot PR-29940A) **Purity** 99%	1,004.0 µg/mL	+/- 5.9635 µg/mL +/- 29.3255 µg/mL +/- 35.5754 µg/mL	Gravimetric Unstressed Stressed
6	2-Fluorobiphenyl **CAS #** 321-60-8 (Lot 00021384) **Purity** 99%	1,004.0 µg/mL	+/- 5.9635 µg/mL +/- 29.3255 µg/mL +/- 35.5754 µg/mL	Gravimetric Unstressed Stressed
7	2,4,6-Tribromophenol **CAS #** 118-79-6 (Lot MKCJ7664) **Purity** 99%	1,502.0 µg/mL	+/- 8.9214 µg/mL +/- 43.8714 µg/mL +/- 53.2214 µg/mL	Gravimetric Unstressed Stressed

8	p-Terphenyl-d14		1,002.0	µg/mL	+/-	5.9516	µg/mL	Gravimetric
	CAS # 1718-51-0	(Lot PR-30504)			+/-	29.2671	µg/mL	Unstressed
	Purity 99%				+/-	35.5046	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

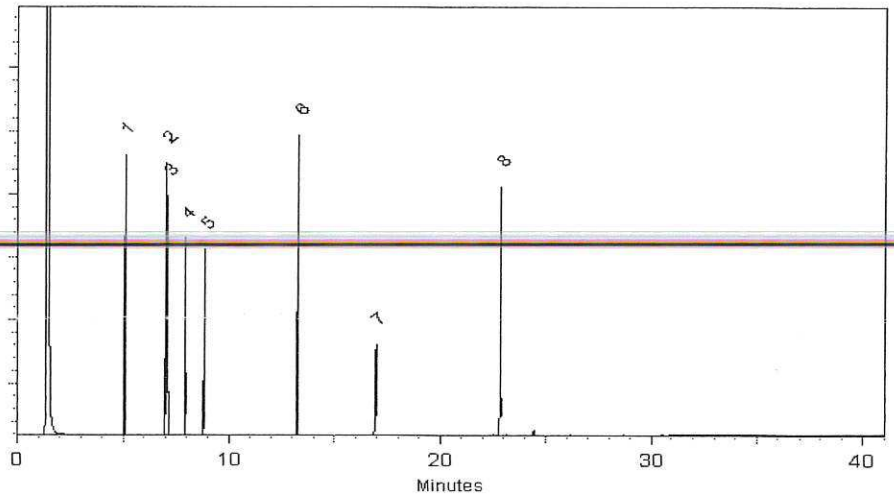
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Bryan Snyder - Operations Tech I

Date Mixed: 17-Jul-2022 **Balance:** 1128353505

Christie Mills - Operations Tech II - ARM QC

Date Passed: 21-Jul-2022

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer) -20°C or colder (Deep Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.

Certificate of Analysis

Produced by Phenova
6390 Joyce Drive STE 100, Golden, CO 80403 USA ▪ Tel: 303-940-0033 ▪ Fax: 303-940-0043 ▪ info@phenova.com
Access your Safety Data Sheets and digital Certificates at **www.phenova.com/documents.**

Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL18355
Certification Date: July 25, 2022
Expiration Date: August 31, 2023

K007995
SVOA-8270 LCS MIX 1000ug/ml
Solvent / Lot: N/A
Prep: 8/29/2022 by JZ
Exp: 8/31/2023
Location: FREEZER 44

Aaron Dukes, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Acenaphthene	83-32-9	1000	± 0.300%
Acenaphthylene	208-96-8	1000	± 0.225%
Anthracene	120-12-7	1000	± 6.858%
Azobenzene	103-33-3	1000	± 0.224%
Benzo(a)anthracene	56-55-3	1000	± 0.247%
Benzo(a)pyrene	50-32-8	1000	± 0.270%
Benzo(b)fluoranthene	205-99-2	1000	± 0.635%
Benzo(k)fluoranthene	207-08-9	1000	± 0.682%
Benzo(g,h,i)perylene	191-24-2	1000	± 0.272%
Benzyl alcohol	100-51-6	1000	± 0.231%
Benzyl butyl phthalate	85-68-7	1000	± 0.480%
bis(2-Chloroethoxy)methane	111-91-1	1000	± 0.479%
bis(2-Chloroethyl) ether	111-44-4	1000	± 0.479%
bis(2-Chloroisopropyl) ether	108-60-1	1000	± 0.550%
bis(2-Ethylhexyl) adipate	103-23-1	1000	± 0.479%
bis(2-Ethylhexyl) phthalate	117-81-7	1000	± 0.479%
4-Bromophenyl phenyl ether	101-55-3	1000	± 0.479%
Carbazole	86-74-8	1000	± 0.146%

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Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101444
Lot Number: CL18355
Description: 8270 Calibration Standard
Certification Date: July 25, 2022
Storage: -18 °C
Expiration Date: August 31, 2023
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
4-Chloroaniline	106-47-8	1000	± 0.300%
4-Chloro-3-methylphenol	59-50-7	1000	± 0.545%
2-Chloronaphthalene	91-58-7	1000	± 0.224%
2-Chlorophenol	95-57-8	1000	± 0.507%
4-Chlorophenyl phenyl ether	7005-72-3	1000	± 0.479%
Chrysene	218-01-9	1000	± 0.145%
Dibenz(a,h)anthracene	53-70-3	1000	± 1.058%
Dibenzofuran	132-64-9	1000	± 0.302%
Di-n-butyl phthalate	84-74-2	1000	± 0.518%
1,2-Dichlorobenzene	95-50-1	1000	± 0.247%
1,3-Dichlorobenzene	541-73-1	1000	± 0.225%
1,4-Dichlorobenzene	106-46-7	1000	± 0.224%
2,4-Dichlorophenol	120-83-2	1000	± 0.545%
Diethyl phthalate	84-66-2	1000	± 0.518%
2,4-Dimethylphenol	105-67-9	1000	± 0.507%
Dimethyl phthalate	131-11-3	1000	± 0.518%
1,2-Dinitrobenzene	528-29-0	1000	± 0.361%
1,3-Dinitrobenzene	99-65-0	1000	± 0.300%
1,4-Dinitrobenzene	100-25-4	1000	± 0.242%
2,4-Dinitrophenol	51-28-5	1000	± 0.545%
2,4-Dinitrotoluene	121-14-2	1000	± 1.128%

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Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101444
Lot Number: CL18355
Description: 8270 Calibration Standard
Certification Date: July 25, 2022
Storage: -18 °C
Expiration Date: August 31, 2023
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
2,6-Dinitrotoluene	606-20-2	1000	± 0.224%
Di-n-octyl phthalate	117-84-0	1000	± 0.486%
Fluoranthene	206-44-0	1000	± 0.224%
Fluorene	86-73-7	1000	± 0.224%
Hexachlorobenzene	118-74-1	1000	± 0.152%
Hexachlorobutadiene	87-68-3	1000	± 0.746%
Hexachlorocyclopentadiene	77-47-4	1000	± 0.153%
Hexachloroethane	67-72-1	1000	± 0.300%
Indeno(1,2,3-cd)pyrene	193-39-5	1000	± 0.883%
Isophorone	78-59-1	1000	± 0.145%
2-Methyl-4,6-dinitrophenol	534-52-1	1000	± 0.508%
1-Methylnaphthalene	90-12-0	1000	± 0.479%
2-Methylnaphthalene	91-57-6	1000	± 0.487%
2-Methylphenol	95-48-7	1000	± 0.545%
3-Methylphenol	108-39-4	500	± 0.279%
4-Methylphenol	106-44-5	500	± 0.399%
Naphthalene	91-20-3	1000	± 0.226%
2-Nitroaniline	88-74-4	1000	± 0.224%
3-Nitroaniline	99-09-2	1000	± 0.235%
4-Nitroaniline	100-01-6	1000	± 0.300%
Nitrobenzene	98-95-3	1000	± 0.300%

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Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101444
Lot Number: CL18355
Description: 8270 Calibration Standard
Certification Date: July 25, 2022
Storage: -18 °C
Expiration Date: August 31, 2023
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
2-Nitrophenol	88-75-5	1000	± 0.514%
4-Nitrophenol	100-02-7	1000	± 0.519%
N-Nitrosodimethylamine	62-75-9	1000	± 0.503%
N-Nitrosodiphenylamine	86-30-6	1000	± 0.476%
N-Nitrosodi-n-propylamine	621-64-7	1000	± 0.461%
Pentachlorophenol	87-86-5	1000	± 0.202%
Phenanthrene	85-01-8	1000	± 0.145%
Phenol	108-95-2	1000	± 0.545%
Pyrene	129-00-0	1000	± 0.147%
Pyridine	110-86-1	1000	± 0.503%
2,3,4,6-Tetrachlorophenol	58-90-2	1000	± 0.247%
2,3,5,6-Tetrachlorophenol	935-95-5	1000	± 0.247%
1,2,4-Trichlorobenzene	120-82-1	1000	± 0.224%
2,4,5-Trichlorophenol	95-95-4	1000	± 0.507%
2,4,6-Trichlorophenol	88-06-2	1000	± 0.509%

Notes: The proper chemical name for Bis(2-Chloroiospropyl) ether is 2,2'-oxybis(1-chloropropane). The analytical uncertainty contribution to the expanded uncertainty for 3 and 4-Methylphenol is measured as the total of the two analytes. N-Nitrosodiphenylamine presents as Diphenylamine at 854 µg/mL.

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1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO 17034[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.

4. Handling and Usage Notes: Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

   Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.

12. Period of Validity: The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.
[3] ISO 17034 – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

Certificate of Composition - Analytical Standard

BASE STOCK

Product no.: 22523051
Lot no.: LRAD2751
Expiry Date: June 2024
Manufacturing Date: June 2022
Storage: REFRIGERATE
Solvent/Matrix: DICHLOROMETHANE
Certificate version: LRAD2751.01 (*Note: Certificates may be updated due to the availability of new data. Check our website at: www.sigma-aldrich.com for the most current version.)*

Analyte	*Assigned Value*	*Units*	*Raw Material Purity,%*	*Raw Material Lot*
3,3'-DICHLOROBENZIDINE, 100MG, NEAT CAS# 91-94-1	799	µg/mL	99.8	LRAD2376
2,4-DINITROTOLUENE CAS# 121-14-2	801	µg/mL	97.8	LB46632
2,6-DINITROTOLUENE CAS# 606-20-2	800	µg/mL	99.2	11231AN
HEXACHLOROCYCLOPENTADIENE CAS# 77-47-4	800	µg/mL	96.0	LB95525
N-NITROSODIMETHYLAMINE CAS# 62-75-9	800	µg/mL	95.0	2019-030598 5
PERYLENE CAS# 198-55-0	200	µg/mL	99.6	04101PG
ANILINE CAS# 62-53-3	800	µg/mL	99.9	LA41596
4-CHLOROANILINE CAS# 106-47-8	800	µg/mL	100.0	MKBZ6909V
2-NITROANILINE CAS# 88-74-4	799	µg/mL	99.9	07411KN
3-NITROANILINE CAS# 99-09-2	800	µg/mL	99.9	LC09264
4-NITROANILINE CAS# 100-01-6	800	µg/mL	99.9	15609AA
PYRIDINE (LOW WATER) CAS# 110-86-1	800	µg/mL	100.0	SHBJ9218

Measurement method: Where applicable, the assigned value is based on a purity determination by mass balance and gravimetrically prepared value.

Intended use: Intended for R&D and Analytical Use only. Not for drug, household or other uses.

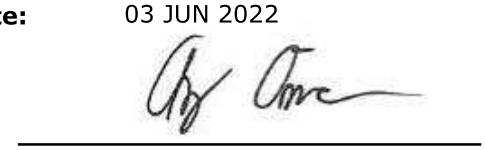
Packaging: 1 mL in amber ampule

Instructions for handling and correct use: Use on the as is basis. The internal pressure of the container may be slightly different from the atmospheric pressure at the user`s location. Open slowly and carefully to avoid dispersion of the material.

Sigma-Aldrich RTC, 2931 Soldier Springs Rd. Laramie, WY 82070, USA;
Tel. 1 307-742-5452; Fax 1 855-831-9211; www.sigmaaldrich.com
Sigma-Aldrich RTC is a subsidiary of Merck KGaA, Darmstadt, Germany.

Health and safety information: All chemical reference materials should be considered potentially hazardous and should be used only by qualified laboratory personnel. Please refer to the Safety Data Sheet for detailed information about the nature of any hazard and appropriate precautions to be taken.

Certificate issue date: 03 JUN 2022



Andy Ommen - QC Manager

Scott Stetler - QA Manager

Certificate of analysis revision history:

Certificate version	Date	Reason for version
LRAD2751.01	03 JUN 2022	Original Release Date

Disclaimer: The purchaser is required to determine the suitability of this product for any particular application. Sigma-Aldrich RTC makes no warranty of any kind, express or implied, other than its products meet all quality control standards set by Sigma-Aldrich RTC. We do not guarantee that the product can be used for any particular application.

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www.sigmaaldrich.com

Certificate of Composition - Analytical Standard

ACID STOCK

Product no.: 22523046
Lot no.: LRAD2750
Expiry Date: June 2024
Manufacturing Date: June 2022
Storage: REFRIGERATE
Solvent/Matrix: DICHLOROMETHANE
Certificate version: LRAD2750.01 (*Note: Certificates may be updated due to the availability of new data. Check our website at: www.sigma-aldrich.com for the most current version.)*

Analyte	*Assigned Value*	*Units*	*Raw Material Purity,%*	*Raw Material Lot*
2,4-DIMETHYLPHENOL CAS# 105-67-9	800	µg/mL	99.9	LB88935
2,4-DICHLOROPHENOL CAS# 120-83-2	800	µg/mL	100.0	BCBZ6787
2,4,5-TRICHLOROPHENOL CAS# 95-95-4	801	µg/mL	99.9	JS00008
2,4-DINITROPHENOL CAS# 51-28-5	1799	µg/mL	66.9	STBJ5751
2,4,6-TRICHLOROPHENOL CAS# 88-06-2	800	µg/mL	98.7	LB82983
4-CHLORO-3-METHYLPHENOL CAS# 59-50-7	800	µg/mL	100.0	BCCD4461
4-NITROPHENOL CAS# 100-02-7	800	µg/mL	100.0	MKCN1089
2-METHYL-4,6-DINITROPHENOL CAS# 534-52-1	1800	µg/mL	100.0	BCBX5762
PENTACHLOROPHENOL CAS# 87-86-5	800	µg/mL	99.0	23614-01
BENZOIC ACID CAS# 65-85-0	1800	µg/mL	99.9	LC16514

Measurement method: Where applicable, the assigned value is based on a purity determination by mass balance and gravimetrically prepared value.

Intended use: Intended for R&D and Analytical Use only. Not for drug, household or other uses.

Packaging: 1 mL in amber ampule

Instructions for handling and correct use: Use on the as is basis. The internal pressure of the container may be slightly different from the atmospheric pressure at the user`s location. Open slowly and carefully to avoid dispersion of the material.

Health and safety information: All chemical reference materials should be considered potentially hazardous and should be used only by qualified laboratory personnel. Please refer to the Safety Data Sheet for detailed information about the nature of any hazard and appropriate precautions to be taken.

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Tel. 1 307-742-5452; Fax 1 855-831-9211; www.sigmaaldrich.com
Sigma-Aldrich RTC is a subsidiary of Merck KGaA, Darmstadt, Germany.

Certificate issue date: 03 JUN 2022

Andy Ommen - QC Manager

Scott Stetler - QA Manager

Certificate of analysis revision history:

Certificate version	Date	Reason for version
LRAD2750.01	03 JUN 2022	Original Release Date

Disclaimer: The purchaser is required to determine the suitability of this product for any particular application. Sigma-Aldrich RTC makes no warranty of any kind, express or implied, other than its products meet all quality control standards set by Sigma-Aldrich RTC. We do not guarantee that the product can be used for any particular application.

Certificate of Analysis

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Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101244
Description: Benzidines Standard
Storage: 4 °C
Provided As: 1 mL in 2 mL Ampoule in Methylene Chloride

Lot Number: CL18939
Certification Date: September 7, 2022
Expiration Date: August 31, 2032

Aaron Dukes, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Benzidine	92-87-5	2000	± 3.812%
3,3'-Dichlorobenzidine	91-94-1	2000	± 1.419%

L001288
Benzidines std @2000ug/ml
Solvent / Lot: CL18939
Prep: 2/7/2023 by VS
Exp: 8/31/2032
Location: GC

ACCREDITED
Reference Material Producer
Certicate No. 2427.02

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Phenova is an accredited ISO/IEC 17034 Reference Material Producer and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ACCREDITED
Chemical Testing Laboratory
Certicate No. 2427.03

IL64631018 us

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Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101443
Lot Number: CL18741
Description: Aniline
Certification Date: July 21, 2022
Storage: 4 °C
Expiration Date: July 31, 2030
Provided As: 1 mL in 2 mL Ampoule in Methylene Chloride

Aaron Dukes, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aniline	62-53-3	1000	± 1.719%

L001290
Anline-1000ug/mL
Solvent / Lot: CL18741
Prep: 2/7/2023 by VS
Exp: 7/31/2030
Location: GC

ACCREDITED
Reference Material Producer
Certicate No. 2427.02

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Phenova is an accredited ISO/IEC 17034 Reference Material Producer and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ACCREDITED
Chemical Testing Laboratory
Certicate No. 2427.03

II.6459.018.us

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Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL18811
Certification Date: August 9, 2022
Expiration Date: November 30, 2023

Aaron Dukes, Certified Reference Materials Manager

L001291
SVOA-8270 LCS MIX 1000ug/ml
Solvent / Lot: CL18811
Prep: 2/7/2023 by VS
Exp: 11/30/2023
Location: FREEZER 44

Component	CAS #	µg/mL	Expanded Uncertainty
Acenaphthene	83-32-9	1000	± 1.643%
Acenaphthylene	208-96-8	1000	± 1.317%
Anthracene	120-12-7	1000	± 2.136%
Azobenzene	103-33-3	1000	± 1.630%
Benzo(a)anthracene	56-55-3	1000	± 2.372%
Benzo(a)pyrene	50-32-8	1000	± 3.028%
Benzo(b)fluoranthene	205-99-2	1000	± 2.377%
Benzo(k)fluoranthene	207-08-9	1000	± 2.286%
Benzo(g,h,i)perylene	191-24-2	1000	± 2.561%
Benzyl alcohol	100-51-6	1000	± 1.803%
Benzyl butyl phthalate	85-68-7	1000	± 1.855%
bis(2-Chloroethoxy)methane	111-91-1	1000	± 1.626%
bis(2-Chloroethyl) ether	111-44-4	1000	± 1.776%
bis(2-Chloroisopropyl) ether	108-60-1	1000	± 2.406%
bis(2-Ethylhexyl) adipate	103-23-1	1000	± 2.415%
bis(2-Ethylhexyl) phthalate	117-81-7	1000	± 2.350%
4-Bromophenyl phenyl ether	101-55-3	1000	± 1.708%
Carbazole	86-74-8	1000	± 1.844%

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Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL18811
Certification Date: August 9, 2022
Expiration Date: November 30, 2023

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
4-Chloroaniline	106-47-8	1000	± 2.831%
4-Chloro-3-methylphenol	59-50-7	1000	± 1.571%
2-Chloronaphthalene	91-58-7	1000	± 2.022%
2-Chlorophenol	95-57-8	1000	± 2.001%
4-Chlorophenyl phenyl ether	7005-72-3	1000	± 1.634%
Chrysene	218-01-9	1000	± 2.358%
Dibenz(a,h)anthracene	53-70-3	1000	± 2.452%
Dibenzofuran	132-64-9	1000	± 0.310%
Di-n-butyl phthalate	84-74-2	1000	± 2.347%
1,2-Dichlorobenzene	95-50-1	1000	± 1.803%
1,3-Dichlorobenzene	541-73-1	1000	± 1.808%
1,4-Dichlorobenzene	106-46-7	1000	± 1.503%
2,4-Dichlorophenol	120-83-2	1000	± 1.393%
Diethyl phthalate	84-66-2	1000	± 1.870%
2,4-Dimethylphenol	105-67-9	1000	± 2.495%
Dimethyl phthalate	131-11-3	1000	± 2.113%
1,2-Dinitrobenzene	528-29-0	1000	± 0.240%
1,3-Dinitrobenzene	99-65-0	1000	± 1.221%
1,4-Dinitrobenzene	100-25-4	1000	± 0.246%
2,4-Dinitrophenol	51-28-5	1000	± 0.519%
2,4-Dinitrotoluene	121-14-2	1000	± 2.242%

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Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101444
Lot Number: CL18811
Description: 8270 Calibration Standard
Certification Date: August 9, 2022
Storage: -18 °C
Expiration Date: November 30, 2023
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
2,6-Dinitrotoluene	606-20-2	1000	± 2.154%
Di-n-octyl phthalate	117-84-0	1000	± 2.670%
Fluoranthene	206-44-0	1000	± 2.103%
Fluorene	86-73-7	1000	± 0.890%
Hexachlorobenzene	118-74-1	1000	± 1.210%
Hexachlorobutadiene	87-68-3	1000	± 1.304%
Hexachlorocyclopentadiene	77-47-4	1000	± 1.510%
Hexachloroethane	67-72-1	1000	± 3.281%
Indeno(1,2,3-cd)pyrene	193-39-5	1000	± 1.921%
Isophorone	78-59-1	1000	± 2.022%
2-Methyl-4,6-dinitrophenol	534-52-1	1000	± 1.661%
1-Methylnaphthalene	90-12-0	1000	± 1.929%
2-Methylnaphthalene	91-57-6	1000	± 2.220%
2-Methylphenol	95-48-7	1000	± 2.168%
3-Methylphenol	108-39-4	500	± 1.025%
4-Methylphenol	106-44-5	500	± 1.064%
Naphthalene	91-20-3	1000	± 1.199%
2-Nitroaniline	88-74-4	1000	± 1.874%
3-Nitroaniline	99-09-2	1000	± 2.146%
4-Nitroaniline	100-01-6	1000	± 0.300%
Nitrobenzene	98-95-3	1000	± 1.704%

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Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL18811
Certification Date: August 9, 2022
Expiration Date: November 30, 2023

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
2-Nitrophenol	88-75-5	1000	± 2.051%
4-Nitrophenol	100-02-7	1000	± 1.413%
N-Nitrosodimethylamine	62-75-9	1000	± 0.545%
N-Nitrosodiphenylamine	86-30-6	1000	± 1.669%
N-Nitrosodi-n-propylamine	621-64-7	1000	± 0.712%
Pentachlorophenol	87-86-5	1000	± 2.454%
Phenanthrene	85-01-8	1000	± 2.072%
Phenol	108-95-2	1000	± 2.140%
Pyrene	129-00-0	1000	± 1.869%
Pyridine	110-86-1	1000	± 0.545%
2,3,4,6-Tetrachlorophenol	58-90-2	1000	± 2.552%
2,3,5,6-Tetrachlorophenol	935-95-5	1000	± 2.220%
1,2,4-Trichlorobenzene	120-82-1	1000	± 1.632%
2,4,5-Trichlorophenol	95-95-4	1000	± 1.596%
2,4,6-Trichlorophenol	88-06-2	1000	± 0.481%

Notes: The proper chemical name for Bis(2-Chloroiospropyl) ether is 2,2'-oxybis(1-chloropropane). The analytical uncertainty contribution to the expanded uncertainty for 3 and 4-Methylphenol is measured as the total of the two analytes. N-Nitrosodiphenylamine presents as Diphenylamine at 854 µg/mL.

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2. Quality Standards: Phenova is accredited by A2LA to ISO 17034[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.

4. Handling and Usage Notes: Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.

12. Period of Validity: The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.
[3] ISO 17034 – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

LDW23-SC1044

ORGANIC ANALYSIS DATA SHEET
EPA 8081B

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Solid	Laboratory ID:	23C0108-02 A	File ID:	23032428.D
Sampled:	03/02/23 15:06	Prepared:	03/10/23 11:13	Analyzed:	03/25/23 00:01
% Solids:	52.74	Preparation:	EPA 3546 (Microwave)	Initial/Final:	23.7 g Wet / 2.5 mL
Batch:	BLC0183	Sequence:	SLC0442	Calibration:	FL00041
Instrument:	ECD6	Column 1:	STX-CLP	Column 2:	STX-CLPII

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
118-74-1	Hexachlorobenzene	1	1	0.19	0.15	0.50	J

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*8.0004*	*7.20*	*90.0*	*30 - 160*	
Decachlorobiphenyl	*2*	*8.0004*	*7.31*	*91.4*	*30 - 160*	
Tetrachlorometaxylene	*1*	*8.0004*	*4.11*	*51.3*	*30 - 160*	
Tetrachlorometaxylene	*2*	*8.0004*	*5.68*	*70.9*	*30 - 160*	

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20230324.b/23032428.D
Data file 2: /20230324.b/B20230324.b/23032428.D
Method: \20230324.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: 23C0108-02
Client ID:
Injection Date: 25-MAR-2023 00:01
Report Date: 03/28/2023 10:50
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
----			----			0.00	0.00	---	alpha-BHC
----			----			0.00	0.00	---	beta-BHC
----			----			0.00	0.00	---	delta-BHC
----			----			0.00	0.00	---	gamma-BHC (Lindane)
----			----			0.00	0.00	---	Heptachlor
----			----			0.00	0.00	---	Aldrin
----			----			0.00	0.00	---	Heptachlor epoxide b
----			----			0.00	0.00	---	Endosulfan I
----			----			0.00	0.00	---	Dieldrin
----			----			0.00	0.00	---	4,4'-DDE
----			----			0.00	0.00	---	Endrin
----			----			0.00	0.00	---	Endosulfan II
----			----			0.00	0.00	---	4,4'-DDD
----			----			0.00	0.00	---	Endosulfan sulfate
----			----			0.00	0.00	---	4,4'-DDT
----			----			0.00	0.00	---	Methoxychlor
----			----			0.00	0.00	---	Endrin ketone
----			----			0.00	0.00	---	Endrin aldehyde
----			----			0.00	0.00	---	trans-Chlordane
----			----			0.00	0.00	---	cis-Chlordane
----			----			0.00	0.00	---	Hexachlorobutadiene
4.206	-0.011	14228	4.659	-0.011	81644	0.94	5.87	145.0*	Hexachlorobenzene M
3.847	-0.010	237658	4.167	-0.011	304784	20.53	28.38	32.1	Tetrachloro-m-xylene MN
9.406	-0.009	151291	10.359	-0.014	180577	36.01	36.57	1.5	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

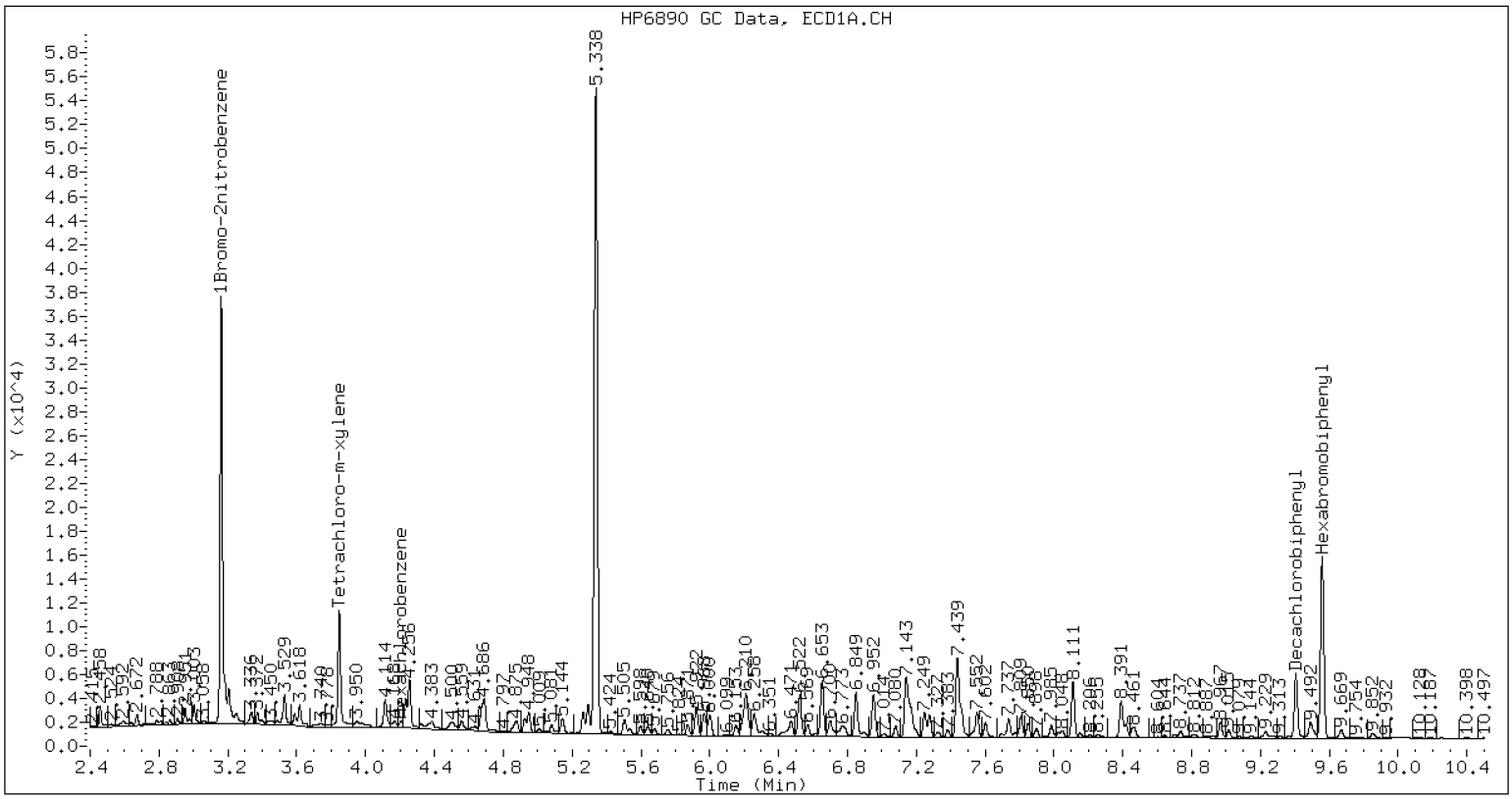
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	672426	851349	26.6
Hexabromobiphenyl	609723	414594	-32.0

Column 2

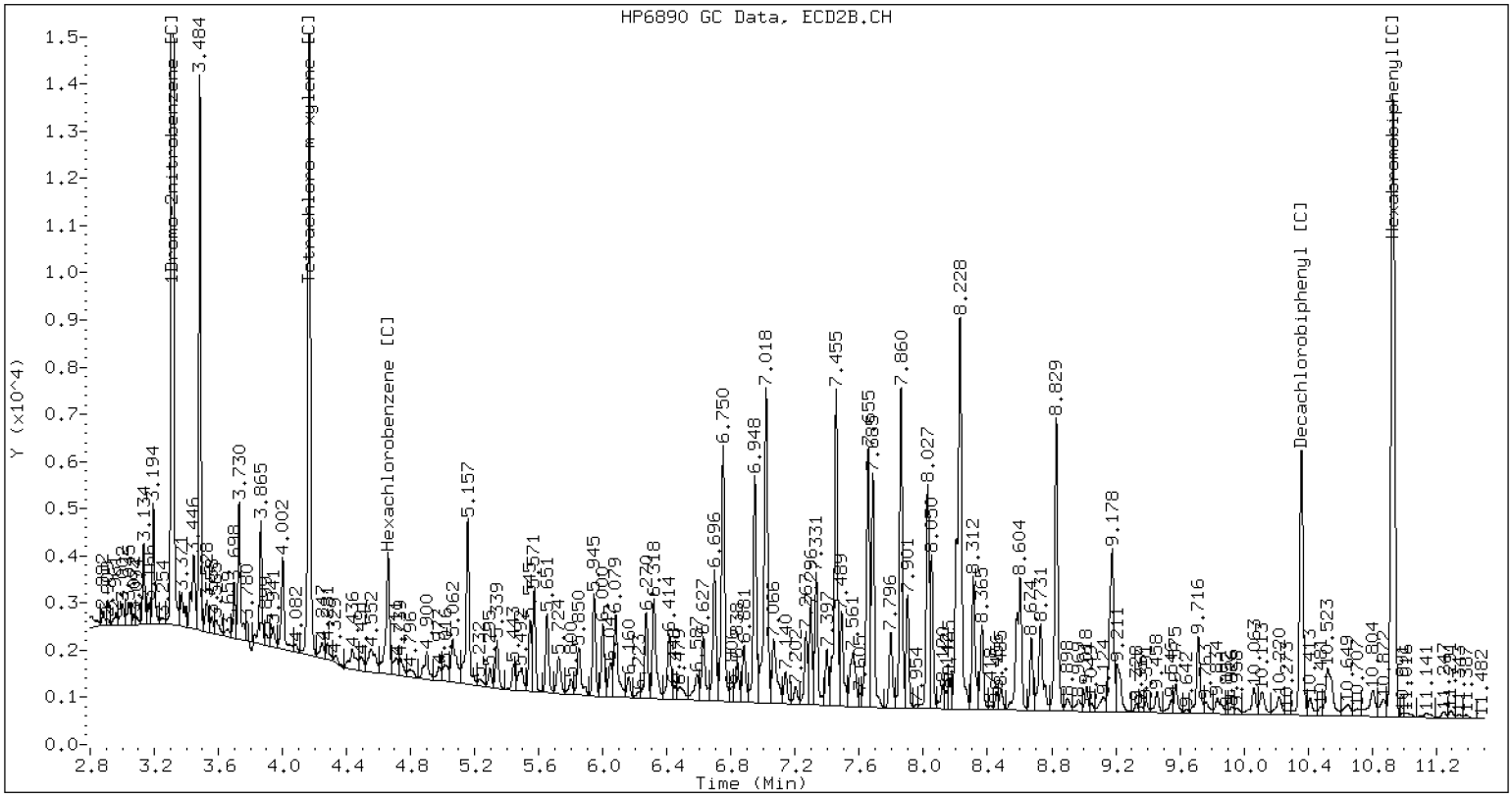
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1006482	763062	-24.2
Hexabromobiphenyl	769764	446828	-42.0

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

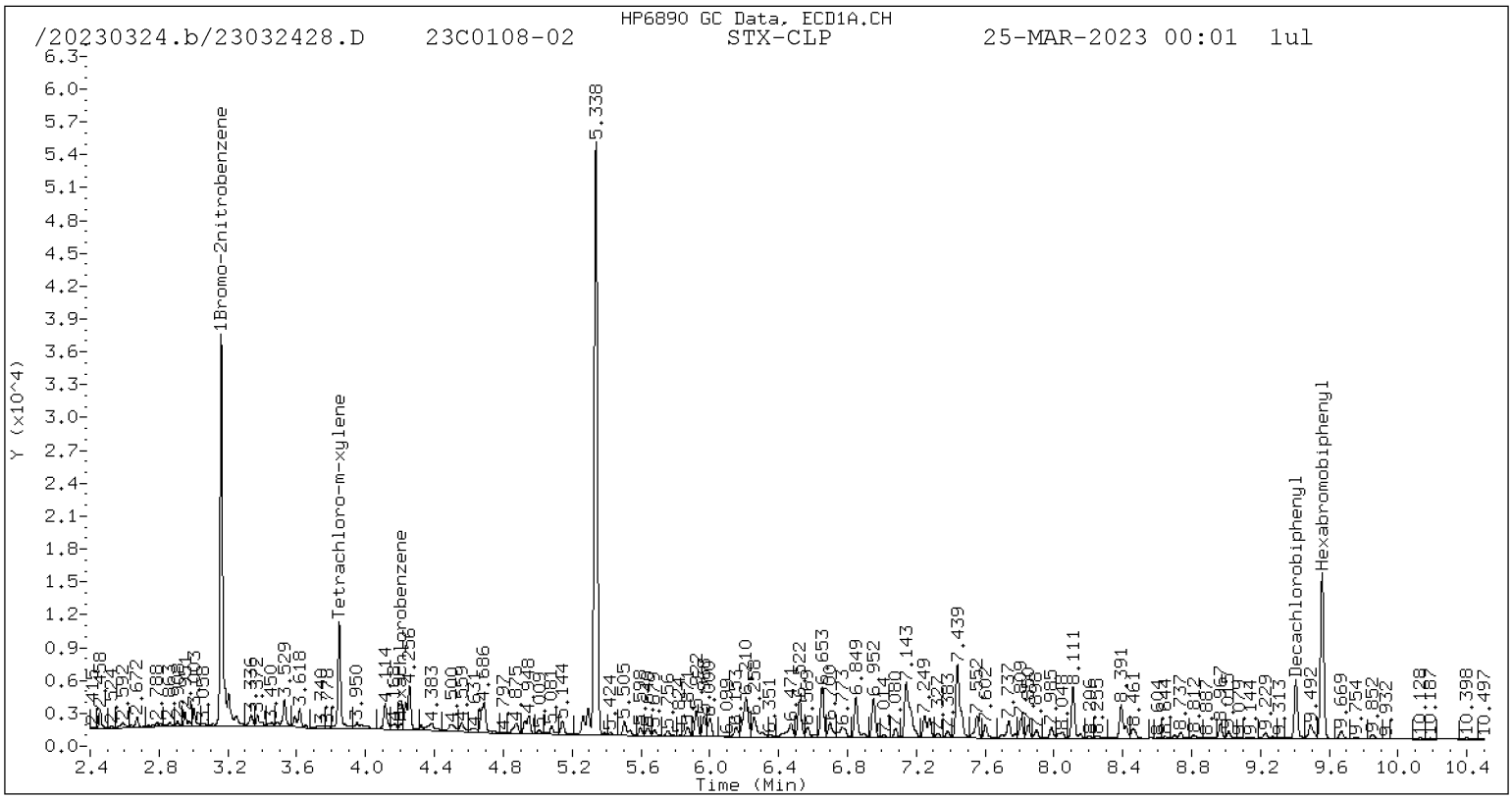
/20230324.b/23032428.D 23C0108-02 STX-CLP 25-MAR-2023 00:01 1ul



/20230324.b/B20230324.b/23032428.D 23C0108-02 CLP2 25-MAR-2023 00:01 1ul

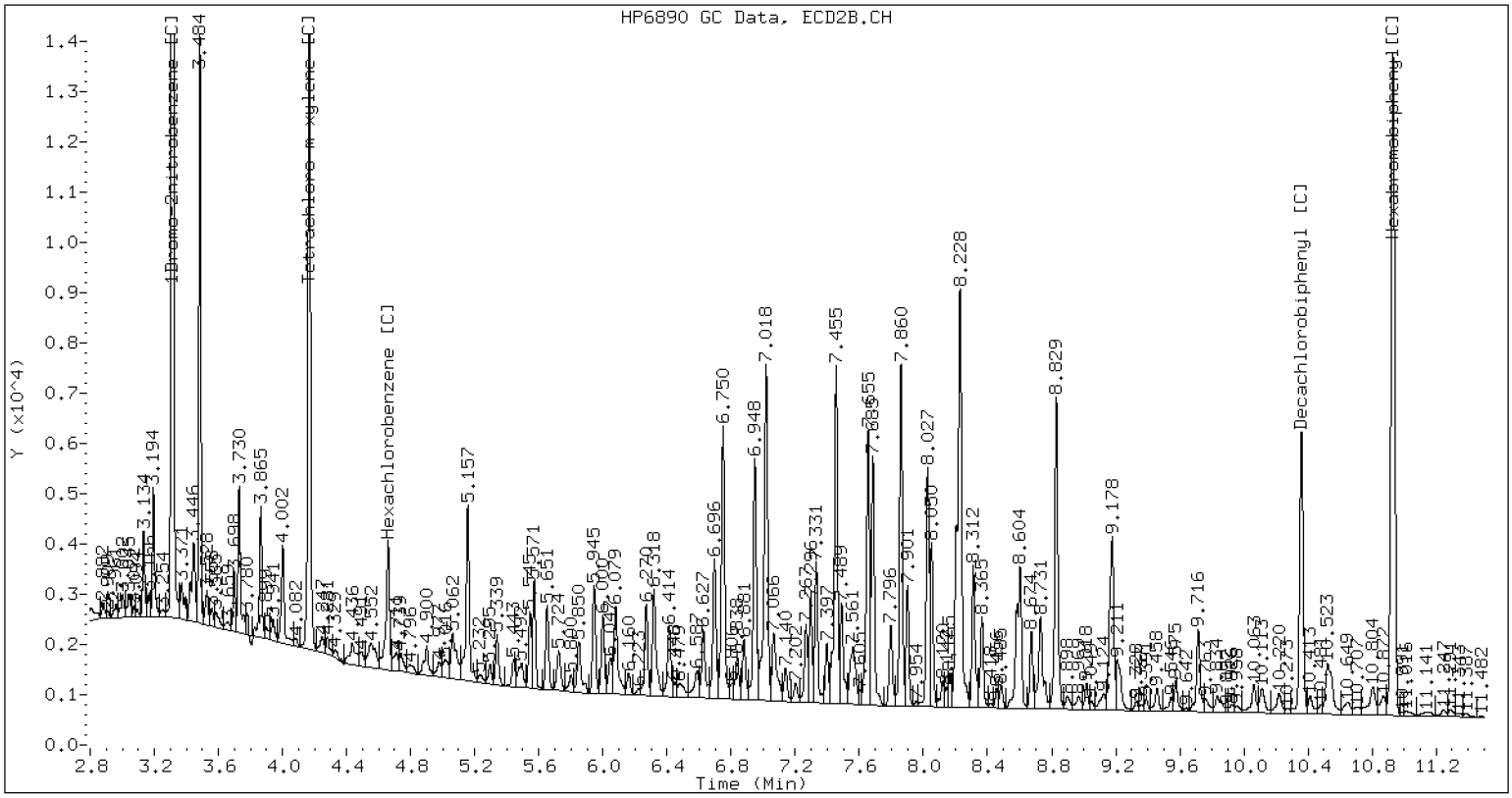


Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: YES

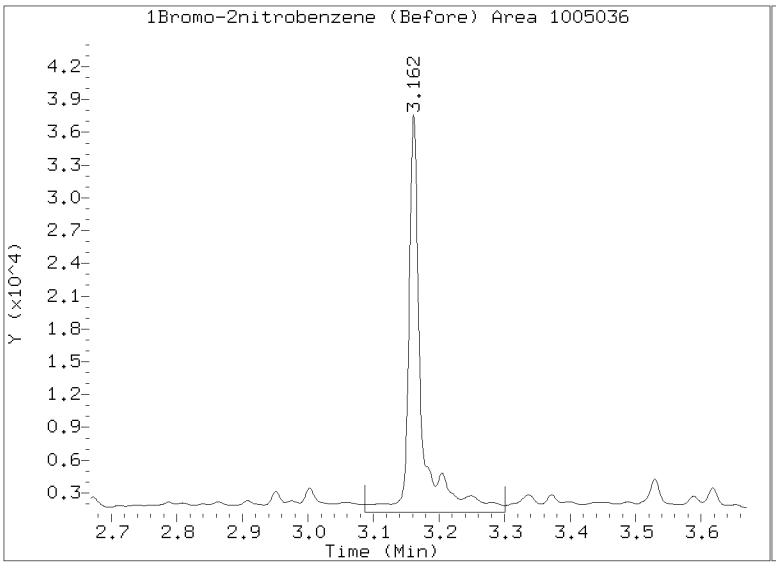
/20230324.b/B20230324.b/23032428.D 23C0108-02 CLP2

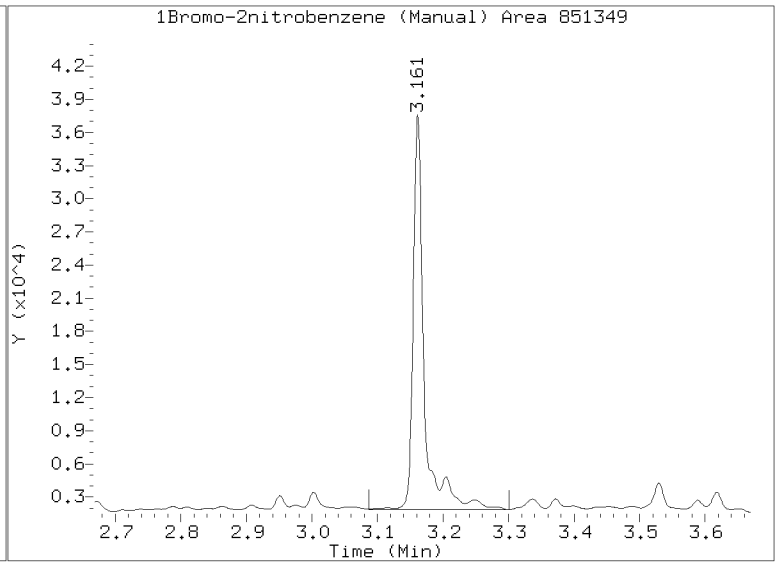


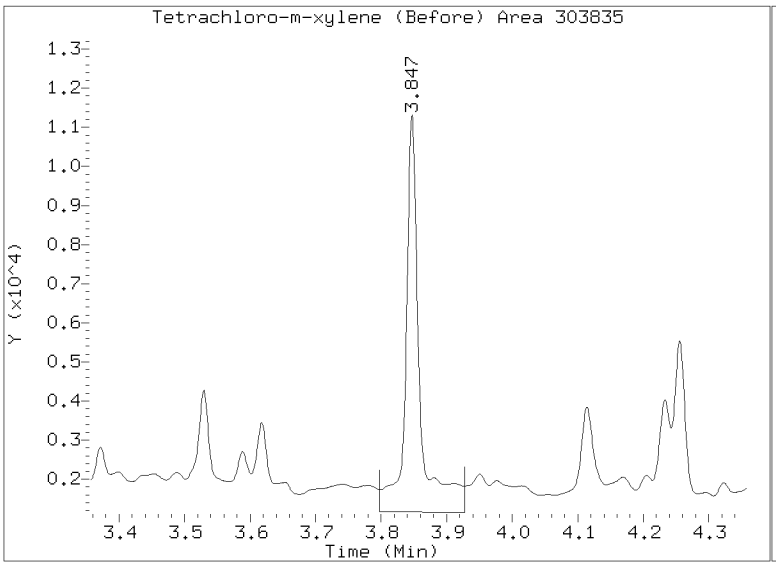
CLP-2 Manual Integration: YES

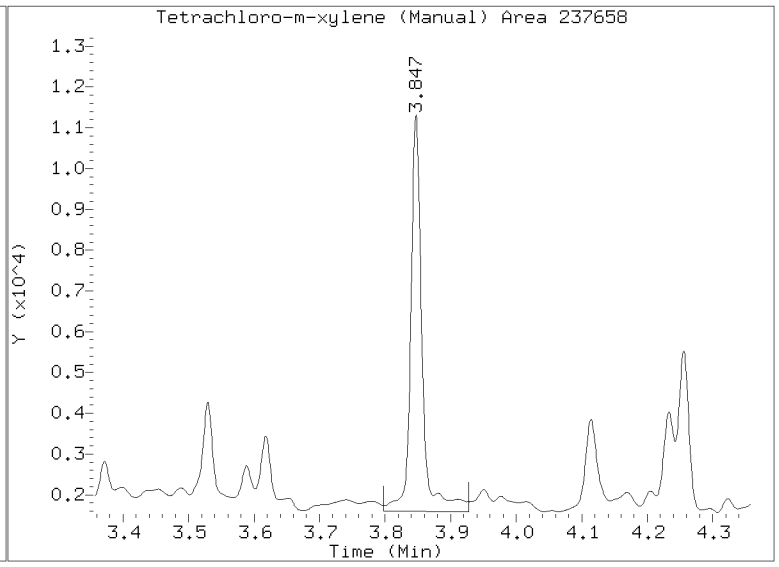
Manual Peak Adjustment Report, STX-CLP

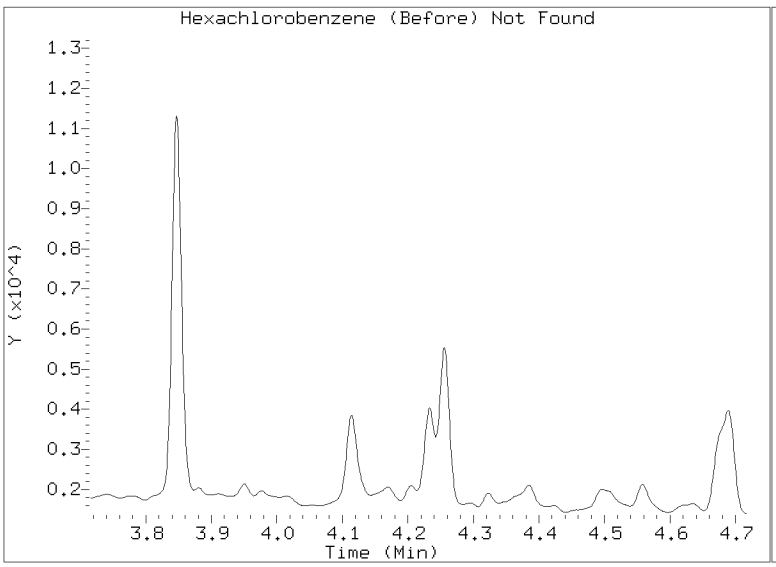
Datafile: /20230324.b/23032428.D
Injection Date: 25-MAR-2023 00:01
Lab ID:23C0108-02 Client ID:
Report Date: 03/28/2023 10:50

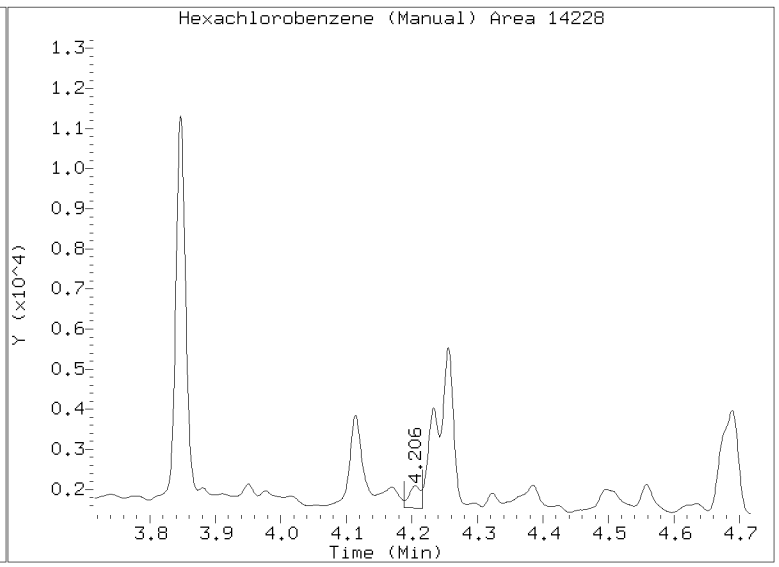






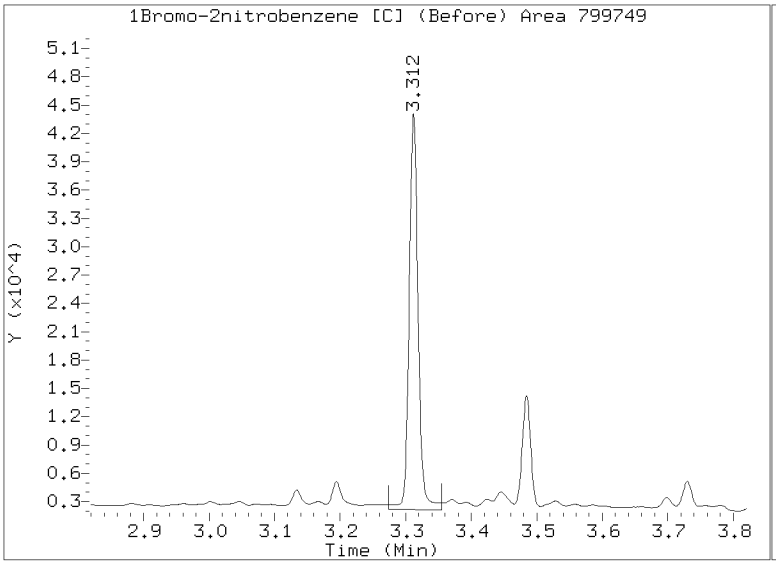


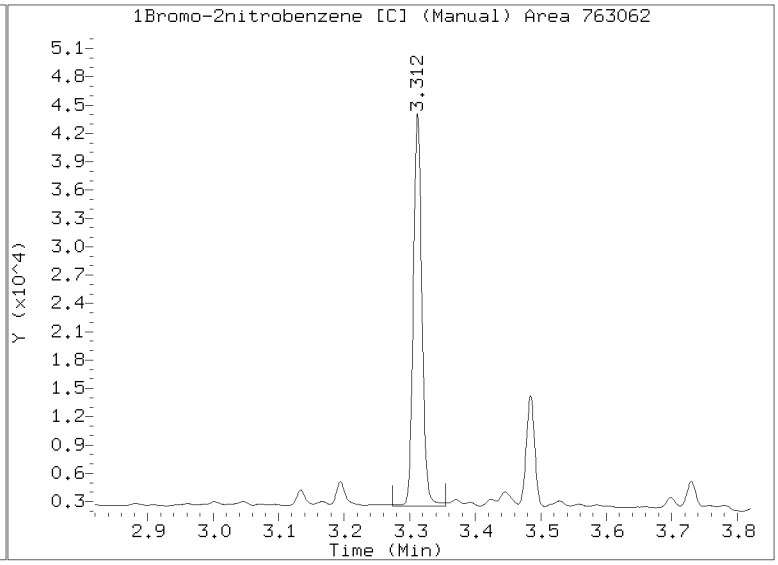


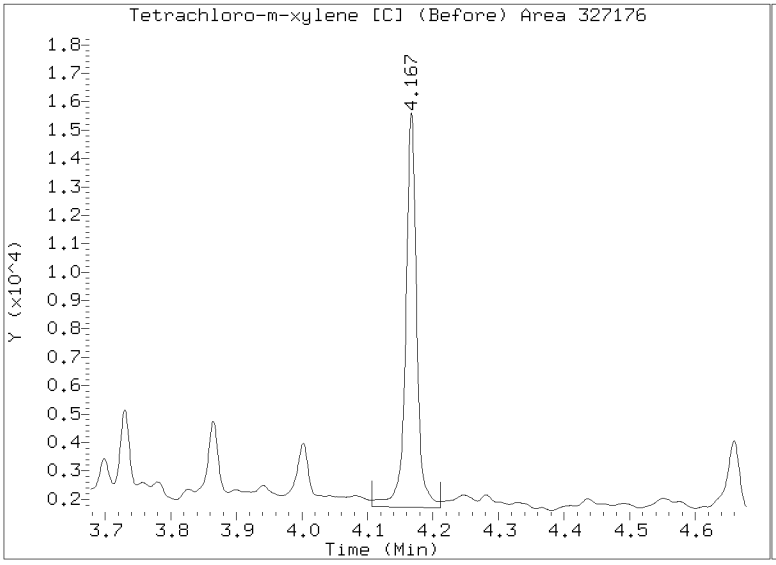


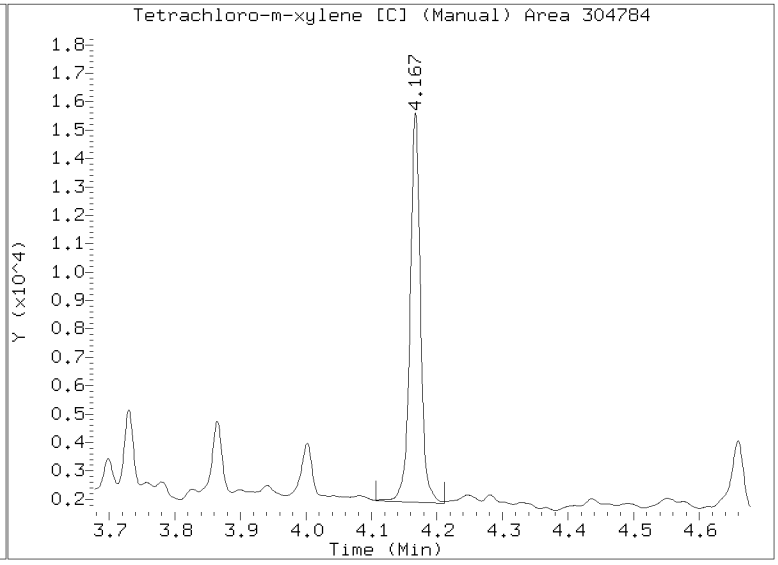
Manual Peak Adjustment Report, CLP-2

Datafile: /20230324.b/B20230324.b/23032428.D
Injection Date: 25-MAR-2023 00:01
Lab ID:23C0108-02 Client ID:









Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

LDW23-SS1106

ORGANIC ANALYSIS DATA SHEET
EPA 8081B

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Solid	Laboratory ID:	23C0108-06 A	File ID:	23032431.D
Sampled:	03/03/23 10:00	Prepared:	03/10/23 11:13	Analyzed:	03/25/23 00:54
% Solids:	43.33	Preparation:	EPA 3546 (Microwave)	Initial/Final:	28.99 g Wet / 2.5 mL
Batch:	BLC0183	Sequence:	SLC0442	Calibration:	FL00041
Instrument:	ECD6	Column 1:	STX-CLP	Column 2:	STX-CLPII

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
118-74-1	Hexachlorobenzene	1	1	0.17	0.14	0.50	J

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9609*	*8.07*	*101*	*30 - 160*	
Decachlorobiphenyl	*2*	*7.9609*	*7.22*	*90.6*	*30 - 160*	
Tetrachlorometaxylene	*1*	*7.9609*	*4.66*	*58.6*	*30 - 160*	
Tetrachlorometaxylene	*2*	*7.9609*	*5.78*	*72.7*	*30 - 160*	

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20230324.b/23032431.D
Data file 2: /20230324.b/B20230324.b/23032431.D
Method: \20230324.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: 23C0108-06
Client ID:
Injection Date: 25-MAR-2023 00:54
Report Date: 03/28/2023 10:50
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
----			----			0.00	0.00	---	alpha-BHC
----			----			0.00	0.00	---	beta-BHC
----			----			0.00	0.00	---	delta-BHC
----			----			0.00	0.00	---	gamma-BHC (Lindane)
----			----			0.00	0.00	---	Heptachlor
----			----			0.00	0.00	---	Aldrin
----			----			0.00	0.00	---	Heptachlor epoxide b
----			----			0.00	0.00	---	Endosulfan I
----			----			0.00	0.00	---	Dieldrin
----			----			0.00	0.00	---	4,4'-DDE
----			----			0.00	0.00	---	Endrin
----			----			0.00	0.00	---	Endosulfan II
----			----			0.00	0.00	---	4,4'-DDD
----			----			0.00	0.00	---	Endosulfan sulfate
----			----			0.00	0.00	---	4,4'-DDT
----			----			0.00	0.00	---	Methoxychlor
----			----			0.00	0.00	---	Endrin ketone
----			----			0.00	0.00	---	Endrin aldehyde
----			----			0.00	0.00	---	trans-Chlordane
----			----			0.00	0.00	---	cis-Chlordane
----			----			0.00	0.00	---	Hexachlorobutadiene
4.205	-0.012	10092	4.656	-0.014	32718	0.87	2.61	100.2*	Hexachlorobenzene M
3.847	-0.010	207573	4.167	-0.012	281555	23.44	29.06	21.4	Tetrachloro-m-xylene M
9.406	-0.009	162849	10.360	-0.013	170283	40.55	36.25	11.2	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

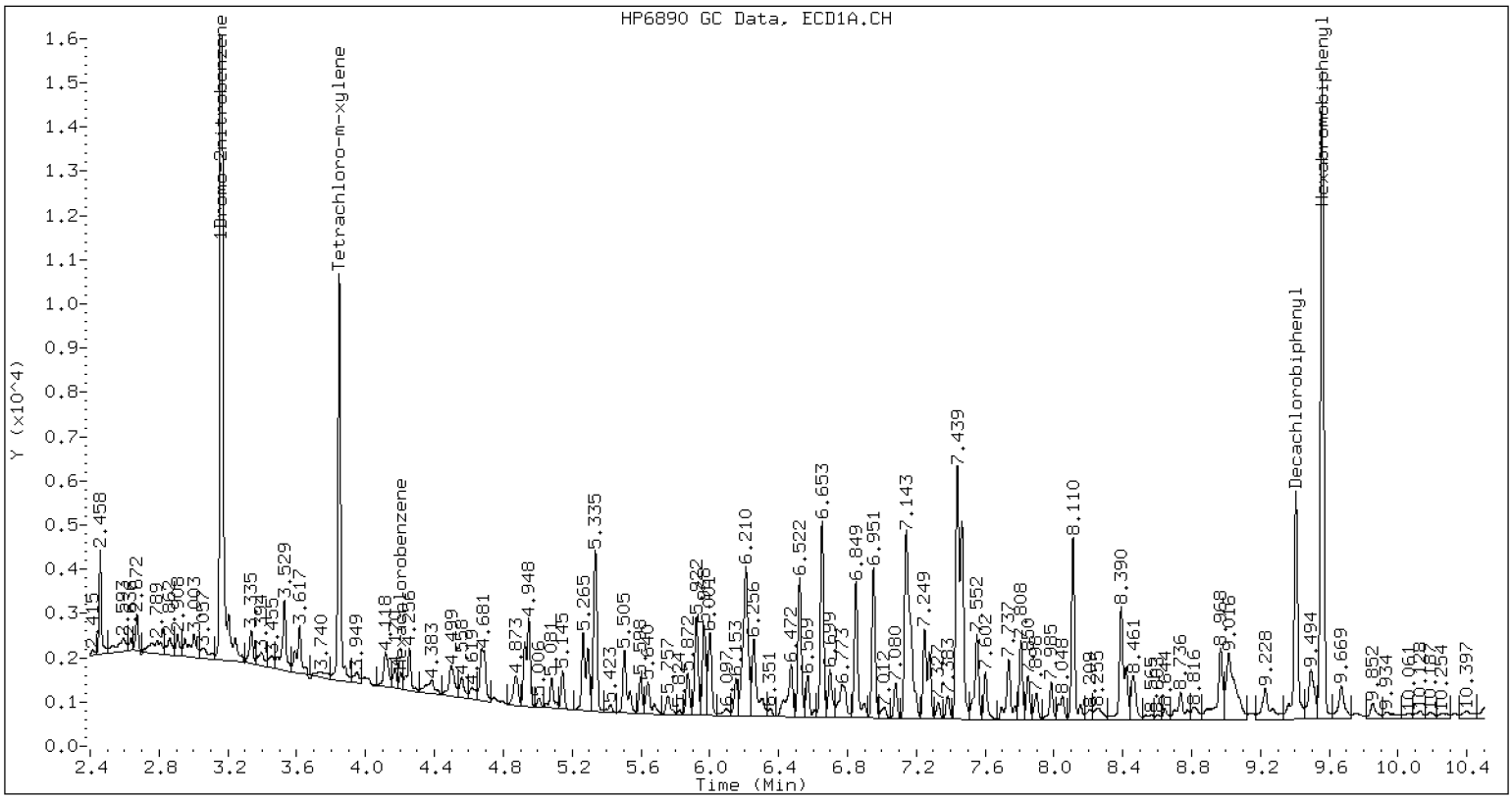
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	672426	651262	-3.1
Hexabromobiphenyl	609723	396380	-35.0

Column 2

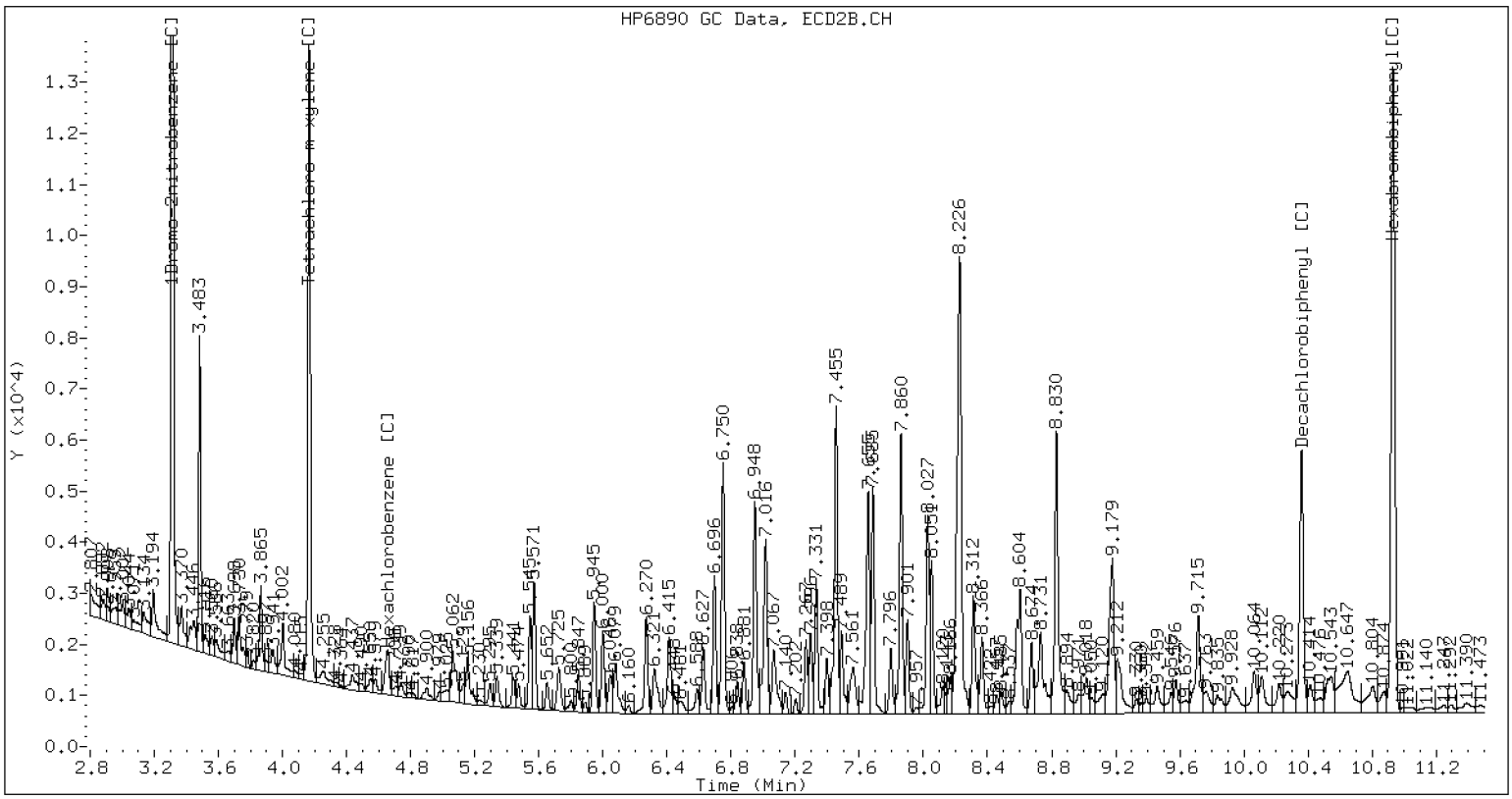
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1006482	688293	-31.6
Hexabromobiphenyl	769764	424993	-44.8

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

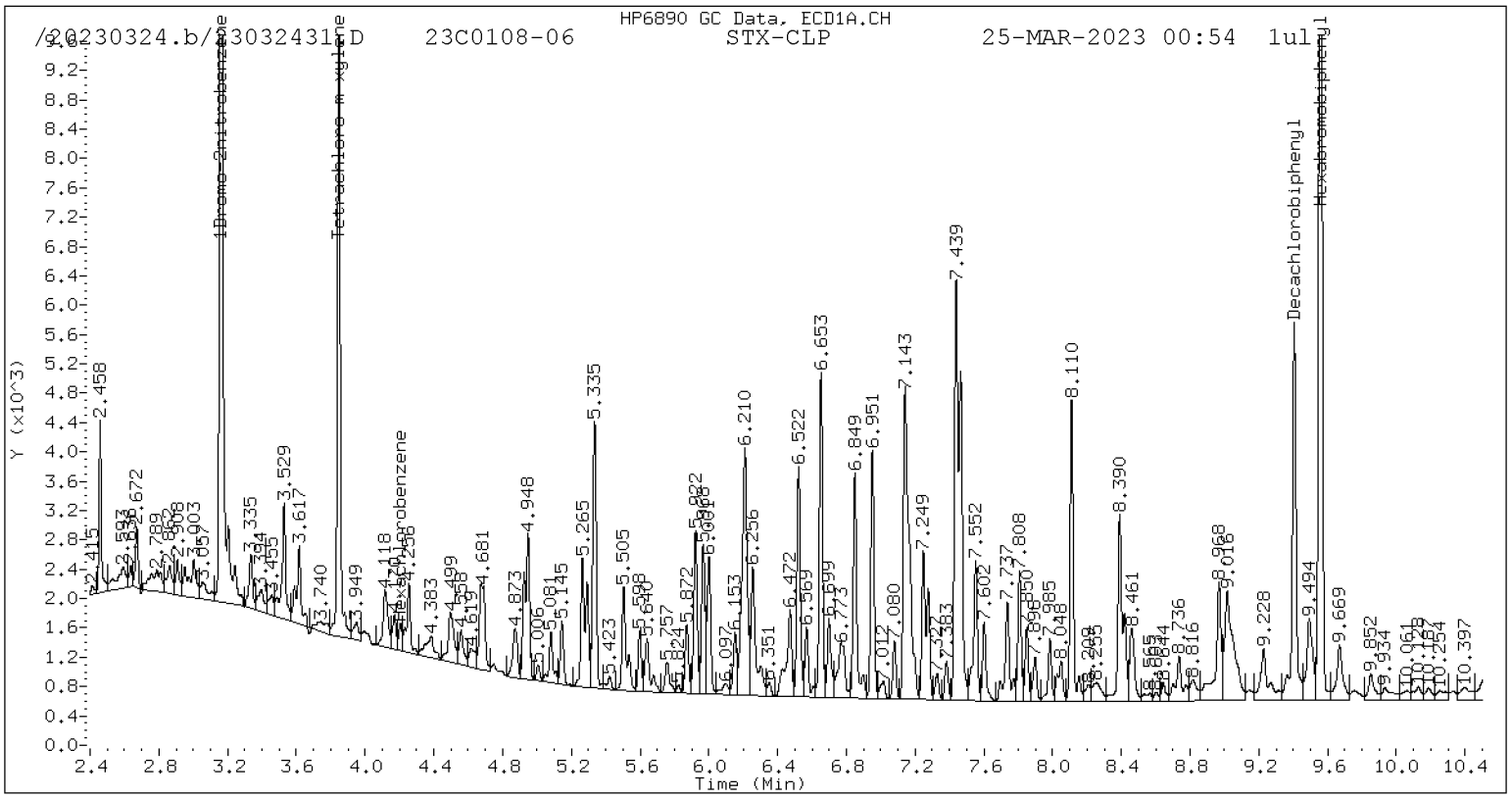
/20230324.b/23032431.D 23C0108-06 STX-CLP 25-MAR-2023 00:54 1ul



/20230324.b/B20230324.b/23032431.D 23C0108-06 CLP2 25-MAR-2023 00:54 1ul

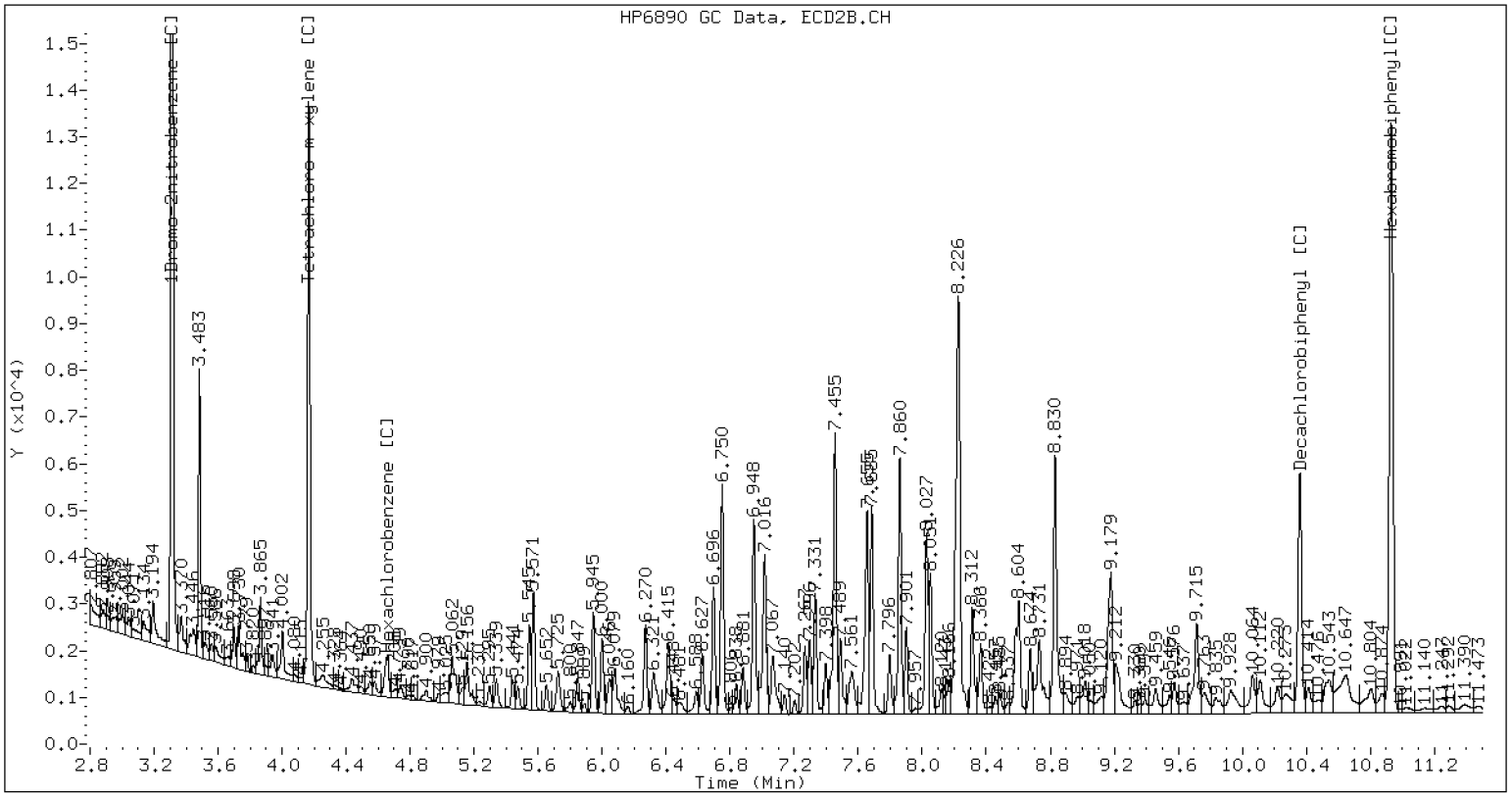


Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: YES

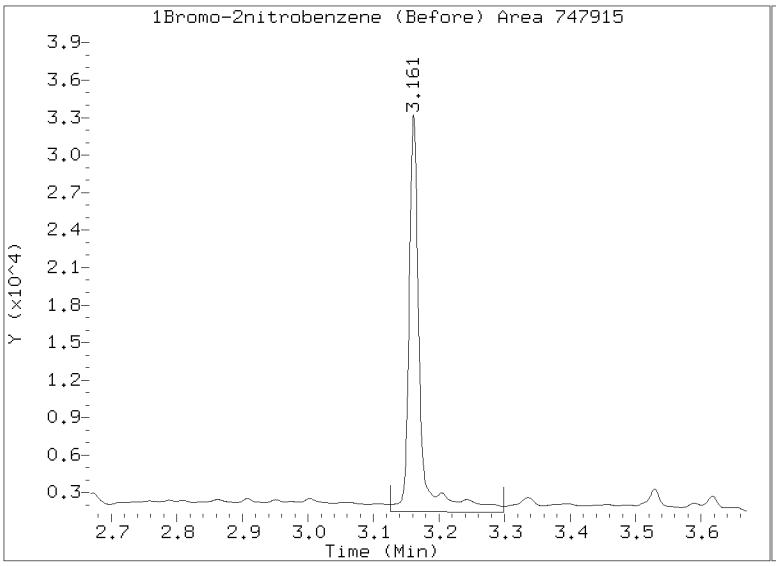
/20230324.b/B20230324.b/23032431.D 23C0108-06 CLP2

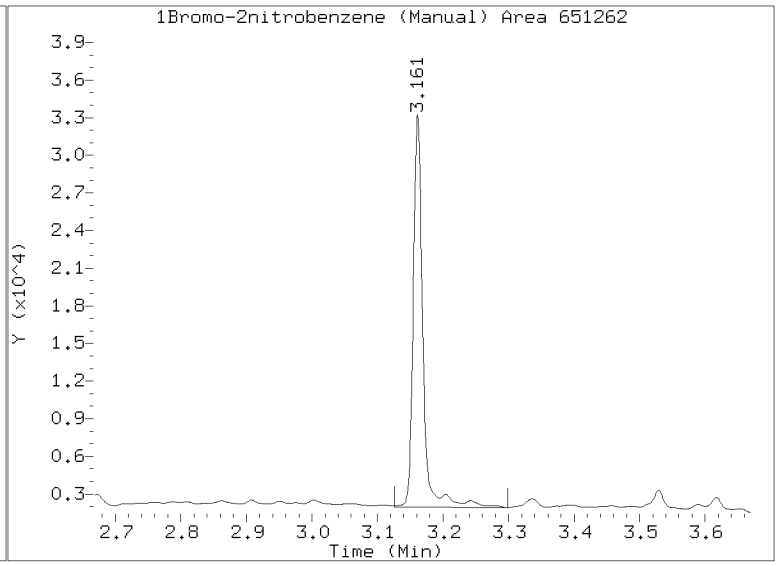


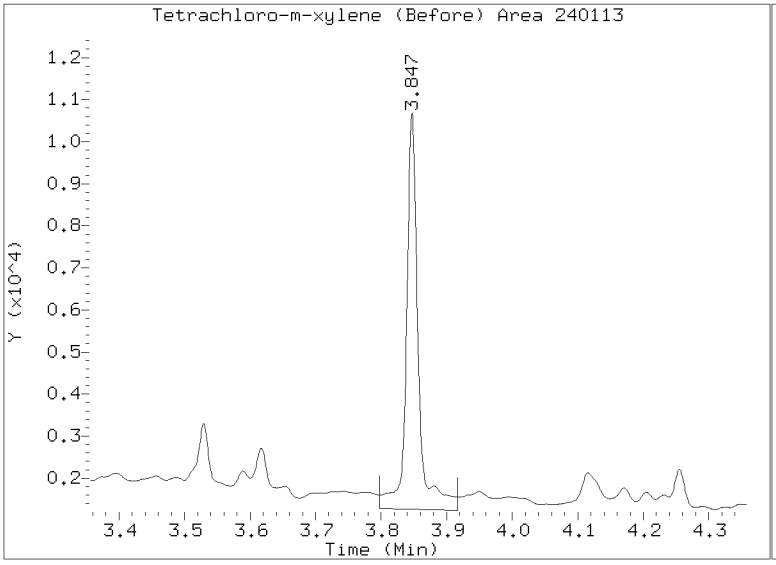
CLP-2 Manual Integration: NO

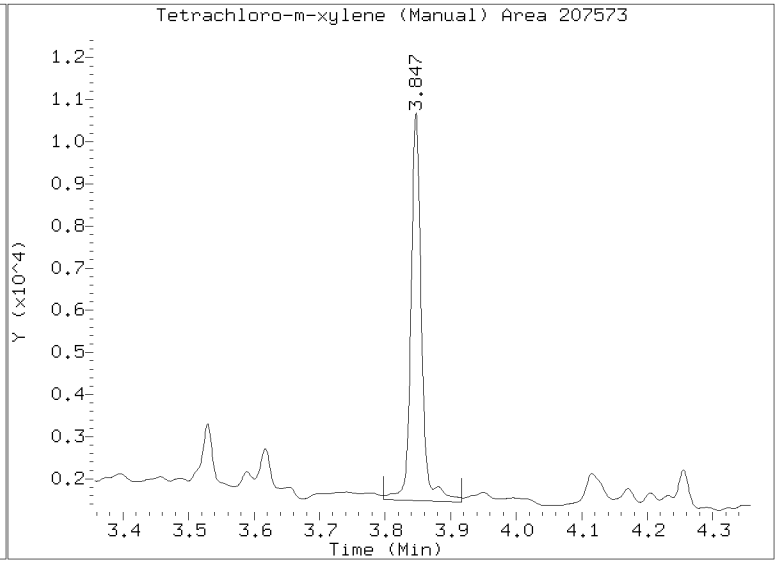
Manual Peak Adjustment Report, STX-CLP

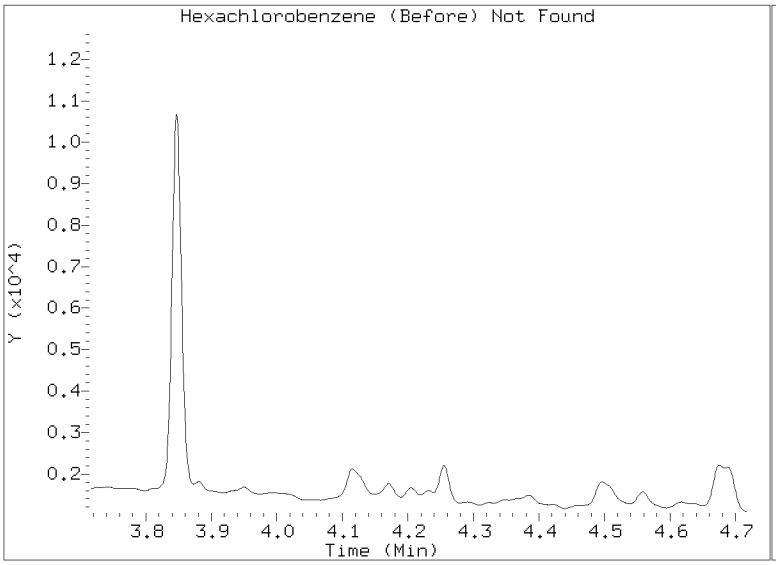
Datafile: /20230324.b/23032431.D
Injection Date: 25-MAR-2023 00:54
Lab ID:23C0108-06 Client ID:
Report Date: 03/28/2023 10:50

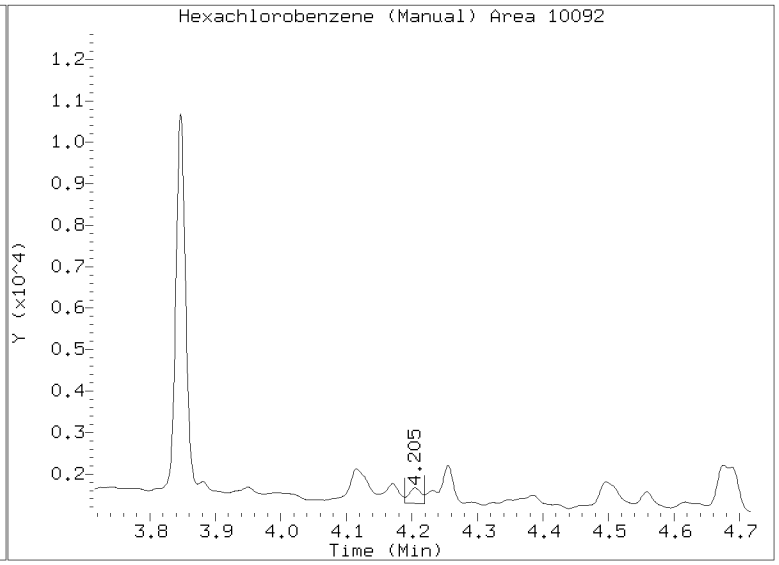












Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

LDW23-SS1107

ORGANIC ANALYSIS DATA SHEET
EPA 8081B

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Solid	Laboratory ID:	23C0108-07 A	File ID:	23032432.D
Sampled:	03/03/23 10:21	Prepared:	03/10/23 11:13	Analyzed:	03/25/23 01:12
% Solids:	40.20	Preparation:	EPA 3546 (Microwave)	Initial/Final:	31.43 g Wet / 2.5 mL
Batch:	BLC0183	Sequence:	SLC0442	Calibration:	FL00041
Instrument:	ECD6	Column 1:	STX-CLP	Column 2:	STX-CLPII

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
118-74-1	Hexachlorobenzene	1	1	0.21	0.14	0.49	J

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9146*	*6.48*	*81.8*	*30 - 160*	
Decachlorobiphenyl	*2*	*7.9146*	*6.50*	*82.1*	*30 - 160*	
Tetrachlorometaxylene	*1*	*7.9146*	*4.46*	*56.4*	*30 - 160*	
Tetrachlorometaxylene	*2*	*7.9146*	*4.93*	*62.3*	*30 - 160*	

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20230324.b/23032432.D
Data file 2: /20230324.b/B20230324.b/23032432.D
Method: \20230324.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: 23C0108-07
Client ID:
Injection Date: 25-MAR-2023 01:12
Report Date: 03/28/2023 10:50
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP on col	CLP2 on col	RPD	Compound/Flag
RT	Shift	Response	RT	Shift	Response				
----			----			0.00	0.00	---	alpha-BHC
----			----			0.00	0.00	---	beta-BHC
----			----			0.00	0.00	---	delta-BHC
----			----			0.00	0.00	---	gamma-BHC (Lindane)
----			----			0.00	0.00	---	Heptachlor
----			----			0.00	0.00	---	Aldrin
----			----			0.00	0.00	---	Heptachlor epoxide b
----			----			0.00	0.00	---	Endosulfan I
----			----			0.00	0.00	---	Dieldrin
----			----			0.00	0.00	---	4,4'-DDE
----			----			0.00	0.00	---	Endrin
----			----			0.00	0.00	---	Endosulfan II
----			----			0.00	0.00	---	4,4'-DDD
----			----			0.00	0.00	---	Endosulfan sulfate
----			----			0.00	0.00	---	4,4'-DDT
----			----			0.00	0.00	---	Methoxychlor
----			----			0.00	0.00	---	Endrin ketone
----			----			0.00	0.00	---	Endrin aldehyde
----			----			0.00	0.00	---	trans-Chlordane
----			----			0.00	0.00	---	cis-Chlordane
----			----			0.00	0.00	---	Hexachlorobutadiene
4.203	-0.013	22659	4.647	-0.023	36994	1.07	1.47	31.2	Hexachlorobenzene MN
3.846	-0.012	363218	4.166	-0.013	485250	22.54	24.92	10.0	Tetrachloro-m-xylene M
9.407	-0.007	247273	10.361	-0.012	286309	32.73	32.83	0.3	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

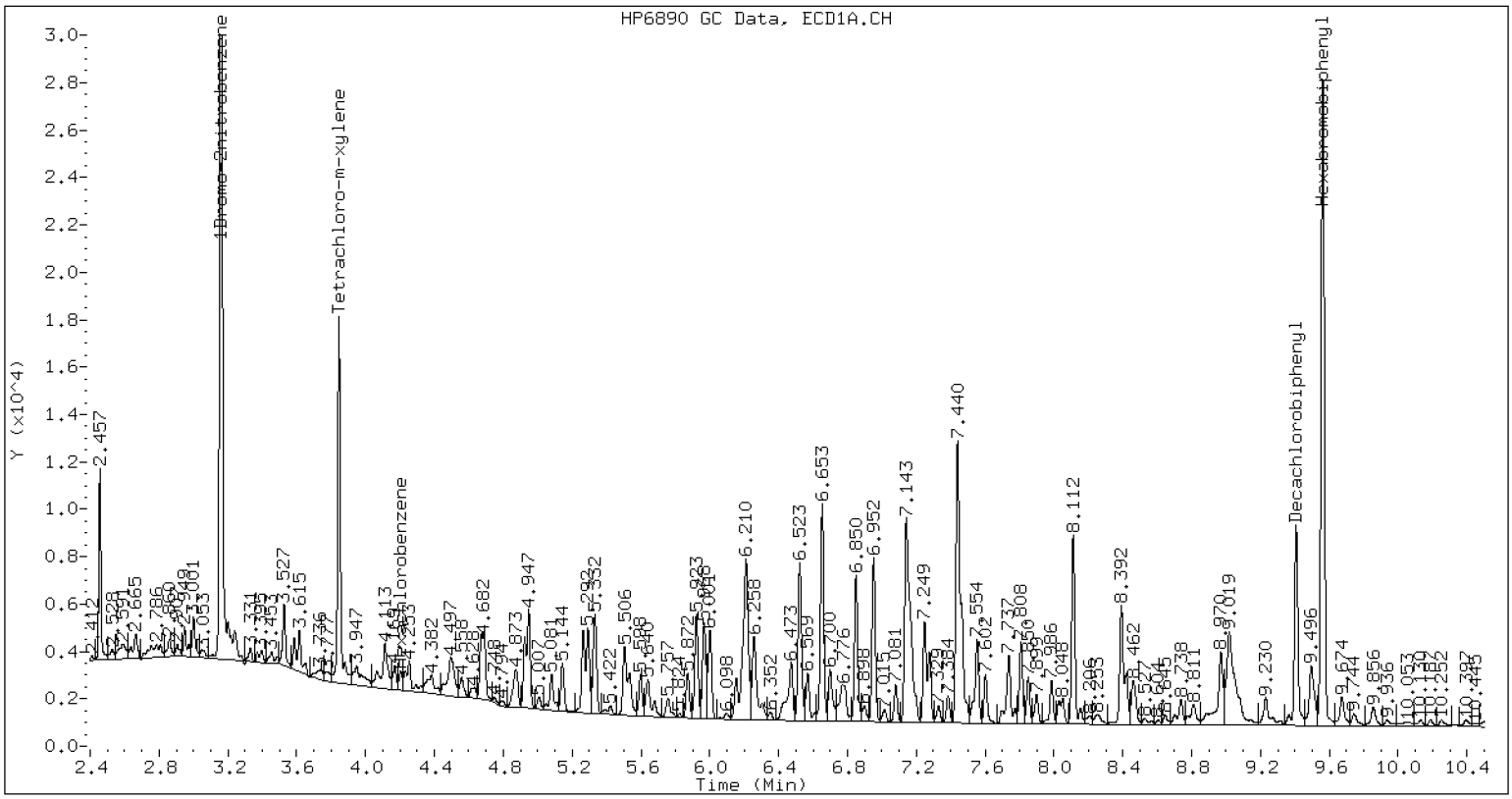
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	672426	1184783	76.2
Hexabromobiphenyl	609723	745534	22.3

Column 2

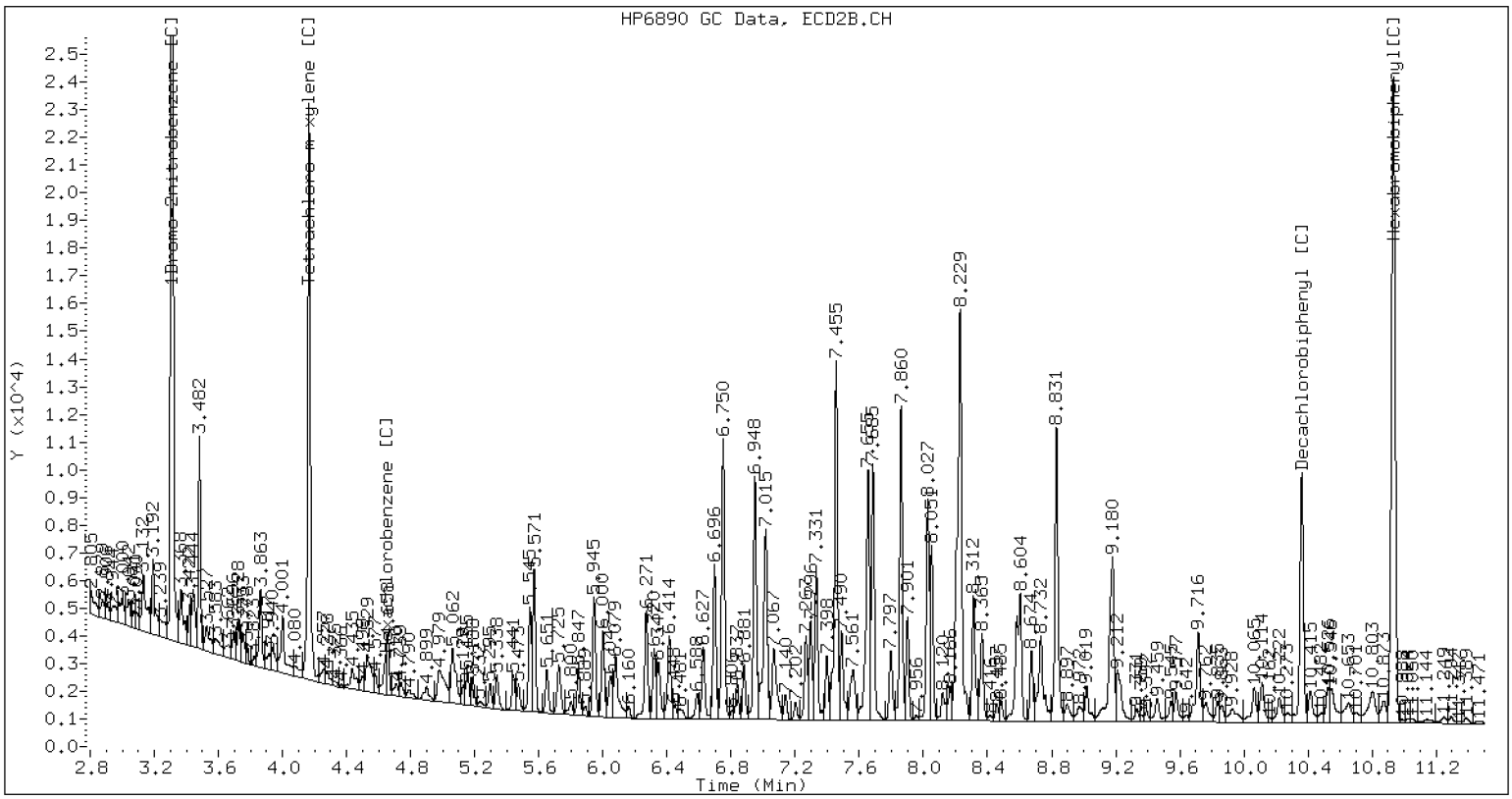
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1006482	1383390	37.4
Hexabromobiphenyl	769764	788963	2.5

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

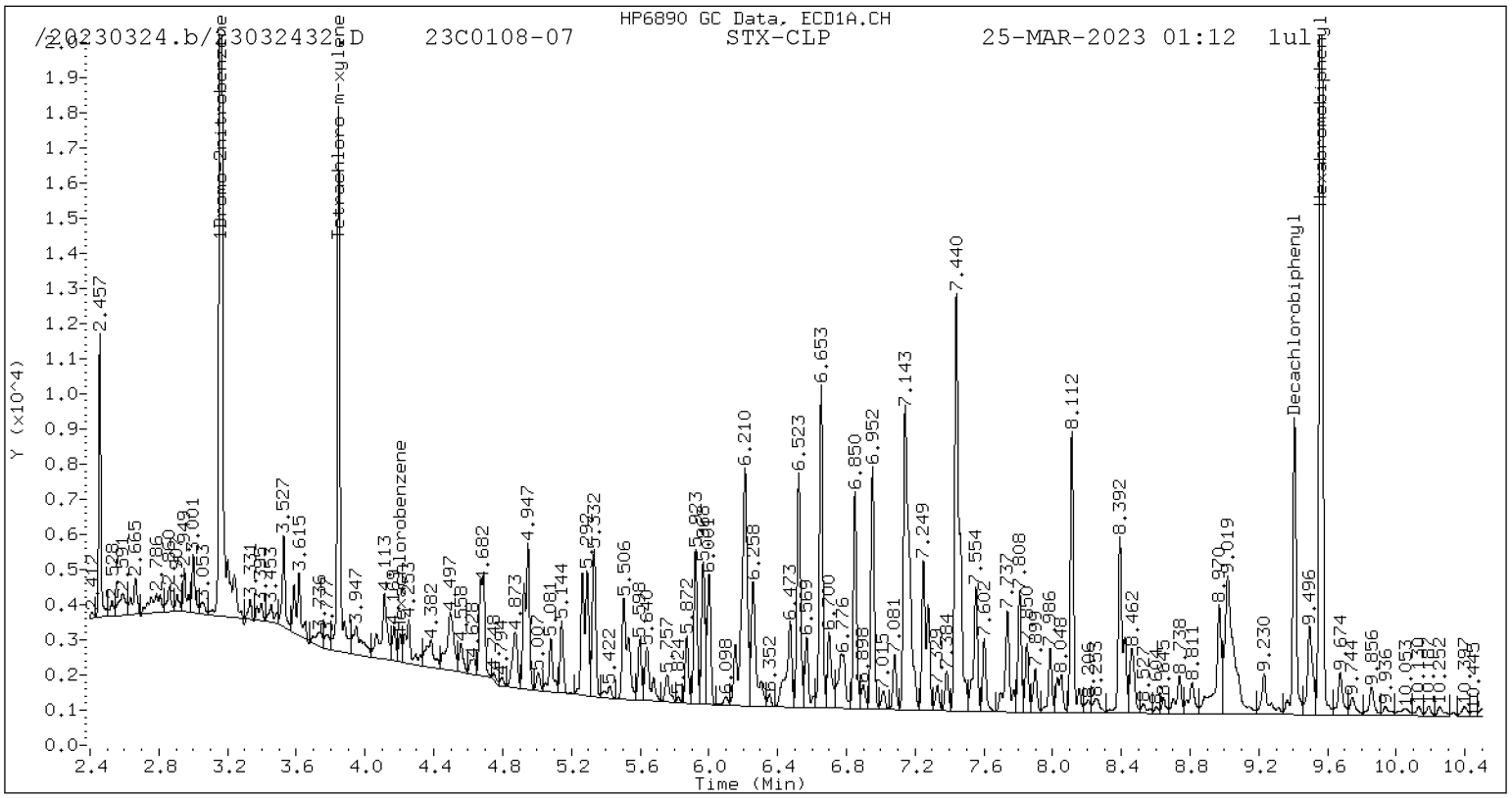
/20230324.b/23032432.D 23C0108-07 STX-CLP 25-MAR-2023 01:12 1ul



/20230324.b/B20230324.b/23032432.D 23C0108-07 CLP2 25-MAR-2023 01:12 1ul

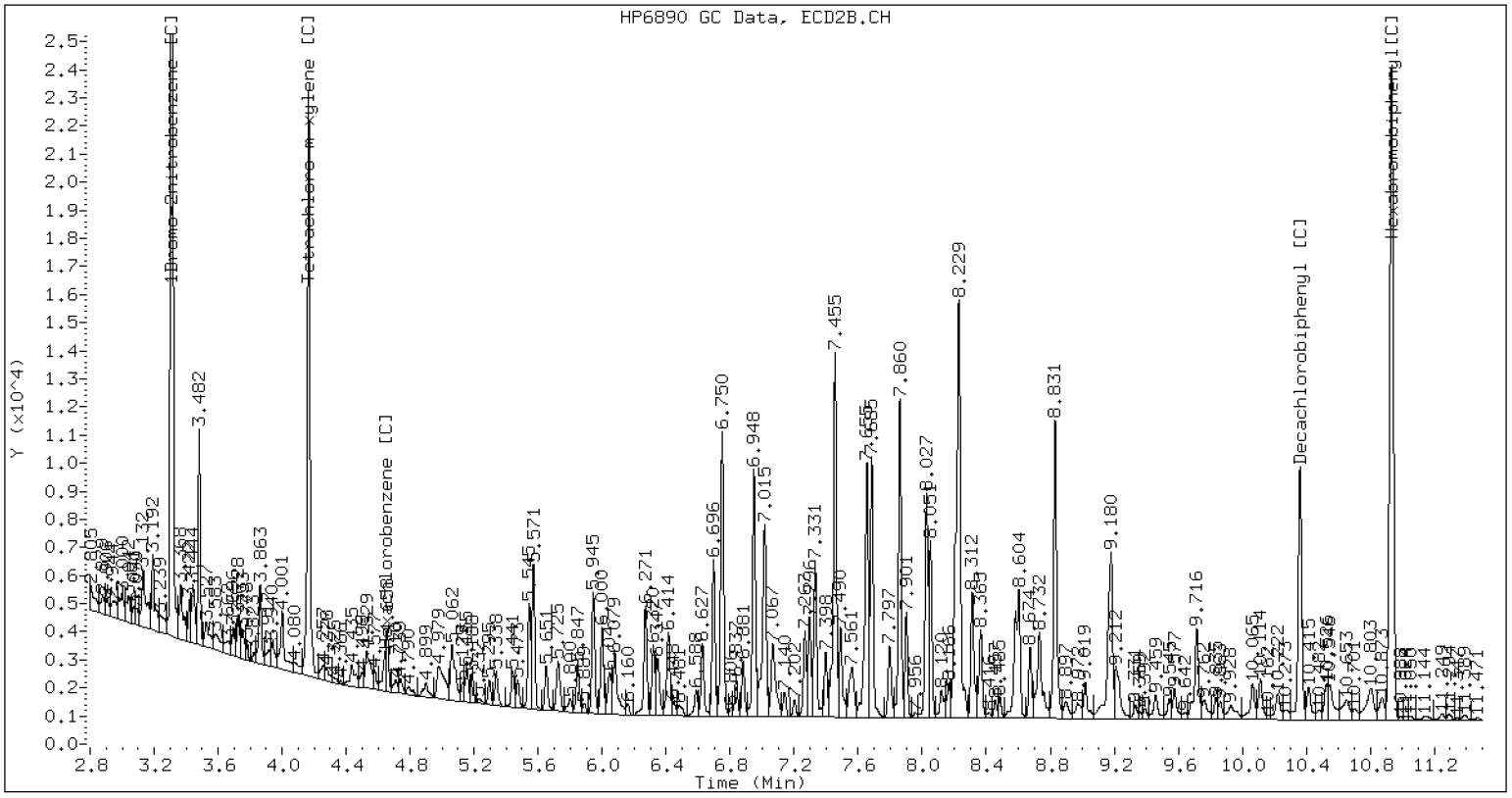


Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: YES

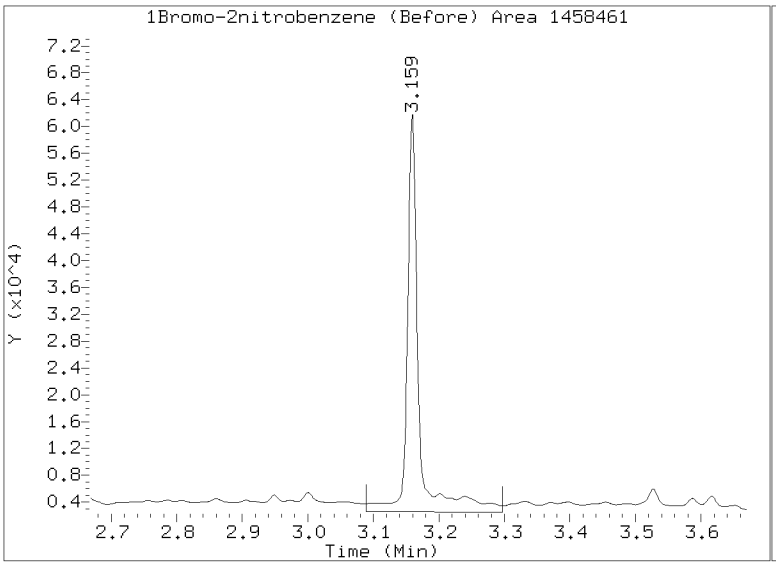
/20230324.b/B20230324.b/23032432.D 23C0108-07 CLP2

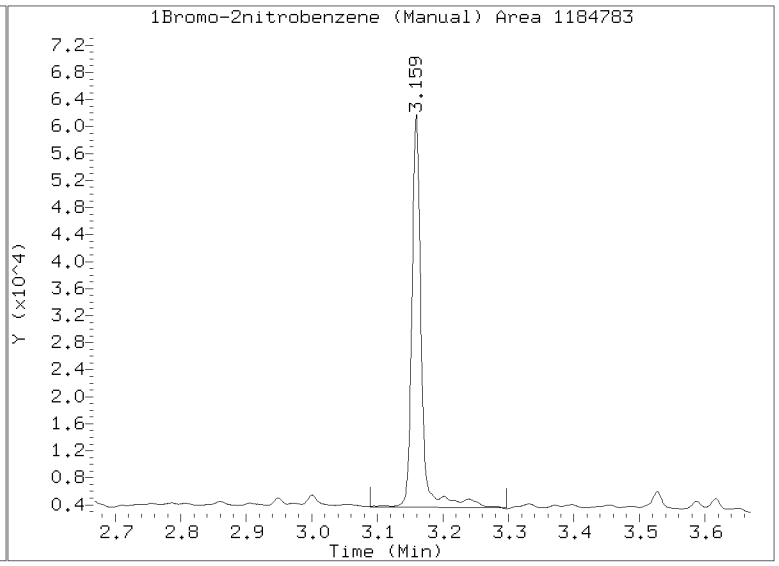


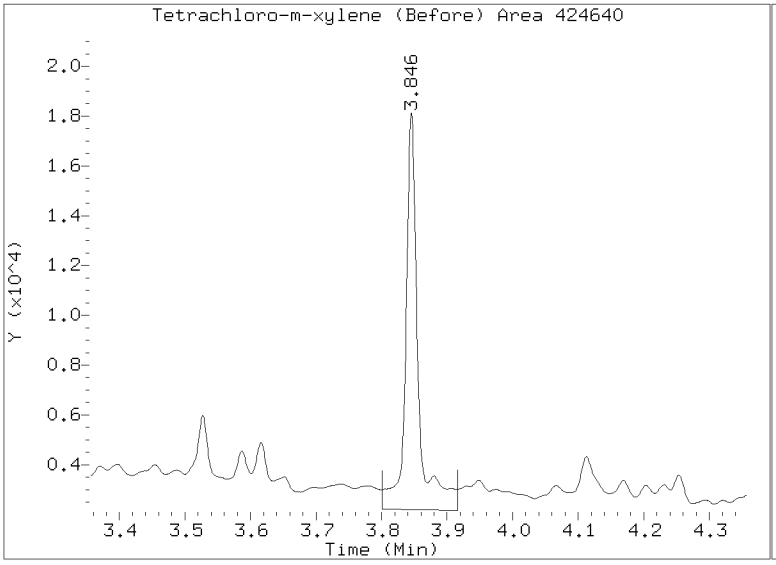
CLP-2 Manual Integration: YES

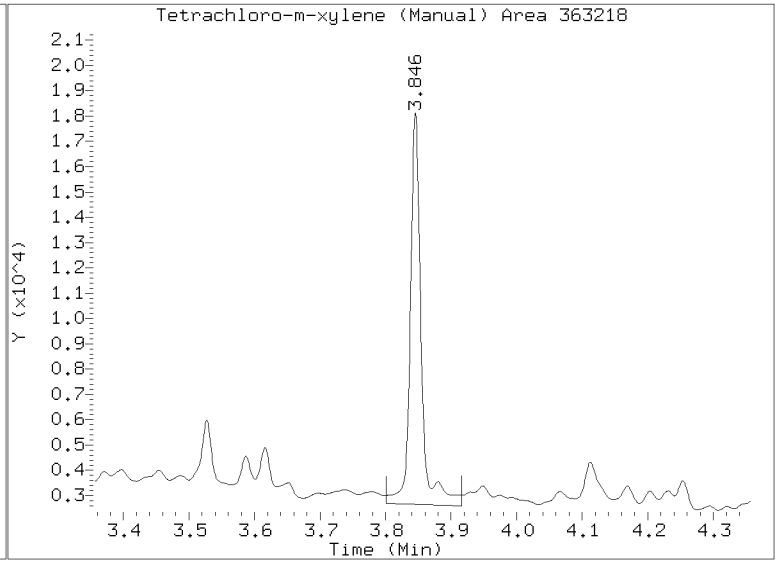
Manual Peak Adjustment Report, STX-CLP

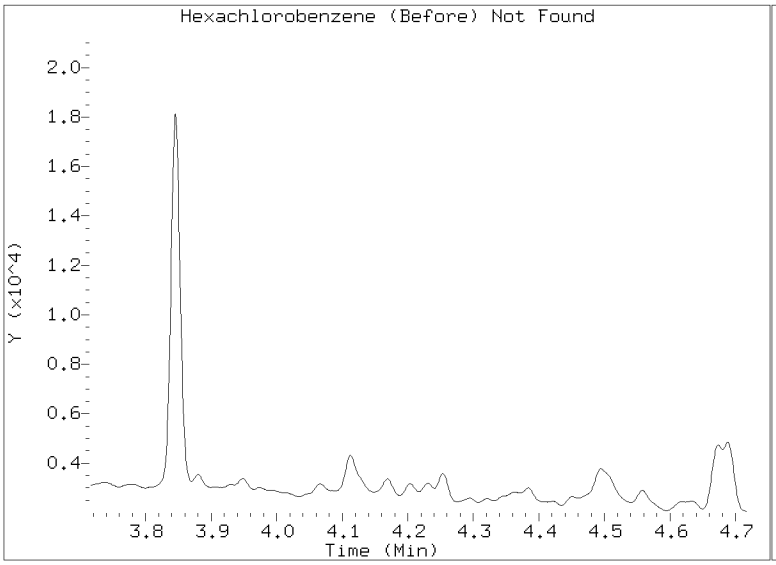
Datafile: /20230324.b/23032432.D
Injection Date: 25-MAR-2023 01:12
Lab ID:23C0108-07 Client ID:
Report Date: 03/28/2023 10:50

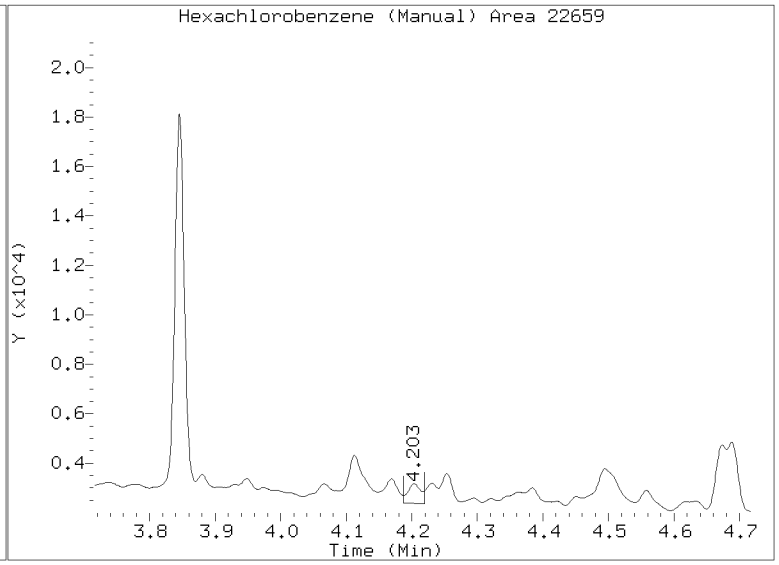






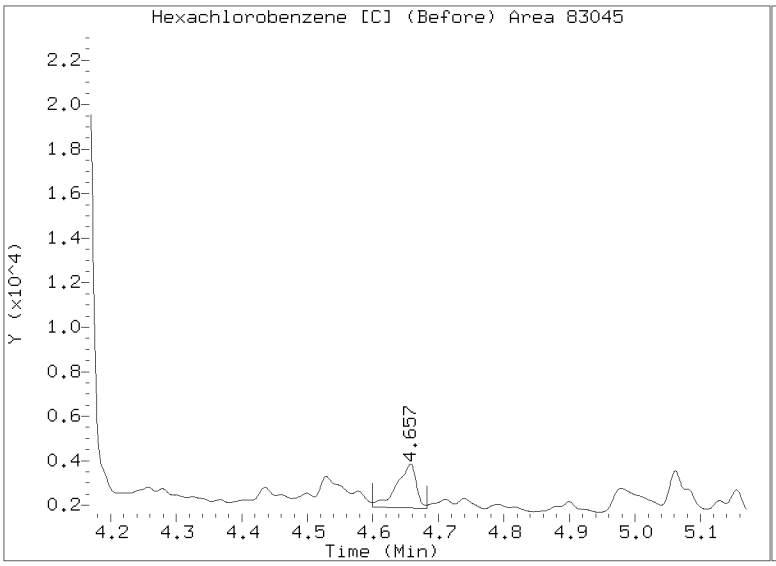


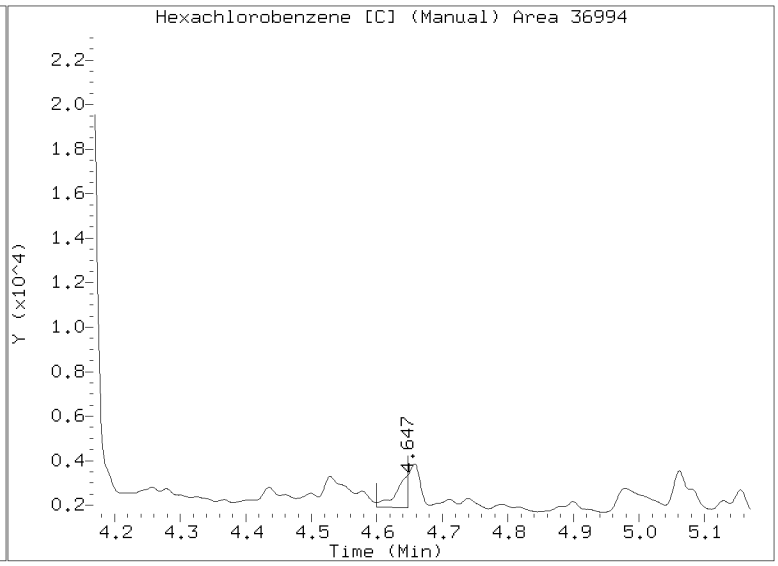




Manual Peak Adjustment Report, CLP-2

Datafile: /20230324.b/B20230324.b/23032432.D
Injection Date: 25-MAR-2023 01:12
Lab ID:23C0108-07 Client ID:





Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

LDW23-SS1111

ORGANIC ANALYSIS DATA SHEET
EPA 8081B

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Solid	Laboratory ID:	23C0108-08 A	File ID:	23032433.D
Sampled:	03/03/23 10:36	Prepared:	03/10/23 11:13	Analyzed:	03/25/23 01:30
% Solids:	46.38	Preparation:	EPA 3546 (Microwave)	Initial/Final:	26.95 g Wet / 2.5 mL
Batch:	BLC0183	Sequence:	SLC0442	Calibration:	FL00041
Instrument:	ECD6	Column 1:	STX-CLP	Column 2:	STX-CLPII

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
118-74-1	Hexachlorobenzene	1	1	0.21	0.15	0.50	J

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*8.0004*	*7.69*	*96.1*	*30 - 160*	
Decachlorobiphenyl	*2*	*8.0004*	*7.26*	*90.7*	*30 - 160*	
Tetrachlorometaxylene	*1*	*8.0004*	*4.59*	*57.4*	*30 - 160*	
Tetrachlorometaxylene	*2*	*8.0004*	*5.89*	*73.7*	*30 - 160*	

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20230324.b/23032433.D
Data file 2: /20230324.b/B20230324.b/23032433.D
Method: \20230324.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: 23C0108-08
Client ID:
Injection Date: 25-MAR-2023 01:30
Report Date: 03/28/2023 10:50
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP on col	CLP2 on col	RPD	Compound/Flag
RT	Shift	Response	RT	Shift	Response				
----			----			0.00	0.00	---	alpha-BHC
----			----			0.00	0.00	---	beta-BHC
----			----			0.00	0.00	---	delta-BHC
----			----			0.00	0.00	---	gamma-BHC (Lindane)
----			----			0.00	0.00	---	Heptachlor
----			----			0.00	0.00	---	Aldrin
----			----			0.00	0.00	---	Heptachlor epoxide b
----			----			0.00	0.00	---	Endosulfan I
----			----			0.00	0.00	---	Dieldrin
----			----			0.00	0.00	---	4,4'-DDE
----			----			0.00	0.00	---	Endrin
----			----			0.00	0.00	---	Endosulfan II
----			----			0.00	0.00	---	4,4'-DDD
----			----			0.00	0.00	---	Endosulfan sulfate
----			----			0.00	0.00	---	4,4'-DDT
----			----			0.00	0.00	---	Methoxychlor
----			----			0.00	0.00	---	Endrin ketone
----			----			0.00	0.00	---	Endrin aldehyde
----			----			0.00	0.00	---	trans-Chlordane
----			----			0.00	0.00	---	cis-Chlordane
----			----			0.00	0.00	---	Hexachlorobutadiene
4.204	-0.013	22610	4.656	-0.014	74726	1.04	3.14	100.3*	Hexachlorobenzene M
3.845	-0.012	379497	4.165	-0.013	541564	22.97	29.46	24.8	Tetrachloro-m-xylene M
9.407	-0.008	281554	10.360	-0.013	307263	38.43	36.28	5.8	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

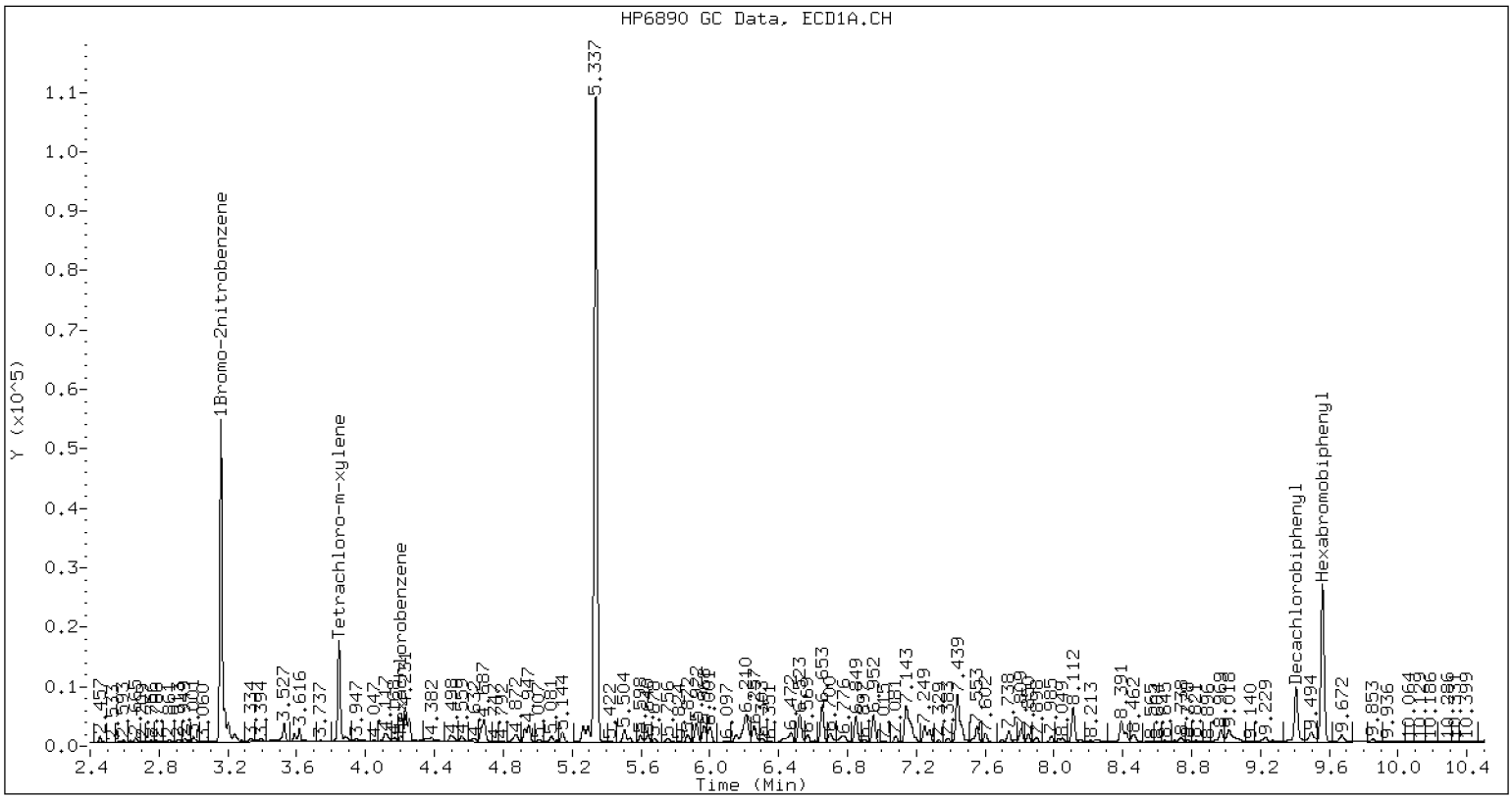
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	672426	1215039	80.7
Hexabromobiphenyl	609723	723133	18.6

Column 2

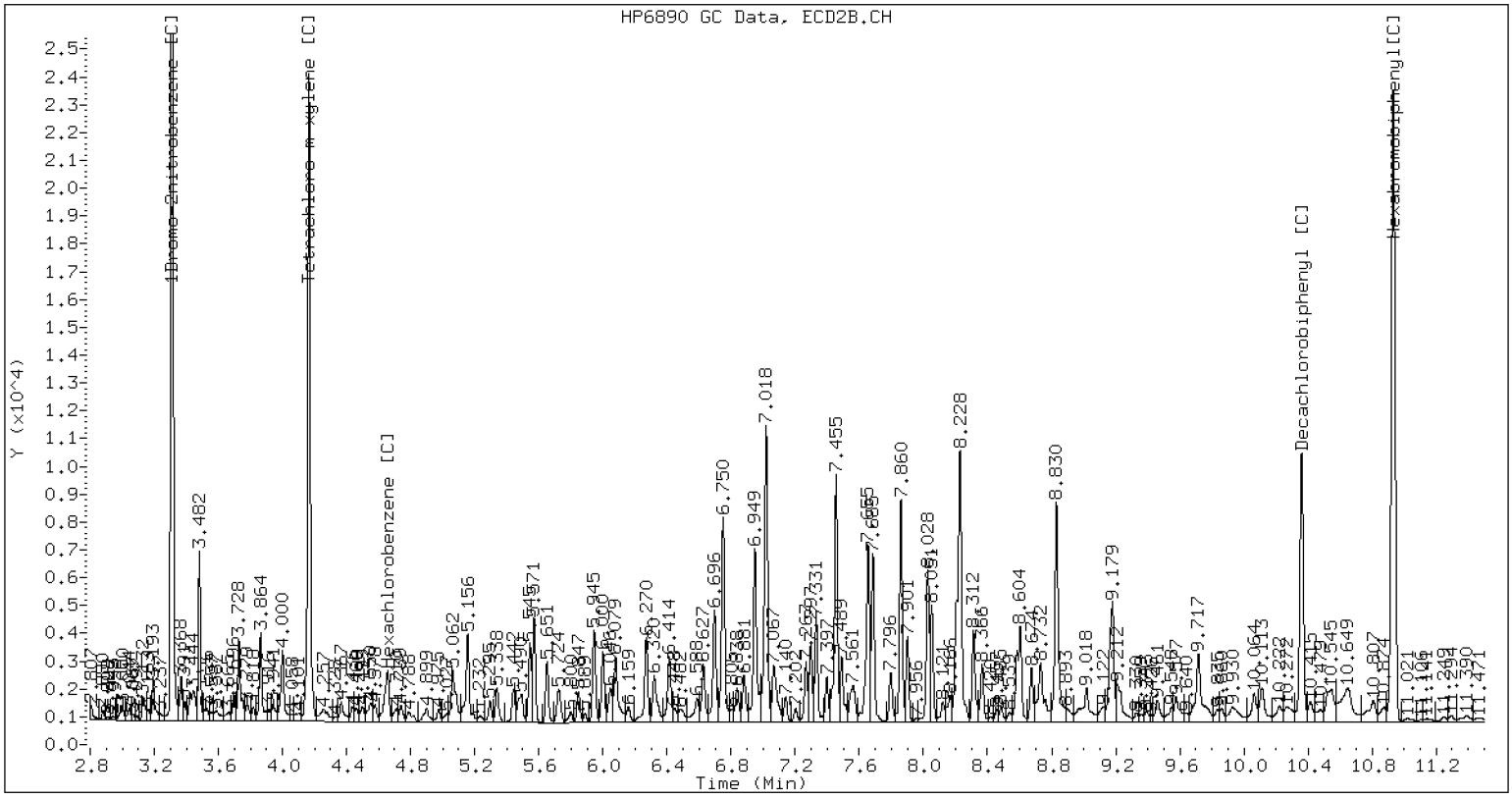
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1006482	1305898	29.7
Hexabromobiphenyl	769764	766321	-0.4

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

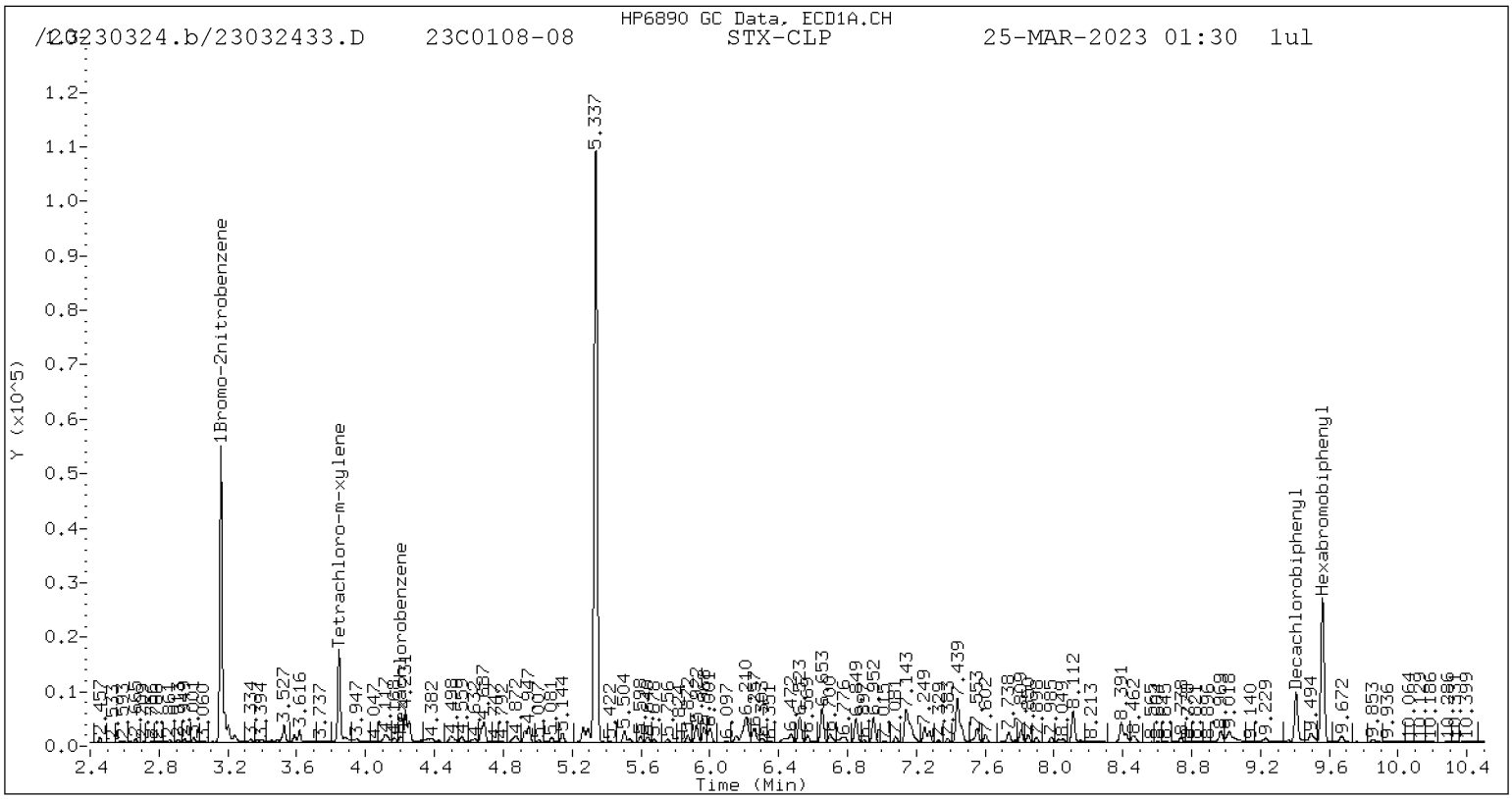
/20230324.b/23032433.D 23C0108-08 STX-CLP 25-MAR-2023 01:30 1ul



/20230324.b/B20230324.b/23032433.D 23C0108-08 CLP2 25-MAR-2023 01:30 1ul

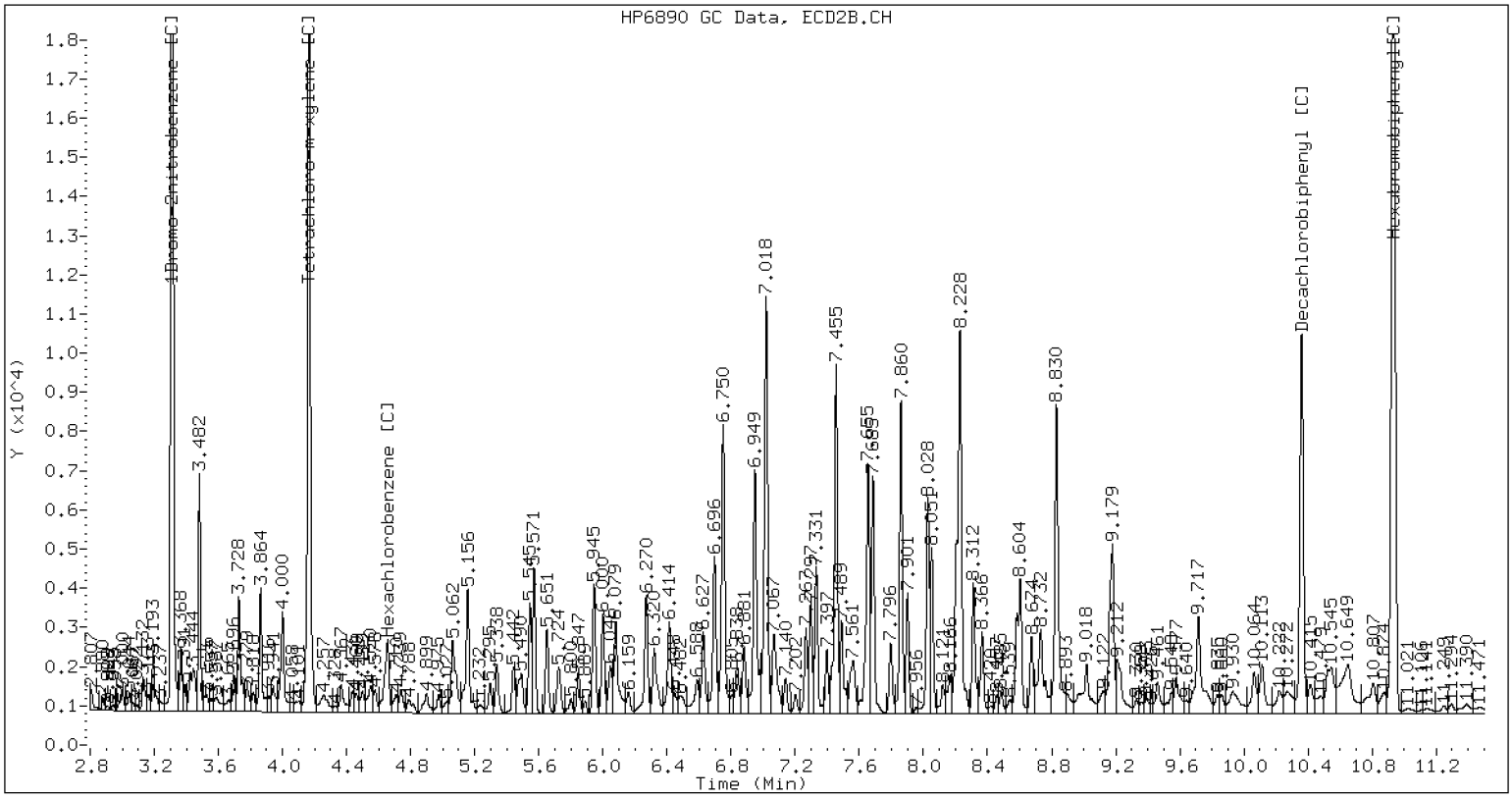


Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: YES

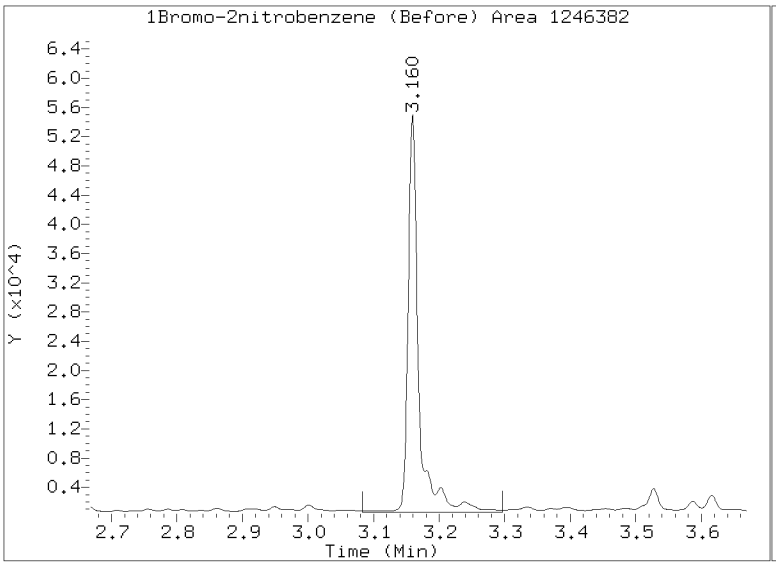
/20230324.b/B20230324.b/23032433.D 23C0108-08 CLP2

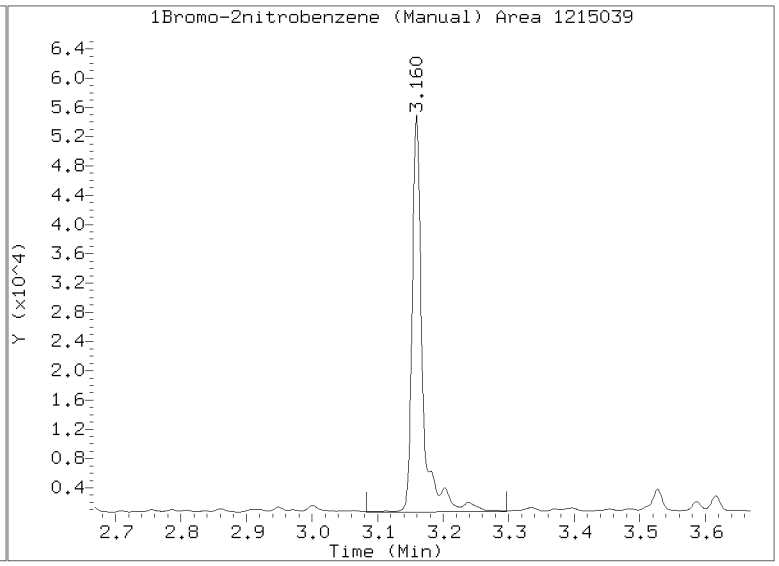


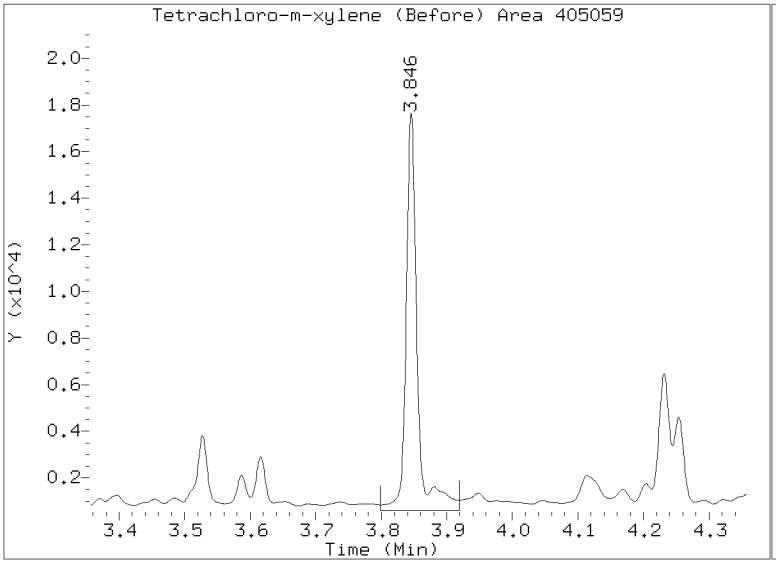
CLP-2 Manual Integration: NO

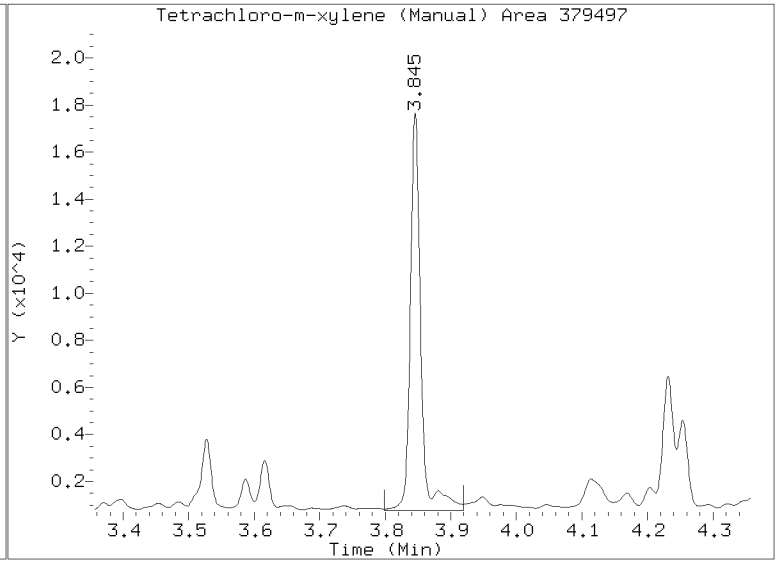
Manual Peak Adjustment Report, STX-CLP

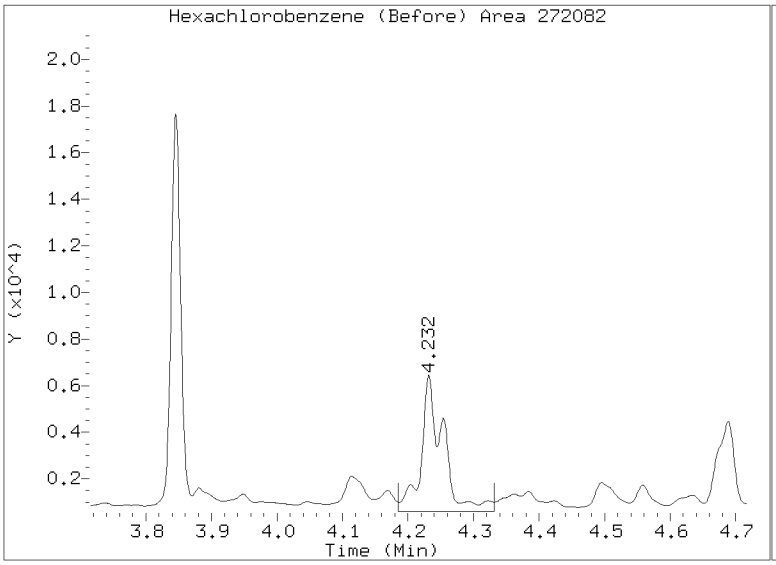
Datafile: /20230324.b/23032433.D
Injection Date: 25-MAR-2023 01:30
Lab ID:23C0108-08 Client ID:
Report Date: 03/28/2023 10:50

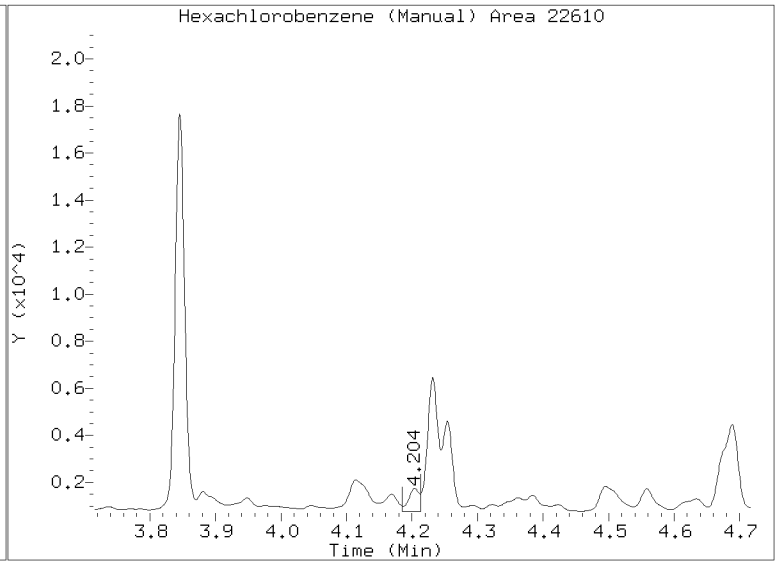












Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

LDW23-SS1118

ORGANIC ANALYSIS DATA SHEET
EPA 8081B

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Solid	Laboratory ID:	23C0108-09 A	File ID:	23032434.D
Sampled:	03/03/23 11:25	Prepared:	03/10/23 11:13	Analyzed:	03/25/23 01:48
% Solids:	42.62	Preparation:	EPA 3546 (Microwave)	Initial/Final:	29.97 g Wet / 2.5 mL
Batch:	BLC0183	Sequence:	SLC0442	Calibration:	FL00041
Instrument:	ECD6	Column 1:	STX-CLP	Column 2:	STX-CLPII

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
118-74-1	Hexachlorobenzene	1	1	0.15	0.14	0.49	J

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.8289*	*6.97*	*89.1*	*30 - 160*	
Decachlorobiphenyl	*2*	*7.8289*	*6.63*	*84.7*	*30 - 160*	
Tetrachlorometaxylene	*1*	*7.8289*	*4.92*	*62.9*	*30 - 160*	
Tetrachlorometaxylene	*2*	*7.8289*	*5.39*	*68.9*	*30 - 160*	

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20230324.b/23032434.D
Data file 2: /20230324.b/B20230324.b/23032434.D
Method: \20230324.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: 23C0108-09
Client ID:
Injection Date: 25-MAR-2023 01:48
Report Date: 03/28/2023 10:50
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
----			----			0.00	0.00	---	alpha-BHC
----			----			0.00	0.00	---	beta-BHC
----			----			0.00	0.00	---	delta-BHC
----			----			0.00	0.00	---	gamma-BHC (Lindane)
----			----			0.00	0.00	---	Heptachlor
----			----			0.00	0.00	---	Aldrin
----			----			0.00	0.00	---	Heptachlor epoxide b
----			----			0.00	0.00	---	Endosulfan I
----			----			0.00	0.00	---	Dieldrin
----			----			0.00	0.00	---	4,4'-DDE
----			----			0.00	0.00	---	Endrin
----			----			0.00	0.00	---	Endosulfan II
----			----			0.00	0.00	---	4,4'-DDD
----			----			0.00	0.00	---	Endosulfan sulfate
----			----			0.00	0.00	---	4,4'-DDT
----			----			0.00	0.00	---	Methoxychlor
----			----			0.00	0.00	---	Endrin ketone
----			----			0.00	0.00	---	Endrin aldehyde
----			----			0.00	0.00	---	trans-Chlordane
----			----			0.00	0.00	---	cis-Chlordane
----			----			0.00	0.00	---	Hexachlorobutadiene
4.204	-0.013	14589	4.658	-0.012	41550	0.75	1.70	77.9*	Hexachlorobenzene MN
3.845	-0.012	374256	4.166	-0.013	520434	25.16	27.56	9.1	Tetrachloro-m-xylene M
9.408	-0.007	268714	10.361	-0.012	294779	35.63	33.87	5.1	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

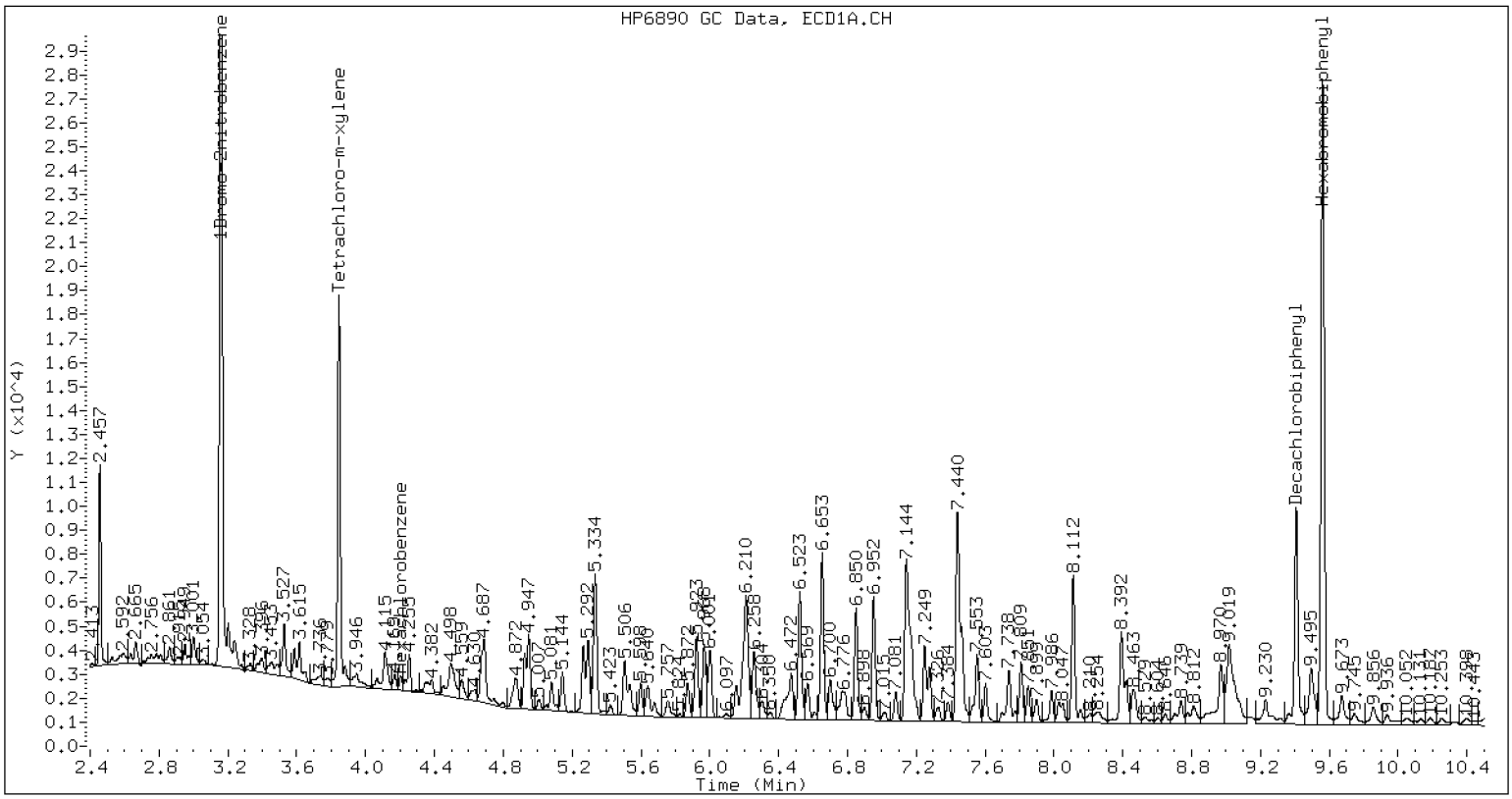
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	672426	1093707	62.7
Hexabromobiphenyl	609723	744350	22.1

Column 2

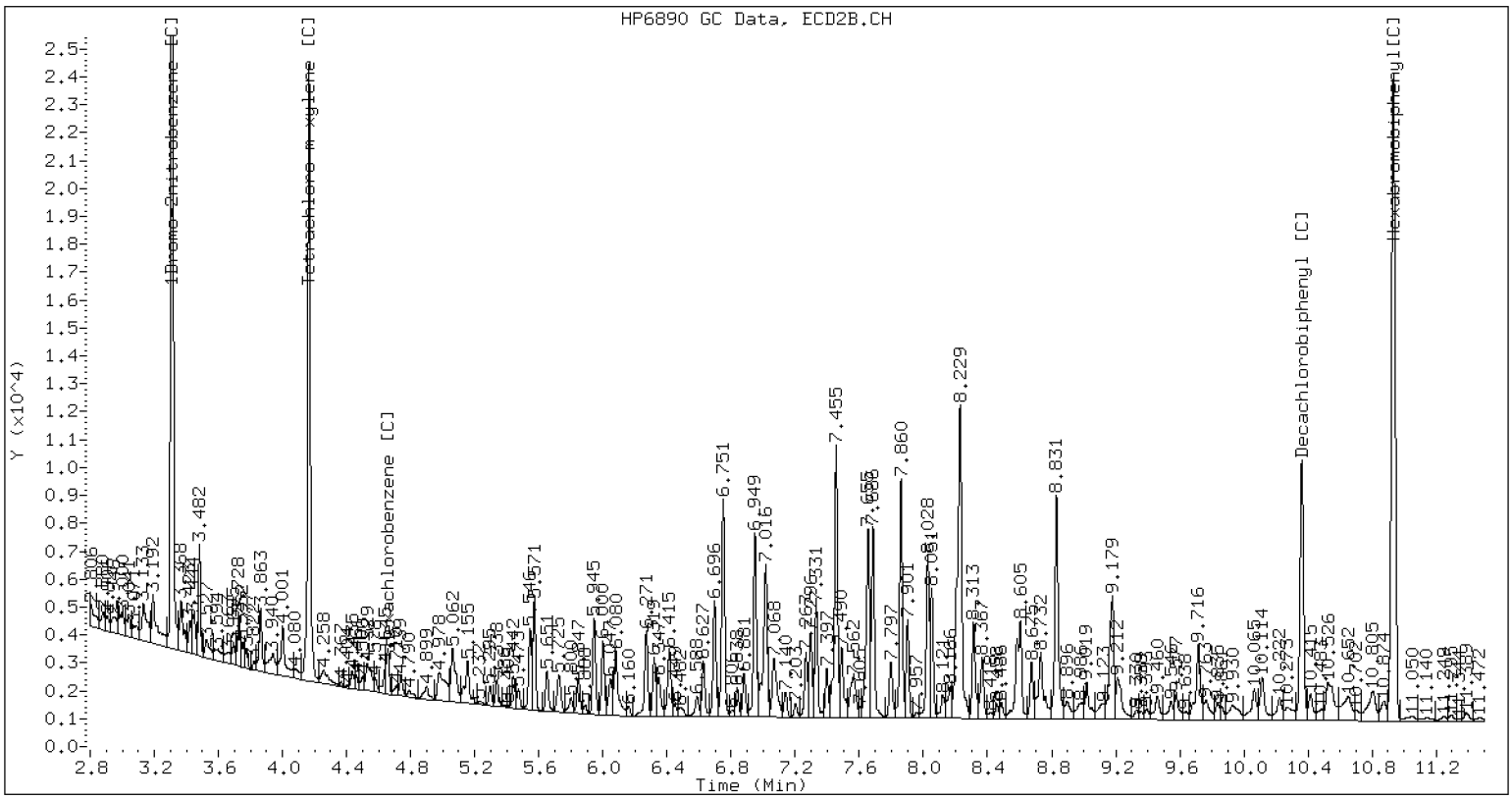
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1006482	1341749	33.3
Hexabromobiphenyl	769764	787399	2.3

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

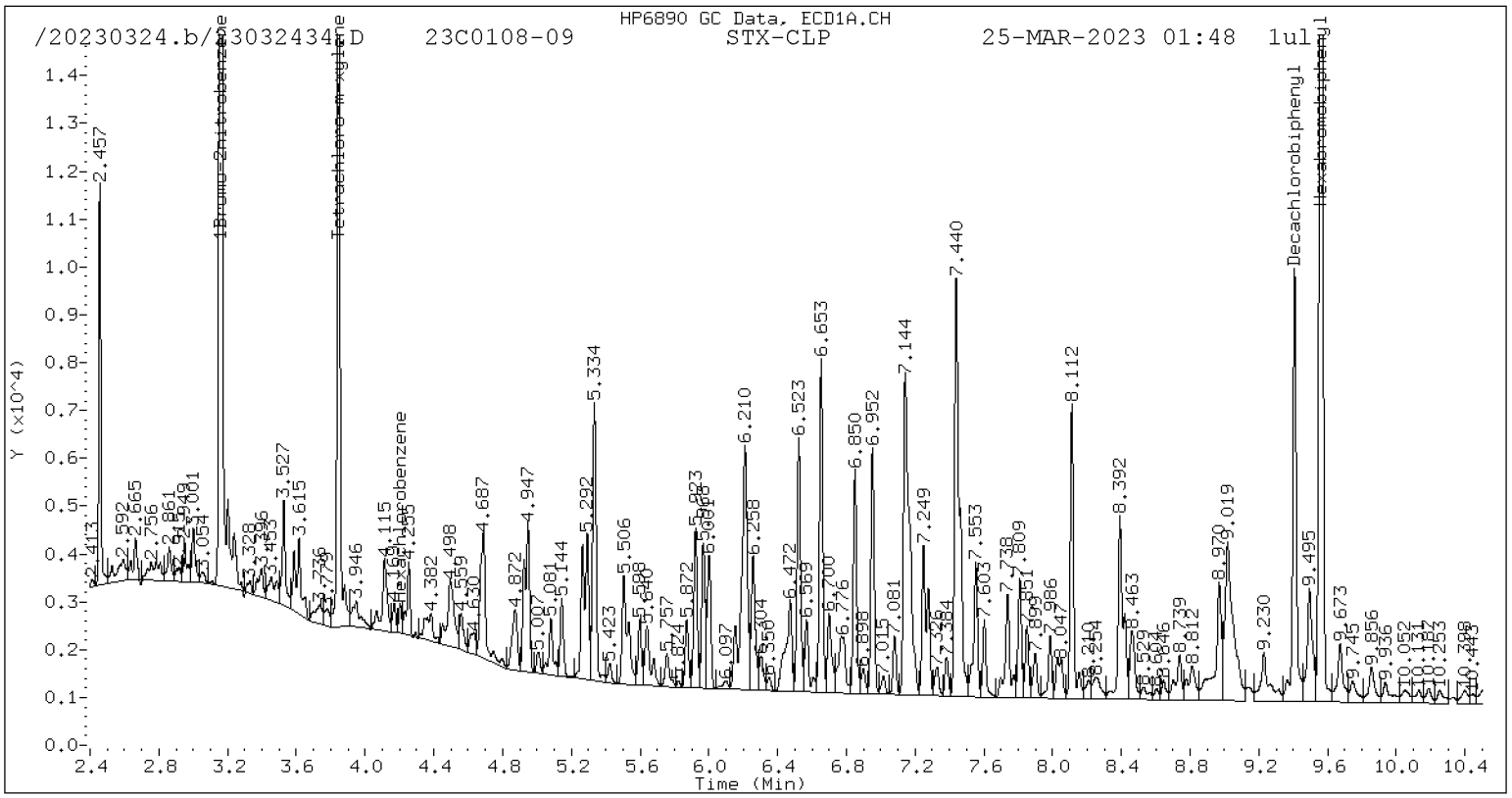
/20230324.b/23032434.D 23C0108-09 STX-CLP 25-MAR-2023 01:48 1ul



/20230324.b/B20230324.b/23032434.D 23C0108-09 CLP2 25-MAR-2023 01:48 1ul

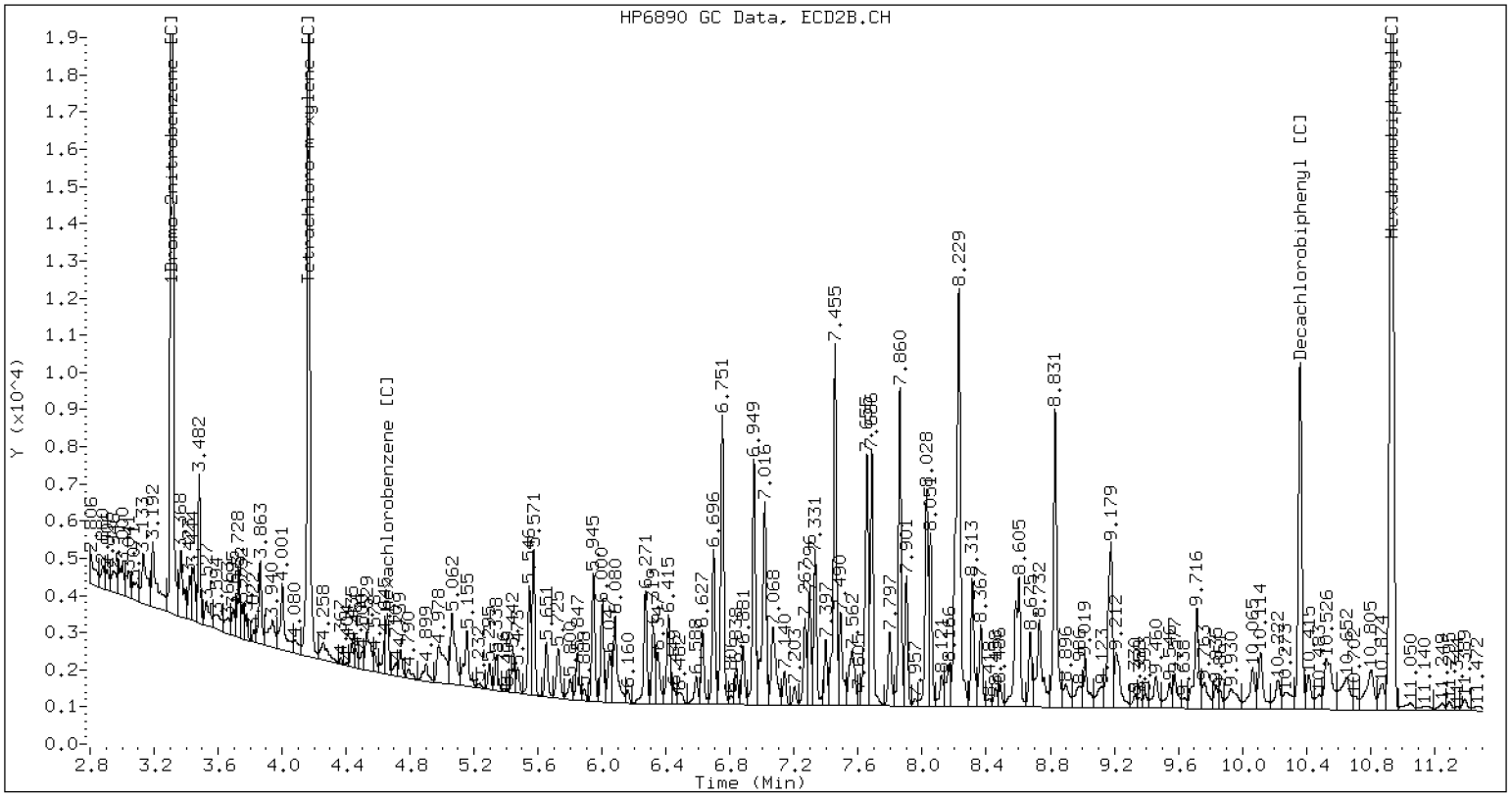


Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: YES

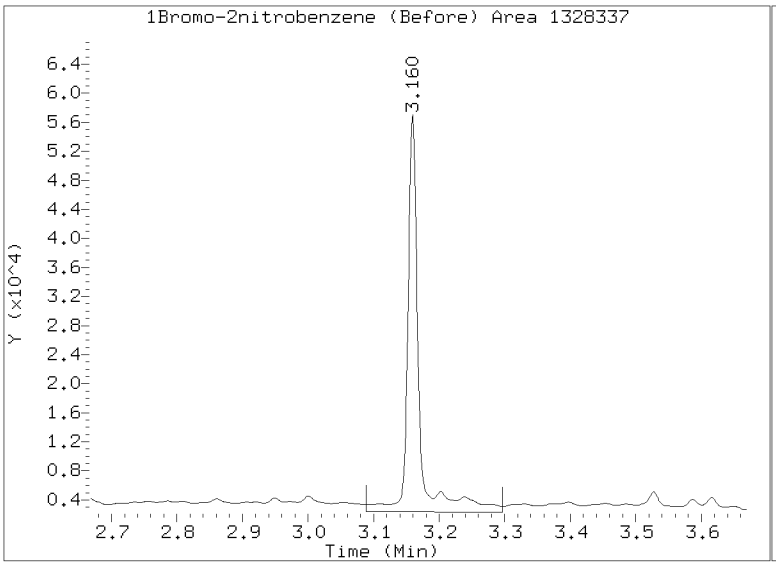
/20230324.b/B20230324.b/23032434.D 23C0108-09 CLP2

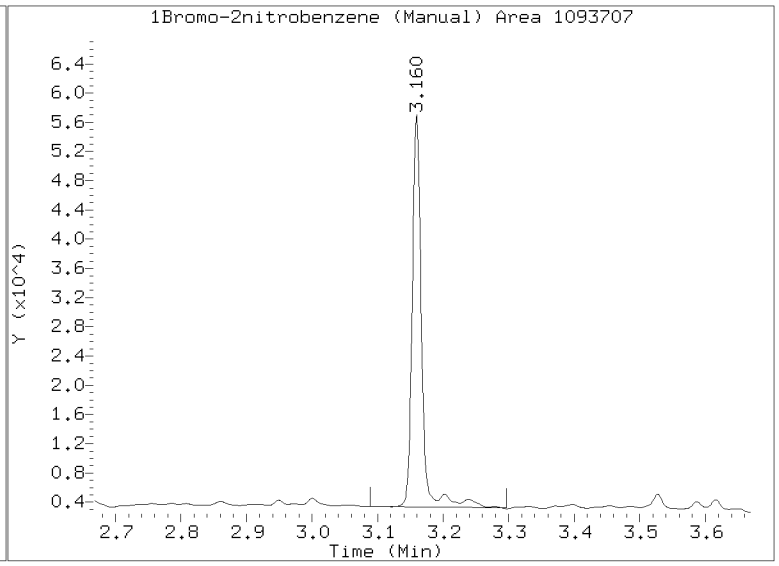


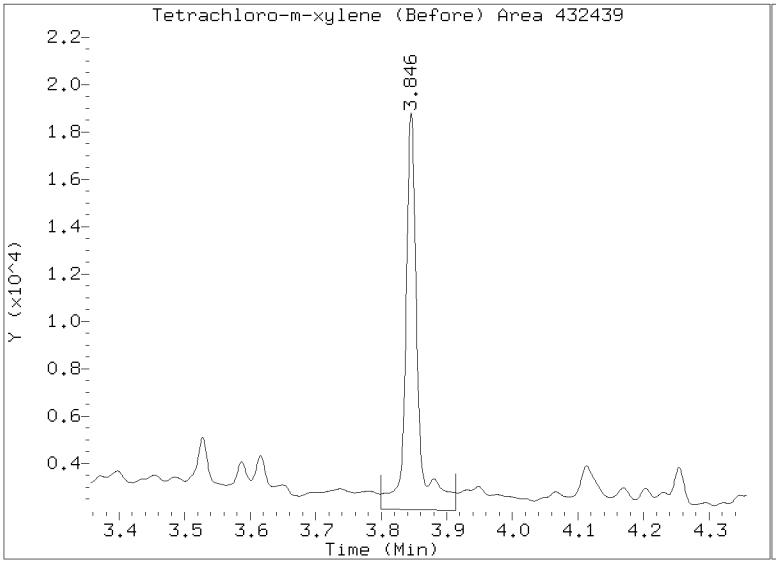
CLP-2 Manual Integration: YES

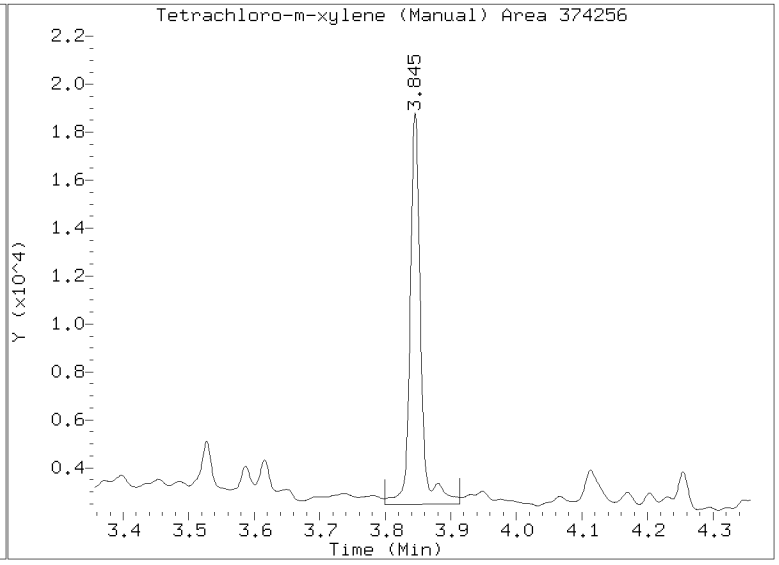
Manual Peak Adjustment Report, STX-CLP

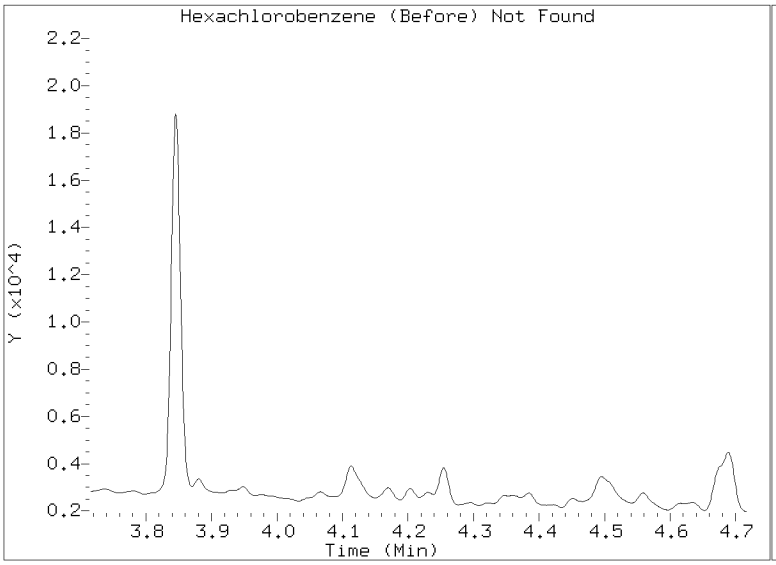
Datafile: /20230324.b/23032434.D
Injection Date: 25-MAR-2023 01:48
Lab ID:23C0108-09 Client ID:
Report Date: 03/28/2023 10:50

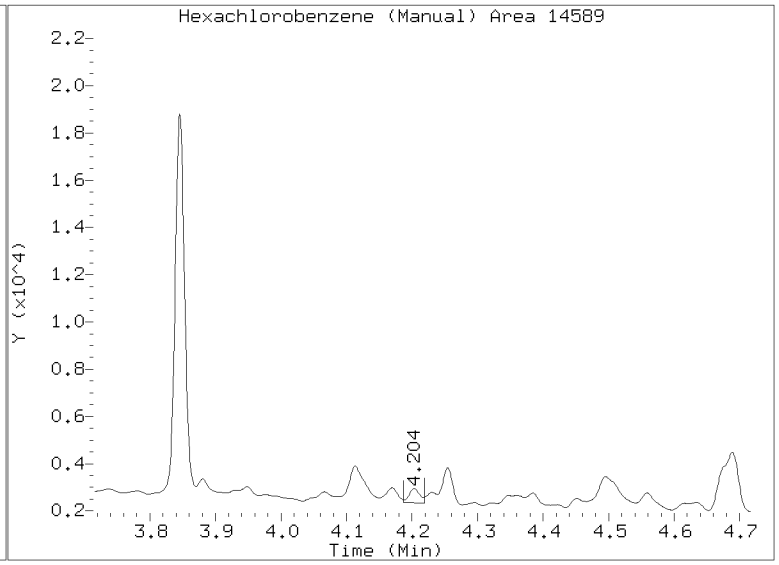












Manual Peak Adjustment Report, CLP-2

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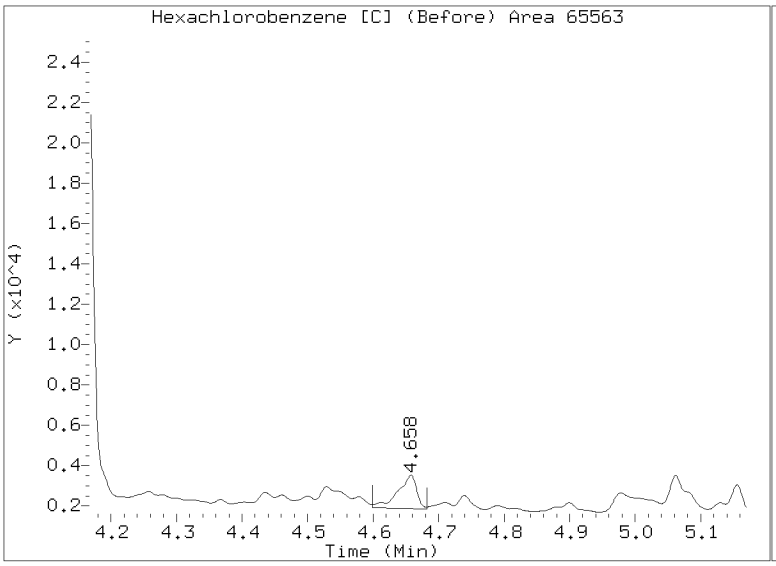
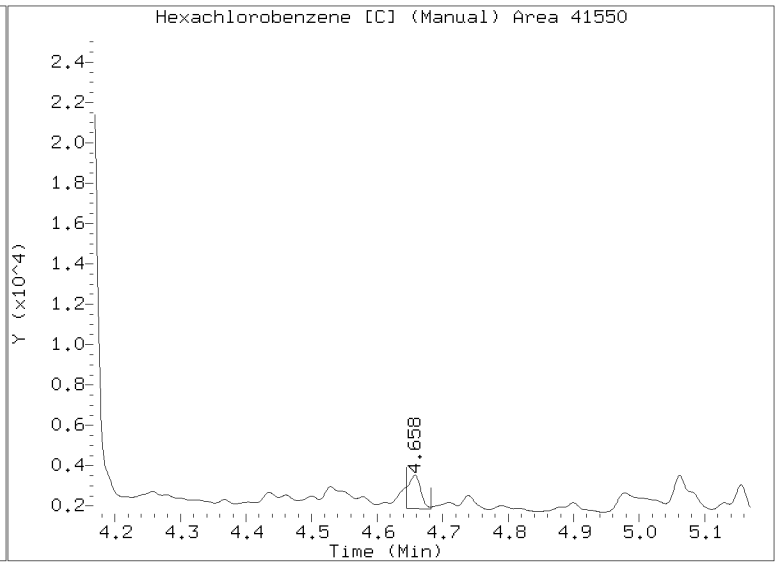
Injection Date: 25-MAR-2023 01:48
Lab ID:23C0108-09 Client ID:





PREPARATION BATCH SUMMARY

EPA 8081B

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Batch: BLC0183 Batch Matrix: Solid
Preparation: EPA 3546 (Microwave)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-SC1044	23C0108-02	23032428.D	03/10/23 11:13	
LDW23-SS1106	23C0108-06	23032431.D	03/10/23 11:13	
LDW23-SS1107	23C0108-07	23032432.D	03/10/23 11:13	
LDW23-SS1111	23C0108-08	23032433.D	03/10/23 11:13	
LDW23-SS1118	23C0108-09	23032434.D	03/10/23 11:13	
Blank	BLC0183-BLK1	23032425.D	03/10/23 11:13	
LCS	BLC0183-BS1	23032426.D	03/10/23 11:13	
LCS Dup	BLC0183-BSD1	23032427.D	03/10/23 11:13	
LDW23-SC1044	BLC0183-MS1	23032429.D	03/10/23 11:13	
LDW23-SC1044	BLC0183-MSD1	23032430.D	03/10/23 11:13	

Analytical Resources, LLC
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BLC0183

Prepared using: EPA 3546 (Microwave)

8081B Pest (PSDDA) in Solid (Version:HCB Only)

Matrix: Solid **Date Prepared:** 3/10/23 **Balance ID:** B3924880Z **Set Up By:** CTO 3/8/23

WO Comments

23C0108: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

23C0109: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

The following standards may be missing from this batch!

Designator	Description
62	Toxaphene
44	WND
QLS 10	QLS Spike

TLC 3/20/23

Analysis: 8081B Pest (PSDDA)

Lab Number & Container	% Solids	Initial (g) Target Dry: 12.5 (Wet)	Initial (g) Actual	(REQ) GPC (1:1) 1 2 3	(Yes / No) Acid Clean 5mL	(REQ) Sulfur C/U ~~4.5mL+0.5~~ 5 mL ~~Ethyl Acetate~~	(REQ) Silica Gel C/U (2:5)	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
23C0108-02 A	52.7	(23.70)	23.70	(1:1)	5mL	5mL	(2:5) 2mL	2.5	1.0	
23C0108-06 A	43.3	(28.85)	28.99	(1:1)	5mL	5mL	(2:5) 2mL	2.5	1.0	
23C0108-07 A	40.2	(31.10)	31.43	(1:1)	5mL	5mL	(2:5) 2mL	2.5	1.0	
23C0108-08 A	46.4	(26.95)	26.95	(1:1)	5mL	5mL	(2:5) 2mL	2.5	1.0	
23C0108-09 A	42.6	(29.33)	29.97	(1:1)	5mL	5mL	(2:5) 2mL	2.5	1.0	
23C0109-02 A	35.9	(34.82)	34.88	(1:1)	5mL	5mL	(2:5) 2mL	2.5	1.0	
23C0109-03 A	36.1	(34.60)	34.66	(1:1)	5mL	5mL	(2:5) 2mL	2.5	1.0	

Batch QC

Lab Number	% Solids	Initial (g) Target Dry: 12.5 (Wet)	Initial (g) Actual	(REQ) GPC (1:1) 1 2 3	(Yes / No) Acid Clean 5mL	(REQ) Sulfur C/U 4.5mL+0.5 mL Ethyl Acetate	(REQ) Silica Gel C/U (2:5)	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
BLC0183-BLK1	100.0	(12.50)	12.50	(1:1)	5mL	5mL	(2:5) 2mL	2.5	1.0	
BLC0183-BS1	100.0	(12.50)	12.50	(1:1)	5mL	5mL	(2:5) 2mL	2.5	1.0	
BLC0183-BSD1	100.0	(12.50)	12.50	(1:1)	5mL	5mL	(2:5) 2mL	2.5	1.0	Use 23C0108-02
BLC0183-MS1	52.7	(23.70)	23.70	(1:1)	5mL	5mL	(2:5) 2mL	2.5	1.0	Use 23C0108-02
BLC0183-MSD1	52.7	(23.70)	23.70	(1:1)	5mL	5mL	(2:5) 2mL	2.5	1.0	

CR 3/10/23
Client ID verified By Date

LJ 3/21/23
Preparation Reviewed By Date

3/14/23 OT 11:13
Extraction Date and Time

Printed: 3/8/2023 10:18:00AM

Analytical Resources, LLC
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BLC0183

Prepared using: EPA 3546 (Microwave)

8081B Pest (PSDDA) in Solid (Version:HCB Only)

WO Comments

23C0108: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

23C0109: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

Prep Steps

Microwave
1 2 3
CR 3/10/23
Analyst/Date

Pre GPC KD
100°C
(No Exchange)
2 3 4 5 6
LD 3-14
Analyst/Date

TurboVap
Pre GPC
1 2 3 4 5
NKB 3/14/23
Analyst/Date

Post GPC KD
80 - 85°C
Hexane Exchange
(2 X 20 mL)
100°C
1 2 3 4 5 6
LD 3-20
Analyst/Date

TurboVap
Pre-Cleanups
1 2 3 4 5
TWC 3/24/23
Analyst/Date

TurboVap
Post-Cleanups
1 2 3 4 5
LD 3/24/23
Analyst/Date

Vialing

Reagents Used

Station/Reagent	Standard ID
Microwave Analyst: CR Date: 3/10/23	
Hexane	L001957
80:20 Hexane/Acetone	L001221
1:1 Hexane/Acetone	L002245
Neutral Glass Wool	L000497
Anhydrous Sodium Sulfate	L002114
Pre GPC KD Analyst: LD Date: 3-14-23	
Hexane	L000089
Anhydrous Sodium Sulfate	
Neutral Glass Wool	
GPC Filter Prep Analyst: NKB Date: 3/14/23	
Methylene Chloride	IC005941
GPC Filter	L001799
GPC Analyst: NKB Date: 3/16/23	
Methylene Chloride	IC005944
GPC Calibration File	CLB0132
Post GPC KD Analyst: LD Date: 3-20-23	
Methylene Chloride	L002621
Hexane	L001967
Vialing Analyst: LD Date: 3/21/23	
Hexane	L001957
Sulfuric Acid	L001833
Ethyl Acetate	N/A
Tetrabutylammonium hydrogensulfate (TBAS)	L002438
Sodium Sulfite	L002437

Surrogates & Spike Standards Used

Type	Vial ID / Standard ID	Vol uL	Analyst	Witness
Surrogate 2µg/mL	N L000773 Exp Date: 7/21/23	50µL	CR	CT
Spike (Freezer) 0.5/1/5µg/mL	3 K011471 Exp Date: 6/10/23	100µL	CR	CT

MANUALLY ENTER EXPIRATION DATES!

(V) indicates a virtual standard combining two or more physical standards. In these cases the Standard ID refers to the virtual standard, not the parent standards.

If a Standard ID is missing, but should be present, check the standard definition in Element LIMS to be sure Standard Info 6 has the correct letter or number designator matching the vial designator inthe Standard ID column. If it is correct, check the batch and bench sheet in Element LIMS to be sure the correct standards are selected for surrogate(s) and spike(s).

Analytical Resources, LLC
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BLC0183

Prepared using: EPA 3546 (Microwave)

8081B Pest (PSDDA) in Solid (Version:HCB Only)

WO Comments

23C0108: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

23C0109: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

Analyst/Date		
LJ 3/24/23	Silica Gel (SPE) Darts	L002256

Analytical Resources, LLC
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BLC0183

Prepared using: EPA 3546 (Microwave)

8081B Pest (PSDDA) in Solid (Version:HCB Only)

WO Comments

23C0108: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

23C0109: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

Prep Instructions	
SPECIAL INSTRUCTIONS: 1. Weigh into beakers-lightly dry with Sodium Sulfate. 2. Transfer to microwave vessels. 3. Add 1:1 Hex/ACE to the vessels (until solvent is 3" above soil layer after homogenization). 4. Add surr/spike. 5. Microwave on appropriate power setting determined by # of samples. 6. After microwave-re-homogenize while hot then let cool 15 min in cold water. Re-homogenize while cool. 7. Decant 1:1 Hex/ACE into Erlenmeyer flask using a funnel containing neutral glasswool. 8. Rinse with Hexane. 9. Microwave a 2nd time using 8:2 Hex/Ace (until solvent is 3" above soil layer after homogenization). 10. Let cool and decant the solvent then empty the soil into the funnel and rinse with Hexane. 11. KD to 5mL at 100°C. (NO HEXANE EXCHANGE). 12. TurboVap 13. GPC 14. After GPC: KD at 80 - 85°C 15. Exchange to Hexane at 100°C 2 x 20 mL). 16. TurboVap. 17. Cleanups, If Acid cleaning do not add Ethyl Acetate for Sulfur Clean. Do Not Acid Clean if Acid liable compounds are requested. 18. Vial in Hexane. A. Need Total Solids Y (N) B. Archive/Freeze (Y) N	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

Extraction Parameter: PEST Extraction Batch BLC0183

Total Solids Batch: ~~BLC0101~~ BLC0101 Work Order(s): 23C0107, 108, 109

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☒ No Anomalies (standard soil/wet sediment/sand/gravel)= 108, 109	CR 3/7/23
☒ Standing Water Decanted (Not shared)= 107:01	CR 3/7/23
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☐ Rocks (%+size)?	
☐ Organics (Leaves/sticks/grass)=	
☒ Oily, obvious fuel/sulfur odors= 107:01	CR 3/7/23
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☒ Previously Frozen = 107, 108, 109	CR 3/7/23
☐ Other (Details)=	
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☐ Other Notes/Comments= (Note problems, concerns, corrective actions).	
☒ Share Samples Y / (N)	CR 3/7/23
☒ Multiple Jars Y / (N)	CR 3/7/23
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

BLC0183/BLC0283/BLC287/23C0108/109/104/177/177/211

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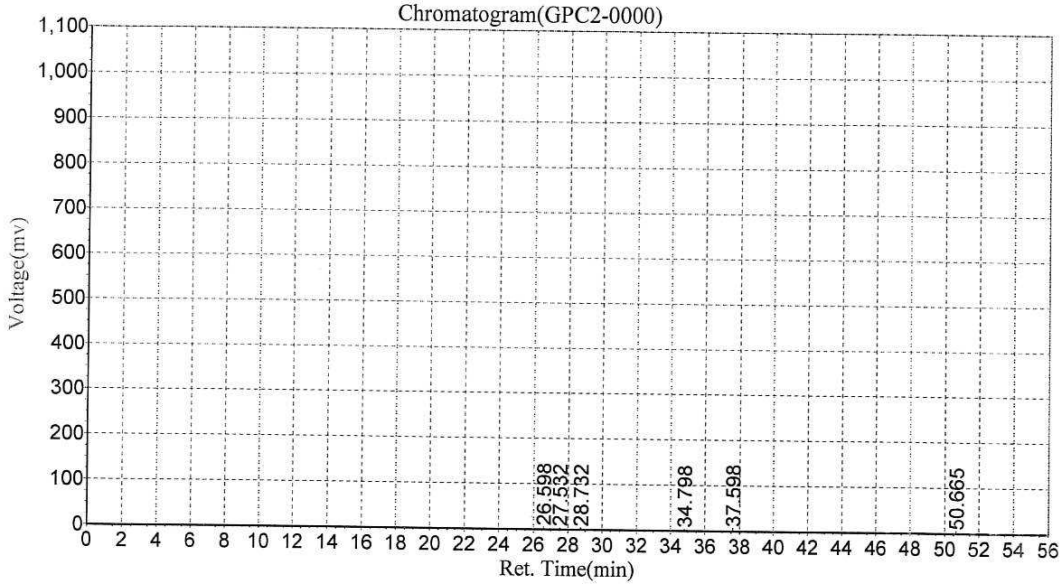
Method File:E:\GPC2_InHouse.mtd

Analyst£°NRB
Date/Time2023-03-16,6:07:20 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		26.598	2375.297	130991.063	15.8318
2		27.532	2417.374	119581.281	14.4528
3		28.732	2820.187	155314.828	18.7716
4		34.798	1903.483	137817.297	16.6568
5		37.598	2162.549	150455.000	18.1843
6		50.665	1870.026	133232.156	16.1027
Total			13548.914	827391.625	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect Pest	29.000	0.010	0.00E+000	0.00E+000	0.0000
2	Dump Pest	46.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump BAN	48.000	0.010	0.00E+000	0.00E+000	0.0000
4	Collect BAN	24.000	0.010	0.00E+000	0.00E+000	0.0000

BLC0183/BLC0283/BLC287/23C0108/109/104/177/177/211

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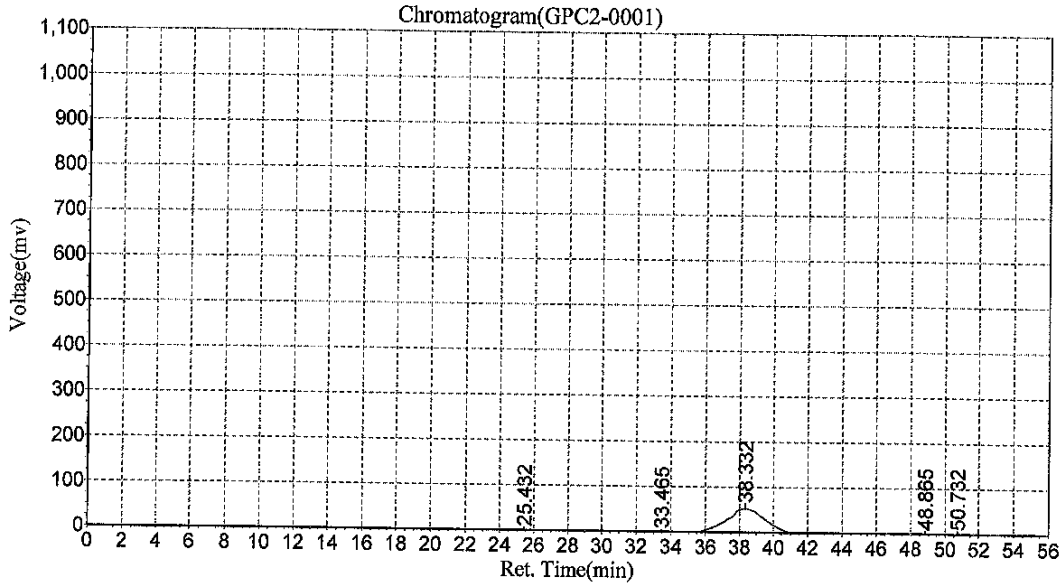
Analyst£ºNRB
Date/Time2023-03-16,7:05:08 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		25.432	2419.677	106209.656	0.8604
2		33.465	3136.080	121015.875	0.9804
3		38.332	60949.242	11816796.000	95.7302
4		48.865	1534.098	152234.844	1.2333
5		50.732	1774.549	147594.234	1.1957
Total			69813.647	12343850.609	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect Pest	29.000	0.010	0.00E+000	0.00E+000	0.0000
2	Dump Pest	46.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump BAN	48.000	0.010	0.00E+000	0.00E+000	0.0000
4	Collect BAN	24.000	0.010	0.00E+000	0.00E+000	0.0000

BLC0183/BLC0283/BLC287/23C0108/109/104/177/177/211

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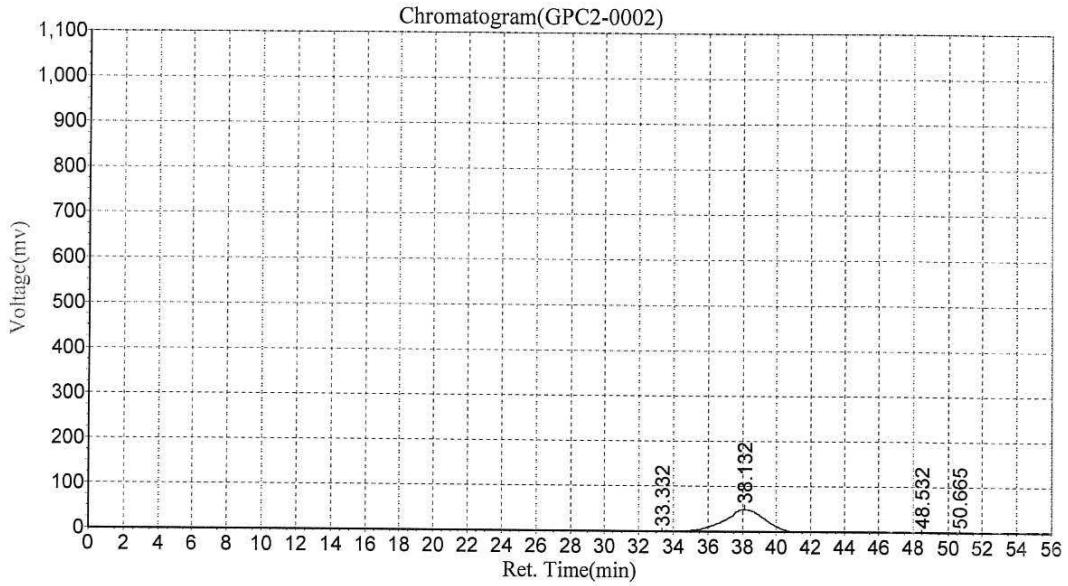

Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		33.332	4679.626	368264.906	2.9642
2		38.132	56487.695	11713111.000	94.2787
3		48.532	1811.678	181548.734	1.4613
4		50.665	1945.931	160991.641	1.2958
Total			64924.930	12423916.281	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect Pest	29.000	0.010	0.00E+000	0.00E+000	0.0000
2	Dump Pest	46.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump BAN	48.000	0.010	0.00E+000	0.00E+000	0.0000
4	Collect BAN	24.000	0.010	0.00E+000	0.00E+000	0.0000

2023-03-16

Analytical Resources, Inc.

BLC0183/BLC0283/BLC287/23C0108/109/104/177/177/211

Date:2023-03-16,9:00:29 PM
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Method File:E:\GPC2_InHouse.mtd

Analyst£ºNRB
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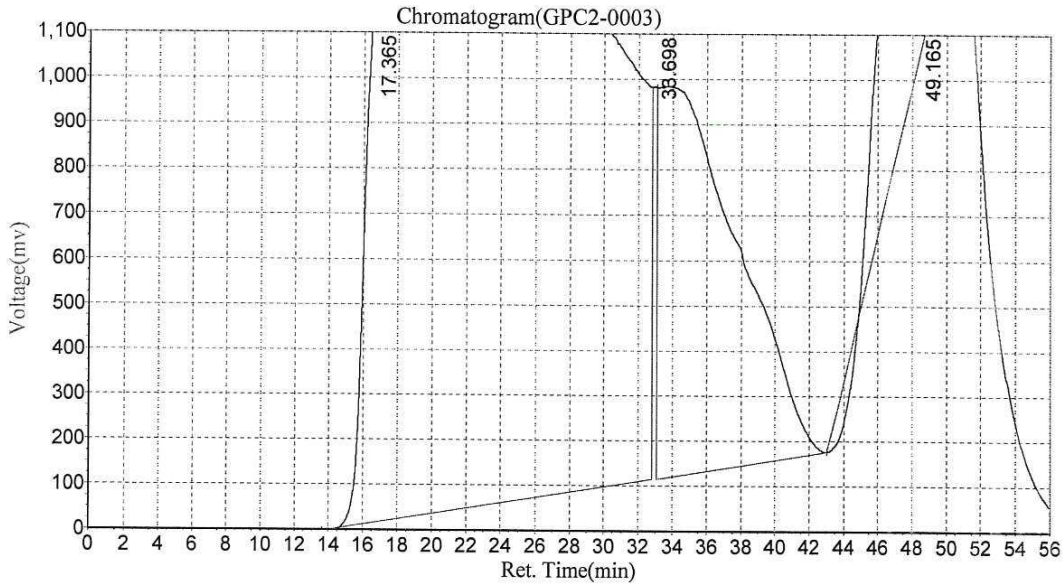

Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		17.365	1232988.375	1157004672.000	76.9146
2		33.698	865068.438	274003040.000	18.2150
3		49.165	86830.133	73263520.000	4.8704
Total			2184886.945	1504271232.000	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect Pest	29.000	0.010	0.00E+000	0.00E+000	0.0000
2	Dump Pest	46.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump BAN	48.000	0.010	0.00E+000	0.00E+000	0.0000
4	Collect BAN	24.000	0.010	0.00E+000	0.00E+000	0.0000

BLC0183/BLC0283/BLC287/23C0108/109/104/177/177/211

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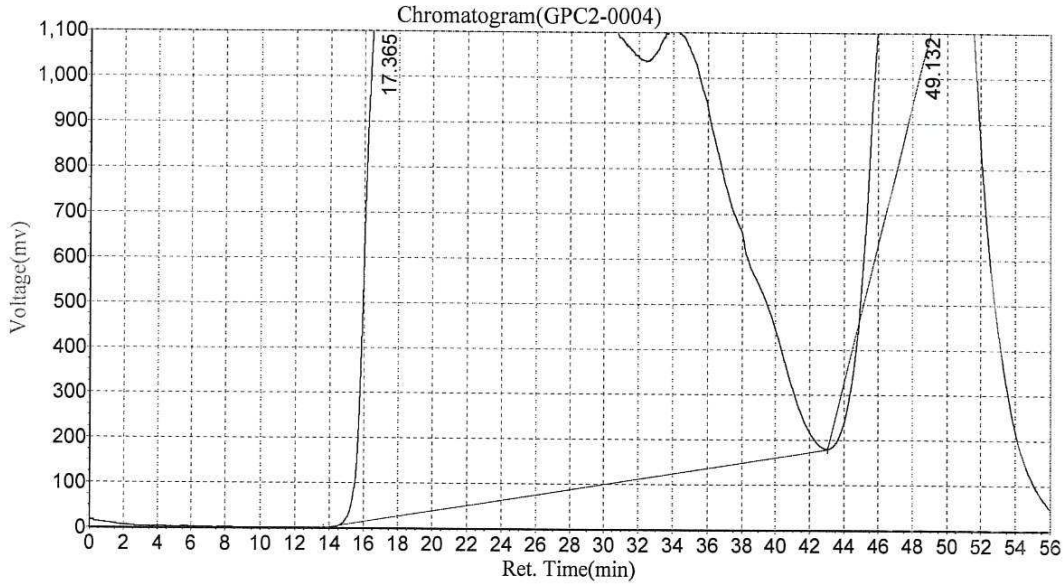
Method File:E:\GPC2_InHouse.mtd

Analyst£ºNRB
Date/Time2023-03-16,9:58:11 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		17.365	1229863.000	1477775232.000	94.6869
2		49.132	143065.125	82921888.000	5.3131
Total			1372928.125	1560697120.000	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect Pest	29.000	0.010	0.00E+000	0.00E+000	0.0000
2	Dump Pest	46.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump BAN	48.000	0.010	0.00E+000	0.00E+000	0.0000
4	Collect BAN	24.000	0.010	0.00E+000	0.00E+000	0.0000

BLC0183/BLC0283/BLC287/23C0108/109/104/177/177/211

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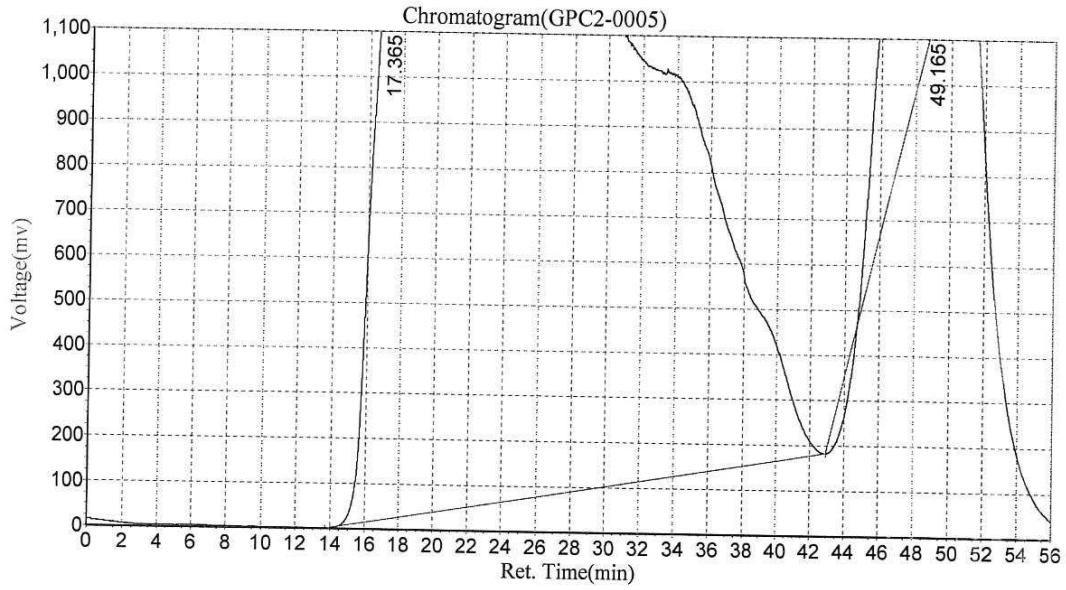

Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		17.365	1229873.125	1440736384.000	94.9363
2		49.165	85045.414	76845840.000	5.0637
Total			1314918.539	1517582224.000	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect Pest	29.000	0.010	0.00E+000	0.00E+000	0.0000
2	Dump Pest	46.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump BAN	48.000	0.010	0.00E+000	0.00E+000	0.0000
4	Collect BAN	24.000	0.010	0.00E+000	0.00E+000	0.0000

2023-03-16

Analytical Resources, Inc.

BLC0183/BLC0283/BLC287/23C0108/109/104/177/177/211

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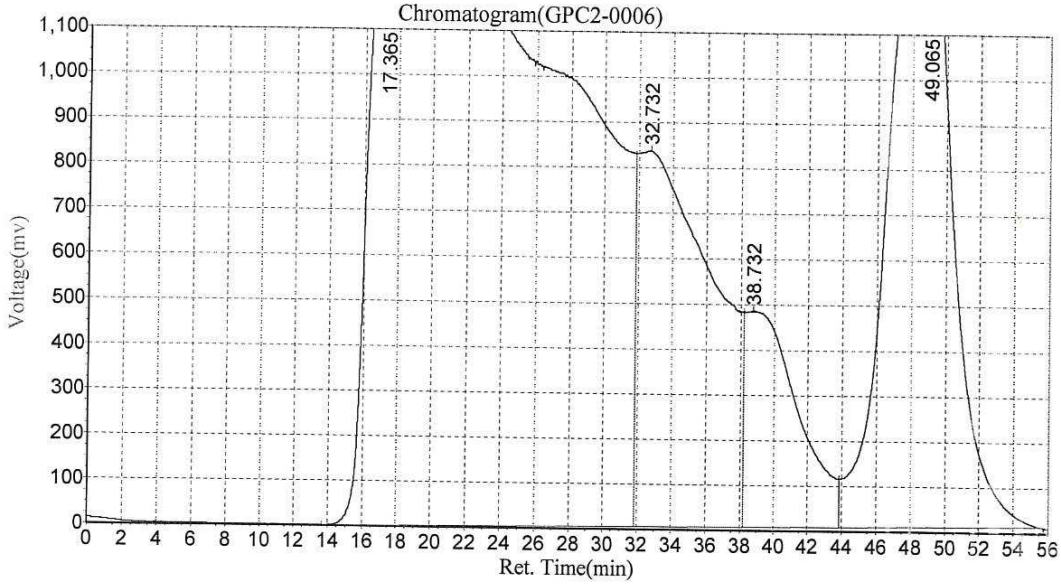

Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		17.365	1252367.500	1042894912.000	59.6853
2		32.732	831838.063	252196384.000	14.4333
3		38.732	477948.781	103637528.000	5.9312
4		49.065	1241687.625	348595168.000	19.9502
Total			3803841.969	1747323992.000	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect Pest	29.000	0.010	0.00E+000	0.00E+000	0.0000
2	Dump Pest	46.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump BAN	48.000	0.010	0.00E+000	0.00E+000	0.0000
4	Collect BAN	24.000	0.010	0.00E+000	0.00E+000	0.0000

2023-03-16

Analytical Resources, Inc.

BLC0183/BLC0283/BLC287/23C0108/109/104/177/177/211

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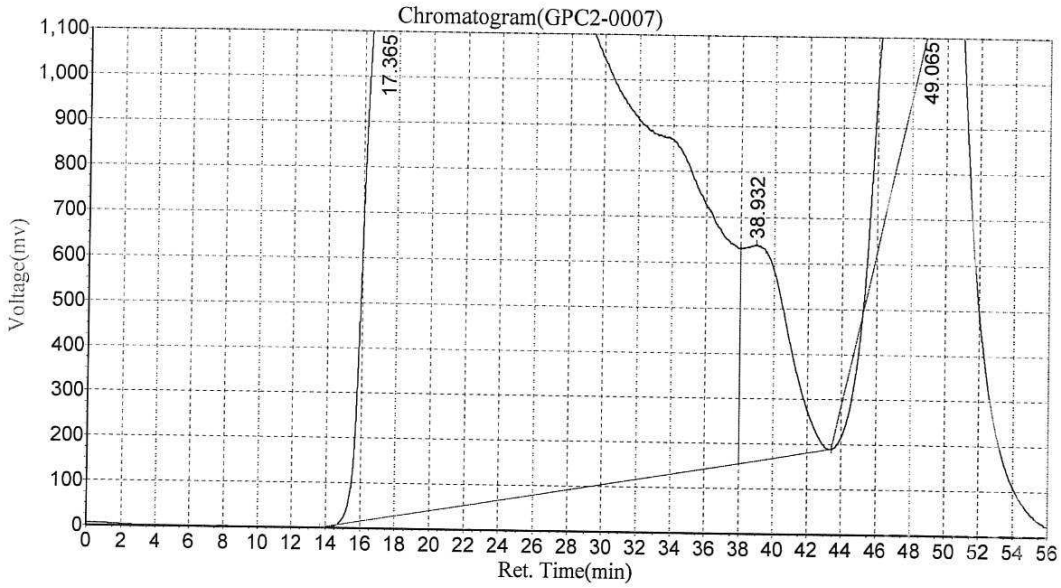

Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		17.365	1230398.250	1319578112.000	89.3536
2		38.932	478677.094	88520560.000	5.9941
3		49.065	113770.391	68705616.000	4.6523
Total			1822845.734	1476804288.000	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect Pest	29.000	0.010	0.00E+000	0.00E+000	0.0000
2	Dump Pest	46.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump BAN	48.000	0.010	0.00E+000	0.00E+000	0.0000
4	Collect BAN	24.000	0.010	0.00E+000	0.00E+000	0.0000

2023-03-17

Analytical Resources, Inc.

BLC0183/BLC0283/BLC287/23C0108/109/104/177/177/211

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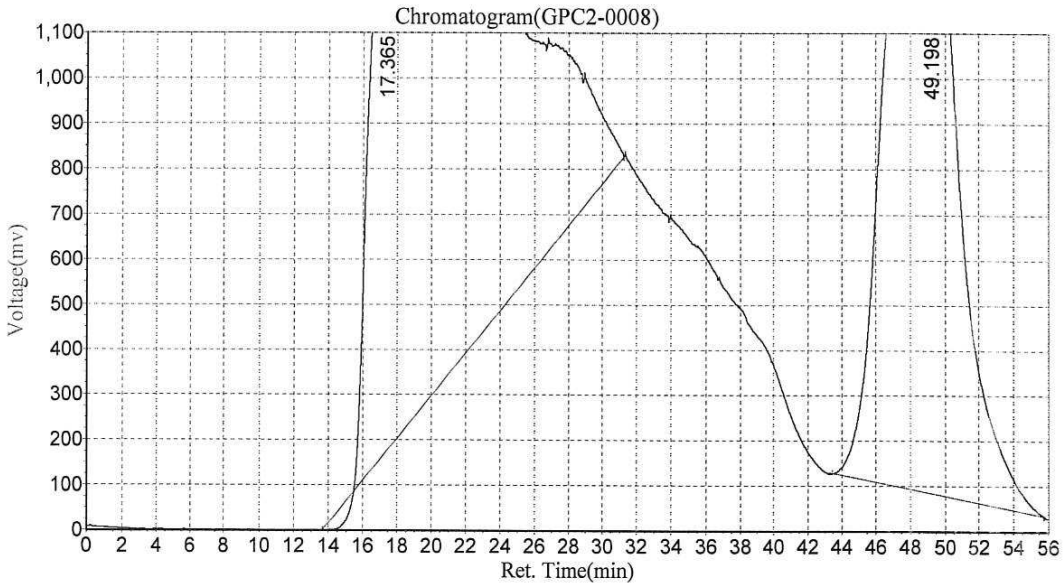

Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		17.365	1081200.000	609082944.000	61.0482
2		49.198	1167225.250	388625728.000	38.9518
Total			2248425.250	997708672.000	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect Pest	29.000	0.010	0.00E+000	0.00E+000	0.0000
2	Dump Pest	46.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump BAN	48.000	0.010	0.00E+000	0.00E+000	0.0000
4	Collect BAN	24.000	0.010	0.00E+000	0.00E+000	0.0000

BLC0183/BLC0283/BLC287/23C0108/109/104/177/177/211

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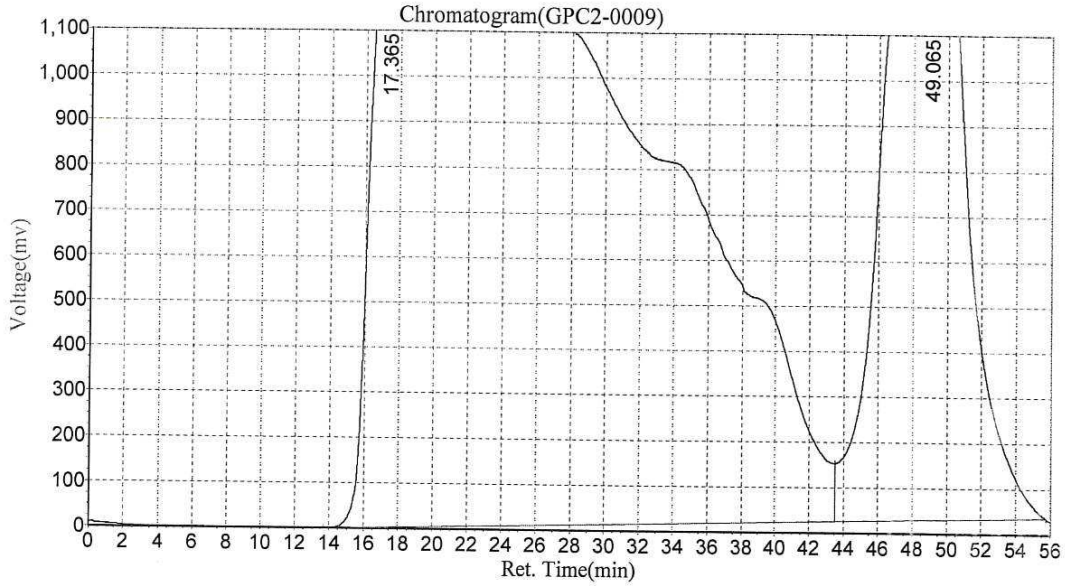

Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		17.365	1250813.625	1467496448.000	76.5292
2		49.065	1220921.375	450068064.000	23.4708
Total			2471735.000	1917564512.000	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect Pest	29.000	0.010	0.00E+000	0.00E+000	0.0000
2	Dump Pest	46.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump BAN	48.000	0.010	0.00E+000	0.00E+000	0.0000
4	Collect BAN	24.000	0.010	0.00E+000	0.00E+000	0.0000

BLC0183/BLC0283/BLC287/23C0108/109/104/177/177/211

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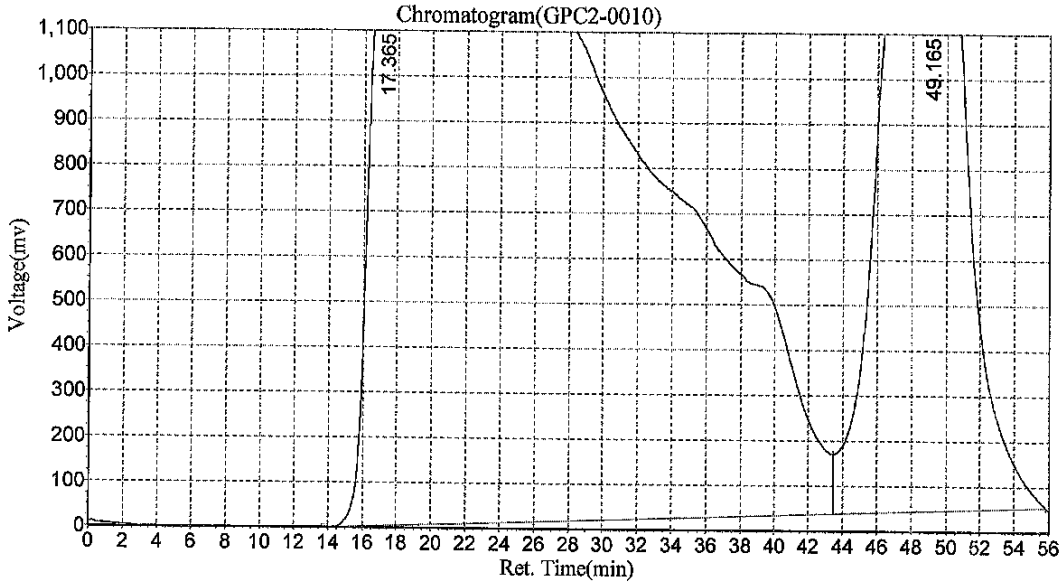

Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		17.365	1248974.125	1447383936.000	75.6257
2		49.165	1205098.375	466494464.000	24.3743
Total			2454072.500	1913878400.000	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect Pest	29.000	0.010	0.00E+000	0.00E+000	0.0000
2	Dump Pest	46.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump BAN	48.000	0.010	0.00E+000	0.00E+000	0.0000
4	Collect BAN	24.000	0.010	0.00E+000	0.00E+000	0.0000

-03

BLC0183/BLC0283/BLC287/23C0108/109/104/177/177/211

Date:2023-03-17,4:42:13 AM
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Method File:E:\GPC2_InHouse.mtd

Analyst£ºNRB
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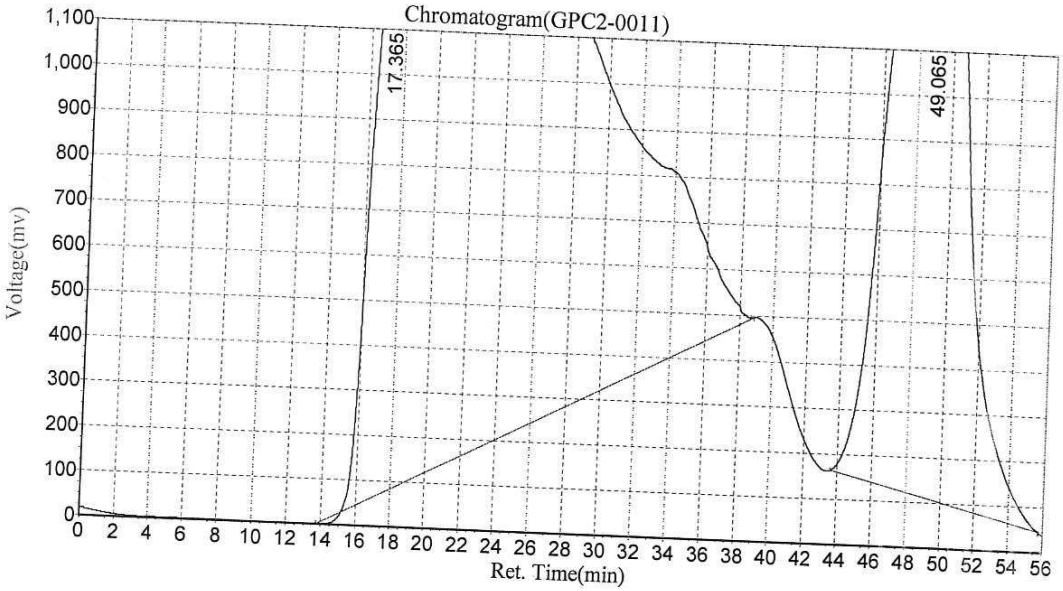


Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		17.365	1181966.625	1028968320.000	71.2804
2		49.065	1140490.000	414582240.000	28.7196
Total			2322456.625	1443550560.000	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect Pest	29.000	0.010	0.00E+000	0.00E+000	0.0000
2	Dump Pest	46.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump BAN	48.000	0.010	0.00E+000	0.00E+000	0.0000
4	Collect BAN	24.000	0.010	0.00E+000	0.00E+000	0.0000

2023-03-17

Analytical Resources, Inc.

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Cleanup Batch:	CLC0182	Cleanup Type:	GPC
Cleanup Method:	EPA 3640A GPC Cleanup 1:1	Analysis:	EPA 8081B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-SC1044	23C0108-02	23032428.D	03/21/2023	
Matrix Spike Dup	BLC0183-MSD1	23032430.D	03/21/2023	
Matrix Spike	BLC0183-MS1	23032429.D	03/21/2023	
LCS Dup	BLC0183-BSD1	23032427.D	03/21/2023	
LCS	BLC0183-BS1	23032426.D	03/21/2023	
Blank	BLC0183-BLK1	23032425.D	03/21/2023	
LDW23-SS1118	23C0108-09	23032434.D	03/21/2023	
LDW23-SS1111	23C0108-08	23032433.D	03/21/2023	
LDW23-SS1107	23C0108-07	23032432.D	03/21/2023	
LDW23-SS1106	23C0108-06	23032431.D	03/21/2023	

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CLC0182

Matrix: Solid **Cleanup using: Organics - EPA 3640A GPC Cleanup 1:1** **Check Standard: CLB0132-GPC2** **Printed: 3/21/2023 2:39:40PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
23C0108-02	A	LDW23-SC1044	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
23C0108-06	A	LDW23-SS1106	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
23C0108-07	A	LDW23-SS1107	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
23C0108-08	A	LDW23-SS1111	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
23C0108-09	A	LDW23-SS1118	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
23C0109-02	A	LDW23-SS1104	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
23C0109-03	A	LDW23-SS1105	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
BLC0183-BLK1	-	Blank	-	2.5	2.5	-	3/21/2023	LMJ	
BLC0183-BS1	-	LCS	-	2.5	2.5	-	3/21/2023	LMJ	
BLC0183-BSD1	-	LCS Dup	-	2.5	2.5	-	3/21/2023	LMJ	
BLC0183-MS1	-	Matrix Spike	-	2.5	2.5	-	3/21/2023	LMJ	
BLC0183-MSD1	-	Matrix Spike Dup	-	2.5	2.5	-	3/21/2023	LMJ	

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Cleanup Batch:	CLC0183	Cleanup Type:	Silica Gel
Cleanup Method:	EPA 3630C Silica Gel Cleanup - uL	Analysis:	EPA 8081B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-SS1107	23C0108-07	23032432.D	03/21/2023	
Blank	BLC0183-BLK1	23032425.D	03/21/2023	
LCS	BLC0183-BS1	23032426.D	03/21/2023	
LCS Dup	BLC0183-BSD1	23032427.D	03/21/2023	
Matrix Spike	BLC0183-MS1	23032429.D	03/21/2023	
Matrix Spike Dup	BLC0183-MSD1	23032430.D	03/21/2023	
LDW23-SS1111	23C0108-08	23032433.D	03/21/2023	
LDW23-SS1106	23C0108-06	23032431.D	03/21/2023	
LDW23-SC1044	23C0108-02	23032428.D	03/21/2023	
LDW23-SS1118	23C0108-09	23032434.D	03/21/2023	

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CLC0183

Matrix: Solid **Cleanup using: Organics - EPA 3630C Silica Gel Cleanup - uL** **Printed: 3/21/2023 2:40:08PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
23C0108-02	A	LDW23-SC1044	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
23C0108-06	A	LDW23-SS1106	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
23C0108-07	A	LDW23-SS1107	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
23C0108-08	A	LDW23-SS1111	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
23C0108-09	A	LDW23-SS1118	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
23C0109-02	A	LDW23-SS1104	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
23C0109-03	A	LDW23-SS1105	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
BLC0183-BLK1	-	Blank	-	2.5	2.5	-	3/21/2023	LMJ	
BLC0183-BS1	-	LCS	-	2.5	2.5	-	3/21/2023	LMJ	
BLC0183-BSD1	-	LCS Dup	-	2.5	2.5	-	3/21/2023	LMJ	
BLC0183-MS1	-	Matrix Spike	-	2.5	2.5	-	3/21/2023	LMJ	
BLC0183-MSD1	-	Matrix Spike Dup	-	2.5	2.5	-	3/21/2023	LMJ	

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Cleanup Batch:	CLC0184	Cleanup Type:	Sulfur
Cleanup Method:	EPA 3660B Sulfur Cleanup - uL	Analysis:	EPA 8081B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-SS1107	23C0108-07	23032432.D	03/21/2023	
LDW23-SS1118	23C0108-09	23032434.D	03/21/2023	
LDW23-SC1044	23C0108-02	23032428.D	03/21/2023	
LCS	BLC0183-BS1	23032426.D	03/21/2023	
LDW23-SS1106	23C0108-06	23032431.D	03/21/2023	
LCS Dup	BLC0183-BSD1	23032427.D	03/21/2023	
Matrix Spike	BLC0183-MS1	23032429.D	03/21/2023	
Matrix Spike Dup	BLC0183-MSD1	23032430.D	03/21/2023	
Blank	BLC0183-BLK1	23032425.D	03/21/2023	
LDW23-SS1111	23C0108-08	23032433.D	03/21/2023	

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CLC0184

Matrix: Solid **Cleanup using: Organics - EPA 3660B Sulfur Cleanup - uL** **Printed: 3/21/2023 2:40:30PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
23C0108-02	A	LDW23-SC1044	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
23C0108-06	A	LDW23-SS1106	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
23C0108-07	A	LDW23-SS1107	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
23C0108-08	A	LDW23-SS1111	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
23C0108-09	A	LDW23-SS1118	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
23C0109-02	A	LDW23-SS1104	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
23C0109-03	A	LDW23-SS1105	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
BLC0183-BLK1	-	Blank	-	2.5	2.5	-	3/21/2023	LMJ	
BLC0183-BS1	-	LCS	-	2.5	2.5	-	3/21/2023	LMJ	
BLC0183-BSD1	-	LCS Dup	-	2.5	2.5	-	3/21/2023	LMJ	
BLC0183-MS1	-	Matrix Spike	-	2.5	2.5	-	3/21/2023	LMJ	
BLC0183-MSD1	-	Matrix Spike Dup	-	2.5	2.5	-	3/21/2023	LMJ	

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Cleanup Batch:	CLC0185	Cleanup Type:	Sulfuric Acid
Cleanup Method:	EPA 3665 Sulfuric Acid Cleanup - uL	Analysis:	EPA 8081B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-SS1118	23C0108-09	23032434.D	03/21/2023	
Matrix Spike	BLC0183-MS1	23032429.D	03/21/2023	
LCS Dup	BLC0183-BSD1	23032427.D	03/21/2023	
LCS	BLC0183-BS1	23032426.D	03/21/2023	
Blank	BLC0183-BLK1	23032425.D	03/21/2023	
Matrix Spike Dup	BLC0183-MSD1	23032430.D	03/21/2023	
LDW23-SC1044	23C0108-02	23032428.D	03/21/2023	
LDW23-SS1106	23C0108-06	23032431.D	03/21/2023	
LDW23-SS1107	23C0108-07	23032432.D	03/21/2023	
LDW23-SS1111	23C0108-08	23032433.D	03/21/2023	

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CLC0185

Matrix: Solid **Cleanup using: Organics - EPA 3665 Sulfuric Acid Cleanup - uL** **Printed: 3/21/2023 2:40:54PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
23C0108-02	A	LDW23-SC1044	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
23C0108-06	A	LDW23-SS1106	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
23C0108-07	A	LDW23-SS1107	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
23C0108-08	A	LDW23-SS1111	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
23C0108-09	A	LDW23-SS1118	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
23C0109-02	A	LDW23-SS1104	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
23C0109-03	A	LDW23-SS1105	A 01	2.5	2.5	8081B Pest (PSDDA)	3/21/2023	LMJ	
BLC0183-BLK1	-	Blank	-	2.5	2.5	-	3/21/2023	LMJ	
BLC0183-BS1	-	LCS	-	2.5	2.5	-	3/21/2023	LMJ	
BLC0183-BSD1	-	LCS Dup	-	2.5	2.5	-	3/21/2023	LMJ	
BLC0183-MS1	-	Matrix Spike	-	2.5	2.5	-	3/21/2023	LMJ	
BLC0183-MSD1	-	Matrix Spike Dup	-	2.5	2.5	-	3/21/2023	LMJ	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I

METHOD BLANK DATA SHEET

EPA 8081B

Blank

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Solid	Laboratory ID:	BLC0183-BLK1	File ID:	23032425.D
Sampled:	N/A	Prepared:	03/10/23 11:13	Analyzed:	03/24/23 23:07
Solids:		Preparation:	EPA 3546 (Microwave)	Initial/Final:	12.5 g / 2.5 mL
Batch:	BLC0183	Sequence:	SLC0442	Calibration:	FL00041
Instrument:	ECD6	Column:	STX-CLP	Cleanups:	GPC, Silica Gel, Sulfur, Sulfuric Acid

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg wet)	Q	DL	RL
118-74-1	Hexachlorobenzene	1	0.50	U	0.15	0.50

SURROGATES	ADDED: (ug/kg wet)	FOUND: (ug/kg wet)	% REC	QC LIMITS	Q
Decachlorobiphenyl	8.0000	5.69	71.1	30 - 160	
Decachlorobiphenyl [2C]	8.0000	5.94	74.3	30 - 160	
Tetrachlorometaxylene	8.0000	4.41	55.1	30 - 160	
Tetrachlorometaxylene [2C]	8.0000	4.31	53.9	30 - 160	

[2C] indicates second-column analyte, present if quantification on any batch samples used second column data.

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20230324.b/23032425.D
Data file 2: /20230324.b/B20230324.b/23032425.D
Method: \20230324.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: BLC0183-BLK1
Client ID:
Injection Date: 24-MAR-2023 23:07
Report Date: 03/28/2023 10:50
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP on col	CLP2 on col	RPD	Compound/Flag
RT	Shift	Response	RT	Shift	Response				
----			----			0.00	0.00	---	alpha-BHC
----			----			0.00	0.00	---	beta-BHC
----			----			0.00	0.00	---	delta-BHC
----			----			0.00	0.00	---	gamma-BHC (Lindane)
----			----			0.00	0.00	---	Heptachlor
----			----			0.00	0.00	---	Aldrin
----			----			0.00	0.00	---	Heptachlor epoxide b
----			----			0.00	0.00	---	Endosulfan I
----			----			0.00	0.00	---	Dieldrin
----			----			0.00	0.00	---	4,4'-DDE
----			----			0.00	0.00	---	Endrin
----			----			0.00	0.00	---	Endosulfan II
----			----			0.00	0.00	---	4,4'-DDD
----			----			0.00	0.00	---	Endosulfan sulfate
----			----			0.00	0.00	---	4,4'-DDT
----			----			0.00	0.00	---	Methoxychlor
----			----			0.00	0.00	---	Endrin ketone
----			----			0.00	0.00	---	Endrin aldehyde
----			----			0.00	0.00	---	trans-Chlordane
----			----			0.00	0.00	---	cis-Chlordane
----			----			0.00	0.00	---	Hexachlorobutadiene
4.209	-0.008	4589	4.659	-0.011	1082	0.46	0.07	144.6*	Hexachlorobenzene
3.850	-0.008	165735	4.169	-0.010	241071	22.05	21.56	2.2	Tetrachloro-m-xylene
9.404	-0.010	135787	10.358	-0.015	160065	28.46	29.70	4.3	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

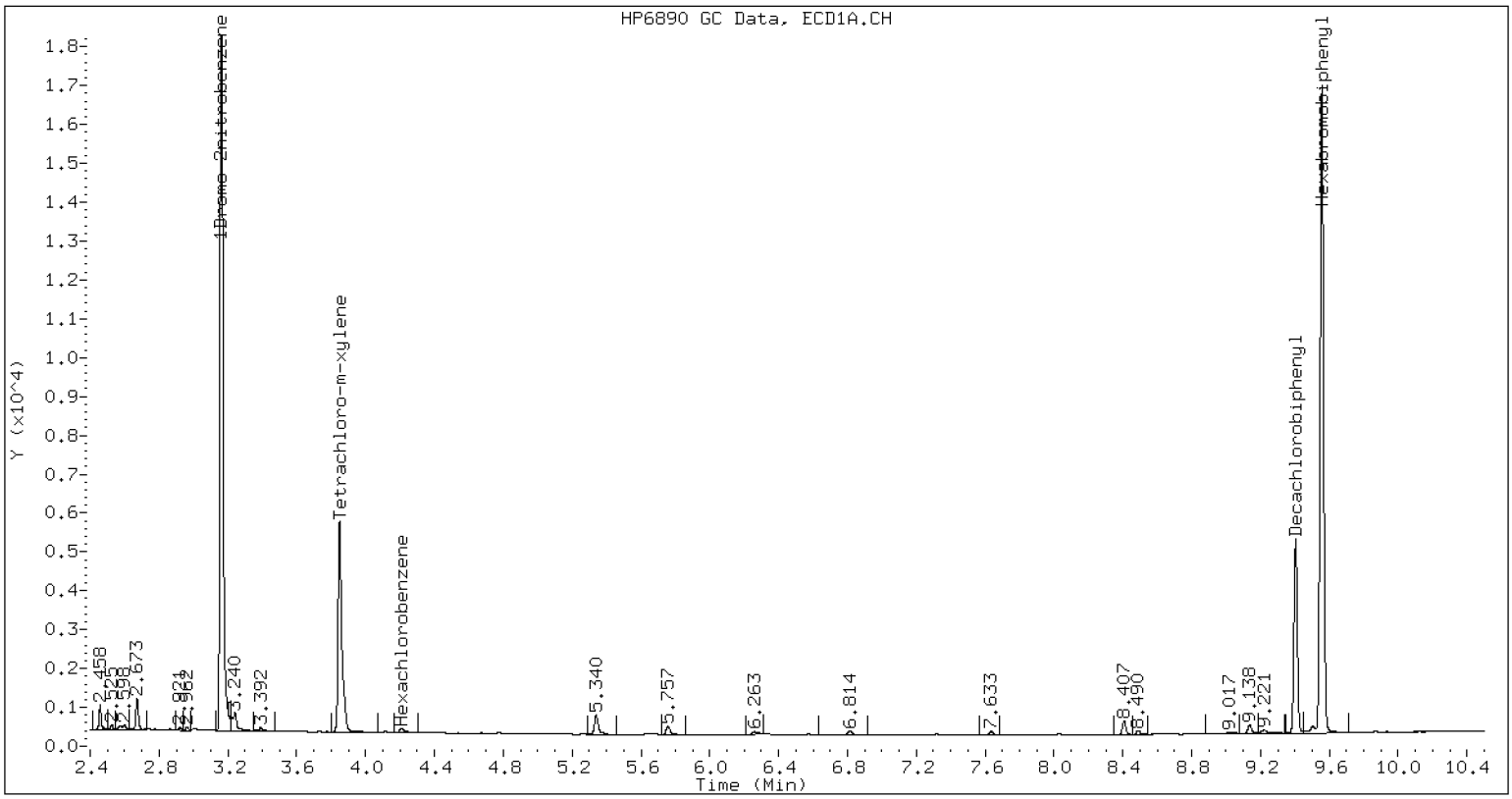
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	672426	552757	-17.8
Hexabromobiphenyl	609723	470923	-22.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1006482	794338	-21.1
Hexabromobiphenyl	769764	487597	-36.7

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

/20230324.b/23032425.D BLC0183-BLK1 STX-CLP 24-MAR-2023 23:07 1ul



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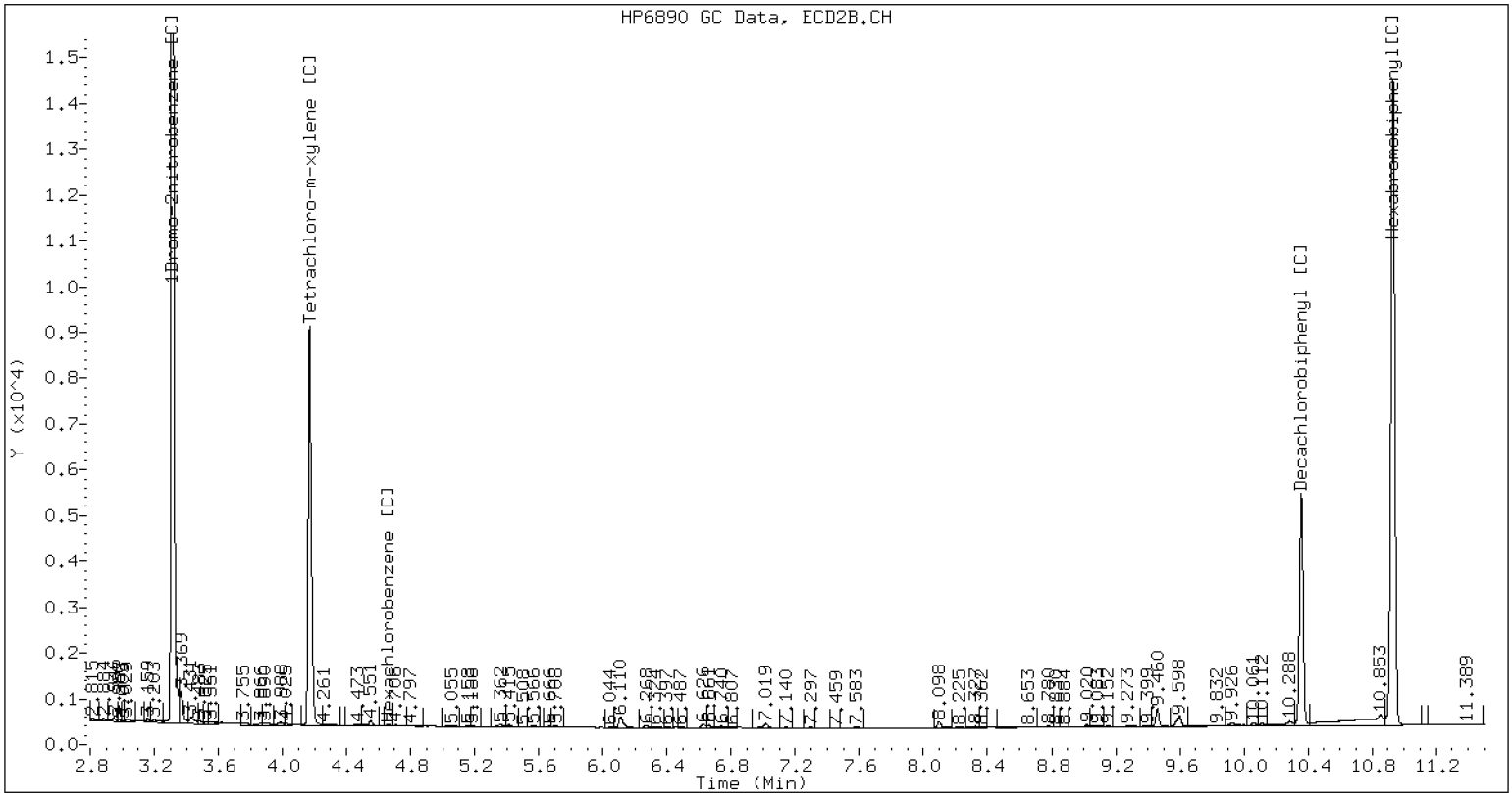
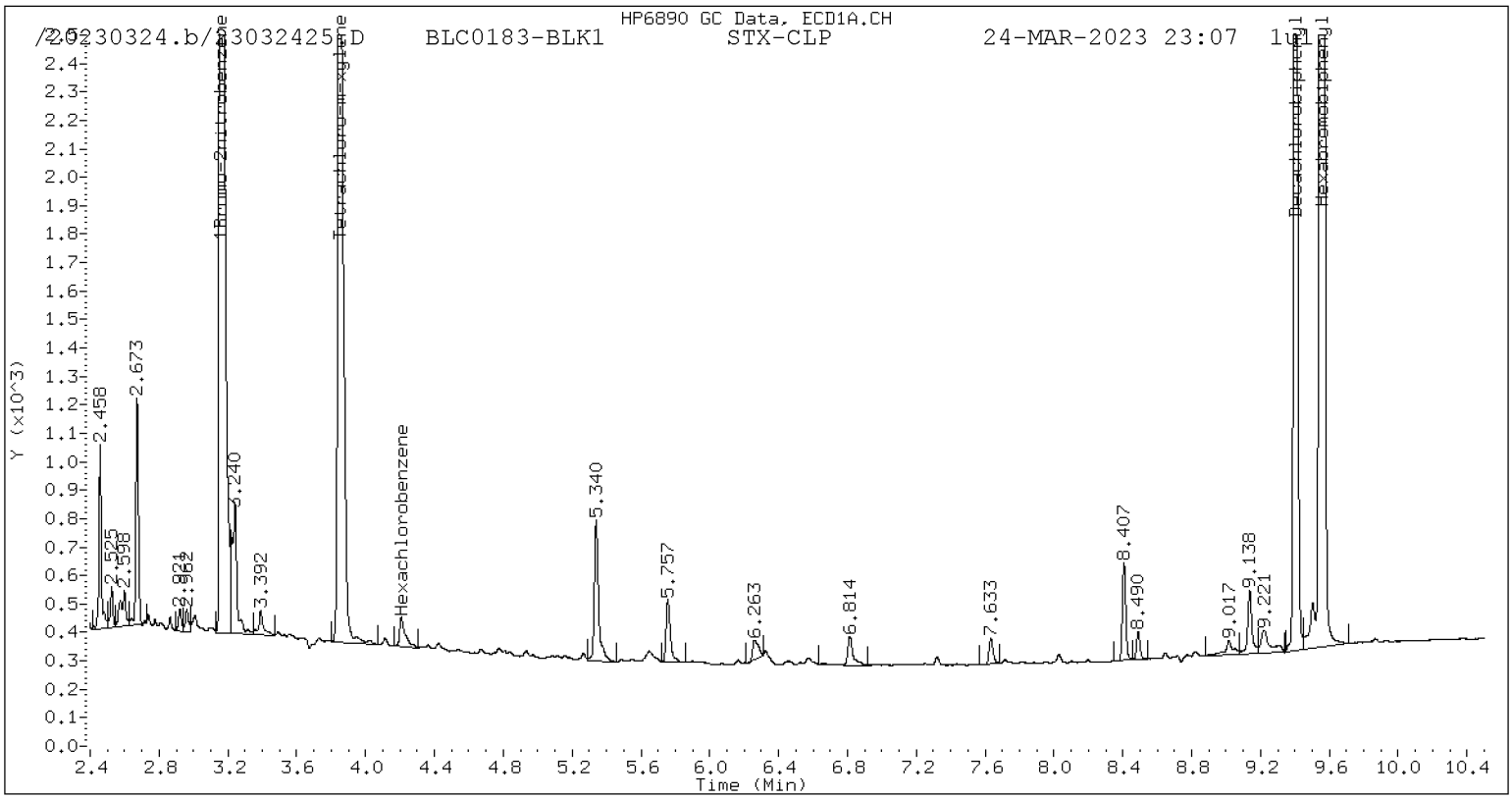
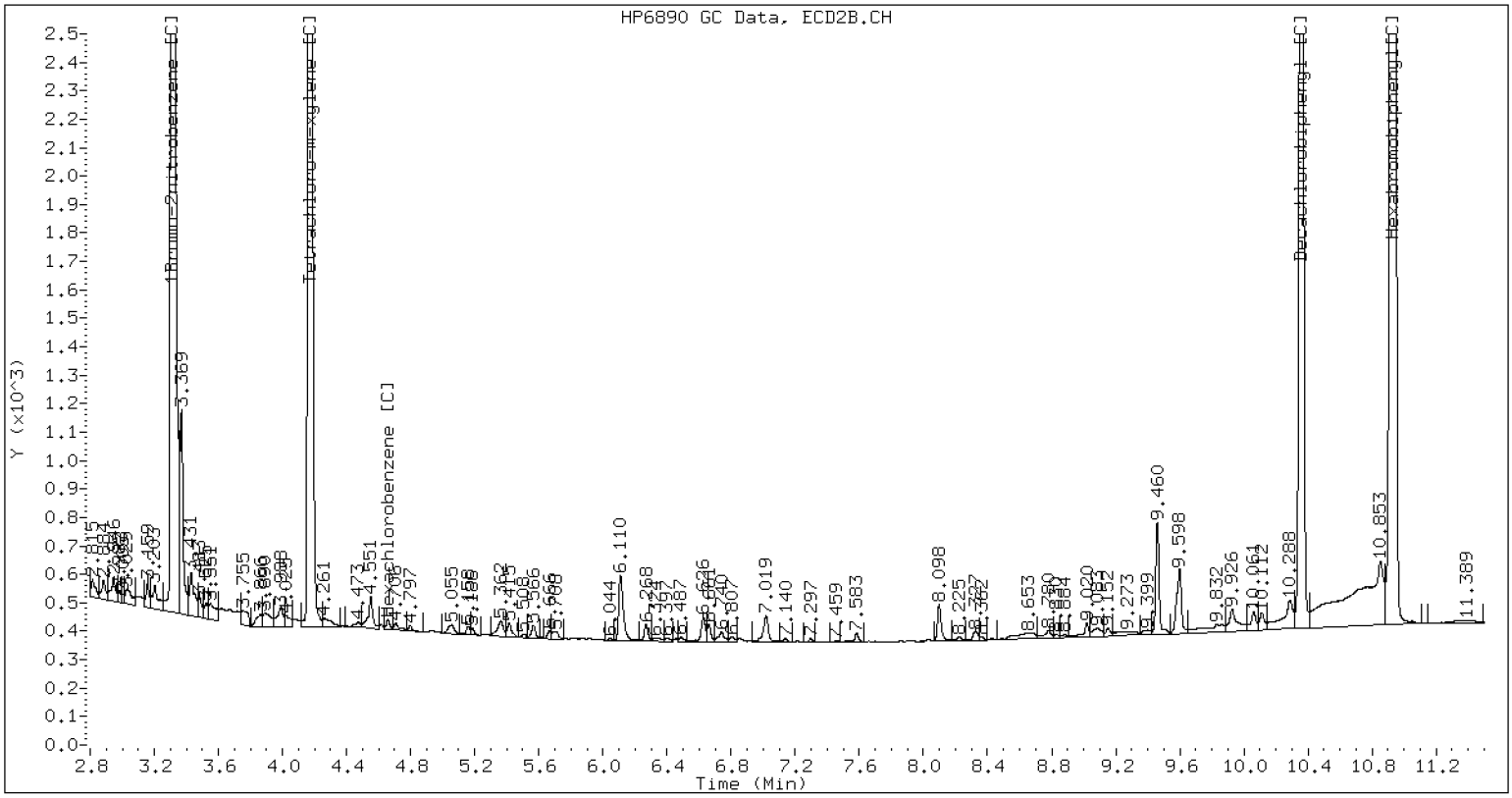


Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20230324.b/B20230324.b/23032425.D BLC0183-BLK1 CLP2



CLP-2 Manual Integration: NO

LCS / LCS DUPLICATE RECOVERY

EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	03/24/23 23:25
Batch:	BLC0183	Laboratory ID:	BLC0183-BS1
Preparation:	EPA 3546 (Microwave)	Sequence Name:	LCS
Initial/Final:	12.5 g / 2.5 mL		

COMPOUND	SPIKE ADDED (ug/kg wet)	LCS CONCENTRATION (ug/kg wet)	Q	LCS % REC. #	QC LIMITS REC.
Hexachlorobenzene	4.00	2.90		72.6	26 - 128

* Indicates values outside of QC limits

COMPOUND	SPIKE ADDED (ug/kg wet)	LCSD CONCENTRATION (ug/kg wet)	Q	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Hexachlorobenzene	4.00	3.25		81.3	11.4	30	26 - 128

* Indicates values outside of QC limits

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20230324.b/23032426.D
Data file 2: /20230324.b/B20230324.b/23032426.D
Method: \20230324.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: BLC0183-BS1
Client ID:
Injection Date: 24-MAR-2023 23:25
Report Date: 03/28/2023 10:50
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP on col	CLP2 on col	RPD	Compound/Flag
RT	Shift	Response	RT	Shift	Response				
----			----			0.00	0.00	---	alpha-BHC
----			----			0.00	0.00	---	beta-BHC
----			----			0.00	0.00	---	delta-BHC
----			----			0.00	0.00	---	gamma-BHC (Lindane)
----			----			0.00	0.00	---	Heptachlor
----			----			0.00	0.00	---	Aldrin
----			----			0.00	0.00	---	Heptachlor epoxide b
----			----			0.00	0.00	---	Endosulfan I
----			----			0.00	0.00	---	Dieldrin
----			----			0.00	0.00	---	4,4'-DDE
----			----			0.00	0.00	---	Endrin
----			----			0.00	0.00	---	Endosulfan II
----			----			0.00	0.00	---	4,4'-DDD
----			----			0.00	0.00	---	Endosulfan sulfate
----			----			0.00	0.00	---	4,4'-DDT
----			----			0.00	0.00	---	Methoxychlor
----			----			0.00	0.00	---	Endrin ketone
----			----			0.00	0.00	---	Endrin aldehyde
----			----			0.00	0.00	---	trans-Chlordane
----			----			0.00	0.00	---	cis-Chlordane
----			----			0.00	0.00	---	Hexachlorobutadiene
4.206	-0.011	145990	4.659	-0.011	183088	14.51	12.39	15.8	Hexachlorobenzene M
3.848	-0.009	201080	4.168	-0.011	278119	26.28	24.38	7.5	Tetrachloro-m-xylene MN
9.404	-0.011	157206	10.358	-0.015	190089	32.91	34.85	5.7	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

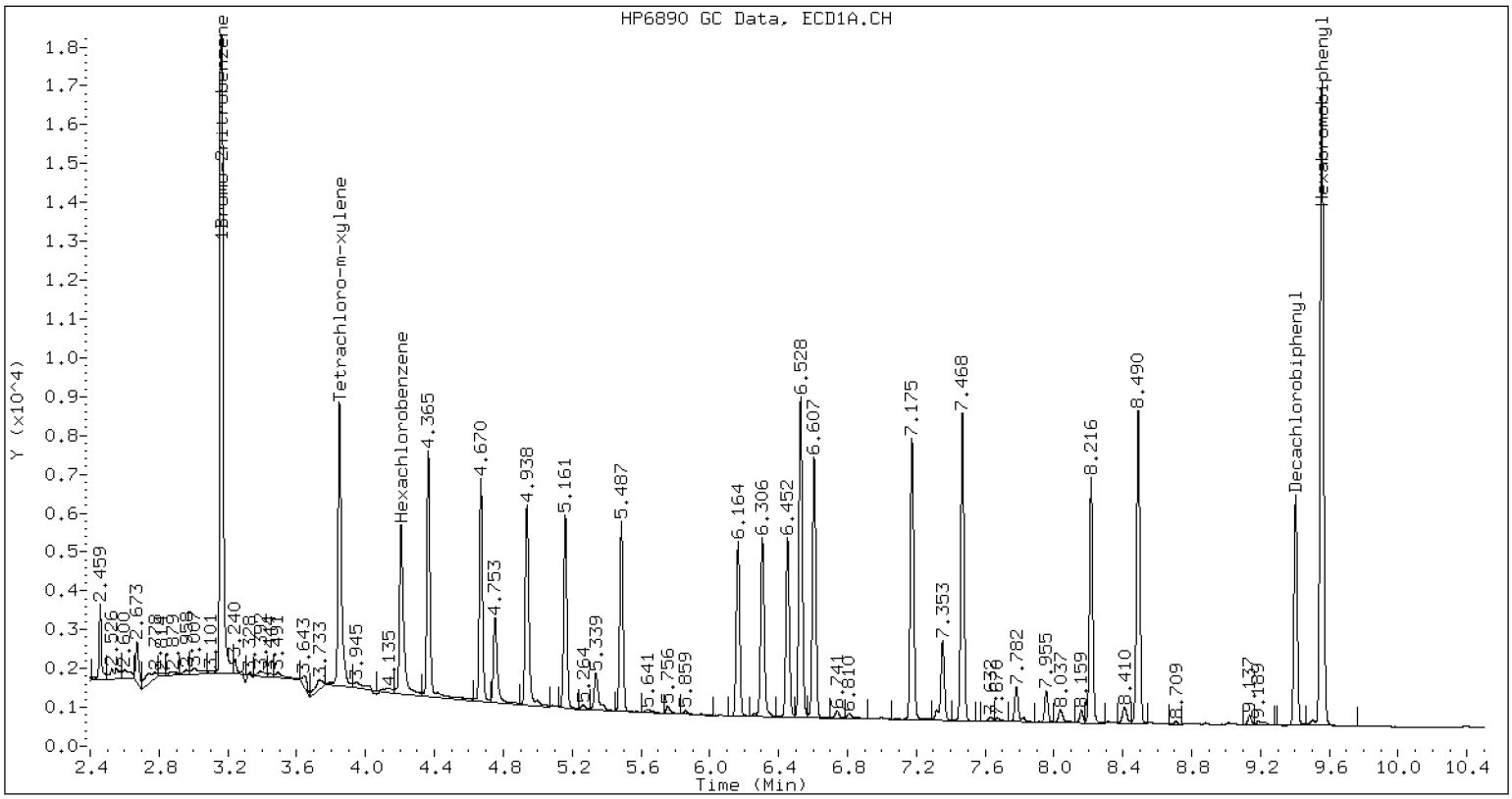
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	672426	562721	-16.3
Hexabromobiphenyl	609723	471428	-22.7

Column 2

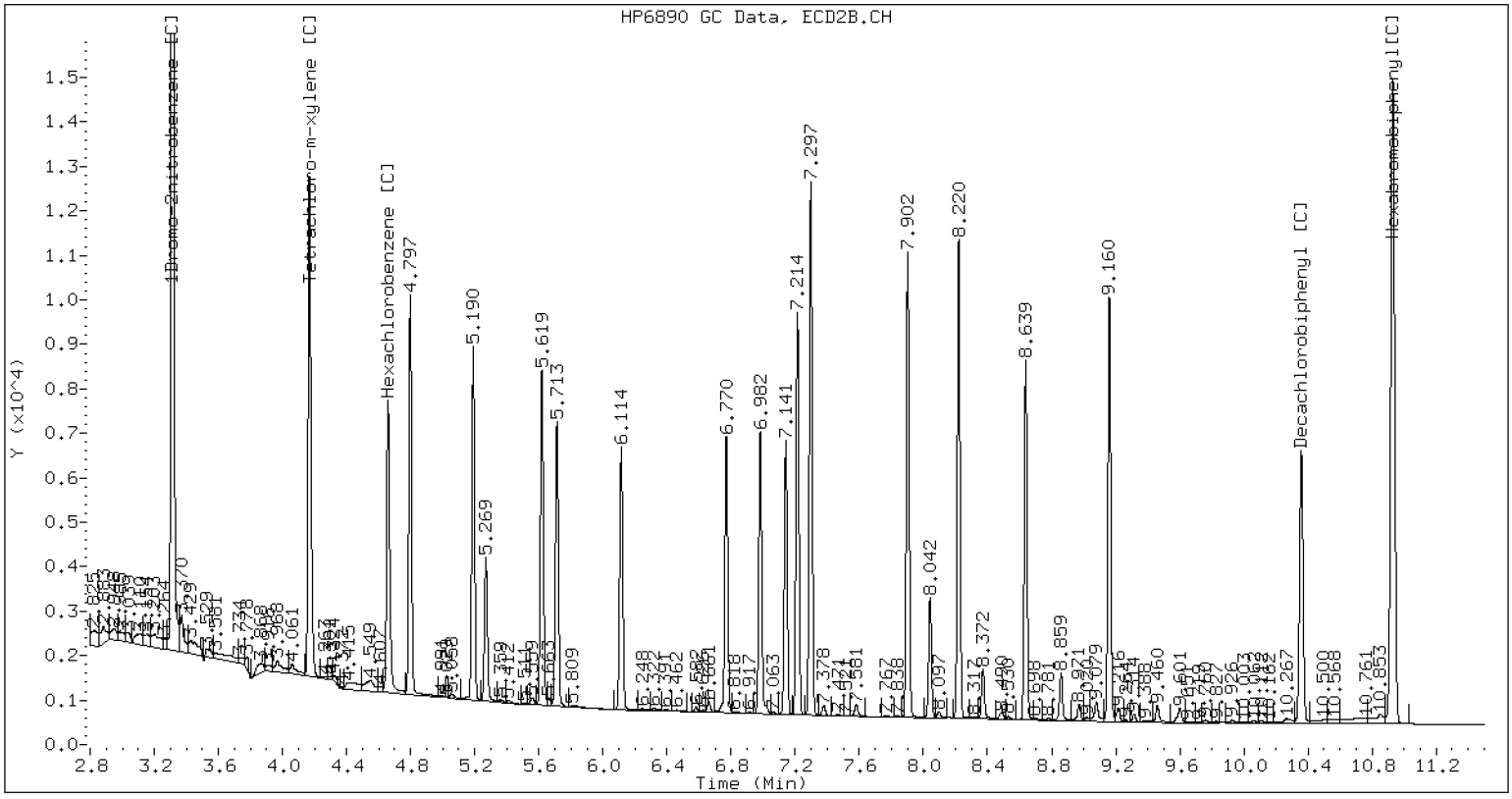
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1006482	810398	-19.5
Hexabromobiphenyl	769764	493565	-35.9

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

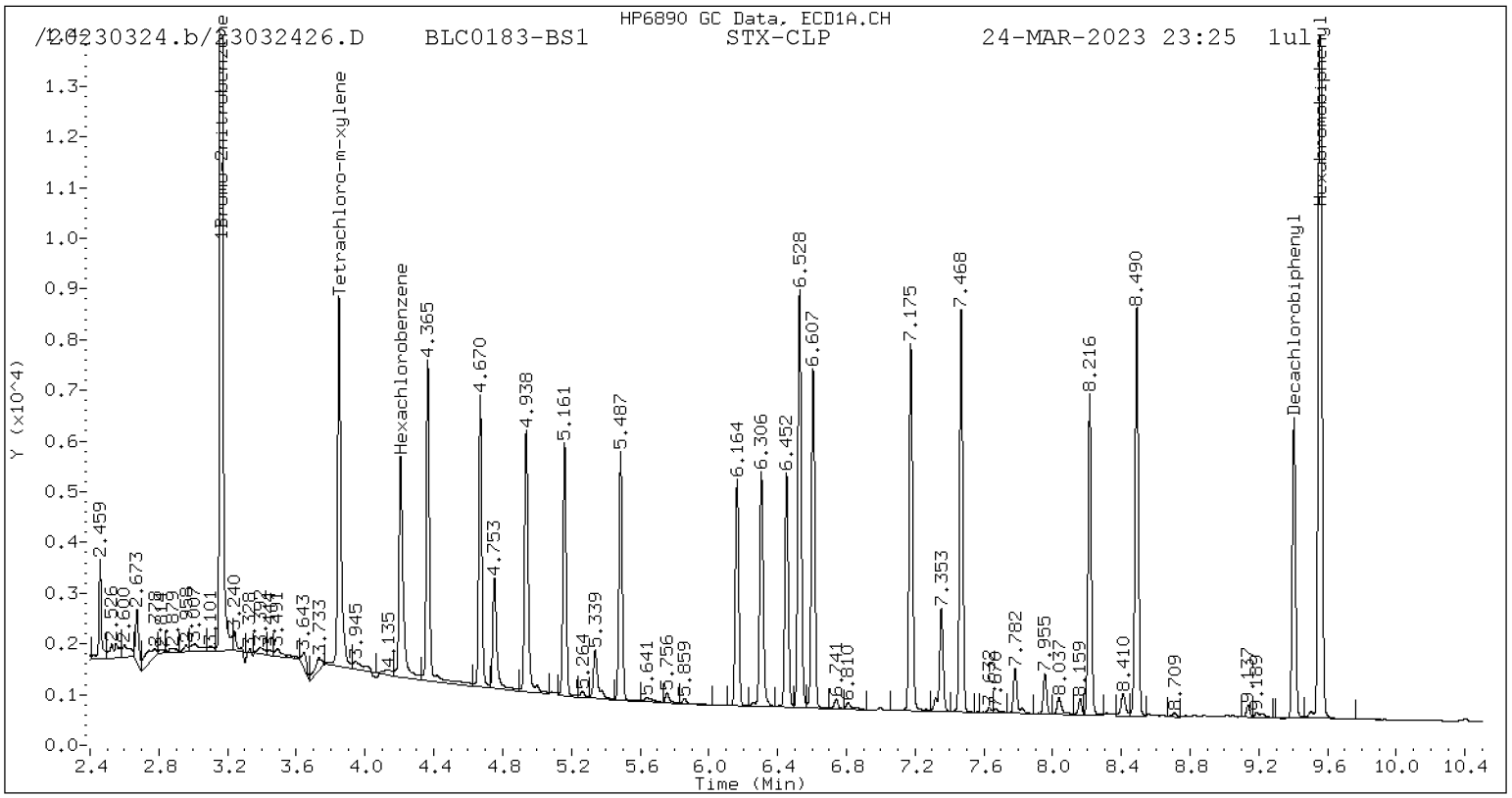
/20230324.b/23032426.D BLC0183-BS1 STX-CLP 24-MAR-2023 23:25 1ul



/20230324.b/B20230324.b/23032426.D BLC0183-BS1 CLP2 24-MAR-2023 23:25 1ul

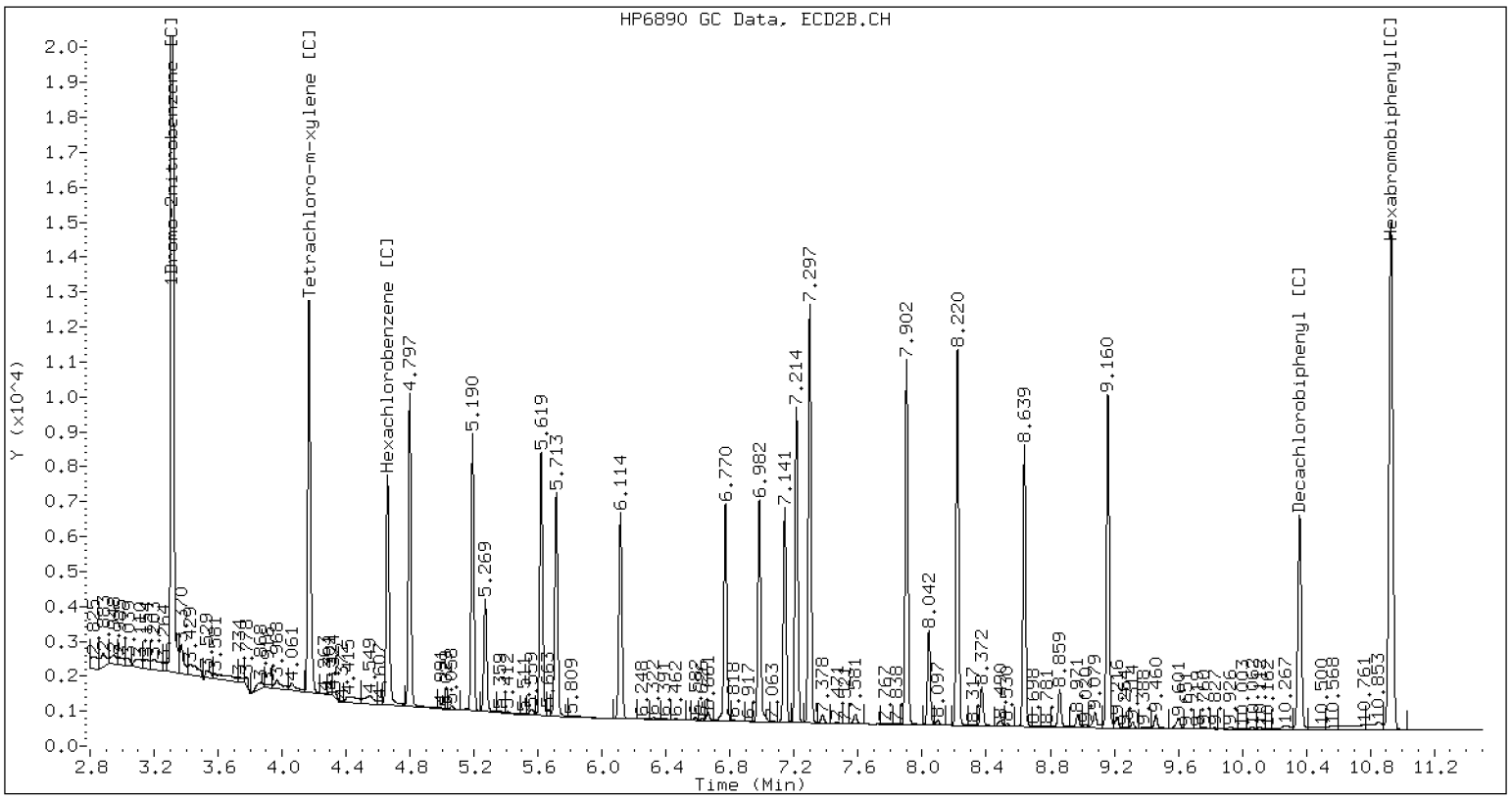


Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: YES

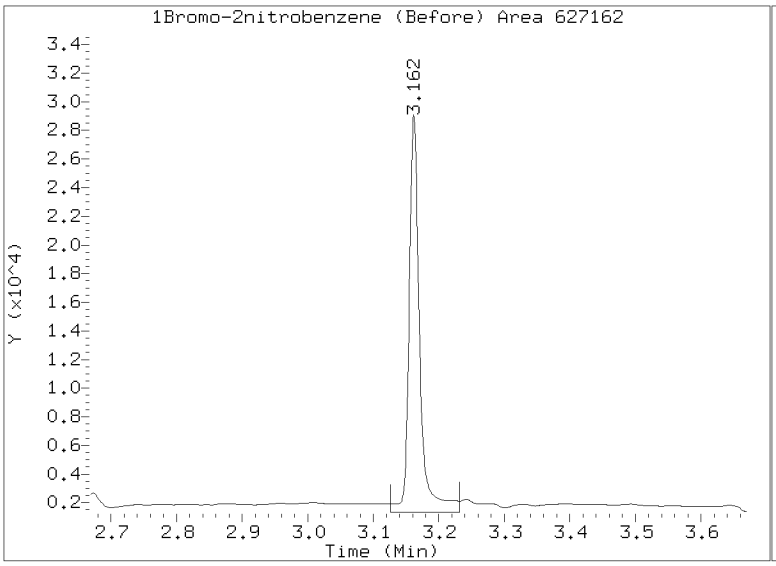
/20230324.b/B20230324.b/23032426.D BLC0183-BS1 CLP2

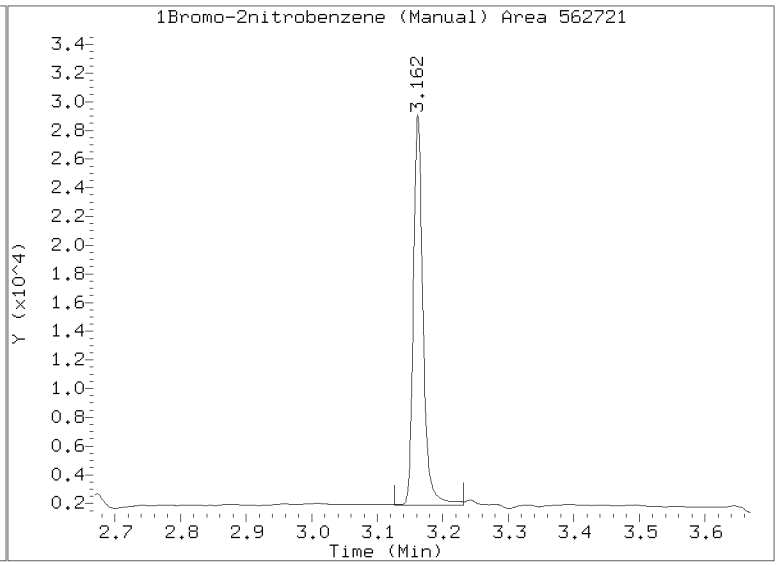


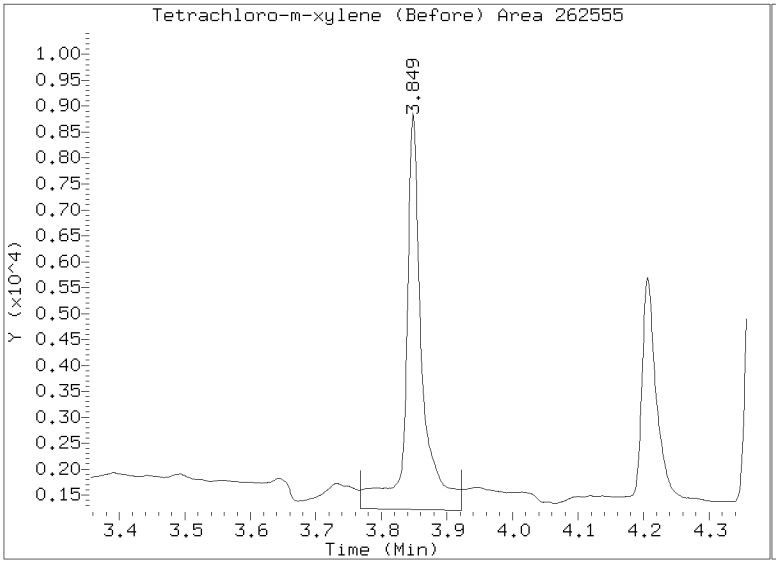
CLP-2 Manual Integration: YES

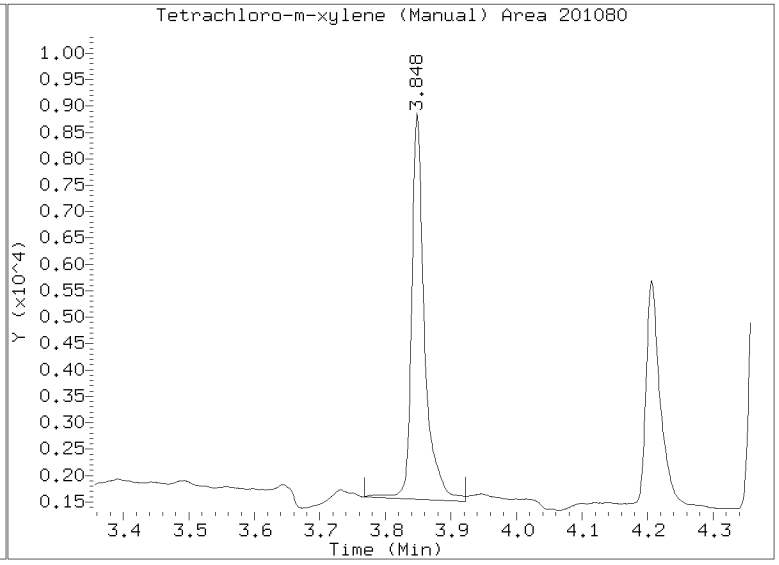
Manual Peak Adjustment Report, STX-CLP

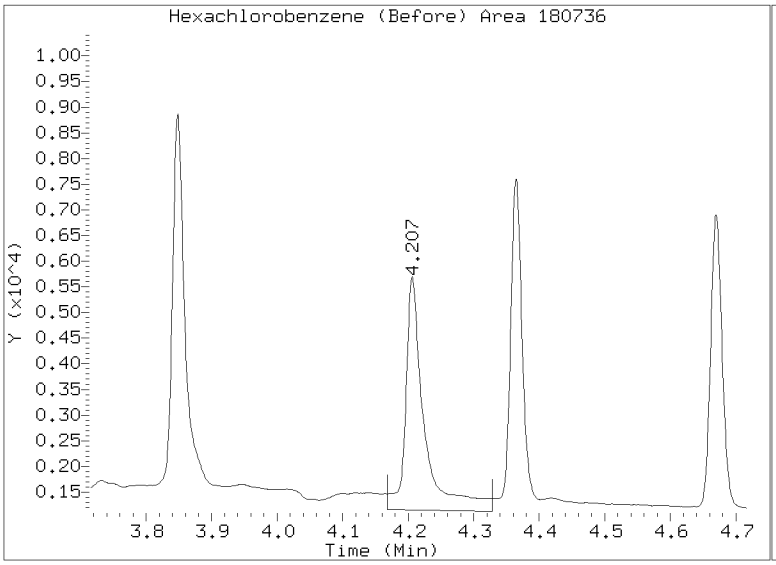
Datafile: /20230324.b/23032426.D
Injection Date: 24-MAR-2023 23:25
Lab ID:BLC0183-BS1 Client ID:
Report Date: 03/28/2023 10:50

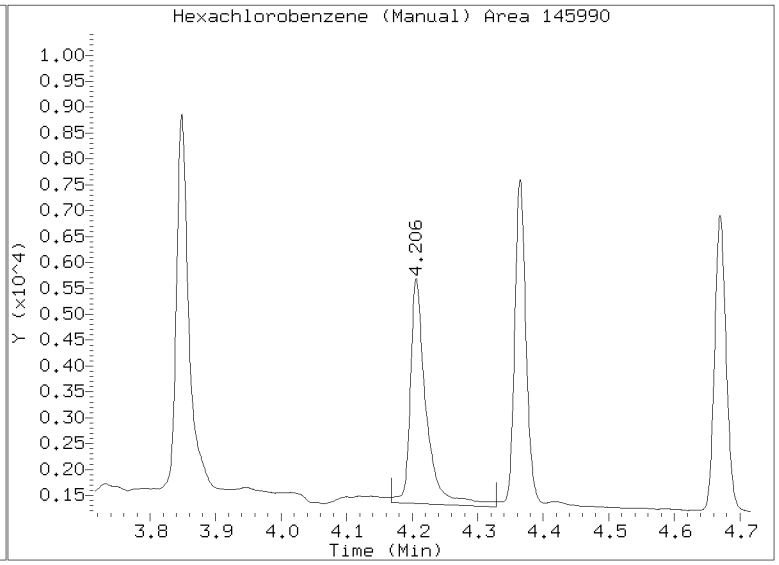






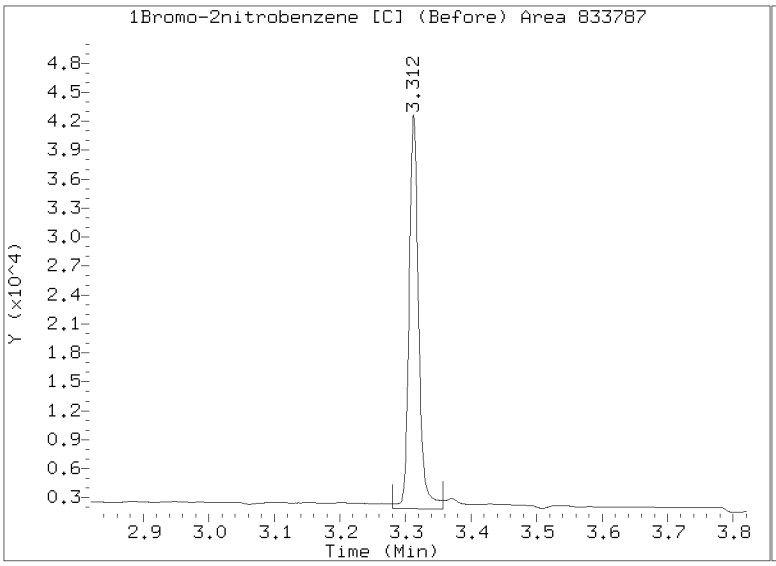


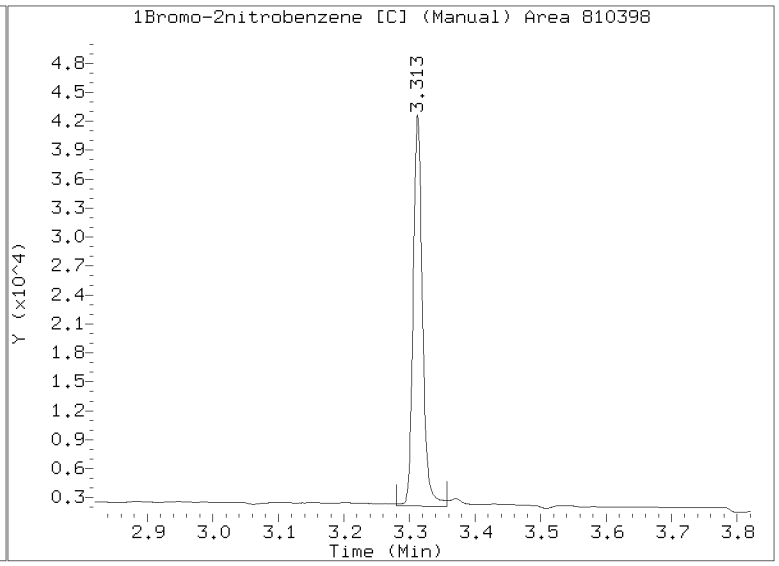


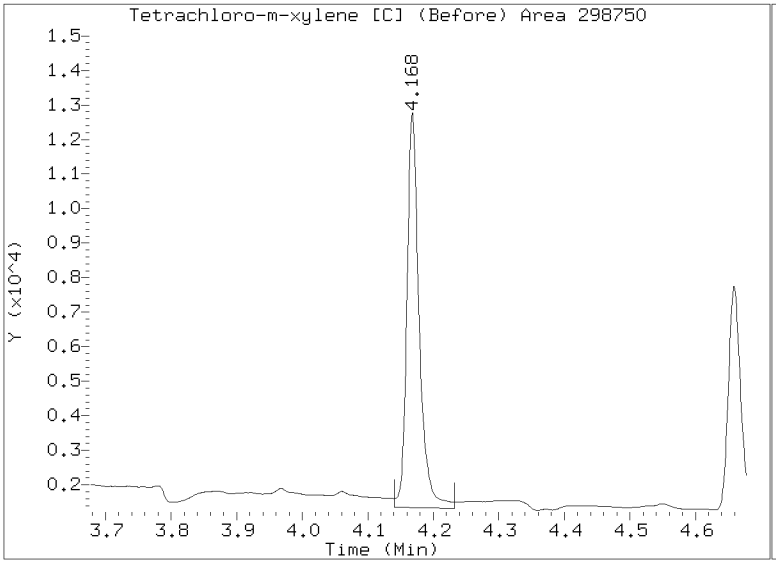


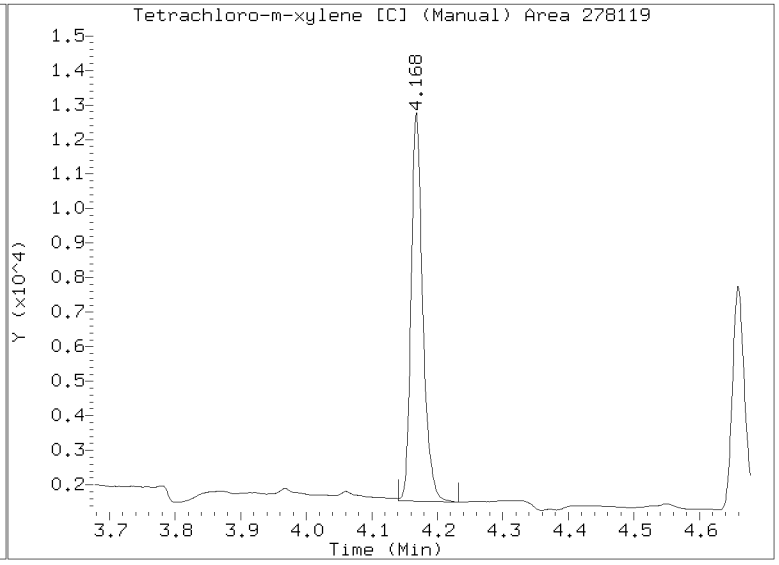
Manual Peak Adjustment Report, CLP-2

Datafile: /20230324.b/B20230324.b/23032426.D
Injection Date: 24-MAR-2023 23:25
Lab ID:BLC0183-BS1 Client ID:









Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20230324.b/23032427.D
Data file 2: /20230324.b/B20230324.b/23032427.D
Method: \20230324.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: BLC0183-BSD1
Client ID:
Injection Date: 24-MAR-2023 23:43
Report Date: 03/28/2023 10:50
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
----			----			0.00	0.00	---	alpha-BHC
----			----			0.00	0.00	---	beta-BHC
----			----			0.00	0.00	---	delta-BHC
----			----			0.00	0.00	---	gamma-BHC (Lindane)
----			----			0.00	0.00	---	Heptachlor
----			----			0.00	0.00	---	Aldrin
----			----			0.00	0.00	---	Heptachlor epoxide b
----			----			0.00	0.00	---	Endosulfan I
----			----			0.00	0.00	---	Dieldrin
----			----			0.00	0.00	---	4,4'-DDE
----			----			0.00	0.00	---	Endrin
----			----			0.00	0.00	---	Endosulfan II
----			----			0.00	0.00	---	4,4'-DDD
----			----			0.00	0.00	---	Endosulfan sulfate
----			----			0.00	0.00	---	4,4'-DDT
----			----			0.00	0.00	---	Methoxychlor
----			----			0.00	0.00	---	Endrin ketone
----			----			0.00	0.00	---	Endrin aldehyde
----			----			0.00	0.00	---	trans-Chlordane
----			----			0.00	0.00	---	cis-Chlordane
----			----			0.00	0.00	---	Hexachlorobutadiene
4.206	-0.011	162855	4.658	-0.012	188499	16.27	12.91	23.0	Hexachlorobenzene M
3.848	-0.010	228429	4.168	-0.011	323480	29.99	28.71	4.4	Tetrachloro-m-xylene M
9.404	-0.010	166341	10.358	-0.015	197397	34.98	36.16	3.3	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

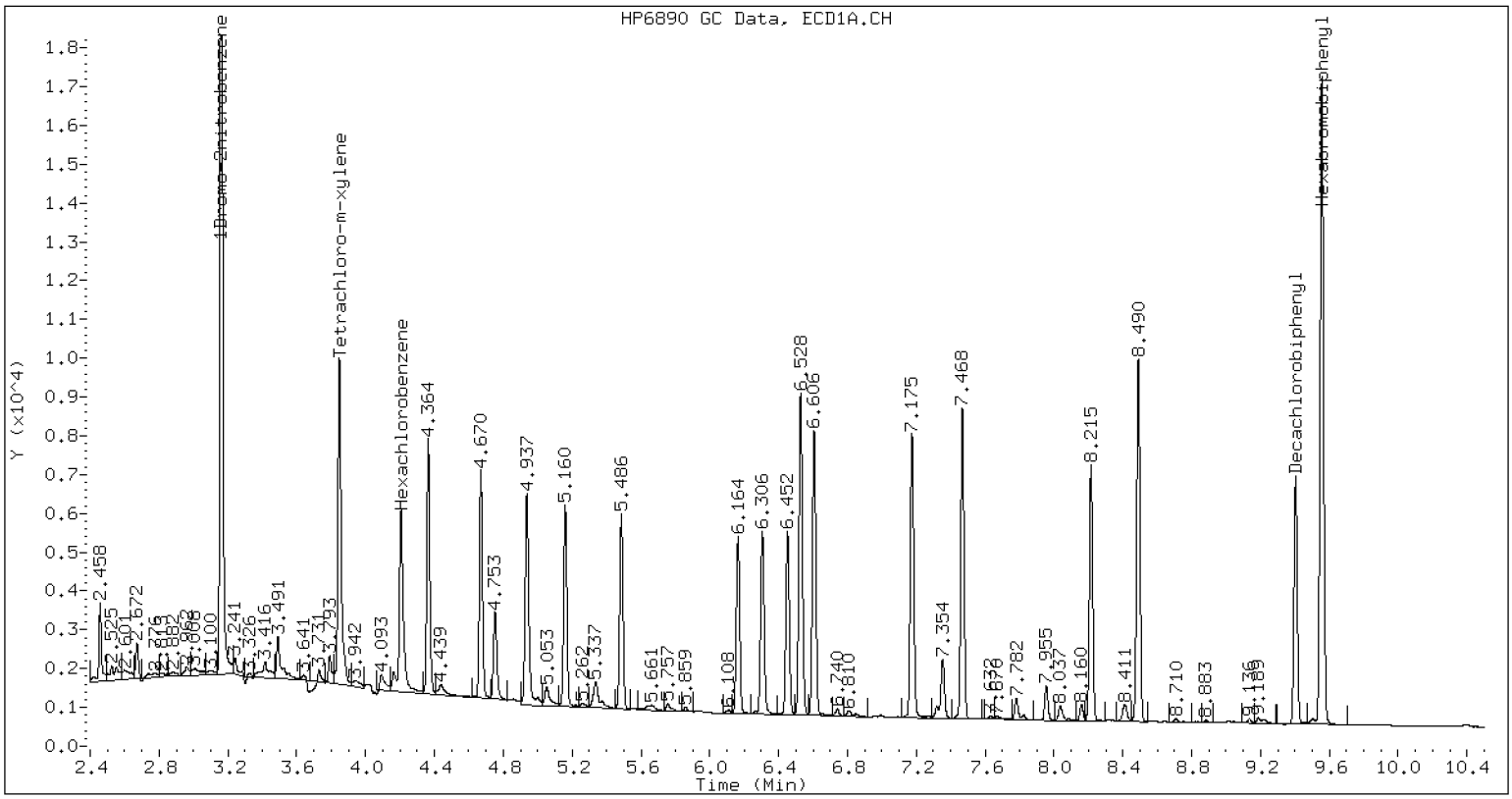
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	672426	560086	-16.7
Hexabromobiphenyl	609723	469322	-23.0

Column 2

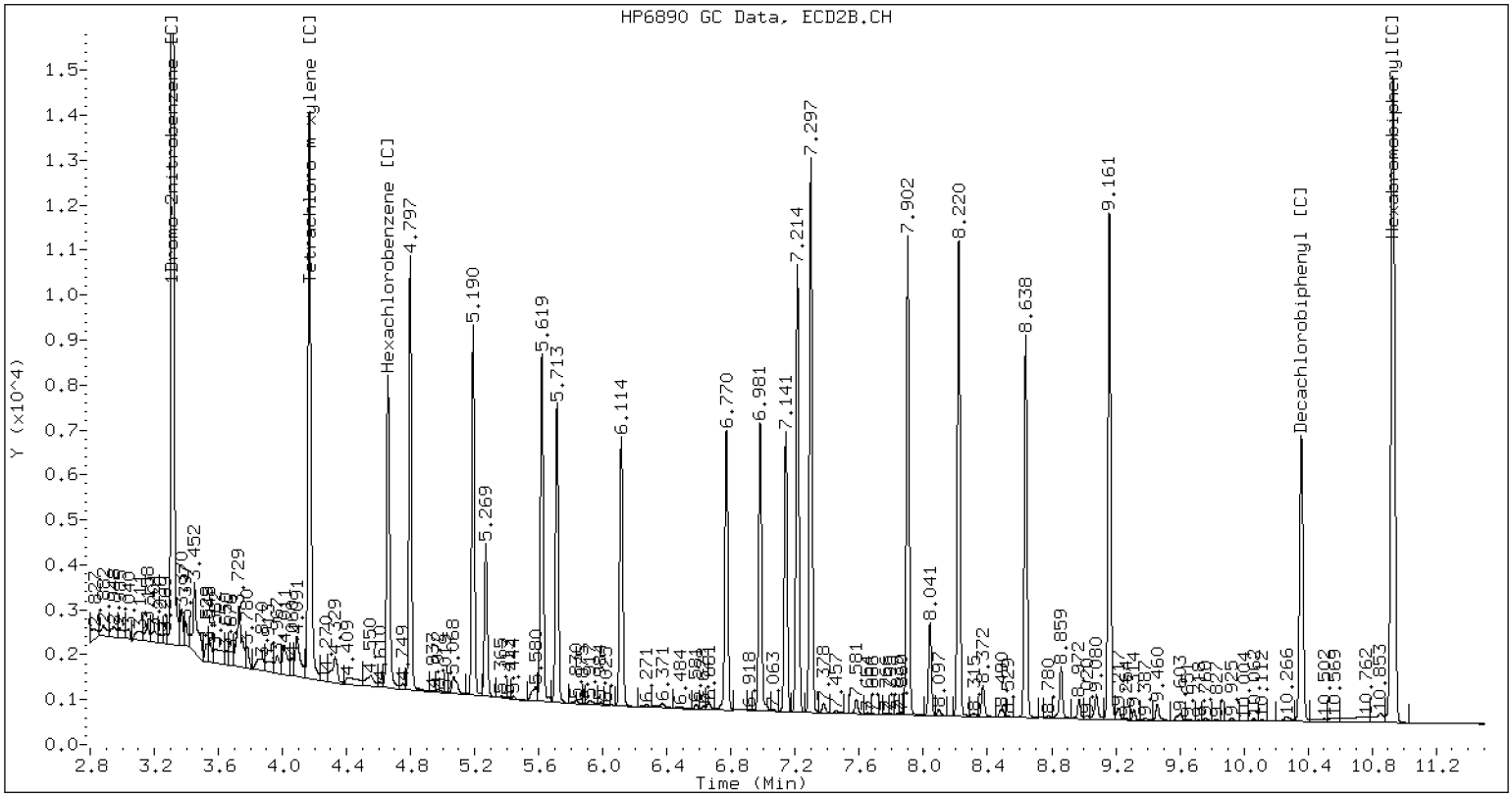
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1006482	800562	-20.5
Hexabromobiphenyl	769764	493927	-35.8

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

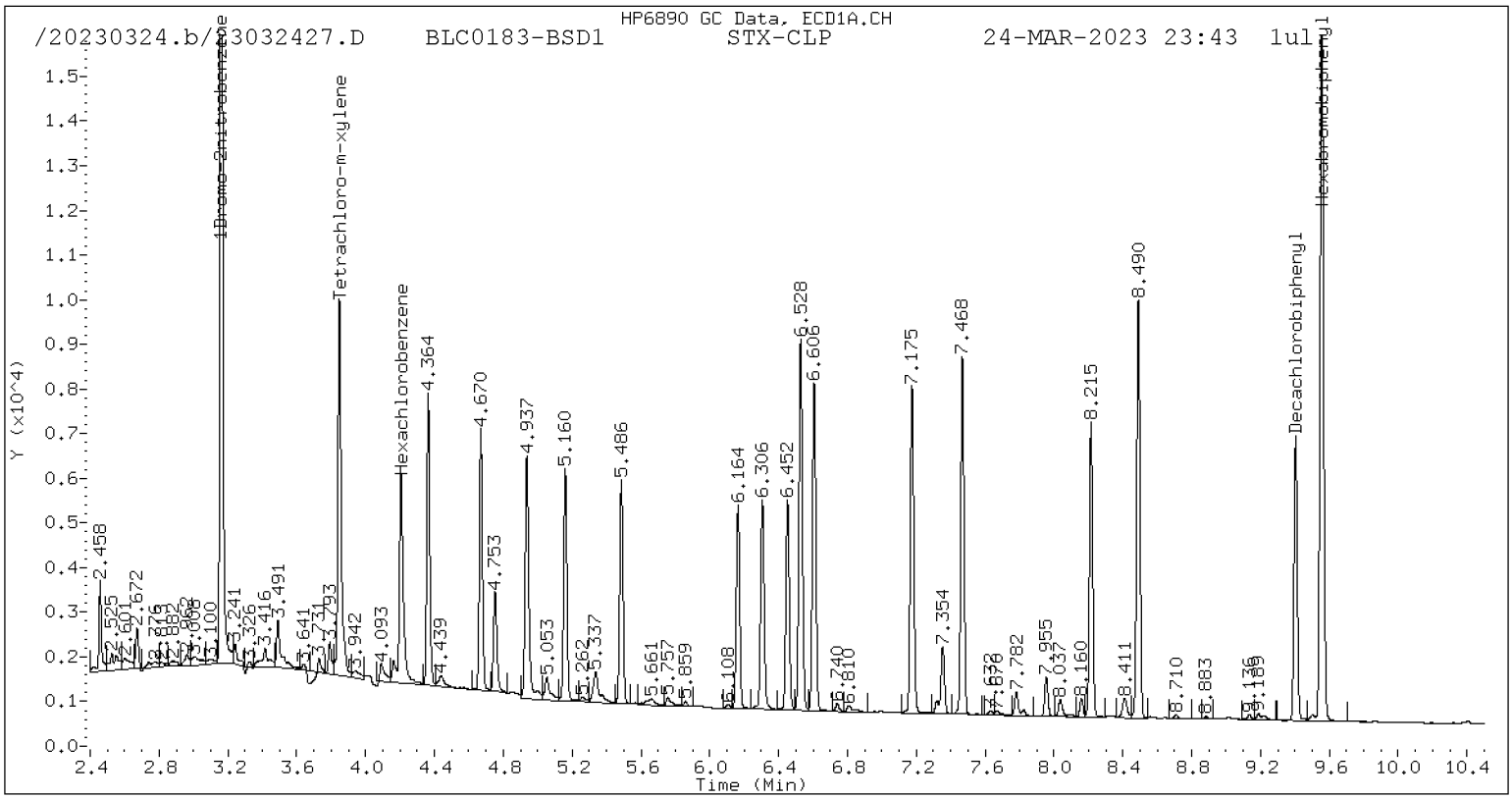
/20230324.b/23032427.D BLC0183-BSD1 STX-CLP 24-MAR-2023 23:43 1ul



/20230324.b/B20230324.b/23032427.D BLC0183-BSD1 CLP2 24-MAR-2023 23:43 1ul

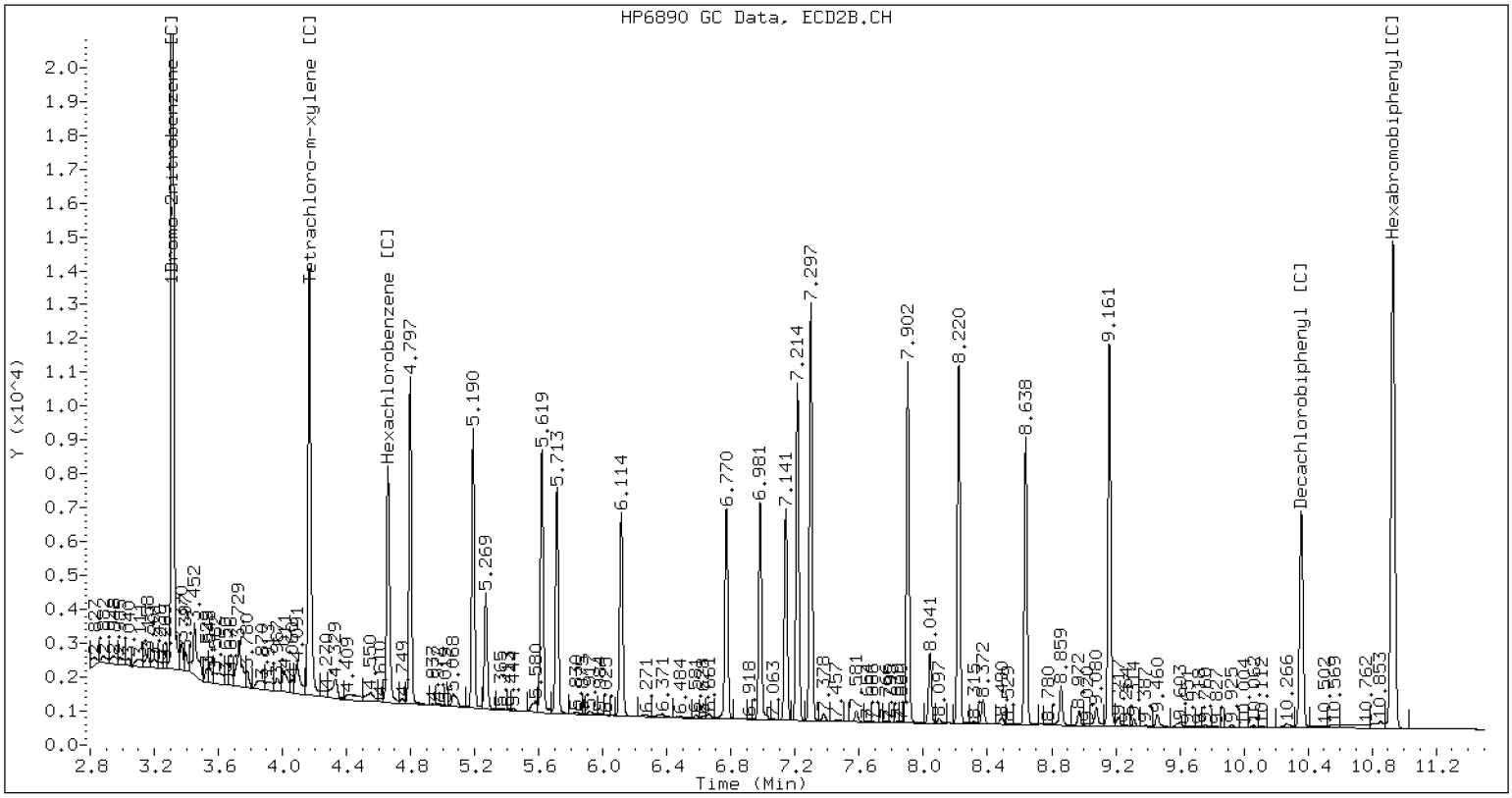


Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: YES

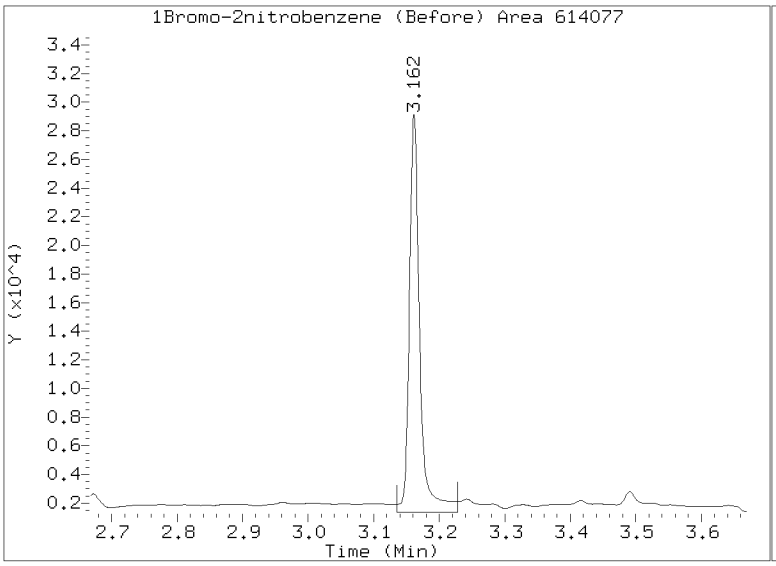
/20230324.b/B20230324.b/23032427.D BLC0183-BSD1 CLP2

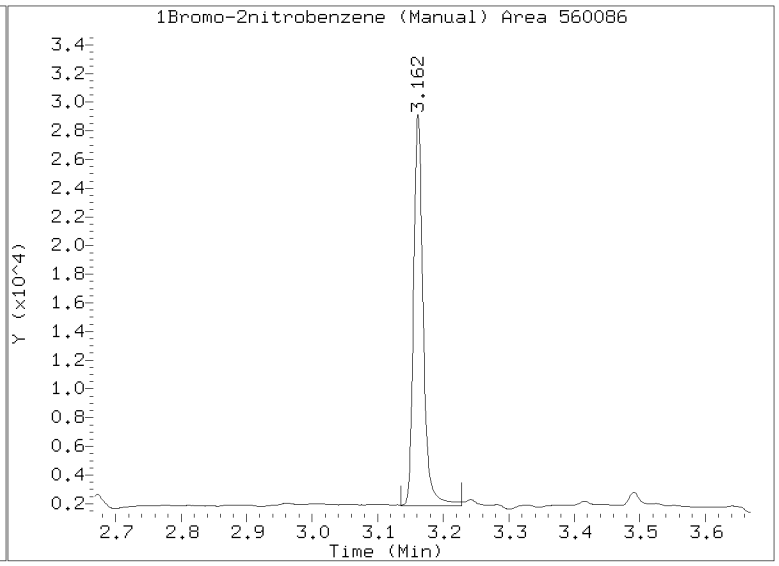


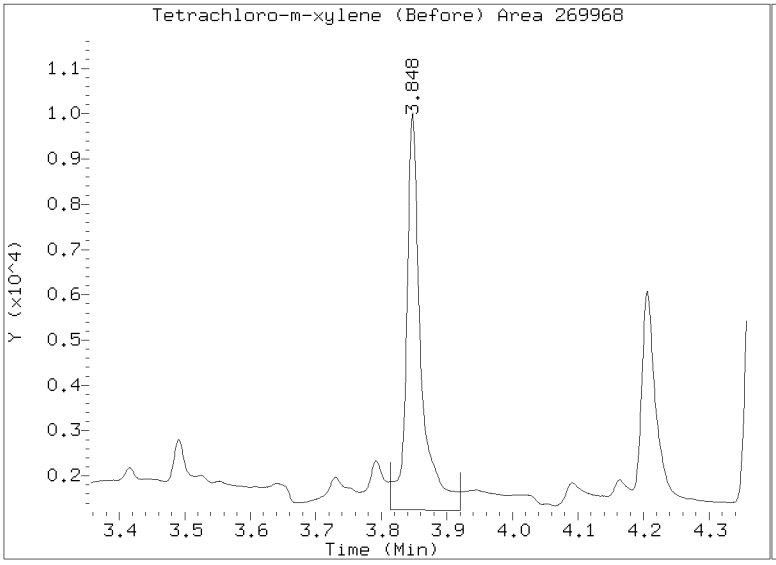
CLP-2 Manual Integration: YES

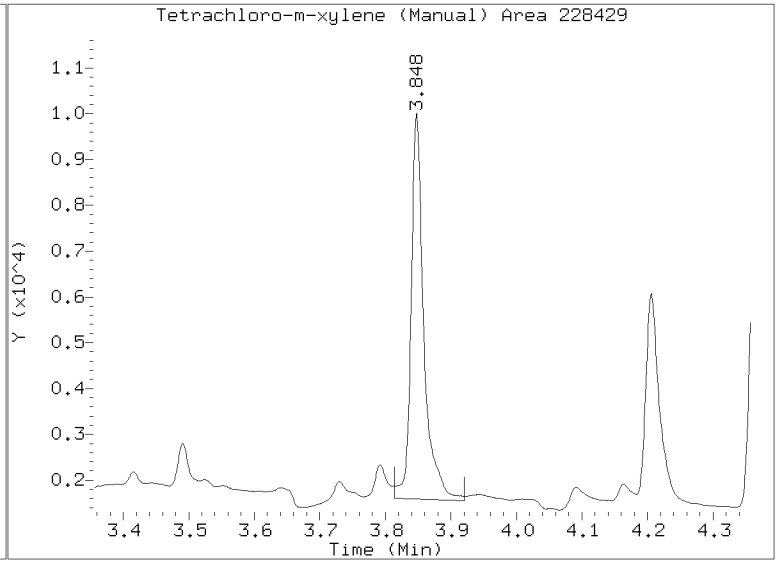
Manual Peak Adjustment Report, STX-CLP

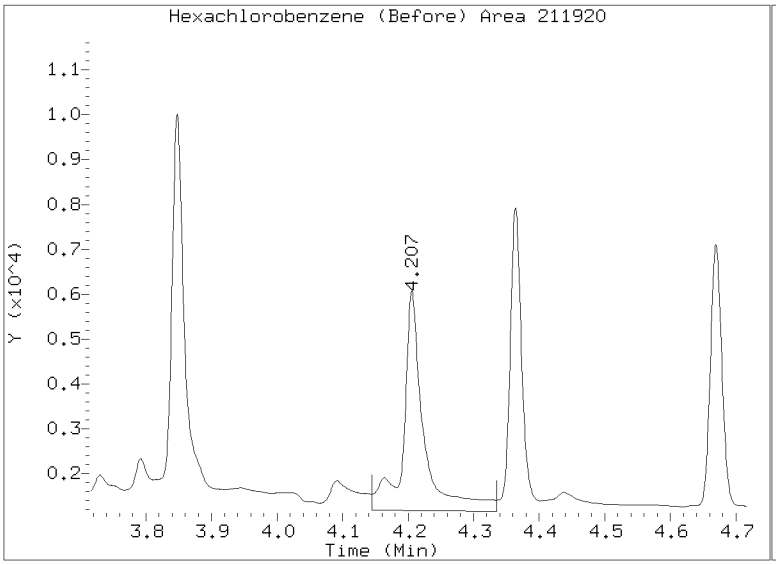
Datafile: /20230324.b/23032427.D
Injection Date: 24-MAR-2023 23:43
Lab ID:BLC0183-BSD1 Client ID:
Report Date: 03/28/2023 10:50

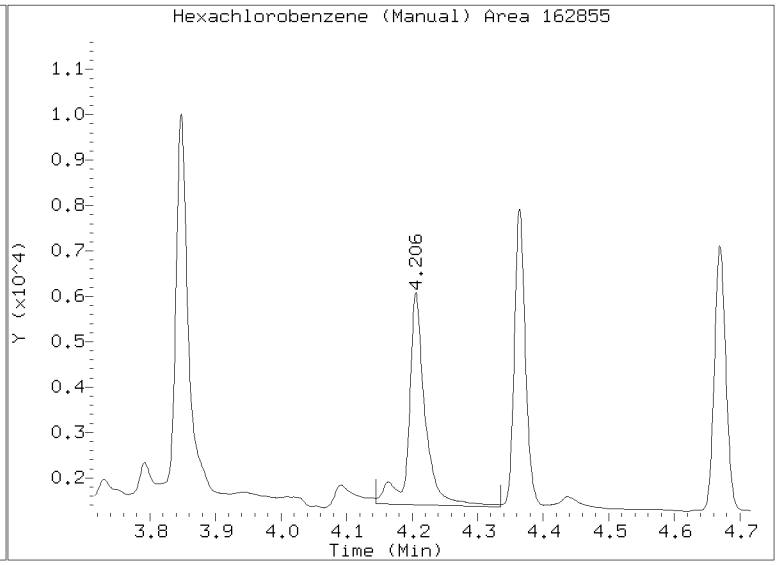






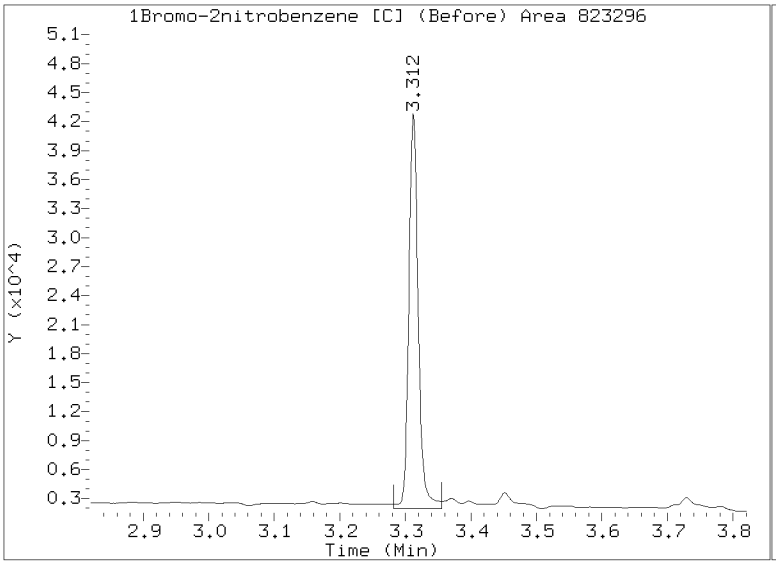


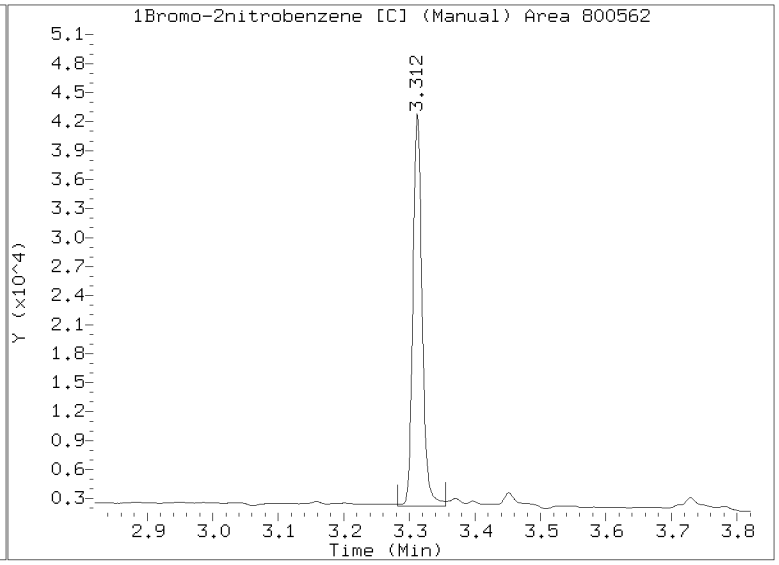




Manual Peak Adjustment Report, CLP-2

Datafile: /20230324.b/B20230324.b/23032427.D
Injection Date: 24-MAR-2023 23:43
Lab ID:BLC0183-BSD1 Client ID:





MS / MS DUPLICATE RECOVERY
EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	03/25/23 00:19
Batch:	BLC0183	Laboratory ID:	BLC0183-MS1
Preparation:	EPA 3546 (Microwave)	Sequence Name:	Matrix Spike
Initial/Final:	23.7 g / 2.5 mL	Source Sample:	LDW23-SC1044

COMPOUND	SPIKE ADDED (ug/kg dry)	SAMPLE CONCENTRATION (ug/kg dry)	Q	MS CONCENTRATION (ug/kg dry)	Q	MS % REC. #	QC LIMITS REC.
Hexachlorobenzene	4.00	0.19	J	2.07	P1	47.0	26 - 128

* Values outside of QC limits

[2C] indicates second-column analyte, present if quantification on any batch samples used second column data.

MS / MS DUPLICATE RECOVERY
EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	03/25/23 00:36
Batch:	BLC0183	Laboratory ID:	BLC0183-MSD1
Preparation:	EPA 3546 (Microwave)	Sequence Name:	Matrix Spike Dup
Initial/Final:	23.7 g / 2.5 mL	Source Sample:	LDW23-SC1044

COMPOUND	SPIKE ADDED (ug/kg dry)	MSD CONCENTRATION (ug/kg dry)	Q	MSD % REC. #	% RPD #		QC LIMITS RPD	QC LIMITS REC.
Hexachlorobenzene	4.00	2.90	*	67.8	33.5	*	30	26 - 128

* Values outside of QC limits

[2C] indicates second-column analyte, present if quantification on any batch samples used second column data.

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20230324.b/23032429.D
Data file 2: /20230324.b/B20230324.b/23032429.D
Method: \20230324.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: BLC0183-MS1
Client ID:
Injection Date: 25-MAR-2023 00:19
Report Date: 03/28/2023 10:50
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP on col	CLP2 on col	RPD	Compound/Flag
RT	Shift	Response	RT	Shift	Response				
----			----			0.00	0.00	---	alpha-BHC
----			----			0.00	0.00	---	beta-BHC
----			----			0.00	0.00	---	delta-BHC
----			----			0.00	0.00	---	gamma-BHC (Lindane)
----			----			0.00	0.00	---	Heptachlor
----			----			0.00	0.00	---	Aldrin
----			----			0.00	0.00	---	Heptachlor epoxide b
----			----			0.00	0.00	---	Endosulfan I
----			----			0.00	0.00	---	Dieldrin
----			----			0.00	0.00	---	4,4'-DDE
----			----			0.00	0.00	---	Endrin
----			----			0.00	0.00	---	Endosulfan II
----			----			0.00	0.00	---	4,4'-DDD
----			----			0.00	0.00	---	Endosulfan sulfate
----			----			0.00	0.00	---	4,4'-DDT
----			----			0.00	0.00	---	Methoxychlor
----			----			0.00	0.00	---	Endrin ketone
----			----			0.00	0.00	---	Endrin aldehyde
----			----			0.00	0.00	---	trans-Chlordane
----			----			0.00	0.00	---	cis-Chlordane
----			----			0.00	0.00	---	Hexachlorobutadiene
4.206	-0.011	141298	4.657	-0.013	228450	10.34	17.22	49.9*	Hexachlorobenzene MN
3.847	-0.010	203788	4.167	-0.011	283798	19.60	27.72	34.3	Tetrachloro-m-xylene MN
9.406	-0.009	166057	10.360	-0.014	174581	40.41	36.17	11.1	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

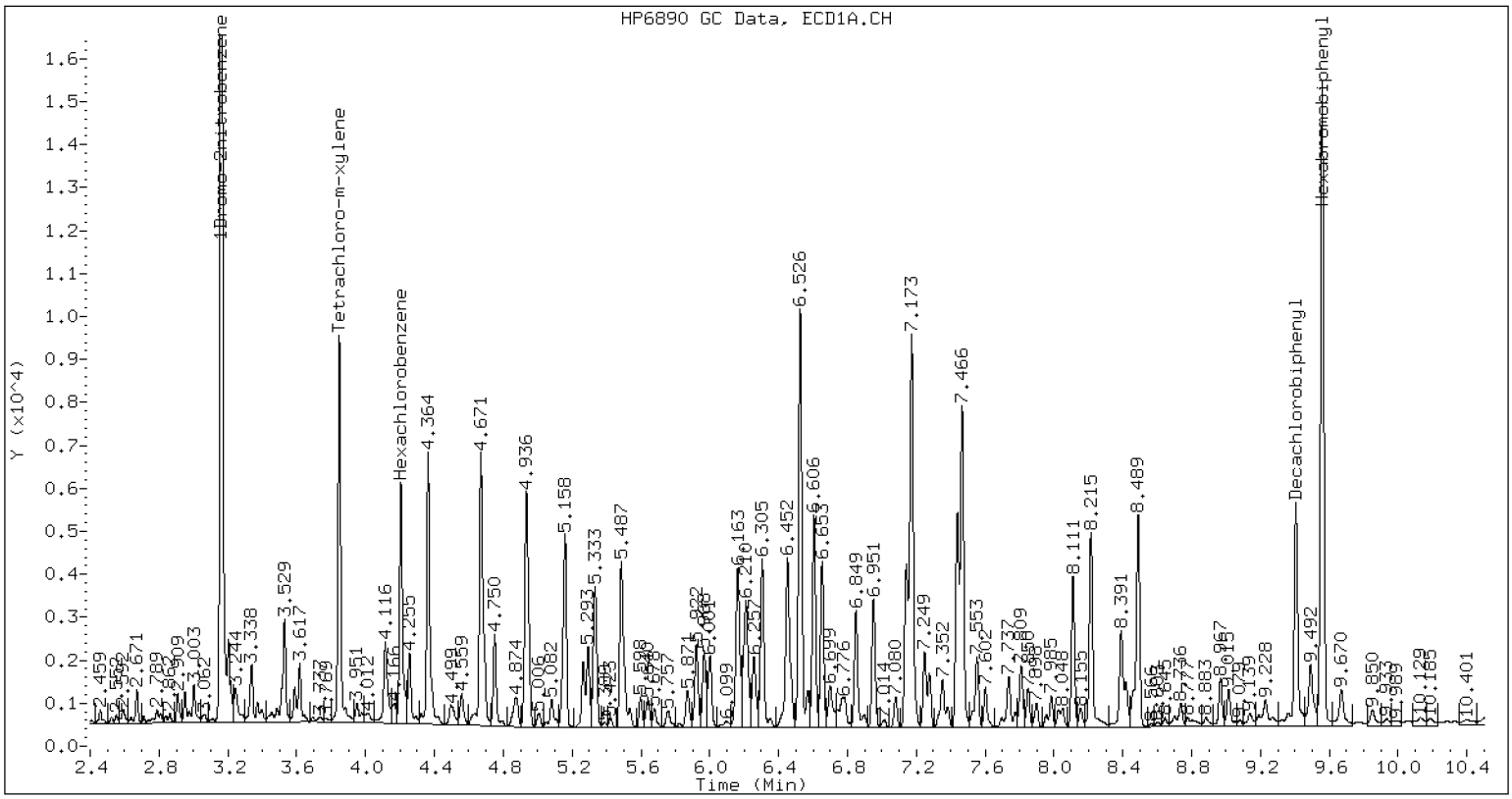
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	672426	764468	13.7
Hexabromobiphenyl	609723	405562	-33.5

Column 2

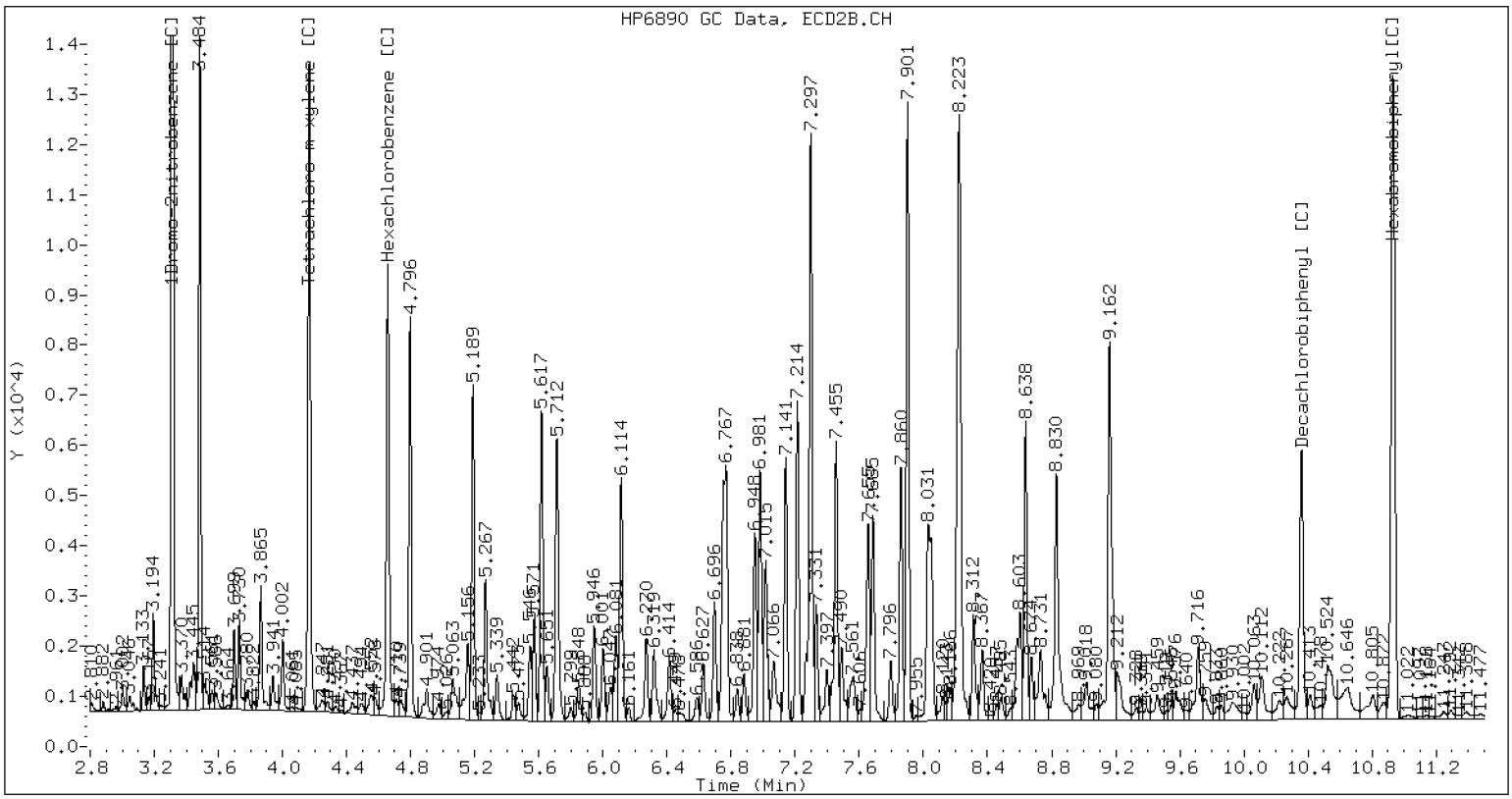
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1006482	727426	-27.7
Hexabromobiphenyl	769764	436697	-43.3

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

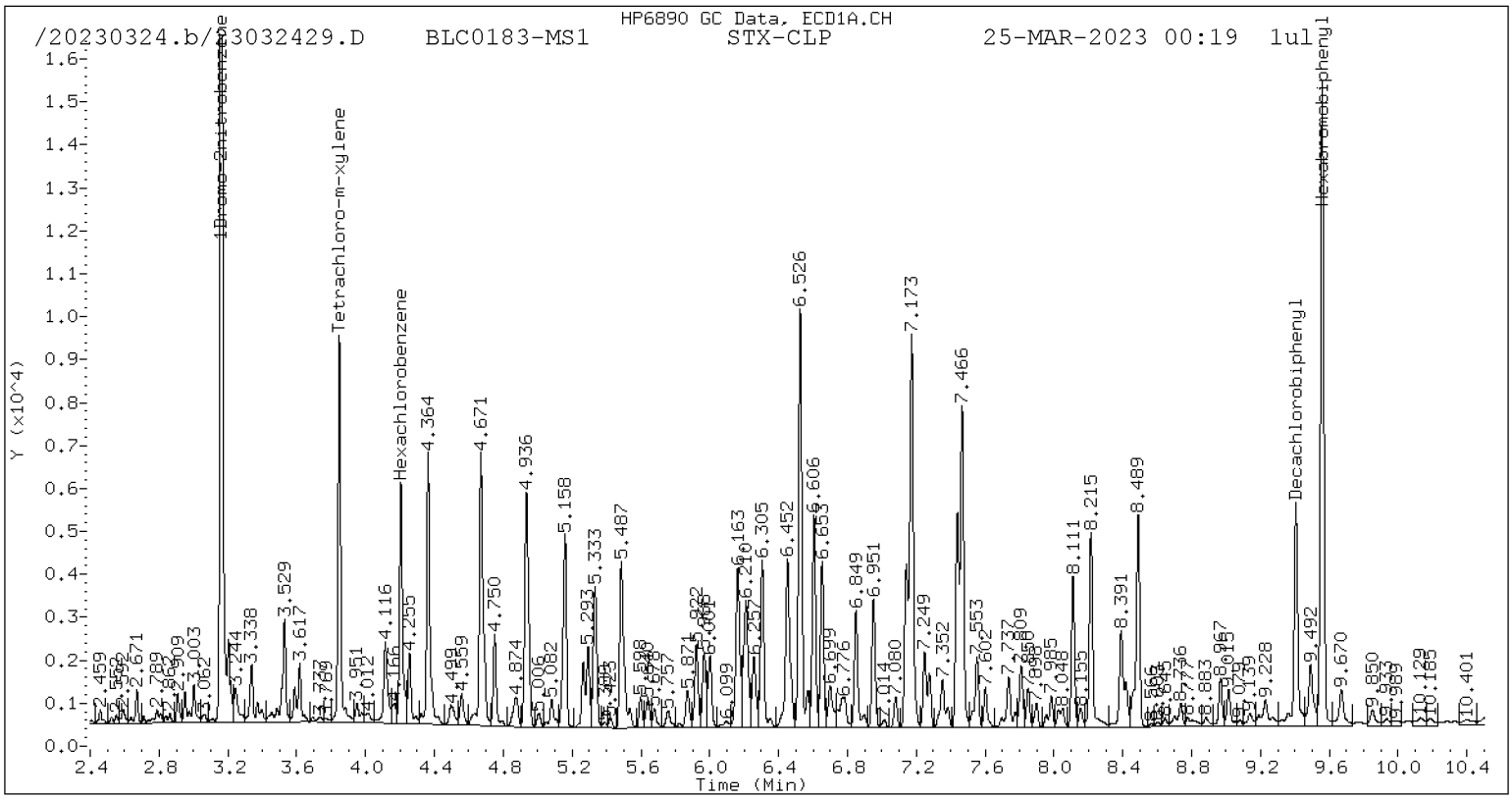
/20230324.b/23032429.D BLC0183-MS1 STX-CLP 25-MAR-2023 00:19 1ul



/20230324.b/B20230324.b/23032429.D BLC0183-MS1 CLP2 25-MAR-2023 00:19 1ul

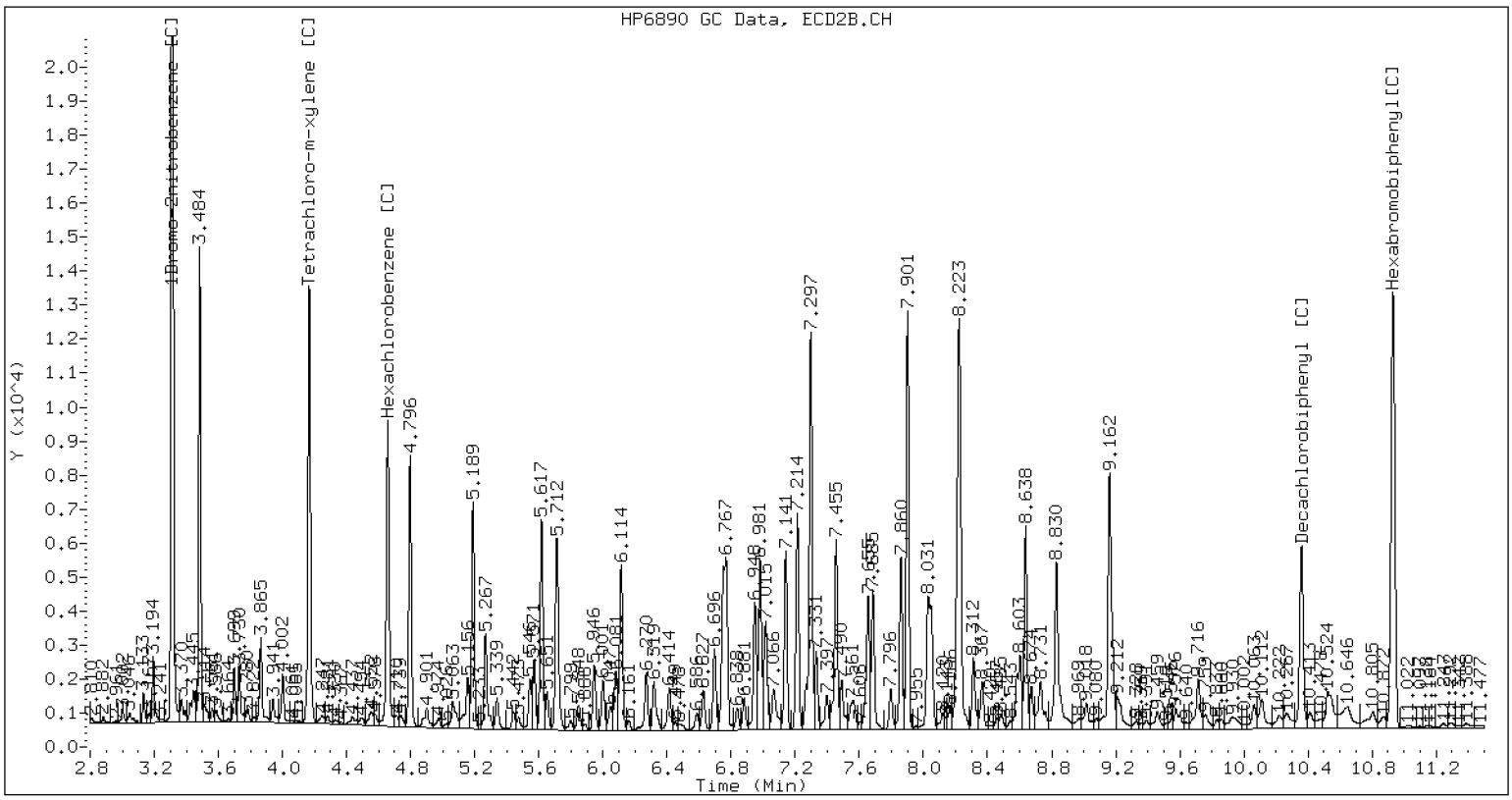


Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: YES

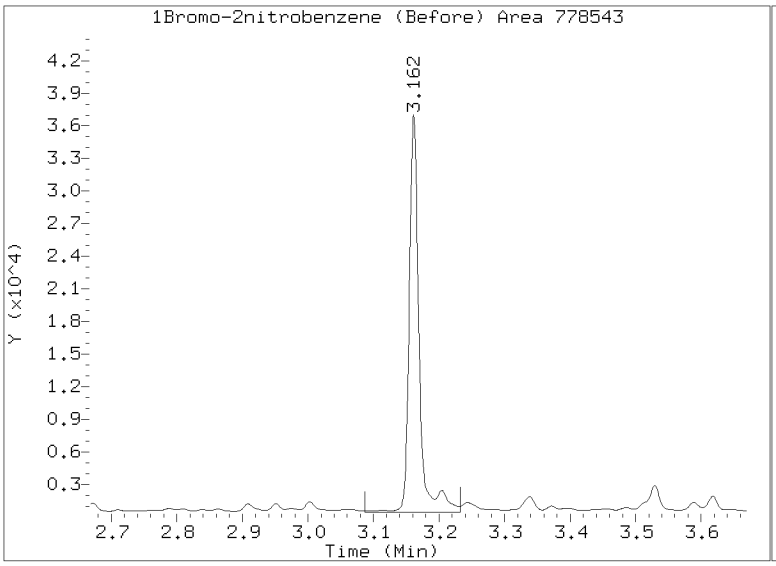
/20230324.b/B20230324.b/23032429.D BLC0183-MS1 CLP2

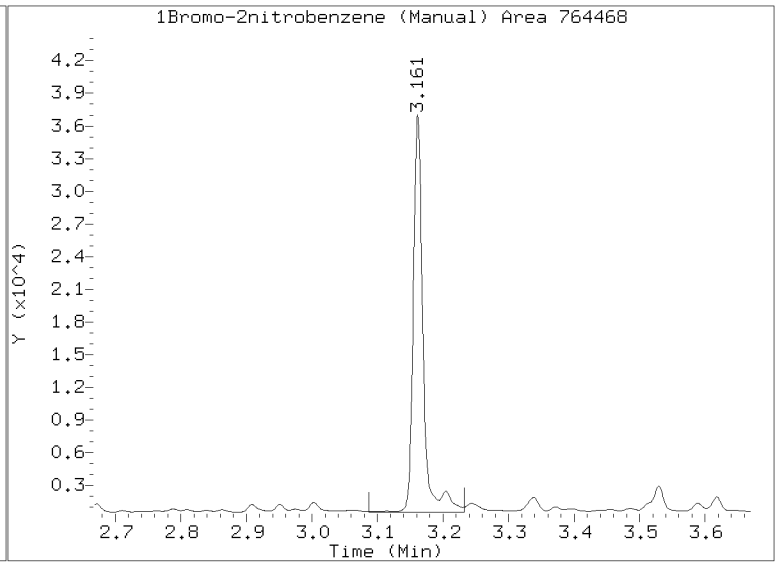


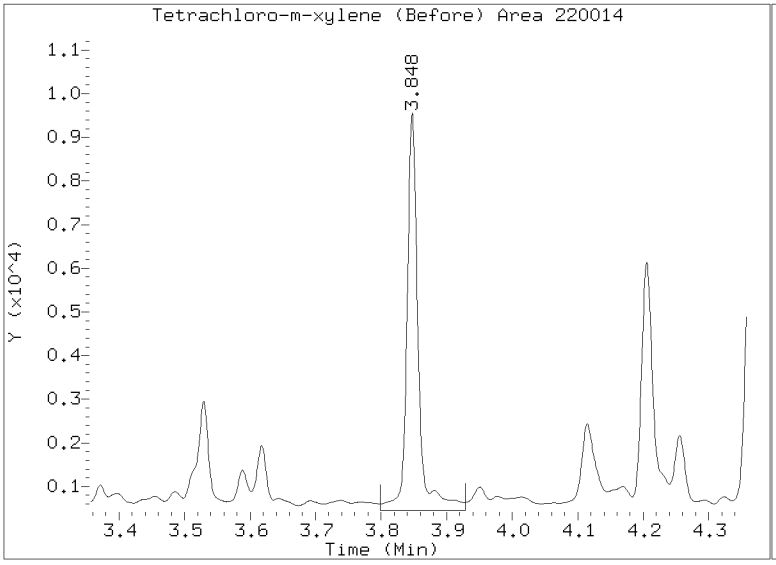
CLP-2 Manual Integration: YES

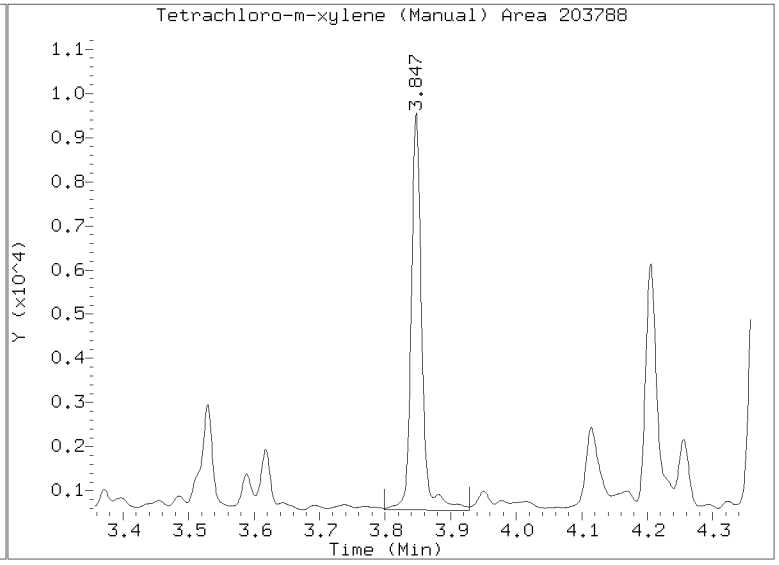
Manual Peak Adjustment Report, STX-CLP

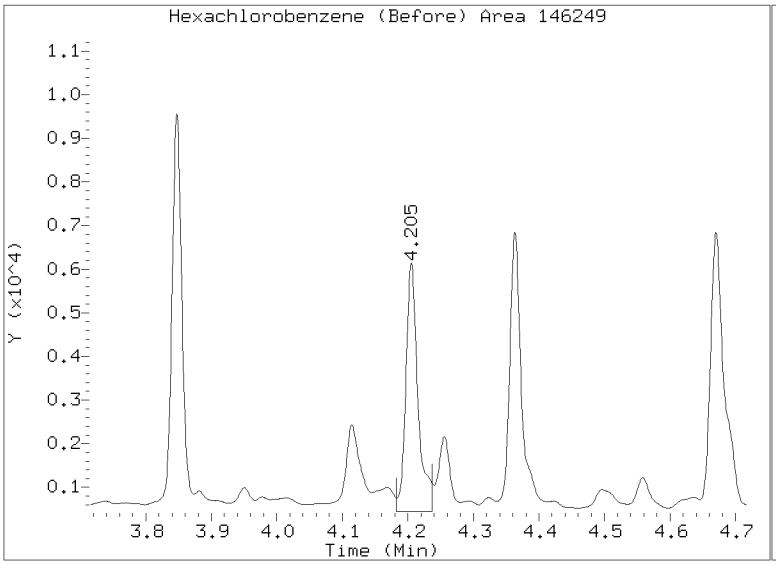
Datafile: /20230324.b/23032429.D
Injection Date: 25-MAR-2023 00:19
Lab ID:BLC0183-MS1 Client ID:
Report Date: 03/28/2023 10:50

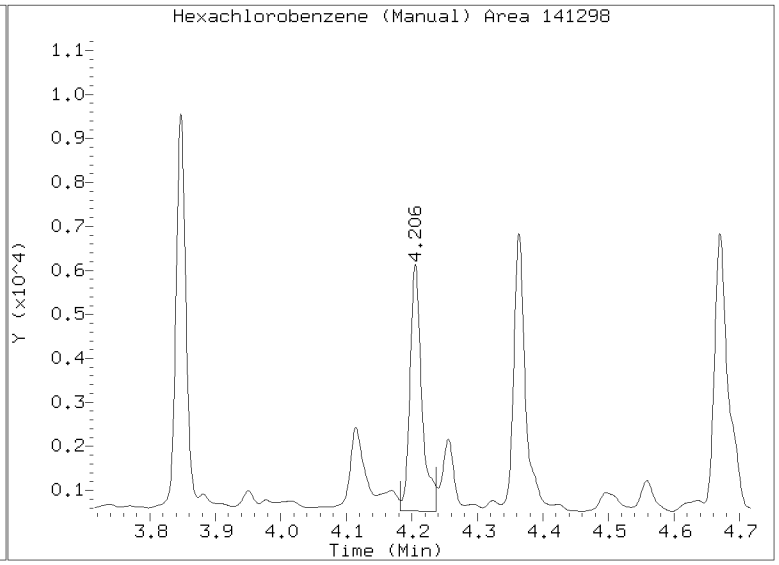






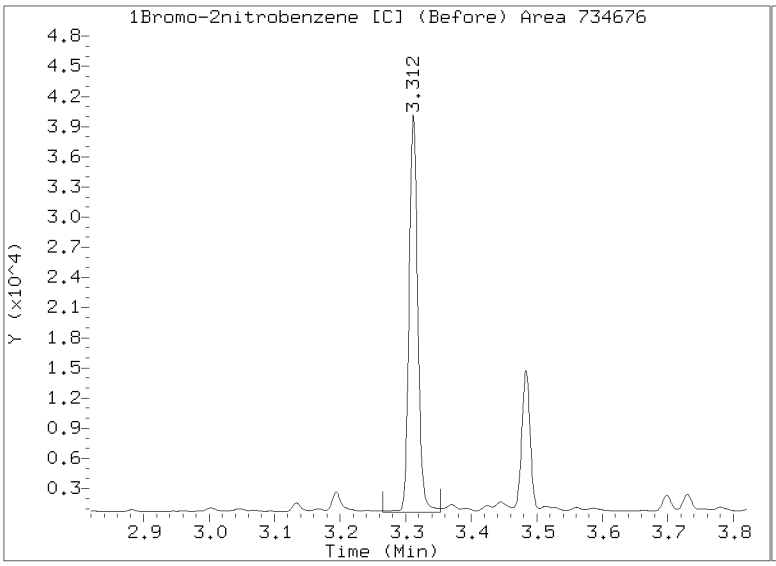


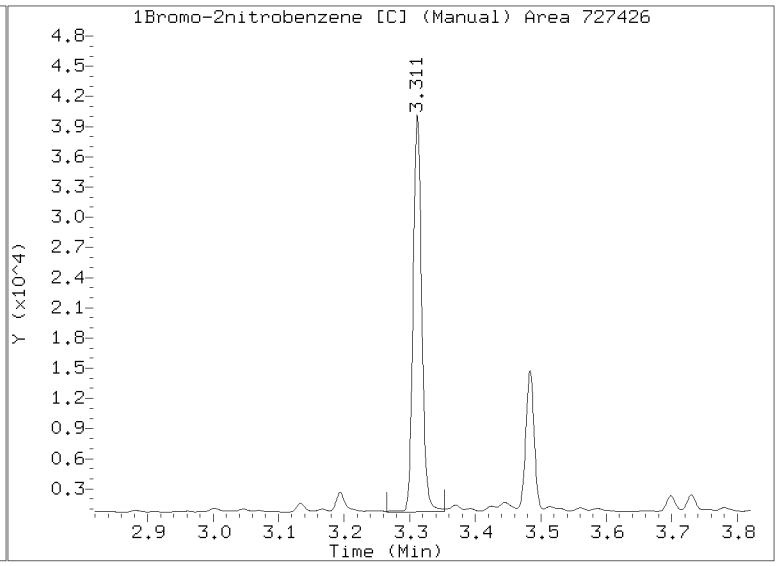


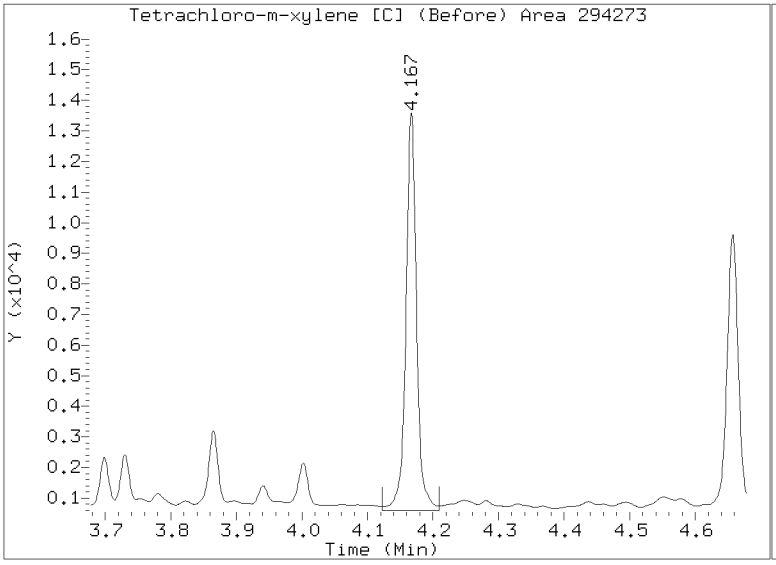


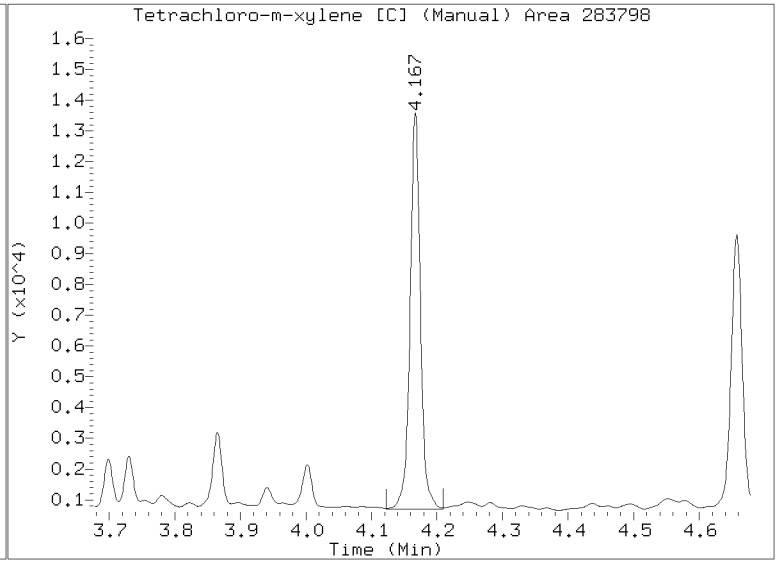
Manual Peak Adjustment Report, CLP-2

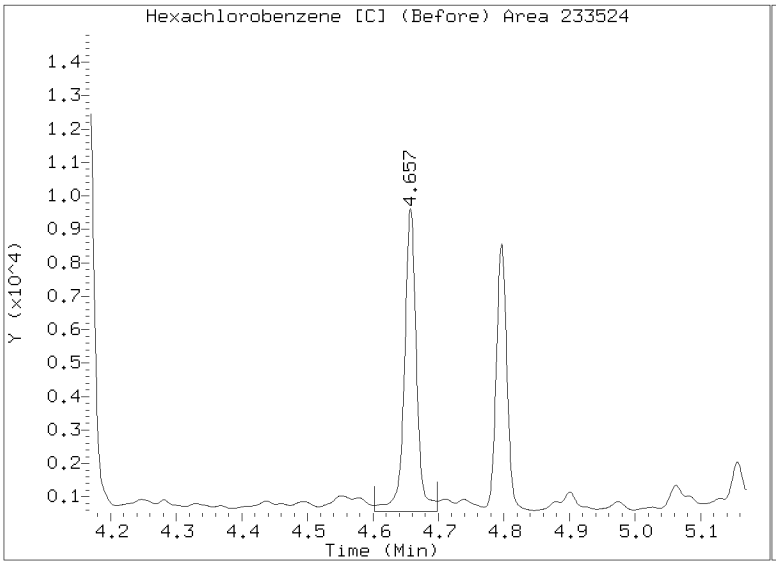
Datafile: /20230324.b/B20230324.b/23032429.D
Injection Date: 25-MAR-2023 00:19
Lab ID:BLC0183-MS1 Client ID:

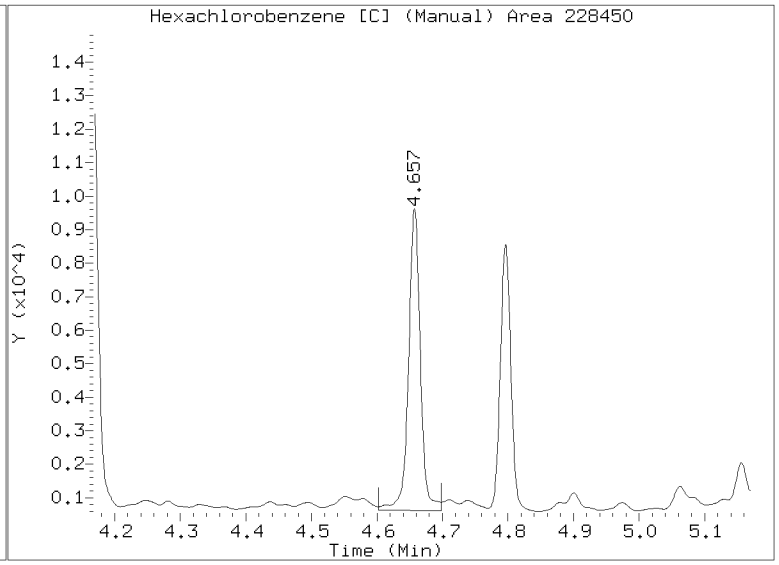












Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20230324.b/23032430.D
Data file 2: /20230324.b/B20230324.b/23032430.D
Method: \20230324.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: BLC0183-MSD1
Client ID:
Injection Date: 25-MAR-2023 00:36
Report Date: 03/28/2023 10:50
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP on col	CLP2 on col	RPD	Compound/Flag
RT	Shift	Response	RT	Shift	Response				
----			----			0.00	0.00	---	alpha-BHC
----			----			0.00	0.00	---	beta-BHC
----			----			0.00	0.00	---	delta-BHC
----			----			0.00	0.00	---	gamma-BHC (Lindane)
----			----			0.00	0.00	---	Heptachlor
----			----			0.00	0.00	---	Aldrin
----			----			0.00	0.00	---	Heptachlor epoxide b
----			----			0.00	0.00	---	Endosulfan I
----			----			0.00	0.00	---	Dieldrin
----			----			0.00	0.00	---	4,4'-DDE
----			----			0.00	0.00	---	Endrin
----			----			0.00	0.00	---	Endosulfan II
----			----			0.00	0.00	---	4,4'-DDD
----			----			0.00	0.00	---	Endosulfan sulfate
----			----			0.00	0.00	---	4,4'-DDT
----			----			0.00	0.00	---	Methoxychlor
----			----			0.00	0.00	---	Endrin ketone
----			----			0.00	0.00	---	Endrin aldehyde
----			----			0.00	0.00	---	trans-Chlordane
----			----			0.00	0.00	---	cis-Chlordane
----			----			0.00	0.00	---	Hexachlorobutadiene
4.203	-0.014	365404	4.656	-0.014	460241	14.50	18.46	24.0	Hexachlorobenzene M
3.846	-0.012	424154	4.165	-0.013	576309	22.12	29.95	30.1	Tetrachloro-m-xylene M
9.408	-0.007	305052	10.362	-0.012	335595	34.99	33.60	4.0	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

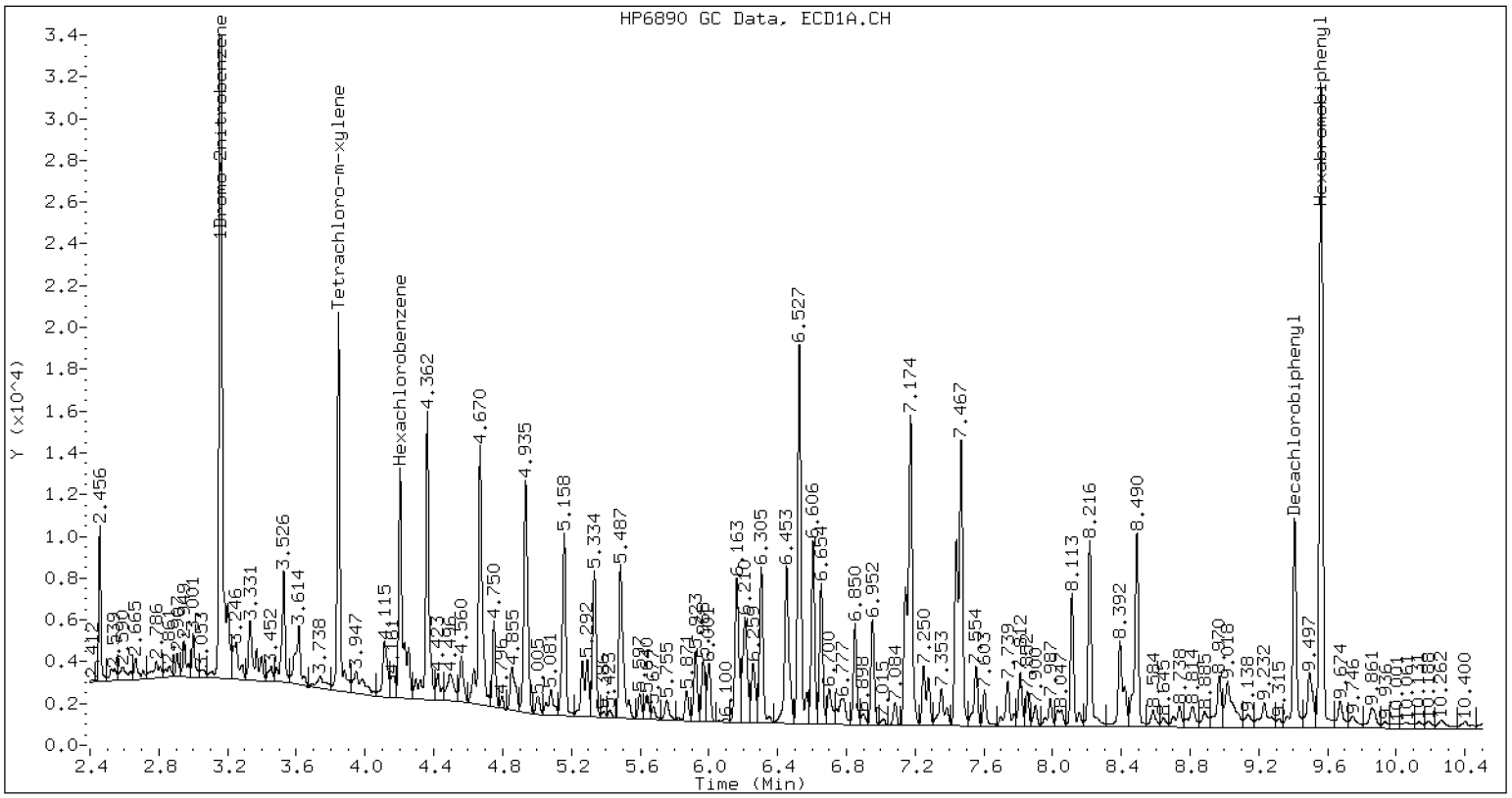
Standard Cpnd	Standard Area*	Sample Area	%D	
Bromo-Nitrobenzene	672426	1409787	109.7	<-
Hexabromobiphenyl	609723	860441	41.1	

Column 2

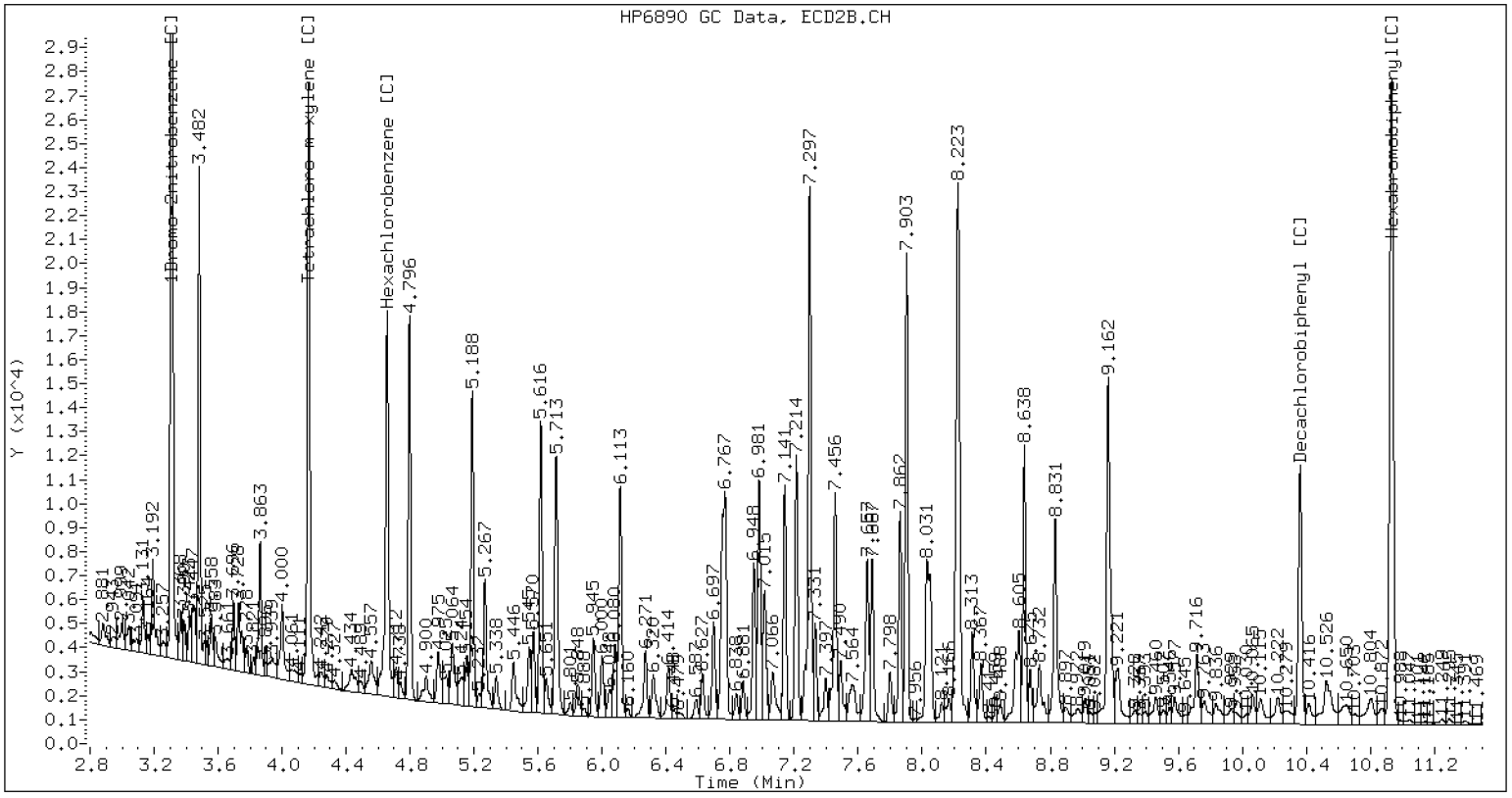
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1006482	1367077	35.8
Hexabromobiphenyl	769764	903597	17.4

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

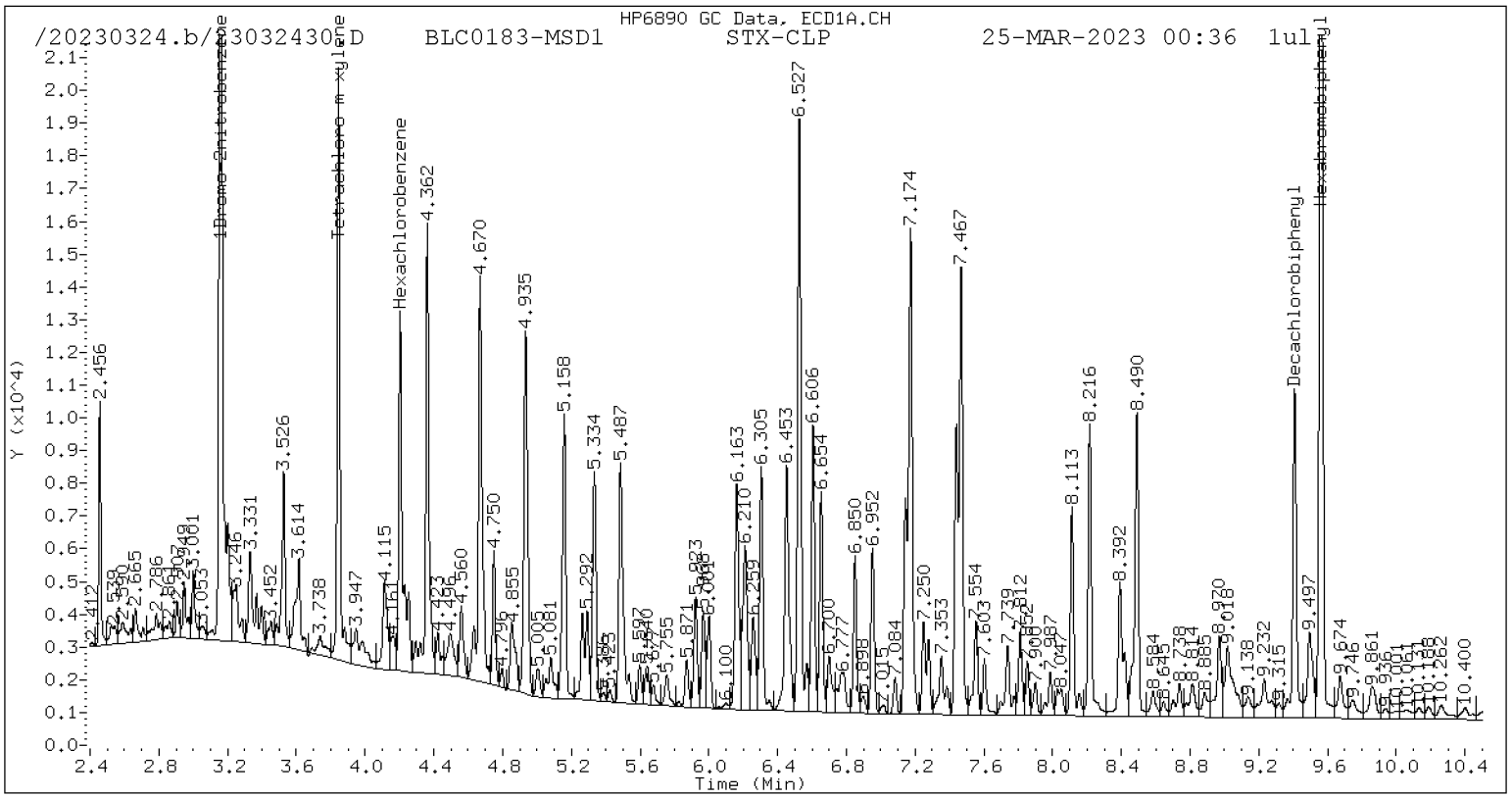
/20230324.b/23032430.D BLC0183-MSD1 STX-CLP 25-MAR-2023 00:36 1ul



/20230324.b/B20230324.b/23032430.D BLC0183-MSD1 CLP2 25-MAR-2023 00:36 1ul

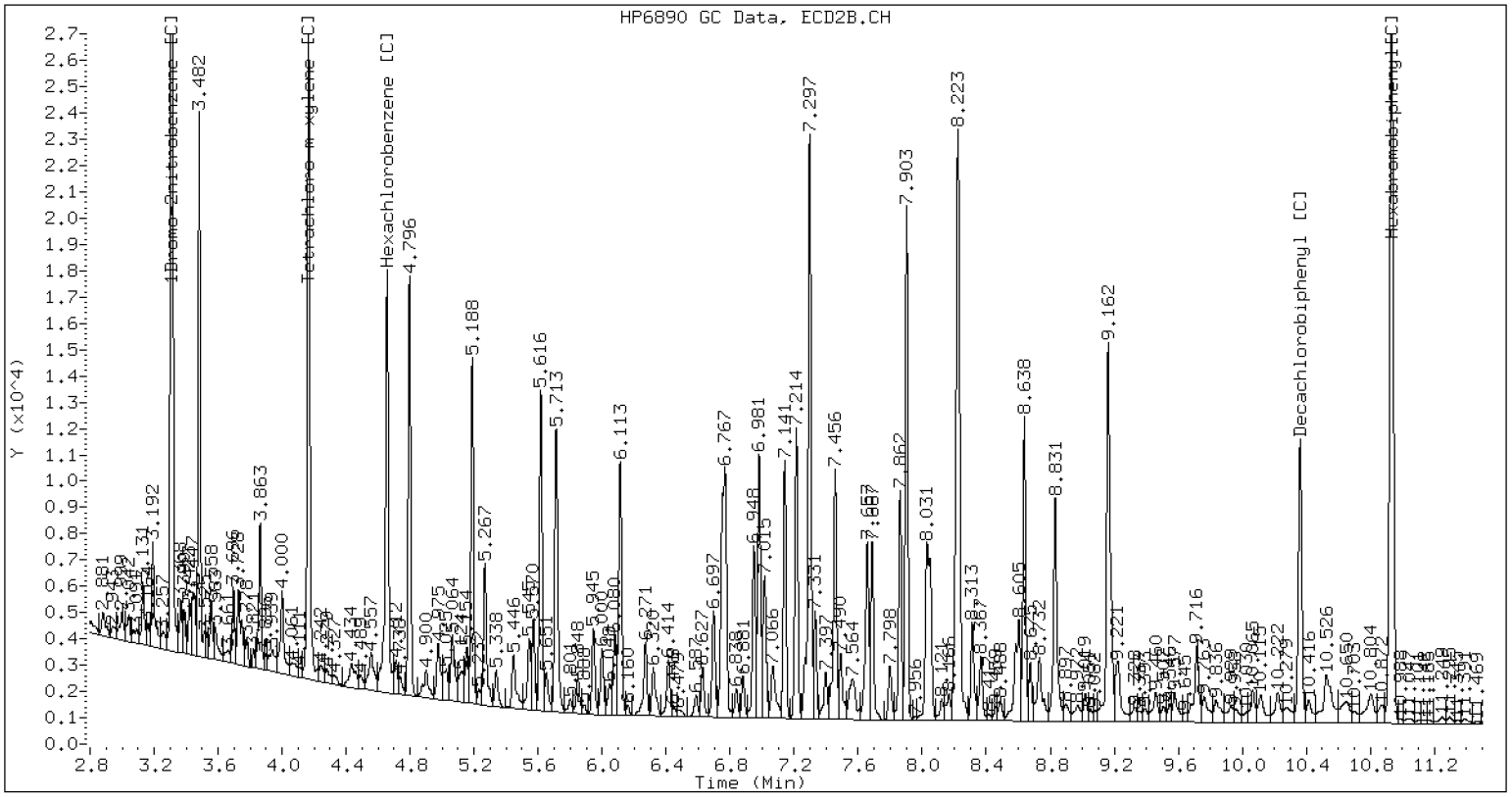


Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: YES

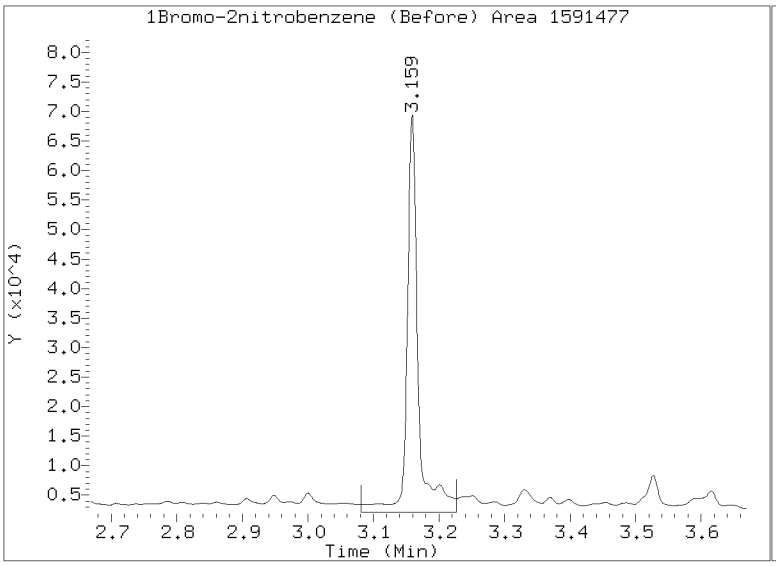
/20230324.b/B20230324.b/23032430.D BLC0183-MSD1 CLP2

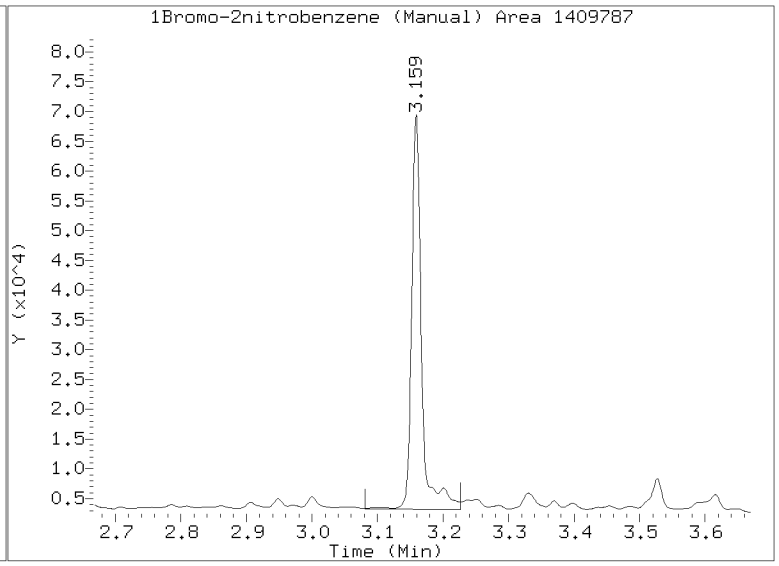


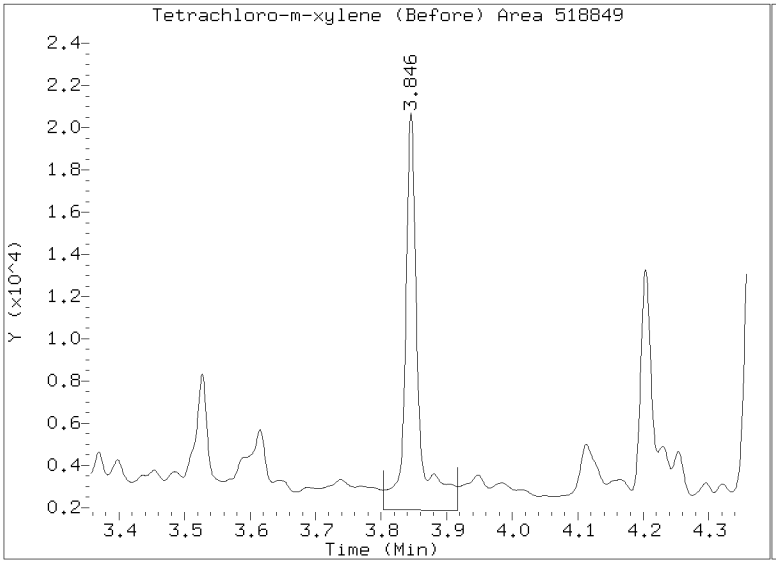
CLP-2 Manual Integration: NO

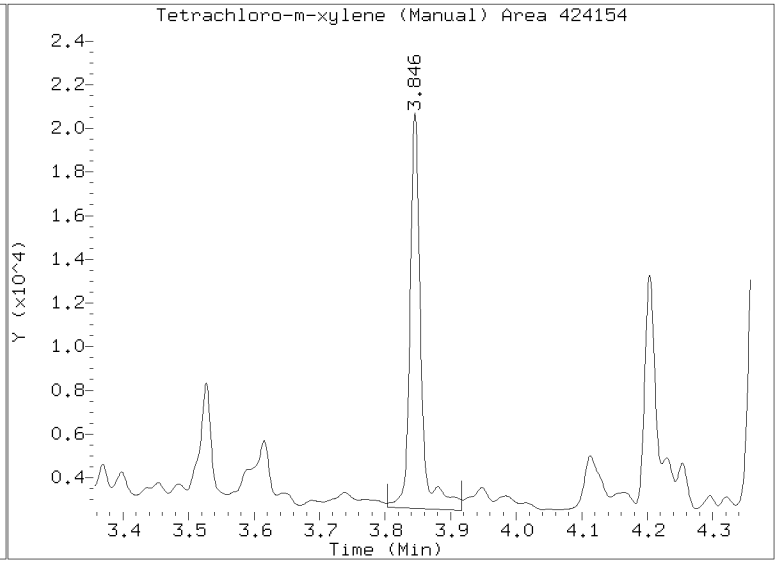
Manual Peak Adjustment Report, STX-CLP

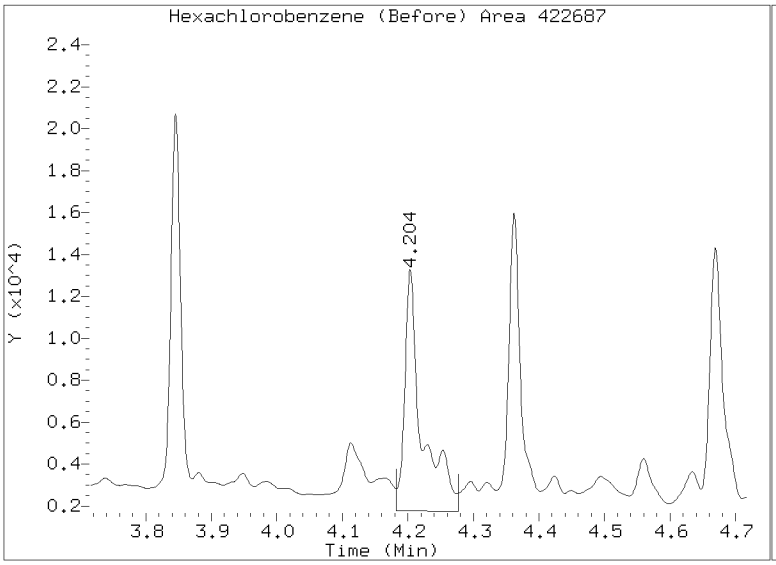
Datafile: /20230324.b/23032430.D
Injection Date: 25-MAR-2023 00:36
Lab ID:BLC0183-MSD1 Client ID:
Report Date: 03/28/2023 10:50

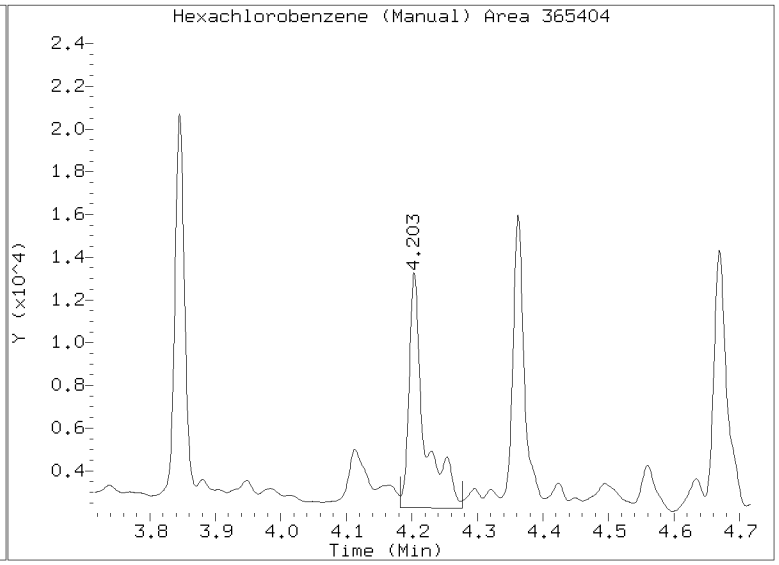












INITIAL CALIBRATION DATA

EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	FL00041	Instrument:	ECD6
Calibration Date:	12/14/2022	Column (1):	STX-CLP

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	Conc	RRF	Conc	**RRF**	Conc	RRF	Conc	RRF	Conc	**RRF**	Conc	**RRF**
alpha-BHC			2.5	1.564682	5	1.558115	10	1.57359	20	1.566596	40	1.528219
beta-BHC			2.5	0.6501672	5	0.6116678	10	0.6049898	20	0.5910241	40	0.567415
gamma-BHC (Lindane)			2.5	1.364013	5	1.359107	10	1.367627	20	1.357913	40	1.317203
delta-BHC			2.5	1.267737	5	1.264366	10	1.278672	20	1.286232	40	1.255792
Heptachlor			2.5	1.26903	5	1.222902	10	1.218715	20	1.207966	40	1.145438
Aldrin			2.5	1.349967	5	1.349283	10	1.40535	20	1.372547	40	1.307197
Heptachlor Epoxide			2.5	1.231126	5	1.189593	10	1.20792	20	1.178021	40	1.104377
trans-Chlordane (beta-Chlordane)			2.5	1.262297	5	1.202181	10	1.202336	20	1.19062	40	1.128117
cis-Chlordane (alpha-chlordane)			2.5	1.308183	5	1.222582	10	1.200602	20	1.177182	40	1.111332
Endosulfan I			2.5	1.143813	5	1.097776	10	1.093658	20	1.076133	40	1.011287
4,4'-DDE			5	1.141182	10	1.108491	20	1.098369	40	1.077225	80	0.9961189
Dieldrin			5	1.225418	10	1.190449	20	1.185191	40	1.155764	80	1.077517
Endrin			5	1.158191	10	1.117563	20	1.079508	40	1.061387	80	0.9725989
Endosulfan II			5	0.9400399	10	0.9913797	20	1.005265	40	0.925043	80	0.9337917
4,4'-DDD			5	1.004568	10	0.9927897	20	0.9803235	40	0.9586353	80	0.8937077
Endrin Aldehyde			5	0.8167784	10	0.7834798	20	0.7706241	40	0.7573308	80	0.7147756
4,4'-DDT			5	1.007054	10	0.9936998	20	0.9768522	40	0.9722874	80	0.9123228
Endosulfan Sulfate			5	0.9534179	10	0.9413755	20	0.9158457	40	0.9056998	80	0.8542021
Endrin Ketone			5	1.134866	10	1.083274	20	1.043162	40	1.021136	80	0.9645492
Methoxychlor			25	0.4887243	50	0.4567517	100	0.4291758	200	0.4123964	400	0.380531
Hexachlorobutadiene			2.5	1.967135	5	1.727858	10	1.608612	20	1.550898	40	1.457962
Hexachlorobenzene			2.5	1.583946	5	1.509865	10	1.463674	20	1.414258	40	1.348389
Decachlorobiphenyl			5	0.9567749	10	0.8690419	20	0.8114883	40	0.7853665	80	0.7399881
Tetrachlorometaxylene			5	1.223478	10	1.154628	20	1.122612	40	1.064313	80	1.018952

INITIAL CALIBRATION DATA

EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	FL00041	Instrument:	ECD6
Calibration Date:	12/14/2022	Column (1):	STX-CLP

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF
alpha-BHC	80	1.449687										
beta-BHC	80	0.5324503										
gamma-BHC (Lindane)	80	1.246178										
delta-BHC	80	1.199667										
Heptachlor	80	1.064858										
Aldrin	80	1.204866										
Heptachlor Epoxide	80	1.016142										
trans-Chlordane (beta-Chlordane)	80	1.050129										
cis-Chlordane (alpha-chlordane)	80	1.036345										
Endosulfan I	80	0.9344351										
4,4'-DDE	160	0.9196699										
Dieldrin	160	0.9953457										
Endrin	160	0.903669										
Endosulfan II	160	0.8694106										
4,4'-DDD	160	0.8394108										
Endrin Aldehyde	160	0.6754471										
4,4'-DDT	160	0.8666848										
Endosulfan Sulfate	160	0.808554										
Endrin Ketone	160	0.9150773										
Methoxychlor	800	0.3710888										
Hexachlorobutadiene	80	1.368623										
Hexachlorobenzene	80	1.259233										
2,4'-DDE					5	0.8703192	10	0.8471901	20	0.8231684	40	0.7887622
2,4'-DDD					5	0.761682	10	0.7418629	20	0.7301989	40	0.7053717
2,4'-DDT					5	0.8194572	10	0.8004965	20	0.7842725	40	0.7616258
Oxychlordane					5	1.016746	10	1.011016	20	0.9890796	40	0.9530961
cis-Nonachlor					5	1.323191	10	1.277938	20	1.243982	40	1.217703

INITIAL CALIBRATION DATA

EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	FL00041	Instrument:	ECD6
Calibration Date:	12/14/2022	Column (1):	STX-CLP

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF
trans-Nonachlor					5	1.347777	10	1.328677	20	1.28535	40	1.249062
Mirex					5	0.8317764	10	0.8043457	20	0.7641487	40	0.7481553
Decachlorobiphenyl	160	0.7008722										
Tetrachlorometaxylene	160	0.9437243										

INITIAL CALIBRATION DATA

EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	FL00041	Instrument:	ECD6
Calibration Date:	12/14/2022	Column (1):	STX-CLP

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF
2,4'-DDE	80	0.7262802	160	0.6559468								
2,4'-DDD	80	0.6522807	160	0.6001736								
2,4'-DDT	80	0.7135595	160	0.6495601								
Oxychlordane	80	0.9018234	160	0.8351028								
cis-Nonachlor	80	1.140435	160	1.065099								
trans-Nonachlor	80	1.167639	160	1.085646								
Mirex	80	0.706171	160	0.6667706								

INITIAL CALIBRATION DATA

EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	FL00041	Instrument:	ECD6
Calibration Date:	12/14/2022	Column (1):	STX-CLP

Compound	Level 19		Level 20		Level 21		Level 22		Level 23		Level 24	
	Conc		Conc		Conc		Conc		Conc		Conc	

INITIAL CALIBRATION DATA

EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	FL00041	Instrument:	ECD6
Calibration Date:	12/14/2022	Column (1):	STX-CLP

Compound	Level 25		Level 26		Level 27		Level 28		Level 29		Level 30	
	Conc		Conc		Conc		Conc		Conc		Conc	

INITIAL CALIBRATION DATA

EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	FL00041	Instrument:	ECD6
Calibration Date:	12/14/2022	Column (1):	STX-CLP

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
alpha-BHC	1.540148	3.1			RSD (20)	
beta-BHC	0.5929524	6.8			RSD (20)	
gamma-BHC (Lindane)	1.33534	3.5			RSD (20)	
delta-BHC	1.258744	2.5			RSD (20)	
Heptachlor	1.188151	6.1			RSD (20)	
Aldrin	1.331535	5.2			RSD (20)	
Heptachlor Epoxide	1.15453	6.9			RSD (20)	
trans-Chlordane (beta-Chlordane)	1.172613	6.3			RSD (20)	
cis-Chlordane (alpha-chlordane)	1.176038	8.0			RSD (20)	
Endosulfan I	1.059517	7.1			RSD (20)	
4,4'-DDE	1.056843	7.9			RSD (20)	
Dieldrin	1.138281	7.6			RSD (20)	
Endrin	1.048819	9.0			RSD (20)	
Endosulfan II	0.944155	5.2			RSD (20)	
4,4'-DDD	0.9449058	6.9			RSD (20)	
Endrin Aldehyde	0.7530726	6.7			RSD (20)	
4,4'-DDT	0.9548168	5.7			RSD (20)	
Endosulfan Sulfate	0.8965158	6.2			RSD (20)	
Endrin Ketone	1.027011	7.7			RSD (20)	
Methoxychlor	0.4231113	10.6			RSD (20)	
Hexachlorobutadiene	1.613515	13.2			RSD (20)	
Hexachlorobenzene	1.429894	8.1			RSD (20)	
2,4'-DDE	0.7852778	10.3			RSD (20)	
2,4'-DDD	0.698595	8.8			RSD (20)	
2,4'-DDT	0.7548286	8.4			RSD (20)	
Oxychlordane	0.951144	7.5			RSD (20)	
cis-Nonachlor	1.211391	7.8			RSD (20)	
trans-Nonachlor	1.244025	8.1			RSD (20)	
Mirex	0.7535613	8.1			RSD (20)	
Decachlorobiphenyl	0.8105886	11.4			RSD (20)	
Tetrachlorometaxylene	1.087951	9.2			RSD (20)	

INITIAL CALIBRATION DATA

EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	FL00041	Instrument:	ECD6
Calibration Date:	12/14/2022	Column (2):	STX-CLPII

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	Conc	RRF	Conc	**RRF**	Conc	RRF	Conc	RRF	Conc	**RRF**	Conc	**RRF**
alpha-BHC [2C]			2.5	1.582358	5	1.586238	10	1.633164	20	1.640486	40	1.615441
beta-BHC [2C]			2.5	0.652782	5	0.6172948	10	0.6184608	20	0.6125812	40	0.5918008
gamma-BHC (Lindane) [2C]			2.5	1.355071	5	1.348783	10	1.381456	20	1.392772	40	1.366606
delta-BHC [2C]			2.5	1.323764	5	1.307234	10	1.339425	20	1.328433	40	1.331977
Heptachlor [2C]			2.5	1.270249	5	1.234236	10	1.258409	20	1.272245	40	1.215755
Aldrin [2C]			2.5	1.511397	5	1.416724	10	1.432636	20	1.430376	40	1.370917
Heptachlor Epoxide [2C]			2.5	1.2977	5	1.174596	10	1.174288	20	1.174706	40	1.114434
trans-Chlordane (beta-Chlordane) [2C]			2.5	1.25449	5	1.176102	10	1.164843	20	1.168848	40	1.125534
cis-Chlordane (alpha-chlordane) [2C]			2.5	1.258498	5	1.153199	10	1.135052	20	1.136251	40	1.089792
Endosulfan I [2C]			2.5	1.118263	5	1.044155	10	1.035412	20	1.034697	40	0.9885012
4,4'-DDE [2C]			5	1.120237	10	1.069625	20	1.064387	40	1.055415	80	0.9897135
Dieldrin [2C]			5	1.270008	10	1.162844	20	1.139359	40	1.136098	80	1.071389
Endrin [2C]			5	1.256912	10	1.17909	20	1.159477	40	1.149599	80	1.066056
Endosulfan II [2C]			5	1.296819	10	1.202961	20	1.188491	40	1.160501	80	1.099056
4,4'-DDD [2C]			5	1.234482	10	1.121556	20	1.117792	40	1.112003	80	1.04628
Endrin Aldehyde [2C]			5	0.9430111	10	0.8430348	20	0.8249196	40	0.8129946	80	0.7727701
4,4'-DDT [2C]			5	1.175911	10	1.077825	20	1.067612	40	1.073272	80	1.019364
Endosulfan Sulfate [2C]			5	1.137768	10	1.042553	20	1.030373	40	1.023023	80	0.9721732
Endrin Ketone [2C]			5	1.235631	10	1.119988	20	1.114405	40	1.100852	80	1.047659
Methoxychlor [2C]			25	0.5184064	50	0.4866753	100	0.4751666	200	0.4681736	400	0.4433957
Hexachlorobutadiene [2C]			2.5	1.975612	5	1.648845	10	1.492482	20	1.376096	40	1.341211
Hexachlorobenzene [2C]			2.5	1.602215	5	1.520618	10	1.491402	20	1.450251	40	1.385947
Decachlorobiphenyl [2C]			5	1.087142	10	0.9391597	20	0.8562421	40	0.8499592	80	0.8013928
Tetrachlorometaxylene [2C]			5	1.220863	10	1.179368	20	1.164832	40	1.127982	80	1.06878

INITIAL CALIBRATION DATA

EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	FL00041	Instrument:	ECD6
Calibration Date:	12/14/2022	Column (2):	STX-CLPII

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF
alpha-BHC [2C]	80	1.561903										
beta-BHC [2C]	80	0.5642956										
gamma-BHC (Lindane) [2C]	80	1.31891										
delta-BHC [2C]	80	1.29291										
Heptachlor [2C]	80	1.144118										
Aldrin [2C]	80	1.281263										
Heptachlor Epoxide [2C]	80	1.046144										
trans-Chlordane (beta-Chlordane) [2C]	80	1.072685										
cis-Chlordane (alpha-chlordane) [2C]	80	1.03859										
Endosulfan I [2C]	80	0.9325836										
4,4'-DDE [2C]	160	0.9356313										
Dieldrin [2C]	160	1.019365										
Endrin [2C]	160	1.013782										
Endosulfan II [2C]	160	1.047801										
4,4'-DDD [2C]	160	1.006382										
Endrin Aldehyde [2C]	160	0.7380269										
4,4'-DDT [2C]	160	0.9933936										
Endosulfan Sulfate [2C]	160	0.9372514										
Endrin Ketone [2C]	160	1.016567										
Methoxychlor [2C]	800	0.4436418										
Hexachlorobutadiene [2C]	80	1.300813										
Hexachlorobenzene [2C]	80	1.304223										
2,4'-DDE [2C]					5	0.8343307	10	0.8052418	20	0.7431295	40	0.7258871
2,4'-DDD [2C]					5	0.9097548	10	0.8797099	20	0.8273813	40	0.8164191
2,4'-DDT [2C]					5	0.9400077	10	0.8804604	20	0.8502582	40	0.8485216
Oxychlordane [2C]					5	0.9644685	10	0.9467754	20	0.9033255	40	0.8966281
cis-Nonachlor [2C]					5	1.449238	10	1.407074	20	1.376474	40	1.372123

INITIAL CALIBRATION DATA

EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	FL00041	Instrument:	ECD6
Calibration Date:	12/14/2022	Column (2):	STX-CLPII

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF
trans-Nonachlor [2C]					5	1.488853	10	1.51762	20	1.451789	40	1.447663
Mirex [2C]					5	0.9331395	10	0.8115521	20	0.7946205	40	0.762682
Decachlorobiphenyl [2C]	160	0.7711875										
Tetrachlorometaxylene [2C]	160	0.9948184										

INITIAL CALIBRATION DATA

EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	FL00041	Instrument:	ECD6
Calibration Date:	12/14/2022	Column (2):	STX-CLPII

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF
2,4'-DDE [2C]	80	0.6667087	160	0.6020159								
2,4'-DDD [2C]	80	0.76623	160	0.7136982								
2,4'-DDT [2C]	80	0.7977257	160	0.7424898								
Oxychlordane [2C]	80	0.8433342	160	0.7909247								
cis-Nonachlor [2C]	80	1.313286	160	1.248174								
trans-Nonachlor [2C]	80	1.376815	160	1.306683								
Mirex [2C]	80	0.7399752	160	0.7075065								

INITIAL CALIBRATION DATA

EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	FL00041	Instrument:	ECD6
Calibration Date:	12/14/2022	Column (2):	STX-CLPII

Compound	Level 19		Level 20		Level 21		Level 22		Level 23		Level 24	
	Conc		Conc		Conc		Conc		Conc		Conc	

INITIAL CALIBRATION DATA

EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	FL00041	Instrument:	ECD6
Calibration Date:	12/14/2022	Column (2):	STX-CLPII

Compound	Level 25		Level 26		Level 27		Level 28		Level 29		Level 30	
	Conc		Conc		Conc		Conc		Conc		Conc	

INITIAL CALIBRATION DATA

EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	FL00041	Instrument:	ECD6
Calibration Date:	12/14/2022	Column (2):	STX-CLPII

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
alpha-BHC [2C]	1.603265	1.9			RSD (20)	
beta-BHC [2C]	0.6095359	4.9			RSD (20)	
gamma-BHC (Lindane) [2C]	1.3606	1.9			RSD (20)	
delta-BHC [2C]	1.320624	1.3			RSD (20)	
Heptachlor [2C]	1.232502	3.9			RSD (20)	
Aldrin [2C]	1.407219	5.4			RSD (20)	
Heptachlor Epoxide [2C]	1.163645	7.1			RSD (20)	
trans-Chlordane (beta-Chlordane) [2C]	1.160417	5.2			RSD (20)	
cis-Chlordane (alpha-chlordane) [2C]	1.13523	6.5			RSD (20)	
Endosulfan I [2C]	1.025602	6.0			RSD (20)	
4,4'-DDE [2C]	1.039168	6.3			RSD (20)	
Dieldrin [2C]	1.133177	7.5			RSD (20)	
Endrin [2C]	1.137486	7.6			RSD (20)	
Endosulfan II [2C]	1.165938	7.4			RSD (20)	
4,4'-DDD [2C]	1.106416	7.0			RSD (20)	
Endrin Aldehyde [2C]	0.8224595	8.5			RSD (20)	
4,4'-DDT [2C]	1.067896	5.9			RSD (20)	
Endosulfan Sulfate [2C]	1.023857	6.7			RSD (20)	
Endrin Ketone [2C]	1.10585	6.8			RSD (20)	
Methoxychlor [2C]	0.4725766	6.0			RSD (20)	
Hexachlorobutadiene [2C]	1.52251	16.8			RSD (20)	
Hexachlorobenzene [2C]	1.459109	7.2			RSD (20)	
2,4'-DDE [2C]	0.7295523	11.8			RSD (20)	
2,4'-DDD [2C]	0.8188656	8.8			RSD (20)	
2,4'-DDT [2C]	0.8432439	8.1			RSD (20)	
Oxychlordane [2C]	0.8909094	7.3			RSD (20)	
cis-Nonachlor [2C]	1.361061	5.2			RSD (20)	
trans-Nonachlor [2C]	1.43157	5.4			RSD (20)	
Mirex [2C]	0.7915793	9.9			RSD (20)	
Decachlorobiphenyl [2C]	0.8841805	13.0			RSD (20)	
Tetrachlorometaxylene [2C]	1.126107	7.3			RSD (20)	

Printed: 12/17/2022 10:57:45AM

ANALYSIS SEQUENCE

SKL0233

Instrument: ECD6 Element Column ID:
Calibration ID: FL00041

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Analyzed	Comments
SKL0233-PEM1	DS1	QC		1	K007286	K006953		
SKL0233-CAL1	INDAA	QC		2	K011594	K006953		
SKL0233-CAL2	INDAB	QC		3	K011593	K006953		
SKL0233-CAL3	INDAC	QC		4	K011592	K006953		
SKL0233-CAL4	INDAD	QC		5	K011591	K006953		
SKL0233-CAL5	INDAE	QC		6	K011590	K006953		
SKL0233-CAL6	INDAF	QC		7	K011589	K006953		
SKL0233-CAL7	INDAG	QC		8	K011463	K006953		
SKL0233-CAL8	WNDA	QC		9	K011595	K006953		
SKL0233-CAL9	WNDB	QC		10	K007148	K006953		
SKL0233-CALA	WNDC	QC		11	K007147	K006953		
SKL0233-CALB	WNDD	QC		12	K007146	K006953		
SKL0233-CALC	WNDE	QC		13	K007145	K006953		
SKL0233-CALD	WNDF	QC		14	K007144	K006953		
SKL0233-CALE	WNDG	QC		15	K007093	K006953		
SKL0233-CALM	NOS1	QC		16	K007375	K006953		
SKL0233-CALN	NOS2	QC		17	K007374	K006953		
SKL0233-CALO	NOS3	QC		18	K007373	K006953		
SKL0233-CALP	NOS4	QC		19	K007372	K006953		
SKL0233-CALQ	NOS5	QC		20	K007371	K006953		
SKL0233-CALR	NOS6	QC		21	K007370	K006953		
SKL0233-CALS	NOS7	QC		22	K007287	K006953		

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ANALYSIS SEQUENCE

SKL0233

Instrument: ECD6 Element Column ID:
Calibration ID: FL00041

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Analyzed	Comments
SKL0233-CALF	TOXAPH1	QC		23	K011601	K006953		
SKL0233-CALG	TOXAPH2	QC		24	K011600	K006953		
SKL0233-CALH	TOXAPH3	QC		25	K011599	K006953		
SKL0233-CALI	TOXAPH4	QC		26	K011598	K006953		
SKL0233-CALJ	TOXAPH5	QC		27	K011597	K006953		
SKL0233-CALK	TOXAPH6	QC		28	K011596	K006953		
SKL0233-CALL	TOXAPH7	QC		29	K008546	K006953		

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20221214.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	14-DEC-2022 19:27	22121401.D	1	RINSE	
2	14-DEC-2022 19:44	22121402.D	1	RINSE	
3	14-DEC-2022 20:02	22121403.D	1	SEQ-IBL1	
4	14-DEC-2022 20:20	22121404.D	1	SEQ-PEM1	
5	14-DEC-2022 20:38	22121405.D	1	SEQ-CAL1	
6	14-DEC-2022 20:56	22121406.D	1	SEQ-CAL2	
7	14-DEC-2022 21:14	22121407.D	1	SEQ-CAL3	
8	14-DEC-2022 21:31	22121408.D	1	SEQ-CAL4	
9	14-DEC-2022 21:49	22121409.D	1	SEQ-CAL5	
10	14-DEC-2022 22:07	22121410.D	1	SEQ-CAL6	
11	14-DEC-2022 22:25	22121411.D	1	SEQ-CAL7	
12	14-DEC-2022 22:43	22121412.D	1	SEQ-CAL8	
13	14-DEC-2022 23:01	22121413.D	1	SEQ-CAL9	
14	14-DEC-2022 23:19	22121414.D	1	SEQ-CALA	
15	14-DEC-2022 23:36	22121415.D	1	SEQ-CALB	
16	14-DEC-2022 23:54	22121416.D	1	SEQ-CALC	
17	15-DEC-2022 00:12	22121417.D	1	SEQ-CALD	
18	15-DEC-2022 00:30	22121418.D	1	SEQ-CALE	
19	15-DEC-2022 00:48	22121419.D	1	SEQ-SCV1	
20	15-DEC-2022 01:06	22121420.D	1	SEQ-SCV2	
21	15-DEC-2022 01:24	22121421.D	1	SEQ-CAL1A	
22	15-DEC-2022 01:42	22121422.D	1	SEQ-CAL2A	
23	15-DEC-2022 01:59	22121423.D	1	SEQ-CAL3A	
24	15-DEC-2022 02:17	22121424.D	1	SEQ-CAL4A	
25	15-DEC-2022 02:35	22121425.D	1	SEQ-CAL5A	
26	15-DEC-2022 02:53	22121426.D	1	SEQ-CAL6A	
27	15-DEC-2022 03:11	22121427.D	1	SEQ-CAL7A	
28	15-DEC-2022 03:29	22121428.D	1	SEQ-CAL8A	
29	15-DEC-2022 03:46	22121429.D	1	SEQ-CAL9A	
30	15-DEC-2022 04:04	22121430.D	1	SEQ-CALAA	
31	15-DEC-2022 04:22	22121431.D	1	SEQ-CALAB	
32	15-DEC-2022 04:40	22121432.D	1	SEQ-CALAC	
33	15-DEC-2022 04:58	22121433.D	1	SEQ-CALAD	
34	15-DEC-2022 05:16	22121434.D	1	SEQ-CALAE	
35	15-DEC-2022 05:33	22121435.D	1	SEQ-PEM2	
36	15-DEC-2022 05:51	22121436.D	1	SEQ-ICV1	
37	15-DEC-2022 06:09	22121437.D	1	SEQ-ICV2	
38	15-DEC-2022 06:27	22121438.D	1	SEQ-ICV3	
39	15-DEC-2022 06:45	22121439.D	1	SEQ-ICV4	
40	15-DEC-2022 07:03	22121440.D	1	BKK0688-BLK1	
41	15-DEC-2022 07:21	22121441.D	1	BKK0688-BS1	
42	15-DEC-2022 07:39	22121442.D	1	BKK0688-BS2	
43	15-DEC-2022 07:57	22121443.D	1	BKK0688-BS3	
44	15-DEC-2022 08:15	22121444.D	1	BKK0688-BSD1	
45	15-DEC-2022 08:32	22121445.D	1	BKK0142-BLK1	
46	15-DEC-2022 08:50	22121446.D	1	BKK0142-BS1	
47	15-DEC-2022 09:08	22121447.D	1	BKK0142-BS2	
48	15-DEC-2022 09:26	22121448.D	1	BKK0142-BSD1	
49	15-DEC-2022 09:44	22121449.D	1	BKK0142-MS1	
50	15-DEC-2022 10:02	22121450.D	1	BKK0142-MSD1	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20221214.b p

	Inject Date/Time	Filename	DF	LabID	ClientID
51	15-DEC-2022 10:20	22121451.D	1	22J0513-01	
52	15-DEC-2022 10:38	22121452.D	1	22J0513-04	
53	15-DEC-2022 10:55	22121453.D	1	22J0535-01	
54	15-DEC-2022 11:13	22121454.D	1	22K0429-01	
55	15-DEC-2022 11:31	22121455.D	1	22K0429-02	
56	15-DEC-2022 11:49	22121456.D	1	22K0429-03	
57	15-DEC-2022 12:07	22121457.D	1	SEQ-PEM3	
58	15-DEC-2022 12:25	22121458.D	1	SEQ-CCV1	
59	15-DEC-2022 12:43	22121459.D	1	SEQ-CCV2	
60	15-DEC-2022 13:01	22121460.D	1	SEQ-CCV3	
61	15-DEC-2022 13:19	22121461.D	1	SEQ-CCV4	
62	15-DEC-2022 13:36	22121462.D	1	BKK0380-BLK1	
63	15-DEC-2022 13:54	22121463.D	1	BKK0380-BS1	
64	15-DEC-2022 14:12	22121464.D	1	BKK0380-BSD1	
65	15-DEC-2022 14:30	22121465.D	1	22K0157-01	
66	15-DEC-2022 14:48	22121466.D	1	22K0230-01	
67	15-DEC-2022 15:06	22121467.D	1	22K0231-01	
68	15-DEC-2022 15:24	22121468.D	1	BKK0382-BLK1	
69	15-DEC-2022 15:42	22121469.D	1	BKK0382-BS1	
70	15-DEC-2022 16:00	22121470.D	1	BKK0382-BS2	
71	15-DEC-2022 16:18	22121471.D	1	BKK0382-BSD1	
72	15-DEC-2022 16:35	22121472.D	1	22K0075-01	
73	15-DEC-2022 16:53	22121473.D	1	SEQ-PEM4	
74	15-DEC-2022 17:11	22121474.D	1	SEQ-CCV5	
75	15-DEC-2022 17:29	22121475.D	1	SEQ-CCV6	
76	15-DEC-2022 17:47	22121476.D	1	SEQ-CCV7	
77	15-DEC-2022 18:05	22121477.D	1	SEQ-CCV8	
78	15-DEC-2022 18:23	22121478.D	1	BKK0537-BLK1	
79	15-DEC-2022 18:40	22121479.D	1	BKK0537-BS1	
80	15-DEC-2022 18:58	22121480.D	1	BKK0537-BS2	
81	15-DEC-2022 19:16	22121481.D	1	22K0194-01	
82	15-DEC-2022 19:34	22121482.D	1	22K0194-01RE1	10
83	15-DEC-2022 19:52	22121483.D	1	SEQ-PEM5	
84	15-DEC-2022 20:09	22121484.D	1	SEQ-CCV9	
85	15-DEC-2022 20:27	22121485.D	1	SEQ-CCVA	
86	15-DEC-2022 20:45	22121486.D	1	SEQ-CCVB	
87	15-DEC-2022 21:03	22121487.D	1	SEQ-CCVC	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20221214.b

ARI Job No.: RINS Method: PEST.m Instrument: ecd6.i Date: 14-DEC-2022

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1927	22121401.D	RINSE		1	NO MANUAL INTEGRATION
1944	22121402.D	RINSE		1	NO MANUAL INTEGRATION
2002	22121403.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
2020	22121404.D	SEQ-PEM1		1	NO MANUAL INTEGRATION
2038	22121405.D	SEQ-CAL1		1	NO MANUAL INTEGRATION
2056	22121406.D	SEQ-CAL2		1	NO MANUAL INTEGRATION
2114	22121407.D	SEQ-CAL3		1	NO MANUAL INTEGRATION
2131	22121408.D	SEQ-CAL4		1	NO MANUAL INTEGRATION
2149	22121409.D	SEQ-CAL5		1	NO MANUAL INTEGRATION
2207	22121410.D	SEQ-CAL6		1	NO MANUAL INTEGRATION
2225	22121411.D	SEQ-CAL7		1	NO MANUAL INTEGRATION
2243	22121412.D	SEQ-CAL8		1	NO MANUAL INTEGRATION
2301	22121413.D	SEQ-CAL9		1	NO MANUAL INTEGRATION
2319	22121414.D	SEQ-CALA		1	NO MANUAL INTEGRATION
2336	22121415.D	SEQ-CALB		1	NO MANUAL INTEGRATION
2354	22121416.D	SEQ-CALC		1	NO MANUAL INTEGRATION
0012	22121417.D	SEQ-CALD		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20221214.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0030	22121418.D	SEQ-CALE		1	NO MANUAL INTEGRATION
0048	22121419.D	SEQ-SCV1		1	NO MANUAL INTEGRATION
0106	22121420.D	SEQ-SCV2		1	NO MANUAL INTEGRATION
0124	22121421.D	SEQ-CAL1A		1	NO MANUAL INTEGRATION
0142	22121422.D	SEQ-CAL2A		1	NO MANUAL INTEGRATION
0159	22121423.D	SEQ-CAL3A		1	NO MANUAL INTEGRATION
0217	22121424.D	SEQ-CAL4A		1	NO MANUAL INTEGRATION
0235	22121425.D	SEQ-CAL5A		1	NO MANUAL INTEGRATION
0253	22121426.D	SEQ-CAL6A		1	NO MANUAL INTEGRATION
0311	22121427.D	SEQ-CAL7A		1	NO MANUAL INTEGRATION
0329	22121428.D	SEQ-CAL8A		1	NO MANUAL INTEGRATION
0346	22121429.D	SEQ-CAL9A		1	NO MANUAL INTEGRATION
0404	22121430.D	SEQ-CALAA		1	NO MANUAL INTEGRATION
0422	22121431.D	SEQ-CALAB		1	NO MANUAL INTEGRATION
0440	22121432.D	SEQ-CALAC		1	NO MANUAL INTEGRATION
0458	22121433.D	SEQ-CALAD		1	NO MANUAL INTEGRATION
0516	22121434.D	SEQ-CALAE		1	NO MANUAL INTEGRATION
0533	22121435.D	SEQ-PEM2		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20221214.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0551	22121436.D	SEQ-ICV1		1	NO MANUAL INTEGRATION
0609	22121437.D	SEQ-ICV2		1	NO MANUAL INTEGRATION
0627	22121438.D	SEQ-ICV3		1	NO MANUAL INTEGRATION
0645	22121439.D	SEQ-ICV4		1	NO MANUAL INTEGRATION
0703	22121440.D	BKK0688-BLK1		1	NO MANUAL INTEGRATION
0721	22121441.D	BKK0688-BS1		1	NO MANUAL INTEGRATION
0739	22121442.D	BKK0688-BS2		1	NO MANUAL INTEGRATION
0757	22121443.D	BKK0688-BS3		1	NO MANUAL INTEGRATION
0815	22121444.D	BKK0688-BSD1		1	NO MANUAL INTEGRATION
0832	22121445.D	BKK0142-BLK1		1	NO MANUAL INTEGRATION
0850	22121446.D	BKK0142-BS1		1	NO MANUAL INTEGRATION
0908	22121447.D	BKK0142-BS2		1	NO MANUAL INTEGRATION
0926	22121448.D	BKK0142-BSD1		1	NO MANUAL INTEGRATION
0944	22121449.D	BKK0142-MS1		1	NO MANUAL INTEGRATION
1002	22121450.D	BKK0142-MSD1		1	NO MANUAL INTEGRATION
1020	22121451.D	22J0513-01		1	NO MANUAL INTEGRATION
1038	22121452.D	22J0513-04		1	NO MANUAL INTEGRATION
1055	22121453.D	22J0535-01		1	trans-Chlordane,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20221214.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1113	22121454.D	22K0429-01		1	Heptachlor epoxide b,
1131	22121455.D	22K0429-02		1	Heptachlor epoxide b,
1149	22121456.D	22K0429-03		1	Hexachlorobenzene,
1207	22121457.D	SEQ-PEM3		1	NO MANUAL INTEGRATION
1225	22121458.D	SEQ-CCV1		1	NO MANUAL INTEGRATION
1243	22121459.D	SEQ-CCV2		1	NO MANUAL INTEGRATION
1301	22121460.D	SEQ-CCV3		1	NO MANUAL INTEGRATION
1319	22121461.D	SEQ-CCV4		1	NO MANUAL INTEGRATION
1336	22121462.D	BKK0380-BLK1		1	NO MANUAL INTEGRATION
1354	22121463.D	BKK0380-BS1		1	NO MANUAL INTEGRATION
1412	22121464.D	BKK0380-BSD1		1	NO MANUAL INTEGRATION
1430	22121465.D	22K0157-01		1	NO MANUAL INTEGRATION
1448	22121466.D	22K0230-01		1	NO MANUAL INTEGRATION
1506	22121467.D	22K0231-01		1	NO MANUAL INTEGRATION
1524	22121468.D	BKK0382-BLK1		1	NO MANUAL INTEGRATION
1542	22121469.D	BKK0382-BS1		1	NO MANUAL INTEGRATION
1600	22121470.D	BKK0382-BS2		1	NO MANUAL INTEGRATION
1618	22121471.D	BKK0382-BSD1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20221214.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1635	22121472.D	22K0075-01		1	NO MANUAL INTEGRATION
1653	22121473.D	SEQ-PEM4		1	NO MANUAL INTEGRATION
1711	22121474.D	SEQ-CCV5		1	NO MANUAL INTEGRATION
1729	22121475.D	SEQ-CCV6		1	NO MANUAL INTEGRATION
1747	22121476.D	SEQ-CCV7		1	NO MANUAL INTEGRATION
1805	22121477.D	SEQ-CCV8		1	NO MANUAL INTEGRATION
1823	22121478.D	BKK0537-BLK1		1	NO MANUAL INTEGRATION
1840	22121479.D	BKK0537-BS1		1	NO MANUAL INTEGRATION
1858	22121480.D	BKK0537-BS2		1	NO MANUAL INTEGRATION
1916	22121481.D	22K0194-01		1	NO MANUAL INTEGRATION
1934	22121482.D	22K0194-01RE1	10	1	NO MANUAL INTEGRATION
1952	22121483.D	SEQ-PEM5		1	NO MANUAL INTEGRATION
2009	22121484.D	SEQ-CCV9		1	NO MANUAL INTEGRATION
2027	22121485.D	SEQ-CCVA		1	NO MANUAL INTEGRATION
2045	22121486.D	SEQ-CCVB		1	NO MANUAL INTEGRATION
2103	22121487.D	SEQ-CCVC		1	NO MANUAL INTEGRATION
1927	22121401.D	RINSE		1	NO MANUAL INTEGRATION
1944	22121402.D	RINSE		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20221214.b\B20221214.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2002	22121403.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
2020	22121404.D	SEQ-PEM1		1	NO MANUAL INTEGRATION
2038	22121405.D	SEQ-CAL1		1	NO MANUAL INTEGRATION
2056	22121406.D	SEQ-CAL2		1	NO MANUAL INTEGRATION
2114	22121407.D	SEQ-CAL3		1	NO MANUAL INTEGRATION
2131	22121408.D	SEQ-CAL4		1	NO MANUAL INTEGRATION
2149	22121409.D	SEQ-CAL5		1	NO MANUAL INTEGRATION
2207	22121410.D	SEQ-CAL6		1	NO MANUAL INTEGRATION
2225	22121411.D	SEQ-CAL7		1	NO MANUAL INTEGRATION
2243	22121412.D	SEQ-CAL8		1	NO MANUAL INTEGRATION
2301	22121413.D	SEQ-CAL9		1	NO MANUAL INTEGRATION
2319	22121414.D	SEQ-CALA		1	NO MANUAL INTEGRATION
2336	22121415.D	SEQ-CALB		1	NO MANUAL INTEGRATION
2354	22121416.D	SEQ-CALC		1	NO MANUAL INTEGRATION
0012	22121417.D	SEQ-CALD		1	NO MANUAL INTEGRATION
0030	22121418.D	SEQ-CALE		1	NO MANUAL INTEGRATION
0048	22121419.D	SEQ-SCV1		1	NO MANUAL INTEGRATION
0106	22121420.D	SEQ-SCV2		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20221214.b\B20221214.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0124	22121421.D	SEQ-CAL1A		1	NO MANUAL INTEGRATION
0142	22121422.D	SEQ-CAL2A		1	NO MANUAL INTEGRATION
0159	22121423.D	SEQ-CAL3A		1	NO MANUAL INTEGRATION
0217	22121424.D	SEQ-CAL4A		1	NO MANUAL INTEGRATION
0235	22121425.D	SEQ-CAL5A		1	NO MANUAL INTEGRATION
0253	22121426.D	SEQ-CAL6A		1	NO MANUAL INTEGRATION
0311	22121427.D	SEQ-CAL7A		1	NO MANUAL INTEGRATION
0329	22121428.D	SEQ-CAL8A		1	NO MANUAL INTEGRATION
0346	22121429.D	SEQ-CAL9A		1	NO MANUAL INTEGRATION
0404	22121430.D	SEQ-CALAA		1	NO MANUAL INTEGRATION
0422	22121431.D	SEQ-CALAB		1	NO MANUAL INTEGRATION
0440	22121432.D	SEQ-CALAC		1	NO MANUAL INTEGRATION
0458	22121433.D	SEQ-CALAD		1	NO MANUAL INTEGRATION
0516	22121434.D	SEQ-CALAE		1	NO MANUAL INTEGRATION
0533	22121435.D	SEQ-PEM2		1	NO MANUAL INTEGRATION
0551	22121436.D	SEQ-ICV1		1	NO MANUAL INTEGRATION
0609	22121437.D	SEQ-ICV2		1	NO MANUAL INTEGRATION
0627	22121438.D	SEQ-ICV3		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20221214.b\B20221214.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0645	22121439.D	SEQ-ICV4		1	NO MANUAL INTEGRATION
0703	22121440.D	BKK0688-BLK1		1	NO MANUAL INTEGRATION
0721	22121441.D	BKK0688-BS1		1	NO MANUAL INTEGRATION
0739	22121442.D	BKK0688-BS2		1	NO MANUAL INTEGRATION
0757	22121443.D	BKK0688-BS3		1	NO MANUAL INTEGRATION
0815	22121444.D	BKK0688-BSD1		1	NO MANUAL INTEGRATION
0832	22121445.D	BKK0142-BLK1		1	NO MANUAL INTEGRATION
0850	22121446.D	BKK0142-BS1		1	NO MANUAL INTEGRATION
0908	22121447.D	BKK0142-BS2		1	NO MANUAL INTEGRATION
0926	22121448.D	BKK0142-BSD1		1	NO MANUAL INTEGRATION
0944	22121449.D	BKK0142-MS1		1	NO MANUAL INTEGRATION
1002	22121450.D	BKK0142-MSD1		1	NO MANUAL INTEGRATION
1020	22121451.D	22J0513-01		1	NO MANUAL INTEGRATION
1038	22121452.D	22J0513-04		1	NO MANUAL INTEGRATION
1055	22121453.D	22J0535-01		1	trans-Chlordane [C],
1113	22121454.D	22K0429-01		1	NO MANUAL INTEGRATION
1131	22121455.D	22K0429-02		1	Aldrin [C], Heptachlor epoxide b [C], trans-Chlordane [C],
1149	22121456.D	22K0429-03		1	Aldrin [C],

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20221214.b\B20221214.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1207	22121457.D	SEQ-PEM3		1	NO MANUAL INTEGRATION
1225	22121458.D	SEQ-CCV1		1	NO MANUAL INTEGRATION
1243	22121459.D	SEQ-CCV2		1	NO MANUAL INTEGRATION
1301	22121460.D	SEQ-CCV3		1	NO MANUAL INTEGRATION
1319	22121461.D	SEQ-CCV4		1	NO MANUAL INTEGRATION
1336	22121462.D	BKK0380-BLK1		1	NO MANUAL INTEGRATION
1354	22121463.D	BKK0380-BS1		1	NO MANUAL INTEGRATION
1412	22121464.D	BKK0380-BSD1		1	NO MANUAL INTEGRATION
1430	22121465.D	22K0157-01		1	NO MANUAL INTEGRATION
1448	22121466.D	22K0230-01		1	NO MANUAL INTEGRATION
1506	22121467.D	22K0231-01		1	NO MANUAL INTEGRATION
1524	22121468.D	BKK0382-BLK1		1	NO MANUAL INTEGRATION
1542	22121469.D	BKK0382-BS1		1	NO MANUAL INTEGRATION
1600	22121470.D	BKK0382-BS2		1	NO MANUAL INTEGRATION
1618	22121471.D	BKK0382-BSD1		1	NO MANUAL INTEGRATION
1635	22121472.D	22K0075-01		1	NO MANUAL INTEGRATION
1653	22121473.D	SEQ-PEM4		1	NO MANUAL INTEGRATION
1711	22121474.D	SEQ-CCV5		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20221214.b\B20221214.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1729	22121475.D	SEQ-CCV6		1	NO MANUAL INTEGRATION
1747	22121476.D	SEQ-CCV7		1	NO MANUAL INTEGRATION
1805	22121477.D	SEQ-CCV8		1	NO MANUAL INTEGRATION
1823	22121478.D	BKK0537-BLK1		1	NO MANUAL INTEGRATION
1840	22121479.D	BKK0537-BS1		1	NO MANUAL INTEGRATION
1858	22121480.D	BKK0537-BS2		1	NO MANUAL INTEGRATION
1916	22121481.D	22K0194-01		1	NO MANUAL INTEGRATION
1934	22121482.D	22K0194-01RE1	10	1	NO MANUAL INTEGRATION
1952	22121483.D	SEQ-PEM5		1	NO MANUAL INTEGRATION
2010	22121484.D	SEQ-CCV9		1	NO MANUAL INTEGRATION
2027	22121485.D	SEQ-CCVA		1	NO MANUAL INTEGRATION
2045	22121486.D	SEQ-CCVB		1	NO MANUAL INTEGRATION
2103	22121487.D	SEQ-CCVC		1	NO MANUAL INTEGRATION

Security Status Report

Date: 17-Dec-2022 10:57

22121401.D	Data Locked	jrains, 17-Dec-2022 10:57
22121402.D	Data Locked	jrains, 17-Dec-2022 10:57
22121403.D	Data Locked	jrains, 17-Dec-2022 10:57
22121404.D	Data Locked	jrains, 17-Dec-2022 10:57
22121405.D	Data Locked	jrains, 17-Dec-2022 10:57
22121406.D	Data Locked	jrains, 17-Dec-2022 10:57
22121407.D	Data Locked	jrains, 17-Dec-2022 10:57
22121408.D	Data Locked	jrains, 17-Dec-2022 10:57
22121409.D	Data Locked	jrains, 17-Dec-2022 10:57
22121410.D	Data Locked	jrains, 17-Dec-2022 10:57
22121411.D	Data Locked	jrains, 17-Dec-2022 10:57
22121412.D	Data Locked	jrains, 17-Dec-2022 10:57
22121413.D	Data Locked	jrains, 17-Dec-2022 10:57
22121414.D	Data Locked	jrains, 17-Dec-2022 10:57
22121415.D	Data Locked	jrains, 17-Dec-2022 10:57
22121416.D	Data Locked	jrains, 17-Dec-2022 10:57
22121417.D	Data Locked	jrains, 17-Dec-2022 10:57
22121418.D	Data Locked	jrains, 17-Dec-2022 10:57
22121419.D	Data Locked	jrains, 17-Dec-2022 10:57
22121420.D	Data Locked	jrains, 17-Dec-2022 10:57
22121421.D	Data Locked	jrains, 17-Dec-2022 10:57
22121422.D	Data Locked	jrains, 17-Dec-2022 10:57
22121423.D	Data Locked	jrains, 17-Dec-2022 10:57
22121424.D	Data Locked	jrains, 17-Dec-2022 10:57
22121425.D	Data Locked	jrains, 17-Dec-2022 10:57
22121426.D	Data Locked	jrains, 17-Dec-2022 10:57
22121427.D	Data Locked	jrains, 17-Dec-2022 10:57
22121428.D	Data Locked	jrains, 17-Dec-2022 10:57
22121429.D	Data Locked	jrains, 17-Dec-2022 10:57
22121430.D	Data Locked	jrains, 17-Dec-2022 10:57
22121431.D	Data Locked	jrains, 17-Dec-2022 10:57
22121432.D	Data Locked	jrains, 17-Dec-2022 10:57
22121433.D	Data Locked	jrains, 17-Dec-2022 10:57
22121434.D	Data Locked	jrains, 17-Dec-2022 10:57

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 14-DEC-2022 20:38
End Cal Date : 15-DEC-2022 05:16
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd6.i\20221214.b\PEST.m\PESTB.m
Last Edit : 15-Dec-2022 08:33 jrains
Curve Type : Average

Calibration File Names:
Level 1: \\target\share\chem4\ecd6.i\20221214.b\20221214.b\22121428.D
Level 2: \\target\share\chem4\ecd6.i\20221214.b\20221214.b\22121429.D
Level 3: \\target\share\chem4\ecd6.i\20221214.b\20221214.b\22121430.D
Level 4: \\target\share\chem4\ecd6.i\20221214.b\20221214.b\22121431.D
Level 5: \\target\share\chem4\ecd6.i\20221214.b\20221214.b\22121432.D
Level 6: \\target\share\chem4\ecd6.i\20221214.b\20221214.b\22121433.D
Level 7: \\target\share\chem4\ecd6.i\20221214.b\20221214.b\22121434.D

Compound	1.250 Level 1	2.500 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	40.000 Level 6	80.000 Level 7	___ RRF	% RSD
1 Hexachlorobutadiene [C]	+++++	1.97561	1.64885	1.49248	1.37610	1.34121	1.30081	1.52251	16.761
5 Hexachlorobenzene [C]	+++++	1.60221	1.52062	1.49140	1.45025	1.38595	1.30422	1.45911	7.170
6 alpha-BHC [C]	+++++	1.58236	1.58624	1.63316	1.64049	1.61544	1.56190	1.60327	1.946
7 gamma-BHC (Lindane) [C]	+++++	1.35507	1.34878	1.38146	1.39277	1.36661	1.31891	1.36060	1.921
8 beta-BHC [C]	+++++	0.65278	0.61729	0.61846	0.61258	0.59180	0.56430	0.60954	4.856
9 delta-BHC [C]	+++++	1.32376	1.30723	1.33943	1.32843	1.33198	1.29291	1.32062	1.312
10 Heptachlor [C]	+++++	1.27025	1.23424	1.25841	1.27225	1.21576	1.14412	1.23250	3.937
11 Chlorthalonil	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

ARI Labs, Inc.

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Curve Type : Average

Compound	1.250 Level 1	2.500 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	40.000 Level 6	80.000 Level 7	___ RRF	% RSD
12 Aldrin [C]	+++++	1.51140	1.41672	1.43264	1.43038	1.37092	1.28126	1.40722	5.441
13 Heptachlor Epoxide a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
14 Heptachlor epoxide b [C]	+++++	1.29770	1.17460	1.17429	1.17471	1.11443	1.04614	1.16364	7.144
15 cis-Chlordane [C]	+++++	1.25850	1.15320	1.13505	1.13625	1.08979	1.03859	1.13523	6.464
16 trans-Chlordane [C]	+++++	1.25449	1.17610	1.16484	1.16885	1.12553	1.07269	1.16042	5.185
17 Endosulfan I [C]	+++++	1.11826	1.04415	1.03541	1.03470	0.98850	0.93258	1.02560	6.032
18 4,4'-DDE [C]	+++++	1.12024	1.06963	1.06439	1.05541	0.98971	0.93563	1.03917	6.320
19 Dieldrin [C]	+++++	1.27001	1.16284	1.13936	1.13610	1.07139	1.01937	1.13318	7.532
20 Endrin [C]	+++++	1.25691	1.17909	1.15948	1.14960	1.06606	1.01378	1.13749	7.566
21 4,4'-DDD [C]	+++++	1.23448	1.12156	1.11779	1.11200	1.04628	1.00638	1.10642	7.049
22 Endosulfan II [C]	+++++	1.29682	1.20296	1.18849	1.16050	1.09906	1.04780	1.16594	7.425

ARI Labs, Inc.

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Compound	1.250 Level 1	2.500 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	40.000 Level 6	80.000 Level 7	___ RRF	% RSD
23 4,4'-DDT [C]	+++++	1.17591	1.07782	1.06761	1.07327	1.01936	0.99339	1.06790	5.878
24 Endrin aldehyde [C]	+++++	0.94301	0.84303	0.82492	0.81299	0.77277	0.73803	0.82246	8.537
25 Endosulfan sulfate [C]	+++++	1.13777	1.04255	1.03037	1.02302	0.97217	0.93725	1.02386	6.702
26 Methoxychlor [C]	+++++	0.51841	0.48668	0.47517	0.46817	0.44340	0.44364	0.47258	5.996
27 Endrin ketone [C]	+++++	1.23563	1.11999	1.11440	1.10085	1.04766	1.01657	1.10585	6.827
29 Aroclor-1016(1)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
(2)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
(3)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
(4)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
(5)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
30 Aroclor-1221(1)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

ARI Labs, Inc.

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Method file : \\target\share\chem4\ecd6.i\20221214.b\PEST.m\PESTB.m
Last Edit : 15-Dec-2022 08:33 jrains
Curve Type : Average

Compound	1.250 Level 1	2.500 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	40.000 Level 6	80.000 Level 7	___ RRF	% RSD
(2)	#####	#####	#####	#####	#####	#####	#####	#####	#####
(3)	#####	#####	#####	#####	#####	#####	#####	#####	#####
(4)	#####	#####	#####	#####	#####	#####	#####	#####	#####
31 Aroclor-1232(1)	#####	#####	#####	#####	#####	#####	#####	#####	#####
(2)	#####	#####	#####	#####	#####	#####	#####	#####	#####
(3)	#####	#####	#####	#####	#####	#####	#####	#####	#####
(4)	#####	#####	#####	#####	#####	#####	#####	#####	#####
(5)	#####	#####	#####	#####	#####	#####	#####	#####	#####
32 Aroclor-1242(1)	#####	#####	#####	#####	#####	#####	#####	#####	#####
(2)	#####	#####	#####	#####	#####	#####	#####	#####	#####
(3)	#####	#####	#####	#####	#####	#####	#####	#####	#####

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 14-DEC-2022 20:38
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Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd6.i\20221214.b\PEST.m\PESTB.m
Last Edit : 15-Dec-2022 08:33 jrains
Curve Type : Average

Compound	1.250 Level 1	2.500 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	40.000 Level 6	80.000 Level 7	___ RRF	% RSD
(4)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(5)	*****	*****	*****	*****	*****	*****	*****	*****	*****
33 Aroclor-1248(1)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(2)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(3)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(4)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(5)	*****	*****	*****	*****	*****	*****	*****	*****	*****
34 Aroclor-1254(1)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(2)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(3)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(4)	*****	*****	*****	*****	*****	*****	*****	*****	*****

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 14-DEC-2022 20:38
End Cal Date : 15-DEC-2022 05:16
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd6.i\20221214.b\PEST.m\PESTB.m
Last Edit : 15-Dec-2022 08:33 jrains
Curve Type : Average

Compound	1.250 Level 1	2.500 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	40.000 Level 6	80.000 Level 7	___ RRF	% RSD
(5)	#####	#####	#####	#####	#####	#####	#####	#####	#####
35 Aroclor-1260(1)	#####	#####	#####	#####	#####	#####	#####	#####	#####
(2)	#####	#####	#####	#####	#####	#####	#####	#####	#####
(3)	#####	#####	#####	#####	#####	#####	#####	#####	#####
(4)	#####	#####	#####	#####	#####	#####	#####	#####	#####
(5)	#####	#####	#####	#####	#####	#####	#####	#####	#####
36 Aroclor-1262(1)	#####	#####	#####	#####	#####	#####	#####	#####	#####
(2)	#####	#####	#####	#####	#####	#####	#####	#####	#####
(3)	#####	#####	#####	#####	#####	#####	#####	#####	#####
(4)	#####	#####	#####	#####	#####	#####	#####	#####	#####
(5)	#####	#####	#####	#####	#####	#####	#####	#####	#####

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 14-DEC-2022 20:38
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Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd6.i\20221214.b\PEST.m\PESTB.m
Last Edit : 15-Dec-2022 08:33 jrains
Curve Type : Average

Compound	1.250 Level 1	2.500 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	40.000 Level 6	80.000 Level 7	___ RRF	% RSD
37 Aroclor-1268(1)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
(2)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
(3)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
(4)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
(5)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
38 Toxaphene [C](1)	0.01492	0.01529	0.01573	0.01558	0.01527	0.01455	0.01387	0.01503	4.285
(2)	0.03524	0.03538	0.03581	0.03480	0.03351	0.03170	0.03010	0.03379	6.368
(3)	0.02615	0.02659	0.02671	0.02640	0.02571	0.02464	0.02387	0.02572	4.197
(4)	0.08868	0.08690	0.08740	0.08502	0.08225	0.07926	0.07782	0.08390	5.022
(5)	0.04138	0.04124	0.04193	0.04145	0.04102	0.04046	0.04062	0.04116	1.227
39 2,4-DDE [C]	+++++	0.83433	0.80524	0.74313	0.72589	0.66671	0.60202	0.72955	11.810

ARI Labs, Inc.

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Curve Type : Average

Compound	1.250 Level 1	2.500 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	40.000 Level 6	80.000 Level 7	___ RRF	% RSD
40 2,4-DDD [C]	+++++	0.90975	0.87971	0.82738	0.81642	0.76623	0.71370	0.81887	8.785
41 2,4-DDT [C]	+++++	0.94001	0.88046	0.85026	0.84852	0.79773	0.74249	0.84324	8.052
42 Hexachloroethane [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
43 Oxychlordane [C]	+++++	0.96447	0.94678	0.90333	0.89663	0.84333	0.79092	0.89091	7.271
44 trans-Nonachlor [C]	+++++	1.48885	1.51762	1.45179	1.44766	1.37681	1.30668	1.43157	5.406
45 cis-Nonachlor [C]	+++++	1.44924	1.40707	1.37647	1.37212	1.31329	1.24817	1.36106	5.224
46 Mirex [C]	+++++	0.93314	0.81155	0.79462	0.76268	0.73998	0.70751	0.79158	9.949
47 bis-(2-ethylhexyl) Phthalate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
48 Chlordane (NOS) [C](1)	0.03877	0.03690	0.03764	0.03840	0.03761	0.03805	0.03764	0.03786	1.615
(2)	0.04647	0.04439	0.04416	0.04357	0.04103	0.03978	0.03825	0.04252	6.844
(3)	0.14135	0.14252	0.14927	0.15059	0.14418	0.14081	0.13812	0.14383	3.173

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Compound	1.250 Level 1	2.500 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	40.000 Level 6	80.000 Level 7	___ RRF	% RSD
49 Trifluralin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
50 Dacthal	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
51 Oxadiazon	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
52 Kelthane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
53 Chlorpyrifos	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
54 Methyl Parathion	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
55 Ethyl Parathion	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
56 Kepone [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
57 1-Chloropyrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
$ 4 Tetrachloro-m-xylene [C]	+++++	1.22086	1.17937	1.16483	1.12798	1.06878	0.99482	1.12611	7.306
$ 28 Decachlorobiphenyl [C]	+++++	1.08714	0.93916	0.85624	0.84996	0.80139	0.77119	0.88418	12.973

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 03-AUG-2022 11:03
End Cal Date : 13-DEC-2022 22:43
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd6.i\20221214.b\PEST.m
Last Edit : 14-Dec-2022 10:32
Curve Type : Average

Calibration File Names:
Level 1: \\target\share\chem4\ecd6.i\20220809.b\22080909.D
Level 2: \\target\share\chem4\ecd6.i\20220809.b\22080910.D
Level 3: \\target\share\chem4\ecd6.i\20220809.b\22080911.D
Level 4: \\target\share\chem4\ecd6.i\20220809.b\22080912.D
Level 5: \\target\share\chem4\ecd6.i\20220809.b\22080913.D
Level 6: \\target\share\chem4\ecd6.i\20220809.b\22080914.D
Level 7: \\target\share\chem4\ecd6.i\20220809.b\22080915.D

Compound	1.250 Level 1	2.500 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	40.000 Level 6	RRF	% RSD
	80.000 Level 7							
1 Hexachlorobutadiene	+++++	1.64215	1.55667	1.51049	1.47308	1.40536		
	1.30292						1.48178	7.988
5 Hexachlorobenzene	+++++	1.48647	1.40778	1.36481	1.31957	1.25458		
	1.15582						1.33150	8.750
6 alpha-BHC	+++++	1.41183	1.40802	1.42270	1.42790	1.37811		
	1.29587						1.39074	3.567
7 gamma-BHC (Lindane)	+++++	1.20108	1.18733	1.20704	1.21598	1.18532		
	1.11861						1.18589	2.948
8 beta-BHC	+++++	0.65244	0.60612	0.58927	0.57533	0.54649		
	0.50588						0.57925	8.684
9 delta-BHC	+++++	1.15252	1.13315	1.18185	1.21952	1.21492		
	1.16159						1.17726	2.950
10 Heptachlor	+++++	1.18674	1.12881	1.11527	1.09009	1.03076		
	0.94214						1.08230	7.897
11 Aldrin	+++++	1.14505	1.10493	1.10576	1.09698	1.04621		
	0.96536						1.07738	5.877

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 03-AUG-2022 11:03
End Cal Date : 13-DEC-2022 22:43
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd6.i\20221214.b\PEST.m
Last Edit : 14-Dec-2022 10:32
Curve Type : Average

Compound	1.250 Level 1	2.500 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	40.000 Level 6	80.000 Level 7	___ RRF	% RSD
12 Chlorthalonil	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
13 Heptachlor Epoxide a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
14 Heptachlor epoxide b	+++++	1.05278	0.99602	0.98316	0.95413	0.89408	0.81733	0.94959	8.751
15 cis-Chlordane	+++++	1.00217	0.95563	0.94931	0.93343	0.89233	0.82943	0.92705	6.424
16 trans-Chlordane	+++++	1.02223	0.96054	0.95840	0.94631	0.90606	0.84267	0.93937	6.420
17 Endosulfan I	+++++	1.10444	1.01004	0.97510	0.92642	0.86761	0.77363	0.94287	12.207
18 4,4'-DDE	+++++	0.85783	0.84618	0.86175	0.85068	0.80349	0.73346	0.82557	6.027
19 Dieldrin	+++++	1.02112	0.97469	0.96064	0.93395	0.87876	0.79720	0.92773	8.553
20 Endrin	+++++	1.03359	0.99258	1.01493	1.03951	0.95184	0.92125	0.99228	4.755
21 4,4'-DDD	+++++	1.26749	1.21690	1.21140	1.19455	1.09258	1.02286	1.16763	7.815
22 Endosulfan II	+++++	1.32213	1.30831	1.28817	1.25191	1.14300	1.05695	1.22841	8.614

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 03-AUG-2022 11:03
End Cal Date : 13-DEC-2022 22:43
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd6.i\20221214.b\PEST.m
Last Edit : 14-Dec-2022 10:32
Curve Type : Average

Compound	1.250 Level 1	2.500 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	40.000 Level 6	80.000 Level 7	___ RRF	% RSD
23 4,4'-DDT	+++++	1.20278	1.19912	1.21231	1.21971	1.13284	1.06544	1.17203	5.186
24 Endrin aldehyde	+++++	1.05042	1.01673	1.00197	0.99460	0.91340	0.84575	0.97048	7.836
25 Methoxychlor	+++++	0.56408	0.54010	0.51985	0.50693	0.45626	0.43428	0.50358	9.854
26 Endosulfan sulfate	+++++	1.14290	1.11216	1.09802	1.09968	1.00734	0.94888	1.06816	6.922
27 Endrin ketone	+++++	1.47959	1.40243	1.34455	1.31335	1.19489	1.12695	1.31029	9.966
29 Aroclor-1016(1)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
(2)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
(3)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
(4)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
(5)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
30 Aroclor-1221(1)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 03-AUG-2022 11:03
End Cal Date : 13-DEC-2022 22:43
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd6.i\20221214.b\PEST.m
Last Edit : 14-Dec-2022 10:32
Curve Type : Average

Compound	1.250 Level 1	2.500 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	40.000 Level 6	80.000 Level 7	___ RRF	% RSD
(2)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(3)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(4)	*****	*****	*****	*****	*****	*****	*****	*****	*****
31 Aroclor-1232(1)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(2)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(3)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(4)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(5)	*****	*****	*****	*****	*****	*****	*****	*****	*****
32 Aroclor-1242(1)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(2)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(3)	*****	*****	*****	*****	*****	*****	*****	*****	*****

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 03-AUG-2022 11:03
End Cal Date : 13-DEC-2022 22:43
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd6.i\20221214.b\PEST.m
Last Edit : 14-Dec-2022 10:32
Curve Type : Average

Compound	1.250 Level 1	2.500 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	40.000 Level 6	80.000 Level 7	___ RRF	% RSD
(4)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(5)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(6)	*****	*****	*****	*****	*****	*****	*****	*****	*****
33 Aroclor-1248(1)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(2)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(3)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(4)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(5)	*****	*****	*****	*****	*****	*****	*****	*****	*****
34 Aroclor-1254(1)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(2)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(3)	*****	*****	*****	*****	*****	*****	*****	*****	*****

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 03-AUG-2022 11:03
End Cal Date : 13-DEC-2022 22:43
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd6.i\20221214.b\PEST.m
Last Edit : 14-Dec-2022 10:32
Curve Type : Average

Compound	1.250 Level 1	2.500 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	40.000 Level 6	80.000 Level 7	___ RRF	% RSD
(4)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(5)	*****	*****	*****	*****	*****	*****	*****	*****	*****
35 Aroclor-1260(1)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(2)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(3)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(4)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(5)	*****	*****	*****	*****	*****	*****	*****	*****	*****
36 Aroclor-1262(1)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(2)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(3)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(4)	*****	*****	*****	*****	*****	*****	*****	*****	*****

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 03-AUG-2022 11:03
End Cal Date : 13-DEC-2022 22:43
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd6.i\20221214.b\PEST.m
Last Edit : 14-Dec-2022 10:32
Curve Type : Average

Compound	1.250 Level 1	2.500 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	40.000 Level 6	80.000 Level 7	___ RRF	% RSD
(5)	*****	*****	*****	*****	*****	*****	*****	*****	*****
37 Aroclor-1268(1)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(2)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(3)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(4)	*****	*****	*****	*****	*****	*****	*****	*****	*****
(5)	*****	*****	*****	*****	*****	*****	*****	*****	*****
38 Toxaphene(1)	0.02824	0.03896	0.03693	0.03480	0.03418	0.02891	0.02792	0.03285	13.645
(2)	0.08343	0.10636	0.10204	0.09499	0.09608	0.08394	0.08263	0.09278	10.362
(3)	0.04776	0.06283	0.06069	0.06020	0.06090	0.05141	0.05119	0.05643	10.755
(4)	0.05098	0.07225	0.07089	0.06844	0.06847	0.06296	0.06388	0.06541	11.021
(5)	0.04955	0.06896	0.06748	0.06372	0.06603	0.05846	0.05934	0.06194	10.880

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 03-AUG-2022 11:03
End Cal Date : 13-DEC-2022 22:43
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd6.i\20221214.b\PEST.m
Last Edit : 14-Dec-2022 10:32
Curve Type : Average

Compound	1.250 Level 1	2.500 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	40.000 Level 6	80.000 Level 7	___ RRF	% RSD
39 2,4-DDE	+++++	1.14103	1.08072	1.09005	1.06169	0.88466	0.89319	1.02522	10.614
40 2,4-DDD	+++++	1.08881	1.01841	0.99599	0.98400	0.85150	0.85318	0.96531	9.816
41 2,4-DDT	+++++	0.97799	0.97179	0.97332	0.98841	0.88743	0.88215	0.94685	5.117
42 Hexachloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
43 Oxychlordane	+++++	1.32927	1.24890	1.22496	1.20236	1.04785	1.05015	1.18392	9.540
44 trans-Nonachlor	+++++	1.68629	1.57989	1.58456	1.55669	1.34437	1.36253	1.51906	8.949
45 cis-Nonachlor	+++++	1.62941	1.55213	1.53413	1.52347	1.34758	1.35527	1.49033	7.639
46 Mirex	+++++	1.20478	1.11168	1.05006	1.00932	0.85381	0.85786	1.01459	13.749
47 bis-(2-ethylhexyl) Phthalate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
48 Chlordane (NOS)(1)	0.06029	0.05735	0.05369	0.05005	0.04581	0.04808	0.04531	0.05151	11.230
(2)	0.15038	0.14213	0.13501	0.13074	0.12020	0.12674	0.12030	0.13221	8.482

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 03-AUG-2022 11:03
End Cal Date : 13-DEC-2022 22:43
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd6.i\20221214.b\PEST.m
Last Edit : 14-Dec-2022 10:32
Curve Type : Average

Compound	1.250 Level 1	2.500 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	40.000 Level 6	80.000 Level 7	___ RRF	% RSD
(3)	0.17221	0.15459	0.13623	0.13893	0.12753	0.13518	0.13160	0.14232	11.024
49 Trifluralin	*****	*****	*****	*****	*****	*****	*****	*****	*****
50 Dacthal	*****	*****	*****	*****	*****	*****	*****	*****	*****
51 Oxadiazon	*****	*****	*****	*****	*****	*****	*****	*****	*****
52 Kelthane	*****	*****	*****	*****	*****	*****	*****	*****	*****
53 Chlorpyrifos	*****	*****	*****	*****	*****	*****	*****	*****	*****
54 Methyl Parathion	*****	*****	*****	*****	*****	*****	*****	*****	*****
55 Ethyl Parathion	*****	*****	*****	*****	*****	*****	*****	*****	*****
56 Kepone	*****	*****	*****	*****	*****	*****	*****	*****	*****
57 1-Chloropyrene	*****	*****	*****	*****	*****	*****	*****	*****	*****
$ 4 Tetrachloro-m-xylene	*****	1.10401	1.05839	1.02629	0.99588	0.93352	0.85040	0.99475	9.166

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 03-AUG-2022 11:03
End Cal Date : 13-DEC-2022 22:43
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd6.i\20221214.b\PEST.m
Last Edit : 14-Dec-2022 10:32
Curve Type : Average

Compound	1.250 Level 1	2.500 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	40.000 Level 6	80.000 Level 7	___ RRF	% RSD
$ 28 Decachlorobiphenyl	+++++	0.99444	0.96249	0.90111	0.87014	0.79161	0.75653	0.87939	10.607

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd6.i\20221214.b\PEST.m
Batch File: \\target\share\chem4\ecd6.i\20221214.b
Inst ID: ecd6.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06	RT07
FILENAME:	22121405	22121406	22121407	22121408	22121409	22121410	22121411
INJ.DATE:	14-DEC-2022	14-DEC-2022	14-DEC-2022	14-DEC-2022	14-DEC-2022	14-DEC-2022	14-DEC-2022
INJ.TIME:	20:38	20:56	21:14	21:31	21:49	22:07	22:25

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
1 Hexachlorobutadiene	2.323	2.323	2.324	2.323	2.324	2.324	2.324	2.324	2.294-2.354	2.323	0.000
* 2 1Bromo-2nitrobenzene	3.151	3.151	3.152	3.151	3.151	3.151	3.151	3.151	3.121-3.181	3.151	0.000
* 3 Hexabromobiphenyl	9.504	9.503	9.504	9.505	9.505	9.504	9.504	9.505	9.475-9.535	9.504	0.001
$ 4 Tetrachloro-m-xylene	3.828	3.828	3.828	3.828	3.828	3.828	3.828	3.828	3.798-3.858	3.828	0.000
5 Hexachlorobenzene	4.182	4.182	4.183	4.183	4.182	4.183	4.182	4.182	4.152-4.212	4.183	0.000
6 alpha-BHC	4.342	4.342	4.343	4.343	4.342	4.342	4.342	4.342	4.312-4.372	4.342	0.000
7 gamma-BHC (Lindane)	4.645	4.645	4.646	4.646	4.645	4.646	4.645	4.645	4.615-4.675	4.645	0.000
8 beta-BHC	4.726	4.726	4.727	4.726	4.726	4.726	4.726	4.726	4.696-4.756	4.726	0.000
9 delta-BHC	4.909	4.909	4.910	4.910	4.909	4.910	4.910	4.909	4.879-4.939	4.910	0.000
10 Heptachlor	5.130	5.129	5.130	5.130	5.130	5.130	5.130	5.130	5.100-5.160	5.130	0.000
11 Aldrin	5.453	5.453	5.455	5.454	5.454	5.454	5.454	5.454	5.424-5.484	5.454	0.000
12 Chlorthalonil	+++++	+++++	+++++	+++++	+++++	+++++	+++++	13.627	13.597-13.657	+++++	+++++
13 Heptachlor Epoxide a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	10.869	10.839-10.899	+++++	+++++
14 Heptachlor epoxide b	6.130	6.130	6.132	6.131	6.130	6.130	6.130	6.130	6.100-6.160	6.131	0.001
15 cis-Chlordane	6.417	6.417	6.417	6.418	6.417	6.417	6.417	6.417	6.387-6.447	6.417	0.000
16 trans-Chlordane	6.270	6.271	6.271	6.271	6.271	6.271	6.271	6.271	6.241-6.301	6.271	0.000
17 Endosulfan I	6.572	6.572	6.573	6.573	6.572	6.572	6.573	6.572	6.542-6.602	6.573	0.000

Reviewer 1 _____ Date:_____
Reviewer 2 _____ Date:_____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd6.i\20221214.b\PEST.m
Batch File: \\target\share\chem4\ecd6.i\20221214.b
Inst ID: ecd6.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
	18 4,4'-DDE	6.489	6.489	6.490	6.490	6.489	6.489	6.490	6.489	6.459-6.519	6.489	0.000
	19 Dieldrin	6.831	6.832	6.832	6.832	6.831	6.832	6.832	6.831	6.801-6.861	6.832	0.000
	20 Endrin	7.081	7.081	7.082	7.082	7.081	7.082	7.082	7.081	7.051-7.111	7.082	0.000
	21 4,4'-DDD	7.135	7.136	7.136	7.136	7.135	7.136	7.135	7.135	7.105-7.165	7.136	0.000
	22 Endosulfan II	7.318	7.317	7.318	7.318	7.317	7.317	7.317	7.317	7.287-7.347	7.317	0.000
	23 4,4'-DDT	7.427	7.427	7.428	7.428	7.427	7.427	7.428	7.427	7.397-7.457	7.428	0.000
	24 Endrin aldehyde	7.746	7.746	7.746	7.746	7.746	7.746	7.746	7.746	7.716-7.776	7.746	0.000
	25 Methoxychlor	7.912	7.912	7.913	7.912	7.912	7.912	7.912	7.912	7.882-7.942	7.912	0.000
	26 Endosulfan sulfate	8.180	8.179	8.180	8.180	8.180	8.179	8.180	8.180	8.150-8.210	8.180	0.000
	27 Endrin ketone	8.453	8.452	8.454	8.453	8.453	8.453	8.454	8.453	8.423-8.483	8.453	0.001
$	28 Decachlorobiphenyl	9.355	9.354	9.355	9.355	9.355	9.355	9.356	9.355	9.325-9.385	9.355	0.000
	29 Aroclor-1016	+++++	+++++	+++++	+++++	+++++	+++++	+++++	3.765	3.735-3.795	+++++	+++++
	30 Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.881	4.851-4.911	+++++	+++++
	31 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.359	5.329-5.389	+++++	+++++
	32 Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	+++++	3.765	3.735-3.795	+++++	+++++
	33 Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.418	4.388-4.448	+++++	+++++
	34 Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.257	5.227-5.287	+++++	+++++
	35 Aroclor-1260	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.045	6.015-6.075	+++++	+++++
	36 Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.301	8.271-8.331	+++++	+++++
	37 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.259	11.229-11.289	+++++	+++++
	38 Toxaphene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.931	6.901-6.961	+++++	+++++
	39 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.106	6.076-6.136	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd6.i\20221214.b\PEST.m
Batch File: \\target\share\chem4\ecd6.i\20221214.b
Inst ID: ecd6.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
40 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.681	6.651-6.711	+++++	+++++
41 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.957	6.927-6.987	+++++	+++++
42 Hexachloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.774	1.744-1.804	+++++	+++++
43 Oxychlordane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.014	5.984-6.044	+++++	+++++
44 trans-Nonachlor	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.397	6.367-6.427	+++++	+++++
45 cis-Nonachlor	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.112	7.082-7.142	+++++	+++++
46 Mirex	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.082	8.052-8.112	+++++	+++++
47 bis-(2-ethylhexyl) Pht	+++++	+++++	+++++	+++++	+++++	+++++	+++++	20.156	20.126-20.186	+++++	+++++
48 Chlordane (NOS)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.593	5.563-5.623	+++++	+++++
49 Trifluralin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.319	6.289-6.349	+++++	+++++
50 Dacthal	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.936	9.906-9.966	+++++	+++++
51 Oxadiazon	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.891	11.861-11.921	+++++	+++++
52 Kelthane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.827	14.797-14.857	+++++	+++++
53 Chlorpyrifos	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.750	9.720-9.780	+++++	+++++
54 Methyl Parathion	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.107	9.077-9.137	+++++	+++++
55 Ethyl Parathion	+++++	+++++	+++++	+++++	+++++	+++++	+++++	10.251	10.221-10.281	+++++	+++++
56 Kepone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.588	6.558-6.618	+++++	+++++
57 1-Chloropyrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.953	6.923-6.983	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd6.i\20221214.b\PEST.m\PESTB.m
Batch File: \\target\share\chem4\ecd6.i\20221214.b\B20221214.b
Inst ID: ecd6.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06	RT07
FILENAME:	22121405	22121406	22121407	22121408	22121409	22121410	22121411
INJ.DATE:	14-DEC-2022	14-DEC-2022	14-DEC-2022	14-DEC-2022	14-DEC-2022	14-DEC-2022	14-DEC-2022
INJ.TIME:	20:38	20:56	21:14	21:31	21:49	22:07	22:25

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
1 Hexachlorobutadiene [C	2.500	2.500	2.500	2.500	2.500	2.500	2.501	2.501	2.471-2.531	2.500	0.000
* 2 1Bromo-2nitrobenzene [	3.350	3.350	3.351	3.351	3.350	3.351	3.351	3.351	3.321-3.381	3.351	0.000
* 3 Hexabromobiphenyl[C]	11.054	11.053	11.054	11.054	11.053	11.053	11.054	11.054	11.024-11.084	11.054	0.000
$ 4 Tetrachloro-m-xylene [	4.220	4.220	4.220	4.220	4.220	4.221	4.220	4.220	4.190-4.250	4.220	0.000
5 Hexachlorobenzene [C]	4.718	4.718	4.718	4.718	4.718	4.718	4.718	4.718	4.688-4.748	4.718	0.000
6 alpha-BHC [C]	4.860	4.859	4.860	4.860	4.860	4.860	4.861	4.861	4.831-4.891	4.860	0.000
7 gamma-BHC (Lindane) [C	5.257	5.257	5.258	5.258	5.258	5.258	5.258	5.258	5.228-5.288	5.258	0.000
8 beta-BHC [C]	5.337	5.337	5.338	5.337	5.337	5.337	5.337	5.337	5.307-5.367	5.337	0.000
9 delta-BHC [C]	5.690	5.691	5.691	5.691	5.690	5.691	5.691	5.691	5.661-5.721	5.691	0.000
10 Heptachlor [C]	5.786	5.787	5.787	5.787	5.787	5.787	5.787	5.787	5.757-5.817	5.787	0.000
11 Chlorthalonil	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.588	14.558-14.618	+++++	+++++
12 Aldrin [C]	6.190	6.190	6.191	6.191	6.191	6.190	6.191	6.191	6.161-6.221	6.191	0.000
13 Heptachlor Epoxide a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	12.680	12.650-12.710	+++++	+++++
14 Heptachlor epoxide b [	6.845	6.845	6.845	6.846	6.845	6.846	6.845	6.845	6.815-6.875	6.845	0.000
15 cis-Chlordane [C]	7.215	7.215	7.216	7.216	7.216	7.215	7.216	7.216	7.186-7.246	7.215	0.000
16 trans-Chlordane [C]	7.056	7.055	7.056	7.056	7.056	7.056	7.056	7.056	7.026-7.086	7.056	0.000
17 Endosulfan I [C]	7.288	7.288	7.289	7.289	7.289	7.288	7.289	7.289	7.259-7.319	7.288	0.000

Reviewer 1 _____ Date:_____
Reviewer 2 _____ Date:_____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd6.i\20221214.b\PEST.m\PESTB.m
Batch File: \\target\share\chem4\ecd6.i\20221214.b\B20221214.b
Inst ID: ecd6.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
	18 4,4'-DDE [C]	7.370	7.370	7.371	7.371	7.370	7.371	7.371	7.371	7.341-7.401	7.371	0.000
	19 Dieldrin [C]	7.582	7.582	7.583	7.583	7.582	7.582	7.583	7.583	7.553-7.613	7.582	0.000
	20 Endrin [C]	7.906	7.906	7.906	7.907	7.907	7.907	7.907	7.907	7.877-7.937	7.907	0.000
	21 4,4'-DDD [C]	7.976	7.976	7.976	7.977	7.976	7.976	7.976	7.976	7.946-8.006	7.976	0.000
	22 Endosulfan II [C]	8.117	8.116	8.117	8.117	8.117	8.117	8.117	8.117	8.087-8.147	8.117	0.000
	23 4,4'-DDT [C]	8.294	8.294	8.294	8.295	8.295	8.295	8.295	8.295	8.265-8.325	8.295	0.000
	24 Endrin aldehyde [C]	8.448	8.447	8.448	8.448	8.448	8.448	8.448	8.448	8.418-8.478	8.448	0.000
	25 Endosulfan sulfate [C]	8.715	8.714	8.715	8.715	8.715	8.715	8.715	8.715	8.685-8.745	8.715	0.000
	26 Methoxychlor [C]	8.935	8.934	8.935	8.936	8.935	8.935	8.936	8.936	8.906-8.966	8.935	0.001
	27 Endrin ketone [C]	9.239	9.239	9.239	9.240	9.239	9.239	9.240	9.240	9.210-9.270	9.239	0.000
$	28 Decachlorobiphenyl [C]	10.466	10.465	10.466	10.466	10.466	10.466	10.467	10.467	10.437-10.497	10.466	0.001
	29 Aroclor-1016	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.180	4.150-4.210	+++++	+++++
	30 Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.051	5.021-5.081	+++++	+++++
	31 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.171	5.141-5.201	+++++	+++++
	32 Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.970	4.940-5.000	+++++	+++++
	33 Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.285	5.255-5.315	+++++	+++++
	34 Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.968	5.938-5.998	+++++	+++++
	35 Aroclor-1260	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.767	6.737-6.797	+++++	+++++
	36 Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.714	9.684-9.744	+++++	+++++
	37 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.791	11.761-11.821	+++++	+++++
	38 Toxaphene [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.126	7.096-7.156	+++++	+++++
	39 2,4-DDE [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.036	7.006-7.066	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd6.i\20221214.b\PEST.m\PESTB.m
Batch File: \\target\share\chem4\ecd6.i\20221214.b\B20221214.b
Inst ID: ecd6.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
40 2,4-DDD [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.591	7.561-7.621	+++++	+++++
41 2,4-DDT [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.913	7.883-7.943	+++++	+++++
42 Hexachloroethane [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.676	1.646-1.706	+++++	+++++
43 Oxychlordane [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.741	6.711-6.771	+++++	+++++
44 trans-Nonachlor [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.155	7.125-7.185	+++++	+++++
45 cis-Nonachlor [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.975	7.945-8.005	+++++	+++++
46 Mirex [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.223	9.193-9.253	+++++	+++++
47 bis-(2-ethylhexyl) Pht	+++++	+++++	+++++	+++++	+++++	+++++	+++++	21.499	21.469-21.529	+++++	+++++
48 Chlordane (NOS) [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.612	5.582-5.642	+++++	+++++
49 Trifluralin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.871	4.841-4.901	+++++	+++++
50 Dacthal	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.640	6.610-6.670	+++++	+++++
51 Oxadiazon	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.115	8.085-8.145	+++++	+++++
52 Kelthane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.286	11.256-11.316	+++++	+++++
53 Chlorpyrifos	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.527	6.497-6.557	+++++	+++++
54 Methyl Parathion	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.342	6.312-6.372	+++++	+++++
55 Ethyl Parathion	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.841	6.811-6.871	+++++	+++++
56 Kepone [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.336	7.306-7.366	+++++	+++++
57 1-Chloropyrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.745	7.715-7.775	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd6.i\20221214.b\PEST.m
Batch File: \\target\share\chem4\ecd6.i\20221214.b
Inst ID: ecd6.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06	RT07
FILENAME:	22121412	22121413	22121414	22121415	22121416	22121417	22121418
INJ.DATE:	14-DEC-2022	14-DEC-2022	14-DEC-2022	14-DEC-2022	14-DEC-2022	15-DEC-2022	15-DEC-2022
INJ.TIME:	22:43	23:01	23:19	23:36	23:54	00:12	00:30

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
	1 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	2.324	2.294-2.354	+++++	+++++
*	2 1Bromo-2nitrobenzene	3.151	3.151	3.151	3.151	3.151	3.151	3.151	3.151	3.121-3.181	3.151	0.000
*	3 Hexabromobiphenyl	9.504	9.504	9.504	9.504	9.504	9.504	9.504	9.505	9.475-9.535	9.504	0.000
$	4 Tetrachloro-m-xylene	+++++	+++++	+++++	+++++	3.800	3.800	3.800	3.828	3.798-3.858	3.800	0.000
	5 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.182	4.152-4.212	+++++	+++++
	6 alpha-BHC	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.342	4.312-4.372	+++++	+++++
	7 gamma-BHC (Lindane)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.645	4.615-4.675	+++++	+++++
	8 beta-BHC	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.726	4.696-4.756	+++++	+++++
	9 delta-BHC	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.909	4.879-4.939	+++++	+++++
	10 Heptachlor	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.130	5.100-5.160	+++++	+++++
	11 Aldrin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.454	5.424-5.484	+++++	+++++
	12 Chlorthalonil	+++++	+++++	+++++	+++++	+++++	+++++	+++++	13.627	13.597-13.657	+++++	+++++
	13 Heptachlor Epoxide a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	10.869	10.839-10.899	+++++	+++++
	14 Heptachlor epoxide b	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.130	6.100-6.160	+++++	+++++
	15 cis-Chlordane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.417	6.387-6.447	+++++	+++++
	16 trans-Chlordane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.271	6.241-6.301	+++++	+++++
	17 Endosulfan I	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.572	6.542-6.602	+++++	+++++

Reviewer 1 _____ Date:_____
Reviewer 2 _____ Date:_____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd6.i\20221214.b\PEST.m
Batch File: \\target\share\chem4\ecd6.i\20221214.b
Inst ID: ecd6.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
	18 4,4'-DDE	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.489	6.459-6.519	+++++	+++++
	19 Dieldrin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.831	6.801-6.861	+++++	+++++
	20 Endrin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.081	7.051-7.111	+++++	+++++
	21 4,4'-DDD	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.135	7.105-7.165	+++++	+++++
	22 Endosulfan II	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.317	7.287-7.347	+++++	+++++
	23 4,4'-DDT	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.427	7.397-7.457	+++++	+++++
	24 Endrin aldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.746	7.716-7.776	+++++	+++++
	25 Methoxychlor	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.912	7.882-7.942	+++++	+++++
	26 Endosulfan sulfate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.180	8.150-8.210	+++++	+++++
	27 Endrin ketone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.453	8.423-8.483	+++++	+++++
$	28 Decachlorobiphenyl	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.355	9.325-9.385	+++++	+++++
	29 Aroclor-1016	+++++	+++++	+++++	+++++	+++++	+++++	+++++	3.765	3.735-3.795	+++++	+++++
	30 Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.881	4.851-4.911	+++++	+++++
	31 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.359	5.329-5.389	+++++	+++++
	32 Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	+++++	3.765	3.735-3.795	+++++	+++++
	33 Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.418	4.388-4.448	+++++	+++++
	34 Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.257	5.227-5.287	+++++	+++++
	35 Aroclor-1260	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.045	6.015-6.075	+++++	+++++
	36 Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.301	8.271-8.331	+++++	+++++
	37 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.259	11.229-11.289	+++++	+++++
	38 Toxaphene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.931	6.901-6.961	+++++	+++++
	39 2,4-DDE	6.106	6.106	6.106	6.106	6.106	6.106	6.106	6.106	6.076-6.136	6.106	0.000

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd6.i\20221214.b\PEST.m
Batch File: \\target\share\chem4\ecd6.i\20221214.b
Inst ID: ecd6.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
40 2,4-DDD	6.681	6.681	6.681	6.681	6.681	6.681	6.680	6.681	6.651-6.711	6.681	0.000
41 2,4-DDT	6.956	6.957	6.956	6.956	6.957	6.956	6.956	6.957	6.927-6.987	6.956	0.000
42 Hexachloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.774	1.744-1.804	+++++	+++++
43 Oxychlordane	6.014	6.015	6.014	6.015	6.014	6.014	6.014	6.014	5.984-6.044	6.015	0.000
44 trans-Nonachlor	6.397	6.398	6.398	6.398	6.397	6.397	6.397	6.397	6.367-6.427	6.398	0.000
45 cis-Nonachlor	7.112	7.112	7.111	7.112	7.112	7.112	7.112	7.112	7.082-7.142	7.112	0.000
46 Mirex	8.082	8.082	8.082	8.082	8.082	8.082	8.082	8.082	8.052-8.112	8.082	0.000
47 bis-(2-ethylhexyl) Pht	+++++	+++++	+++++	+++++	+++++	+++++	+++++	20.156	20.126-20.186	+++++	+++++
48 Chlordane (NOS)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.593	5.563-5.623	+++++	+++++
49 Trifluralin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.319	6.289-6.349	+++++	+++++
50 Dacthal	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.936	9.906-9.966	+++++	+++++
51 Oxadiazon	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.891	11.861-11.921	+++++	+++++
52 Kelthane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.827	14.797-14.857	+++++	+++++
53 Chlorpyrifos	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.750	9.720-9.780	+++++	+++++
54 Methyl Parathion	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.107	9.077-9.137	+++++	+++++
55 Ethyl Parathion	+++++	+++++	+++++	+++++	+++++	+++++	+++++	10.251	10.221-10.281	+++++	+++++
56 Kepone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.588	6.558-6.618	+++++	+++++
57 1-Chloropyrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.953	6.923-6.983	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd6.i\20221214.b\PEST.m\PESTB.m
Batch File: \\target\share\chem4\ecd6.i\20221214.b\B20221214.b
Inst ID: ecd6.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06	RT07
FILENAME:	22121412	22121413	22121414	22121415	22121416	22121417	22121418
INJ.DATE:	14-DEC-2022	14-DEC-2022	14-DEC-2022	14-DEC-2022	14-DEC-2022	15-DEC-2022	15-DEC-2022
INJ.TIME:	22:43	23:01	23:19	23:36	23:54	00:12	00:30

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
	1 Hexachlorobutadiene [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	2.501	2.471-2.531	+++++	+++++
*	2 1Bromo-2nitrobenzene [	3.351	3.351	3.351	3.351	3.351	3.351	3.351	3.351	3.321-3.381	3.351	0.000
*	3 Hexabromobiphenyl[C]	11.054	11.054	11.054	11.054	11.054	11.054	11.054	11.054	11.024-11.084	11.054	0.000
$	4 Tetrachloro-m-xylene [	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.220	4.190-4.250	+++++	+++++
	5 Hexachlorobenzene [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.718	4.688-4.748	+++++	+++++
	6 alpha-BHC [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.861	4.831-4.891	+++++	+++++
	7 gamma-BHC (Lindane) [C	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.258	5.228-5.288	+++++	+++++
	8 beta-BHC [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.337	5.307-5.367	+++++	+++++
	9 delta-BHC [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.691	5.661-5.721	+++++	+++++
	10 Heptachlor [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.787	5.757-5.817	+++++	+++++
	11 Chlorthalonil	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.588	14.558-14.618	+++++	+++++
	12 Aldrin [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.191	6.161-6.221	+++++	+++++
	13 Heptachlor Epoxide a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	12.680	12.650-12.710	+++++	+++++
	14 Heptachlor epoxide b [	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.845	6.815-6.875	+++++	+++++
	15 cis-Chlordane [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.216	7.186-7.246	+++++	+++++
	16 trans-Chlordane [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.056	7.026-7.086	+++++	+++++
	17 Endosulfan I [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.289	7.259-7.319	+++++	+++++

Reviewer 1 _____ Date:_____
Reviewer 2 _____ Date:_____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd6.i\20221214.b\PEST.m\PESTB.m
Batch File: \\target\share\chem4\ecd6.i\20221214.b\B20221214.b
Inst ID: ecd6.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
	18 4,4'-DDE [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.371	7.341-7.401	+++++	+++++
	19 Dieldrin [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.583	7.553-7.613	+++++	+++++
	20 Endrin [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.907	7.877-7.937	+++++	+++++
	21 4,4'-DDD [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.976	7.946-8.006	+++++	+++++
	22 Endosulfan II [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.117	8.087-8.147	+++++	+++++
	23 4,4'-DDT [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.295	8.265-8.325	+++++	+++++
	24 Endrin aldehyde [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.448	8.418-8.478	+++++	+++++
	25 Endosulfan sulfate [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.715	8.685-8.745	+++++	+++++
	26 Methoxychlor [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.936	8.906-8.966	+++++	+++++
	27 Endrin ketone [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.240	9.210-9.270	+++++	+++++
$	28 Decachlorobiphenyl [C]	+++++	+++++	+++++	+++++	+++++	+++++	10.471	10.467	10.437-10.497	10.471	0.000
	29 Aroclor-1016	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.180	4.150-4.210	+++++	+++++
	30 Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.051	5.021-5.081	+++++	+++++
	31 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.171	5.141-5.201	+++++	+++++
	32 Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.970	4.940-5.000	+++++	+++++
	33 Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.285	5.255-5.315	+++++	+++++
	34 Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.968	5.938-5.998	+++++	+++++
	35 Aroclor-1260	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.767	6.737-6.797	+++++	+++++
	36 Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.714	9.684-9.744	+++++	+++++
	37 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.791	11.761-11.821	+++++	+++++
	38 Toxaphene [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.126	7.096-7.156	+++++	+++++
	39 2,4-DDE [C]	7.036	7.036	7.035	7.036	7.036	7.036	7.036	7.036	7.006-7.066	7.036	0.000

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd6.i\20221214.b\PEST.m\PESTB.m
Batch File: \\target\share\chem4\ecd6.i\20221214.b\B20221214.b
Inst ID: ecd6.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
40 2,4-DDD [C]	7.591	7.590	7.590	7.591	7.590	7.591	7.591	7.591	7.561-7.621	7.591	0.000
41 2,4-DDT [C]	7.913	7.914	7.913	7.913	7.913	7.914	7.913	7.913	7.883-7.943	7.913	0.000
42 Hexachloroethane [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.676	1.646-1.706	+++++	+++++
43 Oxychlordane [C]	6.741	6.741	6.741	6.741	6.741	6.741	6.741	6.741	6.711-6.771	6.741	0.000
44 trans-Nonachlor [C]	7.154	7.154	7.154	7.155	7.154	7.155	7.155	7.155	7.125-7.185	7.154	0.000
45 cis-Nonachlor [C]	7.975	7.975	7.975	7.975	7.975	7.975	7.975	7.975	7.945-8.005	7.975	0.000
46 Mirex [C]	9.223	9.223	9.222	9.223	9.222	9.223	9.223	9.223	9.193-9.253	9.223	0.000
47 bis-(2-ethylhexyl) Pht	+++++	+++++	+++++	+++++	+++++	+++++	+++++	21.499	21.469-21.529	+++++	+++++
48 Chlordane (NOS) [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.612	5.582-5.642	+++++	+++++
49 Trifluralin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.871	4.841-4.901	+++++	+++++
50 Dacthal	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.640	6.610-6.670	+++++	+++++
51 Oxadiazon	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.115	8.085-8.145	+++++	+++++
52 Kelthane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.286	11.256-11.316	+++++	+++++
53 Chlorpyrifos	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.527	6.497-6.557	+++++	+++++
54 Methyl Parathion	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.342	6.312-6.372	+++++	+++++
55 Ethyl Parathion	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.841	6.811-6.871	+++++	+++++
56 Kepone [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.336	7.306-7.366	+++++	+++++
57 1-Chloropyrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.745	7.715-7.775	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd6.i\20221214.b\PEST.m
Batch File: \\target\share\chem4\ecd6.i\20221214.b
Inst ID: ecd6.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06	RT07
FILENAME:	22121421	22121422	22121423	22121424	22121425	22121426	22121427
INJ.DATE:	15-DEC-2022	15-DEC-2022	15-DEC-2022	15-DEC-2022	15-DEC-2022	15-DEC-2022	15-DEC-2022
INJ.TIME:	01:24	01:42	01:59	02:17	02:35	02:53	03:11

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
	1 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	2.324	2.294-2.354	+++++	+++++
*	2 1Bromo-2nitrobenzene	3.151	3.151	3.151	3.151	3.151	3.151	3.151	3.151	3.121-3.181	3.151	0.000
*	3 Hexabromobiphenyl	9.504	9.504	9.505	9.504	9.504	9.504	9.505	9.505	9.475-9.535	9.504	0.000
$	4 Tetrachloro-m-xylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	3.828	3.798-3.858	+++++	+++++
	5 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.182	4.152-4.212	+++++	+++++
	6 alpha-BHC	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.342	4.312-4.372	+++++	+++++
	7 gamma-BHC (Lindane)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.645	4.615-4.675	+++++	+++++
	8 beta-BHC	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.726	4.696-4.756	+++++	+++++
	9 delta-BHC	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.909	4.879-4.939	+++++	+++++
	10 Heptachlor	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.130	5.100-5.160	+++++	+++++
	11 Aldrin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.454	5.424-5.484	+++++	+++++
	12 Chlorthalonil	+++++	+++++	+++++	+++++	+++++	+++++	+++++	13.627	13.597-13.657	+++++	+++++
	13 Heptachlor Epoxide a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	10.869	10.839-10.899	+++++	+++++
	14 Heptachlor epoxide b	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.130	6.100-6.160	+++++	+++++
	15 cis-Chlordane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.417	6.387-6.447	+++++	+++++
	16 trans-Chlordane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.271	6.241-6.301	+++++	+++++
	17 Endosulfan I	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.572	6.542-6.602	+++++	+++++

Reviewer 1 _____ Date:_____
Reviewer 2 _____ Date:_____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd6.i\20221214.b\PEST.m
Batch File: \\target\share\chem4\ecd6.i\20221214.b
Inst ID: ecd6.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
18	4,4'-DDE	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.489	6.459-6.519	+++++	+++++
19	Dieldrin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.831	6.801-6.861	+++++	+++++
20	Endrin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.081	7.051-7.111	+++++	+++++
21	4,4'-DDD	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.135	7.105-7.165	+++++	+++++
22	Endosulfan II	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.317	7.287-7.347	+++++	+++++
23	4,4'-DDT	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.427	7.397-7.457	+++++	+++++
24	Endrin aldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.746	7.716-7.776	+++++	+++++
25	Methoxychlor	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.912	7.882-7.942	+++++	+++++
26	Endosulfan sulfate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.180	8.150-8.210	+++++	+++++
27	Endrin ketone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.453	8.423-8.483	+++++	+++++
$ 28	Decachlorobiphenyl	+++++	+++++	+++++	+++++	+++++	+++++	9.380	9.355	9.325-9.385	9.380	0.000
29	Aroclor-1016	+++++	+++++	+++++	+++++	+++++	+++++	+++++	3.765	3.735-3.795	+++++	+++++
30	Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.881	4.851-4.911	+++++	+++++
31	Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.359	5.329-5.389	+++++	+++++
32	Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	+++++	3.765	3.735-3.795	+++++	+++++
33	Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.418	4.388-4.448	+++++	+++++
34	Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.257	5.227-5.287	+++++	+++++
35	Aroclor-1260	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.045	6.015-6.075	+++++	+++++
36	Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.301	8.271-8.331	+++++	+++++
37	Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.259	11.229-11.289	+++++	+++++
38	Toxaphene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.931	6.901-6.961	+++++	+++++
39	2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.106	6.076-6.136	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd6.i\20221214.b\PEST.m
Batch File: \\target\share\chem4\ecd6.i\20221214.b
Inst ID: ecd6.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
40 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.681	6.651-6.711	+++++	+++++
41 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.957	6.927-6.987	+++++	+++++
42 Hexachloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.774	1.744-1.804	+++++	+++++
43 Oxychlordane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.014	5.984-6.044	+++++	+++++
44 trans-Nonachlor	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.397	6.367-6.427	+++++	+++++
45 cis-Nonachlor	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.112	7.082-7.142	+++++	+++++
46 Mirex	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.082	8.052-8.112	+++++	+++++
47 bis-(2-ethylhexyl) Pht	+++++	+++++	+++++	+++++	+++++	+++++	+++++	20.156	20.126-20.186	+++++	+++++
48 Chlordane (NOS)	5.593	5.593	5.593	5.593	5.593	5.592	5.593	5.593	5.563-5.623	5.593	0.000
49 Trifluralin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.319	6.289-6.349	+++++	+++++
50 Dacthal	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.936	9.906-9.966	+++++	+++++
51 Oxadiazon	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.891	11.861-11.921	+++++	+++++
52 Kelthane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.827	14.797-14.857	+++++	+++++
53 Chlorpyrifos	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.750	9.720-9.780	+++++	+++++
54 Methyl Parathion	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.107	9.077-9.137	+++++	+++++
55 Ethyl Parathion	+++++	+++++	+++++	+++++	+++++	+++++	+++++	10.251	10.221-10.281	+++++	+++++
56 Kepone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.588	6.558-6.618	+++++	+++++
57 1-Chloropyrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.953	6.923-6.983	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd6.i\20221214.b\PEST.m\PESTB.m
Batch File: \\target\share\chem4\ecd6.i\20221214.b\B20221214.b
Inst ID: ecd6.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06	RT07
FILENAME:	22121421	22121422	22121423	22121424	22121425	22121426	22121427
INJ.DATE:	15-DEC-2022	15-DEC-2022	15-DEC-2022	15-DEC-2022	15-DEC-2022	15-DEC-2022	15-DEC-2022
INJ.TIME:	01:24	01:42	01:59	02:17	02:35	02:53	03:11

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
	1 Hexachlorobutadiene [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	2.501	2.471-2.531	+++++	+++++
*	2 1Bromo-2nitrobenzene [	3.351	3.351	3.351	3.351	3.351	3.351	3.351	3.351	3.321-3.381	3.351	0.000
*	3 Hexabromobiphenyl[C]	11.054	11.055	11.054	11.054	11.054	11.054	11.054	11.054	11.024-11.084	11.054	0.000
$	4 Tetrachloro-m-xylene [	4.215	+++++	+++++	+++++	+++++	+++++	+++++	4.220	4.190-4.250	4.215	0.000
	5 Hexachlorobenzene [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.718	4.688-4.748	+++++	+++++
	6 alpha-BHC [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.861	4.831-4.891	+++++	+++++
	7 gamma-BHC (Lindane) [C	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.258	5.228-5.288	+++++	+++++
	8 beta-BHC [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.337	5.307-5.367	+++++	+++++
	9 delta-BHC [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.691	5.661-5.721	+++++	+++++
	10 Heptachlor [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.787	5.757-5.817	+++++	+++++
	11 Chlorthalonil	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.588	14.558-14.618	+++++	+++++
	12 Aldrin [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.191	6.161-6.221	+++++	+++++
	13 Heptachlor Epoxide a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	12.680	12.650-12.710	+++++	+++++
	14 Heptachlor epoxide b [	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.845	6.815-6.875	+++++	+++++
	15 cis-Chlordane [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.216	7.186-7.246	+++++	+++++
	16 trans-Chlordane [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.056	7.026-7.086	+++++	+++++
	17 Endosulfan I [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.289	7.259-7.319	+++++	+++++

Reviewer 1 _____ Date:_____
Reviewer 2 _____ Date:_____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd6.i\20221214.b\PEST.m\PESTB.m
Batch File: \\target\share\chem4\ecd6.i\20221214.b\B20221214.b
Inst ID: ecd6.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
	18 4,4'-DDE [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.371	7.341-7.401	+++++	+++++
	19 Dieldrin [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.583	7.553-7.613	+++++	+++++
	20 Endrin [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.907	7.877-7.937	+++++	+++++
	21 4,4'-DDD [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.976	7.946-8.006	+++++	+++++
	22 Endosulfan II [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.117	8.087-8.147	+++++	+++++
	23 4,4'-DDT [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.295	8.265-8.325	+++++	+++++
	24 Endrin aldehyde [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.448	8.418-8.478	+++++	+++++
	25 Endosulfan sulfate [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.715	8.685-8.745	+++++	+++++
	26 Methoxychlor [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.936	8.906-8.966	+++++	+++++
	27 Endrin ketone [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.240	9.210-9.270	+++++	+++++
$	28 Decachlorobiphenyl [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	10.467	10.437-10.497	+++++	+++++
	29 Aroclor-1016	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.180	4.150-4.210	+++++	+++++
	30 Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.051	5.021-5.081	+++++	+++++
	31 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.171	5.141-5.201	+++++	+++++
	32 Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.970	4.940-5.000	+++++	+++++
	33 Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.285	5.255-5.315	+++++	+++++
	34 Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.968	5.938-5.998	+++++	+++++
	35 Aroclor-1260	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.767	6.737-6.797	+++++	+++++
	36 Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.714	9.684-9.744	+++++	+++++
	37 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.791	11.761-11.821	+++++	+++++
	38 Toxaphene [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.126	7.096-7.156	+++++	+++++
	39 2,4-DDE [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.036	7.006-7.066	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd6.i\20221214.b\PEST.m\PESTB.m
Batch File: \\target\share\chem4\ecd6.i\20221214.b\B20221214.b
Inst ID: ecd6.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
40 2,4-DDD [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.591	7.561-7.621	+++++	+++++
41 2,4-DDT [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.913	7.883-7.943	+++++	+++++
42 Hexachloroethane [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.676	1.646-1.706	+++++	+++++
43 Oxychlordane [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.741	6.711-6.771	+++++	+++++
44 trans-Nonachlor [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.155	7.125-7.185	+++++	+++++
45 cis-Nonachlor [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.975	7.945-8.005	+++++	+++++
46 Mirex [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.223	9.193-9.253	+++++	+++++
47 bis-(2-ethylhexyl) Pht	+++++	+++++	+++++	+++++	+++++	+++++	+++++	21.499	21.469-21.529	+++++	+++++
48 Chlordane (NOS) [C]	5.612	5.612	5.612	5.611	5.612	5.612	5.612	5.612	5.582-5.642	5.612	0.000
49 Trifluralin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.871	4.841-4.901	+++++	+++++
50 Dacthal	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.640	6.610-6.670	+++++	+++++
51 Oxadiazon	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.115	8.085-8.145	+++++	+++++
52 Kelthane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.286	11.256-11.316	+++++	+++++
53 Chlorpyrifos	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.527	6.497-6.557	+++++	+++++
54 Methyl Parathion	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.342	6.312-6.372	+++++	+++++
55 Ethyl Parathion	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.841	6.811-6.871	+++++	+++++
56 Kepone [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.336	7.306-7.366	+++++	+++++
57 1-Chloropyrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.745	7.715-7.775	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd6.i\20221214.b\PEST.m
Batch File: \\target\share\chem4\ecd6.i\20221214.b
Inst ID: ecd6.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06	RT07
FILENAME:	22121428	22121429	22121430	22121431	22121432	22121433	22121434
INJ.DATE:	15-DEC-2022	15-DEC-2022	15-DEC-2022	15-DEC-2022	15-DEC-2022	15-DEC-2022	15-DEC-2022
INJ.TIME:	03:29	03:46	04:04	04:22	04:40	04:58	05:16

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
	1 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	2.324	2.294-2.354	+++++	+++++
*	2 1Bromo-2nitrobenzene	3.151	3.151	3.151	3.151	3.151	3.151	3.151	3.151	3.121-3.181	3.151	0.000
*	3 Hexabromobiphenyl	9.505	9.504	9.504	9.504	9.505	9.504	9.504	9.505	9.475-9.535	9.504	0.000
$	4 Tetrachloro-m-xylene	3.828	3.828	3.828	3.828	3.828	3.828	3.828	3.828	3.798-3.858	3.828	0.000
	5 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.182	4.152-4.212	+++++	+++++
	6 alpha-BHC	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.342	4.312-4.372	+++++	+++++
	7 gamma-BHC (Lindane)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.645	4.615-4.675	+++++	+++++
	8 beta-BHC	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.726	4.696-4.756	+++++	+++++
	9 delta-BHC	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.909	4.879-4.939	+++++	+++++
	10 Heptachlor	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.130	5.100-5.160	+++++	+++++
	11 Aldrin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.454	5.424-5.484	+++++	+++++
	12 Chlorthalonil	+++++	+++++	+++++	+++++	+++++	+++++	+++++	13.627	13.597-13.657	+++++	+++++
	13 Heptachlor Epoxide a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	10.869	10.839-10.899	+++++	+++++
	14 Heptachlor epoxide b	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.130	6.100-6.160	+++++	+++++
	15 cis-Chlordane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.417	6.387-6.447	+++++	+++++
	16 trans-Chlordane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.271	6.241-6.301	+++++	+++++
	17 Endosulfan I	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.572	6.542-6.602	+++++	+++++

Reviewer 1 _____ Date:_____
Reviewer 2 _____ Date:_____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd6.i\20221214.b\PEST.m
Batch File: \\target\share\chem4\ecd6.i\20221214.b
Inst ID: ecd6.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
18	4,4'-DDE	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.489	6.459-6.519	+++++	+++++
19	Dieldrin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.831	6.801-6.861	+++++	+++++
20	Endrin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.081	7.051-7.111	+++++	+++++
21	4,4'-DDD	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.135	7.105-7.165	+++++	+++++
22	Endosulfan II	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.317	7.287-7.347	+++++	+++++
23	4,4'-DDT	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.427	7.397-7.457	+++++	+++++
24	Endrin aldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.746	7.716-7.776	+++++	+++++
25	Methoxychlor	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.912	7.882-7.942	+++++	+++++
26	Endosulfan sulfate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.180	8.150-8.210	+++++	+++++
27	Endrin ketone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.453	8.423-8.483	+++++	+++++
$ 28	Decachlorobiphenyl	9.355	9.355	9.355	9.355	9.356	9.356	9.355	9.355	9.325-9.385	9.356	0.000
29	Aroclor-1016	+++++	+++++	+++++	+++++	+++++	+++++	+++++	3.765	3.735-3.795	+++++	+++++
30	Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.881	4.851-4.911	+++++	+++++
31	Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.359	5.329-5.389	+++++	+++++
32	Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	+++++	3.765	3.735-3.795	+++++	+++++
33	Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.418	4.388-4.448	+++++	+++++
34	Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.257	5.227-5.287	+++++	+++++
35	Aroclor-1260	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.045	6.015-6.075	+++++	+++++
36	Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.301	8.271-8.331	+++++	+++++
37	Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.259	11.229-11.289	+++++	+++++
38	Toxaphene	6.931	6.931	6.931	6.931	6.931	6.931	6.931	6.931	6.901-6.961	6.931	0.000
39	2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.106	6.076-6.136	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd6.i\20221214.b\PEST.m
Batch File: \\target\share\chem4\ecd6.i\20221214.b
Inst ID: ecd6.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
40 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.681	6.651-6.711	+++++	+++++
41 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.957	6.927-6.987	+++++	+++++
42 Hexachloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.774	1.744-1.804	+++++	+++++
43 Oxychlordane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.014	5.984-6.044	+++++	+++++
44 trans-Nonachlor	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.397	6.367-6.427	+++++	+++++
45 cis-Nonachlor	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.112	7.082-7.142	+++++	+++++
46 Mirex	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.082	8.052-8.112	+++++	+++++
47 bis-(2-ethylhexyl) Pht	+++++	+++++	+++++	+++++	+++++	+++++	+++++	20.156	20.126-20.186	+++++	+++++
48 Chlordane (NOS)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.593	5.563-5.623	+++++	+++++
49 Trifluralin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.319	6.289-6.349	+++++	+++++
50 Dacthal	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.936	9.906-9.966	+++++	+++++
51 Oxadiazon	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.891	11.861-11.921	+++++	+++++
52 Kelthane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.827	14.797-14.857	+++++	+++++
53 Chlorpyrifos	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.750	9.720-9.780	+++++	+++++
54 Methyl Parathion	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.107	9.077-9.137	+++++	+++++
55 Ethyl Parathion	+++++	+++++	+++++	+++++	+++++	+++++	+++++	10.251	10.221-10.281	+++++	+++++
56 Kepone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.588	6.558-6.618	+++++	+++++
57 1-Chloropyrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.953	6.923-6.983	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd6.i\20221214.b\PEST.m\PESTB.m
Batch File: \\target\share\chem4\ecd6.i\20221214.b\B20221214.b
Inst ID: ecd6.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06	RT07
FILENAME:	22121428	22121429	22121430	22121431	22121432	22121433	22121434
INJ.DATE:	15-DEC-2022	15-DEC-2022	15-DEC-2022	15-DEC-2022	15-DEC-2022	15-DEC-2022	15-DEC-2022
INJ.TIME:	03:29	03:46	04:04	04:22	04:40	04:58	05:16

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
1 Hexachlorobutadiene [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	2.501	2.471-2.531	+++++	+++++
* 2 1Bromo-2nitrobenzene [	3.351	3.351	3.351	3.351	3.351	3.351	3.351	3.351	3.321-3.381	3.351	0.000
* 3 Hexabromobiphenyl[C]	11.055	11.054	11.054	11.055	11.054	11.054	11.054	11.054	11.024-11.084	11.054	0.000
$ 4 Tetrachloro-m-xylene [	4.221	4.220	4.220	4.221	4.221	4.221	4.221	4.220	4.190-4.250	4.221	0.000
5 Hexachlorobenzene [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.718	4.688-4.748	+++++	+++++
6 alpha-BHC [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.861	4.831-4.891	+++++	+++++
7 gamma-BHC (Lindane) [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.258	5.228-5.288	+++++	+++++
8 beta-BHC [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.337	5.307-5.367	+++++	+++++
9 delta-BHC [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.691	5.661-5.721	+++++	+++++
10 Heptachlor [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.787	5.757-5.817	+++++	+++++
11 Chlorthalonil	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.588	14.558-14.618	+++++	+++++
12 Aldrin [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.191	6.161-6.221	+++++	+++++
13 Heptachlor Epoxide a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	12.680	12.650-12.710	+++++	+++++
14 Heptachlor epoxide b [	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.845	6.815-6.875	+++++	+++++
15 cis-Chlordane [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.216	7.186-7.246	+++++	+++++
16 trans-Chlordane [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.056	7.026-7.086	+++++	+++++
17 Endosulfan I [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.289	7.259-7.319	+++++	+++++

Reviewer 1 _____ Date:_____
Reviewer 2 _____ Date:_____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd6.i\20221214.b\PEST.m\PESTB.m
Batch File: \\target\share\chem4\ecd6.i\20221214.b\B20221214.b
Inst ID: ecd6.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
	18 4,4'-DDE [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.371	7.341-7.401	+++++	+++++
	19 Dieldrin [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.583	7.553-7.613	+++++	+++++
	20 Endrin [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.907	7.877-7.937	+++++	+++++
	21 4,4'-DDD [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.976	7.946-8.006	+++++	+++++
	22 Endosulfan II [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.117	8.087-8.147	+++++	+++++
	23 4,4'-DDT [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.295	8.265-8.325	+++++	+++++
	24 Endrin aldehyde [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.448	8.418-8.478	+++++	+++++
	25 Endosulfan sulfate [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.715	8.685-8.745	+++++	+++++
	26 Methoxychlor [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.936	8.906-8.966	+++++	+++++
	27 Endrin ketone [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.240	9.210-9.270	+++++	+++++
$	28 Decachlorobiphenyl [C]	10.467	10.467	10.467	10.466	10.466	10.466	10.467	10.467	10.437-10.497	10.466	0.000
	29 Aroclor-1016	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.180	4.150-4.210	+++++	+++++
	30 Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.051	5.021-5.081	+++++	+++++
	31 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.171	5.141-5.201	+++++	+++++
	32 Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.970	4.940-5.000	+++++	+++++
	33 Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.285	5.255-5.315	+++++	+++++
	34 Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.968	5.938-5.998	+++++	+++++
	35 Aroclor-1260	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.767	6.737-6.797	+++++	+++++
	36 Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.714	9.684-9.744	+++++	+++++
	37 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.791	11.761-11.821	+++++	+++++
	38 Toxaphene [C]	7.125	7.125	7.125	7.125	7.126	7.126	7.126	7.126	7.096-7.156	7.125	0.000
	39 2,4-DDE [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.036	7.006-7.066	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd6.i\20221214.b\PEST.m\PESTB.m
Batch File: \\target\share\chem4\ecd6.i\20221214.b\B20221214.b
Inst ID: ecd6.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
40 2,4-DDD [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.591	7.561-7.621	+++++	+++++
41 2,4-DDT [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.913	7.883-7.943	+++++	+++++
42 Hexachloroethane [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	1.676	1.646-1.706	+++++	+++++
43 Oxychlordane [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.741	6.711-6.771	+++++	+++++
44 trans-Nonachlor [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.155	7.125-7.185	+++++	+++++
45 cis-Nonachlor [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.975	7.945-8.005	+++++	+++++
46 Mirex [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.223	9.193-9.253	+++++	+++++
47 bis-(2-ethylhexyl) Pht	+++++	+++++	+++++	+++++	+++++	+++++	+++++	21.499	21.469-21.529	+++++	+++++
48 Chlordane (NOS) [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.612	5.582-5.642	+++++	+++++
49 Trifluralin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	4.871	4.841-4.901	+++++	+++++
50 Dacthal	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.640	6.610-6.670	+++++	+++++
51 Oxadiazon	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.115	8.085-8.145	+++++	+++++
52 Kelthane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.286	11.256-11.316	+++++	+++++
53 Chlorpyrifos	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.527	6.497-6.557	+++++	+++++
54 Methyl Parathion	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.342	6.312-6.372	+++++	+++++
55 Ethyl Parathion	+++++	+++++	+++++	+++++	+++++	+++++	+++++	6.841	6.811-6.871	+++++	+++++
56 Kepone [C]	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.336	7.306-7.366	+++++	+++++
57 1-Chloropyrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	7.745	7.715-7.775	+++++	+++++

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121403.D
Data file 2: /20221214.b/B20221214.b/22121403.D
Method: \20221214.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-IBL1
Client ID:
Injection Date: 14-DEC-2022 20:02
Report Date: 12/16/2022 15:19
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
----			----			0.00	0.00	---	alpha-BHC
----			----			0.00	0.00	---	beta-BHC
----			----			0.00	0.00	---	delta-BHC
----			----			0.00	0.00	---	gamma-BHC (Lindane)
----			----			0.00	0.00	---	Heptachlor
----			----			0.00	0.00	---	Aldrin
----			6.824	-0.021	2291	0.00	0.14	---	Heptachlor epoxide b
----			----			0.00	0.00	---	Endosulfan I
----			7.597	0.015	1696	0.00	0.11	---	Dieldrin
----			----			0.00	0.00	---	4,4'-DDE
----			----			0.00	0.00	---	Endrin
----			8.135	0.018	285	0.00	0.02	---	Endosulfan II
----			7.975	-0.002	1369	0.00	0.12	---	4,4'-DDD
----			8.720	0.005	243	0.00	0.02	---	Endosulfan sulfate
----			----			0.00	0.00	---	4,4'-DDT
----			8.924	-0.013	546	0.00	0.11	---	Methoxychlor
8.444	-0.009	1962	9.226	-0.013	2888	0.23	0.25	10.1	Endrin ketone
----			----			0.00	0.00	---	Endrin aldehyde
----			7.070	0.014	4708	0.00	0.30	---	trans-Chlordane
----			7.219	0.003	810	0.00	0.05	---	cis-Chlordane
2.351	0.028	6378	2.512	0.012	33421	0.42	1.60	116.6*	Hexachlorobutadiene
4.183	0.001	4869	4.721	0.003	421	0.36	0.02	178.1*	Hexachlorobenzene
3.828	0.000	375293	4.220	-0.000	579767	36.70	37.46	2.1	Tetrachloro-m-xylene
9.356	0.001	243291	10.467	0.000	323668	35.86	35.40	1.3	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

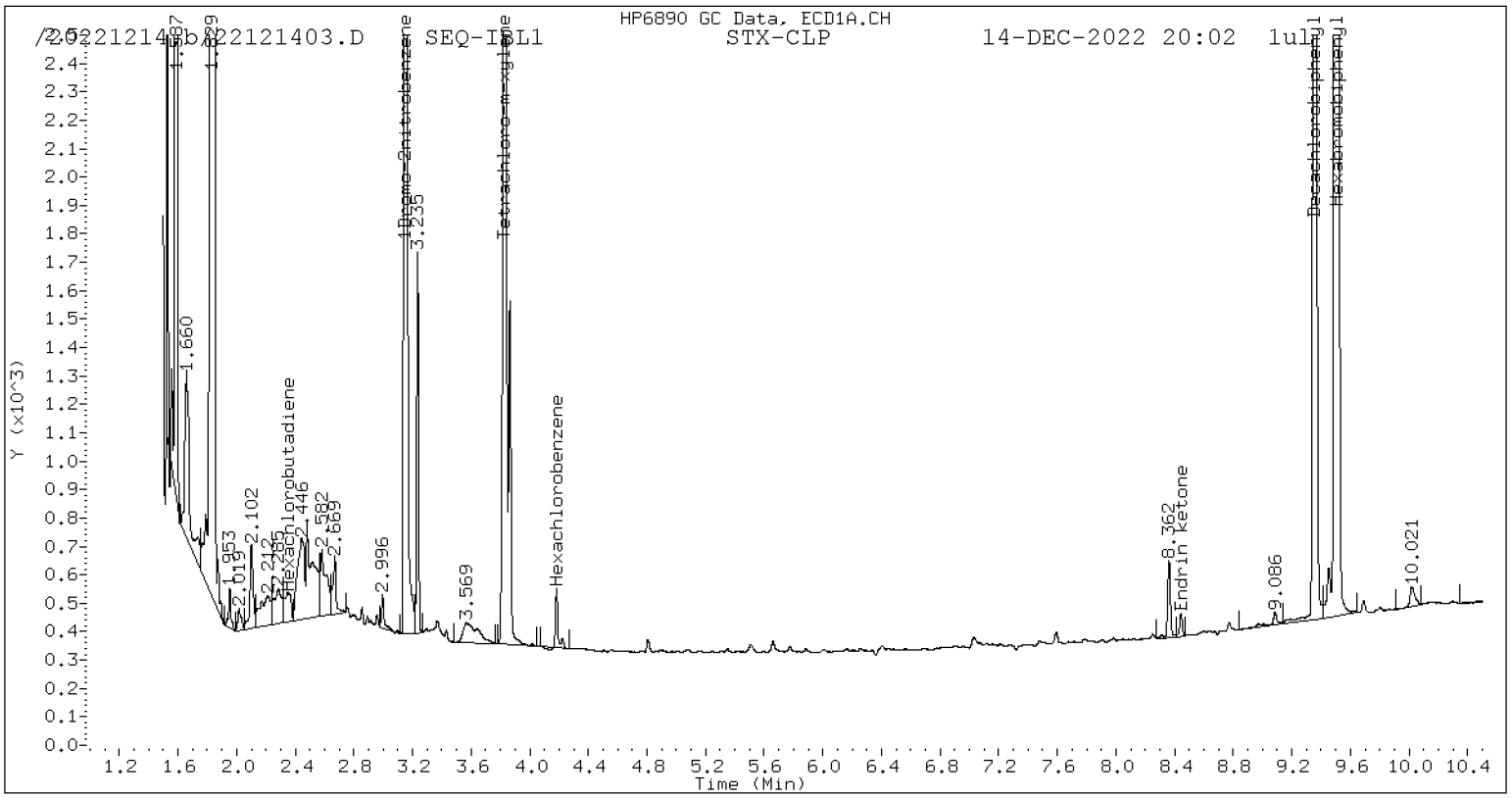
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	751998	5.8
Hexabromobiphenyl	641833	669495	4.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	1099555	3.8
Hexabromobiphenyl	797125	827325	3.8

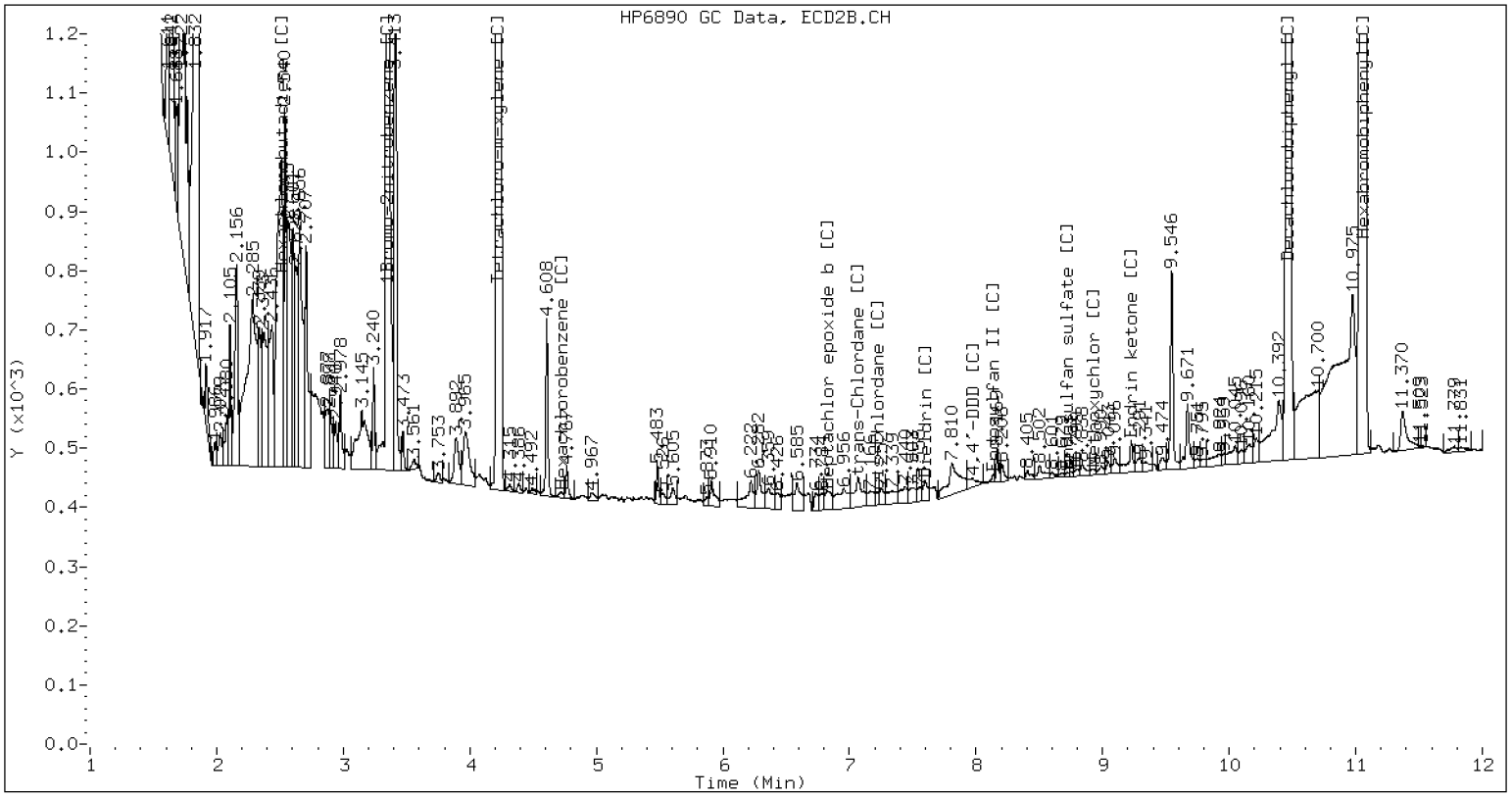
* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121403.D SEQ-IBL1 CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121403.D
Data file 2: /20221214.b/B20221214.b/22121403.D
Method: \20221214.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-IBL1
Client ID:
Injection Date: 14-DEC-2022 20:02
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

7E

8081 DDT/ENDRIN BREAKDOWN VERIFICATION SUMMARY

Lab ID: SEQ-PEM1 InstID,Data File: ecd6.i, 22121404.D

Analysis Date: 14-DEC-2022 20:20 Init. Calib. Date: 14-DEC-2022

GC Column: STX-CLP1 ID: 0.53(mm)

COMPOUND	RT	AREA
1Bromo-2nitrobenzene	3.151	683485
4,4'-DDE	6.490	6258
Endrin	7.082	745471
4,4'-DDD	7.136	15566
4,4'-DDT	7.428	629664
Endrin ketone	8.453	19276
Endrin aldehyde	7.747	21328
Hexabromobiphenyl	9.504	619012
Tetrachloro-m-xylene	3.828	1161664
Decachlorobiphenyl	9.355	833312

DDT Percent Breakdown = 3.3 %
((6258+15566) * 100)/(6258+15566+629664)

Endrin Percent Breakdown = 5.2 %
((21328+19276) * 100)/(21328+19276+745471)

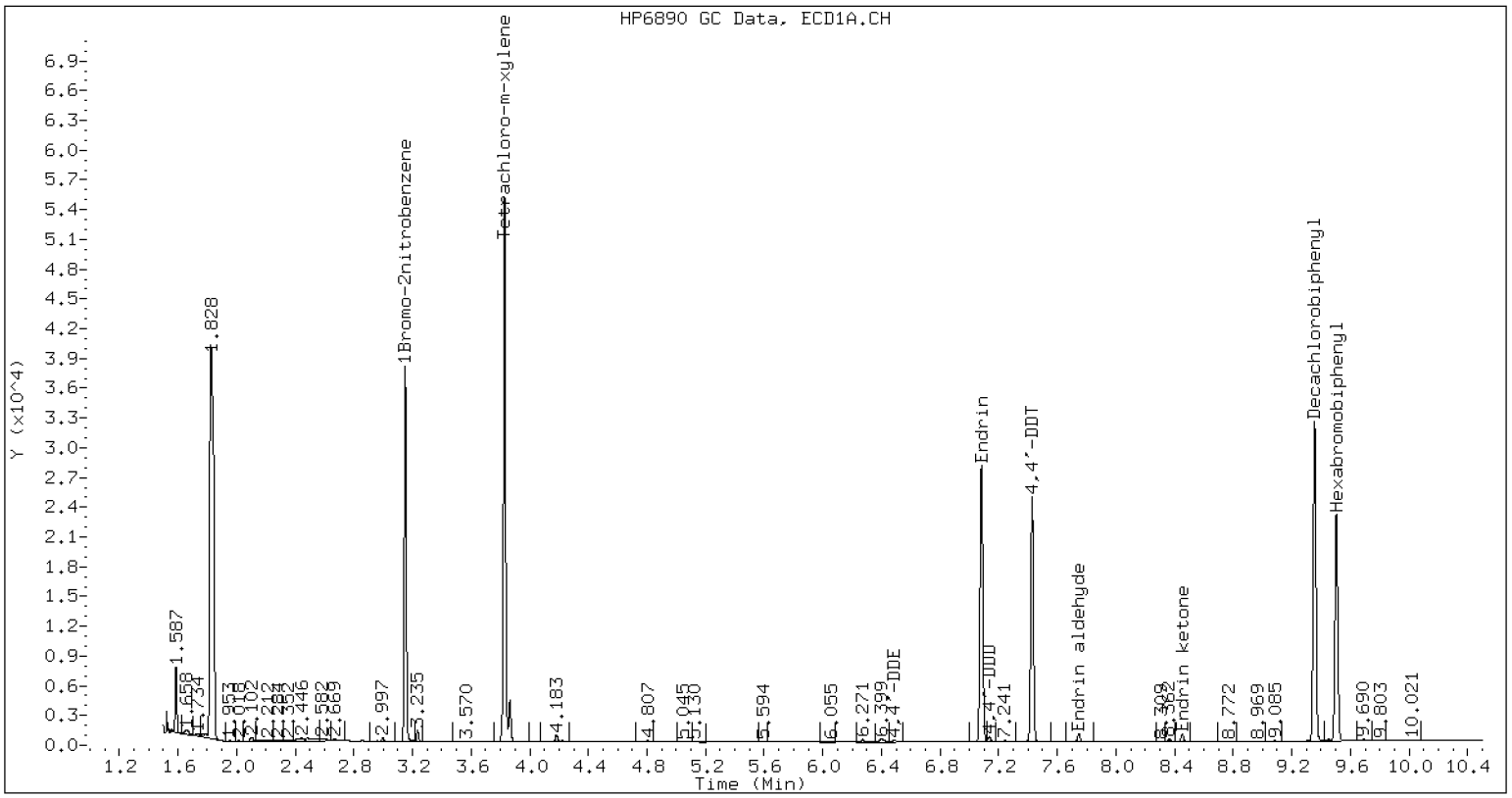
GC Column: STX-CLP2 ID: 0.53(mm)

COMPOUND	RT	AREA
1Bromo-2nitrobenzene [C]	3.350	1005375
4,4'-DDE [C]	7.370	11906
Endrin [C]	7.907	1029194
4,4'-DDD [C]	7.977	32697
4,4'-DDT [C]	8.295	890195
Endrin ketone [C]	9.239	28268
Endrin aldehyde [C]	8.448	31426
Hexabromobiphenyl[C]	11.054	772586
Tetrachloro-m-xylene [C]	4.220	1890294
Decachlorobiphenyl [C]	10.467	1140978

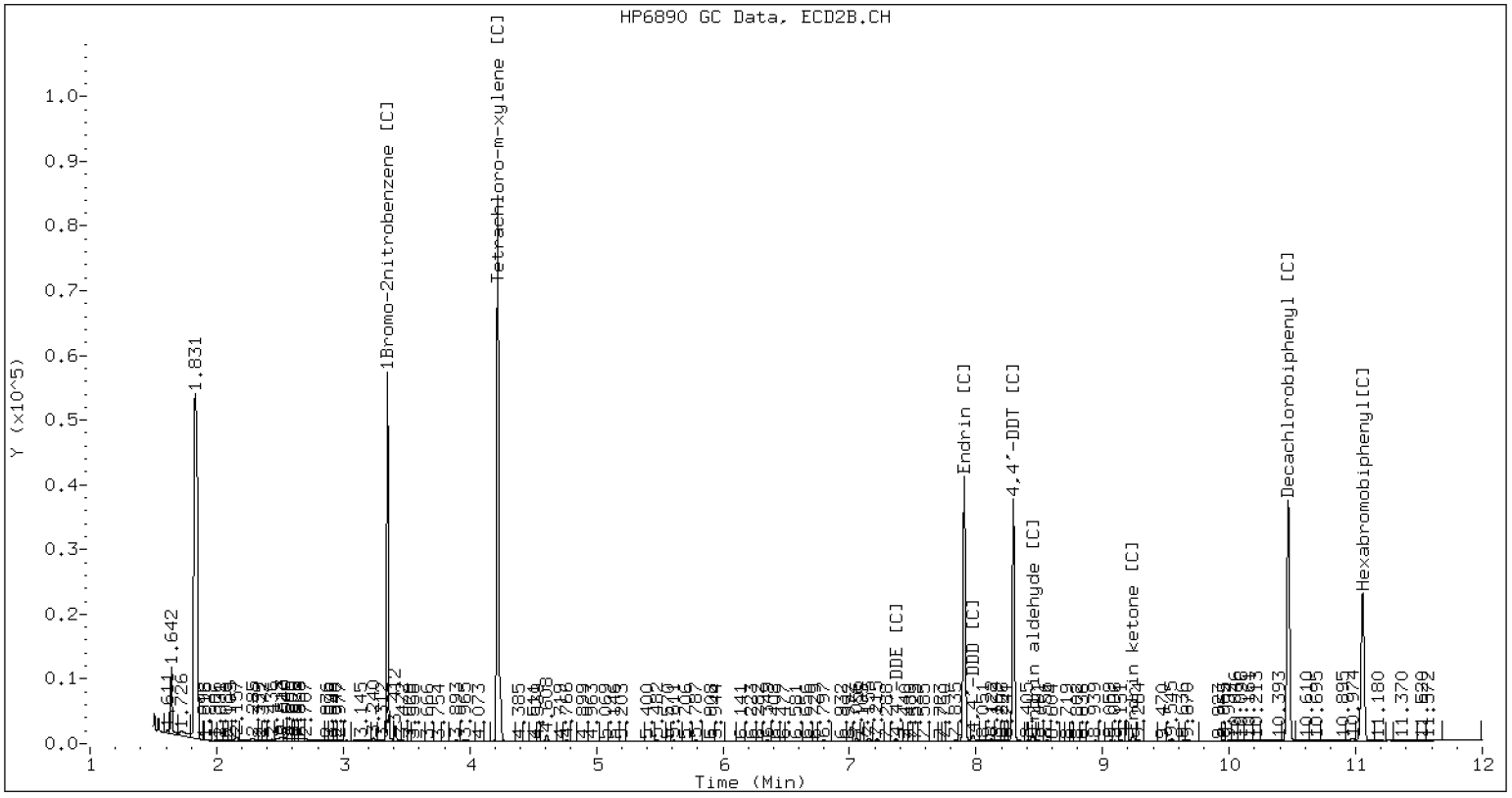
DDT Percent Breakdown = 4.8 %
((11906+32697) * 100)/(11906+32697+890195)

Endrin Percent Breakdown = 5.5 %
((31426+28268) * 100)/(31426+28268+1029194)

/20221214.b/22121404.D SEQ-PEM1 STX-CLP 14-DEC-2022 20:20 1ul



/20221214.b/B20221214.b/22121404.D SEQ-PEM1 CLP2 14-DEC-2022



7E

8081 DDT/ENDRIN BREAKDOWN VERIFICATION SUMMARY

Lab ID: SEQ-PEM1 InstID,Data File: ecd6.i, 22121404.D

Analysis Date: 14-DEC-2022 20:20 Init. Calib. Date: 14-DEC-2022

GC Column: STX-CLP1 ID: 0.53(mm)

COMPOUND	RT	AREA
1Bromo-2nitrobenzene	3.151	683485
4,4'-DDE	6.490	6258
Endrin	7.082	745471
4,4'-DDD	7.136	15566
4,4'-DDT	7.428	629664
Endrin ketone	8.453	19276
Endrin aldehyde	7.747	21328
Hexabromobiphenyl	9.504	619012
Tetrachloro-m-xylene	3.828	1161664
Decachlorobiphenyl	9.355	833312

DDT Percent Breakdown = 3.3 %
((6258+15566) * 100)/(6258+15566+629664)

Endrin Percent Breakdown = 5.2 %
((21328+19276) * 100)/(21328+19276+745471)

GC Column: STX-CLP1 ID: 0.53(mm)

COMPOUND	RT	AREA
Decachlorobiphenyl	9.355	833312
Decachlorobiphenyl	9.355	833312
Decachlorobiphenyl	9.355	833312

Decachlorobiphenyl	9.355	833312
Decachlorobiphenyl	9.355	833312
Decachlorobiphenyl	9.355	833312
Decachlorobiphenyl	9.355	833312
Decachlorobiphenyl	9.355	833312
Decachlorobiphenyl	9.355	833312
Decachlorobiphenyl	9.355	833312

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121405.D
Data file 2: /20221214.b/B20221214.b/22121405.D
Method: \20221214.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL1
Client ID:
Injection Date: 14-DEC-2022 20:38
Report Date: 12/16/2022 15:19
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.342	-0.000	17720	4.860	-0.001	25579	1.30	1.22	6.4	alpha-BHC
4.726	-0.000	7513	5.337	-0.000	10927	1.43	1.37	4.4	beta-BHC
4.909	-0.000	14050	5.690	-0.000	21188	1.26	1.23	2.8	delta-BHC
4.645	-0.000	15329	5.257	-0.001	21981	1.30	1.24	4.9	gamma-BHC (Lindane)
5.130	-0.000	14540	5.786	-0.000	20395	1.38	1.27	8.9	Heptachlor
5.453	-0.001	15026	6.190	-0.001	24413	1.28	1.33	3.9	Aldrin
6.130	0.000	13937	6.845	-0.000	21959	1.37	1.44	5.6	Heptachlor epoxide b
6.572	-0.000	13220	7.288	-0.000	19257	1.41	1.44	1.8	Endosulfan I
6.831	0.000	27285	7.582	-0.001	43580	2.71	2.94	8.2	Dieldrin
6.489	0.000	25951	7.370	-0.001	37722	2.78	2.78	0.0	4,4'-DDE
7.081	0.000	24429	7.906	-0.001	31381	2.94	2.78	5.3	Endrin
7.318	0.001	19827	8.117	-0.000	30675	2.65	2.66	0.3	Endosulfan II
7.135	0.000	20434	7.976	-0.000	28995	2.73	2.65	3.0	4,4'-DDD
8.180	-0.000	19661	8.715	-0.000	26689	2.76	2.63	4.9	Endosulfan sulfate
7.427	0.000	20071	8.294	-0.001	26950	2.65	2.55	3.9	4,4'-DDT
7.912	-0.000	52385	8.935	-0.001	65896	15.60	14.07	10.3	Methoxychlor
8.453	-0.001	24276	9.239	-0.000	30129	2.98	2.75	8.0	Endrin ketone
7.746	-0.000	17209	8.448	-0.000	21218	2.88	2.60	10.1	Endrin aldehyde
6.270	-0.001	14829	7.056	-0.000	22517	1.43	1.48	3.7	trans-Chlordane
6.417	0.000	15767	7.215	-0.000	22150	1.52	1.49	1.6	cis-Chlordane
2.323	-0.001	27320	2.500	-0.001	42655	1.92	2.14	11.3	Hexachlorobutadiene
4.182	0.000	18555	4.718	-0.000	27377	1.47	1.44	2.2	Hexachlorobenzene
3.828	-0.000	28792	4.220	-0.001	41270	2.99	2.80	6.5	Tetrachloro-m-xylene
9.355	-0.000	21954	10.466	-0.000	30646	3.41	3.50	2.5	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

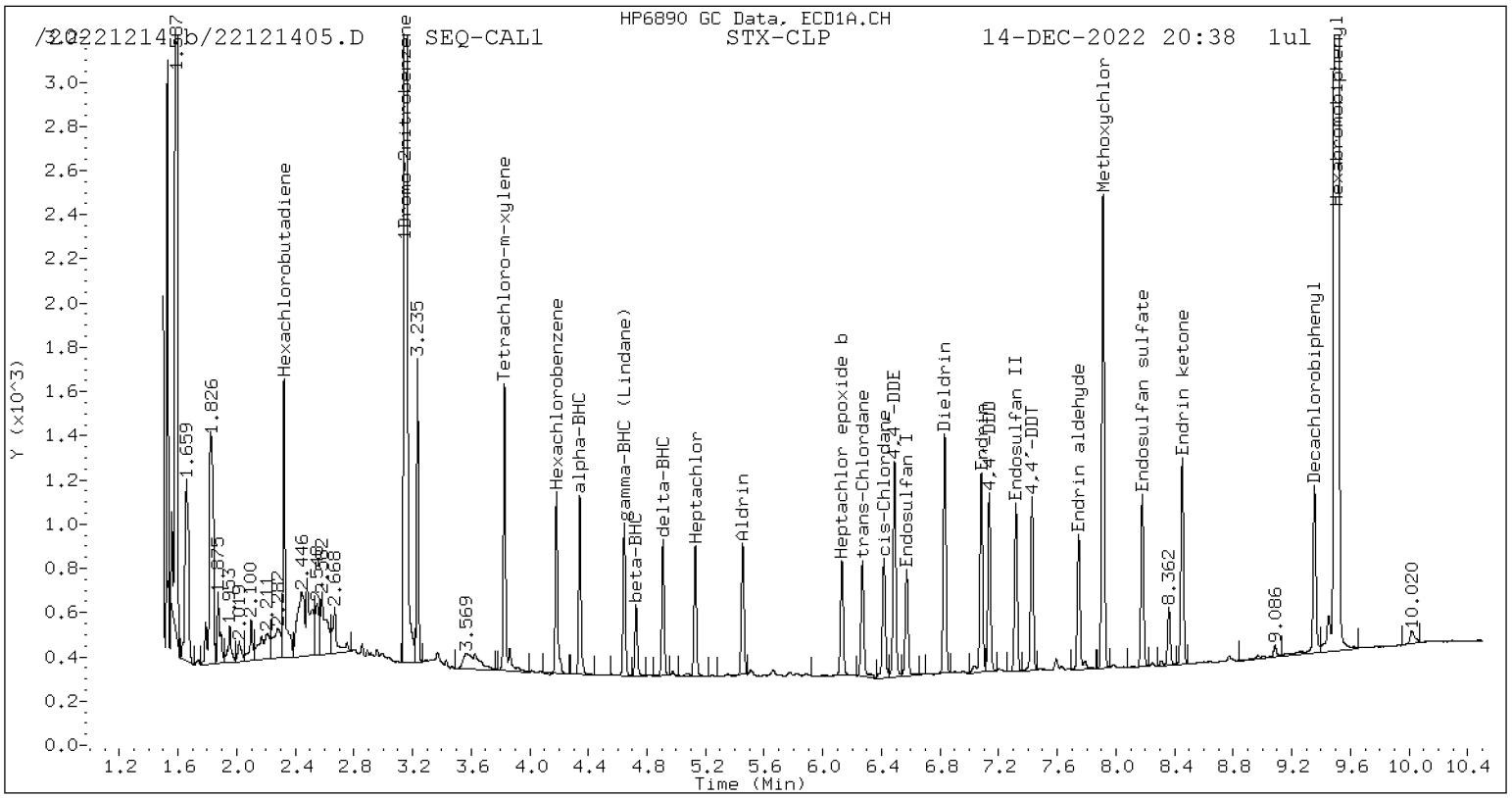
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	707324	-0.5
Hexabromobiphenyl	641833	634819	-1.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	1045524	-1.3
Hexabromobiphenyl	797125	792558	-0.6

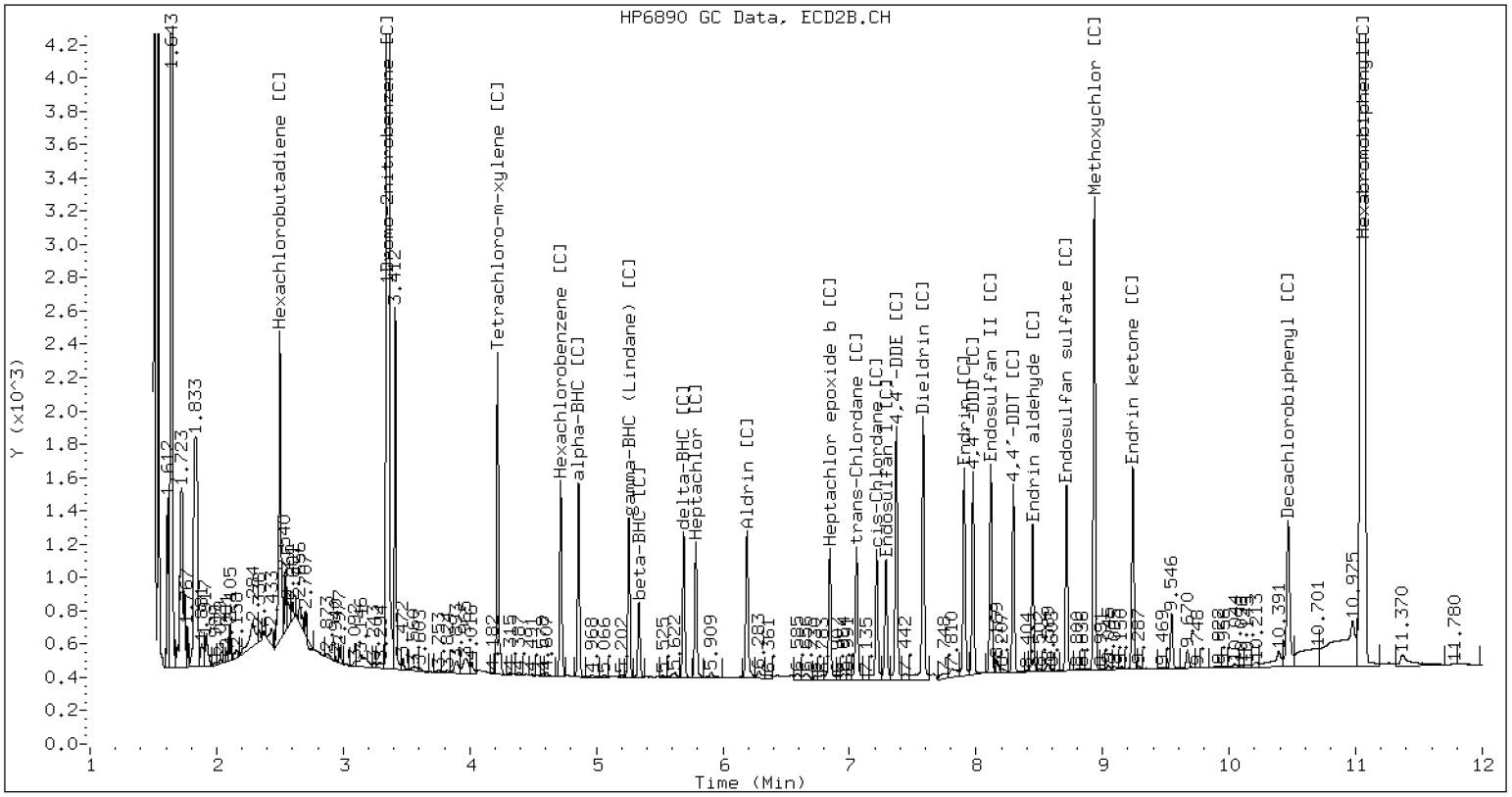
* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121405.D SEQ-CAL1 CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121405.D
Data file 2: /20221214.b/B20221214.b/22121405.D
Method: \20221214.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL1
Client ID:
Injection Date: 14-DEC-2022 20:38
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121406.D
Data file 2: /20221214.b/B20221214.b/22121406.D
Method: \20221214.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL2
Client ID:
Injection Date: 14-DEC-2022 20:56
Report Date: 12/16/2022 15:19
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.342	-0.000	35088	4.859	-0.001	52514	2.54	2.47	2.9	alpha-BHC
4.726	-0.000	14580	5.337	-0.000	21664	2.74	2.68	2.4	beta-BHC
4.909	-0.000	28429	5.691	-0.000	43932	2.52	2.51	0.5	delta-BHC
4.645	0.000	30588	5.257	-0.001	44971	2.55	2.49	2.5	gamma-BHC (Lindane)
5.129	-0.001	28458	5.787	-0.000	42156	2.67	2.58	3.6	Heptachlor
5.453	-0.001	30273	6.190	-0.001	50159	2.53	2.69	5.8	Aldrin
6.130	-0.001	27608	6.845	-0.001	43067	2.67	2.79	4.5	Heptachlor epoxide b
6.572	-0.000	25650	7.288	-0.001	37112	2.70	2.73	1.0	Endosulfan I
6.832	0.000	54960	7.582	-0.001	84296	5.38	5.60	4.0	Dieldrin
6.489	-0.000	51182	7.370	-0.001	74355	5.40	5.39	0.2	4,4'-DDE
7.081	0.000	46577	7.906	-0.001	63434	5.52	5.52	0.1	Endrin
7.317	0.001	37804	8.116	-0.001	65448	4.98	5.56	11.1	Endosulfan II
7.136	0.001	40399	7.976	-0.001	62302	5.32	5.58	4.8	4,4'-DDD
8.179	-0.001	38342	8.714	-0.001	57421	5.32	5.56	4.4	Endosulfan sulfate
7.427	-0.000	40499	8.294	-0.001	59346	5.27	5.51	4.3	4,4'-DDT
7.912	-0.000	98271	8.934	-0.002	130815	28.88	27.42	5.2	Methoxychlor
8.452	-0.001	45639	9.239	-0.001	62360	5.53	5.59	1.1	Endrin ketone
7.746	0.000	32847	8.447	-0.001	47592	5.42	5.73	5.6	Endrin aldehyde
6.271	0.000	28307	7.055	-0.001	41633	2.69	2.70	0.4	trans-Chlordane
6.417	0.000	29336	7.215	-0.000	41766	2.78	2.77	0.3	cis-Chlordane
2.323	-0.001	44113	2.500	-0.001	65565	3.05	3.24	6.2	Hexachlorobutadiene
4.182	-0.000	35520	4.718	-0.000	53173	2.77	2.75	0.9	Hexachlorobenzene
3.828	-0.000	54873	4.220	-0.001	81034	5.62	5.42	3.7	Tetrachloro-m-xylene
9.354	-0.001	38477	10.465	-0.001	54866	5.90	6.15	4.1	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

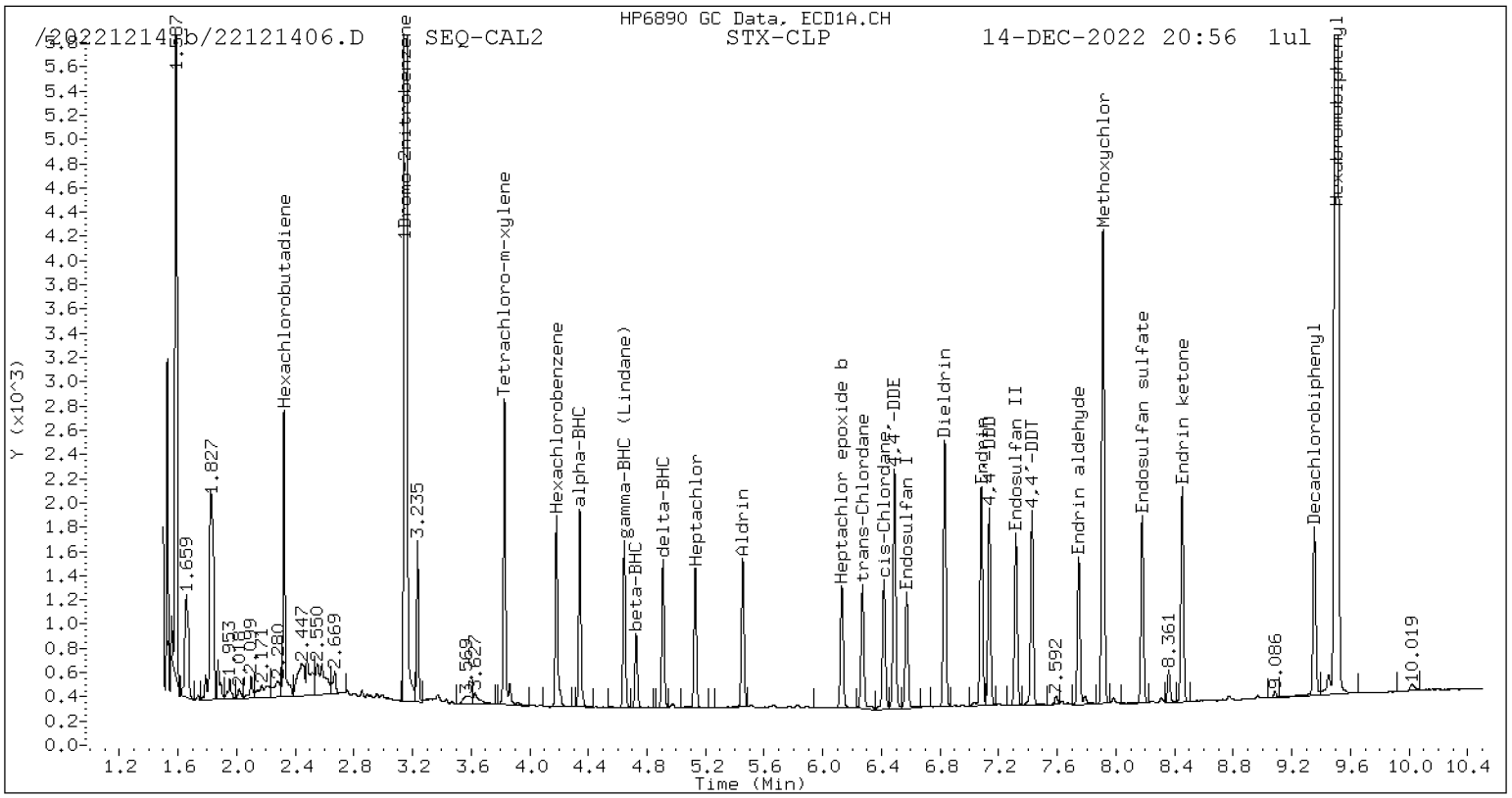
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	717600	1.0
Hexabromobiphenyl	641833	643445	0.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	1061990	0.3
Hexabromobiphenyl	797125	807490	1.3

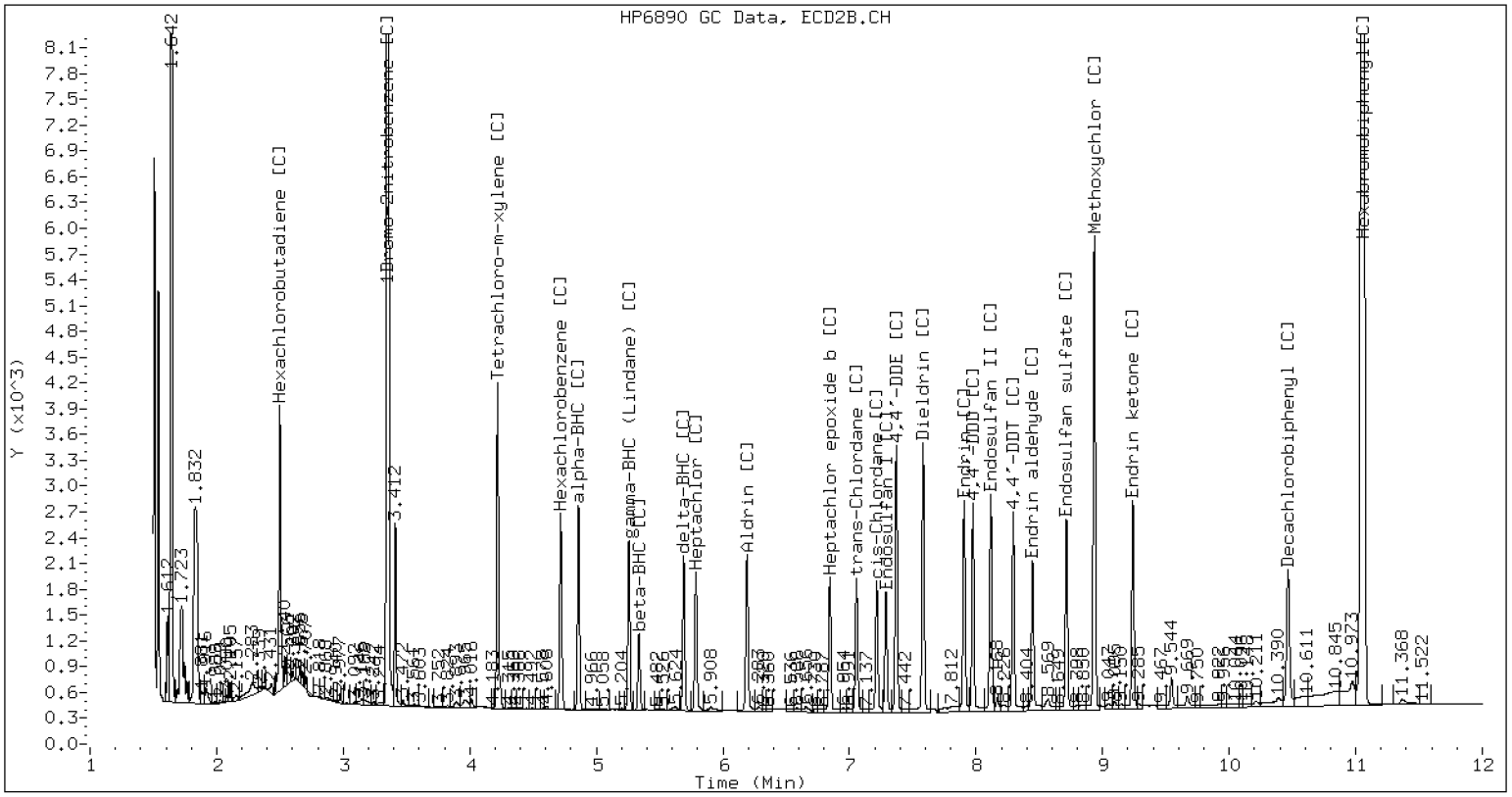
* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121406.D SEQ-CAL2 CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121406.D
Data file 2: /20221214.b/B20221214.b/22121406.D
Method: \20221214.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL2
Client ID:
Injection Date: 14-DEC-2022 20:56
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121407.D
Data file 2: /20221214.b/B20221214.b/22121407.D
Method: \20221214.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL3
Client ID:
Injection Date: 14-DEC-2022 21:14
Report Date: 12/16/2022 15:19
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.343	0.001	68202	4.860	-0.000	103195	5.06	4.95	2.2	alpha-BHC
4.727	0.000	26774	5.338	0.000	40159	5.16	5.06	1.8	beta-BHC
4.910	0.001	55344	5.691	0.000	85044	5.02	4.95	1.5	delta-BHC
4.646	0.001	59491	5.258	0.000	87747	5.09	4.96	2.6	gamma-BHC (Lindane)
5.130	0.000	53529	5.787	0.000	80295	5.15	5.01	2.7	Heptachlor
5.455	0.001	59061	6.191	0.000	92167	5.07	5.03	0.7	Aldrin
6.132	0.001	52071	6.845	-0.000	76415	5.15	5.05	2.1	Heptachlor epoxide b
6.573	0.001	48052	7.289	-0.000	67929	5.18	5.09	1.8	Endosulfan I
6.832	0.001	104217	7.583	-0.000	151301	10.46	10.26	1.9	Dieldrin
6.490	0.001	97042	7.371	0.000	139172	10.49	10.29	1.9	4,4'-DDE
7.082	0.001	87185	7.906	-0.001	115830	10.66	10.37	2.8	Endrin
7.318	0.001	77341	8.117	0.000	118175	10.50	10.32	1.8	Endosulfan II
7.136	0.001	77451	7.976	0.000	110178	10.51	10.14	3.6	4,4'-DDD
8.180	0.001	73440	8.715	0.000	102417	10.50	10.18	3.1	Endosulfan sulfate
7.428	0.001	77522	8.294	-0.001	105882	10.41	10.09	3.1	4,4'-DDT
7.913	0.001	178164	8.935	-0.001	239047	53.98	51.49	4.7	Methoxychlor
8.454	0.000	84510	9.239	-0.000	110024	10.55	10.13	4.1	Endrin ketone
7.746	0.001	61122	8.448	-0.000	82817	10.40	10.25	1.5	Endrin aldehyde
6.271	0.001	52622	7.056	-0.000	76513	5.13	5.07	1.1	trans-Chlordane
6.417	0.001	53515	7.216	0.000	75023	5.20	5.08	2.3	cis-Chlordane
2.324	-0.000	75632	2.500	-0.000	107268	5.35	5.41	1.1	Hexachlorobutadiene
4.183	0.001	66090	4.718	-0.000	98926	5.28	5.21	1.3	Hexachlorobenzene
3.828	0.000	101081	4.220	-0.000	153451	10.61	10.47	1.3	Tetrachloro-m-xylene
9.355	-0.000	67797	10.466	-0.000	92260	10.72	10.62	0.9	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

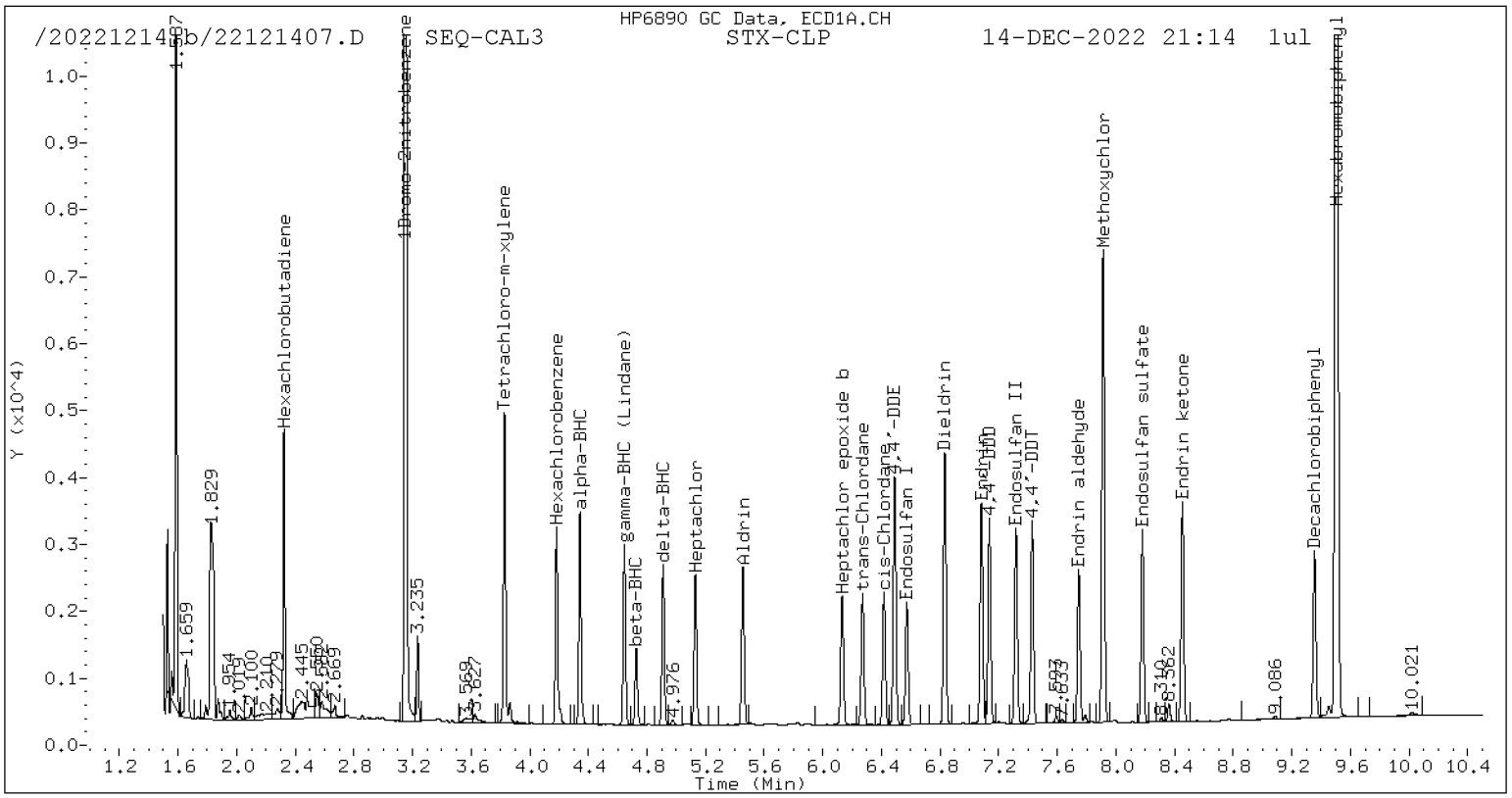
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	700354	-1.4
Hexabromobiphenyl	641833	624108	-2.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	1040903	-1.7
Hexabromobiphenyl	797125	785894	-1.4

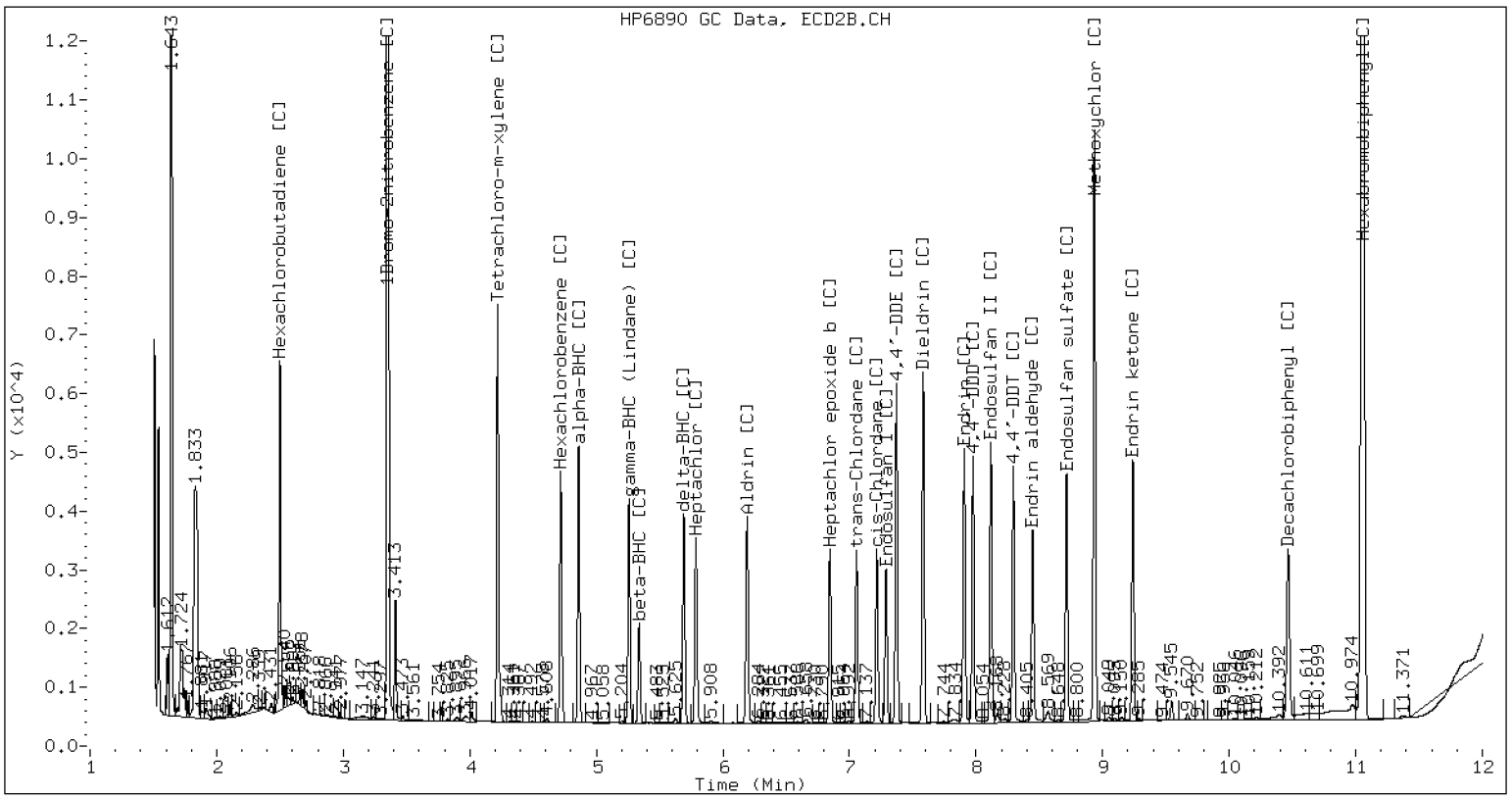
* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121407.D SEQ-CAL3 CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121407.D
Data file 2: /20221214.b/B20221214.b/22121407.D
Method: \20221214.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL3
Client ID:
Injection Date: 14-DEC-2022 21:14
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121408.D
Data file 2: /20221214.b/B20221214.b/22121408.D
Method: \20221214.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL4
Client ID:
Injection Date: 14-DEC-2022 21:31
Report Date: 12/16/2022 15:19
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.343	0.000	139784	4.860	-0.000	216159	10.22	10.19	0.3	alpha-BHC
4.726	0.000	53742	5.337	0.000	81857	10.20	10.15	0.6	beta-BHC
4.910	0.001	113586	5.691	0.000	177281	10.16	10.14	0.2	delta-BHC
4.646	0.000	121488	5.258	0.000	182844	10.24	10.15	0.9	gamma-BHC (Lindane)
5.130	0.000	108260	5.787	-0.000	166558	10.26	10.21	0.5	Heptachlor
5.454	0.000	124839	6.191	0.000	189618	10.55	10.18	3.6	Aldrin
6.131	0.001	107301	6.846	0.001	155424	10.46	10.09	3.6	Heptachlor epoxide b
6.573	0.000	97151	7.289	0.000	137043	10.32	10.10	2.2	Endosulfan I
6.832	0.001	210564	7.583	0.000	301602	20.82	20.11	3.5	Dieldrin
6.490	0.001	195139	7.371	0.000	281756	20.79	20.49	1.5	4,4'-DDE
7.082	0.001	173216	7.907	-0.000	231062	20.59	20.39	1.0	Endrin
7.318	0.001	161303	8.117	0.001	236844	21.29	20.39	4.4	Endosulfan II
7.136	0.001	157301	7.977	0.001	222755	20.75	20.21	2.7	4,4'-DDD
8.180	0.000	146955	8.715	0.000	205334	20.43	20.13	1.5	Endosulfan sulfate
7.428	0.001	156744	8.295	-0.000	212755	20.46	19.99	2.3	4,4'-DDT
7.912	0.001	344324	8.936	-0.001	473459	101.43	100.55	0.9	Methoxychlor
8.453	-0.000	167384	9.240	0.000	222080	20.31	20.15	0.8	Endrin ketone
7.746	0.000	123653	8.448	0.000	164391	20.47	20.06	2.0	Endrin aldehyde
6.271	0.001	106805	7.056	0.000	154174	10.25	10.04	2.1	trans-Chlordane
6.418	0.001	106651	7.216	0.001	150231	10.21	10.00	2.1	cis-Chlordane
2.323	-0.000	142895	2.500	-0.001	197539	9.97	9.80	1.7	Hexachlorobutadiene
4.183	0.000	130020	4.718	0.000	197396	10.24	10.22	0.1	Hexachlorobenzene
3.828	0.000	199446	4.220	-0.000	308345	20.64	20.69	0.2	Tetrachloro-m-xylene
9.355	0.000	130210	10.466	-0.000	170633	20.02	19.37	3.3	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

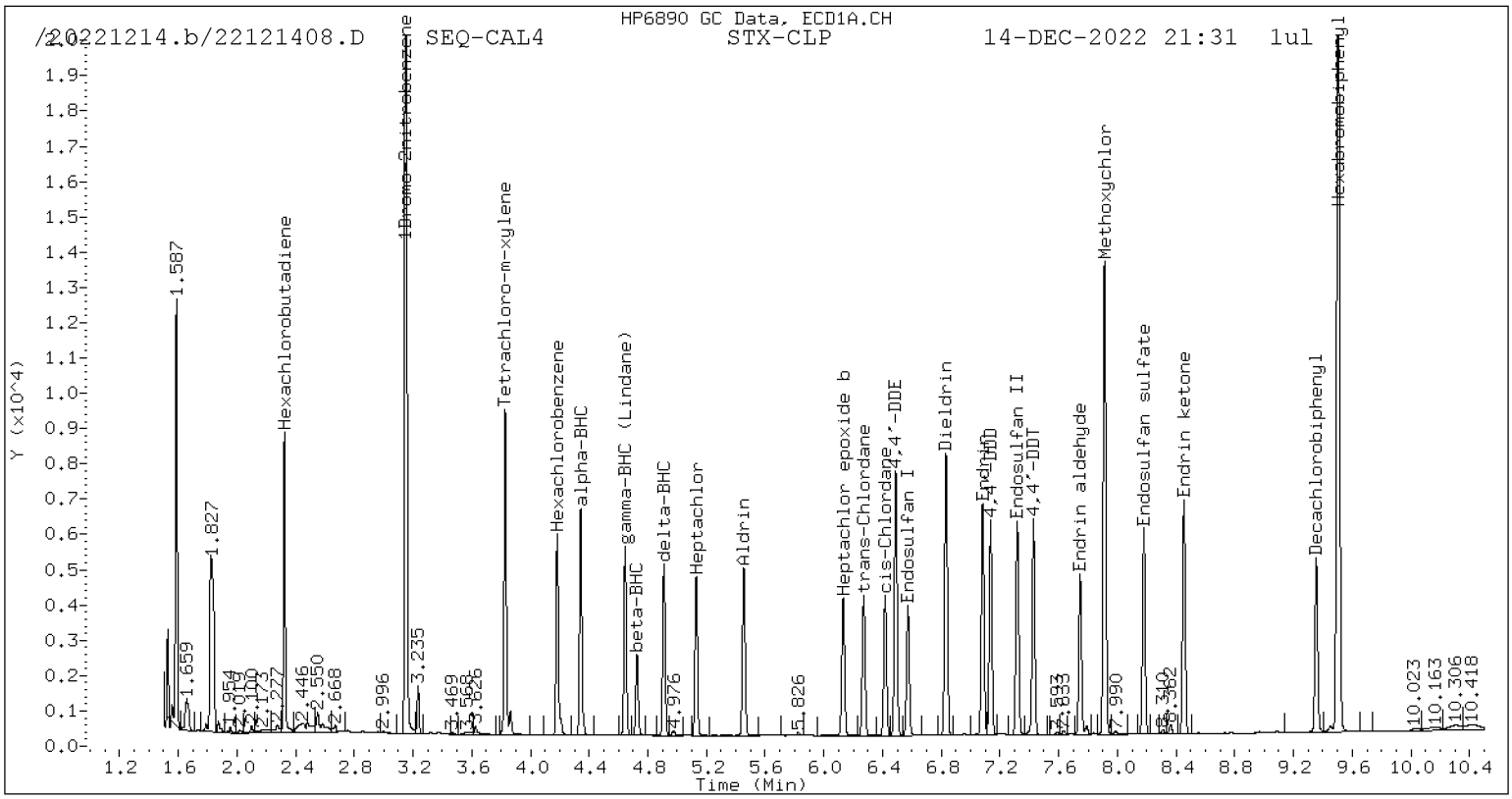
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	710650	0.0
Hexabromobiphenyl	641833	641833	0.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	1058848	0.0
Hexabromobiphenyl	797125	797125	0.0

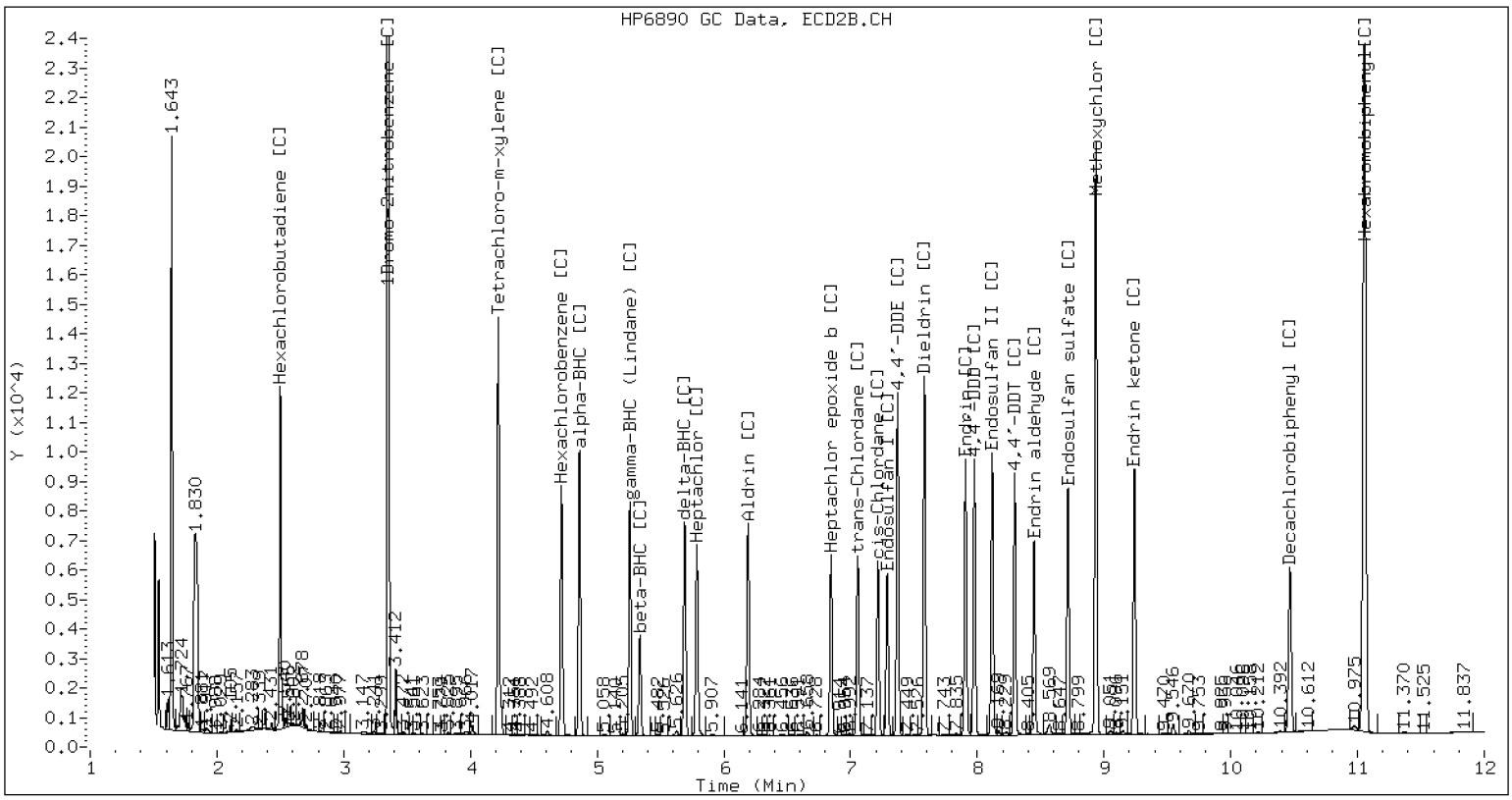
* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121408.D SEQ-CAL4 CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121408.D
Data file 2: /20221214.b/B20221214.b/22121408.D
Method: \20221214.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL4
Client ID:
Injection Date: 14-DEC-2022 21:31
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121409.D
Data file 2: /20221214.b/B20221214.b/22121409.D
Method: \20221214.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL5
Client ID:
Injection Date: 14-DEC-2022 21:49
Report Date: 12/16/2022 15:30
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.342	0.000	263355	4.860	-0.001	412780	20.34	20.46	0.6	alpha-BHC
4.726	0.000	99355	5.337	-0.000	154138	19.93	20.10	0.8	beta-BHC
4.909	0.000	216224	5.690	-0.000	334261	20.44	20.12	1.6	delta-BHC
4.645	0.000	228274	5.258	-0.000	350450	20.34	20.47	0.7	gamma-BHC (Lindane)
5.130	0.000	203067	5.787	-0.000	320123	20.33	20.64	1.5	Heptachlor
5.454	0.000	230734	6.191	-0.000	359912	20.62	20.33	1.4	Aldrin
6.130	0.000	198033	6.845	-0.000	295580	20.41	20.19	1.1	Heptachlor epoxide b
6.572	0.000	180905	7.289	-0.000	260351	20.31	20.18	0.7	Endosulfan I
6.831	0.000	388583	7.582	-0.000	571731	40.61	40.10	1.3	Dieldrin
6.489	0.000	362177	7.370	-0.000	531128	40.77	40.63	0.4	4,4'-DDE
7.081	0.000	323576	7.907	-0.000	442460	40.48	40.43	0.1	Endrin
7.317	0.000	282010	8.117	-0.000	446656	39.19	39.81	1.6	Endosulfan II
7.135	0.000	292251	7.976	-0.000	427990	40.58	40.20	0.9	4,4'-DDD
8.180	0.000	276113	8.715	0.000	393743	40.41	39.97	1.1	Endosulfan sulfate
7.427	0.000	296413	8.295	-0.000	413083	40.73	40.20	1.3	4,4'-DDT
7.912	0.000	628619	8.935	-0.001	900958	194.94	198.14	1.6	Methoxychlor
8.453	0.000	311305	9.239	-0.000	423698	39.77	39.82	0.1	Endrin ketone
7.746	0.000	230881	8.448	0.000	312907	40.23	39.54	1.7	Endrin aldehyde
6.271	0.000	200151	7.056	-0.000	294106	20.31	20.15	0.8	trans-Chlordane
6.417	0.000	197892	7.216	-0.000	285904	20.02	20.02	0.0	cis-Chlordane
2.324	0.000	260716	2.500	-0.000	346254	19.22	18.08	6.2	Hexachlorobutadiene
4.182	0.000	237746	4.718	-0.000	364913	19.78	19.88	0.5	Hexachlorobenzene
3.828	0.000	357836	4.220	-0.000	567647	39.13	40.07	2.4	Tetrachloro-m-xylene
9.355	0.000	239428	10.466	-0.001	327134	38.76	38.45	0.8	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

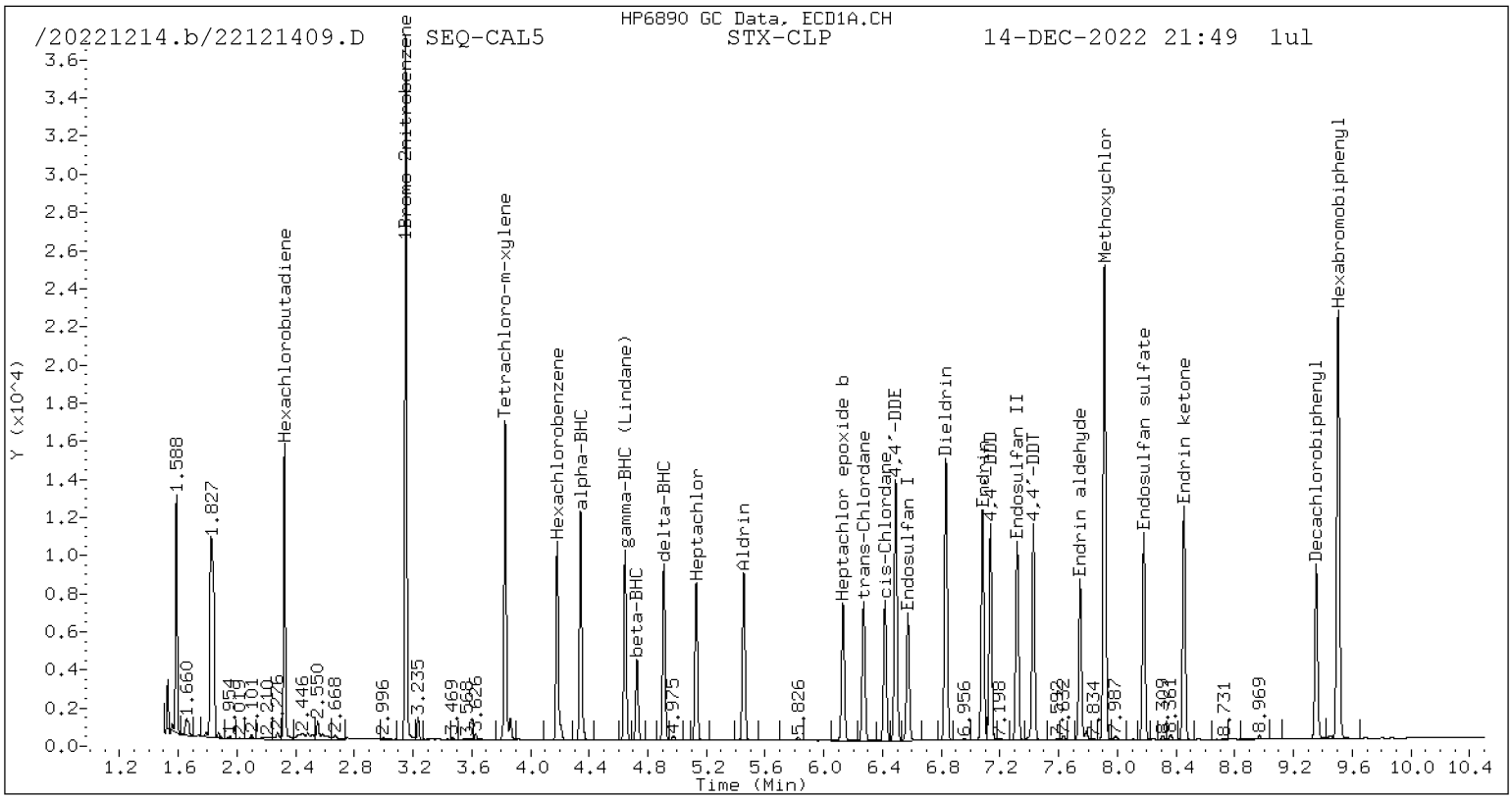
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	672426	672426	0.0
Hexabromobiphenyl	609723	609723	0.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1006482	1006482	0.0
Hexabromobiphenyl	769764	769764	0.0

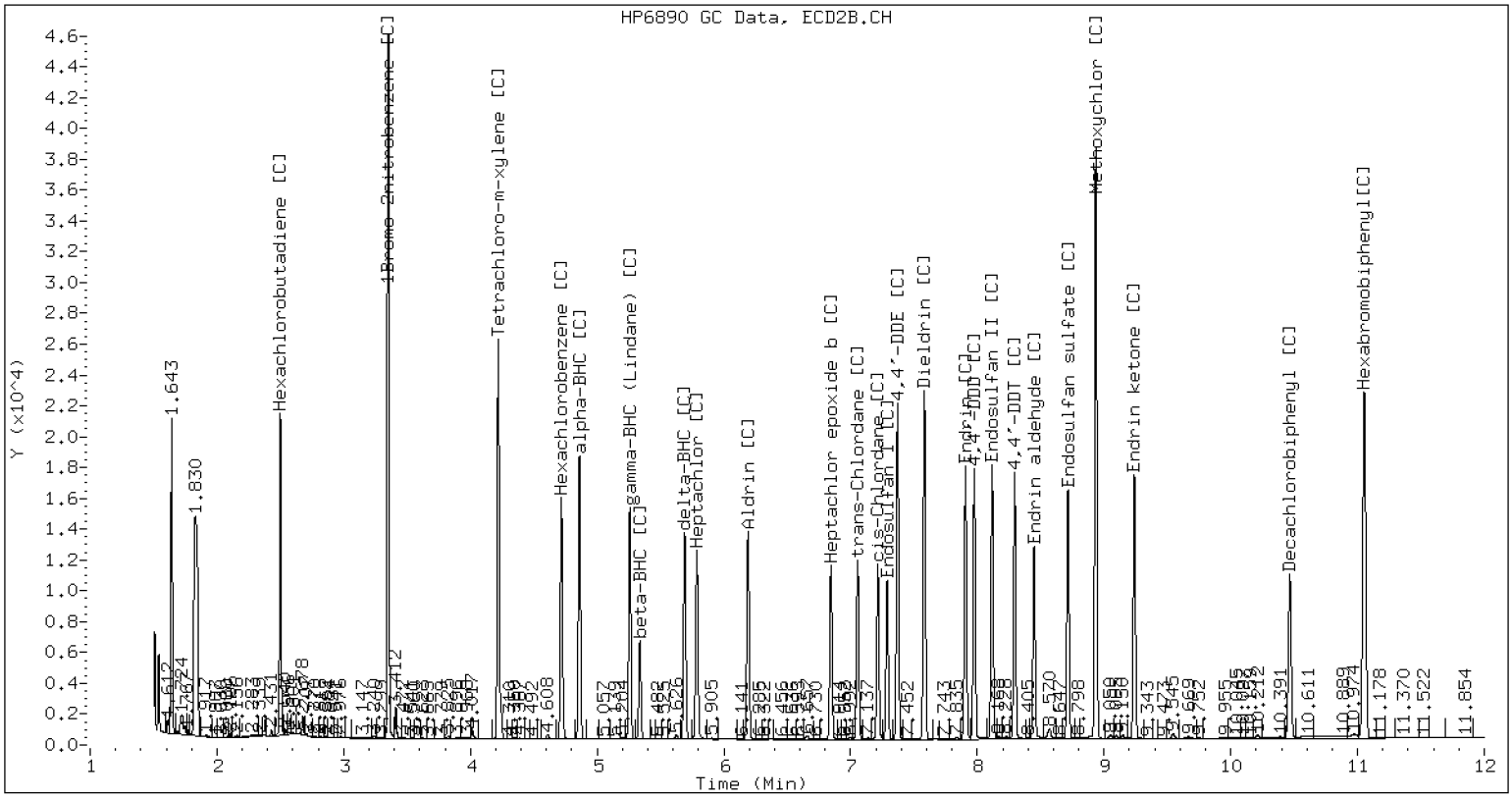
* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121409.D SEQ-CAL5 CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121409.D
Data file 2: /20221214.b/B20221214.b/22121409.D
Method: \20221214.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL5
Client ID:
Injection Date: 14-DEC-2022 21:49
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121410.D
Data file 2: /20221214.b/B20221214.b/22121410.D
Method: \20221214.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL6
Client ID:
Injection Date: 14-DEC-2022 22:07
Report Date: 12/16/2022 15:19
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.342	0.000	535902	4.860	-0.000	849533	39.69	40.30	1.5	alpha-BHC
4.726	0.000	198976	5.337	-0.000	311218	38.28	38.84	1.4	beta-BHC
4.910	0.000	440370	5.691	0.000	700464	39.91	40.34	1.1	delta-BHC
4.646	0.000	461905	5.258	0.000	718675	39.46	40.18	1.8	gamma-BHC (Lindane)
5.130	0.000	401672	5.787	0.000	639345	38.56	39.46	2.3	Heptachlor
5.454	0.000	458396	6.190	-0.000	720942	39.27	38.97	0.8	Aldrin
6.130	0.000	387273	6.846	0.000	586062	38.26	38.31	0.1	Heptachlor epoxide b
6.572	-0.000	354629	7.288	-0.001	519836	38.18	38.55	1.0	Endosulfan I
6.832	0.000	755708	7.582	-0.000	1126850	75.73	75.64	0.1	Dieldrin
6.489	0.000	698620	7.371	-0.000	1040947	75.40	76.19	1.0	4,4'-DDE
7.082	0.000	615481	7.907	-0.000	858461	74.19	74.98	1.1	Endrin
7.317	0.000	590923	8.117	-0.000	885035	79.12	75.41	4.8	Endosulfan II
7.136	0.000	565557	7.976	-0.000	842536	75.67	75.65	0.0	4,4'-DDD
8.179	-0.001	540557	8.715	0.000	782860	76.22	75.96	0.3	Endosulfan sulfate
7.427	0.000	577337	8.295	-0.000	820861	76.44	76.36	0.1	4,4'-DDT
7.912	-0.000	1204040	8.935	-0.001	1785262	359.75	375.30	4.2	Methoxychlor
8.453	-0.001	610387	9.239	-0.000	843646	75.13	75.79	0.9	Endrin ketone
7.746	-0.000	452325	8.448	0.000	622287	75.93	75.17	1.0	Endrin aldehyde
6.271	0.000	395598	7.056	-0.000	591899	38.48	38.80	0.8	trans-Chlordane
6.417	0.001	389712	7.215	-0.000	573103	37.80	38.40	1.6	cis-Chlordane
2.324	0.000	511265	2.500	-0.000	705320	36.14	35.24	2.5	Hexachlorobutadiene
4.183	0.001	472841	4.718	0.000	728846	37.72	37.99	0.7	Hexachlorobenzene
3.828	-0.000	714634	4.221	0.000	1124106	74.93	75.93	1.3	Tetrachloro-m-xylene
9.355	-0.000	468280	10.466	-0.001	645336	73.03	72.51	0.7	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

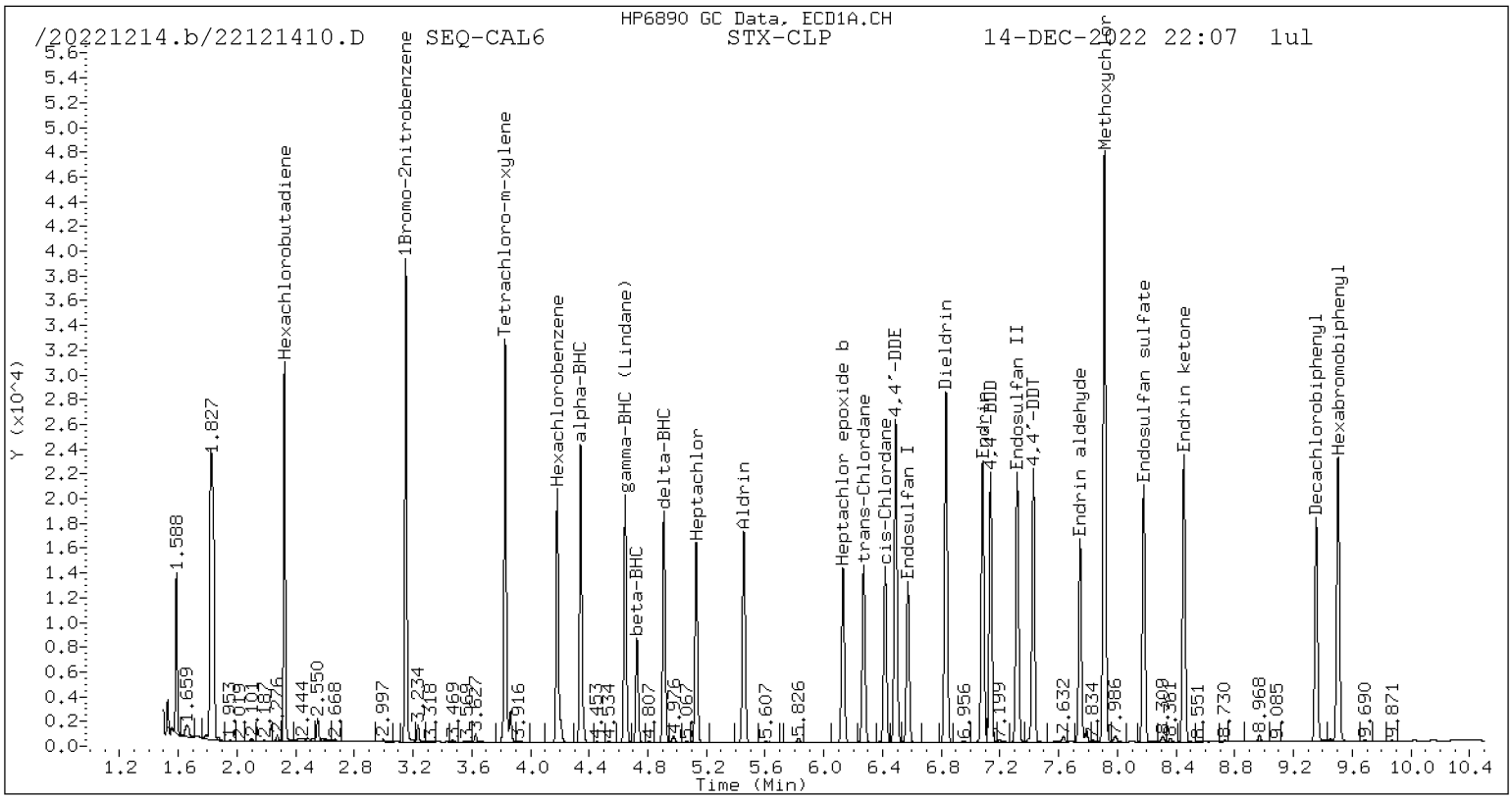
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	701342	-1.3
Hexabromobiphenyl	641833	632821	-1.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	1051766	-0.7
Hexabromobiphenyl	797125	805268	1.0

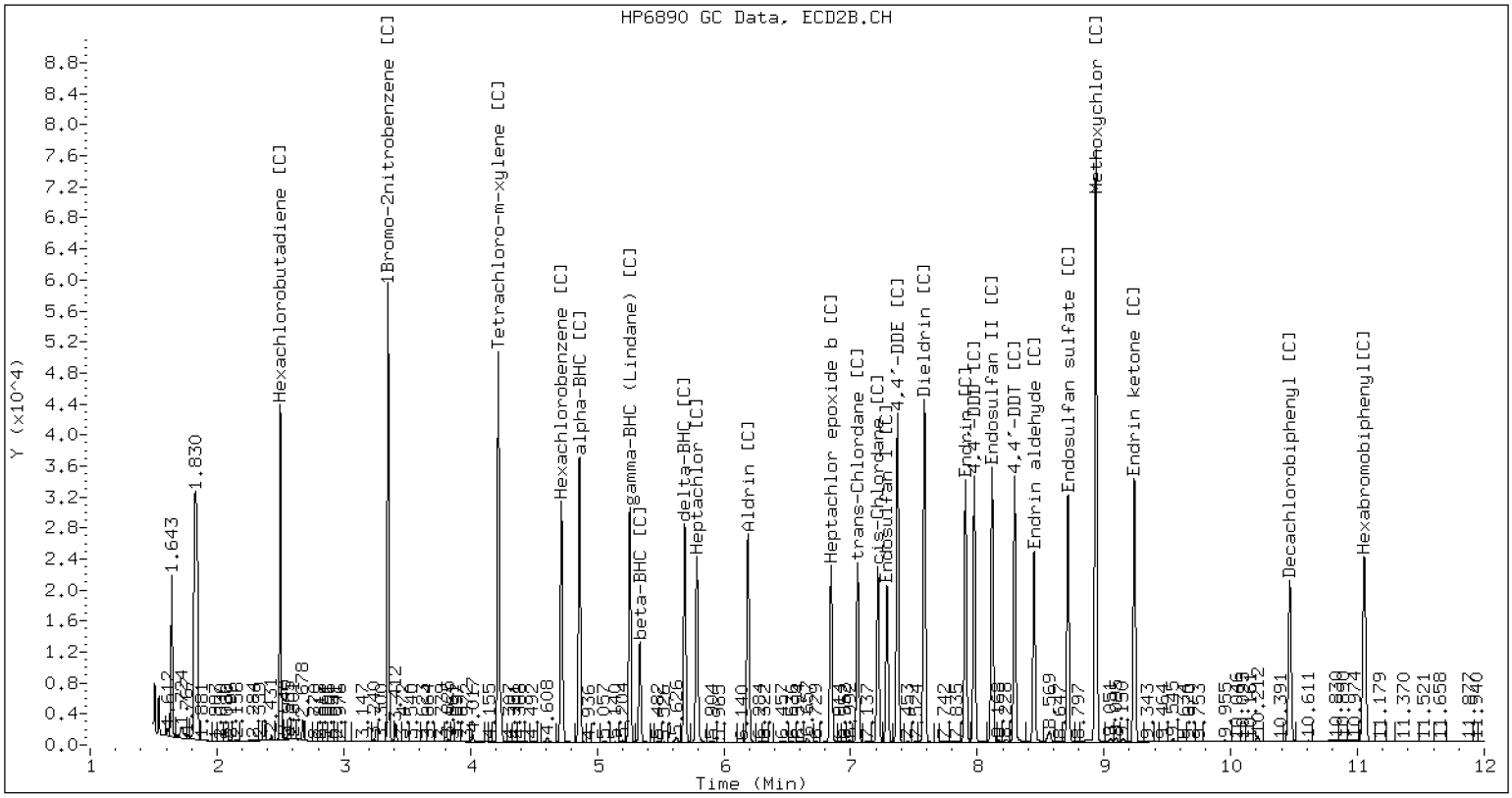
* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121410.D SEQ-CAL6 CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121410.D
Data file 2: /20221214.b/B20221214.b/22121410.D
Method: \20221214.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL6
Client ID:
Injection Date: 14-DEC-2022 22:07
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121411.D
Data file 2: /20221214.b/B20221214.b/22121411.D
Method: \20221214.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL7
Client ID:
Injection Date: 14-DEC-2022 22:25
Report Date: 12/16/2022 15:19
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.342	0.000	1012605	4.861	0.000	1623058	75.30	77.94	3.4	alpha-BHC
4.726	0.000	371916	5.337	0.000	586390	71.84	74.06	3.1	beta-BHC
4.910	0.000	837966	5.691	0.000	1343533	76.25	78.32	2.7	delta-BHC
4.645	-0.000	870454	5.258	0.000	1370551	74.66	77.55	3.8	gamma-BHC (Lindane)
5.130	0.000	743802	5.787	0.000	1188915	71.70	74.26	3.5	Heptachlor
5.454	0.000	841598	6.191	0.000	1331430	72.39	72.84	0.6	Aldrin
6.130	-0.000	709774	6.845	0.000	1087105	70.41	71.92	2.1	Heptachlor epoxide b
6.573	0.000	652702	7.289	0.000	969098	70.56	72.74	3.1	Endosulfan I
6.832	0.000	1390496	7.583	0.000	2118555	139.91	143.93	2.8	Dieldrin
6.490	0.001	1284777	7.371	0.000	1944530	139.23	144.06	3.4	4,4'-DDE
7.082	0.001	1132487	7.907	0.000	1618631	137.86	142.60	3.4	Endrin
7.317	0.000	1089554	8.117	0.000	1672946	147.33	143.79	2.4	Endosulfan II
7.135	0.000	1051958	7.976	0.000	1606815	142.14	145.53	2.4	4,4'-DDD
8.180	0.000	1013288	8.715	0.000	1496440	144.30	146.47	1.5	Endosulfan sulfate
7.428	0.001	1086138	8.295	0.000	1586078	145.23	148.84	2.5	4,4'-DDT
7.912	0.001	2325261	8.936	0.000	3541650	701.64	751.02	6.8	Methoxychlor
8.454	0.000	1146784	9.240	0.000	1623077	142.56	147.08	3.1	Endrin ketone
7.746	-0.000	846477	8.448	0.000	1178353	143.51	143.57	0.0	Endrin aldehyde
6.271	0.000	733514	7.056	0.000	1114685	71.64	73.95	3.2	trans-Chlordane
6.417	0.001	723886	7.216	0.000	1079255	70.50	73.19	3.7	cis-Chlordane
2.324	0.000	955982	2.501	0.000	1351745	67.86	68.35	0.7	Hexachlorobutadiene
4.182	0.000	879573	4.718	0.000	1355289	70.45	71.51	1.5	Hexachlorobenzene
3.828	0.000	1318381	4.220	0.000	2067539	138.79	141.35	1.8	Tetrachloro-m-xylene
9.356	0.000	878340	10.467	0.000	1231298	138.34	139.55	0.9	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

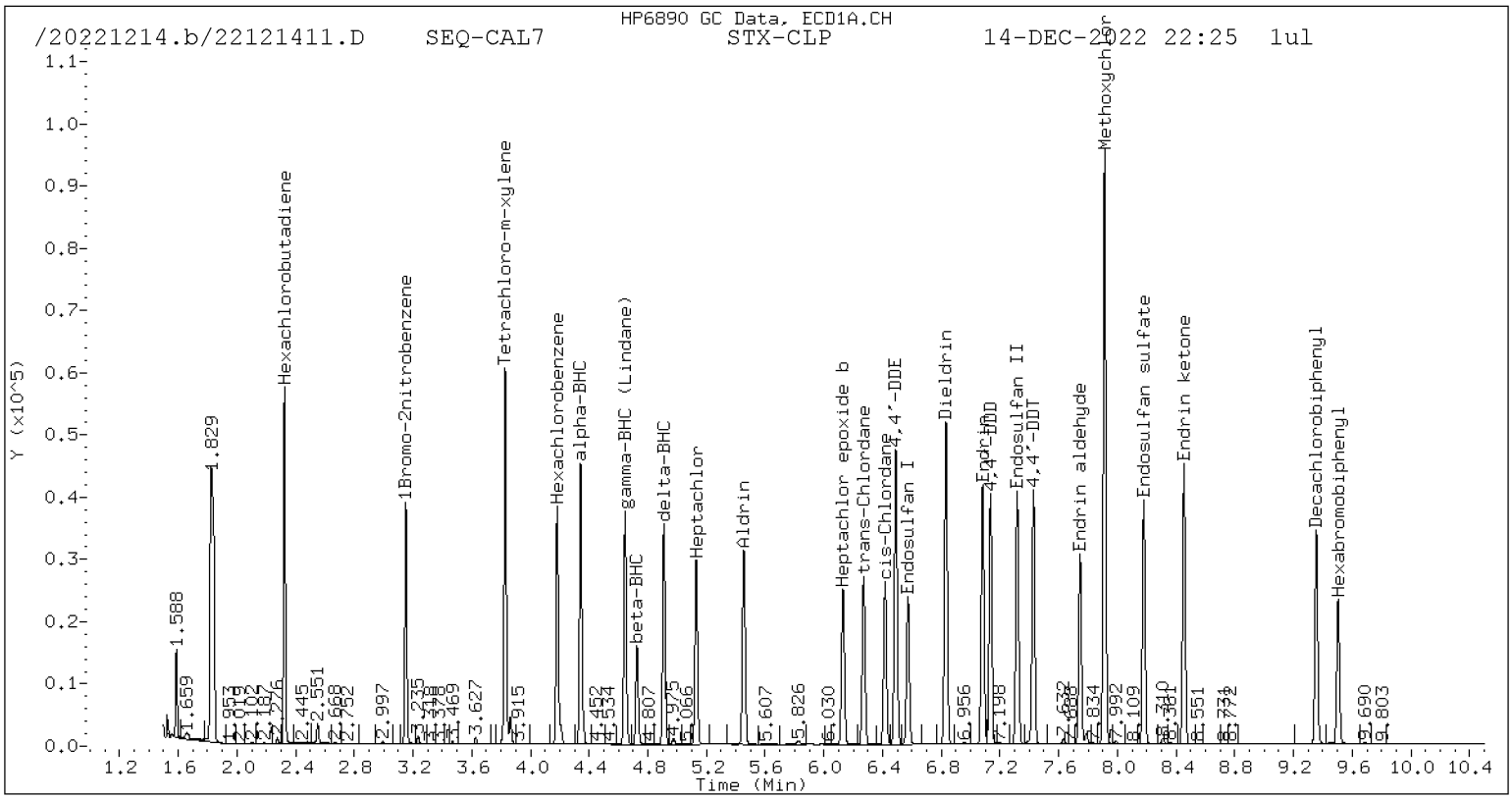
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	698499	-1.7
Hexabromobiphenyl	641833	626605	-2.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	1039154	-1.9
Hexabromobiphenyl	797125	798313	0.1

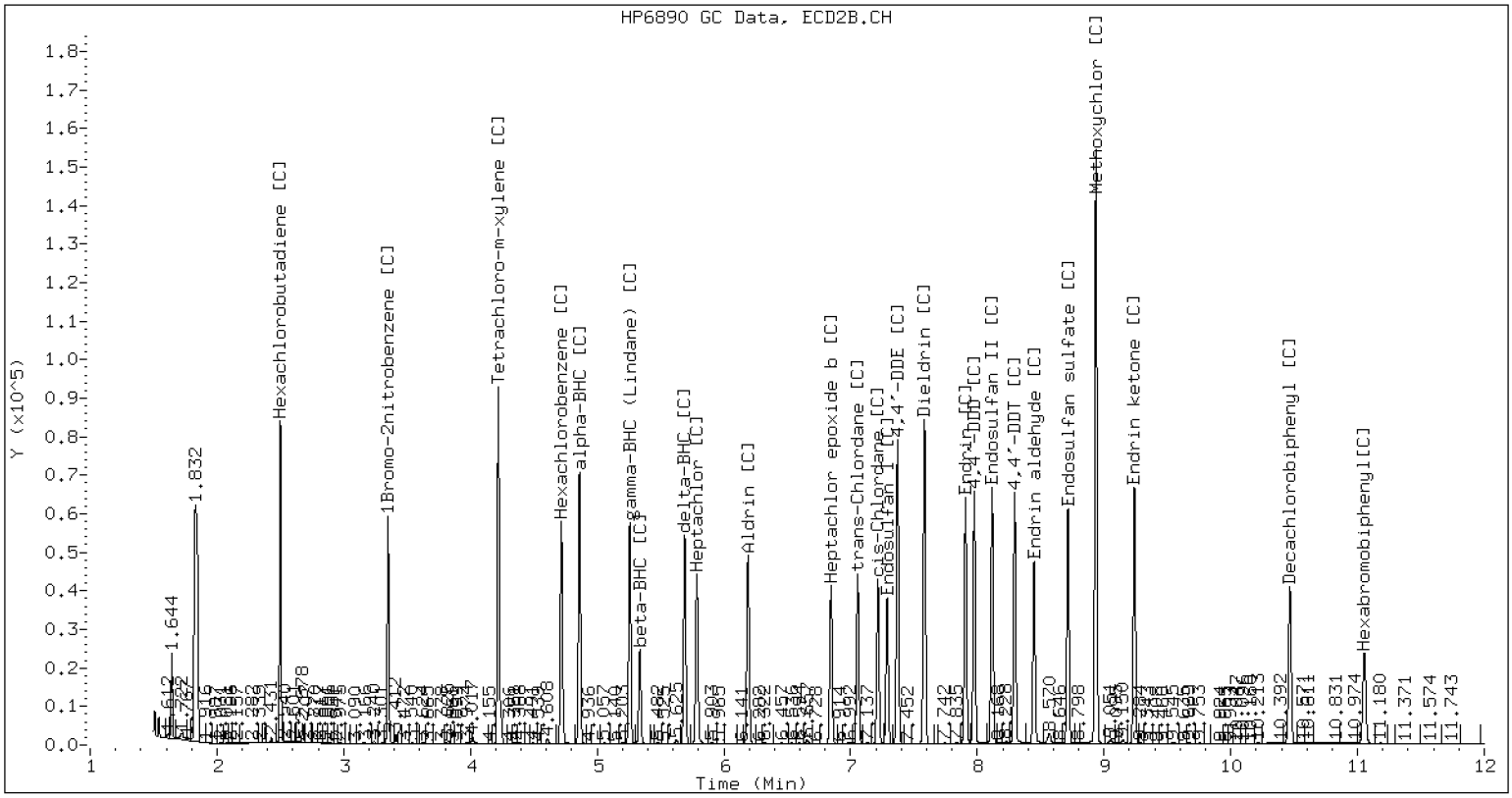
* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121411.D SEQ-CAL7 CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121411.D
Data file 2: /20221214.b/B20221214.b/22121411.D
Method: \20221214.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL7
Client ID:
Injection Date: 14-DEC-2022 22:25
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121412.D
Data file 2: /20221214.b/B20221214.b/22121412.D
Method: \20221214.b\PEST.m
Compound Sublist: WND.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL8
Client ID:
Injection Date: 14-DEC-2022 22:43
Report Date: 12/16/2022 15:19
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
6.014	-0.000	22184	6.741	-0.000	34211	2.89	2.85	1.2	Oxychlordane
6.106	-0.000	18661	7.036	-0.000	30817	2.94	3.14	6.5	2,4-DDE
6.397	-0.000	30616	7.154	-0.001	41466	3.05	2.82	7.5	trans-Nonachlor
6.681	0.000	16263	7.591	0.000	26177	2.88	3.12	7.9	2,4-DDD
6.956	-0.001	17569	7.913	-0.000	24398	2.88	2.82	2.1	2,4-DDT
7.112	-0.000	29417	7.975	-0.000	37972	3.01	2.72	9.9	cis-Nonachlor
8.082	-0.000	18819	9.223	-0.000	24312	3.09	3.00	3.1	Mirex
----			----			0.00	0.00	---	Tetrachloro-m-xylene
----			----			0.00	0.00	---	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

˜ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

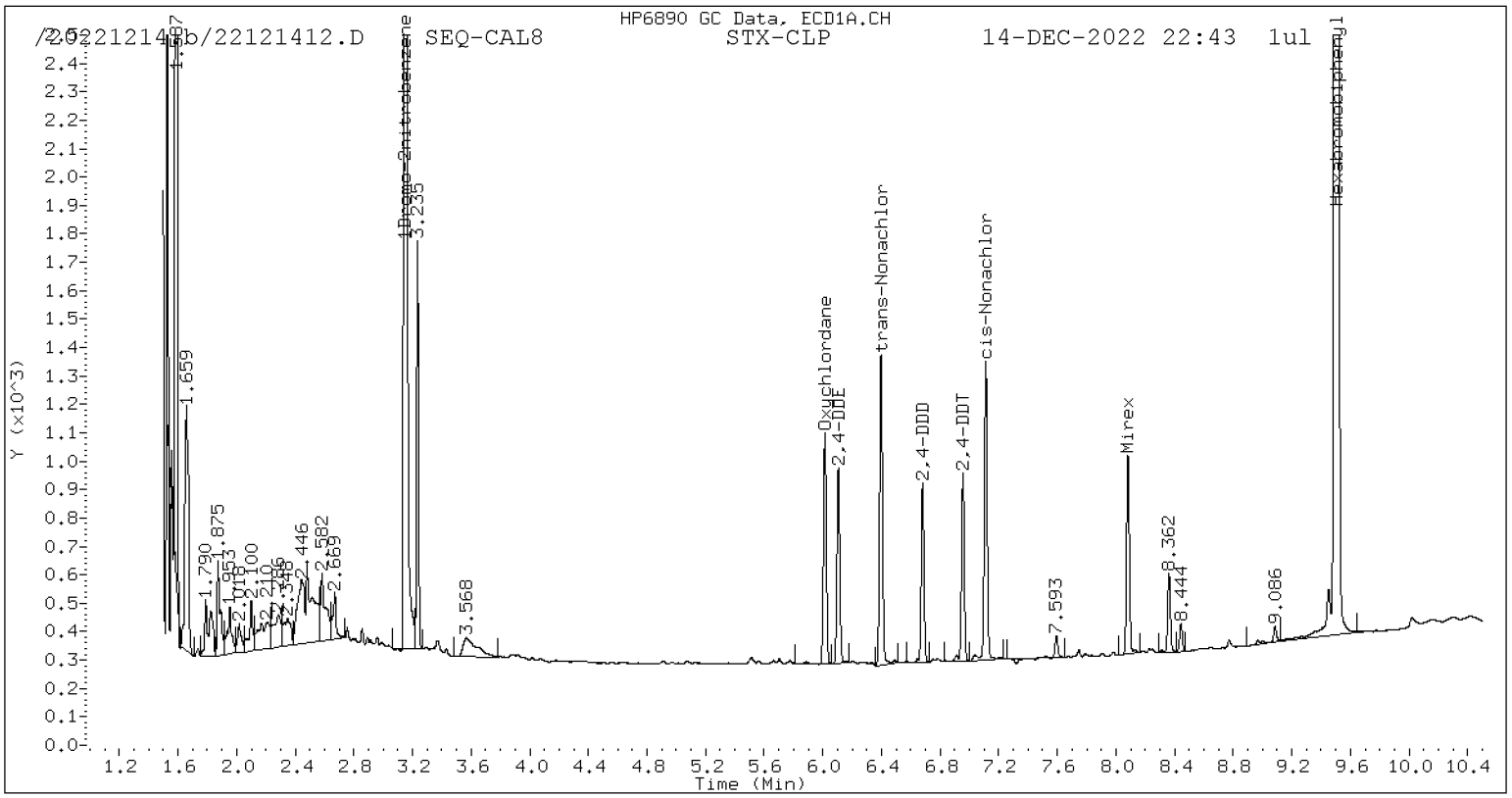
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	713898	0.5
Hexabromobiphenyl	641833	646441	0.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	1076864	1.7
Hexabromobiphenyl	797125	820275	2.9

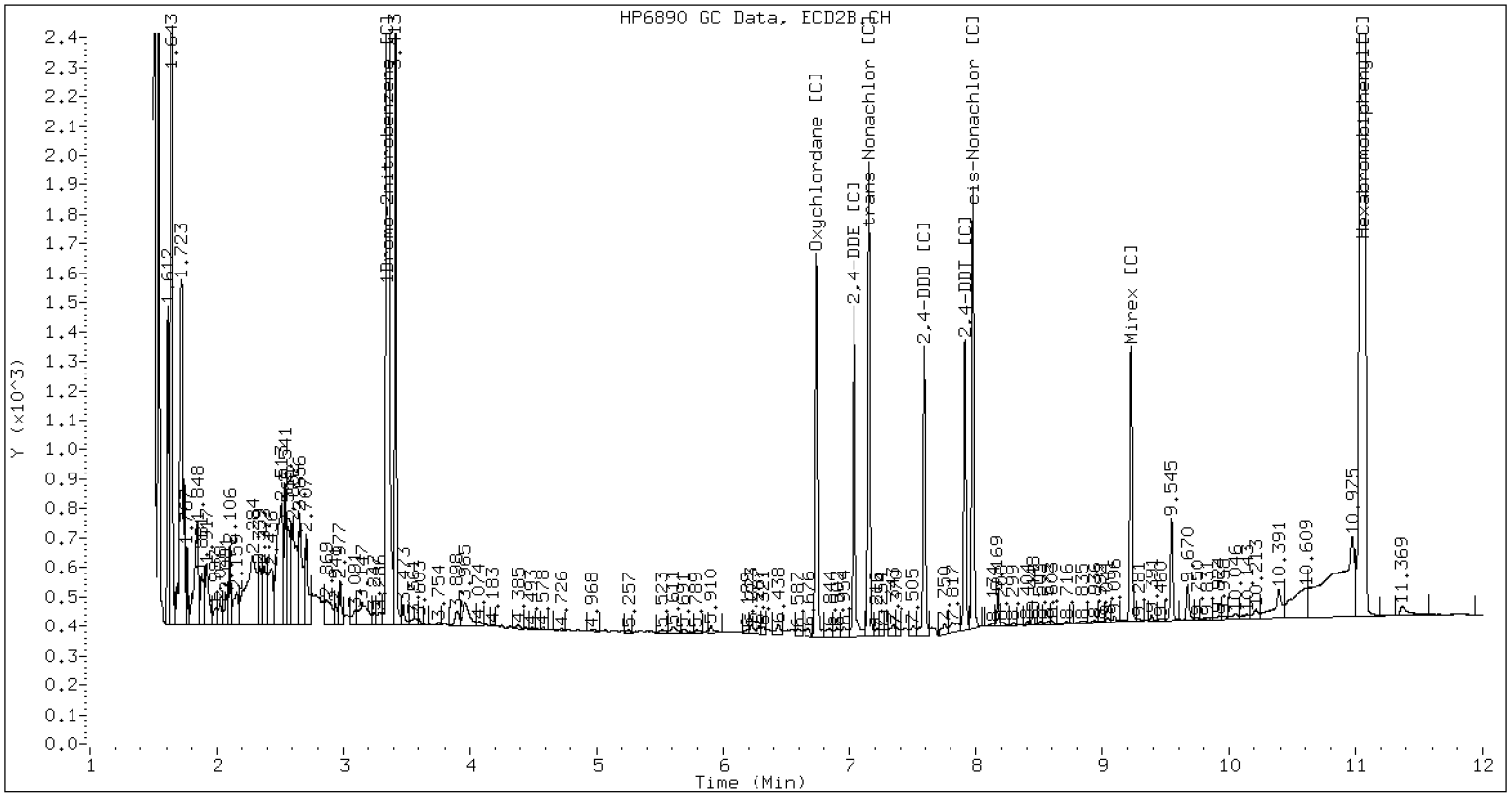
* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121412.D SEQ-CAL8 CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121412.D
Data file 2: /20221214.b/B20221214.b/22121412.D
Method: \20221214.b\PEST.m
Compound Sublist: WND.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL8
Client ID:
Injection Date: 14-DEC-2022 22:43
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121413.D
Data file 2: /20221214.b/B20221214.b/22121413.D
Method: \20221214.b\PEST.m
Compound Sublist: WND.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL9
Client ID:
Injection Date: 14-DEC-2022 23:01
Report Date: 12/16/2022 15:19
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
6.015	0.000	39121	6.741	-0.000	61505	5.34	5.41	1.3	Oxychlordane
6.106	0.000	33487	7.036	-0.000	53206	5.54	5.72	3.1	2,4-DDE
6.398	0.000	51858	7.154	-0.001	72836	5.42	5.20	4.1	trans-Nonachlor
6.681	0.000	29307	7.590	-0.000	44506	5.45	5.55	1.9	2,4-DDD
6.957	-0.000	31530	7.914	0.000	45986	5.43	5.57	2.6	2,4-DDT
7.112	-0.000	50912	7.975	0.000	70898	5.46	5.32	2.6	cis-Nonachlor
8.082	-0.000	32004	9.223	-0.000	45650	5.52	5.89	6.6	Mirex
----			----			0.00	0.00	---	Tetrachloro-m-xylene
----			----			0.00	0.00	---	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

˜ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

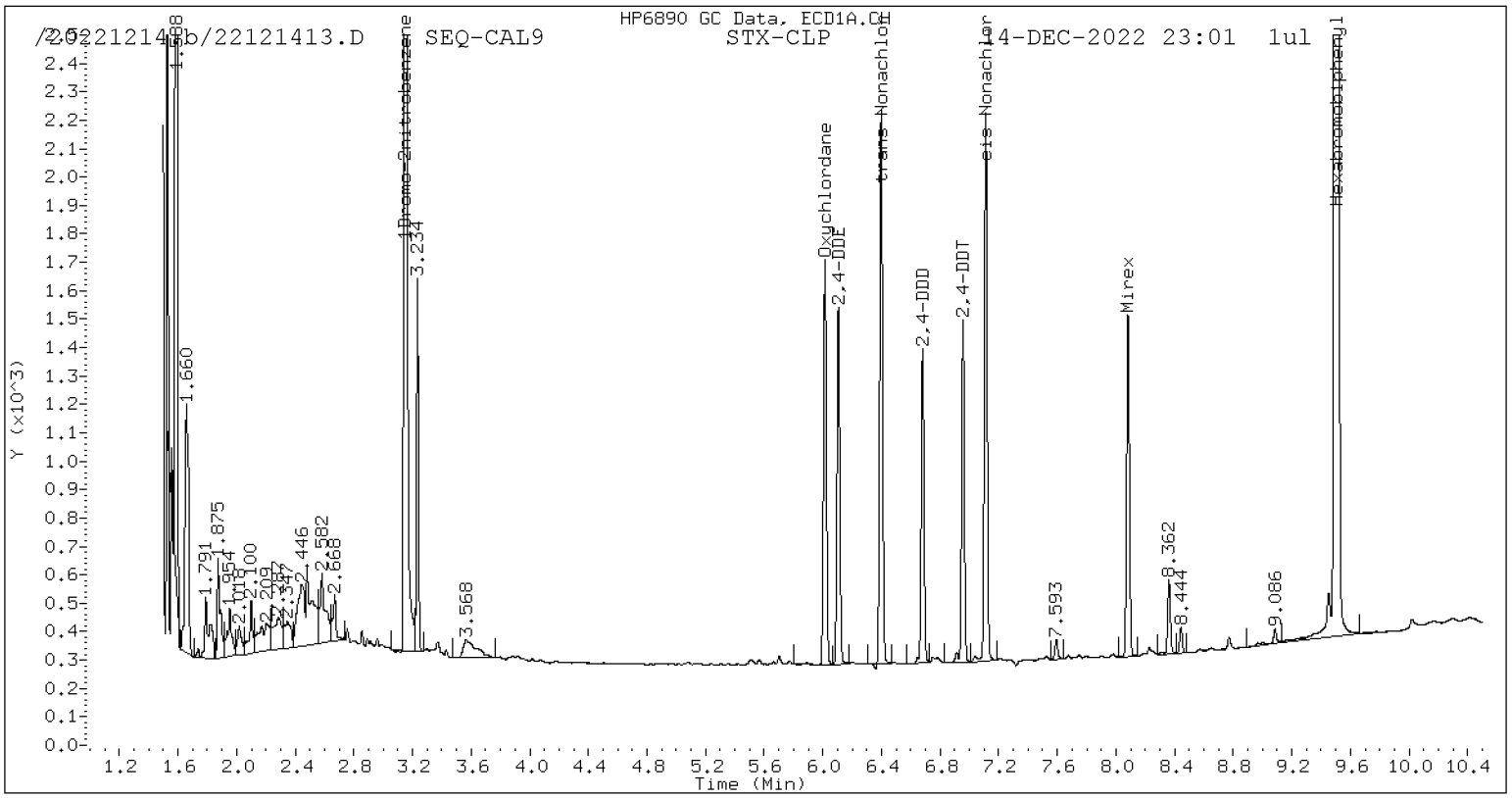
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	672507	-5.4
Hexabromobiphenyl	641833	615627	-4.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	1020334	-3.6
Hexabromobiphenyl	797125	782734	-1.8

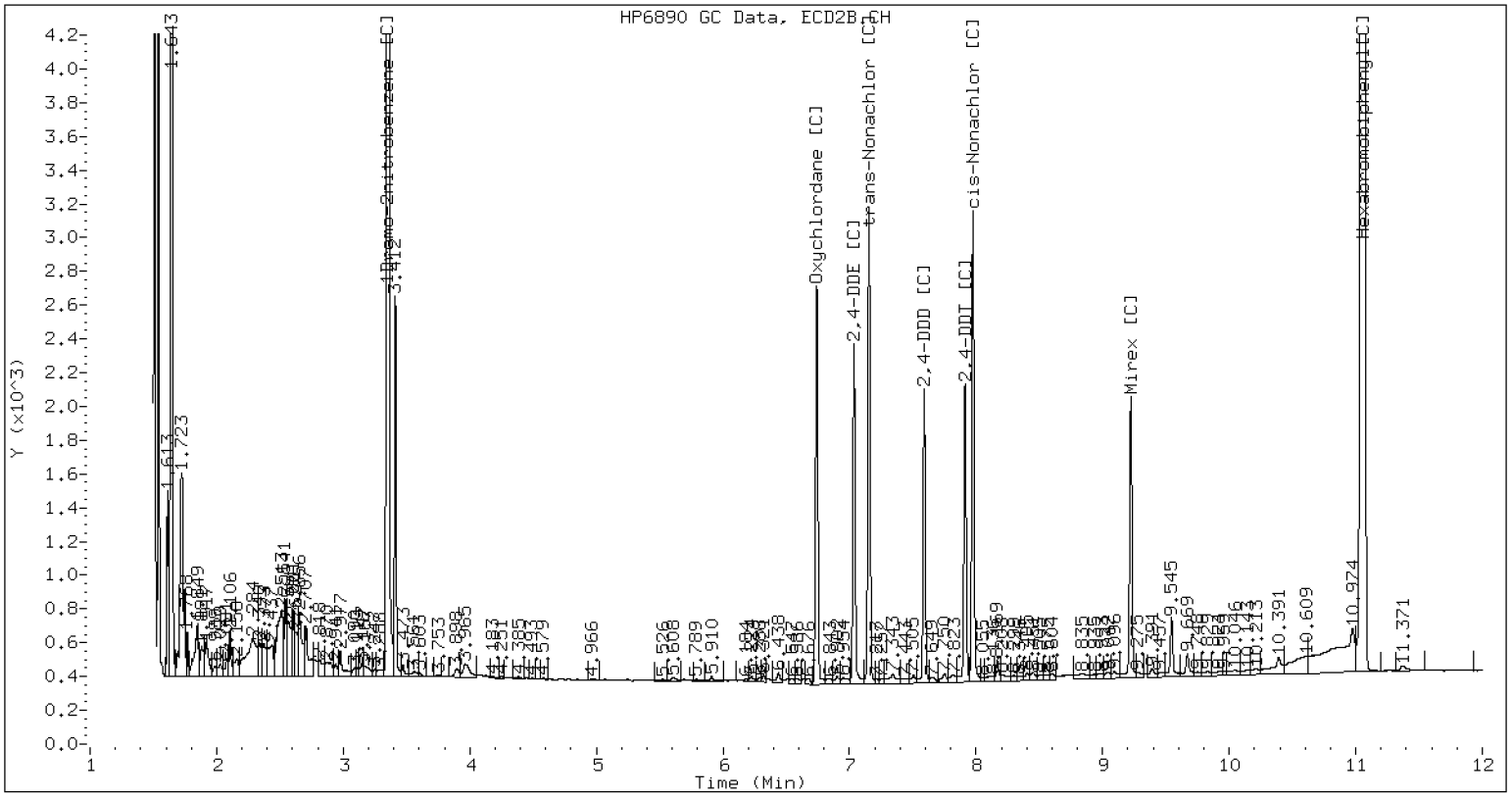
* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121413.D SEQ-CAL9 CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121413.D
Data file 2: /20221214.b/B20221214.b/22121413.D
Method: \20221214.b\PEST.m
Compound Sublist: WND.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL9
Client ID:
Injection Date: 14-DEC-2022 23:01
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121414.D
Data file 2: /20221214.b/B20221214.b/22121414.D
Method: \20221214.b\PEST.m
Compound Sublist: WND.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CALA
Client ID:
Injection Date: 14-DEC-2022 23:19
Report Date: 12/16/2022 15:19
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
6.014	-0.000	82473	6.741	-0.001	127500	10.63	10.63	0.0	Oxychlordane
6.106	-0.000	69109	7.035	-0.001	108440	10.79	11.04	2.3	2,4-DDE
6.398	0.000	108386	7.154	-0.001	157712	10.68	10.60	0.7	trans-Nonachlor
6.681	0.000	60517	7.590	-0.000	91420	10.62	10.74	1.2	2,4-DDD
6.956	-0.001	65300	7.913	0.000	91498	10.61	10.44	1.6	2,4-DDT
7.111	-0.001	104247	7.975	-0.000	146224	10.55	10.34	2.0	cis-Nonachlor
8.082	-0.000	65614	9.222	-0.000	84337	10.67	10.25	4.0	Mirex
----			----			0.00	0.00	---	Tetrachloro-m-xylene
----			----			0.00	0.00	---	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

˜ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

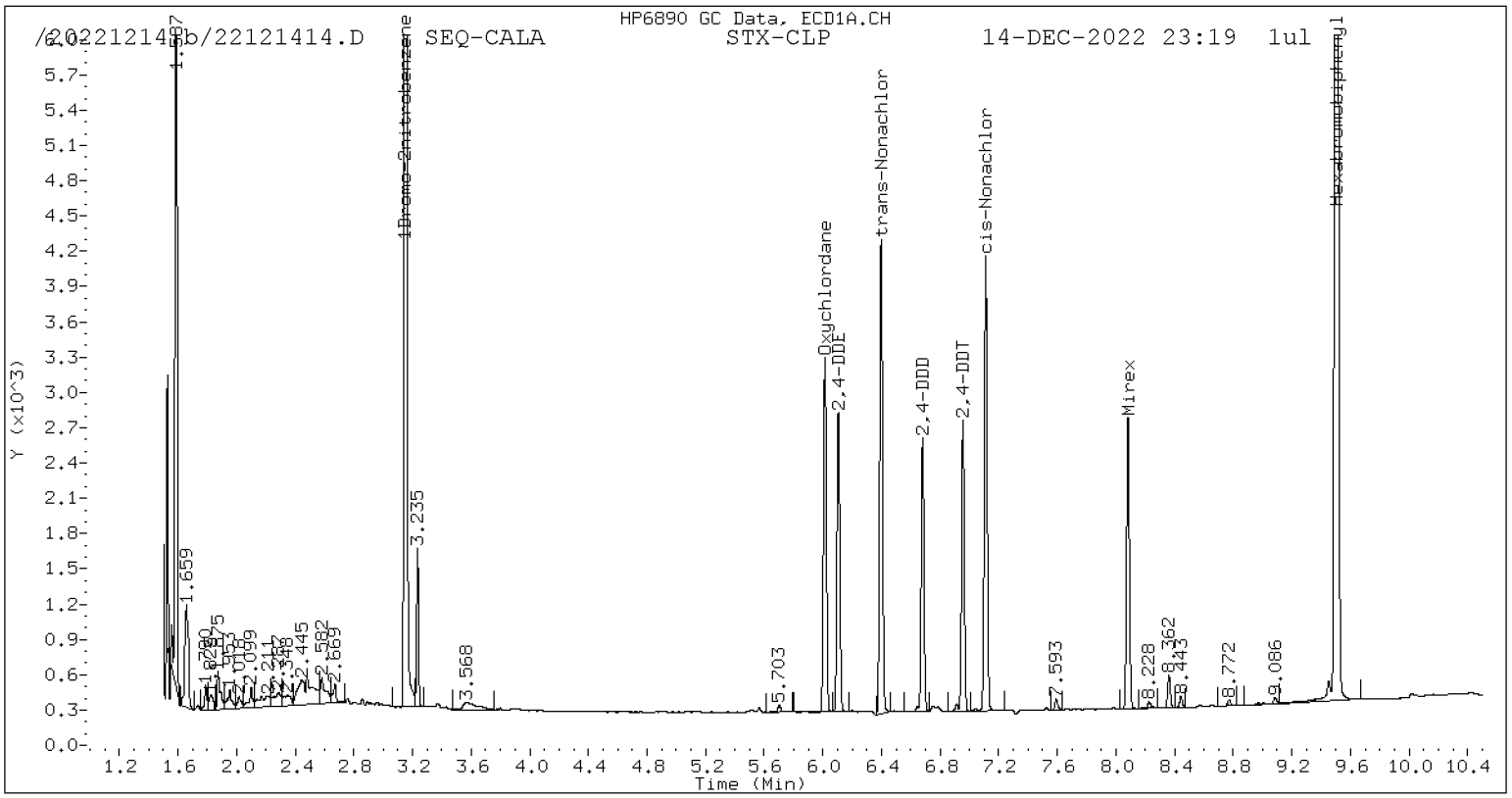
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	712122	0.2
Hexabromobiphenyl	641833	652595	1.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	1077341	1.7
Hexabromobiphenyl	797125	831365	4.3

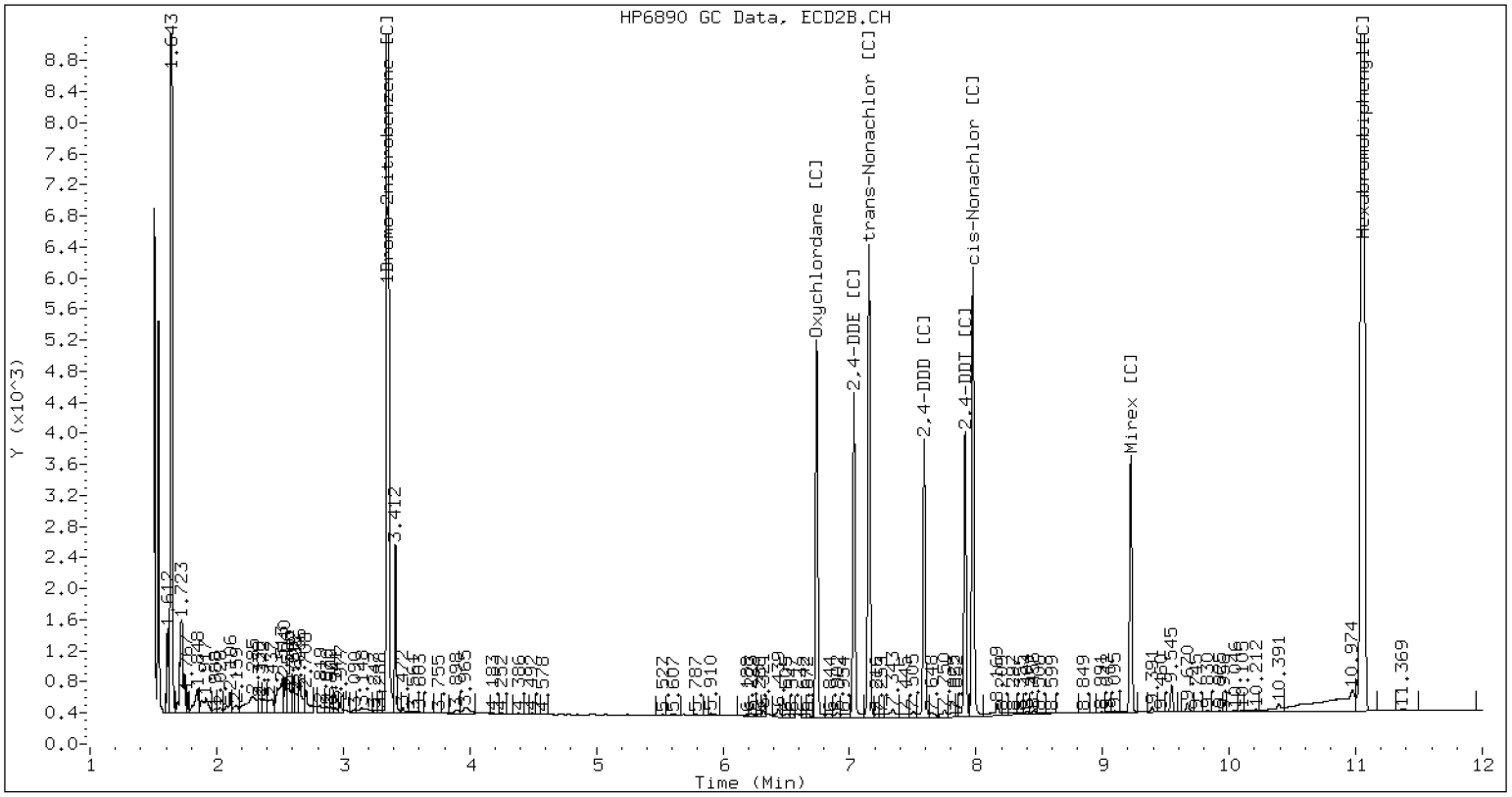
* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121414.D SEQ-CALA CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121414.D
Data file 2: /20221214.b/B20221214.b/22121414.D
Method: \20221214.b\PEST.m
Compound Sublist: WND.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CALA
Client ID:
Injection Date: 14-DEC-2022 23:19
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121415.D
Data file 2: /20221214.b/B20221214.b/22121415.D
Method: \20221214.b\PEST.m
Compound Sublist: WND.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CALB
Client ID:
Injection Date: 14-DEC-2022 23:36
Report Date: 12/16/2022 15:19
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
6.015	0.001	154379	6.741	-0.000	238017	20.80	20.28	2.5	Oxychlordane
6.106	-0.000	128483	7.036	-0.000	195807	20.97	20.37	2.9	2,4-DDE
6.398	0.000	200622	7.155	-0.000	289952	20.66	20.28	1.9	trans-Nonachlor
6.681	0.000	113972	7.591	0.000	165245	20.90	20.21	3.4	2,4-DDD
6.956	-0.001	122412	7.913	0.000	169814	20.78	20.17	3.0	2,4-DDT
7.112	-0.000	194165	7.975	-0.000	274910	20.54	20.23	1.5	cis-Nonachlor
8.082	-0.000	119271	9.223	0.000	158702	20.28	20.08	1.0	Mirex
----			----			0.00	0.00	---	Tetrachloro-m-xylene
----			----			0.00	0.00	---	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

˜ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

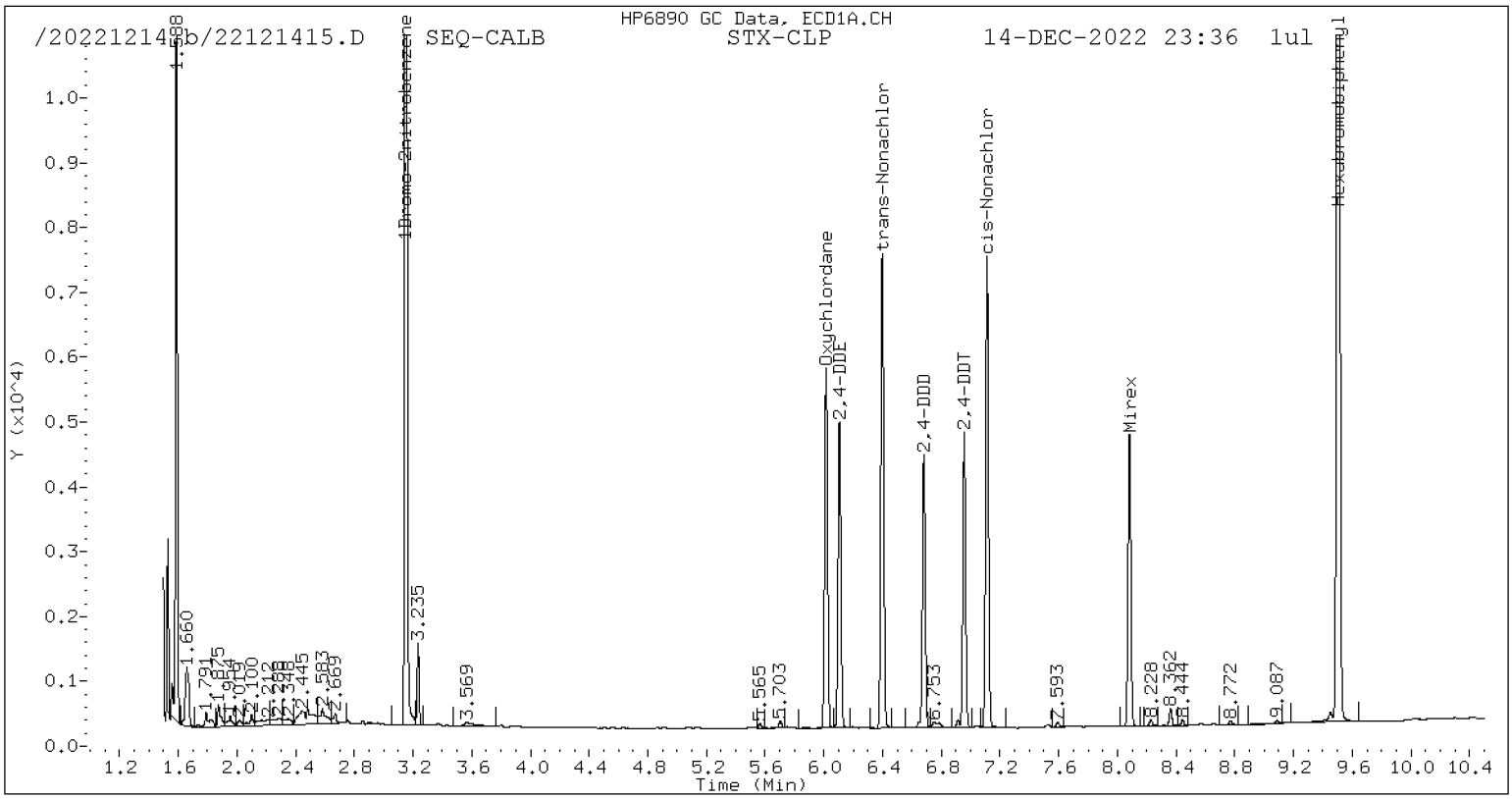
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	693450	-2.4
Hexabromobiphenyl	641833	624334	-2.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	1053959	-0.5
Hexabromobiphenyl	797125	798882	0.2

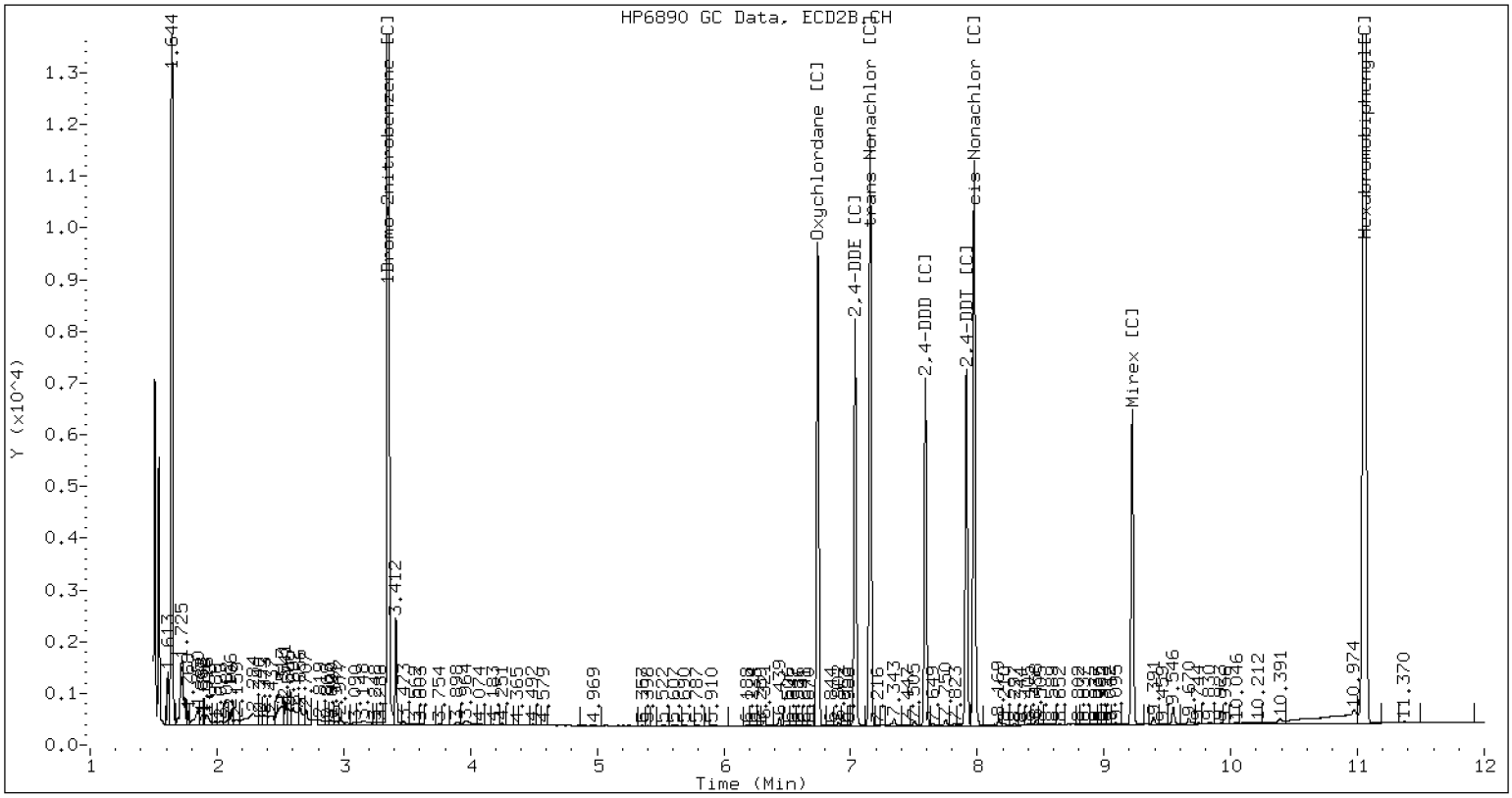
* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121415.D SEQ-CALB CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121415.D
Data file 2: /20221214.b/B20221214.b/22121415.D
Method: \20221214.b\PEST.m
Compound Sublist: WND.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CALB
Client ID:
Injection Date: 14-DEC-2022 23:36
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121416.D
Data file 2: /20221214.b/B20221214.b/22121416.D
Method: \20221214.b\PEST.m
Compound Sublist: WND.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CALC
Client ID:
Injection Date: 14-DEC-2022 23:54
Report Date: 12/16/2022 15:19
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
6.014	0.000	292499	6.741	-0.000	460731	40.08	40.26	0.4	Oxychlordane
6.106	0.000	242066	7.036	-0.000	372996	40.18	39.80	0.9	2,4-DDE
6.397	0.000	383329	7.154	-0.001	567971	40.16	40.45	0.7	trans-Nonachlor
6.681	0.000	216474	7.590	-0.000	320311	40.39	39.88	1.3	2,4-DDD
6.957	0.000	233738	7.913	-0.000	332906	40.36	40.25	0.3	2,4-DDT
7.112	0.000	373705	7.975	-0.000	538334	40.21	40.33	0.3	cis-Nonachlor
8.082	0.000	229604	9.222	-0.000	299228	39.71	38.54	3.0	Mirex
3.800	-0.028	1151	----			0.13	0.00	---	Tetrachloro-m-xylene
----			----			0.00	0.00	---	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

˜ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

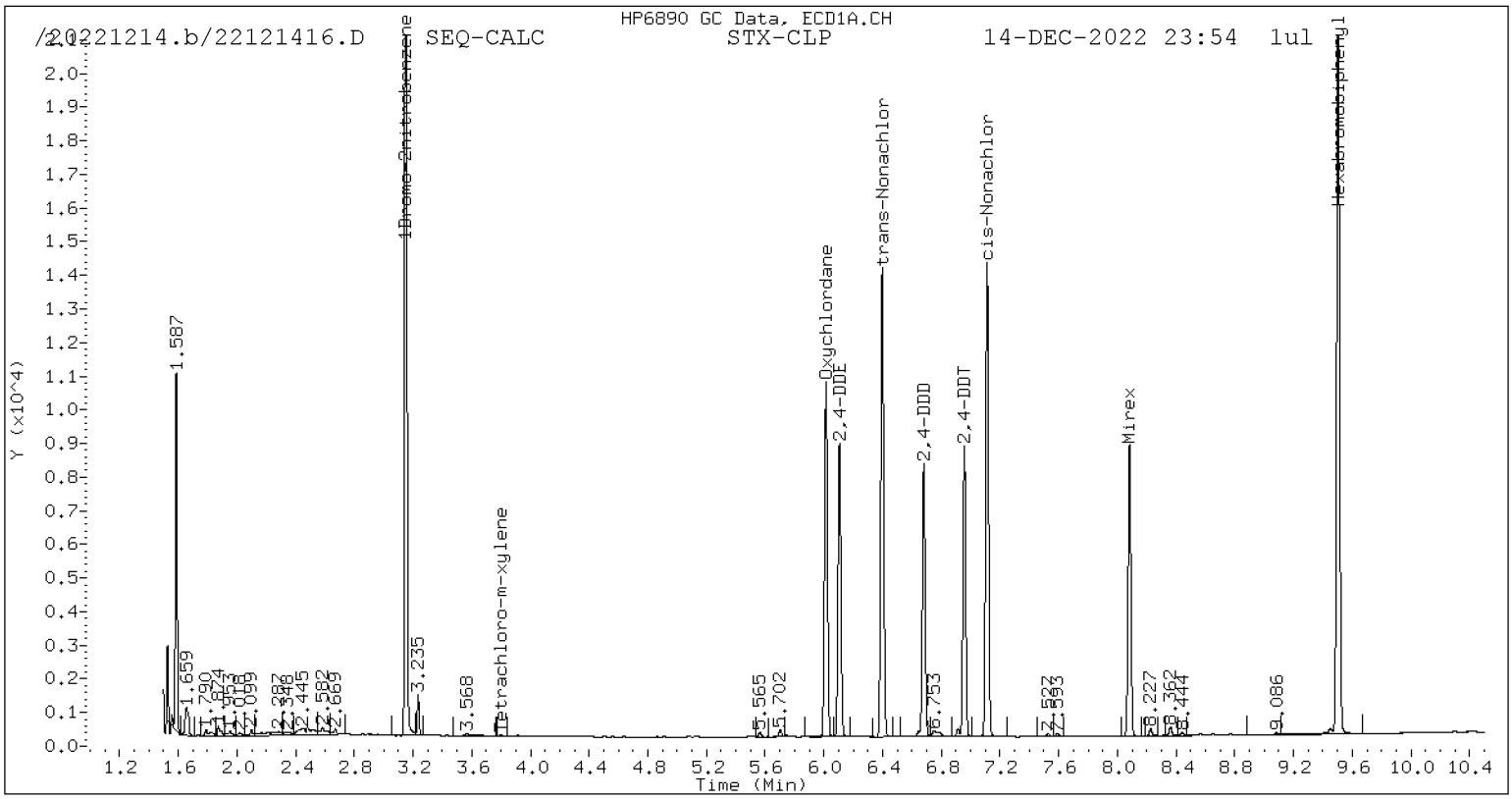
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	674573	-5.1
Hexabromobiphenyl	641833	613787	-4.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	1027697	-2.9
Hexabromobiphenyl	797125	784673	-1.6

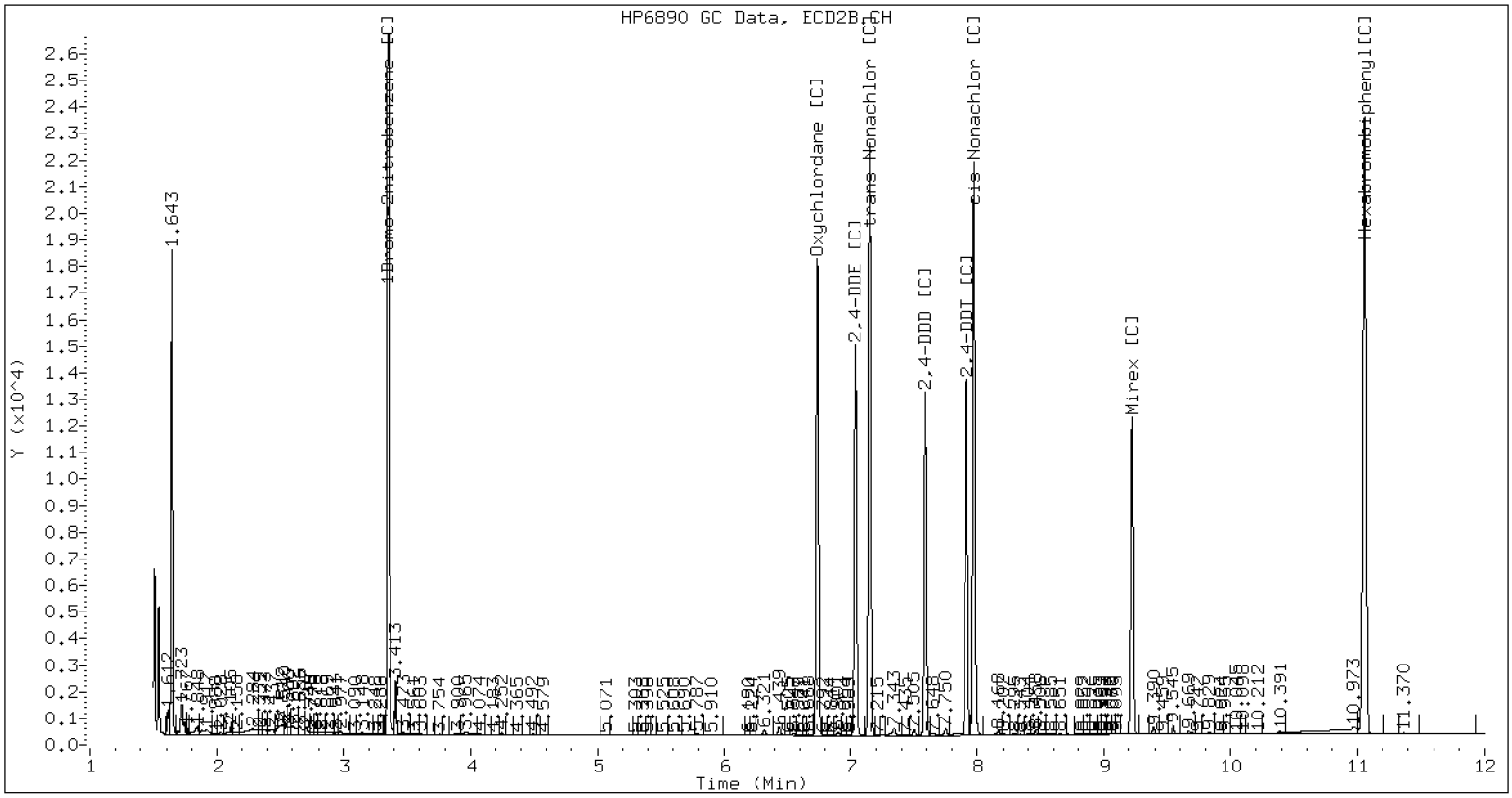
* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121416.D SEQ-CALC CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121416.D
Data file 2: /20221214.b/B20221214.b/22121416.D
Method: \20221214.b\PEST.m
Compound Sublist: WND.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CALC
Client ID:
Injection Date: 14-DEC-2022 23:54
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121417.D
Data file 2: /20221214.b/B20221214.b/22121417.D
Method: \20221214.b\PEST.m
Compound Sublist: WND.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CALD
Client ID:
Injection Date: 15-DEC-2022 00:12
Report Date: 12/16/2022 15:19
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
6.014	-0.000	544254	6.741	-0.000	856443	75.85	75.73	0.2	Oxychlordane
6.106	-0.000	438313	7.036	-0.000	677072	73.99	73.11	1.2	2,4-DDE
6.397	-0.000	704675	7.155	0.000	1067899	75.09	76.94	2.4	trans-Nonachlor
6.681	0.000	393654	7.591	0.000	594311	74.70	74.86	0.2	2,4-DDD
6.956	-0.001	430636	7.914	0.000	618740	75.63	75.68	0.1	2,4-DDT
7.112	-0.000	688257	7.975	0.000	1018624	75.31	77.19	2.5	cis-Nonachlor
8.082	-0.001	426177	9.223	0.000	573947	74.97	74.78	0.2	Mirex
3.800	-0.028	2109	----			0.23	0.00	---	Tetrachloro-m-xylene
----			----			0.00	0.00	---	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

˜ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

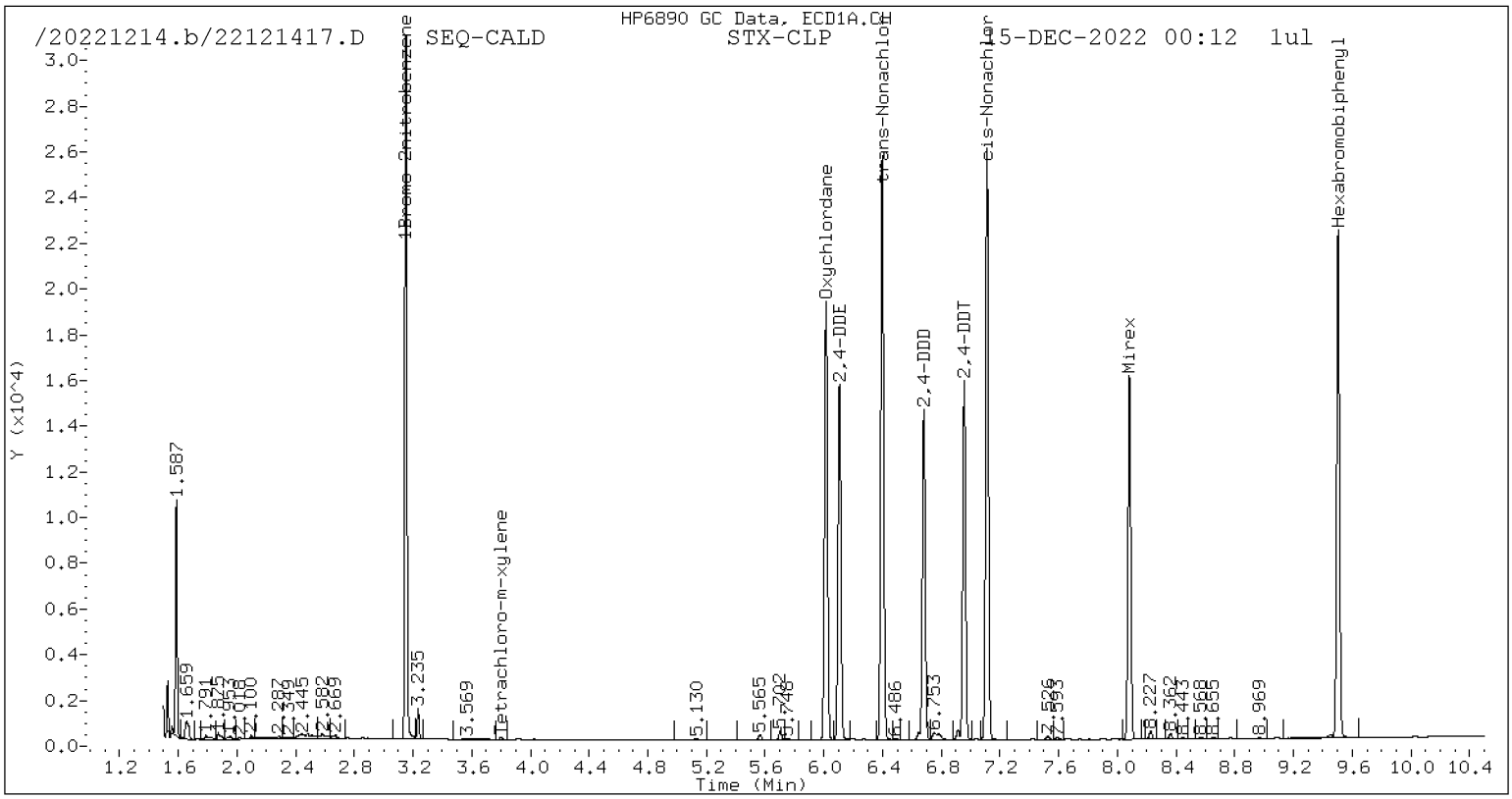
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	664375	-6.5
Hexabromobiphenyl	641833	603504	-6.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	1015544	-4.1
Hexabromobiphenyl	797125	775630	-2.7

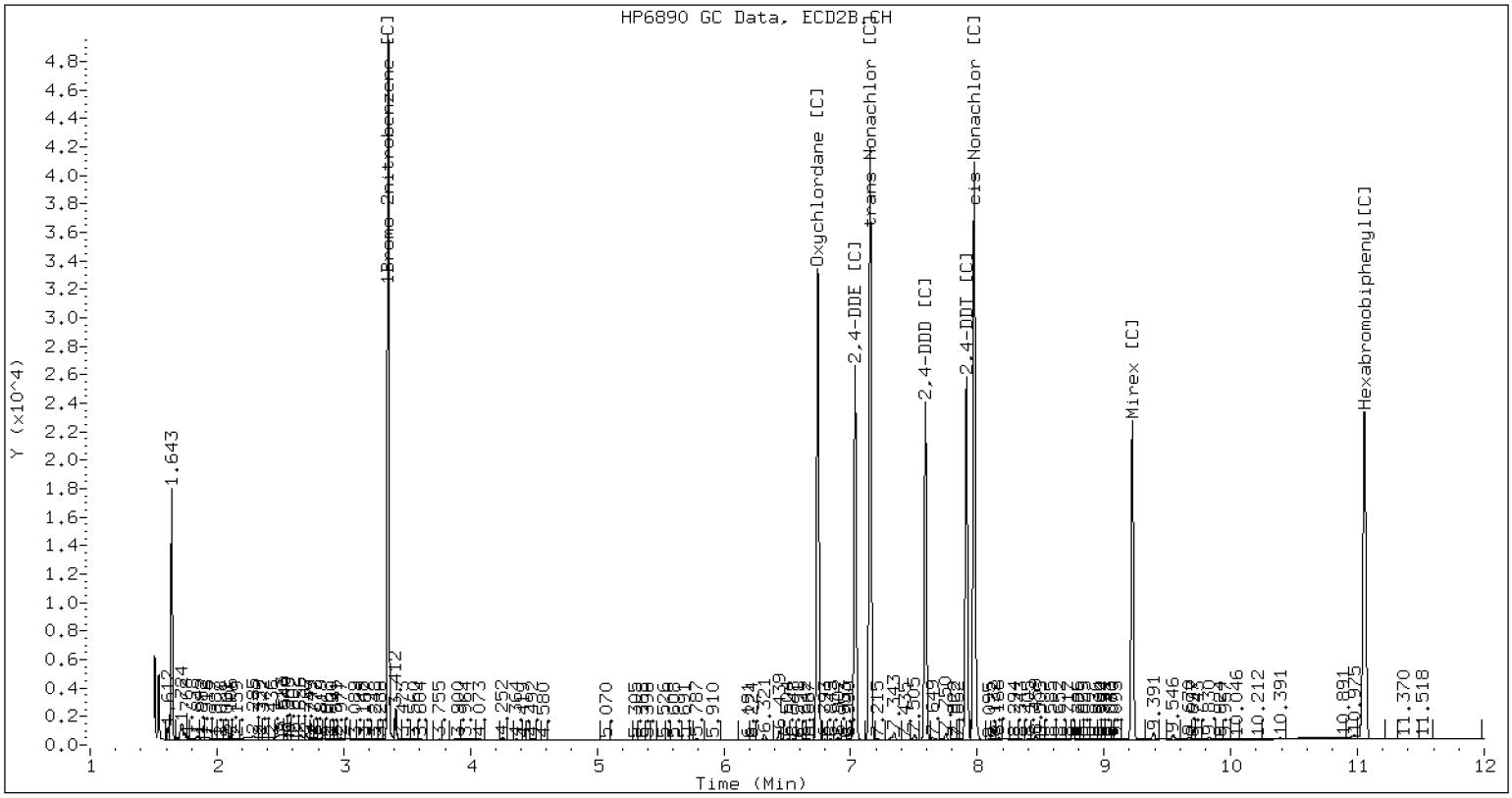
* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121417.D SEQ-CALD CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121417.D
Data file 2: /20221214.b/B20221214.b/22121417.D
Method: \20221214.b\PEST.m
Compound Sublist: WND.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CALD
Client ID:
Injection Date: 15-DEC-2022 00:12
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121418.D
Data file 2: /20221214.b/B20221214.b/22121418.D
Method: \20221214.b\PEST.m
Compound Sublist: WND.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CALE
Client ID:
Injection Date: 15-DEC-2022 00:30
Report Date: 12/16/2022 15:19
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
6.014	0.000	1020828	6.741	0.000	1630330	140.48	142.04	1.1	Oxychlordane
6.106	-0.000	801828	7.036	0.000	1240933	133.65	132.03	1.2	2,4-DDE
6.397	0.000	1327091	7.155	0.000	2047915	139.63	146.04	4.5	trans-Nonachlor
6.680	-0.000	733651	7.591	0.000	1118552	137.46	139.45	1.4	2,4-DDD
6.956	-0.001	794021	7.913	0.000	1163676	137.69	140.88	2.3	2,4-DDT
7.112	-0.000	1301975	7.975	0.000	1956215	140.68	146.73	4.2	cis-Nonachlor
8.082	-0.001	815059	9.223	0.000	1108848	141.57	143.01	1.0	Mirex
3.800	-0.028	3997	----			0.43	0.00	---	Tetrachloro-m-xylene
----			10.471	0.004	3393	0.00	0.39	---	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

˜ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

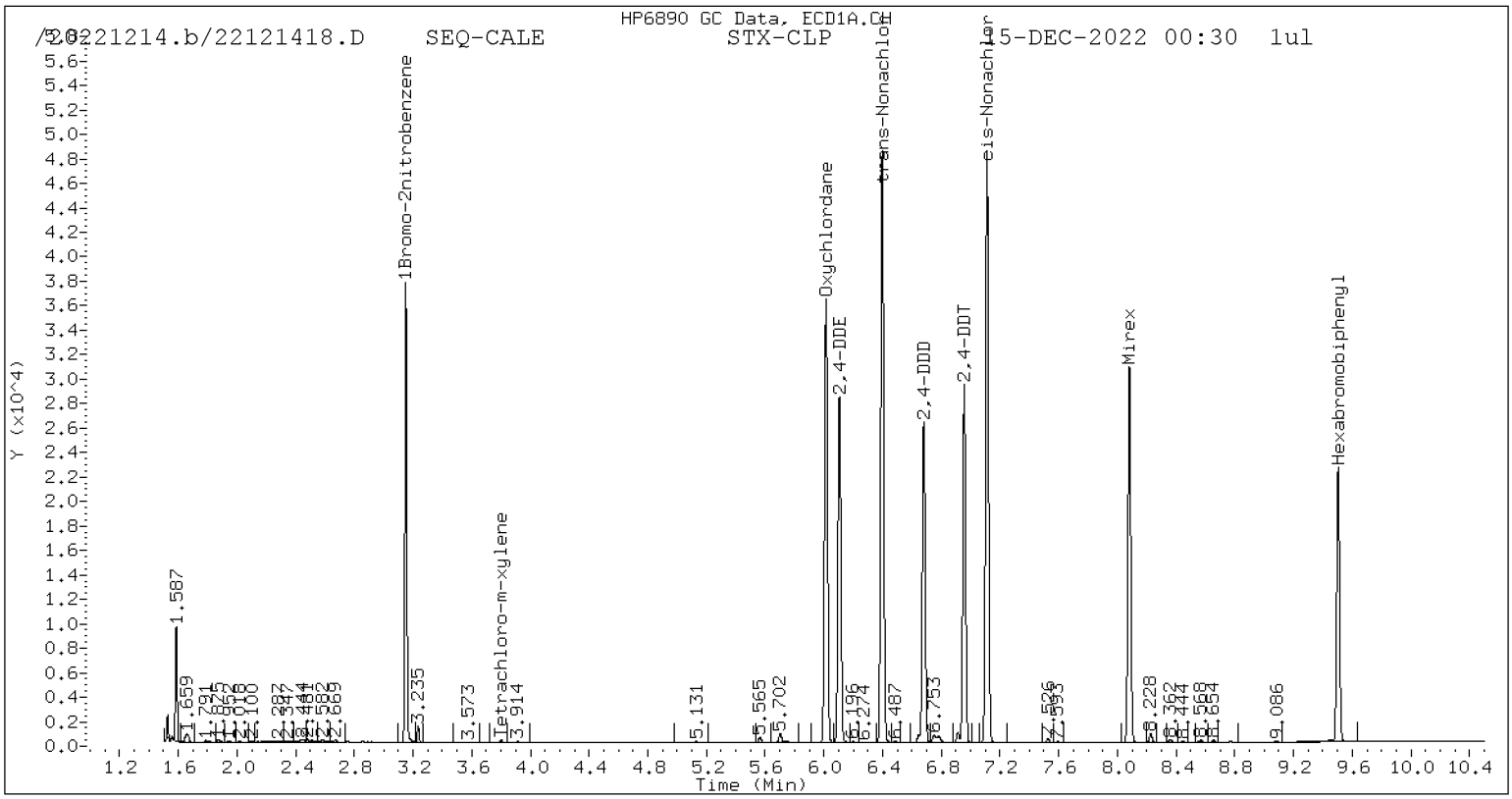
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	675789	-4.9
Hexabromobiphenyl	641833	611199	-4.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	1030648	-2.7
Hexabromobiphenyl	797125	783631	-1.7

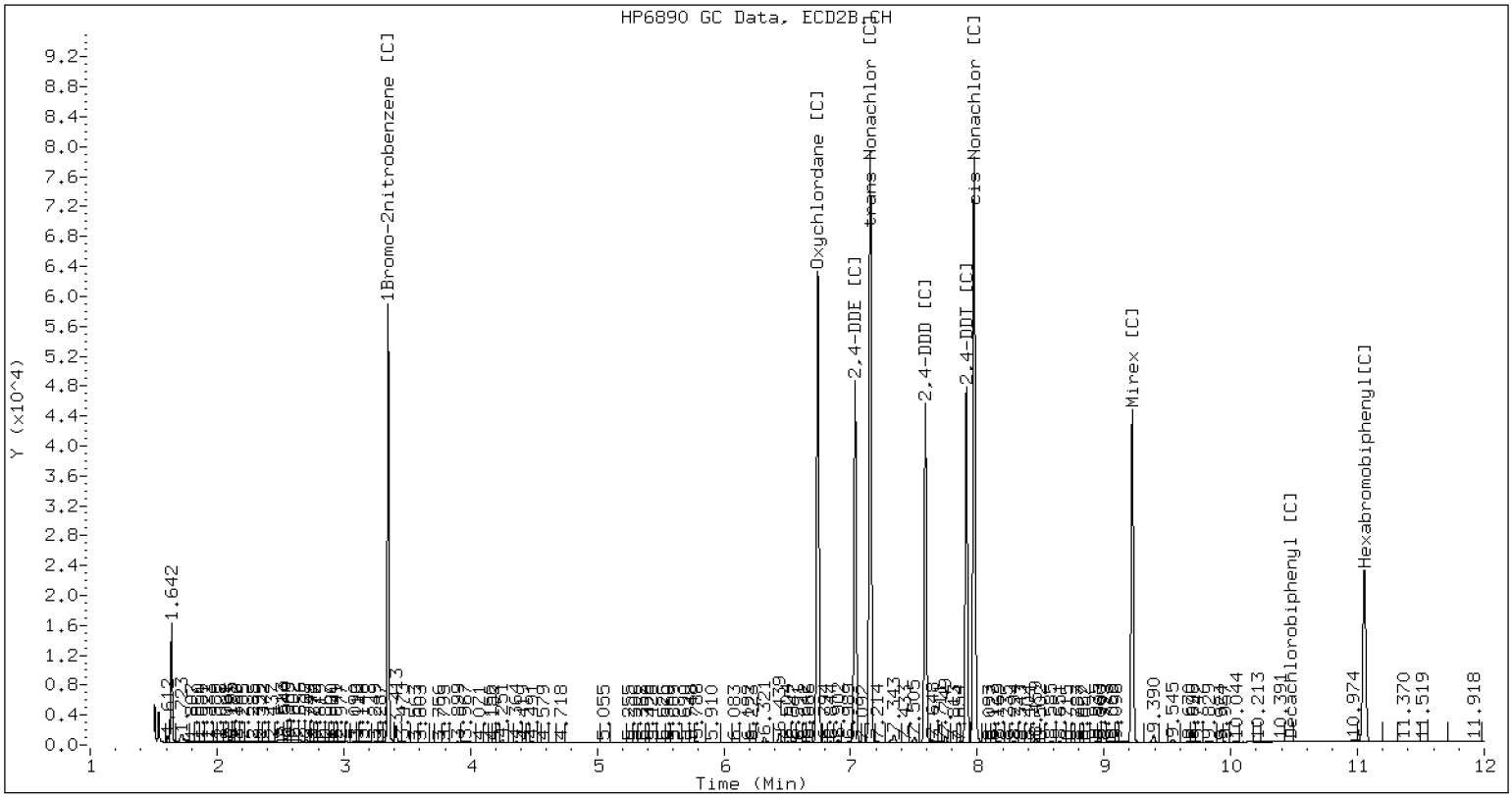
* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121418.D SEQ-CALE CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121418.D
Data file 2: /20221214.b/B20221214.b/22121418.D
Method: \20221214.b\PEST.m
Compound Sublist: WND.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CALE
Client ID:
Injection Date: 15-DEC-2022 00:30
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121419.D
Data file 2: /20221214.b/B20221214.b/22121419.D
Method: \20221214.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-SCV1
Client ID:
Injection Date: 15-DEC-2022 00:48
Report Date: 12/16/2022 15:19
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.342	0.000	643235	4.860	-0.000	1047709	49.66	51.22	3.1	alpha-BHC
4.726	-0.000	242617	5.337	0.000	386388	48.66	49.69	2.1	beta-BHC
4.909	0.000	554797	5.692	0.001	897343	52.41	53.26	1.6	delta-BHC
4.646	0.001	573983	5.258	0.000	915596	51.11	52.75	3.1	gamma-BHC (Lindane)
5.130	0.000	495138	5.788	0.001	804002	49.55	51.13	3.1	Heptachlor
5.454	0.000	526615	6.191	0.000	842909	47.03	46.95	0.2	Aldrin
6.130	0.000	469481	6.846	0.000	724932	48.36	48.83	1.0	Heptachlor epoxide b
6.573	0.000	423102	7.289	-0.000	632890	47.49	48.37	1.8	Endosulfan I
6.832	0.000	478299	7.583	0.000	724854	49.97	50.14	0.3	Dieldrin
6.489	0.000	448741	7.371	0.000	670346	50.49	50.56	0.1	4,4'-DDE
7.082	0.001	396143	7.907	0.000	551004	50.36	50.73	0.7	Endrin
7.318	0.001	350431	8.118	0.001	537104	49.49	48.24	2.6	Endosulfan II
7.136	0.001	355688	7.977	0.001	525927	50.19	49.78	0.8	4,4'-DDD
8.180	0.000	347949	8.716	0.001	502438	51.75	51.39	0.7	Endosulfan sulfate
7.428	0.001	368644	8.295	-0.000	524685	51.48	51.45	0.1	4,4'-DDT
7.913	0.001	174306	8.935	-0.001	238791	54.93	52.91	3.7	Methoxychlor
8.454	0.000	394474	9.240	-0.000	540431	51.21	51.18	0.1	Endrin ketone
7.746	0.001	316262	8.448	0.000	449269	56.00	57.20	2.1	Endrin aldehyde
6.271	0.000	490842	7.056	0.000	748350	49.78	50.55	1.5	trans-Chlordane
6.417	0.001	469513	7.216	0.000	700871	47.47	48.39	1.9	cis-Chlordane
----			2.512	0.011	11364	0.00	0.59	---	Hexachlorobutadiene
----			4.719	0.001	634	0.00	0.03	---	Hexachlorobenzene
----			4.220	-0.000	1724	0.00	0.12	---	Tetrachloro-m-xylene
----			10.468	0.001	643	0.00	0.08	---	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

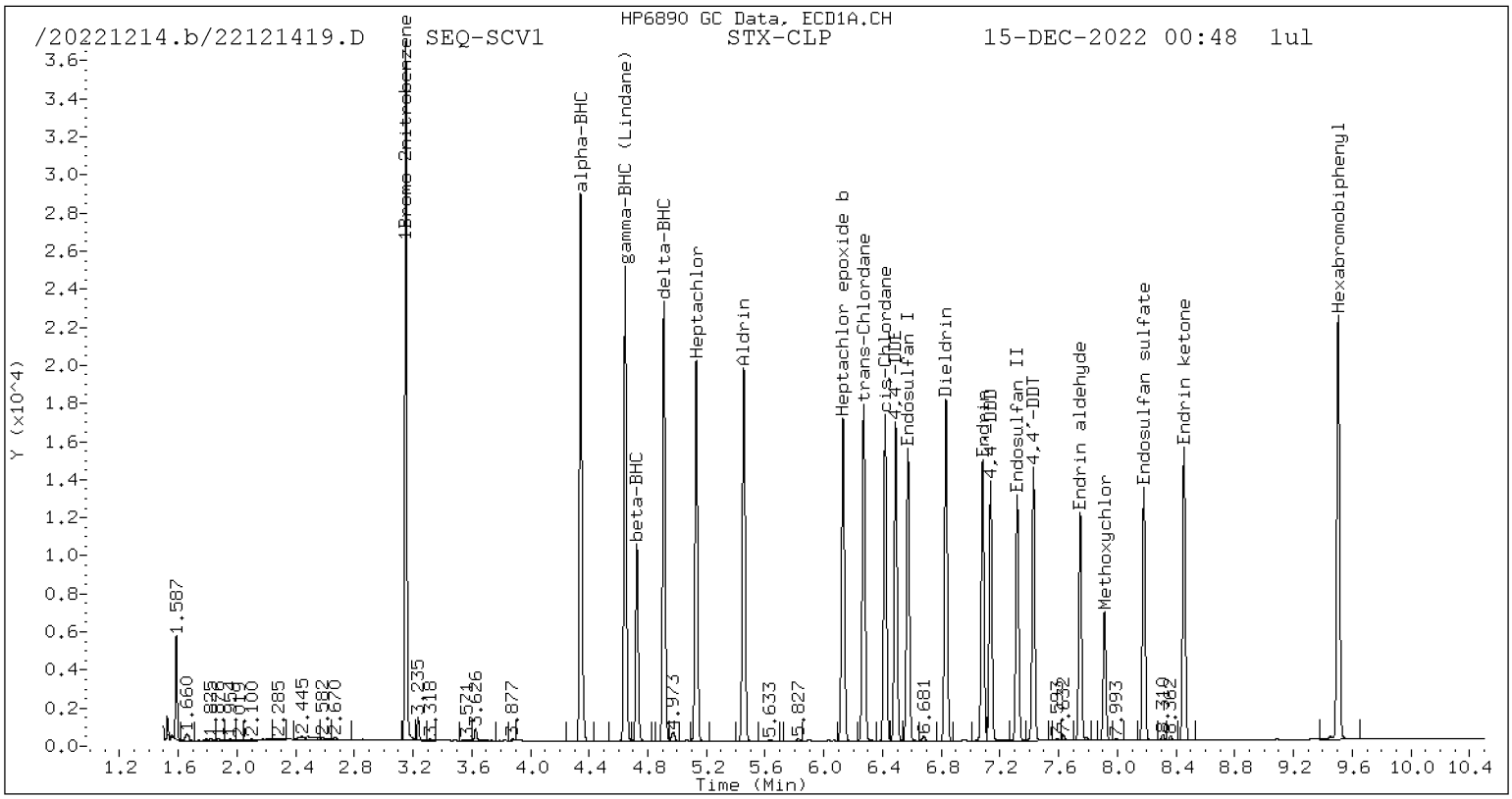
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	672755	-5.3
Hexabromobiphenyl	641833	599983	-6.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	1020655	-3.6
Hexabromobiphenyl	797125	763949	-4.2

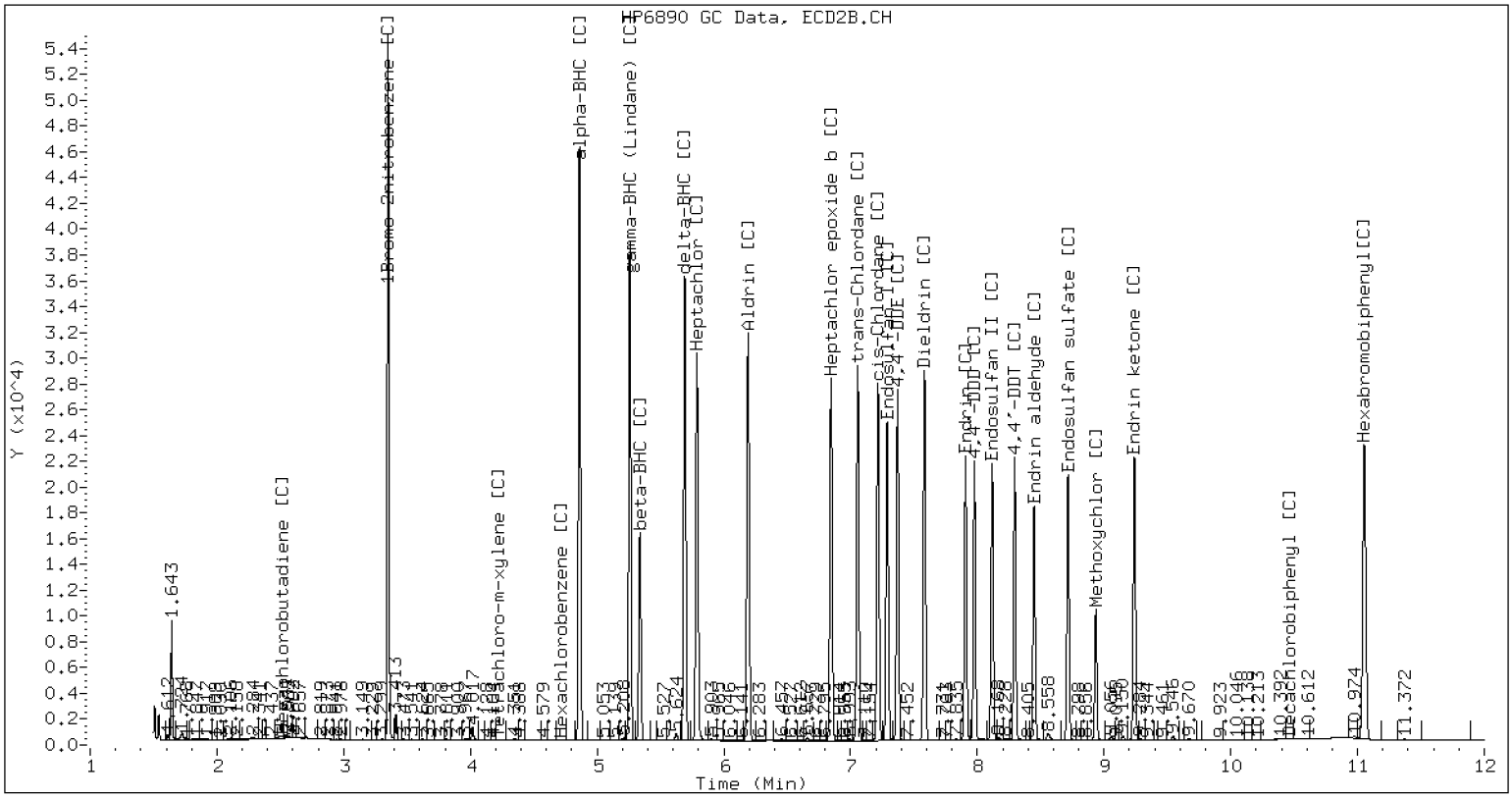
* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121419.D SEQ-SCV1 CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121419.D
Data file 2: /20221214.b/B20221214.b/22121419.D
Method: \20221214.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-SCV1
Client ID:
Injection Date: 15-DEC-2022 00:48
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121420.D
Data file 2: /20221214.b/B20221214.b/22121420.D
Method: \20221214.b\PEST.m
Compound Sublist: WND.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-SCV2
Client ID:
Injection Date: 15-DEC-2022 01:06
Report Date: 12/16/2022 15:20
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
6.014	-0.000	374516	6.741	0.000	591348	51.08	50.07	2.0	Oxychlordane
6.106	-0.000	261097	7.036	-0.000	403824	43.13	41.76	3.2	2,4-DDE
6.397	-0.000	444133	7.155	-0.000	657777	46.31	45.91	0.9	trans-Nonachlor
6.681	0.000	222534	7.591	0.000	334706	41.32	40.84	1.2	2,4-DDD
6.956	-0.001	262722	7.914	0.000	382016	45.15	45.26	0.2	2,4-DDT
7.111	-0.001	455894	7.975	0.000	655718	48.82	48.13	1.4	cis-Nonachlor
8.081	-0.001	256593	9.223	0.000	343173	44.17	43.31	2.0	Mirex
----			----			0.00	0.00	---	Tetrachloro-m-xylene
----			----			0.00	0.00	---	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

˜ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

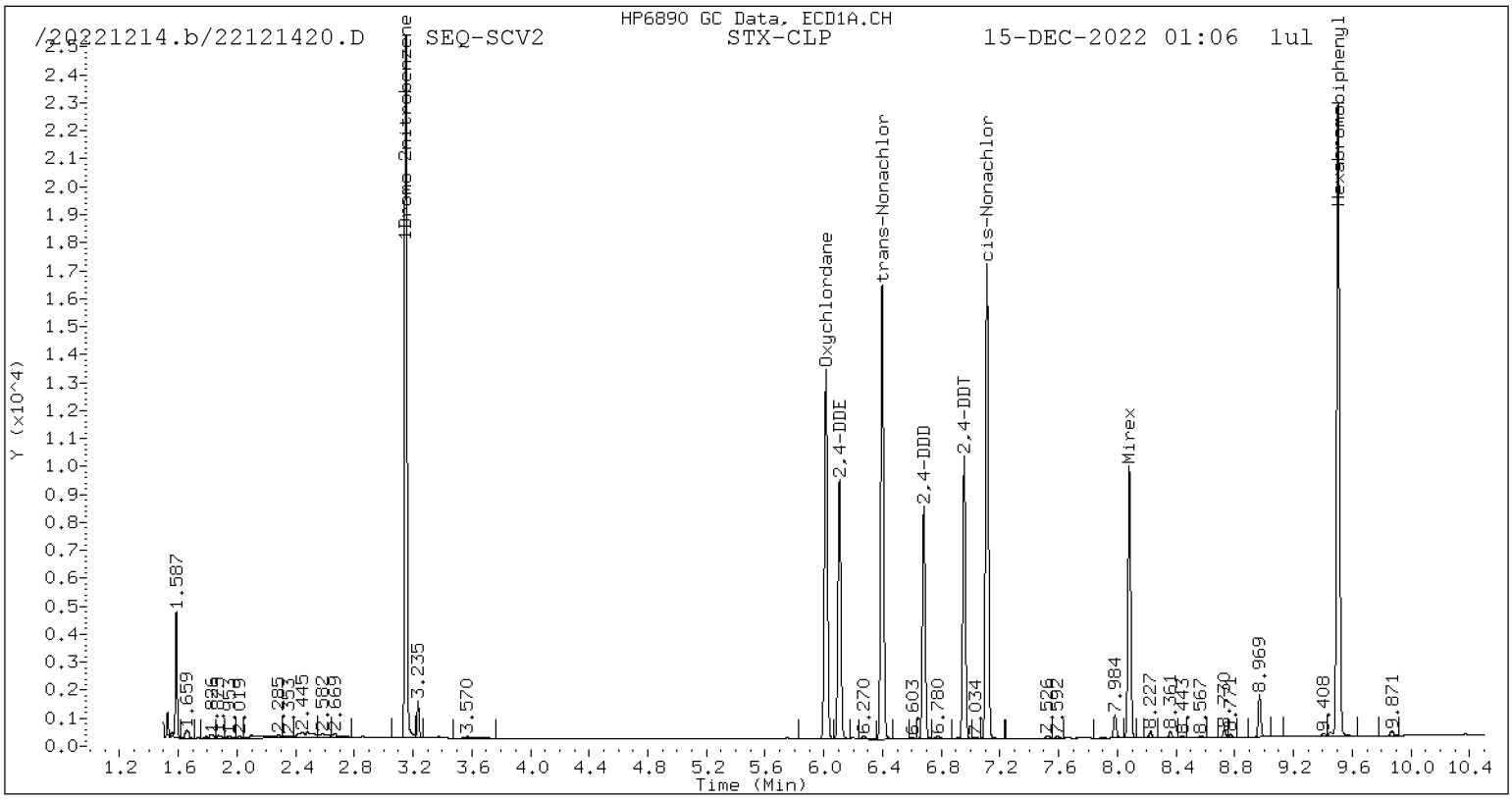
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	687052	-3.3
Hexabromobiphenyl	641833	616730	-3.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	1060438	0.2
Hexabromobiphenyl	797125	800740	0.5

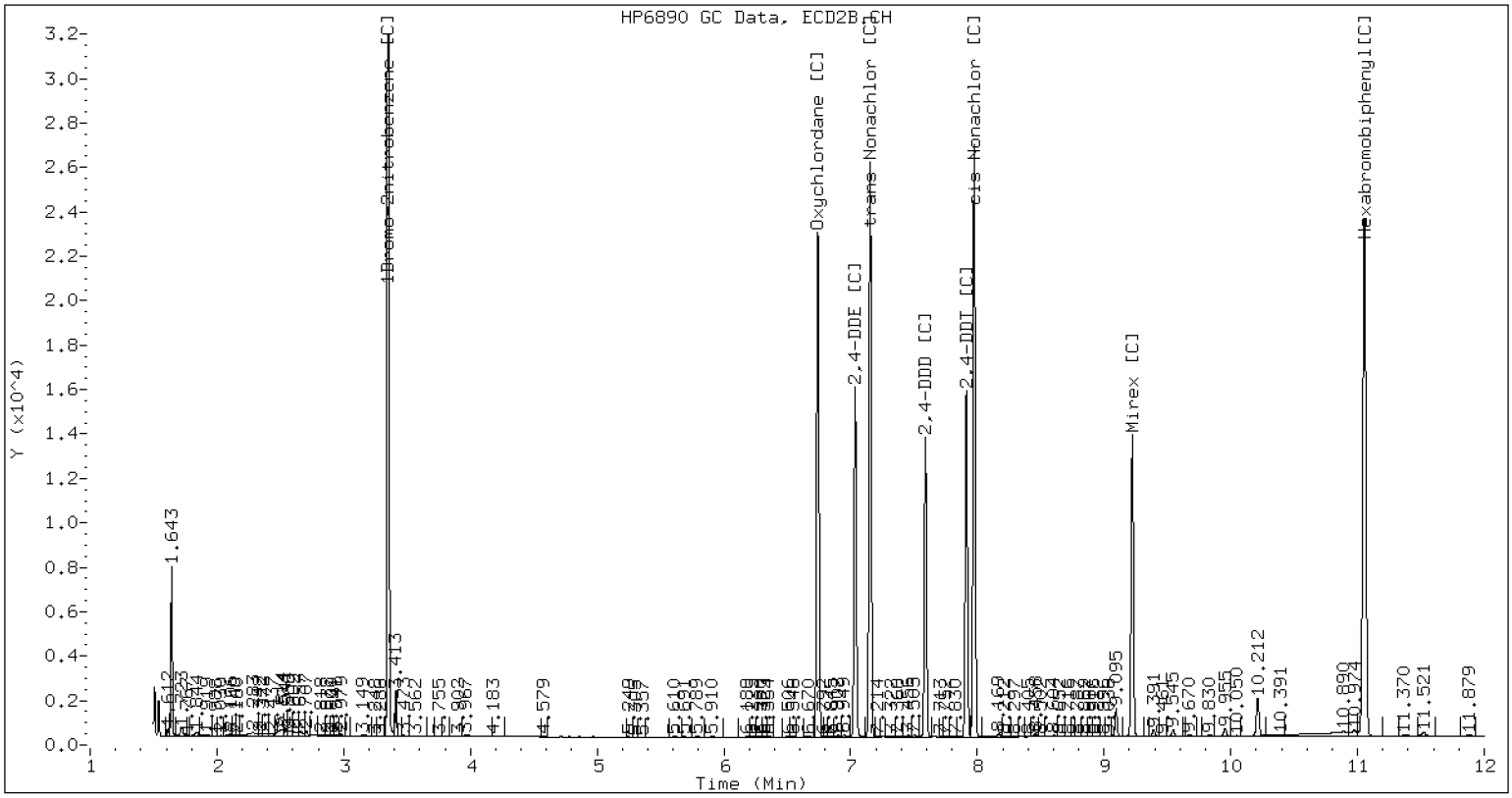
* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121420.D SEQ-SCV2 CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121420.D
Data file 2: /20221214.b/B20221214.b/22121420.D
Method: \20221214.b\PEST.m
Compound Sublist: WND.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-SCV2
Client ID:
Injection Date: 15-DEC-2022 01:06
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121421.D
Data file 2: /20221214.b/B20221214.b/22121421.D
Method: \20221214.b\PEST.m
Compound Sublist: TECHCHLOR.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL1A
Client ID:
Injection Date: 15-DEC-2022 01:24
Report Date: 12/16/2022 15:20
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
----			4.215	-0.006	361	0.00	0.02	---	Tetrachloro-m-xylene
----			----			0.00	0.00	---	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	601512	-15.4
Hexabromobiphenyl	641833	690103	7.5

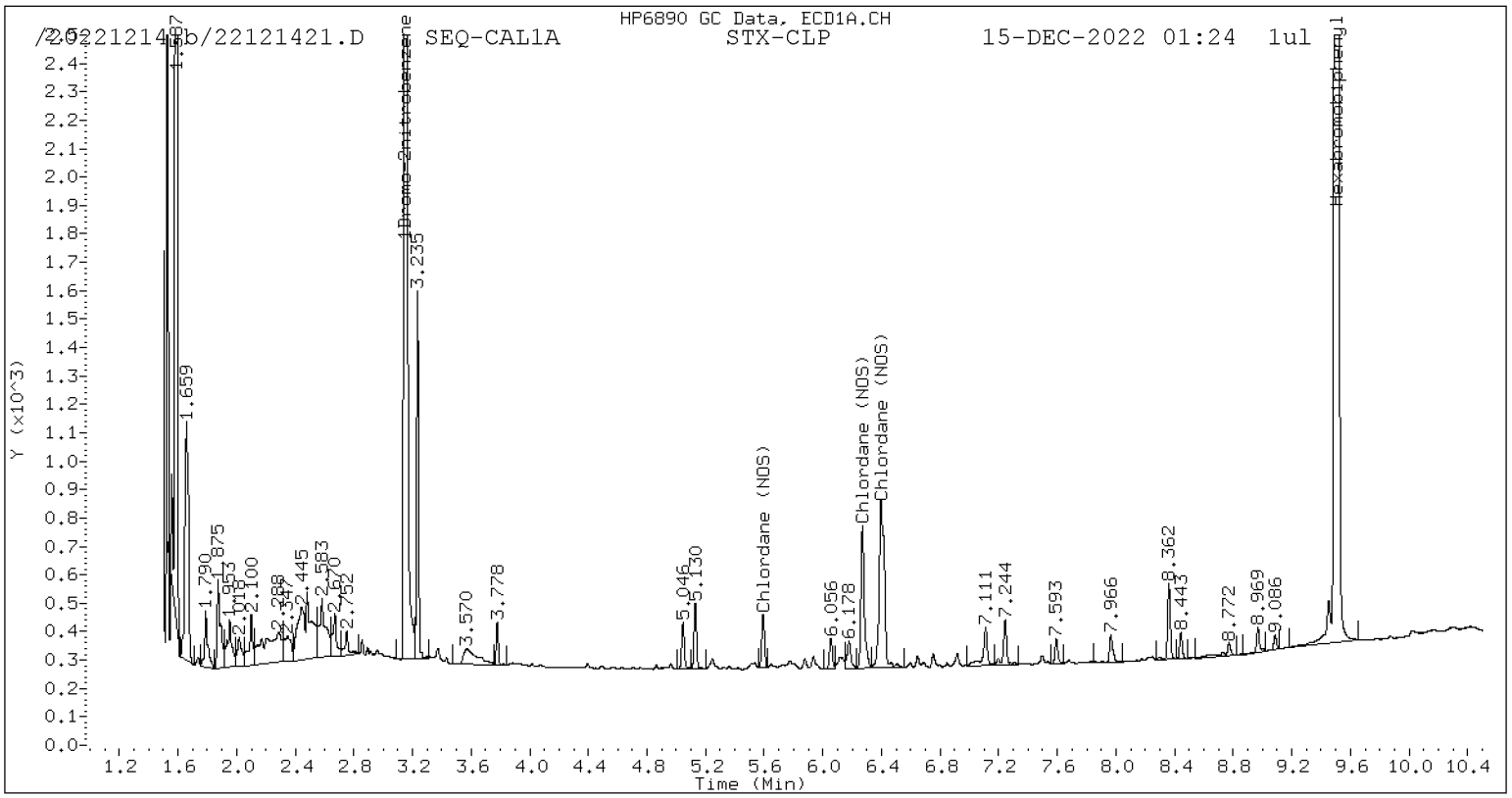
Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	776759	-26.6
Hexabromobiphenyl	797125	1058847	32.8

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

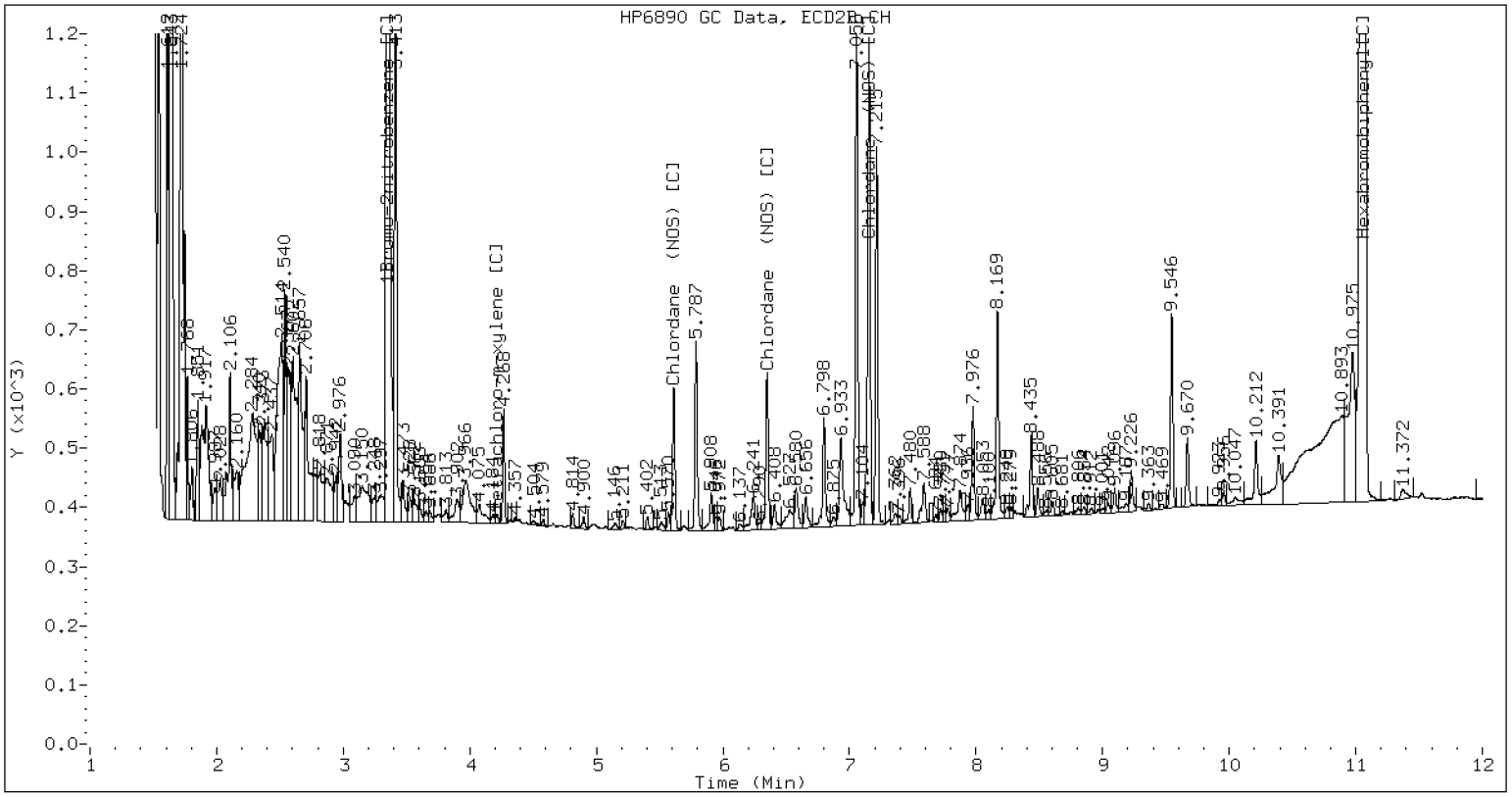
	STX-CLP Col					CLP2 Col				
Cpnd	Peak#	RT	Shift	Height	Amount	Peak#	RT	Shift	Height	Amount
Chlordane (NOS)	1	5.593	0.000	5054	13.1	1	5.612	-0.000	6415	12.8
Chlordane (NOS)	2	6.271	-0.000	15913	12.4	2	6.349	-0.000	7689	13.7
Chlordane (NOS)	3	6.399	0.000	29332	13.1	3	7.155	-0.001	23386	12.3
Total STX-CLPAve (3 peaks): 12.882						Total CLP2Ave (3 peaks): 12.916			RPD = 0	
Corrected Ave (3 peaks): 12.882						Corrected Ave (3 peaks): 12.916			RPD = 0	

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121421.D SEQ-CAL1A CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121421.D
Data file 2: /20221214.b/B20221214.b/22121421.D
Method: \20221214.b\PEST.m
Compound Sublist: TECHCHLOR.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL1A
Client ID:
Injection Date: 15-DEC-2022 01:24
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121422.D
Data file 2: /20221214.b/B20221214.b/22121422.D
Method: \20221214.b\PEST.m
Compound Sublist: TECHCHLOR.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL2A
Client ID:
Injection Date: 15-DEC-2022 01:42
Report Date: 12/16/2022 15:20
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
----			----			0.00	0.00	---	Tetrachloro-m-xylene
----			----			0.00	0.00	---	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	611280	-14.0
Hexabromobiphenyl	641833	704720	9.8

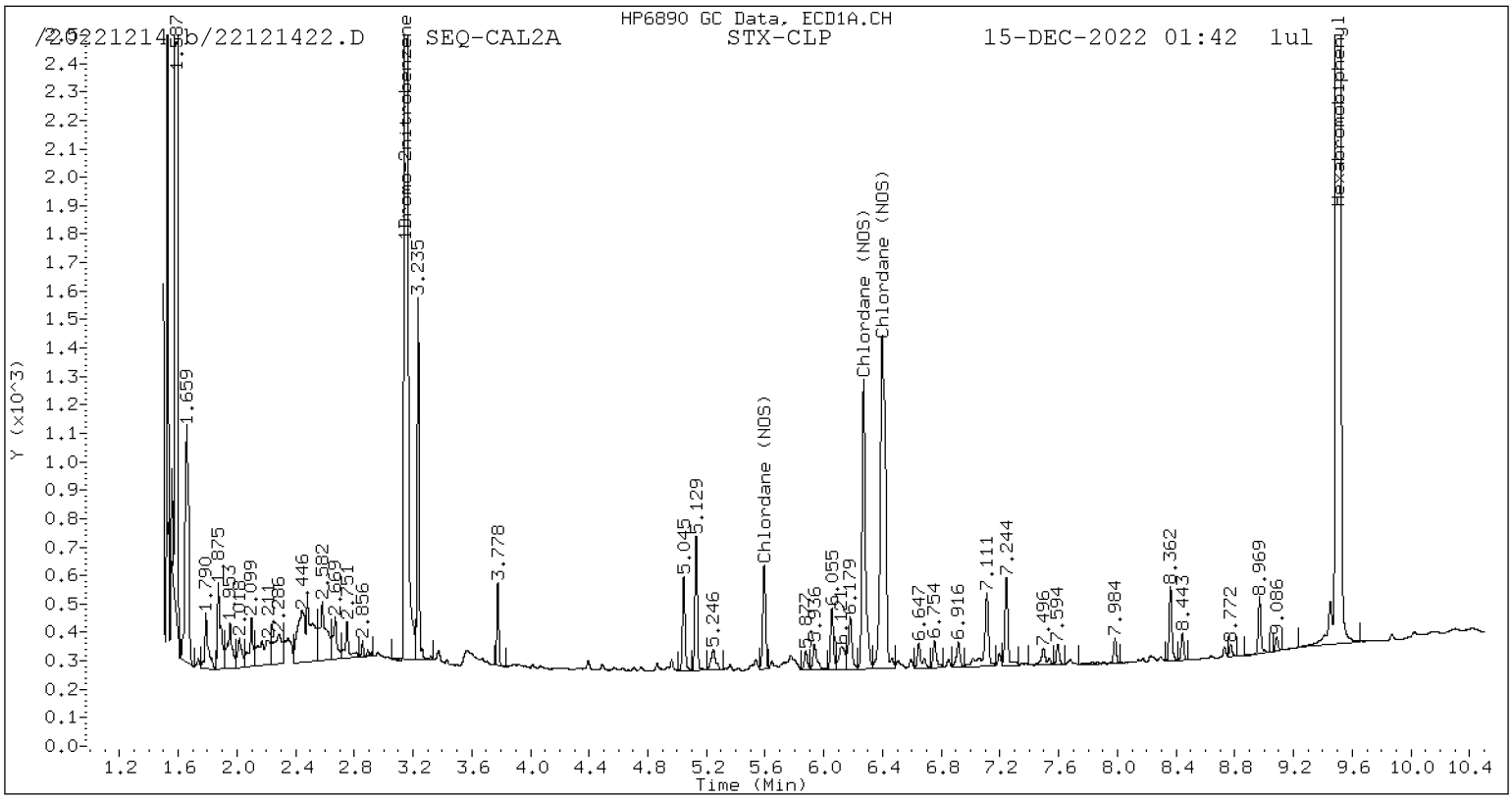
Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	793365	-25.1
Hexabromobiphenyl	797125	1083049	35.9

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

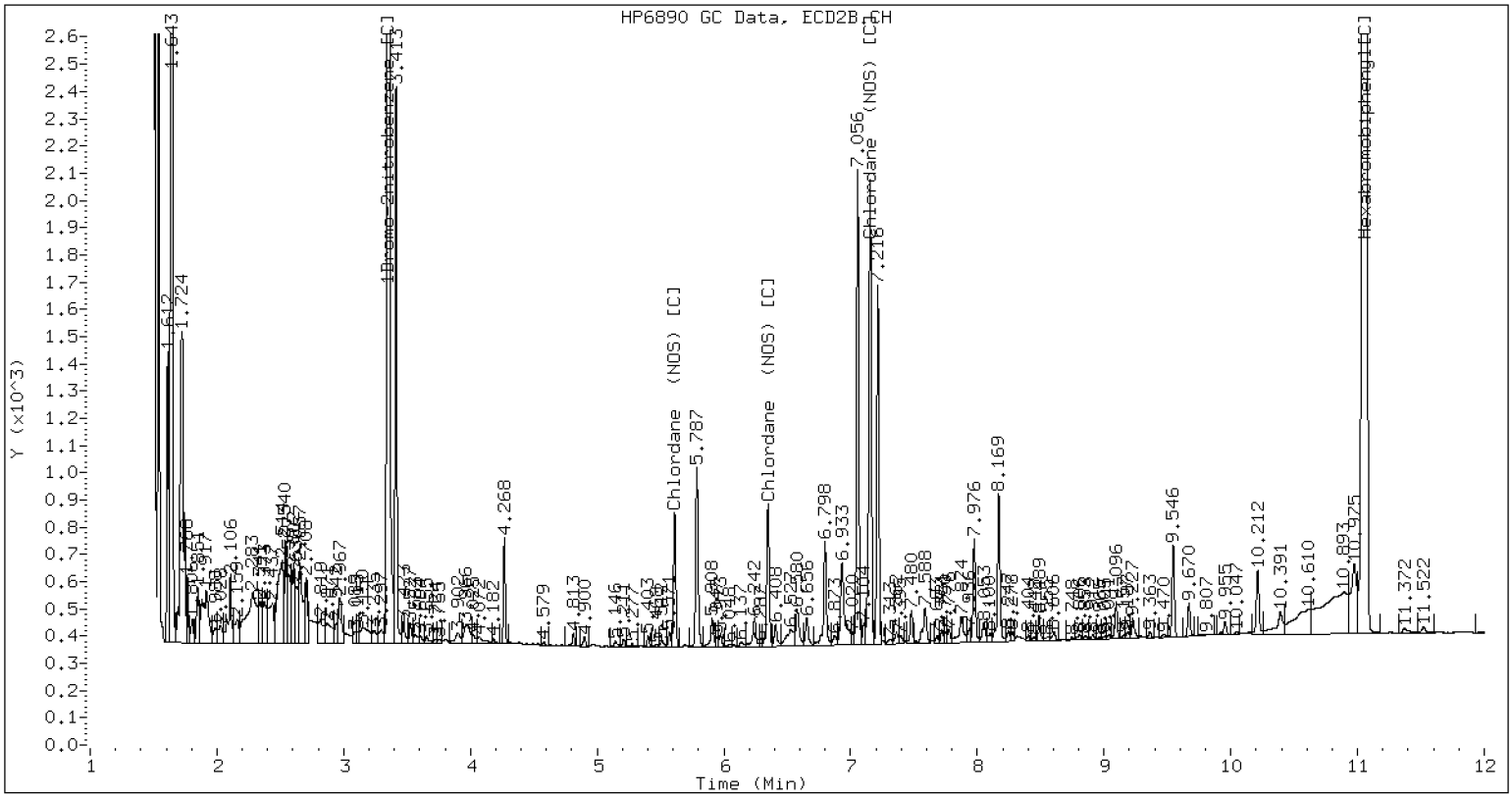
	STX-CLP Col					CLP2 Col				
Cpnd	Peak#	RT	Shift	Height	Amount	Peak#	RT	Shift	Height	Amount
Chlordane (NOS)	1	5.593	0.000	10046	25.5	1	5.612	-0.000	12488	24.4
Chlordane (NOS)	2	6.271	-0.000	32715	25.0	2	6.348	-0.001	15023	26.1
Chlordane (NOS)	3	6.399	0.000	58016	25.4	3	7.155	-0.000	48236	24.8
Total STX-CLPAve (3 peaks): 25.309						Total CLP2Ave (3 peaks): 25.077			RPD = 1	
Corrected Ave (3 peaks): 25.309						Corrected Ave (3 peaks): 25.077			RPD = 1	

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121422.D SEQ-CAL2A CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121422.D
Data file 2: /20221214.b/B20221214.b/22121422.D
Method: \20221214.b\PEST.m
Compound Sublist: TECHCHLOR.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL2A
Client ID:
Injection Date: 15-DEC-2022 01:42
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121423.D
Data file 2: /20221214.b/B20221214.b/22121423.D
Method: \20221214.b\PEST.m
Compound Sublist: TECHCHLOR.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL3A
Client ID:
Injection Date: 15-DEC-2022 01:59
Report Date: 12/16/2022 15:20
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
----			----			0.00	0.00	---	Tetrachloro-m-xylene
----			----			0.00	0.00	---	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	592438	-16.6
Hexabromobiphenyl	641833	685225	6.8

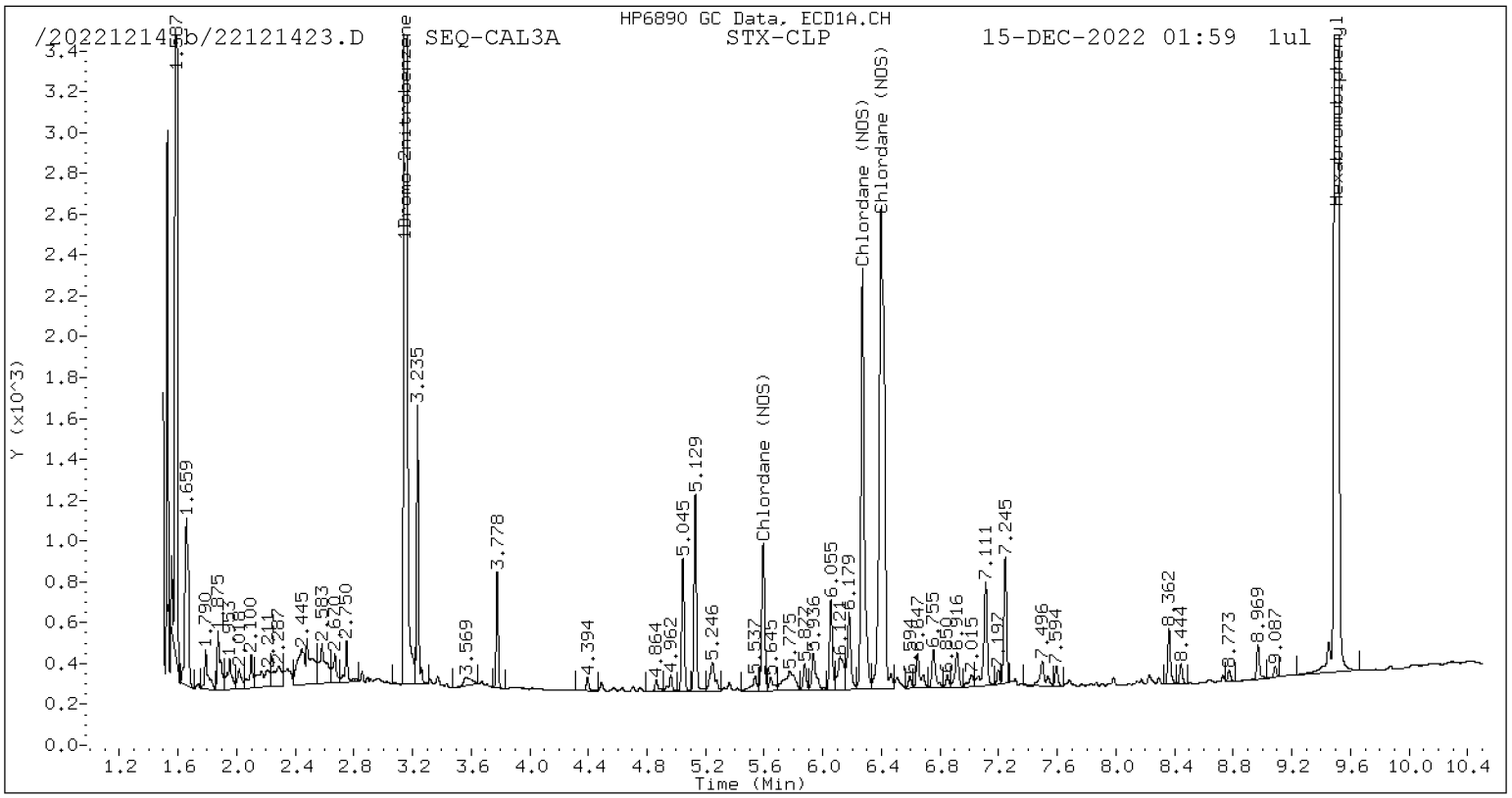
Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	769029	-27.4
Hexabromobiphenyl	797125	1054742	32.3

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

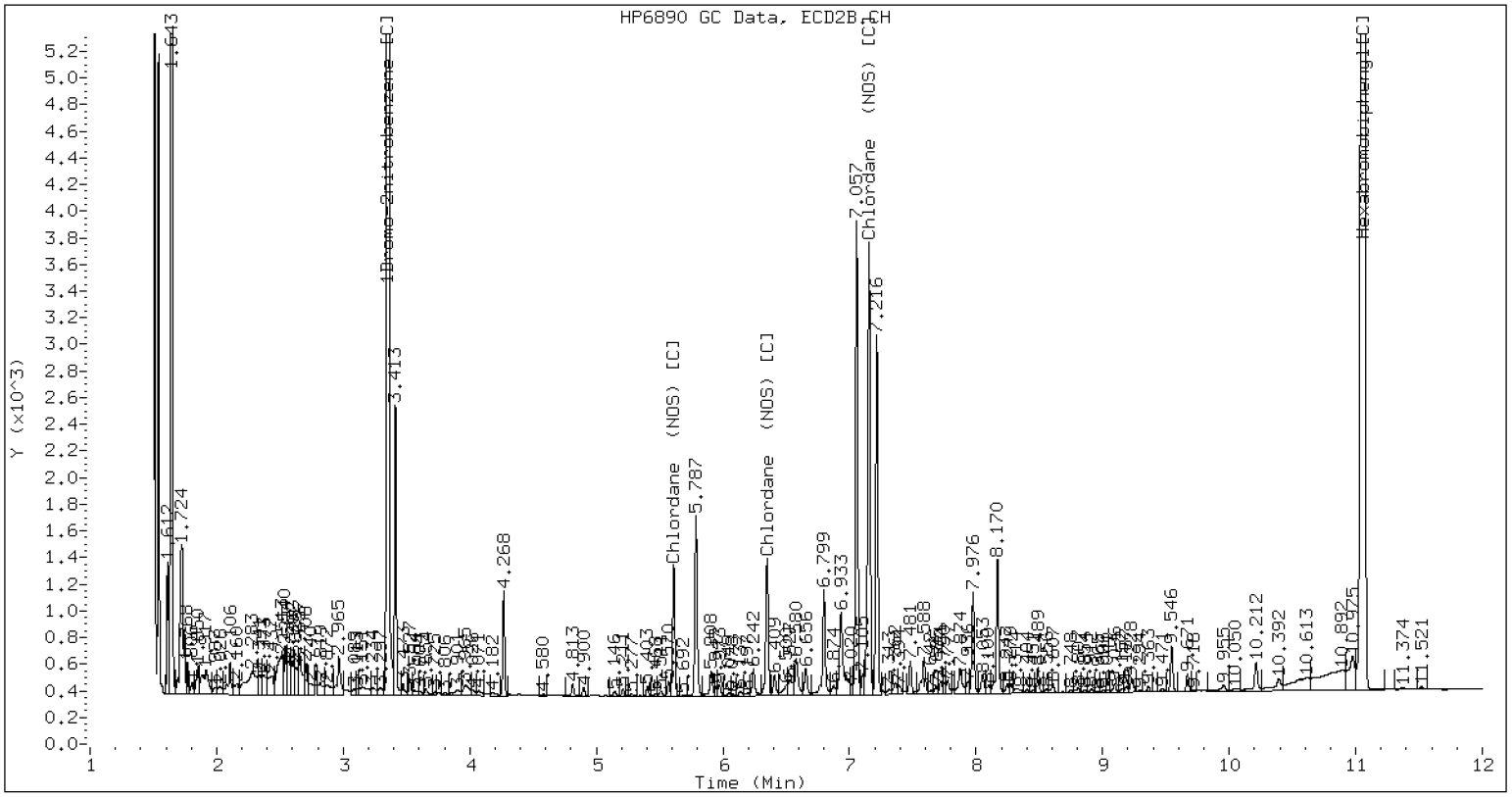
		STX-CLP Col					CLP2 Col				
Cpnd	Peak#	RT	Shift	Height	Amount	Peak#	RT	Shift	Height	Amount	
Chlordane (NOS)	1	5.593	0.001	20502	53.5	1	5.612	-0.000	24816	49.7	
Chlordane (NOS)	2	6.271	-0.000	66320	52.2	2	6.349	0.000	29114	51.9	
Chlordane (NOS)	3	6.399	0.000	116820	52.6	3	7.155	-0.000	98401	51.9	
Total STX-CLPAve (3 peaks): 52.767						Total CLP2Ave (3 peaks): 51.179				RPD = 3	
Corrected Ave (3 peaks): 52.767						Corrected Ave (3 peaks): 51.179				RPD = 3	

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121423.D SEQ-CAL3A CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121423.D
Data file 2: /20221214.b/B20221214.b/22121423.D
Method: \20221214.b\PEST.m
Compound Sublist: TECHCHLOR.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL3A
Client ID:
Injection Date: 15-DEC-2022 01:59
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121424.D
Data file 2: /20221214.b/B20221214.b/22121424.D
Method: \20221214.b\PEST.m
Compound Sublist: TECHCHLOR.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL4A
Client ID:
Injection Date: 15-DEC-2022 02:17
Report Date: 12/16/2022 15:20
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
----			----			0.00	0.00	---	Tetrachloro-m-xylene
----			----			0.00	0.00	---	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	584808	-17.7
Hexabromobiphenyl	641833	675665	5.3

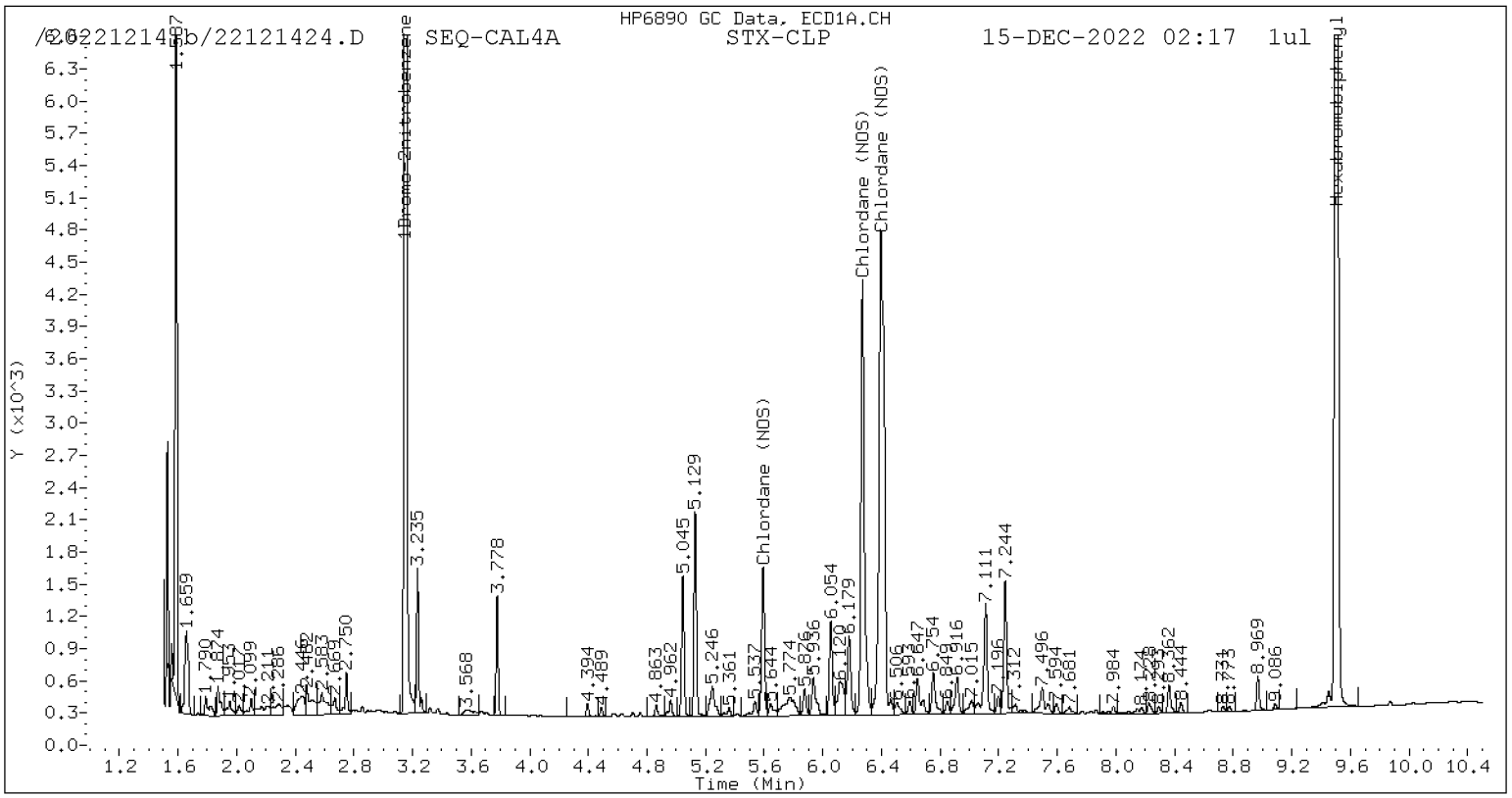
Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	758204	-28.4
Hexabromobiphenyl	797125	1039488	30.4

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

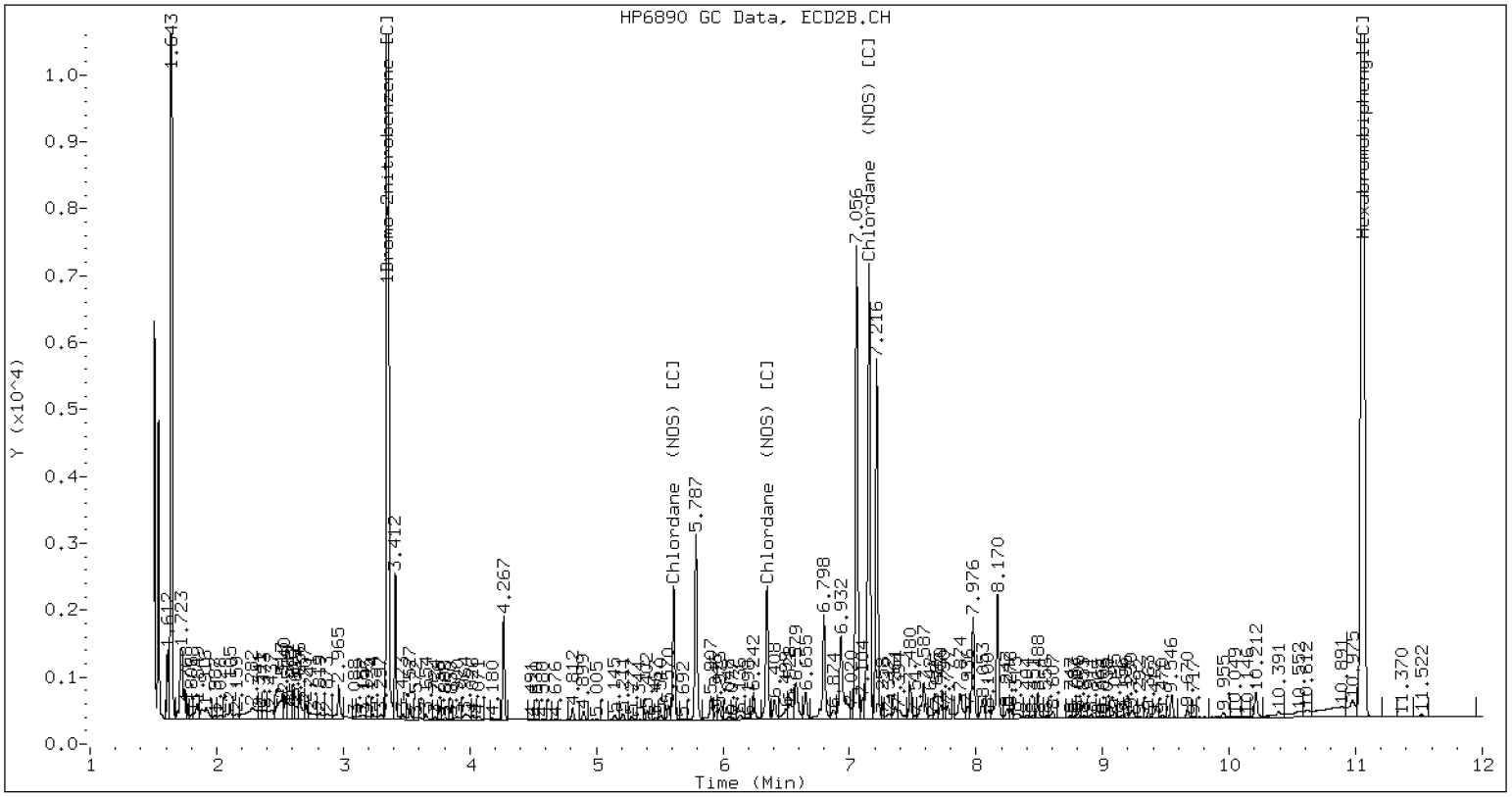
		STX-CLP Col					CLP2 Col				
Cpnd	Peak#	RT	Shift	Height	Amount	Peak#	RT	Shift	Height	Amount	
Chlordane (NOS)	1	5.593	-0.000	39696	105.0	1	5.611	-0.001	49889	101.4	
Chlordane (NOS)	2	6.271	-0.000	131726	105.2	2	6.348	-0.001	56608	102.5	
Chlordane (NOS)	3	6.398	-0.001	229050	104.6	3	7.155	-0.000	195665	104.7	
Total STX-CLPAve (3 peaks): 104.931						Total CLP2Ave (3 peaks): 102.854				RPD = 2	
Corrected Ave (3 peaks): 104.931						Corrected Ave (3 peaks): 102.854				RPD = 2	

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121424.D SEQ-CAL4A CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121424.D
Data file 2: /20221214.b/B20221214.b/22121424.D
Method: \20221214.b\PEST.m
Compound Sublist: TECHCHLOR.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL4A
Client ID:
Injection Date: 15-DEC-2022 02:17
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121425.D
Data file 2: /20221214.b/B20221214.b/22121425.D
Method: \20221214.b\PEST.m
Compound Sublist: TECHCHLOR.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL5A
Client ID:
Injection Date: 15-DEC-2022 02:35
Report Date: 12/16/2022 15:20
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
----			----			0.00	0.00	---	Tetrachloro-m-xylene
----			----			0.00	0.00	---	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	612592	-13.8
Hexabromobiphenyl	641833	705251	9.9

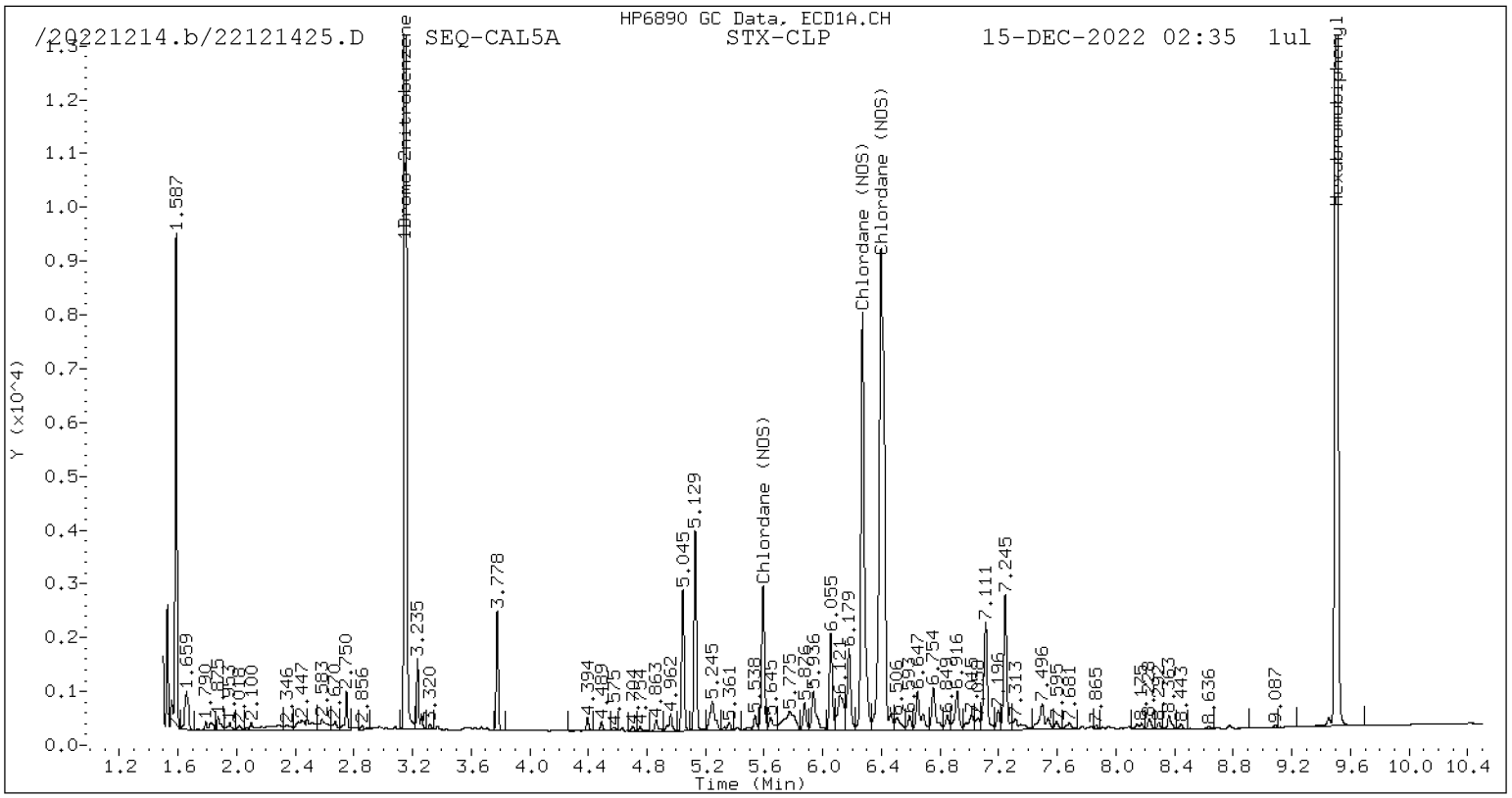
Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	792856	-25.1
Hexabromobiphenyl	797125	1079718	35.5

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

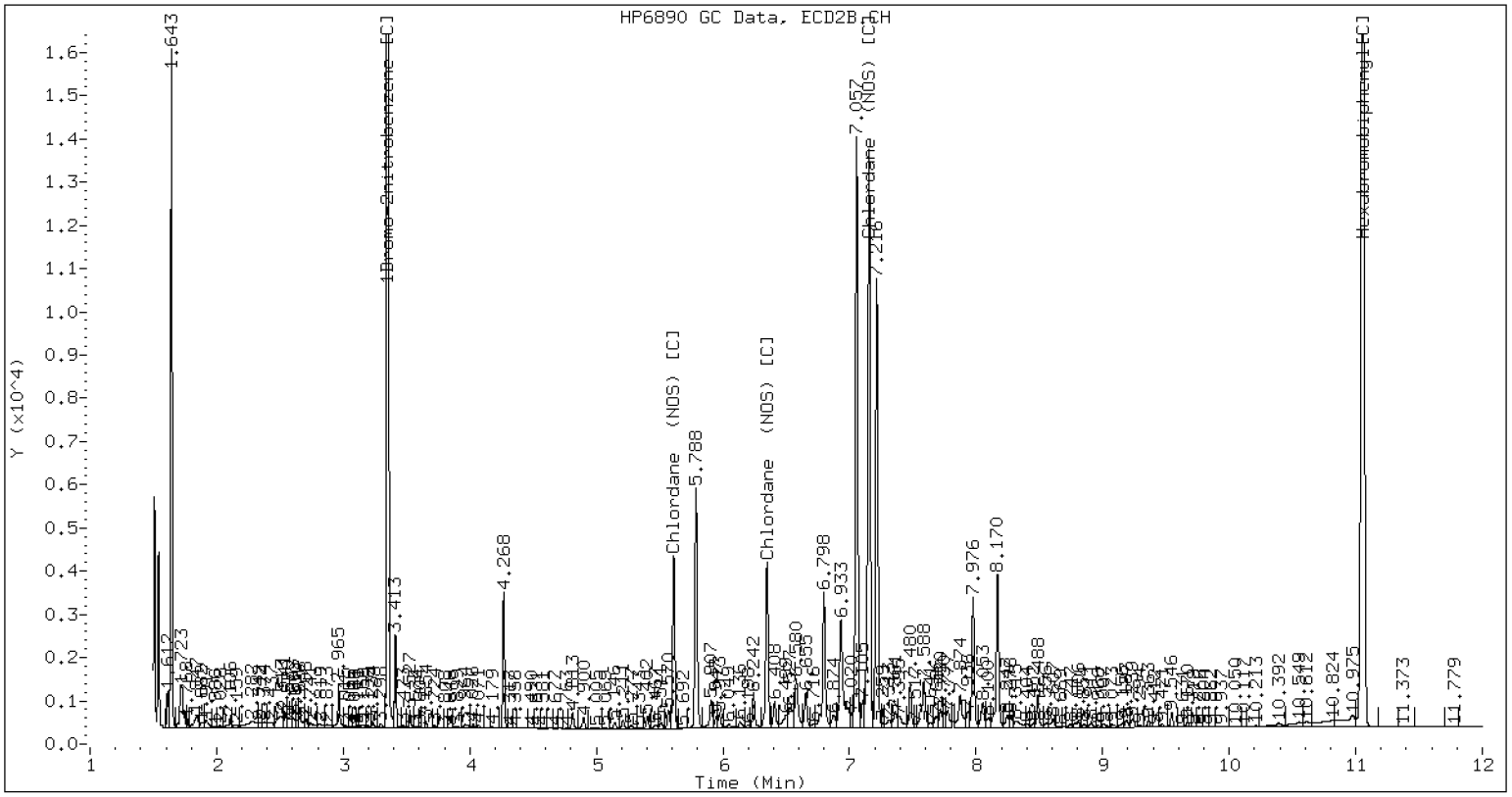
	STX-CLP Col					CLP2 Col				
Cpnd	Peak#	RT	Shift	Height	Amount	Peak#	RT	Shift	Height	Amount
Chlordane (NOS)	1	5.593	0.000	77307	196.0	1	5.612	-0.000	101527	198.7
Chlordane (NOS)	2	6.271	0.000	261078	199.7	2	6.349	-0.001	110757	193.0
Chlordane (NOS)	3	6.399	0.000	449301	196.5	3	7.155	-0.000	389197	200.5
Total STX-CLPAve (3 peaks): 197.408						Total CLP2Ave (3 peaks): 197.390				RPD = 0
Corrected Ave (3 peaks): 197.408						Corrected Ave (3 peaks): 197.390				RPD = 0

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121425.D SEQ-CAL5A CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121425.D
Data file 2: /20221214.b/B20221214.b/22121425.D
Method: \20221214.b\PEST.m
Compound Sublist: TECHCHLOR.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL5A
Client ID:
Injection Date: 15-DEC-2022 02:35
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121426.D
Data file 2: /20221214.b/B20221214.b/22121426.D
Method: \20221214.b\PEST.m
Compound Sublist: TECHCHLOR.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL6A
Client ID:
Injection Date: 15-DEC-2022 02:53
Report Date: 12/16/2022 15:20
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
----			----			0.00	0.00	---	Tetrachloro-m-xylene
----			----			0.00	0.00	---	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	603526	-15.1
Hexabromobiphenyl	641833	699031	8.9

Column 2

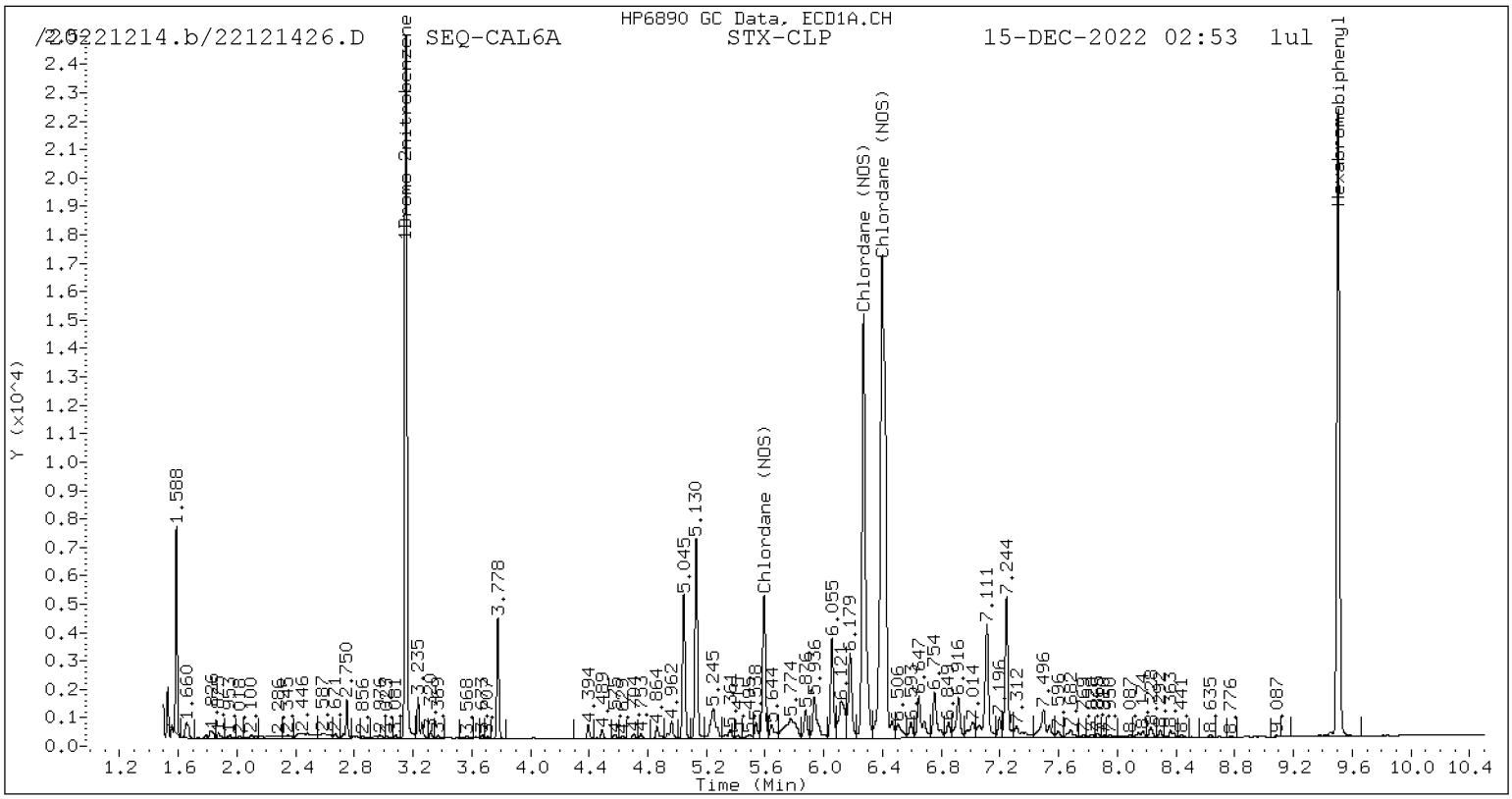
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	779405	-26.4
Hexabromobiphenyl	797125	1068976	34.1

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

	STX-CLP Col					CLP2 Col				
Cpnd	Peak#	RT	Shift	Height	Amount	Peak#	RT	Shift	Height	Amount
Chlordane (NOS)	1	5.592	-0.000	146950	375.8	1	5.612	-0.000	203386	402.0
Chlordane (NOS)	2	6.271	-0.000	503310	388.5	2	6.349	-0.000	212637	374.2
Chlordane (NOS)	3	6.399	0.000	857451	378.4	3	7.155	-0.000	752631	391.6

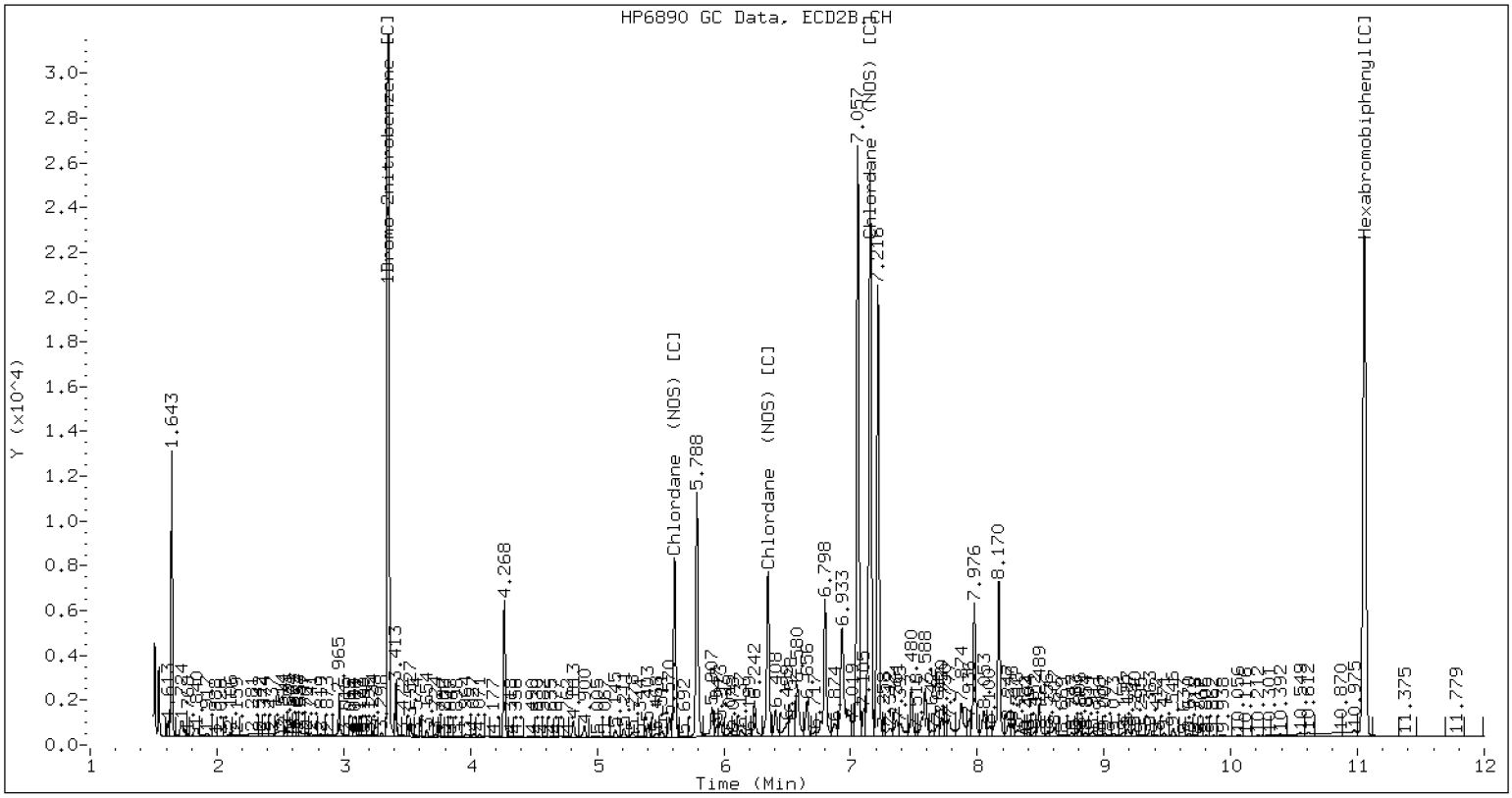
Total STX-CLPAve (3 peaks): 380.894 Total CLP2Ave (3 peaks): 389.290 RPD = 2
Corrected Ave (3 peaks): 380.894 Corrected Ave (3 peaks): 389.290 RPD = 2

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121426.D SEQ-CAL6A CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121426.D
Data file 2: /20221214.b/B20221214.b/22121426.D
Method: \20221214.b\PEST.m
Compound Sublist: TECHCHLOR.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL6A
Client ID:
Injection Date: 15-DEC-2022 02:53
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121427.D
Data file 2: /20221214.b/B20221214.b/22121427.D
Method: \20221214.b\PEST.m
Compound Sublist: TECHCHLOR.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL7A
Client ID:
Injection Date: 15-DEC-2022 03:11
Report Date: 12/16/2022 15:20
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP on col	CLP2 on col	RPD	Compound/Flag
RT	Shift	Response	RT	Shift	Response				
----			----			0.00	0.00	---	Tetrachloro-m-xylene
9.380	0.025	1930	----			0.31	0.00	---	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	610159	-14.1
Hexabromobiphenyl	641833	692215	7.8

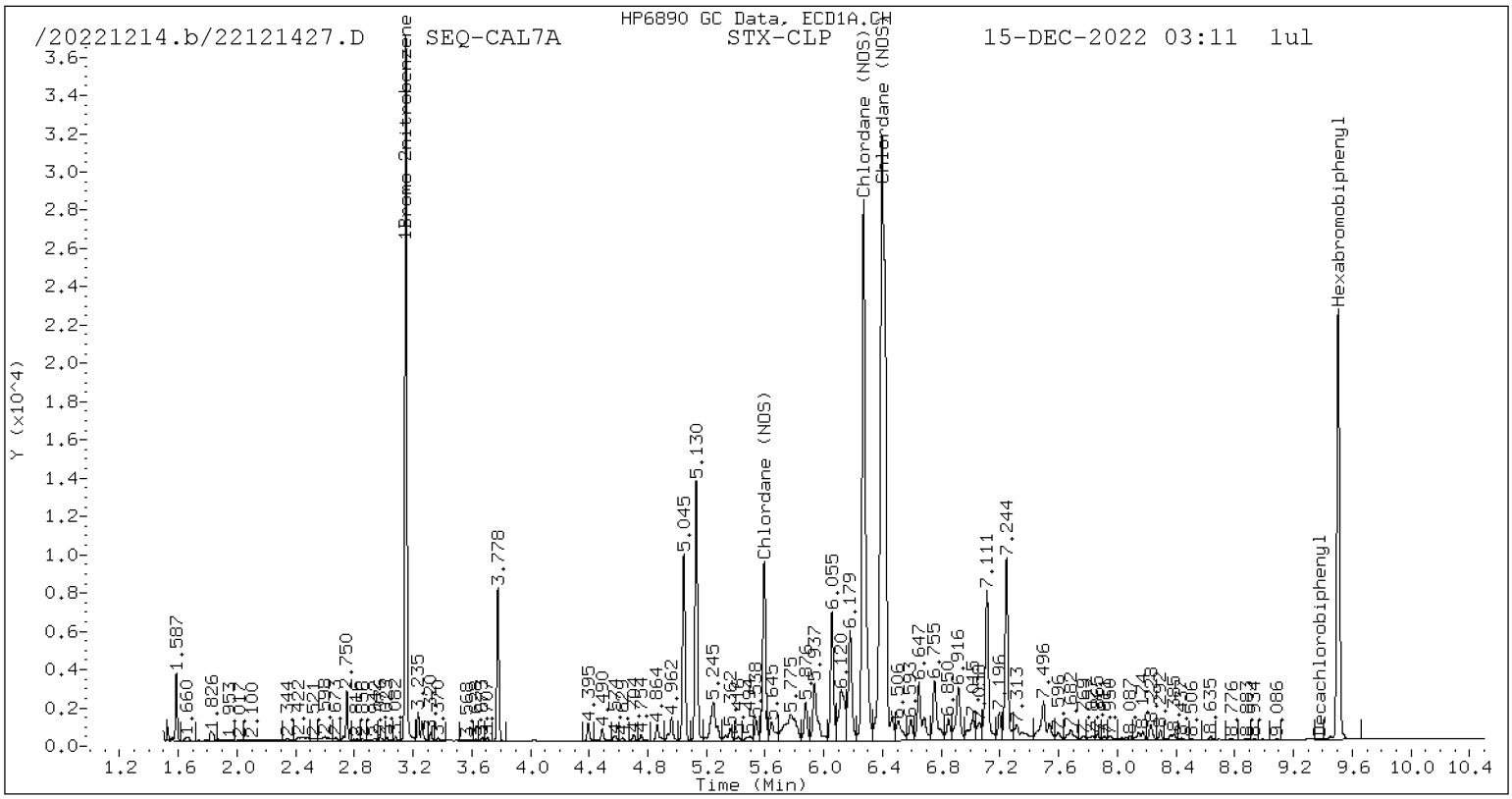
Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	790388	-25.4
Hexabromobiphenyl	797125	1059143	32.9

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

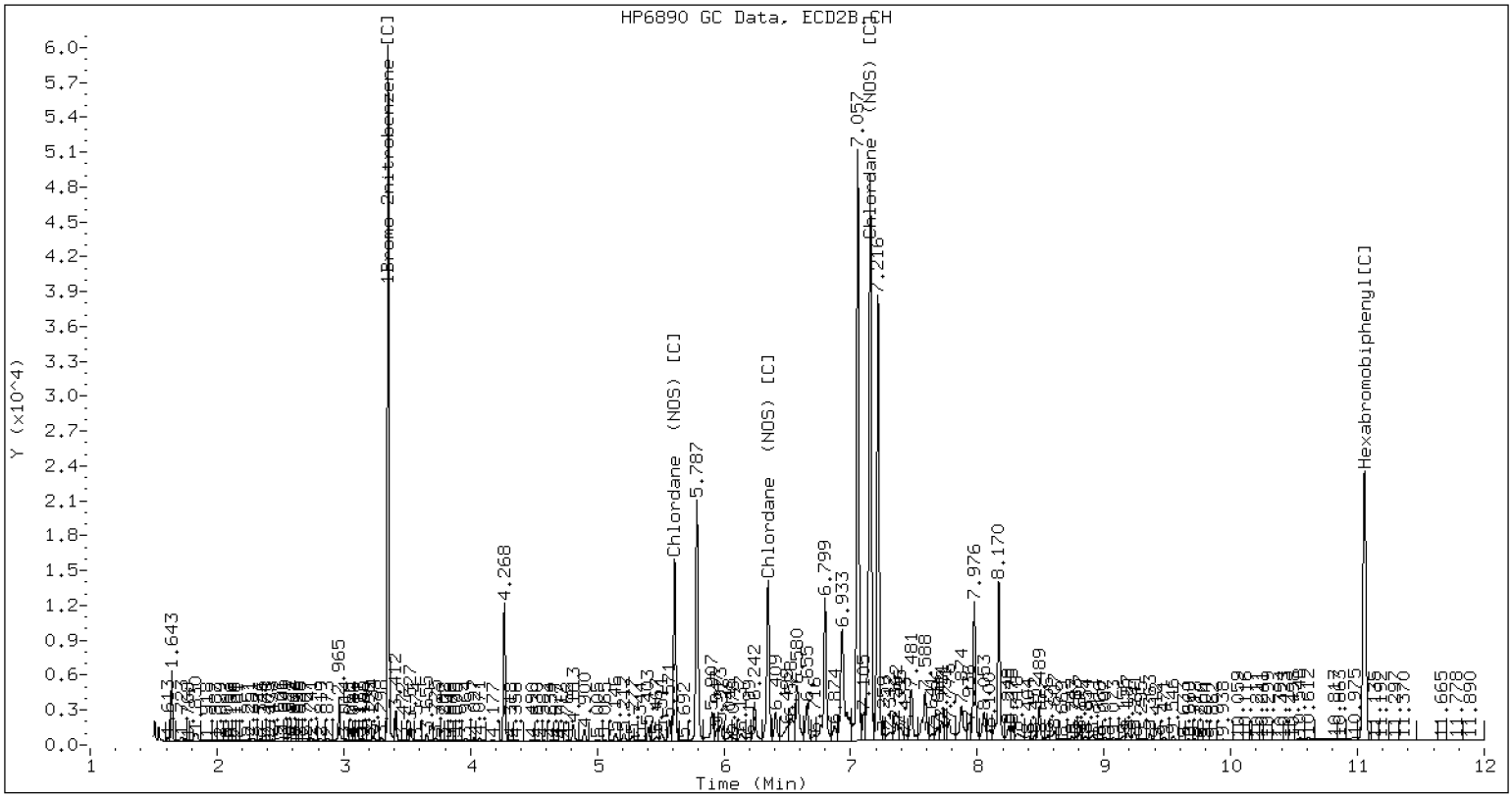
		STX-CLP Col					CLP2 Col				
Cpnd	Peak#	RT	Shift	Height	Amount	Peak#	RT	Shift	Height	Amount	
Chlordane (NOS)	1	5.593	0.001	276980	715.3	1	5.612	0.000	398620	795.3	
Chlordane (NOS)	2	6.271	-0.000	961368	749.3	2	6.349	0.000	405170	719.7	
Chlordane (NOS)	3	6.399	-0.000	1631241	727.0	3	7.155	0.000	1462876	768.2	
Total STX-CLPAve (3 peaks): 730.539						Total CLP2Ave (3 peaks): 761.064				RPD = 4	
Corrected Ave (3 peaks): 730.539						Corrected Ave (3 peaks): 761.064				RPD = 4	

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121427.D SEQ-CAL7A CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121427.D
Data file 2: /20221214.b/B20221214.b/22121427.D
Method: \20221214.b\PEST.m
Compound Sublist: TECHCHLOR.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL7A
Client ID:
Injection Date: 15-DEC-2022 03:11
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121428.D
Data file 2: /20221214.b/B20221214.b/22121428.D
Method: \20221214.b\PEST.m
Compound Sublist: TOXAPH.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL8A
Client ID:
Injection Date: 15-DEC-2022 03:29
Report Date: 12/16/2022 15:20
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
3.828	0.000	8893	4.221	0.000	14795	0.95	0.98	4.0	Tetrachloro-m-xylene
9.355	0.000	15511	10.467	0.000	24896	2.54	2.86	11.7	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	691781	-2.7
Hexabromobiphenyl	641833	602865	-6.1

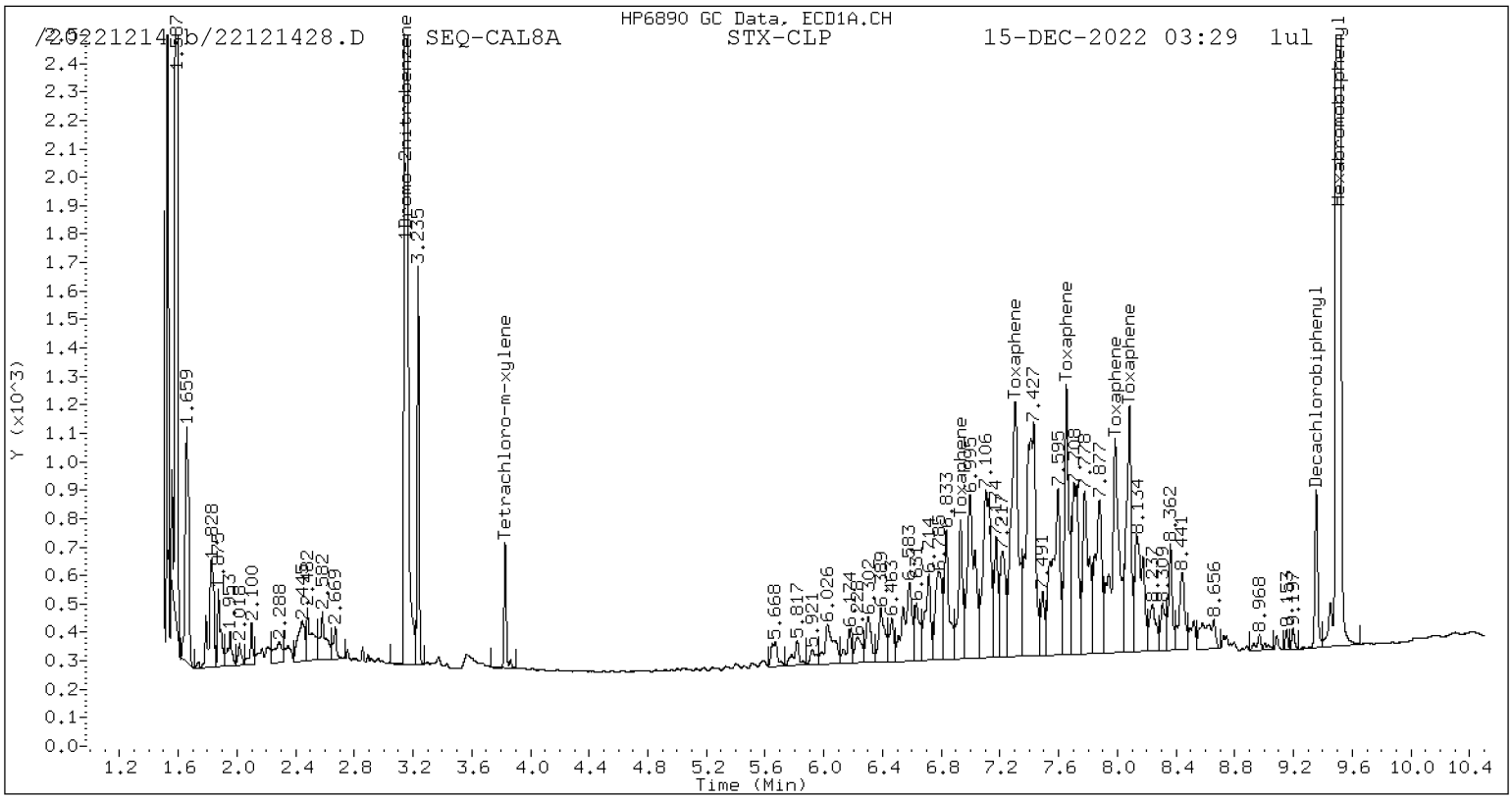
Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	1068328	0.9
Hexabromobiphenyl	797125	788806	-1.0

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

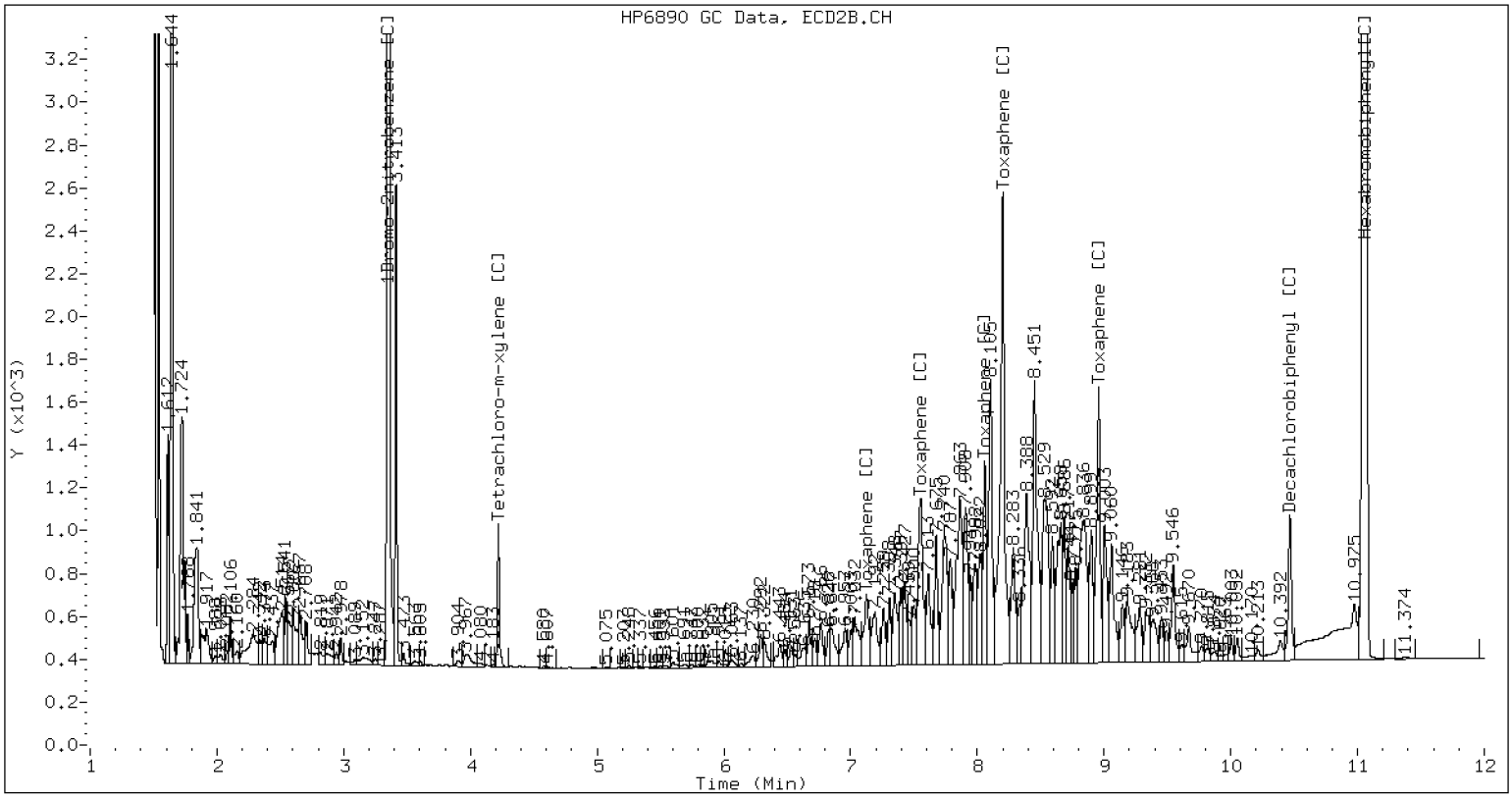
		STX-CLP Col					CLP2 Col				
Cpnd	Peak#	RT	Shift	Height	Amount	Peak#	RT	Shift	Height	Amount	
Toxaphene	1	6.931	0.000	20939	118.9	1	7.125	-0.000	18390	124.1	
Toxaphene	2	7.304	0.000	62921	127.5	2	7.553	-0.000	43437	130.4	
Toxaphene	3	7.653	-0.000	40147	126.2	3	8.059	-0.001	32235	127.1	
Toxaphene	4	7.985	-0.001	56816	133.6	4	8.201	-0.001	109296	132.1	
Toxaphene	5	8.082	-0.000	39643	123.4	5	8.958	-0.001	50997	125.7	
Total STX-CLPAve (5 peaks): 125.907						Total CLP2Ave (5 peaks): 127.865					RPD = 2
Corrected Ave (5 peaks): 125.907						Corrected Ave (5 peaks): 127.865					RPD = 2

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121428.D SEQ-CAL8A CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121428.D
Data file 2: /20221214.b/B20221214.b/22121428.D
Method: \20221214.b\PEST.m
Compound Sublist: TOXAPH.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL8A
Client ID:
Injection Date: 15-DEC-2022 03:29
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121429.D
Data file 2: /20221214.b/B20221214.b/22121429.D
Method: \20221214.b\PEST.m
Compound Sublist: TOXAPH.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL9A
Client ID:
Injection Date: 15-DEC-2022 03:46
Report Date: 12/16/2022 15:20
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
3.828	-0.000	18632	4.220	-0.000	29829	1.92	1.92	0.1	Tetrachloro-m-xylene
9.355	0.000	29179	10.467	0.000	44716	4.64	4.98	7.1	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	713620	0.4
Hexabromobiphenyl	641833	620026	-3.4

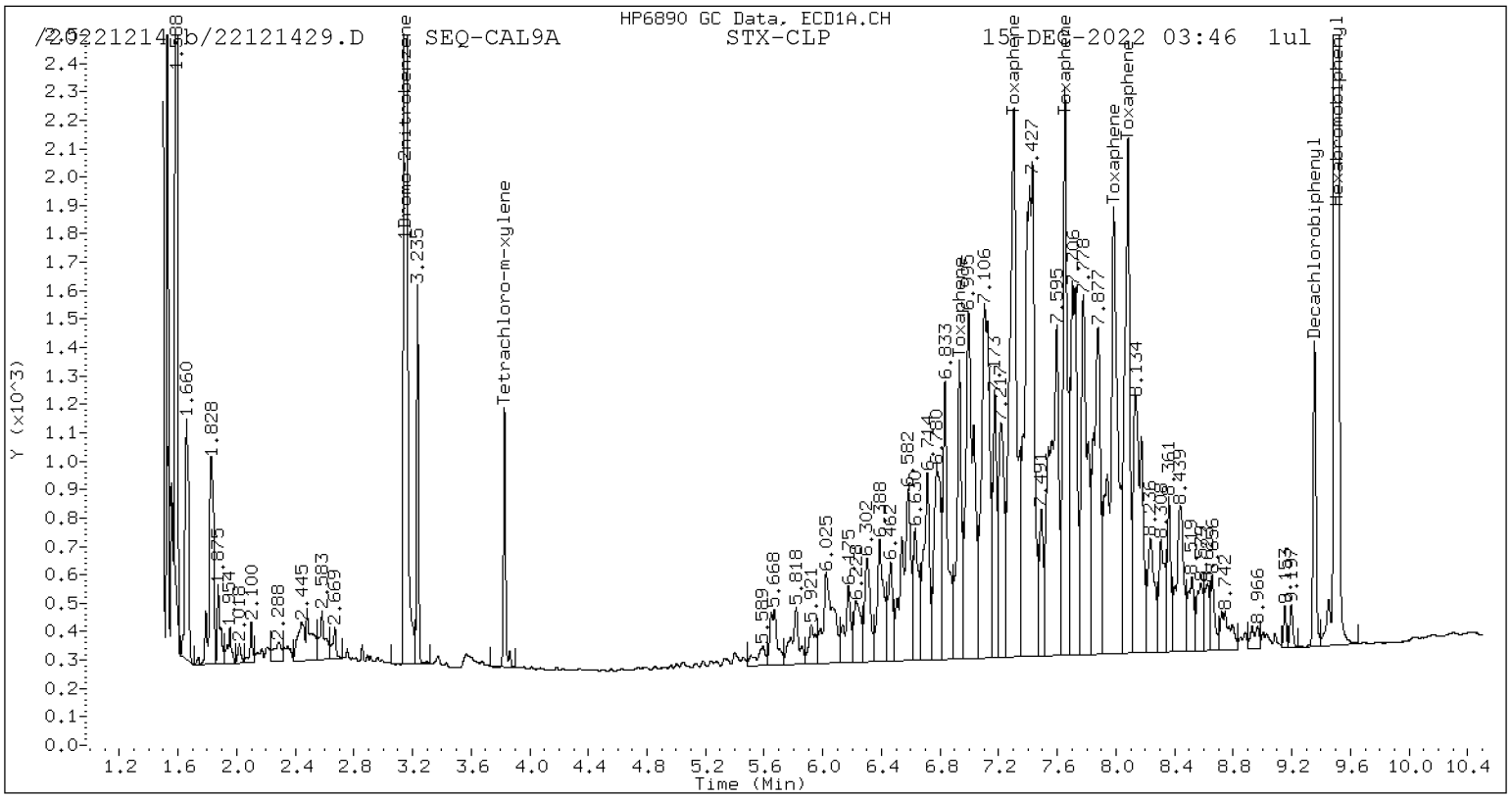
Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	1104488	4.3
Hexabromobiphenyl	797125	811719	1.8

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

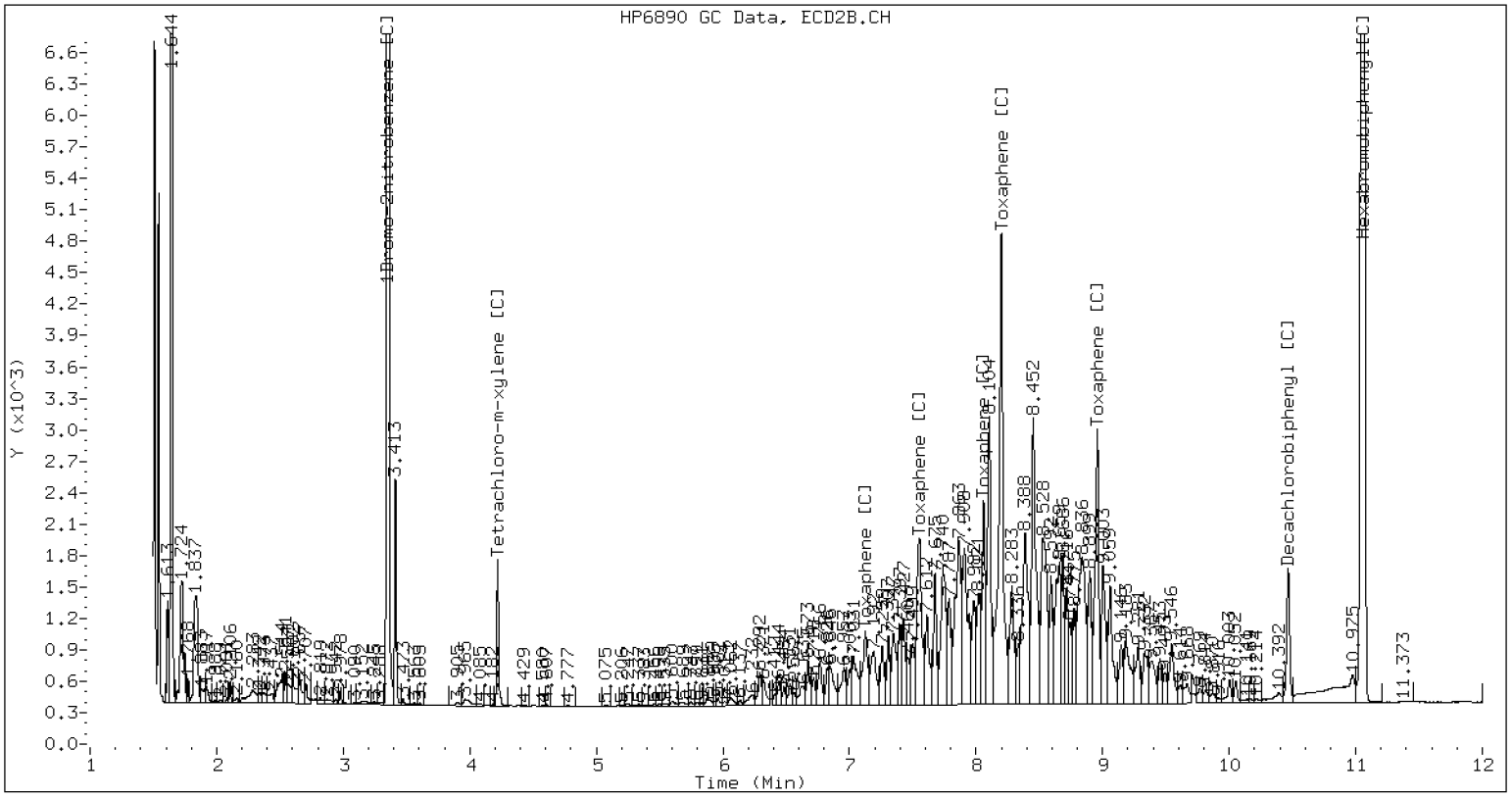
		STX-CLP Col					CLP2 Col				
Cpnd	Peak#	RT	Shift	Height	Amount	Peak#	RT	Shift	Height	Amount	
Toxaphene	1	6.931	0.000	47415	261.8	1	7.125	-0.001	38790	254.4	
Toxaphene	2	7.302	-0.001	134642	265.2	2	7.552	-0.001	89754	261.8	
Toxaphene	3	7.652	-0.001	86679	264.9	3	8.059	-0.001	67442	258.4	
Toxaphene	4	7.985	-0.001	125891	287.7	4	8.200	-0.001	220426	258.9	
Toxaphene	5	8.081	-0.000	85903	260.0	5	8.958	-0.001	104601	250.5	
Total STX-CLPAve (5 peaks): 267.939						Total CLP2Ave (5 peaks): 256.784				RPD = 4	
Corrected Ave (5 peaks): 267.939						Corrected Ave (5 peaks): 256.784				RPD = 4	

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121429.D SEQ-CAL9A CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121429.D
Data file 2: /20221214.b/B20221214.b/22121429.D
Method: \20221214.b\PEST.m
Compound Sublist: TOXAPH.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CAL9A
Client ID:
Injection Date: 15-DEC-2022 03:46
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121430.D
Data file 2: /20221214.b/B20221214.b/22121430.D
Method: \20221214.b\PEST.m
Compound Sublist: TOXAPH.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CALAA
Client ID:
Injection Date: 15-DEC-2022 04:04
Report Date: 12/16/2022 15:20
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
3.828	-0.000	37717	4.220	0.000	60469	3.98	3.98	0.0	Tetrachloro-m-xylene
9.355	0.000	57106	10.467	0.000	82418	9.20	9.32	1.3	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	696179	-2.0
Hexabromobiphenyl	641833	612804	-4.5

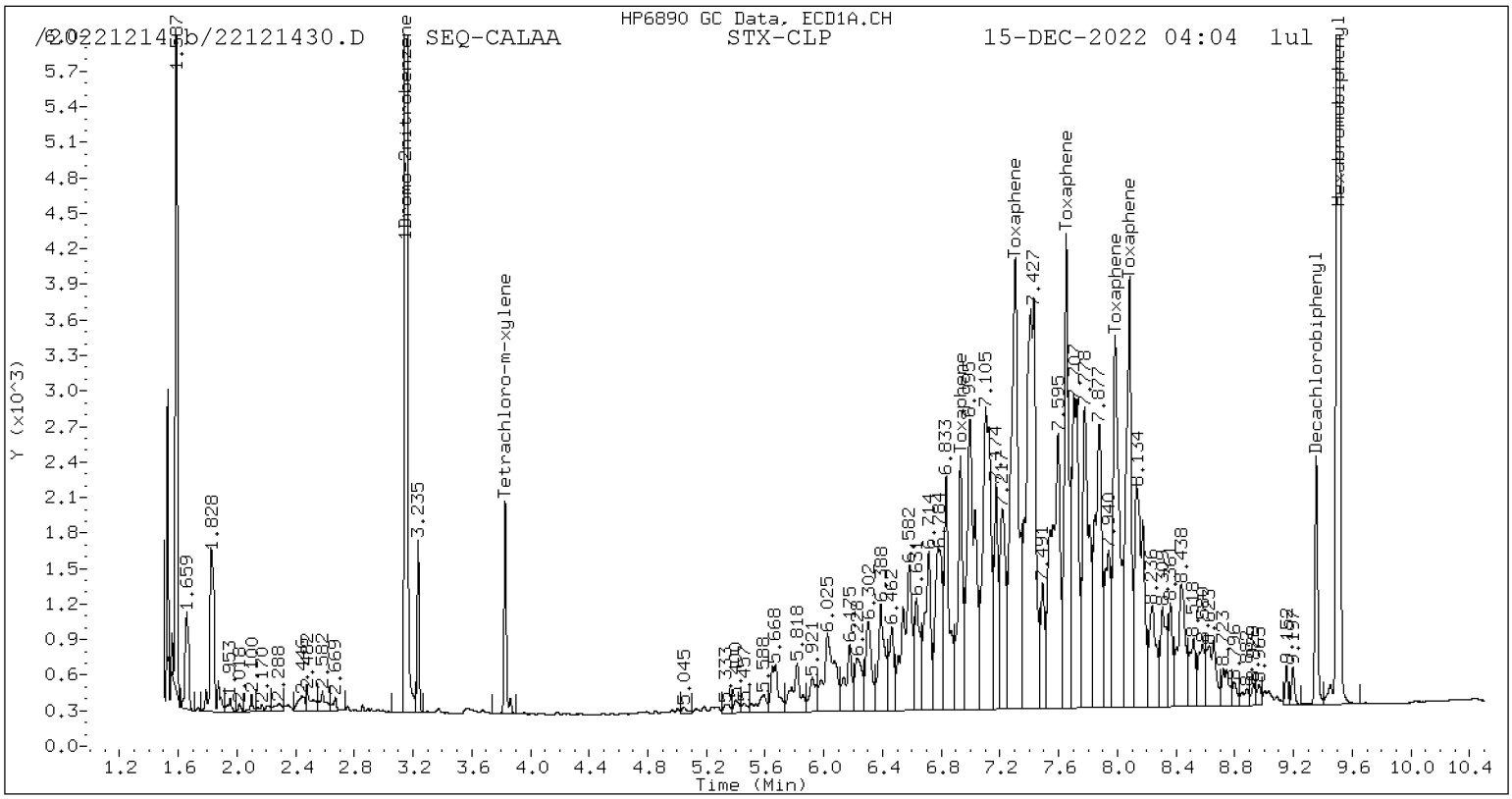
Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	1078803	1.9
Hexabromobiphenyl	797125	800071	0.4

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

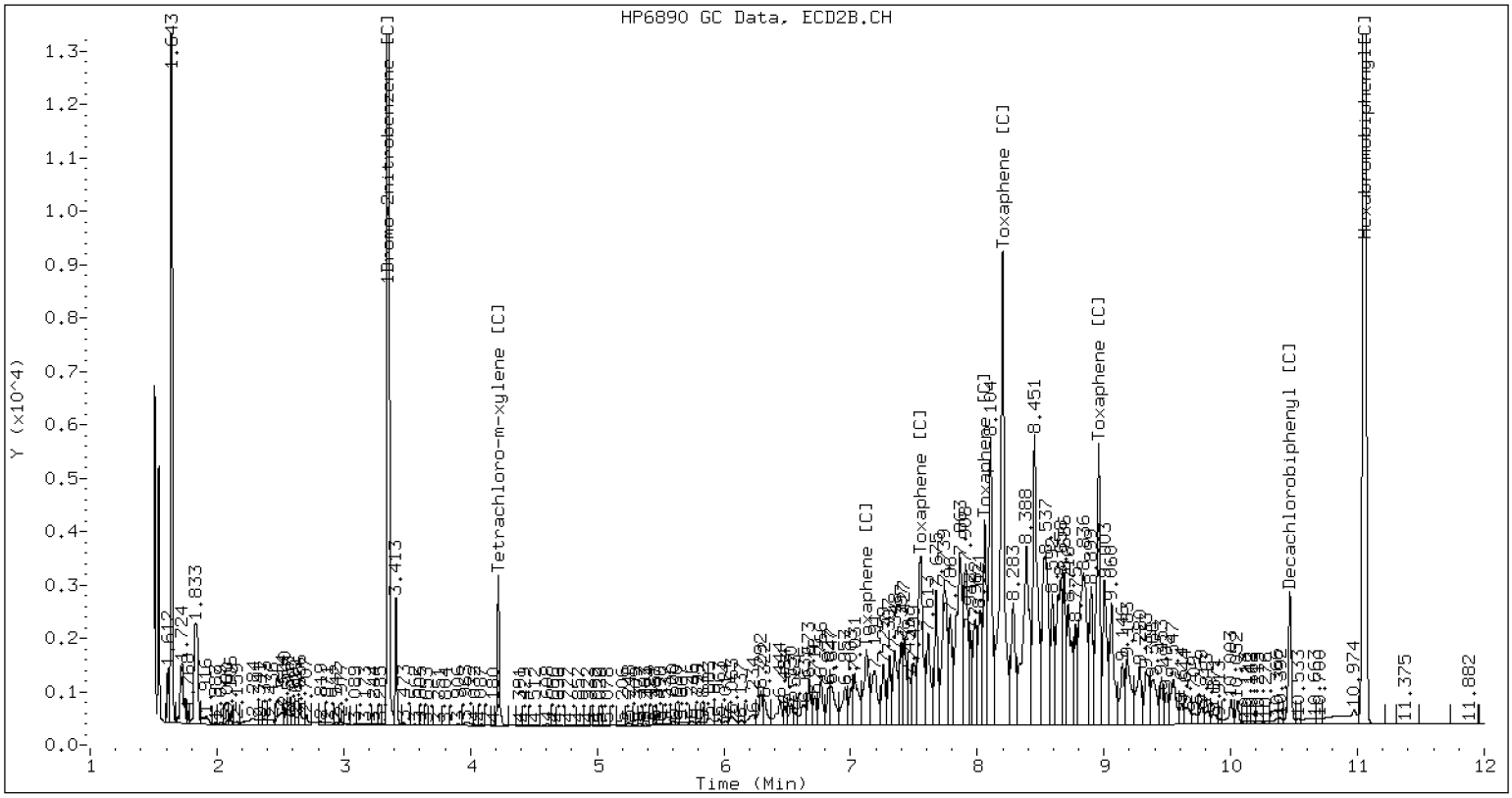
		STX-CLP Col					CLP2 Col				
Cpnd	Peak#	RT	Shift	Height	Amount	Peak#	RT	Shift	Height	Amount	
Toxaphene	1	6.931	-0.000	96535	539.4	1	7.125	-0.001	78635	523.1	
Toxaphene	2	7.304	0.000	273576	545.2	2	7.553	-0.001	179081	529.9	
Toxaphene	3	7.652	-0.001	177095	547.7	3	8.059	-0.001	133547	519.1	
Toxaphene	4	7.985	-0.001	190443	440.4	4	8.200	-0.001	437035	520.8	
Toxaphene	5	8.082	-0.000	175009	535.8	5	8.958	-0.001	209659	509.4	
Total STX-CLPAve (5 peaks): 521.711						Total CLP2Ave (5 peaks): 520.468				RPD = 0	
Corrected Ave (5 peaks): 521.711						Corrected Ave (5 peaks): 520.468				RPD = 0	

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121430.D SEQ-CALAA CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121430.D
Data file 2: /20221214.b/B20221214.b/22121430.D
Method: \20221214.b\PEST.m
Compound Sublist: TOXAPH.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CALAA
Client ID:
Injection Date: 15-DEC-2022 04:04
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121431.D
Data file 2: /20221214.b/B20221214.b/22121431.D
Method: \20221214.b\PEST.m
Compound Sublist: TOXAPH.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CALAB
Client ID:
Injection Date: 15-DEC-2022 04:22
Report Date: 12/16/2022 15:20
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
3.828	0.000	74347	4.221	0.000	119694	7.73	7.77	0.5	Tetrachloro-m-xylene
9.355	-0.000	107024	10.466	-0.000	151970	17.00	17.11	0.7	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	706924	-0.5
Hexabromobiphenyl	641833	621486	-3.2

Column 2

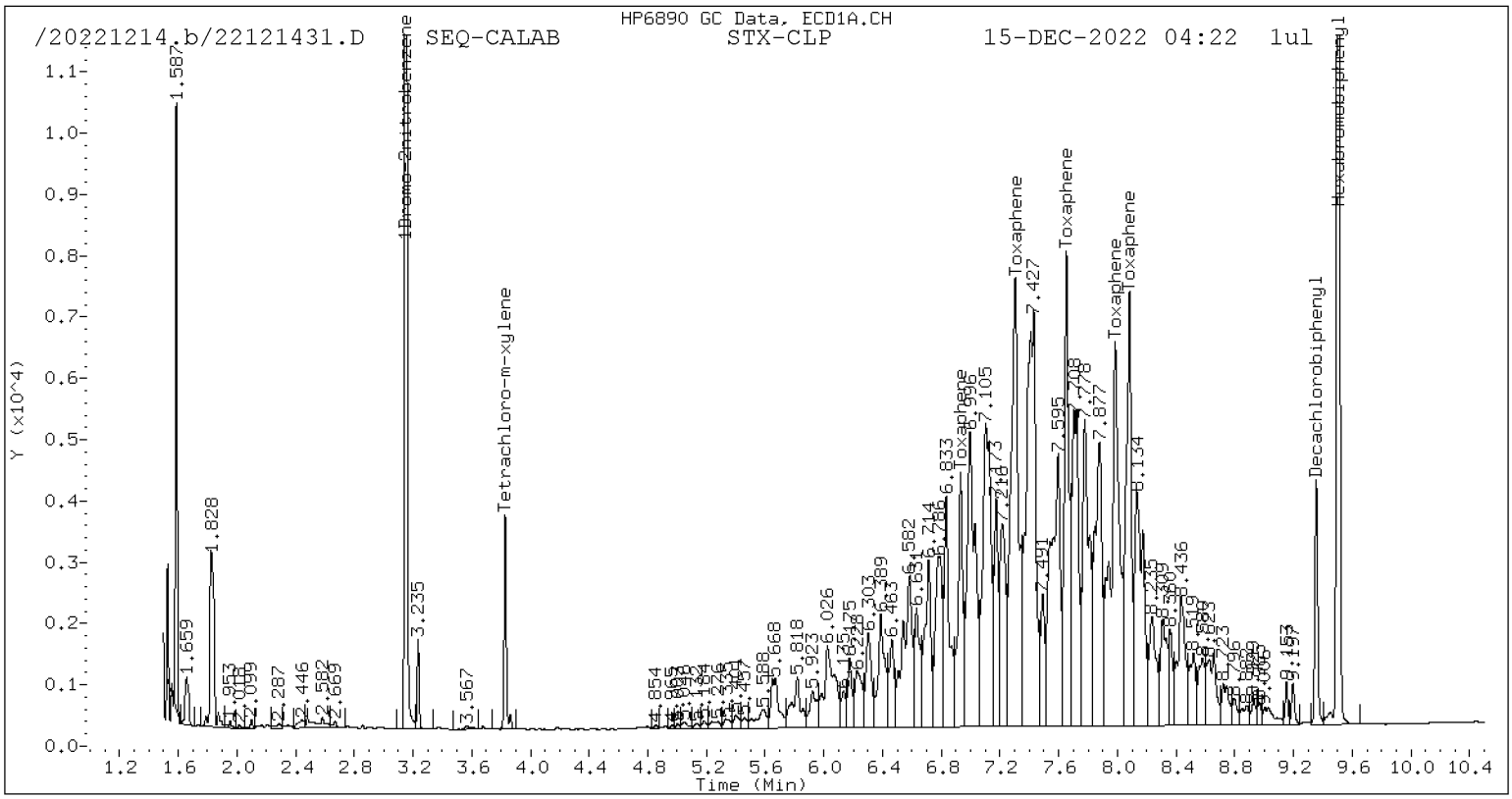
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	1093936	3.3
Hexabromobiphenyl	797125	803782	0.8

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

	STX-CLP Col					CLP2 Col				
Cpnd	Peak#	RT	Shift	Height	Amount	Peak#	RT	Shift	Height	Amount
Toxaphene	1	6.931	0.000	192757	1062.0	1	7.125	-0.000	156515	1036.5
Toxaphene	2	7.303	-0.000	530863	1043.2	2	7.553	-0.001	349637	1029.8
Toxaphene	3	7.653	-0.000	344194	1049.6	3	8.059	-0.000	265296	1026.5
Toxaphene	4	7.986	-0.000	522105	1190.6	4	8.201	-0.001	854255	1013.3
Toxaphene	5	8.082	-0.000	345477	1043.0	5	8.958	-0.001	416452	1007.1

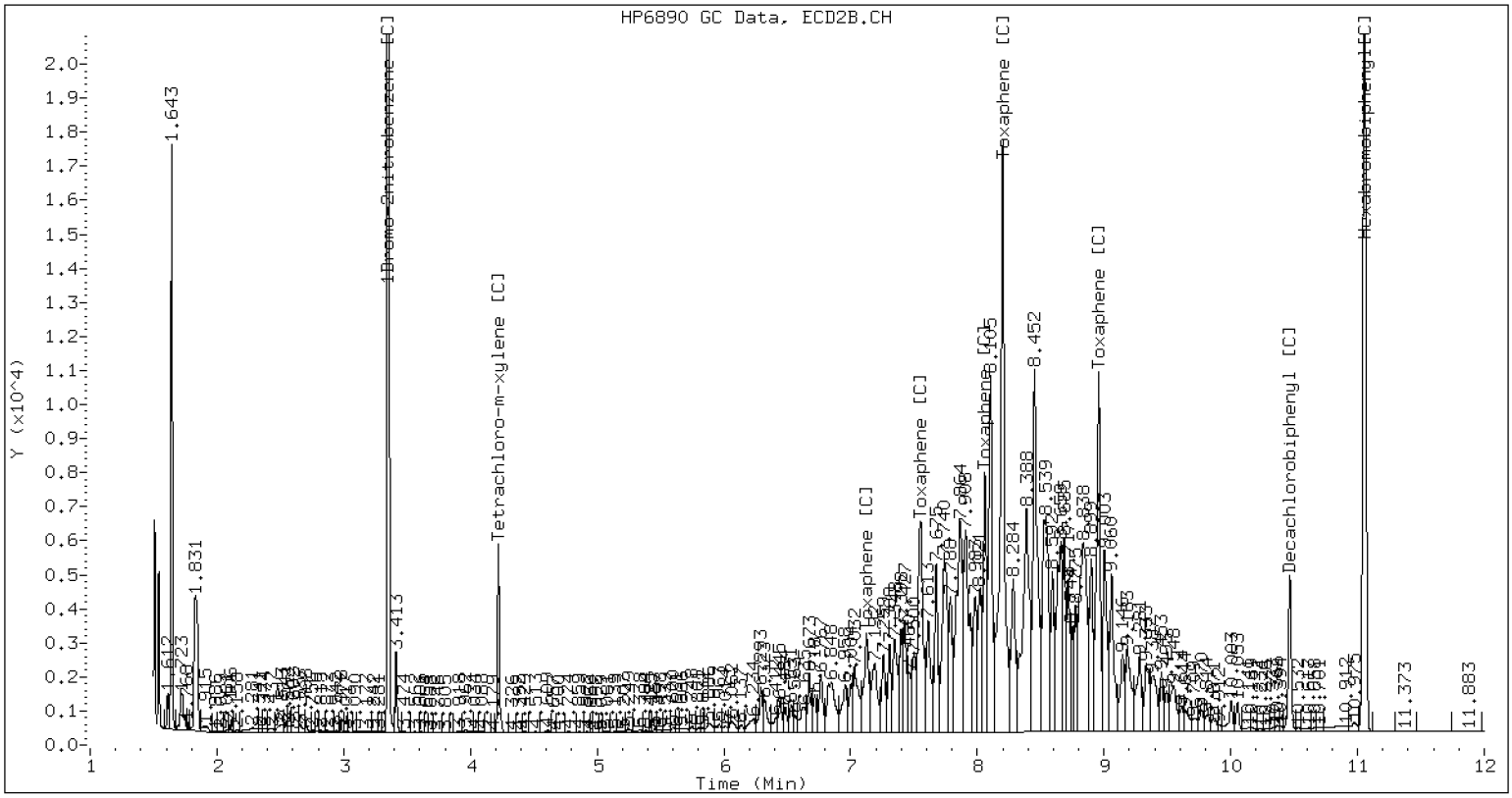
Total STX-CLPAve (5 peaks): 1077.665 Total CLP2Ave (5 peaks): 1022.630 RPD = 5
Corrected Ave (5 peaks): 1077.665 Corrected Ave (5 peaks): 1022.630 RPD = 5

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121431.D SEQ-CALAB CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121431.D
Data file 2: /20221214.b/B20221214.b/22121431.D
Method: \20221214.b\PEST.m
Compound Sublist: TOXAPH.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CALAB
Client ID:
Injection Date: 15-DEC-2022 04:22
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121432.D
Data file 2: /20221214.b/B20221214.b/22121432.D
Method: \20221214.b\PEST.m
Compound Sublist: TOXAPH.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CALAC
Client ID:
Injection Date: 15-DEC-2022 04:40
Report Date: 12/16/2022 15:20
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
3.828	0.000	169388	4.221	0.000	273030	18.51	18.69	1.0	Tetrachloro-m-xylene
9.356	0.001	234532	10.466	-0.000	332716	40.53	40.11	1.0	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	672958	-5.3
Hexabromobiphenyl	641833	571112	-11.0

Column 2

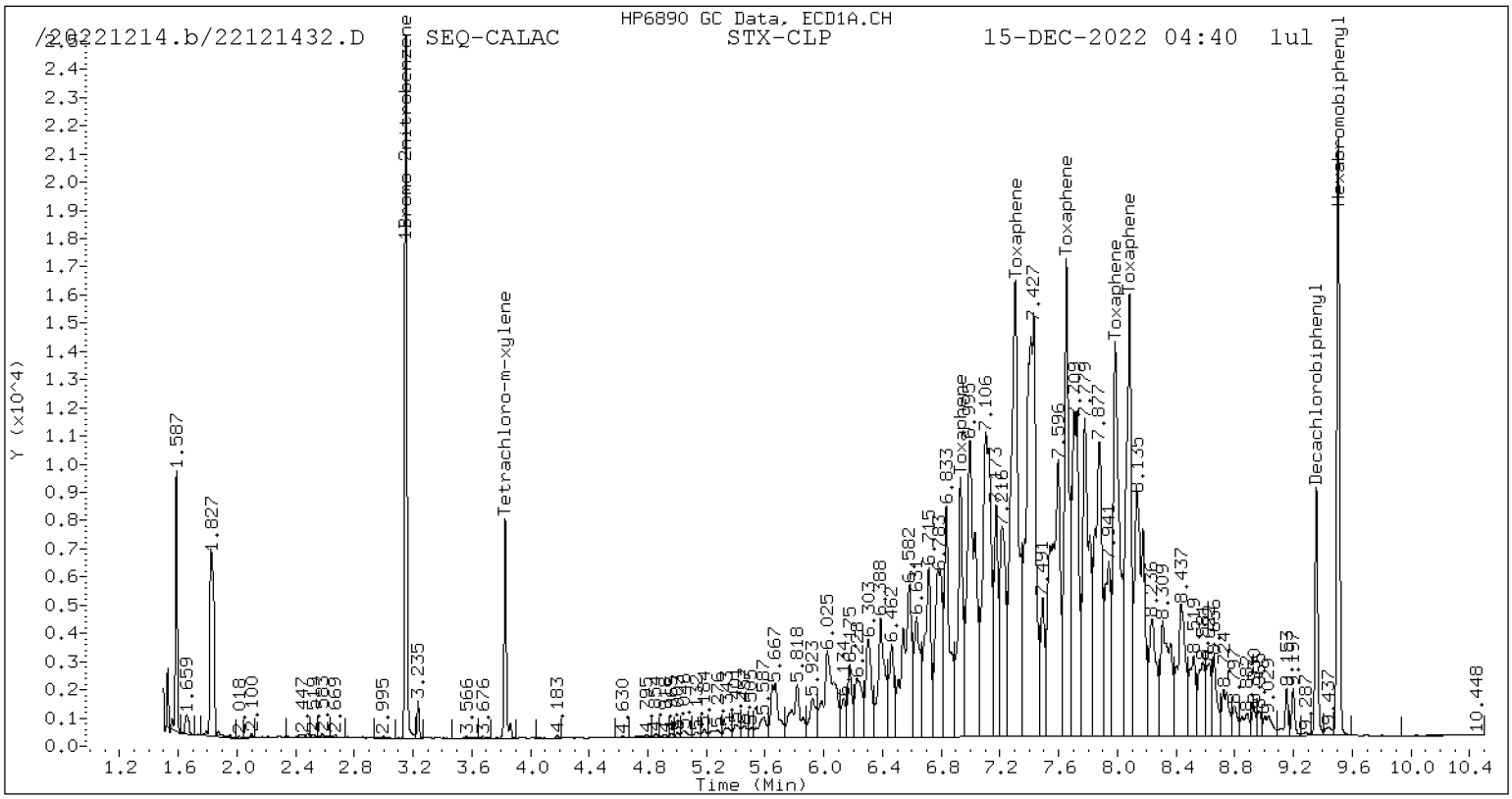
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	1037593	-2.0
Hexabromobiphenyl	797125	750492	-5.9

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

	STX-CLP Col					CLP2 Col				
Cpnd	Peak#	RT	Shift	Height	Amount	Peak#	RT	Shift	Height	Amount
Toxaphene	1	6.931	0.000	432250	2591.5	1	7.126	-0.000	358061	2539.5
Toxaphene	2	7.303	0.000	1180375	2524.1	2	7.553	0.000	785942	2479.1
Toxaphene	3	7.653	0.000	762221	2529.4	3	8.059	-0.000	602985	2498.7
Toxaphene	4	7.986	0.000	863552	2142.9	4	8.201	-0.001	1929083	2450.8
Toxaphene	5	8.082	0.000	777497	2554.3	5	8.958	-0.001	962132	2492.0

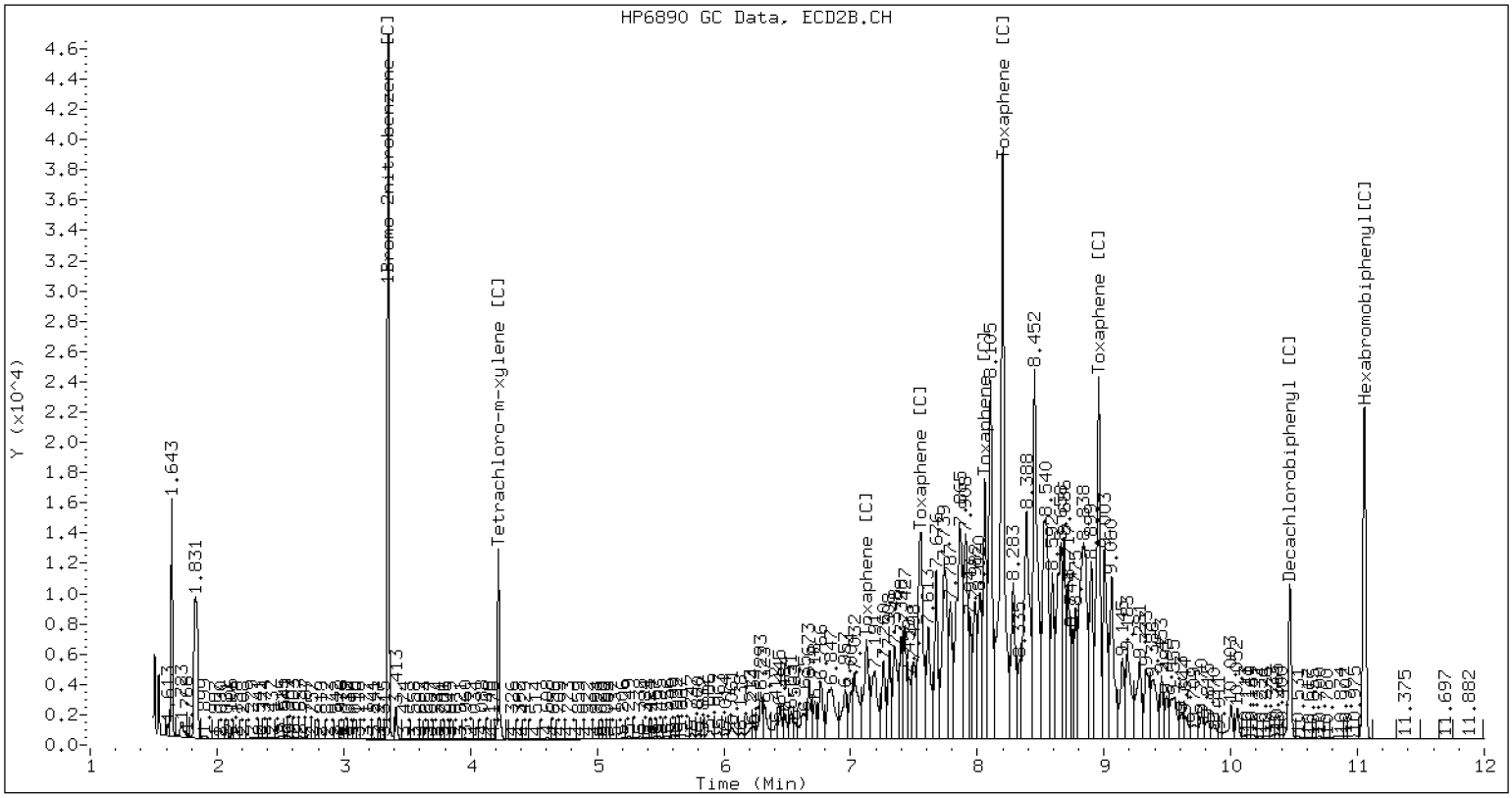
Total STX-CLPAve (5 peaks): 2468.427 Total CLP2Ave (5 peaks): 2492.024 RPD = 1
Corrected Ave (5 peaks): 2468.427 Corrected Ave (5 peaks): 2492.024 RPD = 1

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121432.D SEQ-CALAC CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121432.D
Data file 2: /20221214.b/B20221214.b/22121432.D
Method: \20221214.b\PEST.m
Compound Sublist: TOXAPH.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CALAC
Client ID:
Injection Date: 15-DEC-2022 04:40
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121433.D
Data file 2: /20221214.b/B20221214.b/22121433.D
Method: \20221214.b\PEST.m
Compound Sublist: TOXAPH.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CALAD
Client ID:
Injection Date: 15-DEC-2022 04:58
Report Date: 12/16/2022 15:20
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
3.828	-0.000	329284	4.221	0.000	536251	34.78	35.63	2.4	Tetrachloro-m-xylene
9.356	0.000	464116	10.466	-0.000	660536	76.95	77.19	0.3	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

˜ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	696178	-2.0
Hexabromobiphenyl	641833	595287	-7.3

Column 2

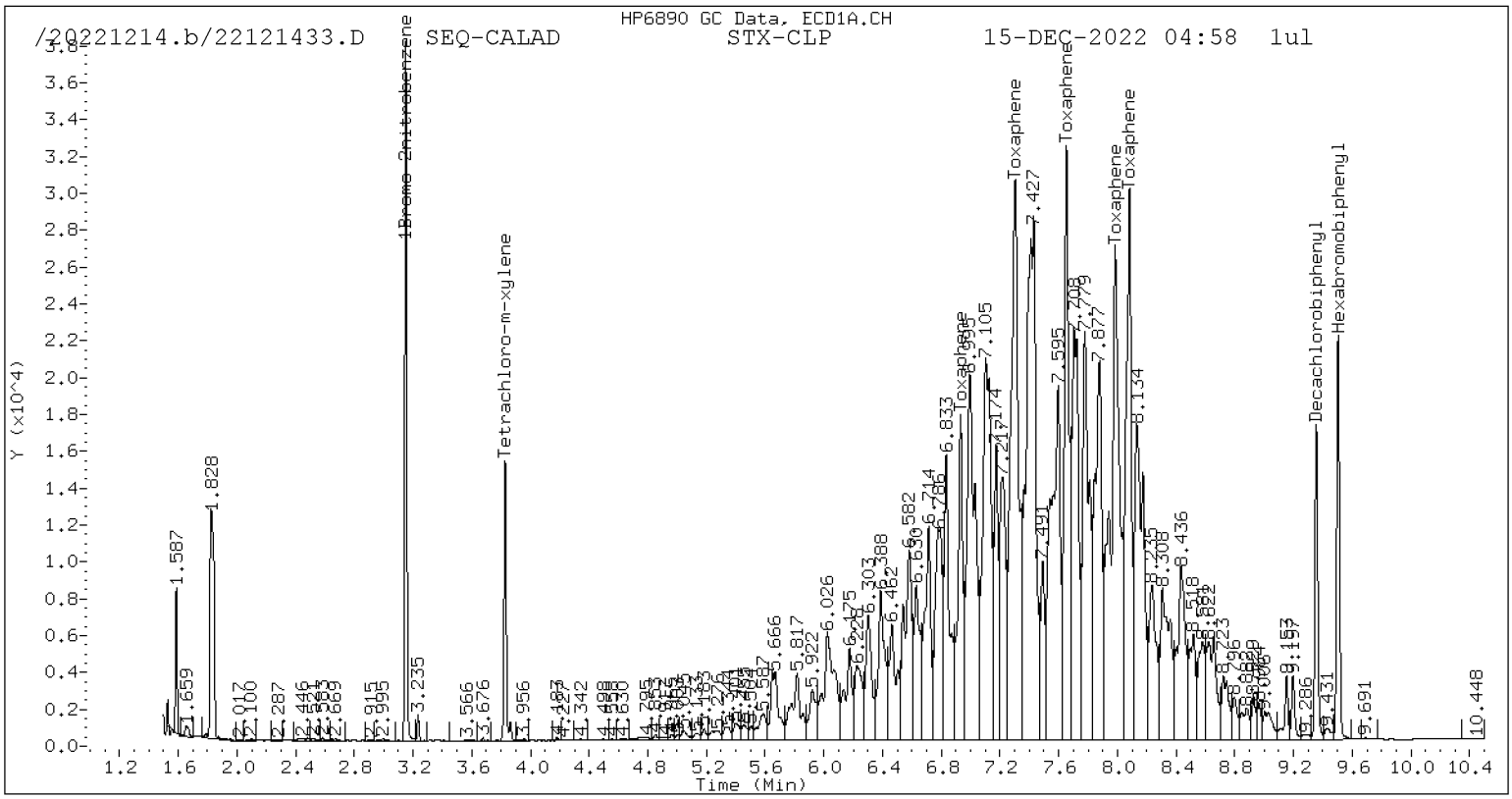
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	1069205	1.0
Hexabromobiphenyl	797125	774218	-2.9

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

	STX-CLP Col					CLP2 Col				
Cpnd	Peak#	RT	Shift	Height	Amount	Peak#	RT	Shift	Height	Amount
Toxaphene	1	6.931	0.000	828531	4765.6	1	7.126	-0.000	704213	4841.5
Toxaphene	2	7.303	-0.000	2275106	4667.4	2	7.554	0.000	1533921	4690.3
Toxaphene	3	7.653	-0.000	1493693	4755.4	3	8.059	-0.001	1192086	4788.5
Toxaphene	4	7.986	0.000	2318449	5519.5	4	8.201	-0.001	3835448	4723.4
Toxaphene	5	8.081	-0.000	1509568	4758.0	5	8.958	-0.000	1957568	4914.8

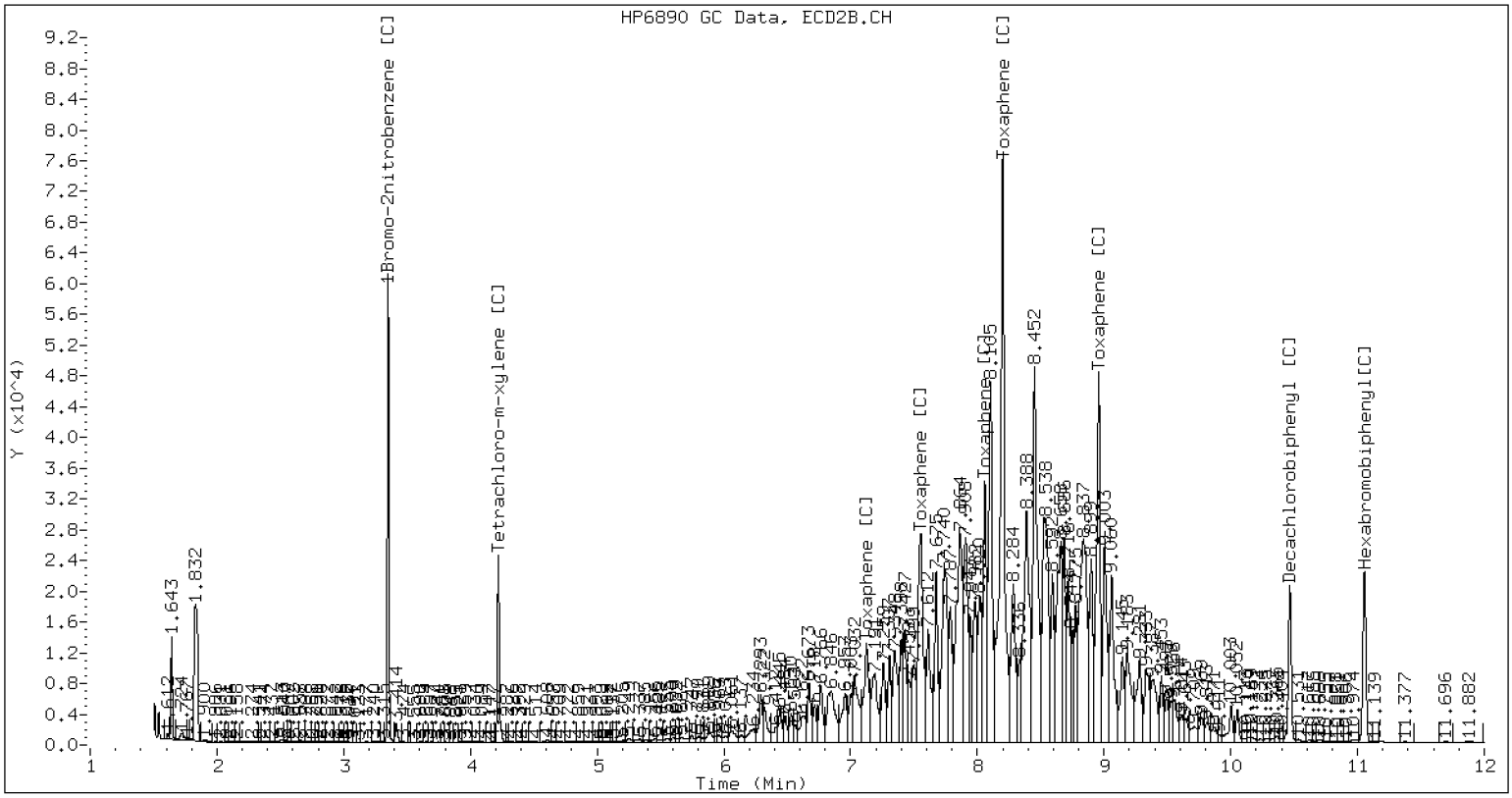
Total STX-CLPAve (5 peaks): 4893.192 Total CLP2Ave (5 peaks): 4791.694 RPD = 2
Corrected Ave (5 peaks): 4893.192 Corrected Ave (5 peaks): 4791.694 RPD = 2

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121433.D SEQ-CALAD CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121433.D
Data file 2: /20221214.b/B20221214.b/22121433.D
Method: \20221214.b\PEST.m
Compound Sublist: TOXAPH.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CALAD
Client ID:
Injection Date: 15-DEC-2022 04:58
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121434.D
Data file 2: /20221214.b/B20221214.b/22121434.D
Method: \20221214.b\PEST.m
Compound Sublist: TOXAPH.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CALAE
Client ID:
Injection Date: 15-DEC-2022 05:16
Report Date: 12/16/2022 15:20
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
3.828	-0.000	626937	4.221	0.000	1016753	65.66	67.54	2.8	Tetrachloro-m-xylene
9.355	0.000	899917	10.467	0.000	1293767	145.37	151.89	4.4	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	710650	702143	-1.2
Hexabromobiphenyl	641833	610983	-4.8

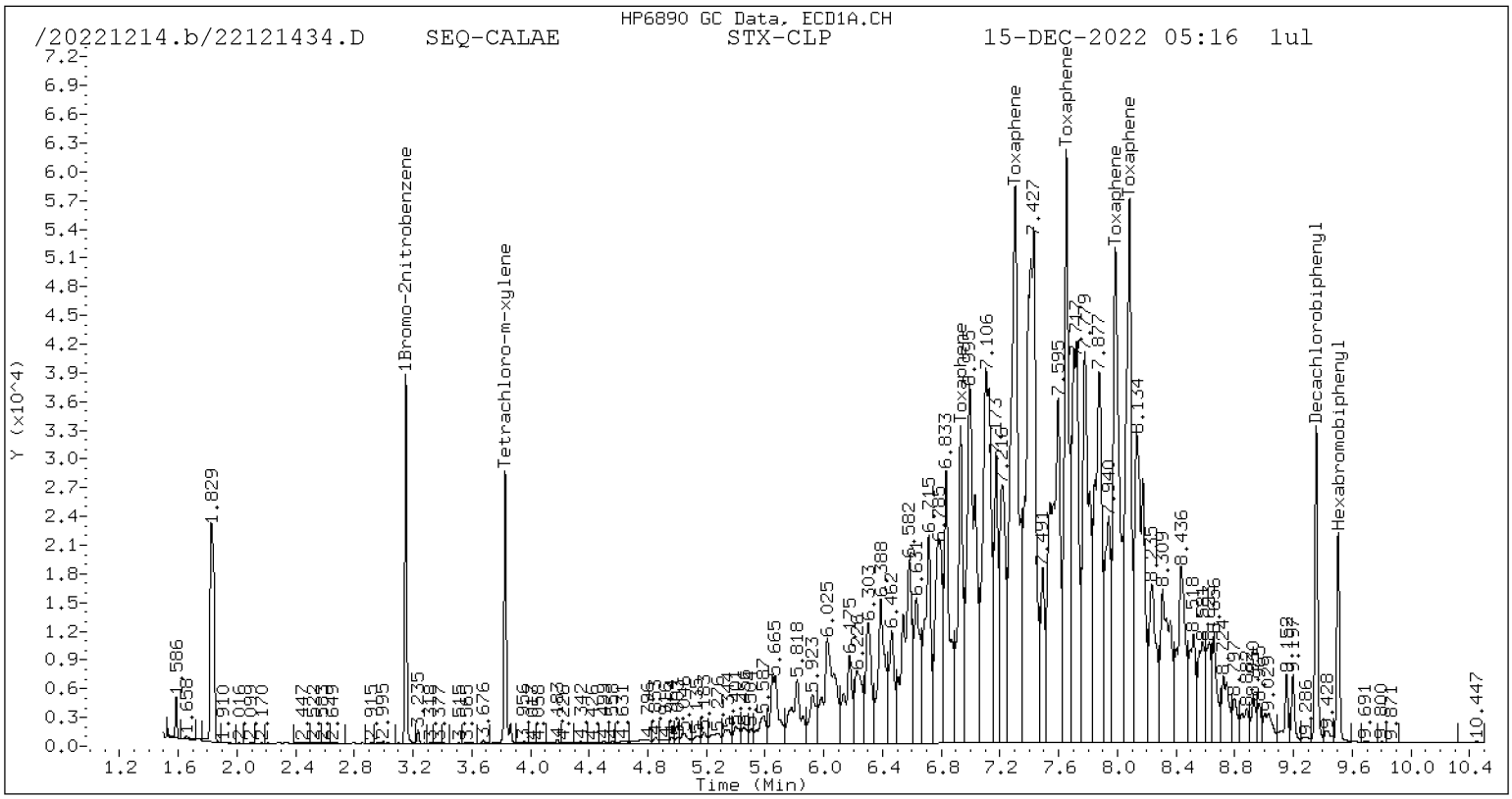
Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1058848	1069521	1.0
Hexabromobiphenyl	797125	770702	-3.3

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

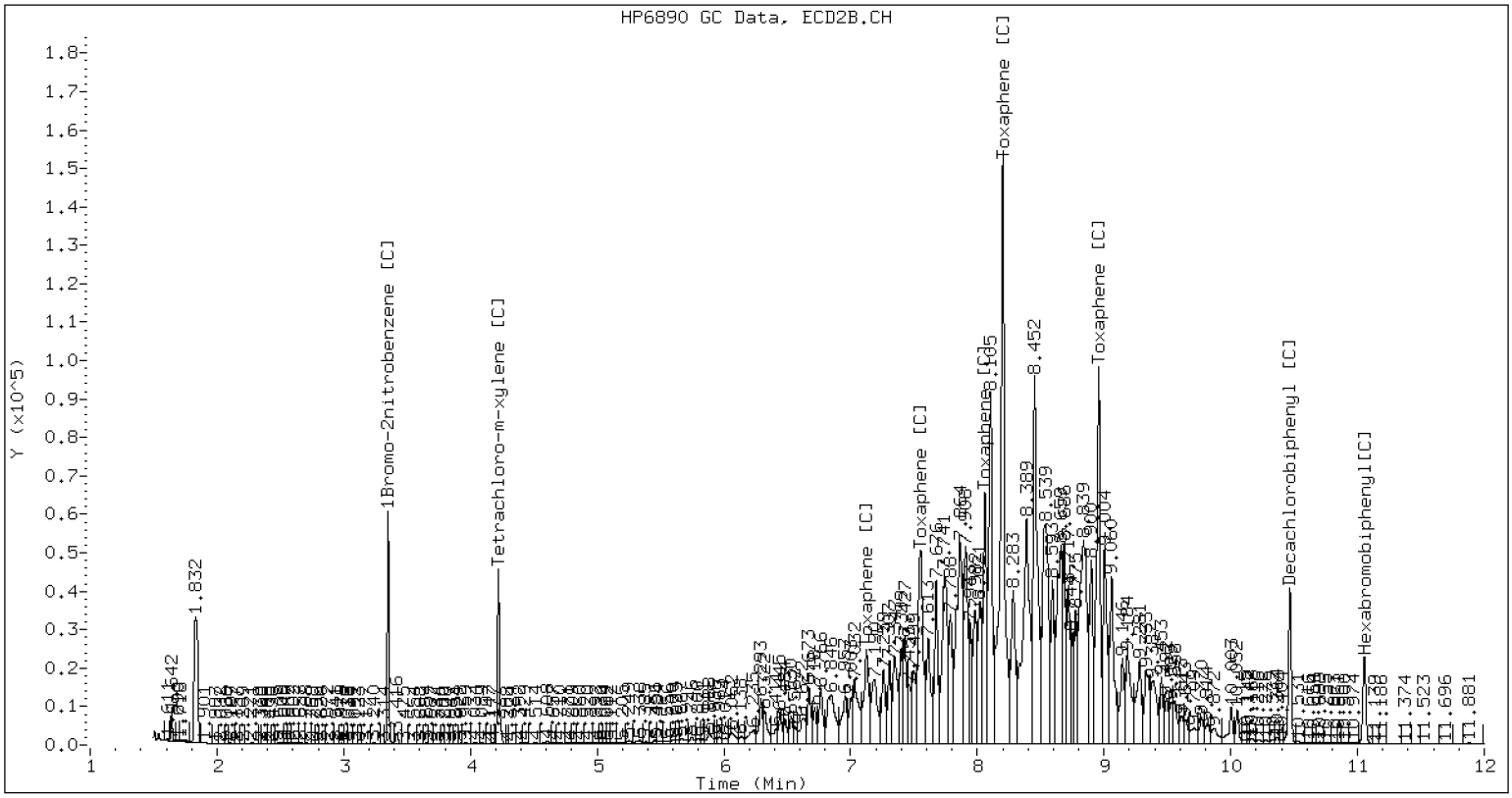
		STX-CLP Col					CLP2 Col				
Cpnd	Peak#	RT	Shift	Height	Amount	Peak#	RT	Shift	Height	Amount	
Toxaphene	1	6.931	0.000	1553785	8707.6	1	7.126	0.000	1336419	9229.8	
Toxaphene	2	7.303	-0.000	4216546	8428.1	2	7.553	0.000	2900195	8908.4	
Toxaphene	3	7.653	-0.000	2652265	8227.0	3	8.060	0.000	2299294	9278.2	
Toxaphene	4	7.987	0.001	3225164	7480.8	4	8.201	0.000	7496819	9274.6	
Toxaphene	5	8.082	-0.000	2882252	8851.2	5	8.959	0.000	3913616	9870.7	
Total STX-CLPAve (5 peaks): 8338.950						Total CLP2Ave (5 peaks): 9312.318				RPD = 11	
Corrected Ave (5 peaks): 8338.950						Corrected Ave (5 peaks): 9312.318				RPD = 11	

Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20221214.b/B20221214.b/22121434.D SEQ-CALAE CLP2



CLP-2 Manual Integration: NO

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20221214.b/22121434.D
Data file 2: /20221214.b/B20221214.b/22121434.D
Method: \20221214.b\PEST.m
Compound Sublist: TOXAPH.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CALAE
Client ID:
Injection Date: 15-DEC-2022 05:16
Report Date: 12/15/2022 09:09
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag

Analytical Resources, LLC
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK
EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD6	Calibration:	FL00041
Lab File ID:	23032406.D	Calibration Date:	12/14/2022
Sequence:	SLC0442	Injection Date:	03/24/23
Lab Sample ID:	SLC0442-ICV1	Injection Time:	17:27
Sequence Name:	INDAE1		

		CONC. (ng/mL)		RESPONSE FACTOR			% DRIFT/DIFF		
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT	
alpha-BHC	A	20.000	17.5	1.5401480	1.3495940		-12.4	+/-20	
alpha-BHC [2C]	A	20.000	18.9	1.6032650	1.5174700		-5.4	+/-20	
beta-BHC	A	20.000	17.7	0.5929524	0.5253438		-11.4	+/-20	
beta-BHC [2C]	A	20.000	18.9	0.6095359	0.5773569		-5.3	+/-20	
gamma-BHC (Lindane)	A	20.000	17.8	1.3353400	1.1852260		-11.2	+/-20	
gamma-BHC (Lindane) [2C]	A	20.000	18.8	1.3606	1.2799590		-5.9	+/-20	
delta-BHC	A	20.000	16.9	1.2587440	1.0663720		-15.3	+/-20	
delta-BHC [2C]	A	20.000	11.2	1.3206240	0.7394749		-44.0	+/-20	*
Heptachlor	A	20.000	17.6	1.1881510	1.0458810		-12.0	+/-20	
Heptachlor [2C]	A	20.000	18.7	1.2325020	1.1507700		-6.6	+/-20	
Aldrin	A	20.000	17.0	1.3315350	1.1350550		-14.8	+/-20	
Aldrin [2C]	A	20.000	17.9	1.4072190	1.2626960		-10.3	+/-20	
Heptachlor Epoxide	A	20.000	17.6	1.1545300	1.0174650		-11.9	+/-20	
Heptachlor Epoxide [2C]	A	20.000	17.8	1.1636450	1.0365360		-10.9	+/-20	
trans-Chlordane (beta-Chlordane)	A	20.000	17.4	1.1726130	1.0212900		-12.9	+/-20	
trans-Chlordane (beta-Chlordane) [2C]	A	20.000	17.4	1.1604170	1.0101990		-12.9	+/-20	
cis-Chlordane (alpha-chlordane)	A	20.000	17.2	1.1760380	1.0139390		-13.8	+/-20	
cis-Chlordane (alpha-chlordane) [2C]	A	20.000	17.4	1.1352300	0.9861284		-13.1	+/-20	
Endosulfan I	A	20.000	18.1	1.0595170	0.9588982		-9.5	+/-20	
Endosulfan I [2C]	A	20.000	17.8	1.0256020	0.9118711		-11.1	+/-20	
4,4'-DDE	A	40.000	35.6	1.0568430	0.9393105		-11.1	+/-20	
4,4'-DDE [2C]	A	40.000	36.4	1.0391680	0.9449396		-9.1	+/-20	
Dieldrin	A	40.000	34.7	1.1382810	0.9880679		-13.2	+/-20	
Dieldrin [2C]	A	40.000	35.5	1.1331770	1.0053130		-11.3	+/-20	
Endrin	A	40.000	36.5	1.0488190	0.9581713		-8.6	+/-20	
Endrin [2C]	A	40.000	37.7	1.1374860	1.0727350		-5.7	+/-20	
Endosulfan II	A	40.000	40.6	0.9441550	0.9582318		1.5	+/-20	
Endosulfan II [2C]	A	40.000	38.0	1.1659380	1.1073660		-5.0	+/-20	
4,4'-DDD	A	40.000	40.7	0.9449058	0.9614335		1.7	+/-20	
4,4'-DDD [2C]	A	40.000	40.2	1.1064160	1.1105800		0.4	+/-20	

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK
EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD6	Calibration:	FL00041
Lab File ID:	23032406.D	Calibration Date:	12/14/2022
Sequence:	SLC0442	Injection Date:	03/24/23
Lab Sample ID:	SLC0442-ICV1	Injection Time:	17:27
Sequence Name:	INDAE1		

		CONC. (ng/mL)		RESPONSE FACTOR			% DRIFT/DIFF		
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT	
Endrin Aldehyde	A	40.000	39.5	0.7530726	0.7445861		-1.1	+/-20	
Endrin Aldehyde [2C]	A	40.000	39.5	0.8224595	0.8114831		-1.3	+/-20	
4,4'-DDT	A	40.000	35.3	0.9548168	0.8427533		-11.7	+/-20	
4,4'-DDT [2C]	A	40.000	37.4	1.0678960	0.9992475		-6.4	+/-20	
Endosulfan Sulfate	A	40.000	38.7	0.8965158	0.8670636		-3.3	+/-20	
Endosulfan Sulfate [2C]	A	40.000	35.4	1.0238570	0.9067039		-11.4	+/-20	
Endrin Ketone	A	40.000	39.8	1.0270110	1.0226610		-0.4	+/-20	
Endrin Ketone [2C]	A	40.000	38.1	1.1058500	1.0529870		-4.8	+/-20	
Methoxychlor	A	200.00	196	0.4231113	0.4150813		-1.9	+/-20	
Methoxychlor [2C]	A	200.00	191	0.4725766	0.4504488		-4.7	+/-20	
Hexachlorobutadiene	A	20.000	12.2	1.6135150	0.9844472		-39.0	+/-20	*
Hexachlorobutadiene [2C]	A	20.000	9.22	1.5225100	0.7018004		-53.9	+/-20	*
Hexachlorobenzene	A	20.000	16.5	1.4298940	1.1806710		-17.4	+/-20	
Hexachlorobenzene [2C]	A	20.000	18.3	1.4591090	1.3387070		-8.3	+/-20	
Decachlorobiphenyl	A	40.000	34.2	0.8105886	0.6932014		-14.5	+/-20	
Decachlorobiphenyl [2C]	A	40.000	33.8	0.8841805	0.7481270		-15.4	+/-20	
Tetrachlorometaxylene	A	40.000	24.7	1.0879510	0.6719458		-38.2	+/-20	*
Tetrachlorometaxylene [2C]	A	40.000	35.6	1.1261070	1.0019880		-11.0	+/-20	

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20230324.b/23032406.D
Data file 2: /20230324.b/B20230324.b/23032406.D
Method: \20230324.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-ICV1INDA1
Client ID:
Injection Date: 24-MAR-2023 17:27
Report Date: 03/28/2023 10:49
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.366	-0.008	171836	4.799	-0.010	240503	17.53	18.93	7.7	alpha-BHC
4.754	-0.008	66889	5.271	-0.010	91505	17.72	18.94	6.7	beta-BHC
4.939	-0.009	135775	5.621	-0.011	117199	16.94	11.20	40.8*	delta-BHC
4.672	-0.008	150908	5.191	-0.011	202860	17.75	18.81	5.8	gamma-BHC (Lindane)
5.162	-0.009	133166	5.714	-0.012	182385	17.61	18.67	5.9	Heptachlor
5.488	-0.010	144520	6.115	-0.012	200124	17.05	17.95	5.1	Aldrin
6.166	-0.010	129548	6.771	-0.011	164280	17.63	17.82	1.1	Heptachlor epoxide b
6.608	-0.010	122091	7.215	-0.012	144522	18.10	17.78	1.8	Endosulfan I
6.868	-0.010	251610	7.509	-0.011	318663	34.72	35.49	2.2	Dieldrin
6.532	-0.009	239194	7.300	-0.010	299526	35.55	36.37	2.3	4,4'-DDE
7.118	-0.009	205900	7.832	-0.012	241617	36.54	37.72	3.2	Endrin
7.356	-0.010	205913	8.043	-0.012	249417	40.60	37.99	6.6	Endosulfan II
7.179	-0.008	206601	7.905	-0.010	250141	40.70	40.15	1.4	4,4'-DDD
8.218	-0.008	186322	8.640	-0.010	204221	38.69	35.42	8.8	Endosulfan sulfate
7.470	-0.009	181098	8.222	-0.011	225065	35.31	37.43	5.8	4,4'-DDT
7.959	-0.007	445981	8.862	-0.011	507283	196.20	190.64	2.9	Methoxychlor
8.492	-0.009	219758	9.162	-0.012	237169	39.83	38.09	4.5	Endrin ketone
7.784	-0.009	160003	8.374	-0.011	182774	39.55	39.47	0.2	Endrin aldehyde
6.308	-0.011	130035	6.982	-0.012	160106	17.42	17.41	0.0	trans-Chlordane
6.454	-0.010	129099	7.142	-0.011	156291	17.24	17.37	0.8	cis-Chlordane
2.327	-0.006	125344	2.472	-0.006	111228	12.20	9.22	27.9	Hexachlorobutadiene
4.209	-0.008	150328	4.660	-0.010	212171	16.51	18.35	10.5	Hexachlorobenzene
3.848	-0.009	171110	4.169	-0.009	317609	24.70	35.59	36.1	Tetrachloro-m-xylene
9.407	-0.008	148961	10.360	-0.013	168504	34.21	33.84	1.1	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	672426	509297	-24.3
Hexabromobiphenyl	609723	429777	-29.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1006482	633958	-37.0
Hexabromobiphenyl	769764	450469	-41.5

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

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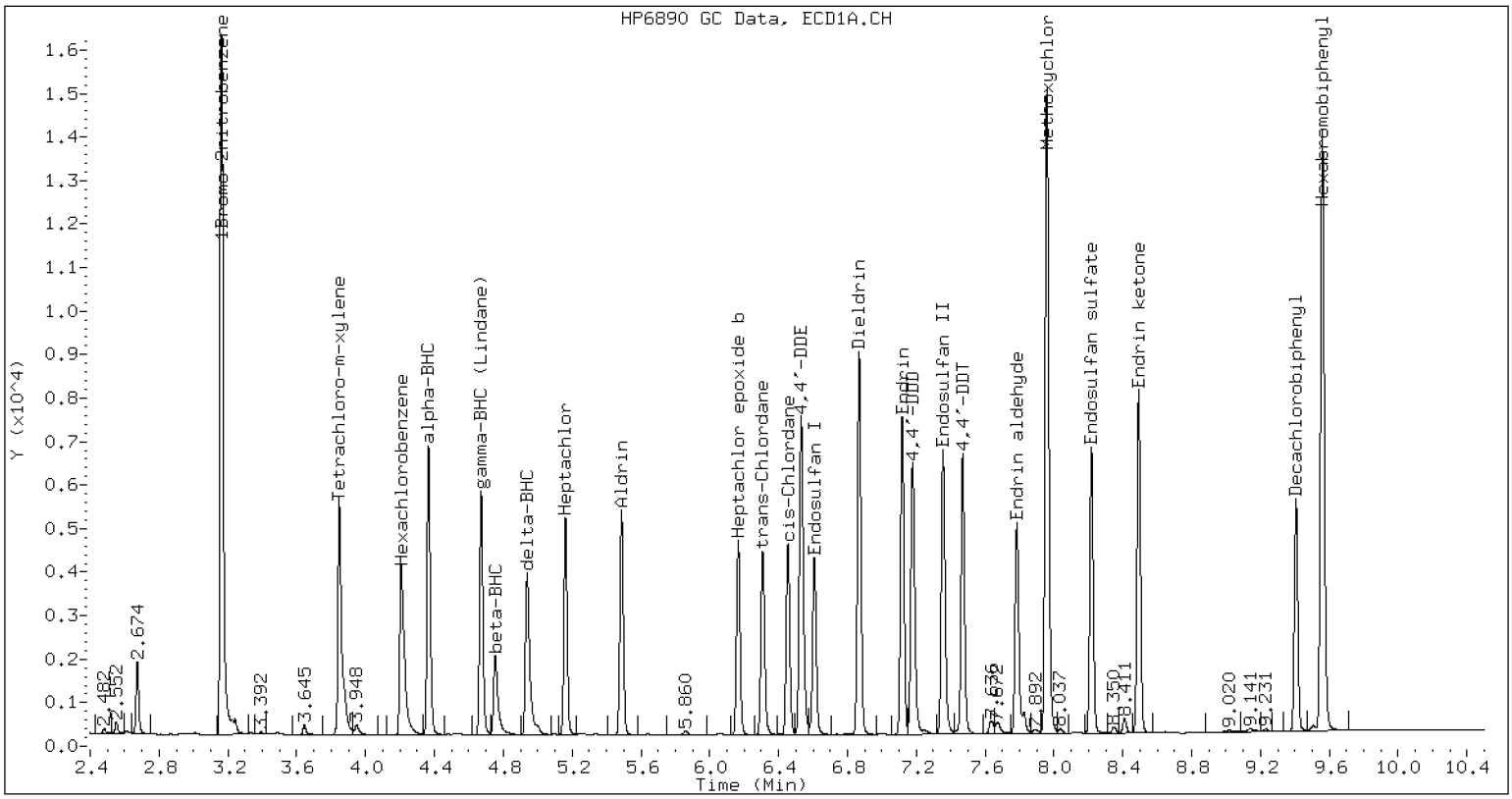

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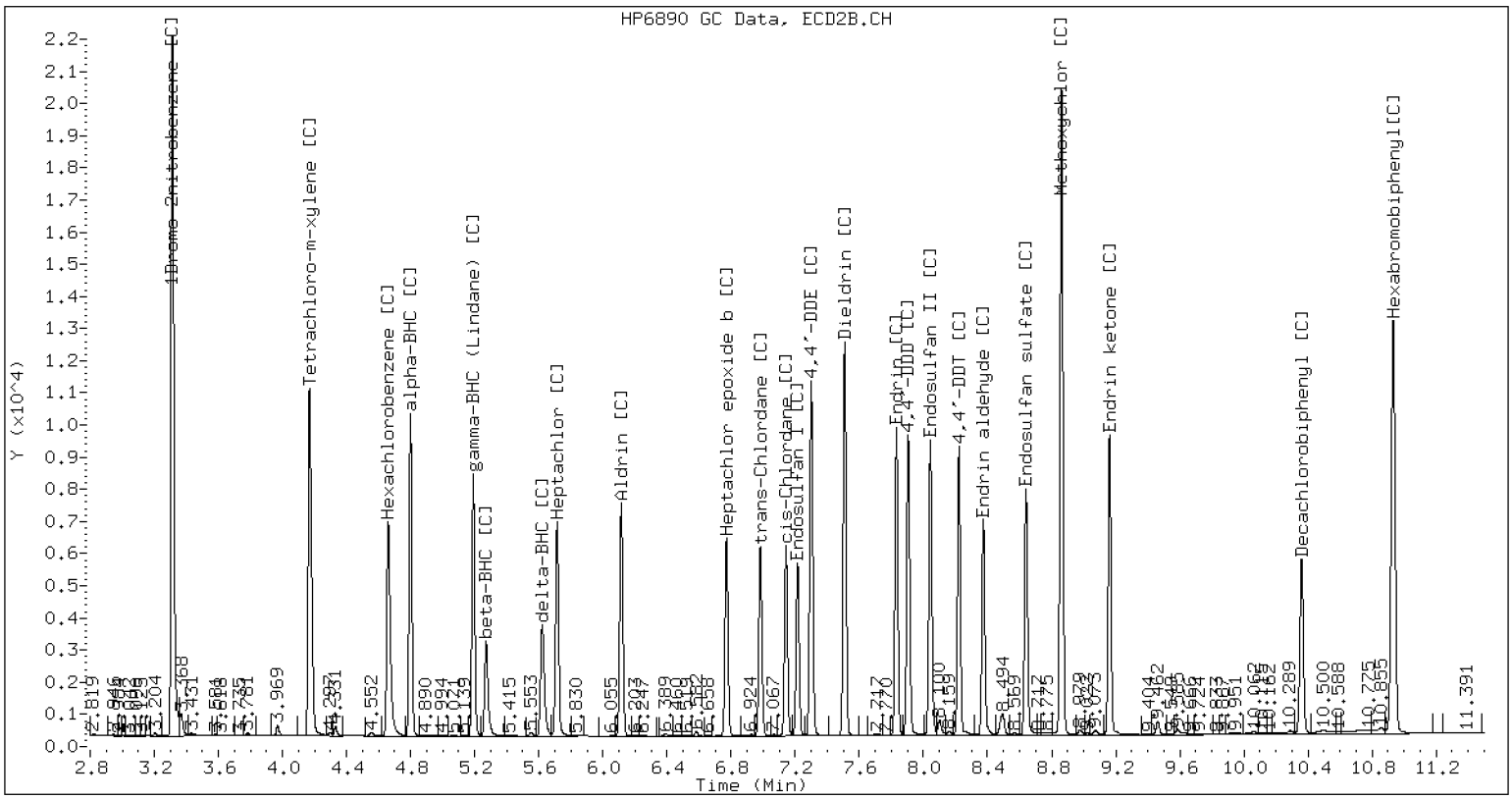
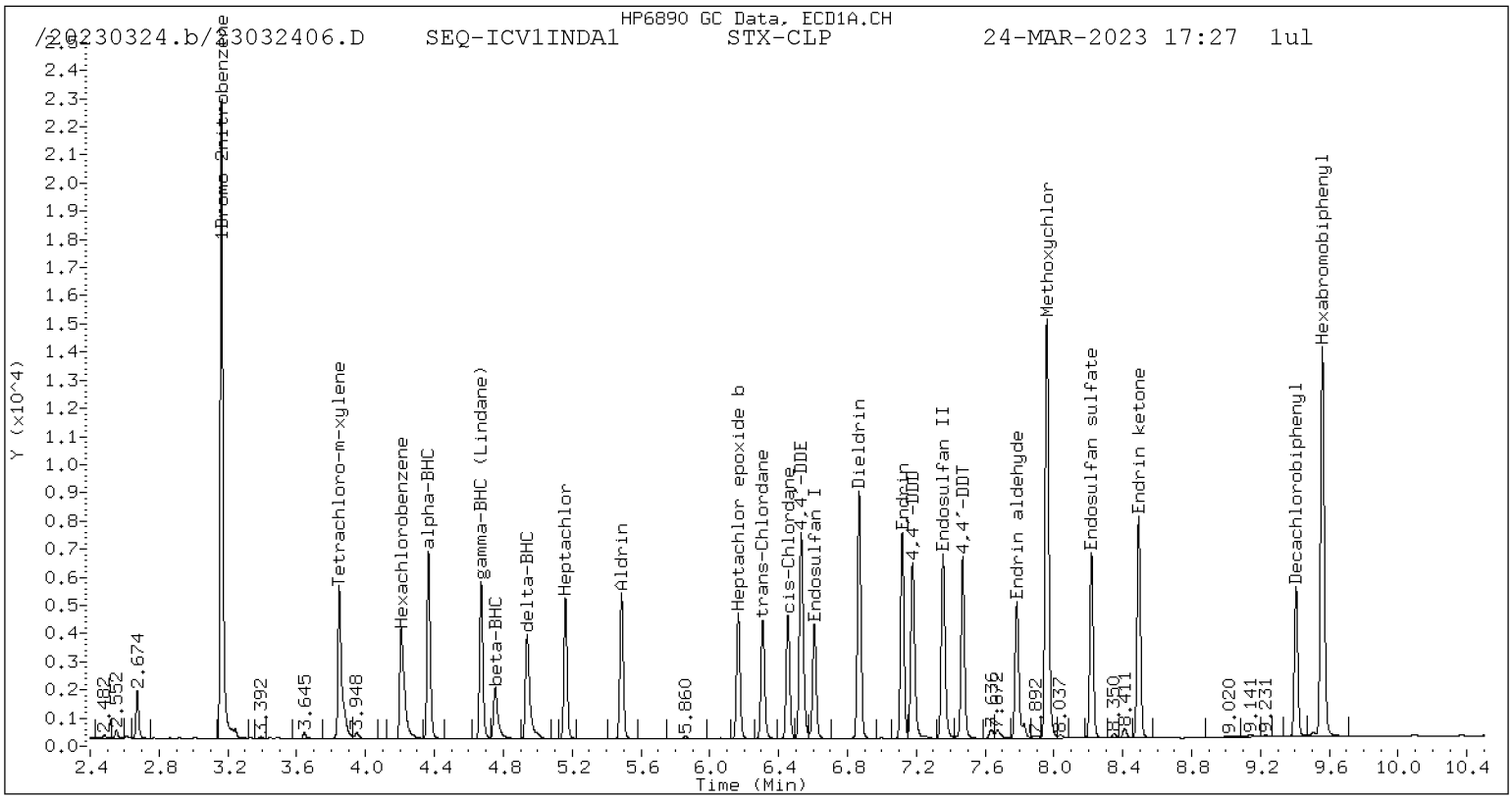


Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

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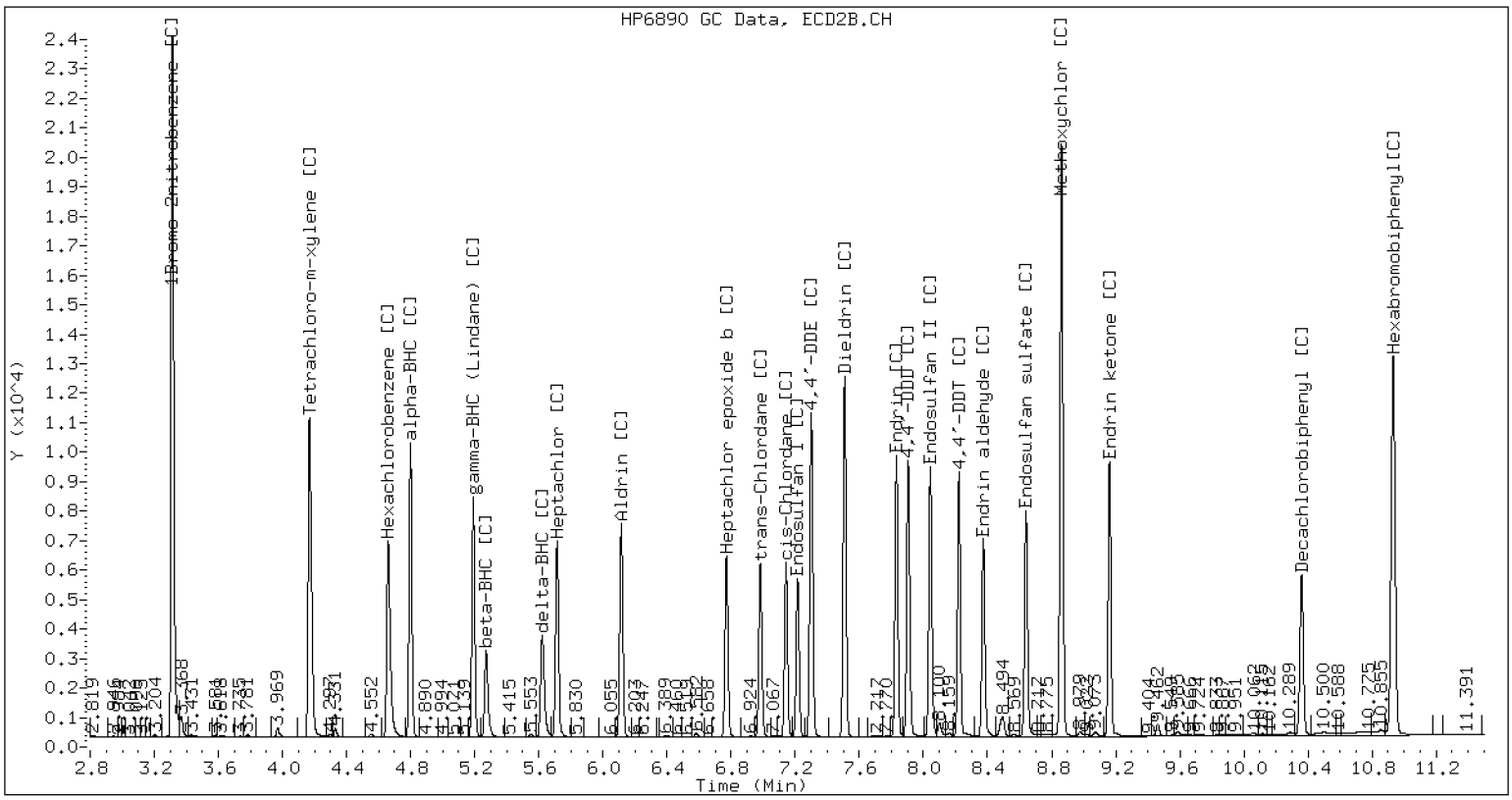

CLP-2 Manual Integration: NO

Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD6	Calibration:	FL00041
Lab File ID:	23032423.D	Calibration Date:	12/14/2022
Sequence:	SLC0442	Injection Date:	03/24/23
Lab Sample ID:	SLC0442-CCV1	Injection Time:	22:31
Sequence Name:	INDAE2		

		CONC. (ng/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT	
alpha-BHC	A	20.000	17.6	1.5401480	1.3564650		-11.9	+/-20	
alpha-BHC [2C]	A	20.000	18.2	1.6032650	1.4624550		-8.8	+/-20	
beta-BHC	A	20.000	17.9	0.5929524	0.5301622		-10.6	+/-20	
beta-BHC [2C]	A	20.000	18.2	0.6095359	0.5557549		-8.8	+/-20	
gamma-BHC (Lindane)	A	20.000	17.8	1.3353400	1.1871720		-11.1	+/-20	
gamma-BHC (Lindane) [2C]	A	20.000	18.2	1.3606000	1.2371270		-9.1	+/-20	
delta-BHC	A	20.000	17.1	1.2587440	1.0787500		-14.3	+/-20	
delta-BHC [2C]	A	20.000	10.9	1.3206240	0.7212978		-45.4	+/-20	*
Heptachlor	A	20.000	17.7	1.1881510	1.0495540		-11.7	+/-20	
Heptachlor [2C]	A	20.000	18.4	1.2325020	1.1357770		-7.8	+/-20	
Aldrin	A	20.000	17.0	1.3315350	1.1317250		-15.0	+/-20	
Aldrin [2C]	A	20.000	17.3	1.4072190	1.2177560		-13.5	+/-20	
Heptachlor Epoxide	A	20.000	17.6	1.1545300	1.0150740		-12.1	+/-20	
Heptachlor Epoxide [2C]	A	20.000	17.2	1.1636450	0.9992371		-14.1	+/-20	
trans-Chlordane (beta-Chlordane)	A	20.000	17.4	1.1726130	1.0198940		-13.0	+/-20	
trans-Chlordane (beta-Chlordane) [2C]	A	20.000	16.9	1.1604170	0.9796599		-15.6	+/-20	
cis-Chlordane (alpha-chlordane)	A	20.000	17.3	1.1760380	1.0154690		-13.7	+/-20	
cis-Chlordane (alpha-chlordane) [2C]	A	20.000	16.6	1.1352300	0.9448063		-16.8	+/-20	
Endosulfan I	A	20.000	18.2	1.0595170	0.9630445		-9.1	+/-20	
Endosulfan I [2C]	A	20.000	17.4	1.0256020	0.8899572		-13.2	+/-20	
4,4'-DDE	A	40.000	35.4	1.0568430	0.9342246		-11.6	+/-20	
4,4'-DDE [2C]	A	40.000	35.1	1.0391680	0.9114196		-12.3	+/-20	
Dieldrin	A	40.000	34.5	1.1382810	0.9812878		-13.8	+/-20	
Dieldrin [2C]	A	40.000	34.4	1.1331770	0.9736654		-14.1	+/-20	
Endrin	A	40.000	31.5	1.0488190	0.8255884		-21.3	+/-20	*
Endrin [2C]	A	40.000	33.3	1.1374860	0.9472854		-16.7	+/-20	
Endosulfan II	A	40.000	42.2	0.9441550	0.9955324		5.4	+/-20	
Endosulfan II [2C]	A	40.000	39.4	1.1659380	1.1493820		-1.4	+/-20	
4,4'-DDD	A	40.000	40.7	0.9449058	0.9621766		1.8	+/-20	
4,4'-DDD [2C]	A	40.000	41.1	1.1064160	1.1355560		2.6	+/-20	
Endrin Aldehyde	A	40.000	42.1	0.7530726	0.7931454		5.3	+/-20	
Endrin Aldehyde [2C]	A	40.000	43.2	0.8224595	0.8885392		8.0	+/-20	
4,4'-DDT	A	40.000	35.5	0.9548168	0.8468807		-11.3	+/-20	

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD6	Calibration:	FL00041
Lab File ID:	23032423.D	Calibration Date:	12/14/2022
Sequence:	SLC0442	Injection Date:	03/24/23
Lab Sample ID:	SLC0442-CCV1	Injection Time:	22:31
Sequence Name:	INDAE2		

		CONC. (ng/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT	
4,4'-DDT [2C]	A	40.000	37.8	1.0678960	1.0101880		-5.4	+/-20	
Endosulfan Sulfate	A	40.000	38.6	0.8965158	0.8644485		-3.6	+/-20	
Endosulfan Sulfate [2C]	A	40.000	36.5	1.0238570	0.9347375		-8.7	+/-20	
Endrin Ketone	A	40.000	42.1	1.0270110	1.0811880		5.3	+/-20	
Endrin Ketone [2C]	A	40.000	40.7	1.1058500	1.1260760		1.8	+/-20	
Methoxychlor	A	200.00	195	0.4231113	0.4125185		-2.5	+/-20	
Methoxychlor [2C]	A	200.00	198	0.4725766	0.4672057		-1.1	+/-20	
Hexachlorobutadiene	A	20.000	12.3	1.6135150	0.9906284		-38.6	+/-20	*
Hexachlorobutadiene [2C]	A	20.000	8.95	1.5225100	0.6811006		-55.3	+/-20	*
Hexachlorobenzene	A	20.000	16.7	1.4298940	1.1952300		-16.4	+/-20	
Hexachlorobenzene [2C]	A	20.000	17.6	1.4591090	1.2840750		-12.0	+/-20	
Decachlorobiphenyl	A	40.000	34.3	0.8105886	0.6952154		-14.2	+/-20	
Decachlorobiphenyl [2C]	A	40.000	34.8	0.8841805	0.7702095		-12.9	+/-20	
Tetrachlorometaxylene	A	40.000	24.7	1.0879510	0.6708056		-38.3	+/-20	*
Tetrachlorometaxylene [2C]	A	40.000	34.1	1.1261070	0.9602771		-14.7	+/-20	

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20230324.b/23032423.D
Data file 2: /20230324.b/B20230324.b/23032423.D
Method: \20230324.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CCV1INDA1
Client ID:
Injection Date: 24-MAR-2023 22:31
Report Date: 03/28/2023 10:50
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.366	-0.008	175066	4.799	-0.010	248235	17.61	18.24	3.5	alpha-BHC
4.754	-0.009	68423	5.271	-0.010	94333	17.88	18.24	2.0	beta-BHC
4.940	-0.008	139224	5.621	-0.011	122432	17.14	10.92	44.3*	delta-BHC
4.672	-0.009	153217	5.191	-0.011	209988	17.78	18.19	2.2	gamma-BHC (Lindane)
5.162	-0.009	135456	5.714	-0.012	192785	17.67	18.43	4.2	Heptachlor
5.488	-0.010	146061	6.115	-0.012	206700	17.00	17.31	1.8	Aldrin
6.165	-0.010	131006	6.771	-0.011	169609	17.58	17.17	2.4	Heptachlor epoxide b
6.608	-0.010	124291	7.215	-0.012	151060	18.18	17.35	4.6	Endosulfan I
6.868	-0.010	253291	7.508	-0.012	330537	34.48	34.37	0.3	Dieldrin
6.532	-0.009	241143	7.300	-0.010	309406	35.36	35.08	0.8	4,4'-DDE
7.118	-0.010	179989	7.831	-0.012	214931	31.49	33.31	5.6	Endrin
7.356	-0.010	217039	8.043	-0.012	260785	42.18	39.43	6.7	Endosulfan II
7.179	-0.008	209767	7.905	-0.010	257648	40.73	41.05	0.8	4,4'-DDD
8.218	-0.008	188461	8.639	-0.011	212084	38.57	36.52	5.5	Endosulfan sulfate
7.469	-0.010	184631	8.221	-0.011	229203	35.48	37.84	6.4	4,4'-DDT
7.958	-0.007	449672	8.861	-0.012	530025	194.99	197.73	1.4	Methoxychlor
8.492	-0.009	235713	9.161	-0.012	255497	42.11	40.73	3.3	Endrin ketone
7.784	-0.009	172916	8.373	-0.012	201602	42.13	43.21	2.5	Endrin aldehyde
6.308	-0.010	131628	6.982	-0.012	166286	17.40	16.88	3.0	trans-Chlordane
6.454	-0.010	131057	7.142	-0.011	160370	17.27	16.65	3.7	cis-Chlordane
2.327	-0.006	127851	2.472	-0.007	115609	12.28	8.95	31.4	Hexachlorobutadiene
4.209	-0.008	154257	4.660	-0.010	217957	16.72	17.60	5.1	Hexachlorobenzene
3.848	-0.009	173149	4.169	-0.009	325992	24.66	34.11	32.1	Tetrachloro-m-xylene
9.406	-0.009	151566	10.359	-0.014	174754	34.31	34.84	1.6	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	672426	516242	-23.2
Hexabromobiphenyl	609723	436026	-28.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1006482	678954	-32.5
Hexabromobiphenyl	769764	453783	-41.0

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

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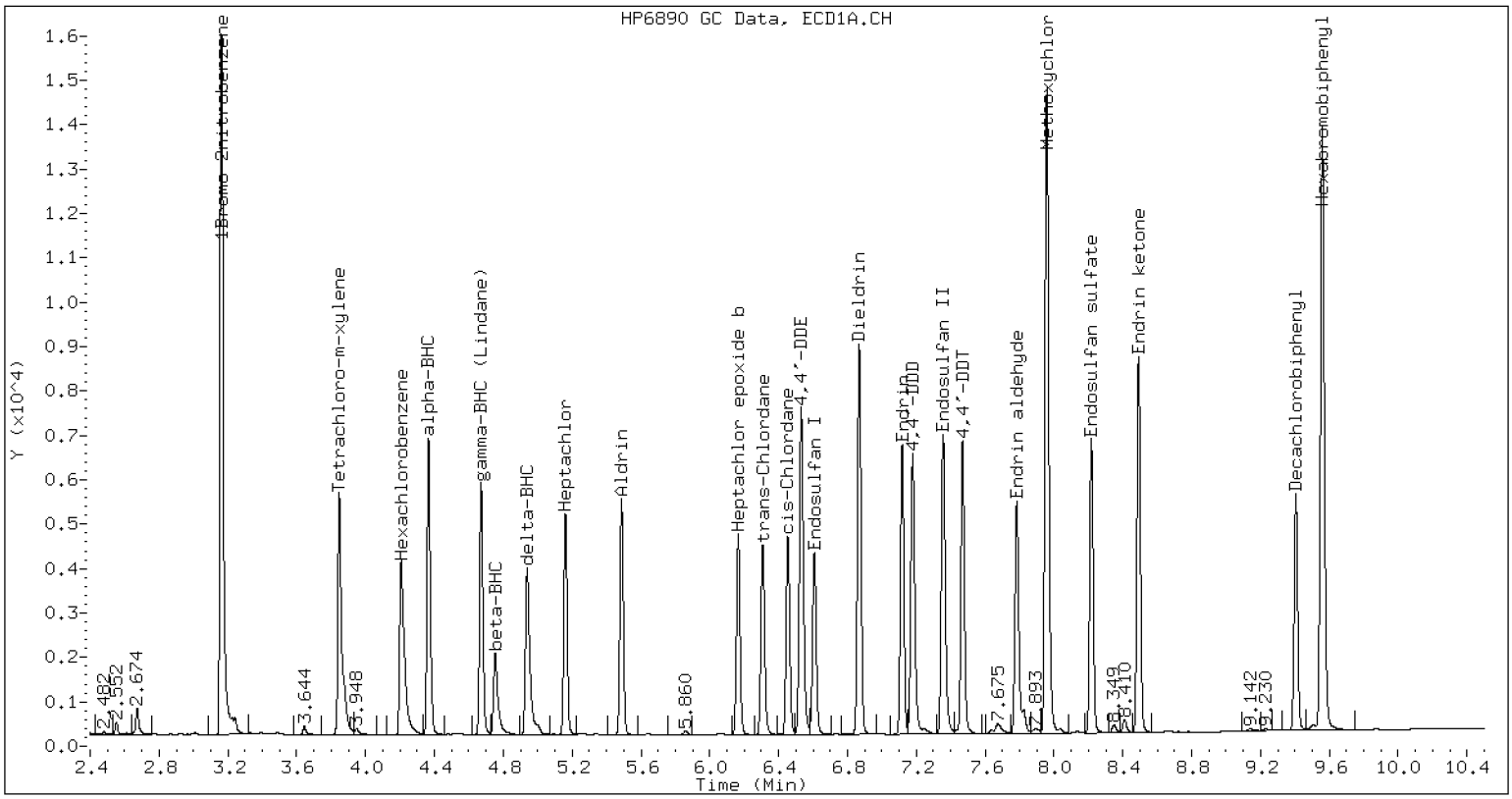

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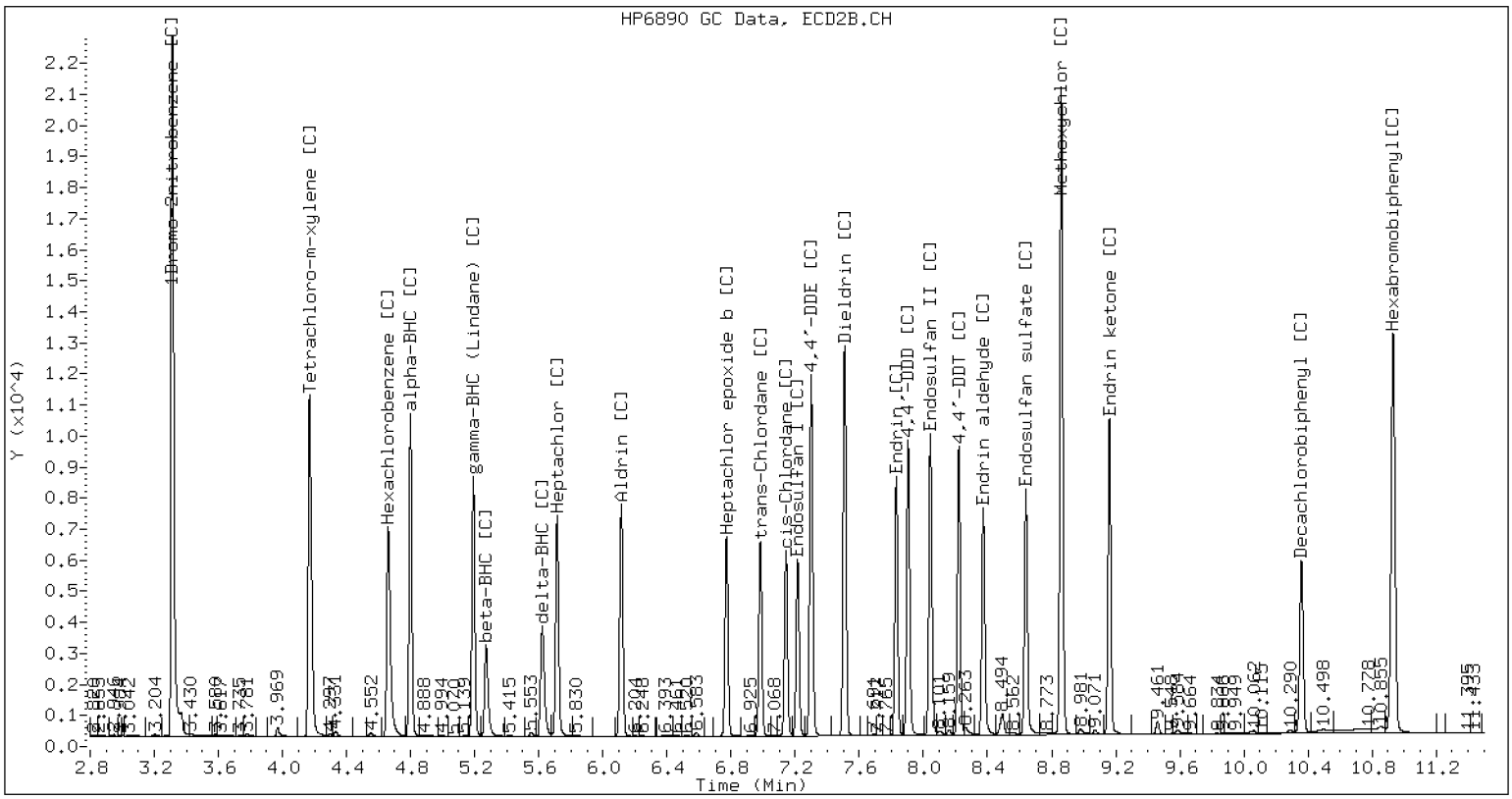
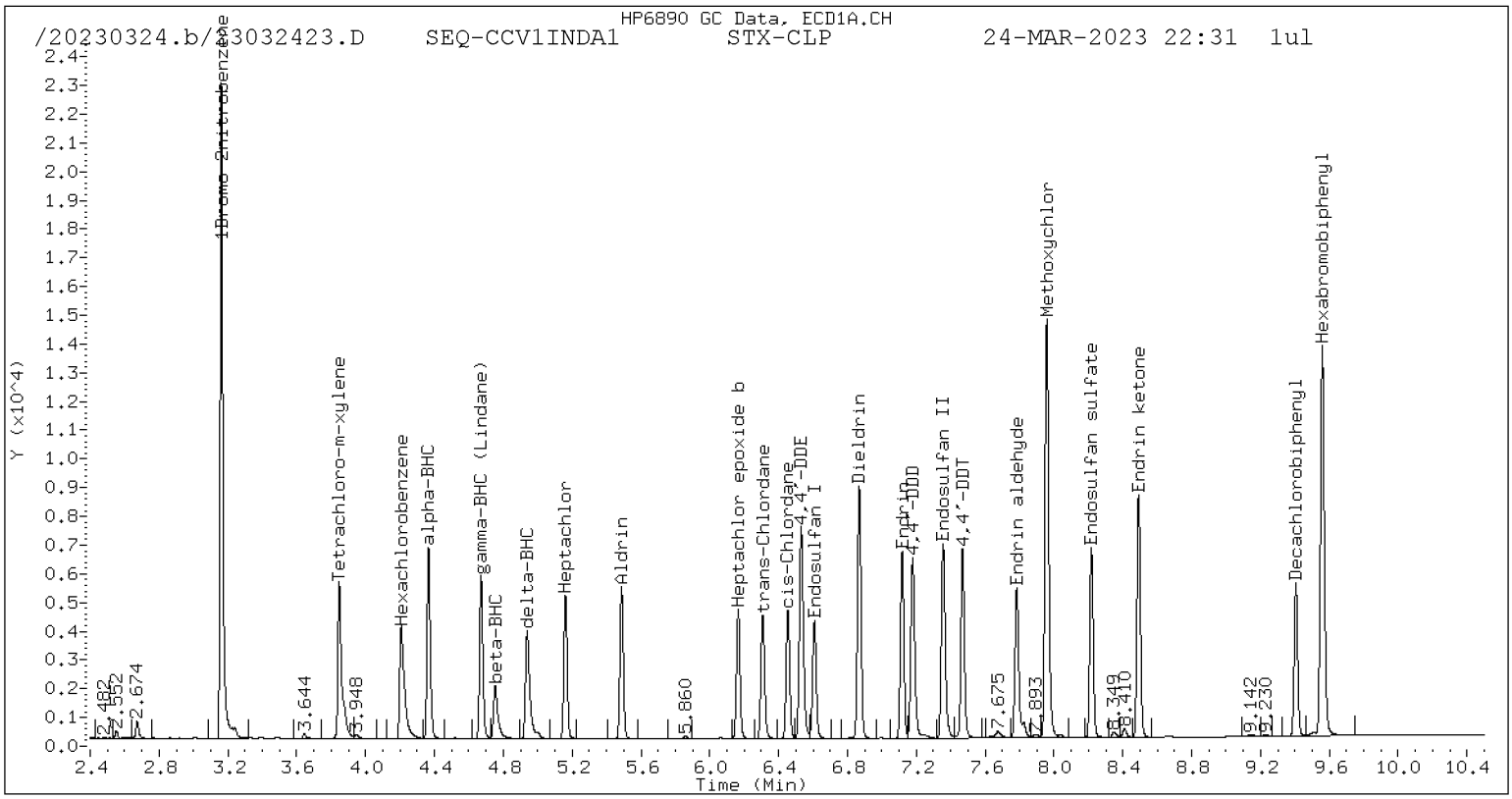


Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

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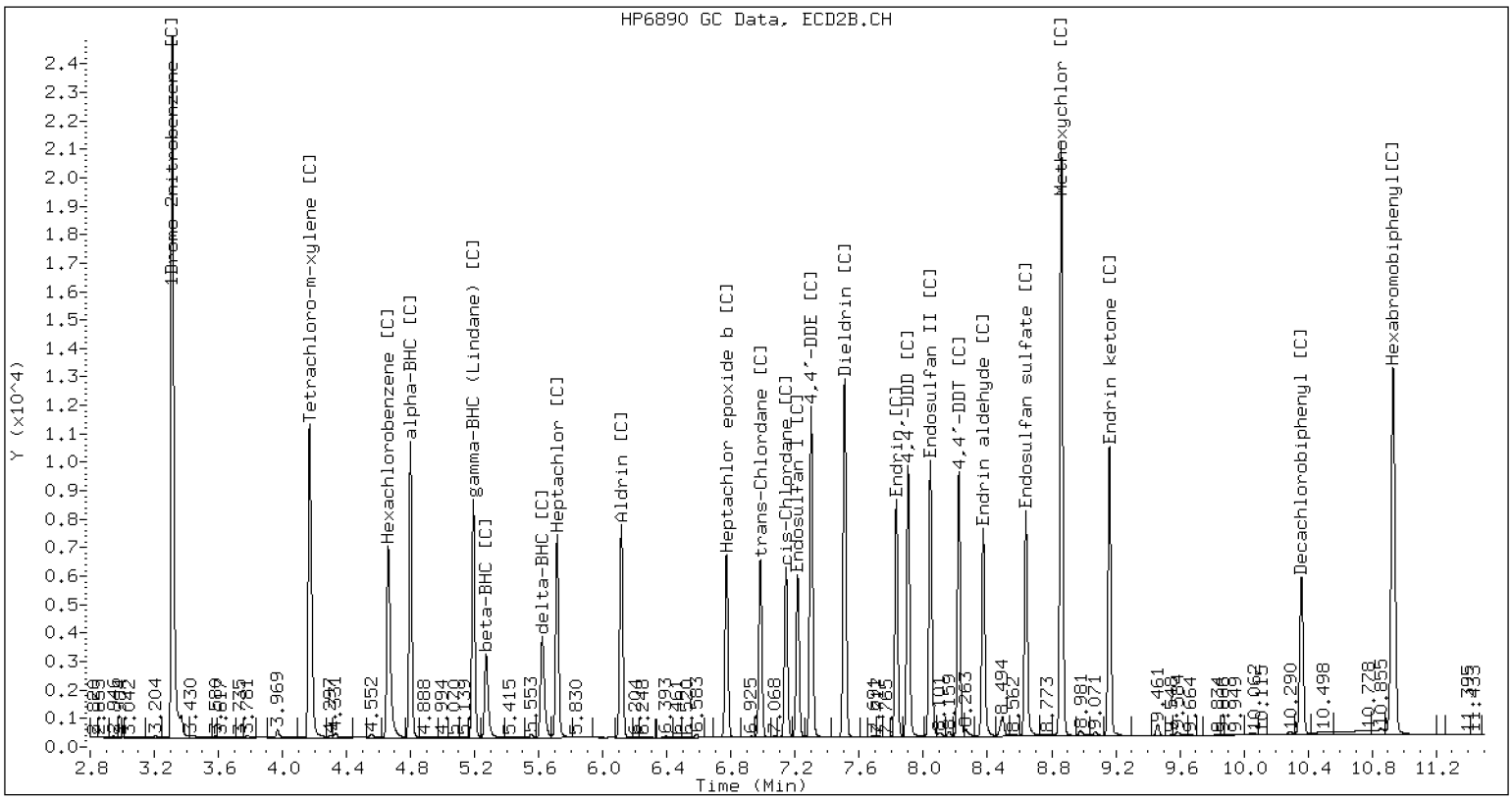


CLP-2 Manual Integration: NO

Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD6	Calibration:	FL00041
Lab File ID:	23032438.D	Calibration Date:	12/14/2022
Sequence:	SLC0442	Injection Date:	03/25/23
Lab Sample ID:	SLC0442-CCV3	Injection Time:	03:00
Sequence Name:	INDAE3		

		CONC. (ng/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
alpha-BHC	A	20.000	17.1	1.5401480	1.3147550		-14.6	+/-20
alpha-BHC [2C]	A	20.000	17.9	1.6032650	1.4378350		-10.3	+/-20
beta-BHC	A	20.000	17.4	0.5929524	0.5148793		-13.2	+/-20
beta-BHC [2C]	A	20.000	18.1	0.6095359	0.5517624		-9.5	+/-20
gamma-BHC (Lindane)	A	20.000	17.4	1.3353400	1.1617250		-13.0	+/-20
gamma-BHC (Lindane) [2C]	A	20.000	18.1	1.3606000	1.2293150		-9.6	+/-20
delta-BHC	A	20.000	17.0	1.2587440	1.0673680		-15.2	+/-20
delta-BHC [2C]	A	20.000	11.3	1.3206240	0.7492462		-43.3	+/-20
Heptachlor	A	20.000	16.9	1.1881510	1.0025480		-15.6	+/-20
Heptachlor [2C]	A	20.000	17.9	1.2325020	1.1010140		-10.7	+/-20
Aldrin	A	20.000	16.2	1.3315350	1.0803300		-18.9	+/-20
Aldrin [2C]	A	20.000	16.7	1.4072190	1.1769770		-16.4	+/-20
Heptachlor Epoxide	A	20.000	16.6	1.1545300	0.9572563		-17.1	+/-20
Heptachlor Epoxide [2C]	A	20.000	16.0	1.1636450	0.9287383		-20.2	+/-20 *
trans-Chlordane (beta-Chlordane)	A	20.000	16.2	1.1726130	0.9517793		-18.8	+/-20
trans-Chlordane (beta-Chlordane) [2C]	A	20.000	15.6	1.1604170	0.9033729		-22.2	+/-20 *
cis-Chlordane (alpha-chlordane)	A	20.000	16.0	1.1760380	0.9415022		-19.9	+/-20
cis-Chlordane (alpha-chlordane) [2C]	A	20.000	15.4	1.1352300	0.8746420		-23.0	+/-20 *
Endosulfan I	A	20.000	16.8	1.0595170	0.8905126		-16.0	+/-20
Endosulfan I [2C]	A	20.000	15.5	1.0256020	0.7941010		-22.6	+/-20 *
4,4'-DDE	A	40.000	32.9	1.0568430	0.8681252		-17.9	+/-20
4,4'-DDE [2C]	A	40.000	30.8	1.0391680	0.8001013		-23.0	+/-20 *
Dieldrin	A	40.000	32.2	1.1382810	0.9162166		-19.5	+/-20
Dieldrin [2C]	A	40.000	30.1	1.1331770	0.8536457		-24.7	+/-20 *
Endrin	A	40.000	29.4	1.0488190	0.7704859		-26.5	+/-20 *
Endrin [2C]	A	40.000	26.7	1.1374860	0.7587246		-33.3	+/-20 *
Endosulfan II	A	40.000	44.0	0.9441550	1.0384940		10.0	+/-20
Endosulfan II [2C]	A	40.000	37.2	1.1659380	1.0857300		-6.9	+/-20
4,4'-DDD	A	40.000	42.5	0.9449058	1.0044680		6.3	+/-20
4,4'-DDD [2C]	A	40.000	37.4	1.1064160	1.0331280		-6.6	+/-20
Endrin Aldehyde	A	40.000	44.2	0.7530726	0.8329429		10.6	+/-20
Endrin Aldehyde [2C]	A	40.000	42.6	0.8224595	0.8764021		6.6	+/-20
4,4'-DDT	A	40.000	38.6	0.9548168	0.9205743		-3.6	+/-20
4,4'-DDT [2C]	A	40.000	36.2	1.0678960	0.9669445		-9.5	+/-20

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD6	Calibration:	FL00041
Lab File ID:	23032438.D	Calibration Date:	12/14/2022
Sequence:	SLC0442	Injection Date:	03/25/23
Lab Sample ID:	SLC0442-CCV3	Injection Time:	03:00
Sequence Name:	INDAE3		

		CONC. (ng/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Endosulfan Sulfate	A	40.000	38.8	0.8965158	0.8690791		-3.1	+/-20
Endosulfan Sulfate [2C]	A	40.000	38.7	1.0238570	0.9898957		-3.3	+/-20
Endrin Ketone	A	40.000	42.7	1.0270110	1.0958470		6.7	+/-20
Endrin Ketone [2C]	A	40.000	42.2	1.1058500	1.1680350		5.6	+/-20
Methoxychlor	A	200.00	200	0.4231113	0.4239536		0.2	+/-20
Methoxychlor [2C]	A	200.00	181	0.4725766	0.4280967		-9.4	+/-20
Hexachlorobutadiene	A	20.000	12.2	1.6135150	0.9840405		-39.0	+/-20 *
Hexachlorobutadiene [2C]	A	20.000	9.58	1.5225100	0.7291018		-52.1	+/-20 *
Hexachlorobenzene	A	20.000	16.2	1.4298940	1.1550990		-19.2	+/-20
Hexachlorobenzene [2C]	A	20.000	17.4	1.4591090	1.2674510		-13.1	+/-20
Decachlorobiphenyl	A	40.000	33.4	0.8105886	0.6773737		-16.4	+/-20
Decachlorobiphenyl [2C]	A	40.000	35.9	0.8841805	0.7925395		-10.4	+/-20
Tetrachlorometaxylene	A	40.000	24.7	1.0879510	0.6724049		-38.2	+/-20 *
Tetrachlorometaxylene [2C]	A	40.000	34.3	1.1261070	0.9656858		-14.2	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20230324.b/23032438.D
Data file 2: /20230324.b/B20230324.b/23032438.D
Method: \20230324.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CCV1INDA2
Client ID:
Injection Date: 25-MAR-2023 03:00
Report Date: 03/28/2023 10:50
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.366	-0.009	172835	4.798	-0.010	237113	17.07	17.94	4.9	alpha-BHC
4.754	-0.009	67685	5.271	-0.011	90991	17.37	18.10	4.2	beta-BHC
4.939	-0.009	140314	5.621	-0.011	123558	16.96	11.35	39.7	delta-BHC
4.671	-0.009	152718	5.191	-0.011	202726	17.40	18.07	3.8	gamma-BHC (Lindane)
5.161	-0.010	131793	5.713	-0.012	181568	16.88	17.87	5.7	Heptachlor
5.487	-0.010	142018	6.114	-0.013	194095	16.23	16.73	3.0	Aldrin
6.165	-0.011	125839	6.771	-0.012	153158	16.58	15.96	3.8	Heptachlor epoxide b
6.607	-0.010	117065	7.214	-0.013	130955	16.81	15.49	8.2	Endosulfan I
6.867	-0.011	240888	7.507	-0.013	281549	32.20	30.13	6.6	Dieldrin
6.531	-0.009	228244	7.299	-0.012	263889	32.86	30.80	6.5	4,4'-DDE
7.117	-0.011	147184	7.830	-0.013	156861	29.38	26.68	9.6	Endrin
7.355	-0.010	198381	8.042	-0.013	224467	44.00	37.25	16.6	Endosulfan II
7.178	-0.009	191881	7.904	-0.011	213592	42.52	37.35	12.9	4,4'-DDD
8.216	-0.010	166018	8.639	-0.012	204654	38.78	38.67	0.3	Endosulfan sulfate
7.469	-0.010	175855	8.221	-0.012	199909	38.57	36.22	6.3	4,4'-DDT
7.957	-0.008	404934	8.860	-0.012	442530	200.40	181.18	10.1	Methoxychlor
8.491	-0.010	209337	9.161	-0.012	241483	42.68	42.25	1.0	Endrin ketone
7.783	-0.010	159115	8.372	-0.013	181190	44.24	42.62	3.7	Endrin aldehyde
6.307	-0.011	125119	6.981	-0.013	148975	16.23	15.57	4.2	trans-Chlordane
6.453	-0.011	123768	7.142	-0.012	144237	16.01	15.41	3.8	cis-Chlordane
2.327	-0.006	129360	2.472	-0.006	120236	12.20	9.58	24.1	Hexachlorobutadiene
4.209	-0.008	151847	4.661	-0.009	209015	16.16	17.37	7.3	Hexachlorobenzene
3.848	-0.010	176786	4.169	-0.009	318502	24.72	34.30	32.5	Tetrachloro-m-xylene
9.405	-0.009	129397	10.358	-0.015	163852	33.43	35.85	7.0	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

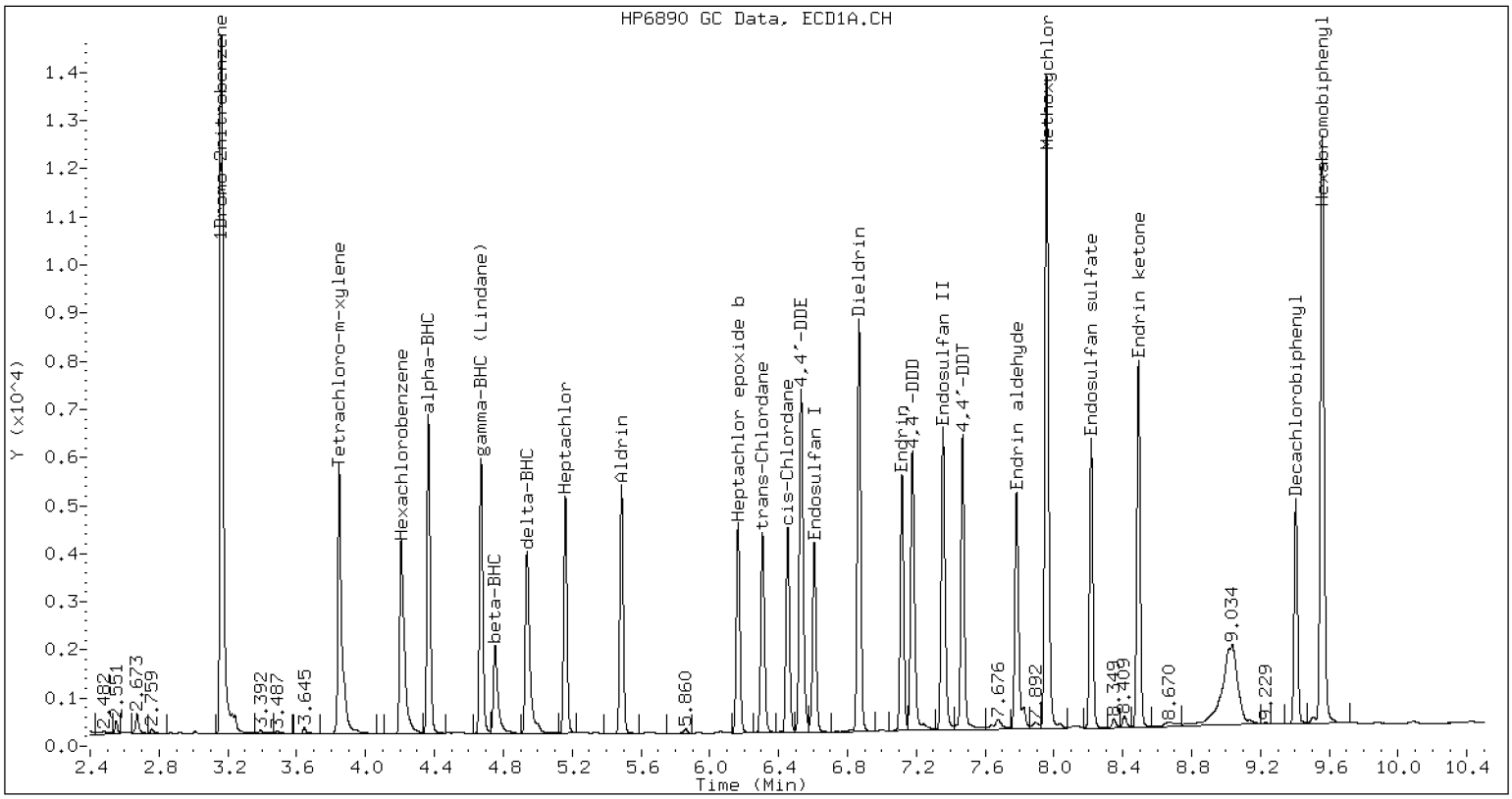
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	672426	525832	-21.8
Hexabromobiphenyl	609723	382055	-37.3

Column 2

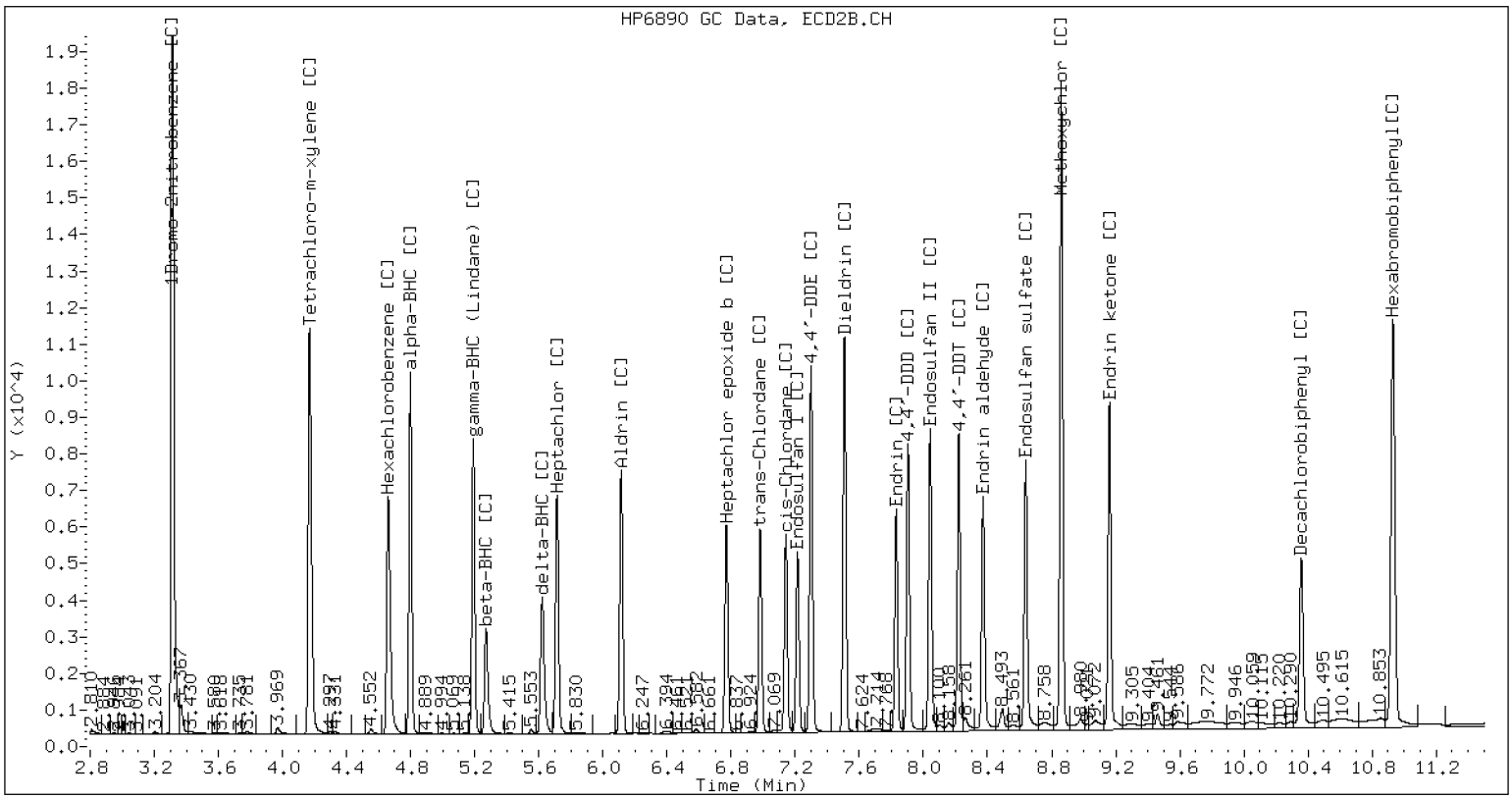
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1006482	659639	-34.5
Hexabromobiphenyl	769764	413486	-46.3

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

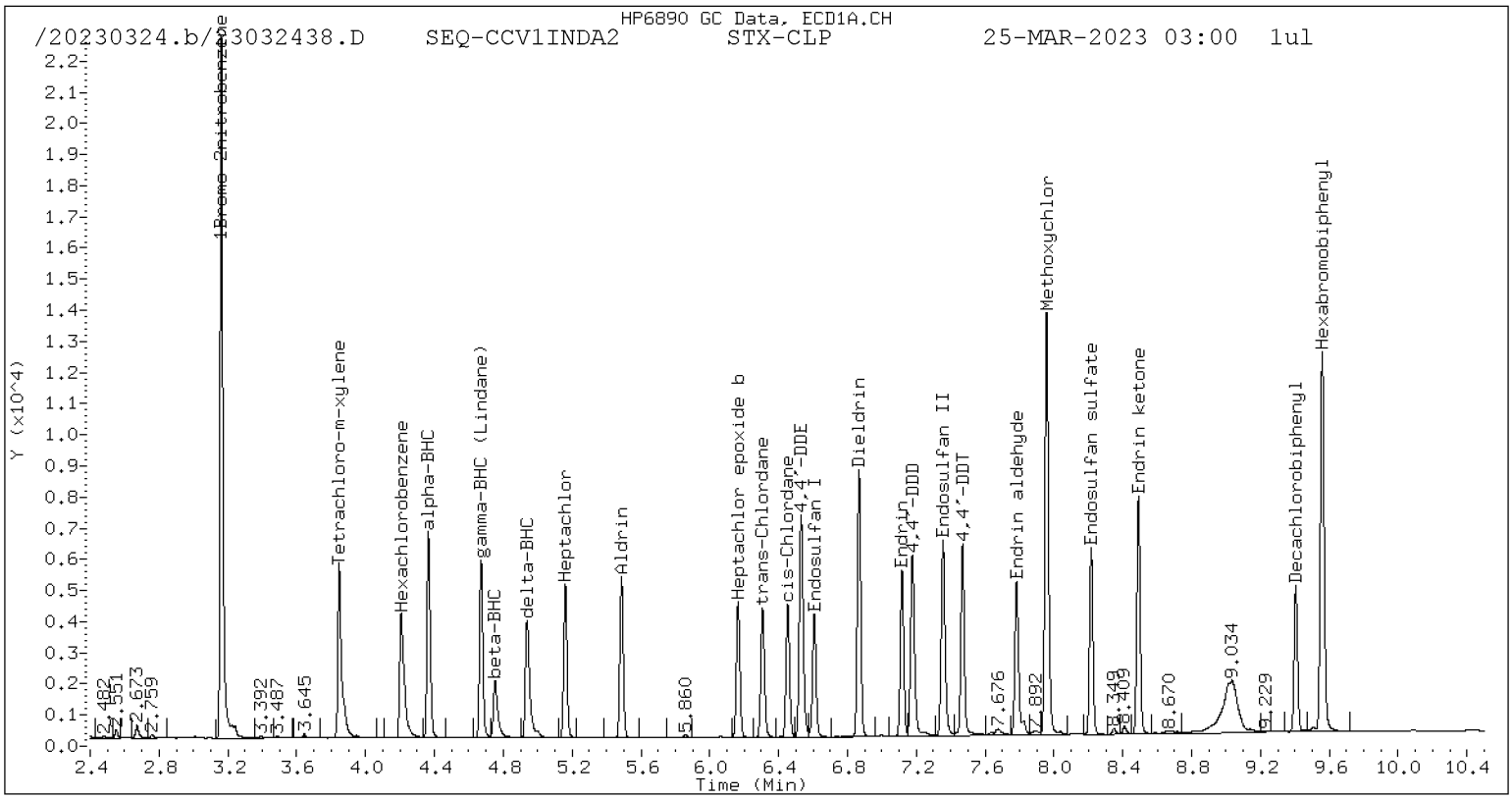
/20230324.b/23032438.D SEQ-CCV1INDA2 STX-CLP 25-MAR-2023 03:00 1ul



/20230324.b/B20230324.b/23032438.D SEQ-CCV1INDA2 CLP2 25-MAR-2023 03:00 1ul

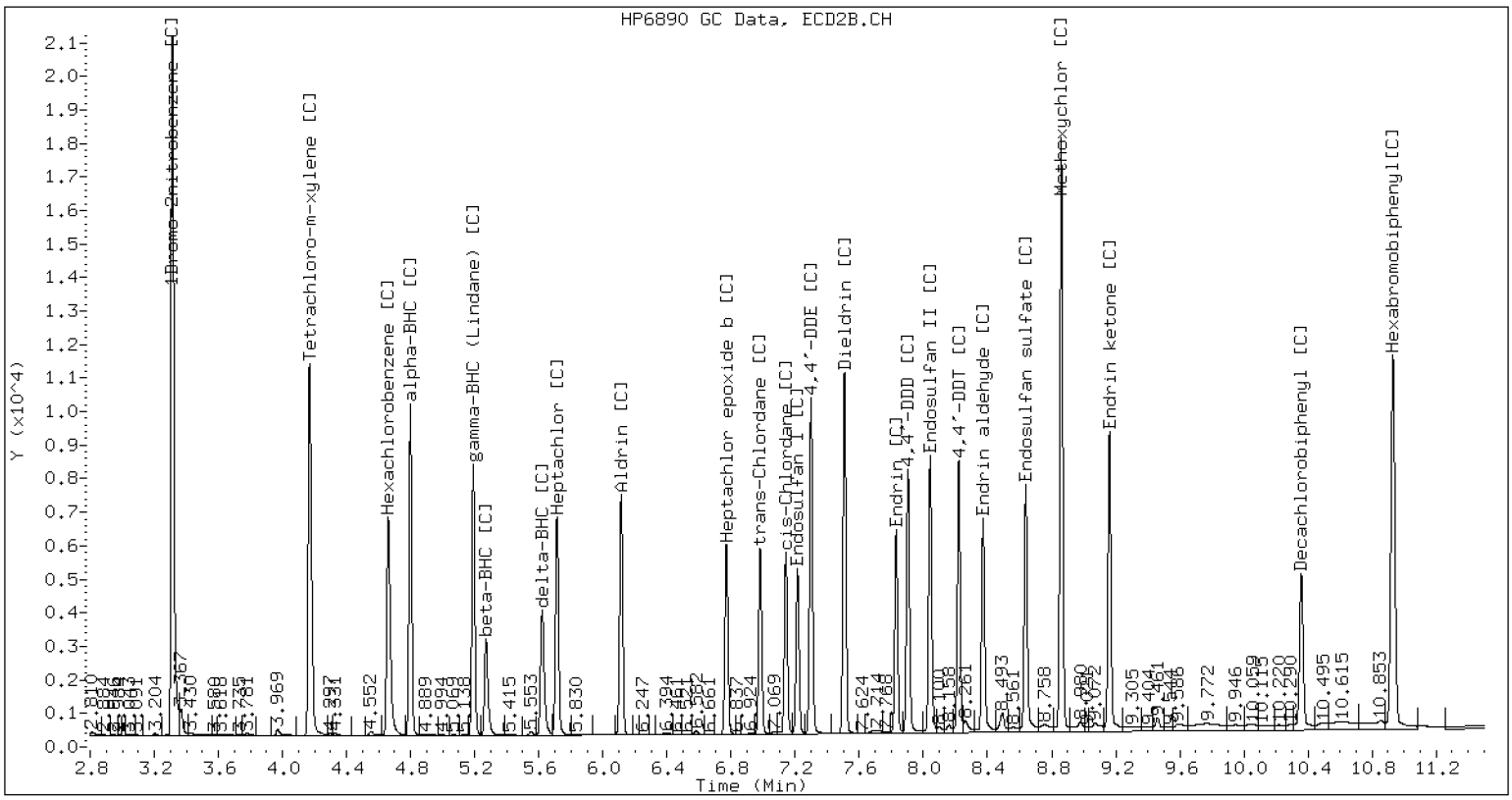


Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

/20230324.b/B20230324.b/23032438.D SEQ-CCV1INDA2 CLP2



CLP-2 Manual Integration: NO

Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD6	Calibration:	FL00041
Lab File ID:	23032458.D	Calibration Date:	12/14/2022
Sequence:	SLC0442	Injection Date:	03/25/23
Lab Sample ID:	SLC0442-CCV4	Injection Time:	08:58
Sequence Name:	INDAE4		

		CONC. (ng/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT	
alpha-BHC	A	20.000	17.5	1.5401480	1.3461410		-12.6	+/-20	
alpha-BHC [2C]	A	20.000	18.2	1.6032650	1.4561110		-9.2	+/-20	
beta-BHC	A	20.000	17.7	0.5929524	0.5250959		-11.4	+/-20	
beta-BHC [2C]	A	20.000	18.3	0.6095359	0.5569346		-8.6	+/-20	
gamma-BHC (Lindane)	A	20.000	17.8	1.3353400	1.1868020		-11.1	+/-20	
gamma-BHC (Lindane) [2C]	A	20.000	18.2	1.3606000	1.2375540		-9.0	+/-20	
delta-BHC	A	20.000	17.2	1.2587440	1.0809150		-14.1	+/-20	
delta-BHC [2C]	A	20.000	11.1	1.3206240	0.7357295		-44.3	+/-20	
Heptachlor	A	20.000	17.5	1.1881510	1.0414510		-12.3	+/-20	
Heptachlor [2C]	A	20.000	18.5	1.2325020	1.1380430		-7.7	+/-20	
Aldrin	A	20.000	17.1	1.3315350	1.1376350		-14.6	+/-20	
Aldrin [2C]	A	20.000	17.2	1.4072190	1.2128110		-13.8	+/-20	
Heptachlor Epoxide	A	20.000	17.6	1.1545300	1.0175590		-11.9	+/-20	
Heptachlor Epoxide [2C]	A	20.000	17.0	1.1636450	0.9901372		-14.9	+/-20	
trans-Chlordane (beta-Chlordane)	A	20.000	17.4	1.1726130	1.0202290		-13.0	+/-20	
trans-Chlordane (beta-Chlordane) [2C]	A	20.000	16.7	1.1604170	0.9692298		-16.5	+/-20	
cis-Chlordane (alpha-chlordane)	A	20.000	17.2	1.1760380	1.0115500		-14.0	+/-20	
cis-Chlordane (alpha-chlordane) [2C]	A	20.000	16.4	1.1352300	0.9334790		-17.8	+/-20	
Endosulfan I	A	20.000	18.1	1.0595170	0.9609939		-9.3	+/-20	
Endosulfan I [2C]	A	20.000	16.9	1.0256020	0.8676954		-15.4	+/-20	
4,4'-DDE	A	40.000	35.3	1.0568430	0.9339031		-11.6	+/-20	
4,4'-DDE [2C]	A	40.000	33.9	1.0391680	0.8808879		-15.2	+/-20	
Dieldrin	A	40.000	34.4	1.1382810	0.9788552		-14.0	+/-20	
Dieldrin [2C]	A	40.000	33.1	1.1331770	0.9386047		-17.2	+/-20	
Endrin	A	40.000	25.4	1.0488190	0.6647526		-36.6	+/-20	*
Endrin [2C]	A	40.000	25.0	1.1374860	0.7109666		-37.5	+/-20	*
Endosulfan II	A	40.000	43.2	0.9441550	1.0207980		8.1	+/-20	
Endosulfan II [2C]	A	40.000	38.8	1.1659380	1.1296070		-3.1	+/-20	
4,4'-DDD	A	40.000	40.9	0.9449058	0.9651514		2.1	+/-20	
4,4'-DDD [2C]	A	40.000	38.9	1.1064160	1.0773120		-2.6	+/-20	
Endrin Aldehyde	A	40.000	44.4	0.7530726	0.8359883		11.0	+/-20	
Endrin Aldehyde [2C]	A	40.000	44.2	0.8224595	0.9087417		10.5	+/-20	
4,4'-DDT	A	40.000	35.5	0.9548168	0.8475976		-11.2	+/-20	
4,4'-DDT [2C]	A	40.000	37.2	1.0678960	0.9919060		-7.1	+/-20	

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD6	Calibration:	FL00041
Lab File ID:	23032458.D	Calibration Date:	12/14/2022
Sequence:	SLC0442	Injection Date:	03/25/23
Lab Sample ID:	SLC0442-CCV4	Injection Time:	08:58
Sequence Name:	INDAE4		

		CONC. (ng/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT	
Endosulfan Sulfate	A	40.000	38.9	0.8965158	0.8727949		-2.6	+/-20	
Endosulfan Sulfate [2C]	A	40.000	37.4	1.0238570	0.9569664		-6.5	+/-20	
Endrin Ketone	A	40.000	43.4	1.0270110	1.1155130		8.6	+/-20	
Endrin Ketone [2C]	A	40.000	42.7	1.1058500	1.1811840		6.8	+/-20	
Methoxychlor	A	200.00	188	0.4231113	0.3986879		-5.8	+/-20	
Methoxychlor [2C]	A	200.00	185	0.4725766	0.4364399		-7.6	+/-20	
Hexachlorobutadiene	A	20.000	12.4	1.6135150	0.9988667		-38.1	+/-20	*
Hexachlorobutadiene [2C]	A	20.000	9.39	1.5225100	0.7149453		-53.0	+/-20	*
Hexachlorobenzene	A	20.000	16.5	1.4298940	1.1787920		-17.6	+/-20	
Hexachlorobenzene [2C]	A	20.000	17.5	1.4591090	1.2744370		-12.7	+/-20	
Decachlorobiphenyl	A	40.000	33.7	0.8105886	0.6824046		-15.8	+/-20	
Decachlorobiphenyl [2C]	A	40.000	33.4	0.8841805	0.7374973		-16.6	+/-20	
Tetrachlorometaxylene	A	40.000	25.0	1.0879510	0.6790788		-37.6	+/-20	*
Tetrachlorometaxylene [2C]	A	40.000	33.8	1.1261070	0.9519320		-15.5	+/-20	

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 8081 Pesticide Quantitation Report

Data file 1: /20230324.b/23032458.D
Data file 2: /20230324.b/B20230324.b/23032458.D
Method: \20230324.b\PEST.m
Compound Sublist: INDA.sub
Instrument, Inj. Vol.: ecd6.i, 1ul
Operator: JGR

ARI ID: SEQ-CCV1INDA3
Client ID:
Injection Date: 25-MAR-2023 08:58
Report Date: 03/28/2023 10:51
Units: ng/mL
Dilution Factor: 1.000

STX-CLP Col			CLP2 Col			STX-CLP	CLP2		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
4.364	-0.010	173418	0.000	-4.809	0	17.48	0.00	---	alpha-BHC
4.752	-0.011	67646	0.000	-5.281	0	17.71	0.00	---	beta-BHC
4.937	-0.011	139250	0.000	-5.632	0	17.17	0.00	---	delta-BHC
4.670	-0.011	152891	0.000	-5.202	0	17.78	0.00	---	gamma-BHC (Lindane)
5.159	-0.012	134166	0.000	-5.726	0	17.53	0.00	---	Heptachlor
5.485	-0.013	146557	0.000	-6.127	0	17.09	0.00	---	Aldrin
6.163	-0.013	131088	0.000	-6.782	0	17.63	0.00	---	Heptachlor epoxide b
6.605	-0.013	123801	0.000	-7.227	0	18.14	0.00	---	Endosulfan I
6.865	-0.013	252204	0.000	-7.520	0	34.40	0.00	---	Dieldrin
6.529	-0.011	240622	0.000	-7.310	0	35.35	0.00	---	4,4'-DDE
7.115	-0.013	143781	0.000	-7.843	0	25.35	0.00	---	Endrin
7.353	-0.013	220791	0.000	-8.055	0	43.25	0.00	---	Endosulfan II
7.176	-0.011	208755	0.000	-7.915	0	40.86	0.00	---	4,4'-DDD
8.214	-0.012	188779	0.000	-8.651	0	38.94	0.00	---	Endosulfan sulfate
7.466	-0.013	183329	0.000	-8.232	0	35.51	0.00	---	4,4'-DDT
7.955	-0.011	431166	0.000	-8.872	0	188.46	0.00	---	Methoxychlor
8.488	-0.013	241277	0.000	-9.173	0	43.45	0.00	---	Endrin ketone
7.780	-0.013	180818	0.000	-8.385	0	44.40	0.00	---	Endrin aldehyde
6.305	-0.013	131432	0.000	-6.994	0	17.40	0.00	---	trans-Chlordane
6.451	-0.013	130314	0.000	-7.154	0	17.20	0.00	---	cis-Chlordane
2.327	-0.007	128680	0.000	-2.478	0	12.38	0.00	---	Hexachlorobutadiene
4.207	-0.010	151859	0.000	-4.670	0	16.49	0.00	---	Hexachlorobenzene
3.846	-0.011	174966	0.000	-4.178	0	24.97	0.00	---	Tetrachloro-m-xylene
9.402	-0.012	147599	0.000	-10.373	0	33.67	0.00	---	Decachlorobiphenyl

* Indicates RPD > 40%
A Indicates Peak Height was used for Column 1 quantitation instead of Area
B Indicates Peak Height was used for Column 2 quantitation instead of Area
M Indicates Column 1 peak was manually integrated
N Indicates Column 2 peak was manually integrated

~ Indicates recovery outside QC Limits

INTERNAL STANDARD SUMMARY

Column 1

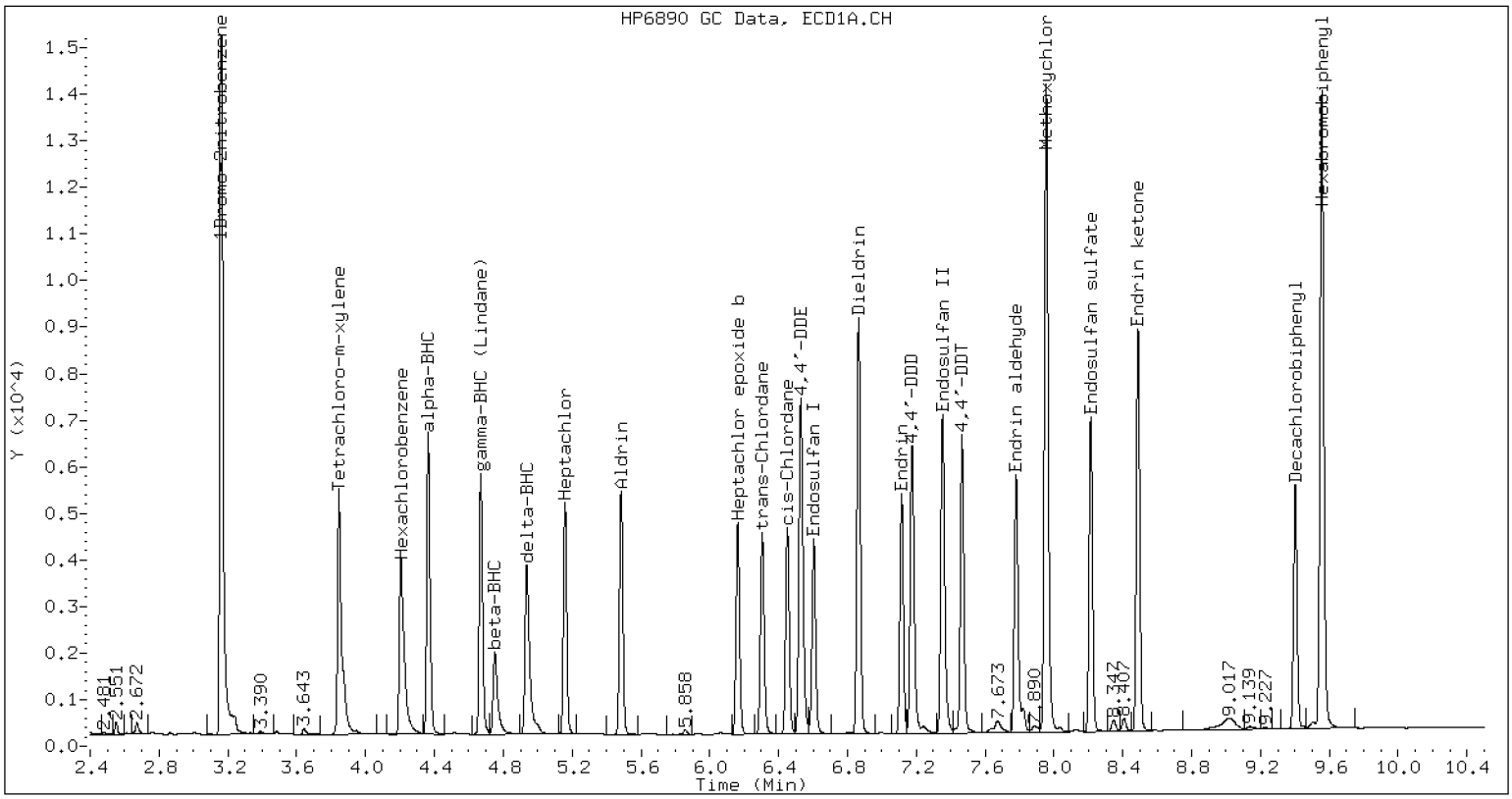
Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	672426	515304	-23.4
Hexabromobiphenyl	609723	432585	-29.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	1006482	0	-100.0 <-
Hexabromobiphenyl	769764	0	-100.0 <-

* Standard Areas taken from Initial Cal Level 5
Initial Calibration Date: 14-DEC-2022
<- Indicates standard response outside Limits (-50 to +100%)

/20230324.b/23032458.D SEQ-CCV1INDA3 STX-CLP 25-MAR-2023 08:58 1ul



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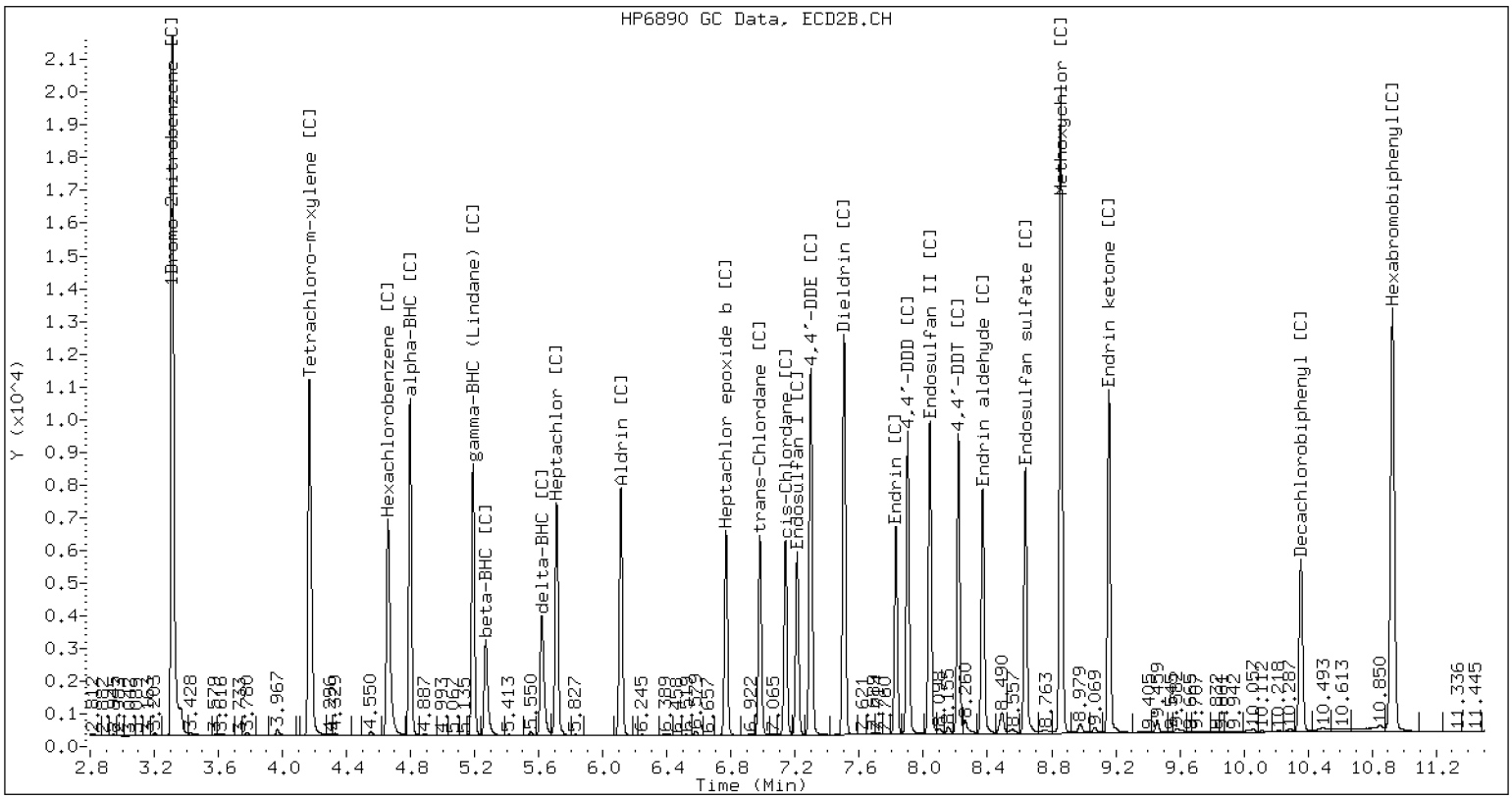
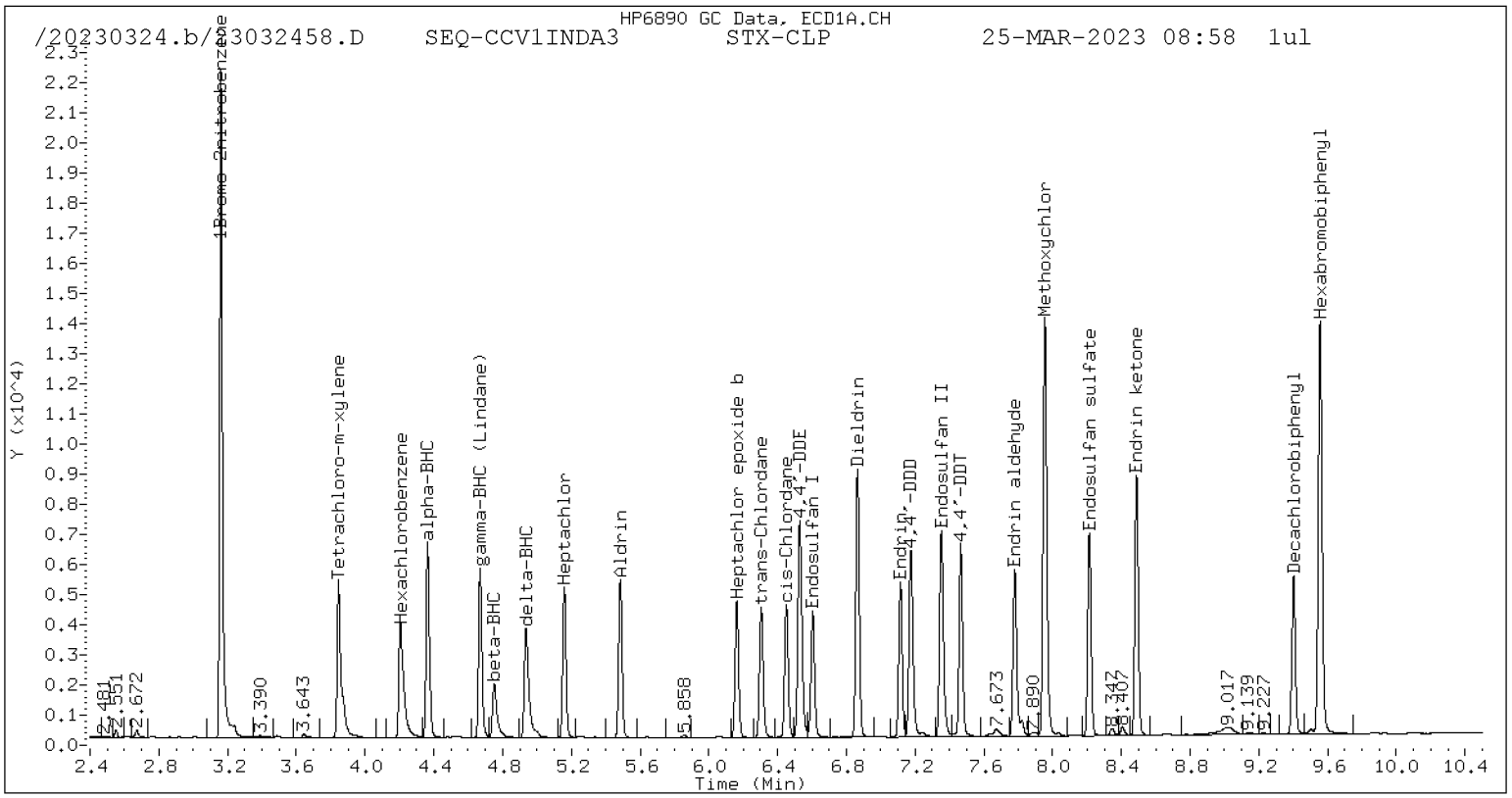


Pesticide Dual Column Chromatograms



STX-CLP Manual Integration: NO

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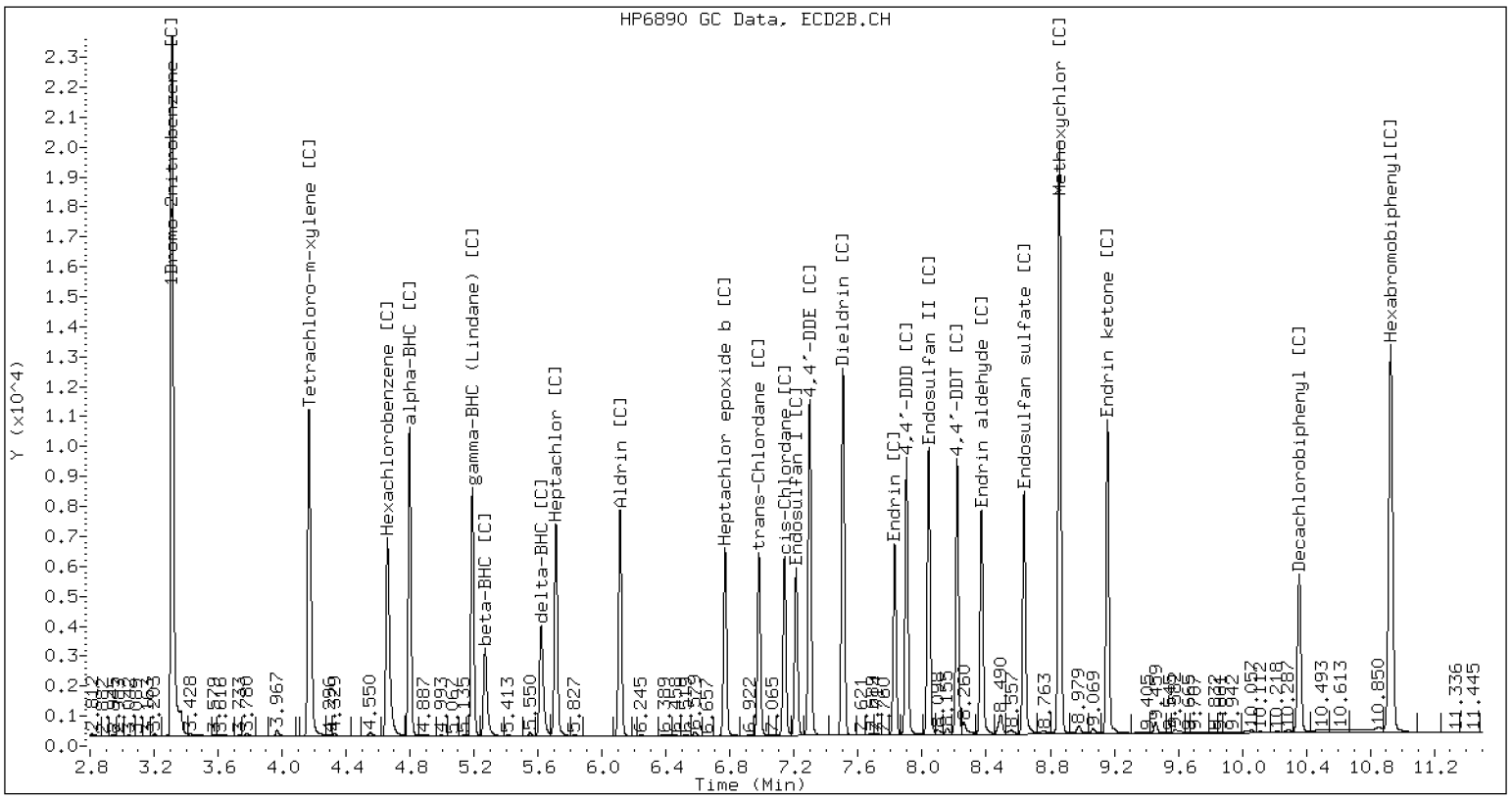


CLP-2 Manual Integration: NO

Analytical Resources, LLC
Analytical Chemists and Consultants

PERFORMANCE EVAUATION DATA SHEET

DS1

EPA 8081B

Laboratory:	Analytical Resources, LLC	Laboratory ID:	SKL0233-PEM1	File ID:	22121404.D
Client:	Anchor QEA, LLC	Matrix:	Water	Instrument:	ECD6
Project:	AOC5 MR Phase 1	Analyzed:	12/14/2022	Sequence:	SKL0233
SDG:	23C0108	Calibration:	FL00041	Column:	1

PEM COMPOUND	RT	Response
4,4'-DDE	6.49	6258
Endrin	7.08	745471
4,4'-DDD	7.14	15566
Endrin Aldehyde	7.75	21328
4,4'-DDT	7.43	629664
Endrin Ketone	8.45	19276

4,4'-DDT %Breakdown (1): 3.3

Endrin %Breakdown (1): 5.2

Analytical Resources, LLC
Analytical Chemists and Consultants

PERFORMANCE EVAUATION DATA SHEET

DS1

EPA 8081B

Laboratory:	Analytical Resources, LLC	Laboratory ID:	SKL0233-PEM1	File ID:	22121404.D
Client:	Anchor QEA, LLC	Matrix:	Water	Instrument:	ECD6
Project:	AOC5 MR Phase 1	Analyzed:	12/14/2022	Sequence:	SKL0233
SDG:	23C0108	Calibration:	FL00041	Column:	2

PEM COMPOUND	RT	Response
4,4'-DDE	7.37	11906
Endrin	7.91	1029194
4,4'-DDD	7.98	32697
Endrin Aldehyde	8.45	31426
4,4'-DDT	8.30	890195
Endrin Ketone	9.24	28268

4,4'-DDT %Breakdown (1): 4.8

Endrin %Breakdown (1): 5.5

7E

8081 DDT/ENDRIN BREAKDOWN VERIFICATION SUMMARY

Lab ID: SEQ-PEM1 InstID,Data File: ecd6.i, 22121404.D

Analysis Date: 14-DEC-2022 20:20 Init. Calib. Date: 14-DEC-2022

GC Column: STX-CLP1 ID: 0.53(mm)

COMPOUND	RT	AREA
1Bromo-2nitrobenzene	3.151	683485
4,4'-DDE	6.490	6258
Endrin	7.082	745471
4,4'-DDD	7.136	15566
4,4'-DDT	7.428	629664
Endrin ketone	8.453	19276
Endrin aldehyde	7.747	21328
Hexabromobiphenyl	9.504	619012
Tetrachloro-m-xylene	3.828	1161664
Decachlorobiphenyl	9.355	833312

DDT Percent Breakdown = 3.3 %
((6258+15566) * 100)/(6258+15566+629664)

Endrin Percent Breakdown = 5.2 %
((21328+19276) * 100)/(21328+19276+745471)

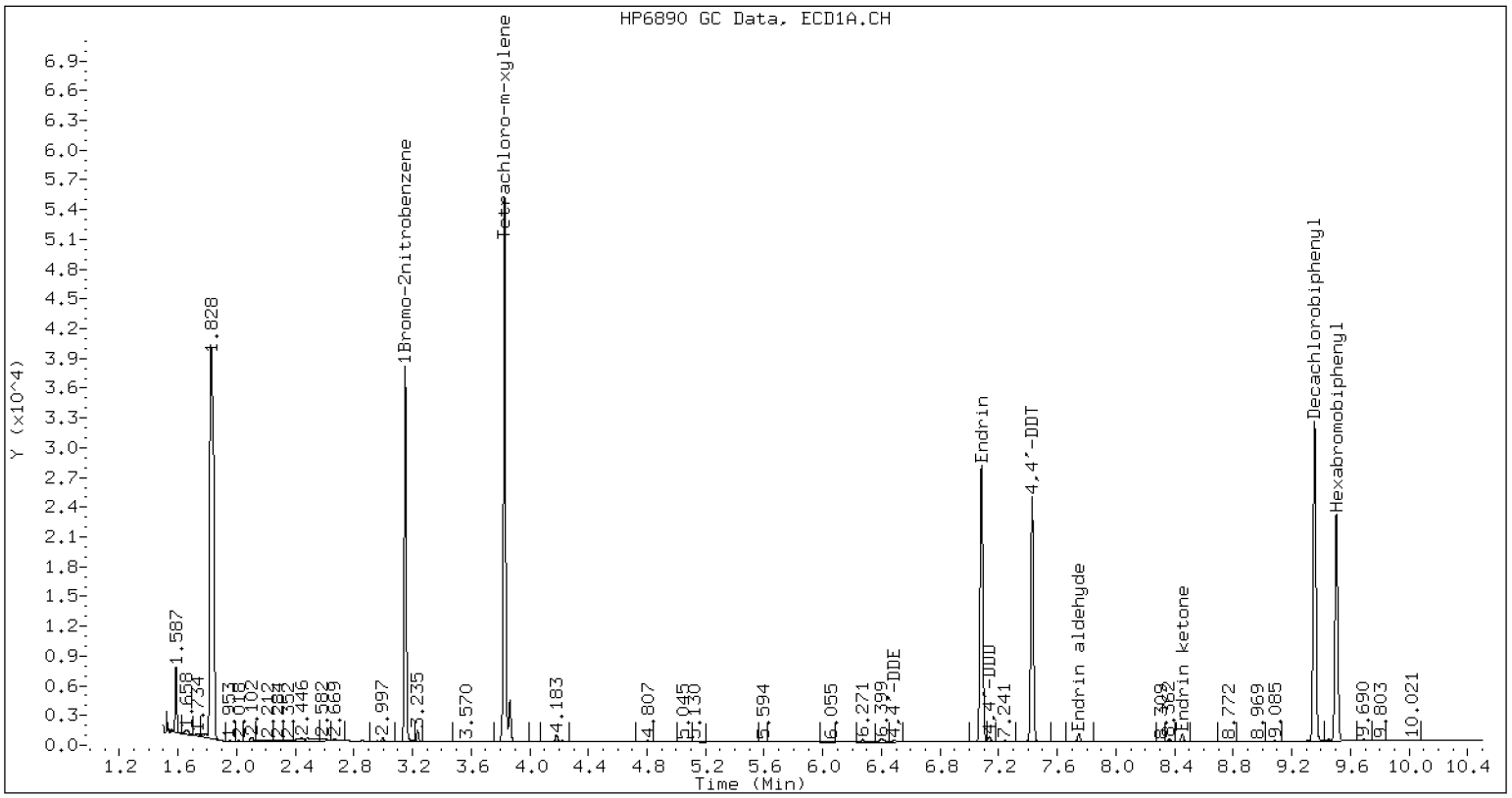
GC Column: STX-CLP2 ID: 0.53(mm)

COMPOUND	RT	AREA
1Bromo-2nitrobenzene [C]	3.350	1005375
4,4'-DDE [C]	7.370	11906
Endrin [C]	7.907	1029194
4,4'-DDD [C]	7.977	32697
4,4'-DDT [C]	8.295	890195
Endrin ketone [C]	9.239	28268
Endrin aldehyde [C]	8.448	31426
Hexabromobiphenyl[C]	11.054	772586
Tetrachloro-m-xylene [C]	4.220	1890294
Decachlorobiphenyl [C]	10.467	1140978

DDT Percent Breakdown = 4.8 %
((11906+32697) * 100)/(11906+32697+890195)

Endrin Percent Breakdown = 5.5 %
((31426+28268) * 100)/(31426+28268+1029194)

/20221214.b/22121404.D SEQ-PEM1 STX-CLP 14-DEC-2022 20:20 1ul



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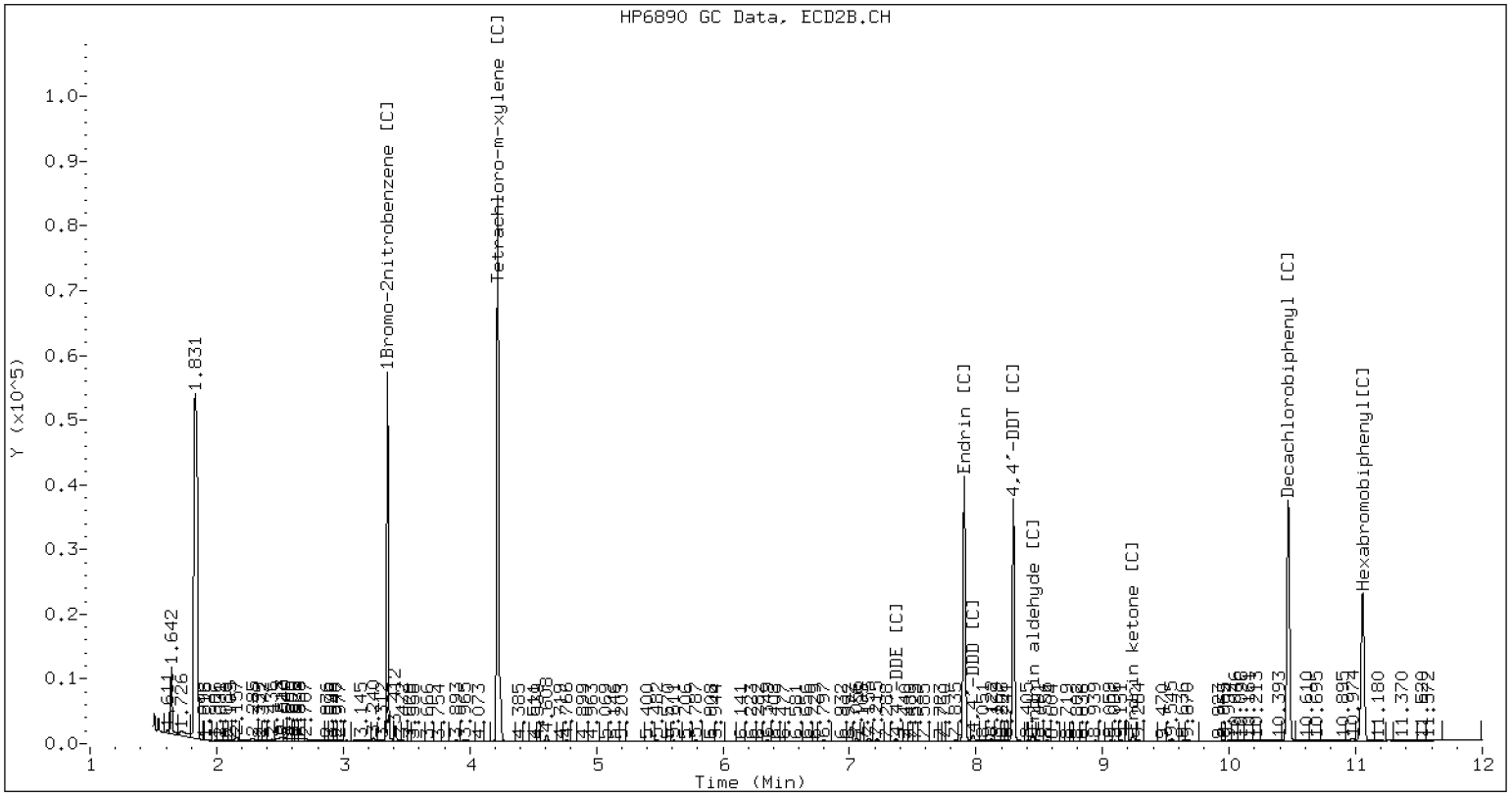

7E

8081 DDT/ENDRIN BREAKDOWN VERIFICATION SUMMARY

Lab ID: SEQ-PEM1 InstID,Data File: ecd6.i, 22121404.D

Analysis Date: 14-DEC-2022 20:20 Init. Calib. Date: 14-DEC-2022

GC Column: STX-CLP1 ID: 0.53(mm)

COMPOUND	RT	AREA
1Bromo-2nitrobenzene	3.151	683485
4,4'-DDE	6.490	6258
Endrin	7.082	745471
4,4'-DDD	7.136	15566
4,4'-DDT	7.428	629664
Endrin ketone	8.453	19276
Endrin aldehyde	7.747	21328
Hexabromobiphenyl	9.504	619012
Tetrachloro-m-xylene	3.828	1161664
Decachlorobiphenyl	9.355	833312

DDT Percent Breakdown = 3.3 %
((6258+15566) * 100)/(6258+15566+629664)

Endrin Percent Breakdown = 5.2 %
((21328+19276) * 100)/(21328+19276+745471)

GC Column: STX-CLP1 ID: 0.53(mm)

COMPOUND	RT	AREA
Decachlorobiphenyl	9.355	833312
Decachlorobiphenyl	9.355	833312
Decachlorobiphenyl	9.355	833312

Decachlorobiphenyl	9.355	833312
Decachlorobiphenyl	9.355	833312
Decachlorobiphenyl	9.355	833312
Decachlorobiphenyl	9.355	833312
Decachlorobiphenyl	9.355	833312
Decachlorobiphenyl	9.355	833312
Decachlorobiphenyl	9.355	833312

Analytical Resources, LLC
Analytical Chemists and Consultants

PERFORMANCE EVAUATION DATA SHEET

DS1

EPA 8081B

Laboratory:	Analytical Resources, LLC	Laboratory ID:	SLC0442-PEM1	File ID:	23032405.D
Client:	Anchor QEA, LLC	Matrix:	Water	Instrument:	ECD6
Project:	AOC5 MR Phase 1	Analyzed:	03/24/2023	Sequence:	SLC0442
SDG:	23C0108	Calibration:	FL00041	Column:	1

PEM COMPOUND	RT	Response
4,4'-DDE	6.53	6257
Endrin	7.12	489126
4,4'-DDD	7.18	17273
Endrin Aldehyde	7.79	34476
4,4'-DDT	7.47	423243
Endrin Ketone	8.49	38462

4,4'-DDT %Breakdown (1): 5.3

Endrin %Breakdown (1): 13.0

Analytical Resources, LLC
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PERFORMANCE EVAUATION DATA SHEET

DS1

EPA 8081B

Laboratory:	Analytical Resources, LLC	Laboratory ID:	SLC0442-PEM1	File ID:	23032405.D
Client:	Anchor QEA, LLC	Matrix:	Water	Instrument:	ECD6
Project:	AOC5 MR Phase 1	Analyzed:	03/24/2023	Sequence:	SLC0442
SDG:	23C0108	Calibration:	FL00041	Column:	2

PEM COMPOUND	RT	Response
4,4'-DDE	7.30	9927
Endrin	7.83	582898
4,4'-DDD	7.91	28371
Endrin Aldehyde	8.37	40526
4,4'-DDT	8.22	537884
Endrin Ketone	9.16	43649

4,4'-DDT %Breakdown (1): 6.6

Endrin %Breakdown (1): 12.6

7E

8081 DDT/ENDRIN BREAKDOWN VERIFICATION SUMMARY

Lab ID: SEQ-PEM1 InstID,Data File: ecd6.i, 23032405.D

Analysis Date: 24-MAR-2023 17:09 Init. Calib. Date: 14-DEC-2022

GC Column: STX-CLP1 ID: 0.53(mm)

COMPOUND	RT	AREA
1Bromo-2nitrobenzene	3.163	518811
4,4'-DDE	6.534	6257
Endrin	7.118	489126
4,4'-DDD	7.183	17273
4,4'-DDT	7.470	423243
Endrin ketone	8.493	38462
Endrin aldehyde	7.786	34476
Hexabromobiphenyl	9.560	432866
Tetrachloro-m-xylene	3.848	186702
Decachlorobiphenyl	9.407	153028

DDT Percent Breakdown = 5.3 %
((6257+17273) * 100)/(6257+17273+423243)

Endrin Percent Breakdown = 13.0 %
((34476+38462) * 100)/(34476+38462+489126)

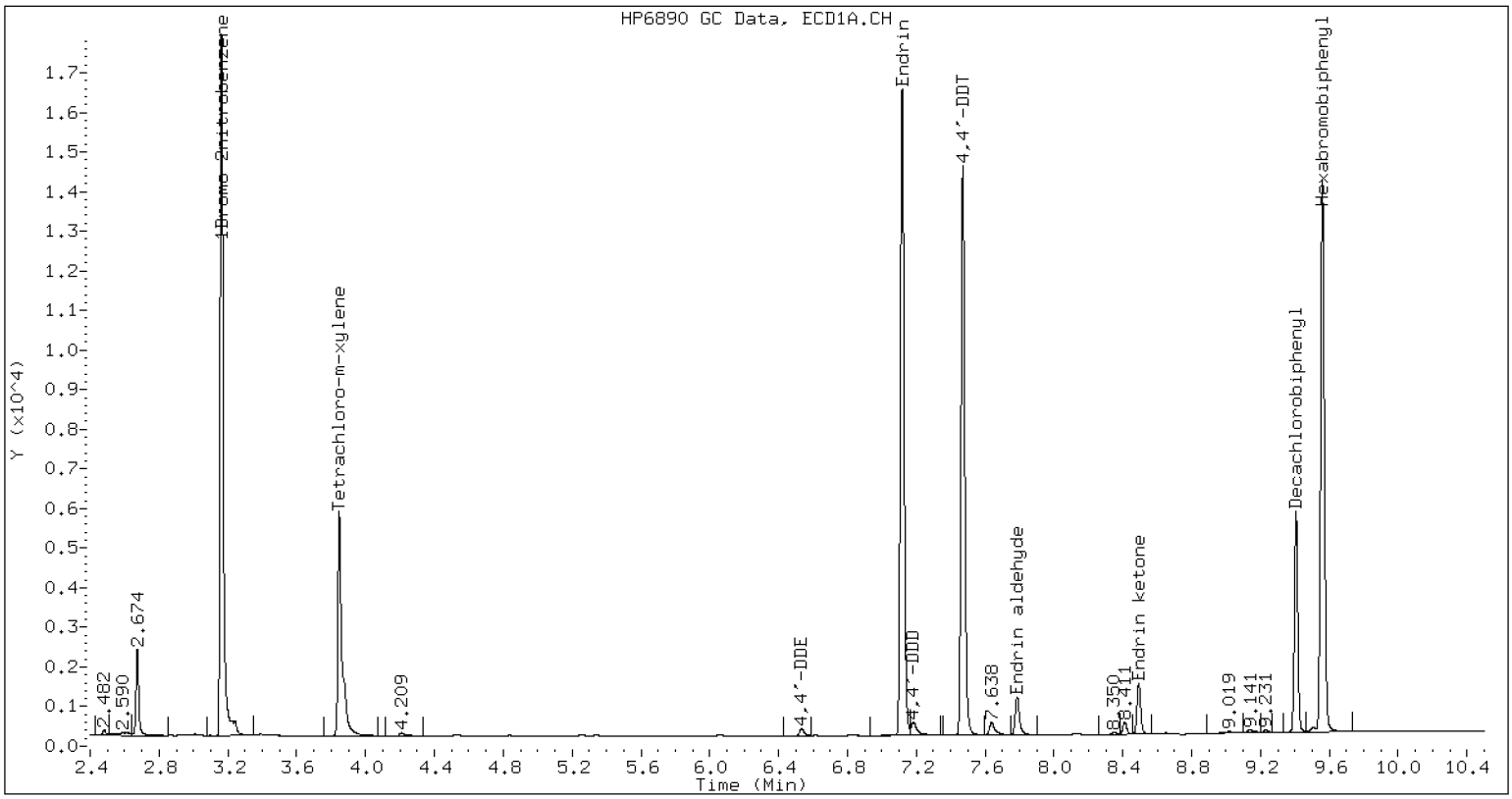
GC Column: STX-CLP2 ID: 0.53(mm)

COMPOUND	RT	AREA
1Bromo-2nitrobenzene [C]	3.313	687832
4,4'-DDE [C]	7.301	9927
Endrin [C]	7.832	582898
4,4'-DDD [C]	7.908	28371
4,4'-DDT [C]	8.221	537884
Endrin ketone [C]	9.162	43649
Endrin aldehyde [C]	8.374	40526
Hexabromobiphenyl[C]	10.932	451073
Tetrachloro-m-xylene [C]	4.170	335728
Decachlorobiphenyl [C]	10.360	172471

DDT Percent Breakdown = 6.6 %
((9927+28371) * 100)/(9927+28371+537884)

Endrin Percent Breakdown = 12.6 %
((40526+43649) * 100)/(40526+43649+582898)

/20230324.b/23032405.D SEQ-PEM1 STX-CLP 24-MAR-2023 17:09 1ul



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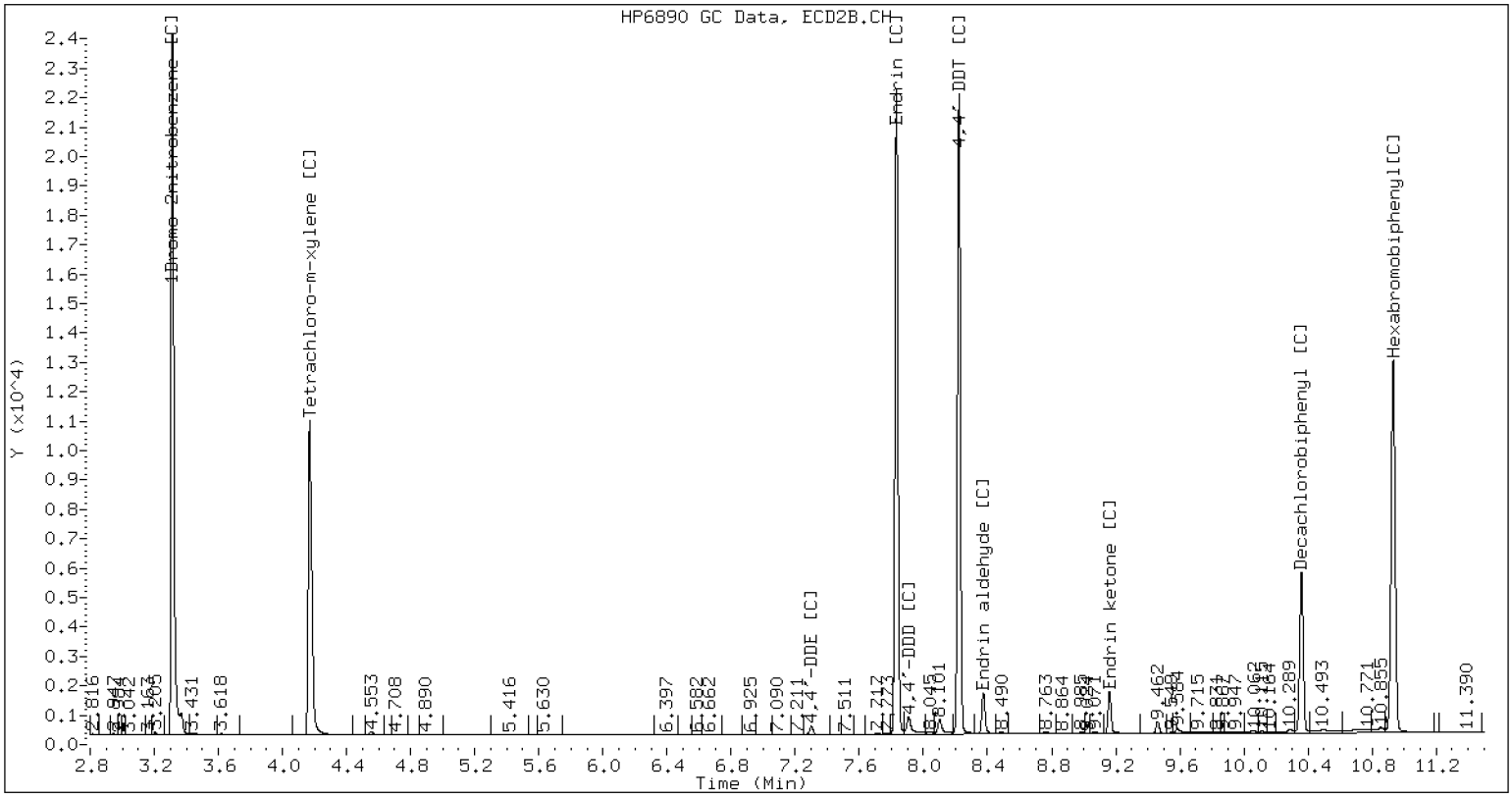

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PERFORMANCE EVAUATION DATA SHEET

DS2

EPA 8081B

Laboratory:	Analytical Resources, LLC	Laboratory ID:	SLC0442-PEM2	File ID:	23032422.D
Client:	Anchor QEA, LLC	Matrix:	Water	Instrument:	ECD6
Project:	AOC5 MR Phase 1	Analyzed:	03/24/2023	Sequence:	SLC0442
SDG:	23C0108	Calibration:	FL00041	Column:	1

PEM COMPOUND	RT	Response
4,4'-DDE	6.53	7832
Endrin	7.12	423851
4,4'-DDD	7.18	18132
Endrin Aldehyde	7.78	70656
4,4'-DDT	7.47	437491
Endrin Ketone	8.49	66548

4,4'-DDT %Breakdown (1): 5.6

Endrin %Breakdown (1): 24.5

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PERFORMANCE EVAUATION DATA SHEET

DS2

EPA 8081B

Laboratory:	Analytical Resources, LLC	Laboratory ID:	SLC0442-PEM2	File ID:	23032422.D
Client:	Anchor QEA, LLC	Matrix:	Water	Instrument:	ECD6
Project:	AOC5 MR Phase 1	Analyzed:	03/24/2023	Sequence:	SLC0442
SDG:	23C0108	Calibration:	FL00041	Column:	2

PEM COMPOUND	RT	Response
4,4'-DDE	7.30	10119
Endrin	7.83	514640
4,4'-DDD	7.91	29940
Endrin Aldehyde	8.37	83116
4,4'-DDT	8.22	578108
Endrin Ketone	9.16	71129

4,4'-DDT %Breakdown (1): 6.5

Endrin %Breakdown (1): 23.1

7E

8081 DDT/ENDRIN BREAKDOWN VERIFICATION SUMMARY

Lab ID: SEQ-PEM2 InstID,Data File: ecd6.i, 23032422.D

Analysis Date: 24-MAR-2023 22:13 Init. Calib. Date: 14-DEC-2022

GC Column: STX-CLP1 ID: 0.53(mm)

COMPOUND	RT	AREA
1Bromo-2nitrobenzene	3.163	529882
4,4'-DDE	6.534	7832
Endrin	7.118	423851
4,4'-DDD	7.183	18132
4,4'-DDT	7.470	437491
Endrin ketone	8.492	66548
Endrin aldehyde	7.785	70656
Hexabromobiphenyl	9.560	443814
Tetrachloro-m-xylene	3.848	192346
Decachlorobiphenyl	9.405	155600

DDT Percent Breakdown = 5.6 %
((7832+18132) * 100)/(7832+18132+437491)

Endrin Percent Breakdown = 24.5 %
((70656+66548) * 100)/(70656+66548+423851)

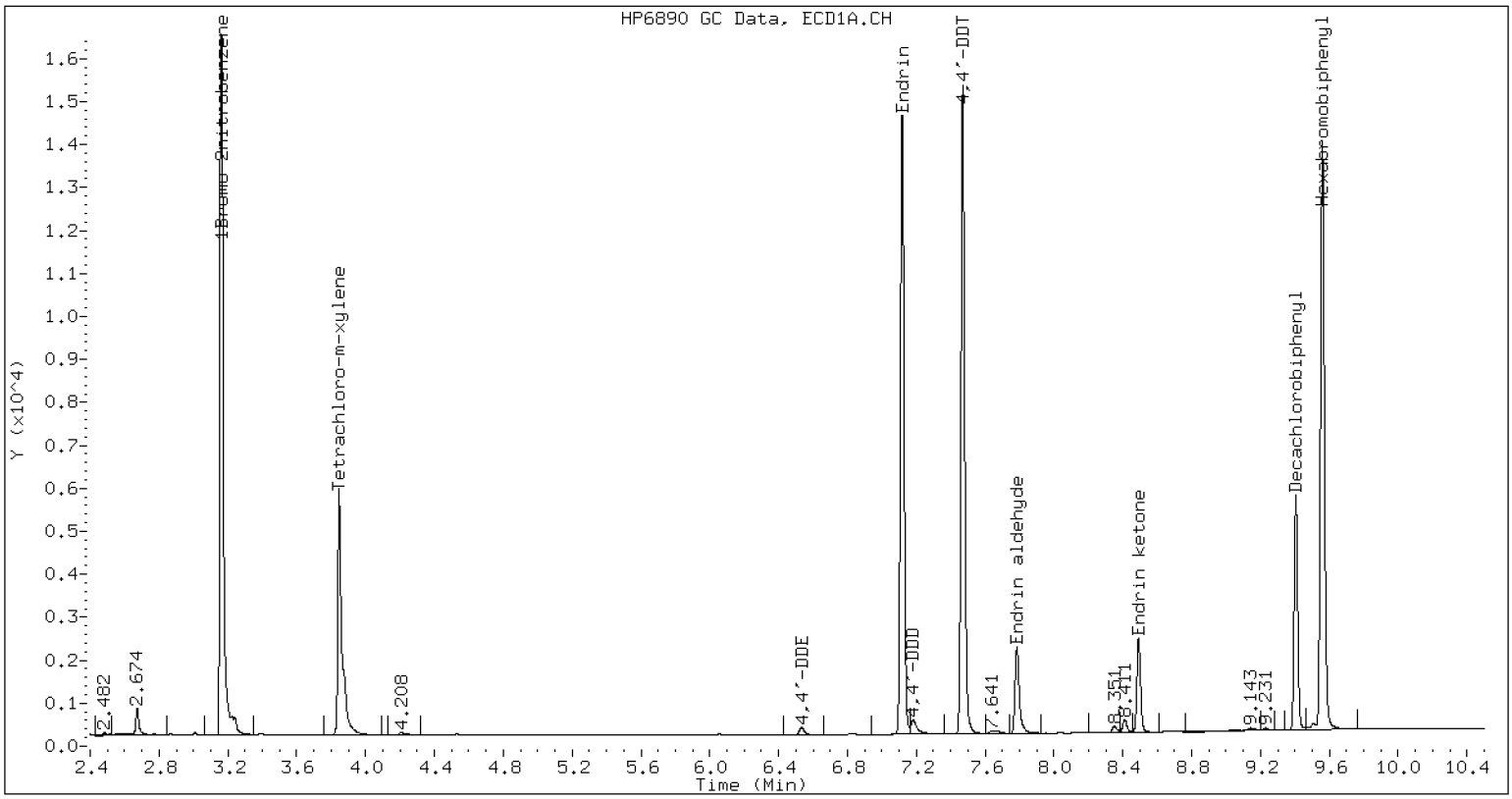
GC Column: STX-CLP2 ID: 0.53(mm)

COMPOUND	RT	AREA
1Bromo-2nitrobenzene [C]	3.313	721391
4,4'-DDE [C]	7.301	10119
Endrin [C]	7.831	514640
4,4'-DDD [C]	7.908	29940
4,4'-DDT [C]	8.221	578108
Endrin ketone [C]	9.162	71129
Endrin aldehyde [C]	8.374	83116
Hexabromobiphenyl[C]	10.932	452983
Tetrachloro-m-xylene [C]	4.170	344267
Decachlorobiphenyl [C]	10.360	181323

DDT Percent Breakdown = 6.5 %
((10119+29940) * 100)/(10119+29940+578108)

Endrin Percent Breakdown = 23.1 %
((83116+71129) * 100)/(83116+71129+514640)

/20230324.b/23032422.D SEQ-PEM2 STX-CLP 24-MAR-2023 22:13 1ul



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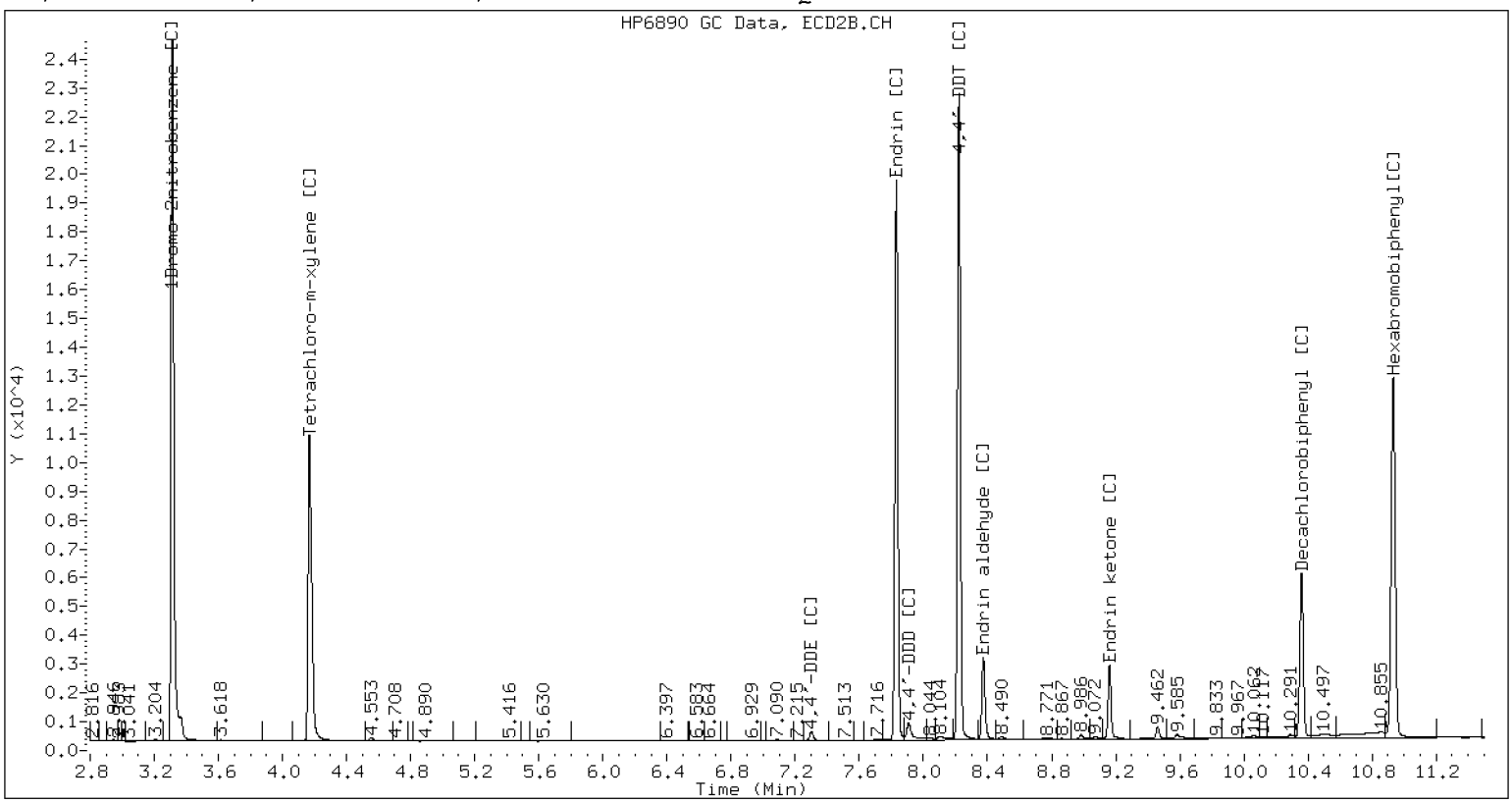

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PERFORMANCE EVAUATION DATA SHEET

DS3

EPA 8081B

Laboratory:	Analytical Resources, LLC	Laboratory ID:	SLC0442-PEM3	File ID:	23032437.D
Client:	Anchor QEA, LLC	Matrix:	Water	Instrument:	ECD6
Project:	AOC5 MR Phase 1	Analyzed:	03/25/2023	Sequence:	SLC0442
SDG:	23C0108	Calibration:	FL00041	Column:	1

PEM COMPOUND	RT	Response
4,4'-DDE	6.53	6360
Endrin	7.12	331418
4,4'-DDD	7.18	15415
Endrin Aldehyde	7.78	62932
4,4'-DDT	7.47	386048
Endrin Ketone	8.49	59739

4,4'-DDT %Breakdown (1): 5.3

Endrin %Breakdown (1): 27.0

Analytical Resources, LLC
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PERFORMANCE EVAUATION DATA SHEET

DS3

EPA 8081B

Laboratory:	Analytical Resources, LLC	Laboratory ID:	SLC0442-PEM3	File ID:	23032437.D
Client:	Anchor QEA, LLC	Matrix:	Water	Instrument:	ECD6
Project:	AOC5 MR Phase 1	Analyzed:	03/25/2023	Sequence:	SLC0442
SDG:	23C0108	Calibration:	FL00041	Column:	2

PEM COMPOUND	RT	Response
4,4'-DDE	7.30	12803
Endrin	7.83	368081
4,4'-DDD	7.91	24909
Endrin Aldehyde	8.37	92395
4,4'-DDT	8.22	491185
Endrin Ketone	9.16	108082

4,4'-DDT %Breakdown (1): 7.1

Endrin %Breakdown (1): 35.3

7E

8081 DDT/ENDRIN BREAKDOWN VERIFICATION SUMMARY

Lab ID: SEQ-PEM3 InstID,Data File: ecd6.i, 23032437.D

Analysis Date: 25-MAR-2023 02:42 Init. Calib. Date: 14-DEC-2022

GC Column: STX-CLP1 ID: 0.53(mm)

COMPOUND	RT	AREA
1Bromo-2nitrobenzene	3.163	501513
4,4'-DDE	6.535	6360
Endrin	7.118	331418
4,4'-DDD	7.182	15415
4,4'-DDT	7.471	386048
Endrin ketone	8.492	59739
Endrin aldehyde	7.785	62932
Hexabromobiphenyl	9.559	359734
Tetrachloro-m-xylene	3.848	186866
Decachlorobiphenyl	9.405	147743

DDT Percent Breakdown = 5.3 %
((6360+15415) * 100)/(6360+15415+386048)

Endrin Percent Breakdown = 27.0 %
((62932+59739) * 100)/(62932+59739+331418)

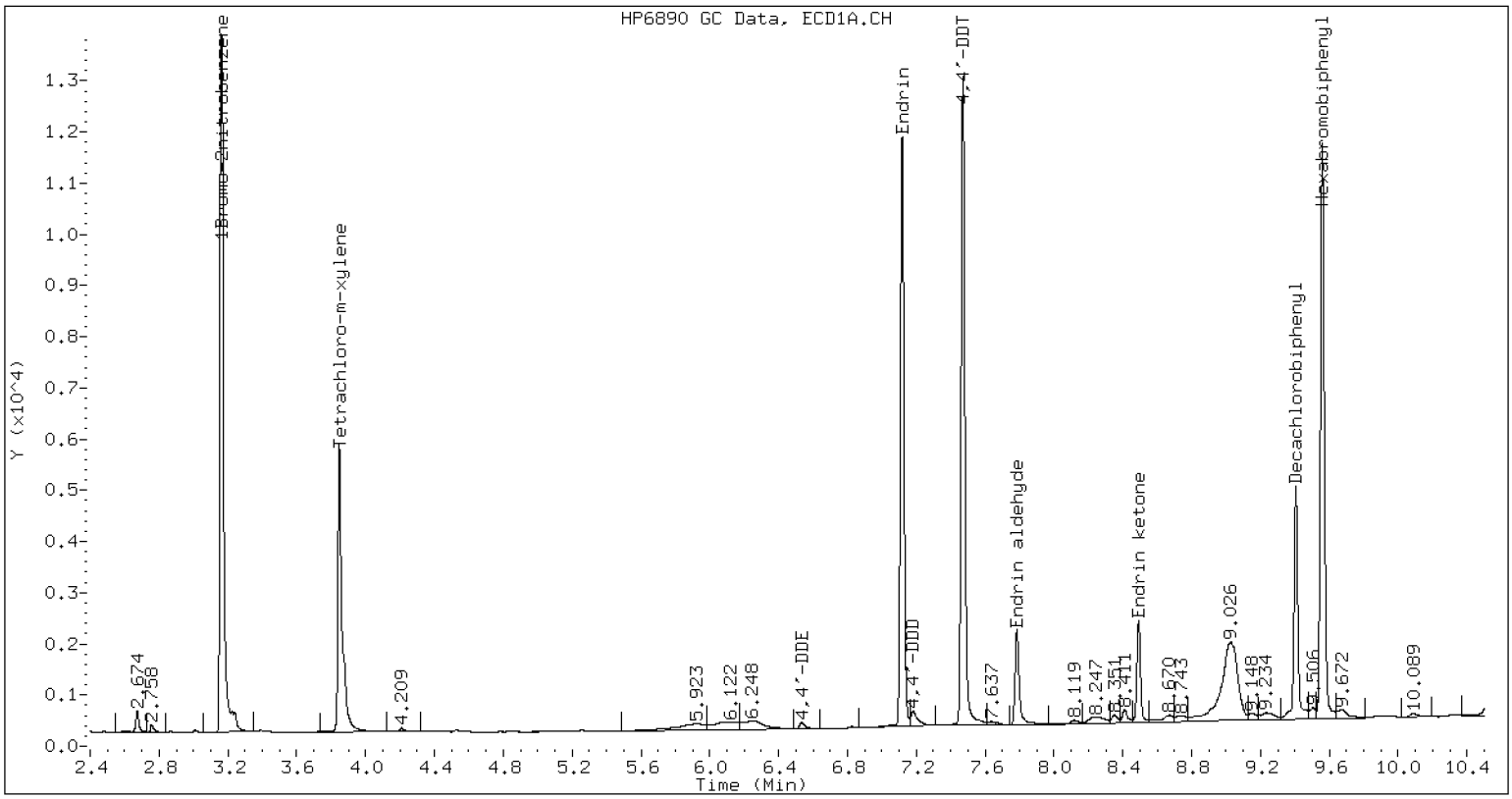
GC Column: STX-CLP2 ID: 0.53(mm)

COMPOUND	RT	AREA
1Bromo-2nitrobenzene [C]	3.313	663308
4,4'-DDE [C]	7.302	12803
Endrin [C]	7.831	368081
4,4'-DDD [C]	7.907	24909
4,4'-DDT [C]	8.222	491185
Endrin ketone [C]	9.161	108082
Endrin aldehyde [C]	8.374	92395
Hexabromobiphenyl[C]	10.931	397193
Tetrachloro-m-xylene [C]	4.169	317961
Decachlorobiphenyl [C]	10.359	167836

DDT Percent Breakdown = 7.1 %
((12803+24909) * 100)/(12803+24909+491185)

Endrin Percent Breakdown = 35.3 %
((92395+108082) * 100)/(92395+108082+368081)

/20230324.b/23032437.D SEQ-PEM3 STX-CLP 25-MAR-2023 02:42 1ul



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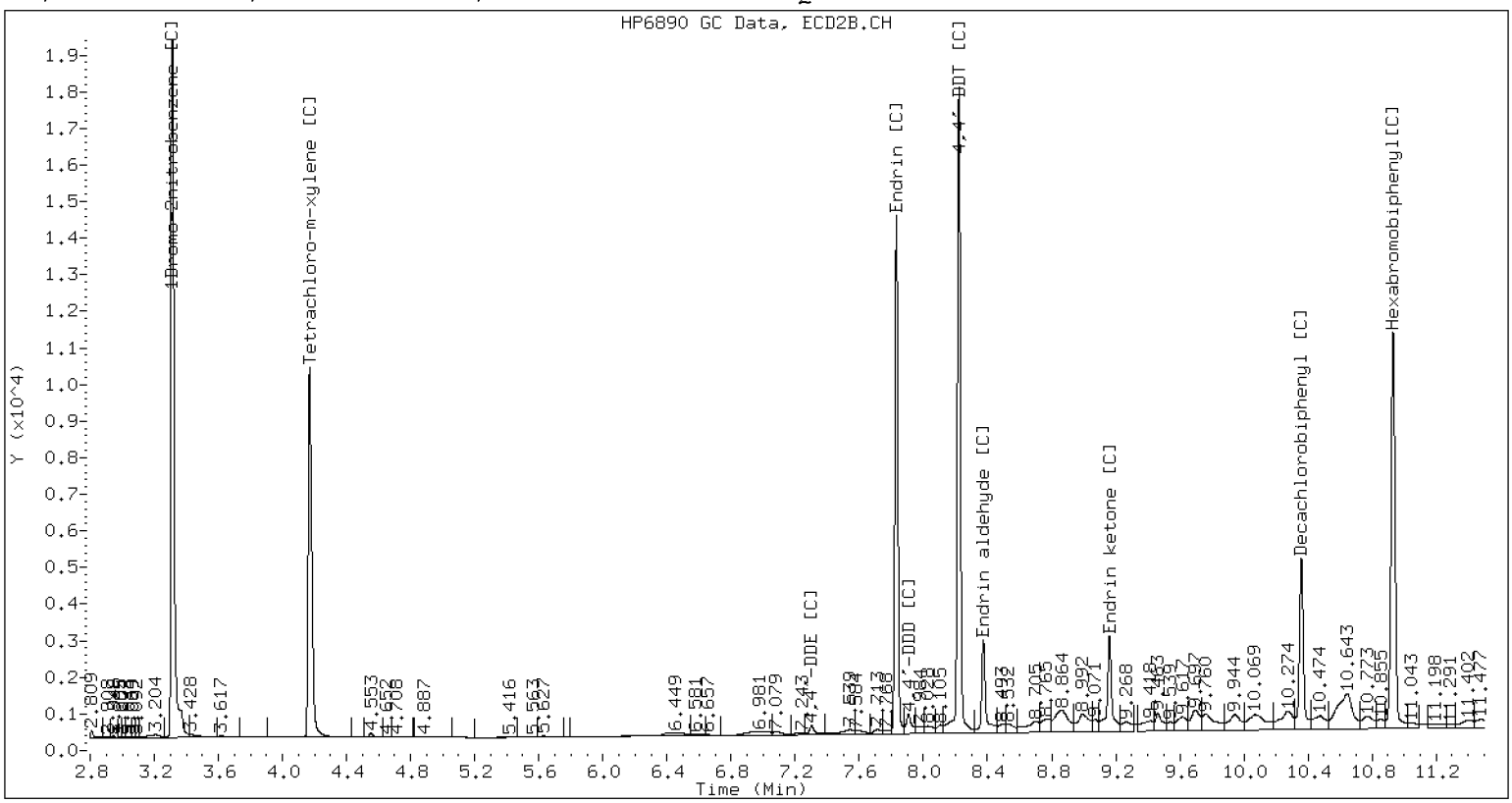

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PERFORMANCE EVAUATION DATA SHEET

DS4

EPA 8081B

Laboratory:	Analytical Resources, LLC	Laboratory ID:	SLC0442-PEM4	File ID:	23032457.D
Client:	Anchor QEA, LLC	Matrix:	Water	Instrument:	ECD6
Project:	AOC5 MR Phase 1	Analyzed:	03/25/2023	Sequence:	SLC0442
SDG:	23C0108	Calibration:	FL00041	Column:	1

PEM COMPOUND	RT	Response
4,4'-DDE	6.53	8383
Endrin	7.12	305324
4,4'-DDD	7.18	18488
Endrin Aldehyde	7.78	100522
4,4'-DDT	7.47	414929
Endrin Ketone	8.49	90689

4,4'-DDT %Breakdown (1): 6.1

Endrin %Breakdown (1): 38.5

Analytical Resources, LLC
Analytical Chemists and Consultants

PERFORMANCE EVAUATION DATA SHEET

DS4

EPA 8081B

Laboratory:	Analytical Resources, LLC	Laboratory ID:	SLC0442-PEM4	File ID:	23032457.D
Client:	Anchor QEA, LLC	Matrix:	Water	Instrument:	ECD6
Project:	AOC5 MR Phase 1	Analyzed:	03/25/2023	Sequence:	SLC0442
SDG:	23C0108	Calibration:	FL00041	Column:	2

PEM COMPOUND	RT	Response
4,4'-DDE	7.30	10259
Endrin	7.83	340707
4,4'-DDD	7.91	27721
Endrin Aldehyde	8.37	121886
4,4'-DDT	8.22	517206
Endrin Ketone	9.16	123322

4,4'-DDT %Breakdown (1): 6.8

Endrin %Breakdown (1): 41.9

7E

8081 DDT/ENDRIN BREAKDOWN VERIFICATION SUMMARY

Lab ID: SEQ-PEM4 InstID,Data File: ecd6.i, 23032457.D

Analysis Date: 25-MAR-2023 08:40 Init. Calib. Date: 14-DEC-2022

GC Column: STX-CLP1 ID: 0.53(mm)

COMPOUND	RT	AREA
1Bromo-2nitrobenzene	3.161	509106
4,4'-DDE	6.533	8383
Endrin	7.116	305324
4,4'-DDD	7.180	18488
4,4'-DDT	7.468	414929
Endrin ketone	8.490	90689
Endrin aldehyde	7.782	100522
Hexabromobiphenyl	9.556	422512
Tetrachloro-m-xylene	3.846	189018
Decachlorobiphenyl	9.402	155923

DDT Percent Breakdown = 6.1 %
((8383+18488) * 100)/(8383+18488+414929)

Endrin Percent Breakdown = 38.5 %
((100522+90689) * 100)/(100522+90689+305324)

GC Column: STX-CLP2 ID: 0.53(mm)

COMPOUND	RT	AREA
1Bromo-2nitrobenzene [C]	3.312	693430
4,4'-DDE [C]	7.300	10259
Endrin [C]	7.829	340707
4,4'-DDD [C]	7.905	27721
4,4'-DDT [C]	8.220	517206
Endrin ketone [C]	9.159	123322
Endrin aldehyde [C]	8.372	121886
Hexabromobiphenyl[C]	10.928	445549
Tetrachloro-m-xylene [C]	4.168	333930
Decachlorobiphenyl [C]	10.357	174927

DDT Percent Breakdown = 6.8 %
((10259+27721) * 100)/(10259+27721+517206)

Endrin Percent Breakdown = 41.9 %
((121886+123322) * 100)/(121886+123322+340707)

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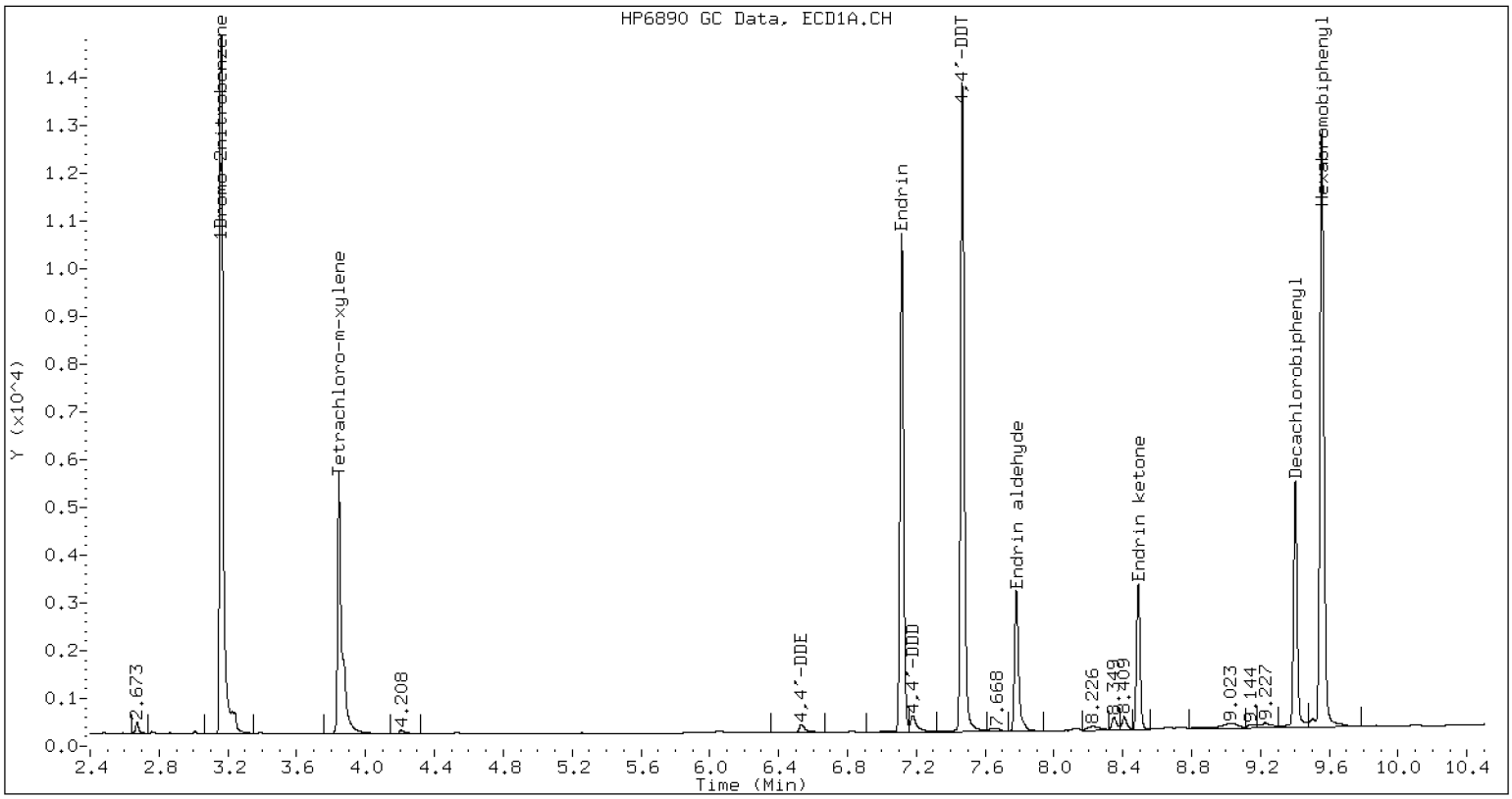

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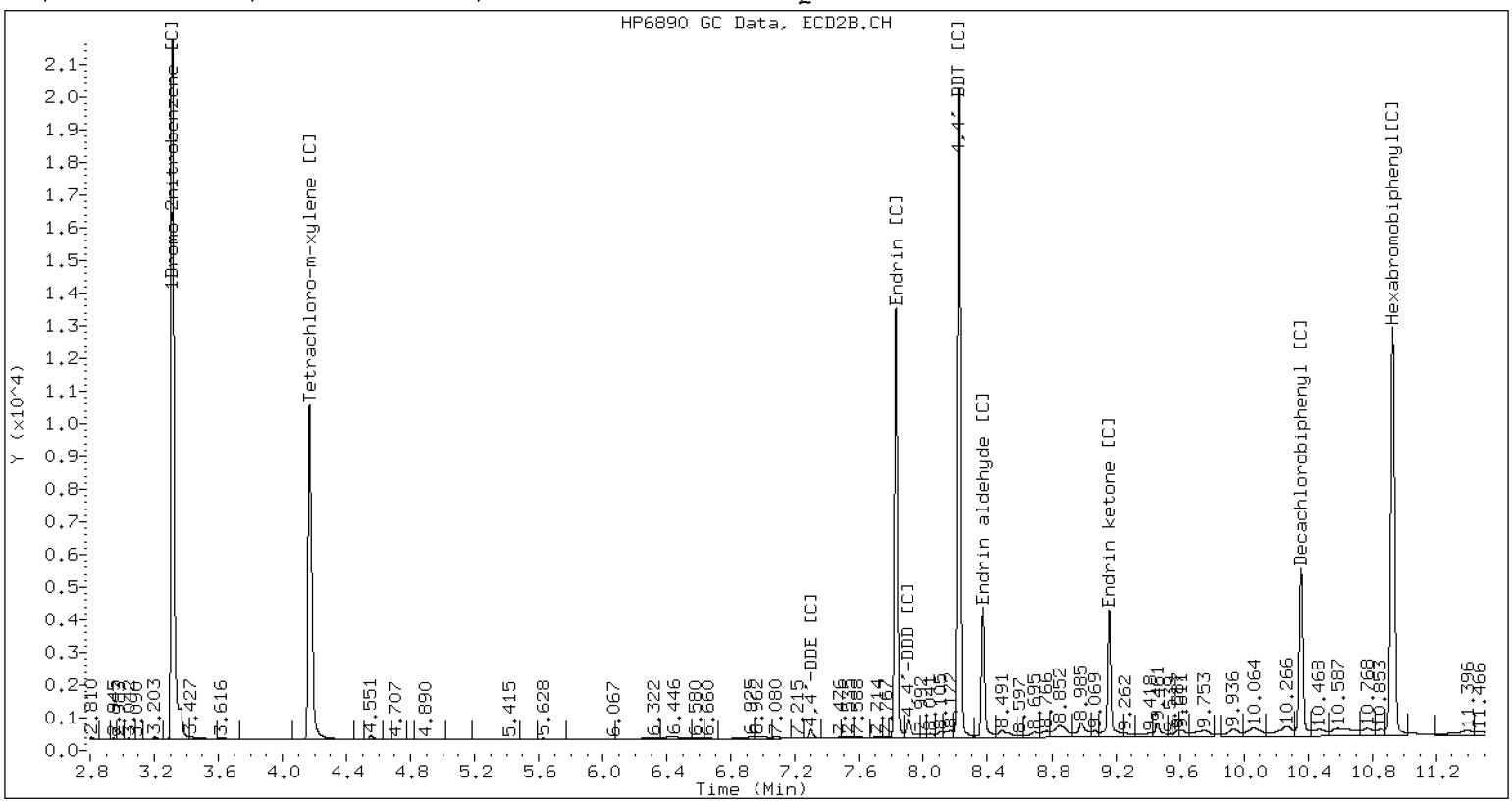

Dual Column

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8081B

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SKL0233
Instrument: ECD6
Calibration: FL00041

Sample Name	Lab Sample ID	Column 1 File ID	Column 2 File ID	Matrix	Analysis Date/Time
Performance Mix	SKL0233-PEM1	22121404.D	22121404.D	NA	12/14/22 20:20
Cal Standard	SKL0233-CAL1	22121405.D	22121405.D	NA	12/14/22 20:38
Cal Standard	SKL0233-CAL2	22121406.D	22121406.D	NA	12/14/22 20:56
Cal Standard	SKL0233-CAL3	22121407.D	22121407.D	NA	12/14/22 21:14
Cal Standard	SKL0233-CAL4	22121408.D	22121408.D	NA	12/14/22 21:31
Cal Standard	SKL0233-CAL5	22121409.D	22121409.D	NA	12/14/22 21:49
Cal Standard	SKL0233-CAL6	22121410.D	22121410.D	NA	12/14/22 22:07
Cal Standard	SKL0233-CAL7	22121411.D	22121411.D	NA	12/14/22 22:25
Cal Standard	SKL0233-CAL8	22121412.D	22121412.D	NA	12/14/22 22:43
Cal Standard	SKL0233-CAL9	22121413.D	22121413.D	NA	12/14/22 23:01
Cal Standard	SKL0233-CALA	22121414.D	22121414.D	NA	12/14/22 23:19
Cal Standard	SKL0233-CALB	22121415.D	22121415.D	NA	12/14/22 23:36
Cal Standard	SKL0233-CALC	22121416.D	22121416.D	NA	12/14/22 23:54
Cal Standard	SKL0233-CALD	22121417.D	22121417.D	NA	12/15/22 00:12
Cal Standard	SKL0233-CALE	22121418.D	22121418.D	NA	12/15/22 00:30

Printed: 12/17/2022 10:57:45AM

ANALYSIS SEQUENCE

SKL0233

Instrument: ECD6 Element Column ID:
Calibration ID: FL00041

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Analyzed	Comments
SKL0233-PEM1	DS1	QC		1	K007286	K006953		
SKL0233-CAL1	INDAA	QC		2	K011594	K006953		
SKL0233-CAL2	INDAB	QC		3	K011593	K006953		
SKL0233-CAL3	INDAC	QC		4	K011592	K006953		
SKL0233-CAL4	INDAD	QC		5	K011591	K006953		
SKL0233-CAL5	INDAE	QC		6	K011590	K006953		
SKL0233-CAL6	INDAF	QC		7	K011589	K006953		
SKL0233-CAL7	INDAG	QC		8	K011463	K006953		
SKL0233-CAL8	WNDA	QC		9	K011595	K006953		
SKL0233-CAL9	WNDB	QC		10	K007148	K006953		
SKL0233-CALA	WNDC	QC		11	K007147	K006953		
SKL0233-CALB	WNDD	QC		12	K007146	K006953		
SKL0233-CALC	WNDE	QC		13	K007145	K006953		
SKL0233-CALD	WNDF	QC		14	K007144	K006953		
SKL0233-CALE	WNDG	QC		15	K007093	K006953		
SKL0233-CALM	NOS1	QC		16	K007375	K006953		
SKL0233-CALN	NOS2	QC		17	K007374	K006953		
SKL0233-CALO	NOS3	QC		18	K007373	K006953		
SKL0233-CALP	NOS4	QC		19	K007372	K006953		
SKL0233-CALQ	NOS5	QC		20	K007371	K006953		
SKL0233-CALR	NOS6	QC		21	K007370	K006953		
SKL0233-CALS	NOS7	QC		22	K007287	K006953		

Printed: 12/17/2022 10:57:45AM

ANALYSIS SEQUENCE

SKL0233

Instrument: ECD6 Element Column ID:
Calibration ID: FL00041

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Analyzed	Comments
SKL0233-CALF	TOXAPH1	QC		23	K011601	K006953		
SKL0233-CALG	TOXAPH2	QC		24	K011600	K006953		
SKL0233-CALH	TOXAPH3	QC		25	K011599	K006953		
SKL0233-CALI	TOXAPH4	QC		26	K011598	K006953		
SKL0233-CALJ	TOXAPH5	QC		27	K011597	K006953		
SKL0233-CALK	TOXAPH6	QC		28	K011596	K006953		
SKL0233-CALL	TOXAPH7	QC		29	K008546	K006953		

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20221214.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	14-DEC-2022 19:27	22121401.D	1	RINSE	
2	14-DEC-2022 19:44	22121402.D	1	RINSE	
3	14-DEC-2022 20:02	22121403.D	1	SEQ-IBL1	
4	14-DEC-2022 20:20	22121404.D	1	SEQ-PEM1	
5	14-DEC-2022 20:38	22121405.D	1	SEQ-CAL1	
6	14-DEC-2022 20:56	22121406.D	1	SEQ-CAL2	
7	14-DEC-2022 21:14	22121407.D	1	SEQ-CAL3	
8	14-DEC-2022 21:31	22121408.D	1	SEQ-CAL4	
9	14-DEC-2022 21:49	22121409.D	1	SEQ-CAL5	
10	14-DEC-2022 22:07	22121410.D	1	SEQ-CAL6	
11	14-DEC-2022 22:25	22121411.D	1	SEQ-CAL7	
12	14-DEC-2022 22:43	22121412.D	1	SEQ-CAL8	
13	14-DEC-2022 23:01	22121413.D	1	SEQ-CAL9	
14	14-DEC-2022 23:19	22121414.D	1	SEQ-CALA	
15	14-DEC-2022 23:36	22121415.D	1	SEQ-CALB	
16	14-DEC-2022 23:54	22121416.D	1	SEQ-CALC	
17	15-DEC-2022 00:12	22121417.D	1	SEQ-CALD	
18	15-DEC-2022 00:30	22121418.D	1	SEQ-CALE	
19	15-DEC-2022 00:48	22121419.D	1	SEQ-SCV1	
20	15-DEC-2022 01:06	22121420.D	1	SEQ-SCV2	
21	15-DEC-2022 01:24	22121421.D	1	SEQ-CAL1A	
22	15-DEC-2022 01:42	22121422.D	1	SEQ-CAL2A	
23	15-DEC-2022 01:59	22121423.D	1	SEQ-CAL3A	
24	15-DEC-2022 02:17	22121424.D	1	SEQ-CAL4A	
25	15-DEC-2022 02:35	22121425.D	1	SEQ-CAL5A	
26	15-DEC-2022 02:53	22121426.D	1	SEQ-CAL6A	
27	15-DEC-2022 03:11	22121427.D	1	SEQ-CAL7A	
28	15-DEC-2022 03:29	22121428.D	1	SEQ-CAL8A	
29	15-DEC-2022 03:46	22121429.D	1	SEQ-CAL9A	
30	15-DEC-2022 04:04	22121430.D	1	SEQ-CALAA	
31	15-DEC-2022 04:22	22121431.D	1	SEQ-CALAB	
32	15-DEC-2022 04:40	22121432.D	1	SEQ-CALAC	
33	15-DEC-2022 04:58	22121433.D	1	SEQ-CALAD	
34	15-DEC-2022 05:16	22121434.D	1	SEQ-CALAE	
35	15-DEC-2022 05:33	22121435.D	1	SEQ-PEM2	
36	15-DEC-2022 05:51	22121436.D	1	SEQ-ICV1	
37	15-DEC-2022 06:09	22121437.D	1	SEQ-ICV2	
38	15-DEC-2022 06:27	22121438.D	1	SEQ-ICV3	
39	15-DEC-2022 06:45	22121439.D	1	SEQ-ICV4	
40	15-DEC-2022 07:03	22121440.D	1	BKK0688-BLK1	
41	15-DEC-2022 07:21	22121441.D	1	BKK0688-BS1	
42	15-DEC-2022 07:39	22121442.D	1	BKK0688-BS2	
43	15-DEC-2022 07:57	22121443.D	1	BKK0688-BS3	
44	15-DEC-2022 08:15	22121444.D	1	BKK0688-BSD1	
45	15-DEC-2022 08:32	22121445.D	1	BKK0142-BLK1	
46	15-DEC-2022 08:50	22121446.D	1	BKK0142-BS1	
47	15-DEC-2022 09:08	22121447.D	1	BKK0142-BS2	
48	15-DEC-2022 09:26	22121448.D	1	BKK0142-BSD1	
49	15-DEC-2022 09:44	22121449.D	1	BKK0142-MS1	
50	15-DEC-2022 10:02	22121450.D	1	BKK0142-MSD1	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20221214.b p

	Inject Date/Time	Filename	DF	LabID	ClientID
51	15-DEC-2022 10:20	22121451.D	1	22J0513-01	
52	15-DEC-2022 10:38	22121452.D	1	22J0513-04	
53	15-DEC-2022 10:55	22121453.D	1	22J0535-01	
54	15-DEC-2022 11:13	22121454.D	1	22K0429-01	
55	15-DEC-2022 11:31	22121455.D	1	22K0429-02	
56	15-DEC-2022 11:49	22121456.D	1	22K0429-03	
57	15-DEC-2022 12:07	22121457.D	1	SEQ-PEM3	
58	15-DEC-2022 12:25	22121458.D	1	SEQ-CCV1	
59	15-DEC-2022 12:43	22121459.D	1	SEQ-CCV2	
60	15-DEC-2022 13:01	22121460.D	1	SEQ-CCV3	
61	15-DEC-2022 13:19	22121461.D	1	SEQ-CCV4	
62	15-DEC-2022 13:36	22121462.D	1	BKK0380-BLK1	
63	15-DEC-2022 13:54	22121463.D	1	BKK0380-BS1	
64	15-DEC-2022 14:12	22121464.D	1	BKK0380-BSD1	
65	15-DEC-2022 14:30	22121465.D	1	22K0157-01	
66	15-DEC-2022 14:48	22121466.D	1	22K0230-01	
67	15-DEC-2022 15:06	22121467.D	1	22K0231-01	
68	15-DEC-2022 15:24	22121468.D	1	BKK0382-BLK1	
69	15-DEC-2022 15:42	22121469.D	1	BKK0382-BS1	
70	15-DEC-2022 16:00	22121470.D	1	BKK0382-BS2	
71	15-DEC-2022 16:18	22121471.D	1	BKK0382-BSD1	
72	15-DEC-2022 16:35	22121472.D	1	22K0075-01	
73	15-DEC-2022 16:53	22121473.D	1	SEQ-PEM4	
74	15-DEC-2022 17:11	22121474.D	1	SEQ-CCV5	
75	15-DEC-2022 17:29	22121475.D	1	SEQ-CCV6	
76	15-DEC-2022 17:47	22121476.D	1	SEQ-CCV7	
77	15-DEC-2022 18:05	22121477.D	1	SEQ-CCV8	
78	15-DEC-2022 18:23	22121478.D	1	BKK0537-BLK1	
79	15-DEC-2022 18:40	22121479.D	1	BKK0537-BS1	
80	15-DEC-2022 18:58	22121480.D	1	BKK0537-BS2	
81	15-DEC-2022 19:16	22121481.D	1	22K0194-01	
82	15-DEC-2022 19:34	22121482.D	1	22K0194-01RE1	10
83	15-DEC-2022 19:52	22121483.D	1	SEQ-PEM5	
84	15-DEC-2022 20:09	22121484.D	1	SEQ-CCV9	
85	15-DEC-2022 20:27	22121485.D	1	SEQ-CCVA	
86	15-DEC-2022 20:45	22121486.D	1	SEQ-CCVB	
87	15-DEC-2022 21:03	22121487.D	1	SEQ-CCVC	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20221214.b

ARI Job No.: RINS Method: PEST.m Instrument: ecd6.i Date: 14-DEC-2022

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1927	22121401.D	RINSE		1	NO MANUAL INTEGRATION
1944	22121402.D	RINSE		1	NO MANUAL INTEGRATION
2002	22121403.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
2020	22121404.D	SEQ-PEM1		1	NO MANUAL INTEGRATION
2038	22121405.D	SEQ-CAL1		1	NO MANUAL INTEGRATION
2056	22121406.D	SEQ-CAL2		1	NO MANUAL INTEGRATION
2114	22121407.D	SEQ-CAL3		1	NO MANUAL INTEGRATION
2131	22121408.D	SEQ-CAL4		1	NO MANUAL INTEGRATION
2149	22121409.D	SEQ-CAL5		1	NO MANUAL INTEGRATION
2207	22121410.D	SEQ-CAL6		1	NO MANUAL INTEGRATION
2225	22121411.D	SEQ-CAL7		1	NO MANUAL INTEGRATION
2243	22121412.D	SEQ-CAL8		1	NO MANUAL INTEGRATION
2301	22121413.D	SEQ-CAL9		1	NO MANUAL INTEGRATION
2319	22121414.D	SEQ-CALA		1	NO MANUAL INTEGRATION
2336	22121415.D	SEQ-CALB		1	NO MANUAL INTEGRATION
2354	22121416.D	SEQ-CALC		1	NO MANUAL INTEGRATION
0012	22121417.D	SEQ-CALD		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20221214.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0030	22121418.D	SEQ-CALE		1	NO MANUAL INTEGRATION
0048	22121419.D	SEQ-SCV1		1	NO MANUAL INTEGRATION
0106	22121420.D	SEQ-SCV2		1	NO MANUAL INTEGRATION
0124	22121421.D	SEQ-CAL1A		1	NO MANUAL INTEGRATION
0142	22121422.D	SEQ-CAL2A		1	NO MANUAL INTEGRATION
0159	22121423.D	SEQ-CAL3A		1	NO MANUAL INTEGRATION
0217	22121424.D	SEQ-CAL4A		1	NO MANUAL INTEGRATION
0235	22121425.D	SEQ-CAL5A		1	NO MANUAL INTEGRATION
0253	22121426.D	SEQ-CAL6A		1	NO MANUAL INTEGRATION
0311	22121427.D	SEQ-CAL7A		1	NO MANUAL INTEGRATION
0329	22121428.D	SEQ-CAL8A		1	NO MANUAL INTEGRATION
0346	22121429.D	SEQ-CAL9A		1	NO MANUAL INTEGRATION
0404	22121430.D	SEQ-CALAA		1	NO MANUAL INTEGRATION
0422	22121431.D	SEQ-CALAB		1	NO MANUAL INTEGRATION
0440	22121432.D	SEQ-CALAC		1	NO MANUAL INTEGRATION
0458	22121433.D	SEQ-CALAD		1	NO MANUAL INTEGRATION
0516	22121434.D	SEQ-CALAE		1	NO MANUAL INTEGRATION
0533	22121435.D	SEQ-PEM2		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20221214.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0551	22121436.D	SEQ-ICV1		1	NO MANUAL INTEGRATION
0609	22121437.D	SEQ-ICV2		1	NO MANUAL INTEGRATION
0627	22121438.D	SEQ-ICV3		1	NO MANUAL INTEGRATION
0645	22121439.D	SEQ-ICV4		1	NO MANUAL INTEGRATION
0703	22121440.D	BKK0688-BLK1		1	NO MANUAL INTEGRATION
0721	22121441.D	BKK0688-BS1		1	NO MANUAL INTEGRATION
0739	22121442.D	BKK0688-BS2		1	NO MANUAL INTEGRATION
0757	22121443.D	BKK0688-BS3		1	NO MANUAL INTEGRATION
0815	22121444.D	BKK0688-BSD1		1	NO MANUAL INTEGRATION
0832	22121445.D	BKK0142-BLK1		1	NO MANUAL INTEGRATION
0850	22121446.D	BKK0142-BS1		1	NO MANUAL INTEGRATION
0908	22121447.D	BKK0142-BS2		1	NO MANUAL INTEGRATION
0926	22121448.D	BKK0142-BSD1		1	NO MANUAL INTEGRATION
0944	22121449.D	BKK0142-MS1		1	NO MANUAL INTEGRATION
1002	22121450.D	BKK0142-MSD1		1	NO MANUAL INTEGRATION
1020	22121451.D	22J0513-01		1	NO MANUAL INTEGRATION
1038	22121452.D	22J0513-04		1	NO MANUAL INTEGRATION
1055	22121453.D	22J0535-01		1	trans-Chlordane,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20221214.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1113	22121454.D	22K0429-01		1	Heptachlor epoxide b,
1131	22121455.D	22K0429-02		1	Heptachlor epoxide b,
1149	22121456.D	22K0429-03		1	Hexachlorobenzene,
1207	22121457.D	SEQ-PEM3		1	NO MANUAL INTEGRATION
1225	22121458.D	SEQ-CCV1		1	NO MANUAL INTEGRATION
1243	22121459.D	SEQ-CCV2		1	NO MANUAL INTEGRATION
1301	22121460.D	SEQ-CCV3		1	NO MANUAL INTEGRATION
1319	22121461.D	SEQ-CCV4		1	NO MANUAL INTEGRATION
1336	22121462.D	BKK0380-BLK1		1	NO MANUAL INTEGRATION
1354	22121463.D	BKK0380-BS1		1	NO MANUAL INTEGRATION
1412	22121464.D	BKK0380-BSD1		1	NO MANUAL INTEGRATION
1430	22121465.D	22K0157-01		1	NO MANUAL INTEGRATION
1448	22121466.D	22K0230-01		1	NO MANUAL INTEGRATION
1506	22121467.D	22K0231-01		1	NO MANUAL INTEGRATION
1524	22121468.D	BKK0382-BLK1		1	NO MANUAL INTEGRATION
1542	22121469.D	BKK0382-BS1		1	NO MANUAL INTEGRATION
1600	22121470.D	BKK0382-BS2		1	NO MANUAL INTEGRATION
1618	22121471.D	BKK0382-BSD1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20221214.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1635	22121472.D	22K0075-01		1	NO MANUAL INTEGRATION
1653	22121473.D	SEQ-PEM4		1	NO MANUAL INTEGRATION
1711	22121474.D	SEQ-CCV5		1	NO MANUAL INTEGRATION
1729	22121475.D	SEQ-CCV6		1	NO MANUAL INTEGRATION
1747	22121476.D	SEQ-CCV7		1	NO MANUAL INTEGRATION
1805	22121477.D	SEQ-CCV8		1	NO MANUAL INTEGRATION
1823	22121478.D	BKK0537-BLK1		1	NO MANUAL INTEGRATION
1840	22121479.D	BKK0537-BS1		1	NO MANUAL INTEGRATION
1858	22121480.D	BKK0537-BS2		1	NO MANUAL INTEGRATION
1916	22121481.D	22K0194-01		1	NO MANUAL INTEGRATION
1934	22121482.D	22K0194-01RE1	10	1	NO MANUAL INTEGRATION
1952	22121483.D	SEQ-PEM5		1	NO MANUAL INTEGRATION
2009	22121484.D	SEQ-CCV9		1	NO MANUAL INTEGRATION
2027	22121485.D	SEQ-CCVA		1	NO MANUAL INTEGRATION
2045	22121486.D	SEQ-CCVB		1	NO MANUAL INTEGRATION
2103	22121487.D	SEQ-CCVC		1	NO MANUAL INTEGRATION
1927	22121401.D	RINSE		1	NO MANUAL INTEGRATION
1944	22121402.D	RINSE		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20221214.b\B20221214.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2002	22121403.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
2020	22121404.D	SEQ-PEM1		1	NO MANUAL INTEGRATION
2038	22121405.D	SEQ-CAL1		1	NO MANUAL INTEGRATION
2056	22121406.D	SEQ-CAL2		1	NO MANUAL INTEGRATION
2114	22121407.D	SEQ-CAL3		1	NO MANUAL INTEGRATION
2131	22121408.D	SEQ-CAL4		1	NO MANUAL INTEGRATION
2149	22121409.D	SEQ-CAL5		1	NO MANUAL INTEGRATION
2207	22121410.D	SEQ-CAL6		1	NO MANUAL INTEGRATION
2225	22121411.D	SEQ-CAL7		1	NO MANUAL INTEGRATION
2243	22121412.D	SEQ-CAL8		1	NO MANUAL INTEGRATION
2301	22121413.D	SEQ-CAL9		1	NO MANUAL INTEGRATION
2319	22121414.D	SEQ-CALA		1	NO MANUAL INTEGRATION
2336	22121415.D	SEQ-CALB		1	NO MANUAL INTEGRATION
2354	22121416.D	SEQ-CALC		1	NO MANUAL INTEGRATION
0012	22121417.D	SEQ-CALD		1	NO MANUAL INTEGRATION
0030	22121418.D	SEQ-CALE		1	NO MANUAL INTEGRATION
0048	22121419.D	SEQ-SCV1		1	NO MANUAL INTEGRATION
0106	22121420.D	SEQ-SCV2		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20221214.b\B20221214.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0124	22121421.D	SEQ-CAL1A		1	NO MANUAL INTEGRATION
0142	22121422.D	SEQ-CAL2A		1	NO MANUAL INTEGRATION
0159	22121423.D	SEQ-CAL3A		1	NO MANUAL INTEGRATION
0217	22121424.D	SEQ-CAL4A		1	NO MANUAL INTEGRATION
0235	22121425.D	SEQ-CAL5A		1	NO MANUAL INTEGRATION
0253	22121426.D	SEQ-CAL6A		1	NO MANUAL INTEGRATION
0311	22121427.D	SEQ-CAL7A		1	NO MANUAL INTEGRATION
0329	22121428.D	SEQ-CAL8A		1	NO MANUAL INTEGRATION
0346	22121429.D	SEQ-CAL9A		1	NO MANUAL INTEGRATION
0404	22121430.D	SEQ-CALAA		1	NO MANUAL INTEGRATION
0422	22121431.D	SEQ-CALAB		1	NO MANUAL INTEGRATION
0440	22121432.D	SEQ-CALAC		1	NO MANUAL INTEGRATION
0458	22121433.D	SEQ-CALAD		1	NO MANUAL INTEGRATION
0516	22121434.D	SEQ-CALAE		1	NO MANUAL INTEGRATION
0533	22121435.D	SEQ-PEM2		1	NO MANUAL INTEGRATION
0551	22121436.D	SEQ-ICV1		1	NO MANUAL INTEGRATION
0609	22121437.D	SEQ-ICV2		1	NO MANUAL INTEGRATION
0627	22121438.D	SEQ-ICV3		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20221214.b\B20221214.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0645	22121439.D	SEQ-ICV4		1	NO MANUAL INTEGRATION
0703	22121440.D	BKK0688-BLK1		1	NO MANUAL INTEGRATION
0721	22121441.D	BKK0688-BS1		1	NO MANUAL INTEGRATION
0739	22121442.D	BKK0688-BS2		1	NO MANUAL INTEGRATION
0757	22121443.D	BKK0688-BS3		1	NO MANUAL INTEGRATION
0815	22121444.D	BKK0688-BSD1		1	NO MANUAL INTEGRATION
0832	22121445.D	BKK0142-BLK1		1	NO MANUAL INTEGRATION
0850	22121446.D	BKK0142-BS1		1	NO MANUAL INTEGRATION
0908	22121447.D	BKK0142-BS2		1	NO MANUAL INTEGRATION
0926	22121448.D	BKK0142-BSD1		1	NO MANUAL INTEGRATION
0944	22121449.D	BKK0142-MS1		1	NO MANUAL INTEGRATION
1002	22121450.D	BKK0142-MSD1		1	NO MANUAL INTEGRATION
1020	22121451.D	22J0513-01		1	NO MANUAL INTEGRATION
1038	22121452.D	22J0513-04		1	NO MANUAL INTEGRATION
1055	22121453.D	22J0535-01		1	trans-Chlordane [C],
1113	22121454.D	22K0429-01		1	NO MANUAL INTEGRATION
1131	22121455.D	22K0429-02		1	Aldrin [C], Heptachlor epoxide b [C], trans-Chlordane [C],
1149	22121456.D	22K0429-03		1	Aldrin [C],

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20221214.b\B20221214.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1207	22121457.D	SEQ-PEM3		1	NO MANUAL INTEGRATION
1225	22121458.D	SEQ-CCV1		1	NO MANUAL INTEGRATION
1243	22121459.D	SEQ-CCV2		1	NO MANUAL INTEGRATION
1301	22121460.D	SEQ-CCV3		1	NO MANUAL INTEGRATION
1319	22121461.D	SEQ-CCV4		1	NO MANUAL INTEGRATION
1336	22121462.D	BKK0380-BLK1		1	NO MANUAL INTEGRATION
1354	22121463.D	BKK0380-BS1		1	NO MANUAL INTEGRATION
1412	22121464.D	BKK0380-BSD1		1	NO MANUAL INTEGRATION
1430	22121465.D	22K0157-01		1	NO MANUAL INTEGRATION
1448	22121466.D	22K0230-01		1	NO MANUAL INTEGRATION
1506	22121467.D	22K0231-01		1	NO MANUAL INTEGRATION
1524	22121468.D	BKK0382-BLK1		1	NO MANUAL INTEGRATION
1542	22121469.D	BKK0382-BS1		1	NO MANUAL INTEGRATION
1600	22121470.D	BKK0382-BS2		1	NO MANUAL INTEGRATION
1618	22121471.D	BKK0382-BSD1		1	NO MANUAL INTEGRATION
1635	22121472.D	22K0075-01		1	NO MANUAL INTEGRATION
1653	22121473.D	SEQ-PEM4		1	NO MANUAL INTEGRATION
1711	22121474.D	SEQ-CCV5		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20221214.b\B20221214.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1729	22121475.D	SEQ-CCV6		1	NO MANUAL INTEGRATION
1747	22121476.D	SEQ-CCV7		1	NO MANUAL INTEGRATION
1805	22121477.D	SEQ-CCV8		1	NO MANUAL INTEGRATION
1823	22121478.D	BKK0537-BLK1		1	NO MANUAL INTEGRATION
1840	22121479.D	BKK0537-BS1		1	NO MANUAL INTEGRATION
1858	22121480.D	BKK0537-BS2		1	NO MANUAL INTEGRATION
1916	22121481.D	22K0194-01		1	NO MANUAL INTEGRATION
1934	22121482.D	22K0194-01RE1	10	1	NO MANUAL INTEGRATION
1952	22121483.D	SEQ-PEM5		1	NO MANUAL INTEGRATION
2010	22121484.D	SEQ-CCV9		1	NO MANUAL INTEGRATION
2027	22121485.D	SEQ-CCVA		1	NO MANUAL INTEGRATION
2045	22121486.D	SEQ-CCVB		1	NO MANUAL INTEGRATION
2103	22121487.D	SEQ-CCVC		1	NO MANUAL INTEGRATION

Security Status Report

Date: 17-Dec-2022 10:57

22121401.D	Data Locked	jrains, 17-Dec-2022 10:57
22121402.D	Data Locked	jrains, 17-Dec-2022 10:57
22121403.D	Data Locked	jrains, 17-Dec-2022 10:57
22121404.D	Data Locked	jrains, 17-Dec-2022 10:57
22121405.D	Data Locked	jrains, 17-Dec-2022 10:57
22121406.D	Data Locked	jrains, 17-Dec-2022 10:57
22121407.D	Data Locked	jrains, 17-Dec-2022 10:57
22121408.D	Data Locked	jrains, 17-Dec-2022 10:57
22121409.D	Data Locked	jrains, 17-Dec-2022 10:57
22121410.D	Data Locked	jrains, 17-Dec-2022 10:57
22121411.D	Data Locked	jrains, 17-Dec-2022 10:57
22121412.D	Data Locked	jrains, 17-Dec-2022 10:57
22121413.D	Data Locked	jrains, 17-Dec-2022 10:57
22121414.D	Data Locked	jrains, 17-Dec-2022 10:57
22121415.D	Data Locked	jrains, 17-Dec-2022 10:57
22121416.D	Data Locked	jrains, 17-Dec-2022 10:57
22121417.D	Data Locked	jrains, 17-Dec-2022 10:57
22121418.D	Data Locked	jrains, 17-Dec-2022 10:57
22121419.D	Data Locked	jrains, 17-Dec-2022 10:57
22121420.D	Data Locked	jrains, 17-Dec-2022 10:57
22121421.D	Data Locked	jrains, 17-Dec-2022 10:57
22121422.D	Data Locked	jrains, 17-Dec-2022 10:57
22121423.D	Data Locked	jrains, 17-Dec-2022 10:57
22121424.D	Data Locked	jrains, 17-Dec-2022 10:57
22121425.D	Data Locked	jrains, 17-Dec-2022 10:57
22121426.D	Data Locked	jrains, 17-Dec-2022 10:57
22121427.D	Data Locked	jrains, 17-Dec-2022 10:57
22121428.D	Data Locked	jrains, 17-Dec-2022 10:57
22121429.D	Data Locked	jrains, 17-Dec-2022 10:57
22121430.D	Data Locked	jrains, 17-Dec-2022 10:57
22121431.D	Data Locked	jrains, 17-Dec-2022 10:57
22121432.D	Data Locked	jrains, 17-Dec-2022 10:57
22121433.D	Data Locked	jrains, 17-Dec-2022 10:57
22121434.D	Data Locked	jrains, 17-Dec-2022 10:57

Dual Column

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8081B

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLC0442
Instrument: ECD6
Calibration: FL00041

Sample Name	Lab Sample ID	Column 1 File ID	Column 2 File ID	Matrix	Analysis Date/Time
Performance Mix	SLC0442-PEM1	23032405.D	23032405.D	NA	03/24/23 17:09
Initial Cal Check	SLC0442-ICV1	23032406.D	23032406.D	NA	03/24/23 17:27
Performance Mix	SLC0442-PEM2	23032422.D	23032422.D	NA	03/24/23 22:13
Calibration Check	SLC0442-CCV1	23032423.D	23032423.D	NA	03/24/23 22:31
Blank	BLC0183-BLK1	23032425.D	23032425.D	Solid	03/24/23 23:07
LCS	BLC0183-BS1	23032426.D	23032426.D	Solid	03/24/23 23:25
LCS Dup	BLC0183-BSD1	23032427.D	23032427.D	Solid	03/24/23 23:43
LDW23-SC1044	23C0108-02	23032428.D	23032428.D	Solid	03/25/23 00:01
LDW23-SC1044	BLC0183-MS1	23032429.D	23032429.D	Solid	03/25/23 00:19
LDW23-SC1044	BLC0183-MSD1	23032430.D	23032430.D	Solid	03/25/23 00:36
LDW23-SS1106	23C0108-06	23032431.D	23032431.D	Solid	03/25/23 00:54
LDW23-SS1107	23C0108-07	23032432.D	23032432.D	Solid	03/25/23 01:12
LDW23-SS1111	23C0108-08	23032433.D	23032433.D	Solid	03/25/23 01:30
LDW23-SS1118	23C0108-09	23032434.D	23032434.D	Solid	03/25/23 01:48
Performance Mix	SLC0442-PEM3	23032437.D	23032437.D	NA	03/25/23 02:42
Calibration Check	SLC0442-CCV3	23032438.D	23032438.D	NA	03/25/23 03:00
Performance Mix	SLC0442-PEM4	23032457.D	23032457.D	NA	03/25/23 08:40
Calibration Check	SLC0442-CCV4	23032458.D	23032458.D	NA	03/25/23 08:58

Analytical Resources, LLC
Analytical Chemists and Consultants

ANALYSIS SEQUENCE

SLC0442

Instrument: ECD6
Calibration ID: FL00041

Printed: 3/28/2023 3:15:01PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SLC0442-PEM1	QC		1		L002116	L000844		
SLC0442-ICV1	QC		2		L000845	L000844		
SLC0442-PEM2	QC		3		L002116	L000844		
SLC0442-CCV1	QC		4		L000845	L000844		
BLC0183-BLK1	QC		5			L000844		
BLC0183-BS1	QC		6			L000844		
BLC0183-BSD1	QC		7			L000844		
23C0108-02	8081B Pest (PSDDA)	A 01	8			L000844	Anchor QEA, LLC	
BLC0183-MS1	QC		9			L000844		
BLC0183-MSD1	QC		10			L000844		
23C0108-06	8081B Pest (PSDDA)	A 01	11			L000844	Anchor QEA, LLC	
23C0108-07	8081B Pest (PSDDA)	A 01	12			L000844	Anchor QEA, LLC	
23C0108-08	8081B Pest (PSDDA)	A 01	13			L000844	Anchor QEA, LLC	
23C0108-09	8081B Pest (PSDDA)	A 01	14			L000844	Anchor QEA, LLC	
23C0109-02	8081B Pest (PSDDA)	A 01	15			L000844	Anchor QEA, LLC	
23C0109-03	8081B Pest (PSDDA)	A 01	16			L000844	Anchor QEA, LLC	
SLC0442-PEM3	QC		17		L002116	L000844		
SLC0442-CCV3	QC		18		L000845	L000844		
BLC0107-BLK1	QC		19			L000844		
BLC0107-BS1	QC		20			L000844		
BLC0107-BSD1	QC		21			L000844		

Samples Loaded By Date

Data Processed By Date

Analytical Resources, LLC
Analytical Chemists and Consultants

ANALYSIS SEQUENCE

SLC0442

Instrument: ECD6
Calibration ID: FL00041

Printed: 3/28/2023 3:15:01PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
23C0071-01	8081B Pest (PSDDA)	A 01	22			L000844	Anchor QEA, LLC	
23C0071-02	8081B Pest (PSDDA)	A 01	23			L000844	Anchor QEA, LLC	
23C0071-03	8081B Pest (PSDDA)	A 01	24			L000844	Anchor QEA, LLC	
23C0071-04	8081B Pest (PSDDA)	A 01	25			L000844	Anchor QEA, LLC	
23C0071-05	8081B Pest (PSDDA)	A 01	26			L000844	Anchor QEA, LLC	
23C0071-06	8081B Pest (PSDDA)	A 01	27			L000844	Anchor QEA, LLC	
BLC0107-MS1	QC		28			L000844		
BLC0107-MSD1	QC		29			L000844		
BLC0155-BLK1	QC		30			L000844		
BLC0155-BS1	QC		31			L000844		
BLC0155-BSD1	QC		32			L000844		
BLC0155-MRL1	QC		33			L000844		
23B0276-01RE1	8081B Pest (PSDDA)	A 02	34			L000844	Anchor QEA, LLC	From BLB0422 by CTO on 07-Mar-20
BLC0155-MS1	QC		35			L000844		
BLC0155-MSD1	QC		36			L000844		
SLC0442-PEM4	QC		37		L002116	L000844		
SLC0442-CCV4	QC		38		L000845	L000844		

Samples Loaded By Date

Data Processed By Date

GC LOG SUMMARY FOR DATABATCH - \ecd6.i\20230324.b\B20230324.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	24-MAR-2023 15:50	23032401.D	1	RINSE	
2	24-MAR-2023 16:08	23032402.D	1	SEQ-PEM1	
3	24-MAR-2023 16:26	23032403.D	1	SEQ-ICV1INDA1	
4	24-MAR-2023 16:51	23032404.D	1	SEQ-PEM1	
5	24-MAR-2023 17:09	23032405.D	1	SEQ-PEM1	
6	24-MAR-2023 17:27	23032406.D	1	SEQ-ICV1INDA1	
7	24-MAR-2023 17:45	23032407.D	1	SEQ-ICV2WNDA1	
8	24-MAR-2023 18:02	23032408.D	1	CLC0059-GPC2	
9	24-MAR-2023 18:20	23032409.D	1	CLC0059-GPC3	
10	24-MAR-2023 18:38	23032410.D	1	BLC0116-BLK1	
11	24-MAR-2023 18:56	23032411.D	1	BLC0116-BS1	
12	24-MAR-2023 19:14	23032412.D	1	BLC0116-BSD1	
13	24-MAR-2023 19:32	23032413.D	1	23C0035-01	
14	24-MAR-2023 19:50	23032414.D	1	BLC0300-BLK1	
15	24-MAR-2023 20:08	23032415.D	1	BLC0300-BS1	
16	24-MAR-2023 20:26	23032416.D	1	23C0258-01	
17	24-MAR-2023 20:44	23032417.D	1	BLC0300-MS1	
18	24-MAR-2023 21:02	23032418.D	1	BLC0300-MSD1	
19	24-MAR-2023 21:20	23032419.D	1	23C0258-02	
20	24-MAR-2023 21:38	23032420.D	1	23C0258-03	
21	24-MAR-2023 21:56	23032421.D	1	23C0258-04	
22	24-MAR-2023 22:13	23032422.D	1	SEQ-PEM2	
23	24-MAR-2023 22:31	23032423.D	1	SEQ-CCV1INDA1	
24	24-MAR-2023 22:49	23032424.D	1	SEQ-CCV2WNDA1	
25	24-MAR-2023 23:07	23032425.D	1	BLC0183-BLK1	
26	24-MAR-2023 23:25	23032426.D	1	BLC0183-BS1	
27	24-MAR-2023 23:43	23032427.D	1	BLC0183-BSD1	
28	25-MAR-2023 00:01	23032428.D	1	23C0108-02	
29	25-MAR-2023 00:19	23032429.D	1	BLC0183-MS1	
30	25-MAR-2023 00:36	23032430.D	1	BLC0183-MSD1	
31	25-MAR-2023 00:54	23032431.D	1	23C0108-06	
32	25-MAR-2023 01:12	23032432.D	1	23C0108-07	
33	25-MAR-2023 01:30	23032433.D	1	23C0108-08	
34	25-MAR-2023 01:48	23032434.D	1	23C0108-09	
35	25-MAR-2023 02:06	23032435.D	1	23C0109-02	
36	25-MAR-2023 02:24	23032436.D	1	23C0109-03	
37	25-MAR-2023 02:42	23032437.D	1	SEQ-PEM3	
38	25-MAR-2023 03:00	23032438.D	1	SEQ-CCV1INDA2	
39	25-MAR-2023 03:18	23032439.D	1	BLC0107-BLK1	
40	25-MAR-2023 03:35	23032440.D	1	BLC0107-BS1	
41	25-MAR-2023 03:53	23032441.D	1	BLC0107-BSD1	
42	25-MAR-2023 04:11	23032442.D	1	23C0071-01	
43	25-MAR-2023 04:29	23032443.D	1	23C0071-02	
44	25-MAR-2023 04:47	23032444.D	1	23C0071-03	
45	25-MAR-2023 05:05	23032445.D	1	23C0071-04	
46	25-MAR-2023 05:23	23032446.D	1	23C0071-05	
47	25-MAR-2023 05:41	23032447.D	1	23C0071-06	
48	25-MAR-2023 05:59	23032448.D	1	BLC0107-MS1	
49	25-MAR-2023 06:17	23032449.D	1	BLC0107-MSD1	
50	25-MAR-2023 06:35	23032450.D	1	BLC0155-BLK1	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20230324.b\B20230324.

	Inject Date/Time	Filename	DF	LabID	ClientID
51	25-MAR-2023 06:53	23032451.D	1	BLC0155-BS1	
52	25-MAR-2023 07:11	23032452.D	1	BLC0155-BSD1	
53	25-MAR-2023 07:28	23032453.D	1	BLC0155-MRL1	
54	25-MAR-2023 07:46	23032454.D	1	23B0276-01	
55	25-MAR-2023 08:04	23032455.D	1	BLC0155-MS1	
56	25-MAR-2023 08:22	23032456.D	1	BLC0155-MSD1	
57	25-MAR-2023 08:40	23032457.D	1	SEQ-PEM4	
58	25-MAR-2023 08:58	23032458.D	1	SEQ-CCV1INDA3	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20230324.b

ARI Job No.: RINS Method: PEST.m Instrument: ecd6.i Date: 24-MAR-2023

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1550	23032401.D	RINSE		1	NO MANUAL INTEGRATION
1608	23032402.D	SEQ-PEM1		1	NO MANUAL INTEGRATION
1626	23032403.D	SEQ-ICV1INDA1		1	NO MANUAL INTEGRATION
1651	23032404.D	SEQ-PEM1		1	NO MANUAL INTEGRATION
1709	23032405.D	SEQ-PEM1		1	NO MANUAL INTEGRATION
1727	23032406.D	SEQ-ICV1INDA1		1	NO MANUAL INTEGRATION
1745	23032407.D	SEQ-ICV2WNDA1		1	NO MANUAL INTEGRATION
1802	23032408.D	CLC0059-GPC2		1	NO MANUAL INTEGRATION
1820	23032409.D	CLC0059-GPC3		1	NO MANUAL INTEGRATION
1838	23032410.D	BLC0116-BLK1		1	Hexachlorobutadiene,
1856	23032411.D	BLC0116-BS1		1	1Bromo-2nitrobenzene, alpha-BHC, beta-BHC, delta-BHC, gamma-BHC (Lindane), Heptachlor, Aldrin, Hexachlorobutadiene, Hexachlorobenzene, Tetrachloro-m-xylene,
1914	23032412.D	BLC0116-BSD1		1	1Bromo-2nitrobenzene, alpha-BHC, beta-BHC, delta-BHC, gamma-BHC (Lindane), Hexachlorobutadiene, Hexachlorobenzene, Tetrachloro-m-xylene,
1932	23032413.D	23C0035-01		1	1Bromo-2nitrobenzene, Aldrin, Endosulfan I, Oxychlordane, Tetrachloro-m-xylene,
1950	23032414.D	BLC0300-BLK1		1	1Bromo-2nitrobenzene, Hexachlorobenzene, Tetrachloro-m-xylene,
2008	23032415.D	BLC0300-BS1		1	1Bromo-2nitrobenzene, alpha-BHC, beta-BHC, delta-BHC, gamma-BHC (Lindane), Heptachlor, Hexachlorobutadiene, Hexachlorobenzene, Tetrachloro-m-xylene,
2026	23032416.D	23C0258-01		1	1Bromo-2nitrobenzene, cis-Chlordane, Tetrachloro-m-xylene,
2044	23032417.D	BLC0300-MS1		1	1Bromo-2nitrobenzene, alpha-BHC, beta-BHC, delta-BHC, gamma-BHC (Lindane), Heptachlor, Aldrin, Hexachlorobutadiene, Hexachlorobenzene, Tetrachloro-m-xylene,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20230324.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2102	23032418.D	BLC0300-MSD1		1	1Bromo-2nitrobenzene, Hexachlorobutadiene,
2120	23032419.D	23C0258-02		1	1Bromo-2nitrobenzene, Heptachlor epoxide b, cis-Chlordane, Tetrachloro-m-xylene,
2138	23032420.D	23C0258-03		1	1Bromo-2nitrobenzene, trans-Chlordane, cis-Chlordane, Tetrachloro-m-xylene,
2156	23032421.D	23C0258-04		1	1Bromo-2nitrobenzene, Endrin ketone, Tetrachloro-m-xylene,
2213	23032422.D	SEQ-PEM2		1	NO MANUAL INTEGRATION
2231	23032423.D	SEQ-CCV1INDA1		1	NO MANUAL INTEGRATION
2249	23032424.D	SEQ-CCV2WNDA1		1	NO MANUAL INTEGRATION
2307	23032425.D	BLC0183-BLK1		1	NO MANUAL INTEGRATION
2325	23032426.D	BLC0183-BS1		1	1Bromo-2nitrobenzene, Hexachlorobenzene, Tetrachloro-m-xylene,
2343	23032427.D	BLC0183-BSD1		1	1Bromo-2nitrobenzene, Hexachlorobenzene, Tetrachloro-m-xylene,
0001	23032428.D	23C0108-02		1	1Bromo-2nitrobenzene, Hexachlorobenzene, Tetrachloro-m-xylene,
0019	23032429.D	BLC0183-MS1		1	1Bromo-2nitrobenzene, Hexachlorobenzene, Tetrachloro-m-xylene,
0036	23032430.D	BLC0183-MSD1		1	1Bromo-2nitrobenzene, Hexachlorobenzene, Tetrachloro-m-xylene,
0054	23032431.D	23C0108-06		1	1Bromo-2nitrobenzene, Hexachlorobenzene, Tetrachloro-m-xylene,
0112	23032432.D	23C0108-07		1	1Bromo-2nitrobenzene, Hexachlorobenzene, Tetrachloro-m-xylene,
0130	23032433.D	23C0108-08		1	1Bromo-2nitrobenzene, Hexachlorobenzene, Tetrachloro-m-xylene,
0148	23032434.D	23C0108-09		1	1Bromo-2nitrobenzene, Hexachlorobenzene, Tetrachloro-m-xylene,
0206	23032435.D	23C0109-02		1	1Bromo-2nitrobenzene, Hexachlorobenzene, Tetrachloro-m-xylene,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20230324.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0224	23032436.D	23C0109-03		1	1Bromo-2nitrobenzene, Hexachlorobenzene, Tetrachloro-m-xylene,
0242	23032437.D	SEQ-PEM3		1	NO MANUAL INTEGRATION
0300	23032438.D	SEQ-CCV1INDA2		1	NO MANUAL INTEGRATION
0318	23032439.D	BLC0107-BLK1		1	NO MANUAL INTEGRATION
0335	23032440.D	BLC0107-BS1		1	1Bromo-2nitrobenzene, Hexachlorobenzene, Tetrachloro-m-xylene,
0353	23032441.D	BLC0107-BSD1		1	1Bromo-2nitrobenzene, Hexachlorobenzene, Tetrachloro-m-xylene,
0411	23032442.D	23C0071-01		1	1Bromo-2nitrobenzene, Hexachlorobenzene, Tetrachloro-m-xylene,
0429	23032443.D	23C0071-02		1	1Bromo-2nitrobenzene, Hexachlorobenzene, Tetrachloro-m-xylene,
0447	23032444.D	23C0071-03		1	1Bromo-2nitrobenzene, Hexachlorobenzene, Tetrachloro-m-xylene,
0505	23032445.D	23C0071-04		1	1Bromo-2nitrobenzene, Hexachlorobenzene, Tetrachloro-m-xylene,
0523	23032446.D	23C0071-05		1	1Bromo-2nitrobenzene, Hexachlorobenzene, Tetrachloro-m-xylene,
0541	23032447.D	23C0071-06		1	1Bromo-2nitrobenzene, Hexachlorobenzene, Tetrachloro-m-xylene,
0559	23032448.D	BLC0107-MS1		1	1Bromo-2nitrobenzene, Hexachlorobenzene, Tetrachloro-m-xylene,
0617	23032449.D	BLC0107-MSD1		1	1Bromo-2nitrobenzene, Hexachlorobenzene, Tetrachloro-m-xylene,
0635	23032450.D	BLC0155-BLK1		1	1Bromo-2nitrobenzene, Tetrachloro-m-xylene,
0653	23032451.D	BLC0155-BS1		1	1Bromo-2nitrobenzene, Tetrachloro-m-xylene,
0711	23032452.D	BLC0155-BSD1		1	1Bromo-2nitrobenzene, Hexachlorobenzene, Tetrachloro-m-xylene,
0728	23032453.D	BLC0155-MRL1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20230324.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0746	23032454.D	23B0276-01		1	1Bromo-2nitrobenzene, Hexachlorobenzene,
0804	23032455.D	BLC0155-MS1		1	1Bromo-2nitrobenzene, Hexachlorobenzene, Tetrachloro-m-xylene,
0822	23032456.D	BLC0155-MSD1		1	1Bromo-2nitrobenzene, Hexachlorobenzene, Tetrachloro-m-xylene,
0840	23032457.D	SEQ-PEM4		1	NO MANUAL INTEGRATION
0858	23032458.D	SEQ-CCV1INDA3		1	NO MANUAL INTEGRATION
1550	23032401.D	RINSE		1	NO MANUAL INTEGRATION
1608	23032402.D	SEQ-PEM1		1	NO MANUAL INTEGRATION
1626	23032403.D	SEQ-ICV1INDA1		1	NO MANUAL INTEGRATION
1651	23032404.D	SEQ-PEM1		1	NO MANUAL INTEGRATION
1709	23032405.D	SEQ-PEM1		1	NO MANUAL INTEGRATION
1727	23032406.D	SEQ-ICV1INDA1		1	NO MANUAL INTEGRATION
1745	23032407.D	SEQ-ICV2WNDA1		1	NO MANUAL INTEGRATION
1802	23032408.D	CLC0059-GPC2		1	NO MANUAL INTEGRATION
1820	23032409.D	CLC0059-GPC3		1	NO MANUAL INTEGRATION
1838	23032410.D	BLC0116-BLK1		1	NO MANUAL INTEGRATION
1856	23032411.D	BLC0116-BS1		1	1Bromo-2nitrobenzene [C], alpha-BHC [C], beta-BHC [C], gamma-BHC (Lindane) [C], Hexachlorobenzene [C], Tetrachloro-m-xylene [C],
1914	23032412.D	BLC0116-BSD1		1	1Bromo-2nitrobenzene [C], alpha-BHC [C], Hexachlorobenzene [C], Tetrachloro-m-xylene [C],
1932	23032413.D	23C0035-01		1	Endosulfan I [C], Dieldrin [C], 4,4'-DDT [C], Methoxychlor [C], Endrin ketone [C], Oxychlordane [C], Decachlorobiphenyl [C],

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20230324.b\B20230324.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1950	23032414.D	BLC0300-BLK1		1	1Bromo-2nitrobenzene [C], Hexabromobiphenyl[C], Tetrachloro-m-xylene [C], Decachlorobiphenyl [C],
2008	23032415.D	BLC0300-BS1		1	1Bromo-2nitrobenzene [C], Tetrachloro-m-xylene [C],
2026	23032416.D	23C0258-01		1	1Bromo-2nitrobenzene [C], Tetrachloro-m-xylene [C],
2044	23032417.D	BLC0300-MS1		1	1Bromo-2nitrobenzene [C], alpha-BHC [C], Hexachlorobenzene [C], Tetrachloro-m-xylene [C],
2102	23032418.D	BLC0300-MSD1		1	NO MANUAL INTEGRATION
2120	23032419.D	23C0258-02		1	1Bromo-2nitrobenzene [C], Heptachlor epoxide b [C], Tetrachloro-m-xylene [C],
2138	23032420.D	23C0258-03		1	1Bromo-2nitrobenzene [C], Tetrachloro-m-xylene [C],
2156	23032421.D	23C0258-04		1	1Bromo-2nitrobenzene [C], Tetrachloro-m-xylene [C],
2213	23032422.D	SEQ-PEM2		1	NO MANUAL INTEGRATION
2231	23032423.D	SEQ-CCV1INDA1		1	NO MANUAL INTEGRATION
2249	23032424.D	SEQ-CCV2WNDA1		1	NO MANUAL INTEGRATION
2307	23032425.D	BLC0183-BLK1		1	NO MANUAL INTEGRATION
2325	23032426.D	BLC0183-BS1		1	1Bromo-2nitrobenzene [C], Tetrachloro-m-xylene [C],
2343	23032427.D	BLC0183-BSD1		1	1Bromo-2nitrobenzene [C],
0001	23032428.D	23C0108-02		1	1Bromo-2nitrobenzene [C], Tetrachloro-m-xylene [C],
0019	23032429.D	BLC0183-MS1		1	1Bromo-2nitrobenzene [C], Hexachlorobenzene [C], Tetrachloro-m-xylene [C],
0036	23032430.D	BLC0183-MSD1		1	NO MANUAL INTEGRATION
0054	23032431.D	23C0108-06		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20230324.b\B20230324.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0112	23032432.D	23C0108-07		1	Hexachlorobenzene [C],
0130	23032433.D	23C0108-08		1	NO MANUAL INTEGRATION
0148	23032434.D	23C0108-09		1	Hexachlorobenzene [C],
0206	23032435.D	23C0109-02		1	Hexachlorobenzene [C],
0224	23032436.D	23C0109-03		1	Hexachlorobenzene [C],
0242	23032437.D	SEQ-PEM3		1	NO MANUAL INTEGRATION
0300	23032438.D	SEQ-CCV1INDA2		1	NO MANUAL INTEGRATION
0318	23032439.D	BLC0107-BLK1		1	NO MANUAL INTEGRATION
0335	23032440.D	BLC0107-BS1		1	NO MANUAL INTEGRATION
0353	23032441.D	BLC0107-BSD1		1	NO MANUAL INTEGRATION
0411	23032442.D	23C0071-01		1	NO MANUAL INTEGRATION
0429	23032443.D	23C0071-02		1	NO MANUAL INTEGRATION
0447	23032444.D	23C0071-03		1	NO MANUAL INTEGRATION
0505	23032445.D	23C0071-04		1	NO MANUAL INTEGRATION
0523	23032446.D	23C0071-05		1	NO MANUAL INTEGRATION
0541	23032447.D	23C0071-06		1	NO MANUAL INTEGRATION
0559	23032448.D	BLC0107-MS1		1	NO MANUAL INTEGRATION
0617	23032449.D	BLC0107-MSD1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd6.i\20230324.b\B20230324.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0635	23032450.D	BLC0155-BLK1		1	NO MANUAL INTEGRATION
0653	23032451.D	BLC0155-BS1		1	NO MANUAL INTEGRATION
0711	23032452.D	BLC0155-BSD1		1	NO MANUAL INTEGRATION
0728	23032453.D	BLC0155-MRL1		1	NO MANUAL INTEGRATION
0746	23032454.D	23B0276-01		1	NO MANUAL INTEGRATION
0804	23032455.D	BLC0155-MS1		1	Hexachlorobenzene [C],
0822	23032456.D	BLC0155-MSD1		1	NO MANUAL INTEGRATION
0840	23032457.D	SEQ-PEM4		1	NO MANUAL INTEGRATION
0858	23032458.D	SEQ-CCV1INDA3		1	NO MANUAL INTEGRATION

Security Status Report

Date: 28-Mar-2023 15:17

23032401.D	Data Locked	alfonso, 28-Mar-2023 15:17
23032402.D	Data Locked	alfonso, 28-Mar-2023 15:17
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SURROGATE RECOVERY AND RT SUMMARY
EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG/WO:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SKL0233	Instrument:	ECD6
Calibration:	FL00041	Calibration Date:	12/15/2022

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SKL0233-PEM1 (Water)				Lab File ID: 22121404.D			Analyzed: 12/14/22 20:20	
Decachlorobiphenyl	160.00	83.0	0 - 200	9.355	9.354666	0.0003	+/-0.1	
Decachlorobiphenyl [2C]	160.00	83.5	0 - 200	10.466	10.4655	0.0005	+/-0.1	
Tetrachlorometaxylene	160.00	78.1	0 - 200	3.828	3.827833	0.0002	+/-0.1	
Tetrachlorometaxylene [2C]	160.00	83.5	0 - 200	4.22	4.219666	0.0003	+/-0.1	

SURROGATE RECOVERY AND RT SUMMARY
EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG/WO:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0442	Instrument:	ECD6
Calibration:	FL00041	Calibration Date:	12/15/2022

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SLC0442-PEM1 (Water)				Lab File ID: 23032405.D			Analyzed: 03/24/23 17:09	
Decachlorobiphenyl	40.000	87.2	0 - 200	9.406	9.354666	0.0513	+/-0.1	
Decachlorobiphenyl [2C]	40.000	86.5	0 - 200	10.359	10.4655	-0.1065	+/-0.1	
Tetrachlorometaxylene	40.000	66.2	0 - 200	3.848	3.827833	0.0202	+/-0.1	
Tetrachlorometaxylene [2C]	40.000	86.7	0 - 200	4.169	4.219666	-0.0507	+/-0.1	
SLC0442-ICV1 (Water)				Lab File ID: 23032406.D			Analyzed: 03/24/23 17:27	
Decachlorobiphenyl	40.000	85.5	80 - 120	9.406	9.354666	0.0513	+/-0.1	
Decachlorobiphenyl [2C]	40.000	84.6	80 - 120	10.36	10.4655	-0.1055	+/-0.1	
Tetrachlorometaxylene	40.000	61.8	80 - 120	3.848	3.827833	0.0202	+/-0.1	*
Tetrachlorometaxylene [2C]	40.000	89.0	80 - 120	4.169	4.219666	-0.0507	+/-0.1	
SLC0442-PEM2 (Water)				Lab File ID: 23032422.D			Analyzed: 03/24/23 22:13	
Decachlorobiphenyl	40.000	86.5	0 - 200	9.405	9.354666	0.0503	+/-0.1	
Decachlorobiphenyl [2C]	40.000	90.5	0 - 200	10.359	10.4655	-0.1065	+/-0.1	
Tetrachlorometaxylene	40.000	66.7	0 - 200	3.847	3.827833	0.0192	+/-0.1	
Tetrachlorometaxylene [2C]	40.000	84.8	0 - 200	4.169	4.219666	-0.0507	+/-0.1	
SLC0442-CCV1 (Water)				Lab File ID: 23032423.D			Analyzed: 03/24/23 22:31	
Decachlorobiphenyl	40.000	85.8	80 - 120	9.405	9.354666	0.0503	+/-0.1	
Decachlorobiphenyl [2C]	40.000	87.1	80 - 120	10.359	10.4655	-0.1065	+/-0.1	
Tetrachlorometaxylene	40.000	61.7	80 - 120	3.848	3.827833	0.0202	+/-0.1	*
Tetrachlorometaxylene [2C]	40.000	85.3	80 - 120	4.169	4.219666	-0.0507	+/-0.1	
BLC0183-BLK1 (Solid)				Lab File ID: 23032425.D			Analyzed: 03/24/23 23:07	
Decachlorobiphenyl	8.0000	71.1	30 - 160	9.404	9.354666	0.0493	+/-0.1	
Decachlorobiphenyl [2C]	8.0000	74.3	30 - 160	10.358	10.4655	-0.1075	+/-0.1	
Tetrachlorometaxylene	8.0000	55.1	30 - 160	3.849	3.827833	0.0212	+/-0.1	
Tetrachlorometaxylene [2C]	8.0000	53.9	30 - 160	4.168	4.219666	-0.0517	+/-0.1	
BLC0183-BS1 (Solid)				Lab File ID: 23032426.D			Analyzed: 03/24/23 23:25	
Decachlorobiphenyl	8.0000	82.3	30 - 160	9.403	9.354666	0.0483	+/-0.1	
Decachlorobiphenyl [2C]	8.0000	87.1	30 - 160	10.358	10.4655	-0.1075	+/-0.1	
Tetrachlorometaxylene	8.0000	65.7	30 - 160	3.848	3.827833	0.0202	+/-0.1	
Tetrachlorometaxylene [2C]	8.0000	61.0	30 - 160	4.167	4.219666	-0.0527	+/-0.1	

SURROGATE RECOVERY AND RT SUMMARY
EPA 8081B

Laboratory: Analytical Resources, LLC
SDG/WO: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLC0442
Instrument: ECD6
Calibration: FL00041
Calibration Date: 12/15/2022

Surrogate Compound	Spike Level ug/kg wet	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
BLC0183-BSD1 (Solid)				Lab File ID: 23032427.D			Analyzed: 03/24/23 23:43	
Decachlorobiphenyl	8.0000	87.4	30 - 160	9.404	9.354666	0.0493	+/-0.1	
Decachlorobiphenyl [2C]	8.0000	90.4	30 - 160	10.358	10.4655	-0.1075	+/-0.1	
Tetrachlorometaxylene	8.0000	75.0	30 - 160	3.847	3.827833	0.0192	+/-0.1	
Tetrachlorometaxylene [2C]	8.0000	71.8	30 - 160	4.167	4.219666	-0.0527	+/-0.1	
23C0108-02 (Solid)				Lab File ID: 23032428.D			Analyzed: 03/25/23 00:01	
Decachlorobiphenyl	8.0004	90.0	30 - 160	9.405	9.354666	0.0503	+/-0.1	
Decachlorobiphenyl [2C]	8.0004	91.4	30 - 160	10.359	10.4655	-0.1065	+/-0.1	
Tetrachlorometaxylene	8.0004	51.3	30 - 160	3.847	3.827833	0.0192	+/-0.1	
Tetrachlorometaxylene [2C]	8.0004	70.9	30 - 160	4.167	4.219666	-0.0527	+/-0.1	
BLC0183-MS1 (Solid)				Lab File ID: 23032429.D			Analyzed: 03/25/23 00:19	
Decachlorobiphenyl	8.0004	101	30 - 160	9.405	9.354666	0.0503	+/-0.1	
Decachlorobiphenyl [2C]	8.0004	90.4	30 - 160	10.359	10.4655	-0.1065	+/-0.1	
Tetrachlorometaxylene	8.0004	49.0	30 - 160	3.847	3.827833	0.0192	+/-0.1	
Tetrachlorometaxylene [2C]	8.0004	69.3	30 - 160	4.167	4.219666	-0.0527	+/-0.1	
BLC0183-MSD1 (Solid)				Lab File ID: 23032430.D			Analyzed: 03/25/23 00:36	
Decachlorobiphenyl	8.0004	87.5	30 - 160	9.408	9.354666	0.0533	+/-0.1	
Decachlorobiphenyl [2C]	8.0004	84.0	30 - 160	10.361	10.4655	-0.1045	+/-0.1	
Tetrachlorometaxylene	8.0004	55.3	30 - 160	3.845	3.827833	0.0172	+/-0.1	
Tetrachlorometaxylene [2C]	8.0004	74.9	30 - 160	4.165	4.219666	-0.0547	+/-0.1	
23C0108-06 (Solid)				Lab File ID: 23032431.D			Analyzed: 03/25/23 00:54	
Decachlorobiphenyl	7.9609	101	30 - 160	9.405	9.354666	0.0503	+/-0.1	
Decachlorobiphenyl [2C]	7.9609	90.6	30 - 160	10.36	10.4655	-0.1055	+/-0.1	
Tetrachlorometaxylene	7.9609	58.6	30 - 160	3.847	3.827833	0.0192	+/-0.1	
Tetrachlorometaxylene [2C]	7.9609	72.7	30 - 160	4.166	4.219666	-0.0537	+/-0.1	
23C0108-07 (Solid)				Lab File ID: 23032432.D			Analyzed: 03/25/23 01:12	
Decachlorobiphenyl	7.9146	81.8	30 - 160	9.407	9.354666	0.0523	+/-0.1	
Decachlorobiphenyl [2C]	7.9146	82.1	30 - 160	10.361	10.4655	-0.1045	+/-0.1	
Tetrachlorometaxylene	7.9146	56.4	30 - 160	3.845	3.827833	0.0172	+/-0.1	
Tetrachlorometaxylene [2C]	7.9146	62.3	30 - 160	4.165	4.219666	-0.0547	+/-0.1	

SURROGATE RECOVERY AND RT SUMMARY
EPA 8081B

Laboratory: Analytical Resources, LLC
SDG/WO: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLC0442
Instrument: ECD6
Calibration: FL00041
Calibration Date: 12/15/2022

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
23C0108-08 (Solid)				Lab File ID: 23032433.D			Analyzed: 03/25/23 01:30	
Decachlorobiphenyl	8.0004	96.1	30 - 160	9.407	9.354666	0.0523	+/-0.1	
Decachlorobiphenyl [2C]	8.0004	90.7	30 - 160	10.36	10.4655	-0.1055	+/-0.1	
Tetrachlorometaxylene	8.0004	57.4	30 - 160	3.845	3.827833	0.0172	+/-0.1	
Tetrachlorometaxylene [2C]	8.0004	73.7	30 - 160	4.165	4.219666	-0.0547	+/-0.1	
23C0108-09 (Solid)				Lab File ID: 23032434.D			Analyzed: 03/25/23 01:48	
Decachlorobiphenyl	7.8289	89.1	30 - 160	9.407	9.354666	0.0523	+/-0.1	
Decachlorobiphenyl [2C]	7.8289	84.7	30 - 160	10.361	10.4655	-0.1045	+/-0.1	
Tetrachlorometaxylene	7.8289	62.9	30 - 160	3.845	3.827833	0.0172	+/-0.1	
Tetrachlorometaxylene [2C]	7.8289	68.9	30 - 160	4.165	4.219666	-0.0547	+/-0.1	
SLC0442-PEM3 (Water)				Lab File ID: 23032437.D			Analyzed: 03/25/23 02:42	
Decachlorobiphenyl	40.000	101	0 - 200	9.405	9.354666	0.0503	+/-0.1	
Decachlorobiphenyl [2C]	40.000	95.6	0 - 200	10.358	10.4655	-0.1075	+/-0.1	
Tetrachlorometaxylene	40.000	68.5	0 - 200	3.848	3.827833	0.0202	+/-0.1	
Tetrachlorometaxylene [2C]	40.000	85.1	0 - 200	4.169	4.219666	-0.0507	+/-0.1	
SLC0442-CCV3 (Water)				Lab File ID: 23032438.D			Analyzed: 03/25/23 03:00	
Decachlorobiphenyl	40.000	83.6	80 - 120	9.405	9.354666	0.0503	+/-0.1	
Decachlorobiphenyl [2C]	40.000	89.6	80 - 120	10.358	10.4655	-0.1075	+/-0.1	
Tetrachlorometaxylene	40.000	61.8	80 - 120	3.847	3.827833	0.0192	+/-0.1	*
Tetrachlorometaxylene [2C]	40.000	85.8	80 - 120	4.169	4.219666	-0.0507	+/-0.1	
SLC0442-PEM4 (Water)				Lab File ID: 23032457.D			Analyzed: 03/25/23 08:40	
Decachlorobiphenyl	40.000	91.1	0 - 200	9.402	9.354666	0.0473	+/-0.1	
Decachlorobiphenyl [2C]	40.000	88.8	0 - 200	10.356	10.4655	-0.1095	+/-0.1	
Tetrachlorometaxylene	40.000	68.3	0 - 200	3.846	3.827833	0.0182	+/-0.1	
Tetrachlorometaxylene [2C]	40.000	85.5	0 - 200	4.168	4.219666	-0.0517	+/-0.1	
SLC0442-CCV4 (Water)				Lab File ID: 23032458.D			Analyzed: 03/25/23 08:58	
Decachlorobiphenyl	40.000	84.2	80 - 120	9.402	9.354666	0.0473	+/-0.1	
Decachlorobiphenyl [2C]	40.000	83.4	80 - 120	10.355	10.4655	-0.1105	+/-0.1	
Tetrachlorometaxylene	40.000	62.4	80 - 120	3.846	3.827833	0.0182	+/-0.1	*
Tetrachlorometaxylene [2C]	40.000	84.5	80 - 120	4.167	4.219666	-0.0527	+/-0.1	

Analytical Resources, LLC
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SKL0233	Instrument:	ECD6
		Calibration:	FL00041

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Performance Mix (SKL0233-PEM1)		(Water)		Lab File ID: 22121404.D			Analyzed: 12/14/22 20:20		
1-Bromo-2-Nitrobenzene	683485	3.15	672426	3.15	102	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	619012	9.503	609723	9.504	102	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	1005375	3.35	1006482	3.35	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	772586	11.054	769764	11.053	100	50 - 200	0.001	+/-0.50	

Analytical Resources, LLC
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8081B

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLC0442
Instrument: ECD6
Calibration: FL00041

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Performance Mix (SLC0442-PEM1)		(Water)		Lab File ID: 23032405.D				Analyzed: 03/24/23 17:09	
1-Bromo-2-Nitrobenzene	518811	3.162	509297	3.163	102	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl	432866	9.559	429777	9.559	101	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	687832	3.312	633958	3.312	108	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	451073	10.931	450469	10.931	100	50 - 200	0.000	+/-0.50	
Initial Cal Check (SLC0442-ICV1)		(Water)		Lab File ID: 23032406.D				Analyzed: 03/24/23 17:27	
1-Bromo-2-Nitrobenzene	509297	3.163	509297	3.163	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	429777	9.559	429777	9.559	100	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	633958	3.312	633958	3.312	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	450469	10.931	450469	10.931	100	50 - 200	0.000	+/-0.50	
Performance Mix (SLC0442-PEM2)		(Water)		Lab File ID: 23032422.D				Analyzed: 03/24/23 22:13	
1-Bromo-2-Nitrobenzene	529882	3.162	509297	3.163	104	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl	443814	9.559	429777	9.559	103	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	721391	3.312	633958	3.312	114	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	452983	10.931	450469	10.931	101	50 - 200	0.000	+/-0.50	
Blank (BLC0183-BLK1)		(Solid)		Lab File ID: 23032425.D				Analyzed: 03/24/23 23:07	
1-Bromo-2-Nitrobenzene	552757	3.162	509297	3.163	109	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl	470923	9.556	429777	9.559	110	50 - 200	-0.003	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	794338	3.312	633958	3.312	125	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	487597	10.929	450469	10.931	108	50 - 200	-0.002	+/-0.50	
LCS (BLC0183-BS1)		(Solid)		Lab File ID: 23032426.D				Analyzed: 03/24/23 23:25	
1-Bromo-2-Nitrobenzene	562721	3.161	509297	3.163	110	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl	471428	9.556	429777	9.559	110	50 - 200	-0.003	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	810398	3.312	633958	3.312	128	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	493565	10.929	450469	10.931	110	50 - 200	-0.002	+/-0.50	
LCS Dup (BLC0183-BSD1)		(Solid)		Lab File ID: 23032427.D				Analyzed: 03/24/23 23:43	
1-Bromo-2-Nitrobenzene	560086	3.161	509297	3.163	110	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl	469322	9.556	429777	9.559	109	50 - 200	-0.003	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	800562	3.311	633958	3.312	126	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl [2C]	493927	10.93	450469	10.931	110	50 - 200	-0.001	+/-0.50	

Analytical Resources, LLC
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0442	Instrument:	ECD6
		Calibration:	FL00041

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LDW23-SC1044 (23C0108-02)		(Solid)		Lab File ID: 23032428.D			Analyzed: 03/25/23 00:01		
1-Bromo-2-Nitrobenzene	851349	3.161	509297	3.163	167	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl	414594	9.558	429777	9.559	96	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	763062	3.312	633958	3.312	120	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	446828	10.93	450469	10.931	99	50 - 200	-0.001	+/-0.50	
Matrix Spike (BLC0183-MS1)		(Solid)		Lab File ID: 23032429.D			Analyzed: 03/25/23 00:19		
1-Bromo-2-Nitrobenzene	764468	3.161	509297	3.163	150	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl	405562	9.558	429777	9.559	94	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	727426	3.311	633958	3.312	115	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl [2C]	436697	10.93	450469	10.931	97	50 - 200	-0.001	+/-0.50	
Matrix Spike Dup (BLC0183-MSD1)		(Solid)		Lab File ID: 23032430.D			Analyzed: 03/25/23 00:36		
1-Bromo-2-Nitrobenzene	1409787	3.158	509297	3.163	277	50 - 200	-0.005	+/-0.50	*
Hexabromobiphenyl	860441	9.561	429777	9.559	200	50 - 200	0.002	+/-0.50	*
1-Bromo-2-Nitrobenzene [2C]	1367077	3.309	633958	3.312	216	50 - 200	-0.003	+/-0.50	*
Hexabromobiphenyl [2C]	903597	10.933	450469	10.931	201	50 - 200	0.002	+/-0.50	*
LDW23-SS1106 (23C0108-06)		(Solid)		Lab File ID: 23032431.D			Analyzed: 03/25/23 00:54		
1-Bromo-2-Nitrobenzene	651262	3.161	509297	3.163	128	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl	396380	9.558	429777	9.559	92	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	688293	3.311	633958	3.312	109	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl [2C]	424993	10.931	450469	10.931	94	50 - 200	0.000	+/-0.50	
LDW23-SS1107 (23C0108-07)		(Solid)		Lab File ID: 23032432.D			Analyzed: 03/25/23 01:12		
1-Bromo-2-Nitrobenzene	1184783	3.159	509297	3.163	233	50 - 200	-0.004	+/-0.50	*
Hexabromobiphenyl	745534	9.561	429777	9.559	173	50 - 200	0.002	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	1383390	3.309	633958	3.312	218	50 - 200	-0.003	+/-0.50	*
Hexabromobiphenyl [2C]	788963	10.933	450469	10.931	175	50 - 200	0.002	+/-0.50	
LDW23-SS1111 (23C0108-08)		(Solid)		Lab File ID: 23032433.D			Analyzed: 03/25/23 01:30		
1-Bromo-2-Nitrobenzene	1215039	3.159	509297	3.163	239	50 - 200	-0.004	+/-0.50	*
Hexabromobiphenyl	723133	9.56	429777	9.559	168	50 - 200	0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	1305898	3.31	633958	3.312	206	50 - 200	-0.002	+/-0.50	*
Hexabromobiphenyl [2C]	766321	10.932	450469	10.931	170	50 - 200	0.001	+/-0.50	

Analytical Resources, LLC
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8081B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0442	Instrument:	ECD6
		Calibration:	FL00041

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LDW23-SS1118 (23C0108-09)		(Solid)		Lab File ID: 23032434.D				Analyzed: 03/25/23 01:48	
1-Bromo-2-Nitrobenzene	1093707	3.159	509297	3.163	215	50 - 200	-0.004	+/-0.50	*
Hexabromobiphenyl	744350	9.561	429777	9.559	173	50 - 200	0.002	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	1341749	3.309	633958	3.312	212	50 - 200	-0.003	+/-0.50	*
Hexabromobiphenyl [2C]	787399	10.933	450469	10.931	175	50 - 200	0.002	+/-0.50	
Performance Mix (SLC0442-PEM3)		(Water)		Lab File ID: 23032437.D				Analyzed: 03/25/23 02:42	
1-Bromo-2-Nitrobenzene	501513	3.162	509297	3.163	98	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl	359734	9.559	429777	9.559	84	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	663308	3.312	633958	3.312	105	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	397193	10.93	450469	10.931	88	50 - 200	-0.001	+/-0.50	
Performance Mix (SLC0442-PEM4)		(Water)		Lab File ID: 23032457.D				Analyzed: 03/25/23 08:40	
1-Bromo-2-Nitrobenzene	509106	3.161	509297	3.163	100	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl	422512	9.556	429777	9.559	98	50 - 200	-0.003	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	693430	3.311	633958	3.312	109	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl [2C]	445549	10.928	450469	10.931	99	50 - 200	-0.003	+/-0.50	

Analytical Resources, LLC
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Sediment	Laboratory ID:	23C0108-02	File ID:	23032428.D
Sampled:	03/02/23 15:06	Prepared:	03/10/23 11:13	Analyzed:	03/25/23 00:01
Solids:	52.74	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD6
Batch:	BLC0183	Sequence:	SLC0442		
GC Column(1):	STX-CLP			GC Column(2):	STX-CLPII

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Hexachlorobenzene	* 1	4.205	4.182	0.023	14228	0.19	144.1
	2	4.659	4.717833	0.0588	81644	1.17	

* Column used for quantitation

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Sediment	Laboratory ID:	23C0108-06	File ID:	23032431.D
Sampled:	03/03/23 10:00	Prepared:	03/10/23 11:13	Analyzed:	03/25/23 00:54
Solids:	43.33	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD6
Batch:	BLC0183	Sequence:	SLC0442		
GC Column(1):	STX-CLP			GC Column(2):	STX-CLPII

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Hexachlorobenzene	* 1	4.204	4.182	0.022	10092	0.17	101.4
	2	4.656	4.717833	0.0618	32718	0.52	

* Column used for quantitation

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Sediment	Laboratory ID:	23C0108-07	File ID:	23032432.D
Sampled:	03/03/23 10:21	Prepared:	03/10/23 11:13	Analyzed:	03/25/23 01:12
Solids:	40.20	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD6
Batch:	BLC0183	Sequence:	SLC0442		
GC Column(1):	STX-CLP			GC Column(2):	STX-CLPII

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Hexachlorobenzene	* 1	4.203	4.182	0.021	22659	0.21	32.
	2	4.647	4.717833	0.0708	36994	0.29	

* Column used for quantitation

Analytical Resources, LLC
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Sediment	Laboratory ID:	23C0108-08	File ID:	23032433.D
Sampled:	03/03/23 10:36	Prepared:	03/10/23 11:13	Analyzed:	03/25/23 01:30
Solids:	46.38	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD6
Batch:	BLC0183	Sequence:	SLC0442		
GC Column(1):	STX-CLP			GC Column(2):	STX-CLPII

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Hexachlorobenzene	* 1	4.203	4.182	0.021	22610	0.21	100.
	2	4.655	4.717833	0.0628	74726	0.63	

* Column used for quantitation

Analytical Resources, LLC
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Sediment	Laboratory ID:	23C0108-09	File ID:	23032434.D
Sampled:	03/03/23 11:25	Prepared:	03/10/23 11:13	Analyzed:	03/25/23 01:48
Solids:	42.62	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD6
Batch:	BLC0183	Sequence:	SLC0442		
GC Column(1):	STX-CLP			GC Column(2):	STX-CLPII

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Hexachlorobenzene	* 1	4.203	4.182	0.021	14589	0.15	75.
	2	4.657	4.717833	0.0608	41550	0.33	

* Column used for quantitation

HOLDING TIME SUMMARY

Analysis: EPA 8081B

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW23-SC1044 23C0108-02	03/02/23 15:06	03/03/23 16:35	03/10/23 11:13	7	365	03/25/23 00:01	15	40	
LDW23-SS1106 23C0108-06	03/03/23 10:00	03/03/23 16:35	03/10/23 11:13	7	365	03/25/23 00:54	15	40	
LDW23-SS1107 23C0108-07	03/03/23 10:21	03/03/23 16:35	03/10/23 11:13	7	365	03/25/23 01:12	15	40	
LDW23-SS1111 23C0108-08	03/03/23 10:36	03/03/23 16:35	03/10/23 11:13	7	365	03/25/23 01:30	15	40	
LDW23-SS1118 23C0108-09	03/03/23 11:25	03/03/23 16:35	03/10/23 11:13	6	365	03/25/23 01:48	15	40	
Matrix Spike BLC0183-MS1	03/02/23 15:06	03/03/23 16:35	03/10/23 11:13	7	365	03/25/23 00:19	15	40	
Matrix Spike Dup BLC0183-MSD1	03/02/23 15:06	03/03/23 16:35	03/10/23 11:13	7	365	03/25/23 00:36	15	40	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

EPA 8081B

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Instrument: ECD6

Analyte	MDL	RL	Units
Hexachlorobenzene	0.15	0.50	ug/kg
Hexachlorobenzene [2C]	0.15	0.50	ug/kg

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

Catalog No: S-279N
Description: Tetrachloro-m-xylene
Lot: 0052481B-1
Solvent: N/A
Hazards: *Refer to SDS for complete safety information*

Signal Word: Warning

Date Certified: Jul 28, 2005
Expiration: Jul 28, 2015
Sample Size: 100 mg
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

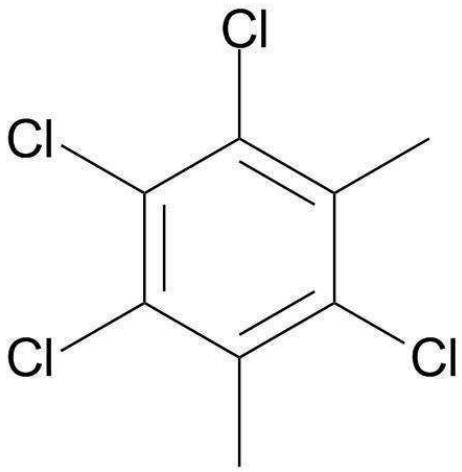
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER AR-1463

ilac-MRA

Component	CAS #	Purity % (GC/FID)	Prepared Concentration	Certified Analyte Concentration[1]
Tetrachloro-meta-xylene	877-09-8	96.0	N/A	N/A

Identification:

Molecular formula: C8H6Cl4
Molecular weight: 243.94



C000147
tetrachlormetaxylene
Expires 1/15/2020
Prepared By Joshua Rains 1/15/2014

This Certified Reference Material was verified in accordance with ISO/IEC 17025

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] The Uncertainty calculated for this product is ±2.4%. These values are the expanded uncertainty and represent an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

Metrological traceability is established through in-house validated methods.

Purity, if stated, is equal to 100% minus found impurity components. Impurity components have not been identified.

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015

QR-ORG/INO-001
Rev. 5/18

AccuStandard
125 Market Street
New Haven, CT 06513
(203) 786-5290

CERTIFICATE OF PRODUCT DATA

PRODUCT: C-209N
DESCRIPTION: 2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl
LOT #: 990521LB-AC
SOLVENT: N/A

EXPIRATION: Jul 28, 2015

This product is guaranteed accurate to ±0.5% of the Certified Analyte concentration through the Expiration Date on the Label.

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1]	Certified Analyte Concentration[2]
2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	2051-24-3	100	N/A	N/A

C000148
decachlorbiphenyl
Expires 1/15/2020
Prepared By Joshua Rains 1/15/2014

* I1768A

Certified by: R. Cooper

1. All weights are traceable through National Institute of Standards & Technology, Test No. 822/254480
2. Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty calculated for this product is ±4% which is the Combined Uncertainty uc(y). It represents an estimated standard deviation equal to the positive square root of the total variance of the uncertainty of components. The Expanded Uncertainty is U which is Uc(y) *K where K is the coverage factor at the 95% confidence level (K=2).
3. A product with a suffix (-1A, -2B, etc.) on its lot# has had its expiration date extended and is identical to the same lot# without the suffix.

Please note: AccuStandard follows the U.S. conventions in reporting numerical values, on both certificates and labels.

A comma (,) is used to separate units of one-thousand or greater.
A period (.) is used as a decimal place marker.

This product was manufactured in accordance to quality system requirements of ISO 9001:2000 and ISO 17025

* Recertified 2 4-6-09 JS

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Analytical Standard Record

Standard ID: C000148

Printed: 4/23/2015 11:54:44AM

Description:	decachlorbiphenyl	Expires:	15-Jan-2020
Standard Type:	Other	Prepared:	15-Jan-2014
Solvent:	na/a	Prepared By:	Joshua Rains
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	27-Feb-2015 13:03 by JGR
Vendor:	Accustandard	Lot #:	990521lb-ac
Vendor Catalog #:			

Comments

see i1768a
SOM calibrations added 06/12/14 sdrd

Analyte	CAS Number	Concentration	Units
Decachlorobiphenyl [2C]	2051-24-3	1000000	ug/mL
Decachlorobiphenyl	2051-24-3	1000000	ug/mL
DCB 1660 [2C]	2051-24-3	1000000	ug/mL
DCB 1660	2051-24-3	1000000	ug/mL
DCB [2C]	2051-24-3	1000000	ug/mL
DCB (A) [2C]	2051-24-3	1000000	ug/mL
DCB (A)	2051-24-3	1000000	ug/mL
DCB	2051-24-3	1000000	ug/mL

Reviewed By Date

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CERTIFICATE OF ANALYSIS

Catalog No: P-066S
Description: Mirex
Lot: 219051741-01
Solvent: Methanol
Hazards: *Refer to SDS for complete safety information*

Signal Word: Danger

Date Certified: Jun 5, 2020
Expiration: Jun 5, 2024
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER AR-1463

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY AT-1339

ilac-MRA

Component	CAS #	Purity % (GC/MS)	Prepared Concentration² (µg/mL)	Certified Analyte Concentration¹ (µg/mL)
Mirex	2385-85-5	98.2	100.2	98.4

I007970
Mirex 2d source
Solvent / Lot: MeOH
Prep: 9/7/2020 by JR
Exp: 6/5/2024
Location:

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

² All weights are traceable through NIST, Test No. 684/289871-17

¹ Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

Certified By: Larry Decker, Organic QC Manager

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CERTIFICATE OF ANALYSIS

Catalog No: P-026S
Description: o,p'-DDE
Lot: 218021093-01
Solvent: Methanol
Hazards: *Refer to SDS for complete safety information*

Signal Word: Danger

Date Certified: Feb 10, 2020
Expiration: Feb 10, 2023
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER AR-1463

ANAB ACCREDITED TESTING LABORATORY AT-1339

ilac-MRA

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[2] (µg/mL)	Certified Analyte Concentration[1] (µg/mL)
o,p'-DDE	3424-82-6	99.9	100.4	100.3

I7971

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[2] All weights are traceable through NIST, Test No. 822-275872-11

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

Certified By: Larry Decker, Organic QC Manager

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CERTIFICATE OF ANALYSIS

Catalog No: P-184S
Description: trans-Nonachlor
Lot: 218011470
Solvent: Methanol
Hazards: *Refer to SDS for complete safety information*

Signal Word: Danger

Date Certified: Jan 30, 2018
Expiration: Jan 30, 2028
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER AR-1463
ANAB ACCREDITED TESTING LABORATORY AT-1339
ilac-MRA

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[2] (µg/mL)	Certified Analyte Concentration[1] (µg/mL)
trans-Nonachlor	39765-80-5	99.0	100.2	99.2

I 7974

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[2] All weights are traceable through NIST, Test No. 822-275872-11

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

Certified By: Larry Decker, Organic QC Manager

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CERTIFICATE OF ANALYSIS

Catalog No: P-024S
Description: o,p'-DDD
Lot: 220051307
Solvent: Methanol
Hazards: *Refer to SDS for complete safety information*

Signal Word: Danger

Date Certified: May 27, 2020
Expiration: Jun 27, 2022
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER AR-1463
ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY AT-1339
ilac-MRA

Component	CAS #	Purity % (GC/MS)	Prepared Concentration² (µg/mL)	Certified Analyte Concentration¹ (µg/mL)
o,p'-DDD	53-19-0	100.0	100.2	100.2

I010773
o,p-DDD
Solvent / Lot: methanol
Prep: 11/20/2020 by VS
Exp: 6/27/2022
Location:

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

² All weights are traceable through NIST, Test No. 684/289871-17

¹ Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

Certified By: Larry Decker, Organic QC Manager

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1. **Quality Standards:**

   ISO 17034 – General Requirements for the Competence of Reference Material Producers ANAB Certificate Number AR-1463

   ISO/IEC 17025 – General Requirements for the Competence of Testing And Calibration Laboratories ANAB Certificate Number AT-1339

   ISO 9001:2015 – Quality Management System – Requirements Eagle Registrations Certificate Number 3774

2 **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7

3 **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this .

4 **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5 **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6 **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(\mathrm{V}))^2 + (u(\mathrm{m}))^2 + (u(\mathrm{IV}))^2 + (u(\mathrm{RO}))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level.

7 **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

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CERTIFICATE OF ANALYSIS

Catalog No: P-331S
Description: Oxychlordane Isomer
Lot: 218101131
Solvent: Methanol
Hazards: *Refer to SDS for complete safety information*

Signal Word: Danger

Date Certified: Oct 8, 2018
Expiration: Nov 8, 2020
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER AR-1463
ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY AT-1339
ilac-MRA

Component	CAS #	Purity % (GC/MS)	Prepared Concentration² (µg/mL)	Certified Analyte Concentration¹ (µg/mL)
Oxychlordane Isomer	27304-13-8	97.7	102.4*	100.0

I010795
Oxychlordane isomer
Solvent / Lot: methanol
Prep: 11/20/2020 by VS
Exp: 6/20/2022
Location:

* Weight compensated to 100% purity.

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

² All weights are traceable through NIST, Test No. 684/289871-17

¹ Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

Certified By: Larry Decker, Organic QC Manager

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1. **Quality Standards:**

   ISO 17034 – General Requirements for the Competence of Reference Material Producers ANAB Certificate Number AR-1463

   ISO/IEC 17025 – General Requirements for the Competence of Testing And Calibration Laboratories ANAB Certificate Number AT-1339

   ISO 9001:2015 – Quality Management System – Requirements Eagle Registrations Certificate Number 3774

2 **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7

3 **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards and calibrated using an in-house procedure. Good Laboratory Practices have been used throughout the preparation of this CRM.

4 **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5 **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6 **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(\mathrm{V}))^2 + (u(\mathrm{m}))^2 + (u(\mathrm{IV}))^2 + (u(\mathrm{RO}))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level.

7 **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

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CERTIFICATE OF ANALYSIS

Catalog No: P-297S
Description: cis-Nonachlor
Lot: 217121240
Solvent: Methanol
Hazards: *Refer to SDS for complete safety information*

Signal Word: Danger

Date Certified: Dec 13, 2017
Expiration: Dec 13, 2020
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER AR-1463

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY AT-1339

ilac-MRA

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
cis-Nonachlor	5103-73-1	98.6	100.4	99.0

I010796
cis-Nonochlor-Accustd-100ug/ml
Solvent / Lot: methanol
Prep: 11/20/2020 by VS
Exp: 11/27/2022
Location:

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] All weights are traceable through NIST, Test No. 822-275872-11

[2] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

Certified By: Larry Decker, Organic QC Manager

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1. **Quality Standards:**

   ISO 17034 – General Requirements for the Competence of Reference Material Producers ANAB Certificate Number AR-1463

   ISO/IEC 17025 – General Requirements for the Competence of Testing And Calibration Laboratories ANAB Certificate Number AT-1339

   ISO 9001:2015 – Quality Management System – Requirements Eagle Registrations Certificate Number 3774

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 11.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards and calibrated using an in-house procedure. Good Laboratory Practices have been used throughout the preparation of this CRM.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(\mathrm{V}))^2 + (u(\mathrm{m}))^2 + (u(\mathrm{IV}))^2 + (u(\mathrm{RO}))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

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CERTIFICATE OF ANALYSIS

Catalog No: APP-9-112-D-20X
Description: Hexachlorobenzene in Dichloromethane
Lot: 219051389
Solvent: Dichloromethane
Hazards: *Refer to SDS for complete safety information*

Signal Word: Warning

Date Certified: May 13, 2019
Expiration: May 13, 2029
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER AR-1463
ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY AT-1339
ilac-MRA

Component	CAS #	Purity % (GC/MS)	Prepared Concentration² (µg/mL)	Certified Analyte Concentration¹ (µg/mL)
Hexachlorobenzene	118-74-1	99.0	2002	1982

J006504
Hexachlorobenzene
Solvent / Lot: Dichloromethane
Prep: 6/21/2021 by YZ
Exp: 5/13/2029
Location:

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

² All weights are traceable through NIST, Test No. 684/289871-17

¹ Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

Certified By: Larry Decker, Organic QC Manager

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1. **Quality Standards:**

   ISO 17034 – General Requirements for the Competence of Reference Material Producers ANAB Certificate Number AR-1463

   ISO/IEC 17025 – General Requirements for the Competence of Testing And Calibration Laboratories ANAB Certificate Number AT-1339

   ISO 9001:2015 – Quality Management System – Requirements Eagle Registrations Certificate Number 3774

2 **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7

3 **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards and calibrated using an in-house procedure. Good Laboratory Practices have been used throughout the preparation of this [redacted].

4 **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5 **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6 **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(\mathrm{V}))^2 + (u(\mathrm{m}))^2 + (u(\mathrm{IV}))^2 + (u(\mathrm{RO}))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level.

7 **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

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CERTIFICATE OF ANALYSIS

Catalog No: P-028S
Description: o,p'-DDT
Lot: 221071322
Solvent: Methanol
Hazards: *Refer to SDS for complete safety information*

Signal Word: Danger

Date Certified: Jul 21, 2021
Expiration: Aug 21, 2023
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER AR-1463

ilac-MRA

Component	CAS #	Purity % (GC/MS)	Prepared Concentration² (µg/mL)	Certified Analyte Concentration¹ (µg/mL)
o,p'-DDT	789-02-6	99.9	100.1	100.0

This Certified Reference Material was verified in accordance with ISO/IEC 17025

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

² All weights are traceable through NIST, Test No. 684/289871-17

¹ Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015

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1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ISO 9001:2015 – Quality Management System – Requirements Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(\mathrm{V}))^2 + (u(\mathrm{m}))^2 + (u(\mathrm{IV}))^2 + (u(\mathrm{RO}))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

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CERTIFICATE OF ANALYSIS

Catalog No: P-024S
Description: o,p'-DDD
Lot: 220051307-01
Solvent: Methanol
Hazards: *Refer to SDS for complete safety information*

Signal Word: Danger

Date Certified: Jul 6, 2021
Expiration: Aug 6, 2023
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER AR-1463

ilac-MRA

Component	CAS #	Purity % (GC/MS)	Prepared Concentration² (µg/mL)	Certified Analyte Concentration¹ (µg/mL)
o,p'-DDD	53-19-0	100.0	100.2	100.2

K 0448

This Certified Reference Material was verified in accordance with ISO/IEC 17025

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

² All weights are traceable through NIST, Test No. 684/289871-17

¹ Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

Tel (203)786-5290
Fax (203)786-5287
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CERTIFICATE OF ANALYSIS

Catalog No: P-331S
Description: Oxychlordane Isomer
Lot: 221051706
Solvent: Methanol
Hazards: *Refer to SDS for complete safety information*

Signal Word: Danger

Date Certified: May 28, 2021
Expiration: Jun 28, 2023
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER AR-1463

ilac-MRA

Component	CAS #	Purity % (GC/MS)	Prepared Concentration² (µg/mL)	Certified Analyte Concentration¹ (µg/mL)
Oxychlordane Isomer	27304-13-8	99.2	100.1	99.3

K000449
Oxychlordane isomer
Solvent / Lot: methanol
Prep: 1/13/2022 by YZ
Exp: 6/28/2023
Location:

This Certified Reference Material was verified in accordance with ISO/IEC 17025

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

² All weights are traceable through NIST, Test No. 684/289871-17

¹ Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015

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Rev. 5/18

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ISO 9001:2015 – Quality Management System – Requirements Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(\mathrm{V}))^2 + (u(\mathrm{m}))^2 + (u(\mathrm{IV}))^2 + (u(\mathrm{RO}))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

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CERTIFICATE OF ANALYSIS

Catalog No: P-297S
Description: cis-Nonachlor
Lot: 221041461
Solvent: Methanol
Hazards: *Refer to SDS for complete safety information*

Signal Word: Danger

Date Certified: Apr 22, 2021
Expiration: Apr 22, 2024
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER AR-1463
ANAB ACCREDITED TESTING LABORATORY AT-1339
ilac-MRA

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[2] (µg/mL)	Certified Analyte Concentration[1] (µg/mL)
cis-Nonachlor	5103-73-1	98.6	101.1	99.7

K 000450

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[2] All weights are traceable through NIST, Test No. 684/289871-17

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By:
Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

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CERTIFICATE OF ANALYSIS

Catalog No: P-184S
Description: trans-Nonachlor
Lot: 220091107
Solvent: Methanol
Hazards: *Refer to SDS for complete safety information*

Signal Word: Danger

Date Certified: Sep 11, 2020
Expiration: Sep 11, 2030
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB AR-1463 ANAB AT-1339 ilac-MRA

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[2] (µg/mL)	Certified Analyte Concentration[1] (µg/mL)
trans-Nonachlor	39765-80-5	99.0	100.2	99.2

K 0045 I

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[2] All weights are traceable through NIST, Test No. 684/289871-17

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

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CERTIFICATE OF ANALYSIS

Catalog No: P-066S
Description: Mirex
Lot: 219051741-01
Solvent: Methanol
Hazards: *Refer to SDS for complete safety information*

Signal Word: Danger

Date Certified: Jun 5, 2020
Expiration: Jun 5, 2024
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED AR-1463 ANAB ACCREDITED AT-1339 ilac-MRA

Component	CAS #	Purity % (GC/MS)	Prepared Concentration² (µg/mL)	Certified Analyte Concentration¹ (µg/mL)
Mirex	2385-85-5	98.2	100.2	98.4

K 000452

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

² All weights are traceable through NIST, Test No. 684/289871-17

¹ Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

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K 000 452

CERTIFICATE OF ANALYSIS

Catalog No: P-066S
Description: Mirex
Lot: 221121451
Solvent: Methanol
Hazards: *Refer to SDS for complete safety information*

Signal Word: Danger

Date Certified: Dec 27, 2021
Expiration: Dec 27, 2025
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER AR-1463

ilac-MRA

Component	CAS #	Purity % (GC/MS)	Prepared Concentration² (µg/mL)	Certified Analyte Concentration¹ (µg/mL)
Mirex	2385-85-5	98.2	100.0	98.2

This Certified Reference Material was verified in accordance with ISO/IEC 17025

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

² All weights are traceable through NIST, Test No. 684/289871-17

¹ Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015

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CERTIFICATE OF ANALYSIS

Catalog No: M-8081-DS
Description: 4,4'-DDT & Endrin
Lot: 221031488-04
Solvent: Hexane
Hazards: *Refer to SDS for complete safety information*

Signal Word: Danger

Date Certified: Apr 8, 2022
Expiration: May 8, 2023
Sample Size: 1 mL
Components: 2
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER AR-1463

ilac-MRA

Component	CAS #	Purity % (GC/MS)	Prepared Concentration² (µg/mL)	Certified Analyte Concentration¹ (µg/mL)
4,4'-DDT	50-29-3	100.0	200.9	200.9
Endrin	72-20-8	99.8	200.0	199.6

K7002

This Certified Reference Material was verified in accordance with ISO/IEC 17025

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

² All weights are traceable through NIST, Test No. 684/289871-17

¹ Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 32292 **Lot No.:** A0185477

Description : Organochlorine Pesticide Mix AB # 2

Organochlorine Pesticide Mix AB # 2 8-80 µg/mL, Hexane/Toluene(1:1), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2026 **Storage:** 10°C or colder

Ship: Ambient

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	alpha-BHC	8.1 µg/mL	+/- 0.0660 µg/mL	Gravimetric
	CAS # 319-84-6 (Lot 12307600)		+/- 0.3703 µg/mL	Unstressed
	Purity 99%		+/- 0.5325 µg/mL	Stressed
2	gamma-BHC (Lindane)	8.0 µg/mL	+/- 0.0654 µg/mL	Gravimetric
	CAS # 58-89-9 (Lot 13087200)		+/- 0.3672 µg/mL	Unstressed
	Purity 99%		+/- 0.5281 µg/mL	Stressed
3	beta-BHC	8.1 µg/mL	+/- 0.0660 µg/mL	Gravimetric
	CAS # 319-85-7 (Lot 0588007-4)		+/- 0.3703 µg/mL	Unstressed
	Purity 99%		+/- 0.5325 µg/mL	Stressed
4	delta-BHC	8.1 µg/mL	+/- 0.0660 µg/mL	Gravimetric
	CAS # 319-86-8 (Lot 13112400)		+/- 0.3703 µg/mL	Unstressed
	Purity 99%		+/- 0.5325 µg/mL	Stressed
5	Heptachlor	8.0 µg/mL	+/- 0.0654 µg/mL	Gravimetric
	CAS # 76-44-8 (Lot 803759)		+/- 0.3672 µg/mL	Unstressed
	Purity 99%		+/- 0.5281 µg/mL	Stressed
6	Aldrin	8.1 µg/mL	+/- 0.0660 µg/mL	Gravimetric
	CAS # 309-00-2 (Lot 12983100)		+/- 0.3702 µg/mL	Unstressed
	Purity 96%		+/- 0.5323 µg/mL	Stressed
7	Heptachlor epoxide (isomer B)	8.1 µg/mL	+/- 0.0660 µg/mL	Gravimetric
	CAS # 1024-57-3 (Lot 13168200)		+/- 0.3703 µg/mL	Unstressed
	Purity 99%		+/- 0.5325 µg/mL	Stressed

8	trans-Chlordane		8.0	µg/mL	+/-	0.0657	µg/mL	Gravimetric
	CAS # 5103-74-2	(Lot 32943)			+/-	0.3689	µg/mL	Unstressed
	Purity 98%				+/-	0.5305	µg/mL	Stressed
9	cis-Chlordane		8.0	µg/mL	+/-	0.0657	µg/mL	Gravimetric
	CAS # 5103-71-9	(Lot 31766)			+/-	0.3689	µg/mL	Unstressed
	Purity 98%				+/-	0.5305	µg/mL	Stressed
10	Endosulfan I		8.0	µg/mL	+/-	0.0654	µg/mL	Gravimetric
	CAS # 959-98-8	(Lot BCCF4060)			+/-	0.3672	µg/mL	Unstressed
	Purity 99%				+/-	0.5281	µg/mL	Stressed
11	4,4'-DDE		16.1	µg/mL	+/-	0.1314	µg/mL	Gravimetric
	CAS # 72-55-9	(Lot GHYQG)			+/-	0.7375	µg/mL	Unstressed
	Purity 99%				+/-	1.0606	µg/mL	Stressed
12	Dieldrin		16.1	µg/mL	+/-	0.1320	µg/mL	Gravimetric
	CAS # 60-57-1	(Lot 11129900)			+/-	0.7408	µg/mL	Unstressed
	Purity 98%				+/-	1.0653	µg/mL	Stressed
13	Endrin		16.1	µg/mL	+/-	0.1320	µg/mL	Gravimetric
	CAS # 72-20-8	(Lot 13157400)			+/-	0.7406	µg/mL	Unstressed
	Purity 99%				+/-	1.0650	µg/mL	Stressed
14	4,4'-DDD		16.1	µg/mL	+/-	0.1320	µg/mL	Gravimetric
	CAS # 72-54-8	(Lot HAN02)			+/-	0.7406	µg/mL	Unstressed
	Purity 99%				+/-	1.0650	µg/mL	Stressed
15	Endosulfan II		16.0	µg/mL	+/-	0.1309	µg/mL	Gravimetric
	CAS # 33213-65-9	(Lot 12448900)			+/-	0.7345	µg/mL	Unstressed
	Purity 99%				+/-	1.0562	µg/mL	Stressed
16	4,4'-DDT		16.1	µg/mL	+/-	0.1315	µg/mL	Gravimetric
	CAS # 50-29-3	(Lot 220428JLM)			+/-	0.7378	µg/mL	Unstressed
	Purity 98%				+/-	1.0610	µg/mL	Stressed
17	Endrin aldehyde		16.1	µg/mL	+/-	0.1314	µg/mL	Gravimetric
	CAS # 7421-93-4	(Lot 30720)			+/-	0.7375	µg/mL	Unstressed
	Purity 99%				+/-	1.0606	µg/mL	Stressed
18	Endosulfan sulfate		16.1	µg/mL	+/-	0.1320	µg/mL	Gravimetric
	CAS # 1031-07-8	(Lot BCCB0424)			+/-	0.7406	µg/mL	Unstressed
	Purity 99%				+/-	1.0650	µg/mL	Stressed
19	Methoxychlor		80.2	µg/mL	+/-	0.5781	µg/mL	Gravimetric
	CAS # 72-43-5	(Lot 13027000)			+/-	3.6697	µg/mL	Unstressed
	Purity 98%				+/-	5.2871	µg/mL	Stressed
20	Endrin ketone		16.1	µg/mL	+/-	0.1314	µg/mL	Gravimetric
	CAS # 53494-70-5	(Lot 13026800)			+/-	0.7375	µg/mL	Unstressed
	Purity 99%				+/-	1.0606	µg/mL	Stressed

Solvent: Hexane/Toluene (50:50)
CAS # 110-54-3/108-88-3
Purity 99%

Column:
30m x .25mm x .2um
Rtx-CLP II (cat.# 11323)

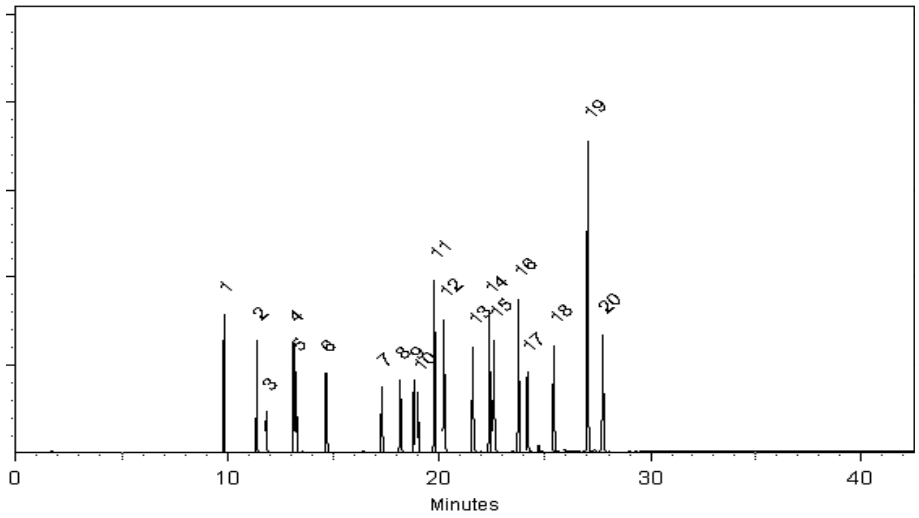
Carrier Gas:
helium-constant pressure 20 psi.

Temp. Program:
150°C to 300°C
@ 4°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
300°C

Det. Type:
ECD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Morgan Craighead - Mix Technician

Date Mixed: 19-May-2022 **Balance:** B442140311

Fang-Yun Lo - QC Analyst

Date Passed: 26-May-2022

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer) -20°C or colder (Deep Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.

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CERTIFICATE OF ANALYSIS

Catalog No: M-502-36-10X
Description: Hexachlorobutadiene
Lot: 222031188
Solvent: Methanol
Hazards: *Refer to SDS for complete safety information*

Signal Word: Danger

Date Certified: Mar 11, 2022
Expiration: Apr 11, 2024
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER AR-1463

ilac-MRA

Component	CAS #	Purity % (GC/MS)	Prepared Concentration² (µg/mL)	Certified Analyte Concentration¹ (µg/mL)
Hexachlorobutadiene	87-68-3	98.0	2002	1962

This Certified Reference Material was verified in accordance with ISO/IEC 17025

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

² All weights are traceable through NIST, Test No. 684/289871-17

¹ Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: _____
Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015

QR-ORG/INO-001
Rev. 5/18

1. **Quality Standards:**

   ISO 17034:2016 – General Requirements for the Competence of Reference Material Producers

   ISO/IEC 17025:2017 – General Requirements for the Competence of Testing And Calibration Laboratories

   ISO 9001:2015 – Quality Management System – Requirements Eagle Registrations

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(\mathrm{V}))^2 + (u(\mathrm{m}))^2 + (u(\mathrm{IV}))^2 + (u(\mathrm{RO}))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

125 Market Street
New Haven, CT 06513
USA

AccuStandard®

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

Catalog No: M-502-36-10X
Description: Hexachlorobutadiene
Lot: 222031188
Solvent: Methanol
Hazards: *Refer to SDS for complete safety information*

Signal Word: Danger

Date Certified: Mar 11, 2022
Expiration: Apr 11, 2024
Sample Size: 1 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER AR-1463

ilac-MRA

Component	CAS #	Purity % (GC/MS)	Prepared Concentration² (µg/mL)	Certified Analyte Concentration¹ (µg/mL)
Hexachlorobutadiene	87-68-3	98.0	2002	1962

K011468

This Certified Reference Material was verified in accordance with ISO/IEC 17025

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

² All weights are traceable through NIST, Test No. 684/289871-17

¹ Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

LDW23-SC1037

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Solid	Laboratory ID:	23C0108-01 A	File ID:	03152324ECD7.D
Sampled:	03/02/23 13:29	Prepared:	03/10/23 11:58	Analyzed:	03/15/23 20:58
% Solids:	53.56	Preparation:	EPA 3546 (Microwave)	Initial/Final:	23.37 g Wet / 2.5 mL
Batch:	BLC0219	Sequence:	SLC0215	Calibration:	GB00069
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	2	1	29.0	1.6	4.0	
11097-69-1	Aroclor 1254	2	1	44.8	1.6	4.0	
11096-82-5	Aroclor 1260	2	1	35.3	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9892*	*6.28*	*78.6*	*40 - 126*	*Q*
Tetrachlorometaxylene	*1*	*7.9892*	*4.60*	*57.6*	*44 - 120*	
Decachlorobiphenyl	*2*	*7.9892*	*6.04*	*75.6*	*40 - 126*	
Tetrachlorometaxylene	*2*	*7.9892*	*5.39*	*67.5*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230315.b/03152324ECD7.D
Data file 2: /230315.b/230315.b/03152324ECD7.D
Method: \\target\share\chem4\ecd7.i\230315.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23C0108-01
Client ID:
Injection Date: 15-MAR-2023 20:58
Report Date: 03/16/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.806	-0.005	346078	5.685	-0.007	143637	23.0	27.0	15.8	Tetrachloro-m-xylene
13.885	-0.011	285734	14.113	-0.008	182251	31.4	30.3	3.8	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	1005640	49.3
Hexabromobiphenyl	1429847	923103	-35.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	362543	15.0
Hexabromobiphenyl	513946	395543	-23.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1248	1	8.397	-0.014	56175	114.5	1	8.300	-0.014	25913	149.7
Aroclor-1248	2	8.566	-0.024	49017	78.6	2	8.706	-0.016	22434	125.3
Aroclor-1248	3	8.985	-0.014	132690	112.8	3	9.141	-0.044	32985	160.1
Aroclor-1248	4	9.286	-0.016	149312	249.3	4	9.533	-0.079	28611	145.7
		Total Col1Ave (4 peaks):			138.8		Total Col2Ave (4 peaks):			137.7 RPD = 1
		Corrected Ave (3 peaks):			102.0		Corrected Ave (3 peaks):			130.2 RPD = 24
Aroclor-1254	1	9.286	-0.012	149312	147.9	1	9.439	-0.019	55415	201.1
Aroclor-1254	2	9.362	-0.015	60736	133.7	2	9.957	-0.021	31791	143.4
Aroclor-1254	3	9.659	-0.009	128013	197.2	3	10.105	-0.029	97347	203.0
Aroclor-1254	4	9.787	-0.020	211188	167.3	4	10.352	-0.030	131439	281.1
Aroclor-1254	5	10.122	-0.055	259105	327.5	5	10.554	-0.023	83171	292.2
		Total Col1Ave (5 peaks):			194.7		Total Col2Ave (5 peaks):			224.1 RPD = 14
		Corrected Ave (4 peaks):			161.5		Corrected Ave (4 peaks):			207.1 RPD = 25
Aroclor-1260	1	11.032	-0.012	73105	220.1	1	11.643	-0.015	47920	206.0
Aroclor-1260	2	11.346	-0.015	56103	161.7	2	11.904	-0.021	82356	138.7
Aroclor-1260	3	11.719	-0.015	171025	185.8	3	12.422	-0.018	33823	214.7
Aroclor-1260	4	12.119	-0.020	88834	191.7	4	12.488	-0.020	59005	147.5
Aroclor-1260	5	12.235	-0.009	40915	205.1	NS	---			----
		Total Col1Ave (5 peaks):			192.9		Total Col2Ave (4 peaks):			176.7 RPD = 9
		Corrected Ave (4 peaks):			186.1		Corrected Ave (3 peaks):			164.1 RPD = 13
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			

145.03

Total PCB Area Col1 (5.911 - 13.797) = 3905685 Col1 Total PCB = 0.3 ppm*

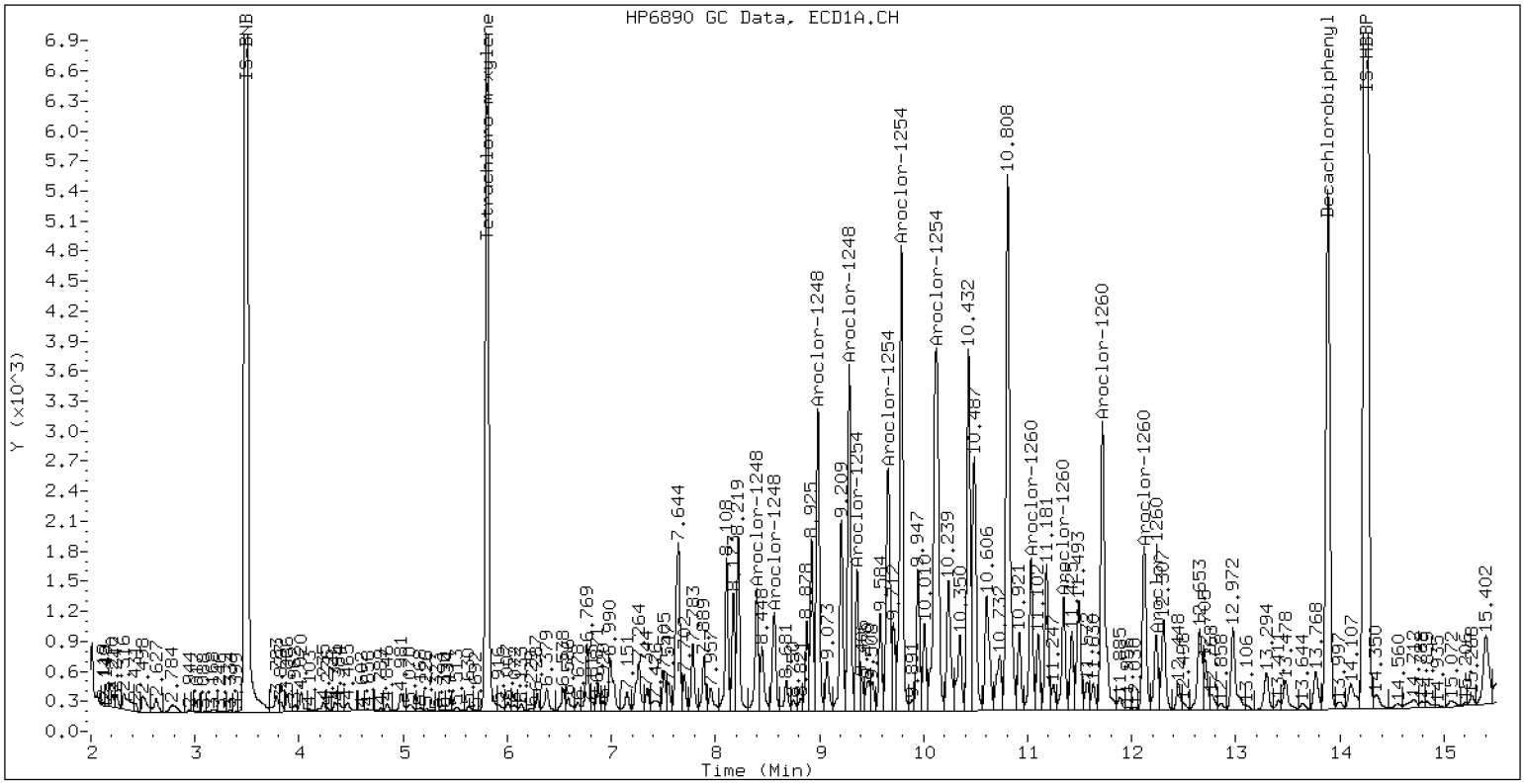
Total PCB Area Col2 (5.792 - 14.021) = 1740221 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

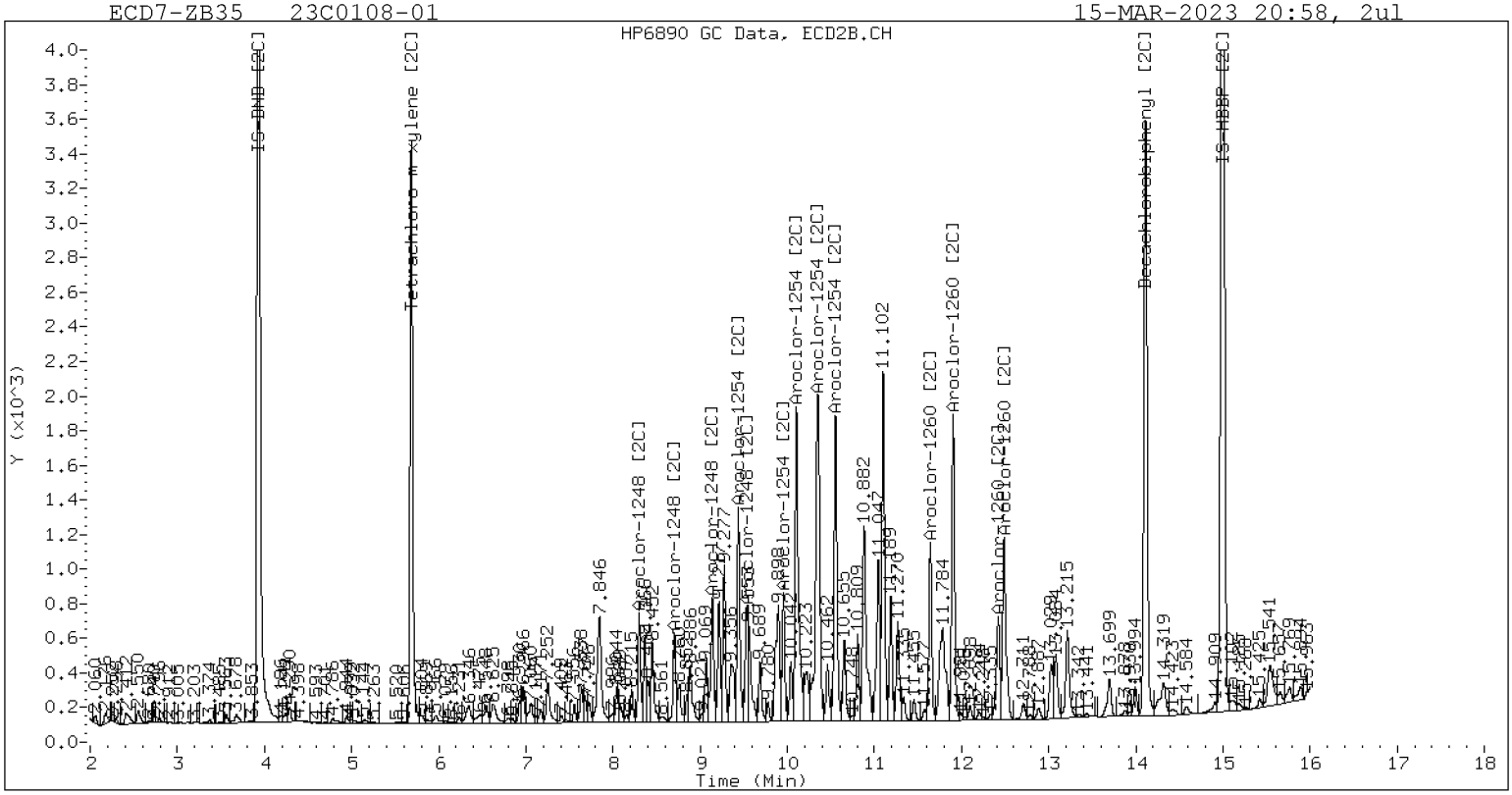
PCB Dual Column Chromatograms

ECD7-ZB5 23C0108-01 15-MAR-2023 20:58, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 23C0108-01 15-MAR-2023 20:58, 2ul

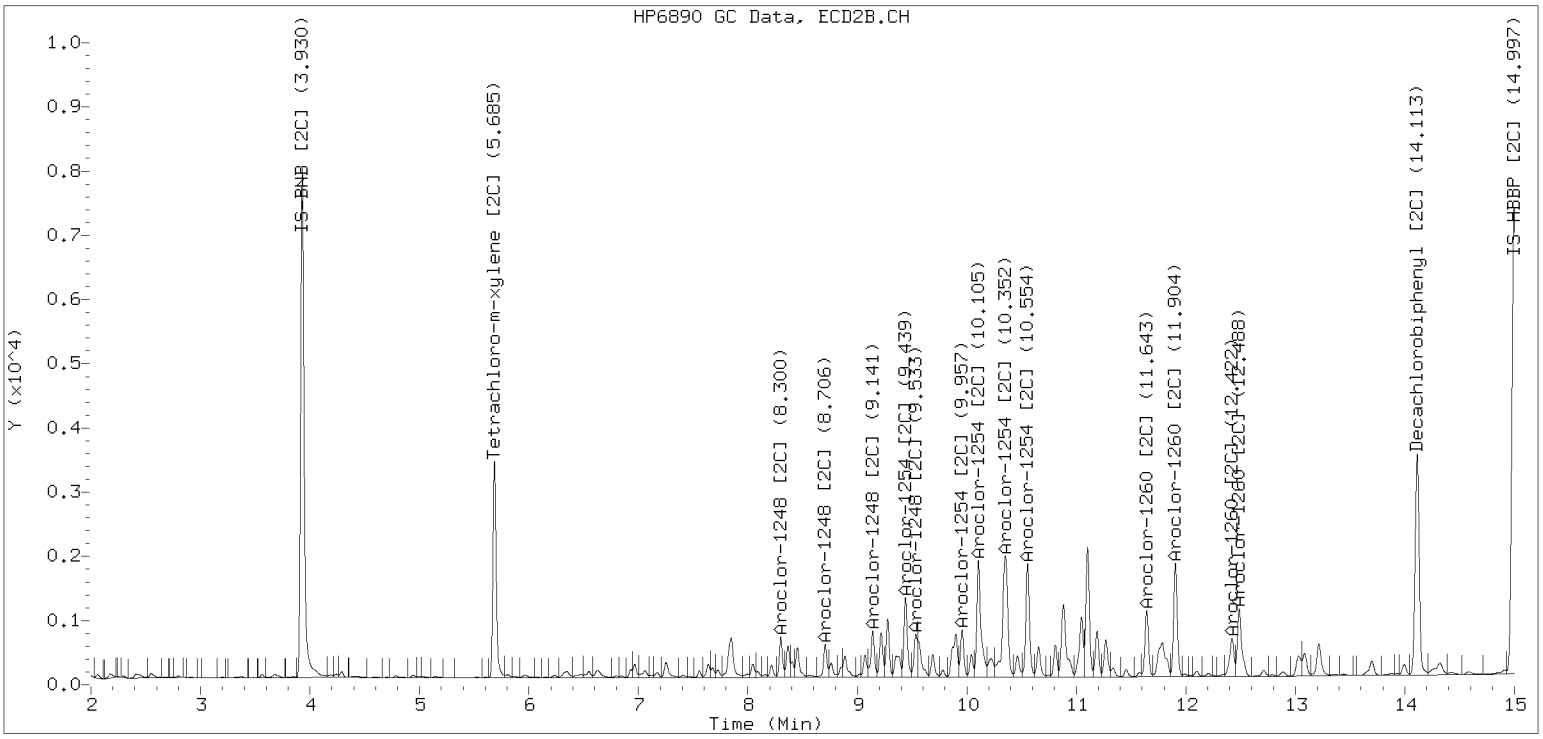


ZB-35 Manual Integration: YES

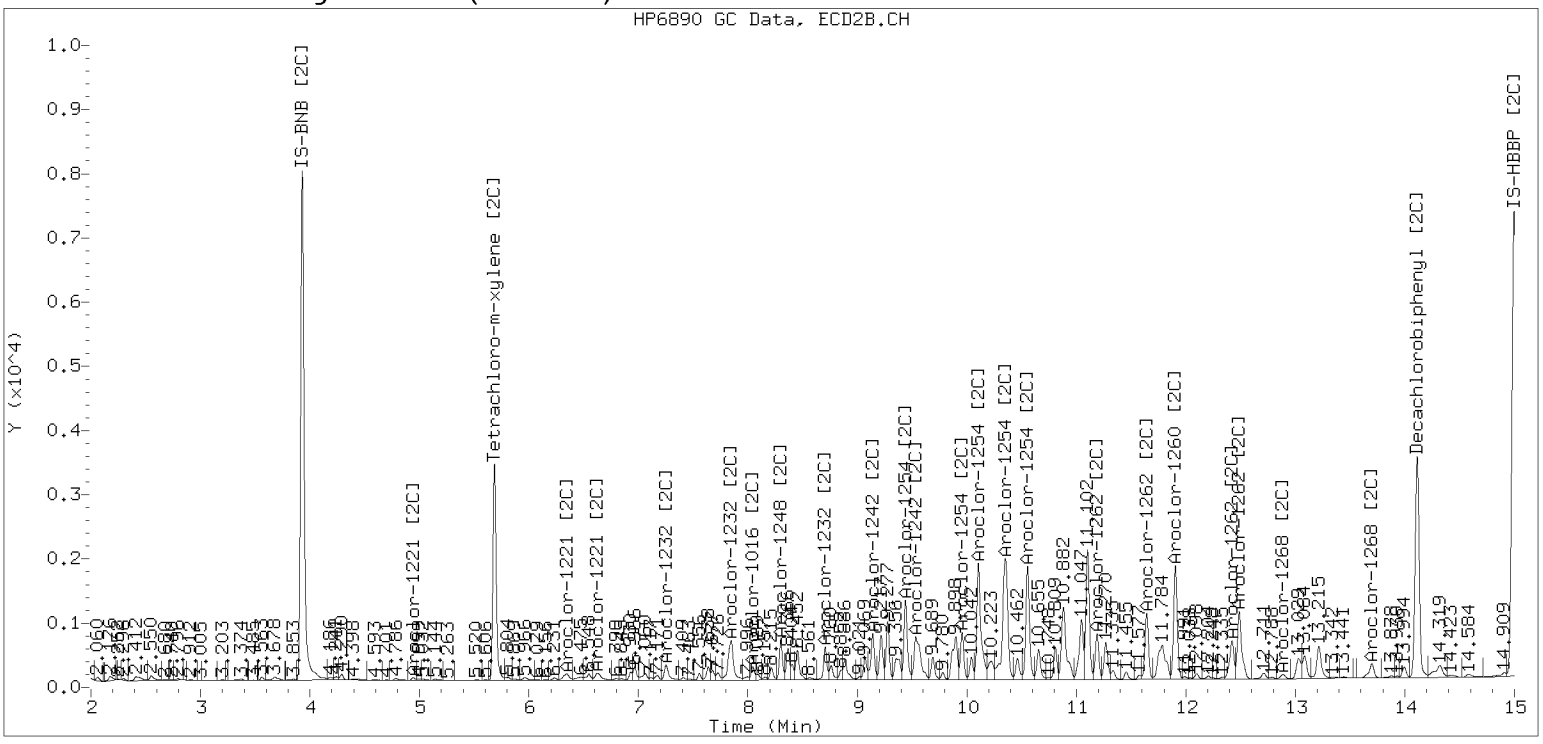
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230315.b/230315.b/03152324ECD7.D Injection Date: 15-MAR-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

LDW23-SC1044

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Solid	Laboratory ID:	23C0108-02 A	File ID:	03152325ECD7.D
Sampled:	03/02/23 15:06	Prepared:	03/10/23 11:58	Analyzed:	03/15/23 21:19
% Solids:	52.74	Preparation:	EPA 3546 (Microwave)	Initial/Final:	23.7 g Wet / 2.5 mL
Batch:	BLC0219	Sequence:	SLC0215	Calibration:	GB00069
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	1	1	29.5	1.6	4.0	
11097-69-1	Aroclor 1254	2	1	48.4	1.6	4.0	
11096-82-5	Aroclor 1260	2	1	44.8	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*8.0004*	*6.43*	*80.3*	*40 - 126*	*Q*
Tetrachlorometaxylene	*1*	*8.0004*	*4.69*	*58.6*	*44 - 120*	
Decachlorobiphenyl	*2*	*8.0004*	*6.32*	*78.9*	*40 - 126*	
Tetrachlorometaxylene	*2*	*8.0004*	*5.36*	*67.0*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230315.b/03152325ECD7.D
Data file 2: /230315.b/230315.b/03152325ECD7.D
Method: \\target\share\chem4\ecd7.i\230315.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23C0108-02
Client ID:
Injection Date: 15-MAR-2023 21:19
Report Date: 03/16/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.807	-0.004	350321	5.686	-0.007	144945	23.5	26.8	13.3	Tetrachloro-m-xylene
13.886	-0.011	272564	14.113	-0.008	181333	32.1	31.6	1.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	1000157	48.4
Hexabromobiphenyl	1429847	861392	-39.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	368647	16.9
Hexabromobiphenyl	513946	377136	-26.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	8.397	-0.014	60499	124.0	1	8.300	-0.014	25836	146.8
Aroclor-1248	2	8.566	-0.023	50433	81.3	2	8.707	-0.015	23031	126.6
Aroclor-1248	3	8.984	-0.014	142796	122.0	3	9.141	-0.044	35303	168.6
Aroclor-1248	4	9.287	-0.015	156141	262.1	4	9.532	-0.080	32312	120.5
	Total Col1Ave (4 peaks):				147.4	Total Col2Ave (4 peaks):				142.6 RPD = 3
	Corrected Ave (3 peaks):				109.1	Corrected Ave (3 peaks):				133.9 RPD = 20
										147.33
Aroclor-1254	1	9.287	-0.012	156141	155.5	1	9.438	-0.020	59112	211.0
Aroclor-1254	2	9.362	-0.015	63597	140.8	2	9.956	-0.022	34577	153.4
Aroclor-1254	3	9.662	-0.006	142068	220.0	3	10.106	-0.028	106348	218.1
Aroclor-1254	4	9.788	-0.020	221689	176.6	4	10.351	-0.031	144925	304.8
Aroclor-1254	5	10.122	-0.054	139097	176.8	5	10.554	-0.023	93417	322.7
	Total Col1Ave (5 peaks):				173.9	Total Col2Ave (5 peaks):				242.0 RPD = 33
	Corrected Ave (4 peaks):				162.4	Corrected Ave (4 peaks):				221.8 RPD = 31
					173.225					
Aroclor-1260	1	11.033	-0.012	82727	267.0	1	11.643	-0.016	55278	249.3
Aroclor-1260	2	11.347	-0.014	65870	203.5	2	11.903	-0.022	100227	177.1
Aroclor-1260	3	11.717	-0.017	204781	238.5	3	12.423	-0.017	42224	281.1
Aroclor-1260	4	12.119	-0.020	103807	240.1	4	12.487	-0.021	72140	189.1
Aroclor-1260	5	12.234	-0.010	48877	262.6	NS	---			----
	Total Col1Ave (5 peaks):				242.3	Total Col2Ave (4 peaks):				224.2 RPD = 8
	Corrected Ave (4 peaks):				236.1	Corrected Ave (3 peaks):				205.2 RPD = 14
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (5.911 - 13.797) = 4189539 Col1 Total PCB = 0.4 ppm*

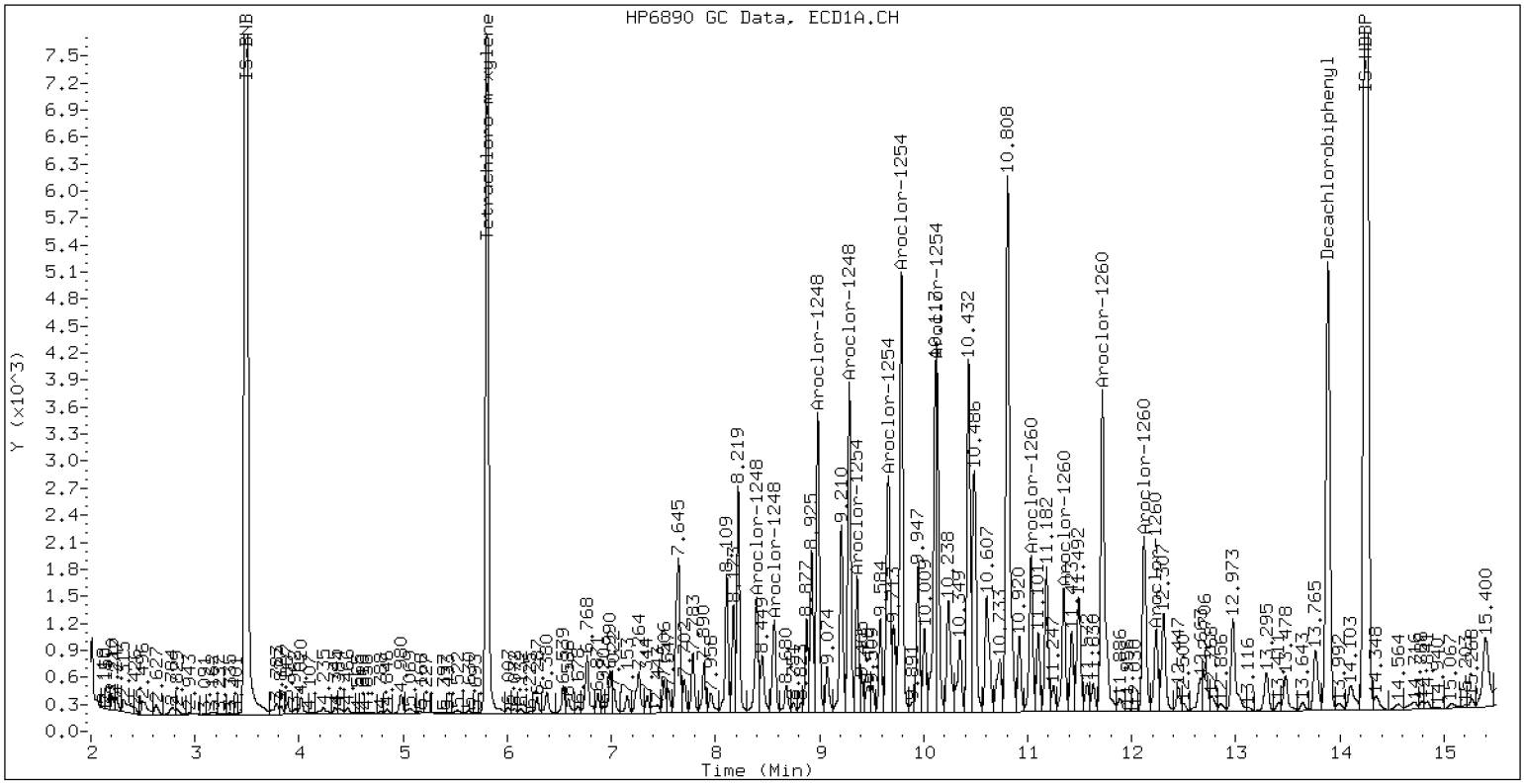
Total PCB Area Col2 (5.792 - 14.021) = 1924994 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

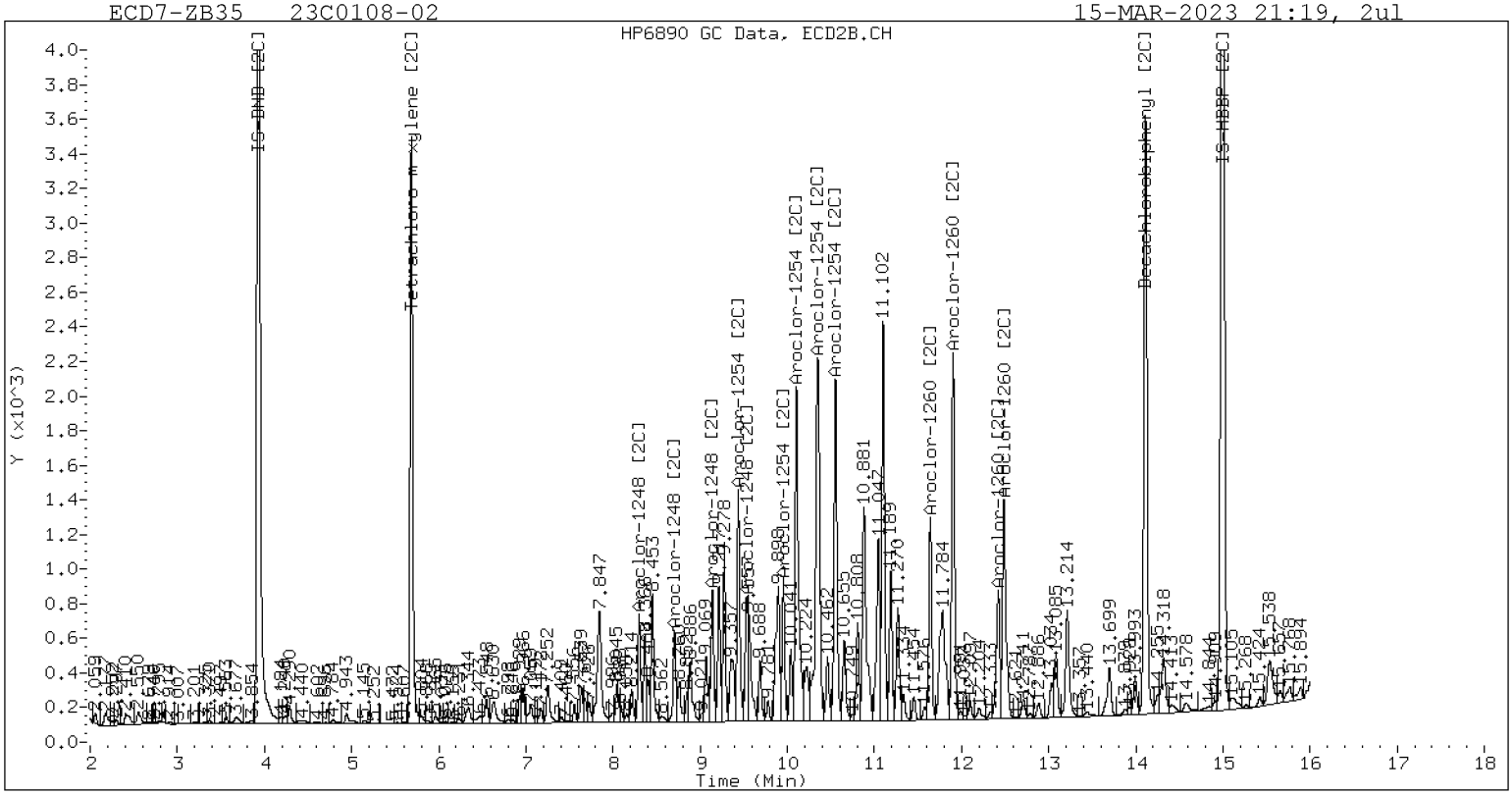
PCB Dual Column Chromatograms

ECD7-ZB5 23C0108-02 15-MAR-2023 21:19, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 23C0108-02 15-MAR-2023 21:19, 2ul

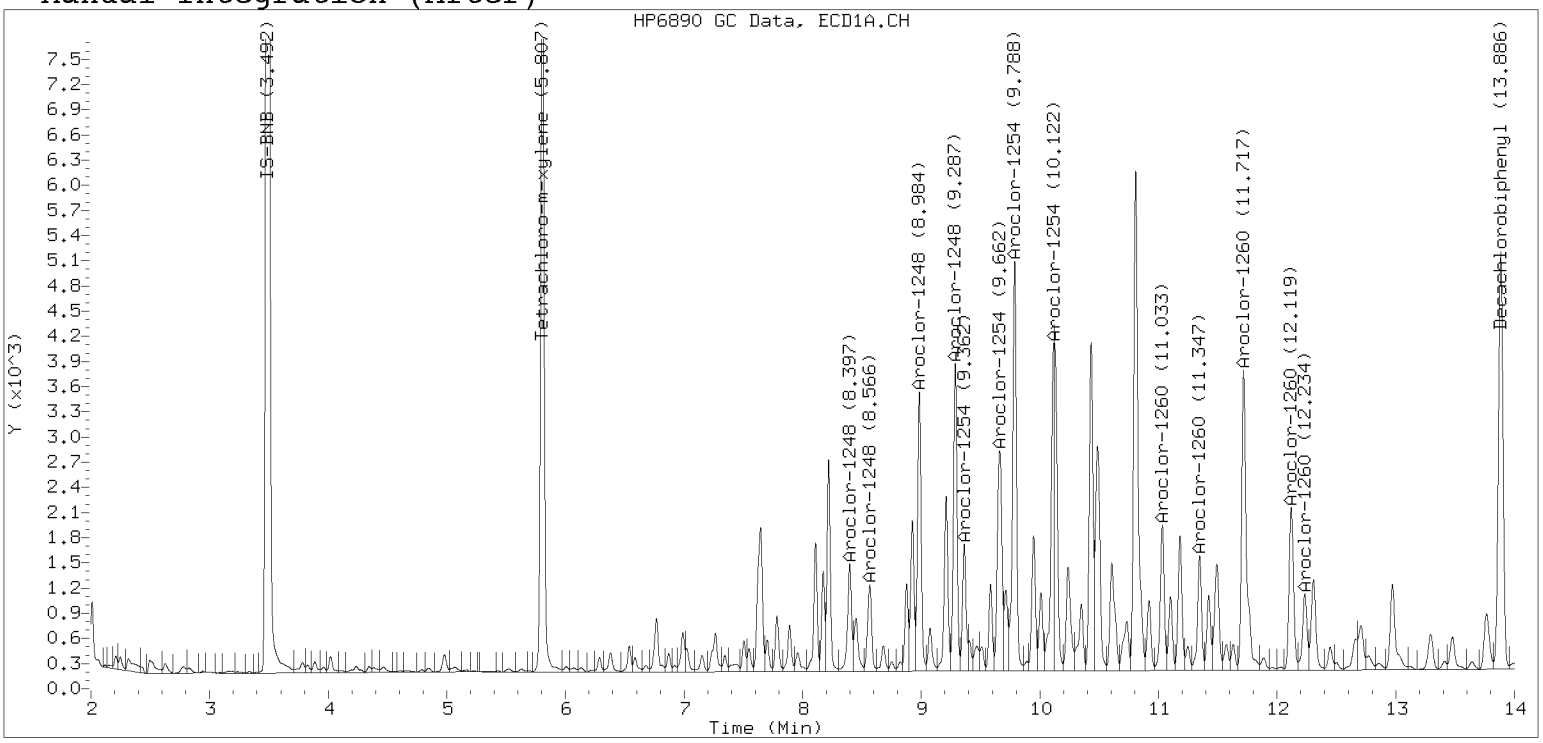


ZB-35 Manual Integration: YES

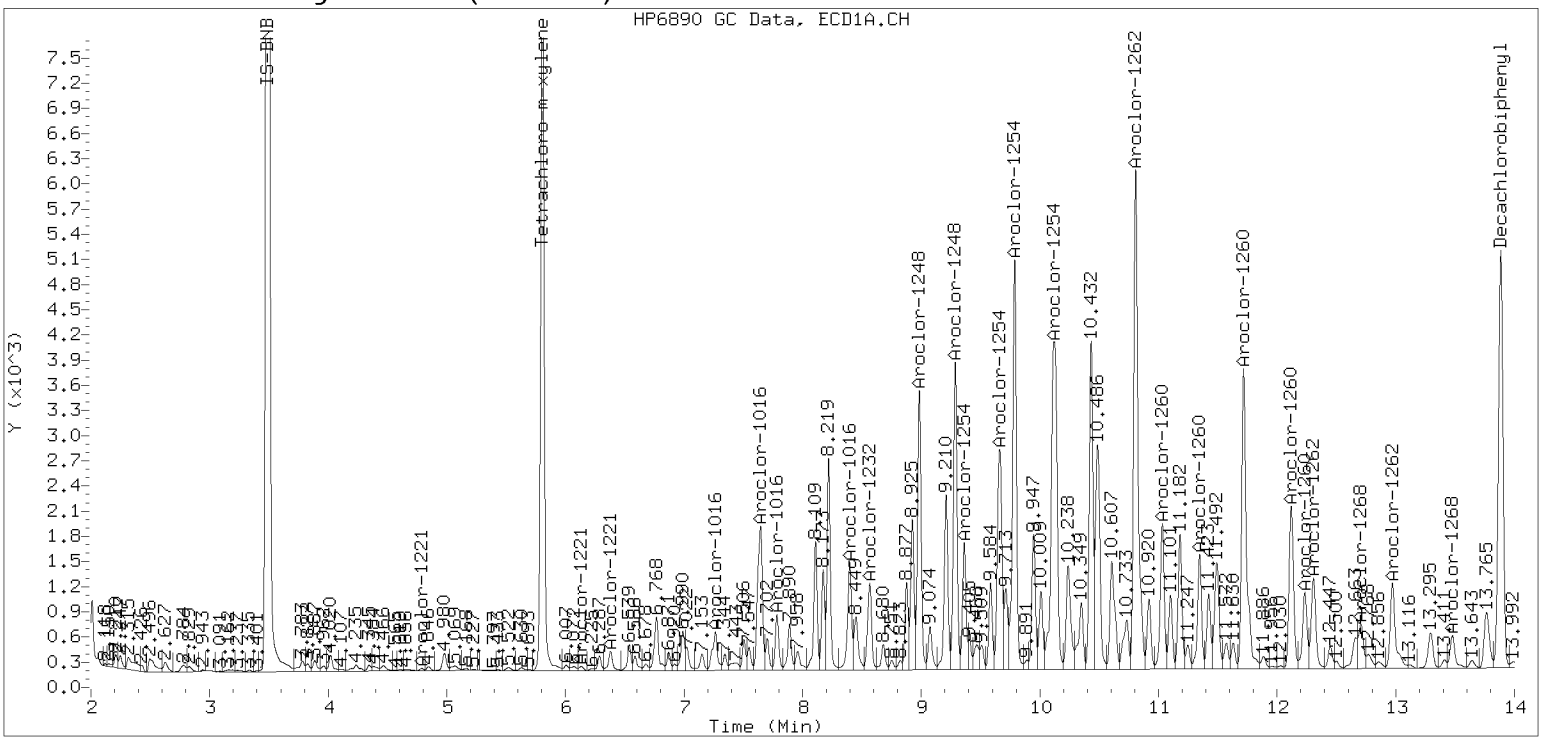
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/230315.b/03152325ECD7.D Injection Date: 15-MAR-2023 21:19

Manual Integration (After)



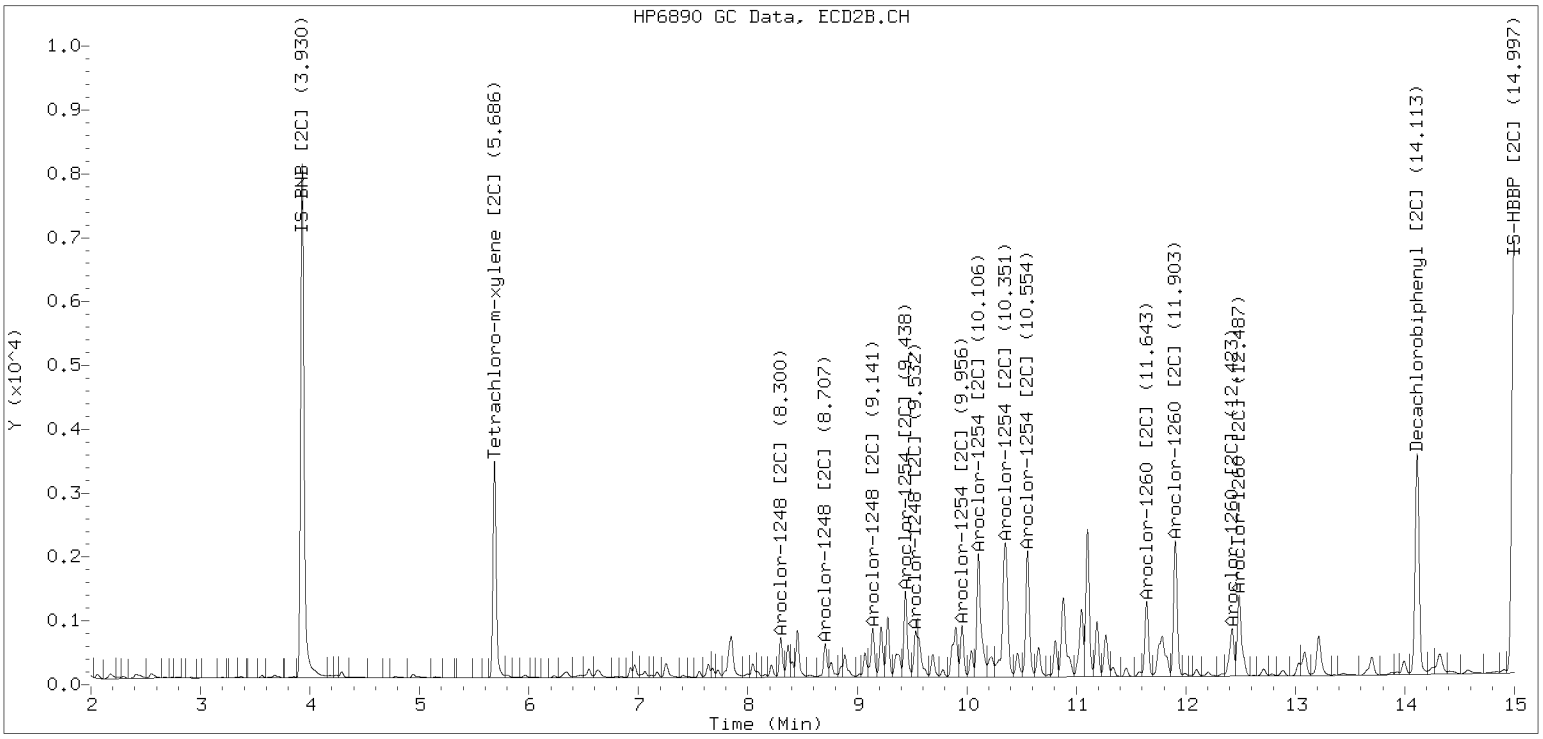
Processed Integration (Before)



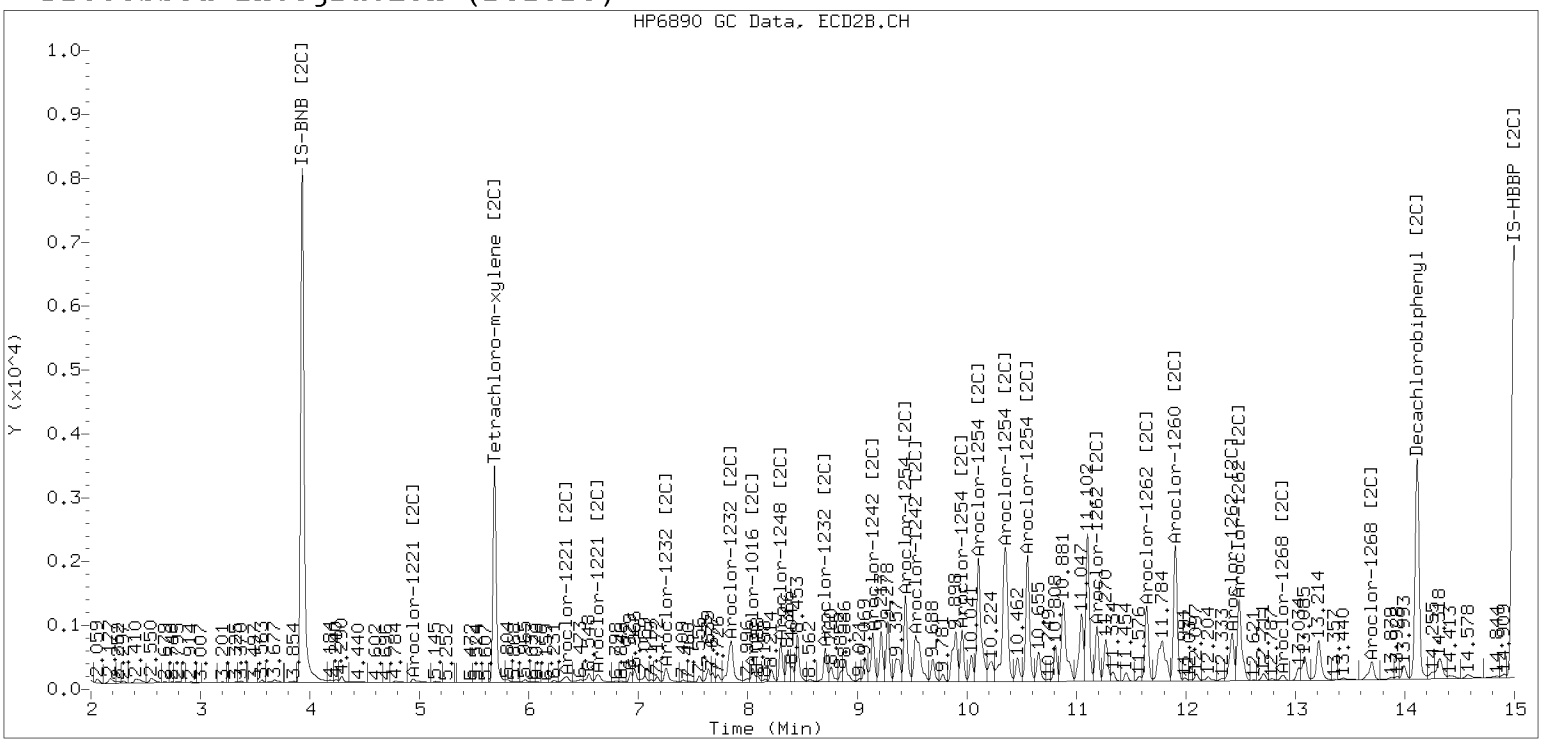
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230315.b/230315.b/03152325ECD7.D Injection Date: 15-MAR-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

LDW23-SC1107

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Solid	Laboratory ID:	23C0108-03 A	File ID:	03152326ECD7.D
Sampled:	03/03/23 08:58	Prepared:	03/10/23 11:58	Analyzed:	03/15/23 21:40
% Solids:	48.78	Preparation:	EPA 3546 (Microwave)	Initial/Final:	25.63 g Wet / 2.5 mL
Batch:	BLC0219	Sequence:	SLC0215	Calibration:	GB00069
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	2	1	34.0	1.6	4.0	
11097-69-1	Aroclor 1254	2	1	48.1	1.6	4.0	
11096-82-5	Aroclor 1260	2	1	57.0	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9985*	*6.41*	*80.1*	*40 - 126*	*Q*
Tetrachlorometaxylene	*1*	*7.9985*	*4.35*	*54.3*	*44 - 120*	
Decachlorobiphenyl	*2*	*7.9985*	*6.25*	*78.2*	*40 - 126*	
Tetrachlorometaxylene	*2*	*7.9985*	*5.44*	*68.0*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230315.b/03152326ECD7.D
Data file 2: /230315.b/230315.b/03152326ECD7.D
Method: \\target\share\chem4\ecd7.i\230315.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23C0108-03
Client ID:
Injection Date: 15-MAR-2023 21:40
Report Date: 03/16/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.806	-0.005	338190	5.685	-0.007	142515	21.7	27.2	22.4	Tetrachloro-m-xylene
13.886	-0.011	259253	14.112	-0.009	178822	32.1	31.3	2.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	1041952	54.6
Hexabromobiphenyl	1429847	821290	-42.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	356884	13.2
Hexabromobiphenyl	513946	375530	-26.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1248	1	8.397	-0.014	63499	124.9	1	8.300	-0.014	30425	178.6
Aroclor-1248	2	8.565	-0.024	54285	84.0	2	8.706	-0.015	26443	150.1
Aroclor-1248	3	8.984	-0.014	158224	129.8	3	9.140	-0.044	36644	180.7
Aroclor-1248	4	9.287	-0.015	167377	269.7	4	9.532	-0.080	35570	1~~46.~~1
		Total Col1Ave (4 peaks):			152.1		Total Col2Ave (4 peaks):			163.9 RPD = 7
		Corrected Ave (3 peaks):			112.9		Corrected Ave (3 peaks):			158.3 RPD = 33
Aroclor-1254	1	9.287	-0.012	167377	160.0	1	9.438	-0.020	64207	236.7
Aroclor-1254	2	9.362	-0.016	80403	170.9	2	9.957	-0.021	35178	161.2
Aroclor-1254	3	9.659	-0.009	134191	199.5	3	10.106	-0.029	117562	249.0
Aroclor-1254	4	9.787	-0.021	235108	179.8	4	10.353	-0.029	145230	315.5
Aroclor-1254	5	10.116	-0.060	182867	2~~23.~~1	5	10.554	-0.024	110041	3~~92.~~7
		Total Col1Ave (5 peaks):			1~~86.~~6		Total Col2Ave (5 peaks):			~~271~~.0 RPD = 37
		Corrected Ave (4 peaks):			177.5		Corrected Ave (4 peaks):			240.6 RPD = 30
Aroclor-1260	1	11.033	-0.011	106596	360.8	1	11.643	-0.015	65166	295.1
Aroclor-1260	2	11.348	-0.014	83023	269.0	2	11.904	-0.021	125542	222.8
Aroclor-1260	3	11.719	-0.015	241292	294.7	3	12.422	-0.018	55358	370.2
Aroclor-1260	4	12.119	-0.020	126300	306.3	4	12.488	-0.020	96154	253.1
Aroclor-1260	5	12.235	-0.009	66701	375.9	NS	---			----
		Total Col1Ave (5 peaks):			321.3		Total Col2Ave (4 peaks):			285.3 RPD = 12
		Corrected Ave (4 peaks):			307.7		Corrected Ave (3 peaks):			257.0 RPD = 18
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			

169.8

Total PCB Area Col1 (5.911 - 13.797) = 5000993 Col1 Total PCB = 0.4 ppm*

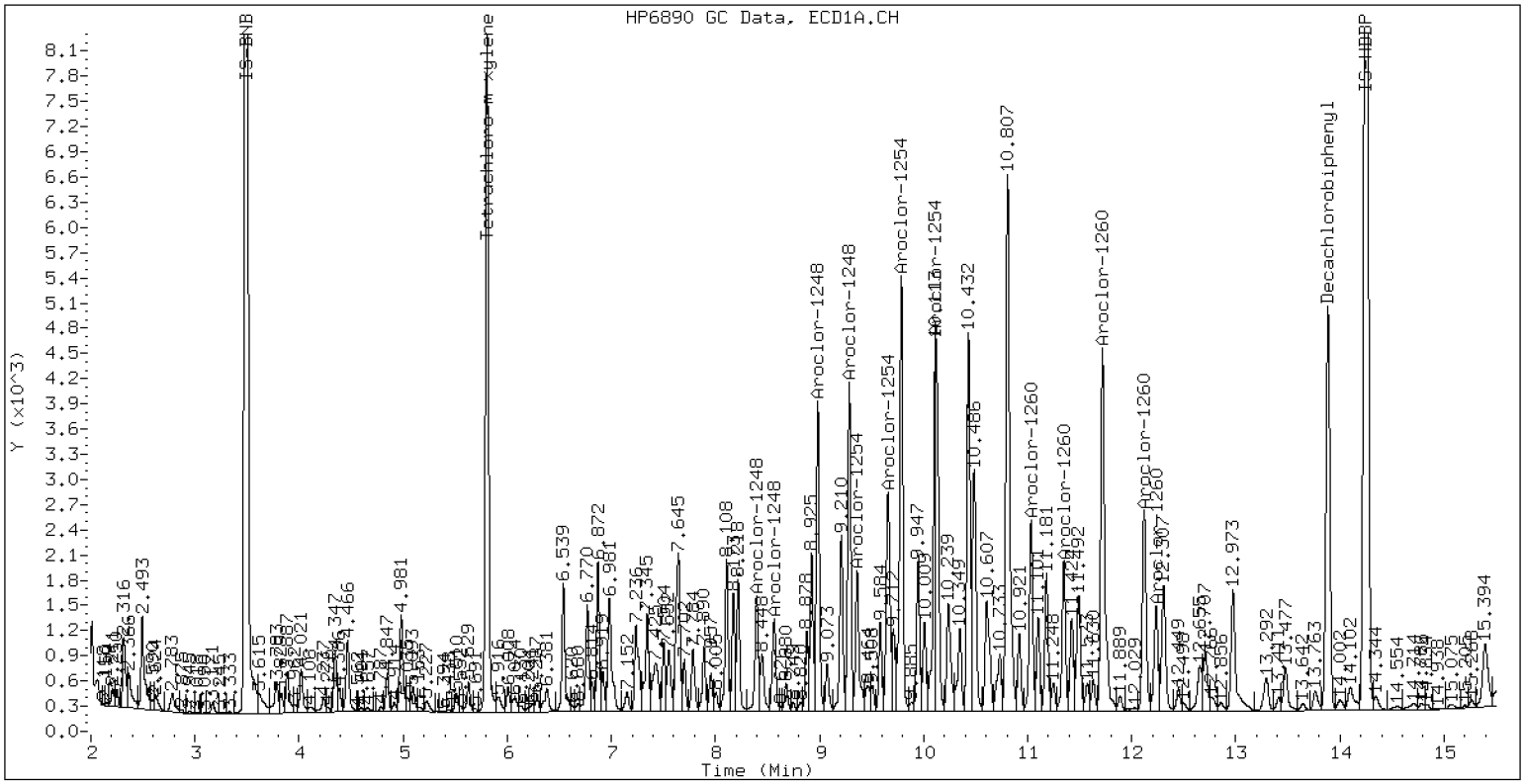
Total PCB Area Col2 (5.792 - 14.021) = 2382556 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

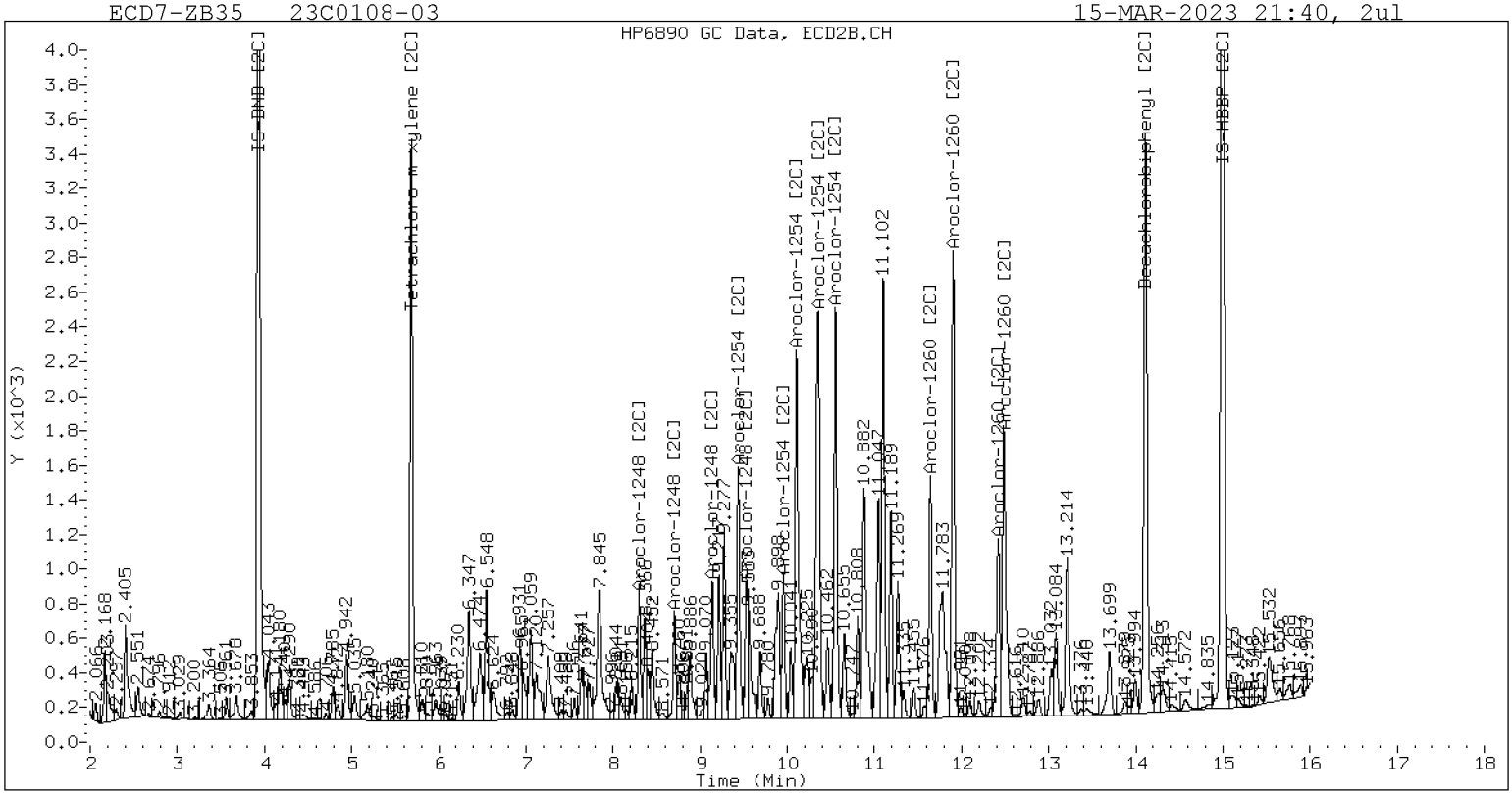
PCB Dual Column Chromatograms

ECD7-ZB5 23C0108-03 15-MAR-2023 21:40, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 23C0108-03 15-MAR-2023 21:40, 2ul

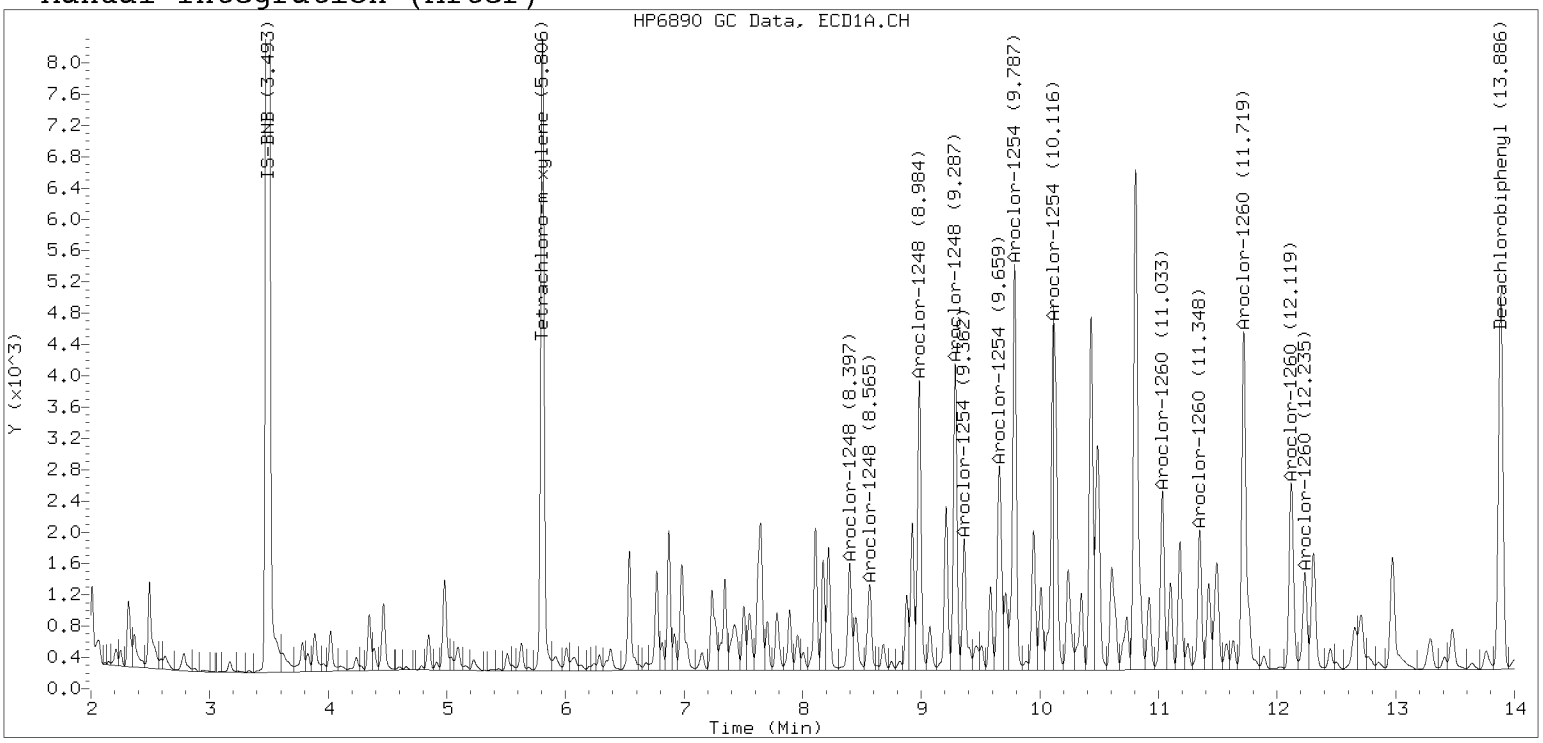


ZB-35 Manual Integration: YES

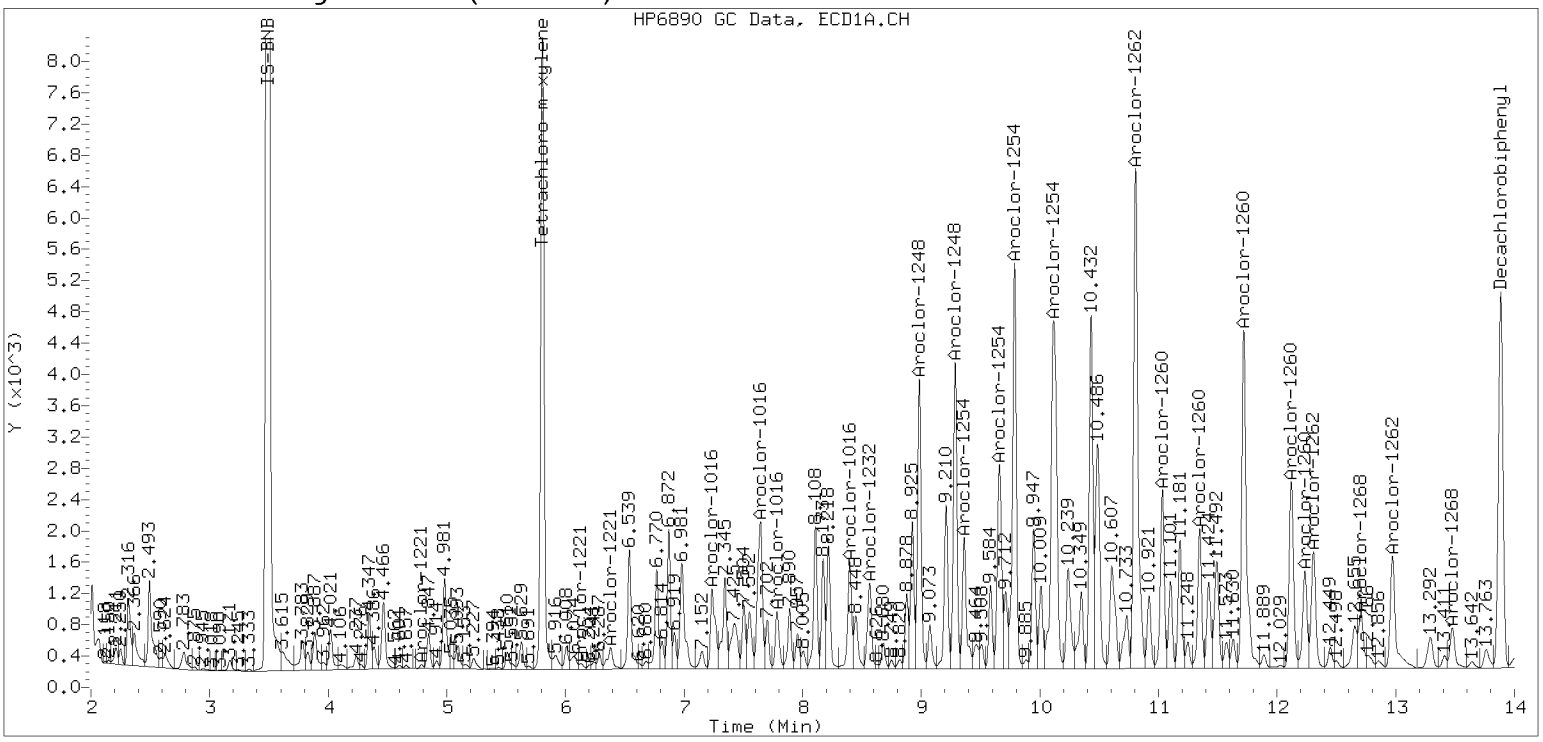
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/230315.b/03152326ECD7.D Injection Date: 15-MAR-2023 21:40

Manual Integration (After)



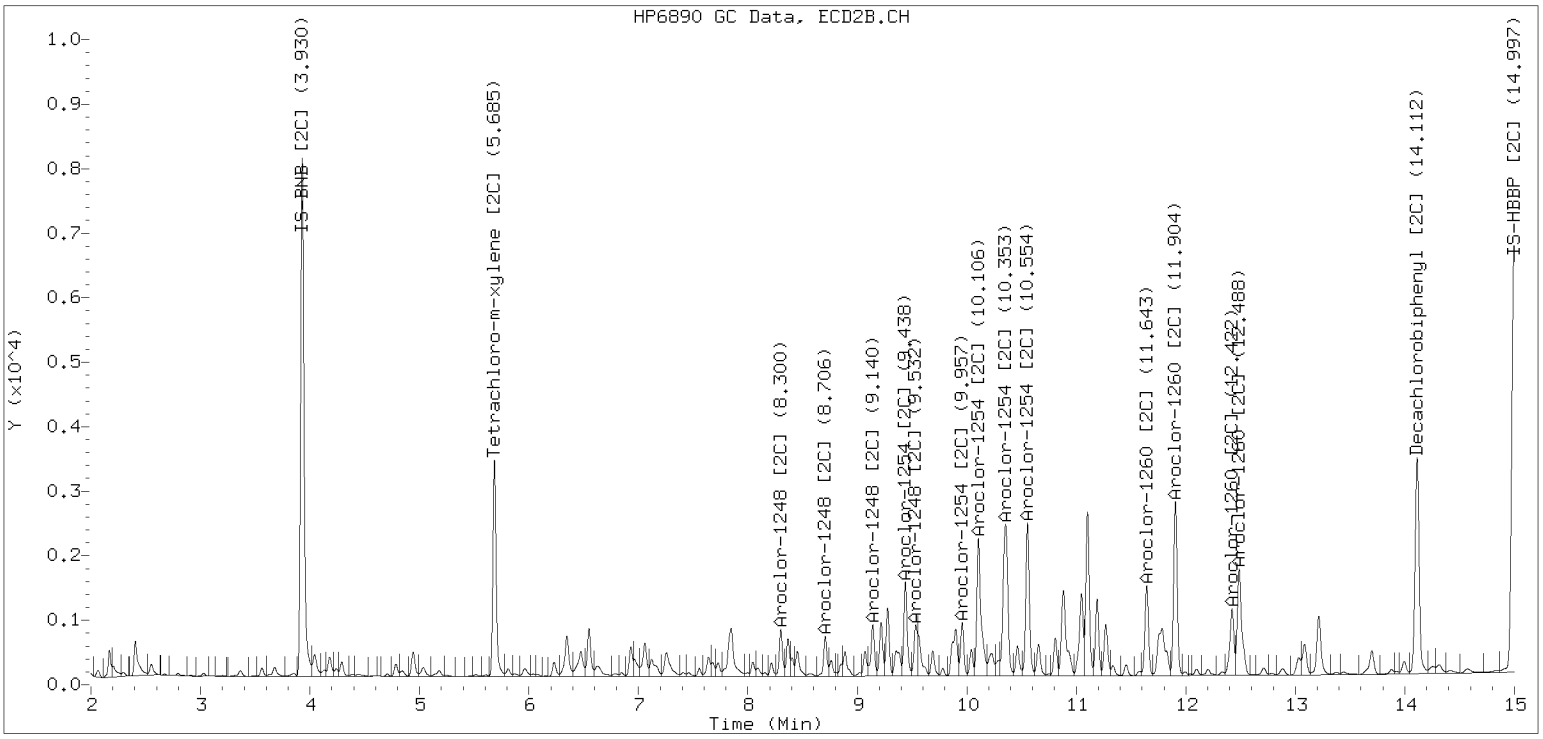
Processed Integration (Before)



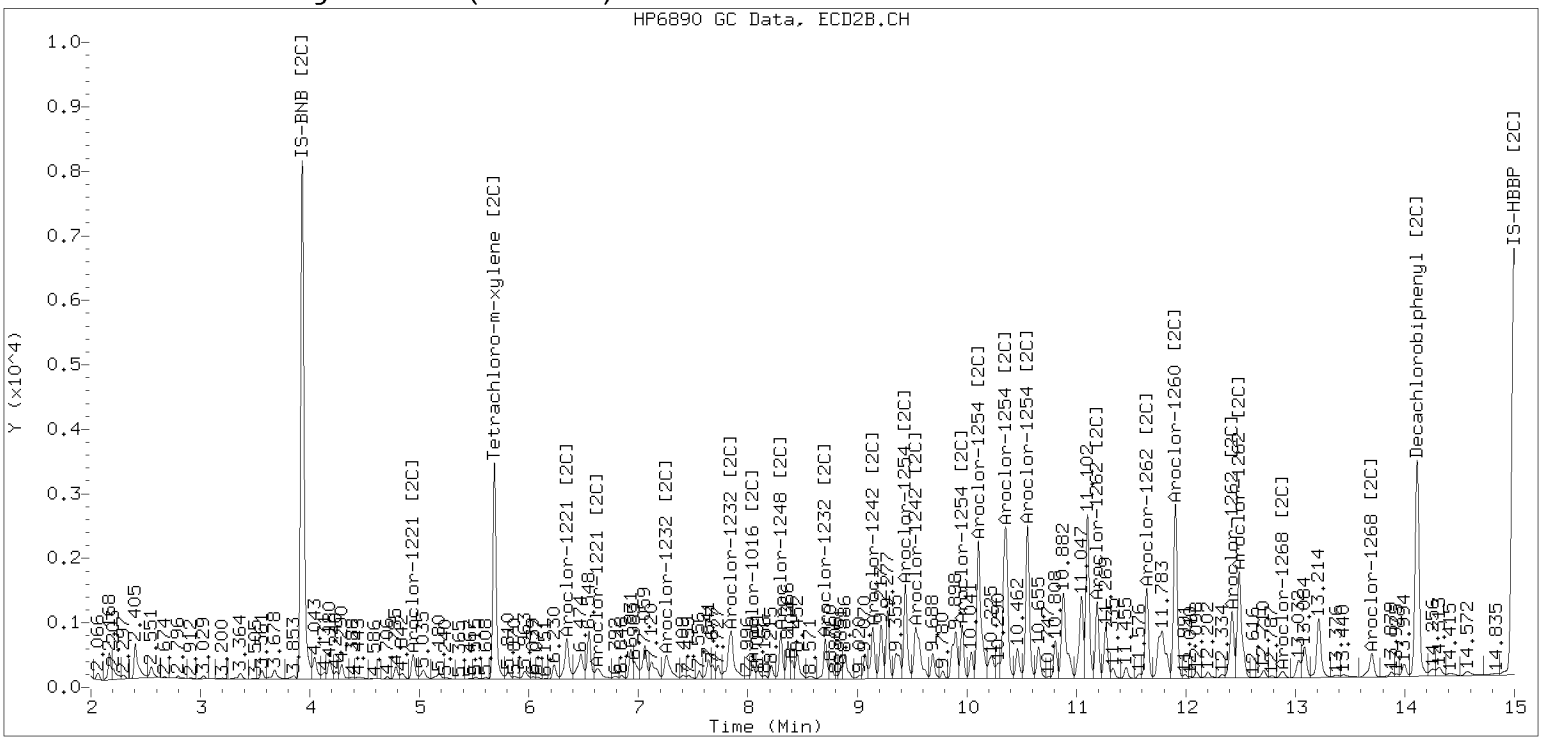
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230315.b/230315.b/03152326ECD7.D Injection Date: 15-MAR-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

LDW23-SC1106

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Solid	Laboratory ID:	23C0108-04 A	File ID:	03152327ECD7.D
Sampled:	03/03/23 09:32	Prepared:	03/10/23 11:58	Analyzed:	03/15/23 22:00
% Solids:	47.41	Preparation:	EPA 3546 (Microwave)	Initial/Final:	26.39 g Wet / 2.5 mL
Batch:	BLC0219	Sequence:	SLC0215	Calibration:	GB00069
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	2	1	34.5	1.6	4.0	
11097-69-1	Aroclor 1254	2	1	56.6	1.6	4.0	
11096-82-5	Aroclor 1260	2	1	57.0	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9926*	*6.21*	*77.7*	*40 - 126*	*Q*
Tetrachlorometaxylene	*1*	*7.9926*	*4.42*	*55.3*	*44 - 120*	
Decachlorobiphenyl	*2*	*7.9926*	*6.11*	*76.5*	*40 - 126*	
Tetrachlorometaxylene	*2*	*7.9926*	*5.13*	*64.1*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230315.b/03152327ECD7.D
Data file 2: /230315.b/230315.b/03152327ECD7.D
Method: \\target\share\chem4\ecd7.i\230315.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23C0108-04
Client ID:
Injection Date: 15-MAR-2023 22:00
Report Date: 03/16/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.806	-0.005	321815	5.685	-0.007	135783	22.1	25.7	14.8	Tetrachloro-m-xylene
13.885	-0.012	245630	14.112	-0.009	171051	31.1	30.6	1.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	974838	44.7
Hexabromobiphenyl	1429847	802086	-43.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	360744	14.4
Hexabromobiphenyl	513946	367099	-28.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	8.397	-0.015	65101	136.9	1	8.300	-0.014	30282	175.8
Aroclor-1248	2	8.565	-0.024	55254	91.4	2	8.706	-0.015	26980	151.5
Aroclor-1248	3	8.984	-0.015	167023	146.4	3	9.140	-0.044	39195	191.2
Aroclor-1248	4	9.287	-0.015	179267	308.7	4	9.533	-0.079	38208	155.3
	Total Col1Ave (4 peaks):				170.9	Total Col2Ave (4 peaks):				168.5 RPD = 1
	Corrected Ave (3 peaks):				124.9	Corrected Ave (3 peaks):				160.9 RPD = 25
Aroclor-1254	1	9.287	-0.012	179267	183.1	1	9.438	-0.020	68743	250.7
Aroclor-1254	2	9.361	-0.016	74303	168.8	2	9.956	-0.022	38956	176.6
Aroclor-1254	3	9.659	-0.009	148918	236.6	3	10.105	-0.029	124534	260.9
Aroclor-1254	4	9.787	-0.021	251027	205.1	4	10.352	-0.030	153631	330.2
Aroclor-1254	5	10.122	-0.054	164470	214.4	5	10.554	-0.024	112389	396.8
	Total Col1Ave (5 peaks):				201.6	Total Col2Ave (5 peaks):				283.0 RPD = 34
	Corrected Ave (4 peaks):				192.9	Corrected Ave (4 peaks):				254.6 RPD = 28
Aroclor-1260	1	11.033	-0.011	100257	347.5	1	11.643	-0.016	65102	301.6
Aroclor-1260	2	11.348	-0.013	79100	262.4	2	11.904	-0.021	120049	217.9
Aroclor-1260	3	11.718	-0.016	242760	303.6	3	12.421	-0.019	55804	381.7
Aroclor-1260	4	12.119	-0.020	121334	301.3	4	12.487	-0.020	89013	239.7
Aroclor-1260	5	12.234	-0.010	59411	342.8	NS	---			----
	Total Col1Ave (5 peaks):				311.5	Total Col2Ave (4 peaks):				285.2 RPD = 9
	Corrected Ave (4 peaks):				302.5	Corrected Ave (3 peaks):				253.1 RPD = 18
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (5.911 - 13.797) = 4755204 Col1 Total PCB = 0.4 ppm*

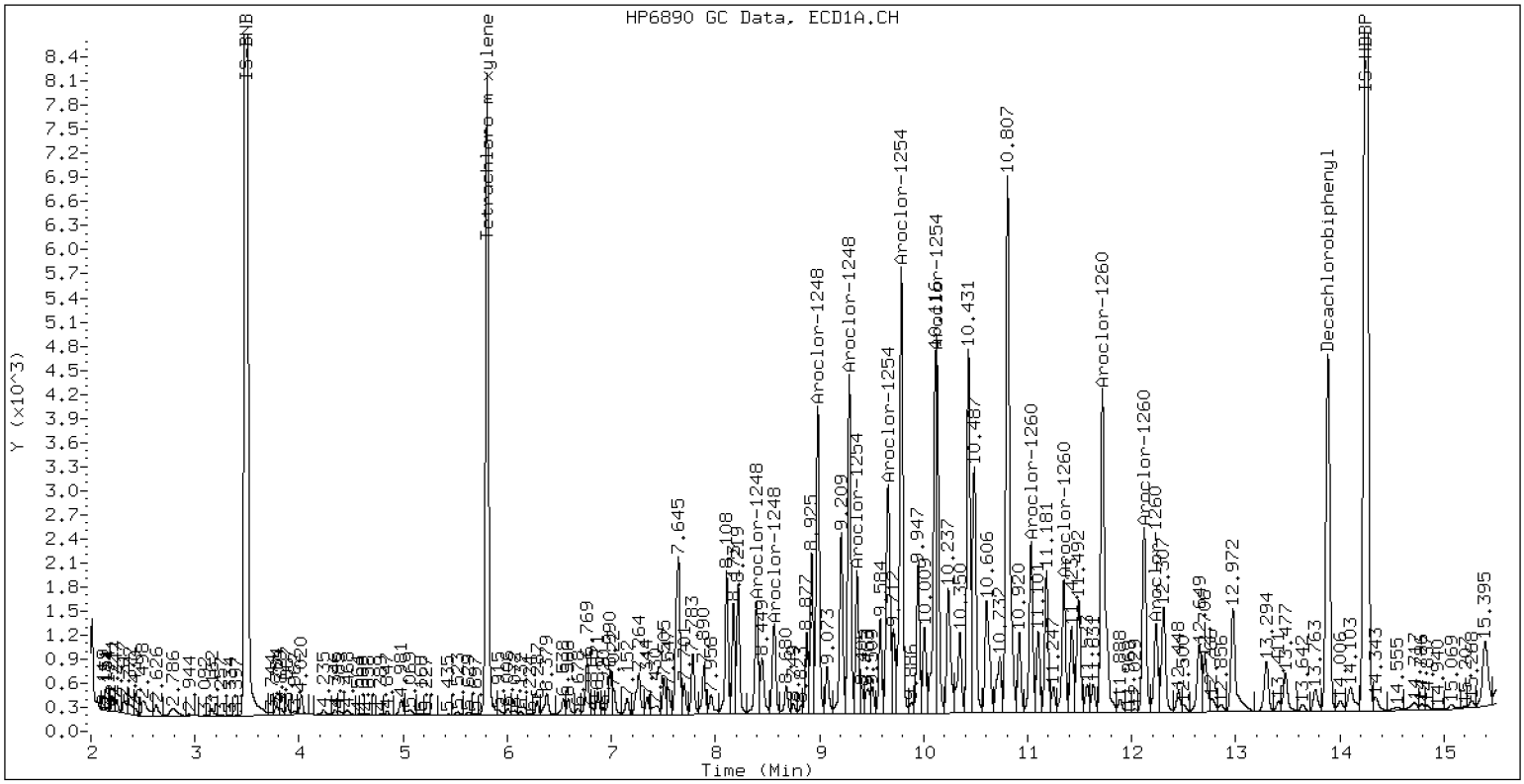
Total PCB Area Col2 (5.792 - 14.021) = 2248652 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

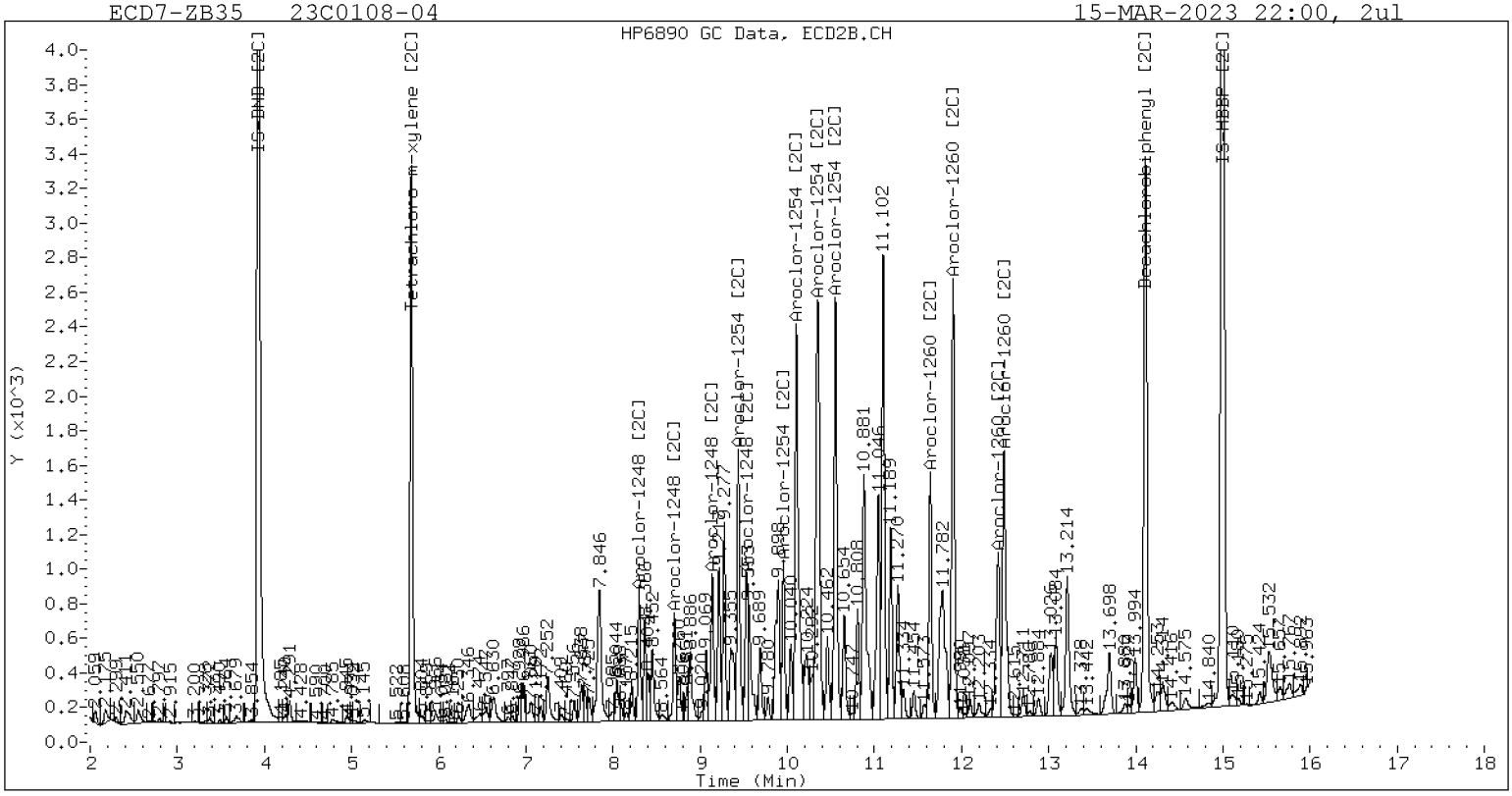
PCB Dual Column Chromatograms

ECD7-ZB5 23C0108-04 15-MAR-2023 22:00, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 23C0108-04 15-MAR-2023 22:00, 2ul

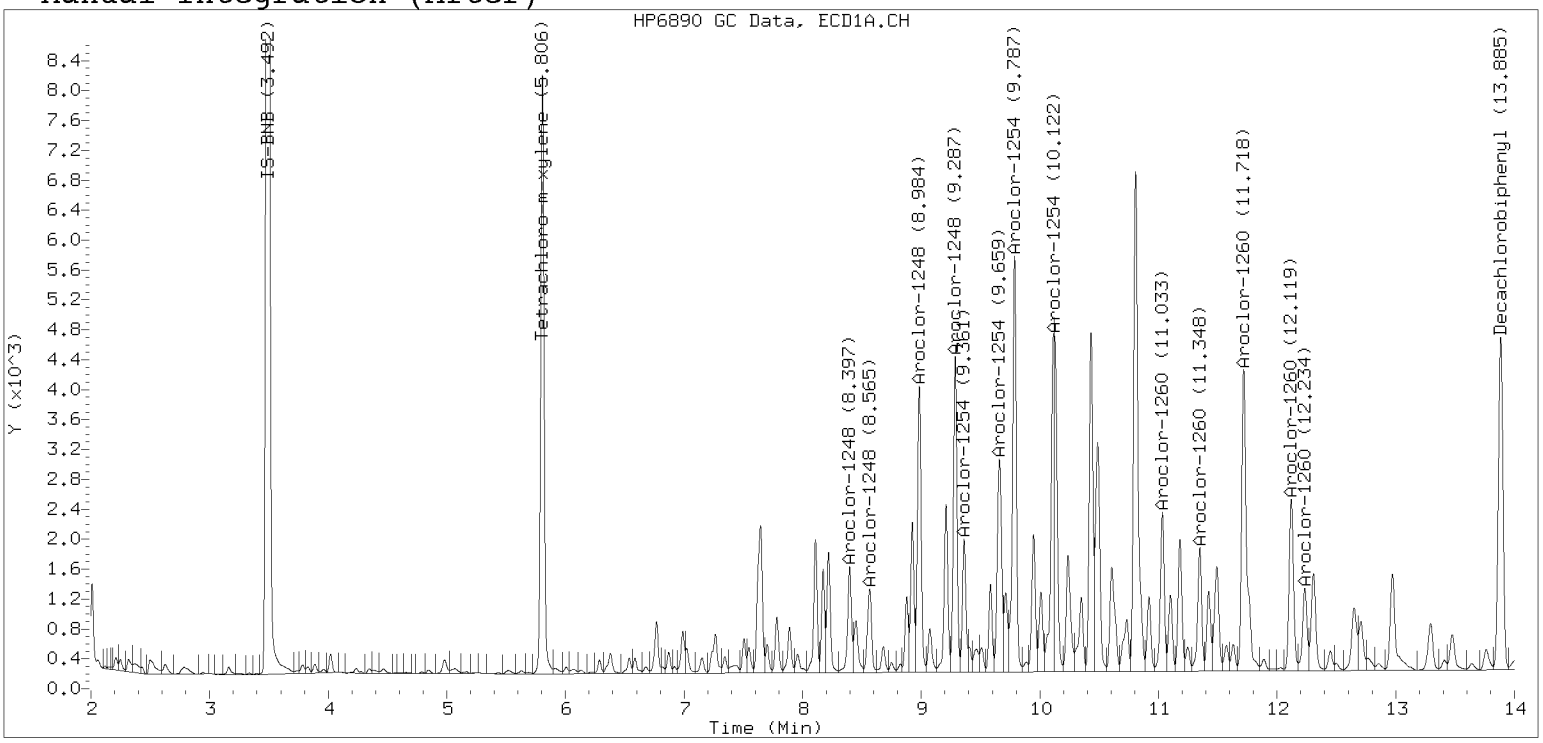


ZB-35 Manual Integration: YES

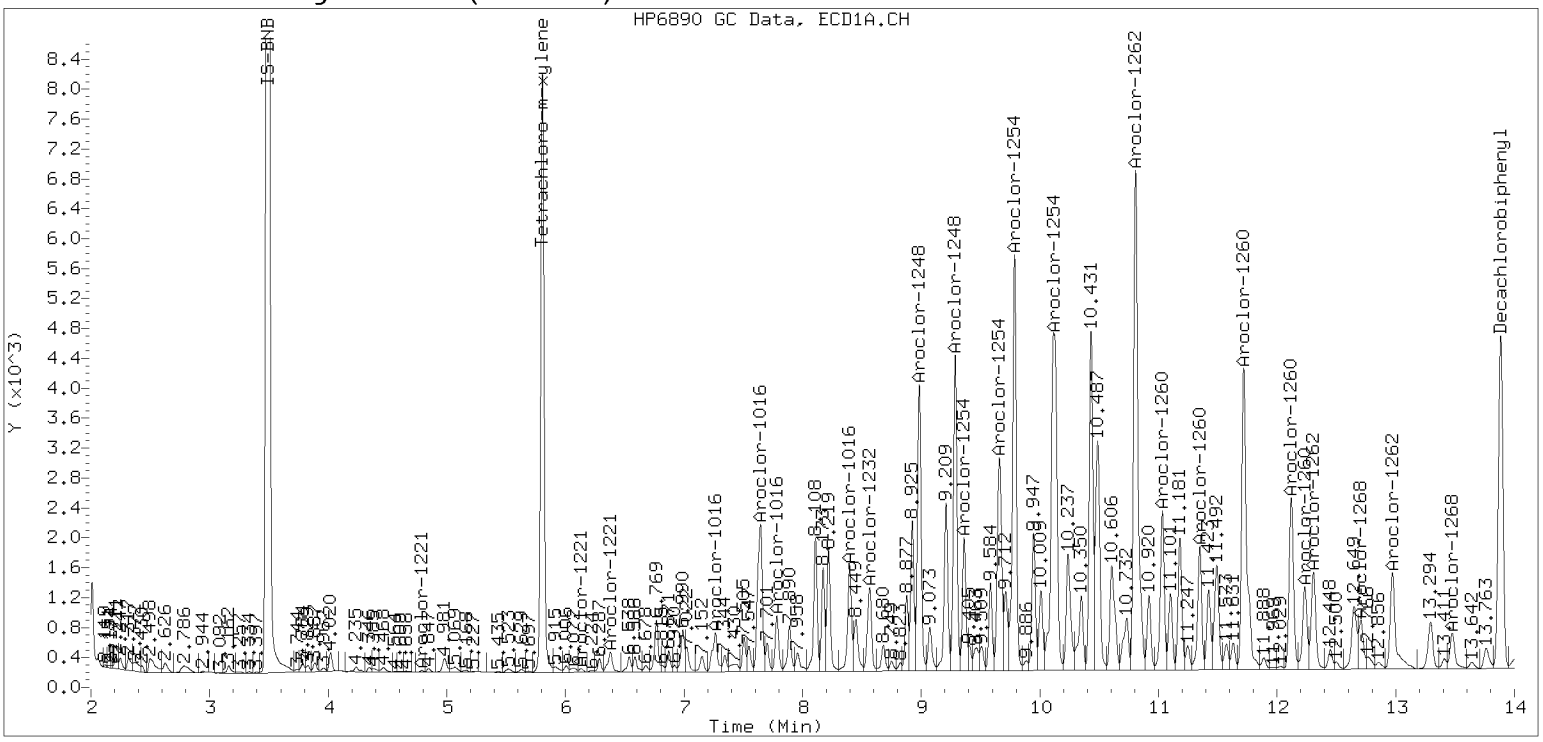
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/230315.b/03152327ECD7.D Injection Date: 15-MAR-2023 22:00

Manual Integration (After)



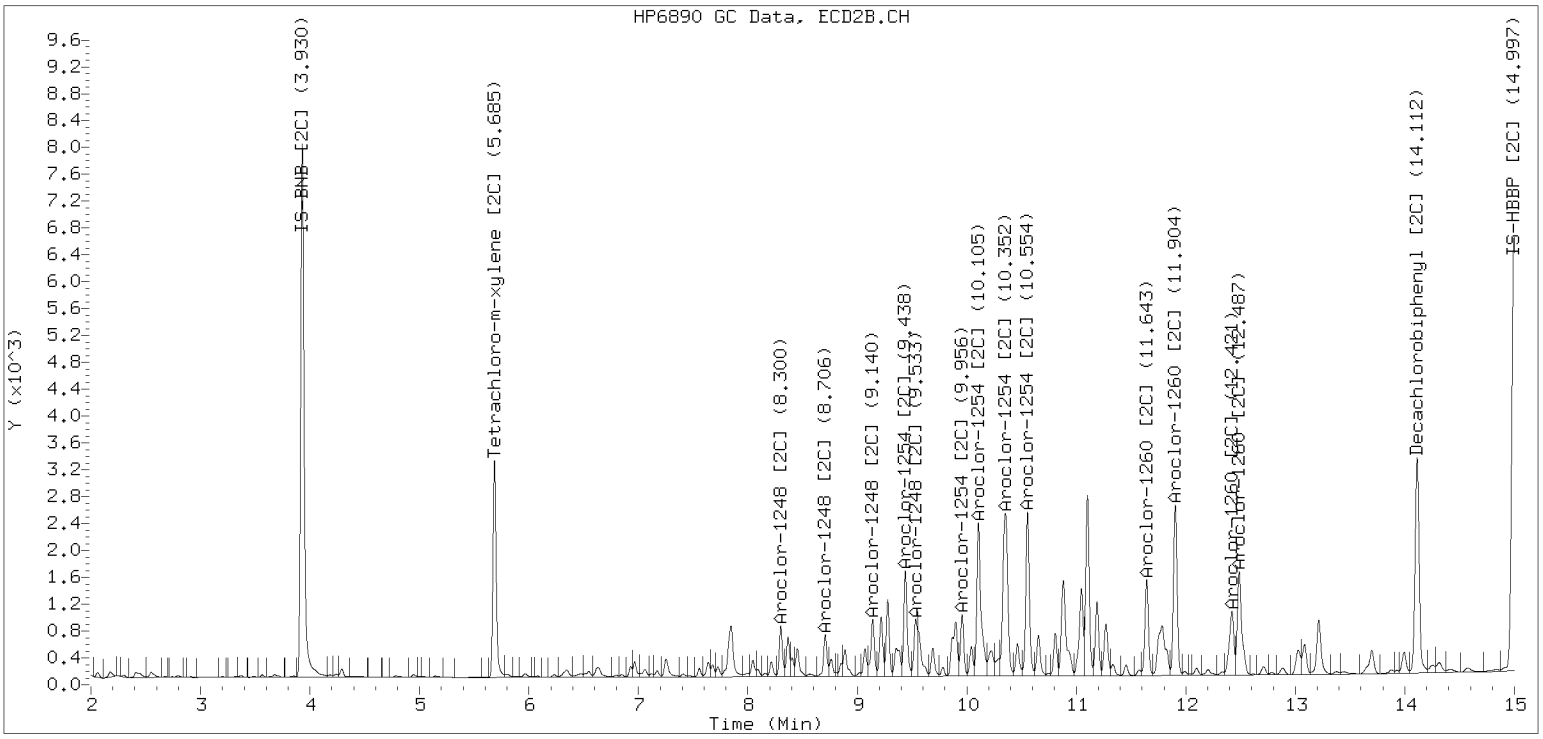
Processed Integration (Before)



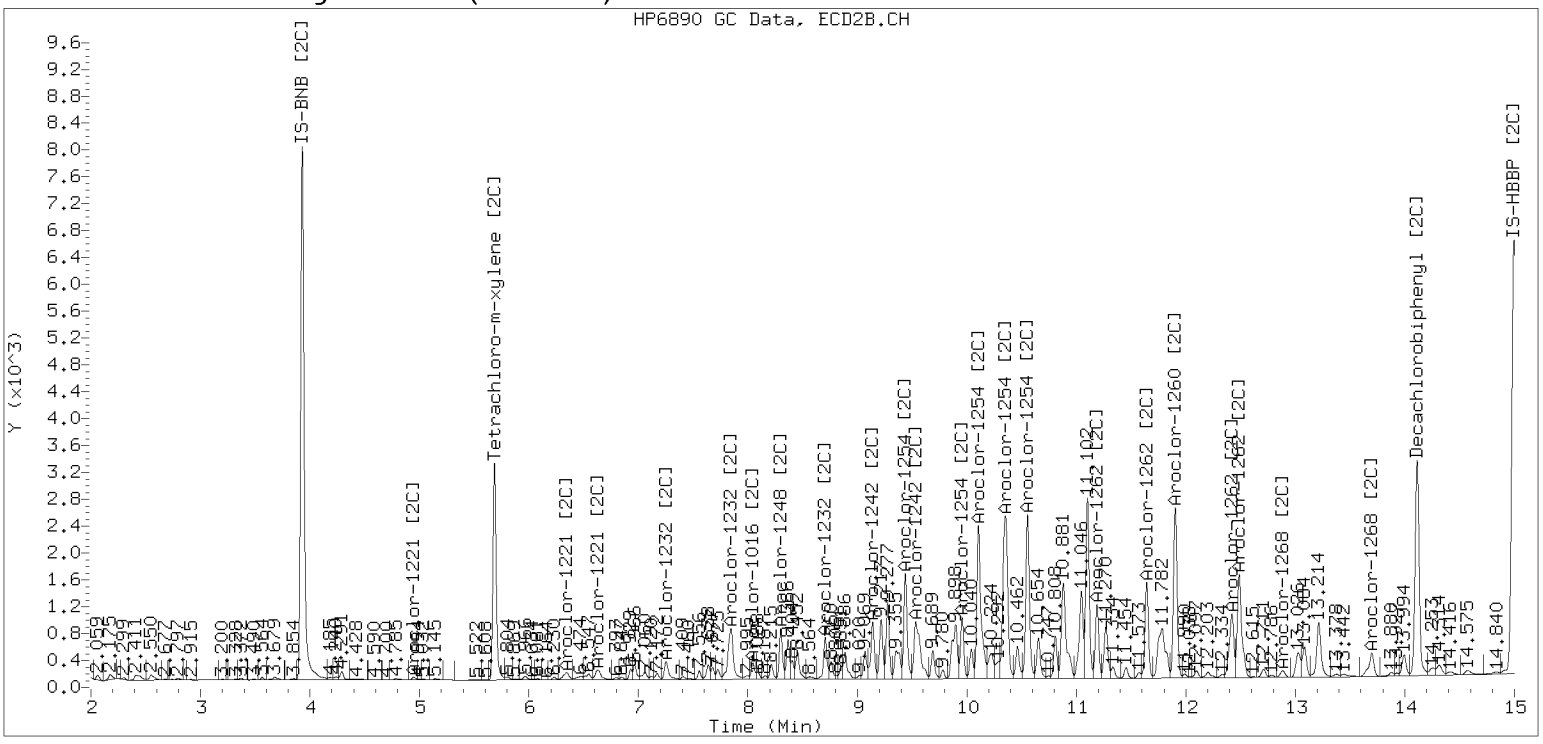
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230315.b/230315.b/03152327ECD7.D Injection Date: 15-MAR-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

LDW23-SC1118

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Solid	Laboratory ID:	23C0108-05 A	File ID:	03152328ECD7.D
Sampled:	03/03/23 11:48	Prepared:	03/10/23 11:58	Analyzed:	03/15/23 22:21
% Solids:	48.57	Preparation:	EPA 3546 (Microwave)	Initial/Final:	25.79 g Wet / 2.5 mL
Batch:	BLC0219	Sequence:	SLC0215	Calibration:	GB00069
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	2	1	33.9	1.6	4.0	
11097-69-1	Aroclor 1254	2	1	48.1	1.6	4.0	
11096-82-5	Aroclor 1260	2	1	49.4	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9833*	*6.29*	*78.8*	*40 - 126*	*Q*
Tetrachlorometaxylene	*1*	*7.9833*	*4.03*	*50.5*	*44 - 120*	
Decachlorobiphenyl	*2*	*7.9833*	*6.38*	*79.9*	*40 - 126*	
Tetrachlorometaxylene	*2*	*7.9833*	*5.22*	*65.4*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230315.b/03152328ECD7.D
Data file 2: /230315.b/230315.b/03152328ECD7.D
Method: \\target\share\chem4\ecd7.i\230315.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23C0108-05
Client ID:
Injection Date: 15-MAR-2023 22:21
Report Date: 03/16/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.805	-0.006	307313	5.684	-0.008	136622	20.2	26.2	25.7	Tetrachloro-m-xylene
13.885	-0.012	232414	14.112	-0.009	181754	31.5	32.0	1.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	1018902	51.2
Hexabromobiphenyl	1429847	749064	-47.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	356013	12.9
Hexabromobiphenyl	513946	373489	-27.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1248	1	8.395	-0.016	61823	124.4	1	8.299	-0.015	29422	173.1
Aroclor-1248	2	8.563	-0.026	47825	75.7	2	8.706	-0.016	28254	160.8
Aroclor-1248	3	8.983	-0.015	138313	116.0	3	9.138	-0.047	35487	175.5
Aroclor-1248	4	9.285	-0.016	155853	256.8	4	9.532	-0.080	56908	234.3
		Total Col1Ave (4 peaks):			143.2		Total Col2Ave (4 peaks):			185.9 RPD = 26
		Corrected Ave (3 peaks):			105.4		Corrected Ave (3 peaks):			169.8 RPD = 47*
Aroclor-1254	1	9.285	-0.013	155853	152.3	1	9.437	-0.021	62596	231.3
Aroclor-1254	2	9.361	-0.016	61592	133.8	2	9.955	-0.023	34932	160.5
Aroclor-1254	3	9.658	-0.010	125418	190.7	3	10.104	-0.030	113059	240.0
Aroclor-1254	4	9.786	-0.022	216285	169.1	4	10.350	-0.032	152208	331.5
Aroclor-1254	5	10.116	-0.060	150294	187.5	5	10.553	-0.024	110151	394.0
		Total Col1Ave (5 peaks):			166.7		Total Col2Ave (5 peaks):			271.5 RPD = 48*
		Corrected Ave (4 peaks):			160.7		Corrected Ave (4 peaks):			240.8 RPD = 40
					161.475					
Aroclor-1260	1	11.032	-0.012	84753	314.5	1	11.642	-0.016	59853	272.5
Aroclor-1260	2	11.348	-0.014	70083	248.9	2	11.903	-0.022	112549	200.8
Aroclor-1260	3	11.717	-0.016	196465	263.1	3	12.422	-0.019	45475	305.7
Aroclor-1260	4	12.118	-0.021	105795	281.3	4	12.486	-0.021	80077	212.0
Aroclor-1260	5	12.234	-0.010	50789	313.8	NS	---			----
		Total Col1Ave (5 peaks):			284.3		Total Col2Ave (4 peaks):			247.8 RPD = 14
		Corrected Ave (4 peaks):			276.8		Corrected Ave (3 peaks):			228.4 RPD = 19
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			

Total PCB Area Col1 (5.911 - 13.797) = 4159963 Col1 Total PCB = 0.3 ppm*

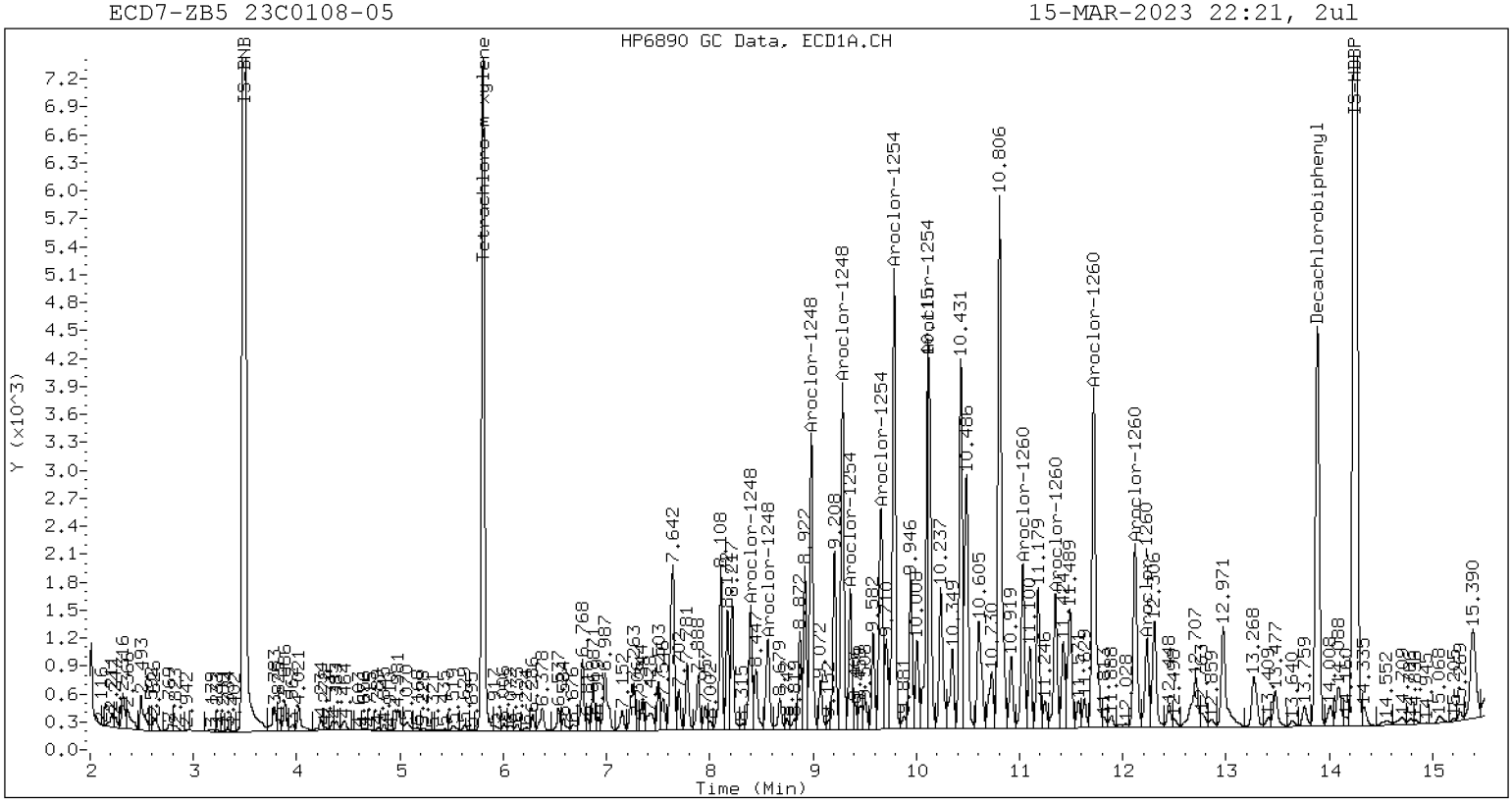
Total PCB Area Col2 (5.792 - 14.021) = 2132768 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

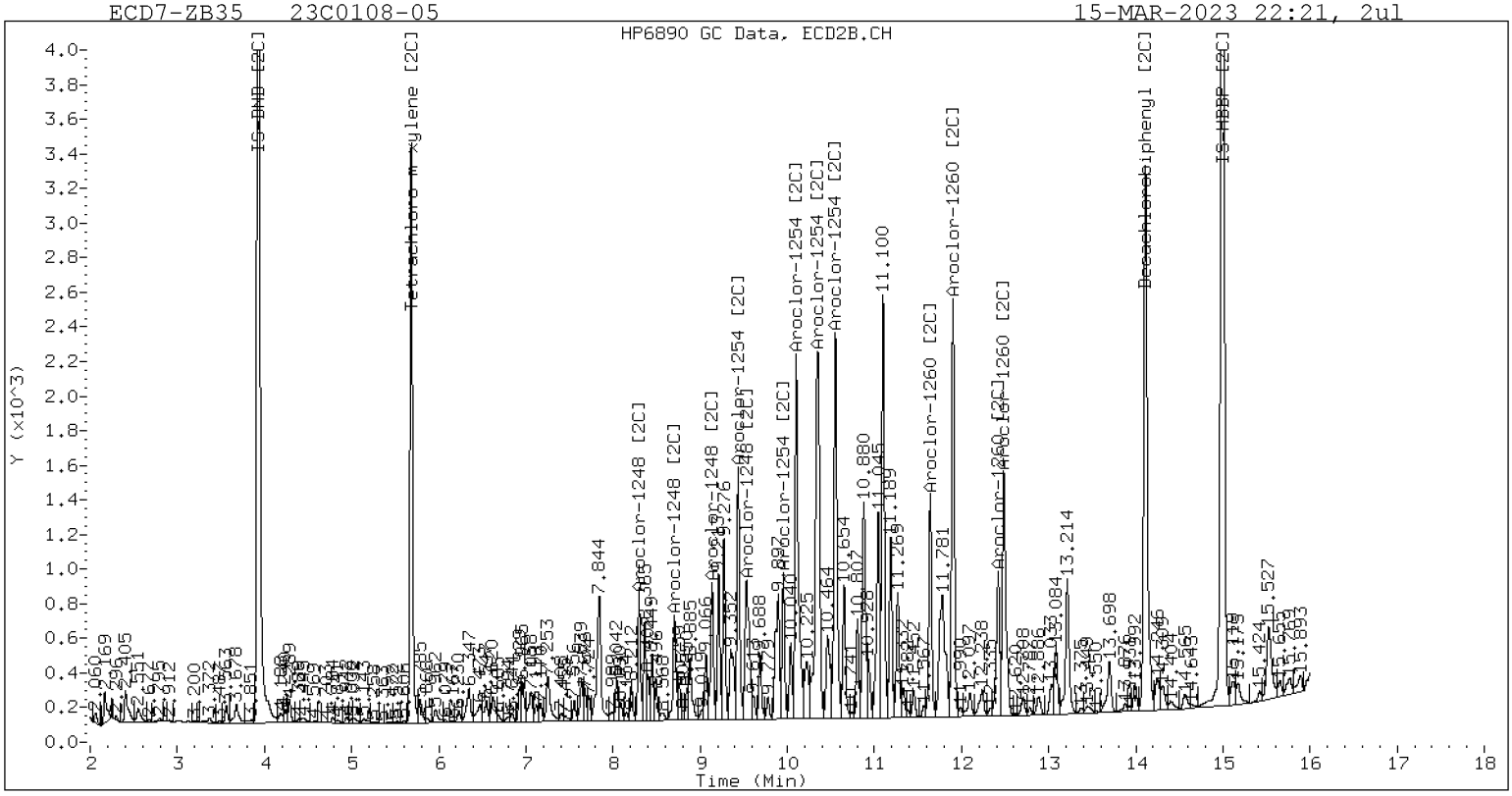
PCB Dual Column Chromatograms

ECD7-ZB5 23C0108-05 15-MAR-2023 22:21, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 23C0108-05 15-MAR-2023 22:21, 2ul

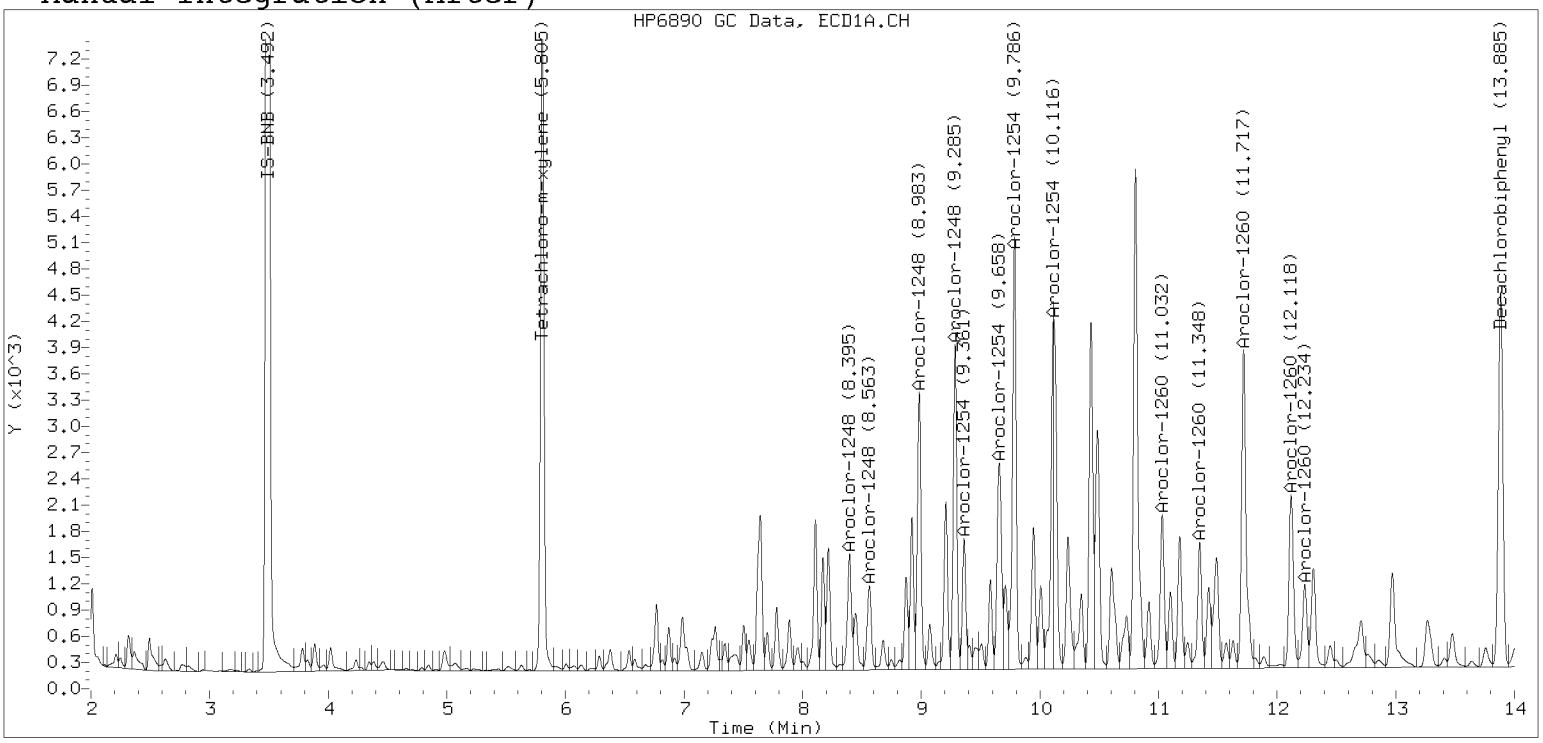


ZB-35 Manual Integration: YES

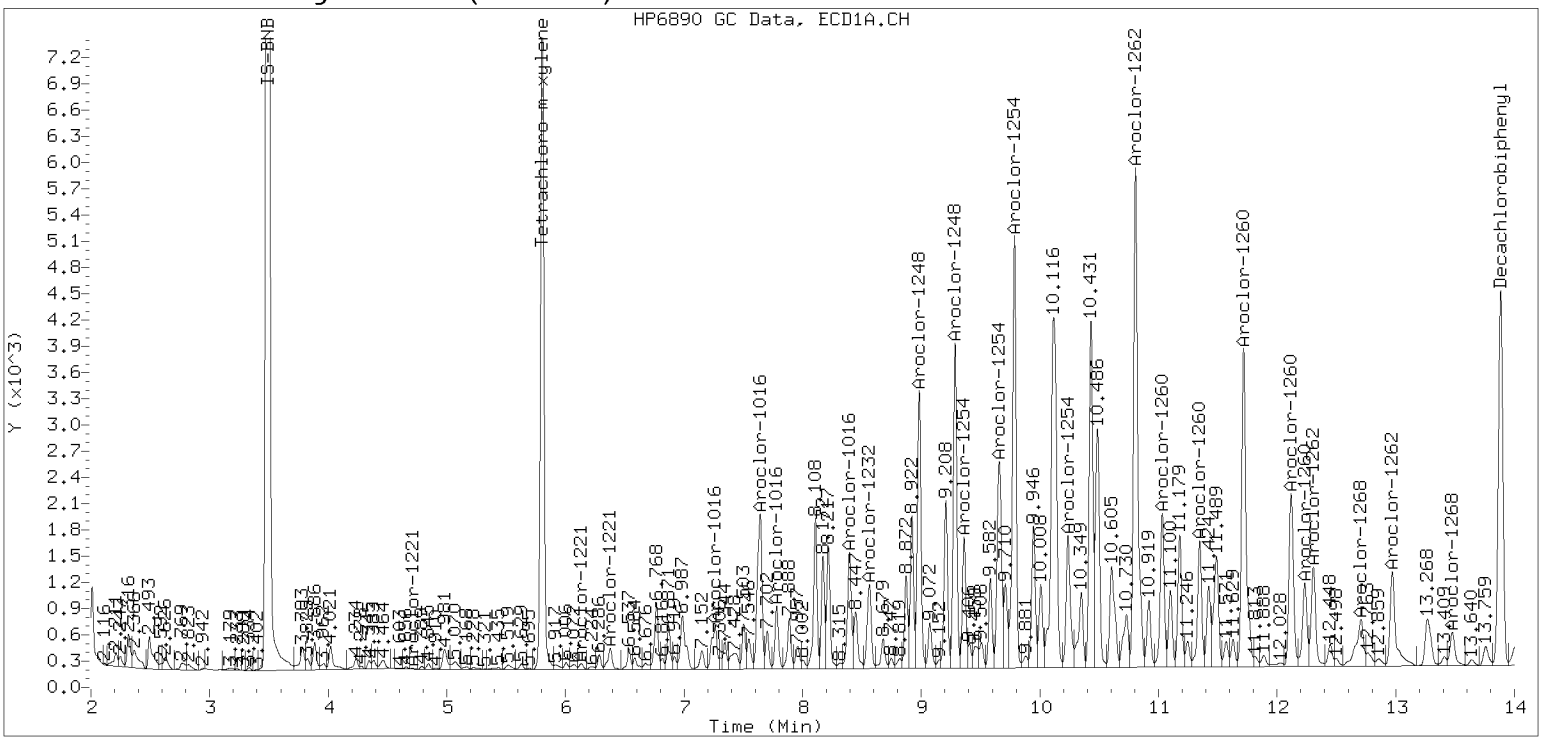
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/230315.b/03152328ECD7.D Injection Date: 15-MAR-2023 22:21

Manual Integration (After)



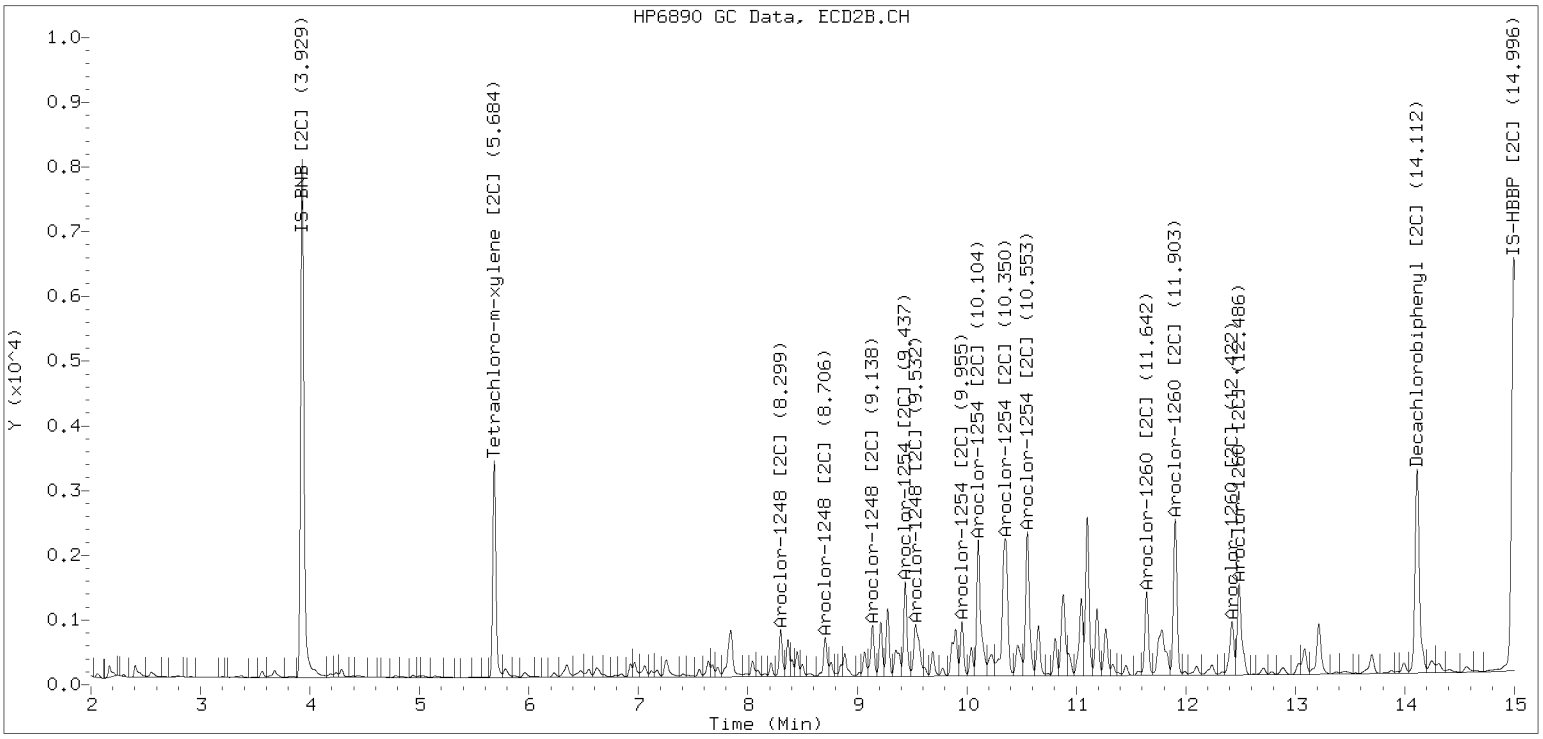
Processed Integration (Before)



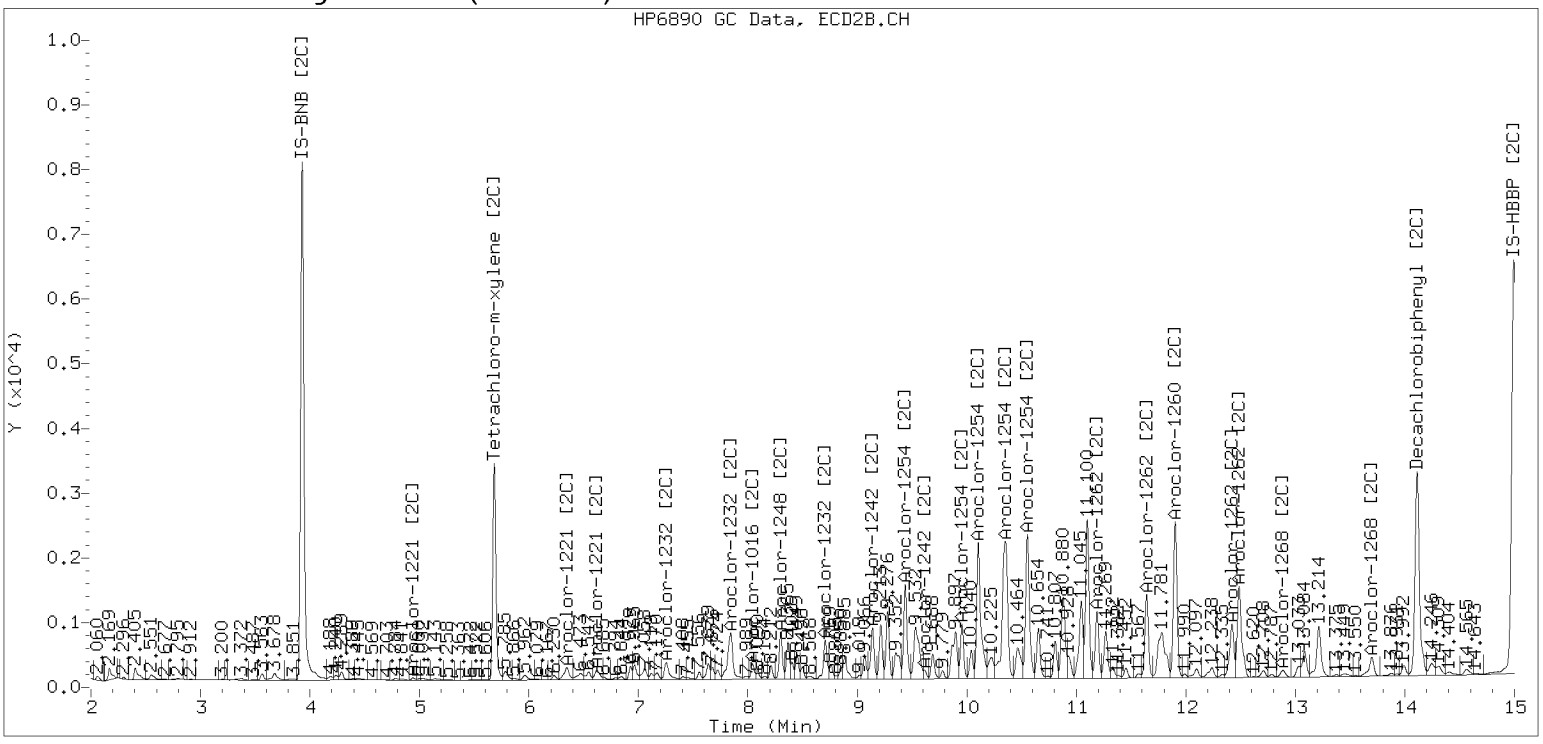
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230315.b/230315.b/03152328ECD7.D Injection Date: 15-MAR-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

LDW23-SS1106

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Solid	Laboratory ID:	23C0108-06 A	File ID:	03152329ECD7.D
Sampled:	03/03/23 10:00	Prepared:	03/10/23 11:58	Analyzed:	03/15/23 22:42
% Solids:	43.33	Preparation:	EPA 3546 (Microwave)	Initial/Final:	28.88 g Wet / 2.5 mL
Batch:	BLC0219	Sequence:	SLC0215	Calibration:	GB00069
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	2	1	40.3	1.6	4.0	
11097-69-1	Aroclor 1254	2	1	62.3	1.6	4.0	
11096-82-5	Aroclor 1260	2	1	60.6	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9912*	*6.27*	*78.5*	*40 - 126*	*Q*
Tetrachlorometaxylene	*1*	*7.9912*	*4.64*	*58.1*	*44 - 120*	
Decachlorobiphenyl	*2*	*7.9912*	*6.13*	*76.8*	*40 - 126*	
Tetrachlorometaxylene	*2*	*7.9912*	*5.13*	*64.2*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230315.b/03152329ECD7.D
Data file 2: /230315.b/230315.b/03152329ECD7.D
Method: \\target\share\chem4\ecd7.i\230315.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23C0108-06
Client ID:
Injection Date: 15-MAR-2023 22:42
Report Date: 03/16/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.806	-0.005	328538	5.685	-0.007	137876	23.2	25.7	10.0	Tetrachloro-m-xylene
13.885	-0.011	246626	14.111	-0.010	174520	31.4	30.7	2.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	946803	40.5
Hexabromobiphenyl	1429847	797740	-44.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	365728	16.0
Hexabromobiphenyl	513946	373222	-27.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks				Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
		Col1Ave: <3 Quant Peaks				Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks				Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks				Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	8.397	-0.015	76412	165.4	1	8.300	-0.014	34766	199.1
Aroclor-1248	2	8.565	-0.024	72035	122.7	2	8.706	-0.016	31616	175.1
Aroclor-1248	3	8.984	-0.015	179778	162.3	3	9.140	-0.045	47890	230.5
Aroclor-1248	4	9.286	-0.015	193881	343.8	4	9.534	-0.078	40287	161.5
		Total Col1Ave (4 peaks):			198.5	Total Col2Ave (4 peaks):				191.5 RPD = 4
		Corrected Ave (3 peaks):			150.1	Corrected Ave (3 peaks):				178.6 RPD = 17
										201.57
Aroclor-1254	1	9.286	-0.012	193881	203.9	1	9.438	-0.020	77067	277.2
Aroclor-1254	2	9.362	-0.015	77705	181.7	2	9.957	-0.021	45883	205.2
Aroclor-1254	3	9.658	-0.010	166509	272.4	3	10.106	-0.029	136614	282.3
Aroclor-1254	4	9.787	-0.020	267826	225.3	4	10.351	-0.031	180258	382.2
Aroclor-1254	5	10.123	-0.053	216804	291.0	5	10.554	-0.023	118303	411.9
		Total Col1Ave (5 peaks):			234.9	Total Col2Ave (5 peaks):				311.8 RPD = 28
		Corrected Ave (4 peaks):			220.9	Corrected Ave (4 peaks):				286.7 RPD = 26
Aroclor-1260	1	11.032	-0.012	102567	357.4	1	11.643	-0.016	72768	331.6
Aroclor-1260	2	11.347	-0.014	90045	300.3	2	11.904	-0.021	134845	240.8
Aroclor-1260	3	11.719	-0.015	260791	327.9	3	12.422	-0.018	56432	379.7
Aroclor-1260	4	12.120	-0.019	133403	333.1	4	12.486	-0.021	98368	260.6
Aroclor-1260	5	12.234	-0.010	64034	371.5	NS	---			----
		Total Col1Ave (5 peaks):			338.0	Total Col2Ave (4 peaks):				303.1 RPD = 11
		Corrected Ave (4 peaks):			329.7	Corrected Ave (3 peaks):				277.6 RPD = 17
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks				Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks				Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (5.911 - 13.797) = 5237875 Col1 Total PCB = 0.5 ppm*

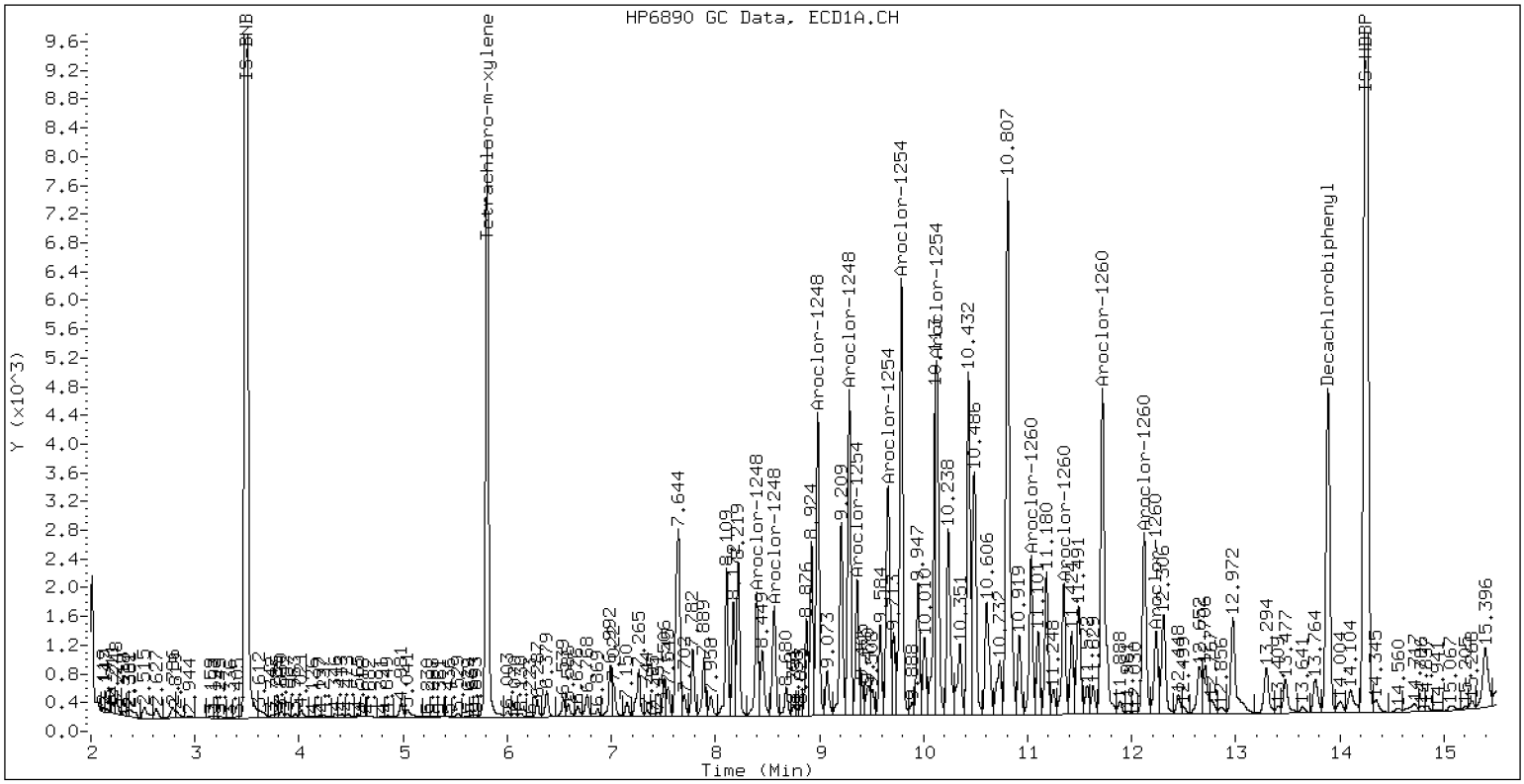
Total PCB Area Col2 (5.792 - 14.021) = 2499875 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

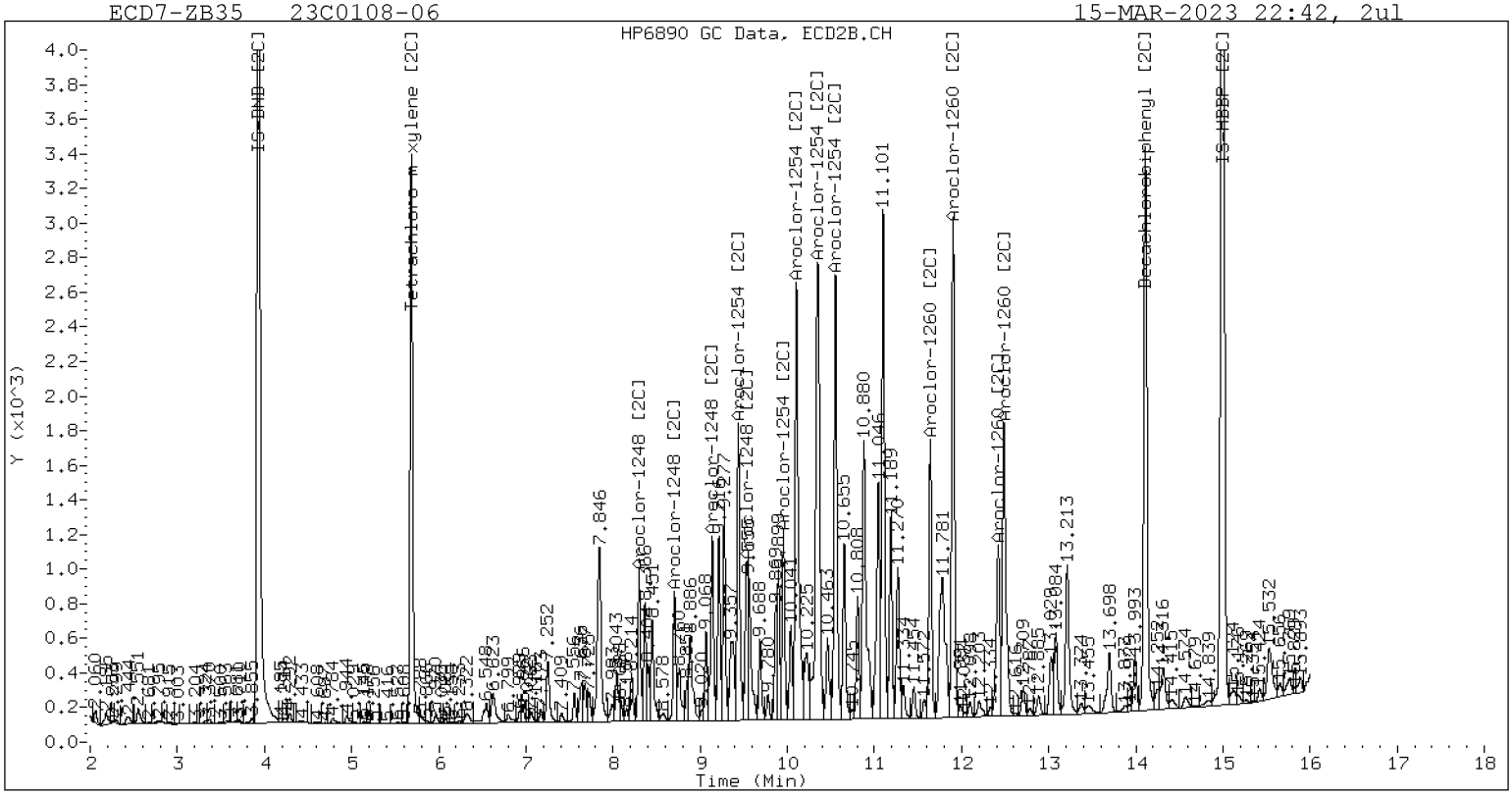
PCB Dual Column Chromatograms

ECD7-ZB5 23C0108-06 15-MAR-2023 22:42, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 23C0108-06 15-MAR-2023 22:42, 2ul

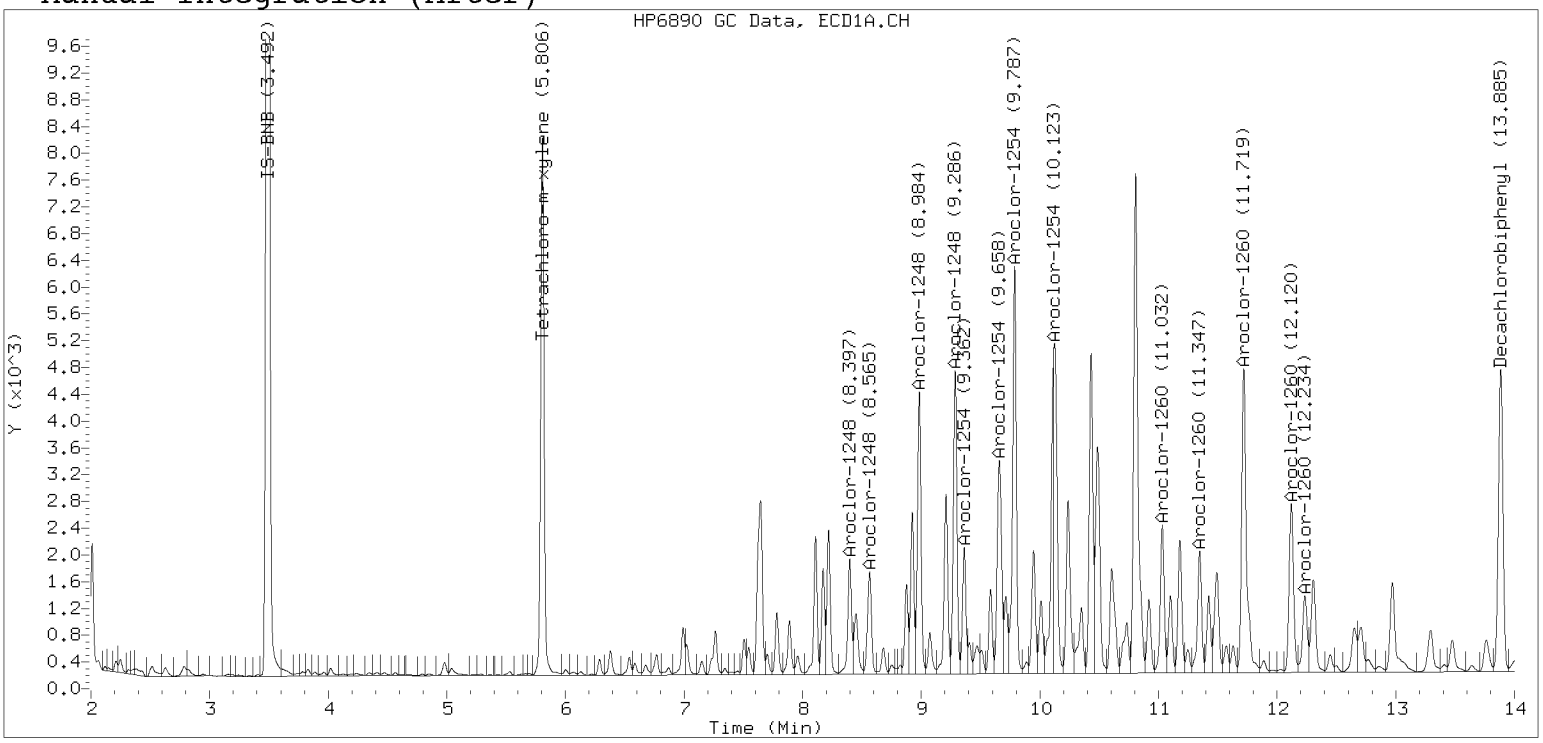


ZB-35 Manual Integration: YES

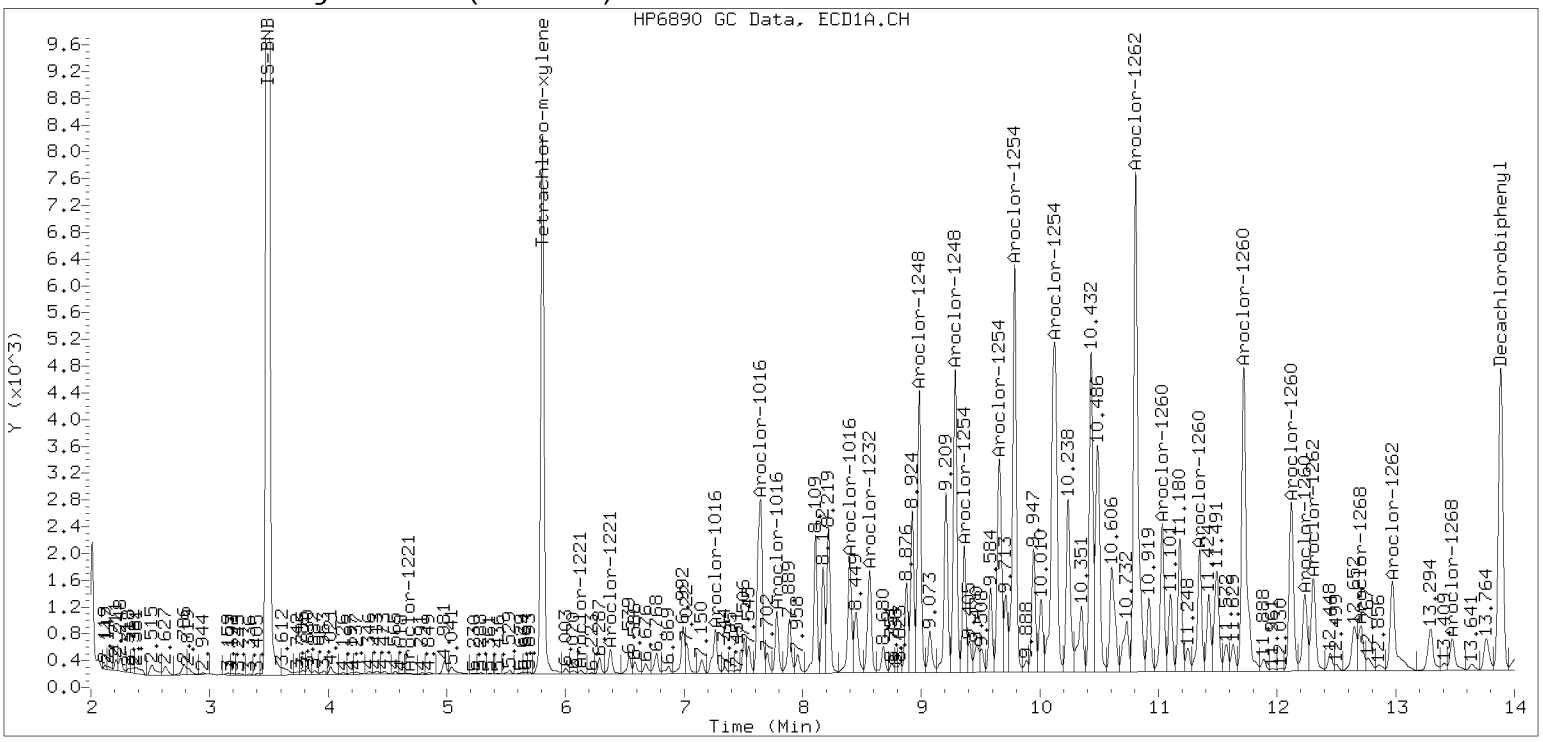
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/230315.b/03152329ECD7.D Injection Date: 15-MAR-2023 22:42

Manual Integration (After)



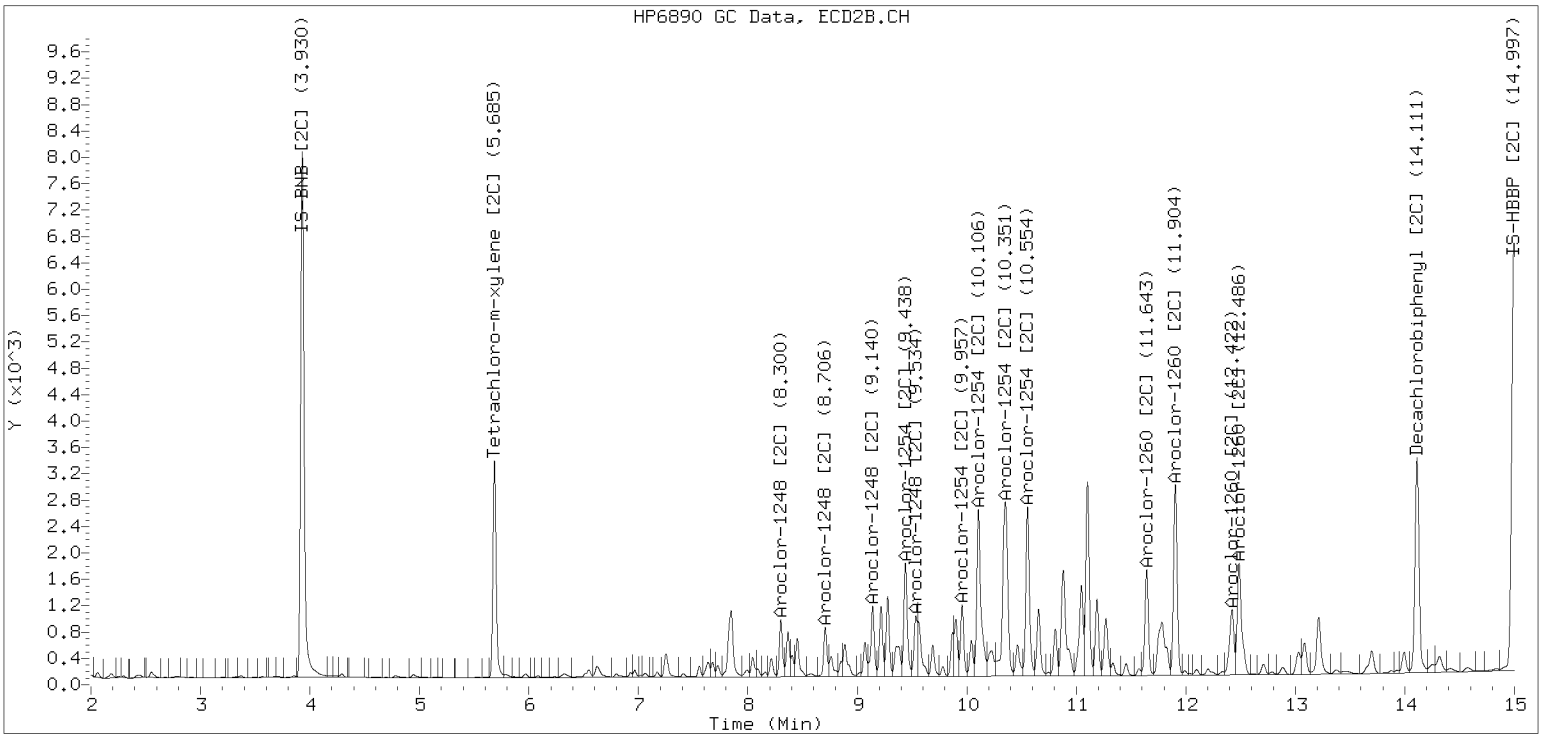
Processed Integration (Before)



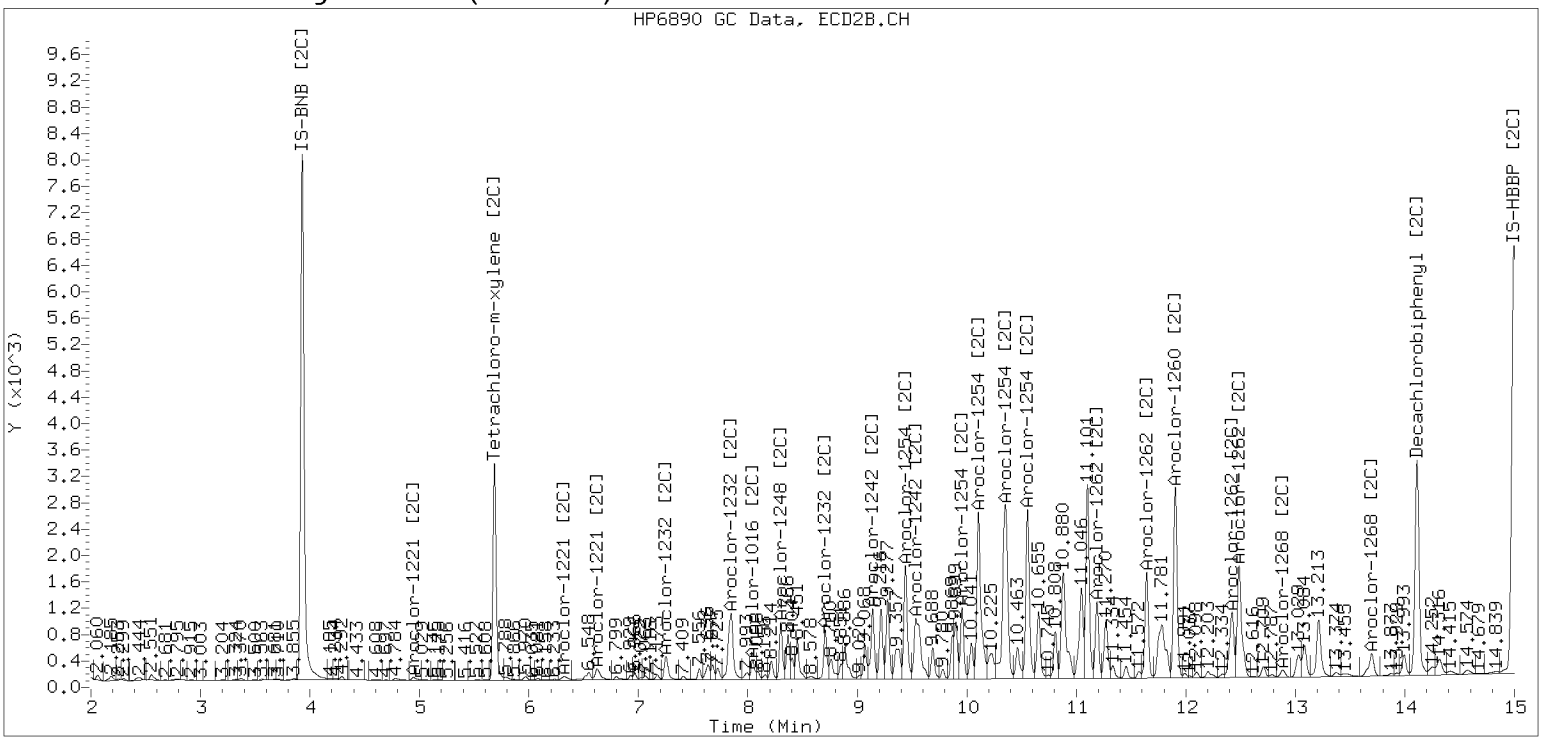
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230315.b/230315.b/03152329ECD7.D Injection Date: 15-MAR-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

LDW23-SS1107

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Solid	Laboratory ID:	23C0108-07 A	File ID:	03152330ECD7.D
Sampled:	03/03/23 10:21	Prepared:	03/10/23 11:58	Analyzed:	03/15/23 23:03
% Solids:	40.20	Preparation:	EPA 3546 (Microwave)	Initial/Final:	31.13 g Wet / 2.5 mL
Batch:	BLC0219	Sequence:	SLC0215	Calibration:	GB00069
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	2	1	38.2	1.6	4.0	
11097-69-1	Aroclor 1254	2	1	57.5	1.6	4.0	
11096-82-5	Aroclor 1260	2	1	50.1	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9909*	*6.08*	*76.0*	*40 - 126*	*Q*
Tetrachlorometaxylene	*1*	*7.9909*	*4.40*	*55.1*	*44 - 120*	
Decachlorobiphenyl	*2*	*7.9909*	*5.89*	*73.7*	*40 - 126*	
Tetrachlorometaxylene	*2*	*7.9909*	*4.96*	*62.0*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230315.b/03152330ECD7.D
Data file 2: /230315.b/230315.b/03152330ECD7.D
Method: \\target\share\chem4\ecd7.i\230315.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23C0108-07
Client ID:
Injection Date: 15-MAR-2023 23:03
Report Date: 03/16/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.806	-0.005	325307	5.685	-0.007	136549	22.0	24.8	11.9	Tetrachloro-m-xylene
13.884	-0.012	244313	14.112	-0.009	169811	30.4	29.5	3.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	989158	46.8
Hexabromobiphenyl	1429847	815688	-43.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	375085	19.0
Hexabromobiphenyl	513946	378099	-26.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1248	1	8.397	-0.014	71211	147.6	1	8.300	-0.014	33680	188.1
Aroclor-1248	2	8.566	-0.023	65936	107.5	2	8.706	-0.016	30302	163.6
Aroclor-1248	3	8.983	-0.015	174531	150.8	3	9.140	-0.045	47165	221.3
Aroclor-1248	4	9.287	-0.015	187000	317.4	4	9.535	-0.078	34875	1~~36~~.3
		Total Col1Ave (4 peaks):			180.8		Total Col2Ave (4 peaks):			177.3 RPD = 2
		Corrected Ave (3 peaks):			135.3		Corrected Ave (3 peaks):			162.7 RPD = 18
Aroclor-1254	1	9.287	-0.012	187000	188.3	1	9.438	-0.020	73590	258.1
Aroclor-1254	2	9.361	-0.016	75210	168.4	2	9.957	-0.021	44337	193.3
Aroclor-1254	3	9.658	-0.010	158551	248.3	3	10.106	-0.028	130743	263.5
Aroclor-1254	4	9.787	-0.020	257475	207.4	4	10.350	-0.032	171814	355.2
Aroclor-1254	5	10.122	-0.054	324156	4~~16~~.5	5	10.555	-0.023	108760	369.3
		Total Col1Ave (5 peaks):			~~245~~.8		Total Col2Ave (5 peaks):			287.9 RPD = 16
		Corrected Ave (4 peaks):			203.1		Corrected Ave (4 peaks):			267.5 RPD = 27
Aroclor-1260	1	11.033	-0.012	86516	294.8	1	11.643	-0.015	65487	294.6
Aroclor-1260	2	11.348	-0.014	76619	249.9	2	11.905	-0.021	110004	193.9
Aroclor-1260	3	11.720	-0.014	215151	264.6	3	12.422	-0.018	45882	304.7
Aroclor-1260	4	12.119	-0.020	112360	274.4	4	12.487	-0.021	80008	209.2
Aroclor-1260	5	12.235	-0.009	49244	279.4	NS	---			----
		Total Col1Ave (5 peaks):			272.6		Total Col2Ave (4 peaks):			250.6 RPD = 8
		Corrected Ave (4 peaks):			267.1		Corrected Ave (3 peaks):			232.5 RPD = 14
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			

191

Total PCB Area Col1 (5.911 - 13.797) = 4827335 Col1 Total PCB = 0.4 ppm*

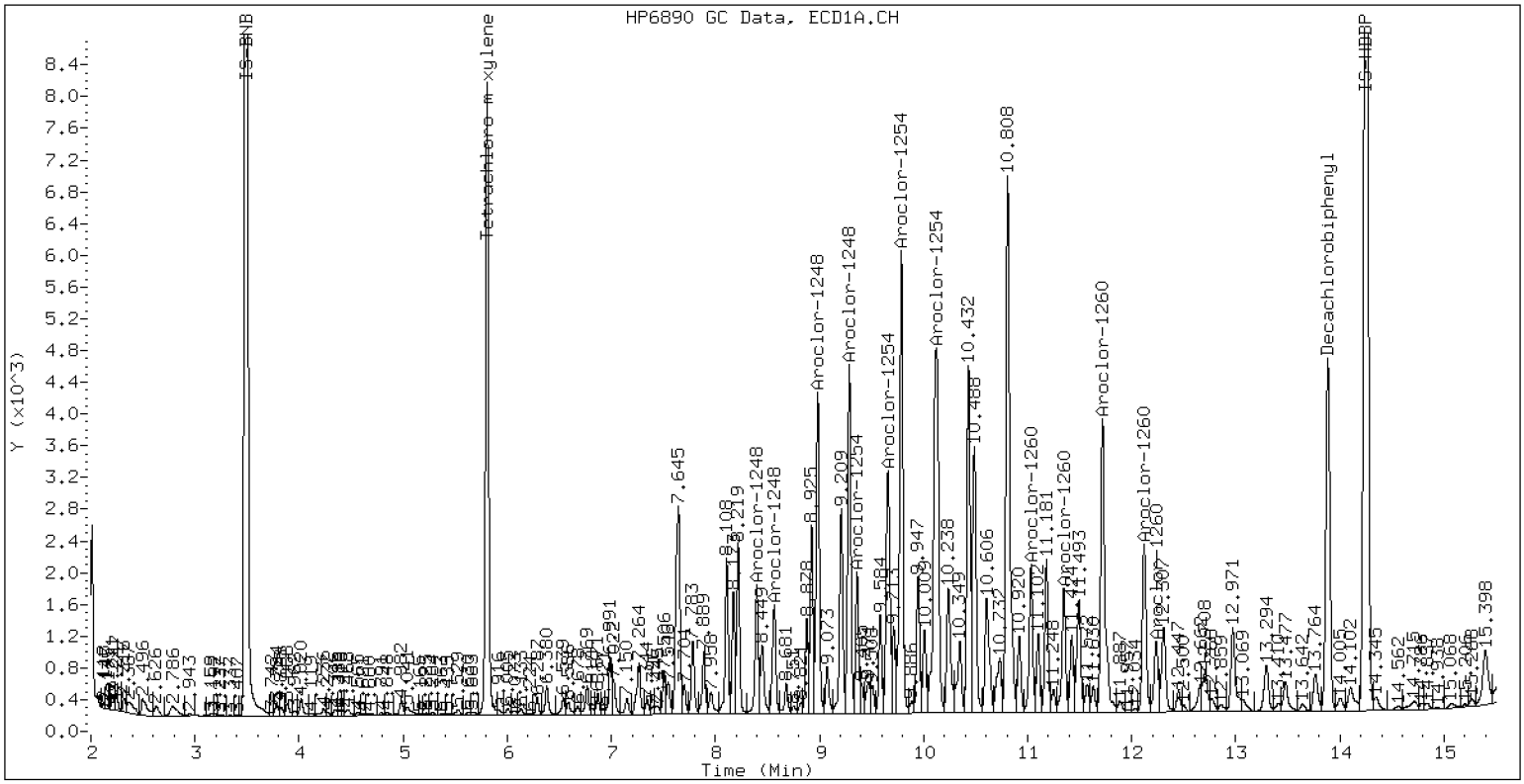
Total PCB Area Col2 (5.792 - 14.021) = 2292388 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

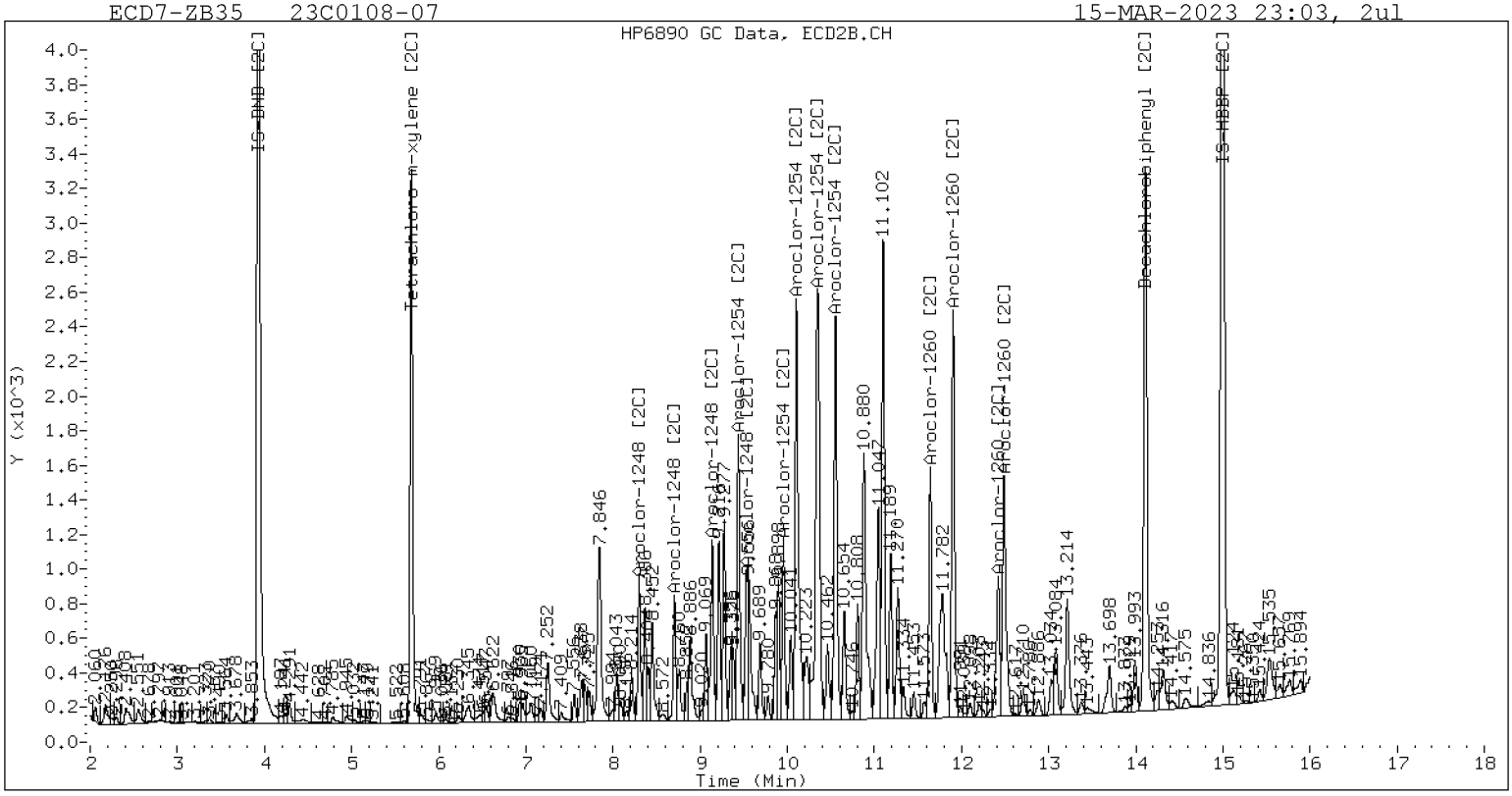
PCB Dual Column Chromatograms

ECD7-ZB5 23C0108-07 15-MAR-2023 23:03, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 23C0108-07 15-MAR-2023 23:03, 2ul

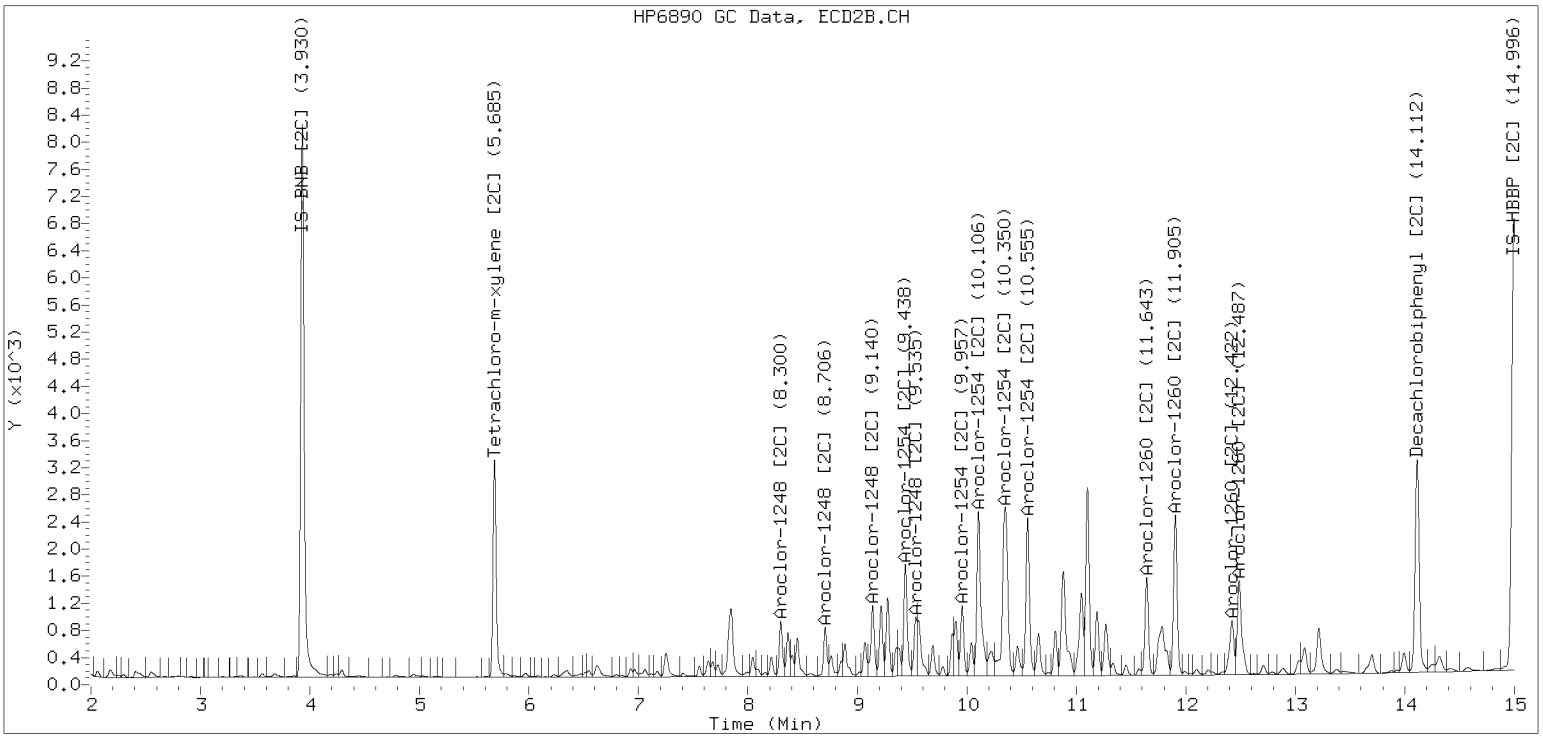


ZB-35 Manual Integration: YES

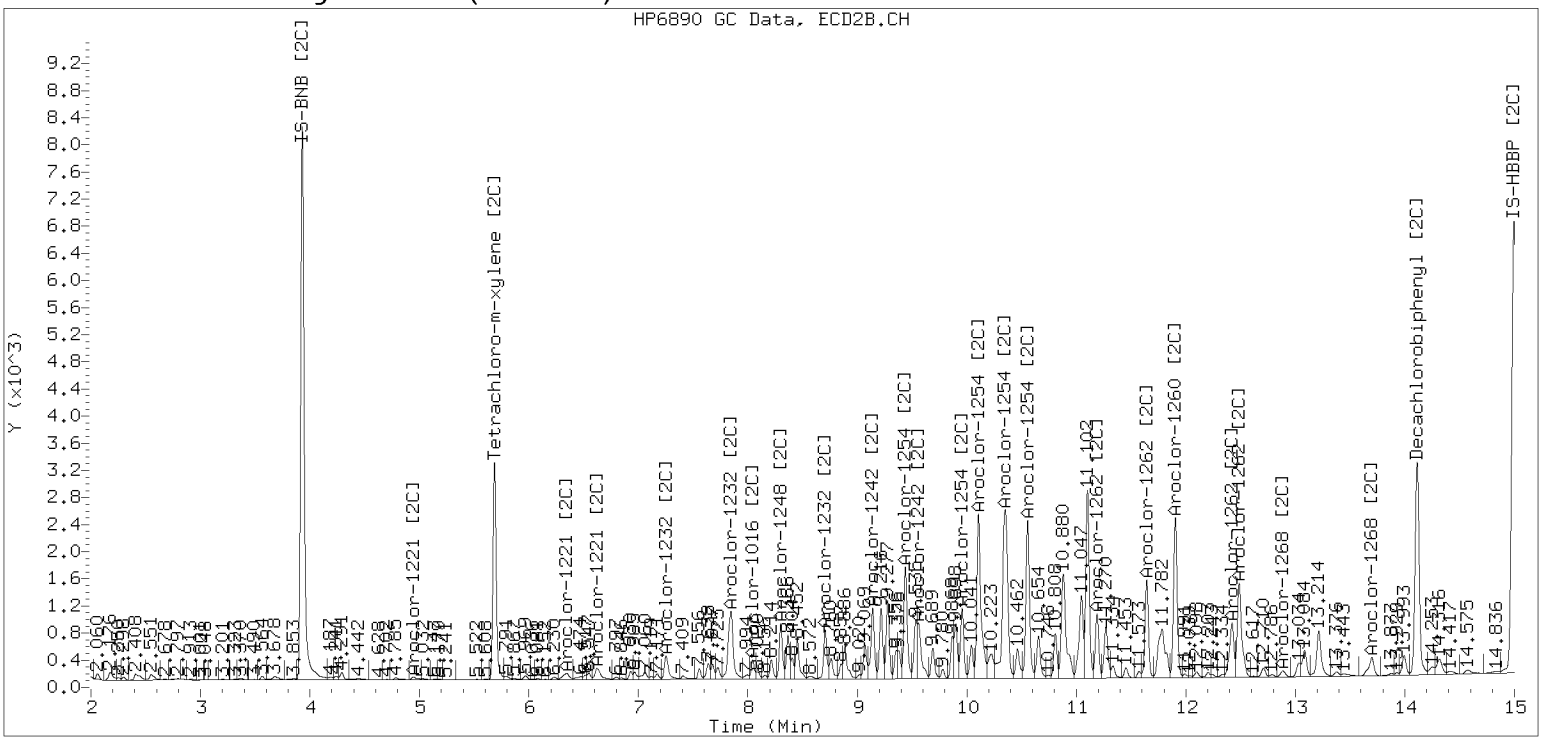
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230315.b/230315.b/03152330ECD7.D Injection Date: 15-MAR-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

LDW23-SS1111

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Solid	Laboratory ID:	23C0108-08 A	File ID:	03152333ECD7.D
Sampled:	03/03/23 10:36	Prepared:	03/10/23 11:58	Analyzed:	03/16/23 00:05
% Solids:	46.38	Preparation:	EPA 3546 (Microwave)	Initial/Final:	26.97 g Wet / 2.5 mL
Batch:	BLC0219	Sequence:	SLC0215	Calibration:	GB00069
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	2	1	34.0	1.6	4.0	
11097-69-1	Aroclor 1254	2	1	49.2	1.6	4.0	
11096-82-5	Aroclor 1260	2	1	40.0	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9944*	*6.29*	*78.7*	*40 - 126*	*Q*
Tetrachlorometaxylene	*1*	*7.9944*	*4.84*	*60.5*	*44 - 120*	
Decachlorobiphenyl	*2*	*7.9944*	*6.09*	*76.2*	*40 - 126*	
Tetrachlorometaxylene	*2*	*7.9944*	*5.33*	*66.6*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230315.b/03152333ECD7.D
Data file 2: /230315.b/230315.b/03152333ECD7.D
Method: \\target\share\chem4\ecd7.i\230315.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23C0108-08
Client ID:
Injection Date: 16-MAR-2023 00:05
Report Date: 03/16/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.807	-0.004	354107	5.686	-0.006	142609	24.2	26.7	9.6	Tetrachloro-m-xylene
13.885	-0.012	279431	14.112	-0.009	181173	31.5	30.5	3.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	979591	45.4
Hexabromobiphenyl	1429847	900996	-37.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	364625	15.7
Hexabromobiphenyl	513946	390346	-24.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	8.398	-0.014	68916	144.2	1	8.301	-0.014	30716	176.4
Aroclor-1248	2	8.567	-0.023	62433	102.8	2	8.707	-0.014	26326	146.3
Aroclor-1248	3	8.985	-0.014	152134	132.7	3	9.142	-0.043	38983	188.2
Aroclor-1248	4	9.287	-0.015	167606	287.2	4	9.535	-0.077	30173	121.3
	Total Col1Ave (4 peaks):				166.7	Total Col2Ave (4 peaks):				158.0 RPD = 5
	Corrected Ave (3 peaks):				126.6	Corrected Ave (3 peaks):				148.0 RPD = 16
										170.3
Aroclor-1254	1	9.287	-0.012	167606	170.4	1	9.440	-0.018	62796	226.6
Aroclor-1254	2	9.362	-0.015	65862	148.9	2	9.957	-0.021	36998	165.9
Aroclor-1254	3	9.659	-0.009	142183	224.8	3	10.106	-0.028	110079	228.2
Aroclor-1254	4	9.788	-0.019	234177	190.4	4	10.350	-0.032	143490	305.1
Aroclor-1254	5	10.127	-0.049	144474	187.5	5	10.555	-0.023	86997	303.8
	Total Col1Ave (5 peaks):				184.4	Total Col2Ave (5 peaks):				245.9 RPD = 29
	Corrected Ave (4 peaks):				174.3	Corrected Ave (4 peaks):				231.1 RPD = 28
Aroclor-1260	1	11.033	-0.011	72503	223.7	1	11.643	-0.015	50389	219.5
Aroclor-1260	2	11.347	-0.014	59395	175.4	2	11.904	-0.021	83102	141.9
Aroclor-1260	3	11.719	-0.014	150573	167.6	3	12.419	-0.021	44987	289.4
Aroclor-1260	4	12.119	-0.020	90039	199.1	4	12.487	-0.021	59324	150.2
Aroclor-1260	5	12.234	-0.010	40462	207.8	NS	---			----
	Total Col1Ave (5 peaks):				194.7	Total Col2Ave (4 peaks):				200.3 RPD = 3
	Corrected Ave (4 peaks):				187.5	Corrected Ave (3 peaks):				170.5 RPD = 9
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (5.911 - 13.797) = 4364162 Col1 Total PCB = 0.4 ppm*

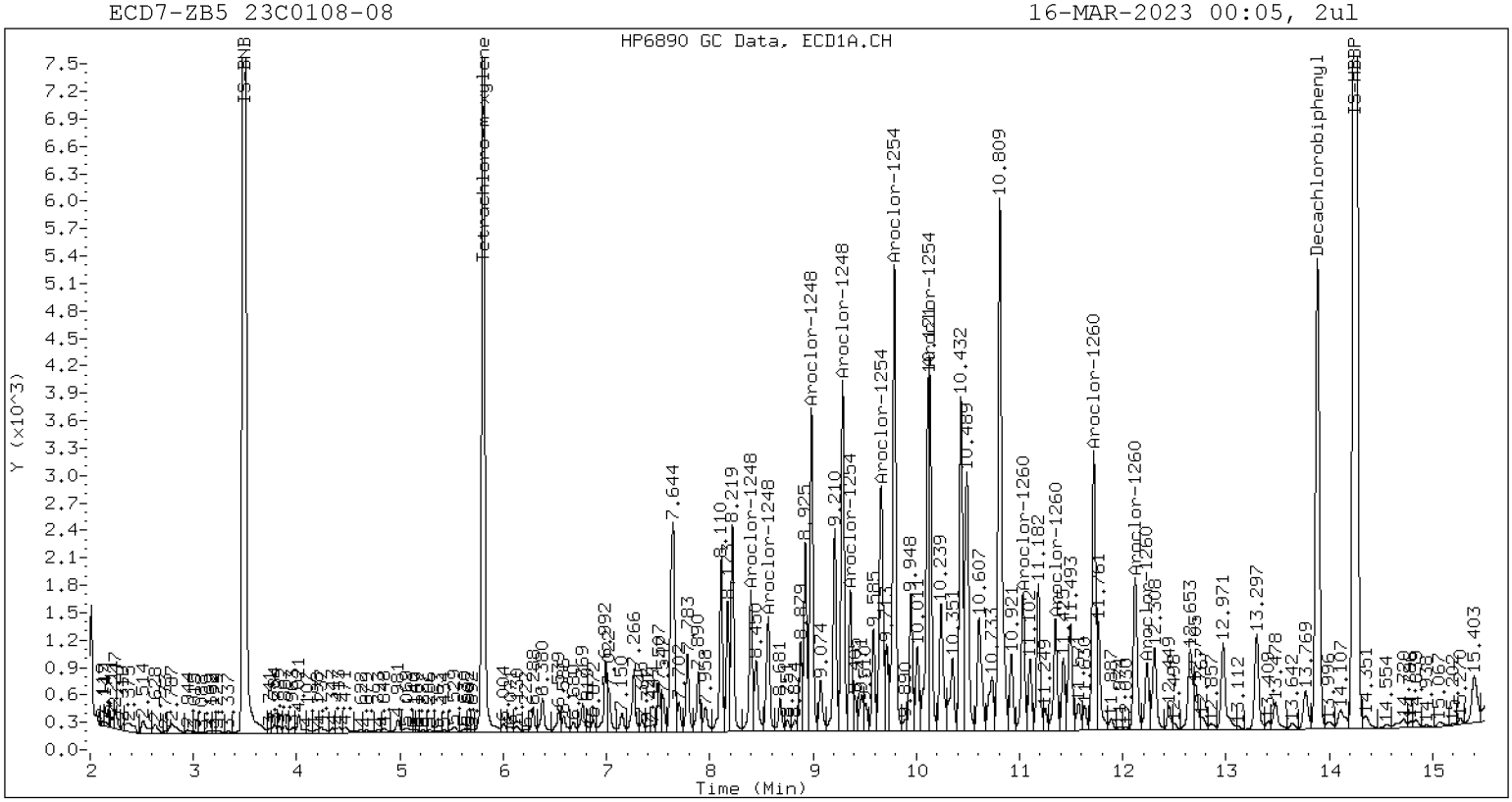
Total PCB Area Col2 (5.792 - 14.021) = 1886235 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

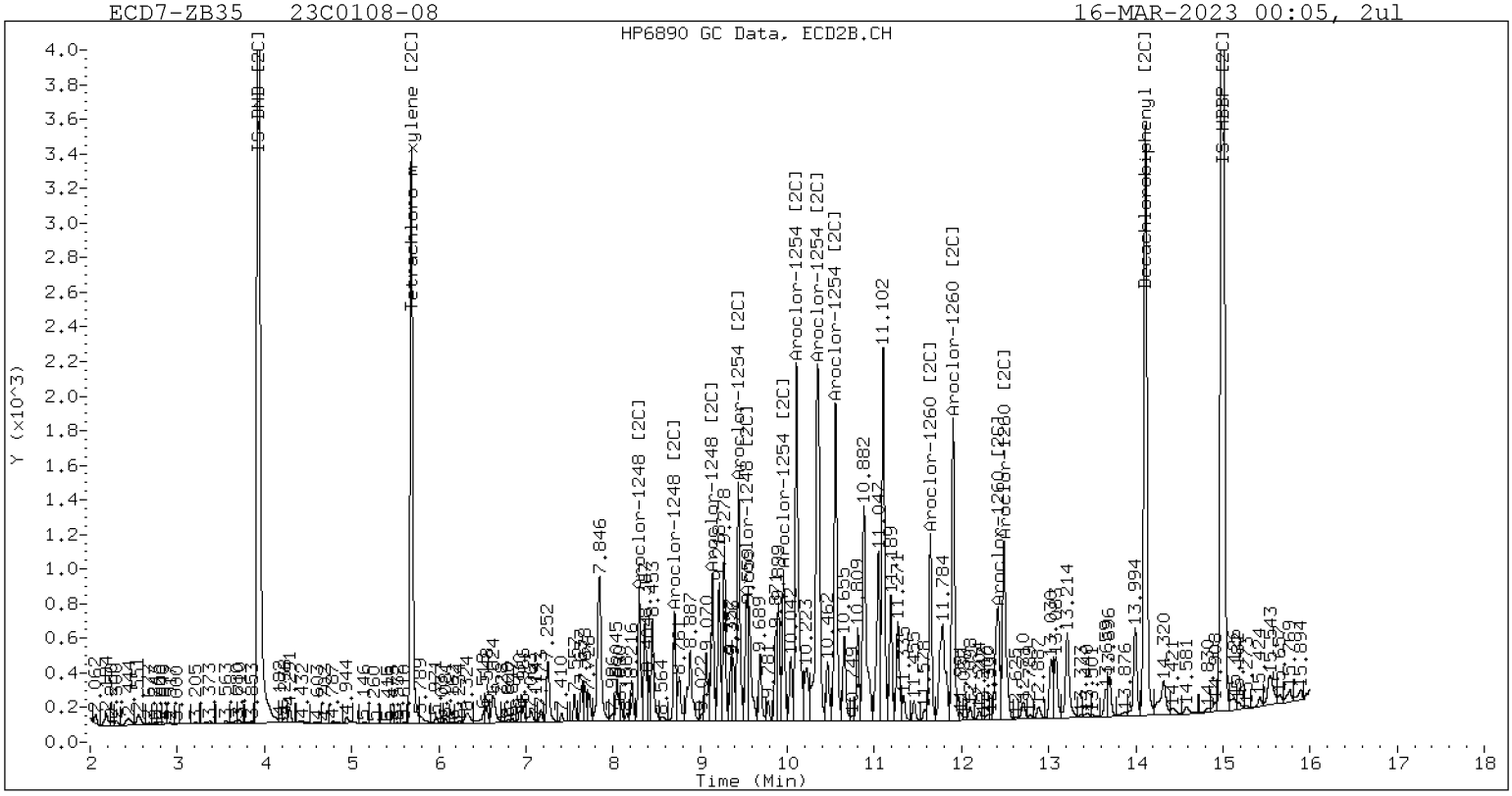
PCB Dual Column Chromatograms

ECD7-ZB5 23C0108-08 16-MAR-2023 00:05, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 23C0108-08 16-MAR-2023 00:05, 2ul

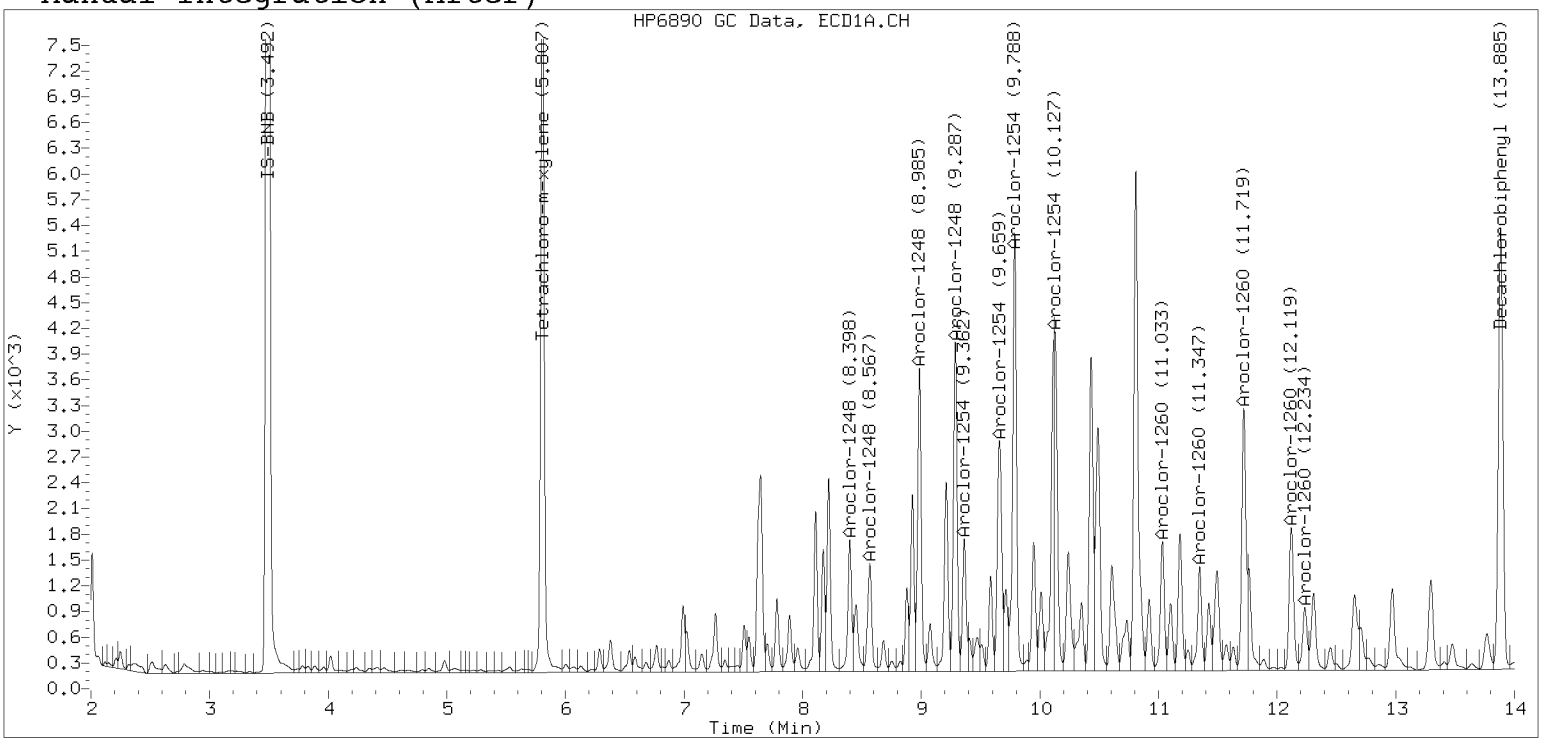


ZB-35 Manual Integration: YES

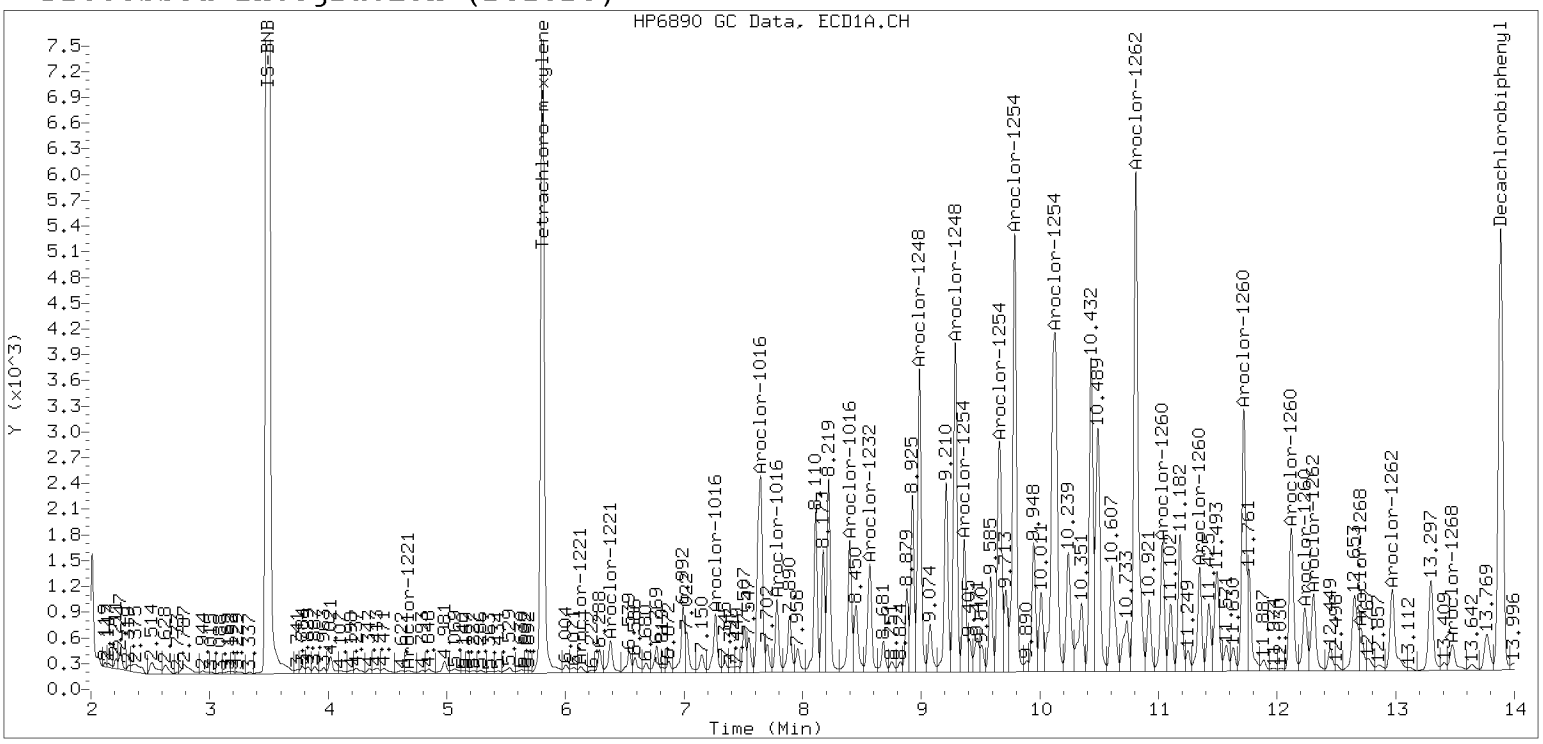
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/230315.b/03152333ECD7.D Injection Date: 16-MAR-2023 00:05

Manual Integration (After)



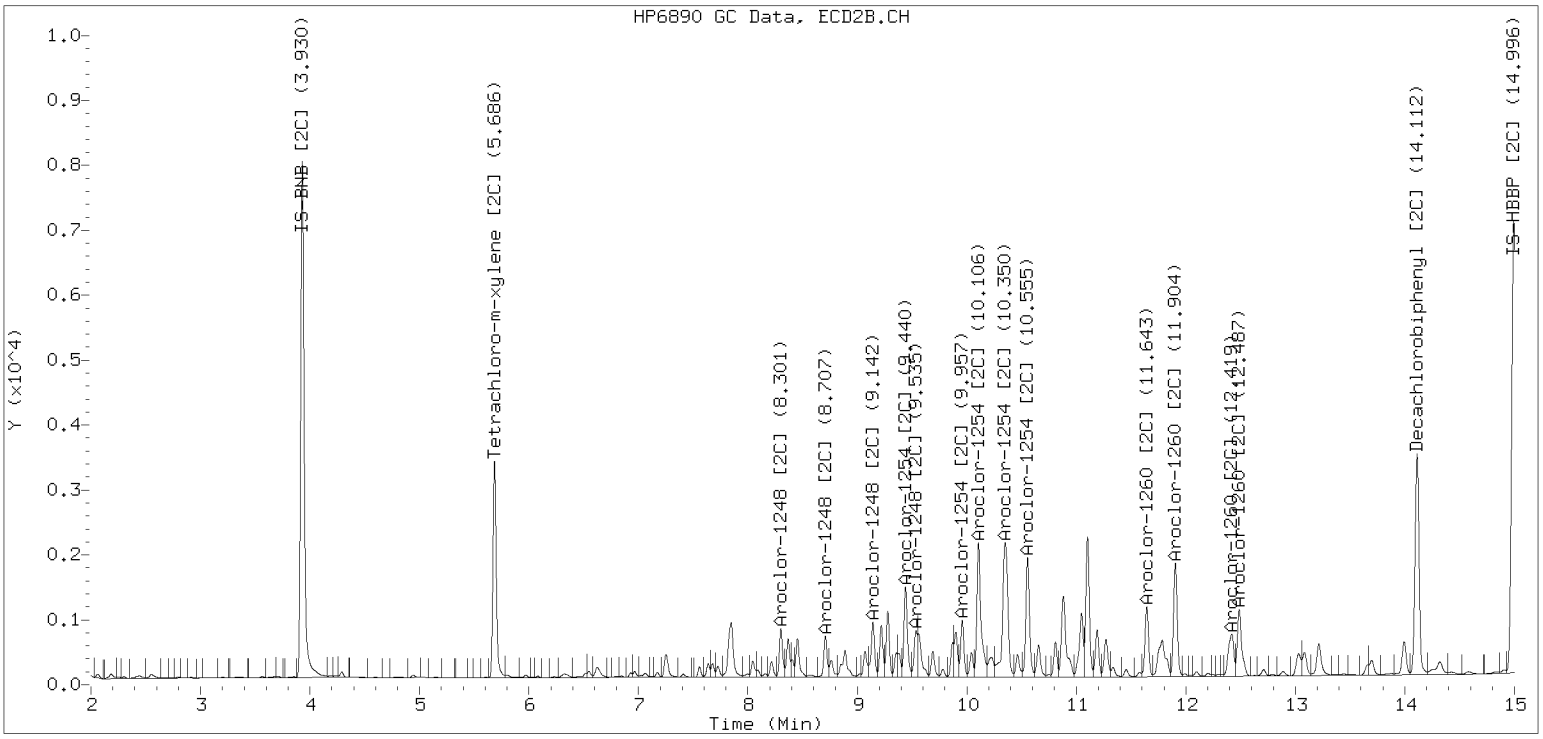
Processed Integration (Before)



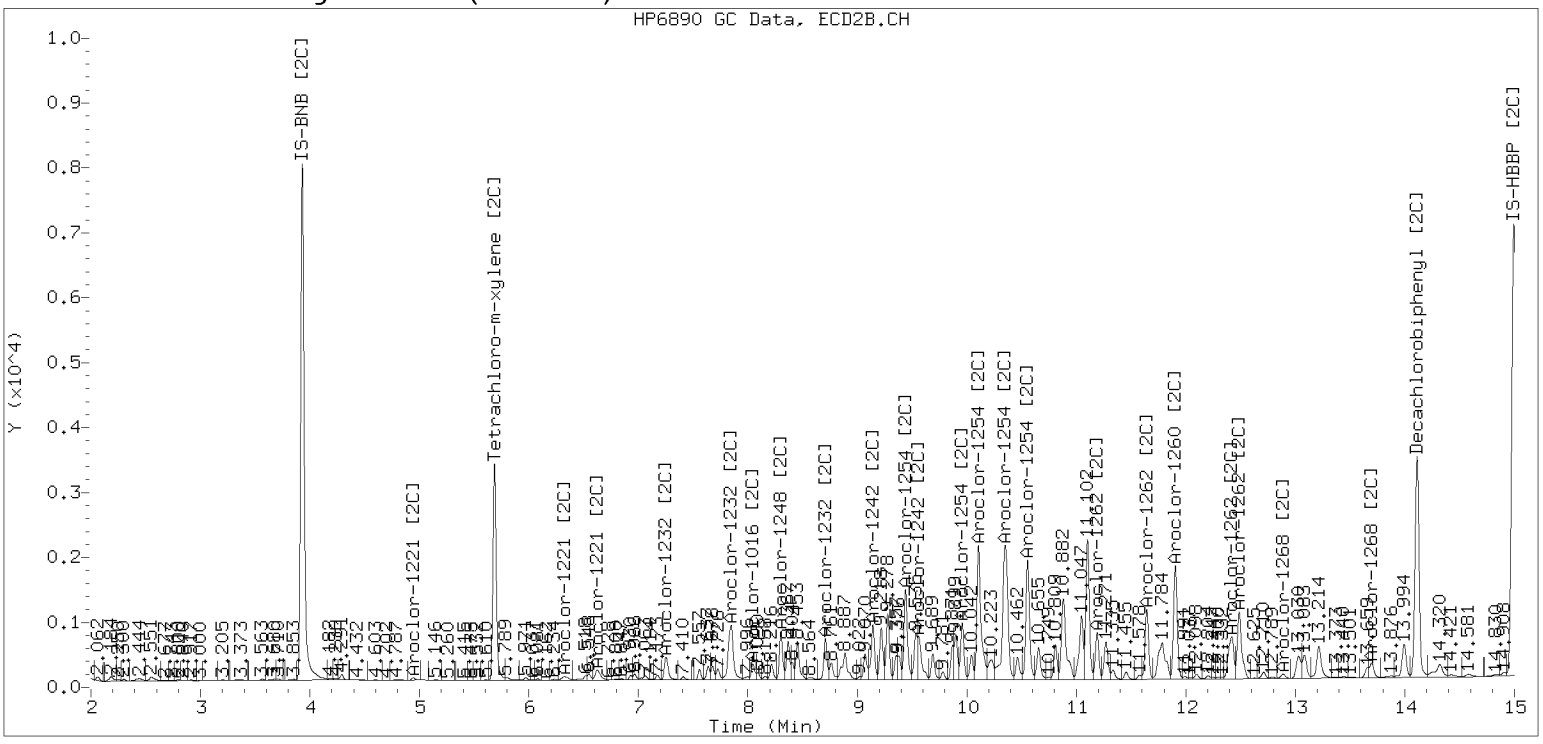
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230315.b/230315.b/03152333ECD7.D Injection Date: 16-MAR-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

LDW23-SS1118

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Solid	Laboratory ID:	23C0108-09 A	File ID:	03152334ECD7.D
Sampled:	03/03/23 11:25	Prepared:	03/10/23 11:58	Analyzed:	03/16/23 00:26
% Solids:	42.62	Preparation:	EPA 3546 (Microwave)	Initial/Final:	29.33 g Wet / 2.5 mL
Batch:	BLC0219	Sequence:	SLC0215	Calibration:	GB00069
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	2	1	32.1	1.6	4.0	
11097-69-1	Aroclor 1254	2	1	51.7	1.6	4.0	
11096-82-5	Aroclor 1260	2	1	44.1	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9997*	*6.00*	*75.0*	*40 - 126*	*Q*
Tetrachlorometaxylene	*1*	*7.9997*	*4.32*	*54.0*	*44 - 120*	
Decachlorobiphenyl	*2*	*7.9997*	*5.71*	*71.3*	*40 - 126*	
Tetrachlorometaxylene	*2*	*7.9997*	*4.90*	*61.3*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230315.b/03152334ECD7.D
Data file 2: /230315.b/230315.b/03152334ECD7.D
Method: \\target\share\chem4\ecd7.i\230315.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23C0108-09
Client ID:
Injection Date: 16-MAR-2023 00:26
Report Date: 03/16/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.806	-0.005	319474	5.685	-0.007	132733	21.6	24.5	12.6	Tetrachloro-m-xylene
13.885	-0.012	244501	14.111	-0.010	168363	30.0	28.5	5.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	990040	46.9
Hexabromobiphenyl	1429847	827384	-42.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	368972	17.0
Hexabromobiphenyl	513946	387461	-24.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1248	1	8.397	-0.015	63979	132.4	1	8.300	-0.015	28185	160.0
Aroclor-1248	2	8.566	-0.024	53923	87.8	2	8.706	-0.016	24936	136.9
Aroclor-1248	3	8.983	-0.015	149731	129.3	3	9.139	-0.045	38610	184.2
Aroclor-1248	4	9.286	-0.016	168100	285.1	4	9.533	-0.079	36401	144.6
		Total Col1Ave (4 peaks):			158.6		Total Col2Ave (4 peaks):			156.4 RPD = 1
		Corrected Ave (3 peaks):			116.5		Corrected Ave (3 peaks):			147.2 RPD = 23
										160.37
Aroclor-1254	1	9.286	-0.013	168100	169.1	1	9.438	-0.020	66008	235.4
Aroclor-1254	2	9.361	-0.016	66486	148.7	2	9.957	-0.022	39190	173.7
Aroclor-1254	3	9.658	-0.010	145119	227.0	3	10.105	-0.029	114094	233.7
Aroclor-1254	4	9.786	-0.021	243549	196.0	4	10.348	-0.034	150858	317.0
Aroclor-1254	5	10.124	-0.053	147747	189.7	5	10.554	-0.023	96357	332.6
		Total Col1Ave (5 peaks):			186.1		Total Col2Ave (5 peaks):			258.5 RPD = 33
		Corrected Ave (4 peaks):			175.9		Corrected Ave (4 peaks):			240.0 RPD = 31
										185.2
Aroclor-1260	1	11.032	-0.012	76399	256.7	1	11.642	-0.016	57128	250.7
Aroclor-1260	2	11.348	-0.013	75730	243.5	2	11.904	-0.021	97845	168.3
Aroclor-1260	3	11.718	-0.016	197115	239.0	3	12.421	-0.019	42502	275.4
Aroclor-1260	4	12.119	-0.020	99652	239.9	4	12.487	-0.021	73219	186.8
Aroclor-1260	5	12.236	-0.009	57082	319.3	NS	---			----
		Total Col1Ave (5 peaks):			259.7		Total Col2Ave (4 peaks):			220.3 RPD = 16
		Corrected Ave (4 peaks):			244.8		Corrected Ave (3 peaks):			201.9 RPD = 19
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			

Total PCB Area Col1 (5.911 - 13.797) = 4382558 Col1 Total PCB = 0.4 ppm*

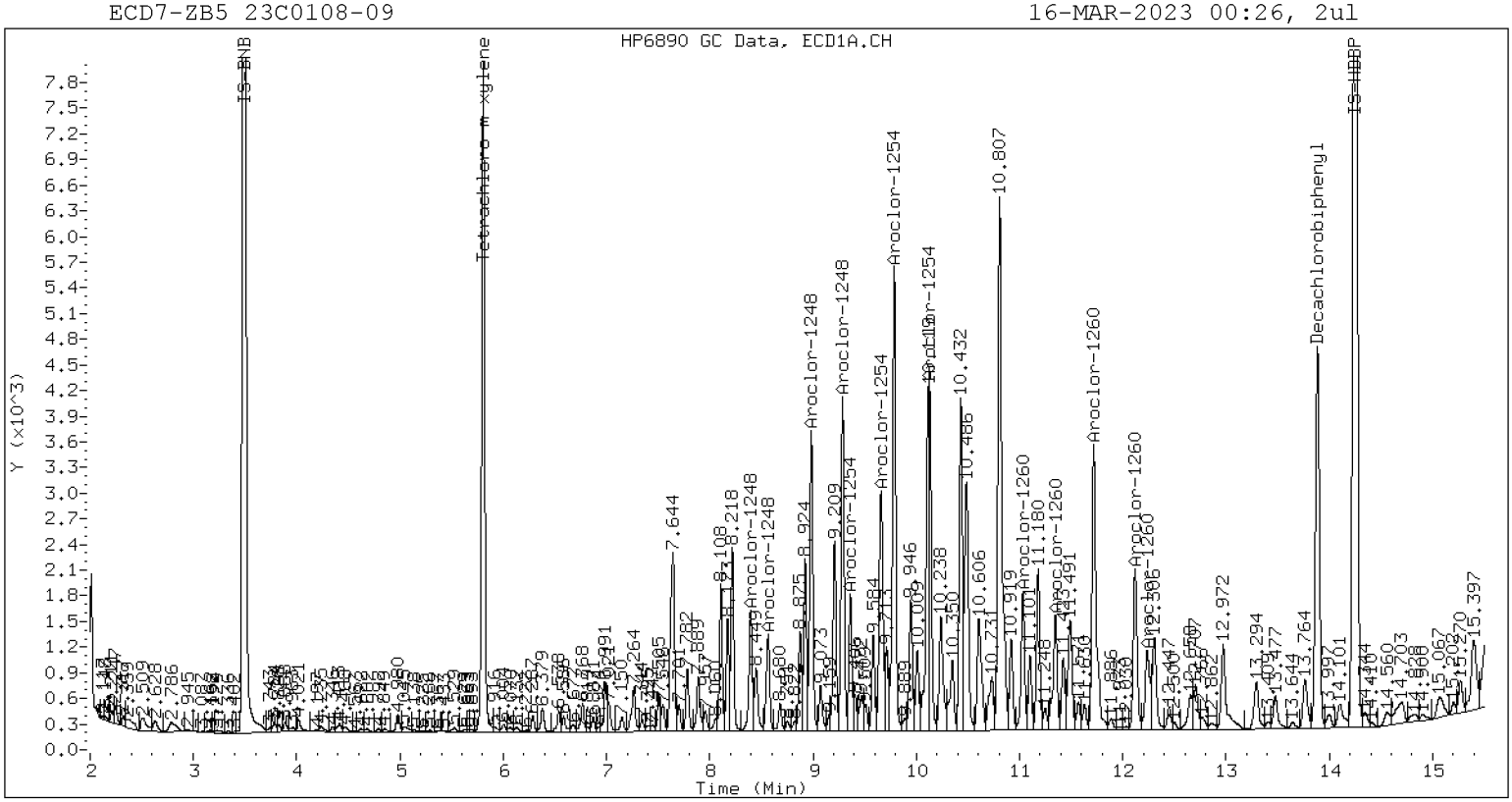
Total PCB Area Col2 (5.792 - 14.021) = 2036426 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

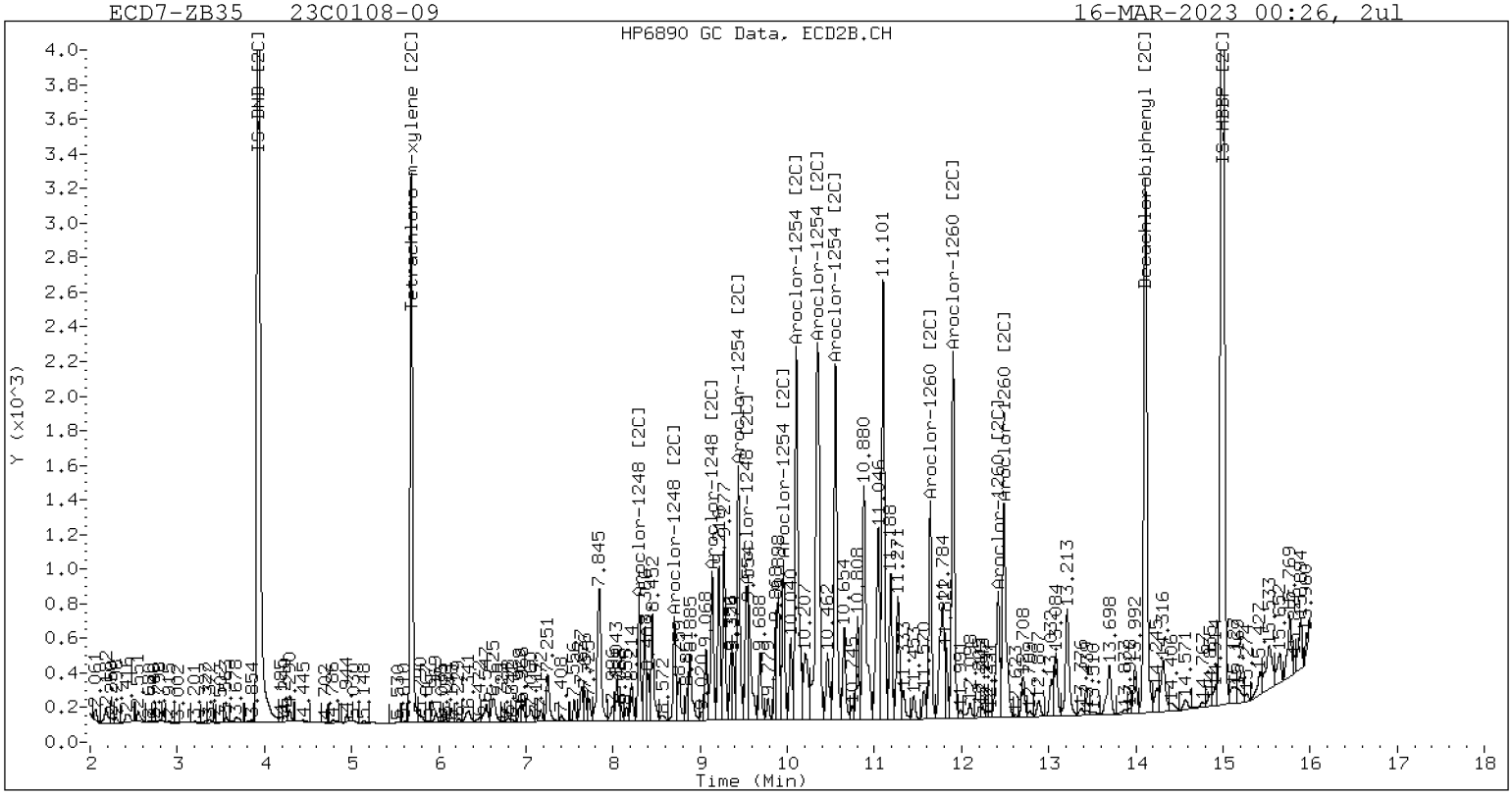
PCB Dual Column Chromatograms

ECD7-ZB5 23C0108-09 16-MAR-2023 00:26, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 23C0108-09 16-MAR-2023 00:26, 2ul

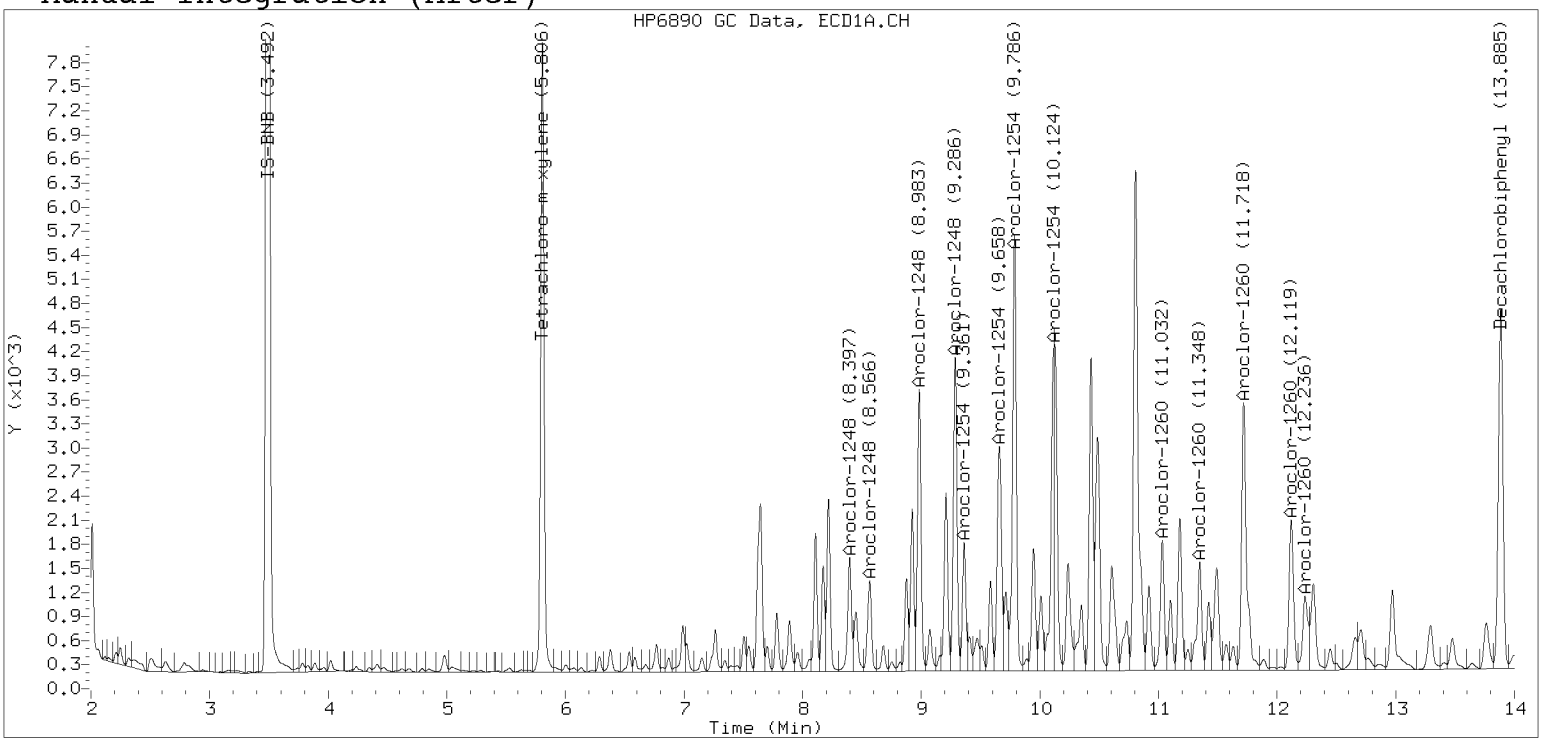


ZB-35 Manual Integration: YES

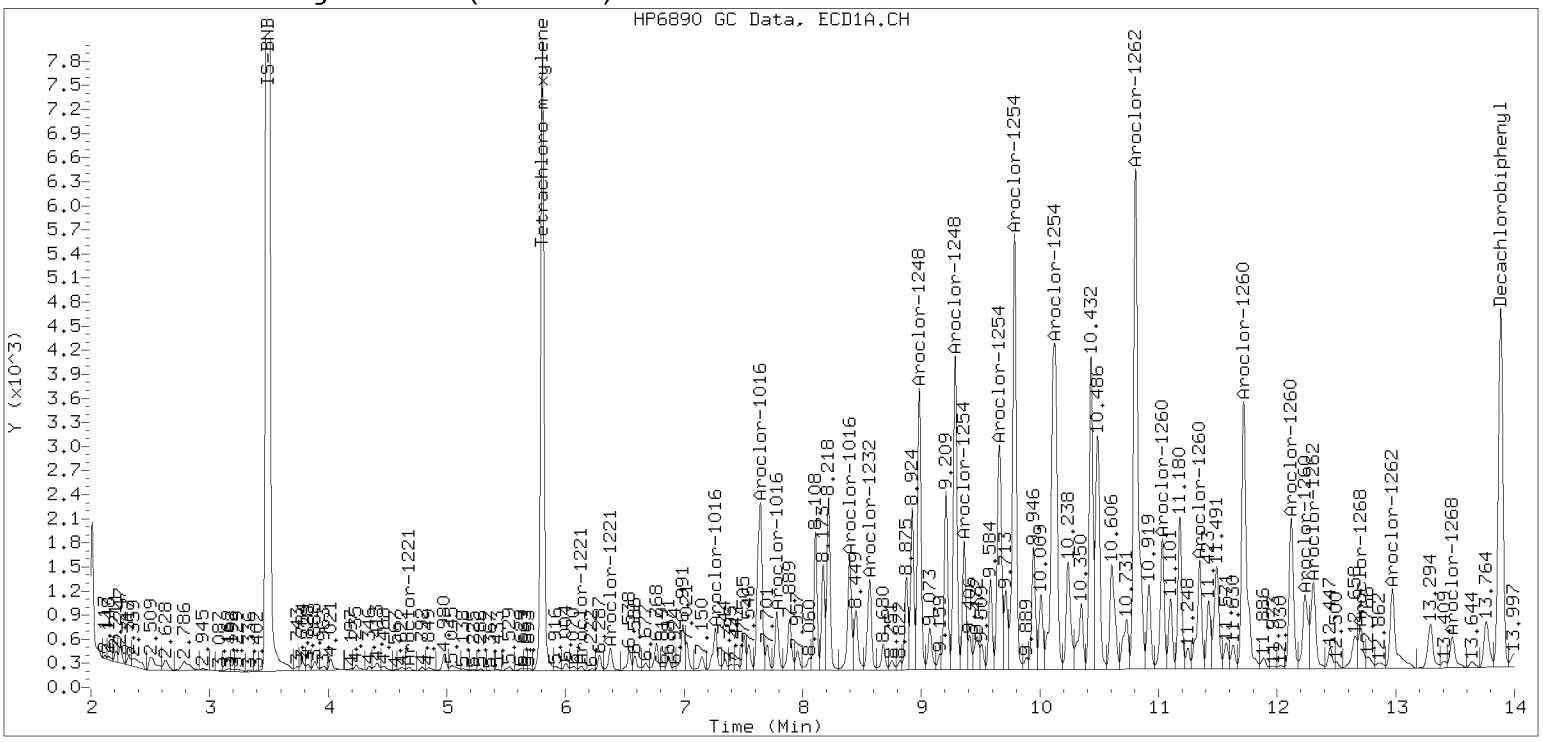
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/230315.b/03152334ECD7.D Injection Date: 16-MAR-2023 00:26

Manual Integration (After)



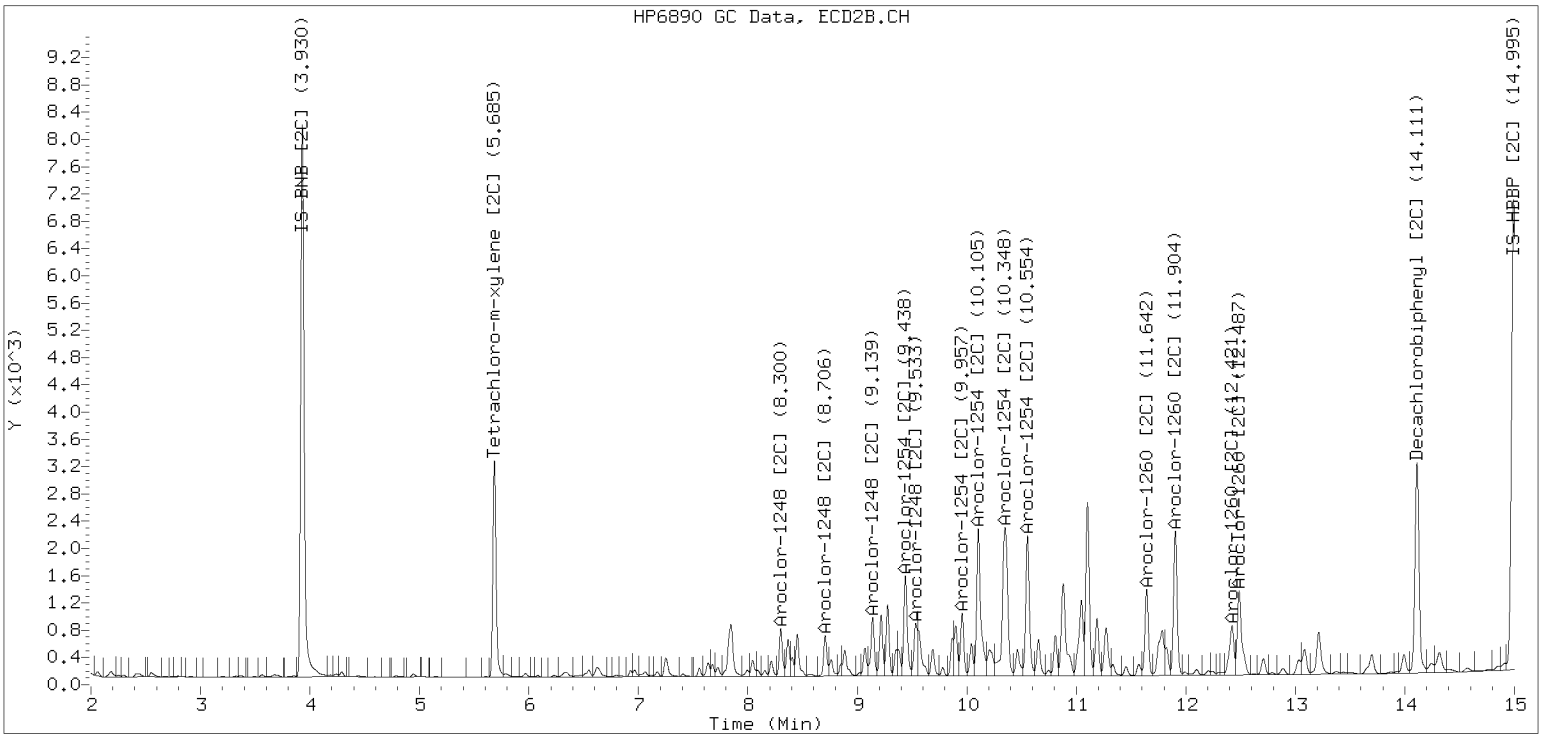
Processed Integration (Before)



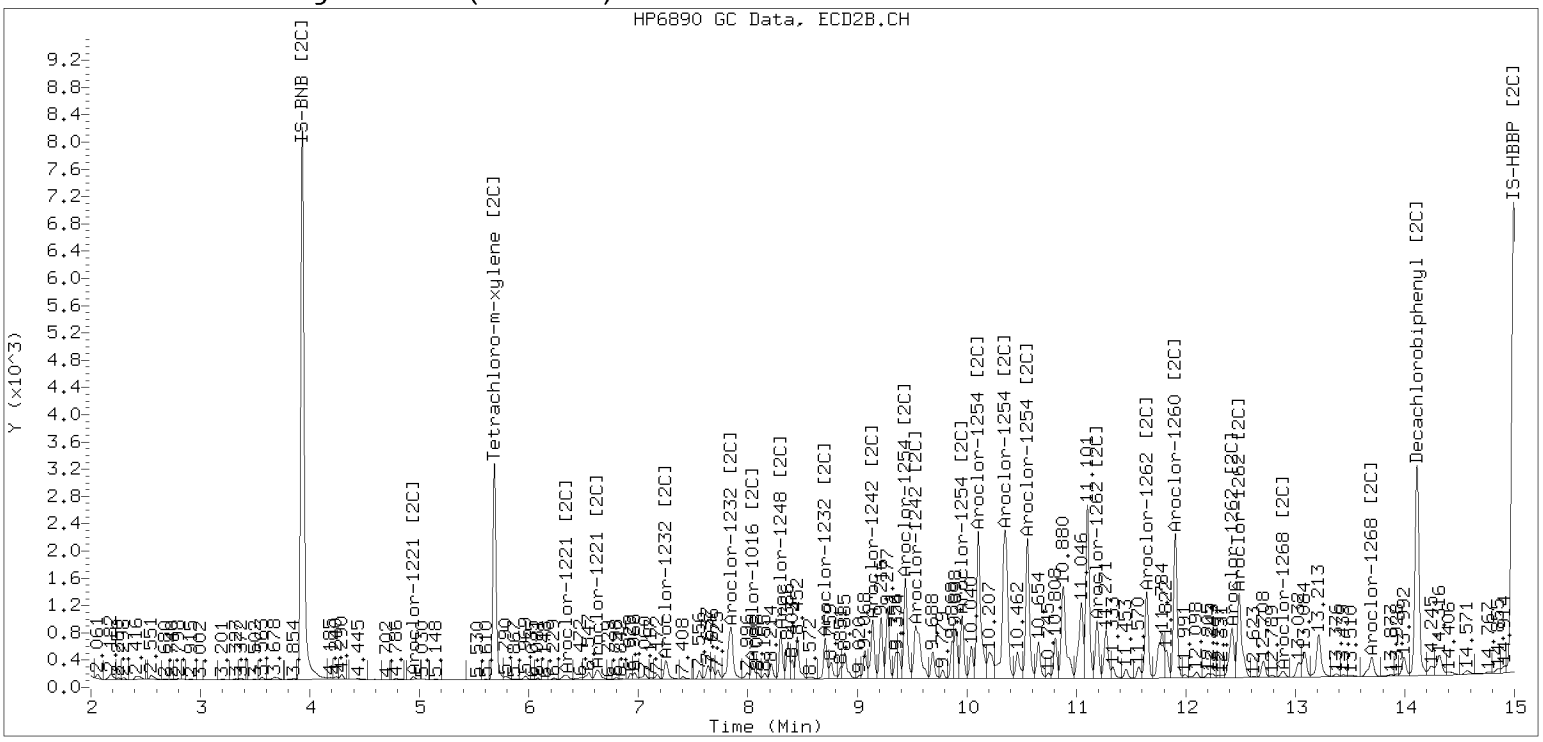
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230315.b/230315.b/03152334ECD7.D Injection Date: 16-MAR-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

LDW23-SC1111

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Solid	Laboratory ID:	23C0108-10 A	File ID:	03152335ECD7.D
Sampled:	03/03/23 14:35	Prepared:	03/10/23 11:58	Analyzed:	03/16/23 00:47
% Solids:	47.29	Preparation:	EPA 3546 (Microwave)	Initial/Final:	26.43 g Wet / 2.5 mL
Batch:	BLC0219	Sequence:	SLC0215	Calibration:	GB00069
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	1	1	21.8	1.6	4.0	
11097-69-1	Aroclor 1254	2	1	31.7	1.6	4.0	
11096-82-5	Aroclor 1260	2	1	26.6	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*8.0008*	*6.17*	*77.1*	*40 - 126*	*Q*
Tetrachlorometaxylene	*1*	*8.0008*	*4.89*	*61.1*	*44 - 120*	
Decachlorobiphenyl	*2*	*8.0008*	*6.22*	*77.7*	*40 - 126*	
Tetrachlorometaxylene	*2*	*8.0008*	*5.29*	*66.1*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230315.b/03152335ECD7.D
Data file 2: /230315.b/230315.b/03152335ECD7.D
Method: \\target\share\chem4\ecd7.i\230315.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 23C0108-10
Client ID:
Injection Date: 16-MAR-2023 00:47
Report Date: 03/16/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.807	-0.004	333587	5.686	-0.006	141563	24.4	26.4	7.8	Tetrachloro-m-xylene
13.886	-0.011	262279	14.112	-0.009	181880	30.8	31.1	0.8	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	913873	35.6
Hexabromobiphenyl	1429847	863945	-39.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	365078	15.8
Hexabromobiphenyl	513946	384249	-25.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1248	1	8.398	-0.014	40984	91.9	1	8.302	-0.013	20126	115.5
Aroclor-1248	2	8.567	-0.022	35461	62.6	2	8.707	-0.014	16707	92.7
Aroclor-1248	3	8.986	-0.013	93684	87.6	3	9.142	-0.042	23623	113.9
Aroclor-1248	4	9.287	-0.014	105648	194.1	4	9.535	-0.077	19874	~~79.~~8
		Total Col1Ave (4 peaks):			109.0		Total Col2Ave (4 peaks):			100.5 RPD = 8
		Corrected Ave (3 peaks):			80.7		Corrected Ave (3 peaks):			95.5 RPD = 17
										107.37
Aroclor-1254	1	9.287	-0.011	105648	115.1	1	9.440	-0.018	40872	147.3
Aroclor-1254	2	9.363	-0.014	42442	102.8	2	9.958	-0.020	22812	102.2
Aroclor-1254	3	9.661	-0.007	92248	156.4	3	10.107	-0.027	70139	145.2
Aroclor-1254	4	9.789	-0.019	152868	133.3	4	10.353	-0.029	87638	186.1
Aroclor-1254	5	10.123	-0.054	92286	1~~20~~.4	5	10.555	-0.023	60300	210.3
		Total Col1Ave (5 peaks):			127.2		Total Col2Ave (5 peaks):			158.2 RPD = 22
		Corrected Ave (4 peaks):			119.9		Corrected Ave (4 peaks):			145.2 RPD = 19
					126.9					
Aroclor-1260	1	11.033	-0.011	50840	163.6	1	11.643	-0.015	33392	147.8
Aroclor-1260	2	11.346	-0.015	37695	116.1	2	11.905	-0.021	57442	99.6
Aroclor-1260	3	11.719	-0.014	129095	149.9	3	12.422	-0.019	27354	178.8
Aroclor-1260	4	12.120	-0.020	61670	142.2	4	12.488	-0.020	41084	105.7
Aroclor-1260	5	12.235	-0.009	31498	168.7	NS	---			----
		Total Col1Ave (5 peaks):			148.1		Total Col2Ave (4 peaks):			133.0 RPD = 11
		Corrected Ave (4 peaks):			142.9		Corrected Ave (3 peaks):			117.7 RPD = 19
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
		Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks			

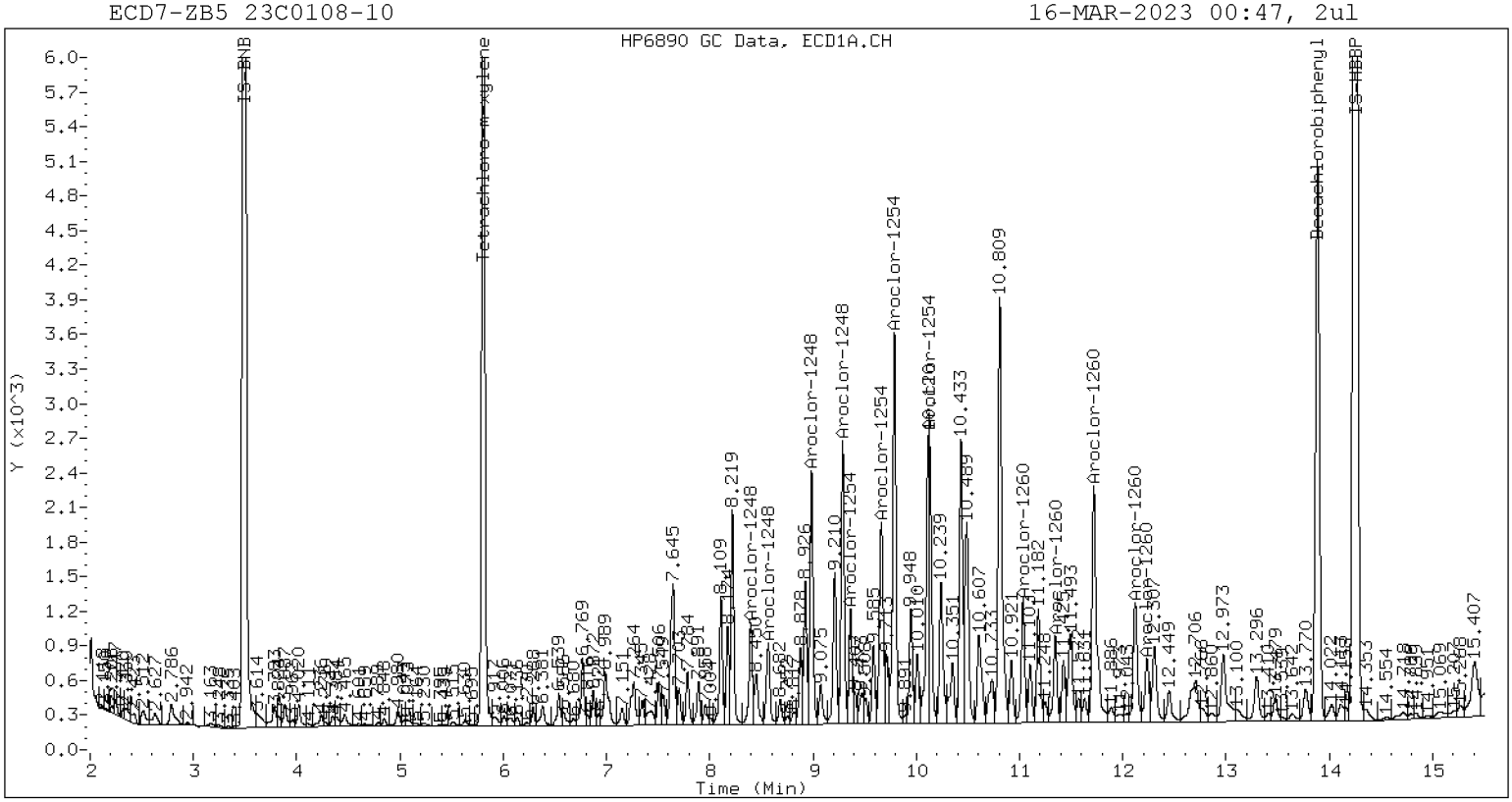
Total PCB Area Col1 (5.911 - 13.797) = 2873975 Col1 Total PCB = 0.3 ppm*

Total PCB Area Col2 (5.792 - 14.021) = 1324579 Col2 Total PCB = 0.3 ppm*

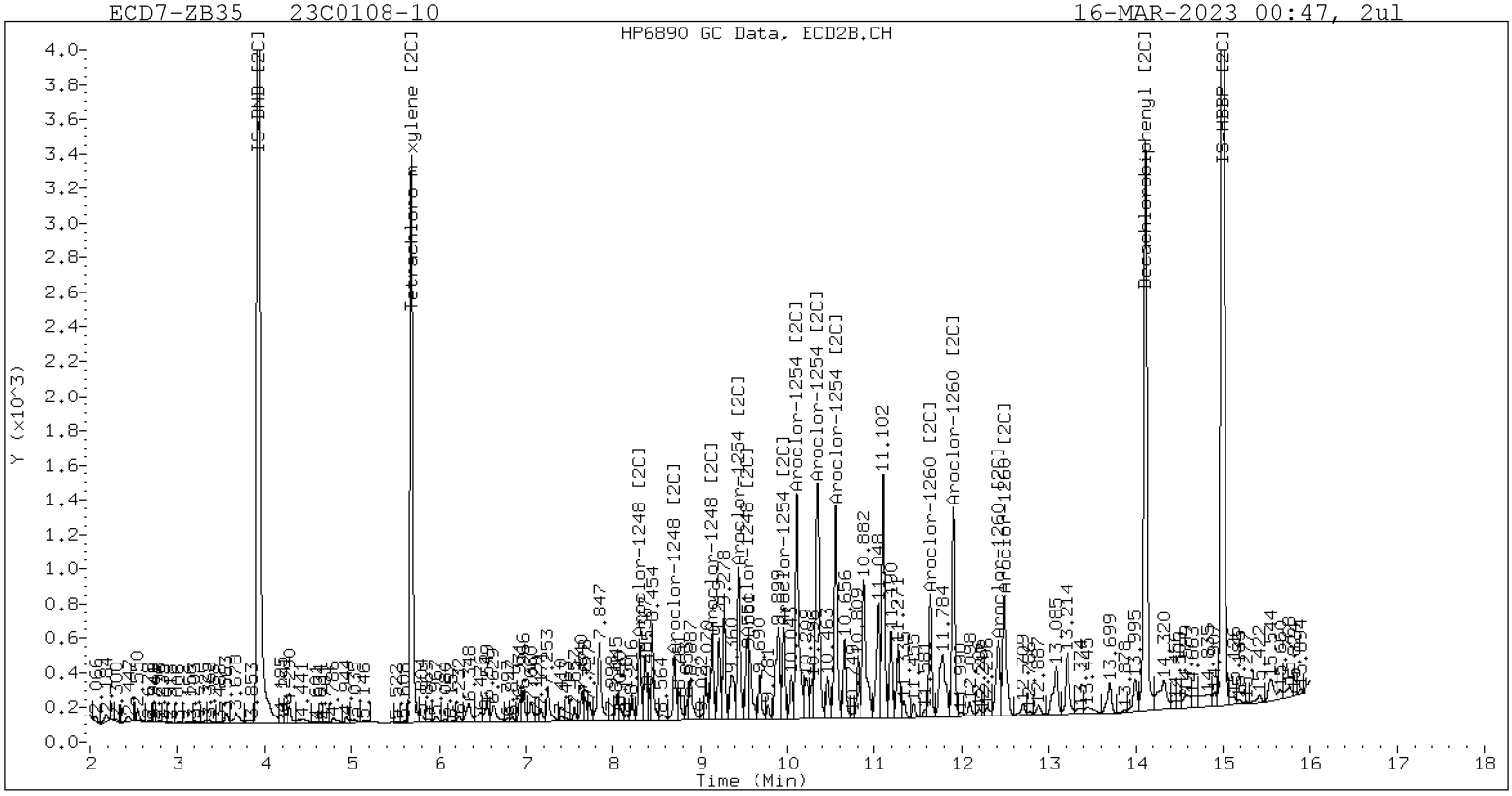
* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms



ZB-5 Manual Integration: YES

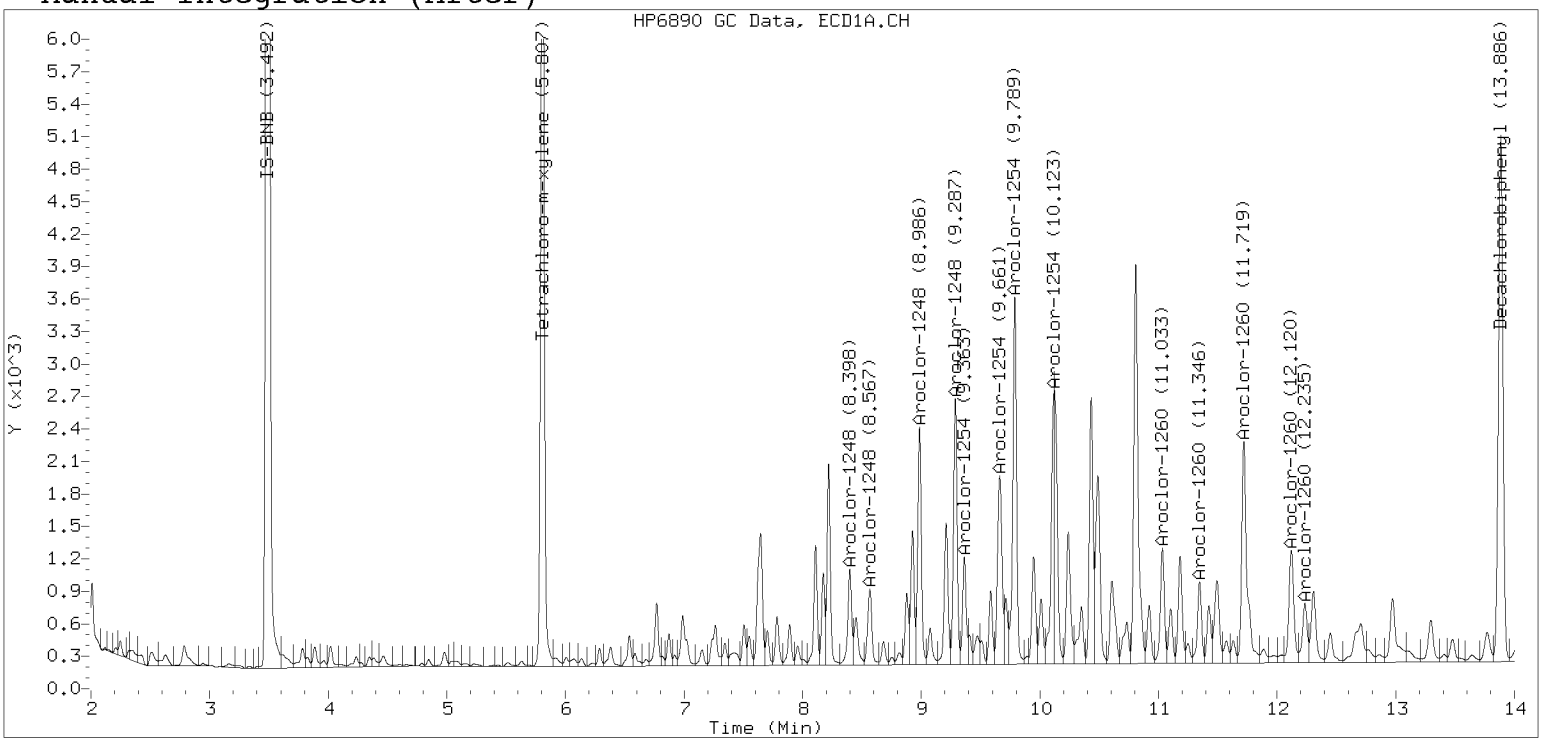


ZB-35 Manual Integration: YES

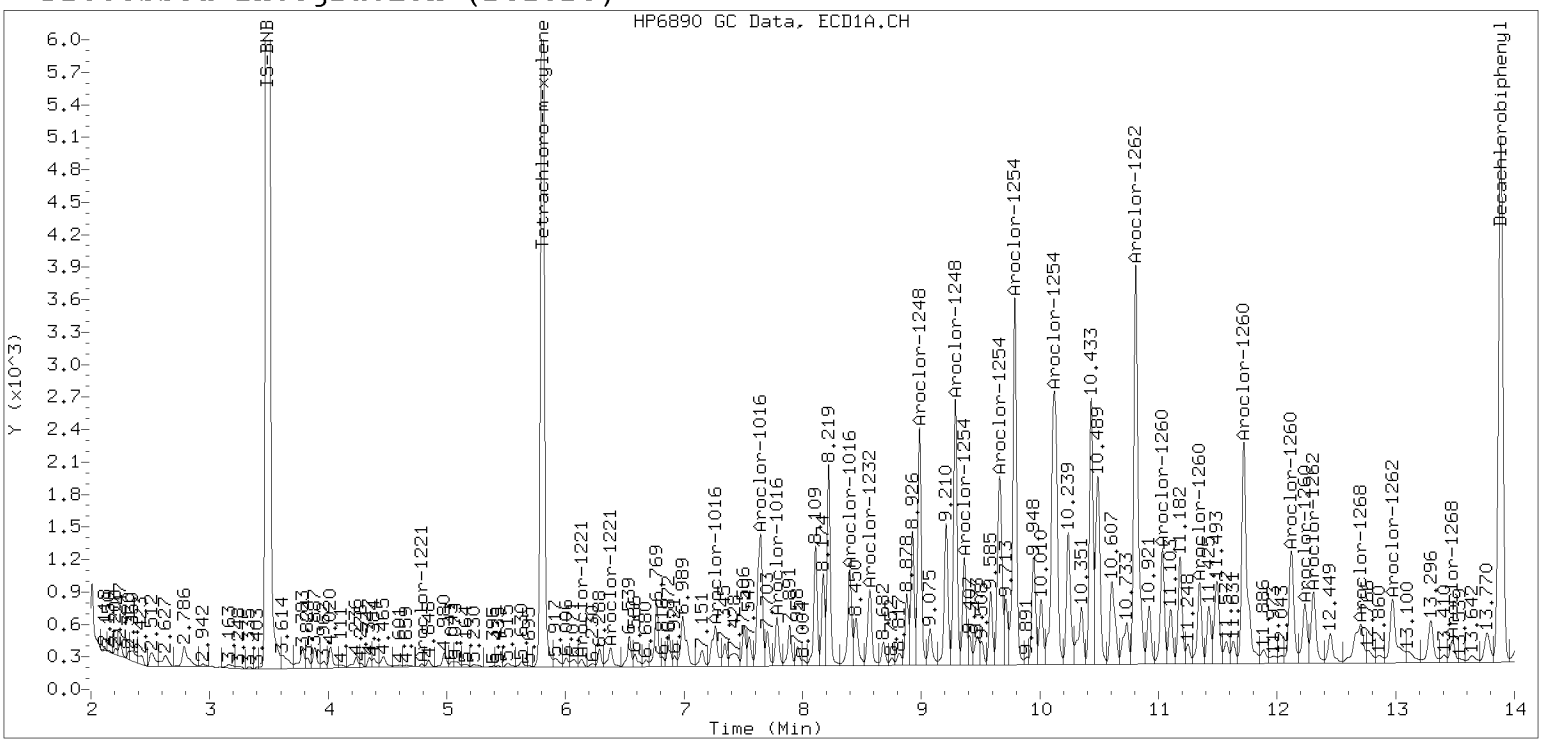
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/230315.b/03152335ECD7.D Injection Date: 16-MAR-2023 00:47

Manual Integration (After)



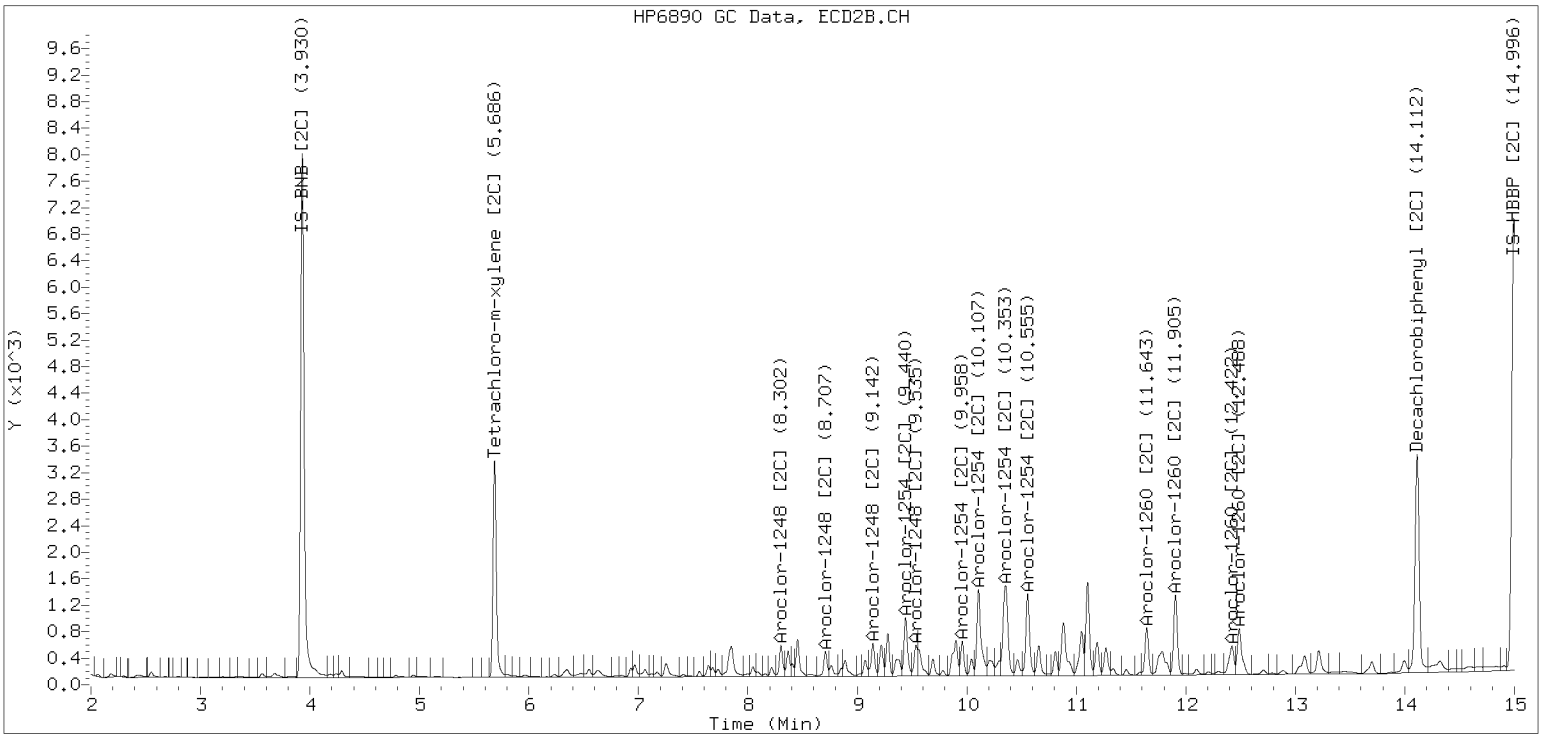
Processed Integration (Before)



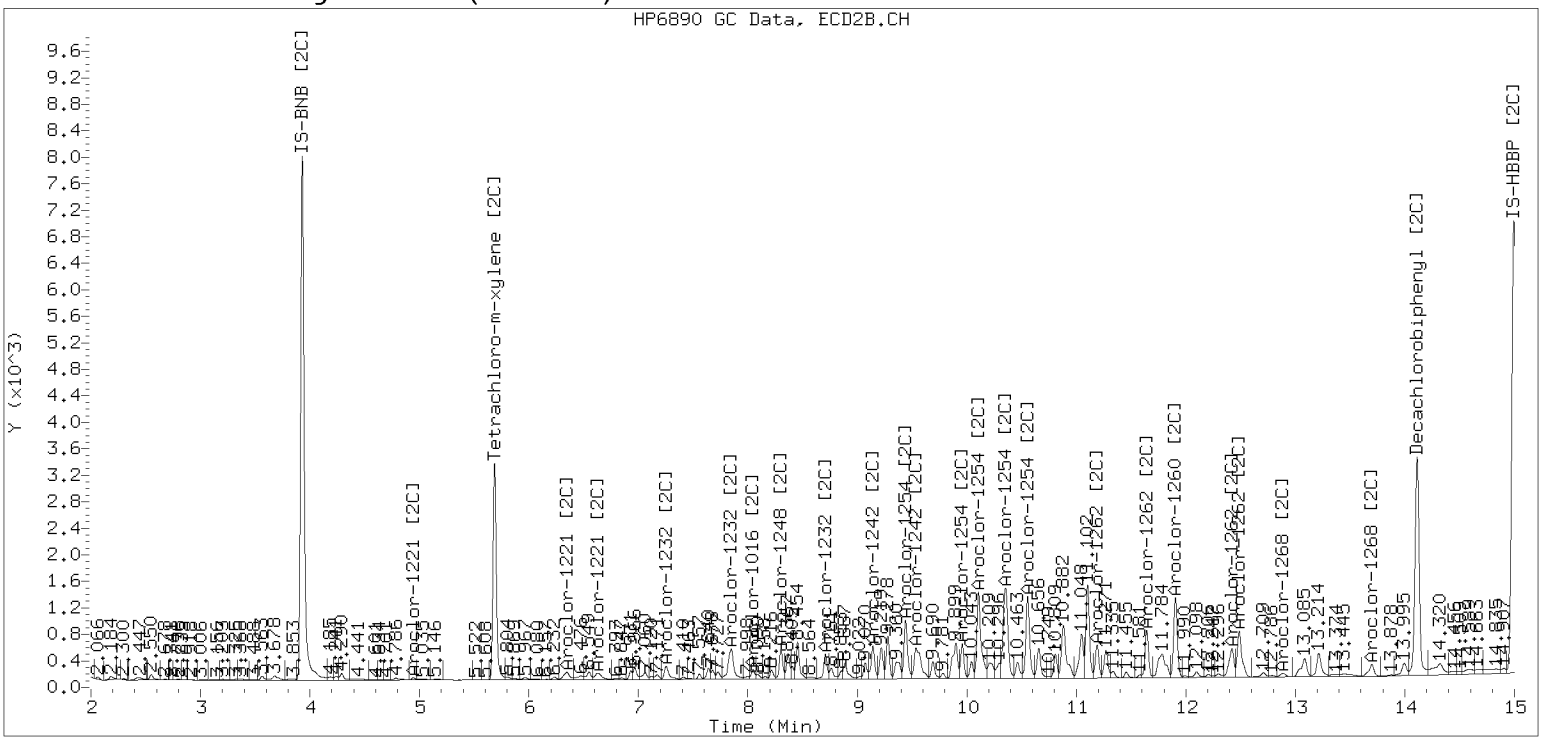
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230315.b/230315.b/03152335ECD7.D Injection Date: 16-MAR-2023

Manual Integration (After)



Processed Integration (Before)



PREPARATION BATCH SUMMARY

EPA 8082A

Laboratory: Analytical Resources, LLC SDG: 23C0108

Client: Anchor QEA, LLC Project: AOC5 MR Phase 1

Batch: BLC0219 Batch Matrix: Solid Preparation: EPA 3546 (Microwave)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-SC1037	23C0108-01	03152324ECD7.D	03/10/23 11:58	
LDW23-SC1044	23C0108-02	03152325ECD7.D	03/10/23 11:58	
LDW23-SC1107	23C0108-03	03152326ECD7.D	03/10/23 11:58	
LDW23-SC1106	23C0108-04	03152327ECD7.D	03/10/23 11:58	
LDW23-SC1118	23C0108-05	03152328ECD7.D	03/10/23 11:58	
LDW23-SS1106	23C0108-06	03152329ECD7.D	03/10/23 11:58	
LDW23-SS1107	23C0108-07	03152330ECD7.D	03/10/23 11:58	
LDW23-SS1111	23C0108-08	03152333ECD7.D	03/10/23 11:58	
LDW23-SS1118	23C0108-09	03152334ECD7.D	03/10/23 11:58	
LDW23-SC1111	23C0108-10	03152335ECD7.D	03/10/23 11:58	
Blank	BLC0219-BLK1	03152315ECD7.D	03/10/23 11:58	
LCS	BLC0219-BS1	03152316ECD7.D	03/10/23 11:58	
LCS Dup	BLC0219-BSD1	03152317ECD7.D	03/10/23 11:58	
Reference	BLC0219-SRM1	03152318ECD7.D	03/10/23 11:58	

Analytical Resources, LLC
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BLC0219

Prepared using: EPA 3546 (Microwave)

8082A PCB Solid 4 in Solid (Version:7 Aroclors)

Matrix: Solid **Date Prepared:** 03/14/23 **Balance ID:** 3146462614 **Set Up By:** CRD 3/9/23

WO Comments

23C0107: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)
23C0108: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)
23C0109: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

The following standards may be missing from this batch!

Designator	Description
QLS 5	QLS Spike

Analysis: 8082A PCB Solid 4

Lab Number & Container	% Solids	Initial (g) Target Dry: 12.5 (Wet) Actual	(REQ) Acid C/U (5mL)	(REQ) Sulfur C/U (5mL) 1 2 3	(REQ) Silica Gel C/U (2:5)	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
23C0107-01 A	41.9	(29.83) 29.89	5mL	5mL	2mL	2.5	1.0	
23C0107-02 A	67.2	(18.60) 18.61	5mL	5mL	2mL	2.5	1.0	
23C0107-03 A	72.8	(17.18) 17.26	5mL	5mL	2mL	2.5	1.0	
23C0108-01 A	53.6	(23.34) 23.37	5mL	5mL	2mL	2.5	1.0	
23C0108-02 A	52.7	(23.70) 23.70	5mL	5mL	2mL	2.5	1.0	
23C0108-03 A	48.8	(25.63) 25.63	5mL	5mL	2mL	2.5	1.0	
23C0108-04 A	47.4	(26.37) 26.39	5mL	5mL	2mL	2.5	1.0	
23C0108-05 A	48.6	(25.74) 25.79	5mL	5mL	2mL	2.5	1.0	
23C0108-06 A	43.3	(28.85) 28.88	5mL	5mL	2mL	2.5	1.0	
23C0108-07 A	40.2	(31.10) 31.13	5mL	5mL	2mL	2.5	1.0	
23C0108-08 A	46.4	(26.95) 26.97	5mL	5mL	2mL	2.5	1.0	
23C0108-09 A	42.6	(29.33) 29.33	5mL	5mL	2mL	2.5	1.0	
23C0108-10 A	47.3	(26.43) 26.43	5mL	5mL	2mL	2.5	1.0	
23C0109-01 A	43.3	(28.84) 28.87	5mL	5mL	2mL	2.5	1.0	
23C0109-02 A	35.9	(34.82) 34.89	5mL	5mL	2mL	2.5	1.0	
23C0109-03 A	36.1	(34.60) 34.66	5mL	5mL	2mL	2.5	1.0	

Batch QC

Lab Number	% Solids	Initial (g) Target Dry: 12.5 (Wet) Actual	(REQ) Acid C/U (5mL)	(REQ) Sulfur C/U (5mL) 1 2 3	(REQ) Silica Gel C/U (2:5)	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
BLC0219-BLK1	100.0	(12.50) 12.50	5mL	5mL	2mL	2.5	1.0	(10g Actual Wt.)
BLC0219-BS1	100.0	(12.50) 12.50	5mL	5mL	2mL	2.5	1.0	(10g Actual Wt.)
BLC0219-BSD1	100.0	(12.50) 12.50	5mL	5mL	2mL	2.5	1.0	(10g Actual Wt.)
BLC0219-MS1	72.8	(17.18) 17.18	5mL	5mL	2mL	2.5	1.0	Use 23C0107-03
BLC0219-MSD1	72.8	(17.18) 17.18	5mL	5mL	2mL	2.5	1.0	Use 23C0107-03
BLC0219-SRM1	100.0	~~(12.50)~~ (2.50) 2.50 +1g DI WATER	5mL	5mL	2mL	2.5	1.0	Use K003527

Analytical Resources, LLC
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BLC0219

Prepared using: EPA 3546 (Microwave)

8082A PCB Solid 4 in Solid (Version:7 Aroclors)

WO Comments

23C0107: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)
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<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)
23C0109: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

Client ID Verified By	Date	Preparation Reviewed By	Date	Extraction Date and Time	
[illegible]	03/10/23	LJ	3/15/23	03/10/23	11:58

Analytical Resources, LLC
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BLC0219

Prepared using: EPA 3546 (Microwave)

8082A PCB Solid 4 in Solid (Version:7 Aroclors)

WO Comments

23C0107: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
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Prep Steps

Microwave
1 2 3
CT 03/10/23
Analyst/Date

KD
100°C
Hexane Exchange
(2 X 20 mL)
1 2 3 4 5 6
LO 3-14
Analyst/Date

TurboVap
Pre Cleanups
1 2 3 4 5
LJ 3/14/23
Analyst/Date

TurboVap
Post Cleanups
1 2 3 4 5
LJ 3/15/23
Analyst/Date

Vialing
LJ 3/15/23
Analyst/Date

Reagents Used

Station/Reagent	Standard ID
Microwave Analyst: CT/CG Date: 03/10/23	
Neutral Glass Wool	L000497
1:1 Hexane/Acetone	L000*2245 03/10/23
Hexane	L001957
Anhydrous Sodium Sulfate	L002484
KD Analyst: LO Date: 3-14-23	
Anhydrous Sodium Sulfate	
Hexane	L000089
Vialing Analyst: LJ Date: 3/15/23	
Hexane	L000881
Concentrated Sulfuric Acid	L001033
Silica Gel (SPE) Darts	L002256
Sodium Sulfite	L002437
Tetrabutylammonium hydrogensulfate (TBAS)	L001601

Surrogates & Spike Standards Used

Type	Vial ID / Standard ID	Vol uL	Analyst	Witness
Surrogate 2µg/mL	N L000773 Exp Date: 7/21/2023	50µL	CT	✓
Spike 20µg/mL	1 L001587 Exp Date: 8/13/2023	63µL	CT	✓

MANUALLY ENTER EXPIRATION DATES!

(V) indicates a virtual standard combining two or more physical standards. In these cases the Standard ID refers to the virtual standard, not the parent standards.

If a Standard ID is missing, but should be present, check the standard definition in Element LIMS to be sure Standard Info 6 has the correct letter or number designator matching the vial designator inthe Standard ID column. If it is correct, check the batch and bench sheet in Element LIMS to be sure the correct standards are selected for surrogate(s) and spike(s).

Analytical Resources, LLC
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BLC0219

Prepared using: EPA 3546 (Microwave)

8082A PCB Solid 4 in Solid (Version:7 Aroclors)

WO Comments

23C0107: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)
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<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)
23C0109: <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM K000591, SIM PAH RM I009127 PCB RM J006840-43, 7935-36,K011477-79, MS/MSD </E>
<H>BPR J006840-43, 7935-36, K011477-79, Dup </H> Store in freezer (except GS)

Prep Instructions	
SPECIAL INSTRUCTIONS: 1. Weigh soil/sed into beakers-lightly dry with sodium sulfate. 2. Transfer to microwave vessel(s). Note: (do not fill vessels more than 2/3rd full. Some samples may require two vessels). 3. Add 1:1 Hexane/Acetone until the solvent layer is 3 inches above the soil layer after homogenization. 4. Add surr/spike. 5. Microwave on appropriate power setting determined by # of samples. 6. After microwave-Re-homogenize while hot then cool vessels in R-05 15 minutes. Re-homogenize while cool. 7. Decant 1:1 Hex/Ace into Erlenmeyer flask with sodium sulfate in bottom and funnel with neutral glasswool plug. 8. Re-homogenize and rinse with 1:1 Hexane/Acetone. 9. Let cool and decant solvent then empty the soil into the funnel and rinse with Hexane. 10. KD on 100° bath. 11. Exchange (2 X with 20mL) Hexane. 12. TurboVap. 13. Clean-ups. 14. TurboVap. 15. Vial with Hexane. A. Need Total Solids Y [N] B. Archive/Freeze [Y] N	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

Extraction Parameter: PCB Extraction Batch BLC0219

Total Solids Batch: ~~BLC0101~~ BLC0101 Work Order(s): 23C0102, 108, 109

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☒ No Anomalies (standard soil/wet sediment/sand/gravel)= 108, 109	CR 3/7/23
☒ Standing Water Decanted (Not shared)= 107:01	CR 3/7/23
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☐ Rocks (%+size)?	
☐ Organics (Leaves/sticks/grass)=	
☒ Oily, obvious fuel/sulfur odors= 107:01	CR 3/7/23
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☒ Previously Frozen = 107, 108, 109	CR 3/7/23
☐ Other (Details)=	
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☐ Other Notes/Comments= (Note problems, concerns, corrective actions).	
Dropped Scintillation vial & spilled ~20% of BSI during sulfur cleanup	LJ 3/14/23
☒ Share Samples Y / (N)	CR 3/7/23
☒ Multiple Jars Y / (N)	CR 3/7/23
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

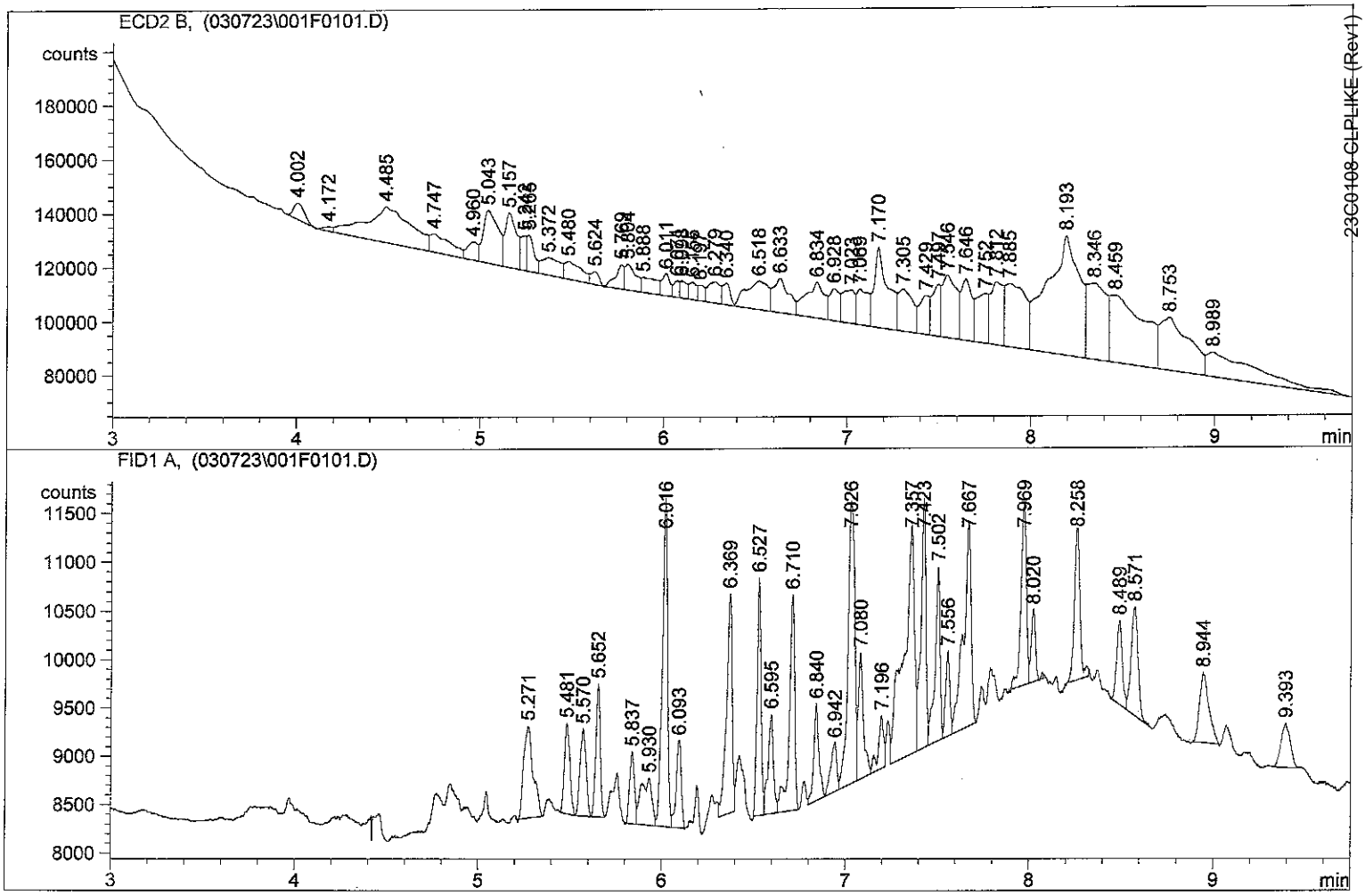
Extraction Parameter: PCB Extraction Batch BLC0219

Total Solids Batch: BLC0150 Work Order(s): 23C0107

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☒ No Anomalies (standard soil/wet sediment/sand/gravel)= Φ2, Φ3.	JV Φ3/Φ8/23
☐ Standing Water Decanted (Not shared)=	
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☐ Rocks (%+size)?	
☐ Organics (Leaves/sticks/grass)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☐ Previously Frozen =	
☐ Other (Details)=	
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☐ Other Notes/Comments= (Note problems, concerns, corrective actions).	
☒ Share Samples Y / N	JV Φ3/Φ8/23
☒ Multiple Jars Y / N	JV Φ3/Φ8/23
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

Injection Date : 3/7/2023 3:57:14 PM Seq. Line : 1
Sample Name : DCM RINSE Location : Vial 1
Acq. Operator : CR Inj : 1
Inj Volume : 1 µl

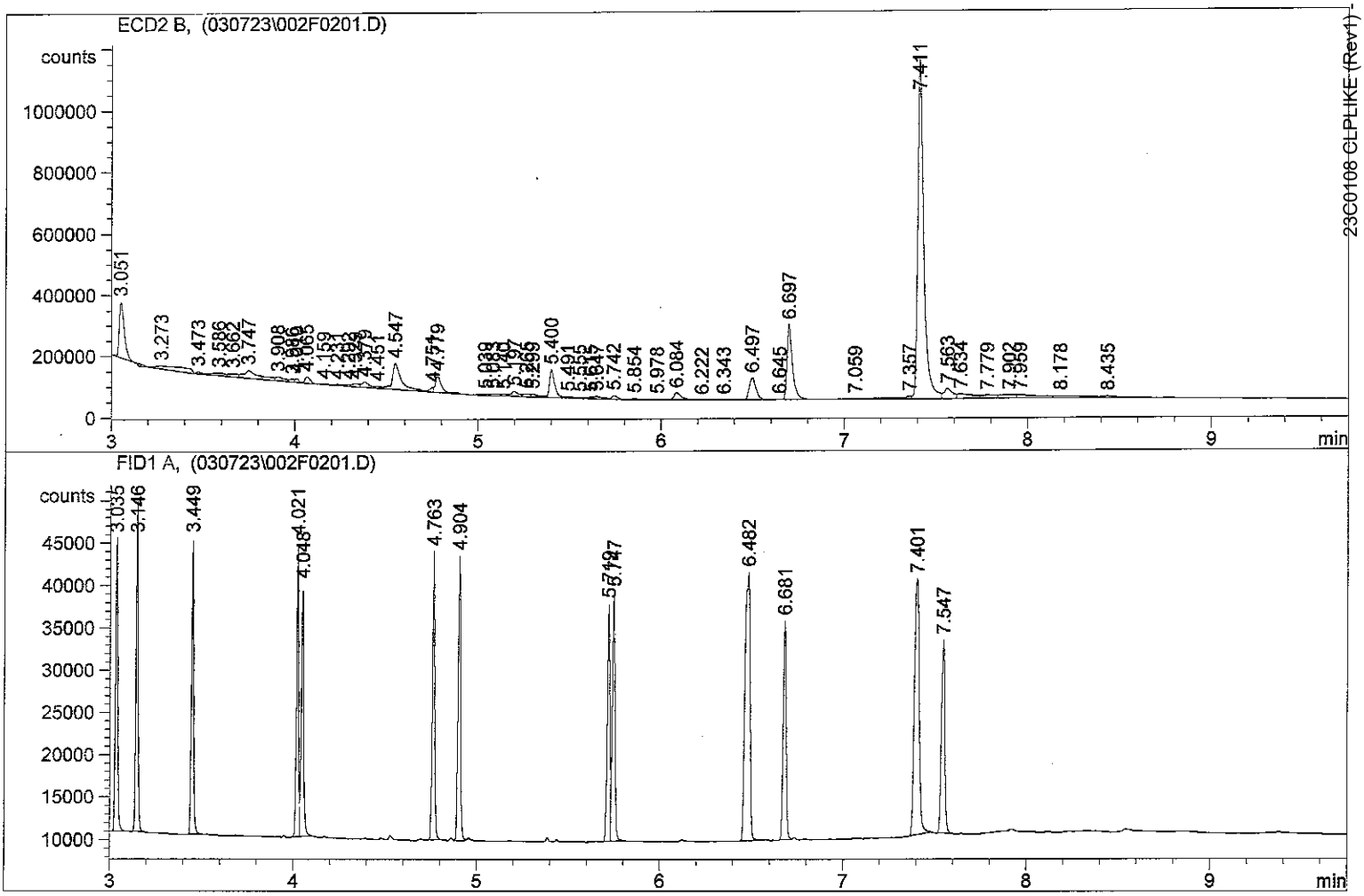
Sequence File : C:\HPCHEM\1\SEQUENCE\030723.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD



*** End of Report ***

Injection Date : 3/7/2023 4:11:12 PM Seq. Line : 2
Sample Name : PNA STD 10PPM Location : Vial 2
Acq. Operator : CR Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\1\SEQUENCE\030723.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD

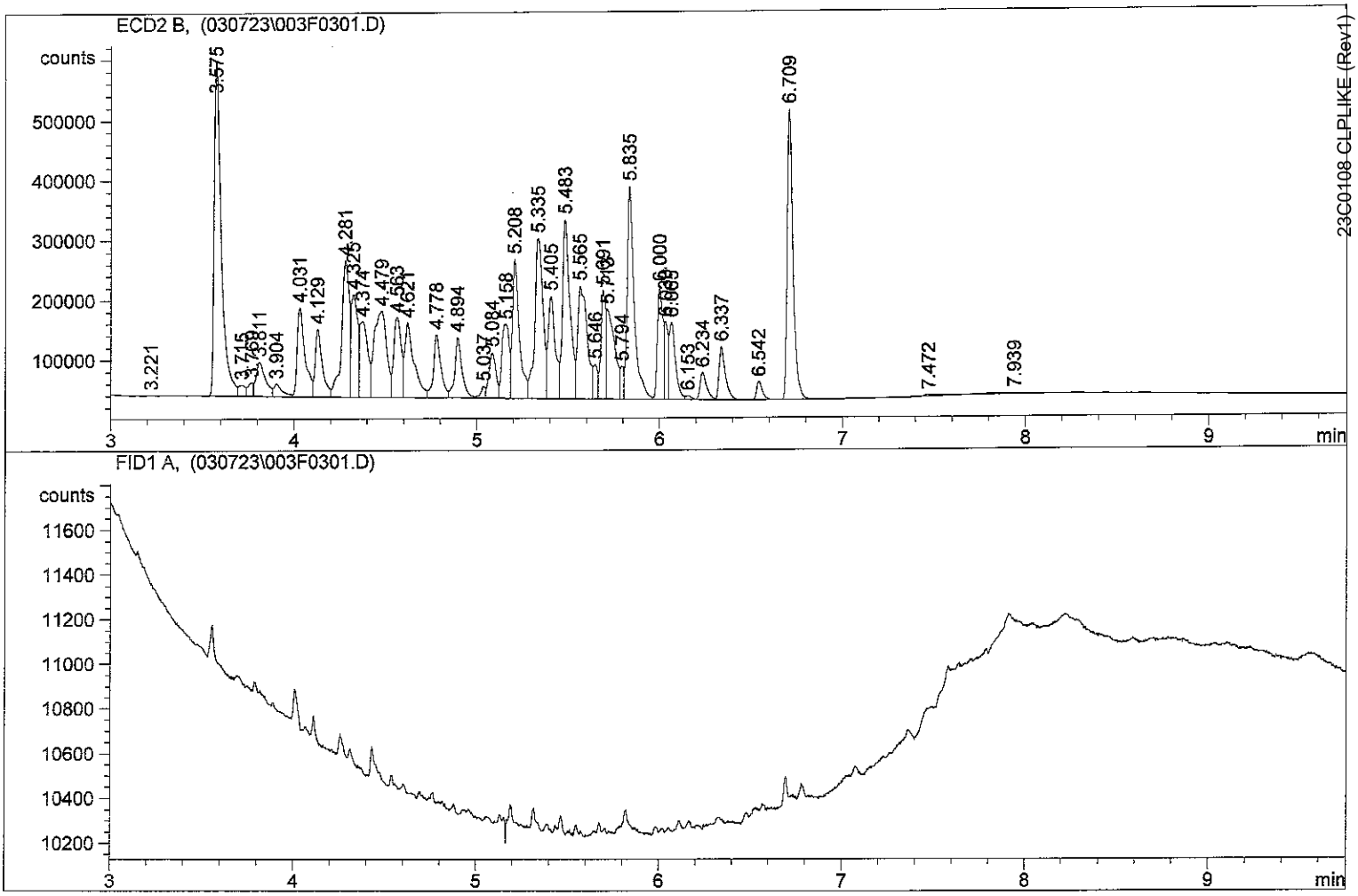


*** End of Report ***

Injection Date : 3/7/2023 4:25:27 PM
Sample Name : AR1660 1PPM
Acq. Operator : CR

Seq. Line : 3
Location : Vial 3
Inj : 1
Inj Volume : 1 µl

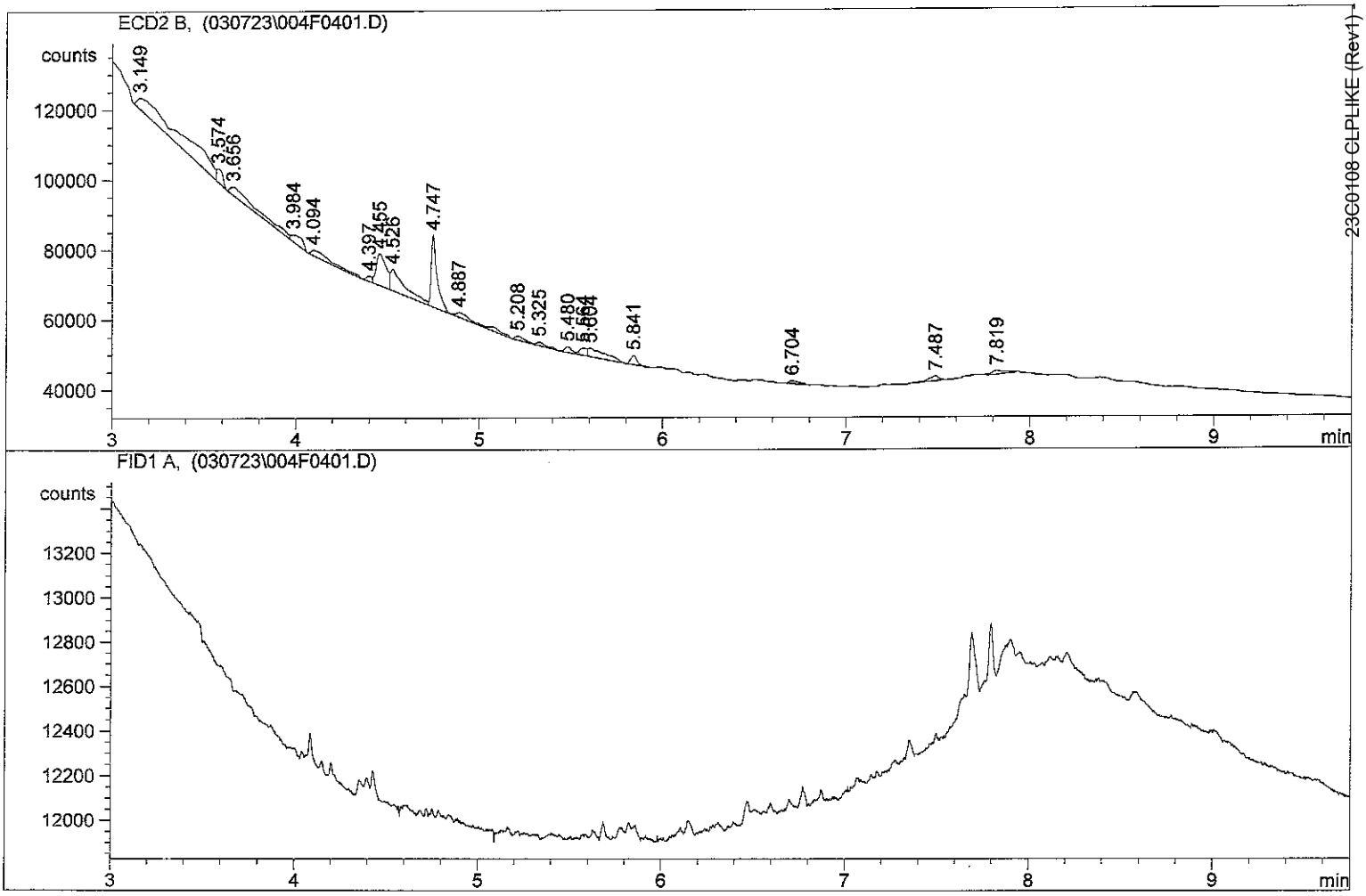
Sequence File : C:\HPCHEM\1\SEQUENCE\030723.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD



*** End of Report ***

Injection Date : 3/7/2023 4:39:28 PM Seq. Line : 4
Sample Name : 23C0107 01 Location : Vial 4
Acq. Operator : CR Inj : 1
Inj Volume : 1 µl

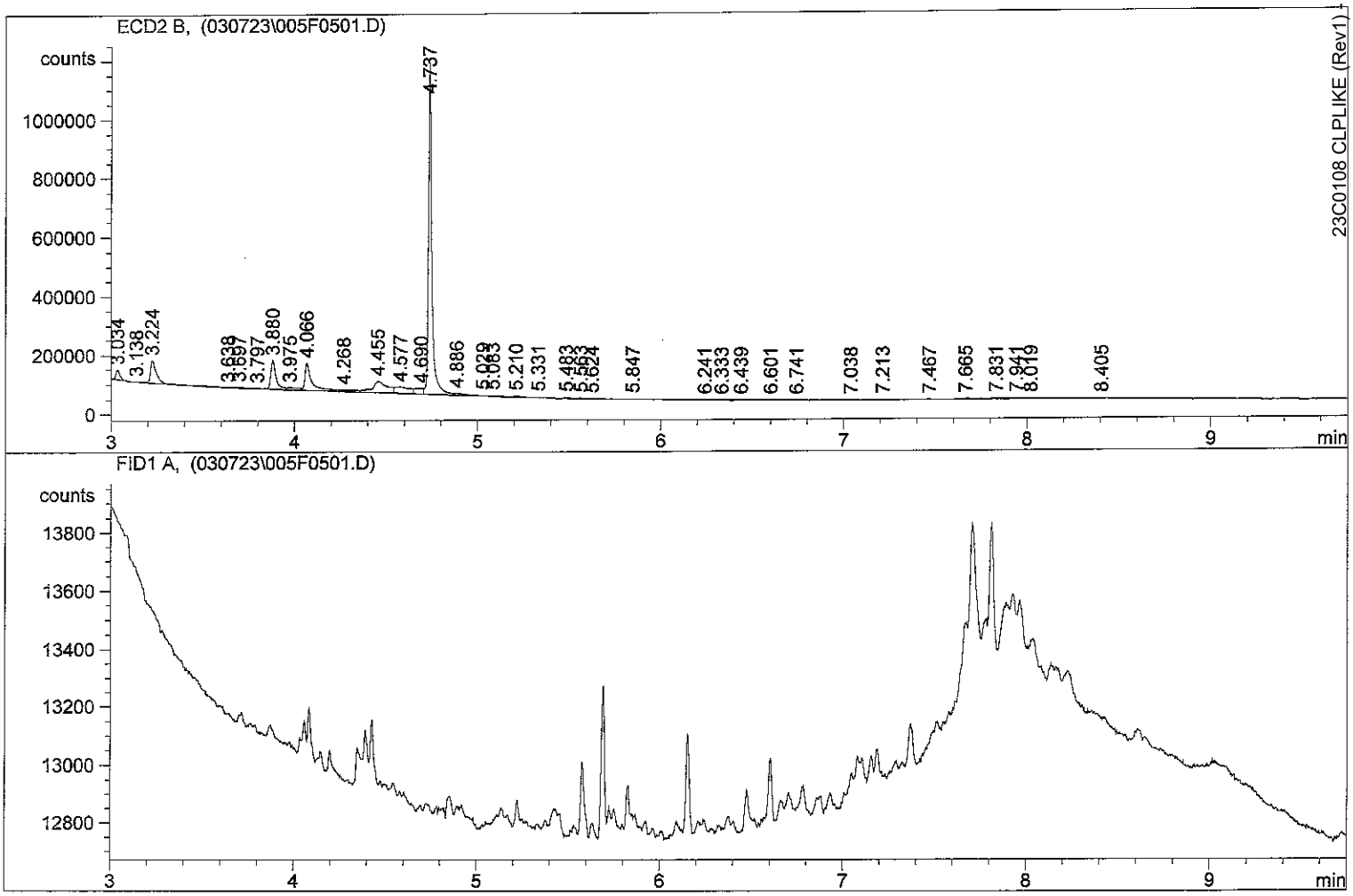
Sequence File : C:\HPCHEM\1\SEQUENCE\030723.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD



*** End of Report ***

Injection Date : 3/7/2023 4:53:45 PM Seq. Line : 5
Sample Name : 23C0108 01 Location : Vial 5
Acq. Operator : CR Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\1\SEQUENCE\030723.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD

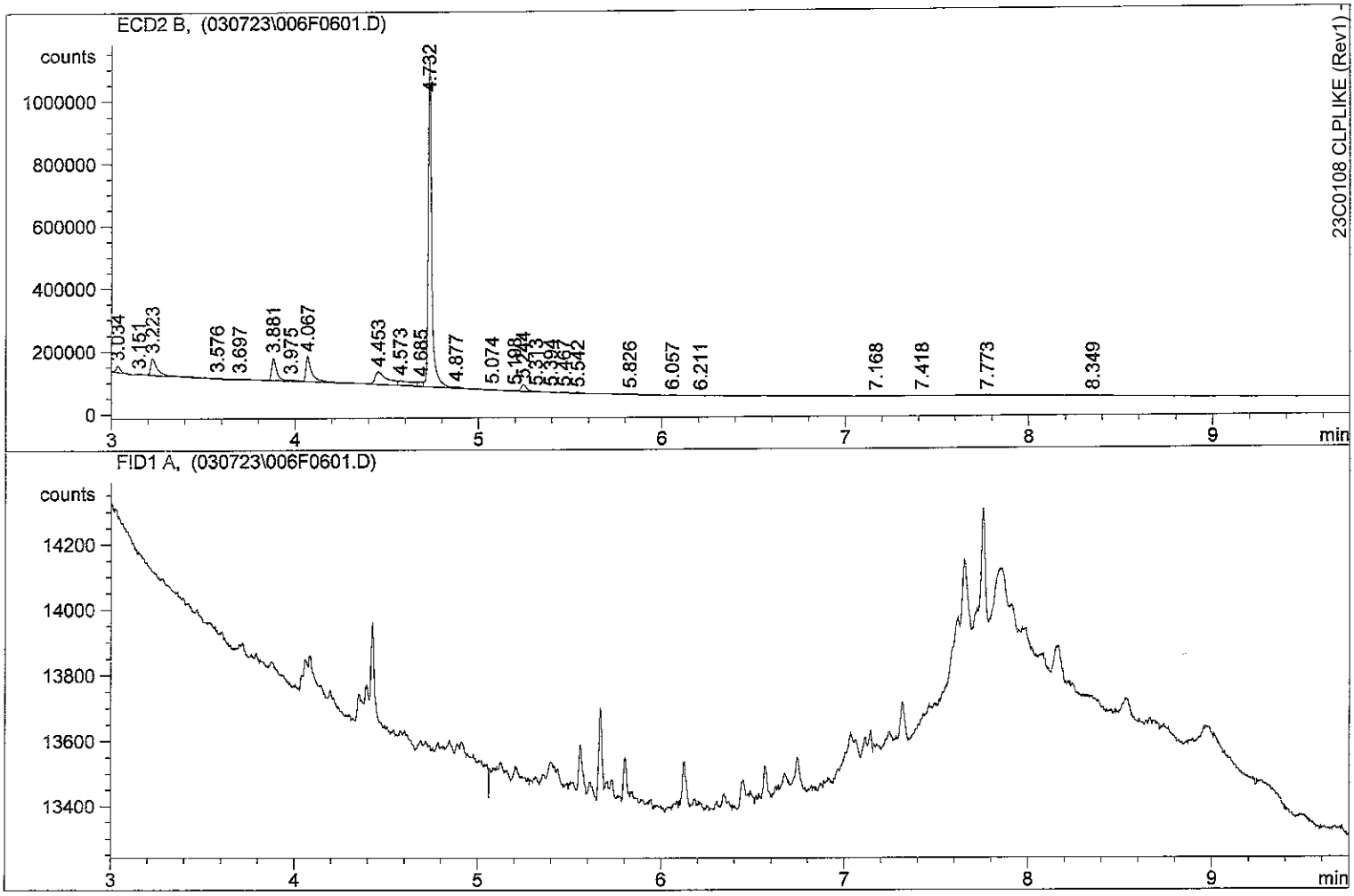


*** End of Report ***

Injection Date : 3/7/2023 5:07:45 PM
Sample Name : 23C0108 02
Acq. Operator : CR

Seq. Line : 6
Location : Vial 6
Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\1\SEQUENCE\030723.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD

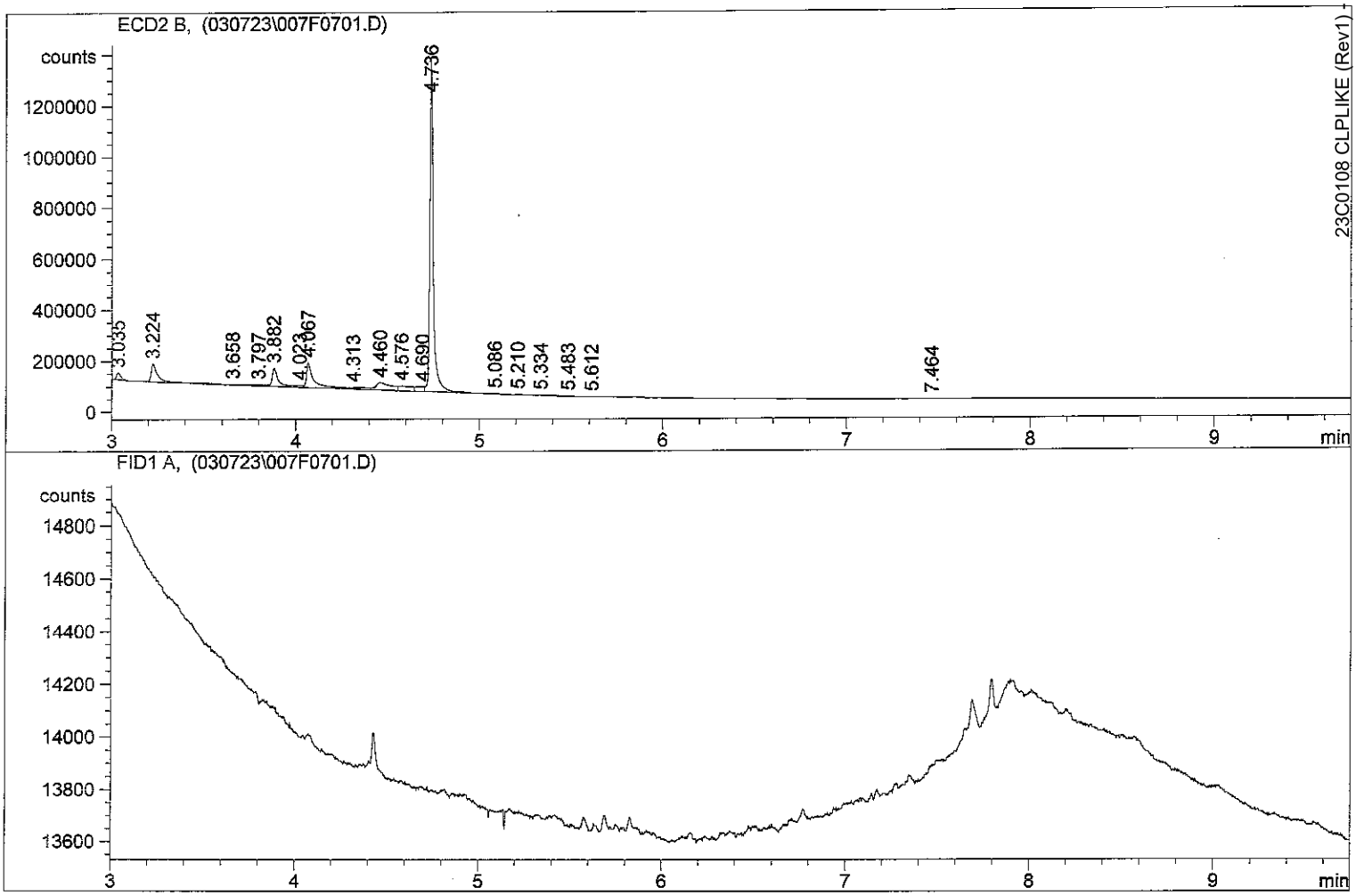


*** End of Report ***

Injection Date : 3/7/2023 5:22:02 PM
Sample Name : 23C0108 03
Acq. Operator : CR

Seq. Line : 7
Location : Vial 7
Inj : 1
Inj Volume : 1 µl

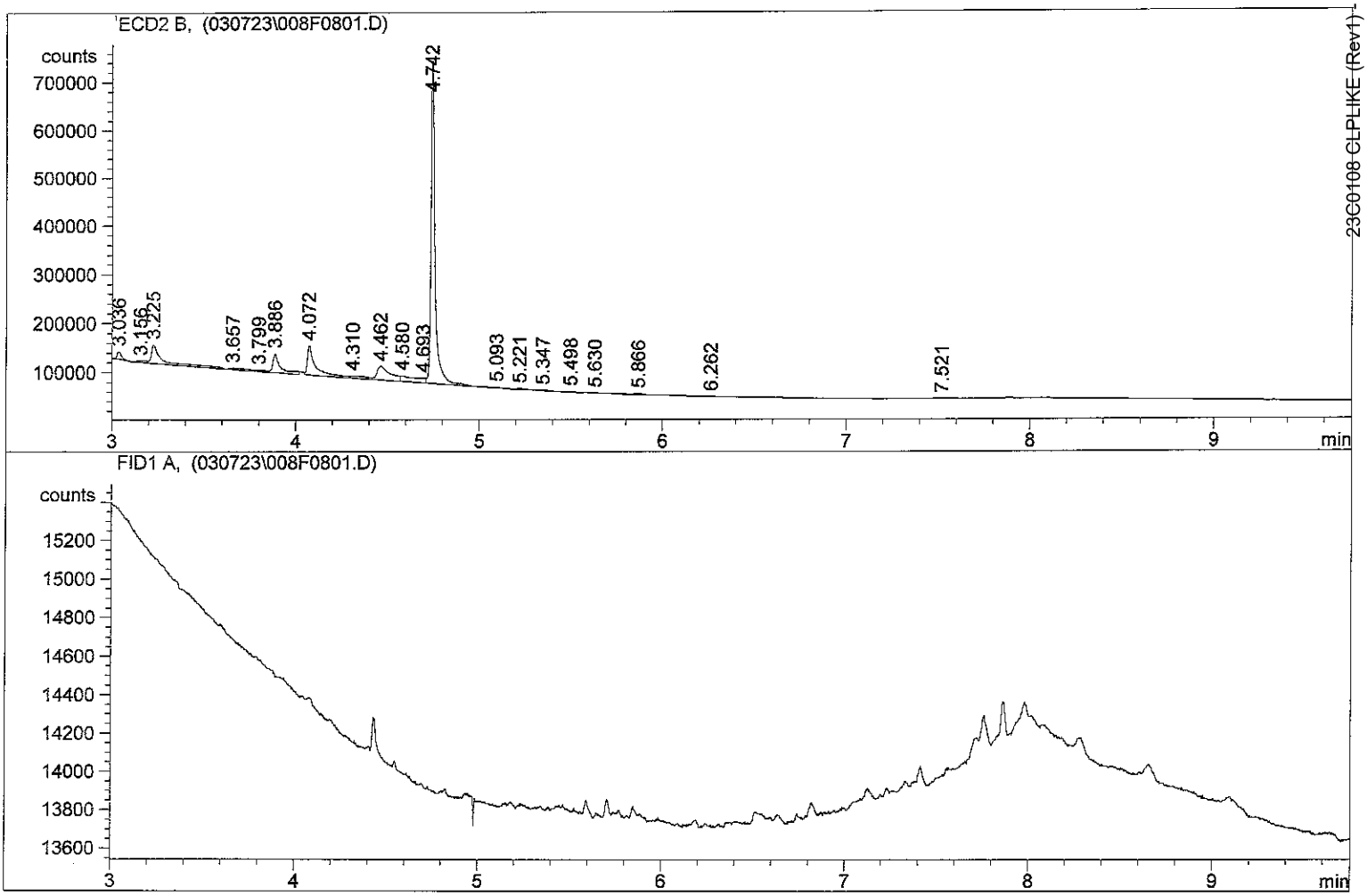
Sequence File : C:\HPCHEM\1\SEQUENCE\030723.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD



*** End of Report ***

Injection Date : 3/7/2023 5:37:05 PM Seq. Line : 8
Sample Name : 23C0108 04 Location : Vial 8
Acq. Operator : CR Inj : 1
Inj Volume : 1 µl

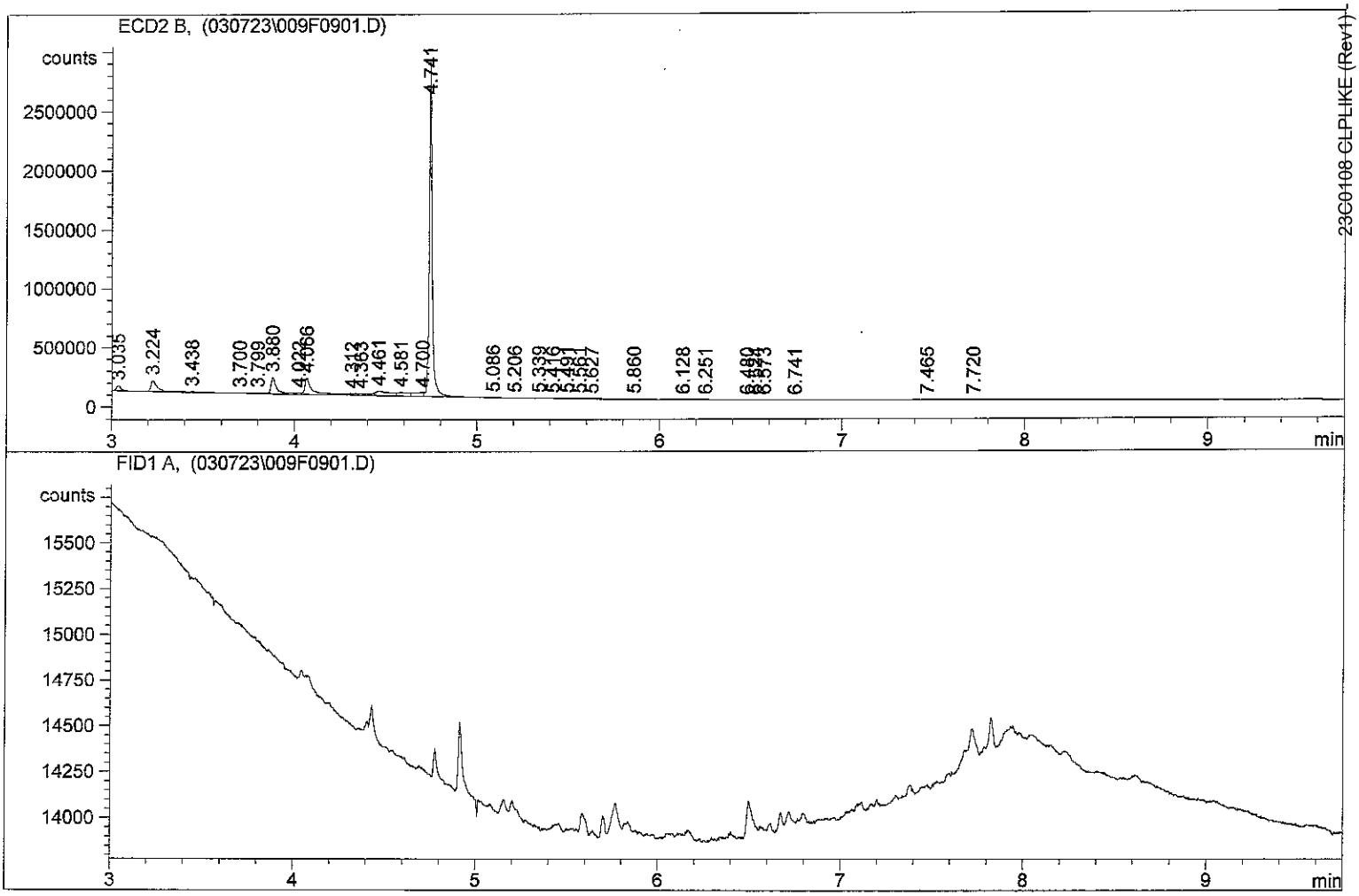
Sequence File : C:\HPCHEM\1\SEQUENCE\030723.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD



*** End of Report ***

Injection Date : 3/7/2023 5:51:06 PM Seq. Line : 9
Sample Name : 23C0108 05 Location : Vial 9
Acq. Operator : CR Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\1\SEQUENCE\030723.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD

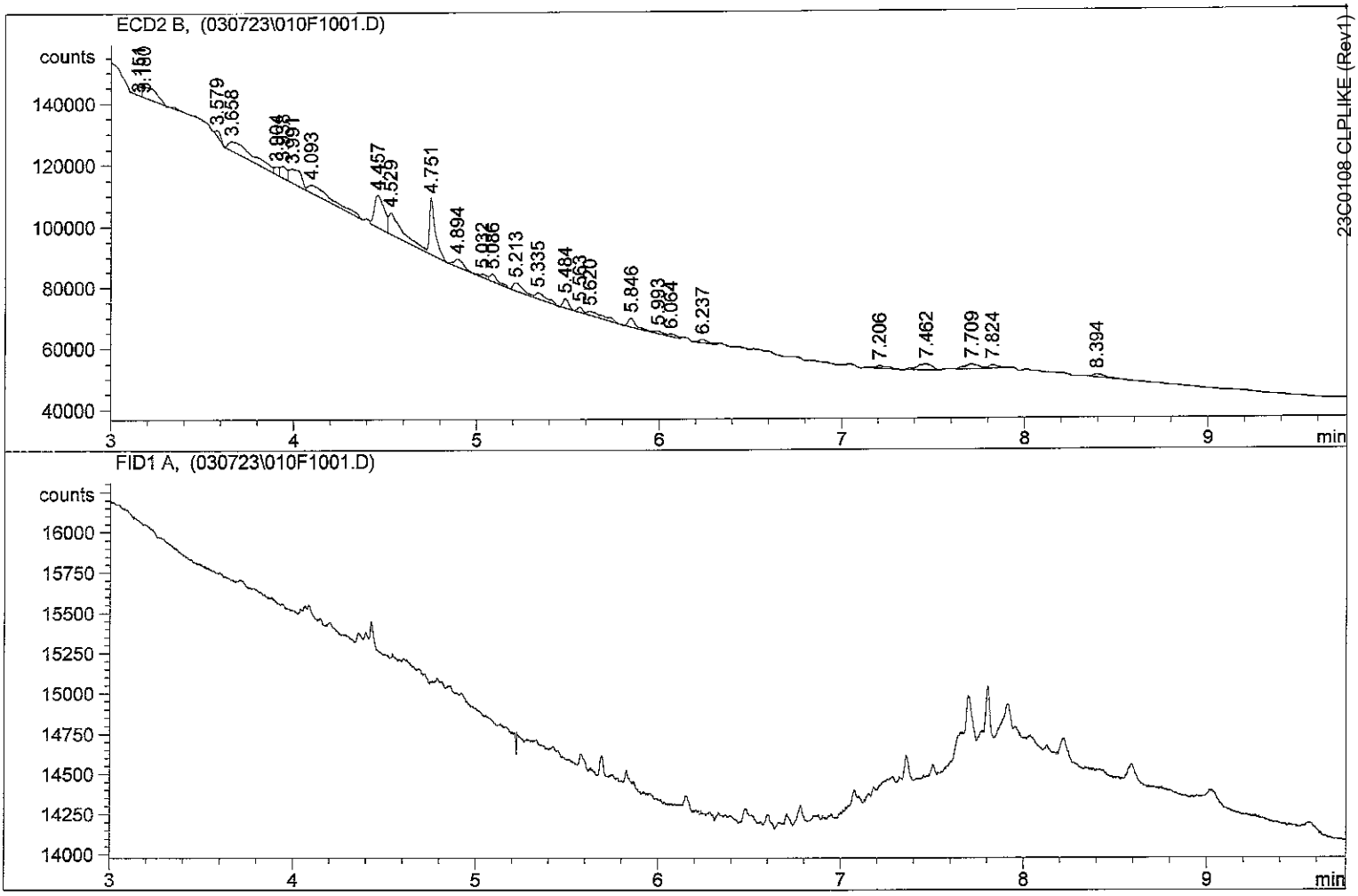


*** End of Report ***

Injection Date : 3/7/2023 6:05:25 PM
Sample Name : 23C0108 06
Acq. Operator : CR

Seq. Line : 10
Location : Vial 10
Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\1\SEQUENCE\030723.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD

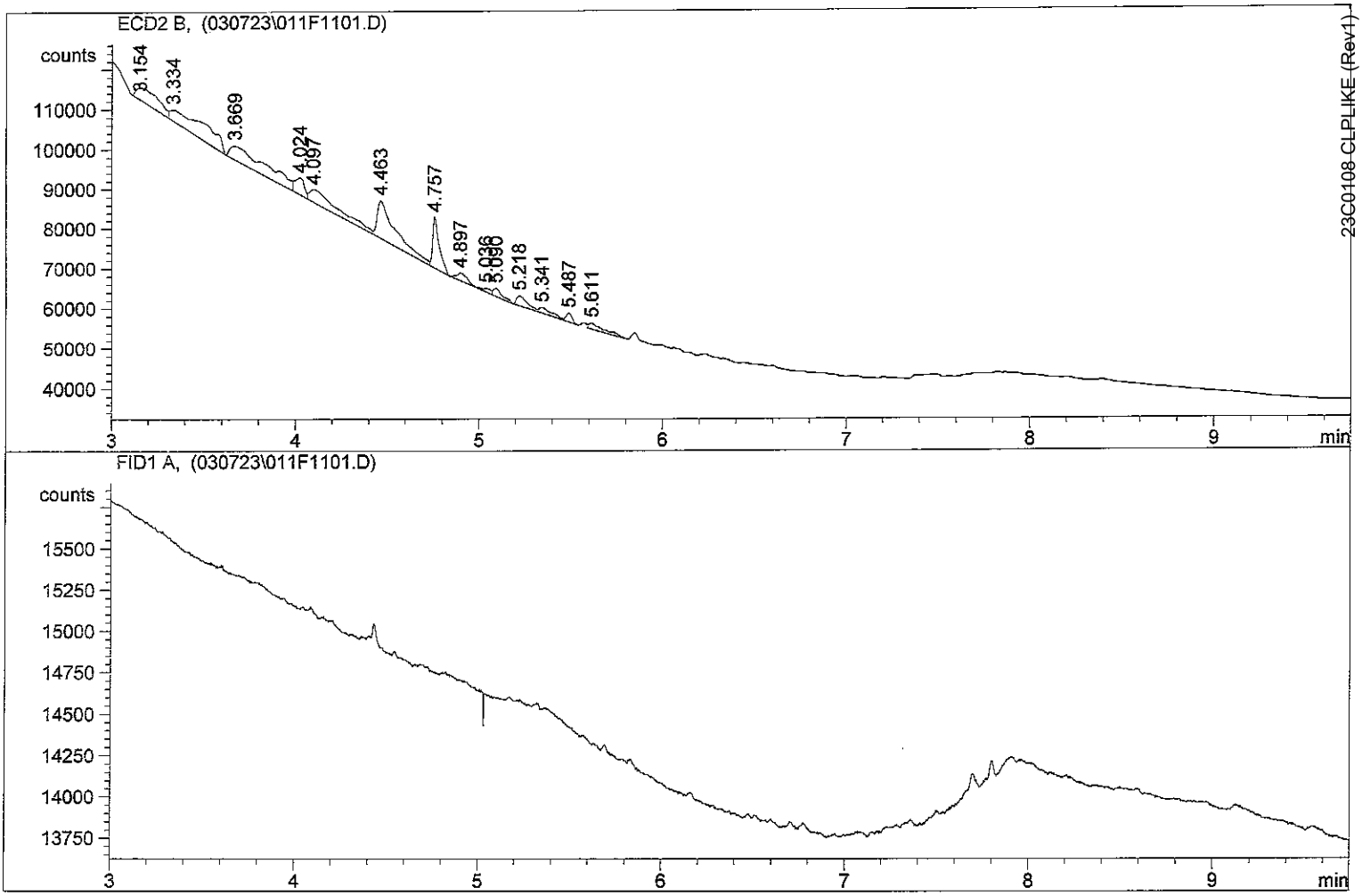


*** End of Report ***

Injection Date : 3/7/2023 6:20:27 PM
Sample Name : 23C0108 07
Acq. Operator : CR

Seq. Line : 11
Location : Vial 11
Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\1\SEQUENCE\030723.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD

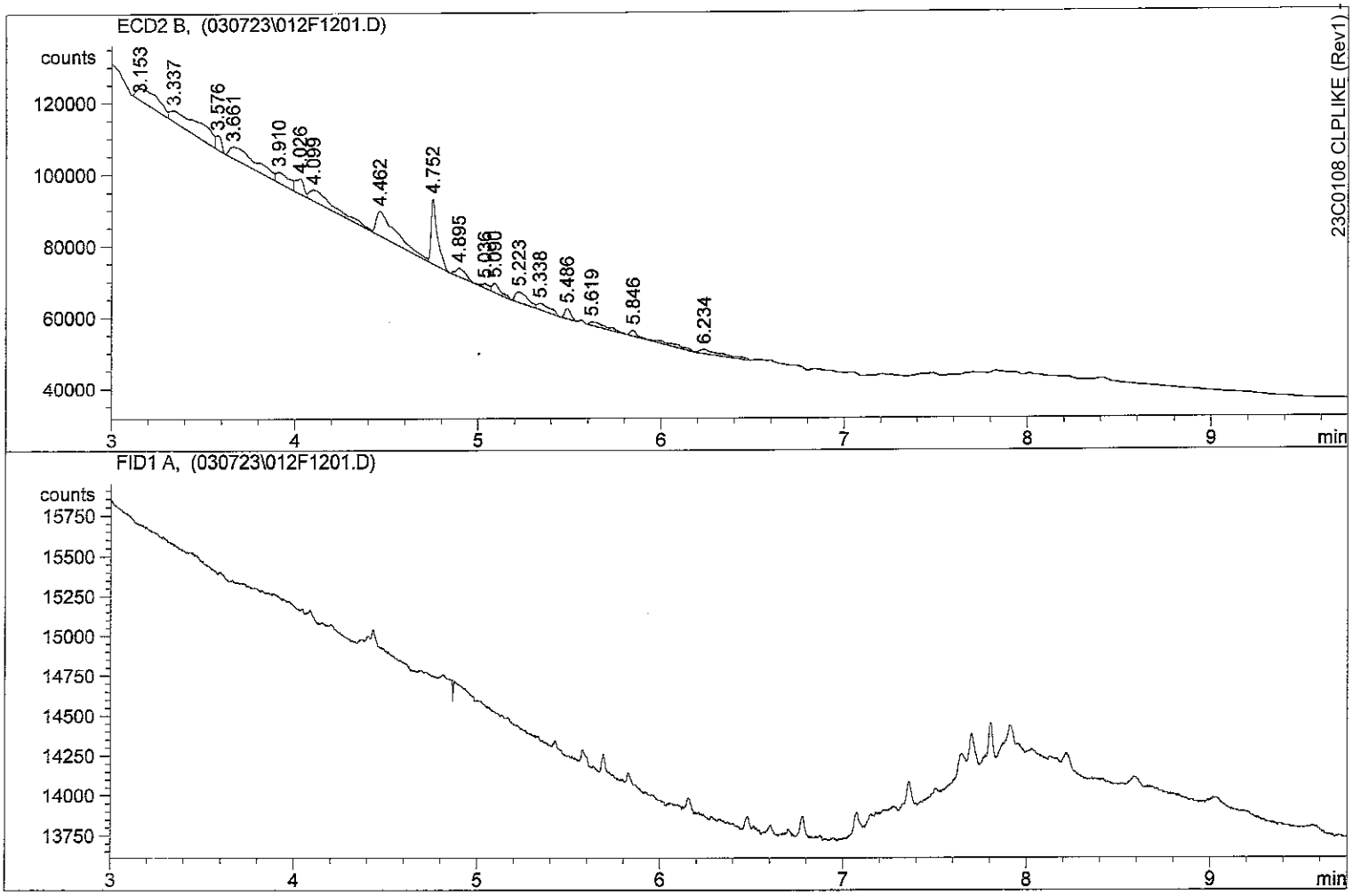


*** End of Report ***

Injection Date : 3/7/2023 6:35:24 PM
Sample Name : 23C0108 08
Acq. Operator : CR

Seq. Line : 12
Location : Vial 12
Inj : 1
Inj Volume : 1 µl

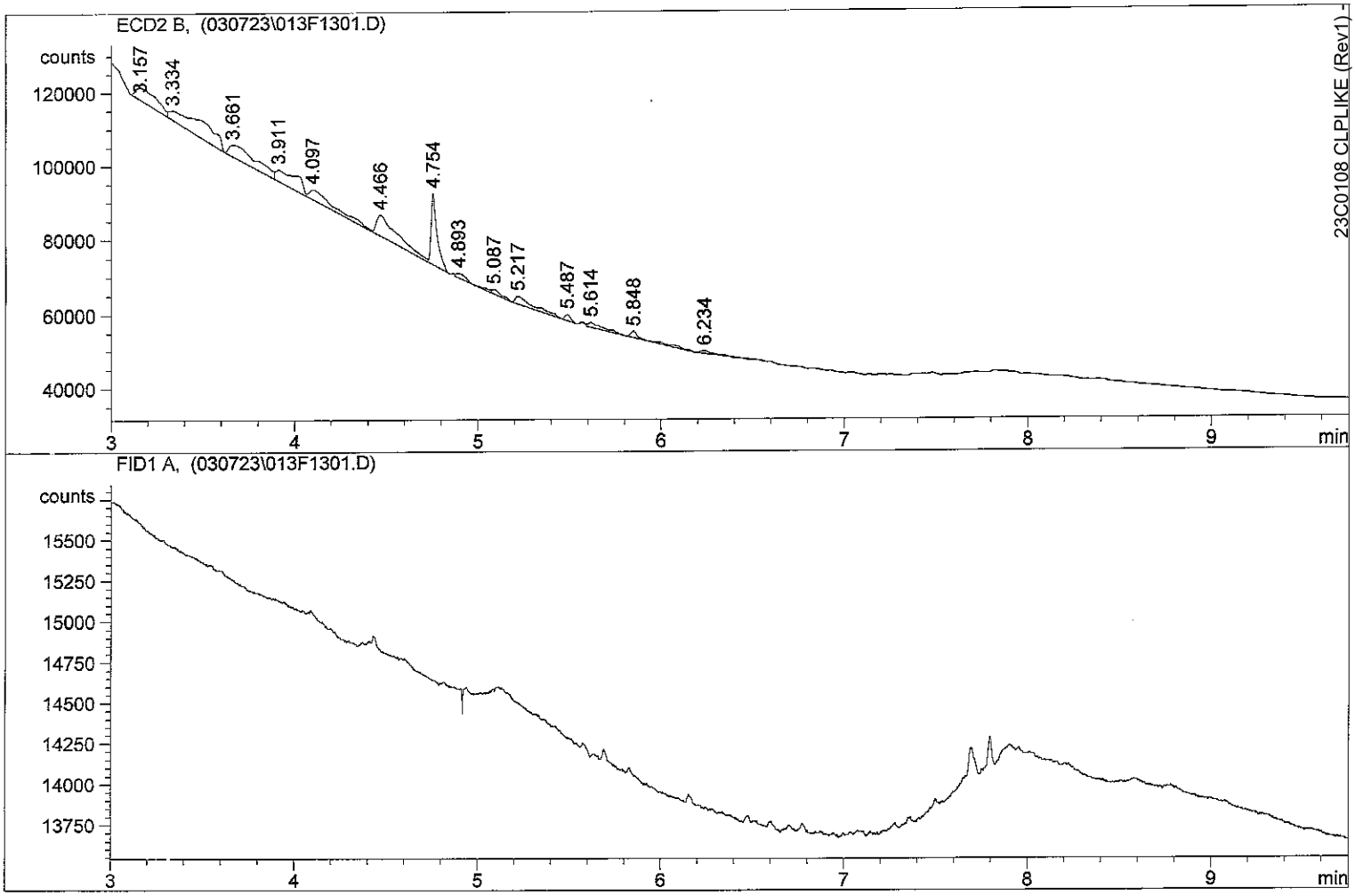
Sequence File : C:\HPCHEM\1\SEQUENCE\030723.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD



*** End of Report ***

Injection Date : 3/7/2023 6:49:03 PM Seq. Line : 13
Sample Name : 23C0108 09 Location : Vial 13
Acq. Operator : CR Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\1\SEQUENCE\030723.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD

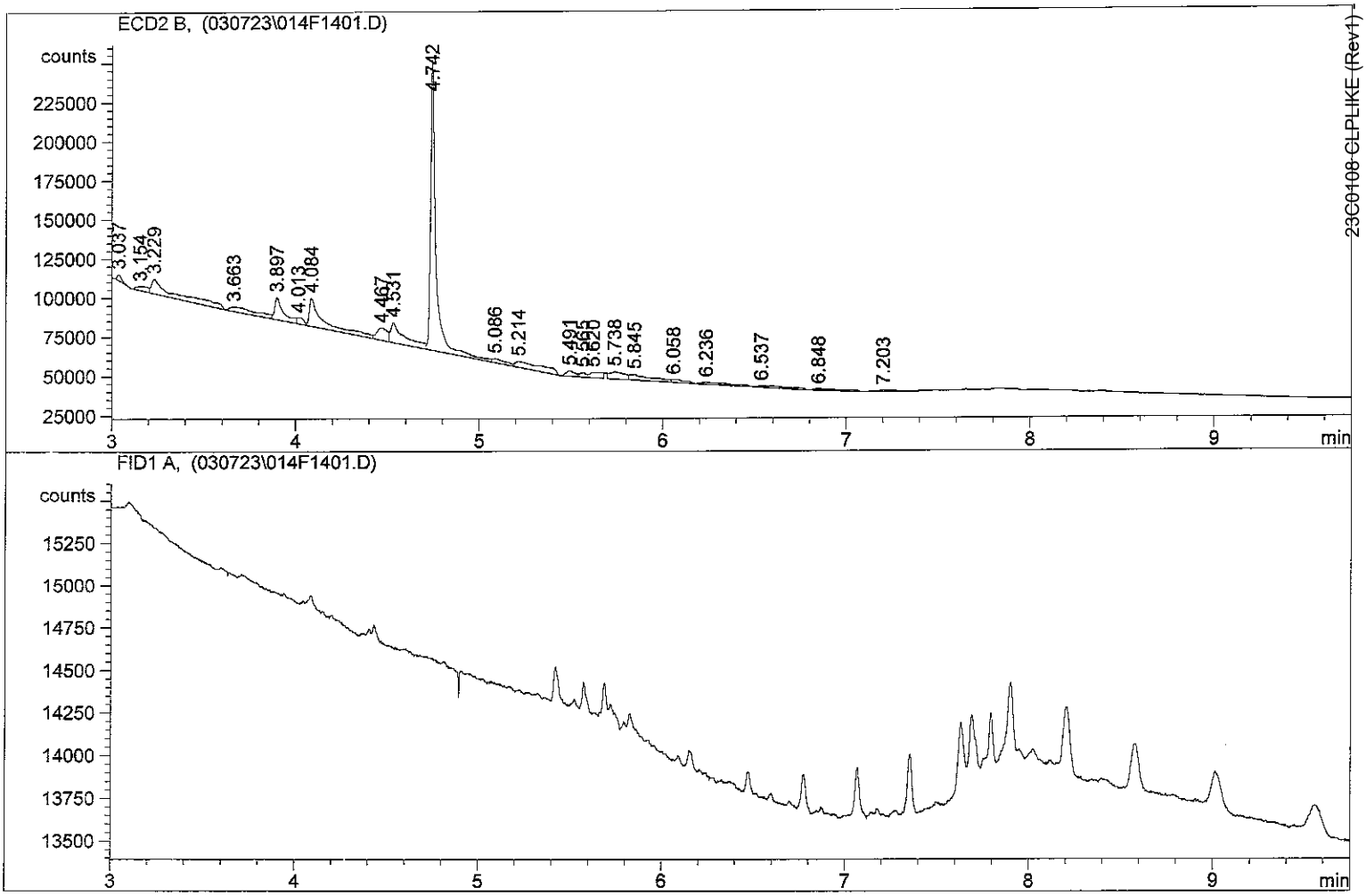


*** End of Report ***

Injection Date : 3/7/2023 7:05:21 PM
Sample Name : 23C0108 10
Acq. Operator : CR

Seq. Line : 14
Location : Vial 14
Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\1\SEQUENCE\030723.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD



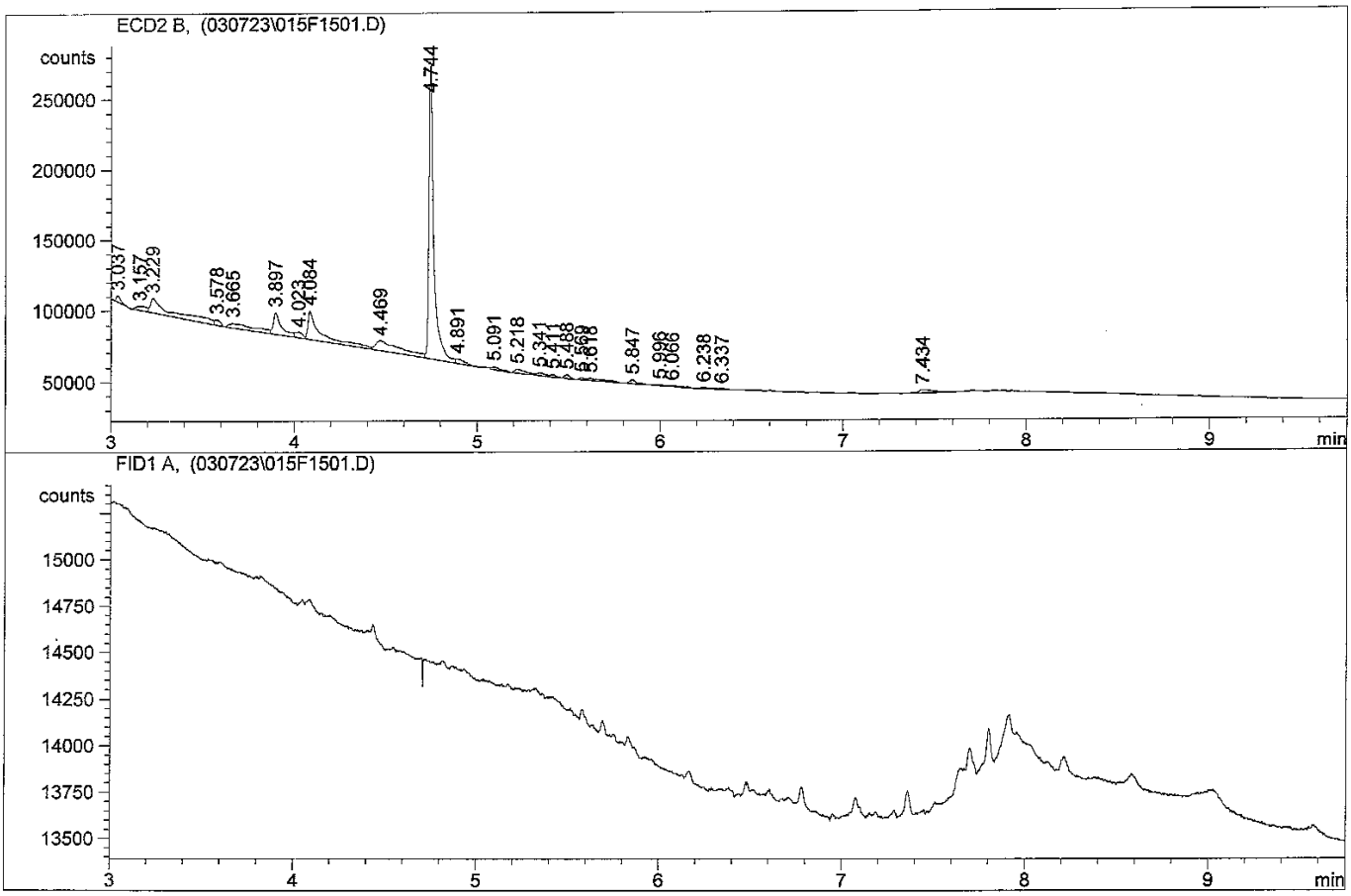
*** End of Report ***

Data File C:\HPCHEM\1\DATA\030723\016F1601.D Sample Name: 23C0109 02

Injection Date	: 3/7/2023 7:35:19 PM	Seq. Line	: 16
Sample Name	: 23C0109 02	Location	: Vial 16
Acq. Operator	: CR	Inj	: 1
		Inj Volume	: 1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\030723.S		

Data File C:\HPCHEM\1\DATA\030723\015F1501.D Sample Name: 23C0109 01

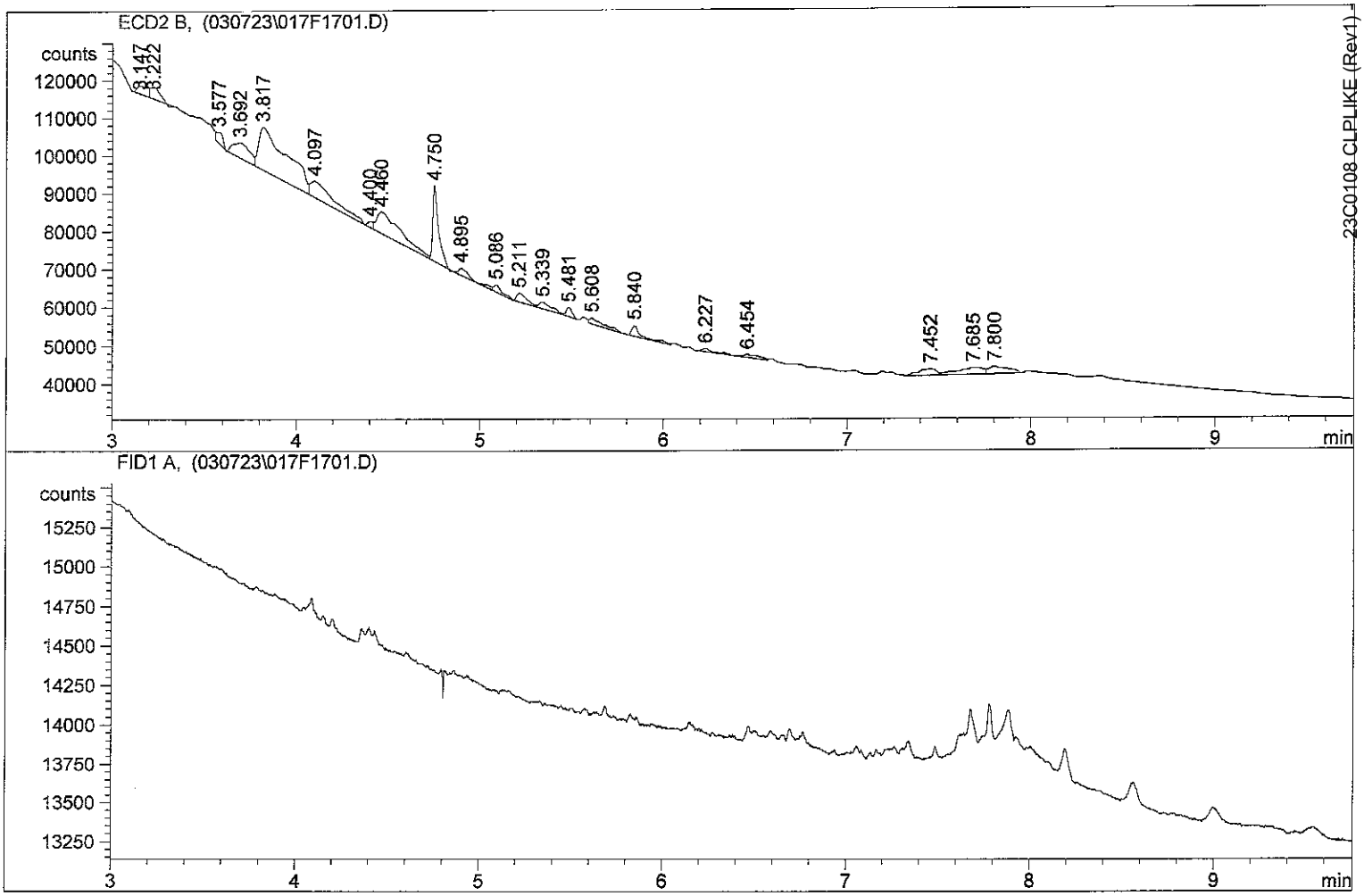
Injection Date	: 3/7/2023 7:20:19 PM	Seq. Line	: 15
Sample Name	: 23C0109 01	Location	: Vial 15
Acq. Operator	: CR	Inj	: 1
		Inj Volume	: 1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\030723.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



*** End of Report ***

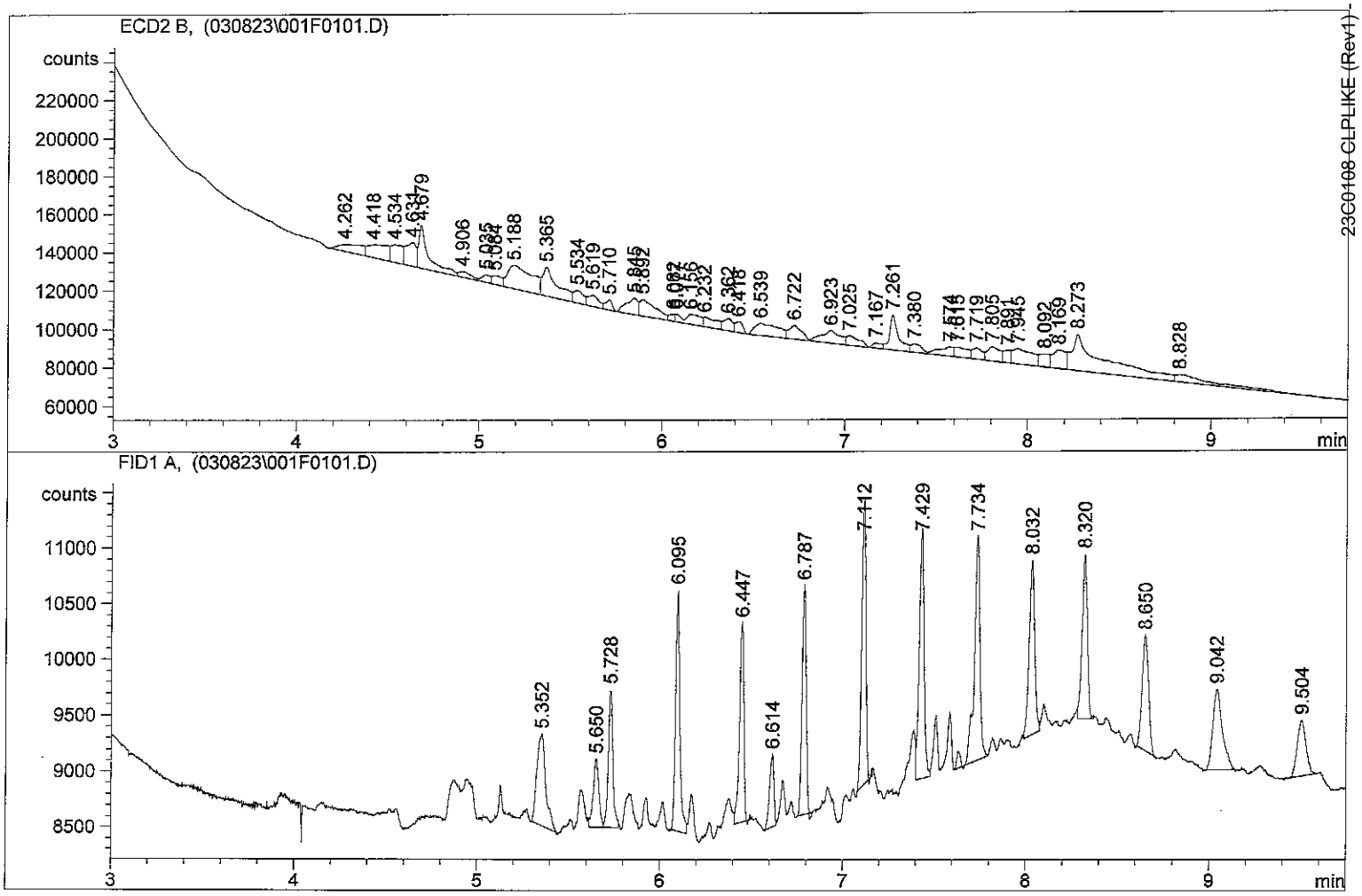
Injection Date : 3/7/2023 7:50:16 PM Seq. Line : 17
Sample Name : 23C0109 03 Location : Vial 17
Acq. Operator : CR Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\1\SEQUENCE\030723.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD



*** End of Report ***

Injection Date	: 3/8/2023 1:58:41 PM	Seq. Line :	1
Sample Name	: DCM RINSE	Location :	Vial 1
Acq. Operator	: YL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\030823.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			

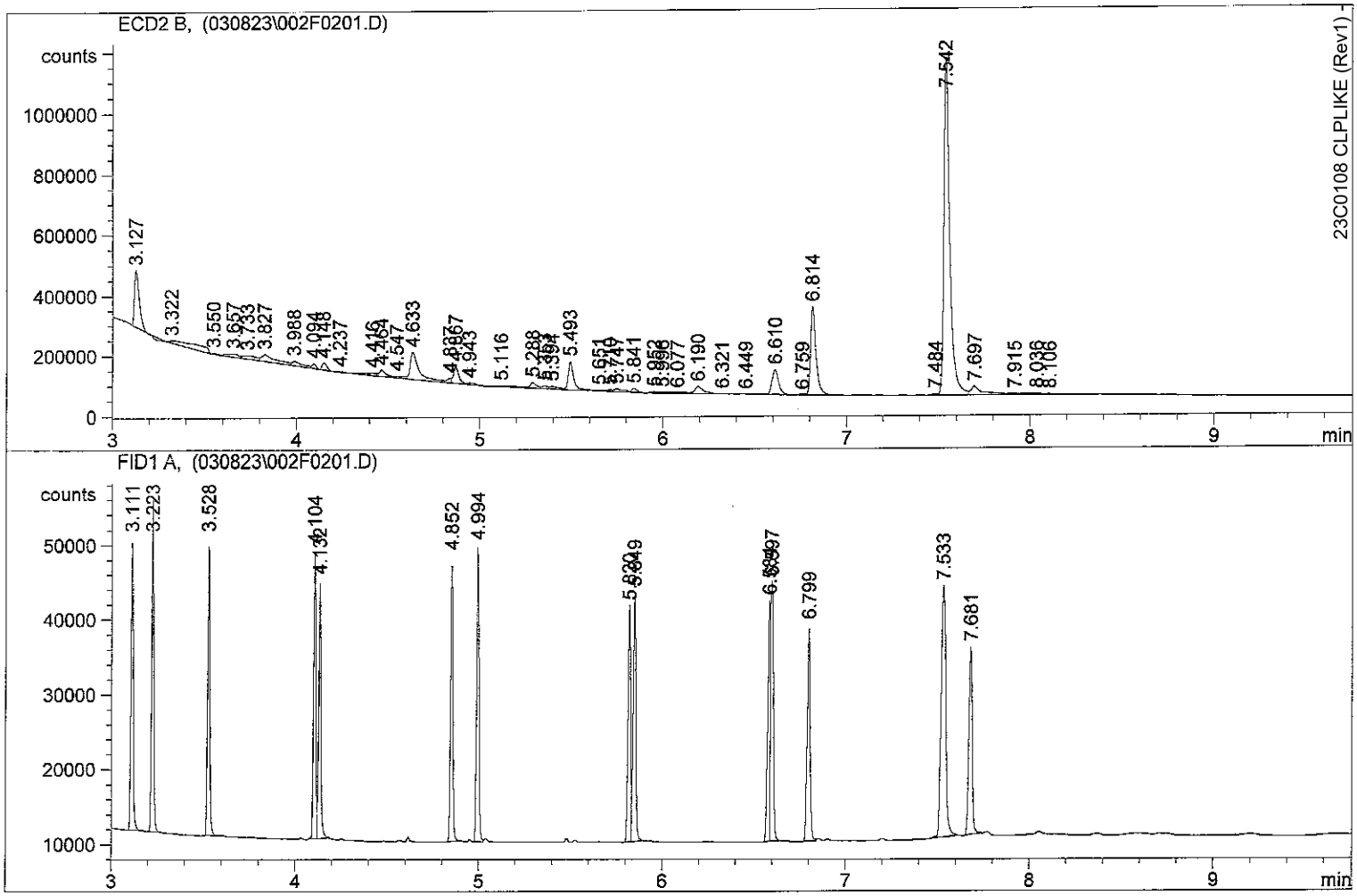


*** End of Report ***

Injection Date : 3/8/2023 2:10:01 PM
Sample Name : PNA STD 10PPM
Acq. Operator : YL

Seq. Line : 2
Location : Vial 2
Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\1\SEQUENCE\030823.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD



*** End of Report ***

Data File C:\HPCHEM\1\DATA\030823\004F0401.D

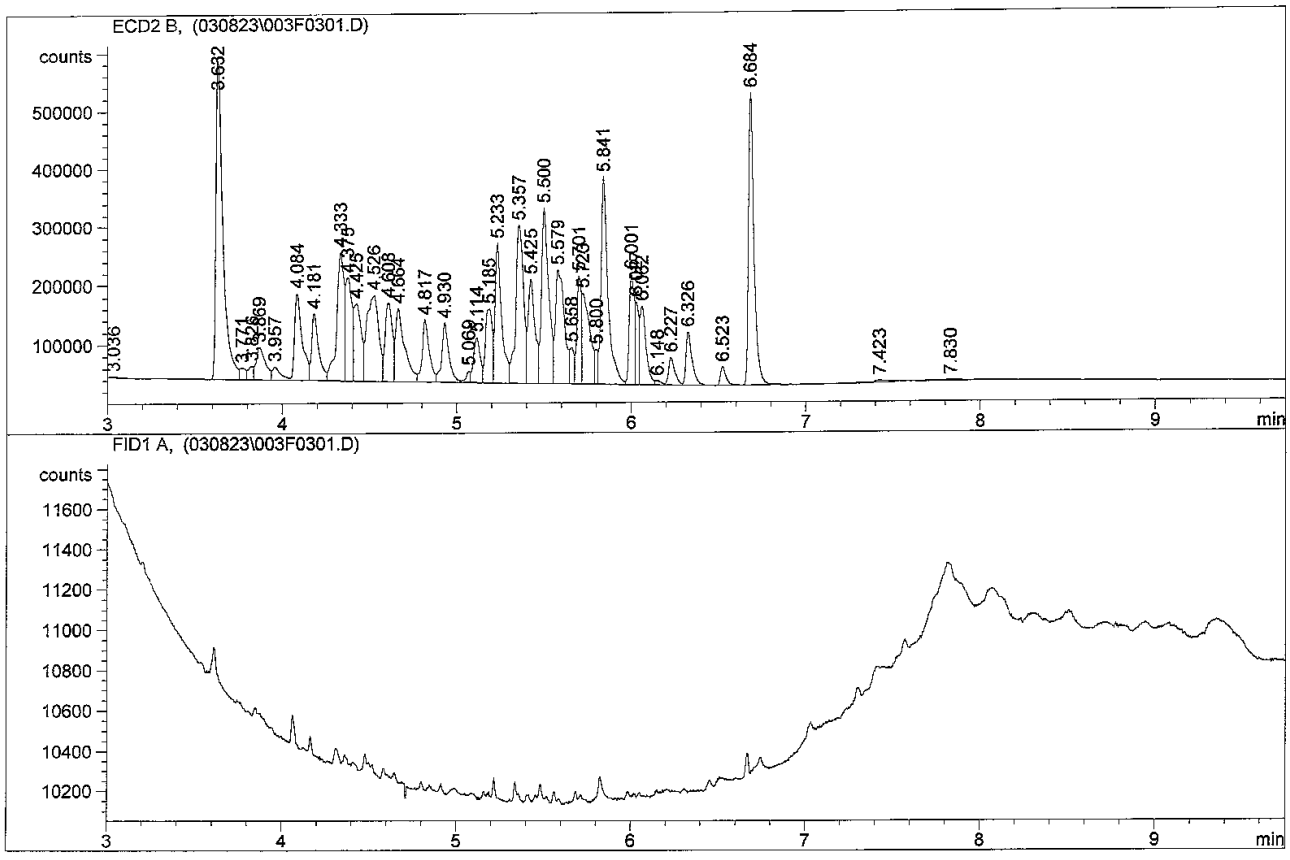
Sample Name: 23C0107 02

Injection Date	: 3/8/2023 2:42:15 PM	Seq. Line	: 4
Sample Name	: 23C0107 02	Location	: Vial 4
Acq. Operator	: YL	Inj	: 1
		Inj Volume	: 1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\030823.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			

Data File C:\HPCHEM\1\DATA\030823\003F0301.D

Sample Name: AR1660 1PPM

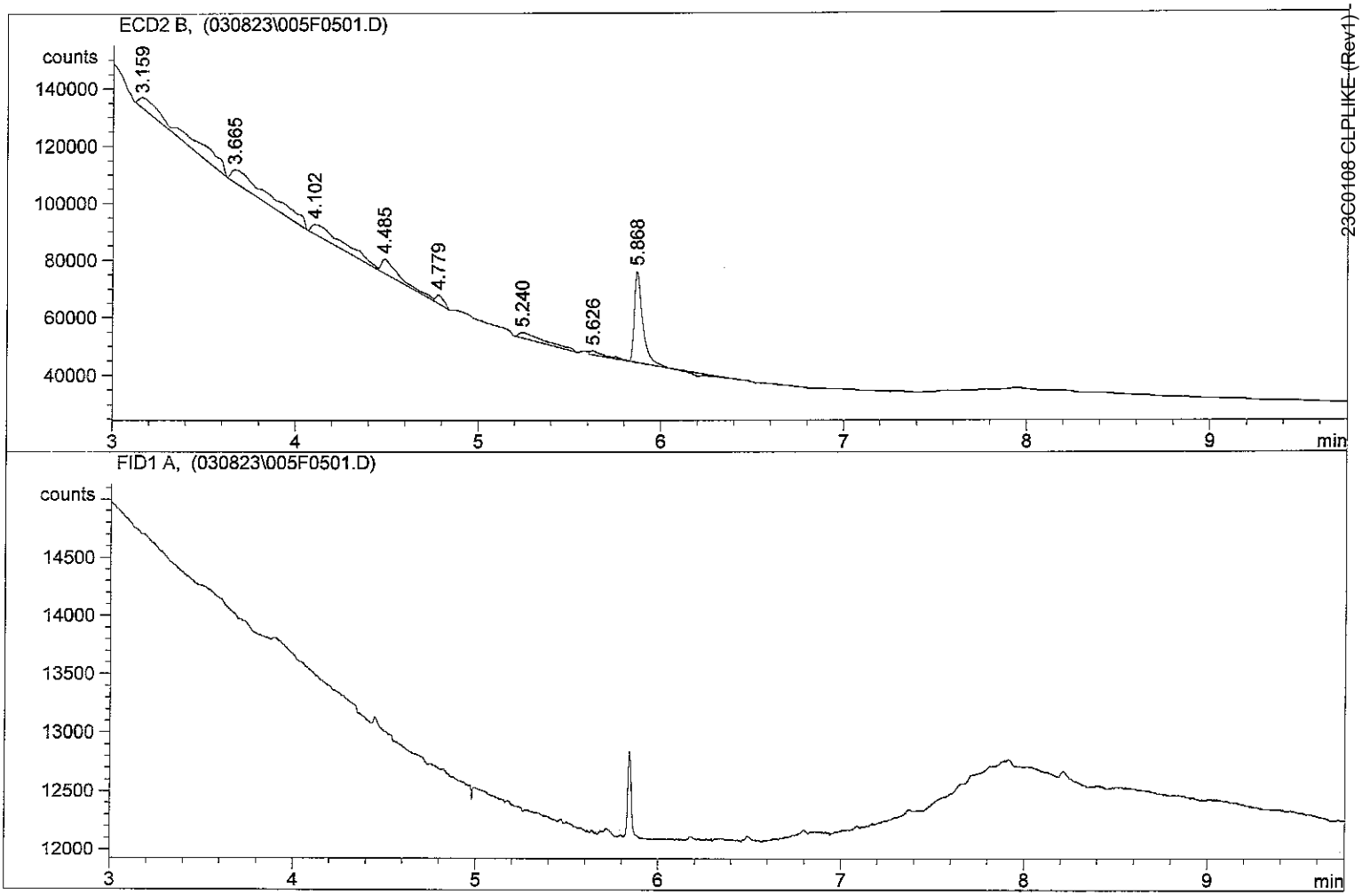
Injection Date	: 3/8/2023 2:27:57 PM	Seq. Line	: 3
Sample Name	: AR1660 1PPM	Location	: Vial 3
Acq. Operator	: YL	Inj	: 1
		Inj Volume	: 1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\030823.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



*** End of Report ***

Injection Date : 3/8/2023 2:57:30 PM Seq. Line : 5
Sample Name : 23C0107 03 Location : Vial 5
Acq. Operator : YL Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\1\SEQUENCE\030823.S
Method : C:\HPCHEM\1\METHODS\SCREEN.M
Last changed : 7/9/2021 3:37:33 AM by TW
SCREEN METHOD



*** End of Report ***

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Cleanup Batch:	CLC0117	Cleanup Type:	Silica Gel
Cleanup Method:	EPA 3630C Silica Gel Cleanup - uL	Analysis:	EPA 8082A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-SS1106	23C0108-06	03152329ECD7.D	03/15/2023	
LDW23-SC1106	23C0108-04	03152327ECD7.D	03/15/2023	
LDW23-SC1107	23C0108-03	03152326ECD7.D	03/15/2023	
LDW23-SC1044	23C0108-02	03152325ECD7.D	03/15/2023	
LDW23-SC1111	23C0108-10	03152335ECD7.D	03/15/2023	
LDW23-SC1118	23C0108-05	03152328ECD7.D	03/15/2023	
Blank	BLC0219-BLK1	03152315ECD7.D	03/15/2023	
LDW23-SS1107	23C0108-07	03152330ECD7.D	03/15/2023	
LDW23-SS1111	23C0108-08	03152333ECD7.D	03/15/2023	
LDW23-SS1118	23C0108-09	03152334ECD7.D	03/15/2023	
Reference	BLC0219-SRM1	03152318ECD7.D	03/15/2023	
LCS	BLC0219-BS1	03152316ECD7.D	03/15/2023	
LDW23-SC1037	23C0108-01	03152324ECD7.D	03/15/2023	
LCS Dup	BLC0219-BSD1	03152317ECD7.D	03/15/2023	

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CLC0117

Matrix: Solid **Cleanup using: Organics - EPA 3630C Silica Gel Cleanup - uL** **Printed: 3/15/2023 11:26:42AM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
23C0107-01	A	LDW22-SS826	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0107-02	A	LDW21-IT608C	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0107-03	A	LDW21-IT608D	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-01	A	LDW23-SC1037	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-02	A	LDW23-SC1044	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-03	A	LDW23-SC1107	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-04	A	LDW23-SC1106	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-05	A	LDW23-SC1118	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-06	A	LDW23-SS1106	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-07	A	LDW23-SS1107	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-08	A	LDW23-SS1111	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-09	A	LDW23-SS1118	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-10	A	LDW23-SC1111	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0109-01	A	LDW23-SC1104	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0109-02	A	LDW23-SS1104	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0109-03	A	LDW23-SS1105	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
BLC0219-BLK1	-	Blank	-	2.5	2.5	-	3/15/2023	LMJ	
BLC0219-BS1	-	LCS	-	2.5	2.5	-	3/15/2023	LMJ	
BLC0219-BSD1	-	LCS Dup	-	2.5	2.5	-	3/15/2023	LMJ	
BLC0219-MS1	-	Matrix Spike	-	2.5	2.5	-	3/15/2023	LMJ	
BLC0219-MSD1	-	Matrix Spike Dup	-	2.5	2.5	-	3/15/2023	LMJ	
BLC0219-SRM1	-	Reference	-	2.5	2.5	-	3/15/2023	LMJ	

CLEANUP BENCH SHEET

CLC0117

Matrix: Solid **Cleanup using: Organics - EPA 3630C Silica Gel Cleanup - uL** **Printed: 3/15/2023 11:26:42AM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Cleanup Batch:	CLC0118	Cleanup Type:	Sulfur
Cleanup Method:	EPA 3660B Sulfur Cleanup - uL	Analysis:	EPA 8082A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-SC1106	23C0108-04	03152327ECD7.D	03/15/2023	
LDW23-SC1044	23C0108-02	03152325ECD7.D	03/15/2023	
LDW23-SS1111	23C0108-08	03152333ECD7.D	03/15/2023	
LDW23-SS1107	23C0108-07	03152330ECD7.D	03/15/2023	
LDW23-SS1106	23C0108-06	03152329ECD7.D	03/15/2023	
LDW23-SC1118	23C0108-05	03152328ECD7.D	03/15/2023	
LDW23-SC1111	23C0108-10	03152335ECD7.D	03/15/2023	
LDW23-SC1037	23C0108-01	03152324ECD7.D	03/15/2023	
LDW23-SC1107	23C0108-03	03152326ECD7.D	03/15/2023	
Reference	BLC0219-SRM1	03152318ECD7.D	03/15/2023	
LDW23-SS1118	23C0108-09	03152334ECD7.D	03/15/2023	
Blank	BLC0219-BLK1	03152315ECD7.D	03/15/2023	
LCS	BLC0219-BS1	03152316ECD7.D	03/15/2023	
LCS Dup	BLC0219-BSD1	03152317ECD7.D	03/15/2023	

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CLC0118

Matrix: Solid **Cleanup using: Organics - EPA 3660B Sulfur Cleanup - uL** **Printed: 3/15/2023 11:27:26AM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
23C0107-01	A	LDW22-SS826	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0107-02	A	LDW21-IT608C	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0107-03	A	LDW21-IT608D	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-01	A	LDW23-SC1037	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-02	A	LDW23-SC1044	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-03	A	LDW23-SC1107	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-04	A	LDW23-SC1106	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-05	A	LDW23-SC1118	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-06	A	LDW23-SS1106	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-07	A	LDW23-SS1107	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-08	A	LDW23-SS1111	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-09	A	LDW23-SS1118	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-10	A	LDW23-SC1111	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0109-01	A	LDW23-SC1104	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0109-02	A	LDW23-SS1104	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0109-03	A	LDW23-SS1105	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
BLC0219-BLK1	-	Blank	-	2.5	2.5	-	3/15/2023	LMJ	
BLC0219-BS1	-	LCS	-	2.5	2.5	-	3/15/2023	LMJ	
BLC0219-BSD1	-	LCS Dup	-	2.5	2.5	-	3/15/2023	LMJ	
BLC0219-MS1	-	Matrix Spike	-	2.5	2.5	-	3/15/2023	LMJ	
BLC0219-MSD1	-	Matrix Spike Dup	-	2.5	2.5	-	3/15/2023	LMJ	
BLC0219-SRM1	-	Reference	-	2.5	2.5	-	3/15/2023	LMJ	

CLEANUP BENCH SHEET

CLC0118

Matrix: Solid **Cleanup using: Organics - EPA 3660B Sulfur Cleanup - uL** **Printed: 3/15/2023 11:27:26AM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Cleanup Batch:	CLC0119	Cleanup Type:	Sulfuric Acid
Cleanup Method:	EPA 3665 Sulfuric Acid Cleanup - uL	Analysis:	EPA 8082A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LCS Dup	BLC0219-BSD1	03152317ECD7.D	03/15/2023	
Blank	BLC0219-BLK1	03152315ECD7.D	03/15/2023	
Reference	BLC0219-SRM1	03152318ECD7.D	03/15/2023	
LCS	BLC0219-BS1	03152316ECD7.D	03/15/2023	
LDW23-SC1107	23C0108-03	03152326ECD7.D	03/15/2023	
LDW23-SC1037	23C0108-01	03152324ECD7.D	03/15/2023	
LDW23-SC1106	23C0108-04	03152327ECD7.D	03/15/2023	
LDW23-SS1118	23C0108-09	03152334ECD7.D	03/15/2023	
LDW23-SC1111	23C0108-10	03152335ECD7.D	03/15/2023	
LDW23-SC1118	23C0108-05	03152328ECD7.D	03/15/2023	
LDW23-SS1106	23C0108-06	03152329ECD7.D	03/15/2023	
LDW23-SS1107	23C0108-07	03152330ECD7.D	03/15/2023	
LDW23-SS1111	23C0108-08	03152333ECD7.D	03/15/2023	
LDW23-SC1044	23C0108-02	03152325ECD7.D	03/15/2023	

Analytical Resources, LLC
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CLC0119

Matrix: Solid **Cleanup using: Organics - EPA 3665 Sulfuric Acid Cleanup - uL** **Printed: 3/15/2023 11:28:07AM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
23C0107-01	A	LDW22-SS826	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0107-02	A	LDW21-IT608C	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0107-03	A	LDW21-IT608D	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-01	A	LDW23-SC1037	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-02	A	LDW23-SC1044	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-03	A	LDW23-SC1107	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-04	A	LDW23-SC1106	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-05	A	LDW23-SC1118	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-06	A	LDW23-SS1106	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-07	A	LDW23-SS1107	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-08	A	LDW23-SS1111	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-09	A	LDW23-SS1118	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0108-10	A	LDW23-SC1111	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0109-01	A	LDW23-SC1104	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0109-02	A	LDW23-SS1104	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
23C0109-03	A	LDW23-SS1105	A 05	2.5	2.5	8082A PCB Solid 4	3/15/2023	LMJ	
BLC0219-BLK1	-	Blank	-	2.5	2.5	-	3/15/2023	LMJ	
BLC0219-BS1	-	LCS	-	2.5	2.5	-	3/15/2023	LMJ	
BLC0219-BSD1	-	LCS Dup	-	2.5	2.5	-	3/15/2023	LMJ	
BLC0219-MS1	-	Matrix Spike	-	2.5	2.5	-	3/15/2023	LMJ	
BLC0219-MSD1	-	Matrix Spike Dup	-	2.5	2.5	-	3/15/2023	LMJ	
BLC0219-SRM1	-	Reference	-	2.5	2.5	-	3/15/2023	LMJ	

CLEANUP BENCH SHEET

CLC0119

Matrix: Solid **Cleanup using: Organics - EPA 3665 Sulfuric Acid Cleanup - uL** **Printed: 3/15/2023 11:28:07AM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I

METHOD BLANK DATA SHEET

EPA 8082A

Blank

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Solid	Laboratory ID:	BLC0219-BLK1	File ID:	03152315ECD7.D
Sampled:	N/A	Prepared:	03/10/23 11:58	Analyzed:	03/15/23 17:51
Solids:		Preparation:	EPA 3546 (Microwave)	Initial/Final:	12.5 g / 2.5 mL
Batch:	BLC0219	Sequence:	SLC0215	Calibration:	GB00069
Instrument:	ECD7	Column:	ZB5	Cleanups:	Silica Gel, Sulfur, Sulfuric Acid

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg wet)	Q	DL	RL
12674-11-2	Aroclor 1016	1	4.0	U	1.6	4.0
11104-28-2	Aroclor 1221	1	4.0	U	1.6	4.0
11141-16-5	Aroclor 1232	1	4.0	U	1.6	4.0
53469-21-9	Aroclor 1242	1	4.0	U	1.6	4.0
12672-29-6	Aroclor 1248	1	4.0	U	1.6	4.0
11097-69-1	Aroclor 1254	1	4.0	U	1.6	4.0
11096-82-5	Aroclor 1260	1	4.0	U	0.6	4.0

SURROGATES	ADDED: (ug/kg wet)	FOUND: (ug/kg wet)	% REC	QC LIMITS	Q
Decachlorobiphenyl	8.0000	5.40	67.5	40 - 126	Q
Tetrachlorometaxylene	8.0000	6.11	76.4	44 - 120	
Decachlorobiphenyl [2C]	8.0000	7.57	94.6	40 - 126	
Tetrachlorometaxylene [2C]	8.0000	6.09	76.1	44 - 120	

[2C] indicates second-column analyte, present if quantification on any batch samples used second column data.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230315.b/03152315ECD7.D
Data file 2: /230315.b/230315.b/03152315ECD7.D
Method: \\target\share\chem4\ecd7.i\230315.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BLC0219-BLK1
Client ID:
Injection Date: 15-MAR-2023 17:51
Report Date: 03/16/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.811	-0.000	522873	5.693	0.000	178764	30.6	30.5	0.3	Tetrachloro-m-xylene
13.895	-0.002	913292	14.120	-0.001	364285	27.0	37.8	33.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	1146280	70.1
Hexabromobiphenyl	1429847	3433528	140.1 <-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	400044	26.9
Hexabromobiphenyl	513946	632392	23.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	ZB5 Col Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	---			0.0	1	---			0.0
Aroclor-1248	2	---			0.0	2	---			0.0
Aroclor-1248	3	---			0.0	3	---			0.0
Aroclor-1248	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1254	1	---			0.0	1	---			0.0
Aroclor-1254	2	---			0.0	2	---			0.0
Aroclor-1254	3	---			0.0	3	---			0.0
Aroclor-1254	4	---			0.0	4	---			0.0
Aroclor-1254	5	---			0.0	5	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1260	1	---			0.0	1	---			0.0
Aroclor-1260	2	---			0.0	2	---			0.0
Aroclor-1260	3	---			0.0	3	---			0.0
Aroclor-1260	4	---			0.0	4	---			0.0
Aroclor-1260	5	---			0.0	NS	---			----
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (5.911 - 13.797) = 460481 Col1 Total PCB = 0.0 ppm*

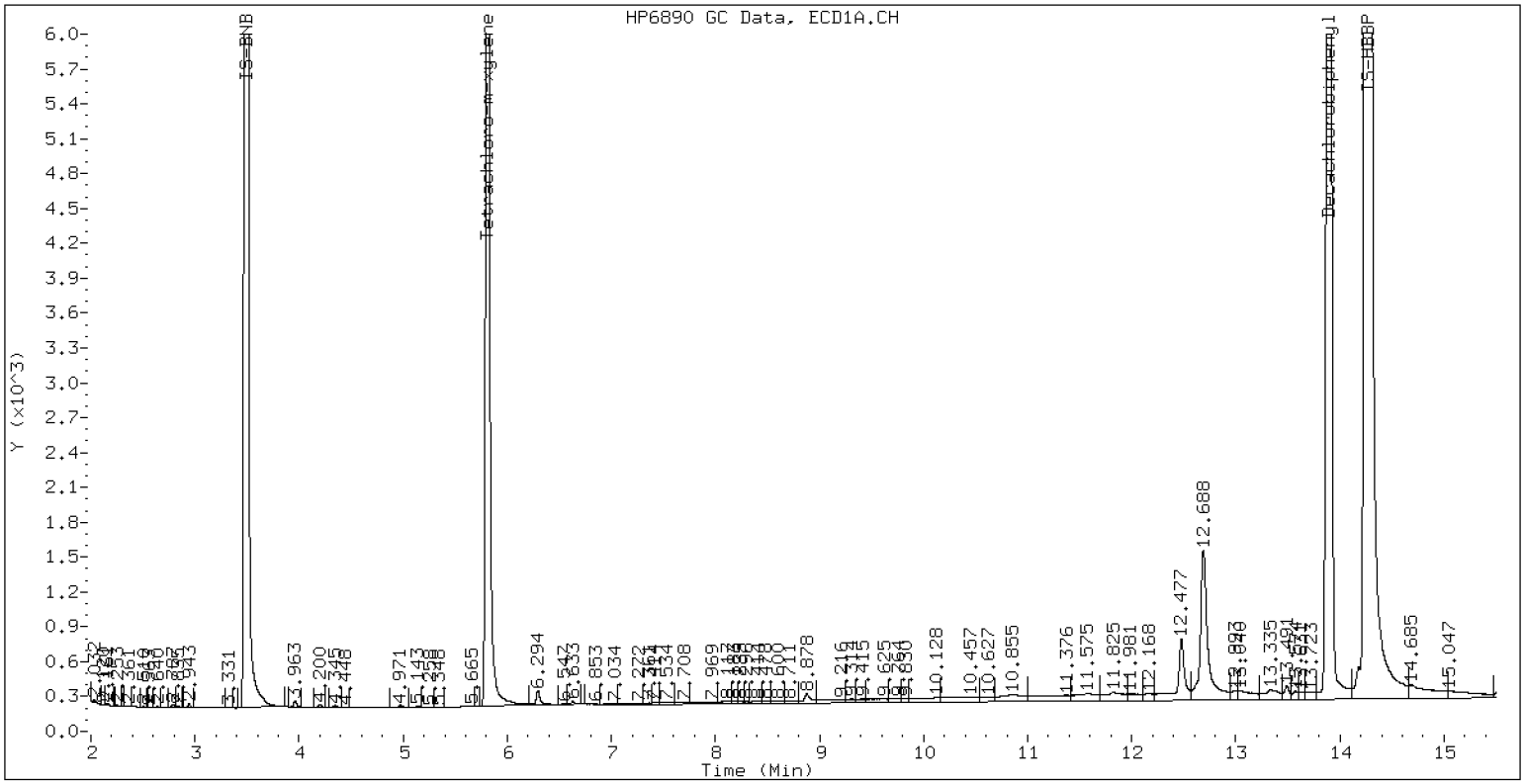
Total PCB Area Col2 (5.792 - 14.021) = 42186 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

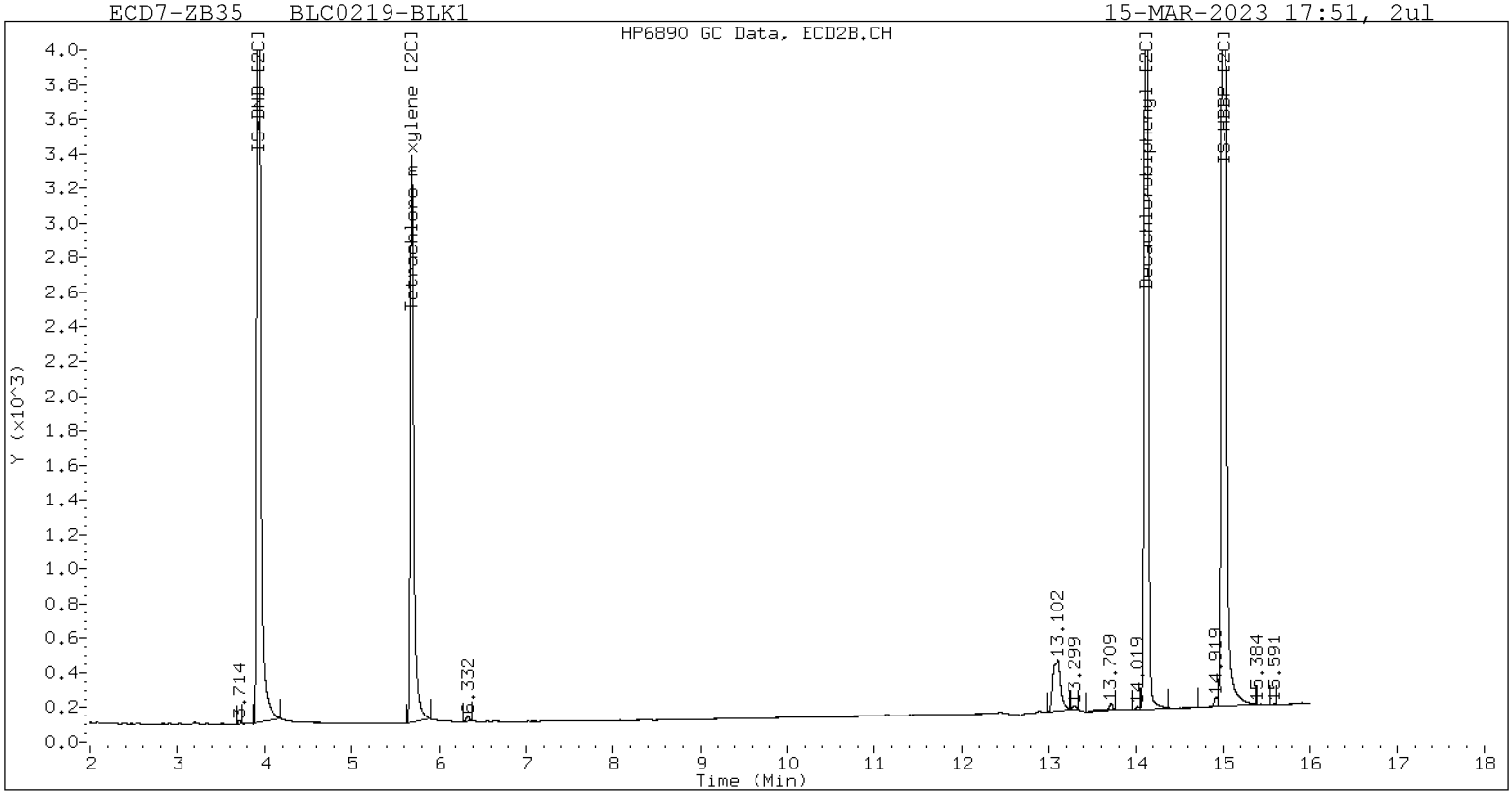
PCB Dual Column Chromatograms

ECD7-ZB5 BLC0219-BLK1 15-MAR-2023 17:51, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 BLC0219-BLK1 15-MAR-2023 17:51, 2ul



ZB-35 Manual Integration: NO

LCS / LCS DUPLICATE RECOVERY

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	03/15/23 18:12
Batch:	BLC0219	Laboratory ID:	BLC0219-BS1
Preparation:	EPA 3546 (Microwave)	Sequence Name:	LCS
Initial/Final:	12.5 g / 2.5 mL		

COMPOUND	SPIKE ADDED (ug/kg wet)	LCS CONCENTRATION (ug/kg wet)	Q	LCS % REC. #	QC LIMITS REC.
Aroclor 1016	101	77.5		76.9	56 - 120
Aroclor 1260 [2C]	101	84.1		83.4	58 - 120

* Indicates values outside of QC limits

COMPOUND	SPIKE ADDED (ug/kg wet)	LCSD CONCENTRATION (ug/kg wet)	Q	LCSD % REC. #	% RPD #	QC LIMITS	
						RPD	REC.
Aroclor 1016	101	75.1		74.5	3.16	30	56 - 120
Aroclor 1260 [2C]	101	80.2		79.5	4.80	30	58 - 120

* Indicates values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230315.b/03152316ECD7.D
Data file 2: /230315.b/230315.b/03152316ECD7.D
Method: \\target\share\chem4\ecd7.i\230315.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BLC0219-BS1
Client ID:
Injection Date: 15-MAR-2023 18:12
Report Date: 03/16/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.810	-0.001	505228	5.692	0.000	169498	28.8	28.4	1.4	Tetrachloro-m-xylene
13.895	-0.002	820992	14.121	-0.000	345231	25.4	35.4	33.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	1175579	74.5
Hexabromobiphenyl	1429847	3282396	129.6 <-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	406961	29.1
Hexabromobiphenyl	513946	639731	24.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.272	0.001	165452	370.6	1	7.258	-0.001	84544	354.9
Aroclor-1016	2	7.659	0.004	542962	398.9	2	7.865	-0.007	193216	399.9
Aroclor-1016	3	7.795	0.005	256696	386.3	3	8.062	-0.007	82957	380.2
Aroclor-1016	4	8.408	0.003	169765	395.2	4	8.310	-0.003	65082	380.2
Total Col1Ave (4 peaks):					387.7	Total Col2Ave (4 peaks):				378.8 RPD = 2
Corrected Ave (3 peaks):					384.0	Corrected Ave (3 peaks):				371.8 RPD = 3
Aroclor-1221	1	4.732	0.001	1056	10.0	1	---			0.0
Aroclor-1221	2	6.133	0.001	20438	108.5	2	6.303	0.006	7640	104.8
Aroclor-1221	3	6.385	0.003	101771	232.8	3	6.627	0.005	37823	318.7
Total Col1Ave (3 peaks):					117.1	Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	4.732	0.002	1056	16.8	1	---			0.0
Aroclor-1232	2	6.133	0.002	20438	163.6	2	7.258	0.004	84544	817.1
Aroclor-1232	3	7.659	0.003	542962	960.3	3	7.865	0.005	193216	933.9
Aroclor-1232	4	8.583	0.002	221624	922.2	4	8.717	0.002	60876	1022.4
Total Col1Ave (4 peaks):					515.7	Total Col2Ave (3 peaks):				924.5 RPD = 57*
Corrected Ave (3 peaks):					367.6	Corrected Ave: < 3 Peaks				
Aroclor-1242	1	7.272	0.001	165452	454.1	1	7.258	-0.000	84544	447.1
Aroclor-1242	2	7.659	0.003	542962	490.8	2	7.865	-0.007	193216	486.1
Aroclor-1242	3	8.408	0.003	169765	493.2	3	9.172	-0.012	12712	102.8
Aroclor-1242	4	8.583	0.004	221624	435.5	4	9.596	-0.019	4847	32.2
Total Col1Ave (4 peaks):					468.4	Total Col2Ave (4 peaks):				267.1 RPD = 55*
Corrected Ave (3 peaks):					460.1	Corrected Ave (3 peaks):				194.0 RPD = 81*
Aroclor-1248	1	8.408	-0.003	169765	296.0	1	8.310	-0.004	65082	334.9
Aroclor-1248	2	8.583	-0.006	221624	304.0	2	8.717	-0.004	60876	303.0
Aroclor-1248	3	8.996	-0.003	249587	181.5	3	9.172	-0.012	12712	55.0
Aroclor-1248	4	9.304	0.002	204400	291.9	4	9.596	-0.016	4847	17.5
Total Col1Ave (4 peaks):					268.3	Total Col2Ave (4 peaks):				177.6 RPD = 41*
Corrected Ave (3 peaks):					256.4	Corrected Ave (3 peaks):				125.2 RPD = 69*
Aroclor-1254	1	9.304	0.005	204400	173.2	1	9.455	-0.003	57853	187.0
Aroclor-1254	2	---			0.0	2	9.977	-0.001	12977	52.2
Aroclor-1254	3	9.672	0.004	36986	48.7	3	10.150	0.016	121936	226.5
Aroclor-1254	4	9.811	0.003	110263	74.7	4	10.374	-0.008	158759	302.5
Aroclor-1254	5	10.124	-0.053	532040	575.2	5	10.572	-0.006	214656	671.7
Total Col1Ave (4 peaks):					218.0	Total Col2Ave (5 peaks):				288.0 RPD = 28
Corrected Ave (3 peaks):					98.9	Corrected Ave (4 peaks):				192.0 RPD = 64*
Aroclor-1260	1	11.046	0.002	445965	377.7	1	11.656	-0.002	163908	435.7
Aroclor-1260	2	11.366	0.005	472295	382.8	2	11.922	-0.003	419560	437.0
Aroclor-1260	3	11.740	0.006	1247475	381.2	3	12.438	-0.002	104052	408.4
Aroclor-1260	4	12.145	0.005	630448	382.6	4	12.506	-0.002	259564	401.1
Aroclor-1260	5	12.248	0.003	262882	370.6	NS	---			----
Total Col1Ave (5 peaks):					379.0	Total Col2Ave (4 peaks):				420.6 RPD = 10
Corrected Ave (4 peaks):					378.0	Corrected Ave (3 peaks):				415.1 RPD = 9
Aroclor-1262	1	10.832	0.003	874128	868.1	1	11.202	0.002	155807	285.2
Aroclor-1262	2	12.248	0.004	262882	160.4	2	11.656	0.005	163908	352.3
Aroclor-1262	3	12.322	0.004	317745	180.4	3	12.438	0.005	104052	197.1
Aroclor-1262	4	12.991	0.003	282892	175.7	4	12.506	0.004	259564	313.9
Total Col1Ave (4 peaks):					346.2	Total Col2Ave (4 peaks):				287.1 RPD = 19
Corrected Ave (3 peaks):					172.2	Corrected Ave (3 peaks):				265.4 RPD = 43*
Aroclor-1268	1	12.248	0.001	262882	62.5	1	12.438	0.006	104052	80.8
Aroclor-1268	2	12.322	0.005	317745	76.3	2	12.506	0.006	259564	187.4
Aroclor-1268	3	12.724	0.024	295205	82.8	3	12.894	0.002	8197	6.9
Aroclor-1268	4	13.489	-0.001	58733	5.0	4	13.710	0.001	32458	8.6
Total Col1Ave (4 peaks):					56.7	Total Col2Ave (4 peaks):				70.9 RPD = 22
Corrected Ave (3 peaks):					47.9	Corrected Ave (3 peaks):				32.1 RPD = 40

Total PCB Area Col1 (5.911 - 13.797) = 12127048 Col1 Total PCB = 0.9 ppm*

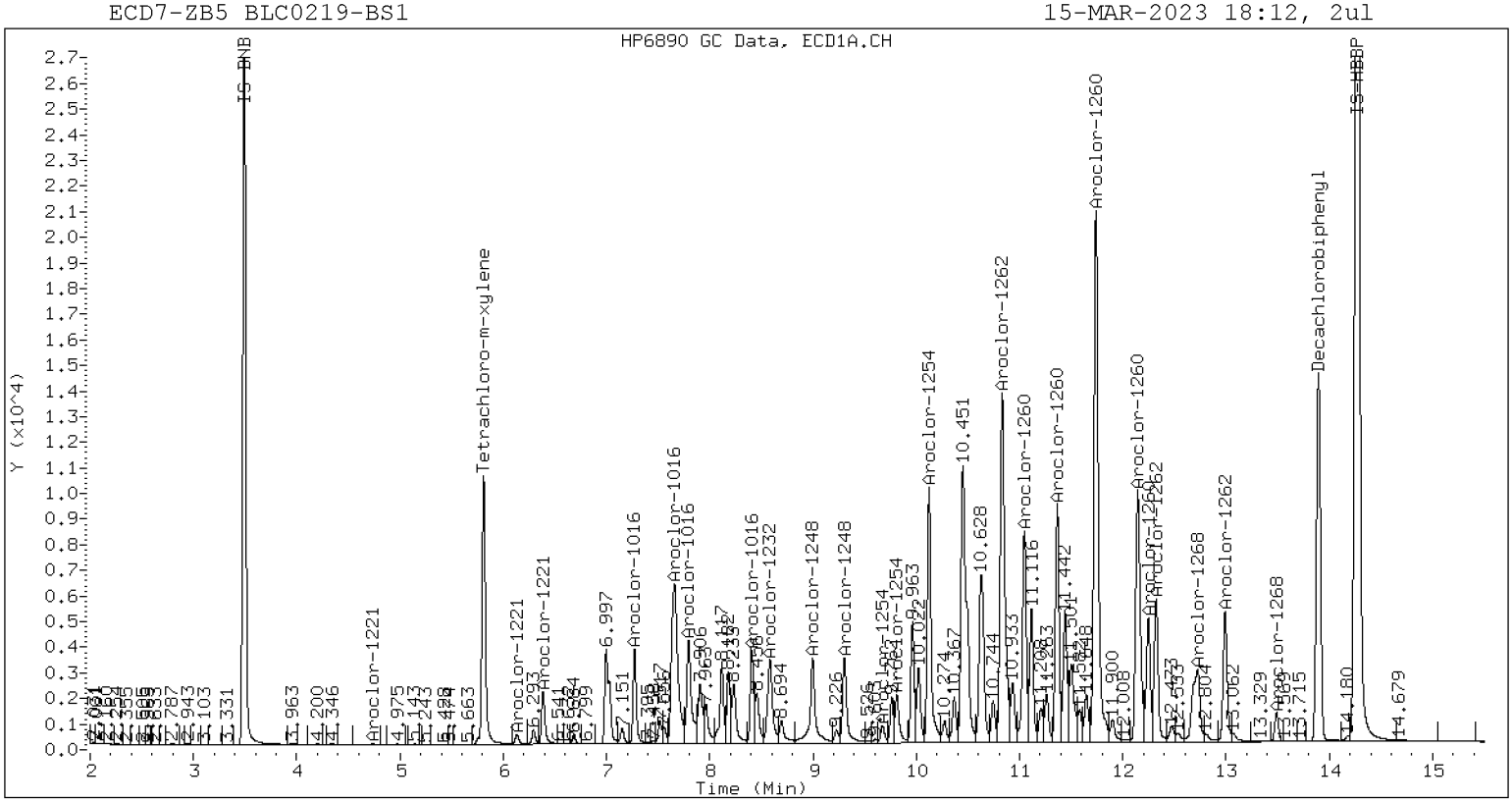
Total PCB Area Col2 (5.792 - 14.021) = 3866444 Col2 Total PCB = 0.8 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

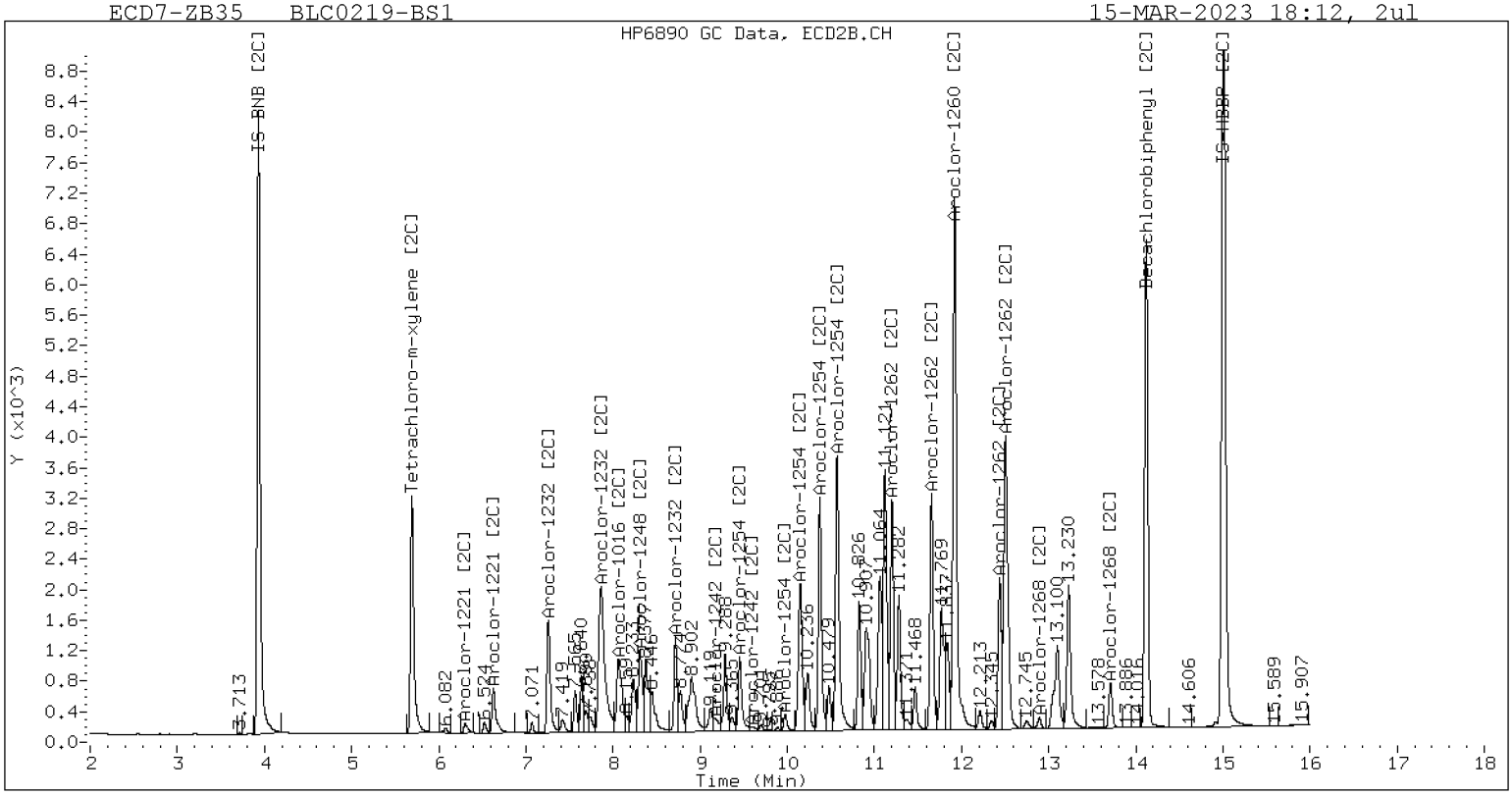
PCB Dual Column Chromatograms

ECD7-ZB5 BLC0219-BS1 15-MAR-2023 18:12, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 BLC0219-BS1 15-MAR-2023 18:12, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230315.b/03152317ECD7.D
Data file 2: /230315.b/230315.b/03152317ECD7.D
Method: \\target\share\chem4\ecd7.i\230315.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BLC0219-BSD1
Client ID:
Injection Date: 15-MAR-2023 18:32
Report Date: 03/16/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.811	-0.000	509497	5.691	-0.001	168621	29.7	29.0	2.6	Tetrachloro-m-xylene
13.895	-0.002	856490	14.121	0.000	356293	25.9	36.8	34.8	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	1147217	70.3
Hexabromobiphenyl	1429847	3363429	135.2 <-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	396521	25.8
Hexabromobiphenyl	513946	636625	23.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.272	0.001	156687	359.6	1	7.258	-0.001	79128	340.9
Aroclor-1016	2	7.659	0.005	511641	385.2	2	7.864	-0.009	179841	382.1
Aroclor-1016	3	7.795	0.004	240839	371.4	3	8.061	-0.008	76688	360.7
Aroclor-1016	4	8.407	0.002	162007	386.5	4	8.310	-0.003	60260	361.3
Total Col1Ave (4 peaks):					375.7	Total Col2Ave (4 peaks):				361.2 RPD = 4
Corrected Ave (3 peaks):					372.1	Corrected Ave (3 peaks):				354.3 RPD = 5
Aroclor-1221	1	4.732	0.001	800	7.8	1	---			0.0
Aroclor-1221	2	6.133	0.001	19310	105.1	2	6.302	0.005	7181	101.1
Aroclor-1221	3	6.386	0.003	95967	225.0	3	6.627	0.005	34588	299.1
Total Col1Ave (3 peaks):					112.6	Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	4.732	0.001	800	13.0	1	---			0.0
Aroclor-1232	2	6.133	0.002	19310	158.4	2	7.258	0.004	79128	784.9
Aroclor-1232	3	7.659	0.003	511641	927.3	3	7.864	0.003	179841	892.1
Aroclor-1232	4	8.581	0.001	208312	888.3	4	8.717	0.002	56684	977.0
Total Col1Ave (4 peaks):					496.8	Total Col2Ave (3 peaks):				884.7 RPD = 56*
Corrected Ave (3 peaks):					353.2	Corrected Ave: < 3 Peaks				
Aroclor-1242	1	7.272	0.001	156687	440.7	1	7.258	0.000	79128	429.5
Aroclor-1242	2	7.659	0.003	511641	473.9	2	7.864	-0.009	179841	464.4
Aroclor-1242	3	8.407	0.002	162007	482.3	3	9.169	-0.015	11884	98.6
Aroclor-1242	4	8.581	0.002	208312	419.5	4	9.595	-0.020	4463	30.4
Total Col1Ave (4 peaks):					454.1	Total Col2Ave (4 peaks):				255.7 RPD = 56*
Corrected Ave (3 peaks):					444.7	Corrected Ave (3 peaks):				186.2 RPD = 82*
Aroclor-1248	1	8.407	-0.004	162007	289.4	1	8.310	-0.004	60260	318.3
Aroclor-1248	2	8.581	-0.008	208312	292.8	2	8.717	-0.004	56684	289.6
Aroclor-1248	3	8.996	-0.003	236013	175.8	3	9.169	-0.015	11884	52.8
Aroclor-1248	4	9.303	0.001	193824	283.6	4	9.595	-0.017	4463	16.5
Total Col1Ave (4 peaks):					260.4	Total Col2Ave (4 peaks):				169.3 RPD = 42*
Corrected Ave (3 peaks):					249.6	Corrected Ave (3 peaks):				119.6 RPD = 70*
Aroclor-1254	1	9.303	0.004	193824	168.3	1	9.454	-0.003	54042	179.3
Aroclor-1254	2	---			0.0	2	9.975	-0.003	11939	49.2
Aroclor-1254	3	9.672	0.004	35440	47.9	3	10.149	0.015	115278	219.8
Aroclor-1254	4	9.810	0.002	105459	73.2	4	10.374	-0.008	149660	292.7
Aroclor-1254	5	10.123	-0.054	507832	562.6	5	10.571	-0.006	202596	650.7
Total Col1Ave (4 peaks):					213.0	Total Col2Ave (5 peaks):				278.3 RPD = 27
Corrected Ave (3 peaks):					96.4	Corrected Ave (4 peaks):				185.2 RPD = 63*
Aroclor-1260	1	11.046	0.002	427442	353.3	1	11.656	-0.002	155028	414.1
Aroclor-1260	2	11.364	0.003	447379	353.9	2	11.921	-0.004	396758	415.3
Aroclor-1260	3	11.740	0.006	1197748	357.2	3	12.439	-0.001	98681	389.2
Aroclor-1260	4	12.145	0.005	603082	357.2	4	12.506	-0.002	247781	384.8
Aroclor-1260	5	12.247	0.003	251936	346.6	NS	---			----
Total Col1Ave (5 peaks):					353.6	Total Col2Ave (4 peaks):				400.9 RPD = 13
Corrected Ave (4 peaks):					352.7	Corrected Ave (3 peaks):				396.0 RPD = 12
Aroclor-1262	1	10.831	0.002	840450	814.6	1	11.202	0.001	146805	270.1
Aroclor-1262	2	12.247	0.003	251936	150.1	2	11.656	0.005	155028	334.9
Aroclor-1262	3	12.322	0.003	304569	168.7	3	12.439	0.005	98681	187.9
Aroclor-1262	4	12.992	0.005	270844	164.2	4	12.506	0.004	247781	301.1
Total Col1Ave (4 peaks):					324.4	Total Col2Ave (4 peaks):				273.5 RPD = 17
Corrected Ave (3 peaks):					161.0	Corrected Ave (3 peaks):				253.0 RPD = 44*
Aroclor-1268	1	12.247	0.000	251936	58.5	1	12.439	0.007	98681	77.0
Aroclor-1268	2	12.322	0.005	304569	71.4	2	12.506	0.006	247781	179.8
Aroclor-1268	3	12.725	0.026	228129	62.5	3	12.895	0.003	7373	6.3
Aroclor-1268	4	13.489	-0.001	59947	5.0	4	13.711	0.002	30712	8.2
Total Col1Ave (4 peaks):					49.3	Total Col2Ave (4 peaks):				67.8 RPD = 32
Corrected Ave (3 peaks):					42.0	Corrected Ave (3 peaks):				30.5 RPD = 32

Total PCB Area Col1 (5.911 - 13.797) = 11521339 Col1 Total PCB = 0.8 ppm*

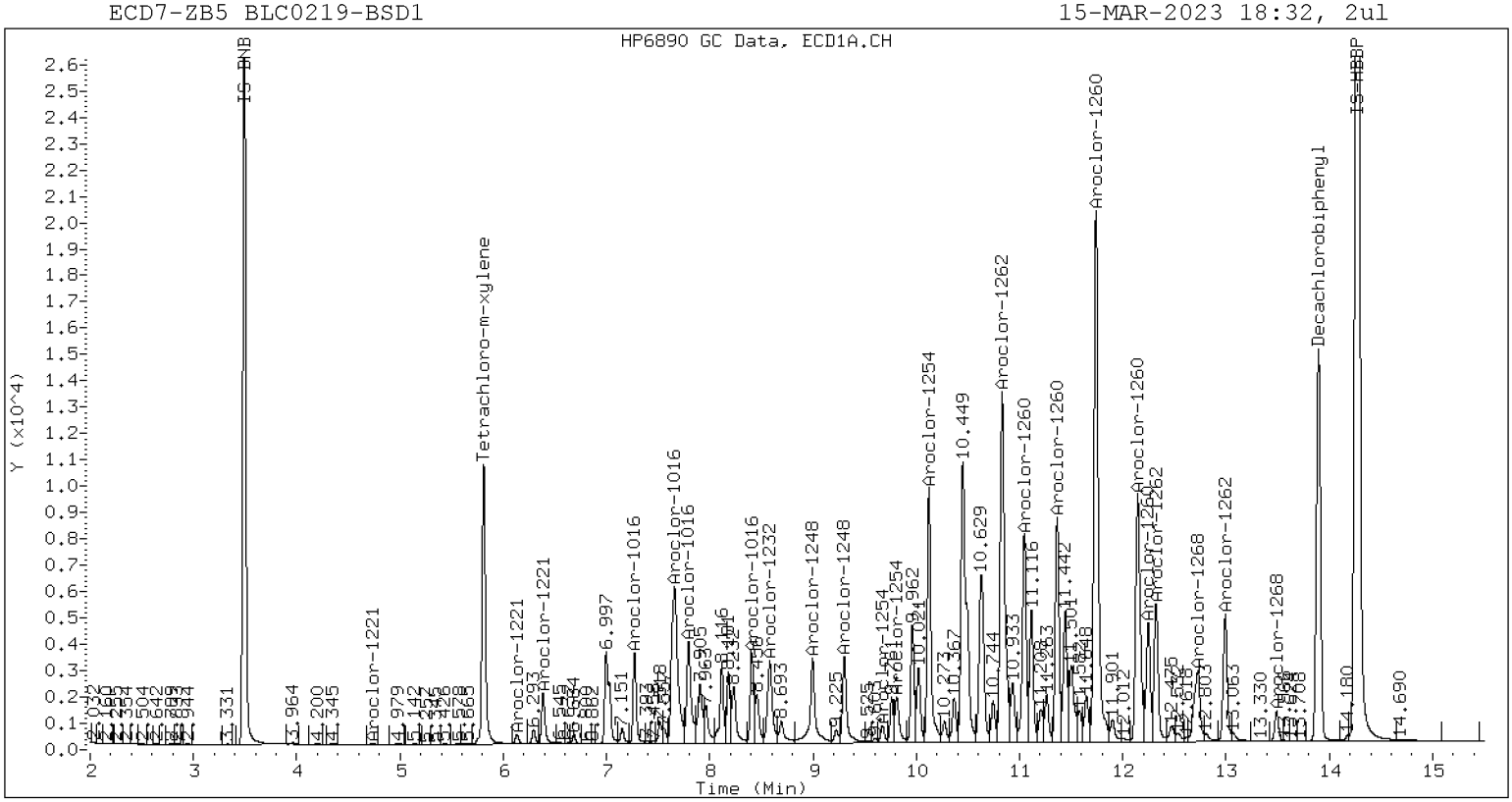
Total PCB Area Col2 (5.792 - 14.021) = 3622606 Col2 Total PCB = 0.8 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

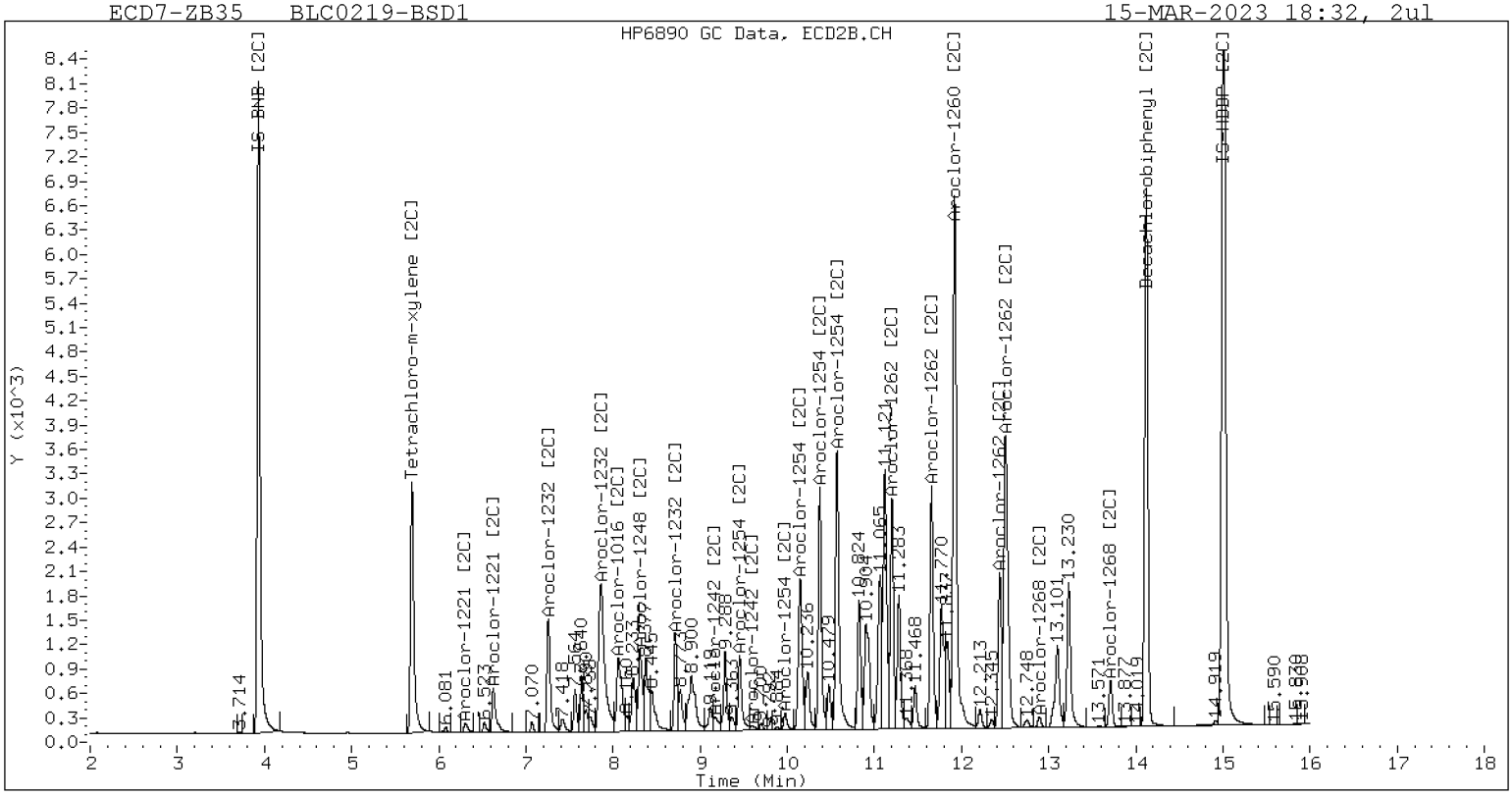
PCB Dual Column Chromatograms

ECD7-ZB5 BLC0219-BSD1 15-MAR-2023 18:32, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 BLC0219-BSD1 15-MAR-2023 18:32, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, LLC
Analytical Chemists and Consultants

STANDARD REFERENCE MATERIAL RECOVERY

EPA 8082A

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Laboratory ID: BLC0219-SRM1
Batch: BLC0219
Initial/Final: 2.5 g / 2.5 mL
Preparation: EPA 3546 (Microwave)
Analyzed: 03/15/2023 18:53
Standard ID: K003527
Expires: 04/12/2023
Standard Lot#: PSRM0150
Description: Puget Sound reference-SRM

ANALYTE	TRUE (ug/kg wet)	FOUND (ug/kg wet)	MDL	MRL	Q	SRM % REC.	QC LIMITS REC.
Aroclor 1260	108.00	94.4	2.9	20.0		87.5	38 - 167
Aroclor 1260 [2C]	108.00	104	2.9	20.0		96.2	38 - 167

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230315.b/03152318ECD7.D
Data file 2: /230315.b/230315.b/03152318ECD7.D
Method: \\target\share\chem4\ecd7.i\230315.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BLC0219-SRM1
Client ID:
Injection Date: 15-MAR-2023 18:53
Report Date: 03/16/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.809	-0.002	470266	5.689	-0.003	166609	28.5	29.8	4.3	Tetrachloro-m-xylene
13.890	-0.007	535631	14.116	-0.005	262363	27.9	31.9	13.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	1103257	63.7
Hexabromobiphenyl	1429847	1949653	36.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	380915	20.8
Hexabromobiphenyl	513946	540684	5.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.240	-0.030	25069	59.8	1	7.266	0.007	6634	29.8
Aroclor-1016	2	7.653	-0.001	15881	12.4	2	7.858	-0.014	9864	21.8
Aroclor-1016	3	7.798	0.008	9834	15.8	3	8.054	-0.015	1215	5.9
Aroclor-1016	4	8.404	-0.001	13537	33.6	4	8.306	-0.008	6601	41.2
Total Col1Ave (4 peaks):					30.4	Total Col2Ave (4 peaks):				24.7 RPD = 21
Corrected Ave (3 peaks):					20.6	Corrected Ave (3 peaks):				19.2 RPD = 7
Aroclor-1221	1	4.788	0.057	287	2.9	1	4.945	-0.011	817	22.7
Aroclor-1221	2	6.077	-0.055	10520	59.5	2	6.352	0.056	11300	165.6
Aroclor-1221	3	6.393	0.011	3516	8.6	3	6.644	0.022	3922	35.3
Total Col1Ave (3 peaks):					23.7	Total Col2Ave (3 peaks):				74.5 RPD = 104*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.788	0.058	287	4.9	1	4.945	-0.011	817	41.9
Aroclor-1232	2	6.077	-0.054	10520	89.7	2	7.266	0.012	6634	68.5
Aroclor-1232	3	7.653	-0.003	15881	29.9	3	7.858	-0.003	9864	50.9
Aroclor-1232	4	8.574	-0.006	13130	58.2	4	8.712	-0.003	4576	82.1
Total Col1Ave (4 peaks):					45.7	Total Col2Ave (4 peaks):				60.9 RPD = 28
Corrected Ave (3 peaks):					31.0	Corrected Ave (3 peaks):				53.8 RPD = 54*
Aroclor-1242	1	7.240	-0.031	25069	73.3	1	7.266	0.008	6634	37.5
Aroclor-1242	2	7.653	-0.003	15881	15.3	2	7.858	-0.014	9864	26.5
Aroclor-1242	3	8.404	-0.002	13537	41.9	3	9.155	-0.029	6244	53.9
Aroclor-1242	4	8.574	-0.005	13130	27.5	4	9.575	-0.040	5456	38.7
Total Col1Ave (4 peaks):					39.5	Total Col2Ave (4 peaks):				39.2 RPD = 1
Corrected Ave (3 peaks):					28.2	Corrected Ave (3 peaks):				34.2 RPD = 19
Aroclor-1248	1	8.404	-0.008	13537	25.1	1	8.306	-0.009	6601	36.3
Aroclor-1248	2	8.574	-0.015	13130	19.2	2	8.712	-0.009	4576	24.3
Aroclor-1248	3	8.991	-0.007	41836	32.4	3	9.155	-0.030	6244	28.9
Aroclor-1248	4	9.293	-0.008	60727	92.4	4	9.575	-0.037	5456	21.0
Total Col1Ave (4 peaks):					42.3	Total Col2Ave (4 peaks):				27.6 RPD = 42*
Corrected Ave (3 peaks):					25.6	Corrected Ave (3 peaks):				24.7 RPD = 3
Aroclor-1254	1	9.293	-0.005	60727	54.8	1	9.446	-0.011	19435	67.1
Aroclor-1254	2	9.369	-0.008	22786	45.7	2	9.965	-0.013	9644	41.4
Aroclor-1254	3	9.666	-0.002	34617	48.6	3	10.122	-0.012	39308	78.0
Aroclor-1254	4	9.796	-0.011	89159	64.4	4	10.365	-0.017	49057	99.9
Aroclor-1254	5	10.116	-0.060	129692	149.4	5	10.562	-0.016	49337	164.9
Total Col1Ave (5 peaks):					72.6	Total Col2Ave (5 peaks):				90.3 RPD = 22
Corrected Ave (4 peaks):					53.4	Corrected Ave (4 peaks):				71.6 RPD = 29
Aroclor-1260	1	11.039	-0.006	75477	107.6	1	11.649	-0.009	35430	111.4
Aroclor-1260	2	11.351	-0.011	59611	81.3	2	11.911	-0.014	77993	96.1
Aroclor-1260	3	11.724	-0.009	186631	96.0	3	12.429	-0.011	25444	118.2
Aroclor-1260	4	12.127	-0.012	98294	100.4	4	12.495	-0.013	49190	89.9
Aroclor-1260	5	12.240	-0.004	36578	86.8	NS	---			----
Total Col1Ave (5 peaks):					94.4	Total Col2Ave (4 peaks):				103.9 RPD = 10
Corrected Ave (4 peaks):					91.2	Corrected Ave (3 peaks):				99.2 RPD = 8
Aroclor-1262	1	10.817	-0.012	171663	287.0	1	11.195	-0.005	31216	67.6
Aroclor-1262	2	12.240	-0.004	36578	37.6	2	11.649	-0.002	35430	90.1
Aroclor-1262	3	12.313	-0.006	46004	44.0	3	12.429	-0.005	25444	57.0
Aroclor-1262	4	12.979	-0.008	48725	51.0	4	12.495	-0.007	49190	70.4
Total Col1Ave (4 peaks):					104.9	Total Col2Ave (4 peaks):				71.3 RPD = 38
Corrected Ave (3 peaks):					44.2	Corrected Ave (3 peaks):				65.0 RPD = 38
Aroclor-1268	1	12.240	-0.007	36578	14.6	1	12.429	-0.003	25444	23.4
Aroclor-1268	2	12.313	-0.004	46004	18.6	2	12.495	-0.005	49190	42.0
Aroclor-1268	3	12.668	-0.031	128279	60.6	3	12.889	-0.002	2516	2.5
Aroclor-1268	4	13.481	-0.009	8398	1.2	4	13.704	-0.005	8852	2.8
Total Col1Ave (4 peaks):					23.8	Total Col2Ave (4 peaks):				17.7 RPD = 29

Corrected Ave (3 peaks): 11.5 Corrected Ave (3 peaks): 9.6 RPD = 18

Total PCB Area Col1 (5.911 - 13.797) = 2322673 Col1 Total PCB = 0.2 ppm*

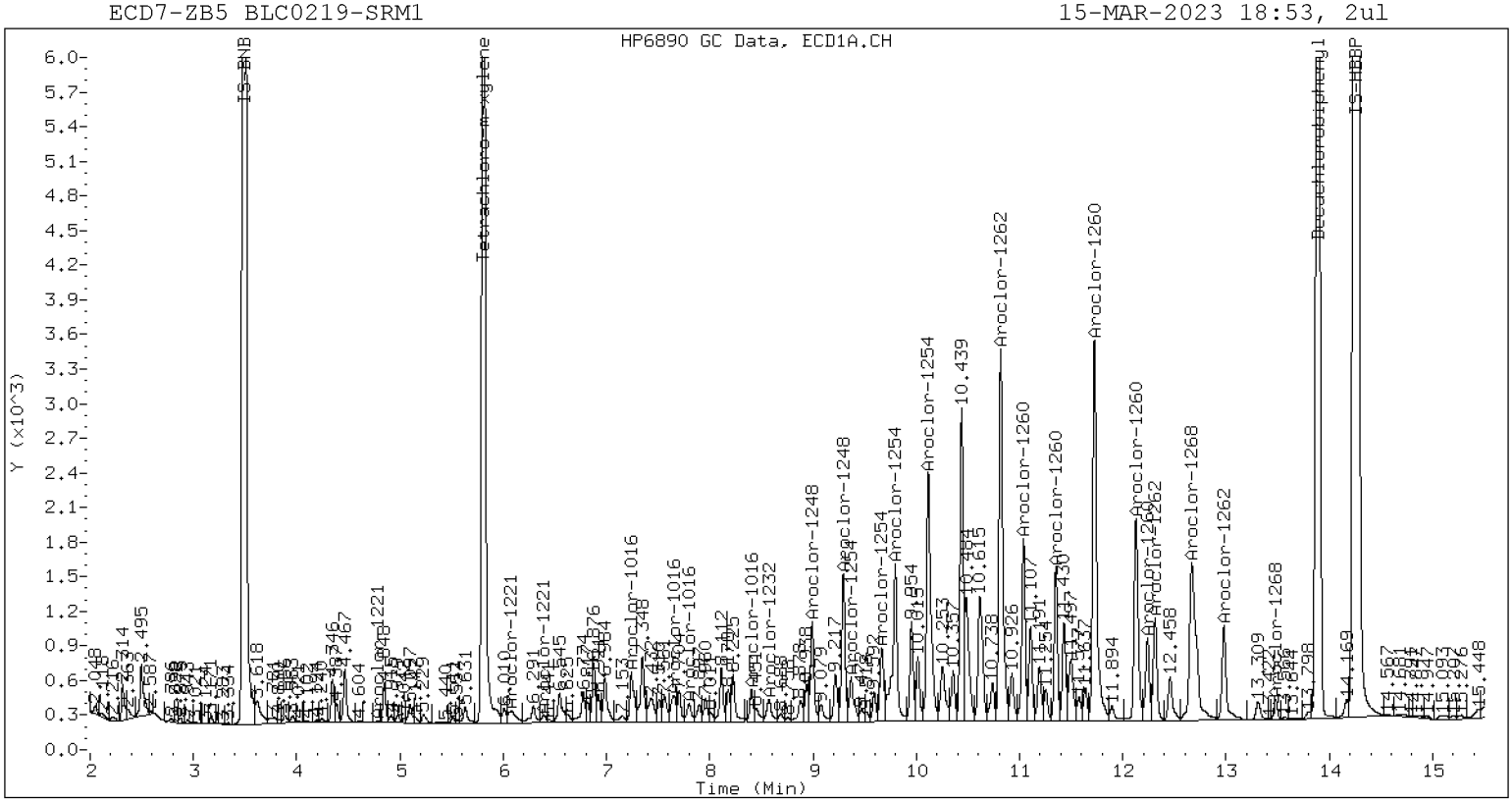
Total PCB Area Col2 (5.792 - 14.021) = 904909 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 BLC0219-SRM1 15-MAR-2023 18:53, 2ul



ZB-5 Manual Integration: NO

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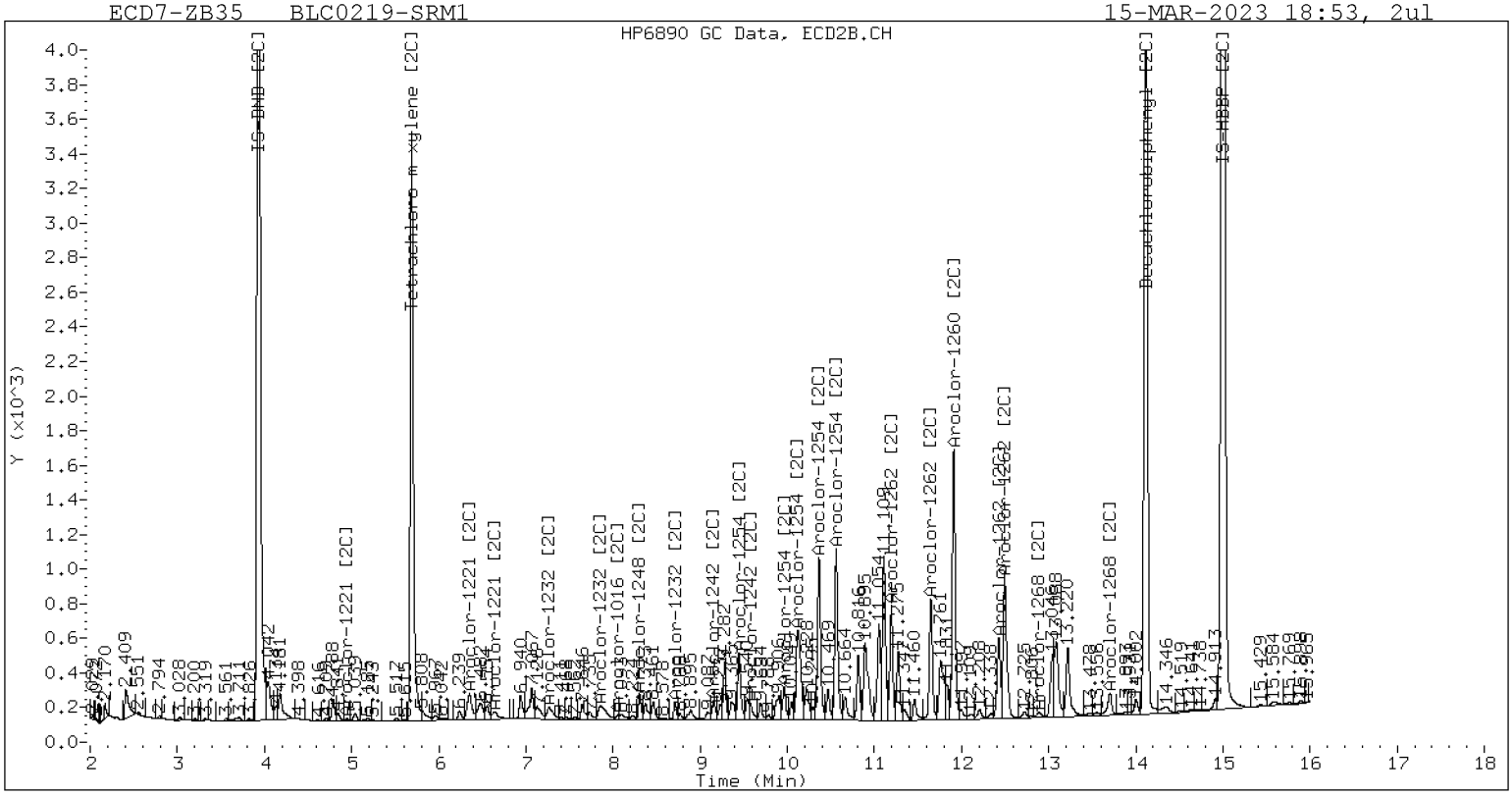


ZB-35 Manual Integration: NO

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GB00069	Instrument:	ECD7
Calibration Date:	02/24/2023	Column (1):	ZB5

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF
Aroclor 1016	250	0.0511017	20	0.0514466	50	5.107478E-02	1000	4.502727E-02	100	5.036259E-02	500	0.0471841
Aroclor-1016 (1)	250	0.031405	20	3.172321E-02	50	3.253176E-02	1000	2.667138E-02	100	3.141686E-02	500	2.856283E-02
Aroclor-1016 (2)	250	9.848704E-02	20	9.239415E-02	50	9.245774E-02	1000	8.848657E-02	100	9.221759E-02	500	0.0917416
Aroclor-1016 (3)	250	4.393471E-02	20	5.165382E-02	50	5.037363E-02	1000	3.720718E-02	100	4.822959E-02	500	3.990906E-02
Aroclor-1016 (4)	250	3.058004E-02	20	3.001523E-02	50	2.893599E-02	1000	2.774395E-02	100	2.958631E-02	500	2.852291E-02
Aroclor 1260	250	4.264611E-02	20	3.933745E-02	50	3.914748E-02	1000	0.0377098	100	3.888069E-02	500	3.753326E-02
Aroclor-1260 (1)	250	3.096387E-02	20	2.926415E-02	50	2.920486E-02	1000	2.746159E-02	100	2.841034E-02	500	2.736642E-02
Aroclor-1260 (2)	250	3.291004E-02	20	2.966791E-02	50	3.006192E-02	1000	2.856573E-02	100	3.010757E-02	500	2.910054E-02
Aroclor-1260 (3)	250	8.575373E-02	20	8.087657E-02	50	8.045158E-02	1000	7.674417E-02	100	7.953737E-02	500	7.514663E-02
Aroclor-1260 (4)	250	4.484933E-02	20	3.904963E-02	50	3.886754E-02	1000	3.922291E-02	100	3.955346E-02	500	3.941669E-02
Aroclor-1260 (5)	250	1.875356E-02	20	1.782901E-02	50	1.715148E-02	1000	1.655457E-02	100	1.679471E-02	500	1.663603E-02
Decachlorobiphenyl	40	0.7880759	3.2	0.8290115	8	0.8055828	160	0.797423	16	0.7758675	80	0.7312517
Tetrachlorometaxylene	40	1.205085	3.2	1.168271	8	1.244015	160	1.241136	16	1.185465	80	1.122954

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GB00069	Instrument:	ECD7
Calibration Date:	02/24/2023	Column (1):	ZB5

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF
Aroclor 1221							250	1.657582E-02				
Aroclor-1221 (1)							250	7.164712E-03				
Aroclor-1221 (2)							250	0.0128135				
Aroclor-1221 (3)							250	2.974924E-02				
Aroclor 1232									250	1.690391E-02		
Aroclor-1232 (1)									250	4.285984E-03		
Aroclor-1232 (2)									250	8.499602E-03		
Aroclor-1232 (3)									250	3.847671E-02		
Aroclor-1232 (4)									250	1.635336E-02		
Aroclor 1242	250	3.953397E-02										
Aroclor-1242 (1)	250	2.479209E-02										
Aroclor-1242 (2)	250	7.528986E-02										
Aroclor-1242 (3)	250	2.342574E-02										
Aroclor-1242 (4)	250	3.462819E-02										
Aroclor 1248			250	5.747549E-02								
Aroclor-1248 (1)			250	3.903293E-02								
Aroclor-1248 (2)			250	0.0496149								
Aroclor-1248 (3)			250	9.360202E-02								
Aroclor-1248 (4)			250	4.765213E-02								
Aroclor 1254					250	6.629494E-02						
Aroclor-1254 (1)					250	8.033306E-02						
Aroclor-1254 (2)					250	0.0361302						
Aroclor-1254 (3)					250	5.164705E-02						
Aroclor-1254 (4)					250	0.100423						
Aroclor-1254 (5)					250	6.294139E-02						
Aroclor 1262							250	3.665955E-02				
Aroclor-1262 (1)							250	2.454122E-02				
Aroclor-1262 (2)							250	3.993338E-02				

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GB00069	Instrument:	ECD7
Calibration Date:	02/24/2023	Column (1):	ZB5

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF
Aroclor-1262 (3)							250	4.292945E-02				
Aroclor-1262 (4)							250	3.923413E-02				
Aroclor 1268									250	0.1442124		
Aroclor-1268 (1)									250	0.102504		
Aroclor-1268 (2)									250	0.1015072		
Aroclor-1268 (3)									250	8.685666E-02		
Aroclor-1268 (4)									250	0.2859818		

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GB00069	Instrument:	ECD7
Calibration Date:	02/24/2023	Column (1):	ZB5

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor 1016	4.936617E-02	5.3			RSD (20)	
Aroclor-1016 (1)	3.038517E-02	7.4			RSD (20)	
Aroclor-1016 (2)	9.263078E-02	3.5			RSD (20)	
Aroclor-1016 (3)	0.045218	12.9			RSD (20)	
Aroclor-1016 (4)	2.923074E-02	3.5			RSD (20)	
Aroclor 1221		0.0			RSD (20)	
Aroclor-1221 (1)		0.0			RSD (20)	
Aroclor-1221 (2)		0.0			RSD (20)	
Aroclor-1221 (3)		0.0			RSD (20)	
Aroclor 1232		0.0			RSD (20)	
Aroclor-1232 (1)		0.0			RSD (20)	
Aroclor-1232 (2)		0.0			RSD (20)	
Aroclor-1232 (3)		0.0			RSD (20)	
Aroclor-1232 (4)		0.0			RSD (20)	
Aroclor 1242		0.0			RSD (20)	
Aroclor-1242 (1)		0.0			RSD (20)	
Aroclor-1242 (2)		0.0			RSD (20)	
Aroclor-1242 (3)		0.0			RSD (20)	
Aroclor-1242 (4)		0.0			RSD (20)	
Aroclor 1248		0.0			RSD (20)	
Aroclor-1248 (1)		0.0			RSD (20)	
Aroclor-1248 (2)		0.0			RSD (20)	
Aroclor-1248 (3)		0.0			RSD (20)	
Aroclor-1248 (4)		0.0			RSD (20)	
Aroclor 1254		0.0			RSD (20)	
Aroclor-1254 (1)		0.0			RSD (20)	
Aroclor-1254 (2)		0.0			RSD (20)	
Aroclor-1254 (3)		0.0			RSD (20)	
Aroclor-1254 (4)		0.0			RSD (20)	
Aroclor-1254 (5)		0.0			RSD (20)	
Aroclor 1260	3.920913E-02	4.7			RSD (20)	

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GB00069	Instrument:	ECD7
Calibration Date:	02/24/2023	Column (1):	ZB5

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor-1260 (1)	2.877854E-02	4.7			RSD (20)	
Aroclor-1260 (2)	3.006895E-02	5.0			RSD (20)	
Aroclor-1260 (3)	7.975167E-02	4.6			RSD (20)	
Aroclor-1260 (4)	4.015993E-02	5.8			RSD (20)	
Aroclor-1260 (5)	1.728656E-02	5.0			RSD (20)	
Aroclor 1262		0.0			RSD (20)	
Aroclor-1262 (1)		0.0			RSD (20)	
Aroclor-1262 (2)		0.0			RSD (20)	
Aroclor-1262 (3)		0.0			RSD (20)	
Aroclor-1262 (4)		0.0			RSD (20)	
Aroclor 1268		0.0			RSD (20)	
Aroclor-1268 (1)		0.0			RSD (20)	
Aroclor-1268 (2)		0.0			RSD (20)	
Aroclor-1268 (3)		0.0			RSD (20)	
Aroclor-1268 (4)		0.0			RSD (20)	
Decachlorobiphenyl	0.7878687	4.2			RSD (20)	
Tetrachlorometaxylene	1.194488	3.9			RSD (20)	

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GB00069	Instrument:	ECD7
Calibration Date:	02/24/2023	Column (2):	ZB35

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF
Aroclor 1016 [2C]	250	0.0571297	20	5.099991E-02	50	0.0573721	1000	5.075893E-02	100	5.836783E-02	500	5.288542E-02
Aroclor-1016 (1) [2C]	250	4.732763E-02	20	5.070692E-02	50	5.021603E-02	1000	4.080107E-02	100	4.868029E-02	500	4.325569E-02
Aroclor-1016 (2) [2C]	250	0.1025919	20	8.142537E-02	50	9.407053E-02	1000	9.361548E-02	100	0.1015897	500	9.651233E-02
Aroclor-1016 (3) [2C]	250	4.410181E-02	20	4.005508E-02	50	4.718351E-02	1000	3.925581E-02	100	4.613223E-02	500	4.062487E-02
Aroclor-1016 (4) [2C]	250	3.449742E-02	20	3.181228E-02	50	3.801833E-02	1000	0.0293633	100	0.0370691	500	3.114879E-02
Aroclor 1260 [2C]	250	7.266587E-02	20	0.0760446	50	7.181489E-02	1000	0.0636872	100	6.942709E-02	500	6.617305E-02
Aroclor-1260 (1) [2C]	250	4.801376E-02	20	5.286013E-02	50	4.911343E-02	1000	4.201242E-02	100	4.695569E-02	500	4.328842E-02
Aroclor-1260 (2) [2C]	250	0.1266443	20	0.1297611	50	0.1243096	1000	0.1054494	100	0.1209452	500	0.1132043
Aroclor-1260 (3) [2C]	250	3.207621E-02	20	3.524009E-02	50	3.146502E-02	1000	0.0319805	100	2.936945E-02	500	3.102287E-02
Aroclor-1260 (4) [2C]	250	8.392913E-02	20	8.631709E-02	50	8.237154E-02	1000	7.530648E-02	100	0.080438	500	7.717658E-02
Decachlorobiphenyl [2C]	40	1.310398	3.2	1.170661	8	1.20406	160	1.207975	16	1.205489	80	1.211045
Tetrachlorometaxylene [2C]	40	1.219073	3.2	1.21526	8	1.195453	160	1.111394	16	1.175548	80	1.125598

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GB00069	Instrument:	ECD7
Calibration Date:	02/24/2023	Column (2):	ZB35

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF
Aroclor 1221 [2C]							250	1.507982E-02				
Aroclor-1221 (1) [2C]							250	7.573277E-03				
Aroclor-1221 (2) [2C]							250	0.0143332				
Aroclor-1221 (3) [2C]							250	2.333296E-02				
Aroclor 1232 [2C]									250	1.920227E-02		
Aroclor-1232 (1) [2C]									250	4.09321E-03		
Aroclor-1232 (2) [2C]									250	2.034072E-02		
Aroclor-1232 (3) [2C]									250	4.067023E-02		
Aroclor-1232 (4) [2C]									250	1.170493E-02		
Aroclor 1242 [2C]	250	4.230924E-02										
Aroclor-1242 (1) [2C]	250	3.716893E-02										
Aroclor-1242 (2) [2C]	250	7.813249E-02										
Aroclor-1242 (3) [2C]	250	2.431205E-02										
Aroclor-1242 (4) [2C]	250	0.0296235										
Aroclor 1248 [2C]			250	4.442703E-02								
Aroclor-1248 (1) [2C]			250	3.819713E-02								
Aroclor-1248 (2) [2C]			250	3.949349E-02								
Aroclor-1248 (3) [2C]			250	4.544987E-02								
Aroclor-1248 (4) [2C]			250	5.456762E-02								
Aroclor 1254 [2C]					250	0.0763106						
Aroclor-1254 (1) [2C]					250	6.080523E-02						
Aroclor-1254 (2) [2C]					250	4.891616E-02						
Aroclor-1254 (3) [2C]					250	0.1058376						
Aroclor-1254 (4) [2C]					250	0.103175						
Aroclor-1254 (5) [2C]					250	6.281905E-02						
Aroclor 1262 [2C]							250	7.397596E-02				
Aroclor-1262 (1) [2C]							250	6.830764E-02				
Aroclor-1262 (2) [2C]							250	5.817803E-02				

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GB00069	Instrument:	ECD7
Calibration Date:	02/24/2023	Column (2):	ZB35

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF	Conc	RRF
Aroclor-1262 (3) [2C]							250	6.600951E-02				
Aroclor-1262 (4) [2C]							250	0.1034087				
Aroclor 1268 [2C]									250	0.2386862		
Aroclor-1268 (1) [2C]									250	0.1610947		
Aroclor-1268 (2) [2C]									250	0.1731794		
Aroclor-1268 (3) [2C]									250	0.1478672		
Aroclor-1268 (4) [2C]									250	0.4726034		

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GB00069	Instrument:	ECD7
Calibration Date:	02/24/2023	Column (2):	ZB35

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor 1016 [2C]	5.458565E-02	6.3			RSD (20)	
Aroclor-1016 (1) [2C]	4.683127E-02	8.5			RSD (20)	
Aroclor-1016 (2) [2C]	9.496755E-02	8.0			RSD (20)	
Aroclor-1016 (3) [2C]	4.289222E-02	7.9			RSD (20)	
Aroclor-1016 (4) [2C]	3.365154E-02	10.3			RSD (20)	
Aroclor 1221 [2C]		0.0			RSD (20)	
Aroclor-1221 (1) [2C]		0.0			RSD (20)	
Aroclor-1221 (2) [2C]		0.0			RSD (20)	
Aroclor-1221 (3) [2C]		0.0			RSD (20)	
Aroclor 1232 [2C]		0.0			RSD (20)	
Aroclor-1232 (1) [2C]		0.0			RSD (20)	
Aroclor-1232 (2) [2C]		0.0			RSD (20)	
Aroclor-1232 (3) [2C]		0.0			RSD (20)	
Aroclor-1232 (4) [2C]		0.0			RSD (20)	
Aroclor 1242 [2C]		0.0			RSD (20)	
Aroclor-1242 (1) [2C]		0.0			RSD (20)	
Aroclor-1242 (2) [2C]		0.0			RSD (20)	
Aroclor-1242 (3) [2C]		0.0			RSD (20)	
Aroclor-1242 (4) [2C]		0.0			RSD (20)	
Aroclor 1248 [2C]		0.0			RSD (20)	
Aroclor-1248 (1) [2C]		0.0			RSD (20)	
Aroclor-1248 (2) [2C]		0.0			RSD (20)	
Aroclor-1248 (3) [2C]		0.0			RSD (20)	
Aroclor-1248 (4) [2C]		0.0			RSD (20)	
Aroclor 1254 [2C]		0.0			RSD (20)	
Aroclor-1254 (1) [2C]		0.0			RSD (20)	
Aroclor-1254 (2) [2C]		0.0			RSD (20)	
Aroclor-1254 (3) [2C]		0.0			RSD (20)	
Aroclor-1254 (4) [2C]		0.0			RSD (20)	
Aroclor-1254 (5) [2C]		0.0			RSD (20)	
Aroclor 1260 [2C]	6.996878E-02	6.4			RSD (20)	

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GB00069	Instrument:	ECD7
Calibration Date:	02/24/2023	Column (2):	ZB35

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor-1260 (1) [2C]	4.704064E-02	8.4			RSD (20)	
Aroclor-1260 (2) [2C]	0.1200523	7.6			RSD (20)	
Aroclor-1260 (3) [2C]	3.185902E-02	6.0			RSD (20)	
Aroclor-1260 (4) [2C]	8.092314E-02	5.1			RSD (20)	
Aroclor 1262 [2C]		0.0			RSD (20)	
Aroclor-1262 (1) [2C]		0.0			RSD (20)	
Aroclor-1262 (2) [2C]		0.0			RSD (20)	
Aroclor-1262 (3) [2C]		0.0			RSD (20)	
Aroclor-1262 (4) [2C]		0.0			RSD (20)	
Aroclor 1268 [2C]		0.0			RSD (20)	
Aroclor-1268 (1) [2C]		0.0			RSD (20)	
Aroclor-1268 (2) [2C]		0.0			RSD (20)	
Aroclor-1268 (3) [2C]		0.0			RSD (20)	
Aroclor-1268 (4) [2C]		0.0			RSD (20)	
Decachlorobiphenyl [2C]	1.218271	3.9			RSD (20)	
Tetrachlorometaxylene [2C]	1.173721	3.9			RSD (20)	

Analytical Resources, LLC
Analytical Chemists and Consultants

ANALYSIS SEQUENCE

SLB0342

Instrument: ECD7
Calibration ID: GB00069

Printed: 2/28/2023 9:54:44AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SLB0342-CAL1	QC		1		L000856	L000844		
SLB0342-CAL2	QC		2		L000859	L000844		
SLB0342-CAL3	QC		3		L000858	L000844		
SLB0342-CAL4	QC		4		L000731	L000844		
SLB0342-CAL5	QC		5		L000857	L000844		
SLB0342-CAL6	QC		6		L000855	L000844		
SLB0342-CAL7	QC		7		L000860	L000844		
SLB0342-CAL8	QC		8		L000861	L000844		
SLB0342-CAL9	QC		9		L000862	L000844		
SLB0342-CALA	QC		10		L000863	L000844		
SLB0342-CALB	QC		11		L000864	L000844		
SLB0342-SCV1	QC		12		L002065	L000844		
SLB0342-SCV2	QC		13		K007656	L000844		
SLB0342-SCV3	QC		14		L002066	L000844		
SLB0342-SCV4	QC		15		L002067	L000844		
SLB0342-SCV5	QC		16		L002068	L000844		
SLB0342-SCV6	QC		17		L002069	L000844		

Samples Loaded By Date

Data Processed By Date

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	24-FEB-2023 10:51	02242301ECD7.D	1	IB	
2	24-FEB-2023 11:12	02242302ECD7.D	1	0.25PPMAR1660	
3	24-FEB-2023 11:33	02242303ECD7.D	1	0.02PPMAR1660	
4	24-FEB-2023 11:54	02242304ECD7.D	1	0.05PPMAR1660	
5	24-FEB-2023 12:15	02242305ECD7.D	1	1.0PPMAR1660	
6	24-FEB-2023 12:36	02242306ECD7.D	1	0.1PPMAR1660	
7	24-FEB-2023 12:57	02242307ECD7.D	1	0.5PPMAR1660	
8	24-FEB-2023 13:18	02242308ECD7.D	1	0.25PPMAR1242	
9	24-FEB-2023 13:39	02242309ECD7.D	1	0.25PPMAR1248	
10	24-FEB-2023 14:00	02242310ECD7.D	1	0.25PPMAR1254	
11	24-FEB-2023 14:21	02242311ECD7.D	1	0.25PPMAR2162	
12	24-FEB-2023 14:42	02242312ECD7.D	1	0.25PPMAR3268	
13	24-FEB-2023 15:03	02242313ECD7.D	1	AR1660SCV	
14	24-FEB-2023 15:24	02242314ECD7.D	1	AR1242SCV	
15	24-FEB-2023 15:45	02242315ECD7.D	1	AR1248SCV	
16	24-FEB-2023 16:06	02242316ECD7.D	1	AR1254SCV	
17	24-FEB-2023 16:27	02242317ECD7.D	1	AR2162SCV	
18	24-FEB-2023 16:48	02242318ECD7.D	1	AR3268SCV	
19	24-FEB-2023 17:09	02242319ECD7.D	1	DDTS	
20	24-FEB-2023 17:30	02242320ECD7.D	1	DDT BD	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b

ARI Job No.: IB Method: PCB.m Instrument: ecd7.i Date: 24-FEB-2023

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1051	02242301ECD7.D	IB		1	NO MANUAL INTEGRATION
1112	02242302ECD7.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION
1133	02242303ECD7.D	0.02PPMAR1660		1	NO MANUAL INTEGRATION
1154	02242304ECD7.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
1215	02242305ECD7.D	1.0PPMAR1660		1	NO MANUAL INTEGRATION
1236	02242306ECD7.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
1257	02242307ECD7.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
1318	02242308ECD7.D	0.25PPMAR1242		1	NO MANUAL INTEGRATION
1339	02242309ECD7.D	0.25PPMAR1248		1	NO MANUAL INTEGRATION
1400	02242310ECD7.D	0.25PPMAR1254		1	NO MANUAL INTEGRATION
1421	02242311ECD7.D	0.25PPMAR2162		1	NO MANUAL INTEGRATION
1442	02242312ECD7.D	0.25PPMAR3268		1	NO MANUAL INTEGRATION
1503	02242313ECD7.D	AR1660SCV		1	NO MANUAL INTEGRATION
1524	02242314ECD7.D	AR1242SCV		1	NO MANUAL INTEGRATION
1545	02242315ECD7.D	AR1248SCV		1	NO MANUAL INTEGRATION
1606	02242316ECD7.D	AR1254SCV		1	NO MANUAL INTEGRATION
1627	02242317ECD7.D	AR2162SCV		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1648	02242318ECD7.D	AR3268SCV		1	NO MANUAL INTEGRATION
1709	02242319ECD7.D	DDTS		1	NO MANUAL INTEGRATION
1730	02242320ECD7.D	DDT BD		1	NO MANUAL INTEGRATION
1751	02242321ECD7.D			1	NO MANUAL INTEGRATION
1812	02242322ECD7.D			1	NO MANUAL INTEGRATION
1833	02242323ECD7.D			1	NO MANUAL INTEGRATION
1854	02242324ECD7.D			1	NO MANUAL INTEGRATION
1915	02242325ECD7.D			1	NO MANUAL INTEGRATION
1936	02242326ECD7.D			1	NO MANUAL INTEGRATION
1957	02242327ECD7.D			1	NO MANUAL INTEGRATION
2018	02242328ECD7.D			1	NO MANUAL INTEGRATION
2039	02242329ECD7.D			1	NO MANUAL INTEGRATION
2059	02242330ECD7.D			1	NO MANUAL INTEGRATION
2120	02242331ECD7.D			1	NO MANUAL INTEGRATION
2141	02242332ECD7.D			1	NO MANUAL INTEGRATION
2202	02242333ECD7.D			1	NO MANUAL INTEGRATION
2223	02242334ECD7.D			1	NO MANUAL INTEGRATION
2244	02242335ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2305	02242336ECD7.D			1	NO MANUAL INTEGRATION
2326	02242337ECD7.D			1	NO MANUAL INTEGRATION
2347	02242338ECD7.D			1	NO MANUAL INTEGRATION
0008	02242339ECD7.D			1	NO MANUAL INTEGRATION
0029	02242340ECD7.D			1	NO MANUAL INTEGRATION
0050	02242341ECD7.D			1	NO MANUAL INTEGRATION
0111	02242342ECD7.D			1	NO MANUAL INTEGRATION
0132	02242343ECD7.D			1	NO MANUAL INTEGRATION
0153	02242344ECD7.D			1	NO MANUAL INTEGRATION
0214	02242345ECD7.D			1	NO MANUAL INTEGRATION
0235	02242346ECD7.D			1	NO MANUAL INTEGRATION
0256	02242347ECD7.D			1	NO MANUAL INTEGRATION
0317	02242348ECD7.D			1	NO MANUAL INTEGRATION
0338	02242349ECD7.D			1	NO MANUAL INTEGRATION
0359	02242350ECD7.D			1	NO MANUAL INTEGRATION
0420	02242351ECD7.D			1	NO MANUAL INTEGRATION
0441	02242352ECD7.D			1	NO MANUAL INTEGRATION
0502	02242353ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0523	02242354ECD7.D			1	NO MANUAL INTEGRATION
0544	02242355ECD7.D			1	NO MANUAL INTEGRATION
0605	02242356ECD7.D			1	NO MANUAL INTEGRATION
0626	02242357ECD7.D			1	NO MANUAL INTEGRATION
0647	02242358ECD7.D			1	NO MANUAL INTEGRATION
0708	02242359ECD7.D			1	NO MANUAL INTEGRATION
0729	02242360ECD7.D			1	NO MANUAL INTEGRATION
0750	02242361ECD7.D			1	NO MANUAL INTEGRATION
0811	02242362ECD7.D			1	NO MANUAL INTEGRATION
0832	02242363ECD7.D			1	NO MANUAL INTEGRATION
0853	02242364ECD7.D			1	NO MANUAL INTEGRATION
0914	02242365ECD7.D			1	NO MANUAL INTEGRATION
0935	02242366ECD7.D			1	NO MANUAL INTEGRATION
0956	02242367ECD7.D			1	NO MANUAL INTEGRATION
1017	02242368ECD7.D			1	NO MANUAL INTEGRATION
1038	02242369ECD7.D			1	NO MANUAL INTEGRATION
1059	02242370ECD7.D			1	NO MANUAL INTEGRATION
1120	02242371ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1141	02242372ECD7.D			1	NO MANUAL INTEGRATION
1202	02242373ECD7.D			1	NO MANUAL INTEGRATION
1223	02242374ECD7.D			1	NO MANUAL INTEGRATION
1244	02242375ECD7.D			1	NO MANUAL INTEGRATION
1305	02242376ECD7.D			1	NO MANUAL INTEGRATION
1326	02242377ECD7.D			1	NO MANUAL INTEGRATION
1347	02242378ECD7.D			1	NO MANUAL INTEGRATION
1408	02242379ECD7.D			1	NO MANUAL INTEGRATION
1429	02242380ECD7.D			1	NO MANUAL INTEGRATION
1450	02242381ECD7.D			1	NO MANUAL INTEGRATION
1511	02242382ECD7.D			1	NO MANUAL INTEGRATION
1532	02242383ECD7.D			1	NO MANUAL INTEGRATION
1553	02242384ECD7.D			1	NO MANUAL INTEGRATION
1051	02242301ECD7.D	IB		1	NO MANUAL INTEGRATION
1112	02242302ECD7.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION
1133	02242303ECD7.D	0.02PPMAR1660		1	Aroclor-1016 [2C],
1154	02242304ECD7.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
1215	02242305ECD7.D	1.0PPMAR1660		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1236	02242306ECD7.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
1257	02242307ECD7.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
1318	02242308ECD7.D	0.25PPMAR1242		1	NO MANUAL INTEGRATION
1339	02242309ECD7.D	0.25PPMAR1248		1	NO MANUAL INTEGRATION
1400	02242310ECD7.D	0.25PPMAR1254		1	NO MANUAL INTEGRATION
1421	02242311ECD7.D	0.25PPMAR2162		1	NO MANUAL INTEGRATION
1442	02242312ECD7.D	0.25PPMAR3268		1	NO MANUAL INTEGRATION
1503	02242313ECD7.D	AR1660SCV		1	NO MANUAL INTEGRATION
1524	02242314ECD7.D	AR1242SCV		1	NO MANUAL INTEGRATION
1545	02242315ECD7.D	AR1248SCV		1	NO MANUAL INTEGRATION
1606	02242316ECD7.D	AR1254SCV		1	NO MANUAL INTEGRATION
1627	02242317ECD7.D	AR2162SCV		1	NO MANUAL INTEGRATION
1648	02242318ECD7.D	AR3268SCV		1	NO MANUAL INTEGRATION
1709	02242319ECD7.D	DDTS		1	NO MANUAL INTEGRATION
1730	02242320ECD7.D	DDT BD		1	NO MANUAL INTEGRATION
1751	02242321ECD7.D			1	NO MANUAL INTEGRATION
1812	02242322ECD7.D			1	NO MANUAL INTEGRATION
1833	02242323ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1854	02242324ECD7.D			1	NO MANUAL INTEGRATION
1915	02242325ECD7.D			1	NO MANUAL INTEGRATION
1936	02242326ECD7.D			1	NO MANUAL INTEGRATION
1957	02242327ECD7.D			1	NO MANUAL INTEGRATION
2018	02242328ECD7.D			1	NO MANUAL INTEGRATION
2038	02242329ECD7.D			1	NO MANUAL INTEGRATION
2059	02242330ECD7.D			1	NO MANUAL INTEGRATION
2120	02242331ECD7.D			1	NO MANUAL INTEGRATION
2141	02242332ECD7.D			1	NO MANUAL INTEGRATION
2202	02242333ECD7.D			1	NO MANUAL INTEGRATION
2223	02242334ECD7.D			1	NO MANUAL INTEGRATION
2244	02242335ECD7.D			1	NO MANUAL INTEGRATION
2305	02242336ECD7.D			1	NO MANUAL INTEGRATION
2326	02242337ECD7.D			1	NO MANUAL INTEGRATION
2347	02242338ECD7.D			1	NO MANUAL INTEGRATION
0008	02242339ECD7.D			1	NO MANUAL INTEGRATION
0029	02242340ECD7.D			1	NO MANUAL INTEGRATION
0050	02242341ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0111	02242342ECD7.D			1	NO MANUAL INTEGRATION
0132	02242343ECD7.D			1	NO MANUAL INTEGRATION
0153	02242344ECD7.D			1	NO MANUAL INTEGRATION
0214	02242345ECD7.D			1	NO MANUAL INTEGRATION
0235	02242346ECD7.D			1	NO MANUAL INTEGRATION
0256	02242347ECD7.D			1	NO MANUAL INTEGRATION
0317	02242348ECD7.D			1	NO MANUAL INTEGRATION
0338	02242349ECD7.D			1	NO MANUAL INTEGRATION
0359	02242350ECD7.D			1	NO MANUAL INTEGRATION
0420	02242351ECD7.D			1	NO MANUAL INTEGRATION
0441	02242352ECD7.D			1	NO MANUAL INTEGRATION
0502	02242353ECD7.D			1	NO MANUAL INTEGRATION
0523	02242354ECD7.D			1	NO MANUAL INTEGRATION
0544	02242355ECD7.D			1	NO MANUAL INTEGRATION
0605	02242356ECD7.D			1	NO MANUAL INTEGRATION
0626	02242357ECD7.D			1	NO MANUAL INTEGRATION
0647	02242358ECD7.D			1	NO MANUAL INTEGRATION
0708	02242359ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0729	02242360ECD7.D			1	NO MANUAL INTEGRATION
0750	02242361ECD7.D			1	NO MANUAL INTEGRATION
0811	02242362ECD7.D			1	NO MANUAL INTEGRATION
0832	02242363ECD7.D			1	NO MANUAL INTEGRATION
0853	02242364ECD7.D			1	NO MANUAL INTEGRATION
0914	02242365ECD7.D			1	NO MANUAL INTEGRATION
0935	02242366ECD7.D			1	NO MANUAL INTEGRATION
0956	02242367ECD7.D			1	NO MANUAL INTEGRATION
1017	02242368ECD7.D			1	NO MANUAL INTEGRATION
1038	02242369ECD7.D			1	NO MANUAL INTEGRATION
1059	02242370ECD7.D			1	NO MANUAL INTEGRATION
1120	02242371ECD7.D			1	NO MANUAL INTEGRATION
1141	02242372ECD7.D			1	NO MANUAL INTEGRATION
1202	02242373ECD7.D			1	NO MANUAL INTEGRATION
1223	02242374ECD7.D			1	NO MANUAL INTEGRATION
1244	02242375ECD7.D			1	NO MANUAL INTEGRATION
1305	02242376ECD7.D			1	NO MANUAL INTEGRATION
1326	02242377ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1347	02242378ECD7.D			1	NO MANUAL INTEGRATION
1408	02242379ECD7.D			1	NO MANUAL INTEGRATION
1429	02242380ECD7.D			1	NO MANUAL INTEGRATION
1450	02242381ECD7.D			1	NO MANUAL INTEGRATION
1511	02242382ECD7.D			1	NO MANUAL INTEGRATION
1532	02242383ECD7.D			1	NO MANUAL INTEGRATION
1553	02242384ECD7.D			1	NO MANUAL INTEGRATION

Security Status Report

Date: 28-Feb-2023 09:27

02242301ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242302ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242303ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242304ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242305ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242306ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242307ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242308ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242309ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242310ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242311ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242312ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242313ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242314ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242315ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242316ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242317ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242318ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242319ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27
02242320ECD7.D	Data Locked	richardl, 28-Feb-2023 09:27

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m
Last Edit : 24-Feb-2023 15:31 richardl
Curve Type : Average

Calibration File Names:
Level 1: \\target\share\chem4\ecd7.i\230224.b\02242303ECD7.D
Level 2: \\target\share\chem4\ecd7.i\230224.b\02242304ECD7.D
Level 3: \\target\share\chem4\ecd7.i\230224.b\02242306ECD7.D
Level 4: \\target\share\chem4\ecd7.i\230224.b\02242302ECD7.D
Level 5: \\target\share\chem4\ecd7.i\230224.b\02242307ECD7.D
Level 6: \\target\share\chem4\ecd7.i\230224.b\02242305ECD7.D
Level 7: \\target\share\chem4\ecd7.i\230224.b\02242312ECD7.D

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	___ RRF	% RSD
2 Aroclor-1221(1)	+++++	+++++	+++++	+++++	+++++	+++++	0.00716	0.00716	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.01281	0.01281	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.02975	0.02975	0.000
3 Aroclor-1242(1)	+++++	+++++	+++++	+++++	+++++	+++++	0.02479	0.02479	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.07529	0.07529	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.02343	0.02343	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.03463	0.03463	0.000
4 Aroclor-1232(1)	+++++	+++++	+++++	+++++	+++++	+++++	0.00429	0.00429	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m
Last Edit : 24-Feb-2023 15:31 richardl
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	RRF	% RSD
(2)	*****	*****	*****	*****	*****	*****	0.00850	0.00850	0.000
(3)	*****	*****	*****	*****	*****	*****	0.03848	0.03848	0.000
(4)	*****	*****	*****	*****	*****	*****	0.01635	0.01635	0.000
7 Aroclor-1016(1)	0.03172	0.03253	0.03142	0.03141	0.02856	0.02667	*****	0.03039	7.449
(2)	0.09239	0.09246	0.09222	0.09849	0.09174	0.08849	*****	0.09263	3.499
(3)	0.05165	0.05037	0.04823	0.04393	0.03991	0.03721	*****	0.04522	12.936
(4)	0.03002	0.02894	0.02959	0.03058	0.02852	0.02774	*****	0.02923	3.542
6 Aroclor-1248(1)	*****	*****	*****	*****	*****	*****	0.03903	0.03903	0.000
(2)	*****	*****	*****	*****	*****	*****	0.04961	0.04961	0.000
(3)	*****	*****	*****	*****	*****	*****	0.09360	0.09360	0.000
(4)	*****	*****	*****	*****	*****	*****	0.04765	0.04765	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m
Last Edit : 24-Feb-2023 15:31 richardl
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	___ RRF	% RSD
8 Aroclor-1254(1)	+++++	+++++	+++++	+++++	+++++	+++++	0.08033	0.08033	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.03613	0.03613	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.05165	0.05165	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.10042	0.10042	0.000
(5)	+++++	+++++	+++++	+++++	+++++	+++++	0.06294	0.06294	0.000
9 Aroclor-1260(1)	0.02926	0.02920	0.02841	0.03096	0.02737	0.02746	+++++	0.02878	4.677
(2)	0.02967	0.03006	0.03011	0.03291	0.02910	0.02857	+++++	0.03007	5.029
(3)	0.08088	0.08045	0.07954	0.08575	0.07515	0.07674	+++++	0.07975	4.627
(4)	0.03905	0.03887	0.03955	0.04485	0.03942	0.03922	+++++	0.04016	5.753
(5)	0.01783	0.01715	0.01679	0.01875	0.01664	0.01655	+++++	0.01729	4.953
10 Aroclor-1262(1)	+++++	+++++	+++++	+++++	+++++	+++++	0.02454	0.02454	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m
Last Edit : 24-Feb-2023 15:31 richardl
Curve Type : Average

Compound	20.000 Level 1 / 250.000 Level 7	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
(2)	+++++ / 0.03993	+++++	+++++	+++++	+++++	+++++	0.03993	0.000
(3)	+++++ / 0.04293	+++++	+++++	+++++	+++++	+++++	0.04293	0.000
(4)	+++++ / 0.03923	+++++	+++++	+++++	+++++	+++++	0.03923	0.000
11 Aroclor-1268(1)	+++++ / 0.10250	+++++	+++++	+++++	+++++	+++++	0.10250	0.000
(2)	+++++ / 0.10151	+++++	+++++	+++++	+++++	+++++	0.10151	0.000
(3)	+++++ / 0.08686	+++++	+++++	+++++	+++++	+++++	0.08686	0.000
(4)	+++++ / 0.28598	+++++	+++++	+++++	+++++	+++++	0.28598	0.000
42 2,4-DDE	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
43 2,4-DDD	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
44 2,4-DDT	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
46 4,4-DDE	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m
Last Edit : 24-Feb-2023 15:31 richardl
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	___ RRF	% RSD
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
$ 1 Tetrachloro-m-xylene	1.16827	1.24402	1.18546	1.20509	1.12295	1.24114	+++++	1.19449	3.860
$ 13 Decachlorobiphenyl	0.82901	0.80558	0.77587	0.78808	0.73125	0.79742	+++++	0.78787	4.189

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Last Edit : 24-Feb-2023 15:29 richardl
Curve Type : Average

Calibration File Names:
Level 1: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242303ECD7.D
Level 2: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242304ECD7.D
Level 3: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242306ECD7.D
Level 4: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242302ECD7.D
Level 5: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242307ECD7.D
Level 6: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242305ECD7.D
Level 7: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242312ECD7.D

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	RRF	% RSD
1 Aroclor-1221 [2C](1)	+++++	+++++	+++++	+++++	+++++	+++++	0.00757	0.00757	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.01433	0.01433	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.02333	0.02333	0.000
4 Aroclor-1232 [2C](1)	+++++	+++++	+++++	+++++	+++++	+++++	0.00409	0.00409	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.02034	0.02034	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.04067	0.04067	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.01170	0.01170	0.000
3 Aroclor-1242 [2C](1)	+++++	+++++	+++++	+++++	+++++	+++++	0.03717	0.03717	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Last Edit : 24-Feb-2023 15:29 richardl
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	___ RRF	% RSD
(2)	*****	*****	*****	*****	*****	*****	0.07813	0.07813	0.000
(3)	*****	*****	*****	*****	*****	*****	0.02431	0.02431	0.000
(4)	*****	*****	*****	*****	*****	*****	0.02962	0.02962	0.000
6 Aroclor-1248 [2C](1)	*****	*****	*****	*****	*****	*****	0.03820	0.03820	0.000
(2)	*****	*****	*****	*****	*****	*****	0.03949	0.03949	0.000
(3)	*****	*****	*****	*****	*****	*****	0.04545	0.04545	0.000
(4)	*****	*****	*****	*****	*****	*****	0.05457	0.05457	0.000
7 Aroclor-1016 [2C](1)	0.05071	0.05022	0.04868	0.04733	0.04326	0.04080	*****	0.04683	8.503
(2)	0.08143	0.09407	0.10159	0.10259	0.09651	0.09362	*****	0.09497	8.025
(3)	0.04006	0.04718	0.04613	0.04410	0.04062	0.03926	*****	0.04289	7.857
(4)	0.03181	0.03802	0.03707	0.03450	0.03115	0.02936	*****	0.03365	10.251

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Last Edit : 24-Feb-2023 15:29 richardl
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	___ RRF	% RSD
8 Aroclor-1254 [2C](1)	*****	*****	*****	*****	*****	*****	0.06081	0.06081	0.000
(2)	*****	*****	*****	*****	*****	*****	0.04892	0.04892	0.000
(3)	*****	*****	*****	*****	*****	*****	0.10584	0.10584	0.000
(4)	*****	*****	*****	*****	*****	*****	0.10317	0.10317	0.000
(5)	*****	*****	*****	*****	*****	*****	0.06282	0.06282	0.000
10 Aroclor-1262 [2C](1)	*****	*****	*****	*****	*****	*****	0.06831	0.06831	0.000
(2)	*****	*****	*****	*****	*****	*****	0.05818	0.05818	0.000
(3)	*****	*****	*****	*****	*****	*****	0.06601	0.06601	0.000
(4)	*****	*****	*****	*****	*****	*****	0.10341	0.10341	0.000
9 Aroclor-1260 [2C](1)	0.05286	0.04911	0.04696	0.04801	0.04329	0.04201	*****	0.04704	8.422
(2)	0.12976	0.12431	0.12095	0.12664	0.11320	0.10545	*****	0.12005	7.605

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Last Edit : 24-Feb-2023 15:29 richardl
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	___ RRF	% RSD
(3)	0.03524	0.03147	0.02937	0.03208	0.03102	0.03198	#####	0.03186	6.045
(4)	0.08632	0.08237	0.08044	0.08393	0.07718	0.07531	#####	0.08092	5.126
11 Aroclor-1268 [2C](1)	#####	#####	#####	#####	#####	#####	0.16109	0.16109	0.000
(2)	#####	#####	#####	#####	#####	#####	0.17318	0.17318	0.000
(3)	#####	#####	#####	#####	#####	#####	0.14787	0.14787	0.000
(4)	#####	#####	#####	#####	#####	#####	0.47260	0.47260	0.000
41 2,4-DDE [2C]	#####	#####	#####	#####	#####	#####	#####	#####	#####
42 2,4-DDD [2C]	#####	#####	#####	#####	#####	#####	#####	#####	#####
44 4,4-DDE [2C]	#####	#####	#####	#####	#####	#####	#####	#####	#####
45 4,4-DDD/2,4-DDT [2C]	#####	#####	#####	#####	#####	#####	#####	#####	#####
46 4,4-DDT [2C]	#####	#####	#####	#####	#####	#####	#####	#####	#####

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Last Edit : 24-Feb-2023 15:29 richardl
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	___ RRF	% RSD
48 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
49 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
$ 2 Tetrachloro-m-xylene [2C]	1.21526	1.19545	1.17555	1.21907	1.12560	1.11139	+++++	1.17372	3.897
$ 13 Decachlorobiphenyl [2C]	1.17066	1.20406	1.20549	1.31040	1.21104	1.20797	+++++	1.21827	3.898

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\230224.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	02242302ECD7	02242303ECD7	02242304ECD7	02242305ECD7	02242306ECD7	02242307ECD7
INJ.DATE:	24-FEB-2023	24-FEB-2023	24-FEB-2023	24-FEB-2023	24-FEB-2023	24-FEB-2023
INJ.TIME:	11:12	11:33	11:54	12:15	12:36	12:57

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 41 IS-BNB	3.493	3.492	3.492	3.492	3.491	3.491	3.493	3.393-3.593	3.492	0.001
$ 1 Tetrachloro-m-xylene	5.811	5.809	5.809	5.813	5.809	5.810	5.811	5.711-5.911	5.810	0.002
2 Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	4.732	4.632-4.832	+++++	+++++
3 Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	7.269	7.169-7.369	+++++	+++++
4 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	4.732	4.632-4.832	+++++	+++++
7 Aroclor-1016	7.272	7.272	7.272	7.270	7.271	7.270	7.272	7.172-7.372	7.271	0.001
6 Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	8.403	8.303-8.503	+++++	+++++
8 Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	9.295	9.195-9.395	+++++	+++++
9 Aroclor-1260	11.046	11.047	11.046	11.044	11.045	11.044	11.046	10.946-11.146	11.045	0.001
10 Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	10.824	10.724-10.924	+++++	+++++
11 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	12.243	12.143-12.343	+++++	+++++
$ 13 Decachlorobiphenyl	13.897	13.893	13.893	13.899	13.892	13.898	13.897	13.797-13.997	13.895	0.003
* 12 IS-HBBP	14.269	14.268	14.268	14.267	14.268	14.268	14.269	14.169-14.369	14.268	0.001
42 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	9.260	9.210-9.310	+++++	+++++
43 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.801	9.751-9.851	+++++	+++++
44 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.293	10.243-10.343	+++++	+++++
46 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	9.683	9.583-9.783	+++++	+++++

Reviewer 1 _____ Date:_____
Reviewer 2 _____ Date:_____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\230224.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	10.254	10.154-10.354	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.754	10.654-10.854	+++++	+++++
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	1.842	1.742-1.942	+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	6.708	6.608-6.808	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Batch File: \\target\share\chem4\ecd7.i\230224.b\230224.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	02242302ECD7	02242303ECD7	02242304ECD7	02242305ECD7	02242306ECD7	02242307ECD7
INJ.DATE:	24-FEB-2023	24-FEB-2023	24-FEB-2023	24-FEB-2023	24-FEB-2023	24-FEB-2023
INJ.TIME:	11:12	11:33	11:54	12:15	12:36	12:57

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 40 IS-BNB [2C]	3.928	3.929	3.929	3.929	3.928	3.929	3.928	3.828-4.028	3.929	0.000
$ 2 Tetrachloro-m-xylene [	5.687	5.688	5.688	5.688	5.688	5.688	5.687	5.587-5.787	5.688	0.001
1 Aroclor-1221 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	4.958	4.858-5.058	+++++	+++++
4 Aroclor-1232 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	4.958	4.859-5.059	+++++	+++++
3 Aroclor-1242 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	7.254	7.154-7.354	+++++	+++++
6 Aroclor-1248 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	8.305	8.205-8.405	+++++	+++++
7 Aroclor-1016 [2C]	7.255	7.256	7.256	7.254	7.255	7.256	7.255	7.155-7.355	7.255	0.001
8 Aroclor-1254 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	9.447	9.347-9.547	+++++	+++++
10 Aroclor-1262 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	11.198	11.098-11.298	+++++	+++++
9 Aroclor-1260 [2C]	11.653	11.656	11.655	11.652	11.655	11.653	11.653	11.553-11.753	11.654	0.001
11 Aroclor-1268 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	12.431	12.331-12.531	+++++	+++++
$ 13 Decachlorobiphenyl [2C	14.120	14.120	14.119	14.122	14.119	14.120	14.120	14.020-14.220	14.120	0.001
* 12 IS-HBBP [2C]	15.008	15.008	15.008	15.008	15.007	15.008	15.008	14.908-15.108	15.008	0.000
41 2,4-DDE [2C]	+++++	+++++	+++++	+++++	+++++	+++++	9.911	9.861-9.961	+++++	+++++
42 2,4-DDD [2C]	+++++	+++++	+++++	+++++	+++++	+++++	9.536	9.486-9.586	+++++	+++++
44 4,4-DDE [2C]	+++++	+++++	+++++	+++++	+++++	+++++	10.209	10.109-10.309	+++++	+++++
45 4,4-DDD/2,4-DDT [2C]	+++++	+++++	+++++	+++++	+++++	+++++	10.667	10.567-10.767	+++++	+++++

Reviewer 1 _____ Date:_____
Reviewer 2 _____ Date:_____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Batch File: \\target\share\chem4\ecd7.i\230224.b\230224.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
46 4,4-DDT [2C]	+++++	+++++	+++++	+++++	+++++	+++++	11.092	10.992-11.192	+++++	+++++
48 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	1.703	1.603-1.803	+++++	+++++
49 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	7.178	7.078-7.278	+++++	+++++

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242301ECD7.D
Data file 2: /230224.b/230224.b/02242301ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: IB
Client ID:
Injection Date: 24-FEB-2023 10:51
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.826	0.019	382217	5.683	-0.002	180378	33.8	36.5	7.7	Tetrachloro-m-xylene
13.904	0.011	534110	14.120	0.001	295605	35.3	37.2	5.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	756896	12.3
Hexabromobiphenyl	1429847	1534275	7.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	336543	6.8
Hexabromobiphenyl	513946	521508	1.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	6.321	0.025	1873	31.1
Aroclor-1221	3	---			0.0	3	6.633	0.012	314	3.2
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	7.698	0.043	2193	6.0	3	---			0.0
Aroclor-1232	4	8.505	-0.076	11525	74.5	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	7.698	0.042	2193	3.1	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	8.505	-0.074	11525	35.2	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	---			0.0	1	---			0.0
Aroclor-1248	2	---			0.0	2	---			0.0
Aroclor-1248	3	---			0.0	3	---			0.0
Aroclor-1248	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1254	1	---			0.0	1	---			0.0
Aroclor-1254	2	---			0.0	2	---			0.0
Aroclor-1254	3	9.596	-0.072	31424	64.3	3	---			0.0
Aroclor-1254	4	---			0.0	4	---			0.0
Aroclor-1254	5	10.167	-0.010	18361	30.8	5	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1260	1	11.098	0.054	6994	12.7	1	---			0.0
Aroclor-1260	2	---			0.0	2	---			0.0
Aroclor-1260	3	11.706	-0.027	7806	5.1	3	---			0.0
Aroclor-1260	4	---			0.0	4	---			0.0
Aroclor-1260	5	---			0.0	NS	---			----
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1262	1	10.824	-0.005	16873	35.8	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	13.040	0.053	14031	18.6	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	12.709	0.009	6037	3.6	3	12.891	-0.001	659	0.7
Aroclor-1268	4	13.499	0.010	12396	2.3	4	13.710	0.001	1848	0.6
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (5.906 - 13.793) = 260205 Col1 Total PCB = 0.0 ppm*

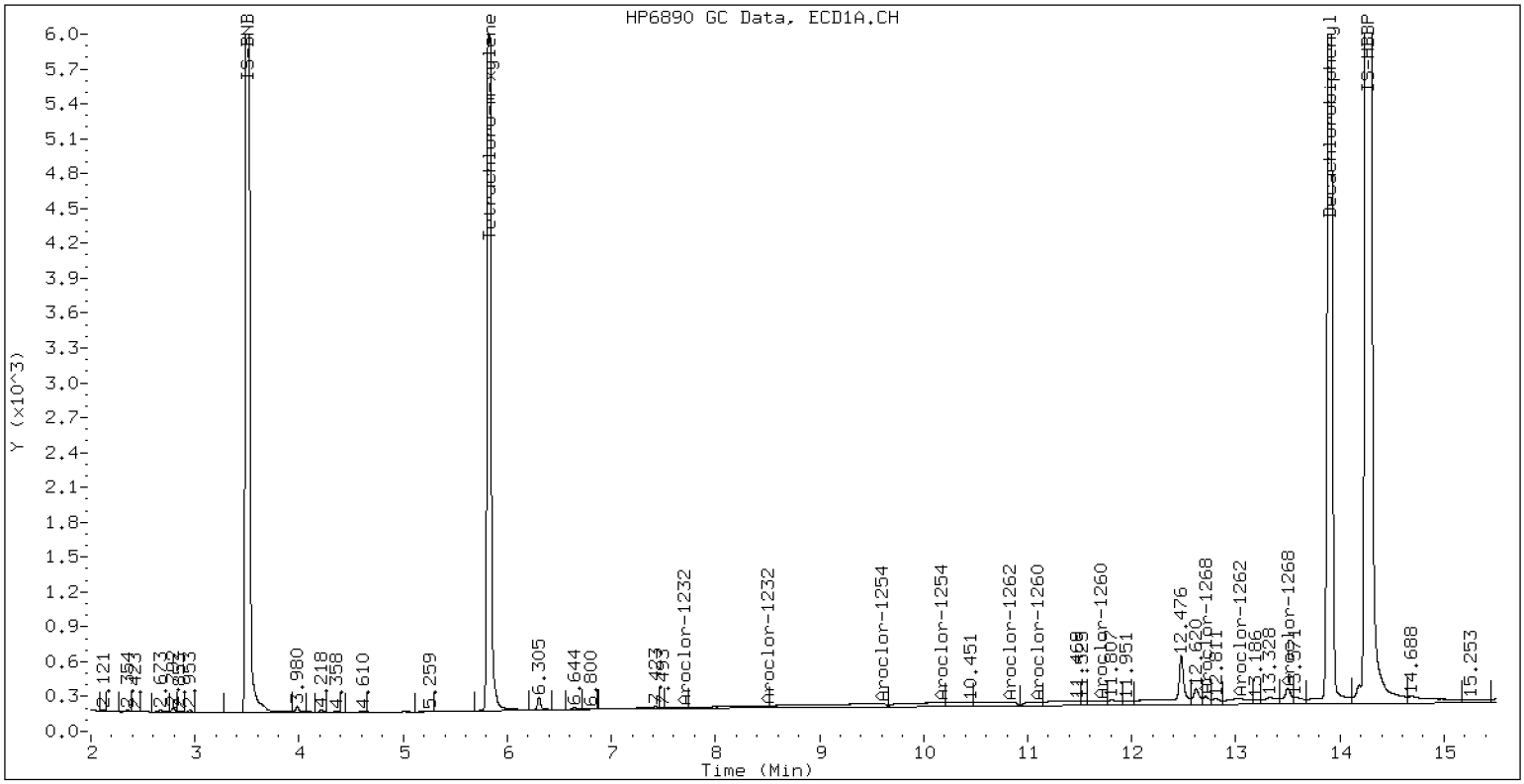
Total PCB Area Col2 (5.785 - 14.019) = 18252 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

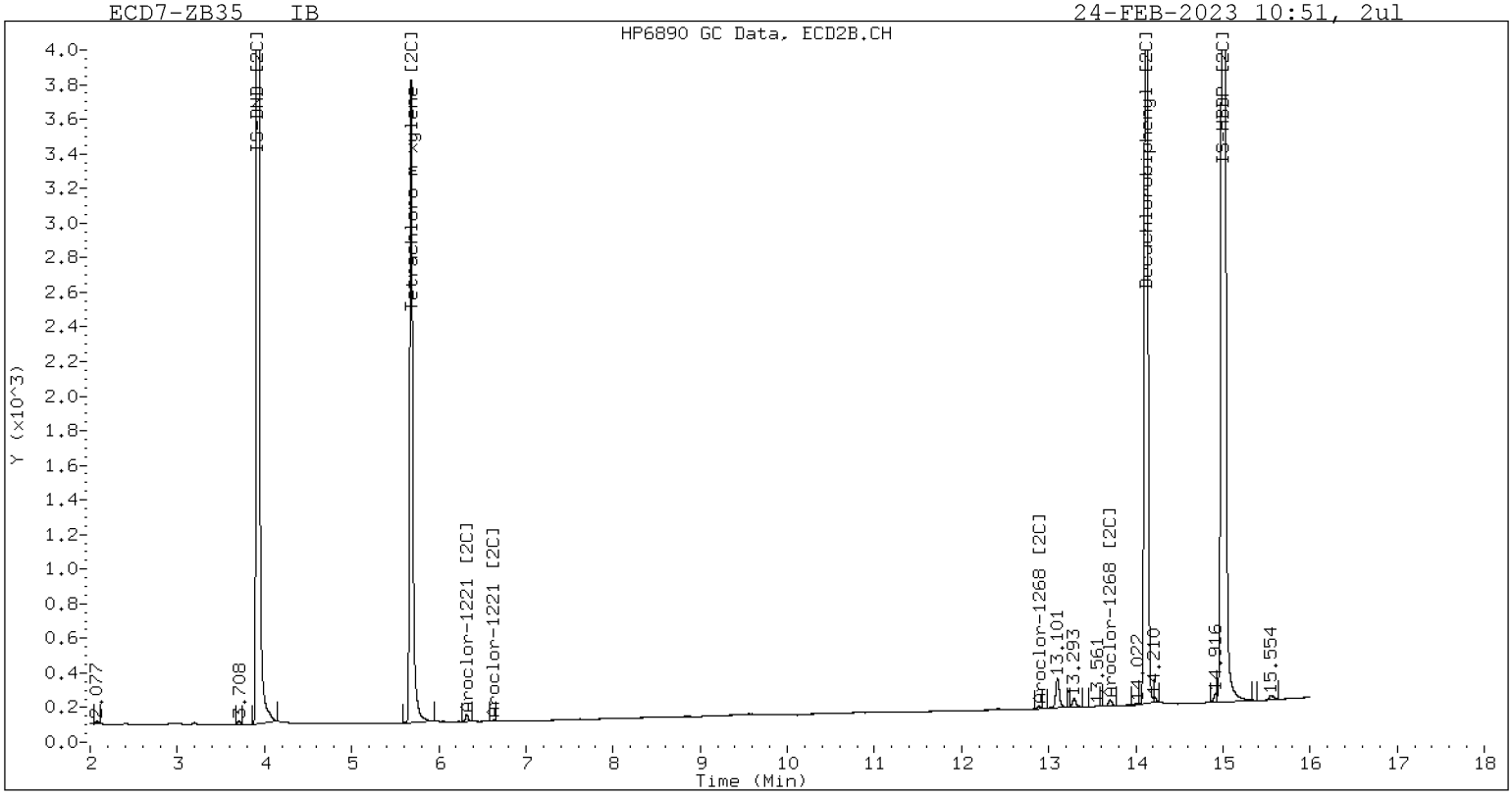
PCB Dual Column Chromatograms

ECD7-ZB5 IB 24-FEB-2023 10:51, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 IB 24-FEB-2023 10:51, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242302ECD7.D
Data file 2: /230224.b/230224.b/02242302ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR1660
Client ID:
Injection Date: 24-FEB-2023 11:12
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.811	0.005	405980	5.687	0.002	192160	40.4	41.5	2.9	Tetrachloro-m-xylene
13.897	0.004	563414	14.120	0.001	336737	40.0	43.0	7.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	673778	0.0
Hexabromobiphenyl	1429847	1429847	0.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	315256	0.0
Hexabromobiphenyl	513946	513946	0.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.272	0.001	66125	258.4	1	7.255	-0.001	46626	252.6
Aroclor-1016	2	7.654	-0.000	207370	265.8	2	7.855	-0.001	101071	270.1
Aroclor-1016	3	7.792	0.002	92507	242.9	3	8.055	0.001	43448	257.1
Aroclor-1016	4	8.406	0.001	64388	261.5	4	8.306	-0.000	33986	256.3
Total Col1Ave (4 peaks):					257.2	Total Col2Ave (4 peaks):				259.0 RPD = 1
Corrected Ave (3 peaks):					254.3	Corrected Ave (3 peaks):				255.3 RPD = 0
CalAmt %D:					2.9	CalAmt %D:				3.6
Aroclor-1260	1	11.046	0.001	138355	269.0	1	11.653	0.001	77114	255.2
Aroclor-1260	2	11.363	0.002	147051	273.6	2	11.918	0.001	203401	263.7
Aroclor-1260	3	11.736	0.003	383171	268.8	3	12.435	-0.000	51517	251.7
Aroclor-1260	4	12.141	0.002	200399	279.2	4	12.502	0.001	134797	259.3
Aroclor-1260	5	12.247	0.003	83796	271.2	NS	---			----
Total Col1Ave (5 peaks):					272.4	Total Col2Ave (4 peaks):				257.5 RPD = 6
Corrected Ave (4 peaks):					270.7	Corrected Ave (3 peaks):				255.4 RPD = 6
CalAmt %D:					8.9	CalAmt %D:				3.0

Total PCB Area Col1 (5.906 - 13.793) = 4024419 Col1 Total PCB = 0.5 ppm*

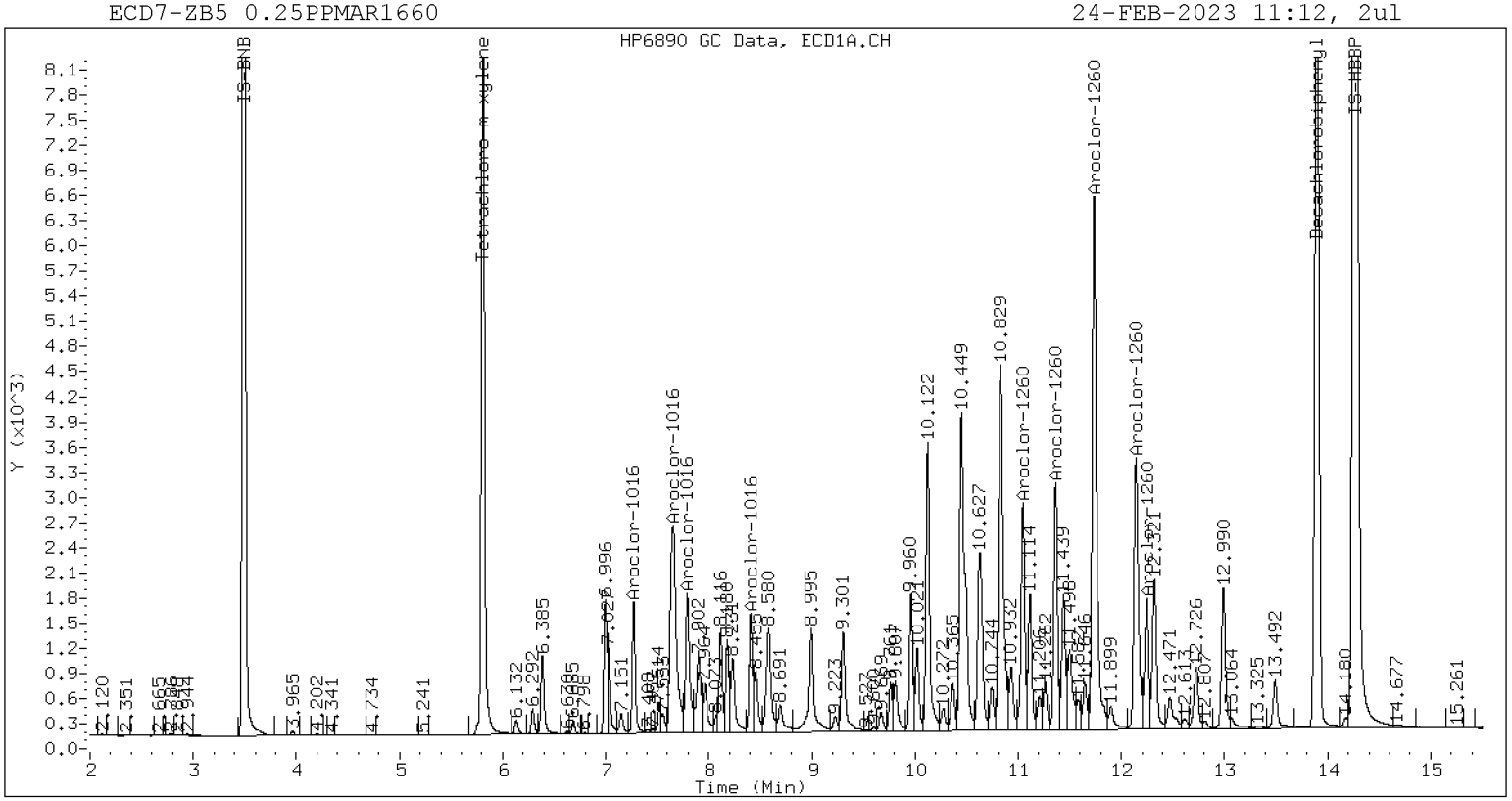
Total PCB Area Col2 (5.785 - 14.019) = 1889311 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

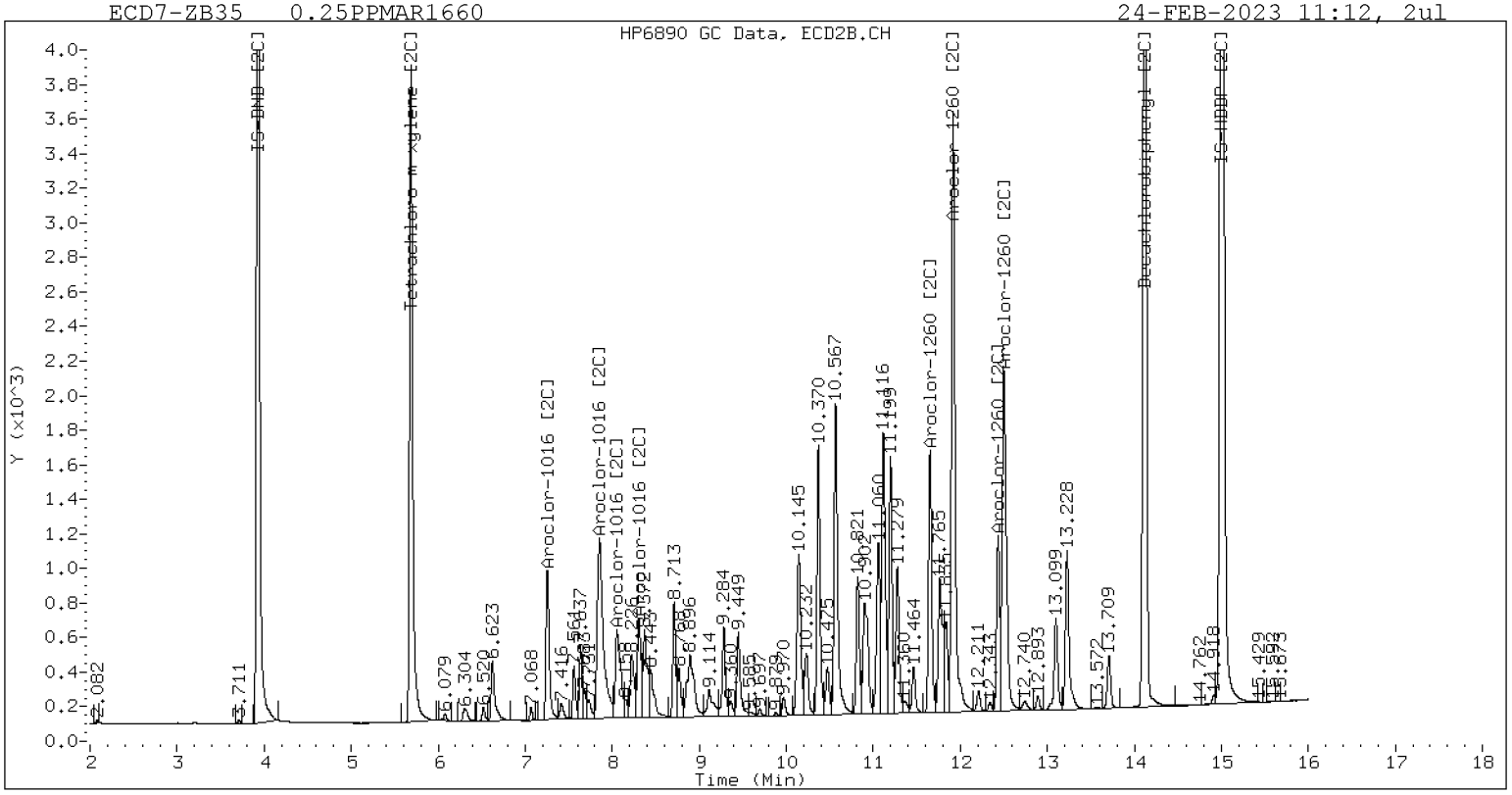
PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR1660 24-FEB-2023 11:12, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR1660 24-FEB-2023 11:12, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242303ECD7.D
Data file 2: /230224.b/230224.b/02242303ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.02PPMAR1660
Client ID:
Injection Date: 24-FEB-2023 11:33
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.809	0.002	29768	5.688	0.003	14932	3.1	3.3	5.7	Tetrachloro-m-xylene
13.893	0.000	45992	14.120	0.000	23950	3.4	3.1	9.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	637010	-5.5
Hexabromobiphenyl	1429847	1386953	-3.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	307177	-2.6
Hexabromobiphenyl	513946	511463	-0.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.272	0.001	5052	20.9	1	7.256	0.000	3894	21.7
Aroclor-1016	2	7.659	0.005	14714	19.9	2	7.864	0.008	6253	17.1
Aroclor-1016	3	7.795	0.005	8226	22.8	3	8.060	0.006	3076	18.7
Aroclor-1016	4	8.407	0.002	4780	20.5	4	8.309	0.002	2443	18.9
Total Col1Ave (4 peaks):					21.1	Total Col2Ave (4 peaks):				19.1 RPD = 10
Corrected Ave (3 peaks):					20.5	Corrected Ave (3 peaks):				18.2 RPD = 11
CalAmt %D:					5.3	CalAmt %D:				-4.5
Aroclor-1260	1	11.047	0.003	10147	20.3	1	11.656	0.003	6759	22.5
Aroclor-1260	2	11.364	0.003	10287	19.7	2	11.922	0.005	16592	21.6
Aroclor-1260	3	11.740	0.006	28043	20.3	3	12.438	0.002	4506	22.1
Aroclor-1260	4	12.145	0.006	13540	19.4	4	12.505	0.004	11037	21.3
Aroclor-1260	5	12.246	0.002	6182	20.6	NS	---			----
Total Col1Ave (5 peaks):					20.1	Total Col2Ave (4 peaks):				21.9 RPD = 9
Corrected Ave (4 peaks):					19.9	Corrected Ave (3 peaks):				21.7 RPD = 8
CalAmt %D:					0.4	CalAmt %D:				9.4

Total PCB Area Col1 (5.906 - 13.793) = 324832 Col1 Total PCB = 0.0 ppm*

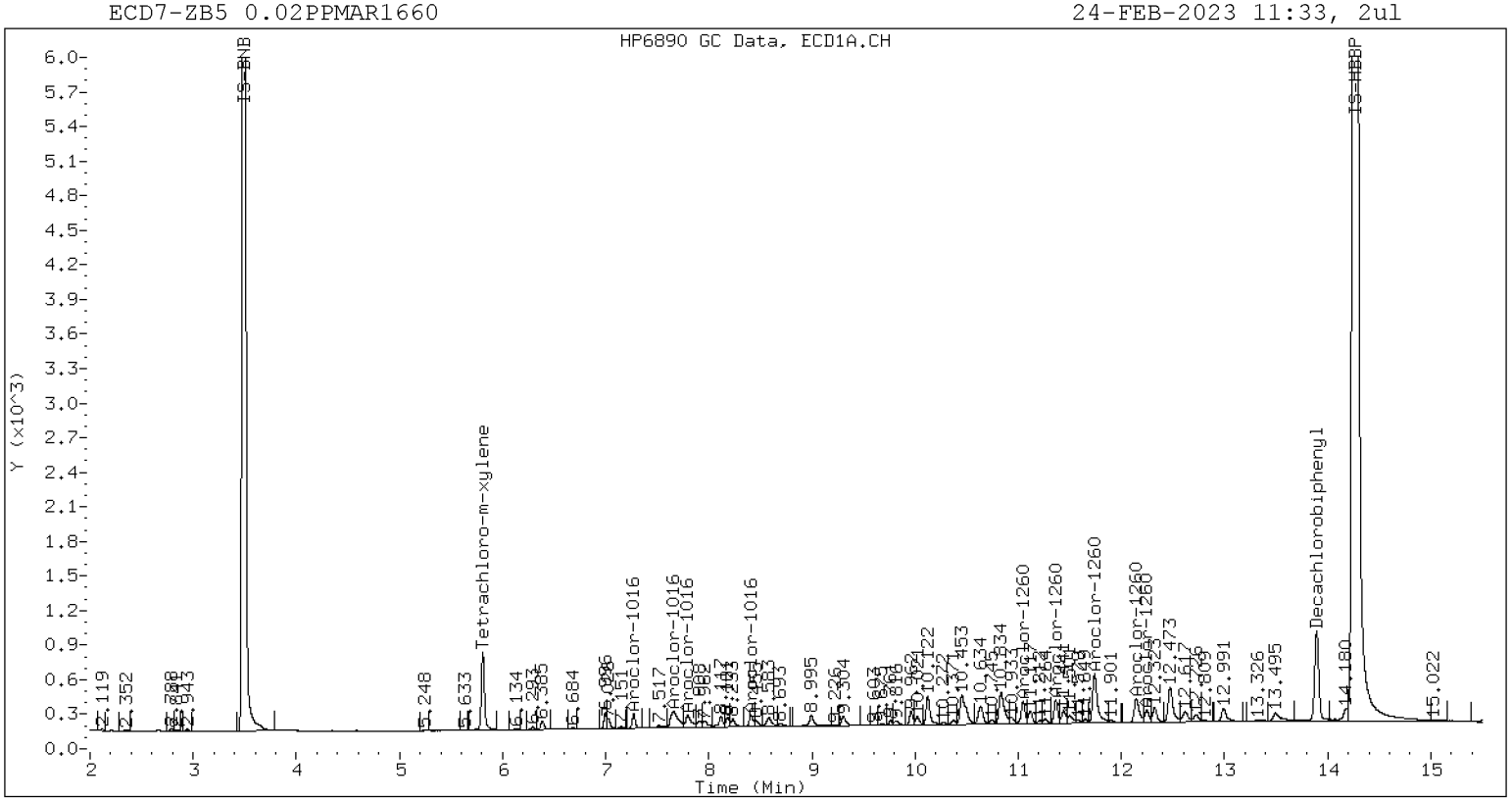
Total PCB Area Col2 (5.785 - 14.019) = 157149 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

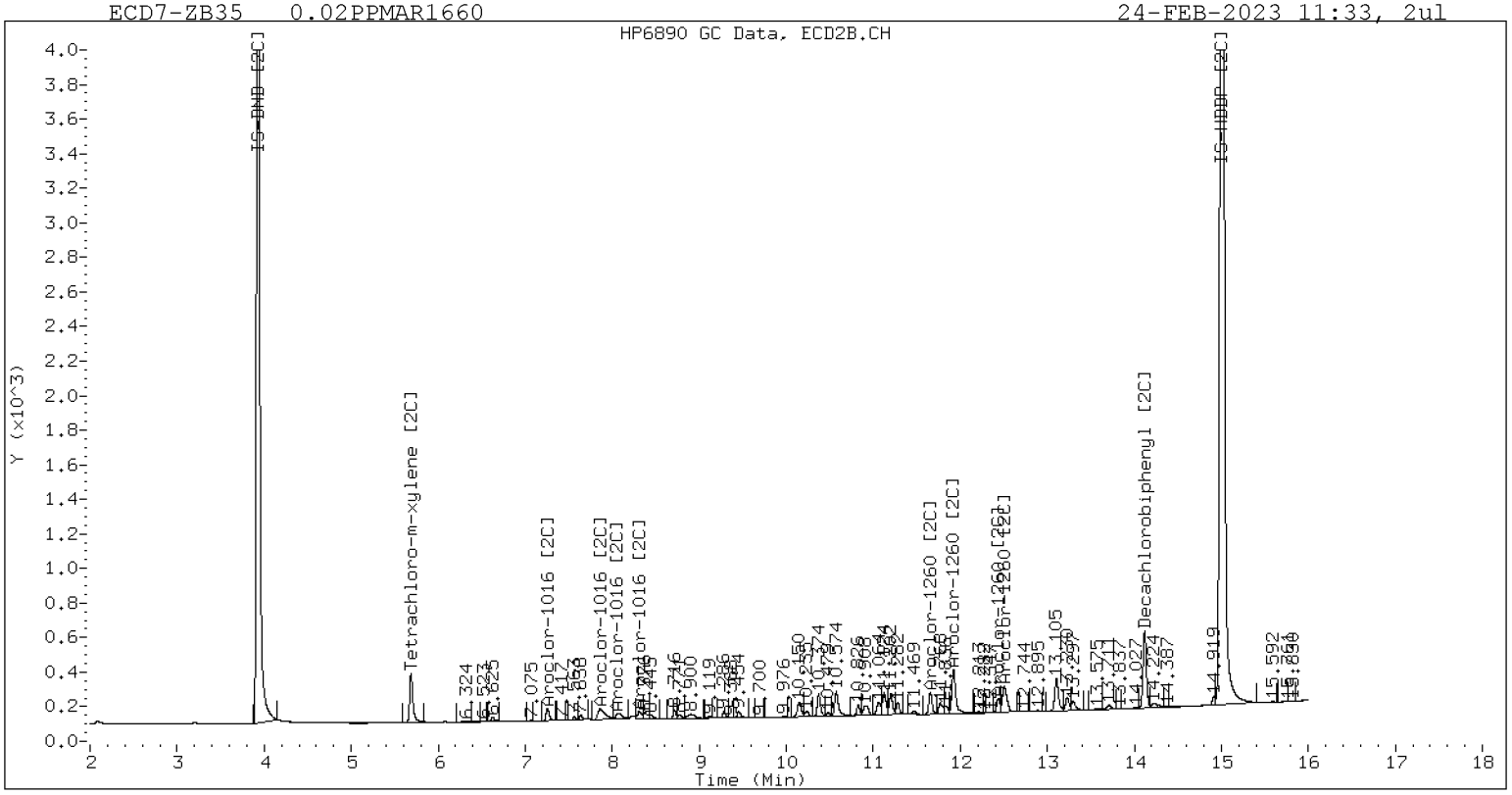
PCB Dual Column Chromatograms

ECD7-ZB5 0.02PPMAR1660 24-FEB-2023 11:33, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.02PPMAR1660 24-FEB-2023 11:33, 2ul

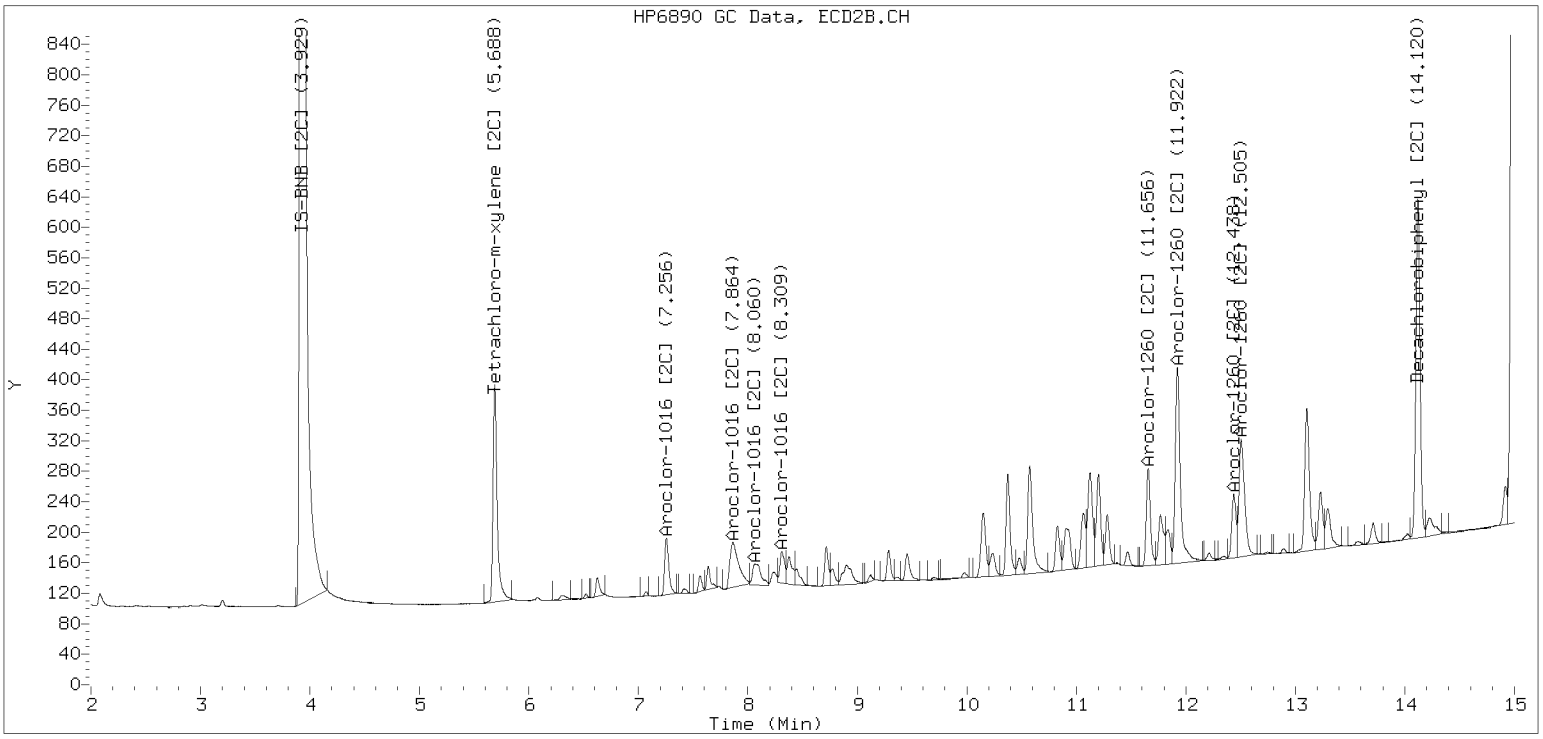


ZB-35 Manual Integration: YES

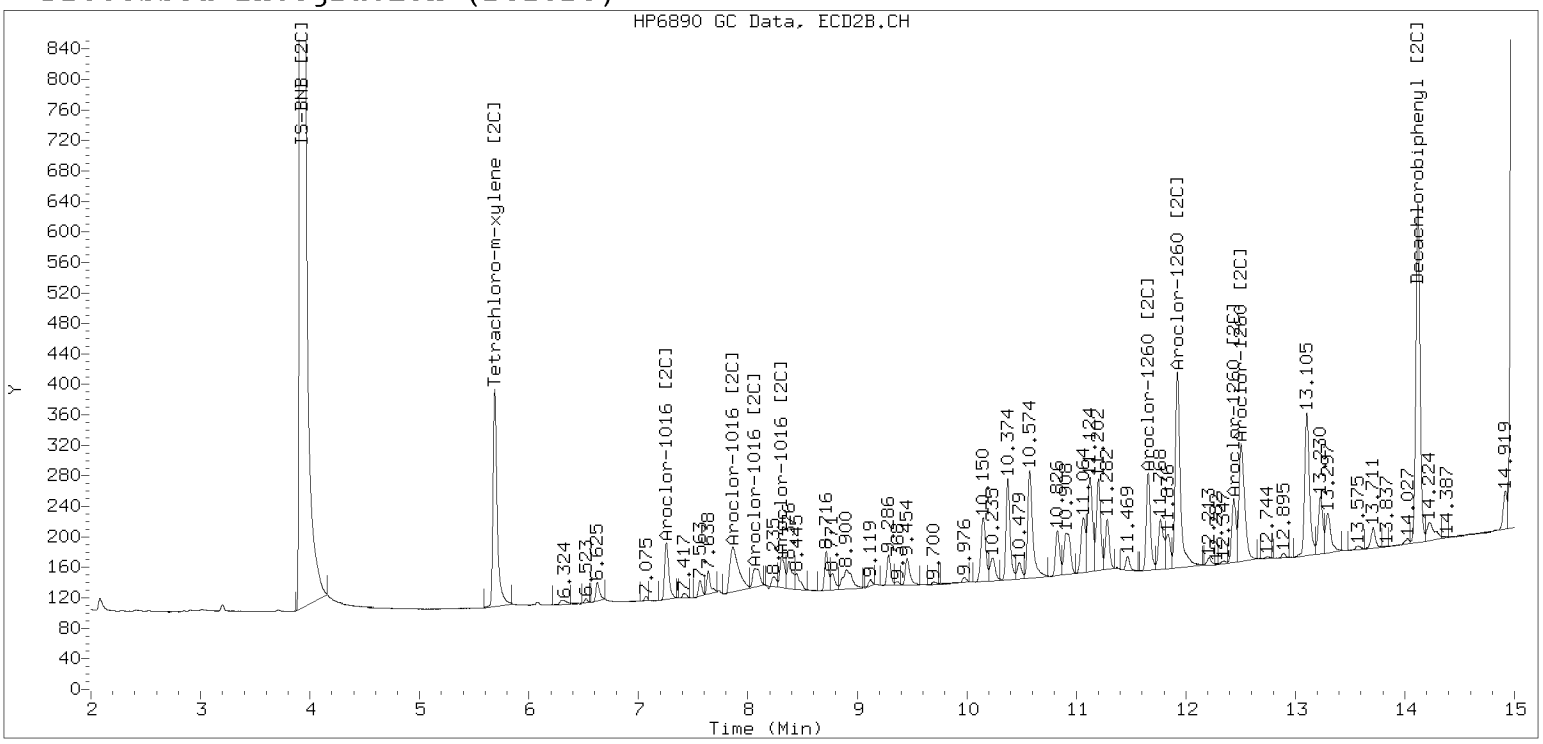
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230224.b/230224.b/02242303ECD7.D Injection Date: 24-FEB-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242304ECD7.D
Data file 2: /230224.b/230224.b/02242304ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.05PPMAR1660
Client ID:
Injection Date: 24-FEB-2023 11:54
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.809	0.003	78493	5.688	0.003	36772	8.3	8.1	2.2	Tetrachloro-m-xylene
13.893	-0.000	113544	14.119	-0.000	62745	8.2	7.9	3.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	630965	-6.4
Hexabromobiphenyl	1429847	1409464	-1.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	307599	-2.4
Hexabromobiphenyl	513946	521112	1.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.272	0.002	12829	53.5	1	7.256	0.000	9654	53.6
Aroclor-1016	2	7.660	0.006	36461	49.9	2	7.864	0.008	18085	49.5
Aroclor-1016	3	7.795	0.005	19865	55.7	3	8.063	0.008	9071	55.0
Aroclor-1016	4	8.408	0.003	11411	49.5	4	8.310	0.003	7309	56.5
Total Col1Ave (4 peaks):					52.2	Total Col2Ave (4 peaks):				53.7 RPD = 3
Corrected Ave (3 peaks):					51.0	Corrected Ave (3 peaks):				52.7 RPD = 3
CalAmt %D:					4.3	CalAmt %D:				7.3
Aroclor-1260	1	11.046	0.002	25727	50.7	1	11.655	0.002	15996	52.2
Aroclor-1260	2	11.363	0.002	26482	50.0	2	11.922	0.004	40487	51.8
Aroclor-1260	3	11.739	0.005	70871	50.4	3	12.437	0.002	10248	49.4
Aroclor-1260	4	12.143	0.004	34239	48.4	4	12.506	0.004	26828	50.9
Aroclor-1260	5	12.246	0.002	15109	49.6	NS	---			----
Total Col1Ave (5 peaks):					49.8	Total Col2Ave (4 peaks):				51.1 RPD = 2
Corrected Ave (4 peaks):					49.6	Corrected Ave (3 peaks):				50.7 RPD = 2
CalAmt %D:					-0.3	CalAmt %D:				2.1

Total PCB Area Col1 (5.906 - 13.793) = 758292 Col1 Total PCB = 0.1 ppm*

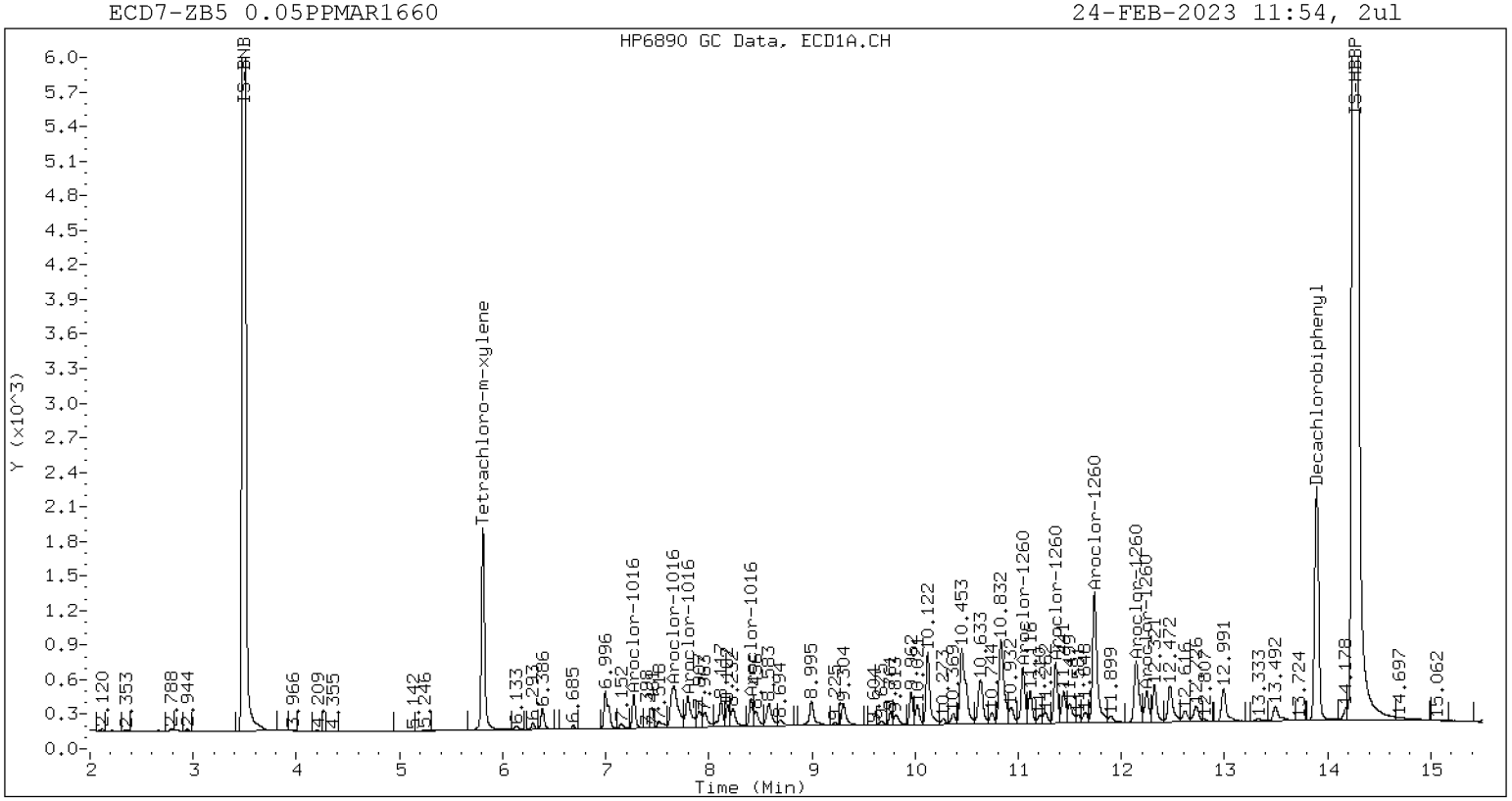
Total PCB Area Col2 (5.785 - 14.019) = 386383 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

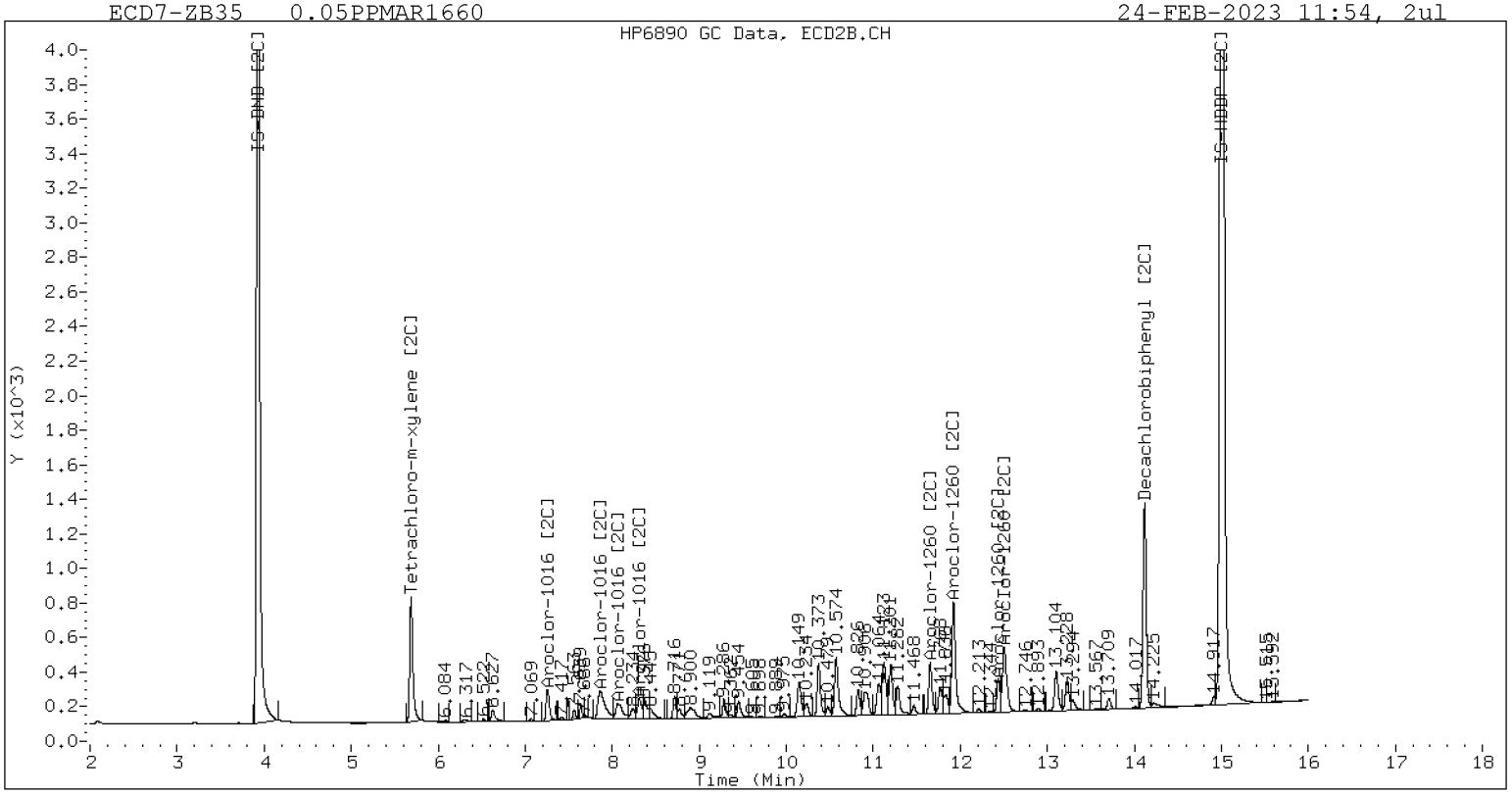
PCB Dual Column Chromatograms

ECD7-ZB5 0.05PPMAR1660 24-FEB-2023 11:54, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.05PPMAR1660 24-FEB-2023 11:54, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242305ECD7.D
Data file 2: /230224.b/230224.b/02242305ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 1.0PPMAR1660
Client ID:
Injection Date: 24-FEB-2023 12:15
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.813	0.006	1641874	5.688	0.003	709674	166.2	151.5	9.3	Tetrachloro-m-xylene
13.899	0.006	2344583	14.122	0.002	1300114	161.9	158.6	2.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	661440	-1.8
Hexabromobiphenyl	1429847	1470100	2.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	319272	1.3
Hexabromobiphenyl	513946	538138	4.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.270	-0.000	220519	877.8	1	7.254	-0.001	162833	871.2
Aroclor-1016	2	7.652	-0.002	731607	955.3	2	7.852	-0.004	373610	985.8
Aroclor-1016	3	7.789	-0.001	307629	822.8	3	8.051	-0.003	156666	915.2
Aroclor-1016	4	8.404	-0.001	229387	949.1	4	8.305	-0.002	117186	872.6
Total Col1Ave (4 peaks):					901.3	Total Col2Ave (4 peaks):				911.2 RPD = 1
Corrected Ave (3 peaks):					883.3	Corrected Ave (3 peaks):				886.3 RPD = 0
CalAmt %D:					-9.9	CalAmt %D:				-8.9
Aroclor-1260	1	11.044	-0.000	504641	954.2	1	11.652	-0.000	282606	893.1
Aroclor-1260	2	11.360	-0.001	524931	950.0	2	11.917	-0.000	709329	878.4
Aroclor-1260	3	11.734	-0.000	1410270	962.3	3	12.434	-0.001	215124	1003.8
Aroclor-1260	4	12.137	-0.002	720770	976.7	4	12.501	-0.001	506566	930.6
Aroclor-1260	5	12.243	-0.001	304211	957.7	NS	---			----
Total Col1Ave (5 peaks):					960.2	Total Col2Ave (4 peaks):				926.5 RPD = 4
Corrected Ave (4 peaks):					956.0	Corrected Ave (3 peaks):				900.7 RPD = 6
CalAmt %D:					-4.0	CalAmt %D:				-7.4

Total PCB Area Col1 (5.906 - 13.793) = 14454279 Col1 Total PCB = 1.8 ppm*

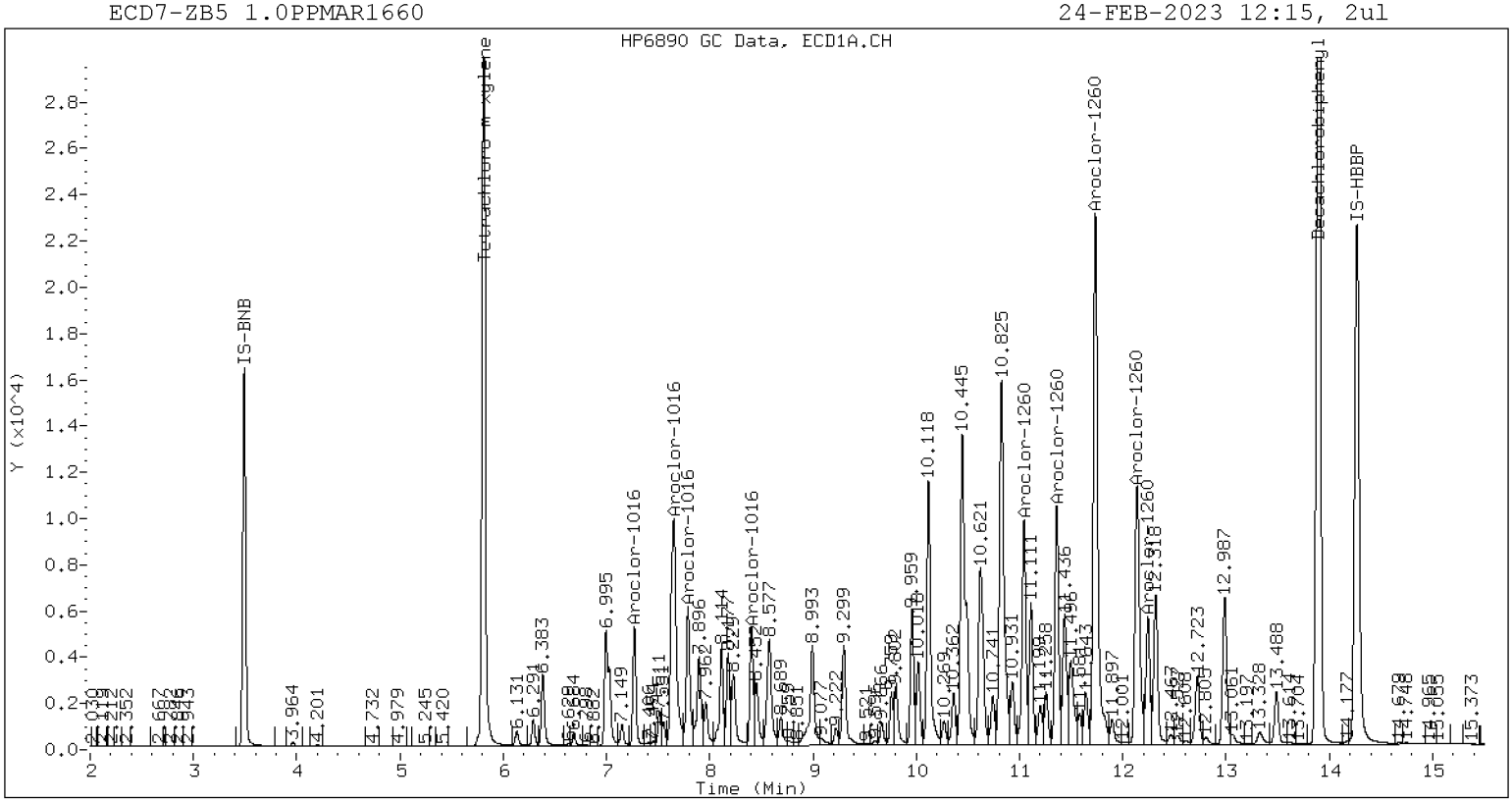
Total PCB Area Col2 (5.785 - 14.019) = 7029563 Col2 Total PCB = 1.8 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

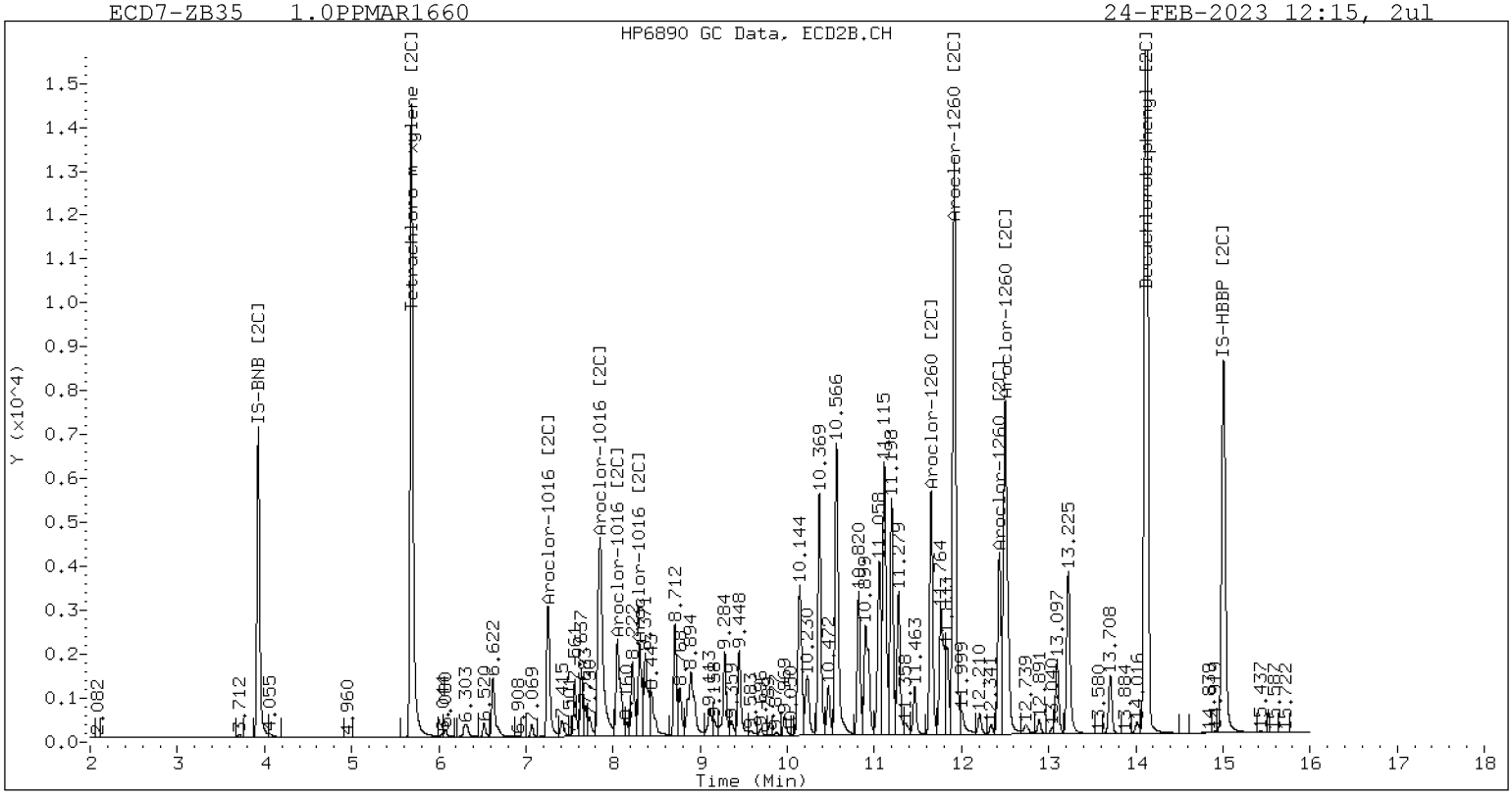
PCB Dual Column Chromatograms

ECD7-ZB5 1.0PPMAR1660 24-FEB-2023 12:15, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 1.0PPMAR1660 24-FEB-2023 12:15, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242306ECD7.D
Data file 2: /230224.b/230224.b/02242306ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.1PPMAR1660
Client ID:
Injection Date: 24-FEB-2023 12:36
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.809	0.002	155528	5.688	0.003	74628	15.9	16.0	0.9	Tetrachloro-m-xylene
13.892	-0.001	227253	14.119	-0.000	128496	15.8	15.8	0.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	655979	-2.6
Hexabromobiphenyl	1429847	1464509	2.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	317418	0.7
Hexabromobiphenyl	513946	532962	3.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.271	0.000	25761	103.4	1	7.255	-0.000	19315	103.9
Aroclor-1016	2	7.657	0.003	75616	99.6	2	7.863	0.007	40308	107.0
Aroclor-1016	3	7.794	0.004	39547	106.7	3	8.059	0.005	18304	107.6
Aroclor-1016	4	8.406	0.001	24260	101.2	4	8.309	0.002	14708	110.2
Total Col1Ave (4 peaks):					102.7	Total Col2Ave (4 peaks):				107.2 RPD = 4
Corrected Ave (3 peaks):					101.4	Corrected Ave (3 peaks):				106.2 RPD = 5
CalAmt %D:					2.7	CalAmt %D:				7.2
Aroclor-1260	1	11.045	0.000	52009	98.7	1	11.655	0.002	31282	99.8
Aroclor-1260	2	11.362	0.001	55116	100.1	2	11.920	0.003	80574	100.7
Aroclor-1260	3	11.738	0.004	145604	99.7	3	12.437	0.002	19566	92.2
Aroclor-1260	4	12.141	0.002	72408	98.5	4	12.503	0.001	53588	99.4
Aroclor-1260	5	12.245	0.001	30745	97.2	NS	---			----
Total Col1Ave (5 peaks):					98.8	Total Col2Ave (4 peaks):				98.0 RPD = 1
Corrected Ave (4 peaks):					98.5	Corrected Ave (3 peaks):				97.1 RPD = 1
CalAmt %D:					-1.2	CalAmt %D:				-2.0

Total PCB Area Col1 (5.906 - 13.793) = 1555762 Col1 Total PCB = 0.2 ppm*

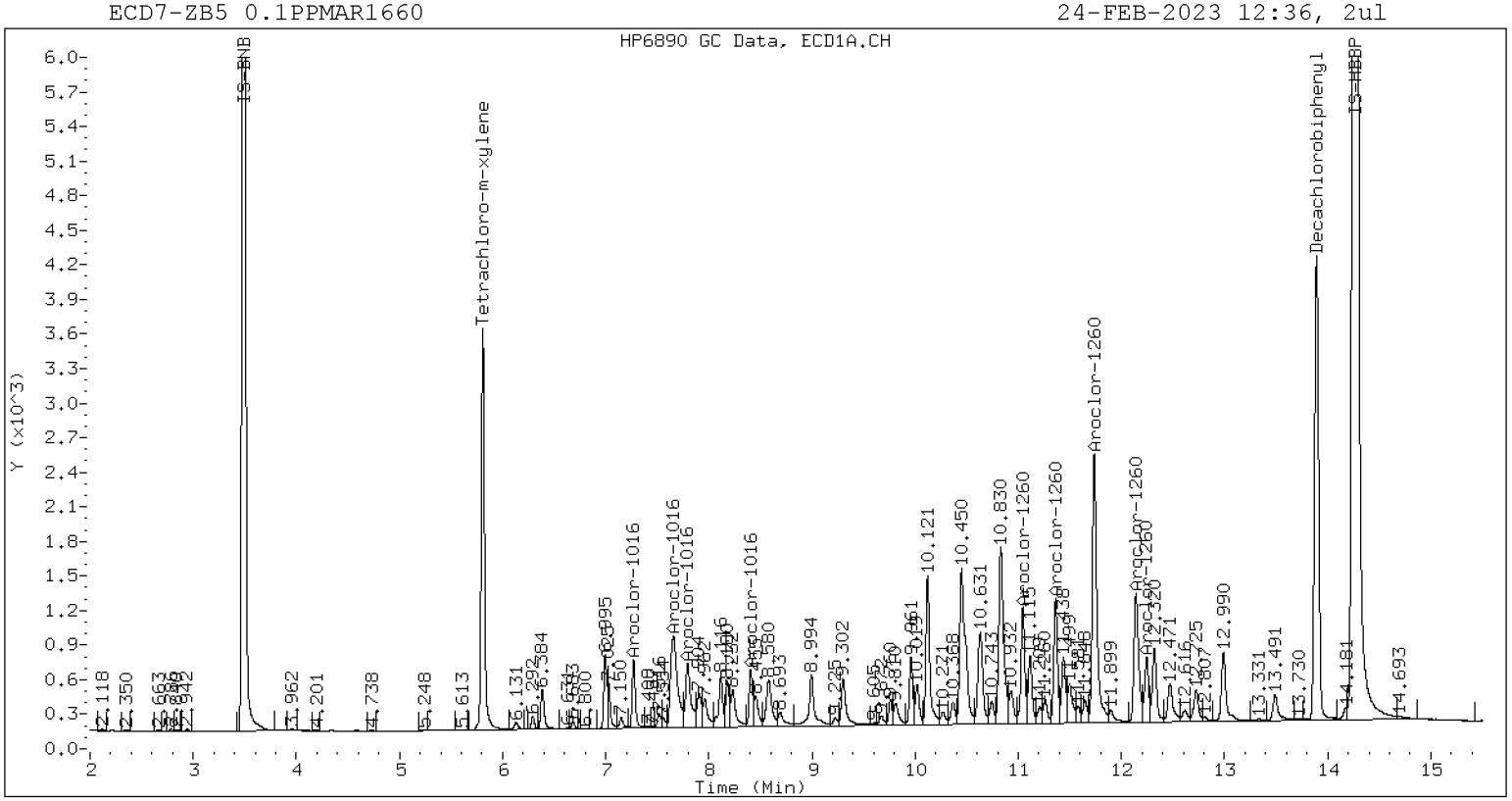
Total PCB Area Col2 (5.785 - 14.019) = 764924 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

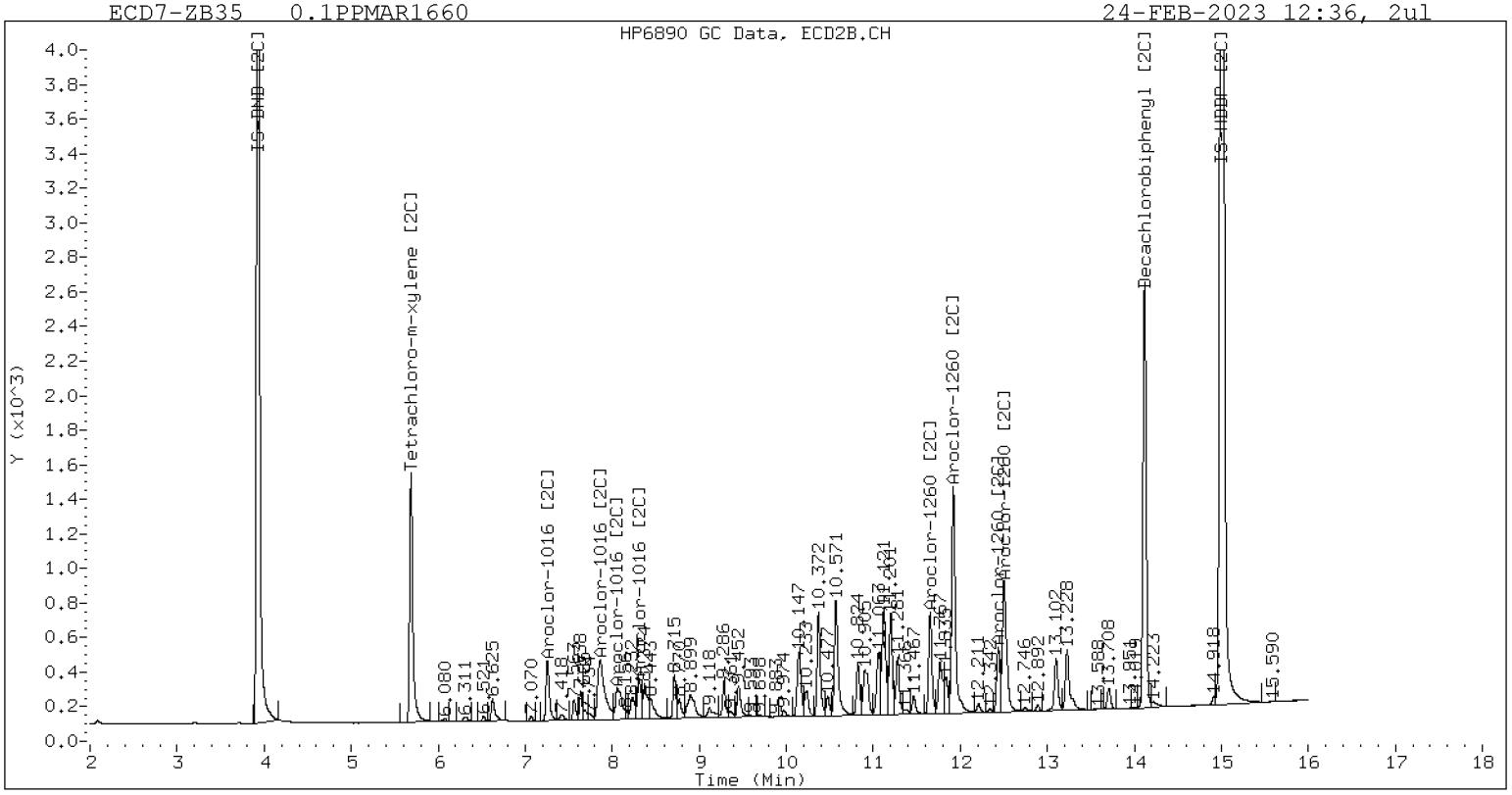
PCB Dual Column Chromatograms

ECD7-ZB5 0.1PPMAR1660 24-FEB-2023 12:36, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.1PPMAR1660 24-FEB-2023 12:36, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242307ECD7.D
Data file 2: /230224.b/230224.b/02242307ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.5PPMAR1660
Client ID:
Injection Date: 24-FEB-2023 12:57
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.810	0.004	724614	5.688	0.003	359257	75.2	76.7	2.0	Tetrachloro-m-xylene
13.898	0.005	1056911	14.120	0.000	650153	74.3	79.5	6.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	645275	-4.2
Hexabromobiphenyl	1429847	1445345	1.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	319170	1.2
Hexabromobiphenyl	513946	536853	4.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.270	0.000	115193	470.0	1	7.256	0.000	86287	461.8
Aroclor-1016	2	7.654	0.000	369991	495.2	2	7.856	0.000	192524	508.1
Aroclor-1016	3	7.790	0.000	160952	441.3	3	8.055	0.000	81039	473.6
Aroclor-1016	4	8.405	0.000	115032	487.9	4	8.307	0.000	62136	462.8
Total Col1Ave (4 peaks):					473.6	Total Col2Ave (4 peaks):				476.6 RPD = 1
Corrected Ave (3 peaks):					466.4	Corrected Ave (3 peaks):				466.1 RPD = 0
			CalAmt %D:		-5.3			CalAmt %D:		-4.7
Aroclor-1260	1	11.044	0.000	247212	475.5	1	11.653	0.000	145247	460.1
Aroclor-1260	2	11.361	0.000	262877	483.9	2	11.918	0.000	379838	471.5
Aroclor-1260	3	11.734	0.000	678830	471.1	3	12.436	0.000	104092	486.9
Aroclor-1260	4	12.139	0.000	356067	490.7	4	12.502	0.000	258953	476.9
Aroclor-1260	5	12.244	0.000	150280	481.2	NS	---			----
Total Col1Ave (5 peaks):					480.5	Total Col2Ave (4 peaks):				473.8 RPD = 1
Corrected Ave (4 peaks):					477.9	Corrected Ave (3 peaks):				469.5 RPD = 2
			CalAmt %D:		-3.9			CalAmt %D:		-5.2

Total PCB Area Col1 (5.906 - 13.793) = 7134169 Col1 Total PCB = 0.9 ppm*

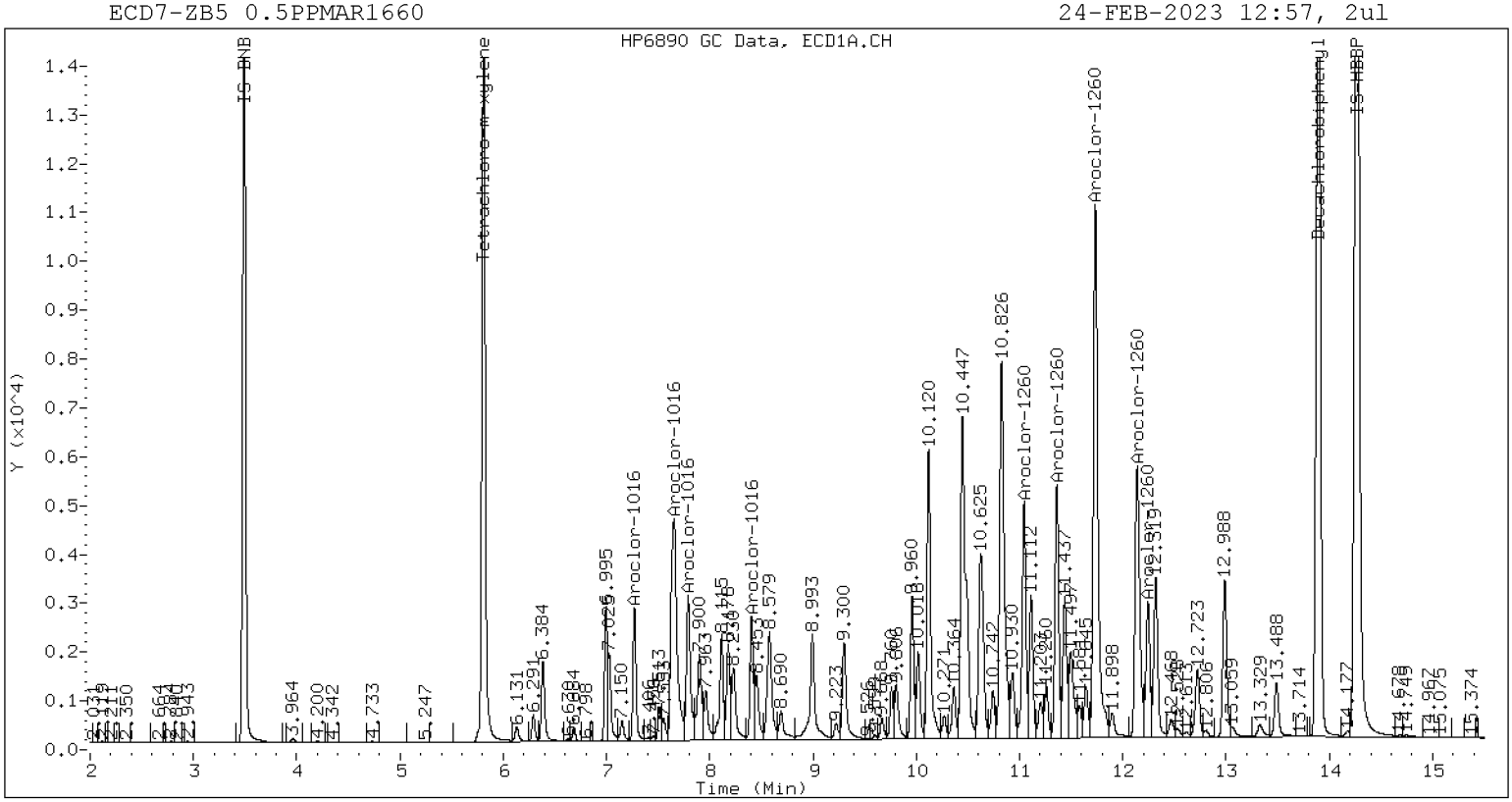
Total PCB Area Col2 (5.785 - 14.019) = 3589735 Col2 Total PCB = 0.9 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

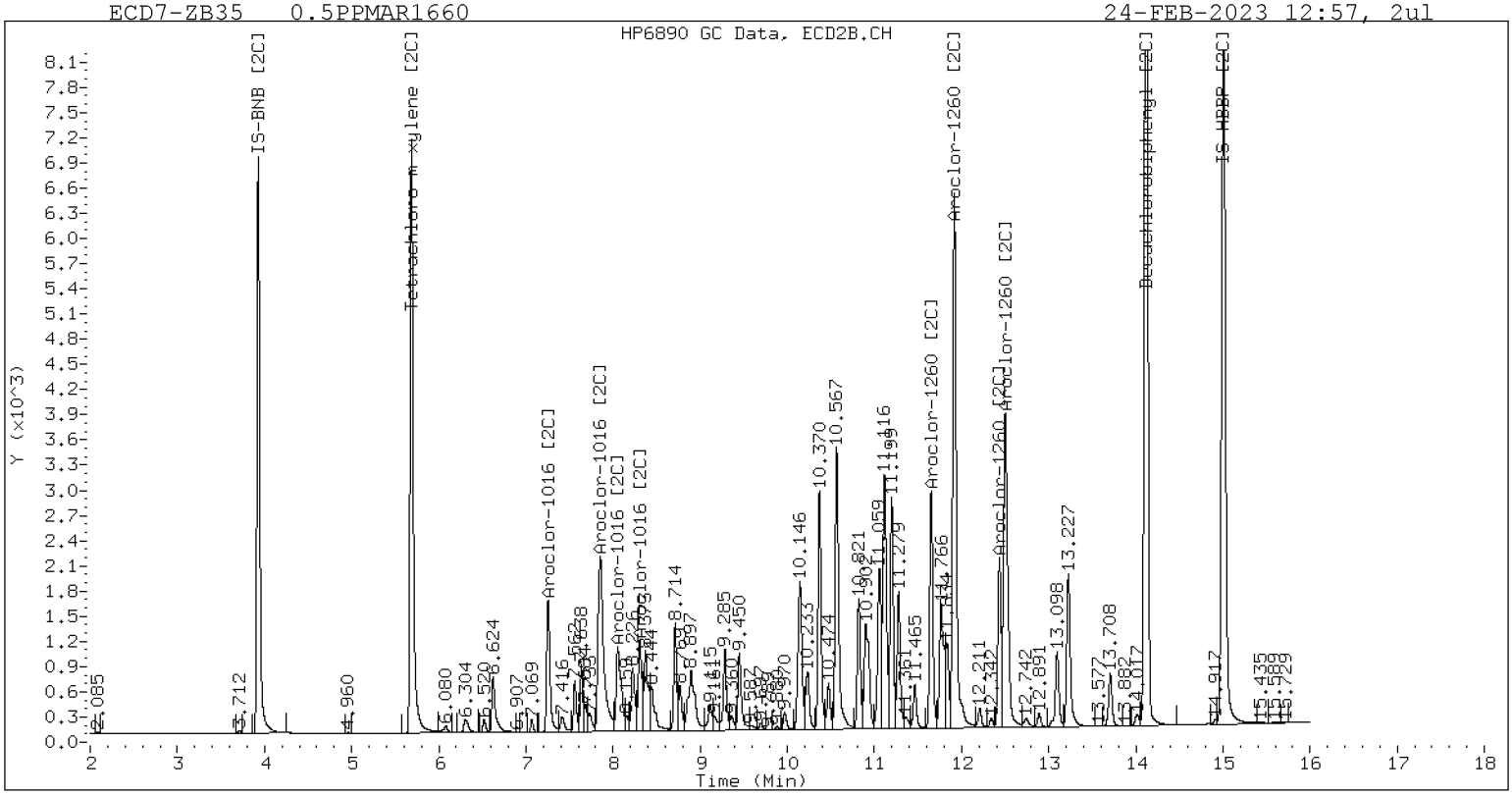
PCB Dual Column Chromatograms

ECD7-ZB5 0.5PPMAR1660 24-FEB-2023 12:57, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.5PPMAR1660 24-FEB-2023 12:57, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242308ECD7.D
Data file 2: /230224.b/230224.b/02242308ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1242.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR1242
Client ID:
Injection Date: 24-FEB-2023 13:18
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.809	0.003	434187	5.688	0.003	214306	46.0	46.5	1.1	Tetrachloro-m-xylene
13.894	0.000	515867	14.119	-0.001	312943	35.6	38.5	7.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	632576	-6.1
Hexabromobiphenyl	1429847	1469715	2.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	314129	-0.4
Hexabromobiphenyl	513946	534294	4.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col					ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1242	1	7.271	0.000	49009	250.0	1	7.255	0.000	36487	250.0
Aroclor-1242	2	7.656	0.000	148833	250.0	2	7.858	0.000	76699	250.0
Aroclor-1242	3	8.405	0.000	46308	250.0	3	9.167	0.000	23866	250.0
Aroclor-1242	4	8.579	0.000	68453	250.0	4	9.597	0.000	29080	250.0

Total Col1Ave (4 peaks): 250.0 Total Col2Ave (4 peaks): 250.0 RPD = 0

Corrected Ave (3 peaks): 250.0 Corrected Ave (3 peaks): 250.0 RPD = 0

Total PCB Area Col1 (5.906 - 13.793) = 1221467 Col1 Total PCB = 0.2 ppm*

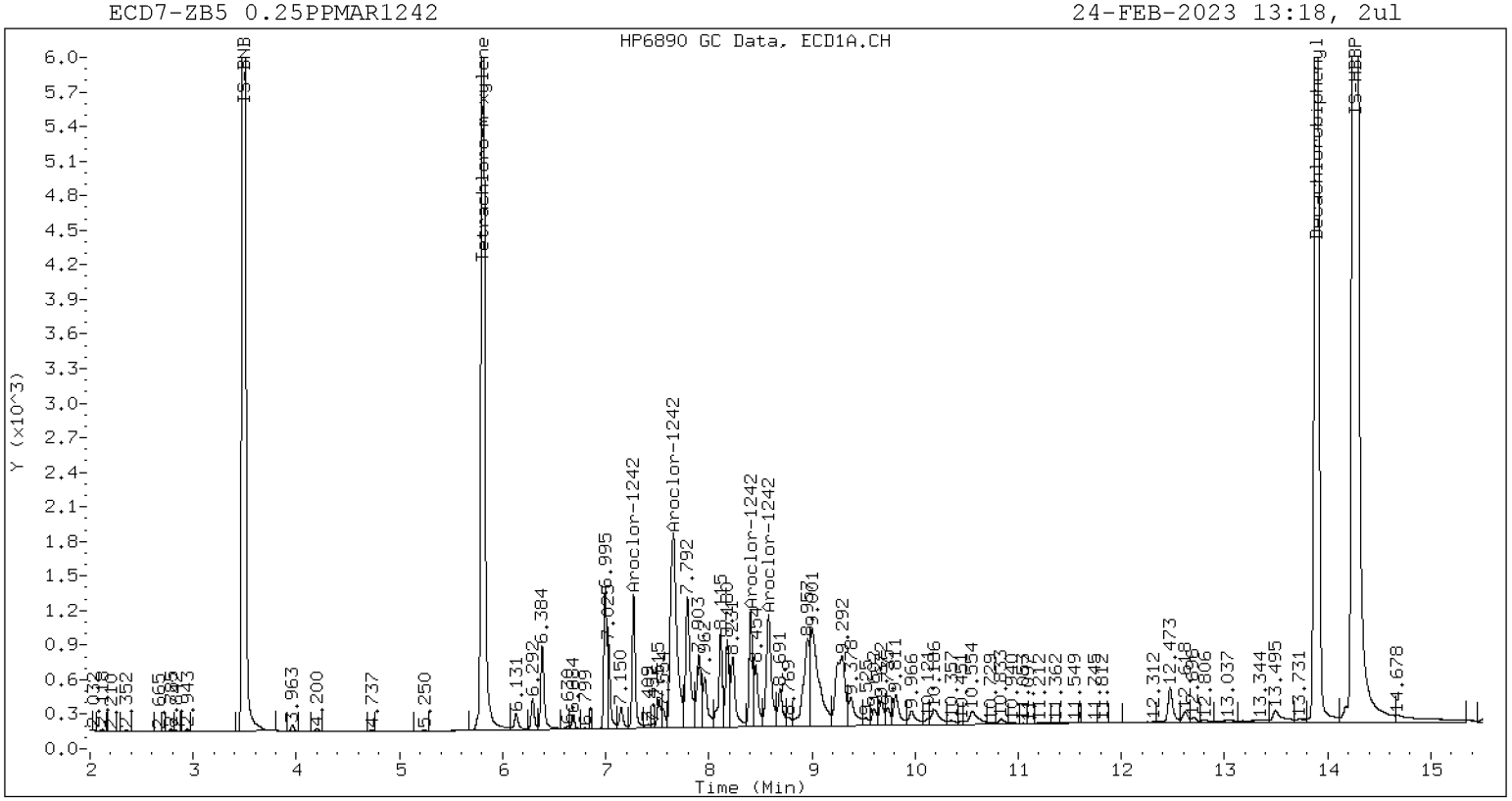
Total PCB Area Col2 (5.785 - 14.019) = 572067 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

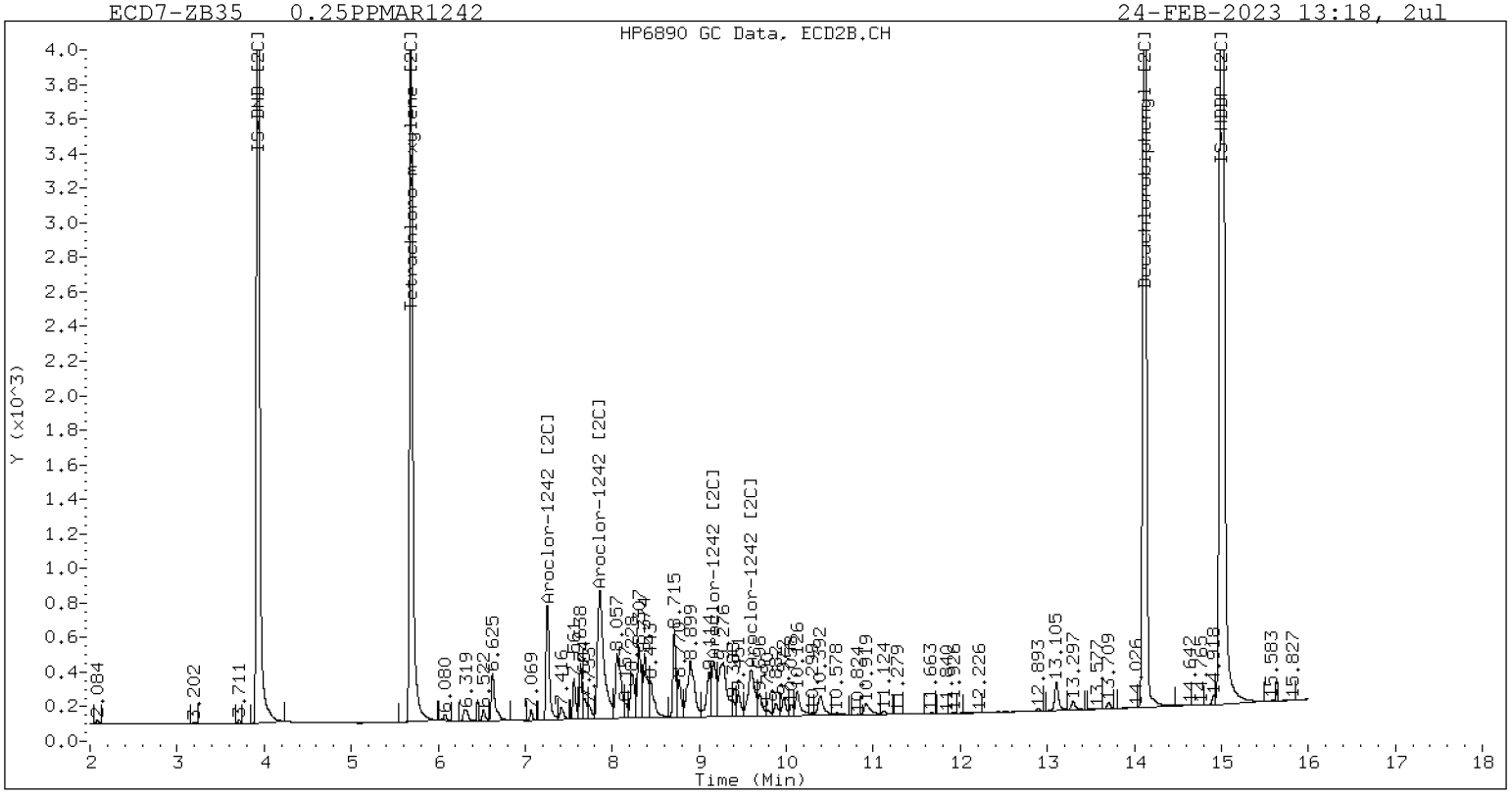
PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR1242 24-FEB-2023 13:18, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR1242 24-FEB-2023 13:18, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242309ECD7.D
Data file 2: /230224.b/230224.b/02242309ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR1248
Client ID:
Injection Date: 24-FEB-2023 13:39
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.809	0.003	349513	5.688	0.003	176615	36.6	37.9	3.4	Tetrachloro-m-xylene
13.894	0.001	523008	14.121	0.001	322054	36.4	39.3	7.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	639911	-5.0
Hexabromobiphenyl	1429847	1458696	2.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	317938	0.9
Hexabromobiphenyl	513946	538760	4.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1248	1	8.405	0.000	78055	250.0	1	8.308	0.000	37951	250.0
Aroclor-1248	2	8.580	0.000	99216	250.0	2	8.714	0.000	39239	250.0
Aroclor-1248	3	8.999	0.000	187178	250.0	3	9.166	0.000	45157	250.0
Aroclor-1248	4	9.295	0.000	95291	250.0	4	9.590	0.000	54216	250.0
Total Col1Ave (4 peaks):					250.0	Total Col2Ave (4 peaks):				250.0 RPD = 0
Corrected Ave (3 peaks):					250.0	Corrected Ave (3 peaks):				250.0 RPD = 0

Total PCB Area Col1 (5.906 - 13.793) = 1565180 Col1 Total PCB = 0.2 ppm*

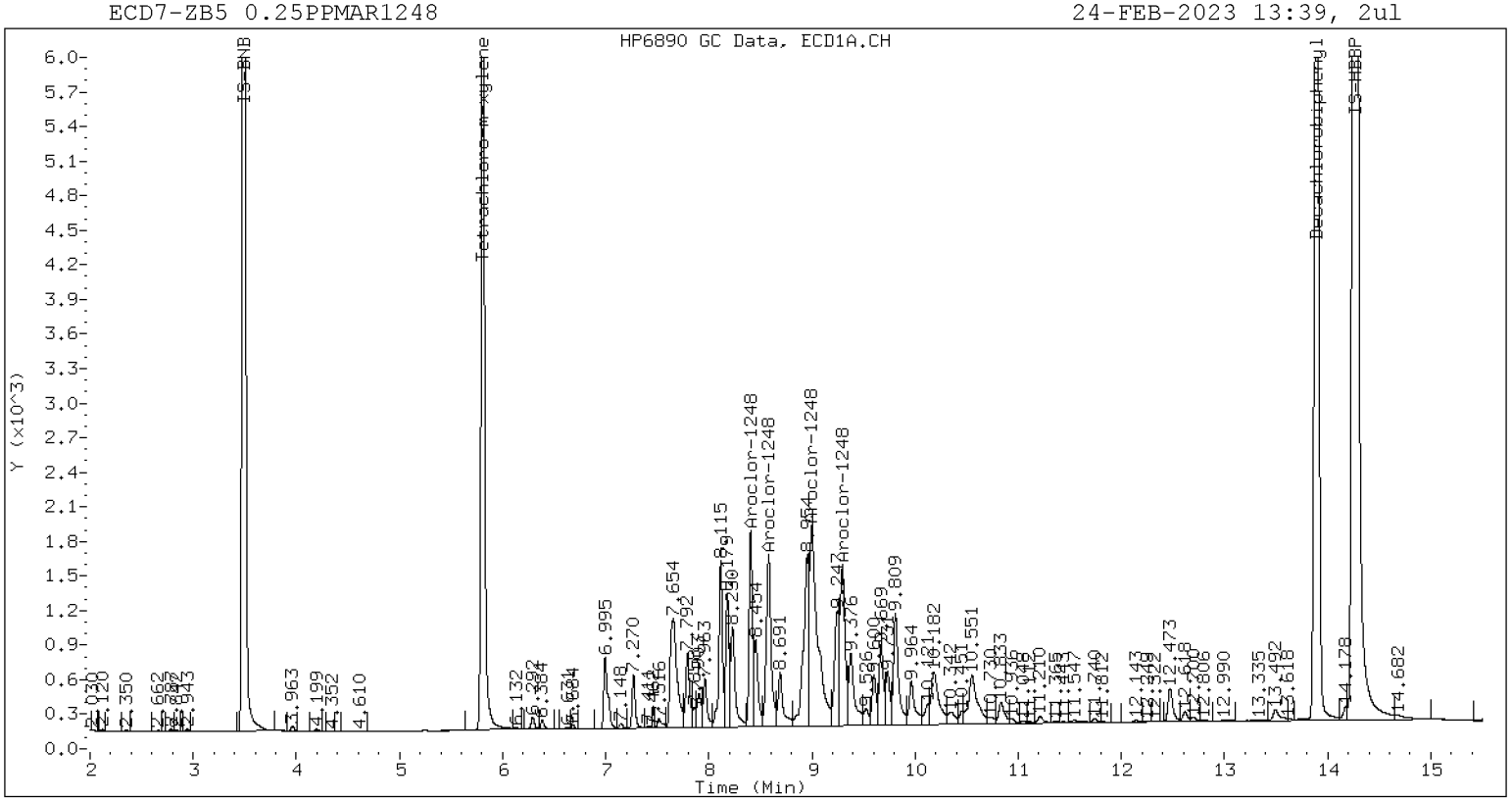
Total PCB Area Col2 (5.785 - 14.019) = 754991 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

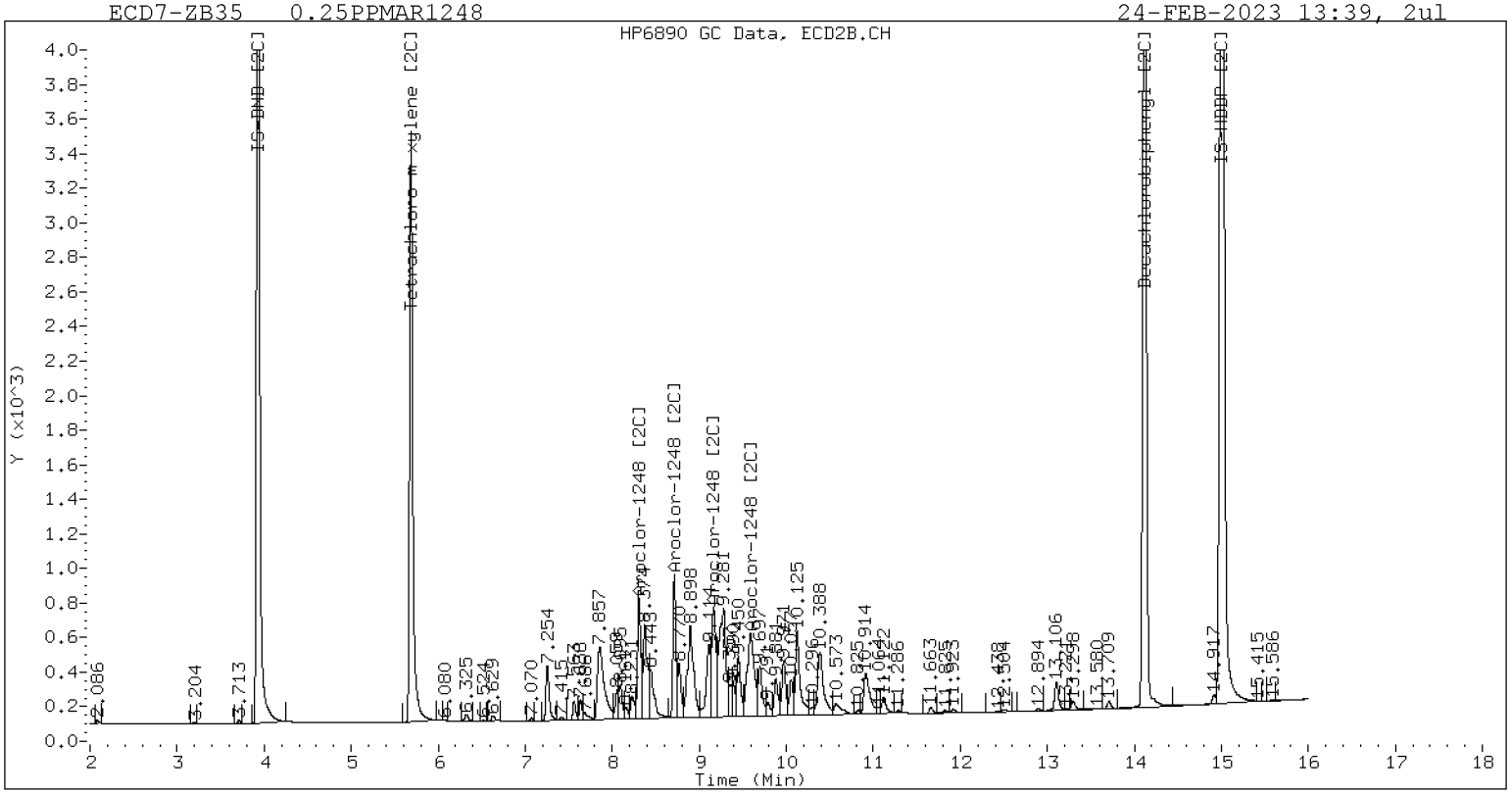
PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR1248 24-FEB-2023 13:39, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR1248 24-FEB-2023 13:39, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242310ECD7.D
Data file 2: /230224.b/230224.b/02242310ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR1254
Client ID:
Injection Date: 24-FEB-2023 14:00
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.808	0.002	352587	5.687	0.002	177502	37.3	38.6	3.4	Tetrachloro-m-xylene
13.895	0.002	532500	14.119	0.000	325903	37.0	40.2	8.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	633407	-6.0
Hexabromobiphenyl	1429847	1460265	2.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	313673	-0.5
Hexabromobiphenyl	513946	532442	3.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col					ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1254	1	9.299	0.000	159011	250.0	1	9.449	0.000	59603	250.0
Aroclor-1254	2	9.377	0.000	71516	250.0	2	9.970	0.000	47949	250.0
Aroclor-1254	3	9.668	0.000	102230	250.0	3	10.124	0.000	103745	250.0
Aroclor-1254	4	9.807	0.000	198777	250.0	4	10.373	0.000	101135	250.0
Aroclor-1254	5	10.176	0.000	124586	250.0	5	10.569	0.000	61577	250.0

Total Col1Ave (5 peaks): 250.0 Total Col2Ave (5 peaks): 250.0 RPD = 0

Corrected Ave (4 peaks): 250.0 Corrected Ave (4 peaks): 250.0 RPD = 0

Total PCB Area Col1 (5.906 - 13.793) = 2179224 Col1 Total PCB = 0.3 ppm*

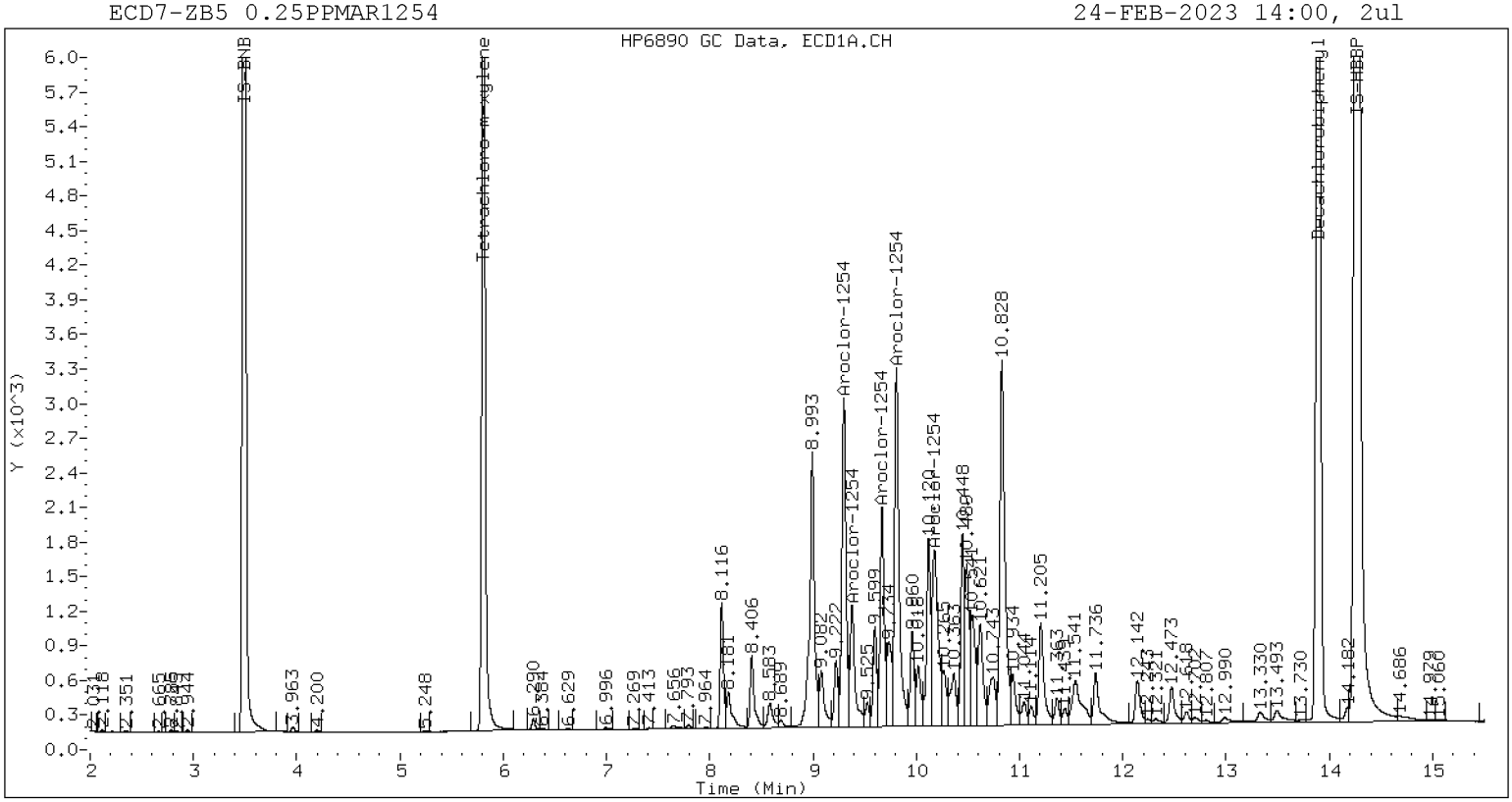
Total PCB Area Col2 (5.785 - 14.019) = 1022156 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

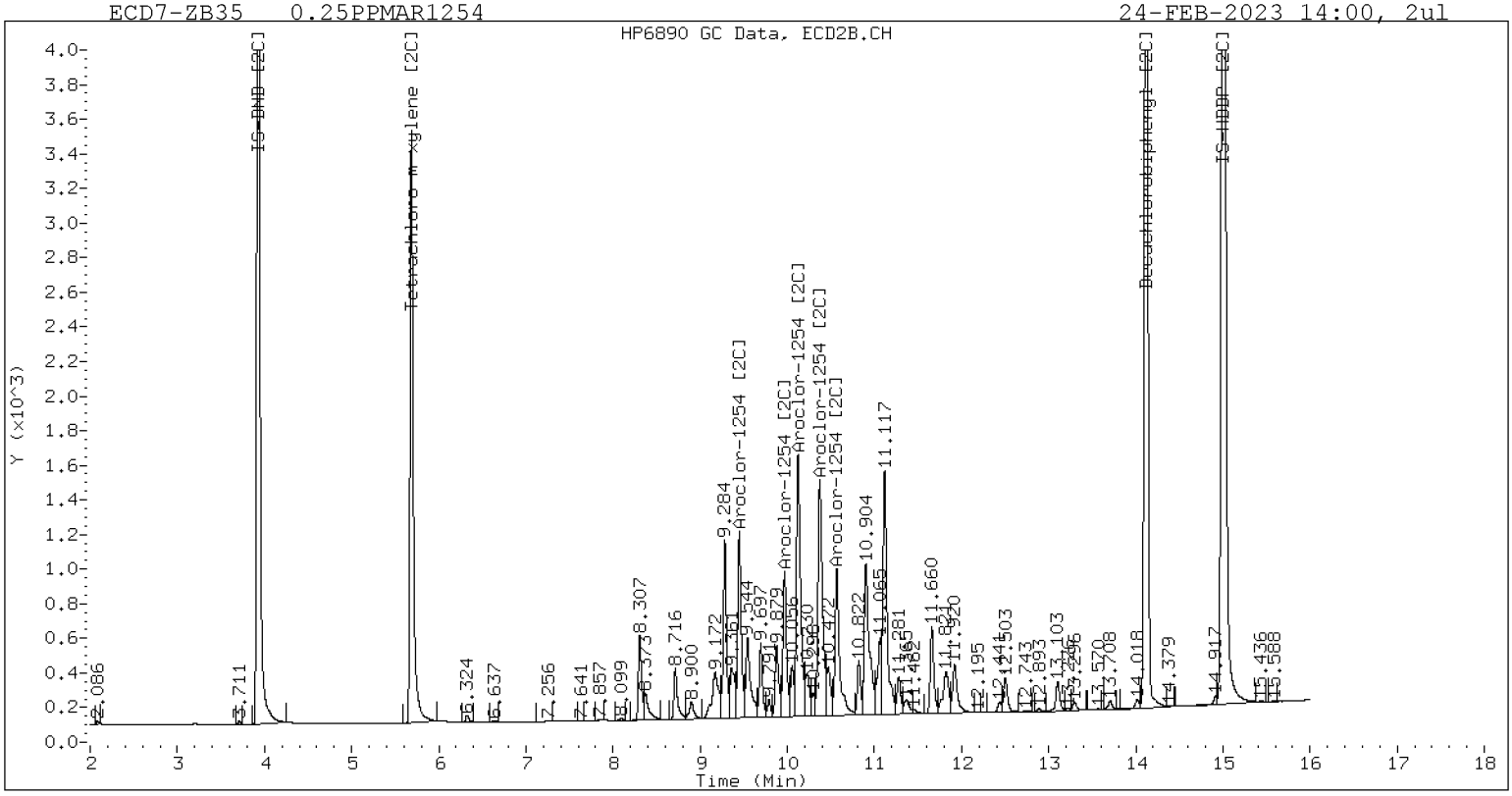
PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR1254 24-FEB-2023 14:00, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR1254 24-FEB-2023 14:00, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242311ECD7.D
Data file 2: /230224.b/230224.b/02242311ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR2162.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR2162
Client ID:
Injection Date: 24-FEB-2023 14:21
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.807	0.001	362236	5.686	0.000	177349	38.4	39.2	2.1	Tetrachloro-m-xylene
13.894	0.001	523254	14.119	-0.000	321034	36.0	39.2	8.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	632433	-6.1
Hexabromobiphenyl	1429847	1474039	3.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	308453	-2.2
Hexabromobiphenyl	513946	538177	4.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1221	1	4.731	0.000	14160	250.0	1	4.956	0.000	7300	250.0
Aroclor-1221	2	6.132	0.000	25324	250.0	2	6.296	0.000	13816	250.0
Aroclor-1221	3	6.382	0.000	58795	250.0	3	6.622	0.000	22491	250.0
Total Col1Ave (3 peaks):					250.0	Total Col2Ave (3 peaks):				250.0 RPD = 0
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1262	1	10.829	0.000	113046	250.0	1	11.200	0.000	114880	250.0
Aroclor-1262	2	12.244	0.000	183948	250.0	2	11.652	0.000	97844	250.0
Aroclor-1262	3	12.319	0.000	197749	250.0	3	12.434	0.000	111015	250.0
Aroclor-1262	4	12.987	0.000	180727	250.0	4	12.502	0.000	173913	250.0
Total Col1Ave (4 peaks):					250.0	Total Col2Ave (4 peaks):				250.0 RPD = 0
Corrected Ave (3 peaks):					250.0	Corrected Ave (3 peaks):				250.0 RPD = 0

Total PCB Area Col1 (5.906 - 13.793) = 3105316 Col1 Total PCB = 0.4 ppm*

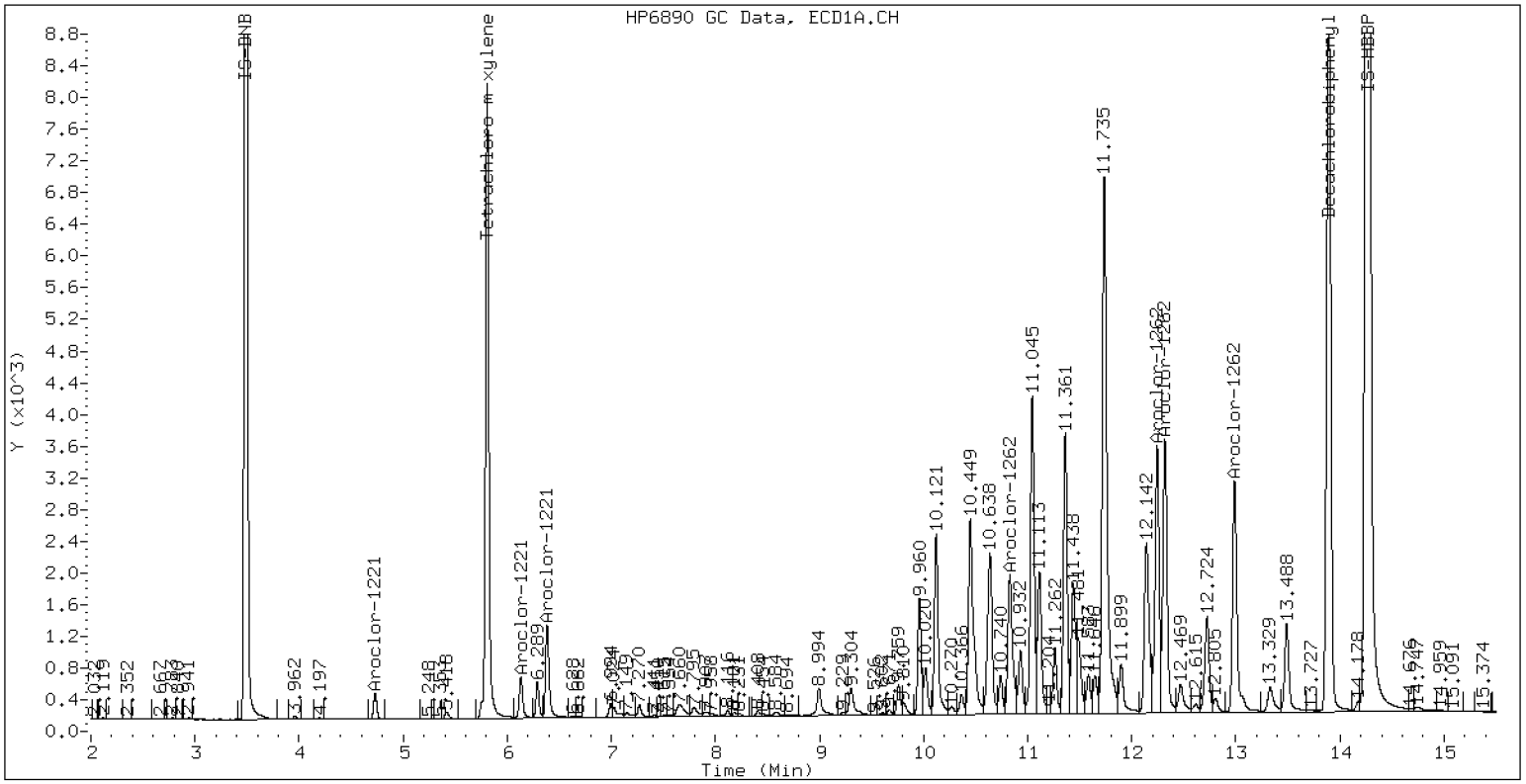
Total PCB Area Col2 (5.785 - 14.019) = 1573107 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

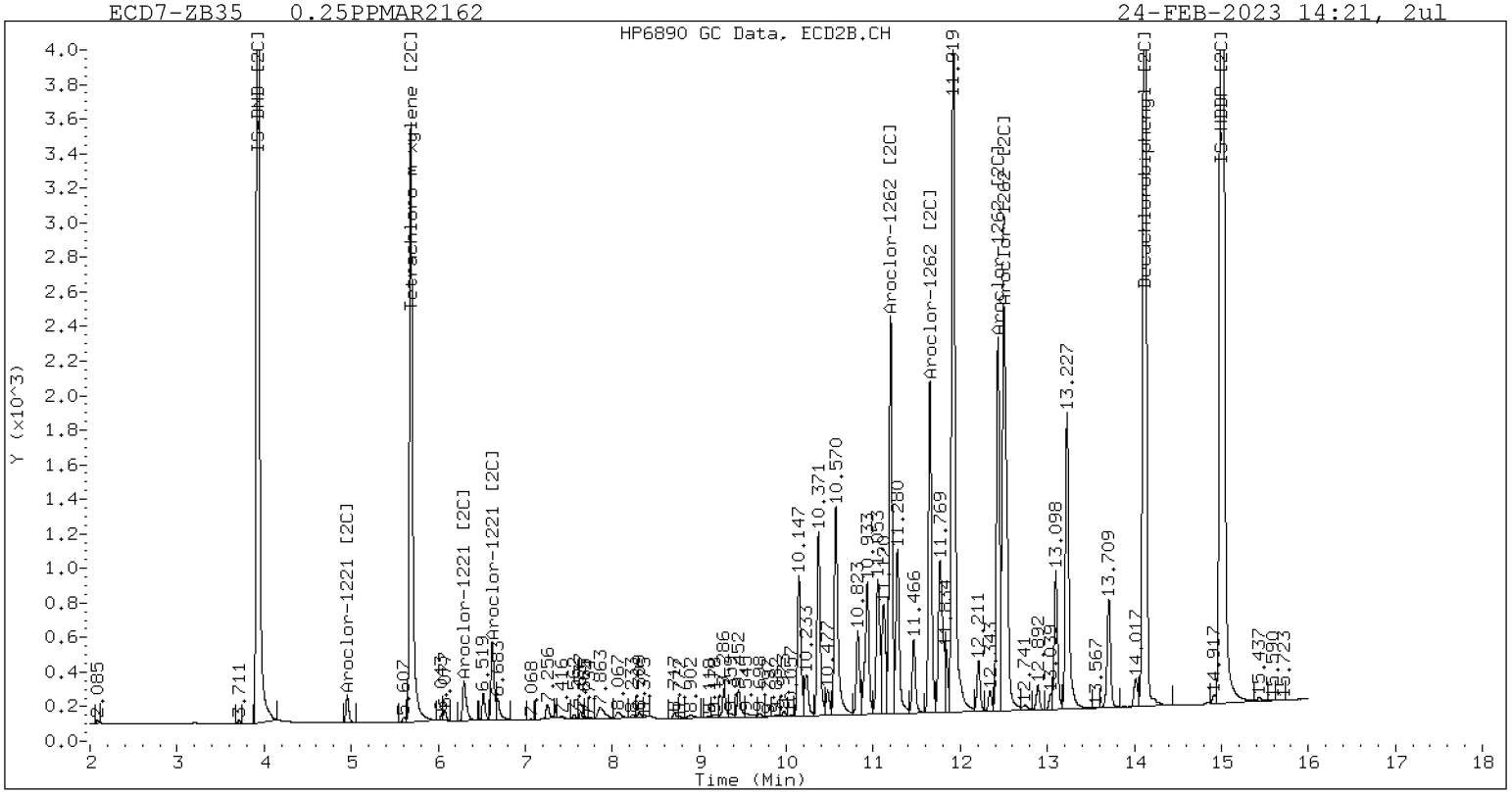
PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR2162 24-FEB-2023 14:21, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR2162 24-FEB-2023 14:21, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242312ECD7.D
Data file 2: /230224.b/230224.b/02242312ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR3268.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR3268
Client ID:
Injection Date: 24-FEB-2023 14:42
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.806	0.000	366416	5.685	0.000	179450	38.0	38.9	2.4	Tetrachloro-m-xylene
13.893	0.000	778191	14.119	0.000	477889	53.0	57.5	8.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	645602	-4.2
Hexabromobiphenyl	1429847	1492154	4.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	314042	-0.4
Hexabromobiphenyl	513946	545458	6.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	ZB5 Col Area	Amount	Peak#	RT	Shift	ZB35 Col Area	Amount
Aroclor-1232	1	4.730	0.000	8647	250.0	1	4.956	0.000	4017	250.0
Aroclor-1232	2	6.131	0.000	17148	250.0	2	7.254	0.000	19962	250.0
Aroclor-1232	3	7.656	0.000	77627	250.0	3	7.861	0.000	39913	250.0
Aroclor-1232	4	8.581	0.000	32993	250.0	4	8.715	0.000	11487	250.0
Total Col1Ave (4 peaks):					250.0	Total Col2Ave (4 peaks):				250.0 RPD = 0
Corrected Ave (3 peaks):					250.0	Corrected Ave (3 peaks):				250.0 RPD = 0
Aroclor-1268	1	12.247	0.000	477974	250.0	1	12.432	0.000	274595	250.0
Aroclor-1268	2	12.317	0.000	473326	250.0	2	12.500	0.000	295194	250.0
Aroclor-1268	3	12.699	0.000	405011	250.0	3	12.892	0.000	252048	250.0
Aroclor-1268	4	13.490	0.000	1333528	250.0	4	13.709	0.000	805579	250.0
Total Col1Ave (4 peaks):					250.0	Total Col2Ave (4 peaks):				250.0 RPD = 0
Corrected Ave (3 peaks):					250.0	Corrected Ave (3 peaks):				250.0 RPD = 0

Total PCB Area Col1 (5.906 - 13.793) = 3998414 Col1 Total PCB = 0.5 ppm*

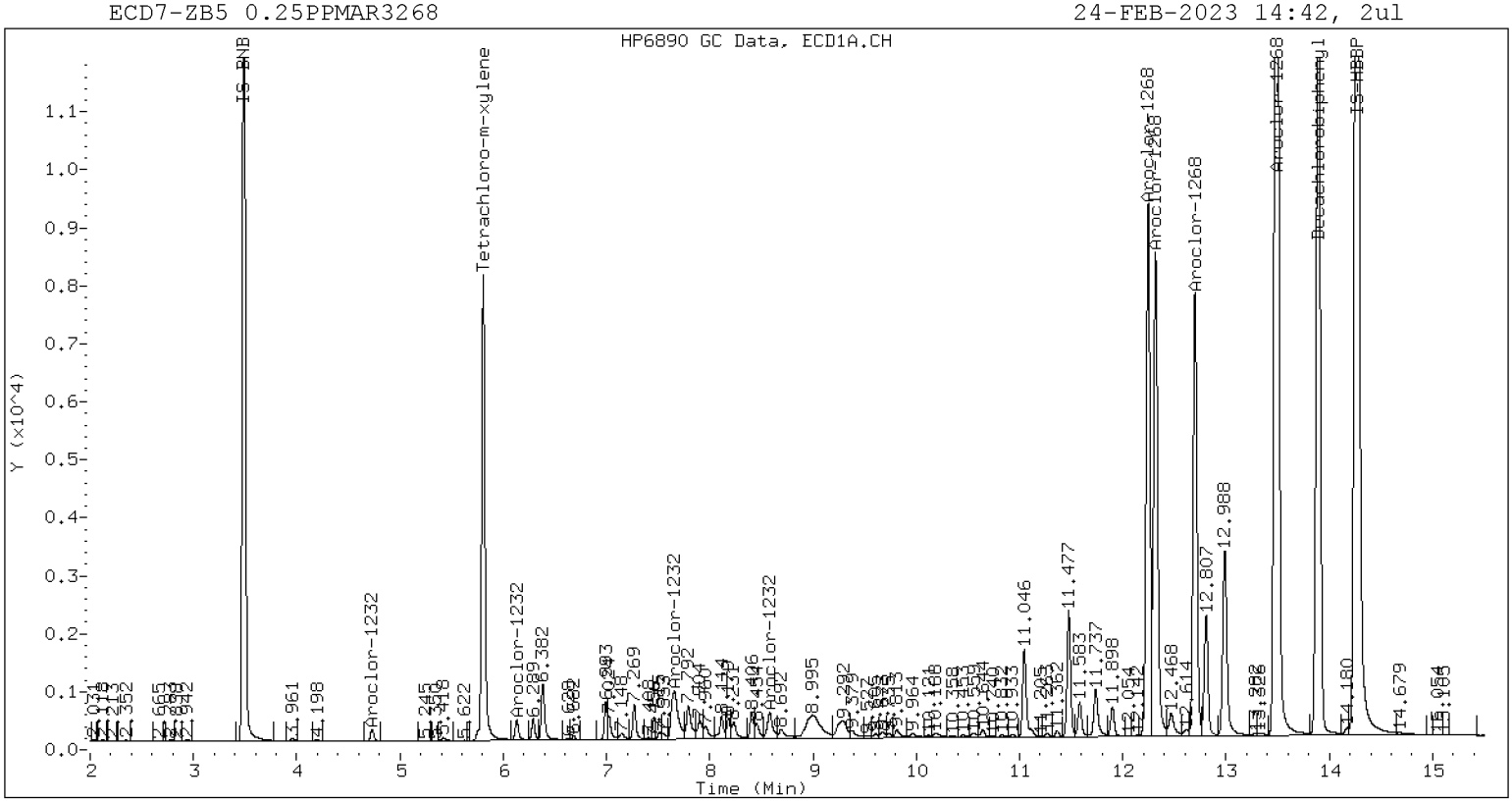
Total PCB Area Col2 (5.785 - 14.019) = 2300029 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

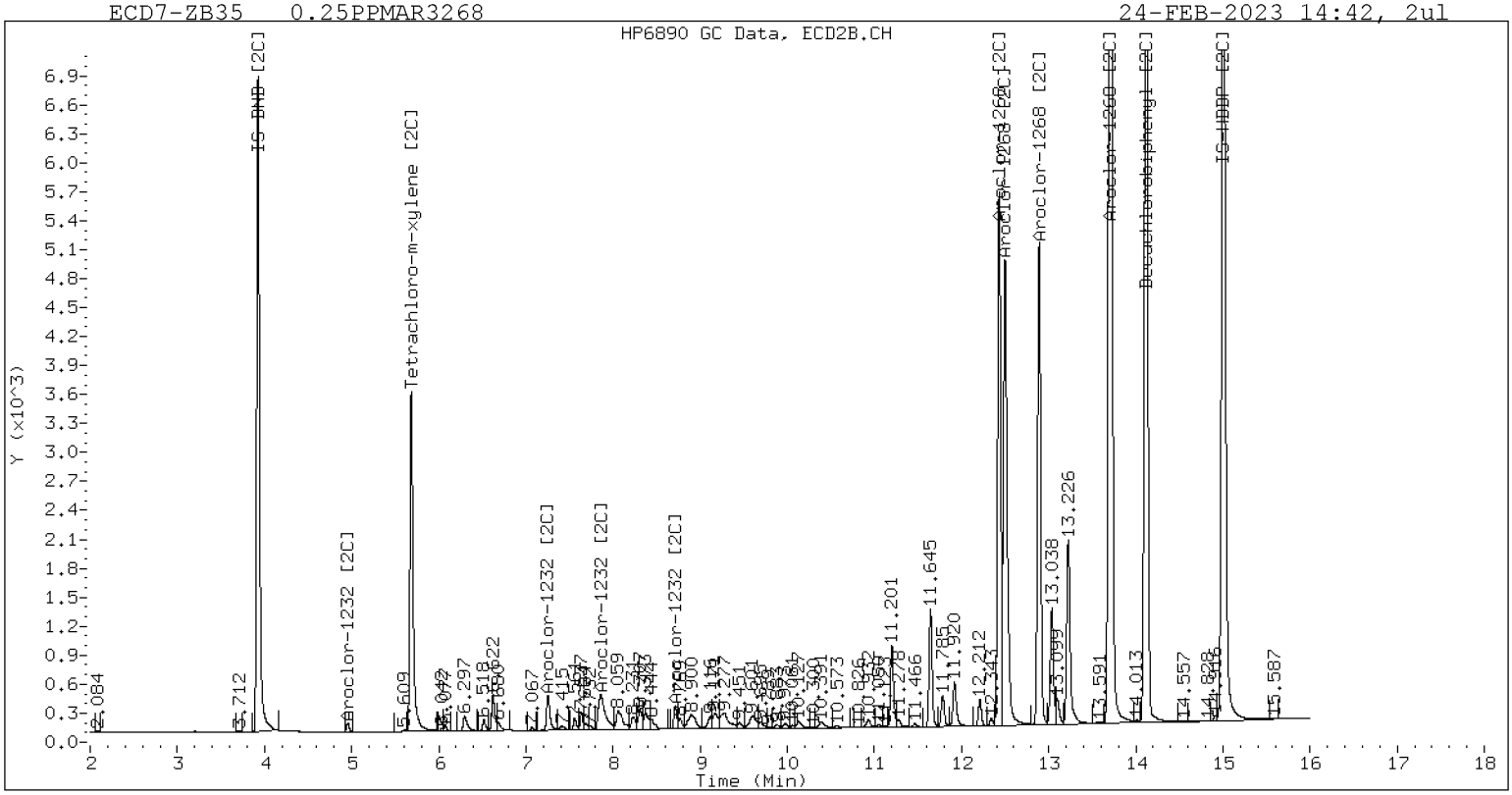
PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR3268 24-FEB-2023 14:42, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR3268 24-FEB-2023 14:42, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242313ECD7.D
Data file 2: /230224.b/230224.b/02242313ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660SCV
Client ID:
Injection Date: 24-FEB-2023 15:03
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.807	0.001	337070	5.686	0.001	165848	34.9	35.8	2.3	Tetrachloro-m-xylene
13.895	0.002	515407	14.119	-0.000	316730	34.3	37.3	8.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	645975	-4.1
Hexabromobiphenyl	1429847	1524245	6.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	316115	0.3
Hexabromobiphenyl	513946	556950	8.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.269	-0.002	59491	242.5	1	7.254	-0.002	44576	240.9
Aroclor-1016	2	7.655	0.001	181090	242.1	2	7.857	0.002	95386	254.2
Aroclor-1016	3	7.790	0.000	88470	242.3	3	8.056	0.002	42160	248.8
Aroclor-1016	4	8.404	-0.001	57980	245.6	4	8.307	0.000	32197	242.1
Total Col1Ave (4 peaks):					243.1	Total Col2Ave (4 peaks):				246.5 RPD = 1
Corrected Ave (3 peaks):					242.3	Corrected Ave (3 peaks):				243.9 RPD = 1
Aroclor-1221	1	4.731	0.000	464	8.0	1	---			0.0
Aroclor-1221	2	6.130	-0.002	9233	89.2	2	6.300	0.004	5379	95.0
Aroclor-1221	3	6.382	-0.001	42570	177.2	3	6.623	0.001	20952	227.2
Total Col1Ave (3 peaks):					91.5	Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	4.731	0.001	464	13.4	1	---			0.0
Aroclor-1232	2	6.130	-0.001	9233	134.5	2	7.254	-0.000	44576	554.6
Aroclor-1232	3	7.655	-0.001	181090	582.9	3	7.857	-0.003	95386	593.5
Aroclor-1232	4	8.580	-0.001	79916	605.2	4	8.713	-0.002	29795	644.2
Total Col1Ave (4 peaks):					334.0	Total Col2Ave (3 peaks):				597.4 RPD = 57*
Corrected Ave (3 peaks):					243.6	Corrected Ave: < 3 Peaks				
Aroclor-1242	1	7.269	-0.002	59491	297.2	1	7.254	-0.002	44576	303.5
Aroclor-1242	2	7.655	-0.001	181090	297.9	2	7.857	-0.000	95386	309.0
Aroclor-1242	3	8.404	-0.001	57980	306.5	3	9.115	-0.052	18754	195.2
Aroclor-1242	4	8.580	0.000	79916	285.8	4	9.697	0.100	1355	11.6
Total Col1Ave (4 peaks):					296.8	Total Col2Ave (4 peaks):				204.8 RPD = 37
Corrected Ave (3 peaks):					293.6	Corrected Ave (3 peaks):				170.1 RPD = 53*
Aroclor-1248	1	8.404	-0.001	57980	184.0	1	8.307	-0.001	32197	213.3
Aroclor-1248	2	8.580	-0.001	79916	199.5	2	8.713	-0.001	29795	190.9
Aroclor-1248	3	8.993	-0.006	71805	95.0	3	9.115	-0.050	18754	104.4
Aroclor-1248	4	9.300	0.006	47348	123.1	4	---			0.0
Total Col1Ave (4 peaks):					150.4	Total Col2Ave (3 peaks):				169.6 RPD = 12
Corrected Ave (3 peaks):					134.0	Corrected Ave: < 3 Peaks				
Aroclor-1254	1	9.300	0.002	47348	73.0	1	9.451	0.001	22438	93.4
Aroclor-1254	2	---			0.0	2	9.972	0.001	2694	13.9
Aroclor-1254	3	9.670	0.002	5461	13.1	3	10.147	0.024	52914	126.5
Aroclor-1254	4	9.807	-0.000	18944	23.4	4	10.370	-0.003	70430	172.8
Aroclor-1254	5	10.121	-0.056	154170	303.3	5	10.568	-0.000	98525	396.9
Total Col1Ave (4 peaks):					103.2	Total Col2Ave (5 peaks):				160.7 RPD = 44*
Corrected Ave (3 peaks):					36.5	Corrected Ave (4 peaks):				101.7 RPD = 94*
Aroclor-1260	1	11.044	0.000	149195	272.1	1	11.653	0.000	82210	251.0
Aroclor-1260	2	11.361	-0.000	153832	268.5	2	11.919	0.001	222226	265.9
Aroclor-1260	3	11.736	0.002	396660	261.0	3	12.435	-0.000	59148	266.7
Aroclor-1260	4	12.140	0.001	190448	248.9	4	12.504	0.002	147180	261.2
Aroclor-1260	5	12.244	-0.000	91385	277.5	NS	---			----
Total Col1Ave (5 peaks):					265.6	Total Col2Ave (4 peaks):				261.2 RPD = 2
Corrected Ave (4 peaks):					262.6	Corrected Ave (3 peaks):				259.4 RPD = 1
Aroclor-1262	1	10.827	-0.002	220238	471.0	1	11.199	-0.001	84479	177.6
Aroclor-1262	2	12.244	0.000	91385	120.1	2	11.653	0.002	82210	203.0
Aroclor-1262	3	12.320	0.001	113066	138.2	3	12.435	0.002	59148	128.7
Aroclor-1262	4	12.988	0.001	102156	136.7	4	12.504	0.002	147180	204.4
Total Col1Ave (4 peaks):					216.5	Total Col2Ave (4 peaks):				178.4 RPD = 19
Corrected Ave (3 peaks):					131.7	Corrected Ave (3 peaks):				169.8 RPD = 25
Aroclor-1268	1	12.244	-0.003	91385	46.8	1	12.435	0.003	59148	52.7
Aroclor-1268	2	12.320	0.003	113066	58.5	2	12.504	0.004	147180	122.1
Aroclor-1268	3	12.726	0.027	46633	28.2	3	12.893	0.001	2874	2.8
Aroclor-1268	4	13.489	-0.000	25567	4.7	4	13.709	-0.000	13041	4.0
Total Col1Ave (4 peaks):					34.5	Total Col2Ave (4 peaks):				45.4 RPD = 27
Corrected Ave (3 peaks):					26.6	Corrected Ave (3 peaks):				19.8 RPD = 29

Total PCB Area Col1 (5.906 - 13.793) = 3743076 Col1 Total PCB = 0.5 ppm*

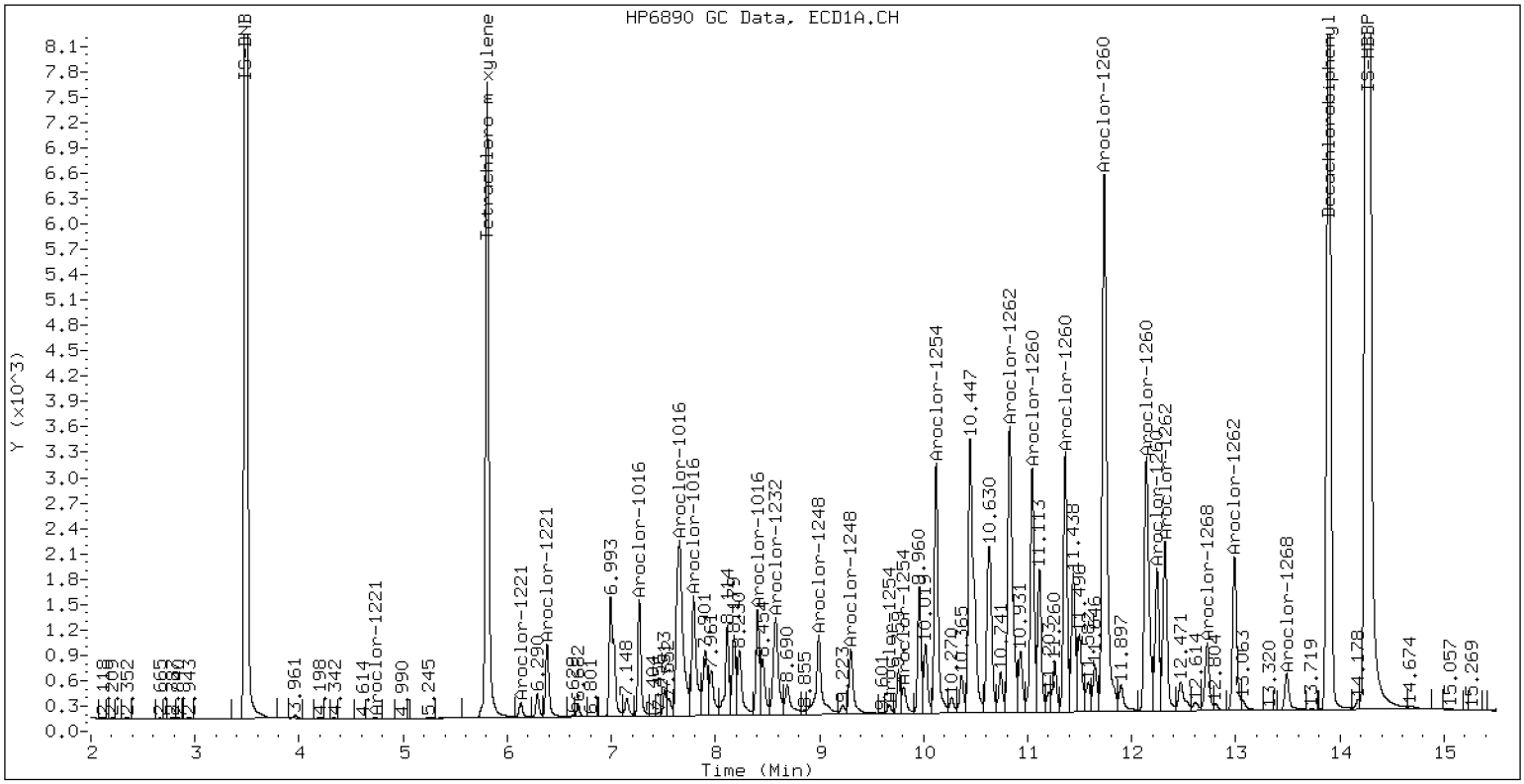
Total PCB Area Col2 (5.785 - 14.019) = 1897008 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

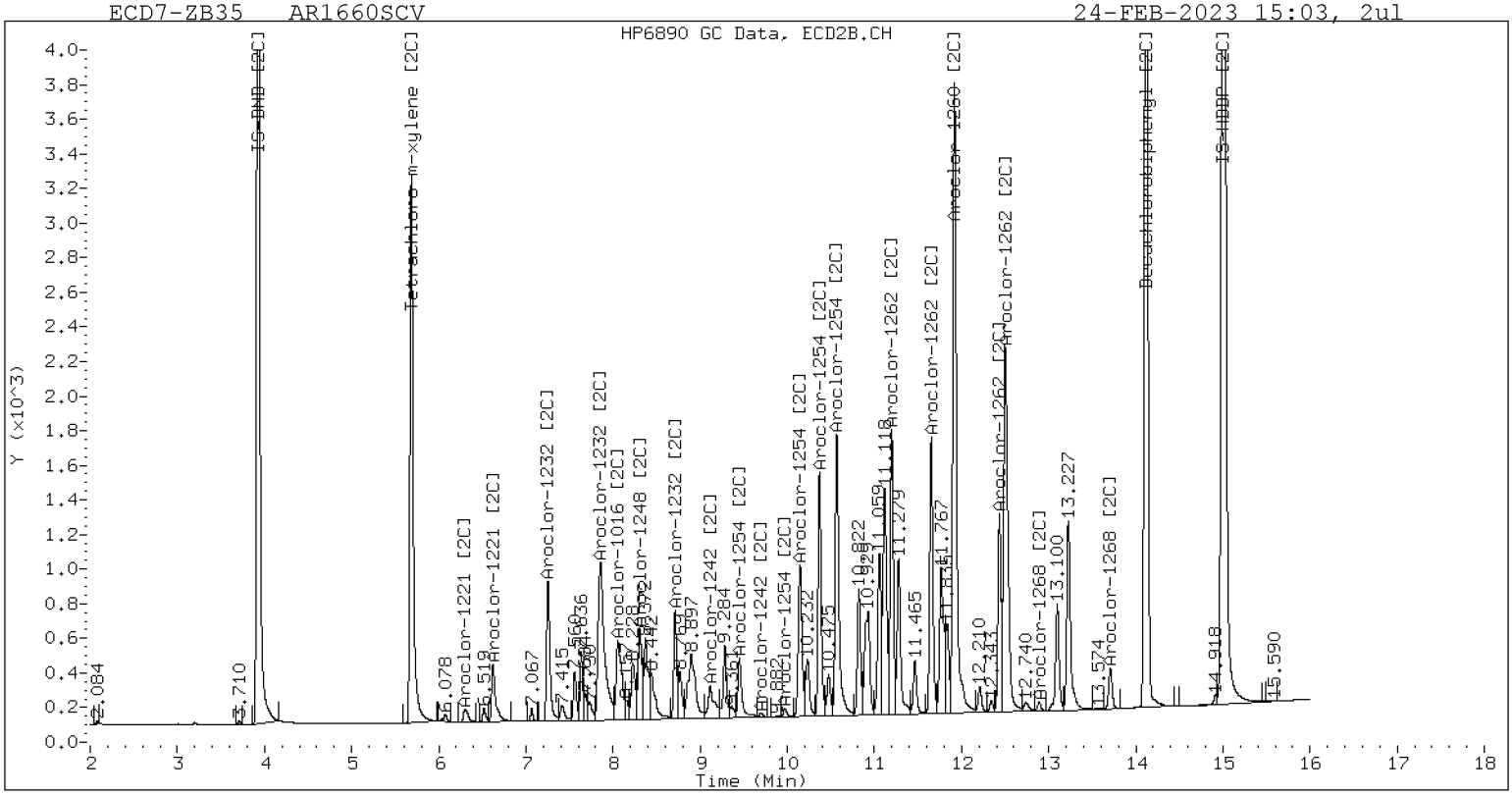
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660SCV 24-FEB-2023 15:03, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660SCV 24-FEB-2023 15:03, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242314ECD7.D
Data file 2: /230224.b/230224.b/02242314ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242SCV
Client ID:
Injection Date: 24-FEB-2023 15:24
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.808	0.002	354283	5.686	0.001	172455	33.6	34.5	2.6	Tetrachloro-m-xylene
13.895	0.002	567088	14.120	0.001	347430	37.0	40.3	8.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	705650	4.7
Hexabromobiphenyl	1429847	1555683	8.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	340433	8.0
Hexabromobiphenyl	513946	565609	10.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.270	-0.000	39927	149.0	1	7.256	0.000	32417	162.7
Aroclor-1016	2	7.653	-0.001	132339	162.0	2	7.856	0.001	69235	171.3
Aroclor-1016	3	7.791	0.001	59310	148.7	3	8.055	0.000	29473	161.5
Aroclor-1016	4	8.405	0.000	42537	165.0	4	8.307	-0.000	22792	159.2
Total Col1Ave (4 peaks): 156.2						Total Col2Ave (4 peaks): 163.7			RPD = 5	
Corrected Ave (3 peaks): 153.2						Corrected Ave (3 peaks): 161.1			RPD = 5	
Aroclor-1221	1	4.733	0.002	319	5.0	1	---			0.0
Aroclor-1221	2	6.131	-0.001	6534	57.8	2	6.319	0.022	4365	71.6
Aroclor-1221	3	6.384	0.001	29664	113.0	3	6.624	0.002	14916	150.2
Total Col1Ave (3 peaks): 58.6						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	4.733	0.003	319	8.4	1	---			0.0
Aroclor-1232	2	6.131	0.000	6534	87.2	2	7.256	0.002	32417	374.5
Aroclor-1232	3	7.653	-0.003	132339	389.9	3	7.856	-0.004	69235	400.0
Aroclor-1232	4	8.579	-0.002	69445	481.4	4	8.714	-0.001	22167	445.0
Total Col1Ave (4 peaks): 241.7						Total Col2Ave (3 peaks): 406.5			RPD = 51*	
Corrected Ave (3 peaks): 161.8						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	7.270	-0.001	39927	182.6	1	7.256	0.000	32417	205.0
Aroclor-1242	2	7.653	-0.003	132339	199.3	2	7.856	-0.002	69235	208.2
Aroclor-1242	3	8.405	-0.000	42537	205.9	3	9.164	-0.004	23068	223.0
Aroclor-1242	4	8.579	-0.000	69445	227.4	4	9.587	-0.010	31021	246.1
Total Col1Ave (4 peaks): 203.8						Total Col2Ave (4 peaks): 220.6			RPD = 8	
Corrected Ave (3 peaks): 195.9						Corrected Ave (3 peaks): 212.1			RPD = 8	
Aroclor-1248	1	8.405	0.000	42537	123.5	1	8.307	-0.001	22792	140.2
Aroclor-1248	2	8.579	-0.001	69445	158.7	2	8.714	-0.000	22167	131.9
Aroclor-1248	3	9.001	0.003	91942	111.4	3	9.164	-0.002	23068	119.3
Aroclor-1248	4	9.294	-0.000	38711	92.1	4	9.587	-0.003	31021	133.6
Total Col1Ave (4 peaks): 121.4						Total Col2Ave (4 peaks): 131.2			RPD = 8	
Corrected Ave (3 peaks): 109.0						Corrected Ave (3 peaks): 128.3			RPD = 16	
Aroclor-1254	1	9.294	-0.005	38711	54.6	1	9.450	0.001	13131	50.7
Aroclor-1254	2	9.377	-0.000	17371	54.5	2	9.970	0.000	8340	40.1
Aroclor-1254	3	9.668	-0.000	16373	35.9	3	10.123	-0.000	16364	36.3
Aroclor-1254	4	9.807	-0.001	27490	31.0	4	10.382	0.009	16062	36.6
Aroclor-1254	5	10.175	-0.001	20494	36.9	5	10.572	0.004	4818	18.0
Total Col1Ave (5 peaks): 42.6						Total Col2Ave (5 peaks): 36.4			RPD = 16	
Corrected Ave (4 peaks): 39.6						Corrected Ave (4 peaks): 32.8			RPD = 19	
Aroclor-1260	1	11.048	0.003	794	1.4	1	11.665	0.012	1652	5.0
Aroclor-1260	2	11.366	0.005	814	1.4	2	11.926	0.008	842	1.0
Aroclor-1260	3	11.739	0.006	1848	1.2	3	12.438	0.002	483	2.1
Aroclor-1260	4	12.145	0.006	1372	1.8	4	12.506	0.004	790	1.4
Aroclor-1260	5	---			0.0	NS	---			----
Total Col1Ave (4 peaks): 1.4						Total Col2Ave (4 peaks): 2.4			RPD = 49*	
Corrected Ave (3 peaks): 1.3						Corrected Ave (3 peaks): 1.5			RPD = 12	
Aroclor-1262	1	10.832	0.003	13157	27.6	1	11.121	-0.079	6113	12.7
Aroclor-1262	2	12.145	-0.098	1372	1.8	2	11.665	0.013	1652	4.0
Aroclor-1262	3	---			0.0	3	12.438	0.004	483	1.0
Aroclor-1262	4	13.038	0.051	842	1.1	4	12.506	0.004	790	1.1
Total Col1Ave (3 peaks): 10.1						Total Col2Ave (4 peaks): 4.7			RPD = 73*	
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks): 2.0				
Aroclor-1268	1	---			0.0	1	12.438	0.006	483	0.4
Aroclor-1268	2	---			0.0	2	12.506	0.006	790	0.6
Aroclor-1268	3	12.617	-0.082	5851	3.5	3	12.899	0.007	491	0.5
Aroclor-1268	4	13.500	0.010	1745	0.3	4	13.714	0.005	379	0.1
Col1Ave: <3 Quant Peaks						Col2Ave: 0.4				

Total PCB Area Col1 (5.906 - 13.793) = 1149784 Col1 Total PCB = 0.1 ppm*

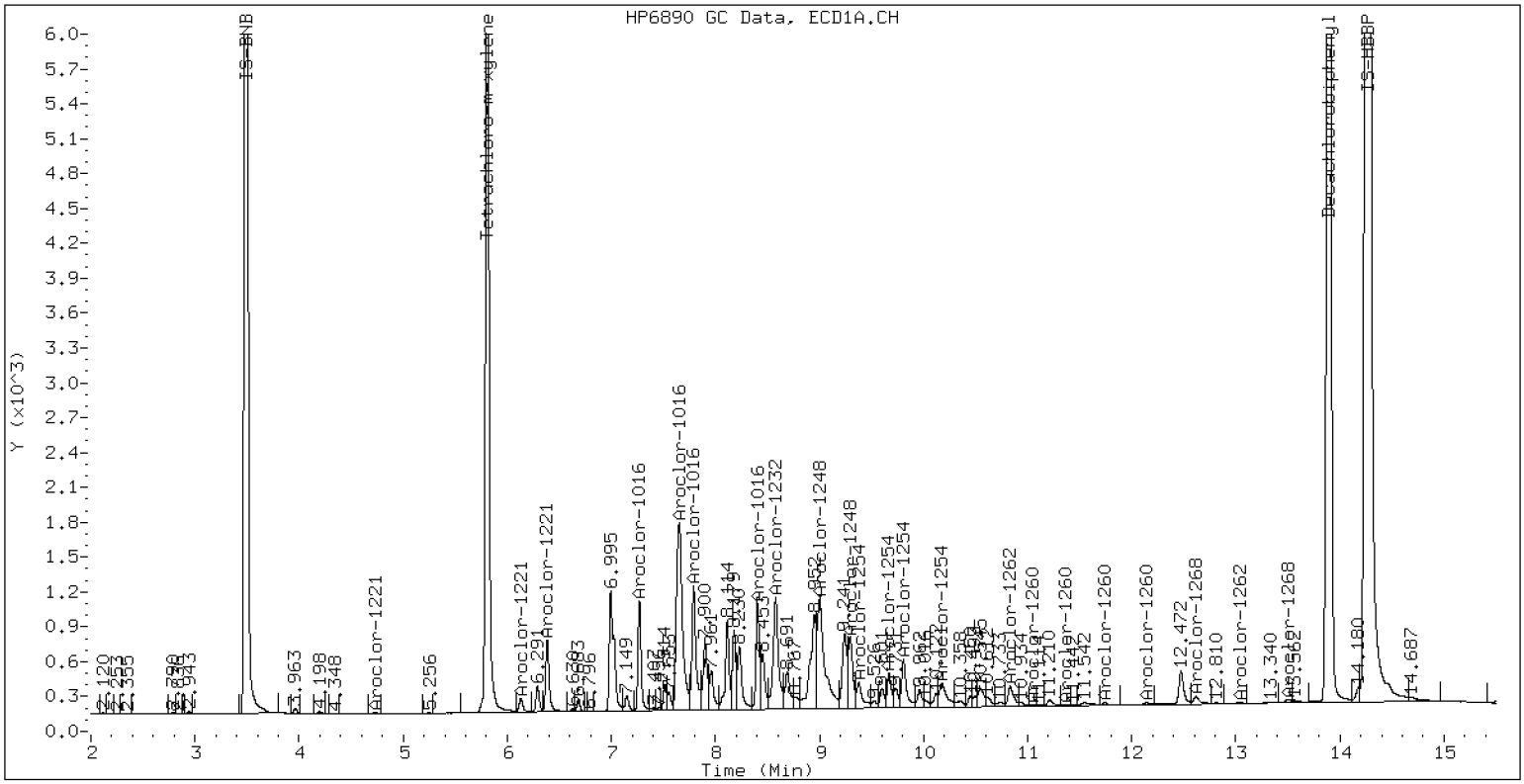
Total PCB Area Col2 (5.785 - 14.019) = 572210 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

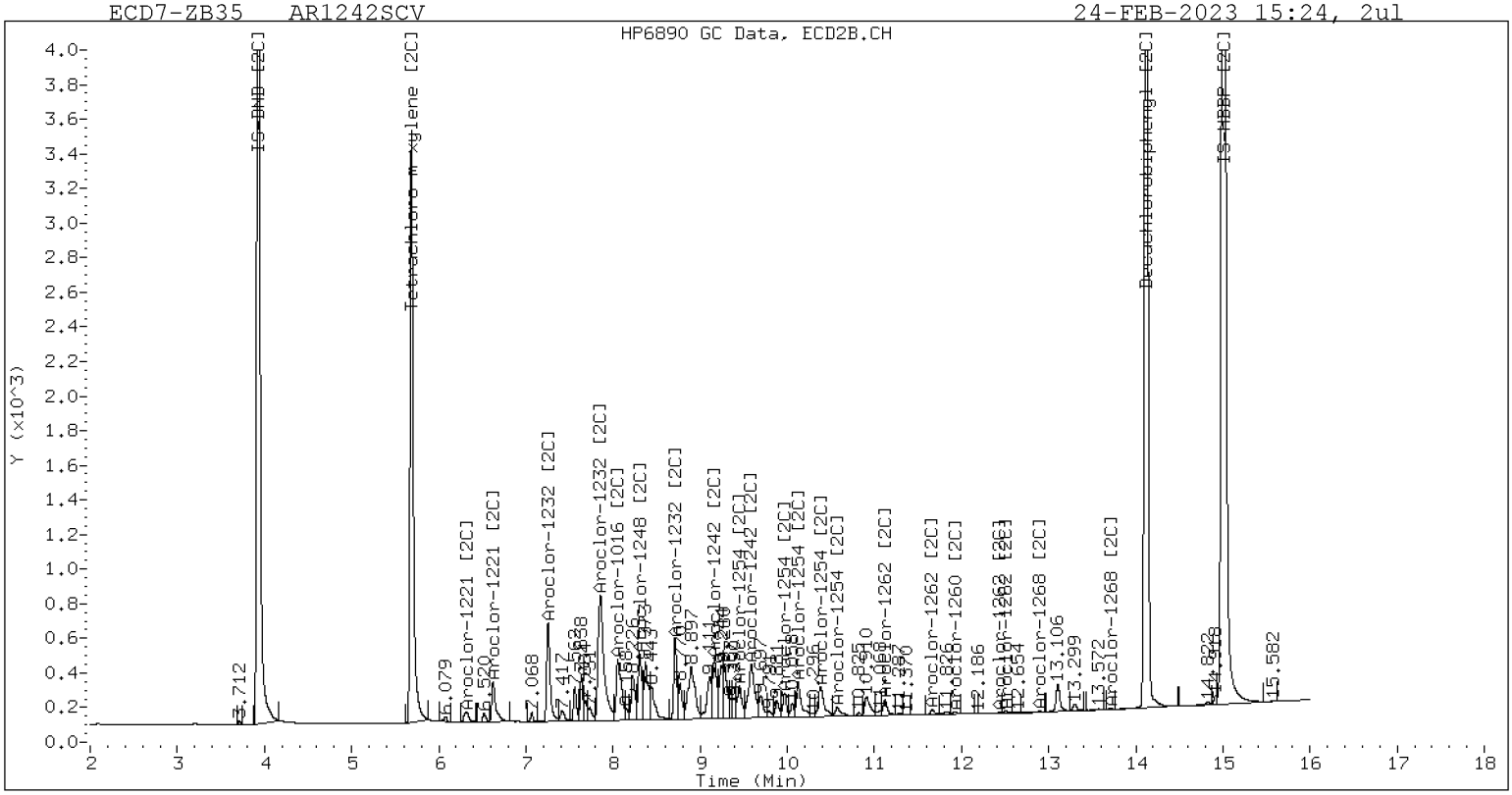
PCB Dual Column Chromatograms

ECD7-ZB5 AR1242SCV 24-FEB-2023 15:24, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1242SCV 24-FEB-2023 15:24, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242315ECD7.D
Data file 2: /230224.b/230224.b/02242315ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248SCV
Client ID:
Injection Date: 24-FEB-2023 15:45
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.809	0.002	336655	5.687	0.002	168719	34.9	36.4	4.2	Tetrachloro-m-xylene
13.894	0.001	499162	14.118	-0.001	308317	33.1	36.3	9.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	646554	-4.0
Hexabromobiphenyl	1429847	1529451	7.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	316066	0.3
Hexabromobiphenyl	513946	557213	8.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.271	0.000	19773	80.5	1	7.254	-0.002	16926	91.5
Aroclor-1016	2	7.653	-0.001	88099	117.7	2	7.857	0.001	45733	121.9
Aroclor-1016	3	7.794	0.003	35915	98.3	3	8.060	0.005	8078	47.7
Aroclor-1016	4	8.406	0.001	77842	329.5	4	8.307	0.000	37348	280.9
Total Col1Ave (4 peaks):					156.5	Total Col2Ave (4 peaks):				135.5 RPD = 14
Corrected Ave (3 peaks):					98.8	Corrected Ave (3 peaks):				87.0 RPD = 13
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	6.133	0.001	680	6.6	2	6.326	0.030	1966	34.7
Aroclor-1221	3	6.384	0.002	3390	14.1	3	6.631	0.009	1571	17.0
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	6.133	0.002	680	9.9	2	7.254	-0.000	16926	210.6
Aroclor-1232	3	7.653	-0.002	88099	283.3	3	7.857	-0.004	45733	284.6
Aroclor-1232	4	8.581	-0.000	99572	753.4	4	8.714	-0.001	38224	826.6
Total Col1Ave (3 peaks):					348.9	Total Col2Ave (3 peaks):				440.6 RPD = 23
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	7.271	-0.000	19773	98.7	1	7.254	-0.002	16926	115.3
Aroclor-1242	2	7.653	-0.003	88099	144.8	2	7.857	-0.001	45733	148.2
Aroclor-1242	3	8.406	0.000	77842	411.2	3	9.165	-0.002	45021	468.7
Aroclor-1242	4	8.581	0.001	99572	355.8	4	9.590	-0.008	53613	458.1
Total Col1Ave (4 peaks):					252.6	Total Col2Ave (4 peaks):				297.6 RPD = 16
Corrected Ave (3 peaks):					199.8	Corrected Ave (3 peaks):				240.5 RPD = 19
Aroclor-1248	1	8.406	0.000	77842	246.8	1	8.307	-0.001	37348	247.5
Aroclor-1248	2	8.581	0.000	99572	248.3	2	8.714	-0.000	38224	245.0
Aroclor-1248	3	8.998	-0.000	186857	247.0	3	9.165	-0.000	45021	250.7
Aroclor-1248	4	9.294	-0.000	98398	255.5	4	9.590	-0.001	53613	248.7
Total Col1Ave (4 peaks):					249.4	Total Col2Ave (4 peaks):				248.0 RPD = 1
Corrected Ave (3 peaks):					247.4	Corrected Ave (3 peaks):				247.0 RPD = 0
Aroclor-1254	1	9.294	-0.004	98398	151.6	1	9.450	0.001	21823	90.8
Aroclor-1254	2	9.377	-0.001	49616	169.9	2	9.971	0.001	19450	100.6
Aroclor-1254	3	9.669	0.001	40230	96.4	3	10.124	0.000	36574	87.5
Aroclor-1254	4	9.808	0.001	68500	84.4	4	10.389	0.016	35100	86.1
Aroclor-1254	5	10.183	0.007	47365	93.1	5	10.573	0.004	5676	22.9
Total Col1Ave (5 peaks):					119.1	Total Col2Ave (5 peaks):				77.6 RPD = 42*
Corrected Ave (4 peaks):					106.4	Corrected Ave (4 peaks):				71.8 RPD = 39
Aroclor-1260	1	11.047	0.003	1670	3.0	1	11.662	0.009	2055	6.3
Aroclor-1260	2	11.362	0.001	1111	1.9	2	11.924	0.007	1466	1.8
Aroclor-1260	3	11.739	0.005	2107	1.4	3	12.434	-0.002	573	2.6
Aroclor-1260	4	12.144	0.005	1379	1.8	4	12.505	0.003	1003	1.8
Aroclor-1260	5	12.251	0.006	698	2.1	NS	---			----
Total Col1Ave (5 peaks):					2.1	Total Col2Ave (4 peaks):				3.1 RPD = 41*
Corrected Ave (4 peaks):					1.8	Corrected Ave (3 peaks):				2.0 RPD = 12
Aroclor-1262	1	10.833	0.005	15355	32.7	1	11.122	-0.079	7225	15.2
Aroclor-1262	2	12.251	0.007	698	0.9	2	11.662	0.011	2055	5.1
Aroclor-1262	3	12.321	0.002	836	1.0	3	12.434	0.000	573	1.2
Aroclor-1262	4	12.991	0.004	1043	1.4	4	12.505	0.003	1003	1.4
Total Col1Ave (4 peaks):					9.0	Total Col2Ave (4 peaks):				5.7 RPD = 45*
Corrected Ave (3 peaks):					1.1	Corrected Ave (3 peaks):				2.6 RPD = 80*
Aroclor-1268	1	12.251	0.004	698	0.4	1	12.434	0.002	573	0.5
Aroclor-1268	2	12.321	0.004	836	0.4	2	12.505	0.005	1003	0.8
Aroclor-1268	3	12.700	0.001	2449	1.5	3	12.892	0.001	721	0.7
Aroclor-1268	4	13.493	0.003	7547	1.4	4	13.708	-0.001	2265	0.7
Total Col1Ave (4 peaks):					0.9	Total Col2Ave (4 peaks):				0.7 RPD = 29
Corrected Ave (3 peaks):					0.7	Corrected Ave (3 peaks):				0.6 RPD = 13

Total PCB Area Col1 (5.906 - 13.793) = 1574335 Col1 Total PCB = 0.2 ppm*

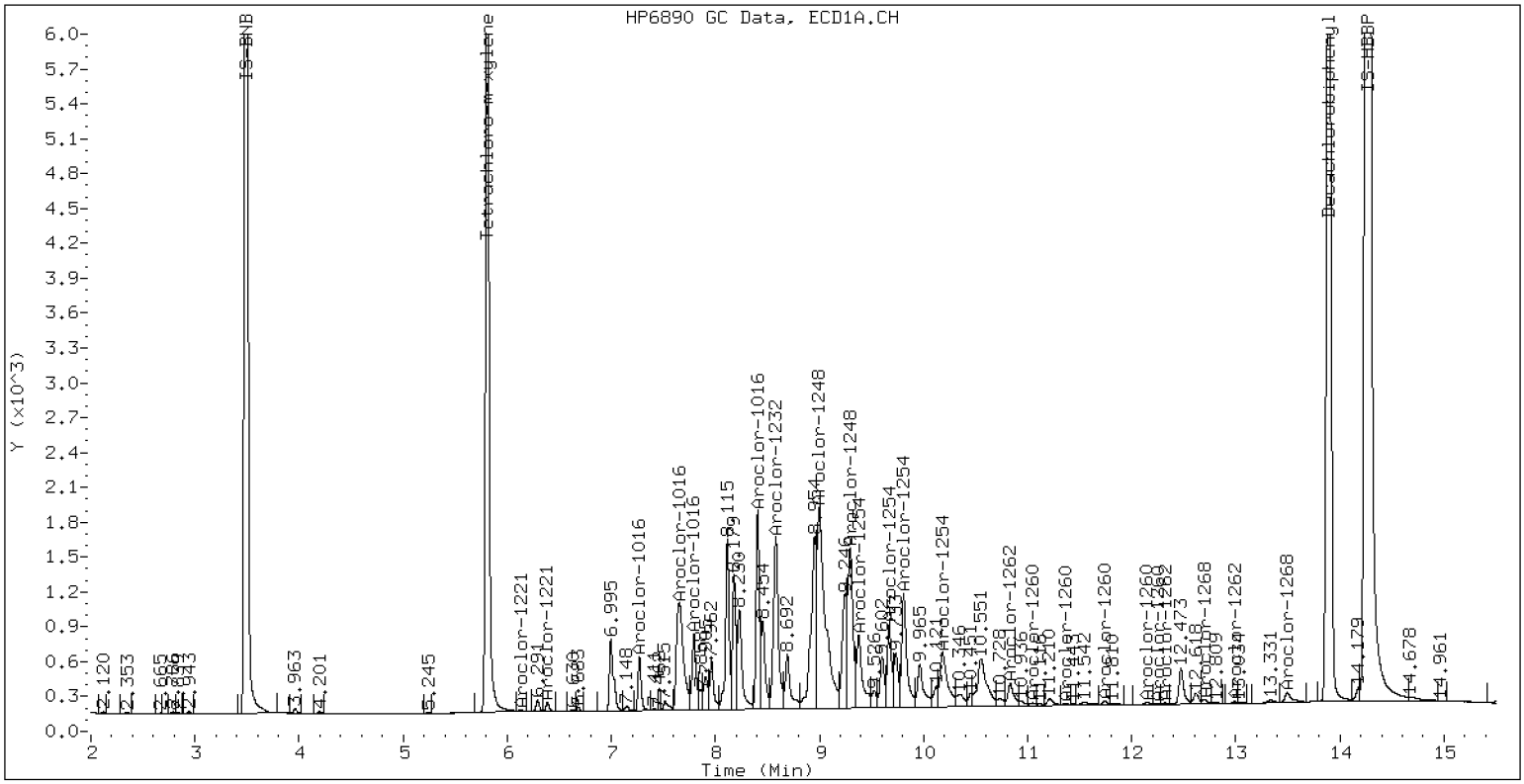
Total PCB Area Col2 (5.785 - 14.019) = 746330 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

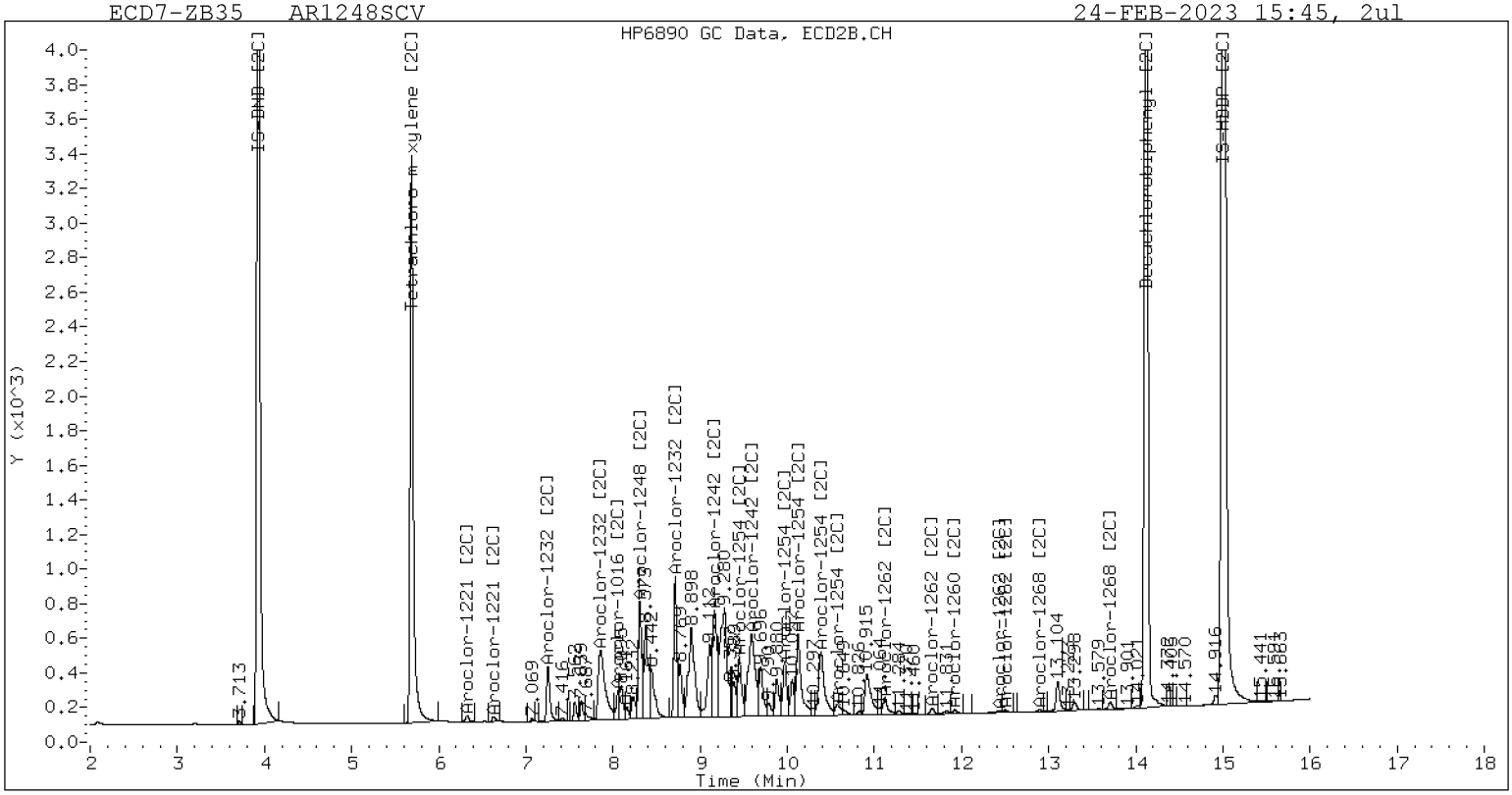
PCB Dual Column Chromatograms

ECD7-ZB5 AR1248SCV 24-FEB-2023 15:45, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1248SCV 24-FEB-2023 15:45, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242316ECD7.D
Data file 2: /230224.b/230224.b/02242316ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254SCV
Client ID:
Injection Date: 24-FEB-2023 16:06
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.806	-0.000	354312	5.686	0.001	174604	36.1	37.1	2.6	Tetrachloro-m-xylene
13.895	0.002	540961	14.119	-0.000	329134	34.6	37.9	9.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	656887	-2.5
Hexabromobiphenyl	1429847	1585505	10.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	320936	1.8
Hexabromobiphenyl	513946	570006	10.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.270	0.000	565	2.3	1	7.255	-0.001	387	2.1
Aroclor-1016	2	7.656	0.002	1875	2.5	2	7.854	-0.002	860	2.3
Aroclor-1016	3	7.792	0.002	1106	3.0	3	8.098	0.043	578	3.4
Aroclor-1016	4	8.405	0.000	29924	124.7	4	8.307	0.000	21985	162.9
	Total Col1Ave (4 peaks):				33.1	Total Col2Ave (4 peaks):				42.6 RPD = 25
	Corrected Ave (3 peaks):				2.6	Corrected Ave (3 peaks):				2.6 RPD = 0
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	6.325	0.028	1947	33.9
Aroclor-1221	3	---			0.0	3	6.637	0.015	368	3.9
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	7.255	0.001	387	4.7
Aroclor-1232	3	7.656	0.000	1875	5.9	3	7.854	-0.007	860	5.3
Aroclor-1232	4	8.583	0.002	12327	91.8	4	8.715	0.000	15013	319.7
	Col1Ave: <3 Quant Peaks					Col2Ave: 109.9				
Aroclor-1242	1	7.270	-0.000	565	2.8	1	7.255	-0.001	387	2.6
Aroclor-1242	2	7.656	0.000	1875	3.0	2	7.854	-0.004	860	2.7
Aroclor-1242	3	8.405	-0.000	29924	155.6	3	9.169	0.002	21933	224.9
Aroclor-1242	4	8.583	0.003	12327	43.4	4	9.545	-0.053	34065	286.6
	Total Col1Ave (4 peaks):				51.2	Total Col2Ave (4 peaks):				129.2 RPD = 87*
	Corrected Ave (3 peaks):				16.4	Corrected Ave (3 peaks):				76.7 RPD = 130*
Aroclor-1248	1	8.405	0.000	29924	93.4	1	8.307	-0.001	21985	143.5
Aroclor-1248	2	8.583	0.002	12327	30.3	2	8.715	0.001	15013	94.8
Aroclor-1248	3	8.992	-0.007	145580	189.4	3	9.169	0.004	21933	120.3
Aroclor-1248	4	9.298	0.003	155450	397.3	4	9.545	-0.046	34065	155.6
	Total Col1Ave (4 peaks):				177.6	Total Col2Ave (4 peaks):				128.5 RPD = 32
	Corrected Ave (3 peaks):				104.3	Corrected Ave (3 peaks):				119.5 RPD = 14
Aroclor-1254	1	9.298	-0.001	155450	235.7	1	9.450	0.001	58639	240.4
Aroclor-1254	2	9.377	-0.001	69801	235.3	2	9.971	0.000	47008	239.5
Aroclor-1254	3	9.668	-0.000	100839	237.8	3	10.124	0.000	100062	235.7
Aroclor-1254	4	9.807	0.000	190544	231.1	4	10.373	0.000	99535	240.5
Aroclor-1254	5	10.176	-0.000	122321	236.7	5	10.570	0.001	61549	244.2
	Total Col1Ave (5 peaks):				235.3	Total Col2Ave (5 peaks):				240.1 RPD = 2
	Corrected Ave (4 peaks):				234.7	Corrected Ave (4 peaks):				239.0 RPD = 2
Aroclor-1260	1	11.043	-0.002	12288	21.5	1	11.661	0.008	29062	86.7
Aroclor-1260	2	11.361	-0.001	13660	22.9	2	11.921	0.003	22238	26.0
Aroclor-1260	3	11.736	0.002	37632	23.8	3	12.441	0.005	3555	15.7
Aroclor-1260	4	12.141	0.002	27105	34.1	4	12.503	0.001	13126	22.8
Aroclor-1260	5	12.320	0.076	2381	6.9	NS	---			----
	Total Col1Ave (5 peaks):				21.9	Total Col2Ave (4 peaks):				37.8 RPD = 53*
	Corrected Ave (4 peaks):				18.8	Corrected Ave (3 peaks):				21.5 RPD = 13
Aroclor-1262	1	10.827	-0.002	220626	453.6	1	11.281	0.081	13562	27.9
Aroclor-1262	2	12.320	0.076	2381	3.0	2	11.661	0.009	29062	70.1
Aroclor-1262	3	---			0.0	3	12.441	0.007	3555	7.6
Aroclor-1262	4	12.989	0.002	3225	4.1	4	12.503	0.001	13126	17.8
	Total Col1Ave (3 peaks):				153.6	Total Col2Ave (4 peaks):				30.8 RPD = 133*
	Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				17.7
Aroclor-1268	1	12.320	0.074	2381	1.2	1	12.441	0.009	3555	3.1
Aroclor-1268	2	---			0.0	2	12.503	0.003	13126	10.6
Aroclor-1268	3	12.701	0.002	2939	1.7	3	12.892	0.000	772	0.7
Aroclor-1268	4	13.493	0.003	9164	1.6	4	13.707	-0.002	2801	0.8
	Total Col1Ave (3 peaks):				1.5	Total Col2Ave (4 peaks):				3.8 RPD = 87*
	Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				1.6

Total PCB Area Col1 (5.906 - 13.793) = 2118645 Col1 Total PCB = 0.3 ppm*

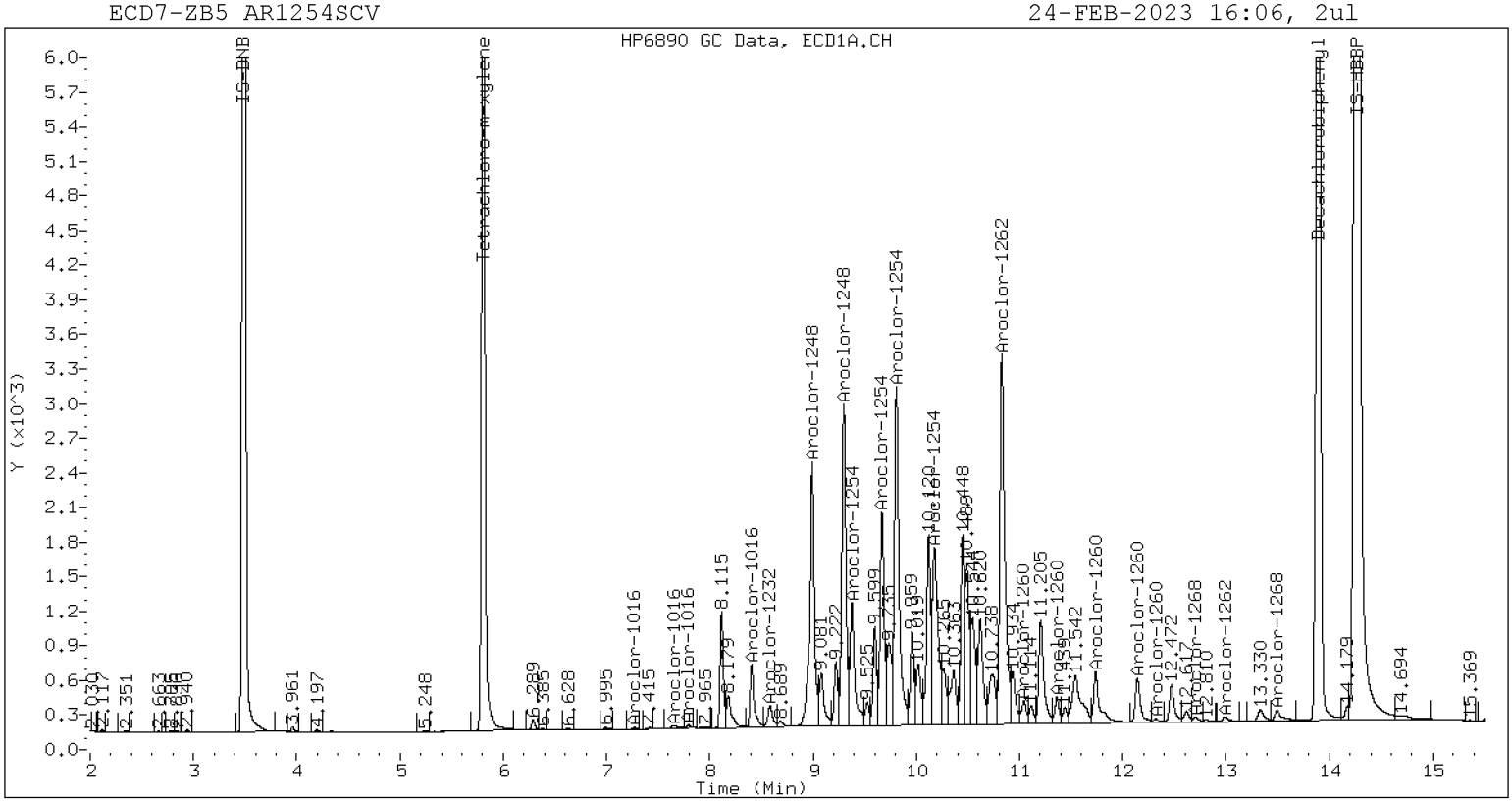
Total PCB Area Col2 (5.785 - 14.019) = 1007601 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

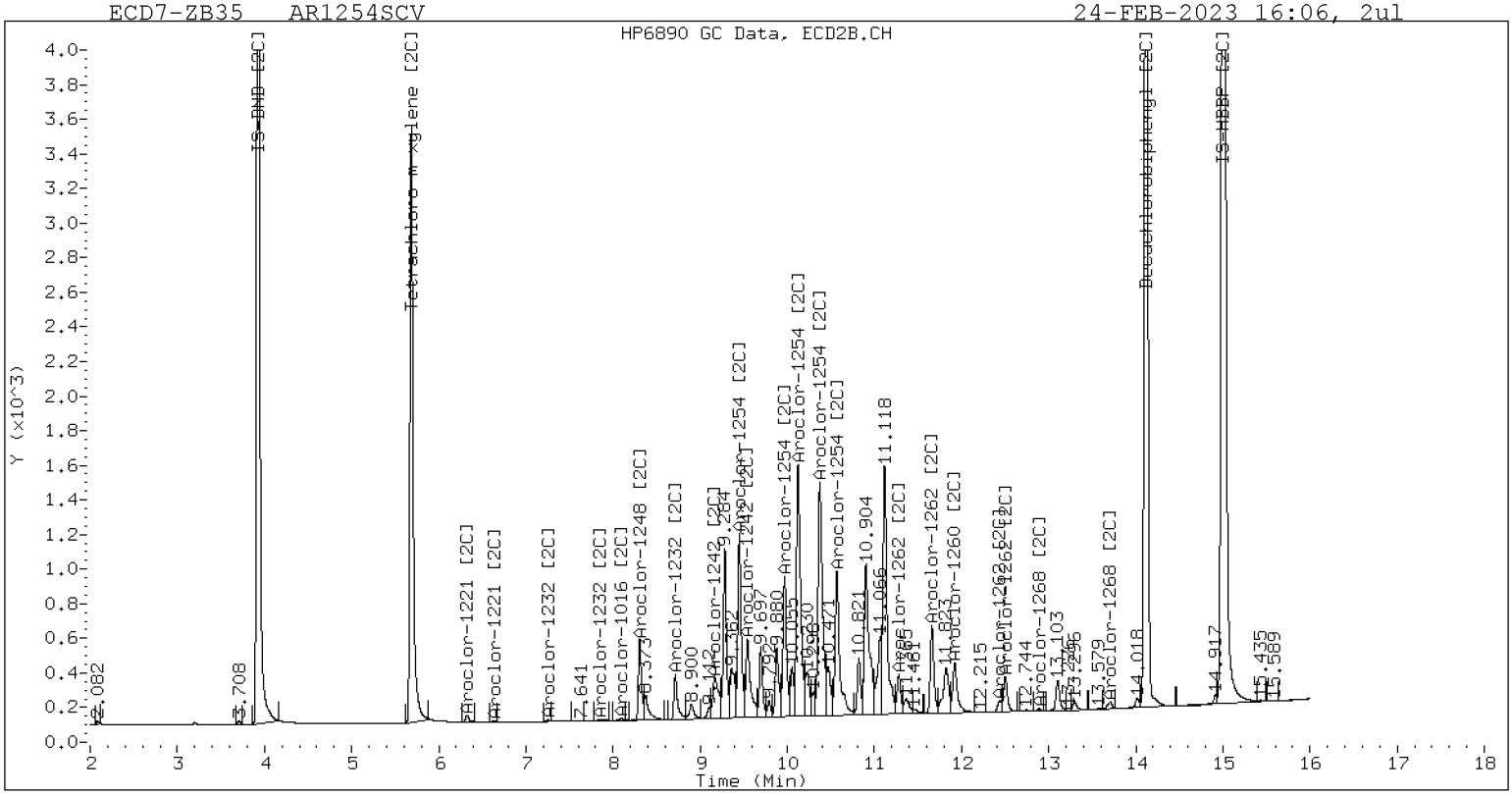
PCB Dual Column Chromatograms

ECD7-ZB5 AR1254SCV 24-FEB-2023 16:06, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1254SCV 24-FEB-2023 16:06, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242317ECD7.D
Data file 2: /230224.b/230224.b/02242317ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR2162SCV
Client ID:
Injection Date: 24-FEB-2023 16:27
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.807	0.000	356001	5.685	0.000	170882	36.0	36.6	1.7	Tetrachloro-m-xylene
13.895	0.002	533971	14.119	0.000	326235	34.4	37.9	9.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	661953	-1.8
Hexabromobiphenyl	1429847	1574993	10.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	317807	0.8
Hexabromobiphenyl	513946	565951	10.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.269	-0.001	7175	28.5	1	7.256	0.000	3727	20.0
Aroclor-1016	2	7.659	0.005	12893	16.8	2	7.863	0.007	5834	15.5
Aroclor-1016	3	7.794	0.004	6936	18.5	3	8.063	0.009	2963	17.4
Aroclor-1016	4	8.408	0.003	3610	14.9	4	8.308	0.002	2045	15.3
Total Col1Ave (4 peaks):					19.7	Total Col2Ave (4 peaks):				17.0 RPD = 14
Corrected Ave (3 peaks):					16.8	Corrected Ave (3 peaks):				16.1 RPD = 4
Aroclor-1221	1	4.730	-0.000	15803	266.6	1	4.955	-0.001	7909	262.9
Aroclor-1221	2	6.131	-0.001	26946	254.1	2	6.296	-0.000	14303	251.2
Aroclor-1221	3	6.382	-0.000	62477	253.8	3	6.622	0.000	23612	254.7
Total Col1Ave (3 peaks):					258.2	Total Col2Ave (3 peaks):				256.3 RPD = 1
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.730	0.000	15803	445.6	1	4.955	-0.001	7909	486.4
Aroclor-1232	2	6.131	0.000	26946	383.1	2	7.256	0.002	3727	46.1
Aroclor-1232	3	7.659	0.003	12893	40.5	3	7.863	0.002	5834	36.1
Aroclor-1232	4	8.583	0.003	2684	19.8	4	8.716	0.002	1189	25.6
Total Col1Ave (4 peaks):					222.3	Total Col2Ave (4 peaks):				148.5 RPD = 40
Corrected Ave (3 peaks):					147.8	Corrected Ave (3 peaks):				35.9 RPD = 122*
Aroclor-1242	1	7.269	-0.001	7175	35.0	1	7.256	0.000	3727	25.2
Aroclor-1242	2	7.659	0.003	12893	20.7	2	7.863	0.005	5834	18.8
Aroclor-1242	3	8.408	0.002	3610	18.6	3	9.175	0.008	1082	11.2
Aroclor-1242	4	8.583	0.004	2684	9.4	4	9.543	-0.054	1390	11.8
Total Col1Ave (4 peaks):					20.9	Total Col2Ave (4 peaks):				16.8 RPD = 22
Corrected Ave (3 peaks):					16.2	Corrected Ave (3 peaks):				13.9 RPD = 15
Aroclor-1248	1	8.408	0.002	3610	11.2	1	8.308	0.001	2045	13.5
Aroclor-1248	2	8.583	0.003	2684	6.5	2	8.716	0.002	1189	7.6
Aroclor-1248	3	8.994	-0.005	24440	31.6	3	9.175	0.009	1082	6.0
Aroclor-1248	4	9.302	0.008	26328	66.8	4	9.543	-0.048	1390	6.4
Total Col1Ave (4 peaks):					29.0	Total Col2Ave (4 peaks):				8.4 RPD = 110*
Corrected Ave (3 peaks):					16.4	Corrected Ave (3 peaks):				6.7 RPD = 85*
Aroclor-1254	1	9.302	0.004	26328	39.6	1	9.452	0.003	9571	39.6
Aroclor-1254	2	---			0.0	2	9.972	0.002	1733	8.9
Aroclor-1254	3	9.670	0.002	3721	8.7	3	10.147	0.023	49218	117.1
Aroclor-1254	4	9.808	0.000	9653	11.6	4	10.370	-0.002	59603	145.4
Aroclor-1254	5	10.120	-0.056	131179	251.9	5	10.569	0.001	79533	318.7
Total Col1Ave (4 peaks):					78.0	Total Col2Ave (5 peaks):				125.9 RPD = 47*
Corrected Ave (3 peaks):					20.0	Corrected Ave (4 peaks):				77.8 RPD = 118*
Aroclor-1260	1	11.044	-0.000	223208	394.0	1	11.652	-0.001	104071	312.7
Aroclor-1260	2	11.361	-0.001	190166	321.2	2	11.919	0.002	251579	296.2
Aroclor-1260	3	11.737	0.003	458281	291.9	3	12.435	-0.001	113645	504.2
Aroclor-1260	4	12.141	0.002	149720	189.4	4	12.501	-0.001	182951	319.6
Aroclor-1260	5	12.244	0.000	196033	576.0	NS	---			----
Total Col1Ave (5 peaks):					354.5	Total Col2Ave (4 peaks):				358.2 RPD = 1
Corrected Ave (4 peaks):					299.1	Corrected Ave (3 peaks):				309.5 RPD = 3
Aroclor-1262	1	10.828	-0.001	121431	251.3	1	11.201	0.000	121335	251.1
Aroclor-1262	2	12.244	0.000	196033	249.3	2	11.652	0.000	104071	252.9
Aroclor-1262	3	12.319	0.001	211092	249.8	3	12.435	0.001	113645	243.4
Aroclor-1262	4	12.988	0.001	183455	237.5	4	12.501	-0.001	182951	250.1
Total Col1Ave (4 peaks):					247.0	Total Col2Ave (4 peaks):				249.3 RPD = 1
Corrected Ave (3 peaks):					245.5	Corrected Ave (3 peaks):				248.2 RPD = 1
Aroclor-1268	1	12.244	-0.002	196033	97.1	1	12.435	0.003	113645	99.7
Aroclor-1268	2	12.319	0.002	211092	105.6	2	12.501	0.001	182951	149.3
Aroclor-1268	3	12.723	0.024	77240	45.2	3	12.891	-0.000	7755	7.4
Aroclor-1268	4	13.488	-0.002	65479	11.6	4	13.709	0.000	35146	10.5
Total Col1Ave (4 peaks):					64.9	Total Col2Ave (4 peaks):				66.7 RPD = 3

Corrected Ave (3 peaks): 51.3 Corrected Ave (3 peaks): 39.2 RPD = 27

Total PCB Area Col1 (5.906 - 13.793) = 3239932 Col1 Total PCB = 0.4 ppm*

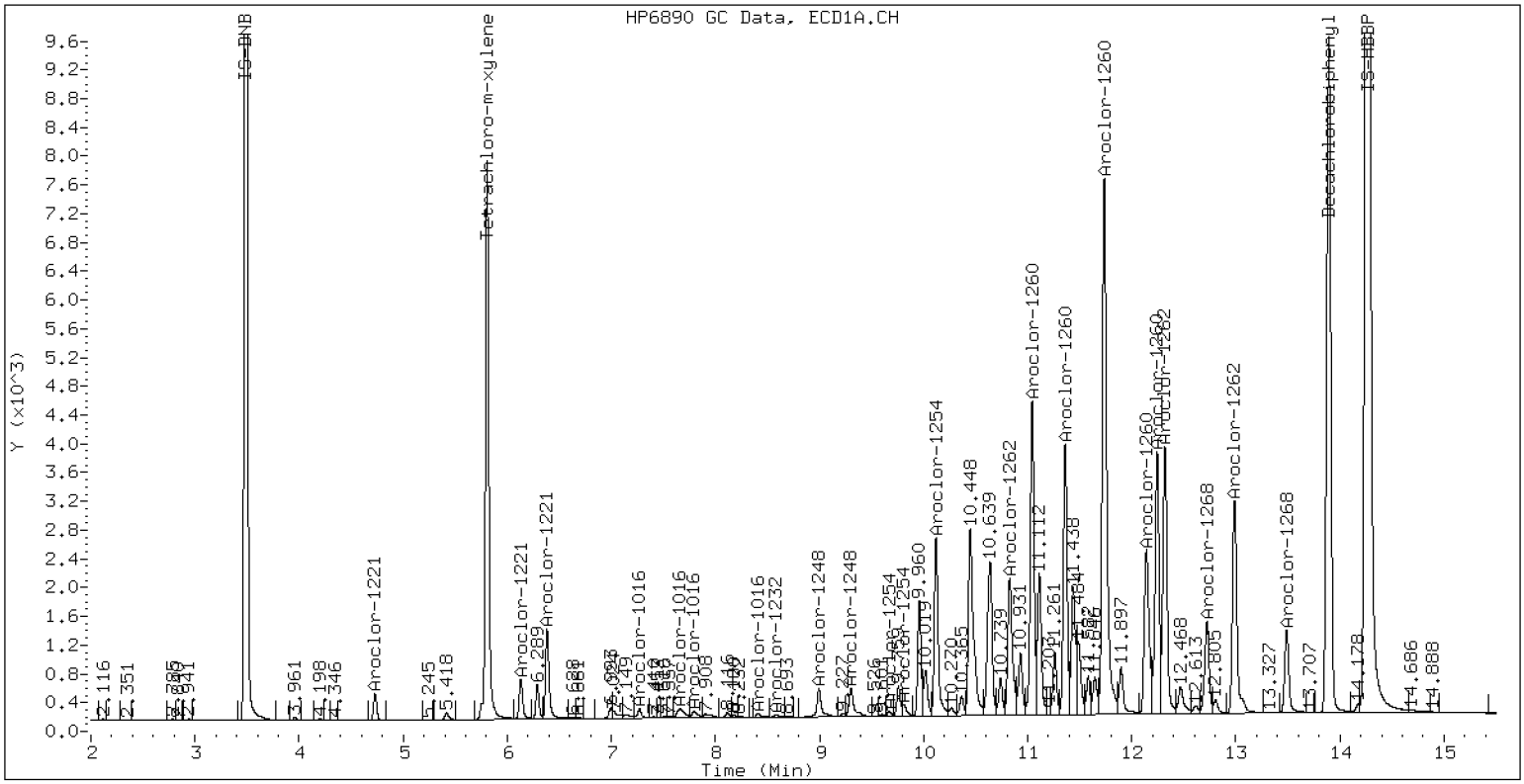
Total PCB Area Col2 (5.785 - 14.019) = 1655522 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

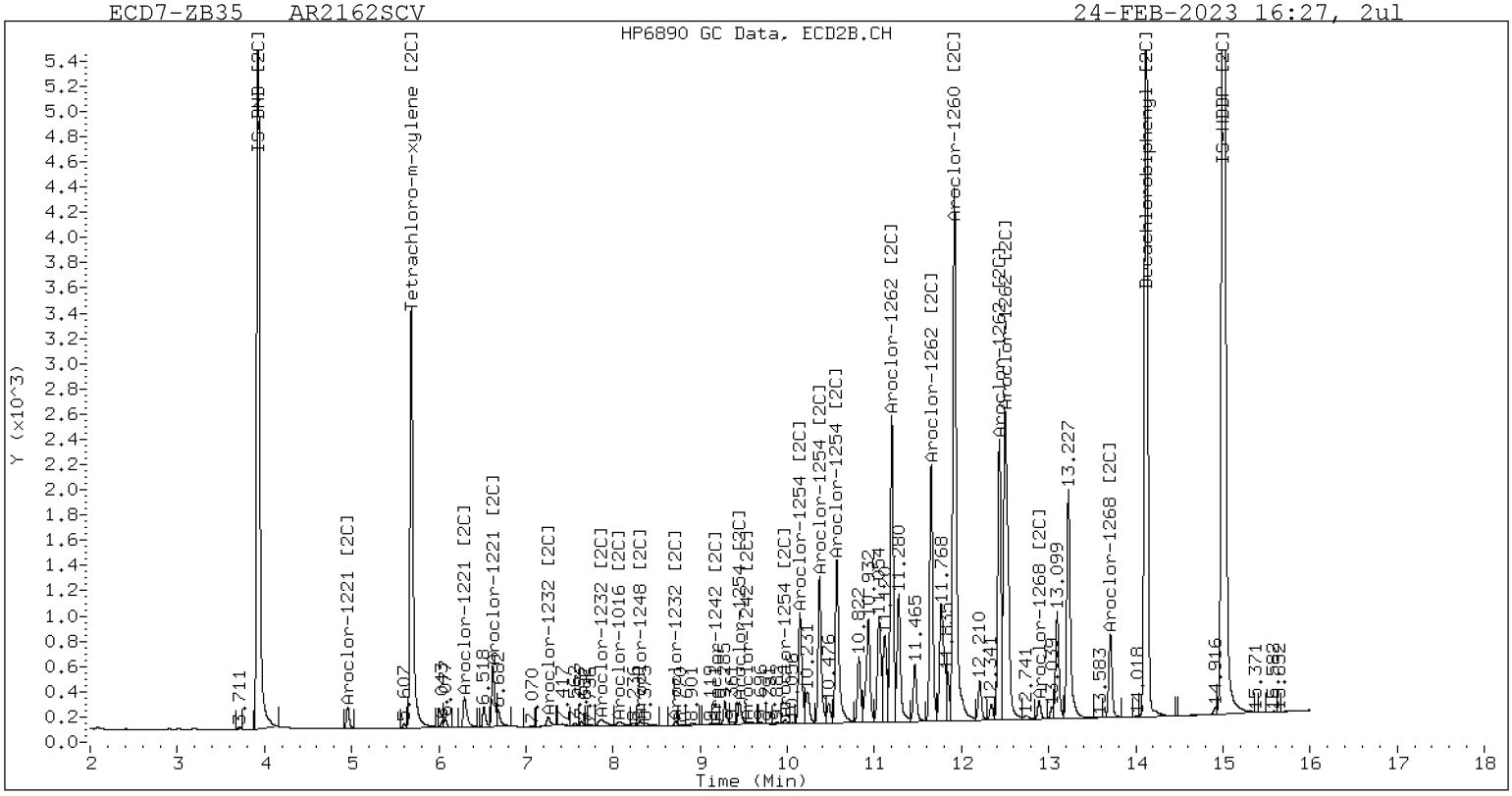
PCB Dual Column Chromatograms

ECD7-ZB5 AR2162SCV 24-FEB-2023 16:27, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR2162SCV 24-FEB-2023 16:27, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242318ECD7.D
Data file 2: /230224.b/230224.b/02242318ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR3268SCV
Client ID:
Injection Date: 24-FEB-2023 16:48
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.806	0.000	363331	5.685	0.000	176204	37.1	38.2	2.9	Tetrachloro-m-xylene
13.894	0.001	800845	14.118	-0.001	488290	51.3	56.4	9.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	656592	-2.6
Hexabromobiphenyl	1429847	1584453	10.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	314741	-0.2
Hexabromobiphenyl	513946	568346	10.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.270	-0.001	28327	113.6	1	7.254	-0.001	20651	112.1
Aroclor-1016	2	7.657	0.003	80668	106.1	2	7.861	0.005	41326	110.6
Aroclor-1016	3	7.793	0.003	40661	109.6	3	8.060	0.005	20446	121.2
Aroclor-1016	4	8.407	0.002	24680	102.9	4	8.308	0.001	13576	102.5
Total Col1Ave (4 peaks):					108.0	Total Col2Ave (4 peaks):				111.6 RPD = 3
Corrected Ave (3 peaks):					106.2	Corrected Ave (3 peaks):				108.4 RPD = 2
Aroclor-1221	1	4.729	-0.001	8535	145.1	1	4.956	-0.000	3965	133.1
Aroclor-1221	2	6.132	-0.000	15523	147.6	2	6.297	0.001	8689	154.1
Aroclor-1221	3	6.382	-0.000	45872	187.9	3	6.622	0.001	22272	242.6
Total Col1Ave (3 peaks):					160.2	Total Col2Ave (3 peaks):				176.6 RPD = 10
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.729	-0.001	8535	242.6	1	4.956	0.000	3965	246.2
Aroclor-1232	2	6.132	0.001	15523	222.5	2	7.254	0.000	20651	258.1
Aroclor-1232	3	7.657	0.001	80668	255.4	3	7.861	0.001	41326	258.3
Aroclor-1232	4	8.582	0.001	34784	259.2	4	8.714	-0.001	12504	271.5
Total Col1Ave (4 peaks):					244.9	Total Col2Ave (4 peaks):				258.5 RPD = 5
Corrected Ave (3 peaks):					240.2	Corrected Ave (3 peaks):				254.2 RPD = 6
Aroclor-1242	1	7.270	-0.001	28327	139.2	1	7.254	-0.001	20651	141.2
Aroclor-1242	2	7.657	0.001	80668	130.5	2	7.861	0.003	41326	134.4
Aroclor-1242	3	8.407	0.001	24680	128.4	3	9.170	0.003	12830	134.1
Aroclor-1242	4	8.582	0.003	34784	122.4	4	9.600	0.003	14836	127.3
Total Col1Ave (4 peaks):					130.1	Total Col2Ave (4 peaks):				134.3 RPD = 3
Corrected Ave (3 peaks):					127.1	Corrected Ave (3 peaks):				132.0 RPD = 4
Aroclor-1248	1	8.407	0.001	24680	77.0	1	8.308	0.000	13576	90.3
Aroclor-1248	2	8.582	0.001	34784	85.4	2	8.714	-0.000	12504	80.5
Aroclor-1248	3	8.996	-0.003	83592	108.8	3	9.170	0.004	12830	71.8
Aroclor-1248	4	9.292	-0.003	39603	101.3	4	9.600	0.010	14836	69.1
Total Col1Ave (4 peaks):					93.1	Total Col2Ave (4 peaks):				77.9 RPD = 18
Corrected Ave (3 peaks):					87.9	Corrected Ave (3 peaks):				73.8 RPD = 17
Aroclor-1254	1	9.292	-0.007	39603	60.1	1	9.452	0.003	4590	19.2
Aroclor-1254	2	9.377	-0.000	11450	38.6	2	9.973	0.003	2892	15.0
Aroclor-1254	3	9.674	0.005	6387	15.1	3	10.131	0.007	6052	14.5
Aroclor-1254	4	9.813	0.006	10162	12.3	4	10.390	0.017	5324	13.1
Aroclor-1254	5	10.189	0.012	6862	13.3	5	10.572	0.004	1891	7.7
Total Col1Ave (5 peaks):					27.9	Total Col2Ave (5 peaks):				13.9 RPD = 67*
Corrected Ave (4 peaks):					19.8	Corrected Ave (4 peaks):				12.6 RPD = 45*
Aroclor-1260	1	11.046	0.002	87033	152.7	1	11.645	-0.008	62543	187.1
Aroclor-1260	2	11.362	0.001	6300	10.6	2	11.920	0.003	28552	33.5
Aroclor-1260	3	11.738	0.004	54524	34.5	3	12.432	-0.004	285450	1261.2
Aroclor-1260	4	12.144	0.005	1727	2.2	4	12.499	-0.002	306992	534.0
Aroclor-1260	5	12.246	0.002	502931	1469.0	NS	---			----
Total Col1Ave (5 peaks):					333.8	Total Col2Ave (4 peaks):				503.9 RPD = 41*
Corrected Ave (4 peaks):					50.0	Corrected Ave (3 peaks):				251.5 RPD = 134*
Aroclor-1262	1	10.832	0.004	3395	7.0	1	11.201	0.001	44255	91.2
Aroclor-1262	2	12.246	0.002	502931	635.9	2	11.645	-0.007	62543	151.3
Aroclor-1262	3	12.318	-0.000	497006	584.5	3	12.432	-0.002	285450	608.7
Aroclor-1262	4	12.987	-0.000	202197	260.2	4	12.499	-0.003	306992	417.9
Total Col1Ave (4 peaks):					371.9	Total Col2Ave (4 peaks):				317.3 RPD = 16
Corrected Ave (3 peaks):					283.9	Corrected Ave (3 peaks):				220.1 RPD = 25
Aroclor-1268	1	12.246	-0.001	502931	247.7	1	12.432	-0.000	285450	249.4
Aroclor-1268	2	12.318	0.002	497006	247.2	2	12.499	-0.001	306992	249.5
Aroclor-1268	3	12.699	-0.000	422793	245.8	3	12.892	0.000	260893	248.4
Aroclor-1268	4	13.490	0.000	1386953	244.9	4	13.709	-0.000	829733	247.1
Total Col1Ave (4 peaks):					246.4	Total Col2Ave (4 peaks):				248.6 RPD = 1

Corrected Ave (3 peaks): 246.0 Corrected Ave (3 peaks): 248.3 RPD = 1

Total PCB Area Col1 (5.906 - 13.793) = 4180607 Col1 Total PCB = 0.5 ppm*

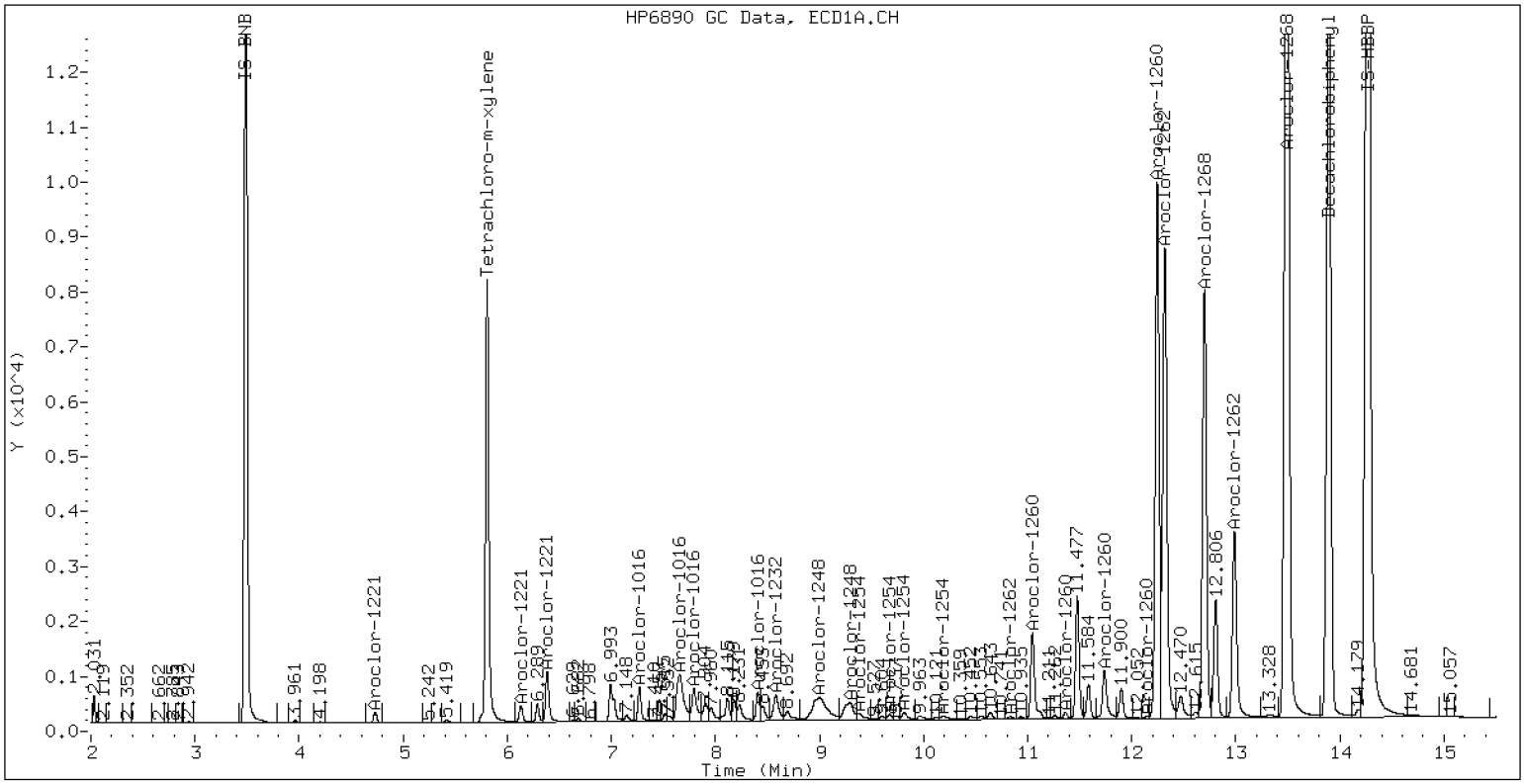
Total PCB Area Col2 (5.785 - 14.019) = 2376912 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

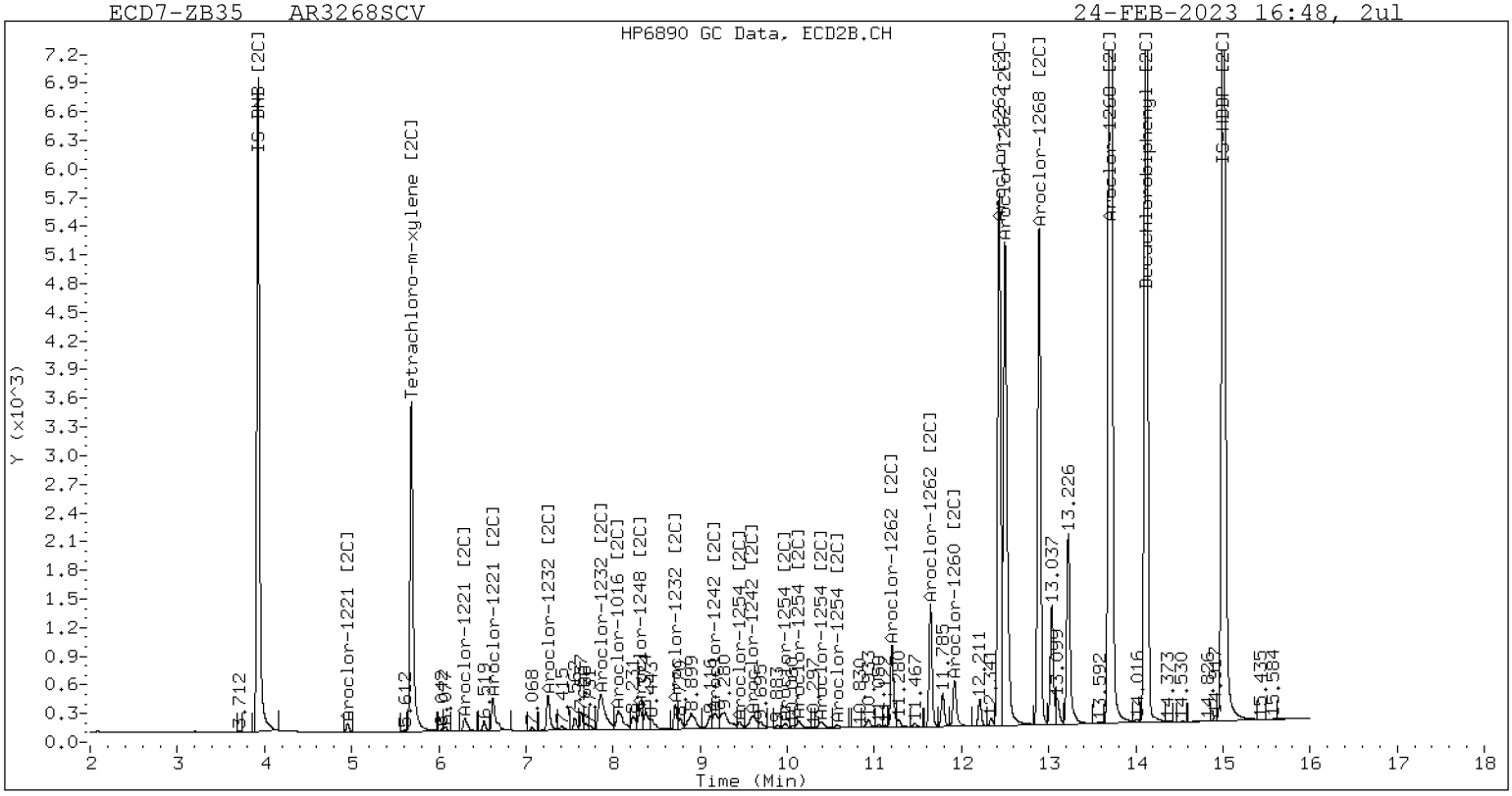
PCB Dual Column Chromatograms

ECD7-ZB5 AR3268SCV 24-FEB-2023 16:48, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR3268SCV 24-FEB-2023 16:48, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
8082 DDT SCREEN REPORT

Data file 1: /230224.b/02242319ECD7.D ARI ID: DDTS

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
9.261	0.000	694353	9.912	0.000	580269	0.100	0.100	0.0	2,4-DDE
0.000	-10.293	0	10.672	0.000	673479	0.000	0.200#	----	2,4-DDT
9.686	0.000	1191406	10.212	0.000	433373	0.100	0.100	0.0	4,4-DDE
10.259	0.000	1721760	10.672	0.000	673479	0.100	0.200#	66.7*	4,4-DDD

# Indicates value is from co-eluting peaks
* Indicates RPD > 40%

Analytical Resources Inc.
8082 DDT SCREEN REPORT

Data file 1: /230224.b/02242320ECD7.D ARI ID: DDT BD

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
9.285	0.023	4923	9.921	0.009	9972	0.001	0.002	84.3*	2,4-DDE
0.000	-10.293	0	10.677	0.004	249094	0.000	0.074#	----	2,4-DDT
9.692	0.006	12128	10.221	0.009	528	0.001	0.000	156.7*	4,4-DDE
10.265	0.006	410017	10.677	0.004	249094	0.023	0.074#	103.6*	4,4-DDD

# Indicates value is from co-eluting peaks
* Indicates RPD > 40%

Analytical Resources, LLC
Analytical Chemists and Consultants

ANALYSIS SEQUENCE

SLB0342

Instrument: ECD7
Calibration ID: GB00069

Printed: 2/28/2023 9:54:44AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SLB0342-CAL1	QC		1		L000856	L000844		
SLB0342-CAL2	QC		2		L000859	L000844		
SLB0342-CAL3	QC		3		L000858	L000844		
SLB0342-CAL4	QC		4		L000731	L000844		
SLB0342-CAL5	QC		5		L000857	L000844		
SLB0342-CAL6	QC		6		L000855	L000844		
SLB0342-CAL7	QC		7		L000860	L000844		
SLB0342-CAL8	QC		8		L000861	L000844		
SLB0342-CAL9	QC		9		L000862	L000844		
SLB0342-CALA	QC		10		L000863	L000844		
SLB0342-CALB	QC		11		L000864	L000844		
SLB0342-SCV1	QC		12		L002065	L000844		
SLB0342-SCV2	QC		13		K007656	L000844		
SLB0342-SCV3	QC		14		L002066	L000844		
SLB0342-SCV4	QC		15		L002067	L000844		
SLB0342-SCV5	QC		16		L002068	L000844		
SLB0342-SCV6	QC		17		L002069	L000844		

Samples Loaded By Date

Data Processed By Date

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	24-FEB-2023 10:51	02242301ECD7.D	1	IB	
2	24-FEB-2023 11:12	02242302ECD7.D	1	0.25PPMAR1660	
3	24-FEB-2023 11:33	02242303ECD7.D	1	0.02PPMAR1660	
4	24-FEB-2023 11:54	02242304ECD7.D	1	0.05PPMAR1660	
5	24-FEB-2023 12:15	02242305ECD7.D	1	1.0PPMAR1660	
6	24-FEB-2023 12:36	02242306ECD7.D	1	0.1PPMAR1660	
7	24-FEB-2023 12:57	02242307ECD7.D	1	0.5PPMAR1660	
8	24-FEB-2023 13:18	02242308ECD7.D	1	0.25PPMAR1242	
9	24-FEB-2023 13:39	02242309ECD7.D	1	0.25PPMAR1248	
10	24-FEB-2023 14:00	02242310ECD7.D	1	0.25PPMAR1254	
11	24-FEB-2023 14:21	02242311ECD7.D	1	0.25PPMAR2162	
12	24-FEB-2023 14:42	02242312ECD7.D	1	0.25PPMAR3268	
13	24-FEB-2023 15:03	02242313ECD7.D	1	AR1660SCV	
14	24-FEB-2023 15:24	02242314ECD7.D	1	AR1242SCV	
15	24-FEB-2023 15:45	02242315ECD7.D	1	AR1248SCV	
16	24-FEB-2023 16:06	02242316ECD7.D	1	AR1254SCV	
17	24-FEB-2023 16:27	02242317ECD7.D	1	AR2162SCV	
18	24-FEB-2023 16:48	02242318ECD7.D	1	AR3268SCV	
19	24-FEB-2023 17:09	02242319ECD7.D	1	DDTS	
20	24-FEB-2023 17:30	02242320ECD7.D	1	DDT BD	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b

ARI Job No.: IB Method: PCB.m Instrument: ecd7.i Date: 24-FEB-2023

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1051	02242301ECD7.D	IB		1	NO MANUAL INTEGRATION
1112	02242302ECD7.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION
1133	02242303ECD7.D	0.02PPMAR1660		1	NO MANUAL INTEGRATION
1154	02242304ECD7.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
1215	02242305ECD7.D	1.0PPMAR1660		1	NO MANUAL INTEGRATION
1236	02242306ECD7.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
1257	02242307ECD7.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
1318	02242308ECD7.D	0.25PPMAR1242		1	NO MANUAL INTEGRATION
1339	02242309ECD7.D	0.25PPMAR1248		1	NO MANUAL INTEGRATION
1400	02242310ECD7.D	0.25PPMAR1254		1	NO MANUAL INTEGRATION
1421	02242311ECD7.D	0.25PPMAR2162		1	NO MANUAL INTEGRATION
1442	02242312ECD7.D	0.25PPMAR3268		1	NO MANUAL INTEGRATION
1503	02242313ECD7.D	AR1660SCV		1	NO MANUAL INTEGRATION
1524	02242314ECD7.D	AR1242SCV		1	NO MANUAL INTEGRATION
1545	02242315ECD7.D	AR1248SCV		1	NO MANUAL INTEGRATION
1606	02242316ECD7.D	AR1254SCV		1	NO MANUAL INTEGRATION
1627	02242317ECD7.D	AR2162SCV		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1648	02242318ECD7.D	AR3268SCV		1	NO MANUAL INTEGRATION
1709	02242319ECD7.D	DDTS		1	NO MANUAL INTEGRATION
1730	02242320ECD7.D	DDT BD		1	NO MANUAL INTEGRATION
1751	02242321ECD7.D			1	NO MANUAL INTEGRATION
1812	02242322ECD7.D			1	NO MANUAL INTEGRATION
1833	02242323ECD7.D			1	NO MANUAL INTEGRATION
1854	02242324ECD7.D			1	NO MANUAL INTEGRATION
1915	02242325ECD7.D			1	NO MANUAL INTEGRATION
1936	02242326ECD7.D			1	NO MANUAL INTEGRATION
1957	02242327ECD7.D			1	NO MANUAL INTEGRATION
2018	02242328ECD7.D			1	NO MANUAL INTEGRATION
2039	02242329ECD7.D			1	NO MANUAL INTEGRATION
2059	02242330ECD7.D			1	NO MANUAL INTEGRATION
2120	02242331ECD7.D			1	NO MANUAL INTEGRATION
2141	02242332ECD7.D			1	NO MANUAL INTEGRATION
2202	02242333ECD7.D			1	NO MANUAL INTEGRATION
2223	02242334ECD7.D			1	NO MANUAL INTEGRATION
2244	02242335ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2305	02242336ECD7.D			1	NO MANUAL INTEGRATION
2326	02242337ECD7.D			1	NO MANUAL INTEGRATION
2347	02242338ECD7.D			1	NO MANUAL INTEGRATION
0008	02242339ECD7.D			1	NO MANUAL INTEGRATION
0029	02242340ECD7.D			1	NO MANUAL INTEGRATION
0050	02242341ECD7.D			1	NO MANUAL INTEGRATION
0111	02242342ECD7.D			1	NO MANUAL INTEGRATION
0132	02242343ECD7.D			1	NO MANUAL INTEGRATION
0153	02242344ECD7.D			1	NO MANUAL INTEGRATION
0214	02242345ECD7.D			1	NO MANUAL INTEGRATION
0235	02242346ECD7.D			1	NO MANUAL INTEGRATION
0256	02242347ECD7.D			1	NO MANUAL INTEGRATION
0317	02242348ECD7.D			1	NO MANUAL INTEGRATION
0338	02242349ECD7.D			1	NO MANUAL INTEGRATION
0359	02242350ECD7.D			1	NO MANUAL INTEGRATION
0420	02242351ECD7.D			1	NO MANUAL INTEGRATION
0441	02242352ECD7.D			1	NO MANUAL INTEGRATION
0502	02242353ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0523	02242354ECD7.D			1	NO MANUAL INTEGRATION
0544	02242355ECD7.D			1	NO MANUAL INTEGRATION
0605	02242356ECD7.D			1	NO MANUAL INTEGRATION
0626	02242357ECD7.D			1	NO MANUAL INTEGRATION
0647	02242358ECD7.D			1	NO MANUAL INTEGRATION
0708	02242359ECD7.D			1	NO MANUAL INTEGRATION
0729	02242360ECD7.D			1	NO MANUAL INTEGRATION
0750	02242361ECD7.D			1	NO MANUAL INTEGRATION
0811	02242362ECD7.D			1	NO MANUAL INTEGRATION
0832	02242363ECD7.D			1	NO MANUAL INTEGRATION
0853	02242364ECD7.D			1	NO MANUAL INTEGRATION
0914	02242365ECD7.D			1	NO MANUAL INTEGRATION
0935	02242366ECD7.D			1	NO MANUAL INTEGRATION
0956	02242367ECD7.D			1	NO MANUAL INTEGRATION
1017	02242368ECD7.D			1	NO MANUAL INTEGRATION
1038	02242369ECD7.D			1	NO MANUAL INTEGRATION
1059	02242370ECD7.D			1	NO MANUAL INTEGRATION
1120	02242371ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1141	02242372ECD7.D			1	NO MANUAL INTEGRATION
1202	02242373ECD7.D			1	NO MANUAL INTEGRATION
1223	02242374ECD7.D			1	NO MANUAL INTEGRATION
1244	02242375ECD7.D			1	NO MANUAL INTEGRATION
1305	02242376ECD7.D			1	NO MANUAL INTEGRATION
1326	02242377ECD7.D			1	NO MANUAL INTEGRATION
1347	02242378ECD7.D			1	NO MANUAL INTEGRATION
1408	02242379ECD7.D			1	NO MANUAL INTEGRATION
1429	02242380ECD7.D			1	NO MANUAL INTEGRATION
1450	02242381ECD7.D			1	NO MANUAL INTEGRATION
1511	02242382ECD7.D			1	NO MANUAL INTEGRATION
1532	02242383ECD7.D			1	NO MANUAL INTEGRATION
1553	02242384ECD7.D			1	NO MANUAL INTEGRATION
1051	02242301ECD7.D	IB		1	NO MANUAL INTEGRATION
1112	02242302ECD7.D	0.25PPMAR1660		1	NO MANUAL INTEGRATION
1133	02242303ECD7.D	0.02PPMAR1660		1	Aroclor-1016 [2C],
1154	02242304ECD7.D	0.05PPMAR1660		1	NO MANUAL INTEGRATION
1215	02242305ECD7.D	1.0PPMAR1660		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1236	02242306ECD7.D	0.1PPMAR1660		1	NO MANUAL INTEGRATION
1257	02242307ECD7.D	0.5PPMAR1660		1	NO MANUAL INTEGRATION
1318	02242308ECD7.D	0.25PPMAR1242		1	NO MANUAL INTEGRATION
1339	02242309ECD7.D	0.25PPMAR1248		1	NO MANUAL INTEGRATION
1400	02242310ECD7.D	0.25PPMAR1254		1	NO MANUAL INTEGRATION
1421	02242311ECD7.D	0.25PPMAR2162		1	NO MANUAL INTEGRATION
1442	02242312ECD7.D	0.25PPMAR3268		1	NO MANUAL INTEGRATION
1503	02242313ECD7.D	AR1660SCV		1	NO MANUAL INTEGRATION
1524	02242314ECD7.D	AR1242SCV		1	NO MANUAL INTEGRATION
1545	02242315ECD7.D	AR1248SCV		1	NO MANUAL INTEGRATION
1606	02242316ECD7.D	AR1254SCV		1	NO MANUAL INTEGRATION
1627	02242317ECD7.D	AR2162SCV		1	NO MANUAL INTEGRATION
1648	02242318ECD7.D	AR3268SCV		1	NO MANUAL INTEGRATION
1709	02242319ECD7.D	DDTS		1	NO MANUAL INTEGRATION
1730	02242320ECD7.D	DDT BD		1	NO MANUAL INTEGRATION
1751	02242321ECD7.D			1	NO MANUAL INTEGRATION
1812	02242322ECD7.D			1	NO MANUAL INTEGRATION
1833	02242323ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1854	02242324ECD7.D			1	NO MANUAL INTEGRATION
1915	02242325ECD7.D			1	NO MANUAL INTEGRATION
1936	02242326ECD7.D			1	NO MANUAL INTEGRATION
1957	02242327ECD7.D			1	NO MANUAL INTEGRATION
2018	02242328ECD7.D			1	NO MANUAL INTEGRATION
2038	02242329ECD7.D			1	NO MANUAL INTEGRATION
2059	02242330ECD7.D			1	NO MANUAL INTEGRATION
2120	02242331ECD7.D			1	NO MANUAL INTEGRATION
2141	02242332ECD7.D			1	NO MANUAL INTEGRATION
2202	02242333ECD7.D			1	NO MANUAL INTEGRATION
2223	02242334ECD7.D			1	NO MANUAL INTEGRATION
2244	02242335ECD7.D			1	NO MANUAL INTEGRATION
2305	02242336ECD7.D			1	NO MANUAL INTEGRATION
2326	02242337ECD7.D			1	NO MANUAL INTEGRATION
2347	02242338ECD7.D			1	NO MANUAL INTEGRATION
0008	02242339ECD7.D			1	NO MANUAL INTEGRATION
0029	02242340ECD7.D			1	NO MANUAL INTEGRATION
0050	02242341ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0111	02242342ECD7.D			1	NO MANUAL INTEGRATION
0132	02242343ECD7.D			1	NO MANUAL INTEGRATION
0153	02242344ECD7.D			1	NO MANUAL INTEGRATION
0214	02242345ECD7.D			1	NO MANUAL INTEGRATION
0235	02242346ECD7.D			1	NO MANUAL INTEGRATION
0256	02242347ECD7.D			1	NO MANUAL INTEGRATION
0317	02242348ECD7.D			1	NO MANUAL INTEGRATION
0338	02242349ECD7.D			1	NO MANUAL INTEGRATION
0359	02242350ECD7.D			1	NO MANUAL INTEGRATION
0420	02242351ECD7.D			1	NO MANUAL INTEGRATION
0441	02242352ECD7.D			1	NO MANUAL INTEGRATION
0502	02242353ECD7.D			1	NO MANUAL INTEGRATION
0523	02242354ECD7.D			1	NO MANUAL INTEGRATION
0544	02242355ECD7.D			1	NO MANUAL INTEGRATION
0605	02242356ECD7.D			1	NO MANUAL INTEGRATION
0626	02242357ECD7.D			1	NO MANUAL INTEGRATION
0647	02242358ECD7.D			1	NO MANUAL INTEGRATION
0708	02242359ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0729	02242360ECD7.D			1	NO MANUAL INTEGRATION
0750	02242361ECD7.D			1	NO MANUAL INTEGRATION
0811	02242362ECD7.D			1	NO MANUAL INTEGRATION
0832	02242363ECD7.D			1	NO MANUAL INTEGRATION
0853	02242364ECD7.D			1	NO MANUAL INTEGRATION
0914	02242365ECD7.D			1	NO MANUAL INTEGRATION
0935	02242366ECD7.D			1	NO MANUAL INTEGRATION
0956	02242367ECD7.D			1	NO MANUAL INTEGRATION
1017	02242368ECD7.D			1	NO MANUAL INTEGRATION
1038	02242369ECD7.D			1	NO MANUAL INTEGRATION
1059	02242370ECD7.D			1	NO MANUAL INTEGRATION
1120	02242371ECD7.D			1	NO MANUAL INTEGRATION
1141	02242372ECD7.D			1	NO MANUAL INTEGRATION
1202	02242373ECD7.D			1	NO MANUAL INTEGRATION
1223	02242374ECD7.D			1	NO MANUAL INTEGRATION
1244	02242375ECD7.D			1	NO MANUAL INTEGRATION
1305	02242376ECD7.D			1	NO MANUAL INTEGRATION
1326	02242377ECD7.D			1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230224.b\230224.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1347	02242378ECD7.D			1	NO MANUAL INTEGRATION
1408	02242379ECD7.D			1	NO MANUAL INTEGRATION
1429	02242380ECD7.D			1	NO MANUAL INTEGRATION
1450	02242381ECD7.D			1	NO MANUAL INTEGRATION
1511	02242382ECD7.D			1	NO MANUAL INTEGRATION
1532	02242383ECD7.D			1	NO MANUAL INTEGRATION
1553	02242384ECD7.D			1	NO MANUAL INTEGRATION

Security Status Report

Date: 28-Feb-2023 10:53

02242301ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242302ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242303ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242304ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242305ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242306ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242307ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242308ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242309ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242310ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242311ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242312ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242313ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242314ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242315ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242316ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242317ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242318ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242319ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53
02242320ECD7.D	Data Locked	richardl, 28-Feb-2023 10:53

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m
Last Edit : 24-Feb-2023 15:31 richardl
Curve Type : Average

Calibration File Names:
Level 1: \\target\share\chem4\ecd7.i\230224.b\02242303ECD7.D
Level 2: \\target\share\chem4\ecd7.i\230224.b\02242304ECD7.D
Level 3: \\target\share\chem4\ecd7.i\230224.b\02242306ECD7.D
Level 4: \\target\share\chem4\ecd7.i\230224.b\02242302ECD7.D
Level 5: \\target\share\chem4\ecd7.i\230224.b\02242307ECD7.D
Level 6: \\target\share\chem4\ecd7.i\230224.b\02242305ECD7.D
Level 7: \\target\share\chem4\ecd7.i\230224.b\02242312ECD7.D

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	RRF	% RSD
2 Aroclor-1221(1)	+++++	+++++	+++++	+++++	+++++	+++++	0.00716	0.00716	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.01281	0.01281	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.02975	0.02975	0.000
3 Aroclor-1242(1)	+++++	+++++	+++++	+++++	+++++	+++++	0.02479	0.02479	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.07529	0.07529	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.02343	0.02343	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.03463	0.03463	0.000
4 Aroclor-1232(1)	+++++	+++++	+++++	+++++	+++++	+++++	0.00429	0.00429	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m
Last Edit : 24-Feb-2023 15:31 richardl
Curve Type : Average

Compound	20.000 Level 1 / 250.000 Level 7	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
(2)	+++++ / 0.00850	+++++	+++++	+++++	+++++	+++++	0.00850	0.000
(3)	+++++ / 0.03848	+++++	+++++	+++++	+++++	+++++	0.03848	0.000
(4)	+++++ / 0.01635	+++++	+++++	+++++	+++++	+++++	0.01635	0.000
7 Aroclor-1016(1)	0.03172 / +++++	0.03253	0.03142	0.03141	0.02856	0.02667	0.03039	7.449
(2)	0.09239 / +++++	0.09246	0.09222	0.09849	0.09174	0.08849	0.09263	3.499
(3)	0.05165 / +++++	0.05037	0.04823	0.04393	0.03991	0.03721	0.04522	12.936
(4)	0.03002 / +++++	0.02894	0.02959	0.03058	0.02852	0.02774	0.02923	3.542
6 Aroclor-1248(1)	+++++ / 0.03903	+++++	+++++	+++++	+++++	+++++	0.03903	0.000
(2)	+++++ / 0.04961	+++++	+++++	+++++	+++++	+++++	0.04961	0.000
(3)	+++++ / 0.09360	+++++	+++++	+++++	+++++	+++++	0.09360	0.000
(4)	+++++ / 0.04765	+++++	+++++	+++++	+++++	+++++	0.04765	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m
Last Edit : 24-Feb-2023 15:31 richardl
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	___ RRF	% RSD
8 Aroclor-1254(1)	+++++	+++++	+++++	+++++	+++++	+++++	0.08033	0.08033	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.03613	0.03613	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.05165	0.05165	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.10042	0.10042	0.000
(5)	+++++	+++++	+++++	+++++	+++++	+++++	0.06294	0.06294	0.000
9 Aroclor-1260(1)	0.02926	0.02920	0.02841	0.03096	0.02737	0.02746	+++++	0.02878	4.677
(2)	0.02967	0.03006	0.03011	0.03291	0.02910	0.02857	+++++	0.03007	5.029
(3)	0.08088	0.08045	0.07954	0.08575	0.07515	0.07674	+++++	0.07975	4.627
(4)	0.03905	0.03887	0.03955	0.04485	0.03942	0.03922	+++++	0.04016	5.753
(5)	0.01783	0.01715	0.01679	0.01875	0.01664	0.01655	+++++	0.01729	4.953
10 Aroclor-1262(1)	+++++	+++++	+++++	+++++	+++++	+++++	0.02454	0.02454	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m
Last Edit : 24-Feb-2023 15:31 richardl
Curve Type : Average

Compound	20.000 Level 1 / 250.000 Level 7	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
(2)	+++++ / 0.03993	+++++	+++++	+++++	+++++	+++++	0.03993	0.000
(3)	+++++ / 0.04293	+++++	+++++	+++++	+++++	+++++	0.04293	0.000
(4)	+++++ / 0.03923	+++++	+++++	+++++	+++++	+++++	0.03923	0.000
11 Aroclor-1268(1)	+++++ / 0.10250	+++++	+++++	+++++	+++++	+++++	0.10250	0.000
(2)	+++++ / 0.10151	+++++	+++++	+++++	+++++	+++++	0.10151	0.000
(3)	+++++ / 0.08686	+++++	+++++	+++++	+++++	+++++	0.08686	0.000
(4)	+++++ / 0.28598	+++++	+++++	+++++	+++++	+++++	0.28598	0.000
42 2,4-DDE	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
43 2,4-DDD	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
44 2,4-DDT	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
46 4,4-DDE	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m
Last Edit : 24-Feb-2023 15:31 richardl
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	___ RRF	% RSD
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
$ 1 Tetrachloro-m-xylene	1.16827	1.24402	1.18546	1.20509	1.12295	1.24114	+++++	1.19449	3.860
$ 13 Decachlorobiphenyl	0.82901	0.80558	0.77587	0.78808	0.73125	0.79742	+++++	0.78787	4.189

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Last Edit : 24-Feb-2023 15:29 richardl
Curve Type : Average

Calibration File Names:
Level 1: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242303ECD7.D
Level 2: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242304ECD7.D
Level 3: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242306ECD7.D
Level 4: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242302ECD7.D
Level 5: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242307ECD7.D
Level 6: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242305ECD7.D
Level 7: \\target\share\chem4\ecd7.i\230224.b\230224.b\02242312ECD7.D

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	RRF	% RSD
1 Aroclor-1221 [2C](1)	+++++	+++++	+++++	+++++	+++++	+++++	0.00757	0.00757	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.01433	0.01433	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.02333	0.02333	0.000
4 Aroclor-1232 [2C](1)	+++++	+++++	+++++	+++++	+++++	+++++	0.00409	0.00409	0.000
(2)	+++++	+++++	+++++	+++++	+++++	+++++	0.02034	0.02034	0.000
(3)	+++++	+++++	+++++	+++++	+++++	+++++	0.04067	0.04067	0.000
(4)	+++++	+++++	+++++	+++++	+++++	+++++	0.01170	0.01170	0.000
3 Aroclor-1242 [2C](1)	+++++	+++++	+++++	+++++	+++++	+++++	0.03717	0.03717	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Last Edit : 24-Feb-2023 15:29 richardl
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	___ RRF	% RSD
(2)	*****	*****	*****	*****	*****	*****			
	0.07813							0.07813	0.000
(3)	*****	*****	*****	*****	*****	*****			
	0.02431							0.02431	0.000
(4)	*****	*****	*****	*****	*****	*****			
	0.02962							0.02962	0.000
6 Aroclor-1248 [2C](1)	*****	*****	*****	*****	*****	*****			
	0.03820							0.03820	0.000
(2)	*****	*****	*****	*****	*****	*****			
	0.03949							0.03949	0.000
(3)	*****	*****	*****	*****	*****	*****			
	0.04545							0.04545	0.000
(4)	*****	*****	*****	*****	*****	*****			
	0.05457							0.05457	0.000
7 Aroclor-1016 [2C](1)	0.05071	0.05022	0.04868	0.04733	0.04326	0.04080			
	*****							0.04683	8.503
(2)	0.08143	0.09407	0.10159	0.10259	0.09651	0.09362			
	*****							0.09497	8.025
(3)	0.04006	0.04718	0.04613	0.04410	0.04062	0.03926			
	*****							0.04289	7.857
(4)	0.03181	0.03802	0.03707	0.03450	0.03115	0.02936			
	*****							0.03365	10.251

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Last Edit : 24-Feb-2023 15:29 richardl
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	RRF	% RSD
8 Aroclor-1254 [2C](1)	*****	*****	*****	*****	*****	*****	0.06081	0.06081	0.000
(2)	*****	*****	*****	*****	*****	*****	0.04892	0.04892	0.000
(3)	*****	*****	*****	*****	*****	*****	0.10584	0.10584	0.000
(4)	*****	*****	*****	*****	*****	*****	0.10317	0.10317	0.000
(5)	*****	*****	*****	*****	*****	*****	0.06282	0.06282	0.000
10 Aroclor-1262 [2C](1)	*****	*****	*****	*****	*****	*****	0.06831	0.06831	0.000
(2)	*****	*****	*****	*****	*****	*****	0.05818	0.05818	0.000
(3)	*****	*****	*****	*****	*****	*****	0.06601	0.06601	0.000
(4)	*****	*****	*****	*****	*****	*****	0.10341	0.10341	0.000
9 Aroclor-1260 [2C](1)	0.05286	0.04911	0.04696	0.04801	0.04329	0.04201	*****	0.04704	8.422
(2)	0.12976	0.12431	0.12095	0.12664	0.11320	0.10545	*****	0.12005	7.605

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Last Edit : 24-Feb-2023 15:29 richardl
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	___ RRF	% RSD
(3)	0.03524	0.03147	0.02937	0.03208	0.03102	0.03198	#####	0.03186	6.045
(4)	0.08632	0.08237	0.08044	0.08393	0.07718	0.07531	#####	0.08092	5.126
11 Aroclor-1268 [2C](1)	#####	#####	#####	#####	#####	#####	0.16109	0.16109	0.000
(2)	#####	#####	#####	#####	#####	#####	0.17318	0.17318	0.000
(3)	#####	#####	#####	#####	#####	#####	0.14787	0.14787	0.000
(4)	#####	#####	#####	#####	#####	#####	0.47260	0.47260	0.000
41 2,4-DDE [2C]	#####	#####	#####	#####	#####	#####	#####	#####	#####
42 2,4-DDD [2C]	#####	#####	#####	#####	#####	#####	#####	#####	#####
44 4,4-DDE [2C]	#####	#####	#####	#####	#####	#####	#####	#####	#####
45 4,4-DDD/2,4-DDT [2C]	#####	#####	#####	#####	#####	#####	#####	#####	#####
46 4,4-DDT [2C]	#####	#####	#####	#####	#####	#####	#####	#####	#####

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 24-FEB-2023 11:12
End Cal Date : 24-FEB-2023 14:42
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Last Edit : 24-Feb-2023 15:29 richardl
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	250.000 Level 7	___ RRF	% RSD
48 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
49 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
$ 2 Tetrachloro-m-xylene [2C]	1.21526	1.19545	1.17555	1.21907	1.12560	1.11139	+++++	1.17372	3.897
$ 13 Decachlorobiphenyl [2C]	1.17066	1.20406	1.20549	1.31040	1.21104	1.20797	+++++	1.21827	3.898

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\230224.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	02242302ECD7	02242303ECD7	02242304ECD7	02242305ECD7	02242306ECD7	02242307ECD7
INJ.DATE:	24-FEB-2023	24-FEB-2023	24-FEB-2023	24-FEB-2023	24-FEB-2023	24-FEB-2023
INJ.TIME:	11:12	11:33	11:54	12:15	12:36	12:57

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 41 IS-BNB	3.493	3.492	3.492	3.492	3.491	3.491	3.493	3.393-3.593	3.492	0.001
$ 1 Tetrachloro-m-xylene	5.811	5.809	5.809	5.813	5.809	5.810	5.811	5.711-5.911	5.810	0.002
2 Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	4.732	4.632-4.832	+++++	+++++
3 Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	7.269	7.169-7.369	+++++	+++++
4 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	4.732	4.632-4.832	+++++	+++++
7 Aroclor-1016	7.272	7.272	7.272	7.270	7.271	7.270	7.272	7.172-7.372	7.271	0.001
6 Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	8.403	8.303-8.503	+++++	+++++
8 Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	9.295	9.195-9.395	+++++	+++++
9 Aroclor-1260	11.046	11.047	11.046	11.044	11.045	11.044	11.046	10.946-11.146	11.045	0.001
10 Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	10.824	10.724-10.924	+++++	+++++
11 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	12.243	12.143-12.343	+++++	+++++
$ 13 Decachlorobiphenyl	13.897	13.893	13.893	13.899	13.892	13.898	13.897	13.797-13.997	13.895	0.003
* 12 IS-HBBP	14.269	14.268	14.268	14.267	14.268	14.268	14.269	14.169-14.369	14.268	0.001
42 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	9.260	9.210-9.310	+++++	+++++
43 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.801	9.751-9.851	+++++	+++++
44 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.293	10.243-10.343	+++++	+++++
46 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	9.683	9.583-9.783	+++++	+++++

Reviewer 1 _____ Date:_____
Reviewer 2 _____ Date:_____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\230224.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	10.254	10.154-10.354	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.754	10.654-10.854	+++++	+++++
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	1.842	1.742-1.942	+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	6.708	6.608-6.808	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Batch File: \\target\share\chem4\ecd7.i\230224.b\230224.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	02242302ECD7	02242303ECD7	02242304ECD7	02242305ECD7	02242306ECD7	02242307ECD7
INJ.DATE:	24-FEB-2023	24-FEB-2023	24-FEB-2023	24-FEB-2023	24-FEB-2023	24-FEB-2023
INJ.TIME:	11:12	11:33	11:54	12:15	12:36	12:57

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 40 IS-BNB [2C]	3.928	3.929	3.929	3.929	3.928	3.929	3.928	3.828-4.028	3.929	0.000
$ 2 Tetrachloro-m-xylene [	5.687	5.688	5.688	5.688	5.688	5.688	5.687	5.587-5.787	5.688	0.001
1 Aroclor-1221 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	4.958	4.858-5.058	+++++	+++++
4 Aroclor-1232 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	4.958	4.859-5.059	+++++	+++++
3 Aroclor-1242 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	7.254	7.154-7.354	+++++	+++++
6 Aroclor-1248 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	8.305	8.205-8.405	+++++	+++++
7 Aroclor-1016 [2C]	7.255	7.256	7.256	7.254	7.255	7.256	7.255	7.155-7.355	7.255	0.001
8 Aroclor-1254 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	9.447	9.347-9.547	+++++	+++++
10 Aroclor-1262 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	11.198	11.098-11.298	+++++	+++++
9 Aroclor-1260 [2C]	11.653	11.656	11.655	11.652	11.655	11.653	11.653	11.553-11.753	11.654	0.001
11 Aroclor-1268 [2C]	+++++	+++++	+++++	+++++	+++++	+++++	12.431	12.331-12.531	+++++	+++++
$ 13 Decachlorobiphenyl [2C	14.120	14.120	14.119	14.122	14.119	14.120	14.120	14.020-14.220	14.120	0.001
* 12 IS-HBBP [2C]	15.008	15.008	15.008	15.008	15.007	15.008	15.008	14.908-15.108	15.008	0.000
41 2,4-DDE [2C]	+++++	+++++	+++++	+++++	+++++	+++++	9.911	9.861-9.961	+++++	+++++
42 2,4-DDD [2C]	+++++	+++++	+++++	+++++	+++++	+++++	9.536	9.486-9.586	+++++	+++++
44 4,4-DDE [2C]	+++++	+++++	+++++	+++++	+++++	+++++	10.209	10.109-10.309	+++++	+++++
45 4,4-DDD/2,4-DDT [2C]	+++++	+++++	+++++	+++++	+++++	+++++	10.667	10.567-10.767	+++++	+++++

Reviewer 1 _____ Date:_____
Reviewer 2 _____ Date:_____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\230224.b\PCB.m\PCB2.m
Batch File: \\target\share\chem4\ecd7.i\230224.b\230224.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
46 4,4-DDT [2C]	+++++	+++++	+++++	+++++	+++++	+++++	11.092	10.992-11.192	+++++	+++++
48 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	1.703	1.603-1.803	+++++	+++++
49 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	7.178	7.078-7.278	+++++	+++++

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242301ECD7.D
Data file 2: /230224.b/230224.b/02242301ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: IB
Client ID:
Injection Date: 24-FEB-2023 10:51
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.826	0.019	382217	5.683	-0.002	180378	33.8	36.5	7.7	Tetrachloro-m-xylene
13.904	0.011	534110	14.120	0.001	295605	35.3	37.2	5.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	756896	12.3
Hexabromobiphenyl	1429847	1534275	7.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	336543	6.8
Hexabromobiphenyl	513946	521508	1.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	6.321	0.025	1873	31.1
Aroclor-1221	3	---			0.0	3	6.633	0.012	314	3.2
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	7.698	0.043	2193	6.0	3	---			0.0
Aroclor-1232	4	8.505	-0.076	11525	74.5	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	7.698	0.042	2193	3.1	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	8.505	-0.074	11525	35.2	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	---			0.0	1	---			0.0
Aroclor-1248	2	---			0.0	2	---			0.0
Aroclor-1248	3	---			0.0	3	---			0.0
Aroclor-1248	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1254	1	---			0.0	1	---			0.0
Aroclor-1254	2	---			0.0	2	---			0.0
Aroclor-1254	3	9.596	-0.072	31424	64.3	3	---			0.0
Aroclor-1254	4	---			0.0	4	---			0.0
Aroclor-1254	5	10.167	-0.010	18361	30.8	5	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1260	1	11.098	0.054	6994	12.7	1	---			0.0
Aroclor-1260	2	---			0.0	2	---			0.0
Aroclor-1260	3	11.706	-0.027	7806	5.1	3	---			0.0
Aroclor-1260	4	---			0.0	4	---			0.0
Aroclor-1260	5	---			0.0	NS	---			----
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1262	1	10.824	-0.005	16873	35.8	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	13.040	0.053	14031	18.6	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	12.709	0.009	6037	3.6	3	12.891	-0.001	659	0.7
Aroclor-1268	4	13.499	0.010	12396	2.3	4	13.710	0.001	1848	0.6
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (5.906 - 13.793) = 260205 Col1 Total PCB = 0.0 ppm*

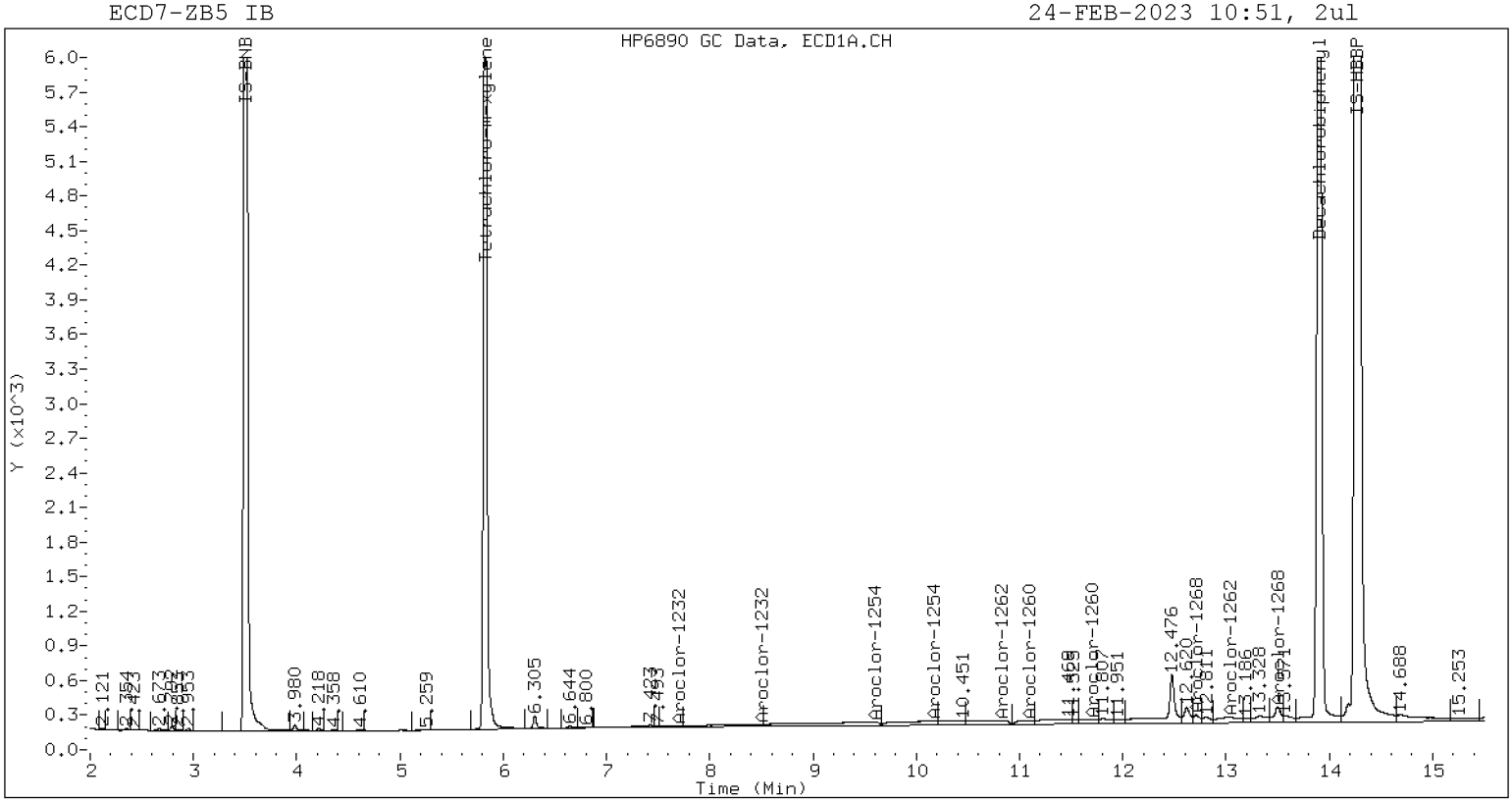
Total PCB Area Col2 (5.785 - 14.019) = 18252 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

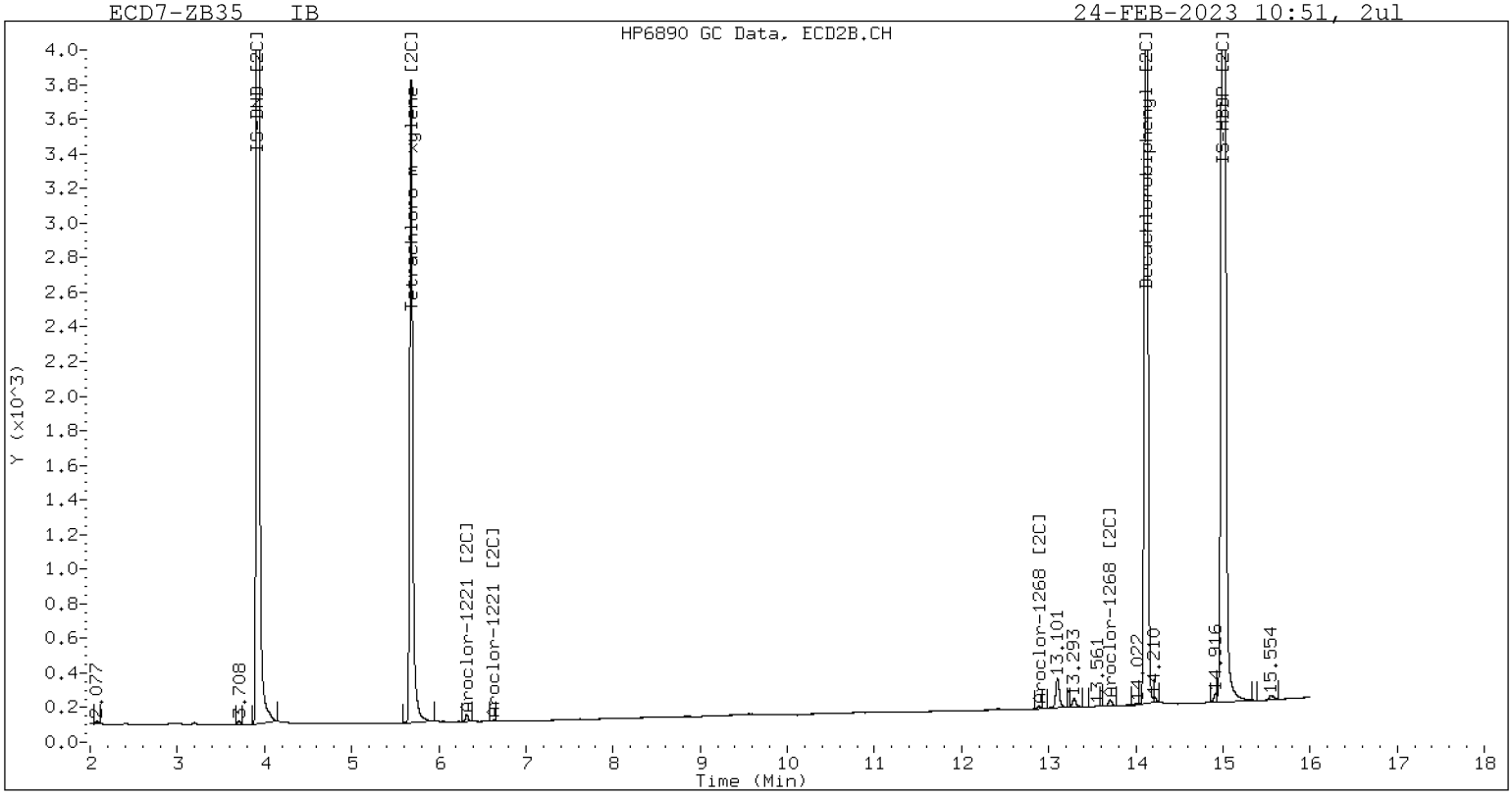
PCB Dual Column Chromatograms

ECD7-ZB5 IB 24-FEB-2023 10:51, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 IB 24-FEB-2023 10:51, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242302ECD7.D
Data file 2: /230224.b/230224.b/02242302ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR1660
Client ID:
Injection Date: 24-FEB-2023 11:12
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.811	0.005	405980	5.687	0.002	192160	40.4	41.5	2.9	Tetrachloro-m-xylene
13.897	0.004	563414	14.120	0.001	336737	40.0	43.0	7.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	673778	0.0
Hexabromobiphenyl	1429847	1429847	0.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	315256	0.0
Hexabromobiphenyl	513946	513946	0.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	7.272	0.001	66125	258.4	1	7.255	-0.001	46626	252.6
Aroclor-1016	2	7.654	-0.000	207370	265.8	2	7.855	-0.001	101071	270.1
Aroclor-1016	3	7.792	0.002	92507	242.9	3	8.055	0.001	43448	257.1
Aroclor-1016	4	8.406	0.001	64388	261.5	4	8.306	-0.000	33986	256.3
	Total Col1Ave (4 peaks):				257.2	Total Col2Ave (4 peaks):				259.0 RPD = 1
	Corrected Ave (3 peaks):				254.3	Corrected Ave (3 peaks):				255.3 RPD = 0
	CalAmt %D:				2.9	CalAmt %D:				3.6
Aroclor-1260	1	11.046	0.001	138355	269.0	1	11.653	0.001	77114	255.2
Aroclor-1260	2	11.363	0.002	147051	273.6	2	11.918	0.001	203401	263.7
Aroclor-1260	3	11.736	0.003	383171	268.8	3	12.435	-0.000	51517	251.7
Aroclor-1260	4	12.141	0.002	200399	279.2	4	12.502	0.001	134797	259.3
Aroclor-1260	5	12.247	0.003	83796	271.2	NS	---			----
	Total Col1Ave (5 peaks):				272.4	Total Col2Ave (4 peaks):				257.5 RPD = 6
	Corrected Ave (4 peaks):				270.7	Corrected Ave (3 peaks):				255.4 RPD = 6
	CalAmt %D:				8.9	CalAmt %D:				3.0

Total PCB Area Col1 (5.906 - 13.793) = 4024419 Col1 Total PCB = 0.5 ppm*

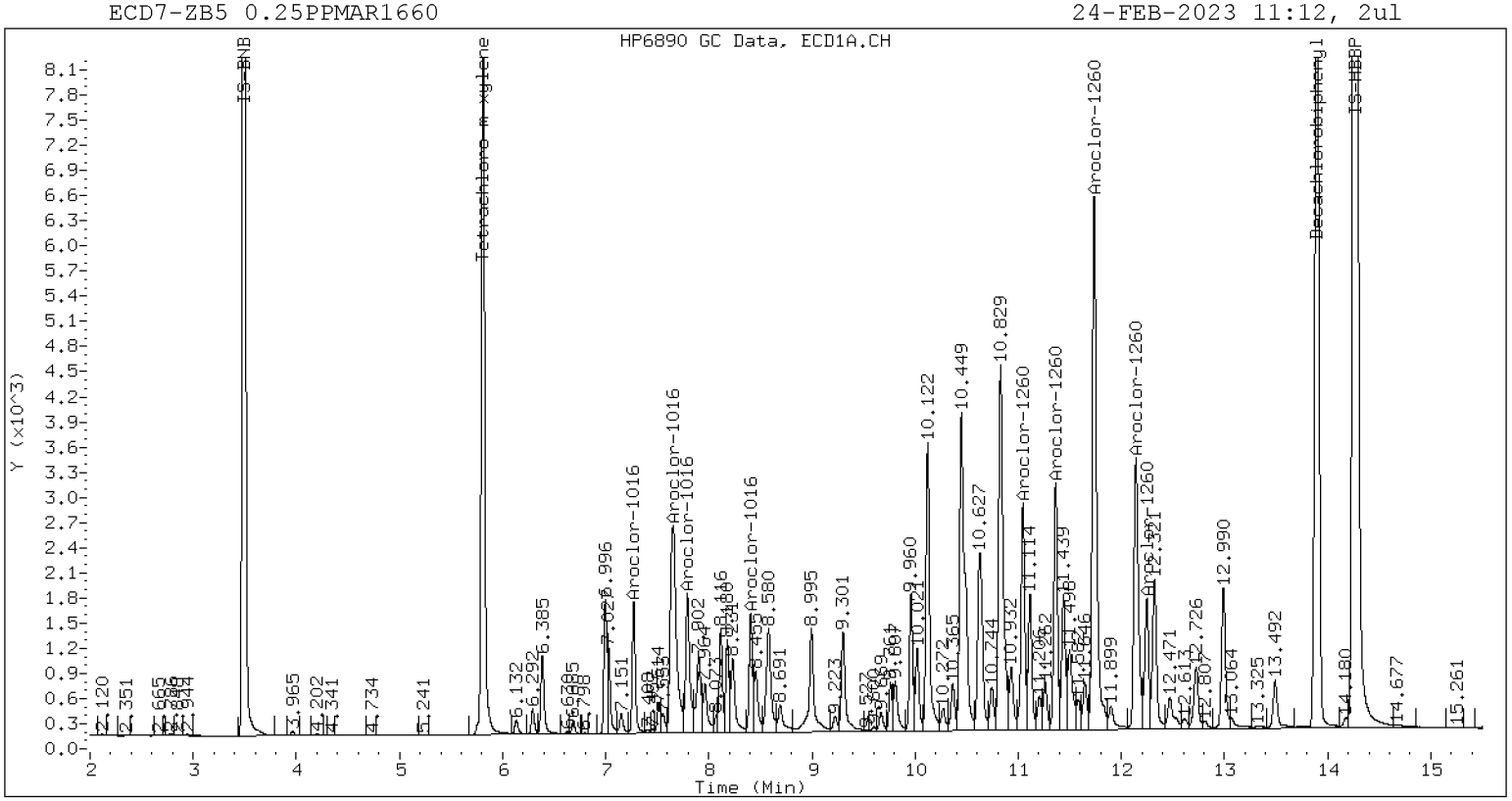
Total PCB Area Col2 (5.785 - 14.019) = 1889311 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

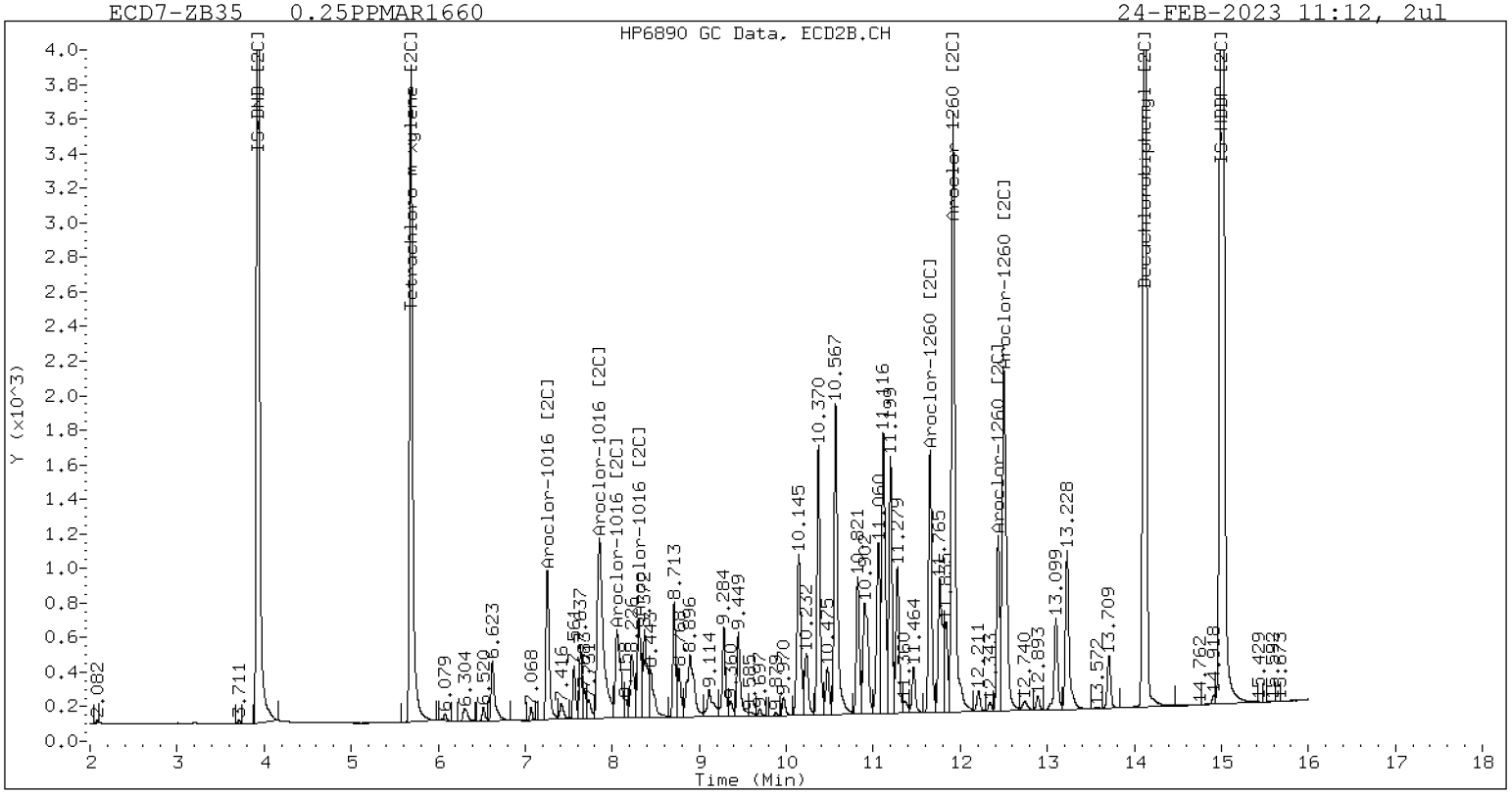
PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR1660 24-FEB-2023 11:12, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR1660 24-FEB-2023 11:12, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242303ECD7.D
Data file 2: /230224.b/230224.b/02242303ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.02PPMAR1660
Client ID:
Injection Date: 24-FEB-2023 11:33
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.809	0.002	29768	5.688	0.003	14932	3.1	3.3	5.7	Tetrachloro-m-xylene
13.893	0.000	45992	14.120	0.000	23950	3.4	3.1	9.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	637010	-5.5
Hexabromobiphenyl	1429847	1386953	-3.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	307177	-2.6
Hexabromobiphenyl	513946	511463	-0.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	7.272	0.001	5052	20.9	1	7.256	0.000	3894	21.7
Aroclor-1016	2	7.659	0.005	14714	19.9	2	7.864	0.008	6253	17.1
Aroclor-1016	3	7.795	0.005	8226	22.8	3	8.060	0.006	3076	18.7
Aroclor-1016	4	8.407	0.002	4780	20.5	4	8.309	0.002	2443	18.9
Total Col1Ave (4 peaks):					21.1	Total Col2Ave (4 peaks):				19.1 RPD = 10
Corrected Ave (3 peaks):					20.5	Corrected Ave (3 peaks):				18.2 RPD = 11
CalAmt %D:					5.3	CalAmt %D:				-4.5
Aroclor-1260	1	11.047	0.003	10147	20.3	1	11.656	0.003	6759	22.5
Aroclor-1260	2	11.364	0.003	10287	19.7	2	11.922	0.005	16592	21.6
Aroclor-1260	3	11.740	0.006	28043	20.3	3	12.438	0.002	4506	22.1
Aroclor-1260	4	12.145	0.006	13540	19.4	4	12.505	0.004	11037	21.3
Aroclor-1260	5	12.246	0.002	6182	20.6	NS	---			----
Total Col1Ave (5 peaks):					20.1	Total Col2Ave (4 peaks):				21.9 RPD = 9
Corrected Ave (4 peaks):					19.9	Corrected Ave (3 peaks):				21.7 RPD = 8
CalAmt %D:					0.4	CalAmt %D:				9.4

Total PCB Area Col1 (5.906 - 13.793) = 324832 Col1 Total PCB = 0.0 ppm*

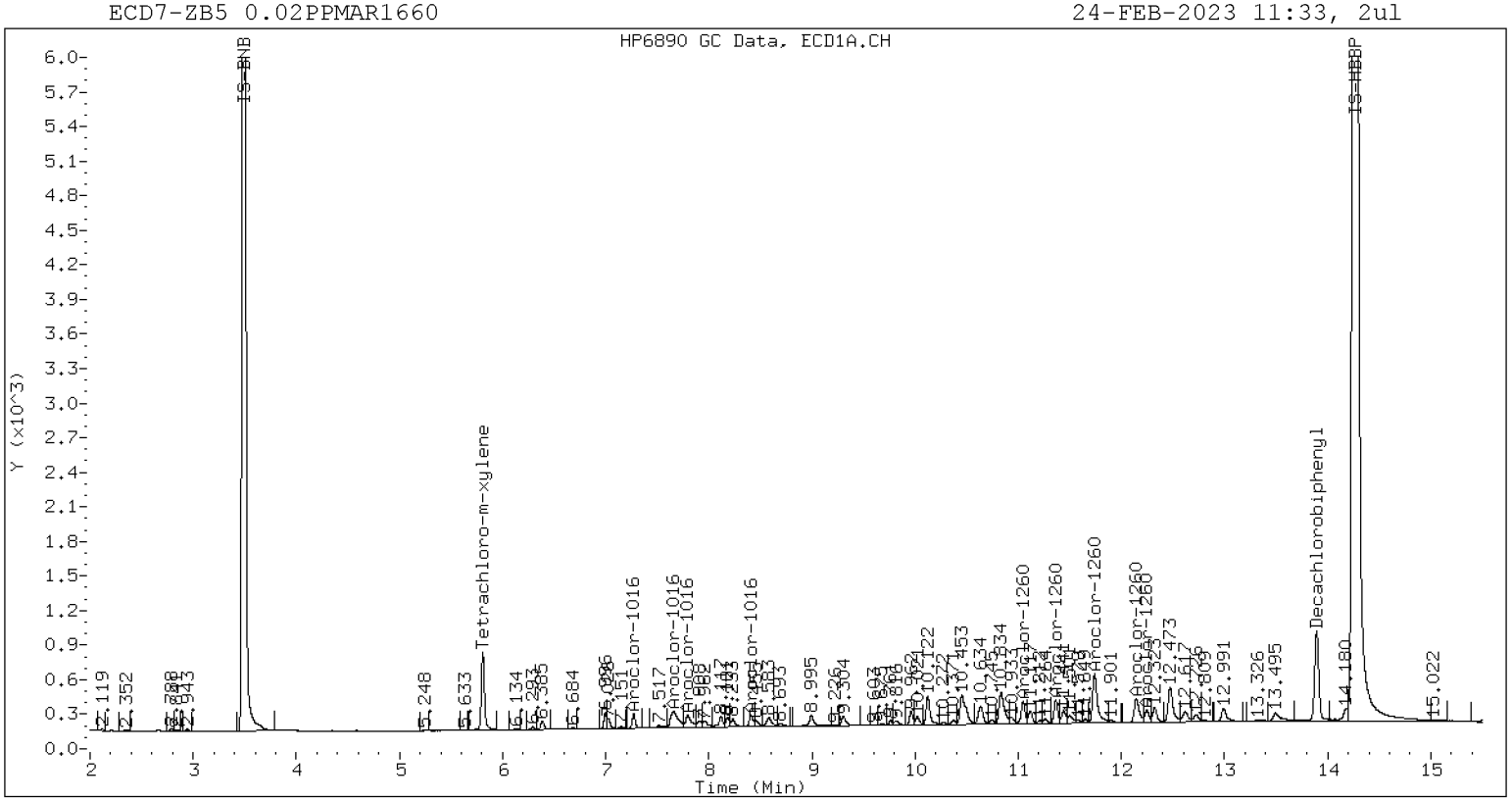
Total PCB Area Col2 (5.785 - 14.019) = 157149 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

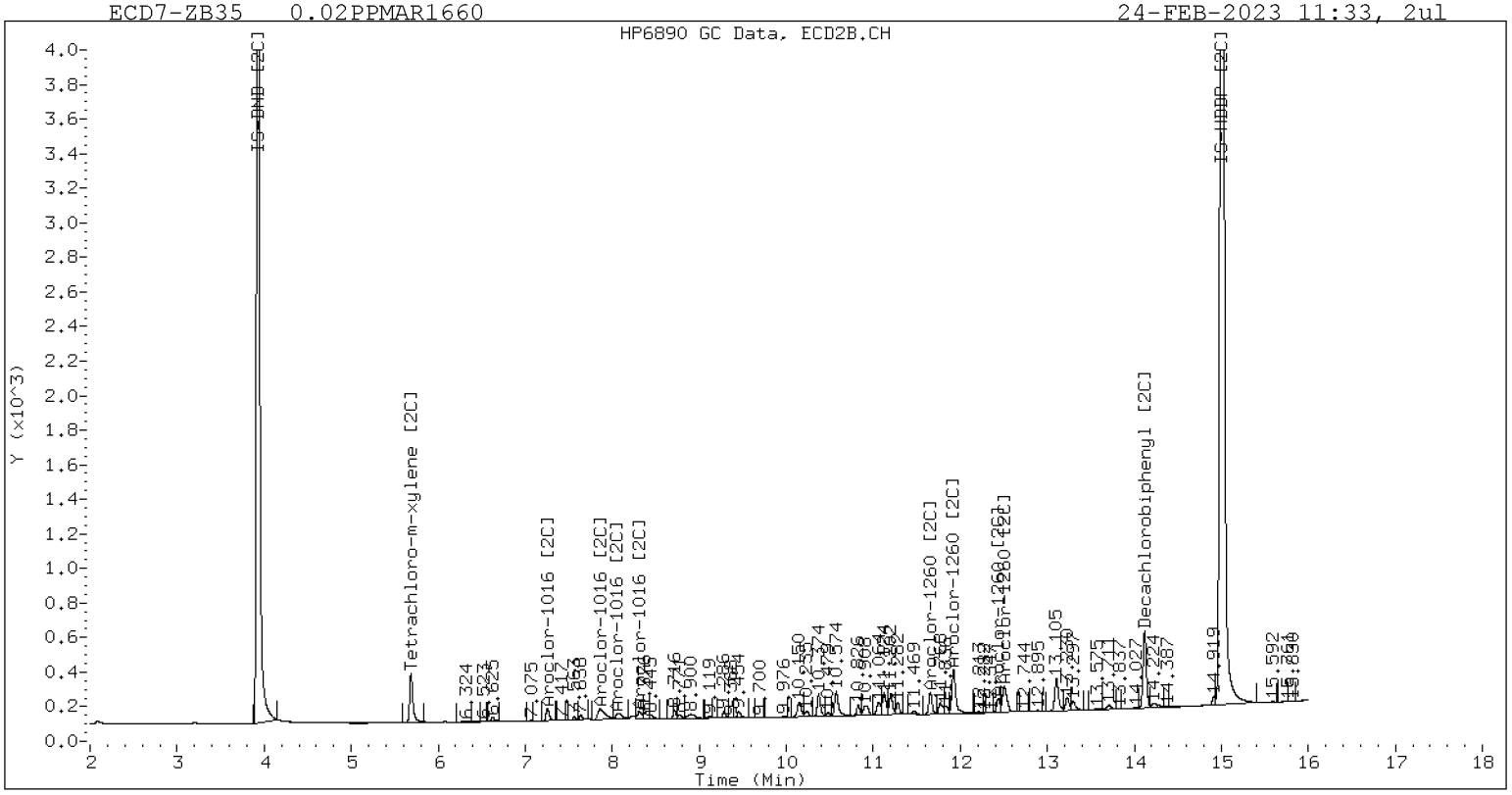
PCB Dual Column Chromatograms

ECD7-ZB5 0.02PPMAR1660 24-FEB-2023 11:33, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.02PPMAR1660 24-FEB-2023 11:33, 2ul

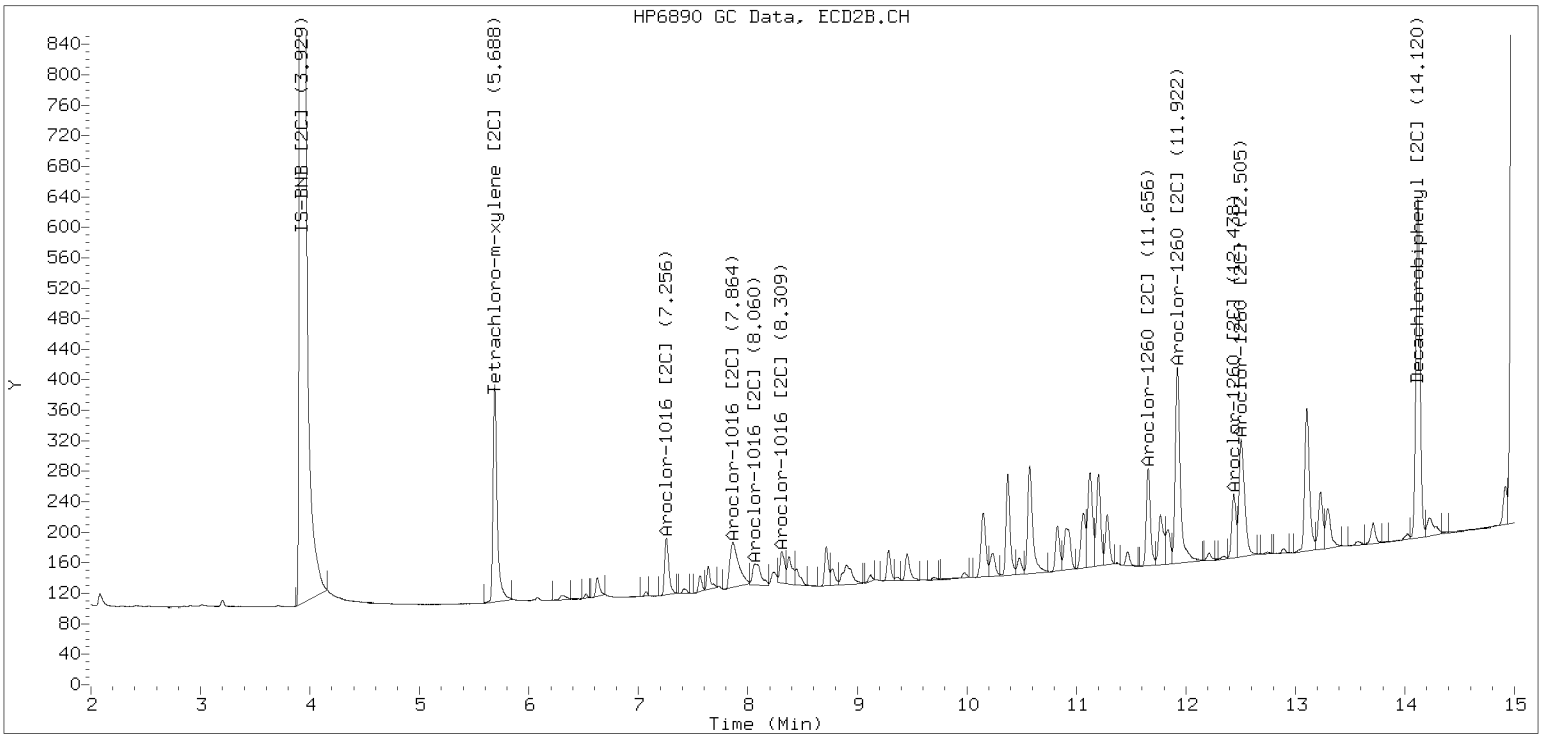


ZB-35 Manual Integration: YES

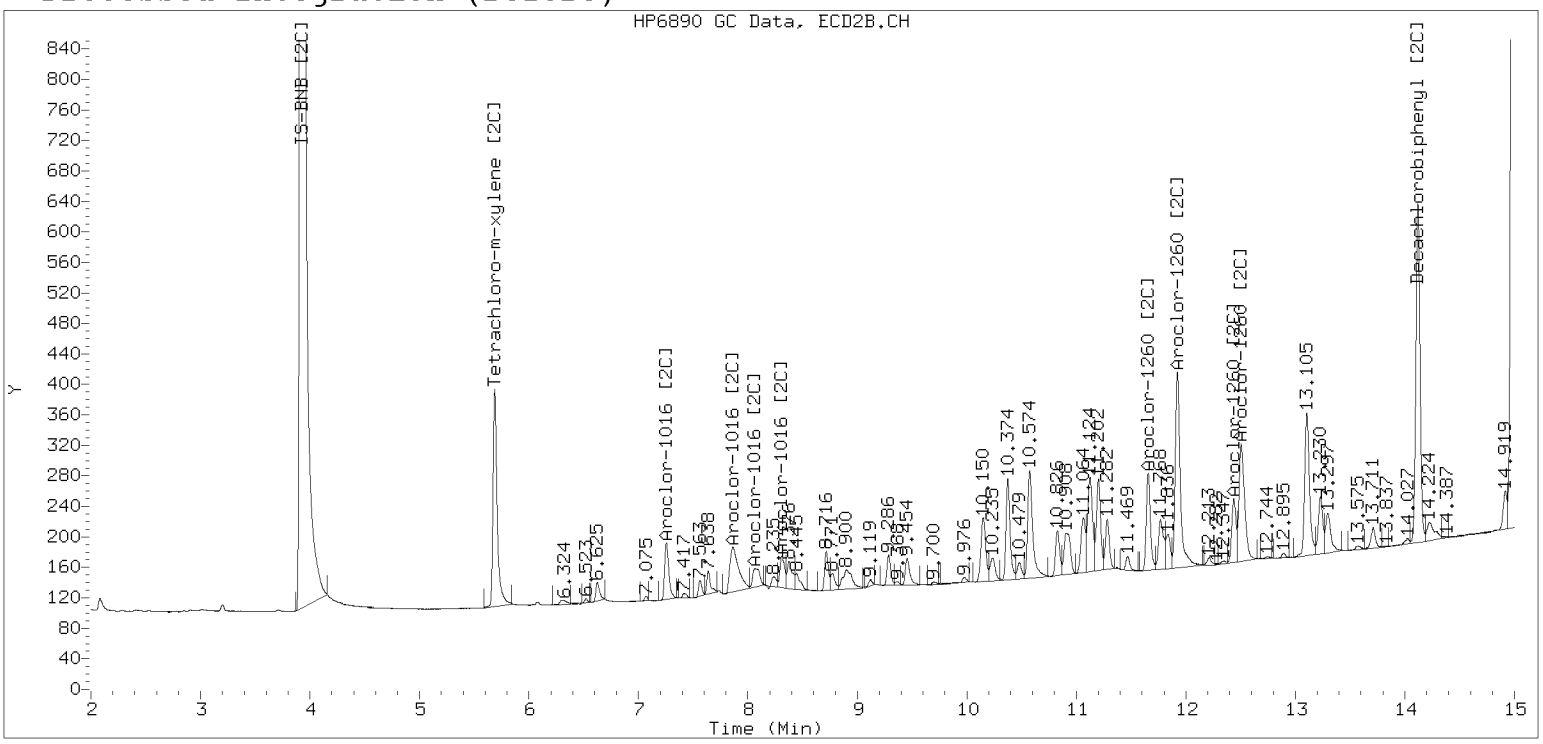
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/230224.b/230224.b/02242303ECD7.D Injection Date: 24-FEB-2023

Manual Integration (After)



Processed Integration (Before)



Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242304ECD7.D
Data file 2: /230224.b/230224.b/02242304ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.05PPMAR1660
Client ID:
Injection Date: 24-FEB-2023 11:54
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.809	0.003	78493	5.688	0.003	36772	8.3	8.1	2.2	Tetrachloro-m-xylene
13.893	-0.000	113544	14.119	-0.000	62745	8.2	7.9	3.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	630965	-6.4
Hexabromobiphenyl	1429847	1409464	-1.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	307599	-2.4
Hexabromobiphenyl	513946	521112	1.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.272	0.002	12829	53.5	1	7.256	0.000	9654	53.6
Aroclor-1016	2	7.660	0.006	36461	49.9	2	7.864	0.008	18085	49.5
Aroclor-1016	3	7.795	0.005	19865	55.7	3	8.063	0.008	9071	55.0
Aroclor-1016	4	8.408	0.003	11411	49.5	4	8.310	0.003	7309	56.5
Total Col1Ave (4 peaks):					52.2	Total Col2Ave (4 peaks):				53.7 RPD = 3
Corrected Ave (3 peaks):					51.0	Corrected Ave (3 peaks):				52.7 RPD = 3
CalAmt %D:					4.3	CalAmt %D:				7.3
Aroclor-1260	1	11.046	0.002	25727	50.7	1	11.655	0.002	15996	52.2
Aroclor-1260	2	11.363	0.002	26482	50.0	2	11.922	0.004	40487	51.8
Aroclor-1260	3	11.739	0.005	70871	50.4	3	12.437	0.002	10248	49.4
Aroclor-1260	4	12.143	0.004	34239	48.4	4	12.506	0.004	26828	50.9
Aroclor-1260	5	12.246	0.002	15109	49.6	NS	---			----
Total Col1Ave (5 peaks):					49.8	Total Col2Ave (4 peaks):				51.1 RPD = 2
Corrected Ave (4 peaks):					49.6	Corrected Ave (3 peaks):				50.7 RPD = 2
CalAmt %D:					-0.3	CalAmt %D:				2.1

Total PCB Area Col1 (5.906 - 13.793) = 758292 Col1 Total PCB = 0.1 ppm*

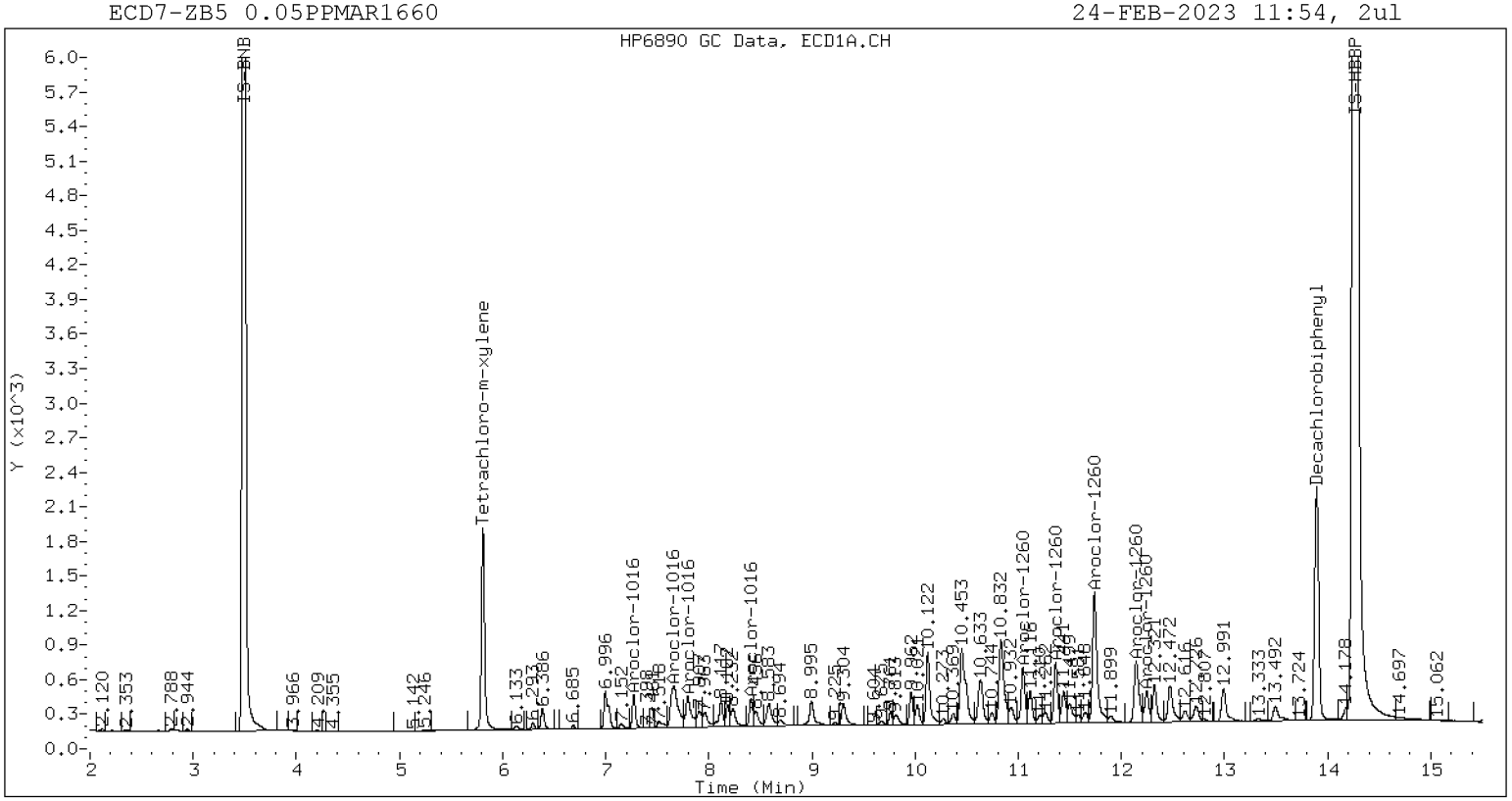
Total PCB Area Col2 (5.785 - 14.019) = 386383 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

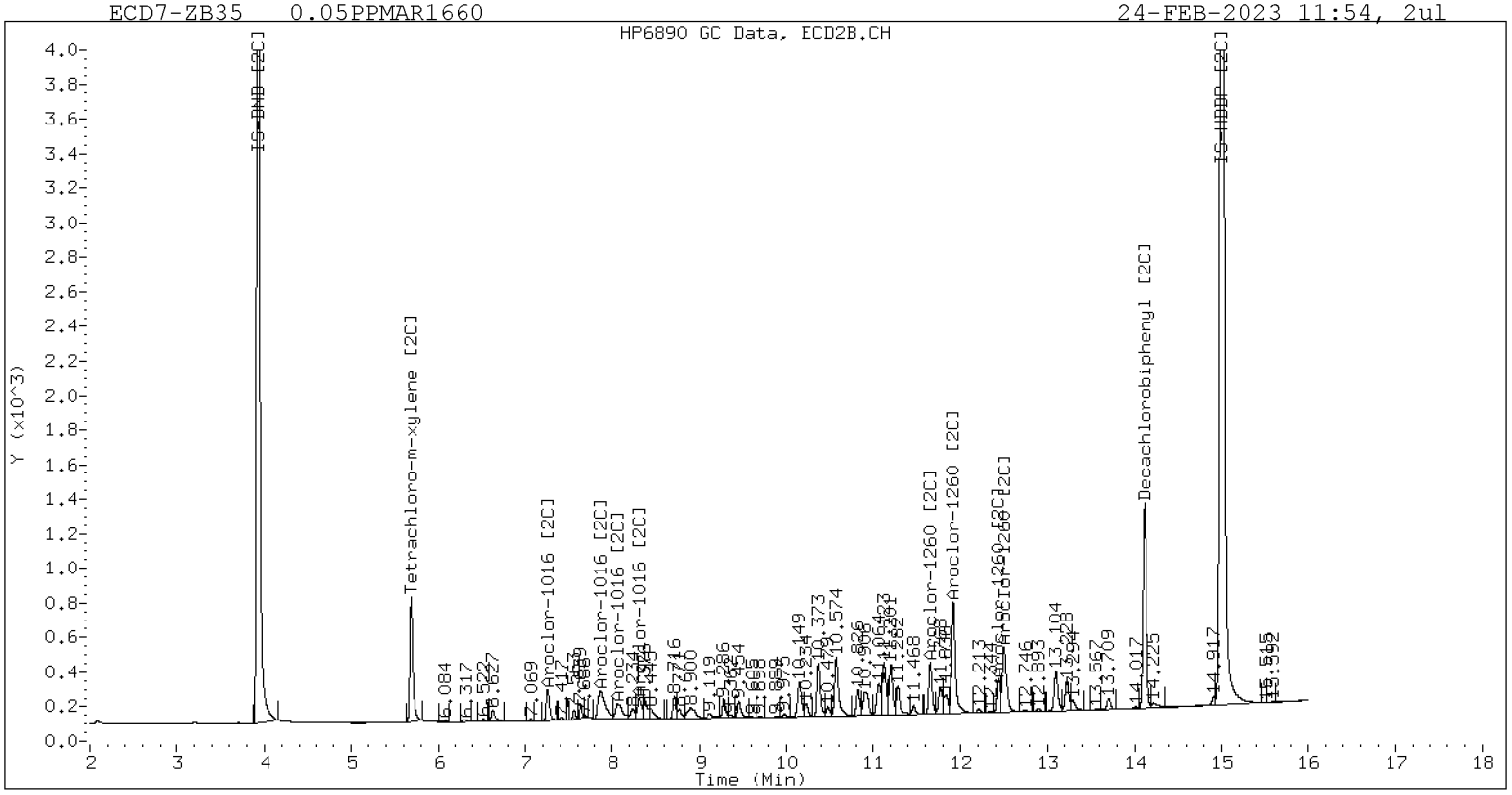
PCB Dual Column Chromatograms

ECD7-ZB5 0.05PPMAR1660 24-FEB-2023 11:54, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.05PPMAR1660 24-FEB-2023 11:54, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242305ECD7.D
Data file 2: /230224.b/230224.b/02242305ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 1.0PPMAR1660
Client ID:
Injection Date: 24-FEB-2023 12:15
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.813	0.006	1641874	5.688	0.003	709674	166.2	151.5	9.3	Tetrachloro-m-xylene
13.899	0.006	2344583	14.122	0.002	1300114	161.9	158.6	2.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	661440	-1.8
Hexabromobiphenyl	1429847	1470100	2.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	319272	1.3
Hexabromobiphenyl	513946	538138	4.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.270	-0.000	220519	877.8	1	7.254	-0.001	162833	871.2
Aroclor-1016	2	7.652	-0.002	731607	955.3	2	7.852	-0.004	373610	985.8
Aroclor-1016	3	7.789	-0.001	307629	822.8	3	8.051	-0.003	156666	915.2
Aroclor-1016	4	8.404	-0.001	229387	949.1	4	8.305	-0.002	117186	872.6
Total Col1Ave (4 peaks):					901.3	Total Col2Ave (4 peaks):				911.2
Corrected Ave (3 peaks):					883.3	Corrected Ave (3 peaks):				886.3
CalAmt %D:					-9.9	CalAmt %D:				-8.9
Aroclor-1260	1	11.044	-0.000	504641	954.2	1	11.652	-0.000	282606	893.1
Aroclor-1260	2	11.360	-0.001	524931	950.0	2	11.917	-0.000	709329	878.4
Aroclor-1260	3	11.734	-0.000	1410270	962.3	3	12.434	-0.001	215124	1003.8
Aroclor-1260	4	12.137	-0.002	720770	976.7	4	12.501	-0.001	506566	930.6
Aroclor-1260	5	12.243	-0.001	304211	957.7	NS	---			----
Total Col1Ave (5 peaks):					960.2	Total Col2Ave (4 peaks):				926.5
Corrected Ave (4 peaks):					956.0	Corrected Ave (3 peaks):				900.7
CalAmt %D:					-4.0	CalAmt %D:				-7.4

Total PCB Area Col1 (5.906 - 13.793) = 14454279 Col1 Total PCB = 1.8 ppm*

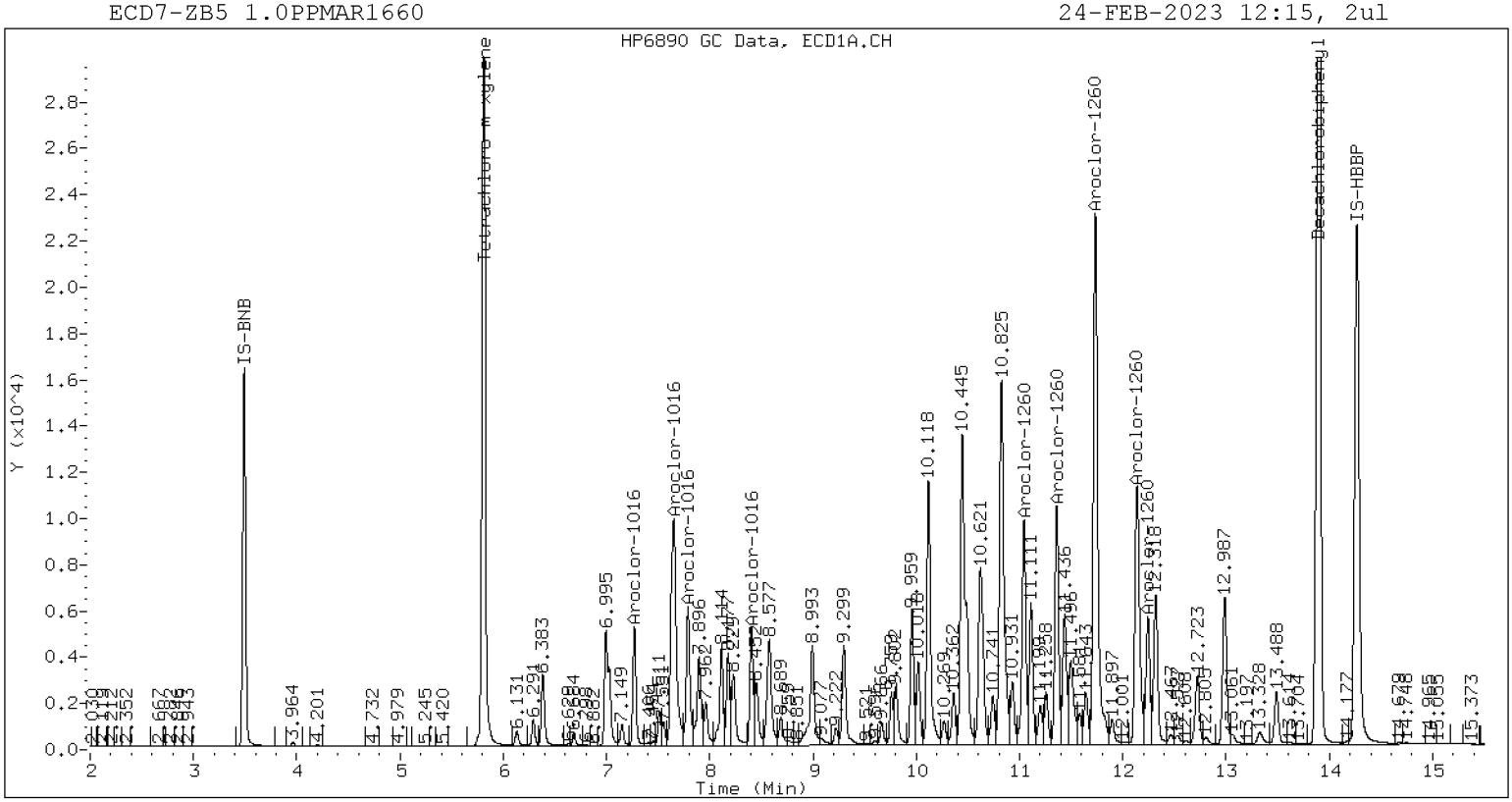
Total PCB Area Col2 (5.785 - 14.019) = 7029563 Col2 Total PCB = 1.8 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

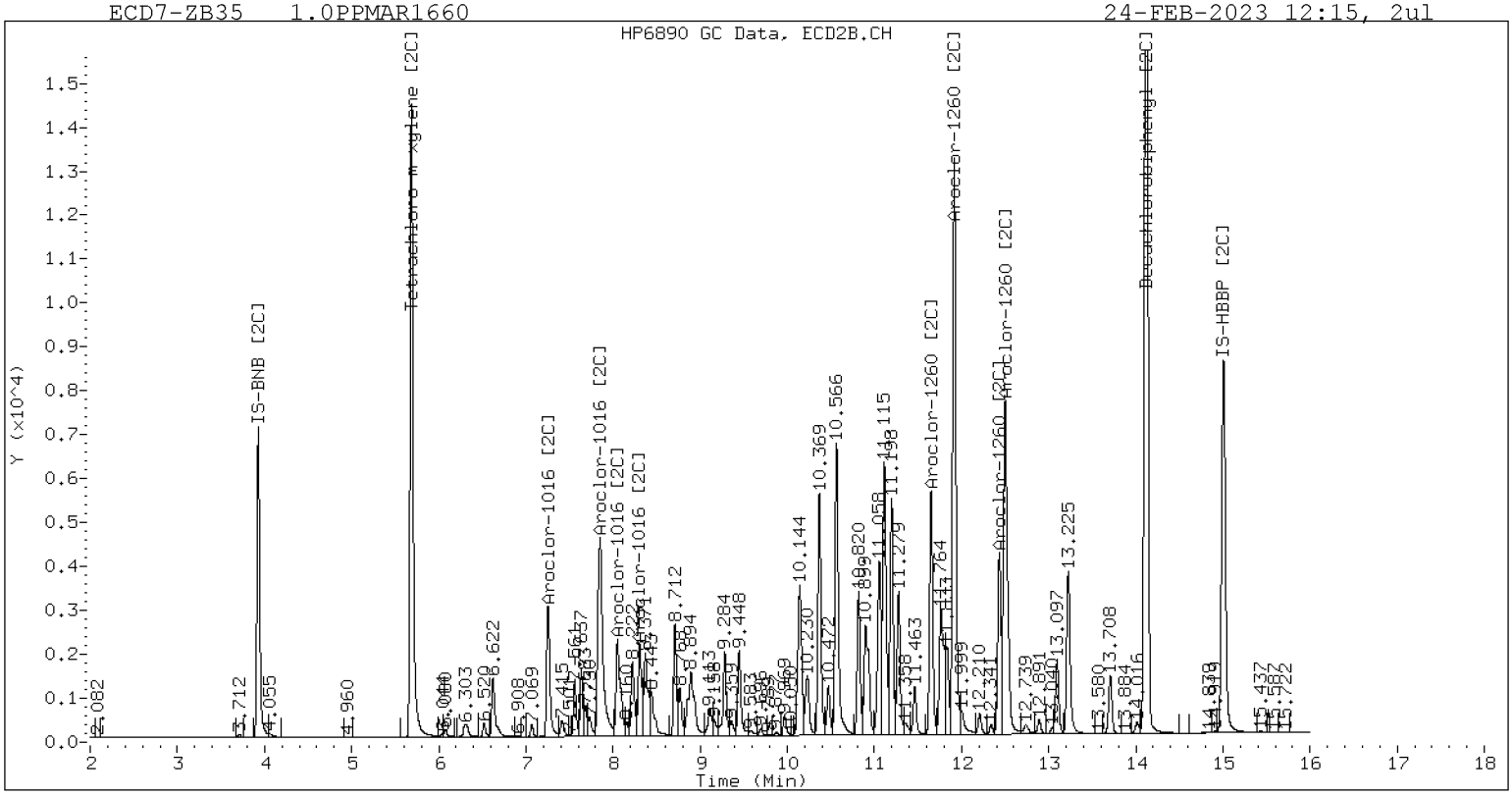
PCB Dual Column Chromatograms

ECD7-ZB5 1.0PPMAR1660 24-FEB-2023 12:15, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 1.0PPMAR1660 24-FEB-2023 12:15, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242306ECD7.D
Data file 2: /230224.b/230224.b/02242306ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.1PPMAR1660
Client ID:
Injection Date: 24-FEB-2023 12:36
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.809	0.002	155528	5.688	0.003	74628	15.9	16.0	0.9	Tetrachloro-m-xylene
13.892	-0.001	227253	14.119	-0.000	128496	15.8	15.8	0.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	655979	-2.6
Hexabromobiphenyl	1429847	1464509	2.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	317418	0.7
Hexabromobiphenyl	513946	532962	3.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.271	0.000	25761	103.4	1	7.255	-0.000	19315	103.9
Aroclor-1016	2	7.657	0.003	75616	99.6	2	7.863	0.007	40308	107.0
Aroclor-1016	3	7.794	0.004	39547	106.7	3	8.059	0.005	18304	107.6
Aroclor-1016	4	8.406	0.001	24260	101.2	4	8.309	0.002	14708	110.2
Total Col1Ave (4 peaks):					102.7	Total Col2Ave (4 peaks):				107.2 RPD = 4
Corrected Ave (3 peaks):					101.4	Corrected Ave (3 peaks):				106.2 RPD = 5
CalAmt %D:					2.7	CalAmt %D:				7.2
Aroclor-1260	1	11.045	0.000	52009	98.7	1	11.655	0.002	31282	99.8
Aroclor-1260	2	11.362	0.001	55116	100.1	2	11.920	0.003	80574	100.7
Aroclor-1260	3	11.738	0.004	145604	99.7	3	12.437	0.002	19566	92.2
Aroclor-1260	4	12.141	0.002	72408	98.5	4	12.503	0.001	53588	99.4
Aroclor-1260	5	12.245	0.001	30745	97.2	NS	---			----
Total Col1Ave (5 peaks):					98.8	Total Col2Ave (4 peaks):				98.0 RPD = 1
Corrected Ave (4 peaks):					98.5	Corrected Ave (3 peaks):				97.1 RPD = 1
CalAmt %D:					-1.2	CalAmt %D:				-2.0

Total PCB Area Col1 (5.906 - 13.793) = 1555762 Col1 Total PCB = 0.2 ppm*

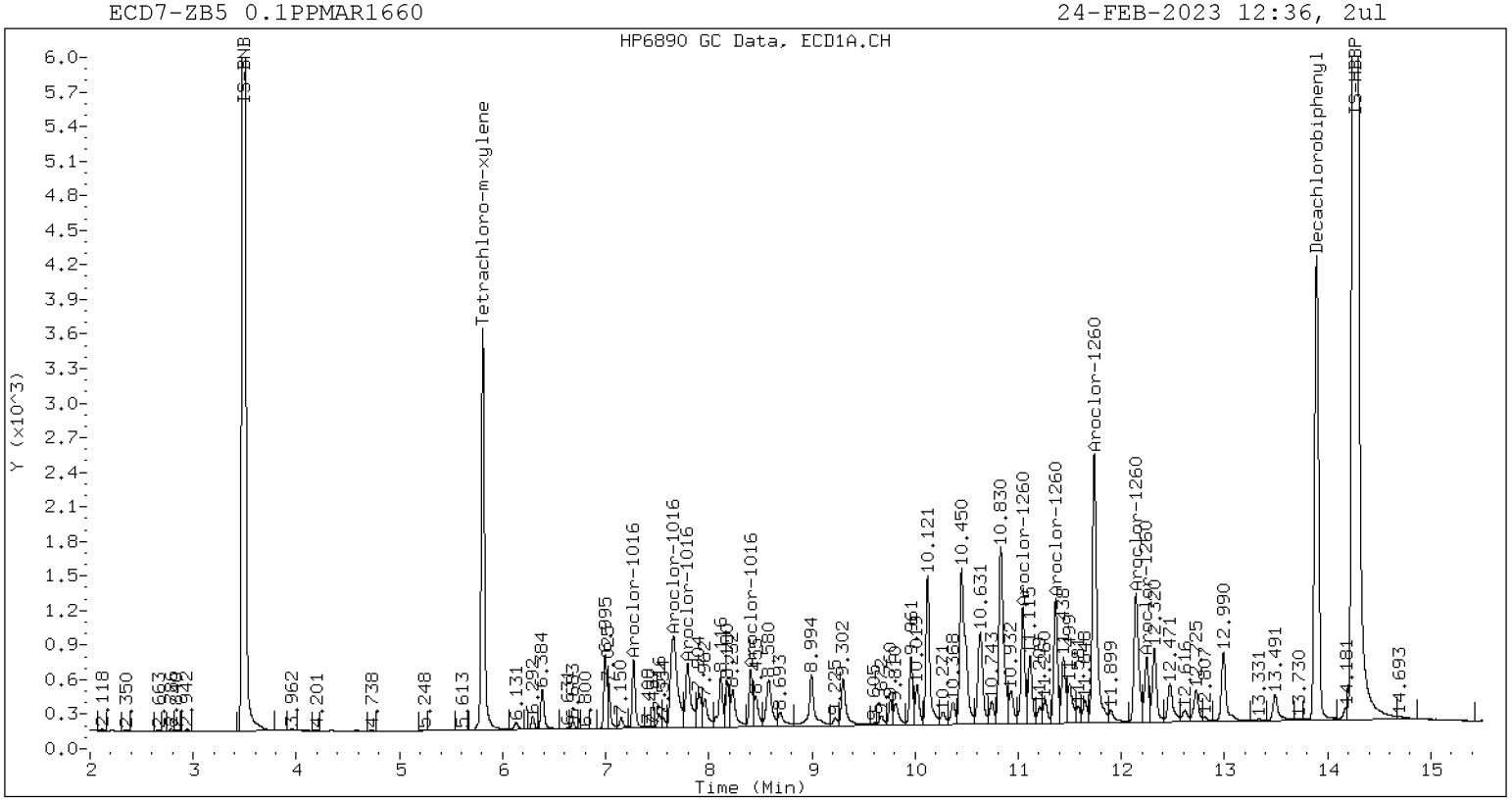
Total PCB Area Col2 (5.785 - 14.019) = 764924 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

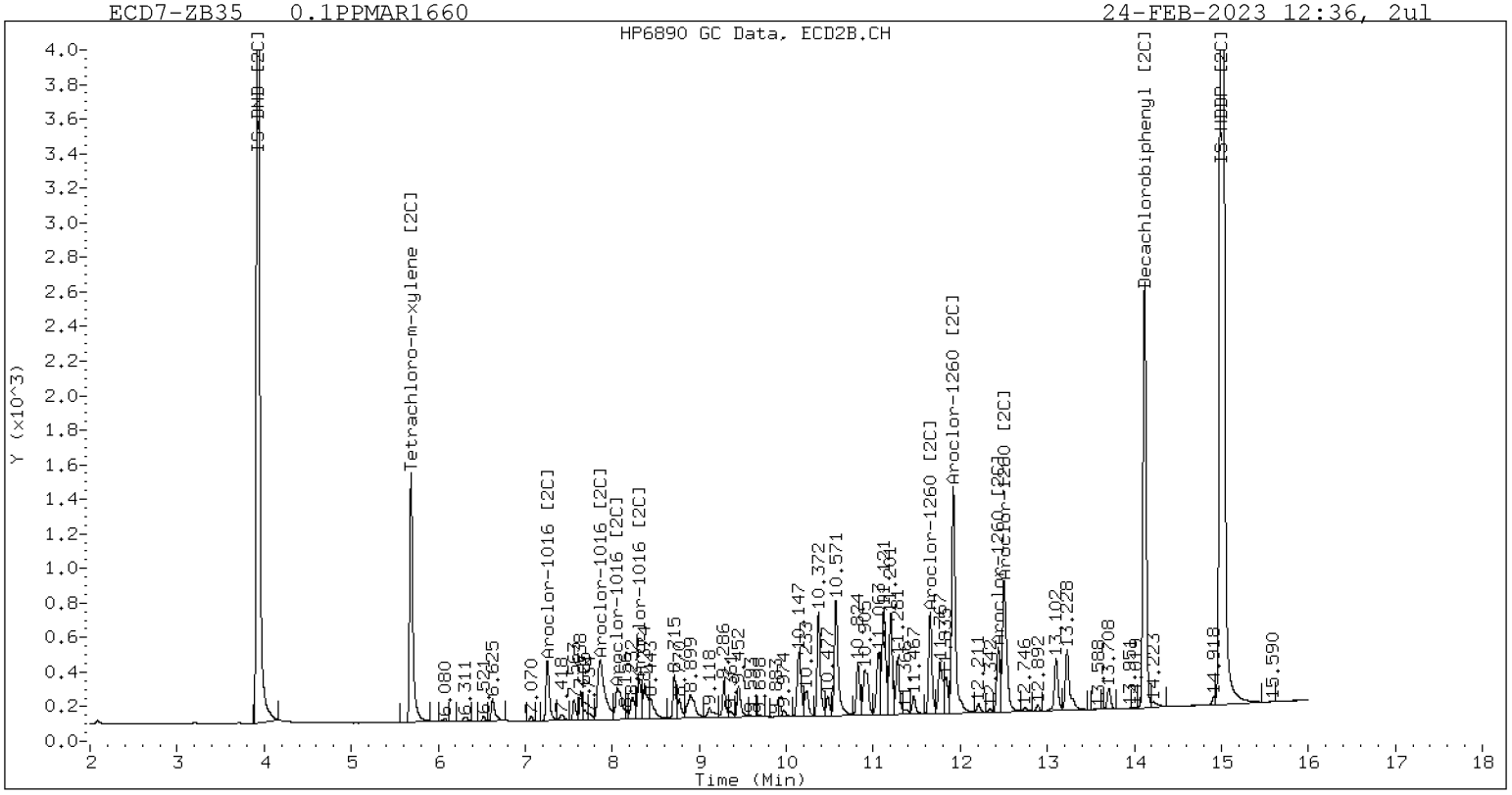
PCB Dual Column Chromatograms

ECD7-ZB5 0.1PPMAR1660 24-FEB-2023 12:36, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.1PPMAR1660 24-FEB-2023 12:36, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242307ECD7.D
Data file 2: /230224.b/230224.b/02242307ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.5PPMAR1660
Client ID:
Injection Date: 24-FEB-2023 12:57
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.810	0.004	724614	5.688	0.003	359257	75.2	76.7	2.0	Tetrachloro-m-xylene
13.898	0.005	1056911	14.120	0.000	650153	74.3	79.5	6.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	645275	-4.2
Hexabromobiphenyl	1429847	1445345	1.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	319170	1.2
Hexabromobiphenyl	513946	536853	4.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.270	0.000	115193	470.0	1	7.256	0.000	86287	461.8
Aroclor-1016	2	7.654	0.000	369991	495.2	2	7.856	0.000	192524	508.1
Aroclor-1016	3	7.790	0.000	160952	441.3	3	8.055	0.000	81039	473.6
Aroclor-1016	4	8.405	0.000	115032	487.9	4	8.307	0.000	62136	462.8
Total Col1Ave (4 peaks):					473.6	Total Col2Ave (4 peaks):				476.6 RPD = 1
Corrected Ave (3 peaks):					466.4	Corrected Ave (3 peaks):				466.1 RPD = 0
CalAmt %D:					-5.3	CalAmt %D:				-4.7
Aroclor-1260	1	11.044	0.000	247212	475.5	1	11.653	0.000	145247	460.1
Aroclor-1260	2	11.361	0.000	262877	483.9	2	11.918	0.000	379838	471.5
Aroclor-1260	3	11.734	0.000	678830	471.1	3	12.436	0.000	104092	486.9
Aroclor-1260	4	12.139	0.000	356067	490.7	4	12.502	0.000	258953	476.9
Aroclor-1260	5	12.244	0.000	150280	481.2	NS	---			----
Total Col1Ave (5 peaks):					480.5	Total Col2Ave (4 peaks):				473.8 RPD = 1
Corrected Ave (4 peaks):					477.9	Corrected Ave (3 peaks):				469.5 RPD = 2
CalAmt %D:					-3.9	CalAmt %D:				-5.2

Total PCB Area Col1 (5.906 - 13.793) = 7134169 Col1 Total PCB = 0.9 ppm*

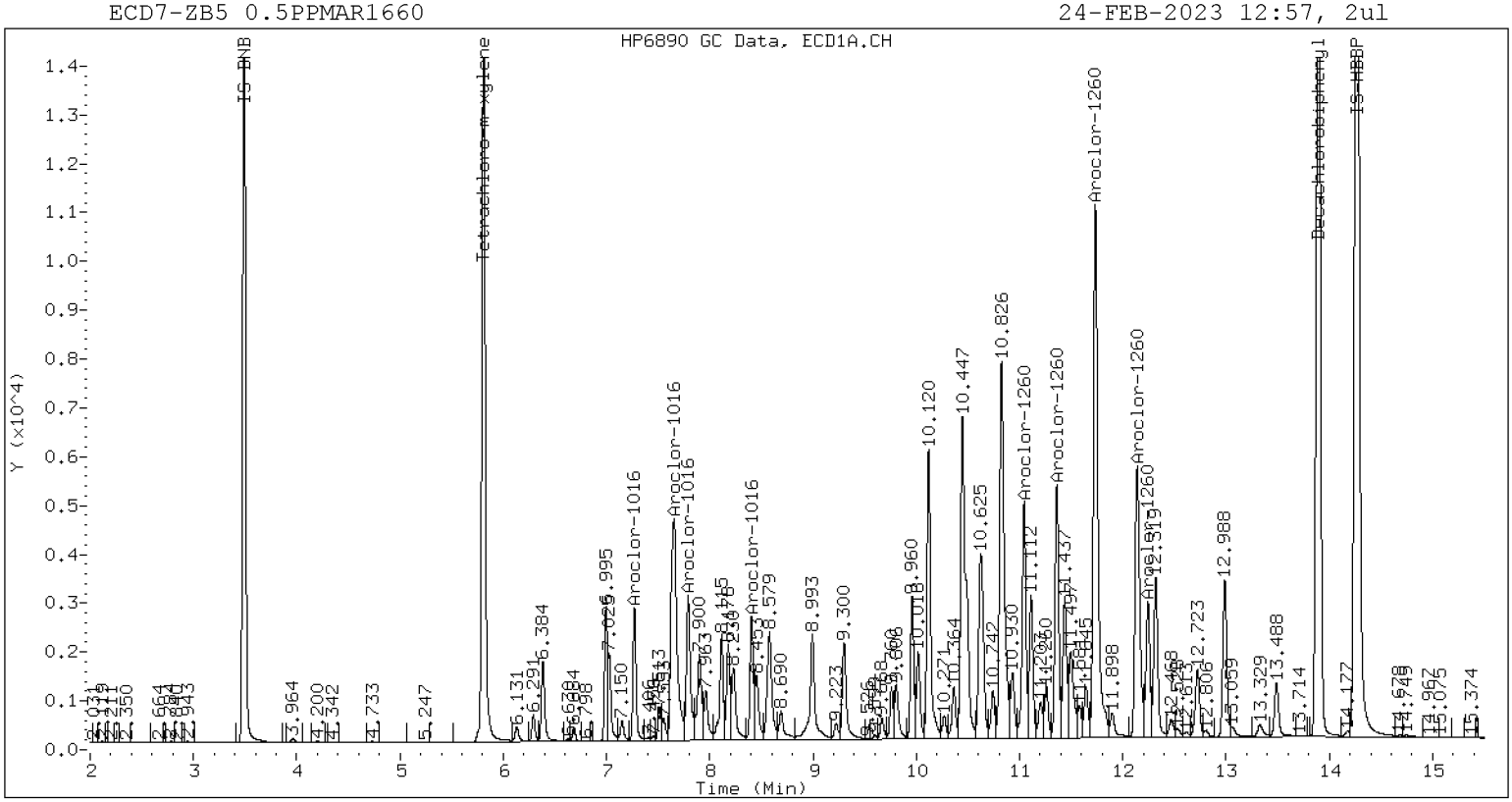
Total PCB Area Col2 (5.785 - 14.019) = 3589735 Col2 Total PCB = 0.9 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

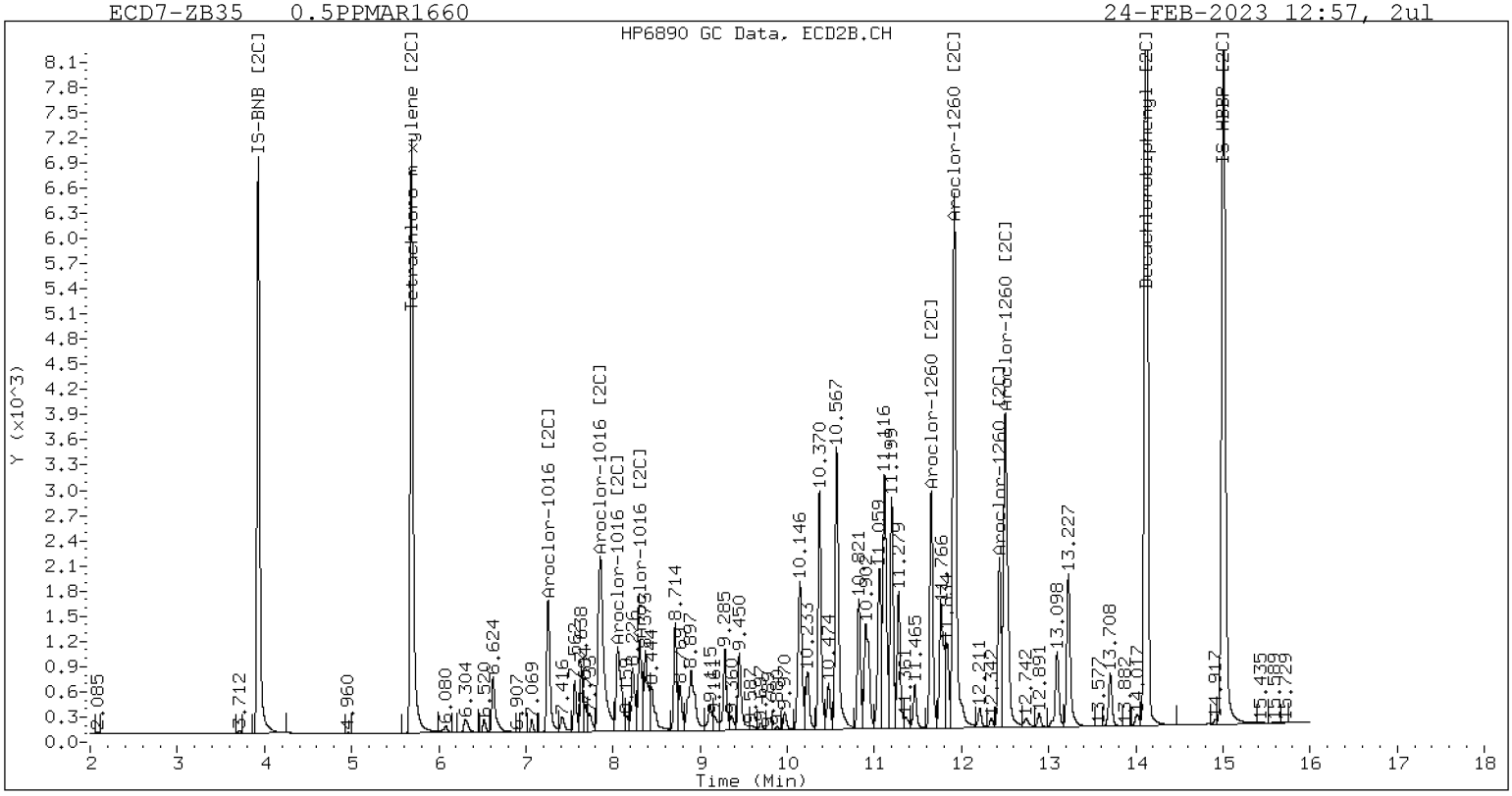
PCB Dual Column Chromatograms

ECD7-ZB5 0.5PPMAR1660 24-FEB-2023 12:57, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.5PPMAR1660 24-FEB-2023 12:57, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242308ECD7.D
Data file 2: /230224.b/230224.b/02242308ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1242.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR1242
Client ID:
Injection Date: 24-FEB-2023 13:18
Report Date: 02/28/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.809	0.003	434187	5.688	0.003	214306	46.0	46.5	1.1	Tetrachloro-m-xylene
13.894	0.000	515867	14.119	-0.001	312943	35.6	38.5	7.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	632576	-6.1
Hexabromobiphenyl	1429847	1469715	2.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	314129	-0.4
Hexabromobiphenyl	513946	534294	4.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1242	1	7.271	0.000	49009	250.0	1	7.255	0.000	36487	250.0
Aroclor-1242	2	7.656	0.000	148833	250.0	2	7.858	0.000	76699	250.0
Aroclor-1242	3	8.405	0.000	46308	250.0	3	9.167	0.000	23866	250.0
Aroclor-1242	4	8.579	0.000	68453	250.0	4	9.597	0.000	29080	250.0
Total Col1Ave (4 peaks):					250.0	Total Col2Ave (4 peaks):				250.0 RPD = 0
Corrected Ave (3 peaks):					250.0	Corrected Ave (3 peaks):				250.0 RPD = 0

Total PCB Area Col1 (5.906 - 13.793) = 1221467 Col1 Total PCB = 0.2 ppm*

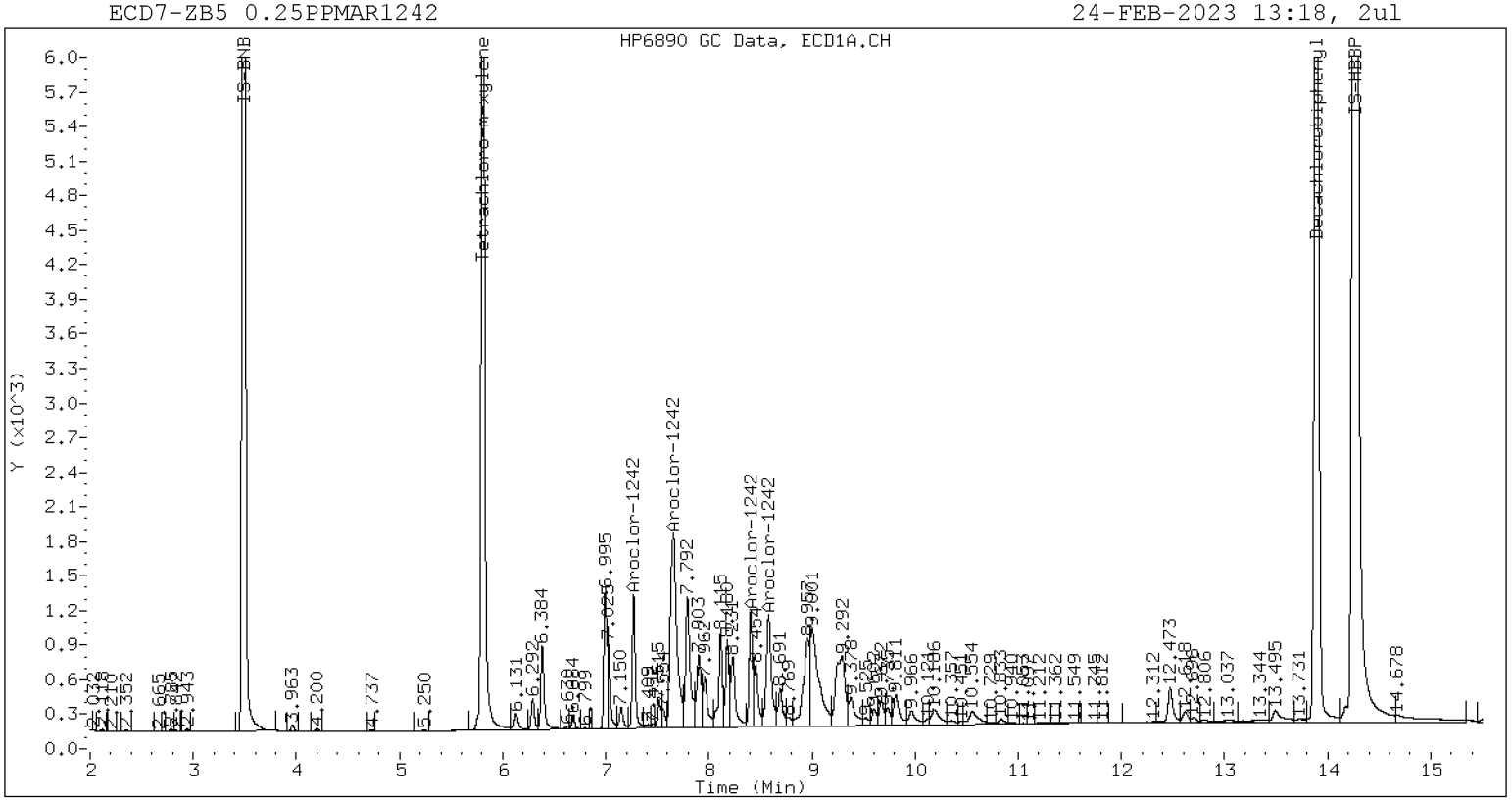
Total PCB Area Col2 (5.785 - 14.019) = 572067 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

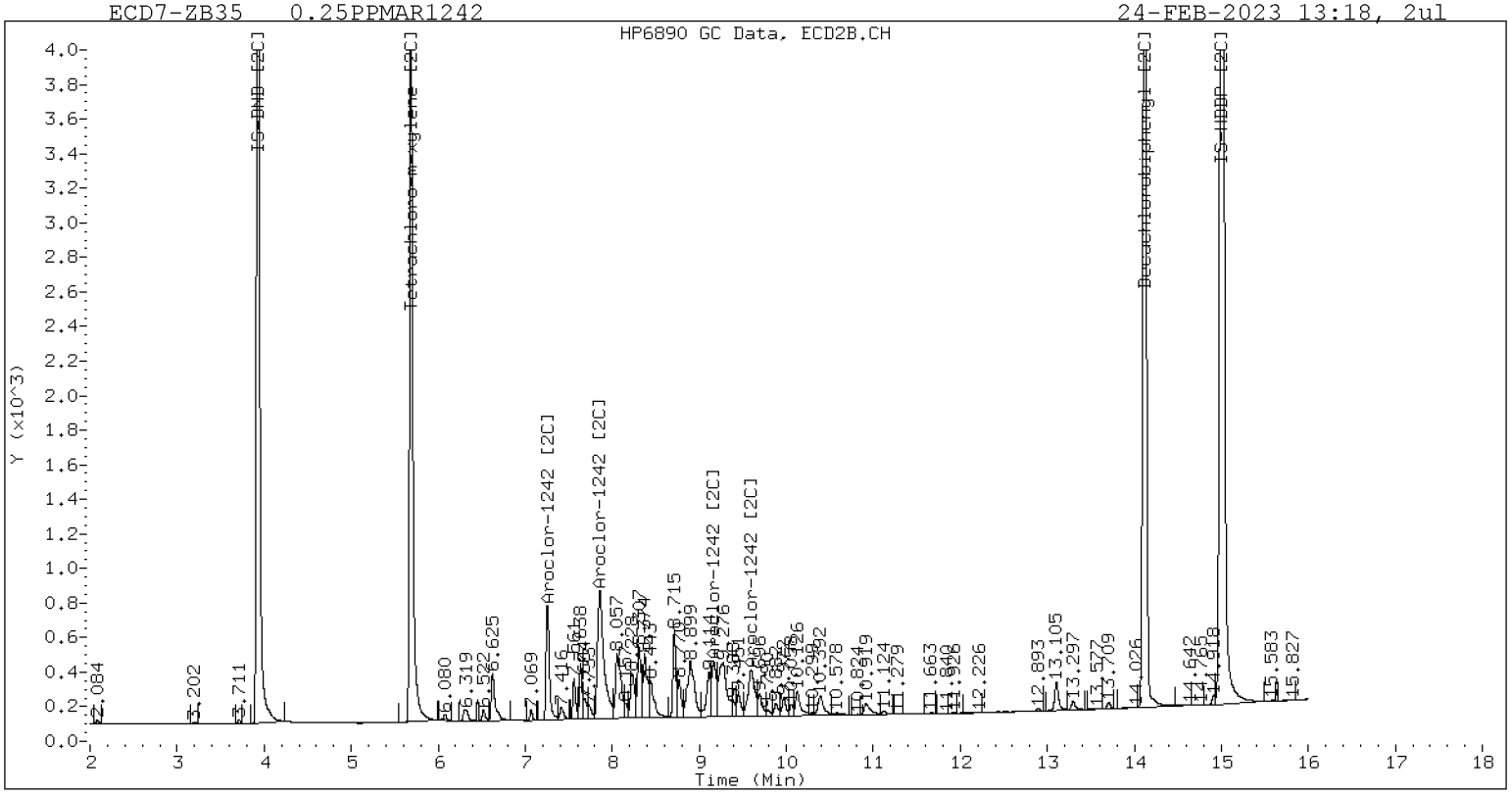
PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR1242 24-FEB-2023 13:18, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR1242 24-FEB-2023 13:18, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242309ECD7.D
Data file 2: /230224.b/230224.b/02242309ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR1248
Client ID:
Injection Date: 24-FEB-2023 13:39
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.809	0.003	349513	5.688	0.003	176615	36.6	37.9	3.4	Tetrachloro-m-xylene
13.894	0.001	523008	14.121	0.001	322054	36.4	39.3	7.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	639911	-5.0
Hexabromobiphenyl	1429847	1458696	2.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	317938	0.9
Hexabromobiphenyl	513946	538760	4.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1248	1	8.405	0.000	78055	250.0	1	8.308	0.000	37951	250.0
Aroclor-1248	2	8.580	0.000	99216	250.0	2	8.714	0.000	39239	250.0
Aroclor-1248	3	8.999	0.000	187178	250.0	3	9.166	0.000	45157	250.0
Aroclor-1248	4	9.295	0.000	95291	250.0	4	9.590	0.000	54216	250.0
Total Col1Ave (4 peaks):					250.0	Total Col2Ave (4 peaks):				250.0 RPD = 0
Corrected Ave (3 peaks):					250.0	Corrected Ave (3 peaks):				250.0 RPD = 0

Total PCB Area Col1 (5.906 - 13.793) = 1565180 Col1 Total PCB = 0.2 ppm*

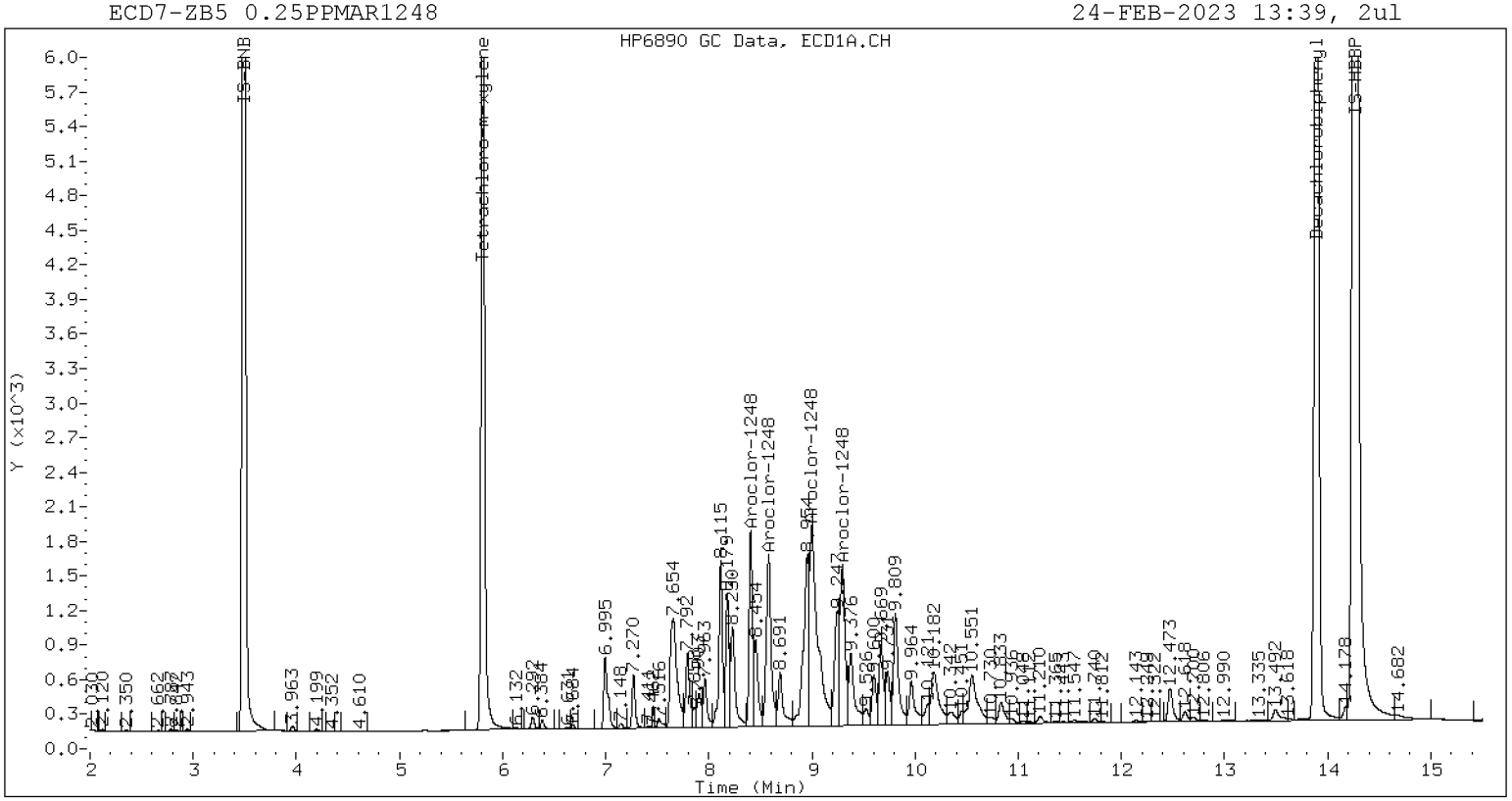
Total PCB Area Col2 (5.785 - 14.019) = 754991 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

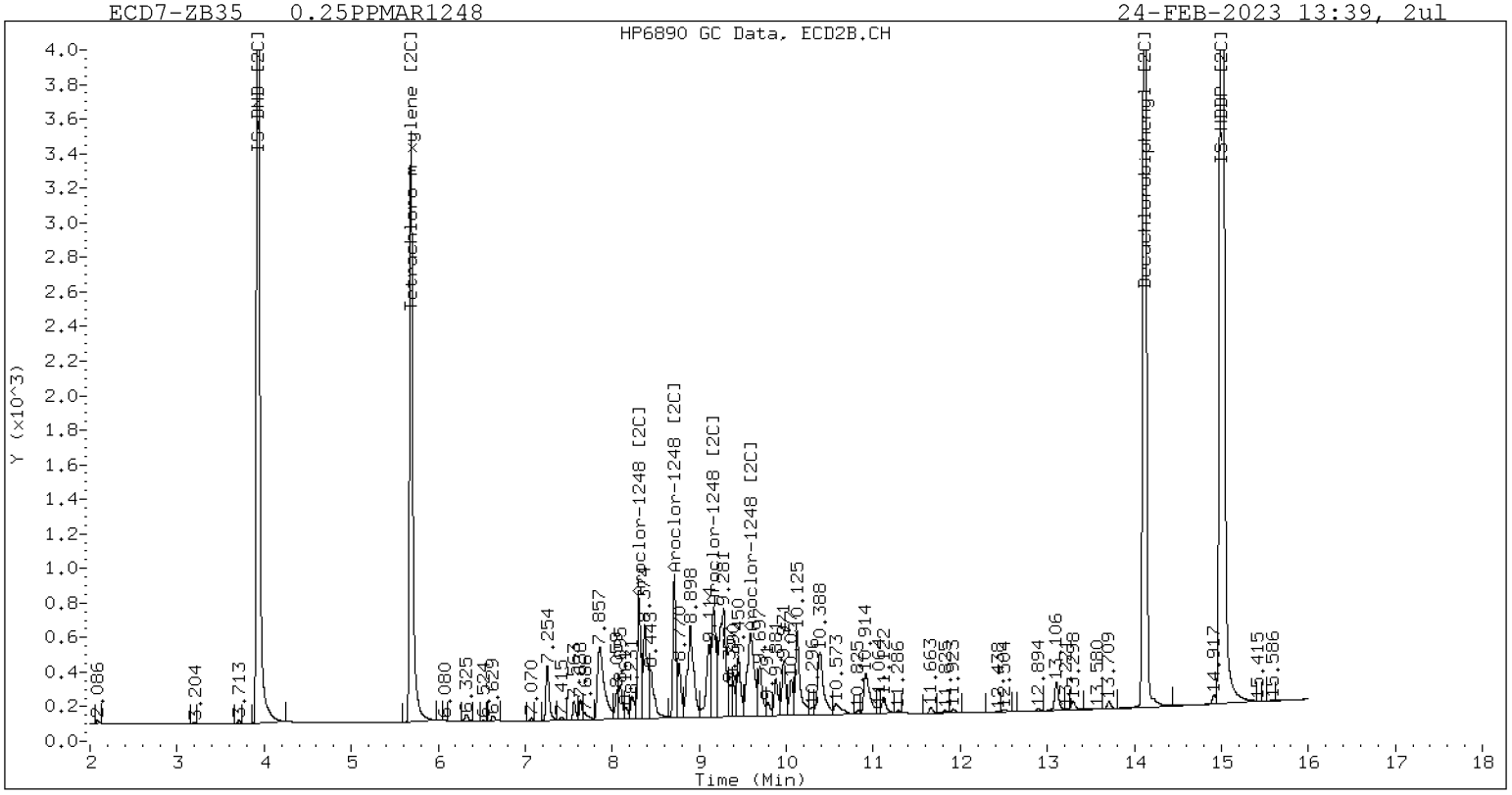
PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR1248 24-FEB-2023 13:39, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR1248 24-FEB-2023 13:39, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242310ECD7.D
Data file 2: /230224.b/230224.b/02242310ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR1254
Client ID:
Injection Date: 24-FEB-2023 14:00
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.808	0.002	352587	5.687	0.002	177502	37.3	38.6	3.4	Tetrachloro-m-xylene
13.895	0.002	532500	14.119	0.000	325903	37.0	40.2	8.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	633407	-6.0
Hexabromobiphenyl	1429847	1460265	2.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	313673	-0.5
Hexabromobiphenyl	513946	532442	3.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col					ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1254	1	9.299	0.000	159011	250.0	1	9.449	0.000	59603	250.0
Aroclor-1254	2	9.377	0.000	71516	250.0	2	9.970	0.000	47949	250.0
Aroclor-1254	3	9.668	0.000	102230	250.0	3	10.124	0.000	103745	250.0
Aroclor-1254	4	9.807	0.000	198777	250.0	4	10.373	0.000	101135	250.0
Aroclor-1254	5	10.176	0.000	124586	250.0	5	10.569	0.000	61577	250.0

Total Col1Ave (5 peaks): 250.0 Total Col2Ave (5 peaks): 250.0 RPD = 0

Corrected Ave (4 peaks): 250.0 Corrected Ave (4 peaks): 250.0 RPD = 0

Total PCB Area Col1 (5.906 - 13.793) = 2179224 Col1 Total PCB = 0.3 ppm*

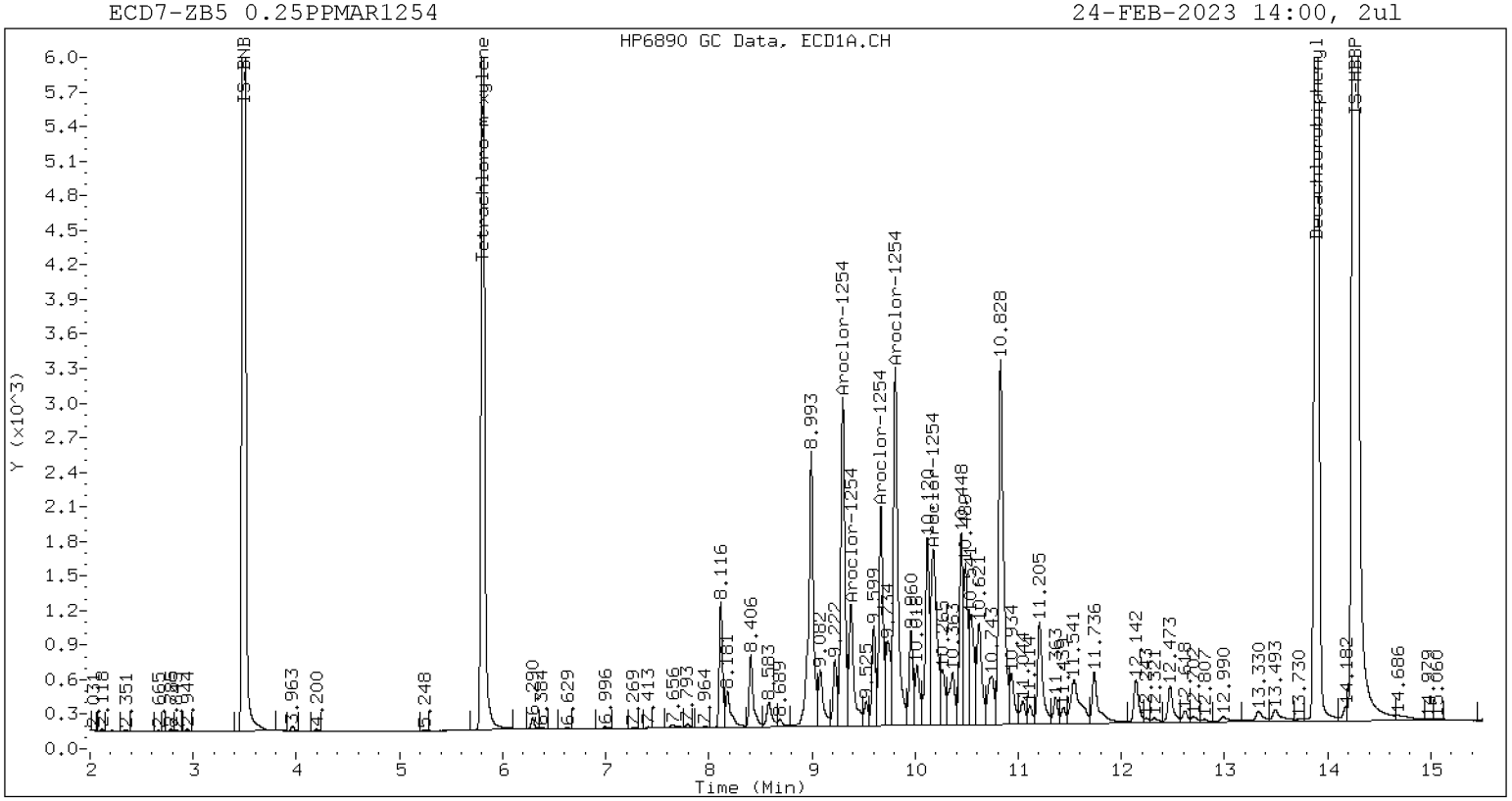
Total PCB Area Col2 (5.785 - 14.019) = 1022156 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

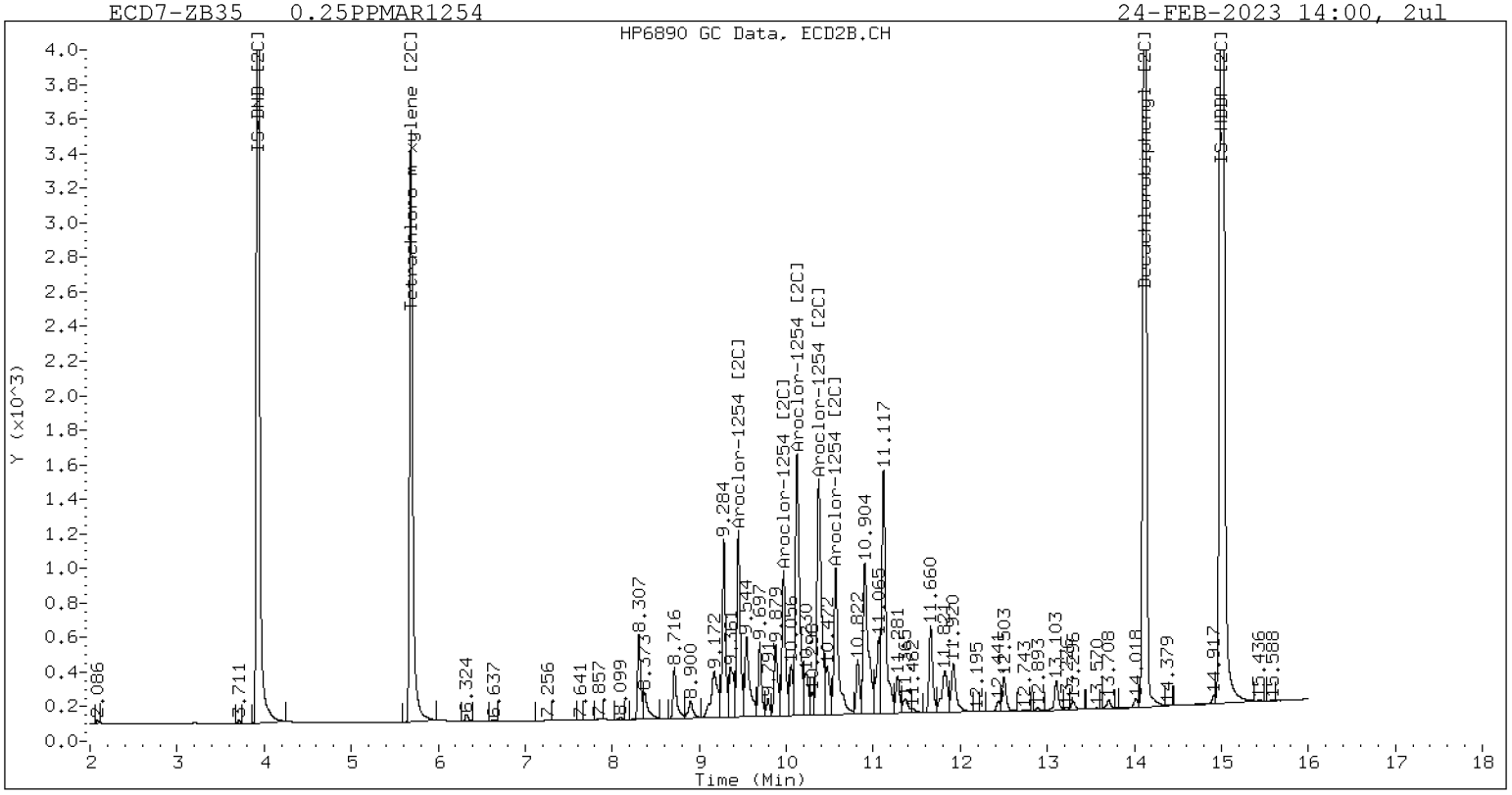
PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR1254 24-FEB-2023 14:00, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR1254 24-FEB-2023 14:00, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242311ECD7.D
Data file 2: /230224.b/230224.b/02242311ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR2162.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR2162
Client ID:
Injection Date: 24-FEB-2023 14:21
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.807	0.001	362236	5.686	0.000	177349	38.4	39.2	2.1	Tetrachloro-m-xylene
13.894	0.001	523254	14.119	-0.000	321034	36.0	39.2	8.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	632433	-6.1
Hexabromobiphenyl	1429847	1474039	3.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	308453	-2.2
Hexabromobiphenyl	513946	538177	4.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1221	1	4.731	0.000	14160	250.0	1	4.956	0.000	7300	250.0
Aroclor-1221	2	6.132	0.000	25324	250.0	2	6.296	0.000	13816	250.0
Aroclor-1221	3	6.382	0.000	58795	250.0	3	6.622	0.000	22491	250.0
Total Col1Ave (3 peaks):					250.0	Total Col2Ave (3 peaks):				250.0 RPD = 0
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1262	1	10.829	0.000	113046	250.0	1	11.200	0.000	114880	250.0
Aroclor-1262	2	12.244	0.000	183948	250.0	2	11.652	0.000	97844	250.0
Aroclor-1262	3	12.319	0.000	197749	250.0	3	12.434	0.000	111015	250.0
Aroclor-1262	4	12.987	0.000	180727	250.0	4	12.502	0.000	173913	250.0
Total Col1Ave (4 peaks):					250.0	Total Col2Ave (4 peaks):				250.0 RPD = 0
Corrected Ave (3 peaks):					250.0	Corrected Ave (3 peaks):				250.0 RPD = 0

Total PCB Area Col1 (5.906 - 13.793) = 3105316 Col1 Total PCB = 0.4 ppm*

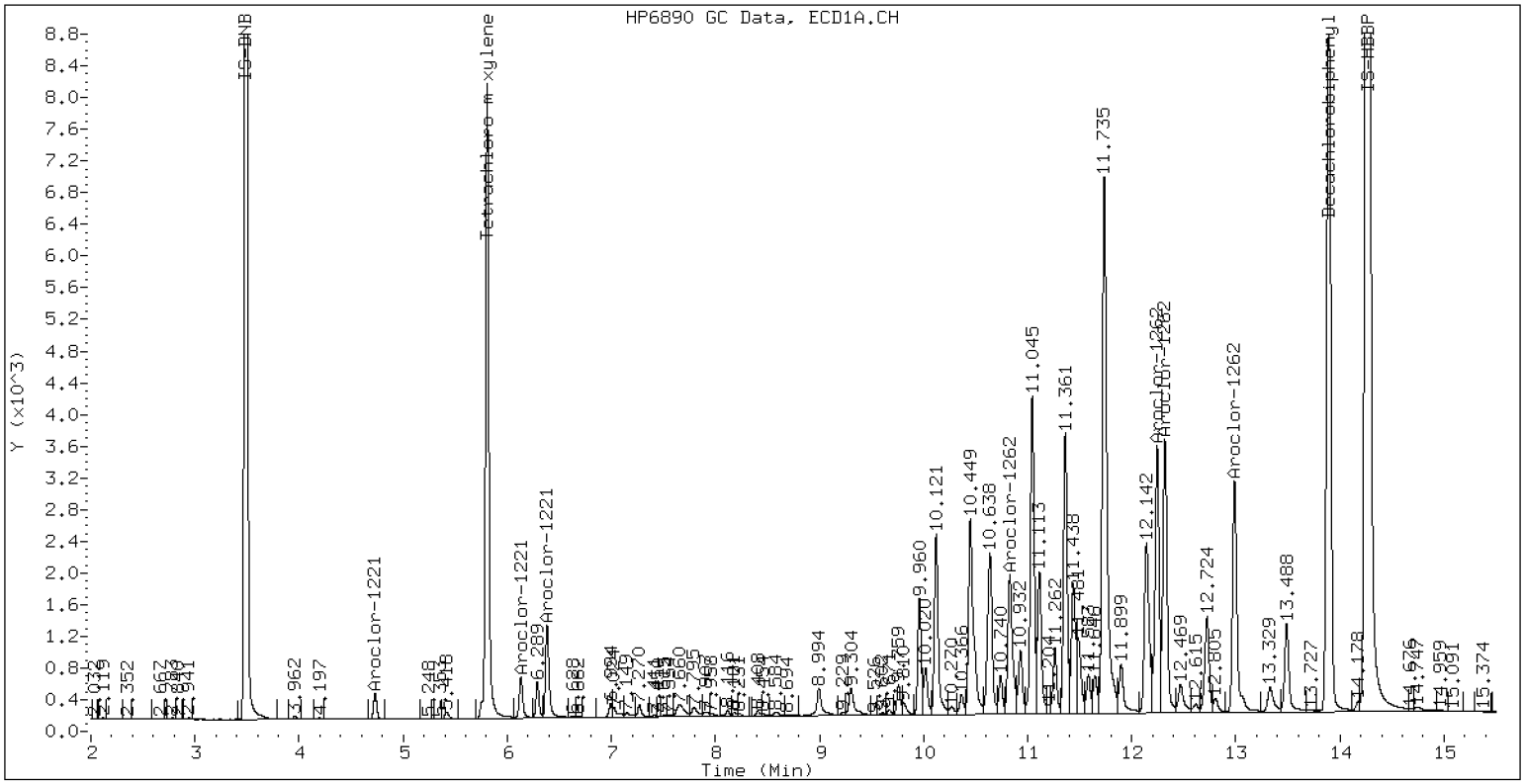
Total PCB Area Col2 (5.785 - 14.019) = 1573107 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

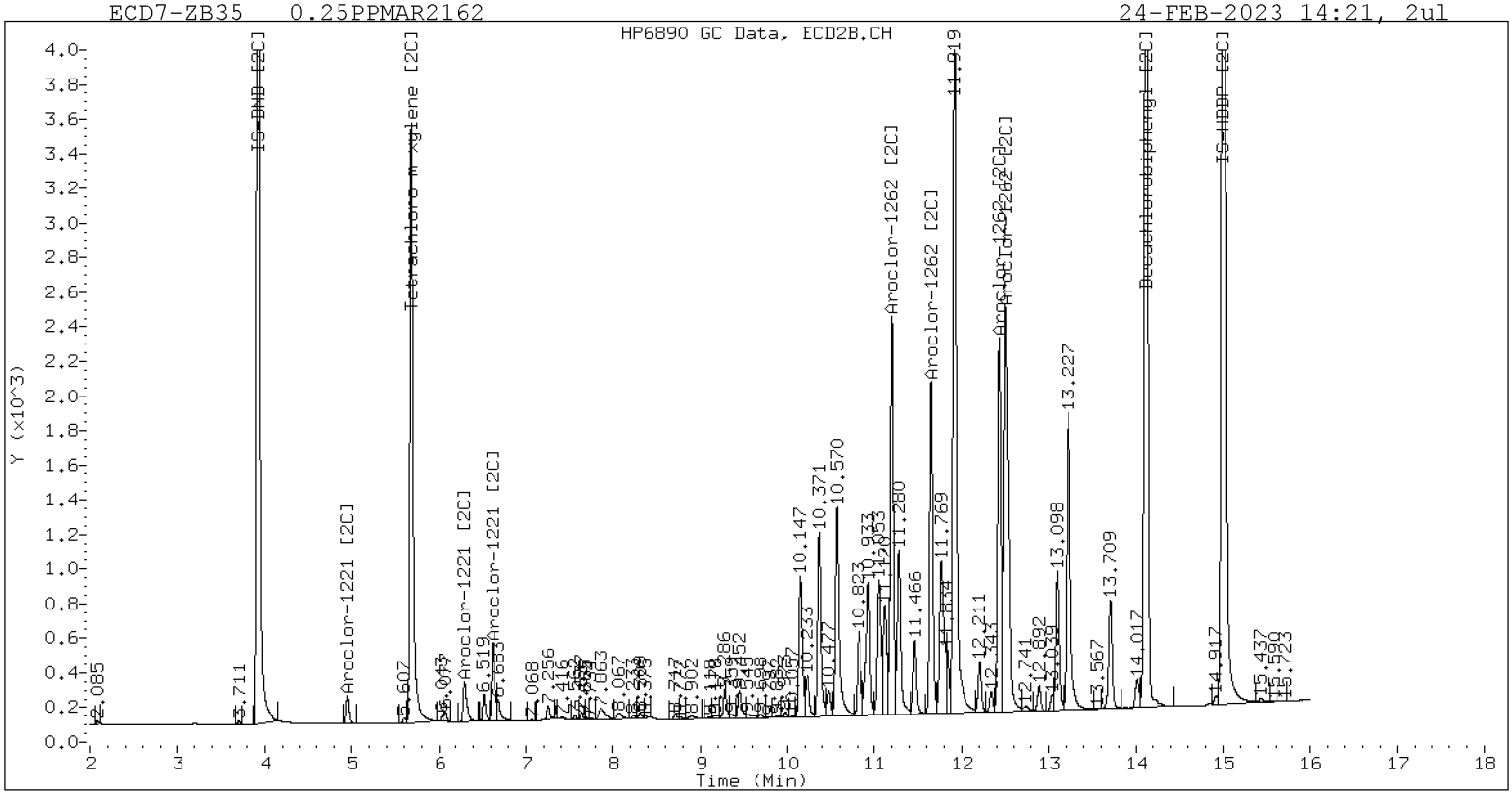
PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR2162 24-FEB-2023 14:21, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR2162 24-FEB-2023 14:21, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242312ECD7.D
Data file 2: /230224.b/230224.b/02242312ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: AR3268.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 0.25PPMAR3268
Client ID:
Injection Date: 24-FEB-2023 14:42
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.806	0.000	366416	5.685	0.000	179450	38.0	38.9	2.4	Tetrachloro-m-xylene
13.893	0.000	778191	14.119	0.000	477889	53.0	57.5	8.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	645602	-4.2
Hexabromobiphenyl	1429847	1492154	4.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	314042	-0.4
Hexabromobiphenyl	513946	545458	6.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1232	1	4.730	0.000	8647	250.0	1	4.956	0.000	4017	250.0
Aroclor-1232	2	6.131	0.000	17148	250.0	2	7.254	0.000	19962	250.0
Aroclor-1232	3	7.656	0.000	77627	250.0	3	7.861	0.000	39913	250.0
Aroclor-1232	4	8.581	0.000	32993	250.0	4	8.715	0.000	11487	250.0
Total Col1Ave (4 peaks):					250.0	Total Col2Ave (4 peaks):				250.0 RPD = 0
Corrected Ave (3 peaks):					250.0	Corrected Ave (3 peaks):				250.0 RPD = 0
Aroclor-1268	1	12.247	0.000	477974	250.0	1	12.432	0.000	274595	250.0
Aroclor-1268	2	12.317	0.000	473326	250.0	2	12.500	0.000	295194	250.0
Aroclor-1268	3	12.699	0.000	405011	250.0	3	12.892	0.000	252048	250.0
Aroclor-1268	4	13.490	0.000	1333528	250.0	4	13.709	0.000	805579	250.0
Total Col1Ave (4 peaks):					250.0	Total Col2Ave (4 peaks):				250.0 RPD = 0
Corrected Ave (3 peaks):					250.0	Corrected Ave (3 peaks):				250.0 RPD = 0

Total PCB Area Col1 (5.906 - 13.793) = 3998414 Col1 Total PCB = 0.5 ppm*

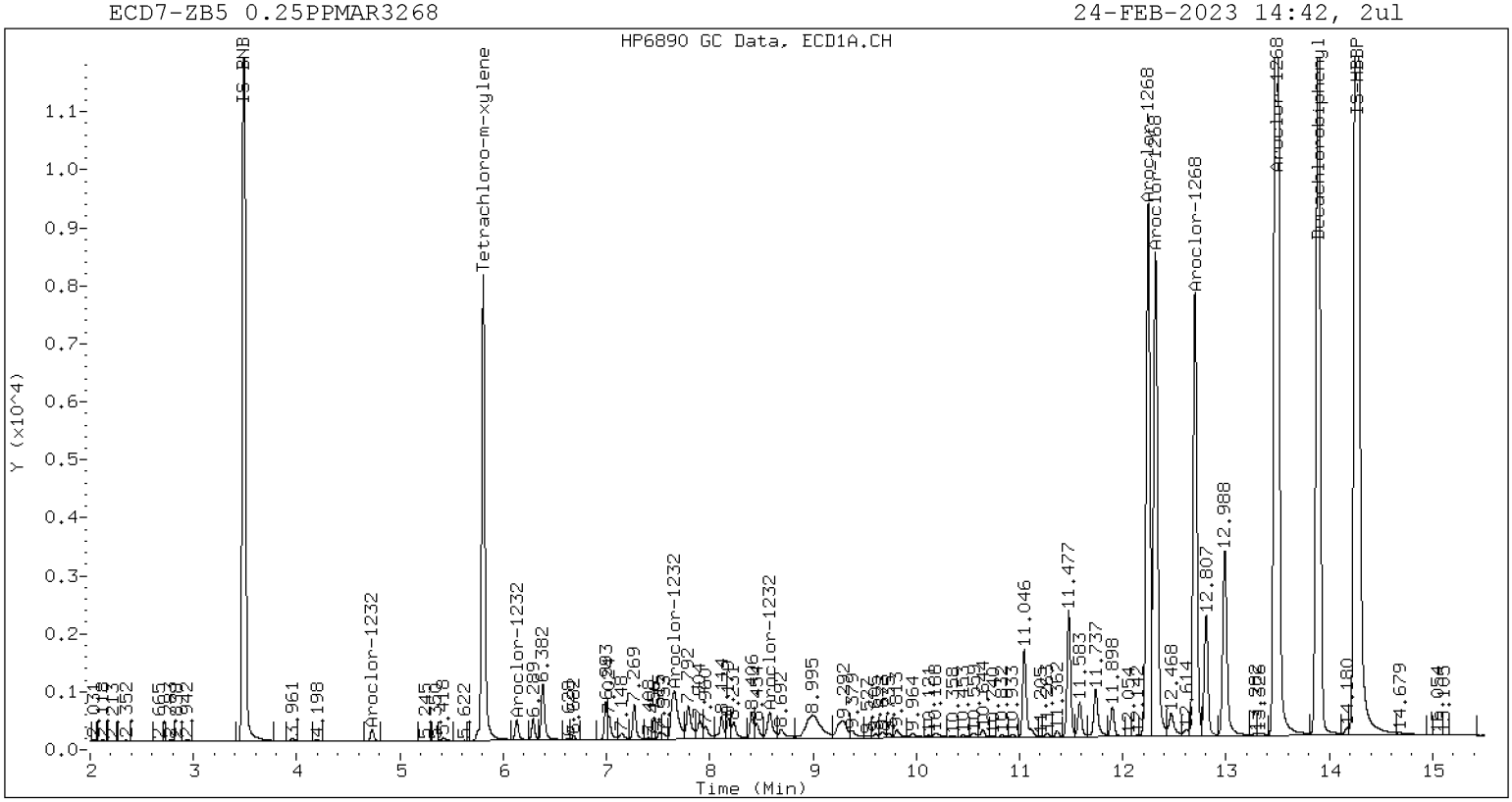
Total PCB Area Col2 (5.785 - 14.019) = 2300029 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

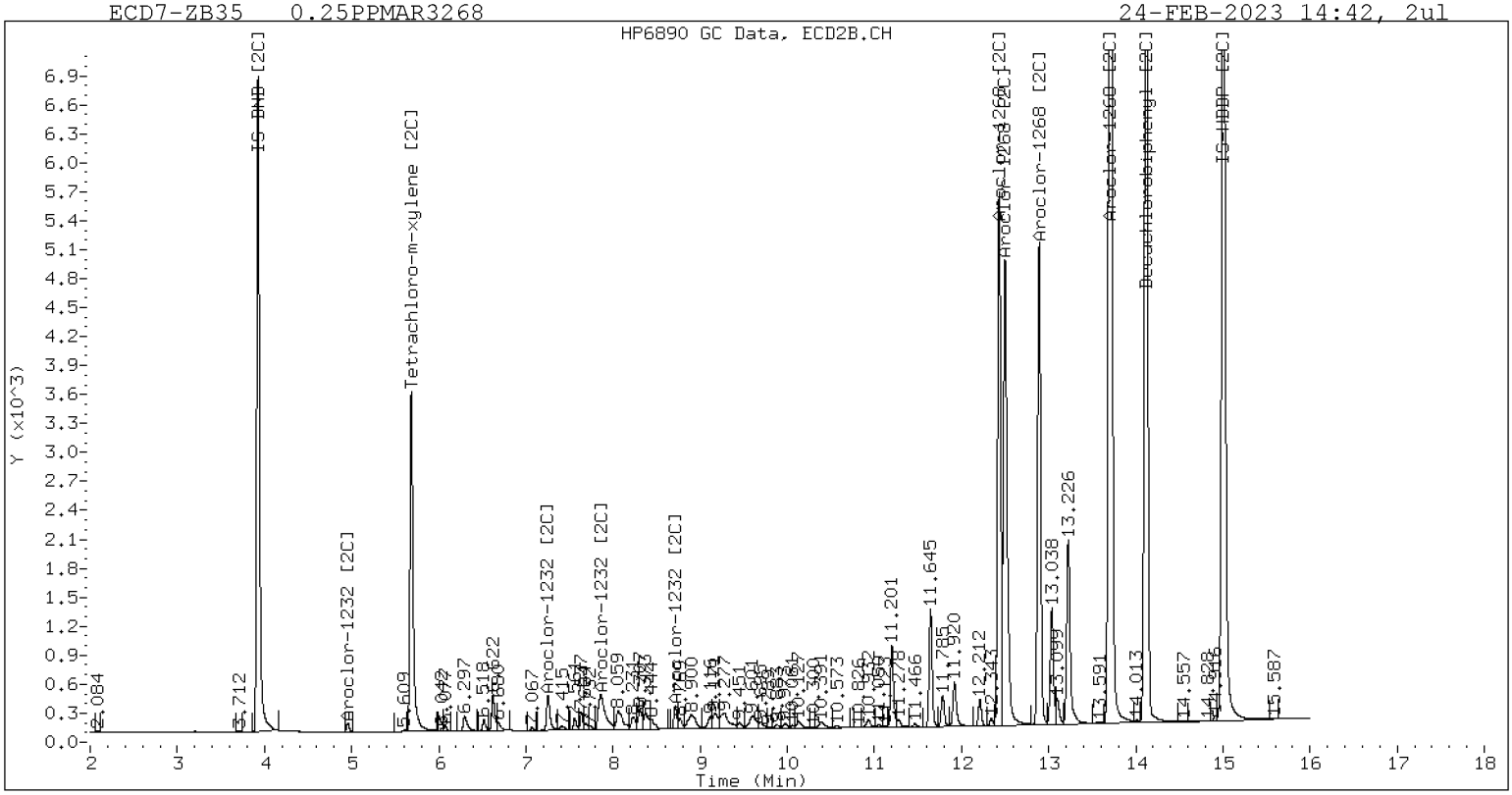
PCB Dual Column Chromatograms

ECD7-ZB5 0.25PPMAR3268 24-FEB-2023 14:42, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 0.25PPMAR3268 24-FEB-2023 14:42, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242313ECD7.D
Data file 2: /230224.b/230224.b/02242313ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660SCV
Client ID:
Injection Date: 24-FEB-2023 15:03
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.807	0.001	337070	5.686	0.001	165848	34.9	35.8	2.3	Tetrachloro-m-xylene
13.895	0.002	515407	14.119	-0.000	316730	34.3	37.3	8.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	645975	-4.1
Hexabromobiphenyl	1429847	1524245	6.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	316115	0.3
Hexabromobiphenyl	513946	556950	8.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.269	-0.002	59491	242.5	1	7.254	-0.002	44576	240.9
Aroclor-1016	2	7.655	0.001	181090	242.1	2	7.857	0.002	95386	254.2
Aroclor-1016	3	7.790	0.000	88470	242.3	3	8.056	0.002	42160	248.8
Aroclor-1016	4	8.404	-0.001	57980	245.6	4	8.307	0.000	32197	242.1
Total Col1Ave (4 peaks):					243.1	Total Col2Ave (4 peaks):				246.5 RPD = 1
Corrected Ave (3 peaks):					242.3	Corrected Ave (3 peaks):				243.9 RPD = 1
Aroclor-1221	1	4.731	0.000	464	8.0	1	---			0.0
Aroclor-1221	2	6.130	-0.002	9233	89.2	2	6.300	0.004	5379	95.0
Aroclor-1221	3	6.382	-0.001	42570	177.2	3	6.623	0.001	20952	227.2
Total Col1Ave (3 peaks):					91.5	Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	4.731	0.001	464	13.4	1	---			0.0
Aroclor-1232	2	6.130	-0.001	9233	134.5	2	7.254	-0.000	44576	554.6
Aroclor-1232	3	7.655	-0.001	181090	582.9	3	7.857	-0.003	95386	593.5
Aroclor-1232	4	8.580	-0.001	79916	605.2	4	8.713	-0.002	29795	644.2
Total Col1Ave (4 peaks):					334.0	Total Col2Ave (3 peaks):				597.4 RPD = 57*
Corrected Ave (3 peaks):					243.6	Corrected Ave: < 3 Peaks				
Aroclor-1242	1	7.269	-0.002	59491	297.2	1	7.254	-0.002	44576	303.5
Aroclor-1242	2	7.655	-0.001	181090	297.9	2	7.857	-0.000	95386	309.0
Aroclor-1242	3	8.404	-0.001	57980	306.5	3	9.115	-0.052	18754	195.2
Aroclor-1242	4	8.580	0.000	79916	285.8	4	9.697	0.100	1355	11.6
Total Col1Ave (4 peaks):					296.8	Total Col2Ave (4 peaks):				204.8 RPD = 37
Corrected Ave (3 peaks):					293.6	Corrected Ave (3 peaks):				170.1 RPD = 53*
Aroclor-1248	1	8.404	-0.001	57980	184.0	1	8.307	-0.001	32197	213.3
Aroclor-1248	2	8.580	-0.001	79916	199.5	2	8.713	-0.001	29795	190.9
Aroclor-1248	3	8.993	-0.006	71805	95.0	3	9.115	-0.050	18754	104.4
Aroclor-1248	4	9.300	0.006	47348	123.1	4	---			0.0
Total Col1Ave (4 peaks):					150.4	Total Col2Ave (3 peaks):				169.6 RPD = 12
Corrected Ave (3 peaks):					134.0	Corrected Ave: < 3 Peaks				
Aroclor-1254	1	9.300	0.002	47348	73.0	1	9.451	0.001	22438	93.4
Aroclor-1254	2	---			0.0	2	9.972	0.001	2694	13.9
Aroclor-1254	3	9.670	0.002	5461	13.1	3	10.147	0.024	52914	126.5
Aroclor-1254	4	9.807	-0.000	18944	23.4	4	10.370	-0.003	70430	172.8
Aroclor-1254	5	10.121	-0.056	154170	303.3	5	10.568	-0.000	98525	396.9
Total Col1Ave (4 peaks):					103.2	Total Col2Ave (5 peaks):				160.7 RPD = 44*
Corrected Ave (3 peaks):					36.5	Corrected Ave (4 peaks):				101.7 RPD = 94*
Aroclor-1260	1	11.044	0.000	149195	272.1	1	11.653	0.000	82210	251.0
Aroclor-1260	2	11.361	-0.000	153832	268.5	2	11.919	0.001	222226	265.9
Aroclor-1260	3	11.736	0.002	396660	261.0	3	12.435	-0.000	59148	266.7
Aroclor-1260	4	12.140	0.001	190448	248.9	4	12.504	0.002	147180	261.2
Aroclor-1260	5	12.244	-0.000	91385	277.5	NS	---			----
Total Col1Ave (5 peaks):					265.6	Total Col2Ave (4 peaks):				261.2 RPD = 2
Corrected Ave (4 peaks):					262.6	Corrected Ave (3 peaks):				259.4 RPD = 1
Aroclor-1262	1	10.827	-0.002	220238	471.0	1	11.199	-0.001	84479	177.6
Aroclor-1262	2	12.244	0.000	91385	120.1	2	11.653	0.002	82210	203.0
Aroclor-1262	3	12.320	0.001	113066	138.2	3	12.435	0.002	59148	128.7
Aroclor-1262	4	12.988	0.001	102156	136.7	4	12.504	0.002	147180	204.4
Total Col1Ave (4 peaks):					216.5	Total Col2Ave (4 peaks):				178.4 RPD = 19
Corrected Ave (3 peaks):					131.7	Corrected Ave (3 peaks):				169.8 RPD = 25
Aroclor-1268	1	12.244	-0.003	91385	46.8	1	12.435	0.003	59148	52.7
Aroclor-1268	2	12.320	0.003	113066	58.5	2	12.504	0.004	147180	122.1
Aroclor-1268	3	12.726	0.027	46633	28.2	3	12.893	0.001	2874	2.8
Aroclor-1268	4	13.489	-0.000	25567	4.7	4	13.709	-0.000	13041	4.0
Total Col1Ave (4 peaks):					34.5	Total Col2Ave (4 peaks):				45.4 RPD = 27
Corrected Ave (3 peaks):					26.6	Corrected Ave (3 peaks):				19.8 RPD = 29

Total PCB Area Col1 (5.906 - 13.793) = 3743076 Col1 Total PCB = 0.5 ppm*

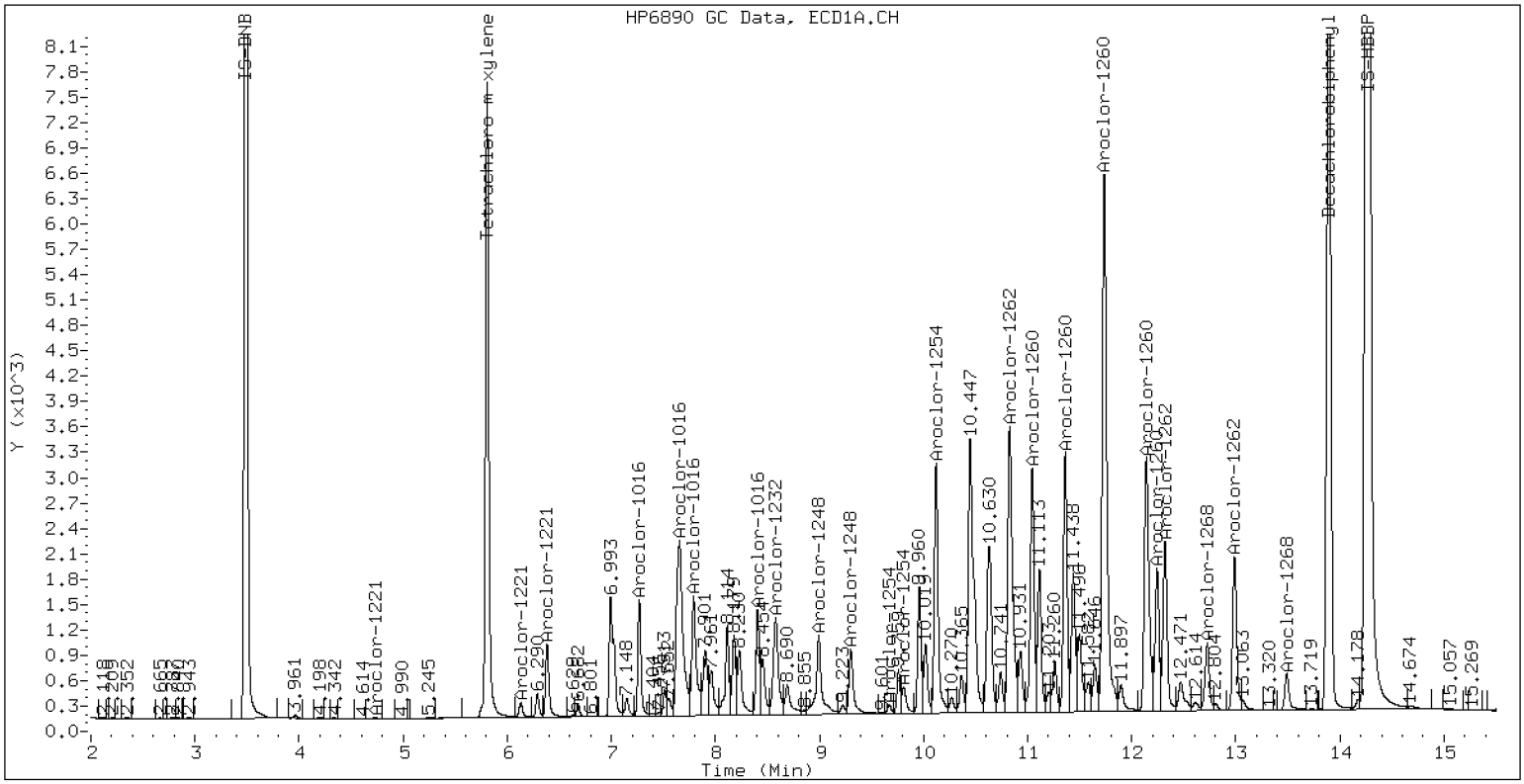
Total PCB Area Col2 (5.785 - 14.019) = 1897008 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

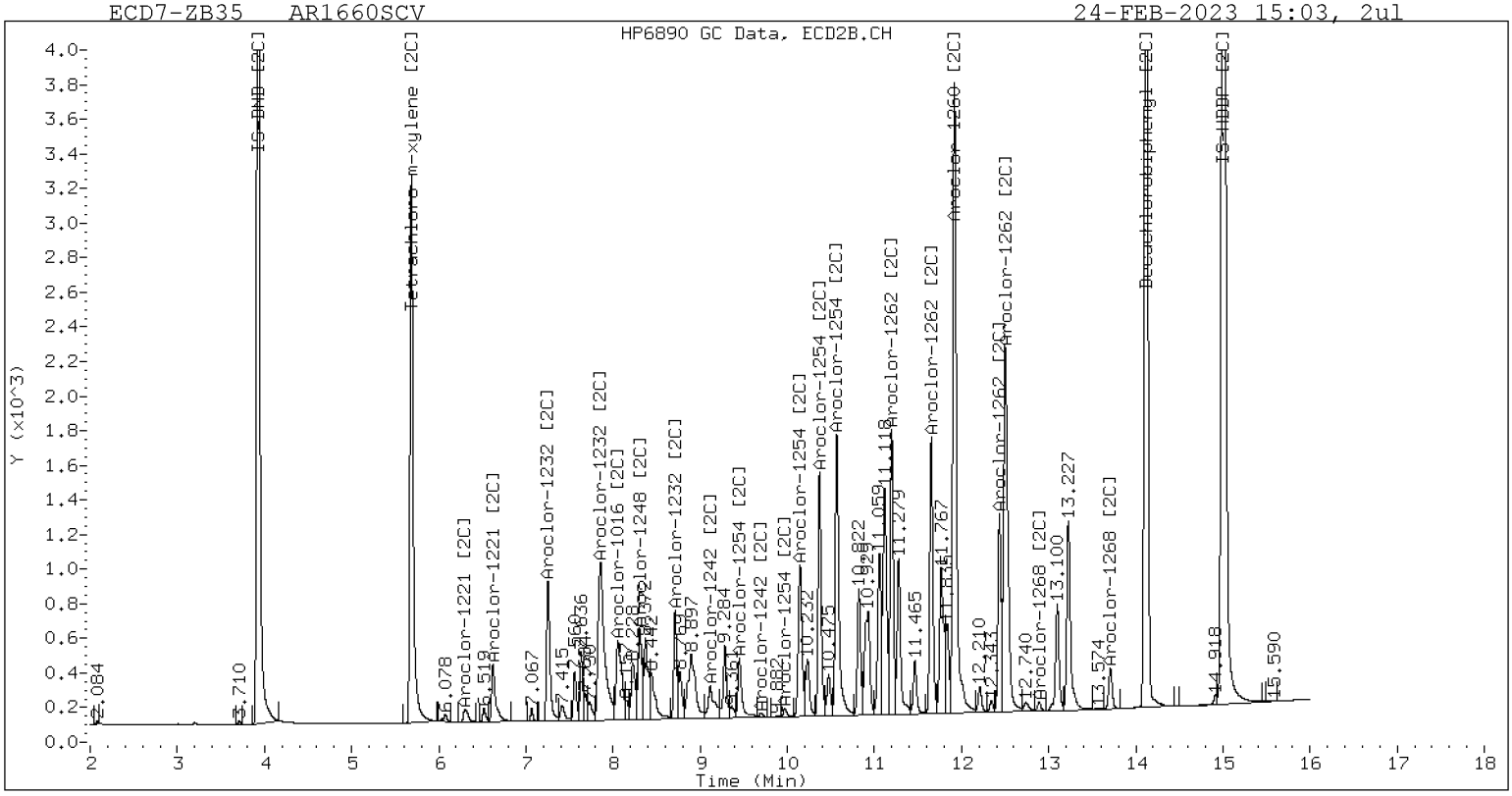
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660SCV 24-FEB-2023 15:03, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660SCV 24-FEB-2023 15:03, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242314ECD7.D
Data file 2: /230224.b/230224.b/02242314ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242SCV
Client ID:
Injection Date: 24-FEB-2023 15:24
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.808	0.002	354283	5.686	0.001	172455	33.6	34.5	2.6	Tetrachloro-m-xylene
13.895	0.002	567088	14.120	0.001	347430	37.0	40.3	8.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	705650	4.7
Hexabromobiphenyl	1429847	1555683	8.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	340433	8.0
Hexabromobiphenyl	513946	565609	10.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.270	-0.000	39927	149.0	1	7.256	0.000	32417	162.7
Aroclor-1016	2	7.653	-0.001	132339	162.0	2	7.856	0.001	69235	171.3
Aroclor-1016	3	7.791	0.001	59310	148.7	3	8.055	0.000	29473	161.5
Aroclor-1016	4	8.405	0.000	42537	165.0	4	8.307	-0.000	22792	159.2
Total Col1Ave (4 peaks): 156.2						Total Col2Ave (4 peaks): 163.7			RPD = 5	
Corrected Ave (3 peaks): 153.2						Corrected Ave (3 peaks): 161.1			RPD = 5	
Aroclor-1221	1	4.733	0.002	319	5.0	1	---			0.0
Aroclor-1221	2	6.131	-0.001	6534	57.8	2	6.319	0.022	4365	71.6
Aroclor-1221	3	6.384	0.001	29664	113.0	3	6.624	0.002	14916	150.2
Total Col1Ave (3 peaks): 58.6						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	4.733	0.003	319	8.4	1	---			0.0
Aroclor-1232	2	6.131	0.000	6534	87.2	2	7.256	0.002	32417	374.5
Aroclor-1232	3	7.653	-0.003	132339	389.9	3	7.856	-0.004	69235	400.0
Aroclor-1232	4	8.579	-0.002	69445	481.4	4	8.714	-0.001	22167	445.0
Total Col1Ave (4 peaks): 241.7						Total Col2Ave (3 peaks): 406.5			RPD = 51*	
Corrected Ave (3 peaks): 161.8						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	7.270	-0.001	39927	182.6	1	7.256	0.000	32417	205.0
Aroclor-1242	2	7.653	-0.003	132339	199.3	2	7.856	-0.002	69235	208.2
Aroclor-1242	3	8.405	-0.000	42537	205.9	3	9.164	-0.004	23068	223.0
Aroclor-1242	4	8.579	-0.000	69445	227.4	4	9.587	-0.010	31021	246.1
Total Col1Ave (4 peaks): 203.8						Total Col2Ave (4 peaks): 220.6			RPD = 8	
Corrected Ave (3 peaks): 195.9						Corrected Ave (3 peaks): 212.1			RPD = 8	
Aroclor-1248	1	8.405	0.000	42537	123.5	1	8.307	-0.001	22792	140.2
Aroclor-1248	2	8.579	-0.001	69445	158.7	2	8.714	-0.000	22167	131.9
Aroclor-1248	3	9.001	0.003	91942	111.4	3	9.164	-0.002	23068	119.3
Aroclor-1248	4	9.294	-0.000	38711	92.1	4	9.587	-0.003	31021	133.6
Total Col1Ave (4 peaks): 121.4						Total Col2Ave (4 peaks): 131.2			RPD = 8	
Corrected Ave (3 peaks): 109.0						Corrected Ave (3 peaks): 128.3			RPD = 16	
Aroclor-1254	1	9.294	-0.005	38711	54.6	1	9.450	0.001	13131	50.7
Aroclor-1254	2	9.377	-0.000	17371	54.5	2	9.970	0.000	8340	40.1
Aroclor-1254	3	9.668	-0.000	16373	35.9	3	10.123	-0.000	16364	36.3
Aroclor-1254	4	9.807	-0.001	27490	31.0	4	10.382	0.009	16062	36.6
Aroclor-1254	5	10.175	-0.001	20494	36.9	5	10.572	0.004	4818	18.0
Total Col1Ave (5 peaks): 42.6						Total Col2Ave (5 peaks): 36.4			RPD = 16	
Corrected Ave (4 peaks): 39.6						Corrected Ave (4 peaks): 32.8			RPD = 19	
Aroclor-1260	1	11.048	0.003	794	1.4	1	11.665	0.012	1652	5.0
Aroclor-1260	2	11.366	0.005	814	1.4	2	11.926	0.008	842	1.0
Aroclor-1260	3	11.739	0.006	1848	1.2	3	12.438	0.002	483	2.1
Aroclor-1260	4	12.145	0.006	1372	1.8	4	12.506	0.004	790	1.4
Aroclor-1260	5	---			0.0	NS	---			----
Total Col1Ave (4 peaks): 1.4						Total Col2Ave (4 peaks): 2.4			RPD = 49*	
Corrected Ave (3 peaks): 1.3						Corrected Ave (3 peaks): 1.5			RPD = 12	
Aroclor-1262	1	10.832	0.003	13157	27.6	1	11.121	-0.079	6113	12.7
Aroclor-1262	2	12.145	-0.098	1372	1.8	2	11.665	0.013	1652	4.0
Aroclor-1262	3	---			0.0	3	12.438	0.004	483	1.0
Aroclor-1262	4	13.038	0.051	842	1.1	4	12.506	0.004	790	1.1
Total Col1Ave (3 peaks): 10.1						Total Col2Ave (4 peaks): 4.7			RPD = 73*	
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks): 2.0				
Aroclor-1268	1	---			0.0	1	12.438	0.006	483	0.4
Aroclor-1268	2	---			0.0	2	12.506	0.006	790	0.6
Aroclor-1268	3	12.617	-0.082	5851	3.5	3	12.899	0.007	491	0.5
Aroclor-1268	4	13.500	0.010	1745	0.3	4	13.714	0.005	379	0.1
Col1Ave: <3 Quant Peaks						Col2Ave: 0.4				

Total PCB Area Col1 (5.906 - 13.793) = 1149784 Col1 Total PCB = 0.1 ppm*

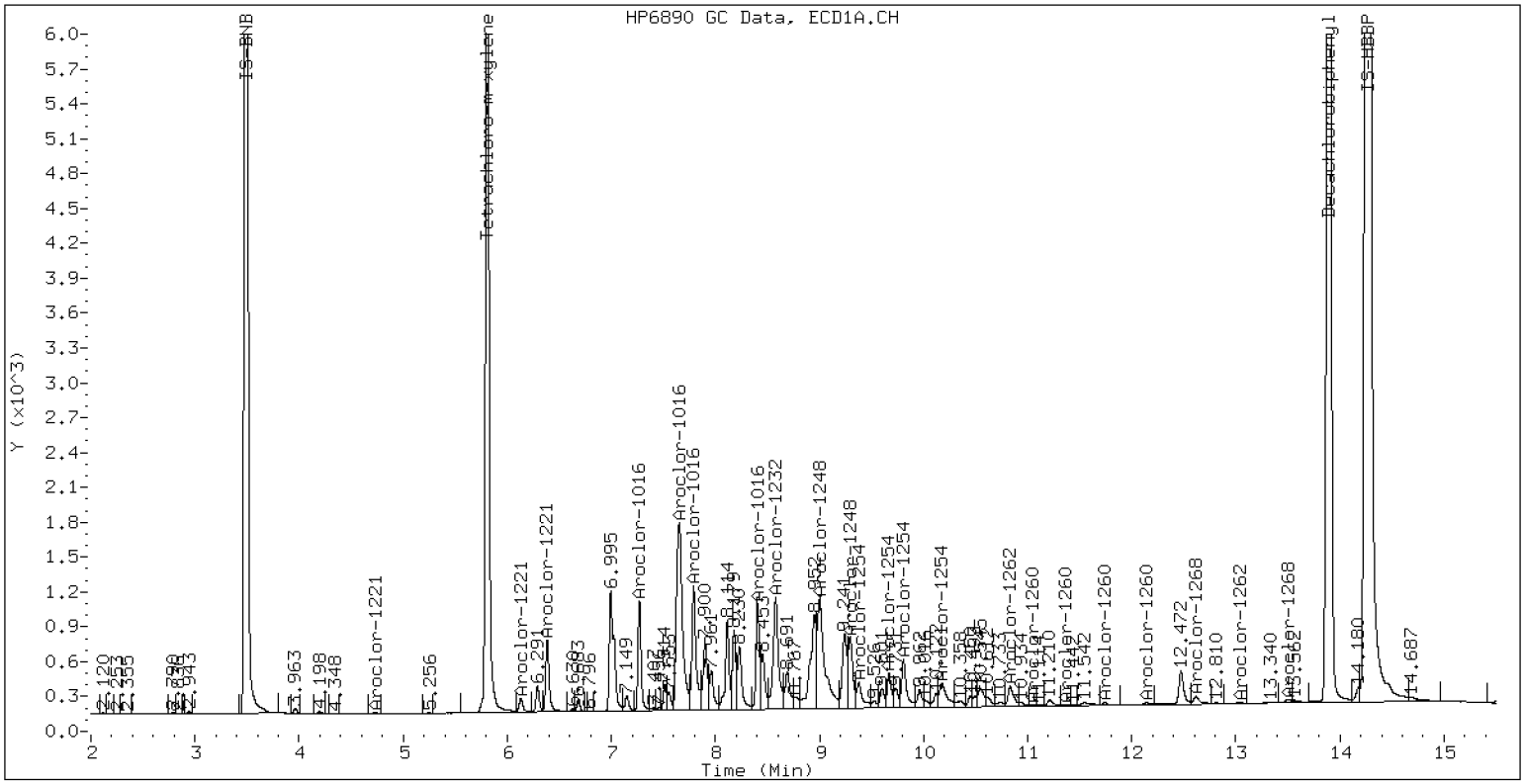
Total PCB Area Col2 (5.785 - 14.019) = 572210 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

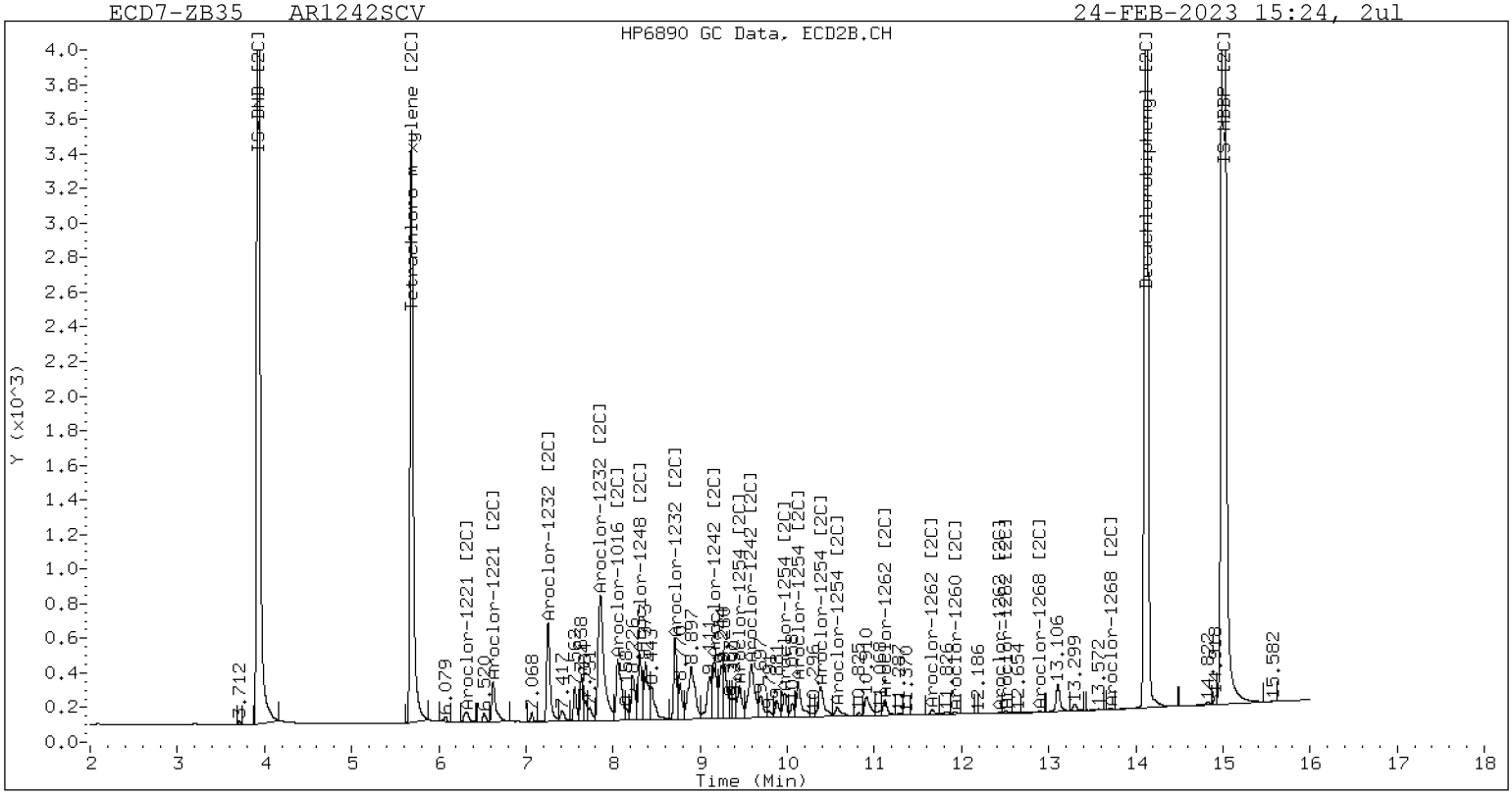
PCB Dual Column Chromatograms

ECD7-ZB5 AR1242SCV 24-FEB-2023 15:24, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1242SCV 24-FEB-2023 15:24, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242315ECD7.D
Data file 2: /230224.b/230224.b/02242315ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248SCV
Client ID:
Injection Date: 24-FEB-2023 15:45
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.809	0.002	336655	5.687	0.002	168719	34.9	36.4	4.2	Tetrachloro-m-xylene
13.894	0.001	499162	14.118	-0.001	308317	33.1	36.3	9.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	646554	-4.0
Hexabromobiphenyl	1429847	1529451	7.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	316066	0.3
Hexabromobiphenyl	513946	557213	8.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.271	0.000	19773	80.5	1	7.254	-0.002	16926	91.5
Aroclor-1016	2	7.653	-0.001	88099	117.7	2	7.857	0.001	45733	121.9
Aroclor-1016	3	7.794	0.003	35915	98.3	3	8.060	0.005	8078	47.7
Aroclor-1016	4	8.406	0.001	77842	329.5	4	8.307	0.000	37348	280.9
Total Col1Ave (4 peaks):					156.5	Total Col2Ave (4 peaks):				135.5 RPD = 14
Corrected Ave (3 peaks):					98.8	Corrected Ave (3 peaks):				87.0 RPD = 13
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	6.133	0.001	680	6.6	2	6.326	0.030	1966	34.7
Aroclor-1221	3	6.384	0.002	3390	14.1	3	6.631	0.009	1571	17.0
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	6.133	0.002	680	9.9	2	7.254	-0.000	16926	210.6
Aroclor-1232	3	7.653	-0.002	88099	283.3	3	7.857	-0.004	45733	284.6
Aroclor-1232	4	8.581	-0.000	99572	753.4	4	8.714	-0.001	38224	826.6
Total Col1Ave (3 peaks):					348.9	Total Col2Ave (3 peaks):				440.6 RPD = 23
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	7.271	-0.000	19773	98.7	1	7.254	-0.002	16926	115.3
Aroclor-1242	2	7.653	-0.003	88099	144.8	2	7.857	-0.001	45733	148.2
Aroclor-1242	3	8.406	0.000	77842	411.2	3	9.165	-0.002	45021	468.7
Aroclor-1242	4	8.581	0.001	99572	355.8	4	9.590	-0.008	53613	458.1
Total Col1Ave (4 peaks):					252.6	Total Col2Ave (4 peaks):				297.6 RPD = 16
Corrected Ave (3 peaks):					199.8	Corrected Ave (3 peaks):				240.5 RPD = 19
Aroclor-1248	1	8.406	0.000	77842	246.8	1	8.307	-0.001	37348	247.5
Aroclor-1248	2	8.581	0.000	99572	248.3	2	8.714	-0.000	38224	245.0
Aroclor-1248	3	8.998	-0.000	186857	247.0	3	9.165	-0.000	45021	250.7
Aroclor-1248	4	9.294	-0.000	98398	255.5	4	9.590	-0.001	53613	248.7
Total Col1Ave (4 peaks):					249.4	Total Col2Ave (4 peaks):				248.0 RPD = 1
Corrected Ave (3 peaks):					247.4	Corrected Ave (3 peaks):				247.0 RPD = 0
Aroclor-1254	1	9.294	-0.004	98398	151.6	1	9.450	0.001	21823	90.8
Aroclor-1254	2	9.377	-0.001	49616	169.9	2	9.971	0.001	19450	100.6
Aroclor-1254	3	9.669	0.001	40230	96.4	3	10.124	0.000	36574	87.5
Aroclor-1254	4	9.808	0.001	68500	84.4	4	10.389	0.016	35100	86.1
Aroclor-1254	5	10.183	0.007	47365	93.1	5	10.573	0.004	5676	22.9
Total Col1Ave (5 peaks):					119.1	Total Col2Ave (5 peaks):				77.6 RPD = 42*
Corrected Ave (4 peaks):					106.4	Corrected Ave (4 peaks):				71.8 RPD = 39
Aroclor-1260	1	11.047	0.003	1670	3.0	1	11.662	0.009	2055	6.3
Aroclor-1260	2	11.362	0.001	1111	1.9	2	11.924	0.007	1466	1.8
Aroclor-1260	3	11.739	0.005	2107	1.4	3	12.434	-0.002	573	2.6
Aroclor-1260	4	12.144	0.005	1379	1.8	4	12.505	0.003	1003	1.8
Aroclor-1260	5	12.251	0.006	698	2.1	NS	---			----
Total Col1Ave (5 peaks):					2.1	Total Col2Ave (4 peaks):				3.1 RPD = 41*
Corrected Ave (4 peaks):					1.8	Corrected Ave (3 peaks):				2.0 RPD = 12
Aroclor-1262	1	10.833	0.005	15355	32.7	1	11.122	-0.079	7225	15.2
Aroclor-1262	2	12.251	0.007	698	0.9	2	11.662	0.011	2055	5.1
Aroclor-1262	3	12.321	0.002	836	1.0	3	12.434	0.000	573	1.2
Aroclor-1262	4	12.991	0.004	1043	1.4	4	12.505	0.003	1003	1.4
Total Col1Ave (4 peaks):					9.0	Total Col2Ave (4 peaks):				5.7 RPD = 45*
Corrected Ave (3 peaks):					1.1	Corrected Ave (3 peaks):				2.6 RPD = 80*
Aroclor-1268	1	12.251	0.004	698	0.4	1	12.434	0.002	573	0.5
Aroclor-1268	2	12.321	0.004	836	0.4	2	12.505	0.005	1003	0.8
Aroclor-1268	3	12.700	0.001	2449	1.5	3	12.892	0.001	721	0.7
Aroclor-1268	4	13.493	0.003	7547	1.4	4	13.708	-0.001	2265	0.7
Total Col1Ave (4 peaks):					0.9	Total Col2Ave (4 peaks):				0.7 RPD = 29
Corrected Ave (3 peaks):					0.7	Corrected Ave (3 peaks):				0.6 RPD = 13

Total PCB Area Col1 (5.906 - 13.793) = 1574335 Col1 Total PCB = 0.2 ppm*

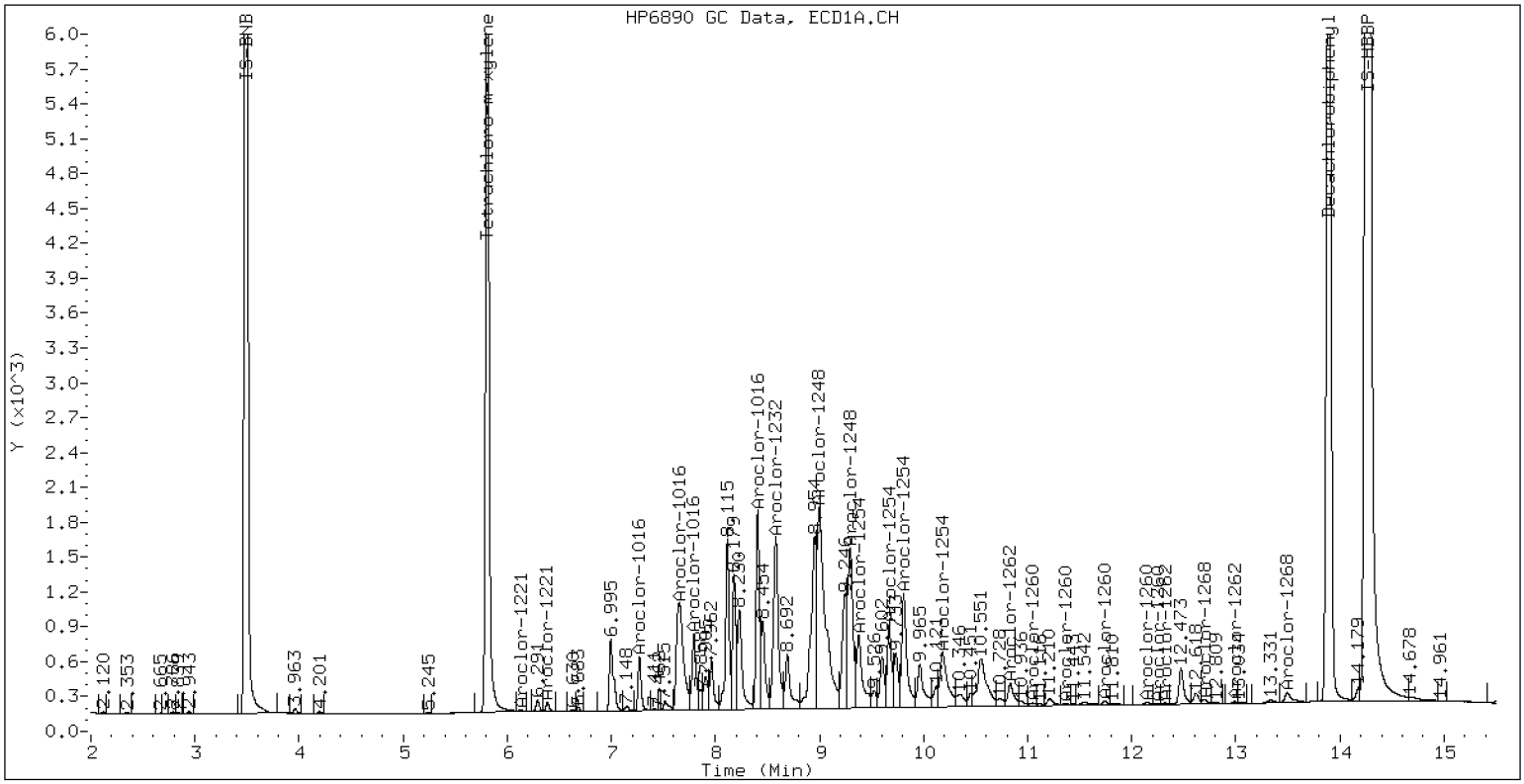
Total PCB Area Col2 (5.785 - 14.019) = 746330 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

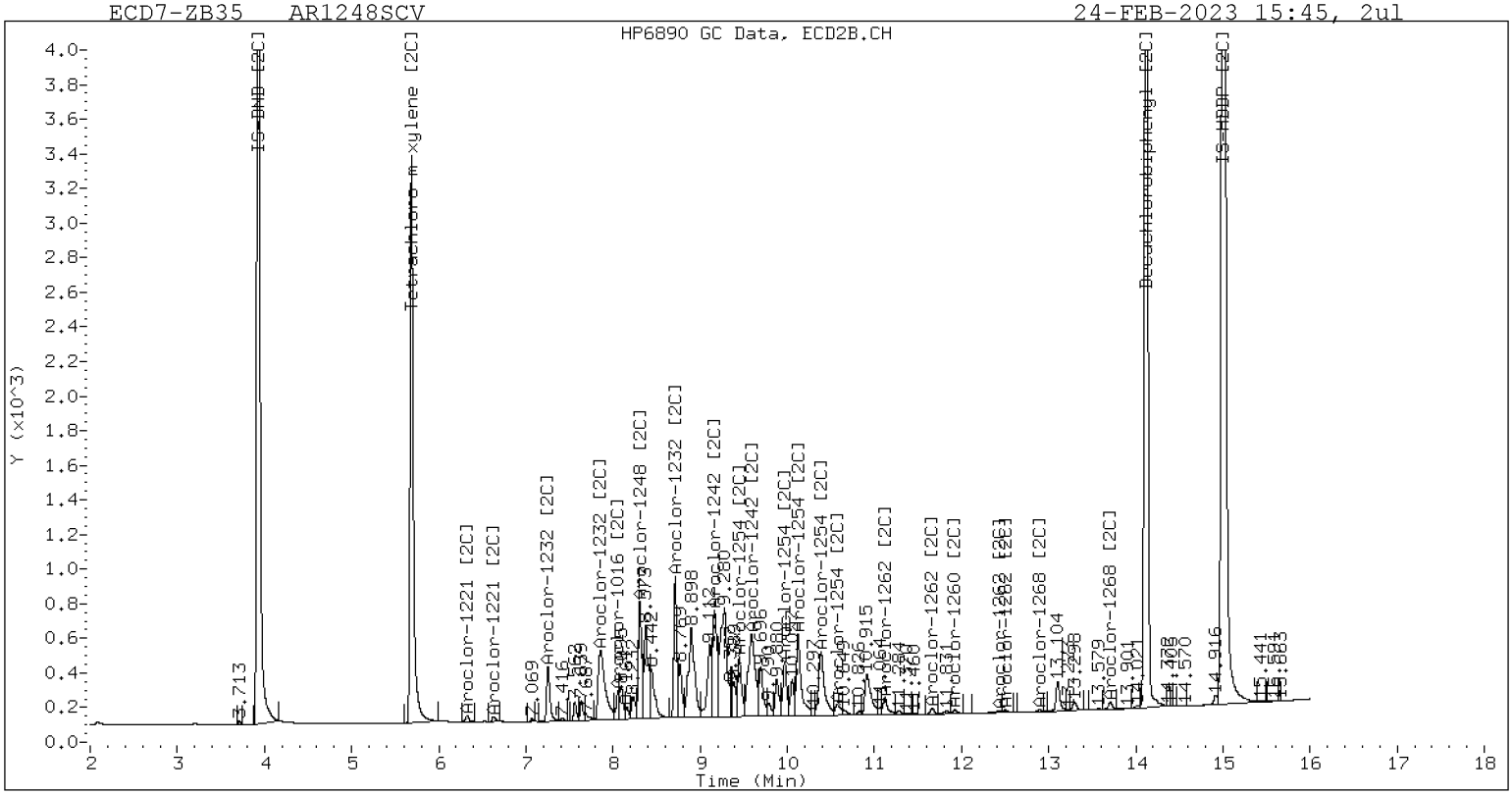
PCB Dual Column Chromatograms

ECD7-ZB5 AR1248SCV 24-FEB-2023 15:45, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1248SCV 24-FEB-2023 15:45, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242316ECD7.D
Data file 2: /230224.b/230224.b/02242316ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254SCV
Client ID:
Injection Date: 24-FEB-2023 16:06
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.806	-0.000	354312	5.686	0.001	174604	36.1	37.1	2.6	Tetrachloro-m-xylene
13.895	0.002	540961	14.119	-0.000	329134	34.6	37.9	9.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	656887	-2.5
Hexabromobiphenyl	1429847	1585505	10.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	320936	1.8
Hexabromobiphenyl	513946	570006	10.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.270	0.000	565	2.3	1	7.255	-0.001	387	2.1
Aroclor-1016	2	7.656	0.002	1875	2.5	2	7.854	-0.002	860	2.3
Aroclor-1016	3	7.792	0.002	1106	3.0	3	8.098	0.043	578	3.4
Aroclor-1016	4	8.405	0.000	29924	124.7	4	8.307	0.000	21985	162.9
	Total Col1Ave (4 peaks):				33.1	Total Col2Ave (4 peaks):				42.6 RPD = 25
	Corrected Ave (3 peaks):				2.6	Corrected Ave (3 peaks):				2.6 RPD = 0
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	6.325	0.028	1947	33.9
Aroclor-1221	3	---			0.0	3	6.637	0.015	368	3.9
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	7.255	0.001	387	4.7
Aroclor-1232	3	7.656	0.000	1875	5.9	3	7.854	-0.007	860	5.3
Aroclor-1232	4	8.583	0.002	12327	91.8	4	8.715	0.000	15013	319.7
	Col1Ave: <3 Quant Peaks					Col2Ave: 109.9				
Aroclor-1242	1	7.270	-0.000	565	2.8	1	7.255	-0.001	387	2.6
Aroclor-1242	2	7.656	0.000	1875	3.0	2	7.854	-0.004	860	2.7
Aroclor-1242	3	8.405	-0.000	29924	155.6	3	9.169	0.002	21933	224.9
Aroclor-1242	4	8.583	0.003	12327	43.4	4	9.545	-0.053	34065	286.6
	Total Col1Ave (4 peaks):				51.2	Total Col2Ave (4 peaks):				129.2 RPD = 87*
	Corrected Ave (3 peaks):				16.4	Corrected Ave (3 peaks):				76.7 RPD = 130*
Aroclor-1248	1	8.405	0.000	29924	93.4	1	8.307	-0.001	21985	143.5
Aroclor-1248	2	8.583	0.002	12327	30.3	2	8.715	0.001	15013	94.8
Aroclor-1248	3	8.992	-0.007	145580	189.4	3	9.169	0.004	21933	120.3
Aroclor-1248	4	9.298	0.003	155450	397.3	4	9.545	-0.046	34065	155.6
	Total Col1Ave (4 peaks):				177.6	Total Col2Ave (4 peaks):				128.5 RPD = 32
	Corrected Ave (3 peaks):				104.3	Corrected Ave (3 peaks):				119.5 RPD = 14
Aroclor-1254	1	9.298	-0.001	155450	235.7	1	9.450	0.001	58639	240.4
Aroclor-1254	2	9.377	-0.001	69801	235.3	2	9.971	0.000	47008	239.5
Aroclor-1254	3	9.668	-0.000	100839	237.8	3	10.124	0.000	100062	235.7
Aroclor-1254	4	9.807	0.000	190544	231.1	4	10.373	0.000	99535	240.5
Aroclor-1254	5	10.176	-0.000	122321	236.7	5	10.570	0.001	61549	244.2
	Total Col1Ave (5 peaks):				235.3	Total Col2Ave (5 peaks):				240.1 RPD = 2
	Corrected Ave (4 peaks):				234.7	Corrected Ave (4 peaks):				239.0 RPD = 2
Aroclor-1260	1	11.043	-0.002	12288	21.5	1	11.661	0.008	29062	86.7
Aroclor-1260	2	11.361	-0.001	13660	22.9	2	11.921	0.003	22238	26.0
Aroclor-1260	3	11.736	0.002	37632	23.8	3	12.441	0.005	3555	15.7
Aroclor-1260	4	12.141	0.002	27105	34.1	4	12.503	0.001	13126	22.8
Aroclor-1260	5	12.320	0.076	2381	6.9	NS	---			----
	Total Col1Ave (5 peaks):				21.9	Total Col2Ave (4 peaks):				37.8 RPD = 53*
	Corrected Ave (4 peaks):				18.8	Corrected Ave (3 peaks):				21.5 RPD = 13
Aroclor-1262	1	10.827	-0.002	220626	453.6	1	11.281	0.081	13562	27.9
Aroclor-1262	2	12.320	0.076	2381	3.0	2	11.661	0.009	29062	70.1
Aroclor-1262	3	---			0.0	3	12.441	0.007	3555	7.6
Aroclor-1262	4	12.989	0.002	3225	4.1	4	12.503	0.001	13126	17.8
	Total Col1Ave (3 peaks):				153.6	Total Col2Ave (4 peaks):				30.8 RPD = 133*
	Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				17.7
Aroclor-1268	1	12.320	0.074	2381	1.2	1	12.441	0.009	3555	3.1
Aroclor-1268	2	---			0.0	2	12.503	0.003	13126	10.6
Aroclor-1268	3	12.701	0.002	2939	1.7	3	12.892	0.000	772	0.7
Aroclor-1268	4	13.493	0.003	9164	1.6	4	13.707	-0.002	2801	0.8
	Total Col1Ave (3 peaks):				1.5	Total Col2Ave (4 peaks):				3.8 RPD = 87*
	Corrected Ave: < 3 Peaks					Corrected Ave (3 peaks):				1.6

Total PCB Area Col1 (5.906 - 13.793) = 2118645 Col1 Total PCB = 0.3 ppm*

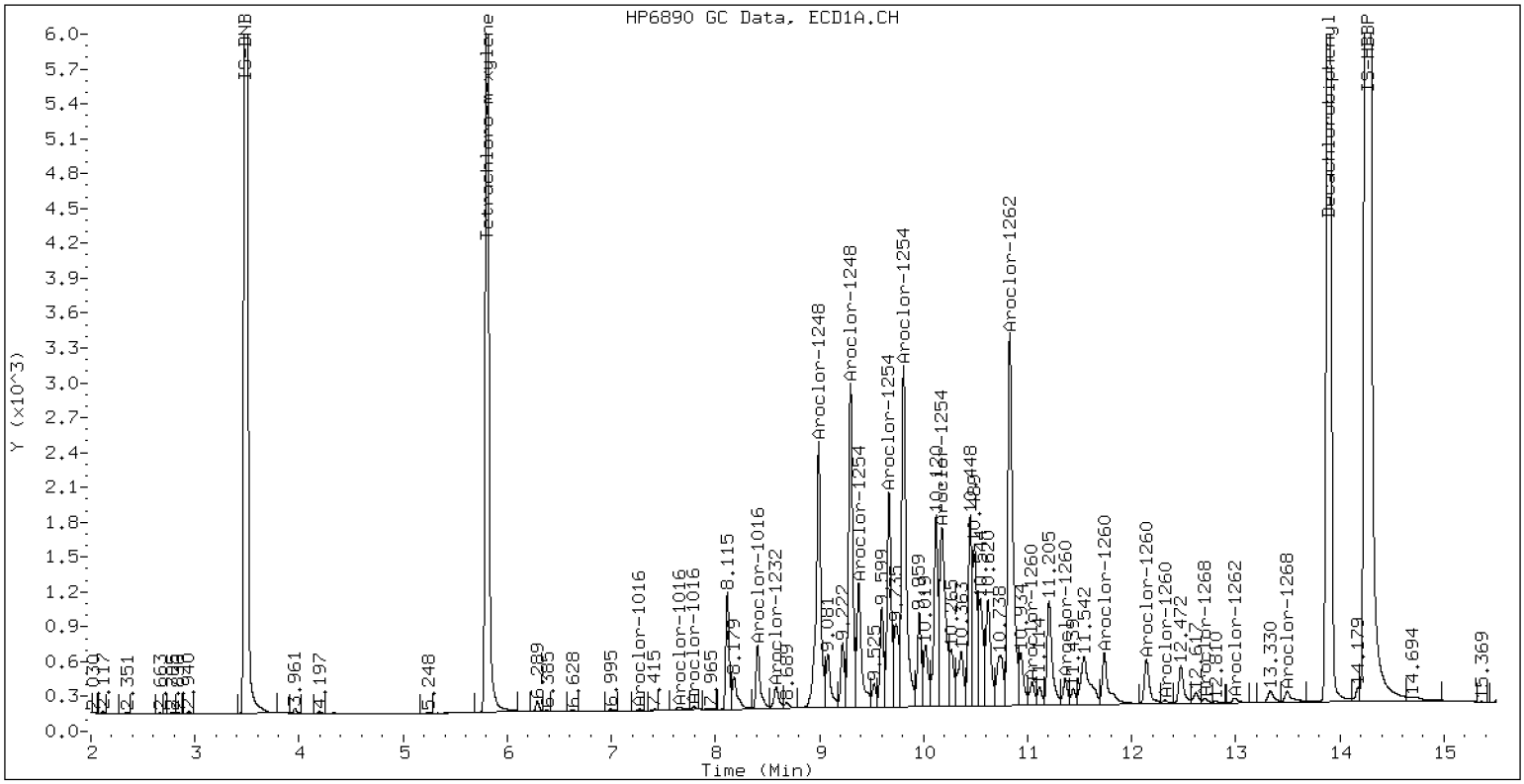
Total PCB Area Col2 (5.785 - 14.019) = 1007601 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

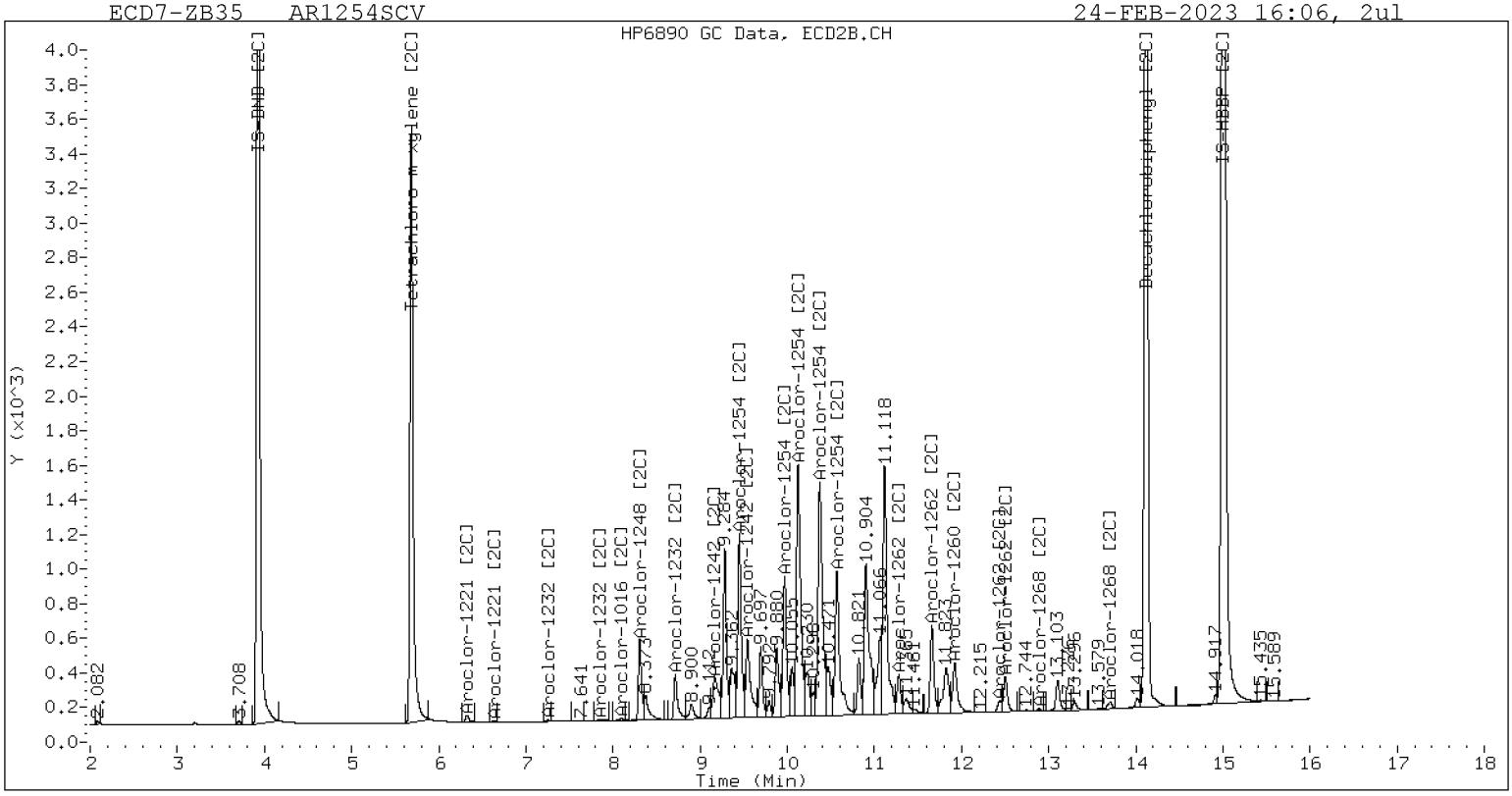
PCB Dual Column Chromatograms

ECD7-ZB5 AR1254SCV 24-FEB-2023 16:06, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1254SCV 24-FEB-2023 16:06, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242317ECD7.D
Data file 2: /230224.b/230224.b/02242317ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR2162SCV
Client ID:
Injection Date: 24-FEB-2023 16:27
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.807	0.000	356001	5.685	0.000	170882	36.0	36.6	1.7	Tetrachloro-m-xylene
13.895	0.002	533971	14.119	0.000	326235	34.4	37.9	9.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	661953	-1.8
Hexabromobiphenyl	1429847	1574993	10.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	317807	0.8
Hexabromobiphenyl	513946	565951	10.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.269	-0.001	7175	28.5	1	7.256	0.000	3727	20.0
Aroclor-1016	2	7.659	0.005	12893	16.8	2	7.863	0.007	5834	15.5
Aroclor-1016	3	7.794	0.004	6936	18.5	3	8.063	0.009	2963	17.4
Aroclor-1016	4	8.408	0.003	3610	14.9	4	8.308	0.002	2045	15.3
Total Col1Ave (4 peaks):					19.7	Total Col2Ave (4 peaks):				17.0 RPD = 14
Corrected Ave (3 peaks):					16.8	Corrected Ave (3 peaks):				16.1 RPD = 4
Aroclor-1221	1	4.730	-0.000	15803	266.6	1	4.955	-0.001	7909	262.9
Aroclor-1221	2	6.131	-0.001	26946	254.1	2	6.296	-0.000	14303	251.2
Aroclor-1221	3	6.382	-0.000	62477	253.8	3	6.622	0.000	23612	254.7
Total Col1Ave (3 peaks):					258.2	Total Col2Ave (3 peaks):				256.3 RPD = 1
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.730	0.000	15803	445.6	1	4.955	-0.001	7909	486.4
Aroclor-1232	2	6.131	0.000	26946	383.1	2	7.256	0.002	3727	46.1
Aroclor-1232	3	7.659	0.003	12893	40.5	3	7.863	0.002	5834	36.1
Aroclor-1232	4	8.583	0.003	2684	19.8	4	8.716	0.002	1189	25.6
Total Col1Ave (4 peaks):					222.3	Total Col2Ave (4 peaks):				148.5 RPD = 40
Corrected Ave (3 peaks):					147.8	Corrected Ave (3 peaks):				35.9 RPD = 122*
Aroclor-1242	1	7.269	-0.001	7175	35.0	1	7.256	0.000	3727	25.2
Aroclor-1242	2	7.659	0.003	12893	20.7	2	7.863	0.005	5834	18.8
Aroclor-1242	3	8.408	0.002	3610	18.6	3	9.175	0.008	1082	11.2
Aroclor-1242	4	8.583	0.004	2684	9.4	4	9.543	-0.054	1390	11.8
Total Col1Ave (4 peaks):					20.9	Total Col2Ave (4 peaks):				16.8 RPD = 22
Corrected Ave (3 peaks):					16.2	Corrected Ave (3 peaks):				13.9 RPD = 15
Aroclor-1248	1	8.408	0.002	3610	11.2	1	8.308	0.001	2045	13.5
Aroclor-1248	2	8.583	0.003	2684	6.5	2	8.716	0.002	1189	7.6
Aroclor-1248	3	8.994	-0.005	24440	31.6	3	9.175	0.009	1082	6.0
Aroclor-1248	4	9.302	0.008	26328	66.8	4	9.543	-0.048	1390	6.4
Total Col1Ave (4 peaks):					29.0	Total Col2Ave (4 peaks):				8.4 RPD = 110*
Corrected Ave (3 peaks):					16.4	Corrected Ave (3 peaks):				6.7 RPD = 85*
Aroclor-1254	1	9.302	0.004	26328	39.6	1	9.452	0.003	9571	39.6
Aroclor-1254	2	---			0.0	2	9.972	0.002	1733	8.9
Aroclor-1254	3	9.670	0.002	3721	8.7	3	10.147	0.023	49218	117.1
Aroclor-1254	4	9.808	0.000	9653	11.6	4	10.370	-0.002	59603	145.4
Aroclor-1254	5	10.120	-0.056	131179	251.9	5	10.569	0.001	79533	318.7
Total Col1Ave (4 peaks):					78.0	Total Col2Ave (5 peaks):				125.9 RPD = 47*
Corrected Ave (3 peaks):					20.0	Corrected Ave (4 peaks):				77.8 RPD = 118*
Aroclor-1260	1	11.044	-0.000	223208	394.0	1	11.652	-0.001	104071	312.7
Aroclor-1260	2	11.361	-0.001	190166	321.2	2	11.919	0.002	251579	296.2
Aroclor-1260	3	11.737	0.003	458281	291.9	3	12.435	-0.001	113645	504.2
Aroclor-1260	4	12.141	0.002	149720	189.4	4	12.501	-0.001	182951	319.6
Aroclor-1260	5	12.244	0.000	196033	576.0	NS	---			----
Total Col1Ave (5 peaks):					354.5	Total Col2Ave (4 peaks):				358.2 RPD = 1
Corrected Ave (4 peaks):					299.1	Corrected Ave (3 peaks):				309.5 RPD = 3
Aroclor-1262	1	10.828	-0.001	121431	251.3	1	11.201	0.000	121335	251.1
Aroclor-1262	2	12.244	0.000	196033	249.3	2	11.652	0.000	104071	252.9
Aroclor-1262	3	12.319	0.001	211092	249.8	3	12.435	0.001	113645	243.4
Aroclor-1262	4	12.988	0.001	183455	237.5	4	12.501	-0.001	182951	250.1
Total Col1Ave (4 peaks):					247.0	Total Col2Ave (4 peaks):				249.3 RPD = 1
Corrected Ave (3 peaks):					245.5	Corrected Ave (3 peaks):				248.2 RPD = 1
Aroclor-1268	1	12.244	-0.002	196033	97.1	1	12.435	0.003	113645	99.7
Aroclor-1268	2	12.319	0.002	211092	105.6	2	12.501	0.001	182951	149.3
Aroclor-1268	3	12.723	0.024	77240	45.2	3	12.891	-0.000	7755	7.4
Aroclor-1268	4	13.488	-0.002	65479	11.6	4	13.709	0.000	35146	10.5
Total Col1Ave (4 peaks):					64.9	Total Col2Ave (4 peaks):				66.7 RPD = 3

Corrected Ave (3 peaks): 51.3 Corrected Ave (3 peaks): 39.2 RPD = 27

Total PCB Area Col1 (5.906 - 13.793) = 3239932 Col1 Total PCB = 0.4 ppm*

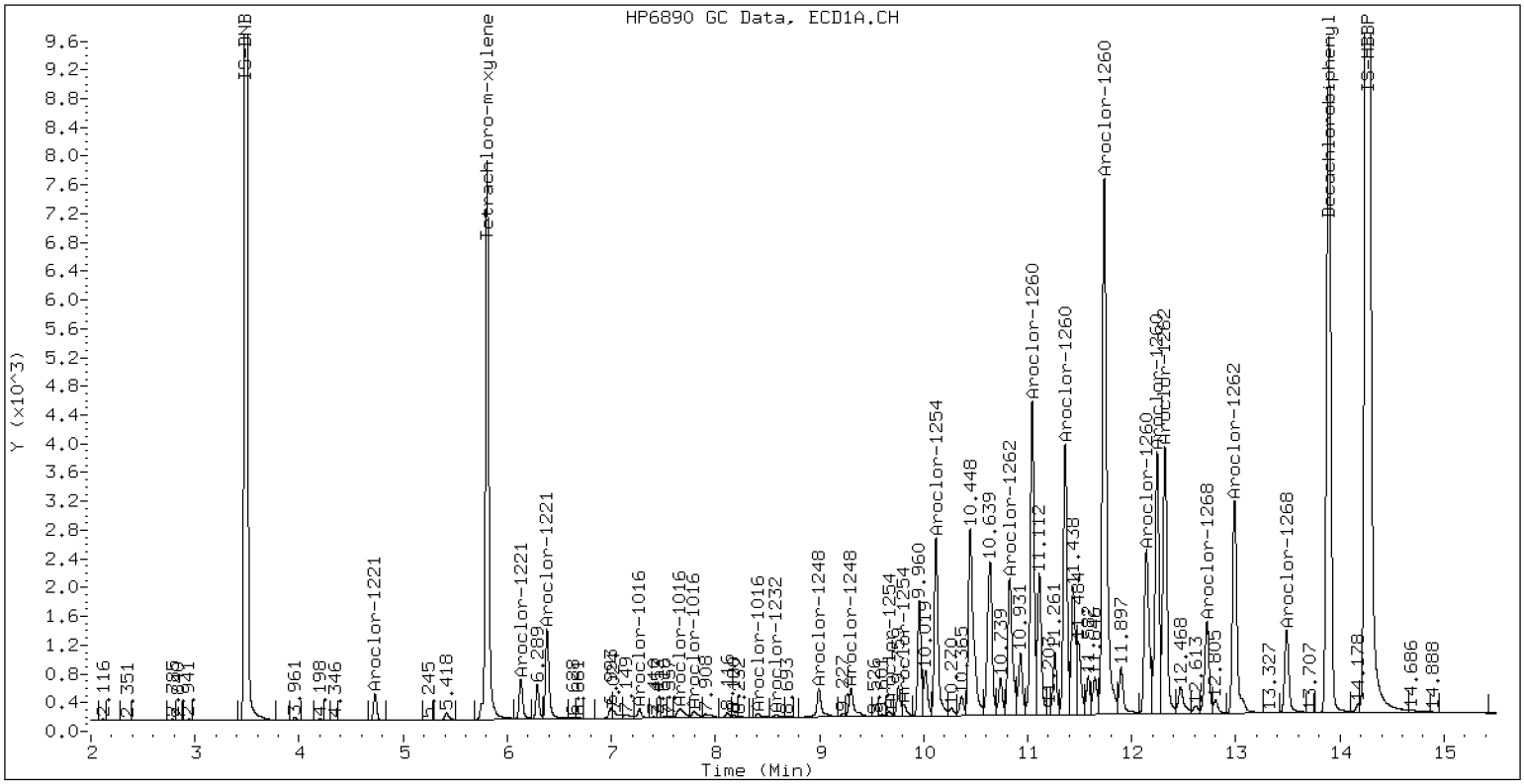
Total PCB Area Col2 (5.785 - 14.019) = 1655522 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

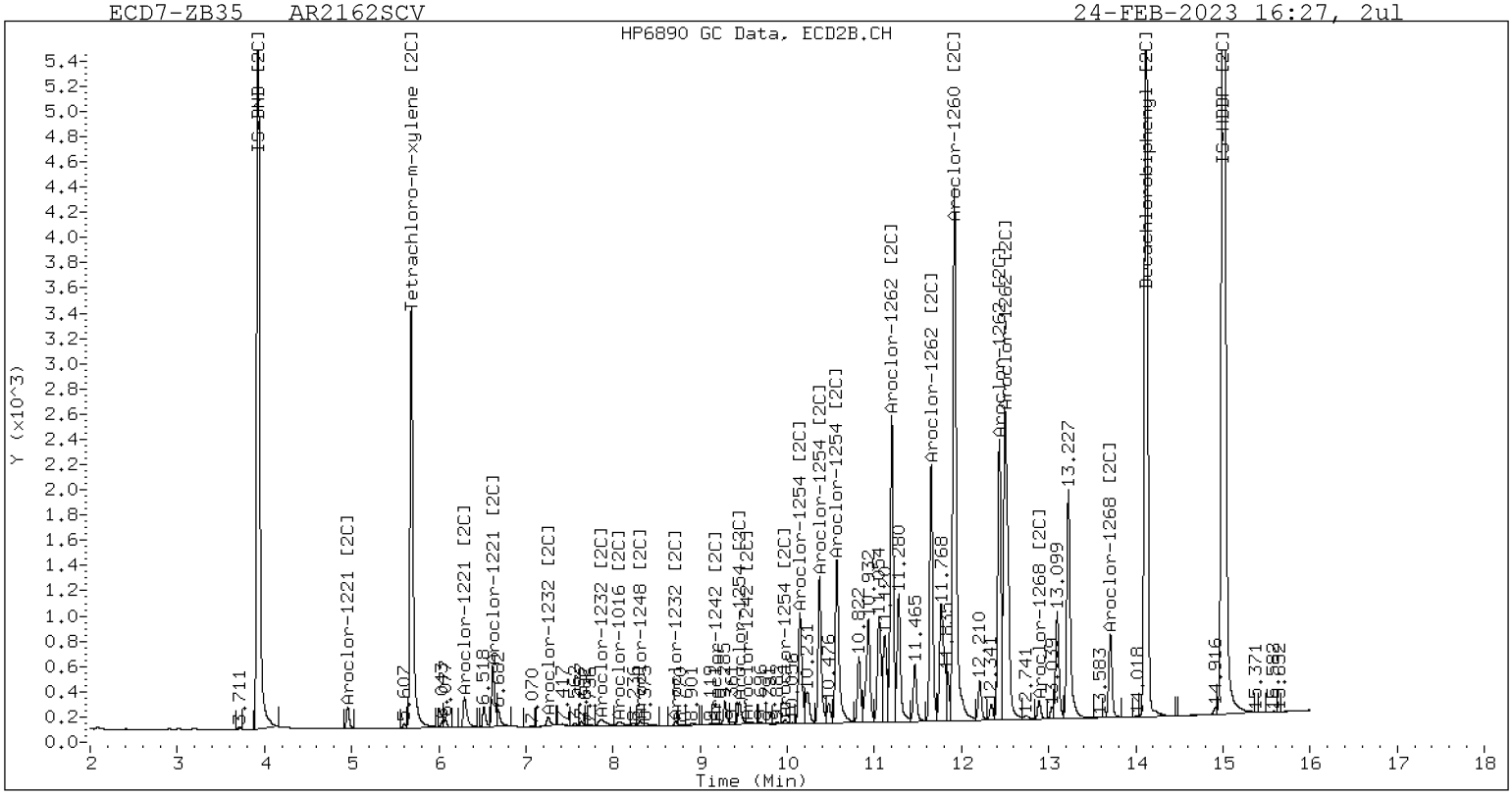
PCB Dual Column Chromatograms

ECD7-ZB5 AR2162SCV 24-FEB-2023 16:27, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR2162SCV 24-FEB-2023 16:27, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230224.b/02242318ECD7.D
Data file 2: /230224.b/230224.b/02242318ECD7.D
Method: \\target\share\chem4\ecd7.i\230224.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR3268SCV
Client ID:
Injection Date: 24-FEB-2023 16:48
Report Date: 02/28/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.806	0.000	363331	5.685	0.000	176204	37.1	38.2	2.9	Tetrachloro-m-xylene
13.894	0.001	800845	14.118	-0.001	488290	51.3	56.4	9.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	656592	-2.6
Hexabromobiphenyl	1429847	1584453	10.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	314741	-0.2
Hexabromobiphenyl	513946	568346	10.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	7.270	-0.001	28327	113.6	1	7.254	-0.001	20651	112.1
Aroclor-1016	2	7.657	0.003	80668	106.1	2	7.861	0.005	41326	110.6
Aroclor-1016	3	7.793	0.003	40661	109.6	3	8.060	0.005	20446	121.2
Aroclor-1016	4	8.407	0.002	24680	102.9	4	8.308	0.001	13576	102.5
Total Col1Ave (4 peaks):					108.0	Total Col2Ave (4 peaks):				111.6 RPD = 3
Corrected Ave (3 peaks):					106.2	Corrected Ave (3 peaks):				108.4 RPD = 2
Aroclor-1221	1	4.729	-0.001	8535	145.1	1	4.956	-0.000	3965	133.1
Aroclor-1221	2	6.132	-0.000	15523	147.6	2	6.297	0.001	8689	154.1
Aroclor-1221	3	6.382	-0.000	45872	187.9	3	6.622	0.001	22272	242.6
Total Col1Ave (3 peaks):					160.2	Total Col2Ave (3 peaks):				176.6 RPD = 10
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.729	-0.001	8535	242.6	1	4.956	0.000	3965	246.2
Aroclor-1232	2	6.132	0.001	15523	222.5	2	7.254	0.000	20651	258.1
Aroclor-1232	3	7.657	0.001	80668	255.4	3	7.861	0.001	41326	258.3
Aroclor-1232	4	8.582	0.001	34784	259.2	4	8.714	-0.001	12504	271.5
Total Col1Ave (4 peaks):					244.9	Total Col2Ave (4 peaks):				258.5 RPD = 5
Corrected Ave (3 peaks):					240.2	Corrected Ave (3 peaks):				254.2 RPD = 6
Aroclor-1242	1	7.270	-0.001	28327	139.2	1	7.254	-0.001	20651	141.2
Aroclor-1242	2	7.657	0.001	80668	130.5	2	7.861	0.003	41326	134.4
Aroclor-1242	3	8.407	0.001	24680	128.4	3	9.170	0.003	12830	134.1
Aroclor-1242	4	8.582	0.003	34784	122.4	4	9.600	0.003	14836	127.3
Total Col1Ave (4 peaks):					130.1	Total Col2Ave (4 peaks):				134.3 RPD = 3
Corrected Ave (3 peaks):					127.1	Corrected Ave (3 peaks):				132.0 RPD = 4
Aroclor-1248	1	8.407	0.001	24680	77.0	1	8.308	0.000	13576	90.3
Aroclor-1248	2	8.582	0.001	34784	85.4	2	8.714	-0.000	12504	80.5
Aroclor-1248	3	8.996	-0.003	83592	108.8	3	9.170	0.004	12830	71.8
Aroclor-1248	4	9.292	-0.003	39603	101.3	4	9.600	0.010	14836	69.1
Total Col1Ave (4 peaks):					93.1	Total Col2Ave (4 peaks):				77.9 RPD = 18
Corrected Ave (3 peaks):					87.9	Corrected Ave (3 peaks):				73.8 RPD = 17
Aroclor-1254	1	9.292	-0.007	39603	60.1	1	9.452	0.003	4590	19.2
Aroclor-1254	2	9.377	-0.000	11450	38.6	2	9.973	0.003	2892	15.0
Aroclor-1254	3	9.674	0.005	6387	15.1	3	10.131	0.007	6052	14.5
Aroclor-1254	4	9.813	0.006	10162	12.3	4	10.390	0.017	5324	13.1
Aroclor-1254	5	10.189	0.012	6862	13.3	5	10.572	0.004	1891	7.7
Total Col1Ave (5 peaks):					27.9	Total Col2Ave (5 peaks):				13.9 RPD = 67*
Corrected Ave (4 peaks):					19.8	Corrected Ave (4 peaks):				12.6 RPD = 45*
Aroclor-1260	1	11.046	0.002	87033	152.7	1	11.645	-0.008	62543	187.1
Aroclor-1260	2	11.362	0.001	6300	10.6	2	11.920	0.003	28552	33.5
Aroclor-1260	3	11.738	0.004	54524	34.5	3	12.432	-0.004	285450	1261.2
Aroclor-1260	4	12.144	0.005	1727	2.2	4	12.499	-0.002	306992	534.0
Aroclor-1260	5	12.246	0.002	502931	1469.0	NS	---			----
Total Col1Ave (5 peaks):					333.8	Total Col2Ave (4 peaks):				503.9 RPD = 41*
Corrected Ave (4 peaks):					50.0	Corrected Ave (3 peaks):				251.5 RPD = 134*
Aroclor-1262	1	10.832	0.004	3395	7.0	1	11.201	0.001	44255	91.2
Aroclor-1262	2	12.246	0.002	502931	635.9	2	11.645	-0.007	62543	151.3
Aroclor-1262	3	12.318	-0.000	497006	584.5	3	12.432	-0.002	285450	608.7
Aroclor-1262	4	12.987	-0.000	202197	260.2	4	12.499	-0.003	306992	417.9
Total Col1Ave (4 peaks):					371.9	Total Col2Ave (4 peaks):				317.3 RPD = 16
Corrected Ave (3 peaks):					283.9	Corrected Ave (3 peaks):				220.1 RPD = 25
Aroclor-1268	1	12.246	-0.001	502931	247.7	1	12.432	-0.000	285450	249.4
Aroclor-1268	2	12.318	0.002	497006	247.2	2	12.499	-0.001	306992	249.5
Aroclor-1268	3	12.699	-0.000	422793	245.8	3	12.892	0.000	260893	248.4
Aroclor-1268	4	13.490	0.000	1386953	244.9	4	13.709	-0.000	829733	247.1
Total Col1Ave (4 peaks):					246.4	Total Col2Ave (4 peaks):				248.6 RPD = 1

Corrected Ave (3 peaks): 246.0 Corrected Ave (3 peaks): 248.3 RPD = 1

Total PCB Area Col1 (5.906 - 13.793) = 4180607 Col1 Total PCB = 0.5 ppm*

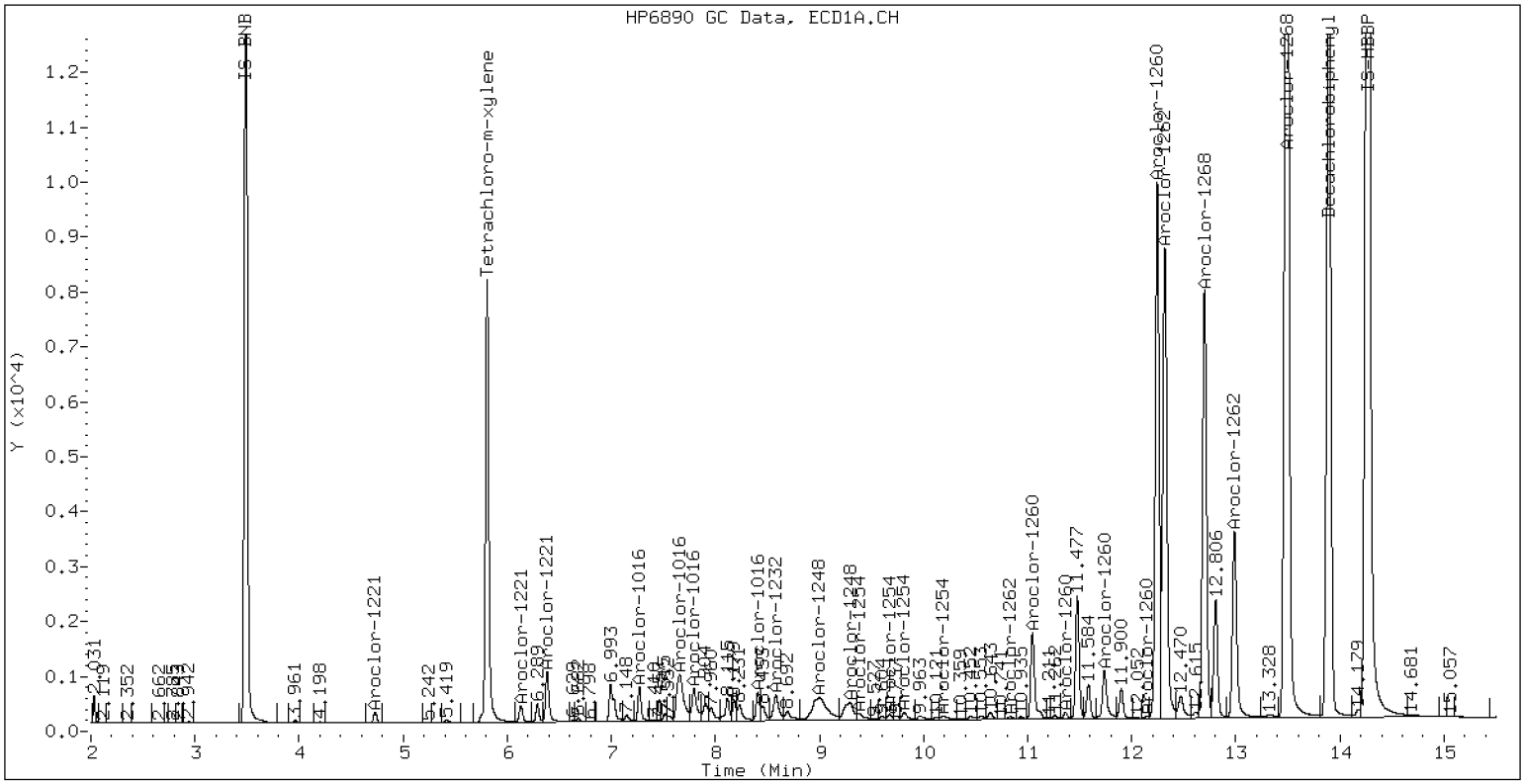
Total PCB Area Col2 (5.785 - 14.019) = 2376912 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

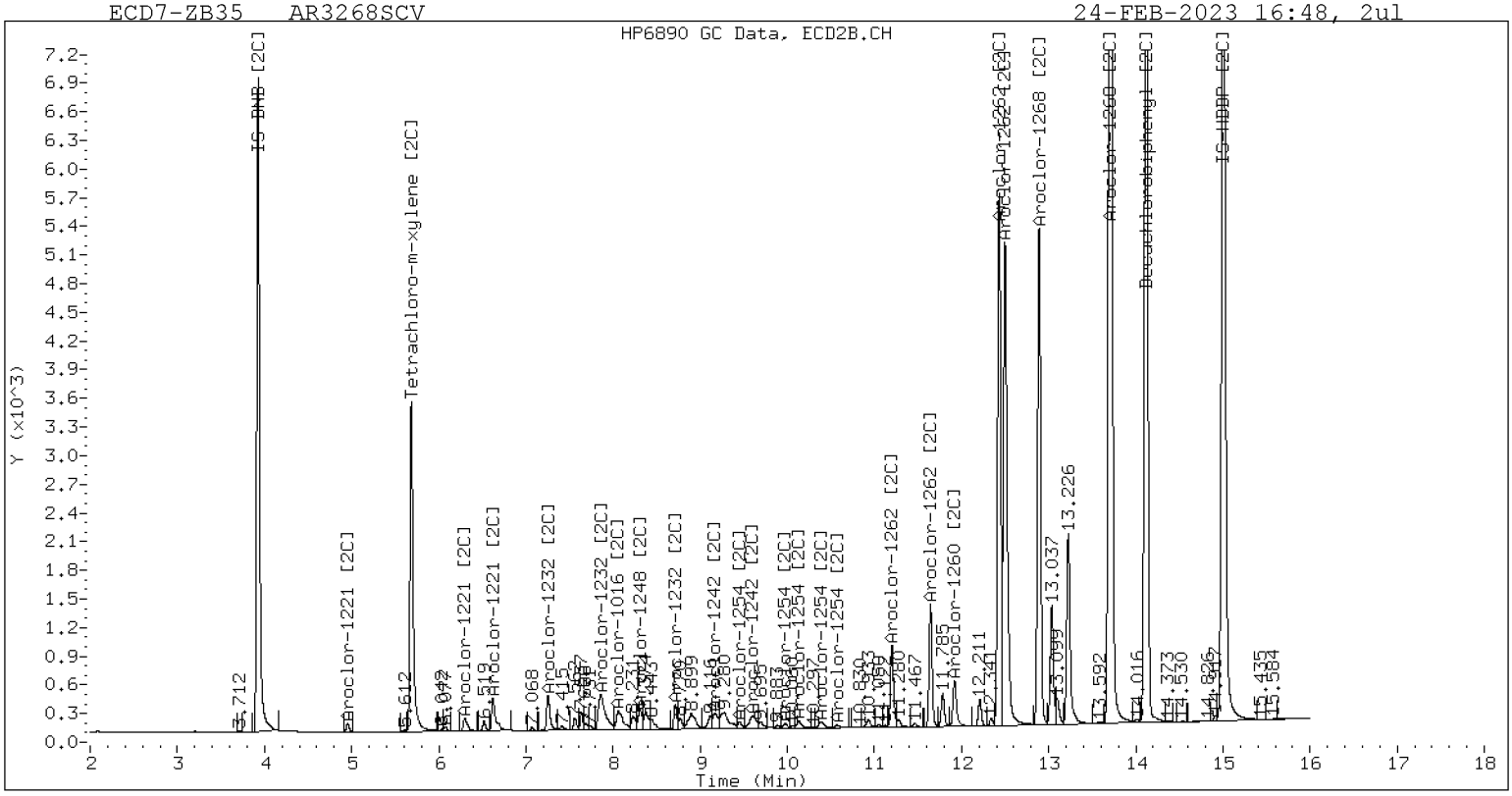
PCB Dual Column Chromatograms

ECD7-ZB5 AR3268SCV 24-FEB-2023 16:48, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR3268SCV 24-FEB-2023 16:48, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
8082 DDT SCREEN REPORT

Data file 1: /230224.b/02242319ECD7.D ARI ID: DDTS

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
9.261	0.000	694353	9.912	0.000	580269	0.100	0.100	0.0	2,4-DDE
0.000	-10.293	0	10.672	0.000	673479	0.000	0.200#	----	2,4-DDT
9.686	0.000	1191406	10.212	0.000	433373	0.100	0.100	0.0	4,4-DDE
10.259	0.000	1721760	10.672	0.000	673479	0.100	0.200#	66.7*	4,4-DDD

# Indicates value is from co-eluting peaks
* Indicates RPD > 40%

Analytical Resources Inc.
8082 DDT SCREEN REPORT

Data file 1: /230224.b/02242320ECD7.D ARI ID: DDT BD

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
9.285	0.023	4923	9.921	0.009	9972	0.001	0.002	84.3*	2,4-DDE
0.000	-10.293	0	10.677	0.004	249094	0.000	0.074#	----	2,4-DDT
9.692	0.006	12128	10.221	0.009	528	0.001	0.000	156.7*	4,4-DDE
10.265	0.006	410017	10.677	0.004	249094	0.023	0.074#	103.6*	4,4-DDD

# Indicates value is from co-eluting peaks
* Indicates RPD > 40%

Analytical Resources, LLC
Analytical Chemists and Consultants

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GB00069
Laboratory ID: SLB0342-SCV1
Sequence: SLB0342
Sequence Name: AR1660SCV1
Standard ID: L002065

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1016	250.00	243	-2.7	20.00
Aroclor 1016 [2C]	250.00	246	-1.4	20.00
Aroclor 1260	250.00	266	6.2	20.00
Aroclor 1260 [2C]	250.00	261	4.5	20.00
Decachlorobiphenyl	40.000	34.3	-14.2	20.00
Tetrachlorometaxylene	40.000	34.9	-12.6	20.00
Decachlorobiphenyl [2C]	40.000	37.3	-6.6	20.00
Tetrachlorometaxylene [2C]	40.000	35.8	-10.6	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GB00069
Laboratory ID: SLB0342-SCV2
Sequence: SLB0342
Sequence Name: AR1242SCV2
Standard ID: K007656

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1242	250.00	204	-18.5	20.00
Aroclor 1242 [2C]	250.00	221	-11.8	20.00
Decachlorobiphenyl	40.000	37.0	-7.5	20.00
Tetrachlorometaxylene	40.000	33.6	-15.9	20.00
Decachlorobiphenyl [2C]	40.000	40.3	0.8	20.00
Tetrachlorometaxylene [2C]	40.000	34.5	-13.7	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GB00069
Laboratory ID: SLB0342-SCV3
Sequence: SLB0342
Sequence Name: AR1248SCV3
Standard ID: L002066

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1248	250.00	249	-0.2	20.00
Aroclor 1248 [2C]	250.00	248	-0.8	20.00
Decachlorobiphenyl	40.000	33.1	-17.2	20.00
Tetrachlorometaxylene	40.000	34.9	-12.8	20.00
Decachlorobiphenyl [2C]	40.000	36.3	-9.2	20.00
Tetrachlorometaxylene [2C]	40.000	36.4	-9.0	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GB00069
Laboratory ID: SLB0342-SCV4
Sequence: SLB0342
Sequence Name: AR1254SCV4
Standard ID: L002067

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1254	250.00	235	-5.9	20.00
Aroclor 1254 [2C]	250.00	240	-4.0	20.00
Decachlorobiphenyl	40.000	34.6	-13.4	20.00
Tetrachlorometaxylene	40.000	36.1	-9.7	20.00
Decachlorobiphenyl [2C]	40.000	37.9	-5.2	20.00
Tetrachlorometaxylene [2C]	40.000	37.1	-7.3	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Calibration: GB00069
Sequence: SLB0342

SDG: 23C0108
Project: AOC5 MR Phase 1
Laboratory ID: SLB0342-SCV5
Sequence Name: AR2162SCV5
Standard ID: L002068

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1221	250.00	258	3.3	20.00
Aroclor 1221 [2C]	250.00	256	2.5	20.00
Aroclor 1262	250.00	247	-1.2	20.00
Aroclor 1262 [2C]	250.00	249	-0.3	20.00
Decachlorobiphenyl	40.000	34.4	-13.9	20.00
Tetrachlorometaxylene	40.000	36.0	-10.0	20.00
Decachlorobiphenyl [2C]	40.000	37.9	-5.4	20.00
Tetrachlorometaxylene [2C]	40.000	36.6	-8.4	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GB00069
Laboratory ID: SLB0342-SCV6
Sequence: SLB0342
Sequence Name: AR3268SCV6
Standard ID: L002069

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1232	250.00	245	-2.0	20.00
Aroclor 1232 [2C]	250.00	259	3.4	20.00
Aroclor 1268	250.00	246	-1.4	20.00
Aroclor 1268 [2C]	250.00	249	-0.6	20.00
Decachlorobiphenyl	40.000	51.3	28.3	20.00
Tetrachlorometaxylene	40.000	37.1	-7.3	20.00
Decachlorobiphenyl [2C]	40.000	56.4	41.0	20.00
Tetrachlorometaxylene [2C]	40.000	38.2	-4.6	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources, LLC
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	03152306ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLC0215	Injection Date:	03/15/23
Lab Sample ID:	SLC0215-ICV1	Injection Time:	14:43
Sequence Name:	AR1254ICV1		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Aroclor 1254	A	250.00	278	0.0662949	0.0735796		11.1	
Aroclor-1254 (1)	A	250.00	264	0.0803331	0.0846742			
Aroclor-1254 (2)	A	250.00	267	0.0361302	0.0386075			
Aroclor-1254 (3)	A	250.00	264	0.0516471	0.0545564			
Aroclor-1254 (4)	A	250.00	271	0.1004230	0.1088147			
Aroclor-1254 (5)	A	250.00	323	0.0629414	0.0812452			
Aroclor 1254 [2C]	A	250.00	242	0.0763106	0.0739290		-3.1	
Aroclor-1254 (1) [2C]	A	250.00	241	0.0608052	0.0587271			
Aroclor-1254 (2) [2C]	A	250.00	241	0.0489162	0.0472448			
Aroclor-1254 (3) [2C]	A	250.00	242	0.1058376	0.1023944			
Aroclor-1254 (4) [2C]	A	250.00	242	0.1031750	0.0997841			
Aroclor-1254 (5) [2C]	A	250.00	245	0.0628191	0.0614945			
Decachlorobiphenyl	A	40.000	30.8	0.7878687	0.6070139		-23.0	
Tetrachlorometaxylene	A	40.000	35.5	1.1944880	1.0593570		-11.3	
Decachlorobiphenyl [2C]	A	40.000	37.5	1.2182710	1.1409820		-6.3	
Tetrachlorometaxylene [2C]	A	40.000	35.7	1.1737210	1.0466760		-10.8	

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230315.b/03152306ECD7.D
Data file 2: /230315.b/230315.b/03152306ECD7.D
Method: \\target\share\chem4\ecd7.i\230315.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254ICV1
Client ID:
Injection Date: 15-MAR-2023 14:43
Report Date: 03/16/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.810	-0.001	523127	5.692	-0.001	188744	35.5	35.7	0.5	Tetrachloro-m-xylene
13.898	0.001	757146	14.120	-0.001	305511	30.8	37.5	19.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	987631	46.6
Hexabromobiphenyl	1429847	2494658	74.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	360654	14.4
Hexabromobiphenyl	513946	535523	4.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1254	1	9.304	0.005	261334	263.5	1	9.457	-0.001	66188	241.5
Aroclor-1254	2	9.385	0.007	119156	267.1	2	9.978	0.000	53247	241.5
Aroclor-1254	3	9.676	0.008	168380	264.1	3	10.134	0.000	115403	241.9
Aroclor-1254	4	9.817	0.009	335840	270.9	4	10.382	-0.000	112461	241.8
Aroclor-1254	5	10.189	0.013	250751	322.7	5	10.577	-0.001	69307	244.7
Total Col1Ave (5 peaks):					277.7	Total Col2Ave (5 peaks):				242.3 RPD = 14
Corrected Ave (4 peaks):					266.4	Corrected Ave (4 peaks):				241.6 RPD = 10
CalAmt %D:					11.1	CalAmt %D:				-3.1

Total PCB Area Col1 (5.911 - 13.797) = 3476528 Col1 Total PCB = 0.3 ppm*

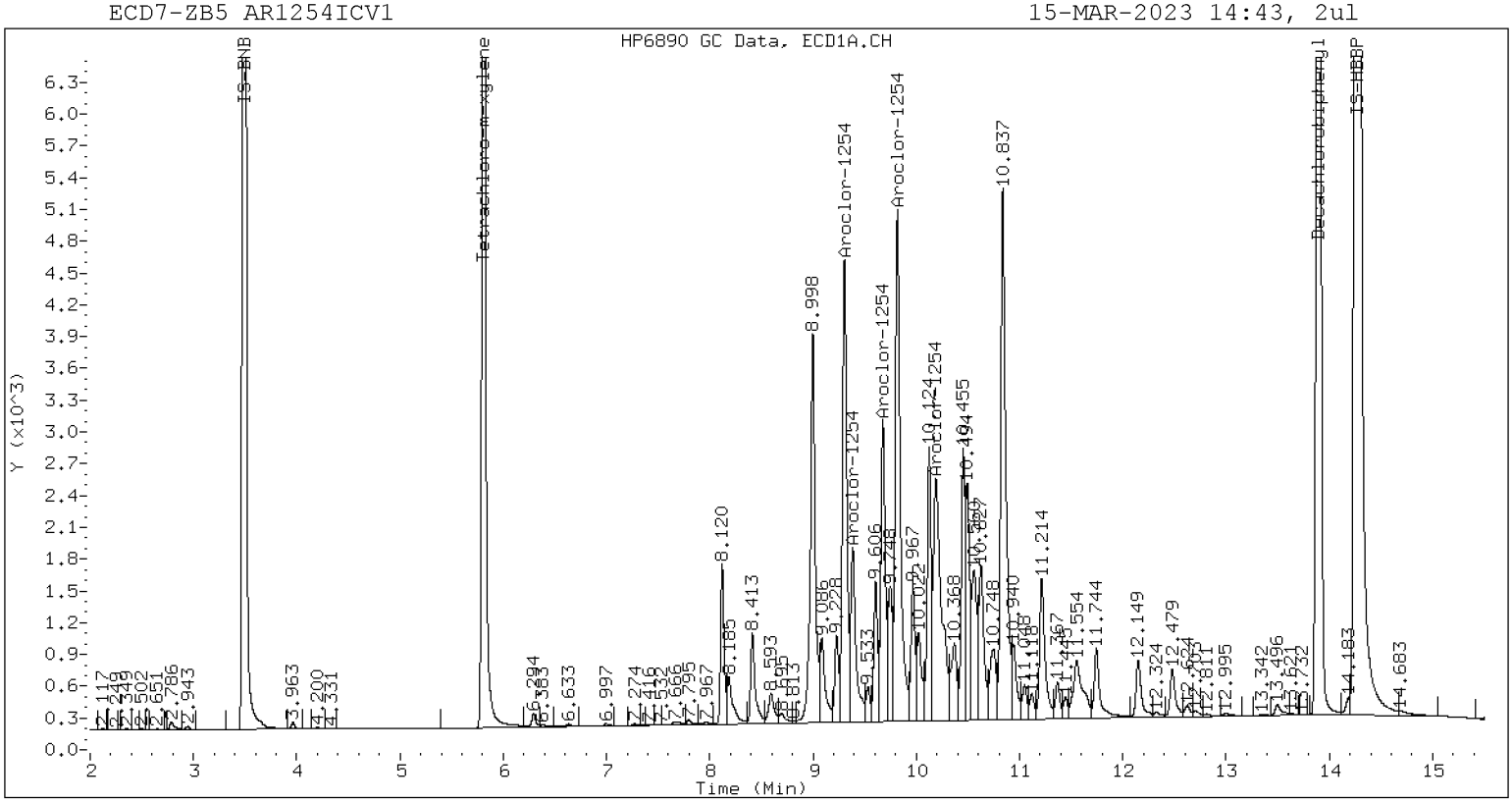
Total PCB Area Col2 (5.792 - 14.021) = 1119243 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

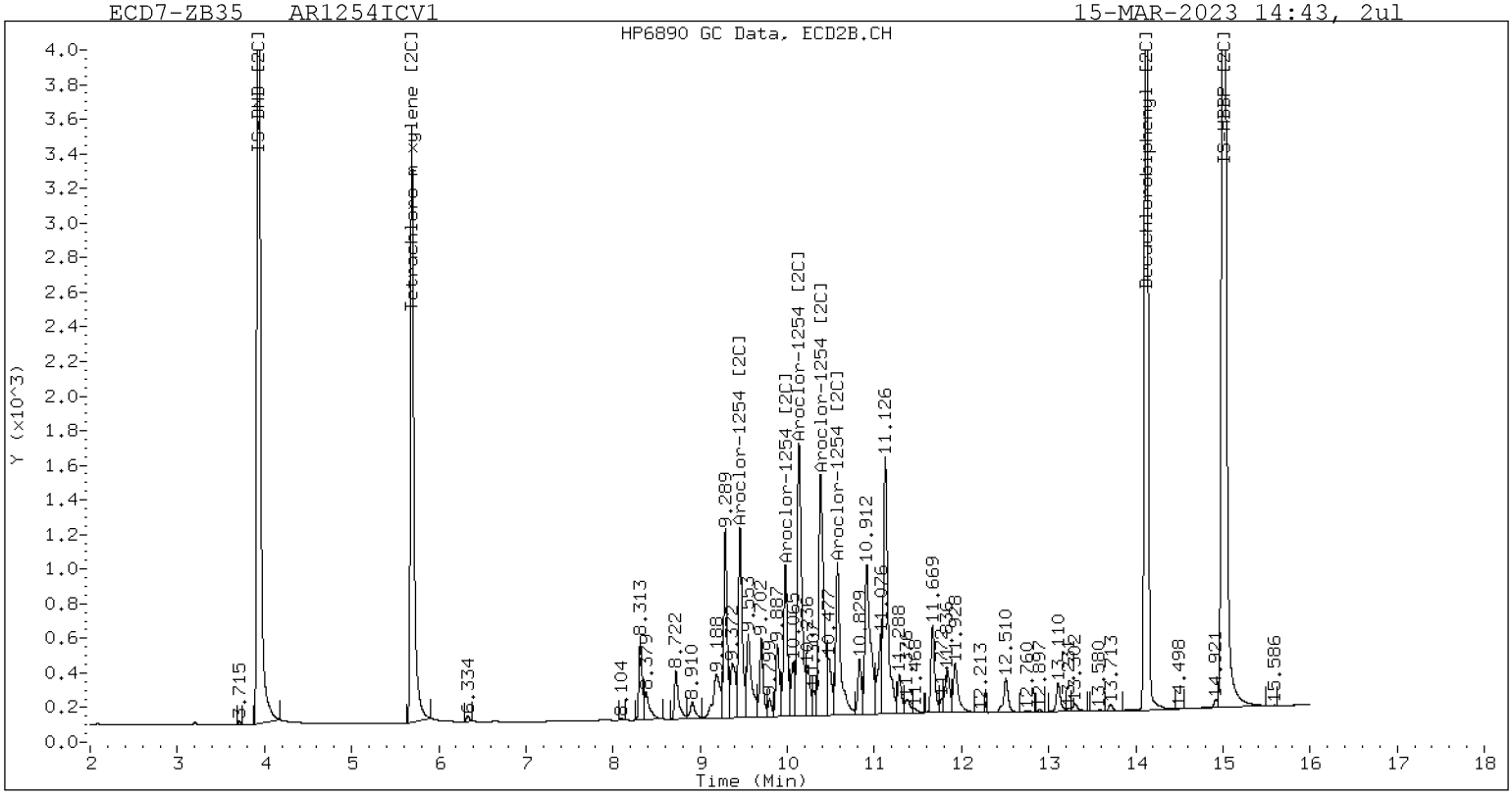
PCB Dual Column Chromatograms

ECD7-ZB5 AR1254ICV1 15-MAR-2023 14:43, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1254ICV1 15-MAR-2023 14:43, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, LLC
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	03152307ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLC0215	Injection Date:	03/15/23
Lab Sample ID:	SLC0215-ICV2	Injection Time:	15:04
Sequence Name:	AR1660ICV2		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Aroclor 1016	A	250.00	246	0.0493662	0.0484376		-1.6	
Aroclor-1016 (1)	A	250.00	240	0.0303852	0.0291161		-4.0	
Aroclor-1016 (2)	A	250.00	240	0.0926308	0.0889754		-4.0	
Aroclor-1016 (3)	A	250.00	262	0.0452180	0.0473193		4.8	
Aroclor-1016 (4)	A	250.00	242	0.0292307	0.0283397		-3.2	
Aroclor 1016 [2C]	A	250.00	248	0.0545857	0.0537049		-0.9	
Aroclor-1016 (1) [2C]	A	250.00	228	0.0468313	0.0427876		-8.8	
Aroclor-1016 (2) [2C]	A	250.00	241	0.0949676	0.0916476		-3.6	
Aroclor-1016 (3) [2C]	A	250.00	274	0.0428922	0.0470415		9.6	
Aroclor-1016 (4) [2C]	A	250.00	248	0.0336515	0.0333430		-0.8	
Aroclor 1260	A	250.00	224	0.0392091	0.0349117		-10.4	
Aroclor-1260 (1)	A	250.00	234	0.0287785	0.0269957		-6.4	
Aroclor-1260 (2)	A	250.00	227	0.0300690	0.0273171		-9.2	
Aroclor-1260 (3)	A	250.00	219	0.0797517	0.0697586		-12.4	
Aroclor-1260 (4)	A	250.00	219	0.0401599	0.0351835		-12.4	
Aroclor-1260 (5)	A	250.00	221	0.0172866	0.0153035		-11.6	
Aroclor 1260 [2C]	A	250.00	251	0.0699688	0.0712829		0.3	
Aroclor-1260 (1) [2C]	A	250.00	257	0.0470406	0.0483227		2.8	
Aroclor-1260 (2) [2C]	A	250.00	260	0.1200523	0.1247405		4.0	
Aroclor-1260 (3) [2C]	A	250.00	230	0.0318590	0.0292543		-8.0	
Aroclor-1260 (4) [2C]	A	250.00	256	0.0809231	0.0828142		2.4	
Decachlorobiphenyl	A	40.000	31.5	0.7878687	0.6207508		-21.3	
Tetrachlorometaxylene	A	40.000	36.6	1.1944880	1.0920760		-8.5	
Decachlorobiphenyl [2C]	A	40.000	38.0	1.2182710	1.1582140		-5.0	
Tetrachlorometaxylene [2C]	A	40.000	36.6	1.1737210	1.0750530		-8.5	

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230315.b/03152307ECD7.D
Data file 2: /230315.b/230315.b/03152307ECD7.D
Method: \\target\share\chem4\ecd7.i\230315.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660ICV2
Client ID:
Injection Date: 15-MAR-2023 15:04
Report Date: 03/16/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.810	-0.001	547342	5.692	0.000	196074	36.6	36.6	0.2	Tetrachloro-m-xylene
13.896	-0.001	815056	14.122	0.001	318744	31.5	38.0	18.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	1002388	48.8
Hexabromobiphenyl	1429847	2626033	83.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	364771	15.7
Hexabromobiphenyl	513946	550406	7.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.273	0.003	91205	239.6	1	7.259	0.001	48774	228.4
Aroclor-1016	2	7.665	0.011	278712	240.1	2	7.871	-0.001	104470	241.3
Aroclor-1016	3	7.798	0.008	148226	261.6	3	8.069	-0.000	53623	274.2
Aroclor-1016	4	8.412	0.007	88773	242.4	4	8.314	0.001	38008	247.7
Total Col1Ave (4 peaks):					245.9	Total Col2Ave (4 peaks):				247.9 RPD = 1
Corrected Ave (3 peaks):					240.7	Corrected Ave (3 peaks):				239.1 RPD = 1
CalAmt %D:					-1.6	CalAmt %D:				-0.8
Aroclor-1260	1	11.050	0.005	221536	234.5	1	11.658	0.000	83116	256.8
Aroclor-1260	2	11.367	0.006	224174	227.1	2	11.925	0.000	214556	259.8
Aroclor-1260	3	11.743	0.009	572464	218.7	3	12.441	0.000	50318	229.6
Aroclor-1260	4	12.148	0.009	288728	219.0	4	12.509	0.001	142442	255.8
Aroclor-1260	5	12.249	0.005	125586	221.3	NS	---			----
Total Col1Ave (5 peaks):					224.1	Total Col2Ave (4 peaks):				250.5 RPD = 11
Corrected Ave (4 peaks):					221.5	Corrected Ave (3 peaks):				247.4 RPD = 11
CalAmt %D:					-10.3	CalAmt %D:				0.2

Total PCB Area Col1 (5.911 - 13.797) = 6074384 Col1 Total PCB = 0.5 ppm*

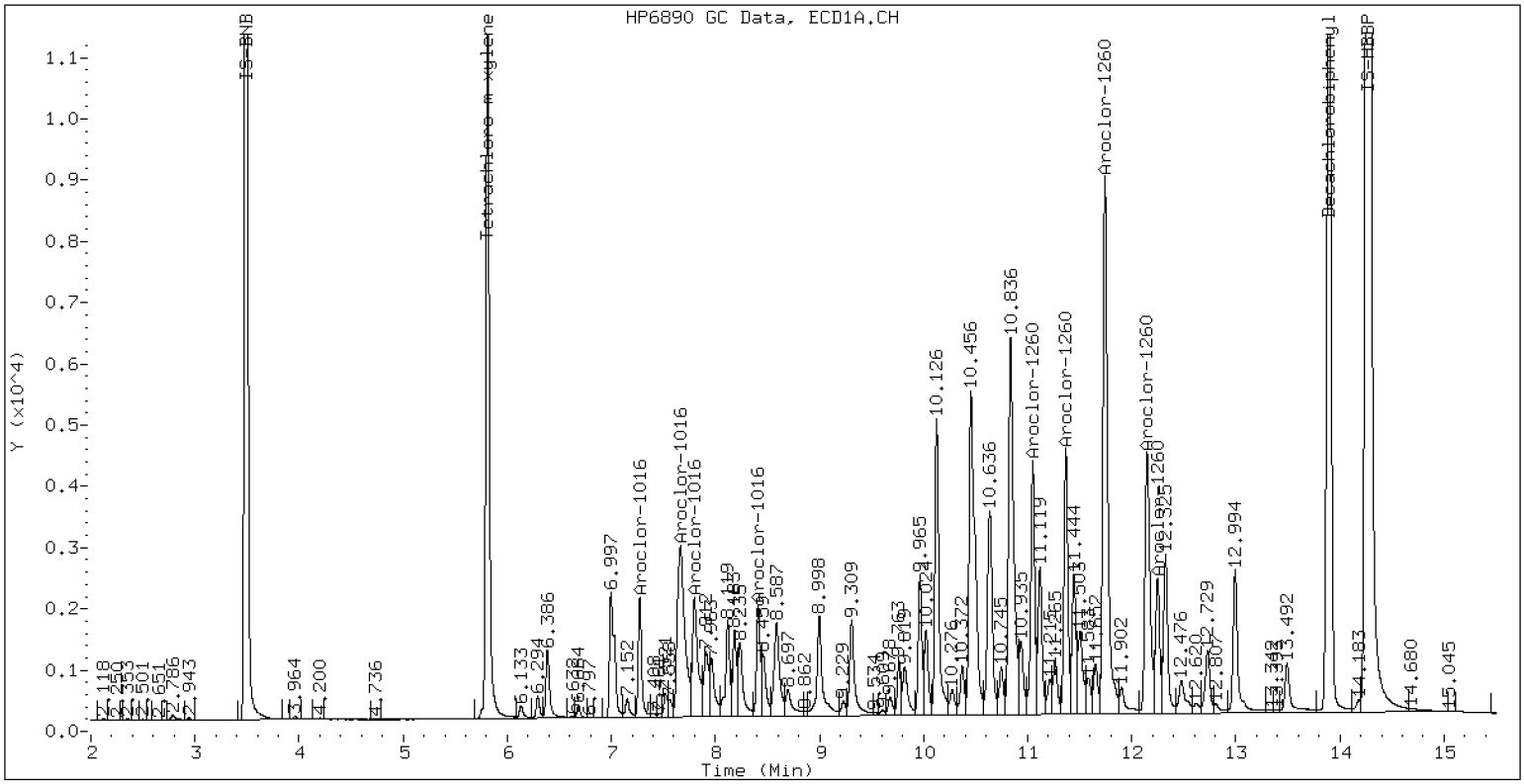
Total PCB Area Col2 (5.792 - 14.021) = 2011382 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

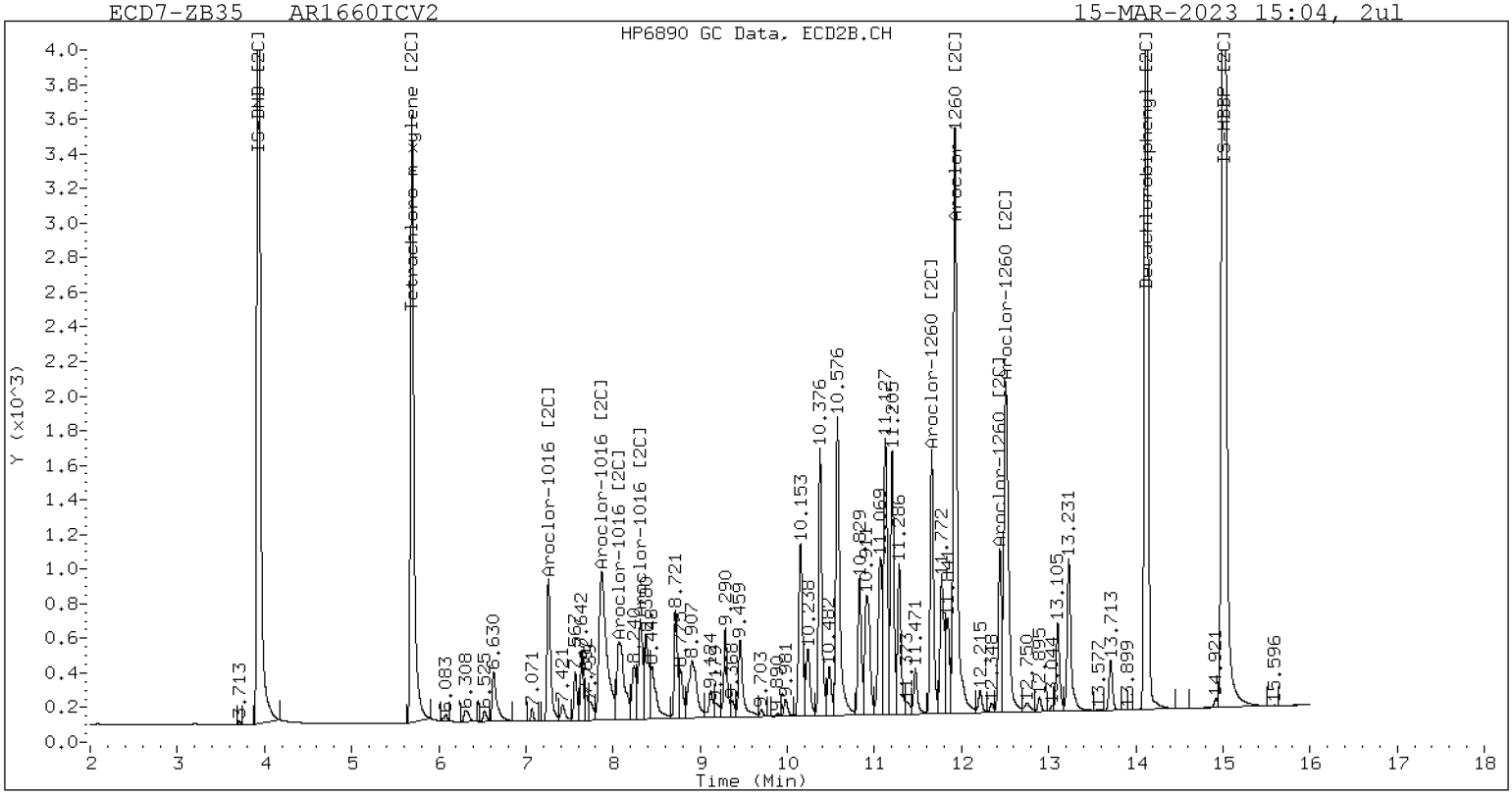
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660ICV2 15-MAR-2023 15:04, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660ICV2 15-MAR-2023 15:04, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, LLC
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	02242313ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLB0342	Injection Date:	02/24/23
Lab Sample ID:	SLB0342-SCV1	Injection Time:	15:03
Sequence Name:	AR1660SCV1		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	243	0.0493662	0.0479314		-2.7	+/-20
Aroclor 1016 [2C]	A	250.00	246	0.0545857	0.0542382		-1.4	+/-20
Aroclor 1260	A	250.00	266	0.0392091	0.0412121		6.2	+/-20
Aroclor 1260 [2C]	A	250.00	261	0.0699688	0.0733659		4.5	+/-20
Decachlorobiphenyl	A	40.000	34.3	0.7878687	0.6762784		-14.2	+/-20
Tetrachlorometaxylene	A	40.000	34.9	1.1944880	1.0436010		-12.6	+/-20
Decachlorobiphenyl [2C]	A	40.000	37.3	1.2182710	1.1373730		-6.6	+/-20
Tetrachlorometaxylene [2C]	A	40.000	35.8	1.1737210	1.0492890		-10.6	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	02242314ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLB0342	Injection Date:	02/24/23
Lab Sample ID:	SLB0342-SCV2	Injection Time:	15:24
Sequence Name:	AR1242SCV2		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1242	A	250.00	204	0.0395340	0.0322254		-18.5	+/-20
Aroclor 1242 [2C]	A	250.00	221	0.0423092	0.0365983		-11.8	+/-20
Decachlorobiphenyl	A	40.000	37.0	0.7878687	0.7290534		-7.5	+/-20
Tetrachlorometaxylene	A	40.000	33.6	1.1944880	1.0041320		-15.9	+/-20
Decachlorobiphenyl [2C]	A	40.000	40.3	1.2182710	1.2285170		0.8	+/-20
Tetrachlorometaxylene [2C]	A	40.000	34.5	1.1737210	1.0131510		-13.7	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	02242315ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLB0342	Injection Date:	02/24/23
Lab Sample ID:	SLB0342-SCV3	Injection Time:	15:45
Sequence Name:	AR1248SCV3		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1248	A	250.00	249	0.0574755	0.0572474		-0.2	+/-20
Aroclor 1248 [2C]	A	250.00	248	0.0444270	0.0440936		-0.8	+/-20
Decachlorobiphenyl	A	40.000	33.1	0.7878687	0.6527336		-17.2	+/-20
Tetrachlorometaxylene	A	40.000	34.9	1.1944880	1.0413820		-12.8	+/-20
Decachlorobiphenyl [2C]	A	40.000	36.3	1.2182710	1.1066400		-9.2	+/-20
Tetrachlorometaxylene [2C]	A	40.000	36.4	1.1737210	1.0676190		-9.0	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	02242316ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLB0342	Injection Date:	02/24/23
Lab Sample ID:	SLB0342-SCV4	Injection Time:	16:06
Sequence Name:	AR1254SCV4		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1254	A	250.00	235	0.0662949	0.0622529		-5.9	+/-20
Aroclor 1254 [2C]	A	250.00	240	0.0763106	0.0731447		-4.0	+/-20
Decachlorobiphenyl	A	40.000	34.6	0.7878687	0.6823832		-13.4	+/-20
Tetrachlorometaxylene	A	40.000	36.1	1.1944880	1.0787610		-9.7	+/-20
Decachlorobiphenyl [2C]	A	40.000	37.9	1.2182710	1.1548440		-5.2	+/-20
Tetrachlorometaxylene [2C]	A	40.000	37.1	1.1737210	1.0880920		-7.3	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	02242317ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLB0342	Injection Date:	02/24/23
Lab Sample ID:	SLB0342-SCV5	Injection Time:	16:27
Sequence Name:	AR2162SCV5		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1221	A	250.00	258	0.0165758	0.0169561		3.3	+/-20
Aroclor 1221 [2C]	A	250.00	256	0.0150798	0.0153801		2.5	+/-20
Aroclor 1262	A	250.00	247	0.0366596	0.0361658		-1.2	+/-20
Aroclor 1262 [2C]	A	250.00	249	0.0739760	0.0737876		-0.3	+/-20
Decachlorobiphenyl	A	40.000	34.4	0.7878687	0.6780614		-13.9	+/-20
Tetrachlorometaxylene	A	40.000	36.0	1.1944880	1.0756080		-10.0	+/-20
Decachlorobiphenyl [2C]	A	40.000	37.9	1.2182710	1.1528740		-5.4	+/-20
Tetrachlorometaxylene [2C]	A	40.000	36.6	1.1737210	1.0753820		-8.4	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	02242318ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLB0342	Injection Date:	02/24/23
Lab Sample ID:	SLB0342-SCV6	Injection Time:	16:48
Sequence Name:	AR3268SCV6		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1232	A	250.00	245	0.0169039	0.0169981		-2.0	+/-20
Aroclor 1232 [2C]	A	250.00	259	0.0192023	0.0199392		3.4	+/-20
Aroclor 1268	A	250.00	246	0.1442124	0.1418626		-1.4	+/-20
Aroclor 1268 [2C]	A	250.00	249	0.2386862	0.2369075		-0.6	+/-20
Decachlorobiphenyl	A	40.000	51.3	0.7878687	1.0108790		28.3	+/-20
Tetrachlorometaxylene	A	40.000	37.1	1.1944880	1.1067180		-7.3	+/-20
Decachlorobiphenyl [2C]	A	40.000	56.4	1.2182710	1.7182840		41.0	+/-20
Tetrachlorometaxylene [2C]	A	40.000	38.2	1.1737210	1.1196760		-4.6	+/-20

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	03152313ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLC0215	Injection Date:	03/15/23
Lab Sample ID:	SLC0215-CCV1	Injection Time:	17:09
Sequence Name:	AR1248CCV1		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1248	A	250.00	268	0.0574755	0.0623427		7.2	
Aroclor-1248 (1)	A	250.00	249		0.0388222			
Aroclor-1248 (2)	A	250.00	253		0.0501795			
Aroclor-1248 (3)	A	250.00	280		0.1050406			
Aroclor-1248 (4)	A	250.00	290		0.0553285			
Aroclor 1248 [2C]	A	250.00	241	0.0444270	0.0427369		-3.7	
Aroclor-1248 (1) [2C]	A	250.00	243		0.0371097			
Aroclor-1248 (2) [2C]	A	250.00	237		0.0374862			
Aroclor-1248 (3) [2C]	A	250.00	248		0.0451214			
Aroclor-1248 (4) [2C]	A	250.00	235		0.0512302			
Decachlorobiphenyl	A	40.000	28.7	0.7878687	0.5650591		-28.3	
Tetrachlorometaxylene	A	40.000	35.1	1.1944880	1.0475430		-12.3	
Decachlorobiphenyl [2C]	A	40.000	37.9	1.2182710	1.1537860		-5.3	
Tetrachlorometaxylene [2C]	A	40.000	36.0	1.1737210	1.0557330		-10.0	

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230315.b/03152313ECD7.D
Data file 2: /230315.b/230315.b/03152313ECD7.D
Method: \\target\share\chem4\ecd7.i\230315.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248CCV1
Client ID:
Injection Date: 15-MAR-2023 17:09
Report Date: 03/16/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.811	0.000	521016	5.693	0.001	185706	35.1	36.0	2.5	Tetrachloro-m-xylene
13.897	0.000	836924	14.123	0.002	327643	28.7	37.9	27.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	994739	47.6
Hexabromobiphenyl	1429847	2962253	107.2 <-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	351805	11.6
Hexabromobiphenyl	513946	567944	10.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1248	1	8.411	0.000	120681	248.7	1	8.315	0.000	40798	242.9
Aroclor-1248	2	8.589	0.000	155986	252.8	2	8.722	0.000	41212	237.3
Aroclor-1248	3	8.998	0.000	326525	280.6	3	9.185	0.000	49606	248.2
Aroclor-1248	4	9.302	0.000	171992	290.3	4	9.612	0.000	56322	234.7
Total Col1Ave (4 peaks):					268.1	Total Col2Ave (4 peaks):				240.8 RPD = 11
Corrected Ave (3 peaks):					260.7	Corrected Ave (3 peaks):				238.3 RPD = 9
CalAmt %D:					7.2	CalAmt %D:				-3.7

Total PCB Area Col1 (5.911 - 13.797) = 2501360 Col1 Total PCB = 0.2 ppm*

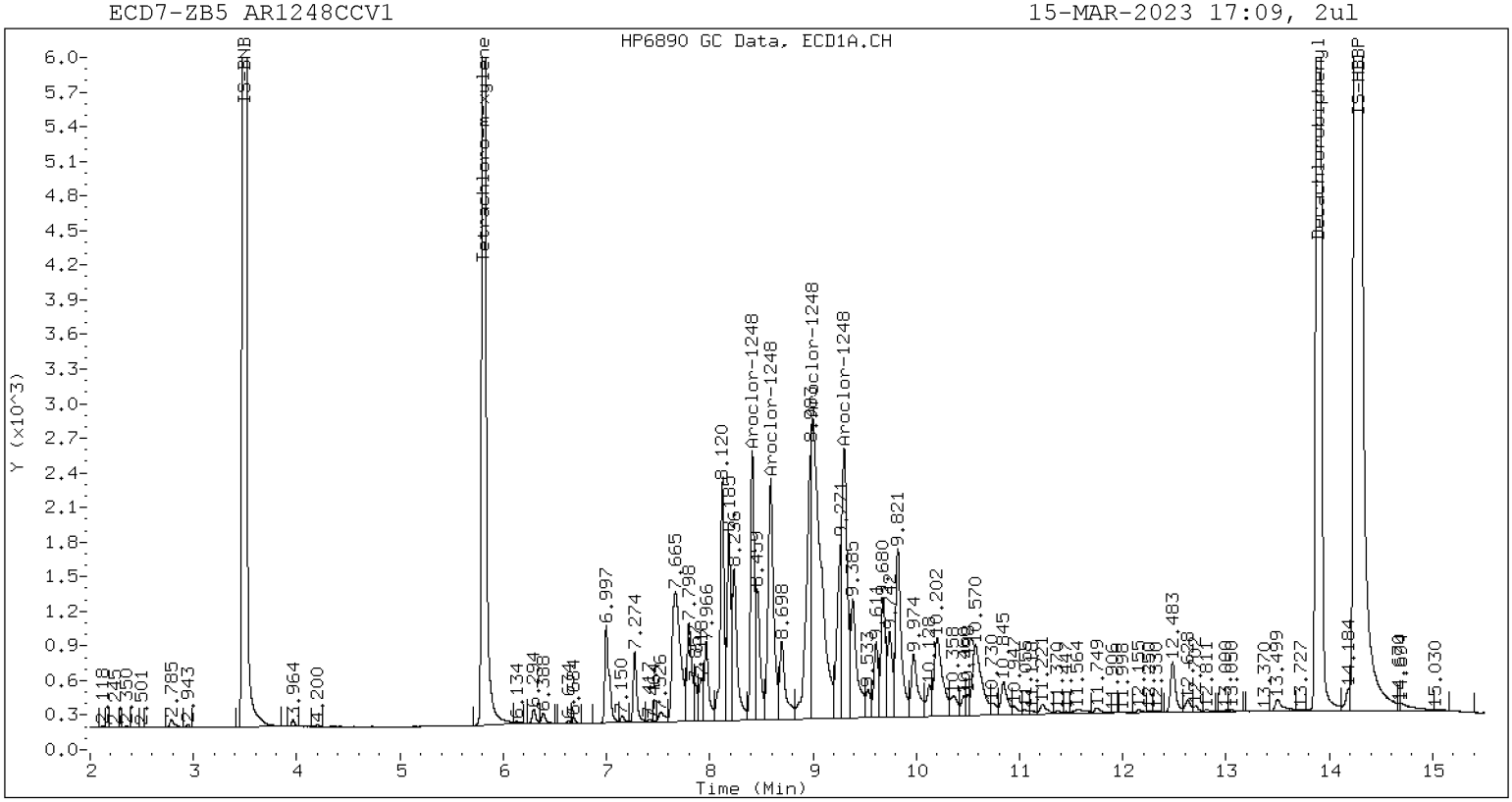
Total PCB Area Col2 (5.792 - 14.021) = 818626 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

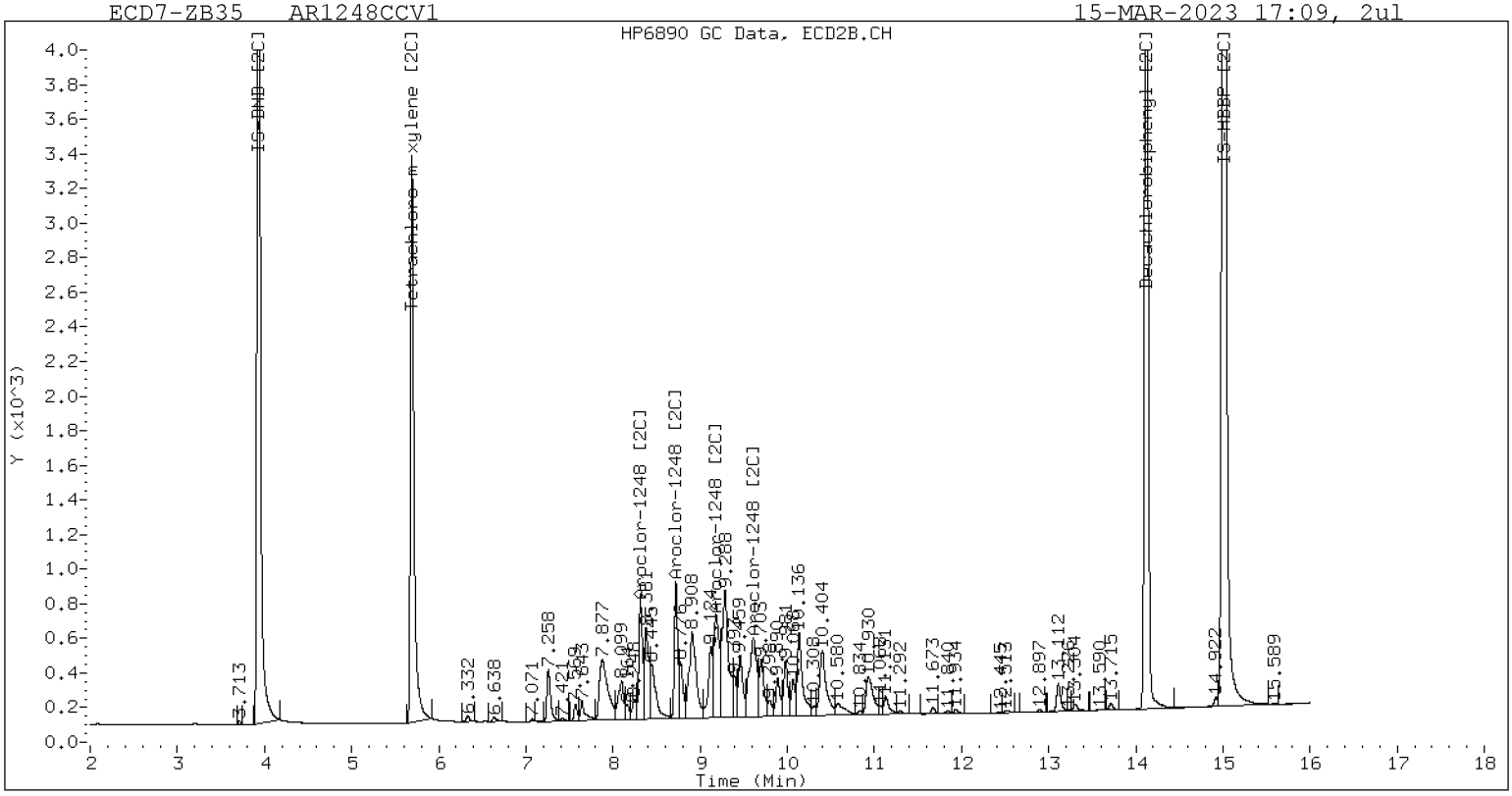
PCB Dual Column Chromatograms

ECD7-ZB5 AR1248CCV1 15-MAR-2023 17:09, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 AR1248CCV1 15-MAR-2023 17:09, 2ul

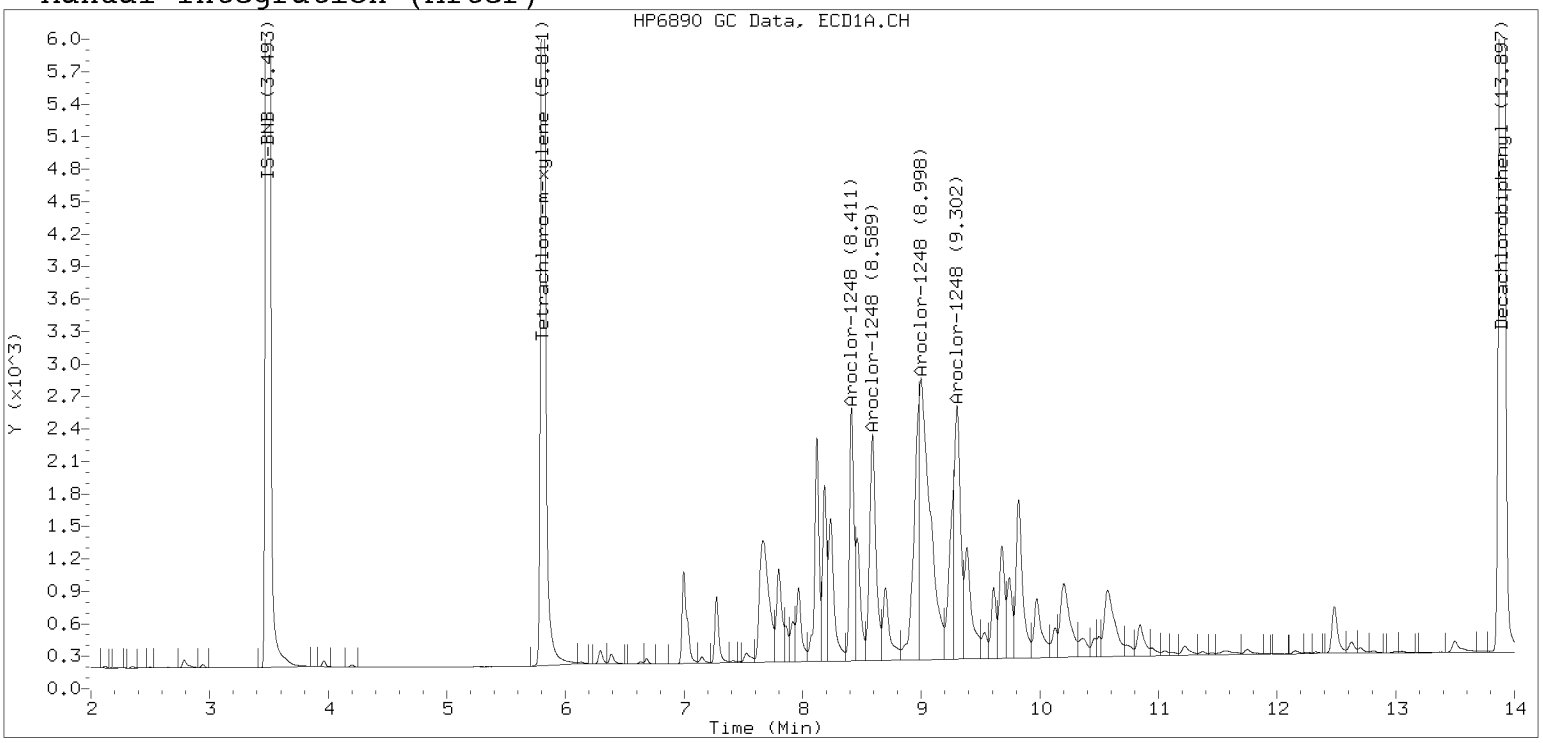


ZB-35 Manual Integration: NO

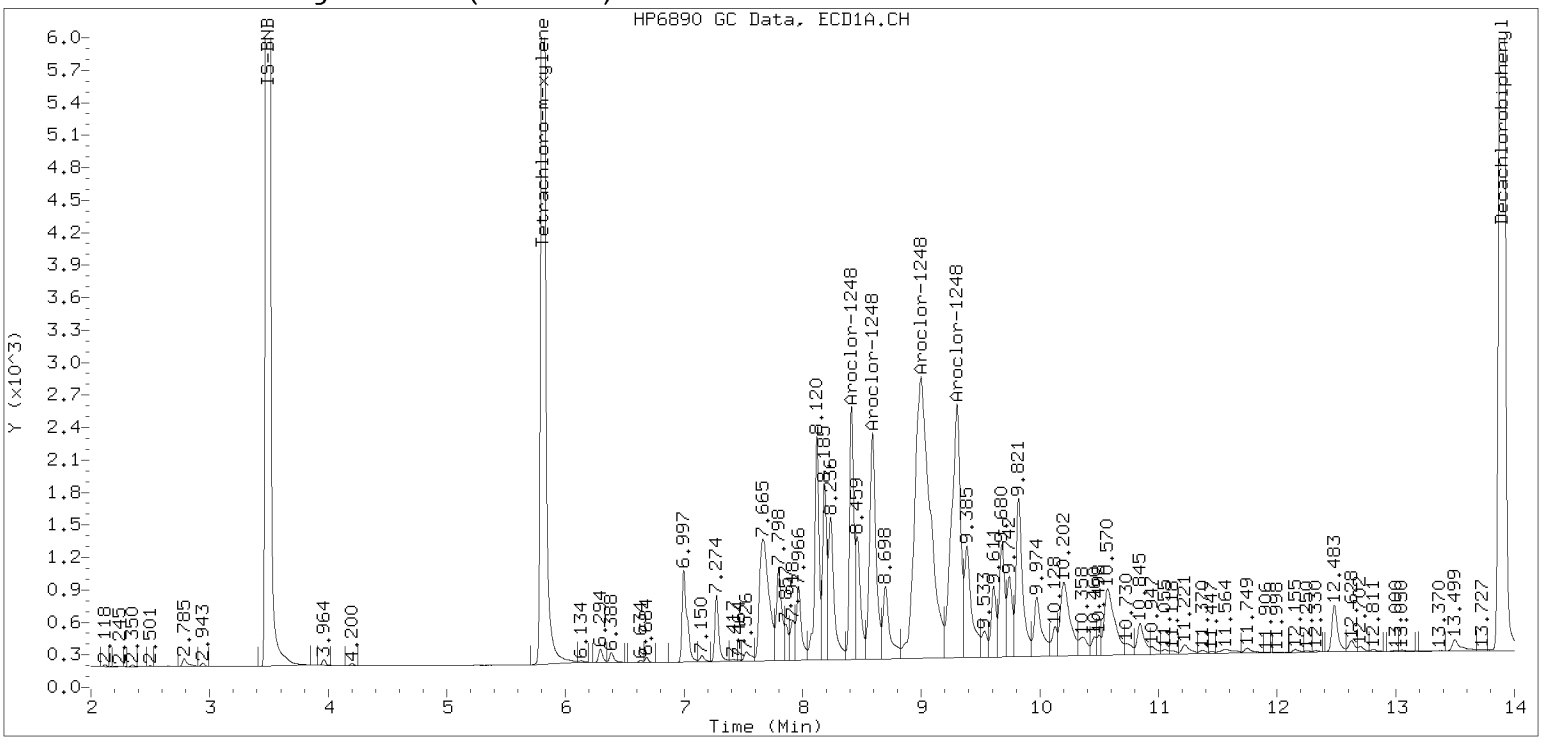
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/230315.b/03152313ECD7.D Injection Date: 15-MAR-2023 17:09

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	03152314ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLC0215	Injection Date:	03/15/23
Lab Sample ID:	SLC0215-CCV2	Injection Time:	17:30
Sequence Name:	AR1660CCV2		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	241	0.0493662	0.0472976		-3.7	
Aroclor-1016 (1)	A	250.00	235	0.0303852	0.0285751		-6.0	
Aroclor-1016 (2)	A	250.00	233	0.0926308	0.0862735		-6.8	
Aroclor-1016 (3)	A	250.00	258	0.0452180	0.0466187		3.2	
Aroclor-1016 (4)	A	250.00	237	0.0292307	0.0277233		-5.2	
Aroclor 1016 [2C]	A	250.00	246	0.0545857	0.0531343		-1.7	
Aroclor-1016 (1) [2C]	A	250.00	225	0.0468313	0.0422156		-10.0	
Aroclor-1016 (2) [2C]	A	250.00	238	0.0949676	0.0902447		-4.8	
Aroclor-1016 (3) [2C]	A	250.00	274	0.0428922	0.0469445		9.6	
Aroclor-1016 (4) [2C]	A	250.00	246	0.0336515	0.0331325		-1.6	
Aroclor 1260	A	250.00	203	0.0392091	0.0317575		-19.0	
Aroclor-1260 (1)	A	250.00	209	0.0287785	0.0240518		-16.4	
Aroclor-1260 (2)	A	250.00	205	0.0300690	0.0246626		-18.0	
Aroclor-1260 (3)	A	250.00	202	0.0797517	0.0645661		-19.2	
Aroclor-1260 (4)	A	250.00	197	0.0401599	0.0316730		-21.2	
Aroclor-1260 (5)	A	250.00	200	0.0172866	0.0138340		-20.0	
Aroclor 1260 [2C]	A	250.00	238	0.0699688	0.0676874		-5.0	
Aroclor-1260 (1) [2C]	A	250.00	243	0.0470406	0.0456724		-2.8	
Aroclor-1260 (2) [2C]	A	250.00	246	0.1200523	0.1184016		-1.6	
Aroclor-1260 (3) [2C]	A	250.00	217	0.0318590	0.0276458		-13.2	
Aroclor-1260 (4) [2C]	A	250.00	244	0.0809231	0.0790299		-2.4	
Decachlorobiphenyl	A	40.000	28.6	0.7878687	0.5631173		-28.5	
Tetrachlorometaxylene	A	40.000	35.6	1.1944880	1.0640570		-11.0	
Decachlorobiphenyl [2C]	A	40.000	38.5	1.2182710	1.1730990		-3.8	
Tetrachlorometaxylene [2C]	A	40.000	36.1	1.1737210	1.0597080		-9.8	

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230315.b/03152314ECD7.D
Data file 2: /230315.b/230315.b/03152314ECD7.D
Method: \\target\share\chem4\ecd7.i\230315.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660CCV2
Client ID:
Injection Date: 15-MAR-2023 17:30
Report Date: 03/16/2023 09:50
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.811	-0.000	557813	5.692	0.000	195087	35.6	36.1	1.3	Tetrachloro-m-xylene
13.897	-0.000	878626	14.123	0.002	346391	28.6	38.5	29.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	1048465	55.6
Hexabromobiphenyl	1429847	3120579	118.2 <-

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	368190	16.8
Hexabromobiphenyl	513946	590557	14.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.274	0.003	93625	235.1	1	7.259	0.000	48573	225.4
Aroclor-1016	2	7.667	0.013	282671	232.8	2	7.873	0.001	103835	237.6
Aroclor-1016	3	7.799	0.009	152744	257.7	3	8.074	0.005	54014	273.6
Aroclor-1016	4	8.411	0.006	90834	237.1	4	8.316	0.002	38122	246.1
Total Col1Ave (4 peaks):					240.7	Total Col2Ave (4 peaks):				245.7 RPD = 2
Corrected Ave (3 peaks):					235.0	Corrected Ave (3 peaks):				236.4 RPD = 1
CalAmt %D:					-3.7	CalAmt %D:				-1.7
Aroclor-1260	1	11.050	0.006	234549	208.9	1	11.659	0.001	84288	242.7
Aroclor-1260	2	11.367	0.006	240505	205.1	2	11.926	0.000	218509	246.6
Aroclor-1260	3	11.745	0.011	629636	202.4	3	12.441	0.000	51020	216.9
Aroclor-1260	4	12.150	0.011	308869	197.2	4	12.510	0.002	145849	244.2
Aroclor-1260	5	12.250	0.006	134906	200.1	NS	---			----
Total Col1Ave (5 peaks):					202.7	Total Col2Ave (4 peaks):				237.6 RPD = 16
Corrected Ave (4 peaks):					201.2	Corrected Ave (3 peaks):				234.6 RPD = 15
CalAmt %D:					-18.9	CalAmt %D:				-5.0

Total PCB Area Col1 (5.911 - 13.797) = 6319137 Col1 Total PCB = 0.5 ppm*

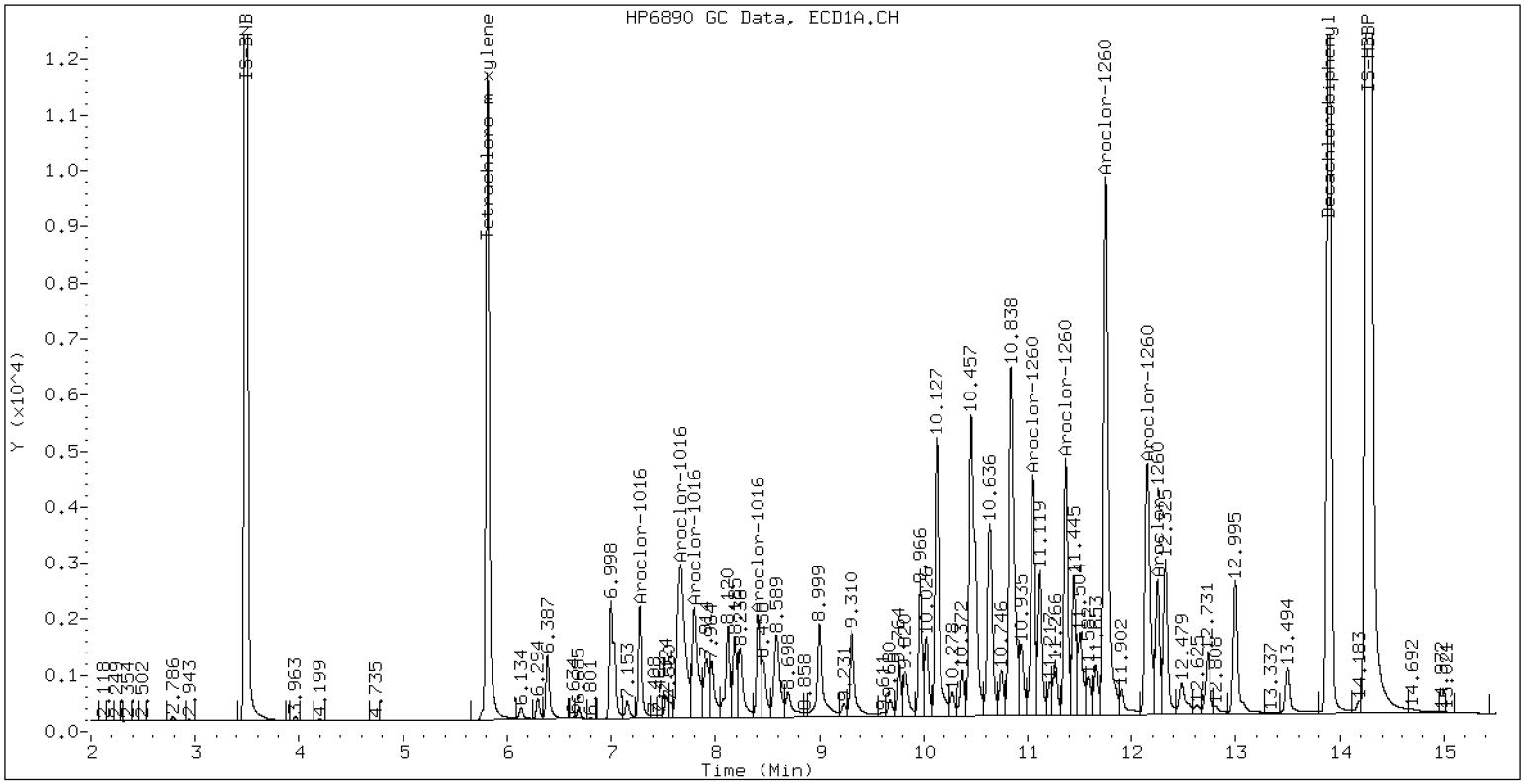
Total PCB Area Col2 (5.792 - 14.021) = 2033687 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

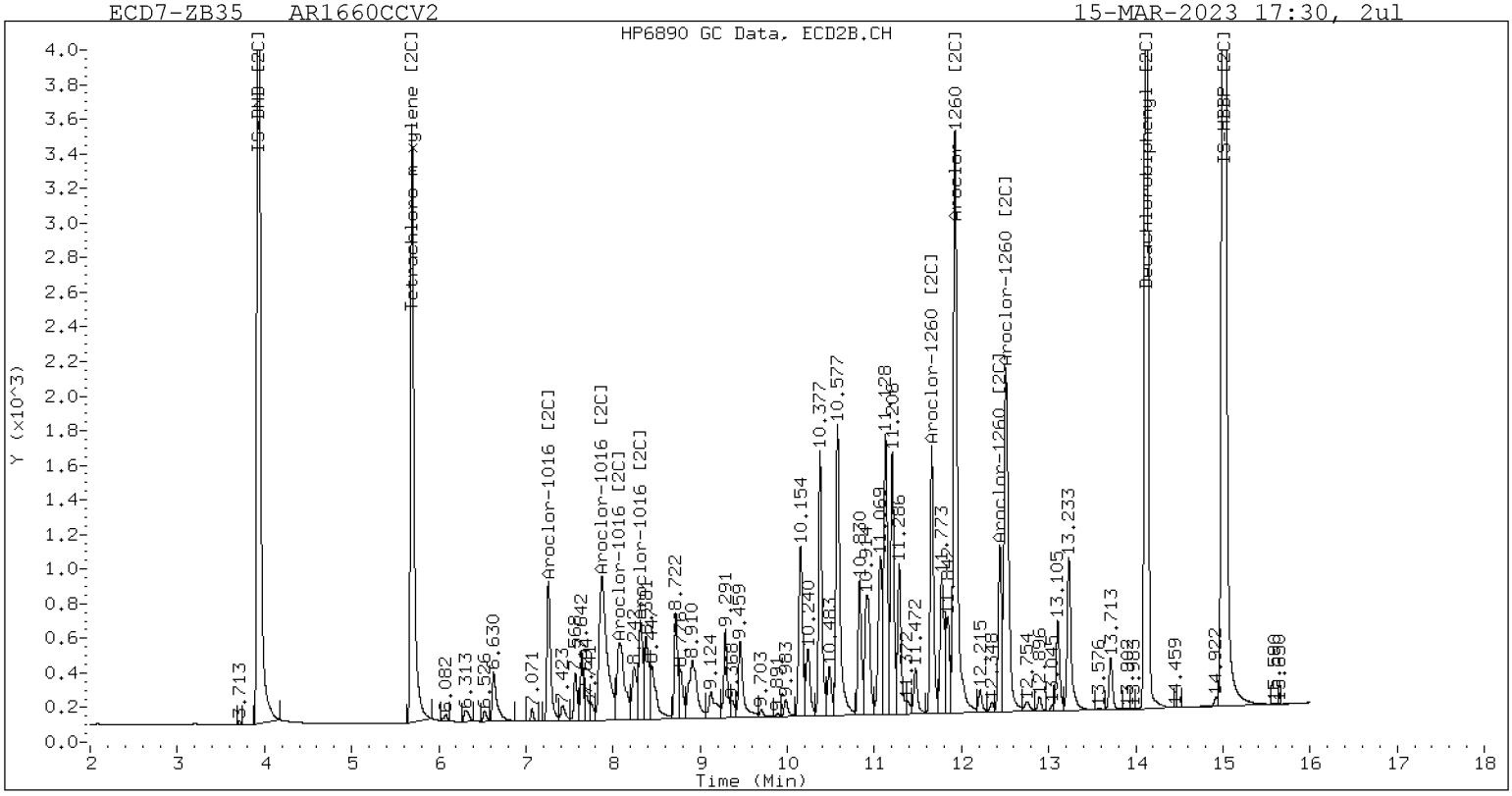
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660CCV2 15-MAR-2023 17:30, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660CCV2 15-MAR-2023 17:30, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	03152331ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLC0215	Injection Date:	03/15/23
Lab Sample ID:	SLC0215-CCV3	Injection Time:	23:24
Sequence Name:	AR1242CCV3		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1242	A	250.00	219	0.0395340	0.0348168		-12.3	
Aroclor-1242 (1)	A	250.00	227		0.0225326			
Aroclor-1242 (2)	A	250.00	223		0.0672613			
Aroclor-1242 (3)	A	250.00	215		0.0201247			
Aroclor-1242 (4)	A	250.00	212		0.0293487			
Aroclor 1242 [2C]	A	250.00	219	0.0423092	0.0373942		-12.3	
Aroclor-1242 (1) [2C]	A	250.00	225		0.0335097			
Aroclor-1242 (2) [2C]	A	250.00	224		0.0701311			
Aroclor-1242 (3) [2C]	A	250.00	222		0.0215855			
Aroclor-1242 (4) [2C]	A	250.00	206		0.0243505			
Decachlorobiphenyl	A	40.000	33.1	0.7878687	0.6515041		-17.3	
Tetrachlorometaxylene	A	40.000	41.5	1.1944880	1.2387200		3.8	
Decachlorobiphenyl [2C]	A	40.000	35.9	1.2182710	1.0941240		-10.3	
Tetrachlorometaxylene [2C]	A	40.000	42.1	1.1737210	1.2344640		5.3	

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230315.b/03152331ECD7.D
Data file 2: /230315.b/230315.b/03152331ECD7.D
Method: \\target\share\chem4\ecd7.i\230315.b\PCB.m
Compound Sublist: AR1242.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242CCV3
Client ID:
Injection Date: 15-MAR-2023 23:24
Report Date: 03/16/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.811	-0.001	673609	5.691	-0.001	232510	41.5	42.1	1.4	Tetrachloro-m-xylene
13.896	-0.001	396151	14.122	0.001	228272	33.1	35.9	8.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	1087589	61.4
Hexabromobiphenyl	1429847	1216112	-14.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	376698	19.5
Hexabromobiphenyl	513946	417269	-18.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1242	1	7.273	0.002	76582	227.2	1	7.258	0.000	39447	225.4
Aroclor-1242	2	7.666	0.010	228602	223.3	2	7.872	0.000	82557	224.4
Aroclor-1242	3	8.412	0.006	68398	214.8	3	9.184	0.000	25410	222.0
Aroclor-1242	4	8.588	0.009	99748	211.9	4	9.615	0.000	28665	205.5
Total Col1Ave (4 peaks):					219.3	Total Col2Ave (4 peaks):				219.3 RPD = 0
Corrected Ave (3 peaks):					216.7	Corrected Ave (3 peaks):				217.3 RPD = 0
CalAmt %D:					-12.3	CalAmt %D:				-12.3

Total PCB Area Col1 (5.911 - 13.797) = 1787261 Col1 Total PCB = 0.1 ppm*

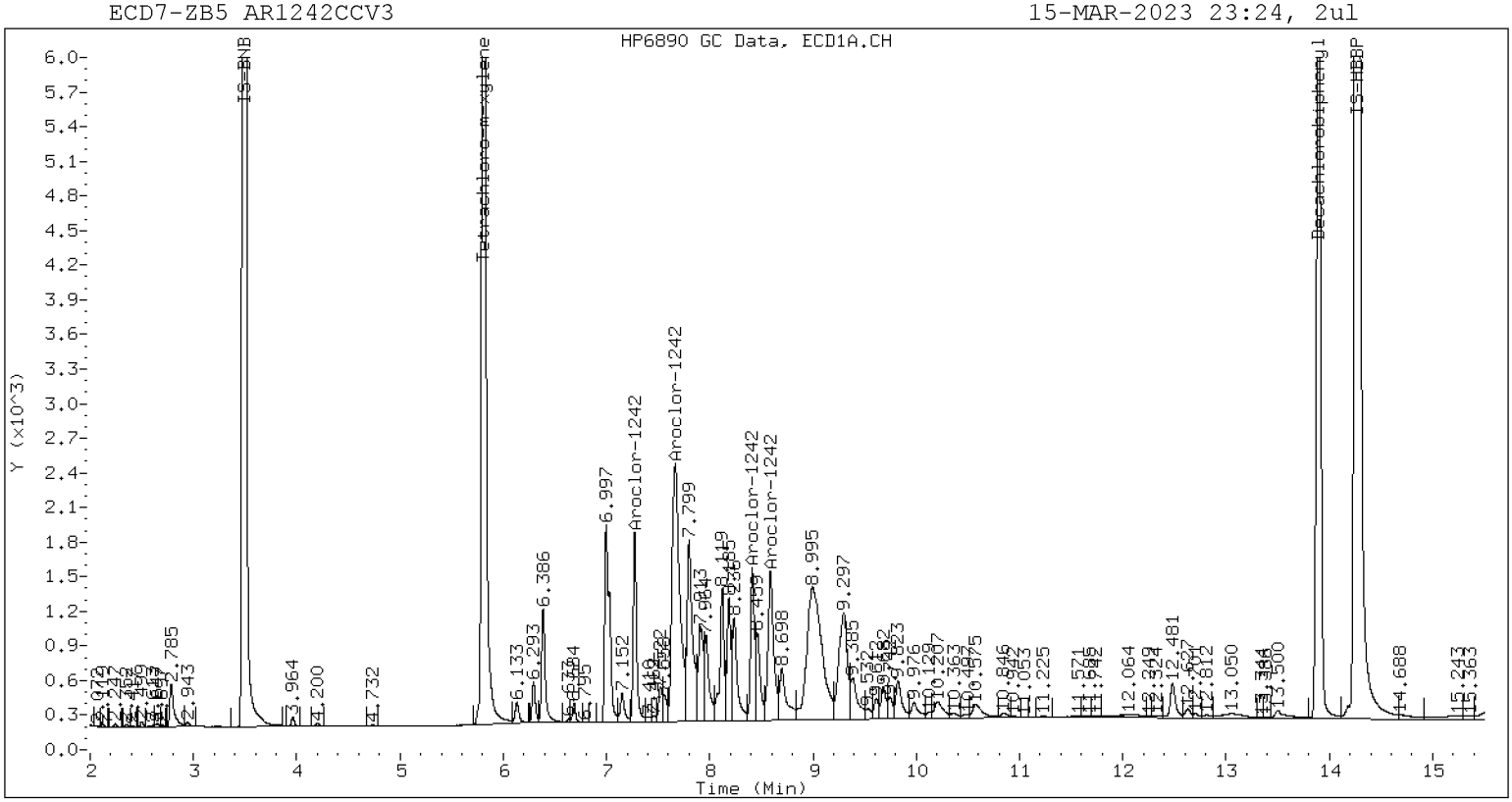
Total PCB Area Col2 (5.792 - 14.021) = 603488 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

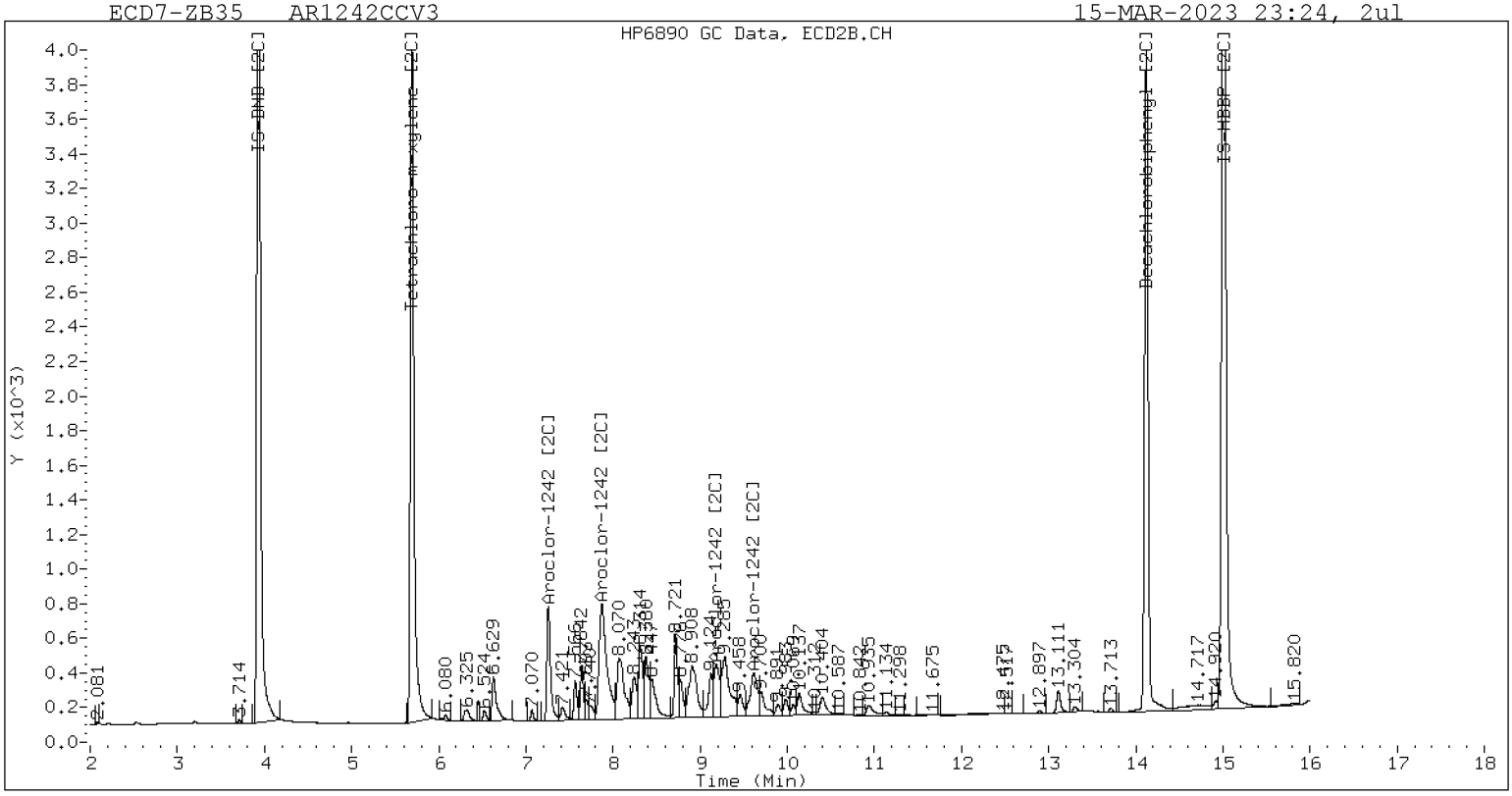
PCB Dual Column Chromatograms

ECD7-ZB5 AR1242CCV3 15-MAR-2023 23:24, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1242CCV3 15-MAR-2023 23:24, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	03152332ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLC0215	Injection Date:	03/15/23
Lab Sample ID:	SLC0215-CCV4	Injection Time:	23:44
Sequence Name:	AR1660CCV4		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	243	0.0493662	0.0477128		-3.0	
Aroclor-1016 (1)	A	250.00	236	0.0303852	0.0286670		-5.6	
Aroclor-1016 (2)	A	250.00	237	0.0926308	0.0876814		-5.2	
Aroclor-1016 (3)	A	250.00	258	0.0452180	0.0465798		3.2	
Aroclor-1016 (4)	A	250.00	239	0.0292307	0.0279229		-4.4	
Aroclor 1016 [2C]	A	250.00	248	0.0545857	0.0536477		-1.0	
Aroclor-1016 (1) [2C]	A	250.00	227	0.0468313	0.0425063		-9.2	
Aroclor-1016 (2) [2C]	A	250.00	242	0.0949676	0.0918102		-3.2	
Aroclor-1016 (3) [2C]	A	250.00	274	0.0428922	0.0470015		9.6	
Aroclor-1016 (4) [2C]	A	250.00	247	0.0336515	0.0332726		-1.2	
Aroclor 1260	A	250.00	338	0.0392091	0.0529336		35.1	
Aroclor-1260 (1)	A	250.00	366	0.0287785	0.0421283		46.4	
Aroclor-1260 (2)	A	250.00	354	0.0300690	0.0425492		41.6	
Aroclor-1260 (3)	A	250.00	336	0.0797517	0.1071622		34.4	
Aroclor-1260 (4)	A	250.00	318	0.0401599	0.0510658		27.2	
Aroclor-1260 (5)	A	250.00	315	0.0172866	0.0217625		26.0	
Aroclor 1260 [2C]	A	250.00	269	0.0699688	0.0762886		7.4	
Aroclor-1260 (1) [2C]	A	250.00	278	0.0470406	0.0523470		11.2	
Aroclor-1260 (2) [2C]	A	250.00	279	0.1200523	0.1338828		11.6	
Aroclor-1260 (3) [2C]	A	250.00	247	0.0318590	0.0314995		-1.2	
Aroclor-1260 (4) [2C]	A	250.00	270	0.0809231	0.0874253		8.0	
Decachlorobiphenyl	A	40.000	36.4	0.7878687	0.7167904		-9.0	
Tetrachlorometaxylene	A	40.000	36.7	1.1944880	1.0969820		-8.3	
Decachlorobiphenyl [2C]	A	40.000	38.8	1.2182710	1.1826760		-3.0	
Tetrachlorometaxylene [2C]	A	40.000	36.5	1.1737210	1.0709110		-8.8	

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230315.b/03152332ECD7.D
Data file 2: /230315.b/230315.b/03152332ECD7.D
Method: \\target\share\chem4\ecd7.i\230315.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660CCV4
Client ID:
Injection Date: 15-MAR-2023 23:44
Report Date: 03/16/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.811	0.000	608747	5.691	-0.001	202061	36.7	36.5	0.7	Tetrachloro-m-xylene
13.897	0.000	569266	14.121	-0.000	280717	36.4	38.8	6.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	1109858	64.7
Hexabromobiphenyl	1429847	1588375	11.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	377363	19.7
Hexabromobiphenyl	513946	474715	-7.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.273	0.003	99426	235.9	1	7.259	0.000	50126	226.9
Aroclor-1016	2	7.667	0.013	304106	236.6	2	7.871	-0.001	108268	241.7
Aroclor-1016	3	7.799	0.009	161553	257.5	3	8.070	0.000	55427	274.0
Aroclor-1016	4	8.412	0.007	96845	238.8	4	8.314	0.000	39237	247.2
Total Col1Ave (4 peaks):					242.2	Total Col2Ave (4 peaks):				247.4 RPD = 2
Corrected Ave (3 peaks):					237.1	Corrected Ave (3 peaks):				238.6 RPD = 1
CalAmt %D:					-3.1	CalAmt %D:				-1.0
Aroclor-1260	1	11.050	0.005	209111	366.0	1	11.658	-0.000	77656	278.2
Aroclor-1260	2	11.368	0.006	211200	353.8	2	11.926	0.000	198613	278.8
Aroclor-1260	3	11.743	0.009	531918	335.9	3	12.441	0.001	46729	247.2
Aroclor-1260	4	12.148	0.009	253474	317.9	4	12.509	0.001	129694	270.1
Aroclor-1260	5	12.249	0.005	108022	314.7	NS	---			----
Total Col1Ave (5 peaks):					337.7	Total Col2Ave (4 peaks):				268.6 RPD = 23
Corrected Ave (4 peaks):					330.6	Corrected Ave (3 peaks):				265.2 RPD = 22
CalAmt %D:					35.1	CalAmt %D:				7.4

Total PCB Area Col1 (5.911 - 13.797) = 5861640 Col1 Total PCB = 0.4 ppm*

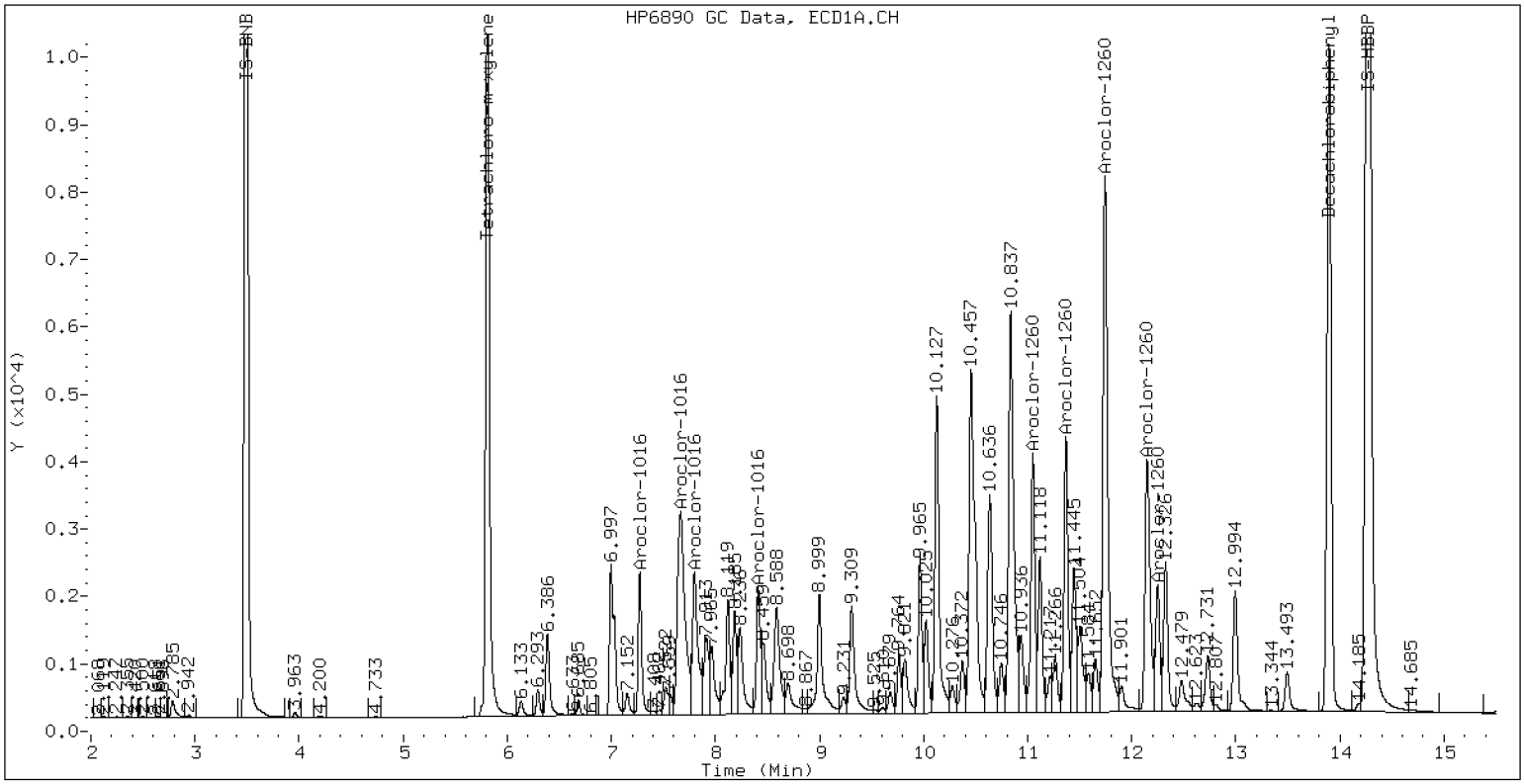
Total PCB Area Col2 (5.792 - 14.021) = 1948467 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

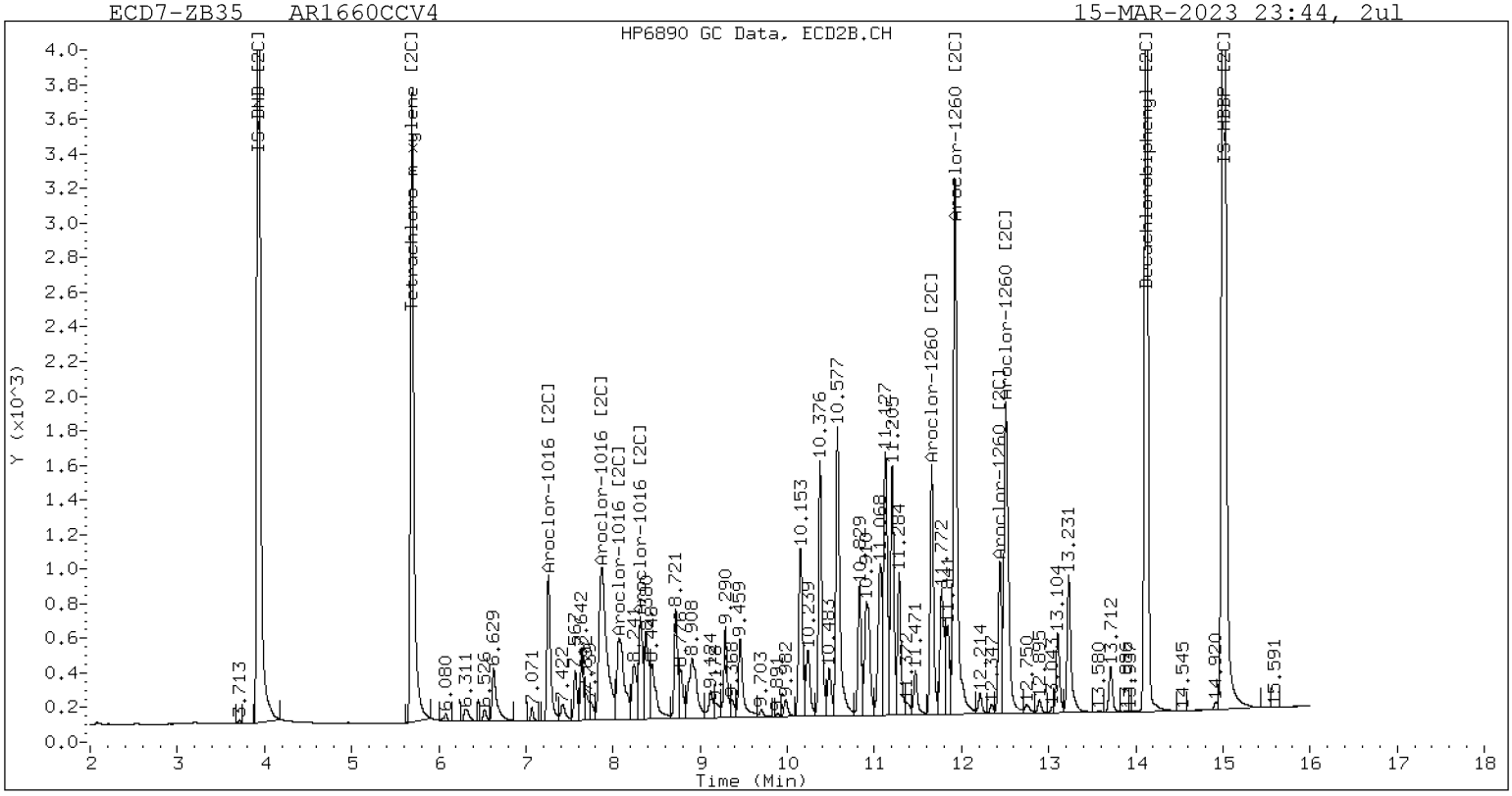
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660CCV4 15-MAR-2023 23:44, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660CCV4 15-MAR-2023 23:44, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	03152339ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLC0215	Injection Date:	03/16/23
Lab Sample ID:	SLC0215-CCV5	Injection Time:	02:10
Sequence Name:	AR1254CCV5		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1254	A	250.00	209	0.0662949	0.0552045		-16.3	
Aroclor-1254 (1)	A	250.00	210		0.0675453			
Aroclor-1254 (2)	A	250.00	210		0.0303713			
Aroclor-1254 (3)	A	250.00	200		0.0412775			
Aroclor-1254 (4)	A	250.00	198		0.0795102			
Aroclor-1254 (5)	A	250.00	228		0.0573183			
Aroclor 1254 [2C]	A	250.00	205	0.0763106	0.0624824		-17.8	
Aroclor-1254 (1) [2C]	A	250.00	214		0.0519430			
Aroclor-1254 (2) [2C]	A	250.00	208		0.0406154			
Aroclor-1254 (3) [2C]	A	250.00	204		0.0863452			
Aroclor-1254 (4) [2C]	A	250.00	202		0.0835949			
Aroclor-1254 (5) [2C]	A	250.00	199		0.0499137			
Decachlorobiphenyl	A	40.000	35.9	0.7878687	0.7079897		-10.3	
Tetrachlorometaxylene	A	40.000	34.0	1.1944880	1.0166700		-15.0	
Decachlorobiphenyl [2C]	A	40.000	37.4	1.2182710	1.1389010		-6.5	
Tetrachlorometaxylene [2C]	A	40.000	35.6	1.1737210	1.0449950		-11.0	

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230315.b/03152339ECD7.D
Data file 2: /230315.b/230315.b/03152339ECD7.D
Method: \\target\share\chem4\ecd7.i\230315.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254CCV5
Client ID:
Injection Date: 16-MAR-2023 02:10
Report Date: 03/16/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.811	0.000	542525	5.692	-0.000	196179	34.0	35.6	4.5	Tetrachloro-m-xylene
13.895	-0.002	368789	14.121	-0.000	222966	35.9	37.4	4.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	1067259	58.4
Hexabromobiphenyl	1429847	1041792	-27.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	375464	19.1
Hexabromobiphenyl	513946	391546	-23.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1254	1	9.306	0.007	225276	210.2	1	9.458	0.000	60946	213.6
Aroclor-1254	2	9.385	0.008	101294	210.2	2	9.978	0.000	47655	207.6
Aroclor-1254	3	9.678	0.010	137668	199.8	3	10.134	0.000	101311	204.0
Aroclor-1254	4	9.817	0.010	265181	197.9	4	10.382	0.000	98084	202.6
Aroclor-1254	5	10.189	0.013	191167	227.7	5	10.577	0.000	58565	198.6

Total Col1Ave (5 peaks): 209.2 Total Col2Ave (5 peaks): 205.3 RPD = 2

Corrected Ave (4 peaks): 204.5 Corrected Ave (4 peaks): 203.2 RPD = 1

CalAmt %D: -16.3 CalAmt %D: -17.9

Total PCB Area Col1 (5.911 - 13.797) = 2697055 Col1 Total PCB = 0.2 ppm*

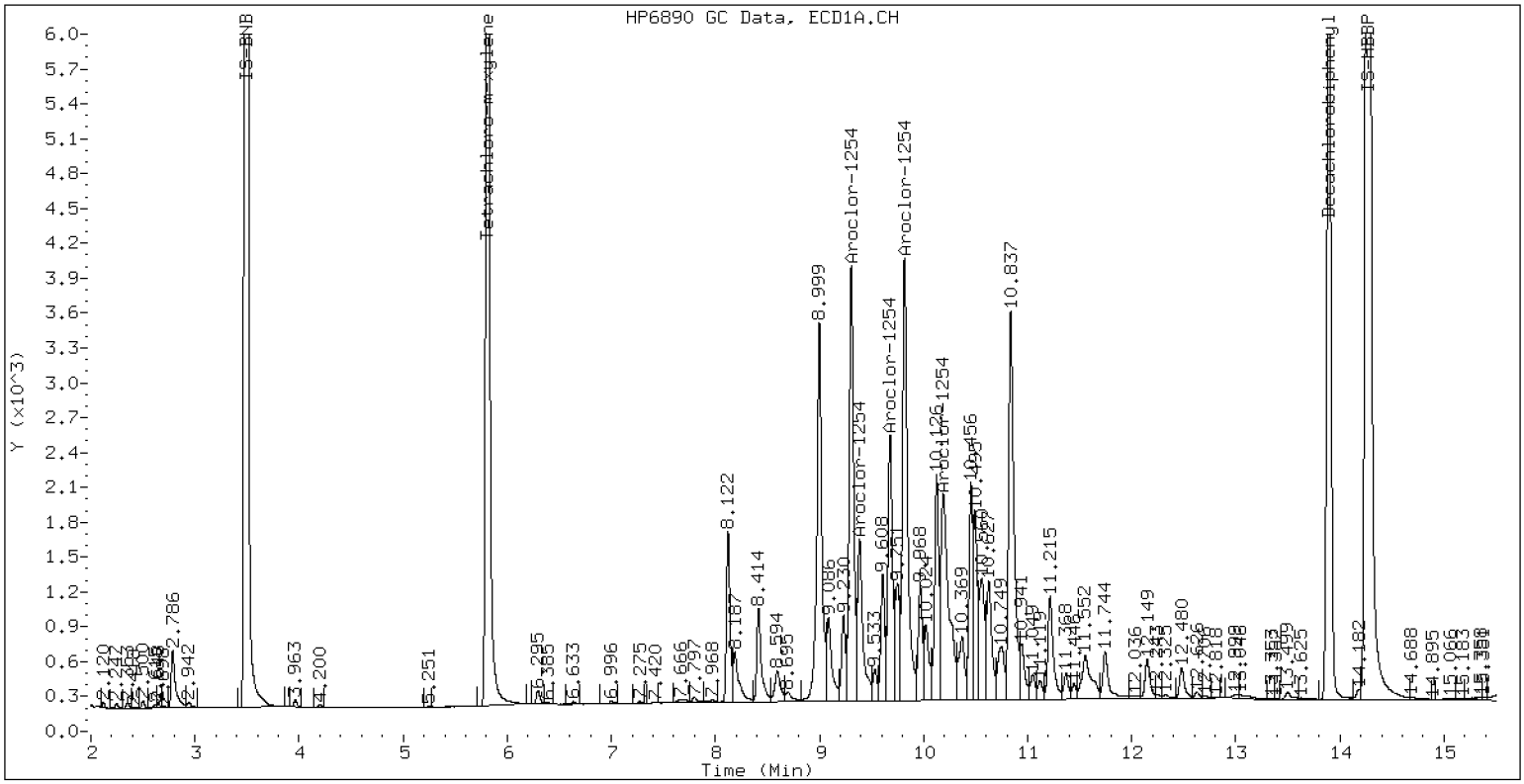
Total PCB Area Col2 (5.792 - 14.021) = 974875 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

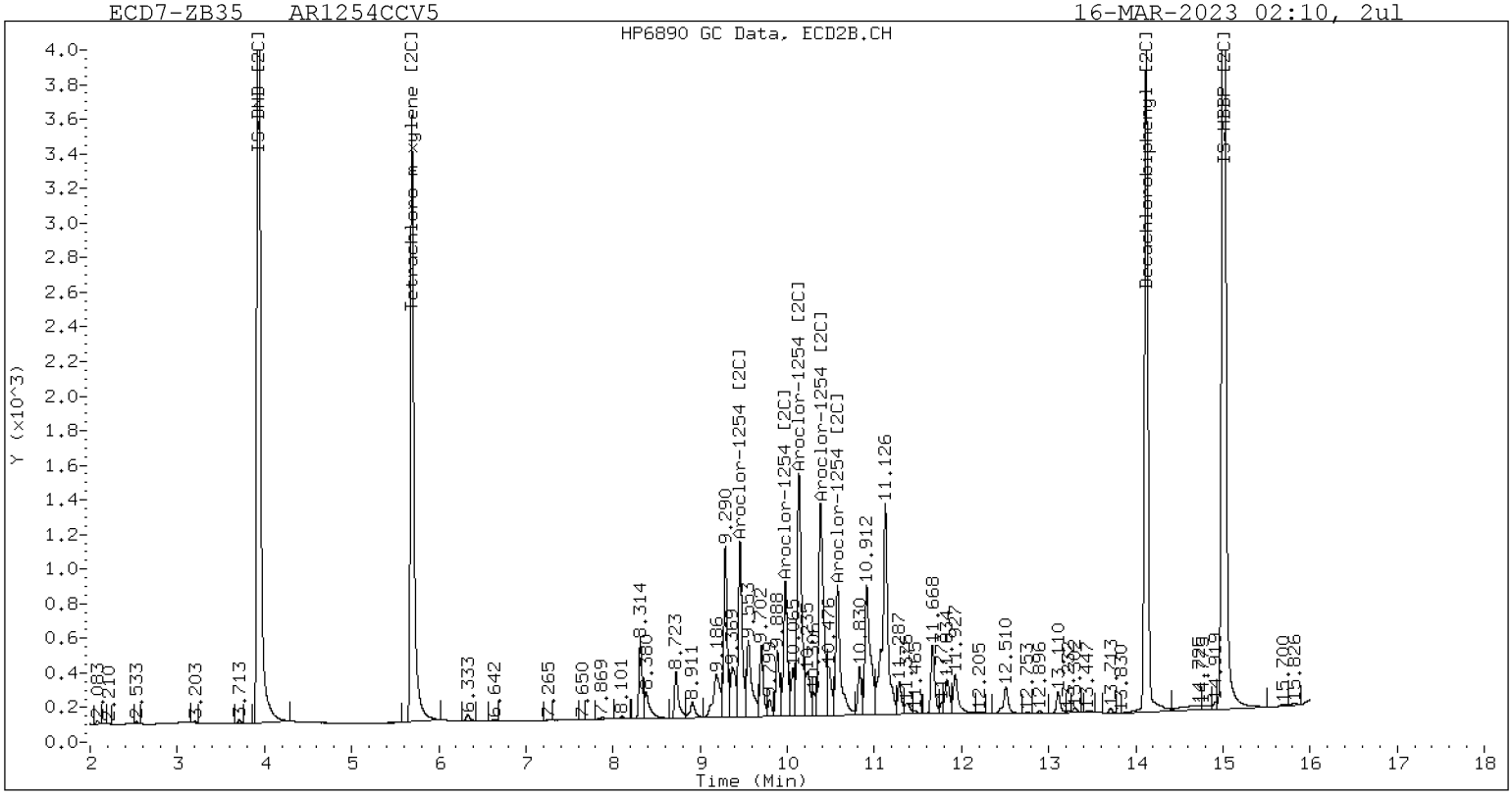
PCB Dual Column Chromatograms

ECD7-ZB5 AR1254CCV5 16-MAR-2023 02:10, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1254CCV5 16-MAR-2023 02:10, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, LLC
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Instrument ID:	ECD7	Calibration:	GB00069
Lab File ID:	03152340ECD7.D	Calibration Date:	02/24/2023
Sequence:	SLC0215	Injection Date:	03/16/23
Lab Sample ID:	SLC0215-CCV6	Injection Time:	02:31
Sequence Name:	AR1660CCV6		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	233	0.0493662	0.0459448		-6.8	
Aroclor-1016 (1)	A	250.00	230	0.0303852	0.0279355		-8.0	
Aroclor-1016 (2)	A	250.00	229	0.0926308	0.0847361		-8.4	
Aroclor-1016 (3)	A	250.00	246	0.0452180	0.0445537		-1.6	
Aroclor-1016 (4)	A	250.00	227	0.0292307	0.0265541		-9.2	
Aroclor 1016 [2C]	A	250.00	239	0.0545857	0.0519617		-4.3	
Aroclor-1016 (1) [2C]	A	250.00	222	0.0468313	0.0416049		-11.2	
Aroclor-1016 (2) [2C]	A	250.00	235	0.0949676	0.0892226		-6.0	
Aroclor-1016 (3) [2C]	A	250.00	263	0.0428922	0.0451126		5.2	
Aroclor-1016 (4) [2C]	A	250.00	237	0.0336515	0.0319067		-5.2	
Aroclor 1260	A	250.00	329	0.0392091	0.0513805		31.8	
Aroclor-1260 (1)	A	250.00	367	0.0287785	0.0422885		46.8	
Aroclor-1260 (2)	A	250.00	349	0.0300690	0.0420063		39.6	
Aroclor-1260 (3)	A	250.00	321	0.0797517	0.1024213		28.4	
Aroclor-1260 (4)	A	250.00	305	0.0401599	0.0490746		22.0	
Aroclor-1260 (5)	A	250.00	305	0.0172866	0.0211116		22.0	
Aroclor 1260 [2C]	A	250.00	269	0.0699688	0.0763094		7.6	
Aroclor-1260 (1) [2C]	A	250.00	278	0.0470406	0.0523738		11.2	
Aroclor-1260 (2) [2C]	A	250.00	278	0.1200523	0.1336908		11.2	
Aroclor-1260 (3) [2C]	A	250.00	250	0.0318590	0.0318730		0.0	
Aroclor-1260 (4) [2C]	A	250.00	270	0.0809231	0.0873000		8.0	
Decachlorobiphenyl	A	40.000	35.9	0.7878687	0.7073895		-10.3	
Tetrachlorometaxylene	A	40.000	35.5	1.1944880	1.0598660		-11.3	
Decachlorobiphenyl [2C]	A	40.000	37.9	1.2182710	1.1557950		-5.3	
Tetrachlorometaxylene [2C]	A	40.000	36.5	1.1737210	1.0714630		-8.8	

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /230315.b/03152340ECD7.D
Data file 2: /230315.b/230315.b/03152340ECD7.D
Method: \\target\share\chem4\ecd7.i\230315.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660CCV6
Client ID:
Injection Date: 16-MAR-2023 02:31
Report Date: 03/16/2023 09:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.812	0.001	574773	5.692	0.000	200579	35.5	36.5	2.8	Tetrachloro-m-xylene
13.895	-0.002	506065	14.121	0.000	257841	35.9	37.9	5.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	673778	1084614	61.0
Hexabromobiphenyl	1429847	1430796	0.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	315256	374402	18.8
Hexabromobiphenyl	513946	446171	-13.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 24-FEB-2023
<- Indicates standard response outside Limits (-50 to +100%)

		ZB5 Col				ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	7.272	0.002	94685	229.8	1	7.259	0.000	48678	222.1
Aroclor-1016	2	7.664	0.010	287206	228.7	2	7.872	0.000	104391	234.9
Aroclor-1016	3	7.798	0.008	151011	246.3	3	8.069	0.000	52782	262.9
Aroclor-1016	4	8.411	0.006	90003	227.1	4	8.313	0.000	37331	237.0
Total Col1Ave (4 peaks):					233.0	Total Col2Ave (4 peaks):				239.2 RPD = 3
Corrected Ave (3 peaks):					228.5	Corrected Ave (3 peaks):				231.3 RPD = 1
CalAmt %D:					-6.8	CalAmt %D:				-4.3
Aroclor-1260	1	11.048	0.004	189082	367.4	1	11.658	0.000	73024	278.3
Aroclor-1260	2	11.367	0.005	187820	349.2	2	11.925	0.000	186403	278.4
Aroclor-1260	3	11.742	0.008	457950	321.1	3	12.440	0.000	44440	250.1
Aroclor-1260	4	12.147	0.008	219424	305.5	4	12.508	0.000	121721	269.7
Aroclor-1260	5	12.248	0.004	94395	305.3	NS	---			----
Total Col1Ave (5 peaks):					329.7	Total Col2Ave (4 peaks):				269.1 RPD = 20
Corrected Ave (4 peaks):					320.3	Corrected Ave (3 peaks):				266.1 RPD = 18
CalAmt %D:					31.9	CalAmt %D:				7.7

Total PCB Area Col1 (5.911 - 13.797) = 5391813 Col1 Total PCB = 0.4 ppm*

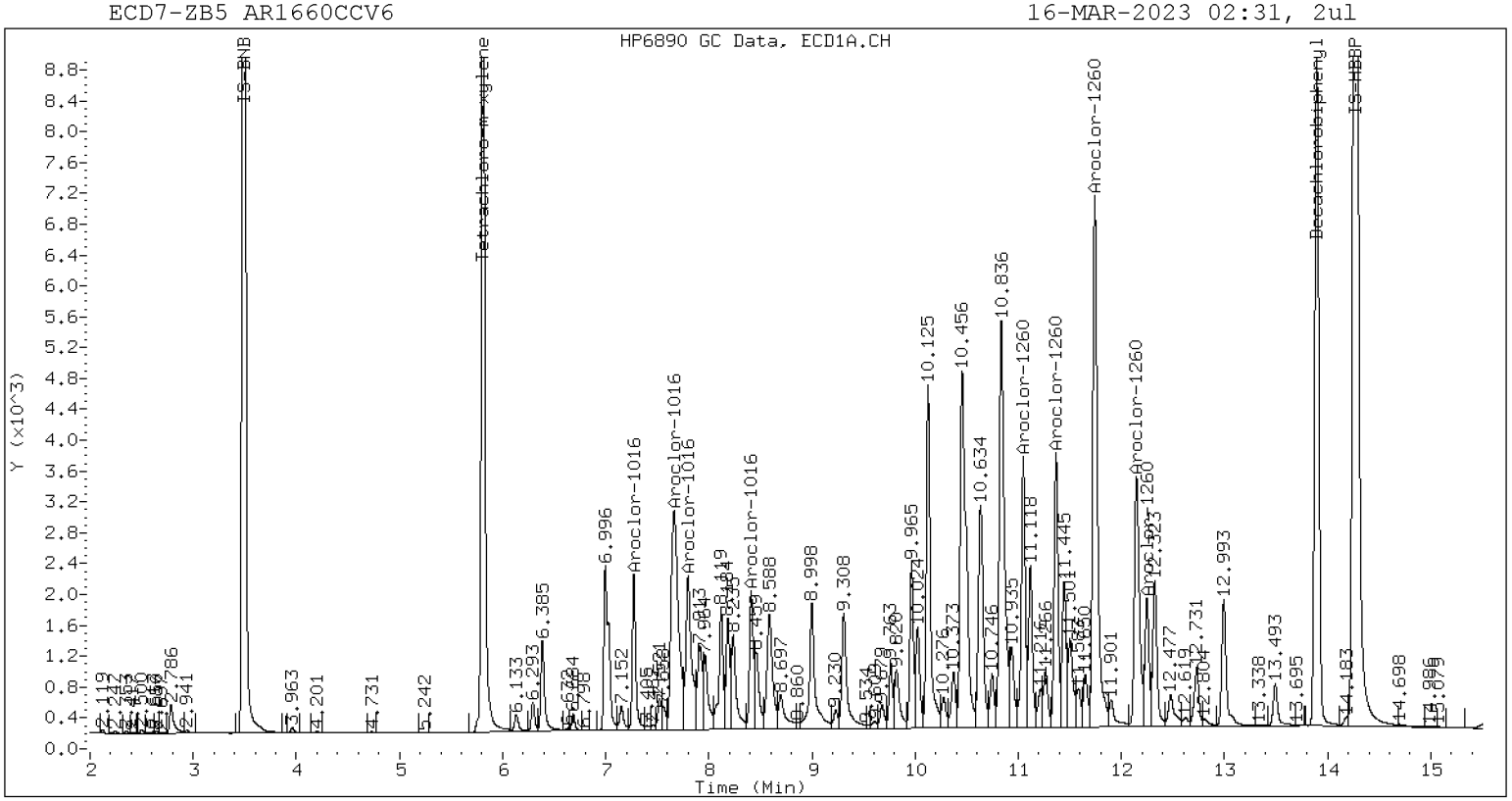
Total PCB Area Col2 (5.792 - 14.021) = 1843359 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

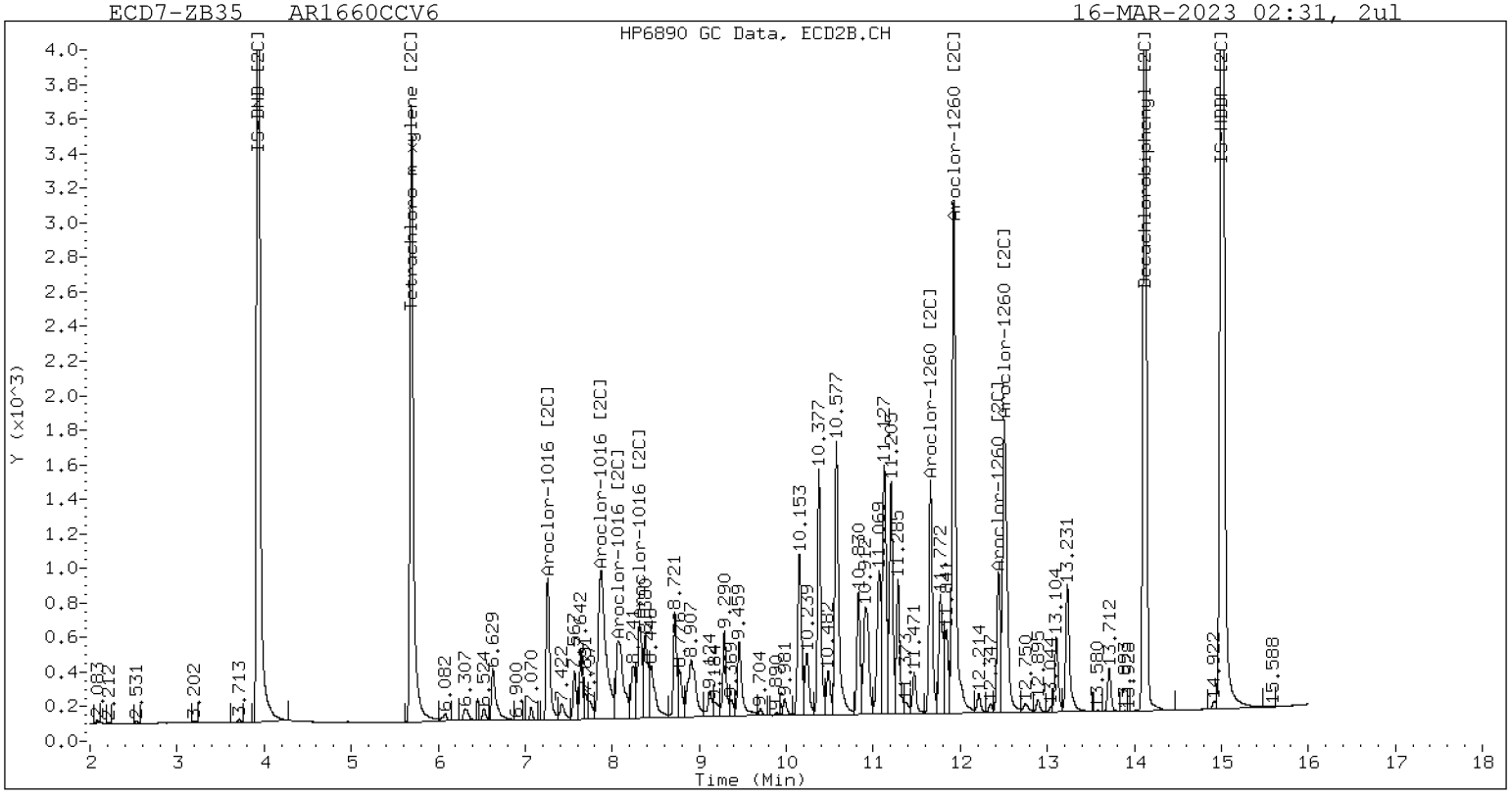
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660CCV6 16-MAR-2023 02:31, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660CCV6 16-MAR-2023 02:31, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8082A

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLB0342
Instrument: ECD7
Calibration: GB00069

Sample Name	Lab Sample ID	Column 1 File ID	Column 2 File ID	Matrix	Analysis Date/Time
Cal Standard	SLB0342-CAL1	02242302ECD7.D	02242302ECD7.D	NA	02/24/23 11:12
Cal Standard	SLB0342-CAL2	02242303ECD7.D	02242303ECD7.D	NA	02/24/23 11:33
Cal Standard	SLB0342-CAL3	02242304ECD7.D	02242304ECD7.D	NA	02/24/23 11:54
Cal Standard	SLB0342-CAL4	02242305ECD7.D	02242305ECD7.D	NA	02/24/23 12:15
Cal Standard	SLB0342-CAL5	02242306ECD7.D	02242306ECD7.D	NA	02/24/23 12:36
Cal Standard	SLB0342-CAL6	02242307ECD7.D	02242307ECD7.D	NA	02/24/23 12:57
Cal Standard	SLB0342-CAL7	02242308ECD7.D	02242308ECD7.D	NA	02/24/23 13:18
Cal Standard	SLB0342-CAL8	02242309ECD7.D	02242309ECD7.D	NA	02/24/23 13:39
Cal Standard	SLB0342-CAL9	02242310ECD7.D	02242310ECD7.D	NA	02/24/23 14:00
Cal Standard	SLB0342-CALA	02242311ECD7.D	02242311ECD7.D	NA	02/24/23 14:21
Cal Standard	SLB0342-CALB	02242312ECD7.D	02242312ECD7.D	NA	02/24/23 14:42
Secondary Cal Check	SLB0342-SCV1	02242313ECD7.D	02242313ECD7.D	NA	02/24/23 15:03
Secondary Cal Check	SLB0342-SCV2	02242314ECD7.D	02242314ECD7.D	NA	02/24/23 15:24
Secondary Cal Check	SLB0342-SCV3	02242315ECD7.D	02242315ECD7.D	NA	02/24/23 15:45
Secondary Cal Check	SLB0342-SCV4	02242316ECD7.D	02242316ECD7.D	NA	02/24/23 16:06
Secondary Cal Check	SLB0342-SCV5	02242317ECD7.D	02242317ECD7.D	NA	02/24/23 16:27
Secondary Cal Check	SLB0342-SCV6	02242318ECD7.D	02242318ECD7.D	NA	02/24/23 16:48

Analytical Resources, LLC
Analytical Chemists and Consultants

Dual Column

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8082A

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLC0215
Instrument: ECD7
Calibration: GB00069

Sample Name	Lab Sample ID	Column 1 File ID	Column 2 File ID	Matrix	Analysis Date/Time
Initial Cal Check	SLC0215-ICV1	03152306ECD7.D	03152306ECD7.D	NA	03/15/23 14:43
Initial Cal Check	SLC0215-ICV2	03152307ECD7.D	03152307ECD7.D	NA	03/15/23 15:04
Calibration Check	SLC0215-CCV1	03152313ECD7.D	03152313ECD7.D	NA	03/15/23 17:09
Calibration Check	SLC0215-CCV2	03152314ECD7.D	03152314ECD7.D	NA	03/15/23 17:30
Blank	BLC0219-BLK1	03152315ECD7.D	03152315ECD7.D	Solid	03/15/23 17:51
LCS	BLC0219-BS1	03152316ECD7.D	03152316ECD7.D	Solid	03/15/23 18:12
LCS Dup	BLC0219-BSD1	03152317ECD7.D	03152317ECD7.D	Solid	03/15/23 18:32
Reference	BLC0219-SRM1	03152318ECD7.D	03152318ECD7.D	Solid	03/15/23 18:53
LDW23-SC1037	23C0108-01	03152324ECD7.D	03152324ECD7.D	Solid	03/15/23 20:58
LDW23-SC1044	23C0108-02	03152325ECD7.D	03152325ECD7.D	Solid	03/15/23 21:19
LDW23-SC1107	23C0108-03	03152326ECD7.D	03152326ECD7.D	Solid	03/15/23 21:40
LDW23-SC1106	23C0108-04	03152327ECD7.D	03152327ECD7.D	Solid	03/15/23 22:00
LDW23-SC1118	23C0108-05	03152328ECD7.D	03152328ECD7.D	Solid	03/15/23 22:21
LDW23-SS1106	23C0108-06	03152329ECD7.D	03152329ECD7.D	Solid	03/15/23 22:42
LDW23-SS1107	23C0108-07	03152330ECD7.D	03152330ECD7.D	Solid	03/15/23 23:03
Calibration Check	SLC0215-CCV3	03152331ECD7.D	03152331ECD7.D	NA	03/15/23 23:24
Calibration Check	SLC0215-CCV4	03152332ECD7.D	03152332ECD7.D	NA	03/15/23 23:44
LDW23-SS1111	23C0108-08	03152333ECD7.D	03152333ECD7.D	Solid	03/16/23 00:05
LDW23-SS1118	23C0108-09	03152334ECD7.D	03152334ECD7.D	Solid	03/16/23 00:26
LDW23-SC1111	23C0108-10	03152335ECD7.D	03152335ECD7.D	Solid	03/16/23 00:47
Calibration Check	SLC0215-CCV5	03152339ECD7.D	03152339ECD7.D	NA	03/16/23 02:10
Calibration Check	SLC0215-CCV6	03152340ECD7.D	03152340ECD7.D	NA	03/16/23 02:31

Analytical Resources, LLC
Analytical Chemists and Consultants

ANALYSIS SEQUENCE

SLC0215

Instrument: ECD7
Calibration ID: GB00069

Printed: 3/16/2023 10:26:54AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
SLC0215-ICV1	QC		1		L000862	L000844		
SLC0215-ICV2	QC		2		L000856	L000844		
BLC0266-BLK1	QC		3			L000844		
BLC0266-BS1	QC		4			L000844		
BLC0266-BSD1	QC		5			L000844		
BLC0266-MRL1	QC		6			L000844		
23C0221-01	8082A PCB Water 0.01	I 01	7			L000844	DH Environmental Inc	
SLC0215-CCV1	QC		8		L000861	L000844		
SLC0215-CCV2	QC		9		L000856	L000844		
BLC0219-BLK1	QC		10			L000844		
BLC0219-BS1	QC		11			L000844		
BLC0219-BSD1	QC		12			L000844		
BLC0219-SRM1	QC		13			L000844		
23C0107-01	8082A PCB Solid 4	A 05	14			L000844	Anchor QEA, LLC	
23C0107-02	8082A PCB Solid 4	A 05	15			L000844	Anchor QEA, LLC	
23C0107-03	8082A PCB Solid 4	A 05	16			L000844	Anchor QEA, LLC	
BLC0219-MS1	QC		17			L000844		
BLC0219-MSD1	QC		18			L000844		
23C0108-01	8082A PCB Solid 4	A 05	19			L000844	Anchor QEA, LLC	
23C0108-02	8082A PCB Solid 4	A 05	20			L000844	Anchor QEA, LLC	
23C0108-03	8082A PCB Solid 4	A 05	21			L000844	Anchor QEA, LLC	

Samples Loaded By Date

Data Processed By Date

Analytical Resources, LLC
Analytical Chemists and Consultants

ANALYSIS SEQUENCE

SLC0215

Instrument: ECD7
Calibration ID: GB00069

Printed: 3/16/2023 10:26:54AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Client	Comments
23C0108-04	8082A PCB Solid 4	A 05	22			L000844	Anchor QEA, LLC	
23C0108-05	8082A PCB Solid 4	A 05	23			L000844	Anchor QEA, LLC	
23C0108-06	8082A PCB Solid 4	A 05	24			L000844	Anchor QEA, LLC	
23C0108-07	8082A PCB Solid 4	A 05	25			L000844	Anchor QEA, LLC	
SLC0215-CCV3	QC		26		L000860	L000844		
SLC0215-CCV4	QC		27		L000856	L000844		
23C0108-08	8082A PCB Solid 4	A 05	28			L000844	Anchor QEA, LLC	
23C0108-09	8082A PCB Solid 4	A 05	29			L000844	Anchor QEA, LLC	
23C0108-10	8082A PCB Solid 4	A 05	30			L000844	Anchor QEA, LLC	
23C0109-01	8082A PCB Solid 4	A 05	31			L000844	Anchor QEA, LLC	
23C0109-02	8082A PCB Solid 4	A 05	32			L000844	Anchor QEA, LLC	
23C0109-03	8082A PCB Solid 4	A 05	33			L000844	Anchor QEA, LLC	
SLC0215-CCV5	QC		34		L000862	L000844		
SLC0215-CCV6	QC		35		L000856	L000844		

Samples Loaded By Date

Data Processed By Date

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230315.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	15-MAR-2023 12:59	03152301ECD7.D	1	AR1254	
2	15-MAR-2023 13:20	03152302ECD7.D	1	AR1660	
3	15-MAR-2023 13:41	03152303ECD7.D	1	AR1248	
4	15-MAR-2023 14:01	03152304ECD7.D	1	AR1242	
5	15-MAR-2023 14:22	03152305ECD7.D	1	DDTS	
6	15-MAR-2023 14:43	03152306ECD7.D	1	AR1254ICV1	
7	15-MAR-2023 15:04	03152307ECD7.D	1	AR1660ICV2	
8	15-MAR-2023 15:25	03152308ECD7.D	1	BLC0266-BLK1	
9	15-MAR-2023 15:46	03152309ECD7.D	1	BLC0266-BS1	
10	15-MAR-2023 16:06	03152310ECD7.D	1	BLC0266-BSD1	
11	15-MAR-2023 16:27	03152311ECD7.D	1	BLC0266-MRL1	
12	15-MAR-2023 16:48	03152312ECD7.D	1	23C0221-01	
13	15-MAR-2023 17:09	03152313ECD7.D	1	AR1248CCV1	
14	15-MAR-2023 17:30	03152314ECD7.D	1	AR1660CCV2	
15	15-MAR-2023 17:51	03152315ECD7.D	1	BLC0219-BLK1	
16	15-MAR-2023 18:12	03152316ECD7.D	1	BLC0219-BS1	
17	15-MAR-2023 18:32	03152317ECD7.D	1	BLC0219-BSD1	
18	15-MAR-2023 18:53	03152318ECD7.D	1	BLC0219-SRM1	
19	15-MAR-2023 19:14	03152319ECD7.D	1	23C0107-01	
20	15-MAR-2023 19:35	03152320ECD7.D	1	23C0107-02	
21	15-MAR-2023 19:56	03152321ECD7.D	1	23C0107-03	
22	15-MAR-2023 20:16	03152322ECD7.D	1	BLC0219-MS1	
23	15-MAR-2023 20:37	03152323ECD7.D	1	BLC0219-MSD1	
24	15-MAR-2023 20:58	03152324ECD7.D	1	23C0108-01	
25	15-MAR-2023 21:19	03152325ECD7.D	1	23C0108-02	
26	15-MAR-2023 21:40	03152326ECD7.D	1	23C0108-03	
27	15-MAR-2023 22:00	03152327ECD7.D	1	23C0108-04	
28	15-MAR-2023 22:21	03152328ECD7.D	1	23C0108-05	
29	15-MAR-2023 22:42	03152329ECD7.D	1	23C0108-06	
30	15-MAR-2023 23:03	03152330ECD7.D	1	23C0108-07	
31	15-MAR-2023 23:24	03152331ECD7.D	1	AR1242CCV3	
32	15-MAR-2023 23:44	03152332ECD7.D	1	AR1660CCV4	
33	16-MAR-2023 00:05	03152333ECD7.D	1	23C0108-08	
34	16-MAR-2023 00:26	03152334ECD7.D	1	23C0108-09	
35	16-MAR-2023 00:47	03152335ECD7.D	1	23C0108-10	
36	16-MAR-2023 01:07	03152336ECD7.D	1	23C0109-01	
37	16-MAR-2023 01:28	03152337ECD7.D	1	23C0109-02	
38	16-MAR-2023 01:49	03152338ECD7.D	1	23C0109-03	
39	16-MAR-2023 02:10	03152339ECD7.D	1	AR1254CCV5	
40	16-MAR-2023 02:31	03152340ECD7.D	1	AR1660CCV6	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230315.b

ARI Job No.: AR12 Method: PCB.m Instrument: ecd7.i Date: 15-MAR-2023

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1259	03152301ECD7.D	AR1254		1	NO MANUAL INTEGRATION
1320	03152302ECD7.D	AR1660		1	NO MANUAL INTEGRATION
1341	03152303ECD7.D	AR1248		1	Aroclor-1248,
1401	03152304ECD7.D	AR1242		1	NO MANUAL INTEGRATION
1422	03152305ECD7.D	DDTS		1	NO MANUAL INTEGRATION
1443	03152306ECD7.D	AR1254ICV1		1	NO MANUAL INTEGRATION
1504	03152307ECD7.D	AR1660ICV2		1	NO MANUAL INTEGRATION
1525	03152308ECD7.D	BLC0266-BLK1		1	NO MANUAL INTEGRATION
1546	03152309ECD7.D	BLC0266-BS1		1	NO MANUAL INTEGRATION
1606	03152310ECD7.D	BLC0266-BSD1		1	NO MANUAL INTEGRATION
1627	03152311ECD7.D	BLC0266-MRL1		1	NO MANUAL INTEGRATION
1648	03152312ECD7.D	23C0221-01		1	NO MANUAL INTEGRATION
1709	03152313ECD7.D	AR1248CCV1		1	Aroclor-1248,
1730	03152314ECD7.D	AR1660CCV2		1	NO MANUAL INTEGRATION
1751	03152315ECD7.D	BLC0219-BLK1		1	NO MANUAL INTEGRATION
1812	03152316ECD7.D	BLC0219-BS1		1	NO MANUAL INTEGRATION
1832	03152317ECD7.D	BLC0219-BSD1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230315.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1853	03152318ECD7.D	BLC0219-SRM1		1	NO MANUAL INTEGRATION
1914	03152319ECD7.D	23C0107-01		1	Aroclor-1254,
1935	03152320ECD7.D	23C0107-02		1	NO MANUAL INTEGRATION
1956	03152321ECD7.D	23C0107-03		1	NO MANUAL INTEGRATION
2016	03152322ECD7.D	BLC0219-MS1		1	NO MANUAL INTEGRATION
2037	03152323ECD7.D	BLC0219-MSD1		1	NO MANUAL INTEGRATION
2058	03152324ECD7.D	23C0108-01		1	NO MANUAL INTEGRATION
2119	03152325ECD7.D	23C0108-02		1	Aroclor-1254,
2140	03152326ECD7.D	23C0108-03		1	Aroclor-1254,
2200	03152327ECD7.D	23C0108-04		1	Aroclor-1254,
2221	03152328ECD7.D	23C0108-05		1	Aroclor-1254,
2242	03152329ECD7.D	23C0108-06		1	Aroclor-1254,
2303	03152330ECD7.D	23C0108-07		1	NO MANUAL INTEGRATION
2324	03152331ECD7.D	AR1242CCV3		1	NO MANUAL INTEGRATION
2344	03152332ECD7.D	AR1660CCV4		1	NO MANUAL INTEGRATION
0005	03152333ECD7.D	23C0108-08		1	Aroclor-1254,
0026	03152334ECD7.D	23C0108-09		1	Aroclor-1254,
0047	03152335ECD7.D	23C0108-10		1	Aroclor-1254,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230315.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0107	03152336ECD7.D	23C0109-01		1	Aroclor-1254,
0128	03152337ECD7.D	23C0109-02		1	Aroclor-1254,
0149	03152338ECD7.D	23C0109-03		1	Aroclor-1254,
0210	03152339ECD7.D	AR1254CCV5		1	NO MANUAL INTEGRATION
0231	03152340ECD7.D	AR1660CCV6		1	NO MANUAL INTEGRATION
1259	03152301ECD7.D	AR1254		1	NO MANUAL INTEGRATION
1320	03152302ECD7.D	AR1660		1	NO MANUAL INTEGRATION
1341	03152303ECD7.D	AR1248		1	NO MANUAL INTEGRATION
1401	03152304ECD7.D	AR1242		1	NO MANUAL INTEGRATION
1422	03152305ECD7.D	DDTS		1	NO MANUAL INTEGRATION
1443	03152306ECD7.D	AR1254ICV1		1	NO MANUAL INTEGRATION
1504	03152307ECD7.D	AR1660ICV2		1	NO MANUAL INTEGRATION
1525	03152308ECD7.D	BLC0266-BLK1		1	NO MANUAL INTEGRATION
1546	03152309ECD7.D	BLC0266-BS1		1	NO MANUAL INTEGRATION
1606	03152310ECD7.D	BLC0266-BSD1		1	NO MANUAL INTEGRATION
1627	03152311ECD7.D	BLC0266-MRL1		1	NO MANUAL INTEGRATION
1648	03152312ECD7.D	23C0221-01		1	NO MANUAL INTEGRATION
1709	03152313ECD7.D	AR1248CCV1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230315.b\230315.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1730	03152314ECD7.D	AR1660CCV2		1	NO MANUAL INTEGRATION
1751	03152315ECD7.D	BLC0219-BLK1		1	NO MANUAL INTEGRATION
1812	03152316ECD7.D	BLC0219-BS1		1	NO MANUAL INTEGRATION
1832	03152317ECD7.D	BLC0219-BSD1		1	NO MANUAL INTEGRATION
1853	03152318ECD7.D	BLC0219-SRM1		1	NO MANUAL INTEGRATION
1914	03152319ECD7.D	23C0107-01		1	Aroclor-1248 [2C],
1935	03152320ECD7.D	23C0107-02		1	NO MANUAL INTEGRATION
1956	03152321ECD7.D	23C0107-03		1	NO MANUAL INTEGRATION
2016	03152322ECD7.D	BLC0219-MS1		1	NO MANUAL INTEGRATION
2037	03152323ECD7.D	BLC0219-MSD1		1	NO MANUAL INTEGRATION
2058	03152324ECD7.D	23C0108-01		1	Aroclor-1248 [2C],
2119	03152325ECD7.D	23C0108-02		1	Aroclor-1248 [2C],
2140	03152326ECD7.D	23C0108-03		1	Aroclor-1248 [2C],
2200	03152327ECD7.D	23C0108-04		1	Aroclor-1248 [2C],
2221	03152328ECD7.D	23C0108-05		1	Aroclor-1248 [2C],
2242	03152329ECD7.D	23C0108-06		1	Aroclor-1248 [2C],
2303	03152330ECD7.D	23C0108-07		1	Aroclor-1248 [2C],
2324	03152331ECD7.D	AR1242CCV3		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\230315.b\230315.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2344	03152332ECD7.D	AR1660CCV4		1	NO MANUAL INTEGRATION
0005	03152333ECD7.D	23C0108-08		1	Aroclor-1248 [2C],
0026	03152334ECD7.D	23C0108-09		1	Aroclor-1248 [2C],
0047	03152335ECD7.D	23C0108-10		1	Aroclor-1248 [2C],
0107	03152336ECD7.D	23C0109-01		1	Aroclor-1248 [2C],
0128	03152337ECD7.D	23C0109-02		1	Aroclor-1248 [2C],
0149	03152338ECD7.D	23C0109-03		1	Aroclor-1248 [2C],
0210	03152339ECD7.D	AR1254CCV5		1	NO MANUAL INTEGRATION
0231	03152340ECD7.D	AR1660CCV6		1	NO MANUAL INTEGRATION

Security Status Report

Date: 16-Mar-2023 10:23

03152301ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152302ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152303ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152304ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152305ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152306ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152307ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152308ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152309ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152310ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152311ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152312ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152313ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152314ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152315ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152316ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152317ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152318ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152319ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152320ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152321ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152322ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152323ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152324ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152325ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152326ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152327ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152328ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152329ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152330ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152331ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152332ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152333ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152334ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152335ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152336ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152337ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152338ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152339ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23
03152340ECD7.D	Data Locked	richardl, 16-Mar-2023 10:23

SURROGATE RECOVERY AND RT SUMMARY
EPA 8082A

Laboratory: Analytical Resources, LLC
SDG/WO: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLB0342
Instrument: ECD7
Calibration: GB00069
Calibration Date: 02/24/2023

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SLB0342-SCV1 (Water)			Lab File ID: 02242313ECD7.D			Analyzed: 02/24/23 15:03		
Decachlorobiphenyl	40.000	85.8	80 - 120	13.894	13.89483	-0.0008	N/A	
Tetrachlorometaxylene	40.000	87.4	80 - 120	5.807	5.8095	-0.0025	N/A	
Decachlorobiphenyl [2C]	40.000	93.4	80 - 120	14.119	14.11917	-0.0002	N/A	
Tetrachlorometaxylene [2C]	40.000	89.4	80 - 120	5.685	5.687167	-0.0022	N/A	
SLB0342-SCV2 (Water)			Lab File ID: 02242314ECD7.D			Analyzed: 02/24/23 15:24		
Decachlorobiphenyl	40.000	92.5	80 - 120	13.895	13.89483	0.0002	N/A	
Tetrachlorometaxylene	40.000	84.1	80 - 120	5.808	5.8095	-0.0015	N/A	
Decachlorobiphenyl [2C]	40.000	101	80 - 120	14.12	14.11917	0.0008	N/A	
Tetrachlorometaxylene [2C]	40.000	86.3	80 - 120	5.686	5.687167	-0.0012	N/A	
SLB0342-SCV3 (Water)			Lab File ID: 02242315ECD7.D			Analyzed: 02/24/23 15:45		
Decachlorobiphenyl	40.000	82.8	80 - 120	13.893	13.89483	-0.0018	N/A	
Tetrachlorometaxylene	40.000	87.2	80 - 120	5.808	5.8095	-0.0015	N/A	
Decachlorobiphenyl [2C]	40.000	90.8	80 - 120	14.118	14.11917	-0.0012	N/A	
Tetrachlorometaxylene [2C]	40.000	91.0	80 - 120	5.687	5.687167	-0.0002	N/A	
SLB0342-SCV4 (Water)			Lab File ID: 02242316ECD7.D			Analyzed: 02/24/23 16:06		
Decachlorobiphenyl	40.000	86.6	80 - 120	13.894	13.89483	-0.0008	N/A	
Tetrachlorometaxylene	40.000	90.3	80 - 120	5.806	5.8095	-0.0035	N/A	
Decachlorobiphenyl [2C]	40.000	94.8	80 - 120	14.119	14.11917	-0.0002	N/A	
Tetrachlorometaxylene [2C]	40.000	92.7	80 - 120	5.685	5.687167	-0.0022	N/A	
SLB0342-SCV5 (Water)			Lab File ID: 02242317ECD7.D			Analyzed: 02/24/23 16:27		
Decachlorobiphenyl	40.000	86.1	80 - 120	13.894	13.89483	-0.0008	N/A	
Tetrachlorometaxylene	40.000	90.0	80 - 120	5.806	5.8095	-0.0035	N/A	
Decachlorobiphenyl [2C]	40.000	94.6	80 - 120	14.119	14.11917	-0.0002	N/A	
Tetrachlorometaxylene [2C]	40.000	91.6	80 - 120	5.685	5.687167	-0.0022	N/A	
SLB0342-SCV6 (Water)			Lab File ID: 02242318ECD7.D			Analyzed: 02/24/23 16:48		
Decachlorobiphenyl	40.000	128	80 - 120	13.893	13.89483	-0.0018	N/A	
Tetrachlorometaxylene	40.000	92.7	80 - 120	5.806	5.8095	-0.0035	N/A	
Decachlorobiphenyl [2C]	40.000	141	80 - 120	14.118	14.11917	-0.0012	N/A	
Tetrachlorometaxylene [2C]	40.000	95.4	80 - 120	5.685	5.687167	-0.0022	N/A	

SURROGATE RECOVERY AND RT SUMMARY
EPA 8082A

Laboratory: Analytical Resources, LLC
SDG/WO: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLC0215
Instrument: ECD7
Calibration: GB00069
Calibration Date: 02/24/2023

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SLC0215-ICV1 (Water)			Lab File ID: 03152306ECD7.D			Analyzed: 03/15/23 14:43		
Decachlorobiphenyl	40.000	77.0	0 - 200	13.898	13.89483	0.0032	N/A	
Tetrachlorometaxylene	40.000	88.8	0 - 200	5.81	5.8095	0.0005	N/A	
Decachlorobiphenyl [2C]	40.000	93.8	0 - 200	14.12	14.11917	0.0008	N/A	
Tetrachlorometaxylene [2C]	40.000	89.3	0 - 200	5.691	5.687167	0.0038	N/A	
SLC0215-ICV2 (Water)			Lab File ID: 03152307ECD7.D			Analyzed: 03/15/23 15:04		
Decachlorobiphenyl	40.000	78.8	0 - 200	13.896	13.89483	0.0012	N/A	
Tetrachlorometaxylene	40.000	91.5	0 - 200	5.81	5.8095	0.0005	N/A	
Decachlorobiphenyl [2C]	40.000	95.0	0 - 200	14.121	14.11917	0.0018	N/A	
Tetrachlorometaxylene [2C]	40.000	91.5	0 - 200	5.692	5.687167	0.0048	N/A	
SLC0215-CCV1 (Water)			Lab File ID: 03152313ECD7.D			Analyzed: 03/15/23 17:09		
Decachlorobiphenyl	40.000	71.8	0 - 200	13.896	13.89483	0.0012	N/A	
Tetrachlorometaxylene	40.000	87.8	0 - 200	5.811	5.8095	0.0015	N/A	
Decachlorobiphenyl [2C]	40.000	94.8	0 - 200	14.123	14.11917	0.0038	N/A	
Tetrachlorometaxylene [2C]	40.000	90.0	0 - 200	5.692	5.687167	0.0048	N/A	
SLC0215-CCV2 (Water)			Lab File ID: 03152314ECD7.D			Analyzed: 03/15/23 17:30		
Decachlorobiphenyl	40.000	71.5	0 - 200	13.896	13.89483	0.0012	N/A	
Tetrachlorometaxylene	40.000	89.0	0 - 200	5.81	5.8095	0.0005	N/A	
Decachlorobiphenyl [2C]	40.000	96.3	0 - 200	14.122	14.11917	0.0028	N/A	
Tetrachlorometaxylene [2C]	40.000	90.3	0 - 200	5.692	5.687167	0.0048	N/A	
BLC0219-BLK1 (Solid)			Lab File ID: 03152315ECD7.D			Analyzed: 03/15/23 17:51		
Decachlorobiphenyl	8.0000	67.5	40 - 126	13.895	13.89483	0.0002	N/A	
Tetrachlorometaxylene	8.0000	76.4	44 - 120	5.81	5.8095	0.0005	N/A	
Decachlorobiphenyl [2C]	8.0000	94.6	40 - 126	14.12	14.11917	0.0008	N/A	
Tetrachlorometaxylene [2C]	8.0000	76.1	44 - 120	5.692	5.687167	0.0048	N/A	
BLC0219-BS1 (Solid)			Lab File ID: 03152316ECD7.D			Analyzed: 03/15/23 18:12		
Decachlorobiphenyl	8.0000	63.5	40 - 126	13.894	13.89483	-0.0008	N/A	
Tetrachlorometaxylene	8.0000	72.0	44 - 120	5.81	5.8095	0.0005	N/A	
Decachlorobiphenyl [2C]	8.0000	88.6	40 - 126	14.12	14.11917	0.0008	N/A	
Tetrachlorometaxylene [2C]	8.0000	71.0	44 - 120	5.692	5.687167	0.0048	N/A	

SURROGATE RECOVERY AND RT SUMMARY
EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG/WO:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0215	Instrument:	ECD7
Calibration:	GB00069	Calibration Date:	02/24/2023

Surrogate Compound	Spike Level ug/kg wet	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
BLC0219-BSD1 (Solid)			Lab File ID: 03152317ECD7.D			Analyzed: 03/15/23 18:32		
Decachlorobiphenyl	8.0000	64.6	40 - 126	13.895	13.89483	0.0002	N/A	
Tetrachlorometaxylene	8.0000	74.4	44 - 120	5.811	5.8095	0.0015	N/A	
Decachlorobiphenyl [2C]	8.0000	91.9	40 - 126	14.121	14.11917	0.0018	N/A	
Tetrachlorometaxylene [2C]	8.0000	72.5	44 - 120	5.691	5.687167	0.0038	N/A	
BLC0219-SRM1 (Solid)			Lab File ID: 03152318ECD7.D			Analyzed: 03/15/23 18:53		
Decachlorobiphenyl	40.000	69.7	40 - 126	13.889	13.89483	-0.0058	N/A	
Tetrachlorometaxylene	40.000	71.4	44 - 120	5.808	5.8095	-0.0015	N/A	
Decachlorobiphenyl [2C]	40.000	79.7	40 - 126	14.116	14.11917	-0.0032	N/A	
Tetrachlorometaxylene [2C]	40.000	74.5	44 - 120	5.689	5.687167	0.0018	N/A	
23C0108-01 (Solid)			Lab File ID: 03152324ECD7.D			Analyzed: 03/15/23 20:58		
Decachlorobiphenyl	7.9892	78.6	40 - 126	13.885	13.89483	-0.0098	N/A	
Tetrachlorometaxylene	7.9892	57.6	44 - 120	5.805	5.8095	-0.0045	N/A	
Decachlorobiphenyl [2C]	7.9892	75.6	40 - 126	14.113	14.11917	-0.0062	N/A	
Tetrachlorometaxylene [2C]	7.9892	67.5	44 - 120	5.685	5.687167	-0.0022	N/A	
23C0108-02 (Solid)			Lab File ID: 03152325ECD7.D			Analyzed: 03/15/23 21:19		
Decachlorobiphenyl	8.0004	80.3	40 - 126	13.885	13.89483	-0.0098	N/A	
Tetrachlorometaxylene	8.0004	58.6	44 - 120	5.806	5.8095	-0.0035	N/A	
Decachlorobiphenyl [2C]	8.0004	78.9	40 - 126	14.112	14.11917	-0.0072	N/A	
Tetrachlorometaxylene [2C]	8.0004	67.0	44 - 120	5.685	5.687167	-0.0022	N/A	
23C0108-03 (Solid)			Lab File ID: 03152326ECD7.D			Analyzed: 03/15/23 21:40		
Decachlorobiphenyl	7.9985	80.1	40 - 126	13.885	13.89483	-0.0098	N/A	
Tetrachlorometaxylene	7.9985	54.3	44 - 120	5.805	5.8095	-0.0045	N/A	
Decachlorobiphenyl [2C]	7.9985	78.2	40 - 126	14.112	14.11917	-0.0072	N/A	
Tetrachlorometaxylene [2C]	7.9985	68.0	44 - 120	5.685	5.687167	-0.0022	N/A	
23C0108-04 (Solid)			Lab File ID: 03152327ECD7.D			Analyzed: 03/15/23 22:00		
Decachlorobiphenyl	7.9926	77.7	40 - 126	13.885	13.89483	-0.0098	N/A	
Tetrachlorometaxylene	7.9926	55.3	44 - 120	5.806	5.8095	-0.0035	N/A	
Decachlorobiphenyl [2C]	7.9926	76.5	40 - 126	14.112	14.11917	-0.0072	N/A	
Tetrachlorometaxylene [2C]	7.9926	64.1	44 - 120	5.685	5.687167	-0.0022	N/A	

SURROGATE RECOVERY AND RT SUMMARY
EPA 8082A

Laboratory: Analytical Resources, LLC
SDG/WO: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLC0215
Instrument: ECD7
Calibration: GB00069
Calibration Date: 02/24/2023

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
23C0108-05 (Solid)			Lab File ID: 03152328ECD7.D			Analyzed: 03/15/23 22:21		
Decachlorobiphenyl	7.9833	78.8	40 - 126	13.885	13.89483	-0.0098	N/A	
Tetrachlorometaxylene	7.9833	50.5	44 - 120	5.805	5.8095	-0.0045	N/A	
Decachlorobiphenyl [2C]	7.9833	79.9	40 - 126	14.111	14.11917	-0.0082	N/A	
Tetrachlorometaxylene [2C]	7.9833	65.4	44 - 120	5.683	5.687167	-0.0042	N/A	
23C0108-06 (Solid)			Lab File ID: 03152329ECD7.D			Analyzed: 03/15/23 22:42		
Decachlorobiphenyl	7.9912	78.5	40 - 126	13.885	13.89483	-0.0098	N/A	
Tetrachlorometaxylene	7.9912	58.1	44 - 120	5.806	5.8095	-0.0035	N/A	
Decachlorobiphenyl [2C]	7.9912	76.8	40 - 126	14.111	14.11917	-0.0082	N/A	
Tetrachlorometaxylene [2C]	7.9912	64.2	44 - 120	5.685	5.687167	-0.0022	N/A	
23C0108-07 (Solid)			Lab File ID: 03152330ECD7.D			Analyzed: 03/15/23 23:03		
Decachlorobiphenyl	7.9909	76.0	40 - 126	13.884	13.89483	-0.0108	N/A	
Tetrachlorometaxylene	7.9909	55.1	44 - 120	5.806	5.8095	-0.0035	N/A	
Decachlorobiphenyl [2C]	7.9909	73.7	40 - 126	14.112	14.11917	-0.0072	N/A	
Tetrachlorometaxylene [2C]	7.9909	62.0	44 - 120	5.685	5.687167	-0.0022	N/A	
SLC0215-CCV3 (Water)			Lab File ID: 03152331ECD7.D			Analyzed: 03/15/23 23:24		
Decachlorobiphenyl	40.000	82.8	0 - 200	13.895	13.89483	0.0002	N/A	
Tetrachlorometaxylene	40.000	104	0 - 200	5.81	5.8095	0.0005	N/A	
Decachlorobiphenyl [2C]	40.000	89.8	0 - 200	14.121	14.11917	0.0018	N/A	
Tetrachlorometaxylene [2C]	40.000	105	0 - 200	5.69	5.687167	0.0028	N/A	
SLC0215-CCV4 (Water)			Lab File ID: 03152332ECD7.D			Analyzed: 03/15/23 23:44		
Decachlorobiphenyl	40.000	91.0	0 - 200	13.897	13.89483	0.0022	N/A	
Tetrachlorometaxylene	40.000	91.8	0 - 200	5.811	5.8095	0.0015	N/A	
Decachlorobiphenyl [2C]	40.000	97.0	0 - 200	14.12	14.11917	0.0008	N/A	
Tetrachlorometaxylene [2C]	40.000	91.3	0 - 200	5.691	5.687167	0.0038	N/A	
23C0108-08 (Solid)			Lab File ID: 03152333ECD7.D			Analyzed: 03/16/23 00:05		
Decachlorobiphenyl	7.9944	78.7	40 - 126	13.884	13.89483	-0.0108	N/A	
Tetrachlorometaxylene	7.9944	60.5	44 - 120	5.806	5.8095	-0.0035	N/A	
Decachlorobiphenyl [2C]	7.9944	76.2	40 - 126	14.111	14.11917	-0.0082	N/A	
Tetrachlorometaxylene [2C]	7.9944	66.6	44 - 120	5.685	5.687167	-0.0022	N/A	

SURROGATE RECOVERY AND RT SUMMARY
EPA 8082A

Laboratory: Analytical Resources, LLC
SDG/WO: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLC0215
Instrument: ECD7
Calibration: GB00069
Calibration Date: 02/24/2023

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
23C0108-09 (Solid)			Lab File ID: 03152334ECD7.D			Analyzed: 03/16/23 00:26		
Decachlorobiphenyl	7.9997	75.0	40 - 126	13.885	13.89483	-0.0098	N/A	
Tetrachlorometaxylene	7.9997	54.0	44 - 120	5.806	5.8095	-0.0035	N/A	
Decachlorobiphenyl [2C]	7.9997	71.3	40 - 126	14.111	14.11917	-0.0082	N/A	
Tetrachlorometaxylene [2C]	7.9997	61.3	44 - 120	5.684	5.687167	-0.0032	N/A	
23C0108-10 (Solid)			Lab File ID: 03152335ECD7.D			Analyzed: 03/16/23 00:47		
Decachlorobiphenyl	8.0008	77.1	40 - 126	13.886	13.89483	-0.0088	N/A	
Tetrachlorometaxylene	8.0008	61.1	44 - 120	5.806	5.8095	-0.0035	N/A	
Decachlorobiphenyl [2C]	8.0008	77.7	40 - 126	14.112	14.11917	-0.0072	N/A	
Tetrachlorometaxylene [2C]	8.0008	66.1	44 - 120	5.686	5.687167	-0.0012	N/A	
SLC0215-CCV5 (Water)			Lab File ID: 03152339ECD7.D			Analyzed: 03/16/23 02:10		
Decachlorobiphenyl	40.000	89.8	0 - 200	13.894	13.89483	-0.0008	N/A	
Tetrachlorometaxylene	40.000	85.0	0 - 200	5.811	5.8095	0.0015	N/A	
Decachlorobiphenyl [2C]	40.000	93.5	0 - 200	14.12	14.11917	0.0008	N/A	
Tetrachlorometaxylene [2C]	40.000	89.0	0 - 200	5.692	5.687167	0.0048	N/A	
SLC0215-CCV6 (Water)			Lab File ID: 03152340ECD7.D			Analyzed: 03/16/23 02:31		
Decachlorobiphenyl	40.000	89.8	0 - 200	13.895	13.89483	0.0002	N/A	
Tetrachlorometaxylene	40.000	88.8	0 - 200	5.812	5.8095	0.0025	N/A	
Decachlorobiphenyl [2C]	40.000	94.8	0 - 200	14.12	14.11917	0.0008	N/A	
Tetrachlorometaxylene [2C]	40.000	91.3	0 - 200	5.692	5.687167	0.0048	N/A	

Analytical Resources, LLC
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLB0342	Instrument:	ECD7
		Calibration:	GB00069

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (SLB0342-SCV1)		(Water)	Lab File ID: 02242313ECD7.D				Analyzed: 02/24/23 15:03		
1-Bromo-2-Nitrobenzene	645975	3.489	673778	3.493	96	50 - 200	-0.004	+/-0.50	
Hexabromobiphenyl	1524245	14.268	1429847	14.268	107	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	316115	3.927	315256	3.928	100	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl [2C]	556950	15.007	513946	15.008	108	50 - 200	-0.001	+/-0.50	
Secondary Cal Check (SLB0342-SCV2)		(Water)	Lab File ID: 02242314ECD7.D				Analyzed: 02/24/23 15:24		
1-Bromo-2-Nitrobenzene	705650	3.493	673778	3.493	105	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	1555683	14.267	1429847	14.268	109	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	340433	3.929	315256	3.928	108	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl [2C]	565609	15.008	513946	15.008	110	50 - 200	0.000	+/-0.50	
Secondary Cal Check (SLB0342-SCV3)		(Water)	Lab File ID: 02242315ECD7.D				Analyzed: 02/24/23 15:45		
1-Bromo-2-Nitrobenzene	646554	3.49	673778	3.493	96	50 - 200	-0.003	+/-0.50	
Hexabromobiphenyl	1529451	14.268	1429847	14.268	107	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	316066	3.928	315256	3.928	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	557213	15.008	513946	15.008	108	50 - 200	0.000	+/-0.50	
Secondary Cal Check (SLB0342-SCV4)		(Water)	Lab File ID: 02242316ECD7.D				Analyzed: 02/24/23 16:06		
1-Bromo-2-Nitrobenzene	656887	3.488	673778	3.493	97	50 - 200	-0.005	+/-0.50	
Hexabromobiphenyl	1585505	14.267	1429847	14.268	111	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	320936	3.925	315256	3.928	102	50 - 200	-0.003	+/-0.50	
Hexabromobiphenyl [2C]	570006	15.007	513946	15.008	111	50 - 200	-0.001	+/-0.50	
Secondary Cal Check (SLB0342-SCV5)		(Water)	Lab File ID: 02242317ECD7.D				Analyzed: 02/24/23 16:27		
1-Bromo-2-Nitrobenzene	661953	3.489	673778	3.493	98	50 - 200	-0.004	+/-0.50	
Hexabromobiphenyl	1574993	14.268	1429847	14.268	110	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	317807	3.926	315256	3.928	101	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	565951	15.007	513946	15.008	110	50 - 200	-0.001	+/-0.50	
Secondary Cal Check (SLB0342-SCV6)		(Water)	Lab File ID: 02242318ECD7.D				Analyzed: 02/24/23 16:48		
1-Bromo-2-Nitrobenzene	656592	3.489	673778	3.493	97	50 - 200	-0.004	+/-0.50	
Hexabromobiphenyl	1584453	14.268	1429847	14.268	111	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	314741	3.926	315256	3.928	100	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	568346	15.007	513946	15.008	111	50 - 200	-0.001	+/-0.50	

Analytical Resources, LLC
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INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8082A

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLC0215
Instrument: ECD7
Calibration: GB00069

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SLC0215-ICV1)		(Water)	Lab File ID: 03152306ECD7.D				Analyzed: 03/15/23 14:43		
1-Bromo-2-Nitrobenzene	987631	3.492	987631	3.492	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	2494658	14.275	2494658	14.275	100	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	360654	3.931	360654	3.931	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	535523	15.01	535523	15.01	100	50 - 200	0.000	+/-0.50	
Initial Cal Check (SLC0215-ICV2)		(Water)	Lab File ID: 03152307ECD7.D				Analyzed: 03/15/23 15:04		
1-Bromo-2-Nitrobenzene	1002388	3.492	1002388	3.492	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	2626033	14.275	2626033	14.275	100	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	364771	3.931	364771	3.931	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	550406	15.011	550406	15.011	100	50 - 200	0.000	+/-0.50	
Blank (BLC0219-BLK1)		(Solid)	Lab File ID: 03152315ECD7.D				Analyzed: 03/15/23 17:51		
1-Bromo-2-Nitrobenzene	1146280	3.494	987631	3.492	116	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl	3433528	14.274	2626033	14.275	131	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	400044	3.931	360654	3.931	111	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	632392	15.01	550406	15.011	115	50 - 200	-0.001	+/-0.50	
LCS (BLC0219-BS1)		(Solid)	Lab File ID: 03152316ECD7.D				Analyzed: 03/15/23 18:12		
1-Bromo-2-Nitrobenzene	1175579	3.494	987631	3.492	119	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl	3282396	14.273	2626033	14.275	125	50 - 200	-0.002	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	406961	3.931	360654	3.931	113	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	639731	15.008	550406	15.011	116	50 - 200	-0.003	+/-0.50	
LCS Dup (BLC0219-BSD1)		(Solid)	Lab File ID: 03152317ECD7.D				Analyzed: 03/15/23 18:32		
1-Bromo-2-Nitrobenzene	1147217	3.494	987631	3.492	116	50 - 200	0.002	+/-0.50	
Hexabromobiphenyl	3363429	14.274	2626033	14.275	128	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	396521	3.931	360654	3.931	110	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	636625	15.008	550406	15.011	116	50 - 200	-0.003	+/-0.50	
Reference (BLC0219-SRM1)		(Solid)	Lab File ID: 03152318ECD7.D				Analyzed: 03/15/23 18:53		
1-Bromo-2-Nitrobenzene	1103257	3.493	987631	3.492	112	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl	1949653	14.262	2626033	14.275	74	50 - 200	-0.013	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	380915	3.93	360654	3.931	106	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl [2C]	540684	15.002	550406	15.011	98	50 - 200	-0.009	+/-0.50	

Analytical Resources, LLC
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INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0215	Instrument:	ECD7
		Calibration:	GB00069

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LDW23-SC1037 (23C0108-01)		(Solid)	Lab File ID: 03152324ECD7.D				Analyzed: 03/15/23 20:58		
1-Bromo-2-Nitrobenzene	1005640	3.492	987631	3.492	102	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	923103	14.254	2626033	14.275	35	50 - 200	-0.021	+/-0.50	*
1-Bromo-2-Nitrobenzene [2C]	362543	3.929	360654	3.931	101	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	395543	14.997	550406	15.011	72	50 - 200	-0.014	+/-0.50	
LDW23-SC1044 (23C0108-02)		(Solid)	Lab File ID: 03152325ECD7.D				Analyzed: 03/15/23 21:19		
1-Bromo-2-Nitrobenzene	1000157	3.491	987631	3.492	101	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl	861392	14.252	2626033	14.275	33	50 - 200	-0.023	+/-0.50	*
1-Bromo-2-Nitrobenzene [2C]	368647	3.929	364771	3.931	101	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	377136	14.997	535523	15.01	70	50 - 200	-0.013	+/-0.50	
LDW23-SC1107 (23C0108-03)		(Solid)	Lab File ID: 03152326ECD7.D				Analyzed: 03/15/23 21:40		
1-Bromo-2-Nitrobenzene	1041952	3.492	1002388	3.492	104	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	821290	14.251	2494658	14.275	33	50 - 200	-0.024	+/-0.50	*
1-Bromo-2-Nitrobenzene [2C]	356884	3.929	364771	3.931	98	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	375530	14.997	550406	15.011	68	50 - 200	-0.014	+/-0.50	
LDW23-SC1106 (23C0108-04)		(Solid)	Lab File ID: 03152327ECD7.D				Analyzed: 03/15/23 22:00		
1-Bromo-2-Nitrobenzene	974838	3.492	987631	3.492	99	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	802086	14.251	2494658	14.275	32	50 - 200	-0.024	+/-0.50	*
1-Bromo-2-Nitrobenzene [2C]	360744	3.929	360654	3.931	100	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	367099	14.996	550406	15.011	67	50 - 200	-0.015	+/-0.50	
LDW23-SC1118 (23C0108-05)		(Solid)	Lab File ID: 03152328ECD7.D				Analyzed: 03/15/23 22:21		
1-Bromo-2-Nitrobenzene	1018902	3.491	987631	3.492	103	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl	749064	14.25	2626033	14.275	29	50 - 200	-0.025	+/-0.50	*
1-Bromo-2-Nitrobenzene [2C]	356013	3.928	360654	3.931	99	50 - 200	-0.003	+/-0.50	
Hexabromobiphenyl [2C]	373489	14.995	535523	15.01	70	50 - 200	-0.015	+/-0.50	
LDW23-SS1106 (23C0108-06)		(Solid)	Lab File ID: 03152329ECD7.D				Analyzed: 03/15/23 22:42		
1-Bromo-2-Nitrobenzene	946803	3.492	987631	3.492	96	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	797740	14.251	2494658	14.275	32	50 - 200	-0.024	+/-0.50	*
1-Bromo-2-Nitrobenzene [2C]	365728	3.93	364771	3.931	100	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl [2C]	373222	14.996	550406	15.011	68	50 - 200	-0.015	+/-0.50	

Analytical Resources, LLC
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLC0215	Instrument:	ECD7
		Calibration:	GB00069

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LDW23-SS1107 (23C0108-07)		(Solid)		Lab File ID: 03152330ECD7.D				Analyzed: 03/15/23 23:03	
1-Bromo-2-Nitrobenzene	989158	3.492	1002388	3.492	99	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	815688	14.251	2494658	14.275	33	50 - 200	-0.024	+/-0.50	*
1-Bromo-2-Nitrobenzene [2C]	375085	3.93	364771	3.931	103	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl [2C]	378099	14.996	535523	15.01	71	50 - 200	-0.014	+/-0.50	
LDW23-SS1111 (23C0108-08)		(Solid)		Lab File ID: 03152333ECD7.D				Analyzed: 03/16/23 00:05	
1-Bromo-2-Nitrobenzene	979591	3.492	987631	3.492	99	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	900996	14.253	2494658	14.275	36	50 - 200	-0.022	+/-0.50	*
1-Bromo-2-Nitrobenzene [2C]	364625	3.929	364771	3.931	100	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	390346	14.996	535523	15.01	73	50 - 200	-0.014	+/-0.50	
LDW23-SS1118 (23C0108-09)		(Solid)		Lab File ID: 03152334ECD7.D				Analyzed: 03/16/23 00:26	
1-Bromo-2-Nitrobenzene	990040	3.492	1002388	3.492	99	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	827384	14.25	2494658	14.275	33	50 - 200	-0.025	+/-0.50	*
1-Bromo-2-Nitrobenzene [2C]	368972	3.929	360654	3.931	102	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	387461	14.994	550406	15.011	70	50 - 200	-0.017	+/-0.50	
LDW23-SC1111 (23C0108-10)		(Solid)		Lab File ID: 03152335ECD7.D				Analyzed: 03/16/23 00:47	
1-Bromo-2-Nitrobenzene	913873	3.492	1002388	3.492	91	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	863945	14.253	2494658	14.275	35	50 - 200	-0.022	+/-0.50	*
1-Bromo-2-Nitrobenzene [2C]	365078	3.93	364771	3.931	100	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl [2C]	384249	14.995	550406	15.011	70	50 - 200	-0.016	+/-0.50	

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Sediment	Laboratory ID:	23C0108-01	File ID:	03152324ECD7.D
Sampled:	03/02/23 13:29	Prepared:	03/10/23 11:58	Analyzed:	03/15/23 20:58
Solids:	53.56	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BLC0219	Sequence:	SLC0215		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	1	8.397	8.405	0.008	96798.5	27.7	4.6
	* 2	8.3	8.307	0.007	27485.75	29.0	
Aroclor 1254	1	9.286	9.298	0.012	161670.8	32.3	32.4
	* 2	9.438	9.449	0.011	79832.6	44.8	
Aroclor 1260	1	11.032	11.04467	0.0127	85996.4	38.5	8.7
	* 2	11.642	11.6535	0.0115	55776	35.3	

* Column used for quantitation

Analytical Resources, LLC
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Sediment	Laboratory ID:	23C0108-02	File ID:	03152325ECD7.D
Sampled:	03/02/23 15:06	Prepared:	03/10/23 11:58	Analyzed:	03/15/23 21:19
Solids:	52.74	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BLC0219	Sequence:	SLC0215		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	* 1	8.397	8.405	0.008	102467.3	29.5	.
	2	8.3	8.307	0.007	29120.5	29.5	
Aroclor 1254	1	9.286	9.298	0.012	144518.4	34.6	33.3
	* 2	9.438	9.449	0.011	87675.8	48.4	
Aroclor 1260	1	11.032	11.04467	0.0127	101212.4	48.5	7.9
	* 2	11.642	11.6535	0.0115	67467.25	44.8	

* Column used for quantitation

Analytical Resources, LLC
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Sediment	Laboratory ID:	23C0108-03	File ID:	03152326ECD7.D
Sampled:	03/03/23 08:58	Prepared:	03/10/23 11:58	Analyzed:	03/15/23 21:40
Solids:	48.78	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BLC0219	Sequence:	SLC0215		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	1	8.397	8.405	0.008	110846.3	30.4	11.2
	* 2	8.3	8.307	0.007	32270.5	34.0	
Aroclor 1254	1	9.286	9.298	0.012	159989.2	35.5	30.1
	* 2	9.437	9.449	0.012	94443.6	48.1	
Aroclor 1260	1	11.033	11.04467	0.0117	124782.4	64.3	12.
	* 2	11.643	11.6535	0.0105	85555	57.0	

* Column used for quantitation

Analytical Resources, LLC
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DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Sediment	Laboratory ID:	23C0108-04	File ID:	03152327ECD7.D
Sampled:	03/03/23 09:32	Prepared:	03/10/23 11:58	Analyzed:	03/15/23 22:00
Solids:	47.41	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BLC0219	Sequence:	SLC0215		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	1	8.396	8.405	0.009	116661.3	34.1	1.2
	* 2	8.3	8.307	0.007	33666.25	34.5	
Aroclor 1254	1	9.286	9.298	0.012	163597	39.6	35.3
	* 2	9.438	9.449	0.011	99650.6	56.6	
Aroclor 1260	1	11.032	11.04467	0.0127	120572.4	62.2	8.7
	* 2	11.642	11.6535	0.0115	82492	57.0	

* Column used for quantitation

Analytical Resources, LLC
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Sediment	Laboratory ID:	23C0108-05	File ID:	03152328ECD7.D
Sampled:	03/03/23 11:48	Prepared:	03/10/23 11:58	Analyzed:	03/15/23 22:21
Solids:	48.57	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BLC0219	Sequence:	SLC0215		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	1	8.395	8.405	0.01	100953.5	28.6	17.
	* 2	8.299	8.307	0.008	37517.75	33.9	
Aroclor 1254	1	9.285	9.298	0.013	141888.4	32.2	39.6
	* 2	9.437	9.449	0.012	94589.2	48.1	
Aroclor 1260	1	11.032	11.04467	0.0127	101577	56.7	13.8
	* 2	11.641	11.6535	0.0125	74488.5	49.4	

* Column used for quantitation

Analytical Resources, LLC
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Sediment	Laboratory ID:	23C0108-06	File ID:	03152329ECD7.D
Sampled:	03/03/23 10:00	Prepared:	03/10/23 11:58	Analyzed:	03/15/23 22:42
Solids:	43.33	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BLC0219	Sequence:	SLC0215		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	1	8.396	8.405	0.009	130526.5	39.7	1.5
	* 2	8.3	8.307	0.007	38639.75	40.3	
Aroclor 1254	1	9.286	9.298	0.012	184545	44.1	34.2
	* 2	9.438	9.449	0.011	111625	62.3	
Aroclor 1260	1	11.032	11.04467	0.0127	130168	67.5	10.8
	* 2	11.642	11.6535	0.0115	90603.25	60.6	

* Column used for quantitation

Analytical Resources, LLC
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Sediment	Laboratory ID:	23C0108-07	File ID:	03152330ECD7.D
Sampled:	03/03/23 10:21	Prepared:	03/10/23 11:58	Analyzed:	03/15/23 23:03
Solids:	40.20	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BLC0219	Sequence:	SLC0215		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	1	8.397	8.405	0.008	124669.5	36.1	5.7
	* 2	8.3	8.307	0.007	36505.5	38.2	
Aroclor 1254	1	9.286	9.298	0.012	200478.4	40.6	34.5
	* 2	9.438	9.449	0.011	105848.8	57.5	
Aroclor 1260	1	11.032	11.04467	0.0127	107978	54.5	8.4
	* 2	11.642	11.6535	0.0115	75345.25	50.1	

* Column used for quantitation

Analytical Resources, LLC
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Sediment	Laboratory ID:	23C0108-08	File ID:	03152333ECD7.D
Sampled:	03/03/23 10:36	Prepared:	03/10/23 11:58	Analyzed:	03/16/23 00:05
Solids:	46.38	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BLC0219	Sequence:	SLC0215		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	1	8.397	8.405	0.008	112772.3	33.3	2.1
	* 2	8.301	8.307	0.006	31549.5	34.0	
Aroclor 1254	1	9.286	9.298	0.012	150860.4	36.9	28.6
	* 2	9.439	9.449	0.01	88072	49.2	
Aroclor 1260	1	11.033	11.04467	0.0117	82594.4	38.9	2.8
	* 2	11.643	11.6535	0.0105	59450.5	40.0	

* Column used for quantitation

Analytical Resources, LLC
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Sediment	Laboratory ID:	23C0108-09	File ID:	03152334ECD7.D
Sampled:	03/03/23 11:25	Prepared:	03/10/23 11:58	Analyzed:	03/16/23 00:26
Solids:	42.62	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BLC0219	Sequence:	SLC0215		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	1	8.396	8.405	0.009	108933.3	31.7	1.3
	* 2	8.299	8.307	0.008	32033	32.1	
Aroclor 1254	1	9.285	9.298	0.013	154200.2	37.0	33.1
	* 2	9.438	9.449	0.011	93301.4	51.7	
Aroclor 1260	1	11.032	11.04467	0.0127	101195.6	51.9	16.3
	* 2	11.641	11.6535	0.0125	67673.5	44.1	

* Column used for quantitation

Analytical Resources, LLC
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, LLC			SDG:	23C0108
Client:	Anchor QEA, LLC			Project:	AOC5 MR Phase 1
Matrix:	Sediment	Laboratory ID:	23C0108-10	File ID:	03152335ECD7.D
Sampled:	03/03/23 14:35	Prepared:	03/10/23 11:58	Analyzed:	03/16/23 00:47
Solids:	47.29	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BLC0219	Sequence:	SLC0215		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	* 1	8.397	8.405	0.008	68944.25	21.8	1.4
	2	8.301	8.307	0.006	20082.5	21.5	
Aroclor 1254	1	9.287	9.298	0.011	97098.4	25.4	22.1
	* 2	9.439	9.449	0.01	56352.2	31.7	
Aroclor 1260	1	11.033	11.04467	0.0117	62159.6	29.6	10.7
	* 2	11.643	11.6535	0.0105	39818	26.6	

* Column used for quantitation

HOLDING TIME SUMMARY

Analysis: EPA 8082A

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW23-SC1037 23C0108-01	03/02/23 13:29	03/03/23 16:35	03/10/23 11:58	7	365	03/15/23 20:58	5	40	
LDW23-SC1044 23C0108-02	03/02/23 15:06	03/03/23 16:35	03/10/23 11:58	7	365	03/15/23 21:19	5	40	
LDW23-SC1107 23C0108-03	03/03/23 08:58	03/03/23 16:35	03/10/23 11:58	7	365	03/15/23 21:40	5	40	
LDW23-SC1106 23C0108-04	03/03/23 09:32	03/03/23 16:35	03/10/23 11:58	7	365	03/15/23 22:00	5	40	
LDW23-SC1118 23C0108-05	03/03/23 11:48	03/03/23 16:35	03/10/23 11:58	7	365	03/15/23 22:21	5	40	
LDW23-SS1106 23C0108-06	03/03/23 10:00	03/03/23 16:35	03/10/23 11:58	7	365	03/15/23 22:42	5	40	
LDW23-SS1107 23C0108-07	03/03/23 10:21	03/03/23 16:35	03/10/23 11:58	7	365	03/15/23 23:03	5	40	
LDW23-SS1111 23C0108-08	03/03/23 10:36	03/03/23 16:35	03/10/23 11:58	7	365	03/16/23 00:05	6	40	
LDW23-SS1118 23C0108-09	03/03/23 11:25	03/03/23 16:35	03/10/23 11:58	7	365	03/16/23 00:26	6	40	
LDW23-SC1111 23C0108-10	03/03/23 14:35	03/03/23 16:35	03/10/23 11:58	6	365	03/16/23 00:47	6	40	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

EPA 8082A

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Instrument: ECD7

Analyte	MDL	RL	Units
Aroclor 1016	1.6	4.0	ug/kg
Aroclor 1016 [2C]	1.6	4.0	ug/kg
Aroclor 1221	1.6	4.0	ug/kg
Aroclor 1221 [2C]	1.6	4.0	ug/kg
Aroclor 1232	1.6	4.0	ug/kg
Aroclor 1232 [2C]	1.6	4.0	ug/kg
Aroclor 1242	1.6	4.0	ug/kg
Aroclor 1242 [2C]	1.6	4.0	ug/kg
Aroclor 1248	1.6	4.0	ug/kg
Aroclor 1248 [2C]	1.6	4.0	ug/kg
Aroclor 1254	1.6	4.0	ug/kg
Aroclor 1254 [2C]	1.6	4.0	ug/kg
Aroclor 1260	0.6	4.0	ug/kg
Aroclor 1260 [2C]	0.6	4.0	ug/kg

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New Haven, CT 06513
USA

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CERTIFICATE OF ANALYSIS

Catalog No: S-279N
Description: Tetrachloro-m-xylene
Lot: 0052481B-1
Solvent: N/A
Hazards: *Refer to SDS for complete safety information*

Signal Word: Warning

Date Certified: Jul 28, 2005
Expiration: Jul 28, 2015
Sample Size: 100 mg
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

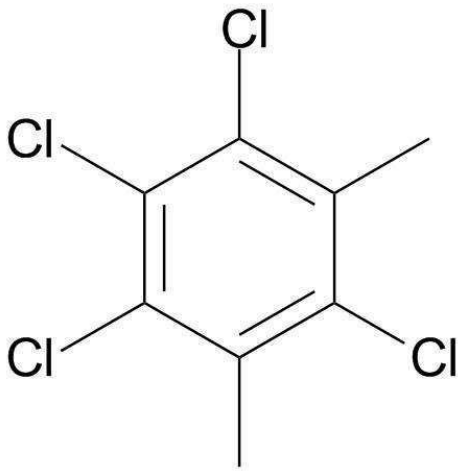
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER AR-1463

ilac-MRA

Component	CAS #	Purity % (GC/FID)	Prepared Concentration	Certified Analyte Concentration[1]
Tetrachloro-meta-xylene	877-09-8	96.0	N/A	N/A

Identification:

Molecular formula: C8H6Cl4
Molecular weight: 243.94



C000147
tetrachlormetaxylene
Expires 1/15/2020
Prepared By Joshua Rains 1/15/2014

This Certified Reference Material was verified in accordance with ISO/IEC 17025

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[1] The Uncertainty calculated for this product is ±2.4%. These values are the expanded uncertainty and represent an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

Metrological traceability is established through in-house validated methods.

Purity, if stated, is equal to 100% minus found impurity components. Impurity components have not been identified.

Hazard Information: Please refer to the SDS for information regarding the hazards associated with using this material.

This product was prepared according to in-house procedures and is guaranteed to be homogeneous.

Certified By: Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015

QR-ORG/INO-001
Rev. 5/18

AccuStandard
125 Market Street
New Haven, CT 06513
(203) 786-5290

CERTIFICATE OF PRODUCT DATA

PRODUCT: C-209N
DESCRIPTION: 2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl
LOT #: 990521LB-AC
SOLVENT: N/A

EXPIRATION: Jul 28, 2015

This product is guaranteed accurate to ±0.5% of the Certified Analyte concentration through the Expiration Date on the Label.

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1]	Certified Analyte Concentration[2]
2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	2051-24-3	100	N/A	N/A

C000148
decachlorbiphenyl
Expires 1/15/2020
Prepared By Joshua Rains 1/15/2014

* I1768A

Certified by: R. Cooper

1. All weights are traceable through National Institute of Standards & Technology, Test No. 822/264480
2. Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty calculated for this product is ±4% which is the Combined Uncertainty uc(y). It represents an estimated standard deviation equal to the positive square root of the total variance of the uncertainty of components. The Expanded Uncertainty is U which is Uc(y) *K where K is the coverage factor at the 95% confidence level (K=2).
3. A product with a suffix (-1A, -2B, etc.) on its lot# has had its expiration date extended and is identical to the same lot# without the suffix.

Please note: AccuStandard follows the U.S. conventions in reporting numerical values, on both certificates and labels.

A comma (,) is used to separate units of one-thousand or greater.
A period (.) is used as a decimal place marker.

This product was manufactured in accordance to quality system requirements of ISO 9001:2000 and ISO 17025

* Recertified 2 4-6-09 JS

Analytical Standard Record

Standard ID: C000148 **Printed: 4/23/2015 11:54:44AM**

Description:	decachlorbiphenyl	Expires:	15-Jan-2020
Standard Type:	Other	Prepared:	15-Jan-2014
Solvent:	na/a	Prepared By:	Joshua Rains
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	27-Feb-2015 13:03 by JGR
Vendor:	Accustandard	Lot #:	990521lb-ac
Vendor Catalog #:			

Comments

see i1768a
SOM calibrations added 06/12/14 sdrd

Analyte	CAS Number	Concentration	Units
Decachlorobiphenyl [2C]	2051-24-3	1000000	ug/mL
Decachlorobiphenyl	2051-24-3	1000000	ug/mL
DCB 1660 [2C]	2051-24-3	1000000	ug/mL
DCB 1660	2051-24-3	1000000	ug/mL
DCB [2C]	2051-24-3	1000000	ug/mL
DCB (A) [2C]	2051-24-3	1000000	ug/mL
DCB (A)	2051-24-3	1000000	ug/mL
DCB	2051-24-3	1000000	ug/mL

Reviewed By Date

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Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101461
Description: Aroclor 1254
Storage: 4 °C
Provided As: 1 mL in 2 mL Ampoule in Hexane

Lot Number: CL13053
Certification Date: November 29, 2018
Expiration Date: November 30, 2026

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1254	11097-69-1	1000	± 0.246%

I09808
Recd. JP
02/24/20

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Certificate No. 2427.02

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Manufactured by Phenova, Inc.

Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ilac-MRA ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL11110613_us

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Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101468
Description: Aroclor 1221
Storage: 4 °C
Provided As: 1 mL in 2 mL Ampoule in Isooctane

Lot Number: CL14017
Certification Date: August 20, 2019
Expiration Date: August 31, 2027

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1221	11104-28-2	1000	± 0.553%

J004466
Rcvd JK
06/18/21

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Chemical Testing Laboratory
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IL64691018_us

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1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO 17034[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.

4. Handling and Usage Notes: Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.

12. Period of Validity: The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.
[3] ISO 17034 – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

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Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101469
Description: Aroclor 1232
Storage: 4 °C
Provided As: 1 mL in 2 mL Ampoule in Isooctane

Lot Number: CL14914
Certification Date: January 31, 2020
Expiration Date: January 31, 2028

Andrea L Gill
Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1232	11141-16-5	1000	± 0.738%

J006467 JR
read
06/18/21

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1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO 17034[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.

4. Handling and Usage Notes: Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.

12. Period of Validity: The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.
[3] ISO 17034 – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

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Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.:	AL0-101470	**Lot Number:**	CL14018
Description:	Aroclor 1242	**Certification Date:**	August 20, 2019
Storage:	4 °C	**Expiration Date:**	August 31, 2027
Provided As:	1 mL in 2 mL Ampoule in Isooctane		

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1242	53469-21-9	1000	± 0.553%

J006468
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06/18/21

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Certicate No. 2427.03

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1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO 17034[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.

4. Handling and Usage Notes: Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.

12. Period of Validity: The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.
[3] ISO 17034 – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

Certificate of Analysis

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Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.:	AL0-101471	**Lot Number:**	CL15384
Description:	Aroclor 1248	**Certification Date:**	June 19, 2020
Storage:	4 °C	**Expiration Date:**	June 30, 2028
Provided As:	1 mL in 2 mL Ampoule in Isooctane		

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1248	12672-29-6	1000	± 0.520%

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06/18/21

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Reference Material Producer
Certicate No. 2427.02

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Phenova is an accredited ISO/IEC 17034 Reference Material Producer and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ACCREDITED
Chemical Testing Laboratory
Certicate No. 2427.03

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Certificate of Analysis

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1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO 17034[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.

4. Handling and Usage Notes: Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.

12. Period of Validity: The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.
[3] ISO 17034 – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

Certificate of Analysis

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Access your MSDS and digital C of A at www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101474
Description: Aroclor 1262
Storage: 4 °C
Provided As: 1 mL in 2 mL Ampoule in Isooctane

Lot Number: CL11330
Certification Date: May 15, 2015
Expiration Date: April 30, 2023
Revision Date: April 2, 2018

Andrea L Gill
Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1262	37324-23-5	1000	± 0.516%

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06/18/21

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1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO Guide 34[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in the calibration and calibration verification of chromatographic instrumentation performed in routine laboratory analysis.

4. Instruction: Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all certified analytes in the mixture.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Material Safety Data Sheet (MSDS) is available at www.phenomenex.com/mysupport.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO Guide 34. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO Guide 34.

12. Period of Validity: The Certified Values and their uncertainties are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31:2000(E) – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35:2006(E) – Reference Material – General and Statistical Principles for Certification.
[3] ISO Guide 34:2009(E) – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025:2005(E) – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

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Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.:	AL0-101475	**Lot Number:**	CL11331
Description:	Aroclor 1268	**Certification Date:**	May 15, 2015
Storage:	4 °C	**Expiration Date:**	April 30, 2023
Provided As:	1 mL in 2 mL Ampoule in Isooctane	**Revision Date:**	April 2, 2018

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1268	11100-14-4	1000	± 0.516%

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06/18/21

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Chemical Testing Laboratory
Certificate No. 2427.03

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1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO Guide 34[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in the calibration and calibration verification of chromatographic instrumentation performed in routine laboratory analysis.

4. Instruction: Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all certified analytes in the mixture.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Material Safety Data Sheet (MSDS) is available at www.phenomenex.com/mysupport.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO Guide 34. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO Guide 34.

12. Period of Validity: The Certified Values and their uncertainties are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31:2000(E) – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35:2006(E) – Reference Material – General and Statistical Principles for Certification.
[3] ISO Guide 34:2009(E) – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025:2005(E) – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

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Reference Material Producer
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Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

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Chemical Testing Laboratory
Certificate No. 2427.03

Certificate of Analysis

Agilent

Aroclor 1016 Solution

Product Number: PP-282 **Page:** 1 of 1

Lot Number: CR-0761 **Lot Issue Date:** 28-Feb-2017 **Expiration Date:** 31-Mar-2025

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1016	012674-11-2	NT01016	100.2 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

K1254 Reed JR 02/05/22

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

John Russo
President

Monica Bourgeois
Director of QA/RA

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

ISO 9001
Registered
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Agilent

Certificate of Analysis

Product Name: Aroclor 1260 Standard

Product Number: PP-362-1 **Lot Issue Date:** 20-Jan-2021

Lot Number: 0006582048 **Expiration Date:** 28-Feb-2025

Description:
This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	Concentration ± Uncertainty
Aroclor 1260	011096-82-5	NT01023	100.4 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage Conditions: Store at Room Temperature (15° to 30°C).

K 1255

Traceability:
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:
This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Hazards:
Refer to the Safety Data Sheet on www.agilent.com for information regarding this RM.

Expiration of Certification:
The certification of this RM is valid until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

Maintenance of Certification:
If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

Sample lot approver:

MJBourgeois

Monica Bourgeois
QMS Representative

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

ISO 17034 Cert
No. AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026

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Certificate of Analysis
ISO Guide 34

Aroclor 1242 Solution

Product Number: PP-312 **Page:** 1 of 1

Lot Number: CS-6293 **Lot Issue Date:** 04-Jan-2019 **Expiration Date:** 31-Jan-2023

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with Agilent's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1242	053469-21-9	NT01020	100.4 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

K1256

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

M Bourgeois

Monica Bourgeois
QMS Representative

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER
ISO Guide 34 Cert No.
AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026
registered ISO 9001 Quality Management System

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
ISO17025 Cert No.
AT-1937

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Reference Material Certificate

Product Name:	Aroclor 1248 Standard	**Lot Number:**	0006626997
Product Number:	PP-342-1	**Lot Issue Date:**	17-Aug-2021
Storage Conditions:	Store at Room Temperature (15° to 30°C).	**Expiration Date:**	30-Sep-2025

	CERTIFIED VALUES				
Component Name	Concentration		Expanded Uncertainty	CAS#	Analyte Lot
Aroclor 1248	100.3	±	0.5 µg/mL	012672-29-6	NT01582

Matrix: isooctane (2,2,4-trimethylpentane)

K1257

Description:
This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above.

Traceability:
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:
This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Safety:
Refer to the Safety Data Sheet on www.agilent.com for information regarding this analytical reference material.

Intended Use:
This analytical reference standard is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

Expiration of Certification:
The certification of this analytical reference standard is valid until the expiration date specified above, provided the material is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the material is damaged, contaminated, or otherwise modified.

Certificate of Analysis

Agilent

Aroclor 1254 Solution

Product Number: PP-352 **Page:** 1 of 1

Lot Number: CS-2321 **Lot Issue Date:** 04-May-2018 **Expiration Date:** 31-May-2026

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1254	011097-69-1	RM00922	100.4 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

K1258

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

John Russo
President

Monica Bourgeois
Director of QA/RA

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

ISO 9001
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Certificate of Analysis

Product Name: Aroclor 1221 Standard

Product Number: PP-292-1 **Lot Issue Date:** 28-Apr-2020

Lot Number: 0006535333 **Expiration Date:** 31-May-2024

Description:

This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system, and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	Concentration ± Uncertainty
Aroclor 1221	011104-28-2	RM04278	100.2 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage Conditions: Store at Room Temperature (15° to 30°C).

K1259

Traceability:

The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:

This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:

This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

Instructions for Use:

Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Hazards:

Refer to the Safety Data Sheet on www.agilent.com for information regarding this RM.

Expiration of Certification:

The certification of this RM is valid until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

Maintenance of Certification:

If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

Sample lot approver:

MBourgeois

Monica Bourgeois
QMS Representative

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

ISO 17034 Cert No. AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026

www.agilent.com/quality/
CSD-QA-015.1

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

ISO 17025 Cert No. AT-1937

250 Smith Street North Kingstown, Rhode Island 02852 www.agilent.com/quality

Agilent

Certificate of Analysis
ISO 17034

Aroclor 1262 Standard

Product Number: PP-372-1 **Page:** 1 of 1

Lot Number: 0006499800 **Lot Issue Date:** 04-Nov-2019 **Expiration Date:** 30-Nov-2023

This ISO 17034 Reference Material (RM) was manufactured and verified in accordance with Agilent Technologies ISO 9001 registered quality system. A review of the gravimetric preparation data by our ISO 17025 accredited laboratory serves to verify the concentration of each analyte. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1262	037324-23-5	RM14263	100.0 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

K1260

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

Monica Bourgeois
QMS Representative

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER
ISO 17034 Cert No. AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026 registered ISO 9001 Quality Management System

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
ISO 17025 Cert No. AT-1937

Agilent

Certificate of Analysis
ISO 17034

Aroclor 1232 Standard

Product Number: PP-302-1 **Page:** 1 of 1

Lot Number: CF-2197A **Lot Issue Date:** 05-Jul-2016 **Expiration Date:** 31-Aug-2023

This ISO 17034 Reference Material (RM) was manufactured and verified in accordance with Agilent's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1232	011141-16-5	NT01717	100.4 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

K1261

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

M Bourgeois

Monica Bourgeois
QMS Representative

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER
ISO 17034 Cert No. AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026 registered ISO 9001 Quality Management System

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
ISO17025 Cert No. AT-1937

Agilent

Certificate of Analysis

Product Name: Aroclor 1268 Standard

Product Number: PP-382-1 **Lot Issue Date:** 09-Feb-2021

Lot Number: 0006587800 **Expiration Date:** 31-Mar-2029

Description:
This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	Concentration ± Uncertainty
Aroclor 1268	011100-14-4	RM00937	100.0 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage Conditions: Store at Room Temperature (15° to 30°C).

K1262

Traceability:
The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:
This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Hazards:
Refer to the Safety Data Sheet on www.agilent.com for information regarding this RM.

Expiration of Certification:
The certification of this RM is valid until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

Maintenance of Certification:
If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

Sample lot approver:

Monica Bourgeois
QMS Representative

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER
ISO 17034 Cert No. AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026
Page: 1 of 1
www.agilent.com/quality/
CSD-QA-015.1

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
ISO 17025 Cert No. AT-1937

Recipient Copy

CHAIN-OF-CUSTODY RECORD

COC No. 15350

Order Number: CB014765

Date Shipped: 4/11/2022

AirBill No(s): 519204140444

From: QATS LABORATORY
2700 CHANDLER AVENUE, BLDG. B
LAS VEGAS, NV 89120
PHONE: 1-702-895-8712

To: Kelly Bottem
Analytical Resources, Inc.
4611 S. 134th Place SUITE 100
Tukwila WA 98168
206-695-6211

K003525
K003528

Sample ID	Qty	Description/Remarks	→ Catalogue Number
PSRM0148	1	PUGET SOUND SEDIMENT RM	PS-SRM
PSRM0149	1	PUGET SOUND SEDIMENT RM	PS-SRM
PSRM0150	1	PUGET SOUND SEDIMENT RM	PS-SRM
PSRM0151	1	PUGET SOUND SEDIMENT RM	PS-SRM

4/11/2022

BOEING PLANT 2

Please use the enclosed Sample Preparation Instructions. If catalogue number(s) are listed at the top of the Sample Preparation Instructions use the Sample Preparation Instructions with catalogue number(s) matching the catalogue number(s) of each of the samples listed above.

Relinquished by: (Signature)	Date/Time 1400 4/11/2022	Received by: (Signature)	Date/Time 0955 04/12/22
Custody Seal(s): Present/Absent PRESENT	Remarks:		
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

PUGET SOUND SEDIMENT REFERENCE MATERIAL
QATS LABORATORY INSTRUCTIONS FOR
HRGC/HRMS CDD/CDF/CB CONGENER AND GC/ECD AROCLOR ANALYSIS

NOTE: These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocols or your contract, disregard these instructions.

APPLICATION: For the analysis of CDD/CDF and CB Congener analytes using project-specified HRGC/HRMS methods, and Aroclors using project-specified GC/ECD methods.

CAUTION: Read instructions carefully before opening bottles and proceeding with the analyses.

Contains CDD/CDF, CB Congener, and/or Aroclors
HAZARDOUS MATERIAL

Safety Data Sheets
Available Upon Request

(A) *SAMPLE DESCRIPTION*

Enclosed is a Puget Sound (Washington State) Sediment Reference Material (SRM) set for chlorinated dibenzo-p-dioxins/chlorinated dibenzofurans (CDD/CDF), and/or chlorinated biphenyl (CB) congener analysis using project-specified high resolution gas chromatography/ high resolution mass spectrometry (HRGC/HRMS) methods. This SRM is also suitable for Aroclors analysis using project-specified gas chromatography/electron capture detection (GC/ECD) methods. This set consists of one (1) or more bottles, each with approximately 30 grams of Puget Sound SRM containing CDD/CDF, CB Congener, and/or Aroclor analytes. Check the chain-of-custody record to determine the number of bottles provided for CDD/CDF, CB Congener, and/or Aroclor analysis. None of the bottles are to be opened until SRM preparation/analysis is to occur.

CAUTION: The SRM could contain compounds that are light sensitive and should be protected from light during storage. Store the SRM at ≤ 6° C, preferably at < 0° C, until SRM preparation and analysis is to occur. Allow the bottle(s) to reach ambient temperature before opening.

(B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Refer to the enclosed chain-of-custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY
APTIM Federal Services, LLC
2700 Chandler Avenue - Building C
Las Vegas, NV 89120

(C) *ANALYSIS REQUIREMENTS*

The SRM is to be analyzed as described in the project-specified methods employed for the analysis of CDD/CDF and/or CB Congener analytes using HRGC/HRMS instrumentation and/or Aroclors using GC/ECD instrumentation. These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the project-specified methods, or your contract, disregard these instructions.

(D) *SAMPLE ANALYSIS*

General Instructions

The SRM contains CDD/CDF, CB Congener, and Aroclor analytes which are known or suspected to have severe health effects. Employing appropriate safety precautions, this SRM is to be handled, prepared, and analyzed exactly as you would process samples received from a known or suspected hazardous waste site. The SRM should be handled only by trained and experienced analysts in facilities expressly designed to handle such materials. When calculating the concentrations of analytes, use 0% as the soil moisture content.

Allow the bottle(s) to reach ambient temperature before opening and removing gravimetric amounts for sample preparation. To begin the extraction and analysis procedure, break the seal and open the bottle carefully. Weigh out the appropriate aliquot for extraction and analysis as prescribed in the project-specified methods (typically 10 grams for HRGC/HRMS methods and 30 grams for GC/ECD methods), or in accordance with your contract.

Proceed immediately with the extraction and analysis as described in the project-specified methods or your contract.

(E) *REPORTING*

Report the results for the prepared SRM as received.

Report the analytical results for the SRM to EPA or other appropriate Agency, using the format and other instructions for submission of data packages as specified in your contract.

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101467
Description: Aroclor 1016
Storage: 4 °C
Provided As: 1 mL in 2 mL Ampoule in Isooctane

Lot Number: CL12975
Certification Date: November 19, 2018
Expiration Date: October 31, 2026

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1016	12674-11-2	1000	± 0.553%

K5829

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

phenova® Certified Reference Materials

Manufactured by Phenova, Inc.

Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ilac-MRA ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL11110613_us

Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards

1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO Guide 34[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in the calibration and calibration verification of chromatographic instrumentation performed in routine laboratory analysis.

4. Instruction: Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all certified analytes in the mixture.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Material Safety Data Sheet (MSDS) is available at www.phenomenex.com/mysupport.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

   $$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

   Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO Guide 34. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO Guide 34.

12. Period of Validity: The Certified Values and their uncertainties are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31:2000(E) – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35:2006(E) – Reference Material – General and Statistical Principles for Certification.
[3] ISO Guide 34:2009(E) – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025:2005(E) – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

phenova® Certified Reference Materials

Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ilac-MRA ACCREDITED
Chemical Testing Laboratory
Certificate No. 2427.03

IL111106I3_US

Certificate of Analysis

phenova Certified Reference Materials | A Phenomenex Company

Produced by Phenova
6390 Joyce Drive STE 100, Golden, CO 80403 USA ▪ Tel: 303-940-0033 ▪ Fax: 303-940-0043 ▪ info@phenova.com
Access your Safety Data Sheets and digital Certificates at **www.phenova.com/documents.**

Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101462
Description: Aroclor 1260
Storage: 4 °C
Provided As: 1 mL in 2 mL Ampoule in Hexane

Lot Number: CL18021
Certification Date: February 14, 2022
Expiration Date: February 28, 2030

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1260	11096-82-5	1000	± 0.553%

K005830

Certificate of Analysis

Produced by Phenova
6390 Joyce Drive STE 100, Golden, CO 80403 USA ▪ Tel: 303-940-0033 ▪ Fax: 303-940-0043 ▪ info@phenova.com
Access your Safety Data Sheets and digital Certificates at **www.phenova.com/documents.**

1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO 17034[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.

4. Handling and Usage Notes: Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.

12. Period of Validity: The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.
[3] ISO 17034 – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B

Total Metals

LDW23-SC1044

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-02 D	SDG:	23C0108
Sampled:	03/02/23 15:06	Prepared:	04/24/23 16:45	File ID:	SMM 04-25-23-062
% Solids:	52.58	Preparation:	SMM EPA 7471B	Analyzed:	04/25/23 14:06
Batch:	BLD0580	Sequence:	SLD0354	Initial/Final:	0.24 g Wet / 50 mL
Instrument:	HYDRA			Calibration:	GD00060

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.254	1	0.00832	0.0396	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B

Total Metals

LDW23-SS1106

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-06 D	SDG:	23C0108
Sampled:	03/03/23 10:00	Prepared:	04/24/23 16:45	File ID:	SMM 04-25-23-063
% Solids:	42.02	Preparation:	SMM EPA 7471B	Analyzed:	04/25/23 14:08
Batch:	BLD0580	Sequence:	SLD0354	Initial/Final:	0.22 g Wet / 50 mL
Instrument:	HYDRA			Calibration:	GD00060

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.335	1	0.0114	0.0541	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B

Total Metals

LDW23-SS1107

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-07 D	SDG:	23C0108
Sampled:	03/03/23 10:21	Prepared:	04/24/23 16:45	File ID:	SMM 04-25-23-066
% Solids:	41.38	Preparation:	SMM EPA 7471B	Analyzed:	04/25/23 14:15
Batch:	BLD0580	Sequence:	SLD0354	Initial/Final:	0.252 g Wet / 50 mL
Instrument:	HYDRA			Calibration:	GD00060

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.218	1	0.0101	0.0479	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B

Total Metals

LDW23-SS1111

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-08 D	SDG:	23C0108
Sampled:	03/03/23 10:36	Prepared:	04/24/23 16:45	File ID:	SMM 04-25-23-067
% Solids:	47.78	Preparation:	SMM EPA 7471B	Analyzed:	04/25/23 14:17
Batch:	BLD0580	Sequence:	SLD0354	Initial/Final:	0.284 g Wet / 50 mL
Instrument:	HYDRA			Calibration:	GD00060

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.183	1	0.00774	0.0369	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B

Total Metals

LDW23-SS1118

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-09 D	SDG:	23C0108
Sampled:	03/03/23 11:25	Prepared:	04/24/23 16:45	File ID:	SMM 04-25-23-068
% Solids:	44.46	Preparation:	SMM EPA 7471B	Analyzed:	04/25/23 14:20
Batch:	BLD0580	Sequence:	SLD0354	Initial/Final:	0.275 g Wet / 50 mL
Instrument:	HYDRA			Calibration:	GD00060

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.179	1	0.00859	0.0409	

PREPARATION BATCH SUMMARY

EPA 7471B

Laboratory: Analytical Resources, LLC SDG: 23C0108

Client: Anchor QEA, LLC Project: AOC5 MR Phase 1

Batch: BLD0580 Batch Matrix: Solid Preparation: SMM EPA 7471B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-SC1044	23C0108-02	SMM 04-25-23-062	04/24/23 16:45	Store frozen; FROZEN VOLUME USED
LDW23-SS1106	23C0108-06	SMM 04-25-23-063	04/24/23 16:45	Store frozen; FROZEN VOLUME USED
LDW23-SS1107	23C0108-07	SMM 04-25-23-066	04/24/23 16:45	Store frozen; FROZEN VOLUME USED
LDW23-SS1111	23C0108-08	SMM 04-25-23-067	04/24/23 16:45	Store frozen; FROZEN VOLUME USED
LDW23-SS1118	23C0108-09	SMM 04-25-23-068	04/24/23 16:45	Store frozen; FROZEN VOLUME USED
Blank	BLD0580-BLK1	SMM 04-25-23-045	04/24/23 16:45	
LCS	BLD0580-BS1	SMM 04-25-23-046	04/24/23 16:45	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Mercury Digestion Log

Prep Code: SMM | Balance ID: BAL10 | Matrix: SOIL
Analyst: VAR | Block ID: 9 | Date: 04/24/23
Bath Temp: 95 | Start Time: 1543 | End Time: 1645

ARI Sample ID	Sample Bottle #	pH<2	Initial Weight (g) Volume (mL)	Final Volume (mL)	# $KMnO_4$ Aliquots	CLP	Comments
23A328-08	D		0.269	50	1		
23A467-01	A		0.229				
-02			0.261				
-03			0.256				
-04			0.263				
-05			0.260				
-06			0.249				
-07			0.278				
-08			0.258				
-09			0.262				
23C108-02	D		0.240				
-06			0.270				
-07			0.252				
-08			0.284				
-09			0.275				
23D37-01			0.274				
-03			0.264				
23D63-01	A		0.280				
-03			0.200				
BLD580-blk	—		—				23A467-01
-bs	—		—				
-dup	—		0.228				
-MS	—		0.228				
-MSD	—		0.230				
—	—	—	—	—	—	—	—

Chemical/Reagent ID:

HNO_3: L2678 | H_2SO_4: L923 | HCl: —
5% $K_2S_2O_8$: L3350 | 5% $KMnO_4$: K11727 | Digest Tube Lot: 22-10117

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Mercury Digestion Log

Prep Code: SMM | Balance ID: BAL10 | Matrix: SOIL
Analyst: VAR | Block ID: 9 | Date: 04/24/23
Bath Temp: 95 | Start Time: 1543 | End Time: 1645

ARI Sample ID	Sample Bottle #	pH<2	Initial Weight (g) Volume (mL)	Final Volume (mL)	# $KMnO_4$ Aliquots	CLP	Comments
23A328-08	D		0.269	50	1		
23A467-01	A		0.229				
-02			0.261				
-03			0.256				
-04			0.263				
-05			0.260				
-06			0.249				
-07			0.278				
-08			0.258				
-09			0.262				
23C108-02	D		0.240				
-06			0.220				
-07			0.252				
-08			0.284				
-09			0.275				
23D37-01			0.274				
-03			0.264				
23D63-01	A		0.280				
-03			0.200				
BLD580-blk	—		—				23A467-07
-LCS	—		—				
-DUP	—		0.228				
-MS	—		0.228				
-MSD	—		0.230				
—	—	—	—	—	—	—	—

Chemical/Reagent ID:

HNO_3: L2618 | H_2SO_4: L923 | HCl: —
5% $K_2S_2O_8$: L3350 | 5% $KMnO_4$: K11727 | Digest Tube Lot: 22-10117

Form I

METHOD BLANK DATA SHEET

EPA 7471B

Total Metals

Blank

Laboratory: Analytical Resources, LLC | SDG: 23C0108

Client: Anchor QEA, LLC | Project: AOC5 MR Phase 1

Batch: BLD0580 | Laboratory ID: BLD0580-BLK1 | Prepared: 04/24/23 16:45

Matrix: Solid | Preparation: SMM EPA 7471B | Analyzed: 04/25/23 13:26

Sequence: SLD0354 | Calibration: GD00060 | Instrument: HYDRA

CAS NO.	Analyte	Concentration (mg/kg wet)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	ND	1	0.00525	0.0250	U

LCS / LCS DUPLICATE RECOVERY

EPA 7471B

Total Metals

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	04/25/23 13:29
Batch:	BLD0580	Laboratory ID:	BLD0580-BS1
Preparation:	SMM EPA 7471B	Sequence Name:	LCS
Initial/Final:	0.2 g / 50 mL		

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	Q	LCS % REC. #	QC LIMITS REC.
Mercury	0.500	0.460		92.0	80 - 120

* Indicates values outside of QC limits

INITIAL CALIBRATION DATA

EPA 7471B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GD00060	Instrument:	HYDRA
Calibration Date:	04/25/2023 14:43		

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF
Mercury	0	0	0.0001	6660000	0.0005	6334000	0.001	6288000	0.002	6022000	0.005	5852600

INITIAL CALIBRATION DATA

EPA 7471B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GD00060	Instrument:	HYDRA
Calibration Date:	04/25/2023 14:43		

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	COD Limit	Q
Mercury	5192767	49.3	0.9998		0.99	

Method: ARI 5 ppb (NO 0.05) Operator: Admin

SMM 04-25-23 SLD0354 GD00060

Date of Analysis: 25 Apr 2023 11:07:49

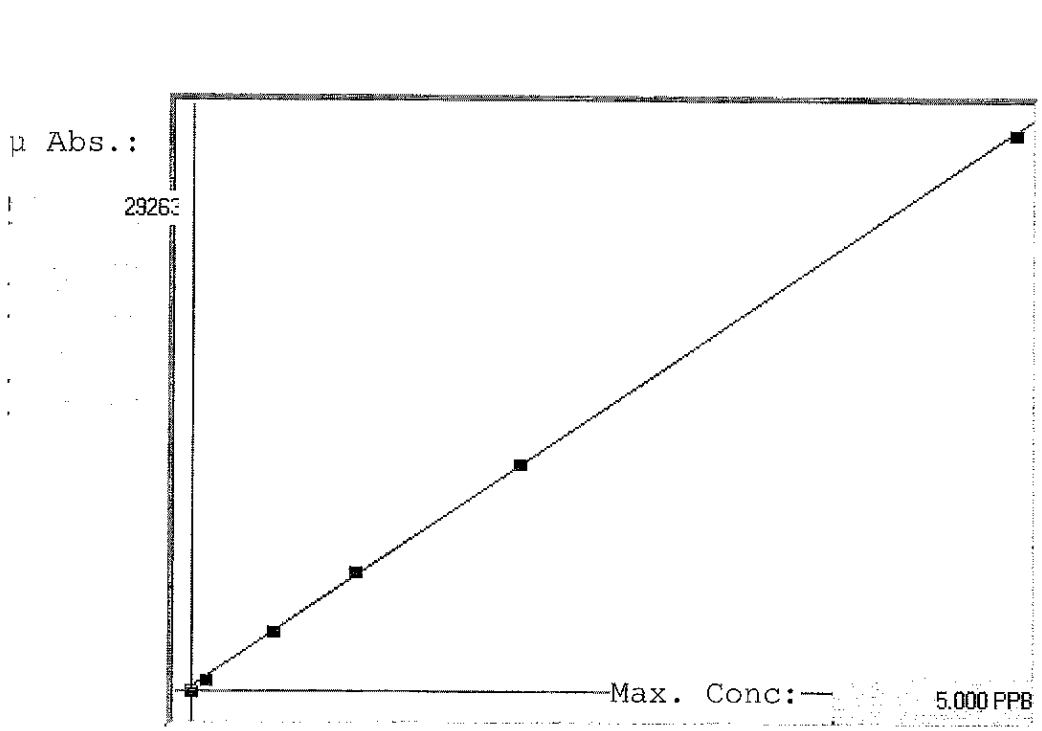
Sample ID	Mean	Units		Date	Method
SEQ-CAL1	37	PPB		25 Apr 2023 11:13:41	ARI 5 ppb (NO 0.05)
SEQ-CAL2	666	PPB		25 Apr 2023 11:16:02	ARI 5 ppb (NO 0.05)
SEQ-CAL3	3167	PPB		25 Apr 2023 11:18:23	ARI 5 ppb (NO 0.05)
SEQ-CAL4	6288	PPB		25 Apr 2023 11:20:44	ARI 5 ppb (NO 0.05)
SEQ-CAL5	12044	PPB		25 Apr 2023 11:23:05	ARI 5 ppb (NO 0.05)
SEQ-CAL6	29263	PPB		25 Apr 2023 11:25:24	ARI 5 ppb (NO 0.05)
SEQ-ICV	108.5% 4.3381	PPB	✓	25 Apr 2023 11:30:52	ARI 5 ppb (NO 0.05)
SEQ-ICB	-0.0393	PPB	✓	25 Apr 2023 11:33:10	ARI 5 ppb (NO 0.05)
SEQ-CRL	73.3% 0.0733	PPB	✓	25 Apr 2023 11:35:31	ARI 5 ppb (NO 0.05)
SEQ-CCV	109.0% 4.3617	PPB	✓	25 Apr 2023 11:37:53	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0385	PPB	✓	25 Apr 2023 11:40:12	ARI 5 ppb (NO 0.05)
BLD0505-BLK1	-0.0328	PPB		25 Apr 2023 11:42:33	ARI 5 ppb (NO 0.05)
BLD0505-BS1	1.8258	PPB	✓	25 Apr 2023 11:44:52	ARI 5 ppb (NO 0.05)
SEQ-CCV	106.8% 4.2726	PPB	✓	25 Apr 2023 11:47:11	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0384	PPB	✓	25 Apr 2023 11:49:30	ARI 5 ppb (NO 0.05)
SEQ-CCV	105.7% 4.2263	PPB	✓	25 Apr 2023 12:19:10	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0373	PPB	✓	25 Apr 2023 12:21:29	ARI 5 ppb (NO 0.05)
23A0455-01	0.4884	PPB		25 Apr 2023 12:23:50	ARI 5 ppb (NO 0.05)
BLD0505-DUP1	0.4335	PPB		25 Apr 2023 12:26:08	ARI 5 ppb (NO 0.05)
BLD0505-MS1	1.4211	PPB	✓	25 Apr 2023 12:28:28	ARI 5 ppb (NO 0.05)
BLD0505-MSD1	1.6078	PPB	✓	25 Apr 2023 12:30:46	ARI 5 ppb (NO 0.05)
23A0455-02	0.4293	PPB		25 Apr 2023 12:33:06	ARI 5 ppb (NO 0.05)
23A0455-03	0.5362	PPB		25 Apr 2023 12:35:24	ARI 5 ppb (NO 0.05)
23A0455-04	0.4379	PPB		25 Apr 2023 12:37:44	ARI 5 ppb (NO 0.05)
23A0455-05	0.0080	PPB		25 Apr 2023 12:40:03	ARI 5 ppb (NO 0.05)
23A0455-06	0.6722	PPB		25 Apr 2023 12:42:23	ARI 5 ppb (NO 0.05)
23A0455-07	0.4136	PPB		25 Apr 2023 12:44:43	ARI 5 ppb (NO 0.05)
SEQ-CCV	105.8% 4.2308	PPB	✓	25 Apr 2023 12:47:04	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0370	PPB	✓	25 Apr 2023 12:49:22	ARI 5 ppb (NO 0.05)
23A0455-08	0.3391	PPB		25 Apr 2023 12:51:43	ARI 5 ppb (NO 0.05)
23A0455-09	0.3223	PPB		25 Apr 2023 12:54:04	ARI 5 ppb (NO 0.05)
23A0455-10	0.5955	PPB		25 Apr 2023 12:56:25	ARI 5 ppb (NO 0.05)
23A0455-11	0.3914	PPB		25 Apr 2023 12:58:44	ARI 5 ppb (NO 0.05)
23A0455-12	0.4066	PPB		25 Apr 2023 13:01:03	ARI 5 ppb (NO 0.05)
23A0455-13	0.4000	PPB		25 Apr 2023 13:03:22	ARI 5 ppb (NO 0.05)
23A0455-14	0.3413	PPB		25 Apr 2023 13:05:41	ARI 5 ppb (NO 0.05)
23A0455-15	0.1962	PPB		25 Apr 2023 13:08:00	ARI 5 ppb (NO 0.05)
23A0455-16	0.4328	PPB		25 Apr 2023 13:10:19	ARI 5 ppb (NO 0.05)
23A0455-17	0.3597	PPB		25 Apr 2023 13:12:38	ARI 5 ppb (NO 0.05)
SEQ-CCV	103.7% 4.1499	PPB	✓	25 Apr 2023 13:14:59	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0371	PPB	✓	25 Apr 2023 13:17:17	ARI 5 ppb (NO 0.05)
23A0455-18	0.0536	PPB		25 Apr 2023 13:19:38	ARI 5 ppb (NO 0.05)
23D0008-01	0.3094	PPB		25 Apr 2023 13:21:59	ARI 5 ppb (NO 0.05)
23D0008-03	0.4447	PPB		25 Apr 2023 13:24:19	ARI 5 ppb (NO 0.05)
BLD0580-BLK1	-0.0315	PPB		25 Apr 2023 13:26:40	ARI 5 ppb (NO 0.05)
BLD0580-BS1	1.8403	PPB	✓	25 Apr 2023 13:29:01	ARI 5 ppb (NO 0.05)
23A0467-01	0.4074	PPB		25 Apr 2023 13:31:20	ARI 5 ppb (NO 0.05)
BLD0580-DUP1	0.4022	PPB		25 Apr 2023 13:33:39	ARI 5 ppb (NO 0.05)
BLD0580-MS1	1.5094	PPB	✓	25 Apr 2023 13:35:59	ARI 5 ppb (NO 0.05)
BLD0580-MSD1	1.6054	PPB	✓	25 Apr 2023 13:38:19	ARI 5 ppb (NO 0.05)
23A0328-08	0.4022	PPB		25 Apr 2023 13:40:39	ARI 5 ppb (NO 0.05)
SEQ-CCV	101.8% 4.0729	PPB	✓	25 Apr 2023 13:42:58	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0373	PPB	✓	25 Apr 2023 13:45:16	ARI 5 ppb (NO 0.05)
23A0467-02	0.5447	PPB		25 Apr 2023 13:47:38	ARI 5 ppb (NO 0.05)
23A0467-03	0.5788	PPB		25 Apr 2023 13:49:58	ARI 5 ppb (NO 0.05)
23A0467-04	0.4825	PPB		25 Apr 2023 13:52:17	ARI 5 ppb (NO 0.05)
23A0467-05	0.6829	PPB		25 Apr 2023 13:54:37	ARI 5 ppb (NO 0.05)
23A0467-06	0.3974	PPB		25 Apr 2023 13:56:58	ARI 5 ppb (NO 0.05)
23A0467-07	0.3710	PPB		25 Apr 2023 13:59:19	ARI 5 ppb (NO 0.05)
23A0467-08	0.6868	PPB		25 Apr 2023 14:01:40	ARI 5 ppb (NO 0.05)

SMM 04-25-23

Method: ARI 5 ppb (NO 0.05) Operator: Admin Date of Analysis: 25 Apr 2023 11:07:49

Sample ID	Mean	Units		Date	Method
23A0467-09	0.3009	PPB		25 Apr 2023 14:04:00	ARI 5 ppb (NO 0.05)
23C0108-02	0.6421	PPB		25 Apr 2023 14:06:19	ARI 5 ppb (NO 0.05)
23C0108-06	0.6187	PPB		25 Apr 2023 14:08:39	ARI 5 ppb (NO 0.05)
SEQ-CCV	101.7% 4.0677	PPB	✓	25 Apr 2023 14:10:59	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0395	PPB	✓	25 Apr 2023 14:13:17	ARI 5 ppb (NO 0.05)
23C0108-07	0.4551	PPB		25 Apr 2023 14:15:40	ARI 5 ppb (NO 0.05)
23C0108-08	0.4974	PPB		25 Apr 2023 14:17:59	ARI 5 ppb (NO 0.05)
23C0108-09	0.4383	PPB		25 Apr 2023 14:20:19	ARI 5 ppb (NO 0.05)
23D0037-01	0.3366	PPB		25 Apr 2023 14:22:38	ARI 5 ppb (NO 0.05)
23D0037-03	0.3606	PPB		25 Apr 2023 14:24:59	ARI 5 ppb (NO 0.05)
23D0063-01	0.4057	PPB		25 Apr 2023 14:27:19	ARI 5 ppb (NO 0.05)
23D0063-03	0.2557	PPB		25 Apr 2023 14:29:39	ARI 5 ppb (NO 0.05)
SEQ-CCV	100.6% 4.0238	PPB	✓	25 Apr 2023 14:32:00	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0373	PPB	✓	25 Apr 2023 14:34:18	ARI 5 ppb (NO 0.05)

ARI 5 ppb (NO 0.05)



Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
SEQ-CAL1 - Blank	0.000	-0.031	-0.031	37	0.000	37	37	37		
SEQ-CAL2 - 0.1 PPB	0.100	0.077	-0.023	666	0.7 %	660	667	671		
SEQ-CAL3 - 0.5 PPB	0.500	0.506	0.006	3167	0.3 %	3168	3177	3157		
SEQ-CAL4 - 1.0 PPB	1.000	1.041	0.041	6287	0.5 %	6322	6251	6290		
SEQ-CAL5 - 2.0 PPB	2.000	2.028	0.028	12044	0.5 %	12094	11954	12085		
SEQ-CAL6 - 5.0 PPB	5.000	4.980	-0.020	29263	0.6 %	29483	29094	29213		

Mercury Analysis Log

Analyst: ML **Date:** 04/25/23

Instrument: HYDRA **Page:** 1 of 3

ARI Sample ID	Prep Code	Dilution	QC Data (ppb)	Comments
SEQ -CAL1	SMM	1X		
-CAL2				
-CAL3				
-CAL4				
-CAL5				
-CAL6				
-ICV			√ 4.33	
-ICB			√ 0.039	
-CRL			√ 0.073	
-CCV			√ 4.36	
-CCB			√ -0.038	
BLD050S -BIK1				
-BS1			√ 1.825	91.2 %R
SEQ -CCV			√ 4.27	
-CCB			√ -0.038	
-CCV			√ 4.22	
-CCB			√ -0.037	
23A0455 -01				
BLD050S -DUP1				NO RPD
-MS1			√ 1.421	93.2 %R
-MSD1			√ 1.607	111.9 %R
23A0455 -02				
-03				
-04				
-05				
-06				
-07				
SEQ -CCV			√ 4.23	
-CCB			√ -0.037	
23A0455 -08				

Chemical/Reagent ID:

10% $SnCl_2$: L4336 **14% NH_2OH/NaCl:** L4337

Standard ID:

Standard: L4459-L4464 **ICV/CCV:** L4456

Mercury Analysis Log

Analyst: — Date: —

Instrument: — Page: 2 of 3

ARI Sample ID	Prep Code	Dilution	QC Data (ppb)	Comments
-09				
-10				
-11				
-12				
-13				
-14				
-15				
-16				
-17				
SEQ -CCV			✓ 4.14	
-CCB			✓ -0.037	
23A0455 -18				
23D0008 -01				
-03				
BLD0580 -BIK1				
-BS1			✓ 1.84	92 1.R
23A0467 -01				
BLD0580 -DUP1				NO RPD
-MS1			✓ 1.509	110.2 1.R
-MSD1			✓ 1.605	119.8 1.R
23A0328 -08				
SEQ -CCV			✓ 4.07	
-CCB			✓ -0.037	
23A0467 -02				
-03				
-04				
-05				
-06				
-07				
-08				

Chemical/Reagent ID:

10% $SnCl_2$: — 14% NH_2OH/NaCl: —

Standard ID:

Standard: — ICV/CCV: —

Mercury Analysis Log

Analyst: —

Instrument: —

Date: —

Page: 3 of 3

ARI Sample ID	Prep Code	Dilution	QC Data (ppb)	Comments
↓ -09				
23C0108 -02				
↓ -06				
SEQ -CCV			✓4.06	
↓ -CCB			✓-0.039	
23C0108 -07				
-08				
↓ -09				
23D0037 -01				
↓ -03				
23D0063 -01				
↓ -03				
SEQ -CCV			✓4.02	
↓ -CCB	↓	↓		

ML 04/25/23

Chemical/Reagent ID:

10% $SnCl_2$: —

14% $NH_2OH/NaCl$: —

Standard ID:

Standard: —

ICV/CCV: —

5026F

Revision 4
1/26/01

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 7471B

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: HYDRA
Calibration: GD00060
Control Limt: +/- 20.00%
Sequence: SLD0354

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SLD0354-ICV1	Mercury	0.0040000	0.00434	108	mg/L	EPA 7471B
SLD0354-CCV1	Mercury	0.0040000	0.00436	109	mg/L	EPA 7471B
SLD0354-CCV2	Mercury	0.0040000	0.00427	107	mg/L	EPA 7471B
SLD0354-CCV3	Mercury	0.0040000	0.00423	106	mg/L	EPA 7471B
SLD0354-CCV4	Mercury	0.0040000	0.00423	106	mg/L	EPA 7471B
SLD0354-CCV5	Mercury	0.0040000	0.00415	104	mg/L	EPA 7471B
SLD0354-CCV6	Mercury	0.0040000	0.00407	102	mg/L	EPA 7471B
SLD0354-CCV7	Mercury	0.0040000	0.00407	102	mg/L	EPA 7471B
SLD0354-CCV8	Mercury	0.0040000	0.00402	101	mg/L	EPA 7471B

* Values outside of QC limits

INSTRUMENT BLANKS
EPA 7471B

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Instrument ID: HYDRA
Sequence: SLD0354

SDG: 23C0108
Project: AOC5 MR Phase 1
Calibration: GD00060
Date Analyzed: 04/25/23 11:33

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SLD0354-ICB1	Mercury	-0.000039	0.000021	0.000100	mg/L	
SLD0354-CCB1	Mercury	-0.000039	0.000021	0.000100	mg/L	
SLD0354-CCB2	Mercury	-0.000038	0.000021	0.000100	mg/L	
SLD0354-CCB3	Mercury	-0.000037	0.000021	0.000100	mg/L	
SLD0354-CCB4	Mercury	-0.000037	0.000021	0.000100	mg/L	
SLD0354-CCB5	Mercury	-0.000037	0.000021	0.000100	mg/L	
SLD0354-CCB6	Mercury	-0.000037	0.000021	0.000100	mg/L	
SLD0354-CCB7	Mercury	-0.000040	0.000021	0.000100	mg/L	
SLD0354-CCB8	Mercury	-0.000037	0.000021	0.000100	mg/L	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 7471B

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLD0354
Instrument: HYDRA
Calibration: GD00060

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Cal Standard	SLD0354-CAL1	SMM 04-25-23-001	NA	04/25/23 11:13
Cal Standard	SLD0354-CAL2	SMM 04-25-23-002	NA	04/25/23 11:16
Cal Standard	SLD0354-CAL3	SMM 04-25-23-003	NA	04/25/23 11:18
Cal Standard	SLD0354-CAL4	SMM 04-25-23-004	NA	04/25/23 11:20
Cal Standard	SLD0354-CAL5	SMM 04-25-23-005	NA	04/25/23 11:23
Cal Standard	SLD0354-CAL6	SMM 04-25-23-006	NA	04/25/23 11:25
Initial Cal Check	SLD0354-ICV1	SMM 04-25-23-007	NA	04/25/23 11:30
Initial Cal Blank	SLD0354-ICB1	SMM 04-25-23-008	NA	04/25/23 11:33
Instrument RL Check	SLD0354-CRL1	SMM 04-25-23-009	NA	04/25/23 11:35
Calibration Check	SLD0354-CCV1	SMM 04-25-23-010	NA	04/25/23 11:37
Calibration Blank	SLD0354-CCB1	SMM 04-25-23-011	NA	04/25/23 11:40
Calibration Check	SLD0354-CCV2	SMM 04-25-23-014	NA	04/25/23 11:47
Calibration Blank	SLD0354-CCB2	SMM 04-25-23-015	NA	04/25/23 11:49
Calibration Check	SLD0354-CCV3	SMM 04-25-23-016	NA	04/25/23 12:19
Calibration Blank	SLD0354-CCB3	SMM 04-25-23-017	NA	04/25/23 12:21
Calibration Check	SLD0354-CCV4	SMM 04-25-23-028	NA	04/25/23 12:47
Calibration Blank	SLD0354-CCB4	SMM 04-25-23-029	NA	04/25/23 12:49
Calibration Check	SLD0354-CCV5	SMM 04-25-23-040	NA	04/25/23 13:14
Calibration Blank	SLD0354-CCB5	SMM 04-25-23-041	NA	04/25/23 13:17
Blank	BLD0580-BLK1	SMM 04-25-23-045	Solid	04/25/23 13:26
LCS	BLD0580-BS1	SMM 04-25-23-046	Solid	04/25/23 13:29
Calibration Check	SLD0354-CCV6	SMM 04-25-23-052	NA	04/25/23 13:42
Calibration Blank	SLD0354-CCB6	SMM 04-25-23-053	NA	04/25/23 13:45
LDW23-SC1044	23C0108-02	SMM 04-25-23-062	Solid	04/25/23 14:06
LDW23-SS1106	23C0108-06	SMM 04-25-23-063	Solid	04/25/23 14:08
Calibration Check	SLD0354-CCV7	SMM 04-25-23-064	NA	04/25/23 14:10
Calibration Blank	SLD0354-CCB7	SMM 04-25-23-065	NA	04/25/23 14:13
LDW23-SS1107	23C0108-07	SMM 04-25-23-066	Solid	04/25/23 14:15
LDW23-SS1111	23C0108-08	SMM 04-25-23-067	Solid	04/25/23 14:17

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 7471B

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Sequence: SLD0354

SDG: 23C0108
Project: AOC5 MR Phase 1
Instrument: HYDRA
Calibration: GD00060

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
LDW23-SS1118	23C0108-09	SMM 04-25-23-068	Solid	04/25/23 14:20
Calibration Check	SLD0354-CCV8	SMM 04-25-23-073	NA	04/25/23 14:32
Calibration Blank	SLD0354-CCB8	SMM 04-25-23-074	NA	04/25/23 14:34

DETECTION LEVEL STANDARD
EPA 7471B

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: HYDRA
Calibration: GD00060
Sequence: SLD0354
Lab Sample ID: SLD0354-CRL1

Analyte	True	Found	%R	Units	QC Limts
Mercury	0.000100	0.000073	73.3	mg/L	70 - 130

* Values outside of QC limits

HOLDING TIME SUMMARY

Analysis: EPA 7471B

Laboratory: Analytical Resources, LLC SDG: 23C0108

Client: Anchor QEA, LLC Project: AOC5 MR Phase 1

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW23-SC1044 23C0108-02	03/02/23 15:06	03/03/23 16:35	04/24/23 16:45	53	180	04/25/23 14:06	54	180	
LDW23-SS1106 23C0108-06	03/03/23 10:00	03/03/23 16:35	04/24/23 16:45	52	180	04/25/23 14:08	53	180	
LDW23-SS1107 23C0108-07	03/03/23 10:21	03/03/23 16:35	04/24/23 16:45	52	180	04/25/23 14:15	53	180	
LDW23-SS1111 23C0108-08	03/03/23 10:36	03/03/23 16:35	04/24/23 16:45	52	180	04/25/23 14:17	53	180	
LDW23-SS1118 23C0108-09	03/03/23 11:25	03/03/23 16:35	04/24/23 16:45	52	180	04/25/23 14:20	53	180	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

EPA 7471B

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Instrument: HYDRA

Analyte	MDL	RL	Units
Mercury	0.00525	0.0250	mg/kg

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Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

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F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGHG1
Lot Number:	S2-HG711246
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Mercury
Starting Material:	Hg Metal
Starting Material Lot#:	1959
Starting Material Purity:	99.9993%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1000 ± 3 µg/mL

Density: 1.026 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **1004 ± 6 µg/mL**
ICP Assay NIST SRM 3133 Lot Number: 160921

Assay Method #2 **998 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **1001 ± 3 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000210	M	Eu	<	0.000210	O	Na		0.000626	M	Se	<	0.008100	M	Zn	<	0.000810
M	Al		0.000161	O	Fe	<	0.001600	M	Nb	<	0.000410	O	Si		0.000626	M	Zr	<	0.000410
M	As	<	0.002500	M	Ga	<	0.000210	M	Nd	<	0.000210	M	Sm	<	0.000210				
O	Au	<	0.001700	M	Gd	<	0.000210	O	Ni	<	0.001400	M	Sn	<	0.000410				
M	B	<	0.008500	M	Ge	<	0.000410	M	Os	<	0.003900	O	Sr	<	0.000110				
M	Ba	<	0.000210	M	Hf	<	0.000210	O	P	<	0.029000	M	Ta	<	0.000210				
O	Be	<	0.000110	s	Hg	<		M	Pb	<	0.000210	M	Tb	<	0.000210				
M	Bi	<	0.001100	M	Ho	<	0.000210	M	Pd	<	0.003500	M	Te	<	0.005700				
O	Ca		0.004754	M	In	<	0.000210	M	Pr	<	0.000210	M	Th	<	0.000210				
M	Cd	<	0.000210	M	Ir	<	0.000210	M	Pt	<	0.000210	O	Ti	<	0.000430				
M	Ce	<	0.000210	O	K		0.000731	M	Rb	<	0.000210	O	Tl	<	0.005400				
M	Co	<	0.000210	M	La	<	0.000210	M	Re	<	0.000210	M	Tm	<	0.000210				
O	Cr	<	0.003300	O	Li	<	0.000110	M	Rh	<	0.001100	M	U	<	0.000410				
M	Cs	<	0.000410	M	Lu	<	0.000210	M	Ru	<	0.000810	M	V	<	0.000210				
M	Cu	<	0.000810	O	Mg		0.000104	O	S	<	0.022000	M	W	<	0.001100				
M	Dy	<	0.000210	O	Mn	<	0.000430	M	Sb	<	0.000210	M	Y	<	0.000210				
M	Er	<	0.000210	M	Mo	<	0.000210	M	Sc	<	0.000210	M	Yb	<	0.000210				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 200.59 +2 4 Hg(OH)(aq) 1+
Chemical Compatibility - Stable in HNO3. Avoid basic media forming insoluble carbonate. The sulfide, basic carbonate, oxalate, phosphate, arsenite, arsenate and iodide are insoluble in water.
Stability - 2-100 ppb levels not stable in 1% HNO3 / LDPE container, stable in 10% HNO3 packaged in borosilicate glass. 1-100 ppm levels stable in 7% HNO3 packaged in borosilicate glass. 1000-10,000 ppm solutions are chemically stable for years in 5-10% HNO3 / LDPE container.
Hg Containing Samples (Preparation and Solution) - Metal (soluble in HNO3); Oxide (Soluble in HNO3); Ores and Organic based (The literature has more references to the preparation of Hg containing samples than any other element. Please consult the literature for your specific sample type, since such preparations are prone to error. Or e-mail our technical staff and we will contact you to discuss your particular sample preparation questions in further detail.).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 202 amu	9 ppt	n/a	186W16O
ICP-OES 184.950 nm	0.03 / 0.005 µg/mL	1	
ICP-OES 194.227 nm	0.03 / 0.005 µg/mL	1	V
ICP-OES 253.652 nm	0.1 / 0.03 µg/mL	1	Ta, Co, Th ,Rh , Fe, U

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 18, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 18, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Supervisor, Product Documentation

Certificate Approved By:

Michael Booth
Director, Technical

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
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CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	QCP-QCS-4
Lot Number:	R2-MEB695951
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	5 µg/mL ea: Mercury

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Mercury, Hg	**5.011 ± 0.023 µg/mL**		

Density: 1.035 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Hg	ICP Assay	3133	061204
Hg	EDTA	928	928
Hg	Calculated		See Sec. 4.2

The follow ing equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 20, 2020

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **August 20, 2024**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW23-SC1037

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-01 A	SDG:	23C0108
Sampled:	03/02/23 13:29	Prepared:	03/09/23 09:37	File ID:	
% Solids:	55.55	Preparation:	No Prep Wet Chem	Analyzed:	03/09/23 09:41
Batch:	BLC0220	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	55.55	1	0.04	0.04	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW23-SC1044

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-02 A	SDG:	23C0108
Sampled:	03/02/23 15:06	Prepared:	03/09/23 09:37	File ID:	
% Solids:	52.58	Preparation:	No Prep Wet Chem	Analyzed:	03/09/23 09:41
Batch:	BLC0220	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	52.58	1	0.04	0.04	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW23-SC1107

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-03 A	SDG:	23C0108
Sampled:	03/03/23 08:58	Prepared:	03/09/23 09:37	File ID:	
% Solids:	49.16	Preparation:	No Prep Wet Chem	Analyzed:	03/09/23 09:41
Batch:	BLC0220	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	49.16	1	0.04	0.04	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW23-SC1106

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-04 A	SDG:	23C0108
Sampled:	03/03/23 09:32	Prepared:	03/09/23 09:37	File ID:	
% Solids:	49.27	Preparation:	No Prep Wet Chem	Analyzed:	03/09/23 09:41
Batch:	BLC0220	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	49.27	1	0.04	0.04	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW23-SC1118

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-05 A	SDG:	23C0108
Sampled:	03/03/23 11:48	Prepared:	03/09/23 09:37	File ID:	
% Solids:	53.95	Preparation:	No Prep Wet Chem	Analyzed:	03/09/23 09:41
Batch:	BLC0220	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	53.95	1	0.04	0.04	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW23-SS1106

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-06 A	SDG:	23C0108
Sampled:	03/03/23 10:00	Prepared:	03/09/23 09:37	File ID:	
% Solids:	42.02	Preparation:	No Prep Wet Chem	Analyzed:	03/09/23 09:41
Batch:	BLC0220	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	42.02	1	0.04	0.04	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW23-SS1107

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-07 A	SDG:	23C0108
Sampled:	03/03/23 10:21	Prepared:	03/09/23 09:37	File ID:	
% Solids:	41.38	Preparation:	No Prep Wet Chem	Analyzed:	03/09/23 09:41
Batch:	BLC0220	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	41.38	1	0.04	0.04	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW23-SS1111

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-08 A	SDG:	23C0108
Sampled:	03/03/23 10:36	Prepared:	03/09/23 09:37	File ID:	
% Solids:	47.78	Preparation:	No Prep Wet Chem	Analyzed:	03/09/23 09:41
Batch:	BLC0220	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	47.78	1	0.04	0.04	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW23-SS1118

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-09 A	SDG:	23C0108
Sampled:	03/03/23 11:25	Prepared:	03/09/23 09:37	File ID:	
% Solids:	44.46	Preparation:	No Prep Wet Chem	Analyzed:	03/09/23 09:41
Batch:	BLC0220	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	44.46	1	0.04	0.04	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW23-SC1111

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-10 A	SDG:	23C0108
Sampled:	03/03/23 14:35	Prepared:	03/09/23 09:37	File ID:	
% Solids:	47.21	Preparation:	No Prep Wet Chem	Analyzed:	03/09/23 09:41
Batch:	BLC0220	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	47.21	1	0.04	0.04	

PREPARATION BATCH SUMMARY

SM 2540 G-97

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Batch: BLC0220 Batch Matrix: Solid
Preparation: No Prep Wet Chem

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-SC1037	23C0108-01		03/09/23 09:37	
LDW23-SC1044	23C0108-02		03/09/23 09:37	
LDW23-SC1107	23C0108-03		03/09/23 09:37	
LDW23-SC1106	23C0108-04		03/09/23 09:37	
LDW23-SC1118	23C0108-05		03/09/23 09:37	
LDW23-SS1106	23C0108-06		03/09/23 09:37	
LDW23-SS1107	23C0108-07		03/09/23 09:37	
LDW23-SS1111	23C0108-08		03/09/23 09:37	
LDW23-SS1118	23C0108-09		03/09/23 09:37	
LDW23-SC1111	23C0108-10		03/09/23 09:37	
Blank	BLC0220-BLK1		03/09/23 09:37	

TOTAL SOLIDS/VOLATILE SOLIDS (TS / TVS) BENCHSHEET for Solid samples

Method: PSEP 1986, SM2540, EPA 160.1

(dry at 104 (12-24 hr) then combust at 550 (30 min))

Batch:	BLC0220
Date:	3/9/2023 9:41
Analyst:	UW

Instrumentation

Drying Ovens:	12	**Analytical Balance:**	BAL2
Muffle Furnace:	2		

Batch drying time

record times as mm/dd/yy hh:mm

date/time in oven:	3/9/2023 10:15	
date/time out:	3/10/2023 13:35	
elapsed hrs =	27.3	> 24 hr

TS (%) calculated as:
Final dry wt (g) = (Dry Wt - Tare Wt)
TS = (Final Dry Wt)/ (grams Sample-Tare)

Oven Temps, °C	
Start Temp	106
Dry Cycle 1	105
Dry Cycle 2	
Dry Cycle 3	

TVS (mg/kg dry wt) calculated as:
Final ash wt (g) = (min ash wt - tare wt)
TVS (mg/kg) = [(Dry wt-Ash wt)/ (dry weight)] *1,000,000
if ash wt > dry wt, "Chk for Err"
if dry wt-ash wt < 0.001 g, "< (1/dry wt)*1,000,000

Balance Calibration Check

Record weights to 4 places

Cal Weight ID:		CV-02	CV-02	CV-02	CV-02	CV-02		CV-02	CV-02	CV-02
Date & Time:		3/9/23 9:45	3/9/23 9:50	3/10/23 14:00						
Cal Wt (g):	10.0000	10.0000	10.0000	9.9999						
		Cal OK!	Cal OK!	Cal OK!						

Sample ID	Dish #	Tare Wt. (g)	Dish & Sample (g)	Dry Wt 104C (grams) 1	2	3	dry Wt (g)	TS (%)	Notes	ASH WT 550C (grams) 1	2	3	Ash Wt (g)	TVS (mg/kg)	(%)	Notes
BLC0220-BLK1	1	0.8137	0.0000	0.8134			-0.0003	0.04%								
23C0107-01	2	0.8011	7.2723	3.6063			2.8052	43.35%								
BLC0220-DUP1	3	0.8104	7.5570	3.7489			2.9385	43.56%	RPD=0.5							
BLC0220-DUP2	4	0.8088	7.3915	3.6702			2.8614	43.47%	RSD=0.2							
23C0107-02	5	0.7989	6.9080	4.9222			4.1233	67.49%								
23C0107-03	6	0.8116	7.5421	5.7632			4.9516	73.57%								
23C0108-01	7	0.7831	8.2550	4.9336			4.1505	55.55%								
23C0108-02	8	0.8087	9.4611	5.3583			4.5496	52.58%								
23C0108-03	9	0.8120	8.2007	4.4442			3.6322	49.16%								
23C0108-04	10	0.7802	9.1662	4.9118			4.1316	49.27%								
23C0108-05	11	0.7787	9.3389	5.3973			4.6186	53.95%								
23C0108-06	12	0.7903	7.4789	3.6011			2.8108	42.02%								
23C0108-07	13	0.7757	8.5513	3.9932			3.2175	41.38%								
23C0108-08	14	0.8050	7.1523	3.8375			3.0325	47.78%								
23C0108-09	15	0.8102	7.0271	3.5741			2.7639	44.46%								
23C0108-10	16	0.8081	7.7303	4.0760			3.2679	47.21%								
23C0109-01	17	0.8407	9.9869	4.8972			4.0565	44.35%								
23C0109-02	18	0.8211	5.6131	2.6322			1.8111	37.79%								
23C0109-03	19	0.8338	7.0443	3.0898			2.2560	36.33%								

Form I

METHOD BLANK DATA SHEET

SM 2540 G-97

TotalAnalytes

Blank

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Batch: BLC0220
Laboratory ID: BLC0220-BLK1
Prepared: 03/09/23 09:37
Matrix: Solid
Preparation: No Prep Wet Chem
Analyzed: 03/09/23 09:41
Sequence:
Calibration:
Instrument: BAL2

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	ND	1	0.04	0.04	U

HOLDING TIME SUMMARY

Analysis: SM 2540 G-97

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW23-SC1037 23C0108-01	03/02/23 13:29	03/03/23 16:35	03/09/23 09:37	6	180	03/09/23 09:41	7	180	
LDW23-SC1044 23C0108-02	03/02/23 15:06	03/03/23 16:35	03/09/23 09:37	6	180	03/09/23 09:41	7	180	
LDW23-SC1107 23C0108-03	03/03/23 08:58	03/03/23 16:35	03/09/23 09:37	6	180	03/09/23 09:41	6	180	
LDW23-SC1106 23C0108-04	03/03/23 09:32	03/03/23 16:35	03/09/23 09:37	6	180	03/09/23 09:41	6	180	
LDW23-SC1118 23C0108-05	03/03/23 11:48	03/03/23 16:35	03/09/23 09:37	5	180	03/09/23 09:41	6	180	
LDW23-SS1106 23C0108-06	03/03/23 10:00	03/03/23 16:35	03/09/23 09:37	5	180	03/09/23 09:41	6	180	
LDW23-SS1107 23C0108-07	03/03/23 10:21	03/03/23 16:35	03/09/23 09:37	5	180	03/09/23 09:41	6	180	
LDW23-SS1111 23C0108-08	03/03/23 10:36	03/03/23 16:35	03/09/23 09:37	5	180	03/09/23 09:41	6	180	
LDW23-SS1118 23C0108-09	03/03/23 11:25	03/03/23 16:35	03/09/23 09:37	5	180	03/09/23 09:41	6	180	
LDW23-SC1111 23C0108-10	03/03/23 14:35	03/03/23 16:35	03/09/23 09:37	5	180	03/09/23 09:41	6	180	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

SM 2540 G-97

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Instrument:

Analyte	MDL	RL	Units
Total Solids	0.04	0.04	%

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6020B

Total Metals

LDW23-SC1044

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-02 D	SDG:	23C0108
Sampled:	03/02/23 15:06	Prepared:	04/26/23 12:19	File ID:	XDT_m1230510A-103
% Solids:	52.58	Preparation:	SWN EPA 3050B	Analyzed:	05/11/23 00:08
Batch:	BLD0578	Sequence:	SLE0204	Initial/Final:	1.075 g Wet / 50 mL
Instrument:	ICPMS1			Calibration:	GE00040

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7440-47-3	Chromium	29.1	20	0.46	0.88	
7439-92-1	Lead	27.8	20	0.09	0.18	
7440-22-4	Silver	0.27	20	0.04	0.35	J

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6020B

Total Metals

LDW23-SS1106

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-06 D	SDG:	23C0108
Sampled:	03/03/23 10:00	Prepared:	04/26/23 12:19	File ID:	XDT_m1230510A-107
% Solids:	42.02	Preparation:	SWN EPA 3050B	Analyzed:	05/11/23 00:28
Batch:	BLD0578	Sequence:	SLE0204	Initial/Final:	1.059 g Wet / 50 mL
Instrument:	ICPMS1			Calibration:	GE00040

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7440-47-3	Chromium	31.0	20	0.58	1.12	
7439-92-1	Lead	31.2	20	0.12	0.22	
7440-22-4	Silver	0.32	20	0.05	0.45	J

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6020B

Total Metals

LDW23-SS1107

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-07 D	SDG:	23C0108
Sampled:	03/03/23 10:21	Prepared:	04/26/23 12:19	File ID:	XDT_m1230510A-108
% Solids:	41.38	Preparation:	SWN EPA 3050B	Analyzed:	05/11/23 00:32
Batch:	BLD0578	Sequence:	SLE0204	Initial/Final:	1.089 g Wet / 50 mL
Instrument:	ICPMS1			Calibration:	GE00040

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7440-47-3	Chromium	31.5	20	0.58	1.11	
7439-92-1	Lead	32.9	20	0.12	0.22	
7440-22-4	Silver	0.34	20	0.05	0.44	J

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6020B

Total Metals

LDW23-SS1111

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-08 D	SDG:	23C0108
Sampled:	03/03/23 10:36	Prepared:	04/26/23 12:19	File ID:	XDT_m1230510A-109
% Solids:	47.78	Preparation:	SWN EPA 3050B	Analyzed:	05/11/23 00:37
Batch:	BLD0578	Sequence:	SLE0204	Initial/Final:	1.072 g Wet / 50 mL
Instrument:	ICPMS1			Calibration:	GE00040

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7440-47-3	Chromium	26.3	20	0.51	0.98	
7439-92-1	Lead	22.4	20	0.10	0.20	
7440-22-4	Silver	0.24	20	0.04	0.39	J

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6020B

Total Metals

LDW23-SS1118

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-09 D	SDG:	23C0108
Sampled:	03/03/23 11:25	Prepared:	04/26/23 12:19	File ID:	XDT_m1230510A-110
% Solids:	44.46	Preparation:	SWN EPA 3050B	Analyzed:	05/11/23 00:41
Batch:	BLD0578	Sequence:	SLE0204	Initial/Final:	1.05 g Wet / 50 mL
Instrument:	ICPMS1			Calibration:	GE00040

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7440-47-3	Chromium	24.9	20	0.56	1.07	
7439-92-1	Lead	22.8	20	0.11	0.21	
7440-22-4	Silver	0.23	20	0.05	0.43	J

PREPARATION BATCH SUMMARY

EPA 6020B

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Batch: BLD0578 Batch Matrix: Solid
Preparation: SWN EPA 3050B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-SC1044	23C0108-02	XDT_m1230510A-103	04/26/23 12:19	
LDW23-SS1106	23C0108-06	XDT_m1230510A-107	04/26/23 12:19	
LDW23-SS1107	23C0108-07	XDT_m1230510A-108	04/26/23 12:19	
LDW23-SS1111	23C0108-08	XDT_m1230510A-109	04/26/23 12:19	
LDW23-SS1118	23C0108-09	XDT_m1230510A-110	04/26/23 12:19	
Blank	BLD0578-BLK1	XDT_m1230510A-059	04/26/23 12:19	
LCS	BLD0578-BS1	XDT_m1230510A-060	04/26/23 12:19	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Digestion Log

Analyst: AMZ Date: 4/25/23 - 4/26/23 Time: 1040 - 1219 (4/25 4/26) Balance ID: BAL10

Matrix: SOIL Block ID: 3 Block Temp: 95°C Thermometer: 20-2

ARI Sample ID	Btl #	pH<2	Prep Code: SUN Initial Wt (g) Vol (mL)	Prep Code: SUN Final Vol (mL)	Prep Code: Initial Wt (g) Vol (mL)	Prep Code: Final Vol (mL)	Comments
23A467-01	A		1.033	50			
-02			1.069				
-03			1.018				
-04			1.079				
-05			1.044				
-06			1.040				
-01			1.046				
-08			1.023				
-09			1.072				
23C108-02	D		1.075				
-06			1.059				
-07			1.089				
-08			1.072				
-09			1.050				
23D37-01			1.021				
-03			1.060				
23D103-01	A		~~1.00~~ AMZ (1)		1.014		
-03			1.040				
BLD578-blk	—		—				23A467-01
-bs	—		—				
-dup	—		1.037				
-MS	—		1.032				
-MSD	—		1.032				
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—

Chemical/Reagent ID:

HNO_3: L4188 1:1 HNO_3: L4200 HCl: — H_2O_2: K110526

Tube Lot#: 221017 Boiling Chip Lot#: — (DoD Only)

Form I

METHOD BLANK DATA SHEET

EPA 6020B

Total Metals

Blank

Laboratory: Analytical Resources, LLC | SDG: 23C0108

Client: Anchor QEA, LLC | Project: AOC5 MR Phase 1

Batch: BLD0578 | Laboratory ID: BLD0578-BLK1 | Prepared: 04/26/23 12:19

Matrix: Solid | Preparation: SWN EPA 3050B | Analyzed: 05/10/23 20:44

Sequence: SLE0204 | Calibration: GE00040 | Instrument: ICPMS1

CAS NO.	Analyte	Concentration (mg/kg wet)	Dilution Factor	MDL	MRL	Q
7440-47-3	Chromium-52	ND	20	0.26	0.50	U
7439-92-1	Lead-208	ND	20	0.05	0.10	U
7440-22-4	Silver-107	ND	20	0.02	0.20	U

LCS / LCS DUPLICATE RECOVERY

EPA 6020B

Total Metals

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	05/10/23 20:48
Batch:	BLD0578	Laboratory ID:	BLD0578-BS1
Preparation:	SWN EPA 3050B	Sequence Name:	LCS
Initial/Final:	1 g / 50 mL		

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	Q	LCS % REC. #	QC LIMITS REC.
Chromium-52	25.0	25.9		103	80 - 120
Lead-208	25.0	26.5		106	80 - 120
Silver-107	25.0	26.0		104	80 - 120

* Indicates values outside of QC limits

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020B

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: ICPMS1
Calibration: GE00040
Control Limt: +/- 10.00%
Sequence: SLE0204

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SLE0204-ICV1	Chromium-52	50.000	52.9	106	ug/L	EPA 6020B
	Chromium-53	50.000	51.3	103	ug/L	EPA 6020B
	Lead-208	50.000	52.6	105	ug/L	EPA 6020B
	Silver-107	50.000	50.8	102	ug/L	EPA 6020B
SLE0204-CCV1	Chromium-52	50.000	51.5	103	ug/L	EPA 6020B
	Chromium-53	50.000	50.5	101	ug/L	EPA 6020B
	Lead-208	50.000	50.3	101	ug/L	EPA 6020B
	Silver-107	50.000	50.1	100	ug/L	EPA 6020B
SLE0204-CCV2	Chromium-52	50.000	49.6	99.2	ug/L	EPA 6020B
	Chromium-53	50.000	49.3	98.6	ug/L	EPA 6020B
	Lead-208	50.000	50.8	102	ug/L	EPA 6020B
	Silver-107	50.000	48.8	97.6	ug/L	EPA 6020B
SLE0204-CCV3	Chromium-52	50.000	50.1	100	ug/L	EPA 6020B
	Chromium-53	50.000	49.4	98.7	ug/L	EPA 6020B
	Lead-208	50.000	50.4	101	ug/L	EPA 6020B
	Silver-107	50.000	49.2	98.5	ug/L	EPA 6020B
SLE0204-CCV4	Chromium-52	50.000	50.6	101	ug/L	EPA 6020B
	Chromium-53	50.000	49.5	99.0	ug/L	EPA 6020B
	Lead-208	50.000	51.7	103	ug/L	EPA 6020B
	Silver-107	50.000	49.8	99.6	ug/L	EPA 6020B
SLE0204-CCV5	Chromium-52	50.000	51.1	102	ug/L	EPA 6020B
	Chromium-53	50.000	49.5	98.9	ug/L	EPA 6020B
	Lead-208	50.000	52.8	106	ug/L	EPA 6020B
	Silver-107	50.000	48.1	96.2	ug/L	EPA 6020B
SLE0204-CCV6	Chromium-52	50.000	49.2	98.3	ug/L	EPA 6020B
	Chromium-53	50.000	49.2	98.4	ug/L	EPA 6020B
	Lead-208	50.000	49.6	99.2	ug/L	EPA 6020B
	Silver-107	50.000	47.6	95.1	ug/L	EPA 6020B
SLE0204-CCV7	Chromium-52	50.000	49.7	99.4	ug/L	EPA 6020B
	Chromium-53	50.000	48.4	96.8	ug/L	EPA 6020B
	Lead-208	50.000	50.5	101	ug/L	EPA 6020B
	Silver-107	50.000	48.6	97.2	ug/L	EPA 6020B
SLE0204-CCV8	Chromium-52	50.000	50.7	101	ug/L	EPA 6020B
	Chromium-53	50.000	49.7	99.4	ug/L	EPA 6020B

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020B

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: ICPMS1
Calibration: GE00040
Control Limt: +/- 10.00%
Sequence: SLE0204

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SLE0204-CCV8	Lead-208	50.000	50.1	100	ug/L	EPA 6020B
	Silver-107	50.000	49.5	99.1	ug/L	EPA 6020B
SLE0204-CCV9	Chromium-52	50.000	49.4	98.8	ug/L	EPA 6020B
	Chromium-53	50.000	48.4	96.8	ug/L	EPA 6020B
	Lead-208	50.000	52.2	104	ug/L	EPA 6020B
	Silver-107	50.000	48.8	97.6	ug/L	EPA 6020B
SLE0204-CCVA	Chromium-52	50.000	50.2	100	ug/L	EPA 6020B
	Chromium-53	50.000	49.4	98.7	ug/L	EPA 6020B
	Lead-208	50.000	51.6	103	ug/L	EPA 6020B
	Silver-107	50.000	48.9	97.9	ug/L	EPA 6020B
SLE0204-CCVB	Chromium-52	50.000	50.3	101	ug/L	EPA 6020B
	Chromium-53	50.000	49.0	98.1	ug/L	EPA 6020B
	Lead-208	50.000	51.7	103	ug/L	EPA 6020B
	Silver-107	50.000	48.8	97.6	ug/L	EPA 6020B
SLE0204-CCVC	Chromium-52	50.000	49.0	98.0	ug/L	EPA 6020B
	Chromium-53	50.000	48.4	96.7	ug/L	EPA 6020B
	Lead-208	50.000	51.2	102	ug/L	EPA 6020B
	Silver-107	50.000	48.1	96.2	ug/L	EPA 6020B
SLE0204-CCVD	Chromium-52	50.000	49.9	99.8	ug/L	EPA 6020B
	Chromium-53	50.000	48.9	97.8	ug/L	EPA 6020B
	Lead-208	50.000	53.3	107	ug/L	EPA 6020B
	Silver-107	50.000	46.0	92.1	ug/L	EPA 6020B
SLE0204-CCVE	Chromium-52	50.000	48.9	97.7	ug/L	EPA 6020B
	Chromium-53	50.000	48.1	96.3	ug/L	EPA 6020B
	Lead-208	50.000	54.9	110	ug/L	EPA 6020B
	Silver-107	50.000	46.3	92.6	ug/L	EPA 6020B
SLE0204-CCVF	Chromium-52	50.000	48.7	97.4	ug/L	EPA 6020B
	Chromium-53	50.000	47.7	95.4	ug/L	EPA 6020B
	Lead-208	50.000	55.3	111	ug/L	EPA 6020B
	Silver-107	50.000	45.7	91.5	ug/L	EPA 6020B
SLE0204-CCVG	Chromium-52	50.000	49.5	99.0	ug/L	EPA 6020B
	Chromium-53	50.000	48.8	97.5	ug/L	EPA 6020B
	Lead-208	50.000	55.0	110	ug/L	EPA 6020B
	Silver-107	50.000	46.7	93.3	ug/L	EPA 6020B

Analytical Resources, LLC
Analytical Chemists and Consultants

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020B

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: ICPMS1
Calibration: GE00040
Control Limt: +/- 10.00%
Sequence: SLE0204

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SLE0204-CCVH	Chromium-52	50.000	49.5	99.0	ug/L	EPA 6020B
	Chromium-53	50.000	48.3	96.7	ug/L	EPA 6020B
	Lead-208	50.000	55.5	111	ug/L	EPA 6020B
	Silver-107	50.000	46.7	93.4	ug/L	EPA 6020B
SLE0204-CCVI	Chromium-52	50.000	50.2	100	ug/L	EPA 6020B
	Chromium-53	50.000	48.3	96.6	ug/L	EPA 6020B
	Lead-208	50.000	54.3	109	ug/L	EPA 6020B
	Silver-107	50.000	46.8	93.5	ug/L	EPA 6020B
SLE0204-CCVJ	Chromium-52	50.000	49.8	99.7	ug/L	EPA 6020B
	Chromium-53	50.000	49.3	98.5	ug/L	EPA 6020B
	Lead-208	50.000	55.8	112	ug/L	EPA 6020B
	Silver-107	50.000	45.7	91.4	ug/L	EPA 6020B

* Values outside of QC limits

INSTRUMENT BLANKS
EPA 6020B

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Instrument ID: ICPMS1
Sequence: SLE0204

SDG: 23C0108
Project: AOC5 MR Phase 1
Calibration: GE00040
Date Analyzed: 05/10/23 16:19

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SLE0204-IBL1	Chromium-52	0.0110	0.26	0.500	ug/L	
SLE0204-IBL1	Chromium-53	0.00400	0.239	0.500	ug/L	
SLE0204-IBL1	Lead-208	0.00100	0.0513	0.100	ug/L	
SLE0204-IBL1	Silver-107	0.00400	0.022	0.200	ug/L	
SLE0204-ICB1	Chromium-52	0.0170	0.26	0.500	ug/L	
SLE0204-ICB1	Chromium-53	-0.00200	0.239	0.500	ug/L	
SLE0204-ICB1	Lead-208	0.00100	0.0513	0.100	ug/L	
SLE0204-ICB1	Silver-107	0.00200	0.022	0.200	ug/L	
SLE0204-CCB1	Chromium-52	0.00600	0.26	0.500	ug/L	
SLE0204-CCB1	Chromium-53	-0.00500	0.239	0.500	ug/L	
SLE0204-CCB1	Lead-208	0.00	0.0513	0.100	ug/L	
SLE0204-CCB1	Silver-107	0.00200	0.022	0.200	ug/L	
SLE0204-IBL2	Chromium-52	0.0130	0.26	0.500	ug/L	
SLE0204-IBL2	Chromium-53	0.00600	0.239	0.500	ug/L	
SLE0204-IBL2	Lead-208	0.00200	0.0513	0.100	ug/L	
SLE0204-IBL2	Silver-107	0.00800	0.022	0.200	ug/L	
SLE0204-CCB2	Chromium-52	0.0230	0.26	0.500	ug/L	
SLE0204-CCB2	Chromium-53	0.0280	0.239	0.500	ug/L	
SLE0204-CCB2	Lead-208	0.0300	0.0513	0.100	ug/L	
SLE0204-CCB2	Silver-107	0.0300	0.022	0.200	ug/L	
SLE0204-CCB3	Chromium-52	-0.0200	0.26	0.500	ug/L	
SLE0204-CCB3	Chromium-53	-0.00800	0.239	0.500	ug/L	
SLE0204-CCB3	Lead-208	0.00400	0.0513	0.100	ug/L	
SLE0204-CCB3	Silver-107	0.00600	0.022	0.200	ug/L	
SLE0204-IBL3	Chromium-52	-0.0220	0.26	0.500	ug/L	
SLE0204-IBL3	Chromium-53	-0.0170	0.239	0.500	ug/L	
SLE0204-IBL3	Lead-208	0.00400	0.0513	0.100	ug/L	
SLE0204-IBL3	Silver-107	-0.00100	0.022	0.200	ug/L	
SLE0204-CCB4	Chromium-52	-0.0320	0.26	0.500	ug/L	
SLE0204-CCB4	Chromium-53	-0.0110	0.239	0.500	ug/L	
SLE0204-CCB4	Lead-208	0.00100	0.0513	0.100	ug/L	
SLE0204-CCB4	Silver-107	0.00100	0.022	0.200	ug/L	
SLE0204-IBL4	Chromium-52	-0.00700	0.26	0.500	ug/L	
SLE0204-IBL4	Chromium-53	0.00500	0.239	0.500	ug/L	
SLE0204-IBL4	Lead-208	0.00400	0.0513	0.100	ug/L	

INSTRUMENT BLANKS
EPA 6020B

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Instrument ID: ICPMS1
Sequence: SLE0204

SDG: 23C0108
Project: AOC5 MR Phase 1
Calibration: GE00040
Date Analyzed: 05/10/23 19:33

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SLE0204-IBL4	Silver-107	-0.00100	0.022	0.200	ug/L	
SLE0204-IBL5	Chromium-52	0.0360	0.26	0.500	ug/L	
SLE0204-IBL5	Chromium-53	0.0240	0.239	0.500	ug/L	
SLE0204-IBL5	Lead-208	0.00300	0.0513	0.100	ug/L	
SLE0204-IBL5	Silver-107	-0.00100	0.022	0.200	ug/L	
SLE0204-CCB5	Chromium-52	-0.0410	0.26	0.500	ug/L	
SLE0204-CCB5	Chromium-53	-0.0180	0.239	0.500	ug/L	
SLE0204-CCB5	Lead-208	0.00100	0.0513	0.100	ug/L	
SLE0204-CCB5	Silver-107	0.00100	0.022	0.200	ug/L	
SLE0204-CCB6	Chromium-52	-0.0280	0.26	0.500	ug/L	
SLE0204-CCB6	Chromium-53	-0.0190	0.239	0.500	ug/L	
SLE0204-CCB6	Lead-208	0.00100	0.0513	0.100	ug/L	
SLE0204-CCB6	Silver-107	0.00400	0.022	0.200	ug/L	
SLE0204-IBL6	Chromium-52	-0.0170	0.26	0.500	ug/L	
SLE0204-IBL6	Chromium-53	0.00200	0.239	0.500	ug/L	
SLE0204-IBL6	Lead-208	0.00	0.0513	0.100	ug/L	
SLE0204-IBL6	Silver-107	0.00200	0.022	0.200	ug/L	
SLE0204-CCB7	Chromium-52	-0.00900	0.26	0.500	ug/L	
SLE0204-CCB7	Chromium-53	0.0110	0.239	0.500	ug/L	
SLE0204-CCB7	Lead-208	0.00100	0.0513	0.100	ug/L	
SLE0204-CCB7	Silver-107	0.00300	0.022	0.200	ug/L	
SLE0204-IBL7	Chromium-52	-0.0510	0.26	0.500	ug/L	
SLE0204-IBL7	Chromium-53	-0.0130	0.239	0.500	ug/L	
SLE0204-IBL7	Lead-208	0.00	0.0513	0.100	ug/L	
SLE0204-IBL7	Silver-107	0.00200	0.022	0.200	ug/L	
SLE0204-CCB8	Chromium-52	-0.0260	0.26	0.500	ug/L	
SLE0204-CCB8	Chromium-53	-0.00500	0.239	0.500	ug/L	
SLE0204-CCB8	Lead-208	0.00	0.0513	0.100	ug/L	
SLE0204-CCB8	Silver-107	0.00200	0.022	0.200	ug/L	
SLE0204-IBL8	Chromium-52	0.0300	0.26	0.500	ug/L	
SLE0204-IBL8	Chromium-53	0.0250	0.239	0.500	ug/L	
SLE0204-IBL8	Lead-208	0.275	0.0513	0.100	ug/L	
SLE0204-IBL8	Silver-107	0.00800	0.022	0.200	ug/L	
SLE0204-CCB9	Chromium-52	-0.0280	0.26	0.500	ug/L	
SLE0204-CCB9	Chromium-53	-0.0110	0.239	0.500	ug/L	
SLE0204-CCB9	Lead-208	0.00700	0.0513	0.100	ug/L	

INSTRUMENT BLANKS
EPA 6020B

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Instrument ID: ICPMS1
Sequence: SLE0204

SDG: 23C0108
Project: AOC5 MR Phase 1
Calibration: GE00040
Date Analyzed: 05/10/23 23:28

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SLE0204-CCB9	Silver-107	0.00300	0.022	0.200	ug/L	
SLE0204-IBL9	Chromium-52	-0.0200	0.26	0.500	ug/L	
SLE0204-IBL9	Chromium-53	-0.00900	0.239	0.500	ug/L	
SLE0204-IBL9	Lead-208	0.00100	0.0513	0.100	ug/L	
SLE0204-IBL9	Silver-107	-0.00100	0.022	0.200	ug/L	
SLE0204-CCBA	Chromium-52	-0.0330	0.26	0.500	ug/L	
SLE0204-CCBA	Chromium-53	-0.00800	0.239	0.500	ug/L	
SLE0204-CCBA	Lead-208	0.00200	0.0513	0.100	ug/L	
SLE0204-CCBA	Silver-107	0.00200	0.022	0.200	ug/L	
SLE0204-IBLA	Chromium-52	-0.0310	0.26	0.500	ug/L	
SLE0204-IBLA	Chromium-53	-0.0120	0.239	0.500	ug/L	
SLE0204-IBLA	Lead-208	0.00400	0.0513	0.100	ug/L	
SLE0204-IBLA	Silver-107	-0.00100	0.022	0.200	ug/L	
SLE0204-CCBB	Chromium-52	-0.0160	0.26	0.500	ug/L	
SLE0204-CCBB	Chromium-53	-0.0100	0.239	0.500	ug/L	
SLE0204-CCBB	Lead-208	0.00100	0.0513	0.100	ug/L	
SLE0204-CCBB	Silver-107	0.00100	0.022	0.200	ug/L	
SLE0204-CCBC	Chromium-52	0.0180	0.26	0.500	ug/L	
SLE0204-CCBC	Chromium-53	-0.00300	0.239	0.500	ug/L	
SLE0204-CCBC	Lead-208	0.00100	0.0513	0.100	ug/L	
SLE0204-CCBC	Silver-107	0.00300	0.022	0.200	ug/L	
SLE0204-IBLB	Chromium-52	-0.0440	0.26	0.500	ug/L	
SLE0204-IBLB	Chromium-53	0.00800	0.239	0.500	ug/L	
SLE0204-IBLB	Lead-208	0.00	0.0513	0.100	ug/L	
SLE0204-IBLB	Silver-107	-0.00100	0.022	0.200	ug/L	
SLE0204-CCBD	Chromium-52	-0.0360	0.26	0.500	ug/L	
SLE0204-CCBD	Chromium-53	-0.00800	0.239	0.500	ug/L	
SLE0204-CCBD	Lead-208	-0.00300	0.0513	0.100	ug/L	
SLE0204-CCBD	Silver-107	0.00100	0.022	0.200	ug/L	
SLE0204-IBLC	Chromium-52	0.0230	0.26	0.500	ug/L	
SLE0204-IBLC	Chromium-53	-0.00900	0.239	0.500	ug/L	
SLE0204-IBLC	Lead-208	-0.00100	0.0513	0.100	ug/L	
SLE0204-IBLC	Silver-107	0.00	0.022	0.200	ug/L	
SLE0204-IBLD	Chromium-52	-0.0450	0.26	0.500	ug/L	
SLE0204-IBLD	Chromium-53	-0.00600	0.239	0.500	ug/L	
SLE0204-IBLD	Lead-208	-0.00100	0.0513	0.100	ug/L	

INSTRUMENT BLANKS
EPA 6020B

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Instrument ID: ICPMS1
Sequence: SLE0204

SDG: 23C0108
Project: AOC5 MR Phase 1
Calibration: GE00040
Date Analyzed: 05/11/23 03:20

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SLE0204-IBLD	Silver-107	-0.00100	0.022	0.200	ug/L	
SLE0204-CCBE	Chromium-52	-0.0500	0.26	0.500	ug/L	
SLE0204-CCBE	Chromium-53	-0.0140	0.239	0.500	ug/L	
SLE0204-CCBE	Lead-208	-0.00200	0.0513	0.100	ug/L	
SLE0204-CCBE	Silver-107	0.00200	0.022	0.200	ug/L	
SLE0204-IBLE	Chromium-52	-0.0460	0.26	0.500	ug/L	
SLE0204-IBLE	Chromium-53	-0.00500	0.239	0.500	ug/L	
SLE0204-IBLE	Lead-208	-0.00300	0.0513	0.100	ug/L	
SLE0204-IBLE	Silver-107	0.00	0.022	0.200	ug/L	
SLE0204-IBLF	Chromium-52	-0.0490	0.26	0.500	ug/L	
SLE0204-IBLF	Chromium-53	-0.00100	0.239	0.500	ug/L	
SLE0204-IBLF	Lead-208	-0.00300	0.0513	0.100	ug/L	
SLE0204-IBLF	Silver-107	0.00	0.022	0.200	ug/L	
SLE0204-CCBF	Chromium-52	-0.0610	0.26	0.500	ug/L	
SLE0204-CCBF	Chromium-53	-0.00600	0.239	0.500	ug/L	
SLE0204-CCBF	Lead-208	-0.00300	0.0513	0.100	ug/L	
SLE0204-CCBF	Silver-107	0.00100	0.022	0.200	ug/L	
SLE0204-CCBG	Chromium-52	0.0140	0.26	0.500	ug/L	
SLE0204-CCBG	Chromium-53	-0.00900	0.239	0.500	ug/L	
SLE0204-CCBG	Lead-208	-0.00300	0.0513	0.100	ug/L	
SLE0204-CCBG	Silver-107	0.00100	0.022	0.200	ug/L	
SLE0204-IBLG	Chromium-52	0.0210	0.26	0.500	ug/L	
SLE0204-IBLG	Chromium-53	0.00400	0.239	0.500	ug/L	
SLE0204-IBLG	Lead-208	0.00	0.0513	0.100	ug/L	
SLE0204-IBLG	Silver-107	0.00300	0.022	0.200	ug/L	
SLE0204-CCBH	Chromium-52	-0.00600	0.26	0.500	ug/L	
SLE0204-CCBH	Chromium-53	-0.00800	0.239	0.500	ug/L	
SLE0204-CCBH	Lead-208	-0.00300	0.0513	0.100	ug/L	
SLE0204-CCBH	Silver-107	0.00100	0.022	0.200	ug/L	
SLE0204-IBLH	Chromium-52	0.0130	0.26	0.500	ug/L	
SLE0204-IBLH	Chromium-53	0.00100	0.239	0.500	ug/L	
SLE0204-IBLH	Lead-208	-0.00400	0.0513	0.100	ug/L	
SLE0204-IBLH	Silver-107	-0.00100	0.022	0.200	ug/L	
SLE0204-CCBI	Chromium-52	0.00400	0.26	0.500	ug/L	
SLE0204-CCBI	Chromium-53	0.00100	0.239	0.500	ug/L	
SLE0204-CCBI	Lead-208	-0.00300	0.0513	0.100	ug/L	

INSTRUMENT BLANKS
EPA 6020B

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Instrument ID: ICPMS1
Sequence: SLE0204

SDG: 23C0108
Project: AOC5 MR Phase 1
Calibration: GE00040
Date Analyzed: 05/11/23 06:42

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SLE0204-CCBI	Silver-107	0.00100	0.022	0.200	ug/L	
SLE0204-IBLI	Chromium-52	0.0160	0.26	0.500	ug/L	
SLE0204-IBLI	Chromium-53	0.00500	0.239	0.500	ug/L	
SLE0204-IBLI	Lead-208	-0.00300	0.0513	0.100	ug/L	
SLE0204-IBLI	Silver-107	-0.00100	0.022	0.200	ug/L	
SLE0204-IBLJ	Chromium-52	0.00900	0.26	0.500	ug/L	
SLE0204-IBLJ	Chromium-53	-0.00200	0.239	0.500	ug/L	
SLE0204-IBLJ	Lead-208	-0.00300	0.0513	0.100	ug/L	
SLE0204-IBLJ	Silver-107	-0.00100	0.022	0.200	ug/L	
SLE0204-CCBJ	Chromium-52	0.0140	0.26	0.500	ug/L	
SLE0204-CCBJ	Chromium-53	-0.00300	0.239	0.500	ug/L	
SLE0204-CCBJ	Lead-208	-0.00300	0.0513	0.100	ug/L	
SLE0204-CCBJ	Silver-107	0.00100	0.022	0.200	ug/L	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020B

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLE0204
Instrument: ICPMS1
Calibration: GE00040

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
CAL 0	SLE0204-CAL1	XDT_m1230510A-008	NA	05/10/23 15:47
CAL 1 - LOW CHECK	SLE0204-CAL2	XDT_m1230510A-009	NA	05/10/23 15:51
CAL 2	SLE0204-CAL3	XDT_m1230510A-010	NA	05/10/23 15:56
CAL 3	SLE0204-CAL4	XDT_m1230510A-011	NA	05/10/23 16:01
CAL 4	SLE0204-CAL5	XDT_m1230510A-012	NA	05/10/23 16:05
CAL 5	SLE0204-CAL6	XDT_m1230510A-013	NA	05/10/23 16:12
RINSE	SLE0204-IBL1	XDT_m1230510A-014	NA	05/10/23 16:19
Initial Cal Check	SLE0204-ICV1	XDT_m1230510A-016	NA	05/10/23 16:25
Initial Cal Blank	SLE0204-ICB1	XDT_m1230510A-017	NA	05/10/23 16:32
Calibration Check	SLE0204-CCV1	XDT_m1230510A-018	NA	05/10/23 16:37
Calibration Blank	SLE0204-CCB1	XDT_m1230510A-019	NA	05/10/23 16:44
Instrument RL Check	SLE0204-CRL1	XDT_m1230510A-020	NA	05/10/23 16:49
Interference Check A	SLE0204-IFA1	XDT_m1230510A-021	NA	05/10/23 16:56
Interference Check B	SLE0204-IFB1	XDT_m1230510A-022	NA	05/10/23 17:00
LR200	SLE0204-HCV1	XDT_m1230510A-023	NA	05/10/23 17:06
LR300	SLE0204-HCV2	XDT_m1230510A-024	NA	05/10/23 17:11
Instrument Blank	SLE0204-IBL2	XDT_m1230510A-025	NA	05/10/23 17:18
Calibration Check	SLE0204-CCV2	XDT_m1230510A-026	NA	05/10/23 17:24
Calibration Blank	SLE0204-CCB2	XDT_m1230510A-027	NA	05/10/23 17:32
Calibration Check	SLE0204-CCV3	XDT_m1230510A-029	NA	05/10/23 17:41
Calibration Blank	SLE0204-CCB3	XDT_m1230510A-030	NA	05/10/23 17:49
ZZZZZ	BLD0687-BLK2	XDT_m1230510A-031	Solid	05/10/23 17:54
ZZZZZ	BLD0687-BS2	XDT_m1230510A-033	Solid	05/10/23 18:05
ZZZZZ	BLE0298-BLK1	XDT_m1230510A-034	Water	05/10/23 18:11
ZZZZZ	BLE0298-BS1	XDT_m1230510A-035	Water	05/10/23 18:15
ZZZZZ	23D0297-01	XDT_m1230510A-037	Solid	05/10/23 18:27
ZZZZZ	23D0297-01	XDT_m1230510A-037	Solid	05/10/23 18:27
ZZZZZ	BLD0728-DUP2	XDT_m1230510A-038	Solid	05/10/23 18:32
Instrument Blank	SLE0204-IBL3	XDT_m1230510A-040	NA	05/10/23 18:41

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020B

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Sequence: SLE0204

SDG: 23C0108
Project: AOC5 MR Phase 1
Instrument: ICPMS1
Calibration: GE00040

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Calibration Check	SLE0204-CCV4	XDT_m1230510A-041	NA	05/10/23 18:45
Calibration Blank	SLE0204-CCB4	XDT_m1230510A-042	NA	05/10/23 18:53
ZZZZZ	BLE0143-BLK1	XDT_m1230510A-045	Solid	05/10/23 19:07
ZZZZZ	BLE0143-BS1	XDT_m1230510A-047	Solid	05/10/23 19:19
ZZZZZ	BLD0728-MS2	XDT_m1230510A-048	Solid	05/10/23 19:23
Instrument Blank	SLE0204-IBL4	XDT_m1230510A-050	NA	05/10/23 19:33
Instrument Blank	SLE0204-IBL5	XDT_m1230510A-052	NA	05/10/23 19:44
Calibration Check	SLE0204-CCV5	XDT_m1230510A-053	NA	05/10/23 19:48
Calibration Blank	SLE0204-CCB5	XDT_m1230510A-054	NA	05/10/23 19:56
Calibration Check	SLE0204-CCV6	XDT_m1230510A-057	NA	05/10/23 20:30
Calibration Blank	SLE0204-CCB6	XDT_m1230510A-058	NA	05/10/23 20:37
Blank	BLD0578-BLK1	XDT_m1230510A-059	Solid	05/10/23 20:44
LCS	BLD0578-BS1	XDT_m1230510A-060	Solid	05/10/23 20:48
ZZZZZ	BLE0072-BLK1	XDT_m1230510A-061	Solid	05/10/23 20:53
ZZZZZ	23D0394-01	XDT_m1230510A-063	Solid	05/10/23 21:02
ZZZZZ	23D0394-01	XDT_m1230510A-063	Solid	05/10/23 21:02
ZZZZZ	23D0394-01	XDT_m1230510A-063	Solid	05/10/23 21:02
ZZZZZ	BLD0687-DUP2	XDT_m1230510A-064	Solid	05/10/23 21:07
ZZZZZ	BLD0687-MS2	XDT_m1230510A-065	Solid	05/10/23 21:12
ZZZZZ	BLD0687-MSD2	XDT_m1230510A-066	Solid	05/10/23 21:16
ZZZZZ	BLD0687-PS2	XDT_m1230510A-067	Solid	05/10/23 21:21
Instrument Blank	SLE0204-IBL6	XDT_m1230510A-068	NA	05/10/23 21:25
Calibration Check	SLE0204-CCV7	XDT_m1230510A-069	NA	05/10/23 21:29
Calibration Blank	SLE0204-CCB7	XDT_m1230510A-070	NA	05/10/23 21:37
ZZZZZ	23A0467-02	XDT_m1230510A-071	Solid	05/10/23 21:41
ZZZZZ	23A0467-02	XDT_m1230510A-071	Solid	05/10/23 21:41
ZZZZZ	23A0467-02	XDT_m1230510A-071	Solid	05/10/23 21:41
ZZZZZ	23A0467-04	XDT_m1230510A-073	Solid	05/10/23 21:50
ZZZZZ	23A0467-04	XDT_m1230510A-073	Solid	05/10/23 21:50

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020B

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Sequence: SLE0204

SDG: 23C0108
Project: AOC5 MR Phase 1
Instrument: ICPMS1
Calibration: GE00040

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	23A0467-04	XDT_m1230510A-073	Solid	05/10/23 21:50
ZZZZZ	23A0467-05	XDT_m1230510A-074	Solid	05/10/23 21:54
ZZZZZ	23A0467-05	XDT_m1230510A-074	Solid	05/10/23 21:54
ZZZZZ	23A0467-05	XDT_m1230510A-074	Solid	05/10/23 21:54
ZZZZZ	23A0467-01	XDT_m1230510A-075	Solid	05/10/23 21:59
ZZZZZ	23A0467-01	XDT_m1230510A-075	Solid	05/10/23 21:59
ZZZZZ	23A0467-01	XDT_m1230510A-075	Solid	05/10/23 21:59
Instrument Blank	SLE0204-IBL7	XDT_m1230510A-080	NA	05/10/23 22:21
Calibration Check	SLE0204-CCV8	XDT_m1230510A-081	NA	05/10/23 22:25
Calibration Blank	SLE0204-CCB8	XDT_m1230510A-082	NA	05/10/23 22:32
ZZZZZ	23A0467-06	XDT_m1230510A-083	Solid	05/10/23 22:37
ZZZZZ	23A0467-06	XDT_m1230510A-083	Solid	05/10/23 22:37
ZZZZZ	23A0467-06	XDT_m1230510A-083	Solid	05/10/23 22:37
ZZZZZ	23A0467-07	XDT_m1230510A-084	Solid	05/10/23 22:41
ZZZZZ	23A0467-07	XDT_m1230510A-084	Solid	05/10/23 22:41
ZZZZZ	23A0467-07	XDT_m1230510A-084	Solid	05/10/23 22:41
ZZZZZ	23A0467-08	XDT_m1230510A-085	Solid	05/10/23 22:46
ZZZZZ	23A0467-08	XDT_m1230510A-085	Solid	05/10/23 22:46
ZZZZZ	23A0467-08	XDT_m1230510A-085	Solid	05/10/23 22:46
ZZZZZ	23A0467-09	XDT_m1230510A-086	Solid	05/10/23 22:50
ZZZZZ	23A0467-09	XDT_m1230510A-086	Solid	05/10/23 22:50
ZZZZZ	23A0467-09	XDT_m1230510A-086	Solid	05/10/23 22:50
ZZZZZ	23D0393-04	XDT_m1230510A-087	Solid	05/10/23 22:54
ZZZZZ	BLE0072-DUP1	XDT_m1230510A-088	Solid	05/10/23 22:59
ZZZZZ	BLE0072-MS1	XDT_m1230510A-089	Solid	05/10/23 23:03
ZZZZZ	BLE0072-MSD1	XDT_m1230510A-090	Solid	05/10/23 23:08
Instrument Blank	SLE0204-IBL8	XDT_m1230510A-092	NA	05/10/23 23:16
Calibration Check	SLE0204-CCV9	XDT_m1230510A-093	NA	05/10/23 23:21
Calibration Blank	SLE0204-CCB9	XDT_m1230510A-094	NA	05/10/23 23:28

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020B

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Sequence: SLE0204

SDG: 23C0108
Project: AOC5 MR Phase 1
Instrument: ICPMS1
Calibration: GE00040

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	23C0071-01	XDT_m1230510A-095	Solid	05/10/23 23:33
ZZZZZ	23C0071-01	XDT_m1230510A-095	Solid	05/10/23 23:33
ZZZZZ	23C0071-01	XDT_m1230510A-095	Solid	05/10/23 23:33
ZZZZZ	23C0071-02	XDT_m1230510A-096	Solid	05/10/23 23:37
ZZZZZ	23C0071-02	XDT_m1230510A-096	Solid	05/10/23 23:37
ZZZZZ	23C0071-02	XDT_m1230510A-096	Solid	05/10/23 23:37
ZZZZZ	23C0071-04	XDT_m1230510A-098	Solid	05/10/23 23:46
ZZZZZ	23C0071-04	XDT_m1230510A-098	Solid	05/10/23 23:46
ZZZZZ	23C0071-04	XDT_m1230510A-098	Solid	05/10/23 23:46
ZZZZZ	23C0071-05	XDT_m1230510A-099	Solid	05/10/23 23:50
ZZZZZ	23C0071-05	XDT_m1230510A-099	Solid	05/10/23 23:50
ZZZZZ	23C0071-05	XDT_m1230510A-099	Solid	05/10/23 23:50
ZZZZZ	23C0071-06	XDT_m1230510A-100	Solid	05/10/23 23:55
ZZZZZ	23C0071-06	XDT_m1230510A-100	Solid	05/10/23 23:55
ZZZZZ	23C0071-06	XDT_m1230510A-100	Solid	05/10/23 23:55
ZZZZZ	23C0109-02	XDT_m1230510A-101	Solid	05/10/23 23:59
ZZZZZ	23C0109-02	XDT_m1230510A-101	Solid	05/10/23 23:59
ZZZZZ	23C0109-02	XDT_m1230510A-101	Solid	05/10/23 23:59
ZZZZZ	23C0109-03	XDT_m1230510A-102	Solid	05/11/23 00:03
ZZZZZ	23C0109-03	XDT_m1230510A-102	Solid	05/11/23 00:03
ZZZZZ	23C0109-03	XDT_m1230510A-102	Solid	05/11/23 00:03
LDW23-SC1044	23C0108-02	XDT_m1230510A-103	Solid	05/11/23 00:08
LDW23-SC1044	23C0108-02	XDT_m1230510A-103	Solid	05/11/23 00:08
LDW23-SC1044	23C0108-02	XDT_m1230510A-103	Solid	05/11/23 00:08
Instrument Blank	SLE0204-IBL9	XDT_m1230510A-104	NA	05/11/23 00:12
Calibration Check	SLE0204-CCVA	XDT_m1230510A-105	NA	05/11/23 00:16
Calibration Blank	SLE0204-CCBA	XDT_m1230510A-106	NA	05/11/23 00:24
LDW23-SS1106	23C0108-06	XDT_m1230510A-107	Solid	05/11/23 00:28
LDW23-SS1106	23C0108-06	XDT_m1230510A-107	Solid	05/11/23 00:28

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020B

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLE0204
Instrument: ICPMS1
Calibration: GE00040

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
LDW23-SS1106	23C0108-06	XDT_m1230510A-107	Solid	05/11/23 00:28
LDW23-SS1107	23C0108-07	XDT_m1230510A-108	Solid	05/11/23 00:32
LDW23-SS1107	23C0108-07	XDT_m1230510A-108	Solid	05/11/23 00:32
LDW23-SS1107	23C0108-07	XDT_m1230510A-108	Solid	05/11/23 00:32
LDW23-SS1111	23C0108-08	XDT_m1230510A-109	Solid	05/11/23 00:37
LDW23-SS1111	23C0108-08	XDT_m1230510A-109	Solid	05/11/23 00:37
LDW23-SS1111	23C0108-08	XDT_m1230510A-109	Solid	05/11/23 00:37
LDW23-SS1118	23C0108-09	XDT_m1230510A-110	Solid	05/11/23 00:41
LDW23-SS1118	23C0108-09	XDT_m1230510A-110	Solid	05/11/23 00:41
LDW23-SS1118	23C0108-09	XDT_m1230510A-110	Solid	05/11/23 00:41
ZZZZZ	23D0008-03	XDT_m1230510A-112	Solid	05/11/23 00:50
ZZZZZ	23D0008-03	XDT_m1230510A-112	Solid	05/11/23 00:50
ZZZZZ	23D0008-03	XDT_m1230510A-112	Solid	05/11/23 00:50
ZZZZZ	23D0037-01	XDT_m1230510A-113	Solid	05/11/23 00:54
ZZZZZ	23D0037-01	XDT_m1230510A-113	Solid	05/11/23 00:54
ZZZZZ	23D0037-01	XDT_m1230510A-113	Solid	05/11/23 00:54
ZZZZZ	23D0037-03	XDT_m1230510A-114	Solid	05/11/23 00:59
ZZZZZ	23D0037-03	XDT_m1230510A-114	Solid	05/11/23 00:59
ZZZZZ	23D0037-03	XDT_m1230510A-114	Solid	05/11/23 00:59
Instrument Blank	SLE0204-IBLA	XDT_m1230510A-116	NA	05/11/23 01:08
Calibration Check	SLE0204-CCVB	XDT_m1230510A-117	NA	05/11/23 01:12
Calibration Blank	SLE0204-CCBB	XDT_m1230510A-118	NA	05/11/23 01:19
Calibration Check	SLE0204-CCVC	XDT_m1230510A-120	NA	05/11/23 01:28
Calibration Blank	SLE0204-CCBC	XDT_m1230510A-121	NA	05/11/23 01:35
ZZZZZ	23D0063-01	XDT_m1230510A-123	Solid	05/11/23 01:44
ZZZZZ	23D0063-01	XDT_m1230510A-123	Solid	05/11/23 01:44
ZZZZZ	23D0063-01	XDT_m1230510A-123	Solid	05/11/23 01:44
ZZZZZ	23D0063-03	XDT_m1230510A-124	Solid	05/11/23 01:49
ZZZZZ	23D0063-03	XDT_m1230510A-124	Solid	05/11/23 01:49

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020B

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Sequence: SLE0204

SDG: 23C0108
Project: AOC5 MR Phase 1
Instrument: ICPMS1
Calibration: GE00040

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	23D0063-03	XDT_m1230510A-124	Solid	05/11/23 01:49
Instrument Blank	SLE0204-IBLB	XDT_m1230510A-131	NA	05/11/23 02:21
Calibration Check	SLE0204-CCVD	XDT_m1230510A-132	NA	05/11/23 02:26
Calibration Blank	SLE0204-CCBD	XDT_m1230510A-133	NA	05/11/23 02:33
Instrument Blank	SLE0204-IBLC	XDT_m1230510A-138	NA	05/11/23 02:57
ZZZZZ	23D0477-21	XDT_m1230510A-141	Water	05/11/23 03:11
ZZZZZ	23D0477-22	XDT_m1230510A-142	Water	05/11/23 03:15
Instrument Blank	SLE0204-IBLD	XDT_m1230510A-143	NA	05/11/23 03:20
Calibration Check	SLE0204-CCVE	XDT_m1230510A-144	NA	05/11/23 03:24
Calibration Blank	SLE0204-CCBE	XDT_m1230510A-145	NA	05/11/23 03:31
Instrument Blank	SLE0204-IBLE	XDT_m1230510A-150	NA	05/11/23 03:57
Instrument Blank	SLE0204-IBLF	XDT_m1230510A-155	NA	05/11/23 04:21
Calibration Check	SLE0204-CCVF	XDT_m1230510A-156	NA	05/11/23 04:26
Calibration Blank	SLE0204-CCBF	XDT_m1230510A-157	NA	05/11/23 04:33
Calibration Check	SLE0204-CCVG	XDT_m1230510A-159	NA	05/11/23 04:42
Calibration Blank	SLE0204-CCBG	XDT_m1230510A-160	NA	05/11/23 04:49
Instrument Blank	SLE0204-IBLG	XDT_m1230510A-170	NA	05/11/23 05:33
Calibration Check	SLE0204-CCVH	XDT_m1230510A-171	NA	05/11/23 05:38
Calibration Blank	SLE0204-CCBH	XDT_m1230510A-172	NA	05/11/23 05:45
Instrument Blank	SLE0204-IBLH	XDT_m1230510A-182	NA	05/11/23 06:31
Calibration Check	SLE0204-CCVI	XDT_m1230510A-183	NA	05/11/23 06:35
Calibration Blank	SLE0204-CCBI	XDT_m1230510A-184	NA	05/11/23 06:42
Instrument Blank	SLE0204-IBLI	XDT_m1230510A-189	NA	05/11/23 07:05
ZZZZZ	23D0636-01	XDT_m1230510A-190	Water	05/11/23 07:09
ZZZZZ	BLE0298-DUP1	XDT_m1230510A-191	Water	05/11/23 07:14
ZZZZZ	BLE0298-MS1	XDT_m1230510A-192	Water	05/11/23 07:19
ZZZZZ	BLE0298-MSD1	XDT_m1230510A-193	Water	05/11/23 07:25
Instrument Blank	SLE0204-IBLJ	XDT_m1230510A-194	NA	05/11/23 07:29
Calibration Check	SLE0204-CCVJ	XDT_m1230510A-195	NA	05/11/23 07:34

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLE0204	Instrument:	ICPMS1
		Calibration:	GE00040

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Calibration Blank	SLE0204-CCBJ	XDT_m1230510A-196	NA	05/11/23 07:41

Analytical Resources, LLC
Analytical Chemists and Consultants

ICP INTERFERENCE CHECK SAMPLE

EPA 6020B

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: ICPMS1
Calibration: GE00040
Sequence: SLE0204
Standard ID: L004688

Lab Sample ID	Analyte	True	Found	%R	Units
SLE0204-IFA1	Chromium-52	0	0.6610		ug/L
	Chromium-53	0	1.7410		ug/L
	Lead-208	0	0.0270		ug/L
	Silver-107	0	0.0050		ug/L

* Indicates %R outside of QC limits

NOTE: True value and %R are populated only for analytes found in the interference check standards, and will be seen only if those analytes were requested.

Analytical Resources, LLC
Analytical Chemists and Consultants

ICP INTERFERENCE CHECK SAMPLE

EPA 6020B

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: ICPMS1
Calibration: GE00040
Sequence: SLE0204
Standard ID: L004688

Lab Sample ID	Analyte	True	Found	%R	Units
SLE0204-IFB1	Chromium-52	20.000	20.186	101	ug/L
	Chromium-53	20.000	21.276	106	ug/L
	Lead-208	0	0.0180		ug/L
	Silver-107	20.000	18.002	90.0	ug/L

* Indicates %R outside of QC limits

NOTE: True value and %R are populated only for analytes found in the interference check standards, and will be seen only if those analytes were requested.

DETECTION LEVEL STANDARD
EPA 6020B

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: ICPMS1
Calibration: GE00040
Sequence: SLE0204
Lab Sample ID: SLE0204-CRL1

Analyte	True	Found	%R	Units	QC Limts
Chromium-52	0.50000	0.523	105	ug/L	50 - 150
Chromium-53	0.50000	0.501	100	ug/L	50 - 150
Lead-208	0.10000	0.107	107	ug/L	50 - 150
Silver-107	0.20000	0.202	101	ug/L	50 - 150

* Values outside of QC limits

HIGH-CONCENTRATION CALIBRATION VERIFICATION

EPA 6020B

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GE00040
Laboratory ID: SLE0204-HCV1
Sequence: SLE0204
Standard ID: L004780

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Chromium-52	200.00	198	-0.8	10.00
Chromium-53	200.00	195	-2.5	10.00
Lead-208	200.00	200	0.004	10.00
Silver-107	200.00	194	-3.2	10.00

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

HIGH-CONCENTRATION CALIBRATION VERIFICATION

EPA 6020B

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GE00040
Laboratory ID: SLE0204-HCV2
Sequence: SLE0204
Standard ID: L004781

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Chromium-52	300.00	306	1.9	10.00
Chromium-53	300.00	295	-1.7	10.00
Lead-208	300.00	317	5.5	10.00
Silver-107	300.00	311	3.6	10.00

* Values outside of QC limits

HOLDING TIME SUMMARY

Analysis: EPA 6020B

Laboratory: Analytical Resources, LLC SDG: 23C0108

Client: Anchor QEA, LLC Project: AOC5 MR Phase 1

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW23-SC1044 23C0108-02	03/02/23 15:06	03/03/23 16:35	04/26/23 12:19	54	180	05/11/23 00:08	69	180	
LDW23-SS1106 23C0108-06	03/03/23 10:00	03/03/23 16:35	04/26/23 12:19	54	180	05/11/23 00:28	69	180	
LDW23-SS1107 23C0108-07	03/03/23 10:21	03/03/23 16:35	04/26/23 12:19	54	180	05/11/23 00:32	69	180	
LDW23-SS1111 23C0108-08	03/03/23 10:36	03/03/23 16:35	04/26/23 12:19	54	180	05/11/23 00:37	69	180	
LDW23-SS1118 23C0108-09	03/03/23 11:25	03/03/23 16:35	04/26/23 12:19	54	180	05/11/23 00:41	69	180	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

EPA 6020B

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Instrument: ICPMS1

Analyte	MDL	RL	Units
Chromium-52	0.26	0.50	mg/kg
Chromium-53	0.24	0.50	mg/kg
Lead-208	0.05	0.10	mg/kg
Silver-107	0.02	0.20	mg/kg

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGCU10
Lot Number:	P2-CU682108
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Copper
Starting Material:	Cu Metal
Starting Material Lot#:	2095
Starting Material Purity:	99.9996%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10013 ± 30 µg/mL

Density: 1.032 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **9977 ± 50 µg/mL**
ICP Assay NIST SRM 3114 Lot Number: 121207

Assay Method #2 **10024 ± 26 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **10007 ± 46 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.007542	M	Eu	<	0.000942	O	Na		0.001434	M	Se	<	0.016971	M	Zn	<	0.005657
O	Al	<	0.000609	O	Fe		0.008700	M	Nb	<	0.000942	O	Si		0.003052	M	Zr	<	0.000942
M	As	<	0.010371	M	Ga	<	0.000942	M	Nd	<	0.000942	M	Sm	<	0.000942				
M	Au	<	0.001885	M	Gd	<	0.000942	M	Ni		0.003781	M	Sn	<	0.005657				
O	B		0.003663	M	Ge	<	0.005657	M	Os	<	0.000942	M	Sr	<	0.000942				
M	Ba		0.004253	M	Hf	<	0.000942	O	P	<	0.031668	M	Ta	<	0.000942				
M	Be	<	0.000942	O	Hg	<	0.007064	M	Pb		0.005789	M	Tb	<	0.000942				
M	Bi	<	0.000942	M	Ho	<	0.000942	M	Pd	<	0.000942	M	Te	<	0.004714				
O	Ca		0.002304	M	In	<	0.000942	M	Pr	<	0.000942	M	Th	<	0.000942				
M	Cd	<	0.000942	M	Ir	<	0.000942	M	Pt	<	0.000942	O	Ti	<	0.002801				
M	Ce	<	0.000942	O	K		0.000763	M	Rb	<	0.000942	M	Tl	<	0.000942				
M	Co		0.001890	M	La	<	0.000942	M	Re	<	0.000942	M	Tm	<	0.000942				
M	Cr	<	0.005657	O	Li	<	0.000243	i	Rh	<		M	U	<	0.000942				
M	Cs	<	0.000942	M	Lu	<	0.000942	M	Ru	<	0.039588	M	V	<	0.003771				
s	Cu	<		O	Mg		0.000320	O	S		0.007174	M	W	<	0.005657				
M	Dy	<	0.000942	O	Mn		0.000793	M	Sb	<	0.001885	M	Y	<	0.000942				
M	Er	<	0.000942	M	Mo	<	0.005657	M	Sc	<	0.000942	M	Yb	<	0.000942				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 63.55 +2 6 $Cu(H_2O)_6^{2+}$

Chemical Compatibility -Stable in HCl, HNO_3, H_2SO_4, HF, H_3PO_4. Avoid basic media. Stable with most metals and inorganic anions in acidic media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO_3 / LDPE container.

Cu Containing Samples (Preparation and Solution) -Metal (soluble in HNO_3); Oxides (Soluble in HCl); Ores (Dissolve in HCl / HNO_3).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 63 amu	10 ppt	n/a	40Ar23Na 47Ti16O, 14N12C37Cl, 16O12C35Cl, 23Na40Ca
ICP-OES 219.958 nm	0.01/.002 µg/mL	1	Th, Ta, Nb, U, Hf
ICP-OES 224.700 nm	0.01/.001 µg/mL	1	Pb, Ir, Ni, W
ICP-OES 324.754 nm	0.06/.001 µg/mL		Nb, U, Th, Mo, Hf

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 24, 2019

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **August 24, 2023**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Manager, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

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Certificate of Analysis

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Christiansburg, VA 24073 USA
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F: 540-585-3012
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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGPB10
Lot Number:	S2-PB713228
Matrix:	0.5% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Lead
Starting Material:	Lead Nitrate
Starting Material Lot#:	2343
Starting Material Purity:	99.9995%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10042 ± 31 µg/mL

Density: 1.015 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10024 ± 41 µg/mL**
ICP Assay NIST SRM 3128 Lot Number: 101026

Assay Method #2 **10054 ± 32 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000310	M	Eu	<	0.000310	M	Na		0.001470	M	Se	<	0.009100	O	Zn		0.006155
O	Al		0.017098	O	Fe		0.002496	M	Nb	<	0.000310	O	Si		0.003761	O	Zr	<	0.001700
M	As	<	0.003100	M	Ga	<	0.000310	M	Nd	<	0.000310	M	Sm	<	0.000310				
M	Au	<	0.000910	M	Gd	<	0.000310	O	Ni		0.001709	M	Sn	<	0.001300				
O	B	<	0.005600	M	Ge	<	0.002200	M	Os	<	0.000310	O	Sr		0.000444				
O	Ba		0.007865	M	Hf	<	0.000310	O	P	<	0.038000	M	Ta	<	0.000310				
O	Be	<	0.000320	M	Hg	<	0.002200	s	Pb	<		M	Tb	<	0.000610				
M	Bi	<	0.028000	M	Ho	<	0.000310	M	Pd	<	0.000610	M	Te	<	0.000310				
O	Ca		0.019834	M	In	<	0.000310	M	Pr	<	0.000310	M	Th	<	0.000310				
O	Cd	<	0.000630	M	Ir	<	0.000310	M	Pt	<	0.000910	O	Ti		0.005129				
M	Ce		0.004787	O	K		0.008207	M	Rb	<	0.006700	M	Tl	<	0.016000				
M	Co	<	0.000610	M	La	<	0.001900	M	Re	<	0.000310	M	Tm	<	0.000310				
O	Cr	<	0.001500	O	Li	<	0.000110	O	Rh	<	0.007700	M	U	<	0.000310				
M	Cs	<	0.006100	M	Lu	<	0.000310	M	Ru	<	0.001300	M	V	<	0.001600				
M	Cu	<	0.001600	O	Mg		0.003317	O	S	<	0.052000	M	W	<	0.000910				
M	Dy	<	0.000310	O	Mn	<	0.001600	O	Sb	<	0.015000	M	Y	<	0.000310				
M	Er	<	0.000310	M	Mo	<	0.000610	O	Sc	<	0.000630	M	Yb	<	0.000310				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 207.20 +2 6 $Pb(H_2O)_6^{+2}$

Chemical Compatibility - Soluble in HCl, HF and HNO_3. Avoid H_2SO_4. Stable with most metals and inorganic anions forming insoluble carbonate, borate, sulfate, sulfite, sulfide, phosphate, oxalate, chromate, tannate, iodate, and cyanide in neutral aqueous media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO_3 / LDPE container.

Pb Containing Samples (Preparation and Solution) -Metal (Best dissolved in 1:1 H_2O / HNO_3); Oxides (The many different Pb oxides are soluble in HNO_3 with the exception of PbO_2 which is soluble in HCl or HF); Ores and Alloys (Best attacked using 1:1 H_2O / HNO_3); Organic Matrices (Dry ash and dissolve in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 208 amu	5 ppt	n/a	192Pt16O, 192Os16O
ICP-OES 168.215 nm	0.03 / 0.003 µg/mL	1	Co
ICP-OES 217.000 nm	0.09 / 0.03 µg/mL	1	W, Ir, Hf, Sb, Th
ICP-OES 220.353 nm	0.04 / 0.006 µg/mL	1	Bi, Nb

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 10, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **January 10, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

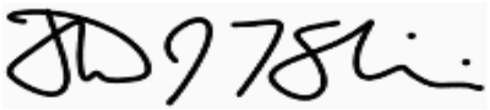
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGZN10
Lot Number:	S2-ZN711249
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Zinc
Starting Material:	Zinc Metal
Starting Material Lot#:	2349
Starting Material Purity:	99.9988%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 9992 ± 30 µg/mL

Density: 1.029 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **9981 ± 56 µg/mL**
ICP Assay NIST SRM 3168a Lot Number: 120629

Assay Method #2 **9987 ± 32 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **10002 ± 32 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.002000	M	Eu	<	0.000500	O	Na		0.008713	M	Se	<	0.048000	s	Zn	<	
O	Al	<	0.011000	O	Fe		0.015467	M	Nb	<	0.000500	O	Si		0.007842	M	Zr	<	0.000500
O	As	<	0.012000	M	Ga	<	0.004900	M	Nd	<	0.000500	M	Sm	<	0.000500				
M	Au	<	0.006500	M	Gd	<	0.000500	O	Ni		0.003049	M	Sn		0.002614				
O	B	<	0.019000	M	Ge	<	0.009100	M	Os	<	0.000500	M	Sr	<	0.000500				
M	Ba	<	0.000500	M	Hf	<	0.000500	O	P	<	0.059000	M	Ta	<	0.000500				
O	Be	<	0.000230	O	Hg	<	0.003800	M	Pb		0.016774	M	Tb	<	0.000500				
M	Bi	<	0.002400	M	Ho	<	0.000500	M	Pd	<	0.001000	M	Te	<	0.017000				
O	Ca		0.052283	M	In	<	0.003500	M	Pr	<	0.000500	M	Th	<	0.000500				
O	Cd		0.000588	M	Ir	<	0.001000	M	Pt	<	0.000500	M	Ti	<	0.002000				
M	Ce	<	0.000500	O	K		0.017209	M	Rb	<	0.002500	M	Tl	<	0.000500				
M	Co		0.000653	M	La	<	0.000500	M	Re	<	0.000500	M	Tm	<	0.000500				
O	Cr		0.001089	O	Li	<	0.000230	M	Rh	<	0.000500	M	U	<	0.000500				
M	Cs	<	0.000500	M	Lu	<	0.000500	M	Ru	<	0.005000	M	V	<	0.000500				
O	Cu		0.001938	O	Mg		0.000871	O	S	<	0.048000	M	W	<	0.001000				
M	Dy	<	0.000500	O	Mn		0.000172	M	Sb	<	0.004300	M	Y	<	0.000500				
M	Er	<	0.000500	M	Mo	<	0.001500	O	Sc	<	0.000900	M	Yb	<	0.000500				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 65.39 +2 4 Zn(OH)(aq)1+
Chemical Compatibility -Stable in HCl, HNO3, H2SO4 ,HF, H3PO4. Avoid basic media forming insoluble carbonate and hydroxide. Stable with most metals and inorganic anions in acidic media.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.
Zn Containing Samples (Preparation and Solution) -Metal (soluble in HNO3); Oxides (Soluble in HCl); Ores (Dissolve in HCl / HNO3); Organic based (dry ash at 4500C and dissolve ash in HCl) (sulfuric/peroxide acid digestion)
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 66 amu	7 ppt	N/A	50Ti16O,50Cr16O, 50V16O, 34S16O2, 32S16O18O, 32S17O2, 33S16O17O, 32S34S, 33S2
ICP-OES 202.548 nm	0.004/0.0002 µg/mL	1	Nb, Cu, Co, Hf
ICP-OES 206.200 nm	0.006/0.0006 µg/mL	1	Sb, Ta, Bi, Os
ICP-OES 213.856 nm	0.002/0.0004 µg/mL	1	Ni, Cu, V

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 22, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 22, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

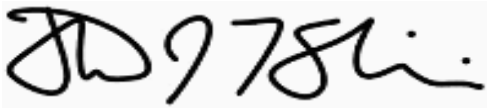
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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F: 540-585-3012
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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSE10
Lot Number:	S2-SE711004
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Selenium
Starting Material:	Se Metal
Starting Material Lot#:	1962
Starting Material Purity:	99.9991%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 9955 ± 61 µg/mL

Density: 1.035 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **9955 ± 50 µg/mL**
ICP Assay NIST SRM 3149 Lot Number: 100901

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.002242	M	Eu	<	0.000373	O	Na		0.013654	s	Se	<		O	Zn		0.002374
M	Al		0.004450	M	Fe		0.008478	O	Nb	<	0.002975	O	Si		0.006249	M	Zr	<	0.001868
O	As	<	0.022040	M	Ga	<	0.000373	M	Nd	<	0.000373	M	Sm	<	0.000373				
M	Au	<	0.000373	M	Gd	<	0.000373	O	Ni		0.001843	M	Sn		0.000847				
O	B	<	0.007714	M	Ge	<	0.002616	M	Os	<	0.000373	M	Sr	<	0.001121				
M	Ba	<	0.001495	M	Hf	<	0.000373	O	P	<	0.022040	M	Ta	<	0.000373				
M	Be	<	0.001495	M	Hg	<	0.002240	M	Pb		0.006358	M	Tb	<	0.006353				
M	Bi	<	0.000373	M	Ho	<	0.000373	M	Pd	<	0.000373	M	Te	<	0.012707				
O	Ca		0.006530	M	In	<	0.000373	M	Pr	<	0.001495	M	Th	<	0.002990				
M	Cd		0.001165	M	Ir	<	0.000373	M	Pt	<	0.000373	M	Ti	<	0.003363				
M	Ce	<	0.000373	O	K		0.001999	M	Rb	<	0.001868	M	Tl		0.008584				
M	Co	<	0.000373	M	La	<	0.001121	M	Re	<	0.000373	M	Tm	<	0.000373				
M	Cr		0.002861	O	Li		0.000062	M	Rh	<	0.000373	M	U	<	0.000373				
M	Cs	<	0.001121	M	Lu	<	0.000373	M	Ru	<	0.001493	M	V	<	0.000747				
M	Cu	<	0.000747	O	Mg		0.001156	O	S		0.024591	M	W	<	0.002242				
M	Dy	<	0.000373	M	Mn	<	0.000373	M	Sb	<	0.002242	M	Y	<	0.000373				
M	Er	<	0.000373	O	Mo	<	0.003195	M	Sc	<	0.001121	M	Yb	<	0.000373				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 78.96 +4 6 H_2SeO_3

Chemical Compatibility -Soluble in HCl, HNO_3,H_3PO_4, H_2SO_4 and HF aqueous matrices and water. It is stable with most inorganic anions but many cationic metals form the insoluble selenites under pH neutral conditions. When fluorinated and/or under acidic conditions precipitation is typically not a problem at moderate to low concentrations.

Stability - 2-100 ppb levels stable for months alone or mixed with other elements at equivalent levels in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO_3 / LDPE container.

Se Containing Samples (Preparation and Solution) -Metal (soluble in HNO_3); Oxides (readily soluble in water); Minerals and alloys (acid digestion with HNO_3or HNO_3 / HF); Organic Matrices (acid digestion with hot concentrated H_2SO_4 accompanied by the careful dropwise addition of H_2O_2 until clear).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 82 amu	200 ppt	N/A	12C35Cl2
ICP-OES 196.026 nm	0.08/0.006 µg/mL	1	Fe
ICP-OES 203.985 nm	0.2/0.05 µg/mL	1	Sb, Ir, Cr, Ta
ICP-OES 206.279 nm	0.3/0.16 µg/mL	1	Cr, Pt

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 17, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 17, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Supervisor, Product Documentation

Certificate Approved By:

Michael Booth
Director, Technical

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGMO10
Lot Number:	S2-MO706255
Matrix:	H2O tr. NH4OH
Value / Analyte(s):	10 000 µg/mL ea: Molybdenum
Starting Material:	Ammonium Molybdate
Starting Material Lot#:	2361
Starting Material Purity:	99.9893%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10026 ± 47 µg/mL

Density: 1.011 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10032 ± 68 µg/mL**
ICP Assay NIST SRM 3134 Lot Number: 130418

Assay Method #2 **10020 ± 65 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000590	M	Eu	<	0.000300	M	Na		0.008739	M	Se	<	0.008000	M	Zn		0.005942
M	Al		0.005592	M	Fe	<	0.006500	M	Nb	<	0.029000	i	Si	<		M	Zr	<	0.001800
M	As	<	0.002100	M	Ga	<	0.000300	i	Nd	<		M	Sm	<	0.000300				
M	Au	<	0.000300	M	Gd	<	0.000300	M	Ni	<	0.008000	M	Sn	<	0.008900				
M	B	<	0.003300	M	Ge	<	0.000300	M	Os	<	0.000590	M	Sr		0.001747				
M	Ba		0.016778	M	Hf	<	0.001800	i	P	<		M	Ta	<	0.004200				
M	Be	<	0.000890	M	Hg	<	0.003300	M	Pb	<	0.000300	M	Tb	<	0.000300				
M	Bi	<	0.000890	M	Ho	<	0.000300	M	Pd	<	0.001800	M	Te	<	0.021000				
O	Ca		0.062920	M	In	<	0.032000	M	Pr	<	0.013000	M	Th	<	0.000300				
O	Cd	<	0.026000	M	Ir	<	0.000300	M	Pt	<	0.000300	O	Ti	<	0.032000				
M	Ce	<	0.008300	M	K		1.293372	M	Rb		0.045442	M	Tl		0.012584				
M	Co		0.005942	M	La	<	0.000300	M	Re	<	0.000300	M	Tm	<	0.000300				
M	Cr		0.005243	O	Li		0.000594	M	Rh	<	0.000300	M	U	<	0.005300				
M	Cs		0.005243	M	Lu	<	0.000300	M	Ru	<	0.079000	M	V	<	0.000890				
M	Cu		0.022371	M	Mg		0.005592	i	S	<		M	W		0.873900				
M	Dy	<	0.000300	M	Mn	<	0.005900	M	Sb		0.015031	M	Y	<	0.000300				
M	Er	<	0.000300	s	Mo	<		M	Sc	<	0.001200	M	Yb	<	0.000300				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 95.94 +6 6,7,8,9 [MoO4]-2(chemical form as received)

Chemical Compatibility -Mo is received in a NH4OH matrix giving the operator the option of using HCl or HF to stabilize acidic solutions. The [MoO4]-2 is soluble in concentrated HCl [MoOCl5]-2, dilute HF / HNO3 [MoOF5]-2 and basic media [MoO4]-2. Stable at ppm levels with some metals provided it is fluorinated. Do not mix with Alkaline or Rare Earths when HF is present. Stable with most inorganic anions provided it is in the [MoO4]-2 chemical form.

Stability - 2-100 ppb levels stable (alone or mixed with all other metals that are at comparable levels) as the [MoOF5]-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the [MoO4]-2 chemically stable for years in 1% NH4OH in a LDPE container.

Mo Containing Samples (Preparation and Solution) -Metal (Soluble in HF / HNO3 or hot dilute HCl); Oxide (soluble in HF or NH4OH) ; Organic Matrices (Dry ash at 450EC in Pt0 and dissolve oxide with HF or HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 95 amu	3 ppt	n/a	40Ar39K16O,79Br16O,190Os2+,190Pt2+
ICP-OES 202.030 nm	0.008 / 0.0002 µg/mL	1	Os, Hf
ICP-OES 203.844 nm	0.012 / 0.002 µg/mL	1	
ICP-OES 204.598 nm	0.012 / 0.001 µg/mL	1	Ir, Ta

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 04, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **July 04, 2025**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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F: 540-585-3012
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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGTL10
Lot Number:	T2-TL714687
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Thallium
Starting Material:	TlNO3
Starting Material Lot#:	2118
Starting Material Purity:	99.9998%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10030 ± 42 µg/mL

Density: 1.036 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10040 ± 43 µg/mL**
ICP Assay NIST SRM 3158 Lot Number: 151215

Assay Method #2 **10010 ± 65 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL(

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000200	M	Eu	<	0.000200	O	Na		0.002489	M	Se	<	0.011019	O	Zn		0.002298
O	Al	<	0.004184	O	Fe	<	0.002824	M	Nb	<	0.000200	O	Si		0.003760	M	Zr	<	0.000200
M	As	<	0.002003	M	Ga	<	0.000200	M	Nd	<	0.000200	M	Sm	<	0.000200				
O	Au	<	0.002824	M	Gd	<	0.000200	M	Ni		0.001724	M	Sn	<	0.000601				
O	B	<	0.004184	M	Ge	<	0.000801	M	Os	<	0.000198	O	Sr	<	0.000313				
M	Ba	<	0.000400	M	Hf	<	0.000200	O	P	<	0.010460	M	Ta	<	0.000200				
O	Be	<	0.000104	M	Hg	<	0.000794	M	Pb		0.000811	M	Tb	<	0.000200				
M	Bi	<	0.005209	M	Ho	<	0.000200	M	Pd	<	0.000400	M	Te	<	0.005008				
O	Ca		0.002436	M	In	<	0.000200	M	Pr	<	0.000200	M	Th	<	0.000200				
M	Cd		0.001318	M	Ir	<	0.000198	M	Pt	<	0.000801	O	Ti	<	0.001255				
M	Ce	<	0.000200	O	K		0.006175	M	Rb	<	0.000200	s	Tl	<					
M	Co	<	0.000601	M	La	<	0.000200	M	Re	<	0.000200	M	Tm	<	0.000200				
M	Cr	<	0.000801	O	Li	<	0.000177	M	Rh	<	0.000200	M	U	<	0.000200				
M	Cs	<	0.003606	M	Lu	<	0.000200	M	Ru	<	0.000397	M	V	<	0.002203				
M	Cu	<	0.001001	O	Mg		0.000529	O	S	<	0.015690	M	W	<	0.000601				
M	Dy	<	0.000200	M	Mn	<	0.000801	M	Sb	<	0.000400	M	Y	<	0.000200				
M	Er	<	0.000200	M	Mo	<	0.001202	O	Sc	<	0.000711	M	Yb	<	0.000200				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 204.38 +1 6 Tl(H2O)61+
Chemical Compatibility - Soluble in HCl, HNO3, and H2SO4. Stable with most metals and inorganic anions. The sulfite, thiocyanate and oxalate are moderately soluble; the phosphate and arsenite are slightly soluble and the sulfide is insoluble.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.
Tl Containing Samples)Preparation and Solution) -Metal (Best dissolved in HNO3 which forms chiefly the Tl1+ ion.); Oxide (The thallous oxide is readily soluble in water. The thallic oxide requires high levels of acid); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Sulfuric/peroxide digestion or dry ash and dissolution in HCl).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 205 amu	2 ppt	N/A	189Os16O
ICP-OES 190.864 nm	0.04 / 0.004 µg/mL	1	V, Ti
ICP-OES 276.787 nm	0.1 / 0.01 µg/mL	1	Ta, V, Fe, Cr
ICP-OES 351.924 nm	0.2 / 0.02 µg/mL	1	Th, Ce, Zr

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 08, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **February 08, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

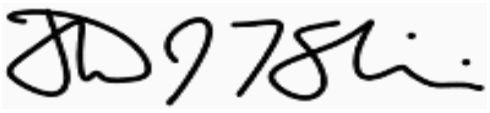
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGCD10
Lot Number:	S2-CD710508
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Cadmium
Starting Material:	Cd Metal
Starting Material Lot#:	1953
Starting Material Purity:	99.9995%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10008 ± 30 µg/mL

Density: 1.029 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10010 ± 32 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #2 **10011 ± 30 µg/mL**
ICP Assay NIST SRM 3108 Lot Number: 130116

Assay Method #3 **10003 ± 30 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Ag	<	0.003200	O	Eu	<	0.002500	O	Na		0.005499	M	Se	<	0.005700	O	Zn	<	0.001100
O	Al		0.008903	O	Fe		0.000602	M	Nb	<	0.000400	O	Si		0.016758	O	Zr	<	0.002600
M	As	<	0.003600	M	Ga	<	0.001200	M	Nd	<	0.000800	M	Sm	<	0.000400				
M	Au	<	0.000810	M	Gd	<	0.000400	M	Ni	<	0.003600	M	Sn	<	0.003200				
O	B		0.004189	O	Ge	<	0.012000	M	Os	<	0.000810	O	Sr	<	0.000330				
M	Ba	<	0.002400	M	Hf	<	0.000400	O	P	<	0.022000	M	Ta	<	0.000800				
M	Be	<	0.000400	M	Hg	<	0.001700	M	Pb	<	0.002400	M	Tb	<	0.000400				
M	Bi	<	0.000400	M	Ho	<	0.000400	M	Pd	<	0.001200	M	Te	<	0.008000				
O	Ca		0.011259	O	In	<	0.013000	M	Pr	<	0.000400	M	Th	<	0.000400				
s	Cd	<		M	Ir	<	0.000410	M	Pt	<	0.000400	O	Ti		0.000602				
M	Ce	<	0.000400	O	K		0.005237	M	Rb	<	0.004400	M	Tl		0.000523				
M	Co	<	0.000400	M	La	<	0.000400	M	Re	<	0.000400	M	Tm	<	0.000400				
O	Cr	<	0.005100	O	Li	<	0.000054	M	Rh	<	0.000400	M	U	<	0.000400				
M	Cs	<	0.002400	M	Lu	<	0.000400	M	Ru	<	0.002500	M	V	<	0.002000				
O	Cu	<	0.004800	O	Mg		0.000288	O	S	<	0.022000	M	W	<	0.000400				
M	Dy	<	0.000400	O	Mn	<	0.000860	O	Sb	<	0.018000	M	Y	<	0.000400				
M	Er	<	0.000400	M	Mo	<	0.001600	O	Sc	<	0.000430	M	Yb	<	0.000400				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 112.41 +2 4 Cd2(OH) (aq)3+ and Cd(OH)(aq)

Chemical Compatibility -Stable in HCl, HNO3, H2SO4 , and HF. Avoid basic media forming insoluble carbonate and hydroxide.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5 % HNO3 / LDPE container.

Cd Containing Samples (Preparation and Solution) -Metal (soluble in HNO3); Oxides (soluble in HCl or HNO3); Ores (dissolve in HCl /HNO3 then take to fumes with H2SO4. The silica and lead sulfate are filtered off after the addition of water); Organic based (dry ash at 450°C and dissolve ash in HCl), (sulfuric / peroxide acid digestion).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 111 amu	11 ppt	n/a	95Mo16O
ICP-OES 214.438 nm	0.003 / 0.0003 µg/mL	1	Pt, Ir
ICP-OES 226.502 nm	0.003 / 0.0003 µg/mL	1	Ir
ICP-OES 228.802 nm	0.003 / 0.0003 µg/mL	1	Co, Ir, As, Pt

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 01, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 01, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGMN10
Lot Number:	S2-MN704240
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Manganese
Starting Material:	Mn Metal
Starting Material Lot#:	2275
Starting Material Purity:	99.9909%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10011 ± 30 µg/mL

Density: 1.035 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **9989 ± 69 µg/mL**
ICP Assay NIST SRM 3132 Lot Number: 050429

Assay Method #2 **10011 ± 25 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **10024 ± 47 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.001500	M	Eu	<	0.000730	O	Na		0.176097	M	Se	<	0.006600	M	Zn		0.009925
O	Al		0.004322	M	Fe	<	0.650000	M	Nb	<	0.000730	O	Si		0.097654	M	Zr	<	0.000730
M	As	<	0.008000	M	Ga		0.004322	M	Nd	<	0.001500	M	Sm	<	0.000730				
M	Au	<	0.000730	M	Gd	<	0.000730	M	Ni		0.024013	M	Sn	<	0.002200				
M	B		0.068838	M	Ge	<	0.004400	M	Os	<	0.000730	O	Sr		0.000928				
M	Ba	<	0.001500	M	Hf	<	0.000730	i	P	<		M	Ta	<	0.000730				
M	Be	<	0.000730	M	Hg	<	0.002200	M	Pb		0.007364	M	Tb	<	0.000730				
M	Bi	<	0.003000	M	Ho	<	0.000730	M	Pd	<	0.000730	M	Te	<	0.019000				
O	Ca		0.062434	M	In	<	0.003000	M	Pr	<	0.000730	M	Th	<	0.000730				
M	Cd	<	0.001500	M	Ir	<	0.000730	M	Pt	<	0.000730	O	Ti	<	0.006500				
M	Ce	<	0.007300	O	K		0.006403	M	Rb	<	0.006600	M	Tl	<	0.000730				
O	Co		0.014728	M	La	<	0.003000	M	Re	<	0.000730	M	Tm	<	0.000730				
O	Cr		0.272151	O	Li		0.000416	M	Rh	<	0.003000	M	U	<	0.001500				
M	Cs	<	0.000730	M	Lu	<	0.000730	M	Ru	<	0.004400	M	V	<	0.000730				
O	Cu		0.007684	O	Mg		0.320177	i	S	<		M	W	<	0.004400				
M	Dy	<	0.001500	s	Mn	<		M	Sb	<	0.021000	O	Y		0.001360				
M	Er	<	0.001500	M	Mo		0.010245	O	Sc	<	0.004100	M	Yb	<	0.000730				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 54.94 +2 6 $Mn(H_2O)_6^{2+}$

Chemical Compatibility -Stable in HCl, HNO_3, H_2SO_4 ,HF, H_3PO_4. Avoid basic media. Stable with most metals and inorganic anions in acidic media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5 % HNO_3/LDPE container.

Mn Containing Samples (Preparation and Solution) -Metal (Soluble in dilute acids); Oxides (Soluble in dilute acids); Ores (Dissolve with HCl. If silica is present add HF and then fume off silica by adding H_2SO_4 and heat to SO_3 fumes - dense white fumes).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 55 amu	10 ppt	n/a	40Ar14N1H,39K16O,37Cl18O,40Ar15N,38Ar17O,36Ar18O1H ,38Ar16O1H,37Cl17O1H,23Na32S
ICP-OES 257.610 nm	0.0014 / 0.00002 µg/mL	1	Ce, W, Re
ICP-OES 259.373 nm	0.0016 / 0.00002 µg/mL	1	U, Ta, Mo, Fe, Nb
ICP-OES 260.569 nm	0.0021 / 0.00002 µg/mL	1	Co

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 17, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 17, 2025**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

INORGANIC VENTURES
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CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSB10
Lot Number:	R2-SB688559
Matrix:	3% (v/v) HNO3 3% (w/v) tartaric acid
Value / Analyte(s):	10 000 µg/mL ea: Antimony
Starting Material:	Antimony Metal
Starting Material Lot#:	1857
Starting Material Purity:	99.9894%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10003 ± 47 µg/mL

Density: 1.061 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10003 ± 41 µg/mL**
ICP Assay NIST SRM 3102a Lot Number: 140911

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

$CRM/RM\ Expanded\ Uncertainty\ (\pm) = U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

$CRM/RM\ Expanded\ Uncertainty\ (\pm) = U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000200	M	Eu	<	0.000300	O	Na		0.140000	M	Se	<	0.007300	O	Zn		0.005000
M	Al		0.003200	O	Fe		0.060000	M	Nb	<	0.000100	O	Si		0.150000	O	Zr	<	0.006300
M	As	<	0.004400	M	Ga	<	0.000400	M	Nd	<	0.000100	M	Sm	<	0.000100				
M	Au	<	0.000210	M	Gd	<	0.000100	O	Ni		0.004800	M	Sn	<	0.001800				
M	B	<	0.011000	M	Ge	<	0.000600	M	Os	<	0.000110	O	Sr		0.000750				
O	Ba	<	0.004900	M	Hf	<	0.000100	O	P		0.540000	M	Ta		0.003300				
M	Be	<	0.000400	M	Hg	<	0.000110	M	Pb	<	0.000400	M	Tb	<	0.000100				
M	Bi	<	0.000200	M	Ho	<	0.000100	M	Pd	<	0.000210	M	Te	<	0.000600				
O	Ca		0.110000	M	In	<	0.000100	M	Pr	<	0.001600	M	Th	<	0.000100				
M	Cd	<	0.000200	M	Ir	<	0.000110	M	Pt	<	0.000600	M	Ti	<	0.002800				
M	Ce		0.006500	O	K		0.020000	M	Rb	<	0.001000	M	Tl	<	0.000100				
M	Co	<	0.000200	O	La	<	0.016000	M	Re	<	0.000100	M	Tm	<	0.000100				
M	Cr		0.006900	O	Li	<	0.000430	M	Rh	<	0.000300	M	U	<	0.000100				
M	Cs	<	0.000200	M	Lu	<	0.000100	M	Ru	<	0.000310	M	V	<	0.000800				
M	Cu	<	0.000600	O	Mg		0.021000	n	S	<		M	W	<	0.000200				
M	Dy	<	0.000100	O	Mn		0.001900	s	Sb	<		M	Y	<	0.000100				
M	Er	<	0.000100	M	Mo	<	0.000500	O	Sc	<	0.002300	M	Yb	<	0.000100				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 121.75 +3 6 Sb(O)C4H4O6-1

Chemical Compatibility -Stable in conc. HCl, dilute or conc. HF. Stable in dilute HNO3 as the fluoride or tartrate complex. Avoid basic media. Stable with most metals and inorganic anions in acidic media as the tartrate provided the acidity is not too high or the acid is oxidizing causing loss of the stabilizing tartrate ion. The fluoride complex of antimony is stable in strong acid but you should only mix with other metals that are fluorinated.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-2% HNO3 / LDPE container.

Sb Containing Samples (Preparation and Solution) -Metal and alloys (Soluble in H2O / HF / HNO3 mixture); Oxides (Soluble in HCl and tartaric acid or H2O / HF / HNO3 mixtures); Ores (fusion with Na2CO3 in Pt0 followed by dissolving the fuseate in a H2O / HF / HNO3 mixture); Organic based (sulfuric acid / hydrogen peroxide digestion)

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 121 amu	5 ppt	N/A	105Pd16O, 89Y16O2
ICP-OES 206.833 nm	0.03/0.003 µg/mL	1	Ta, Cr, Ge, Hf
ICP-OES 217.581 nm	0.05/0.005 µg/mL	1	Nb, W, Re, Fe
ICP-OES 231.147 nm	0.06/0.006 µg/mL	1	Ni, Co, Pt

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 30, 2020

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 30, 2024**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Manager, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

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1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGAS10
Lot Number:	T2-AS718260
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Arsenic
Starting Material:	As Metal
Starting Material Lot#:	2208
Starting Material Purity:	99.9971%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10060 ± 40 µg/mL

Density: 1.037 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10062 ± 46 µg/mL**
ICP Assay NIST SRM 3103a Lot Number: 100818

Assay Method #2 **10055 ± 76 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	< 0.003200	M	Eu	< 0.000530	O	Na	0.032544	M	Se	< 0.006300	O	Zn	0.001952			
M	Al	0.007593	O	Fe	0.001475	O	Nb	< 0.012000	O	Si	0.238658	O	Zr	< 0.004100			
s	As	<	M	Ga	< 0.000530	M	Nd	< 0.000530	M	Sm	< 0.000530						
M	Au	< 0.003100	M	Gd	< 0.000530	M	Ni	< 0.002100	M	Sn	< 0.000530						
M	B	0.026035	M	Ge	< 0.001600	M	Os	< 0.000520	M	Sr	< 0.000530						
M	Ba	< 0.000530	M	Hf	< 0.000530	O	P	< 0.043000	M	Ta	< 0.000530						
O	Be	< 0.000360	M	Hg	< 0.001600	M	Pb	< 0.002100	M	Tb	< 0.000530						
M	Bi	< 0.000530	M	Ho	< 0.000530	M	Pd	< 0.001100	M	Te	< 0.004700						
O	Ca	0.004339	M	In	< 0.023000	M	Pr	< 0.005300	M	Th	< 0.000530						
M	Cd	< 0.001100	M	Ir	< 0.000520	M	Pt	< 0.000530	O	Ti	< 0.002300						
M	Ce	< 0.000530	O	K	0.002061	M	Rb	< 0.000530	M	Tl	< 0.000530						
M	Co	< 0.000530	M	La	< 0.001100	M	Re	< 0.000530	M	Tm	< 0.000530						
O	Cr	< 0.001800	O	Li	< 0.000120	M	Rh	< 0.000530	M	U	< 0.000530						
M	Cs	< 0.005300	M	Lu	< 0.000530	M	Ru	< 0.000520	M	V	< 0.002700						
M	Cu	< 0.001600	O	Mg	0.000154	O	S	0.028205	M	W	< 0.012000						
M	Dy	< 0.000530	O	Mn	0.000154	M	Sb	< 0.000530	M	Y	< 0.000530						
M	Er	< 0.000530	M	Mo	< 0.000530	O	Sc	< 0.001700	M	Yb	< 0.000530						

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 74.92 ; mix of +3 and +5 ; 6 ; H3AsO4 and HAsO2

Chemical Compatibility - Arsenic has no cationic chemistry. It is soluble in HCl, HNO3,H3PO4, H2SO4 and HF aqueous matrices water and NH4OH . It is stable with most inorganic anions (forms arsenate when boiled with chromate) but many cationic metals form the insoluble arsenates under pH neutral conditions. When fluorinated and / or under acidic conditions arsenate formation is typically not a problem at moderate to low concentrations.

Stability - 2-100 ppb levels stable for months alone or mixed with other elements at equivalent levels in 1% HNO3 / LDPE container.

As Containing Samples (Preparation and Solution) - Metal (soluble in 1:1 H2O / HNO3); Oxides (the oxide exists in crystalline and amorphous forms where the amorphic form is more water soluble. The oxides typically dissolve in dilute acidic solutions when boiled); Minerals (one gram of powered sample is fused in a Ni crucible with 10 grams of a 1:1 mix of K2CO3 and KNO3 and the melt extracted with hot water); Organic Matrices (0.2 to 0.5 grams of sample are fused with 15 grams of a 1:1 Na2CO3 / Na2O2 mix in a Ni crucible. The fuseate is extracted with water and acidified with HNO3).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 75 amu	20 ppt	N/A	40Ar35Cl, 59Co16O, 36Ar38Ar1H,8Ar37Cl,Ar39K, 150Nd2+,150Sm2+
ICP-OES 189.042 nm	0.05/0.005 µg/mL	1	Cr
ICP-OES 193.696 nm	0.1/0.01 µg/mL	1	V, Ge
ICP-OES 228.812 nm	0.1/0.01 µg/mL	1	Cd, Pt, Ir, Co

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

May 10, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **May 10, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Supervisor, Product Documentation

Certificate Approved By:

Michael Booth
Director, Technical

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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300 Technology Drive
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CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGBA10
Lot Number:	R2-BA692576
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Barium
Starting Material:	Barium Nitrate
Starting Material Lot#:	1969
Starting Material Purity:	99.9982%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10022 ± 30 µg/mL

Density: 1.025 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1	**10018 ± 50 µg/mL** ICP Assay NIST SRM 3104a Lot Number: 140909
Assay Method #2	**10023 ± 31 µg/mL** Gravimetric NIST SRM Lot Number: See Sec. 4.2
Assay Method #3	**10023 ± 30 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000410	O	Eu	<	0.005200	O	Na		0.004610	M	Se	<	0.003700	O	Zn		0.000658
M	Al	<	0.003100	O	Fe		0.015707	M	Nb	<	0.000210	O	Si		0.005573	M	Zr	<	0.001300
M	As	<	0.001300	M	Ga	<	0.000210	M	Nd	<	0.000210	O	Sm	<	0.021000				
M	Au	<	0.001300	M	Gd	<	0.000210	M	Ni	<	0.000810	M	Sn	<	0.000410				
O	B	<	0.005200	M	Ge	<	0.002500	M	Os	<	0.000410	O	Sr		0.003850				
s	Ba	<		M	Hf	<	0.000810	O	P	<	0.026000	M	Ta	<	0.000410				
O	Be	<	0.000320	M	Hg	<	0.000210	M	Pb	<	0.002300	M	Tb	<	0.000210				
M	Bi	<	0.000210	M	Ho	<	0.000210	M	Pd	<	0.000210	M	Te	<	0.001900				
O	Ca		0.007093	M	In	<	0.000210	M	Pr	<	0.000210	M	Th	<	0.000210				
M	Cd	<	0.000210	M	Ir	<	0.000210	M	Pt	<	0.000210	M	Ti	<	0.002100				
M	Ce	<	0.001300	O	K		0.035467	M	Rb	<	0.002100	M	Tl	<	0.000210				
M	Co	<	0.000410	O	La	<	0.005200	M	Re	<	0.000210	M	Tm	<	0.000410				
M	Cr	<	0.001700	O	Li	<	0.000630	M	Rh	<	0.000210	M	U	<	0.000210				
M	Cs	<	0.003300	M	Lu	<	0.001700	M	Ru	<	0.000210	O	V	<	0.005200				
M	Cu	<	0.001300	O	Mg		0.000861	O	S		0.268539	M	W	<	0.000410				
M	Dy	<	0.000210	M	Mn	<	0.000410	M	Sb	<	0.001300	O	Y	<	0.005200				
M	Er	<	0.001300	M	Mo	<	0.000410	M	Sc	<	0.000410	M	Yb	<	0.001300				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 137.33 +2 6 $Ba(H_2O)_6^{+2}$
Chemical Compatibility - Soluble in HCl, and HNO_3. Avoid H_2SO_4, HF and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicate, carbonate, hydroxide, oxide, fluoride, sulfate, oxalate, chromate, arsenate, iodate, molybdate, sulfite and tungstate in neutral aqueous media.
Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1 -10,000 ppm solutions chemically stable for years in 1-3.5% HNO_3 / LDPE container.
Ba Containing Samples (Preparation and Solution) -Metal(is best dissolved in diluted HNO_3); Ores(Carbonate fusion in Pt0 followed by HCl dissolution. If sulfate is present dissolve the fuseate using HCl / tartaric acid to prevent $BaSO_4$ precipitate); Organic Matrices (dry ash and dissolve in dilute HCl.)
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 138 amu	1 ppt	N/A	122Sn16O, 122Te16O
ICP-OES 230.424 nm	0.004/0.0005 µg/mL	1	Mo, Ir, Co
ICP-OES 233.527 nm	0.004/0.0003 µg/mL	1	
ICP-OES 455.403 nm	0.002/0.0001 µg/mL	1	Zr, U

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

May 11, 2020

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **May 11, 2024**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Manager, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGBE10
Lot Number:	R2-BE692992
Matrix:	6% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Beryllium
Starting Material:	Beryllium Acetate
Starting Material Lot#:	2281
Starting Material Purity:	99.9998%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10032 ± 41 µg/mL

Density: 1.128 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10042 ± 67 µg/mL**
ICP Assay NIST SRM 3105a Lot Number: 090514

Assay Method #2 **10025 ± 51 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.001100	M	Eu	<	0.000270	O	Na		0.040962	M	Se	<	0.005000	M	Zn		0.013054
O	Al		0.016205	O	Fe		0.015754	M	Nb	<	0.000270	O	Si		0.024307	O	Zr	<	0.001900
M	As	<	0.002900	M	Ga	<	0.000270	M	Nd	<	0.000270	M	Sm	<	0.000270				
M	Au	<	0.000520	M	Gd	<	0.000270	M	Ni	<	0.003700	M	Sn	<	0.000790				
M	B	<	0.091000	M	Ge	<	0.000270	M	Os	<	0.000260	M	Sr		0.000630				
M	Ba		0.002700	M	Hf	<	0.000270	O	P	<	0.066000	M	Ta	<	0.000270				
s	Be	<		M	Hg	<	0.000520	M	Pb	<	0.000270	M	Tb	<	0.000270				
M	Bi	<	0.000530	M	Ho	<	0.000270	M	Pd	<	0.000520	M	Te	<	0.003700				
O	Ca		0.072022	M	In	<	0.000790	M	Pr	<	0.000270	M	Th	<	0.000270				
M	Cd	<	0.000790	M	Ir	<	0.000260	M	Pt	<	0.000270	O	Ti	<	0.000400				
M	Ce	<	0.000270	O	K		0.045014	M	Rb	<	0.000270	M	Tl	<	0.000790				
O	Co	<	0.003200	M	La	<	0.000270	M	Re	<	0.000270	M	Tm	<	0.000270				
O	Cr	<	0.001800	O	Li	<	0.000660	M	Rh	<	0.001100	M	U	<	0.000270				
M	Cs		0.001440	M	Lu	<	0.000270	M	Ru	<	0.000260	M	V	<	0.000790				
M	Cu	<	0.002100	O	Mg		0.016205	i	S	<		M	W	<	0.000530				
M	Dy	<	0.000270	M	Mn		0.001215	M	Sb	<	0.000270	M	Y	<	0.000270				
M	Er	<	0.000270	M	Mo	<	0.000530	O	Sc	<	0.000930	M	Yb	<	0.000270				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 9.01 +2 4 $Be(H_2O)_4^{+2}$

Chemical Compatibility -Soluble in HCl, HNO_3, H_2SO_4 and HF aqueous matrices. Stable with all metals and inorganic anions.

Stability - 2-100 ppb levels stable for months in 1 % HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 5-10 % HNO_3 / LDPE container.

Be Containing Samples (Preparation and Solution) - Meta l(is best dissolved in diluted H_2SO_4); BeO (boiling nitric, hydrochloric, or sulfuric acids or KHSO4 fusion); Ores (H_2SO_4/HF digestion or carbonate fusion in Pt0); Organic Matrices (sulfuric/peroxide digestion or nitric/sulfuric/perchloric acid decomposition, or dry ash and dissolution according to the BeO procedure above).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 9 amu	4 ppt	N/A	
ICP-OES 234.861 nm	0.0003/0.00016 µg/mL	1	Fe, Ta, Mo
ICP-OES 313.042 nm	0.0003/0.00009 µg/mL	1	V, Ce, U
ICP-OES 313.107 nm	0.0007/0.0005 µg/mL	1	Ce, Th, Tm

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION, PERIOD OF VALIDITY AND REVISION HISTORY

11.1 Certification Issue Date

May 13, 2020

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **May 13, 2024**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

11.4 Revision Status

- Revision 1 - Revised on Thursday, Jan 14, 2021 by utruong. Revision was made for the following reason: Modified Section 7 Chemical Form in Solution.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGCO10
Lot Number:	R2-CO695285
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Cobalt
Starting Material:	Co Metal
Starting Material Lot#:	2326
Starting Material Purity:	99.9934%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10012 ± 31 µg/mL

Density: 1.056 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10031 ± 67 µg/mL**
ICP Assay NIST SRM 3113 Lot Number: 190630

Assay Method #2 **10019 ± 32 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **10000 ± 35 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	0.014660	M	Eu	<	0.000590	O	Na	0.007534	M	Se	<	0.019000	M	Zn	0.003461	
M	Al	< 0.024000	M	Fe	0.050905	M	Nb	<	0.000590	O	Si	0.075340	M	Zr	<	0.001200	
i	As	<	M	Ga	<	0.000590	M	Nd	<	0.000590	M	Sm	<	0.000590			
M	Au	< 0.004100	M	Gd	<	0.000590	O	Ni	0.427608	M	Sn	<	0.001200				
M	B	< 0.031000	M	Ge	<	0.003000	M	Os	<	0.000590	O	Sr	<	0.000260			
M	Ba	< 0.000590	M	Hf	<	0.000590	n	P	<		M	Ta	<	0.001200			
O	Be	< 0.001300	M	Hg	<	0.001800	M	Pb	0.003257	M	Tb	<	0.000590				
M	Bi	< 0.003000	M	Ho	<	0.000590	M	Pd	<	0.000590	M	Te	<	0.005300			
O	Ca	0.010588	M	In	<	0.001200	M	Pr	<	0.000590	M	Th	<	0.000590			
M	Cd	< 0.004700	M	Ir	<	0.001200	M	Pt	<	0.002400	M	Ti	<	0.014000			
M	Ce	< 0.000590	O	K	0.008144	M	Rb	<	0.000590	M	Tl	0.002647					
s	Co	<	M	La	<	0.000590	M	Re	<	0.000590	M	Tm	<	0.000590			
M	Cr	< 0.021000	O	Li	<	0.000130	M	Rh	<	0.000590	M	U	<	0.000590			
M	Cs	< 0.002400	M	Lu	<	0.000590	M	Ru	<	0.007100	O	V	<	0.000880			
M	Cu	0.189369	O	Mg	0.001893	n	S	<		M	W	<	0.000590				
M	Dy	< 0.000590	M	Mn	<	0.001800	M	Sb	<	0.003600	M	Y	<	0.000590			
M	Er	< 0.000590	M	Mo	<	0.002400	O	Sc	<	0.001600	M	Yb	<	0.000590			

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 58.93 +2 6 $Co(H_2O)_6^{2+}$

Chemical Compatibility -Stable in HCl, HNO_3, H_2SO_4 ,HF, H_3PO_4. Avoid basic media. Stable with most metals and inorganic anions in acidic media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO_3 / LDPE container.

Co Containing Samples (Preparation and Solution) - Metal (soluble in HNO_3); Oxides (Soluble in HCl); Ores (dissolve in HCl / HNO_3).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 59 amu	2 ppt	n/a	42Ca16O1H , 40Ar18O1H , 36Ar23Na, 43Ca16O, 24Mg35Cl
ICP-OES 228.616 nm	0.01/0.001 µg/mL	1	
ICP-OES 237.862 nm	0.01/0.002 µg/mL	1	W, Re, Al, Ta
ICP-OES 238.892 nm	0.01/0.002 µg/mL	1	Fe, W, Ta

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 04, 2020

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **August 04, 2024**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGAG10
Lot Number:	S2-AG712977
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Silver
Starting Material:	Ag Shot
Starting Material Lot#:	2289
Starting Material Purity:	99.9951%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10051 ± 30 µg/mL

Density: 1.056 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10051 ± 52 µg/mL**
ICP Assay NIST SRM 3151 Lot Number: 160729

Assay Method #2 **10051 ± 19 µg/mL**
Volhard NIST SRM 999c Lot Number: 999c

Assay Method #3 **10049 ± 31 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

s	Ag	<		M	Eu	<	0.000260	O	Na		0.003811	M	Se	<	0.003900	O	Zn		0.048146
M	Al		0.002688	O	Fe		0.006419	M	Nb	<	0.000260	O	Si		0.005215	M	Zr	<	0.000260
M	As	<	0.001100	M	Ga	<	0.000260	M	Nd	<	0.000260	M	Sm	<	0.000260				
M	Au	<	0.000260	M	Gd	<	0.000260	O	Ni		0.001765	M	Sn		0.020060				
O	B	<	0.004300	M	Ge	<	0.002300	M	Os	<	0.001100	O	Sr	<	0.000110				
M	Ba	<	0.000520	M	Hf	<	0.000260	O	P	<	0.017000	M	Ta	<	0.000260				
O	Be	<	0.001100	M	Hg	<	0.000770	M	Pb	<	0.003600	M	Tb	<	0.000260				
M	Bi		0.004814	M	Ho	<	0.000260	M	Pd		0.044134	M	Te	<	0.009000				
O	Ca		0.005215	M	In		0.003691	M	Pr	<	0.000260	M	Th	<	0.000260				
M	Cd	<	0.000260	M	Ir	<	0.000520	M	Pt	<	0.001100	O	Ti	<	0.000440				
M	Ce	<	0.002100	O	K	<	0.008700	M	Rb	<	0.001100	M	Tl	<	0.004100				
O	Co	<	0.000330	M	La	<	0.000260	M	Re	<	0.000260	M	Tm	<	0.000260				
O	Cr	<	0.002500	O	Li	<	0.000110	M	Rh	<	0.000520	M	U	<	0.000260				
M	Cs	<	0.002600	M	Lu	<	0.000260	M	Ru	<	0.000260	M	V	<	0.000260				
O	Cu		0.357085	O	Mg		0.001203	O	S	<	0.017000	M	W	<	0.000260				
M	Dy	<	0.000260	O	Mn	<	0.000220	M	Sb	<	0.014000	M	Y	<	0.000260				
M	Er	<	0.000260	M	Mo	<	0.000260	O	Sc	<	0.000220	M	Yb	<	0.000260				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 107.87 +1 6 $Ag(H_2O)_6^+$

Chemical Compatibility -Stable in HNO_3, and HF. Avoid basic media. Ag forms more insoluble salts than any other metal. It also is subject to photochemical reduction to the metal in HCl media although 10 µg/mL solutions in 10% HCl [$AgCl_{x1-x}$] are commonly used in the analytical laboratory. The most common solubility problems exist with arsenate, arsenite , bromide, chloride, iodide, carbonate , chromate, cyanide, iodate, oxalate, oxide, sulfate, sulfide, tartrate, and thiocyanate in aqueous media. The addition of nitric acid renders many of these salts soluble.

Stability - 2-100 ppb levels stable for 75+ days when mixed with equivalent levels of all other elements including the precious metals (where chloride is present) when in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO_3 / LDPE container.

Ag Containing Samples (Preparation and Solution) -Metal (Soluble in HNO_3); Oxides (Soluble in HNO_3); Ores (Digestion with conc. HNO_3).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 107 amu	1 ppt	N/A	91Zr16O
ICP-OES 243.779 nm	0.12/0.01 µg/mL	1	Mn, Th, Ni, Rh
ICP-OES 328.068 nm	0.007/0.0007 µg/mL	1	Ce, Rh, V
ICP-OES 338.289 nm	0.013/0.001 µg/mL	1	Ce, Cr, Th

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 28, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **December 28, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Supervisor, Product Documentation

Certificate Approved By:

Michael Booth
Director, Technical

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

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F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGCR(3)10
Lot Number:	S2-CR709784
Matrix:	10% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Chromium
Starting Material:	Cr Metal
Starting Material Lot#:	2328
Starting Material Purity:	99.9951%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10027 ± 41 µg/mL

Density: 1.072 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10027 ± 40 µg/mL**
ICP Assay NIST SRM 3112a Lot Number: 170630

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.001700	M	Eu	<	0.003400	O	Na		0.090372	M	Se	<	0.012000	O	Zn	<	0.006100
M	Al		0.034916	O	Fe		0.246471	M	Nb	<	0.017000	n	Si	<		M	Zr	<	0.007800
M	As	<	0.028000	O	Ga	<	0.013000	M	Nd	<	0.013000	M	Sm	<	0.006900				
M	Au	<	0.001700	M	Gd	<	0.000560	M	Ni		0.016020	M	Sn		0.006983				
O	B	<	0.025000	O	Ge	<	0.014000	M	Os	<	0.000560	M	Sr		0.006367				
M	Ba	<	0.008900	M	Hf	<	0.000560	i	P	<		M	Ta	<	0.000560				
M	Be	<	0.013000	M	Hg	<	0.001700	M	Pb		0.010064	M	Tb	<	0.000560				
M	Bi	<	0.002300	M	Ho	<	0.000560	M	Pd	<	0.021000	M	Te	<	0.010000				
O	Ca		0.075995	M	In	<	0.000560	M	Pr	<	0.001700	M	Th	<	0.000560				
M	Cd	<	0.000560	M	Ir	<	0.000560	M	Pt	<	0.001200	O	Ti		0.013555				
M	Ce	<	0.001200	O	K		0.043132	i	Rb	<		M	Tl	<	0.000560				
M	Co	<	0.002600	M	La	<	0.001200	M	Re	<	0.001200	O	Tm	<	0.013000				
s	Cr	<		O	Li		0.000390	M	Rh	<	0.095000	M	U	<	0.000560				
M	Cs	<	0.007800	M	Lu	<	0.000560	M	Ru	<	0.087000	O	V		0.014993				
O	Cu		0.007599	O	Mg		0.000883	i	S	<		M	W	<	0.049000				
M	Dy	<	0.000560	M	Mn		0.008626	M	Sb	<	0.003400	M	Y	<	0.001700				
M	Er	<	0.019000	M	Mo	<	0.032000	M	Sc		0.003080	M	Yb	<	0.000560				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 52.00 +3 6 $Cr(H_2O)_6^{3+}$

Chemical Compatibility -Stable in HCl, HNO_3, H_2SO_4, HF, H_3PO_4. Avoid basic media. Stable with most metals and inorganic anions in acidic media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO_3 / LDPE container.

Cr3 Containing Samples (Preparation and Solution) -Metal (soluble in HCl); Oxides/Ores (Chrome ore/oxides are very difficult to dissolve. The following procedures [A-D] are commonly used: A. Fusion with $KHSO_4$ and extraction with hot KCl. The residue fused with Na_2CO_3 and $KClO_3$, 3:1. B. Fusion with $NaKSO_4$ and NaF 2:1, C. Fusion with magnesia or lime and sodium or potassium carbonates, 4:1. D. Fusion with Na_2O_2 or NaOH and KNO_3 or NaOH and Na_2O_2. Nickel, iron, copper, or silver crucibles should be used for D. Platinum may be used for A, <, C); Organic Matrices (ash at 4500C followed by one of the fusion methods above or sulfuric/hydrogen peroxide acid digestions may be applicable to non oxide containing samples).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 52 amu	40 ppt	N/A	36S16O, 36Ar16O - The 50Cr, 53Cr, 54Cr lines suffer from many more potential interferences from sulfur, chlorine and argon compounds of oxygen, nitrogen and carbon.
ICP-OES 205.552 nm	0.006/0.0008 µg/mL	1	Os
ICP-OES 276.654 nm	0.01/0.001 µg/mL	1	Cu, Ta, V
ICP-OES 284.325 nm	0.008/0.0007 µg/mL	1	

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

October 26, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **October 26, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
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CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGNI10
Lot Number:	P2-NI686384
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Nickel
Starting Material:	Ni Metal
Starting Material Lot#:	2277 and 2282
Starting Material Purity:	99.9992%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 9979 ± 30 µg/mL

Density: 1.038 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **9971 ± 54 µg/mL**
ICP Assay NIST SRM 3136 Lot Number: 120619

Assay Method #2 **9970 ± 32 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **9993 ± 33 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag		0.002606	M	Eu	<	0.001100	O	Na		0.004965	O	Se	<	0.067000	M	Zn		0.006578
M	Al	<	0.013000	O	Fe		0.018618	M	Nb	<	0.001100	O	Si		0.010923	M	Zr	<	0.001100
O	As	<	0.067000	M	Ga	<	0.001100	M	Nd	<	0.001100	M	Sm	<	0.001100				
M	Au	<	0.002100	M	Gd	<	0.001100	s	Ni	<		M	Sn	<	0.016000				
M	B	<	0.017000	M	Ge	<	0.004200	M	Os		0.002110	O	Sr	<	0.000940				
M	Ba	<	0.001100	M	Hf	<	0.001100	i	P	<		M	Ta	<	0.001100				
O	Be	<	0.000410	M	Hg		0.014895	M	Pb		0.006578	M	Tb	<	0.001100				
M	Bi	<	0.004200	M	Ho	<	0.001100	M	Pd	<	0.001100	M	Te	<	0.015000				
O	Ca		0.003351	M	In	<	0.001100	M	Pr	<	0.001100	M	Th	<	0.001100				
M	Cd		0.001365	M	Ir		0.004716	M	Pt	<	0.001100	M	Ti	<	0.004200				
M	Ce	<	0.001100	O	K		0.004716	M	Rb	<	0.001100	M	Tl	<	0.001100				
O	Co		0.017377	M	La	<	0.001100	M	Re		0.001737	M	Tm	<	0.001100				
O	Cr	<	0.006700	O	Li	<	0.000140	M	Rh	<	0.006300	M	U	<	0.001100				
M	Cs	<	0.007300	M	Lu	<	0.001100	M	Ru	<	0.019000	M	V	<	0.002100				
M	Cu		0.004096	O	Mg		0.000372	i	S	<		M	W	<	0.006300				
M	Dy	<	0.001100	O	Mn	<	0.001900	M	Sb		0.005833	O	Y	<	0.000540				
M	Er	<	0.001100	M	Mo	<	0.008400	M	Sc	<	0.002100	M	Yb	<	0.001100				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 58.69 +2 6 Ni(H2O)62+
Chemical Compatibility -Stable in HCl, HNO3, H2SO4 ,HF, H3PO4. Avoid basic media. Stable with most metals and inorganic anions in acidic media.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.
Ni Containing Samples (Preparation and Solution) -Metal (Soluble in HNO3); Oxides (Soluble in HCl); Ores (Dissolve in HCl / HNO3).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 60 amu	100 ppt	n/a	43Ca16O1H , 44Ca16O, 23Na37Cl
ICP-OES 221.647 nm	0.01 / 0.0009 µg/mL	1	Si
ICP-OES 231.604 nm	0.02 / 0.002 µg/mL	1	Sb, Ta, Co
ICP-OES 232.003 nm	0.02 / 0.006 µg/mL	1	Cr, Re, Os, Nb, Ag, Pt, Fe

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 02, 2019

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **December 02, 2023**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Manager, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

INORGANIC VENTURES™
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Certificate of Analysis

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1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGV10
Lot Number:	S2-V711005
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Vanadium
Starting Material:	Vanadium Pentoxide
Starting Material Lot#:	1782
Starting Material Purity:	99.9877%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10014 ± 30 µg/mL

Density: 1.104 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10017 ± 42 µg/mL**
ICP Assay NIST SRM 3165 Lot Number: 160906

Assay Method #2 **10013 ± 30 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000110	M	Eu	<	0.000110	O	Na		0.120000	M	Se	<	0.009400	M	Zn		0.009400
O	Al		0.120000	O	Fe		0.460000	M	Nb	<	0.001300	O	Si		0.270000	M	Zr	<	0.002900
M	As	<	0.000210	M	Ga	<	0.009300	M	Nd	<	0.000610	M	Sm	<	0.000110				
M	Au	<	0.004700	M	Gd	<	0.000110	M	Ni		0.012000	M	Sn		0.003900				
M	B		0.051000	M	Ge	<	0.000410	M	Os	<	0.000110	O	Sr		0.007100				
M	Ba		0.003600	M	Hf	<	0.000110	O	P	<	0.034000	M	Ta	<	0.000110				
O	Be	<	0.000560	M	Hg	<	0.000410	M	Pb		0.001400	M	Tb	<	0.000110				
M	Bi	<	0.000210	M	Ho	<	0.000110	M	Pd	<	0.000410	M	Te	<	0.000110				
O	Ca		0.730000	M	In	<	0.000110	M	Pr	<	0.000110	M	Th	<	0.000210				
M	Cd	<	0.000610	M	Ir	<	0.000110	M	Pt	<	0.000110	M	Ti		0.017000				
M	Ce	<	0.000610	M	K		0.052000	M	Rb	<	0.000310	M	Tl	<	0.000110				
M	Co	<	0.001300	M	La	<	0.000410	M	Re		0.001700	M	Tm	<	0.000110				
O	Cr		0.170000	M	Li	<	0.000810	M	Rh	<	0.000110	M	U	<	0.000410				
M	Cs		0.005600	M	Lu	<	0.000110	M	Ru	<	0.000110	s	V	<					
M	Cu	<	0.001300	M	Mg		0.053000	i	S	<		M	W		0.002000				
M	Dy	<	0.000110	M	Mn		0.007900	M	Sb		0.078000	M	Y	<	0.000110				
M	Er	<	0.000110	M	Mo		0.094000	M	Sc	<	0.000410	M	Yb	<	0.000110				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 50.94 +5 6 $H_2V_{10}O_{28}^{4-}$

Chemical Compatibility -Soluble in HCl, HNO_3, H_2SO_4, HF, H_3PO_4 and strong basic media. Stable with most metals and inorganic anions in acidic media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO_3 / LDPE container.

V Containing Samples (Preparation and Solution) -Metal (Fusion with NaOH or KOH in Ni0 or Na_2CO_3 / KNO_3); Oxides (V_2O_3 - use HCl, V_2O_4 - use HCl or HNO_3, V_2O_5 - use concentrated acids); Ores (Na_2CO_3 / KNO_3 in Pt0 caution - nitrates attack Pto followed by water extraction of fuseate); Organic Matrices (Ash at 450 EC followed by dissolving according to V_2O_5 above) .

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 51 amu	4 ppt	N/A	34S16O1H, 35Cl16O, 38Ar13C, 36Ar15N, 36Ar14N1H, 37Cl14N,36S15N, 33S18O, 34S17O, 102Ru+2,02Pd+2
ICP-OES 290.882 nm	0.008 / 0.0008 µg/mL	1	Hf, Nb
ICP-OES 292.402 nm	0.006 / 0.001 µg/mL	1	Th
ICP-OES 309.311 nm	0.005 / 0.001 µg/mL	1	Mg, U, Th

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 28, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **December 28, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

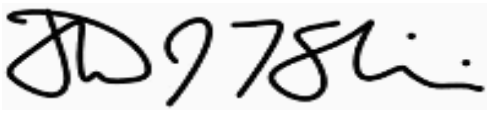
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certificate of Analysis

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F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGAL10
Lot Number:	T2-AL716102
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Aluminum
Starting Material:	Aluminum Nitrate Nonahydrate
Starting Material Lot#:	2460
Starting Material Purity:	99.9938%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10049 ± 31 µg/mL

Density: 1.087 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10059 ± 40 µg/mL**
ICP Assay NIST SRM 3101a Lot Number: 140903

Assay Method #2 **10044 ± 26 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **10049 ± 35 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.002100	M	Eu	<	0.002100	O	Na		0.352819	M	Se	<	0.005200	M	Zn	0.006018
s	Al	<		O	Fe		0.074714	M	Nb	<	0.000520	O	Si		0.017848	O	Zr	0.004358
M	As		0.008716	O	Ga		0.112072	M	Nd	<	0.000520	M	Sm	<	0.000520			
M	Au	<	0.008400	M	Gd	<	0.001100	O	Ni	<	0.006000	M	Sn		0.000747			
O	B	<	0.014000	M	Ge	<	0.005200	M	Os	<	0.000650	O	Sr		0.000518			
O	Ba		0.012867	M	Hf	<	0.004100	n	P	<		M	Ta	<	0.000520			
O	Be	<	0.000270	M	Hg	<	0.002000	M	Pb		0.002282	M	Tb	<	0.000520			
M	Bi		0.001930	M	Ho	<	0.000520	M	Pd	<	0.000520	M	Te	<	0.001100			
O	Ca		0.076790	M	In	<	0.002100	M	Pr	<	0.000520	M	Th	<	0.000520			
M	Cd	<	0.000520	M	Ir	<	0.000650	M	Pt	<	0.000520	O	Ti		0.001930			
M	Ce	<	0.001100	O	K		0.043583	M	Rb	<	0.000520	M	Tl	<	0.000520			
O	Co	<	0.005400	M	La	<	0.002100	M	Re	<	0.000520	M	Tm	<	0.000520			
O	Cr		0.006018	O	Li		0.000112	M	Rh	<	0.000520	M	U	<	0.000520			
M	Cs		0.000643	M	Lu	<	0.000520	M	Ru	<	0.002000	M	V		0.001286			
O	Cu	<	0.008300	O	Mg		0.068488	i	S	<		M	W	<	0.009800			
M	Dy	<	0.002100	O	Mn		0.000913	M	Sb	<	0.003100	M	Y	<	0.001100			
M	Er	<	0.000520	M	Mo		0.005396	O	Sc	<	0.000950	M	Yb	<	0.000520			

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 26.98 +3 6 Al(H2O)6+3
Chemical Compatibility -Soluble in HCl, HNO3, v F and v 2SO4. Avoid neutral media. Soluble in strongly basic NaOH forming the Al(OH)4(H2O)21- species. Stable with most metals and inorganic anions. The phosphate is insoluble in water and only slightly soluble in acid.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.
Al Containing Samples (Preparation and Solution) -Metal (Best dissolved in HCl / HNO3); a- Al2O3 (Na2CO3 fusion in Pt0);
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 27 amu	30 ppt	N/A	12C15N, 13C14N, 1H12C14N, 11B16O, 54Cr2+, 54Fe2+
ICP-OES 167.078 nm	0.1/0.009 µg/mL	1	Fe
ICP-OES 394.401 nm	0.05/0.006 µg/mL	1	U, Ce
ICP-OES 396.152 nm	0.03/0.006 µg/mL	1	Mo, Zr, Ce

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 22, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **March 22, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

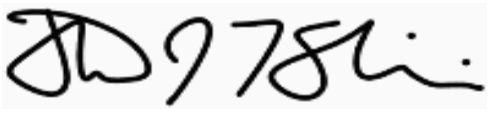
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGK10
Lot Number:	S2-K711973
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Potassium
Starting Material:	KNO3
Starting Material Lot#:	2313
Starting Material Purity:	99.9971%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 9992 ± 30 µg/mL

Density: 1.024 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **9987 ± 24 µg/mL**
Gravimetric NIST SRM Lot Number: See Sec. 4.2

Assay Method #2 **10004 ± 84 µg/mL**
ICP Assay NIST SRM 3141a Lot Number: 140813

Assay Method #3 **10007 ± 45 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.001400	M	Eu	<	0.000660	O	Na		0.246220	M	Se	<	0.007900	O	Zn		0.018056
O	Al		0.001592	O	Fe		0.005909	M	Nb	<	0.000660	O	Si		0.011490	O	Zr	<	0.001600
M	As	<	0.005300	M	Ga	<	0.000660	M	Nd	<	0.000660	M	Sm	<	0.000660				
M	Au	<	0.002000	M	Gd	<	0.000660	O	Ni	<	0.004900	M	Sn	<	0.000660				
O	B	<	0.005600	M	Ge	<	0.002000	M	Os	<	0.003300	O	Sr		0.000055				
O	Ba	<	0.000860	M	Hf	<	0.000660	O	P	<	0.032000	M	Ta	<	0.000660				
O	Be	<	0.000082	M	Hg	<	0.002000	M	Pb	<	0.002300	M	Tb	<	0.000660				
M	Bi	<	0.006600	M	Ho	<	0.000660	M	Pd	<	0.000660	M	Te	<	0.017000				
O	Ca		0.031187	M	In	<	0.000660	M	Pr	<	0.000660	M	Th	<	0.000660				
O	Cd	<	0.000450	M	Ir	<	0.000660	M	Pt	<	0.002700	M	Ti	<	0.000660				
M	Ce	<	0.000660	s	K	<		M	Rb		0.476026	M	Tl	<	0.000660				
O	Co	<	0.000780	M	La	<	0.000660	M	Re	<	0.000660	M	Tm	<	0.000660				
O	Cr		0.000541	O	Li	<	0.000084	M	Rh	<	0.000660	M	U	<	0.000660				
M	Cs	<	0.000660	M	Lu	<	0.000660	M	Ru	<	0.000660	O	V	<	0.001100				
M	Cu	<	0.002700	O	Mg		0.006237	O	S		0.027905	M	W	<	0.000660				
M	Dy	<	0.000660	O	Mn		0.000476	M	Sb	<	0.000660	M	Y	<	0.000660				
M	Er	<	0.000660	M	Mo	<	0.000660	O	Sc	<	0.000340	O	Yb	<	0.000270				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 39.10 +1 (6) K+(aq)
Chemical Compatibility -Soluble in HCl, HNO3, H2SO4 and HF aqueous matrices. Avoid use of HClO4 due to insolubility of the perchlorate. Stable with all metals and inorganic anions except ClO4-.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.
K Containing Samples (Preparation and Solution) - Metal (Dissolves very rapidly in water); Ores (Sodium carbonate fusion in Pt0 followed by HCl dissolution-blank levels of K in sodium carbonate critical); Organic Matrices (Sulfuric/peroxide digestion)
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 39 amu	10 ppt	n/a	38ArH, 23Na16O, 78Se
ICP-OES 404.721 nm	1.1 / 0.05 µg/mL	1	U, Ce
ICP-OES 766.490 nm	0.4 / 0.001 µg/mL	1	2nd order radiation from R.E.s on some optical designs
ICP-OES 771.531 nm	1.0 / 0.03 µg/mL	1	2nd order radiation from R.E.s on some optical designs

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 10, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **December 10, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

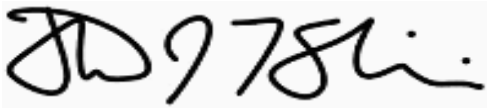
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certificate of Analysis

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F: 540-585-3012
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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGMG10
Lot Number:	S2-MG704239
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Magnesium
Starting Material:	Magnesium Metal
Starting Material Lot#:	2168
Starting Material Purity:	99.9984%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10053 ± 30 µg/mL

Density: 1.053 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10022 ± 62 µg/mL**
ICP Assay NIST SRM 3131a Lot Number: 140110

Assay Method #2 **10078 ± 26 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **10033 ± 26 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Ag		0.002106	M	Eu	<	0.000910	O	Na		0.071075	O	Se	<	0.048000	O	Zn		0.003299
M	Al		0.003553	M	Fe		0.002538	M	Nb	<	0.000460	O	Si	<	0.032000	O	Zr	<	0.002700
M	As	<	0.001400	M	Ga	<	0.000460	M	Nd	<	0.000910	M	Sm	<	0.000460				
M	Au	<	0.001400	M	Gd	<	0.000460	O	Ni	<	0.001600	M	Sn	<	0.002300				
O	B		0.006853	M	Ge	<	0.001400	M	Os	<	0.000460	O	Sr		0.000279				
O	Ba		0.000964	M	Hf	<	0.000460	O	P		0.015230	M	Ta	<	0.000460				
O	Be	<	0.000120	M	Hg	<	0.000460	M	Pb	<	0.000460	M	Tb	<	0.000460				
M	Bi	<	0.000460	M	Ho	<	0.000460	M	Pd	<	0.003200	M	Te	<	0.007300				
O	Ca		0.053306	M	In	<	0.000460	M	Pr	<	0.000460	M	Th	<	0.000460				
O	Cd	<	0.000360	M	Ir	<	0.000460	M	Pt	<	0.001900	O	Ti	<	0.001700				
M	Ce	<	0.002300	M	K		0.048229	M	Rb		0.002411	M	Tl		0.003046				
M	Co	<	0.000910	M	La	<	0.002800	M	Re	<	0.000460	M	Tm	<	0.000460				
M	Cr	<	0.002300	O	Li		0.027922	M	Rh	<	0.000460	M	U	<	0.000460				
M	Cs		0.001040	M	Lu	<	0.000460	M	Ru	<	0.000460	M	V	<	0.000460				
O	Cu	<	0.003000	s	Mg	<		O	S	<	0.190000	M	W	<	0.000460				
M	Dy	<	0.000460	O	Mn		0.015230	M	Sb		0.020814	O	Y	<	0.000720				
M	Er	<	0.000460	M	Mo	<	0.000910	O	Sc	<	0.000480	M	Yb	<	0.000460				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 24.31 +2 6 $Mg(H_2O)_6^{+2}$

Chemical Compatibility -Soluble in HCl, HNO_3, and H_2SO_4 avoid HF, H_3PO_4 and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicates, carbonates, hydroxides, oxides, and tungstates in neutral and slightly acidic media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-10% HNO_3 / LDPE container.

Mg Containing Samples (Preparation and Solution) -Metal (Best dissolved in diluted HNO_3); Oxide (Readily soluble in above compatible aqueous acidic solutions); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Sulfuric / peroxide digestion or nitric / sulfuric / perchloric acid decomposition, or dry ash and dissolution in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 24 amu	42 ppt	n/a	7Li17O, 48Ti+2 , 48Ca+2
ICP-OES 279.553 nm	0.0002 / 0.00003 µg/mL	1	Th
ICP-OES 280.270 nm	0.0003 / 0.00005 µg/mL	1	U, V
ICP-OES 285.213 nm	0.002 / 0.00003 µg/mL	1	U, Hf, Cr, Zr

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 23, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 23, 2025**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGCA10
Lot Number:	T2-CA716103
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Calcium
Starting Material:	CaCO3
Starting Material Lot#:	2472
Starting Material Purity:	99.9950%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10005 ± 30 µg/mL

Density: 1.039 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10005 ± 45 µg/mL**
ICP Assay NIST SRM 3109a Lot Number: 130213

Assay Method #2 **10005 ± 25 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **10005 ± 31 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.001200	M	Eu	<	0.001200	O	Na		0.006112	M	Se	<	0.024000	M	Zn		0.005362
M	Al		0.065419	O	Fe		0.009115	M	Nb	<	0.001200	O	Si		0.139417	O	Zr	<	0.006700
O	As	<	0.013000	M	Ga	<	0.015000	M	Nd	<	0.020000	M	Sm	<	0.001200				
M	Au	<	0.017000	M	Gd	<	0.004800	O	Ni		0.000793	M	Sn	<	0.003600				
O	B		0.001179	M	Ge	<	0.003600	M	Os	<	0.001200	M	Sr		0.081505				
O	Ba		0.002788	M	Hf	<	0.001200	O	P	<	0.041000	M	Ta	<	0.001200				
O	Be	<	0.000410	M	Hg	<	0.004800	M	Pb		0.001608	M	Tb	<	0.001200				
M	Bi		0.001608	M	Ho	<	0.001200	M	Pd	<	0.001200	M	Te	<	0.003600				
s	Ca	<		M	In	<	0.001200	M	Pr		0.000257	M	Th	<	0.001200				
O	Cd	<	0.001300	M	Ir	<	0.001200	M	Pt	<	0.003600	O	Ti	<	0.001900				
M	Ce		0.001029	O	K		0.009759	M	Rb	<	0.001200	M	Tl	<	0.001200				
O	Co		0.000418	M	La		0.001823	M	Re	<	0.001200	M	Tm	<	0.001200				
O	Cr		0.003324	O	Li	<	0.007300	M	Rh	<	0.001200	M	U		0.002144				
M	Cs		0.007399	M	Lu		0.000128	M	Ru	<	0.001200	M	V		0.001286				
O	Cu	<	0.011000	M	Mg		1.286934	O	S		0.055767	O	W	<	0.024000				
M	Dy	<	0.002400	O	Mn		0.004611	M	Sb	<	0.009600	O	Y		0.000536				
M	Er	<	0.002400	M	Mo		0.003539	O	Sc	<	0.001400	M	Yb	<	0.001200				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 40.08 +2 6 Ca(H2O)6+2
Chemical Compatibility - Soluble in HCl and HNO3. Avoid H2SO4, vF, v3PO4 and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicate, carbonate, hydroxide, oxide, fluoride, sulfate, oxalate, chromate, arsenate, and tungstate in neutral aqueous media.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-10% HNO3 / LDPE container.
Ca Containing Samples)Preparation and Solution) -Metal (best dissolved in diluted HNO3); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (dry ash and dissolution in dilute HCl. Do not heat when dissolving to avoid precipitation of SiO2). The oxide, hydroxide, carbonate, phosphate, and fluoride of calcium are soluble in % levels of HCl or HNO3. The sulfates (gypsum, anhydrite, etc.), certain silicates, and complex compounds require fusion with Na2CO3 followed by HCl / water dissolution. Note that contamination is a very real problem when analyzing for trace levels.
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 44 amu	1200 ppt	n/a	16O212C, 28Si16O, 88Sr
ICP-OES 393.366 nm	0.0002 / 0.00004 µg/mL	1	U, Ce
ICP-OES 396.847 nm	0.0005 / 0.00006 µg/mL	1	Th
ICP-OES 422.673 nm	0.01 / 0.001 µg/mL	1	Ge

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 14, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **March 14, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

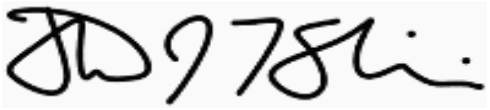
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certificate of Analysis

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGNA10
Lot Number:	T2-NA717221
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Sodium
Starting Material:	Na2CO3
Starting Material Lot#:	2358 and 2453
Starting Material Purity:	99.9977%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 9977 ± 30 µg/mL

Density: 1.033 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **9974 ± 18 µg/mL**
Gravimetric NIST SRM Lot Number: See Sec. 4.2

Assay Method #2 **9977 ± 34 µg/mL**
ICP Assay NIST SRM 3152a Lot Number: 200413

Assay Method #3 **9987 ± 31 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000930	M	Eu	<	0.000930	s	Na	<		M	Se	<	0.003800	O	Zn		0.000138
M	Al		0.004409	O	Fe		0.002393	M	Nb	<	0.000930	O	Si		0.056696	O	Zr	<	0.003200
O	As	<	0.023000	M	Ga	<	0.000930	M	Nd	<	0.000930	M	Sm	<	0.000930				
O	Au	<	0.004100	M	Gd	<	0.000930	O	Ni	<	0.003000	M	Sn	<	0.002800				
O	B		0.001385	M	Ge	<	0.004700	M	Os	<	0.000930	O	Sr		0.000251				
M	Ba		0.004031	M	Hf	<	0.000930	O	P		0.010205	M	Ta	<	0.000930				
O	Be	<	0.000130	M	Hg	<	0.000930	M	Pb	<	0.000930	M	Tb	<	0.000930				
M	Bi	<	0.000930	M	Ho	<	0.000930	M	Pd	<	0.000930	M	Te	<	0.001900				
O	Ca		0.176388	M	In	<	0.000930	M	Pr	<	0.000930	M	Th		0.000352				
O	Cd	<	0.000860	M	Ir	<	0.000930	M	Pt	<	0.000930	O	Ti		0.000592				
M	Ce	<	0.001900	O	K		0.302380	M	Rb	<	0.000930	M	Tl	<	0.000930				
O	Co	<	0.001800	O	La	<	0.002100	M	Re	<	0.000930	M	Tm	<	0.000930				
M	Cr	<	0.002800	O	Li		0.000031	M	Rh	<	0.000930	M	U	<	0.000930				
M	Cs	<	0.000930	M	Lu	<	0.000930	M	Ru	<	0.001900	O	V	<	0.001600				
O	Cu	<	0.003900	O	Mg		0.026458	O	S		0.040317	O	W	<	0.028000				
M	Dy	<	0.000930	O	Mn	<	0.000740	M	Sb	<	0.000930	O	Y	<	0.000860				
M	Er	<	0.000930	O	Mo	<	0.003600	O	Sc	<	0.000610	O	Yb	<	0.000250				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 22.99 +1 (6) Na+(aq) largely ionic in nature

Chemical Compatibility -Soluble in HCl, HNO3, H2SO4 and HF aqueous matrices. Stable with all metals and inorganic anions.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.

Na Containing Samples (Preparation and Solution) - Metal (Dissolves very rapidly in water); Ores (Lithium carbonate fusion in graphite crucible followed by HCl dissolution - blank levels of Na in lithium carbonate critical); Organic Matrices (Sulfuric / peroxide digestion or nitric/sulfuric/perchloric acid decomposition).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 23 amu	310 ppt	n/a	46Ti+2 , 46Ca+2
ICP-OES 330.237 nm	2.0 / 0.09 µg/mL	1	Pd, Zn
ICP-OES 588.995 nm	0.03 / 0.006 µg/mL	1	2nd order radiation from R.E.s on some optical designs
ICP-OES 589.595 nm	0.07 / 0.00009 µg/mL	1	2nd order radiation from R.E.s on some optical designs

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 20, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 20, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

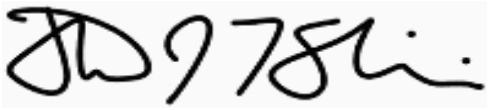
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGU1
Lot Number:	S2-U707914
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Uranium
Starting Material:	Uranyl Nitrate Hexahydrate
Starting Material Lot#:	P2-2322
Starting Material Purity:	99.9997%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 999 ± 5 µg/mL

Density: 1.010 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **998 ± 5 µg/mL**
ICP Assay NIST SRM 3164 Lot Number: 080521

Assay Method #2 **1001 ± 6 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.8 ± 0.1
Uranium 235U	0.19 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000270	M	Eu	<	0.000270	M	Na	<	0.011000	M	Se	<	0.009300	M	Zn	0.002358
M	Al	<	0.011000	M	Fe		0.003222	M	Nb	<	0.000270	M	Si	<	0.160000	M	Zr	< 0.001100
M	As	<	0.002400	M	Ga	<	0.000270	M	Nd	<	0.000270	M	Sm	<	0.000270			
M	Au	<	0.000270	M	Gd	<	0.000270	M	Ni	<	0.020000	M	Sn	<	0.011000			
M	B	<	0.000270	M	Ge	<	0.000800	M	Os	<	0.001900	M	Sr	<	0.000270			
M	Ba	<	0.003800	M	Hf	<	0.000270	i	P	<		M	Ta	<	0.000270			
M	Be	<	0.000270	M	Hg	<	0.000540	M	Pb	<	0.002200	M	Tb	<	0.000270			
M	Bi	<	0.000270	M	Ho	<	0.000270	M	Pd	<	0.000540	M	Te	<	0.003800			
M	Ca	<	0.140000	M	In	<	0.000270	M	Pr	<	0.000270	M	Th		0.000129			
M	Cd	<	0.000270	M	Ir	<	0.000270	M	Pt	<	0.000270	M	Ti	<	0.002700			
M	Ce	<	0.000540	O	K	<	0.250000	M	Rb	<	0.000800	M	Tl	<	0.000270			
M	Co	<	0.000800	M	La		0.000117	M	Re	<	0.064000	M	Tm	<	0.000270			
M	Cr		0.000943	M	Li	<	0.003000	M	Rh	<	0.000270	s	U	<				
M	Cs		0.000106	M	Lu	<	0.000270	M	Ru	<	0.000540	M	V	<	0.000540			
M	Cu	<	0.001100	M	Mg	<	0.003000	i	S	<		M	W	<	0.000540			
M	Dy	<	0.000270	M	Mn	<	0.006900	M	Sb	<	0.000270	M	Y	<	0.000270			
M	Er	<	0.000270	M	Mo	<	0.006400	M	Sc	<	0.000540	M	Yb	<	0.000270			

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 238.03 +6 8 UO22+(uranyl)
Chemical Compatibility - Soluble in HCl and HNO3. Avoid H3PO4. H2SO4 and HF matrices should not be a problem depending upon [U]. Although the UO22+ ion is distinctly basic, any U+4 will precipitate in basic media. UO22+salts are generally soluble in water and UO22+ is stable with most metals and inorganic anions. The uranyl phosphate is insoluble in water. UF4 and UF6 are water soluble.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.
U Containing Samples (Preparation and Solution) -Metal (Dissolves rapidly in HCl and HNO3); Oxide (Soluble in HNO3); Ores (Digest for 1-2 hours with 1 gram of ore to 30 mL 1:1 HNO3. Silica insolubles are removed by filtration after bringing the sample to fumes with conc. H2SO4.)
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 238 amu	2 ppt	N/A	206Pb16O2
ICP-OES 263.553 nm	0.3 / 0.01 µg/mL	1	Ce, Ir, Th, Rh, W, Zr, Ta, Ti, V, Hf, Fe, Re, Ru
ICP-OES 367.007 nm	0.3 / 0.02 µg/mL	1	Th, Ce
ICP-OES 385.958 nm	0.3 / 0.01 µg/mL	1	Th, Fe

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 28, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **August 28, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

INORGANIC VENTURES™
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Certificate of Analysis

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	AR-ICVMS-2
Lot Number:	T2-MEB719895
Matrix:	3% (v/v) HNO3 tr. HF
Value / Analyte(s):	2.5 µg/mL ea: Molybdenum, Antimony

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	**2.499 ± 0.015 µg/mL**	**Molybdenum, Mo**	**2.500 ± 0.017 µg/mL**

Density: 1.014 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	130418
Mo	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	140911
Sb	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 06, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **June 06, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

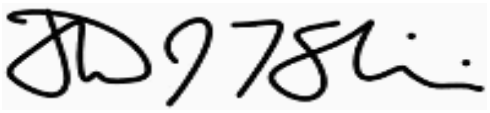
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Certificate of Analysis

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	AR-ICVMS-3
Lot Number:	T2-MEB719896
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	250 µg/mL ea:

Aluminum, Calcium,
Iron, Potassium,
Magnesium, Sodium,

4 µg/mL ea:
Selenium,

2.5 µg/mL ea:

Thorium,	Thallium,
Uranium,	Vanadium,
Zinc,	Manganese,
Cadmium,	Cobalt,
Chromium,	Copper,
Arsenic,	Barium,
Beryllium,	Nickel,
Lead,	Silver

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	250.0 ± 0.9 µg/mL	Arsenic, As	2.500 ± 0.018 µg/mL
Barium, Ba	2.501 ± 0.013 µg/mL	Beryllium, Be	2.501 ± 0.015 µg/mL
Cadmium, Cd	2.501 ± 0.013 µg/mL	Calcium, Ca	250.0 ± 1.3 µg/mL
Chromium, Cr	2.500 ± 0.015 µg/mL	Cobalt, Co	2.500 ± 0.014 µg/mL
Copper, Cu	2.500 ± 0.014 µg/mL	Iron, Fe	250.0 ± 1.0 µg/mL
Lead, Pb	2.500 ± 0.013 µg/mL	Magnesium, Mg	250.0 ± 1.3 µg/mL
Manganese, Mn	2.500 ± 0.014 µg/mL	Nickel, Ni	2.500 ± 0.014 µg/mL
Potassium, K	250.0 ± 1.2 µg/mL	Selenium, Se	4.002 ± 0.024 µg/mL
Silver, Ag	2.501 ± 0.017 µg/mL	Sodium, Na	250.0 ± 1.2 µg/mL
Thallium, Tl	2.500 ± 0.017 µg/mL	Thorium, Th	2.499 ± 0.013 µg/mL
Uranium, U	2.501 ± 0.015 µg/mL	Vanadium, V	2.500 ± 0.014 µg/mL
Zinc, Zn	2.500 ± 0.014 µg/mL		

Density: 1.042 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Ag	Calculated		See Sec. 4.2
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
Ba	ICP Assay	3104a	140909
Ba	Calculated		See Sec. 4.2
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Cd	Calculated		See Sec. 4.2
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Co	Calculated		See Sec. 4.2
Cr	ICP Assay	3112a	170630
Cr	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Cu	Calculated		See Sec. 4.2
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Mn	Calculated		See Sec. 4.2
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Ni	Calculated		See Sec. 4.2
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Pb	Calculated		See Sec. 4.2
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Th	EDTA	928	928
Th	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	151215
Tl	Calculated		See Sec. 4.2
U	ICP Assay	3164	080521
U	Calculated		See Sec. 4.2

V	ICP Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928
Zn	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.8 ± 0.1
Uranium 235U	0.19 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Note: This solution contains Silver (Ag), please refer to our Sample Preparation Guide for more information.

https://www.inorganicventures.com/sample-preparation-guide/samples-containing-silver

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 06, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **June 06, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

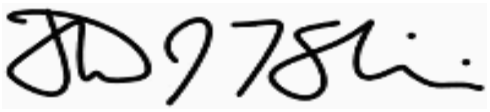
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certificate of Analysis

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1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	AR-6020ICS-0A10
Lot Number:	T2-MEB719898
Matrix:	1.4% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Chloride,
	200 µg/mL ea: Carbon,
	100 µg/mL ea: Calcium, Aluminum, Iron, Potassium, Magnesium, Sodium, Phosphorus, Sulfur,
	2 µg/mL ea: Titanium, Molybdenum

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	**100.0 ± 0.4 µg/mL**	**Calcium, Ca**	**100.0 ± 0.5 µg/mL**
Carbon, C	**200.1 ± 0.5 µg/mL**	**Chloride, Cl**	**1 000 ± 5 µg/mL**
Iron, Fe	**100.0 ± 0.5 µg/mL**	**Magnesium, Mg**	**100.0 ± 0.5 µg/mL**
Molybdenum, Mo	**2.001 ± 0.014 µg/mL**	**Phosphorus, P**	**100.0 ± 0.6 µg/mL**
Potassium, K	**100.0 ± 0.5 µg/mL**	**Sodium, Na**	**100.0 ± 0.5 µg/mL**
Sulfur, S	**100.0 ± 0.5 µg/mL**	**Titanium, Ti**	**2.001 ± 0.015 µg/mL**

Density: 1.009 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
C	Acidimetric	84L	84L
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cl	Acidimetric	84L	84L
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mo	ICP Assay	3134	130418
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
S	Acidimetric	84L	84L
S	ICP Assay	traceable to 3154	P2-S680745
Ti	ICP Assay	3162a	130925

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

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u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

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4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 07, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **June 07, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

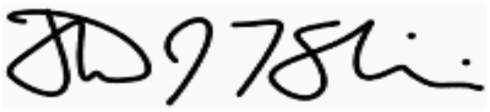
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6020B UCT-KED

Total Metals

LDW23-SC1044

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-02 D	SDG:	23C0108
Sampled:	03/02/23 15:06	Prepared:	04/26/23 12:19	File ID:	XDT_m1230510A-103
% Solids:	52.58	Preparation:	SWN EPA 3050B	Analyzed:	05/11/23 00:08
Batch:	BLD0578	Sequence:	SLE0204	Initial/Final:	1.075 g Wet / 50 mL
Instrument:	ICPMS1			Calibration:	GE00040

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7440-38-2	Arsenic	14.5	20	0.07	0.35	
7440-43-9	Cadmium	0.31	20	0.05	0.18	
7440-50-8	Copper	68.9	20	0.31	0.88	
7440-66-6	Zinc	134	20	5.2	10.6	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6020B UCT-KED

Total Metals

LDW23-SS1106

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-06 D	SDG:	23C0108
Sampled:	03/03/23 10:00	Prepared:	04/26/23 12:19	File ID:	XDT_m1230510A-107
% Solids:	42.02	Preparation:	SWN EPA 3050B	Analyzed:	05/11/23 00:28
Batch:	BLD0578	Sequence:	SLE0204	Initial/Final:	1.059 g Wet / 50 mL
Instrument:	ICPMS1			Calibration:	GE00040

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7440-38-2	Arsenic	18.1	20	0.09	0.45	
7440-43-9	Cadmium	0.41	20	0.07	0.22	
7440-50-8	Copper	73.5	20	0.39	1.12	
7440-66-6	Zinc	131	20	6.6	13.5	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6020B UCT-KED

Total Metals

LDW23-SS1107

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-07 D	SDG:	23C0108
Sampled:	03/03/23 10:21	Prepared:	04/26/23 12:19	File ID:	XDT_m1230510A-108
% Solids:	41.38	Preparation:	SWN EPA 3050B	Analyzed:	05/11/23 00:32
Batch:	BLD0578	Sequence:	SLE0204	Initial/Final:	1.089 g Wet / 50 mL
Instrument:	ICPMS1			Calibration:	GE00040

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7440-38-2	Arsenic	18.4	20	0.08	0.44	
7440-43-9	Cadmium	0.53	20	0.07	0.22	
7440-50-8	Copper	72.5	20	0.78	1.11	
7440-66-6	Zinc	129	20	6.5	13.3	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6020B UCT-KED

Total Metals

LDW23-SS1111

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-08 D	SDG:	23C0108
Sampled:	03/03/23 10:36	Prepared:	04/26/23 12:19	File ID:	XDT_m1230510A-109
% Solids:	47.78	Preparation:	SWN EPA 3050B	Analyzed:	05/11/23 00:37
Batch:	BLD0578	Sequence:	SLE0204	Initial/Final:	1.072 g Wet / 50 mL
Instrument:	ICPMS1			Calibration:	GE00040

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7440-38-2	Arsenic	13.7	20	0.07	0.39	
7440-43-9	Cadmium	0.34	20	0.06	0.20	
7440-50-8	Copper	56.6	20	0.34	0.98	
7440-66-6	Zinc	110	20	5.7	11.7	

Analytical Resources, LLC
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Form I
INORGANIC ANALYSIS DATA SHEET
EPA 6020B UCT-KED

Total Metals

LDW23-SS1118

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-09 D	SDG:	23C0108
Sampled:	03/03/23 11:25	Prepared:	04/26/23 12:19	File ID:	XDT_m1230510A-110
% Solids:	44.46	Preparation:	SWN EPA 3050B	Analyzed:	05/11/23 00:41
Batch:	BLD0578	Sequence:	SLE0204	Initial/Final:	1.05 g Wet / 50 mL
Instrument:	ICPMS1			Calibration:	GE00040

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7440-38-2	Arsenic	13.0	20	0.08	0.43	
7440-43-9	Cadmium	0.33	20	0.06	0.21	
7440-50-8	Copper	57.4	20	0.37	1.07	
7440-66-6	Zinc	113	20	6.3	12.9	

PREPARATION BATCH SUMMARY

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Batch: BLD0578 Batch Matrix: Solid
Preparation: SWN EPA 3050B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-SC1044	23C0108-02	XDT_m1230510A-103	04/26/23 12:19	
LDW23-SS1106	23C0108-06	XDT_m1230510A-107	04/26/23 12:19	
LDW23-SS1107	23C0108-07	XDT_m1230510A-108	04/26/23 12:19	
LDW23-SS1111	23C0108-08	XDT_m1230510A-109	04/26/23 12:19	
LDW23-SS1118	23C0108-09	XDT_m1230510A-110	04/26/23 12:19	
Blank	BLD0578-BLK1	XDT_m1230510A-059	04/26/23 12:19	
LCS	BLD0578-BS1	XDT_m1230510A-060	04/26/23 12:19	

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Digestion Log

Analyst: MZ Date: 4/25/23 - 4/26/23 Time: 1040 - 1219 (4/25 - 4/26) Balance ID: BAL10

Matrix: SOIL Block ID: 3 Block Temp: 95°C Thermometer: 20-2

ARI Sample ID	Btl #	pH<2	Prep Code: SUN Initial Wt (g) Vol (mL)	Prep Code: SUN Final Vol (mL)	Prep Code: Initial Wt (g) Vol (mL)	Prep Code: Final Vol (mL)	Comments
23A467-01	A		1.033	50			
-02			1.069				
-03			1.018				
-04			1.079				
-05			1.044				
-06			1.040				
-07			1.046				
-08			1.023				
-09			1.072				
23C108-02	D		1.075				
-06			1.059				
-07			1.089				
-08			1.072				
-09			1.050				
23D37-01			1.021				
-03			1.060				
23D103-01	A		~~1.00~~ MZ (1)		01.014		
-03			1.040				
BLD578-blk	—		—				23A467-01
-bs	—		—				
-dup	—		1.037				
-MS	—		1.032				
-MSD	—		1.032				
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—

Chemical/Reagent ID:

HNO_3: L4188 1:1 HNO_3: L4200 HCl: — H_2O_2: K11056

Tube Lot#: 221017 Boiling Chip Lot#: — (DoD Only)

Form I

METHOD BLANK DATA SHEET

EPA 6020B UCT-KED

Total Metals

Blank

Laboratory: Analytical Resources, LLC | SDG: 23C0108

Client: Anchor QEA, LLC | Project: AOC5 MR Phase 1

Batch: BLD0578 | Laboratory ID: BLD0578-BLK1 | Prepared: 04/26/23 12:19

Matrix: Solid | Preparation: SWN EPA 3050B | Analyzed: 05/10/23 20:44

Sequence: SLE0204 | Calibration: GE00040 | Instrument: ICPMS1

CAS NO.	Analyte	Concentration (mg/kg wet)	Dilution Factor	MDL	MRL	Q
7440-38-2	Arsenic-75a	ND	20	0.04	0.20	U
7440-43-9	Cadmium-111	ND	20	0.03	0.10	U
7440-50-8	Copper-63	ND	20	0.17	0.50	U
7440-50-8	Copper-65	ND	20	0.35	0.50	U
7440-66-6	Zinc-66	ND	20	2.9	6.0	U

LCS / LCS DUPLICATE RECOVERY

EPA 6020B UCT-KED

Total Metals

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	05/10/23 20:48
Batch:	BLD0578	Laboratory ID:	BLD0578-BS1
Preparation:	SWN EPA 3050B	Sequence Name:	LCS
Initial/Final:	1 g / 50 mL		

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	Q	LCS % REC. #	QC LIMITS REC.
Arsenic-75a	25.0	25.0		99.9	80 - 120
Cadmium-111	25.0	25.2		101	80 - 120
Copper-63	25.0	27.0		108	80 - 120
Copper-65	25.0	27.0		108	80 - 120
Zinc-66	80.0	81.5		102	80 - 120

* Indicates values outside of QC limits

INITIAL CALIBRATION DATA

EPA 6020B

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GE00040	Instrument:	ICPMS1
Calibration Date:	05/10/2023 15:47		

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF
Silver-107	0	0	0.2	15570	10	16140.9	20	15789.15	50	15195.72	100	15002.63
Chromium-52	0	0	0.5	31020	10	15441.1	20	15000.05	50	14462.12	100	14509.21
Chromium-53	0	0	0.5	1694	10	1654.9	20	1689.3	50	1689.16	100	1684.98
Lead-208	0	0	0.1	90610	10	90331.7	20	89339.2	50	87570.58	100	84871.84

INITIAL CALIBRATION DATA

EPA 6020B

Laboratory: Analytical Resources, LLC
Instrument: ICPMS1
Calibration: GE00040
Calibration Date: 5/10/2023

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	COD Limit	Q
Silver-107	12949.73	49.1	0.9999		0.998	
Chromium-52	15072.08	65.2	1.0000		0.998	
Chromium-53	1402.057	49.0	1.0000		0.998	
Lead-208	73787.22	49.1	0.9997		0.998	

INITIAL CALIBRATION DATA

EPA 6020B UCT-KED

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	GE00040	Instrument:	ICPMS1
Calibration Date:	05/10/2023 15:47		

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF
Arsenic-75a	0	0	0.2	245	10	247.9	20	243.5	50	239.7	100	242.13
Cadmium-111	0	0	0.1	210	10	235.4	20	233.45	50	230.1	100	233.47
Cadmium-114	0	0	0.1	700	10	607.9	20	614.8	50	592.84	100	599.85
Copper-63	0	0	0.5	5004	10	4375	20	4306.25	50	4084.54	100	4030.52
Copper-65	0	0	0.5	2594	10	2169.7	20	2190.8	50	2078.94	100	2074.73
Zinc-66	0	0	6	522.8333	10	539	20	516.55	50	492.7	100	498.85
Zinc-67	0	0	6	86.16666	10	89.3	20	86.65	50	79.74	100	81.23

INITIAL CALIBRATION DATA

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
Instrument: ICPMS1
Calibration: GE00040
Calibration Date: 5/10/2023

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	COD Limit	Q
Arsenic-75a	203.0383	49.0	1.0000		0.998	
Cadmium-111	190.4033	49.2	0.9999		0.998	
Cadmium-114	519.2317	49.6	0.9999		0.998	
Copper-63	3633.385	49.9	0.9998		0.998	
Copper-65	1851.362	50.1	0.9999		0.998	
Zinc-66	428.3222	49.1	0.9998		0.998	
Zinc-67	70.51444	49.3	0.9996		0.998	

Analytical Resources, Incorporated
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ICP/MS - 01 SAMPLE RUN LOG

PE Nexion ICP-MS Serial No. 85DN5032601

Analysis Date: 5/10/23 **Analyst:** MB **Sequence:** SLEØ2Ø4 **Cal:** GEØØØ4Ø

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
	✓	SEQ-CAL1	—		
	✓	-CAL2	—		
	✓	-CAL3	—		Sc↑ (New cones)
		SEQ-CAL1	LS276		
		-CAL2	LS225		
		-CAL3	LS226		
		-CAL4	LS227		
		-CAL5	LS228		
		-CAL6	LS229		
		-IBL1	—		
		-ICV1	L3575		
		-ICB1	LS276		
		-CCV1	LS228		
		-CCB1	LS276		
		-CRL1	LS226		
		-IFA1	L4688		C_r^{53}↑
		-IFB1	L4689		
		-HCV1	L478Ø		In^{-1} noisy - Cd<100
		-HCV2	L4781		
		-IBL2	—		
		-CCV2			
		-CCB2			
	✓	-CAL1			
		-CCV3			

Analytical Resources, Incorporated
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ICP/MS - 01 SAMPLE RUN LOG

PE Nexion ICP-MS Serial No. 85DN5032601

Analysis Date: 5/10/23 **Analyst:** MB **Sequence:** ——— **Cal:** ———

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		SEQ-CCB3			
		BLDΦ687-BLK2	SWN	20	Ag, Zn only
	✓	↓ -BS2	↓	↓	STD Mode noisy ↓
E→D		↓ -BS2	↓	↓	↓
		BLEΦ298-BLK1	REN		
		↓ -BS1	↓		
		BLEΦΦ77-MS2	↓	2	As, Co, Zn only
		230Φ297-Φ1	SWN	100	Ba, Cr only
		BLDΦ728-DUP2	↓	↓	Ba, Cr RPD↑ ↓
	✓	↓ -MS2	↓	↓	Std Mode noisy ↓
		SEQ-IBL3			
		↓ -CCV4			
		↓ -CCB4			
		BLEΦ3Φ1-BLK1	REN		
		↓ -BS1	↓		
		BLEΦ143-BLK1	SWN	20	
	✓	↓ -BS1	↓	↓	Std Mode noisy
		↓ -BS1	↓	↓	
		BLDΦ728-MS2	↓	100	Ba, Cr%R↑ Ba, Cr only
		230Φ348-Φ1	REN	20	Pb only
		SEQ-IBL4			
		230Φ374-Φ3	REN	2	Pb only
		SEQ-IBL5			
		↓ -CCV5			

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP/MS - 01 SAMPLE RUN LOG

PE Nexlon ICP-MS Serial No. 85DN5032601

Analysis Date: 5/10/23 **Analyst:** MB **Sequence:** — **Cal:** —

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		SEQ-CCB5			
	√	Rinse			Break in Analysis - Flushed Sample Intro
	√	SEQ-CAL1			Ba Removed
		↓ -CCV6			
		↓ -CCB6			
		BLD0578-BLK1	SWN	20	
		↓ -BS1	↓	↓	
		BLE0072-BLK1			
		↓ -BS1			Std Mode no.3y
		230394-01			No Ag, Cr, Pb
		BLD0687-DUP2			Ag, Cr, Pb, Zn only
		-MS2			↓
		-MSD2			Ag %R ↓
		↓ -PS2	↓	↓	60mL K7409
		SEQ-IBL6			
		↓ -CCV7			
		↓ -CCB7			
		234467-02	SWN	20	
		-03	↓	↓	Std Mode no.3y — No Ag, Cr, Pb
		-04			
		-05			
		↓ -01			
		BLD0578-DUP1			
		↓ -MS1	↓	↓	Ag %R ↓

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP/MS - 01 SAMPLE RUN LOG

PE Nexion ICP-MS Serial No. 85DN5032601

Analysis Date: 5/10/23 **Analyst:** MS **Sequence:** ——— **Cal:** ———

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		BLDΦ578-MSD1	SWN	20	
		↓ -PS1	↓	↓	60 mL K7409
		SEQ-IBL7			
		-CCV8			
		↓ -CCB8			
		23AΦ467-Φ6	SWN	20	
		-Φ7			
		-Φ8			
		↓ -Φ9			
		230Φ393-Φ4			In, Th ↑ / As, Cu, Pb, Zn ↑ / Cr only
		BLEΦΦ72-DUP1			
		-MS1			
		-MSD1			
		↓ -PS1	↓	↓	↓ / 60 mL K7409 / ↓ ↓
		SEQ-IBL8			
		-CCV9			
		↓ -CCB9			
		23CΦΦ71-Φ1	SWN	20	
		-Φ2			
		-Φ3			Std looks noisy — No Ag, Cr, Pb
		-Φ4			
		-Φ5			
		↓ -Φ6			
		23CΦ1Φ9-Φ2	↓	↓	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP/MS - 01 SAMPLE RUN LOG

PE Nexion ICP-MS Serial No. 85DN5032601

Analysis Date: 5/10/23 **Analyst:** MB **Sequence:** ——— **Cal:** ———

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		23CΦ1Φ9-Φ3	SWN	20	
		23CΦ1Φ8-Φ2	↓	↓	
		SEQ-IBL9			
		-CCVA			
		-CCBA			
		23CΦ1Φ8-Φ6	SWN	20	
		-Φ7			
		-Φ8			
		-Φ9			
		23DΦΦΦ8-Φ1			Std Mode no Ag, Cr, Pb
		-Φ3			
		23DΦΦ37-Φ1			
		-Φ3			
		-Φ2			
		SEQ-IBLA			
		-CCVB			
		-CCBB			
	✓	-CAL1			
		-CCVC			
		-CCBC			
		23DΦΦ37-Φ4	SWN	20	
		23DΦΦ63-Φ1			
		-Φ3			
		23DΦ452-Φ1	REN	2	Pb only

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP/MS - 01 SAMPLE RUN LOG

PE Nexion ICP-MS Serial No. 85DN5032601

Analysis Date: 5/10/23 **Analyst:** MB **Sequence:** — **Cal:** —

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		23D0462-01	REN	2	Pb only
		23E0135-01	↓		
		-02			
		-03			
		-04	↓		
		SEQ IBLB			
		-CCVD			
		-CCBD			
		23E0138-01	REN	2	
		23E0139-01	↓	↓	
		-02			
		-03	↓	↓	
		SEQ-IBLC			
		23E0136-01	REN		
		23E0137-01	↓		
		23D0477-21			
		-22	↓		
		SEQ-IBLD			
		-CCVE			
		-CCBE			
		23D0477-11	REN	2	No Pb
		-13	↓	↓	↓
		-02	↓		↓
		23D0480-01	↓	5	↓

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP/MS - 01 SAMPLE RUN LOG

PE Nexlon ICP-MS Serial No. 85DN5032601

Analysis Date: 5/10/23 **Analyst:** MB **Sequence:** — **Cal:** —

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		SEQ-IBLE			
		230Φ537-Φ5	REN	5	Cr only
		BLEΦ12Φ-DUP3	↓	↓	↓
		-MS3			
		-MSD3	↓	↓	
		SEQ-IBLF			
		-CCVF			Pb↑
		-CCBF			
	✓	-CAL1			
		-CCVG			
		-CCBG			
		230Φ477-Φ4	REN		No Pb
		-Φ6	↓		↓
		-Φ8			
		-1Φ			
		-12			
		-2Φ			
		BLEΦ1Φ6-DUP1			
		-MS1			
		-MSD1	↓		
		SEQ-IBLG			
		-CCVH			Pb↑
		-CCBH			
		230Φ477-14	REN		No Pb

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ICP/MS - 01 SAMPLE RUN LOG

PE Nexlon ICP-MS Serial No. 85DN5032601

Analysis Date: 5/10/23 **Analyst:** MB **Sequence:** — **Cal:** —

All corrections made by analyst unless otherwise noted.

Edit Label	Delete Data	ARI Sample ID	Prep Code	Dilution	Comments
		230Φ477-16	REN		No Pb
		-18			
		-Φ1			
		-Φ3			
		-Φ7			
		-Φ9			
		-15			
		230Φ487-Φ2		5	
		SEQ-IBL1			
		-CCV1			
		-CCB1			
		230Φ487-Φ6	REN	2	
		-Φ5			
		-Φ4			
		-Φ3			
		SEQ-IBL1			
		230Φ636-Φ1	REN	10	No Pb
		BLEΦ298-DUP1			
		-MS1			
		-MSD1			
		SEQ-IBL5			
		-CCV5			Pb↑
		-CCB5			
		Rinse/DI			

Performance Check Report

Sample ID: STD Performance Check
Sample Date/Time: Wednesday, May 10, 2023 14:43:46
Sample Description:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\STD Performance Check.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\Default\STD Performance Check.149
MassCal File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Conditions File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Dual Detector Mode: Pulse
Acq. Dead Time (ns): 35
Current Dead Time (ns): 35
Torch Z position (mm): 0.00

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD	Mode
	Be	9.0	5723.5	5723.480	56.895	1.0	Standard
	In	114.9	69596.5	-341751.511	924.539	0.3	Standard
	U	238.1	90402.3	90402.284	679.988	0.8	Standard
⌈	CeO	155.9	1526.9	0.017	0.000	1.7	Standard
| >	Ce	139.9	87807.4	87807.445	764.748	0.9	Standard
⌊	Ce++	70.0	422.3	0.005	0.000	1.5	Standard
	Bkgd	220.0	6.3	6.300	3.351	53.2	Standard

Current Conditions File Data

Current Value	Description
0.92	Nebulizer Gas Flow STD/KED [NEB]
1.20	Auxiliary Gas Flow
17.50	Plasma Gas Flow
-10.75	Deflector Voltage
1600.00	ICP RF Power
-1600.00	Analog Stage Voltage
1000.00	Pulse Stage Voltage
0.00	Quadrupole Rod Offset STD [QRO]
-10.00	Cell Rod Offset STD [CRO]
14.00	Discriminator Threshold
-5.00	Cell Entrance/Exit Voltage STD
0.00	RPa
0.45	RPq
0.92	DRC Mode NEB
-7.50	DRC Mode QRO
-2.00	DRC Mode CRO
-5.00	DRC Mode Cell Entrance/Exit Voltage
0.60	Cell Gas A
0.00	Cell Gas B
200.00	Axial Field Voltage
-11.00	KED Mode CRO
-12.00	KED Mode QRO
-11.00	KED Mode Cell Entrance Voltage
-33.00	KED Mode Cell Exit Voltage
0.00	KED Cell Gas A
3.00	KED Cell Gas B
0.00	KED RPa
0.25	KED RPq
125.00	KED Mode Axial Field Voltage

SmartTune Wizard - Summary

Optimization Summary

SmartTune file: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Wizard\SmartTune\ARISmartTuneDailyUCT.swz

Start Time: 5/10/2023 2:43:45 PM
End Time: 5/10/2023 2:52:33 PM

STD Performance Check - [Failed]
Obtained Intensity (Be 9): 5723.48
Obtained Intensity (In 115): 69596.54
Obtained Intensity (U 238): 90402.28
Obtained Intensity (Bkgd 220): 6.30 - <Target not achieved>
Obtained Formula (Ce++ 70 / Ce 140): 0.005 (=422.34 / 87807.44)
Obtained Formula (CeO 156 / Ce 140): 0.017 (=1526.95 / 87807.44)
Obtained RSD (Be 9): 0.0099
Obtained RSD (In 115): 0.0027
Obtained RSD (U 238): 0.0075

Torch Alignment - [Passed]

Vertical	Horizontal	Intensity
0.90 mm	0.96 mm	88181.32

Nebulizer Gas Flow STD/KED [NEB] - [Passed] Optimum value(s): 0.92
Obtained Intensity (In 115): 84673.19
Obtained Formula (CeO 156 / Ce 140): 0.0203 (=2063.15 / 101494.26)

Mass Calibration and Resolution - [Passed] Optimum value(s): N/A
Target/Obtained mass (7.016/7.025), Target/Obtained resolution (0.7/0.700)
Target/Obtained mass (23.985/24.025), Target/Obtained resolution (0.7/0.688)
Target/Obtained mass (114.904/114.875), Target/Obtained resolution (0.7/0.698)
Target/Obtained mass (238.05/238.075), Target/Obtained resolution (0.7/0.701)

QID STD/DRC - Optimum value(s): Correlation Coefficient = 0.999; Intercept = -15.80

KED Mode QID - Optimum value(s): Correlation Coefficient = 0.987; Intercept = -15.94

SmartTune Wizard - Details

Optimization Details

SmartTune file: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Wizard\SmartTune\ARISmartTuneDailyUCT.swz

Optimization Status

Start Time: 5/10/2023 2:43:45 PM

STD Performance Check
	Optimization Settings:
		Method: STD Performance Check.mth.
		Intensity Criterion: Be 9 > 2000
		Intensity Criterion: In 115 > 40000
		Intensity Criterion: U 238 > 30000
		Intensity Criterion: Bkgd 220 <= 5
		Formula Criterion: Ce++ 70 / Ce 140 <= 0.03
		Formula Criterion: CeO 156 / Ce 140 <= 0.025
		RSD Criterion: Be 9.0122 < 0.05
		RSD Criterion: In 114.904 < 0.05
		RSD Criterion: U 238.05 < 0.05

	Optimization Results:
	Initial Try
		Obtained Intensity (Be 9): 5723.48
		Obtained Intensity (In 115): 69596.54
		Obtained Intensity (U 238): 90402.28
		Obtained Intensity (Bkgd 220): 6.30 - <Target not achieved>
		Obtained Formula (Ce++ 70 / Ce 140): 0.005 (=422.34 / 87807.44)
		Obtained Formula (CeO 156 / Ce 140): 0.017 (=1526.95 / 87807.44)
		Obtained RSD (Be 9): 0.0099
		Obtained RSD (In 115): 0.0027
		Obtained RSD (U 238): 0.0075

		[Failed]
[Failed]

Torch Alignment
	Optimization Settings:
		Method: Torch Alignment.mth.
		Intensity Criterion: In 115 Maximum

	Optimization Results:
		Vertical	Horizontal	Intensity
[Passed]	0.90 mm	0.96 mm	88181.32

Nebulizer Gas Flow STD/KED [NEB]
	Optimization Settings:
		Method: Optimize.mth.
			Initial Try - Start/End/Step: 0.89/0.96/0.01.
		Intensity Criterion: In 115 Maximum
		Formula Criterion: CeO 156 / Ce 140 <= 0.025

	Optimization Results:
	Initial Try

		Obtained Intensity (In 115): 84673.19
		Obtained Formula (CeO 156 / Ce 140): 0.0203 (=2063.15 / 101494.26)
[Passed] Optimum value(s): 0.92

Mass Calibration and Resolution
Optimization Settings:
Method: Tuning.mth.
MassCal File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Iterations: 6
Target accuracy (+/- amu): 0.05 for Mass Cal. and 0.03 for Resolution
Peak height (%) for Res. Opt.: 10

Optimization Results:
Initial Try
Target/Obtained mass (7.016/7.025), Target/Obtained resolution (0.7/0.663) - <Target not achieved>
Target/Obtained mass (23.985/23.975), Target/Obtained resolution (0.7/0.695)
Target/Obtained mass (114.904/114.925), Target/Obtained resolution (0.7/0.699)
Target/Obtained mass (238.05/238.075), Target/Obtained resolution (0.7/0.684)
[Failed]
Retry 1
Target/Obtained mass (7.016/7.025), Target/Obtained resolution (0.7/0.700)
Target/Obtained mass (23.985/24.025), Target/Obtained resolution (0.7/0.688)
Target/Obtained mass (114.904/114.875), Target/Obtained resolution (0.7/0.698)
Target/Obtained mass (238.05/238.075), Target/Obtained resolution (0.7/0.701)
[Passed] Optimum value(s): N/A

QID STD/DRC
Optimization Settings:
Method: QID Calibration.mth.
Initial Try - Start/End/Step: -20/0/0.5.

Optimization Results:
Initial Try

Optimum value(s): Correlation Coefficient = 0.999; Intercept = -15.80

Analyte	Mass	Points	DAC	MaxIntensity
Li	7	41	-16	46294.9
Mg	24	41	-16	32452.8
In	115	41	-13	86971.9
Ce	140	41	-12	102732
Pb	208	41	-11.5	62146.9
U	238	41	-11.5	114360

KED Mode QID
Optimization Settings:
Method: QID Calibration.mth.
Initial Try - Start/End/Step: -20/0/0.5.

Optimization Results:
Initial Try

Optimum value(s): Correlation Coefficient = 0.987; Intercept = -15.94

Analyte	Mass	Points	DAC	MaxIntensity
Li	7	41	-16	37509.2
Mg	24	41	-15.5	70742.7
In	115	41	-13	125291
Ce	140	41	-11.5	108660
Pb	208	41	-11	62379.9

U	238	41	-10.5	141719

End Time: 5/10/2023 2:52:33 PM

SmartTune Wizard - Summary

Optimization Summary

SmartTune file: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Wizard\SmartTune\ARISmartTuneDailyUCT.swz

Start Time: 5/10/2023 2:52:35 PM
End Time: 5/10/2023 2:53:50 PM

KED Mode QID - Optimum value(s): Correlation Coefficient = 0.998; Intercept = -16.07

SmartTune Wizard - Details

Optimization Details

SmartTune file: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Wizard\SmartTune\ARISmartTuneDailyUCT.swz

Optimization Status

Start Time: 5/10/2023 2:52:35 PM

KED Mode QID

Optimization Settings:

Method: QID Calibration.mth.

Initial Try - Start/End/Step: -20/0/0.5.

Optimization Results:

Initial Try

Optimum value(s): Correlation Coefficient = 0.998; Intercept = -16.07

Analyte	Mass	Points	DAC	MaxIntensity
Li	7	41	-16	38908.9
Mg	24	41	-15.5	65678.6
In	115	41	-12.5	124315
Ce	140	41	-11.5	108152
Pb	208	41	-11	62408
U	238	41	-11	146831

End Time: 5/10/2023 2:53:50 PM

Performance Check Report

Sample ID: STD Performance Check
Sample Date/Time: Wednesday, May 10, 2023 14:53:54
Sample Description:
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\STD Performance Check.mth
Dataset File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\DataSet\Default\STD Performance Check.157
MassCal File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Conditions File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Dual Detector Mode: Pulse
Acq. Dead Time (ns): 35
Current Dead Time (ns): 35
Torch Z position (mm): 0.00

Summary

	Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD	Mode
	Be	9.0	6511.5	6511.484	145.377	2.2	Standard
	In	114.9	81325.5	81325.516	897.738	1.1	Standard
	U	238.1	113291.7	113291.661	1664.283	1.5	Standard
⌈	CeO	155.9	1966.6	0.020	0.000	2.4	Standard
| >	Ce	139.9	98993.0	98993.030	999.094	1.0	Standard
⌊	Ce++	70.0	668.1	0.007	0.000	3.1	Standard
	Bkgd	220.0	1.1	1.133	0.650	57.3	Standard

Current Conditions File Data

Current Value	Description
0.92	Nebulizer Gas Flow STD/KED [NEB]
1.20	Auxiliary Gas Flow
17.50	Plasma Gas Flow
-10.75	Deflector Voltage
1600.00	ICP RF Power
-1600.00	Analog Stage Voltage
1000.00	Pulse Stage Voltage
0.00	Quadrupole Rod Offset STD [QRO]
-10.00	Cell Rod Offset STD [CRO]
14.00	Discriminator Threshold
-5.00	Cell Entrance/Exit Voltage STD
0.00	RPa
0.45	RPq
0.92	DRC Mode NEB
-7.50	DRC Mode QRO
-2.00	DRC Mode CRO
-5.00	DRC Mode Cell Entrance/Exit Voltage
0.60	Cell Gas A
0.00	Cell Gas B
200.00	Axial Field Voltage
-11.00	KED Mode CRO
-12.00	KED Mode QRO
-11.00	KED Mode Cell Entrance Voltage
-33.00	KED Mode Cell Exit Voltage
0.00	KED Cell Gas A
3.00	KED Cell Gas B
0.00	KED RPa
0.25	KED RPq
125.00	KED Mode Axial Field Voltage

SmartTune Wizard - Summary

Optimization Summary

SmartTune file: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Wizard\SmartTune\ARISmartTuneDailyUCT.swz

Start Time: 5/10/2023 2:53:54 PM
End Time: 5/10/2023 2:55:58 PM

STD Performance Check - [Passed] Optimum value(s): N/A
Obtained Intensity (Be 9): 6511.48
Obtained Intensity (In 115): 81325.52
Obtained Intensity (U 238): 113291.66
Obtained Intensity (Bkgd 220): 1.13
Obtained Formula (Ce++ 70 / Ce 140): 0.007 (=668.15 / 98993.03)
Obtained Formula (CeO 156 / Ce 140): 0.020 (=1966.60 / 98993.03)
Obtained RSD (Be 9): 0.0223
Obtained RSD (In 115): 0.0110
Obtained RSD (U 238): 0.0147

SmartTune Wizard - Details

Optimization Details

SmartTune file: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Wizard\SmartTune\ARISmartTuneDailyUCT.swz

Optimization Status

Start Time: 5/10/2023 2:53:54 PM

STD Performance Check
	Optimization Settings:
		Method: STD Performance Check.mth.
		Intensity Criterion: Be 9 > 2000
		Intensity Criterion: In 115 > 40000
		Intensity Criterion: U 238 > 30000
		Intensity Criterion: Bkgd 220 <= 5
		Formula Criterion: Ce++ 70 / Ce 140 <= 0.03
		Formula Criterion: CeO 156 / Ce 140 <= 0.025
		RSD Criterion: Be 9.0122 < 0.05
		RSD Criterion: In 114.904 < 0.05
		RSD Criterion: U 238.05 < 0.05

	Optimization Results:
	Initial Try
		Obtained Intensity (Be 9): 6511.48
		Obtained Intensity (In 115): 81325.52
		Obtained Intensity (U 238): 113291.66
		Obtained Intensity (Bkgd 220): 1.13
		Obtained Formula (Ce++ 70 / Ce 140): 0.007 (=668.15 / 98993.03)
		Obtained Formula (CeO 156 / Ce 140): 0.020 (=1966.60 / 98993.03)
		Obtained RSD (Be 9): 0.0223
		Obtained RSD (In 115): 0.0110
		Obtained RSD (U 238): 0.0147

[Passed] Optimum value(s): N/A

End Time: 5/10/2023 2:55:58 PM

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL1
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 15:28:05

DEL

Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L				24207	2	Standard
>	**Sc**	**45**		ug/L				474403	0	Standard
	Cr	**52**		ug/L				8456	1	Standard
	Cr	**53**		ug/L				81	14	Standard
>	**Ge**	**72**		ug/L				28967	4	KED
	Ni	**60**		ug/L				19	10	KED
	Ni	**62**		ug/L				5	78	KED
	Cu	**63**		ug/L				43	9	KED
	Cu	**65**		ug/L				24	15	KED
	Zn	**66**		ug/L				19	22	KED
	Zn	**67**		ug/L				2	173	KED
	As	**75**		ug/L				1	33	KED
	Y	**89**		ug/L				49674	0	Standard
	Kr	**83**		ug/L				32	42	Standard
>	**In-1**	**115**		ug/L				6259	5	KED
	Cd	**111**		ug/L				0	100	KED
	Cd	**114**		ug/L				0	206	KED
>	**In**	**115**		ug/L				474692	1	Standard
	Ag	**107**		ug/L				12	31	Standard
	Ba	**135**		ug/L				15	25	Standard
	Ba	**137**		ug/L				31	30	Standard
>	**Tb**	**159**		ug/L				170775	0	Standard
	Pb	**208**		ug/L				201	12	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL2
Sample Dil Factor:
Comments:

DEL

Sample Date/Time: Wednesday, May 10, 2023 15:32:34
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			24207	25883	2	Standard
⌈>	**Sc**	**45**		ug/L			474403	523902	3	Standard
|	**Cr**	**52**	**0.500**	ug/L	0.021	4	8456	15234	1	Standard
⌊	**Cr**	**53**	**0.500**	ug/L	0.020	4	81	873	1	Standard
⌈>	**Ge**	**72**		ug/L			28967	29195	0	KED
|	**Ni**	**60**	**0.500**	ug/L	0.034	6	19	780	6	KED
|	**Ni**	**62**	**0.500**	ug/L	0.050	10	5	116	9	KED
|	**Cu**	**63**	**0.500**	ug/L	0.026	5	43	2412	4	KED
|	**Cu**	**65**	**0.500**	ug/L	0.034	6	24	1190	5	KED
|	**Zn**	**66**	**6.000**	ug/L	0.090	1	19	3153	0	KED
|	**Zn**	**67**	**6.000**	ug/L	0.211	3	2	498	3	KED
⌊	**As**	**75**	**0.200**	ug/L	0.040	19	1	51	18	KED
	Y	**89**		ug/L			49674	50949	1	Standard
	Kr	**83**		ug/L			32	51	16	Standard
⌈>	**In-1**	**115**		ug/L			6259	6039	1	KED
|	**Cd**	**111**	**0.100**	ug/L	0.020	19	0	23	18	KED
⌊	**Cd**	**114**	**0.100**	ug/L	0.009	9	0	63	7	KED
⌈>	**In**	**115**		ug/L			474692	480250	1	Standard
|	**Ag**	**107**	**0.200**	ug/L	0.005	2	12	3172	2	Standard
|	**Ba**	**135**	**0.500**	ug/L	0.016	3	15	2622	4	Standard
⌊	**Ba**	**137**	**0.500**	ug/L	0.009	1	31	4621	2	Standard
⌈>	**Tb**	**159**		ug/L			170775	172878	1	Standard
⌊	**Pb**	**208**	**0.100**	ug/L	0.002	2	201	9324	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL3
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 15:37:02

DEL

Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File:

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			24207	29617	2	Standard
> Sc	45		ug/L			474403	621120	0	Standard
Cr	52	10.000	ug/L	0.223	2	8456	152564	2	Standard
Cr	53	9.997	ug/L	0.230	2	81	16498	2	Standard
> Ge	72		ug/L			28967	29364	0	KED
Ni	60	9.999	ug/L	0.134	1	19	14840	1	KED
Ni	62	10.001	ug/L	0.349	3	5	2328	3	KED
Cu	63	9.997	ug/L	0.249	2	43	42394	2	KED
Cu	65	9.998	ug/L	0.087	0	24	21761	0	KED
Zn	66	9.987	ug/L	0.291	2	19	5247	2	KED
Zn	67	10.157	ug/L	0.430	4	2	885	3	KED
As	75	10.000	ug/L	0.358	3	1	2452	3	KED
Y	89		ug/L			49674	52739	0	Standard
Kr	83		ug/L			32	46	26	Standard
> In-1	115		ug/L			6259	6173	3	KED
Cd	111	10.000	ug/L	0.443	4	0	2332	4	KED
Cd	114	10.000	ug/L	0.345	3	0	6021	3	KED
> In	115		ug/L			474692	482786	2	Standard
Ag	107	10.000	ug/L	0.201	2	12	164963	1	Standard
Ba	135	10.001	ug/L	0.476	4	15	53839	2	Standard
Ba	137	10.001	ug/L	0.260	2	31	95966	0	Standard
> Tb	159		ug/L			170775	178874	0	Standard
Pb	208	10.000	ug/L	0.139	1	201	905833	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL1
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 15:47:22
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L				23729	0	Standard
⎡>	**Sc**	**45**		ug/L				509000	1	Standard
⎢	**Cr**	**52**		ug/L				8828	1	Standard
⎣	**Cr**	**53**		ug/L				74	13	Standard
⎡>	**Ge**	**72**		ug/L				29303	1	KED
⎢	**Ni**	**60**		ug/L				5	21	KED
⎢	**Ni**	**62**		ug/L				1	100	KED
⎢	**Cu**	**63**		ug/L				34	20	KED
⎢	**Cu**	**65**		ug/L				19	27	KED
⎢	**Zn**	**66**		ug/L				23	32	KED
⎢	**Zn**	**67**		ug/L				5	0	KED
⎣	**As**	**75**		ug/L				3	9	KED
	Y	**89**		ug/L				48310	2	Standard
	Kr	**83**		ug/L				47	34	Standard
⎡>	**In-1**	**115**		ug/L				6273	3	KED
⎢	**Cd**	**111**		ug/L				2	49	KED
⎣	**Cd**	**114**		ug/L				4	66	KED
⎡>	**In**	**115**		ug/L				463649	3	Standard
⎢	**Ag**	**107**		ug/L				35	3	Standard
⎢	**Ba**	**135**		ug/L				24	20	Standard
⎣	**Ba**	**137**		ug/L				33	18	Standard
⎡>	**Tb**	**159**		ug/L				169186	2	Standard
⎣	**Pb**	**208**		ug/L				224	10	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL2
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 15:51:51
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23729	25525	0	Standard
⌈>	**Sc**	**45**		ug/L			509000	512472	1	Standard
|	**Cr**	**52**	**0.500**	ug/L	0.020	4	8828	15510	0	Standard
⌊	**Cr**	**53**	**0.500**	ug/L	0.011	2	74	847	3	Standard
⌈>	**Ge**	**72**		ug/L			29303	29478	0	KED
|	**Ni**	**60**	**0.500**	ug/L	0.012	2	5	719	3	KED
|	**Ni**	**62**	**0.500**	ug/L	0.073	14	1	114	13	KED
|	**Cu**	**63**	**0.500**	ug/L	0.023	4	34	2502	5	KED
|	**Cu**	**65**	**0.500**	ug/L	0.009	1	19	1297	1	KED
|	**Zn**	**66**	**6.000**	ug/L	0.034	0	23	3137	0	KED
|	**Zn**	**67**	**6.000**	ug/L	0.410	6	5	517	5	KED
⌊	**As**	**75**	**0.200**	ug/L	0.016	8	3	49	7	KED
	Y	**89**		ug/L			48310	49051	0	Standard
	Kr	**83**		ug/L			47	36	14	Standard
⌈>	**In-1**	**115**		ug/L			6273	6139	4	KED
|	**Cd**	**111**	**0.100**	ug/L	0.032	31	2	21	31	KED
⌊	**Cd**	**114**	**0.100**	ug/L	0.017	16	4	70	16	KED
⌈>	**In**	**115**		ug/L			463649	458533	2	Standard
|	**Ag**	**107**	**0.200**	ug/L	0.006	3	35	3114	1	Standard
|	**Ba**	**135**	**0.500**	ug/L	0.031	6	24	2588	4	Standard
⌊	**Ba**	**137**	**0.500**	ug/L	0.021	4	33	4565	3	Standard
⌈>	**Tb**	**159**		ug/L			169186	175328	1	Standard
⌊	**Pb**	**208**	**0.100**	ug/L	0.002	2	224	9061	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL3
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 15:56:19
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23729	28227	5	Standard
⌈>	**Sc**	**45**		ug/L			509000	547188	1	Standard
|	**Cr**	**52**	**10.001**	ug/L	0.180	1	8828	154411	2	Standard
⌊	**Cr**	**53**	**10.000**	ug/L	0.148	1	74	16549	0	Standard
⌈>	**Ge**	**72**		ug/L			29303	30268	1	KED
|	**Ni**	**60**	**10.001**	ug/L	0.091	0	5	15465	0	KED
|	**Ni**	**62**	**10.001**	ug/L	0.274	2	1	2447	1	KED
|	**Cu**	**63**	**9.996**	ug/L	0.164	1	34	43750	0	KED
|	**Cu**	**65**	**9.995**	ug/L	0.109	1	19	21697	1	KED
|	**Zn**	**66**	**10.019**	ug/L	0.157	1	23	5390	0	KED
|	**Zn**	**67**	**10.037**	ug/L	0.375	3	5	893	2	KED
⌊	**As**	**75**	**10.000**	ug/L	0.098	0	3	2479	0	KED
	Y	**89**		ug/L			48310	52333	3	Standard
	Kr	**83**		ug/L			47	35	29	Standard
⌈>	**In-1**	**115**		ug/L			6273	6321	4	KED
|	**Cd**	**111**	**10.000**	ug/L	0.361	3	2	2354	2	KED
⌊	**Cd**	**114**	**10.000**	ug/L	0.490	4	4	6079	0	KED
⌈>	**In**	**115**		ug/L			463649	495399	2	Standard
|	**Ag**	**107**	**10.000**	ug/L	0.327	3	35	161409	1	Standard
|	**Ba**	**135**	**10.000**	ug/L	0.202	2	24	54582	0	Standard
⌊	**Ba**	**137**	**9.999**	ug/L	0.141	1	33	95918	1	Standard
⌈>	**Tb**	**159**		ug/L			169186	178590	0	Standard
⌊	**Pb**	**208**	**10.000**	ug/L	0.024	0	224	903317	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL4
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 16:01:02
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23729	29878	4	Standard
⌈>	**Sc**	**45**		ug/L			509000	545359	2	Standard
|	**Cr**	**52**	**20.025**	ug/L	0.642	3	8828	300001	2	Standard
⌊	**Cr**	**53**	**20.105**	ug/L	0.478	2	74	33786	1	Standard
⌈>	**Ge**	**72**		ug/L			29303	30442	0	KED
|	**Ni**	**60**	**19.876**	ug/L	0.260	1	5	30161	1	KED
|	**Ni**	**62**	**20.030**	ug/L	0.349	1	1	4958	1	KED
|	**Cu**	**63**	**19.912**	ug/L	0.144	0	34	86125	1	KED
|	**Cu**	**65**	**20.015**	ug/L	0.243	1	19	43816	1	KED
|	**Zn**	**66**	**19.772**	ug/L	0.229	1	23	10331	1	KED
|	**Zn**	**67**	**19.846**	ug/L	0.513	2	5	1733	2	KED
⌊	**As**	**75**	**19.906**	ug/L	0.056	0	3	4870	0	KED
	Y	**89**		ug/L			48310	53094	1	Standard
	Kr	**83**		ug/L			47	41	20	Standard
⌈>	**In-1**	**115**		ug/L			6273	6343	2	KED
|	**Cd**	**111**	**19.953**	ug/L	0.881	4	2	4669	3	KED
⌊	**Cd**	**114**	**20.027**	ug/L	0.435	2	4	12296	1	KED
⌈>	**In**	**115**		ug/L			463649	489391	1	Standard
|	**Ag**	**107**	**19.959**	ug/L	0.325	1	35	315783	3	Standard
|	**Ba**	**135**	**19.968**	ug/L	0.582	2	24	106955	1	Standard
⌊	**Ba**	**137**	**20.045**	ug/L	0.402	2	33	191641	0	Standard
⌈>	**Tb**	**159**		ug/L			169186	179464	1	Standard
⌊	**Pb**	**208**	**19.937**	ug/L	0.237	1	224	1786784	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL5
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 16:05:54
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23729	25400	2	Standard
⌈>	**Sc**	**45**		ug/L			509000	558473	1	Standard
|	**Cr**	**52**	**49.655**	ug/L	0.911	1	8828	723106	2	Standard
⌊	**Cr**	**53**	**49.854**	ug/L	0.903	1	74	84458	2	Standard
⌈>	**Ge**	**72**		ug/L			29303	30015	2	KED
|	**Ni**	**60**	**49.697**	ug/L	0.680	1	5	72172	3	KED
|	**Ni**	**62**	**49.505**	ug/L	0.762	1	1	11513	2	KED
|	**Cu**	**63**	**49.635**	ug/L	1.321	2	34	204227	4	KED
|	**Cu**	**65**	**49.687**	ug/L	0.309	0	19	103947	1	KED
|	**Zn**	**66**	**49.611**	ug/L	1.423	2	23	24635	4	KED
|	**Zn**	**67**	**49.320**	ug/L	1.429	2	5	3987	4	KED
⌊	**As**	**75**	**49.951**	ug/L	0.505	1	3	11985	2	KED
	Y	**89**		ug/L			48310	50964	0	Standard
	Kr	**83**		ug/L			47	54	10	Standard
⌈>	**In-1**	**115**		ug/L			6273	6292	0	KED
|	**Cd**	**111**	**49.924**	ug/L	0.530	1	2	11505	0	KED
⌊	**Cd**	**114**	**49.773**	ug/L	0.306	0	4	29642	0	KED
⌈>	**In**	**115**		ug/L			463649	482571	0	Standard
|	**Ag**	**107**	**49.781**	ug/L	0.756	1	35	759786	0	Standard
|	**Ba**	**135**	**49.982**	ug/L	0.497	0	24	263565	1	Standard
⌊	**Ba**	**137**	**50.029**	ug/L	0.399	0	33	473061	0	Standard
⌈>	**Tb**	**159**		ug/L			169186	178836	0	Standard
⌊	**Pb**	**208**	**49.835**	ug/L	0.541	1	224	4378529	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL6
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 16:12:26
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23729	28122	4	Standard
⌈>	**Sc**	**45**		ug/L			509000	558930	1	Standard
|	**Cr**	**52**	**100.051**	ug/L	0.647	0	8828	1450921	2	Standard
⌊	**Cr**	**53**	**99.871**	ug/L	2.158	2	74	168498	0	Standard
⌈>	**Ge**	**72**		ug/L			29303	30158	2	KED
|	**Ni**	**60**	**99.810**	ug/L	1.688	1	5	144647	0	KED
|	**Ni**	**62**	**99.827**	ug/L	1.638	1	1	23190	3	KED
|	**Cu**	**63**	**99.425**	ug/L	2.145	2	34	403052	1	KED
|	**Cu**	**65**	**99.706**	ug/L	2.344	2	19	207473	1	KED
|	**Zn**	**66**	**100.020**	ug/L	2.199	2	23	49885	1	KED
|	**Zn**	**67**	**100.026**	ug/L	1.801	1	5	8123	2	KED
⌊	**As**	**75**	**100.105**	ug/L	1.080	1	3	24213	1	KED
	Y	**89**		ug/L			48310	51944	4	Standard
	Kr	**83**		ug/L			47	57	13	Standard
⌈>	**In-1**	**115**		ug/L			6273	6458	1	KED
|	**Cd**	**111**	**99.701**	ug/L	0.430	0	2	23347	1	KED
⌊	**Cd**	**114**	**99.566**	ug/L	0.654	0	4	59985	0	KED
⌈>	**In**	**115**		ug/L			463649	450932	0	Standard
|	**Ag**	**107**	**101.152**	ug/L	1.685	1	35	1500263	1	Standard
|	**Ba**	**135**	**101.705**	ug/L	0.844	0	24	531312	1	Standard
⌊	**Ba**	**137**	**101.623**	ug/L	2.092	2	33	949210	1	Standard
⌈>	**Tb**	**159**		ug/L			169186	178763	1	Standard
⌊	**Pb**	**208**	**99.203**	ug/L	0.769	0	224	8487184	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBL1
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 16:19:38
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23729	24581	4	Standard
⌈>	**Sc**	**45**		ug/L			509000	533088	2	Standard
|	**Cr**	**52**	**0.011**	ug/L	0.014	123	8828	9404	4	Standard
⌊	**Cr**	**53**	**0.004**	ug/L	0.001	25	74	84	4	Standard
⌈>	**Ge**	**72**		ug/L			29303	30002	0	KED
|	**Ni**	**60**	**0.000**	ug/L	0.001	370	5	5	33	KED
|	**Ni**	**62**	**-0.000**	ug/L	0.008	4930	1	1	100	KED
|	**Cu**	**63**	**0.003**	ug/L	0.000	18	34	46	4	KED
|	**Cu**	**65**	**0.001**	ug/L	0.006	428	19	22	50	KED
|	**Zn**	**66**	**0.007**	ug/L	0.022	332	23	27	39	KED
|	**Zn**	**67**	**-0.025**	ug/L	0.062	245	5	3	132	KED
⌊	**As**	**75**	**0.004**	ug/L	0.003	71	3	4	17	KED
	Y	**89**		ug/L			48310	48443	1	Standard
	Kr	**83**		ug/L			47	46	13	Standard
⌈>	**In-1**	**115**		ug/L			6273	6574	1	KED
|	**Cd**	**111**	**-0.006**	ug/L	0.004	71	2	0	100	KED
⌊	**Cd**	**114**	**-0.002**	ug/L	0.005	343	4	3	89	KED
⌈>	**In**	**115**		ug/L			463649	469846	4	Standard
|	**Ag**	**107**	**0.004**	ug/L	0.001	32	35	105	21	Standard
|	**Ba**	**135**	**-0.001**	ug/L	0.000	15	24	19	0	Standard
⌊	**Ba**	**137**	**0.000**	ug/L	0.001	351	33	37	31	Standard
⌈>	**Tb**	**159**		ug/L			169186	173731	3	Standard
⌊	**Pb**	**208**	**0.001**	ug/L	0.000	37	224	311	8	Standard

Sample Information

Sample Date/Time: Wednesday, May 10, 2023 16:12:26
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.m
Mass Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Conditions File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

Calibration

Analyte	Mass	**r Corr Coef**	Slope	Std 1 Conc	Std 2 Conc	Std 3 Conc	Std 4 Conc	Std 5 Conc
C	13							
Sc	45							
Cr	52	**1.0000**	0.026	0.50	10	20	50	100
Cr	53	**1.0000**	0.003	0.50	10	20	50	100
Ge	72							
Ni	60	**1.0000**	0.048	0.50	10	20	50	100
Ni	62	**0.9999**	0.008	0.50	10	20	50	100
Cu	63	**0.9999**	0.134	0.50	10	20	50	100
Cu	65	**1.0000**	0.069	0.50	10	20	50	100
Zn	66	**1.0000**	0.017	6.00	10	20	50	100
Zn	67	**0.9999**	0.003	6.00	10	20	50	100
As	75	**1.0000**	0.008	0.20	10	20	50	100
Y	89							
Kr	83							
In-1	115							
Cd	111	**1.0000**	0.036	0.10	10	20	50	100
Cd	114	**1.0000**	0.093	0.10	10	20	50	100
In	115							
Ag	107	**0.9998**	0.033	0.20	10	20	50	100
Ba	135	**0.9995**	0.012	0.50	10	20	50	100
Ba	137	**0.9996**	0.021	0.50	10	20	50	100
Tb	159							
Pb	208	**0.9999**	0.479	0.10	10	20	50	100

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-ICV1
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 16:25:31
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23729	29797	4	Standard
⌈>	**Sc**	**45**		ug/L			509000	564850	0	Standard
|	**Cr**	**52**	**52.907**	ug/L	1.586	2	8828	780016	3	Standard
⌊	**Cr**	**53**	**51.308**	ug/L	1.827	3	74	87546	3	Standard
⌈>	**Ge**	**72**		ug/L			29303	31782	0	KED
|	**Ni**	**60**	**50.903**	ug/L	0.178	0	5	77766	0	KED
|	**Ni**	**62**	**51.012**	ug/L	1.334	2	1	12489	2	KED
|	**Cu**	**63**	**52.299**	ug/L	0.986	1	34	223527	2	KED
|	**Cu**	**65**	**51.383**	ug/L	1.337	2	19	112722	2	KED
|	**Zn**	**66**	**50.838**	ug/L	0.626	1	23	26741	1	KED
|	**Zn**	**67**	**50.580**	ug/L	0.623	1	5	4332	0	KED
⌊	**As**	**75**	**48.181**	ug/L	0.178	0	3	12285	0	KED
	Y	**89**		ug/L			48310	52288	1	Standard
	Kr	**83**		ug/L			47	44	15	Standard
⌈>	**In-1**	**115**		ug/L			6273	6677	2	KED
|	**Cd**	**111**	**51.665**	ug/L	1.744	3	2	12504	2	KED
⌊	**Cd**	**114**	**51.793**	ug/L	1.375	2	4	32251	0	KED
⌈>	**In**	**115**		ug/L			463649	478187	2	Standard
|	**Ag**	**107**	**50.790**	ug/L	1.892	3	35	798375	1	Standard
|	**Ba**	**135**	**49.978**	ug/L	0.851	1	24	276825	1	Standard
⌊	**Ba**	**137**	**50.115**	ug/L	0.177	0	33	496417	2	Standard
⌈>	**Tb**	**159**		ug/L			169186	183312	0	Standard
⌊	**Pb**	**208**	**52.638**	ug/L	1.364	2	224	4617664	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-ICB1
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 16:32:43
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23729	26356	3	Standard
⌈>	**Sc**	**45**		ug/L			509000	539338	1	Standard
|	**Cr**	**52**	**0.017**	ug/L	0.016	94	8828	9587	1	Standard
⌊	**Cr**	**53**	**-0.002**	ug/L	0.002	123	74	75	6	Standard
⌈>	**Ge**	**72**		ug/L			29303	30568	2	KED
|	**Ni**	**60**	**0.001**	ug/L	0.003	424	5	6	69	KED
|	**Ni**	**62**	**0.005**	ug/L	0.012	239	1	3	91	KED
|	**Cu**	**63**	**0.005**	ug/L	0.004	81	34	57	30	KED
|	**Cu**	**65**	**0.004**	ug/L	0.005	126	19	28	37	KED
|	**Zn**	**66**	**0.020**	ug/L	0.026	126	23	34	38	KED
|	**Zn**	**67**	**-0.003**	ug/L	0.045	1369	5	5	66	KED
⌊	**As**	**75**	**0.007**	ug/L	0.008	127	3	4	43	KED
	Y	**89**		ug/L			48310	50406	2	Standard
	Kr	**83**		ug/L			47	43	11	Standard
⌈>	**In-1**	**115**		ug/L			6273	6493	1	KED
|	**Cd**	**111**	**-0.002**	ug/L	0.004	232	2	1	50	KED
⌊	**Cd**	**114**	**-0.006**	ug/L	0.004	65	4	1	176	KED
⌈>	**In**	**115**		ug/L			463649	465713	1	Standard
|	**Ag**	**107**	**0.002**	ug/L	0.001	51	35	73	26	Standard
|	**Ba**	**135**	**-0.001**	ug/L	0.001	199	24	21	28	Standard
⌊	**Ba**	**137**	**0.000**	ug/L	0.001	389	33	36	31	Standard
⌈>	**Tb**	**159**		ug/L			169186	175668	1	Standard
⌊	**Pb**	**208**	**0.001**	ug/L	0.000	62	224	286	10	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCV1
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 16:37:25
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23729	26594	2	Standard
⎡>	**Sc**	**45**		ug/L			509000	564599	1	Standard
⎢	**Cr**	**52**	**51.471**	ug/L	0.725	1	8828	758784	2	Standard
⎣	**Cr**	**53**	**50.536**	ug/L	0.353	0	74	86184	1	Standard
⎡>	**Ge**	**72**		ug/L			29303	32146	1	KED
⎢	**Ni**	**60**	**49.546**	ug/L	1.173	2	5	76549	1	KED
⎢	**Ni**	**62**	**49.050**	ug/L	0.276	0	1	12146	1	KED
⎢	**Cu**	**63**	**49.725**	ug/L	0.346	0	34	214938	0	KED
⎢	**Cu**	**65**	**49.566**	ug/L	1.054	2	19	109970	1	KED
⎢	**Zn**	**66**	**49.855**	ug/L	1.259	2	23	26518	1	KED
⎢	**Zn**	**67**	**50.337**	ug/L	1.507	2	5	4360	2	KED
⎣	**As**	**75**	**49.689**	ug/L	1.019	2	3	12812	1	KED
	Y	**89**		ug/L			48310	53576	2	Standard
	Kr	**83**		ug/L			47	42	34	Standard
⎡>	**In-1**	**115**		ug/L			6273	6756	1	KED
⎢	**Cd**	**111**	**49.652**	ug/L	0.968	1	2	12162	1	KED
⎣	**Cd**	**114**	**50.647**	ug/L	0.242	0	4	31925	1	KED
⎡>	**In**	**115**		ug/L			463649	482029	1	Standard
⎢	**Ag**	**107**	**50.096**	ug/L	0.827	1	35	794203	0	Standard
⎢	**Ba**	**135**	**49.631**	ug/L	0.673	1	24	277141	0	Standard
⎣	**Ba**	**137**	**49.270**	ug/L	0.397	0	33	491965	0	Standard
⎡>	**Tb**	**159**		ug/L			169186	185684	1	Standard
⎣	**Pb**	**208**	**50.279**	ug/L	0.957	1	224	4467825	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCB1
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 16:44:37
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23729	26575	3	Standard
⌈>	**Sc**	**45**		ug/L			509000	541589	1	Standard
|	**Cr**	**52**	**0.006**	ug/L	0.013	204	8828	9483	2	Standard
⌊	**Cr**	**53**	**-0.005**	ug/L	0.004	84	74	70	11	Standard
⌈>	**Ge**	**72**		ug/L			29303	32305	1	KED
|	**Ni**	**60**	**0.002**	ug/L	0.001	42	5	8	13	KED
|	**Ni**	**62**	**-0.001**	ug/L	0.013	2070	1	1	173	KED
|	**Cu**	**63**	**0.001**	ug/L	0.001	105	34	41	9	KED
|	**Cu**	**65**	**-0.005**	ug/L	0.001	17	19	11	16	KED
|	**Zn**	**66**	**0.005**	ug/L	0.012	245	23	28	24	KED
|	**Zn**	**67**	**0.023**	ug/L	0.035	153	5	8	35	KED
⌊	**As**	**75**	**0.004**	ug/L	0.006	144	3	4	37	KED
	Y	**89**		ug/L			48310	50243	2	Standard
	Kr	**83**		ug/L			47	43	16	Standard
⌈>	**In-1**	**115**		ug/L			6273	6862	1	KED
|	**Cd**	**111**	**0.003**	ug/L	0.002	70	2	3	17	KED
⌊	**Cd**	**114**	**-0.002**	ug/L	0.003	174	4	3	50	KED
⌈>	**In**	**115**		ug/L			463649	462636	4	Standard
|	**Ag**	**107**	**0.002**	ug/L	0.001	43	35	67	20	Standard
|	**Ba**	**135**	**0.000**	ug/L	0.001	237	24	26	15	Standard
⌊	**Ba**	**137**	**-0.000**	ug/L	0.001	187	33	29	26	Standard
⌈>	**Tb**	**159**		ug/L			169186	175175	2	Standard
⌊	**Pb**	**208**	**0.000**	ug/L	0.000	67	224	267	6	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CRL1
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 16:49:18
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23729	29745	3	Standard
⌈>	**Sc**	**45**		ug/L			509000	544043	0	Standard
|	**Cr**	**52**	**0.523**	ug/L	0.009	1	8828	16764	1	Standard
⌊	**Cr**	**53**	**0.501**	ug/L	0.008	1	74	901	2	Standard
⌈>	**Ge**	**72**		ug/L			29303	32168	0	KED
|	**Ni**	**60**	**0.493**	ug/L	0.024	4	5	767	4	KED
|	**Ni**	**62**	**0.476**	ug/L	0.072	15	1	120	14	KED
|	**Cu**	**63**	**0.708**	ug/L	0.010	1	34	3101	2	KED
|	**Cu**	**65**	**0.727**	ug/L	0.032	4	19	1635	3	KED
|	**Zn**	**66**	**6.250**	ug/L	0.152	2	23	3349	2	KED
|	**Zn**	**67**	**6.111**	ug/L	0.086	1	5	535	0	KED
⌊	**As**	**75**	**0.213**	ug/L	0.006	2	3	58	3	KED
	Y	**89**		ug/L			48310	50496	2	Standard
	Kr	**83**		ug/L			47	45	12	Standard
⌈>	**In-1**	**115**		ug/L			6273	6541	2	KED
|	**Cd**	**111**	**0.113**	ug/L	0.021	18	2	29	16	KED
⌊	**Cd**	**114**	**0.097**	ug/L	0.023	23	4	64	22	KED
⌈>	**In**	**115**		ug/L			463649	478093	1	Standard
|	**Ag**	**107**	**0.202**	ug/L	0.006	2	35	3206	1	Standard
|	**Ba**	**135**	**0.482**	ug/L	0.013	2	24	2696	3	Standard
⌊	**Ba**	**137**	**0.483**	ug/L	0.017	3	33	4821	3	Standard
⌈>	**Tb**	**159**		ug/L			169186	178239	1	Standard
⌊	**Pb**	**208**	**0.107**	ug/L	0.004	4	224	9331	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IFA1
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 16:56:08
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23729	82148	4	Standard
>	**Sc**	**45**		ug/L			509000	540030	1	Standard
	Cr	**52**	**0.661**	ug/L	0.017	2	8828	18570	2	Standard
	Cr	**53**	**1.741**	ug/L	0.086	4	74	2916	6	Standard
>	**Ge**	**72**		ug/L			29303	28977	0	KED
	Ni	**60**	**0.108**	ug/L	0.017	15	5	154	13	KED
	Ni	**62**	**0.119**	ug/L	0.014	11	1	28	11	KED
	Cu	**63**	**0.039**	ug/L	0.002	5	34	186	5	KED
	Cu	**65**	**0.033**	ug/L	0.012	37	19	84	28	KED
	Zn	**66**	**0.312**	ug/L	0.053	17	23	172	13	KED
	Zn	**67**	**0.269**	ug/L	0.085	31	5	26	25	KED
	As	**75**	**0.026**	ug/L	0.012	45	3	9	31	KED
	Y	**89**		ug/L			48310	49648	3	Standard
	Kr	**83**		ug/L			47	65	18	Standard
>	**In-1**	**115**		ug/L			6273	5999	0	KED
	Cd	**111**	**0.043**	ug/L	0.020	45	2	11	38	KED
	Cd	**114**	**0.027**	ug/L	0.012	42	4	19	34	KED
>	**In**	**115**		ug/L			463649	441167	0	Standard
	Ag	**107**	**0.005**	ug/L	0.000	7	35	104	5	Standard
	Ba	**135**	**0.113**	ug/L	0.007	5	24	599	5	Standard
	Ba	**137**	**0.114**	ug/L	0.005	4	33	1070	4	Standard
>	**Tb**	**159**		ug/L			169186	167906	0	Standard
	Pb	**208**	**0.027**	ug/L	0.000	0	224	2394	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IFB1
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 17:00:36
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23729	80778	1	Standard
⌈>	**Sc**	**45**		ug/L			509000	530617	1	Standard
|	**Cr**	**52**	**20.186**	ug/L	0.671	3	8828	285340	4	Standard
⌊	**Cr**	**53**	**21.276**	ug/L	0.553	2	74	34155	4	Standard
⌈>	**Ge**	**72**		ug/L			29303	27650	1	KED
|	**Ni**	**60**	**20.512**	ug/L	0.872	4	5	27258	3	KED
|	**Ni**	**62**	**20.858**	ug/L	0.487	2	1	4443	1	KED
|	**Cu**	**63**	**20.580**	ug/L	0.468	2	34	76522	1	KED
|	**Cu**	**65**	**20.103**	ug/L	0.651	3	19	38370	2	KED
|	**Zn**	**66**	**19.662**	ug/L	0.585	2	23	9009	2	KED
|	**Zn**	**67**	**17.951**	ug/L	1.720	9	5	1340	8	KED
⌊	**As**	**75**	**19.651**	ug/L	0.451	2	3	4360	1	KED
	Y	**89**		ug/L			48310	48740	2	Standard
	Kr	**83**		ug/L			47	74	13	Standard
⌈>	**In-1**	**115**		ug/L			6273	6028	0	KED
|	**Cd**	**111**	**18.519**	ug/L	0.593	3	2	4049	2	KED
⌊	**Cd**	**114**	**18.365**	ug/L	0.516	2	4	10330	2	KED
⌈>	**In**	**115**		ug/L			463649	447152	1	Standard
|	**Ag**	**107**	**18.002**	ug/L	0.130	0	35	264803	2	Standard
|	**Ba**	**135**	**0.109**	ug/L	0.010	9	24	587	6	Standard
⌊	**Ba**	**137**	**0.104**	ug/L	0.002	1	33	994	1	Standard
⌈>	**Tb**	**159**		ug/L			169186	168627	2	Standard
⌊	**Pb**	**208**	**0.018**	ug/L	0.001	2	224	1705	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-HCV1
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 17:06:47
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23729	26329	2	Standard
>	**Sc**	**45**		ug/L			509000	556001	2	Standard
	Cr	**52**	**198.368**	ug/L	1.458	0	8828	2851709	2	Standard
	Cr	**53**	**195.087**	ug/L	0.307	0	74	327408	2	Standard
>	**Ge**	**72**		ug/L			29303	29227	1	KED
	Ni	**60**	**191.945**	ug/L	3.999	2	5	269634	1	KED
	Ni	**62**	**186.640**	ug/L	4.629	2	1	42024	3	KED
	Cu	**63**	**187.668**	ug/L	2.643	1	34	737510	2	KED
	Cu	**65**	**185.711**	ug/L	3.770	2	19	374570	1	KED
	Zn	**66**	**189.266**	ug/L	0.834	0	23	91483	1	KED
	Zn	**67**	**186.660**	ug/L	4.772	2	5	14685	1	KED
	As	**75**	**193.838**	ug/L	1.289	0	3	45439	0	KED
	Y	**89**		ug/L			48310	49992	1	Standard
	Kr	**83**		ug/L			47	83	11	Standard
>	**In-1**	**115**		ug/L			6273	5371	18	KED
	Cd	**111**	**219.502**	ug/L	43.976	20	2	41729	4	KED
	Cd	**114**	**220.074**	ug/L	39.817	18	4	107921	4	KED
>	**In**	**115**		ug/L			463649	435715	1	Standard
	Ag	**107**	**193.623**	ug/L	0.562	0	35	2774950	2	Standard
	Ba	**135**	**193.128**	ug/L	4.604	2	24	974609	1	Standard
	Ba	**137**	**193.380**	ug/L	2.785	1	33	1745084	0	Standard
>	**Tb**	**159**		ug/L			169186	171188	2	Standard
	Pb	**208**	**200.008**	ug/L	5.919	2	224	16378774	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-HCV2
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 17:11:16
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23729	29606	4	Standard
⌈>	**Sc**	**45**		ug/L			509000	552654	1	Standard
|	**Cr**	**52**	**305.580**	ug/L	3.631	1	8828	4362199	2	Standard
⌊	**Cr**	**53**	**294.803**	ug/L	0.531	0	74	491755	1	Standard
⌈>	**Ge**	**72**		ug/L			29303	28899	0	KED
|	**Ni**	**60**	**290.897**	ug/L	5.116	1	5	404100	2	KED
|	**Ni**	**62**	**288.363**	ug/L	1.622	0	1	64187	0	KED
|	**Cu**	**63**	**287.043**	ug/L	2.289	0	34	1115281	0	KED
|	**Cu**	**65**	**287.453**	ug/L	2.535	0	19	573363	1	KED
|	**Zn**	**66**	**285.291**	ug/L	2.722	0	23	136335	0	KED
|	**Zn**	**67**	**287.574**	ug/L	3.024	1	5	22370	1	KED
⌊	**As**	**75**	**305.011**	ug/L	1.315	0	3	70699	0	KED
	Y	**89**		ug/L			48310	49758	1	Standard
	Kr	**83**		ug/L			47	116	11	Standard
⌈>	**In-1**	**115**		ug/L			6273	6204	3	KED
|	**Cd**	**111**	**292.818**	ug/L	9.764	3	2	65819	0	KED
⌊	**Cd**	**114**	**294.321**	ug/L	10.877	3	4	170207	1	KED
⌈>	**In**	**115**		ug/L			463649	405906	0	Standard
|	**Ag**	**107**	**310.853**	ug/L	5.576	1	35	4149787	1	Standard
|	**Ba**	**135**	**294.858**	ug/L	8.523	2	24	1386297	2	Standard
⌊	**Ba**	**137**	**299.321**	ug/L	3.477	1	33	2516816	1	Standard
⌈>	**Tb**	**159**		ug/L			169186	154666	1	Standard
⌊	**Pb**	**208**	**316.508**	ug/L	5.627	1	224	23425103	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBL2
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 17:18:27
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23729	28126	2	Standard
⌈>	**Sc**	**45**		ug/L			509000	570158	2	Standard
|	**Cr**	**52**	**0.013**	ug/L	0.019	142	8828	10078	2	Standard
⌊	**Cr**	**53**	**0.006**	ug/L	0.004	67	74	93	8	Standard
⌈>	**Ge**	**72**		ug/L			29303	34258	1	KED
|	**Ni**	**60**	**0.006**	ug/L	0.003	41	5	15	27	KED
|	**Ni**	**62**	**0.004**	ug/L	0.015	410	1	3	124	KED
|	**Cu**	**63**	**0.003**	ug/L	0.003	95	34	54	23	KED
|	**Cu**	**65**	**0.003**	ug/L	0.001	51	19	29	9	KED
|	**Zn**	**66**	**0.019**	ug/L	0.018	97	23	38	26	KED
|	**Zn**	**67**	**0.031**	ug/L	0.055	177	5	9	52	KED
⌊	**As**	**75**	**0.013**	ug/L	0.005	36	3	7	17	KED
	Y	**89**		ug/L			48310	52547	0	Standard
	Kr	**83**		ug/L			47	52	20	Standard
⌈>	**In-1**	**115**		ug/L			6273	7246	0	KED
|	**Cd**	**111**	**-0.000**	ug/L	0.008	8315	2	2	78	KED
⌊	**Cd**	**114**	**-0.000**	ug/L	0.003	1197	4	4	43	KED
⌈>	**In**	**115**		ug/L			463649	497647	2	Standard
|	**Ag**	**107**	**0.008**	ug/L	0.002	18	35	175	12	Standard
|	**Ba**	**135**	**0.002**	ug/L	0.001	54	24	40	19	Standard
⌊	**Ba**	**137**	**0.004**	ug/L	0.002	44	33	80	23	Standard
⌈>	**Tb**	**159**		ug/L			169186	187495	1	Standard
⌊	**Pb**	**208**	**0.002**	ug/L	0.000	19	224	437	6	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCV2
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 17:24:49
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23729	28216	2	Standard
⌈>	**Sc**	**45**		ug/L			509000	614310	2	Standard
|	**Cr**	**52**	**49.614**	ug/L	0.154	0	8828	796164	2	Standard
⌊	**Cr**	**53**	**49.306**	ug/L	0.655	1	74	91479	1	Standard
⌈>	**Ge**	**72**		ug/L			29303	33882	0	KED
|	**Ni**	**60**	**48.761**	ug/L	0.591	1	5	79418	1	KED
|	**Ni**	**62**	**49.065**	ug/L	1.020	2	1	12807	2	KED
|	**Cu**	**63**	**50.335**	ug/L	0.792	1	34	229335	1	KED
|	**Cu**	**65**	**49.788**	ug/L	0.248	0	19	116447	0	KED
|	**Zn**	**66**	**49.118**	ug/L	1.011	2	23	27541	1	KED
|	**Zn**	**67**	**51.803**	ug/L	0.793	1	5	4730	2	KED
⌊	**As**	**75**	**50.107**	ug/L	0.465	0	3	13619	0	KED
	Y	**89**		ug/L			48310	55027	0	Standard
	Kr	**83**		ug/L			47	46	15	Standard
⌈>	**In-1**	**115**		ug/L			6273	7119	3	KED
|	**Cd**	**111**	**50.184**	ug/L	1.227	2	2	12949	0	KED
⌊	**Cd**	**114**	**50.175**	ug/L	0.566	1	4	33318	2	KED
⌈>	**In**	**115**		ug/L			463649	504029	0	Standard
|	**Ag**	**107**	**48.797**	ug/L	0.760	1	35	808976	1	Standard
|	**Ba**	**135**	**49.515**	ug/L	0.138	0	24	289131	0	Standard
⌊	**Ba**	**137**	**49.043**	ug/L	0.770	1	33	512033	0	Standard
⌈>	**Tb**	**159**		ug/L			169186	194827	2	Standard
⌊	**Pb**	**208**	**50.847**	ug/L	1.120	2	224	4739539	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCB2
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 17:32:02
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23729	27340	2	Standard
⌈>	**Sc**	**45**		ug/L			509000	580003	1	Standard
|	**Cr**	**52**	**0.023**	ug/L	0.039	169	8828	10405	7	Standard
⌊	**Cr**	**53**	**0.028**	ug/L	0.037	134	74	133	50	Standard
⌈>	**Ge**	**72**		ug/L			29303	34295	1	KED
|	**Ni**	**60**	**0.001**	ug/L	0.003	301	5	7	66	KED
|	**Ni**	**62**	**-0.004**	ug/L	0.008	221	1	1	173	KED
|	**Cu**	**63**	**0.000**	ug/L	0.002	646	34	41	15	KED
|	**Cu**	**65**	**-0.000**	ug/L	0.005	8359	19	22	46	KED
|	**Zn**	**66**	**0.009**	ug/L	0.009	100	23	32	15	KED
|	**Zn**	**67**	**-0.004**	ug/L	0.023	606	5	6	34	KED
⌊	**As**	**75**	**0.008**	ug/L	0.012	144	3	5	54	KED
	Y	**89**		ug/L			48310	53554	1	Standard
	Kr	**83**		ug/L			47	59	14	Standard
⌈>	**In-1**	**115**		ug/L			6273	7121	2	KED
|	**Cd**	**111**	**-0.001**	ug/L	0.002	159	2	2	24	KED
⌊	**Cd**	**114**	**-0.001**	ug/L	0.001	145	4	4	24	KED
⌈>	**In**	**115**		ug/L			463649	495495	2	Standard
|	**Ag**	**107**	**0.030**	ug/L	0.033	110	35	527	103	Standard
|	**Ba**	**135**	**0.024**	ug/L	0.030	120	24	169	102	Standard
⌊	**Ba**	**137**	**0.026**	ug/L	0.031	123	33	303	108	Standard
⌈>	**Tb**	**159**		ug/L			169186	184923	3	Standard
⌊	**Pb**	**208**	**0.030**	ug/L	0.029	98	224	2932	93	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL1
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 17:37:21
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L				26311	4	Standard
⎡>	**Sc**	**45**		ug/L				566891	1	Standard
⎢	**Cr**	**52**		ug/L				10103	1	Standard
⎣	**Cr**	**53**		ug/L				90	11	Standard
⎡>	**Ge**	**72**		ug/L				32698	0	KED
⎢	**Ni**	**60**		ug/L				3	50	KED
⎢	**Ni**	**62**		ug/L				3	34	KED
⎢	**Cu**	**63**		ug/L				24	19	KED
⎢	**Cu**	**65**		ug/L				17	11	KED
⎢	**Zn**	**66**		ug/L				20	48	KED
⎢	**Zn**	**67**		ug/L				3	132	KED
⎣	**As**	**75**		ug/L				3	45	KED
	Y	**89**		ug/L				53020	2	Standard
	Kr	**83**		ug/L				39	12	Standard
⎡>	**In-1**	**115**		ug/L				7060	1	KED
⎢	**Cd**	**111**		ug/L				2	89	KED
⎣	**Cd**	**114**		ug/L				3	68	KED
⎡>	**In**	**115**		ug/L				494263	2	Standard
⎢	**Ag**	**107**		ug/L				53	2	Standard
⎢	**Ba**	**135**		ug/L				15	33	Standard
⎣	**Ba**	**137**		ug/L				16	52	Standard
⎡>	**Tb**	**159**		ug/L				184968	0	Standard
⎣	**Pb**	**208**		ug/L				252	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCV3
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 17:41:49
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26311	27086	4	Standard
⎡>	**Sc**	**45**		ug/L			566891	602734	1	Standard
⎢	**Cr**	**52**	**50.087**	ug/L	0.634	1	10103	788886	3	Standard
⎣	**Cr**	**53**	**49.352**	ug/L	0.393	0	90	89874	2	Standard
⎡>	**Ge**	**72**		ug/L			32698	34111	1	KED
⎢	**Ni**	**60**	**48.892**	ug/L	0.532	1	3	80169	1	KED
⎢	**Ni**	**62**	**49.253**	ug/L	0.220	0	3	12944	1	KED
⎢	**Cu**	**63**	**49.622**	ug/L	1.349	2	24	227559	1	KED
⎢	**Cu**	**65**	**48.368**	ug/L	0.349	0	17	113892	1	KED
⎢	**Zn**	**66**	**50.735**	ug/L	0.721	1	20	28634	1	KED
⎢	**Zn**	**67**	**50.136**	ug/L	0.936	1	3	4607	3	KED
⎣	**As**	**75**	**49.751**	ug/L	0.619	1	3	13613	0	KED
	Y	**89**		ug/L			53020	55757	1	Standard
	Kr	**83**		ug/L			39	41	29	Standard
⎡>	**In-1**	**115**		ug/L			7060	7062	1	KED
⎢	**Cd**	**111**	**50.589**	ug/L	1.752	3	2	12950	2	KED
⎣	**Cd**	**114**	**50.362**	ug/L	0.801	1	3	33178	2	KED
⎡>	**In**	**115**		ug/L			494263	496605	2	Standard
⎢	**Ag**	**107**	**49.227**	ug/L	0.708	1	53	803963	0	Standard
⎢	**Ba**	**135**	**50.459**	ug/L	2.381	4	15	290080	2	Standard
⎣	**Ba**	**137**	**50.527**	ug/L	1.528	3	16	519526	0	Standard
⎡>	**Tb**	**159**		ug/L			184968	193060	1	Standard
⎣	**Pb**	**208**	**50.413**	ug/L	1.135	2	252	4657369	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCB3
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 17:49:02
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26311	26387	1	Standard
⌈>	**Sc**	**45**		ug/L			566891	577127	1	Standard
|	**Cr**	**52**	**-0.020**	ug/L	0.010	47	10103	9985	2	Standard
⌊	**Cr**	**53**	**-0.008**	ug/L	0.004	53	90	78	9	Standard
⌈>	**Ge**	**72**		ug/L			32698	34100	1	KED
|	**Ni**	**60**	**-0.002**	ug/L	0.001	33	3	0	173	KED
|	**Ni**	**62**	**-0.005**	ug/L	0.007	131	3	1	100	KED
|	**Cu**	**63**	**0.000**	ug/L	0.001	191	24	26	12	KED
|	**Cu**	**65**	**-0.001**	ug/L	0.001	121	17	15	21	KED
|	**Zn**	**66**	**0.001**	ug/L	0.003	512	20	22	9	KED
|	**Zn**	**67**	**-0.023**	ug/L	0.020	89	3	1	100	KED
⌊	**As**	**75**	**0.000**	ug/L	0.005	4102	3	3	37	KED
	Y	**89**		ug/L			53020	51769	1	Standard
	Kr	**83**		ug/L			39	35	17	Standard
⌈>	**In-1**	**115**		ug/L			7060	7354	2	KED
|	**Cd**	**111**	**0.007**	ug/L	0.014	201	2	4	87	KED
⌊	**Cd**	**114**	**0.027**	ug/L	0.026	94	3	22	82	KED
⌈>	**In**	**115**		ug/L			494263	493687	2	Standard
|	**Ag**	**107**	**0.006**	ug/L	0.006	98	53	153	65	Standard
|	**Ba**	**135**	**0.003**	ug/L	0.007	220	15	33	118	Standard
⌊	**Ba**	**137**	**0.004**	ug/L	0.006	151	16	60	111	Standard
⌈>	**Tb**	**159**		ug/L			184968	186545	0	Standard
⌊	**Pb**	**208**	**0.004**	ug/L	0.006	143	252	643	86	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0687-BLK2
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 17:54:17
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26311	37670	3	Standard
⌈>	**Sc**	**45**		ug/L			566891	603363	1	Standard
|	**Cr**	**52**	**-0.001**	ug/L	0.027	4639	10103	10740	2	Standard
⌊	**Cr**	**53**	**0.001**	ug/L	0.013	1768	90	97	22	Standard
⌈>	**Ge**	**72**		ug/L			32698	33573	2	KED
|	**Ni**	**60**	**0.004**	ug/L	0.004	101	3	10	66	KED
|	**Ni**	**62**	**-0.003**	ug/L	0.011	368	3	2	114	KED
|	**Cu**	**63**	**0.070**	ug/L	0.006	8	24	340	8	KED
|	**Cu**	**65**	**0.065**	ug/L	0.006	9	17	166	7	KED
|	**Zn**	**66**	**0.172**	ug/L	0.045	25	20	116	21	KED
|	**Zn**	**67**	**0.168**	ug/L	0.041	24	3	19	17	KED
⌊	**As**	**75**	**-0.003**	ug/L	0.006	226	3	2	60	KED
	Y	**89**		ug/L			53020	54713	1	Standard
	Kr	**83**		ug/L			39	42	18	Standard
⌈>	**In-1**	**115**		ug/L			7060	7281	1	KED
|	**Cd**	**111**	**0.005**	ug/L	0.002	48	2	3	15	KED
⌊	**Cd**	**114**	**-0.001**	ug/L	0.004	367	3	2	121	KED
⌈>	**In**	**115**		ug/L			494263	517690	1	Standard
|	**Ag**	**107**	**-0.000**	ug/L	0.000	105	53	50	14	Standard
|	**Ba**	**135**	**0.005**	ug/L	0.000	6	15	45	2	Standard
⌊	**Ba**	**137**	**0.008**	ug/L	0.001	16	16	98	12	Standard
⌈>	**Tb**	**159**		ug/L			184968	194843	1	Standard
⌊	**Pb**	**208**	**0.008**	ug/L	0.001	9	252	1056	6	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLE0687-BS2
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 17:58:46

DEL

Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26311	33195	2	Standard
⌈>	**Sc**	**45**		ug/L			566891	555862	11	Standard
|	**Cr**	**52**	**27.319**	ug/L	2.314	8	10103	398623	3	Standard
⌊	**Cr**	**53**	**27.123**	ug/L	2.036	7	90	45316	4	Standard
⌈>	**Ge**	**72**		ug/L			32698	34536	1	KED
|	**Ni**	**60**	**26.277**	ug/L	0.423	1	3	43618	0	KED
|	**Ni**	**62**	**25.531**	ug/L	0.733	2	3	6793	1	KED
|	**Cu**	**63**	**26.428**	ug/L	0.996	3	24	122696	2	KED
|	**Cu**	**65**	**26.366**	ug/L	0.643	2	17	62849	1	KED
|	**Zn**	**66**	**81.431**	ug/L	3.435	4	20	46502	2	KED
|	**Zn**	**67**	**77.856**	ug/L	1.691	2	3	7239	2	KED
⌊	**As**	**75**	**24.595**	ug/L	0.132	0	3	6815	0	KED
	Y	**89**		ug/L			53020	50937	11	Standard
	Kr	**83**		ug/L			39	43	2	Standard
⌈>	**In-1**	**115**		ug/L			7060	7171	0	KED
|	**Cd**	**111**	**25.205**	ug/L	0.178	0	2	6555	0	KED
⌊	**Cd**	**114**	**25.527**	ug/L	0.381	1	3	17079	1	KED
⌈>	**In**	**115**		ug/L			494263	475075	13	Standard
|	**Ag**	**107**	**26.777**	ug/L	2.851	10	53	414464	4	Standard
|	**Ba**	**135**	**26.576**	ug/L	2.759	10	15	144886	4	Standard
⌊	**Ba**	**137**	**26.205**	ug/L	2.206	8	16	255882	5	Standard
⌈>	**Tb**	**159**		ug/L			184968	178000	9	Standard
⌊	**Pb**	**208**	**27.358**	ug/L	1.891	6	252	2320134	3	Standard

ICP-MS Quantitative Analysis - Summary Report

BLD

Sample ID: ~~BLE~~0687-BS2

Sample Dil Factor: 20

Comments:

Sample Date/Time: Wednesday, May 10, 2023 18:05:25

Number of Replicates: 3

Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth

Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun

Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac

Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26311	33167	3	Standard
>	Sc	45		ug/L			566891	617917	1	Standard
	Cr	52	26.566	ug/L	0.336	1	10103	434021	0	Standard
	Cr	53	25.839	ug/L	0.203	0	90	48285	2	Standard
>	Ge	72		ug/L			32698	35114	0	KED
	Ni	60	26.149	ug/L	0.318	1	3	44138	1	KED
	Ni	62	26.557	ug/L	0.236	0	3	7185	1	KED
	Cu	63	26.719	ug/L	0.111	0	24	126165	0	KED
	Cu	65	26.523	ug/L	0.868	3	17	64298	3	KED
	Zn	66	81.101	ug/L	0.657	0	20	47108	0	KED
	Zn	67	79.743	ug/L	2.633	3	3	7539	3	KED
	As	75	25.028	ug/L	0.475	1	3	7052	1	KED
	Y	89		ug/L			53020	54777	2	Standard
	Kr	83		ug/L			39	56	25	Standard
>	In-1	115		ug/L			7060	7190	2	KED
	Cd	111	25.907	ug/L	1.333	5	2	6749	2	KED
	Cd	114	25.906	ug/L	0.432	1	3	17376	2	KED
>	In	115		ug/L			494263	529323	0	Standard
	Ag	107	25.138	ug/L	0.889	3	53	437657	3	Standard
	Ba	135	25.018	ug/L	0.513	2	15	153411	1	Standard
	Ba	137	25.193	ug/L	0.818	3	16	276243	3	Standard
>	Tb	159		ug/L			184968	195659	1	Standard
	Pb	208	26.664	ug/L	0.249	0	252	2496863	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLE0298-BLK1
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 18:11:10
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26311	38063	2	Standard
>	Sc	45		ug/L			566891	597496	2	Standard
	Cr	52	-0.003	ug/L	0.011	446	10103	10607	1	Standard
	Cr	53	0.015	ug/L	0.002	15	90	121	5	Standard
>	Ge	72		ug/L			32698	34566	1	KED
	Ni	60	0.005	ug/L	0.001	13	3	12	9	KED
	Ni	62	0.002	ug/L	0.007	416	3	3	50	KED
	Cu	63	0.028	ug/L	0.004	15	24	154	12	KED
	Cu	65	0.030	ug/L	0.004	12	17	90	10	KED
	Zn	66	0.367	ug/L	0.046	12	20	231	10	KED
	Zn	67	0.380	ug/L	0.094	24	3	39	22	KED
	As	75	-0.002	ug/L	0.003	112	3	2	26	KED
	Y	89		ug/L			53020	53718	2	Standard
	Kr	83		ug/L			39	38	21	Standard
>	In-1	115		ug/L			7060	7412	2	KED
	Cd	111	-0.002	ug/L	0.004	224	2	1	50	KED
	Cd	114	-0.001	ug/L	0.002	306	3	2	38	KED
>	In	115		ug/L			494263	508864	4	Standard
	Ag	107	0.001	ug/L	0.001	103	53	76	30	Standard
	Ba	135	0.044	ug/L	0.001	3	15	276	7	Standard
	Ba	137	0.041	ug/L	0.002	5	16	448	2	Standard
>	Tb	159		ug/L			184968	189447	1	Standard
	Pb	208	0.003	ug/L	0.001	15	252	551	7	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLE0298-BS1
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 18:15:38
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26311	41219	2	Standard
>	Sc	45		ug/L			566891	595237	2	Standard
	Cr	52	26.019	ug/L	0.637	2	10103	409724	2	Standard
	Cr	53	25.701	ug/L	0.388	1	90	46253	0	Standard
>	Ge	72		ug/L			32698	33724	2	KED
	Ni	60	26.223	ug/L	0.188	0	3	42515	3	KED
	Ni	62	25.826	ug/L	0.457	1	3	6712	3	KED
	Cu	63	27.023	ug/L	0.029	0	24	122552	2	KED
	Cu	65	26.364	ug/L	0.662	2	17	61404	4	KED
	Zn	66	84.748	ug/L	0.880	1	20	47269	1	KED
	Zn	67	82.421	ug/L	2.653	3	3	7480	1	KED
	As	75	25.246	ug/L	0.327	1	3	6830	1	KED
	Y	89		ug/L			53020	55215	3	Standard
	Kr	83		ug/L			39	61	32	Standard
>	In-1	115		ug/L			7060	7117	3	KED
	Cd	111	26.003	ug/L	0.830	3	2	6706	1	KED
	Cd	114	25.869	ug/L	1.271	4	3	17159	2	KED
>	In	115		ug/L			494263	501527	1	Standard
	Ag	107	25.380	ug/L	0.349	1	53	418726	1	Standard
	Ba	135	25.446	ug/L	0.398	1	15	147835	0	Standard
	Ba	137	25.147	ug/L	0.112	0	16	261267	1	Standard
>	Tb	159		ug/L			184968	192205	0	Standard
	Pb	208	25.898	ug/L	0.210	0	252	2382531	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLE0077-MS2
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 10, 2023 18:21:17
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26311	40376	1	Standard
⌈>	**Sc**	**45**		ug/L			566891	644293	2	Standard
|	**Cr**	**52**	**13.646**	ug/L	0.334	2	10103	237982	1	Standard
⌊	**Cr**	**53**	**13.650**	ug/L	0.413	3	90	26636	3	Standard
⌈>	**Ge**	**72**		ug/L			32698	35599	1	KED
|	**Ni**	**60**	**14.278**	ug/L	0.608	4	3	24427	3	KED
|	**Ni**	**62**	**14.855**	ug/L	0.778	5	3	4078	6	KED
|	**Cu**	**63**	**17.856**	ug/L	0.146	0	24	85486	1	KED
|	**Cu**	**65**	**17.890**	ug/L	0.181	1	17	43971	1	KED
|	**Zn**	**66**	**44.470**	ug/L	0.482	1	20	26195	0	KED
|	**Zn**	**67**	**44.109**	ug/L	0.983	2	3	4229	1	KED
⌊	**As**	**75**	**14.390**	ug/L	0.229	1	3	4111	0	KED
	Y	**89**		ug/L			53020	82049	1	Standard
	Kr	**83**		ug/L			39	44	35	Standard
⌈>	**In-1**	**115**		ug/L			7060	7585	1	KED
|	**Cd**	**111**	**13.396**	ug/L	0.268	2	2	3686	3	KED
⌊	**Cd**	**114**	**12.937**	ug/L	0.159	1	3	9156	1	KED
⌈>	**In**	**115**		ug/L			494263	520828	1	Standard
|	**Ag**	**107**	**13.168**	ug/L	0.834	6	53	225463	4	Standard
|	**Ba**	**135**	**18.146**	ug/L	0.439	2	15	109466	0	Standard
⌊	**Ba**	**137**	**18.016**	ug/L	0.372	2	16	194342	1	Standard
⌈>	**Tb**	**159**		ug/L			184968	198562	2	Standard
⌊	**Pb**	**208**	**13.622**	ug/L	0.430	3	252	1294148	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0297-01
Sample Dil Factor: 100
Comments:
Sample Date/Time: Wednesday, May 10, 2023 18:27:27
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26311	43660	3	Standard
>	**Sc**	**45**		ug/L			566891	632000	0	Standard
	Cr	**52**	**2.036**	ug/L	0.025	1	10103	44431	0	Standard
	Cr	**53**	**2.030**	ug/L	0.034	1	90	3972	1	Standard
>	**Ge**	**72**		ug/L			32698	35701	1	KED
	Ni	**60**	**2.054**	ug/L	0.066	3	3	3527	2	KED
	Ni	**62**	**2.148**	ug/L	0.146	6	3	593	4	KED
	Cu	**63**	**3.160**	ug/L	0.088	2	24	15197	4	KED
	Cu	**65**	**3.168**	ug/L	0.115	3	17	7823	3	KED
	Zn	**66**	**13.507**	ug/L	0.376	2	20	7993	1	KED
	Zn	**67**	**13.075**	ug/L	0.153	1	3	1260	2	KED
	As	**75**	**0.552**	ug/L	0.034	6	3	161	7	KED
	Y	**89**		ug/L			53020	79010	1	Standard
	Kr	**83**		ug/L			39	41	17	Standard
>	**In-1**	**115**		ug/L			7060	7693	2	KED
	Cd	**111**	**0.040**	ug/L	0.009	23	2	13	17	KED
	Cd	**114**	**0.048**	ug/L	0.010	21	3	37	18	KED
>	**In**	**115**		ug/L			494263	523935	1	Standard
	Ag	**107**	**0.024**	ug/L	0.002	7	53	473	6	Standard
	Ba	**135**	**6.728**	ug/L	0.172	2	15	40843	2	Standard
	Ba	**137**	**6.775**	ug/L	0.223	3	16	73515	1	Standard
>	**Tb**	**159**		ug/L			184968	202392	1	Standard
	Pb	**208**	**12.755**	ug/L	0.082	0	252	1235605	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0728-DUP2
Sample Dil Factor: 100
Comments:
Sample Date/Time: Wednesday, May 10, 2023 18:32:26
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26311	44324	2	Standard
>	Sc	45		ug/L			566891	616246	1	Standard
	Cr	52	3.859	ug/L	0.104	2	10103	72247	0	Standard
	Cr	53	3.763	ug/L	0.033	0	90	7097	1	Standard
>	Ge	72		ug/L			32698	35016	1	KED
	Ni	60	3.217	ug/L	0.049	1	3	5417	1	KED
	Ni	62	3.072	ug/L	0.041	1	3	831	0	KED
	Cu	63	5.765	ug/L	0.101	1	24	27162	1	KED
	Cu	65	5.632	ug/L	0.198	3	17	13623	1	KED
	Zn	66	25.143	ug/L	0.668	2	20	14575	1	KED
	Zn	67	24.719	ug/L	0.461	1	3	2332	0	KED
	As	75	0.890	ug/L	0.054	6	3	253	5	KED
	Y	89		ug/L			53020	86822	2	Standard
	Kr	83		ug/L			39	38	5	Standard
>	In-1	115		ug/L			7060	7818	1	KED
	Cd	111	0.092	ug/L	0.014	15	2	28	15	KED
	Cd	114	0.078	ug/L	0.020	25	3	60	24	KED
>	In	115		ug/L			494263	505786	3	Standard
	Ag	107	0.019	ug/L	0.001	7	53	378	3	Standard
	Ba	135	12.943	ug/L	0.471	3	15	75798	1	Standard
	Ba	137	12.936	ug/L	0.581	4	16	135424	1	Standard
>	Tb	159		ug/L			184968	196469	1	Standard
	Pb	208	25.694	ug/L	0.107	0	252	2416204	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0728-MS2
Sample Dil Factor: 100
Comments:
Sample Date/Time: Wednesday, May 10, 2023 18:36:54

DEL

Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26311	43287	3	Standard
⌈>	**Sc**	**45**		ug/L			566891	591647	10	Standard
|	**Cr**	**52**	**9.452**	ug/L	0.588	6	10103	154071	5	Standard
⌊	**Cr**	**53**	**9.291**	ug/L	0.725	7	90	16595	2	Standard
⌈>	**Ge**	**72**		ug/L			32698	35179	0	KED
|	**Ni**	**60**	**8.374**	ug/L	0.172	2	3	14163	1	KED
|	**Ni**	**62**	**8.570**	ug/L	0.258	3	3	2325	3	KED
|	**Cu**	**63**	**10.707**	ug/L	0.135	1	24	50663	1	KED
|	**Cu**	**65**	**10.695**	ug/L	0.305	2	17	25987	3	KED
|	**Zn**	**66**	**41.005**	ug/L	0.450	1	20	23871	0	KED
|	**Zn**	**67**	**43.282**	ug/L	1.509	3	3	4102	4	KED
⌊	**As**	**75**	**5.955**	ug/L	0.067	1	3	1683	0	KED
	Y	**89**		ug/L			53020	82678	9	Standard
	Kr	**83**		ug/L			39	48	26	Standard
⌈>	**In-1**	**115**		ug/L			7060	7566	2	KED
|	**Cd**	**111**	**5.358**	ug/L	0.095	1	2	1472	2	KED
⌊	**Cd**	**114**	**5.303**	ug/L	0.159	2	3	3745	3	KED
⌈>	**In**	**115**		ug/L			494263	487343	10	Standard
|	**Ag**	**107**	**4.919**	ug/L	0.394	8	53	78463	4	Standard
|	**Ba**	**135**	**79.346**	ug/L	6.937	8	15	445104	2	Standard
⌊	**Ba**	**137**	**79.361**	ug/L	5.203	6	16	797381	4	Standard
⌈>	**Tb**	**159**		ug/L			184968	188193	8	Standard
⌊	**Pb**	**208**	**31.645**	ug/L	1.866	5	252	2841204	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBL3
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 18:41:23
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26311	28394	4	Standard
⌈>	**Sc**	**45**		ug/L			566891	585732	2	Standard
|	**Cr**	**52**	**-0.022**	ug/L	0.003	13	10103	10113	1	Standard
⌊	**Cr**	**53**	**-0.017**	ug/L	0.007	42	90	63	22	Standard
⌈>	**Ge**	**72**		ug/L			32698	33367	0	KED
|	**Ni**	**60**	**0.004**	ug/L	0.002	58	3	9	34	KED
|	**Ni**	**62**	**0.007**	ug/L	0.028	390	3	5	141	KED
|	**Cu**	**63**	**0.007**	ug/L	0.006	84	24	54	46	KED
|	**Cu**	**65**	**0.001**	ug/L	0.006	513	17	20	71	KED
|	**Zn**	**66**	**0.082**	ug/L	0.030	36	20	66	24	KED
|	**Zn**	**67**	**0.049**	ug/L	0.088	181	3	8	96	KED
⌊	**As**	**75**	**-0.002**	ug/L	0.004	182	3	2	36	KED
	Y	**89**		ug/L			53020	53017	1	Standard
	Kr	**83**		ug/L			39	46	26	Standard
⌈>	**In-1**	**115**		ug/L			7060	7227	2	KED
|	**Cd**	**111**	**-0.004**	ug/L	0.006	150	2	1	114	KED
⌊	**Cd**	**114**	**-0.002**	ug/L	0.000	5	3	1	4	KED
⌈>	**In**	**115**		ug/L			494263	495365	1	Standard
|	**Ag**	**107**	**-0.001**	ug/L	0.001	81	53	38	35	Standard
|	**Ba**	**135**	**0.002**	ug/L	0.002	109	15	27	49	Standard
⌊	**Ba**	**137**	**0.005**	ug/L	0.001	12	16	66	8	Standard
⌈>	**Tb**	**159**		ug/L			184968	186655	1	Standard
⌊	**Pb**	**208**	**0.004**	ug/L	0.000	3	252	641	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCV4
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 18:45:51
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26311	28727	4	Standard
⌈>	**Sc**	**45**		ug/L			566891	609014	3	Standard
|	**Cr**	**52**	**50.570**	ug/L	0.762	1	10103	804391	2	Standard
⌊	**Cr**	**53**	**49.489**	ug/L	1.195	2	90	91015	1	Standard
⌈>	**Ge**	**72**		ug/L			32698	34132	2	KED
|	**Ni**	**60**	**50.592**	ug/L	1.395	2	3	82971	0	KED
|	**Ni**	**62**	**50.224**	ug/L	3.628	7	3	13194	5	KED
|	**Cu**	**63**	**50.541**	ug/L	1.378	2	24	231886	1	KED
|	**Cu**	**65**	**49.221**	ug/L	0.899	1	17	115932	0	KED
|	**Zn**	**66**	**51.252**	ug/L	1.016	1	20	28936	0	KED
|	**Zn**	**67**	**52.016**	ug/L	2.220	4	3	4779	2	KED
⌊	**As**	**75**	**50.828**	ug/L	0.713	1	3	13915	1	KED
	Y	**89**		ug/L			53020	56257	1	Standard
	Kr	**83**		ug/L			39	47	10	Standard
⌈>	**In-1**	**115**		ug/L			7060	7295	0	KED
|	**Cd**	**111**	**50.371**	ug/L	0.324	0	2	13324	0	KED
⌊	**Cd**	**114**	**51.434**	ug/L	0.839	1	3	35003	1	KED
⌈>	**In**	**115**		ug/L			494263	503811	3	Standard
|	**Ag**	**107**	**49.821**	ug/L	1.108	2	53	825169	1	Standard
|	**Ba**	**135**	**50.659**	ug/L	2.522	4	15	295308	1	Standard
⌊	**Ba**	**137**	**49.729**	ug/L	1.869	3	16	518499	0	Standard
⌈>	**Tb**	**159**		ug/L			184968	191232	2	Standard
⌊	**Pb**	**208**	**51.742**	ug/L	0.772	1	252	4734666	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCB4
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 18:53:04
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26311	27100	6	Standard
⌈>	**Sc**	**45**		ug/L			566891	604751	2	Standard
|	**Cr**	**52**	**-0.032**	ug/L	0.003	8	10103	10287	2	Standard
⌊	**Cr**	**53**	**-0.011**	ug/L	0.003	28	90	76	7	Standard
⌈>	**Ge**	**72**		ug/L			32698	35074	2	KED
|	**Ni**	**60**	**-0.000**	ug/L	0.000	30	3	3	0	KED
|	**Ni**	**62**	**-0.008**	ug/L	0.008	107	3	1	173	KED
|	**Cu**	**63**	**0.006**	ug/L	0.002	32	24	52	14	KED
|	**Cu**	**65**	**0.002**	ug/L	0.002	76	17	24	19	KED
|	**Zn**	**66**	**-0.002**	ug/L	0.009	530	20	21	25	KED
|	**Zn**	**67**	**0.004**	ug/L	0.011	296	3	4	24	KED
⌊	**As**	**75**	**-0.001**	ug/L	0.002	282	3	3	17	KED
	Y	**89**		ug/L			53020	52811	0	Standard
	Kr	**83**		ug/L			39	43	26	Standard
⌈>	**In-1**	**115**		ug/L			7060	7273	3	KED
|	**Cd**	**111**	**0.001**	ug/L	0.005	577	2	2	57	KED
⌊	**Cd**	**114**	**0.001**	ug/L	0.006	392	3	4	91	KED
⌈>	**In**	**115**		ug/L			494263	514317	0	Standard
|	**Ag**	**107**	**0.001**	ug/L	0.001	153	53	64	20	Standard
|	**Ba**	**135**	**-0.000**	ug/L	0.001	153	15	13	28	Standard
⌊	**Ba**	**137**	**0.001**	ug/L	0.001	65	16	26	22	Standard
⌈>	**Tb**	**159**		ug/L			184968	191895	0	Standard
⌊	**Pb**	**208**	**0.001**	ug/L	0.000	16	252	332	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLE0301-BLK1
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 18:57:58
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26311	36132	2	Standard
>	Sc	45		ug/L			566891	602137	1	Standard
	Cr	52	0.039	ug/L	0.002	4	10103	11333	1	Standard
	Cr	53	0.041	ug/L	0.004	11	90	170	5	Standard
>	Ge	72		ug/L			32698	35755	1	KED
	Ni	60	0.009	ug/L	0.006	72	3	19	55	KED
	Ni	62	-0.006	ug/L	0.012	205	3	1	173	KED
	Cu	63	0.054	ug/L	0.004	7	24	286	5	KED
	Cu	65	0.049	ug/L	0.005	11	17	139	8	KED
	Zn	66	0.501	ug/L	0.016	3	20	318	1	KED
	Zn	67	0.537	ug/L	0.123	22	3	55	21	KED
	As	75	-0.004	ug/L	0.005	131	3	2	60	KED
	Y	89		ug/L			53020	53484	1	Standard
	Kr	83		ug/L			39	42	9	Standard
>	In-1	115		ug/L			7060	7514	4	KED
	Cd	111	-0.003	ug/L	0.004	162	2	1	69	KED
	Cd	114	0.001	ug/L	0.007	593	3	4	120	KED
>	In	115		ug/L			494263	515717	1	Standard
	Ag	107	-0.001	ug/L	0.001	165	53	41	59	Standard
	Ba	135	0.032	ug/L	0.003	7	15	208	8	Standard
	Ba	137	0.034	ug/L	0.005	15	16	380	13	Standard
>	Tb	159		ug/L			184968	188567	0	Standard
	Pb	208	0.013	ug/L	0.001	6	252	1422	6	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLE0301-BS1
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 19:02:26
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26311	39347	2	Standard
⌈>	Sc	45		ug/L			566891	602736	1	Standard
|	Cr	52	25.728	ug/L	0.632	2	10103	410293	1	Standard
⌊	Cr	53	25.069	ug/L	0.544	2	90	45686	0	Standard
⌈>	Ge	72		ug/L			32698	35760	0	KED
|	Ni	60	24.931	ug/L	0.329	1	3	42859	2	KED
|	Ni	62	25.470	ug/L	0.338	1	3	7019	2	KED
|	Cu	63	26.115	ug/L	0.703	2	24	125575	2	KED
|	Cu	65	25.523	ug/L	0.337	1	17	63008	1	KED
|	Zn	66	81.836	ug/L	1.535	1	20	48404	0	KED
|	Zn	67	77.435	ug/L	1.924	2	3	7455	1	KED
⌊	As	75	24.221	ug/L	0.419	1	3	6951	2	KED
	Y	89		ug/L			53020	55246	3	Standard
	Kr	83		ug/L			39	38	17	Standard
⌈>	In-1	115		ug/L			7060	7223	4	KED
|	Cd	111	25.786	ug/L	0.757	2	2	6750	1	KED
⌊	Cd	114	25.761	ug/L	0.217	0	3	17358	3	KED
⌈>	In	115		ug/L			494263	502123	3	Standard
|	Ag	107	25.046	ug/L	0.929	3	53	413450	2	Standard
|	Ba	135	25.125	ug/L	0.881	3	15	146049	0	Standard
⌊	Ba	137	24.829	ug/L	0.821	3	16	258081	0	Standard
⌈>	Tb	159		ug/L			184968	192140	0	Standard
⌊	Pb	208	26.135	ug/L	0.277	1	252	2403344	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLE0143-BLK1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 19:07:19
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26311	33143	1	Standard
>	Sc	45		ug/L			566891	616779	2	Standard
	Cr	52	-0.028	ug/L	0.019	69	10103	10547	0	Standard
	Cr	53	-0.006	ug/L	0.003	40	90	86	4	Standard
>	Ge	72		ug/L			32698	34454	0	KED
	Ni	60	0.008	ug/L	0.004	46	3	16	35	KED
	Ni	62	-0.003	ug/L	0.008	272	3	2	86	KED
	Cu	63	0.012	ug/L	0.003	29	24	79	20	KED
	Cu	65	0.008	ug/L	0.007	86	17	36	43	KED
	Zn	66	0.171	ug/L	0.019	11	20	119	8	KED
	Zn	67	0.203	ug/L	0.083	40	3	22	33	KED
	As	75	-0.003	ug/L	0.003	91	3	2	28	KED
	Y	89		ug/L			53020	56743	3	Standard
	Kr	83		ug/L			39	53	27	Standard
>	In-1	115		ug/L			7060	7418	0	KED
	Cd	111	-0.004	ug/L	0.002	51	2	1	43	KED
	Cd	114	-0.001	ug/L	0.004	676	3	2	100	KED
>	In	115		ug/L			494263	513562	2	Standard
	Ag	107	0.001	ug/L	0.001	216	53	66	31	Standard
	Ba	135	0.034	ug/L	0.003	9	15	215	6	Standard
	Ba	137	0.034	ug/L	0.001	1	16	377	3	Standard
>	Tb	159		ug/L			184968	193668	0	Standard
	Pb	208	0.007	ug/L	0.000	3	252	869	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLE0143-BS1

Sample Dil Factor: 20

DEL

Comments:

Sample Date/Time: Wednesday, May 10, 2023 19:11:48

Number of Replicates: 3

Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth

Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun

Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac

Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26311	31606	2	Standard
⌈>	**Sc**	**45**		ug/L			566891	583965	11	Standard
|	**Cr**	**52**	**27.552**	ug/L	2.680	9	10103	422084	3	Standard
⌊	**Cr**	**53**	**27.385**	ug/L	2.342	8	90	48042	3	Standard
⌈>	**Ge**	**72**		ug/L			32698	33602	2	KED
|	**Ni**	**60**	**26.623**	ug/L	0.960	3	3	42975	0	KED
|	**Ni**	**62**	**26.995**	ug/L	0.969	3	3	6985	1	KED
|	**Cu**	**63**	**27.153**	ug/L	0.763	2	24	122630	0	KED
|	**Cu**	**65**	**26.767**	ug/L	0.624	2	17	62066	0	KED
|	**Zn**	**66**	**82.288**	ug/L	2.082	2	20	45718	0	KED
|	**Zn**	**67**	**78.775**	ug/L	1.406	1	3	7124	0	KED
⌊	**As**	**75**	**25.075**	ug/L	0.969	3	3	6756	1	KED
	Y	**89**		ug/L			53020	52675	13	Standard
	Kr	**83**		ug/L			39	52	36	Standard
⌈>	**In-1**	**115**		ug/L			7060	7562	3	KED
|	**Cd**	**111**	**24.984**	ug/L	0.283	1	2	6850	1	KED
⌊	**Cd**	**114**	**24.822**	ug/L	0.916	3	3	17500	0	KED
⌈>	**In**	**115**		ug/L			494263	489071	10	Standard
|	**Ag**	**107**	**26.745**	ug/L	1.759	6	53	428268	4	Standard
|	**Ba**	**135**	**27.408**	ug/L	2.670	9	15	154205	1	Standard
⌊	**Ba**	**137**	**27.186**	ug/L	2.617	9	16	273527	2	Standard
⌈>	**Tb**	**159**		ug/L			184968	184312	10	Standard
⌊	**Pb**	**208**	**28.250**	ug/L	2.382	8	252	2477210	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLE0143-BS1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 19:19:15
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26311	30379	2	Standard
>	Sc	45		ug/L			566891	608076	1	Standard
	Cr	52	26.503	ug/L	0.345	1	10103	426187	2	Standard
	Cr	53	26.098	ug/L	0.180	0	90	47989	1	Standard
>	Ge	72		ug/L			32698	35900	1	KED
	Ni	60	25.767	ug/L	0.436	1	3	44460	0	KED
	Ni	62	26.190	ug/L	0.532	2	3	7243	0	KED
	Cu	63	27.050	ug/L	0.206	0	24	130578	1	KED
	Cu	65	26.509	ug/L	0.178	0	17	65696	1	KED
	Zn	66	81.108	ug/L	0.527	0	20	48170	2	KED
	Zn	67	77.729	ug/L	0.535	0	3	7513	1	KED
	As	75	24.804	ug/L	0.297	1	3	7144	1	KED
	Y	89		ug/L			53020	55160	3	Standard
	Kr	83		ug/L			39	68	12	Standard
>	In-1	115		ug/L			7060	7460	2	KED
	Cd	111	25.512	ug/L	0.374	1	2	6904	3	KED
	Cd	114	24.977	ug/L	0.596	2	3	17384	2	KED
>	In	115		ug/L			494263	513378	4	Standard
	Ag	107	26.260	ug/L	0.377	1	53	443361	3	Standard
	Ba	135	26.060	ug/L	1.712	6	15	154721	2	Standard
	Ba	137	25.388	ug/L	1.063	4	16	269741	2	Standard
>	Tb	159		ug/L			184968	194271	3	Standard
	Pb	208	26.682	ug/L	0.951	3	252	2478789	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0728-MS2
Sample Dil Factor: 100
Comments:
Sample Date/Time: Wednesday, May 10, 2023 19:23:43
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26311	32572	2	Standard
>	Sc	45		ug/L			566891	634781	1	Standard
	Cr	52	8.923	ug/L	0.181	2	10103	157301	3	Standard
	Cr	53	8.784	ug/L	0.118	1	90	16931	2	Standard
>	Ge	72		ug/L			32698	35227	2	KED
	Ni	60	7.934	ug/L	0.171	2	3	13433	0	KED
	Ni	62	8.105	ug/L	0.290	3	3	2202	3	KED
	Cu	63	10.173	ug/L	0.317	3	24	48187	1	KED
	Cu	65	10.080	ug/L	0.557	5	17	24508	3	KED
	Zn	66	38.423	ug/L	0.769	2	20	22395	0	KED
	Zn	67	40.690	ug/L	1.664	4	3	3860	3	KED
	As	75	5.570	ug/L	0.174	3	3	1576	1	KED
	Y	89		ug/L			53020	85393	1	Standard
	Kr	83		ug/L			39	44	27	Standard
>	In-1	115		ug/L			7060	7444	0	KED
	Cd	111	5.163	ug/L	0.104	2	2	1395	1	KED
	Cd	114	5.160	ug/L	0.024	0	3	3586	0	KED
>	In	115		ug/L			494263	516165	3	Standard
	Ag	107	4.702	ug/L	0.128	2	53	79838	0	Standard
	Ba	135	76.355	ug/L	3.843	5	15	456151	2	Standard
	Ba	137	75.875	ug/L	3.822	5	16	810591	3	Standard
>	Tb	159		ug/L			184968	202938	1	Standard
	Pb	208	30.231	ug/L	0.583	1	252	2935613	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0348-01
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 19:28:33
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26311	25448	5	Standard
>	Sc	45		ug/L			566891	529281	3	Standard
	Cr	52	0.440	ug/L	0.008	1	10103	15429	3	Standard
	Cr	53	1.137	ug/L	0.039	3	90	1900	3	Standard
>	Ge	72		ug/L			32698	27739	0	KED
	Ni	60	1.356	ug/L	0.067	4	3	1811	5	KED
	Ni	62	1.314	ug/L	0.157	11	3	283	10	KED
	Cu	63	1.848	ug/L	0.018	0	24	6912	0	KED
	Cu	65	1.781	ug/L	0.011	0	17	3424	0	KED
	Zn	66	16.919	ug/L	0.501	2	20	7776	2	KED
	Zn	67	15.634	ug/L	0.215	1	3	1170	0	KED
	As	75	1.258	ug/L	0.034	2	3	282	3	KED
	Y	89		ug/L			53020	48610	0	Standard
	Kr	83		ug/L			39	43	19	Standard
>	In-1	115		ug/L			7060	5801	2	KED
	Cd	111	0.005	ug/L	0.004	92	2	2	33	KED
	Cd	114	0.010	ug/L	0.009	90	3	7	62	KED
>	In	115		ug/L			494263	443792	0	Standard
	Ag	107	0.001	ug/L	0.001	64	53	62	14	Standard
	Ba	135	0.370	ug/L	0.025	6	15	1916	6	Standard
	Ba	137	0.371	ug/L	0.010	2	16	3427	3	Standard
>	Tb	159		ug/L			184968	173759	1	Standard
	Pb	208	0.116	ug/L	0.001	1	252	9874	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBL4
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 19:33:27
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26311	24223	2	Standard
⌈>	**Sc**	**45**		ug/L			566891	575088	3	Standard
|	**Cr**	**52**	**-0.007**	ug/L	0.012	171	10103	10143	3	Standard
⌊	**Cr**	**53**	**0.005**	ug/L	0.011	218	90	100	18	Standard
⌈>	**Ge**	**72**		ug/L			32698	30306	11	KED
|	**Ni**	**60**	**0.002**	ug/L	0.002	106	3	6	56	KED
|	**Ni**	**62**	**-0.008**	ug/L	0.004	58	3	1	86	KED
|	**Cu**	**63**	**0.004**	ug/L	0.003	73	24	36	26	KED
|	**Cu**	**65**	**0.003**	ug/L	0.003	113	17	21	26	KED
|	**Zn**	**66**	**0.070**	ug/L	0.009	13	20	54	19	KED
|	**Zn**	**67**	**0.035**	ug/L	0.010	28	3	6	17	KED
⌊	**As**	**75**	**-0.004**	ug/L	0.002	52	3	1	25	KED
	Y	**89**		ug/L			53020	52486	2	Standard
	Kr	**83**		ug/L			39	40	9	Standard
⌈>	**In-1**	**115**		ug/L			7060	6912	1	KED
|	**Cd**	**111**	**-0.006**	ug/L	0.002	35	2	0	86	KED
⌊	**Cd**	**114**	**-0.002**	ug/L	0.003	164	3	1	103	KED
⌈>	**In**	**115**		ug/L			494263	502957	1	Standard
|	**Ag**	**107**	**-0.001**	ug/L	0.001	187	53	45	43	Standard
|	**Ba**	**135**	**0.001**	ug/L	0.001	180	15	19	34	Standard
⌊	**Ba**	**137**	**0.003**	ug/L	0.001	33	16	49	21	Standard
⌈>	**Tb**	**159**		ug/L			184968	186751	0	Standard
⌊	**Pb**	**208**	**0.004**	ug/L	0.000	10	252	622	5	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0374-03
Sample Dil Factor: 2
Comments:
Sample Date/Time: Wednesday, May 10, 2023 19:40:00
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			26311	27470	2	Standard
⌈>	Sc	45		ug/L			566891	535366	2	Standard
|	Cr	52	1.485	ug/L	0.027	1	10103	30025	1	Standard
⌊	Cr	53	2.427	ug/L	0.053	2	90	4007	4	Standard
⌈>	Ge	72		ug/L			32698	26716	2	KED
|	Ni	60	0.991	ug/L	0.067	6	3	1276	8	KED
|	Ni	62	0.904	ug/L	0.041	4	3	188	2	KED
|	Cu	63	1.735	ug/L	0.003	0	24	6252	2	KED
|	Cu	65	1.743	ug/L	0.055	3	17	3228	5	KED
|	Zn	66	1.685	ug/L	0.077	4	20	761	6	KED
|	Zn	67	2.401	ug/L	0.167	6	3	175	8	KED
⌊	As	75	0.727	ug/L	0.067	9	3	158	8	KED
	Y	89		ug/L			53020	49651	1	Standard
	Kr	83		ug/L			39	38	15	Standard
⌈>	In-1	115		ug/L			7060	5871	1	KED
|	Cd	111	0.008	ug/L	0.007	86	2	3	41	KED
⌊	Cd	114	0.009	ug/L	0.009	96	3	7	63	KED
⌈>	In	115		ug/L			494263	457235	0	Standard
|	Ag	107	-0.000	ug/L	0.001	375	53	46	22	Standard
|	Ba	135	19.449	ug/L	0.234	1	15	103026	0	Standard
⌊	Ba	137	19.409	ug/L	0.370	1	16	183823	1	Standard
⌈>	Tb	159		ug/L			184968	175956	0	Standard
⌊	Pb	208	0.110	ug/L	0.002	1	252	9480	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBL5
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 19:44:29
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26311	24303	5	Standard
⌈>	**Sc**	**45**		ug/L			566891	576791	3	Standard
|	**Cr**	**52**	**0.036**	ug/L	0.027	76	10103	10807	3	Standard
⌊	**Cr**	**53**	**0.024**	ug/L	0.004	15	90	133	5	Standard
⌈>	**Ge**	**72**		ug/L			32698	33136	1	KED
|	**Ni**	**60**	**0.001**	ug/L	0.002	203	3	5	66	KED
|	**Ni**	**62**	**-0.000**	ug/L	0.009	6668	3	3	69	KED
|	**Cu**	**63**	**-0.001**	ug/L	0.001	138	24	20	24	KED
|	**Cu**	**65**	**-0.001**	ug/L	0.003	284	17	15	37	KED
|	**Zn**	**66**	**0.053**	ug/L	0.010	18	20	50	9	KED
|	**Zn**	**67**	**0.042**	ug/L	0.022	52	3	7	25	KED
⌊	**As**	**75**	**-0.004**	ug/L	0.006	153	3	2	68	KED
	Y	**89**		ug/L			53020	52970	2	Standard
	Kr	**83**		ug/L			39	34	8	Standard
⌈>	**In-1**	**115**		ug/L			7060	6842	2	KED
|	**Cd**	**111**	**-0.005**	ug/L	0.007	143	2	0	173	KED
⌊	**Cd**	**114**	**-0.003**	ug/L	0.002	57	3	1	90	KED
⌈>	**In**	**115**		ug/L			494263	506336	1	Standard
|	**Ag**	**107**	**-0.001**	ug/L	0.000	21	53	30	18	Standard
|	**Ba**	**135**	**0.002**	ug/L	0.001	49	15	26	21	Standard
⌊	**Ba**	**137**	**0.003**	ug/L	0.001	35	16	48	23	Standard
⌈>	**Tb**	**159**		ug/L			184968	187814	2	Standard
⌊	**Pb**	**208**	**0.003**	ug/L	0.000	5	252	556	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCV5
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 19:48:57
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26311	24269	4	Standard
⌈>	**Sc**	**45**		ug/L			566891	590553	1	Standard
|	**Cr**	**52**	**51.066**	ug/L	0.308	0	10103	787666	1	Standard
⌊	**Cr**	**53**	**49.455**	ug/L	0.522	1	90	88228	1	Standard
⌈>	**Ge**	**72**		ug/L			32698	33288	2	KED
|	**Ni**	**60**	**49.520**	ug/L	1.070	2	3	79212	1	KED
|	**Ni**	**62**	**50.158**	ug/L	1.195	2	3	12858	0	KED
|	**Cu**	**63**	**50.304**	ug/L	2.007	3	24	225023	1	KED
|	**Cu**	**65**	**50.399**	ug/L	1.418	2	17	115756	1	KED
|	**Zn**	**66**	**51.639**	ug/L	1.107	2	20	28433	1	KED
|	**Zn**	**67**	**50.767**	ug/L	0.397	0	3	4551	1	KED
⌊	**As**	**75**	**49.807**	ug/L	1.104	2	3	13296	0	KED
	Y	**89**		ug/L			53020	54784	0	Standard
	Kr	**83**		ug/L			39	47	4	Standard
⌈>	**In-1**	**115**		ug/L			7060	6811	3	KED
|	**Cd**	**111**	**51.475**	ug/L	1.428	2	2	12706	0	KED
⌊	**Cd**	**114**	**51.093**	ug/L	1.398	2	3	32450	1	KED
⌈>	**In**	**115**		ug/L			494263	508399	2	Standard
|	**Ag**	**107**	**48.081**	ug/L	1.462	3	53	803607	0	Standard
|	**Ba**	**135**	**48.411**	ug/L	0.773	1	15	285047	1	Standard
⌊	**Ba**	**137**	**48.840**	ug/L	0.572	1	16	514273	2	Standard
⌈>	**Tb**	**159**		ug/L			184968	194510	1	Standard
⌊	**Pb**	**208**	**52.796**	ug/L	1.254	2	252	4913375	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCB5
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 19:56:10
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26311	23676	7	Standard
⌈>	**Sc**	**45**		ug/L			566891	595773	0	Standard
|	**Cr**	**52**	**-0.041**	ug/L	0.018	43	10103	9984	3	Standard
⌊	**Cr**	**53**	**-0.018**	ug/L	0.005	27	90	63	14	Standard
⌈>	**Ge**	**72**		ug/L			32698	32613	1	KED
|	**Ni**	**60**	**0.000**	ug/L	0.001	345	3	4	49	KED
|	**Ni**	**62**	**0.000**	ug/L	0.005	5394	3	3	34	KED
|	**Cu**	**63**	**0.002**	ug/L	0.003	144	24	33	39	KED
|	**Cu**	**65**	**-0.000**	ug/L	0.002	574	17	16	24	KED
|	**Zn**	**66**	**-0.015**	ug/L	0.002	15	20	12	8	KED
|	**Zn**	**67**	**0.015**	ug/L	0.045	306	3	5	78	KED
⌊	**As**	**75**	**-0.001**	ug/L	0.004	298	3	2	33	KED
	Y	**89**		ug/L			53020	54754	2	Standard
	Kr	**83**		ug/L			39	36	18	Standard
⌈>	**In-1**	**115**		ug/L			7060	7291	3	KED
|	**Cd**	**111**	**0.001**	ug/L	0.009	818	2	2	94	KED
⌊	**Cd**	**114**	**0.002**	ug/L	0.001	91	3	4	26	KED
⌈>	**In**	**115**		ug/L			494263	530983	2	Standard
|	**Ag**	**107**	**0.001**	ug/L	0.001	69	53	74	16	Standard
|	**Ba**	**135**	**-0.001**	ug/L	0.001	164	15	12	45	Standard
⌊	**Ba**	**137**	**0.001**	ug/L	0.001	103	16	31	44	Standard
⌈>	**Tb**	**159**		ug/L			184968	189359	0	Standard
⌊	**Pb**	**208**	**0.001**	ug/L	0.000	20	252	351	5	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: RINSE
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 20:21:08
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			26311	30742	2	Standard
⌈>	**Sc**	**45**		ug/L			566891	624857	1	Standard
|	**Cr**	**52**	**0.084**	ug/L	0.034	40	10103	12489	5	Standard
⌊	**Cr**	**53**	**0.132**	ug/L	0.039	29	90	350	22	Standard
⌈>	**Ge**	**72**		ug/L			32698	35356	3	KED
|	**Ni**	**60**	**0.546**	ug/L	0.226	41	3	922	37	KED
|	**Ni**	**62**	**0.552**	ug/L	0.142	25	3	153	22	KED
|	**Cu**	**63**	**0.023**	ug/L	0.003	11	24	133	9	KED
|	**Cu**	**65**	**0.022**	ug/L	0.011	48	17	72	36	KED
|	**Zn**	**66**	**0.601**	ug/L	0.108	17	20	372	12	KED
|	**Zn**	**67**	**0.587**	ug/L	0.108	18	3	59	13	KED
⌊	**As**	**75**	**-0.003**	ug/L	0.003	102	3	2	26	KED
	Y	**89**		ug/L			53020	55653	0	Standard
	Kr	**83**		ug/L			39	54	22	Standard
⌈>	**In-1**	**115**		ug/L			7060	7908	3	KED
|	**Cd**	**111**	**-0.003**	ug/L	0.007	242	2	1	124	KED
⌊	**Cd**	**114**	**0.001**	ug/L	0.004	386	3	4	68	KED
⌈>	**In**	**115**		ug/L			494263	523603	3	Standard
|	**Ag**	**107**	**0.000**	ug/L	0.001	196	53	64	19	Standard
|	**Ba**	**135**	**0.121**	ug/L	0.027	22	15	751	23	Standard
⌊	**Ba**	**137**	**0.118**	ug/L	0.013	11	16	1298	13	Standard
⌈>	**Tb**	**159**		ug/L			184968	191054	1	Standard
⌊	**Pb**	**208**	**0.005**	ug/L	0.000	7	252	724	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL1
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 20:26:00
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L				27881	1	Standard
⌈>	**Sc**	**45**		ug/L				600447	1	Standard
|	**Cr**	**52**		ug/L				10860	1	Standard
⌊	**Cr**	**53**		ug/L				113	5	Standard
⌈>	**Ge**	**72**		ug/L				35776	2	KED
|	**Ni**	**60**		ug/L				145	17	KED
|	**Ni**	**62**		ug/L				28	29	KED
|	**Cu**	**63**		ug/L				53	12	KED
|	**Cu**	**65**		ug/L				29	13	KED
|	**Zn**	**66**		ug/L				87	12	KED
|	**Zn**	**67**		ug/L				19	11	KED
⌊	**As**	**75**		ug/L				2	44	KED
	Y	**89**		ug/L				55660	0	Standard
	Kr	**83**		ug/L				44	13	Standard
⌈>	**In-1**	**115**		ug/L				7587	4	KED
|	**Cd**	**111**		ug/L				4	13	KED
⌊	**Cd**	**114**		ug/L				1	106	KED
⌈>	**In**	**115**		ug/L				519229	3	Standard
⌊	**Ag**	**107**		ug/L				33	13	Standard
⌈>	**Tb**	**159**		ug/L				190542	1	Standard
⌊	**Pb**	**208**		ug/L				524	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCV6
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 20:30:26
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File:

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27881	29050	1	Standard
⌈>	**Sc**	**45**		ug/L			600447	626146	0	Standard
|	**Cr**	**52**	**49.167**	ug/L	0.927	1	10860	804779	2	Standard
⌊	**Cr**	**53**	**49.187**	ug/L	0.914	1	113	93067	2	Standard
⌈>	**Ge**	**72**		ug/L			35776	35306	0	KED
|	**Ni**	**60**	**48.708**	ug/L	1.092	2	145	82805	2	KED
|	**Ni**	**62**	**48.519**	ug/L	1.369	2	28	13221	2	KED
|	**Cu**	**63**	**49.493**	ug/L	0.730	1	53	234973	1	KED
|	**Cu**	**65**	**49.388**	ug/L	0.330	0	29	120371	1	KED
|	**Zn**	**66**	**50.574**	ug/L	1.281	2	87	29610	2	KED
|	**Zn**	**67**	**50.034**	ug/L	0.468	0	19	4773	1	KED
⌊	**As**	**75**	**49.621**	ug/L	0.526	1	2	14052	0	KED
	Y	**89**		ug/L			55660	56069	3	Standard
	Kr	**83**		ug/L			44	62	6	Standard
⌈>	**In-1**	**115**		ug/L			7587	7367	0	KED
|	**Cd**	**111**	**50.587**	ug/L	0.561	1	4	13516	1	KED
⌊	**Cd**	**114**	**50.851**	ug/L	0.642	1	1	34948	1	KED
⌈>	**In**	**115**		ug/L			519229	515799	3	Standard
⌊	**Ag**	**107**	**47.565**	ug/L	1.435	3	33	806664	2	Standard
⌈>	**Tb**	**159**		ug/L			190542	197846	0	Standard
⌊	**Pb**	**208**	**49.588**	ug/L	0.492	0	524	4695653	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCB6
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 20:37:35
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27881	30403	3	Standard
⌈>	**Sc**	**45**		ug/L			600447	612688	0	Standard
|	**Cr**	**52**	**-0.028**	ug/L	0.012	42	10860	10643	1	Standard
⌊	**Cr**	**53**	**-0.019**	ug/L	0.007	33	113	80	16	Standard
⌈>	**Ge**	**72**		ug/L			35776	35407	2	KED
|	**Ni**	**60**	**-0.008**	ug/L	0.005	61	145	130	8	KED
|	**Ni**	**62**	**-0.052**	ug/L	0.015	29	28	13	28	KED
|	**Cu**	**63**	**0.002**	ug/L	0.001	24	53	64	6	KED
|	**Cu**	**65**	**-0.001**	ug/L	0.004	251	29	25	35	KED
|	**Zn**	**66**	**-0.024**	ug/L	0.007	30	87	72	4	KED
|	**Zn**	**67**	**-0.091**	ug/L	0.043	47	19	10	36	KED
⌊	**As**	**75**	**0.010**	ug/L	0.003	36	2	4	22	KED
	Y	**89**		ug/L			55660	55266	2	Standard
	Kr	**83**		ug/L			44	45	19	Standard
⌈>	**In-1**	**115**		ug/L			7587	7638	0	KED
|	**Cd**	**111**	**-0.008**	ug/L	0.000	0	4	1		KED
⌊	**Cd**	**114**	**0.002**	ug/L	0.001	80	1	3	34	KED
⌈>	**In**	**115**		ug/L			519229	538099	1	Standard
⌊	**Ag**	**107**	**0.004**	ug/L	0.001	16	33	101	10	Standard
⌈>	**Tb**	**159**		ug/L			190542	193312	1	Standard
⌊	**Pb**	**208**	**0.001**	ug/L	0.000	34	524	610	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0578-BLK1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 20:44:18
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	40138	4	Standard
>	Sc	45		ug/L			600447	621245	1	Standard
	Cr	52	0.003	ug/L	0.001	45	10860	11280	1	Standard
	Cr	53	0.007	ug/L	0.004	47	113	131	4	Standard
>	Ge	72		ug/L			35776	35226	1	KED
	Ni	60	0.016	ug/L	0.020	127	145	170	19	KED
	Ni	62	0.011	ug/L	0.039	354	28	31	33	KED
	Cu	63	0.003	ug/L	0.003	102	53	67	23	KED
	Cu	65	0.007	ug/L	0.002	30	29	46	11	KED
	Zn	66	0.068	ug/L	0.015	22	87	125	6	KED
	Zn	67	0.057	ug/L	0.101	177	19	24	38	KED
	As	75	-0.003	ug/L	0.003	105	2	1	78	KED
	Y	89		ug/L			55660	55969	0	Standard
	Kr	83		ug/L			44	39	14	Standard
>	In-1	115		ug/L			7587	7906	1	KED
	Cd	111	-0.007	ug/L	0.008	103	4	2	98	KED
	Cd	114	0.002	ug/L	0.005	193	1	3	93	KED
>	In	115		ug/L			519229	537592	1	Standard
	Ag	107	0.005	ug/L	0.004	76	33	119	54	Standard
>	Tb	159		ug/L			190542	199925	0	Standard
	Pb	208	0.006	ug/L	0.005	84	524	1100	41	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0578-BS1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 20:48:43
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	37980	2	Standard
⌈>	Sc	45		ug/L			600447	626934	1	Standard
|	Cr	52	25.864	ug/L	0.160	0	10860	429230	1	Standard
⌊	Cr	53	25.501	ug/L	0.209	0	113	48367	2	Standard
⌈>	Ge	72		ug/L			35776	35083	0	KED
|	Ni	60	26.314	ug/L	0.807	3	145	44509	2	KED
|	Ni	62	25.633	ug/L	0.562	2	28	6954	1	KED
|	Cu	63	27.020	ug/L	0.634	2	53	127486	1	KED
|	Cu	65	27.020	ug/L	0.828	3	29	65447	2	KED
|	Zn	66	81.453	ug/L	3.084	3	87	47326	3	KED
|	Zn	67	77.935	ug/L	0.929	1	19	7377	0	KED
⌊	As	75	24.974	ug/L	0.394	1	2	7029	1	KED
	Y	89		ug/L			55660	56955	1	Standard
	Kr	83		ug/L			44	48	19	Standard
⌈>	In-1	115		ug/L			7587	7518	2	KED
|	Cd	111	25.173	ug/L	0.343	1	4	6865	2	KED
⌊	Cd	114	25.138	ug/L	0.825	3	1	17623	1	KED
⌈>	In	115		ug/L			519229	527783	1	Standard
⌊	Ag	107	25.955	ug/L	0.935	3	33	450479	2	Standard
⌈>	Tb	159		ug/L			190542	197638	2	Standard
⌊	Pb	208	26.529	ug/L	0.826	3	524	2508791	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLE0072-BLK1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 20:53:08
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	37385	3	Standard
⌈>	Sc	45		ug/L			600447	615099	2	Standard
|	Cr	52	0.015	ug/L	0.013	88	10860	11362	1	Standard
⌊	Cr	53	0.002	ug/L	0.005	210	113	120	5	Standard
⌈>	Ge	72		ug/L			35776	34993	1	KED
|	Ni	60	0.065	ug/L	0.008	12	145	250	4	KED
|	Ni	62	0.021	ug/L	0.042	200	28	33	34	KED
|	Cu	63	0.010	ug/L	0.004	39	53	97	17	KED
|	Cu	65	0.009	ug/L	0.003	34	29	51	16	KED
|	Zn	66	0.232	ug/L	0.032	13	87	219	8	KED
|	Zn	67	0.207	ug/L	0.030	14	19	38	7	KED
⌊	As	75	0.001	ug/L	0.009	1125	2	2	105	KED
	Y	89		ug/L			55660	55904	3	Standard
	Kr	83		ug/L			44	43	15	Standard
⌈>	In-1	115		ug/L			7587	7454	2	KED
|	Cd	111	-0.002	ug/L	0.002	84	4	3	15	KED
⌊	Cd	114	0.003	ug/L	0.002	75	1	3	40	KED
⌈>	In	115		ug/L			519229	537278	1	Standard
⌊	Ag	107	0.005	ug/L	0.002	53	33	116	35	Standard
⌈>	Tb	159		ug/L			190542	195405	3	Standard
⌊	Pb	208	0.006	ug/L	0.001	16	524	1060	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLE0072-BS1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 20:57:33
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	36094	2	Standard
⌈>	Sc	45		ug/L			600447	572755	10	Standard
|	Cr	52	27.852	ug/L	2.315	8	10860	419085	4	Standard
⌊	Cr	53	27.110	ug/L	1.969	7	113	46728	4	Standard
⌈>	Ge	72		ug/L			35776	35198	0	KED
|	Ni	60	25.504	ug/L	0.222	0	145	43291	1	KED
|	Ni	62	25.791	ug/L	0.614	2	28	7019	1	KED
|	Cu	63	26.575	ug/L	0.425	1	53	125806	1	KED
|	Cu	65	26.358	ug/L	0.294	1	29	64056	1	KED
|	Zn	66	79.691	ug/L	1.477	1	87	46463	1	KED
|	Zn	67	76.937	ug/L	1.501	1	19	7307	2	KED
⌊	As	75	24.014	ug/L	0.245	1	2	6781	0	KED
	Y	89		ug/L			55660	53298	9	Standard
	Kr	83		ug/L			44	53	40	Standard
⌈>	In-1	115		ug/L			7587	7340	4	KED
|	Cd	111	25.290	ug/L	0.565	2	4	6730	1	KED
⌊	Cd	114	25.211	ug/L	0.729	2	1	17251	1	KED
⌈>	In	115		ug/L			519229	495969	9	Standard
⌊	Ag	107	26.638	ug/L	2.172	8	33	432404	2	Standard
⌈>	Tb	159		ug/L			190542	186305	10	Standard
⌊	Pb	208	27.713	ug/L	2.476	8	524	2455977	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0394-01
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 21:02:34
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	49327	2	Standard
>	Sc	45		ug/L			600447	731706	2	Standard
	Cr	52	12.124	ug/L	0.147	1	10860	241826	1	Standard
	Cr	53	12.156	ug/L	0.116	0	113	26975	1	Standard
>	Ge	72		ug/L			35776	34902	1	KED
	Ni	60	10.919	ug/L	0.231	2	145	18456	0	KED
	Ni	62	10.987	ug/L	0.493	4	28	2979	2	KED
	Cu	63	24.875	ug/L	0.831	3	53	116737	1	KED
	Cu	65	24.816	ug/L	0.603	2	29	59790	0	KED
	Zn	66	53.146	ug/L	1.002	1	87	30749	0	KED
	Zn	67	51.278	ug/L	1.131	2	19	4834	0	KED
	As	75	5.436	ug/L	0.145	2	2	1523	2	KED
	Y	89		ug/L			55660	260380	0	Standard
	Kr	83		ug/L			44	76	23	Standard
>	In-1	115		ug/L			7587	7321	2	KED
	Cd	111	0.108	ug/L	0.008	7	4	32	8	KED
	Cd	114	0.152	ug/L	0.016	10	1	105	10	KED
>	In	115		ug/L			519229	519189	4	Standard
	Ag	107	0.100	ug/L	0.001	0	33	1748	4	Standard
>	Tb	159		ug/L			190542	217094	0	Standard
	Pb	208	9.840	ug/L	0.276	2	524	1022869	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0687-DUP2
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 21:07:50
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	48948	3	Standard
>	Sc	45		ug/L			600447	717992	2	Standard
	Cr	52	12.278	ug/L	0.108	0	10860	240147	1	Standard
	Cr	53	12.202	ug/L	0.281	2	113	26574	3	Standard
>	Ge	72		ug/L			35776	34652	1	KED
	Ni	60	11.215	ug/L	0.148	1	145	18817	0	KED
	Ni	62	10.981	ug/L	0.055	0	28	2958	1	KED
	Cu	63	24.789	ug/L	0.125	0	53	115536	1	KED
	Cu	65	25.011	ug/L	0.663	2	29	59828	1	KED
	Zn	66	52.626	ug/L	0.823	1	87	30233	1	KED
	Zn	67	51.295	ug/L	1.023	1	19	4802	2	KED
	As	75	5.303	ug/L	0.187	3	2	1475	2	KED
	Y	89		ug/L			55660	264619	1	Standard
	Kr	83		ug/L			44	89	9	Standard
>	In-1	115		ug/L			7587	7338	4	KED
	Cd	111	0.127	ug/L	0.015	11	4	37	6	KED
	Cd	114	0.124	ug/L	0.007	5	1	86	9	KED
>	In	115		ug/L			519229	507795	1	Standard
	Ag	107	0.096	ug/L	0.003	3	33	1642	4	Standard
>	Tb	159		ug/L			190542	217783	1	Standard
	Pb	208	9.267	ug/L	0.055	0	524	966473	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0687-MS2
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 21:12:15
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	43798	4	Standard
>	Sc	45		ug/L			600447	712380	2	Standard
	Cr	52	33.848	ug/L	0.696	2	10860	634231	2	Standard
	Cr	53	33.218	ug/L	0.454	1	113	71537	1	Standard
>	Ge	72		ug/L			35776	34769	1	KED
	Ni	60	35.480	ug/L	0.262	0	145	59435	1	KED
	Ni	62	35.792	ug/L	0.375	1	28	9613	2	KED
	Cu	63	49.044	ug/L	0.181	0	53	229305	0	KED
	Cu	65	49.587	ug/L	0.401	0	29	119023	1	KED
	Zn	66	127.164	ug/L	1.063	0	87	73182	0	KED
	Zn	67	123.226	ug/L	4.628	3	19	11545	2	KED
	As	75	28.650	ug/L	0.300	1	2	7990	0	KED
	Y	89		ug/L			55660	263207	0	Standard
	Kr	83		ug/L			44	70	9	Standard
>	In-1	115		ug/L			7587	7271	0	KED
	Cd	111	24.050	ug/L	0.279	1	4	6344	0	KED
	Cd	114	24.062	ug/L	0.530	2	1	16324	2	KED
>	In	115		ug/L			519229	498952	2	Standard
	Ag	107	20.136	ug/L	0.422	2	33	330380	0	Standard
>	Tb	159		ug/L			190542	217190	0	Standard
	Pb	208	31.824	ug/L	0.401	1	524	3308209	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0687-MSD2
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 21:16:40
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	42886	5	Standard
>	Sc	45		ug/L			600447	713189	2	Standard
	Cr	52	32.799	ug/L	0.728	2	10860	615560	1	Standard
	Cr	53	32.872	ug/L	0.464	1	113	70870	1	Standard
>	Ge	72		ug/L			35776	34920	2	KED
	Ni	60	34.594	ug/L	0.175	0	145	58202	1	KED
	Ni	62	34.631	ug/L	1.105	3	28	9337	1	KED
	Cu	63	47.676	ug/L	1.144	2	53	223798	0	KED
	Cu	65	47.132	ug/L	2.056	4	29	113539	2	KED
	Zn	66	125.287	ug/L	2.668	2	87	72401	1	KED
	Zn	67	124.246	ug/L	1.881	1	19	11692	1	KED
	As	75	27.961	ug/L	0.434	1	2	7831	1	KED
	Y	89		ug/L			55660	247812	1	Standard
	Kr	83		ug/L			44	69	20	Standard
>	In-1	115		ug/L			7587	7305	2	KED
	Cd	111	24.552	ug/L	0.448	1	4	6504	0	KED
	Cd	114	24.586	ug/L	1.060	4	1	16749	3	KED
>	In	115		ug/L			519229	504337	3	Standard
	Ag	107	17.259	ug/L	0.157	0	33	286300	2	Standard
>	Tb	159		ug/L			190542	221250	1	Standard
	Pb	208	30.874	ug/L	0.352	1	524	3269435	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0687-PS2
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 21:21:05
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27881	48757	4	Standard
⌈>	**Sc**	**45**		ug/L			600447	729719	3	Standard
|	**Cr**	**52**	**33.107**	ug/L	0.489	1	10860	635718	2	Standard
⌊	**Cr**	**53**	**32.943**	ug/L	0.273	0	113	72672	2	Standard
⌈>	**Ge**	**72**		ug/L			35776	34959	1	KED
|	**Ni**	**60**	**36.373**	ug/L	0.157	0	145	61261	1	KED
|	**Ni**	**62**	**36.640**	ug/L	0.186	0	28	9894	1	KED
|	**Cu**	**63**	**49.754**	ug/L	0.930	1	53	233872	1	KED
|	**Cu**	**65**	**49.585**	ug/L	0.881	1	29	119664	2	KED
|	**Zn**	**66**	**132.457**	ug/L	3.739	2	87	76640	2	KED
|	**Zn**	**67**	**126.800**	ug/L	2.433	1	19	11947	1	KED
⌊	**As**	**75**	**30.260**	ug/L	0.577	1	2	8485	0	KED
	Y	**89**		ug/L			55660	274282	1	Standard
	Kr	**83**		ug/L			44	81	11	Standard
⌈>	**In-1**	**115**		ug/L			7587	7422	1	KED
|	**Cd**	**111**	**25.084**	ug/L	0.224	0	4	6753	0	KED
⌊	**Cd**	**114**	**25.290**	ug/L	0.359	1	1	17510	0	KED
⌈>	**In**	**115**		ug/L			519229	501845	2	Standard
⌊	**Ag**	**107**	**24.345**	ug/L	0.418	1	33	401777	1	Standard
⌈>	**Tb**	**159**		ug/L			190542	220281	1	Standard
⌊	**Pb**	**208**	**32.333**	ug/L	0.276	0	524	3409321	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBL6
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 21:25:31
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27881	28733	3	Standard
⌈>	**Sc**	**45**		ug/L			600447	603287	2	Standard
|	**Cr**	**52**	**-0.017**	ug/L	0.014	80	10860	10646	3	Standard
⌊	**Cr**	**53**	**0.002**	ug/L	0.010	424	113	118	17	Standard
⌈>	**Ge**	**72**		ug/L			35776	35096	0	KED
|	**Ni**	**60**	**0.102**	ug/L	0.008	7	145	314	4	KED
|	**Ni**	**62**	**0.112**	ug/L	0.027	23	28	58	12	KED
|	**Cu**	**63**	**0.004**	ug/L	0.001	33	53	71	8	KED
|	**Cu**	**65**	**0.005**	ug/L	0.009	160	29	41	51	KED
|	**Zn**	**66**	**0.017**	ug/L	0.010	60	87	95	6	KED
|	**Zn**	**67**	**-0.043**	ug/L	0.035	81	19	15	21	KED
⌊	**As**	**75**	**0.000**	ug/L	0.003	2492	2	2	44	KED
	Y	**89**		ug/L			55660	53844	3	Standard
	Kr	**83**		ug/L			44	50	7	Standard
⌈>	**In-1**	**115**		ug/L			7587	7525	0	KED
|	**Cd**	**111**	**-0.003**	ug/L	0.002	62	4	3	17	KED
⌊	**Cd**	**114**	**0.004**	ug/L	0.006	149	1	4	90	KED
⌈>	**In**	**115**		ug/L			519229	512731	3	Standard
⌊	**Ag**	**107**	**0.002**	ug/L	0.000	11	33	68	8	Standard
⌈>	**Tb**	**159**		ug/L			190542	193475	1	Standard
⌊	**Pb**	**208**	**0.000**	ug/L	0.000	135	524	539	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCV7
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 21:29:56
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27881	27927	5	Standard
⌈>	**Sc**	**45**		ug/L			600447	636370	1	Standard
|	**Cr**	**52**	**49.675**	ug/L	0.721	1	10860	826310	2	Standard
⌊	**Cr**	**53**	**48.401**	ug/L	0.534	1	113	93080	2	Standard
⌈>	**Ge**	**72**		ug/L			35776	34775	2	KED
|	**Ni**	**60**	**49.673**	ug/L	0.162	0	145	83169	2	KED
|	**Ni**	**62**	**50.020**	ug/L	0.731	1	28	13424	2	KED
|	**Cu**	**63**	**50.381**	ug/L	1.600	3	53	235511	1	KED
|	**Cu**	**65**	**49.220**	ug/L	1.166	2	29	118121	0	KED
|	**Zn**	**66**	**51.392**	ug/L	1.224	2	87	29629	2	KED
|	**Zn**	**67**	**52.114**	ug/L	1.313	2	19	4897	4	KED
⌊	**As**	**75**	**50.182**	ug/L	0.760	1	2	13995	0	KED
	Y	**89**		ug/L			55660	56443	3	Standard
	Kr	**83**		ug/L			44	49	15	Standard
⌈>	**In-1**	**115**		ug/L			7587	7362	1	KED
|	**Cd**	**111**	**49.881**	ug/L	1.210	2	4	13314	1	KED
⌊	**Cd**	**114**	**50.034**	ug/L	1.724	3	1	34349	1	KED
⌈>	**In**	**115**		ug/L			519229	514927	3	Standard
⌊	**Ag**	**107**	**48.588**	ug/L	2.233	4	33	822157	2	Standard
⌈>	**Tb**	**159**		ug/L			190542	200300	2	Standard
⌊	**Pb**	**208**	**50.450**	ug/L	1.358	2	524	4835024	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCB7
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 21:37:06
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27881	26930	5	Standard
⌈>	**Sc**	**45**		ug/L			600447	613915	1	Standard
|	**Cr**	**52**	**-0.009**	ug/L	0.004	42	10860	10962	2	Standard
⌊	**Cr**	**53**	**0.011**	ug/L	0.007	64	113	135	7	Standard
⌈>	**Ge**	**72**		ug/L			35776	34316	3	KED
|	**Ni**	**60**	**0.071**	ug/L	0.027	37	145	257	19	KED
|	**Ni**	**62**	**0.060**	ug/L	0.053	89	28	43	33	KED
|	**Cu**	**63**	**0.023**	ug/L	0.025	111	53	158	76	KED
|	**Cu**	**65**	**0.023**	ug/L	0.027	118	29	82	79	KED
|	**Zn**	**66**	**-0.028**	ug/L	0.029	104	87	68	26	KED
|	**Zn**	**67**	**-0.033**	ug/L	0.051	155	19	15	30	KED
⌊	**As**	**75**	**0.014**	ug/L	0.024	172	2	6	112	KED
	Y	**89**		ug/L			55660	54932	0	Standard
	Kr	**83**		ug/L			44	48	18	Standard
⌈>	**In-1**	**115**		ug/L			7587	7637	1	KED
|	**Cd**	**111**	**-0.009**	ug/L	0.007	75	4	1	124	KED
⌊	**Cd**	**114**	**-0.000**	ug/L	0.003	3557	1	1	113	KED
⌈>	**In**	**115**		ug/L			519229	519681	1	Standard
⌊	**Ag**	**107**	**0.003**	ug/L	0.000	6	33	78	5	Standard
⌈>	**Tb**	**159**		ug/L			190542	193231	0	Standard
⌊	**Pb**	**208**	**0.001**	ug/L	0.000	30	524	613	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0467-02
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 21:41:32
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	45032	3	Standard
>	Sc	45		ug/L			600447	742114	2	Standard
	Cr	52	15.234	ug/L	0.188	1	10860	304818	3	Standard
	Cr	53	14.955	ug/L	0.198	1	113	33634	2	Standard
>	Ge	72		ug/L			35776	34523	2	KED
	Ni	60	13.744	ug/L	0.476	3	145	22932	0	KED
	Ni	62	13.777	ug/L	0.715	5	28	3687	2	KED
	Cu	63	35.145	ug/L	1.144	3	53	163083	1	KED
	Cu	65	34.406	ug/L	1.355	3	29	81948	1	KED
	Zn	66	67.279	ug/L	2.612	3	87	38459	1	KED
	Zn	67	66.917	ug/L	3.870	5	19	6229	3	KED
	As	75	7.207	ug/L	0.238	3	2	1996	1	KED
	Y	89		ug/L			55660	305809	2	Standard
	Kr	83		ug/L			44	67	10	Standard
>	In-1	115		ug/L			7587	7350	2	KED
	Cd	111	0.179	ug/L	0.026	14	4	51	12	KED
	Cd	114	0.231	ug/L	0.005	2	1	160	4	KED
>	In	115		ug/L			519229	505016	3	Standard
	Ag	107	0.154	ug/L	0.013	8	33	2584	4	Standard
>	Tb	159		ug/L			190542	223968	1	Standard
	Pb	208	14.203	ug/L	0.190	1	524	1522706	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0467-03
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 21:45:57
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	42622	4	Standard
>	Sc	45		ug/L			600447	690566	8	Standard
	Cr	52	15.019	ug/L	0.756	5	10860	279010	4	Standard
	Cr	53	14.873	ug/L	0.661	4	113	31049	4	Standard
>	Ge	72		ug/L			35776	34971	0	KED
	Ni	60	12.825	ug/L	0.224	1	145	21699	1	KED
	Ni	62	13.074	ug/L	0.636	4	28	3549	5	KED
	Cu	63	30.875	ug/L	0.469	1	53	145218	1	KED
	Cu	65	31.639	ug/L	0.368	1	29	76384	0	KED
	Zn	66	60.680	ug/L	0.755	1	87	35170	1	KED
	Zn	67	58.931	ug/L	1.790	3	19	5565	3	KED
	As	75	6.862	ug/L	0.217	3	2	1927	3	KED
	Y	89		ug/L			55660	279514	1	Standard
	Kr	83		ug/L			44	93	4	Standard
>	In-1	115		ug/L			7587	7541	3	KED
	Cd	111	0.206	ug/L	0.031	15	4	60	12	KED
	Cd	114	0.210	ug/L	0.029	13	1	149	12	KED
>	In	115		ug/L			519229	467677	10	Standard
	Ag	107	0.158	ug/L	0.011	6	33	2457	6	Standard
>	Tb	159		ug/L			190542	208844	7	Standard
	Pb	208	14.122	ug/L	0.952	6	524	1406990	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0467-04
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 21:50:22
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	42039	1	Standard
⌈>	Sc	45		ug/L			600447	722307	1	Standard
|	Cr	52	15.403	ug/L	0.058	0	10860	299782	1	Standard
⌊	Cr	53	15.134	ug/L	0.260	1	113	33122	1	Standard
⌈>	Ge	72		ug/L			35776	34398	1	KED
|	Ni	60	13.305	ug/L	0.513	3	145	22132	2	KED
|	Ni	62	13.397	ug/L	0.866	6	28	3575	5	KED
|	Cu	63	36.367	ug/L	0.976	2	53	168193	1	KED
|	Cu	65	36.194	ug/L	1.342	3	29	85923	2	KED
|	Zn	66	67.215	ug/L	1.956	2	87	38301	1	KED
|	Zn	67	67.347	ug/L	2.218	3	19	6251	2	KED
⌊	As	75	8.338	ug/L	0.373	4	2	2301	3	KED
	Y	89		ug/L			55660	280878	1	Standard
	Kr	83		ug/L			44	83	13	Standard
⌈>	In-1	115		ug/L			7587	7122	1	KED
|	Cd	111	0.253	ug/L	0.034	13	4	69	11	KED
⌊	Cd	114	0.270	ug/L	0.039	14	1	180	15	KED
⌈>	In	115		ug/L			519229	504674	3	Standard
⌊	Ag	107	0.171	ug/L	0.006	3	33	2876	3	Standard
⌈>	Tb	159		ug/L			190542	219689	1	Standard
⌊	Pb	208	16.464	ug/L	0.545	3	524	1730980	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0467-05
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 21:54:47
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	42806	1	Standard
⌈>	Sc	45		ug/L			600447	716286	1	Standard
|	Cr	52	14.519	ug/L	0.159	1	10860	281010	2	Standard
⌊	Cr	53	14.343	ug/L	0.209	1	113	31134	0	Standard
⌈>	Ge	72		ug/L			35776	35309	1	KED
|	Ni	60	11.887	ug/L	0.160	1	145	20315	0	KED
|	Ni	62	12.515	ug/L	0.232	1	28	3432	3	KED
|	Cu	63	30.686	ug/L	0.194	0	53	145729	2	KED
|	Cu	65	30.856	ug/L	0.789	2	29	75198	0	KED
|	Zn	66	59.607	ug/L	0.519	0	87	34885	2	KED
|	Zn	67	59.174	ug/L	0.672	1	19	5643	3	KED
⌊	As	75	6.641	ug/L	0.158	2	2	1883	3	KED
	Y	89		ug/L			55660	284193	1	Standard
	Kr	83		ug/L			44	70	37	Standard
⌈>	In-1	115		ug/L			7587	7365	0	KED
|	Cd	111	0.162	ug/L	0.039	24	4	47	21	KED
⌊	Cd	114	0.184	ug/L	0.024	12	1	128	12	KED
⌈>	In	115		ug/L			519229	495838	1	Standard
⌊	Ag	107	0.144	ug/L	0.007	4	33	2379	5	Standard
⌈>	Tb	159		ug/L			190542	222154	1	Standard
⌊	Pb	208	13.638	ug/L	0.162	1	524	1450648	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0467-01
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 21:59:12
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	44599	4	Standard
⌈>	Sc	45		ug/L			600447	731713	0	Standard
|	Cr	52	14.739	ug/L	0.210	1	10860	291190	1	Standard
⌊	Cr	53	14.638	ug/L	0.276	1	113	32460	2	Standard
⌈>	Ge	72		ug/L			35776	35401	1	KED
|	Ni	60	12.912	ug/L	0.463	3	145	22105	1	KED
|	Ni	62	13.360	ug/L	0.173	1	28	3671	2	KED
|	Cu	63	30.949	ug/L	0.224	0	53	147347	1	KED
|	Cu	65	30.919	ug/L	0.887	2	29	75545	1	KED
|	Zn	66	59.526	ug/L	1.559	2	87	34920	1	KED
|	Zn	67	58.622	ug/L	1.849	3	19	5602	1	KED
⌊	As	75	6.546	ug/L	0.025	0	2	1860	2	KED
	Y	89		ug/L			55660	287110	1	Standard
	Kr	83		ug/L			44	80	8	Standard
⌈>	In-1	115		ug/L			7587	7523	1	KED
|	Cd	111	0.226	ug/L	0.023	10	4	65	8	KED
⌊	Cd	114	0.271	ug/L	0.051	18	1	192	19	KED
⌈>	In	115		ug/L			519229	509267	1	Standard
⌊	Ag	107	0.139	ug/L	0.004	2	33	2357	2	Standard
⌈>	Tb	159		ug/L			190542	226516	2	Standard
⌊	Pb	208	13.207	ug/L	0.260	1	524	1431982	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0578-DUP1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 22:03:37
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	45160	2	Standard
⌈>	Sc	45		ug/L			600447	709676	1	Standard
|	Cr	52	15.013	ug/L	0.150	0	10860	287439	2	Standard
⌊	Cr	53	14.978	ug/L	0.160	1	113	32210	0	Standard
⌈>	Ge	72		ug/L			35776	35230	1	KED
|	Ni	60	13.396	ug/L	0.331	2	145	22823	1	KED
|	Ni	62	13.330	ug/L	0.172	1	28	3645	2	KED
|	Cu	63	30.968	ug/L	0.110	0	53	146728	1	KED
|	Cu	65	31.310	ug/L	0.657	2	29	76161	2	KED
|	Zn	66	63.015	ug/L	0.738	1	87	36788	0	KED
|	Zn	67	62.204	ug/L	1.138	1	19	5916	2	KED
⌊	As	75	6.961	ug/L	0.186	2	2	1968	1	KED
	Y	89		ug/L			55660	283560	1	Standard
	Kr	83		ug/L			44	85	22	Standard
⌈>	In-1	115		ug/L			7587	7404	1	KED
|	Cd	111	0.232	ug/L	0.043	18	4	66	17	KED
⌊	Cd	114	0.233	ug/L	0.017	7	1	162	8	KED
⌈>	In	115		ug/L			519229	492481	0	Standard
⌊	Ag	107	0.145	ug/L	0.004	2	33	2386	3	Standard
⌈>	Tb	159		ug/L			190542	220224	3	Standard
⌊	Pb	208	13.158	ug/L	0.300	2	524	1386701	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0578-MS1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 22:08:02
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	41520	3	Standard
>	Sc	45		ug/L			600447	717446	3	Standard
	Cr	52	33.556	ug/L	0.650	1	10860	633326	3	Standard
	Cr	53	33.648	ug/L	0.689	2	113	72972	2	Standard
>	Ge	72		ug/L			35776	35212	3	KED
	Ni	60	35.184	ug/L	2.100	5	145	59616	2	KED
	Ni	62	34.676	ug/L	1.662	4	28	9422	1	KED
	Cu	63	52.193	ug/L	2.020	3	53	246942	1	KED
	Cu	65	52.053	ug/L	2.137	4	29	126415	1	KED
	Zn	66	126.817	ug/L	6.484	5	87	73838	2	KED
	Zn	67	124.720	ug/L	2.442	1	19	11832	1	KED
	As	75	27.696	ug/L	0.850	3	2	7818	0	KED
	Y	89		ug/L			55660	271396	0	Standard
	Kr	83		ug/L			44	100	14	Standard
>	In-1	115		ug/L			7587	7455	2	KED
	Cd	111	22.716	ug/L	0.408	1	4	6142	1	KED
	Cd	114	22.248	ug/L	0.741	3	1	15469	2	KED
>	In	115		ug/L			519229	514419	4	Standard
	Ag	107	18.205	ug/L	0.801	4	33	307640	0	Standard
>	Tb	159		ug/L			190542	221393	0	Standard
	Pb	208	33.456	ug/L	0.468	1	524	3545238	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0578-MSD1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 22:12:27
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	44015	3	Standard
>	Sc	45		ug/L			600447	721052	3	Standard
	Cr	52	36.977	ug/L	0.616	1	10860	700011	2	Standard
	Cr	53	37.171	ug/L	1.010	2	113	80983	2	Standard
>	Ge	72		ug/L			35776	34237	2	KED
	Ni	60	39.106	ug/L	0.914	2	145	64469	0	KED
	Ni	62	38.644	ug/L	0.795	2	28	10214	0	KED
	Cu	63	57.815	ug/L	0.699	1	53	266134	1	KED
	Cu	65	57.115	ug/L	0.664	1	29	134960	1	KED
	Zn	66	142.699	ug/L	4.197	2	87	80822	0	KED
	Zn	67	135.117	ug/L	3.802	2	19	12463	1	KED
	As	75	30.878	ug/L	0.621	2	2	8478	0	KED
	Y	89		ug/L			55660	287252	1	Standard
	Kr	83		ug/L			44	95	12	Standard
>	In-1	115		ug/L			7587	7377	2	KED
	Cd	111	25.360	ug/L	0.541	2	4	6784	0	KED
	Cd	114	25.469	ug/L	0.366	1	1	17530	3	KED
>	In	115		ug/L			519229	497333	1	Standard
	Ag	107	19.764	ug/L	0.913	4	33	323142	2	Standard
>	Tb	159		ug/L			190542	219212	0	Standard
	Pb	208	37.388	ug/L	0.368	0	524	3923097	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLD0578-PS1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 22:16:52
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27881	45372	6	Standard
⌈>	**Sc**	**45**		ug/L			600447	718540	2	Standard
|	**Cr**	**52**	**36.741**	ug/L	0.599	1	10860	693185	1	Standard
⌊	**Cr**	**53**	**36.056**	ug/L	0.837	2	113	78288	0	Standard
⌈>	**Ge**	**72**		ug/L			35776	34859	1	KED
|	**Ni**	**60**	**37.401**	ug/L	0.136	0	145	62811	1	KED
|	**Ni**	**62**	**38.589**	ug/L	0.944	2	28	10387	2	KED
|	**Cu**	**63**	**56.121**	ug/L	0.896	1	53	263033	0	KED
|	**Cu**	**65**	**55.252**	ug/L	1.012	1	29	132930	0	KED
|	**Zn**	**66**	**138.618**	ug/L	1.496	1	87	79980	1	KED
|	**Zn**	**67**	**132.100**	ug/L	4.039	3	19	12408	2	KED
⌊	**As**	**75**	**30.730**	ug/L	0.687	2	2	8591	0	KED
	Y	**89**		ug/L			55660	288018	2	Standard
	Kr	**83**		ug/L			44	80	8	Standard
⌈>	**In-1**	**115**		ug/L			7587	7491	3	KED
|	**Cd**	**111**	**24.290**	ug/L	0.743	3	4	6597	1	KED
⌊	**Cd**	**114**	**24.183**	ug/L	0.272	1	1	16899	2	KED
⌈>	**In**	**115**		ug/L			519229	508102	0	Standard
⌊	**Ag**	**107**	**24.891**	ug/L	0.312	1	33	416033	1	Standard
⌈>	**Tb**	**159**		ug/L			190542	220946	1	Standard
⌊	**Pb**	**208**	**37.236**	ug/L	0.193	0	524	3937864	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBL7
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 22:21:18
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27881	27642	4	Standard
⌈>	**Sc**	**45**		ug/L			600447	603813	2	Standard
|	**Cr**	**52**	**-0.051**	ug/L	0.021	41	10860	10122	2	Standard
⌊	**Cr**	**53**	**-0.013**	ug/L	0.005	41	113	90	8	Standard
⌈>	**Ge**	**72**		ug/L			35776	35433	2	KED
|	**Ni**	**60**	**0.021**	ug/L	0.007	33	145	179	6	KED
|	**Ni**	**62**	**0.047**	ug/L	0.030	63	28	41	20	KED
|	**Cu**	**63**	**0.002**	ug/L	0.002	110	53	62	15	KED
|	**Cu**	**65**	**0.002**	ug/L	0.001	43	29	34	5	KED
|	**Zn**	**66**	**-0.045**	ug/L	0.015	32	87	60	13	KED
|	**Zn**	**67**	**-0.092**	ug/L	0.078	84	19	10	71	KED
⌊	**As**	**75**	**-0.000**	ug/L	0.004	850	2	2	48	KED
	Y	**89**		ug/L			55660	56192	1	Standard
	Kr	**83**		ug/L			44	38	7	Standard
⌈>	**In-1**	**115**		ug/L			7587	7673	1	KED
|	**Cd**	**111**	**-0.008**	ug/L	0.003	40	4	1	50	KED
⌊	**Cd**	**114**	**0.003**	ug/L	0.005	205	1	3	104	KED
⌈>	**In**	**115**		ug/L			519229	511235	2	Standard
⌊	**Ag**	**107**	**0.002**	ug/L	0.000	5	33	62	0	Standard
⌈>	**Tb**	**159**		ug/L			190542	202248	1	Standard
⌊	**Pb**	**208**	**-0.000**	ug/L	0.000	102	524	535	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCV8
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 22:25:43
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27881	27192	3	Standard
⌈>	**Sc**	**45**		ug/L			600447	608622	1	Standard
|	**Cr**	**52**	**50.684**	ug/L	0.378	0	10860	805976	1	Standard
⌊	**Cr**	**53**	**49.678**	ug/L	1.026	2	113	91340	1	Standard
⌈>	**Ge**	**72**		ug/L			35776	35568	0	KED
|	**Ni**	**60**	**48.330**	ug/L	0.870	1	145	82768	1	KED
|	**Ni**	**62**	**48.442**	ug/L	0.639	1	28	13298	1	KED
|	**Cu**	**63**	**49.417**	ug/L	0.579	1	53	236363	1	KED
|	**Cu**	**65**	**48.231**	ug/L	1.469	3	29	118414	2	KED
|	**Zn**	**66**	**49.608**	ug/L	0.551	1	87	29261	1	KED
|	**Zn**	**67**	**49.324**	ug/L	1.186	2	19	4740	2	KED
⌊	**As**	**75**	**49.969**	ug/L	0.076	0	2	14256	0	KED
	Y	**89**		ug/L			55660	56809	4	Standard
	Kr	**83**		ug/L			44	47	18	Standard
⌈>	**In-1**	**115**		ug/L			7587	7389	1	KED
|	**Cd**	**111**	**49.546**	ug/L	1.061	2	4	13275	1	KED
⌊	**Cd**	**114**	**49.494**	ug/L	0.422	0	1	34117	1	KED
⌈>	**In**	**115**		ug/L			519229	506372	2	Standard
⌊	**Ag**	**107**	**49.532**	ug/L	0.924	1	33	824893	2	Standard
⌈>	**Tb**	**159**		ug/L			190542	201346	2	Standard
⌊	**Pb**	**208**	**50.146**	ug/L	1.169	2	524	4830970	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCB8
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 22:32:53
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27881	27637	6	Standard
⌈>	**Sc**	**45**		ug/L			600447	601964	1	Standard
|	**Cr**	**52**	**-0.026**	ug/L	0.016	62	10860	10474	1	Standard
⌊	**Cr**	**53**	**-0.005**	ug/L	0.003	63	113	103	4	Standard
⌈>	**Ge**	**72**		ug/L			35776	36137	1	KED
|	**Ni**	**60**	**0.016**	ug/L	0.012	73	145	174	12	KED
|	**Ni**	**62**	**-0.044**	ug/L	0.014	32	28	16	24	KED
|	**Cu**	**63**	**0.002**	ug/L	0.003	112	53	66	21	KED
|	**Cu**	**65**	**0.002**	ug/L	0.001	67	29	33	8	KED
|	**Zn**	**66**	**-0.036**	ug/L	0.015	41	87	66	12	KED
|	**Zn**	**67**	**-0.081**	ug/L	0.028	34	19	12	24	KED
⌊	**As**	**75**	**0.003**	ug/L	0.007	258	2	3	65	KED
	Y	**89**		ug/L			55660	54450	2	Standard
	Kr	**83**		ug/L			44	43	21	Standard
⌈>	**In-1**	**115**		ug/L			7587	7720	2	KED
|	**Cd**	**111**	**-0.009**	ug/L	0.005	57	4	1	91	KED
⌊	**Cd**	**114**	**0.002**	ug/L	0.003	180	1	2	70	KED
⌈>	**In**	**115**		ug/L			519229	507656	1	Standard
⌊	**Ag**	**107**	**0.002**	ug/L	0.001	25	33	67	14	Standard
⌈>	**Tb**	**159**		ug/L			190542	194063	1	Standard
⌊	**Pb**	**208**	**0.000**	ug/L	0.000	133	524	566	8	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0467-06
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 22:37:19
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	44112	4	Standard
⌈>	Sc	45		ug/L			600447	709054	2	Standard
|	Cr	52	13.866	ug/L	0.406	2	10860	266055	0	Standard
⌊	Cr	53	14.000	ug/L	0.297	2	113	30081	1	Standard
⌈>	Ge	72		ug/L			35776	34999	2	KED
|	Ni	60	11.928	ug/L	0.327	2	145	20201	1	KED
|	Ni	62	11.602	ug/L	0.091	0	28	3155	1	KED
|	Cu	63	30.347	ug/L	0.908	2	53	142788	1	KED
|	Cu	65	29.640	ug/L	1.166	3	29	71581	1	KED
|	Zn	66	67.932	ug/L	2.944	4	87	39370	2	KED
|	Zn	67	65.305	ug/L	2.153	3	19	6167	1	KED
⌊	As	75	7.893	ug/L	0.118	1	2	2217	1	KED
	Y	89		ug/L			55660	269034	2	Standard
	Kr	83		ug/L			44	83	10	Standard
⌈>	In-1	115		ug/L			7587	7517	0	KED
|	Cd	111	0.202	ug/L	0.025	12	4	59	11	KED
⌊	Cd	114	0.197	ug/L	0.029	14	1	139	14	KED
⌈>	In	115		ug/L			519229	510602	1	Standard
⌊	Ag	107	0.120	ug/L	0.002	1	33	2052	2	Standard
⌈>	Tb	159		ug/L			190542	219802	3	Standard
⌊	Pb	208	11.171	ug/L	0.325	2	524	1174869	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0467-07
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 22:41:44
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	42440	3	Standard
>	Sc	45		ug/L			600447	715357	1	Standard
	Cr	52	12.859	ug/L	0.040	0	10860	250000	1	Standard
	Cr	53	13.009	ug/L	0.357	2	113	28218	3	Standard
>	Ge	72		ug/L			35776	34864	1	KED
	Ni	60	13.775	ug/L	0.257	1	145	23223	1	KED
	Ni	62	13.798	ug/L	0.584	4	28	3734	5	KED
	Cu	63	24.510	ug/L	0.357	1	53	114927	0	KED
	Cu	65	24.470	ug/L	0.195	0	29	58904	0	KED
	Zn	66	53.122	ug/L	1.279	2	87	30701	1	KED
	Zn	67	53.087	ug/L	0.536	1	19	4999	0	KED
	As	75	6.441	ug/L	0.043	0	2	1803	0	KED
	Y	89		ug/L			55660	266859	1	Standard
	Kr	83		ug/L			44	73	3	Standard
>	In-1	115		ug/L			7587	7219	2	KED
	Cd	111	0.125	ug/L	0.023	18	4	36	14	KED
	Cd	114	0.155	ug/L	0.036	23	1	106	25	KED
>	In	115		ug/L			519229	505027	1	Standard
	Ag	107	0.096	ug/L	0.002	2	33	1635	3	Standard
>	Tb	159		ug/L			190542	222110	1	Standard
	Pb	208	9.491	ug/L	0.215	2	524	1009179	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0467-08
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 22:46:09
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	42216	5	Standard
>	Sc	45		ug/L			600447	737126	2	Standard
	Cr	52	15.985	ug/L	0.581	3	10860	316818	1	Standard
	Cr	53	15.684	ug/L	0.237	1	113	35018	1	Standard
>	Ge	72		ug/L			35776	34661	1	KED
	Ni	60	13.792	ug/L	0.237	1	145	23115	0	KED
	Ni	62	13.986	ug/L	0.109	0	28	3761	1	KED
	Cu	63	36.202	ug/L	0.537	1	53	168737	0	KED
	Cu	65	36.196	ug/L	0.297	0	29	86607	0	KED
	Zn	66	68.237	ug/L	0.710	1	87	39187	0	KED
	Zn	67	64.700	ug/L	1.108	1	19	6053	0	KED
	As	75	7.814	ug/L	0.160	2	2	2174	0	KED
	Y	89		ug/L			55660	305716	1	Standard
	Kr	83		ug/L			44	94	9	Standard
>	In-1	115		ug/L			7587	7387	3	KED
	Cd	111	0.230	ug/L	0.034	14	4	65	10	KED
	Cd	114	0.189	ug/L	0.020	10	1	132	12	KED
>	In	115		ug/L			519229	504320	1	Standard
	Ag	107	0.173	ug/L	0.003	1	33	2906	2	Standard
>	Tb	159		ug/L			190542	220823	3	Standard
	Pb	208	16.723	ug/L	0.540	3	524	1766569	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23A0467-09
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 22:50:34
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	36941	3	Standard
⌈>	Sc	45		ug/L			600447	707482	1	Standard
|	Cr	52	13.403	ug/L	0.125	0	10860	257172	1	Standard
⌊	Cr	53	12.977	ug/L	0.121	0	113	27843	2	Standard
⌈>	Ge	72		ug/L			35776	35020	0	KED
|	Ni	60	12.070	ug/L	0.218	1	145	20458	1	KED
|	Ni	62	12.224	ug/L	0.385	3	28	3325	3	KED
|	Cu	63	25.027	ug/L	0.373	1	53	117881	1	KED
|	Cu	65	24.754	ug/L	0.415	1	29	59854	1	KED
|	Zn	66	60.844	ug/L	0.755	1	87	35314	0	KED
|	Zn	67	108.303	ug/L	2.395	2	19	10225	1	KED
⌊	As	75	5.746	ug/L	0.088	1	2	1616	1	KED
	Y	89		ug/L			55660	254580	0	Standard
	Kr	83		ug/L			44	77	7	Standard
⌈>	In-1	115		ug/L			7587	7416	2	KED
|	Cd	111	0.125	ug/L	0.025	19	4	37	19	KED
⌊	Cd	114	0.136	ug/L	0.011	7	1	95	8	KED
⌈>	In	115		ug/L			519229	494495	1	Standard
⌊	Ag	107	0.103	ug/L	0.004	3	33	1702	2	Standard
⌈>	Tb	159		ug/L			190542	218399	1	Standard
⌊	Pb	208	11.623	ug/L	0.140	1	524	1215246	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0393-04
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 22:54:53
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			27881	28956	0	Standard
> Sc	45		ug/L			600447	632927	2	Standard
Cr	52	83.030	ug/L	1.894	2	10860	1365955	3	Standard
Cr	53	82.553	ug/L	2.117	2	113	157762	1	Standard
> Ge	72		ug/L			35776	31287	1	KED
Ni	60	23.659	ug/L	0.556	2	145	35697	0	KED
Ni	62	27.194	ug/L	0.581	2	28	6576	0	KED
Cu	63	2498.049	ug/L	48.349	1	53	10506397	1	KED
Cu	65	2569.123	ug/L	57.301	2	29	5546287	0	KED
Zn	66	7354.329	ug/L	288.789	3	87	3803532	3	KED
Zn	67	6774.525	ug/L	131.191	1	19	570411	2	KED
As	75	1054.444	ug/L	16.893	1	2	264562	0	KED
Y	89		ug/L			55660	282337	3	Standard
Kr	83		ug/L			44	108	15	Standard
> In-1	115		ug/L			7587	16696	0	KED
Cd	111	2.127	ug/L	0.026	1	4	1296	1	KED
Cd	114	2.036	ug/L	0.022	1	1	3175	0	KED
> In	115		ug/L			519229	910777	0	Standard
Ag	107	0.753	ug/L	0.018	2	33	22621	2	Standard
> Tb	159		ug/L			190542	158646	1	Standard
Pb	208	1211.380	ug/L	38.633	3	524	91952848	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLE0072-DUP1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 22:59:18
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			27881	30314	5	Standard
> Sc	45		ug/L			600447	626535	3	Standard
Cr	52	85.240	ug/L	2.397	2	10860	1386839	0	Standard
Cr	53	84.038	ug/L	2.060	2	113	158948	2	Standard
> Ge	72		ug/L			35776	30534	0	KED
Ni	60	24.774	ug/L	0.555	2	145	36484	2	KED
Ni	62	29.303	ug/L	0.311	1	28	6915	0	KED
Cu	63	2817.731	ug/L	58.540	2	53	11567687	2	KED
Cu	65	2764.990	ug/L	27.962	1	29	5826764	0	KED
Zn	66	7637.721	ug/L	56.656	0	87	3856088	0	KED
Zn	67	7060.766	ug/L	69.114	0	19	580207	0	KED
As	75	1082.369	ug/L	5.384	0	2	265078	0	KED
Y	89		ug/L			55660	316457	1	Standard
Kr	83		ug/L			44	93	15	Standard
> In-1	115		ug/L			7587	15962	1	KED
Cd	111	2.478	ug/L	0.072	2	4	1442	3	KED
Cd	114	2.439	ug/L	0.022	0	1	3635	0	KED
> In	115		ug/L			519229	899865	0	Standard
Ag	107	0.832	ug/L	0.021	2	33	24686	1	Standard
> Tb	159		ug/L			190542	160807	0	Standard
Pb	208	1201.329	ug/L	19.280	1	524	92444349	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLE0072-MS1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 23:03:43
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	27291	5	Standard
>	Sc	45		ug/L			600447	608593	1	Standard
	Cr	52	110.095	ug/L	3.295	2	10860	1737242	1	Standard
	Cr	53	108.219	ug/L	1.529	1	113	198841	0	Standard
>	Ge	72		ug/L			35776	29436	2	KED
	Ni	60	48.982	ug/L	1.875	3	145	69379	1	KED
	Ni	62	54.981	ug/L	2.524	4	28	12479	1	KED
	Cu	63	3042.849	ug/L	134.473	4	53	12033133	1	KED
	Cu	65	3048.235	ug/L	86.303	2	29	6189784	1	KED
	Zn	66	7993.790	ug/L	257.905	3	87	3888434	0	KED
	Zn	67	7334.042	ug/L	256.573	3	19	580633	0	KED
	As	75	1176.119	ug/L	32.073	2	2	277546	0	KED
	Y	89		ug/L			55660	297960	0	Standard
	Kr	83		ug/L			44	105	19	Standard
>	In-1	115		ug/L			7587	15976	1	KED
	Cd	111	10.853	ug/L	0.123	1	4	6294	0	KED
	Cd	114	10.994	ug/L	0.247	2	1	16388	2	KED
>	In	115		ug/L			519229	904235	1	Standard
	Ag	107	4.491	ug/L	0.132	2	33	133599	1	Standard
>	Tb	159		ug/L			190542	157324	0	Standard
	Pb	208	1280.635	ug/L	22.743	1	524	96414758	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLE0072-MSD1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 23:08:08
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	26877	3	Standard
>	Sc	45		ug/L			600447	611441	1	Standard
	Cr	52	111.436	ug/L	3.976	3	10860	1766516	2	Standard
	Cr	53	110.105	ug/L	4.573	4	113	203202	2	Standard
>	Ge	72		ug/L			35776	29152	0	KED
	Ni	60	48.618	ug/L	0.881	1	145	68250	2	KED
	Ni	62	51.789	ug/L	1.011	1	28	11653	2	KED
	Cu	63	2806.959	ug/L	37.381	1	53	11000916	0	KED
	Cu	65	2816.731	ug/L	71.420	2	29	5666231	1	KED
	Zn	66	8265.905	ug/L	136.269	1	87	3984176	1	KED
	Zn	67	7616.692	ug/L	44.699	0	19	597534	0	KED
	As	75	1296.431	ug/L	11.821	0	2	303108	0	KED
	Y	89		ug/L			55660	289686	0	Standard
	Kr	83		ug/L			44	106	18	Standard
>	In-1	115		ug/L			7587	16333	1	KED
	Cd	111	11.000	ug/L	0.211	1	4	6521	0	KED
	Cd	114	10.726	ug/L	0.114	1	1	16343	0	KED
>	In	115		ug/L			519229	951207	3	Standard
	Ag	107	4.378	ug/L	0.114	2	33	136944	1	Standard
>	Tb	159		ug/L			190542	157453	1	Standard
	Pb	208	1380.771	ug/L	20.785	1	524	104030860	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLE0072-PS1
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 23:12:33
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27881	27119	1	Standard
>	**Sc**	**45**		ug/L			600447	605688	1	Standard
	Cr	**52**	**107.946**	ug/L	4.648	4	10860	1695312	3	Standard
	Cr	**53**	**105.056**	ug/L	2.621	2	113	192093	1	Standard
>	**Ge**	**72**		ug/L			35776	29173	1	KED
	Ni	**60**	**48.441**	ug/L	1.072	2	145	68035	1	KED
	Ni	**62**	**51.887**	ug/L	1.933	3	28	11679	2	KED
	Cu	**63**	**2659.663**	ug/L	25.993	0	53	10431378	0	KED
	Cu	**65**	**2674.653**	ug/L	89.805	3	29	5383864	2	KED
	Zn	**66**	**7740.478**	ug/L	41.895	0	87	3733813	1	KED
	Zn	**67**	**7109.067**	ug/L	112.602	1	19	558068	0	KED
	As	**75**	**1097.144**	ug/L	7.742	0	2	256700	0	KED
	Y	**89**		ug/L			55660	287334	1	Standard
	Kr	**83**		ug/L			44	88	2	Standard
>	**In-1**	**115**		ug/L			7587	15754	1	KED
	Cd	**111**	**11.382**	ug/L	0.376	3	4	6507	1	KED
	Cd	**114**	**11.428**	ug/L	0.447	3	1	16790	2	KED
>	**In**	**115**		ug/L			519229	924163	2	Standard
	Ag	**107**	**11.450**	ug/L	0.297	2	33	347999	1	Standard
>	**Tb**	**159**		ug/L			190542	158980	1	Standard
	Pb	**208**	**1253.989**	ug/L	4.849	0	524	95406487	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBL8
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 23:16:59
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27881	22829	2	Standard
⌈>	**Sc**	**45**		ug/L			600447	564251	0	Standard
|	**Cr**	**52**	**0.030**	ug/L	0.034	113	10860	10641	4	Standard
⌊	**Cr**	**53**	**0.025**	ug/L	0.031	125	113	148	35	Standard
⌈>	**Ge**	**72**		ug/L			35776	31647	0	KED
|	**Ni**	**60**	**0.041**	ug/L	0.020	47	145	190	15	KED
|	**Ni**	**62**	**0.027**	ug/L	0.012	44	28	31	9	KED
|	**Cu**	**63**	**0.082**	ug/L	0.007	8	53	398	7	KED
|	**Cu**	**65**	**0.082**	ug/L	0.013	15	29	205	13	KED
|	**Zn**	**66**	**0.206**	ug/L	0.036	17	87	185	10	KED
|	**Zn**	**67**	**0.094**	ug/L	0.046	48	19	25	15	KED
⌊	**As**	**75**	**0.075**	ug/L	0.010	13	2	20	12	KED
	Y	**89**		ug/L			55660	54412	1	Standard
	Kr	**83**		ug/L			44	53	15	Standard
⌈>	**In-1**	**115**		ug/L			7587	6568	3	KED
|	**Cd**	**111**	**-0.012**	ug/L	0.002	18	4	0	86	KED
⌊	**Cd**	**114**	**0.002**	ug/L	0.001	26	1	2	8	KED
⌈>	**In**	**115**		ug/L			519229	523168	3	Standard
⌊	**Ag**	**107**	**0.008**	ug/L	0.008	104	33	168	86	Standard
⌈>	**Tb**	**159**		ug/L			190542	194825	1	Standard
⌊	**Pb**	**208**	**0.275**	ug/L	0.271	98	524	25917	95	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCV9
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 23:21:24
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27881	24653	5	Standard
⌈>	**Sc**	**45**		ug/L			600447	591563	1	Standard
|	**Cr**	**52**	**49.379**	ug/L	0.755	1	10860	763476	1	Standard
⌊	**Cr**	**53**	**48.410**	ug/L	0.314	0	113	86533	1	Standard
⌈>	**Ge**	**72**		ug/L			35776	32024	1	KED
|	**Ni**	**60**	**49.999**	ug/L	0.359	0	145	77097	2	KED
|	**Ni**	**62**	**50.338**	ug/L	0.599	1	28	12440	0	KED
|	**Cu**	**63**	**50.853**	ug/L	0.479	0	53	218983	1	KED
|	**Cu**	**65**	**50.279**	ug/L	0.509	1	29	111154	1	KED
|	**Zn**	**66**	**50.970**	ug/L	0.590	1	87	27069	2	KED
|	**Zn**	**67**	**51.946**	ug/L	1.180	2	19	4493	1	KED
⌊	**As**	**75**	**50.153**	ug/L	1.115	2	2	12882	1	KED
	Y	**89**		ug/L			55660	54346	3	Standard
	Kr	**83**		ug/L			44	41	30	Standard
⌈>	**In-1**	**115**		ug/L			7587	6872	2	KED
|	**Cd**	**111**	**49.954**	ug/L	1.477	2	4	12444	0	KED
⌊	**Cd**	**114**	**50.060**	ug/L	0.658	1	1	32090	1	KED
⌈>	**In**	**115**		ug/L			519229	500870	0	Standard
⌊	**Ag**	**107**	**48.812**	ug/L	0.335	0	33	804173	0	Standard
⌈>	**Tb**	**159**		ug/L			190542	196347	1	Standard
⌊	**Pb**	**208**	**52.229**	ug/L	0.704	1	524	4907728	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCB9
Sample Dil Factor:
Comments:
Sample Date/Time: Wednesday, May 10, 2023 23:28:34
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27881	24509	6	Standard
⌈>	**Sc**	**45**		ug/L			600447	583759	2	Standard
|	**Cr**	**52**	**-0.028**	ug/L	0.018	66	10860	10137	2	Standard
⌊	**Cr**	**53**	**-0.011**	ug/L	0.006	52	113	90	13	Standard
⌈>	**Ge**	**72**		ug/L			35776	33371	3	KED
|	**Ni**	**60**	**-0.006**	ug/L	0.007	114	145	125	11	KED
|	**Ni**	**62**	**-0.014**	ug/L	0.022	152	28	22	22	KED
|	**Cu**	**63**	**0.016**	ug/L	0.007	43	53	120	27	KED
|	**Cu**	**65**	**0.018**	ug/L	0.005	27	29	69	15	KED
|	**Zn**	**66**	**0.001**	ug/L	0.018	3110	87	81	10	KED
|	**Zn**	**67**	**-0.063**	ug/L	0.009	14	19	12	8	KED
⌊	**As**	**75**	**0.023**	ug/L	0.007	31	2	8	20	KED
	Y	**89**		ug/L			55660	54110	1	Standard
	Kr	**83**		ug/L			44	46	13	Standard
⌈>	**In-1**	**115**		ug/L			7587	6862	2	KED
|	**Cd**	**111**	**-0.002**	ug/L	0.004	201	4	3	34	KED
⌊	**Cd**	**114**	**0.002**	ug/L	0.004	180	1	2	81	KED
⌈>	**In**	**115**		ug/L			519229	515794	3	Standard
⌊	**Ag**	**107**	**0.003**	ug/L	0.001	26	33	82	17	Standard
⌈>	**Tb**	**159**		ug/L			190542	195697	2	Standard
⌊	**Pb**	**208**	**0.007**	ug/L	0.000	1	524	1220	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0071-01
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 23:33:00
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	41800	4	Standard
⌈>	Sc	45		ug/L			600447	694893	1	Standard
|	Cr	52	14.760	ug/L	0.330	2	10860	276862	1	Standard
⌊	Cr	53	14.749	ug/L	0.355	2	113	31060	2	Standard
⌈>	Ge	72		ug/L			35776	33387	1	KED
|	Ni	60	12.096	ug/L	0.354	2	145	19540	1	KED
|	Ni	62	12.236	ug/L	0.141	1	28	3173	2	KED
|	Cu	63	34.440	ug/L	0.616	1	53	154616	0	KED
|	Cu	65	33.554	ug/L	0.420	1	29	77335	1	KED
|	Zn	66	61.897	ug/L	0.534	0	87	34249	1	KED
|	Zn	67	60.911	ug/L	2.396	3	19	5489	2	KED
⌊	As	75	7.068	ug/L	0.157	2	2	1894	2	KED
	Y	89		ug/L			55660	279345	1	Standard
	Kr	83		ug/L			44	90	13	Standard
⌈>	In-1	115		ug/L			7587	6934	2	KED
|	Cd	111	0.195	ug/L	0.047	24	4	52	21	KED
⌊	Cd	114	0.219	ug/L	0.014	6	1	143	8	KED
⌈>	In	115		ug/L			519229	517494	0	Standard
⌊	Ag	107	0.165	ug/L	0.003	1	33	2844	1	Standard
⌈>	Tb	159		ug/L			190542	224144	0	Standard
⌊	Pb	208	14.987	ug/L	0.095	0	524	1608279	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0071-02
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 23:37:25
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	41920	5	Standard
⌈>	Sc	45		ug/L			600447	707279	1	Standard
|	Cr	52	13.606	ug/L	0.173	1	10860	260824	2	Standard
⌊	Cr	53	13.450	ug/L	0.128	0	113	28839	1	Standard
⌈>	Ge	72		ug/L			35776	33813	2	KED
|	Ni	60	12.474	ug/L	0.318	2	145	20402	0	KED
|	Ni	62	12.568	ug/L	0.337	2	28	3298	0	KED
|	Cu	63	27.102	ug/L	0.625	2	53	123211	0	KED
|	Cu	65	26.633	ug/L	0.700	2	29	62154	0	KED
|	Zn	66	53.856	ug/L	2.290	4	87	30171	1	KED
|	Zn	67	53.534	ug/L	0.966	1	19	4890	3	KED
⌊	As	75	6.504	ug/L	0.322	4	2	1764	2	KED
	Y	89		ug/L			55660	279415	2	Standard
	Kr	83		ug/L			44	85	14	Standard
⌈>	In-1	115		ug/L			7587	7109	2	KED
|	Cd	111	0.169	ug/L	0.030	17	4	47	16	KED
⌊	Cd	114	0.154	ug/L	0.036	23	1	103	20	KED
⌈>	In	115		ug/L			519229	506285	1	Standard
⌊	Ag	107	0.112	ug/L	0.003	2	33	1899	2	Standard
⌈>	Tb	159		ug/L			190542	221252	0	Standard
⌊	Pb	208	10.941	ug/L	0.016	0	524	1159070	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0071-03
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 23:41:50
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	41624	4	Standard
⌈>	Sc	45		ug/L			600447	641883	18	Standard
|	Cr	52	16.175	ug/L	2.585	15	10860	274088	4	Standard
⌊	Cr	53	16.107	ug/L	2.732	16	113	30688	3	Standard
⌈>	Ge	72		ug/L			35776	33460	0	KED
|	Ni	60	13.007	ug/L	0.126	0	145	21054	1	KED
|	Ni	62	12.937	ug/L	0.251	1	28	3360	1	KED
|	Cu	63	34.231	ug/L	0.569	1	53	154049	2	KED
|	Cu	65	33.408	ug/L	0.682	2	29	77167	1	KED
|	Zn	66	66.941	ug/L	2.382	3	87	37107	2	KED
|	Zn	67	64.779	ug/L	1.290	1	19	5850	1	KED
⌊	As	75	7.501	ug/L	0.124	1	2	2015	1	KED
	Y	89		ug/L			55660	272445	5	Standard
	Kr	83		ug/L			44	93	25	Standard
⌈>	In-1	115		ug/L			7587	7083	2	KED
|	Cd	111	0.206	ug/L	0.024	11	4	56	9	KED
⌊	Cd	114	0.231	ug/L	0.024	10	1	153	9	KED
⌈>	In	115		ug/L			519229	441955	19	Standard
⌊	Ag	107	0.171	ug/L	0.035	20	33	2452	1	Standard
⌈>	Tb	159		ug/L			190542	205536	15	Standard
⌊	Pb	208	15.984	ug/L	2.361	14	524	1548517	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0071-04
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 23:46:15
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	41611	5	Standard
⌈>	Sc	45		ug/L			600447	699791	2	Standard
|	Cr	52	14.261	ug/L	0.110	0	10860	269809	2	Standard
⌊	Cr	53	14.245	ug/L	0.285	2	113	30206	1	Standard
⌈>	Ge	72		ug/L			35776	33878	0	KED
|	Ni	60	12.340	ug/L	0.198	1	145	20233	1	KED
|	Ni	62	11.929	ug/L	0.375	3	28	3139	2	KED
|	Cu	63	32.200	ug/L	0.998	3	53	146699	2	KED
|	Cu	65	31.622	ug/L	0.386	1	29	73963	1	KED
|	Zn	66	61.960	ug/L	0.332	0	87	34789	0	KED
|	Zn	67	62.225	ug/L	1.387	2	19	5691	1	KED
⌊	As	75	7.169	ug/L	0.232	3	2	1949	2	KED
	Y	89		ug/L			55660	273102	1	Standard
	Kr	83		ug/L			44	73	25	Standard
⌈>	In-1	115		ug/L			7587	6963	1	KED
|	Cd	111	0.182	ug/L	0.016	8	4	49	9	KED
⌊	Cd	114	0.260	ug/L	0.013	4	1	170	3	KED
⌈>	In	115		ug/L			519229	502263	0	Standard
⌊	Ag	107	0.134	ug/L	0.006	4	33	2247	4	Standard
⌈>	Tb	159		ug/L			190542	223559	0	Standard
⌊	Pb	208	13.661	ug/L	0.263	1	524	1462194	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0071-05
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 23:50:40
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	40115	3	Standard
⌈>	Sc	45		ug/L			600447	696541	1	Standard
|	Cr	52	13.972	ug/L	0.171	1	10860	263366	0	Standard
⌊	Cr	53	14.084	ug/L	0.546	3	113	29722	2	Standard
⌈>	Ge	72		ug/L			35776	34063	0	KED
|	Ni	60	12.153	ug/L	0.004	0	145	20035	0	KED
|	Ni	62	12.203	ug/L	0.252	2	28	3228	2	KED
|	Cu	63	30.621	ug/L	0.182	0	53	140286	1	KED
|	Cu	65	30.888	ug/L	0.529	1	29	72636	1	KED
|	Zn	66	61.152	ug/L	1.552	2	87	34527	3	KED
|	Zn	67	60.193	ug/L	0.541	0	19	5536	0	KED
⌊	As	75	6.442	ug/L	0.173	2	2	1761	2	KED
	Y	89		ug/L			55660	267558	1	Standard
	Kr	83		ug/L			44	67	5	Standard
⌈>	In-1	115		ug/L			7587	7095	0	KED
|	Cd	111	0.200	ug/L	0.033	16	4	55	15	KED
⌊	Cd	114	0.229	ug/L	0.041	17	1	153	18	KED
⌈>	In	115		ug/L			519229	499273	1	Standard
⌊	Ag	107	0.139	ug/L	0.012	8	33	2310	7	Standard
⌈>	Tb	159		ug/L			190542	219835	0	Standard
⌊	Pb	208	14.358	ug/L	0.249	1	524	1511199	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0071-06
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 23:55:05
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	40341	3	Standard
⌈>	Sc	45		ug/L			600447	679727	1	Standard
|	Cr	52	13.576	ug/L	0.280	2	10860	250134	2	Standard
⌊	Cr	53	13.642	ug/L	0.301	2	113	28109	1	Standard
⌈>	Ge	72		ug/L			35776	33903	1	KED
|	Ni	60	11.924	ug/L	0.282	2	145	19565	1	KED
|	Ni	62	11.936	ug/L	0.534	4	28	3142	3	KED
|	Cu	63	27.743	ug/L	0.140	0	53	126506	1	KED
|	Cu	65	27.736	ug/L	0.201	0	29	64920	1	KED
|	Zn	66	58.405	ug/L	1.496	2	87	32817	2	KED
|	Zn	67	57.184	ug/L	1.965	3	19	5233	1	KED
⌊	As	75	5.879	ug/L	0.200	3	2	1600	2	KED
	Y	89		ug/L			55660	253187	1	Standard
	Kr	83		ug/L			44	62	15	Standard
⌈>	In-1	115		ug/L			7587	7134	2	KED
|	Cd	111	0.173	ug/L	0.033	19	4	48	16	KED
⌊	Cd	114	0.200	ug/L	0.032	15	1	134	17	KED
⌈>	In	115		ug/L			519229	507129	2	Standard
⌊	Ag	107	0.133	ug/L	0.005	4	33	2255	2	Standard
⌈>	Tb	159		ug/L			190542	221170	1	Standard
⌊	Pb	208	19.884	ug/L	0.450	2	524	2104767	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0109-02
Sample Dil Factor: 20
Comments:
Sample Date/Time: Wednesday, May 10, 2023 23:59:24
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	41351	4	Standard
⌈>	Sc	45		ug/L			600447	689065	1	Standard
|	Cr	52	13.277	ug/L	0.115	0	10860	248242	1	Standard
⌊	Cr	53	13.127	ug/L	0.146	1	113	27430	2	Standard
⌈>	Ge	72		ug/L			35776	33601	1	KED
|	Ni	60	10.961	ug/L	0.105	0	145	17839	1	KED
|	Ni	62	10.953	ug/L	0.166	1	28	2861	0	KED
|	Cu	63	37.403	ug/L	0.776	2	53	169002	1	KED
|	Cu	65	37.230	ug/L	1.137	3	29	86342	1	KED
|	Zn	66	54.195	ug/L	0.498	0	87	30188	0	KED
|	Zn	67	51.947	ug/L	1.758	3	19	4714	2	KED
⌊	As	75	8.383	ug/L	0.093	1	2	2260	0	KED
	Y	89		ug/L			55660	253081	2	Standard
	Kr	83		ug/L			44	70	4	Standard
⌈>	In-1	115		ug/L			7587	7085	2	KED
|	Cd	111	0.178	ug/L	0.018	10	4	49	8	KED
⌊	Cd	114	0.173	ug/L	0.014	7	1	116	9	KED
⌈>	In	115		ug/L			519229	506436	3	Standard
⌊	Ag	107	0.140	ug/L	0.009	6	33	2360	2	Standard
⌈>	Tb	159		ug/L			190542	218914	0	Standard
⌊	Pb	208	13.032	ug/L	0.026	0	524	1365955	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0109-03
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, May 11, 2023 00:03:49
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	44730	2	Standard
⌈>	Sc	45		ug/L			600447	695996	0	Standard
|	Cr	52	13.163	ug/L	0.197	1	10860	248690	1	Standard
⌊	Cr	53	12.957	ug/L	0.368	2	113	27345	2	Standard
⌈>	Ge	72		ug/L			35776	33265	1	KED
|	Ni	60	11.039	ug/L	0.401	3	145	17780	2	KED
|	Ni	62	11.096	ug/L	0.292	2	28	2868	1	KED
|	Cu	63	33.534	ug/L	0.794	2	53	150033	2	KED
|	Cu	65	33.030	ug/L	0.499	1	29	75849	0	KED
|	Zn	66	55.322	ug/L	0.971	1	87	30504	0	KED
|	Zn	67	55.166	ug/L	1.585	2	19	4957	3	KED
⌊	As	75	8.674	ug/L	0.314	3	2	2315	2	KED
	Y	89		ug/L			55660	251821	1	Standard
	Kr	83		ug/L			44	67	20	Standard
⌈>	In-1	115		ug/L			7587	6853	1	KED
|	Cd	111	0.200	ug/L	0.020	10	4	53	7	KED
⌊	Cd	114	0.185	ug/L	0.031	16	1	119	14	KED
⌈>	In	115		ug/L			519229	504230	4	Standard
⌊	Ag	107	0.143	ug/L	0.009	6	33	2395	1	Standard
⌈>	Tb	159		ug/L			190542	215455	1	Standard
⌊	Pb	208	13.720	ug/L	0.338	2	524	1415046	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0108-02
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, May 11, 2023 00:08:08
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	43300	5	Standard
>	Sc	45		ug/L			600447	713310	1	Standard
	Cr	52	16.422	ug/L	0.161	0	10860	314787	1	Standard
	Cr	53	16.361	ug/L	0.435	2	113	35354	3	Standard
>	Ge	72		ug/L			35776	32638	0	KED
	Ni	60	15.409	ug/L	0.351	2	145	24305	2	KED
	Ni	62	15.069	ug/L	0.298	1	28	3813	1	KED
	Cu	63	38.928	ug/L	0.502	1	53	170861	0	KED
	Cu	65	39.033	ug/L	0.216	0	29	87953	1	KED
	Zn	66	75.753	ug/L	0.903	1	87	40958	1	KED
	Zn	67	73.795	ug/L	1.061	1	19	6499	1	KED
	As	75	8.223	ug/L	0.084	1	2	2154	0	KED
	Y	89		ug/L			55660	331620	1	Standard
	Kr	83		ug/L			44	85	5	Standard
>	In-1	115		ug/L			7587	7151	0	KED
	Cd	111	0.175	ug/L	0.028	15	4	49	14	KED
	Cd	114	0.189	ug/L	0.041	21	1	127	20	KED
>	In	115		ug/L			519229	494671	2	Standard
	Ag	107	0.155	ug/L	0.005	3	33	2553	5	Standard
>	Tb	159		ug/L			190542	226865	1	Standard
	Pb	208	15.700	ug/L	0.343	2	524	1704869	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBL9
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 00:12:34
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27881	26146	3	Standard
⌈>	**Sc**	**45**		ug/L			600447	573930	1	Standard
|	**Cr**	**52**	**-0.020**	ug/L	0.012	58	10860	10084	3	Standard
⌊	**Cr**	**53**	**-0.009**	ug/L	0.008	84	113	92	15	Standard
⌈>	**Ge**	**72**		ug/L			35776	32582	1	KED
|	**Ni**	**60**	**0.015**	ug/L	0.010	68	145	155	11	KED
|	**Ni**	**62**	**0.005**	ug/L	0.030	607	28	27	28	KED
|	**Cu**	**63**	**0.014**	ug/L	0.002	14	53	111	6	KED
|	**Cu**	**65**	**0.010**	ug/L	0.005	55	29	48	25	KED
|	**Zn**	**66**	**-0.030**	ug/L	0.021	69	87	63	16	KED
|	**Zn**	**67**	**-0.067**	ug/L	0.011	16	19	12	9	KED
⌊	**As**	**75**	**0.003**	ug/L	0.005	152	2	2	44	KED
	Y	**89**		ug/L			55660	54155	0	Standard
	Kr	**83**		ug/L			44	38	2	Standard
⌈>	**In-1**	**115**		ug/L			7587	6900	0	KED
|	**Cd**	**111**	**-0.012**	ug/L	0.002	17	4	0	86	KED
⌊	**Cd**	**114**	**-0.002**	ug/L	0.002	101	1	0	207	KED
⌈>	**In**	**115**		ug/L			519229	511559	0	Standard
⌊	**Ag**	**107**	**-0.001**	ug/L	0.000	5	33	10	10	Standard
⌈>	**Tb**	**159**		ug/L			190542	194216	1	Standard
⌊	**Pb**	**208**	**0.001**	ug/L	0.000	31	524	634	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVA
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 00:16:59
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27881	25538	4	Standard
⌈>	**Sc**	**45**		ug/L			600447	594963	3	Standard
|	**Cr**	**52**	**50.178**	ug/L	0.793	1	10860	779879	1	Standard
⌊	**Cr**	**53**	**49.353**	ug/L	1.384	2	113	88670	0	Standard
⌈>	**Ge**	**72**		ug/L			35776	34074	1	KED
|	**Ni**	**60**	**48.680**	ug/L	0.968	1	145	79858	2	KED
|	**Ni**	**62**	**47.611**	ug/L	0.229	0	28	12521	1	KED
|	**Cu**	**63**	**49.180**	ug/L	0.308	0	53	225338	1	KED
|	**Cu**	**65**	**48.634**	ug/L	0.916	1	29	114372	0	KED
|	**Zn**	**66**	**48.427**	ug/L	0.650	1	87	27362	1	KED
|	**Zn**	**67**	**50.458**	ug/L	2.031	4	19	4643	2	KED
⌊	**As**	**75**	**49.054**	ug/L	1.109	2	2	13404	0	KED
	Y	**89**		ug/L			55660	54653	1	Standard
	Kr	**83**		ug/L			44	55	9	Standard
⌈>	**In-1**	**115**		ug/L			7587	7138	3	KED
|	**Cd**	**111**	**49.973**	ug/L	2.395	4	4	12921	0	KED
⌊	**Cd**	**114**	**49.890**	ug/L	1.571	3	1	33197	1	KED
⌈>	**In**	**115**		ug/L			519229	506488	1	Standard
⌊	**Ag**	**107**	**48.935**	ug/L	1.204	2	33	815045	1	Standard
⌈>	**Tb**	**159**		ug/L			190542	196385	0	Standard
⌊	**Pb**	**208**	**51.586**	ug/L	0.606	1	524	4848875	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBA
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 00:24:09
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27881	25562	4	Standard
⌈>	**Sc**	**45**		ug/L			600447	584484	0	Standard
|	**Cr**	**52**	**-0.033**	ug/L	0.013	38	10860	10071	2	Standard
⌊	**Cr**	**53**	**-0.008**	ug/L	0.004	52	113	96	8	Standard
⌈>	**Ge**	**72**		ug/L			35776	33932	0	KED
|	**Ni**	**60**	**-0.017**	ug/L	0.007	39	145	109	9	KED
|	**Ni**	**62**	**-0.031**	ug/L	0.030	96	28	19	40	KED
|	**Cu**	**63**	**0.003**	ug/L	0.001	48	53	64	10	KED
|	**Cu**	**65**	**0.004**	ug/L	0.003	56	29	38	15	KED
|	**Zn**	**66**	**-0.058**	ug/L	0.002	3	87	50	2	KED
|	**Zn**	**67**	**-0.135**	ug/L	0.031	23	19	6	45	KED
⌊	**As**	**75**	**0.007**	ug/L	0.004	63	2	3	30	KED
	Y	**89**		ug/L			55660	54405	2	Standard
	Kr	**83**		ug/L			44	37	28	Standard
⌈>	**In-1**	**115**		ug/L			7587	7340	1	KED
|	**Cd**	**111**	**-0.008**	ug/L	0.006	81	4	1	86	KED
⌊	**Cd**	**114**	**0.001**	ug/L	0.002	175	1	2	47	KED
⌈>	**In**	**115**		ug/L			519229	506728	1	Standard
⌊	**Ag**	**107**	**0.002**	ug/L	0.001	46	33	59	22	Standard
⌈>	**Tb**	**159**		ug/L			190542	195679	1	Standard
⌊	**Pb**	**208**	**0.002**	ug/L	0.000	5	524	691	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0108-06
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, May 11, 2023 00:28:35
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	42152	3	Standard
⌈>	Sc	45		ug/L			600447	701617	2	Standard
|	Cr	52	13.784	ug/L	0.159	1	10860	261945	2	Standard
⌊	Cr	53	13.824	ug/L	0.149	1	113	29404	2	Standard
⌈>	Ge	72		ug/L			35776	33631	1	KED
|	Ni	60	11.683	ug/L	0.169	1	145	19022	2	KED
|	Ni	62	11.656	ug/L	0.112	0	28	3046	0	KED
|	Cu	63	32.720	ug/L	0.427	1	53	147993	1	KED
|	Cu	65	32.727	ug/L	0.710	2	29	75985	2	KED
|	Zn	66	58.096	ug/L	1.862	3	87	32377	1	KED
|	Zn	67	57.353	ug/L	1.009	1	19	5208	1	KED
⌊	As	75	8.068	ug/L	0.212	2	2	2178	2	KED
	Y	89		ug/L			55660	268399	1	Standard
	Kr	83		ug/L			44	84	7	Standard
⌈>	In-1	115		ug/L			7587	7254	0	KED
|	Cd	111	0.183	ug/L	0.012	6	4	52	5	KED
⌊	Cd	114	0.196	ug/L	0.027	13	1	134	13	KED
⌈>	In	115		ug/L			519229	505482	0	Standard
⌊	Ag	107	0.143	ug/L	0.008	5	33	2409	6	Standard
⌈>	Tb	159		ug/L			190542	222718	0	Standard
⌊	Pb	208	13.876	ug/L	0.125	0	524	1479618	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0108-07
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, May 11, 2023 00:32:59
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
C	13		ug/L			27881	40027	8	Standard
Sc	45		ug/L			600447	698775	1	Standard
Cr	52	14.213	ug/L	0.080	0	10860	268577	1	Standard
Cr	53	14.164	ug/L	0.155	1	113	30003	2	Standard
Ge	72		ug/L			35776	33832	0	KED
Ni	60	11.465	ug/L	0.137	1	145	18781	0	KED
Ni	62	11.563	ug/L	0.199	1	28	3040	2	KED
Cu	63	33.675	ug/L	0.564	1	53	153215	1	KED
Cu	65	32.656	ug/L	0.151	0	29	76276	0	KED
Zn	66	57.957	ug/L	1.470	2	87	32501	2	KED
Zn	67	55.816	ug/L	1.269	2	19	5099	1	KED
As	75	8.291	ug/L	0.137	1	2	2251	1	KED
Y	89		ug/L			55660	265350	3	Standard
Kr	83		ug/L			44	74	5	Standard
In-1	115		ug/L			7587	7022	2	KED
Cd	111	0.241	ug/L	0.056	23	4	65	23	KED
Cd	114	0.248	ug/L	0.041	16	1	163	15	KED
In	115		ug/L			519229	507693	0	Standard
Ag	107	0.154	ug/L	0.006	3	33	2596	4	Standard
Tb	159		ug/L			190542	218126	0	Standard
Pb	208	14.843	ug/L	0.185	1	524	1550062	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0108-08
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, May 11, 2023 00:37:25
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	38717	0	Standard
⌈>	Sc	45		ug/L			600447	703681	1	Standard
|	Cr	52	13.446	ug/L	0.155	1	10860	256553	0	Standard
⌊	Cr	53	13.362	ug/L	0.125	0	113	28507	1	Standard
⌈>	Ge	72		ug/L			35776	33183	1	KED
|	Ni	60	12.093	ug/L	0.381	3	145	19417	2	KED
|	Ni	62	12.156	ug/L	0.093	0	28	3133	2	KED
|	Cu	63	28.972	ug/L	0.594	2	53	129274	0	KED
|	Cu	65	28.921	ug/L	0.252	0	29	66254	0	KED
|	Zn	66	56.544	ug/L	1.297	2	87	31099	1	KED
|	Zn	67	56.684	ug/L	1.162	2	19	5079	1	KED
⌊	As	75	6.999	ug/L	0.103	1	2	1864	1	KED
	Y	89		ug/L			55660	267168	0	Standard
	Kr	83		ug/L			44	76	8	Standard
⌈>	In-1	115		ug/L			7587	6892	3	KED
|	Cd	111	0.172	ug/L	0.019	11	4	46	9	KED
⌊	Cd	114	0.224	ug/L	0.026	11	1	145	14	KED
⌈>	In	115		ug/L			519229	502886	1	Standard
⌊	Ag	107	0.124	ug/L	0.000	0	33	2079	1	Standard
⌈>	Tb	159		ug/L			190542	220269	0	Standard
⌊	Pb	208	11.496	ug/L	0.252	2	524	1212380	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23C0108-09
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, May 11, 2023 00:41:50
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	36163	3	Standard
>	Sc	45		ug/L			600447	675390	2	Standard
	Cr	52	11.612	ug/L	0.348	2	10860	214261	1	Standard
	Cr	53	11.687	ug/L	0.277	2	113	23940	1	Standard
>	Ge	72		ug/L			35776	33264	0	KED
	Ni	60	9.904	ug/L	0.159	1	145	15969	1	KED
	Ni	62	9.757	ug/L	0.454	4	28	2526	4	KED
	Cu	63	26.785	ug/L	0.607	2	53	119830	1	KED
	Cu	65	26.312	ug/L	0.547	2	29	60427	1	KED
	Zn	66	52.519	ug/L	0.742	1	87	28964	0	KED
	Zn	67	51.518	ug/L	2.705	5	19	4630	5	KED
	As	75	6.060	ug/L	0.120	1	2	1618	1	KED
	Y	89		ug/L			55660	234210	0	Standard
	Kr	83		ug/L			44	67	25	Standard
>	In-1	115		ug/L			7587	7065	1	KED
	Cd	111	0.155	ug/L	0.017	10	4	43	10	KED
	Cd	114	0.153	ug/L	0.016	10	1	102	11	KED
>	In	115		ug/L			519229	505119	2	Standard
	Ag	107	0.108	ug/L	0.003	3	33	1821	3	Standard
>	Tb	159		ug/L			190542	217502	2	Standard
	Pb	208	10.645	ug/L	0.144	1	524	1108469	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0008-01
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, May 11, 2023 00:46:09
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	36904	6	Standard
>	Sc	45		ug/L			600447	658482	8	Standard
	Cr	52	13.364	ug/L	1.275	9	10860	237528	1	Standard
	Cr	53	13.224	ug/L	1.165	8	113	26285	3	Standard
>	Ge	72		ug/L			35776	33385	1	KED
	Ni	60	11.756	ug/L	0.301	2	145	18995	0	KED
	Ni	62	11.718	ug/L	0.482	4	28	3038	2	KED
	Cu	63	26.959	ug/L	0.285	1	53	121042	0	KED
	Cu	65	26.749	ug/L	0.537	2	29	61646	0	KED
	Zn	66	95.776	ug/L	0.264	0	87	52948	1	KED
	Zn	67	93.257	ug/L	3.356	3	19	8393	2	KED
	As	75	5.155	ug/L	0.087	1	2	1382	0	KED
	Y	89		ug/L			55660	267607	3	Standard
	Kr	83		ug/L			44	82	18	Standard
>	In-1	115		ug/L			7587	7025	1	KED
	Cd	111	0.159	ug/L	0.028	17	4	44	17	KED
	Cd	114	0.164	ug/L	0.003	1	1	109	1	KED
>	In	115		ug/L			519229	476583	10	Standard
	Ag	107	0.109	ug/L	0.012	10	33	1730	1	Standard
>	Tb	159		ug/L			190542	212482	8	Standard
	Pb	208	11.065	ug/L	1.013	9	524	1119922	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0008-03
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, May 11, 2023 00:50:34
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	35181	3	Standard
⌈>	Sc	45		ug/L			600447	694840	0	Standard
|	Cr	52	12.759	ug/L	0.166	1	10860	241055	1	Standard
⌊	Cr	53	12.803	ug/L	0.260	2	113	26979	2	Standard
⌈>	Ge	72		ug/L			35776	32911	1	KED
|	Ni	60	11.463	ug/L	0.048	0	145	18267	0	KED
|	Ni	62	11.716	ug/L	0.618	5	28	2995	5	KED
|	Cu	63	30.419	ug/L	0.228	0	53	134653	1	KED
|	Cu	65	30.125	ug/L	0.324	1	29	68448	1	KED
|	Zn	66	63.456	ug/L	1.666	2	87	34603	1	KED
|	Zn	67	61.360	ug/L	1.215	1	19	5452	2	KED
⌊	As	75	6.807	ug/L	0.171	2	2	1798	1	KED
	Y	89		ug/L			55660	270124	3	Standard
	Kr	83		ug/L			44	94	9	Standard
⌈>	In-1	115		ug/L			7587	7021	2	KED
|	Cd	111	0.179	ug/L	0.037	20	4	49	17	KED
⌊	Cd	114	0.173	ug/L	0.024	14	1	114	16	KED
⌈>	In	115		ug/L			519229	499685	2	Standard
⌊	Ag	107	0.116	ug/L	0.008	6	33	1932	4	Standard
⌈>	Tb	159		ug/L			190542	221804	0	Standard
⌊	Pb	208	11.749	ug/L	0.083	0	524	1247680	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0037-01
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, May 11, 2023 00:54:53
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	37636	5	Standard
>	Sc	45		ug/L			600447	685486	0	Standard
	Cr	52	16.521	ug/L	0.526	3	10860	304236	2	Standard
	Cr	53	16.594	ug/L	0.435	2	113	34456	2	Standard
>	Ge	72		ug/L			35776	32742	0	KED
	Ni	60	12.901	ug/L	0.250	1	145	20434	1	KED
	Ni	62	12.820	ug/L	0.316	2	28	3258	1	KED
	Cu	63	32.180	ug/L	0.702	2	53	141691	1	KED
	Cu	65	32.801	ug/L	0.389	1	29	74144	0	KED
	Zn	66	71.544	ug/L	1.069	1	87	38808	0	KED
	Zn	67	69.189	ug/L	1.002	1	19	6114	2	KED
	As	75	7.614	ug/L	0.071	0	2	2001	1	KED
	Y	89		ug/L			55660	259985	1	Standard
	Kr	83		ug/L			44	85	9	Standard
>	In-1	115		ug/L			7587	7023	1	KED
	Cd	111	0.137	ug/L	0.009	6	4	38	7	KED
	Cd	114	0.144	ug/L	0.012	8	1	95	6	KED
>	In	115		ug/L			519229	496722	1	Standard
	Ag	107	0.113	ug/L	0.004	3	33	1883	2	Standard
>	Tb	159		ug/L			190542	218818	0	Standard
	Pb	208	17.415	ug/L	0.324	1	524	1824272	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0037-03
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, May 11, 2023 00:59:18
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			27881	37582	3	Standard
⌈>	Sc	45		ug/L			600447	669281	2	Standard
|	Cr	52	22.029	ug/L	0.384	1	10860	392004	2	Standard
⌊	Cr	53	21.690	ug/L	0.339	1	113	43926	1	Standard
⌈>	Ge	72		ug/L			35776	32667	2	KED
|	Ni	60	18.945	ug/L	0.600	3	145	29864	0	KED
|	Ni	62	18.494	ug/L	0.363	1	28	4678	1	KED
|	Cu	63	103.407	ug/L	2.883	2	53	454006	0	KED
|	Cu	65	102.730	ug/L	1.556	1	29	231623	2	KED
|	Zn	66	178.533	ug/L	4.616	2	87	96485	2	KED
|	Zn	67	170.011	ug/L	2.949	1	19	14964	3	KED
⌊	As	75	16.375	ug/L	0.240	1	2	4291	1	KED
	Y	89		ug/L			55660	241132	1	Standard
	Kr	83		ug/L			44	73	26	Standard
⌈>	In-1	115		ug/L			7587	6780	0	KED
|	Cd	111	0.418	ug/L	0.049	11	4	106	10	KED
⌊	Cd	114	0.454	ug/L	0.060	13	1	288	12	KED
⌈>	In	115		ug/L			519229	502468	3	Standard
⌊	Ag	107	0.118	ug/L	0.002	1	33	1979	1	Standard
⌈>	Tb	159		ug/L			190542	213368	0	Standard
⌊	Pb	208	48.910	ug/L	0.730	1	524	4994590	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0037-02
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, May 11, 2023 01:03:43
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27881	42891	2	Standard
⌈>	**Sc**	**45**		ug/L			600447	690386	1	Standard
|	**Cr**	**52**	**15.879**	ug/L	0.081	0	10860	295013	1	Standard
⌊	**Cr**	**53**	**15.797**	ug/L	0.231	1	113	33044	2	Standard
⌈>	**Ge**	**72**		ug/L			35776	32570	1	KED
|	**Ni**	**60**	**15.329**	ug/L	0.559	3	145	24120	2	KED
|	**Ni**	**62**	**15.503**	ug/L	0.390	2	28	3914	1	KED
|	**Cu**	**63**	**35.760**	ug/L	0.959	2	53	156594	1	KED
|	**Cu**	**65**	**34.988**	ug/L	0.447	1	29	78674	2	KED
|	**Zn**	**66**	**81.273**	ug/L	1.022	1	87	43842	1	KED
|	**Zn**	**67**	**78.630**	ug/L	2.118	2	19	6908	1	KED
⌊	**As**	**75**	**6.077**	ug/L	0.117	1	2	1589	0	KED
	Y	**89**		ug/L			55660	293531	0	Standard
	Kr	**83**		ug/L			44	81	11	Standard
⌈>	**In-1**	**115**		ug/L			7587	6877	0	KED
|	**Cd**	**111**	**0.163**	ug/L	0.024	14	4	44	14	KED
⌊	**Cd**	**114**	**0.184**	ug/L	0.033	18	1	119	17	KED
⌈>	**In**	**115**		ug/L			519229	497287	2	Standard
⌊	**Ag**	**107**	**0.123**	ug/L	0.006	4	33	2042	6	Standard
⌈>	**Tb**	**159**		ug/L			190542	220337	0	Standard
⌊	**Pb**	**208**	**18.272**	ug/L	0.349	1	524	1927197	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBLA
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 01:08:09
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27881	24843	3	Standard
⌈>	**Sc**	**45**		ug/L			600447	570538	2	Standard
|	**Cr**	**52**	**-0.031**	ug/L	0.013	43	10860	9866	1	Standard
⌊	**Cr**	**53**	**-0.012**	ug/L	0.015	128	113	86	27	Standard
⌈>	**Ge**	**72**		ug/L			35776	32250	0	KED
|	**Ni**	**60**	**0.020**	ug/L	0.011	56	145	161	10	KED
|	**Ni**	**62**	**0.016**	ug/L	0.016	99	28	29	13	KED
|	**Cu**	**63**	**0.008**	ug/L	0.002	30	53	81	12	KED
|	**Cu**	**65**	**0.004**	ug/L	0.004	103	29	34	24	KED
|	**Zn**	**66**	**-0.028**	ug/L	0.030	106	87	64	25	KED
|	**Zn**	**67**	**-0.109**	ug/L	0.034	30	19	8	35	KED
⌊	**As**	**75**	**0.001**	ug/L	0.002	122	2	2	20	KED
	Y	**89**		ug/L			55660	53022	1	Standard
	Kr	**83**		ug/L			44	46	24	Standard
⌈>	**In-1**	**115**		ug/L			7587	6858	1	KED
|	**Cd**	**111**	**-0.010**	ug/L	0.009	88	4	1	173	KED
⌊	**Cd**	**114**	**0.000**	ug/L	0.003	915	1	1	106	KED
⌈>	**In**	**115**		ug/L			519229	507926	2	Standard
⌊	**Ag**	**107**	**-0.001**	ug/L	0.000	23	33	12	37	Standard
⌈>	**Tb**	**159**		ug/L			190542	192482	2	Standard
⌊	**Pb**	**208**	**0.004**	ug/L	0.004	126	524	860	50	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVB
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 01:12:34
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27881	24688	5	Standard
⌈>	**Sc**	**45**		ug/L			600447	587821	1	Standard
|	**Cr**	**52**	**50.267**	ug/L	0.836	1	10860	772260	3	Standard
⌊	**Cr**	**53**	**49.039**	ug/L	1.119	2	113	87116	3	Standard
⌈>	**Ge**	**72**		ug/L			35776	33250	0	KED
|	**Ni**	**60**	**48.819**	ug/L	0.971	1	145	78156	1	KED
|	**Ni**	**62**	**48.209**	ug/L	1.520	3	28	12372	2	KED
|	**Cu**	**63**	**49.620**	ug/L	0.752	1	53	221871	1	KED
|	**Cu**	**65**	**48.668**	ug/L	0.371	0	29	111709	0	KED
|	**Zn**	**66**	**50.023**	ug/L	1.122	2	87	27580	1	KED
|	**Zn**	**67**	**49.741**	ug/L	2.604	5	19	4468	4	KED
⌊	**As**	**75**	**49.558**	ug/L	0.239	0	2	13218	0	KED
	Y	**89**		ug/L			55660	53986	1	Standard
	Kr	**83**		ug/L			44	40	28	Standard
⌈>	**In-1**	**115**		ug/L			7587	7116	3	KED
|	**Cd**	**111**	**48.527**	ug/L	2.801	5	4	12510	3	KED
⌊	**Cd**	**114**	**48.916**	ug/L	3.450	7	1	32427	4	KED
⌈>	**In**	**115**		ug/L			519229	497812	2	Standard
⌊	**Ag**	**107**	**48.787**	ug/L	0.812	1	33	798652	0	Standard
⌈>	**Tb**	**159**		ug/L			190542	199063	0	Standard
⌊	**Pb**	**208**	**51.680**	ug/L	0.781	1	524	4923450	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBB
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 01:19:44
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			27881	24490	0	Standard
⌈>	**Sc**	**45**		ug/L			600447	572095	1	Standard
|	**Cr**	**52**	**-0.016**	ug/L	0.007	47	10860	10114	2	Standard
⌊	**Cr**	**53**	**-0.010**	ug/L	0.005	52	113	90	10	Standard
⌈>	**Ge**	**72**		ug/L			35776	33107	1	KED
|	**Ni**	**60**	**-0.019**	ug/L	0.017	93	145	104	25	KED
|	**Ni**	**62**	**-0.036**	ug/L	0.021	57	28	17	29	KED
|	**Cu**	**63**	**0.007**	ug/L	0.003	36	53	81	14	KED
|	**Cu**	**65**	**0.011**	ug/L	0.011	102	29	50	46	KED
|	**Zn**	**66**	**-0.055**	ug/L	0.037	66	87	50	38	KED
|	**Zn**	**67**	**-0.111**	ug/L	0.077	68	19	8	81	KED
⌊	**As**	**75**	**0.006**	ug/L	0.002	30	2	3	15	KED
	Y	**89**		ug/L			55660	53252	4	Standard
	Kr	**83**		ug/L			44	46	16	Standard
⌈>	**In-1**	**115**		ug/L			7587	7049	3	KED
|	**Cd**	**111**	**-0.011**	ug/L	0.007	58	4	0	173	KED
⌊	**Cd**	**114**	**-0.001**	ug/L	0.002	226	1	1	94	KED
⌈>	**In**	**115**		ug/L			519229	500651	2	Standard
⌊	**Ag**	**107**	**0.001**	ug/L	0.001	50	33	55	22	Standard
⌈>	**Tb**	**159**		ug/L			190542	194761	1	Standard
⌊	**Pb**	**208**	**0.001**	ug/L	0.000	22	524	665	5	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL1
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 01:24:09
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L				23951	1	Standard
⎡>	**Sc**	**45**		ug/L				579638	2	Standard
⎢	**Cr**	**52**		ug/L				10138	1	Standard
⎣	**Cr**	**53**		ug/L				92	13	Standard
⎡>	**Ge**	**72**		ug/L				33052	2	KED
⎢	**Ni**	**60**		ug/L				97	25	KED
⎢	**Ni**	**62**		ug/L				15	49	KED
⎢	**Cu**	**63**		ug/L				198	57	KED
⎢	**Cu**	**65**		ug/L				107	77	KED
⎢	**Zn**	**66**		ug/L				67	36	KED
⎢	**Zn**	**67**		ug/L				15	13	KED
⎣	**As**	**75**		ug/L				4	114	KED
	Y	**89**		ug/L				53627	1	Standard
	Kr	**83**		ug/L				34	20	Standard
⎡>	**In-1**	**115**		ug/L				7114	5	KED
⎢	**Cd**	**111**		ug/L				2	24	KED
⎣	**Cd**	**114**		ug/L				0	293	KED
⎡>	**In**	**115**		ug/L				522018	2	Standard
⎣	**Ag**	**107**		ug/L				24	23	Standard
⎡>	**Tb**	**159**		ug/L				194588	1	Standard
⎣	**Pb**	**208**		ug/L				589	8	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVC
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 01:28:35
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	24643	4	Standard
⌈>	**Sc**	**45**		ug/L			579638	604497	1	Standard
|	**Cr**	**52**	**48.978**	ug/L	0.531	1	10138	773644	2	Standard
⌊	**Cr**	**53**	**48.354**	ug/L	0.493	1	92	88313	2	Standard
⌈>	**Ge**	**72**		ug/L			33052	33370	0	KED
|	**Ni**	**60**	**49.324**	ug/L	1.040	2	97	79207	1	KED
|	**Ni**	**62**	**47.977**	ug/L	1.281	2	15	12345	1	KED
|	**Cu**	**63**	**49.978**	ug/L	1.244	2	198	224398	1	KED
|	**Cu**	**65**	**48.605**	ug/L	0.688	1	107	112041	0	KED
|	**Zn**	**66**	**50.089**	ug/L	0.902	1	67	27704	1	KED
|	**Zn**	**67**	**50.597**	ug/L	2.408	4	15	4559	4	KED
⌊	**As**	**75**	**49.659**	ug/L	1.424	2	4	13295	2	KED
	Y	**89**		ug/L			53627	55035	2	Standard
	Kr	**83**		ug/L			34	50	21	Standard
⌈>	**In-1**	**115**		ug/L			7114	7142	0	KED
|	**Cd**	**111**	**49.790**	ug/L	0.467	0	2	12894	1	KED
⌊	**Cd**	**114**	**49.917**	ug/L	0.583	1	0	33256	1	KED
⌈>	**In**	**115**		ug/L			522018	505738	4	Standard
⌊	**Ag**	**107**	**48.105**	ug/L	1.906	3	24	799289	0	Standard
⌈>	**Tb**	**159**		ug/L			194588	199862	1	Standard
⌊	**Pb**	**208**	**51.228**	ug/L	1.038	2	589	4900055	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBC
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 01:35:45
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	24390	5	Standard
⌈>	**Sc**	**45**		ug/L			579638	570057	2	Standard
|	**Cr**	**52**	**0.018**	ug/L	0.030	170	10138	10227	2	Standard
⌊	**Cr**	**53**	**-0.003**	ug/L	0.005	170	92	86	11	Standard
⌈>	**Ge**	**72**		ug/L			33052	34200	3	KED
|	**Ni**	**60**	**0.005**	ug/L	0.011	211	97	109	18	KED
|	**Ni**	**62**	**-0.016**	ug/L	0.016	101	15	12	32	KED
|	**Cu**	**63**	**-0.017**	ug/L	0.005	27	198	128	14	KED
|	**Cu**	**65**	**-0.024**	ug/L	0.005	19	107	55	15	KED
|	**Zn**	**66**	**-0.023**	ug/L	0.025	111	67	57	28	KED
|	**Zn**	**67**	**-0.062**	ug/L	0.046	74	15	10	40	KED
⌊	**As**	**75**	**-0.005**	ug/L	0.005	104	4	3	37	KED
	Y	**89**		ug/L			53627	53691	4	Standard
	Kr	**83**		ug/L			34	40	9	Standard
⌈>	**In-1**	**115**		ug/L			7114	7219	0	KED
|	**Cd**	**111**	**-0.004**	ug/L	0.006	147	2	1	114	KED
⌊	**Cd**	**114**	**0.000**	ug/L	0.002	907	0	0	218	KED
⌈>	**In**	**115**		ug/L			522018	508569	2	Standard
⌊	**Ag**	**107**	**0.003**	ug/L	0.001	30	24	77	18	Standard
⌈>	**Tb**	**159**		ug/L			194588	192635	1	Standard
⌊	**Pb**	**208**	**0.001**	ug/L	0.001	55	589	699	8	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0037-04
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, May 11, 2023 01:40:10
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	37083	2	Standard
⌈>	**Sc**	**45**		ug/L			579638	666315	2	Standard
|	**Cr**	**52**	**14.778**	ug/L	0.414	2	10138	265352	2	Standard
⌊	**Cr**	**53**	**14.846**	ug/L	0.408	2	92	29949	2	Standard
⌈>	**Ge**	**72**		ug/L			33052	33256	2	KED
|	**Ni**	**60**	**13.070**	ug/L	0.294	2	97	20983	0	KED
|	**Ni**	**62**	**13.519**	ug/L	0.640	4	15	3476	2	KED
|	**Cu**	**63**	**33.896**	ug/L	0.667	1	198	151715	0	KED
|	**Cu**	**65**	**34.294**	ug/L	1.367	3	107	78776	1	KED
|	**Zn**	**66**	**78.001**	ug/L	1.335	1	67	42946	0	KED
|	**Zn**	**67**	**76.310**	ug/L	3.075	4	15	6841	2	KED
⌊	**As**	**75**	**7.516**	ug/L	0.211	2	4	2008	1	KED
	Y	**89**		ug/L			53627	253479	2	Standard
	Kr	**83**		ug/L			34	67	14	Standard
⌈>	**In-1**	**115**		ug/L			7114	7022	2	KED
|	**Cd**	**111**	**0.173**	ug/L	0.026	14	2	46	15	KED
⌊	**Cd**	**114**	**0.168**	ug/L	0.032	19	0	110	19	KED
⌈>	**In**	**115**		ug/L			522018	501570	2	Standard
⌊	**Ag**	**107**	**0.124**	ug/L	0.008	6	24	2072	3	Standard
⌈>	**Tb**	**159**		ug/L			194588	216254	2	Standard
⌊	**Pb**	**208**	**24.655**	ug/L	0.542	2	589	2551303	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0063-01
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, May 11, 2023 01:44:35
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			23951	36093	5	Standard
⌈>	Sc	45		ug/L			579638	675816	1	Standard
|	Cr	52	12.093	ug/L	0.292	2	10138	222478	3	Standard
⌊	Cr	53	11.925	ug/L	0.087	0	92	24429	1	Standard
⌈>	Ge	72		ug/L			33052	32692	0	KED
|	Ni	60	10.569	ug/L	0.056	0	97	16704	0	KED
|	Ni	62	10.693	ug/L	0.267	2	15	2708	2	KED
|	Cu	63	28.415	ug/L	0.362	1	198	125086	0	KED
|	Cu	65	27.586	ug/L	0.411	1	107	62347	1	KED
|	Zn	66	54.295	ug/L	1.764	3	67	29412	2	KED
|	Zn	67	54.009	ug/L	0.750	1	15	4767	0	KED
⌊	As	75	6.145	ug/L	0.125	2	4	1615	1	KED
	Y	89		ug/L			53627	247657	1	Standard
	Kr	83		ug/L			34	70	10	Standard
⌈>	In-1	115		ug/L			7114	6869	3	KED
|	Cd	111	0.128	ug/L	0.034	26	2	33	26	KED
⌊	Cd	114	0.143	ug/L	0.032	22	0	91	23	KED
⌈>	In	115		ug/L			522018	498017	1	Standard
⌊	Ag	107	0.114	ug/L	0.004	3	24	1886	1	Standard
⌈>	Tb	159		ug/L			194588	218860	2	Standard
⌊	Pb	208	11.885	ug/L	0.301	2	589	1244967	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0063-03
Sample Dil Factor: 20
Comments:
Sample Date/Time: Thursday, May 11, 2023 01:49:00
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			23951	35499	1	Standard
⌈>	Sc	45		ug/L			579638	667168	1	Standard
|	Cr	52	12.476	ug/L	0.197	1	10138	226180	1	Standard
⌊	Cr	53	12.216	ug/L	0.084	0	92	24701	1	Standard
⌈>	Ge	72		ug/L			33052	32239	3	KED
|	Ni	60	10.330	ug/L	0.214	2	97	16096	1	KED
|	Ni	62	10.576	ug/L	0.168	1	15	2640	2	KED
|	Cu	63	29.293	ug/L	0.285	0	198	127139	2	KED
|	Cu	65	28.863	ug/L	0.751	2	107	64290	0	KED
|	Zn	66	56.772	ug/L	2.696	4	67	30296	1	KED
|	Zn	67	55.840	ug/L	3.137	5	15	4854	2	KED
⌊	As	75	7.812	ug/L	0.264	3	4	2022	1	KED
	Y	89		ug/L			53627	245815	2	Standard
	Kr	83		ug/L			34	64	9	Standard
⌈>	In-1	115		ug/L			7114	6861	2	KED
|	Cd	111	0.175	ug/L	0.040	22	2	45	19	KED
⌊	Cd	114	0.161	ug/L	0.030	18	0	103	17	KED
⌈>	In	115		ug/L			522018	506848	1	Standard
⌊	Ag	107	0.117	ug/L	0.005	4	24	1968	5	Standard
⌈>	Tb	159		ug/L			194588	214654	2	Standard
⌊	Pb	208	11.626	ug/L	0.374	3	589	1194319	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0452-01
Sample Dil Factor: 2
Comments:
Sample Date/Time: Thursday, May 11, 2023 01:53:19
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	105848	5	Standard
⌈>	**Sc**	**45**		ug/L			579638	461044	2	Standard
|	**Cr**	**52**	**2.573**	ug/L	0.016	0	10138	38630	2	Standard
⌊	**Cr**	**53**	**2.140**	ug/L	0.084	3	92	3048	1	Standard
⌈>	**Ge**	**72**		ug/L			33052	25757	1	KED
|	**Ni**	**60**	**3.973**	ug/L	0.094	2	97	4995	2	KED
|	**Ni**	**62**	**3.970**	ug/L	0.157	3	15	800	4	KED
|	**Cu**	**63**	**0.400**	ug/L	0.004	1	198	1539	0	KED
|	**Cu**	**65**	**0.392**	ug/L	0.035	8	107	780	7	KED
|	**Zn**	**66**	**2.796**	ug/L	0.241	8	67	1243	8	KED
|	**Zn**	**67**	**2.790**	ug/L	0.296	10	15	205	9	KED
⌊	**As**	**75**	**0.134**	ug/L	0.017	12	4	31	10	KED
	Y	**89**		ug/L			53627	44123	1	Standard
	Kr	**83**		ug/L			34	34	27	Standard
⌈>	**In-1**	**115**		ug/L			7114	5449	7	KED
|	**Cd**	**111**	**0.033**	ug/L	0.004	11	2	8	13	KED
⌊	**Cd**	**114**	**0.026**	ug/L	0.009	35	0	13	39	KED
⌈>	**In**	**115**		ug/L			522018	421633	1	Standard
⌊	**Ag**	**107**	**0.004**	ug/L	0.005	111	24	76	82	Standard
⌈>	**Tb**	**159**		ug/L			194588	165473	1	Standard
⌊	**Pb**	**208**	**0.040**	ug/L	0.001	1	589	3659	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0462-01
Sample Dil Factor: 2
Comments:
Sample Date/Time: Thursday, May 11, 2023 01:58:08
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	27229	5	Standard
⌈>	**Sc**	**45**		ug/L			579638	536374	1	Standard
|	**Cr**	**52**	**0.130**	ug/L	0.034	26	10138	11176	4	Standard
⌊	**Cr**	**53**	**0.395**	ug/L	0.027	6	92	725	7	Standard
⌈>	**Ge**	**72**		ug/L			33052	27488	2	KED
|	**Ni**	**60**	**1.680**	ug/L	0.028	1	97	2301	2	KED
|	**Ni**	**62**	**1.689**	ug/L	0.045	2	15	370	1	KED
|	**Cu**	**63**	**0.581**	ug/L	0.032	5	198	2311	3	KED
|	**Cu**	**65**	**0.564**	ug/L	0.036	6	107	1158	5	KED
|	**Zn**	**66**	**1.179**	ug/L	0.101	8	67	591	5	KED
|	**Zn**	**67**	**1.938**	ug/L	0.261	13	15	156	14	KED
⌊	**As**	**75**	**0.362**	ug/L	0.010	2	4	83	0	KED
	Y	**89**		ug/L			53627	49793	3	Standard
	Kr	**83**		ug/L			34	47	16	Standard
⌈>	**In-1**	**115**		ug/L			7114	5876	2	KED
|	**Cd**	**111**	**0.015**	ug/L	0.008	49	2	5	28	KED
⌊	**Cd**	**114**	**0.019**	ug/L	0.008	42	0	10	38	KED
⌈>	**In**	**115**		ug/L			522018	482911	0	Standard
⌊	**Ag**	**107**	**0.000**	ug/L	0.000	276	24	24	20	Standard
⌈>	**Tb**	**159**		ug/L			194588	180457	1	Standard
⌊	**Pb**	**208**	**0.029**	ug/L	0.001	2	589	3029	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23E0135-01
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 02:03:57
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	37969	3	Standard
⌈>	**Sc**	**45**		ug/L			579638	547722	2	Standard
|	**Cr**	**52**	**0.714**	ug/L	0.028	3	10138	19664	2	Standard
⌊	**Cr**	**53**	**0.678**	ug/L	0.015	2	92	1207	0	Standard
⌈>	**Ge**	**72**		ug/L			33052	30087	2	KED
|	**Ni**	**60**	**0.612**	ug/L	0.033	5	97	975	6	KED
|	**Ni**	**62**	**0.639**	ug/L	0.038	5	15	162	7	KED
|	**Cu**	**63**	**5.288**	ug/L	0.088	1	198	21568	0	KED
|	**Cu**	**65**	**5.255**	ug/L	0.116	2	107	11007	0	KED
|	**Zn**	**66**	**140.941**	ug/L	1.920	1	67	70163	1	KED
|	**Zn**	**67**	**133.083**	ug/L	3.879	2	15	10786	2	KED
⌊	**As**	**75**	**1.106**	ug/L	0.012	1	4	270	1	KED
	Y	**89**		ug/L			53627	51171	1	Standard
	Kr	**83**		ug/L			34	71	15	Standard
⌈>	**In-1**	**115**		ug/L			7114	6329	1	KED
|	**Cd**	**111**	**0.112**	ug/L	0.013	12	2	27	12	KED
⌊	**Cd**	**114**	**0.097**	ug/L	0.002	2	0	57	2	KED
⌈>	**In**	**115**		ug/L			522018	493757	1	Standard
⌊	**Ag**	**107**	**0.009**	ug/L	0.001	7	24	170	6	Standard
⌈>	**Tb**	**159**		ug/L			194588	185755	1	Standard
⌊	**Pb**	**208**	**0.563**	ug/L	0.020	3	589	50598	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23E0135-02
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 02:08:22
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	36538	6	Standard
⌈>	**Sc**	**45**		ug/L			579638	578838	2	Standard
|	**Cr**	**52**	**0.519**	ug/L	0.007	1	10138	17866	2	Standard
⌊	**Cr**	**53**	**0.988**	ug/L	0.059	5	92	1818	5	Standard
⌈>	**Ge**	**72**		ug/L			33052	29808	1	KED
|	**Ni**	**60**	**0.569**	ug/L	0.017	2	97	904	3	KED
|	**Ni**	**62**	**0.530**	ug/L	0.027	5	15	135	3	KED
|	**Cu**	**63**	**3.554**	ug/L	0.126	3	198	14417	2	KED
|	**Cu**	**65**	**3.585**	ug/L	0.056	1	107	7470	0	KED
|	**Zn**	**66**	**2.359**	ug/L	0.068	2	67	1222	1	KED
|	**Zn**	**67**	**2.363**	ug/L	0.363	15	15	203	14	KED
⌊	**As**	**75**	**1.123**	ug/L	0.031	2	4	272	1	KED
	Y	**89**		ug/L			53627	59933	0	Standard
	Kr	**83**		ug/L			34	63	13	Standard
⌈>	**In-1**	**115**		ug/L			7114	6300	2	KED
|	**Cd**	**111**	**0.004**	ug/L	0.009	216	2	2	66	KED
⌊	**Cd**	**114**	**0.010**	ug/L	0.002	17	0	6	16	KED
⌈>	**In**	**115**		ug/L			522018	486907	0	Standard
⌊	**Ag**	**107**	**0.007**	ug/L	0.000	2	24	141	1	Standard
⌈>	**Tb**	**159**		ug/L			194588	189476	1	Standard
⌊	**Pb**	**208**	**0.205**	ug/L	0.005	2	589	19197	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23E0135-03
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 02:12:47
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	38119	4	Standard
⌈>	**Sc**	**45**		ug/L			579638	558704	1	Standard
|	**Cr**	**52**	**0.554**	ug/L	0.023	4	10138	17750	3	Standard
⌊	**Cr**	**53**	**0.562**	ug/L	0.027	4	92	1036	4	Standard
⌈>	**Ge**	**72**		ug/L			33052	30571	1	KED
|	**Ni**	**60**	**0.746**	ug/L	0.032	4	97	1186	2	KED
|	**Ni**	**62**	**0.744**	ug/L	0.118	15	15	189	14	KED
|	**Cu**	**63**	**5.766**	ug/L	0.128	2	198	23876	0	KED
|	**Cu**	**65**	**5.570**	ug/L	0.189	3	107	11848	2	KED
|	**Zn**	**66**	**60.188**	ug/L	2.507	4	67	30468	2	KED
|	**Zn**	**67**	**58.288**	ug/L	1.458	2	15	4810	3	KED
⌊	**As**	**75**	**0.270**	ug/L	0.016	6	4	70	6	KED
	Y	**89**		ug/L			53627	54774	3	Standard
	Kr	**83**		ug/L			34	70	10	Standard
⌈>	**In-1**	**115**		ug/L			7114	6555	0	KED
|	**Cd**	**111**	**0.049**	ug/L	0.020	40	2	13	34	KED
⌊	**Cd**	**114**	**0.048**	ug/L	0.005	9	0	29	9	KED
⌈>	**In**	**115**		ug/L			522018	515795	2	Standard
⌊	**Ag**	**107**	**0.008**	ug/L	0.001	14	24	168	11	Standard
⌈>	**Tb**	**159**		ug/L			194588	191287	1	Standard
⌊	**Pb**	**208**	**0.846**	ug/L	0.012	1	589	78051	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23E0135-04
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 02:17:12
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	38665	4	Standard
⌈>	**Sc**	**45**		ug/L			579638	566861	1	Standard
|	**Cr**	**52**	**0.728**	ug/L	0.010	1	10138	20546	2	Standard
⌊	**Cr**	**53**	**0.803**	ug/L	0.062	7	92	1465	8	Standard
⌈>	**Ge**	**72**		ug/L			33052	31153	1	KED
|	**Ni**	**60**	**1.149**	ug/L	0.046	3	97	1813	4	KED
|	**Ni**	**62**	**1.105**	ug/L	0.081	7	15	280	5	KED
|	**Cu**	**63**	**6.771**	ug/L	0.129	1	198	28541	0	KED
|	**Cu**	**65**	**6.596**	ug/L	0.167	2	107	14285	3	KED
|	**Zn**	**66**	**65.082**	ug/L	0.876	1	67	33581	0	KED
|	**Zn**	**67**	**61.094**	ug/L	4.276	6	15	5132	5	KED
⌊	**As**	**75**	**0.523**	ug/L	0.041	7	4	134	6	KED
	Y	**89**		ug/L			53627	59942	1	Standard
	Kr	**83**		ug/L			34	76	13	Standard
⌈>	**In-1**	**115**		ug/L			7114	6559	2	KED
|	**Cd**	**111**	**0.061**	ug/L	0.030	48	2	16	42	KED
⌊	**Cd**	**114**	**0.056**	ug/L	0.002	4	0	34	6	KED
⌈>	**In**	**115**		ug/L			522018	504265	0	Standard
⌊	**Ag**	**107**	**0.008**	ug/L	0.001	12	24	164	11	Standard
⌈>	**Tb**	**159**		ug/L			194588	192160	1	Standard
⌊	**Pb**	**208**	**2.595**	ug/L	0.038	1	589	239201	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBLB
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 02:21:38
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	21544	3	Standard
⌈>	**Sc**	**45**		ug/L			579638	545161	2	Standard
|	**Cr**	**52**	**-0.044**	ug/L	0.022	49	10138	8919	2	Standard
⌊	**Cr**	**53**	**0.008**	ug/L	0.003	39	92	100	4	Standard
⌈>	**Ge**	**72**		ug/L			33052	30281	2	KED
|	**Ni**	**60**	**0.028**	ug/L	0.008	27	97	130	5	KED
|	**Ni**	**62**	**0.036**	ug/L	0.016	46	15	22	16	KED
|	**Cu**	**63**	**0.014**	ug/L	0.008	60	198	236	11	KED
|	**Cu**	**65**	**0.010**	ug/L	0.009	99	107	118	16	KED
|	**Zn**	**66**	**-0.013**	ug/L	0.015	120	67	55	13	KED
|	**Zn**	**67**	**-0.085**	ug/L	0.021	24	15	7	25	KED
⌊	**As**	**75**	**-0.007**	ug/L	0.006	79	4	2	60	KED
	Y	**89**		ug/L			53627	50064	2	Standard
	Kr	**83**		ug/L			34	67	16	Standard
⌈>	**In-1**	**115**		ug/L			7114	6136	0	KED
|	**Cd**	**111**	**-0.004**	ug/L	0.007	168	2	0	173	KED
⌊	**Cd**	**114**	**-0.001**	ug/L	0.000	12	0	0	50	KED
⌈>	**In**	**115**		ug/L			522018	493408	1	Standard
⌊	**Ag**	**107**	**-0.001**	ug/L	0.000	30	24	7	66	Standard
⌈>	**Tb**	**159**		ug/L			194588	186807	0	Standard
⌊	**Pb**	**208**	**-0.000**	ug/L	0.000	396	589	558	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVD
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 02:26:03
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	21516	4	Standard
⌈>	**Sc**	**45**		ug/L			579638	550260	3	Standard
|	**Cr**	**52**	**49.898**	ug/L	0.736	1	10138	717062	2	Standard
⌊	**Cr**	**53**	**48.905**	ug/L	0.774	1	92	81286	2	Standard
⌈>	**Ge**	**72**		ug/L			33052	30601	1	KED
|	**Ni**	**60**	**49.258**	ug/L	1.105	2	97	72531	1	KED
|	**Ni**	**62**	**49.062**	ug/L	0.777	1	15	11579	2	KED
|	**Cu**	**63**	**50.423**	ug/L	1.755	3	198	207598	2	KED
|	**Cu**	**65**	**50.155**	ug/L	0.422	0	107	106033	2	KED
|	**Zn**	**66**	**51.110**	ug/L	1.440	2	67	25916	1	KED
|	**Zn**	**67**	**50.481**	ug/L	0.741	1	15	4171	0	KED
⌊	**As**	**75**	**49.333**	ug/L	0.457	0	4	12111	0	KED
	Y	**89**		ug/L			53627	51421	2	Standard
	Kr	**83**		ug/L			34	50	35	Standard
⌈>	**In-1**	**115**		ug/L			7114	6373	2	KED
|	**Cd**	**111**	**51.144**	ug/L	0.617	1	2	11817	1	KED
⌊	**Cd**	**114**	**51.111**	ug/L	1.372	2	0	30374	0	KED
⌈>	**In**	**115**		ug/L			522018	491126	0	Standard
⌊	**Ag**	**107**	**46.025**	ug/L	0.868	1	24	743507	2	Standard
⌈>	**Tb**	**159**		ug/L			194588	193039	1	Standard
⌊	**Pb**	**208**	**53.346**	ug/L	0.719	1	589	4928316	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBD
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 02:33:12
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	20958	3	Standard
⌈>	**Sc**	**45**		ug/L			579638	544844	3	Standard
|	**Cr**	**52**	**-0.036**	ug/L	0.007	18	10138	9030	2	Standard
⌊	**Cr**	**53**	**-0.008**	ug/L	0.008	108	92	73	17	Standard
⌈>	**Ge**	**72**		ug/L			33052	30925	2	KED
|	**Ni**	**60**	**0.009**	ug/L	0.032	345	97	106	47	KED
|	**Ni**	**62**	**0.017**	ug/L	0.041	236	15	19	51	KED
|	**Cu**	**63**	**0.011**	ug/L	0.031	286	198	232	57	KED
|	**Cu**	**65**	**0.003**	ug/L	0.019	572	107	108	39	KED
|	**Zn**	**66**	**-0.038**	ug/L	0.026	68	67	43	32	KED
|	**Zn**	**67**	**-0.087**	ug/L	0.023	26	15	7	25	KED
⌊	**As**	**75**	**0.012**	ug/L	0.013	106	4	7	46	KED
	Y	**89**		ug/L			53627	51661	1	Standard
	Kr	**83**		ug/L			34	57	21	Standard
⌈>	**In-1**	**115**		ug/L			7114	6496	1	KED
|	**Cd**	**111**	**-0.003**	ug/L	0.006	191	2	1	114	KED
⌊	**Cd**	**114**	**-0.001**	ug/L	0.000	5	0	0	21	KED
⌈>	**In**	**115**		ug/L			522018	495425	0	Standard
⌊	**Ag**	**107**	**0.001**	ug/L	0.000	9	24	44	4	Standard
⌈>	**Tb**	**159**		ug/L			194588	187990	1	Standard
⌊	**Pb**	**208**	**-0.003**	ug/L	0.000	9	589	317	8	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23E0138-01
Sample Dil Factor: 2
Comments:
Sample Date/Time: Thursday, May 11, 2023 02:37:38
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			23951	26731	3	Standard
⌈>	Sc	45		ug/L			579638	510919	2	Standard
|	Cr	52	3.536	ug/L	0.053	1	10138	55491	1	Standard
⌊	Cr	53	3.450	ug/L	0.048	1	92	5401	3	Standard
⌈>	Ge	72		ug/L			33052	27574	0	KED
|	Ni	60	0.373	ug/L	0.022	5	97	576	5	KED
|	Ni	62	0.368	ug/L	0.037	9	15	91	8	KED
|	Cu	63	2.632	ug/L	0.032	1	198	9922	1	KED
|	Cu	65	2.576	ug/L	0.005	0	107	4991	0	KED
|	Zn	66	1.731	ug/L	0.144	8	67	845	6	KED
|	Zn	67	1.654	ug/L	0.275	16	15	135	14	KED
⌊	As	75	0.040	ug/L	0.010	23	4	12	17	KED
	Y	89		ug/L			53627	46957	1	Standard
	Kr	83		ug/L			34	50	22	Standard
⌈>	In-1	115		ug/L			7114	5630	4	KED
|	Cd	111	0.012	ug/L	0.007	62	2	4	35	KED
⌊	Cd	114	0.005	ug/L	0.002	32	0	2	32	KED
⌈>	In	115		ug/L			522018	454440	3	Standard
⌊	Ag	107	0.001	ug/L	0.001	86	24	35	32	Standard
⌈>	Tb	159		ug/L			194588	177445	0	Standard
⌊	Pb	208	0.009	ug/L	0.000	4	589	1292	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23E0139-01
Sample Dil Factor: 2
Comments:
Sample Date/Time: Thursday, May 11, 2023 02:42:27
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			23951	25305	6	Standard
⌈>	Sc	45		ug/L			579638	495840	2	Standard
|	Cr	52	6.970	ug/L	0.074	1	10138	97727	1	Standard
⌊	Cr	53	6.889	ug/L	0.140	2	92	10389	3	Standard
⌈>	Ge	72		ug/L			33052	26357	0	KED
|	Ni	60	0.396	ug/L	0.027	6	97	579	5	KED
|	Ni	62	0.351	ug/L	0.046	13	15	83	10	KED
|	Cu	63	2.634	ug/L	0.022	0	198	9492	0	KED
|	Cu	65	2.580	ug/L	0.023	0	107	4779	1	KED
|	Zn	66	1.552	ug/L	0.050	3	67	730	2	KED
|	Zn	67	1.324	ug/L	0.279	21	15	106	19	KED
⌊	As	75	0.037	ug/L	0.004	10	4	11	7	KED
	Y	89		ug/L			53627	45441	0	Standard
	Kr	83		ug/L			34	40	33	Standard
⌈>	In-1	115		ug/L			7114	5374	2	KED
|	Cd	111	0.009	ug/L	0.014	150	2	3	78	KED
⌊	Cd	114	0.027	ug/L	0.012	46	0	13	43	KED
⌈>	In	115		ug/L			522018	432964	3	Standard
⌊	Ag	107	0.001	ug/L	0.000	45	24	31	12	Standard
⌈>	Tb	159		ug/L			194588	174764	1	Standard
⌊	Pb	208	0.034	ug/L	0.001	1	589	3409	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23E0139-02
Sample Dil Factor: 2
Comments:
Sample Date/Time: Thursday, May 11, 2023 02:47:16
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			23951	26683	4	Standard
⌈>	Sc	45		ug/L			579638	489659	3	Standard
|	Cr	52	3.753	ug/L	0.073	1	10138	55912	1	Standard
⌊	Cr	53	3.762	ug/L	0.018	0	92	5636	2	Standard
⌈>	Ge	72		ug/L			33052	26552	0	KED
|	Ni	60	0.369	ug/L	0.018	4	97	549	4	KED
|	Ni	62	0.345	ug/L	0.078	22	15	83	18	KED
|	Cu	63	2.510	ug/L	0.028	1	198	9120	0	KED
|	Cu	65	2.433	ug/L	0.067	2	107	4546	3	KED
|	Zn	66	1.083	ug/L	0.028	2	67	529	2	KED
|	Zn	67	0.817	ug/L	0.129	15	15	71	12	KED
⌊	As	75	0.036	ug/L	0.011	29	4	11	19	KED
	Y	89		ug/L			53627	46118	3	Standard
	Kr	83		ug/L			34	36	7	Standard
⌈>	In-1	115		ug/L			7114	5389	1	KED
|	Cd	111	0.017	ug/L	0.006	33	2	5	21	KED
⌊	Cd	114	0.010	ug/L	0.007	70	0	5	65	KED
⌈>	In	115		ug/L			522018	441133	2	Standard
⌊	Ag	107	-0.001	ug/L	0.000	46	24	12	31	Standard
⌈>	Tb	159		ug/L			194588	175179	1	Standard
⌊	Pb	208	0.007	ug/L	0.001	12	589	1111	6	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23E0139-03
Sample Dil Factor: 2
Comments:
Sample Date/Time: Thursday, May 11, 2023 02:53:05
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			23951	26767	4	Standard
⌈>	Sc	45		ug/L			579638	504015	1	Standard
|	Cr	52	3.513	ug/L	0.093	2	10138	54463	4	Standard
⌊	Cr	53	3.463	ug/L	0.043	1	92	5348	3	Standard
⌈>	Ge	72		ug/L			33052	26771	0	KED
|	Ni	60	0.451	ug/L	0.023	5	97	659	4	KED
|	Ni	62	0.489	ug/L	0.039	8	15	113	6	KED
|	Cu	63	2.660	ug/L	0.052	1	198	9732	0	KED
|	Cu	65	2.699	ug/L	0.079	2	107	5073	1	KED
|	Zn	66	1.768	ug/L	0.133	7	67	836	6	KED
|	Zn	67	1.750	ug/L	0.245	13	15	139	13	KED
⌊	As	75	0.035	ug/L	0.007	21	4	11	15	KED
	Y	89		ug/L			53627	46971	2	Standard
	Kr	83		ug/L			34	48	12	Standard
⌈>	In-1	115		ug/L			7114	5586	1	KED
|	Cd	111	0.010	ug/L	0.005	47	2	3	25	KED
⌊	Cd	114	0.010	ug/L	0.004	41	0	5	37	KED
⌈>	In	115		ug/L			522018	433798	0	Standard
⌊	Ag	107	0.002	ug/L	0.001	54	24	53	34	Standard
⌈>	Tb	159		ug/L			194588	175484	1	Standard
⌊	Pb	208	0.014	ug/L	0.001	5	589	1719	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBLC
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 02:57:55
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	20581	4	Standard
⌈>	**Sc**	**45**		ug/L			579638	514460	2	Standard
|	**Cr**	**52**	**0.023**	ug/L	0.028	121	10138	9300	1	Standard
⌊	**Cr**	**53**	**-0.009**	ug/L	0.001	15	92	67	3	Standard
⌈>	**Ge**	**72**		ug/L			33052	29561	0	KED
|	**Ni**	**60**	**0.037**	ug/L	0.010	28	97	139	10	KED
|	**Ni**	**62**	**0.010**	ug/L	0.040	389	15	16	54	KED
|	**Cu**	**63**	**-0.030**	ug/L	0.002	8	198	57	16	KED
|	**Cu**	**65**	**-0.036**	ug/L	0.003	6	107	22	22	KED
|	**Zn**	**66**	**-0.017**	ug/L	0.016	93	67	52	15	KED
|	**Zn**	**67**	**-0.107**	ug/L	0.041	38	15	5	57	KED
⌊	**As**	**75**	**-0.007**	ug/L	0.005	67	4	2	53	KED
	Y	**89**		ug/L			53627	48791	1	Standard
	Kr	**83**		ug/L			34	54	43	Standard
⌈>	**In-1**	**115**		ug/L			7114	6083	2	KED
|	**Cd**	**111**	**-0.002**	ug/L	0.005	315	2	1	69	KED
⌊	**Cd**	**114**	**0.002**	ug/L	0.002	123	0	1	90	KED
⌈>	**In**	**115**		ug/L			522018	488801	1	Standard
⌊	**Ag**	**107**	**-0.000**	ug/L	0.000	49	24	18	11	Standard
⌈>	**Tb**	**159**		ug/L			194588	184314	1	Standard
⌊	**Pb**	**208**	**-0.001**	ug/L	0.000	30	589	479	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23E0136-01
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 03:02:15
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	32770	3	Standard
⌈>	**Sc**	**45**		ug/L			579638	557739	0	Standard
|	**Cr**	**52**	**67.274**	ug/L	2.653	3	10138	976668	3	Standard
⌊	**Cr**	**53**	**66.446**	ug/L	0.652	0	92	111934	1	Standard
⌈>	**Ge**	**72**		ug/L			33052	29236	0	KED
|	**Ni**	**60**	**1.121**	ug/L	0.050	4	97	1661	3	KED
|	**Ni**	**62**	**1.234**	ug/L	0.177	14	15	292	14	KED
|	**Cu**	**63**	**7.027**	ug/L	0.005	0	198	27797	0	KED
|	**Cu**	**65**	**6.877**	ug/L	0.141	2	107	13973	2	KED
|	**Zn**	**66**	**6.382**	ug/L	0.084	1	67	3144	1	KED
|	**Zn**	**67**	**6.911**	ug/L	0.750	10	15	557	9	KED
⌊	**As**	**75**	**2.137**	ug/L	0.056	2	4	504	2	KED
	Y	**89**		ug/L			53627	87368	1	Standard
	Kr	**83**		ug/L			34	57	10	Standard
⌈>	**In-1**	**115**		ug/L			7114	6172	2	KED
|	**Cd**	**111**	**0.003**	ug/L	0.007	235	2	2	57	KED
⌊	**Cd**	**114**	**0.015**	ug/L	0.010	69	0	8	65	KED
⌈>	**In**	**115**		ug/L			522018	485517	3	Standard
⌊	**Ag**	**107**	**0.011**	ug/L	0.000	2	24	199	4	Standard
⌈>	**Tb**	**159**		ug/L			194588	194873	2	Standard
⌊	**Pb**	**208**	**1.553**	ug/L	0.050	3	589	145383	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23E0137-01
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 03:06:34
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	35755	6	Standard
⌈>	**Sc**	**45**		ug/L			579638	535473	2	Standard
|	**Cr**	**52**	**0.338**	ug/L	0.032	9	10138	14033	5	Standard
⌊	**Cr**	**53**	**0.343**	ug/L	0.012	3	92	639	4	Standard
⌈>	**Ge**	**72**		ug/L			33052	29985	1	KED
|	**Ni**	**60**	**0.275**	ug/L	0.028	10	97	484	6	KED
|	**Ni**	**62**	**0.284**	ug/L	0.052	18	15	80	14	KED
|	**Cu**	**63**	**4.731**	ug/L	0.041	0	198	19250	1	KED
|	**Cu**	**65**	**4.659**	ug/L	0.101	2	107	9738	2	KED
|	**Zn**	**66**	**45.233**	ug/L	0.593	1	67	22489	2	KED
|	**Zn**	**67**	**42.656**	ug/L	1.352	3	15	3456	3	KED
⌊	**As**	**75**	**0.172**	ug/L	0.015	8	4	45	9	KED
	Y	**89**		ug/L			53627	51488	2	Standard
	Kr	**83**		ug/L			34	48	35	Standard
⌈>	**In-1**	**115**		ug/L			7114	6231	1	KED
|	**Cd**	**111**	**0.026**	ug/L	0.011	39	2	7	30	KED
⌊	**Cd**	**114**	**0.040**	ug/L	0.007	16	0	23	17	KED
⌈>	**In**	**115**		ug/L			522018	499250	1	Standard
⌊	**Ag**	**107**	**0.004**	ug/L	0.001	15	24	86	10	Standard
⌈>	**Tb**	**159**		ug/L			194588	189397	1	Standard
⌊	**Pb**	**208**	**0.787**	ug/L	0.023	2	589	71873	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0477-21
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 03:11:23
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			23951	33248	2	Standard
⌈>	Sc	45		ug/L			579638	537208	1	Standard
|	Cr	52	0.097	ug/L	0.020	20	10138	10742	2	Standard
⌊	Cr	53	0.104	ug/L	0.004	3	92	253	3	Standard
⌈>	Ge	72		ug/L			33052	29942	2	KED
|	Ni	60	0.000	ug/L	0.010	5753	97	88	17	KED
|	Ni	62	0.026	ug/L	0.014	53	15	20	14	KED
|	Cu	63	0.081	ug/L	0.008	9	198	505	6	KED
|	Cu	65	0.080	ug/L	0.008	10	107	262	4	KED
|	Zn	66	0.867	ug/L	0.118	13	67	490	11	KED
|	Zn	67	0.698	ug/L	0.164	23	15	70	16	KED
⌊	As	75	0.000	ug/L	0.007	1825	4	4	43	KED
	Y	89		ug/L			53627	50819	1	Standard
	Kr	83		ug/L			34	50	11	Standard
⌈>	In-1	115		ug/L			7114	6279	2	KED
|	Cd	111	0.005	ug/L	0.002	39	2	3	17	KED
⌊	Cd	114	0.004	ug/L	0.002	46	0	2	39	KED
⌈>	In	115		ug/L			522018	507431	1	Standard
⌊	Ag	107	-0.000	ug/L	0.001	2064	24	23	46	Standard
⌈>	Tb	159		ug/L			194588	187192	0	Standard
⌊	Pb	208	0.021	ug/L	0.001	6	589	2460	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0477-22
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 03:15:49
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			23951	33216	5	Standard
⌈>	Sc	45		ug/L			579638	540455	2	Standard
|	Cr	52	0.193	ug/L	0.007	3	10138	12141	2	Standard
⌊	Cr	53	0.213	ug/L	0.006	2	92	432	1	Standard
⌈>	Ge	72		ug/L			33052	29934	2	KED
|	Ni	60	-0.016	ug/L	0.007	43	97	65	13	KED
|	Ni	62	-0.013	ug/L	0.015	121	15	11	28	KED
|	Cu	63	0.144	ug/L	0.010	6	198	760	2	KED
|	Cu	65	0.145	ug/L	0.007	4	107	398	4	KED
|	Zn	66	0.558	ug/L	0.016	2	67	337	2	KED
|	Zn	67	0.635	ug/L	0.206	32	15	65	24	KED
⌊	As	75	-0.008	ug/L	0.004	48	4	2	48	KED
	Y	89		ug/L			53627	51381	1	Standard
	Kr	83		ug/L			34	43	45	Standard
⌈>	In-1	115		ug/L			7114	6475	1	KED
|	Cd	111	-0.005	ug/L	0.004	87	2	0	100	KED
⌊	Cd	114	-0.001	ug/L	0.000	18	0	0	91	KED
⌈>	In	115		ug/L			522018	506450	0	Standard
⌊	Ag	107	-0.000	ug/L	0.000	27	24	15	13	Standard
⌈>	Tb	159		ug/L			194588	190548	0	Standard
⌊	Pb	208	0.003	ug/L	0.001	18	589	829	5	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBLD
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 03:20:15
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	21935	7	Standard
⌈>	**Sc**	**45**		ug/L			579638	534807	2	Standard
|	**Cr**	**52**	**-0.045**	ug/L	0.003	6	10138	8736	2	Standard
⌊	**Cr**	**53**	**-0.006**	ug/L	0.004	69	92	75	6	Standard
⌈>	**Ge**	**72**		ug/L			33052	29971	2	KED
|	**Ni**	**60**	**0.025**	ug/L	0.011	45	97	123	11	KED
|	**Ni**	**62**	**0.043**	ug/L	0.040	95	15	24	37	KED
|	**Cu**	**63**	**-0.031**	ug/L	0.002	6	198	53	16	KED
|	**Cu**	**65**	**-0.033**	ug/L	0.009	26	107	29	59	KED
|	**Zn**	**66**	**-0.013**	ug/L	0.015	121	67	54	12	KED
|	**Zn**	**67**	**-0.060**	ug/L	0.096	158	15	9	80	KED
⌊	**As**	**75**	**-0.009**	ug/L	0.009	99	4	1	108	KED
	Y	**89**		ug/L			53627	51479	1	Standard
	Kr	**83**		ug/L			34	55	15	Standard
⌈>	**In-1**	**115**		ug/L			7114	6208	1	KED
|	**Cd**	**111**	**-0.000**	ug/L	0.004	3385	2	1	50	KED
⌊	**Cd**	**114**	**0.001**	ug/L	0.004	255	0	1	184	KED
⌈>	**In**	**115**		ug/L			522018	496396	1	Standard
⌊	**Ag**	**107**	**-0.001**	ug/L	0.000	8	24	8	12	Standard
⌈>	**Tb**	**159**		ug/L			194588	186482	2	Standard
⌊	**Pb**	**208**	**-0.001**	ug/L	0.000	16	589	459	5	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVE
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 03:24:41
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	22807	7	Standard
⌈>	**Sc**	**45**		ug/L			579638	556000	2	Standard
|	**Cr**	**52**	**48.851**	ug/L	0.760	1	10138	709575	1	Standard
⌊	**Cr**	**53**	**48.141**	ug/L	0.705	1	92	80877	3	Standard
⌈>	**Ge**	**72**		ug/L			33052	29925	0	KED
|	**Ni**	**60**	**50.748**	ug/L	0.354	0	97	73083	1	KED
|	**Ni**	**62**	**50.531**	ug/L	1.699	3	15	11660	3	KED
|	**Cu**	**63**	**51.681**	ug/L	0.769	1	198	208097	1	KED
|	**Cu**	**65**	**50.635**	ug/L	1.471	2	107	104669	2	KED
|	**Zn**	**66**	**51.834**	ug/L	0.857	1	67	25705	1	KED
|	**Zn**	**67**	**50.952**	ug/L	0.559	1	15	4117	0	KED
⌊	**As**	**75**	**50.274**	ug/L	0.907	1	4	12069	1	KED
	Y	**89**		ug/L			53627	50922	0	Standard
	Kr	**83**		ug/L			34	59	6	Standard
⌈>	**In-1**	**115**		ug/L			7114	6455	1	KED
|	**Cd**	**111**	**50.608**	ug/L	1.004	1	2	11844	0	KED
⌊	**Cd**	**114**	**51.083**	ug/L	1.456	2	0	30752	1	KED
⌈>	**In**	**115**		ug/L			522018	489404	3	Standard
⌊	**Ag**	**107**	**46.320**	ug/L	1.660	3	24	744936	0	Standard
⌈>	**Tb**	**159**		ug/L			194588	189215	1	Standard
⌊	**Pb**	**208**	**54.914**	ug/L	0.055	0	589	4973228	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBE
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 03:31:51
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	22233	3	Standard
⌈>	**Sc**	**45**		ug/L			579638	549986	1	Standard
|	**Cr**	**52**	**-0.050**	ug/L	0.020	40	10138	8905	3	Standard
⌊	**Cr**	**53**	**-0.014**	ug/L	0.005	36	92	64	12	Standard
⌈>	**Ge**	**72**		ug/L			33052	30190	2	KED
|	**Ni**	**60**	**-0.022**	ug/L	0.003	15	97	57	10	KED
|	**Ni**	**62**	**-0.005**	ug/L	0.013	257	15	13	24	KED
|	**Cu**	**63**	**-0.035**	ug/L	0.004	12	198	38	45	KED
|	**Cu**	**65**	**-0.040**	ug/L	0.002	6	107	15	30	KED
|	**Zn**	**66**	**-0.071**	ug/L	0.013	18	67	26	23	KED
|	**Zn**	**67**	**-0.155**	ug/L	0.024	15	15	1	100	KED
⌊	**As**	**75**	**-0.006**	ug/L	0.006	114	4	2	56	KED
	Y	**89**		ug/L			53627	49886	1	Standard
	Kr	**83**		ug/L			34	40	18	Standard
⌈>	**In-1**	**115**		ug/L			7114	6635	3	KED
|	**Cd**	**111**	**-0.001**	ug/L	0.000	41	2	1		KED
⌊	**Cd**	**114**	**0.004**	ug/L	0.002	42	0	3	37	KED
⌈>	**In**	**115**		ug/L			522018	502273	1	Standard
⌊	**Ag**	**107**	**0.002**	ug/L	0.002	86	24	62	52	Standard
⌈>	**Tb**	**159**		ug/L			194588	186108	1	Standard
⌊	**Pb**	**208**	**-0.002**	ug/L	0.002	146	589	411	53	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0477-11
Sample Dil Factor: 2
Comments:
Sample Date/Time: Thursday, May 11, 2023 03:36:16
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	31765	4	Standard
⌈>	**Sc**	**45**		ug/L			579638	563677	2	Standard
|	**Cr**	**52**	**0.516**	ug/L	0.028	5	10138	17347	1	Standard
⌊	**Cr**	**53**	**0.528**	ug/L	0.028	5	92	987	7	Standard
⌈>	**Ge**	**72**		ug/L			33052	31098	3	KED
|	**Ni**	**60**	**0.485**	ug/L	0.004	0	97	817	3	KED
|	**Ni**	**62**	**0.513**	ug/L	0.019	3	15	137	2	KED
|	**Cu**	**63**	**4.141**	ug/L	0.127	3	198	17492	1	KED
|	**Cu**	**65**	**4.064**	ug/L	0.150	3	107	8818	0	KED
|	**Zn**	**66**	**14.845**	ug/L	0.550	3	67	7690	1	KED
|	**Zn**	**67**	**13.795**	ug/L	1.052	7	15	1168	6	KED
⌊	**As**	**75**	**0.979**	ug/L	0.034	3	4	248	1	KED
	Y	**89**		ug/L			53627	58044	1	Standard
	Kr	**83**		ug/L			34	40	45	Standard
⌈>	**In-1**	**115**		ug/L			7114	6522	1	KED
|	**Cd**	**111**	**0.010**	ug/L	0.015	148	2	4	81	KED
⌊	**Cd**	**114**	**0.024**	ug/L	0.022	92	0	15	90	KED
⌈>	**In**	**115**		ug/L			522018	517383	2	Standard
⌊	**Ag**	**107**	**0.005**	ug/L	0.001	12	24	112	7	Standard
⌈>	**Tb**	**159**		ug/L			194588	192288	0	Standard
⌊	**Pb**	**208**	**0.297**	ug/L	0.004	1	589	27902	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0477-13
Sample Dil Factor: 2
Comments:
Sample Date/Time: Thursday, May 11, 2023 03:40:42
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	33420	6	Standard
⌈>	**Sc**	**45**		ug/L			579638	597184	2	Standard
|	**Cr**	**52**	**0.086**	ug/L	0.003	3	10138	11761	2	Standard
⌊	**Cr**	**53**	**0.672**	ug/L	0.020	3	92	1306	5	Standard
⌈>	**Ge**	**72**		ug/L			33052	29672	0	KED
|	**Ni**	**60**	**0.873**	ug/L	0.063	7	97	1333	7	KED
|	**Ni**	**62**	**0.796**	ug/L	0.037	4	15	196	3	KED
|	**Cu**	**63**	**2.671**	ug/L	0.041	1	198	10832	1	KED
|	**Cu**	**65**	**2.604**	ug/L	0.067	2	107	5428	2	KED
|	**Zn**	**66**	**4.566**	ug/L	0.064	1	67	2300	0	KED
|	**Zn**	**67**	**4.512**	ug/L	0.361	8	15	374	8	KED
⌊	**As**	**75**	**8.446**	ug/L	0.070	0	4	2013	0	KED
	Y	**89**		ug/L			53627	52902	3	Standard
	Kr	**83**		ug/L			34	40	29	Standard
⌈>	**In-1**	**115**		ug/L			7114	6338	3	KED
|	**Cd**	**111**	**0.044**	ug/L	0.017	39	2	12	35	KED
⌊	**Cd**	**114**	**0.047**	ug/L	0.021	45	0	28	48	KED
⌈>	**In**	**115**		ug/L			522018	485458	1	Standard
⌊	**Ag**	**107**	**0.007**	ug/L	0.001	11	24	130	8	Standard
⌈>	**Tb**	**159**		ug/L			194588	190390	1	Standard
⌊	**Pb**	**208**	**0.116**	ug/L	0.005	4	589	11107	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0477-02
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 03:45:01
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	38314	4	Standard
⌈>	**Sc**	**45**		ug/L			579638	646981	2	Standard
|	**Cr**	**52**	**0.888**	ug/L	0.023	2	10138	26120	2	Standard
⌊	**Cr**	**53**	**1.076**	ug/L	0.017	1	92	2203	2	Standard
⌈>	**Ge**	**72**		ug/L			33052	29945	1	KED
|	**Ni**	**60**	**1.543**	ug/L	0.011	0	97	2310	0	KED
|	**Ni**	**62**	**1.604**	ug/L	0.107	6	15	384	5	KED
|	**Cu**	**63**	**8.861**	ug/L	0.062	0	198	35851	0	KED
|	**Cu**	**65**	**8.710**	ug/L	0.233	2	107	18094	1	KED
|	**Zn**	**66**	**59.363**	ug/L	1.858	3	67	29443	1	KED
|	**Zn**	**67**	**55.640**	ug/L	1.116	2	15	4497	2	KED
⌊	**As**	**75**	**13.552**	ug/L	0.241	1	4	3258	0	KED
	Y	**89**		ug/L			53627	53454	1	Standard
	Kr	**83**		ug/L			34	42	31	Standard
⌈>	**In-1**	**115**		ug/L			7114	6255	2	KED
|	**Cd**	**111**	**0.095**	ug/L	0.028	29	2	23	26	KED
⌊	**Cd**	**114**	**0.094**	ug/L	0.028	29	0	55	31	KED
⌈>	**In**	**115**		ug/L			522018	483384	2	Standard
⌊	**Ag**	**107**	**0.020**	ug/L	0.003	14	24	338	11	Standard
⌈>	**Tb**	**159**		ug/L			194588	187521	0	Standard
⌊	**Pb**	**208**	**0.498**	ug/L	0.005	1	589	45223	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0480-01
Sample Dil Factor: 5
Comments:
Sample Date/Time: Thursday, May 11, 2023 03:49:51
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			23951	70854	3	Standard
>	Sc	45		ug/L			579638	449320	6	Standard
	Cr	52	7.887	ug/L	0.328	4	10138	99022	2	Standard
	Cr	53	7.426	ug/L	0.154	2	92	10131	4	Standard
>	Ge	72		ug/L			33052	25478	2	KED
	Ni	60	1.547	ug/L	0.066	4	97	1969	4	KED
	Ni	62	1.644	ug/L	0.112	6	15	334	4	KED
	Cu	63	0.100	ug/L	0.014	13	198	497	9	KED
	Cu	65	0.093	ug/L	0.018	19	107	246	10	KED
	Zn	66	11.574	ug/L	0.487	4	67	4924	2	KED
	Zn	67	10.735	ug/L	0.983	9	15	747	6	KED
	As	75	0.044	ug/L	0.003	6	4	12	3	KED
	Y	89		ug/L			53627	44728	0	Standard
	Kr	83		ug/L			34	46	9	Standard
>	In-1	115		ug/L			7114	5192	0	KED
	Cd	111	0.170	ug/L	0.024	13	2	33	13	KED
	Cd	114	0.224	ug/L	0.028	12	0	108	11	KED
>	In	115		ug/L			522018	411063	1	Standard
	Ag	107	0.000	ug/L	0.000	143	24	23	26	Standard
>	Tb	159		ug/L			194588	163966	1	Standard
	Pb	208	0.025	ug/L	0.001	5	589	2473	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBLE
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 03:57:41
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	20319	5	Standard
⌈>	**Sc**	**45**		ug/L			579638	499605	1	Standard
|	**Cr**	**52**	**-0.046**	ug/L	0.012	25	10138	8150	1	Standard
⌊	**Cr**	**53**	**-0.005**	ug/L	0.004	73	92	71	6	Standard
⌈>	**Ge**	**72**		ug/L			33052	27777	0	KED
|	**Ni**	**60**	**-0.024**	ug/L	0.014	58	97	50	38	KED
|	**Ni**	**62**	**-0.003**	ug/L	0.031	991	15	12	52	KED
|	**Cu**	**63**	**-0.034**	ug/L	0.004	10	198	38	34	KED
|	**Cu**	**65**	**-0.036**	ug/L	0.001	2	107	20	9	KED
|	**Zn**	**66**	**-0.045**	ug/L	0.043	96	67	36	55	KED
|	**Zn**	**67**	**-0.059**	ug/L	0.097	163	15	8	81	KED
⌊	**As**	**75**	**-0.008**	ug/L	0.004	52	4	1	50	KED
	Y	**89**		ug/L			53627	46991	0	Standard
	Kr	**83**		ug/L			34	40	50	Standard
⌈>	**In-1**	**115**		ug/L			7114	5646	3	KED
|	**Cd**	**111**	**-0.005**	ug/L	0.003	50	2	0	86	KED
⌊	**Cd**	**114**	**0.004**	ug/L	0.006	134	0	2	115	KED
⌈>	**In**	**115**		ug/L			522018	478274	1	Standard
⌊	**Ag**	**107**	**-0.000**	ug/L	0.001	134	24	15	56	Standard
⌈>	**Tb**	**159**		ug/L			194588	177490	1	Standard
⌊	**Pb**	**208**	**-0.003**	ug/L	0.000	8	589	291	9	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0537-05
Sample Dil Factor: 5
Comments:
Sample Date/Time: Thursday, May 11, 2023 04:02:31
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	25567	1	Standard
⌈>	**Sc**	**45**		ug/L			579638	570472	2	Standard
|	**Cr**	**52**	**0.037**	ug/L	0.013	34	10138	10522	1	Standard
⌊	**Cr**	**53**	**0.161**	ug/L	0.007	4	92	368	5	Standard
⌈>	**Ge**	**72**		ug/L			33052	27813	1	KED
|	**Ni**	**60**	**0.117**	ug/L	0.020	17	97	238	9	KED
|	**Ni**	**62**	**0.157**	ug/L	0.051	32	15	46	23	KED
|	**Cu**	**63**	**0.061**	ug/L	0.008	13	198	394	9	KED
|	**Cu**	**65**	**0.056**	ug/L	0.007	12	107	198	5	KED
|	**Zn**	**66**	**0.314**	ug/L	0.053	16	67	201	13	KED
|	**Zn**	**67**	**0.544**	ug/L	0.135	24	15	53	17	KED
⌊	**As**	**75**	**0.881**	ug/L	0.057	6	4	200	5	KED
	Y	**89**		ug/L			53627	51535	1	Standard
	Kr	**83**		ug/L			34	35	18	Standard
⌈>	**In-1**	**115**		ug/L			7114	5808	1	KED
|	**Cd**	**111**	**-0.003**	ug/L	0.003	97	2	1	43	KED
⌊	**Cd**	**114**	**0.003**	ug/L	0.006	216	0	1	180	KED
⌈>	**In**	**115**		ug/L			522018	466235	0	Standard
⌊	**Ag**	**107**	**0.000**	ug/L	0.001	647	24	23	38	Standard
⌈>	**Tb**	**159**		ug/L			194588	184807	1	Standard
⌊	**Pb**	**208**	**0.009**	ug/L	0.001	10	589	1353	5	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLE0120-DUP3
Sample Dil Factor: 5
Comments:
Sample Date/Time: Thursday, May 11, 2023 04:06:50
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	25921	4	Standard
⌈>	**Sc**	**45**		ug/L			579638	571398	1	Standard
|	**Cr**	**52**	**0.026**	ug/L	0.018	67	10138	10378	1	Standard
⌊	**Cr**	**53**	**0.167**	ug/L	0.014	8	92	378	6	Standard
⌈>	**Ge**	**72**		ug/L			33052	27769	2	KED
|	**Ni**	**60**	**0.146**	ug/L	0.011	7	97	276	3	KED
|	**Ni**	**62**	**0.101**	ug/L	0.050	49	15	34	30	KED
|	**Cu**	**63**	**0.017**	ug/L	0.017	97	198	231	27	KED
|	**Cu**	**65**	**0.013**	ug/L	0.008	62	107	114	13	KED
|	**Zn**	**66**	**0.357**	ug/L	0.064	17	67	220	12	KED
|	**Zn**	**67**	**0.443**	ug/L	0.103	23	15	46	14	KED
⌊	**As**	**75**	**0.944**	ug/L	0.075	7	4	213	5	KED
	Y	**89**		ug/L			53627	51598	1	Standard
	Kr	**83**		ug/L			34	38	23	Standard
⌈>	**In-1**	**115**		ug/L			7114	5735	1	KED
|	**Cd**	**111**	**0.007**	ug/L	0.003	39	2	3	17	KED
⌊	**Cd**	**114**	**0.005**	ug/L	0.004	80	0	2	73	KED
⌈>	**In**	**115**		ug/L			522018	473625	1	Standard
⌊	**Ag**	**107**	**-0.000**	ug/L	0.000	51	24	15	25	Standard
⌈>	**Tb**	**159**		ug/L			194588	184642	1	Standard
⌊	**Pb**	**208**	**0.006**	ug/L	0.000	7	589	1104	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLE0120-MS3
Sample Dil Factor: 5
Comments:
Sample Date/Time: Thursday, May 11, 2023 04:11:40
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	26225	3	Standard
⌈>	**Sc**	**45**		ug/L			579638	578116	3	Standard
|	**Cr**	**52**	**4.784**	ug/L	0.234	4	10138	81350	3	Standard
⌊	**Cr**	**53**	**4.812**	ug/L	0.226	4	92	8479	1	Standard
⌈>	**Ge**	**72**		ug/L			33052	28372	0	KED
|	**Ni**	**60**	**5.500**	ug/L	0.057	1	97	7584	1	KED
|	**Ni**	**62**	**5.488**	ug/L	0.209	3	15	1212	2	KED
|	**Cu**	**63**	**5.297**	ug/L	0.107	2	198	20376	2	KED
|	**Cu**	**65**	**5.293**	ug/L	0.035	0	107	10457	1	KED
|	**Zn**	**66**	**17.411**	ug/L	0.199	1	67	8225	1	KED
|	**Zn**	**67**	**16.806**	ug/L	0.629	3	15	1296	2	KED
⌊	**As**	**75**	**6.246**	ug/L	0.164	2	4	1424	1	KED
	Y	**89**		ug/L			53627	53132	2	Standard
	Kr	**83**		ug/L			34	51	45	Standard
⌈>	**In-1**	**115**		ug/L			7114	5936	1	KED
|	**Cd**	**111**	**5.302**	ug/L	0.017	0	2	1142	1	KED
⌊	**Cd**	**114**	**5.212**	ug/L	0.091	1	0	2887	3	KED
⌈>	**In**	**115**		ug/L			522018	478703	2	Standard
⌊	**Ag**	**107**	**4.852**	ug/L	0.119	2	24	76442	4	Standard
⌈>	**Tb**	**159**		ug/L			194588	185283	0	Standard
⌊	**Pb**	**208**	**5.696**	ug/L	0.049	0	589	505647	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLE0120-MSD3
Sample Dil Factor: 5
Comments:
Sample Date/Time: Thursday, May 11, 2023 04:17:29
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	26543	2	Standard
⌈>	**Sc**	**45**		ug/L			579638	587593	2	Standard
|	**Cr**	**52**	**4.909**	ug/L	0.087	1	10138	84614	2	Standard
⌊	**Cr**	**53**	**4.941**	ug/L	0.054	1	92	8855	2	Standard
⌈>	**Ge**	**72**		ug/L			33052	29168	1	KED
|	**Ni**	**60**	**5.411**	ug/L	0.139	2	97	7671	2	KED
|	**Ni**	**62**	**5.517**	ug/L	0.086	1	15	1253	1	KED
|	**Cu**	**63**	**5.427**	ug/L	0.106	1	198	21457	1	KED
|	**Cu**	**65**	**5.392**	ug/L	0.133	2	107	10947	1	KED
|	**Zn**	**66**	**17.608**	ug/L	0.518	2	67	8549	1	KED
|	**Zn**	**67**	**16.790**	ug/L	0.367	2	15	1332	3	KED
⌊	**As**	**75**	**6.344**	ug/L	0.141	2	4	1487	0	KED
	Y	**89**		ug/L			53627	54403	3	Standard
	Kr	**83**		ug/L			34	43	19	Standard
⌈>	**In-1**	**115**		ug/L			7114	6065	1	KED
|	**Cd**	**111**	**5.441**	ug/L	0.071	1	2	1198	1	KED
⌊	**Cd**	**114**	**5.437**	ug/L	0.220	4	0	3075	2	KED
⌈>	**In**	**115**		ug/L			522018	480828	1	Standard
⌊	**Ag**	**107**	**4.983**	ug/L	0.032	0	24	78821	0	Standard
⌈>	**Tb**	**159**		ug/L			194588	183019	2	Standard
⌊	**Pb**	**208**	**5.992**	ug/L	0.152	2	589	525164	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBLF
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 04:21:55
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	21528	5	Standard
⌈>	**Sc**	**45**		ug/L			579638	504587	2	Standard
|	**Cr**	**52**	**-0.049**	ug/L	0.013	26	10138	8189	4	Standard
⌊	**Cr**	**53**	**-0.001**	ug/L	0.010	914	92	78	20	Standard
⌈>	**Ge**	**72**		ug/L			33052	29052	2	KED
|	**Ni**	**60**	**-0.027**	ug/L	0.002	9	97	48	6	KED
|	**Ni**	**62**	**-0.020**	ug/L	0.008	39	15	9	20	KED
|	**Cu**	**63**	**-0.035**	ug/L	0.001	4	198	38	13	KED
|	**Cu**	**65**	**-0.041**	ug/L	0.002	5	107	12	31	KED
|	**Zn**	**66**	**-0.064**	ug/L	0.013	20	67	28	24	KED
|	**Zn**	**67**	**-0.122**	ug/L	0.028	22	15	4	49	KED
⌊	**As**	**75**	**-0.007**	ug/L	0.008	108	4	2	81	KED
	Y	**89**		ug/L			53627	49637	1	Standard
	Kr	**83**		ug/L			34	38	20	Standard
⌈>	**In-1**	**115**		ug/L			7114	6027	1	KED
|	**Cd**	**111**	**-0.003**	ug/L	0.007	226	2	1	114	KED
⌊	**Cd**	**114**	**0.000**	ug/L	0.002	394	0	0	180	KED
⌈>	**In**	**115**		ug/L			522018	479515	1	Standard
⌊	**Ag**	**107**	**-0.000**	ug/L	0.000	299	24	20	32	Standard
⌈>	**Tb**	**159**		ug/L			194588	179966	0	Standard
⌊	**Pb**	**208**	**-0.003**	ug/L	0.000	6	589	288	5	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVF
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 04:26:21
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	21819	4	Standard
⌈>	**Sc**	**45**		ug/L			579638	537241	1	Standard
|	**Cr**	**52**	**48.713**	ug/L	0.418	0	10138	683894	1	Standard
⌊	**Cr**	**53**	**47.716**	ug/L	0.941	1	92	77447	2	Standard
⌈>	**Ge**	**72**		ug/L			33052	28563	3	KED
|	**Ni**	**60**	**50.357**	ug/L	1.050	2	97	69185	1	KED
|	**Ni**	**62**	**49.360**	ug/L	2.641	5	15	10859	2	KED
|	**Cu**	**63**	**50.236**	ug/L	1.591	3	198	192937	0	KED
|	**Cu**	**65**	**49.314**	ug/L	2.387	4	107	97191	1	KED
|	**Zn**	**66**	**51.840**	ug/L	1.972	3	67	24518	1	KED
|	**Zn**	**67**	**50.726**	ug/L	2.388	4	15	3909	3	KED
⌊	**As**	**75**	**49.845**	ug/L	2.221	4	4	11411	2	KED
	Y	**89**		ug/L			53627	50469	1	Standard
	Kr	**83**		ug/L			34	51	9	Standard
⌈>	**In-1**	**115**		ug/L			7114	6035	1	KED
|	**Cd**	**111**	**50.348**	ug/L	1.040	2	2	11017	1	KED
⌊	**Cd**	**114**	**49.801**	ug/L	1.740	3	0	28030	2	KED
⌈>	**In**	**115**		ug/L			522018	483754	2	Standard
⌊	**Ag**	**107**	**45.747**	ug/L	1.559	3	24	727585	1	Standard
⌈>	**Tb**	**159**		ug/L			194588	186391	1	Standard
⌊	**Pb**	**208**	**55.271**	ug/L	0.646	1	589	4930661	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBF
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 04:33:31
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			23951	21106	1	Standard
⌈>	**Sc**	**45**		ug/L			579638	522344	0	Standard
|	**Cr**	**52**	**-0.061**	ug/L	0.019	31	10138	8310	2	Standard
⌊	**Cr**	**53**	**-0.006**	ug/L	0.004	59	92	73	8	Standard
⌈>	**Ge**	**72**		ug/L			33052	29478	2	KED
|	**Ni**	**60**	**-0.012**	ug/L	0.009	77	97	69	16	KED
|	**Ni**	**62**	**0.005**	ug/L	0.010	201	15	15	12	KED
|	**Cu**	**63**	**-0.037**	ug/L	0.002	5	198	30	27	KED
|	**Cu**	**65**	**-0.038**	ug/L	0.004	9	107	18	41	KED
|	**Zn**	**66**	**-0.070**	ug/L	0.007	9	67	26	15	KED
|	**Zn**	**67**	**-0.130**	ug/L	0.025	19	15	3	50	KED
⌊	**As**	**75**	**-0.005**	ug/L	0.003	62	4	2	26	KED
	Y	**89**		ug/L			53627	49249	1	Standard
	Kr	**83**		ug/L			34	43	24	Standard
⌈>	**In-1**	**115**		ug/L			7114	6244	2	KED
|	**Cd**	**111**	**-0.002**	ug/L	0.009	593	2	1	124	KED
⌊	**Cd**	**114**	**0.002**	ug/L	0.004	251	0	1	184	KED
⌈>	**In**	**115**		ug/L			522018	496790	2	Standard
⌊	**Ag**	**107**	**0.001**	ug/L	0.001	101	24	40	40	Standard
⌈>	**Tb**	**159**		ug/L			194588	181353	2	Standard
⌊	**Pb**	**208**	**-0.003**	ug/L	0.000	9	589	283	9	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CAL1
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 04:37:57
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L				21210	4	Standard
⌈>	**Sc**	**45**		ug/L				512571	4	Standard
|	**Cr**	**52**		ug/L				7952	2	Standard
⌊	**Cr**	**53**		ug/L				75	19	Standard
⌈>	**Ge**	**72**		ug/L				28784	1	KED
|	**Ni**	**60**		ug/L				75	11	KED
|	**Ni**	**62**		ug/L				12	56	KED
|	**Cu**	**63**		ug/L				53	8	KED
|	**Cu**	**65**		ug/L				25	37	KED
|	**Zn**	**66**		ug/L				52	8	KED
|	**Zn**	**67**		ug/L				8	13	KED
⌊	**As**	**75**		ug/L				3	33	KED
	Y	**89**		ug/L				50088	0	Standard
	Kr	**83**		ug/L				44	32	Standard
⌈>	**In-1**	**115**		ug/L				6034	0	KED
|	**Cd**	**111**		ug/L				1	34	KED
⌊	**Cd**	**114**		ug/L				1	102	KED
⌈>	**In**	**115**		ug/L				486697	0	Standard
⌊	**Ag**	**107**		ug/L				29	39	Standard
⌈>	**Tb**	**159**		ug/L				178618	1	Standard
⌊	**Pb**	**208**		ug/L				534	9	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVG
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 04:42:23
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	22837	2	Standard
⌈>	**Sc**	**45**		ug/L			512571	535240	2	Standard
|	**Cr**	**52**	**49.491**	ug/L	0.986	1	7952	690998	3	Standard
⌊	**Cr**	**53**	**48.754**	ug/L	0.390	0	75	78819	1	Standard
⌈>	**Ge**	**72**		ug/L			28784	29525	1	KED
|	**Ni**	**60**	**50.055**	ug/L	0.415	0	75	71110	0	KED
|	**Ni**	**62**	**49.979**	ug/L	1.344	2	12	11377	1	KED
|	**Cu**	**63**	**50.840**	ug/L	1.123	2	53	201840	1	KED
|	**Cu**	**65**	**49.659**	ug/L	0.970	1	25	101204	1	KED
|	**Zn**	**66**	**50.552**	ug/L	0.931	1	52	24728	0	KED
|	**Zn**	**67**	**49.626**	ug/L	2.134	4	8	3950	3	KED
⌊	**As**	**75**	**48.478**	ug/L	0.311	0	3	11483	0	KED
	Y	**89**		ug/L			50088	50850	3	Standard
	Kr	**83**		ug/L			44	46	16	Standard
⌈>	**In-1**	**115**		ug/L			6034	6252	1	KED
|	**Cd**	**111**	**49.549**	ug/L	0.377	0	1	11233	2	KED
⌊	**Cd**	**114**	**50.157**	ug/L	0.178	0	1	29252	1	KED
⌈>	**In**	**115**		ug/L			486697	479759	2	Standard
⌊	**Ag**	**107**	**46.667**	ug/L	0.707	1	29	736349	2	Standard
⌈>	**Tb**	**159**		ug/L			178618	186665	1	Standard
⌊	**Pb**	**208**	**55.001**	ug/L	1.042	1	534	4913677	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBG
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 04:49:32
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	21997	3	Standard
⌈>	**Sc**	**45**		ug/L			512571	533122	1	Standard
|	**Cr**	**52**	**0.014**	ug/L	0.006	43	7952	8458	2	Standard
⌊	**Cr**	**53**	**-0.009**	ug/L	0.006	71	75	64	15	Standard
⌈>	**Ge**	**72**		ug/L			28784	29712	0	KED
|	**Ni**	**60**	**-0.021**	ug/L	0.008	39	75	48	24	KED
|	**Ni**	**62**	**-0.024**	ug/L	0.000	0	12	7	0	KED
|	**Cu**	**63**	**-0.005**	ug/L	0.001	17	53	36	9	KED
|	**Cu**	**65**	**-0.004**	ug/L	0.002	41	25	17	22	KED
|	**Zn**	**66**	**-0.068**	ug/L	0.025	37	52	20	59	KED
|	**Zn**	**67**	**-0.059**	ug/L	0.041	70	8	3	86	KED
⌊	**As**	**75**	**-0.003**	ug/L	0.005	212	3	3	37	KED
	Y	**89**		ug/L			50088	49727	2	Standard
	Kr	**83**		ug/L			44	43	24	Standard
⌈>	**In-1**	**115**		ug/L			6034	6050	0	KED
|	**Cd**	**111**	**-0.004**	ug/L	0.003	57	1	0	86	KED
⌊	**Cd**	**114**	**0.000**	ug/L	0.004	6243	1	1	192	KED
⌈>	**In**	**115**		ug/L			486697	490182	1	Standard
⌊	**Ag**	**107**	**0.001**	ug/L	0.001	61	29	45	23	Standard
⌈>	**Tb**	**159**		ug/L			178618	181329	1	Standard
⌊	**Pb**	**208**	**-0.003**	ug/L	0.001	22	534	307	18	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0477-04
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 04:53:59
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	41125	4	Standard
⌈>	**Sc**	**45**		ug/L			512571	553406	2	Standard
|	**Cr**	**52**	**0.370**	ug/L	0.014	3	7952	13862	0	Standard
⌊	**Cr**	**53**	**0.421**	ug/L	0.015	3	75	784	3	Standard
⌈>	**Ge**	**72**		ug/L			28784	29957	1	KED
|	**Ni**	**60**	**0.870**	ug/L	0.040	4	75	1330	3	KED
|	**Ni**	**62**	**0.872**	ug/L	0.054	6	12	214	6	KED
|	**Cu**	**63**	**2.805**	ug/L	0.089	3	53	11350	2	KED
|	**Cu**	**65**	**2.680**	ug/L	0.062	2	25	5568	2	KED
|	**Zn**	**66**	**10.735**	ug/L	0.292	2	52	5370	1	KED
|	**Zn**	**67**	**10.167**	ug/L	0.647	6	8	827	5	KED
⌊	**As**	**75**	**1.857**	ug/L	0.005	0	3	450	1	KED
	Y	**89**		ug/L			50088	52074	0	Standard
	Kr	**83**		ug/L			44	43	2	Standard
⌈>	**In-1**	**115**		ug/L			6034	6279	0	KED
|	**Cd**	**111**	**0.015**	ug/L	0.005	32	1	5	21	KED
⌊	**Cd**	**114**	**0.018**	ug/L	0.004	21	1	11	19	KED
⌈>	**In**	**115**		ug/L			486697	500655	1	Standard
⌊	**Ag**	**107**	**0.002**	ug/L	0.001	40	29	55	19	Standard
⌈>	**Tb**	**159**		ug/L			178618	186090	1	Standard
⌊	**Pb**	**208**	**0.043**	ug/L	0.002	3	534	4388	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0477-06
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 04:58:24
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	37818	3	Standard
⌈>	**Sc**	**45**		ug/L			512571	620959	3	Standard
|	**Cr**	**52**	**0.750**	ug/L	0.035	4	7952	21630	0	Standard
⌊	**Cr**	**53**	**0.850**	ug/L	0.037	4	75	1682	2	Standard
⌈>	**Ge**	**72**		ug/L			28784	28362	2	KED
|	**Ni**	**60**	**1.873**	ug/L	0.124	6	75	2627	7	KED
|	**Ni**	**62**	**2.080**	ug/L	0.104	5	12	466	2	KED
|	**Cu**	**63**	**6.207**	ug/L	0.041	0	53	23720	1	KED
|	**Cu**	**65**	**5.944**	ug/L	0.210	3	25	11654	1	KED
|	**Zn**	**66**	**13.939**	ug/L	0.181	1	52	6588	1	KED
|	**Zn**	**67**	**13.056**	ug/L	0.606	4	8	1005	6	KED
⌊	**As**	**75**	**13.044**	ug/L	0.191	1	3	2970	0	KED
	Y	**89**		ug/L			50088	52960	3	Standard
	Kr	**83**		ug/L			44	37	12	Standard
⌈>	**In-1**	**115**		ug/L			6034	5947	1	KED
|	**Cd**	**111**	**0.186**	ug/L	0.014	7	1	41	5	KED
⌊	**Cd**	**114**	**0.208**	ug/L	0.016	7	1	116	6	KED
⌈>	**In**	**115**		ug/L			486697	479901	1	Standard
⌊	**Ag**	**107**	**0.012**	ug/L	0.001	8	29	218	5	Standard
⌈>	**Tb**	**159**		ug/L			178618	184864	1	Standard
⌊	**Pb**	**208**	**0.644**	ug/L	0.011	1	534	57486	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0477-08
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 05:02:49
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			21210	35079	4	Standard
⌈>	Sc	45		ug/L			512571	617244	2	Standard
|	Cr	52	0.125	ug/L	0.020	15	7952	11566	2	Standard
⌊	Cr	53	0.244	ug/L	0.006	2	75	546	4	Standard
⌈>	Ge	72		ug/L			28784	27855	1	KED
|	Ni	60	0.829	ug/L	0.066	7	75	1181	6	KED
|	Ni	62	0.946	ug/L	0.098	10	12	215	9	KED
|	Cu	63	3.890	ug/L	0.068	1	53	14619	1	KED
|	Cu	65	3.923	ug/L	0.106	2	25	7565	1	KED
|	Zn	66	3.697	ug/L	0.051	1	52	1753	2	KED
|	Zn	67	3.953	ug/L	0.258	6	8	304	5	KED
⌊	As	75	20.959	ug/L	0.676	3	3	4684	1	KED
	Y	89		ug/L			50088	50382	1	Standard
	Kr	83		ug/L			44	40	12	Standard
⌈>	In-1	115		ug/L			6034	5808	2	KED
|	Cd	111	0.055	ug/L	0.019	34	1	13	27	KED
⌊	Cd	114	0.072	ug/L	0.029	40	1	40	39	KED
⌈>	In	115		ug/L			486697	470446	1	Standard
⌊	Ag	107	0.006	ug/L	0.000	7	29	123	6	Standard
⌈>	Tb	159		ug/L			178618	183524	1	Standard
⌊	Pb	208	0.140	ug/L	0.003	1	534	12872	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0477-10
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 05:07:14
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	36815	5	Standard
⌈>	**Sc**	**45**		ug/L			512571	612003	2	Standard
|	**Cr**	**52**	**0.190**	ug/L	0.013	7	7952	12489	1	Standard
⌊	**Cr**	**53**	**0.324**	ug/L	0.013	4	75	687	5	Standard
⌈>	**Ge**	**72**		ug/L			28784	27936	0	KED
|	**Ni**	**60**	**0.814**	ug/L	0.060	7	75	1165	6	KED
|	**Ni**	**62**	**0.884**	ug/L	0.083	9	12	202	8	KED
|	**Cu**	**63**	**3.939**	ug/L	0.170	4	53	14843	3	KED
|	**Cu**	**65**	**3.916**	ug/L	0.044	1	25	7575	0	KED
|	**Zn**	**66**	**4.135**	ug/L	0.215	5	52	1961	5	KED
|	**Zn**	**67**	**4.277**	ug/L	0.228	5	8	329	4	KED
⌊	**As**	**75**	**20.891**	ug/L	0.311	1	3	4684	0	KED
	Y	**89**		ug/L			50088	50782	1	Standard
	Kr	**83**		ug/L			44	56	10	Standard
⌈>	**In-1**	**115**		ug/L			6034	5897	1	KED
|	**Cd**	**111**	**0.072**	ug/L	0.012	16	1	16	14	KED
⌊	**Cd**	**114**	**0.084**	ug/L	0.026	31	1	47	31	KED
⌈>	**In**	**115**		ug/L			486697	476512	1	Standard
⌊	**Ag**	**107**	**0.005**	ug/L	0.001	21	29	111	17	Standard
⌈>	**Tb**	**159**		ug/L			178618	184815	0	Standard
⌊	**Pb**	**208**	**0.113**	ug/L	0.001	0	534	10555	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0477-12
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 05:11:39
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	37614	3	Standard
⌈>	**Sc**	**45**		ug/L			512571	541924	1	Standard
|	**Cr**	**52**	**0.444**	ug/L	0.005	1	7952	14603	1	Standard
⌊	**Cr**	**53**	**0.458**	ug/L	0.009	2	75	828	2	Standard
⌈>	**Ge**	**72**		ug/L			28784	29366	1	KED
|	**Ni**	**60**	**0.438**	ug/L	0.038	8	75	694	6	KED
|	**Ni**	**62**	**0.467**	ug/L	0.046	9	12	118	9	KED
|	**Cu**	**63**	**4.007**	ug/L	0.099	2	53	15872	0	KED
|	**Cu**	**65**	**3.821**	ug/L	0.120	3	25	7768	2	KED
|	**Zn**	**66**	**15.485**	ug/L	0.769	4	52	7568	3	KED
|	**Zn**	**67**	**14.598**	ug/L	0.300	2	8	1161	2	KED
⌊	**As**	**75**	**1.412**	ug/L	0.061	4	3	336	5	KED
	Y	**89**		ug/L			50088	54650	2	Standard
	Kr	**83**		ug/L			44	40	21	Standard
⌈>	**In-1**	**115**		ug/L			6034	6075	2	KED
|	**Cd**	**111**	**0.006**	ug/L	0.008	134	1	2	57	KED
⌊	**Cd**	**114**	**0.005**	ug/L	0.010	194	1	4	138	KED
⌈>	**In**	**115**		ug/L			486697	485971	1	Standard
⌊	**Ag**	**107**	**0.001**	ug/L	0.001	66	29	45	23	Standard
⌈>	**Tb**	**159**		ug/L			178618	187970	2	Standard
⌊	**Pb**	**208**	**0.026**	ug/L	0.001	3	534	2930	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0477-20
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 05:16:05
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	40097	3	Standard
⌈>	**Sc**	**45**		ug/L			512571	603458	1	Standard
|	**Cr**	**52**	**0.809**	ug/L	0.013	1	7952	21936	1	Standard
⌊	**Cr**	**53**	**0.815**	ug/L	0.006	0	75	1573	2	Standard
⌈>	**Ge**	**72**		ug/L			28784	28977	2	KED
|	**Ni**	**60**	**1.925**	ug/L	0.145	7	75	2754	5	KED
|	**Ni**	**62**	**1.888**	ug/L	0.139	7	12	433	5	KED
|	**Cu**	**63**	**8.198**	ug/L	0.187	2	53	31985	1	KED
|	**Cu**	**65**	**8.011**	ug/L	0.219	2	25	16040	1	KED
|	**Zn**	**66**	**2.547**	ug/L	0.146	5	52	1273	5	KED
|	**Zn**	**67**	**2.986**	ug/L	0.210	7	8	241	8	KED
⌊	**As**	**75**	**2.558**	ug/L	0.105	4	3	598	5	KED
	Y	**89**		ug/L			50088	93417	2	Standard
	Kr	**83**		ug/L			44	48	4	Standard
⌈>	**In-1**	**115**		ug/L			6034	6056	1	KED
|	**Cd**	**111**	**0.001**	ug/L	0.004	303	1	1	50	KED
⌊	**Cd**	**114**	**0.013**	ug/L	0.008	56	1	8	49	KED
⌈>	**In**	**115**		ug/L			486697	499578	1	Standard
⌊	**Ag**	**107**	**0.009**	ug/L	0.001	8	29	184	6	Standard
⌈>	**Tb**	**159**		ug/L			178618	188351	0	Standard
⌊	**Pb**	**208**	**0.237**	ug/L	0.005	1	534	21965	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLE0106-DUP1
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 05:20:30
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	41033	4	Standard
⌈>	**Sc**	**45**		ug/L			512571	600732	2	Standard
|	**Cr**	**52**	**0.798**	ug/L	0.026	3	7952	21676	3	Standard
⌊	**Cr**	**53**	**0.812**	ug/L	0.040	4	75	1561	6	Standard
⌈>	**Ge**	**72**		ug/L			28784	29419	1	KED
|	**Ni**	**60**	**1.815**	ug/L	0.049	2	75	2643	0	KED
|	**Ni**	**62**	**1.980**	ug/L	0.134	6	12	461	6	KED
|	**Cu**	**63**	**8.139**	ug/L	0.123	1	53	32242	0	KED
|	**Cu**	**65**	**8.017**	ug/L	0.020	0	25	16304	1	KED
|	**Zn**	**66**	**2.465**	ug/L	0.142	5	52	1252	4	KED
|	**Zn**	**67**	**2.747**	ug/L	0.140	5	8	226	6	KED
⌊	**As**	**75**	**2.471**	ug/L	0.116	4	3	586	2	KED
	Y	**89**		ug/L			50088	90128	3	Standard
	Kr	**83**		ug/L			44	61	25	Standard
⌈>	**In-1**	**115**		ug/L			6034	6203	0	KED
|	**Cd**	**111**	**0.010**	ug/L	0.007	76	1	3	43	KED
⌊	**Cd**	**114**	**0.008**	ug/L	0.004	42	1	6	34	KED
⌈>	**In**	**115**		ug/L			486697	491241	1	Standard
⌊	**Ag**	**107**	**0.008**	ug/L	0.001	9	29	165	7	Standard
⌈>	**Tb**	**159**		ug/L			178618	190226	0	Standard
⌊	**Pb**	**208**	**0.240**	ug/L	0.006	2	534	22402	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLE0106-MS1
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 05:24:50
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			21210	39760	3	Standard
⌈>	Sc	45		ug/L			512571	584445	1	Standard
|	Cr	52	24.504	ug/L	0.768	3	7952	378151	3	Standard
⌊	Cr	53	24.330	ug/L	0.333	1	75	42999	2	Standard
⌈>	Ge	72		ug/L			28784	29130	0	KED
|	Ni	60	29.233	ug/L	0.300	1	75	41006	0	KED
|	Ni	62	28.687	ug/L	1.279	4	12	6447	3	KED
|	Cu	63	35.588	ug/L	0.038	0	53	139434	0	KED
|	Cu	65	35.292	ug/L	0.441	1	25	70972	0	KED
|	Zn	66	85.618	ug/L	1.238	1	52	41287	0	KED
|	Zn	67	85.737	ug/L	1.395	1	8	6729	1	KED
⌊	As	75	28.239	ug/L	0.482	1	3	6601	0	KED
	Y	89		ug/L			50088	90513	2	Standard
	Kr	83		ug/L			44	48	20	Standard
⌈>	In-1	115		ug/L			6034	6109	2	KED
|	Cd	111	26.780	ug/L	0.465	1	1	5932	0	KED
⌊	Cd	114	26.945	ug/L	0.773	2	1	15357	3	KED
⌈>	In	115		ug/L			486697	492130	1	Standard
⌊	Ag	107	24.738	ug/L	0.495	2	29	400420	2	Standard
⌈>	Tb	159		ug/L			178618	191727	1	Standard
⌊	Pb	208	29.314	ug/L	0.364	1	534	2689958	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLE0106-MSD1
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 05:29:39
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	38779	2	Standard
⌈>	**Sc**	**45**		ug/L			512571	593612	0	Standard
|	**Cr**	**52**	**24.128**	ug/L	0.502	2	7952	378325	1	Standard
⌊	**Cr**	**53**	**23.584**	ug/L	0.272	1	75	42336	1	Standard
⌈>	**Ge**	**72**		ug/L			28784	29134	1	KED
|	**Ni**	**60**	**28.208**	ug/L	0.262	0	75	39574	1	KED
|	**Ni**	**62**	**28.944**	ug/L	0.377	1	12	6506	1	KED
|	**Cu**	**63**	**35.573**	ug/L	0.102	0	53	139393	1	KED
|	**Cu**	**65**	**35.339**	ug/L	0.595	1	25	71081	2	KED
|	**Zn**	**66**	**89.540**	ug/L	0.536	0	52	43185	2	KED
|	**Zn**	**67**	**85.104**	ug/L	1.844	2	8	6679	0	KED
⌊	**As**	**75**	**27.745**	ug/L	0.236	0	3	6486	1	KED
	Y	**89**		ug/L			50088	91556	2	Standard
	Kr	**83**		ug/L			44	59	21	Standard
⌈>	**In-1**	**115**		ug/L			6034	6041	2	KED
|	**Cd**	**111**	**26.686**	ug/L	0.564	2	1	5845	0	KED
⌊	**Cd**	**114**	**26.924**	ug/L	1.283	4	1	15164	2	KED
⌈>	**In**	**115**		ug/L			486697	492919	2	Standard
⌊	**Ag**	**107**	**24.337**	ug/L	1.058	4	29	394333	2	Standard
⌈>	**Tb**	**159**		ug/L			178618	189477	1	Standard
⌊	**Pb**	**208**	**29.445**	ug/L	0.796	2	534	2669694	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBLG
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 05:33:59
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	23042	4	Standard
⌈>	**Sc**	**45**		ug/L			512571	504065	2	Standard
|	**Cr**	**52**	**0.021**	ug/L	0.003	14	7952	8096	2	Standard
⌊	**Cr**	**53**	**0.004**	ug/L	0.004	98	75	80	8	Standard
⌈>	**Ge**	**72**		ug/L			28784	29215	1	KED
|	**Ni**	**60**	**-0.017**	ug/L	0.006	36	75	52	16	KED
|	**Ni**	**62**	**-0.032**	ug/L	0.022	68	12	5	88	KED
|	**Cu**	**63**	**-0.004**	ug/L	0.002	43	53	40	17	KED
|	**Cu**	**65**	**-0.002**	ug/L	0.004	230	25	22	39	KED
|	**Zn**	**66**	**-0.055**	ug/L	0.018	32	52	26	31	KED
|	**Zn**	**67**	**-0.018**	ug/L	0.028	158	8	6	31	KED
⌊	**As**	**75**	**-0.007**	ug/L	0.001	16	3	2	12	KED
	Y	**89**		ug/L			50088	47701	0	Standard
	Kr	**83**		ug/L			44	36	21	Standard
⌈>	**In-1**	**115**		ug/L			6034	6006	0	KED
|	**Cd**	**111**	**0.001**	ug/L	0.009	596	1	1	100	KED
⌊	**Cd**	**114**	**0.002**	ug/L	0.005	220	1	2	118	KED
⌈>	**In**	**115**		ug/L			486697	485981	4	Standard
⌊	**Ag**	**107**	**0.003**	ug/L	0.002	91	29	71	52	Standard
⌈>	**Tb**	**159**		ug/L			178618	179589	0	Standard
⌊	**Pb**	**208**	**0.000**	ug/L	0.006	1138	534	580	82	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVH
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 05:38:25
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	23250	6	Standard
⌈>	**Sc**	**45**		ug/L			512571	528228	1	Standard
|	**Cr**	**52**	**49.500**	ug/L	0.901	1	7952	681993	1	Standard
⌊	**Cr**	**53**	**48.349**	ug/L	0.150	0	75	77149	1	Standard
⌈>	**Ge**	**72**		ug/L			28784	30008	0	KED
|	**Ni**	**60**	**48.196**	ug/L	0.665	1	75	69599	1	KED
|	**Ni**	**62**	**47.638**	ug/L	0.836	1	12	11023	1	KED
|	**Cu**	**63**	**48.752**	ug/L	0.851	1	53	196743	1	KED
|	**Cu**	**65**	**49.349**	ug/L	0.352	0	25	102234	1	KED
|	**Zn**	**66**	**49.407**	ug/L	0.678	1	52	24567	0	KED
|	**Zn**	**67**	**49.504**	ug/L	0.874	1	8	4006	1	KED
⌊	**As**	**75**	**48.304**	ug/L	0.703	1	3	11630	1	KED
	Y	**89**		ug/L			50088	50276	3	Standard
	Kr	**83**		ug/L			44	66	8	Standard
⌈>	**In-1**	**115**		ug/L			6034	6120	0	KED
|	**Cd**	**111**	**51.184**	ug/L	0.659	1	1	11358	0	KED
⌊	**Cd**	**114**	**51.083**	ug/L	0.638	1	1	29165	1	KED
⌈>	**In**	**115**		ug/L			486697	478764	0	Standard
⌊	**Ag**	**107**	**46.724**	ug/L	0.422	0	29	735777	0	Standard
⌈>	**Tb**	**159**		ug/L			178618	184982	1	Standard
⌊	**Pb**	**208**	**55.526**	ug/L	1.157	2	534	4914953	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBH
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 05:45:34
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	22826	1	Standard
⌈>	**Sc**	**45**		ug/L			512571	514605	2	Standard
|	**Cr**	**52**	**-0.006**	ug/L	0.008	138	7952	7911	3	Standard
⌊	**Cr**	**53**	**-0.008**	ug/L	0.004	46	75	63	11	Standard
⌈>	**Ge**	**72**		ug/L			28784	29448	0	KED
|	**Ni**	**60**	**-0.017**	ug/L	0.016	91	75	53	40	KED
|	**Ni**	**62**	**-0.007**	ug/L	0.017	238	12	11	33	KED
|	**Cu**	**63**	**-0.004**	ug/L	0.007	195	53	40	68	KED
|	**Cu**	**65**	**-0.003**	ug/L	0.001	21	25	20	5	KED
|	**Zn**	**66**	**-0.051**	ug/L	0.018	36	52	29	30	KED
|	**Zn**	**67**	**-0.082**	ug/L	0.024	29	8	1	100	KED
⌊	**As**	**75**	**0.006**	ug/L	0.006	98	3	5	26	KED
	Y	**89**		ug/L			50088	48607	1	Standard
	Kr	**83**		ug/L			44	52	12	Standard
⌈>	**In-1**	**115**		ug/L			6034	6091	2	KED
|	**Cd**	**111**	**-0.003**	ug/L	0.004	139	1	0	100	KED
⌊	**Cd**	**114**	**0.002**	ug/L	0.002	90	1	2	45	KED
⌈>	**In**	**115**		ug/L			486697	473300	0	Standard
⌊	**Ag**	**107**	**0.001**	ug/L	0.000	11	29	50	5	Standard
⌈>	**Tb**	**159**		ug/L			178618	179990	0	Standard
⌊	**Pb**	**208**	**-0.003**	ug/L	0.001	15	534	251	17	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0477-14
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 05:50:01
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	40592	5	Standard
⌈>	**Sc**	**45**		ug/L			512571	625583	3	Standard
|	**Cr**	**52**	**0.332**	ug/L	0.007	1	7952	15056	3	Standard
⌊	**Cr**	**53**	**1.924**	ug/L	0.015	0	75	3723	3	Standard
⌈>	**Ge**	**72**		ug/L			28784	28463	2	KED
|	**Ni**	**60**	**1.957**	ug/L	0.061	3	75	2750	1	KED
|	**Ni**	**62**	**2.020**	ug/L	0.030	1	12	455	1	KED
|	**Cu**	**63**	**9.385**	ug/L	0.272	2	53	35960	2	KED
|	**Cu**	**65**	**9.404**	ug/L	0.188	2	25	18493	0	KED
|	**Zn**	**66**	**10.817**	ug/L	0.187	1	52	5141	1	KED
|	**Zn**	**67**	**11.789**	ug/L	0.263	2	8	911	2	KED
⌊	**As**	**75**	**20.812**	ug/L	0.559	2	3	4753	0	KED
	Y	**89**		ug/L			50088	53972	1	Standard
	Kr	**83**		ug/L			44	42	15	Standard
⌈>	**In-1**	**115**		ug/L			6034	6071	0	KED
|	**Cd**	**111**	**0.141**	ug/L	0.013	8	1	32	8	KED
⌊	**Cd**	**114**	**0.100**	ug/L	0.004	4	1	57	5	KED
⌈>	**In**	**115**		ug/L			486697	454002	2	Standard
⌊	**Ag**	**107**	**0.026**	ug/L	0.002	7	29	414	5	Standard
⌈>	**Tb**	**159**		ug/L			178618	181226	2	Standard
⌊	**Pb**	**208**	**0.990**	ug/L	0.014	1	534	86358	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0477-16
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 05:54:26
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	43420	6	Standard
⌈>	**Sc**	**45**		ug/L			512571	546125	1	Standard
|	**Cr**	**52**	**0.647**	ug/L	0.033	5	7952	17577	4	Standard
⌊	**Cr**	**53**	**0.675**	ug/L	0.033	4	75	1193	4	Standard
⌈>	**Ge**	**72**		ug/L			28784	30240	0	KED
|	**Ni**	**60**	**0.675**	ug/L	0.035	5	75	1059	4	KED
|	**Ni**	**62**	**0.602**	ug/L	0.023	3	12	153	3	KED
|	**Cu**	**63**	**5.711**	ug/L	0.106	1	53	23274	1	KED
|	**Cu**	**65**	**5.569**	ug/L	0.142	2	25	11649	2	KED
|	**Zn**	**66**	**29.892**	ug/L	0.254	0	52	15000	0	KED
|	**Zn**	**67**	**28.725**	ug/L	0.734	2	8	2346	2	KED
⌊	**As**	**75**	**3.914**	ug/L	0.061	1	3	953	1	KED
	Y	**89**		ug/L			50088	54733	0	Standard
	Kr	**83**		ug/L			44	45	8	Standard
⌈>	**In-1**	**115**		ug/L			6034	6139	2	KED
|	**Cd**	**111**	**0.037**	ug/L	0.002	5	1	9	5	KED
⌊	**Cd**	**114**	**0.014**	ug/L	0.004	28	1	8	22	KED
⌈>	**In**	**115**		ug/L			486697	497849	1	Standard
⌊	**Ag**	**107**	**0.003**	ug/L	0.001	25	29	85	15	Standard
⌈>	**Tb**	**159**		ug/L			178618	190840	1	Standard
⌊	**Pb**	**208**	**0.300**	ug/L	0.005	1	534	27994	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0477-18
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 05:58:51
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	41506	5	Standard
⌈>	**Sc**	**45**		ug/L			512571	563971	1	Standard
|	**Cr**	**52**	**0.879**	ug/L	0.056	6	7952	21514	2	Standard
⌊	**Cr**	**53**	**0.921**	ug/L	0.009	1	75	1650	1	Standard
⌈>	**Ge**	**72**		ug/L			28784	29591	0	KED
|	**Ni**	**60**	**0.841**	ug/L	0.034	4	75	1274	4	KED
|	**Ni**	**62**	**0.988**	ug/L	0.174	17	12	238	16	KED
|	**Cu**	**63**	**3.718**	ug/L	0.097	2	53	14845	2	KED
|	**Cu**	**65**	**3.603**	ug/L	0.056	1	25	7384	1	KED
|	**Zn**	**66**	**16.875**	ug/L	0.347	2	52	8310	1	KED
|	**Zn**	**67**	**16.131**	ug/L	1.579	9	8	1292	9	KED
⌊	**As**	**75**	**1.797**	ug/L	0.041	2	3	430	1	KED
	Y	**89**		ug/L			50088	56214	2	Standard
	Kr	**83**		ug/L			44	30	21	Standard
⌈>	**In-1**	**115**		ug/L			6034	6314	4	KED
|	**Cd**	**111**	**0.008**	ug/L	0.006	69	1	3	31	KED
⌊	**Cd**	**114**	**0.011**	ug/L	0.006	60	1	7	52	KED
⌈>	**In**	**115**		ug/L			486697	482029	1	Standard
⌊	**Ag**	**107**	**0.005**	ug/L	0.001	24	29	115	18	Standard
⌈>	**Tb**	**159**		ug/L			178618	192728	0	Standard
⌊	**Pb**	**208**	**0.200**	ug/L	0.003	1	534	19033	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0477-01
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 06:03:17
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	35873	2	Standard
⌈>	**Sc**	**45**		ug/L			512571	619987	1	Standard
|	**Cr**	**52**	**1.104**	ug/L	0.004	0	7952	27252	2	Standard
⌊	**Cr**	**53**	**1.258**	ug/L	0.032	2	75	2444	3	Standard
⌈>	**Ge**	**72**		ug/L			28784	29585	1	KED
|	**Ni**	**60**	**1.906**	ug/L	0.066	3	75	2788	4	KED
|	**Ni**	**62**	**1.874**	ug/L	0.068	3	12	440	2	KED
|	**Cu**	**63**	**11.407**	ug/L	0.361	3	53	45418	2	KED
|	**Cu**	**65**	**10.967**	ug/L	0.111	1	25	22416	0	KED
|	**Zn**	**66**	**60.525**	ug/L	0.205	0	52	29659	1	KED
|	**Zn**	**67**	**58.668**	ug/L	1.256	2	8	4678	1	KED
⌊	**As**	**75**	**14.694**	ug/L	0.332	2	3	3490	1	KED
	Y	**89**		ug/L			50088	54055	0	Standard
	Kr	**83**		ug/L			44	48	13	Standard
⌈>	**In-1**	**115**		ug/L			6034	6021	0	KED
|	**Cd**	**111**	**0.100**	ug/L	0.018	17	1	23	16	KED
⌊	**Cd**	**114**	**0.090**	ug/L	0.014	15	1	51	15	KED
⌈>	**In**	**115**		ug/L			486697	482814	0	Standard
⌊	**Ag**	**107**	**0.034**	ug/L	0.002	6	29	575	6	Standard
⌈>	**Tb**	**159**		ug/L			178618	185868	0	Standard
⌊	**Pb**	**208**	**1.077**	ug/L	0.010	0	534	96390	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0477-03
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 06:07:42
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	43263	3	Standard
⌈>	**Sc**	**45**		ug/L			512571	531042	1	Standard
|	**Cr**	**52**	**0.707**	ug/L	0.019	2	7952	17913	1	Standard
⌊	**Cr**	**53**	**0.767**	ug/L	0.021	2	75	1306	3	Standard
⌈>	**Ge**	**72**		ug/L			28784	29609	0	KED
|	**Ni**	**60**	**0.786**	ug/L	0.054	6	75	1195	5	KED
|	**Ni**	**62**	**0.839**	ug/L	0.050	5	12	204	5	KED
|	**Cu**	**63**	**5.822**	ug/L	0.067	1	53	23229	0	KED
|	**Cu**	**65**	**5.535**	ug/L	0.116	2	25	11336	1	KED
|	**Zn**	**66**	**13.078**	ug/L	0.235	1	52	6456	0	KED
|	**Zn**	**67**	**12.540**	ug/L	0.549	4	8	1007	4	KED
⌊	**As**	**75**	**1.716**	ug/L	0.082	4	3	411	5	KED
	Y	**89**		ug/L			50088	53989	0	Standard
	Kr	**83**		ug/L			44	57	29	Standard
⌈>	**In-1**	**115**		ug/L			6034	6197	2	KED
|	**Cd**	**111**	**0.015**	ug/L	0.005	29	1	5	21	KED
⌊	**Cd**	**114**	**0.014**	ug/L	0.014	94	1	9	80	KED
⌈>	**In**	**115**		ug/L			486697	493755	1	Standard
⌊	**Ag**	**107**	**0.089**	ug/L	0.007	7	29	1466	6	Standard
⌈>	**Tb**	**159**		ug/L			178618	188017	0	Standard
⌊	**Pb**	**208**	**0.305**	ug/L	0.004	1	534	28030	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0477-07
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 06:12:07
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	36616	2	Standard
⌈>	**Sc**	**45**		ug/L			512571	609800	2	Standard
|	**Cr**	**52**	**0.487**	ug/L	0.028	5	7952	17107	3	Standard
⌊	**Cr**	**53**	**0.596**	ug/L	0.001	0	75	1187	2	Standard
⌈>	**Ge**	**72**		ug/L			28784	28812	2	KED
|	**Ni**	**60**	**1.347**	ug/L	0.050	3	75	1939	0	KED
|	**Ni**	**62**	**1.268**	ug/L	0.098	7	12	293	6	KED
|	**Cu**	**63**	**10.734**	ug/L	0.298	2	53	41615	0	KED
|	**Cu**	**65**	**10.264**	ug/L	0.203	1	25	20429	0	KED
|	**Zn**	**66**	**7.755**	ug/L	0.118	1	52	3746	1	KED
|	**Zn**	**67**	**8.262**	ug/L	0.482	5	8	648	3	KED
⌊	**As**	**75**	**27.631**	ug/L	0.581	2	3	6386	0	KED
	Y	**89**		ug/L			50088	52863	1	Standard
	Kr	**83**		ug/L			44	45	7	Standard
⌈>	**In-1**	**115**		ug/L			6034	5973	0	KED
|	**Cd**	**111**	**0.142**	ug/L	0.021	14	1	32	13	KED
⌊	**Cd**	**114**	**0.136**	ug/L	0.023	17	1	76	16	KED
⌈>	**In**	**115**		ug/L			486697	471762	1	Standard
⌊	**Ag**	**107**	**0.032**	ug/L	0.001	3	29	520	5	Standard
⌈>	**Tb**	**159**		ug/L			178618	184829	1	Standard
⌊	**Pb**	**208**	**2.682**	ug/L	0.056	2	534	237695	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0477-09
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 06:16:32
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	35157	5	Standard
⌈>	**Sc**	**45**		ug/L			512571	618826	2	Standard
|	**Cr**	**52**	**0.520**	ug/L	0.025	4	7952	17896	2	Standard
⌊	**Cr**	**53**	**0.627**	ug/L	0.026	4	75	1260	3	Standard
⌈>	**Ge**	**72**		ug/L			28784	28728	0	KED
|	**Ni**	**60**	**1.391**	ug/L	0.040	2	75	1996	3	KED
|	**Ni**	**62**	**1.401**	ug/L	0.054	3	12	322	2	KED
|	**Cu**	**63**	**10.972**	ug/L	0.175	1	53	42431	1	KED
|	**Cu**	**65**	**10.761**	ug/L	0.087	0	25	21361	0	KED
|	**Zn**	**66**	**7.901**	ug/L	0.123	1	52	3805	2	KED
|	**Zn**	**67**	**8.117**	ug/L	0.560	6	8	635	6	KED
⌊	**As**	**75**	**29.103**	ug/L	0.478	1	3	6709	1	KED
	Y	**89**		ug/L			50088	55720	3	Standard
	Kr	**83**		ug/L			44	47	21	Standard
⌈>	**In-1**	**115**		ug/L			6034	6067	2	KED
|	**Cd**	**111**	**0.152**	ug/L	0.036	23	1	35	24	KED
⌊	**Cd**	**114**	**0.154**	ug/L	0.026	16	1	88	18	KED
⌈>	**In**	**115**		ug/L			486697	464844	1	Standard
⌊	**Ag**	**107**	**0.031**	ug/L	0.002	7	29	503	6	Standard
⌈>	**Tb**	**159**		ug/L			178618	185300	1	Standard
⌊	**Pb**	**208**	**2.712**	ug/L	0.064	2	534	240965	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0477-15
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 06:20:52
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	39624	4	Standard
⌈>	**Sc**	**45**		ug/L			512571	537265	2	Standard
|	**Cr**	**52**	**1.179**	ug/L	0.044	3	7952	24668	3	Standard
⌊	**Cr**	**53**	**1.177**	ug/L	0.016	1	75	1987	3	Standard
⌈>	**Ge**	**72**		ug/L			28784	29689	1	KED
|	**Ni**	**60**	**1.227**	ug/L	0.038	3	75	1828	1	KED
|	**Ni**	**62**	**1.280**	ug/L	0.124	9	12	306	10	KED
|	**Cu**	**63**	**25.781**	ug/L	1.054	4	53	102918	2	KED
|	**Cu**	**65**	**25.054**	ug/L	0.251	1	25	51356	0	KED
|	**Zn**	**66**	**49.987**	ug/L	1.395	2	52	24584	1	KED
|	**Zn**	**67**	**48.808**	ug/L	1.051	2	8	3907	0	KED
⌊	**As**	**75**	**7.808**	ug/L	0.282	3	3	1862	2	KED
	Y	**89**		ug/L			50088	56736	3	Standard
	Kr	**83**		ug/L			44	47	12	Standard
⌈>	**In-1**	**115**		ug/L			6034	6201	2	KED
|	**Cd**	**111**	**0.093**	ug/L	0.012	13	1	22	9	KED
⌊	**Cd**	**114**	**0.076**	ug/L	0.022	28	1	44	25	KED
⌈>	**In**	**115**		ug/L			486697	493967	0	Standard
⌊	**Ag**	**107**	**0.082**	ug/L	0.002	2	29	1368	2	Standard
⌈>	**Tb**	**159**		ug/L			178618	190178	2	Standard
⌊	**Pb**	**208**	**5.513**	ug/L	0.179	3	534	502033	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0487-02
Sample Dil Factor: 5
Comments:
Sample Date/Time: Thursday, May 11, 2023 06:26:41
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	35825	0	Standard
⌈>	**Sc**	**45**		ug/L			512571	562560	1	Standard
|	**Cr**	**52**	**1.220**	ug/L	0.017	1	7952	26415	1	Standard
⌊	**Cr**	**53**	**1.264**	ug/L	0.015	1	75	2229	1	Standard
⌈>	**Ge**	**72**		ug/L			28784	29752	1	KED
|	**Ni**	**60**	**6.548**	ug/L	0.096	1	75	9441	0	KED
|	**Ni**	**62**	**6.686**	ug/L	0.384	5	12	1544	5	KED
|	**Cu**	**63**	**0.176**	ug/L	0.010	5	53	761	4	KED
|	**Cu**	**65**	**0.180**	ug/L	0.017	9	25	395	8	KED
|	**Zn**	**66**	**0.527**	ug/L	0.056	10	52	313	7	KED
|	**Zn**	**67**	**0.901**	ug/L	0.142	15	8	80	13	KED
⌊	**As**	**75**	**15.233**	ug/L	0.237	1	3	3638	1	KED
	Y	**89**		ug/L			50088	79316	0	Standard
	Kr	**83**		ug/L			44	40	4	Standard
⌈>	**In-1**	**115**		ug/L			6034	6266	0	KED
|	**Cd**	**111**	**0.003**	ug/L	0.013	536	1	2	137	KED
⌊	**Cd**	**114**	**0.004**	ug/L	0.000	0	1	3	0	KED
⌈>	**In**	**115**		ug/L			486697	468178	0	Standard
⌊	**Ag**	**107**	**0.005**	ug/L	0.000	7	29	112	6	Standard
⌈>	**Tb**	**159**		ug/L			178618	187920	2	Standard
⌊	**Pb**	**208**	**0.034**	ug/L	0.001	3	534	3577	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBLH
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 06:31:07
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	23115	4	Standard
⌈>	**Sc**	**45**		ug/L			512571	517740	2	Standard
|	**Cr**	**52**	**0.013**	ug/L	0.006	48	7952	8202	1	Standard
⌊	**Cr**	**53**	**0.001**	ug/L	0.008	1453	75	77	19	Standard
⌈>	**Ge**	**72**		ug/L			28784	29261	1	KED
|	**Ni**	**60**	**-0.015**	ug/L	0.011	73	75	55	29	KED
|	**Ni**	**62**	**-0.018**	ug/L	0.018	103	12	8	44	KED
|	**Cu**	**63**	**-0.005**	ug/L	0.001	27	53	33	17	KED
|	**Cu**	**65**	**-0.001**	ug/L	0.005	613	25	24	43	KED
|	**Zn**	**66**	**-0.060**	ug/L	0.017	28	52	24	33	KED
|	**Zn**	**67**	**-0.082**	ug/L	0.000	0	8	1		KED
⌊	**As**	**75**	**-0.004**	ug/L	0.009	212	3	2	72	KED
	Y	**89**		ug/L			50088	49988	1	Standard
	Kr	**83**		ug/L			44	55	15	Standard
⌈>	**In-1**	**115**		ug/L			6034	6137	0	KED
|	**Cd**	**111**	**-0.003**	ug/L	0.004	144	1	0	100	KED
⌊	**Cd**	**114**	**-0.001**	ug/L	0.002	176	1	0	180	KED
⌈>	**In**	**115**		ug/L			486697	486698	2	Standard
⌊	**Ag**	**107**	**-0.001**	ug/L	0.001	57	29	12	77	Standard
⌈>	**Tb**	**159**		ug/L			178618	183514	1	Standard
⌊	**Pb**	**208**	**-0.004**	ug/L	0.000	3	534	240	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVI
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 06:35:33
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	23784	6	Standard
⌈>	**Sc**	**45**		ug/L			512571	524165	1	Standard
|	**Cr**	**52**	**50.223**	ug/L	1.690	3	7952	686346	2	Standard
⌊	**Cr**	**53**	**48.285**	ug/L	0.163	0	75	76453	1	Standard
⌈>	**Ge**	**72**		ug/L			28784	29553	1	KED
|	**Ni**	**60**	**49.754**	ug/L	0.656	1	75	70745	0	KED
|	**Ni**	**62**	**50.882**	ug/L	3.005	5	12	11590	4	KED
|	**Cu**	**63**	**50.319**	ug/L	1.412	2	53	199933	1	KED
|	**Cu**	**65**	**49.530**	ug/L	0.589	1	25	101036	0	KED
|	**Zn**	**66**	**50.795**	ug/L	1.374	2	52	24867	1	KED
|	**Zn**	**67**	**50.525**	ug/L	1.241	2	8	4025	1	KED
⌊	**As**	**75**	**50.135**	ug/L	0.843	1	3	11885	1	KED
	Y	**89**		ug/L			50088	50673	2	Standard
	Kr	**83**		ug/L			44	55	21	Standard
⌈>	**In-1**	**115**		ug/L			6034	6213	2	KED
|	**Cd**	**111**	**49.407**	ug/L	1.725	3	1	11124	0	KED
⌊	**Cd**	**114**	**50.485**	ug/L	1.873	3	1	29245	1	KED
⌈>	**In**	**115**		ug/L			486697	478603	2	Standard
⌊	**Ag**	**107**	**46.759**	ug/L	0.518	1	29	736095	2	Standard
⌈>	**Tb**	**159**		ug/L			178618	187493	1	Standard
⌊	**Pb**	**208**	**54.257**	ug/L	1.080	1	534	4867949	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBI
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 06:42:43
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	22705	3	Standard
⌈>	**Sc**	**45**		ug/L			512571	510222	2	Standard
|	**Cr**	**52**	**0.004**	ug/L	0.015	349	7952	7968	2	Standard
⌊	**Cr**	**53**	**0.001**	ug/L	0.003	207	75	77	6	Standard
⌈>	**Ge**	**72**		ug/L			28784	29563	0	KED
|	**Ni**	**60**	**-0.021**	ug/L	0.008	38	75	48	23	KED
|	**Ni**	**62**	**-0.021**	ug/L	0.032	151	12	8	87	KED
|	**Cu**	**63**	**-0.005**	ug/L	0.002	42	53	33	27	KED
|	**Cu**	**65**	**-0.003**	ug/L	0.004	155	25	20	43	KED
|	**Zn**	**66**	**-0.064**	ug/L	0.010	15	52	22	22	KED
|	**Zn**	**67**	**-0.051**	ug/L	0.060	118	8	4	107	KED
⌊	**As**	**75**	**0.002**	ug/L	0.007	315	3	4	37	KED
	Y	**89**		ug/L			50088	49119	4	Standard
	Kr	**83**		ug/L			44	40	5	Standard
⌈>	**In-1**	**115**		ug/L			6034	6359	0	KED
|	**Cd**	**111**	**0.004**	ug/L	0.005	126	1	2	43	KED
⌊	**Cd**	**114**	**0.002**	ug/L	0.004	182	1	2	92	KED
⌈>	**In**	**115**		ug/L			486697	484923	2	Standard
⌊	**Ag**	**107**	**0.001**	ug/L	0.002	141	29	45	50	Standard
⌈>	**Tb**	**159**		ug/L			178618	182782	1	Standard
⌊	**Pb**	**208**	**-0.003**	ug/L	0.000	6	534	264	6	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0487-06
Sample Dil Factor: 2
Comments:
Sample Date/Time: Thursday, May 11, 2023 06:47:09
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	32134	4	Standard
⌈>	**Sc**	**45**		ug/L			512571	622588	1	Standard
|	**Cr**	**52**	**0.373**	ug/L	0.016	4	7952	15647	2	Standard
⌊	**Cr**	**53**	**0.480**	ug/L	0.009	1	75	994	3	Standard
⌈>	**Ge**	**72**		ug/L			28784	28304	2	KED
|	**Ni**	**60**	**1.014**	ug/L	0.054	5	75	1452	2	KED
|	**Ni**	**62**	**1.030**	ug/L	0.099	9	12	236	7	KED
|	**Cu**	**63**	**0.040**	ug/L	0.006	14	53	205	8	KED
|	**Cu**	**65**	**0.036**	ug/L	0.013	35	25	94	23	KED
|	**Zn**	**66**	**0.740**	ug/L	0.013	1	52	398	4	KED
|	**Zn**	**67**	**1.054**	ug/L	0.107	10	8	88	6	KED
⌊	**As**	**75**	**19.230**	ug/L	0.660	3	3	4366	1	KED
	Y	**89**		ug/L			50088	69538	3	Standard
	Kr	**83**		ug/L			44	30	16	Standard
⌈>	**In-1**	**115**		ug/L			6034	5855	1	KED
|	**Cd**	**111**	**0.005**	ug/L	0.005	108	1	2	43	KED
⌊	**Cd**	**114**	**0.001**	ug/L	0.003	349	1	1	112	KED
⌈>	**In**	**115**		ug/L			486697	442888	2	Standard
⌊	**Ag**	**107**	**0.002**	ug/L	0.000	14	29	52	5	Standard
⌈>	**Tb**	**159**		ug/L			178618	176146	1	Standard
⌊	**Pb**	**208**	**0.007**	ug/L	0.000	4	534	1141	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0487-05
Sample Dil Factor: 2
Comments:
Sample Date/Time: Thursday, May 11, 2023 06:51:34
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	32551	2	Standard
⌈>	**Sc**	**45**		ug/L			512571	622587	2	Standard
|	**Cr**	**52**	**0.412**	ug/L	0.016	3	7952	16267	3	Standard
⌊	**Cr**	**53**	**0.486**	ug/L	0.013	2	75	1004	5	Standard
⌈>	**Ge**	**72**		ug/L			28784	27718	2	KED
|	**Ni**	**60**	**1.154**	ug/L	0.065	5	75	1610	4	KED
|	**Ni**	**62**	**1.189**	ug/L	0.121	10	12	266	10	KED
|	**Cu**	**63**	**0.037**	ug/L	0.001	3	53	189	3	KED
|	**Cu**	**65**	**0.039**	ug/L	0.008	21	25	99	15	KED
|	**Zn**	**66**	**0.454**	ug/L	0.039	8	52	259	7	KED
|	**Zn**	**67**	**0.737**	ug/L	0.045	6	8	62	3	KED
⌊	**As**	**75**	**17.452**	ug/L	0.167	0	3	3882	1	KED
	Y	**89**		ug/L			50088	70299	3	Standard
	Kr	**83**		ug/L			44	43	23	Standard
⌈>	**In-1**	**115**		ug/L			6034	5780	1	KED
|	**Cd**	**111**	**0.008**	ug/L	0.010	120	1	3	62	KED
⌊	**Cd**	**114**	**0.001**	ug/L	0.004	267	1	1	106	KED
⌈>	**In**	**115**		ug/L			486697	454628	1	Standard
⌊	**Ag**	**107**	**0.001**	ug/L	0.000	19	29	44	6	Standard
⌈>	**Tb**	**159**		ug/L			178618	178896	0	Standard
⌊	**Pb**	**208**	**0.003**	ug/L	0.001	20	534	808	7	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0487-04
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 06:55:54
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	43951	2	Standard
⌈>	**Sc**	**45**		ug/L			512571	611223	0	Standard
|	**Cr**	**52**	**0.674**	ug/L	0.028	4	7952	20103	2	Standard
⌊	**Cr**	**53**	**0.801**	ug/L	0.030	3	75	1567	4	Standard
⌈>	**Ge**	**72**		ug/L			28784	27657	2	KED
|	**Ni**	**60**	**4.379**	ug/L	0.108	2	75	5891	1	KED
|	**Ni**	**62**	**4.412**	ug/L	0.139	3	12	951	2	KED
|	**Cu**	**63**	**5.152**	ug/L	0.035	0	53	19209	2	KED
|	**Cu**	**65**	**5.031**	ug/L	0.155	3	25	9622	1	KED
|	**Zn**	**66**	**9.989**	ug/L	0.373	3	52	4615	1	KED
|	**Zn**	**67**	**10.437**	ug/L	0.353	3	8	784	4	KED
⌊	**As**	**75**	**4.605**	ug/L	0.101	2	3	1024	1	KED
	Y	**89**		ug/L			50088	69977	3	Standard
	Kr	**83**		ug/L			44	36	15	Standard
⌈>	**In-1**	**115**		ug/L			6034	5721	3	KED
|	**Cd**	**111**	**0.307**	ug/L	0.017	5	1	65	3	KED
⌊	**Cd**	**114**	**0.269**	ug/L	0.048	17	1	143	14	KED
⌈>	**In**	**115**		ug/L			486697	463308	0	Standard
⌊	**Ag**	**107**	**0.017**	ug/L	0.002	11	29	289	9	Standard
⌈>	**Tb**	**159**		ug/L			178618	184294	0	Standard
⌊	**Pb**	**208**	**0.306**	ug/L	0.004	1	534	27565	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0487-03
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 07:00:43
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	34930	6	Standard
⌈>	**Sc**	**45**		ug/L			512571	627875	1	Standard
|	**Cr**	**52**	**0.380**	ug/L	0.019	5	7952	15891	1	Standard
⌊	**Cr**	**53**	**0.553**	ug/L	0.025	4	75	1139	4	Standard
⌈>	**Ge**	**72**		ug/L			28784	27514	0	KED
|	**Ni**	**60**	**2.436**	ug/L	0.075	3	75	3293	3	KED
|	**Ni**	**62**	**2.256**	ug/L	0.038	1	12	490	1	KED
|	**Cu**	**63**	**1.485**	ug/L	0.027	1	53	5545	1	KED
|	**Cu**	**65**	**1.415**	ug/L	0.035	2	25	2711	2	KED
|	**Zn**	**66**	**1.359**	ug/L	0.066	4	52	668	4	KED
|	**Zn**	**67**	**1.908**	ug/L	0.317	16	8	149	15	KED
⌊	**As**	**75**	**1.535**	ug/L	0.082	5	3	342	5	KED
	Y	**89**		ug/L			50088	68173	1	Standard
	Kr	**83**		ug/L			44	43	9	Standard
⌈>	**In-1**	**115**		ug/L			6034	5812	3	KED
|	**Cd**	**111**	**0.046**	ug/L	0.015	32	1	11	24	KED
⌊	**Cd**	**114**	**0.042**	ug/L	0.011	26	1	23	25	KED
⌈>	**In**	**115**		ug/L			486697	461876	0	Standard
⌊	**Ag**	**107**	**0.004**	ug/L	0.000	2	29	84	1	Standard
⌈>	**Tb**	**159**		ug/L			178618	183150	1	Standard
⌊	**Pb**	**208**	**0.017**	ug/L	0.001	6	534	2074	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBLI
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 07:05:10
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	24777	4	Standard
⌈>	**Sc**	**45**		ug/L			512571	495765	2	Standard
|	**Cr**	**52**	**0.016**	ug/L	0.006	40	7952	7890	2	Standard
⌊	**Cr**	**53**	**0.005**	ug/L	0.003	57	75	79	6	Standard
⌈>	**Ge**	**72**		ug/L			28784	28451	2	KED
|	**Ni**	**60**	**-0.016**	ug/L	0.012	71	75	52	29	KED
|	**Ni**	**62**	**-0.014**	ug/L	0.001	8	12	9	0	KED
|	**Cu**	**63**	**-0.005**	ug/L	0.002	38	53	34	20	KED
|	**Cu**	**65**	**-0.005**	ug/L	0.002	41	25	15	25	KED
|	**Zn**	**66**	**-0.054**	ug/L	0.016	29	52	26	25	KED
|	**Zn**	**67**	**-0.064**	ug/L	0.039	60	8	3	91	KED
⌊	**As**	**75**	**-0.005**	ug/L	0.004	96	3	2	36	KED
	Y	**89**		ug/L			50088	48564	3	Standard
	Kr	**83**		ug/L			44	48	37	Standard
⌈>	**In-1**	**115**		ug/L			6034	5785	2	KED
|	**Cd**	**111**	**0.003**	ug/L	0.007	204	1	2	65	KED
⌊	**Cd**	**114**	**0.000**	ug/L	0.002	881	1	1	94	KED
⌈>	**In**	**115**		ug/L			486697	478635	2	Standard
⌊	**Ag**	**107**	**-0.001**	ug/L	0.000	34	29	12	45	Standard
⌈>	**Tb**	**159**		ug/L			178618	179215	1	Standard
⌊	**Pb**	**208**	**-0.003**	ug/L	0.000	11	534	261	10	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: 23D0636-01
Sample Dil Factor: 10
Comments:
Sample Date/Time: Thursday, May 11, 2023 07:09:36
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			21210	27281	2	Standard
⌈>	Sc	45		ug/L			512571	527974	2	Standard
|	Cr	52	0.531	ug/L	0.004	0	7952	15415	2	Standard
⌊	Cr	53	0.556	ug/L	0.057	10	75	962	8	Standard
⌈>	Ge	72		ug/L			28784	27707	0	KED
|	Ni	60	0.997	ug/L	0.030	3	75	1400	2	KED
|	Ni	62	0.972	ug/L	0.145	14	12	219	14	KED
|	Cu	63	1.671	ug/L	0.041	2	53	6275	1	KED
|	Cu	65	1.694	ug/L	0.063	3	25	3263	3	KED
|	Zn	66	3.878	ug/L	0.013	0	52	1827	0	KED
|	Zn	67	3.658	ug/L	0.276	7	8	280	6	KED
⌊	As	75	0.526	ug/L	0.028	5	3	120	4	KED
	Y	89		ug/L			50088	65167	0	Standard
	Kr	83		ug/L			44	40	24	Standard
⌈>	In-1	115		ug/L			6034	5801	4	KED
|	Cd	111	0.000	ug/L	0.006	1388	1	1	69	KED
⌊	Cd	114	0.005	ug/L	0.004	74	1	3	50	KED
⌈>	In	115		ug/L			486697	473435	2	Standard
⌊	Ag	107	0.001	ug/L	0.000	28	29	48	9	Standard
⌈>	Tb	159		ug/L			178618	186385	0	Standard
⌊	Pb	208	0.744	ug/L	0.012	1	534	66913	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLE0298-DUP1
Sample Dil Factor: 10
Comments:
Sample Date/Time: Thursday, May 11, 2023 07:14:25
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			21210	28530	3	Standard
⌈>	Sc	45		ug/L			512571	538334	0	Standard
|	Cr	52	0.537	ug/L	0.030	5	7952	15807	2	Standard
⌊	Cr	53	0.592	ug/L	0.045	7	75	1040	6	Standard
⌈>	Ge	72		ug/L			28784	28724	0	KED
|	Ni	60	0.998	ug/L	0.070	6	75	1452	6	KED
|	Ni	62	1.102	ug/L	0.076	6	12	256	6	KED
|	Cu	63	1.729	ug/L	0.041	2	53	6729	2	KED
|	Cu	65	1.667	ug/L	0.038	2	25	3329	1	KED
|	Zn	66	4.091	ug/L	0.104	2	52	1995	2	KED
|	Zn	67	4.288	ug/L	0.718	16	8	339	16	KED
⌊	As	75	0.560	ug/L	0.031	5	3	132	5	KED
	Y	89		ug/L			50088	65772	1	Standard
	Kr	83		ug/L			44	57	36	Standard
⌈>	In-1	115		ug/L			6034	6012	3	KED
|	Cd	111	0.014	ug/L	0.018	129	1	4	81	KED
⌊	Cd	114	0.010	ug/L	0.002	16	1	6	16	KED
⌈>	In	115		ug/L			486697	480605	1	Standard
⌊	Ag	107	0.001	ug/L	0.000	42	29	38	10	Standard
⌈>	Tb	159		ug/L			178618	189596	0	Standard
⌊	Pb	208	0.754	ug/L	0.014	1	534	68955	2	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLE0298-MS1
Sample Dil Factor: 10
Comments:
Sample Date/Time: Thursday, May 11, 2023 07:19:15
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			21210	27955	5	Standard
⌈>	Sc	45		ug/L			512571	525581	2	Standard
|	Cr	52	2.936	ug/L	0.034	1	7952	47911	2	Standard
⌊	Cr	53	2.885	ug/L	0.053	1	75	4653	3	Standard
⌈>	Ge	72		ug/L			28784	28593	2	KED
|	Ni	60	3.498	ug/L	0.051	1	75	4881	1	KED
|	Ni	62	3.654	ug/L	0.214	5	12	816	3	KED
|	Cu	63	4.341	ug/L	0.156	3	53	16732	0	KED
|	Cu	65	4.320	ug/L	0.187	4	25	8544	2	KED
|	Zn	66	12.514	ug/L	0.258	2	52	5966	0	KED
|	Zn	67	11.781	ug/L	0.398	3	8	914	5	KED
⌊	As	75	3.033	ug/L	0.163	5	3	698	2	KED
	Y	89		ug/L			50088	67142	3	Standard
	Kr	83		ug/L			44	37	12	Standard
⌈>	In-1	115		ug/L			6034	5883	2	KED
|	Cd	111	2.582	ug/L	0.073	2	1	552	1	KED
⌊	Cd	114	2.689	ug/L	0.054	2	1	1476	1	KED
⌈>	In	115		ug/L			486697	479355	0	Standard
⌊	Ag	107	2.061	ug/L	0.025	1	29	32527	1	Standard
⌈>	Tb	159		ug/L			178618	182686	0	Standard
⌊	Pb	208	3.600	ug/L	0.075	2	534	315263	1	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: BLE0298-MSD1
Sample Dil Factor: 10
Comments:
Sample Date/Time: Thursday, May 11, 2023 07:25:04
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	13		ug/L			21210	28749	4	Standard
⌈>	Sc	45		ug/L			512571	530124	2	Standard
|	Cr	52	2.822	ug/L	0.034	1	7952	46777	2	Standard
⌊	Cr	53	2.760	ug/L	0.057	2	75	4491	1	Standard
⌈>	Ge	72		ug/L			28784	28834	0	KED
|	Ni	60	3.466	ug/L	0.040	1	75	4878	1	KED
|	Ni	62	3.268	ug/L	0.068	2	12	738	2	KED
|	Cu	63	4.176	ug/L	0.095	2	53	16242	2	KED
|	Cu	65	4.187	ug/L	0.061	1	25	8358	1	KED
|	Zn	66	12.041	ug/L	0.301	2	52	5792	2	KED
|	Zn	67	11.364	ug/L	0.700	6	8	890	6	KED
⌊	As	75	2.958	ug/L	0.065	2	3	687	1	KED
	Y	89		ug/L			50088	66898	0	Standard
	Kr	83		ug/L			44	43	18	Standard
⌈>	In-1	115		ug/L			6034	6008	3	KED
|	Cd	111	2.402	ug/L	0.153	6	1	524	3	KED
⌊	Cd	114	2.457	ug/L	0.086	3	1	1378	4	KED
⌈>	In	115		ug/L			486697	486503	2	Standard
⌊	Ag	107	2.042	ug/L	0.032	1	29	32695	0	Standard
⌈>	Tb	159		ug/L			178618	185233	0	Standard
⌊	Pb	208	3.411	ug/L	0.010	0	534	302959	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-IBLJ
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 07:29:54
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	23093	3	Standard
⌈>	**Sc**	**45**		ug/L			512571	491451	2	Standard
|	**Cr**	**52**	**0.009**	ug/L	0.012	138	7952	7733	3	Standard
⌊	**Cr**	**53**	**-0.002**	ug/L	0.007	369	75	69	16	Standard
⌈>	**Ge**	**72**		ug/L			28784	28042	0	KED
|	**Ni**	**60**	**-0.015**	ug/L	0.005	33	75	53	12	KED
|	**Ni**	**62**	**-0.007**	ug/L	0.014	191	12	10	26	KED
|	**Cu**	**63**	**-0.006**	ug/L	0.002	28	53	28	24	KED
|	**Cu**	**65**	**-0.003**	ug/L	0.002	74	25	19	20	KED
|	**Zn**	**66**	**-0.049**	ug/L	0.032	65	52	28	52	KED
|	**Zn**	**67**	**-0.031**	ug/L	0.025	81	8	5	33	KED
⌊	**As**	**75**	**-0.007**	ug/L	0.005	79	3	2	53	KED
	Y	**89**		ug/L			50088	47507	2	Standard
	Kr	**83**		ug/L			44	39	2	Standard
⌈>	**In-1**	**115**		ug/L			6034	5851	3	KED
|	**Cd**	**111**	**0.002**	ug/L	0.005	256	1	1	50	KED
⌊	**Cd**	**114**	**-0.001**	ug/L	0.002	208	1	0	188	KED
⌈>	**In**	**115**		ug/L			486697	482259	2	Standard
⌊	**Ag**	**107**	**-0.001**	ug/L	0.000	48	29	13	55	Standard
⌈>	**Tb**	**159**		ug/L			178618	176757	2	Standard
⌊	**Pb**	**208**	**-0.003**	ug/L	0.000	11	534	247	12	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCVJ
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 07:34:20
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	23085	4	Standard
⌈>	**Sc**	**45**		ug/L			512571	510290	2	Standard
|	**Cr**	**52**	**49.845**	ug/L	0.659	1	7952	663306	1	Standard
⌊	**Cr**	**53**	**49.254**	ug/L	0.241	0	75	75919	1	Standard
⌈>	**Ge**	**72**		ug/L			28784	28502	0	KED
|	**Ni**	**60**	**49.022**	ug/L	0.991	2	75	67228	1	KED
|	**Ni**	**62**	**49.233**	ug/L	0.674	1	12	10820	1	KED
|	**Cu**	**63**	**51.028**	ug/L	1.049	2	53	195577	1	KED
|	**Cu**	**65**	**50.266**	ug/L	0.362	0	25	98899	0	KED
|	**Zn**	**66**	**50.246**	ug/L	1.428	2	52	23728	2	KED
|	**Zn**	**67**	**49.533**	ug/L	0.241	0	8	3807	0	KED
⌊	**As**	**75**	**49.156**	ug/L	0.750	1	3	11240	1	KED
	Y	**89**		ug/L			50088	49783	0	Standard
	Kr	**83**		ug/L			44	61	7	Standard
⌈>	**In-1**	**115**		ug/L			6034	6026	1	KED
|	**Cd**	**111**	**50.412**	ug/L	0.446	0	1	11014	0	KED
⌊	**Cd**	**114**	**50.125**	ug/L	0.823	1	1	28176	2	KED
⌈>	**In**	**115**		ug/L			486697	469523	3	Standard
⌊	**Ag**	**107**	**45.677**	ug/L	1.580	3	29	704992	1	Standard
⌈>	**Tb**	**159**		ug/L			178618	183887	1	Standard
⌊	**Pb**	**208**	**55.762**	ug/L	1.321	2	534	4906643	0	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: SEQ-CCBJ
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 07:41:29
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	23317	1	Standard
⌈>	**Sc**	**45**		ug/L			512571	498254	1	Standard
|	**Cr**	**52**	**0.014**	ug/L	0.004	27	7952	7906	0	Standard
⌊	**Cr**	**53**	**-0.003**	ug/L	0.007	202	75	68	15	Standard
⌈>	**Ge**	**72**		ug/L			28784	28666	1	KED
|	**Ni**	**60**	**0.001**	ug/L	0.015	3020	75	76	29	KED
|	**Ni**	**62**	**-0.014**	ug/L	0.037	258	12	9	87	KED
|	**Cu**	**63**	**0.008**	ug/L	0.019	252	53	83	90	KED
|	**Cu**	**65**	**0.012**	ug/L	0.028	241	25	48	116	KED
|	**Zn**	**66**	**-0.042**	ug/L	0.036	85	52	33	53	KED
|	**Zn**	**67**	**-0.033**	ug/L	0.041	123	8	5	57	KED
⌊	**As**	**75**	**0.007**	ug/L	0.018	259	3	5	77	KED
	Y	**89**		ug/L			50088	47888	0	Standard
	Kr	**83**		ug/L			44	58	21	Standard
⌈>	**In-1**	**115**		ug/L			6034	5978	1	KED
|	**Cd**	**111**	**0.003**	ug/L	0.005	168	1	2	49	KED
⌊	**Cd**	**114**	**0.000**	ug/L	0.002	2472	1	1	86	KED
⌈>	**In**	**115**		ug/L			486697	472919	2	Standard
⌊	**Ag**	**107**	**0.001**	ug/L	0.001	115	29	41	35	Standard
⌈>	**Tb**	**159**		ug/L			178618	178659	0	Standard
⌊	**Pb**	**208**	**-0.003**	ug/L	0.000	7	534	267	7	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: RINSE
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 07:45:55
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	25958	3	Standard
⌈>	**Sc**	**45**		ug/L			512571	564678	1	Standard
|	**Cr**	**52**	**0.004**	ug/L	0.014	382	7952	8811	1	Standard
⌊	**Cr**	**53**	**-0.007**	ug/L	0.004	53	75	70	7	Standard
⌈>	**Ge**	**72**		ug/L			28784	28993	1	KED
|	**Ni**	**60**	**-0.013**	ug/L	0.008	60	75	58	17	KED
|	**Ni**	**62**	**-0.023**	ug/L	0.009	37	12	7	25	KED
|	**Cu**	**63**	**-0.003**	ug/L	0.001	50	53	43	14	KED
|	**Cu**	**65**	**-0.002**	ug/L	0.003	109	25	20	24	KED
|	**Zn**	**66**	**-0.015**	ug/L	0.013	81	52	45	14	KED
|	**Zn**	**67**	**-0.000**	ug/L	0.052	15913	8	8	48	KED
⌊	**As**	**75**	**-0.008**	ug/L	0.008	108	3	2	96	KED
	Y	**89**		ug/L			50088	54349	1	Standard
	Kr	**83**		ug/L			44	48	48	Standard
⌈>	**In-1**	**115**		ug/L			6034	6353	3	KED
|	**Cd**	**111**	**-0.000**	ug/L	0.005	1172	1	1	69	KED
⌊	**Cd**	**114**	**-0.001**	ug/L	0.002	166	1	0	205	KED
⌈>	**In**	**115**		ug/L			486697	523133	3	Standard
⌊	**Ag**	**107**	**0.000**	ug/L	0.001	200	29	36	26	Standard
⌈>	**Tb**	**159**		ug/L			178618	196229	1	Standard
⌊	**Pb**	**208**	**-0.002**	ug/L	0.000	12	534	414	3	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: RINSE
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 07:50:21
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	26612	5	Standard
⌈>	**Sc**	**45**		ug/L			512571	549525	3	Standard
|	**Cr**	**52**	**0.023**	ug/L	0.007	31	7952	8850	1	Standard
⌊	**Cr**	**53**	**-0.003**	ug/L	0.001	43	75	75	5	Standard
⌈>	**Ge**	**72**		ug/L			28784	29286	2	KED
|	**Ni**	**60**	**-0.020**	ug/L	0.016	81	75	48	43	KED
|	**Ni**	**62**	**-0.013**	ug/L	0.024	188	12	10	54	KED
|	**Cu**	**63**	**-0.003**	ug/L	0.003	86	53	43	25	KED
|	**Cu**	**65**	**-0.003**	ug/L	0.002	53	25	19	14	KED
|	**Zn**	**66**	**-0.008**	ug/L	0.028	351	52	49	25	KED
|	**Zn**	**67**	**-0.001**	ug/L	0.051	3767	8	8	48	KED
⌊	**As**	**75**	**-0.011**	ug/L	0.003	28	3	1	57	KED
	Y	**89**		ug/L			50088	54172	0	Standard
	Kr	**83**		ug/L			44	42	13	Standard
⌈>	**In-1**	**115**		ug/L			6034	6173	0	KED
|	**Cd**	**111**	**0.001**	ug/L	0.004	340	1	1	50	KED
⌊	**Cd**	**114**	**0.001**	ug/L	0.004	339	1	1	115	KED
⌈>	**In**	**115**		ug/L			486697	514395	3	Standard
⌊	**Ag**	**107**	**0.000**	ug/L	0.000	1870	29	31	18	Standard
⌈>	**Tb**	**159**		ug/L			178618	194120	0	Standard
⌊	**Pb**	**208**	**-0.002**	ug/L	0.000	15	534	381	7	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: RINSE
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 07:54:47
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	25778	3	Standard
⌈>	**Sc**	**45**		ug/L			512571	553078	2	Standard
|	**Cr**	**52**	**0.011**	ug/L	0.009	77	7952	8737	2	Standard
⌊	**Cr**	**53**	**0.005**	ug/L	0.006	133	75	89	11	Standard
⌈>	**Ge**	**72**		ug/L			28784	29423	0	KED
|	**Ni**	**60**	**-0.011**	ug/L	0.006	56	75	60	14	KED
|	**Ni**	**62**	**-0.004**	ug/L	0.027	647	12	12	50	KED
|	**Cu**	**63**	**-0.006**	ug/L	0.002	29	53	32	21	KED
|	**Cu**	**65**	**-0.005**	ug/L	0.002	36	25	15	25	KED
|	**Zn**	**66**	**-0.005**	ug/L	0.045	918	52	51	42	KED
|	**Zn**	**67**	**-0.018**	ug/L	0.037	204	8	6	41	KED
⌊	**As**	**75**	**-0.010**	ug/L	0.002	19	3	1	33	KED
	Y	**89**		ug/L			50088	54582	3	Standard
	Kr	**83**		ug/L			44	37	19	Standard
⌈>	**In-1**	**115**		ug/L			6034	6229	3	KED
|	**Cd**	**111**	**-0.003**	ug/L	0.004	129	1	0	100	KED
⌊	**Cd**	**114**	**-0.000**	ug/L	0.002	1785	1	1	98	KED
⌈>	**In**	**115**		ug/L			486697	520624	1	Standard
⌊	**Ag**	**107**	**-0.001**	ug/L	0.000	61	29	22	26	Standard
⌈>	**Tb**	**159**		ug/L			178618	196970	0	Standard
⌊	**Pb**	**208**	**-0.002**	ug/L	0.000	7	534	358	4	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: DI
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 07:59:12
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	23586	4	Standard
⌈>	**Sc**	**45**		ug/L			512571	467022	2	Standard
|	**Cr**	**52**	**0.007**	ug/L	0.015	218	7952	7326	2	Standard
⌊	**Cr**	**53**	**-0.002**	ug/L	0.004	211	75	65	11	Standard
⌈>	**Ge**	**72**		ug/L			28784	27849	0	KED
|	**Ni**	**60**	**-0.039**	ug/L	0.002	6	75	20	15	KED
|	**Ni**	**62**	**-0.040**	ug/L	0.018	44	12	3	100	KED
|	**Cu**	**63**	**-0.009**	ug/L	0.001	14	53	19	26	KED
|	**Cu**	**65**	**-0.009**	ug/L	0.004	40	25	6	103	KED
|	**Zn**	**66**	**-0.064**	ug/L	0.006	9	52	21	13	KED
|	**Zn**	**67**	**-0.090**	ug/L	0.029	32	8	1	173	KED
⌊	**As**	**75**	**-0.004**	ug/L	0.006	157	3	2	44	KED
	Y	**89**		ug/L			50088	45718	0	Standard
	Kr	**83**		ug/L			44	45	4	Standard
⌈>	**In-1**	**115**		ug/L			6034	5676	2	KED
|	**Cd**	**111**	**-0.001**	ug/L	0.011	1009	1	1	173	KED
⌊	**Cd**	**114**	**0.000**	ug/L	0.002	909	1	1	90	KED
⌈>	**In**	**115**		ug/L			486697	443034	2	Standard
⌊	**Ag**	**107**	**-0.001**	ug/L	0.000	30	29	8	66	Standard
⌈>	**Tb**	**159**		ug/L			178618	170677	0	Standard
⌊	**Pb**	**208**	**-0.005**	ug/L	0.000	5	534	131	15	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: DI
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 08:03:38
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	23858	2	Standard
⌈>	**Sc**	**45**		ug/L			512571	471059	2	Standard
|	**Cr**	**52**	**0.009**	ug/L	0.006	67	7952	7422	1	Standard
⌊	**Cr**	**53**	**-0.006**	ug/L	0.006	86	75	60	12	Standard
⌈>	**Ge**	**72**		ug/L			28784	28025	1	KED
|	**Ni**	**60**	**-0.034**	ug/L	0.005	13	75	27	22	KED
|	**Ni**	**62**	**-0.022**	ug/L	0.015	70	12	7	43	KED
|	**Cu**	**63**	**-0.007**	ug/L	0.001	15	53	25	17	KED
|	**Cu**	**65**	**-0.009**	ug/L	0.004	40	25	6	103	KED
|	**Zn**	**66**	**-0.072**	ug/L	0.014	19	52	17	34	KED
|	**Zn**	**67**	**-0.090**	ug/L	0.015	16	8	1	86	KED
⌊	**As**	**75**	**-0.003**	ug/L	0.005	147	3	3	32	KED
	Y	**89**		ug/L			50088	46999	2	Standard
	Kr	**83**		ug/L			44	50	21	Standard
⌈>	**In-1**	**115**		ug/L			6034	5675	3	KED
|	**Cd**	**111**	**-0.001**	ug/L	0.011	1342	1	1	173	KED
⌊	**Cd**	**114**	**0.004**	ug/L	0.002	47	1	3	33	KED
⌈>	**In**	**115**		ug/L			486697	453748	1	Standard
⌊	**Ag**	**107**	**-0.001**	ug/L	0.000	9	29	5	33	Standard
⌈>	**Tb**	**159**		ug/L			178618	170230	0	Standard
⌊	**Pb**	**208**	**-0.005**	ug/L	0.000	5	534	110	18	Standard

ICP-MS Quantitative Analysis - Summary Report

Sample ID: DI
Sample Dil Factor:
Comments:
Sample Date/Time: Thursday, May 11, 2023 08:08:04
Number of Replicates: 3
Method File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Method\200.8_DailyMethod_KED_UCT.mth
Tuning File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\MassCal\Default.tun
Optimization File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\Conditions\Default.dac
Calibration File: C:\Users\Public\Documents\PerkinElmer Syngistix\ICPMS\System\051023_A.cal

	Analyte	Mass	Conc. Mean	Units	Conc. SD	Conc. RSD	Blank Intens.	Meas. Intens.	Intens. RSD	Mode
	C	**13**		ug/L			21210	23298	4	Standard
⌈>	**Sc**	**45**		ug/L			512571	476857	3	Standard
|	**Cr**	**52**	**0.009**	ug/L	0.007	78	7952	7511	2	Standard
⌊	**Cr**	**53**	**-0.004**	ug/L	0.002	35	75	63	0	Standard
⌈>	**Ge**	**72**		ug/L			28784	27968	1	KED
|	**Ni**	**60**	**-0.032**	ug/L	0.007	20	75	30	28	KED
|	**Ni**	**62**	**-0.031**	ug/L	0.017	56	12	5	66	KED
|	**Cu**	**63**	**-0.009**	ug/L	0.001	9	53	17	19	KED
|	**Cu**	**65**	**-0.008**	ug/L	0.002	24	25	9	40	KED
|	**Zn**	**66**	**-0.050**	ug/L	0.005	10	52	27	7	KED
|	**Zn**	**67**	**-0.073**	ug/L	0.015	20	8	2	43	KED
⌊	**As**	**75**	**-0.008**	ug/L	0.004	46	3	1	43	KED
	Y	**89**		ug/L			50088	46307	0	Standard
	Kr	**83**		ug/L			44	41	18	Standard
⌈>	**In-1**	**115**		ug/L			6034	5740	3	KED
|	**Cd**	**111**	**0.007**	ug/L	0.012	183	1	2	88	KED
⌊	**Cd**	**114**	**-0.002**	ug/L	0.000	8	1	0	124	KED
⌈>	**In**	**115**		ug/L			486697	464061	3	Standard
⌊	**Ag**	**107**	**-0.001**	ug/L	0.000	23	29	10	43	Standard
⌈>	**Tb**	**159**		ug/L			178618	172358	0	Standard
⌊	**Pb**	**208**	**-0.005**	ug/L	0.000	2	534	118	7	Standard

Analytical Resources, LLC
Analytical Chemists and Consultants

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: ICPMS1
Calibration: GE00040
Control Limt: +/- 10.00%
Sequence: SLE0204

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SLE0204-ICV1	Arsenic-75a	50.000	48.2	96.4	ug/L	PA 6020B UCT-KE
	Cadmium-111	50.000	51.7	103	ug/L	PA 6020B UCT-KE
	Cadmium-114	50.000	51.8	104	ug/L	PA 6020B UCT-KE
	Copper-63	50.000	52.3	105	ug/L	PA 6020B UCT-KE
	Copper-65	50.000	51.4	103	ug/L	PA 6020B UCT-KE
	Zinc-66	50.000	50.8	102	ug/L	PA 6020B UCT-KE
	Zinc-67	50.000	50.6	101	ug/L	PA 6020B UCT-KE
SLE0204-CCV1	Arsenic-75a	50.000	49.7	99.4	ug/L	PA 6020B UCT-KE
	Cadmium-111	50.000	49.7	99.3	ug/L	PA 6020B UCT-KE
	Cadmium-114	50.000	50.6	101	ug/L	PA 6020B UCT-KE
	Copper-63	50.000	49.7	99.5	ug/L	PA 6020B UCT-KE
	Copper-65	50.000	49.6	99.1	ug/L	PA 6020B UCT-KE
	Zinc-66	50.000	49.9	99.7	ug/L	PA 6020B UCT-KE
	Zinc-67	50.000	50.3	101	ug/L	PA 6020B UCT-KE
SLE0204-CCV2	Arsenic-75a	50.000	50.1	100	ug/L	PA 6020B UCT-KE
	Cadmium-111	50.000	50.2	100	ug/L	PA 6020B UCT-KE
	Cadmium-114	50.000	50.2	100	ug/L	PA 6020B UCT-KE
	Copper-63	50.000	50.3	101	ug/L	PA 6020B UCT-KE
	Copper-65	50.000	49.8	99.6	ug/L	PA 6020B UCT-KE
	Zinc-66	50.000	49.1	98.2	ug/L	PA 6020B UCT-KE
	Zinc-67	50.000	51.8	104	ug/L	PA 6020B UCT-KE
SLE0204-CCV3	Arsenic-75a	50.000	49.8	99.5	ug/L	PA 6020B UCT-KE
	Cadmium-111	50.000	50.6	101	ug/L	PA 6020B UCT-KE
	Cadmium-114	50.000	50.4	101	ug/L	PA 6020B UCT-KE
	Copper-63	50.000	49.6	99.2	ug/L	PA 6020B UCT-KE
	Copper-65	50.000	48.4	96.7	ug/L	PA 6020B UCT-KE
	Zinc-66	50.000	50.7	101	ug/L	PA 6020B UCT-KE
	Zinc-67	50.000	50.1	100	ug/L	PA 6020B UCT-KE
SLE0204-CCV4	Arsenic-75a	50.000	50.8	102	ug/L	PA 6020B UCT-KE
	Cadmium-111	50.000	50.4	101	ug/L	PA 6020B UCT-KE
	Cadmium-114	50.000	51.4	103	ug/L	PA 6020B UCT-KE
	Copper-63	50.000	50.5	101	ug/L	PA 6020B UCT-KE
	Copper-65	50.000	49.2	98.4	ug/L	PA 6020B UCT-KE
	Zinc-66	50.000	51.3	103	ug/L	PA 6020B UCT-KE

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: ICPMS1
Calibration: GE00040
Control Limt: +/- 10.00%
Sequence: SLE0204

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SLE0204-CCV4	Zinc-67	50.000	52.0	104	ug/L	PA 6020B UCT-KE
SLE0204-CCV5	Arsenic-75a	50.000	49.8	99.6	ug/L	PA 6020B UCT-KE
	Cadmium-111	50.000	51.5	103	ug/L	PA 6020B UCT-KE
	Cadmium-114	50.000	51.1	102	ug/L	PA 6020B UCT-KE
	Copper-63	50.000	50.3	101	ug/L	PA 6020B UCT-KE
	Copper-65	50.000	50.4	101	ug/L	PA 6020B UCT-KE
	Zinc-66	50.000	51.6	103	ug/L	PA 6020B UCT-KE
	Zinc-67	50.000	50.8	102	ug/L	PA 6020B UCT-KE
SLE0204-CCV6	Arsenic-75a	50.000	49.6	99.2	ug/L	PA 6020B UCT-KE
	Cadmium-111	50.000	50.6	101	ug/L	PA 6020B UCT-KE
	Cadmium-114	50.000	50.9	102	ug/L	PA 6020B UCT-KE
	Copper-63	50.000	49.5	99.0	ug/L	PA 6020B UCT-KE
	Copper-65	50.000	49.4	98.8	ug/L	PA 6020B UCT-KE
	Zinc-66	50.000	50.6	101	ug/L	PA 6020B UCT-KE
	Zinc-67	50.000	50.0	100	ug/L	PA 6020B UCT-KE
SLE0204-CCV7	Arsenic-75a	50.000	50.2	100	ug/L	PA 6020B UCT-KE
	Cadmium-111	50.000	49.9	99.8	ug/L	PA 6020B UCT-KE
	Cadmium-114	50.000	50.0	100	ug/L	PA 6020B UCT-KE
	Copper-63	50.000	50.4	101	ug/L	PA 6020B UCT-KE
	Copper-65	50.000	49.2	98.4	ug/L	PA 6020B UCT-KE
	Zinc-66	50.000	51.4	103	ug/L	PA 6020B UCT-KE
	Zinc-67	50.000	52.1	104	ug/L	PA 6020B UCT-KE
SLE0204-CCV8	Arsenic-75a	50.000	50.0	99.9	ug/L	PA 6020B UCT-KE
	Cadmium-111	50.000	49.5	99.1	ug/L	PA 6020B UCT-KE
	Cadmium-114	50.000	49.5	99.0	ug/L	PA 6020B UCT-KE
	Copper-63	50.000	49.4	98.8	ug/L	PA 6020B UCT-KE
	Copper-65	50.000	48.2	96.5	ug/L	PA 6020B UCT-KE
	Zinc-66	50.000	49.6	99.2	ug/L	PA 6020B UCT-KE
	Zinc-67	50.000	49.3	98.6	ug/L	PA 6020B UCT-KE
SLE0204-CCV9	Arsenic-75a	50.000	50.2	100	ug/L	PA 6020B UCT-KE
	Cadmium-111	50.000	50.0	99.9	ug/L	PA 6020B UCT-KE
	Cadmium-114	50.000	50.1	100	ug/L	PA 6020B UCT-KE
	Copper-63	50.000	50.9	102	ug/L	PA 6020B UCT-KE
	Copper-65	50.000	50.3	101	ug/L	PA 6020B UCT-KE

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: ICPMS1
Calibration: GE00040
Control Limt: +/- 10.00%
Sequence: SLE0204

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SLE0204-CCV9	Zinc-66	50.000	51.0	102	ug/L	PA 6020B UCT-KE
	Zinc-67	50.000	51.9	104	ug/L	PA 6020B UCT-KE
SLE0204-CCVA	Arsenic-75a	50.000	49.1	98.1	ug/L	PA 6020B UCT-KE
	Cadmium-111	50.000	50.0	99.9	ug/L	PA 6020B UCT-KE
	Cadmium-114	50.000	49.9	99.8	ug/L	PA 6020B UCT-KE
	Copper-63	50.000	49.2	98.4	ug/L	PA 6020B UCT-KE
	Copper-65	50.000	48.6	97.3	ug/L	PA 6020B UCT-KE
	Zinc-66	50.000	48.4	96.9	ug/L	PA 6020B UCT-KE
	Zinc-67	50.000	50.5	101	ug/L	PA 6020B UCT-KE
SLE0204-CCVB	Arsenic-75a	50.000	49.6	99.1	ug/L	PA 6020B UCT-KE
	Cadmium-111	50.000	48.5	97.1	ug/L	PA 6020B UCT-KE
	Cadmium-114	50.000	48.9	97.8	ug/L	PA 6020B UCT-KE
	Copper-63	50.000	49.6	99.2	ug/L	PA 6020B UCT-KE
	Copper-65	50.000	48.7	97.3	ug/L	PA 6020B UCT-KE
	Zinc-66	50.000	50.0	100	ug/L	PA 6020B UCT-KE
	Zinc-67	50.000	49.7	99.5	ug/L	PA 6020B UCT-KE
SLE0204-CCVC	Arsenic-75a	50.000	49.7	99.3	ug/L	PA 6020B UCT-KE
	Cadmium-111	50.000	49.8	99.6	ug/L	PA 6020B UCT-KE
	Cadmium-114	50.000	49.9	99.8	ug/L	PA 6020B UCT-KE
	Copper-63	50.000	50.0	100	ug/L	PA 6020B UCT-KE
	Copper-65	50.000	48.6	97.2	ug/L	PA 6020B UCT-KE
	Zinc-66	50.000	50.1	100	ug/L	PA 6020B UCT-KE
	Zinc-67	50.000	50.6	101	ug/L	PA 6020B UCT-KE
SLE0204-CCVD	Arsenic-75a	50.000	49.3	98.7	ug/L	PA 6020B UCT-KE
	Cadmium-111	50.000	51.1	102	ug/L	PA 6020B UCT-KE
	Cadmium-114	50.000	51.1	102	ug/L	PA 6020B UCT-KE
	Copper-63	50.000	50.4	101	ug/L	PA 6020B UCT-KE
	Copper-65	50.000	50.2	100	ug/L	PA 6020B UCT-KE
	Zinc-66	50.000	51.1	102	ug/L	PA 6020B UCT-KE
	Zinc-67	50.000	50.5	101	ug/L	PA 6020B UCT-KE
SLE0204-CCVE	Arsenic-75a	50.000	50.3	101	ug/L	PA 6020B UCT-KE
	Cadmium-111	50.000	50.6	101	ug/L	PA 6020B UCT-KE
	Cadmium-114	50.000	51.1	102	ug/L	PA 6020B UCT-KE
	Copper-63	50.000	51.7	103	ug/L	PA 6020B UCT-KE

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: ICPMS1
Calibration: GE00040
Control Limt: +/- 10.00%
Sequence: SLE0204

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SLE0204-CCVE	Copper-65	50.000	50.6	101	ug/L	PA 6020B UCT-KE
	Zinc-66	50.000	51.8	104	ug/L	PA 6020B UCT-KE
	Zinc-67	50.000	51.0	102	ug/L	PA 6020B UCT-KE
SLE0204-CCVF	Arsenic-75a	50.000	49.8	99.7	ug/L	PA 6020B UCT-KE
	Cadmium-111	50.000	50.3	101	ug/L	PA 6020B UCT-KE
	Cadmium-114	50.000	49.8	99.6	ug/L	PA 6020B UCT-KE
	Copper-63	50.000	50.2	100	ug/L	PA 6020B UCT-KE
	Copper-65	50.000	49.3	98.6	ug/L	PA 6020B UCT-KE
	Zinc-66	50.000	51.8	104	ug/L	PA 6020B UCT-KE
	Zinc-67	50.000	50.7	101	ug/L	PA 6020B UCT-KE
SLE0204-CCVG	Arsenic-75a	50.000	48.5	97.0	ug/L	PA 6020B UCT-KE
	Cadmium-111	50.000	49.5	99.1	ug/L	PA 6020B UCT-KE
	Cadmium-114	50.000	50.2	100	ug/L	PA 6020B UCT-KE
	Copper-63	50.000	50.8	102	ug/L	PA 6020B UCT-KE
	Copper-65	50.000	49.7	99.3	ug/L	PA 6020B UCT-KE
	Zinc-66	50.000	50.6	101	ug/L	PA 6020B UCT-KE
	Zinc-67	50.000	49.6	99.3	ug/L	PA 6020B UCT-KE
SLE0204-CCVH	Arsenic-75a	50.000	48.3	96.6	ug/L	PA 6020B UCT-KE
	Cadmium-111	50.000	51.2	102	ug/L	PA 6020B UCT-KE
	Cadmium-114	50.000	51.1	102	ug/L	PA 6020B UCT-KE
	Copper-63	50.000	48.8	97.5	ug/L	PA 6020B UCT-KE
	Copper-65	50.000	49.3	98.7	ug/L	PA 6020B UCT-KE
	Zinc-66	50.000	49.4	98.8	ug/L	PA 6020B UCT-KE
	Zinc-67	50.000	49.5	99.0	ug/L	PA 6020B UCT-KE
SLE0204-CCVI	Arsenic-75a	50.000	50.1	100	ug/L	PA 6020B UCT-KE
	Cadmium-111	50.000	49.4	98.8	ug/L	PA 6020B UCT-KE
	Cadmium-114	50.000	50.5	101	ug/L	PA 6020B UCT-KE
	Copper-63	50.000	50.3	101	ug/L	PA 6020B UCT-KE
	Copper-65	50.000	49.5	99.1	ug/L	PA 6020B UCT-KE
	Zinc-66	50.000	50.8	102	ug/L	PA 6020B UCT-KE
	Zinc-67	50.000	50.5	101	ug/L	PA 6020B UCT-KE
SLE0204-CCVJ	Arsenic-75a	50.000	49.2	98.3	ug/L	PA 6020B UCT-KE
	Cadmium-111	50.000	50.4	101	ug/L	PA 6020B UCT-KE
	Cadmium-114	50.000	50.1	100	ug/L	PA 6020B UCT-KE

Analytical Resources, LLC
Analytical Chemists and Consultants

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: ICPMS1
Calibration: GE00040
Control Limt: +/- 10.00%
Sequence: SLE0204

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SLE0204-CCVJ	Copper-63	50.000	51.0	102	ug/L	PA 6020B UCT-KE
	Copper-65	50.000	50.3	101	ug/L	PA 6020B UCT-KE
	Zinc-66	50.000	50.2	100	ug/L	PA 6020B UCT-KE
	Zinc-67	50.000	49.5	99.1	ug/L	PA 6020B UCT-KE

* Values outside of QC limits

INSTRUMENT BLANKS
EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Instrument ID: ICPMS1
Sequence: SLE0204

SDG: 23C0108
Project: AOC5 MR Phase 1
Calibration: GE00040
Date Analyzed: 05/10/23 16:19

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SLE0204-IBL1	Arsenic-75a	0.00400	0.0373	0.200	ug/L	
SLE0204-IBL1	Cadmium-111	-0.00600	0.03	0.100	ug/L	
SLE0204-IBL1	Cadmium-114	-0.00200	0.04	0.100	ug/L	
SLE0204-IBL1	Copper-63	0.00300	0.173	0.500	ug/L	
SLE0204-IBL1	Copper-65	0.00100	0.35	0.500	ug/L	
SLE0204-IBL1	Zinc-66	0.0070	2.92	6.00	ug/L	
SLE0204-IBL1	Zinc-67	-0.0250	0.94	6.00	ug/L	
SLE0204-ICB1	Arsenic-75a	0.00700	0.0373	0.200	ug/L	
SLE0204-ICB1	Cadmium-111	-0.00200	0.03	0.100	ug/L	
SLE0204-ICB1	Cadmium-114	-0.00600	0.04	0.100	ug/L	
SLE0204-ICB1	Copper-63	0.00500	0.173	0.500	ug/L	
SLE0204-ICB1	Copper-65	0.00400	0.35	0.500	ug/L	
SLE0204-ICB1	Zinc-66	0.0200	2.92	6.00	ug/L	
SLE0204-ICB1	Zinc-67	-0.0030	0.94	6.00	ug/L	
SLE0204-CCB1	Arsenic-75a	0.00400	0.0373	0.200	ug/L	
SLE0204-CCB1	Cadmium-111	0.00300	0.03	0.100	ug/L	
SLE0204-CCB1	Cadmium-114	-0.00200	0.04	0.100	ug/L	
SLE0204-CCB1	Copper-63	0.00100	0.173	0.500	ug/L	
SLE0204-CCB1	Copper-65	-0.00500	0.35	0.500	ug/L	
SLE0204-CCB1	Zinc-66	0.0050	2.92	6.00	ug/L	
SLE0204-CCB1	Zinc-67	0.0230	0.94	6.00	ug/L	
SLE0204-IBL2	Arsenic-75a	0.0130	0.0373	0.200	ug/L	
SLE0204-IBL2	Cadmium-111	0.00	0.03	0.100	ug/L	
SLE0204-IBL2	Cadmium-114	0.00	0.04	0.100	ug/L	
SLE0204-IBL2	Copper-63	0.00300	0.173	0.500	ug/L	
SLE0204-IBL2	Copper-65	0.00300	0.35	0.500	ug/L	
SLE0204-IBL2	Zinc-66	0.0190	2.92	6.00	ug/L	
SLE0204-IBL2	Zinc-67	0.0310	0.94	6.00	ug/L	
SLE0204-CCB2	Arsenic-75a	0.00800	0.0373	0.200	ug/L	
SLE0204-CCB2	Cadmium-111	-0.00100	0.03	0.100	ug/L	
SLE0204-CCB2	Cadmium-114	-0.00100	0.04	0.100	ug/L	
SLE0204-CCB2	Copper-63	0.00	0.173	0.500	ug/L	
SLE0204-CCB2	Copper-65	0.00	0.35	0.500	ug/L	
SLE0204-CCB2	Zinc-66	0.0090	2.92	6.00	ug/L	
SLE0204-CCB2	Zinc-67	-0.0040	0.94	6.00	ug/L	

INSTRUMENT BLANKS
EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Instrument ID: ICPMS1
Sequence: SLE0204

SDG: 23C0108
Project: AOC5 MR Phase 1
Calibration: GE00040
Date Analyzed: 05/10/23 17:49

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SLE0204-CCB3	Arsenic-75a	0.00	0.0373	0.200	ug/L	
SLE0204-CCB3	Cadmium-111	0.00700	0.03	0.100	ug/L	
SLE0204-CCB3	Cadmium-114	0.0270	0.04	0.100	ug/L	
SLE0204-CCB3	Copper-63	0.00	0.173	0.500	ug/L	
SLE0204-CCB3	Copper-65	-0.00100	0.35	0.500	ug/L	
SLE0204-CCB3	Zinc-66	0.0010	2.92	6.00	ug/L	
SLE0204-CCB3	Zinc-67	-0.0230	0.94	6.00	ug/L	
SLE0204-IBL3	Arsenic-75a	-0.00200	0.0373	0.200	ug/L	
SLE0204-IBL3	Cadmium-111	-0.00400	0.03	0.100	ug/L	
SLE0204-IBL3	Cadmium-114	-0.00200	0.04	0.100	ug/L	
SLE0204-IBL3	Copper-63	0.00700	0.173	0.500	ug/L	
SLE0204-IBL3	Copper-65	0.00100	0.35	0.500	ug/L	
SLE0204-IBL3	Zinc-66	0.0820	2.92	6.00	ug/L	
SLE0204-IBL3	Zinc-67	0.0490	0.94	6.00	ug/L	
SLE0204-CCB4	Arsenic-75a	-0.00100	0.0373	0.200	ug/L	
SLE0204-CCB4	Cadmium-111	0.00100	0.03	0.100	ug/L	
SLE0204-CCB4	Cadmium-114	0.00100	0.04	0.100	ug/L	
SLE0204-CCB4	Copper-63	0.00600	0.173	0.500	ug/L	
SLE0204-CCB4	Copper-65	0.00200	0.35	0.500	ug/L	
SLE0204-CCB4	Zinc-66	-0.0020	2.92	6.00	ug/L	
SLE0204-CCB4	Zinc-67	0.0040	0.94	6.00	ug/L	
SLE0204-IBL4	Arsenic-75a	-0.00400	0.0373	0.200	ug/L	
SLE0204-IBL4	Cadmium-111	-0.00600	0.03	0.100	ug/L	
SLE0204-IBL4	Cadmium-114	-0.00200	0.04	0.100	ug/L	
SLE0204-IBL4	Copper-63	0.00400	0.173	0.500	ug/L	
SLE0204-IBL4	Copper-65	0.00300	0.35	0.500	ug/L	
SLE0204-IBL4	Zinc-66	0.0700	2.92	6.00	ug/L	
SLE0204-IBL4	Zinc-67	0.0350	0.94	6.00	ug/L	
SLE0204-IBL5	Arsenic-75a	-0.00400	0.0373	0.200	ug/L	
SLE0204-IBL5	Cadmium-111	-0.00500	0.03	0.100	ug/L	
SLE0204-IBL5	Cadmium-114	-0.00300	0.04	0.100	ug/L	
SLE0204-IBL5	Copper-63	-0.00100	0.173	0.500	ug/L	
SLE0204-IBL5	Copper-65	-0.00100	0.35	0.500	ug/L	
SLE0204-IBL5	Zinc-66	0.0530	2.92	6.00	ug/L	
SLE0204-IBL5	Zinc-67	0.0420	0.94	6.00	ug/L	
SLE0204-CCB5	Arsenic-75a	-0.00100	0.0373	0.200	ug/L	

INSTRUMENT BLANKS
EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Instrument ID: ICPMS1
Sequence: SLE0204

SDG: 23C0108
Project: AOC5 MR Phase 1
Calibration: GE00040
Date Analyzed: 05/10/23 19:56

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SLE0204-CCB5	Cadmium-111	0.00100	0.03	0.100	ug/L	
SLE0204-CCB5	Cadmium-114	0.00200	0.04	0.100	ug/L	
SLE0204-CCB5	Copper-63	0.00200	0.173	0.500	ug/L	
SLE0204-CCB5	Copper-65	0.00	0.35	0.500	ug/L	
SLE0204-CCB5	Zinc-66	-0.0150	2.92	6.00	ug/L	
SLE0204-CCB5	Zinc-67	0.0150	0.94	6.00	ug/L	
SLE0204-CCB6	Arsenic-75a	0.0100	0.0373	0.200	ug/L	
SLE0204-CCB6	Cadmium-111	-0.00800	0.03	0.100	ug/L	
SLE0204-CCB6	Cadmium-114	0.00200	0.04	0.100	ug/L	
SLE0204-CCB6	Copper-63	0.00200	0.173	0.500	ug/L	
SLE0204-CCB6	Copper-65	-0.00100	0.35	0.500	ug/L	
SLE0204-CCB6	Zinc-66	-0.0240	2.92	6.00	ug/L	
SLE0204-CCB6	Zinc-67	-0.0910	0.94	6.00	ug/L	
SLE0204-IBL6	Arsenic-75a	0.00	0.0373	0.200	ug/L	
SLE0204-IBL6	Cadmium-111	-0.00300	0.03	0.100	ug/L	
SLE0204-IBL6	Cadmium-114	0.00400	0.04	0.100	ug/L	
SLE0204-IBL6	Copper-63	0.00400	0.173	0.500	ug/L	
SLE0204-IBL6	Copper-65	0.00500	0.35	0.500	ug/L	
SLE0204-IBL6	Zinc-66	0.0170	2.92	6.00	ug/L	
SLE0204-IBL6	Zinc-67	-0.0430	0.94	6.00	ug/L	
SLE0204-CCB7	Arsenic-75a	0.0140	0.0373	0.200	ug/L	
SLE0204-CCB7	Cadmium-111	-0.00900	0.03	0.100	ug/L	
SLE0204-CCB7	Cadmium-114	0.00	0.04	0.100	ug/L	
SLE0204-CCB7	Copper-63	0.0230	0.173	0.500	ug/L	
SLE0204-CCB7	Copper-65	0.0230	0.35	0.500	ug/L	
SLE0204-CCB7	Zinc-66	-0.0280	2.92	6.00	ug/L	
SLE0204-CCB7	Zinc-67	-0.0330	0.94	6.00	ug/L	
SLE0204-IBL7	Arsenic-75a	0.00	0.0373	0.200	ug/L	
SLE0204-IBL7	Cadmium-111	-0.00800	0.03	0.100	ug/L	
SLE0204-IBL7	Cadmium-114	0.00300	0.04	0.100	ug/L	
SLE0204-IBL7	Copper-63	0.00200	0.173	0.500	ug/L	
SLE0204-IBL7	Copper-65	0.00200	0.35	0.500	ug/L	
SLE0204-IBL7	Zinc-66	-0.0450	2.92	6.00	ug/L	
SLE0204-IBL7	Zinc-67	-0.0920	0.94	6.00	ug/L	
SLE0204-CCB8	Arsenic-75a	0.00300	0.0373	0.200	ug/L	
SLE0204-CCB8	Cadmium-111	-0.00900	0.03	0.100	ug/L	

INSTRUMENT BLANKS
EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Instrument ID: ICPMS1
Sequence: SLE0204

SDG: 23C0108
Project: AOC5 MR Phase 1
Calibration: GE00040
Date Analyzed: 05/10/23 22:32

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SLE0204-CCB8	Cadmium-114	0.00200	0.04	0.100	ug/L	
SLE0204-CCB8	Copper-63	0.00200	0.173	0.500	ug/L	
SLE0204-CCB8	Copper-65	0.00200	0.35	0.500	ug/L	
SLE0204-CCB8	Zinc-66	-0.0360	2.92	6.00	ug/L	
SLE0204-CCB8	Zinc-67	-0.0810	0.94	6.00	ug/L	
SLE0204-IBL8	Arsenic-75a	0.0750	0.0373	0.200	ug/L	
SLE0204-IBL8	Cadmium-111	-0.0120	0.03	0.100	ug/L	
SLE0204-IBL8	Cadmium-114	0.00200	0.04	0.100	ug/L	
SLE0204-IBL8	Copper-63	0.0820	0.173	0.500	ug/L	
SLE0204-IBL8	Copper-65	0.0820	0.35	0.500	ug/L	
SLE0204-IBL8	Zinc-66	0.206	2.92	6.00	ug/L	
SLE0204-IBL8	Zinc-67	0.0940	0.94	6.00	ug/L	
SLE0204-CCB9	Arsenic-75a	0.0230	0.0373	0.200	ug/L	
SLE0204-CCB9	Cadmium-111	-0.00200	0.03	0.100	ug/L	
SLE0204-CCB9	Cadmium-114	0.00200	0.04	0.100	ug/L	
SLE0204-CCB9	Copper-63	0.0160	0.173	0.500	ug/L	
SLE0204-CCB9	Copper-65	0.0180	0.35	0.500	ug/L	
SLE0204-CCB9	Zinc-66	0.0010	2.92	6.00	ug/L	
SLE0204-CCB9	Zinc-67	-0.0630	0.94	6.00	ug/L	
SLE0204-IBL9	Arsenic-75a	0.00300	0.0373	0.200	ug/L	
SLE0204-IBL9	Cadmium-111	-0.0120	0.03	0.100	ug/L	
SLE0204-IBL9	Cadmium-114	-0.00200	0.04	0.100	ug/L	
SLE0204-IBL9	Copper-63	0.0140	0.173	0.500	ug/L	
SLE0204-IBL9	Copper-65	0.0100	0.35	0.500	ug/L	
SLE0204-IBL9	Zinc-66	-0.0300	2.92	6.00	ug/L	
SLE0204-IBL9	Zinc-67	-0.0670	0.94	6.00	ug/L	
SLE0204-CCBA	Arsenic-75a	0.00700	0.0373	0.200	ug/L	
SLE0204-CCBA	Cadmium-111	-0.00800	0.03	0.100	ug/L	
SLE0204-CCBA	Cadmium-114	0.00100	0.04	0.100	ug/L	
SLE0204-CCBA	Copper-63	0.00300	0.173	0.500	ug/L	
SLE0204-CCBA	Copper-65	0.00400	0.35	0.500	ug/L	
SLE0204-CCBA	Zinc-66	-0.0580	2.92	6.00	ug/L	
SLE0204-CCBA	Zinc-67	-0.135	0.94	6.00	ug/L	
SLE0204-IBLA	Arsenic-75a	0.00100	0.0373	0.200	ug/L	
SLE0204-IBLA	Cadmium-111	-0.0100	0.03	0.100	ug/L	
SLE0204-IBLA	Cadmium-114	0.00	0.04	0.100	ug/L	

INSTRUMENT BLANKS
EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Instrument ID: ICPMS1
Sequence: SLE0204

SDG: 23C0108
Project: AOC5 MR Phase 1
Calibration: GE00040
Date Analyzed: 05/11/23 01:08

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SLE0204-IBLA	Copper-63	0.00800	0.173	0.500	ug/L	
SLE0204-IBLA	Copper-65	0.00400	0.35	0.500	ug/L	
SLE0204-IBLA	Zinc-66	-0.0280	2.92	6.00	ug/L	
SLE0204-IBLA	Zinc-67	-0.109	0.94	6.00	ug/L	
SLE0204-CCBB	Arsenic-75a	0.00600	0.0373	0.200	ug/L	
SLE0204-CCBB	Cadmium-111	-0.0110	0.03	0.100	ug/L	
SLE0204-CCBB	Cadmium-114	-0.00100	0.04	0.100	ug/L	
SLE0204-CCBB	Copper-63	0.00700	0.173	0.500	ug/L	
SLE0204-CCBB	Copper-65	0.0110	0.35	0.500	ug/L	
SLE0204-CCBB	Zinc-66	-0.0550	2.92	6.00	ug/L	
SLE0204-CCBB	Zinc-67	-0.111	0.94	6.00	ug/L	
SLE0204-CCBC	Arsenic-75a	-0.00500	0.0373	0.200	ug/L	
SLE0204-CCBC	Cadmium-111	-0.00400	0.03	0.100	ug/L	
SLE0204-CCBC	Cadmium-114	0.00	0.04	0.100	ug/L	
SLE0204-CCBC	Copper-63	-0.0170	0.173	0.500	ug/L	
SLE0204-CCBC	Copper-65	-0.0240	0.35	0.500	ug/L	
SLE0204-CCBC	Zinc-66	-0.0230	2.92	6.00	ug/L	
SLE0204-CCBC	Zinc-67	-0.0620	0.94	6.00	ug/L	
SLE0204-IBLB	Arsenic-75a	-0.00700	0.0373	0.200	ug/L	
SLE0204-IBLB	Cadmium-111	-0.00400	0.03	0.100	ug/L	
SLE0204-IBLB	Cadmium-114	-0.00100	0.04	0.100	ug/L	
SLE0204-IBLB	Copper-63	0.0140	0.173	0.500	ug/L	
SLE0204-IBLB	Copper-65	0.0100	0.35	0.500	ug/L	
SLE0204-IBLB	Zinc-66	-0.0130	2.92	6.00	ug/L	
SLE0204-IBLB	Zinc-67	-0.0850	0.94	6.00	ug/L	
SLE0204-CCBD	Arsenic-75a	0.0120	0.0373	0.200	ug/L	
SLE0204-CCBD	Cadmium-111	-0.00300	0.03	0.100	ug/L	
SLE0204-CCBD	Cadmium-114	-0.00100	0.04	0.100	ug/L	
SLE0204-CCBD	Copper-63	0.0110	0.173	0.500	ug/L	
SLE0204-CCBD	Copper-65	0.00300	0.35	0.500	ug/L	
SLE0204-CCBD	Zinc-66	-0.0380	2.92	6.00	ug/L	
SLE0204-CCBD	Zinc-67	-0.0870	0.94	6.00	ug/L	
SLE0204-IBLC	Arsenic-75a	-0.00700	0.0373	0.200	ug/L	
SLE0204-IBLC	Cadmium-111	-0.00200	0.03	0.100	ug/L	
SLE0204-IBLC	Cadmium-114	0.00200	0.04	0.100	ug/L	
SLE0204-IBLC	Copper-63	-0.0300	0.173	0.500	ug/L	

INSTRUMENT BLANKS
EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Instrument ID: ICPMS1
Sequence: SLE0204

SDG: 23C0108
Project: AOC5 MR Phase 1
Calibration: GE00040
Date Analyzed: 05/11/23 02:57

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SLE0204-IBLC	Copper-65	-0.0360	0.35	0.500	ug/L	
SLE0204-IBLC	Zinc-66	-0.0170	2.92	6.00	ug/L	
SLE0204-IBLC	Zinc-67	-0.107	0.94	6.00	ug/L	
SLE0204-IBLD	Arsenic-75a	-0.00900	0.0373	0.200	ug/L	
SLE0204-IBLD	Cadmium-111	0.00	0.03	0.100	ug/L	
SLE0204-IBLD	Cadmium-114	0.00100	0.04	0.100	ug/L	
SLE0204-IBLD	Copper-63	-0.0310	0.173	0.500	ug/L	
SLE0204-IBLD	Copper-65	-0.0330	0.35	0.500	ug/L	
SLE0204-IBLD	Zinc-66	-0.0130	2.92	6.00	ug/L	
SLE0204-IBLD	Zinc-67	-0.0600	0.94	6.00	ug/L	
SLE0204-CCBE	Arsenic-75a	-0.00600	0.0373	0.200	ug/L	
SLE0204-CCBE	Cadmium-111	-0.00100	0.03	0.100	ug/L	
SLE0204-CCBE	Cadmium-114	0.00400	0.04	0.100	ug/L	
SLE0204-CCBE	Copper-63	-0.0350	0.173	0.500	ug/L	
SLE0204-CCBE	Copper-65	-0.0400	0.35	0.500	ug/L	
SLE0204-CCBE	Zinc-66	-0.0710	2.92	6.00	ug/L	
SLE0204-CCBE	Zinc-67	-0.155	0.94	6.00	ug/L	
SLE0204-IBLE	Arsenic-75a	-0.00800	0.0373	0.200	ug/L	
SLE0204-IBLE	Cadmium-111	-0.00500	0.03	0.100	ug/L	
SLE0204-IBLE	Cadmium-114	0.00400	0.04	0.100	ug/L	
SLE0204-IBLE	Copper-63	-0.0340	0.173	0.500	ug/L	
SLE0204-IBLE	Copper-65	-0.0360	0.35	0.500	ug/L	
SLE0204-IBLE	Zinc-66	-0.0450	2.92	6.00	ug/L	
SLE0204-IBLE	Zinc-67	-0.0590	0.94	6.00	ug/L	
SLE0204-IBLF	Arsenic-75a	-0.00700	0.0373	0.200	ug/L	
SLE0204-IBLF	Cadmium-111	-0.00300	0.03	0.100	ug/L	
SLE0204-IBLF	Cadmium-114	0.00	0.04	0.100	ug/L	
SLE0204-IBLF	Copper-63	-0.0350	0.173	0.500	ug/L	
SLE0204-IBLF	Copper-65	-0.0410	0.35	0.500	ug/L	
SLE0204-IBLF	Zinc-66	-0.0640	2.92	6.00	ug/L	
SLE0204-IBLF	Zinc-67	-0.122	0.94	6.00	ug/L	
SLE0204-CCBF	Arsenic-75a	-0.00500	0.0373	0.200	ug/L	
SLE0204-CCBF	Cadmium-111	-0.00200	0.03	0.100	ug/L	
SLE0204-CCBF	Cadmium-114	0.00200	0.04	0.100	ug/L	
SLE0204-CCBF	Copper-63	-0.0370	0.173	0.500	ug/L	
SLE0204-CCBF	Copper-65	-0.0380	0.35	0.500	ug/L	

INSTRUMENT BLANKS
EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Instrument ID: ICPMS1
Sequence: SLE0204

SDG: 23C0108
Project: AOC5 MR Phase 1
Calibration: GE00040
Date Analyzed: 05/11/23 04:33

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SLE0204-CCBF	Zinc-66	-0.0700	2.92	6.00	ug/L	
SLE0204-CCBF	Zinc-67	-0.130	0.94	6.00	ug/L	
SLE0204-CCBG	Arsenic-75a	-0.00300	0.0373	0.200	ug/L	
SLE0204-CCBG	Cadmium-111	-0.00400	0.03	0.100	ug/L	
SLE0204-CCBG	Cadmium-114	0.00	0.04	0.100	ug/L	
SLE0204-CCBG	Copper-63	-0.00500	0.173	0.500	ug/L	
SLE0204-CCBG	Copper-65	-0.00400	0.35	0.500	ug/L	
SLE0204-CCBG	Zinc-66	-0.0680	2.92	6.00	ug/L	
SLE0204-CCBG	Zinc-67	-0.0590	0.94	6.00	ug/L	
SLE0204-IBLG	Arsenic-75a	-0.00700	0.0373	0.200	ug/L	
SLE0204-IBLG	Cadmium-111	0.00100	0.03	0.100	ug/L	
SLE0204-IBLG	Cadmium-114	0.00200	0.04	0.100	ug/L	
SLE0204-IBLG	Copper-63	-0.00400	0.173	0.500	ug/L	
SLE0204-IBLG	Copper-65	-0.00200	0.35	0.500	ug/L	
SLE0204-IBLG	Zinc-66	-0.0550	2.92	6.00	ug/L	
SLE0204-IBLG	Zinc-67	-0.0180	0.94	6.00	ug/L	
SLE0204-CCBH	Arsenic-75a	0.00600	0.0373	0.200	ug/L	
SLE0204-CCBH	Cadmium-111	-0.00300	0.03	0.100	ug/L	
SLE0204-CCBH	Cadmium-114	0.00200	0.04	0.100	ug/L	
SLE0204-CCBH	Copper-63	-0.00400	0.173	0.500	ug/L	
SLE0204-CCBH	Copper-65	-0.00300	0.35	0.500	ug/L	
SLE0204-CCBH	Zinc-66	-0.0510	2.92	6.00	ug/L	
SLE0204-CCBH	Zinc-67	-0.0820	0.94	6.00	ug/L	
SLE0204-IBLH	Arsenic-75a	-0.00400	0.0373	0.200	ug/L	
SLE0204-IBLH	Cadmium-111	-0.00300	0.03	0.100	ug/L	
SLE0204-IBLH	Cadmium-114	-0.00100	0.04	0.100	ug/L	
SLE0204-IBLH	Copper-63	-0.00500	0.173	0.500	ug/L	
SLE0204-IBLH	Copper-65	-0.00100	0.35	0.500	ug/L	
SLE0204-IBLH	Zinc-66	-0.0600	2.92	6.00	ug/L	
SLE0204-IBLH	Zinc-67	-0.0820	0.94	6.00	ug/L	
SLE0204-CCBI	Arsenic-75a	0.00200	0.0373	0.200	ug/L	
SLE0204-CCBI	Cadmium-111	0.00400	0.03	0.100	ug/L	
SLE0204-CCBI	Cadmium-114	0.00200	0.04	0.100	ug/L	
SLE0204-CCBI	Copper-63	-0.00500	0.173	0.500	ug/L	
SLE0204-CCBI	Copper-65	-0.00300	0.35	0.500	ug/L	
SLE0204-CCBI	Zinc-66	-0.0640	2.92	6.00	ug/L	

INSTRUMENT BLANKS
EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: ICPMS1
Calibration: GE00040
Sequence: SLE0204
Date Analyzed: 05/11/23 06:42

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SLE0204-CCBI	Zinc-67	-0.0510	0.94	6.00	ug/L	
SLE0204-IBLI	Arsenic-75a	-0.00500	0.0373	0.200	ug/L	
SLE0204-IBLI	Cadmium-111	0.00300	0.03	0.100	ug/L	
SLE0204-IBLI	Cadmium-114	0.00	0.04	0.100	ug/L	
SLE0204-IBLI	Copper-63	-0.00500	0.173	0.500	ug/L	
SLE0204-IBLI	Copper-65	-0.00500	0.35	0.500	ug/L	
SLE0204-IBLI	Zinc-66	-0.0540	2.92	6.00	ug/L	
SLE0204-IBLI	Zinc-67	-0.0640	0.94	6.00	ug/L	
SLE0204-IBLJ	Arsenic-75a	-0.00700	0.0373	0.200	ug/L	
SLE0204-IBLJ	Cadmium-111	0.00200	0.03	0.100	ug/L	
SLE0204-IBLJ	Cadmium-114	-0.00100	0.04	0.100	ug/L	
SLE0204-IBLJ	Copper-63	-0.00600	0.173	0.500	ug/L	
SLE0204-IBLJ	Copper-65	-0.00300	0.35	0.500	ug/L	
SLE0204-IBLJ	Zinc-66	-0.0490	2.92	6.00	ug/L	
SLE0204-IBLJ	Zinc-67	-0.0310	0.94	6.00	ug/L	
SLE0204-CCBJ	Arsenic-75a	0.00700	0.0373	0.200	ug/L	
SLE0204-CCBJ	Cadmium-111	0.00300	0.03	0.100	ug/L	
SLE0204-CCBJ	Cadmium-114	0.00	0.04	0.100	ug/L	
SLE0204-CCBJ	Copper-63	0.00800	0.173	0.500	ug/L	
SLE0204-CCBJ	Copper-65	0.0120	0.35	0.500	ug/L	
SLE0204-CCBJ	Zinc-66	-0.0420	2.92	6.00	ug/L	
SLE0204-CCBJ	Zinc-67	-0.0330	0.94	6.00	ug/L	

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020B UCT-KED

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLE0204	Instrument:	ICPMS1
		Calibration:	GE00040

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
CAL 0	SLE0204-CAL1	XDT_m1230510A-008	NA	05/10/23 15:47
CAL 1 - LOW CHECK	SLE0204-CAL2	XDT_m1230510A-009	NA	05/10/23 15:51
CAL 2	SLE0204-CAL3	XDT_m1230510A-010	NA	05/10/23 15:56
CAL 3	SLE0204-CAL4	XDT_m1230510A-011	NA	05/10/23 16:01
CAL 4	SLE0204-CAL5	XDT_m1230510A-012	NA	05/10/23 16:05
CAL 5	SLE0204-CAL6	XDT_m1230510A-013	NA	05/10/23 16:12
RINSE	SLE0204-IBL1	XDT_m1230510A-014	NA	05/10/23 16:19
Initial Cal Check	SLE0204-ICV1	XDT_m1230510A-016	NA	05/10/23 16:25
Initial Cal Blank	SLE0204-ICB1	XDT_m1230510A-017	NA	05/10/23 16:32
Calibration Check	SLE0204-CCV1	XDT_m1230510A-018	NA	05/10/23 16:37
Calibration Blank	SLE0204-CCB1	XDT_m1230510A-019	NA	05/10/23 16:44
Instrument RL Check	SLE0204-CRL1	XDT_m1230510A-020	NA	05/10/23 16:49
Interference Check A	SLE0204-IFA1	XDT_m1230510A-021	NA	05/10/23 16:56
Interference Check B	SLE0204-IFB1	XDT_m1230510A-022	NA	05/10/23 17:00
LR200	SLE0204-HCV1	XDT_m1230510A-023	NA	05/10/23 17:06
LR300	SLE0204-HCV2	XDT_m1230510A-024	NA	05/10/23 17:11
Instrument Blank	SLE0204-IBL2	XDT_m1230510A-025	NA	05/10/23 17:18
Calibration Check	SLE0204-CCV2	XDT_m1230510A-026	NA	05/10/23 17:24
Calibration Blank	SLE0204-CCB2	XDT_m1230510A-027	NA	05/10/23 17:32
Calibration Check	SLE0204-CCV3	XDT_m1230510A-029	NA	05/10/23 17:41
Calibration Blank	SLE0204-CCB3	XDT_m1230510A-030	NA	05/10/23 17:49
ZZZZZ	BLD0687-BLK2	XDT_m1230510A-031	Solid	05/10/23 17:54
ZZZZZ	BLD0687-BS2	XDT_m1230510A-033	Solid	05/10/23 18:05
ZZZZZ	BLE0298-BLK1	XDT_m1230510A-034	Water	05/10/23 18:11
ZZZZZ	BLE0298-BS1	XDT_m1230510A-035	Water	05/10/23 18:15
ZZZZZ	BLE0077-MS2	XDT_m1230510A-036	Water	05/10/23 18:21
Instrument Blank	SLE0204-IBL3	XDT_m1230510A-040	NA	05/10/23 18:41
Calibration Check	SLE0204-CCV4	XDT_m1230510A-041	NA	05/10/23 18:45
Calibration Blank	SLE0204-CCB4	XDT_m1230510A-042	NA	05/10/23 18:53

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Sequence: SLE0204
SDG: 23C0108
Project: AOC5 MR Phase 1
Instrument: ICPMS1
Calibration: GE00040

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	BLE0143-BLK1	XDT_m1230510A-045	Solid	05/10/23 19:07
ZZZZZ	BLE0143-BS1	XDT_m1230510A-047	Solid	05/10/23 19:19
Instrument Blank	SLE0204-IBL4	XDT_m1230510A-050	NA	05/10/23 19:33
Instrument Blank	SLE0204-IBL5	XDT_m1230510A-052	NA	05/10/23 19:44
Calibration Check	SLE0204-CCV5	XDT_m1230510A-053	NA	05/10/23 19:48
Calibration Blank	SLE0204-CCB5	XDT_m1230510A-054	NA	05/10/23 19:56
Calibration Check	SLE0204-CCV6	XDT_m1230510A-057	NA	05/10/23 20:30
Calibration Blank	SLE0204-CCB6	XDT_m1230510A-058	NA	05/10/23 20:37
Blank	BLD0578-BLK1	XDT_m1230510A-059	Solid	05/10/23 20:44
LCS	BLD0578-BS1	XDT_m1230510A-060	Solid	05/10/23 20:48
ZZZZZ	BLE0072-BLK1	XDT_m1230510A-061	Solid	05/10/23 20:53
ZZZZZ	BLE0072-BS1	XDT_m1230510A-062	Solid	05/10/23 20:57
ZZZZZ	23D0394-01	XDT_m1230510A-063	Solid	05/10/23 21:02
ZZZZZ	BLD0687-DUP2	XDT_m1230510A-064	Solid	05/10/23 21:07
ZZZZZ	BLD0687-MS2	XDT_m1230510A-065	Solid	05/10/23 21:12
ZZZZZ	BLD0687-MSD2	XDT_m1230510A-066	Solid	05/10/23 21:16
Instrument Blank	SLE0204-IBL6	XDT_m1230510A-068	NA	05/10/23 21:25
Calibration Check	SLE0204-CCV7	XDT_m1230510A-069	NA	05/10/23 21:29
Calibration Blank	SLE0204-CCB7	XDT_m1230510A-070	NA	05/10/23 21:37
ZZZZZ	23A0467-02	XDT_m1230510A-071	Solid	05/10/23 21:41
ZZZZZ	23A0467-02	XDT_m1230510A-071	Solid	05/10/23 21:41
ZZZZZ	23A0467-02	XDT_m1230510A-071	Solid	05/10/23 21:41
ZZZZZ	23A0467-02	XDT_m1230510A-071	Solid	05/10/23 21:41
ZZZZZ	23A0467-03	XDT_m1230510A-072	Solid	05/10/23 21:45
ZZZZZ	23A0467-03	XDT_m1230510A-072	Solid	05/10/23 21:45
ZZZZZ	23A0467-03	XDT_m1230510A-072	Solid	05/10/23 21:45
ZZZZZ	23A0467-03	XDT_m1230510A-072	Solid	05/10/23 21:45
ZZZZZ	23A0467-04	XDT_m1230510A-073	Solid	05/10/23 21:50
ZZZZZ	23A0467-04	XDT_m1230510A-073	Solid	05/10/23 21:50

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Sequence: SLE0204

SDG: 23C0108
Project: AOC5 MR Phase 1
Instrument: ICPMS1
Calibration: GE00040

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	23A0467-04	XDT_m1230510A-073	Solid	05/10/23 21:50
ZZZZZ	23A0467-04	XDT_m1230510A-073	Solid	05/10/23 21:50
ZZZZZ	23A0467-05	XDT_m1230510A-074	Solid	05/10/23 21:54
ZZZZZ	23A0467-05	XDT_m1230510A-074	Solid	05/10/23 21:54
ZZZZZ	23A0467-05	XDT_m1230510A-074	Solid	05/10/23 21:54
ZZZZZ	23A0467-05	XDT_m1230510A-074	Solid	05/10/23 21:54
ZZZZZ	23A0467-01	XDT_m1230510A-075	Solid	05/10/23 21:59
ZZZZZ	23A0467-01	XDT_m1230510A-075	Solid	05/10/23 21:59
ZZZZZ	23A0467-01	XDT_m1230510A-075	Solid	05/10/23 21:59
ZZZZZ	23A0467-01	XDT_m1230510A-075	Solid	05/10/23 21:59
Instrument Blank	SLE0204-IBL7	XDT_m1230510A-080	NA	05/10/23 22:21
Calibration Check	SLE0204-CCV8	XDT_m1230510A-081	NA	05/10/23 22:25
Calibration Blank	SLE0204-CCB8	XDT_m1230510A-082	NA	05/10/23 22:32
ZZZZZ	23A0467-06	XDT_m1230510A-083	Solid	05/10/23 22:37
ZZZZZ	23A0467-06	XDT_m1230510A-083	Solid	05/10/23 22:37
ZZZZZ	23A0467-06	XDT_m1230510A-083	Solid	05/10/23 22:37
ZZZZZ	23A0467-06	XDT_m1230510A-083	Solid	05/10/23 22:37
ZZZZZ	23A0467-07	XDT_m1230510A-084	Solid	05/10/23 22:41
ZZZZZ	23A0467-07	XDT_m1230510A-084	Solid	05/10/23 22:41
ZZZZZ	23A0467-07	XDT_m1230510A-084	Solid	05/10/23 22:41
ZZZZZ	23A0467-07	XDT_m1230510A-084	Solid	05/10/23 22:41
ZZZZZ	23A0467-08	XDT_m1230510A-085	Solid	05/10/23 22:46
ZZZZZ	23A0467-08	XDT_m1230510A-085	Solid	05/10/23 22:46
ZZZZZ	23A0467-08	XDT_m1230510A-085	Solid	05/10/23 22:46
ZZZZZ	23A0467-08	XDT_m1230510A-085	Solid	05/10/23 22:46
ZZZZZ	23A0467-09	XDT_m1230510A-086	Solid	05/10/23 22:50
ZZZZZ	23A0467-09	XDT_m1230510A-086	Solid	05/10/23 22:50
ZZZZZ	23A0467-09	XDT_m1230510A-086	Solid	05/10/23 22:50
ZZZZZ	23A0467-09	XDT_m1230510A-086	Solid	05/10/23 22:50

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLE0204
Instrument: ICPMS1
Calibration: GE00040

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Instrument Blank	SLE0204-IBL8	XDT_m1230510A-092	NA	05/10/23 23:16
Calibration Check	SLE0204-CCV9	XDT_m1230510A-093	NA	05/10/23 23:21
Calibration Blank	SLE0204-CCB9	XDT_m1230510A-094	NA	05/10/23 23:28
ZZZZZ	23C0071-01	XDT_m1230510A-095	Solid	05/10/23 23:33
ZZZZZ	23C0071-01	XDT_m1230510A-095	Solid	05/10/23 23:33
ZZZZZ	23C0071-01	XDT_m1230510A-095	Solid	05/10/23 23:33
ZZZZZ	23C0071-01	XDT_m1230510A-095	Solid	05/10/23 23:33
ZZZZZ	23C0071-02	XDT_m1230510A-096	Solid	05/10/23 23:37
ZZZZZ	23C0071-02	XDT_m1230510A-096	Solid	05/10/23 23:37
ZZZZZ	23C0071-02	XDT_m1230510A-096	Solid	05/10/23 23:37
ZZZZZ	23C0071-02	XDT_m1230510A-096	Solid	05/10/23 23:37
ZZZZZ	23C0071-03	XDT_m1230510A-097	Solid	05/10/23 23:41
ZZZZZ	23C0071-03	XDT_m1230510A-097	Solid	05/10/23 23:41
ZZZZZ	23C0071-03	XDT_m1230510A-097	Solid	05/10/23 23:41
ZZZZZ	23C0071-03	XDT_m1230510A-097	Solid	05/10/23 23:41
ZZZZZ	23C0071-04	XDT_m1230510A-098	Solid	05/10/23 23:46
ZZZZZ	23C0071-04	XDT_m1230510A-098	Solid	05/10/23 23:46
ZZZZZ	23C0071-04	XDT_m1230510A-098	Solid	05/10/23 23:46
ZZZZZ	23C0071-04	XDT_m1230510A-098	Solid	05/10/23 23:46
ZZZZZ	23C0071-05	XDT_m1230510A-099	Solid	05/10/23 23:50
ZZZZZ	23C0071-05	XDT_m1230510A-099	Solid	05/10/23 23:50
ZZZZZ	23C0071-05	XDT_m1230510A-099	Solid	05/10/23 23:50
ZZZZZ	23C0071-05	XDT_m1230510A-099	Solid	05/10/23 23:50
ZZZZZ	23C0071-06	XDT_m1230510A-100	Solid	05/10/23 23:55
ZZZZZ	23C0071-06	XDT_m1230510A-100	Solid	05/10/23 23:55
ZZZZZ	23C0071-06	XDT_m1230510A-100	Solid	05/10/23 23:55
ZZZZZ	23C0071-06	XDT_m1230510A-100	Solid	05/10/23 23:55
ZZZZZ	23C0109-02	XDT_m1230510A-101	Solid	05/10/23 23:59
ZZZZZ	23C0109-02	XDT_m1230510A-101	Solid	05/10/23 23:59

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Sequence: SLE0204
SDG: 23C0108
Project: AOC5 MR Phase 1
Instrument: ICPMS1
Calibration: GE00040

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	23C0109-02	XDT_m1230510A-101	Solid	05/10/23 23:59
ZZZZZ	23C0109-02	XDT_m1230510A-101	Solid	05/10/23 23:59
ZZZZZ	23C0109-03	XDT_m1230510A-102	Solid	05/11/23 00:03
ZZZZZ	23C0109-03	XDT_m1230510A-102	Solid	05/11/23 00:03
ZZZZZ	23C0109-03	XDT_m1230510A-102	Solid	05/11/23 00:03
ZZZZZ	23C0109-03	XDT_m1230510A-102	Solid	05/11/23 00:03
LDW23-SC1044	23C0108-02	XDT_m1230510A-103	Solid	05/11/23 00:08
LDW23-SC1044	23C0108-02	XDT_m1230510A-103	Solid	05/11/23 00:08
LDW23-SC1044	23C0108-02	XDT_m1230510A-103	Solid	05/11/23 00:08
LDW23-SC1044	23C0108-02	XDT_m1230510A-103	Solid	05/11/23 00:08
Instrument Blank	SLE0204-IBL9	XDT_m1230510A-104	NA	05/11/23 00:12
Calibration Check	SLE0204-CCVA	XDT_m1230510A-105	NA	05/11/23 00:16
Calibration Blank	SLE0204-CCBA	XDT_m1230510A-106	NA	05/11/23 00:24
LDW23-SS1106	23C0108-06	XDT_m1230510A-107	Solid	05/11/23 00:28
LDW23-SS1106	23C0108-06	XDT_m1230510A-107	Solid	05/11/23 00:28
LDW23-SS1106	23C0108-06	XDT_m1230510A-107	Solid	05/11/23 00:28
LDW23-SS1106	23C0108-06	XDT_m1230510A-107	Solid	05/11/23 00:28
LDW23-SS1107	23C0108-07	XDT_m1230510A-108	Solid	05/11/23 00:32
LDW23-SS1107	23C0108-07	XDT_m1230510A-108	Solid	05/11/23 00:32
LDW23-SS1107	23C0108-07	XDT_m1230510A-108	Solid	05/11/23 00:32
LDW23-SS1107	23C0108-07	XDT_m1230510A-108	Solid	05/11/23 00:32
LDW23-SS1111	23C0108-08	XDT_m1230510A-109	Solid	05/11/23 00:37
LDW23-SS1111	23C0108-08	XDT_m1230510A-109	Solid	05/11/23 00:37
LDW23-SS1111	23C0108-08	XDT_m1230510A-109	Solid	05/11/23 00:37
LDW23-SS1111	23C0108-08	XDT_m1230510A-109	Solid	05/11/23 00:37
LDW23-SS1118	23C0108-09	XDT_m1230510A-110	Solid	05/11/23 00:41
LDW23-SS1118	23C0108-09	XDT_m1230510A-110	Solid	05/11/23 00:41
LDW23-SS1118	23C0108-09	XDT_m1230510A-110	Solid	05/11/23 00:41
LDW23-SS1118	23C0108-09	XDT_m1230510A-110	Solid	05/11/23 00:41

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Sequence: SLE0204

SDG: 23C0108
Project: AOC5 MR Phase 1
Instrument: ICPMS1
Calibration: GE00040

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	23D0008-01	XDT_m1230510A-111	Solid	05/11/23 00:46
ZZZZZ	23D0008-01	XDT_m1230510A-111	Solid	05/11/23 00:46
ZZZZZ	23D0008-01	XDT_m1230510A-111	Solid	05/11/23 00:46
ZZZZZ	23D0008-01	XDT_m1230510A-111	Solid	05/11/23 00:46
ZZZZZ	23D0008-03	XDT_m1230510A-112	Solid	05/11/23 00:50
ZZZZZ	23D0008-03	XDT_m1230510A-112	Solid	05/11/23 00:50
ZZZZZ	23D0008-03	XDT_m1230510A-112	Solid	05/11/23 00:50
ZZZZZ	23D0008-03	XDT_m1230510A-112	Solid	05/11/23 00:50
ZZZZZ	23D0037-01	XDT_m1230510A-113	Solid	05/11/23 00:54
ZZZZZ	23D0037-01	XDT_m1230510A-113	Solid	05/11/23 00:54
ZZZZZ	23D0037-01	XDT_m1230510A-113	Solid	05/11/23 00:54
ZZZZZ	23D0037-01	XDT_m1230510A-113	Solid	05/11/23 00:54
ZZZZZ	23D0037-03	XDT_m1230510A-114	Solid	05/11/23 00:59
ZZZZZ	23D0037-03	XDT_m1230510A-114	Solid	05/11/23 00:59
ZZZZZ	23D0037-03	XDT_m1230510A-114	Solid	05/11/23 00:59
ZZZZZ	23D0037-03	XDT_m1230510A-114	Solid	05/11/23 00:59
ZZZZZ	23D0037-02	XDT_m1230510A-115	Solid	05/11/23 01:03
Instrument Blank	SLE0204-IBLA	XDT_m1230510A-116	NA	05/11/23 01:08
Calibration Check	SLE0204-CCVB	XDT_m1230510A-117	NA	05/11/23 01:12
Calibration Blank	SLE0204-CCBB	XDT_m1230510A-118	NA	05/11/23 01:19
Calibration Check	SLE0204-CCVC	XDT_m1230510A-120	NA	05/11/23 01:28
Calibration Blank	SLE0204-CCBC	XDT_m1230510A-121	NA	05/11/23 01:35
ZZZZZ	23D0037-04	XDT_m1230510A-122	Solid	05/11/23 01:40
ZZZZZ	23D0063-01	XDT_m1230510A-123	Solid	05/11/23 01:44
ZZZZZ	23D0063-01	XDT_m1230510A-123	Solid	05/11/23 01:44
ZZZZZ	23D0063-01	XDT_m1230510A-123	Solid	05/11/23 01:44
ZZZZZ	23D0063-01	XDT_m1230510A-123	Solid	05/11/23 01:44
ZZZZZ	23D0063-03	XDT_m1230510A-124	Solid	05/11/23 01:49
ZZZZZ	23D0063-03	XDT_m1230510A-124	Solid	05/11/23 01:49

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Sequence: SLE0204

SDG: 23C0108
Project: AOC5 MR Phase 1
Instrument: ICPMS1
Calibration: GE00040

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	23D0063-03	XDT_m1230510A-124	Solid	05/11/23 01:49
ZZZZZ	23D0063-03	XDT_m1230510A-124	Solid	05/11/23 01:49
Instrument Blank	SLE0204-IBLB	XDT_m1230510A-131	NA	05/11/23 02:21
Calibration Check	SLE0204-CCVD	XDT_m1230510A-132	NA	05/11/23 02:26
Calibration Blank	SLE0204-CCBD	XDT_m1230510A-133	NA	05/11/23 02:33
Instrument Blank	SLE0204-IBLC	XDT_m1230510A-138	NA	05/11/23 02:57
ZZZZZ	23D0477-21	XDT_m1230510A-141	Water	05/11/23 03:11
ZZZZZ	23D0477-21	XDT_m1230510A-141	Water	05/11/23 03:11
ZZZZZ	23D0477-21	XDT_m1230510A-141	Water	05/11/23 03:11
ZZZZZ	23D0477-22	XDT_m1230510A-142	Water	05/11/23 03:15
ZZZZZ	23D0477-22	XDT_m1230510A-142	Water	05/11/23 03:15
ZZZZZ	23D0477-22	XDT_m1230510A-142	Water	05/11/23 03:15
Instrument Blank	SLE0204-IBLD	XDT_m1230510A-143	NA	05/11/23 03:20
Calibration Check	SLE0204-CCVE	XDT_m1230510A-144	NA	05/11/23 03:24
Calibration Blank	SLE0204-CCBE	XDT_m1230510A-145	NA	05/11/23 03:31
ZZZZZ	23D0477-11	XDT_m1230510A-146	Water	05/11/23 03:36
ZZZZZ	23D0477-11	XDT_m1230510A-146	Water	05/11/23 03:36
ZZZZZ	23D0477-11	XDT_m1230510A-146	Water	05/11/23 03:36
ZZZZZ	23D0477-13	XDT_m1230510A-147	Water	05/11/23 03:40
ZZZZZ	23D0477-13	XDT_m1230510A-147	Water	05/11/23 03:40
ZZZZZ	23D0477-13	XDT_m1230510A-147	Water	05/11/23 03:40
ZZZZZ	23D0477-02	XDT_m1230510A-148	Water	05/11/23 03:45
ZZZZZ	23D0477-02	XDT_m1230510A-148	Water	05/11/23 03:45
ZZZZZ	23D0477-02	XDT_m1230510A-148	Water	05/11/23 03:45
Instrument Blank	SLE0204-IBLE	XDT_m1230510A-150	NA	05/11/23 03:57
Instrument Blank	SLE0204-IBLF	XDT_m1230510A-155	NA	05/11/23 04:21
Calibration Check	SLE0204-CCVF	XDT_m1230510A-156	NA	05/11/23 04:26
Calibration Blank	SLE0204-CCBF	XDT_m1230510A-157	NA	05/11/23 04:33
Calibration Check	SLE0204-CCVG	XDT_m1230510A-159	NA	05/11/23 04:42

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Sequence: SLE0204

SDG: 23C0108
Project: AOC5 MR Phase 1
Instrument: ICPMS1
Calibration: GE00040

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Calibration Blank	SLE0204-CCBG	XDT_m1230510A-160	NA	05/11/23 04:49
ZZZZZ	23D0477-04	XDT_m1230510A-161	Water	05/11/23 04:53
ZZZZZ	23D0477-04	XDT_m1230510A-161	Water	05/11/23 04:53
ZZZZZ	23D0477-04	XDT_m1230510A-161	Water	05/11/23 04:53
ZZZZZ	23D0477-06	XDT_m1230510A-162	Water	05/11/23 04:58
ZZZZZ	23D0477-06	XDT_m1230510A-162	Water	05/11/23 04:58
ZZZZZ	23D0477-06	XDT_m1230510A-162	Water	05/11/23 04:58
ZZZZZ	23D0477-08	XDT_m1230510A-163	Water	05/11/23 05:02
ZZZZZ	23D0477-08	XDT_m1230510A-163	Water	05/11/23 05:02
ZZZZZ	23D0477-08	XDT_m1230510A-163	Water	05/11/23 05:02
ZZZZZ	23D0477-10	XDT_m1230510A-164	Water	05/11/23 05:07
ZZZZZ	23D0477-10	XDT_m1230510A-164	Water	05/11/23 05:07
ZZZZZ	23D0477-10	XDT_m1230510A-164	Water	05/11/23 05:07
ZZZZZ	23D0477-12	XDT_m1230510A-165	Water	05/11/23 05:11
ZZZZZ	23D0477-12	XDT_m1230510A-165	Water	05/11/23 05:11
ZZZZZ	23D0477-12	XDT_m1230510A-165	Water	05/11/23 05:11
ZZZZZ	23D0477-20	XDT_m1230510A-166	Water	05/11/23 05:16
ZZZZZ	23D0477-20	XDT_m1230510A-166	Water	05/11/23 05:16
ZZZZZ	23D0477-20	XDT_m1230510A-166	Water	05/11/23 05:16
Instrument Blank	SLE0204-IBLG	XDT_m1230510A-170	NA	05/11/23 05:33
Calibration Check	SLE0204-CCVH	XDT_m1230510A-171	NA	05/11/23 05:38
Calibration Blank	SLE0204-CCBH	XDT_m1230510A-172	NA	05/11/23 05:45
ZZZZZ	23D0477-14	XDT_m1230510A-173	Water	05/11/23 05:50
ZZZZZ	23D0477-14	XDT_m1230510A-173	Water	05/11/23 05:50
ZZZZZ	23D0477-14	XDT_m1230510A-173	Water	05/11/23 05:50
ZZZZZ	23D0477-16	XDT_m1230510A-174	Water	05/11/23 05:54
ZZZZZ	23D0477-16	XDT_m1230510A-174	Water	05/11/23 05:54
ZZZZZ	23D0477-16	XDT_m1230510A-174	Water	05/11/23 05:54
ZZZZZ	23D0477-18	XDT_m1230510A-175	Water	05/11/23 05:58

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
Client: Anchor QEA, LLC
Sequence: SLE0204

SDG: 23C0108
Project: AOC5 MR Phase 1
Instrument: ICPMS1
Calibration: GE00040

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	23D0477-18	XDT_m1230510A-175	Water	05/11/23 05:58
ZZZZZ	23D0477-18	XDT_m1230510A-175	Water	05/11/23 05:58
ZZZZZ	23D0477-01	XDT_m1230510A-176	Water	05/11/23 06:03
ZZZZZ	23D0477-01	XDT_m1230510A-176	Water	05/11/23 06:03
ZZZZZ	23D0477-01	XDT_m1230510A-176	Water	05/11/23 06:03
ZZZZZ	23D0477-03	XDT_m1230510A-177	Water	05/11/23 06:07
ZZZZZ	23D0477-03	XDT_m1230510A-177	Water	05/11/23 06:07
ZZZZZ	23D0477-03	XDT_m1230510A-177	Water	05/11/23 06:07
ZZZZZ	23D0477-07	XDT_m1230510A-178	Water	05/11/23 06:12
ZZZZZ	23D0477-07	XDT_m1230510A-178	Water	05/11/23 06:12
ZZZZZ	23D0477-07	XDT_m1230510A-178	Water	05/11/23 06:12
ZZZZZ	23D0477-09	XDT_m1230510A-179	Water	05/11/23 06:16
ZZZZZ	23D0477-09	XDT_m1230510A-179	Water	05/11/23 06:16
ZZZZZ	23D0477-09	XDT_m1230510A-179	Water	05/11/23 06:16
ZZZZZ	23D0477-15	XDT_m1230510A-180	Water	05/11/23 06:20
ZZZZZ	23D0477-15	XDT_m1230510A-180	Water	05/11/23 06:20
ZZZZZ	23D0477-15	XDT_m1230510A-180	Water	05/11/23 06:20
ZZZZZ	23D0487-02	XDT_m1230510A-181	Water	05/11/23 06:26
Instrument Blank	SLE0204-IBLH	XDT_m1230510A-182	NA	05/11/23 06:31
Calibration Check	SLE0204-CCVI	XDT_m1230510A-183	NA	05/11/23 06:35
Calibration Blank	SLE0204-CCBI	XDT_m1230510A-184	NA	05/11/23 06:42
ZZZZZ	23D0487-06	XDT_m1230510A-185	Water	05/11/23 06:47
ZZZZZ	23D0487-05	XDT_m1230510A-186	Water	05/11/23 06:51
ZZZZZ	23D0487-04	XDT_m1230510A-187	Water	05/11/23 06:55
ZZZZZ	23D0487-03	XDT_m1230510A-188	Water	05/11/23 07:00
Instrument Blank	SLE0204-IBLI	XDT_m1230510A-189	NA	05/11/23 07:05
ZZZZZ	23D0636-01	XDT_m1230510A-190	Water	05/11/23 07:09
ZZZZZ	23D0636-01	XDT_m1230510A-190	Water	05/11/23 07:09
ZZZZZ	23D0636-01	XDT_m1230510A-190	Water	05/11/23 07:09

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SLE0204
Instrument: ICPMS1
Calibration: GE00040

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
ZZZZZ	23D0636-01	XDT_m1230510A-190	Water	05/11/23 07:09
ZZZZZ	BLE0298-DUP1	XDT_m1230510A-191	Water	05/11/23 07:14
ZZZZZ	BLE0298-MS1	XDT_m1230510A-192	Water	05/11/23 07:19
ZZZZZ	BLE0298-MSD1	XDT_m1230510A-193	Water	05/11/23 07:25
Instrument Blank	SLE0204-IBLJ	XDT_m1230510A-194	NA	05/11/23 07:29
Calibration Check	SLE0204-CCVJ	XDT_m1230510A-195	NA	05/11/23 07:34
Calibration Blank	SLE0204-CCBJ	XDT_m1230510A-196	NA	05/11/23 07:41

ICP INTERFERENCE CHECK SAMPLE

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: ICPMS1
Calibration: GE00040
Sequence: SLE0204
Standard ID: L004688

Lab Sample ID	Analyte	True	Found	%R	Units
SLE0204-IFA1	Arsenic-75a	0	0.0260		ug/L
	Cadmium-111	0	0.0430		ug/L
	Cadmium-114	0	0.0270		ug/L
	Copper-63	0	0.0390		ug/L
	Copper-65	0	0.0330		ug/L
	Zinc-66	0	0.3120		ug/L
	Zinc-67	0	0.2690		ug/L

* Indicates %R outside of QC limits

NOTE: True value and %R are populated only for analytes found in the interference check standards, and will be seen only if those analytes were requested.

ICP INTERFERENCE CHECK SAMPLE

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: ICPMS1
Calibration: GE00040
Sequence: SLE0204
Standard ID: L004688

Lab Sample ID	Analyte	True	Found	%R	Units
SLE0204-IFB1	Arsenic-75a	20.000	19.651	98.3	ug/L
	Cadmium-111	20.000	18.519	92.6	ug/L
	Cadmium-114	20.000	18.365	91.8	ug/L
	Copper-63	20.000	20.580	103	ug/L
	Copper-65	20.000	20.103	101	ug/L
	Zinc-66	20.000	19.662	98.3	ug/L
	Zinc-67	20.000	17.951	89.8	ug/L

* Indicates %R outside of QC limits
NOTE: True value and %R are populated only for analytes found in the interference check standards, and will be seen only if those analytes were requested.

DETECTION LEVEL STANDARD
EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: ICPMS1
Calibration: GE00040
Sequence: SLE0204
Lab Sample ID: SLE0204-CRL1

Analyte	True	Found	%R	Units	QC Limts
Arsenic-75a	0.20000	0.213	107	ug/L	50 - 150
Cadmium-111	0.10000	0.113	113	ug/L	50 - 150
Cadmium-114	0.10000	0.0970	97.0	ug/L	50 - 150
Copper-63	0.50000	0.708	142	ug/L	50 - 150
Copper-65	0.50000	0.727	145	ug/L	50 - 150
Zinc-66	6.0000	6.25	104	ug/L	50 - 150
Zinc-67	6.0000	6.11	102	ug/L	50 - 150

* Values outside of QC limits

HIGH-CONCENTRATION CALIBRATION VERIFICATION

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GE00040
Laboratory ID: SLE0204-HCV1
Sequence: SLE0204
Standard ID: L004780

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Arsenic-75a	200.00	194	-3.1	10.00
Cadmium-111	200.00	220	9.8	10.00
Cadmium-114	200.00	220	10.0	10.00
Copper-63	200.00	188	-6.2	10.00
Copper-65	200.00	186	-7.1	10.00
Zinc-66	200.00	189	-5.4	10.00
Zinc-67	200.00	187	-6.7	10.00

* Values outside of QC limits

HIGH-CONCENTRATION CALIBRATION VERIFICATION

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: GE00040
Laboratory ID: SLE0204-HCV2
Sequence: SLE0204
Standard ID: L004781

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Arsenic-75a	300.00	305	1.7	10.00
Cadmium-111	300.00	293	-2.4	10.00
Cadmium-114	300.00	294	-1.9	10.00
Copper-63	300.00	287	-4.3	10.00
Copper-65	300.00	287	-4.2	10.00
Zinc-66	300.00	285	-4.9	10.00
Zinc-67	300.00	288	-4.1	10.00

* Values outside of QC limits

HOLDING TIME SUMMARY

Analysis: EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW23-SC1044 23C0108-02	03/02/23 15:06	03/03/23 16:35	04/26/23 12:19	54	180	05/11/23 00:08	69	180	
LDW23-SS1106 23C0108-06	03/03/23 10:00	03/03/23 16:35	04/26/23 12:19	54	180	05/11/23 00:28	69	180	
LDW23-SS1107 23C0108-07	03/03/23 10:21	03/03/23 16:35	04/26/23 12:19	54	180	05/11/23 00:32	69	180	
LDW23-SS1111 23C0108-08	03/03/23 10:36	03/03/23 16:35	04/26/23 12:19	54	180	05/11/23 00:37	69	180	
LDW23-SS1118 23C0108-09	03/03/23 11:25	03/03/23 16:35	04/26/23 12:19	54	180	05/11/23 00:41	69	180	

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

EPA 6020B UCT-KED

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Instrument: ICPMS1

Analyte	MDL	RL	Units
Arsenic-75a	0.04	0.20	mg/kg
Cadmium-111	0.03	0.10	mg/kg
Cadmium-114	0.04	0.10	mg/kg
Copper-63	0.17	0.50	mg/kg
Copper-65	0.35	0.50	mg/kg
Zinc-66	2.9	6.0	mg/kg
Zinc-67	0.9	6.0	mg/kg

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGCU10
Lot Number:	P2-CU682108
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Copper
Starting Material:	Cu Metal
Starting Material Lot#:	2095
Starting Material Purity:	99.9996%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10013 ± 30 µg/mL

Density: 1.032 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **9977 ± 50 µg/mL**
ICP Assay NIST SRM 3114 Lot Number: 121207

Assay Method #2 **10024 ± 26 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **10007 ± 46 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.007542	M	Eu	<	0.000942	O	Na		0.001434	M	Se	<	0.016971	M	Zn	<	0.005657
O	Al	<	0.000609	O	Fe		0.008700	M	Nb	<	0.000942	O	Si		0.003052	M	Zr	<	0.000942
M	As	<	0.010371	M	Ga	<	0.000942	M	Nd	<	0.000942	M	Sm	<	0.000942				
M	Au	<	0.001885	M	Gd	<	0.000942	M	Ni		0.003781	M	Sn	<	0.005657				
O	B		0.003663	M	Ge	<	0.005657	M	Os	<	0.000942	M	Sr	<	0.000942				
M	Ba		0.004253	M	Hf	<	0.000942	O	P	<	0.031668	M	Ta	<	0.000942				
M	Be	<	0.000942	O	Hg	<	0.007064	M	Pb		0.005789	M	Tb	<	0.000942				
M	Bi	<	0.000942	M	Ho	<	0.000942	M	Pd	<	0.000942	M	Te	<	0.004714				
O	Ca		0.002304	M	In	<	0.000942	M	Pr	<	0.000942	M	Th	<	0.000942				
M	Cd	<	0.000942	M	Ir	<	0.000942	M	Pt	<	0.000942	O	Ti	<	0.002801				
M	Ce	<	0.000942	O	K		0.000763	M	Rb	<	0.000942	M	Tl	<	0.000942				
M	Co		0.001890	M	La	<	0.000942	M	Re	<	0.000942	M	Tm	<	0.000942				
M	Cr	<	0.005657	O	Li	<	0.000243	i	Rh	<		M	U	<	0.000942				
M	Cs	<	0.000942	M	Lu	<	0.000942	M	Ru	<	0.039588	M	V	<	0.003771				
s	Cu	<		O	Mg		0.000320	O	S		0.007174	M	W	<	0.005657				
M	Dy	<	0.000942	O	Mn		0.000793	M	Sb	<	0.001885	M	Y	<	0.000942				
M	Er	<	0.000942	M	Mo	<	0.005657	M	Sc	<	0.000942	M	Yb	<	0.000942				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 63.55 +2 6 $Cu(H_2O)_6^{2+}$

Chemical Compatibility -Stable in HCl, HNO_3, H_2SO_4, HF, H_3PO_4. Avoid basic media. Stable with most metals and inorganic anions in acidic media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO_3 / LDPE container.

Cu Containing Samples (Preparation and Solution) -Metal (soluble in HNO_3); Oxides (Soluble in HCl); Ores (Dissolve in HCl / HNO_3).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 63 amu	10 ppt	n/a	40Ar23Na 47Ti16O, 14N12C37Cl, 16O12C35Cl, 23Na40Ca
ICP-OES 219.958 nm	0.01/.002 µg/mL	1	Th, Ta, Nb, U, Hf
ICP-OES 224.700 nm	0.01/.001 µg/mL	1	Pb, Ir, Ni, W
ICP-OES 324.754 nm	0.06/.001 µg/mL		Nb, U, Th, Mo, Hf

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 24, 2019

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **August 24, 2023**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Manager, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

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Certificate of Analysis

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGPB10
Lot Number:	S2-PB713228
Matrix:	0.5% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Lead
Starting Material:	Lead Nitrate
Starting Material Lot#:	2343
Starting Material Purity:	99.9995%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10042 ± 31 µg/mL

Density: 1.015 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10024 ± 41 µg/mL**
ICP Assay NIST SRM 3128 Lot Number: 101026

Assay Method #2 **10054 ± 32 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000310	M	Eu	<	0.000310	M	Na		0.001470	M	Se	<	0.009100	O	Zn		0.006155
O	Al		0.017098	O	Fe		0.002496	M	Nb	<	0.000310	O	Si		0.003761	O	Zr	<	0.001700
M	As	<	0.003100	M	Ga	<	0.000310	M	Nd	<	0.000310	M	Sm	<	0.000310				
M	Au	<	0.000910	M	Gd	<	0.000310	O	Ni		0.001709	M	Sn	<	0.001300				
O	B	<	0.005600	M	Ge	<	0.002200	M	Os	<	0.000310	O	Sr		0.000444				
O	Ba		0.007865	M	Hf	<	0.000310	O	P	<	0.038000	M	Ta	<	0.000310				
O	Be	<	0.000320	M	Hg	<	0.002200	s	Pb	<		M	Tb	<	0.000610				
M	Bi	<	0.028000	M	Ho	<	0.000310	M	Pd	<	0.000610	M	Te	<	0.000310				
O	Ca		0.019834	M	In	<	0.000310	M	Pr	<	0.000310	M	Th	<	0.000310				
O	Cd	<	0.000630	M	Ir	<	0.000310	M	Pt	<	0.000910	O	Ti		0.005129				
M	Ce		0.004787	O	K		0.008207	M	Rb	<	0.006700	M	Tl	<	0.016000				
M	Co	<	0.000610	M	La	<	0.001900	M	Re	<	0.000310	M	Tm	<	0.000310				
O	Cr	<	0.001500	O	Li	<	0.000110	O	Rh	<	0.007700	M	U	<	0.000310				
M	Cs	<	0.006100	M	Lu	<	0.000310	M	Ru	<	0.001300	M	V	<	0.001600				
M	Cu	<	0.001600	O	Mg		0.003317	O	S	<	0.052000	M	W	<	0.000910				
M	Dy	<	0.000310	O	Mn	<	0.001600	O	Sb	<	0.015000	M	Y	<	0.000310				
M	Er	<	0.000310	M	Mo	<	0.000610	O	Sc	<	0.000630	M	Yb	<	0.000310				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 207.20 +2 6 $Pb(H_2O)_6^{+2}$

Chemical Compatibility - Soluble in HCl, HF and HNO_3. Avoid H_2SO_4. Stable with most metals and inorganic anions forming insoluble carbonate, borate, sulfate, sulfite, sulfide, phosphate, oxalate, chromate, tannate, iodate, and cyanide in neutral aqueous media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO_3 / LDPE container.

Pb Containing Samples (Preparation and Solution) -Metal (Best dissolved in 1:1 H_2O / HNO_3); Oxides (The many different Pb oxides are soluble in HNO_3 with the exception of PbO_2 which is soluble in HCl or HF); Ores and Alloys (Best attacked using 1:1 H_2O / HNO_3); Organic Matrices (Dry ash and dissolve in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 208 amu	5 ppt	n/a	192Pt16O, 192Os16O
ICP-OES 168.215 nm	0.03 / 0.003 µg/mL	1	Co
ICP-OES 217.000 nm	0.09 / 0.03 µg/mL	1	W, Ir, Hf, Sb, Th
ICP-OES 220.353 nm	0.04 / 0.006 µg/mL	1	Bi, Nb

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 10, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **January 10, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

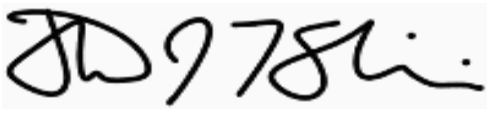
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGZN10
Lot Number:	S2-ZN711249
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Zinc
Starting Material:	Zinc Metal
Starting Material Lot#:	2349
Starting Material Purity:	99.9988%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 9992 ± 30 µg/mL

Density: 1.029 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **9981 ± 56 µg/mL**
ICP Assay NIST SRM 3168a Lot Number: 120629

Assay Method #2 **9987 ± 32 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **10002 ± 32 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.002000	M	Eu	<	0.000500	O	Na		0.008713	M	Se	<	0.048000	s	Zn	<
O	Al	<	0.011000	O	Fe		0.015467	M	Nb	<	0.000500	O	Si		0.007842	M	Zr	< 0.000500
O	As	<	0.012000	M	Ga	<	0.004900	M	Nd	<	0.000500	M	Sm	<	0.000500			
M	Au	<	0.006500	M	Gd	<	0.000500	O	Ni		0.003049	M	Sn		0.002614			
O	B	<	0.019000	M	Ge	<	0.009100	M	Os	<	0.000500	M	Sr	<	0.000500			
M	Ba	<	0.000500	M	Hf	<	0.000500	O	P	<	0.059000	M	Ta	<	0.000500			
O	Be	<	0.000230	O	Hg	<	0.003800	M	Pb		0.016774	M	Tb	<	0.000500			
M	Bi	<	0.002400	M	Ho	<	0.000500	M	Pd	<	0.001000	M	Te	<	0.017000			
O	Ca		0.052283	M	In	<	0.003500	M	Pr	<	0.000500	M	Th	<	0.000500			
O	Cd		0.000588	M	Ir	<	0.001000	M	Pt	<	0.000500	M	Ti	<	0.002000			
M	Ce	<	0.000500	O	K		0.017209	M	Rb	<	0.002500	M	Tl	<	0.000500			
M	Co		0.000653	M	La	<	0.000500	M	Re	<	0.000500	M	Tm	<	0.000500			
O	Cr		0.001089	O	Li	<	0.000230	M	Rh	<	0.000500	M	U	<	0.000500			
M	Cs	<	0.000500	M	Lu	<	0.000500	M	Ru	<	0.005000	M	V	<	0.000500			
O	Cu		0.001938	O	Mg		0.000871	O	S	<	0.048000	M	W	<	0.001000			
M	Dy	<	0.000500	O	Mn		0.000172	M	Sb	<	0.004300	M	Y	<	0.000500			
M	Er	<	0.000500	M	Mo	<	0.001500	O	Sc	<	0.000900	M	Yb	<	0.000500			

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 65.39 +2 4 Zn(OH)(aq)1+
Chemical Compatibility -Stable in HCl, HNO3, H2SO4 ,HF, H3PO4. Avoid basic media forming insoluble carbonate and hydroxide. Stable with most metals and inorganic anions in acidic media.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.
Zn Containing Samples (Preparation and Solution) -Metal (soluble in HNO3); Oxides (Soluble in HCl); Ores (Dissolve in HCl / HNO3); Organic based (dry ash at 4500C and dissolve ash in HCl) (sulfuric/peroxide acid digestion)
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 66 amu	7 ppt	N/A	50Ti16O,50Cr16O, 50V16O, 34S16O2, 32S16O18O, 32S17O2, 33S16O17O, 32S34S, 33S2
ICP-OES 202.548 nm	0.004/0.0002 µg/mL	1	Nb, Cu, Co, Hf
ICP-OES 206.200 nm	0.006/0.0006 µg/mL	1	Sb, Ta, Bi, Os
ICP-OES 213.856 nm	0.002/0.0004 µg/mL	1	Ni, Cu, V

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 22, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 22, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

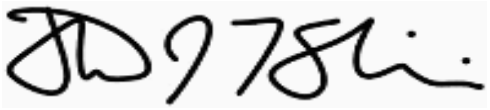
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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F: 540-585-3012
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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSE10
Lot Number:	S2-SE711004
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Selenium
Starting Material:	Se Metal
Starting Material Lot#:	1962
Starting Material Purity:	99.9991%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 9955 ± 61 µg/mL

Density: 1.035 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **9955 ± 50 µg/mL**
ICP Assay NIST SRM 3149 Lot Number: 100901

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.002242	M	Eu	<	0.000373	O	Na		0.013654	s	Se	<		O	Zn		0.002374
M	Al		0.004450	M	Fe		0.008478	O	Nb	<	0.002975	O	Si		0.006249	M	Zr	<	0.001868
O	As	<	0.022040	M	Ga	<	0.000373	M	Nd	<	0.000373	M	Sm	<	0.000373				
M	Au	<	0.000373	M	Gd	<	0.000373	O	Ni		0.001843	M	Sn		0.000847				
O	B	<	0.007714	M	Ge	<	0.002616	M	Os	<	0.000373	M	Sr	<	0.001121				
M	Ba	<	0.001495	M	Hf	<	0.000373	O	P	<	0.022040	M	Ta	<	0.000373				
M	Be	<	0.001495	M	Hg	<	0.002240	M	Pb		0.006358	M	Tb	<	0.006353				
M	Bi	<	0.000373	M	Ho	<	0.000373	M	Pd	<	0.000373	M	Te	<	0.012707				
O	Ca		0.006530	M	In	<	0.000373	M	Pr	<	0.001495	M	Th	<	0.002990				
M	Cd		0.001165	M	Ir	<	0.000373	M	Pt	<	0.000373	M	Ti	<	0.003363				
M	Ce	<	0.000373	O	K		0.001999	M	Rb	<	0.001868	M	Tl		0.008584				
M	Co	<	0.000373	M	La	<	0.001121	M	Re	<	0.000373	M	Tm	<	0.000373				
M	Cr		0.002861	O	Li		0.000062	M	Rh	<	0.000373	M	U	<	0.000373				
M	Cs	<	0.001121	M	Lu	<	0.000373	M	Ru	<	0.001493	M	V	<	0.000747				
M	Cu	<	0.000747	O	Mg		0.001156	O	S		0.024591	M	W	<	0.002242				
M	Dy	<	0.000373	M	Mn	<	0.000373	M	Sb	<	0.002242	M	Y	<	0.000373				
M	Er	<	0.000373	O	Mo	<	0.003195	M	Sc	<	0.001121	M	Yb	<	0.000373				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 78.96 +4 6 H_2SeO_3

Chemical Compatibility -Soluble in HCl, HNO_3,H_3PO_4, H_2SO_4 and HF aqueous matrices and water. It is stable with most inorganic anions but many cationic metals form the insoluble selenites under pH neutral conditions. When fluorinated and/or under acidic conditions precipitation is typically not a problem at moderate to low concentrations.

Stability - 2-100 ppb levels stable for months alone or mixed with other elements at equivalent levels in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO_3 / LDPE container.

Se Containing Samples (Preparation and Solution) -Metal (soluble in HNO_3); Oxides (readily soluble in water); Minerals and alloys (acid digestion with HNO_3or HNO_3 / HF); Organic Matrices (acid digestion with hot concentrated H_2SO_4 accompanied by the careful dropwise addition of H_2O_2 until clear).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 82 amu	200 ppt	N/A	12C35Cl2
ICP-OES 196.026 nm	0.08/0.006 µg/mL	1	Fe
ICP-OES 203.985 nm	0.2/0.05 µg/mL	1	Sb, Ir, Cr, Ta
ICP-OES 206.279 nm	0.3/0.16 µg/mL	1	Cr, Pt

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 17, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 17, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Supervisor, Product Documentation

Certificate Approved By:

Michael Booth
Director, Technical

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGMO10
Lot Number:	S2-MO706255
Matrix:	H2O tr. NH4OH
Value / Analyte(s):	10 000 µg/mL ea: Molybdenum
Starting Material:	Ammonium Molybdate
Starting Material Lot#:	2361
Starting Material Purity:	99.9893%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10026 ± 47 µg/mL

Density: 1.011 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10032 ± 68 µg/mL**
ICP Assay NIST SRM 3134 Lot Number: 130418

Assay Method #2 **10020 ± 65 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000590	M	Eu	<	0.000300	M	Na		0.008739	M	Se	<	0.008000	M	Zn		0.005942
M	Al		0.005592	M	Fe	<	0.006500	M	Nb	<	0.029000	i	Si	<		M	Zr	<	0.001800
M	As	<	0.002100	M	Ga	<	0.000300	i	Nd	<		M	Sm	<	0.000300				
M	Au	<	0.000300	M	Gd	<	0.000300	M	Ni	<	0.008000	M	Sn	<	0.008900				
M	B	<	0.003300	M	Ge	<	0.000300	M	Os	<	0.000590	M	Sr		0.001747				
M	Ba		0.016778	M	Hf	<	0.001800	i	P	<		M	Ta	<	0.004200				
M	Be	<	0.000890	M	Hg	<	0.003300	M	Pb	<	0.000300	M	Tb	<	0.000300				
M	Bi	<	0.000890	M	Ho	<	0.000300	M	Pd	<	0.001800	M	Te	<	0.021000				
O	Ca		0.062920	M	In	<	0.032000	M	Pr	<	0.013000	M	Th	<	0.000300				
O	Cd	<	0.026000	M	Ir	<	0.000300	M	Pt	<	0.000300	O	Ti	<	0.032000				
M	Ce	<	0.008300	M	K		1.293372	M	Rb		0.045442	M	Tl		0.012584				
M	Co		0.005942	M	La	<	0.000300	M	Re	<	0.000300	M	Tm	<	0.000300				
M	Cr		0.005243	O	Li		0.000594	M	Rh	<	0.000300	M	U	<	0.005300				
M	Cs		0.005243	M	Lu	<	0.000300	M	Ru	<	0.079000	M	V	<	0.000890				
M	Cu		0.022371	M	Mg		0.005592	i	S	<		M	W		0.873900				
M	Dy	<	0.000300	M	Mn	<	0.005900	M	Sb		0.015031	M	Y	<	0.000300				
M	Er	<	0.000300	s	Mo	<		M	Sc	<	0.001200	M	Yb	<	0.000300				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 95.94 +6 6,7,8,9 [MoO4]-2(chemical form as received)

Chemical Compatibility -Mo is received in a NH4OH matrix giving the operator the option of using HCl or HF to stabilize acidic solutions. The [MoO4]-2 is soluble in concentrated HCl [MoOCl5]-2, dilute HF / HNO3 [MoOF5]-2 and basic media [MoO4]-2. Stable at ppm levels with some metals provided it is fluorinated. Do not mix with Alkaline or Rare Earths when HF is present. Stable with most inorganic anions provided it is in the [MoO4]-2 chemical form.

Stability - 2-100 ppb levels stable (alone or mixed with all other metals that are at comparable levels) as the [MoOF5]-2 for months in 1% HNO3 / LDPE container. 1-10,000 ppm single element solutions as the [MoO4]-2 chemically stable for years in 1% NH4OH in a LDPE container.

Mo Containing Samples (Preparation and Solution) -Metal (Soluble in HF / HNO3 or hot dilute HCl); Oxide (soluble in HF or NH4OH) ; Organic Matrices (Dry ash at 450EC in Pt0 and dissolve oxide with HF or HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 95 amu	3 ppt	n/a	40Ar39K16O,79Br16O,190Os2+,190Pt2+
ICP-OES 202.030 nm	0.008 / 0.0002 µg/mL	1	Os, Hf
ICP-OES 203.844 nm	0.012 / 0.002 µg/mL	1	
ICP-OES 204.598 nm	0.012 / 0.001 µg/mL	1	Ir, Ta

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 04, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **July 04, 2025**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certificate of Analysis

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F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGTL10
Lot Number:	T2-TL714687
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Thallium
Starting Material:	TlNO3
Starting Material Lot#:	2118
Starting Material Purity:	99.9998%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10030 ± 42 µg/mL

Density: 1.036 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10040 ± 43 µg/mL**
ICP Assay NIST SRM 3158 Lot Number: 151215

Assay Method #2 **10010 ± 65 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL(

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000200	M	Eu	<	0.000200	O	Na		0.002489	M	Se	<	0.011019	O	Zn		0.002298
O	Al	<	0.004184	O	Fe	<	0.002824	M	Nb	<	0.000200	O	Si		0.003760	M	Zr	<	0.000200
M	As	<	0.002003	M	Ga	<	0.000200	M	Nd	<	0.000200	M	Sm	<	0.000200				
O	Au	<	0.002824	M	Gd	<	0.000200	M	Ni		0.001724	M	Sn	<	0.000601				
O	B	<	0.004184	M	Ge	<	0.000801	M	Os	<	0.000198	O	Sr	<	0.000313				
M	Ba	<	0.000400	M	Hf	<	0.000200	O	P	<	0.010460	M	Ta	<	0.000200				
O	Be	<	0.000104	M	Hg	<	0.000794	M	Pb		0.000811	M	Tb	<	0.000200				
M	Bi	<	0.005209	M	Ho	<	0.000200	M	Pd	<	0.000400	M	Te	<	0.005008				
O	Ca		0.002436	M	In	<	0.000200	M	Pr	<	0.000200	M	Th	<	0.000200				
M	Cd		0.001318	M	Ir	<	0.000198	M	Pt	<	0.000801	O	Ti	<	0.001255				
M	Ce	<	0.000200	O	K		0.006175	M	Rb	<	0.000200	s	Tl	<					
M	Co	<	0.000601	M	La	<	0.000200	M	Re	<	0.000200	M	Tm	<	0.000200				
M	Cr	<	0.000801	O	Li	<	0.000177	M	Rh	<	0.000200	M	U	<	0.000200				
M	Cs	<	0.003606	M	Lu	<	0.000200	M	Ru	<	0.000397	M	V	<	0.002203				
M	Cu	<	0.001001	O	Mg		0.000529	O	S	<	0.015690	M	W	<	0.000601				
M	Dy	<	0.000200	M	Mn	<	0.000801	M	Sb	<	0.000400	M	Y	<	0.000200				
M	Er	<	0.000200	M	Mo	<	0.001202	O	Sc	<	0.000711	M	Yb	<	0.000200				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 204.38 +1 6 Tl(H2O)61+
Chemical Compatibility - Soluble in HCl, HNO3, and H2SO4. Stable with most metals and inorganic anions. The sulfite, thiocyanate and oxalate are moderately soluble; the phosphate and arsenite are slightly soluble and the sulfide is insoluble.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.
Tl Containing Samples)Preparation and Solution) -Metal (Best dissolved in HNO3 which forms chiefly the Tl1+ ion.); Oxide (The thallous oxide is readily soluble in water. The thallic oxide requires high levels of acid); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Sulfuric/peroxide digestion or dry ash and dissolution in HCl).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 205 amu	2 ppt	N/A	189Os16O
ICP-OES 190.864 nm	0.04 / 0.004 µg/mL	1	V, Ti
ICP-OES 276.787 nm	0.1 / 0.01 µg/mL	1	Ta, V, Fe, Cr
ICP-OES 351.924 nm	0.2 / 0.02 µg/mL	1	Th, Ce, Zr

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 08, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **February 08, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

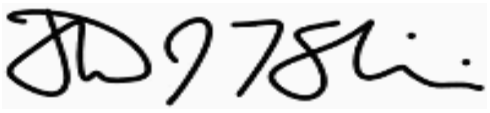
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGCD10
Lot Number:	S2-CD710508
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Cadmium
Starting Material:	Cd Metal
Starting Material Lot#:	1953
Starting Material Purity:	99.9995%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10008 ± 30 µg/mL

Density: 1.029 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10010 ± 32 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #2 **10011 ± 30 µg/mL**
ICP Assay NIST SRM 3108 Lot Number: 130116

Assay Method #3 **10003 ± 30 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Ag	<	0.003200	O	Eu	<	0.002500	O	Na		0.005499	M	Se	<	0.005700	O	Zn	<	0.001100
O	Al		0.008903	O	Fe		0.000602	M	Nb	<	0.000400	O	Si		0.016758	O	Zr	<	0.002600
M	As	<	0.003600	M	Ga	<	0.001200	M	Nd	<	0.000800	M	Sm	<	0.000400				
M	Au	<	0.000810	M	Gd	<	0.000400	M	Ni	<	0.003600	M	Sn	<	0.003200				
O	B		0.004189	O	Ge	<	0.012000	M	Os	<	0.000810	O	Sr	<	0.000330				
M	Ba	<	0.002400	M	Hf	<	0.000400	O	P	<	0.022000	M	Ta	<	0.000800				
M	Be	<	0.000400	M	Hg	<	0.001700	M	Pb	<	0.002400	M	Tb	<	0.000400				
M	Bi	<	0.000400	M	Ho	<	0.000400	M	Pd	<	0.001200	M	Te	<	0.008000				
O	Ca		0.011259	O	In	<	0.013000	M	Pr	<	0.000400	M	Th	<	0.000400				
s	Cd	<		M	Ir	<	0.000410	M	Pt	<	0.000400	O	Ti		0.000602				
M	Ce	<	0.000400	O	K		0.005237	M	Rb	<	0.004400	M	Tl		0.000523				
M	Co	<	0.000400	M	La	<	0.000400	M	Re	<	0.000400	M	Tm	<	0.000400				
O	Cr	<	0.005100	O	Li	<	0.000054	M	Rh	<	0.000400	M	U	<	0.000400				
M	Cs	<	0.002400	M	Lu	<	0.000400	M	Ru	<	0.002500	M	V	<	0.002000				
O	Cu	<	0.004800	O	Mg		0.000288	O	S	<	0.022000	M	W	<	0.000400				
M	Dy	<	0.000400	O	Mn	<	0.000860	O	Sb	<	0.018000	M	Y	<	0.000400				
M	Er	<	0.000400	M	Mo	<	0.001600	O	Sc	<	0.000430	M	Yb	<	0.000400				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 112.41 +2 4 Cd2(OH) (aq)3+ and Cd(OH)(aq)

Chemical Compatibility -Stable in HCl, HNO3, H2SO4 , and HF. Avoid basic media forming insoluble carbonate and hydroxide.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5 % HNO3 / LDPE container.

Cd Containing Samples (Preparation and Solution) -Metal (soluble in HNO3); Oxides (soluble in HCl or HNO3); Ores (dissolve in HCl /HNO3 then take to fumes with H2SO4. The silica and lead sulfate are filtered off after the addition of water); Organic based (dry ash at 450°C and dissolve ash in HCl), (sulfuric / peroxide acid digestion).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 111 amu	11 ppt	n/a	95Mo16O
ICP-OES 214.438 nm	0.003 / 0.0003 µg/mL	1	Pt, Ir
ICP-OES 226.502 nm	0.003 / 0.0003 µg/mL	1	Ir
ICP-OES 228.802 nm	0.003 / 0.0003 µg/mL	1	Co, Ir, As, Pt

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

November 01, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **November 01, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
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F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGMN10
Lot Number:	S2-MN704240
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Manganese
Starting Material:	Mn Metal
Starting Material Lot#:	2275
Starting Material Purity:	99.9909%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10011 ± 30 µg/mL

Density: 1.035 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **9989 ± 69 µg/mL**
ICP Assay NIST SRM 3132 Lot Number: 050429

Assay Method #2 **10011 ± 25 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **10024 ± 47 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.001500	M	Eu	<	0.000730	O	Na		0.176097	M	Se	<	0.006600	M	Zn		0.009925
O	Al		0.004322	M	Fe	<	0.650000	M	Nb	<	0.000730	O	Si		0.097654	M	Zr	<	0.000730
M	As	<	0.008000	M	Ga		0.004322	M	Nd	<	0.001500	M	Sm	<	0.000730				
M	Au	<	0.000730	M	Gd	<	0.000730	M	Ni		0.024013	M	Sn	<	0.002200				
M	B		0.068838	M	Ge	<	0.004400	M	Os	<	0.000730	O	Sr		0.000928				
M	Ba	<	0.001500	M	Hf	<	0.000730	i	P	<		M	Ta	<	0.000730				
M	Be	<	0.000730	M	Hg	<	0.002200	M	Pb		0.007364	M	Tb	<	0.000730				
M	Bi	<	0.003000	M	Ho	<	0.000730	M	Pd	<	0.000730	M	Te	<	0.019000				
O	Ca		0.062434	M	In	<	0.003000	M	Pr	<	0.000730	M	Th	<	0.000730				
M	Cd	<	0.001500	M	Ir	<	0.000730	M	Pt	<	0.000730	O	Ti	<	0.006500				
M	Ce	<	0.007300	O	K		0.006403	M	Rb	<	0.006600	M	Tl	<	0.000730				
O	Co		0.014728	M	La	<	0.003000	M	Re	<	0.000730	M	Tm	<	0.000730				
O	Cr		0.272151	O	Li		0.000416	M	Rh	<	0.003000	M	U	<	0.001500				
M	Cs	<	0.000730	M	Lu	<	0.000730	M	Ru	<	0.004400	M	V	<	0.000730				
O	Cu		0.007684	O	Mg		0.320177	i	S	<		M	W	<	0.004400				
M	Dy	<	0.001500	s	Mn	<		M	Sb	<	0.021000	O	Y		0.001360				
M	Er	<	0.001500	M	Mo		0.010245	O	Sc	<	0.004100	M	Yb	<	0.000730				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 54.94 +2 6 $Mn(H_2O)_6^{2+}$

Chemical Compatibility -Stable in HCl, HNO_3, H_2SO_4 ,HF, H_3PO_4. Avoid basic media. Stable with most metals and inorganic anions in acidic media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5 % HNO_3/LDPE container.

Mn Containing Samples (Preparation and Solution) -Metal (Soluble in dilute acids); Oxides (Soluble in dilute acids); Ores (Dissolve with HCl. If silica is present add HF and then fume off silica by adding H_2SO_4 and heat to SO_3 fumes - dense white fumes).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 55 amu	10 ppt	n/a	40Ar14N1H,39K16O,37Cl18O,40Ar15N,38Ar17O,36Ar18O1H ,38Ar16O1H,37Cl17O1H,23Na32S
ICP-OES 257.610 nm	0.0014 / 0.00002 µg/mL	1	Ce, W, Re
ICP-OES 259.373 nm	0.0016 / 0.00002 µg/mL	1	U, Ta, Mo, Fe, Nb
ICP-OES 260.569 nm	0.0021 / 0.00002 µg/mL	1	Co

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 17, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 17, 2025**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

INORGANIC VENTURES
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CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGSB10
Lot Number:	R2-SB688559
Matrix:	3% (v/v) HNO3 3% (w/v) tartaric acid
Value / Analyte(s):	10 000 µg/mL ea: Antimony
Starting Material:	Antimony Metal
Starting Material Lot#:	1857
Starting Material Purity:	99.9894%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10003 ± 47 µg/mL

Density: 1.061 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10003 ± 41 µg/mL**
ICP Assay NIST SRM 3102a Lot Number: 140911

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

$CRM/RM\ Expanded\ Uncertainty\ (\pm) = U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

$CRM/RM\ Expanded\ Uncertainty\ (\pm) = U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000200	M	Eu	<	0.000300	O	Na		0.140000	M	Se	<	0.007300	O	Zn		0.005000
M	Al		0.003200	O	Fe		0.060000	M	Nb	<	0.000100	O	Si		0.150000	O	Zr	<	0.006300
M	As	<	0.004400	M	Ga	<	0.000400	M	Nd	<	0.000100	M	Sm	<	0.000100				
M	Au	<	0.000210	M	Gd	<	0.000100	O	Ni		0.004800	M	Sn	<	0.001800				
M	B	<	0.011000	M	Ge	<	0.000600	M	Os	<	0.000110	O	Sr		0.000750				
O	Ba	<	0.004900	M	Hf	<	0.000100	O	P		0.540000	M	Ta		0.003300				
M	Be	<	0.000400	M	Hg	<	0.000110	M	Pb	<	0.000400	M	Tb	<	0.000100				
M	Bi	<	0.000200	M	Ho	<	0.000100	M	Pd	<	0.000210	M	Te	<	0.000600				
O	Ca		0.110000	M	In	<	0.000100	M	Pr	<	0.001600	M	Th	<	0.000100				
M	Cd	<	0.000200	M	Ir	<	0.000110	M	Pt	<	0.000600	M	Ti	<	0.002800				
M	Ce		0.006500	O	K		0.020000	M	Rb	<	0.001000	M	Tl	<	0.000100				
M	Co	<	0.000200	O	La	<	0.016000	M	Re	<	0.000100	M	Tm	<	0.000100				
M	Cr		0.006900	O	Li	<	0.000430	M	Rh	<	0.000300	M	U	<	0.000100				
M	Cs	<	0.000200	M	Lu	<	0.000100	M	Ru	<	0.000310	M	V	<	0.000800				
M	Cu	<	0.000600	O	Mg		0.021000	n	S	<		M	W	<	0.000200				
M	Dy	<	0.000100	O	Mn		0.001900	s	Sb	<		M	Y	<	0.000100				
M	Er	<	0.000100	M	Mo	<	0.000500	O	Sc	<	0.002300	M	Yb	<	0.000100				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 121.75 +3 6 Sb(O)C4H4O6-1

Chemical Compatibility -Stable in conc. HCl, dilute or conc. HF. Stable in dilute HNO3 as the fluoride or tartrate complex. Avoid basic media. Stable with most metals and inorganic anions in acidic media as the tartrate provided the acidity is not too high or the acid is oxidizing causing loss of the stabilizing tartrate ion. The fluoride complex of antimony is stable in strong acid but you should only mix with other metals that are fluorinated.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-2% HNO3 / LDPE container.

Sb Containing Samples (Preparation and Solution) -Metal and alloys (Soluble in H2O / HF / HNO3 mixture); Oxides (Soluble in HCl and tartaric acid or H2O / HF / HNO3 mixtures); Ores (fusion with Na2CO3 in Pt0 followed by dissolving the fuseate in a H2O / HF / HNO3 mixture); Organic based (sulfuric acid / hydrogen peroxide digestion)

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 121 amu	5 ppt	N/A	105Pd16O, 89Y16O2
ICP-OES 206.833 nm	0.03/0.003 µg/mL	1	Ta, Cr, Ge, Hf
ICP-OES 217.581 nm	0.05/0.005 µg/mL	1	Nb, W, Re, Fe
ICP-OES 231.147 nm	0.06/0.006 µg/mL	1	Ni, Co, Pt

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 30, 2020

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 30, 2024**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Manager, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

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Refine your results. Redefine your industry.

Certificate of Analysis

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1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGAS10
Lot Number:	T2-AS718260
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Arsenic
Starting Material:	As Metal
Starting Material Lot#:	2208
Starting Material Purity:	99.9971%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10060 ± 40 µg/mL

Density: 1.037 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10062 ± 46 µg/mL**
ICP Assay NIST SRM 3103a Lot Number: 100818

Assay Method #2 **10055 ± 76 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	< 0.003200	M	Eu	< 0.000530	O	Na	0.032544	M	Se	< 0.006300	O	Zn	0.001952			
M	Al	0.007593	O	Fe	0.001475	O	Nb	< 0.012000	O	Si	0.238658	O	Zr	< 0.004100			
s	As	<	M	Ga	< 0.000530	M	Nd	< 0.000530	M	Sm	< 0.000530						
M	Au	< 0.003100	M	Gd	< 0.000530	M	Ni	< 0.002100	M	Sn	< 0.000530						
M	B	0.026035	M	Ge	< 0.001600	M	Os	< 0.000520	M	Sr	< 0.000530						
M	Ba	< 0.000530	M	Hf	< 0.000530	O	P	< 0.043000	M	Ta	< 0.000530						
O	Be	< 0.000360	M	Hg	< 0.001600	M	Pb	< 0.002100	M	Tb	< 0.000530						
M	Bi	< 0.000530	M	Ho	< 0.000530	M	Pd	< 0.001100	M	Te	< 0.004700						
O	Ca	0.004339	M	In	< 0.023000	M	Pr	< 0.005300	M	Th	< 0.000530						
M	Cd	< 0.001100	M	Ir	< 0.000520	M	Pt	< 0.000530	O	Ti	< 0.002300						
M	Ce	< 0.000530	O	K	0.002061	M	Rb	< 0.000530	M	Tl	< 0.000530						
M	Co	< 0.000530	M	La	< 0.001100	M	Re	< 0.000530	M	Tm	< 0.000530						
O	Cr	< 0.001800	O	Li	< 0.000120	M	Rh	< 0.000530	M	U	< 0.000530						
M	Cs	< 0.005300	M	Lu	< 0.000530	M	Ru	< 0.000520	M	V	< 0.002700						
M	Cu	< 0.001600	O	Mg	0.000154	O	S	0.028205	M	W	< 0.012000						
M	Dy	< 0.000530	O	Mn	0.000154	M	Sb	< 0.000530	M	Y	< 0.000530						
M	Er	< 0.000530	M	Mo	< 0.000530	O	Sc	< 0.001700	M	Yb	< 0.000530						

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 74.92 ; mix of +3 and +5 ; 6 ; H3AsO4 and HAsO2

Chemical Compatibility - Arsenic has no cationic chemistry. It is soluble in HCl, HNO3,H3PO4, H2SO4 and HF aqueous matrices water and NH4OH . It is stable with most inorganic anions (forms arsenate when boiled with chromate) but many cationic metals form the insoluble arsenates under pH neutral conditions. When fluorinated and / or under acidic conditions arsenate formation is typically not a problem at moderate to low concentrations.

Stability - 2-100 ppb levels stable for months alone or mixed with other elements at equivalent levels in 1% HNO3 / LDPE container.

As Containing Samples (Preparation and Solution) - Metal (soluble in 1:1 H2O / HNO3); Oxides (the oxide exists in crystalline and amorphous forms where the amorphic form is more water soluble. The oxides typically dissolve in dilute acidic solutions when boiled); Minerals (one gram of powered sample is fused in a Ni crucible with 10 grams of a 1:1 mix of K2CO3 and KNO3 and the melt extracted with hot water); Organic Matrices (0.2 to 0.5 grams of sample are fused with 15 grams of a 1:1 Na2CO3 / Na2O2 mix in a Ni crucible. The fuseate is extracted with water and acidified with HNO3).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 75 amu	20 ppt	N/A	40Ar35Cl, 59Co16O, 36Ar38Ar1H,8Ar37Cl,Ar39K, 150Nd2+,150Sm2+
ICP-OES 189.042 nm	0.05/0.005 µg/mL	1	Cr
ICP-OES 193.696 nm	0.1/0.01 µg/mL	1	V, Ge
ICP-OES 228.812 nm	0.1/0.01 µg/mL	1	Cd, Pt, Ir, Co

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

May 10, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **May 10, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Supervisor, Product Documentation

Certificate Approved By:

Michael Booth
Director, Technical

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGBA10
Lot Number:	R2-BA692576
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Barium
Starting Material:	Barium Nitrate
Starting Material Lot#:	1969
Starting Material Purity:	99.9982%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10022 ± 30 µg/mL

Density: 1.025 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1	**10018 ± 50 µg/mL** ICP Assay NIST SRM 3104a Lot Number: 140909
Assay Method #2	**10023 ± 31 µg/mL** Gravimetric NIST SRM Lot Number: See Sec. 4.2
Assay Method #3	**10023 ± 30 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000410	O	Eu	<	0.005200	O	Na		0.004610	M	Se	<	0.003700	O	Zn		0.000658
M	Al	<	0.003100	O	Fe		0.015707	M	Nb	<	0.000210	O	Si		0.005573	M	Zr	<	0.001300
M	As	<	0.001300	M	Ga	<	0.000210	M	Nd	<	0.000210	O	Sm	<	0.021000				
M	Au	<	0.001300	M	Gd	<	0.000210	M	Ni	<	0.000810	M	Sn	<	0.000410				
O	B	<	0.005200	M	Ge	<	0.002500	M	Os	<	0.000410	O	Sr		0.003850				
s	Ba	<		M	Hf	<	0.000810	O	P	<	0.026000	M	Ta	<	0.000410				
O	Be	<	0.000320	M	Hg	<	0.000210	M	Pb	<	0.002300	M	Tb	<	0.000210				
M	Bi	<	0.000210	M	Ho	<	0.000210	M	Pd	<	0.000210	M	Te	<	0.001900				
O	Ca		0.007093	M	In	<	0.000210	M	Pr	<	0.000210	M	Th	<	0.000210				
M	Cd	<	0.000210	M	Ir	<	0.000210	M	Pt	<	0.000210	M	Ti	<	0.002100				
M	Ce	<	0.001300	O	K		0.035467	M	Rb	<	0.002100	M	Tl	<	0.000210				
M	Co	<	0.000410	O	La	<	0.005200	M	Re	<	0.000210	M	Tm	<	0.000410				
M	Cr	<	0.001700	O	Li	<	0.000630	M	Rh	<	0.000210	M	U	<	0.000210				
M	Cs	<	0.003300	M	Lu	<	0.001700	M	Ru	<	0.000210	O	V	<	0.005200				
M	Cu	<	0.001300	O	Mg		0.000861	O	S		0.268539	M	W	<	0.000410				
M	Dy	<	0.000210	M	Mn	<	0.000410	M	Sb	<	0.001300	O	Y	<	0.005200				
M	Er	<	0.001300	M	Mo	<	0.000410	M	Sc	<	0.000410	M	Yb	<	0.001300				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 137.33 +2 6 $Ba(H_2O)_6^{+2}$
Chemical Compatibility - Soluble in HCl, and HNO_3. Avoid H_2SO_4, HF and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicate, carbonate, hydroxide, oxide, fluoride, sulfate, oxalate, chromate, arsenate, iodate, molybdate, sulfite and tungstate in neutral aqueous media.
Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1 -10,000 ppm solutions chemically stable for years in 1-3.5% HNO_3 / LDPE container.
Ba Containing Samples (Preparation and Solution) -Metal(is best dissolved in diluted HNO_3); Ores(Carbonate fusion in Pt0 followed by HCl dissolution. If sulfate is present dissolve the fuseate using HCl / tartaric acid to prevent $BaSO_4$ precipitate); Organic Matrices (dry ash and dissolve in dilute HCl.)
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 138 amu	1 ppt	N/A	122Sn16O, 122Te16O
ICP-OES 230.424 nm	0.004/0.0005 µg/mL	1	Mo, Ir, Co
ICP-OES 233.527 nm	0.004/0.0003 µg/mL	1	
ICP-OES 455.403 nm	0.002/0.0001 µg/mL	1	Zr, U

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

May 11, 2020

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **May 11, 2024**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Manager, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGBE10
Lot Number:	R2-BE692992
Matrix:	6% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Beryllium
Starting Material:	Beryllium Acetate
Starting Material Lot#:	2281
Starting Material Purity:	99.9998%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10032 ± 41 µg/mL

Density: 1.128 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10042 ± 67 µg/mL**
ICP Assay NIST SRM 3105a Lot Number: 090514

Assay Method #2 **10025 ± 51 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.001100	M	Eu	<	0.000270	O	Na		0.040962	M	Se	<	0.005000	M	Zn		0.013054
O	Al		0.016205	O	Fe		0.015754	M	Nb	<	0.000270	O	Si		0.024307	O	Zr	<	0.001900
M	As	<	0.002900	M	Ga	<	0.000270	M	Nd	<	0.000270	M	Sm	<	0.000270				
M	Au	<	0.000520	M	Gd	<	0.000270	M	Ni	<	0.003700	M	Sn	<	0.000790				
M	B	<	0.091000	M	Ge	<	0.000270	M	Os	<	0.000260	M	Sr		0.000630				
M	Ba		0.002700	M	Hf	<	0.000270	O	P	<	0.066000	M	Ta	<	0.000270				
s	Be	<		M	Hg	<	0.000520	M	Pb	<	0.000270	M	Tb	<	0.000270				
M	Bi	<	0.000530	M	Ho	<	0.000270	M	Pd	<	0.000520	M	Te	<	0.003700				
O	Ca		0.072022	M	In	<	0.000790	M	Pr	<	0.000270	M	Th	<	0.000270				
M	Cd	<	0.000790	M	Ir	<	0.000260	M	Pt	<	0.000270	O	Ti	<	0.000400				
M	Ce	<	0.000270	O	K		0.045014	M	Rb	<	0.000270	M	Tl	<	0.000790				
O	Co	<	0.003200	M	La	<	0.000270	M	Re	<	0.000270	M	Tm	<	0.000270				
O	Cr	<	0.001800	O	Li	<	0.000660	M	Rh	<	0.001100	M	U	<	0.000270				
M	Cs		0.001440	M	Lu	<	0.000270	M	Ru	<	0.000260	M	V	<	0.000790				
M	Cu	<	0.002100	O	Mg		0.016205	i	S	<		M	W	<	0.000530				
M	Dy	<	0.000270	M	Mn		0.001215	M	Sb	<	0.000270	M	Y	<	0.000270				
M	Er	<	0.000270	M	Mo	<	0.000530	O	Sc	<	0.000930	M	Yb	<	0.000270				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 9.01 +2 4 $Be(H_2O)_4^{+2}$

Chemical Compatibility -Soluble in HCl, HNO_3, H_2SO_4 and HF aqueous matrices. Stable with all metals and inorganic anions.

Stability - 2-100 ppb levels stable for months in 1 % HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 5-10 % HNO_3 / LDPE container.

Be Containing Samples (Preparation and Solution) - Meta l(is best dissolved in diluted H_2SO_4); BeO (boiling nitric, hydrochloric, or sulfuric acids or KHSO4 fusion); Ores (H_2SO_4/HF digestion or carbonate fusion in Pt0); Organic Matrices (sulfuric/peroxide digestion or nitric/sulfuric/perchloric acid decomposition, or dry ash and dissolution according to the BeO procedure above).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 9 amu	4 ppt	N/A	
ICP-OES 234.861 nm	0.0003/0.00016 µg/mL	1	Fe, Ta, Mo
ICP-OES 313.042 nm	0.0003/0.00009 µg/mL	1	V, Ce, U
ICP-OES 313.107 nm	0.0007/0.0005 µg/mL	1	Ce, Th, Tm

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION, PERIOD OF VALIDITY AND REVISION HISTORY

11.1 Certification Issue Date

May 13, 2020

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **May 13, 2024**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

11.4 Revision Status

- Revision 1 - Revised on Thursday, Jan 14, 2021 by utruong. Revision was made for the following reason: Modified Section 7 Chemical Form in Solution.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
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CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGCO10
Lot Number:	R2-CO695285
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Cobalt
Starting Material:	Co Metal
Starting Material Lot#:	2326
Starting Material Purity:	99.9934%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10012 ± 31 µg/mL

Density: 1.056 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10031 ± 67 µg/mL**
ICP Assay NIST SRM 3113 Lot Number: 190630

Assay Method #2 **10019 ± 32 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **10000 ± 35 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	0.014660	M	Eu	<	0.000590	O	Na	0.007534	M	Se	<	0.019000	M	Zn	0.003461	
M	Al	< 0.024000	M	Fe	0.050905	M	Nb	<	0.000590	O	Si	0.075340	M	Zr	<	0.001200	
i	As	<	M	Ga	<	0.000590	M	Nd	<	0.000590	M	Sm	<	0.000590			
M	Au	< 0.004100	M	Gd	<	0.000590	O	Ni	0.427608	M	Sn	<	0.001200				
M	B	< 0.031000	M	Ge	<	0.003000	M	Os	<	0.000590	O	Sr	<	0.000260			
M	Ba	< 0.000590	M	Hf	<	0.000590	n	P	<		M	Ta	<	0.001200			
O	Be	< 0.001300	M	Hg	<	0.001800	M	Pb	0.003257	M	Tb	<	0.000590				
M	Bi	< 0.003000	M	Ho	<	0.000590	M	Pd	<	0.000590	M	Te	<	0.005300			
O	Ca	0.010588	M	In	<	0.001200	M	Pr	<	0.000590	M	Th	<	0.000590			
M	Cd	< 0.004700	M	Ir	<	0.001200	M	Pt	<	0.002400	M	Ti	<	0.014000			
M	Ce	< 0.000590	O	K	0.008144	M	Rb	<	0.000590	M	Tl	0.002647					
s	Co	<	M	La	<	0.000590	M	Re	<	0.000590	M	Tm	<	0.000590			
M	Cr	< 0.021000	O	Li	<	0.000130	M	Rh	<	0.000590	M	U	<	0.000590			
M	Cs	< 0.002400	M	Lu	<	0.000590	M	Ru	<	0.007100	O	V	<	0.000880			
M	Cu	0.189369	O	Mg	0.001893	n	S	<		M	W	<	0.000590				
M	Dy	< 0.000590	M	Mn	<	0.001800	M	Sb	<	0.003600	M	Y	<	0.000590			
M	Er	< 0.000590	M	Mo	<	0.002400	O	Sc	<	0.001600	M	Yb	<	0.000590			

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 58.93 +2 6 $Co(H_2O)_6^{2+}$

Chemical Compatibility -Stable in HCl, HNO_3, H_2SO_4 ,HF, H_3PO_4. Avoid basic media. Stable with most metals and inorganic anions in acidic media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO_3 / LDPE container.

Co Containing Samples (Preparation and Solution) - Metal (soluble in HNO_3); Oxides (Soluble in HCl); Ores (dissolve in HCl / HNO_3).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 59 amu	2 ppt	n/a	42Ca16O1H , 40Ar18O1H , 36Ar23Na, 43Ca16O, 24Mg35Cl
ICP-OES 228.616 nm	0.01/0.001 µg/mL	1	
ICP-OES 237.862 nm	0.01/0.002 µg/mL	1	W, Re, Al, Ta
ICP-OES 238.892 nm	0.01/0.002 µg/mL	1	Fe, W, Ta

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 04, 2020

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **August 04, 2024**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGAG10
Lot Number:	S2-AG712977
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Silver
Starting Material:	Ag Shot
Starting Material Lot#:	2289
Starting Material Purity:	99.9951%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10051 ± 30 µg/mL

Density: 1.056 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1	**10051 ± 52 µg/mL** ICP Assay NIST SRM 3151 Lot Number: 160729
Assay Method #2	**10051 ± 19 µg/mL** Volhard NIST SRM 999c Lot Number: 999c
Assay Method #3	**10049 ± 31 µg/mL** Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

s	Ag	<		M	Eu	<	0.000260	O	Na		0.003811	M	Se	<	0.003900	O	Zn		0.048146
M	Al		0.002688	O	Fe		0.006419	M	Nb	<	0.000260	O	Si		0.005215	M	Zr	<	0.000260
M	As	<	0.001100	M	Ga	<	0.000260	M	Nd	<	0.000260	M	Sm	<	0.000260				
M	Au	<	0.000260	M	Gd	<	0.000260	O	Ni		0.001765	M	Sn		0.020060				
O	B	<	0.004300	M	Ge	<	0.002300	M	Os	<	0.001100	O	Sr	<	0.000110				
M	Ba	<	0.000520	M	Hf	<	0.000260	O	P	<	0.017000	M	Ta	<	0.000260				
O	Be	<	0.001100	M	Hg	<	0.000770	M	Pb	<	0.003600	M	Tb	<	0.000260				
M	Bi		0.004814	M	Ho	<	0.000260	M	Pd		0.044134	M	Te	<	0.009000				
O	Ca		0.005215	M	In		0.003691	M	Pr	<	0.000260	M	Th	<	0.000260				
M	Cd	<	0.000260	M	Ir	<	0.000520	M	Pt	<	0.001100	O	Ti	<	0.000440				
M	Ce	<	0.002100	O	K	<	0.008700	M	Rb	<	0.001100	M	Tl	<	0.004100				
O	Co	<	0.000330	M	La	<	0.000260	M	Re	<	0.000260	M	Tm	<	0.000260				
O	Cr	<	0.002500	O	Li	<	0.000110	M	Rh	<	0.000520	M	U	<	0.000260				
M	Cs	<	0.002600	M	Lu	<	0.000260	M	Ru	<	0.000260	M	V	<	0.000260				
O	Cu		0.357085	O	Mg		0.001203	O	S	<	0.017000	M	W	<	0.000260				
M	Dy	<	0.000260	O	Mn	<	0.000220	M	Sb	<	0.014000	M	Y	<	0.000260				
M	Er	<	0.000260	M	Mo	<	0.000260	O	Sc	<	0.000220	M	Yb	<	0.000260				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 107.87 +1 6 $Ag(H_2O)_6^+$

Chemical Compatibility -Stable in HNO_3, and HF. Avoid basic media. Ag forms more insoluble salts than any other metal. It also is subject to photochemical reduction to the metal in HCl media although 10 µg/mL solutions in 10% HCl [$AgCl_{x1-x}$] are commonly used in the analytical laboratory. The most common solubility problems exist with arsenate, arsenite , bromide, chloride, iodide, carbonate , chromate, cyanide, iodate, oxalate, oxide, sulfate, sulfide, tartrate, and thiocyanate in aqueous media. The addition of nitric acid renders many of these salts soluble.

Stability - 2-100 ppb levels stable for 75+ days when mixed with equivalent levels of all other elements including the precious metals (where chloride is present) when in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO_3 / LDPE container.

Ag Containing Samples (Preparation and Solution) -Metal (Soluble in HNO_3); Oxides (Soluble in HNO_3); Ores (Digestion with conc. HNO_3).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 107 amu	1 ppt	N/A	91Zr16O
ICP-OES 243.779 nm	0.12/0.01 µg/mL	1	Mn, Th, Ni, Rh
ICP-OES 328.068 nm	0.007/0.0007 µg/mL	1	Ce, Rh, V
ICP-OES 338.289 nm	0.013/0.001 µg/mL	1	Ce, Cr, Th

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 28, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **December 28, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Supervisor, Product Documentation

Certificate Approved By:

Michael Booth
Director, Technical

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

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inorganicventures.com

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F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGCR(3)10
Lot Number:	S2-CR709784
Matrix:	10% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Chromium
Starting Material:	Cr Metal
Starting Material Lot#:	2328
Starting Material Purity:	99.9951%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10027 ± 41 µg/mL

Density: 1.072 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10027 ± 40 µg/mL**
ICP Assay NIST SRM 3112a Lot Number: 170630

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.001700	M	Eu	<	0.003400	O	Na		0.090372	M	Se	<	0.012000	O	Zn	<	0.006100
M	Al		0.034916	O	Fe		0.246471	M	Nb	<	0.017000	n	Si	<		M	Zr	<	0.007800
M	As	<	0.028000	O	Ga	<	0.013000	M	Nd	<	0.013000	M	Sm	<	0.006900				
M	Au	<	0.001700	M	Gd	<	0.000560	M	Ni		0.016020	M	Sn		0.006983				
O	B	<	0.025000	O	Ge	<	0.014000	M	Os	<	0.000560	M	Sr		0.006367				
M	Ba	<	0.008900	M	Hf	<	0.000560	i	P	<		M	Ta	<	0.000560				
M	Be	<	0.013000	M	Hg	<	0.001700	M	Pb		0.010064	M	Tb	<	0.000560				
M	Bi	<	0.002300	M	Ho	<	0.000560	M	Pd	<	0.021000	M	Te	<	0.010000				
O	Ca		0.075995	M	In	<	0.000560	M	Pr	<	0.001700	M	Th	<	0.000560				
M	Cd	<	0.000560	M	Ir	<	0.000560	M	Pt	<	0.001200	O	Ti		0.013555				
M	Ce	<	0.001200	O	K		0.043132	i	Rb	<		M	Tl	<	0.000560				
M	Co	<	0.002600	M	La	<	0.001200	M	Re	<	0.001200	O	Tm	<	0.013000				
s	Cr	<		O	Li		0.000390	M	Rh	<	0.095000	M	U	<	0.000560				
M	Cs	<	0.007800	M	Lu	<	0.000560	M	Ru	<	0.087000	O	V		0.014993				
O	Cu		0.007599	O	Mg		0.000883	i	S	<		M	W	<	0.049000				
M	Dy	<	0.000560	M	Mn		0.008626	M	Sb	<	0.003400	M	Y	<	0.001700				
M	Er	<	0.019000	M	Mo	<	0.032000	M	Sc		0.003080	M	Yb	<	0.000560				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 52.00 +3 6 $Cr(H_2O)_6^{3+}$

Chemical Compatibility -Stable in HCl, HNO_3, H_2SO_4, HF, H_3PO_4. Avoid basic media. Stable with most metals and inorganic anions in acidic media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO_3 / LDPE container.

Cr3 Containing Samples (Preparation and Solution) -Metal (soluble in HCl); Oxides/Ores (Chrome ore/oxides are very difficult to dissolve. The following procedures [A-D] are commonly used: A. Fusion with $KHSO_4$ and extraction with hot KCl. The residue fused with Na_2CO_3 and $KClO_3$, 3:1. B. Fusion with $NaKSO_4$ and NaF 2:1, C. Fusion with magnesia or lime and sodium or potassium carbonates, 4:1. D. Fusion with Na_2O_2 or NaOH and KNO_3 or NaOH and Na_2O_2. Nickel, iron, copper, or silver crucibles should be used for D. Platinum may be used for A, <, C); Organic Matrices (ash at 4500C followed by one of the fusion methods above or sulfuric/hydrogen peroxide acid digestions may be applicable to non oxide containing samples).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 52 amu	40 ppt	N/A	36S16O, 36Ar16O - The 50Cr, 53Cr, 54Cr lines suffer from many more potential interferences from sulfur, chlorine and argon compounds of oxygen, nitrogen and carbon.
ICP-OES 205.552 nm	0.006/0.0008 µg/mL	1	Os
ICP-OES 276.654 nm	0.01/0.001 µg/mL	1	Cu, Ta, V
ICP-OES 284.325 nm	0.008/0.0007 µg/mL	1	

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

October 26, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **October 26, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGNI10
Lot Number:	P2-NI686384
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Nickel
Starting Material:	Ni Metal
Starting Material Lot#:	2277 and 2282
Starting Material Purity:	99.9992%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 9979 ± 30 µg/mL

Density: 1.038 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **9971 ± 54 µg/mL**
ICP Assay NIST SRM 3136 Lot Number: 120619

Assay Method #2 **9970 ± 32 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **9993 ± 33 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag		0.002606	M	Eu	<	0.001100	O	Na		0.004965	O	Se	<	0.067000	M	Zn		0.006578
M	Al	<	0.013000	O	Fe		0.018618	M	Nb	<	0.001100	O	Si		0.010923	M	Zr	<	0.001100
O	As	<	0.067000	M	Ga	<	0.001100	M	Nd	<	0.001100	M	Sm	<	0.001100				
M	Au	<	0.002100	M	Gd	<	0.001100	s	Ni	<		M	Sn	<	0.016000				
M	B	<	0.017000	M	Ge	<	0.004200	M	Os		0.002110	O	Sr	<	0.000940				
M	Ba	<	0.001100	M	Hf	<	0.001100	i	P	<		M	Ta	<	0.001100				
O	Be	<	0.000410	M	Hg		0.014895	M	Pb		0.006578	M	Tb	<	0.001100				
M	Bi	<	0.004200	M	Ho	<	0.001100	M	Pd	<	0.001100	M	Te	<	0.015000				
O	Ca		0.003351	M	In	<	0.001100	M	Pr	<	0.001100	M	Th	<	0.001100				
M	Cd		0.001365	M	Ir		0.004716	M	Pt	<	0.001100	M	Ti	<	0.004200				
M	Ce	<	0.001100	O	K		0.004716	M	Rb	<	0.001100	M	Tl	<	0.001100				
O	Co		0.017377	M	La	<	0.001100	M	Re		0.001737	M	Tm	<	0.001100				
O	Cr	<	0.006700	O	Li	<	0.000140	M	Rh	<	0.006300	M	U	<	0.001100				
M	Cs	<	0.007300	M	Lu	<	0.001100	M	Ru	<	0.019000	M	V	<	0.002100				
M	Cu		0.004096	O	Mg		0.000372	i	S	<		M	W	<	0.006300				
M	Dy	<	0.001100	O	Mn	<	0.001900	M	Sb		0.005833	O	Y	<	0.000540				
M	Er	<	0.001100	M	Mo	<	0.008400	M	Sc	<	0.002100	M	Yb	<	0.001100				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 58.69 +2 6 Ni(H2O)62+
Chemical Compatibility -Stable in HCl, HNO3, H2SO4 ,HF, H3PO4. Avoid basic media. Stable with most metals and inorganic anions in acidic media.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.
Ni Containing Samples (Preparation and Solution) -Metal (Soluble in HNO3); Oxides (Soluble in HCl); Ores (Dissolve in HCl / HNO3).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 60 amu	100 ppt	n/a	43Ca16O1H , 44Ca16O, 23Na37Cl
ICP-OES 221.647 nm	0.01 / 0.0009 µg/mL	1	Si
ICP-OES 231.604 nm	0.02 / 0.002 µg/mL	1	Sb, Ta, Co
ICP-OES 232.003 nm	0.02 / 0.006 µg/mL	1	Cr, Re, Os, Nb, Ag, Pt, Fe

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 02, 2019

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **December 02, 2023**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Manager, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGV10
Lot Number:	S2-V711005
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Vanadium
Starting Material:	Vanadium Pentoxide
Starting Material Lot#:	1782
Starting Material Purity:	99.9877%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10014 ± 30 µg/mL

Density: 1.104 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10017 ± 42 µg/mL**
ICP Assay NIST SRM 3165 Lot Number: 160906

Assay Method #2 **10013 ± 30 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000110	M	Eu	<	0.000110	O	Na		0.120000	M	Se	<	0.009400	M	Zn		0.009400
O	Al		0.120000	O	Fe		0.460000	M	Nb	<	0.001300	O	Si		0.270000	M	Zr	<	0.002900
M	As	<	0.000210	M	Ga	<	0.009300	M	Nd	<	0.000610	M	Sm	<	0.000110				
M	Au	<	0.004700	M	Gd	<	0.000110	M	Ni		0.012000	M	Sn		0.003900				
M	B		0.051000	M	Ge	<	0.000410	M	Os	<	0.000110	O	Sr		0.007100				
M	Ba		0.003600	M	Hf	<	0.000110	O	P	<	0.034000	M	Ta	<	0.000110				
O	Be	<	0.000560	M	Hg	<	0.000410	M	Pb		0.001400	M	Tb	<	0.000110				
M	Bi	<	0.000210	M	Ho	<	0.000110	M	Pd	<	0.000410	M	Te	<	0.000110				
O	Ca		0.730000	M	In	<	0.000110	M	Pr	<	0.000110	M	Th	<	0.000210				
M	Cd	<	0.000610	M	Ir	<	0.000110	M	Pt	<	0.000110	M	Ti		0.017000				
M	Ce	<	0.000610	M	K		0.052000	M	Rb	<	0.000310	M	Tl	<	0.000110				
M	Co	<	0.001300	M	La	<	0.000410	M	Re		0.001700	M	Tm	<	0.000110				
O	Cr		0.170000	M	Li	<	0.000810	M	Rh	<	0.000110	M	U	<	0.000410				
M	Cs		0.005600	M	Lu	<	0.000110	M	Ru	<	0.000110	s	V	<					
M	Cu	<	0.001300	M	Mg		0.053000	i	S	<		M	W		0.002000				
M	Dy	<	0.000110	M	Mn		0.007900	M	Sb		0.078000	M	Y	<	0.000110				
M	Er	<	0.000110	M	Mo		0.094000	M	Sc	<	0.000410	M	Yb	<	0.000110				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 50.94 +5 6 $H_2V_{10}O_{28}^{4-}$

Chemical Compatibility -Soluble in HCl, HNO_3, H_2SO_4, HF, H_3PO_4 and strong basic media. Stable with most metals and inorganic anions in acidic media.

Stability - 2-100 ppb levels stable for months in 1% HNO_3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO_3 / LDPE container.

V Containing Samples (Preparation and Solution) -Metal (Fusion with NaOH or KOH in Ni0 or Na_2CO_3 / KNO_3); Oxides (V_2O_3 - use HCl, V_2O_4 - use HCl or HNO_3, V_2O_5 - use concentrated acids); Ores (Na_2CO_3 / KNO_3 in Pt0 caution - nitrates attack Pto followed by water extraction of fuseate); Organic Matrices (Ash at 450 EC followed by dissolving according to V_2O_5 above) .

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 51 amu	4 ppt	N/A	34S16O1H, 35Cl16O, 38Ar13C, 36Ar15N, 36Ar14N1H, 37Cl14N,36S15N, 33S18O, 34S17O, 102Ru+2,02Pd+2
ICP-OES 290.882 nm	0.008 / 0.0008 µg/mL	1	Hf, Nb
ICP-OES 292.402 nm	0.006 / 0.001 µg/mL	1	Th
ICP-OES 309.311 nm	0.005 / 0.001 µg/mL	1	Mg, U, Th

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 28, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **December 28, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

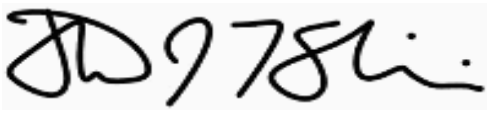
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certificate of Analysis

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F: 540-585-3012
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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGAL10
Lot Number:	T2-AL716102
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Aluminum
Starting Material:	Aluminum Nitrate Nonahydrate
Starting Material Lot#:	2460
Starting Material Purity:	99.9938%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10049 ± 31 µg/mL

Density: 1.087 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10059 ± 40 µg/mL**
ICP Assay NIST SRM 3101a Lot Number: 140903

Assay Method #2 **10044 ± 26 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **10049 ± 35 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.002100	M	Eu	<	0.002100	O	Na		0.352819	M	Se	<	0.005200	M	Zn	0.006018
s	Al	<		O	Fe		0.074714	M	Nb	<	0.000520	O	Si		0.017848	O	Zr	0.004358
M	As		0.008716	O	Ga		0.112072	M	Nd	<	0.000520	M	Sm	<	0.000520			
M	Au	<	0.008400	M	Gd	<	0.001100	O	Ni	<	0.006000	M	Sn		0.000747			
O	B	<	0.014000	M	Ge	<	0.005200	M	Os	<	0.000650	O	Sr		0.000518			
O	Ba		0.012867	M	Hf	<	0.004100	n	P	<		M	Ta	<	0.000520			
O	Be	<	0.000270	M	Hg	<	0.002000	M	Pb		0.002282	M	Tb	<	0.000520			
M	Bi		0.001930	M	Ho	<	0.000520	M	Pd	<	0.000520	M	Te	<	0.001100			
O	Ca		0.076790	M	In	<	0.002100	M	Pr	<	0.000520	M	Th	<	0.000520			
M	Cd	<	0.000520	M	Ir	<	0.000650	M	Pt	<	0.000520	O	Ti		0.001930			
M	Ce	<	0.001100	O	K		0.043583	M	Rb	<	0.000520	M	Tl	<	0.000520			
O	Co	<	0.005400	M	La	<	0.002100	M	Re	<	0.000520	M	Tm	<	0.000520			
O	Cr		0.006018	O	Li		0.000112	M	Rh	<	0.000520	M	U	<	0.000520			
M	Cs		0.000643	M	Lu	<	0.000520	M	Ru	<	0.002000	M	V		0.001286			
O	Cu	<	0.008300	O	Mg		0.068488	i	S	<		M	W	<	0.009800			
M	Dy	<	0.002100	O	Mn		0.000913	M	Sb	<	0.003100	M	Y	<	0.001100			
M	Er	<	0.000520	M	Mo		0.005396	O	Sc	<	0.000950	M	Yb	<	0.000520			

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 26.98 +3 6 Al(H2O)6+3
Chemical Compatibility -Soluble in HCl, HNO3, v F and v 2SO4. Avoid neutral media. Soluble in strongly basic NaOH forming the Al(OH)4(H2O)21- species. Stable with most metals and inorganic anions. The phosphate is insoluble in water and only slightly soluble in acid.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.
Al Containing Samples (Preparation and Solution) -Metal (Best dissolved in HCl / HNO3); a- Al2O3 (Na2CO3 fusion in Pt0);
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 27 amu	30 ppt	N/A	12C15N, 13C14N, 1H12C14N, 11B16O, 54Cr2+, 54Fe2+
ICP-OES 167.078 nm	0.1/0.009 µg/mL	1	Fe
ICP-OES 394.401 nm	0.05/0.006 µg/mL	1	U, Ce
ICP-OES 396.152 nm	0.03/0.006 µg/mL	1	Mo, Zr, Ce

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 22, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **March 22, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

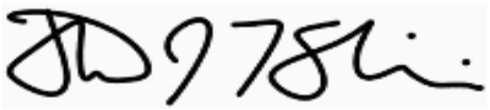
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certificate of Analysis

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGK10
Lot Number:	S2-K711973
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Potassium
Starting Material:	KNO3
Starting Material Lot#:	2313
Starting Material Purity:	99.9971%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 9992 ± 30 µg/mL

Density: 1.024 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **9987 ± 24 µg/mL**
Gravimetric NIST SRM Lot Number: See Sec. 4.2

Assay Method #2 **10004 ± 84 µg/mL**
ICP Assay NIST SRM 3141a Lot Number: 140813

Assay Method #3 **10007 ± 45 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.001400	M	Eu	<	0.000660	O	Na		0.246220	M	Se	<	0.007900	O	Zn		0.018056
O	Al		0.001592	O	Fe		0.005909	M	Nb	<	0.000660	O	Si		0.011490	O	Zr	<	0.001600
M	As	<	0.005300	M	Ga	<	0.000660	M	Nd	<	0.000660	M	Sm	<	0.000660				
M	Au	<	0.002000	M	Gd	<	0.000660	O	Ni	<	0.004900	M	Sn	<	0.000660				
O	B	<	0.005600	M	Ge	<	0.002000	M	Os	<	0.003300	O	Sr		0.000055				
O	Ba	<	0.000860	M	Hf	<	0.000660	O	P	<	0.032000	M	Ta	<	0.000660				
O	Be	<	0.000082	M	Hg	<	0.002000	M	Pb	<	0.002300	M	Tb	<	0.000660				
M	Bi	<	0.006600	M	Ho	<	0.000660	M	Pd	<	0.000660	M	Te	<	0.017000				
O	Ca		0.031187	M	In	<	0.000660	M	Pr	<	0.000660	M	Th	<	0.000660				
O	Cd	<	0.000450	M	Ir	<	0.000660	M	Pt	<	0.002700	M	Ti	<	0.000660				
M	Ce	<	0.000660	s	K	<		M	Rb		0.476026	M	Tl	<	0.000660				
O	Co	<	0.000780	M	La	<	0.000660	M	Re	<	0.000660	M	Tm	<	0.000660				
O	Cr		0.000541	O	Li	<	0.000084	M	Rh	<	0.000660	M	U	<	0.000660				
M	Cs	<	0.000660	M	Lu	<	0.000660	M	Ru	<	0.000660	O	V	<	0.001100				
M	Cu	<	0.002700	O	Mg		0.006237	O	S		0.027905	M	W	<	0.000660				
M	Dy	<	0.000660	O	Mn		0.000476	M	Sb	<	0.000660	M	Y	<	0.000660				
M	Er	<	0.000660	M	Mo	<	0.000660	O	Sc	<	0.000340	O	Yb	<	0.000270				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 39.10 +1 (6) K+(aq)
Chemical Compatibility -Soluble in HCl, HNO3, H2SO4 and HF aqueous matrices. Avoid use of HClO4 due to insolubility of the perchlorate. Stable with all metals and inorganic anions except ClO4-.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.
K Containing Samples (Preparation and Solution) - Metal (Dissolves very rapidly in water); Ores (Sodium carbonate fusion in Pt0 followed by HCl dissolution-blank levels of K in sodium carbonate critical); Organic Matrices (Sulfuric/peroxide digestion)
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 39 amu	10 ppt	n/a	38ArH, 23Na16O, 78Se
ICP-OES 404.721 nm	1.1 / 0.05 µg/mL	1	U, Ce
ICP-OES 766.490 nm	0.4 / 0.001 µg/mL	1	2nd order radiation from R.E.s on some optical designs
ICP-OES 771.531 nm	1.0 / 0.03 µg/mL	1	2nd order radiation from R.E.s on some optical designs

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 10, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **December 10, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

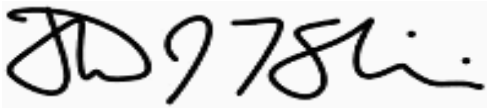
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certificate of Analysis

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Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGMG10
Lot Number:	S2-MG704239
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Magnesium
Starting Material:	Magnesium Metal
Starting Material Lot#:	2168
Starting Material Purity:	99.9984%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10053 ± 30 µg/mL

Density: 1.053 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10022 ± 62 µg/mL**
ICP Assay NIST SRM 3131a Lot Number: 140110

Assay Method #2 **10078 ± 26 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **10033 ± 26 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Ag		0.002106	M	Eu	<	0.000910	O	Na		0.071075	O	Se	<	0.048000	O	Zn		0.003299
M	Al		0.003553	M	Fe		0.002538	M	Nb	<	0.000460	O	Si	<	0.032000	O	Zr	<	0.002700
M	As	<	0.001400	M	Ga	<	0.000460	M	Nd	<	0.000910	M	Sm	<	0.000460				
M	Au	<	0.001400	M	Gd	<	0.000460	O	Ni	<	0.001600	M	Sn	<	0.002300				
O	B		0.006853	M	Ge	<	0.001400	M	Os	<	0.000460	O	Sr		0.000279				
O	Ba		0.000964	M	Hf	<	0.000460	O	P		0.015230	M	Ta	<	0.000460				
O	Be	<	0.000120	M	Hg	<	0.000460	M	Pb	<	0.000460	M	Tb	<	0.000460				
M	Bi	<	0.000460	M	Ho	<	0.000460	M	Pd	<	0.003200	M	Te	<	0.007300				
O	Ca		0.053306	M	In	<	0.000460	M	Pr	<	0.000460	M	Th	<	0.000460				
O	Cd	<	0.000360	M	Ir	<	0.000460	M	Pt	<	0.001900	O	Ti	<	0.001700				
M	Ce	<	0.002300	M	K		0.048229	M	Rb		0.002411	M	Tl		0.003046				
M	Co	<	0.000910	M	La	<	0.002800	M	Re	<	0.000460	M	Tm	<	0.000460				
M	Cr	<	0.002300	O	Li		0.027922	M	Rh	<	0.000460	M	U	<	0.000460				
M	Cs		0.001040	M	Lu	<	0.000460	M	Ru	<	0.000460	M	V	<	0.000460				
O	Cu	<	0.003000	s	Mg	<		O	S	<	0.190000	M	W	<	0.000460				
M	Dy	<	0.000460	O	Mn		0.015230	M	Sb		0.020814	O	Y	<	0.000720				
M	Er	<	0.000460	M	Mo	<	0.000910	O	Sc	<	0.000480	M	Yb	<	0.000460				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 24.31 +2 6 Mg(H2O)6+2

Chemical Compatibility -Soluble in HCl, HNO3, and H2SO4 avoid HF, H3PO4 and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicates, carbonates, hydroxides, oxides, and tungstates in neutral and slightly acidic media.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-10% HNO3 / LDPE container.

Mg Containing Samples (Preparation and Solution) -Metal (Best dissolved in diluted HNO3); Oxide (Readily soluble in above compatible aqueous acidic solutions); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (Sulfuric / peroxide digestion or nitric / sulfuric / perchloric acid decomposition, or dry ash and dissolution in dilute HCl).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 24 amu	42 ppt	n/a	7Li17O, 48Ti+2 , 48Ca+2
ICP-OES 279.553 nm	0.0002 / 0.00003 µg/mL	1	Th
ICP-OES 280.270 nm	0.0003 / 0.00005 µg/mL	1	U, V
ICP-OES 285.213 nm	0.002 / 0.00003 µg/mL	1	U, Hf, Cr, Zr

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 23, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 23, 2025**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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Certificate of Analysis

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info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGCA10
Lot Number:	T2-CA716103
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Calcium
Starting Material:	CaCO3
Starting Material Lot#:	2472
Starting Material Purity:	99.9950%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10005 ± 30 µg/mL

Density: 1.039 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **10005 ± 45 µg/mL**
ICP Assay NIST SRM 3109a Lot Number: 130213

Assay Method #2 **10005 ± 25 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #3 **10005 ± 31 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.001200	M	Eu	<	0.001200	O	Na		0.006112	M	Se	<	0.024000	M	Zn		0.005362
M	Al		0.065419	O	Fe		0.009115	M	Nb	<	0.001200	O	Si		0.139417	O	Zr	<	0.006700
O	As	<	0.013000	M	Ga	<	0.015000	M	Nd	<	0.020000	M	Sm	<	0.001200				
M	Au	<	0.017000	M	Gd	<	0.004800	O	Ni		0.000793	M	Sn	<	0.003600				
O	B		0.001179	M	Ge	<	0.003600	M	Os	<	0.001200	M	Sr		0.081505				
O	Ba		0.002788	M	Hf	<	0.001200	O	P	<	0.041000	M	Ta	<	0.001200				
O	Be	<	0.000410	M	Hg	<	0.004800	M	Pb		0.001608	M	Tb	<	0.001200				
M	Bi		0.001608	M	Ho	<	0.001200	M	Pd	<	0.001200	M	Te	<	0.003600				
s	Ca	<		M	In	<	0.001200	M	Pr		0.000257	M	Th	<	0.001200				
O	Cd	<	0.001300	M	Ir	<	0.001200	M	Pt	<	0.003600	O	Ti	<	0.001900				
M	Ce		0.001029	O	K		0.009759	M	Rb	<	0.001200	M	Tl	<	0.001200				
O	Co		0.000418	M	La		0.001823	M	Re	<	0.001200	M	Tm	<	0.001200				
O	Cr		0.003324	O	Li	<	0.007300	M	Rh	<	0.001200	M	U		0.002144				
M	Cs		0.007399	M	Lu		0.000128	M	Ru	<	0.001200	M	V		0.001286				
O	Cu	<	0.011000	M	Mg		1.286934	O	S		0.055767	O	W	<	0.024000				
M	Dy	<	0.002400	O	Mn		0.004611	M	Sb	<	0.009600	O	Y		0.000536				
M	Er	<	0.002400	M	Mo		0.003539	O	Sc	<	0.001400	M	Yb	<	0.001200				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 40.08 +2 6 Ca(H2O)6+2
Chemical Compatibility - Soluble in HCl and HNO3. Avoid H2SO4, vF, v3PO4 and neutral to basic media. Stable with most metals and inorganic anions forming insoluble silicate, carbonate, hydroxide, oxide, fluoride, sulfate, oxalate, chromate, arsenate, and tungstate in neutral aqueous media.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-10% HNO3 / LDPE container.
Ca Containing Samples)Preparation and Solution) -Metal (best dissolved in diluted HNO3); Ores (Carbonate fusion in Pt0 followed by HCl dissolution); Organic Matrices (dry ash and dissolution in dilute HCl. Do not heat when dissolving to avoid precipitation of SiO2). The oxide, hydroxide, carbonate, phosphate, and fluoride of calcium are soluble in % levels of HCl or HNO3. The sulfates (gypsum, anhydrite, etc.), certain silicates, and complex compounds require fusion with Na2CO3 followed by HCl / water dissolution. Note that contamination is a very real problem when analyzing for trace levels.
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 44 amu	1200 ppt	n/a	16O212C, 28Si16O, 88Sr
ICP-OES 393.366 nm	0.0002 / 0.00004 µg/mL	1	U, Ce
ICP-OES 396.847 nm	0.0005 / 0.00006 µg/mL	1	Th
ICP-OES 422.673 nm	0.01 / 0.001 µg/mL	1	Ge

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 14, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **March 14, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

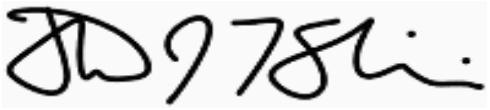
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGNA10
Lot Number:	T2-NA717221
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Sodium
Starting Material:	Na2CO3
Starting Material Lot#:	2358 and 2453
Starting Material Purity:	99.9977%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 9977 ± 30 µg/mL

Density: 1.033 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **9974 ± 18 µg/mL**
Gravimetric NIST SRM Lot Number: See Sec. 4.2

Assay Method #2 **9977 ± 34 µg/mL**
ICP Assay NIST SRM 3152a Lot Number: 200413

Assay Method #3 **9987 ± 31 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000930	M	Eu	<	0.000930	s	Na	<		M	Se	<	0.003800	O	Zn		0.000138
M	Al		0.004409	O	Fe		0.002393	M	Nb	<	0.000930	O	Si		0.056696	O	Zr	<	0.003200
O	As	<	0.023000	M	Ga	<	0.000930	M	Nd	<	0.000930	M	Sm	<	0.000930				
O	Au	<	0.004100	M	Gd	<	0.000930	O	Ni	<	0.003000	M	Sn	<	0.002800				
O	B		0.001385	M	Ge	<	0.004700	M	Os	<	0.000930	O	Sr		0.000251				
M	Ba		0.004031	M	Hf	<	0.000930	O	P		0.010205	M	Ta	<	0.000930				
O	Be	<	0.000130	M	Hg	<	0.000930	M	Pb	<	0.000930	M	Tb	<	0.000930				
M	Bi	<	0.000930	M	Ho	<	0.000930	M	Pd	<	0.000930	M	Te	<	0.001900				
O	Ca		0.176388	M	In	<	0.000930	M	Pr	<	0.000930	M	Th		0.000352				
O	Cd	<	0.000860	M	Ir	<	0.000930	M	Pt	<	0.000930	O	Ti		0.000592				
M	Ce	<	0.001900	O	K		0.302380	M	Rb	<	0.000930	M	Tl	<	0.000930				
O	Co	<	0.001800	O	La	<	0.002100	M	Re	<	0.000930	M	Tm	<	0.000930				
M	Cr	<	0.002800	O	Li		0.000031	M	Rh	<	0.000930	M	U	<	0.000930				
M	Cs	<	0.000930	M	Lu	<	0.000930	M	Ru	<	0.001900	O	V	<	0.001600				
O	Cu	<	0.003900	O	Mg		0.026458	O	S		0.040317	O	W	<	0.028000				
M	Dy	<	0.000930	O	Mn	<	0.000740	M	Sb	<	0.000930	O	Y	<	0.000860				
M	Er	<	0.000930	O	Mo	<	0.003600	O	Sc	<	0.000610	O	Yb	<	0.000250				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 22.99 +1 (6) Na+(aq) largely ionic in nature

Chemical Compatibility -Soluble in HCl, HNO3, H2SO4 and HF aqueous matrices. Stable with all metals and inorganic anions.

Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 1-5% HNO3 / LDPE container.

Na Containing Samples (Preparation and Solution) - Metal (Dissolves very rapidly in water); Ores (Lithium carbonate fusion in graphite crucible followed by HCl dissolution - blank levels of Na in lithium carbonate critical); Organic Matrices (Sulfuric / peroxide digestion or nitric/sulfuric/perchloric acid decomposition).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 23 amu	310 ppt	n/a	46Ti+2 , 46Ca+2
ICP-OES 330.237 nm	2.0 / 0.09 µg/mL	1	Pd, Zn
ICP-OES 588.995 nm	0.03 / 0.006 µg/mL	1	2nd order radiation from R.E.s on some optical designs
ICP-OES 589.595 nm	0.07 / 0.00009 µg/mL	1	2nd order radiation from R.E.s on some optical designs

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 20, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **April 20, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

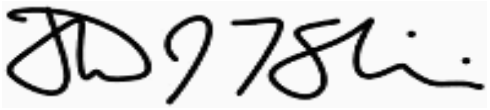
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

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1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGU1
Lot Number:	S2-U707914
Matrix:	2% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Uranium
Starting Material:	Uranyl Nitrate Hexahydrate
Starting Material Lot#:	P2-2322
Starting Material Purity:	99.9997%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 999 ± 5 µg/mL

Density: 1.010 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **998 ± 5 µg/mL**
ICP Assay NIST SRM 3164 Lot Number: 080521

Assay Method #2 **1001 ± 6 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.8 ± 0.1
Uranium 235U	0.19 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	<	0.000270	M	Eu	<	0.000270	M	Na	<	0.011000	M	Se	<	0.009300	M	Zn	0.002358
M	Al	<	0.011000	M	Fe		0.003222	M	Nb	<	0.000270	M	Si	<	0.160000	M	Zr	< 0.001100
M	As	<	0.002400	M	Ga	<	0.000270	M	Nd	<	0.000270	M	Sm	<	0.000270			
M	Au	<	0.000270	M	Gd	<	0.000270	M	Ni	<	0.020000	M	Sn	<	0.011000			
M	B	<	0.000270	M	Ge	<	0.000800	M	Os	<	0.001900	M	Sr	<	0.000270			
M	Ba	<	0.003800	M	Hf	<	0.000270	i	P	<		M	Ta	<	0.000270			
M	Be	<	0.000270	M	Hg	<	0.000540	M	Pb	<	0.002200	M	Tb	<	0.000270			
M	Bi	<	0.000270	M	Ho	<	0.000270	M	Pd	<	0.000540	M	Te	<	0.003800			
M	Ca	<	0.140000	M	In	<	0.000270	M	Pr	<	0.000270	M	Th		0.000129			
M	Cd	<	0.000270	M	Ir	<	0.000270	M	Pt	<	0.000270	M	Ti	<	0.002700			
M	Ce	<	0.000540	O	K	<	0.250000	M	Rb	<	0.000800	M	Tl	<	0.000270			
M	Co	<	0.000800	M	La		0.000117	M	Re	<	0.064000	M	Tm	<	0.000270			
M	Cr		0.000943	M	Li	<	0.003000	M	Rh	<	0.000270	s	U	<				
M	Cs		0.000106	M	Lu	<	0.000270	M	Ru	<	0.000540	M	V	<	0.000540			
M	Cu	<	0.001100	M	Mg	<	0.003000	i	S	<		M	W	<	0.000540			
M	Dy	<	0.000270	M	Mn	<	0.006900	M	Sb	<	0.000270	M	Y	<	0.000270			
M	Er	<	0.000270	M	Mo	<	0.006400	M	Sc	<	0.000540	M	Yb	<	0.000270			

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 238.03 +6 8 UO22+(uranyl)
Chemical Compatibility - Soluble in HCl and HNO3. Avoid H3PO4. H2SO4 and HF matrices should not be a problem depending upon [U]. Although the UO22+ ion is distinctly basic, any U+4 will precipitate in basic media. UO22+salts are generally soluble in water and UO22+ is stable with most metals and inorganic anions. The uranyl phosphate is insoluble in water. UF4 and UF6 are water soluble.
Stability - 2-100 ppb levels stable for months in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 2-5% HNO3 / LDPE container.
U Containing Samples (Preparation and Solution) -Metal (Dissolves rapidly in HCl and HNO3); Oxide (Soluble in HNO3); Ores (Digest for 1-2 hours with 1 gram of ore to 30 mL 1:1 HNO3. Silica insolubles are removed by filtration after bringing the sample to fumes with conc. H2SO4.)
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 238 amu	2 ppt	N/A	206Pb16O2
ICP-OES 263.553 nm	0.3 / 0.01 µg/mL	1	Ce, Ir, Th, Rh, W, Zr, Ta, Ti, V, Hf, Fe, Re, Ru
ICP-OES 367.007 nm	0.3 / 0.02 µg/mL	1	Th, Ce
ICP-OES 385.958 nm	0.3 / 0.01 µg/mL	1	Th, Fe

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

August 28, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **August 28, 2026**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	AR-ICVMS-2
Lot Number:	T2-MEB719895
Matrix:	3% (v/v) HNO3 tr. HF
Value / Analyte(s):	2.5 µg/mL ea: Molybdenum, Antimony

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	**2.499 ± 0.015 µg/mL**	**Molybdenum, Mo**	**2.500 ± 0.017 µg/mL**

Density: 1.014 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Mo	ICP Assay	3134	130418
Mo	Calculated		See Sec. 4.2
Sb	ICP Assay	3102a	140911
Sb	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 06, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **June 06, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

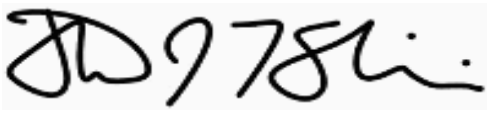
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Certificate of Analysis

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Christiansburg, VA 24073 USA
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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	AR-ICVMS-3
Lot Number:	T2-MEB719896
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	250 µg/mL ea:

Aluminum, Calcium,
Iron, Potassium,
Magnesium, Sodium,

4 µg/mL ea:
Selenium,

2.5 µg/mL ea:

Thorium,	Thallium,
Uranium,	Vanadium,
Zinc,	Manganese,
Cadmium,	Cobalt,
Chromium,	Copper,
Arsenic,	Barium,
Beryllium,	Nickel,
Lead,	Silver

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	250.0 ± 0.9 µg/mL	Arsenic, As	2.500 ± 0.018 µg/mL
Barium, Ba	2.501 ± 0.013 µg/mL	Beryllium, Be	2.501 ± 0.015 µg/mL
Cadmium, Cd	2.501 ± 0.013 µg/mL	Calcium, Ca	250.0 ± 1.3 µg/mL
Chromium, Cr	2.500 ± 0.015 µg/mL	Cobalt, Co	2.500 ± 0.014 µg/mL
Copper, Cu	2.500 ± 0.014 µg/mL	Iron, Fe	250.0 ± 1.0 µg/mL
Lead, Pb	2.500 ± 0.013 µg/mL	Magnesium, Mg	250.0 ± 1.3 µg/mL
Manganese, Mn	2.500 ± 0.014 µg/mL	Nickel, Ni	2.500 ± 0.014 µg/mL
Potassium, K	250.0 ± 1.2 µg/mL	Selenium, Se	4.002 ± 0.024 µg/mL
Silver, Ag	2.501 ± 0.017 µg/mL	Sodium, Na	250.0 ± 1.2 µg/mL
Thallium, Tl	2.500 ± 0.017 µg/mL	Thorium, Th	2.499 ± 0.013 µg/mL
Uranium, U	2.501 ± 0.015 µg/mL	Vanadium, V	2.500 ± 0.014 µg/mL
Zinc, Zn	2.500 ± 0.014 µg/mL		

Density: 1.042 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Ag	Calculated		See Sec. 4.2
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
As	ICP Assay	3103a	100818
Ba	ICP Assay	3104a	140909
Ba	Calculated		See Sec. 4.2
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Cd	Calculated		See Sec. 4.2
Co	ICP Assay	3113	190630
Co	EDTA	928	928
Co	Calculated		See Sec. 4.2
Cr	ICP Assay	3112a	170630
Cr	Calculated		See Sec. 4.2
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Cu	Calculated		See Sec. 4.2
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mn	ICP Assay	3132	050429
Mn	EDTA	928	928
Mn	Calculated		See Sec. 4.2
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Ni	Calculated		See Sec. 4.2
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Pb	Calculated		See Sec. 4.2
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Th	EDTA	928	928
Th	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	151215
Tl	Calculated		See Sec. 4.2
U	ICP Assay	3164	080521
U	Calculated		See Sec. 4.2

V	ICP Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928
Zn	Calculated		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Certified Abundance:

IV's Certified Abundance

Isotope	Atom %
Uranium 238U	99.8 ± 0.1
Uranium 235U	0.19 ± 0.05

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Note: This solution contains Silver (Ag), please refer to our Sample Preparation Guide for more information.

https://www.inorganicventures.com/sample-preparation-guide/samples-containing-silver

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

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11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 06, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **June 06, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

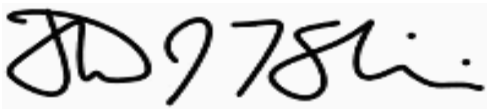
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

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Christiansburg, VA 24073 USA
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1.0 ACCREDITATION / REGISTRATION

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ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	AR-6020ICS-0A10
Lot Number:	T2-MEB719898
Matrix:	1.4% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Chloride,
	200 µg/mL ea: Carbon,
	100 µg/mL ea: Calcium, Aluminum, Iron, Potassium, Magnesium, Sodium, Phosphorus, Sulfur,
	2 µg/mL ea: Titanium, Molybdenum

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	**100.0 ± 0.4 µg/mL**	**Calcium, Ca**	**100.0 ± 0.5 µg/mL**
Carbon, C	**200.1 ± 0.5 µg/mL**	**Chloride, Cl**	**1 000 ± 5 µg/mL**
Iron, Fe	**100.0 ± 0.5 µg/mL**	**Magnesium, Mg**	**100.0 ± 0.5 µg/mL**
Molybdenum, Mo	**2.001 ± 0.014 µg/mL**	**Phosphorus, P**	**100.0 ± 0.6 µg/mL**
Potassium, K	**100.0 ± 0.5 µg/mL**	**Sodium, Na**	**100.0 ± 0.5 µg/mL**
Sulfur, S	**100.0 ± 0.5 µg/mL**	**Titanium, Ti**	**2.001 ± 0.015 µg/mL**

Density: 1.009 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
C	Acidimetric	84L	84L
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Cl	Acidimetric	84L	84L
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mo	ICP Assay	3134	130418
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
S	Acidimetric	84L	84L
S	ICP Assay	traceable to 3154	P2-S680745
Ti	ICP Assay	3162a	130925

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 07, 2022

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **June 07, 2027**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

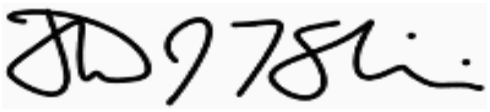
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Thomas Kozikowski
Manager, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW23-SC1037

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-01 C	SDG:	23C0108
Sampled:	03/02/23 13:29	Prepared:	04/05/23 15:19	File ID:	CubeData_04072023@1412-033
% Solids:	55.55	Preparation:	PSEP 1986 (modified)	Analyzed:	04/07/23 03:08
Batch:	BLD0117	Sequence:	SLD0078	Initial/Final:	0.532 g Wet / 0.532 mL
Instrument:	TOC Cube			Calibration:	FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	2.60	1	0.02	0.02	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW23-SC1044

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-02 D	SDG:	23C0108
Sampled:	03/02/23 15:06	Prepared:	04/05/23 15:19	File ID:	CubeData_04072023@1412-034
% Solids:	52.58	Preparation:	PSEP 1986 (modified)	Analyzed:	04/07/23 03:39
Batch:	BLD0117	Sequence:	SLD0078	Initial/Final:	0.5473 g Wet / 0.5473 mL
Instrument:	TOC Cube			Calibration:	FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	3.19	1	0.02	0.02	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW23-SC1107

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-03 C	SDG:	23C0108
Sampled:	03/03/23 08:58	Prepared:	04/05/23 15:19	File ID:	CubeData_04072023@1412-035
% Solids:	49.16	Preparation:	PSEP 1986 (modified)	Analyzed:	04/07/23 04:09
Batch:	BLD0117	Sequence:	SLD0078	Initial/Final:	0.534 g Wet / 0.534 mL
Instrument:	TOC Cube			Calibration:	FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	2.81	1	0.02	0.02	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW23-SC1106

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-04 C	SDG:	23C0108
Sampled:	03/03/23 09:32	Prepared:	04/05/23 15:19	File ID:	CubeData_04072023@1412-036
% Solids:	49.27	Preparation:	PSEP 1986 (modified)	Analyzed:	04/07/23 04:40
Batch:	BLD0117	Sequence:	SLD0078	Initial/Final:	0.5424 g Wet / 0.5424 mL
Instrument:	TOC Cube			Calibration:	FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	2.89	1	0.02	0.02	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW23-SC1118

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-05 C	SDG:	23C0108
Sampled:	03/03/23 11:48	Prepared:	04/05/23 15:19	File ID:	CubeData_04072023@1412-037
% Solids:	53.95	Preparation:	PSEP 1986 (modified)	Analyzed:	04/07/23 05:10
Batch:	BLD0117	Sequence:	SLD0078	Initial/Final:	0.5969 g Wet / 0.5969 mL
Instrument:	TOC Cube			Calibration:	FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	2.27	1	0.02	0.02	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW23-SS1106

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-06 D	SDG:	23C0108
Sampled:	03/03/23 10:00	Prepared:	04/05/23 15:19	File ID:	CubeData_04072023@1412-038
% Solids:	42.02	Preparation:	PSEP 1986 (modified)	Analyzed:	04/07/23 05:41
Batch:	BLD0117	Sequence:	SLD0078	Initial/Final:	0.6409 g Wet / 0.6409 mL
Instrument:	TOC Cube			Calibration:	FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	2.83	1	0.02	0.02	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW23-SS1107

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-07 D	SDG:	23C0108
Sampled:	03/03/23 10:21	Prepared:	04/05/23 15:24	File ID:	CubeData_04072023@1412-045
% Solids:	41.38	Preparation:	PSEP 1986 (modified)	Analyzed:	04/07/23 09:14
Batch:	BLD0118	Sequence:	SLD0078	Initial/Final:	0.5263 g Wet / 0.5263 mL
Instrument:	TOC Cube			Calibration:	FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	2.96	1	0.02	0.02	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW23-SS1111

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-08 D	SDG:	23C0108
Sampled:	03/03/23 10:36	Prepared:	04/05/23 15:24	File ID:	CubeData_05092023@1652-005
% Solids:	47.78	Preparation:	PSEP 1986 (modified)	Analyzed:	04/08/23 17:13
Batch:	BLD0118	Sequence:	SLD0126	Initial/Final:	0.5187 g Wet / 0.5187 mL
Instrument:	TOC Cube			Calibration:	FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	2.52	1	0.02	0.02	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW23-SS1118

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-09 D	SDG:	23C0108
Sampled:	03/03/23 11:25	Prepared:	04/05/23 15:24	File ID:	CubeData_05092023@1652-006
% Solids:	44.46	Preparation:	PSEP 1986 (modified)	Analyzed:	04/08/23 17:43
Batch:	BLD0118	Sequence:	SLD0126	Initial/Final:	0.7965 g Wet / 0.7965 mL
Instrument:	TOC Cube			Calibration:	FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	2.65	1	0.02	0.02	

Analytical Resources, LLC
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW23-SC1111

Laboratory:	Analytical Resources, LLC				
Client:	Anchor QEA, LLC				
Project:	AOC5 MR Phase 1				
Matrix:	Sediment	Laboratory ID:	23C0108-10 C	SDG:	23C0108
Sampled:	03/03/23 14:35	Prepared:	04/05/23 15:24	File ID:	CubeData_05092023@1652-007
% Solids:	47.21	Preparation:	PSEP 1986 (modified)	Analyzed:	04/08/23 18:13
Batch:	BLD0118	Sequence:	SLD0126	Initial/Final:	0.6147 g Wet / 0.6147 mL
Instrument:	TOC Cube			Calibration:	FD00070

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	2.82	1	0.02	0.02	

PREPARATION BATCH SUMMARY

EPA 9060A m

Laboratory: Analytical Resources, LLC SDG: 23C0108

Client: Anchor QEA, LLC Project: AOC5 MR Phase 1

Batch: BLD0117 Batch Matrix: Solid Preparation: PSEP 1986 (modified)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-SC1037	23C0108-01	eData_04072023@1412-	04/05/23 15:19	
LDW23-SC1044	23C0108-02	eData_04072023@1412-	04/05/23 15:19	
LDW23-SC1107	23C0108-03	eData_04072023@1412-	04/05/23 15:19	
LDW23-SC1106	23C0108-04	eData_04072023@1412-	04/05/23 15:19	
LDW23-SC1118	23C0108-05	eData_04072023@1412-	04/05/23 15:19	
LDW23-SS1106	23C0108-06	eData_04072023@1412-	04/05/23 15:19	
Blank	BLD0117-BLK1	eData_04072023@1412-	04/05/23 15:19	
LCS	BLD0117-BS1	eData_04072023@1412-	04/05/23 15:19	
MRL Check	BLD0117-MRL1	eData_04072023@1412-	04/05/23 15:19	
Reference	BLD0117-SRM1	eData_04072023@1412-	04/05/23 15:19	

PREPARATION BATCH SUMMARY

EPA 9060A m

Laboratory: Analytical Resources, LLC SDG: 23C0108

Client: Anchor QEA, LLC Project: AOC5 MR Phase 1

Batch: BLD0118 Batch Matrix: Solid Preparation: PSEP 1986 (modified)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW23-SS1107	23C0108-07	eData_04072023@1412-	04/05/23 15:24	
LDW23-SS1111	23C0108-08	eData_05092023@1652-	04/05/23 15:24	
LDW23-SS1118	23C0108-09	eData_05092023@1652-	04/05/23 15:24	
LDW23-SC1111	23C0108-10	eData_05092023@1652-	04/05/23 15:24	
Blank	BLD0118-BLK1	eData_04072023@1412-	04/05/23 15:24	
LCS	BLD0118-BS1	eData_04072023@1412-	04/05/23 15:24	
LDW23-SS1107	BLD0118-DUP1	eData_04072023@1412-	04/05/23 15:24	
MRL Check	BLD0118-MRL1	eData_04072023@1412-	04/05/23 15:24	
LDW23-SS1107	BLD0118-MS1	eData_04072023@1412-	04/05/23 15:24	
Reference	BLD0118-SRM1	eData_04072023@1412-	04/05/23 15:24	

Form I

METHOD BLANK DATA SHEET

EPA 9060A m

TotalAnalytes

Blank

Laboratory: Analytical Resources, LLC | SDG: 23C0108

Client: Anchor QEA, LLC | Project: AOC5 MR Phase 1

Batch: BLD0117 | Laboratory ID: BLD0117-BLK1 | Prepared: 04/05/23 15:19

Matrix: Solid | Preparation: PSEP 1986 (modified) | Analyzed: 04/06/23 13:27

Sequence: SLD0078 | Calibration: FD00070 | Instrument: TOC Cube

CAS NO.	Analyte	Concentration (% wet)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	ND	1	0.02	0.02	U

Form I

METHOD BLANK DATA SHEET

EPA 9060A m

TotalAnalytes

Blank

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Batch: BLD0118
Laboratory ID: BLD0118-BLK1
Prepared: 04/05/23 15:24
Matrix: Solid
Preparation: PSEP 1986 (modified)
Analyzed: 04/07/23 07:43
Sequence: SLD0078
Calibration: FD00070
Instrument: TOC Cube

CAS NO.	Analyte	Concentration (% wet)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	ND	1	0.02	0.02	U

LCS / LCS DUPLICATE RECOVERY

EPA 9060A m

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	04/06/23 13:58
Batch:	BLD0117	Laboratory ID:	BLD0117-BS1
Preparation:	PSEP 1986 (modified)	Sequence Name:	LCS
Initial/Final:	0.0255 g / 0.0255 mL		

COMPOUND	SPIKE ADDED (% wet)	LCS CONCENTRATION (% wet)	Q	LCS % REC. #	QC LIMITS REC.
Total Organic Carbon	44.4	45.3		102	80 - 120

* Indicates values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

EPA 9060A m

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	04/07/23 08:13
Batch:	BLD0118	Laboratory ID:	BLD0118-BS1
Preparation:	PSEP 1986 (modified)	Sequence Name:	LCS
Initial/Final:	0.0228 g / 0.0228 mL		

COMPOUND	SPIKE ADDED (% wet)	LCS CONCENTRATION (% wet)	Q	LCS % REC. #	QC LIMITS REC.
Total Organic Carbon	44.4	45.0		101	80 - 120

* Indicates values outside of QC limits

DUPLICATES

EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Laboratory ID: BLD0118-DUP1
Batch: BLD0118
Lab Source ID: 23C0108-07
Preparation: PSEP 1986 (modified)
Initial/Final: 0.6527 g / 0.6527 mL
Source Sample Name: LDW23-SS1107
% Solids: 41.38

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	RPD %	Q
Total Organic Carbon	20	2.96	3.00	1.30	

*: Values outside of QC limits
L: Analyte concentration is <=5 times the reporting limit and the replicate control limit defaults to Dup = +/- RL instead of 20% RPD

MS / MS DUPLICATE RECOVERY
EPA 9060A m

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Matrix:	Solid	Analyzed:	04/07/23 10:15
Batch:	BLD0118	Laboratory ID:	BLD0118-MS1
Preparation:	PSEP 1986 (modified)	Sequence Name:	Matrix Spike
Initial/Final:	0.6129 g / 0.6129 mL	Source Sample:	LDW23-SS1107

COMPOUND	SPIKE ADDED (% dry)	SAMPLE CONCENTRATION (% dry)	Q	MS CONCENTRATION (% dry)	Q	MS % REC. #	QC LIMITS REC.
Total Organic Carbon	1.72	2.96		5.23	HC	132 *	75 - 125

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Sequence: SKD0371
Instrument: TOC Cube
Calibration: FD00070

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Cal Standard	SKD0371-CAL1	CubeData_04272022@1136-001	NA	04/26/22 12:30
Cal Standard	SKD0371-CAL2	CubeData_04272022@1136-002	NA	04/26/22 13:00
Cal Standard	SKD0371-CAL3	CubeData_04272022@1136-003	NA	04/26/22 13:30
Cal Standard	SKD0371-CAL4	CubeData_04272022@1136-004	NA	04/26/22 14:00
Cal Standard	SKD0371-CAL5	CubeData_04272022@1136-005	NA	04/26/22 14:30
Cal Standard	SKD0371-CAL6	CubeData_04272022@1136-006	NA	04/26/22 15:00
Cal Standard	SKD0371-CAL7	CubeData_04272022@1136-007	NA	04/26/22 15:30
Cal Standard	SKD0371-CAL8	CubeData_04272022@1136-008	NA	04/26/22 16:00
Cal Standard	SKD0371-CAL9	CubeData_04272022@1136-009	NA	04/26/22 16:30
Cal Standard	SKD0371-CALA	CubeData_04272022@1136-010	NA	04/26/22 17:00
Cal Standard	SKD0371-CALB	CubeData_04272022@1136-011	NA	04/26/22 17:30
Cal Standard	SKD0371-CALC	CubeData_04272022@1136-012	NA	04/26/22 18:00
Cal Standard	SKD0371-CALD	CubeData_04272022@1136-013	NA	04/26/22 18:30
Cal Standard	SKD0371-CALE	CubeData_04272022@1136-014	NA	04/26/22 19:00
Cal Standard	SKD0371-CALF	CubeData_04272022@1136-015	NA	04/26/22 19:31
Cal Standard	SKD0371-CALG	CubeData_04272022@1136-016	NA	04/26/22 20:01
Cal Standard	SKD0371-CALH	CubeData_04272022@1136-017	NA	04/26/22 20:31
Cal Standard	SKD0371-CALI	CubeData_04272022@1136-018	NA	04/26/22 21:01
Cal Standard	SKD0371-CALJ	CubeData_04272022@1136-019	NA	04/26/22 21:31
Cal Standard	SKD0371-CALK	CubeData_04272022@1136-020	NA	04/26/22 22:01
Initial Cal Check	SKD0371-ICV1	CubeData_04272022@1136-027	NA	04/27/22 02:03
Initial Cal Blank	SKD0371-ICB1	CubeData_04272022@1136-028	NA	04/27/22 02:33
Cal Standard	SKD0371-CALL	CubeData_04272022@1136-021	NA	04/27/22 11:08
Cal Standard	SKD0371-CALM	CubeData_04272022@1136-022	NA	04/27/22 11:08
Cal Standard	SKD0371-CALN	CubeData_04272022@1136-023	NA	04/27/22 11:09
Cal Standard	SKD0371-CALO	CubeData_04272022@1136-024	NA	04/27/22 11:09

Analytical Resources, LLC
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

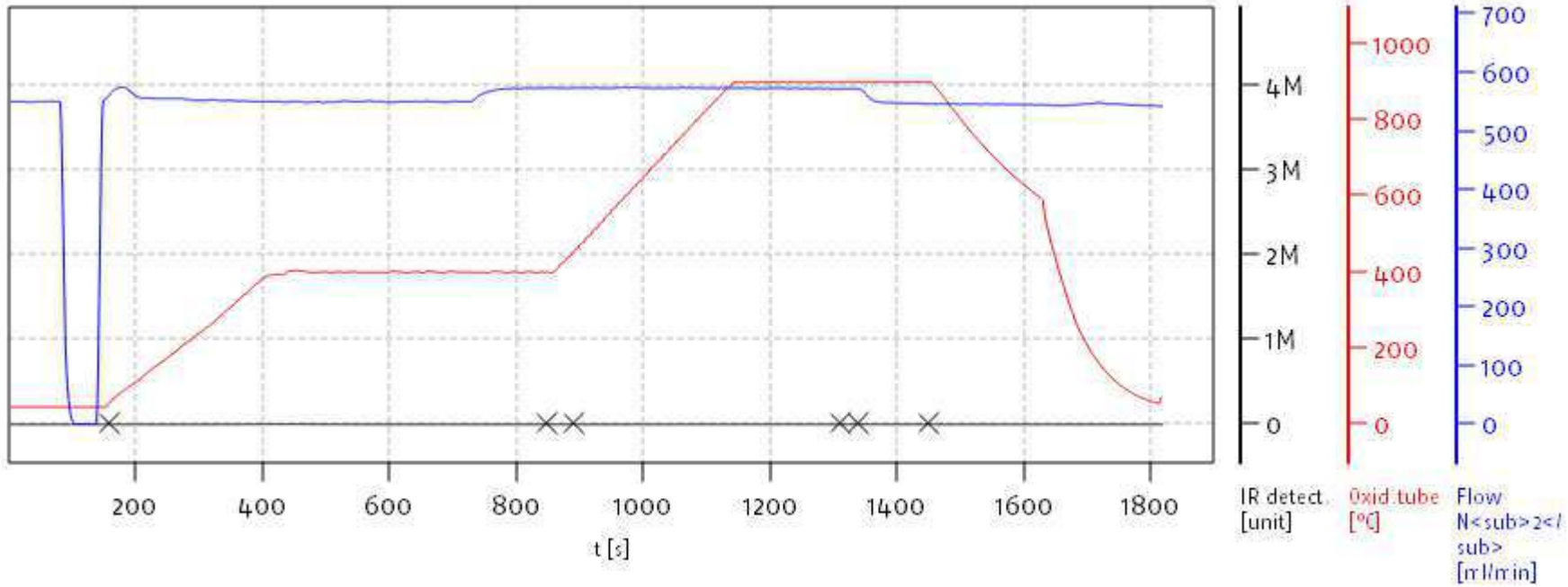
EPA 9060A m

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLD0078	Instrument:	TOC Cube
		Calibration:	FD00070

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Initial Cal Check	SLD0078-ICV1	CubeData_04072023@1412-003	NA	04/06/23 11:57
Initial Cal Blank	SLD0078-ICB1	CubeData_04072023@1412-004	NA	04/06/23 12:27
MRL Check	BLD0117-MRL1	CubeData_04072023@1412-005	Solid	04/06/23 12:57
Blank	BLD0117-BLK1	CubeData_04072023@1412-006	Solid	04/06/23 13:27
LCS	BLD0117-BS1	CubeData_04072023@1412-007	Solid	04/06/23 13:58
Reference	BLD0117-SRM1	CubeData_04072023@1412-008	Solid	04/06/23 14:28
Calibration Check	SLD0078-CCV1	CubeData_04072023@1412-015	NA	04/06/23 18:00
Calibration Blank	SLD0078-CCB1	CubeData_04072023@1412-016	NA	04/06/23 18:30
Calibration Check	SLD0078-CCV2	CubeData_04072023@1412-027	NA	04/07/23 00:06
Calibration Blank	SLD0078-CCB2	CubeData_04072023@1412-028	NA	04/07/23 00:36
LDW23-SC1037	23C0108-01	CubeData_04072023@1412-033	Solid	04/07/23 03:08
LDW23-SC1044	23C0108-02	CubeData_04072023@1412-034	Solid	04/07/23 03:39
LDW23-SC1107	23C0108-03	CubeData_04072023@1412-035	Solid	04/07/23 04:09
LDW23-SC1106	23C0108-04	CubeData_04072023@1412-036	Solid	04/07/23 04:40
LDW23-SC1118	23C0108-05	CubeData_04072023@1412-037	Solid	04/07/23 05:10
LDW23-SS1106	23C0108-06	CubeData_04072023@1412-038	Solid	04/07/23 05:41
Calibration Check	SLD0078-CCV3	CubeData_04072023@1412-039	NA	04/07/23 06:11
Calibration Blank	SLD0078-CCB3	CubeData_04072023@1412-040	NA	04/07/23 06:42
MRL Check	BLD0118-MRL1	CubeData_04072023@1412-041	Solid	04/07/23 07:12
Blank	BLD0118-BLK1	CubeData_04072023@1412-042	Solid	04/07/23 07:43
LCS	BLD0118-BS1	CubeData_04072023@1412-043	Solid	04/07/23 08:13
Reference	BLD0118-SRM1	CubeData_04072023@1412-044	Solid	04/07/23 08:43
LDW23-SS1107	23C0108-07	CubeData_04072023@1412-045	Solid	04/07/23 09:14
LDW23-SS1107	BLD0118-DUP1	CubeData_04072023@1412-046	Solid	04/07/23 09:44
LDW23-SS1107	BLD0118-MS1	CubeData_04072023@1412-047	Solid	04/07/23 10:15
Calibration Check	SLD0078-CCV4	CubeData_04072023@1412-050	NA	04/07/23 12:17
Calibration Blank	SLD0078-CCB4	CubeData_04072023@1412-051	NA	04/07/23 12:47

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
1	1	BLANK	1.00		CARBON	4/6/2023 10:25 AM	bl	0.000	25 371	0.000	0.000	4 487	12 084	0.000	0.000	1.0000	1.0000



Name:

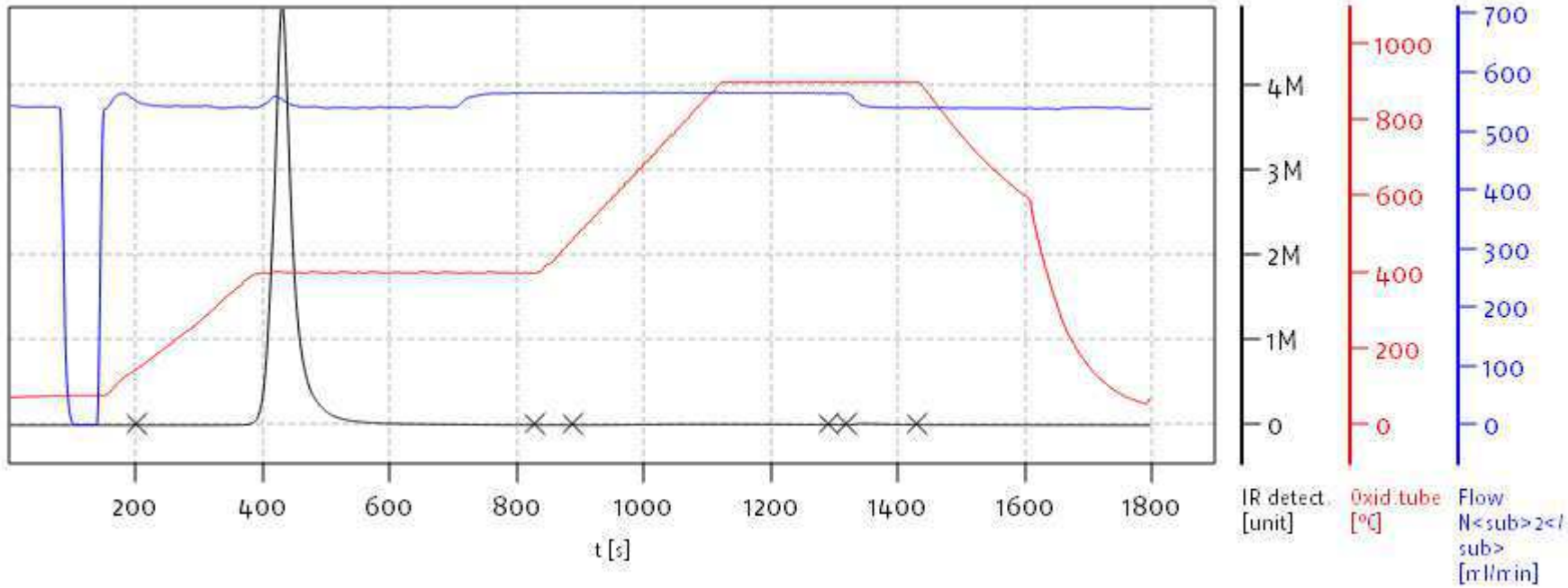
Access: soliTOC superuser

Date: Fri Apr 7 14:09:03 2023

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
2	2	Dfactor	22.80		CARBON	4/6/2023 10:56 AM	bl	44.518	6 711 691	45.071	0.073	37 255	107 902	44.446	0.552	0.9792	1.0000



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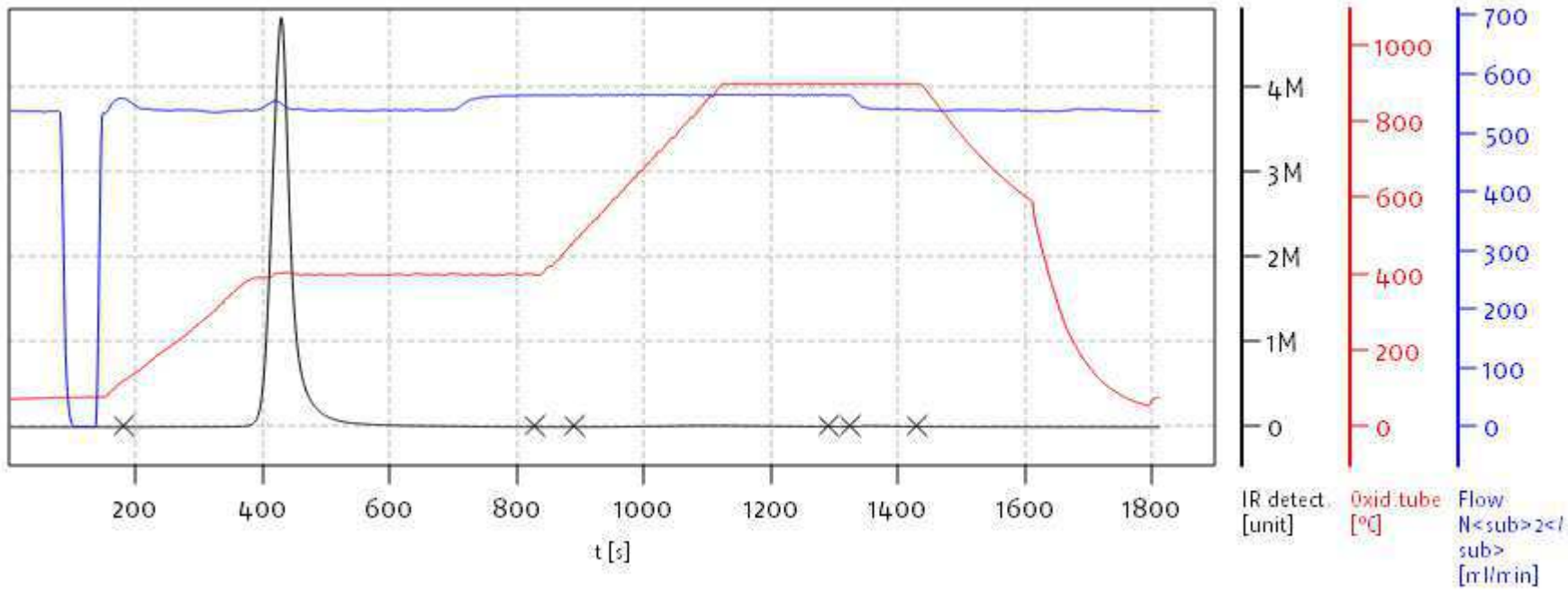
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
3	3	Dfactor	22.20		CARBON	4/6/2023 11:26 AM	bl	44.496	6 587 051	45.309	0.051	33 796	143 082	44.446	0.813	0.9715	1.0000



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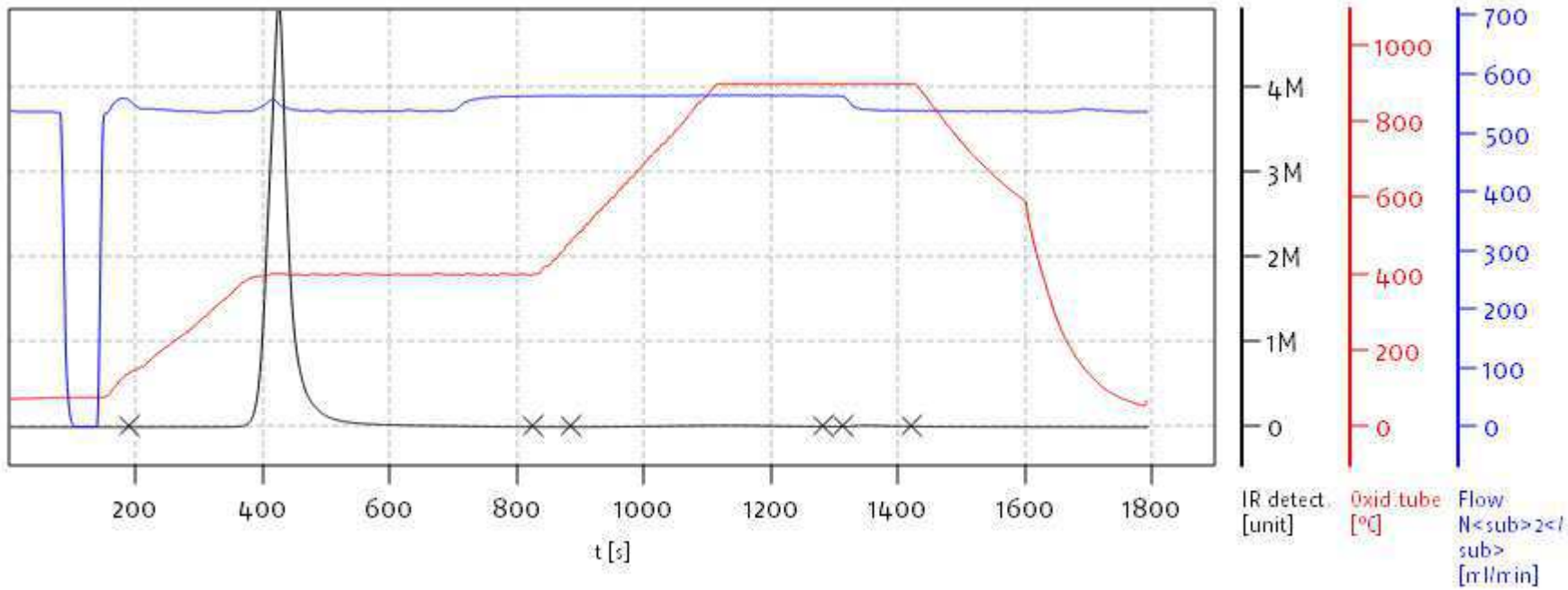
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
4	4	SLD0078-ICV1	24.70		CARBON	4/6/2023 11:57 AM	bl	43.454	7 110 575	44.263	0.149	50 324	155 627	43.305	0.809	0.9754	1.0000



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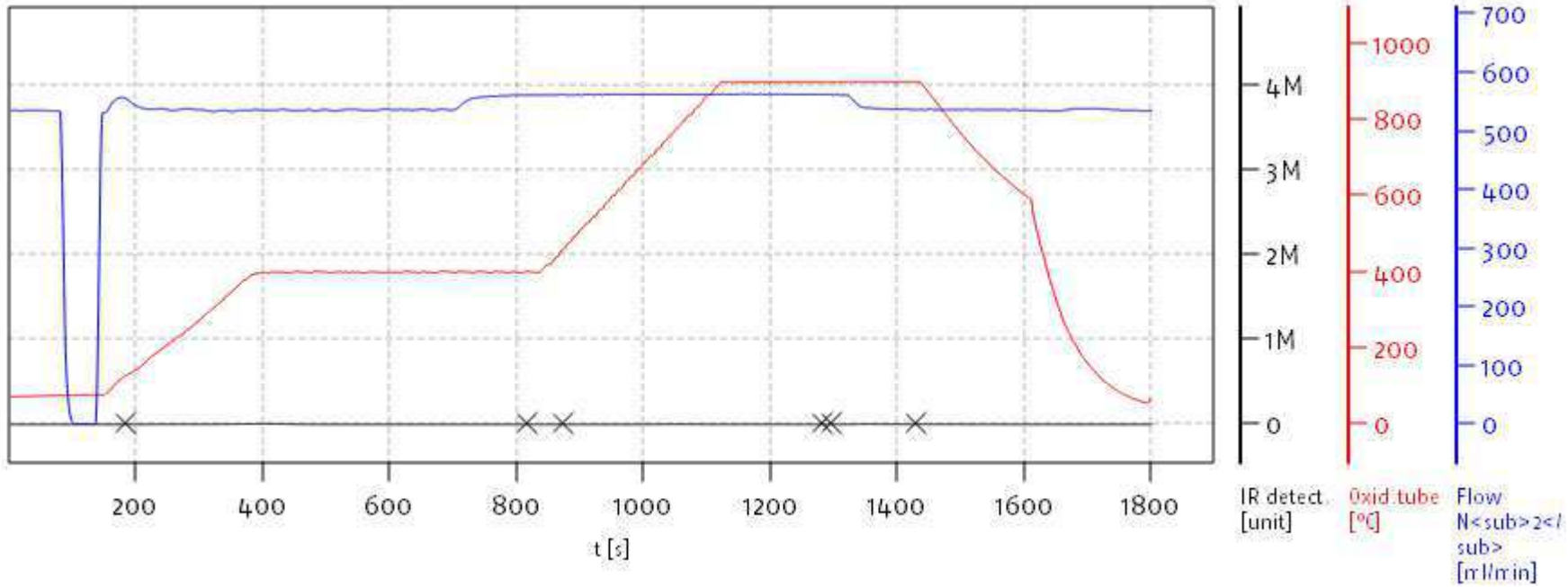
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
5	5	SLD0078-ICB1	502.20		CARBON	4/6/2023 12:27 PM	bl	0.002	33 768	0.002	0.000	11 057	13 585	0.002	0.000	0.9754	1.0000



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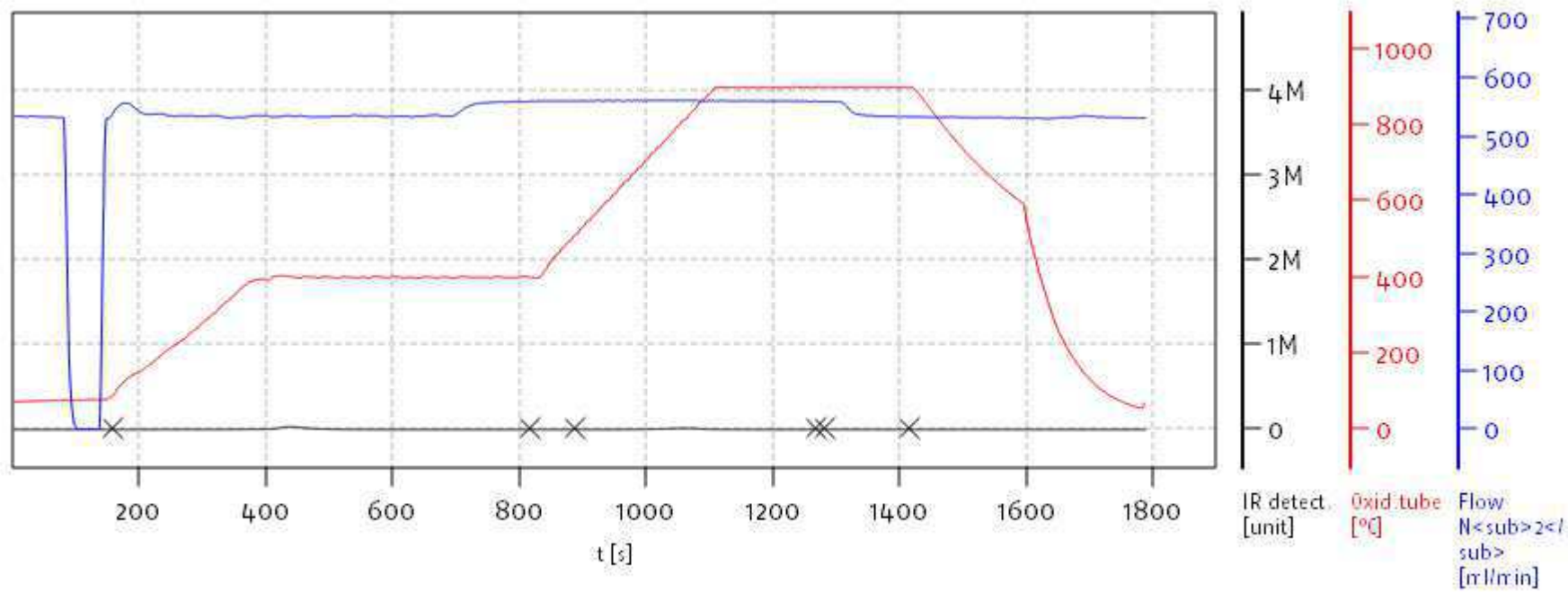
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
6	6	BLD0117-MRL1	500.60		CARBON	4/6/2023 12:57 PM	bl,C2u	0.016	79 706	0.021	0.000	2 221	41 515	0.016	0.005	0.9754	1.0000



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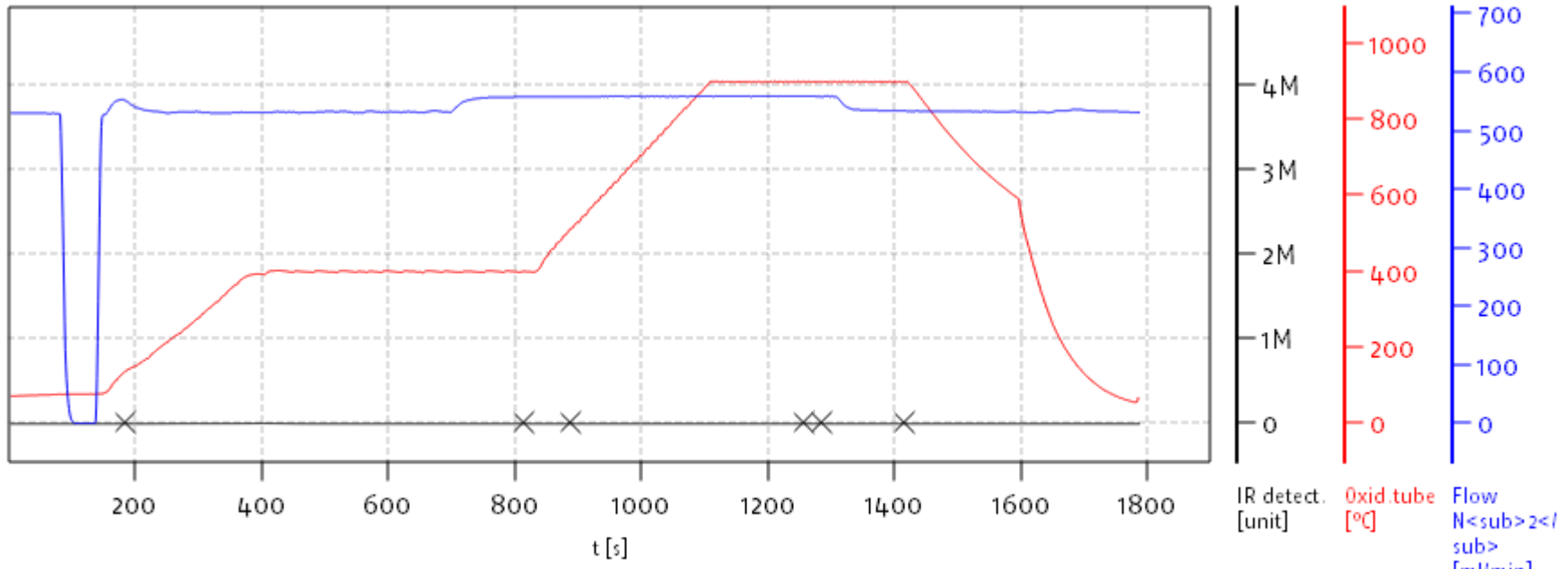
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
7	7	BLD0117-BLK1	562.20		CARBON	4/6/2023 1:27 PM	bl,C2u	0.000	26 033	0.000	0.000	1 538	3 526	0.000	0.000	0.9754	1.0000



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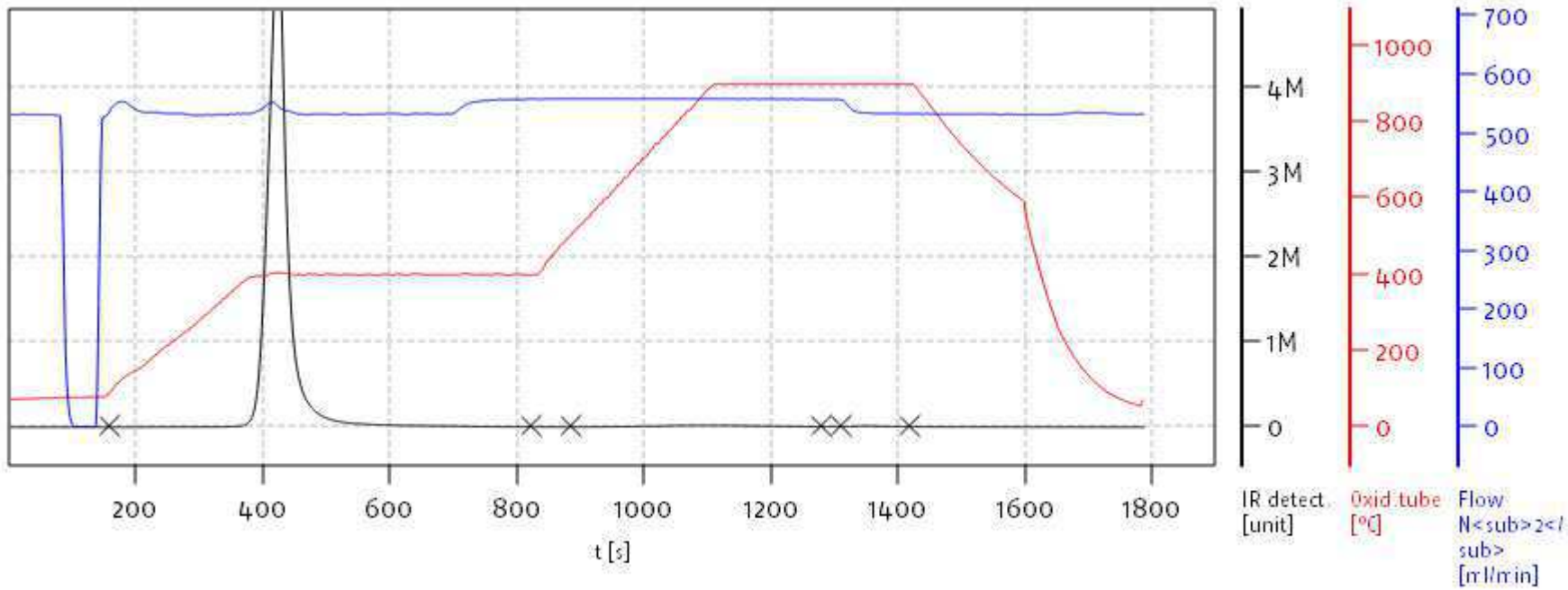
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
8	8	BLD0117-BS1	25.50		CARBON	4/6/2023 1:58 PM	bl	45.342	7 676 112	46.175	0.047	34 230	163 878	45.295	0.834	0.9754	1.0000



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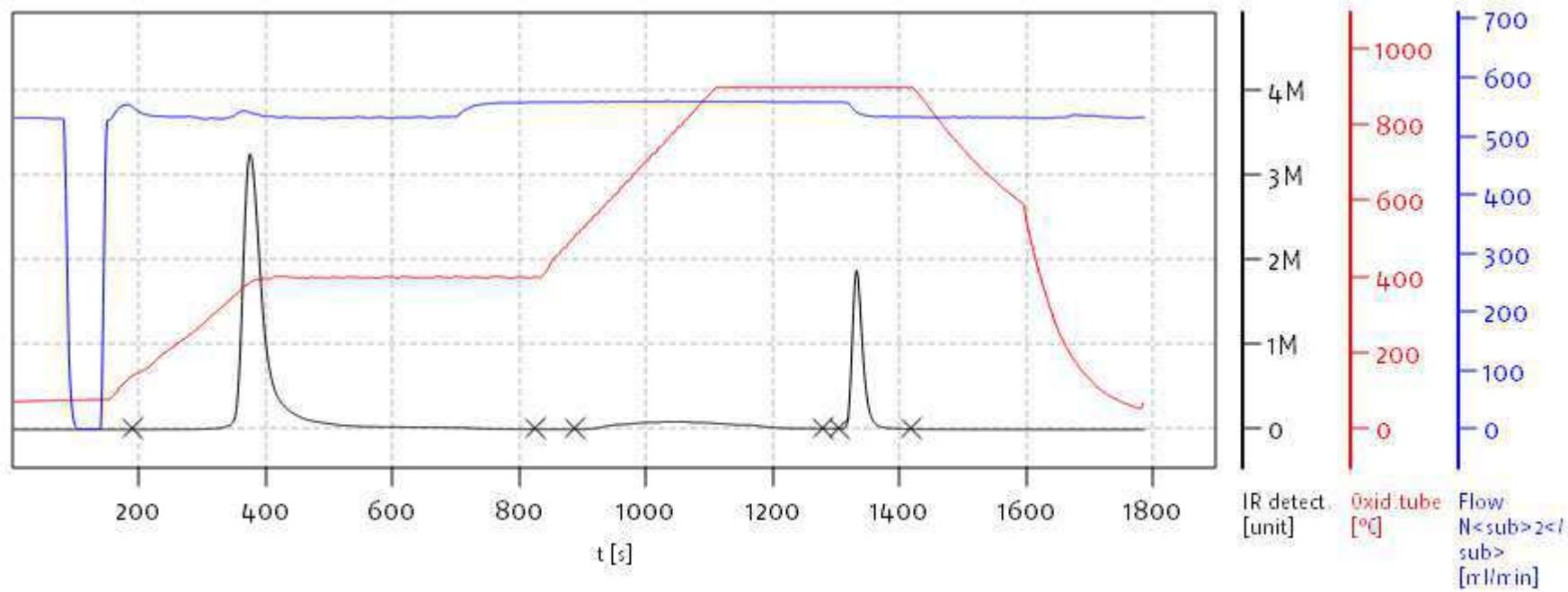
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
9	9	BLD0117-SRM1	311.10		CARBON	4/6/2023 2:28 PM	bl	3.027	4 879 224	3.383	0.672	1 377 361	741 965	2.355	0.356	0.9754	1.0000



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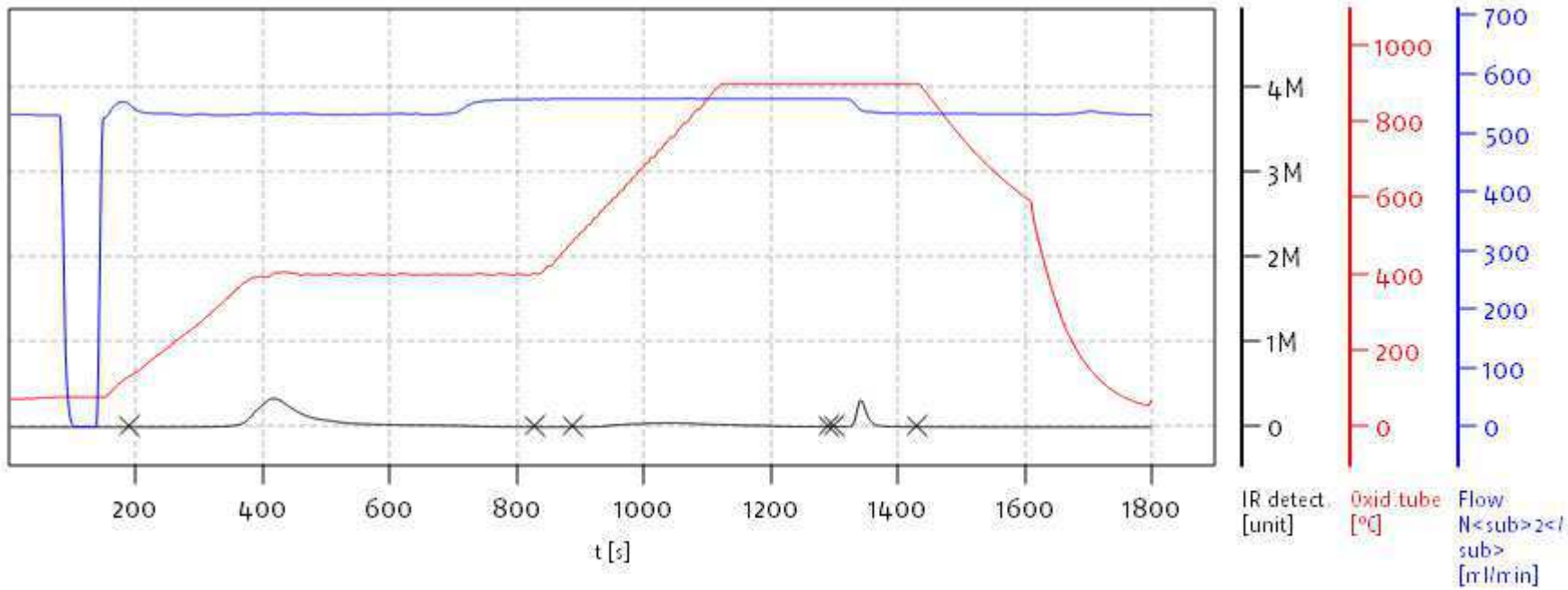
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
10	10	23C0002-01	611.90		CARBON	4/6/2023 2:58 PM	bl	0.358	1 265 153	0.439	0.052	233 235	347 229	0.306	0.081	0.9754	1.0000



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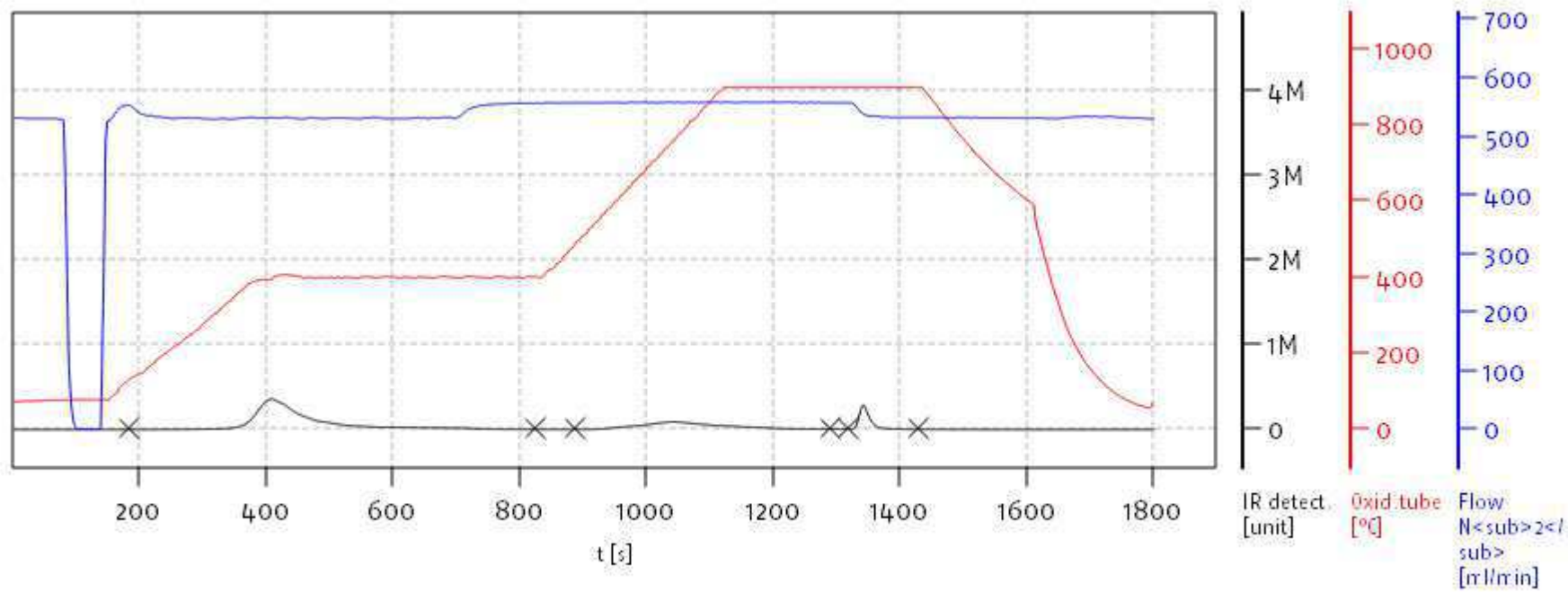
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
11	11	BLD0117-DUP1	630.00		CARBON	4/6/2023 3:28 PM	bl	0.362	1 339 840	0.484	0.047	218 851	521 567	0.315	0.122	0.9754	1.0000



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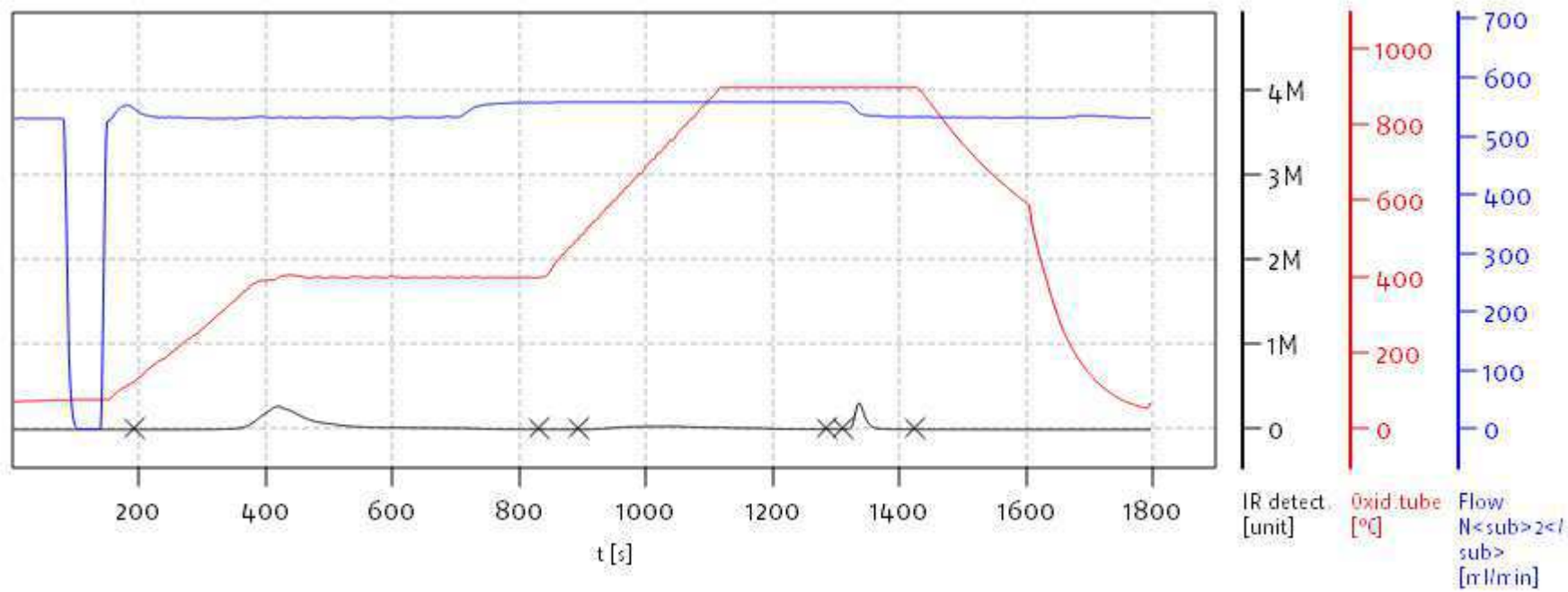
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
12	12	BLD0117-DUP2	504.70		CARBON	4/6/2023 3:59 PM	bl	0.364	1 042 421	0.442	0.060	221 218	282 188	0.304	0.078	0.9754	1.0000



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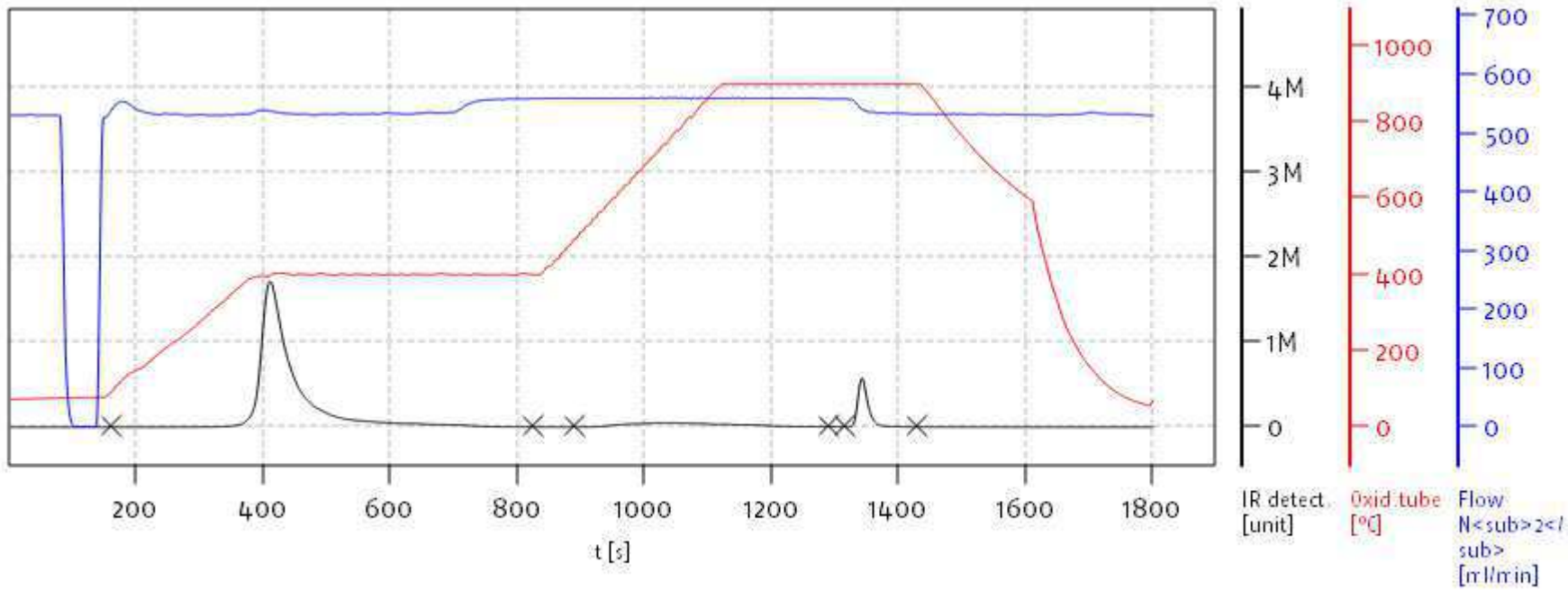
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
13	13	BLD0117-MS1	513.90	0.0090	CARBON	4/6/2023 4:29 PM	bl	1.206	3 745 731	1.311	0.114	404 057	374 654	1.093	0.105	0.9754	1.0000



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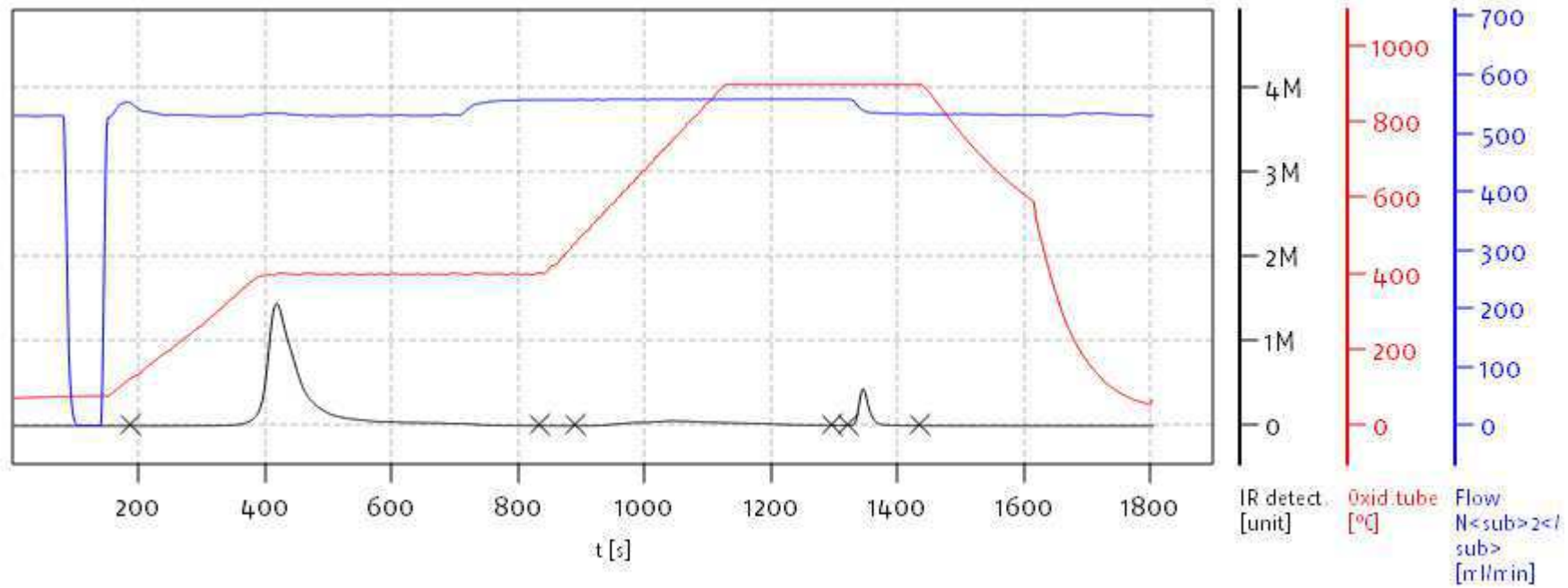
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
14	14	BLD0117-MSD1	513.10	0.0081	CARBON	4/6/2023 5:00 PM	bl	1.049	3 298 783	1.169	0.086	311 286	425 488	0.963	0.120	0.9754	1.0000



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soliTOC V2.0.2 (31015f9) 2018-11-19
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Mode CCC

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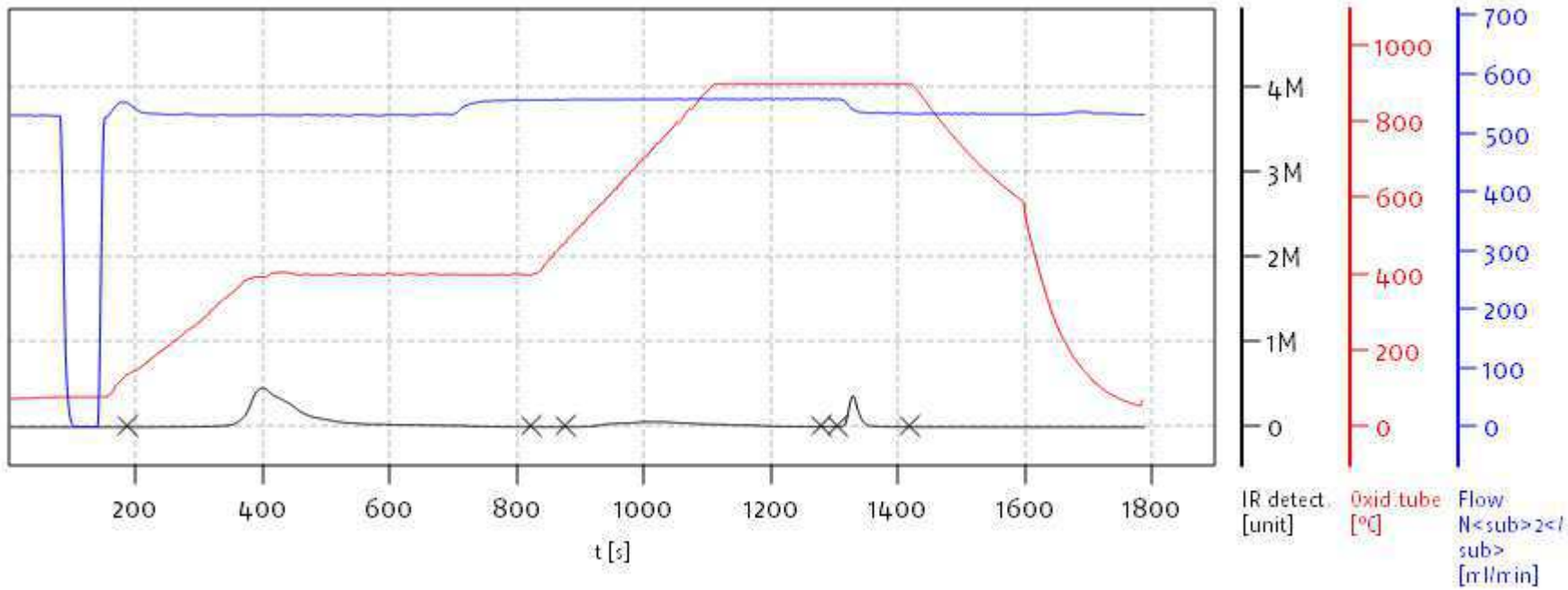
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
15	15	23C0002-02	539.20		CARBON	4/6/2023 5:30 PM	bl	0.520	1 648 967	0.634	0.065	254 005	424 360	0.454	0.114	0.9754	1.0000



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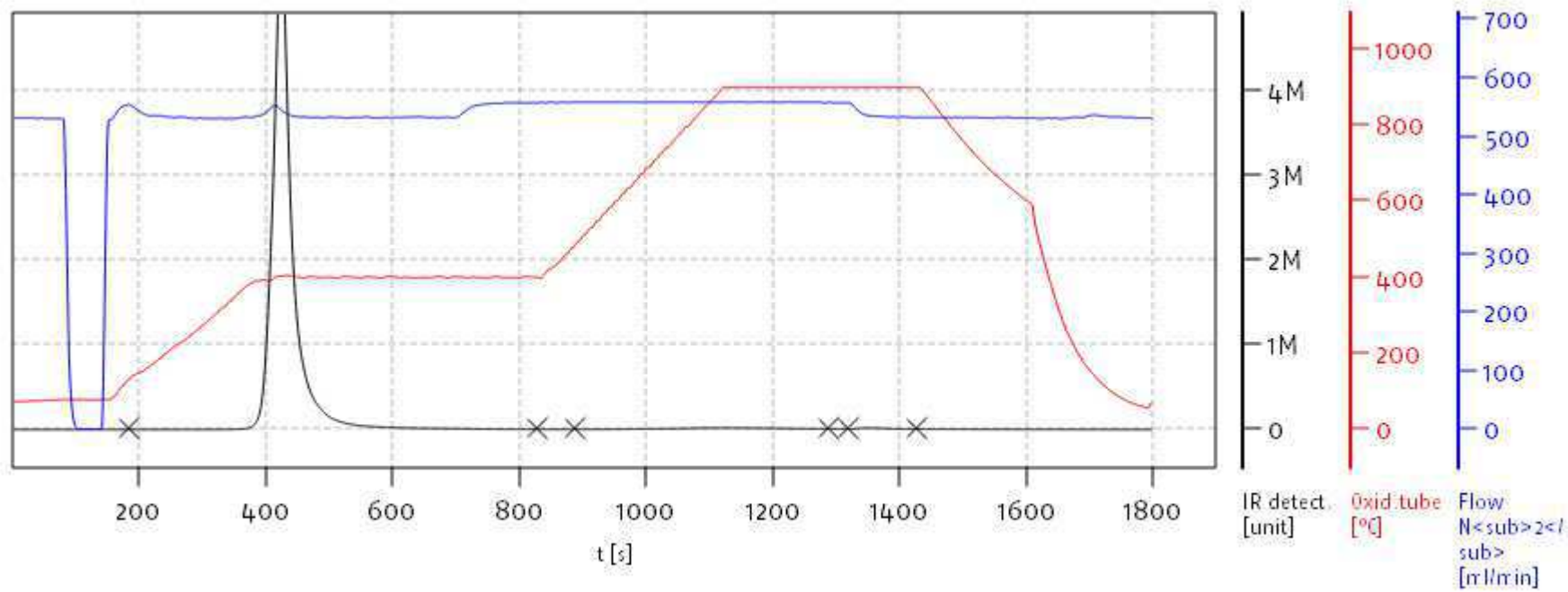
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
16	16	SLD0078-CCV1	25.60		CARBON	4/6/2023 6:00 PM	bl	44.445	7 543 148	45.266	0.112	44 989	162 299	44.334	0.821	0.9754	1.0000



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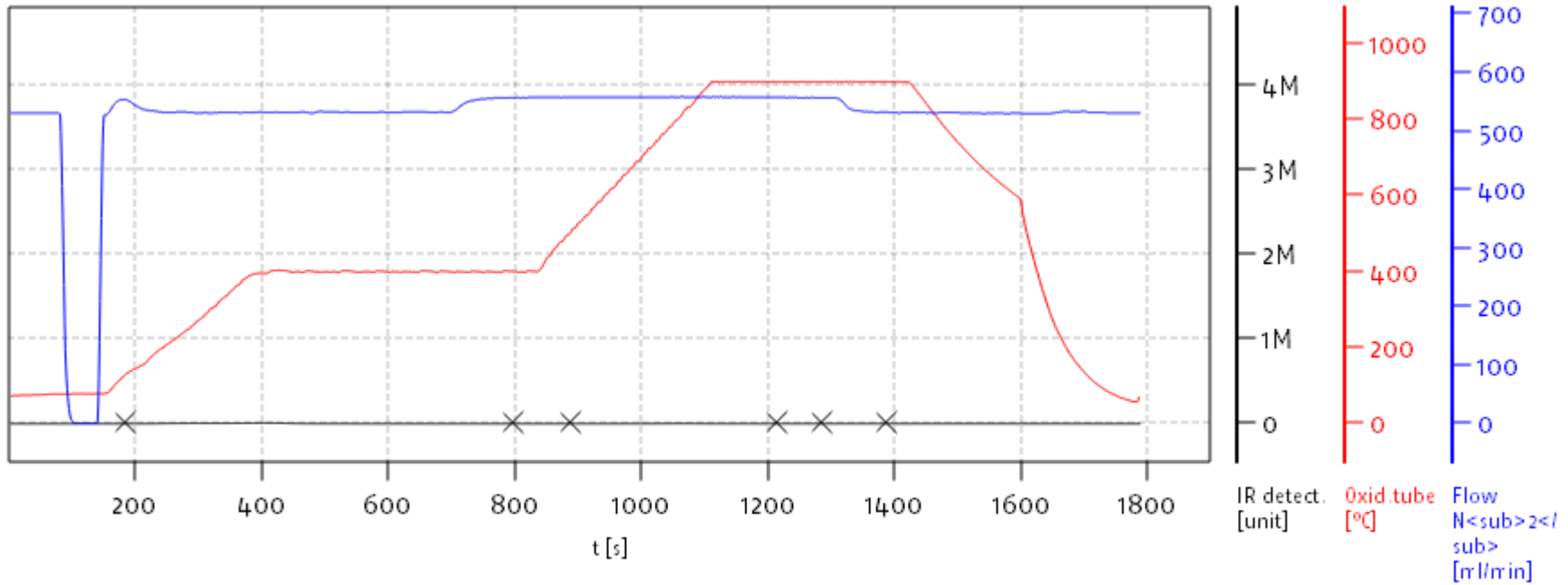
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
17	17	SLD0078-CCB1	543.80		CARBON	4/6/2023 6:30 PM	bl,C2u	0.005	44 591	0.005	0.000	1 310	7 400	0.005	0.000	0.9754	1.0000



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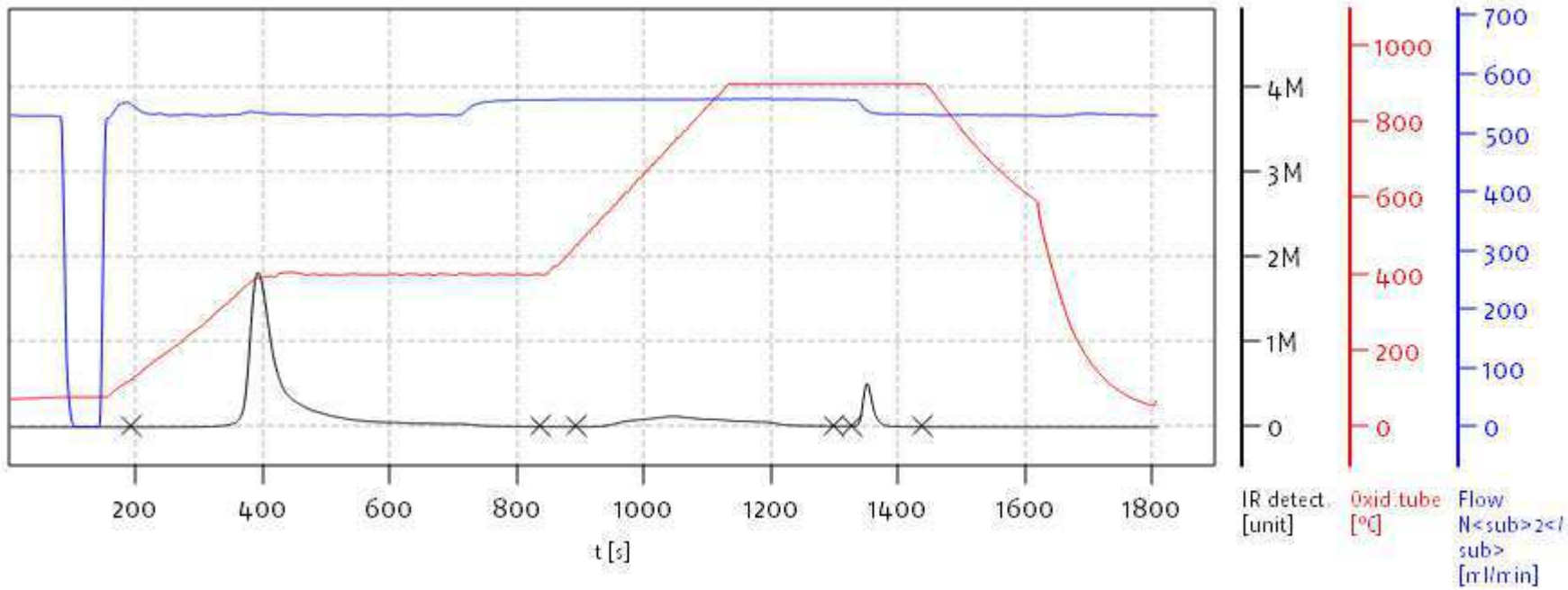
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
18	18	23C0071-01	525.90		CARBON	4/6/2023 7:01 PM	bl	1.203	3 876 620	1.462	0.098	358 309	906 505	1.105	0.259	0.9754	1.0000



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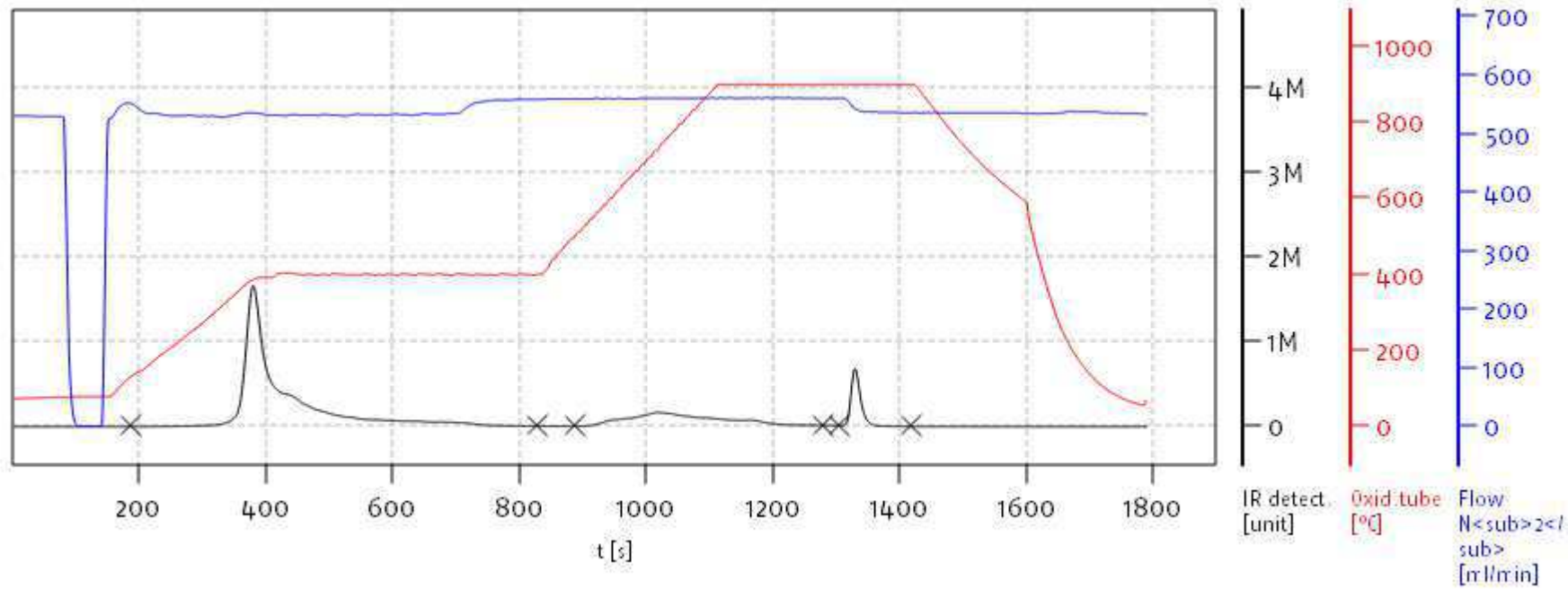
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
19	19	BLD0117-DUP3	502.80		CARBON	4/6/2023 7:31 PM	bl	1.250	3 740 979	1.584	0.134	462 508	1 113 323	1.115	0.335	0.9754	1.0000



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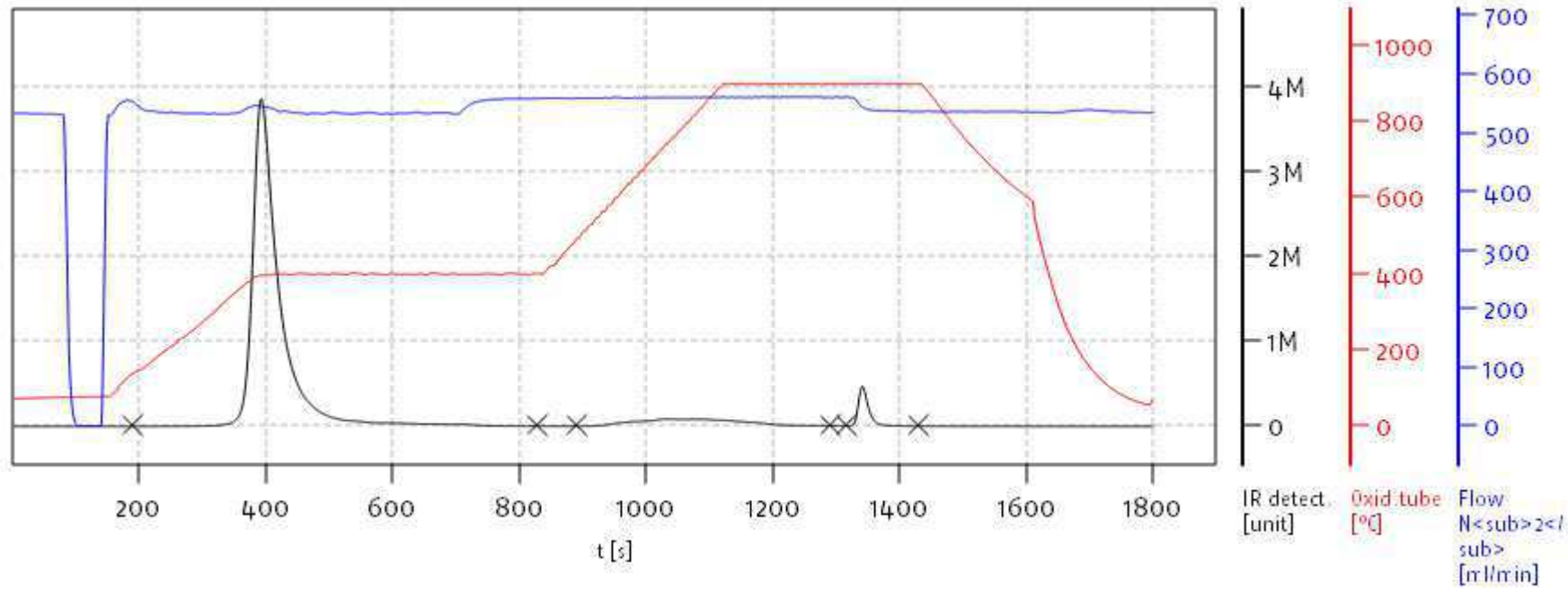
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
20	20	BLD0117-MS2	532.20	0.0082	CARBON	4/6/2023 8:02 PM	bl	2.079	7 038 726	2.266	0.090	336 161	666 624	1.989	0.186	0.9754	1.0000



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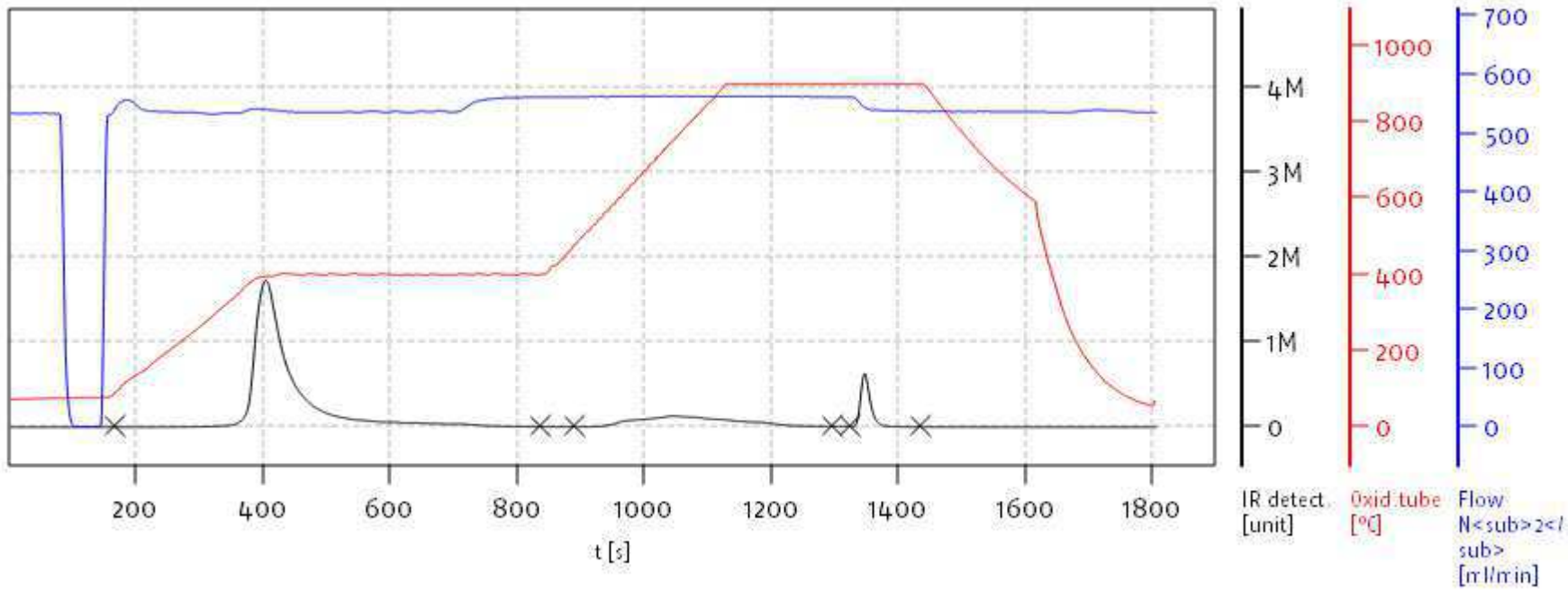
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
21	21	23C0071-02	544.40		CARBON	4/6/2023 8:32 PM	bl	1.280	4 232 105	1.532	0.113	424 263	912 704	1.166	0.252	0.9754	1.0000



Name:

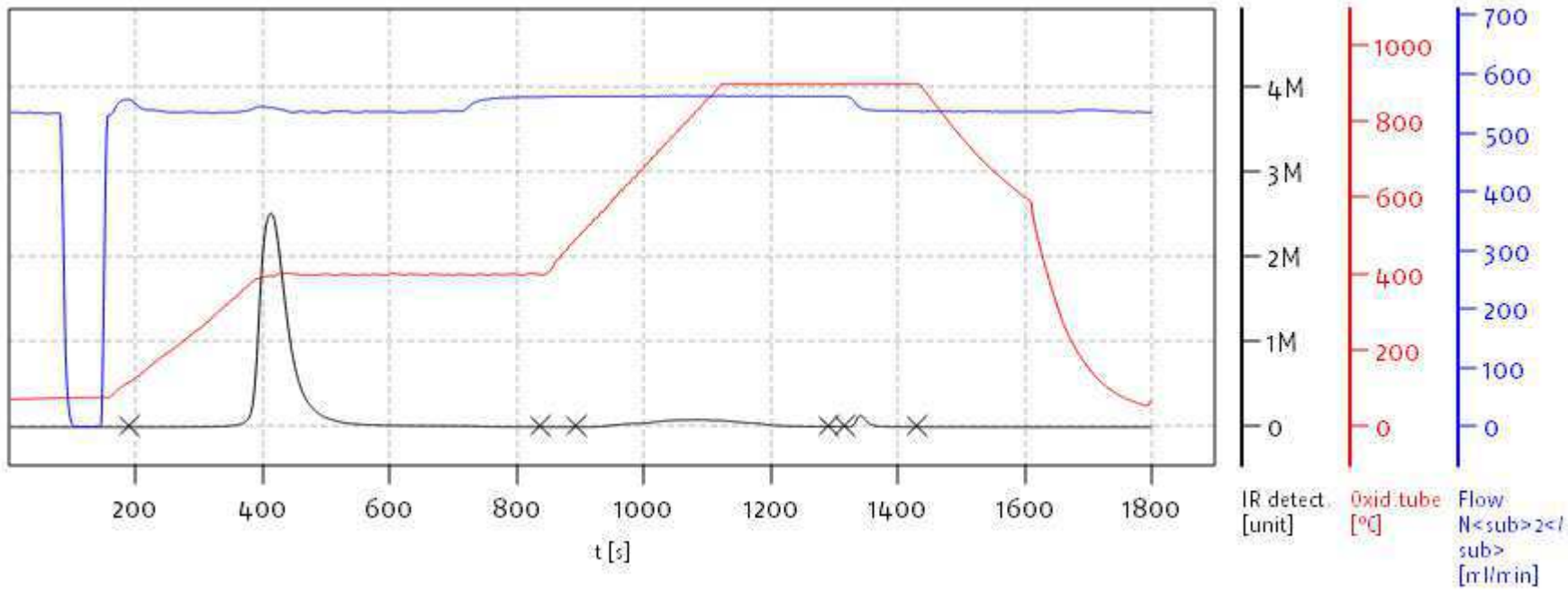
Access: soliTOC superuser

Date: Fri Apr 7 14:09:03 2023

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
22	22	23C0071-03	516.40		CARBON	4/6/2023 9:03 PM	bl	1.496	5 063 355	1.672	0.024	105 010	613 605	1.473	0.176	0.9754	1.0000



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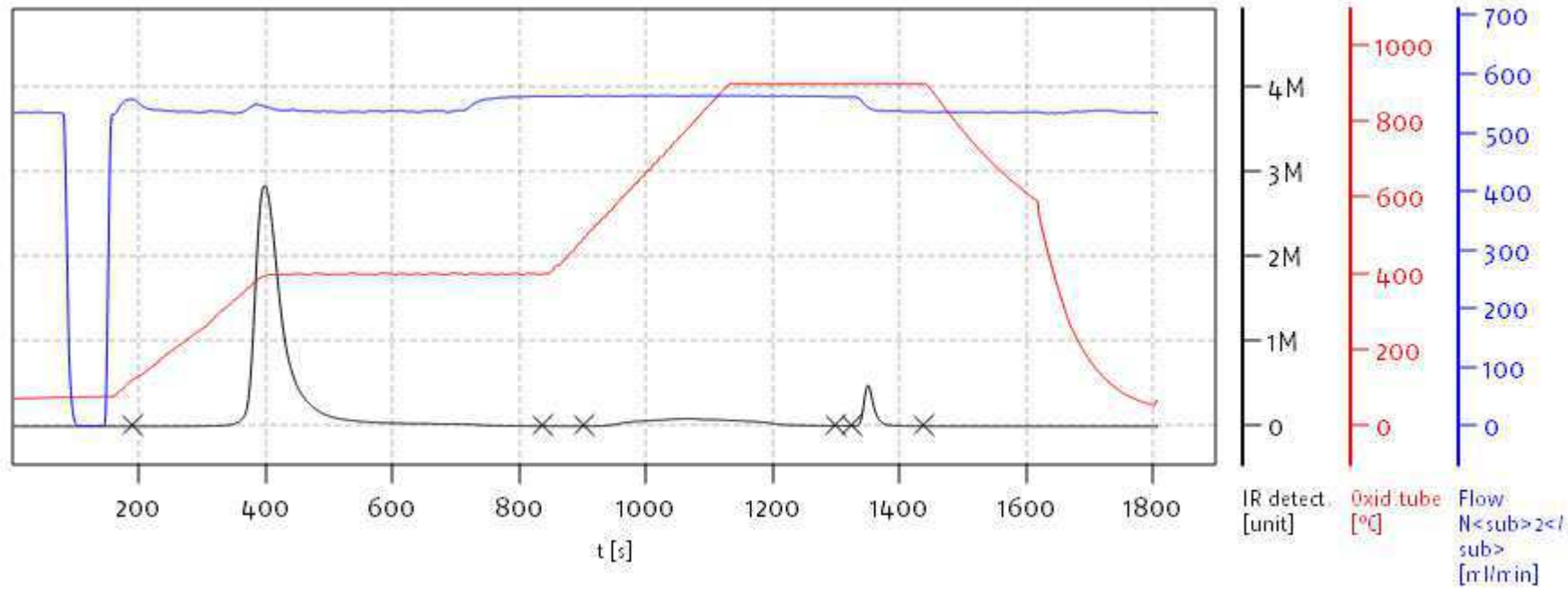
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
23	23	23C0071-04	519.50		CARBON	4/6/2023 9:33 PM	bl	1.729	5 650 279	1.928	0.094	342 701	694 428	1.635	0.199	0.9754	1.0000



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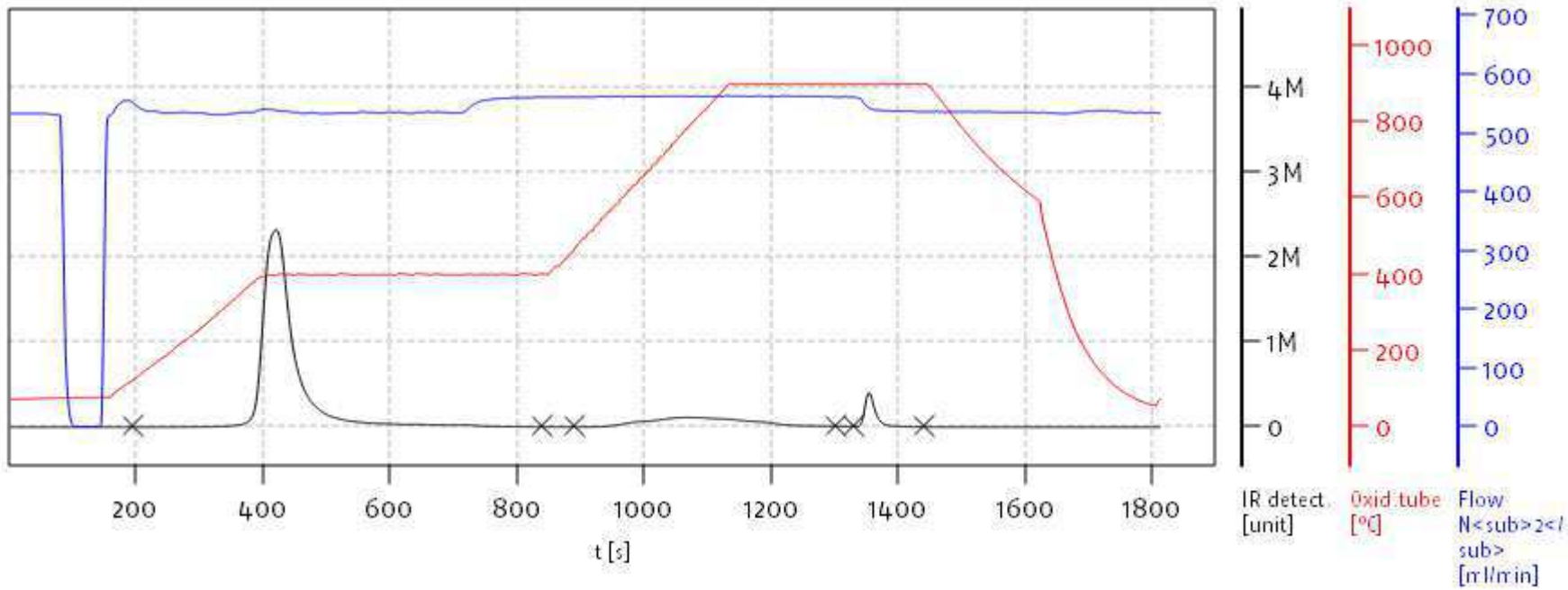
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
24	24	23C0071-05	600.50		CARBON	4/6/2023 10:04 PM	bl	1.297	4 903 980	1.507	0.070	299 568	840 820	1.226	0.210	0.9754	1.0000



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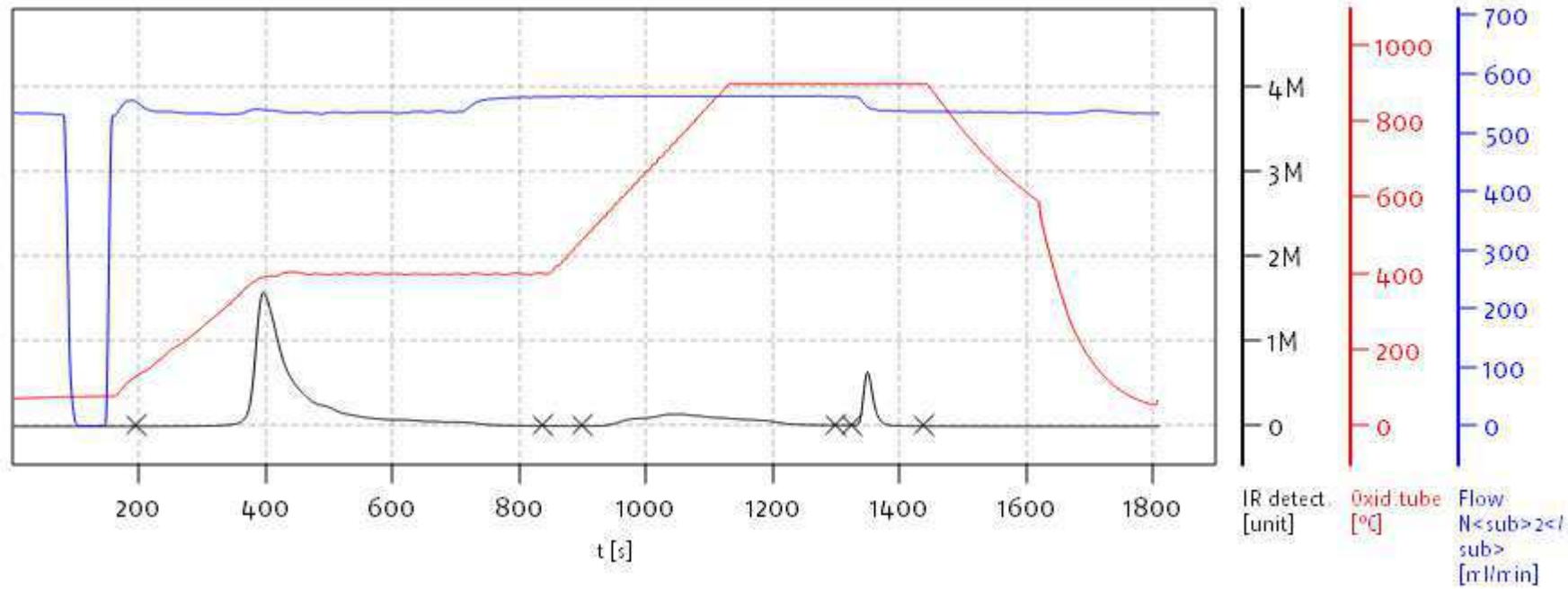
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
25	25	23C0071-06	559.50		CARBON	4/6/2023 10:34 PM	bl	1.249	4 220 569	1.532	0.118	451 800	1 045 985	1.132	0.282	0.9754	1.0000



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Balance: BAL3
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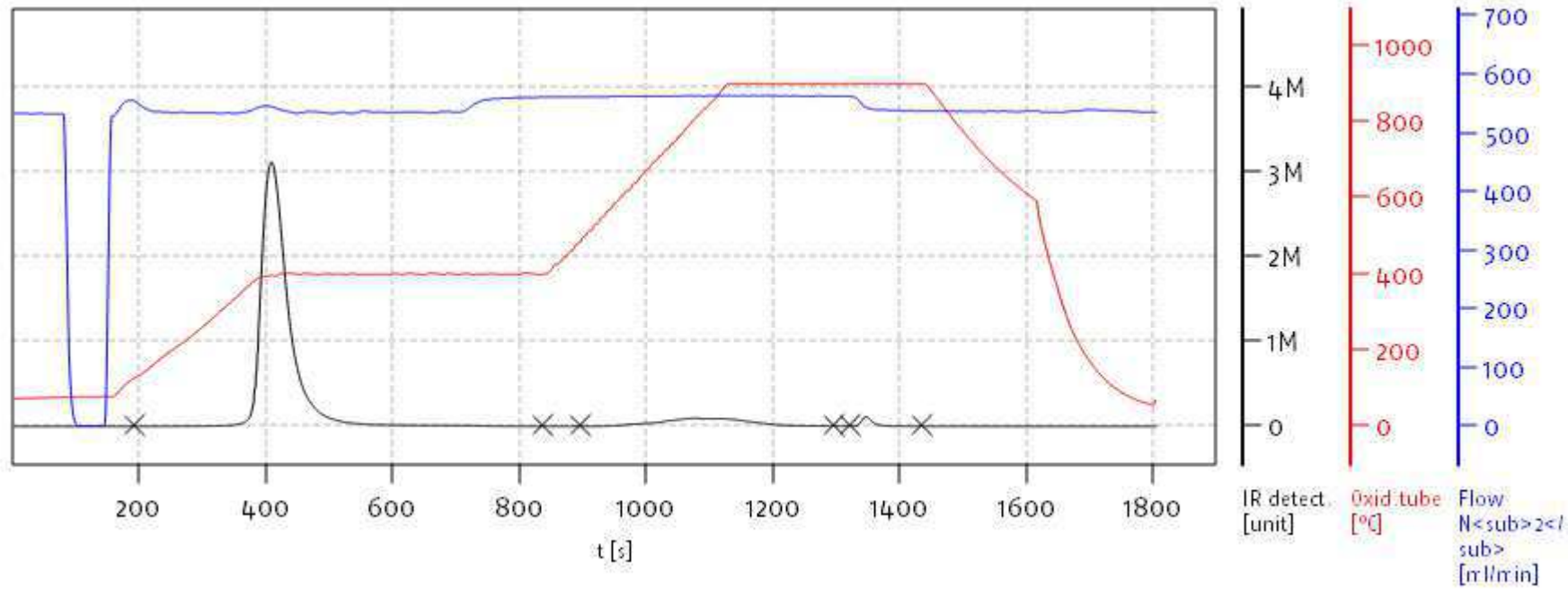
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
26	26	23C0071-08	539.90		CARBON	4/6/2023 11:05 PM	bl	1.628	5 783 562	1.791	0.018	88 712	594 963	1.610	0.163	0.9754	1.0000



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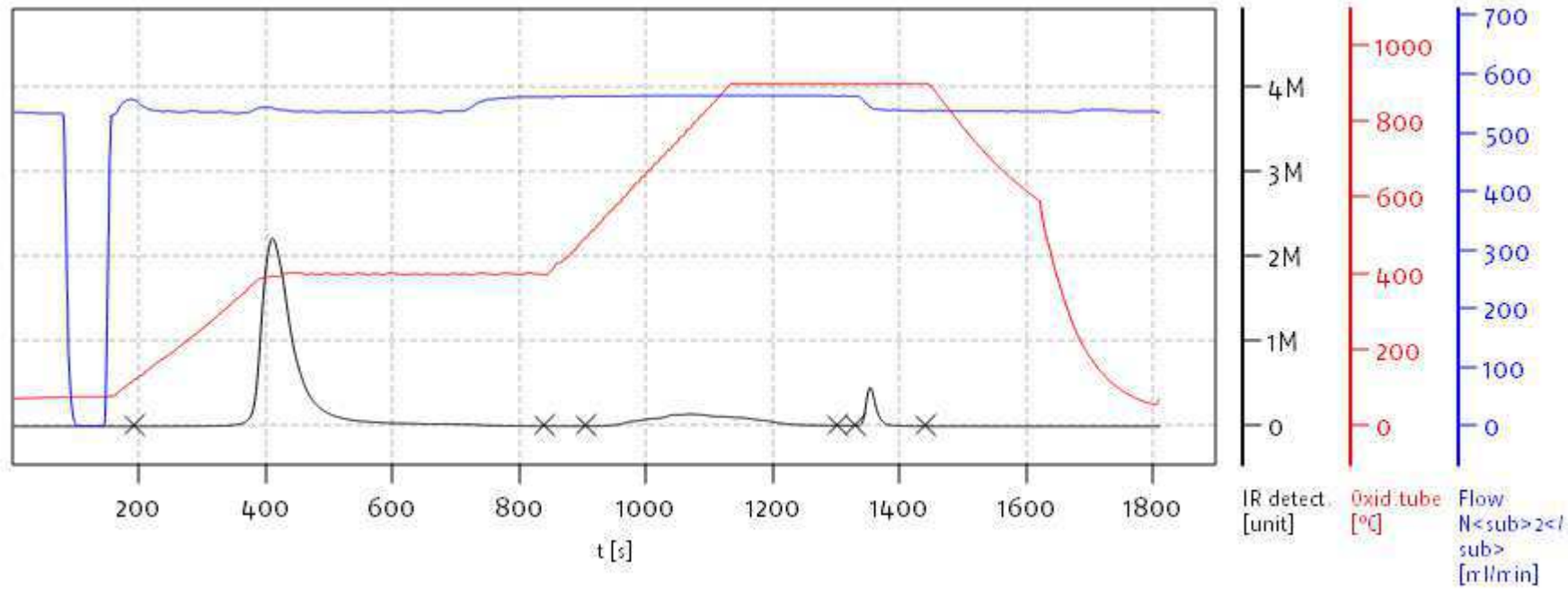
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
27	27	23C0071-09	561.60		CARBON	4/6/2023 11:35 PM	bl	1.416	4 984 161	1.686	0.083	328 729	1 005 524	1.333	0.270	0.9754	1.0000



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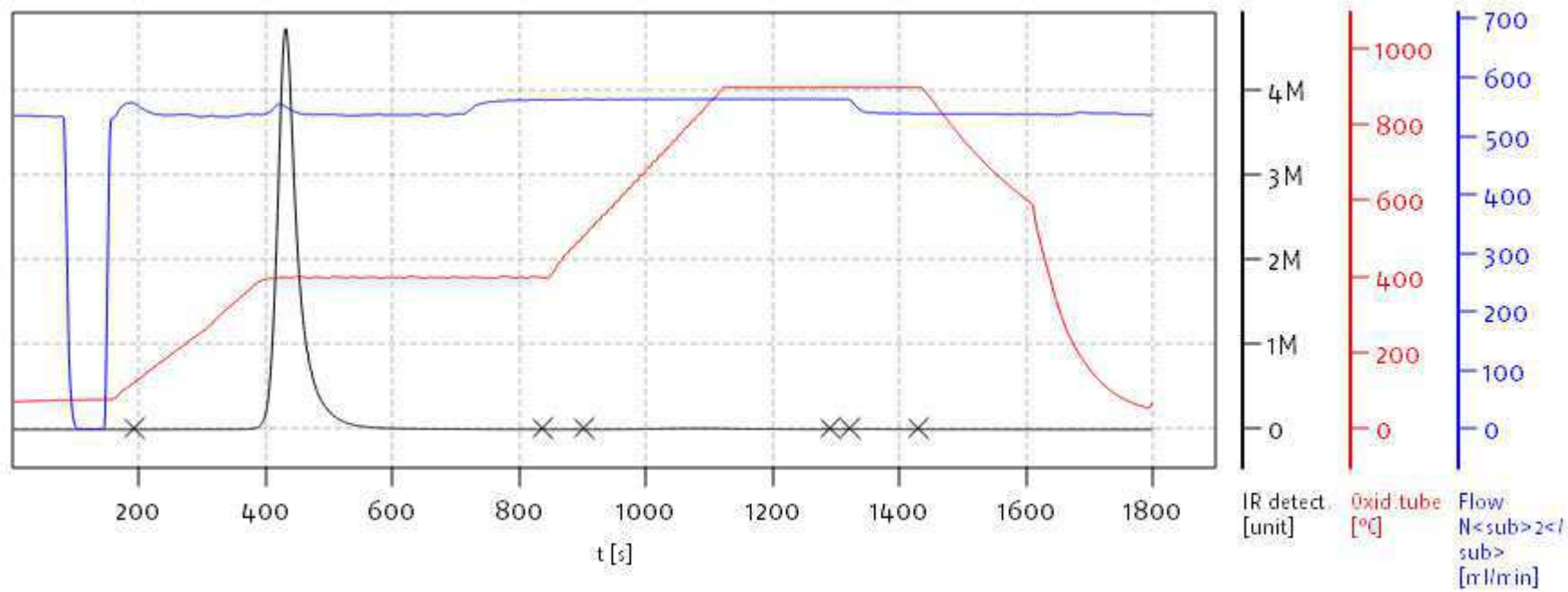
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
28	28	SLD0078-CCV2	22.60		CARBON	4/7/2023 12:06 AM	bl	45.809	6 883 119	46.250	0.000	13 667	90 901	45.809	0.441	0.9754	1.0000



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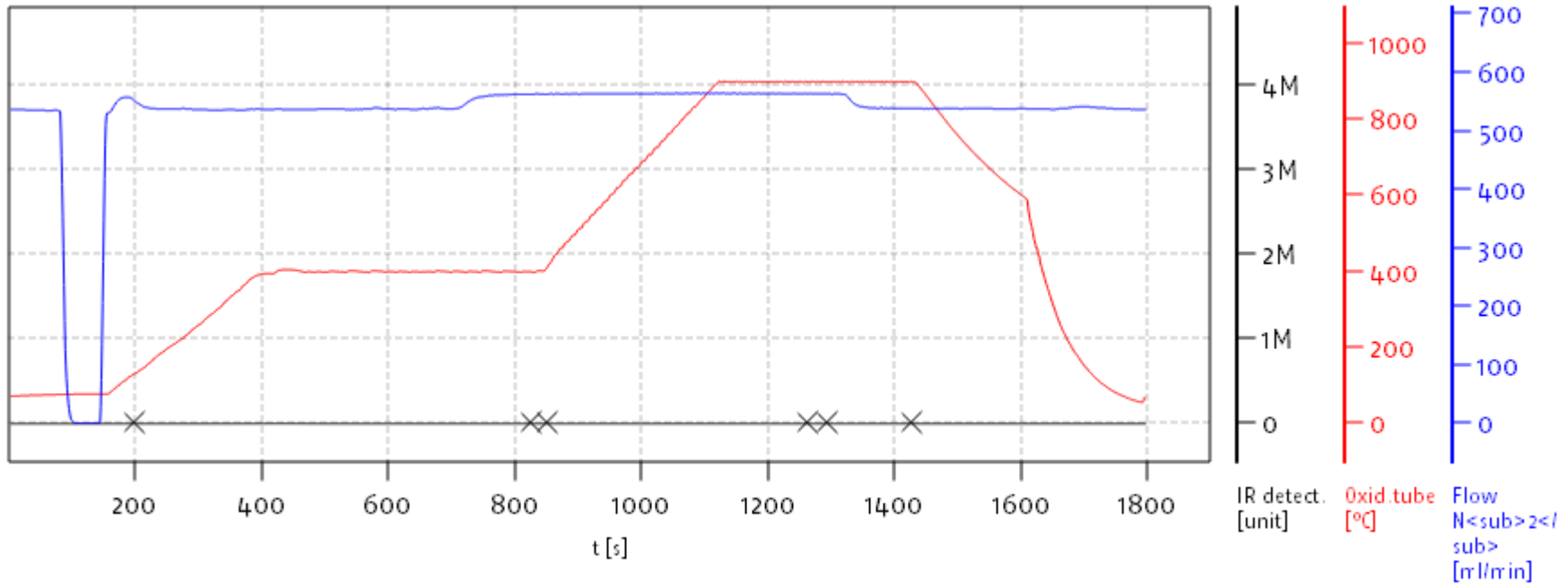
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
29	29	SLD0078-CCB2	573.30		CARBON	4/7/2023 12:36 AM	bl,C3u,C2u	0.000	7 813	0.000	0.000	584	804	0.000	0.000	0.9754	1.0000



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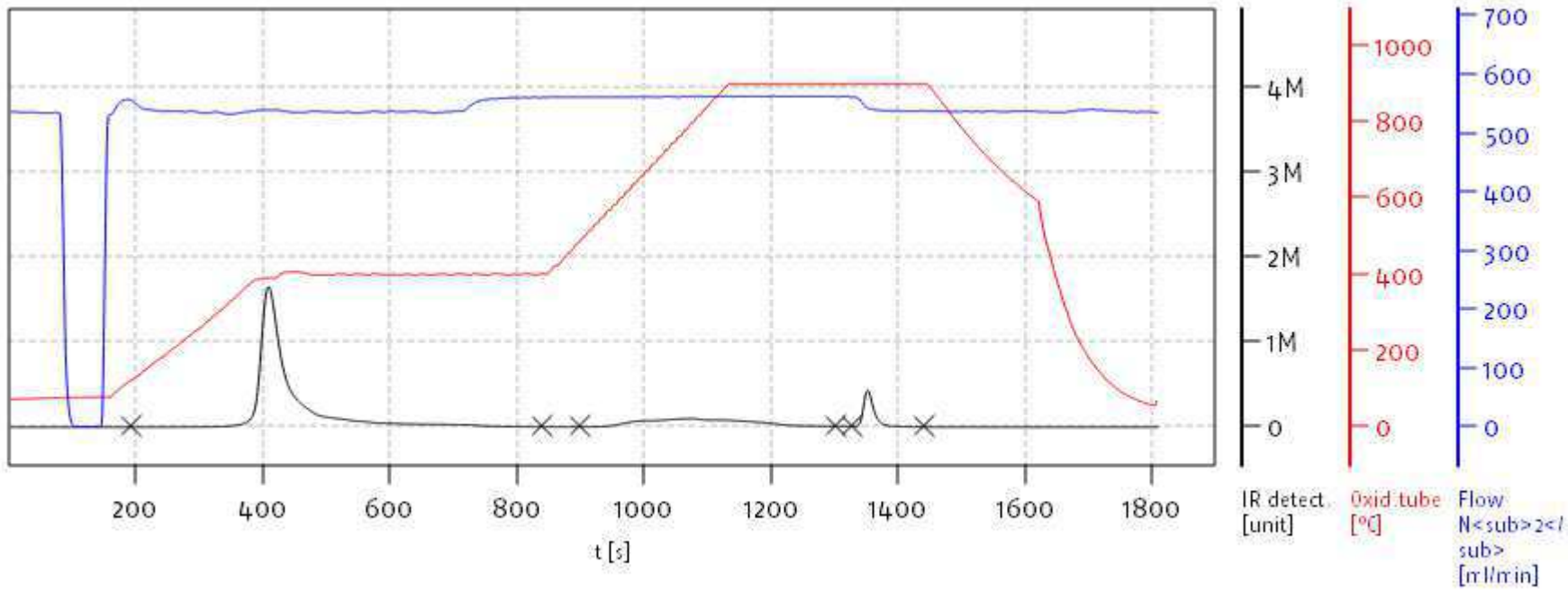
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
30	30	23C0071-10	530.40		CARBON	4/7/2023 1:07 AM	bl	0.967	3 124 489	1.185	0.085	318 029	772 711	0.882	0.218	0.9754	1.0000



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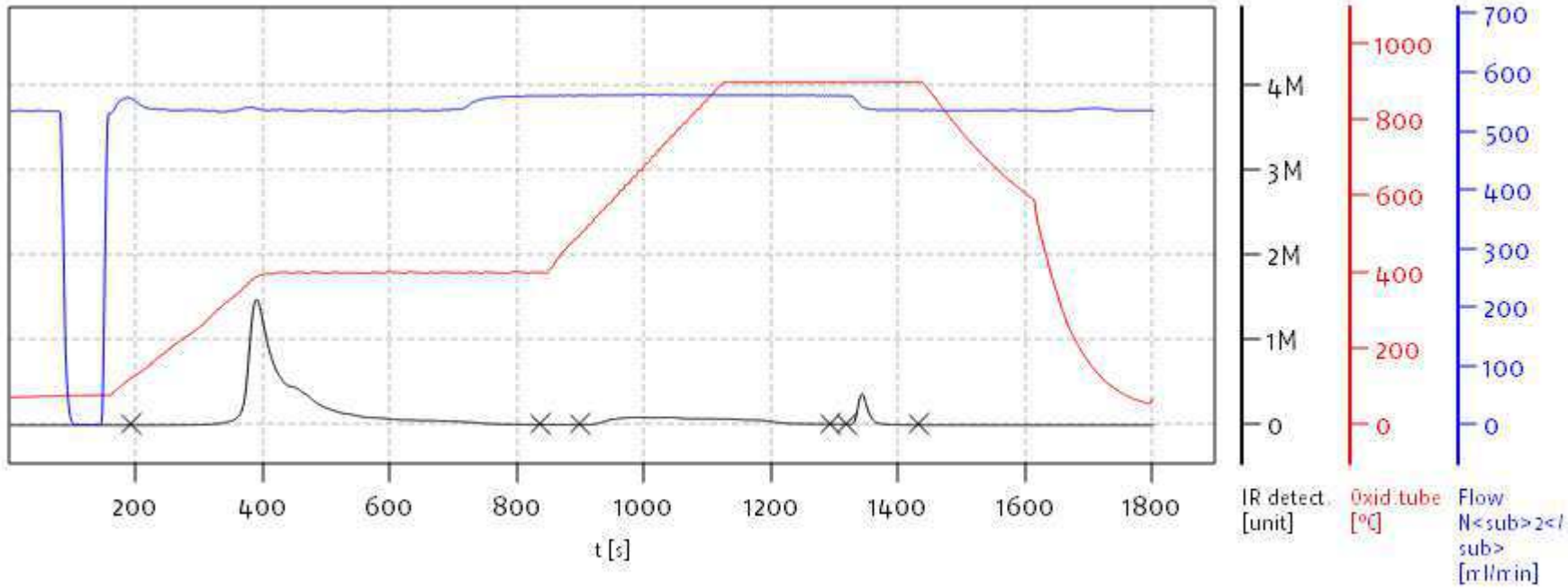
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
31	31	23C0107-01	615.40		CARBON	4/7/2023 1:37 AM	bl	1.026	3 966 911	1.229	0.060	263 285	831 203	0.967	0.202	0.9754	1.0000



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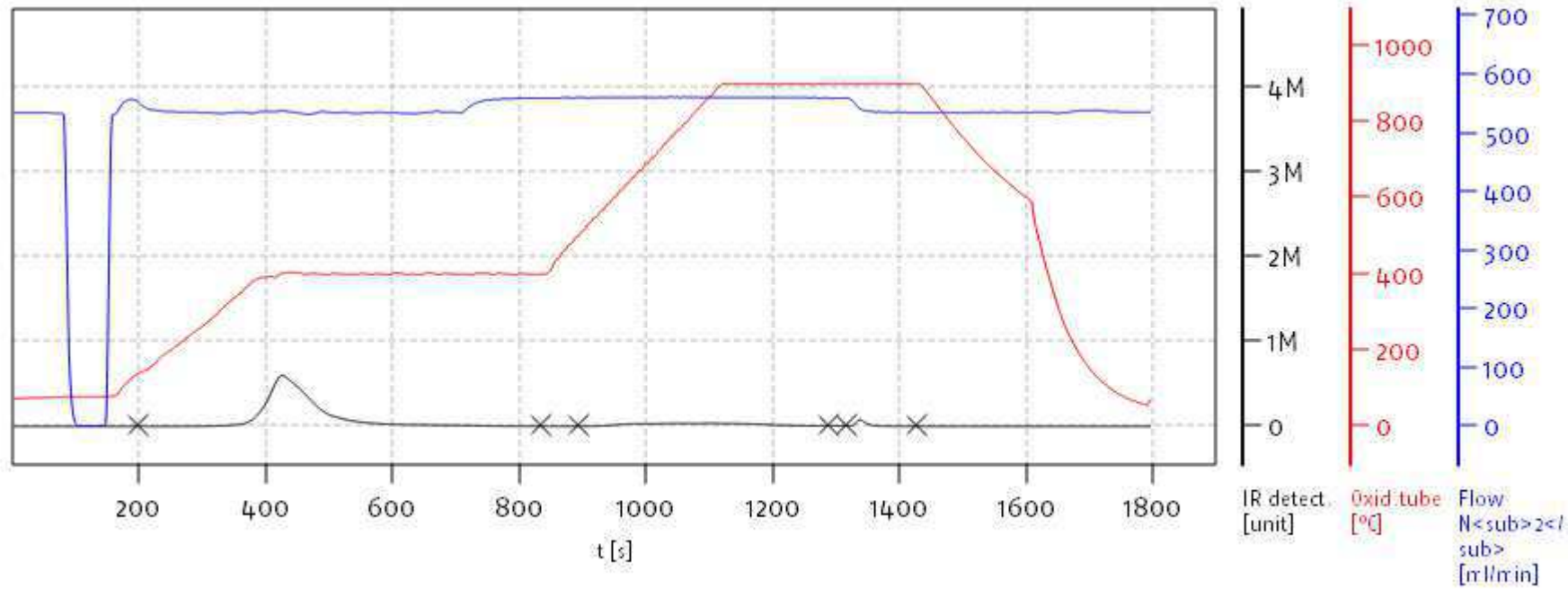
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
32	32	23C0107-02	517.50		CARBON	4/7/2023 2:07 AM	bl	0.580	1 980 067	0.670	0.010	59 517	327 643	0.570	0.090	0.9754	1.0000



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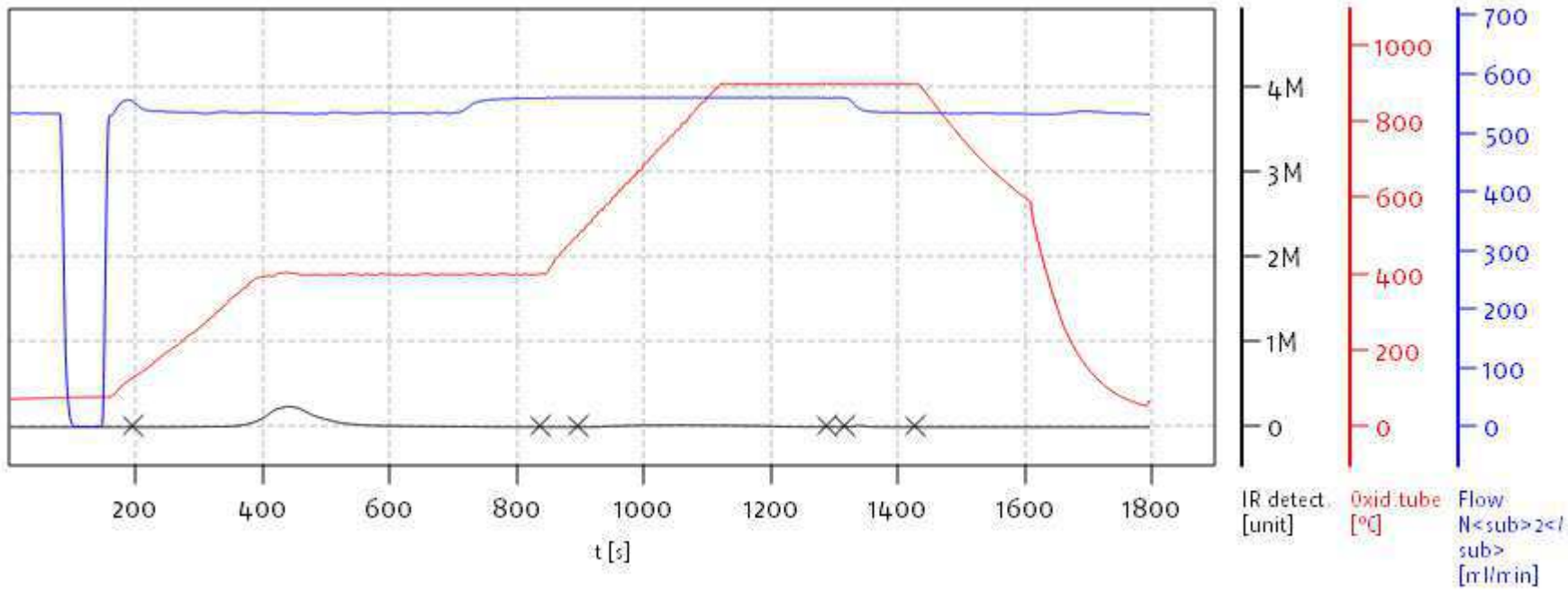
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
33	33	23C0107-03	515.70		CARBON	4/7/2023 2:38 AM	bl	0.272	956 373	0.323	0.000	15 058	195 860	0.272	0.051	0.9754	1.0000



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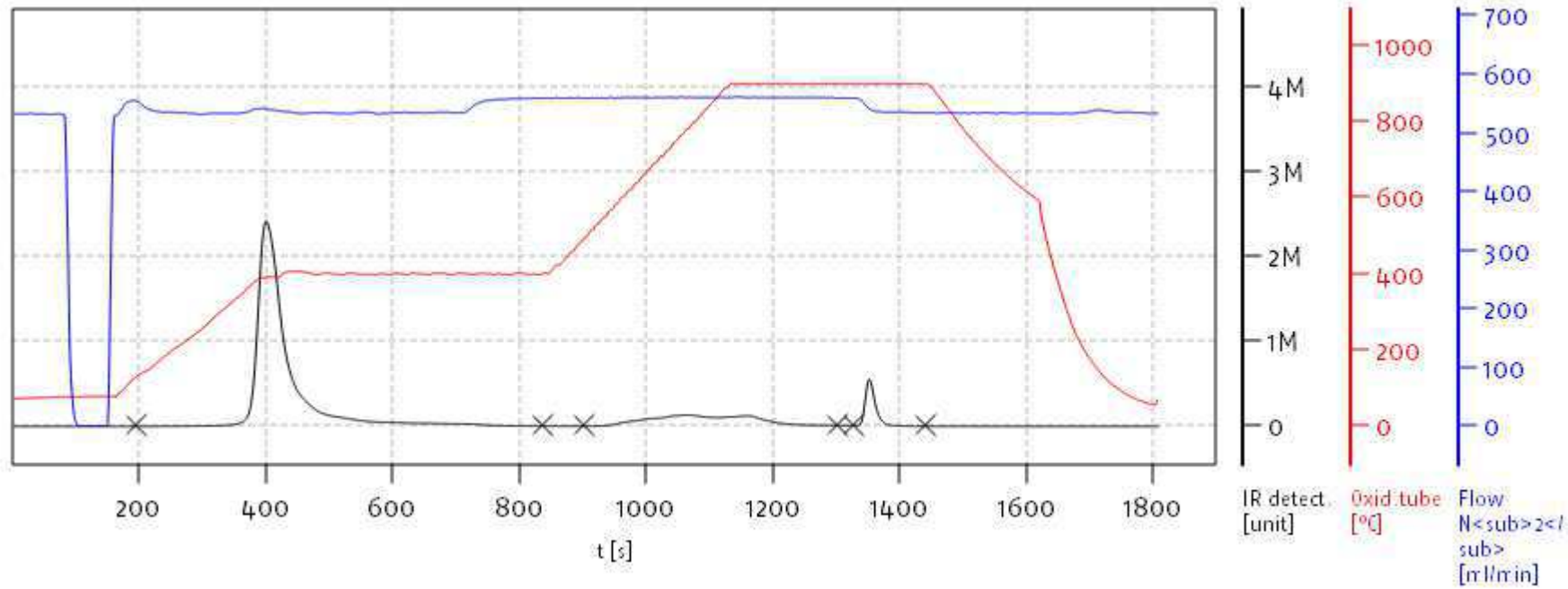
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
34	34	23C0108-01	532.00		CARBON	4/7/2023 3:08 AM	bl	1.444	4 738 246	1.732	0.106	392 325	1 017 914	1.337	0.288	0.9754	1.0000



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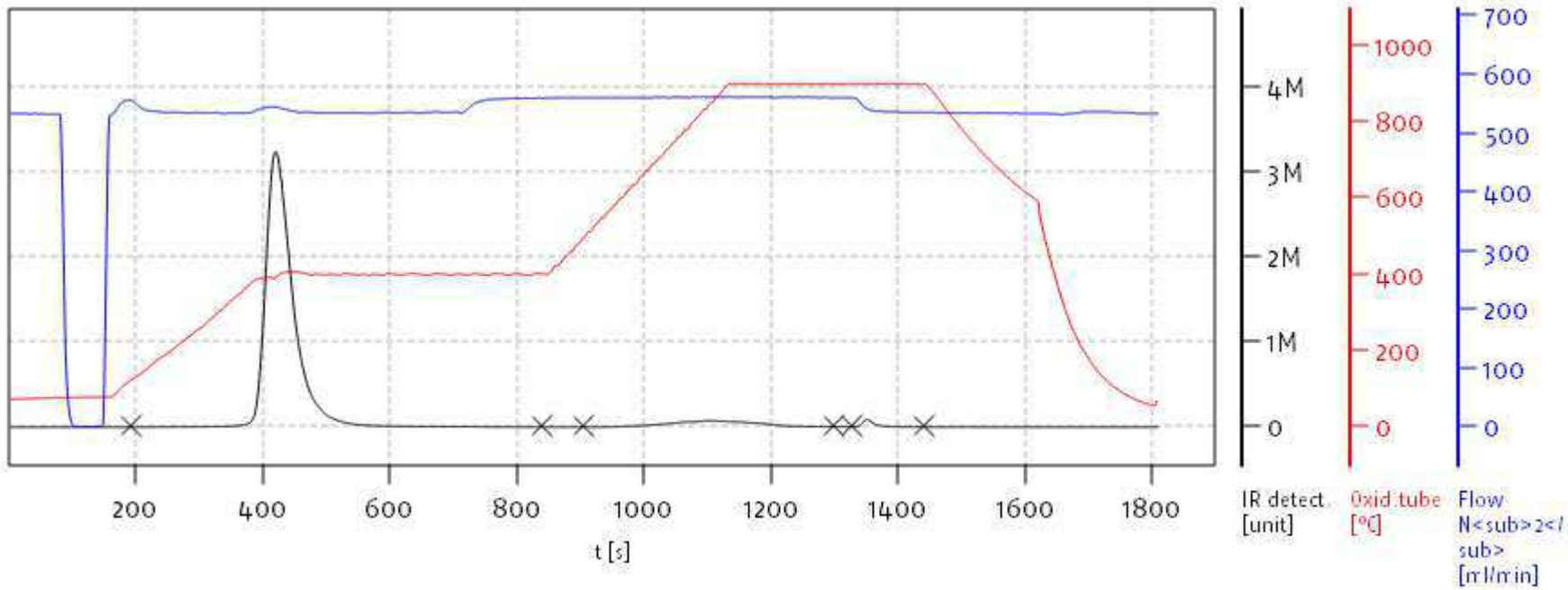
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
35	35	23C0108-02	547.30		CARBON	4/7/2023 3:39 AM	bl	1.676	6 050 716	1.798	0.014	76 463	455 757	1.662	0.121	0.9754	1.0000



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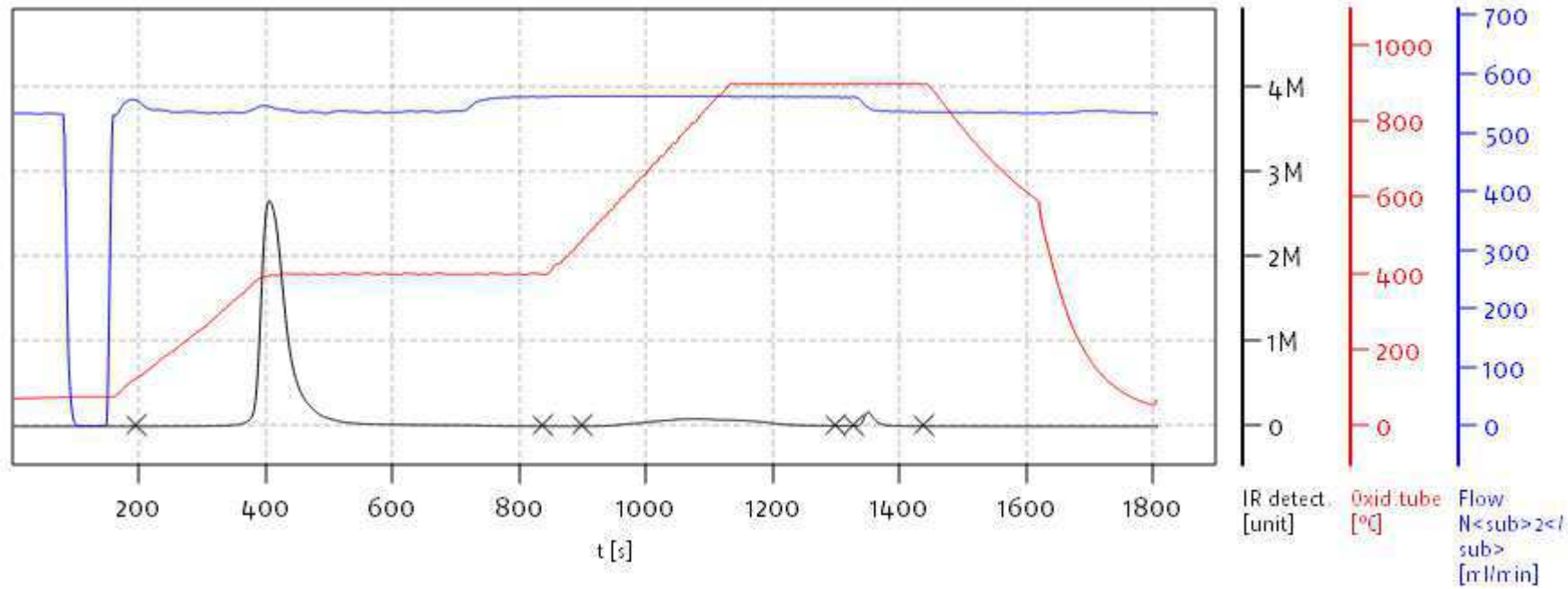
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
36	36	23C0108-03	534.00		CARBON	4/7/2023 4:09 AM	bl	1.380	4 795 899	1.560	0.031	133 443	650 661	1.349	0.181	0.9754	1.0000



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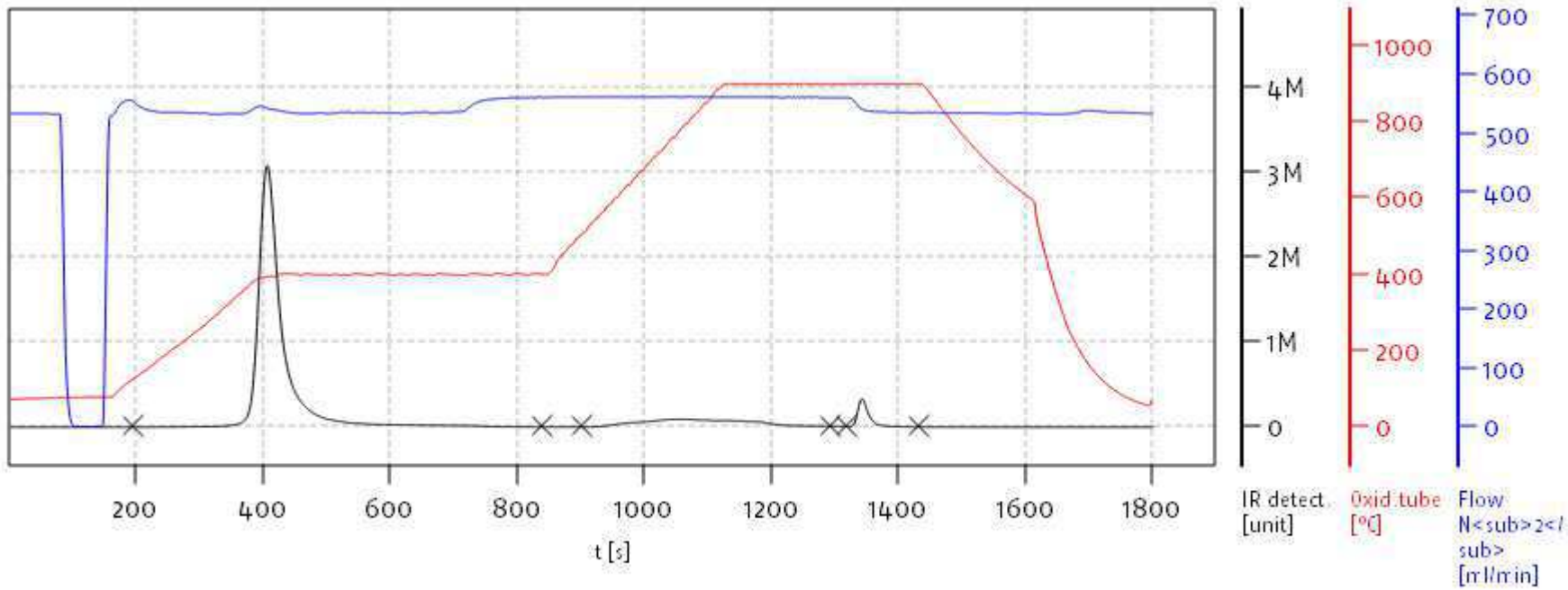
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
37	37	23C0108-04	542.40		CARBON	4/7/2023 4:40 AM	bl	1.422	4 896 325	1.624	0.066	257 866	734 963	1.356	0.202	0.9754	1.0000



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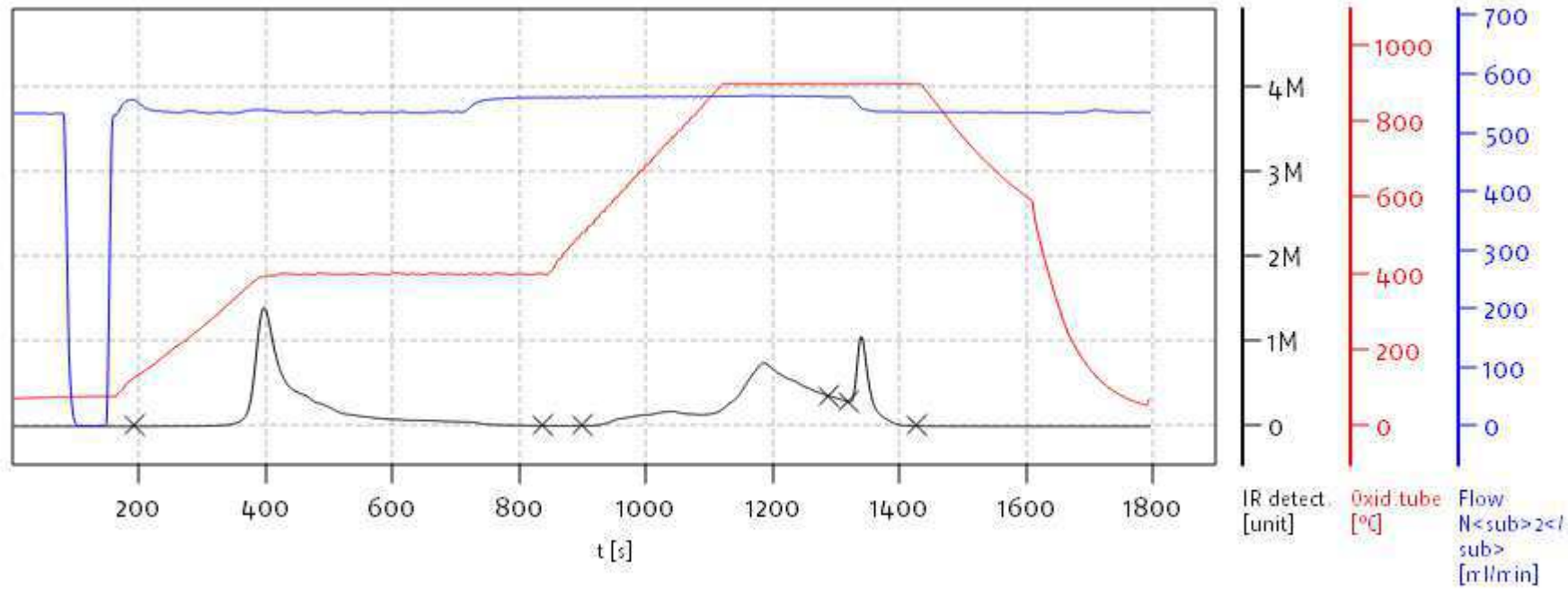
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
38	38	23C0108-05	596.90		CARBON	4/7/2023 5:10 AM	bl	1.225	3 824 434	2.291	0.265	1 047 474	4 133 408	0.961	1.065	0.9754	1.0000



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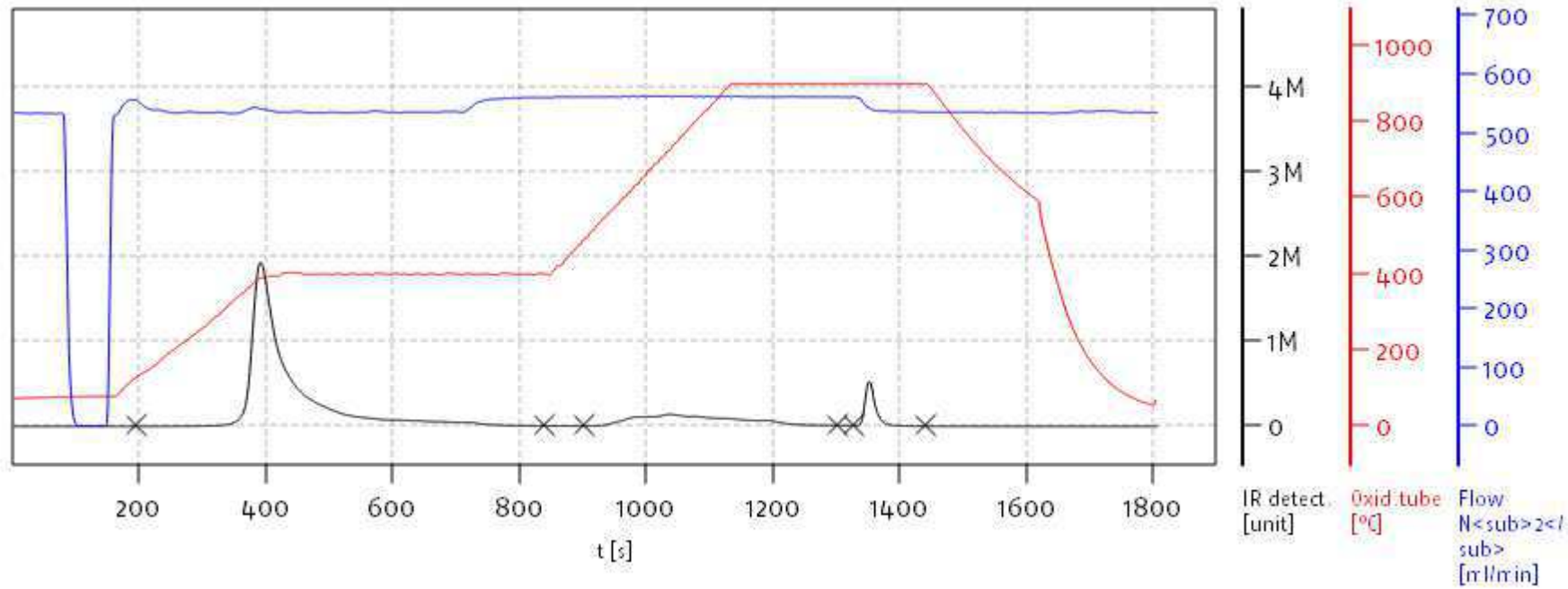
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
39	39	23C0108-06	640.90		CARBON	4/7/2023 5:41 AM	bl	1.189	4 712 073	1.434	0.085	379 002	1 038 986	1.104	0.245	0.9754	1.0000



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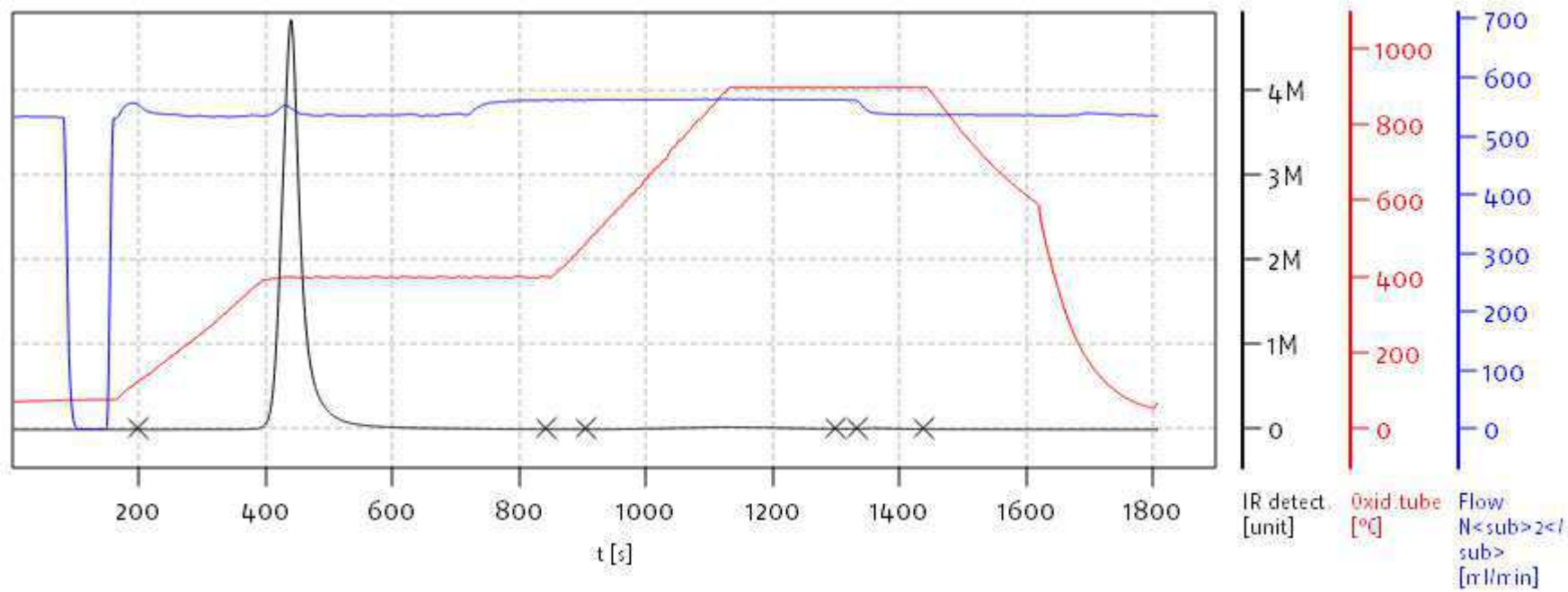
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
40	40	SLD0078-CCV3	23.00		CARBON	4/7/2023 6:11 AM	bl	43.740	6 679 705	45.110	0.063	35 865	230 196	43.677	1.371	0.9754	1.0000



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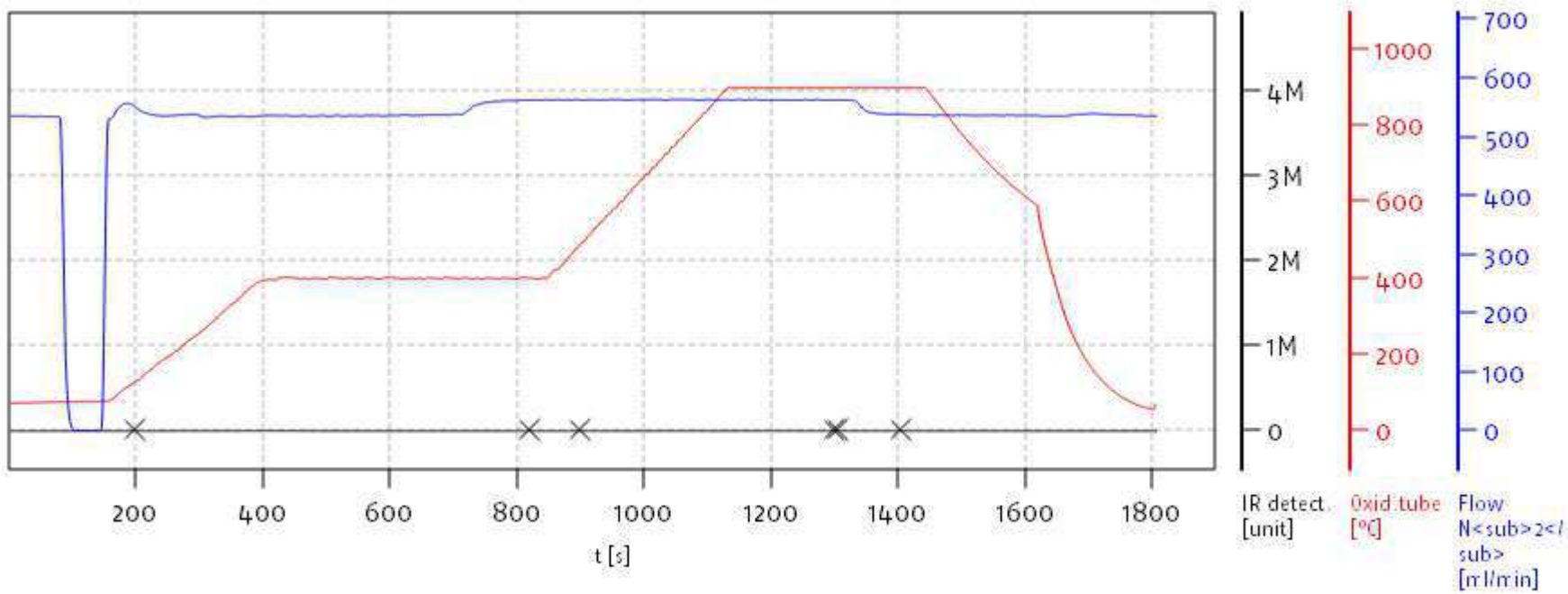
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
41	41	SLD0078-CCB3	503.20		CARBON	4/7/2023 6:42 AM	bl,C2u	0.000	12 513	0.000	0.000	2 147	8 843	0.000	0.000	0.9754	1.0000



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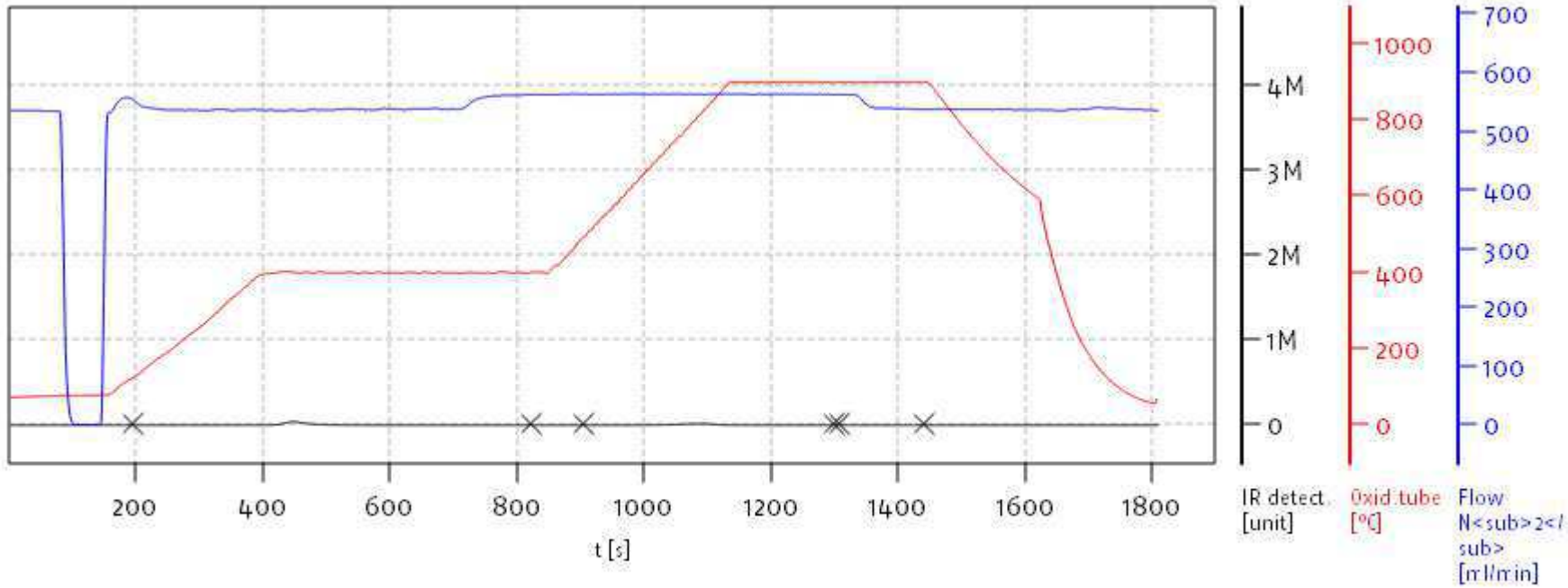
Date: Fri Apr 7 14:09:03 2023

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
42	42	BLD0118-MRL1	515.50		CARBON	4/7/2023 7:12 AM	bl,C2u	0.013	71 628	0.018	0.000	1 023	41 777	0.013	0.005	0.9754	1.0000



Name:

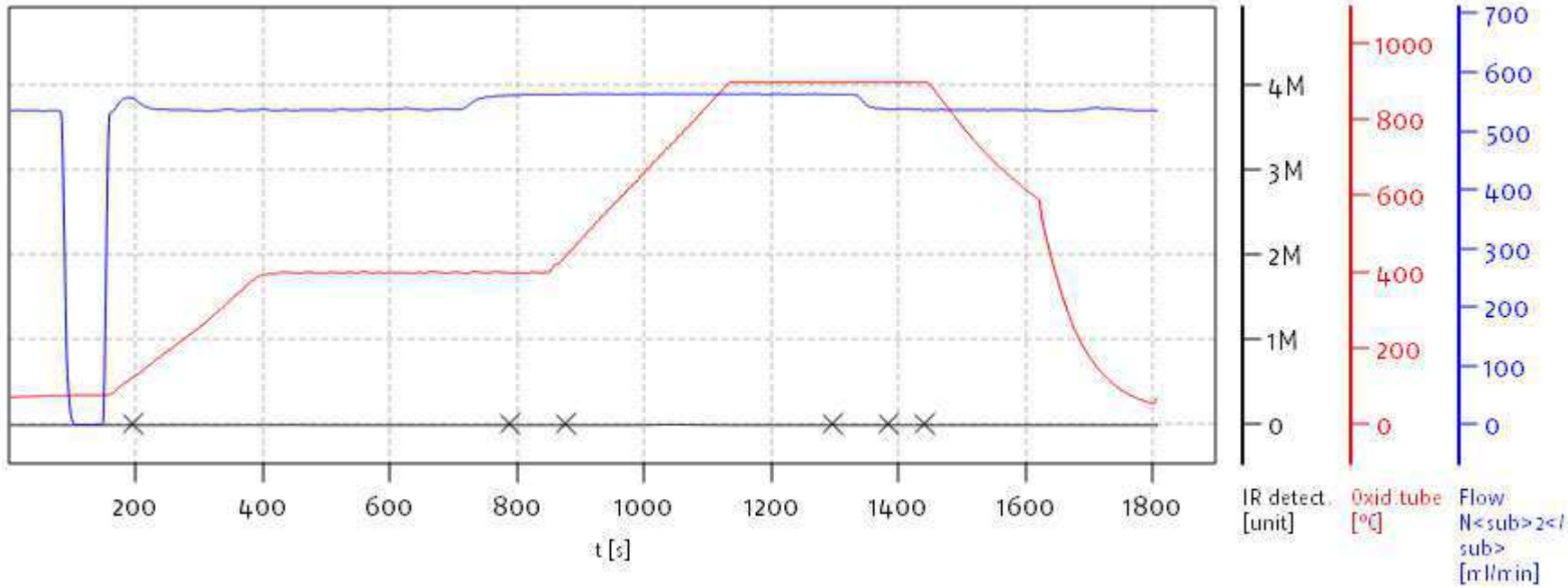
Access: soliTOC superuser

Date: Fri Apr 7 14:09:03 2023

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
43	43	BLD0118-BLK1	531.20		CARBON	4/7/2023 7:43 AM	bl,C2u	0.000	12 189	0.000	0.000	320	20 934	0.000	0.000	0.9754	1.0000



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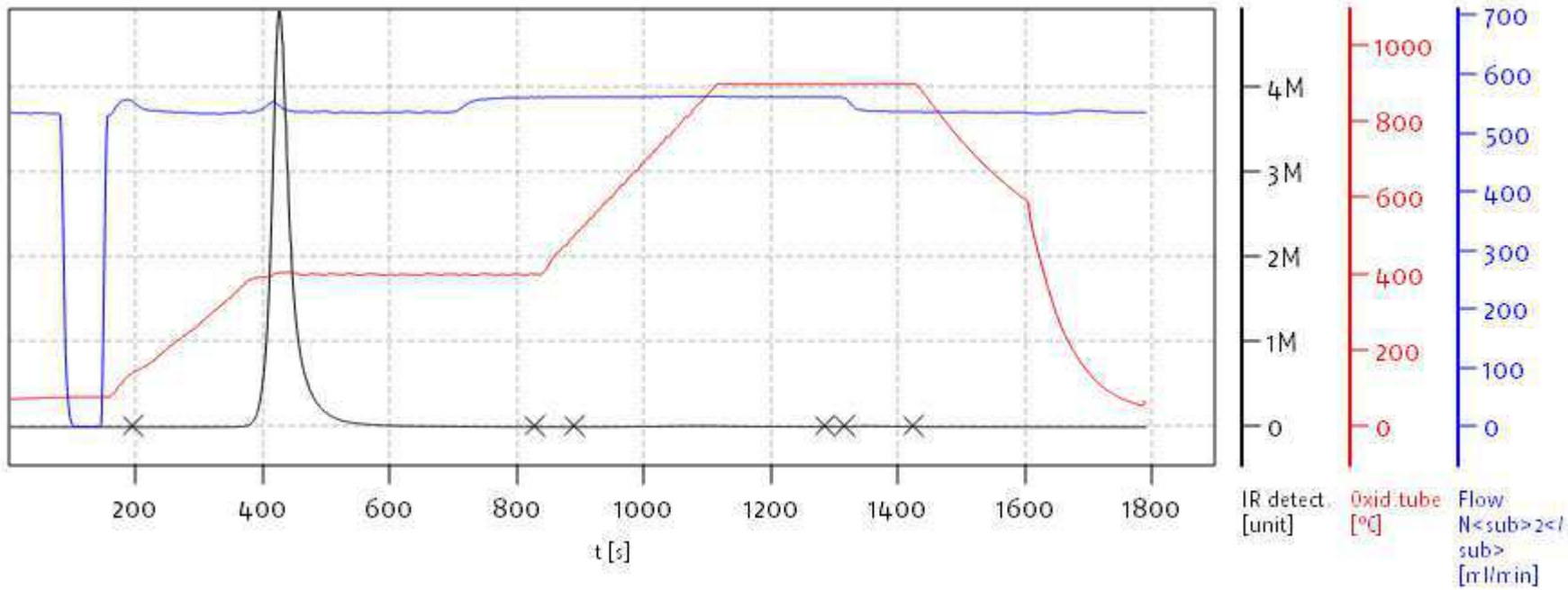
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
44	44	BLD0118-BS1	22.80		CARBON	4/7/2023 8:13 AM	bl	44.960	6 814 452	45.433	0.008	27 651	96 141	44.952	0.473	0.9754	1.0000



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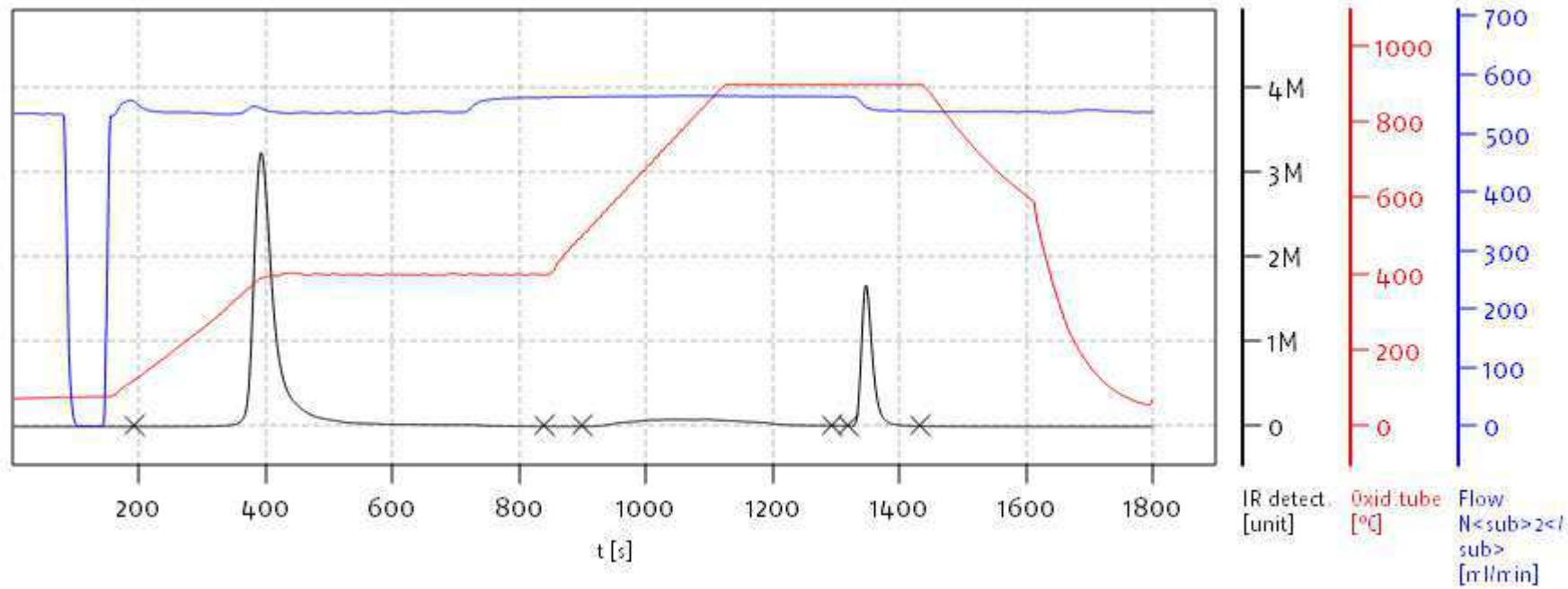
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
45	45	BLD0118-SRM1	303.30		CARBON	4/7/2023 8:43 AM	bl	3.028	4 807 980	3.381	0.647	1 294 551	718 658	2.380	0.353	0.9754	1.0000



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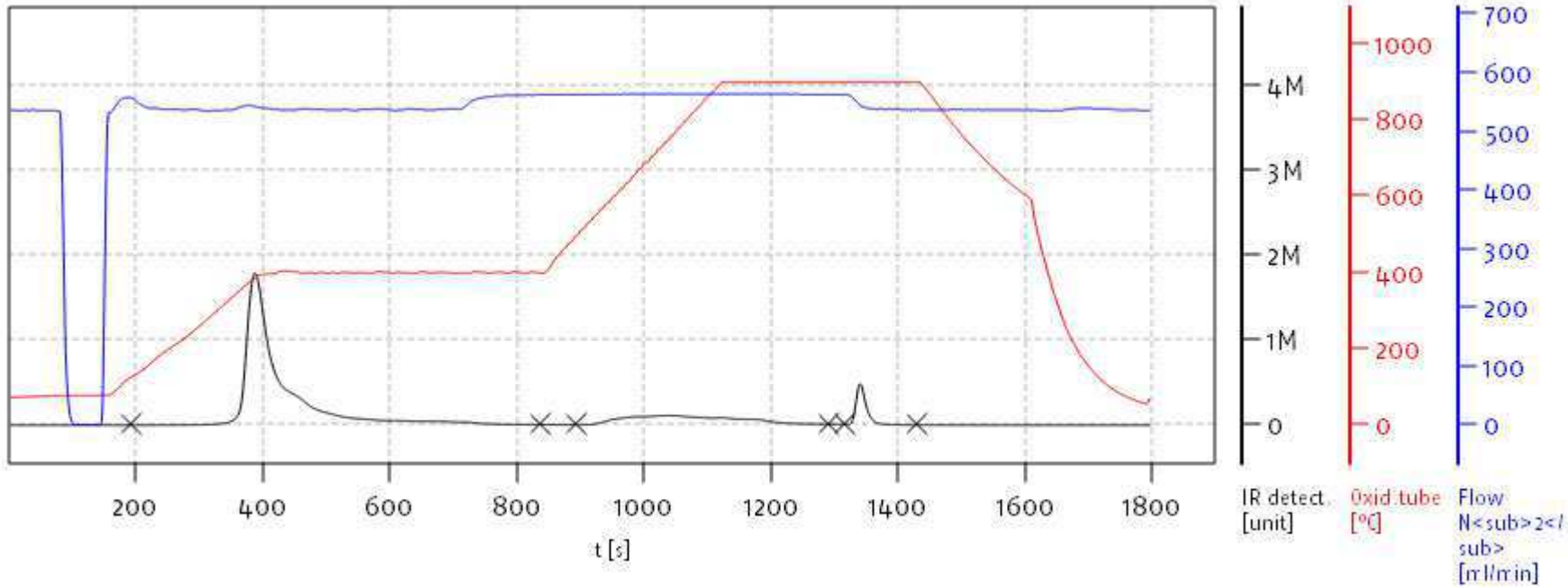
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
46	46	23C0108-07	526.30		CARBON	4/7/2023 9:14 AM	bl	1.224	3 961 887	1.492	0.095	348 023	939 139	1.129	0.268	0.9754	1.0000



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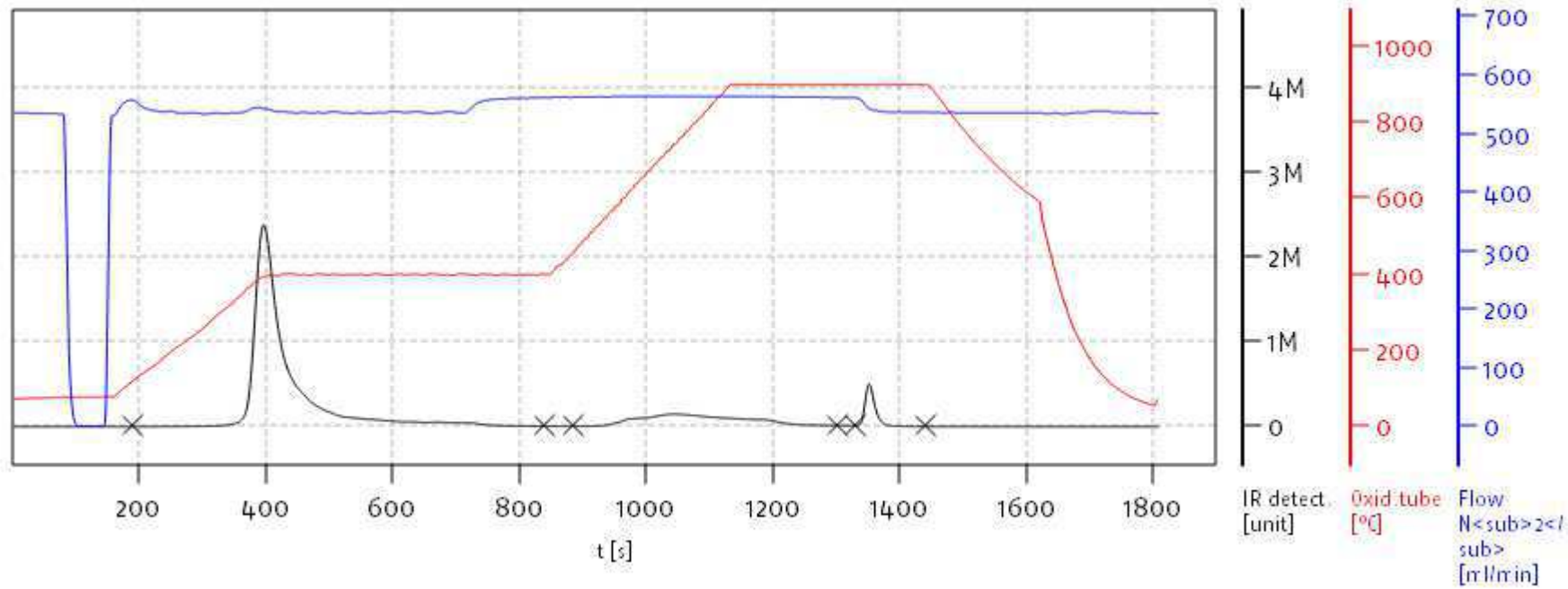
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
47	47	BLD0118-DUP1	652.70		CARBON	4/7/2023 9:44 AM	bl	1.240	5 056 657	1.500	0.077	350 506	1 122 537	1.164	0.260	0.9754	1.0000



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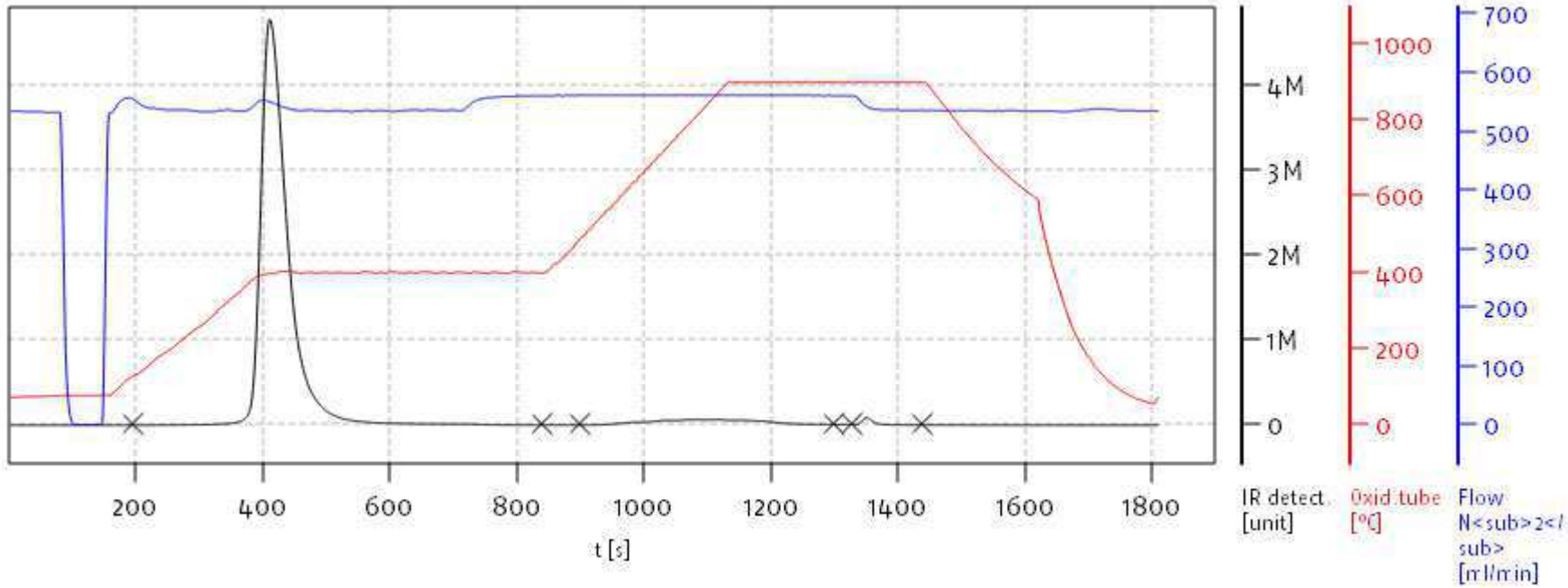
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
48	48	BLD0118-MS1	612.90	0.0098	CARBON	4/7/2023 10:15 AM	bl	2.163	8 756 861	2.292	0.012	73 273	538 425	2.151	0.129	0.9754	1.0000



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Access: soliTOC superuser

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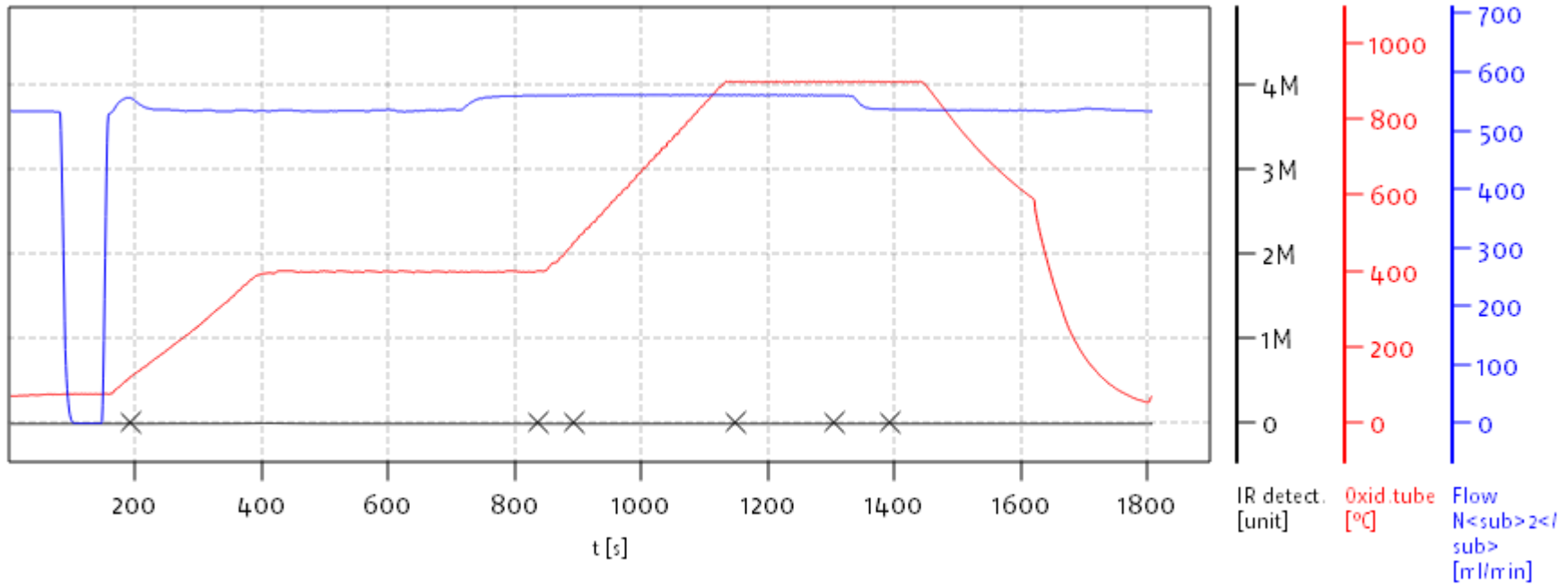
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
49	49	BLANK	1.00		CARBON	4/7/2023 10:45 AM	bl	0.000	24 968	0.000	0.000	491	2 843	0.000	0.000	0.9754	1.0000



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Date: Fri Apr 7 14:09:03 2023

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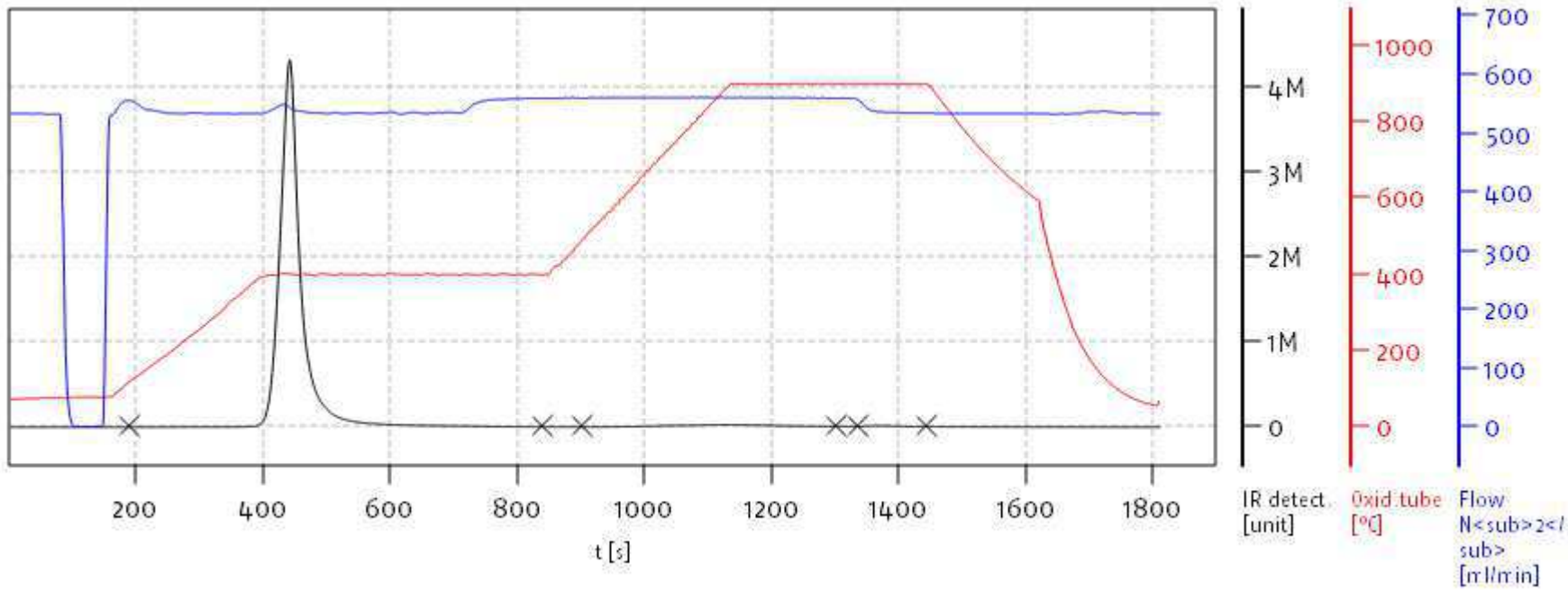
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
50	50	Dfactor	21.30		CARBON	4/7/2023 11:16 AM	bl	44.545	6 154 865	45.938	0.099	40 166	218 261	44.446	1.393	0.9979	1.0000



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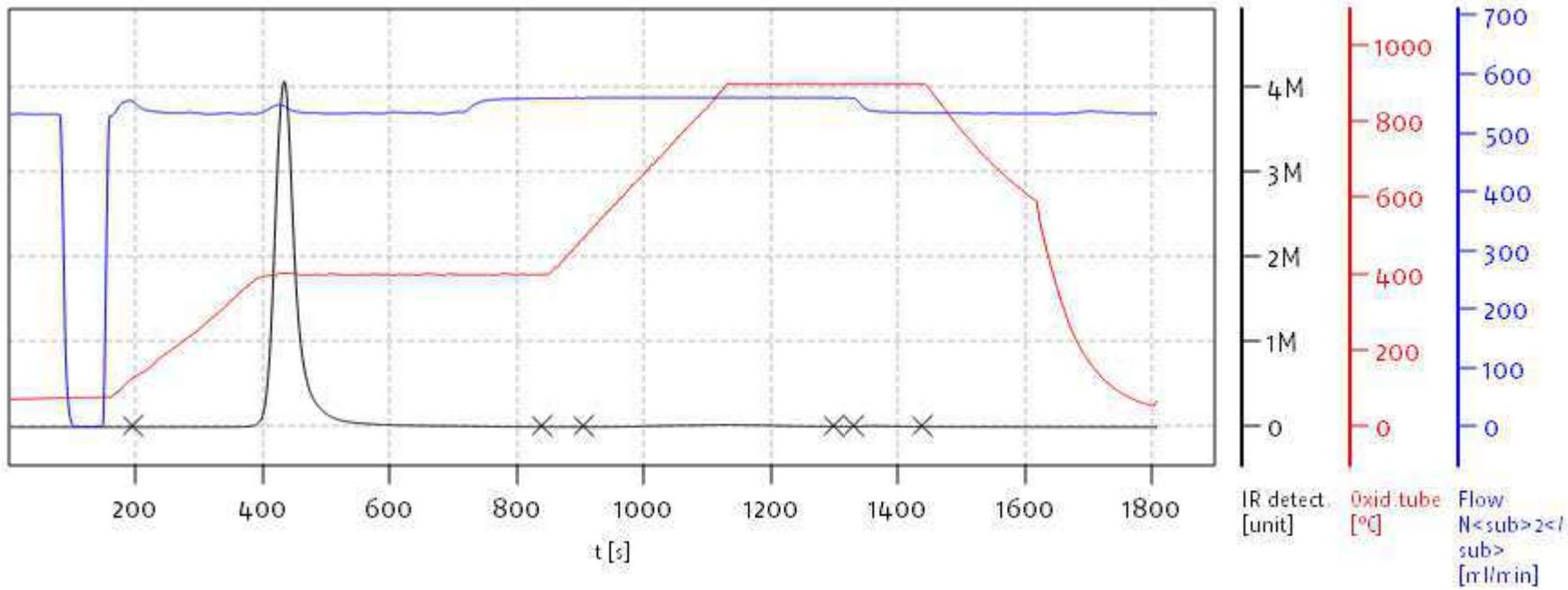
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
51	51	Dfactor	20.80		CARBON	4/7/2023 11:46 AM	bl	44.488	6 004 928	45.869	0.043	32 263	212 072	44.446	1.381	0.9989	1.0000



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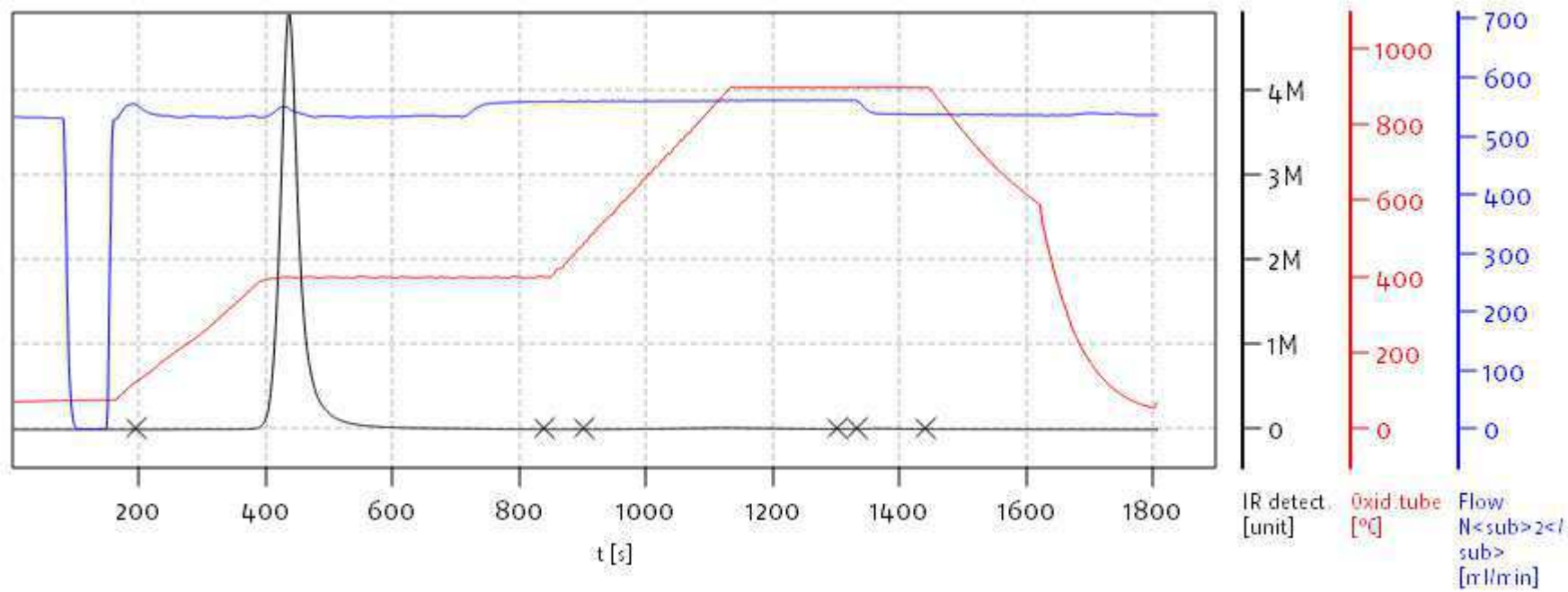
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
52	52	SLD0078-CCV4	23.30		CARBON	4/7/2023 12:17 PM	bl	45.274	6 847 908	46.060	0.026	30 391	144 798	45.248	0.786	0.9984	1.0000



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Serial No: 0300.181017
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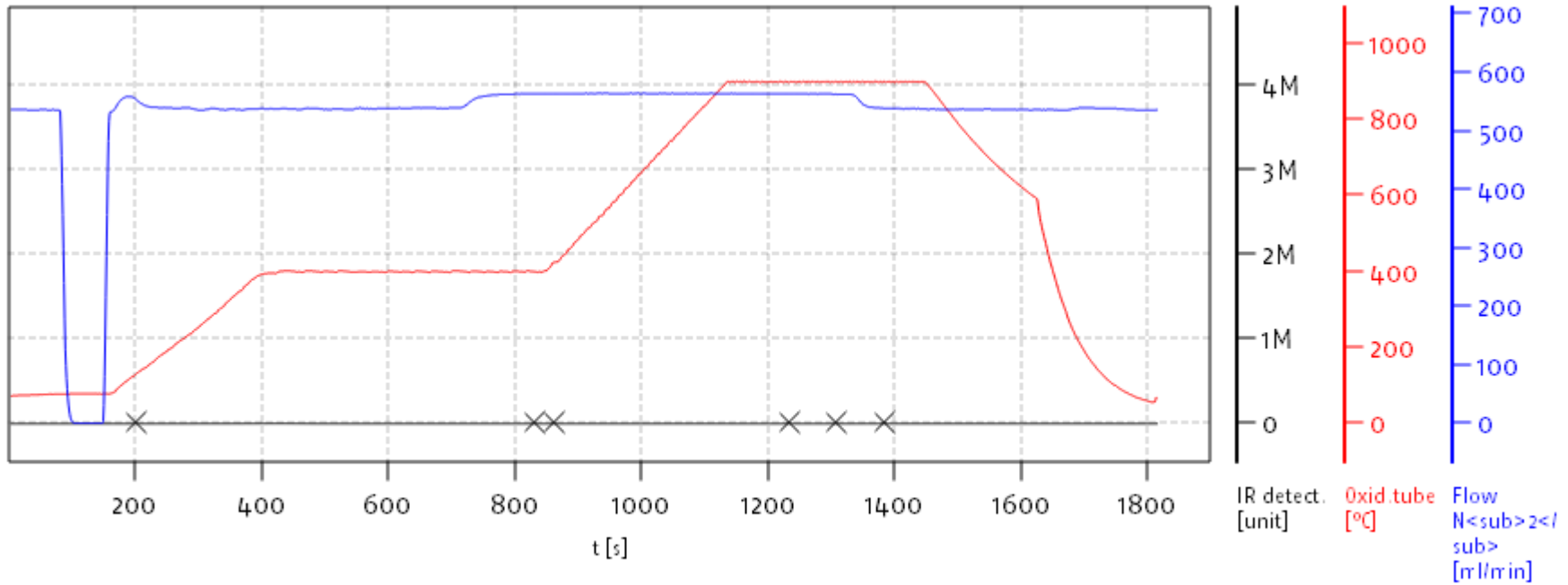
Balance: BAL3
Analyst: CDE

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
53	53	SLD0078-CCB4	526.30		CARBON	4/7/2023 12:47 PM	bl,C3u,C2u	0.000	11 548	0.000	0.000	707	821	0.000	0.000	0.9984	1.0000



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Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Analytical Resources, LLC
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 9060A m

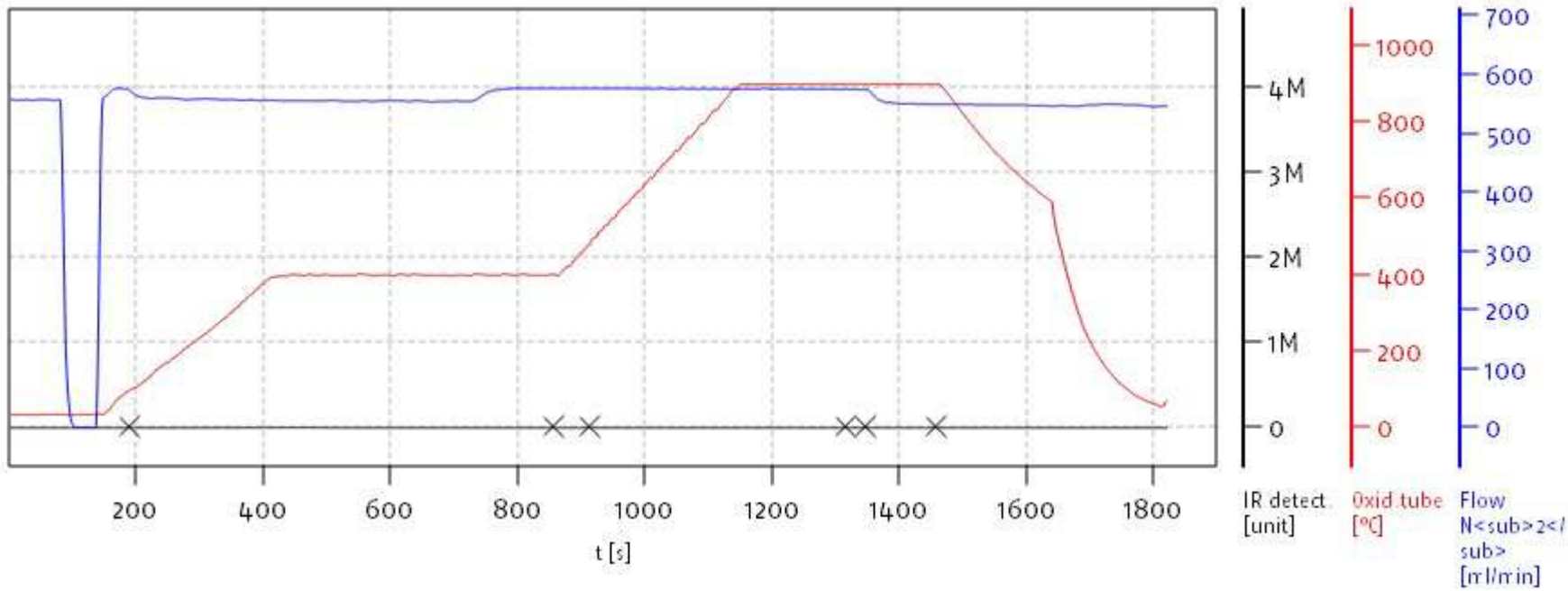
Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Sequence:	SLD0126	Instrument:	TOC Cube
		Calibration:	FD00070

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Initial Cal Check	SLD0126-ICV1	CubeData_05092023@1652-003	NA	04/08/23 16:13
Initial Cal Blank	SLD0126-ICB1	CubeData_05092023@1652-004	NA	04/08/23 16:43
LDW23-SS1111	23C0108-08	CubeData_05092023@1652-005	Solid	04/08/23 17:13
LDW23-SS1118	23C0108-09	CubeData_05092023@1652-006	Solid	04/08/23 17:43
LDW23-SC1111	23C0108-10	CubeData_05092023@1652-007	Solid	04/08/23 18:13
Calibration Check	SLD0126-CCV1	CubeData_05092023@1652-015	NA	04/08/23 22:15
Calibration Blank	SLD0126-CCB1	CubeData_05092023@1652-016	NA	04/08/23 22:46
Calibration Check	SLD0126-CCV2	CubeData_05092023@1652-021	NA	04/09/23 01:17
Calibration Blank	SLD0126-CCB2	CubeData_05092023@1652-022	NA	04/09/23 01:47

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

Analytical Resources, LLC
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
1	1	BLANK	1.00		CARBON	4/8/2023 2:42 PM	bl	0.000	19 683	0.000	0.000	1 762	5 539	0.000	0.000	1.0000	1.0000



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Access: soliTOC superuser

Date: Tue May 9 13:03:53 2023

elementar
EXCELLENCE IN ELEMENTS

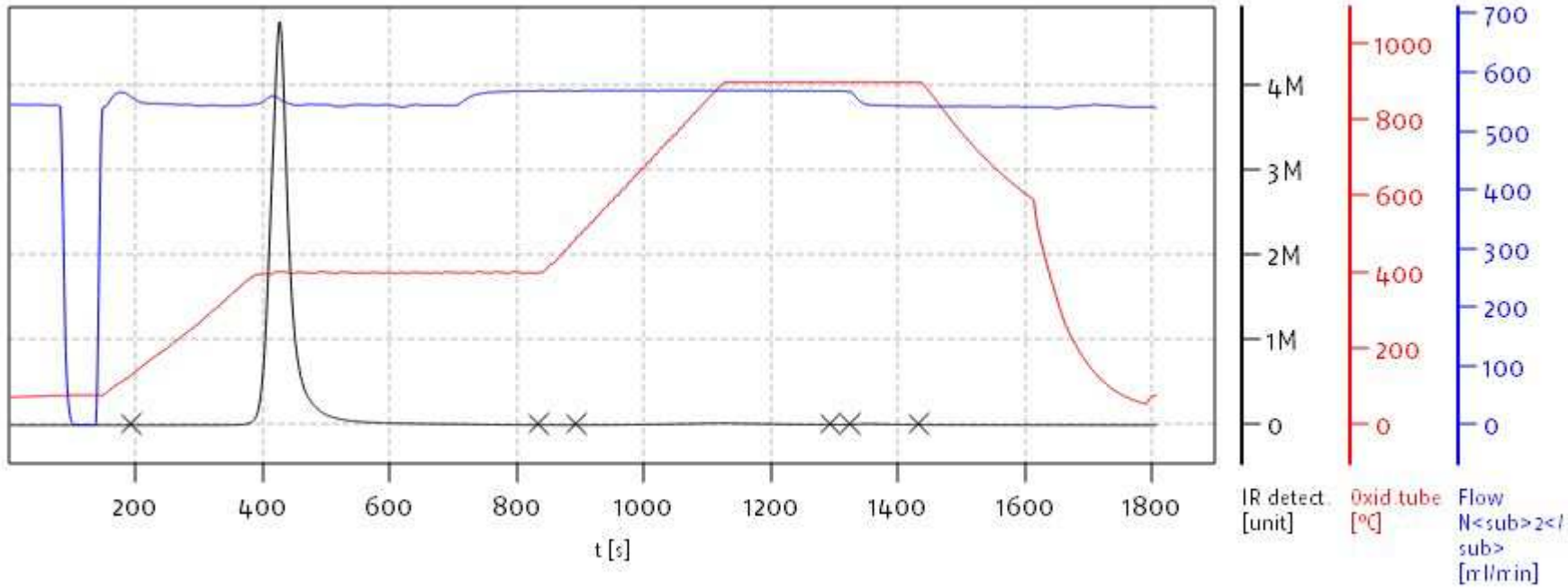
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Document: 040823 CDE from: 4/23/2023 3:31 PM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

Analytical Resources, LLC
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
2	2	Dfactor	22.00		CARBON	4/8/2023 3:12 PM	bl	44.519	6 339 880	45.496	0.074	37 036	165 345	44.446	0.977	1.0005	1.0000



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soliTOC V2.0.2 (31015f9) 2018-11-19
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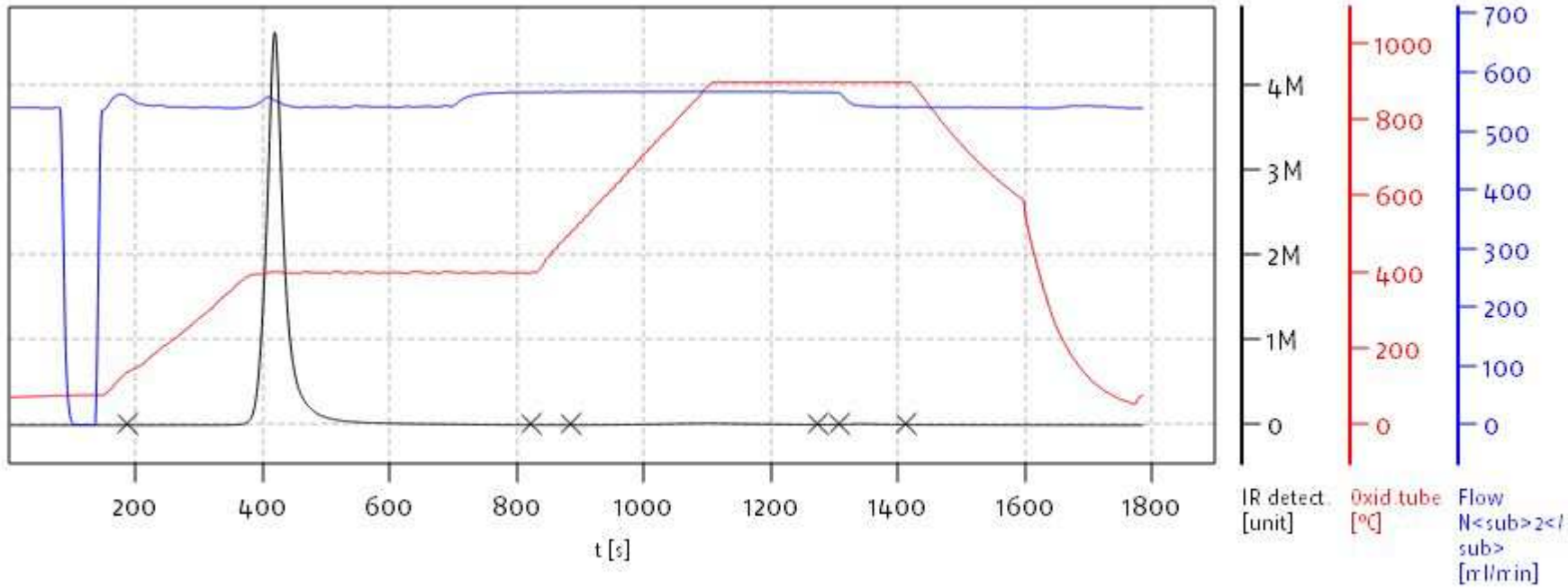
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

Analytical Resources, LLC
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
3	3	Dfactor	20.70		CARBON	4/8/2023 3:43 PM	bl	44.506	5 926 630	45.452	0.060	34 560	153 114	44.446	0.947	1.0073	1.0000



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Balance: BAL3
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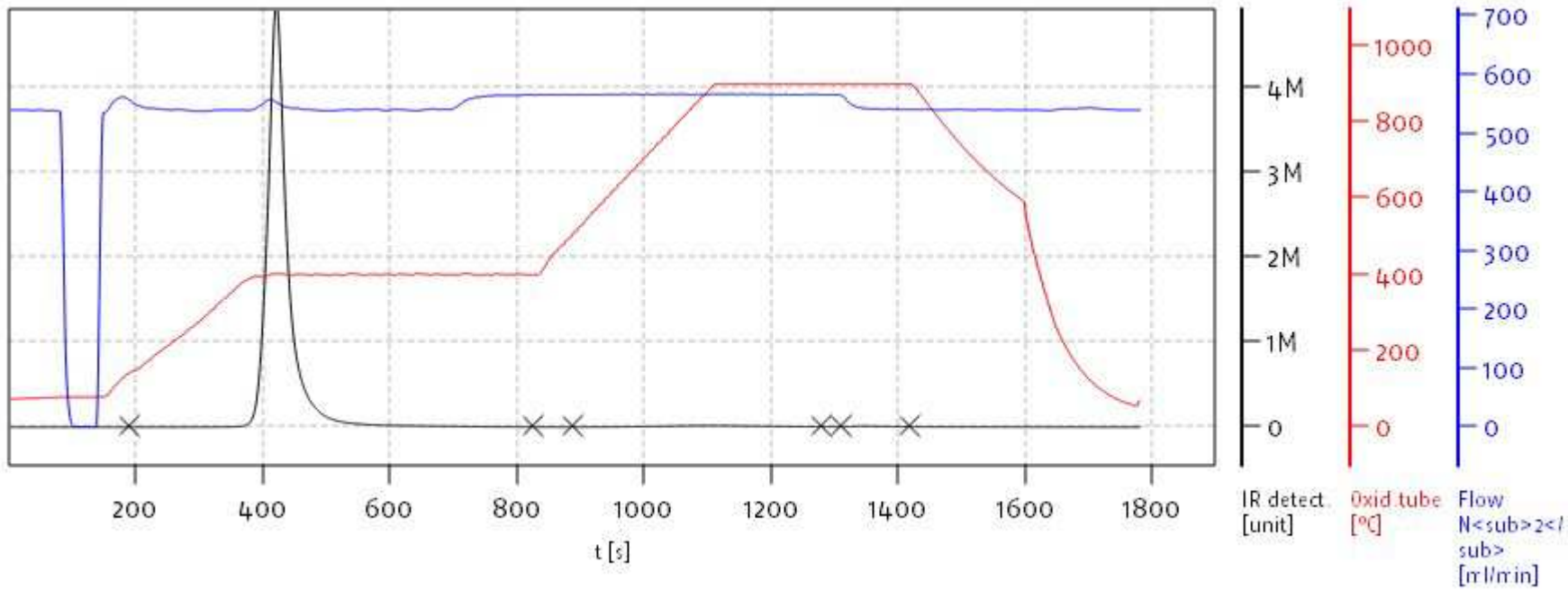
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
4	4	SLD0126-ICV1	23.50		CARBON	4/8/2023 4:13 PM	bl	45.431	6 893 050	46.136	0.023	29 969	133 613	45.408	0.705	1.0039	1.0000



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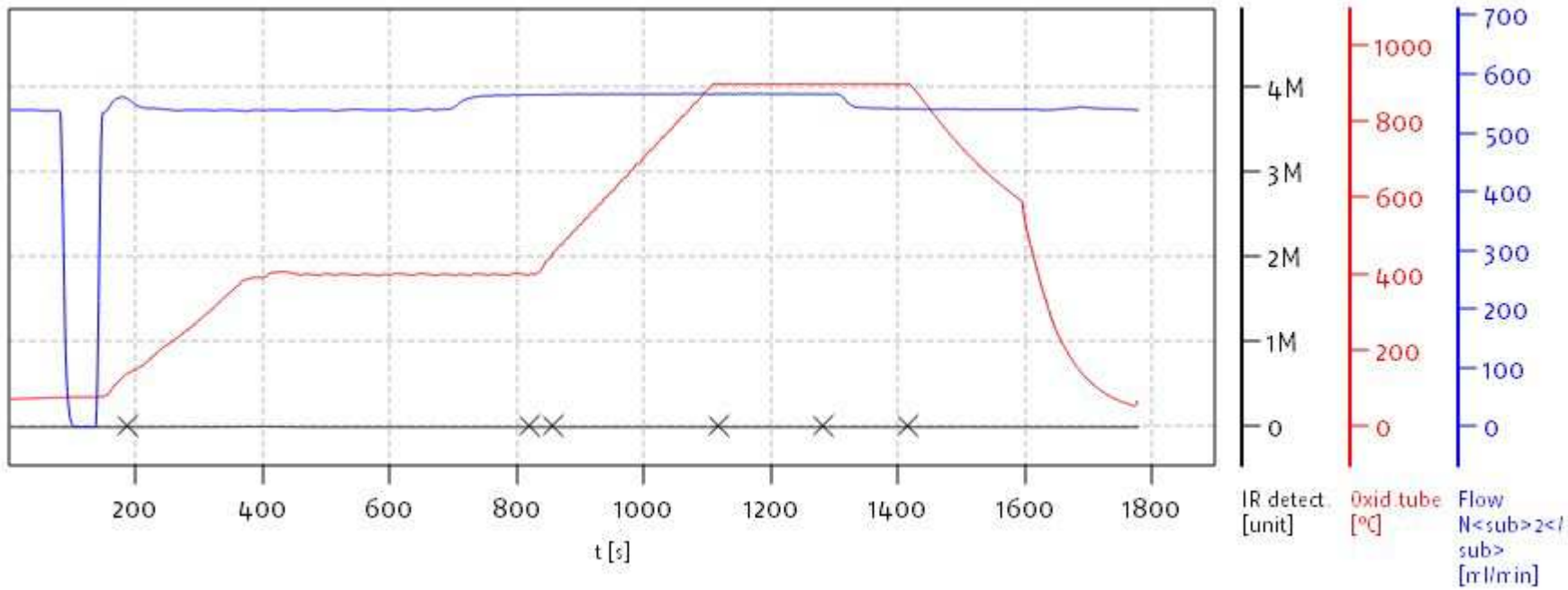
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
5	5	SLD0126-ICB1	585.30		CARBON	4/8/2023 4:43 PM	bl,C3u,C2u	0.000	23 288	0.000	0.000	1 660	2 320	0.000	0.000	1.0039	1.0000



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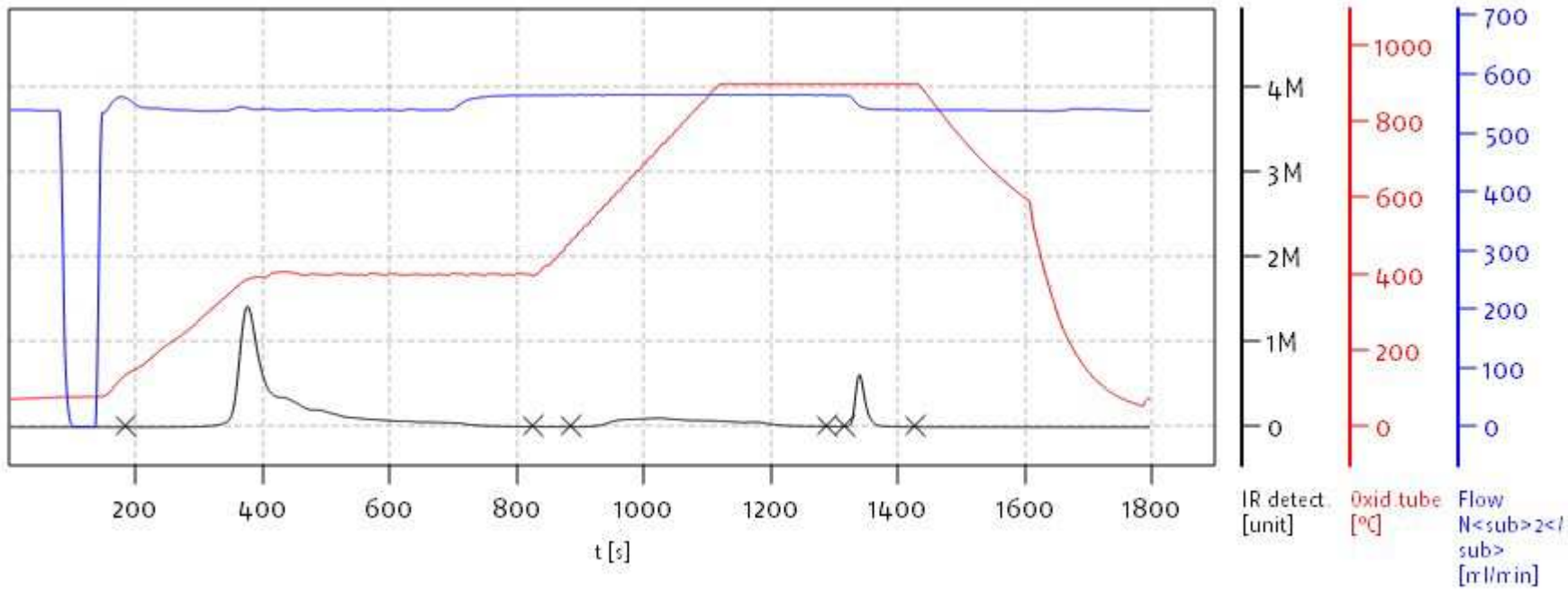
	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
6	6	23C0108-08	518.70		CARBON	4/8/2023 5:13 PM	bl	1.202	3 634 700	1.439	0.121	431 451	822 408	1.081	0.238	1.0039	1.0000



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Serial No: 0300.181017
Mode CCC

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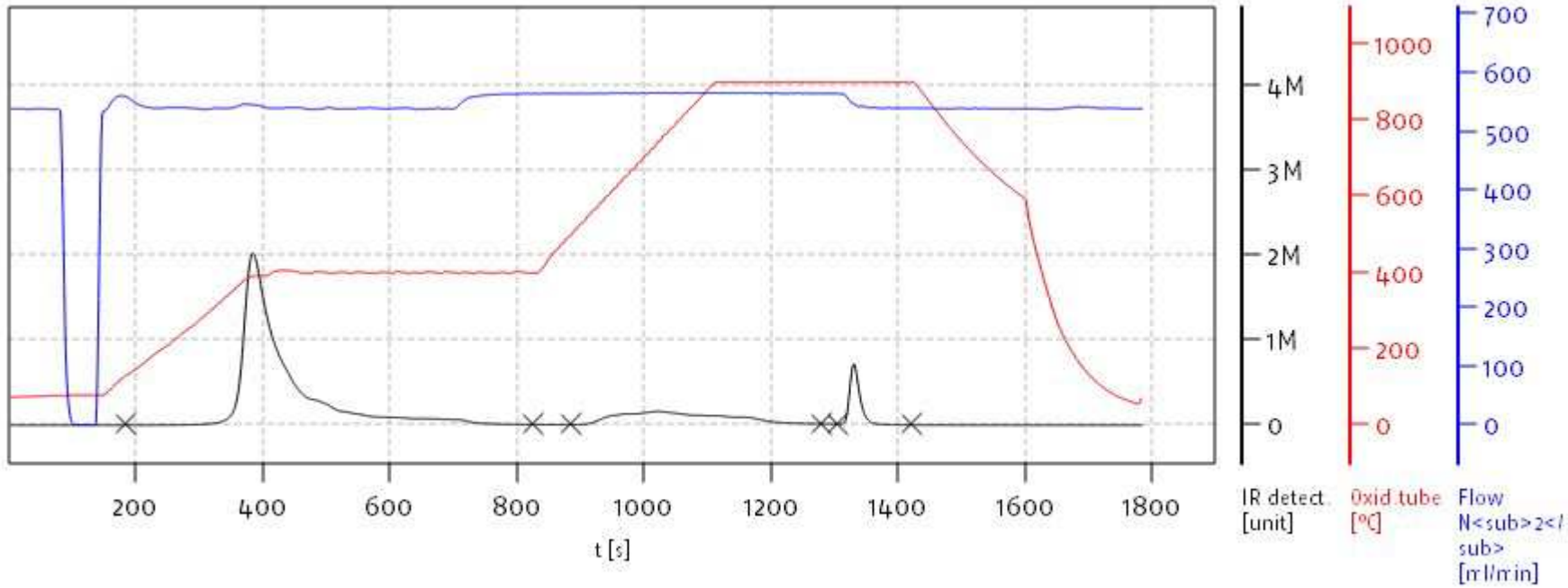
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

Analytical Resources, LLC
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
7	7	23C0108-09	796.50		CARBON	4/8/2023 5:43 PM	bl	1.178	5 580 160	1.420	0.095	514 596	1 269 990	1.084	0.242	1.0039	1.0000



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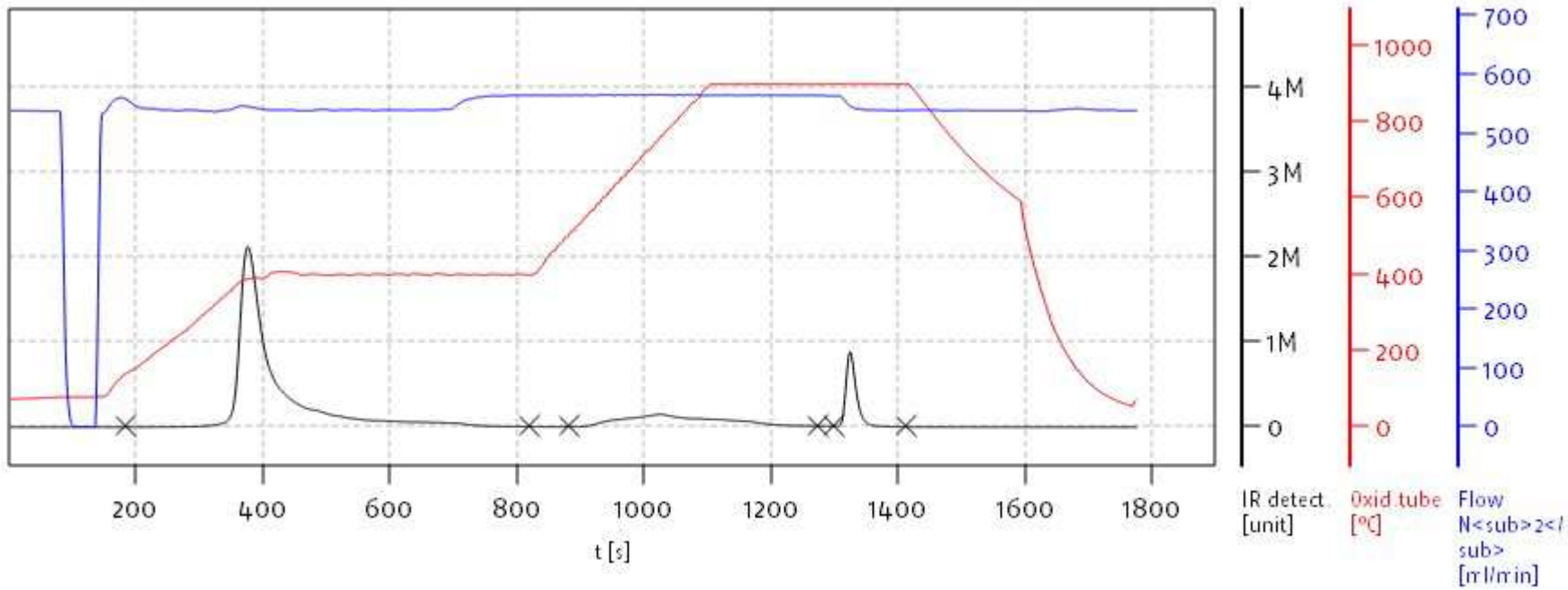
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Document: 040823 CDE from: 4/23/2023 3:31 PM

Analytical Resources, LLC
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
8	8	23C0108-10	614.70		CARBON	4/8/2023 6:13 PM	bl	1.332	4 689 120	1.586	0.153	634 589	1 034 670	1.179	0.254	1.0039	1.0000



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Access: soliTOC superuser

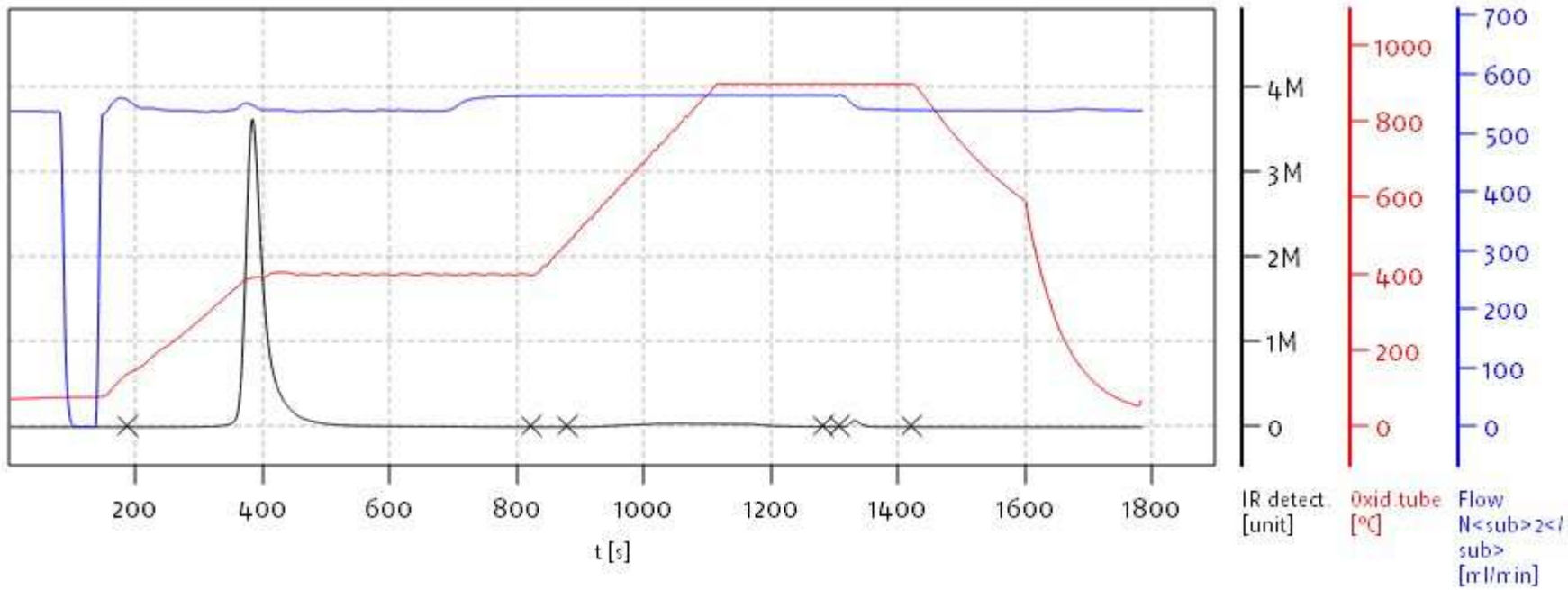
Date: Tue May 9 13:03:53 2023

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Analytical Resources, LLC
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
9	9	23C0109-01	513.60		CARBON	4/8/2023 6:43 PM	bl	1.428	4 712 790	1.527	0.010	60 551	353 750	1.418	0.099	1.0039	1.0000



Name:

Access: soliTOC superuser

Date: Tue May 9 13:03:53 2023

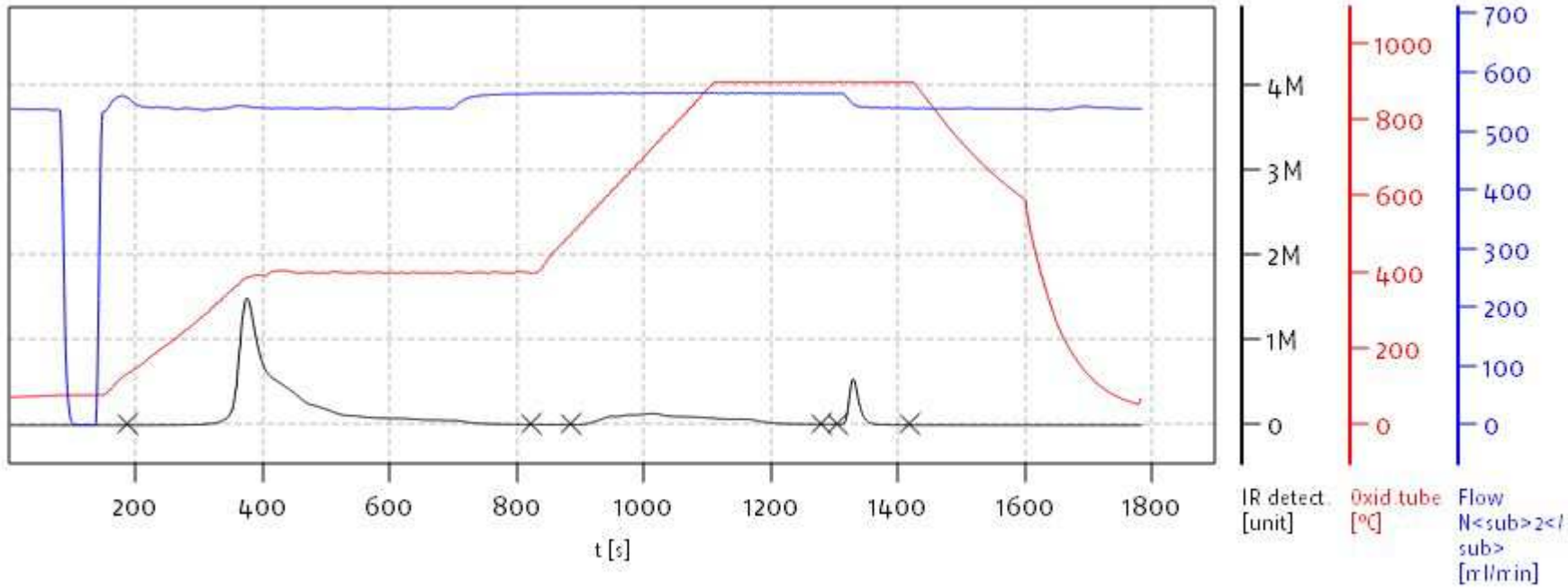
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

Analytical Resources, LLC
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
10	10	23C0109-02	609.10		CARBON	4/8/2023 7:13 PM	bl	1.132	4 111 230	1.383	0.090	380 809	1 014 560	1.042	0.251	1.0039	1.0000



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Access: soliTOC superuser

Date: Tue May 9 13:03:53 2023

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

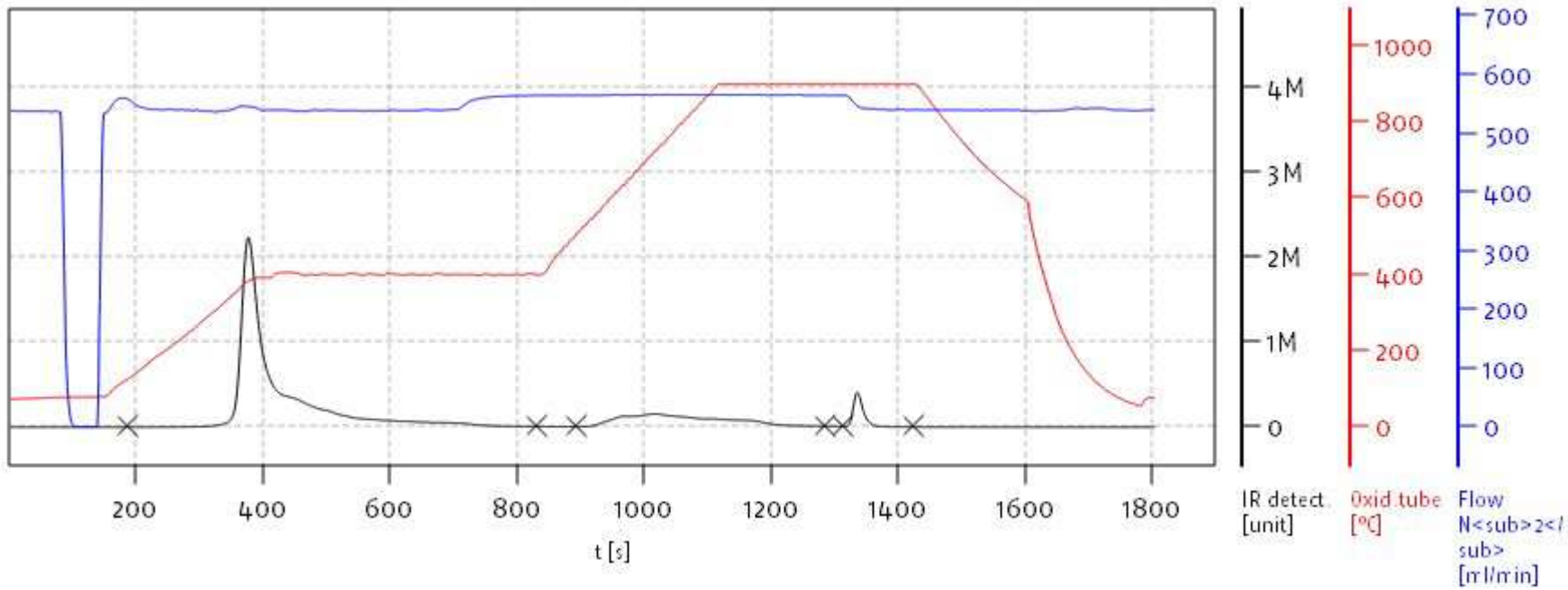
elementar
EXCELLENCE IN ELEMENTS

Document: 040823 CDE from: 4/23/2023 3:31 PM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

Analytical Resources, LLC
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
11	11	23C0109-03	691.60		CARBON	4/8/2023 7:44 PM	bl	1.078	4 562 530	1.324	0.059	288 581	1 127 770	1.019	0.246	1.0039	1.0000



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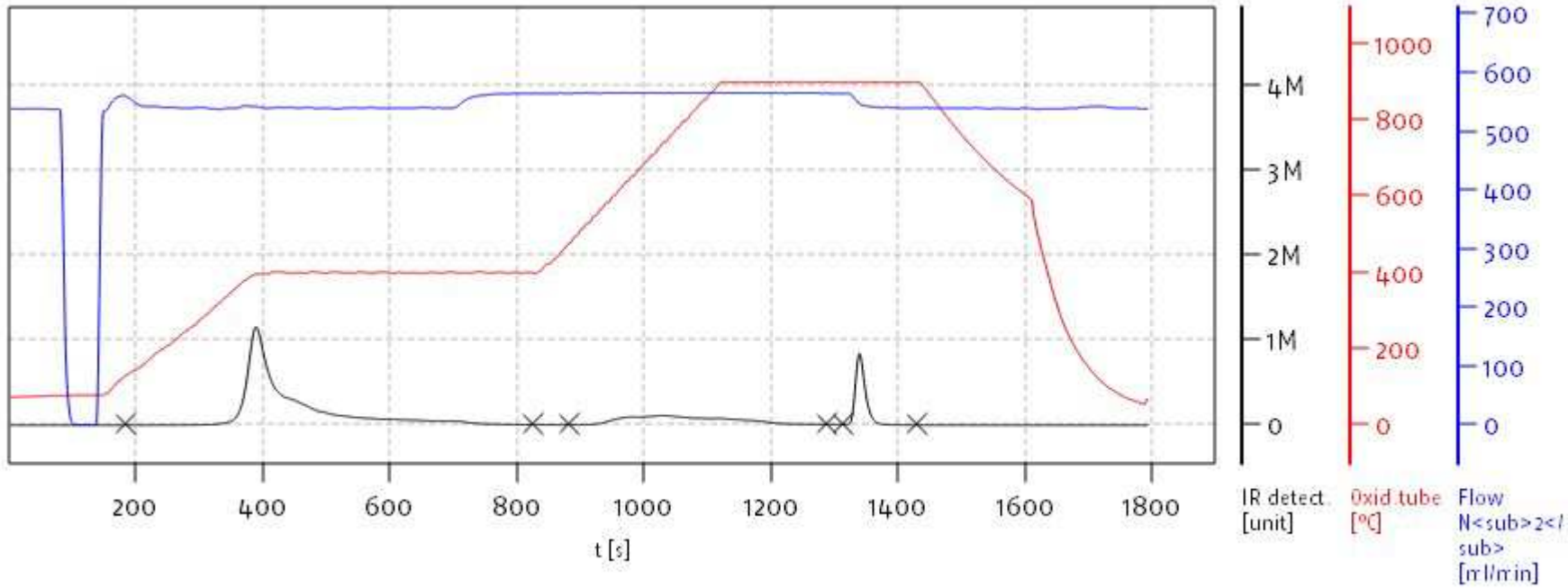
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

Analytical Resources, LLC
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
12	12	23D0008-01	546.80		CARBON	4/8/2023 8:14 PM	bl	1.004	3 008 560	1.236	0.156	577 632	849 306	0.848	0.233	1.0039	1.0000



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Access: soliTOC superuser

Date: Tue May 9 13:03:53 2023

soliTOC V2.0.2 (31015f9) 2018-11-19
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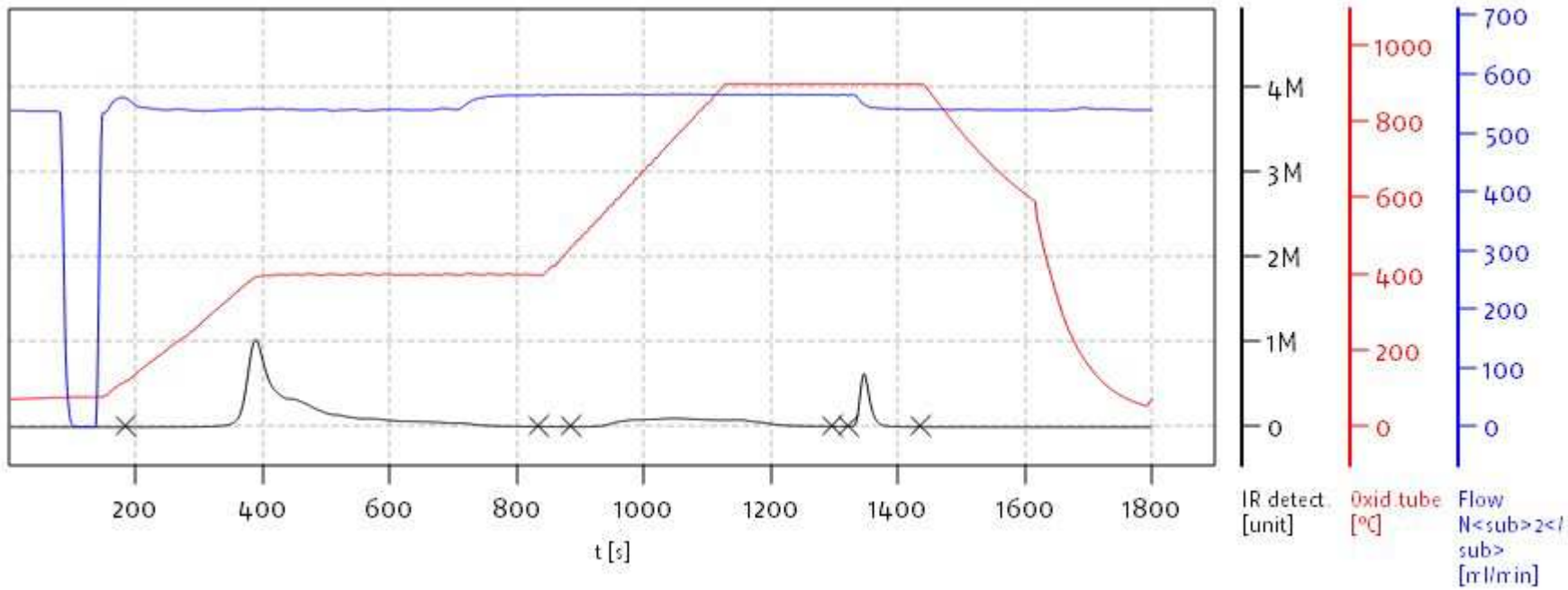
elementar
EXCELLENCE IN ELEMENTS

Document: 040823 CDE from: 4/23/2023 3:31 PM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

Analytical Resources, LLC
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
13	13	23D0008-02	559.30		CARBON	4/8/2023 8:44 PM	bl	0.962	3 075 830	1.193	0.115	441 394	859 940	0.847	0.231	1.0039	1.0000



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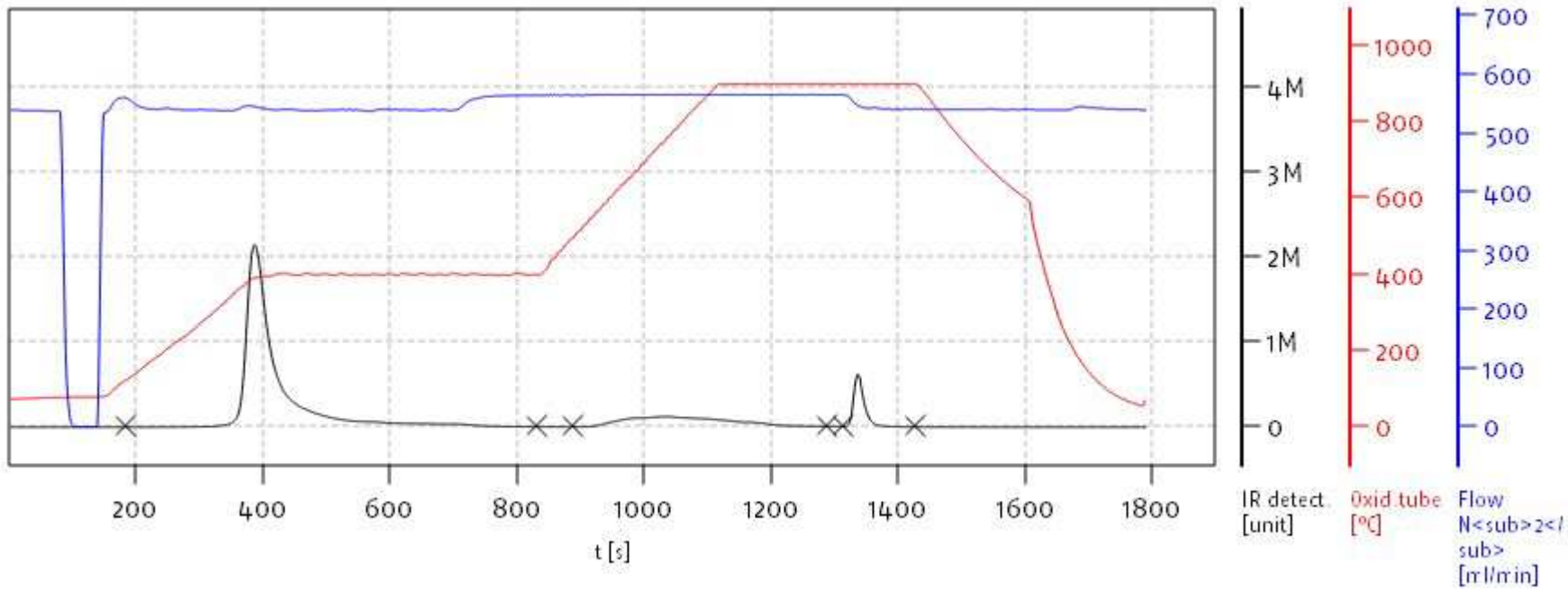
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

Analytical Resources, LLC
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
14	14	23D0008-03	578.00		CARBON	4/8/2023 9:15 PM	bl	1.247	4 237 490	1.489	0.115	455 151	932 001	1.132	0.243	1.0039	1.0000



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Serial No: 0300.181017
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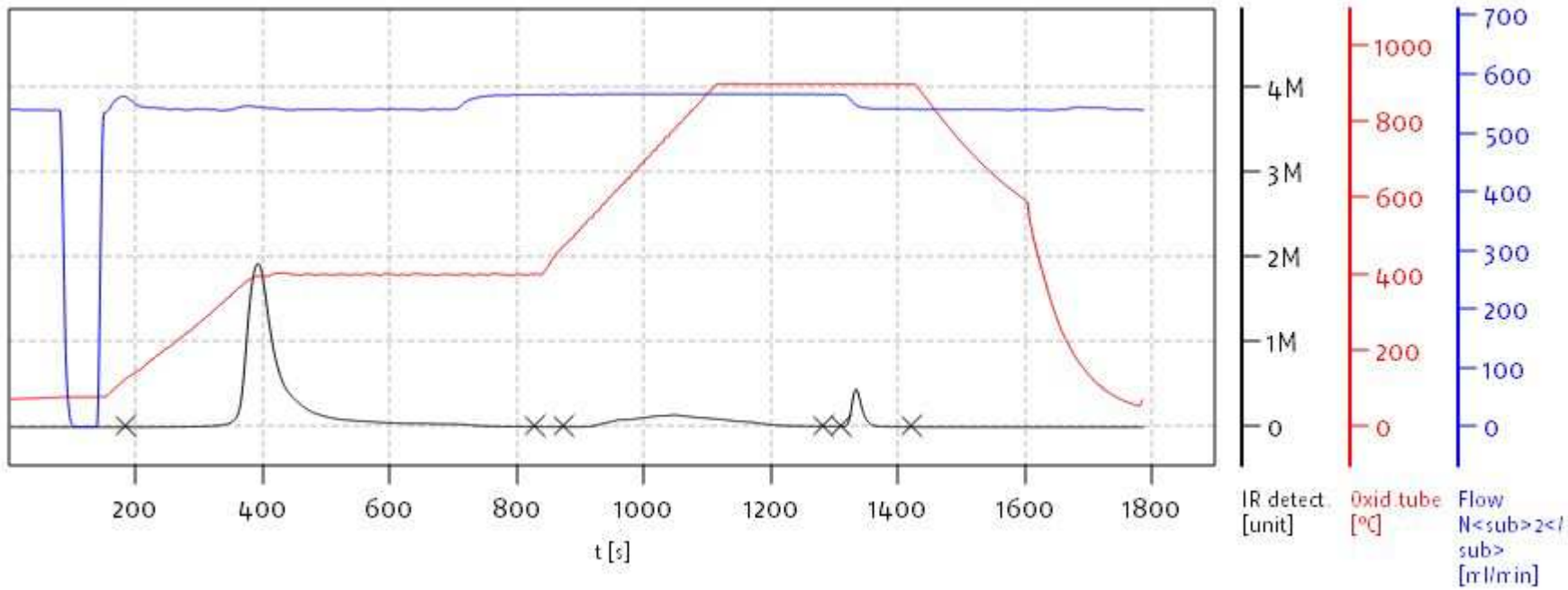
EXCELLENCE IN ELEMENTS

Analytical Resources, LLC
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
15	15	23D0008-04	615.50		CARBON	4/8/2023 9:45 PM	bl	1.165	4 347 730	1.410	0.074	321 936	998 677	1.091	0.245	1.0039	1.0000



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Access: soliTOC superuser

Date: Tue May 9 13:03:53 2023

soliTOC V2.0.2 (31015f9) 2018-11-19
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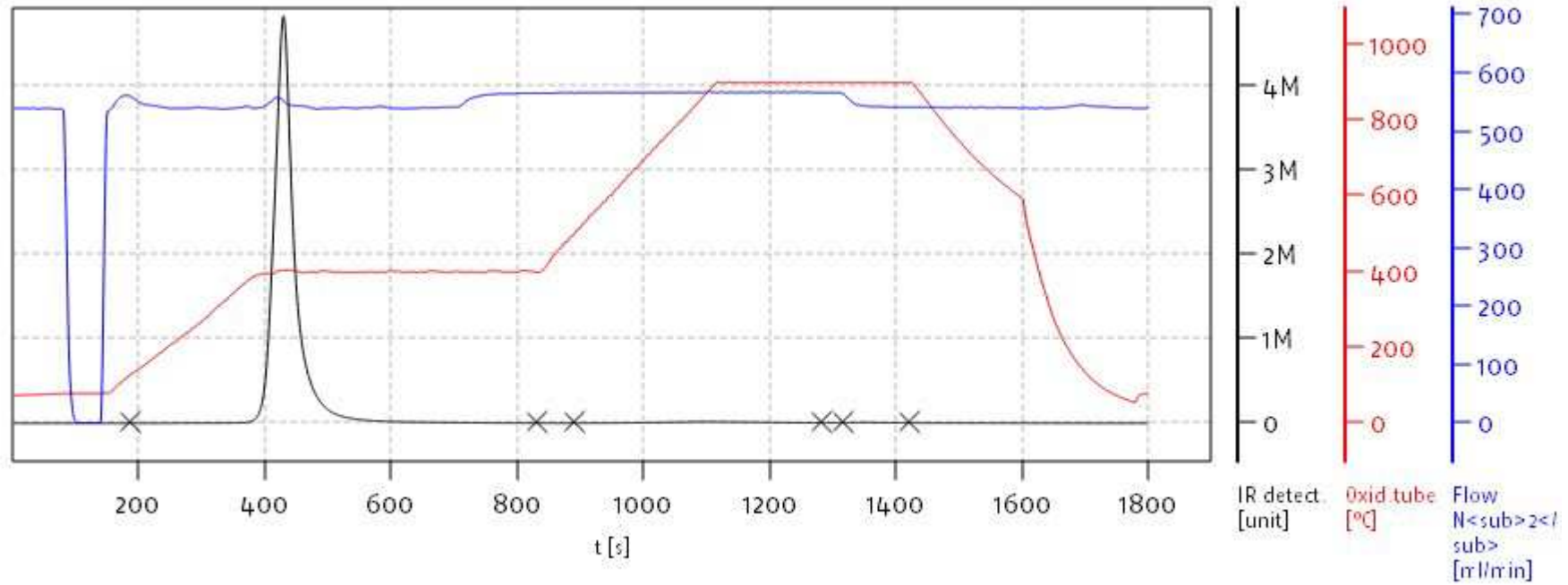
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Analytical Resources, LLC
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
16	16	SLD0126-CCV1	23.40		CARBON	4/8/2023 10:15 PM	bl	45.338	6 852 780	46.045	0.003	26 930	133 456	45.335	0.707	1.0039	1.0000



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Access: soliTOC superuser

Date: Tue May 9 13:03:53 2023

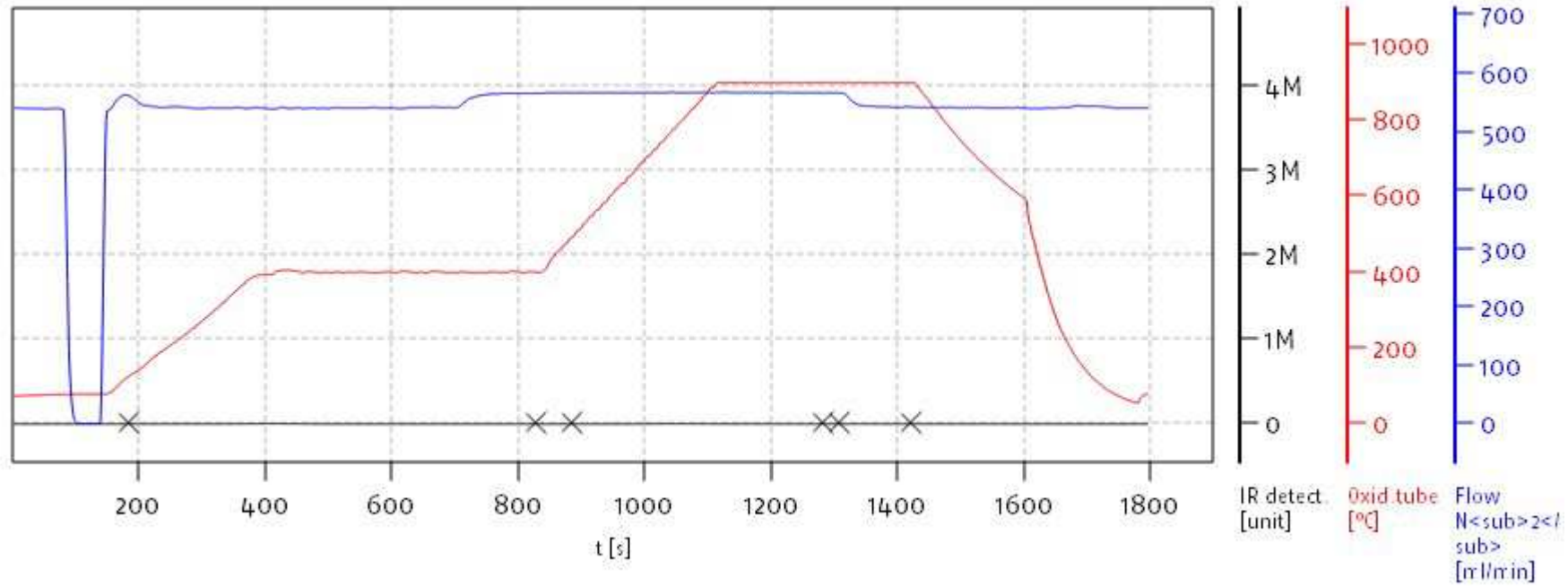
elementar
EXCELLENCE IN ELEMENTS

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

Analytical Resources, LLC
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
17	17	SLD0126-CCB1	533.70		CARBON	4/8/2023 10:46 PM	bl	0.000	17 676	0.000	0.000	3 510	15 596	0.000	0.000	1.0039	1.0000



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Date: Tue May 9 13:03:53 2023

soliTOC V2.0.2 (31015f9) 2018-11-19
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Mode CCC

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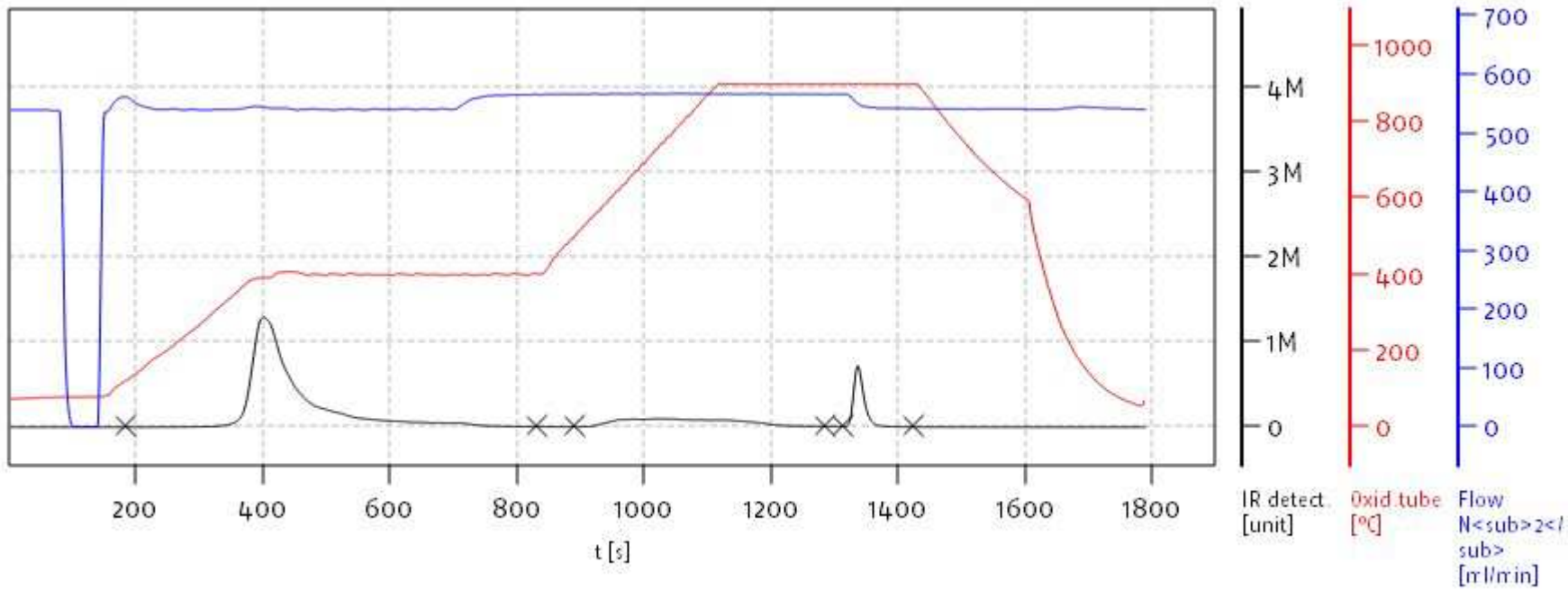
EXCELLENCE IN ELEMENTS

Analytical Resources, LLC
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
18	18	23D0037-01	585.70		CARBON	4/8/2023 11:16 PM	bl	1.190	4 021 490	1.411	0.130	518 594	861 989	1.060	0.221	1.0039	1.0000



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Access: soliTOC superuser

Date: Tue May 9 13:03:53 2023

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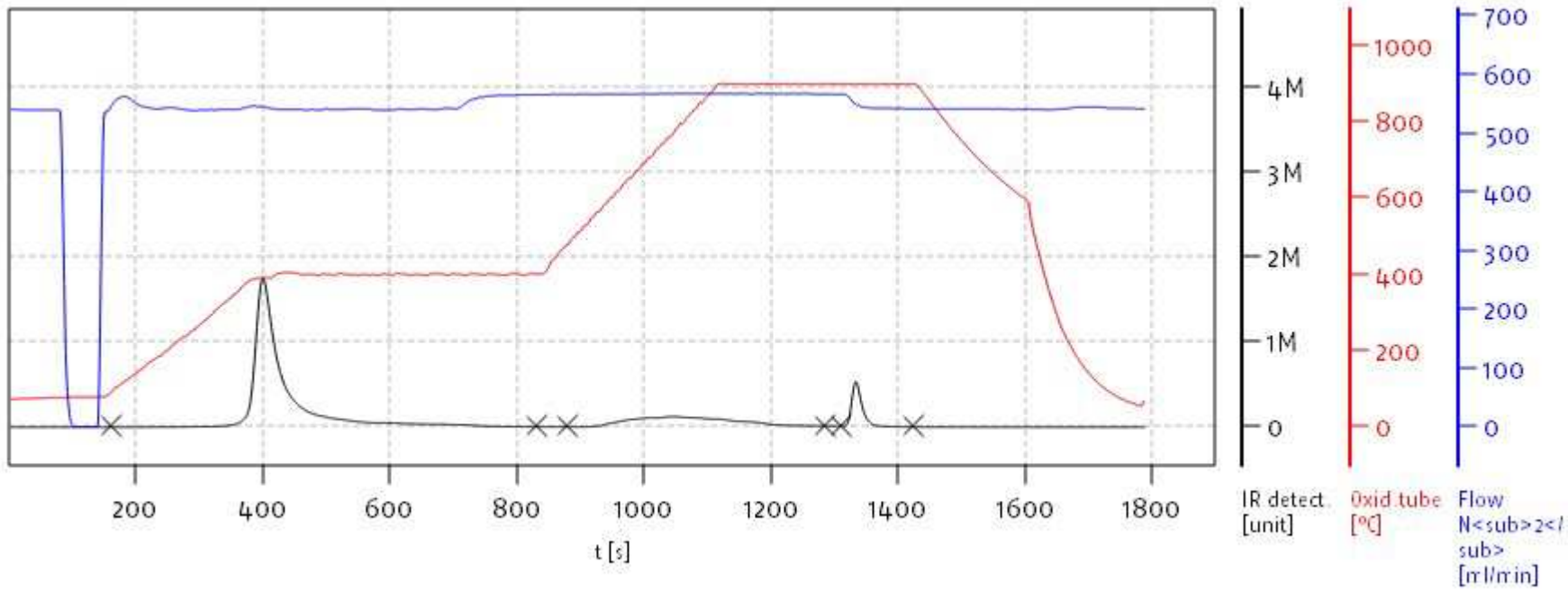
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

Analytical Resources, LLC
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
19	19	23D0037-02	527.30		CARBON	4/8/2023 11:46 PM	bl	1.084	3 343 460	1.350	0.106	388 475	932 281	0.978	0.266	1.0039	1.0000



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Date: Tue May 9 13:03:53 2023

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

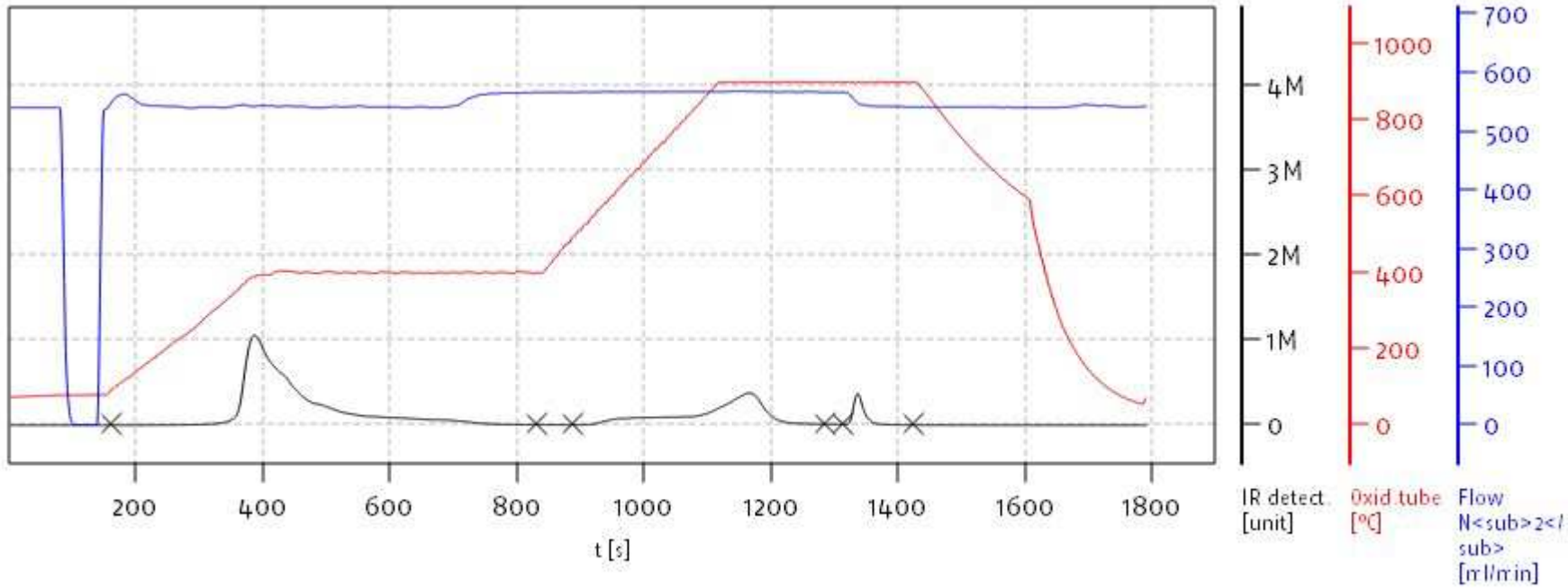
elementar
EXCELLENCE IN ELEMENTS

Document: 040823 CDE from: 4/23/2023 3:31 PM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

Analytical Resources, LLC
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
20	20	23D0037-03	646.10		CARBON	4/9/2023 12:16 AM	bl	0.983	3 867 820	1.374	0.059	274 854	1 658 440	0.924	0.391	1.0039	1.0000



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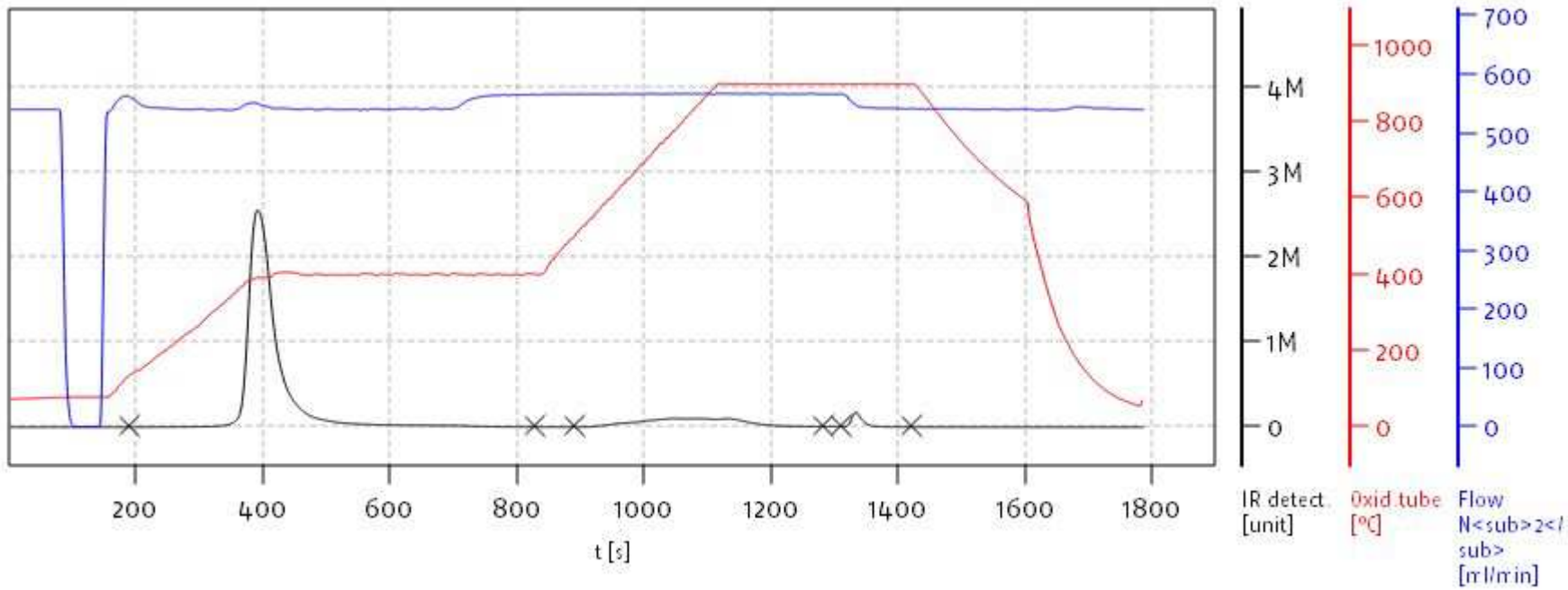
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

Analytical Resources, LLC
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
21	21	23D0037-04	601.70		CARBON	4/9/2023 12:46 AM	bl	1.256	4 783 130	1.446	0.027	132 943	764 650	1.229	0.190	1.0039	1.0000



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Serial No: 0300.181017
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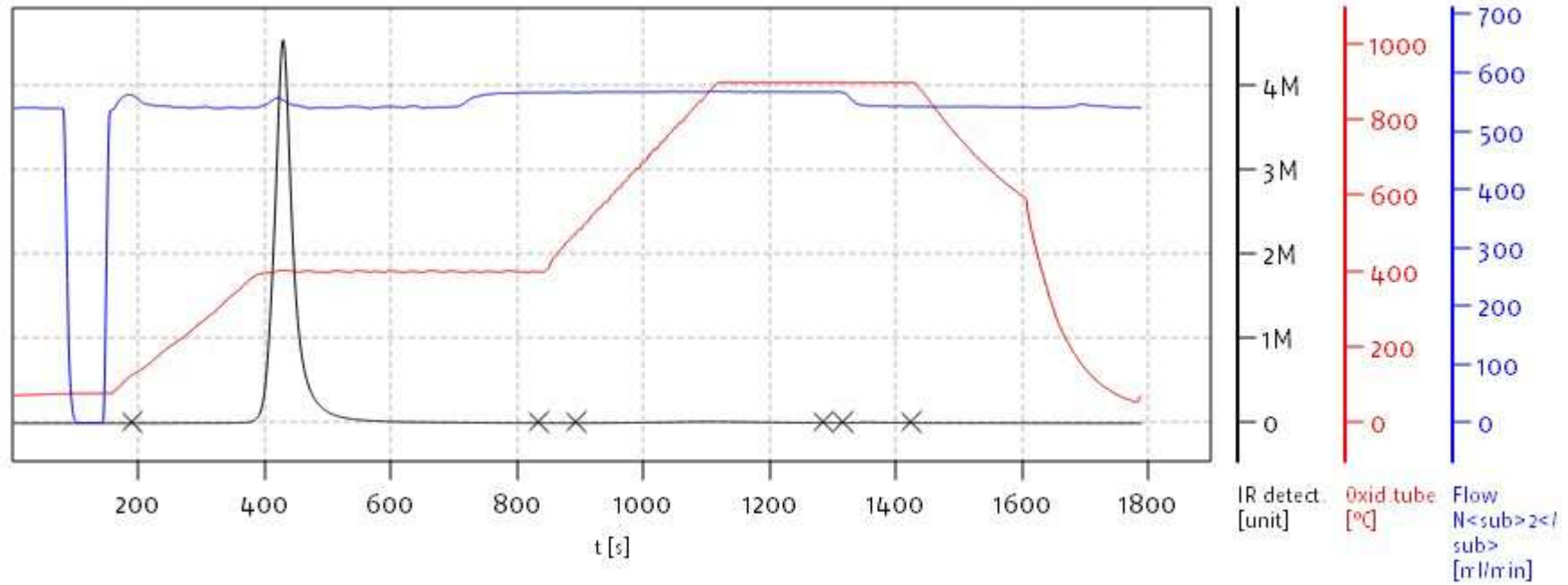
Analytical Resources, LLC
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
22	22	SLD0126-CCV2	21.30		CARBON	4/9/2023 1:17 AM	bl	45.254	6 228 530	46.070	0.004	27 119	138 707	45.250	0.815	1.0039	1.0000



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Serial No: 0300.181017
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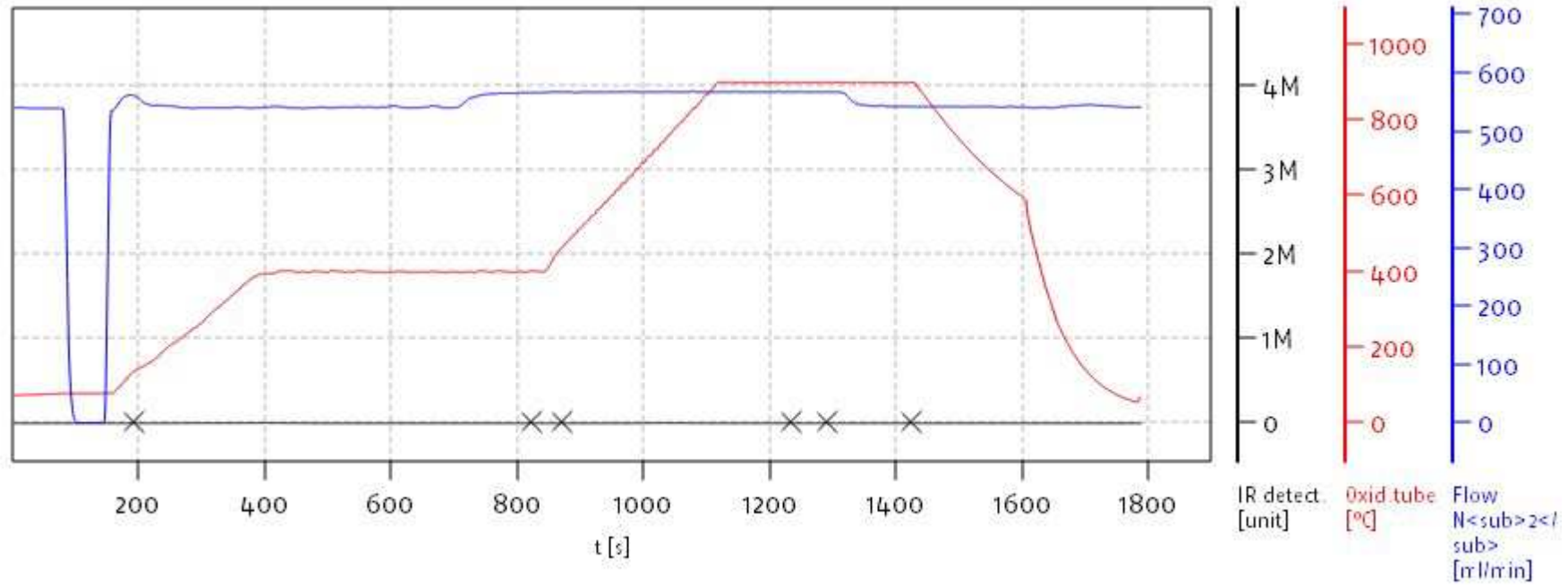
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: CDE

Analytical Resources, LLC
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Method	Date Time	Info	TOC [%]	TOC400 Area	TC [%]	ROC [%]	ROC Area	TIC900 Area	TOC400 [%]	TIC900 [%]	TOC400 Factor	TIC900 Factor
23	23	SLD0126-CCB2	566.10		CARBON	4/9/2023 1:47 AM	bl,C2u	0.000	19 841	0.000	0.000	1 011	9 619	0.000	0.000	1.0039	1.0000



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elementar
EXCELLENCE IN ELEMENTS

Document: 040823 CDE from: 4/23/2023 3:31 PM

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: FD00070
Instrument: TOC Cube
Calibration Date: 04/26/2022 11:29

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF
Total Organic Carbon	0.0080973	1449743	0.014695	1300238	0.021293	1292913	0.02939	1293535	0.044385	2094063	0.05878	1400085
Total Carbon	0.0080973	1449743	0.014695	1300238	0.021293	1292913	0.02939	1293535	0.044385	2094063	0.05878	1400085
Total Inorganic Carbon	0.0080973	1449743	0.014695	1300238	0.021293	1292913	0.02939	1293535	0.044385	2094063	0.05878	1400085
% Soot	0.0080973	1449743	0.014695	1300238	0.021293	1292913	0.02939	1293535	0.044385	2094063	0.05878	1400085

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: FD00070
Instrument: TOC Cube
Calibration Date: 04/26/2022 11:29

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF
Total Organic Carbon	0.074075	1370638	0.08937	1351930	0.12056	2158544	0.14995	1559046	0.24	1346463	0.288	1430135
Total Carbon	0.074075	1370638	0.08937	1351930	0.12056	2158544	0.14995	1559046	0.24	1346463	0.288	1430135
Total Inorganic Carbon	0.074075	1370638	0.08937	1351930	0.12056	2158544	0.14995	1559046	0.24	1346463	0.288	1430135
% Soot	0.074075	1370638	0.08937	1351930	0.12056	2158544	0.14995	1559046	0.24	1346463	0.288	1430135

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: FD00070
Instrument: TOC Cube
Calibration Date: 04/26/2022 11:29

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF
Total Organic Carbon	0.414	1337053	0.606	1385937	0.894	1382774	1.188	1379790	1.5	1375927	1.818	1372882
Total Carbon	0.414	1337053	0.606	1385937	0.894	1382774	1.188	1379790	1.5	1375927	1.818	1372882
Total Inorganic Carbon	0.414	1337053	0.606	1385937	0.894	1382774	1.188	1379790	1.5	1375927	1.818	1372882
% Soot	0.414	1337053	0.606	1385937	0.894	1382774	1.188	1379790	1.5	1375927	1.818	1372882

Analytical Resources, LLC
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Calibration: FD00070
Instrument: TOC Cube
Calibration Date: 04/26/2022 11:29

Compound	Level 19		Level 20		Level 21		Level 22		Level 23		Level 24	
	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF	Conc	RF
Total Organic Carbon	2.49	1398606	2.982	1376871	4.188	1256057	4.818	1279542	5.406	1283358	7.2	1301408
Total Carbon	2.49	1398606	2.982	1376871	4.188	1256057	4.818	1279542	5.406	1283358	7.2	1301408
Total Inorganic Carbon	2.49	1398606	2.982	1376871	4.188	1256057	4.818	1279542	5.406	1283358	7.2	1301408
% Soot	2.49	1398606	2.982	1376871	4.188	1256057	4.818	1279542	5.406	1283358	7.2	1301408

INITIAL CALIBRATION DATA

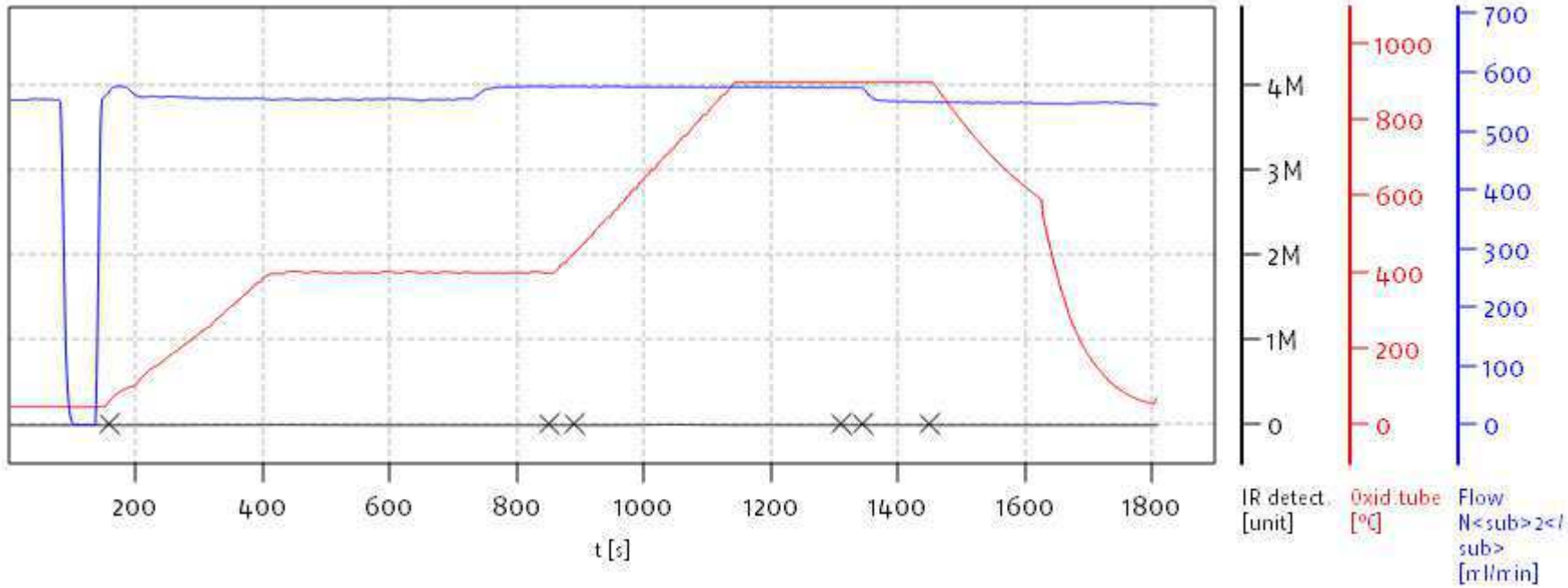
EPA 9060A m

Laboratory:	Analytical Resources, LLC	SDG:	23C0108
Client:	Anchor QEA, LLC	Project:	AOC5 MR Phase 1
Calibration:	FD00070	Instrument:	TOC Cube
Calibration Date:	04/26/2022 11:29		

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	COD Limit	Q
Total Organic Carbon	1424064	15.9	0.9988			
Total Carbon	1424064	15.9	0.9988			
Total Inorganic Carbon	1424064	15.9	0.9988			
% Soot	1424064	15.9	0.9988			

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
1	1	BLANK	1.00		1.00	CARBON	4/26/2022 11:29 AM	0.000	0.000	0.000	bl	29 049	30 612	3 899	1.0000	1.0000



Name:

Access: soliTOC superuser

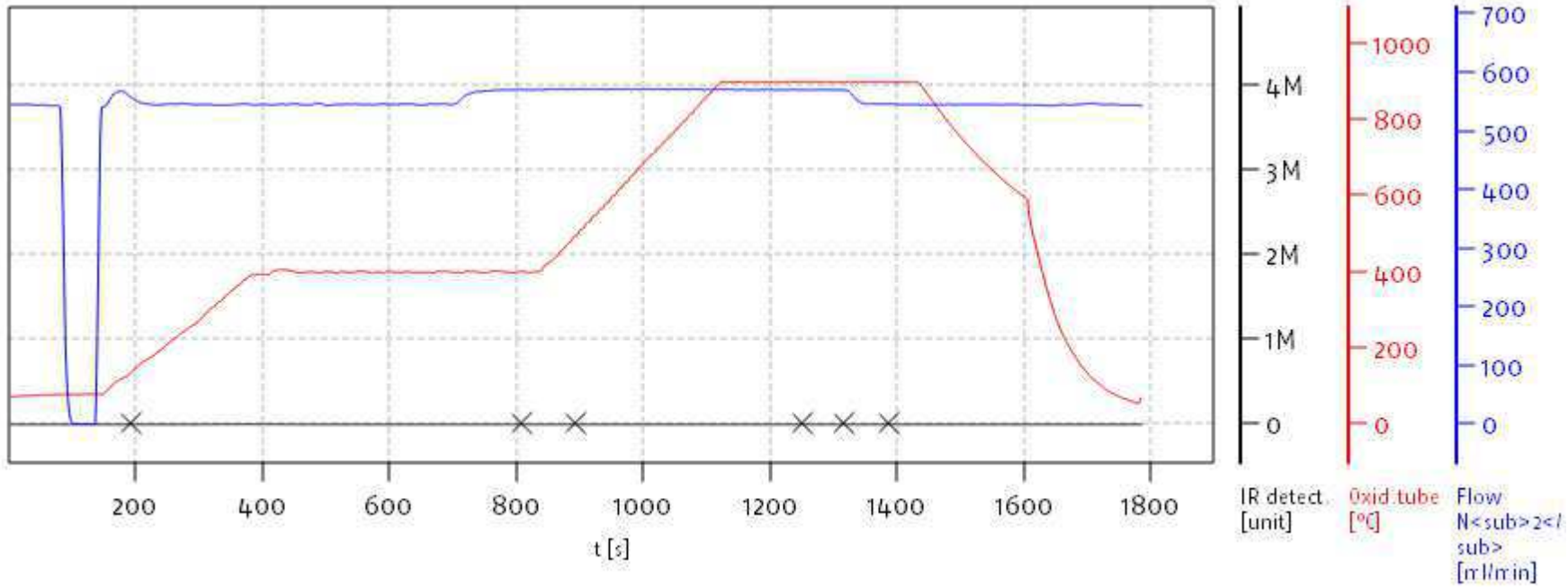
Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
2	2	BLANK	1.00		1.00	CARBON	4/26/2022 12:00 PM	0.000	0.000	0.000	bl	11 115	60	8	1.0000	1.0000



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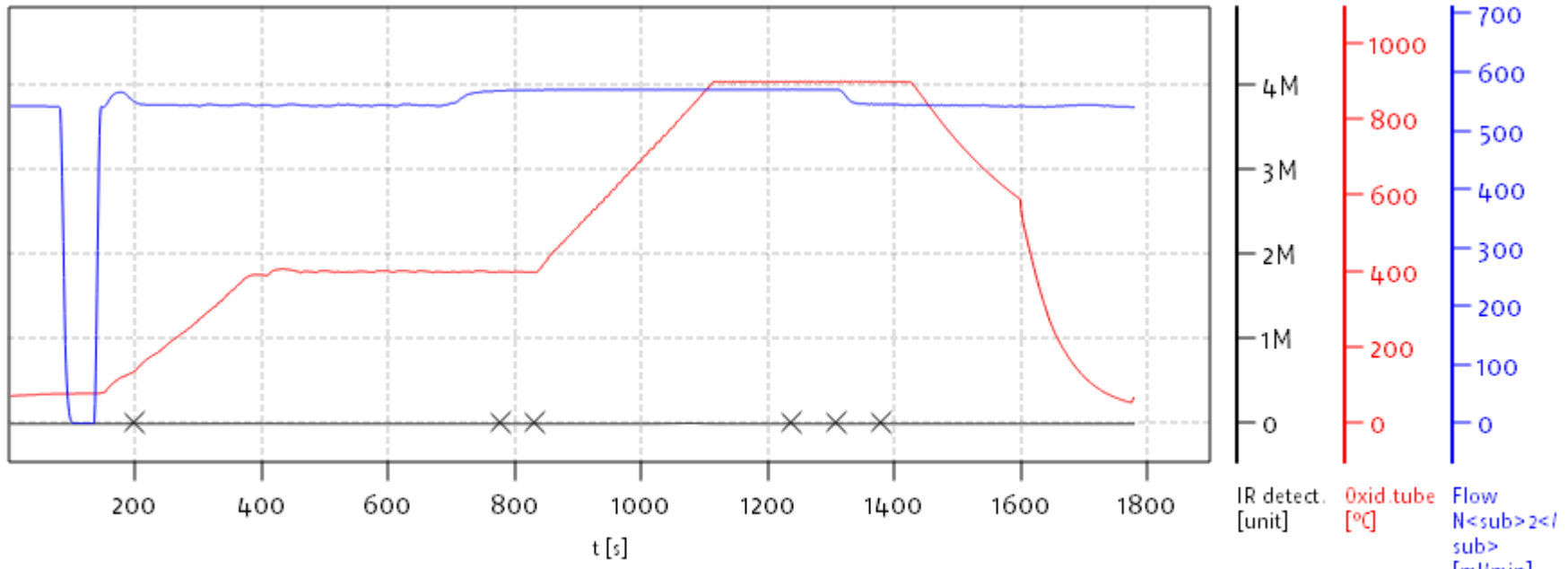
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
3	3	SEQ-CAL1	200.00	0.0027	1.00	CARBON	4/26/2022 12:30 PM	0.010	0.008	0.018	bl,C1u,C2u	7 294	11 739	22	1.0000	0.7425



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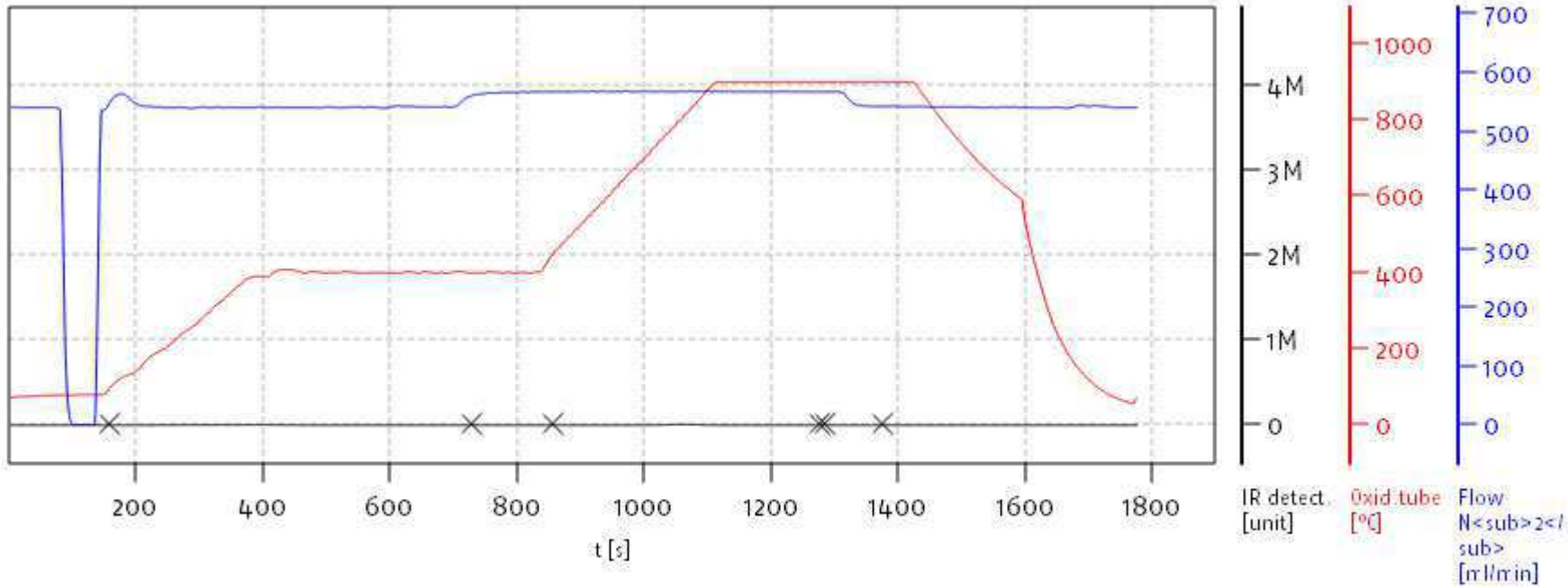
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
4	4	SEQ-CAL2	200.00	0.0049	1.00	CARBON	4/26/2022 1:00 PM	0.023	0.015	0.038	bl,C2u	23 296	19 107	47	1.0000	0.8936



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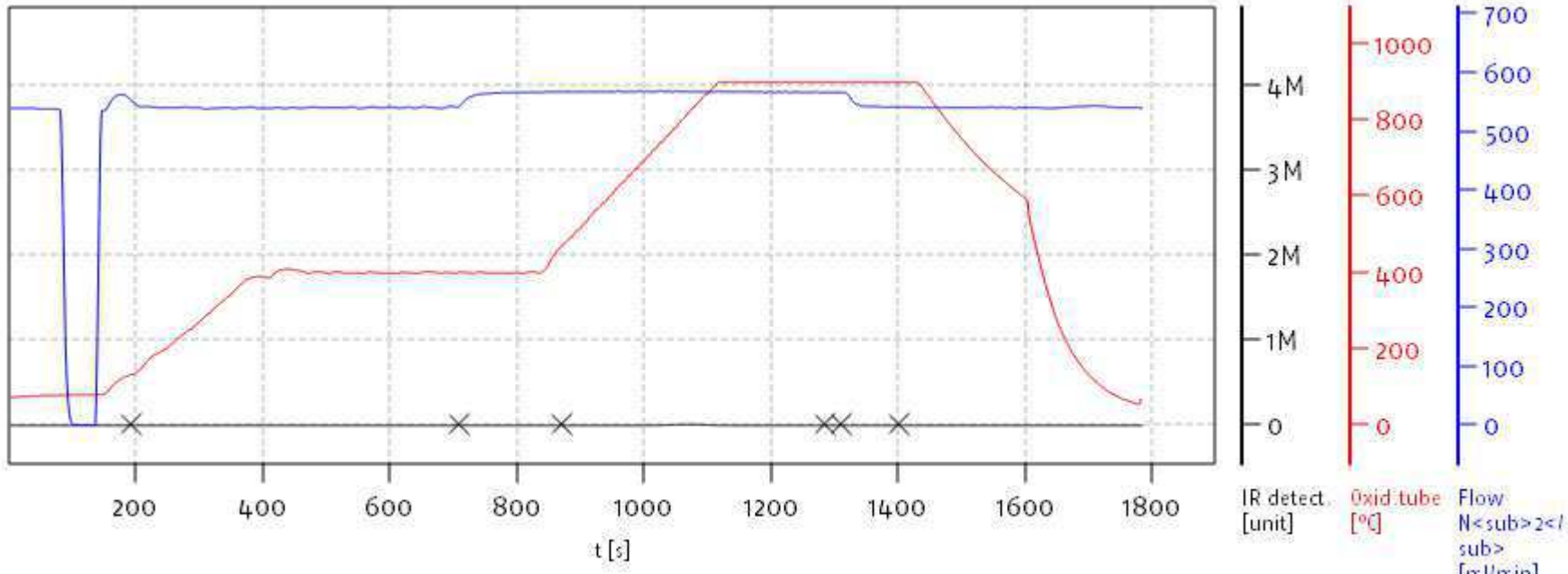
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
5	5	SEQ-CAL3	200.00	0.0071	1.00	CARBON	4/26/2022 1:30 PM	0.006	0.022	0.028	bl,C1u,C2u	2 319	27 530	170	1.0000	0.9343



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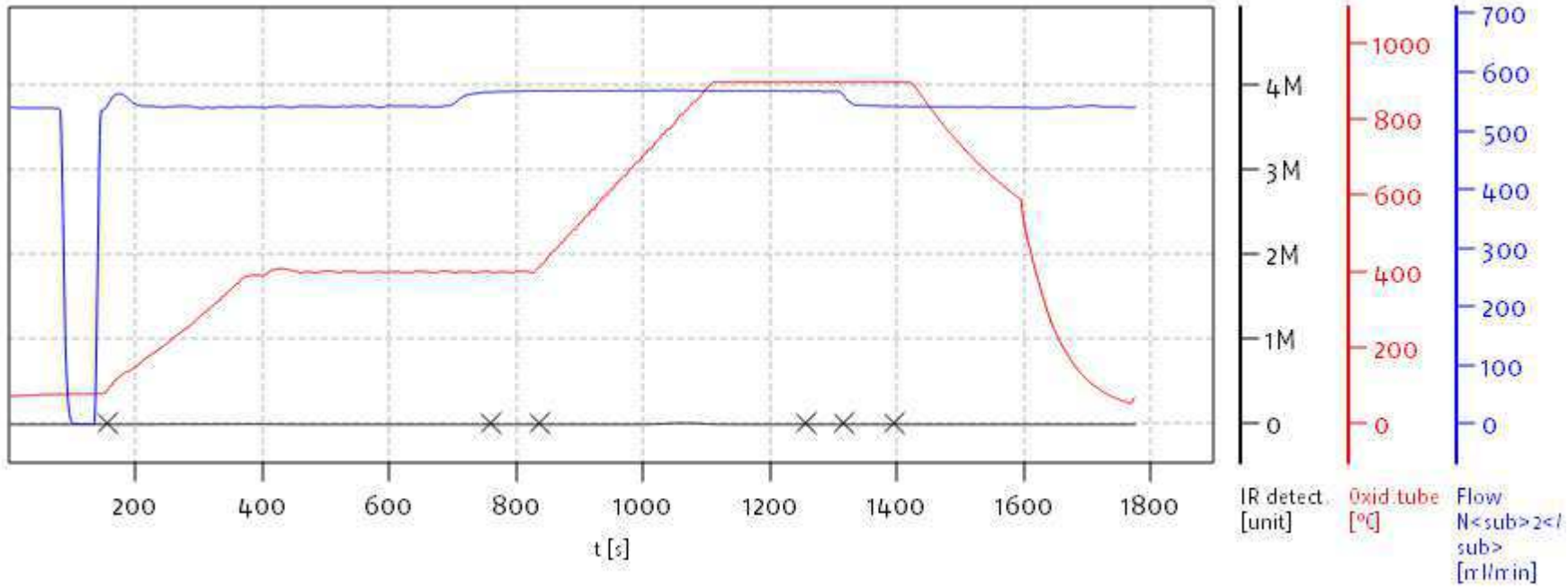
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
6	6	SEQ-CAL4	200.00	0.0098	1.00	CARBON	4/26/2022 2:00 PM	0.020	0.030	0.050	bl,C2u	19 746	38 017	109	1.0000	0.9461



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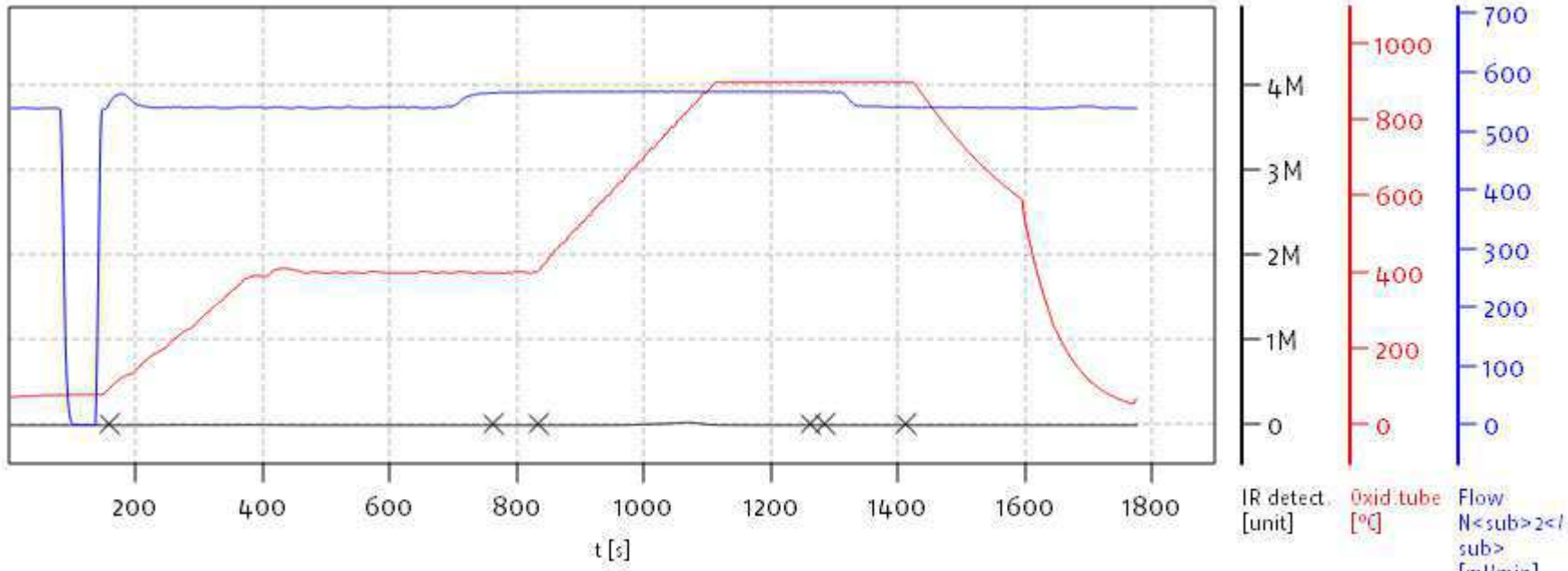
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
7	7	SEQ-CAL5	200.00	0.0148	1.00	CARBON	4/26/2022 2:30 PM	0.021	0.045	0.066	bl,C2u	20 951	92 945	236	1.0000	0.5975



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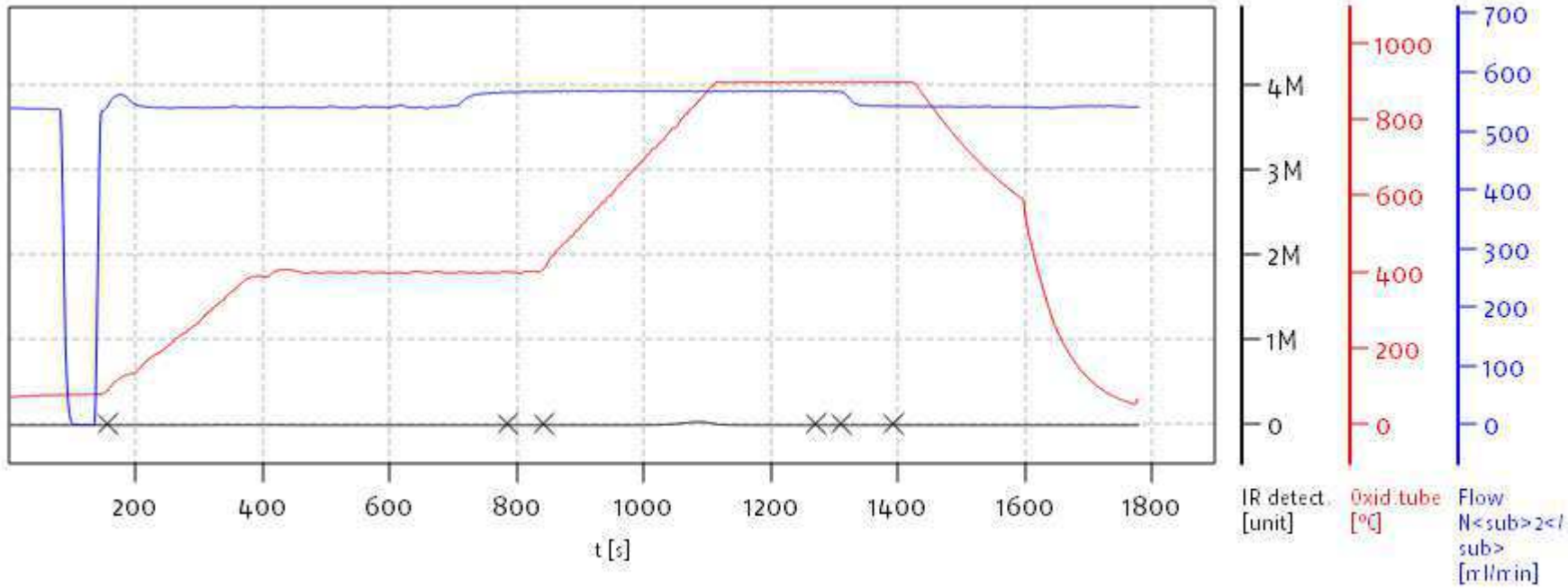
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
8	8	SEQ-CAL6	200.00	0.0196	1.00	CARBON	4/26/2022 3:00 PM	0.012	0.061	0.073	bl,C2u	10 118	82 297	59	1.0000	0.9144



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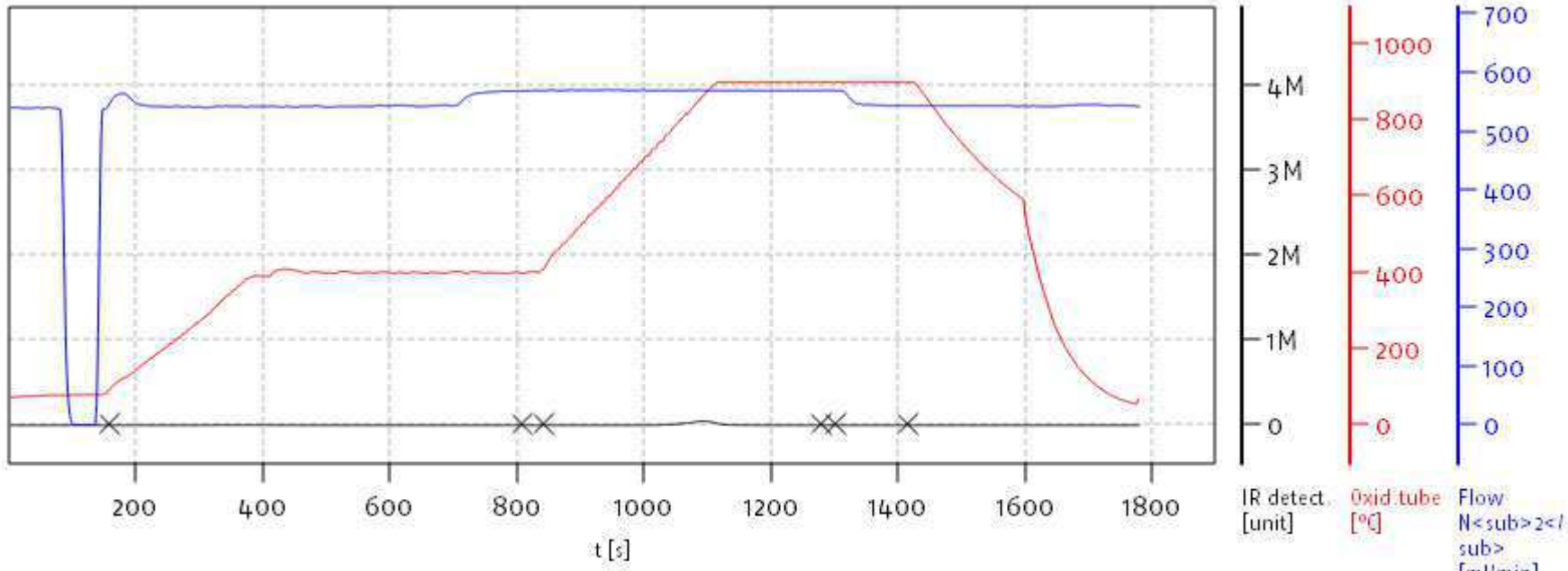
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
9	9	SEQ-CAL7	200.00	0.0247	1.00	CARBON	4/26/2022 3:30 PM	0.013	0.075	0.088	bl,C2u	10 555	101 530	292	1.0000	0.9173



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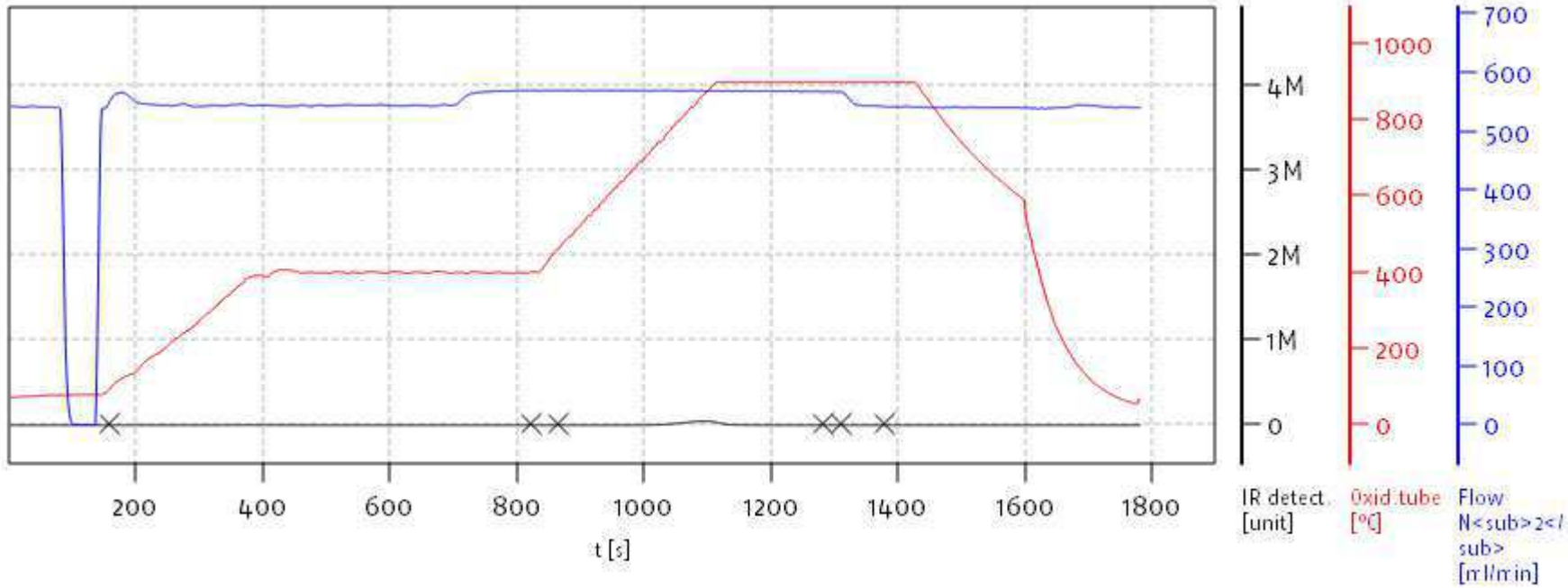
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
10	10	SEQ-CAL8	200.00	0.0298	1.00	CARBON	4/26/2022 4:00 PM	0.009	0.091	0.100	bl,C1u,C2u	6 668	120 822	116	1.0000	0.9312



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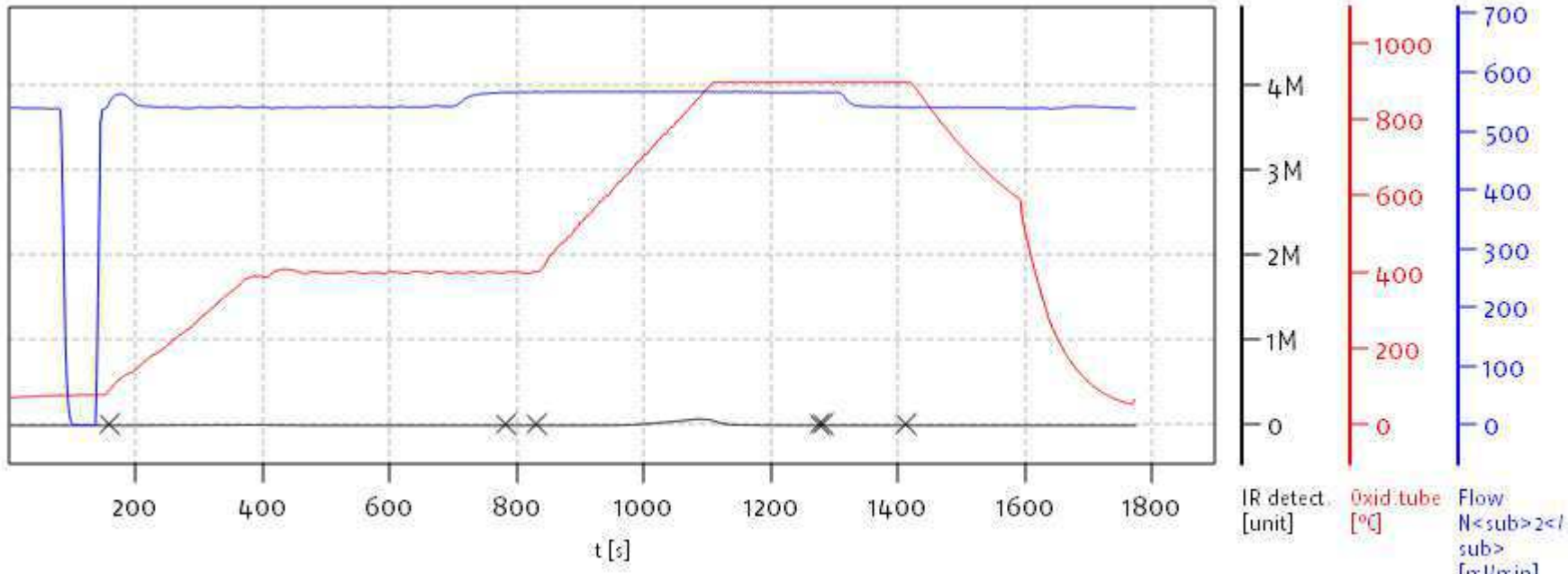
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
11	11	SEQ-CAL9	200.00	0.0402	1.00	CARBON	4/26/2022 4:30 PM	0.031	0.120	0.151	bl,C2u	32 999	260 234	1 044	1.0000	0.5792



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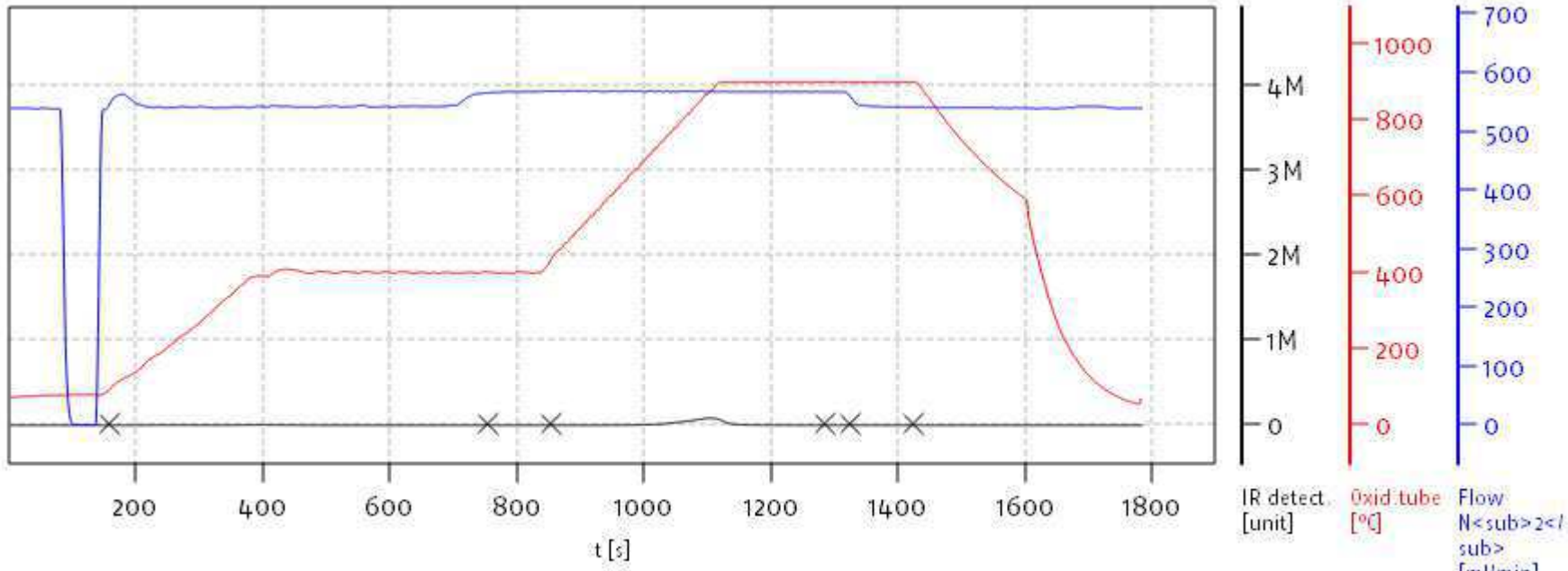
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
12	12	SEQ-CALA	200.00	0.0500	1.00	CARBON	4/26/2022 5:00 PM	0.021	0.151	0.172	bl,C2u	20 147	233 779	913	1.0000	0.8099



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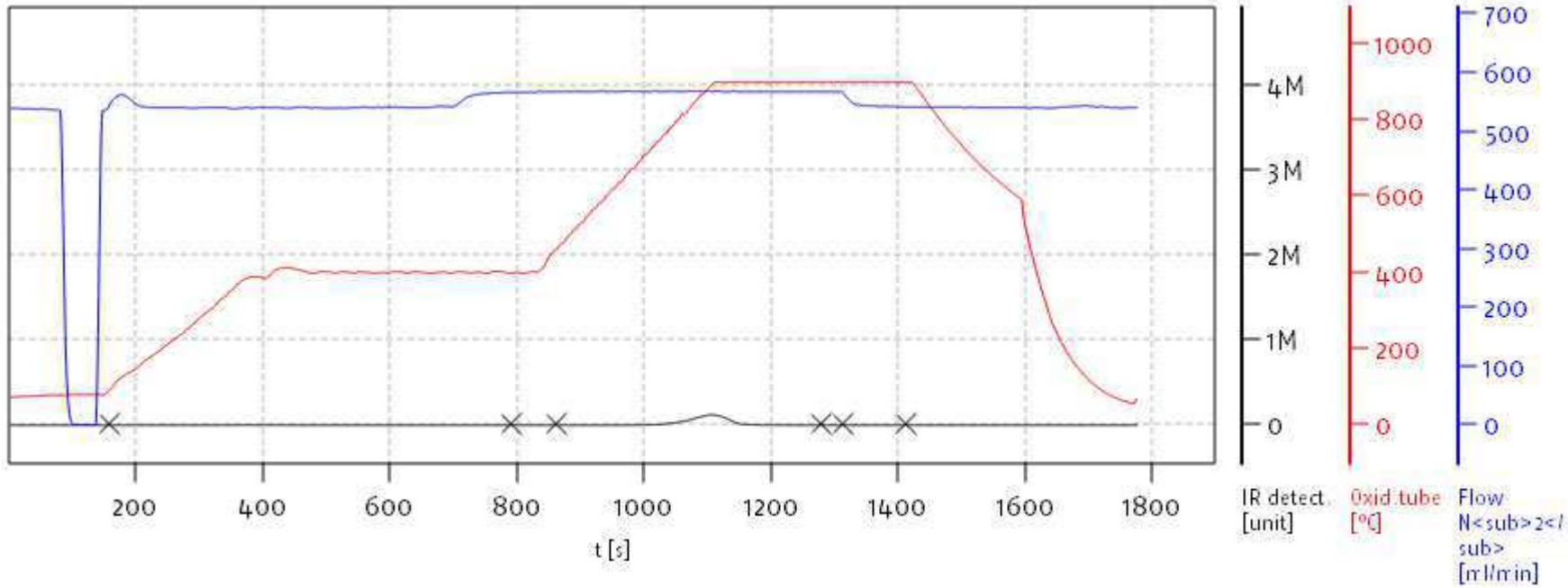
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
13	13	SEQ-CALB	200.00	0.0040	1.00	CARBON	4/26/2022 5:30 PM	0.010	0.258	0.268	bl,C1u,C2u	7 070	323 151	663	1.0000	1.0048



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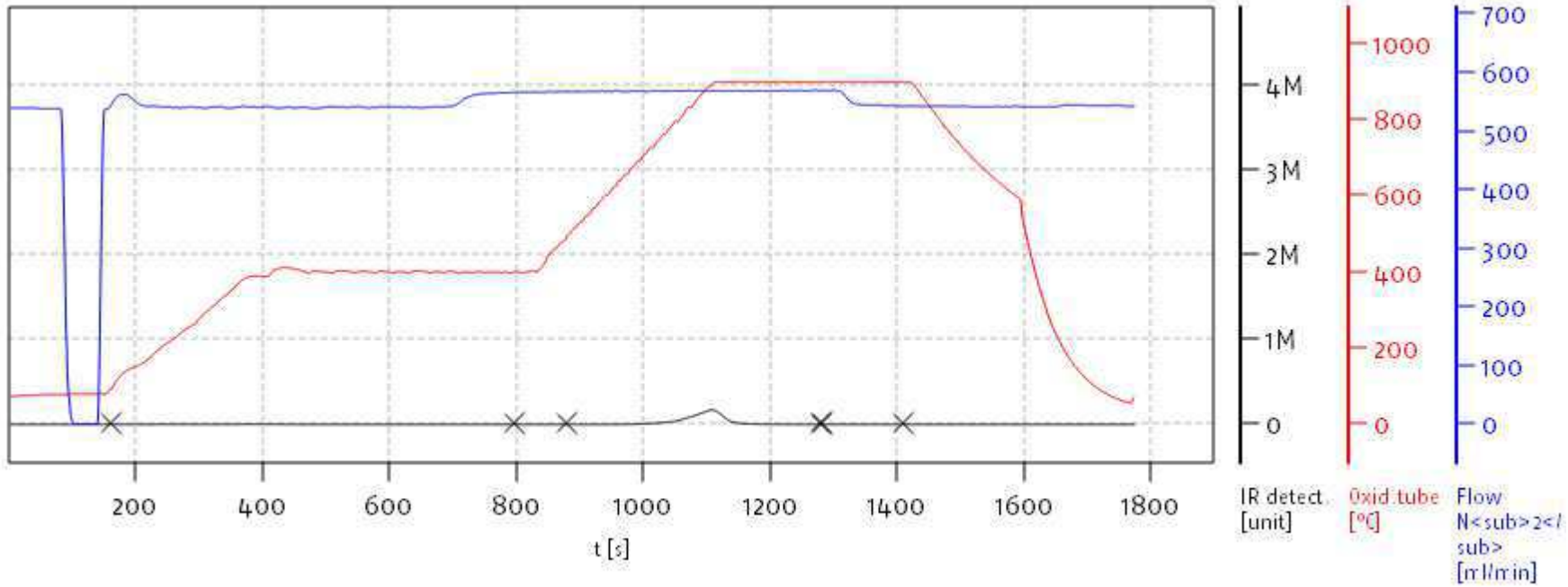
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
14	14	SEQ-CALC	200.00	0.0048	1.00	CARBON	4/26/2022 6:00 PM	0.015	0.324	0.339	bl,C2u	13 785	411 879	575	1.0000	0.9917



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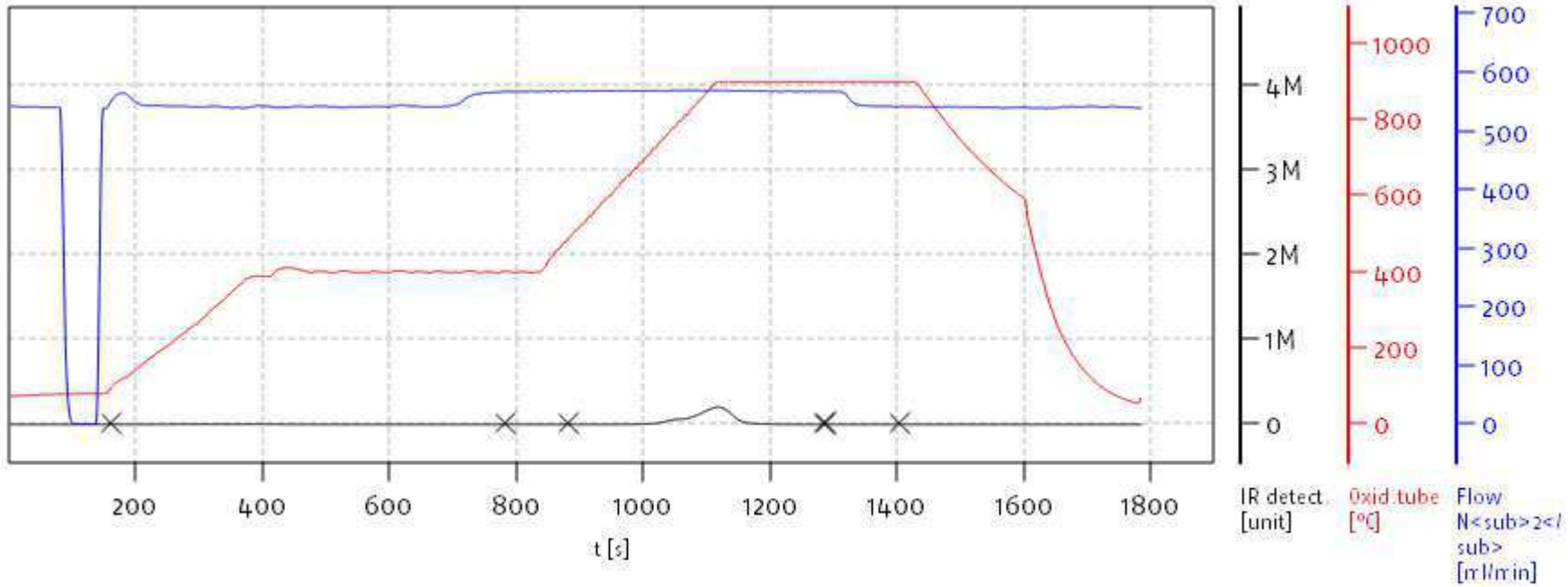
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
15	15	SEQ-CALD	200.00	0.0069	1.00	CARBON	4/26/2022 6:30 PM	0.019	0.444	0.463	bl,C2u	18 465	553 540	263	1.0000	1.0129



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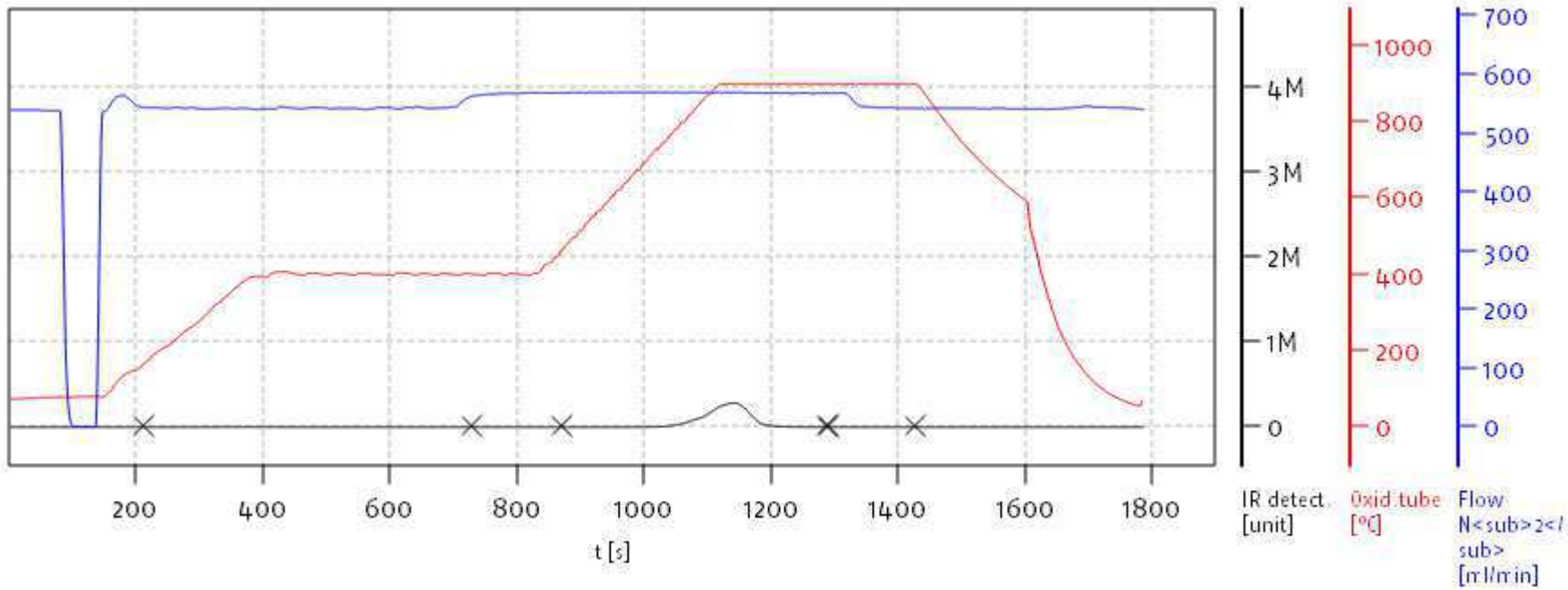
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
16	16	SEQ-CALE	200.00	0.0101	1.00	CARBON	4/26/2022 7:00 PM	0.009	0.600	0.609	bl,C1u,C2u	5 485	839 878	536	1.0000	0.9036



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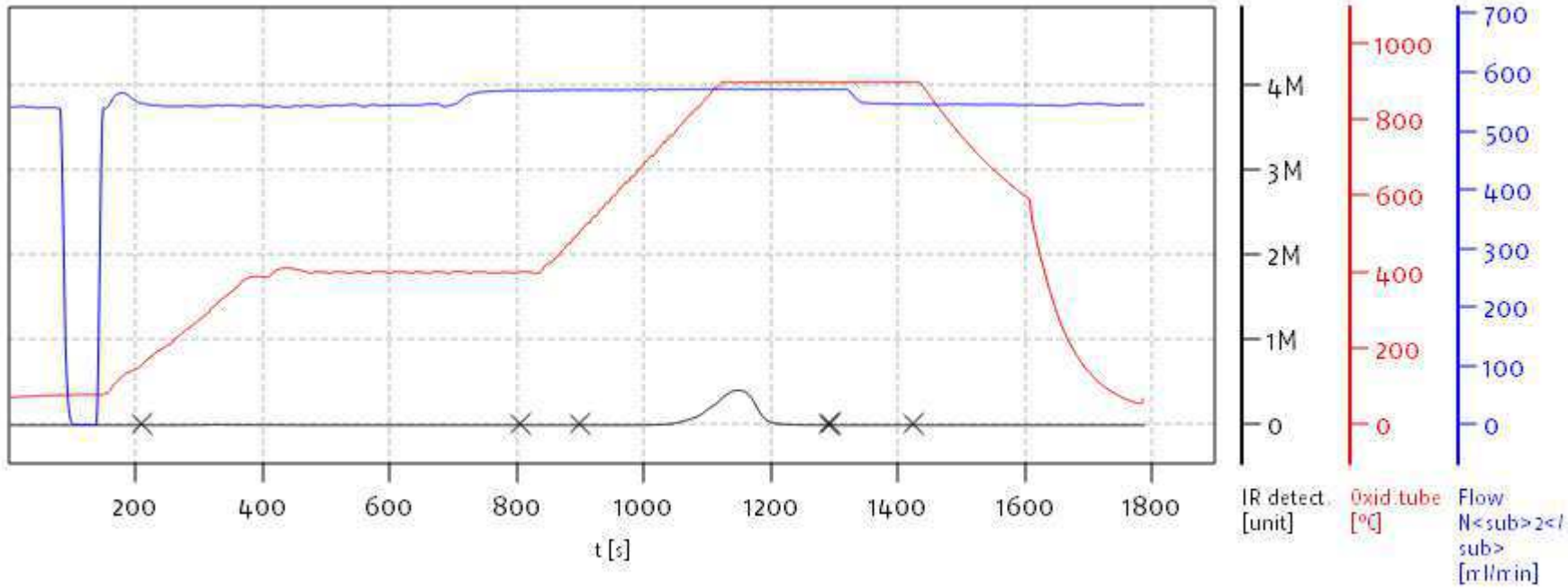
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
17	17	SEQ-CALF	200.00	0.0149	1.00	CARBON	4/26/2022 7:31 PM	0.019	0.906	0.925	bl,C2u	17 439	1 236 200	814	1.0000	0.9279



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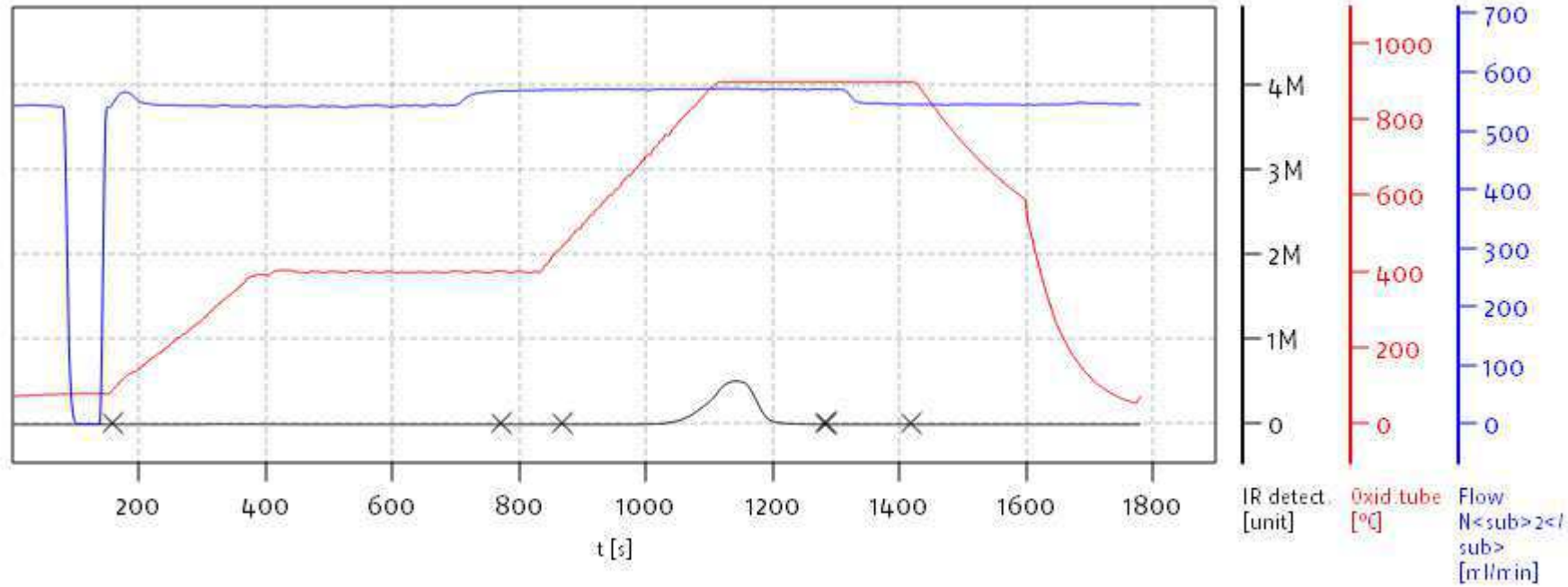
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
18	18	SEQ-CALG	200.00	0.0198	1.00	CARBON	4/26/2022 8:01 PM	0.015	1.206	1.221	bl,C2u	12 557	1 639 190	1 295	1.0000	0.9320



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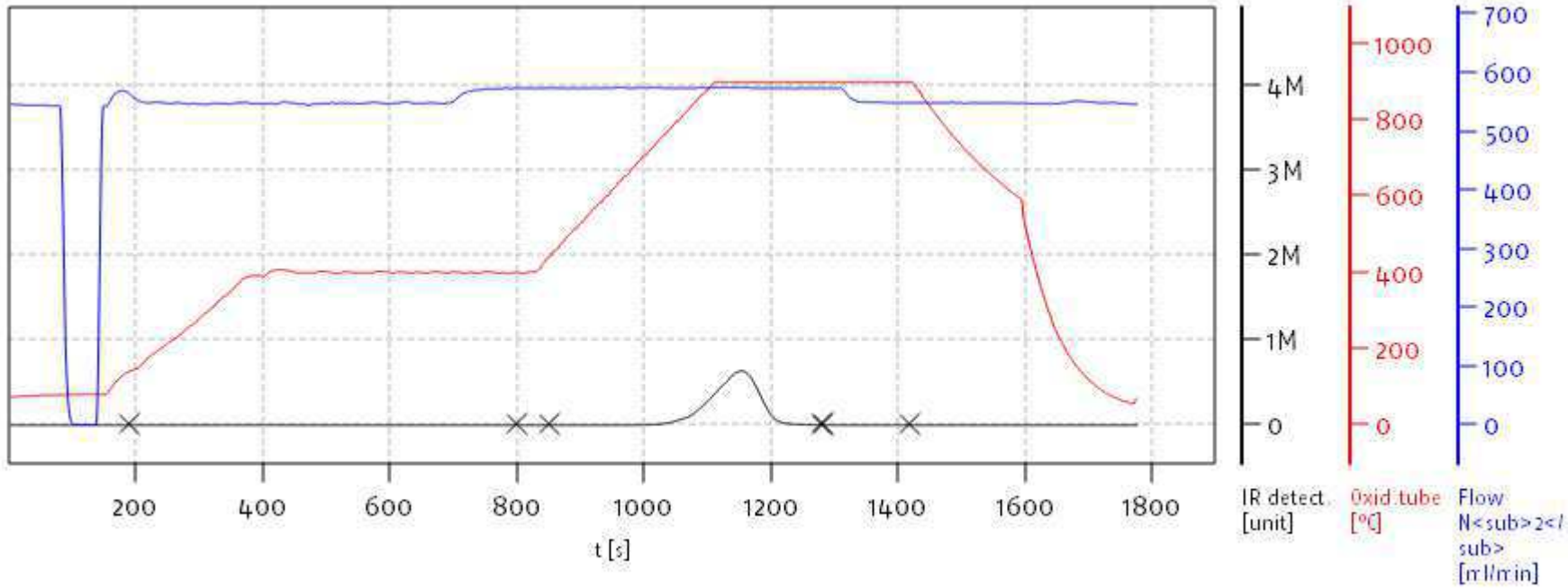
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
19	19	SEQ-CALH	200.00	0.0250	1.00	CARBON	4/26/2022 8:31 PM	0.009	1.524	1.533	bl,C1u,C2u	4 029	2 063 890	2 225	1.0000	0.9357



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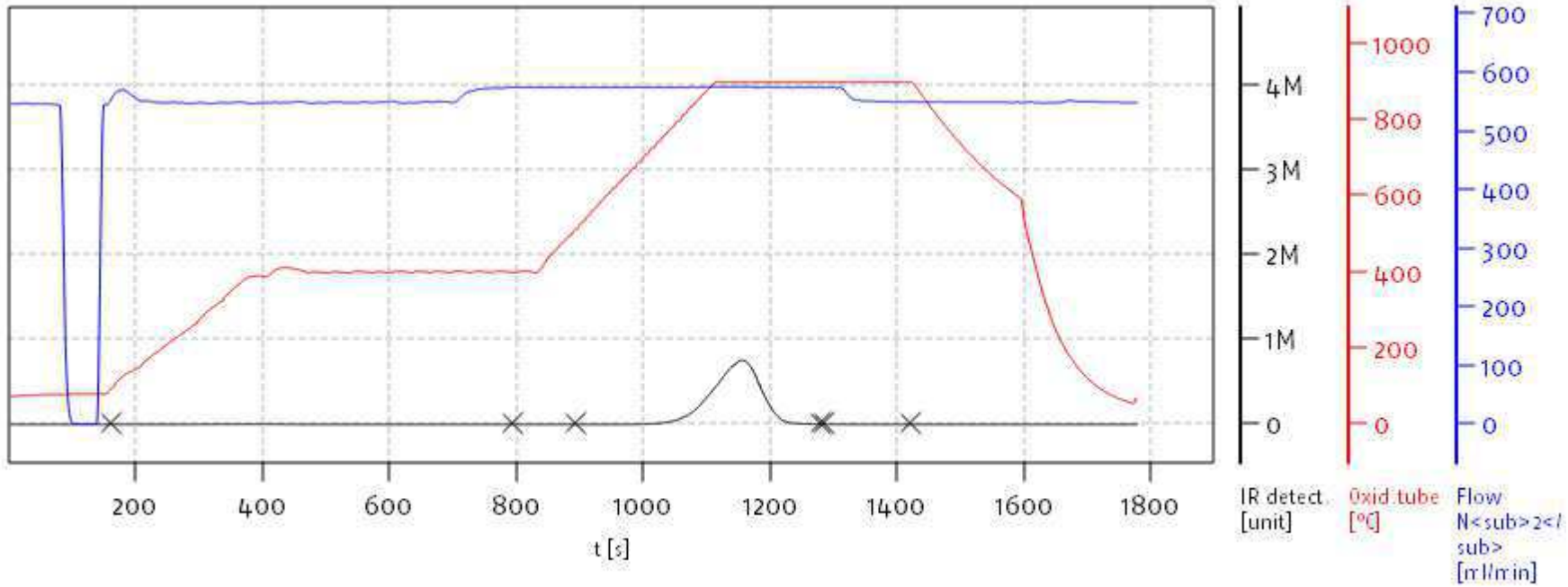
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
20	20	SEQ-CALI	200.00	0.0303	1.00	CARBON	4/26/2022 9:01 PM	0.017	1.800	1.817	bl,C2u	13 926	2 495 900	2 903	1.0000	0.9140



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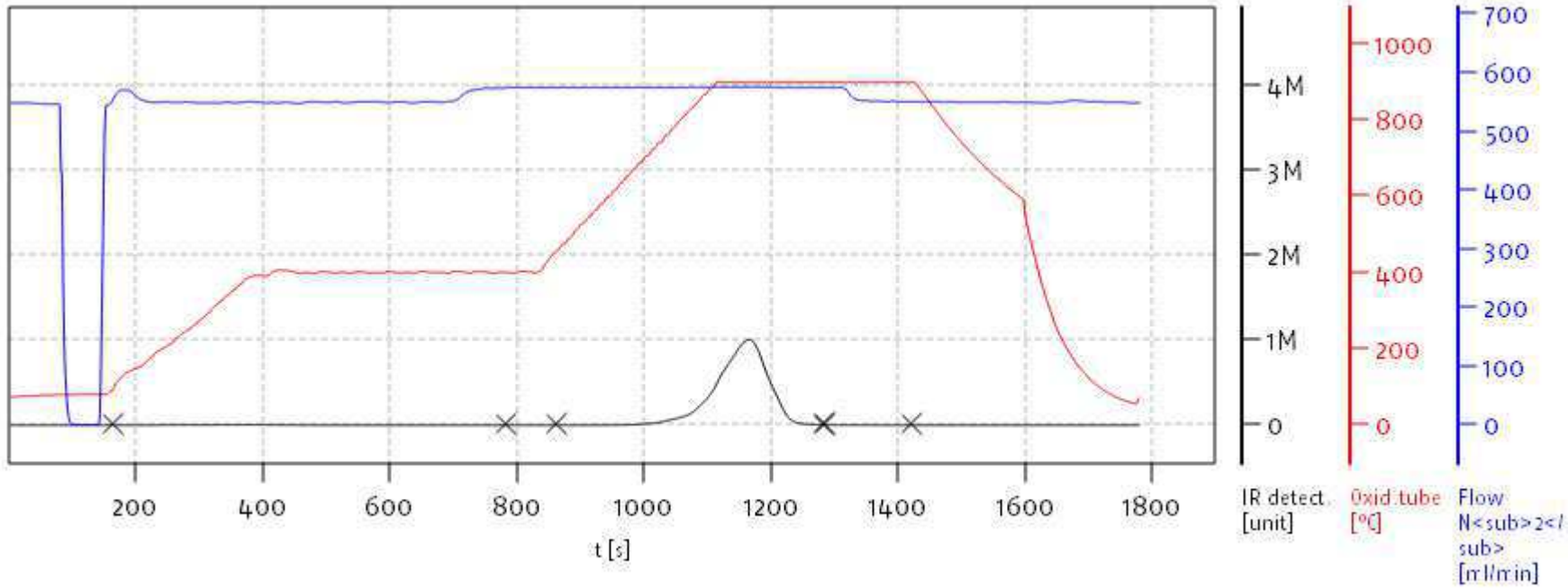
EXCELLENCE IN ELEMENTS

Document: 042622 DOE CALIBRATION from: 4/27/2022 11:05 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
21	21	SEQ-CALJ	200.00	0.0415	1.00	CARBON	4/26/2022 9:31 PM	0.031	2.400	2.431	bl,C2u	28 786	3 482 530	5 351	1.0000	0.8737



Name:

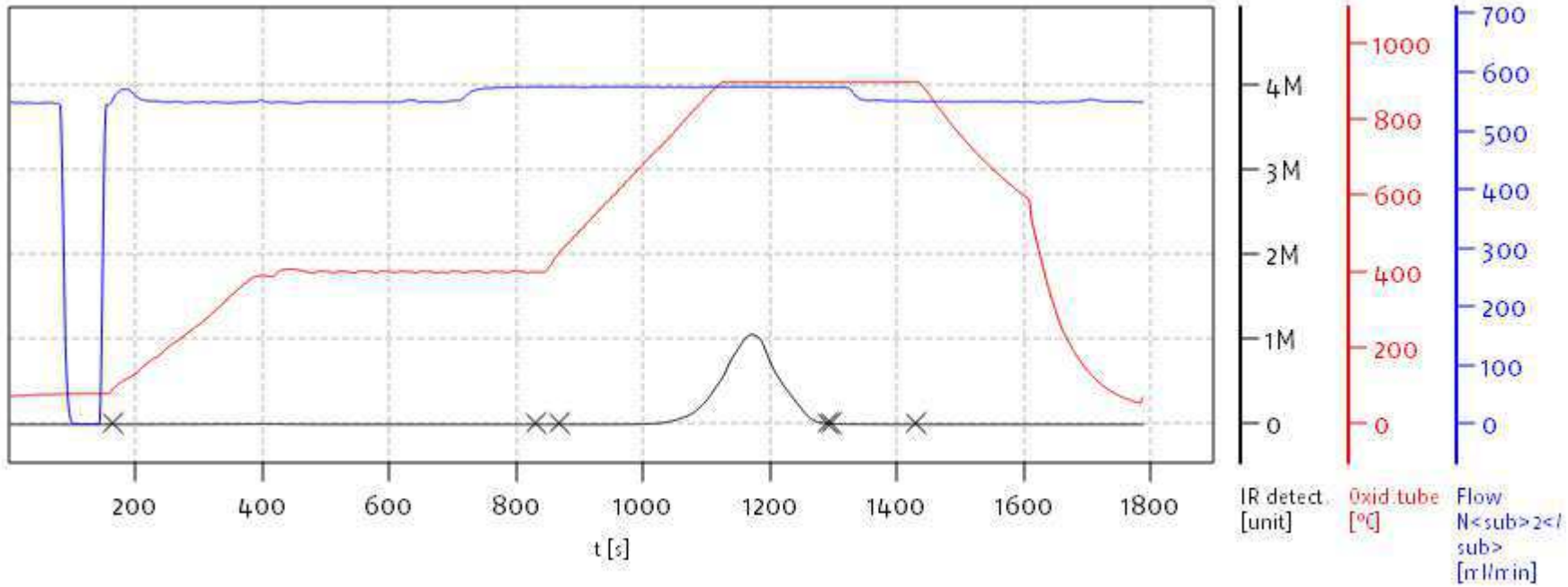
Access: soliTOC superuser

Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
22	22	SEQ-CALK	200.00	0.0497	1.00	CARBON	4/26/2022 10:01 PM	0.031	3.012	3.043	bl	23 732	4 105 830	9 736	1.0000	0.9301



Name:

Access: soliTOC superuser

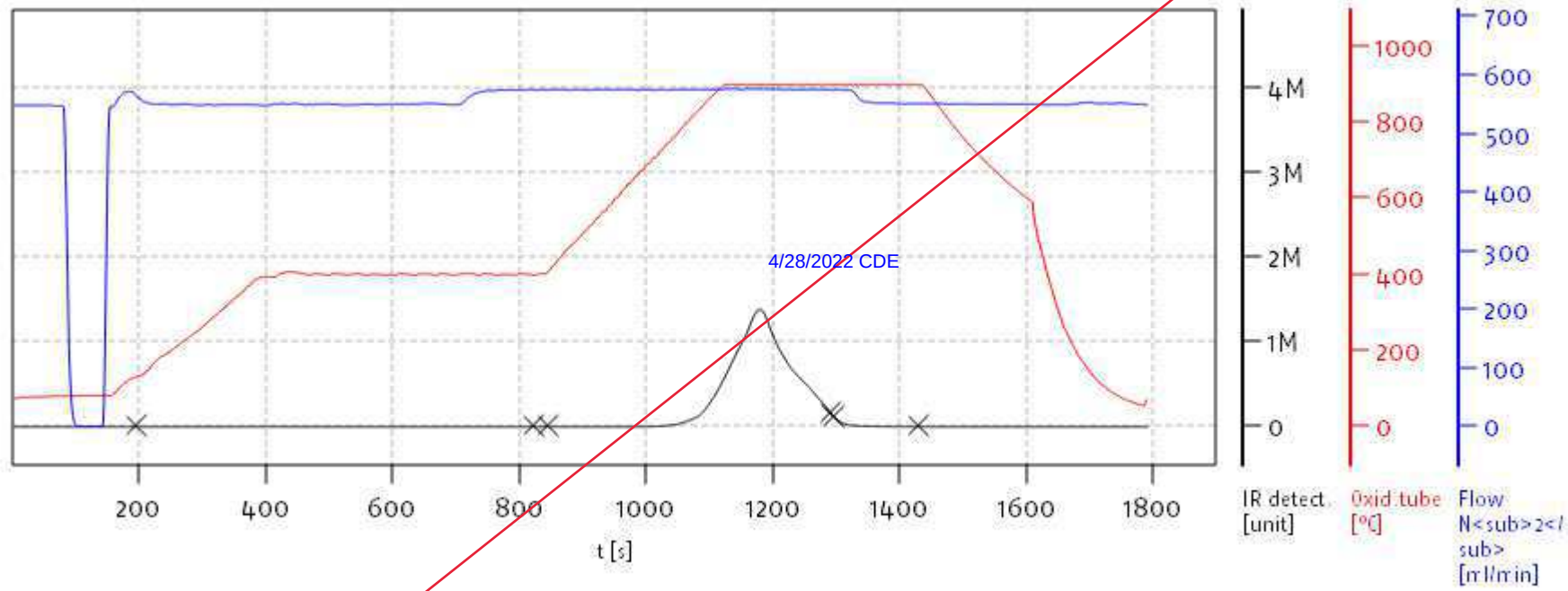
Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
23	23	SEQ-CALL	200.00	0.0698	1.00	CARBON	4/26/2022 10:31 PM	0.005	3.805	3.810	bl,C1u	3 605	5 648 620	71 970	1.0000	0.9443



Name:

Access: soliTOC superuser

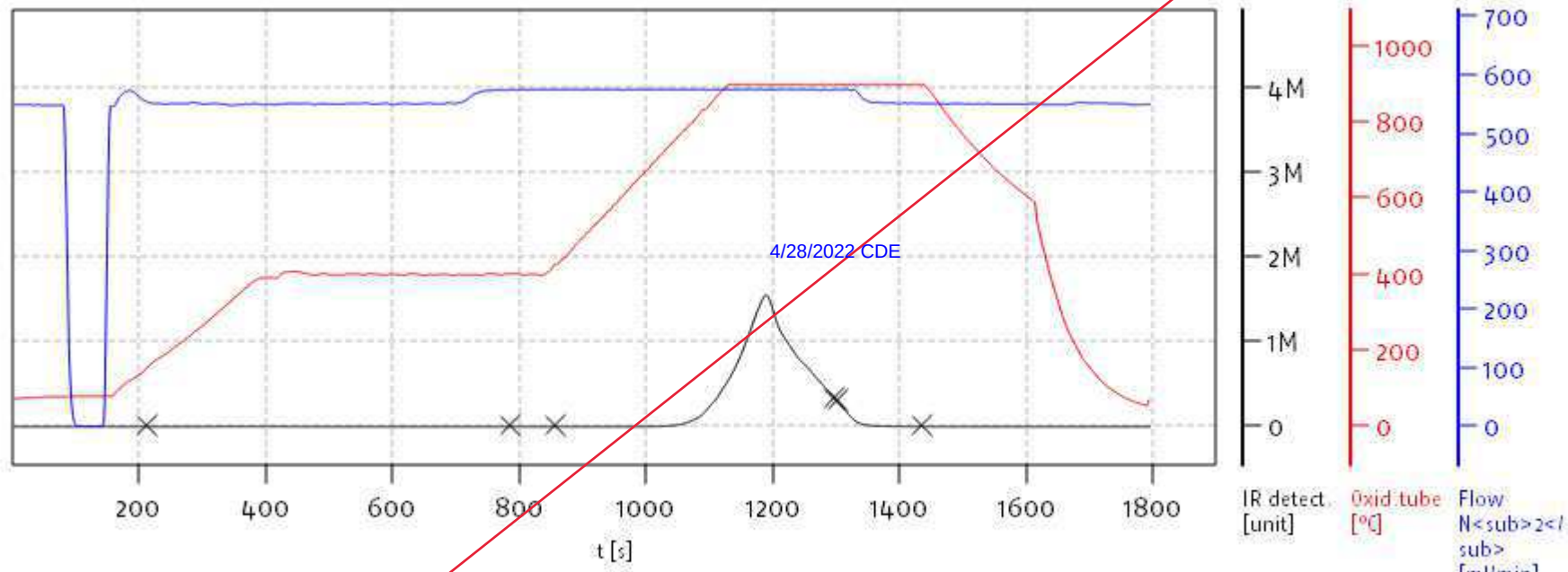
Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
24	24	SEQ-CALM	200.00	0.0803	1.00	CARBON	4/26/2022 11:02 PM	0.010	4.637	4.647	bl	10 023	6 397 530	228 171	1.0000	0.9539



Name:

Access: soliTOC superuser

Date: Wed Apr 27 11:07:12 2022

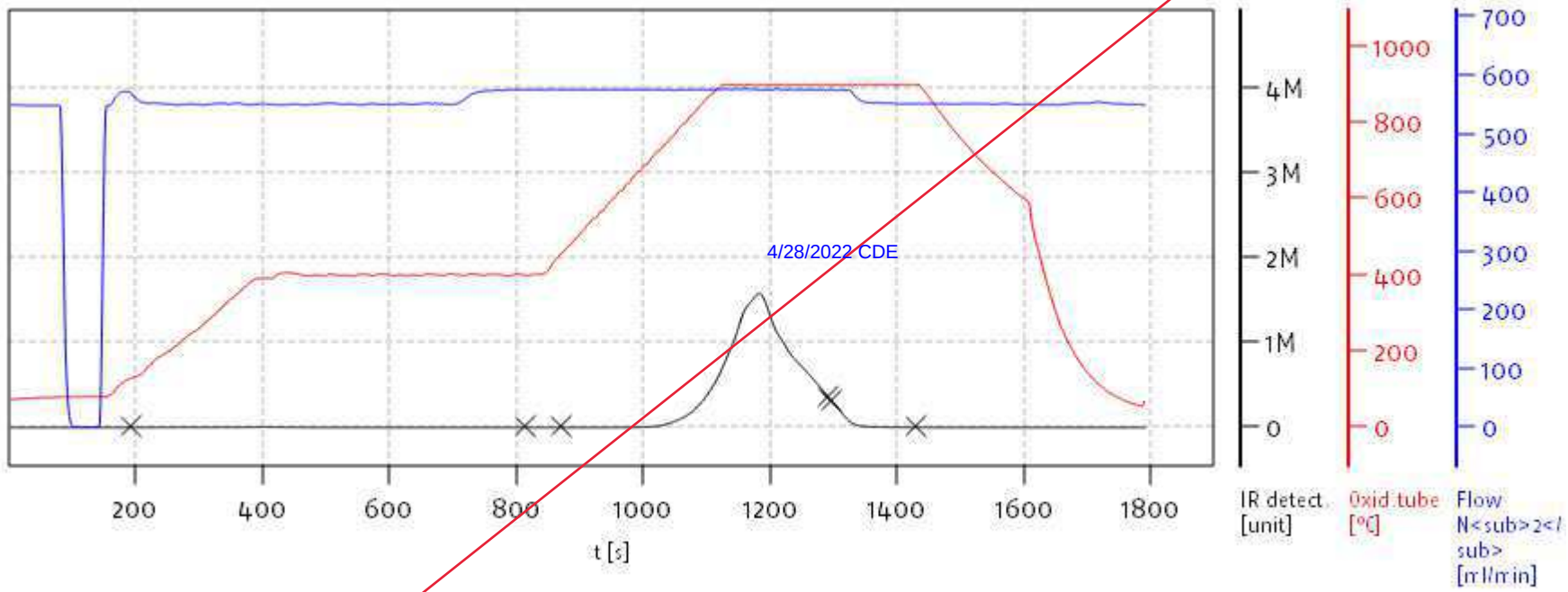
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
25	25	SEQ-CALN	200.00	0.0901	1.00	CARBON	4/26/2022 11:32 PM	0.020	5.219	5.239	bl	23 354	7 186 580	239 986	1.0000	0.9540



Name:

Access: soliTOC superuser

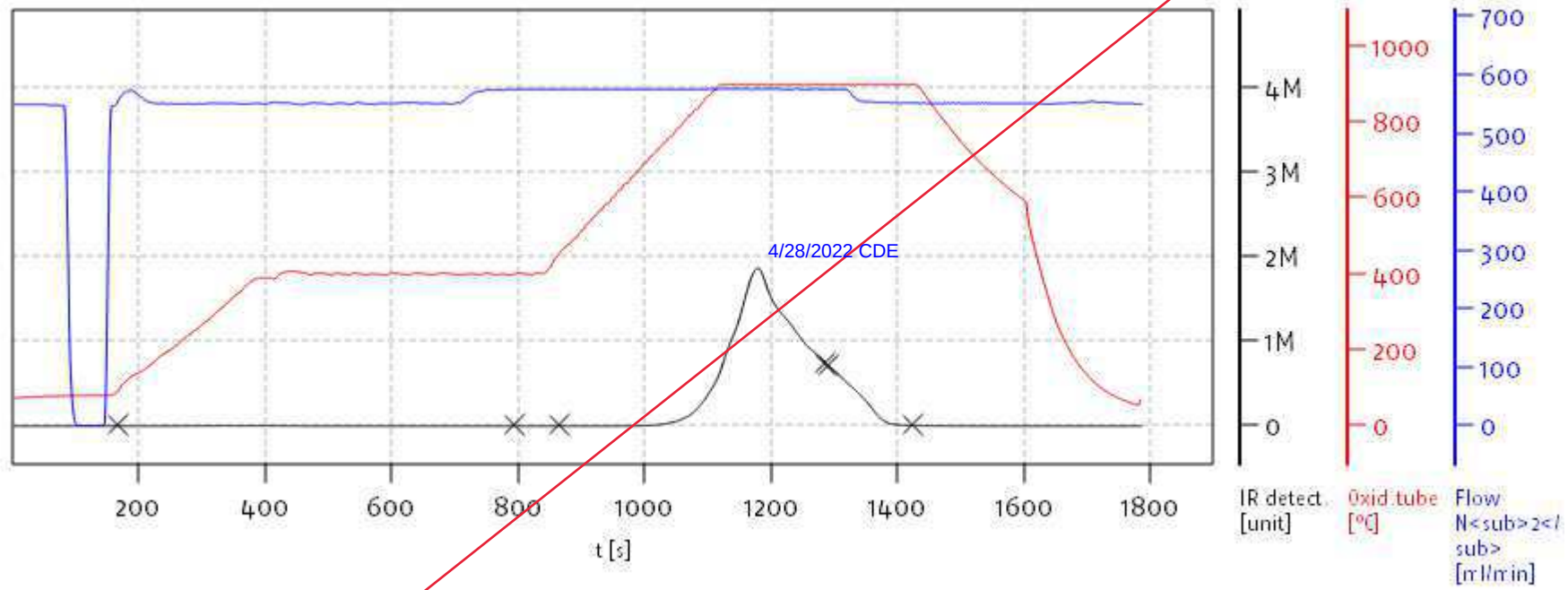
Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
26	26	SEQ-CALO	200.00	0.1200	1.00	CARBON	4/27/2022 12:02 AM	0.019	7.915	7.934	bl,C3o	21 248	8 544 610	1 334 580	1.0000	1.0714



Name:

Access: soliTOC superuser

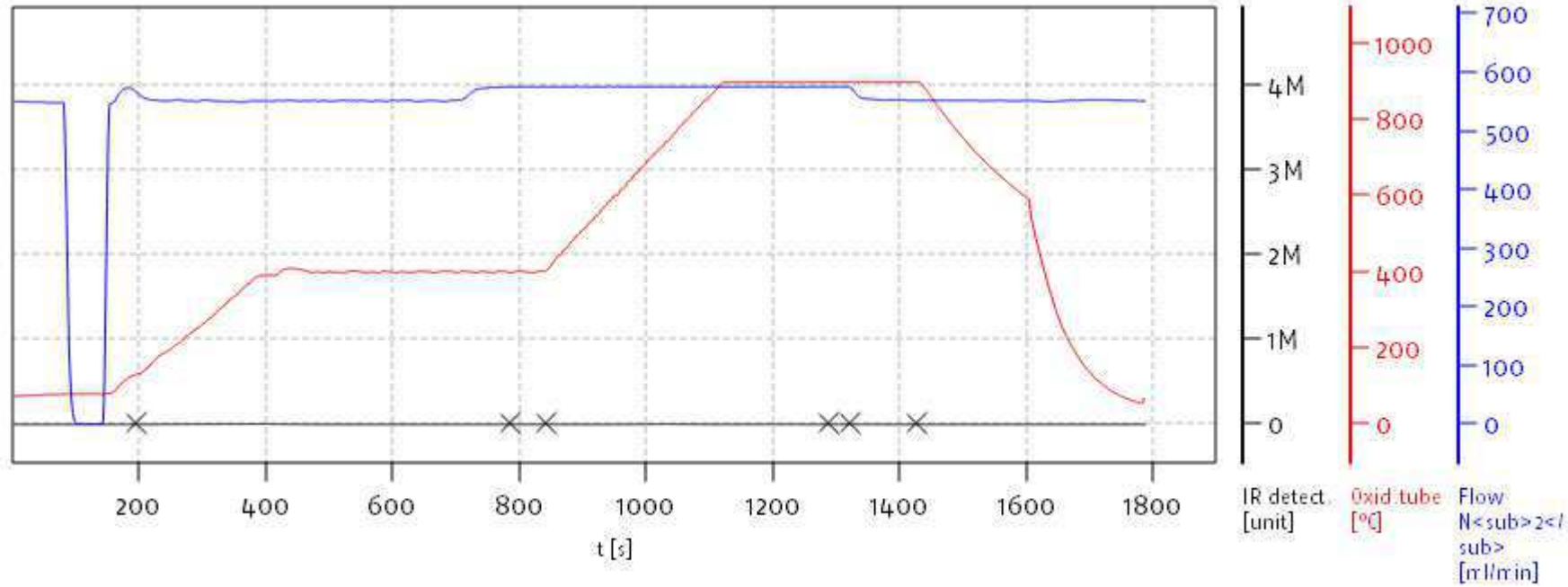
Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
27	27	BLANK	1.00		1.00	CARBON	4/27/2022 12:32 AM	0.000	0.000	0.000	bl	29 766	19 596	1 205	1.0000	0.9007



Name:

Access: soliTOC superuser

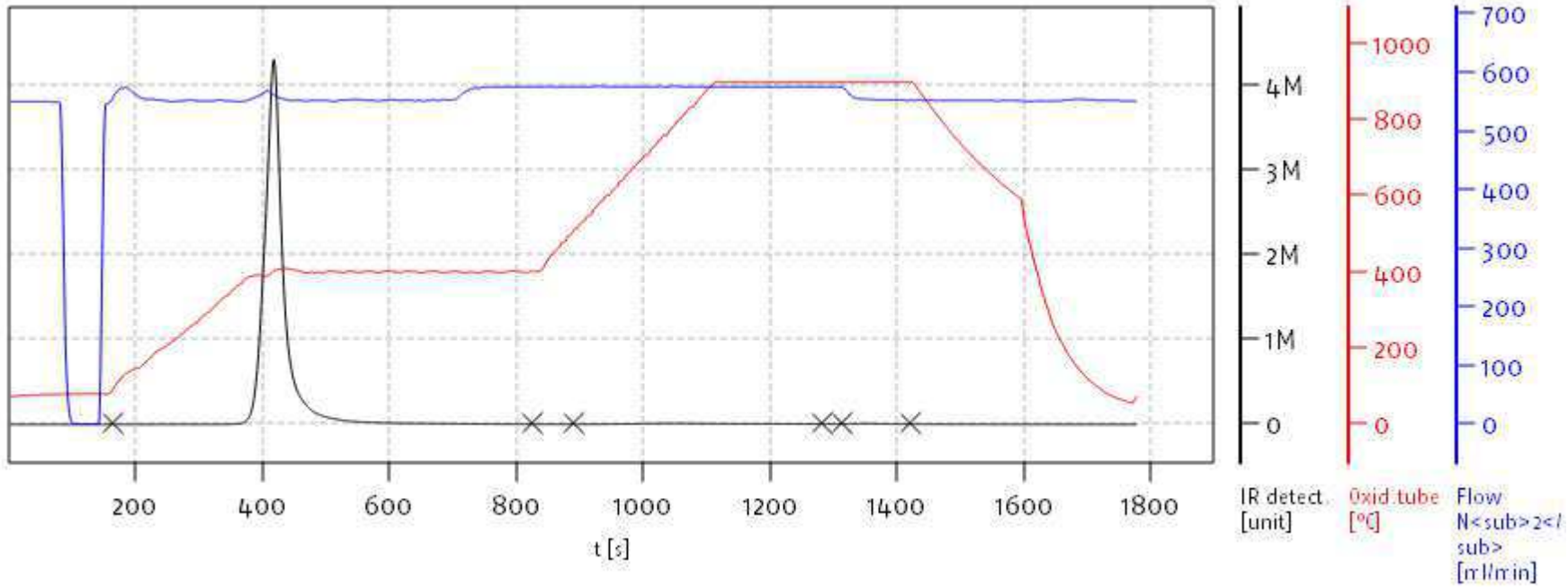
Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
28	28	Dfactor	19.00		1.00	CARBON	4/27/2022 1:02 AM	44.678	0.893	45.571	bl	5 588 680	104 999	25 384	0.9581	1.0000



Name:

Access: soliTOC superuser

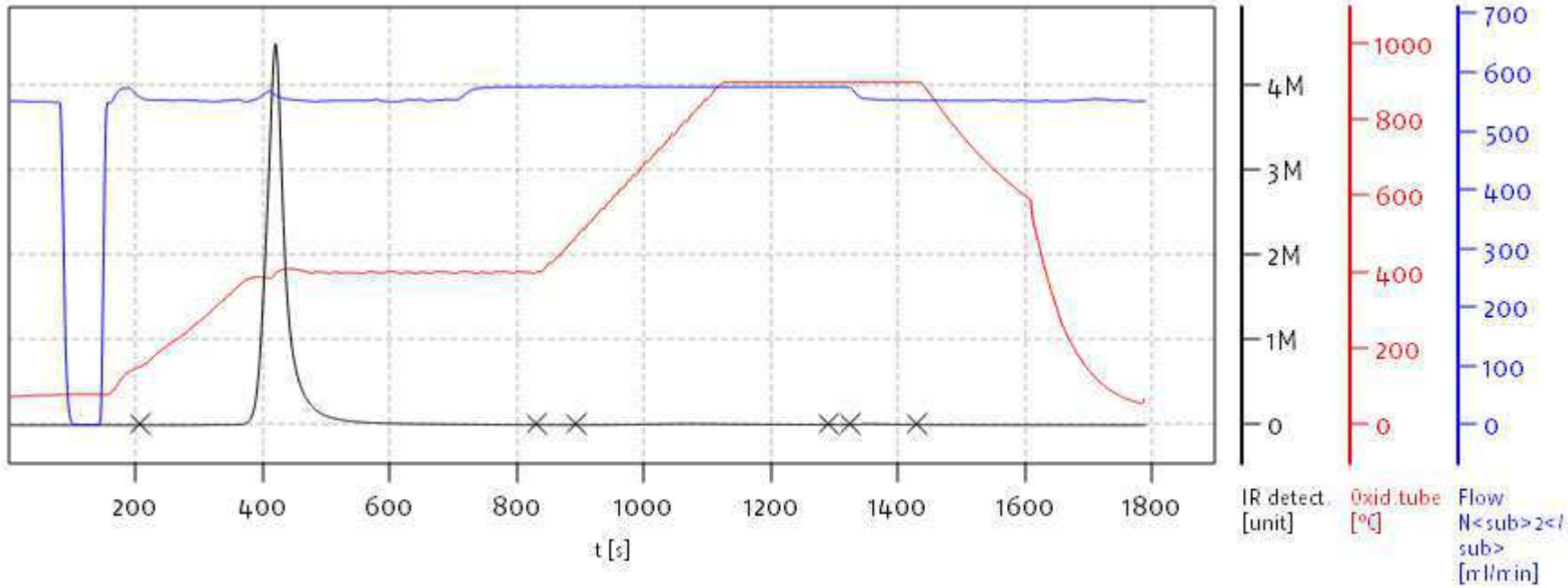
Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
29	29	Dfactor	20.80		1.00	CARBON	4/27/2022 1:32 AM	44.694	0.937	45.631	bl	6 076 750	120 961	30 224	0.9647	1.0000



Name:

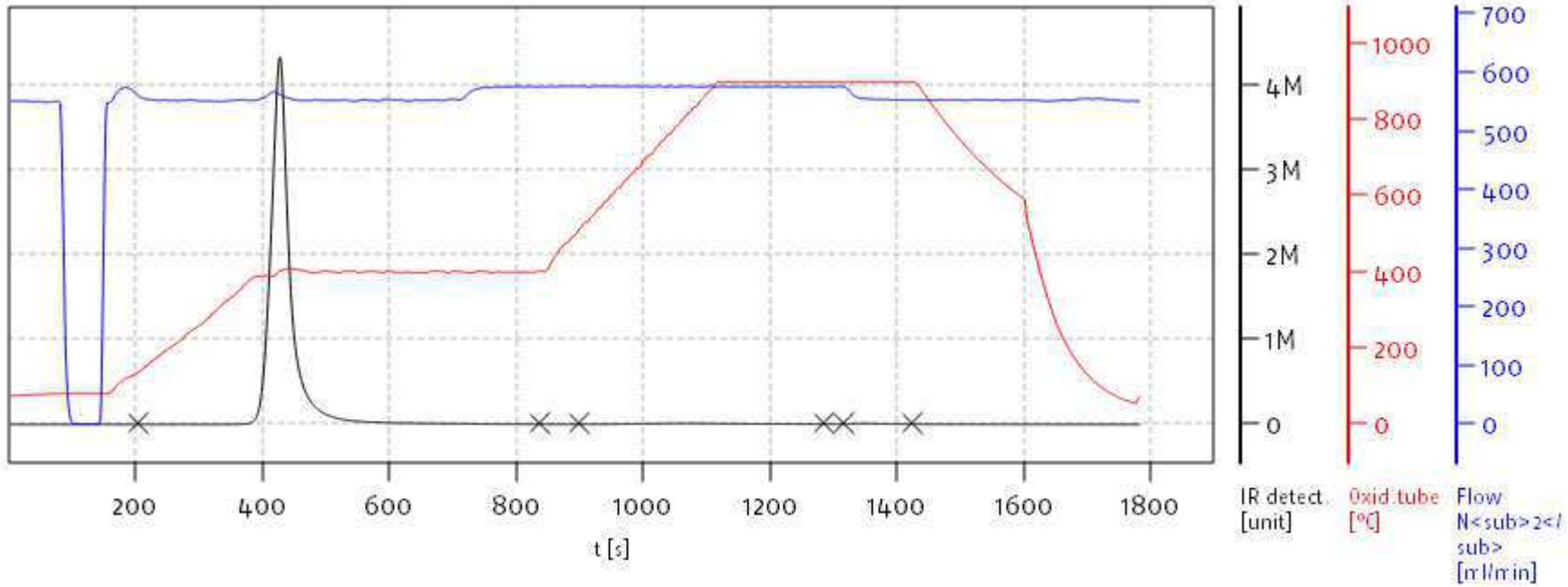
Access: soliTOC superuser

Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
30	30	SEQ-ICV1	19.40		1.00	CARBON	4/27/2022 2:03 AM	44.964	0.742	45.706	bl	5 722 450	98 735	27 054	0.9614	0.9007



Name:

Access: soliTOC superuser

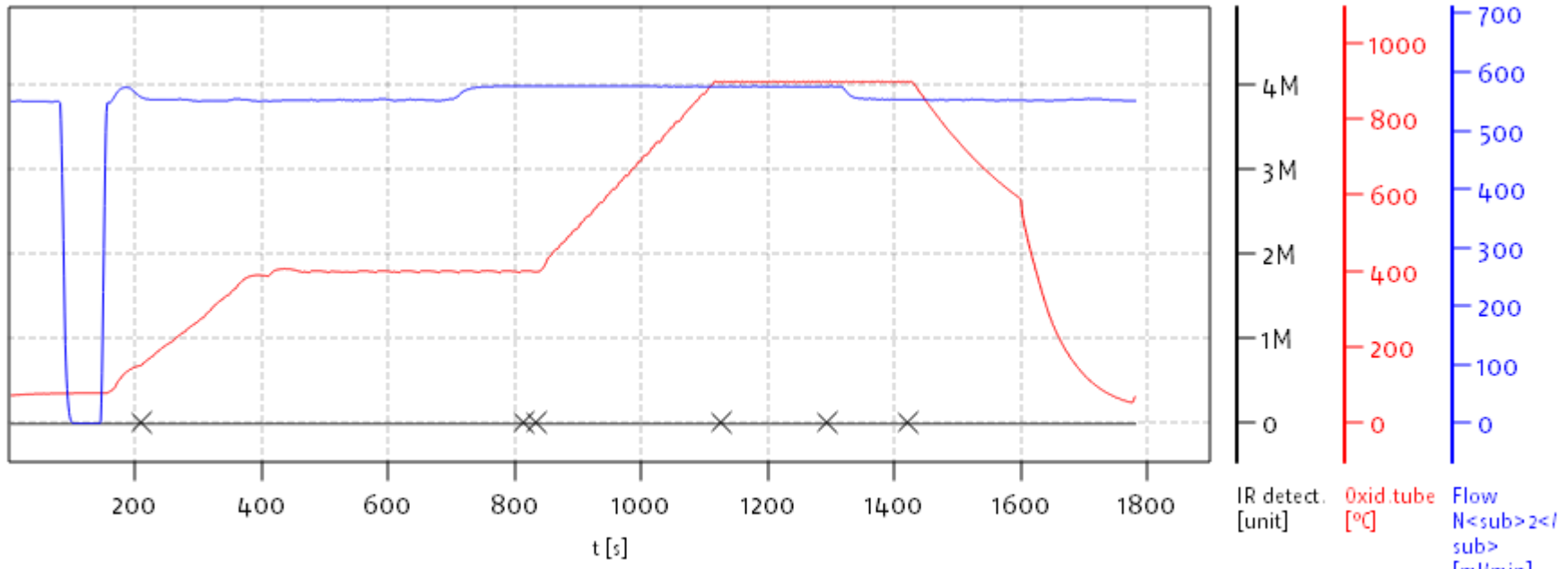
Date: Wed Apr 27 11:07:12 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
31	31	SEQ-ICB1	501.10		1.00	CARBON	4/27/2022 2:33 AM	0.002	0.001	0.003	bl,C1u,C3u,C2u	2 158	225	165	0.9614	0.9007



Name:

Access: soliTOC superuser

Date: Wed Apr 27 11:07:12 2022

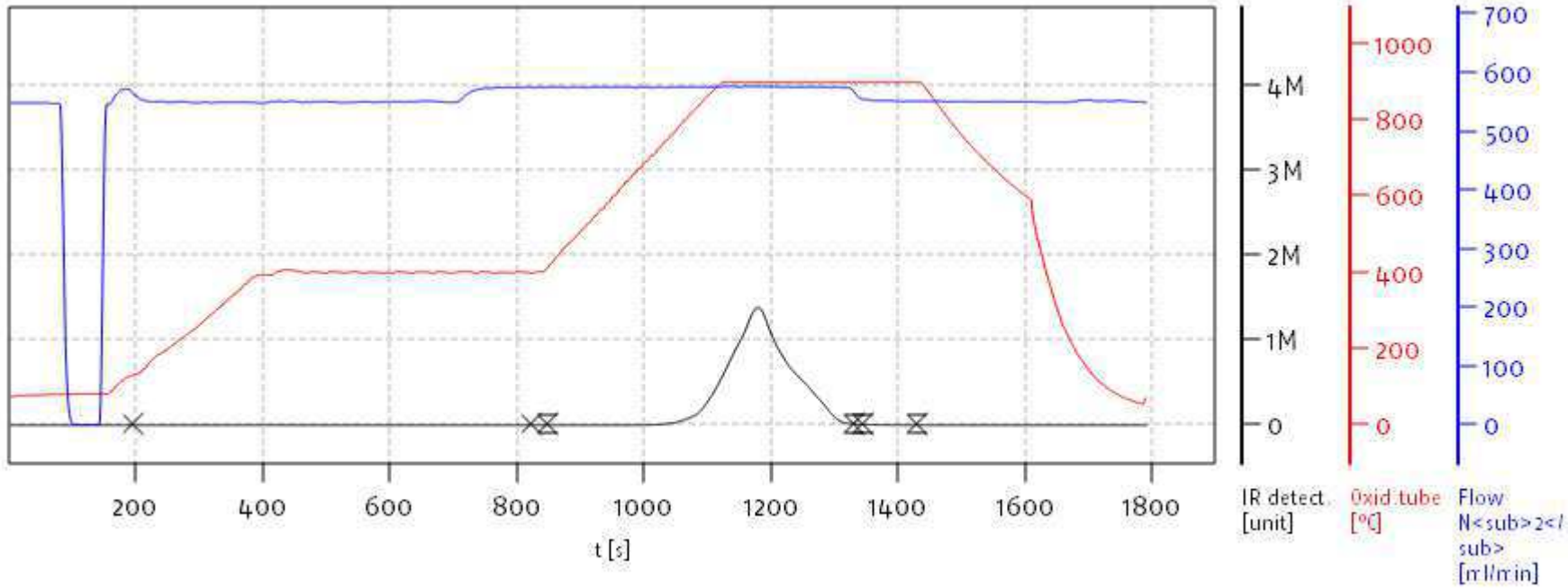
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
23	23	SEQ-CALL	200.00	0.0698	1.00	CARBON	4/27/2022 11:08 AM	0.005	3.917	3.922	bl,C1u	3 605	**5 260 365**	**0**	1.0000	0.9443



Name:

Access: soliTOC superuser

Date: Wed Apr 27 11:10:16 2022

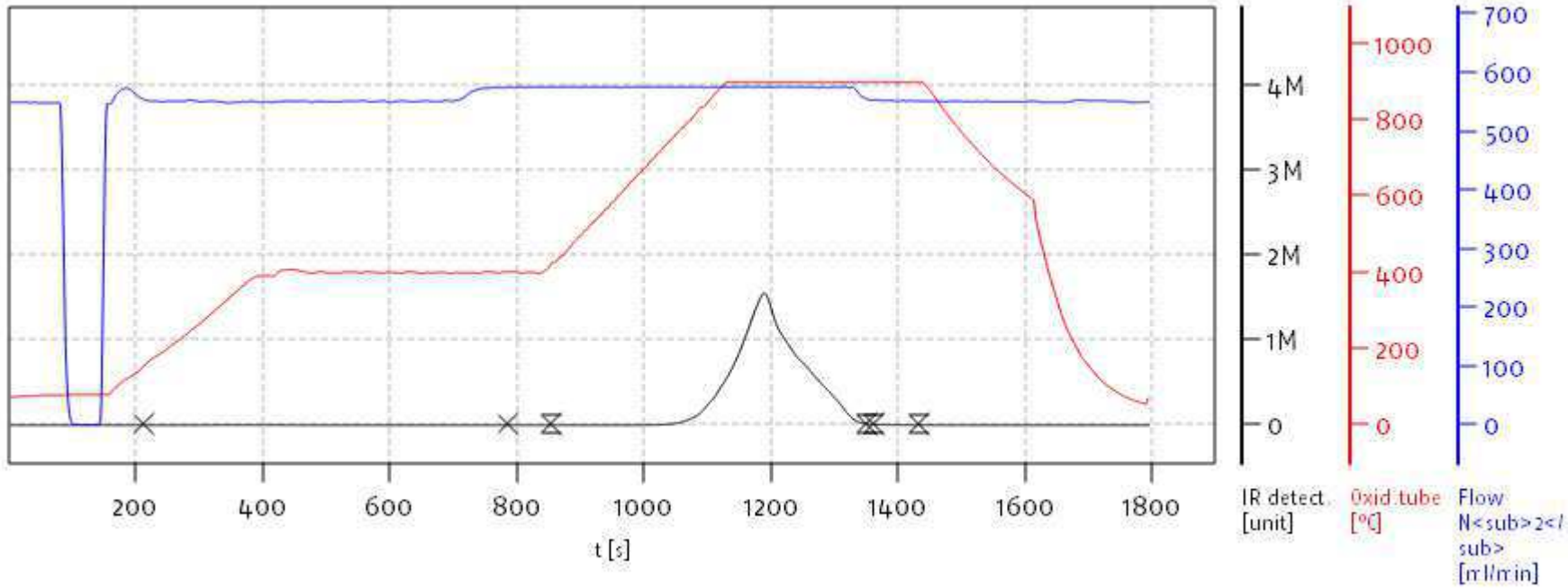
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Document: 042622 DOE CALIBRATION from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
24	24	SEQ-CALM	200.00	0.0803	1.00	CARBON	4/27/2022 11:08 AM	0.010	4.637	4.647	bl	10 023	**6 164 833**	**0**	1.0000	0.9539



Name:

Access: soliTOC superuser

Date: Wed Apr 27 11:10:16 2022

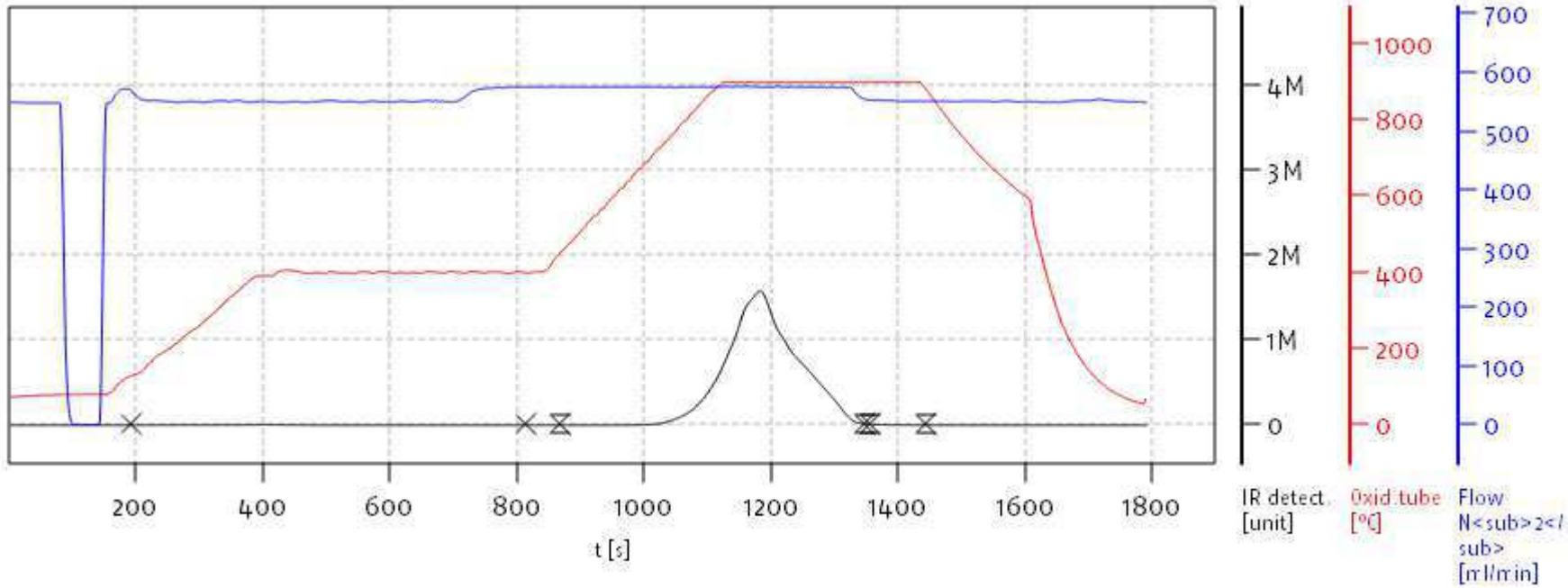
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Document: 042622 DOE CALIBRATION from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
25	25	SEQ-CALN	200.00	0.0901	1.00	CARBON	4/27/2022 11:09 AM	0.020	5.219	5.239	bl	23 354	**6 937 833**	**0**	1.0000	0.9540



Name:

Access: soliTOC superuser

Date: Wed Apr 27 11:10:16 2022

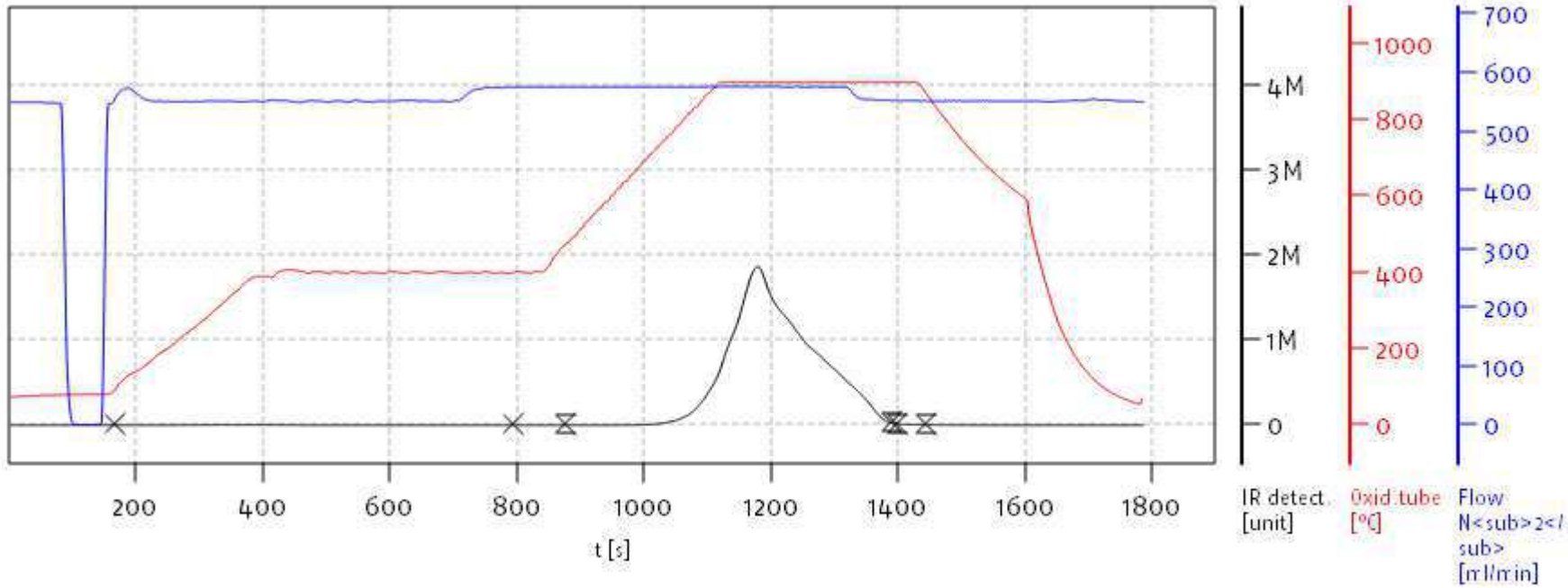
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Document: 042622 DOE CALIBRATION from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: DOE

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
26	26	SEQ-CALO	200.00	0.1200	1.00	CARBON	4/27/2022 11:09 AM	0.019	7.915	7.934	bl,C3o	21 248	9 370 139	0	1.0000	1.0714



Name:

Access: soliTOC superuser

Date: Wed Apr 27 11:10:16 2022

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

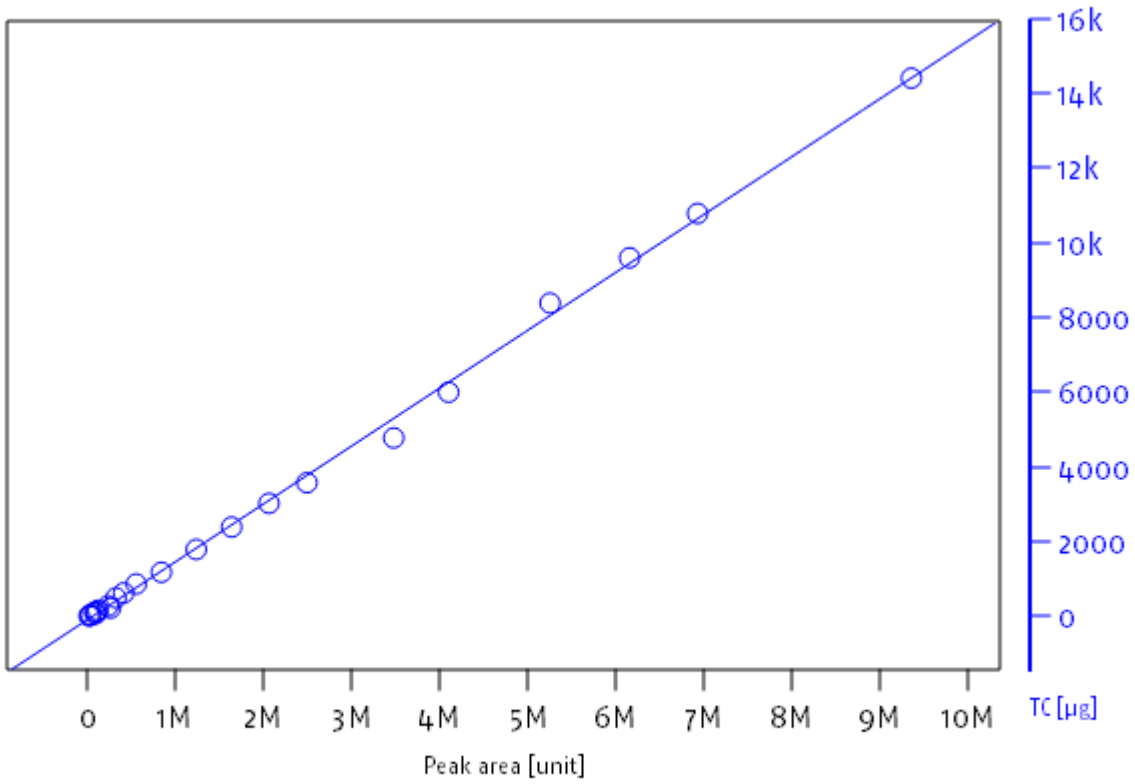
elementar
EXCELLENCE IN ELEMENTS

Document: 042622 DOE CALIBRATION from: --.--.-- (modified)

Calibration parameters TC, Whole range

a	-4.107546e-02
b	+1.548032e-06
c	+0.000000e+00
d	+0.000000e+00
e	+0.000000e+00
r	0.998372
r_old	0.998372
Proc.-SD	166.070255 µg

Calibration graph TC, Whole range



INSTRUMENT BLANKS
EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: TOC Cube
Calibration: FD00070
Sequence: SKD0371
Date Analyzed: 04/27/22 02:33

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SKD0371-ICB1	Total Organic Carbon	0.00	0.02	0.02	%	

INSTRUMENT BLANKS
EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: TOC Cube
Calibration: FD00070
Sequence: SLD0078
Date Analyzed: 04/06/23 12:27

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SLD0078-ICB1	Total Organic Carbon	0.002	0.02	0.02	%	
SLD0078-CCB1	Total Organic Carbon	0.005	0.02	0.02	%	
SLD0078-CCB2	Total Organic Carbon	0.00	0.02	0.02	%	
SLD0078-CCB3	Total Organic Carbon	0.00	0.02	0.02	%	
SLD0078-CCB4	Total Organic Carbon	0.00	0.02	0.02	%	

INSTRUMENT BLANKS
EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: TOC Cube
Calibration: FD00070
Sequence: SLD0126
Date Analyzed: 04/08/23 16:43

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SLD0126-ICB1	Total Organic Carbon	0.00	0.02	0.02	%	
SLD0126-CCB1	Total Organic Carbon	0.00	0.02	0.02	%	
SLD0126-CCB2	Total Organic Carbon	0.00	0.02	0.02	%	

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: TOC Cube
Calibration: FD00070
Control Limt: +/- 10.00%
Sequence: SKD0371

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SKD0371-ICV1	Total Organic Carbon	44.446	43.7	98.3	%	EPA 9060A m
	Total Carbon	44.446	44.1	99.2	%	EPA 9060A m
	Total Inorganic Carbon	0.0000	0.40		%	EPA 9060A m
	% Soot	0.0000	0.004		%	EPA 9060A m

* Values outside of QC limits

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: TOC Cube
Calibration: FD00070
Control Limt: +/- 10.00%
Sequence: SLD0078

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SLD0078-ICV1	Total Organic Carbon	44.446	43.5	97.8	%	EPA 9060A m
SLD0078-CCV1	Total Organic Carbon	44.446	44.4	100	%	EPA 9060A m
SLD0078-CCV2	Total Organic Carbon	44.446	45.8	103	%	EPA 9060A m
SLD0078-CCV3	Total Organic Carbon	44.446	43.7	98.4	%	EPA 9060A m
SLD0078-CCV4	Total Organic Carbon	44.446	45.3	102	%	EPA 9060A m

* Values outside of QC limits

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Instrument ID: TOC Cube
Calibration: FD00070
Control Limt: +/- 10.00%
Sequence: SLD0126

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SLD0126-ICV1	Total Organic Carbon	44.446	45.4	102	%	EPA 9060A m
SLD0126-CCV1	Total Organic Carbon	44.446	45.3	102	%	EPA 9060A m
SLD0126-CCV2	Total Organic Carbon	44.446	45.3	102	%	EPA 9060A m

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

STANDARD REFERENCE MATERIAL RECOVERY

EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Laboratory ID: BLD0117-SRM1
Batch: BLD0117
Initial/Final: 0.3111 g / 0.3111 mL
Preparation: PSEP 1986 (modified)
Analyzed: 04/06/2023 14:28
Standard ID: L000790
Expires: 02/07/2023
Standard Lot#: NA
Description: 1941B - Organics in Marine Sediment (Conv

ANALYTE	TRUE (% wet)	FOUND (% wet)	MDL	MRL	Q	SRM % REC.	QC LIMITS REC.
Total Organic Carbon	2.9900	3.03	0.02	0.02		101	80 - 120

* Values outside of QC limits

Analytical Resources, LLC
Analytical Chemists and Consultants

STANDARD REFERENCE MATERIAL RECOVERY

EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Laboratory ID: BLD0118-SRM1
Batch: BLD0118
Initial/Final: 0.3033 g / 0.3033 mL
Preparation: PSEP 1986 (modified)
Analyzed: 04/07/2023 8:43
Standard ID: L000790
Expires: 02/07/2023
Standard Lot#: NA
Description: 1941B - Organics in Marine Sediment (Conv

ANALYTE	TRUE (% wet)	FOUND (% wet)	MDL	MRL	Q	SRM % REC.	QC LIMITS REC.
Total Organic Carbon	2.9900	3.03	0.02	0.02		101	80 - 120

* Values outside of QC limits

HOLDING TIME SUMMARY

Analysis: EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW23-SC1037 23C0108-01	03/02/23 13:29	03/03/23 16:35	04/05/23 15:19	34	180	04/07/23 03:08			
LDW23-SC1044 23C0108-02	03/02/23 15:06	03/03/23 16:35	04/05/23 15:19	34	180	04/07/23 03:39			
LDW23-SC1107 23C0108-03	03/03/23 08:58	03/03/23 16:35	04/05/23 15:19	33	180	04/07/23 04:09			
LDW23-SC1106 23C0108-04	03/03/23 09:32	03/03/23 16:35	04/05/23 15:19	33	180	04/07/23 04:40			
LDW23-SC1118 23C0108-05	03/03/23 11:48	03/03/23 16:35	04/05/23 15:19	33	180	04/07/23 05:10			
LDW23-SS1106 23C0108-06	03/03/23 10:00	03/03/23 16:35	04/05/23 15:19	33	180	04/07/23 05:41			
LDW23-SS1107 23C0108-07	03/03/23 10:21	03/03/23 16:35	04/05/23 15:24	33	180	04/07/23 09:14			
LDW23-SS1111 23C0108-08	03/03/23 10:36	03/03/23 16:35	04/05/23 15:24	33	180	04/08/23 17:13			
LDW23-SS1118 23C0108-09	03/03/23 11:25	03/03/23 16:35	04/05/23 15:24	33	180	04/08/23 17:43			
LDW23-SC1111 23C0108-10	03/03/23 14:35	03/03/23 16:35	04/05/23 15:24	33	180	04/08/23 18:13			
Duplicate BLD0118-DUP1	03/03/23 10:21	03/03/23 16:35	04/05/23 15:24	33	180	04/07/23 09:44			
Matrix Spike BLD0118-MS1	03/03/23 10:21	03/03/23 16:35	04/05/23 15:24	33	180	04/07/23 10:15			

* Indicates hold time exceedance.

METHOD DETECTION AND REPORTING LIMITS

EPA 9060A m

Laboratory: Analytical Resources, LLC
SDG: 23C0108
Client: Anchor QEA, LLC
Project: AOC5 MR Phase 1
Matrix: Solid
Instrument: TOC Cube

Analyte	MDL	RL	Units
Total Organic Carbon	0.02	0.02	%

National Institute of Standards & Technology

Certificate of Analysis

Standard Reference Material® 1941b

Organics in Marine Sediment

This Standard Reference Material (SRM) is marine sediment collected at the mouth of the Baltimore (MD) Harbor. SRM 1941b is intended for use in evaluating analytical methods for the determination of selected polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCB) congeners, and chlorinated pesticides in marine sediment and similar matrices. Information values are also provided for total organic carbon (TOC), total carbon, hydrogen, and nitrogen. All of the constituents for which certified, reference, and information values are provided in SRM 1941b were naturally present in the sediment before processing. A unit of SRM 1941b consists of a bottle containing 50 g of radiation-sterilized, freeze-dried sediment.

Certified Mass Fraction Values: Certified mass fraction values for PAHs, PCB congeners, and chlorinated pesticides are provided in Table 1 through Table 3. The certified values for the PAHs, PCB congeners, and chlorinated pesticides are based on the agreement of results obtained at NIST from two or more chemically independent analytical techniques along with results from an interlaboratory comparison study [1]. A NIST certified value is a value for which NIST has the highest confidence in its accuracy in that all known or suspected sources of bias have been investigated or taken into account [1].

Reference Mass Fraction Values: Reference mass fraction values for additional PAHs (some in combination), additional PCB congeners, and additional chlorinated pesticides are provided in Table 4 through Table 7. Reference values for alkylated PAH groups are provided in Table 8 and for selected hopanes and steranes in Table 9. A reference value for total organic carbon is provided in Table 10. Reference values are noncertified values that are the best estimate of the true value; however, the values do not meet the NIST criteria for certification and are provided with associated uncertainties that may reflect only measurement precision, may not include all sources of uncertainty, or may reflect a lack of sufficient statistical agreement among multiple analytical methods [1].

Information Mass Fraction Values: Information mass fraction values are provided in Table 11 for carbon, hydrogen, and nitrogen. An information value is considered to be a value that will be of use to the SRM user, but insufficient information is available to assess the uncertainty associated with the value [1]. Information values cannot be used to establish metrological traceability.

Expiration of Certification: The certification of **SRM 1941b** is valid, within the measurement uncertainty specified, until **01 October 2020**, provided the SRM is handled and stored in accordance with the instructions given in this certificate (see "Instructions for Handling, Storage, and Use"). This certification is nullified if the SRM is damaged, contaminated, or otherwise modified.

Maintenance of SRM Certification: NIST will monitor this SRM over the period of its certification. If substantive technical changes occur that affect the certification before the expiration of this certificate, NIST will notify the purchaser. Registration (see attached sheet or register online) will facilitate notification.

Coordination of the technical measurements leading to the certification of this material was under the leadership of M.M. Schantz and S.A. Wise of the NIST Chemical Sciences Division.

Analytical measurements for the certification of SRM 1941b were performed at NIST by J.R. Kucklick, B.J. Porter, D.L. Poster, M.M. Schantz, P. Schubert, S. Tutschku, and L.L. Yu of the NIST Chemical Sciences Division.

Carlos A. Gonzalez, Chief
Chemical Sciences Division

Gaithersburg, MD 20899
Certificate Issue Date: 16 January 2015

Robert L. Watters, Jr., Director
Office of Reference Materials

Measurements for TOC were provided by a commercial laboratory and T.L. Wade of the Geochemical and Environmental Research Group, Texas A&M University (College Station, TX). The carbon, hydrogen, and nitrogen data were provided by a commercial laboratory. Results for the PAHs, PCBs, and chlorinated pesticides from 38 laboratories (see Appendix A) that participated in an interlaboratory comparison exercise coordinated by NIST were used. Results for the alkylated PAH groups, hopanes, and steranes from 33 laboratories (see Appendix B) that participated in another interlaboratory comparison exercise coordinated by NIST were also used.

Collection and preparation of SRM 1941b were performed by M.P. Cronise and C.N. Fales of the NIST Office of Reference Materials and B.J. Porter and M.M. Schantz of the NIST Chemical Sciences Division. The sediment material was collected with the assistance of G.G. Lauenstein, J. Collier, and J. Lewis (National Oceanic and Atmospheric Administration, Silver Spring, MD).

Consultation on the statistical design of the experimental work and evaluation of the data were provided by S.D. Leigh and J.H. Yen of the NIST Statistical Engineering Division.

Support aspects involved in the issuance of this SRM were coordinated through the NIST Office of Reference Materials.

INSTRUCTIONS FOR HANDLING, STORAGE, AND USE

Handling: This material is naturally occurring marine sediment from an urban area and may contain constituents of unknown toxicities; therefore, caution and care should be exercised during its handling and use.

Storage: SRM 1941b must be stored in its original bottle at temperatures less than 30 °C and away from direct sunlight.

Use: Prior to removal of subsamples for analysis, the contents of the bottle should be mixed. The mass fractions of constituents in SRM 1941b are reported on a dry-mass basis. The SRM, as received, contains a mass fraction of approximately 2.4 % moisture (see "Conversion to Dry-Mass Basis"). The sediment sample should be dried to a constant mass before weighing for analysis; or a separate subsample of the sediment should be removed from the bottle at the time of analysis and dried to determine the mass fraction on a dry-mass basis. If the constituents of interest are volatile, then the moisture must be determined with a separate subsample.

PREPARATION AND ANALYSIS[1]

Sample Collection and Preparation: The sediment used to prepare this SRM was collected from the Chesapeake Bay at the mouth of the Baltimore (MD) Harbor near the Francis Scott Key Bridge (39°12.3'N and 76°31.4'W). This location is very near the site where SRM 1941 and SRM 1941a were collected. The sediment was collected using a Kynar-coated modified Van Veen-type grab sampler. A total of approximately 3300 kg of wet sediment was collected from the site. The sediment was freeze-dried, sieved at 150 μm (100 % passing), homogenized in a cone blender, radiation sterilized (^{60}Co), and then packaged in screw-capped amber glass bottles each containing approximately 50 g.

Conversion to Dry-Mass Basis: The results for the constituents in SRM 1941b are reported on a dry-mass basis; however, the material "as received" contains residual moisture. The amount of moisture in SRM 1941b was determined by measuring the mass loss after freeze-drying subsamples of 1.1 g to 1.3 g for four days at 1 Pa with a –10 °C shelf temperature and a –50 °C condenser temperature. The moisture content in SRM 1941b at the time of the certification analyses was 2.39 % ± 0.08 % (95 % confidence level). Analytical results for the organic constituents were determined on an as-received basis and then converted to a dry-mass basis by dividing by the conversion factor of 0.9761 (gram dry mass per gram as-received mass).

Polycyclic Aromatic Hydrocarbons: The general approach used for the value assignment of the PAHs in SRM 1941b was similar to that reported in detail elsewhere [2]. The approach consisted of combining results from analyses using various combinations of different extraction techniques and solvents, clean-up/isolation procedures, and chromatographic separation and detection techniques: Soxhlet extraction and pressurized-fluid extraction (PFE) using dichloromethane (DCM) or a hexane/acetone mixture, cleanup of the extracts using solid-phase extraction (SPE) or normal-phase liquid chromatography (LC), followed by analysis using the following techniques: (1) reversed-phase liquid chromatography with fluorescence detection (LC-FL) analysis of the total PAH fraction, (2) reversed-phase

[1] Certain commercial equipment, instruments or materials are identified in this certificate to adequately specify the experimental procedure. Such identification does not imply recommendation or endorsement by the National Institute of Standards

LC-FL analysis of isomeric PAH fractions isolated by normal-phase LC (i.e., multidimensional LC), (3) gas chromatography/mass spectrometry (GC/MS) analysis of the PAH fraction on three stationary phases of different selectivity, i.e., a 5 % (all column compositions are given as mole fractions in %) phenyl-substituted methylpolysiloxane phase, a 50 % phenyl-substituted methylpolysiloxane phase, and a relatively non-polar proprietary phase.

Three sets of GC/MS results, designated as GC/MS (I), GC/MS (II), and GC/MS (III), were obtained using three columns with different selectivities for the separation of PAHs. For GC/MS (I) analyses, duplicate subsamples of approximately 1 g from ten bottles of SRM 1941b were extracted using PFE with DCM. Copper powder was added to the extract to remove elemental sulfur. The concentrated extract was passed through an aminopropyl SPE cartridge and eluted with 2 % DCM in hexane (all solvent concentrations are given as volume fractions in %). The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-5 MS, J&W Scientific, Folsom, CA). The GC/MS (II) analyses were performed using 5 g subsamples from six bottles of SRM 1941b. These samples were extracted using PFE with DCM. The high molecular mass compounds were removed from the extracts using size exclusion chromatography (SEC) with a preparative-scale divinylbenzene-polystyrene column (10 μm particle size with 10 nm diameter pores), and the sulfur was removed from the extracts by adding copper powder. The concentrated extract was passed through an aminopropyl SPE cartridge and eluted with 10 % DCM in hexane. The analysis was by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 50 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-17 MS, J&W Scientific). For the GC/MS (III), 9 g subsamples from six bottles of SRM 1941b were Soxhlet-extracted for 18 h with 250 mL of a mixture of 50 % hexane/50 % acetone. Copper powder was added to the extract to remove elemental sulfur, and the concentrated extract was passed through a silica SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a relatively non-polar proprietary phase (0.25 μm film thickness; DB-XLB, J&W Scientific).

Two sets of LC-FL results, designated as LC-FL (total) and LC-FL (isomer), were used in the certification process. For the LC-FL (total), subsamples of approximately 1 g from six bottles of SRM 1941b were extracted using PFE with a mixture of 50 % hexane/50 % acetone. The extracts were concentrated and then processed through an aminopropylsilane SPE cartridge using 2 % DCM in hexane to obtain the total PAH fraction. For the LC-FL (isomer), a 5 g subsample from the six bottles was extracted using PFE with DCM and processed through an aminopropylsilane SPE cartridge using 10 % DCM in hexane; the PAH fraction was then fractionated further on a semi-preparative aminopropylsilane column (μBondapak NH_2, 9 mm i.d. × 30 cm, Waters Associates, Milford, MA) to isolate isomeric PAH fractions as described previously [3–6]. The total PAH fraction and the isomeric PAH fractions were analyzed using a 5 μm particle-size polymeric octadecylsilane (C_{18}) column (4.6 mm i.d. × 25 cm, Hypersil-PAH, Keystone Scientific, Inc., Bellefonte, PA) with wavelength-programmed fluorescence detection [4,5].

For the GC/MS and LC-FL measurements described above, selected perdeuterated PAHs were added to the sediment prior to solvent extraction for use as internal standards for quantification purposes.

In addition to the analyses performed at NIST, SRM 1941b was used in an interlaboratory comparison exercise in 1999 as part of the NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment [7]. Results from 38 laboratories that participated in this exercise were used as the sixth data set in the determination of the certified values for PAHs in SRM 1941b. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest.

Homogeneity Assessment for PAHs: The homogeneity of SRM 1941b was assessed by analyzing duplicate samples of approximately 1 g from ten bottles selected by stratified random sampling. Samples were extracted, processed, and analyzed as described above for GC/MS (I). No statistically significant differences among bottles were observed for the PAHs at this sample size.

PAH Isomers of Molecular Mass 300 and 302: For the determination of the molecular mass 300 and 302 isomers, three subsamples of approximately 5 g each were extracted using PFE with DCM. The extracts were then concentrated with a solvent change to hexane and passed through an aminopropyl SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 50 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-17MS, J&W Scientific). Perdeuterated dibenzo[*a,i*]pyrene was added to the sediment prior to extraction for use as an internal standard [8].

PCBs and Chlorinated Pesticides: The general approach used for the determination of PCBs and chlorinated pesticides in SRM 1941b consisted of combining results from analyses using various combinations of different extraction techniques and solvents, cleanup/isolation procedures, and chromatographic separation and detection techniques. Techniques and solvents included Soxhlet extraction and PFE using DCM or a hexane/acetone mixture.

clean-up/isolation using SPE or LC, followed by analysis using GC/MS and gas chromatography with electron capture detection (GC-ECD) on two columns with different selectivity for the separation of PCBs and chlorinated pesticides. The analytical methods are described in detail elsewhere [2].

Six sets of results were obtained and designated as GC-ECD (I) A and B, GC/MS (I) A and B, GC/MS (II), and Interlaboratory Comparison Exercise. For the GC-ECD (I) analyses, approximately 10 g subsamples from six bottles of SRM 1941b were extracted using PFE with DCM. Copper powder was added to the extract to remove elemental sulfur, and SEC, as described above, was used to remove the high molecular mass compounds. The concentrated extract was then fractionated on a semi-preparative aminopropylsilane column to isolate two fractions containing: (1) the PCBs and lower-polarity pesticides and (2) the more polar pesticides. GC-ECD analyses of the two fractions were performed on two columns of different selectivities for PCB separations: 0.25 mm × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-5, J&W Scientific), and a 0.25 mm × 60 m fused silica capillary column with a non-polar proprietary phase (0.25 μm film thickness; DB-XLB, J&W Scientific). The results from the 5 % phenyl phase are designated as GC-ECD (IA) and the results from the proprietary phase are designated as GC-ECD (IB). For the GC-ECD analyses, two PCB congeners that are not significantly present in the sediment extract (PCB 103 and PCB 198 [9,10]) and endosulfan I-d_4, 4,4'-DDE-d_8, 4,4'-DD-d_8, and 4,4'-DDT-d_8 were added to the sediment prior to extraction for use as internal standards for quantification purposes.

Two sets of results were obtained by GC/MS. For GC/MS (I), approximately 9 g subsamples from six bottles were Soxhlet- extracted with a mixture of 50 % hexane/50 % acetone for approximately 18 h. Copper powder was added to the extract to remove elemental sulfur, and the concentrated extract was passed through a silica SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS with two ionization modes, electron impact (EI) and negative ion chemical ionization (NICI). The GC/MS EI method, GC/MS (IA), used a 0.25 mm i.d. × 60 m fused silica capillary column with a relatively non-polar proprietary phase (0.25 μm film thickness; DB-XLB, J&W Scientific). The GC/MS NICI method, GC/MS (IB), used a 0.25 mm i.d. × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-5MS, J&W Scientific). The GC/MS (II) results were obtained in the same manner as the GC/MS (IA) analyses except that three subsamples were Soxhlet-extracted with DCM for approximately 18 h. For the GC/MS analyses, selected carbon-13 labeled PCB congeners and chlorinated pesticides were added to the sediment prior to extraction for use as internal standards for quantification purposes.

In addition to the analyses performed at NIST, SRM 1941b was used in an interlaboratory comparison exercise in 1999 as part of the NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment [7]. Results from 38 laboratories that participated in this exercise were used as the sixth data set in the determination of the certified values for PCB congeners and chlorinated pesticides in SRM 1941b. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest.

The reference value for PCB 77 was determined from a separate fraction. The samples were extracted and processed as for GC-ECD (I) above. The first (PCB and lower-polarity pesticide) fraction from the semi-preparative aminopropylsilane column was further fractionated using a Cosmosil PYE (pyrenylethyl group bonded) column (5 μm particle size, 4.6 mm i.d. × 25 cm ; Phenomenex, Torrance, CA) [11]. Three fractions were collected: the first fraction contained the pesticides and multi-*ortho* PCBs, the second fraction contained the polychlorinated naphthalenes, non-*ortho* PCB congeners, and some mono-*ortho* PCB congeners, and the third fraction removed the residual planar compounds from the column. The second fraction was analyzed by GC/MS NICI using the same column as GC/MS (IB) above. Carbon-13 labeled PCB 77 was used as an internal standard for quantification purposes.

Alkylated PAH Groups, Hopanes, and Steranes: SRM 1941b was used in an interlaboratory comparison exercise in 2011 [12]. Results from 33 laboratories that participated in this exercise were used in the determination of the reference values for alkylated PAH groups, hopanes, and steranes in SRM 1941b. Note that not all laboratories returned data for each analyte. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest. For the alkylated PAHs, the majority of the laboratories (>90 %) used the parent PAH for determination of the response factor for the corresponding alkylated group.

Total Organic Carbon (TOC): Two laboratories provided results for TOC using similar procedures. Briefly, subsamples of approximately 200 mg were reacted with 6 mol/L hydrochloric acid and rinsed with deionized water prior to combustion in a gas fusion furnace. The carbon monoxide and carbon dioxide produced were measured and compared to a blank for calculation of the percent TOC. Each laboratory analyzed subsamples from three bottles of SRM 1941b. One of the laboratories also analyzed three subsamples from three bottles of SRM 1941b for carbon, hydrogen, and nitrogen.

Table 1. Certified Mass Fraction Values for PAHs in SRM 1941b

PAHs	Mass Fractions[a] (µg/kg)		
Naphthalene[b,c,d,e,f,g]	848	±	95[h]
Fluorene[b,c,d,e,f,g]	85	±	15[h]
Phenanthrene[b,c,d,e,f,g]	406	±	44[h]
Anthracene[b,c,d,e,f,g]	184	±	18[h]
3-Methylphenanthrene[b,c,d]	105	±	13[h]
2-Methylphenathrene[b,c,d]	128	±	14[h]
1-Methylphenanthrene[b,c,d,g]	73.2	±	5.9[h]
Fluoranthene[b,c,d,e,f,g]	651	±	50[h]
Pyrene[b,c,d,e,f,g]	581	±	39[h]
Benz[*a*]anthracene[b,c,d,e,f,g]	335	±	25[h]
Chrysene[d,f]	291	±	31[h]
Triphenylene[d,f]	108	±	5[i]
Benzo[*b*]fluoranthene[c,e]	453	±	21[h]
Benzo[*k*]fluoranthene[b,c,d,e]	225	±	18[h]
Benzo[*e*]pyrene[b,c,d,g]	325	±	25[h]
Benzo[*a*]pyrene[b,c,d,f,g]	358	±	17[h]
Perylene[b,c,d,f,g]	397	±	45[h]
Benzo[*ghi*]perylene[b,c,d,f,g]	307	±	45[h]
Indeno[1,2,3-*cd*]pyrene[b,c,d,f,g]	341	±	57[h]
Dibenz[*a,j*]anthracene[b,c,d,f]	48.9	±	4.6[h]
Dibenz[*a,c*]anthracene[c,f]	36.7	±	5.2[h]
Dibenz[*a,h*]anthracene[c,f]	53	±	10[h]
Benzo[*b*]chrysene[b,c,d,f]	53	±	12[h]
Picene[b,c,d]	46.6	±	4.7[h]

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] GC/MS (I) on 5 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[c] GC/MS (II) on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[d] GC/MS (III) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.
[e] LC-FL (total) of total PAH fraction after PFE with DCM.
[f] LC-FL (isomer) of isomeric PAH fractions after PFE with DCM.
[g] 1999 Interlaboratory Comparison Study [7] with 21 to 29 laboratories submitting data for each PAH.
[h] Certified values are weighted means of the results from two to six analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.
[i] The certified value is an unweighted mean of the results from two analytical methods. The uncertainty listed with the value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the value is metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

Table 2. Certified Mass Fraction Values for PCB Congeners[a] in SRM 1941b

PCB Congeners			Mass Fractions[b] (µg/kg)		
PCB	8	(2,4'-Dichlorobiphenyl)[c,d,e,f,g]	1.65	±	0.19[h]
PCB	18	(2,2',5-Trichlorobiphenyl)[c,d,e,f,g]	2.39	±	0.29[h]
PCB	28	(2,4,4'-Trichlorobiphenyl)[c,d,e,f,g]	4.52	±	0.57[h]
PCB	31	(2,4',5-Trichlorobiphenyl)[c,e,f]	3.18	±	0.41[h]
PCB	44	(2,2'3,5'-Tetrachlorobiphenyl)[c,d,e,f,g]	3.85	±	0.20[i]
PCB	49	(2,2'4,5'-Tetrachlorobiphenyl)[c,d,e,f]	4.34	±	0.28[i]
PCB	52	(2,2',5,5'-Tetrachlorobiphenyl)[c,d,e,f,g]	5.24	±	0.28[i]
PCB	66	(2,3',4,4'-Tetrachlorobiphenyl)[c,e,f,g,j]	4.96	±	0.53[i]
PCB	87	(2,2',3,4,5'-Pentachlorobiphenyl)[c,d,f,j]	1.14	±	0.16[h]
PCB	95	(2,2',3,5',6-Pentachlorobiphenyl)[c,e,f,g]	3.93	±	0.62[i]
PCB	99	(2,2',4,4',5-Pentachlorobiphenyl)[c,d,e,f,g]	2.90	±	0.36[i]
PCB	101	(2,2',4,5,5'-Pentachlorobiphenyl)[c,e,f,g,j]	5.11	±	0.34[i]
PCB	105	(2,3,3',4,4'-Pentachlorobiphenyl)[c,d,e,f,g,j]	1.43	±	0.10[i]
PCB	110	(2,3,3',4',6-Pentachlorobiphenyl)[c,e,f,j]	4.62	±	0.36[i]
PCB	118	(2,3',4,4',5-Pentachlorobiphenyl)[c,d,e,f,g,j]	4.23	±	0.19[i]
PCB	128	(2,2',3,3',4,4'-Hexachlorobiphenyl)[c,d,e,f,g,j]	0.696	±	0.044[i]
PCB	138	(2,2',3,4,4',5'-Hexachlorobiphenyl)[c,e,f,j]	3.60	±	0.28[i]
PCB	149	(2,2',3,4',5',6-Hexachlorobiphenyl)[c,d,e,j]	4.35	±	0.26[h]
PCB	153	(2,2',4,4',5,5'-Hexachlorobiphenyl)[c,d,e,f,g,j]	5.47	±	0.32[i]
PCB	156	(2,3,3',4,4',5-Hexachlorobiphenyl)[c,d,e,f,j]	0.507	±	0.090[h]
PCB	170	(2,2',3,3',4,4',5-Heptachlorobiphenyl)[c,d,e,f,g,j]	1.35	±	0.09[i]
PCB	180	(2,2',3,4,4',5,5'-Heptachlorobiphenyl)[c,d,e,f,g,j]	3.24	±	0.51[i]
PCB	183	(2,2',3,4,4',5',6-Heptachlorobiphenyl)[c,d,e,j]	0.979	±	0.087[h]
PCB	187	(2,2',3,4',5,5',6-Heptachlorobiphenyl)[c,d,e,f,g,j]	2.17	±	0.22[i]
PCB	194	(2,2',3,3',4,4',5,5'-Octachlorobiphenyl)[c,d,e,j]	1.04	±	0.06[h]
PCB	195	(2,2',3,3',4,4',5,6-Octachlorbiphenyl)[c,e,g,j]	0.645	±	0.060[i]
PCB	201	(2,2',3,3',4,5',6,6'-Octachlorobiphenyl)[c,e,j]	0.777	±	0.034[h]
PCB	206	(2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl)[c,e,f,g,j]	2.42	±	0.19[i]
PCB	209	Decachlorobiphenyl[c,d,e,f,g,j]	4.86	±	0.45[i]

[a] PCB congeners are numbered according to the scheme proposed by Ballschmiter and Zell [9] and later revised by Schulte and Malisch [10] to conform to IUPAC rules, except PCB 201. Under the Ballschmiter and Zell numbering system, the IUPAC PCB 201 is listed as PCB 200.

[b] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[c] GC/MS (IA) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.

[d] GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.

[e] GC-ECD (IB) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (IA).

[f] GC/MS (II) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.

[g] 1999 Interlaboratory Comparison Study [7] with 13 to 31 laboratories submitting data for each PCB congener.

[h] Certified values are unweighted means of the results from three to five analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

[i] Certified values are weighted means of the results from three to six analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

[j] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).

Table 3. Certified Mass Fraction Values for Chlorinated Pesticides in SRM 1941b

Chlorinated Pesticides	Mass Fractions[a] (µg/kg)
Hexachlorobenzene[b,c,d,e]	5.83 ± 0.38[f]
cis-Chlordane[b,c,d,e,g]	0.85 ± 0.11[h]
trans-Chlordane[b,c,e]	0.566 ± 0.093[f]
cis-Nonachlor[b,e,g]	0.378 ± 0.053[h]
trans-Nonachlor[b,c,d,e,g]	0.438 ± 0.073[f]
4,4'-DDE[b,d,e,g]	3.22 ± 0.28[h]
4,4'-DDD[b,d,e,g]	4.66 ± 0.46[h]

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] GC/MS (IA) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.
[c] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).
[d] GC/MS (II) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.
[e] 1999 Interlaboratory Comparison Study [7] with 13 to 31 laboratories submitting data for each pesticide.
[f] Certified values are unweighted means of the results from three to five analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.
[g] GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.
[h] Certified values are weighted means of the results from three to five analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the chlorinated pesticides listed and the values listed are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

Table 4. Reference Mass Fraction Values for PAHs in SRM 1941b

PAHs	Mass Fractions[a] (µg/kg)		
1-Methylnaphthalene[b,c,d,e]	127	±	14[f]
2-Methylnaphthalene[b,c,d,e]	276	±	53[f]
2,6-Dimethylnaphthalene[b,c,d,e]	75.9	±	4.5[f]
2,3,5-Trimethylnaphthalene[b,c,d,e]	25.5	±	5.1[f]
Biphenyl[b,c,d,e]	74.0	±	8.0[f]
Acenaphthylene[b,c,d,e]	53.3	±	6.4[f]
Acenaphthene[b,c,d,e]	38.4	±	5.2[f]
9-Methylphenanthrene[c]	63.5	±	2.5[g]
4-Methylphenanthrene and 9-Methylphenanthrene[b,d]	80.1	±	4.8[f]
2-Methylanthracene[c,d]	36	±	15[f]
8-Methylfluoranthene[b]	49.5	±	2.7[g]
7-Methylfluoranthene[b]	45.4	±	1.5[g]
1-Methylfluoranthene[b]	42.4	±	2.1[g]
3-Methylfluoranthene[b]	28.8	±	1.3[g]
2-Methylpyrene[b]	78.7	±	4.0[g]
4-Methylpyrene[b]	66.4	±	2.6[g]
1-Methylpyrene[b]	52.5	±	2.3[g]
Acephenanthrene[d]	30.5	±	1.9[g]
Benzo[*c*]phenanthrene[b,c,d]	58	±	15[f]
Benzo[*a*]fluoranthene[b,c,d]	73	±	18[f]
Benzo[*j*]fluoranthene[c]	217	±	5[g]
Indeno[1,2,3-*cd*]fluoranthene[d]	9.63	±	0.34[g]
Pentaphene[d]	25.3	±	1.0[g]

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] GC/MS (I) on 5 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[c] GC/MS (II) on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[d] GC/MS (III) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.
[e] 1999 Interlaboratory Comparison Study [7] with 14 to 26 laboratories submitting data for each PAH.
[f] Reference values are weighted means of the results from two to four analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of PAHs listed as determined by the methods indicted. The values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.
[g] Reference values are the means of results obtained by NIST using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k, is determined from the Student's t-distribution for the associated degrees of freedom (19 for footnote b and 5 for footnotes c and d) and 95 % confidence level for each analyte. The measurand is the total mass fraction of the PAHs listed as determined by the method indicted. The values listed are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

Table 5. Reference Mass Fraction Values for PAHs of Molecular Mass 300 and 302 in SRM 1941b

PAHs of Molecular Mass 300 and 302	Mass Fractions[a,b,c] (µg/kg)		
Coronene	72.6	±	4.7
Dibenzo[*b,e*]fluoranthene	10.3	±	0.3
Naphtho[1,2-*b*]fluoranthene	91.0	±	3.1
Naphtho[1,2-*k*]fluoranthene and Naphtho[2,3-*j*]fluoranthene	79.8	±	2.5
Naphtho[2,3-*b*]fluoranthene	23.5	±	0.3
Dibenzo[*b,k*]fluoranthene	95.6	±	3.1
Dibenzo[*a,k*]fluoranthene	26.6	±	0.4
Dibenzo[*j,l*]fluoranthene	63.8	±	1.8
Dibenzo[*a,l*]pyrene	11.1	±	1.0
Naphtho[2,3-*k*]fluoranthene	10.7	±	0.6
Naphtho[1,2-*a*]pyrene	16.7	±	1.4
Naphtho[2,3-*e*]pyrene	33.2	±	2.3
Dibenzo[*a,e*]pyrene	76.1	±	3.6
Naphtho[2,1-*a*]pyrene	59.2	±	1.8
Dibenzo[*e,i*]pyrene	35.0	±	2.4
Naphtho[2,3-*a*]pyrene	16.5	±	0.6
Benzo[*b*]perylene	38.2	±	1.2
Dibenzo[*a,i*]pyrene	25.5	±	1.0
Dibenzo[*a,h*]pyrene	6.94	±	0.29

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[b] Reference values are the means of results obtained by NIST using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k, is determined from the Student's t-distribution for two degrees of freedom and 95 % confidence level for each analyte. The measurand is the total mass fraction of the constituent listed as determined by the method indicted. The values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

[c] GC/MS on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM [8].

Table 6. Reference Mass Fraction Values for PCB Congeners[a] in SRM 1941b

PCB Congeners			Mass Fractions[b,c] (µg/kg)		
PCB	45	(2,2',3,6-Tetrachlorobiphenyl)[d,e]	0.73	±	0.12
PCB	56	(2,3,3',4'-Tetrachlorobiphenyl)[d,f,g]	1.21	±	0.11
PCB	63	(2,3,4',5-Tetrachlorobiphenyl)[e,f,g]	0.213	±	0.040
PCB	70	(2,3',4',5-Tetrachlorobiphenyl)[e,f,g]	4.99	±	0.29
PCB	74	(2,4,4',5-Tetrachlorobiphenyl)[e,f,g]	2.04	±	0.15
PCB	77	(3,3',4,4'-Tetrachlorobiphenyl)[h]	0.31	±	0.03
PCB	107	(2,3,3',4',5-Pentachlorobiphenyl)[d,e,f,g]	0.628	±	0.028
PCB	132	(2,2',3,3',4,6'-Hexachlorobiphenyl)[d,f,g]	1.28	±	0.27
PCB	146	(2,2',3,4',5,5'-Hexachlorobiphenyl)[e,f,g]	1.22	±	0.12
PCB	158	(2,3,3',4,4',6-Hexachlorobiphenyl)[d,e,f,g]	0.65	±	0.15
PCB	163	(2,3,3',4',5,6-Hexachlorobiphenyl)[e,f,g]	1.28	±	0.06
PCB	174	(2,2',3,3',4,5,6'-Heptachlorobiphenyl)[d,e,f,g]	1.51	±	0.39
PCB	193	(2,3,3',4',5,5',6-Heptachlorobiphenyl)[d,e,f,g]	0.292	±	0.075

[a] PCB congeners are numbered according to the scheme proposed by Ballschmiter and Zell [9] and later revised by Schulte and Malisch [10] to conform with IUPAC rules, except PCB 107. Under the Ballschmiter and Zell numbering system, the IUPAC PCB 107 is listed as PCB 108.

[b] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[c] For these PCB congeners except PCB 77, the reference values are unweighted means of the results from two to four analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled within-method variance following the ISO/JCGM Guide [14,15]. For PCB 77, the reference value is the mean of results obtained by NIST using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k, is determined from the Student's t-distribution corresponding to two degrees of freedom and 95 % confidence level for PCB 77. The measurand is the total mass fraction of the PCB Congeners listed as determined by the method or methods indicted. The values listed are metrologically traceable to the SI unit of mass, expressed as microgram per kilogram on a dry-mass basis.

[d] GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.

[e] GC-ECD (IB) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (IA).

[f] GC/MS (IA) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.

[g] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).

[h] GC/MS NICI on a 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC-ECD (I) fractionated using a PYE column.

Table 7. Reference Mass Fraction Values for Selected Chlorinated Pesticides in SRM 1941b

Chlorinated Pesticides	Mass Fractions[a,b] (µg/kg)		
2,4'-DDE[c,d]	0.38	±	0.12
4,4'-DDT[e,f]	1.12	±	0.42

[a] Mass Fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] The reference values are unweighted means of the results from two analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the chlorinated pesticides listed as determined by the methods indicted. The values listed are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.
[c] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).
[d] GC-ECD (IB) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (IA).
[e] GC/MS (II) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.
[f] 1999 Interlaboratory Comparison Study [7] with 10 laboratories submitting data for 4,4'-DDT.

Table 8. Reference Mass Fraction Values for Alkylated PAH Groups in SRM 1941b

Alkylated PAH Group	Mass Fraction[a,b] (µg/kg)		
C2-decalins	18	±	5
C4-decalins	41	±	4
C2-naphthalenes	187	±	53
C3-naphthalenes	158	±	42
C1-benzothiophenes	25	±	14
C2-benzothiophenes	20	±	11
C3-benzothiophenes	22	±	13
C4-benzothiophenes	18	±	5
C1-fluorenes	57	±	18
C2-fluorenes	122	±	43
C3-fluorenes	128	±	31
C1-phenanthrenes/anthracenes	313	±	99
C2-phenanthrenes/anthracenes	247	±	62
C3-phenanthrenes/anthracenes	165	±	46
C4-phenanthrenes/anthracenes	87	±	36
C1-dibenzothiophenes	54	±	13
C2-dibenzothiophenes	91	±	18
C3-dibenzothiophenes	84	±	15
C4-dibenzothiophenes	57	±	13
C1-fluoranthenes/pyrenes	252	±	48
C2-fluoranthenes/pyrenes	205	±	38
C3-fluoranthenes/pyrenes	102	±	22
C4-fluoranthenes/pyrenes	121	±	59
C1-benzanthraces/chrysenes/triphenylenes	208	±	43
C2-benzanthraces/chrysenes/triphenylenes	120	±	24
C3-benzanthraces/chrysenes/triphenylenes	73	±	31
C4-benzanthraces/chrysenes/triphenylenes	41	±	11

[a] The reference mass fraction value reported on a dry-mass basis is the median of results using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the median, and the coverage factor, $k = 2$. The measurand is the total mass fraction of the alkylated PAH groups listed as determined by the interlaboratory study methods. The values listed are metrologically traceable to the SI unit of mass fraction, expressed as micrograms per kilogram on a dry-mass basis.
[b] Data from the interlaboratory study [12].

Table 9. Reference Mass Fraction Values for Hopanes and Steranes in SRM 1941b

Hopane or Sterane	Mass Fraction[a,b] (µg/kg)
17α(H)-22,29,30-Trisnorhopane	54 ± 18
17α(H)-21β(H)-30-Norhopane	137 ± 21
17α(H)-21β(H)-30-Hopane	215 ± 44
17α(H)-21β(H)-22R-Homohopane	44 ± 10
17α(H)-21β(H)-22S-Homohopane	48 ± 13
5α(H)-14α(H),17α(H)-Cholestane 20R	41 ± 11
5α(H)-14β(H),17β(H)-Cholestane 20R	27 ± 6
5α(H)-14β(H),17β(H)-24-Methylcholestane 20R	21 ± 8
5α(H)-14α(H),17α(H)-24-Ethylcholestane 20R	19 ± 5
5α(H)-14β(H),17β(H)-24-Ethylcholestane 20R	41 ± 9

[a] The reference mass fraction value reported on a dry-mass basis is the median of results using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the median, and the coverage factor, $k = 2$. The measurand is the total mass fraction of the constituent listed as determined by the methods used during the interlaboratory study. The values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.
[b] Data from the interlaboratory study [12].

Table 10. Reference Mass Fraction Value for Total Organic Carbon in SRM 1941b

Total Organic Carbon (TOC)	2.99 % ± 0.24 %[a,b]

[a] Mass fraction is reported on a dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] The reference value for total organic carbon is a weighted mean value from routine measurements made by two laboratories [21]. The uncertainty listed is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance. The reporting follows the ISO/JCGM Guides [2]. The measurand is the total mass fraction of TOC listed as determined by the methods indicted. The values listed are metrologically traceable to the SI unit of mass, expressed as a percent on a dry-mass basis.

Table 11. Information Mass Fraction Values for Carbon, Hydrogen, and Nitrogen in SRM 1941b

Elements	Mass Fractions[a] (%)
Carbon	3.3
Hydrogen	1.2
Nitrogen	<0.5

[a] Mass fraction is reported on a dry-mass basis; material as received contains approximately 2.4 % moisture.

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Certificate Revision History: 16 January 2015 (Corrected IUPAC name for PCB-56 and PCB-107; editorial changes); 10 June 2014 (Units corrected from mg/kg to µg/kg in Tables 8 and 9; editorial changes); 10 April 2012 (Reference value added for alkylated PAH groups, hopanes, and steranes; extension of certification period; editorial changes); 16 August 2004 (Reference values for the butyl tins removed; editorial changes); 15 July 2002 (Original certificate date).

Users of this SRM should ensure that the Certificate of Analysis in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail srminfo@nist.gov; or via the Internet at http://www.nist.gov/srm.

APPENDIX A

The laboratories listed below performed measurements that contributed to the certification of PAHs, PCBs, and chlorinated pesticides in SRM 1941b Organics in Marine Sediment.

Arthur D. Little, Inc; Cambridge, MA
Axys Analytical Services; Sidney, BC, Canada
B & B Laboratories; College Station, TX
Battelle Ocean Sciences; Duxbury, MA
Bedford Institute of Oceanography; Dartmouth, NS, Canada
California Department of Fish and Game; Rancho Cordova, CA
Central Contra Costa Sanitary District; Martinez, CA
Chesapeake Biological Laboratory; Solomons, MD
Centro de Investigacionies Energeticas Medioambientales y Tecnologicas; Madrid, Spain
City of Los Angeles Environmental Monitoring Division; Playa del Rey, CA
City of San Jose Environmental Services Department; San Jose, CA
Columbia Analytical Services; Kelso, WA
East Bay Municipal Utility District; Oakland, CA
Florida Department of Environmental Protection; Tallahassee, FL
Manchester Environmental Laboratory; Port Orchard, WA
Murray State University; Murray, KY
Massachusetts Water Resources Authority Central Lab; Winthrop, MA
National Research Council of Canada; Ottawa, Ontario, Canada
National Oceanic and Atmospheric Association (NOAA), National Marine Fisheries Service (NMFS), Auke Bay Laboratory; Juneau, AK
NOAA, National Ocean Service/Center for Coastal Environmental Health and Biomolecular Research; Charleston, SC
NOAA, NMFS, Sandy Hook Marine Laboratory; Highlands, NJ
NOAA, NMFS, Northwest Fisheries Science Center; Seattle, WA
Orange County Sanitation District; Fountain Valley, CA
Philip Analytical Services; Burlington, Ontario, Canada
Serv de Hidrografia Naval; Buenos Aires, Argentina
Skidaway Institute of Technology; Savannah, GA
Southwest Laboratory of Oklahoma; Broken Arrow, OK
Severn Trent Knoxville Laboratory; Knoxville, TN
Texas A&M University, Geochemical and Environmental Research Group; College Station, TX
Texas Parks and Wildlife Department; San Marcos, TX
University of California at Los Angeles, Institute of Geophysics and Planetary Physics; Los Angeles, CA
University of Connecticut, Environmental Research Institute; Storrs, CT
University of Rhode Island, Graduate School of Oceanography; Narragansett, RI
US Department of Agriculture, Environmental Chemistry Laboratory; Beltsville, MD
US Environmental Protection Agency, Atlantic Ecology Division; Narragansett, RI
US Geological Survey, National Water Quality Laboratory; Denver, CO
Woods Hole Group Environmental Lab; Raynham, MA
Wright State University; Dayton, OH

APPENDIX B

The laboratories listed below performed measurements that contributed to the certification of alkylated PAH groups, hopanes, and steranes in SRM 1941b Organics in Marine Sediment.

Alpha Analytical, Inc.; Mansfield, MA
Analytical Resources, Inc.; Tukwila, WA
Axys Analytical Services; Sydney, BC, Canada
Battelle Analytical & Environmental Chemistry Laboratory; Duxbury, MA
Center for Laboratory Sciences; Pasco, WA
Columbia Analytical Services; Jacksonville, FL
Columbia Analytical Services; Rochester, NY
Columbia Analytical Services, Kelso, WA
Florida Department of Environmental Protection; Tallahassee, FL
Florida International University; North Miami, FL
Michigan Department of Natural Resources and Environment; Lansing, MI
Mississippi State Chemical Laboratory; Mississippi State, MS
NIST; Charleston, SC
NIST; Gaithersburg, MD
NOAA/NCCOS/NOS; Charleston, SC
NOAA/NMFS/Alaska Fisheries Science Center; Juneau, AK
NY State Department of Health; Albany, NY
Pace Analytical Services, Inc. Minneapolis; Minneapolis, MN
RJ Lee Group, Inc; Monroeville, PA
TDI/B&B Laboratories, Inc.; College Station, TX
TestAmerica Laboratories; Mobile, AL
TestAmerica Laboratories; West Sacramento, CA
TestAmerica Laboratories; University Park, IL
TestAmerica Laboratories; Schriever, LA
TestAmerica Laboratories; Edison, NJ
TestAmerica Laboratories; Knoxville, TN
TestAmerica Laboratories; Pittsburgh, PA
TestAmerica Laboratories; South Burlington, VT
TestAmerica Laboratories; Tacoma, WA
US Army Engineer Research and Development Center; Vicksburg, MS
USGS Columbia Environmental Research Center; Columbia, MO
University of Iowa, State Hygienic Laboratory; Iowa City, IO
Washington State Public Health Laboratories; Shoreline, WA

NIST

Date of Issue:
31 March 2014

SAFETY DATA SHEET

1. Substance and Source Identification

Product Identifier

SRM Number: 1941b
SRM Name: Organics in Marine Sediment
Other Means of Identification: Not applicable.

Recommended Use of This Material and Restrictions of Use

This Standard Reference Material (SRM) is marine sediment collected at the mouth of the Baltimore (MD) Harbor. SRM 1941b is intended for use in evaluating analytical methods for the determination of selected polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCB) congeners, and chlorinated pesticides in marine sediment and similar matrices. All of the constituents for which certified, reference, and information values are provided in SRM 1941b were naturally present in the sediment before processing. A unit of SRM 1941b consists of a bottle containing 50 g of radiation-sterilized, freeze-dried sediment.

Company Information

National Institute of Standards and Technology
Standard Reference Materials Program
100 Bureau Drive, Stop 2300
Gaithersburg, Maryland 20899-2300

Telephone: 301-975-2200
FAX: 301-948-3730
E-mail: SRMMSDS@nist.gov
Website: http://www.nist.gov/srm

Emergency Telephone ChemTrec:
1-800-424-9300 (North America)
+1-703-527-3887 (International)

2. Hazards Identification

Classification

Physical Hazard: Not classified.
Health Hazard: Not classified.

Label Elements
Symbol
No Symbol/Pictogram

Signal Word
Not applicable.

Hazard Statement(s): Not applicable.

Precautionary Statement(s): Not applicable.

Hazards Not Otherwise Classified: Not applicable.

Ingredients(s) with Unknown Acute Toxicity: Not applicable.

3. Composition and Information on Hazardous Ingredients

Substance: Marine sediment

Other Designations: Sediment.

This material is naturally occurring marine sediment from an urban area. The material contains trace amounts of polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCB) congeners, and should be handled with care. Components are listed in compliance with OSHA's 29 CFR 1910.1200; for the actual values see the Certificate of Analysis.

Hazardous Component(s)	CAS Number	EC Number (EINECS)	Nominal Mass Concentration (%)
Marine Sediment	Not available	Not available	100

4. First Aid Measures

Description of First Aid Measures:

Inhalation: If adverse effects occur, remove to uncontaminated area. If not breathing, give artificial respiration or oxygen by qualified personnel. Seek immediate medical attention.

Skin Contact: Wash skin with soap and water.

Eye Contact: Flush eyes with water for at least 15 minutes. If necessary, seek medical attention.

Ingestion: If adverse effects occur after ingestion, seek medical treatment.

Most Important Symptoms/Effects, Acute and Delayed: May cause irritation.

Indication of any immediate medical attention and special treatment needed, if necessary: If any of the above symptoms are present, seek medical attention if needed.

5. Fire Fighting Measures

Fire and Explosion Hazards: Negligible fire hazard. Avoid generating dust. See Section 9, "Physical and Chemical Properties" for flammability properties.

Extinguishing Media:
Suitable: Use extinguishing media appropriate for surrounding fire.
Unsuitable: None listed.

Specific Hazards Arising from the Chemical: None listed.

Special Protective Equipment and Precautions for Fire-Fighters: Avoid inhalation of material or combustion byproducts. Wear full protective clothing and NIOSH approved self-contained breathing apparatus (SCBA).

NFPA Ratings (0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe)

Health = 1 Fire = 0 Reactivity = 0

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Any accumulated material on surfaces should be removed and properly disposed of. Use suitable protective equipment; see Section 8, "Exposure Controls and Personal Protection".

Methods and Materials for Containment and Clean up: Collect spilled material in appropriate container for disposal. Keep out of water supplies and sewers. Keep unnecessary people away, isolate hazard area and deny entry.

7. Handling and Storage

Safe Handling Precautions: Minimize dust generation and accumulation on surfaces. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. See Section 8, "Exposure Controls and Personal Protection".

Storage: Store and handling in accordance with all current regulations and standards.

8. Exposure Controls and Personal Protection

Exposure Limits: No occupational exposure limits have been established for marine sediment. This material is a particulate matter and adequate inhalation/respiratory protection should be used to minimize exposure. The exposure limits for Particulates Not Otherwise Regulated (PNOR) are applicable.

OSHA (PEL): 15 mg/m^3 (TWA, total particulates not otherwise regulated)
OSHA (PEL) 5 mg/m^3 (TWA, respirable particulates not otherwise regulated)

NIOSH (REL): 10 mg/m^3 (TWA, total particulates not otherwise regulated, 8 h)
NIOSH (REL): 5 mg/m^3 (TWA, respirable particulates not otherwise regulated)

Engineering Controls: Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Personal Protection: In accordance with OSHA 29 CFR 1910.132, subpart I, wear appropriate Personal Protective Equipment (PPE) to minimize exposure to this material.

Respiratory Protection: If workplace conditions warrant a respirator, a respiratory protection program that meets OSHA 29CFR 1910.134 must be followed. Refer to NIOSH 42 CFR 84 for applicable certified respirators.

Eye/Face Protection: Wear splash resistant safety goggles with a face shield. An eye wash station should be readily available near areas of use.

Skin and Body Protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Chemical-resistant gloves should be worn at all times when handling chemicals.

9. PHYSICAL AND CHEMICAL PROPERTIES

Descriptive Properties:

Appearance (physical state, color, etc.):	amorphous powder
Molecular Formula:	not applicable
Molar Mass (g/mol):	not applicable
Odor:	not available
Odor threshold:	not available
pH:	not available
Evaporation rate:	not applicable
Melting point/freezing point (°C):	not available
Specific Gravity (water=1)	not available
Vapor Pressure (mmHg):	not applicable
Vapor Density (air = 1):	not applicable
Viscosity (cP):	not applicable
Solubility(ies):	not available
Partition coefficient (n-octanol/water):	not available
Particle Size:	<150 µm

Thermal Stability Properties:

Autoignition Temperature (°C):	not available
Thermal Decomposition (°C):	not available
Initial boiling point and boiling range (°C):	not available
Explosive Limits, LEL (Volume %):	not available
Explosive Limits, UEL (Volume %):	not available
Flash Point (°C):	not available
Flammability (solid, gas):	not available

10. STABILITY AND REACTIVITY

Reactivity: Stable at normal temperatures and pressure.

Stability: X Stable _____ Unstable

Possible Hazardous Reactions: None listed.

Conditions to Avoid: Avoid generating dust.

Incompatible Materials: None listed.

Fire/Explosion Information: See Section 5, "Fire Fighting Measures".

Hazardous Decomposition: Thermal decomposition will produce oxides of carbon.

Hazardous Polymerization: _____ Will Occur X Will Not Occur

11. TOXICOLOGICAL INFORMATION

Route of Exposure: __X__ Inhalation __X__ Skin _____ Ingestion

Symptoms Related to the Physical, Chemical and Toxicological Characteristics: Generated dust may cause irritation if inhaled.

Potential Health Effects (Acute, Chronic and Delayed):

Inhalation: Generated dust may cause irritation.

Skin Contact: May cause mechanical irritation.

Eye Contact: May cause mechanical irritation.

Ingestion: No data available.

Numerical Measures of Toxicity:

Acute Toxicity: Not classified; no data available.

Skin Corrosion/Irritation: Not classified; no data available.

Serious Eye damage/ Eye irritation: Not classified; no data available.

Respiratory Sensitization: Not classified; no data available.

Skin Sensitization: Not classified; no data available.

Germ Cell Mutagenicity: Not classified; no data available.

Carcinogenicity: Not classified.

Listed as a Carcinogen/Potential Carcinogen _____ Yes __X__ No
Marine sediment is not listed by NTP, IARC or OSHA as a carcinogen.

Reproductive Toxicity: Not classified; no data available.

Specific Target Organ Toxicity, Single Exposure: Not classified; no data available.

Specific Target Organ Toxicity, Repeated Exposure: Not classified; no data available.

Aspiration Hazard: Not classified; no data available.

12. ECOLOGICAL INFORMATION

Ecotoxicity Data: No data available.

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

Other Adverse effects: No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose of waste in accordance with all applicable federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

U.S. DOT and IATA: Not regulated by DOT or IATA.

15. REGULATORY INFORMATION

U.S. Regulations:

CERCLA Sections 102a/103 (40 CFR 302.4): Not regulated.

SARA Title III Section 302 (40 CFR 355.30): Not regulated.

SARA Title III Section 304 (40 CFR 355.40): Not regulated.

SARA Title III Sections 311/312 Hazardous Categories (40 CFR 370.21):

ACUTE HEALTH:	No.
CHRONIC HEALTH:	No.
FIRE:	No.
REACTIVE:	No.
PRESSURE:	No.

State Regulations:
California Proposition 65: Not listed.

U.S. TSCA Inventory: Not listed.

TSCA 12(b), Export Notification: Not listed.

Canadian Regulations:
WHMIS Information: Not provided for this material.

16. OTHER INFORMATION

Issue Date: 31 March 2014

Sources: 29 CFR Occupational Health and Safety Office (OSHA) 1910.1000, *Limits for Air Contaminants*, Table Z-1; available at http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9992 (accessed Mar 2014).

Center for Disease Control (CDC) NIOSH Pocket Guide to Chemical Hazards, *Particulates not otherwise regulated*; available at http://www.cdc.gov/niosh/npg/npgd0480.html (accessed Mar 2014).

Key of Acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists	NRC	Nuclear Regulatory Commission
ALI	Annual Limit on Intake	NTP	National Toxicology Program
CAS	Chemical Abstracts Service	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
CFR	Code of Federal Regulations	RCRA	Resource Conservation and Recovery Act
DOT	Department of Transportation	REL	Recommended Exposure Limit
EC50	Effective Concentration, 50 %	RM	Reference Material
EINECS	European Inventory of Existing Commercial Chemical Substances	RQ	Reportable Quantity
EPCRA	Emergency Planning and Community Right-to-Know Act	RTECS	Registry of Toxic Effects of Chemical Substances
IARC	International Agency for Research on Cancer	SARA	Superfund Amendments and Reauthorization Act
IATA	International Air Transportation Agency	SCBA	Self-Contained Breathing Apparatus
IDLH	Immediately Dangerous to Life and Health	SRM	Standard Reference Material
LC50	Lethal Concentration, 50 %	STEL	Short Term Exposure Limit
LD50	Lethal Dose, 50 %	TLV	Threshold Limit Value
LEL	Lower Explosive Limit	TPQ	Threshold Planning Quantity
MSDS	Material Safety Data Sheet	TSCA	Toxic Substances Control Act
NFPA	National Fire Protection Association	TWA	Time Weighted Average
NIOSH	National Institute for Occupational Safety and Health	UEL	Upper Explosive Limit
NIST	National Institute of Standards and Technology	WHMIS	Workplace Hazardous Materials Information System

Disclaimer: Physical and chemical data contained in this SDS are provided only for use in assessing the hazardous nature of the material. The SDS was prepared carefully, using current references; however, NIST does not certify the data in the SDS. The certified values for this material are given in the NIST Certificate of Analysis.

Users of this SRM should ensure that the SDS in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail SRMINFO@nist.gov; Internet at http://www.nist.gov/srm.

Bill to:	68455 DAVE MITCHELL ANALYTICAL RESOURCES INC 4611 S 134TH PLACE SUITE 100 TUKWILA, WA 98168-3240 1 (206)695-6205	Ship to:	68456 DAVE MITCHELL ANALYTICAL RESOURCES INC 4611 S 134TH PLACE SUITE 100 TUKWILA, WA 98168-3240 1 (206)695-6205

Ship via	UPS Ground	Description		Ship from	
Salesmen	MCMIDM2	Instructions		Blanket	
Contact	DAVE MITCHELL	Pro#		Truck#	

Order discrepancies (other than back ordered items) must be reported to our Customer Relations Department at 301-975-6776 within 5 days of receipt of shipment or this order will be considered complete. NIST SRMs/RMs are generally not returnable - with the exception of defective goods or shipments made in error by NIST. To return a SRM/RM, please call for instructions and a Return SRM/RM Authorization Number before shipment. Returns WILL NOT BE ACCEPTED without prior authorization.

Order	UOM	Ship	UOM	B/O	UOM	Item	Description
1	EACH	1	EACH	0	EACH	1941B	Organics in Marine Sediment
						Total qty:	1 / EACH
							NOT FOR HUMAN CONSUMPTION, LABORATORY USE ONLY.

9/21/16
04:04 PM

1700101

Picked by	
Packed by	
# of pieces	
Weight	

MP Biomedicals, LLC

29525 Fountain Parkway
Solon, Ohio 44139

Telephone: 440/337-1200
Toll Free: 800/854-0530

Fax: 440/337-1180
web: www.mpbio.com

Certificate of Analysis

Product Description: Microcrystalline Cellulose Powder_
Catalog Number: 191499_
Lot: Q9483_

Formula: $(C_6H_{10}O_5)n$	**Formula Weight:** N/A
CAS #: 9004-34-6	**Storage:** 15 - 30°C
Physical Description: White Powder	

Test	Specification	Result
Identity Test	Passes	Passes
Purity	97.0 - 102.0%	97.0 - 102.0%
Moisture	<5.0%	3.4%
Particle Size/Mesh +60 mesh +200 mesh	Wt % <8% >45%	 <1% 55%
pH	5 - 7	6.73
Residue on Ignition	<0.05%	<0.05%
Water Soluble Substances	<12.0 mg/5 g	4.5 mg/5 g
Heavy Metals	<10 ppm	<10 ppm

H001822
Microcrystalline Cellulose Powder (TOC)
Expires 11/30/2022
Prepared By Casey English 2/22/2019

Identification A & B: Passes
Bulk Density: 0.29 g/ml
Bulk Density (graduated cylinder): 0.31 g/ml
Conductivity: 18 µS/cm
Starch: Negative
Ether Soluble Substances: 0.01%
Total Aerobic microbial Count: 100 cfu/g
Total Mold and Yeast Count: 20 cfu/g
Staphylococcus aureus: Absent/1 g
Pseudomonas aeruginosa: Absent/1 g
E. coli: Absent/1 g
Salmonella: Absent/10 g
Particle size:

- 450 mesh: 77%
- d10: 37 um
- d50: 139 um
- d90: 271 um

TUP: <9/600 cm^2
Degree of brightness: >88%
Powder flow-angle of repose: <42°
Recommended Retest Date: 11/30/2022

07/26/2018 - *John Huang, PhD*
MP Biomedicals, LLC.
Quality Control Manager

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Technical Service: 1-800-279-5490 (440-337-1200) Customer Service: 1-800-854-0530 (440-337-1200)

TOTAL SOLIDS BENCHSHEET

Method: PSEP 1986

(dry at 103-105 C)

Instrumentation

Batch:	BLC0101
Date:	3/6/2023 8:53
Analyst:	cr
Drying Oven:	15
Analytical Balance:	B139298002

Batch drying time		
Record times as mm/dd/yy hh:mm		**Oven Temp, C**
Date/time In oven:	3/7/2023 13:15	
Date/time out:	3/8/2023 9:10	
Elapsed hrs:	19.9	

TS (%) calculated as:

Final dry wt (g) = (Dry Wt - Tare Wt)

TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)

Oven Temps, °C	
Start Temp:	108
End Temp:	104

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
23C0107-01	0.8000	12.4700	5.6900	4.89	**41.90%**	Yes
23C0108-01	0.7800	12.4300	7.0200	6.24	**53.56%**	No
23C0108-02	0.8000	11.0200	6.1900	5.39	**52.74%**	No
23C0108-03	0.8000	12.2600	6.3900	5.59	**48.78%**	No
23C0108-04	0.8000	11.4100	5.8300	5.03	**47.41%**	No
23C0108-05	0.8000	12.7000	6.5800	5.78	**48.57%**	No
23C0108-06	0.8000	12.2000	5.7400	4.94	**43.33%**	No
23C0108-07	0.8100	11.8300	5.2400	4.43	**40.20%**	No
23C0108-08	0.8300	12.5600	6.2700	5.44	**46.38%**	No
23C0108-09	0.8000	11.4300	5.3300	4.53	**42.62%**	No
23C0108-10	0.7700	12.3800	6.2600	5.49	**47.29%**	No
23C0109-01	0.8400	12.7700	6.0100	5.17	**43.34%**	No
23C0109-02	0.8000	11.4400	4.6200	3.82	**35.90%**	No
23C0109-03	0.8000	12.2600	4.9400	4.14	**36.13%**	No

TOTAL SOLIDS BENCHSHEET

Method: PSEP 1986
(dry at 103-105 C)

Batch:	BLC0101
Date:	3/6/2023 8:53
Analyst:	CR
Drying Oven:	015
Analytical Balance:	B139298002

Instrumentation

Batch drying time

Record times as mm/dd/yy hh:mm

			Oven Temp, C
Date/time in oven:	3/7/23	13:15	108
Date/time out:	3/7/23	09:10	104
Elapsed hrs:	0.0		

TS (%) calculated as:
Final dry wt (g) = (Dry Wt - Tare Wt)
TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)

Oven Temps, °C	
Start Temp:	108
End Temp:	104

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
23C0107-01 A	0.80	12.47	5.69			~~No~~ Yes
23C0108-01	0.78	12.43	7.02			No
23C0108-02	0.80	11.02	6.19			No
23C0108-03	0.80	12.26	6.39			No
23C0108-04	0.80	11.41	5.83			No
23C0108-05	0.80	12.70	6.58			No
23C0108-06	0.80	12.20	5.74			No
23C0108-07	0.81	11.83	5.24			No
23C0108-08	0.83	12.56	6.27			No
23C0108-09	0.80	11.43	5.33			No
23C0108-10	0.77	12.38	6.26			No
23C0109-01	0.84	12.77	6.01			No
23C0109-02	0.80	11.44	4.62			No
23C0109-03 A	0.80	12.26	4.94			No

T/S + Screws

2 copies